

# Swimming Pool Chiller & Heat Pump

On/off & Inverter Type

Blueway Swimming Pool Chiller & Heat Pump is specially designed and engineered for water temperature control of swimming pool and spa in the hot summer and cold winter. The unit works as a chiller in summer and heat pump in other seasons, offering the most energy efficient pool & spa chilling and heating.

Compared to gas, oil, or electric heaters, operation cost of swimming pool water chiller & heat pumps is up to 60%~80% less, saving your expenses in energy costs each year. Additionally, thanks to the ideal design of the systems, the T3 SPCH series units are able to withstand the harsh summer weather conditions and can operate at ambient temperature as high as 53°C. In the gulf area without compressor tripping or failure.

Blueway SPCH units are not only highly efficient, but also easy and safe to operate, providing the maximum comfort the whole year through.

WHETHER HOT OR COLD WEATHER, OUTDOOR SWIMMING AND SPA ARE NO LONGER UNREACHABLE DREAMS!

—ENJOY COMFORTABLE SWIMMING AND SPA WITH BLUEWAY SPCHs, REGARDLESS AMBIENT TEMPERATURE AND LOCATION.

## Connection



- 1 Swimming Pool
- 2 Chlorinator
- 3 Pump
- 4 Sand Filter
- 5 Swimming Pool Chiller & Heat Pump

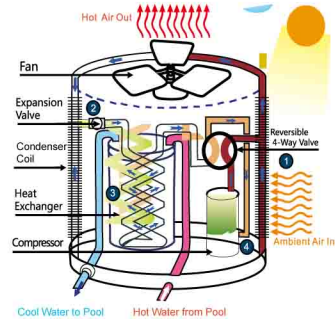


## Application



## How does A SPCH Unit Work?

### AS A CHILLER



#### 1 STAGE ONE

The temperature of the hot gaseous refrigerant discharged from the compressor is much higher than the outside ambient air temperature. When the outside air passes across the condenser coil, the gaseous refrigerant transfers its heat to the air and condenses into liquid.

#### 2 STAGE TWO

The liquid refrigerant passes through the expansion valve, reducing its pressure and temperature.

#### 3 STAGE THREE

The low temperature refrigerant passes to the heat exchanger evaporator, where the actual heat transfer takes place: the refrigerant absorbs heat from the water pumped into the heat exchanger and evaporates, whereby the water temperature is reduced.

#### 4 STAGE FOUR

The gas refrigerant is then sucked to the compressor and compressed, increasing its pressure and temperature, ready to start the whole cycle once again.

### AS A HEAT PUMP

#### 1 STAGE ONE

The heat transfer medium (the refrigerant) is colder than the outside air. As the outside air passes across the evaporator coil, the liquid refrigerant absorbs heat from the air and evaporates.

#### 2 STAGE TWO

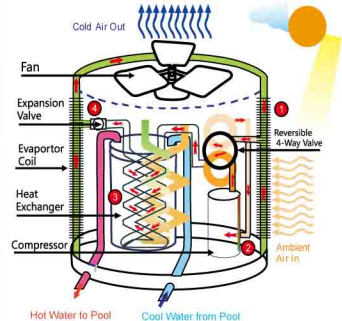
The gaseous refrigerant then passes to the compressor and is compressed. When compressed, the pressure is increased and the temperature of the vapor rises, effectively concentrating the heat.

#### 3 STAGE THREE

The hot gaseous refrigerant passes to the heat exchanger condenser, where the actual heat transfer takes place: the intensely hot gaseous refrigerant transfers its heat to the water pumped into the heat exchanger and condenses back into a liquid.

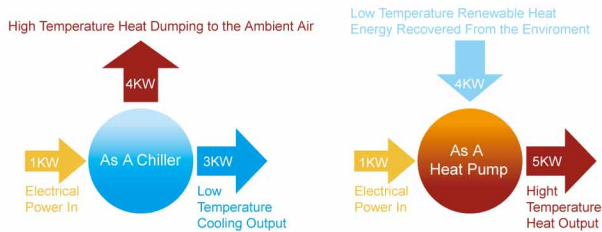
#### 4 STAGE FOUR

The liquid refrigerant then passes through an expansion valve, reducing its pressure and temperature, ready to start the whole cycle once again.



# WHY DO BLUEWAY SWIMMING POOL CHILLER & HEAT PUMPS SAVE ENERGY?

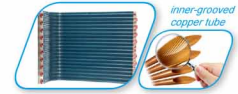
**Blueway Swimming Pool Chiller & Heat Pump** consumes much less electric power than a traditional electric heater. The electric power it consumes is only to operate the compressor, fan and water pump. For every 1kW electricity it consumes, the unit will generate up to 5kW heating capacity, which means 4kW capacity are totally free.



## Reliable Quality of Key Components

### Evaporator / Condenser Coil

The evaporator or condenser coil used is of fin and tube type. The fins are hydrophilic treated aluminum fins to resist corrosion, and the copper tubes are inner-grooved type, which increases the heat transfer in the refrigerant side.



### Intelligent Control



The units are supplied with micro processor based digital controller with LCD display. The controller is programmed to provide a maximum protection to the heat pump system and accurate temperature control. The control panel is completely factory wired with all accessories and terminals included.

### High Efficiency Marine-Grade Titanium Heat Exchanger

- 1) High efficiency and super corrosion resistant
- 2) High working pressure
- 3) Reliability and long lasting life span
- 4) Low maintenance



### High Efficiency Rotary or Scroll Compressor

- 1) With tropical resistance capacity
- 2) High efficiency and energy saving
- 3) Quiet operation due to less moving parts
- 4) Adopt famous brand rotary or scroll compressor