



14 TEMPERATURE CONTROL

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01 HEAT PUMP TOP/FRONT DISCHARGE INVERTER



✓ Technical features

Incorporates purpose-built components for long lasting and high efficiency that achieves maximum results. Internal fins, containing high performance titanium dioxide TiO2, provides a corrosion resistance, impermeable ice formation and a dustproof evaporator coil.

- Used for heating or cooling residential and public pools such as hotels, schools, fitness centres, and aqua parks.
- From 16kW up to 200kW.
- High efficiency that reaches up to 13 COP, reduces energy usage and enables a longer swimming season.
- Unique design metal cabinet with integrated control system.
- Inverter fan with low noise level and vertical air discharge. As a result, the sound level of the unit at 1meter, is as low as 40dB(A) under silence mode.
- Defrosting: At reduced noise levels, the unit defrosts the evaporator when the ventilator is activated.
- High/Low pressure protection available.
- Intelligent touch screen LCD control system can be connected to BMS or Wi-Fi.
- Titanium Heat Exchanger.
- Titanium dioxide TiO2 coating for the evaporator provides protection from corrosion and delivers maximum life expectancy.
- Mitsubishi inverter compressor with R410A Refrigerant.
- Phase monitor: Protects the compressor in case of phase loss or inversion.
- Super Silent:
 - The compressor inside the unit is wrapped with a new noise reduction internal sponge, proven to effectively reduce sound levels.
 - The Mitsubishi Inverter compressor produces a much lower running noise level.
 - A newly developed fan blade design is employed within the heat pump which makes the unit run even quieter.
- An electronic expansion valve, on each compressor, regulates the refrigerant flow rate to ensure the unit operates with high efficiency in different weather conditions.



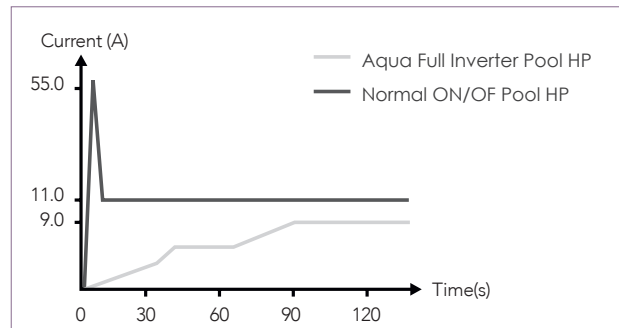
SIMPLIFY YOUR LIFE WITH THE ELECRO APP

SIMPLIFY YOUR LIFE WITH THE APP Connection via Wi-Fi and 4G enables you to take full control of your swimming pool heat pump from anywhere in your home or office with a simple app on your smartphone.



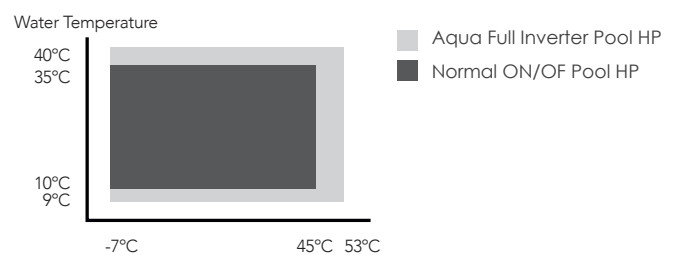
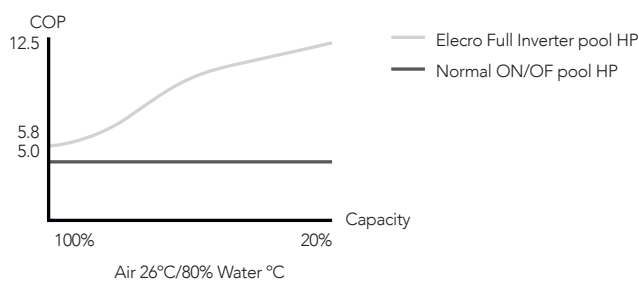
SOFT START

Aqua Full Inverter Pool Heat Pumps achieve a stairlike rise of the compressor frequency. When the unit starts, the current will gradually rise from 0A to half of the rated current, and then rise step-by-step to the rated current within a few minutes. Normal on/off heat pumps start with an instantaneous current over 6 times higher than the full-inverter heat pumps, which will be harmful to the home electricity system.



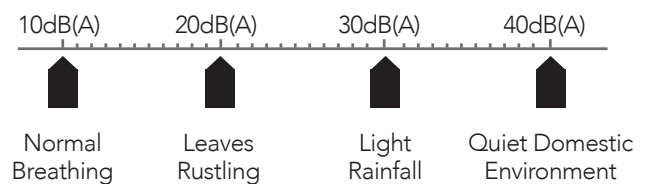
HIGH ENERGY EFFICIENCY AND LARGE RUNNING RANGE

Aqua Full Inverter Pool Heat Pumps can reach a COP as high as 12.5 at the ambient condition (Air 26°C/Humidity 80%) and keep a high EER at 53°C ambient temperature.



24DB(A) LOW NOISE AT 10M DISTANCE

The Aqua Full Inverter Pool Heat Pump is specially designed with a silence mode to create a comfortable living environment for users at night. Under silence mode, the heat pump is running at 24dB(A) low noise, equivalent to a whisper.





TOP DISCHARGE

Models

| Model | INTOP-3021 | INTOP-3024 | INTOP-3028 | INTOP-3030 | INTOP-3035 |
|---|---------------------------------|--------------|--------------|--------------|--------------|
| PERFORMANCE CONDITION | A27 / W26 C° | | | | |
| Heating Output (kW) | 6.2-21.1 | 6.72-23.7 | 6.72-28 | 8.5-30.5 | 7.1-35.0 |
| Power Input (kW) | 0.45-3.2 | 0.46-3.65 | 0.46-4.5 | 0.59-4.7 | 0.62-6.73 |
| COP | 13.7-6.6 | 14.61-6.49 | 14.61-6.22 | 14.3-6.5 | 11.4-5.2 |
| PERFORMANCE CONDITION | A15 / W26 C° | | | | |
| Heating Output (kW) | 4.8-16.9 | 4.8-17.3 | 4.8-20.5 | 6.4-23.8 | 6.4-27.5 |
| Power Input (kW) | 0.68-3.1 | 0.63-3.83 | 0.63-4.4 | 0.82-4.5 | 0.97-6.63 |
| COP | 7.06-5.45 | 7.6-4.52 | 7.6-4.66 | 7.8-5.29 | 6.6-4.15 |
| PERFORMANCE CONDITION | A45 / W40 C° | | | | |
| Cooling Output (kW) | 2.8-11.9 | 2.9-13.2 | 2.9-13.2 | 4.76-15.5 | 4.76-15.7 |
| Power Input (kW) | 0.7-4.5 | 0.73-5.5 | 0.73-5.5 | 1.21-6.1 | 1.21-6.2 |
| EER | 4.0-2.64 | 3.96-2.4 | 3.96-2.4 | 3.93-2.54 | 3.93-2.53 |
| PERFORMANCE CONDITION | A35 / W30 C° | | | | |
| Cooling Output (kW) | 3.3-14.0 | 3.5-16.5 | 3.5-16.5 | 5.8-18.9 | 5.8-19.6 |
| Power Input (kW) | 0.55-4.0 | 0.60-5.3 | 0.6-5.3 | 1.0-5.73 | 1.0-6.1 |
| EER | 6.0-3.5 | 5.8-3.11 | 5.8-3.11 | 5.75-3.3 | 5.75-3.21 |
| Power Supply (V/Hz/Ph) | 220-240/1/50 | 220-240/1/50 | 220-240/1/50 | 220-240/1/50 | 220-240/1/50 |
| Rated Heating Capacity (kW) | 21 | 24 | 28 | 30 | 35 |
| Rated power Input (kW) | 4.0 | 4.6 | 5.7 | 6.2 | 7.5 |
| Rated current (A) | 18 | 21 | 26 | 28 | 34 |
| Compressor Type-Quantity | 1 | 1 | 1 | 1 | 1 |
| Fan type | DC | DC | DC | DC | DC |
| Fan Quantity | 1 | 1 | 1 | 1 | 1 |
| Fan Air flow (m3/ h) | 6000 | 6600 | 6600 | 8000 | 8000 |
| Throttling device | EEV | EEV | EEV | EEV | EEV |
| Sound power level 1m (dB(A)) | 48-55 | 48-56 | 48-56 | 50-57 | 53-59 |
| Water Side Heat Exchanger Type | Twisted Titanium Heat Exchanger | | | | |
| Water Pressure Drop (kPa) | 16 | 18 | 20 | 23 | 25 |
| Water Connection (mm) | 50 | 50 | 50 | 50 | 50 |
| Nominal Water Flow (m3/h) | 9 | 10.5 | 12 | 12.5 | 14.6 |
| Operating temperature range-Heating (°c) | -15~43 | | | | |
| Operating temperature range-Cooling (°c) | 5~43 | | | | |
| Leaving water temprature range-Heating (°c) | 18~40 | | | | |
| Leaving water temprature range-Cooling (°c) | 12~40 | | | | |
| Refrigerant Type | R32 | | | | |
| Refrigerant GWP | 675 | | | | |
| Refrigerant charge (kg) | 1.4 | 1.4 | 1.9 | 1.9 | 1.9 |
| Operation Pressure Low Side (Mpa) | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| Operation Pressure High Side (Mpa) | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| Unit size (mm) | 715x715x1078 | 715x715x1078 | 860x860x1090 | 860x860x1090 | 860x860x1090 |
| Packing size (mm) | 775x775x1243 | 775x775x1243 | 920x920x1255 | 920x920x1255 | 920x920x1255 |
| Unit Net weight (kg) | 106 | 110 | 110 | 120 | 125 |
| Unit Gross weight (kg) | 126 | 130 | 130 | 140 | 145 |

TOP DISCHARGE

 **Models**

| Model | INVTOP-3035S | INVTOP-3045S | INVTOP-3055S | INVTOP-3110S | INVTOP-3220S |
|--|---------------------------------|----------------|----------------|----------------|----------------|
| PERFORMANCE CONDITION | A27 / W26 C° | | | | |
| Heating Output (kW) | 7.1-35.0 | 10.5-47.5 | 12.0-56.3 | 24.2-114 | 48.5-225 |
| Power Input (kW) | 0.62-6.73 | 0.78-7.8 | 0.90-9.2 | 1.8-18.5 | 3.58-36.9 |
| COP | 11.4-5.2 | 13.5-6.09 | 13.3-6.1 | 13.44-6.16 | 13.55-6.10 |
| PERFORMANCE CONDITION | A15 / W26 C° | | | | |
| Heating Output (kW) | 6.4-27.5 | 7.85-36.5 | 9.2-42.0 | 18.5-85.0 | 37.1-172 |
| Power Input (kW) | 0.97-6.63 | 1.08-7.6 | 1.3-8.8 | 2.6-17.5 | 5.1-35.3 |
| COP | 6.6-4.15 | 7.27-4.8 | 7.08-4.77 | 7.12-4.86 | 7.27-4.87 |
| PERFORMANCE CONDITION | A45 / W40 C° | | | | |
| Cooling Output (kW) | 4.76-15.7 | 5.7-24.3 | 6.4-26.2 | 12.8-52.5 | 25.5-105 |
| Power Input (kW) | 1.21-6.2 | 1.46-9.2 | 1.68-9.5 | 3.35-20.0 | 6.75-40.2 |
| EER | 3.93-2.53 | 3.9-2.63 | 3.81-2.75 | 3.82-2.63 | 3.78-2.61 |
| PERFORMANCE CONDITION | A35 / W30 C° | | | | |
| Cooling Output (kW) | 5.8-19.6 | 7.05-33.0 | 8.6-35.0 | 17.0-70.3 | 34.0-141 |
| Power Input (kW) | 1.0-6.1 | 1.2-9.8 | 1.32-10.0 | 2.65-20.0 | 5.3-40.0 |
| EER | 5.75-3.21 | 5.88-3.37 | 6.52-3.5 | 6.42-3.52 | 6.42-3.53 |
| Power Supply (V/Hz/Ph) | 380-415/3/50 | 380-415/3/50 | 380-415/3/50 | 380-415/3/50 | 380-415/3/50 |
| Rated Heating Capacity (kW) | 35 | 45 | 55 | 110 | 220 |
| Rated power Input (kW) | 7.7 | 10.2 | 10.7 | 21.4 | 43.4 |
| Rated current (A) | 15 | 20 | 21 | 42 | 85 |
| Compressor Type-Quantity | 1 | 1 | 1 | 2 | 4 |
| Fan type | DC | DC | DC | DC | DC |
| Fan Quantity | 1 | 1 | 1 | 2 | 2 |
| Fan Air flow (m ³ /h) | 8000 | 11000 | 12000 | 24000 | 48000 |
| Throttling device | EEV | EEV | EEV | EEV | EEV |
| Sound power level 1m (dB(A)) | 53-59 | 54-63 | 56-64 | 60-67 | 65-71 |
| Water Side Heat Exchanger Type | Twisted Titanium Heat Exchanger | | | | |
| Water Pressure Drop (kPa) | 25 | 28 | 30 | 30 | 34 |
| Water Connection (mm) | 50 | 63 | 63 | 100 | 100 |
| Nominal Water Flow (m ³ /h) | 14.6 | 15.5 | 18 | 36.5 | 74 |
| Operating temperature range-Heating (°C) | -15~43 | | | | |
| Operating temperature range-Cooling (°C) | 5~43 | | | | |
| Leaving water temperature range-Heating (°C) | 18~40 | | | | |
| Leaving water temperature range-Cooling (°C) | 12~40 | | | | |
| Refrigerant Type | R32 | | | | |
| Refrigerant GWP | 675 | | | | |
| Refrigerant charge (kg) | 1.9 | 2.8 | 3.2 | 6.4 | 12.8 |
| Operation Pressure Low Side (Mpa) | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| Operation Pressure High Side (Mpa) | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 |
| Unit size (mm) | 860x860x1090 | 950x950x1500 | 950x950x1500 | 1100x1100x2320 | 2260x1100x2320 |
| Packing size (mm) | 920x920x1255 | 1010x1010x1665 | 1010x1010x1665 | 1160x1160x2500 | 2360x1160x2500 |
| Unit Net weight (kg) | 125 | 220 | 230 | 360 | 920 |
| Unit Gross weight (kg) | 145 | 250 | 260 | 390 | 960 |



FRONT DISCHARGE

Models

| Model | INVFRONT-3007 | INVFRONT-3011 | INVFRONT-3016 |
|---|---------------------------------|---------------|---------------|
| PERFORMANCE CONDITION | A27 / W26 C° | | |
| Heating Output (kW) | 2.50~7.80 | 3.49~11.20 | 5.82~16.1 |
| Power Input (kW) | 0.17~1.16 | 0.31~1.71 | 0.50~2.43 |
| COP | 14.70~6.72 | 11.26~6.55 | 11.64~6.63 |
| PERFORMANCE CONDITION | A15 / W26 C° | | |
| Heating Output (kW) | 1.81~6.05 | 2.58~8.90 | 4.00~12.4 |
| Power Input (kW) | 0.20~1.09 | 0.30~1.69 | 0.48~2.41 |
| COP | 9.05~5.55 | 8.6~5.27 | 8.33~5.15 |
| PERFORMANCE CONDITION | A45 / W40 C° | | |
| Cooling Output (kW) | 1.23~3.55 | 1.56~4.62 | 2.55~7.1 |
| Power Input (kW) | 0.41~1.65 | 0.51~2.20 | 0.82~3.1 |
| EER | 3.00~2.15 | 3.06~2.10 | 3.11~2.29 |
| PERFORMANCE CONDITION | A35 / W30 C° | | |
| Cooling Output (kW) | 1.35~5.03 | 1.6~6.5 | 2.8~9.3 |
| Power Input (kW) | 0.36~1.65 | 0.45~2.2 | 0.65~3.1 |
| EER | 3.75~3.05 | 3.56~2.94 | 4.31~3.00 |
| Power Supply (V/Hz/Ph) | 220-240/1/50 | 220-240/1/50 | 220-240/1/50 |
| Rated Heating Capacity (kW) | 7 | 11 | 16 |
| Rated power Input (kW) | 1.6 | 2.1 | 3.0 |
| Rated current (A) | 7.2 | 9.5 | 13.5 |
| Compressor Type-Quantity | 1 | 1 | 1 |
| Fan type | DC | DC | DC |
| Fan Quantity | 1 | 1 | 1 |
| Fan Air flow (m3/ h) | 1800 | 1800 | 2400 |
| Throttling device | EEV | EEV | EEV |
| Sound power level 1m (dB(A)) | 36-47 | 38-49 | 40-50 |
| Water Side Heat Exchanger Type | Twisted Titanium Heat Exchanger | | |
| Water Pressure Drop (kPa) | 16 | 18 | 20 |
| Water Connection (mm) | 50 | 50 | 50 |
| Nominal Water Flow (m3/h) | 3.40 | 4.80 | 6.90 |
| Operating temperature range-Heating (°c) | -15~43 | | |
| Operating temperature range-Cooling (°c) | 5~43 | | |
| Leaving water temprature range-Heating (°c) | 18~40 | | |
| Leaving water temprature range-Cooling (°c) | 12~40 | | |
| Refrigerant Type | R32/R410A | | |
| Refrigerant GWP | 675 | | |
| Refrigerant charge (kg) | 1.4 | 1.4 | 1.9 |
| Operation Pressure Low Side (Mpa) | 2.1 | 2.1 | 2.1 |
| Operation Pressure High Side (Mpa) | 4.4 | 4.4 | 4.4 |
| Unit size (mm) | 900×340×623 | 900×340×623 | 1020×440×673 |
| Packing size (mm) | 960×400×786 | 960×400×786 | 1080×500×836 |
| Unit Net weight (kg) | 38 | 40 | 62 |
| Unit Gross weight (kg) | 53 | 55 | 80 |

FRONT DISCHARGE

 **Models**

| Model | INVFRONT-3018 | INVFRONT-3021 | INVFRONT-3026 |
|---|---------------------------------|---------------|---------------|
| PERFORMANCE CONDITION | A27 / W26 C° | | |
| Heating Output (kW) | 5.90~18.5 | 8.15~21.2 | 8.3~26.0 |
| Power Input (kW) | 0.50~2.78 | 0.74~2.83 | 0.75~4.20 |
| COP | 11.8~6.65 | 11.01~7.51 | 11.07~6.19 |
| PERFORMANCE CONDITION | A15 / W26 C° | | |
| Heating Output (kW) | 4.05~14.1 | 5.96~17.0 | 6.06~20.2 |
| Power Input (kW) | 0.49~2.75 | 0.72~2.96 | 0.73~4.05 |
| COP | 8.27~5.13 | 8.28~5.73 | 8.30~4.99 |
| PERFORMANCE CONDITION | A45 / W40 C° | | |
| Cooling Output (kW) | 2.55~7.1 | 3.2~11.9 | 3.2~13.2 |
| Power Input (kW) | 0.82~3.1 | 1.06~6.0 | 1.06~6.8 |
| EER | 3.11~2.29 | 3.02~1.98 | 3.02~1.94 |
| PERFORMANCE CONDITION | A35 / W30 C° | | |
| Cooling Output (kW) | 2.8~9.3 | 3.3~13.6 | 3.3~14.5 |
| Power Input (kW) | 0.65~3.1 | 0.86~4.6 | 0.86~5.7 |
| EER | 4.31~3.00 | 3.84~2.96 | 3.84~2.54 |
| Power Supply (V/Hz/Ph) | 220-240/1/50 | 220-240/1/50 | 220-240/1/50 |
| Rated Heating Capacity (kW) | 18 | 21 | 26 |
| Rated power Input (kW) | 3.0 | 4.4 | 5.5 |
| Rated current (A) | 13.5 | 20 | 28 |
| Compressor Type-Quantity | 1 | 1 | 1 |
| Fan type | DC | DC | DC |
| Fan Quantity | 1 | 1 | 1 |
| Fan Air flow (m3/ h) | 2400 | 3500 | 3500 |
| Throttling device | EEV | EEV | EEV |
| Sound power level 1m (dB(A)) | 41-50 | 43-52 | 43-52 |
| Water Side Heat Exchanger Type | Twisted Titanium Heat Exchanger | | |
| Water Pressure Drop (kPa) | 23 | 25 | 25 |
| Water Connection (mm) | 50 | 50 | 50 |
| Nominal Water Flow (m3/h) | 7.96 | 9.10 | 11.20 |
| Operating temperature range-Heating (°c) | -15~43 | | |
| Operating temperature range-Cooling (°c) | 5~43 | | |
| Leaving water temprature range-Heating (°c) | 18~40 | | |
| Leaving water temprature range-Cooling (°c) | 12~40 | | |
| Refrigerant Type | R32/R410A | | |
| Refrigerant GWP | 675 | | |
| Refrigerant charge (kg) | 1.9 | 1.9 | 1.9 |
| Operation Pressure Low Side (Mpa) | 2.1 | 2.1 | 2.1 |
| Operation Pressure High Side (Mpa) | 4.4 | 4.4 | 4.4 |
| Unit size (mm) | 1020×440×673 | 1100×440×877 | 1100×440×877 |
| Packing size (mm) | 1080×500×836 | 1160×500×1040 | 1160×500×1040 |
| Unit Net weight (kg) | 70 | 95 | 104 |
| Unit Gross weight (kg) | 88 | 115 | 124 |



02 | AIR TO WATER HEATING / COOLING PUMP

✓ Technical features

Heat pumps can be used for heating or cooling swimming pools, spas or other open water systems. The water system pressure should be less than 3 bar. (Cannot be used for closed water systems such as air conditioning, ground source heating and so on.)



PRODUCT FEATURES



HIGH EFFICIENCY

Our heat pumps are highly efficient, taking the energy from the ambient air and transferring that heat to the pool. The heat pump can reach a COP of 5.5.



SAFETY

Water and electricity are completely separate. ECO friendly gas, no fire, no electricity leakage, safer than fuel burner or electrical heater.



ENVIRONMENTALLY FRIENDLY

Choose R407C, R410-A, R22 as refrigerant, according to the requirements of EU Montreal Protocol.



CORROSION PREVENTION

The condenser uses titanium metal which is 4 to 5 times more corrosion resistant than ordinary copper tubes and is significantly more effective for the prevention of fluoride leakages. Liquids containing seawater or mild industrial water can pass through these systems without any problems.



INTELLIGENT DEFROSTING

By means of both mechanical and automatic control, defrosting can be operated over a shorter time to avoid severe attenuation of heating capacity in winter and when not in use.



ANTIFREEZING CONTROL

The unit starts up automatic antifreezing control when shutdown (no power off), using of antifreezing heat exchanger, 10 freezing tests, no leakage..



VARIOUS PROTECTIVE MEASURES

- Lack-phase and anti-phase protection
- Self memory function when power off
- Overpressure protection
- Leakage refrigerant protection
- Water protection for unit
- Overcurrent protection
- Temperature over protection



ADVANCED CONTROL SYSTEM

- Displaying operating and trouble status
- Checking real-time operation parameters etc
- The cable length between controller and the unit can be up to 30m for flexible installation (on request)
- Keep balance running of compressor
- Automatically adjusting capacity according to the change of water inlet the temperature
- Can achieve the perfect docking with BMS. Set remote control based on user requirement for easy management and maintenance. And can set multi unit modular operation



COMPRESSOR

AQUA uses world famous brand compressor such as COPELAND and GMCC so as to ensure the high quality of the machine.

HOW DOES THE 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 capillary tube, 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 gaseous refrigerant passes to the compressor and is compressed. When compressed, the pressure is increased and the temperature of the vapor rises, effectively concentrating the heat.

2- STAGE TWO

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.

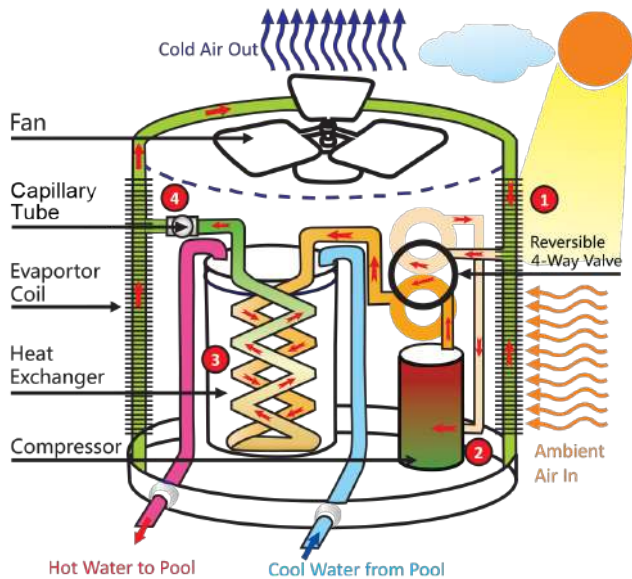
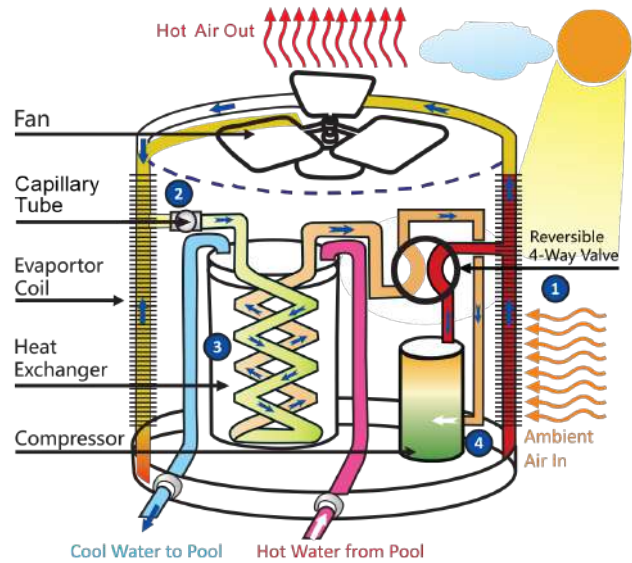
3- STAGE THREE

The liquid refrigerant then passes through an capillary tube, reducing its pressure and temperature. The heat transfer medium (the refrigerant) is colder than the outside air.

4- STAGE FOUR

As the outside air passes across the evaporator coil, the liquid refrigerant absorbs heat from the air and evaporates. ready to start the whole cycle once again.

CAPILLARY TUBE





TOP DISCHARGE

Models

| | | | PH2-02620 -R410A | PH2-02625 -R410A | PH2-02630 -R410A-1 | PH2-02630 -R410A-2 | PH2-02640 -R410A |
|------------------------------|---------------------------|---------|--|---------------------|-----------------------|-----------------------|---------------------|
| Refrigerant | | | R410A | R410A | R410A | R410A | R410A |
| Power supply | | V/PH/Hz | 220~240/1/50 | 220~240/1/50 | 220~240/1/50 | 380~415/3/50 | 380~415/3/50 |
| YL-H01-Heating: A24/W26°C | Heating capacity | kW | 9.5 | 12 | 14 | 14 | 17 |
| | | BTU/h | 32414 | 40944 | 47768 | 47768 | 58004 |
| | Power input | kW | 1.7 | 2.2 | 2.5 | 2.5 | 3.1 |
| | COP | W/W | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| YL-H02-Heating: A15/W26°C | Heating capacity | kW | 8.1 | 10.2 | 11.9 | 11.9 | 14.5 |
| | | BTU/h | 27552 | 34802 | 40603 | 40603 | 49303 |
| | Power input | kW | 1.8 | 2.2 | 2.6 | 2.6 | 3.2 |
| | COP | W/W | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| YL-C01-Cooling: A35/W30°C | Cooling capacity | kW | 7 | 9.0 | 10 | 10 | 12 |
| | | BTU/h | 23338 | 29480 | 34393 | 34393 | 41763 |
| | Power input | kW | 1.8 | 2.3 | 2.7 | 2.7 | 3.2 |
| | EER | W/W | 3.75 | 3.70 | 3.80 | 3.80 | 3.80 |
| YL-C02-Cooling: A46/W30 | Cooling capacity | kW | 5.814 | 7.3 | 8.6 | 8.6 | 10.4 |
| | | BTU/h | 19837 | 25058 | 29234 | 29234 | 35498 |
| | Power input | kW | 1.9 | 2.5 | 2.8 | 2.8 | 3.4 |
| | EER | W/W | 3.0 | 2.96 | 3.04 | 3.04 | 3.04 |
| MAX.POWER INPUT | | kW | 2.9 | 3.7 | 4.2 | 4.2 | 5.1 |
| MAX.CURRENT | | A | 14 | 18 | 8 | 8 | 9 |
| OPERATING | Heating water temp range. | °C | 15 ~ 40 | 15-40 | 15~40 | 15~40 | 15~40 |
| | Cooling water temp range. | °C | 12 ~ 30 | 12 ~ 30 | 12~30 | 12~30 | 12~30 |
| | Ambient temp range | °C | -15 ~ 53 | -15 ~ 53 | -15 ~ 53 | -15 ~ 53 | -15~53 |
| KEY | Compressor type | | Rotary | Rotary | Scroll | Scroll | Scroll |
| | Controller | | micro processor based digital controller with LCD touch screen display | | | | |
| | Noise | dB(A) | 51 | 53 | | 53 | 53 |
| HEATING EXCHANGER | Type | | Titanium /PVC | Titanium /PVC | Titanium /PVC | Titanium /PVC | Titanium /PVC |
| | Water flow (min.) | m³/h | 2.3 | 2.9 | 3.4 | 3.4 | 4.2 |
| | Water flow (max) | m³/h | 5.4 | 6.9 | 8.0 | 8.0 | 9.7 |
| | Water pressure drop (max) | KPa | 10 | 10 | 12 | 12 | 12 |
| | Water connecton | mm | 50 | 50 | 50 | 50 | 50 |
| | Water pipe | | - | - | - | - | - |
| FAN | Fan Position | | Verticle | Verticle | Verticle | Verticle | Verticle |
| | Material | | Plastic | Plastic | Plastic | Plastic | Plastic |
| | Air flow | m³/h | 2000 | 2600 | 3500 | 3500 | 3500 |
| DIMENSIONS (L x W x H) | Net | mm | 670 x 670 x 945 | 670 x 670 x 945 | 715 x 715 x 1080 | 715 x 715 x 1080 | 715 x 715 x 1080 |
| | Shipping | mm | 730 x 730 x 1095 | 730 x 730 x 1095 | 775 x 775 x 1230 | 775 x 775 x 1230 | 775 x 775 x 1230 |
| WEIGHT | - | kg | 88/98 | 88/98 | 98/105 | 109/123 | 113/118 |

TOP DISCHARGE

Models

| PH2-02650 -R410A | PH2-02660 -R410A | PH2-02670 -R410A | PH2-02680 -R410A | PH2-02685 -R410A | PH2-02690 -R410A | PH2-02695 -R410A | PH2-02710 -R410A |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A |
| 380~415/3/50 | 380~415/3/50 | 380~415/3/50 | 380~415/3/50 | 380~415/3/50 | 380~415/3/50 | 380~415/3/50 | 380~415/3/50 |
| 21 | 25 | 31 | 35 | 40 | 45 | 55 | 40 |
| 71652 | 85300 | 105772 | 119420 | 136480 | 153540 | 187660 | 136480 |
| 3.8 | 4.5 | 5.7 | 6.4 | 7.3 | 8.2 | 10.0 | 7.3 |
| 5.5 | 5.5 | 5.4 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| 17.9 | 21.3 | 26.4 | 29.8 | 34.0 | 38.3 | 46.8 | 34.0 |
| 60904 | 72505 | 89906 | 101507 | 116008 | 130509 | 159511 | 116008 |
| 3.9 | 4.6 | 5.9 | 6.5 | 7.4 | 8.3 | 10.2 | 7.4 |
| 4.6 | 4.6 | 4.5 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| 15 | 18 | 22 | 25 | 29 | 32 | 40 | 29 |
| 51589 | 61416 | 76156 | 85982 | 98266 | 110549 | 135115 | 98266 |
| 4.0 | 4.7 | 5.9 | 6.5 | 7.5 | 8.4 | 10.4 | 7.5 |
| 3.76 | 3.80 | 3.80 | 3.85 | 3.85 | 3.85 | 3.80 | 3.85 |
| 12.9 | 15.3 | 19.0 | 21.4 | 24.5 | 27.5 | 33.7 | 24.5 |
| 43851 | 52204 | 64732 | 73085 | 83526 | 93966 | 114848 | 83526 |
| 4.3 | 5.0 | 6.2 | 7.0 | 7.9 | 8.9 | 11.1 | 7.9 |
| 3.01 | 3.04 | 3.04 | 3.08 | 3.08 | 3.08 | 3.04 | 3.08 |
| 6.4 | 7.5 | 9.4 | 10.4 | 11.9 | 13.4 | 17 | 11.9 |
| 11 | 13 | 17 | 19 | 21 | 24 | 30 | 21 |
| 15~40 | 15~40 | 15~40 | 15~40 | 15~40 | 15~40 | 15~40 | 15~40 |
| 12~30 | 12~30 | 12~30 | 12~30 | 12~30 | 12~30 | 12~30 | 12~30 |
| -15~53 | -15~53 | -15~53 | -15~53 | -15~53 | -15~53 | -15~53 | -15~53 |
| Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll |
| micro processor based digital controller with LCD touch screen display | | | | | | | |
| 55 | 55 | 58 | 59 | 59 | 59 | 60 | 59 |
| Titanium /PVC | Titanium /PVC | Titanium /PVC | Titanium /PVC | Titanium /PVC | Titanium /PVC | Titanium /PVC | Titanium /PVC |
| 5.2 | 6.1 | 7.6 | 8.6 | 9.8 | 11.1 | 13.5 | 9.8 |
| 12.0 | 14.3 | 17.8 | 20.1 | 22.9 | 25.8 | 31.5 | 22.9 |
| 12 | 12 | 15 | 15 | 11 | 11 | 14 | 11 |
| 50 | 50 | 63 | 50 | 63 | 63 | 63 | 63 |
| - | - | - | - | PPR OR PVC | PPR OR PVC | PPR OR PVC | PPR OR PVC |
| Verticle | Verticle | Verticle | Verticle | Verticle | Verticle | Verticle | Verticle |
| Plastic | Plastic | Plastic | Plastic | Plastic | Plastic | Plastic | Plastic |
| 5500 | 5500 | 6500 | 7500 | 9000 | 10000 | 13000 | 9000 |
| 715x715x1080 | 715x715x1080 | 860x860x1090 | 860x860x1090 | 950x950x1500 | 950x950x1500 | 1000x1000x1500 | 1453x708x1084 |
| 775x775x1230 | 775x775x1230 | 920x920x1240 | 920x920x1240 | 1010x1010x1650 | 1010x1010x1650 | 1050x1050x1650 | 1520x780x1235 |
| 117/131 | 128/142 | 144/163 | 150 / 169 | 230 / 255 | 240 / 266 | 288 / 313 | 230 / 256 |



TOP DISCHARGE

Models

| | | | PH2-02712 -R410A | PH2-02713 -R410A | PH2-02714 -R410A | PH2-02715 -R410A |
|------------------------------|---------------------------|---------|--|---------------------|---------------------|---------------------|
| Refrigerant | | | R410A | R410A | R410A | R410A |
| Power supply | | V/PH/Hz | 380~415/3/50 | 380~415/3/50 | 380~415/3/50 | 380~415/3/50 |
| YL-H01-Heating: A24/W26°C | Heating capacity | kW | 45 | 55 | 65 | 82 |
| | | BTU/h | 153540 | 187660 | 221780 | 279784 |
| | Power input | kW | 8.2 | 10.0 | 11.8 | 14.9 |
| | COP | W/W | 5.5 | 5.5 | 5.5 | 5.5 |
| YL-H02-Heating: A15/W26°C | Heating capacity | kW | 38.3 | 46.8 | 55.3 | 69.7 |
| | | BTU/h | 130509 | 159511 | 188513 | 237816 |
| | Power input | kW | 8.3 | 10.2 | 12.1 | 15.2 |
| | COP | W/W | 4.6 | 4.6 | 4.6 | 4.6 |
| YL-C01-Cooling: A35/W30°C | Cooling capacity | kW | 32 | 40 | 47 | 59 |
| | | BTU/h | 110549 | 135115 | 159682 | 201444 |
| | Power input | kW | 8.4 | 10.4 | 12.3 | 19.8 |
| | EER | W/W | 3.85 | 3.80 | 3.80 | 2.98 |
| YL-C02-Cooling: A46/W30 | Cooling capacity | kW | 27.5 | 33.7 | 39.8 | 50.2 |
| | | BTU/h | 93966 | 114848 | 135729 | 171228 |
| | Power input | kW | 8.9 | 11.1 | 13.1 | 16.5 |
| | EER | W/W | 3.08 | 3.04 | 3.04 | 2.98 |
| MAX.POWER INPUT | | kW | 13.4 | 17 | 20 | 25 |
| MAX.CURRENT | | A | 24 | 30 | 35 | 44 |
| OPERATING | Heating water temp range. | °C | 15~40 | 15~40 | 15~40 | 15~40 |
| | Cooling water temp range. | °C | 12~30 | 12~30 | 12~30 | 12~30 |
| | Ambient temp range | °C | -15~53 | -15~53 | -15~53 | -15~53 |
| KEY | Compressor type | | Scroll | Scroll | Scroll | Scroll |
| | Controller | | Micro processor based digital controller with LCD touch screen dispaly | | | |
| | Noise | dB(A) | 59 | 60 | 64 | 64 |
| HEATING EXCHANGER | Type | | Titanium /PVC | Titanium /PVC | Titanium /PVC | Titanium /PVC |
| | Water flow (min.) | m³/h | 11.1 | 13.5 | 16 | 20.1 |
| | Water flow (max) | m³/h | 25.8 | 31.5 | 37.3 | 47.0 |
| | Water pressure drop (max) | KPa | 11 | 14 | 20 | 20 |
| | Water connecton | mm | 63 | 63 | 63 | 63 |
| | Water pipe | | PPR or PVC | PPR or PVC | PPR or PVC | PPR or PVC |
| FAN | Fan Position | | Verticle | Verticle | Verticle | Verticle |
| | Material | | Plastic | Plastic | Plastic | Plastic |
| | Air flow | m³/h | 10000 | 13000 | 15000 | 18000 |
| DIMENSIONS (L x W x H) | Net | mm | 1453 x 708 x 1084 | 1453 x 708 x 1284 | 1890 x 1000 x 1335 | 1890 x 1000 x 1355 |
| | Shipping | mm | 1520 x 780 x 1235 | 1520 x 780 x 1435 | 1940 x 1050 x 1485 | 1940 x 1050 x 1485 |
| WEIGHT | | kg | 265 /285 | 285 / 310 | 413/450 | 416/456 |

TOP DISCHARGE

Models

| PH2-02720 -R410A | PH2-02730 -R410A | PH2-02740 -R410A | PH2-02750 -R410A | PH2-02760 -R410A | PH2-02765 -R410A | PH2-02770 -R410A | PH2-02780 -R410A |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| R410A | R410A | R410A | R410A | R410A | R410A | R410A | R410A |
| 380~415/3/50 | 380~415/3/50 | 380~415/3/50 | 380~415/3/50 | 380~415/3/50 | 380~415/3/50 | 380~415/3/50 | 380~415/3/50 |
| 100 | 135 | 160 | 180 | 220 | 235 | 250 | 350 |
| 341200 | 460620 | 545920 | 614160 | 750640 | 801820 | 853000 | 1194200 |
| 18.2 | 24.5 | 29.1 | 32.7 | 40.0 | 42.7 | 45.5 | 63.6 |
| 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| 85.0 | 114.8 | 136.0 | 153.0 | 187.0 | 199.8 | 212.5 | 297.5 |
| 290020 | 391527 | 464032 | 522036 | 638044 | 681547 | 725050 | 1015070 |
| 18.5 | 25.0 | 29.7 | 33.4 | 40.8 | 43.6 | 46.4 | 64.9 |
| 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| 72 | 97 | 115 | 130 | 158 | 169 | 180 | 252 |
| 245664 | 331644 | 393062 | 442195 | 540461 | 577310 | 614160 | 859824 |
| 19.3 | 26.0 | 30.9 | 34.6 | 41.7 | 44.5 | 47.4 | 66.3 |
| 3.74 | 3.74 | 3.73 | 3.75 | 3.80 | 3.80 | 3.80 | 3.80 |
| 61.2 | 82.6 | 97.9 | 110.2 | 134.6 | 143.8 | 153.0 | 214.2 |
| 208814 | 281899 | 334103 | 375866 | 459392 | 490714 | 522036 | 730850 |
| 20.5 | 27.6 | 32.8 | 36.7 | 44.3 | 47.3 | 50.3 | 70.5 |
| 2.99 | 2.99 | 2.98 | 3.00 | 3.04 | 3.04 | 3.04 | 3.04 |
| 31 | 41 | 49 | 55 | 66 | 71 | 75 | 106 |
| 55 | 74 | 88 | 98 | 119 | 127 | 135 | 189 |
| 15~40 | 15~40 | 15~40 | 15~40 | 15~40 | 15~40 | 15~40 | 15~40 |
| 12~30 | 12~30 | 12~30 | 12~30 | 12~30 | 12~30 | 12~30 | 12~30 |
| -15~53 | -15~53 | -15~53 | -15~53 | -15~53 | -15~53 | -15~53 | -15~53 |
| Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll |
| Micro processor based digital controller with LCD touch screen display | | | | | | | |
| 64 | 65 | 65 | 65 | 65 | 65 | 67 | 68 |
| Titanium /PVC | Titanium /PVC | Titanium /PVC | Titanium /PVC | Titanium /PVC | Titanium /PVC | Titanium /PVC | Titanium /PVC |
| 24.6 | 33.2 | 39.3 | 44.2 | 54.0 | 57.7 | 61.4 | 86 |
| 57.3 | 77.4 | 91.7 | 103.2 | 126.1 | 134.7 | 143.3 | 200.6 |
| 25 | 25 | 25 | 25 | 25 | 25 | 26 | 28 |
| 110 | 110 | 110 | 110 | 110 | 110 | 160 | 160 |
| PVC | PVC | PVC | PVC | PVC | PVC | PPR or PVC | PVC |
| Verticle | Verticle | Verticle | Verticle | Verticle | Verticle | Verticle | Verticle |
| Plastic | Plastic | Plastic | Plastic | Plastic | Plastic | Plastic | Plastic |
| 22000 | 28000 | 33000 | 39000 | 44000 | 44000 | 55000 | 77000 |
| 1890x1000x1335 | 2188x1240x2380 | 2188x1240x2380 | 2188x1240x2380 | 2188x1240x2380 | 2188x1240x2380 | 2188x2188x2360 | 3200x2188x2360 |
| 1940x1050x1485 | 2238x1290x2530 | 2238x1290x2530 | 2238x1290x2530 | 2238x1290x2530 | 2238x1290x2530 | 2238x2238x2510 | 3250x2238x2510 |
| 553/596 | 820/870 | 846x886 | 1408/1438 | 1468/1518 | 1488/1538 | 1420/1470 | 2030/2100 |



FRONT DISCHARGE

Models

| | | | PHFD2-02610 -R410A | PHFD2-02615 -R410A | PHFD2-02620 -R410A | PHFD2-02625 -R410A |
|------------------------------|--------------------------|---------|-----------------------|-----------------------|-----------------------|-----------------------|
| Refrigerant | | | R410A | R410A | R410A | R410A |
| Power supply | | V/PH/Hz | 220-240/1/50 | 220-240/1/50 | 220-240/1/50 | 220-240/1/50 |
| YL-H01-Heating: A24/W26°C | Heating capacity | kW | 5 | 7.3 | 9.8 | 12 |
| | | BTU/h | 17060 | 24908 | 33438 | 40944 |
| | Power input | kW | 0.9 | 1.5 | 2.0 | 2.4 |
| | COP | W/W | 5.5 | 5.0 | 5.0 | 5.0 |
| YL-H02-Heating: A15/W26°C | Heating capacity | kW | 4.3 | 6.2 | 8.3 | 10.2 |
| | | BTU/h | 14501 | 21171 | 28422 | 34802 |
| | Power input | kW | 0.9 | 1.4 | 1.9 | 2.4 |
| | COP | W/W | 4.6 | 4.3 | 4.3 | 4.3 |
| YL-H03-Heating: A7/W26°C | Heating capacity | kW | 4 | 5.3 | 7 | 9 |
| | | BTU/h | 12283 | 17933 | 24075 | 29480 |
| | Power input | kW | 1 | 1.4 | 1.9 | 2.3 |
| | EER | W/W | 3.75 | 3.75 | 3.75 | 3.70 |
| YL-C01-Cooling: A35/W30°C | Cooling capacity | kW | 3.1 | 4.4676 | 5.9976 | 7.3 |
| | | BTU/h | 10441 | 15243 | 20464 | 25058 |
| | Power input | kW | 1 | 1.5 | 2.0 | 2.5 |
| | EER | W/W | 3 | 3.00 | 3.00 | 2.96 |
| MAX. | Power input | kW | 1.4 | 2.2 | 3.0 | 3.7 |
| | Current | A | 6.2 | 11 | 15 | 18 |
| OPERATING | Water outlet temp.range | °C | 15~40 | 15~40 | 15~40 | 15~40 |
| | Ambient temp.range | °C | 0~53 | 0~53 | 0~53 | 0~53 |
| KEY | Compressor type | | Rotary | Rotary | Rotary | Rotary |
| | Noise | dB(A) | 47 | 51 | 53 | 53 |
| HEAT EXCHANGER | Type | | Titanium / PVC | Titanium / PVC | Titanium / PVC | Titanium / PVC |
| | Water flow (min.) | m³/h | 1.3 | 1.8 | 2.4 | 2.9 |
| | Water flow (max.) | m³/h | 2.9 | 4.2 | 5.6 | 6.9 |
| | Water pressure drop(max) | KPa | 6 | 8 | 10 | 10 |
| | Water pipe | | - | - | - | - |
| | Water connection | mm | 50.00 | 50 | 50 | 50 |
| FAN | Position | | horizontal | Horizontal | Horizontal | Horizontal |
| | Air flow | m³/h | 2000 | 2000 | 2000 | 2600 |
| DIMENSIONS (L x W x H) | Net | mm | 900 x 340 x 623 | 900 x 340 x 623 | 900 x 340 x 623 | 900 x 340 x 623 |
| | Shipping | mm | 960 x 400 x 773 | 960 x 400 x 773 | 960 x 400 x 773 | 960 x 400 x 773 |
| WEIGHT | - | kg | 48 / 55 | 62 / 73 | 62 / 73 | 62 / 73 |

FRONT DISCHARGE

 Models

| PHFD2-02630-1 -R410A | PHFD2-02630-2 -R410A | PHFD2-02640 -R410A | PHFD2-02650 -R410A | PHFD2-02660 -R410A | PHFD2-02670 -R410A |
|-------------------------|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| R410A | R410A | R410A | R410A | R410A | R410A |
| 220-240/1/50 | 380-415/3/50 | 380-415/3/50 | 380-415/3/50 | 380-415/3/50 | 380-415/3/50 |
| 14 | 14 | 17 | 21 | 25 | 31 |
| 47768 | 47768 | 58004 | 71652 | 85300 | 105772 |
| 2.8 | 2.8 | 3.4 | 4.2 | 5.0 | 6.2 |
| 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| 11.9 | 11.9 | 14.5 | 17.9 | 21.3 | 26.4 |
| 40603 | 40603 | 49303 | 60904 | 72505 | 89906 |
| 2.8 | 2.8 | 3.4 | 4.2 | 5.0 | 6.1 |
| 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| 10 | 10 | 12 | 15 | 18 | 22 |
| 34393 | 34393 | 41763 | 51589 | 61416 | 76156 |
| 2.7 | 2.7 | 3.2 | 4.0 | 4.7 | 5.9 |
| 3.80 | 3.80 | 3.80 | 3.76 | 3.80 | 3.80 |
| 8.6 | 8.6 | 10.4 | 12.9 | 15.3 | 19.0 |
| 29234 | 29234 | 35498 | 43851 | 52204 | 64732 |
| 2.8 | 2.8 | 3.4 | 4.3 | 5.0 | 6.2 |
| 3.04 | 3.04 | 3.04 | 3.01 | 3.04 | 3.04 |
| 4.2 | 4.2 | 5.1 | 6.4 | 7.5 | 9.4 |
| 8 | 8 | 9 | 11 | 13 | 17 |
| 15~40 | 15~40 | 15~40 | 15~40 | 15~40 | 15~40 |
| 0~53 | 0~53 | 0~53 | 0~53 | 0~53 | 0~53 |
| Scroll | Scroll | Scroll | Scroll | Scroll | Scroll |
| 53 | 53 | 55 | 55 | 58 | 59 |
| Titanium/PVC | Titanium/PVC | Titanium/PVC | Titanium/PVC | Titanium/PVC | Titanium/PVC |
| 3.4 | 3.4 | 4.2 | 5.2 | 6.1 | 7.6 |
| 8.0 | 8.0 | 9.7 | 12.0 | 14.3 | 17.8 |
| 12 | 12 | 12 | 12 | 15 | 15 |
| - | - | - | - | - | PPR or PVC |
| 50 | 50 | 50 | 50 | 50 | 63 |
| horizontal | horizontal | horizontal | horizontal | horizontal | horizontal |
| 3500 | 3500 | 3500 | 5500 | 5500 | 7000 |
| 1100 x 440 x 673 | 1100 x 440 x 673 | 1100 x 440 x 673 | 1100 x 440 x 873 | 1150 x 450 x 973 | 1100 x 440 x 1378 |
| 1157 x 497 x 823 | 1157 x 497 x 823 | 1157 x 497 x 823 | 1157 x 497 x 1023 | 1207 x 507 x 1125 | 1157 x 497 x 1528 |
| 102/109 | 102 / 109 | 102 / 109 | 107 / 129 | 120 / 134 | 136 / 151 |



FRONT DISCHARGE

Models

| | | | PHFD2-02710 -R410A | PHFD2-02712 -R410A | PHFD2-02713 -R410A |
|------------------------------|--------------------------|---------|-----------------------|-----------------------|-----------------------|
| Refrigerant | | | R410A | R410A | R410A |
| Power supply | | V/PH/Hz | 380-415/3/50 | 380-415/3/50 | 380-415/3/50 |
| YL-H01-Heating: A24/W26°C | Heating capacity | kW | 40 | 45 | 55 |
| | | BTU/h | 136480 | 153540 | 187660 |
| | Power input | kW | 8.0 | 9.0 | 11.0 |
| | COP | W/W | 5.0 | 5.0 | 5.0 |
| YL-H02-Heating: A15/W26°C | Heating capacity | kW | 34.0 | 38.3 | 46.8 |
| | | BTU/h | 116008 | 130509 | 159511 |
| | Power input | kW | 7.9 | 8.9 | 10.9 |
| | COP | W/W | 4.3 | 4.3 | 4.3 |
| YL-H03-Heating: A7/W26°C | Heating capacity | kW | 29 | 32 | 40 |
| | | BTU/h | 98266 | 110549 | 135115 |
| | Power input | kW | 7.5 | 8.4 | 10.4 |
| | EER | W/W | 3.85 | 3.85 | 3.80 |
| YL-C01-Cooling: A35/W30°C | Cooling capacity | kW | 24.5 | 27.5 | 33.7 |
| | | BTU/h | 83526 | 93966 | 114848 |
| | Power input | kW | 7.9 | 8.9 | 11.1 |
| | EER | W/W | 3.08 | 3.08 | 3.04 |
| MAX. | Power input | kW | 11.9 | 13.4 | 17 |
| | Current | A | 21 | 24 | 30 |
| OPERATING | Water outlet temp.range | °C | 15~40 | 15~40 | 15~40 |
| | Ambient temp.range | °C | 0~53 | 0~53 | 0~53 |
| KEY | Compressor type | | Scroll | Scroll | Scroll |
| | Noise | dB(A) | 59 | 59 | 60 |
| HEAT EXCHANGER | Type | | Titanium/PVC | Titanium/PVC | Titanium/PVC |
| | Water flow (min.) | m³/h | 9.8 | 11.1 | 13.5 |
| | Water flow (max.) | m³/h | 22.9 | 25.8 | 31.5 |
| | Water pressure drop(max) | KPa | 11 | 11 | 14 |
| | Water pipe | | PPR or PVC | PPR or PVC | PPR or PVC |
| | Water connection | mm | 63 | 63 | 63 |
| FAN | Position | | horizontal | horizontal | horizontal |
| | Air flow | m³/h | 9000 | 10000 | 13000 |
| DIMENSIONS (L x W x H) | Net | mm | 1455 x 755 x 1705 | 1455 x 755 x 1705 | 1455 x 755 x 1705 |
| | Shipping | mm | 1505 x 805 x 1855 | 1505 x 805 x 1855 | 1505 x 805 x 1855 |
| WEIGHT | - | kg | 333 / 368 | 333 / 368 | 333 / 368 |

FRONT DISCHARGE

 Models

| PHFD2-02714 -R410A | PHFD2-02715 -R410A | PHFD2-02720 -R410A | PHFD2-02730 -R410A | PHFD2-0274 -R410A |
|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
| R410A | R410A | R410A | R410A | R410A |
| 380-415/3/50 | 380-415/3/50 | 380-415/3/50 | 380-415/3/50 | 380-415/3/50 |
| 65 | 82 | 105 | 135 | 158 |
| 221780 | 279784 | 358260 | 460620 | 539096 |
| 13.0 | 16.4 | 21.0 | 27.0 | 31.6 |
| 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| 55.3 | 69.7 | 89.3 | 114.8 | 134.3 |
| 188513 | 237816 | 304521 | 391527 | 458232 |
| 12.9 | 16.2 | 20.8 | 26.7 | 31.3 |
| 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| 47 | 59 | 76 | 97 | 114 |
| 159682 | 201444 | 257947 | 331646 | 388149 |
| 12.3 | 15.5 | 20.2 | 26.0 | 30.5 |
| 3.80 | 3.80 | 3.74 | 3.74 | 3.73 |
| 39.8 | 50.2 | 64.3 | 82.6 | 96.7 |
| 135729 | 171228 | 219255 | 281899 | 329927 |
| 13.1 | 16.5 | 21.5 | 27.6 | 32.4 |
| 3.04 | 3.04 | 2.99 | 2.99 | 2.98 |
| 20 | 25 | 32 | 41 | 49 |
| 35 | 44 | 58 | 74 | 87 |
| 15~40 | 15~40 | 15~40 | 15~40 | 15~40 |
| 0~53 | 0~53 | 0~53 | 0~53 | 0~53 |
| Scroll | Scroll | Scroll | Scroll | Scroll |
| 64 | 64 | 64 | 65 | 65 |
| Titanium/PVC | Titanium/PVC | Titanium/PVC | Titanium/PVC | Titanium/PVC |
| 16.0 | 20.1 | 25.8 | 33.2 | 38.8 |
| 37.3 | 47.0 | 60.2 | 77.4 | 90.6 |
| 20 | 20 | 25 | 25 | 25 |
| PPR or PVC | PPR or PVC | PPR or PVC | PPR or PVC | PPR or PVC |
| 63 | 63 | 110 | 110 | 110 |
| horizontal | horizontal | horizontal | horizontal | horizontal |
| 15000 | 18000 | 22000 | 28000 | 33000 |
| 2188 x 755 x 1705 | 2188 x 755 x 1705 | 1455 x 755 x 2250 | 2188 x 860 x 2250 | 2188 x 860 x 2250 |
| 2238 x 805 x 1855 | 2238 x 805 x 1855 | 1505 x 805 x 2400 | 2238 x 910 x 2400 | 2238 x 910 x 2400 |
| 445 / 485 | 445 / 485 | 536 / 576 | 727 / 781 | 775 / 829 |



03 | ELECRO NANO SPLASHER (ALL TITANIUM)



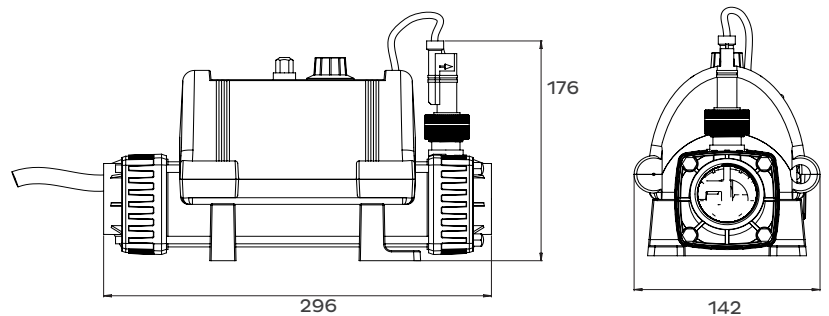
✓ Technical features

Specifically designed to ensure maximum safety, reliability and efficiency, the Nano Splasher fully titanium 'Plug & Play' heater is an ideal solution for soft and hard sided above-ground splasher pools.

- Available as 2-kW & 3-kW 'Plug & Play'
- Easy installation, fully equipped and pre-wired
- Robust, durable construction
- Ultra-reliable flow switch allows safe operation
- Supplied with temperature thermostat and overheating sensor
- Compact, durable design
- Analogue control with 1.2°C differential
- Titanium flow tube and titanium heating element
- Can be floor or vertically wall mounted
- Vortex, long life, stay clean heating element technology
- 100% efficiency throughout the product life
- Silent operation

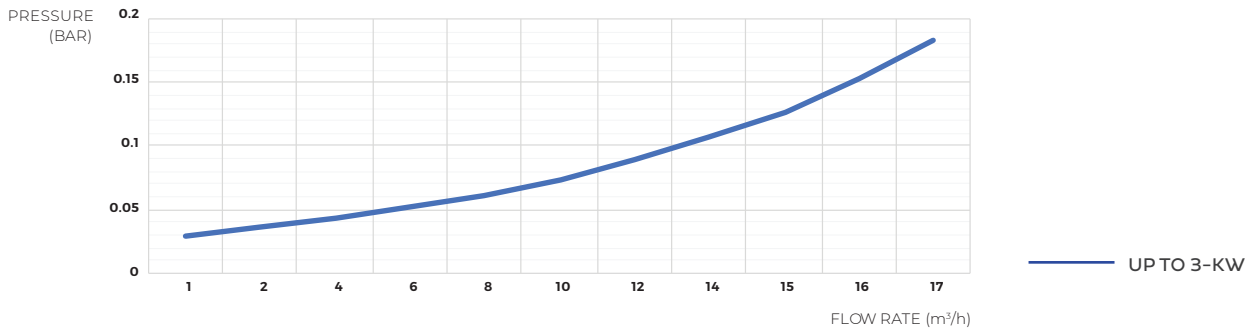
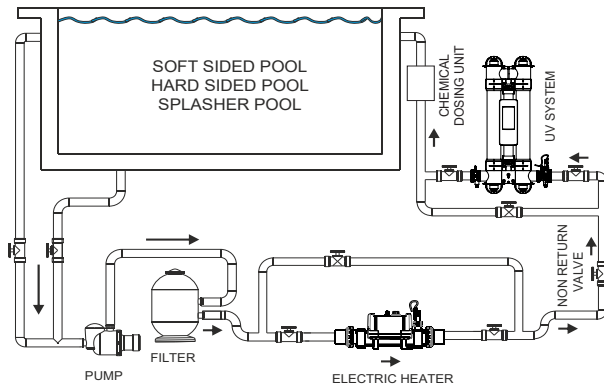


📏 Dimensions



SPECIFICATIONS

| | |
|----------------------------------|--|
| POWER SUPPLY | 220-240V single phase |
| FLOW REQUIREMENTS | Minimum flow: 1m³/h Maximum flow: 17m³/h |
| HEATING ELEMENTS | Grade 1 titanium |
| FLOW TUBE | Grade 1 titanium |
| CONTROL THERMOSTAT | Analogue: 0 > 45°C (1.2°C differential) |
| SAFETY THERMAL CUT OUT | 60°C (Manual reset) |
| FLOW SWITCH | Gold tipped reed switch with titanium fulcrum pin |
| RELAY | Surface mount DPDT Finder 66.82.8.230.0000 |
| SEALS | High temperature special formula EPDM ferrules, TPE end fitting gaskets |
| WATER CONNECTIONS | 1.5" BSP female thread supplied with 1½" / 50mm stepped ABS unions for rigid pipe and 1½" / 1¼" setpped hose tails for flexible pipe |
| INTERNATIONAL PROTECTION MARKING | IP 44 |
| FREQUENCY | 50/60 Hz |
| WORKING PRESSURE | 4 bar maximum |
| MOUNTING | Floor or wall mounting |



Models

| CODE | POWER OUTPUT | CURRENT | LOAD | PACKING | WEIGHT | VOLUME |
|-------------|--------------|--------------------------|------|---------|--------|----------------|
| | kW | | Amp | | kg | m ³ |
| N-AGP-UK-T2 | 2 | 220~240V Single phase | 9 | 1 | 22.5 | 0.125 |
| N-AGP-UK-T | 3 | | 13 | 1 | 22.5 | 0.125 |



04 | ELECR0 EVOLUTION 2 ALL TITANIUM



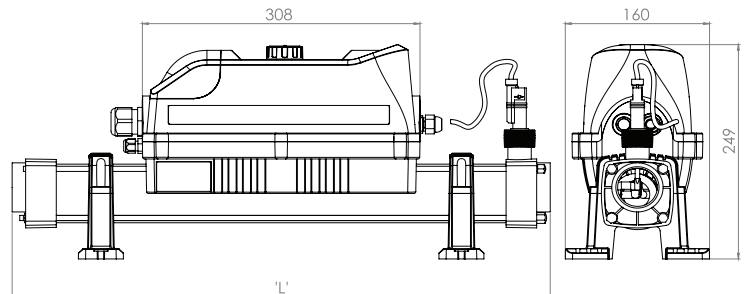
✓ Technical features

A fully titanium heater by Elecro, the Evolution 2, is the latest and upgraded version of the original Evolution. Boasting 100% efficiency, safety, and above all, reliability, this compact and robust unit will effortlessly heat your pool or spa to your desired temperature.

- Ten power options ranging from 1-kW to 24-kW
- Easy installation, fully equipped and pre-wired
- Robust, durable construction
- Ultra-reliable flow switch allows safe operation
- Temperature thermostat and overheating sensor
- Compact, durable design
- Analogue control with 1.2°C differential or digital control with 0.5°C differential
- Multi-lingual display
- Titanium flow tube and titanium heating element
- Can be floor or vertically wall mounted
- Vortex, long life, stay clean heating element technology
- 100% efficiency throughout the product life
- Silent operation

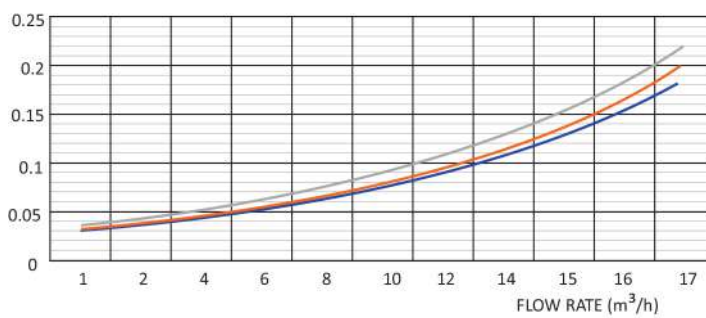
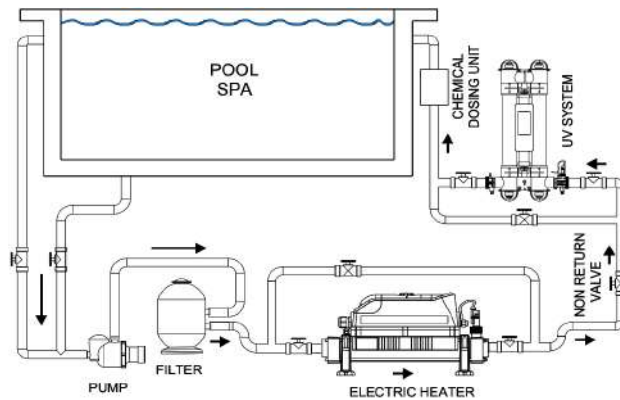


📏 Dimensions



SPECIFICATIONS

| | |
|---------------------------|--|
| POWER SUPPLY | Single phase or three phase |
| FLOW REQUIREMENTS | Minimum flow: 2 kW to 6 kW, 1m³/h / Minimum flow: 9 kW to 24 kW, 4m³/h / Maximum flow: 17m³/h |
| HEATING ELEMENTS | Grade 1 titanium |
| FLOW TUBE | Grade 1 titanium |
| CONTROL THERMOSTAT | Analogue: 0 > 45°C (1.2°C differential) Digital: 0 > 45°C (0.5°C differential) |
| SAFETY THERMAL CUT OUT | 60°C (Manual reset) |
| FLOW SWITCH | Gold tipped reed switch with titanium fulcrum pin |
| CONTACTOR | Siemens 3RT2023 or 3RT2027 |
| SEALS | High temperature special formula EPDM ferrules, TPE end fitting gaskets |
| WATER CONNECTIONS | 1.5" BSP female thread supplied with 1½"/50mm stepped ABS unions for rigid pipe and 1½"/1¼" stepped hose tails for flexible pipe |
| INGRESS PROTECTION RATING | IP 44 |
| FREQUENCY | 50/60 Hz |
| WORKING PRESSURE | 4 bar maximum |
| MOUNTING | Floor or wall mounting |



- UP TO 6-KW SINGLE PHASE
- 9 & 12-KW SINGLE PHASE
- 15 & 18-KW SINGLE PHASE & ALL 3-PHASE

Models

| CODE | POWER OUTPUT | CURRENT | LOAD | DIMENSIONS | PACKING | WEIGHT | VOLUME |
|----------|--------------|----------------------------|-------|------------|---------|--------|----------------|
| | kW | | Amp | L | | kg | m ³ |
| E2-1-1 | 1 | 220~240V Single phase | 6 | 462 | 1 | 5.5 | 0.059 |
| E2-1-2 | 2 | | 9 | 462 | 1 | 5.5 | 0.059 |
| E2-1-3 | 3 | | 13 | 462 | 1 | 5.5 | 0.059 |
| E2-1-4 | 4.5 | | 20 | 462 | 1 | 5.5 | 0.059 |
| E2-1-6 | 6 | | 27 | 462 | 1 | 5.5 | 0.059 |
| E2-1-9 | 9 | | 40 | 462 | 1 | 5.8 | 0.059 |
| E2-1-12 | 12 | | 53 | 462 | 1 | 5.8 | 0.059 |
| E2-1-15 | 15 | | 66 | 462 | 1 | 6.6 | 0.059 |
| E2-1-18 | 18 | | 79 | 462 | 1 | 6.6 | 0.059 |
| E2-V-6 | 6 | 230~400V Single/3 phase | 27/9 | 592 | 1 | 6.6 | 0.059 |
| E2-V-9 | 9 | | 40/13 | 592 | 1 | 6.6 | 0.059 |
| E2-V-12 | 12 | | 53/18 | 592 | 1 | 6.6 | 0.059 |
| E2-3-15 | 15 | 400V 3 phase | 22 | 592 | 1 | 6.6 | 0.059 |
| E2-3-18 | 18 | | 26 | 592 | 1 | 6.6 | 0.059 |
| E2-3-24 | 24 | | 35 | 592 | 1 | 6.6 | 0.059 |
| E2D-1-1 | 1 | 220~240V Single phase | 6 | 592 | 1 | 6.6 | 0.059 |
| E2D-1-2 | 2 | | 9 | 592 | 1 | 6.6 | 0.059 |
| E2D-1-3 | 3 | | 13 | 592 | 1 | 6.6 | 0.059 |
| E2D-1-4 | 4.5 | | 20 | 592 | 1 | 6.6 | 0.059 |
| E2D-1-6 | 6 | | 27 | 592 | 1 | 6.6 | 0.059 |
| E2D-1-9 | 9 | | 40 | 592 | 1 | 6.6 | 0.059 |
| E2D-1-12 | 12 | | 53 | 592 | 1 | 6.6 | 0.059 |
| E2D-1-15 | 15 | | 66 | 592 | 1 | 6.6 | 0.059 |
| E2D-1-18 | 18 | | 79 | 592 | 1 | 6.6 | 0.059 |
| E2D-V-6 | 6 | 230~400V Single/3 phase | 27/9 | 592 | 1 | 6.6 | 0.059 |
| E2D-V-9 | 9 | | 40/13 | 592 | 1 | 6.6 | 0.059 |
| E2D-V-12 | 12 | | 53/18 | 592 | 1 | 6.6 | 0.059 |
| E2D-3-15 | 15 | 400V 3 phase | 22 | 592 | 1 | 6.6 | 0.059 |
| E2D-3-18 | 18 | | 26 | 592 | 1 | 6.6 | 0.059 |
| E2D-3-24 | 24 | | 35 | 592 | 1 | 6.6 | 0.059 |

Note: for other voltages in the 3phase heaters please add -415 or -380 after the code



05 | OPTIMA COMPACT POOL HEATER



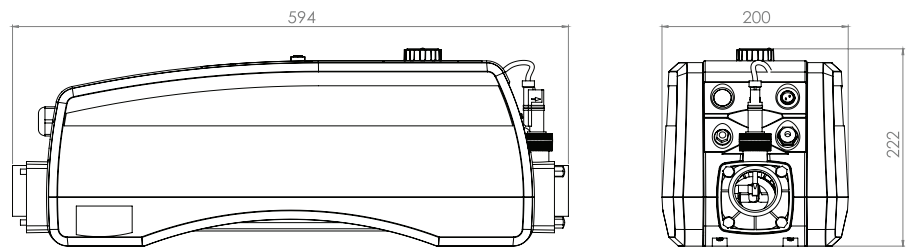
✓ Technical features

For the pool owner who demands the best – the Optima Compact delivers everything you need in a pool heater. Safety, reliability, efficiency and touchscreen digital programming for any modern lifestyle. A highly robust, durable construction, makes this a desirable solution for any residential pool or spa.

- Nine power options ranging from 2-kW to 24-kW
- Easy installation, fully equipped and pre-wired
- Robust, durable construction
- Ultra-reliable flow switch allows safe operation
- Fitted with temperature thermostat and overheating sensor
- Compact, durable design
- Touchscreen control with soft-start for power supply protection
- Titanium flow tube and titanium heating element
- Can be floor or vertically wall mounted
- Vortex, long life, stay clean heating element technology
- 100% efficiency throughout the product life
- Silent operation

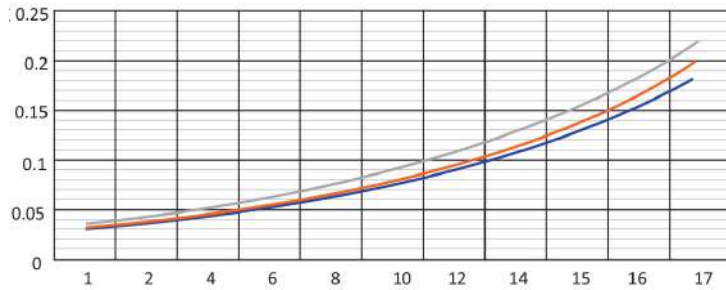
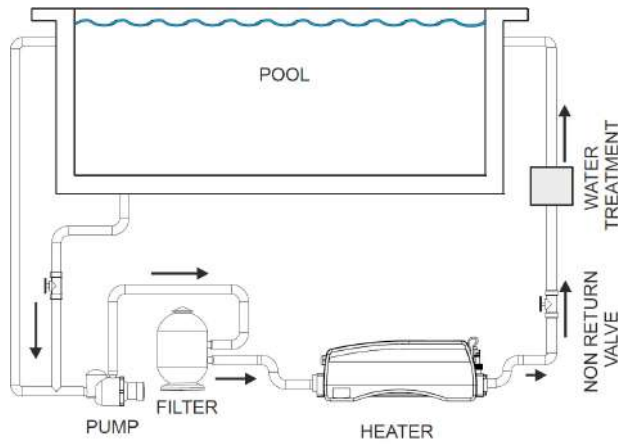


Dimensions



SPECIFICATIONS

| | |
|---------------------------|--|
| POWER SUPPLY | Single phase or three phase |
| FLOW REQUIREMENTS | Minimum flow: 2 kW to 6 kW, 1m³/h / Minimum flow: 9 kW to 24 kW, 4m³/h / Maximum flow: 17m³/h |
| HEATING ELEMENTS | Grade 1 titanium |
| FLOW TUBE | Grade 1 titanium |
| CONTROL THERMOSTAT | Touch Screen 0 > 45°C (0.5°C differential) |
| SAFETY THERMAL CUT OUT | 60°C (Manual reset) |
| FLOW SWITCH | Gold tipped reed switch with titanium fulcrum pin |
| CONTACTOR | Siemens 3RT2023 or 3RT2027 |
| SEALS | High temperature special formula EPDM ferrules, TPE end fitting gaskets |
| WATER CONNECTIONS | 1.5" BSP female thread supplied with 1½"/50mm stepped ABS unions for rigid pipe and 1½"/1¼" stepped hose tails for flexible pipe |
| INGRESS PROTECTION RATING | IP 44 |
| FREQUENCY | 50/60 Hz |
| WORKING PRESSURE | 4 bar maximum |
| MOUNTING | Floor or wall mounting |



- UP TO 6-KW SINGLE PHASE
- 9 & 12-KW SINGLE PHASE
- 15 & 18-KW SINGLE PHASE & ALL 3-PHASE

Models

| CODE | POWER OUTPUT | CURRENT | LOAD | PACKING | WEIGHT | VOLUME |
|-----------|--------------|----------------------------|-------|---------|--------|--------|
| | kW | | Amp | | kg | |
| OCPD-1-2 | 2 | 220~240V Single phase | 9 | 1 | 8.8 | 0.059 |
| OCPD-1-3 | 3 | | 13 | 1 | 8.8 | 0.059 |
| OCPD-1-4 | 4.5 | | 20 | 1 | 8.8 | 0.059 |
| OCPD-1-6 | 6 | | 27 | 1 | 8.8 | 0.059 |
| OCPD-1-9 | 9 | | 40 | 1 | 9.2 | 0.059 |
| OCPD-1-12 | 12 | | 53 | 1 | 9.2 | 0.059 |
| OCPD-1-15 | 15 | | 66 | 1 | 9.7 | 0.059 |
| OCPD-1-18 | 18 | | 79 | 1 | 9.7 | 0.059 |
| OCPD-V-6 | 6 | 230~400V Single/3 phase | 27/9 | 1 | 9.7 | 0.059 |
| OCPD-V-9 | 9 | | 40/13 | 1 | 9.7 | 0.059 |
| OCPD-V-12 | 12 | | 53/18 | 1 | 9.7 | 0.059 |
| OCPD-3-15 | 15 | | 22 | 1 | 9.7 | 0.059 |
| OCPD-3-18 | 18 | 400V 3 phase | 26 | 1 | 9.7 | 0.059 |
| OCPD-3-24 | 24 | | 35 | 1 | 9.7 | 0.059 |

Note : For other voltages in the 3phase heaters please add -415 or -380 after the code



06 | SFS JOEY



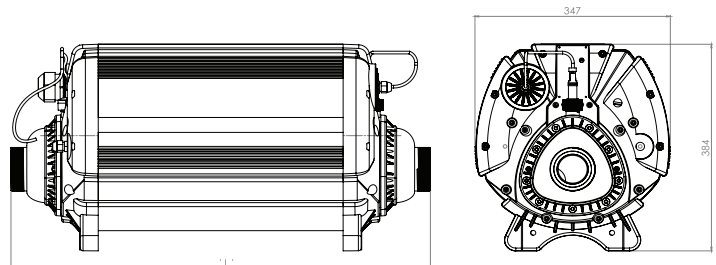
✓ Technical features

Reliable, accurate and efficient, SFS Joey fully titanium heater by Elecro is the ideal choice for a long lasting heater for any application where water contains high TDS, debris laden water and flow rate is reduced. Ideal for commercial pools.

- Various power options ranging from 18-kW to 120-kW
- Easy installation, fully equipped and pre-wired
- Robust, durable construction
- Ultra-reliable flow switch allows safe operation
- Fitted with temperature thermostat and overheating sensor
- Compact, durable design
- Analogue control with 1.2°C differential or digital control with 0.5°C differential
- Multi-lingual display
- Titanium flow tube and titanium heating element
- Can be floor or vertically wall mounted
- Vortex, long life, stay clean heating element technology
- 100% efficiency throughout the product life
- Silent operation

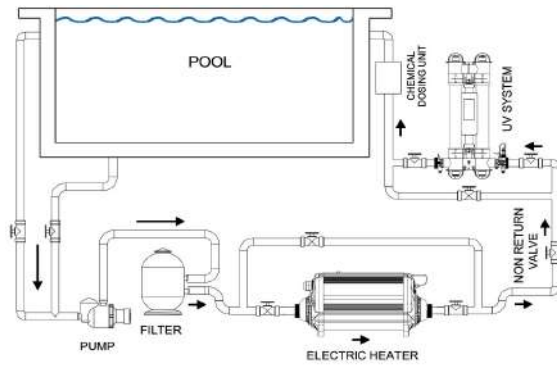


📏 Dimensions

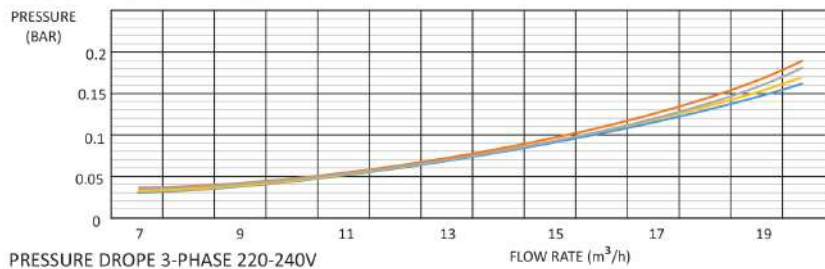


SPECIFICATIONS

| | |
|---------------------------|--|
| POWER SUPPLY | Single phase or three phase |
| FLOW REQUIREMENTS | Minimum flow: 7m³/h / Maximum flow: 15m³/h / Recommended flow: 8m³/h |
| HEATING ELEMENTS | Grade 1 titanium |
| FLOW TUBE | Grade 1 titanium |
| CONTROL THERMOSTAT | Analogue: 0 > 45°C (1.2°C differential)/Digital: 0 > 45°C (0.5°C differential) |
| SAFETY THERMAL CUT OUT | 65°C safety thermal cut out (auto reset) against enclosure over-temperature 60°C safety thermal cut out (manual reset) |
| FLOW SWITCH | Gold tipped reed switch with titanium fulcrum pin |
| CONTACTOR | Cascade wired dual Siemens 3RT2023 or 3RT2027 for each element bank |
| SEALS | High temperature special formula EPDM ferrules, TPE end fitting gaskets |
| WATER CONNECTIONS | 63mm spigot with 2"/63mm stepped ABS unions |
| INGRESS PROTECTION RATING | IP 44 |
| FREQUENCY | 50/60 Hz |
| WORKING PRESSURE | 4 bar maximum |
| MOUNTING | Floor or wall mounting |

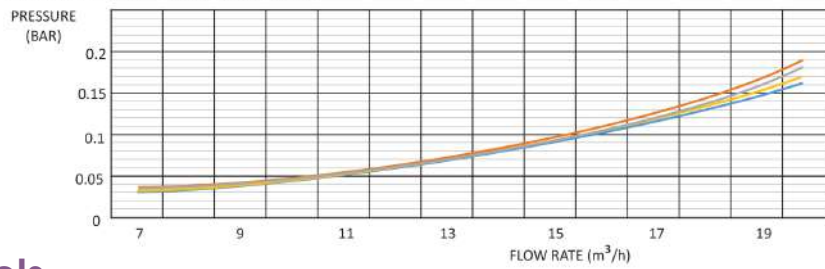


PRESSURE DROPE 3-PHASE 380-415V



- 18,24,30 & 36-KW
- 45,54,60 & 72 - KW
- 96-KW
- 120-KW

PRESSURE DROPE 3-PHASE 220-240V



- 18,24,30 & 36-KW
- 45 & 54-KW
- 90 & 72-KW
- 90-KW

Models

| CODE | POWER OUTPUT | CURRENT | LOAD | DIMENSIONS | PACKING | WEIGHT | VOLUME |
|----------|--------------|-----------------|------|------------|---------|--------|----------------|
| | kW | | Amp | L | | kg | m ³ |
| SFS-18 | 18 | 400V 3 phase | 26 | 699 | 1 | 26 | 0.20 |
| SFS-24 | 24 | | 35 | 699 | 1 | 26 | 0.20 |
| SFS-30 | 30 | | 44 | 699 | 1 | 26 | 0.20 |
| SFS-36 | 36 | | 53 | 699 | 1 | 26 | 0.20 |
| SFS-45 | 45 | | 66 | 699 | 1 | 28 | 0.20 |
| SFS-54 | 54 | | 79 | 699 | 1 | 28 | 0.20 |
| SFS-60 | 60 | | 87 | 699 | 1 | 28 | 0.20 |
| SFS-72 | 72 | | 105 | 699 | 1 | 28 | 0.20 |
| SFS-96 | 96 | | 139 | 1042 | 1 | 44 | 0.28 |
| SFS-120 | 120 | | 174 | 1042 | 1 | 44 | 0.28 |
| SFSD-18 | 18 | | 26 | 699 | 1 | 26 | 0.20 |
| SFSD-24 | 24 | | 35 | 699 | 1 | 26 | 0.20 |
| SFSD-30 | 30 | | 44 | 699 | 1 | 26 | 0.20 |
| SFSD-36 | 36 | | 53 | 699 | 1 | 26 | 0.20 |
| SFSD-45 | 45 | | 66 | 699 | 1 | 28 | 0.20 |
| SFSD-54 | 54 | | 79 | 699 | 1 | 28 | 0.20 |
| SFSD-60 | 60 | 87 | 699 | 1 | 28 | 0.20 | |
| SFSD-72 | 72 | 105 | 699 | 1 | 28 | 0.20 | |
| SFSD-96 | 96 | 139 | 1042 | 1 | 44 | 0.28 | |
| SFSD-120 | 120 | 174 | 1042 | 1 | 44 | 0.28 | |

Note : For other voltages in the 3phase heaters please add -415 or -380 after the code



07 | TITAN OPTIMA

✓ Technical features

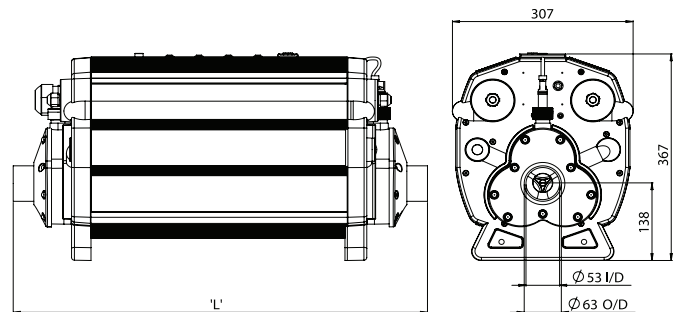
Reliable accurate and efficient, the Titan Optima fully titanium heater is top of the range and comes with a touchscreen display. It is the ideal choice for a long-lasting heater for commercial pools. The design makes it highly robust and durable.

- Various power options ranging from 18-kW to 120-kW
- Easy installation, fully equipped and pre-wired
- Robust, durable construction
- Ultra-reliable flow switch allows safe operation
- Supplied with temperature thermostat and overheating sensor
- Compact, durable design
- Touchscreen control with soft-start for power supply protection
- Titanium flow tube and titanium heating element
- Can be floor or vertically wall mounted
- Vortex, long life, stay clean heating element technology
- 100% efficiency throughout the product life
- Silent operation

ELEGR
ENGINEERING

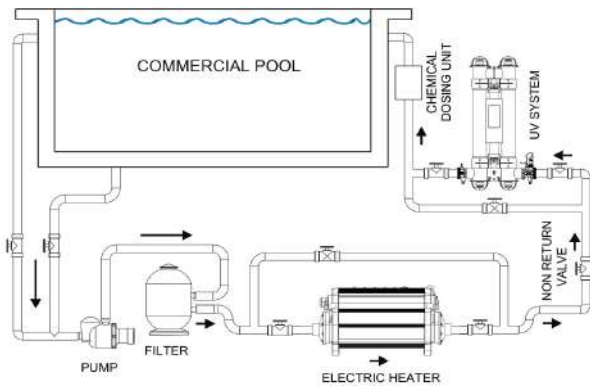


📏 Dimensions

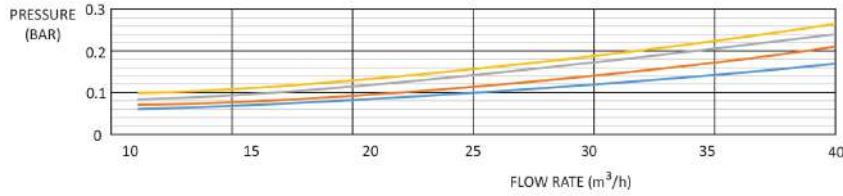


SPECIFICATIONS

| | |
|---------------------------|--|
| POWER SUPPLY | Single phase or three phase |
| FLOW REQUIREMENTS | Minimum flow: 12m ³ /h / Recommended flow: 30m ³ /h / Maximum flow: 45m ³ /h |
| HEATING ELEMENTS | Grade 1 titanium |
| FLOW TUBE | Grade 1 titanium |
| CONTROL THERMOSTAT | Touchscreen 0 > 45°C (0.5°C differential) |
| SAFETY THERMAL CUT OUT | 65°C safety thermal cut out (auto reset) against enclosure over-temperature 60°C safety thermal cut out (manual reset) |
| FLOW SWITCH | Gold tipped reed switch with titanium fulcrum pin |
| CONTACTOR | Cascade wired dual Siemens 3RT2023 or 3RT2027 for each element bank |
| SEALS | High temperature special formula EPDM ferrules, TPE end fitting gaskets |
| WATER CONNECTIONS | 63mm spigot with 2"/63mm stepped ABS unions |
| INGRESS PROTECTION RATING | IP 44 |
| FREQUENCY | 50/60 Hz |
| WORKING PRESSURE | 4 bar maximum |
| MOUNTING | Floor or wall mounting |

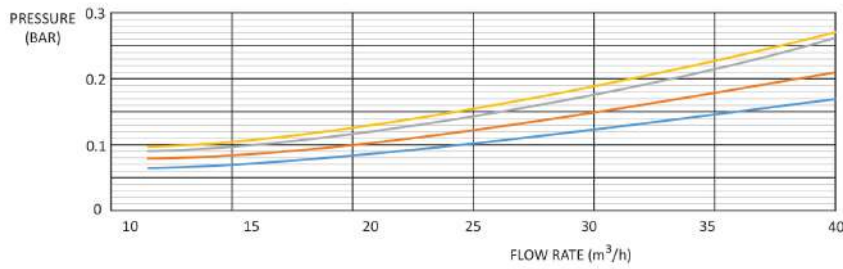


PRESSURE DROPE 3-PHASE 380-415V



- 18,24,30 & 36-KW
- 45,54,60 & 72 - KW
- 96-KW
- 120-KW

PRESSURE DROPE 3-PHASE 220-240V



- 18,24,30 & 36-KW
- 45 & 54-KW
- 90 & 72-KW
- 90-KW

Models

| CODE | POWER OUTPUT | CURRENT | LOAD | DIMENSIONS | PACKING | WEIGHT | VOLUME |
|-----------|--------------|-----------------|------|------------|---------|--------|----------------|
| | kW | | Amp | L | | kg | m ³ |
| CP-TS-18 | 18 | 400V 3 phase | 26 | 699 | 1 | 25.8 | 0.20 |
| CP-TS-24 | 24 | | 35 | 699 | 1 | 25.8 | 0.20 |
| CP-TS-30 | 30 | | 44 | 699 | 1 | 25.8 | 0.20 |
| CP-TS-36 | 36 | | 53 | 699 | 1 | 25.8 | 0.20 |
| CP-TS-45 | 45 | | 66 | 699 | 1 | 28.0 | 0.20 |
| CP-TS-54 | 54 | | 79 | 699 | 1 | 28.0 | 0.20 |
| CP-TS-60 | 60 | | 87 | 699 | 1 | 28.0 | 0.20 |
| CP-TS-72 | 72 | | 105 | 699 | 1 | 28.0 | 0.20 |
| CP-TS-96 | 96 | | 139 | 1042 | 1 | 43.8 | 0.28 |
| CP-TS-120 | 120 | | 174 | 1042 | 1 | 43.8 | 0.28 |

Note : For other voltages in the 3phase heaters please add -415 or -380 after the code



08 POOL SMART PLUS



✓ Technical features

A highly convenient, remotely accessible, touchscreen heat controller for residential and commercial pools. Includes a flow switch and temperature sensor for accurate monitoring and a management system that gives complete control over the swimming pool heating.

- Smart touchscreen display
- BMS (Building Management System) Integration Ready
- Multi-lingual interface
- Programmable 24-hour time clock (4 time zones)
- Flow and temperature sensor ports
- Accurate control to 0.5°C
- Diagnostic display



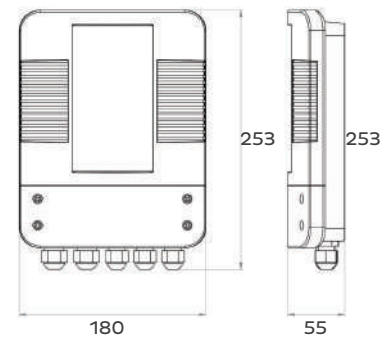
📏 Dimensions



T-PIECE



50MM AND 1.5 " REDUCERS



| SPECIFICATIONS | |
|---------------------------|---|
| POWER SUPPLY | Single phase 100-240V |
| AVAILABLE MODELS | Heating only |
| CONTROL THERMOSTAT | Digital: 0 > 45°C (0.5°C differential) |
| TEMPERATURE SENSOR | 3 metre long (thermistor 103AT-2, R25=10K B=3435K) |
| FLOW SWITCH | 3 metre long with gold tipped reed switch with titanium fulcrum pin |
| INGRESS PROTECTION RATING | IP 44 |
| FREQUENCY | 50/60Hz |
| MOUNTING | Wall mounting |

🔍 Models

| CODE | DESCRIPTION | OUTPUTS | ACCESSORIES | PACKING | WEIGHT | VOLUME |
|-----------|-------------------------|--|--|---------|--------|----------------|
| | | | | | kg | m ³ |
| PSPC-POOL | Pool heating controller | Volt free heating output Volt free filtration pump output | 3 meter long flow switch 3 meter long temperature sensor T-piece with 50mm and 1.5" reducers | 1 | 1.6 | 0.013 |

09 | HEAT SMART & KOOL SMART PLUS



✓ Technical features

The perfect additional to any Electro heat exchanger – A touchscreen heating or cooling controller with built in flow switch and temperature sensor for safe operation. Both Heatsmart Plus and Koolsmart Plus are available with or without a Grundfos booster pump.

- Smart touchscreen display
- BMS (Building Management System) Integration Ready
- Multi-lingual interface
- Programmable 24-hour time clock (4 time zones)
- Flow and temperature sensor ports
- Accurate control to 0.5oC
- Diagnostic display



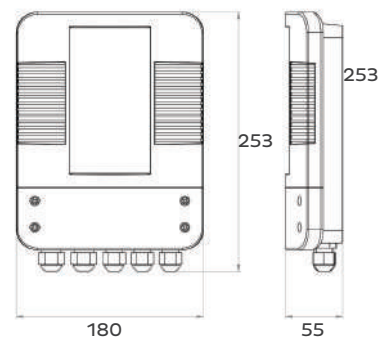
📏 Dimensions



GRUNDFOS BUSTER PUMP



FLOW SWITCH AND TEMPERATURE SENSOR



SPECIFICATIONS

| | |
|---------------------------|--|
| POWER SUPPLY | Single phase 100-240V |
| AVAILABLE MODELS | Heating only /Cooling only |
| CONTROL THERMOSTAT | Digital: 0 > 45°C (0.5°C differential) |
| TEMPERATURE SENSOR | 1 metre long (thermistor 103AT-2, R25=10K B=3435K) |
| FLOW SWITCH | Gold tipped reed switch with titanium fulcrum pin |
| INGRESS PROTECTION RATING | IP 44 |
| FREQUENCY | 50/60Hz |
| MOUNTING | Wall mounting |
| OPTIONAL ACCESSORIES | Grundfos Booster Pump |

🔍 Models

| CODE | DESCRIPTION | OUTPUTS | ACCESSORIES | PACK-ING | WEIGHT | VOLUME |
|------------|---------------------------|--|--|----------|--------|----------------|
| | | | | | kg | m ³ |
| PSPC-HE | Heat exchanger controller | Volt free heating output Volt free filtration pump output | 1 metre long flow switch 1 metre long temperature sensor | 1 | 1.6 | 0.013 |
| PSPC-HE-GP | Heat exchanger controller | 220-240V Booster Pump output | Grundfos Booster Pump 1 metre long flow switch 1 metre long temperature sensor | 1 | 3.5 | 0.021 |
| KSPC-HE | Heat exchanger controller | Volt free heating output Volt free alarm pump output | 1 metre long flow switch 1 metre long temperature sensor | 1 | 1.6 | 0.013 |
| KSPC-HE-GP | Heat exchanger controller | | Grundfos Booster Pump 1 metre long flow switch 1 metre long temperature sensor | 1 | 3.5 | 0.021 |



10 | G2 HEAT EXCHANGER



✓ Technical features

- Manufactured using top quality components and materials
- Robust, durable construction
- Titanium tube bundle (Salt and sea water safe)
- BS AISI-316L stainless steel shell with special polyamide fittings
- Wall mountable (bracket supplied)
- Available with analogue or digital control (optional)
- Working pressure: 4 bar maximum
-

Construction:

The G2 construction provides a vast heat transfer surface area, consisting of a densely populated multi-tubular bundle, secured by the uniquely designed polyamide rubber tube sheet. It's shell is manufactured in BS AISI-316L stainless steel, enclosed by a rigid thermal shell for enhanced insulation of the primary (HOT) water, enabling even greater heat transfer; this is capped at each end with primary and secondary moulded fittings manufactured from specially formulated polymer alloy material.

What's included:

The standard G2 heat exchanger is supplied complete with:

- 2 x 1" male/male Brass Primary connections
- 1 x 1" Non-Return Valve
- Titanium thermostat pocket
- 1 x Blanking Cap and Gasket (for non-thermostat side)

Installation:

The G2 heat exchanger is installed in the pool filtration circuit from which water passes through the tube side of the exchanger. Water from the primary heating circuit flows counter-current through the shell side of the exchanger, heating the swimming pool water. Ideal for use with gas or oil fired boiler circuits, solar panels, heat pumps or chillers.

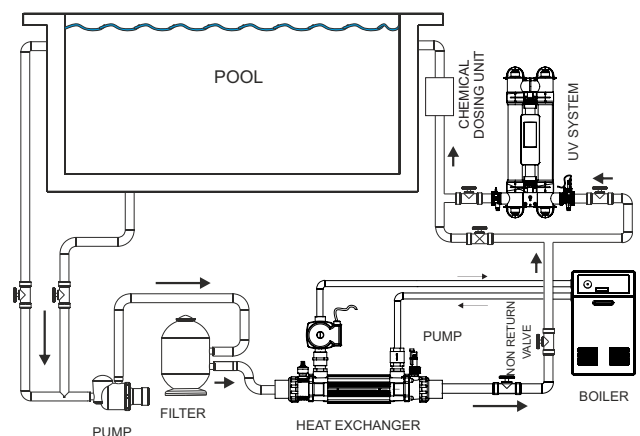
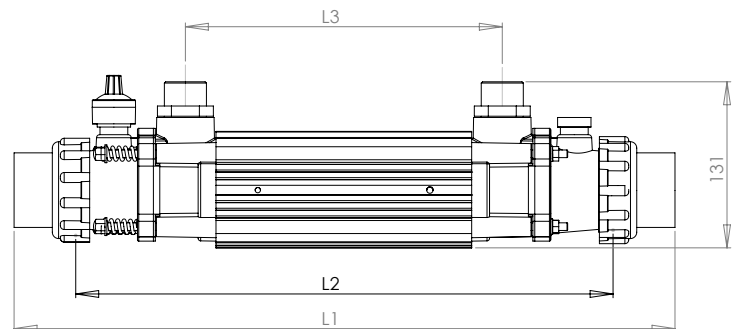
The G2 Heat Exchanger has been designed to allow the installation engineer to select which way to plumb the primary and secondary water to achieve maximum thermal gain; this is achieved by routing the primary flow in an opposing direction to the secondary (POOL) water.

Water connections:

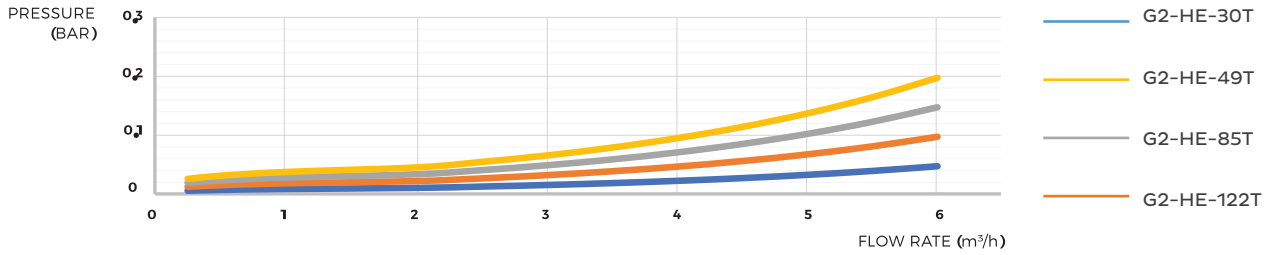
- Primary 1" BSP male (brass fittings supplied)
- Secondary (POOL): 1.5" or 50mm NB adapters for connection to PVC or ABS pipe



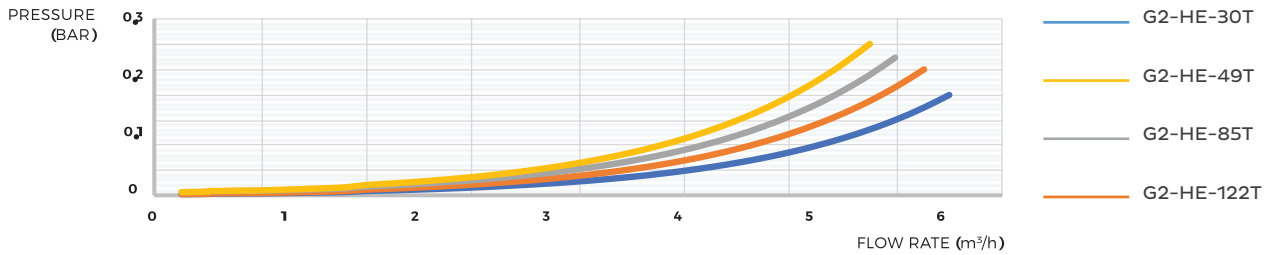
📏 Dimensions



PRESSURE DROP SECONDARY CIRCUIT



PRESSURE DROP PRIMARY CIRCUIT



Models

| CODE | STANDARD POWER OUTPUT | | DIMENSIONS | | | PACKING | WEIGHT | VOLUME |
|------------|-----------------------|------|------------|-----|-----|---------|--------|----------------|
| | kW | BTU | L1 | L2 | L3 | | kg | m ³ |
| G2-HE-30T | 30 | 102K | 540 | 426 | 247 | 1 | 3.9 | 0.016 |
| G2-HE-49T | 49 | 167K | 710 | 596 | 417 | 1 | 5.0 | 0.021 |
| G2-HE-85T | 85 | 290K | 840 | 726 | 547 | 1 | 6.3 | 0.026 |
| G2-HE-122T | 122 | 416K | 1000 | 886 | 707 | 1 | 7.6 | 0.037 |

| CODE | PRIMARY (HOT) FLOW | PRIMARY (HOT) HEAD LOSS | SECOND-ARY (POOL) FLOW | SECOND-ARY (POOL) HEAD LOSS | ΔT 15°C | ΔT 20°C | ΔT 30°C | ΔT 40°C | ΔT 50°C | ΔT 60°C | ΔT 70°C |
|------------|--------------------|-------------------------|------------------------|-----------------------------|---------|---------|---------|---------|---------|---------|---------|
| | m ³ | kPa | m ³ | m ³ | kW | kW | kW | kW | kW | kW | kW |
| G2-HE-30T | 1.1 | 6.1 | 10 | 5 | 9 | 11 | 16 | 20 | 26 | 30 | 33 |
| | 1.3 | 6.8 | 10 | 5 | 10 | 13 | 18 | 23 | 31 | 34 | 39 |
| | 1.3 | 6.8 | 14 | 7 | 11 | 15 | 20 | 26 | 34 | 41 | 46 |
| G2-HE-49T | 1.6 | 7.7 | 16 | 9.2 | 13 | 18 | 25 | 33 | 41 | 50 | 56 |
| | 1.8 | 8.3 | 16 | 9.2 | 14 | 20 | 28 | 38 | 45 | 55 | 62 |
| | 2.2 | 9.3 | 17 | 9.8 | 16 | 22 | 33 | 44 | 52 | 64 | 73 |
| G2-HE-85T | 2.4 | 11.3 | 17 | 10.6 | 22 | 28 | 40 | 53 | 64 | 75 | 81 |
| | 2.7 | 12.9 | 17 | 10.6 | 26 | 32 | 46 | 60 | 73 | 82 | 89 |
| | 3.2 | 14.7 | 17 | 10.6 | 28 | 34 | 49 | 64 | 77 | 90 | 102 |
| G2-HE-122T | 3.8 | 18.3 | 19 | 12.6 | 33 | 43 | 68 | 75 | 93 | 108 | 120 |
| | 4.2 | 20 | 19 | 12.6 | 36 | 48 | 70 | 89 | 108 | 126 | 143 |
| | 4.6 | 21.1 | 19 | 12.6 | 38 | 53 | 73 | 95 | 116 | 137 | 156 |



11 | SST HEAT EXCHANGER



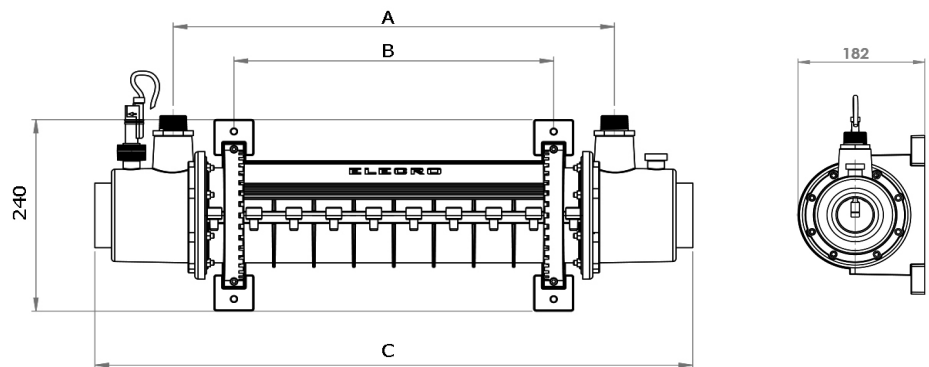
✓ Technical features

The SST (Shell & Spiral Tube) is a titanium, spiral tube heat exchanger with a rigid, uniquely formulated shell that has a high-pressure tolerance and provides the perfect solution for all demanding spa and residential pool environments. The SST is easy to install, consumes no electricity and operates in complete silence with zero maintenance required.

- Four models available, ranging from 36-kW to 95-kW
- Special formulated polymer
- Coiled titanium primary casing
- Salt and sea water compatible
- 30 bar (primary) and 3 bar (secondary) pressure tolerance
- Low pressure drop
- With optional Smart Touchscreen Controller and Booster Pump
- Temperature and flow sensor port
- Floor or wall mountable

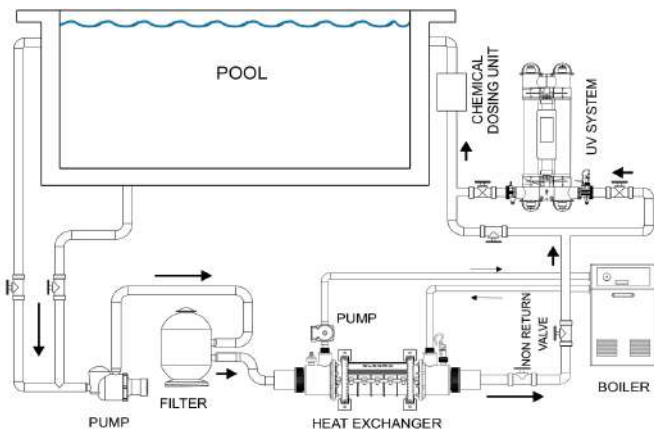


📏 Dimensions



| PRIMARY CIRCUIT | |
|-------------------|---------------------|
| FLOW TUBE | COILED TITANIUM |
| WATER CONNECTIONS | 1" BSP MALE FITTING |
| FLOW TUBE | 30 BAR MAXIMUM |

| SECONDARY CIRCUIT | |
|-------------------|--|
| FLOW TUBE | SPECIAL FORMULATED POLYMER |
| WATER CONNECTIONS | 21/2"/63 MM STEPPED ABS UNIONS FOR RIGID PIPE CONNECTION WITH 1/1/2"/50MM REDUCERS |
| FLOW TUBE | 30 BAR MAXIMUM |



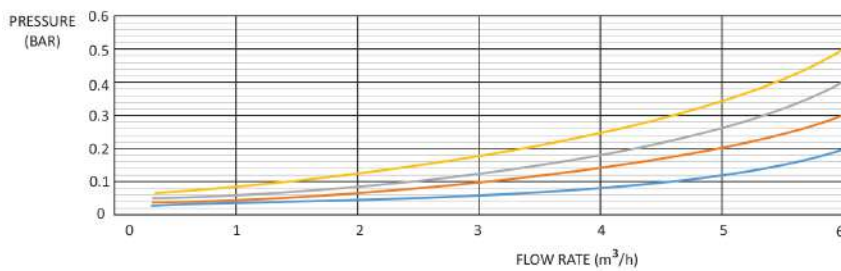
SST-36

SST-50

SST-75

SST-95

PRESSURE DROP PRIMARY CIRCUIT



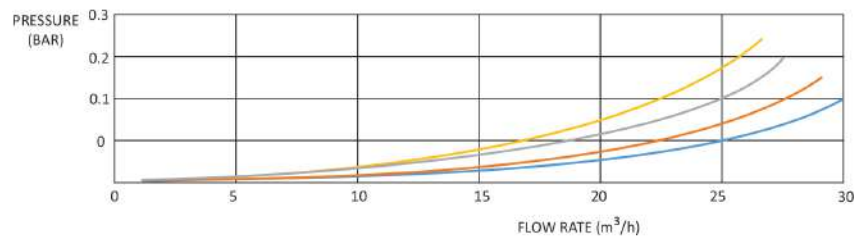
SST-36

SST-50

SST-75

SST-95

PRESSURE DROP SECONDARY CIRCUIT



SST-36

SST-50

SST-75

SST-95

Models

| CODE | STANDARD POWER OUTPUT | | DIMENSIONS | | | PACKING | WEIGHT | VOLUME |
|--------|-----------------------|-----|------------|-----|-----|---------|--------|----------------|
| | kW | BTU | A | B | C | | kg | m ³ |
| SST-36 | 36 | 123 | 290 | 143 | 478 | 1 | 5.8 | 0.055 |
| SST-50 | 50 | 171 | 386 | 240 | 574 | 1 | 6.4 | 0.055 |
| SST-75 | 75 | 256 | 530 | 384 | 718 | 1 | 7.6 | 0.075 |
| SST-95 | 95 | 324 | 674 | 528 | 862 | 1 | 8.7 | 0.075 |

| CODE | PRIMARY (HOT) FLOW | PRIMARY (HOT) HEAD LOSS | SECONDARY (POOL) FLOW | SECONDARY (POOL) HEAD LOSS | ΔT 50°C | ΔT 60°C | ΔT 70°C |
|--------|--------------------|-------------------------|-----------------------|----------------------------|---------|---------|---------|
| | m ³ | kPa | m ³ | m ³ | kW | kW | kW |
| SST-36 | 1.1 | 6.1 | 12 | 5.0 | 26 | 30 | 33 |
| SST-50 | 2.5 | 6.8 | 15 | 5.0 | 31 | 34 | 39 |
| SST-75 | 2.7 | 6.8 | 18 | 5.0 | 34 | 41 | 46 |
| SST-95 | 3.2 | 7.7 | 18 | 5.0 | 41 | 50 | 56 |



12 | PLATE HEAT EXCHANGER



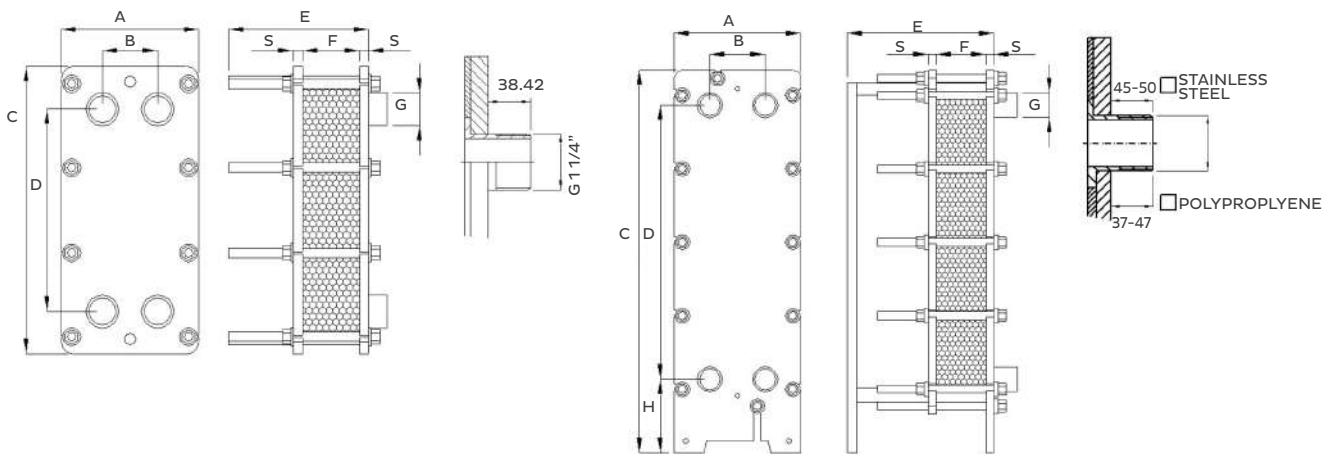
✓ Technical features

Cost effective heat management solution. Whether it is for heating or cooling their efficient operation saves energy, reducing costs and minimising environmental impact.

- High overall heat transfer coefficient
- Compact design gives maximum surface area to material volume without compromising mechanical robustness
- High performance with low hold-up volume
- Versatile, modular design
- Plate and gasket materials available to suit most fluid types
- Easy dismantling for rapid cleaning



📏 Dimensions



| DIMENSION (mm) | A | B | C | D | E | F | G | H | S |
|----------------|-----|-----|-----|-----|-----|--------|------|-----|-------|
| PHE100-TI | 204 | 86 | 490 | 381 | 116 | 39.75 | DN32 | 0 | 14/12 |
| PHE140-TI | 204 | 86 | 490 | 381 | 116 | 50.35 | DN32 | 0 | 14/12 |
| PHE180-TI | 204 | 86 | 490 | 381 | 141 | 66.25 | DN32 | 0 | 14/12 |
| PHE240-TI | 204 | 86 | 490 | 381 | 191 | 92.75 | DN32 | 0 | 14/12 |
| PHE290-TI | 204 | 86 | 490 | 381 | 191 | 103.35 | DN32 | 0 | 14/12 |
| PHE330-TI | 204 | 86 | 490 | 381 | 241 | 129.85 | DN32 | 0 | 14/12 |
| PHE370-TI | 204 | 86 | 490 | 381 | 291 | 140.45 | DN32 | 0 | 14/12 |
| PHE410-TI | 204 | 86 | 490 | 381 | 291 | 151.05 | DN32 | 0 | 14/12 |
| PHE450-TI | 312 | 140 | 963 | 690 | 447 | 66.5 | DN65 | 185 | 20/20 |
| PHE500-TI | 312 | 140 | 963 | 690 | 447 | 87.5 | DN65 | 185 | 20/20 |
| PHE550-TI | 312 | 140 | 963 | 690 | 447 | 94.5 | DN65 | 185 | 20/20 |
| PHE610-TI | 312 | 140 | 963 | 690 | 447 | 101.5 | DN65 | 185 | 20/20 |
| PHE670-TI | 312 | 140 | 963 | 690 | 447 | 115.5 | DN65 | 185 | 20/20 |
| PHE730-TI | 312 | 140 | 963 | 690 | 447 | 122.5 | DN65 | 185 | 20/20 |
| PHE780-TI | 312 | 140 | 963 | 690 | 447 | 129.5 | DN65 | 185 | 20/20 |
| PHE820-TI | 312 | 140 | 963 | 690 | 447 | 136.5 | DN65 | 185 | 20/20 |

Models

| PROCESS DATA (HOT SIDE) | PHE100-TI | PHE140-TI | PHE180-TI | PHE240-TI | PHE290-TI | PHE330-TI | PHE370-TI | PHE410-TI |
|-------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| TEMP(IN)°C | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| TEMP(OUT)°C | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| FLOW RATE (M/H) | 4.52 | 6.20 | 7.88 | 10.71 | 12.70 | 14.70 | 16.38 | 18.33 |
| PRESSURE DROP (KPA) | 22.11 | 25.54 | 24.50 | 25.04 | 26.62 | 25.55 | 27.18 | 29.57 |

| PROCESS DATA (COLD SIDE) | PHE100-TI | PHE140-TI | PHE180-TI | PHE240-TI | PHE290-TI | PHE330-TI | PHE370-TI | PHE410-TI |
|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| TEMP(IN)°C | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| TEMP(OUT)°C | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| FLOW RATE (M/H) | 5.88 | 8.07 | 10.26 | 13.94 | 16.54 | 19.13 | 21.32 | 23.86 |
| PRESSURE DROP (KPA) | 42.19 | 48.65 | 46.48 | 47.13 | 49.91 | 47.51 | 50.36 | 54.59 |
| DELTA T LOG MEAN (C) | 52.46 | 52.46 | 52.46 | 52.46 | 52.46 | 52.46 | 52.46 | 52.46 |
| HEAT EXCHANGES (KW) | 102 | 140 | 178 | 242 | 287 | 332 | 370 | 414 |

| CONSTRUCTION DATA | PHE100-TI | PHE140-TI | PHE180-TI | PHE240-TI | PHE290-TI | PHE330-TI | PHE370-TI | PHE410-TI |
|-------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| HEAT TRANSFER AREA (M) | 0.624 | 0.816 | 1.104 | 1.584 | 1.776 | 2.256 | 2.448 | 2.640 |
| OVER SURFACING (%) | 121.48 | 118.57 | 126.71 | 133.98 | 128.42 | 139.15 | 136.47 | 132.69 |
| OVERALL K SERVICE(W/MC) | 3114.33 | 3268.79 | 3071.85 | 2910.78 | 3078.84 | 2803.80 | 2879.64 | 2987.76 |
| FOULING F (MC/KW) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PLATES THICKNESS (MM) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| OVERALL K CLEAN(W/MC) | 6897.51 | 7144.68 | 6964.29 | 6813.72 | 7032.83 | 6705.26 | 6809.54 | 6952.19 |
| WEIGHT EMPTY (KG) | 29 | 30 | 32 | 35 | 36 | 39 | 40 | 41 |
| WEIGHT FULL (KG) | 30.778 | 32.346 | 34.698 | 38.618 | 40.186 | 44.106 | 45.674 | 47.242 |
| VOLUME HOT SIDE (L) | 0.714 | 0.918 | 1.224 | 1.734 | 1.938 | 2.448 | 2.652 | 2.856 |
| VOLUME COLD SIDE (L) | 0.714 | 0.918 | 1.224 | 1.734 | 1.938 | 2.448 | 2.62 | 2.856 |
| NO. SERIES PASS HOT SIDE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| NO. SERIES PASS COLD SIDE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| NO. PARALLEL PASSES HOT SIDE | 7 | 9 | 12 | 17 | 19 | 24 | 26 | 28 |
| NO. PARALLEL PASSES COLD SIDE | 7 | 9 | 12 | 17 | 19 | 24 | 26 | 28 |



Models

| PROCESS DATA (HOT SIDE) | PHE450-TI | PHE500-TI | PHE550-TI | PHE610-TI | PHE670-TI | PHE730-TI | PHE780-TI | PHE820-TI |
|-------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| TEMP(IN)°C | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| TEMP(OUT)°C | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| FLOW RATE (M/H) | 19.74 | 22.31 | 24.17 | 26.96 | 29.75 | 32.54 | 34.40 | 36.25 |
| PRESSURE DROP (KPA) | 23.28 | 21.45 | 21.85 | 22.51 | 23.26 | 22.72 | 23.21 | 23.73 |

| PROCESS DATA (COLD SIDE) | PHE450-TI | PHE500-TI | PHE550-TI | PHE610-TI | PHE670-TI | PHE730-TI | PHE780-TI | PHE820-TI |
|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| TEMP(IN)°C | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| TEMP(OUT)°C | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| FLOW RATE (M/H) | 25.70 | 29.04 | 31.46 | 35.06 | 38.72 | 42.35 | 44.77 | 47.19 |
| PRESSURE DROP (KPA) | 50.06 | 45.73 | 46.43 | 47.64 | 48.88 | 47.53 | 48.36 | 49.24 |
| DELTA T LOG MEAN (C) | 52.46 | 52.46 | 52.46 | 52.46 | 52.46 | 52.46 | 52.46 | 52.46 |
| HEAT EXCHANGES (KW) | 446 | 504 | 546 | 609 | 672 | 735 | 777 | 819 |

| CONSTRUCTION DATA | PHE450-TI | PHE500-TI | PHE550-TI | PHE610-TI | PHE670-TI | PHE730-TI | PHE780-TI | PHE820-TI |
|-------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| HEAT TRANSFER AREA (M) | 2.873 | 3.887 | 4.225 | 4.563 | 5.239 | 5.577 | 5.915 | 6.253 |
| OVER SURFACING (%) | 95.43 | 114.26 | 114.95 | 112.11 | 116.59 | 114.10 | 114.62 | 115.09 |
| OVERALL K SERVICE(W/MC) | 2957.66 | 2470.38 | 2462.15 | 2542.82 | 2443.82 | 2510.93 | 2502.74 | 2495.42 |
| FOULING F (MC/KW) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PLATES THICKNESS (MM) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| OVERALL K CLEAN(W/MC) | 5780.09 | 5293.03 | 5293.03 | 5393.57 | 5293.03 | 5375.97 | 5371.40 | 5367.30 |
| WEIGHT EMPTY (KG) | 150 | 155 | 156 | 158 | 161 | 163 | 164 | 166 |
| WEIGHT FULL (KG) | 157.85 | 165.20 | 167.65 | 170.10 | 175.00 | 177.45 | 179.90 | 182.35 |
| VOLUME HOT SIDE (L) | 3.825 | 5.100 | 5.525 | 5.950 | 6.800 | 7.225 | 7.650 | 8.075 |
| VOLUME COLD SIDE (L) | 3.825 | 5.100 | 5.525 | 5.950 | 6.800 | 7.225 | 7.650 | 8.075 |
| NO. SERIES PASS HOT SIDE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| NO. SERIES PASS COLD SIDE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| NO. PARALLEL PASSES HOT SIDE | 9 | 12 | 13 | 14 | 16 | 17 | 18 | 19 |
| NO. PARALLEL PASSES COLD SIDE | 9 | 12 | 13 | 14 | 16 | 17 | 18 | 19 |

13 | AQUA POOL DEHUMIDIFIERS WITH HEATING & COOLING FUNCTION

✓ Technical features

AQUA Indoor Environmental Control Systems, provide effective control of damaging moisture, common with indoor pool facilities. They maintain a delicate balance of humidity control and manage air and water temperatures for maximum comfort at the lowest cost. This series uses heat pump technology to dehumidify the space and recycle the waste energy to heat both the air and pool water. They are available in many sizes and a variety of configurations for large indoor pools found in hotels, schools, natatoriums, aquatic centres and water parks.



BUILT FOR THE CORROSIVE POOL ENVIRONMENT

AQUA dehumidifiers have many special design features to minimize maintenance and extend the life of the unit. All critical components are located out of the corrosive air stream, and coils are constructed from all copper and coated aluminium fins for long life. AQUA uses full-size air/water condensers for maximum pool and air heating or cooling. It utilizes a sophisticated controller that offers high efficient control strategies for more efficient intelligent pool operation. All units are constructed of heavy-gauge steel with side and roof panels galvanized and epoxy powder coated to resist corrosion. Panel insulation provides additional energy efficiency along with sound control for indoor and outdoor installations.



- Room hygrosat and thermostat.
- Automatically switches mode from heat to cool.
- Optional digital controller with display.

RECYCLED ENERGY LESSENS THE NEED FOR FOSSIL FUEL HEATING

Indoor pools demand large quantities of heat to maintain space and water comfort conditions. Rather than relying on fossil fuel as the primary heat source, AQUA units utilise waste heat, generated during dehumidification to heat the space and pool water. AQUA units return much more energy than they use with average recorded savings ranging from 40% to 60% over conventional outside air dilution systems. For every kilowatt of electrical power used to operate AQUA system, five kilowatts of heat are delivered to the natatorium and water. friendly interface - Self diagnosis

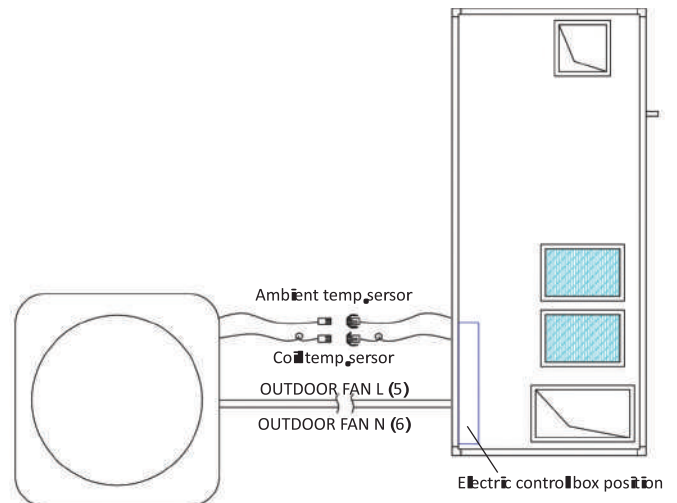
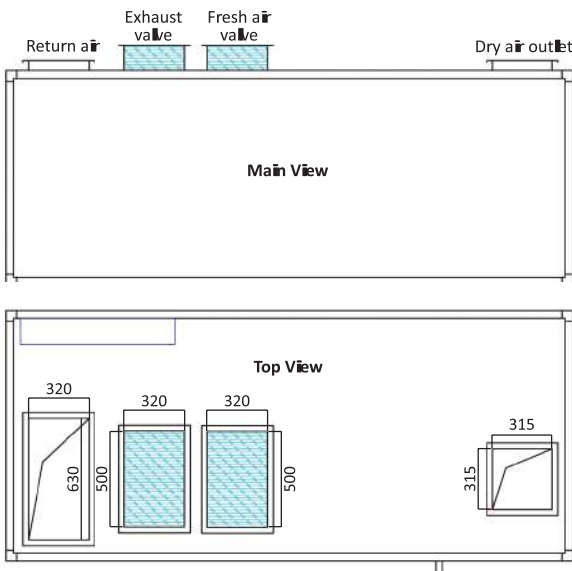
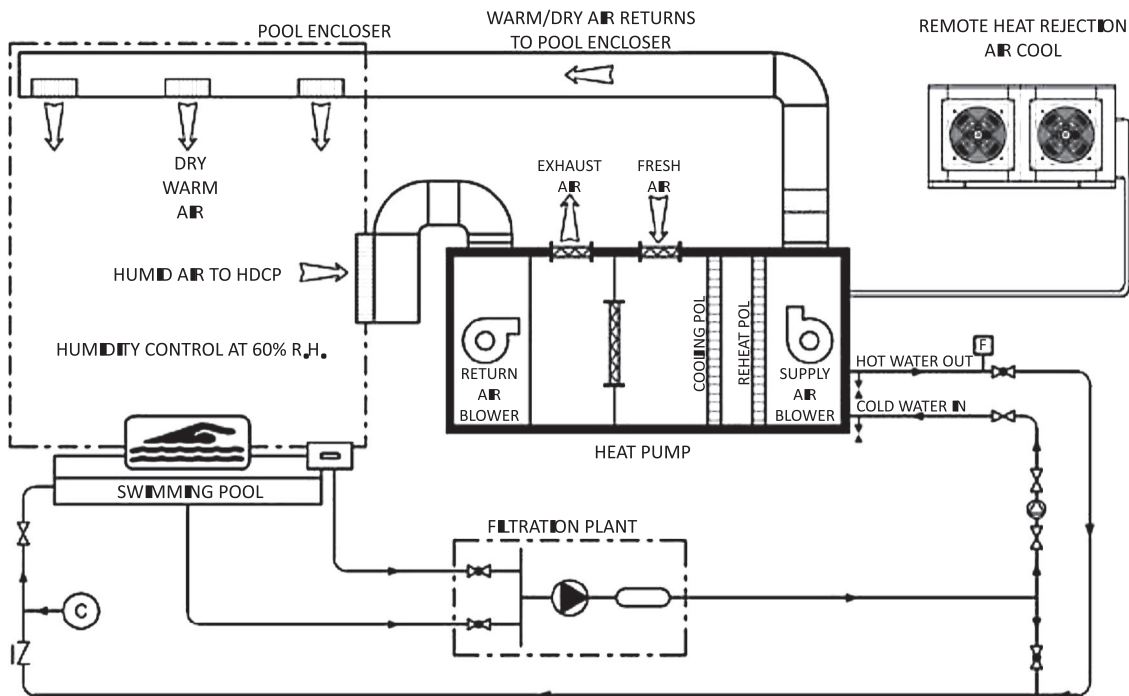
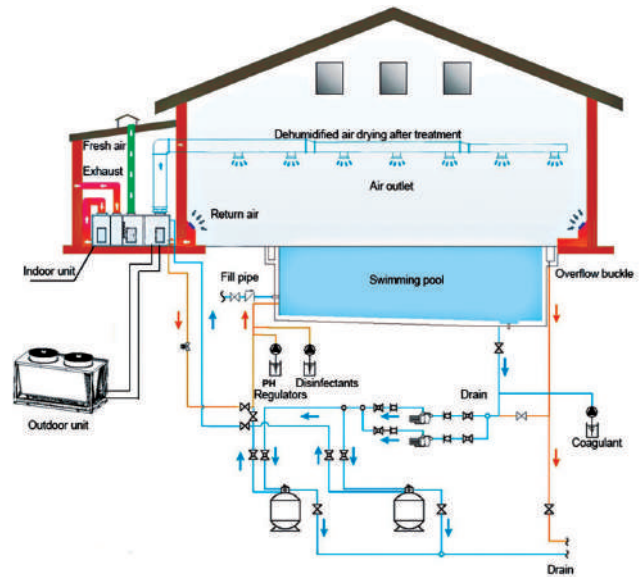
HIGH EFFICIENCY AND ENVIRONMENTALLY FRIENDLY

All models use R22 or R417A refrigerant and deliver excellent performance characteristics. Stage compressor cycling ensures minimum compressor operation for any given load for greater efficiency, and also maintains a high quality environment.



The systems can be configured to return condensate back to the pool, saving the equivalent of the entire pool's volume over one year. For improved air quality, plasma filters can be added.

- Rugged features delivers unrivaled performance
- Scroll compressor, efficient and quiet operation
- Coated evaporator and reheat condenser coils, long life
- Titanium tube-in-shell water heat exchanger
- Powder coated cabinet, corrosion resistant
- Controller with user friendly interface
- Self diagnosis



Models

| | | | AD-15 | AD-20 | AD-25 | AD-30 | AD-40 | AD-50 | AD-60 | AD-80 | AD-100 | AD-120 | AD-160 | |
|--------------------------------|------------------------|------------------------|--------------|---------|---------|---------|---------|---------|-------------|---------|-------------|----------|----------|--|
| POWER SUPPLY | | V/P/Hz | 380-415/3/50 | | | | | | | | | | | |
| OUTPUT | COOLING | kW/h | 25 | 33 | 41 | 51 | 65 | 82 | 97 | 131 | 163 | 192 | 241 | |
| | HEATING | kW/h | 30 | 39 | 47 | 60 | 78 | 106 | 128 | 170 | 214 | 243 | 280 | |
| DEHUMIDIFICATION CAPACITY | | kg/h | 17 | 22 | 26 | 33 | 43 | 51 | 62 | 84 | 102 | 122 | 160 | |
| APPLICATION POOL SURFACE AREA | | m ² | 68 | 88 | 104 | 132 | 172 | 204 | 248 | 336 | 408 | 488 | 640 | |
| RATED AIRFLOW | | m ³ @300 Pa | 4000 | 5000 | 6000 | 7500 | 9000 | 11000 | 13000 | 16600 | 21000 | 25000 | 32000 | |
| BLOWER | QTY. | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | TYPE | | CENTRIFUGAL | | | | | | CENTRIFUGAL | | | | | |
| | STATIC PRESSURE RANGE | Pa | 100-500 | 100-500 | 100-500 | 100-500 | 100-850 | 100-850 | 100-850 | 100-850 | 100-850 | 100-850 | 100-850 | |
| | POWER INPUT | kW | 1.5 | 1.5 | 2.2 | 2.2 | 3.5 | 4 | 5.5 | 6 | 7 | 7.5 | 11 | |
| COMPRESSOR | QTY. | | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 or 4 | 2 or 4 | 2 or 4 | 2 or 4 | |
| | TYPE | | | | | | | | | | | | | |
| | POWER INPUT | kW | 5.5 | 7 | 8.5 | 5.4 | 7 | 8.5 | 11 | 7 or 13 | 8.5 or 16.5 | 11 or 22 | 13 or 25 | |
| WATER HEAT EXCHANGER CONDENSER | RATED WORKING PRESSURE | MPa | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | |
| | MAX. WATER TEMPERATURE | °C | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | |
| | RATED WATER FLOW RATE | m ³ | 4.7 | 6.1 | 7.2 | 9.4 | 12.2 | 14.5 | 18.8 | 24.6 | 30.6 | 37.5 | 48 | |
| | WATER CONN. SIZE | mm | 32 | 32 | 38 | 50 | 50 | 63 | 63 | 75 | 75 | 90 | 100 | |
| AIR COOLED CONDENSER | QTY. | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | |
| | RATED CAPACITY | kW | 30 | 39 | 47 | 60 | 78 | 96 | 118 | 150 | 184 | 223 | 278 | |
| | RATED AIRFLOW | m ³ | 10000 | 12000 | 15000 | 20000 | 24000 | 30000 | 40000 | 48000 | 60000 | 80000 | 90000 | |
| | NO.OF FANS | | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 4 | 4 | 4 | 4 | |
| | FAN MOTOR POWER INPUT | kW | 0.82 | 0.82 | 1.65 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 1.1 | 1.1 | |
| DIMENSIONS | OUTDOOR CONDENSER | mm | 706 | 1450 | 1450 | 1450 | 1800 | 1850 | 2110 | 1800 | 1850 | 2110 | 2500 | |
| | | mm | 686 | 705 | 705 | 705 | 705 | 1000 | 1100 | 1000 | 1000 | 1100 | 1200 | |
| | | mm | 940 | 1065 | 1065 | 1065 | 1065 | 1320 | 1350 | 1320 | 1320 | 1350 | 1350 | |
| | INDOOR MAIN UNIT | mm | 3000 | 3600 | 3600 | 3800 | 4200 | 4600 | 4900 | 5400 | 5800 | 6600 | 7000 | |
| | | mm | 1300 | 1520 | 1570 | 1670 | 1670 | 1930 | 2160 | 2200 | 2200 | 2150 | 2200 | |
| | | mm | 1200 | 1200 | 1260 | 1360 | 1450 | 1520 | 1690 | 1840 | 2150 | 2200 | 2500 | |
| INDOOR MAIN UNIT WEIGHT | | kg | 500 | 800 | 900 | 1200 | 1500 | 1650 | 1850 | 2200 | 2500 | 2700 | 3300 | |
| PACKING | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |



14 | WATER TO WATER POOL HEAT PUMP

✓ Technical features

- Standard type with heating capacity of 13.7kW-171kW
- Touchscreen LCD control display - Can easily connect with a BMS
- Clock and timer on/off function
- High quality system with great efficiency
- Titanium heat exchanger
- Quiet operation
- Environmentally friendly

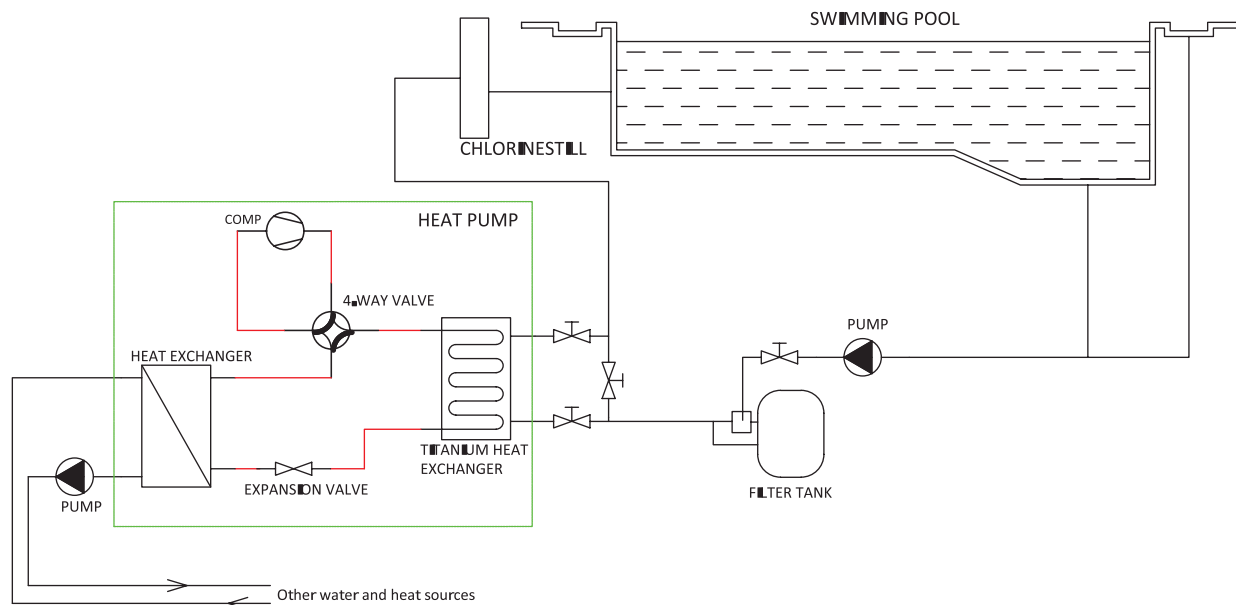


WATER TO WATER HEAT PUMP – R410A

🔍 Models

| | | WN404 | WN405 | WN406 | WN407 | WN410 |
|--|---------|---|-----------------|-----------------|-----------------|-------------------|
| Power supply | V/PH/Hz | 380-415/3/50 | 380-415/3/50 | 380-415/3/50 | 380-415/3/50 | 380-415/3/50 |
| PERFORMANCE CONDITION | | Sourcing water inlet Temp. : 12°C , User's side water inlet Temp : 30°C | | | | |
| Heating Output | kW | 13.2 | 17.7 | 22.4 | 25.4 | 34.1 |
| Power Input | kW | 2.8 | 3.8 | 4.8 | 5.5 | 7.3 |
| COP | | 4.68 | 4.66 | 4.67 | 4.64 | 4.68 |
| PERFORMANCE CONDITION | | Sourcing water inlet Temp. : 15°C , User's side water inlet Temp : 30°C | | | | |
| Heating Output | kW | 13.9 | 18.6 | 23.6 | 26.7 | 35.9 |
| Power Input | kW | 2.9 | 3.9 | 5.0 | 5.6 | 7.5 |
| COP | | 4.76 | 4.74 | 4.75 | 4.76 | 4.76 |
| PERFORMANCE CONDITION | | Sourcing water inlet Temp. : 30°C , User's side water inlet Temp : 28°C | | | | |
| Cooling Output | kW | 12.0 | 16.1 | 20.4 | 23.1 | 31.0 |
| Power Input | kW | 2.5 | 3.3 | 4.2 | 4.8 | 6.4 |
| EER | | 4.84 | 4.82 | 4.83 | 4.84 | 4.84 |
| PERFORMANCE CONDITION | | Sourcing water inlet Temp. : 40°C , User's side water inlet Temp : 28°C | | | | |
| Cooling Output | kW | 11.8 | 15.8 | 20.1 | 22.7 | 30.5 |
| Power Input | kW | 3.4 | 4.6 | 5.8 | 6.5 | 8.8 |
| EER | | 3.47 | 3.46 | 3.46 | 3.47 | 3.47 |
| Max. power Input | kW | 4.3 | 5.7 | 7.2 | 8.2 | 11.0 |
| Max. current | A | 7.6 | 10.2 | 12.9 | 14.6 | 19.6 |
| Sound power level 1m | dBA | 41 | 42 | 42 | 43 | 44 |
| Water Side Heat Exchanger Type | | Twisted Titanium Heat Exchanger | | | | |
| Water Connection | mm | 50 | 50 | 50 | 50 | 50 |
| Nominal Water Flow | m3/h | 3.8 | 5.1 | 6.4 | 7.3 | 9.8 |
| Leaving water temprature range-Heating | °C | 18~40 | | | | |
| Leaving water temprature range-Cooling | °C | 12~40 | | | | |
| Refrigerant Type | | R410A | | | | |
| Unit size | mm | 900 x 760 x 860 | 900 x 760 x 860 | 900 x 760 x 860 | 900 x 760 x 860 | 1320 x 840 x 1130 |
| Unit Net weight | kg | 100 | 120 | 140 | 185 | 250 |

DIAGRAM



Models

| WN412 | WN413 | WN414 | WN415 | WN416 | WN417 | WN418 |
|---|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 380-415/3/50 | 380-415/3/50 | 380-415/3/50 | 380-415/3/50 | 380-415/3/50 | 380-415/3/50 | 380-415/3/50 |
| Sourcing water inlet Temp. : 12°C , User's side water inlet Temp : 30°C | | | | | | |
| 42.7 | 50.2 | 67.8 | 85.4 | 105.6 | 136.3 | 171.0 |
| 9.2 | 10.9 | 14.6 | 18.2 | 22.2 | 29.1 | 36.4 |
| 4.64 | 4.60 | 4.64 | 4.68 | 4.76 | 4.68 | 4.70 |
| Sourcing water inlet Temp. : 15°C , User's side water inlet Temp : 30°C | | | | | | |
| 44.9 | 52.8 | 71.5 | 89.9 | 105.6 | 143.5 | 179.0 |
| 9.4 | 11.2 | 15.0 | 18.9 | 18.8 | 30.1 | 37.9 |
| 4.75 | 4.72 | 4.77 | 4.76 | 5.60 | 4.76 | 4.72 |
| Sourcing water inlet Temp. : 30°C , User's side water inlet Temp : 28°C | | | | | | |
| 38.7 | 45.5 | 61.7 | 77.4 | 91.0 | 123.0 | 155.0 |
| 8.0 | 9.5 | 12.8 | 16.1 | 18.8 | 25.6 | 32.1 |
| 4.83 | 4.79 | 4.82 | 4.81 | 4.83 | 4.80 | 4.83 |
| Sourcing water inlet Temp. : 40°C , User's side water inlet Temp : 28°C | | | | | | |
| 38.2 | 44.8 | 60.9 | 76.0 | 89.0 | 121.0 | 153.0 |
| 11.0 | 12.9 | 17.6 | 22.0 | 25.8 | 35.1 | 44.0 |
| 3.47 | 3.47 | 3.47 | 3.45 | 3.44 | 3.45 | 3.48 |
| 13.7 | 16.2 | 21.9 | 27.5 | 32.3 | 43.9 | 55.0 |
| 24.5 | 28.8 | 39.2 | 49.1 | 57.7 | 78.4 | 98.2 |
| 44 | 45 | 49 | 55 | 55 | 56 | 57 |
| Twisted Titanium Heat Exchanger | | | | | | |
| 50 | 63 | 63 | 90 | 90 | 110 | 110 |
| 12.2 | 14.4 | 19.4 | 24.5 | 30.3 | 39.1 | 49.0 |
| 18~40 | | | | | | |
| 12~40 | | | | | | |
| R410A | | | | | | |
| 1320 x 840 x 1130 | 1320 x 840 x 1130 | 1750 x 1120 x 1000 | 1750 x 1120 x 1000 | 2000 x 1120 x 1000 | 2300 x 1120 x 1000 | 2600 x 1120 x 1000 |
| 280 | 360 | 500 | 610 | 720 | 990 | 1200 |



15 | AIR COOLED WATER CHILLER

✓ Technical features

- Touchscreen LCD control display - Can easily connect with a BMS
- Clock and timer on/off function
- Phase monitor: Protects the compressor in case of phase loss or inversion
- High/low pressure protection available
- cooled water temperature



AIR COOLED WATER CHILLER

🔍 Models

| | R410A | CHU2-0110 | CHU2-0120 | CHU2-0130 | CHU2-0140 |
|----------------------------------|----------|-------------------------------------|------------------|------------------|------------------|
| Operating air temperature | | 10 °C~53 °C | | | |
| Operating water temperature | | Cooling 7 °C~35 °C | | | |
| Functional selection | | Cooling water | | | |
| Power Supply | V/PH/Hz | 220/1/50 | | 380~415/3/50 | |
| Tank volume (Thermal insulation) | m3 | 1 | 1.5 | 2 | 2 |
| | gallon | 264 | 396 | 528 | 528 |
| Performance condition | | Air35 °C / Water inlet 45 °C~ 25 °C | | | |
| Cooling Capacity | kw | 5.3 | 7.3 | 10.5 | 14.2 |
| | BTU/H | 18084 | 24908 | 35826 | 48450 |
| Chilled water production ΔT=20°C | US Gal/h | 60 | 83 | 119 | 161 |
| Power Input | kw | 1.8 | 2.6 | 3.7 | 5.0 |
| Current | A | 8.2 | 11.6 | 6.6 | 9.0 |
| EER | W/W | 2.94 | 2.85 | 2.83 | 2.83 |
| Performance condition | | Air46 °C / Water inlet 45 °C~ 25 °C | | | |
| Cooling Capacity | kw | 4.5 | 6.2 | 8.9 | 12.1 |
| Chilled water production ΔT=20°C | US Gal/h | 51 | 70 | 101 | 137 |
| Power Input | kw | 2.1 | 3.0 | 4.4 | 5.9 |
| Current | A | 9.7 | 13.7 | 7.8 | 10.6 |
| EER | W/W | 2.12 | 2.05 | 2.04 | 2.04 |
| Performance condition | | Air20 °C / Water inlet 15 °C~ 55 °C | | | |
| Heating Capacity | kw | 6.4 | 8.8 | 12.6 | 17.0 |
| Chilled water production ΔT=40°C | US Gal/h | 72 | 99 | 143 | 193 |
| Power Input | kw | 1.4 | 2.0 | 3.0 | 4.0 |
| Current | A | 6.6 | 9.3 | 5.3 | 7.2 |
| COP | W/W | 4.41 | 4.28 | 4.25 | 4.25 |
| MAX.POWER INPUT | kW | 2.7 | 3.8 | 5.6 | 7.5 |
| MAX.CURRENT | A | 12.3 | 17.5 | 9.9 | 13.5 |
| Compressor Type | | Rotary | Rotary | Scroll | Scroll |
| Controller | | LCD | | | |
| Noise | dB(A) | 52 | 52 | 55 | 55 |
| type | | Titanium | | | |
| Standard water flow | m3/h | 0.9 | 1.3 | 1.8 | 2.4 |
| Standard water flow (min) | US GPM | 2.5 | 3.5 | 5.0 | 6.7 |
| Standard water flow (max) | US GPM | 8.7 | 12.0 | 17.3 | 23.4 |
| Water pressure drop (max) | kPa | 6 | 7 | 8 | 10 |
| Water connection | inch | 1-1/2" | 1-1/2" | 1-1/2" | 1-1/2" |
| Net | mm | 1020 x 440 x 673 | 1020 x 440 x 673 | 1100 x 440 x 673 | 1100 x 440 x 873 |
| Weight | kg | 60/66 | 70/82 | 97/104 | 110/122 |

| | | CHU2-0150 | CHU2-0160 | CHU2-0170 | CHU2-0180 |
|----------------------------------|----------|-------------------------------------|-------------------|-------------------|-------------------|
| Operating air temperature | | 10 °C~53 °C | | | |
| Operating water temperature | | Cooling 7 °C~35 °C | | | |
| Functional selection | | Cooling water | | | |
| Power Supply | V/PH/Hz | 380~415/3/50 | 380~415/3/50 | 380~415/3/50 | 380~415/3/50 |
| Tank volume (Thermal insulation) | m3 | 3.5 | 4 | 5 | 7 |
| | gallon | 925 | 1057 | 1321 | 1849 |
| Performance condition | | Air35 °C / Water inlet 45 °C~ 25 °C | | | |
| Cooling Capacity | kw | 17.5 | 21.7 | 28 | 34 |
| | BTU/H | 59710 | 74040 | 95536 | 116008 |
| Chilled water production ΔT=20°C | US Gal/h | 199 | 246 | 318 | 386 |
| Power Input | kw | 6.2 | 7.7 | 10.0 | 12.1 |
| Current | A | 11.1 | 13.8 | 17.9 | 21.7 |
| EER | W/W | 2.82 | 2.82 | 2.80 | 2.80 |
| Performance condition | | Air46 °C / Water inlet 45 °C~ 25 °C | | | |
| Cooling Capacity | kw | 14.9 | 18.4 | 23.8 | 28.9 |
| Chilled water production ΔT=20°C | US Gal/h | 169 | 209 | 270 | 328 |
| Power Input | kw | 7.3 | 9.1 | 11.8 | 14.3 |
| Current | A | 13.1 | 16.2 | 21.1 | 25.6 |
| EER | W/W | 2.03 | 2.03 | 2.02 | 2.02 |
| Performance condition | | Air20 °C / Water inlet 15 °C~ 55 °C | | | |
| Heating Capacity | kw | 21.0 | 26.0 | 33.6 | 40.8 |
| Chilled water production ΔT=40°C | US Gal/h | 238 | 296 | 381 | 463 |
| Power Input | kw | 5.0 | 6.2 | 8.0 | 9.7 |
| Current | A | 8.9 | 11.0 | 14.3 | 17.4 |
| COP | W/W | 4.23 | 4.23 | 4.20 | 4.20 |
| MAX.POWER INPUT | kW | 9.3 | 11.5 | 15.0 | 18.2 |
| MAX.CURRENT | A | 16.6 | 20.6 | 26.8 | 32.6 |
| Compressor Type | | Scroll | Scroll | Scroll | Scroll |
| Controller | | LCD | | | |
| Noise | dB(A) | 58 | 58 | 59 | 59 |
| type | | Titanium | | | |
| Standard water flow | m3/h | 3.0 | 3.7 | 4.8 | 5.8 |
| Standard water flow (min) | US GPM | 8.3 | 10.3 | 13.3 | 16.1 |
| Standard water flow (max) | US GPM | 28.8 | 35.7 | 46.1 | 56.0 |
| Water pressure drop (max) | kPa | 11 | 12 | 15 | 15 |
| Water connection | inch | 1-1/2" | 1-1/2" | 1-1/2" | 1-1/2" |
| Net | mm | 1150 x 450 x 973 | 1100 x 440 x 1378 | 1454 x 752 x 1703 | 1454 x 752 x 1703 |
| Weight | kg | 120/135 | 130/145 | 230/256 | 285/310 |



16 | INDOOR POOL DEHUMIDIFIER

✓ Technical features

- A fashionable, portable or wall mounted, indoor dehumidifier
- Highly efficient - Absorbs clammy air in atmosphere and provides a pleasant environment
- Epoxy fin air exchanger (wall mounted)
- Clock and timer, on/off function (wall mounted)
- Environmentally friendly and quite operation
- Clears windows and dry walls - No more foggy windows or condensation on pool room walls. AQUA dehumidifiers preserve the construction integrity and gives a pleasant feeling to the occupants in the room
- Simple installation - Can be free standing or wall mounted. It is also duct ready, so the control can be easily made using 220V wiring
- Quality construction and reliability - AQUA dehumidifier comes in white coated anti-humidity paint or in stainless steel body, a digital LCD controller and gas pressure gauge. The unit is covered under a 5 year warranty
- Low electrical cost: AQUA dehumidifier utilises a refrigeration system that requires only a small electrical load
- Humidity control - Stabilises room conditions through dehumidification, reducing the maintenance cost of the room and provides a very pleasant environment to the pool room
- Indoor pool room heating - Recovering energy from the dehumidification process will often heat an entire pool room for the cost of operating the dehumidifier alone
- Indoor pool room cooling - An optional remote condenser will allow the DCA system to cool the pool room during the warm months
- Easy to maintain - The AQUA dehumidifier system is a closed loop system with nothing to oil or lubricate. Simple return air filter maintenance is all that is needed



PORTABLE



WALL MOUNTED

Q Models

| INDOOR POOL DEHUMIDIFIER | | WALL MOUNTED | | | PORTABLE | | | |
|-----------------------------------|-------------------|---|-------------|--------------|-------------|-------------|--------------|--------------|
| | | DW02 | DW03 | DW04 | DM02 | DM03 | DM04 | DM06 |
| Power supply | | 220-240V-/50HZ | | | | | | |
| | | Ambient Temp. 30°C, 80% relative humidity | | | | | | |
| Rated capacity | l/h | 2.3 | 3.2 | 4.5 | 2.5 | 3.2 | 4.5 | 6 |
| Dehumidification Capacity per day | l | 55.2 | 76.8 | 108 | 60 | 76.8 | 108 | 144 |
| Recommended pool Area | m ² | 42 | 60 | 84 | 42 | 60 | 84 | 112 |
| Air Volume | m ³ /h | 450 | 600 | 750 | 450 | 600 | 750 | 900 |
| Noise level | db(A) | 44 | 46 | 50 | 44 | 46 | 50 | 50 |
| Rated Power Input | kW | 0.93 | 1.14 | 1.73 | 0.93 | 1.14 | 1.73 | 2.14 |
| Rated Running Current | A | 4.1 | 5 | 7.5 | 4.1 | 5 | 7.5 | 9.7 |
| Max. Power Input | kW | 1.02 | 1.25 | 1.9 | 1.40 | 1.71 | 2.60 | 3.21 |
| Max. Running Current | A | 4.3 | 5.4 | 8.2 | 6.3 | 7.8 | 11.8 | 14.6 |
| Relative Humidity | %RH | 40-100 | | | | | | |
| Temperature | °C | 10-36 | | | | | | |
| Dimensions (L /W/H) | mm | 868/260/720 | 868/260/720 | 1268/260/720 | 400/500/720 | 400/500/720 | 480/580/1008 | 480/580/1008 |
| Net Weight | kg | 46 | 51 | 64 | 45 | 50 | 63 | 130 |
| Condensation Pipe Diameter | mm | 16 | | | | | | |

Note: We reserve the right to modify the above specifications without notice, Please contact us for updated information.

