



TEMPERATURE CONTROL 14/01

# HEAT PUMP TOP/FRONT DISCHARGE INVERTER

Incorporates purpose-built components for long lasting and high efficiency that achieves maximum results. Internal fins, containing high performance titanium dioxide TiO<sub>2</sub>, provides a corrosion resistance, impermeable ice formation and a dustproof evaporator coil.



## ✓ Technical features

- 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 1 meter, 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 TiO<sub>2</sub> 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



TEMPERATURE CONTROL

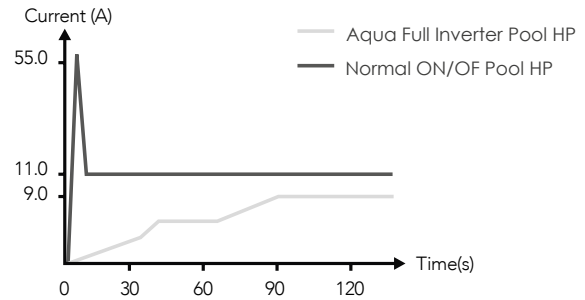
# SIMPLIFY YOUR LIFE WITH THE ELECRO APP

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.



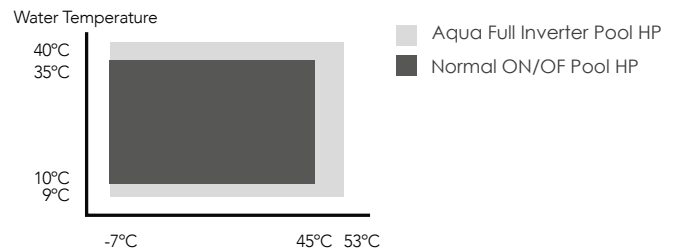
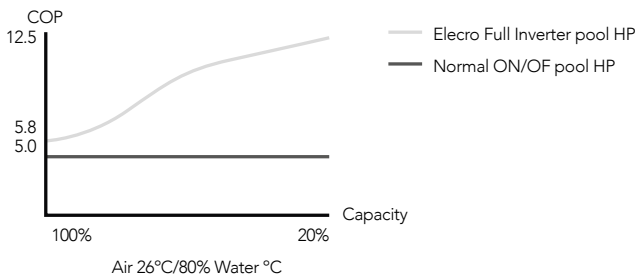
## SOFT START

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

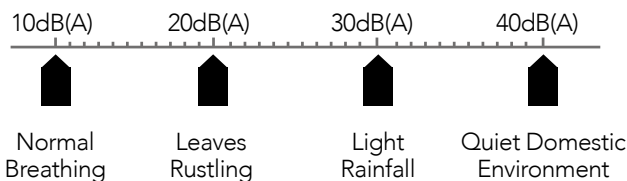
Aqua Full Inverter Pool Heat Pumps can reach a COP as high as 12.5 at the ambient condition (Air 26°C/Humidity 80%) and keep a high EER at 53°C ambient temperature.



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## 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                                       | INVTOP-3021                     | INVTOP-3024  | INVTOP-3028  | INVTOP-3030  | INVTOP-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          |

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# 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 (m3/ 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 (m3/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 temprature range-Heating (°c) | 18~40                           |                |                |                |                |
| Leaving water temprature 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            |

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# 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)                           | 960x400x786                     | 960x400x786   | 1080x500x836  |
| 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)                           | 1080x500x836                    | 1160x500x1040 | 1160x500x1040 |
| Unit Net weight (kg)                        | 70                              | 95            | 104           |
| Unit Gross weight (kg)                      | 88                              | 115           | 124           |

TEMPERATURE CONTROL



Your global partner since 1974. Trusted for superior quality and exceptional innovations.



## Head Office

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