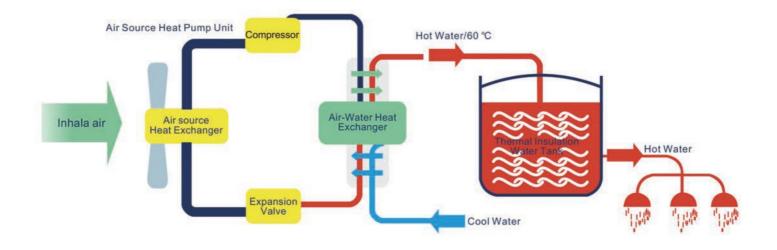








### **Heat Pump Working Principle**



### The Evolutionary History Of The Water Heater



The water temperature, the water pressure is easy to fluctuate, the comfort is poor, the energy consumption is high, the exhaust gas is discharged, and the service life is low.



High energy consumption, Hidden danger of electricity leakage, Use water often need to wait, water temperature is easy to high, Serious fouling in the internal of the tank, short service life.



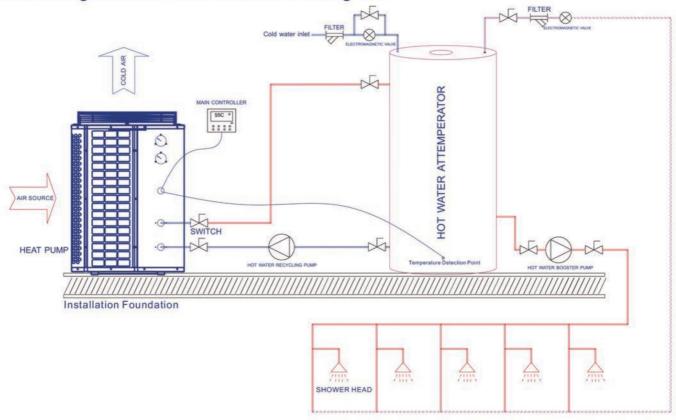
In rainy weather, electric auxiliary heating is often needed, and there are hidden dangers of electric leakage. the water temperature fluctuates and the water pressure is unstable. The water tank is easy to scale. The system occupies a lot of land, and the installation is inconvenient and the failure rate is high.



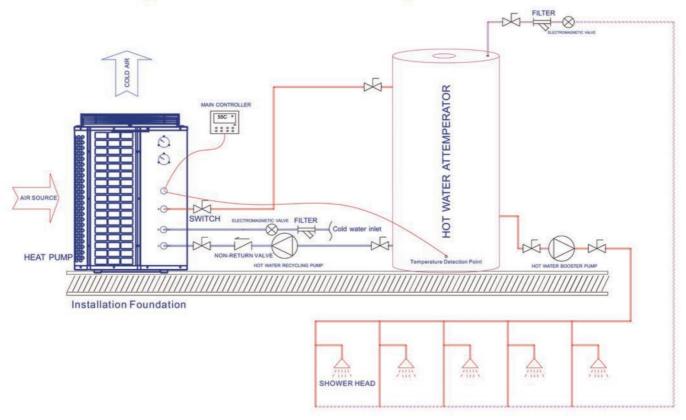
Hot water is mainly from the air, low energy consumption, energy saving and environmental protection, hot water 24 hours constant temperature and constant pressure supply, high comfort, no electricity leakage, gas leakage, explosion and other dangerous, safe and reliable.

# **Installation Diagram**

# Circulating Water Heater Installation Diagram



# **Direct+Circulating Water Heater Installation Diagram**





This Commercial Hot Water Heat Pump is the best solution for hot water supply of commercial project, and can work with advantages of high safety, stability, much convenience, energy saving, and environment friendly, which assures 24 hours comfortable hot water supplying. It is widely used in hot water project of school, hotel, hospital, supper market and other large building, which needs large water volume supply.

# **Heat Pump Main Parts**

# Copeland Scroll Compressor

Copeland scroll compressor has the virtue of simplicity of operation and easy to be automation, efficient and so on, owing to not having shuttle mechanism, high reliability, low noise, small changes in torque and smooth movement.



# High Efficiency Heat Exchanger -

Inner-grooved tube, Compact structure, small volume, low water resistance enhance the heat exchanger efficiency.



# New Intelligent Inverter Control System

Adopting advanced microcomputer intelligent DC inverter control, low-frequency start, save 1/3 time, soft start which will not produce the peak current of the boot, water temperature fluctuations are small, ensure the operation of the heating system is stable and reliable under the ultra temperature of -30°C.



Intelligent control program

# **Heat Pump Main Parts**

# Intelligent Controller Display \_\_\_\_\_\_

- Human intelligent control
- Long wired distant control
- Multiple timing function
- Internet control support
- Automatic power-off memory function
- Automatic diagnose, error code for trouble
- Available to inquiry any parameter
- Convenient maintenance



Intelligent controller display

# High Performance Parts

Commercial water heater heat pump using EEV(electronic expansion valve) to achieving accurate, stable and high efficiency throttling.

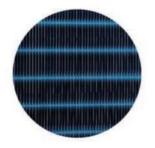
Outdoor Fin-coil heat exchanger is hydrophilic coated, blue fin is optional for more anti-rust for seaside area.

Compressor preheated to protect compressor in cold winter.

Automatic defrosting function with bottom hot piping tech enable our heat pump to work without capacity concession even not necessary to defrost in a long time.



Schneider/CHNT Electric Components



High Efficiency Hydrophilic Aluminum Foil Fin Evaporator



Eev



Efficient Blades
Optimized
Air Duct Design



Fully Automatic Four-way Valve



# **Heat Pump Features**

# Standby Freezing Protection -

In order to prevent the water system from freezing, the system has its own intelligent mode. When the water temp. is measured below 4°C, the system starts the circulating water pump, carries out the first stage anti-freezing protection, when the water temp. rises to more than 4°C, the system performs the second stage anti-freezing, start compressor low water temp. heating mode until 12 °C to stop operation.



# Energy Saving Up To 80%

Air source heat pump heats by absorbing the free energy surrounding air, without any waste emission, high efficiency and energy saving up to 80% compared with the traditional electric heating mode.



### Safely -

Adopt air source heat pump technology, not use hidden troubles created by electric heating and combustible gas for heating, separate water and electrics, safety is the greatest wealth for our life.



### Comfort

Airosd, 24 hour unlimited central hot water system and floor radiant heating more comfortable for human body to supply a high quality life.



#### Convenient installation

The installation site of the heat pump is convenient, so long as the air is fully flowing, such as the external wall, the roof or indoor is suitable.



# Commercial Heat Pump Water Heater

| Model                      |         | XD-BKR03  | XD-BKR05                                   | XD-BKR06     | XD-BKR07       | XD-BKR10           | XD-BKR12         | XD-BKR15      | XD-BKR20       |  |  |
|----------------------------|---------|---|--|--------------|----------------|--------------------|------------------|---------------|----------------|--|--|
| Heating Mode               |         | Circulating   |  |              |                |                    |                  |               |                |  |  |
| Working Temp.              | °C      | -10 ~ 43  |  |              |                |                    |                  |               |                |  |  |
| Rated Heating Capacity     | kW      | 11  | 18.8                                       | 22           | 27             | 38                 | 45               | 55            | 75             |  |  |
| Rated Input Power          | kW      | 2.6   | 4.4  | 5.3          | 6.5            | 9.2                | 11               | 13            | 18.5           |  |  |
| COP                        | W/W     | 4.23  | 4.32                                       | 4.15         | 4.15           | 4.13               | 4.09             | 4.00          | 4.05           |  |  |
| Max. Working Current       | Α       | 11  | 14   | 16           | 20             | 25                 | 31               | 38            | 45             |  |  |
| Power Supply               | V/Ph/Hz | 380-4   |  |              |                | 5V/3N~/50Hz        |                  |               |                |  |  |
| Compressor Qty             | pcs     | 1   | 1  | 1            | 1              | 2                  | 2                | 2             | 4              |  |  |
| Compressor                 | 1       |   |  |              | Panasonic / Em | erson Copeland     | Scroll           |               |                |  |  |
| Fan Qty                    | pcs     | 1   | 1  | 1            | 2              | 2                  | 2                | 1             | 2              |  |  |
| Fan Input Power            | W       | 90×1  | 250×1                                      | 250×1        | 250×1          | 250×2              | 250×2            | 550×1         | 550×2          |  |  |
| Air Flow Direction         | on      | Horizont  | Horizontal/Vertical Vertical               |              |                |                    |                  |               |                |  |  |
| Heat Exchange              | er      |   | High Efficien shell in tube heat exchanger |              |                |                    |                  |               |                |  |  |
| Evaporator                 |         |   |  | Inne         | threaded pipe  | + hydrophilic alu  | minum foil       |               |                |  |  |
| 4-Way Valve                |         |   | Sanhua / SagInomiya                        |              |                |                    |                  |               |                |  |  |
| Electronic Expansion Valve |         | Sanhua/SagInomiya/Danfoss   |  |              |                |                    |                  |               |                |  |  |
| Contactor                  |         |   | Schneider / CHNT                           |              |                |                    |                  |               |                |  |  |
| Cabient Materia            | als     |   |  | Galvanize    | d powder coate | d steel / Stainles | s steel Optional |               |                |  |  |
| Controller                 |         |   |  |              | 7m L0          | CD controller      |                  |               |                |  |  |
| Safety Function            |         | High and low pressure protection, Overload protection, Temperature protection Power phase sequence protection, etc. |  |              |                |                    |                  |               |                |  |  |
| IP Code                    |         |   |  |              |                | IPX4               |                  |               |                |  |  |
| Max. Water Temp.           | °C      | 55-60   |  |              |                |                    |                  |               |                |  |  |
| Water Yield                | L       | 240   | 400  | 475          | 560            | 817                | 950              | 1120          | 1600           |  |  |
| Water Flow                 | m³/h    | 2~3   | 4~5  | 5~6          | 6~7            | 7-10               | 9-12             | 10~13         | 14-20          |  |  |
| Water Pressure Loss        | kPa     |   |  |              | 50             | )                  |                  |               |                |  |  |
| In/Out Water Connector     | 1       | D25   | D25  | D25          | DN32           | D32                | D40              | D40           | D50            |  |  |
| Refrigerant Type           | 1       | R22 / R407C / R410A / R417A   |  |              |                |                    |                  |               |                |  |  |
| Refrigerant Quantity       | kg      | 2.2   | 3.4  | 3.5          | 4              | 6.6                | 7                | 8             | 13.2           |  |  |
| Noise                      | dB(A)   | ≤55   | ≤59  | ≤59          | ≤65            | ≤65                | ≤65              | ≤65           | ≤68            |  |  |
| Unit Size(L/W/H)           | mm      | 655/695/810   | 710/710/1010                               | 710/710/1010 | 710/710/1010   | 1450//710/1180     | 1440/800/1380    | 1100/900/2100 | 1800/1100/2150 |  |  |
| Packing Size(L/W/H)        | mm      | 685/725/940   | 740/740/1140                               | 740/740/1140 | 740/740/1140   | 1480/740/1310      | 1470/830/1510    | 1350/605/1845 | 1830/1130/2280 |  |  |
| Net Weight                 | kg      | 100   | 180  | 200          | 250            | 280                | 310              | 330           | 630            |  |  |
| Gross Weight               | kg      | 115   | 205  | 230          | 260            | 315                | 345              | 360           | 670            |  |  |

#### Remarks:

- 1. Test conditions: (DB/WB) 20°C/15°C, inlet water temperature 15°C, outlet water temperature 55°C.
- 2. Due to product improvement, above datas are subject to change without prior notice, please take the rating plate as standard.



XD-BKR03



XD-BKR03



XD-BKR05 XD-BKR06



XD-BKR05/XD-BKR06 XD-BKR07



XD-BKR10



XD-BKR12 XD-BKR15



XD-BKR20

# 85°C High Temp. Industrial Water Heater

| Model                     |         | XD-BKR03G                                       | XD-BKR05G              | XD-BKR08G               | XD-BKR12G               | XD-BKR12G              |
|---------------------------|---------|---|------------------------|-------------------------|-------------------------|------------------------|
| Heating Mode              |         |   |                        | Circulating             |                         |                        |
| Working Temp.             | °C      |   |                        | -7 ~ 45                 |                         |                        |
| Rated Heating Capacity    | kW      | 10  | 14                     | 27                      | 53                      | 75                     |
| COP                       | W/W     | 3   | 2.9                    | 3                       | 3                       | 3                      |
| Heating Input Power       | kW      | 3.8   | 4.7                    | 8.67                    | 17.3                    | 28                     |
| Max. Wroking Current      | А       | 10  | 12.5                   | 26                      | 48                      | 60                     |
| Power Supply              | V/Ph/Hz |   |                        | 380-415V/3N~/50Hz       |                         |                        |
| IP Code                   | 1       |   |                        | IPX4                    |                         |                        |
| Safety Function           | High an | d low pressure prot                             | ection, Overload prote | ction, Temperature prot | ection Power phase sequ | uence protection, etc. |
| Refrigerant Type / Weight | -/kg    | R134A/4.0                                       | R134A/4.25             | R134A/4.5×2             | R134A/7.5×2             | R134A/9.5×2            |
| Compressor Qty            | pcs     | 1   | 1                      | 2                       | 2                       | 4                      |
| Compressor Type           | 1       | Scroll  |                        |                         |                         |                        |
| Max. Water Temp.          | °C      | 80~85   |                        |                         |                         |                        |
| Water Heat Exchanger      | 1       | High efficiency Shell in tube heat exchanger    |                        |                         |                         |                        |
| Evaporator                | 1       | Inner threaded pipe + hydrophilic aluminum foil |                        |                         |                         |                        |
| In/Out Water Connector    | 1       | DN25  | DN25                   | DN32                    | DN65                    | DN80                   |
| Water Flow                | m³/h    | 2.2   | 2.5                    | 5                       | 8.9                     | 12                     |
| Air Flow Direction        | 1       | Vertical  | / Horizontal           |                         | Vertical                | 14                     |
| Fan Motor Qty             | pcs     | 1   | 1                      | 2                       | 2                       | 2                      |
| Noise                     | dB/(A)  | ≤56   | ≤56                    | ≤60                     | ≤68                     | ≤72                    |
| Unit Size (W×D×H)         | mm      | 710/710/1010                                    | 710/710/1010           | 1450//710/1180          | 1800/1100/2150          | 2000/1100/2150         |
| Packing Szie (W×D×H)      | mm      | 740/740/1140                                    | 740/740/1140           | 1480/740/1310           | 1830/1130/2280          | 2030/1130/2280         |
| Net Weight                | kg      | 160   | 180                    | 320                     | 630                     | 950                    |
| Gross Weight              | kg      | 180   | 200                    | 370                     | 670                     | 1010                   |

#### Remarks:

- 1. Test conditions: (DB/WB) 20°C/15°C, inlet water temperature 60°C, outlet water temperature 65°C.
- 2. Due to product improvement, above datas are subject to change without prior notice, please take the rating plate as standard.



XD-BKR03G



XD-BKR03G



XD-BKR05G



XD-BKR08G



XD-BKR12G

## **Direct+Circulating Heat Pump Water Heater**

| Model                   |         | XD-BKZ03D                      | XD-BKZ05D    | XD- BKZ06D            | XD-BKZ10D     | XD-BKZ12D     |  |
|-------------------------|---------|--------------------------------|--------------|-----------------------|---------------|---------------|--|
| Heating Mode /          |         | Directly Heating + Circulation |              |                       |               |               |  |
| Working Temp.           | °C      |                                |              | -10 - 43              |               |               |  |
| Rated Heating Capacity  | kW      | 11                             | 18           | 22                    | 38            | 44            |  |
| Heating Input Power     | kW      | 2.8                            | 4.7          | 5.5                   | 9.5           | 11            |  |
| Max. Working Current    | Α       | 5.5                            | 8.8          | 10.5                  | 17.7          | 21            |  |
| Power Supply            | V/Ph/Hz |                                |              | 380-415V/3N~/50Hz     | Š.            |               |  |
| Compressor Type         | 1       |                                |              | Copeland Scroll       |               |               |  |
| Compressor Qty          | pcs     | 1                              | 1            | 1                     | 2             | 2             |  |
| Fan Qty                 | pcs     | 1                              | 1            | 1                     | 2             | 2             |  |
| Motor Input Power       | W       | 90×1                           | 250×1        | 250×1                 | 250×2         | 250×2         |  |
| IP Code                 | 1       | IPX4                           |              |                       |               |               |  |
| Max. Water Temp.        | °C      | 55-60                          |              |                       |               |               |  |
| Air Flow Direction      | 1       | Horizontal/Vertical            | Horizontal   | Vertical              | Vertical      | Vertical      |  |
| Water Yielding          | L       | 240                            | 400          | 475                   | 817           | 950           |  |
| Water Flow              | m³/h    | 2.9                            | 4.8          | 5.8                   | 9.6           | 11            |  |
| Water Pressure Loss     | kPa     |                                |              | 50                    |               |               |  |
| In/Out Water Connector  | 1       | DN20                           | DN20         | DN20                  | DN25          | DN25          |  |
| Recycle Water Connector | 1       | DN25                           | DN25         | DN25                  | DN32          | DN40          |  |
| Refrigerant Type        | 1       | "                              | R22          | R22/R407C/R417A/R410A |               |               |  |
| Refrigerant Quantity    | kg      | 2.2                            | 3.3          | 3.5                   | 6.6           | 7             |  |
| Noise                   | dB(A)   | 55                             | 58           | 60                    | 63            | 65            |  |
| Unit Size(L/W/H)        | mm      | 655/695/810                    | 710/710/1010 | 710/710/1010          | 1440/800/1380 | 1440/800/1380 |  |
| Packing Size(L/W/H)     | mm      | 685/725/940                    | 740/740/1140 | 740/740/1140          | 1470/830/1510 | 1470/830/1510 |  |
| Net Weight              | kg      | 105                            | 185          | 205                   | 315           | 325           |  |
| Gross Weight            | kg      | 110                            | 192          | 212                   | 325           | 335           |  |

#### Remarks:

- 1. Test conditions: (DB/WB) 20°C/15°C, inlet water temperature 15°C, outlet water temperature 55°C.
- 2. Due to product improvement, above datas are subject to change without prior notice, please take the rating plate as standard.



XD-BKZ03D



XD-BKZ03D



XD-BKZ06D



XD-BKZ10D



XD-BKZ12D

# -30°C Low Temp. Commercial Water Heater

| Model                     |         | XD-BKRD05  | XD-BKRD10                          | XD-BKRD20      |  |  |
|---------------------------|---------|--|------------------------------------|----------------|--|--|
| Working Temp.             | °C      | -30~43   | -30 ~ 43                           | -30~43         |  |  |
| Rated Heating Capacity    | kW      | 16.5   | 33                                 | 60             |  |  |
| COP                       | W/W     | 3.7  | 3.8                                | 3.8            |  |  |
| Rated Input Power         | kW      | 4.45   | 8.7                                | 15.6           |  |  |
| Max. Working Current      | А       | 12.5   | 26                                 | 48             |  |  |
| Power Supply              | V/Ph/Hz | 380~415V/3N~/50Hz  |                                    |                |  |  |
| IP Code                   | 1       | IPX4   | IPX4                               | IPX4           |  |  |
| Safety Function           | T       | High and low pressure protection; Overload protection; Temperature protection; |                                    |                |  |  |
| Refrigerant Type / Weight | -/kg    | R407c/4.0  | R407C/4.0×2                        | R407c/8.5×2    |  |  |
| Compressor Qty            | pcs     | 1  | 2                                  | 2              |  |  |
| Compressor Type           | 1       |  | EVI Scroll Compressor              |                |  |  |
| Max. Temp. Outlet Water   | °C      | 60   | 60                                 | 60             |  |  |
| Water Heat Exchanger      | 1       |  | Tube in Shell heat exchanger       |                |  |  |
| Evaporator                | 1       | Inner th   | readed pipe + hydrophilic aluminum | foil           |  |  |
| Waterpipe Nozzle Size     | 1       | DN25   | DN 32                              | DN80           |  |  |
| Water Flow                | m³/h    | 2.8  | 5.7                                | 10.3           |  |  |
| Air Flow Direction        | 1       | Horizontal/Vertical Vertica  |                                    | al             |  |  |
| Fan Motor Qty             | pcs     | 1  | i i                                | 2              |  |  |
| Noise                     | dB/(A)  | 56   | 62                                 | 69             |  |  |
| Unit Size(W×D×H)          | mm      | 1115×425×1250  | 1450//710/1180                     | 1800/1100/2150 |  |  |
| Packing Size(W×D×H)       | mm      | 1200×510×1330  | 1480/740/1310                      | 1830/1130/2280 |  |  |
| Net Weight                | kg      | 165  | 340                                | 650            |  |  |
| Gross Weight              | kg      | 178  | 370                                | 690            |  |  |

- 1. Test conditions: (DB/WB) 7°C/6°C, inlet water temperature 9°C, outlet water temperature 55°C.
- 2. Due to product improvement, above datas are subject to change without prior notice, please take the rating plate as standard.







XD-BKRD05



XD-BKRD10



XD-BKRD20