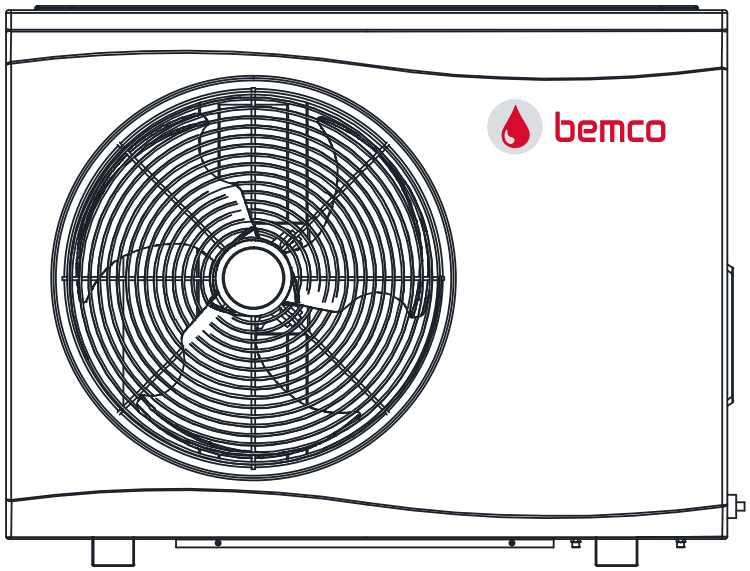
bemco

INSTALLATION & USER MANUAL

POOL HEAT PUMP



R32

INVERTER

THANK YOU

Dear Customer,

Thank you for choosing our products and greatly we appreciate your confidence in us!

These are the **Wave-Inverter** Swimming Pool Heat Pumps for heating or cooling your pool and extending your swimming season. This is a special Pool heat pumps which is most close to users and why? It is a smart heat pump who knows how to heat your pool most efficiently and maintain pool temperature, thanks to the full inverter technology. Our target is to provide you with an exceptional high performance quality product.

We have produced this manual with the utmost care so that you get maximum benefit from your heat pump.

Please read carefully

TABLE OF CONTENT

 READ THIS MANUAL CAREFULLY BEFORE STARTING UP THE UNIT. DO NOT THROW IT AWAY. KEEP IT IN YOUR FILES FOR FUTURE REFERENCE.

 BEFORE OPERATING THE UNIT, MAKE SURE THE INSTALLATION HAS BEEN CARRIED OUT CORRECTLY BY A PROFESSIONAL DEALER. IF YOU FEEL UNSURE ABOUT OPERATION, CONTACT YOUR DEALER FOR ADVICE AND INFORMATION.

INTRODUCTION

This manual

This manual includes the necessary information about the unit. Please read this manual carefully before you use and maintain the unit.

The unit

The swimming pool heat pump is one of the most economical systems to heat the swimming pool efficiently. Using the free renewable energy from the air and the earth it delivers up to five times more energy in heating than a traditional heating system such as gas boiler or electric heater. So you will save 4/5 cost of the traditional heating. The swimming pool heat pump lengthens your swimming season and gives you comfort at high level. You could enjoy swimming not only in summer, but also in spring, autumn and even winter time.

- **Ecological and economical heating**
  By making use of the renewable energy in the outside air, it consumes much less energy with low carbon emission. Use environment friendly advanced refrigerant R32 which has no effect on Ozone.

- **Titanium heat exchanger**
  Advanced titanium heat exchanger guarantees long life span of heat pump free from corrosion and rust. By using of titanium heat exchanger the heat pump could be applied with all types of water treatment such as chlorinate, iodine, bromine and salt water.

- **Multiple functions**
  - Cooling and heating ,Auto functions available;
  - Auto operation, Auto-restart, Auto defrost
  - Timer on/off: no human attendance is required
  - Wide ambient working condition: -15°C to 43°C

- **Reliable operation**
  To guarantee the stable running and increase the stability of the unit multiple protection devices have been set into pool heat pump which includes insufficient water flow protection, high/low pressure protection, overload protection, compressor protection.

- **Safe use**
  The swimming pool heat pump works without oil, gas or other hazardous substance which avoid potential risk that goes together. Moreover no gas connection or a fuel tank is needed. No risk of intoxication, smell or pollution from leakage.

- **Self-diagnosis**
  When there is malfunction, the swimming pool heat pump will make self-diagnosis by displaying error code from the control panel. The problem could be found out at a glance.

SAFETY INSTRUCTIONS

To prevent injury to the user, other people, or property damage, the following instructions must be followed. Incorrect operation due to ignoring of instructions may cause harm or damage.

Install the unit only when it complies with local regulations, by-laws and standards. Check the main voltage and frequency. This unit is only suitable for earthed sockets, connection voltage 220 – 240 V ~ / 50Hz.

The following safety precautions should always be taken into account:

- Be sure to read the following WARNING before installing the unit.
- Be sure to observe the cautions specified here as they include important items related to safety.
- After reading these instructions, be sure to keep it in a handy place for future reference.

⚠ WARNING

Do not install the unit yourself.
Incorrect installation could cause injury due to fire, electric shock, the unit falling or leakage of water. Consult the dealer from whom you purchased the unit or a specialized installer.

Install the unit securely in a place.
When insufficiently installed, the unit could fall causing injury. When installing the unit in a small room, please take measures (like sufficient ventilation) to prevent the asphyxia caused by the leakage of refrigerant.

Use the specified electrical wires and attach the wires firmly to the terminal board (connection in such a way that the stress of the wires is not applied to the sections).
Incorrect connection and fixing could cause a fire.

Be sure to use the provided or specified parts for the installation work.
The use of defective parts could cause an injury due to possible fire, electric shocks, the unit falling etc.

Perform the installation securely and please refer to the installation instructions.
Incorrect installation could cause an injury due to possible fire, electric shocks, the unit falling, leakage of water etc.

Perform electrical work according to the installation manual and be sure to use a dedicated section. If the capacity of the power circuit is insufficient or there is an incomplete electrical circuit, it could result in a fire or an electric shock.

The unit must always have an earthed connection.
If the power supply is not earthed, you may not connect the unit.

Never use an extension cable to connect the unit to the electric power supply.

If there is no suitable, earthed wall socket available, have one installed by a recognized electrician.

Do not move/repair the unit yourself.
Before proceeding with any maintenance, service or repair work, the product must be isolated from the mains electrical supply. Only qualified personnel should carry out these tasks. Improper movement or repair on the unit could lead to water leakage, electrical shock, injury or fire.

⚠ CAUTION

Do not install the unit in a place where there is a chance of flammable gas leaks.
If there is a gas leak and gas accumulates in the area surrounding the unit, it could cause an explosion.

Perform the drainage/piping work according to the installation instruction.
If there is a defect in the drainage/piping work, water could leak from the unit and household goods could get wet and be damaged.

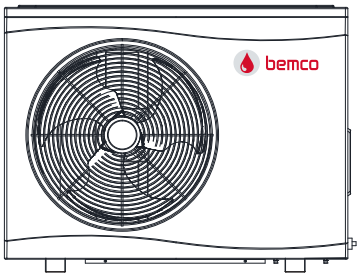
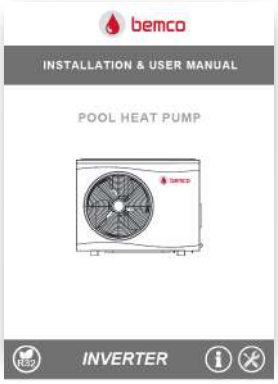
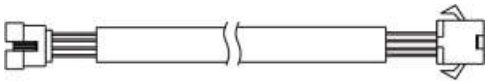
Do not clean the unit when the power is 'ON'.
Always shut 'OFF' the power when cleaning or servicing the unit. If not, it could cause an injury due to the high speed running fan or an electrical shock.

Do not continue to run the unit when there is something wrong or there is a strange smell.
The power supply needs to be shut 'OFF' to stop the unit; otherwise this may cause an electrical shock or fire.

Do not put your fingers or others into the fan, or evaporator.
The ventilator runs at high speed, it could cause serious injury.

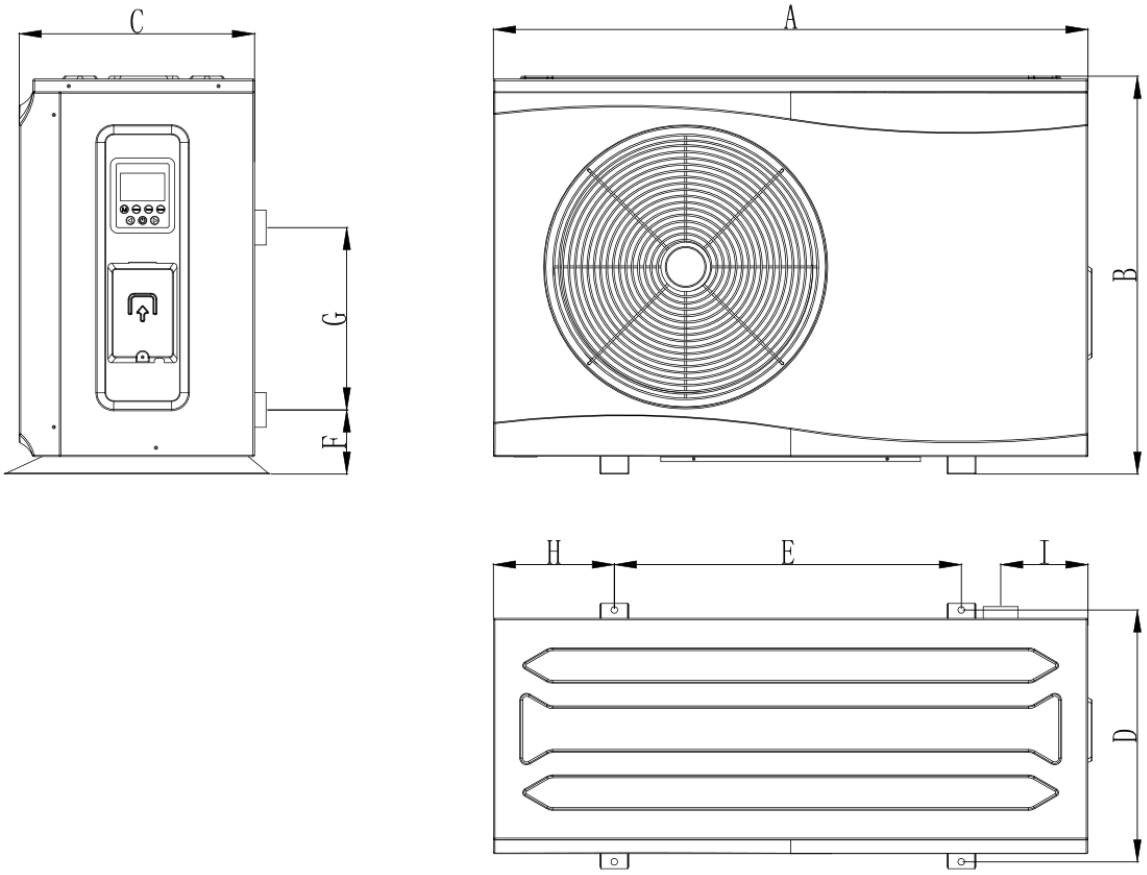
ITEMS INSIDE PRODUCT BOX

Before starting the installation, please make sure that all parts are found inside the box.

The Unit Box		
Item	**Image**	**Quantity**
Wave-Inverter Swimming pool heat pump		1
Installation and Operation Manual		1
Extension cable 15m Cable		1
Water Connectors (55mm)		2
Winter Cover		1
Rubber foots for anti-vibration		4
Water Drainage Pipe		1

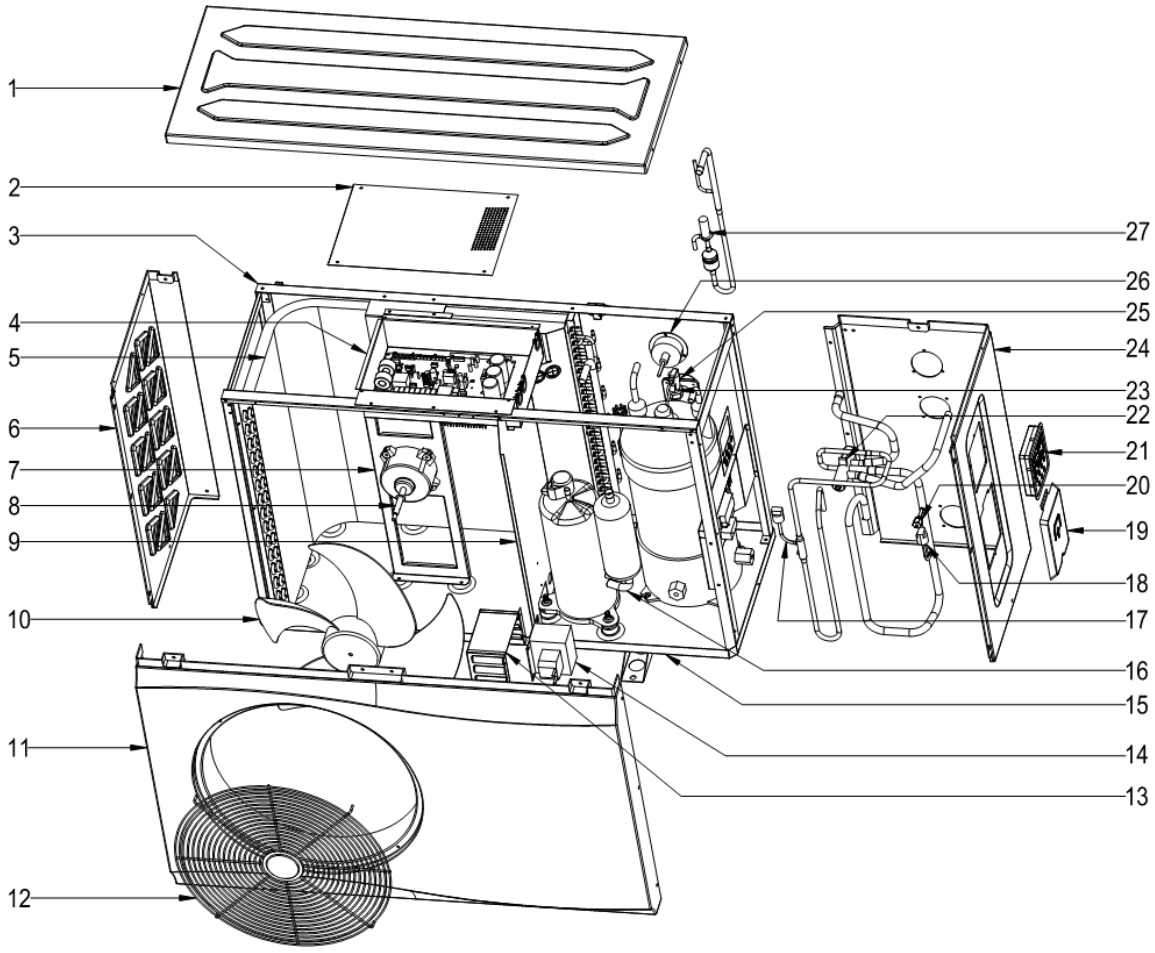
OVERVIEW OF THE UNIT

Unit Dimension



MODEL	BEPACP230V05/07/09	BEPACP230V11/14/17	BEPACP230V21/23/25	BEPACP230V29/32,BEPACP400V29/32
A	860	986	1076	1176
B	668	668	720	822
C	331	356	426	451
D	380	405	456	481
E	600	608	628	723
F	106	106	116	116
G	350	380	330	500
H	128	189	219	219
I	118	123	158	163

Explode View



No.	Name	No.	Name
1	Top Cover	15	Bottom Panel component
2	Electric box cover	16	Inverter compressor
3	Support frame	17	High-pressure valve
4	Electronic control components	18	Low-pressure switch
5	Fin heat exchanger	19	Power waterproof cover
6	Left panel	20	Needle valve
7	Motor bracket	21	Controller
8	DC fan motor	22	Four-way valve
9	Middle panel	23	Water flow switch
10	Fan	24	Right panel
11	Front Panel	25	Titanium tube heat exchanger
12	Discharge grill	26	High pressure gauge
13	Reactance waterproof box	27	Electronic expansion valve
14	Reactance		

INSTALLATION

Installation information

The following information given here is not an instruction, but simply meant to give the user a better understanding of the installation.

Condition of installation

The following information given here is not an instruction, but simply meant to give the user a better understanding of the installation.

Installation place

Install the swimming pool heat pump on a flat, horizontal, and stable surface. Maintain 1 M of open space in front of the discharge grids and 3 M on the outlet side of the ventilator. And reserve enough space to allow access to temperature controller.

Make sure that the discharged air will not be breathed in.

To perfect your installation

--Avoid directing the flow of ventilated air towards a sensitive noise zone, such as room window.

--Avoid positioning pool heat pump on a surface that can transmit vibrations to dwelling.

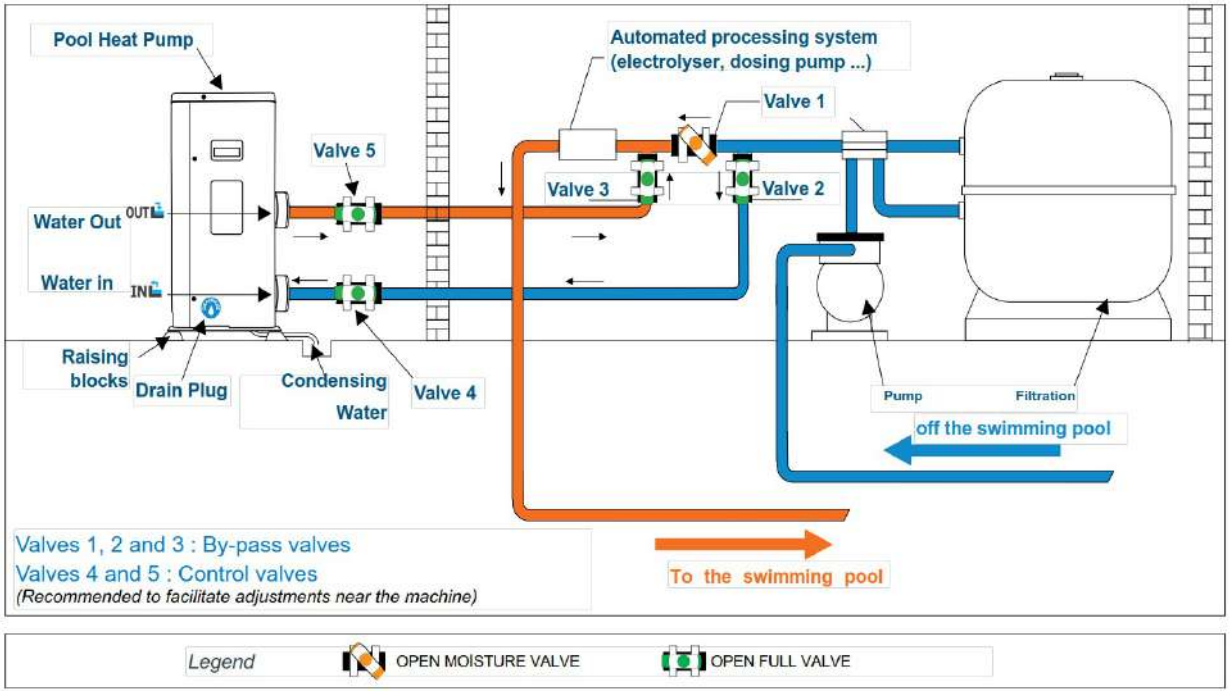
--Try to avoid placing appliance under a tree or exposed to water or mud, which would be likely to complicate maintenance.

Water connection

The heat pump is connected to a filtration circuit with a by-pass.

It is imperative that the by-pass is placed after the pump and the filter. The by-pass generally consists of 3 valves.

This makes it possible to regulate the water flow which passes through the heat pump and to isolate the heat pump completely for any maintenance work, without cutting the flow of filtered water.



During the first months of use, your heat pump is subject to condensation. This will result

in water flows, more or less important depending on the moisture content, which will gradually diminish.

To channel condensation flows, we recommend that you install our condensate drain kit. For this purpose the heat pump must be raised by at least 10 cm.

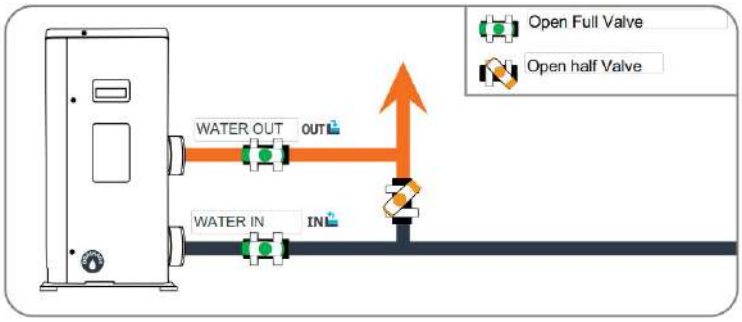
How to install the condensate drain kit?

1. Install your heat pump by raising it by at least 10 cm using solid, moisture-resistant studs.
2. Connect the exhaust hose to the drain hole located underneath the heat pump.

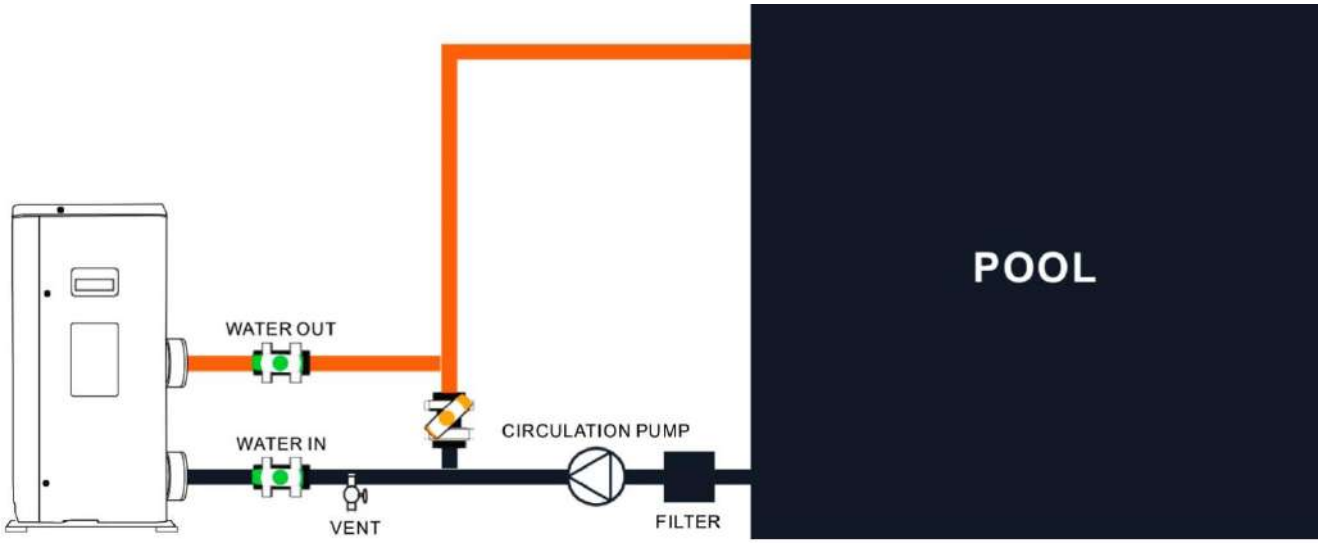
Hydraulic Connection

CAUTION A "By-Pass Ø50" kIt Is essentIal for the InstallatIon of your heat pump. It Is a kIt usually consIstIng of 3 valves, 2 T, 2 elbows of dIameter 50 mm, 1 strIpper and 1 glue.

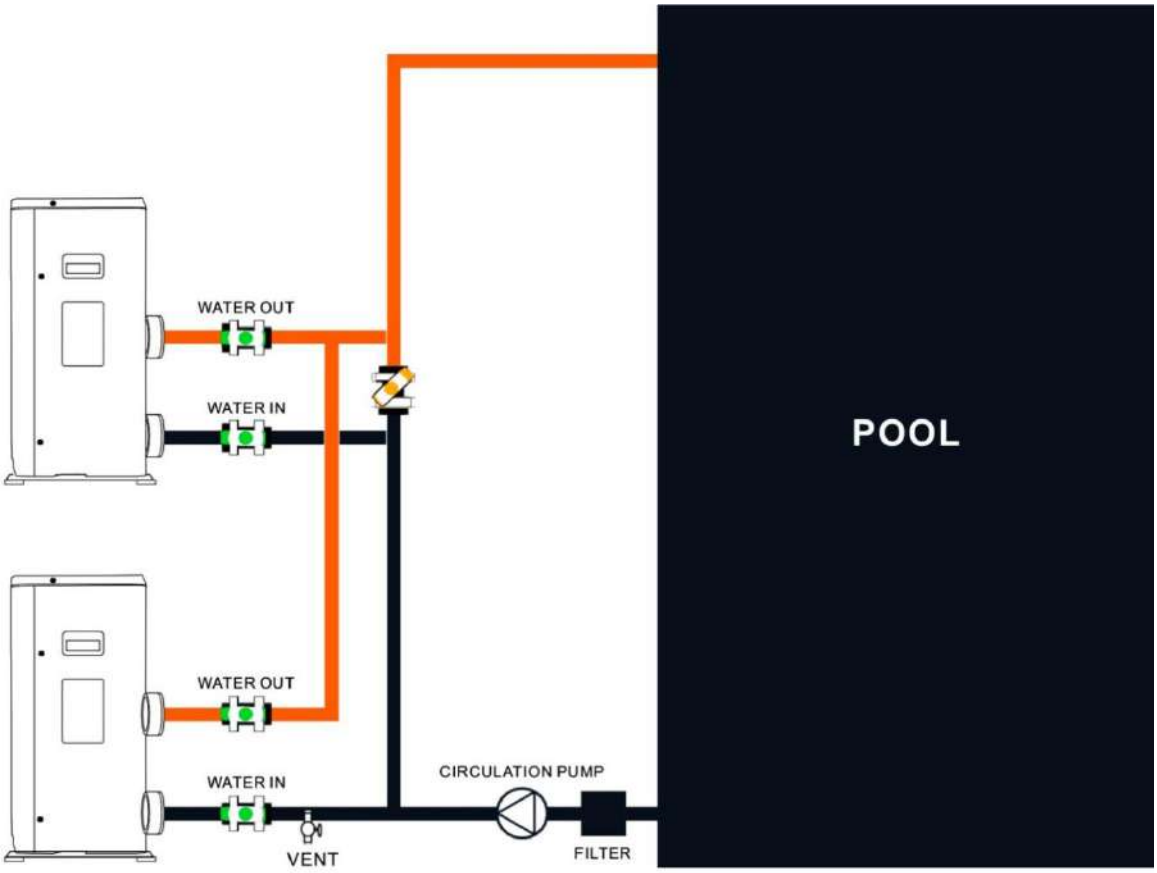
We recommend that you only half open your intermediate valve to avoid excessive pressure on your heat pump (see diagram).
If your setting is correct, the pressure gauge of your heat pump will be in working order.



SINGLE INSTALLATION DIAGRAM



SERIAL INSTALLATION DIAGRAM



The filter must be cleaned regularly to ensure that the water in the system is clean and to avoid any problems related to dirt or clogging of the filter.

Electrical connection

Electrical supply must correspond to that indicated on the appliance.

Connection cables have to be sized according to appliance power and installation requirements. Please refer to below table:

Heat pump	Cable size
BEPACP230V05	3x1.5mm^2/AWG 16
BEPACP230V07	3x2.5mm^2/AWG 14
BEPACP230V09	3x2.5mm^2/AWG 14
BEPACP230V11	3x2.5mm^2/AWG 14
BEPACP230V14	3x2.5mm^2/AWG 14
BEPACP230V17	3x4.0mm^2/AWG 12
BEPACP230V21	3x4.0mm^2/AWG 12
BEPACP230V23	3x6.0mm^2/AWG 10
BEPACP230V25	3x6.0mm^2/AWG 10
BEPACP230V29	3x10mm^2/AWG 8
BEPACP230V32	3x10mm^2/AWG 8
BEPACP400V29	5x4.0mm^2/AWG 12
BEPACP400V32	5x4.0mm^2/AWG 12

These data are only indication, you must ask an electrician to determine the exact data for your pool installation.
Use the cable glands and grommets provided inside the heat pump to route cables.

If the length of your cable is more than 10 meters, we advise you to seek advice from a professional.
A voltage variation of ± 10% during operation is acceptable.
The power supply lines must be securely fastened.
The cable must be suitable for outdoor use.

Step 1 : Dismantle the side electrical panel with a turn-Nevis to access the electrical terminal block.
Step 2 : Insert the cable into the heat pump unit inPassing through the opening provided for this purpose.
Step 3 : Attach the cable to the terminal according to EN (single-Phased) or A / B / C / N (three-phase).
Step 4 : Close the heat pump panel carefully by replacing the screws.
Step 5 : Properly connect the signal cable terminals to the central control box.

Trial running

After connecting water to the pool system, complete with a suitable by-pass and electrical connections by a qualified engineer.

Be sure that:

1) Appliance is horizontal and on a firm base.
2) Water circuit is well connected (no leaks and no chance of injury due to badly fitted hydraulic couplings).
3) Electrical circuit is well connected (all cables tightened correctly at terminals and intermediate circuit breaker), insulated and earthed correctly.
4) The installation requirements described previously are strictly adhered to.

ATTENTION: THE HEAT PUMP ONLY FUNCTIONS WHEN WATER FLOW IS PRESENT.

Then you can start up the heat pump following every point in the below order:

- Open by-pass valves
- Start pool system pump
- Turn on pool heat pump
- Set regulation

OPERATING THE UNIT

Operating the unit comes down to operating the digital controller.

⚠ NEVER LET THE DIGITAL CONTROLLER GET WET. THIS MAY CAUSE AN ELECTRIC SHOCK OR FIRE.

⚠ NEVER PRESS THE BUTTONS OF THE DIGITAL CONTROLLER WITH A HARD, POINTED OBJECT. THIS MAY DAMAGE THE DIGITAL CONTROLLER.

⚠ NEVER INSPECT OR SERVICE THE DIGITAL CONTROLLER YOURSELF, ASK A QUALIFIED SERVICE PERSON TO DO THIS.

Controller Instruction

General

Input Voltage: DC12V RS485 communication;

Operation temperature range for controller is -30～70℃;

Input Voltage: DC12V RS485 Communication;

Short-Press for 1~5 seconds, long-Press for 5 seconds;

No Button press for more than 30s, controller surface will exit to original normal. User can operate the controller only when the screen is light on;

Back light of Screen is orange, characters and symbols are black. Operation temperature range for controller is -30～70℃.

Dial Set

On the back of controller board, there are 4 dials:

DP1	DP2	DP3	DP4
ON for beep sound	ON for sound when water flow warning	ON for back light on always	ON for self-diagonise status
OFF for no beep sound	OFF for no sound when water flow warning	OFF for back light on for 30s	OFF for normal

Display and Operation Surface

Display Instruction

1. Instruction for Buttons

 Start on/off: Short press to turn. Also user can press this button to exit when they finish setting or checking;

 Run Modes: Short press to switch Heating/Cooling/Auto mode. Long-Press to into menu option;

 Increase: Temperature set + or previous one;

 Decrease: Temperature set - or next one;

 Boost Running mode: Short-press to enter into;

 Smart Running mode: Short-press to enter into;

 Silent Running mode: Short-press to enter in.

2. Instruction for Display Symbols

 : Heating Pool mode

 : Cooling Pool mode

 : Auto run mode

 : Boost run mode

 : Smart run mode

 : Silent run mode

 : Heat Pump output capacity in actual time

 : WiFi function

 : Water in temperature

 : Water out temperature

 : Error Warning

3. Instruction for special display

When the heat pump is in the shutdown state, the water temperature is not displayed, only the last working state icon of the host is displayed, and the output percentage of  area is 0%.

When the current main engine reports a fault, fault  displays and flashes, water inlet area  displays P or E, and water outlet area  displays the fault number

Instruction for Function

1. Switch Modes

When the heat pump is on, press  briefly to switch between heating/cooling/automatic operation. Each mode has three operation modes: Boost/Smart/Silent.

2. Set Temperature

When the heat pump is on, short press  or  to enter the water temperature setting interface, and the water inlet area  temperature value flashes. Press  or  to change the setting value, press  to confirm and exit the water temperature setting state. After 30s without any operation, save the current setting and exit the water temperature setting state.

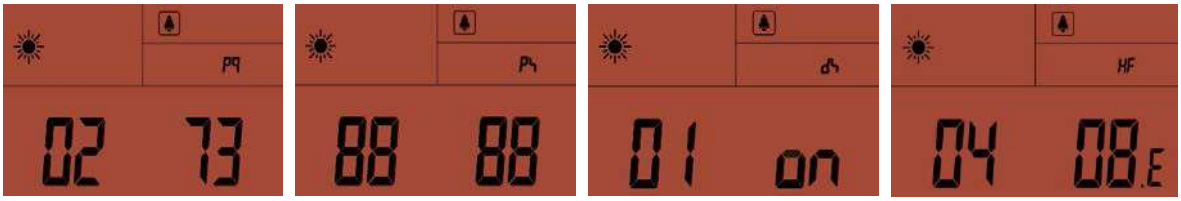
3. Set Parameter

When the heat pump is turned on, long press  to enter the first-level menu selection status. At this time, PQ (parameter query) is displayed in area  and flickers. Press  and  to change the display value. Switch between PQ (parameter query)/PS (parameter set)/HF (historical fault)/DS (debug status), and the second-level menu is not displayed. Briefly press  to confirm the selection and switch to the secondary menu. Area  displays the serial number value, and area  displays the value corresponding to the serial number. When in the PQ or HF state, area  displays the serial number value, and area  needs the corresponding parameter value. Press  and  to change the serial number value. At this time, the serial number and parameter do not flash.

When in the PS state, two numbers 88 are displayed in the  and  areas respectively. It is required to enter the password, press  to change the number of digits, and press  and  to change the value. When the password is entered correctly, press  again to enter the secondary menu. Area  displays the serial number value, and Area  displays the parameter value corresponding to the number of digits. At this time, the serial number value icon flashes, press  and  to change the serial number value, and press  to switch the parameter value corresponding to the serial number.

When entering the DS state, area  displays the serial number, “01” water pump commissioning, “02” test mode, and area can set ON/OFF. When “01” is ON, it cannot be switched to “02”. When “02” is ON, it cannot be switched to “01”. After entering the test mode, the corresponding mode icon flashes. To cancel the test mode, set “02” to OFF.

Display on each status:



Parameter Query　　Parameter Setting　　Debugging Status　　Error Query

Note: Value twinkles, means it is available for changing, or in verse

Function Diagnosis

When the heat pump is powered off, dial code 4 to switch to 1, and automatically enter the function detection state after powering on again.

After entering the function detection state, the remote controller displays each icon and each function area in turn, and switches once every 1s.

PARAMETER CHECKING AND ADUSTMENT

Parameter list

Some parameters can be checked and adjusted by the controller. Below is the parameter list.

No.	Name	Instruction
1	Compressor running Frequency	Current frequency
2	EEV Open degree	Current Value/ 5
3	Ambient Temperature	Current ℃
4	Outlet Water Temp.	Current ℃
5	Exhaust gas Temp.	Current ℃
6	Return gas Temp.	Current ℃
7	Coil Temp.	Current ℃
8	4-way Valve outlet Temp.	Current ℃
9	Water Circulation Pump	0-off；1-on
10	4-way Valve Status	0-off；1-on
11	Standby	/
12	Standby	/
13	Standby	/
14	Standby	/
15	Standby	/
16	Running Current of Compressor	Current*10
17	Voltage	Current/10
18	Standby	/
19	Standby	/
20	Standby	/
21	Fan speed	Current/10

Malfunctioning of the unit and maintenance

When an error occurs or the protection mode is set automatically, the circuit board and the wired controller will both display the error message.

Error	Meaning	Analysis	Diagnosis	Solution
P01	Water Flow failure	1. No water flow; 2. Flow switch failure; 3. Water system block.	1. Check if water in valve is closed or no water in; 2. Check if flow switch is blocked or damaged; 3. Check if “Y” Shape filter blocked.	1. Open the valve; 2. Change a new flow switch ; 3. Clean or change a new filter.
P02	High pressure protection	1. Water flow is too small ; 2. High-pressure switch is damaged; 3. Refrigerant system block; 4. EEV deadlock.	1. Check if water flow is not enough or water pump flow is not enough; 2. Check if high-pressure switch is off; 3. Check if refrigerant system is blocked; 4. When heat pump is off and turn the heat pump on and off to check if EEV can be listened by sound of reset.	1. Reinject water or change to a new pump of larger water flow; 2. Change a new high-pressure switch; 3. Change a new filter 4.Change a new EEV.

P03	Low pressure protection	1. Lack of gas ; 2. Refrigerant system block; 3. Exceed heat pump operation range.	1. Check if gas system is leaking; 2. Check if filter is blocked; 3. Check ambient Temp. And water temp.is over limitation.	1. Amend the leakage and reinject the gas; 2. Change a new filter.
P04	T3 Coil overheat protection	1. Heat Pump fan blowing area is blocked; 2. Evaporator is blocked; 3. T3 coil sensor position was changed.	1. Check if the blowing area is open; 2. Check if the evaporator is blocked; 3. Check if the coil sensor resistance value is correct.	1. Put away the blow area; 2. Clean the evaporator; 3. Change a new sensor.
P05	Exhausting gas temperature protection	1. Lack of gas; 2. Sensor position was changed.	1. Check if refrigerant system is leaking; 2. Check if the sensor resistance value is correct.	1. Amend the leakage and reinject the gas; 2. Change a new sensor.
P06	Outlet water temperature anti-freezing protection	1. Lower water flow; 1. Heat exchanger blocked; 2. Y-shaped filter blocked; 3. Over low load.	1. Check if air exists in water system; 2. Plate heat exchanger if blocked; 3. Check if Y-shaped filter has block; 4. Check design of indoor water system if reasonable, if have water bypass.	1. If drain valve has problem, change a new one; 2. Blow plate heat exchanger with water or high-pressure gas through reverse direction; 3. Clean Y-shaped filter; 4. Water system must have bypass.
P07	Pipe temperature anti-freezing protection	1. System lack of gas; 2. Water system has block; 3. Cooling system has block.	1. Check system if any leakage; 2. Check Y-shaped filter has block; 3. Check if cooling system filter has block.	1. Fix leakage and re-charge gas; 1. Clean Y-shaped filter; 2. Change filter.
P08	High-pressure 2 protection	High pressure switch 2 cuts	Check if high pressure switch 2 cuts under unit OFF condition	Change high pressure switch 2
P11	DC fan fault	1. The fan is faulty or stuck. 2. The main control board is faulty	1. Check whether the fan is stuck, or replace with a new fan. 2. Replace the main control board	1. Check if the fan is stuck, or replace with a new fan. 2. Replace the main control board.
P12	High temperature protection of heating water outlet	1. Too low water flow 2. Main PCB damaged	1. Check if water in valve is closed or no water in; 2. Check if flow switch is blocked or damaged; 3. Check if “Y” Shape filter blocked.	1. Check the water filter and water circuit (no block) 2. Replace the PCB
E01	Controller communication failure	Communication cable cuts	Check communication cable if cut	Change connection cable or re-connect
E02	TP1 exhaust gas temperature sensor failure	Sensor temperature deviation or cuts	Check sensor resistance value or if sensor cuts	Change sensor or re-connect cable
E03	T3 coil temperature sensor failure	Sensor temperature deviation or cuts	Check sensor resistance value or if sensor cuts	Change sensor or re-connect cable
E04	T4 ambient temperature sensor failure	Sensor temperature deviation or cuts	Check sensor resistance value or if sensor cuts	Change sensor or re-connect cable
E05	T5 liquid gas temperature sensor	Sensor temperature deviation or cuts	Check sensor resistance value or if sensor cuts	Change sensor or re-connect cable
E06	TH return gas temperature sensor failure	Sensor temperature deviation or cuts	Check sensor resistance value or if sensor cuts	Change sensor or re-connect cable
E07	TW water tank temperature sensor failure	Sensor temperature deviation or cuts	Check sensor resistance value or if sensor cuts	Change sensor or re-connect cable

E08	T6 inlet water temperature sensor failure	Sensor temperature deviation or cuts	Check sensor resistance value or if sensor cuts	Change sensor or re-connect cable
E09	T7 outlet water temperature sensor failure	Sensor temperature deviation or cuts	Check sensor resistance value or if sensor cuts	Change sensor or re-connect cable
E10	Controller and Drive PCB Communicate failure	Communication cable cuts	Check communication cable if cut	Change connection cable or re-connect
E11	Reserved	Wiring error or IPM module invalid Check if wiring error Re-connect cable or change IPM module		
E12	Reserved			
E13	Reserved			
E14	Reserved			
E15	DC main cable voltage too low			
E16	DC main cable voltage too high			
E17	AC current protection (input side)			
E18	IPM module abnormity			
E19	PFC abnormity			
E20	Compressor start failure			
E21	Compressor lack-phase			
E22	IPM module reset			
E23	Compressor over-current			
E24	PFC module extra high temperature			
E25	Current detection Circuit failure			
E26	out of step			
E27	PFC module temperature sensor abnormity			
E28	communication failure			
E29	IPM module extra high temperature			
E30	IPM module temperature sensor failure			
E31	reserved			
E32	IPM adjustment data			
E33	IPM adjustment data			
E34	AC input voltage abnormity			
E35	IPM adjustment data			
E36	Reserved			
E37	IPM module current frequency limits			
E38	IPM module voltage frequency limits			
E51	Failure of Fan motor drive			

MAINTENANCE THE UNIT

To protect the paintwork, avoid leaning or putting objects on the device. External heat pump parts can be wiped with a damp cloth and domestic cleaner. (Attention: Never use cleaning agents containing sand, soda, acid or chloride as these can damage the surfaces.)

To prevent faults due to sediments in the titanium heat exchanger of the heat pump, ensure that the heat exchanger cannot be contaminated (water treatment and filter system necessary). In the even that operating malfunctions due to contamination still occur, the system should be cleaned as described below. (Warning: the fins on the finned tube heat exchanger are sharp-edged -- danger of being cut!)

Cleaning the pipe system in the heat exchanger

Contamination in the pipes and heat exchanger can reduce the performance of the heat pump's titanium heat exchanger. If this is the case, the pipe system and heat exchanger must be cleaned by a technician.

Use only pressurized drinking water for cleaning.

Cleaning the air system

The finned heat exchanger, ventilator and condensate outflow should be cleaned of contaminants (leaves, twigs, etc.) before each new heating period. These types of contaminants can be manually removed using compressed air or by flushing with clean water.
It may be necessary to remove the device cover and air inlet grid first.

Attention: Before opening the device, ensure that all circuits are isolated from the power supply.

To prevent the evaporator and the condensate tray from being damaged, do not use hard or sharp objects for cleaning.
Under extreme weather conditions (e.g. snow drifts), ice may form on the air intake and exhaust air outlet grids. If this happens, the ice must be removed in the vicinity of the air intake and exhaust air outlet grids to ensure that the minimum air flow rate is maintained.

Winter Shutdown/Lay-up

If there is a chance of frost after the bathing-season has ended when the swimming pool heating is switched off and the external temperature is expected to drop below the operating limit, the water circuit of the heat pump should be completely drained. Otherwise, suitable constructional measures should be taken by the customer to protect the heat pump against damage from frost.

Attention: The warranty does not cover damage caused by inadequate lay-up measures during the winter.

TROUBLESHOOTING

This section provides useful information for diagnosing and correcting certain troubles which may occur. Before starting the troubleshooting procedure, carry out a thorough visual inspection of the unit and look for obvious defects such as loose connections or defective wiring.
Before contacting your local dealer, read this chapter carefully, it will save you time and money.

⚠ WHEN CARRYING OUT AN INSPECTION ON THE SWITCH BOX OF THE UNIT, ALWAYS MAKE SURE THAT THE MAIN SWITCH OF THE UNIT IS SWITCHED 'OFF'.

The guidelines below might help to solve your problem. If you cannot solve the problem, consult your installer/local dealer.

The heat pump will not run.
Please check whether:

- There is supply voltage (tripped fuse, power failure).
- The operating switch on the wired controller is switched on, and whether the correct set point temperature has been set.

The set temperature level cannot be reached. Please check whether:

- The permissible operating conditions for the heat pump have been adhered to (air temperatures too high or too low).
- The air inlet or outlet area is blocked, restricted or very dirty.
- There are closed valves or stop-cocks in the water pipes.

The scheduled timer does work but the programmed actions are executed at the wrong time (e.g. 1 hour too late or too early).
Please check whether:

- The clock and the day of the week are set correctly, adjust if necessary.

If you cannot correct the fault yourself, please contact your after-sales service technician. Work on the heat pump may only be carried out by authorized and qualified after-sales service technicians.

ENVIRONMENTAL INFORMATION

This equipment contains fluorinated greenhouse gases covered by the Kyoto Protocol. It should only be serviced or dismantled by professional trained personnel.

This equipment contains R32 (formula: CH_2F_2) refrigerant in the amount as stated in the specification. Do not vent R32 into the atmosphere: R32 is a fluorinated greenhouse gas with a Global Warming Potential (GWP) = 675.

DISPOSAL REQUIREMENTS

Dismantling of the unit, treatment of the refrigerant, of oil and of other parts must be done in accordance with relevant local and national legislation.

Your product is marked with this symbol. This means that electrical and electronic products shall not be mixed with unsorted household waste.

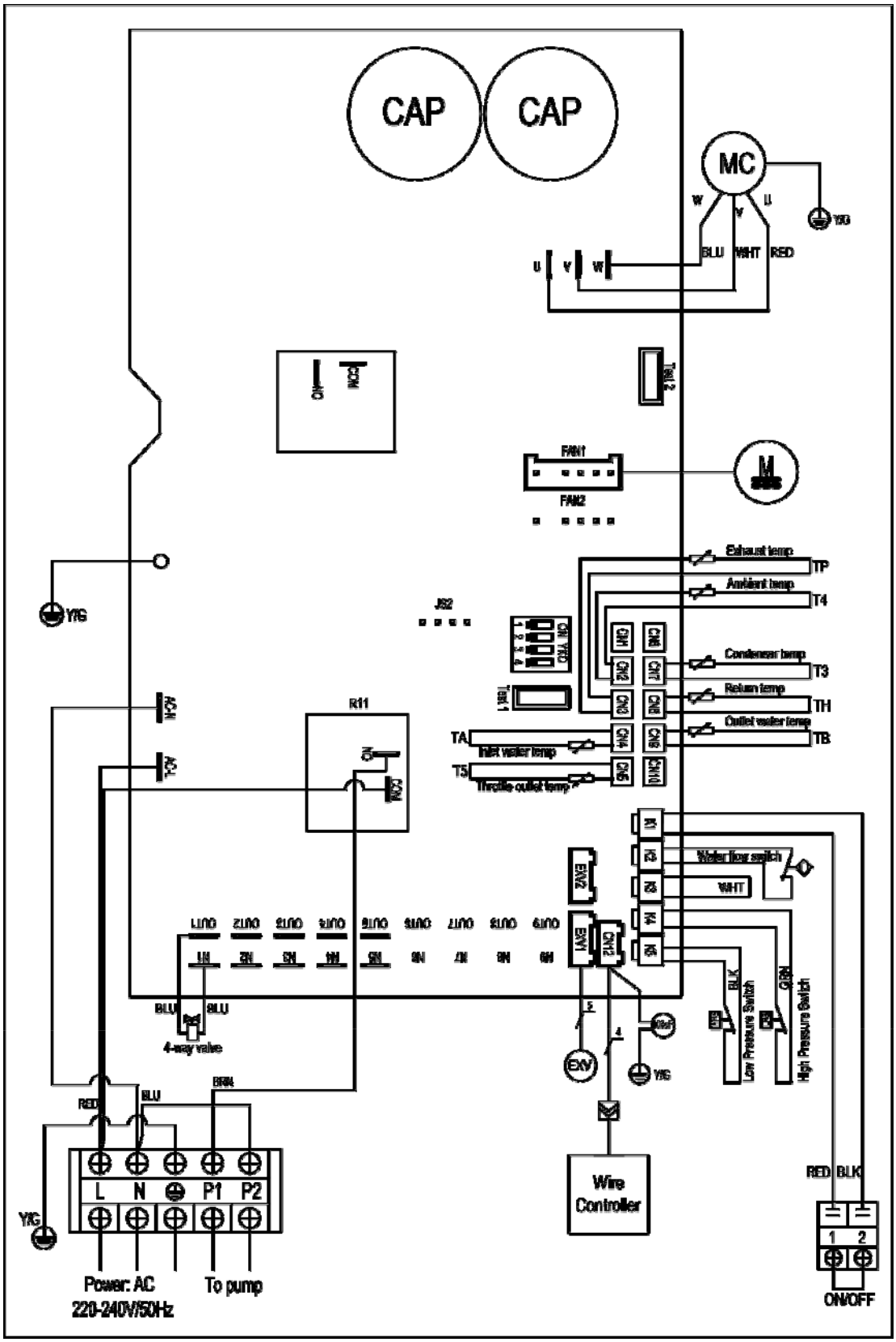
Do not try to dismantle the system yourself: the dismantling of the system, treatment of the refrigerant, of oil and other parts must be done by a qualified installer in accordance with relevant local and national legislation.

Units must be treated at a specialized treatment facility for re-use, recycling and recovery. By ensuring that this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health. Please contact the installer or local authority for more information

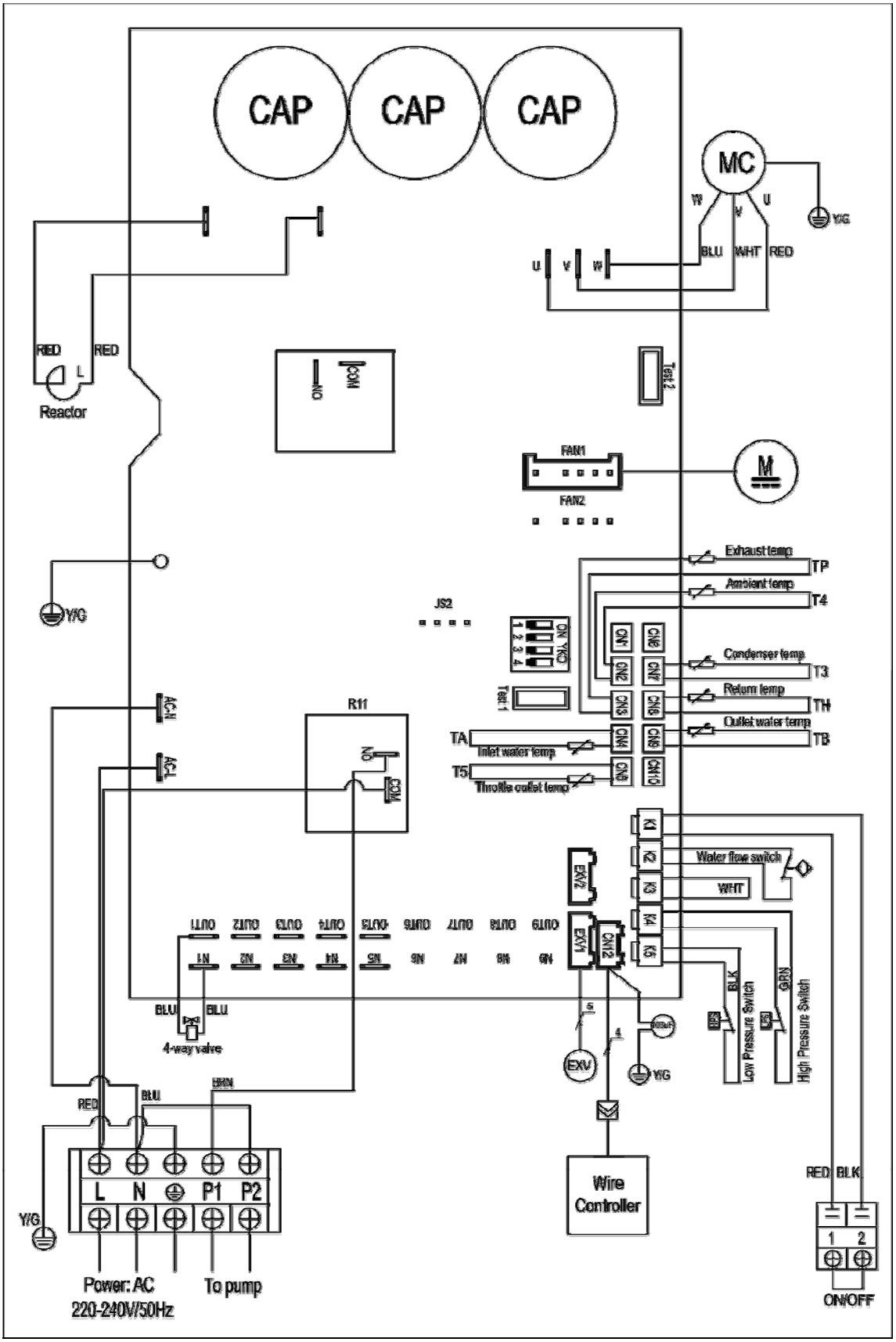
WIRING DIAGRAM

Please refer to the wiring diagram on the electric box.

Model: BEPACP230V05/07/09/11/14



Model: BEPACP230V17/21/23/25



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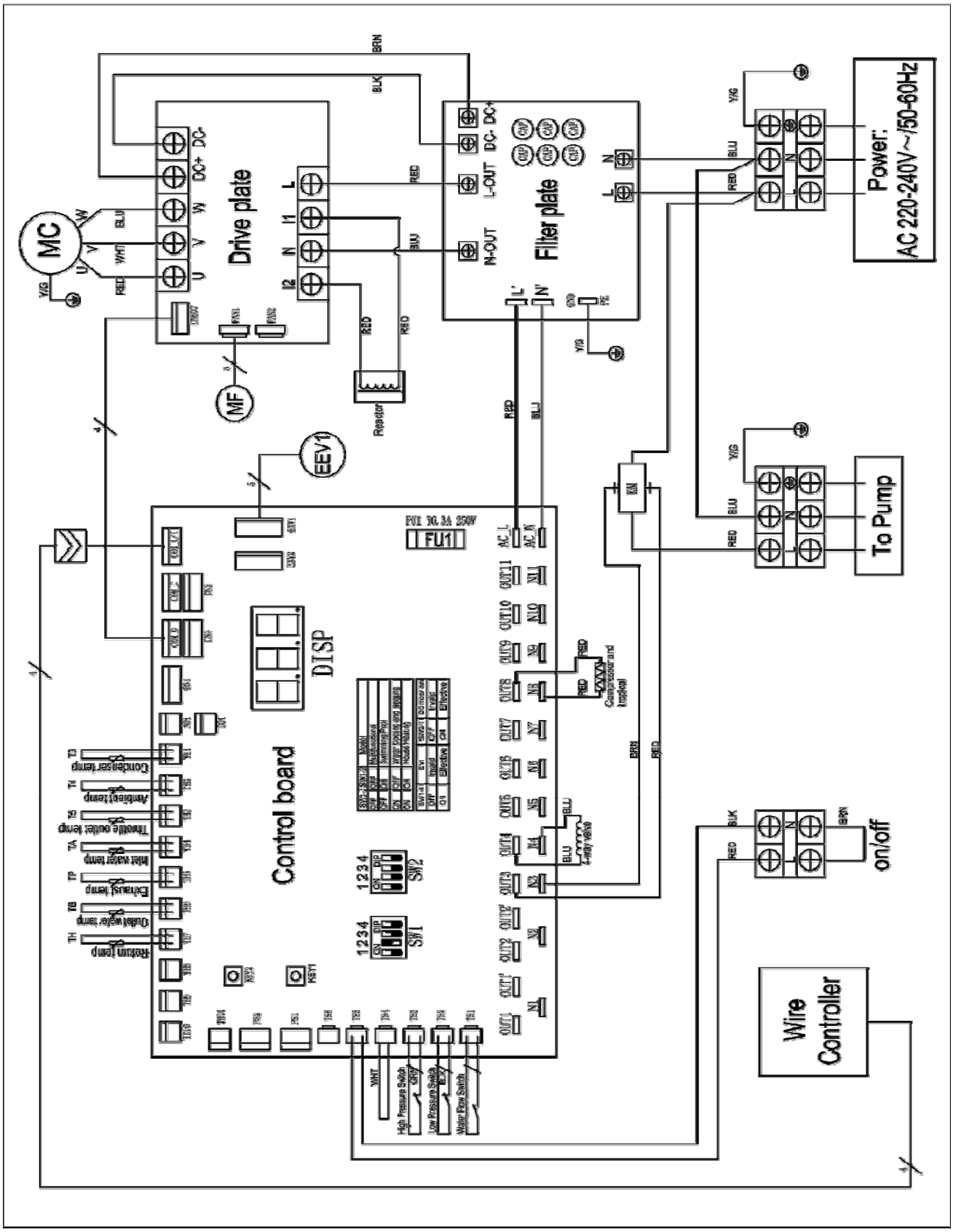
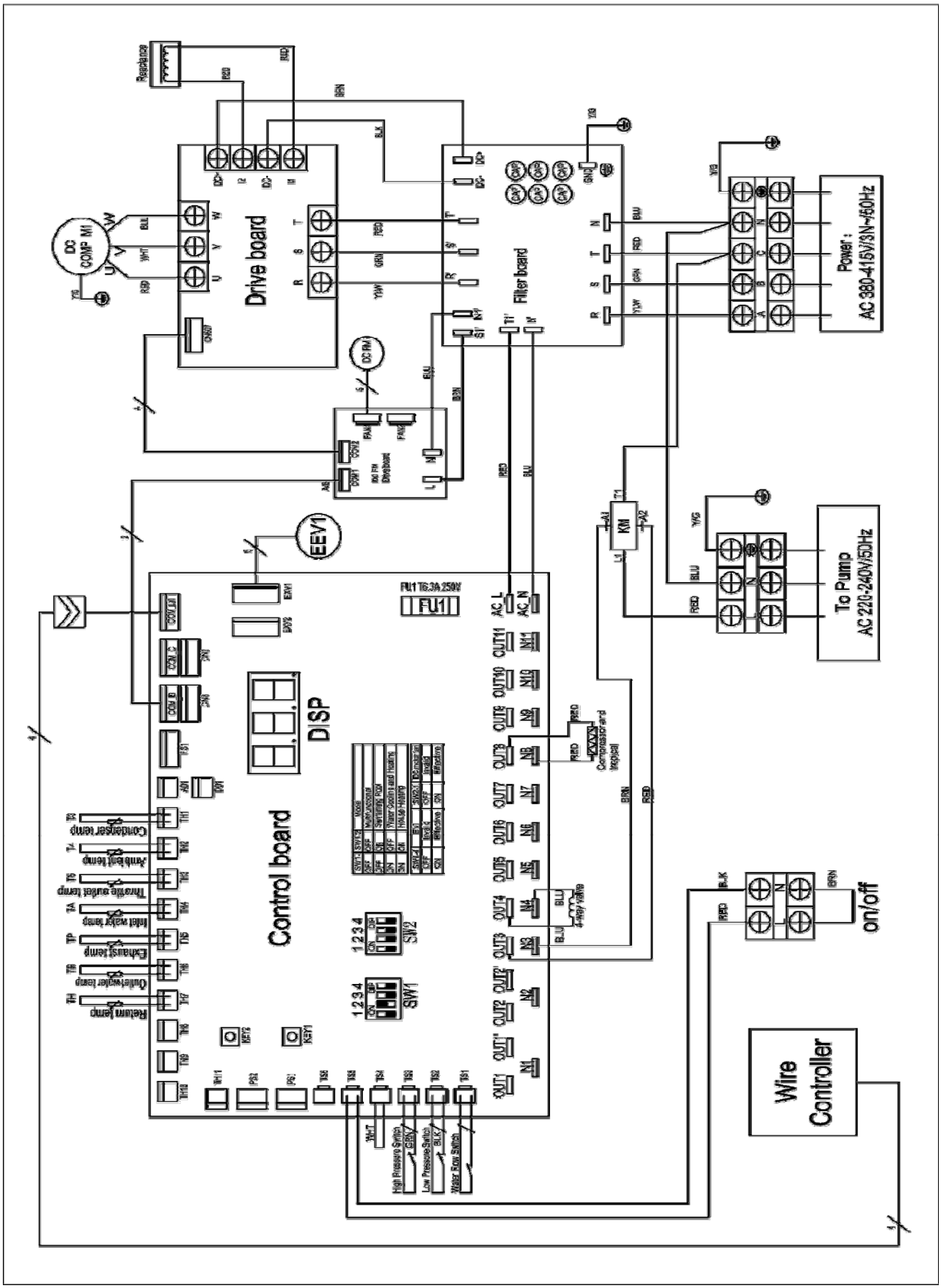


Model: BEPACP400V29/32



Spécification

Host model	External model	BEPACP 230V05	BEPACP 230V07	BEPACP 230V09	BEPACP 230V11	BEPACP 230V14
Air15℃/Water26℃ Humidity 70%	Capacity(kW)	1.1~3.8	1.3~5.1	1.6~6.7	2.18~8.13	2.86~10.65
	Power input(kW)	0.14~0.75	0.17~1.06	0.21~1.34	0.28~1.59	0.38~2.17
	COP	5.1~7.9	4.8~7.8	5~7.7	4.9~7.8	4.9~7.6
	Capacity(kW) Boost	3.8	5.1	5.95	8.13	10.65
	COP Boost	5.1	4.8	5.00	4.90	4.90
	Capacity(kW) Smart	3.04	4.08	4.76	6.50	8.52
	COP Smart	5.91	5.9	5.88	5.76	5.76
	Capacity(kW) Silent	2.01	2.55	2.98	4.07	5.33
	COP Silent	6.82	6.75	6.67	6.53	6.53
Air26℃/Water26℃ Humidity 80%	Capacity(kW)	1.6~5.3	1.6~7.2	1.9~9.2	2.7~10.9	3.4~14.3
	Power input(kW)	0.13~0.88	0.13~1.19	0.13~1.28	0.18~1.74	0.23~2.32
	COP	6.25~14.5	6.22~14.55	6.24~14.71	6.27~14.8	6.15~14.62
	Capacity(kW) Boost	5.3	7.2	9.20	10.90	14.30
	COP Boost	6.31	6.26	6.24	6.27	6.15
	Capacity(kW) Smart	4.4	5.92	7.45	8.94	11.44
	COP Smart	7.7	7.65	7.80	7.84	7.69
	Capacity(kW) Silent	2.8	3.7	4.60	5.45	7.15
	COP Silent	10.5	10.42	10.40	10.45	10.25
Air35℃/Water28℃ Humidity 80%	Capacity(kW)	1.5~2.8	1.7~3.6	1.8~4.6	2.4~6.0	3.2~7.87
	Power input(kW)	0.2~0.62	0.22~0.8	0.28~1.2	0.33~1.39	0.43~1.78
	EER	4.51~7.55	4.48~7.53	4.47~7.46	4.32~7.34	4.41~7.42
	Capacity(kW) Boost	2.8	3.6	4.60	6.00	7.87
	EER Boost	4.51	4.48	4.47	4.32	4.41
	Capacity(kW) Smart	2.24	2.88	3.68	4.80	6.30
	EER Smart	5.62	5.6	5.59	5.40	5.51
	Capacity(kW) Silent	1.7	2.16	2.30	3.00	3.94
	EER Silent	6.95	6.92	6.88	6.65	6.78
power supply	V / Ph / Hz	220-240~/ 50				
max current	A	5.35	6.53	7.24	8.4	9.6
water flow	m³/h	2~3	3~4	3~5	4~6	5~7
Refrigerant volume		R32				
Min pressure/max pressure	Mpa	1.5/4.15				
Operating air temperature	℃	-15~43				
compressor brand		GMCC				
compressor type		Rotary				
water proof level		IPX4				
package dimensions	L x W x H(mm)	860*331*668			986*356*668	
unit dimensions	L x W x H(mm)	950*410*800			1080*435*800	
noise at 1 m	dB(A)	35.3~43.1	37.7~46.1	38.1~47.2	38.3~48.1	38.5~48.6
noise at 10 m	dB(A)	19.1~27.2	19.5~27.4	20.5~27.9	20.6~28.2	20.8~28.6

Host model	External model	BEPACP 230V17	BEPACP 230V21	BEPACP 230V23	BEPACP 230V25
Air15℃/Water26℃ Humidity 70%	Capacity(kW)	3.49~13	3.76~15.7	4.64~17.34	5.15~18.52
	Power input(kW)	0.47~2.64	0.48~2.75	0.61~3.6	0.68~3.77
	COP	4.85~7.44	5.1~7.52	4.8~7.5	4.91~7.53
	Capacity(kW) Boost	13.00	15.70	17.34	18.52
	COP Boost	4.85	5.10	4.80	4.91
	Capacity(kW) Smart	10.40	12.56	13.87	14.82
	COP Smart	5.71	6.00	5.65	5.74
	Capacity(kW) Silent	6.50	7.85	8.67	9.26
	COP Silent	6.47	6.80	6.40	6.51
Air26℃/Water26℃ Humidity 80%	Capacity(kW)	4.3~17.4	4.8~21.2	5.7~23.2	6.2~25.1
	Power input(kW)	0.29~2.85	0.33~3.38	0.4~3.8	0.43~4.05
	COP	6.0~14.5	6.36~14.55	6.1~14.5	6.2~14.52
	Capacity(kW) Boost	17.40	21.20	23.20	25.10
	COP Boost	6.00	6.36	6.10	6.20
	Capacity(kW) Smart	14.01	17.17	18.79	20.10
	COP Smart	7.50	7.95	7.63	7.60
	Capacity(kW) Silent	8.70	10.60	11.60	12.52
	COP Silent	10.00	10.60	10.17	10.15
Air35℃/Water28℃ Humidity 80%	Capacity(kW)	3.9~9.6	4.3~11.5	5.3~12.8	5.8 ~13.9
	Power input(kW)	0.51~2.3	0.57~2.62	0.73~3.1	0.8~3.35
	EER	4.24~7.4	4.38~7.48	4.17~7.25	4.15~7.22
	Capacity(kW) Boost	9.60	11.5	12.80	13.90
	EER Boost	4.24	4.38	4.17	4.15
	Capacity(kW) Smart	7.68	9.20	10.24	11.10
	EER Smart	5.30	5.48	5.21	5.18
	Capacity(kW) Silent	4.80	5.75	6.40	6.95
	EER Silent	6.52	6.74	6.42	6.40
power supply	V / Ph / Hz	220-240~/ 50			
max current	A	13.77	14.3	18.36	19.52
water flow	m³/h	6~8	7~9	8~10	8~11
Refrigerant volume		R32			
Min pressure/max pressure	Mpa	1.5/4.15			
Operating air temperature	℃	-15~43			
compressor brand		GMCC			
compressor type		Rotary			
water proof level		IPX4			
package dimensions	L x W x H(mm)	986*356*668	1076*426*720		
unit dimensions	L x W x H(mm)	1080*435*800	1161*490*855		
noise at 1 m	dB(A)	41.5~52.5	42.3~53.1	44.2~54.5	44.7~54.9
noise at 10 m	dB(A)	23.0~31.8	23.6~32.2	24.3~33.4	24.6~33.7

Host model	External model	BEPACP 230V29	BEPACP 230V32	BEPACP 400V29	BEPACP 400V32
Air15℃/Water26℃ Humidity 70%	Capacity(kW)	5.43~21.28	6.34~23.68	5.43~21.28	6.34~23.68
	Power input(kW)	0.73~4.3	0.87~4.8	0.73~4.3	0.87~4.8
	COP	4.95~7.51	4.9~7.6	4.95~7.51	4.9~7.6
	Capacity(kW) Boost	21.28	23.68	21.28	23.68
	COP Boost	4.95	4.9	4.95	4.9
	Capacity(kW) Smart	17.02	18.94	17.02	18.94
	COP Smart	5.82	5.76	5.82	5.76
	Capacity(kW) Silent	10.54	11.84	10.54	11.84
	COP Silent	6.60	6.53	6.60	6.53
Air26℃/Water26℃ Humidity 80%	Capacity(kW)	6.6~29.0	7.7~31.7	6.6~29.0	7.7~31.7
	Power input(kW)	0.46~4.75	0.54~5.21	0.46~4.75	0.54~5.21
	COP	6.1~14.54	6.11~14.6	6.1~14.54	6.11~14.6
	Capacity(kW) Boost	29.00	31.7	29.00	31.7
	COP Boost	6.10	6.11	6.10	6.11
	Capacity(kW) Smart	23.20	25.68	23.20	25.68
	COP Smart	7.63	7.64	7.63	7.64
	Capacity(kW) Silent	14.55	15.85	14.55	15.85
	COP Silent	10.17	10.18	10.17	10.18
Air35℃/Water28℃ Humidity 80%	Capacity(kW)	6.2~16.0	7.2~17.5	6.2~16.0	7.2~17.5
	Power input(kW)	0.82~3.73	0.97~4.17	0.82~3.73	0.97~4.17
	EER	4.29~7.54	4.21~7.44	4.29~7.54	4.21~7.44
	Capacity(kW) Boost	16.00	17.50	16.00	17.50
	EER Boost	4.29	4.21	4.29	4.21
	Capacity(kW) Smart	12.80	14.00	12.80	14.00
	EER Smart	5.36	5.26	5.36	5.26
	Capacity(kW) Silent	8.00	8.75	8.00	8.75
	EER Silent	6.60	6.48	6.60	6.48
power supply	V / Ph / Hz	220-240~/ 50		380-410/3N~/50	
max current	A	18.36	19.52	9.87	10.4
water flow	m³/h	8~10	8~11	9~12	12~15
Refrigerant volume		R32			
Min pressure/max pressure	Mpa	1.5/4.15			
Operating air temperature	℃	-15~43			
compressor brand		GMCC			
compressor type		Rotary			
water proof level		IPX4			
package dimensions	L x W x H(mm)	1176*451*822			
unit dimensions	L x W x H(mm)	1261*515*957			
noise at 1 m	dB(A)	45.6~57.1	47.2~59.7	45.6~57.1	47.2~59.7
noise at 10 m	dB(A)	26.6~36.5	27.3~38.2	26.6~36.5	27.3~38.2

Recycling

ENVIRONMENTAL INFORMATION

This equipment contains fluorinated greenhouse gases covered by the Kyoto Protocol. It should only be serviced or dismantled by professional trained personnel.

This equipment contains R32 (formula: CH_2F_2) refrigerant in the amount as stated in the specification. Do not vent R32 into the atmosphere: R32 is a fluorinated greenhouse gas with a Global Warming Potential (GWP) = 675.

DISPOSAL REQUIREMENTS

Dismantling of the unit, treatment of the refrigerant, of oil and of other parts must be done in accordance with relevant local and national legislation.

Your product is marked with this symbol. This means that electrical and electronic products shall not be mixed with unsorted household waste.

Do not try to dismantle the system yourself: the dismantling of the system, treatment of the refrigerant, of oil and other parts must be done by a qualified installer in accordance with relevant local and national legislation.

YOU HAVE THREE SOLUTIONS:

1.Disposing of it at your local recycling center

2.Giving it to a social service organization for it to be repaired and put back into circulation.

3.Returning it to the heat pump distributor against a new purchase.