



COMMERCIAL POOL SERIES

HEAT PUMP USER MANUAL

26 – 52 – 75 – 100 – 121 – 145 kW



PLEASE READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY.
BE SURE TO KEEP THIS MANUAL FOR FUTURE REFERENCE.

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IMPORTANT SAFETY PRECAUTIONS

Important Warning:

This manual provides installation and operating instructions for the swimming pool water chiller and heat pump. If you have any questions regarding this equipment, please contact your dealer.

Attention Installer:

This manual contains important information regarding the installation, operation, and safe use of this product. After installation, it must be provided to the owner and/or operator of the equipment or left on or near the heat pump for future reference.

Attention User:

This manual contains important information to assist you in the operation and maintenance of this heat pump. Please retain it for future reference.

WARNING:

Before installing this product, read and follow all warnings and instructions provided with the product. Failure to comply with these safety warnings and instructions may result in serious injury, death, or property damage.

The swimming pool water chiller and heat pump must be installed in accordance with all applicable local building and installation codes and regulations issued by the relevant authorities. Local codes shall take precedence over national codes. In the absence of local regulations, refer to the latest edition of the National Electrical Code (NEC) or the Canadian Electrical Code (CEC), as applicable, for installation requirements.

Codes and Standards

The swimming pool water chiller and heat pump must be installed in accordance with the local building and installation codes of the authority having jurisdiction. All local codes take precedence over national codes. In the absence of local regulations, refer to the latest applicable edition of the National Electrical Code (NEC) or the Canadian Electrical Code (CEC) for installation requirements.

DANGER — Risk of electric shock or electrocution.



The electrical power supply to this product must be installed by a licensed or certified electrician in accordance with the National Electrical Code and all applicable local codes and regulations. Improper installation may result in electric shock or electrocution, causing death or serious injury to the heat pump user, installer, or others, and may also damage the equipment. Read and follow the specific instructions provided in this manual.

 **WARNING** — To reduce the risk of injury, do not allow children to use this product unless they are closely supervised at all times.

Consumer Information and Safety

Swimming pool water chillers and heat pumps are designed and manufactured to provide years of safe and reliable service when installed, operated, and maintained in accordance with the information in this manual and the installation codes referenced in the following sections.

Throughout this manual, safety warnings and cautions are identified by the "  " symbol. Be sure to read and follow all warnings and cautions.

Swimming Pool Energy-Saving Tips

Swimming Pool Energy-Saving Tips

It is important to understand that a heat pump will not heat a swimming pool as quickly as a large gas or electric pool heater. If the pool water is allowed to cool significantly, it may take several days to return to the desired swimming temperature. For weekend use, it is more economical to maintain the pool water at or near the desired swimming temperature. If you do not plan to use the pool for an extended period, you may reduce energy consumption by turning the heat pump off or lowering the temperature setpoint by a few degrees.

1. A maximum pool water temperature of 35°C (95°F) is recommended.
2. It is recommended to switch off the heat pump when the ambient air temperature falls below -7°C (14°F) or when the pool will not be used for more than one week.
3. For maximum energy efficiency, operate the heat pump during the warmest hours of the day when the ambient air temperature is higher.
4. Whenever possible, protect the pool from prevailing winds by using well-maintained hedges, landscaping, fences, or other suitable wind barriers.
5. Whenever possible, use a pool cover. In addition to providing an important safety feature, a pool cover helps reduce heat loss, conserve pool chemicals, and reduce the workload on the filtration system.

General Installation Information

1. Installation and servicing must be carried out by a qualified installer or authorized service agent in accordance with all applicable national, state, and local codes and/or safety regulations.
2. This swimming pool heat pump is specifically designed for heating swimming pools and spas. Do not use it for any other application.

Section 1: Introduction

Product Overview

Swimming pool heat pumps use energy from the ambient air to heat pool water efficiently. Compared with conventional gas, oil-fired, or electric heaters, they can reduce operating costs by up to 60–80%, lowering energy consumption and providing significant savings in annual running costs.

These heat pumps are not only highly efficient but also safe and easy to operate. The swimming pool water chillers and heat pumps are certified in accordance with SAA, CB, CE, and C-Tick standards and use environmentally friendly, energy-efficient R410A refrigerant.

General Features

General Features

1. Utilizes heat energy from the ambient air to generate more heating output while reducing energy consumption by 60–80% compared with conventional heating systems.
2. Provides efficient and cost-effective heating for swimming pools and spas in both residential and commercial applications, even during winter.
3. Eliminates the risks associated with conventional heating systems, such as combustible fuels, gas poisoning, explosion, fire, and electric shock.
4. Equipped with a digital controller to maintain the desired water temperature automatically.
5. Durable, corrosion-resistant composite cabinet designed to withstand harsh weather conditions and pool chemicals.
6. High-performance Copeland scroll compressor delivers outstanding efficiency, reliable operation, long service life, and quiet performance.
7. Seamless steel tubing combined with a titanium heat exchanger provides excellent resistance to corrosion and aggressive pool chemicals.
8. Built-in self-diagnostic control system continuously monitors heat pump operation, detects faults, and ensures safe and reliable performance.
9. User-friendly intelligent digital controller with a blue LED backlit display.
10. Separate insulated electrical compartment helps prevent internal corrosion and extends the service life of the heat pump.
11. Operates reliably at ambient air temperatures as low as -7°C .

Section 2 Installation

The following general information explains how to install a swimming pool water chiller and heat pump.

Note: Read and follow all warning notices and instructions before installing this product. The heat pump should only be installed by qualified service personnel.

Materials Needed for Installation

The following items are required for all heat pump installations and must be provided by the installer:

1. Sanitary fittings.
2. Level the surface for proper drainage.
3. Ensure a suitable electrical supply line is provided. Refer to the rating plate on the heat pump for electrical specifications. Please note the specified current rating. A junction box is not required for the heat pump; connections are made inside the heat pump electrical compartment. The piping can be connected directly to the heat pump jacket.
4. It is recommended to use PVC pipes in the electrical supply line.
5. Use a booster pump to pump water in case of low water pressure.
6. A filter must be installed at the water inlet.
7. The system should be insulated to reduce heat loss.

Note: For ease of servicing, we recommend installing shut-off valves on the inlet and outlet water connections.

COMMERCIAL POOL SERIES TECHNICAL DATA

Varmeks Model	26 kW	52 kW	75 kW	100 kW	121 kW	145 kW
Nominal Power Input (kW)	4.2	8.4	12.1	16.8	20.2	23.8
	6.2	6.1	6.2	6.0	6.0	6.1
Maximum Outlet Water Temperature	43					
	380~400V 3PH-50Hz					
Electrical Protection Class	I					
IP Rating (Protection Level)	IPX4					
	R410A					
Operating Ambient Temperature	-7~43°C					
Heat Exchanger	Titanium Heat Exchanger in PVC Housing					
Noise Level (dB(A))	56	58	60	62	64	66
Water Pressure Drop (kPa)	50	50	50	45	45	50
Nominal Water Flow Rate (m³/h)	11.2	22.1	32.3	43	52	62.4
Pipe Connection	G1½" (Female)	G2" (Female)	G2" (Female)	DN110 (PVC flange)	DN110 (PVC flange)	DN110 (PVC flange)
Net Weight (kg)	135	200	248	352	465	465
Product Dimensions – Length (mm)	740	1500	1530	1705	2005	2005
Product Dimensions – Width (mm)	805	750	790	1005	1050	1050
Product Dimensions – Height (mm)	1165	1075	1100	1230	1400	1400

Technical data are nominal values under standard test conditions. Actual performance may vary. Varmeks reserves the right to change specifications without notice.

*Nominal operating conditions: Dry bulb temperature 27°C, inlet water temperature 26°C.

*Installation must be carried out using PVC piping.

Note: The above design and technical specifications are subject to change without notice for product improvement purposes. Please refer to the nameplate on the units for detailed specifications.

Proper installation is essential to ensure safe operation. Requirements for heat pumps include the following:

1. Dimensions for critical connections.
2. On-site assembly (if required).
3. Suitable site location and openings.
4. Proper electrical wiring.
5. Sufficient water flow.

This guide provides the information needed to meet these requirements. Review all application and installation procedures thoroughly before proceeding with the installation.

Installation Location

⚠ ATTENTION!

1. When pool equipment is located below the pool surface, leaks from any component can cause large-scale water loss or flooding.
2. Do not install the heat pump near hazardous materials or areas with dangerous substances.
3. Do not install the heat pump under deep-pitched roofs that lack gutters to allow rainwater mixed with debris to pass through the unit.
4. Install the heat pump on a slightly sloping, flat surface such as concrete or a prefabricated slab. This will allow for proper drainage of condensate and rainwater from the base of the unit. If possible, the slab should be placed at or slightly higher than the filter system/equipment.

Installation Details

All criteria given in the following sections reflect minimum distances. However, each installation should be evaluated taking into account applicable local conditions such as the proximity and height of walls and proximity to public access areas. The heat pump should be positioned to provide clearance on all sides for maintenance and inspection.

1. The installation area must have good ventilation, and air intake/outlet must not be obstructed.
2. The installation site must have good drainage and be built on a solid foundation.
3. Do not install the unit in areas where aggressive gases (chlorine or acidic), dust, sand, leaves, etc., accumulate.
4. For easier and better maintenance and troubleshooting, no obstacles should be closer than 500 mm to the unit. And for ventilation, there should be no obstacles within a 2 m vertical distance from the unit. (See Figure 1)

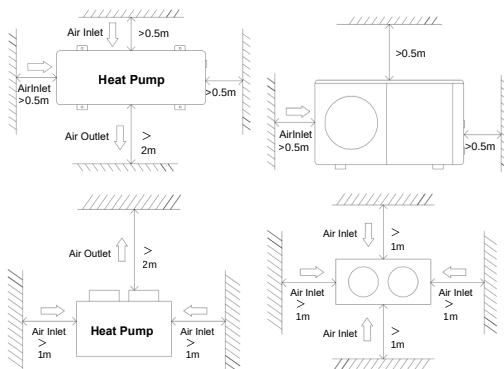


Figure 1

5. To prevent vibration and/or imbalance, the heat pump should be mounted with shock-resistant bushings.

6. Although the controller is waterproof, care should be taken to avoid direct sunlight and high temperatures. Additionally, the heat pump should be positioned in a way that allows for clear visualization of the controller.

7. To prevent damage that may occur due to vibration, the plumbing pipes should be laid with appropriate supports. The flowing water pressure should be kept above 196 kPa. Otherwise, a booster pump should be installed.

8. The acceptable operating voltage range should be within $\pm 10\%$ of the nominal voltage. When heat pump units are installed in parallel, ensure that the voltage difference between these units is within $\pm 2\%$.

9. The heat pump unit must be grounded for safety reasons.

Drainage and Condensation

Condensation will occur in the evaporator while the unit is operating and will be discharged at a constant rate depending on the ambient air temperature and humidity. The more humid the ambient conditions, the more condensation will occur. The bottom of the unit acts as a tray to collect rainwater and condensation.

Always keep the drainage holes in the bottom tray of the unit free of debris.

Water Connections

Necessary Plumbing Supplies

The pool, swimmer and main drain, pool pump, filter, heat pump, check valve, chemical feeder and chlorinator system components must be considered.

The heat pump must be protected against water backflow. If backflow is a possibility, install a check valve between the swimming pool and the heat pump outlet.

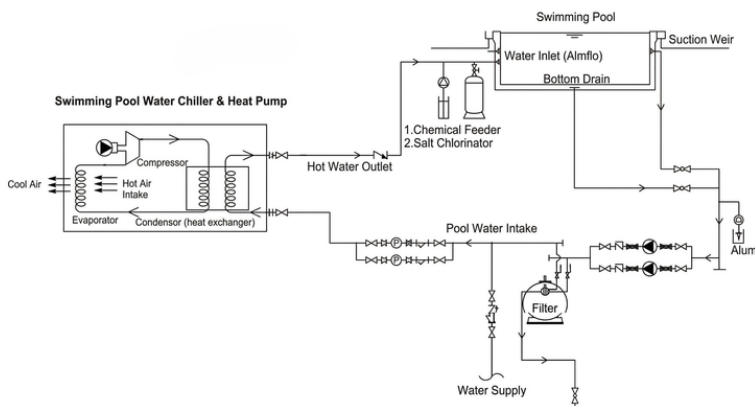
The recommended arrangement of the pool system components is as follows:

Main drain / pool → pool pump → filter → heat pump → chemical feeder / chlorinator → chemical-resistant feeder check valve

If the heat pump water connections are located more than 6 feet below or more than 15 feet above the pool water surface, it is recommended to install adjustable pressure switches at both the water inlet and outlet ends to compensate for this effect.

Note: When pool equipment is placed below the pool water level, a leak could cause significant water loss or flooding. We cannot be held responsible for damages resulting from either of these situations.

Installation Diagram



Water Connections in a Heat Pump

It is recommended to install Quick Connect fittings on the water inlet and outlet connections. Tap water is connected to the inlet located on the right side of the heat pump unit.

Heated water flows from the outlet located on the right side of the heat pump into the water tank. It is recommended to use stainless steel and PVC/PPR pipes in heat pump installations.

The water inlet and outlet connections (50 mm or threaded inlet) for the heat pump are suitable for stainless steel or PVC/PPR pipe fittings.

⚠ ATTENTION: Installation and piping constraints for auxiliary heat pumps and flow. Ensure that the requirements and pool water circulation rates can be maintained.

Plumbing installation requirements

1. When the water pressure exceeds 490kPa, please use the pressure reduction valve to lower the water pressure to below 294kPa.
2. Each part connected to the unit must be attached using a loose connection method and fitted with a valve.
3. Ensure all plumbing is properly completed, and then proceed with water leak and pressure testing.
4. To prevent heat loss, all pipelines and pipe fittings must be insulated.
5. Install a drain valve at the lowest point of the system to allow for draining in freezing conditions (winter preparation).
6. Install a check valve on the water outlet connection to prevent backflow when the water pump stops.
7. To reduce back pressure, pipes should be laid horizontally.
8. Minimize elbows (90-degree connections). Install a bypass valve if a higher flow rate is required.

Check Valve Installation

The heat pump must be protected against water backflow. If backflow is a possibility, install a check valve between the pool and the heat pump outlet.

ATTENTION:

The placement of chlorinators and chemical feeders is a crucial element of the installation. Failure to protect the heat pump unit from chemical damage is not covered under warranty. When an automatic chemical feeder is installed in the plumbing system, it must be mounted downstream of the heat pump.

To prevent chemically saturated water from being drawn back into the heat pump and damaging the components, a check valve must be installed between the heat pump and the chemical feeder.

Electrical Connections

 **WARNING** – Electric shock or risk of electric shock.



Before beginning heat pump installation, ensure all high-voltage circuits are disconnected. Contact with these circuits can cause death or serious injury to users, installers, or others due to electric shock, and can also cause property damage.

ATTENTION:

When servicing a heat pump, label all cables before disconnecting. Wiring errors can lead to faulty and dangerous operation. After servicing, check and ensure it is functioning correctly.

General Information

Cable connections must be made according to the wiring diagram located inside the heat pump access panel, or refer to Appendix A for reference. The heat pump must be grounded/earthed. A grounding lug is located inside the heat pump electrical compartment.

Power supply

1. If the supply voltage is too low or too high, it can cause damage due to high surge currents during startup and/or lead to unstable operation of the heat pump unit.
2. The minimum starting voltage must be above 90% of the nominal voltage. The acceptable operating voltage range should be within $\pm 10\%$ of the nominal voltage. When heat pump units are installed in parallel, ensure that the voltage difference between these units is within $\pm 2\%$ of each other. The voltage difference between the phases of a three-phase power supply should be within $\pm 2\%$.
3. Ensure that the cable specifications meet the correct requirements for the specific installation. The distance between the installation area and the mains power supply will affect the cable thickness. Follow local electrical standards when selecting cables, circuit breakers, and insulator breakers.

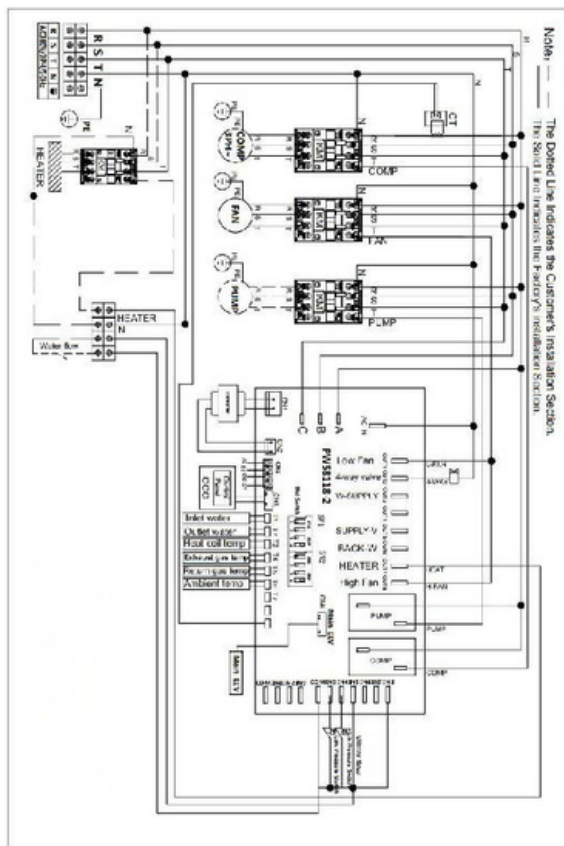
Grounding and Overcurrent Protection

To prevent electric shock in case of leakage from the unit, install the heat pump in accordance with local electrical standards.

1. Avoid frequently interrupting the voltage supply to the heat pump, as this can shorten its lifespan.
2. When installing overcurrent protection, ensure that the correct current rating is met for this specific installation.
3. The compressor, fan coil unit, and heat pump water pump all have AC contactor and thermorelay protection. Therefore, during the installation and debugging process, first measure the current of each of the aforementioned components and then adjust the current protection range of the thermorelays.

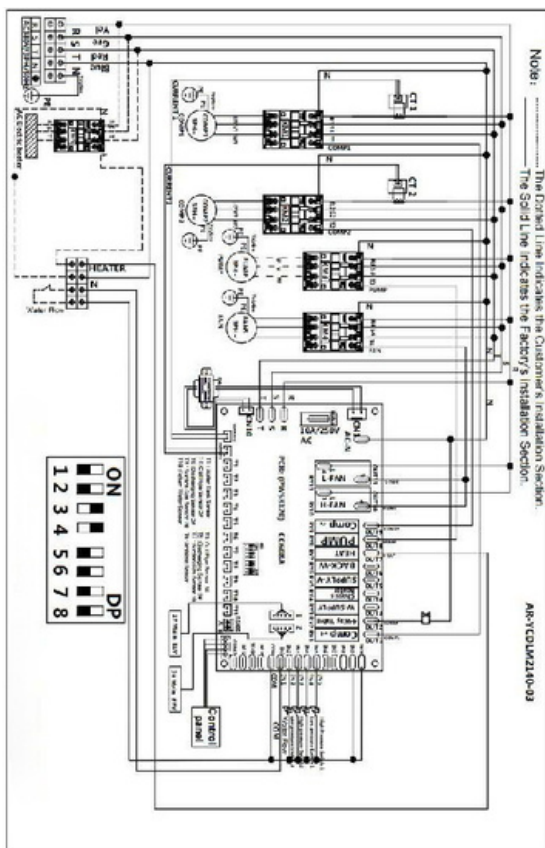
Electrical Connection Diagram

VM-0PC3200026



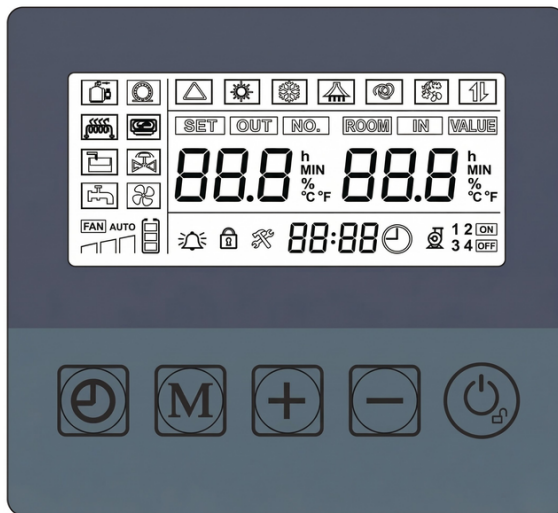
Electrical Connection Diagram

VM-0PC3200052 / 100 / 121 / 145



Chapter 3 Operating the Heat Pump

1. Interface Images



2. Button Definition

On/Off Switch

- With the lock unlocked, press and hold this button for 1 second to turn the device on or off.
- In other settings screens, press this button to return to the main interface.
- While the screen is locked, press and hold this button for 5 seconds to unlock it.

Function Button

- While on the main interface, press the function button to enter the unit status inquiry screen.

"+" Up and "-" Down Buttons

- Navigate between pages to view and modify parameter values.
- Parameters can be viewed and adjusted using the function key.
- While the device is in operation, press the "+" and "-" buttons to adjust the temperature of the current mode.

Timer Button

- To enter timer mode, press and hold the timer button for 5 seconds.
- Press the timing button to enter timing on/off setting mode.
- You can set the opening and closing times for timing groups 1, 2, 3, 4, and 5 by using the "+" or "-" buttons together.

3. How the Wired Controller Works

Parameter Query and Settings

- While on the main interface, press and hold the "Function" key for 3 seconds to enter the user parameter query screen.
- Use the "+" or "-" keys to navigate between parameters.
- On the user parameter query screen, press the "Function" button to enter the settings screen for the selected parameter.
- Use the "+" or "-" keys to change the parameter value.
- Press the "Function" button again to confirm the setting and return to the prompt screen.
- If no action is taken for 30 seconds on the user parameter query or settings screen, the system will automatically exit and return to the main interface.
- You can also press the power button to return to the main interface.

Factory Parameter Inquiry and Adjustment

- While on the main interface, press and hold the "Power" + "+" buttons together for 3 seconds to enter the factory settings password screen.
- Press the "Timing" button to change the password entry.
- Use the "+" or "-" keys to change the value.
- Press the "Function" button to confirm the entered password.
- When the correct password is entered, the factory parameter query screen opens.
- Factory parameter inquiry password: 0814
- On the factory parameter query screen, press the "Function" button to enter the setting for the selected parameter.
- Use the "+" or "-" keys to change the parameter value.
- Press the "Function" button again to confirm the setting and return to the prompt screen.
- If no action is taken for 30 seconds on the factory parameter inquiry or settings screen, the system will automatically exit and return to the main interface.
- You can press the power button to return to the main interface.

Real-Time Clock Setting

- While on the main interface, press and hold the "Schedule" button for 5 seconds to enter the real-time clock settings screen.
- When you press the "Timing" button on the clock settings screen, the hour display will start flashing.
- Use the "+" or "-" keys to set the time.
- Once the time is set, press the "Timing" button again; the minute section will start flashing.
- Use the "+" or "-" keys to adjust the minutes.
- Once the minute setting is complete, confirm the setting by pressing the "Timing" button and return to the main interface.
- If no action is taken on the clock settings screen for 30 seconds, the current value is saved and the device returns to the main interface.
- You can also press the power button to save the time setting and return to the main interface.

Timer On/Off Setting

- While on the main interface, press the "Scheduling" button to enter the scheduling group settings screen.
- Use the "+" or "-" keys to switch between timing groups 1, 2, 3, 4, and 5.
- While the selected group is flashing, press the "Schedule" button to enter the activation time setting for that group.
- While the hour hand is blinking, adjust the hour value using "+" or "-".
- Press the "Timing" button again to switch to the minute display.
- Adjust the minute value using "+" or "-".
- Next, press the "Schedule" button to set the shutdown time.
- The closing time and minute are also set using the same method.
- On the timing settings screen, press and hold the "Timing" button for 5 seconds to cancel the timer.
- If no action is taken for 30 seconds on the timing screen, the current settings are saved and the system returns to the main interface.
- You can press the power button to save the current timing setting and return to the main interface.
- The other timing groups are set up in the same way as Group 1.

Not:

- Times 1 and 2: Timed on/off
- Times 3, 4 and 5: Normal water supply on/off

Locking and Unlocking

- While the screen is locked, press and hold the power button for 5 seconds to unlock it.
- The lock is released after the device emits an audible warning.
- If no action is taken for 60 seconds, the device will automatically lock again.

Mandatory De-icing

- While the appliance is operating, press and hold the "-" button for 5 seconds to enter mandatory defrost mode.
- To exit mandatory defrost mode, press and hold the on/off button.
- Alternatively, the defrosting process ends automatically after the time set in parameter H5.

Manual Electric Heating

- To turn manual electric heating on or off, press and hold the "Timer" + "On/Off" buttons together for 3 seconds.

Energy Saving Mode

- To enter or exit power saving mode while the device is operating, press and hold the "On/Off" + "-" buttons together for 3 seconds.

Deleting Past Fault Records

- On the past fault inquiry screen, to clear the recorded fault history, press and hold the "Power" + "Function" buttons together for 5 seconds.

Fahrenheit / Celsius Degree Change

- While on the main interface, press and hold the "Timing" + "Function" keys together for 5 seconds to change the temperature unit.
- After this process, all relevant temperature parameters are changed to °F or °C.

4. Parameters, Status and Error Code List

User Parameters

Code	Parameter Name	Adjustable Range	Initial Value
L2	Press Start and adjust the temperature setting.	2°C ~ 18°C	3°C
L3	Set the temperature for heating.	5°C ~ Parameters F	28°C
L4	Cooling setting temperature	8°C ~ 35°C	28°C
L5	Allow the electrical thermal open ambient temperature.	-15°C ~ 35°C	0°C
L6	Return water temperature	20°C ~ 80°C	30°C
L7	Allow the water source temperature to reach the desired temperature.	20°C ~ 80°C	48°C (without 20°C water temperature)
L8	Compressor current adjustment	0 ~ 40A	0 (For those not detected)

Factory Parameters

Parameter number	Parameter Name (description)	Adjustable range	Default value
H2	Ring temperature is too low for protection and temperature control.	-30°C ~ 0°C	-10°C
H3	The defrost cycle has been set.	20 mins ~ 90 mins	45 min
H4	The defrosting coil is activated via temperature setting.	-15°C ~ -1°C	-3°C
H5	Maximum defrost time is set.	5 mins ~ 20 mins	8 min
H6	Defrost outlet temperature setting	1°C ~ 40°C	20°C
H7	The temperature difference between the defrosting medium inlet and the serpentine tube.	0°C ~ 15°C	7°C
H8	Enter the defrosting ambient temperature.	0 ~ 20°C	15°C
P1	Electronic expansion valve movement cycle adjustment.	20 s ~ 90 s	45 s
P2	Target overheating setting	-5°C ~ 10°C	0°C
P3	When the expansion valve is adjusted, the exhaust temperature is allowed.	60°C ~ 115°C	88°C
P4	Defrosting electronic expansion valve opening adjustment.	2~45	45
P5	Minimum opening setting of the electronic expansion valve.	5~20	12

Parameter number	Parameter name (description)	Adjustable range	Default value	Notes
P6	The electronic expansion valve is selected manually or automatically.	0/1	1	0: Manual / 1: Automatic
P7	Manual steps of the electronic expansion valve	2 ~ 50	40	
F1	Set the upper temperature limit for the water tank.	20°C ~ 99°C	40°C	
F2	During electric heating, the circulation pump selects the following:	0/1	0	0: Open, 1: Open
F3	Adjust the temperature difference between the water tank temperature and the display temperature.	-5°C ~ 15°C	0°C	
F4	Water flow switch installation and selection (for online use)	0 ~ 1	0	0: Independent, 1: Shared
F5	Water pump mode selection (applicable to pool)	0/1/2	2	0: Ordinary, 1: Special
F6	Bypass valve adjustment (disconnected)	-30°C		

(This cannot be adjusted by users and can only be adjusted by professionals.)

B. Status Table

Query code	Meaning (binary system)	Temperature range
A1	Coil 1 temperature	-31°C ~ 99°C
A2	Return gas temperature 1	-31°C ~ 99°C
A3	Exhaust 1 temperature	0°C ~ 125°C
A4	Ambient temperature	-31°C ~ 99°C
A5	Water outlet temperature	-31°C ~ 99°C
A6	Return water temperature	-31°C ~ 99°C
A7	To oblige	
A8	Pressure machine 1 current	
A9	Expansion valve 1 opening	
A10	Cooling coil-1 temperature	-31°C ~ 99°C
B1	Cel 2 temperature (not available for the single selected system)	-31°C ~ 99°C
B2	Return gas temperature 2 (not included when selected as a single system)	-31°C ~ 99°C
B3	Exhaust 2 temperature (not selected for single system)	0°C ~ 125°C
B8	Compressor 2 current (not available when selected for a single system)	
B9	Expansion valve with 2 openings (not usable when a single system is selected)	
B10	Cooling coil #2 temperature	-31°C ~ 99°C

Query code	Meaning (binary system)	Temperature range
E1	Error Code History	
E2	Error Code History	
E3	Error Code History	
E4	Error Code History	
E5	Error Code History	
E6	Error Code History	

Error Code Page

Error code	Dual System Fault Explanation
Er 01	Wrong step
Er 02	Phase deficiency
Er 03	Using side water flow failure
Er 04	Protection against freezing in winter.
Er 05	High pressure protection 1
Er 06	Low pressure protection 1
Er 07	High pressure 2 protection
Er 08	Low pressure 2 protection
Er 09	Communication error
Er 11	Time-limited lock machine

Error code	Dual System Fault Explanation
Er 12	Exhaust gas 1 has very high temperature protection.
Er 13	Exhaust gas 2 has very high temperature protection.
Er 15	Water tank/inlet sensor malfunction
Er 16	Reel-1 sensor malfunction
Er 17	Reel-2 sensor failure
Er 18	Exhaust gas sensor 1 malfunction.
Er 19	Exhaust gas sensor 2 malfunction
Er 21	Environmental sensor malfunction
Er 22	Water sensor faulty again.
Er 23	Cooling protection against extreme cold.

Er 25	Water level switch malfunction
Er 27	Wastewater sensor malfunction
Er 29	Return air sensor 1 malfunction
Er 30	Return throttle sensor 2 malfunction
Er 31	Hydraulic switch malfunction
Er 35	Press the surge protector button (Sor 1).
Er 36	Compressor 2 for current protection.

Error code	Dual System Fault Explanation
Er 37	The temperature difference between the inlet and outlet water is very large.
Er 44	The ambient temperature is very low, so it's under protection.
Er 45	Cooling coil 1 sensor failure.
Er 46	Cooling coil 2 sensor failure
Er 47	Frost and low pressure protection 1
Er 48	Frost and low pressure protection 2

Exclusions from Warranty Coverage

The following situations are not covered by the warranty and do not entitle the manufacturer, importer, or seller to provide free repair or replacement:

1. Damage occurring after delivery: Malfunctions caused by external factors such as transportation, impact, collision, falling, breakage, scratching, or exposure to chemicals.
 - The delivery form is filled out to record the physical condition of the product at the time of delivery. If visible damage detected during delivery is not noted on the form, it is assumed that such external physical damage occurred after delivery.
2. Improper storage and unsuitable environmental conditions: Storage or failure to protect the device in unsuitable temperature, humidity, dust, or environmental conditions.
3. Electrical faults: Damage caused by high or low voltage, sudden fluctuations, incorrect wiring connections, and lack of grounding.
4. Water-related problems: Blockages and malfunctions caused by the water used in the device being excessively calcareous, sedimentary, or dirty.
5. Incorrect use: Pouring cold water into the device while it is hot or operating the device without water; also, malfunctions caused by use contrary to the user manual.
6. Installation deficiencies: Malfunctions caused by the absence of fuses or grounding in the electrical installation or the use of non-standard installations.
7. External factors: Natural disasters (earthquakes, floods, flash floods, lightning strikes), fire, or other force majeure events.
8. Unauthorized intervention: Malfunctions caused by repairs, gas refills, electrical connection changes, removal/installation, or interventions performed by unauthorized personnel.
9. Non-original parts: Damage caused by the use of spare parts, accessories, refrigerants, or chemicals not approved by the manufacturer.
10. Installation errors: Malfunctions caused by installation contrary to the manufacturer's instructions (incorrect piping, lack of insulation, drainage errors, incorrect positioning of the outdoor unit, etc.).
11. Failure to perform periodic maintenance: Performance decline or malfunctions resulting from failure to perform regular maintenance and cleaning as recommended by the manufacturer.
12. Unauthorized setting changes: Malfunctions resulting from changes to the control panel, mode, parameters, or software settings by persons other than authorized service personnel.
13. Use outside of limits: Operating the device outside of its design limits (heating at very low outdoor temperatures, cooling at excessively high temperatures, incorrect water flow or pressure).
14. Freezing-related malfunctions: Freezing and related damage resulting from shutting down the device during winter months or failing to drain the water circuit.

Important Points for Customers to Note Regarding Warranty

Please pay attention to the following points:

1. During installation and use of the device, ensure that you follow the instructions in the installation and user manual.
2. If you encounter any malfunction or problem, do not attempt to fix it yourself; contact our authorized service center directly.
3. Keep your warranty certificate, along with the service form issued by the service center when the device was first put into operation, and a copy of the device invoice in a safe place.

WARRANTY CERTIFICATE	
Manufacturer's Name: Address: Phone: Fax: Email: Authorized Signature: Company Seal:	Seller Company Name: Address: Phone: Fax: Email: Invoice Date and Number: Delivery Date and Location: Authorized Signature: Company Seal:
The Product	
Type: Brand: Model:	Warranty Period: Maximum Repair Period: Label and Serial Number:
Warranty Terms	
1. The warranty period begins on the date the goods are delivered to the consumer and applies for 2 years. The warranty certificate may be issued on paper or via a durable data storage medium. Upon the consumer's request, the certificate must be provided in writing on paper. 2. All parts of the goods are covered by the warranty without any distinction. 3. If the goods are found to be defective, the consumer may exercise one of the following options under Article 11 of Law No. 6502 on the Protection of Consumers: A) Withdrawal from the contract, B) Requesting a reduction in the sale price, C) Free repair, D) Replacement of the goods with non-defective goods. 4. When the consumer exercises their right to free repair, the seller is obligated to repair or have the goods repaired without charging for labor, parts, or any other fees. The consumer may exercise this right against the seller, manufacturer, or importer. These parties are jointly liable to the consumer and cannot transfer their liability to each other. 5. Even if the consumer exercises their right to free repair: • If the product malfunctions again within the warranty period, • The maximum time specified for repair is exceeded, • The authorized service center, seller, manufacturer, or importer reports that the product cannot be repaired, the consumer may request a refund, a price reduction proportional to the defect, or replacement of the product with a defect-free equivalent. The seller cannot refuse this request; the seller, manufacturer, and importer are responsible for fulfilling the request. 6. The maximum repair period for the goods is 20 business days. This period begins: • During the warranty period, on the date the defect is reported to the authorized service center or seller, • Outside the warranty period, on the date the goods are delivered to the authorized service center. If the defect cannot be repaired within 10 business days, the manufacturer or importer must provide the consumer with a similar product free of charge until the repair process is completed. For goods that malfunction within the warranty period, the repair period is added to the warranty period. 7. Defects resulting from use of the product contrary to the user manual are excluded from the warranty. 8. Products or parts replaced under warranty are covered only for the remaining warranty period of the purchased product. 9. Whether the defect is due to misuse is determined by an authorized service station or, if no authorized service station is available, by the seller, importer, or manufacturer, in that order, within the maximum repair period, based on a report. A copy of this report is provided to the consumer. 10. Consumers may submit their complaints and objections to consumer arbitration boards or consumer courts.	

VARMEKS

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