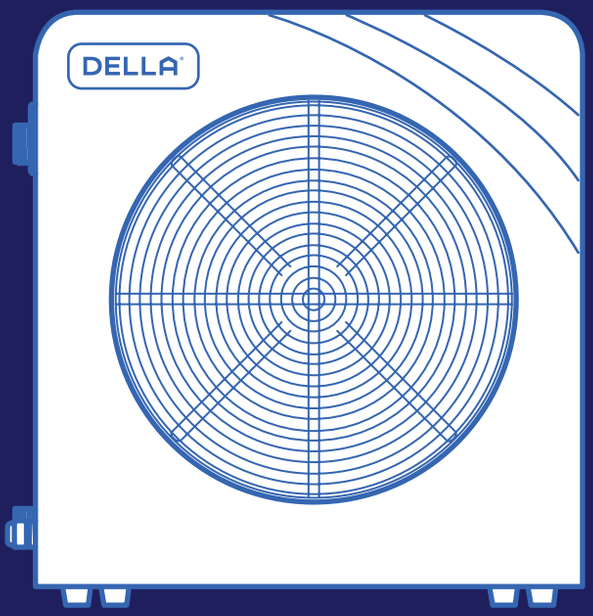
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Omi Spark Series

Instruction Manual
Installation and Operation Guide

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Warning and Safety

- Read this guide before installation. Failure to follow the safety instructions may result in property damage, serious injury, or death.
- Please keep this manual.



Danger:
Indicates an IMMINENTLY hazardous situation that, if not avoided, will result in death, serious injury, or serious property damage.



Warning:
Indicates a POTENTIALLY hazardous situation that, if not avoided, will result in death, serious injury, or serious property damage.



Caution:
Indicates a POTENTIALLY hazardous situation that, if not avoided, will result in minor to moderate injury. It may also be used to indicate unsafe practice.



Attention:
Pay additional attention to the instruction.



DO NOT:
Indicates prohibited actions and / or practice.

About Refrigerant





- The heat pump inverter contains R32 refrigerant. Check if there is any leakage during installation. Refrigerants have no odor and can be toxic and flammable. Rapid evaporation of refrigerant may cause frostbite, cardiac arrhythmia, and / or irritation, as well as cause environmental damage.
- In the case of refrigerant leakage, shut down the appliance and disconnect from the power supply. Inspection and repairs must be performed by a qualified HVAC technician.

DANGER: FLAMMABLE REFRIGERANT (R32) INSTALLATION CLEARANCES

- This appliance contains R32 refrigerant (Class A2L - Mildly Flammable). Failure to observe the following clearances may result in fire or explosion:
  Vertical Clearance: Mainain a minimum of 10 ft / 3 meters of vertical clearance above the unit to any overhead structure or balcony.
  Horizontal Clearance: Maintain a minimum of 5 ft / 1.5 meters of horizontal clearance from all sides to any building opening (doors, windows), combustion air intakes, or property lines.
  Location: DO NOT install in an enclosed space, basement, or uner low-hanging eaves where gas could accumulate.
  Ventilation: The installation location must have free air movement on all sides of the unit.

Warning and Safety

About Refrigerant

WARNING

- When Installing or using the appliance with R32 refrigerant, beware of the following symbols displayed on the unit.
  -  This symbol means this appliance uses a flammable refrigerant.
    If the refrigerant leaked and exposed to an external ignition source, there is a risk of fire.
  -  This symbol means that read the operation instruction carefully.
  -  This symbol means that personnel handling the equipment should reference to the installation manual.
  -  This symbol means information is available in the installation or operation instruction manual.
- Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimized.
- Work shall be carried out under a controlled procedure to minimize the risk of flammable gas or vapor being present while installation, repair, or any work on the unit is being performed.
- Check the work area with refrigerant detector prior to and during work to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants.
- Ensure the work area is open or adequately ventilated. A degree of ventilation shall continue during the period that the work is carried out. Ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

About Installation

WARNING

- Do not install or use this appliance near flammable substances such as alcohol, gasoline, paint, etc. Or pressurized containers such as spray cans.
- Do not store, install or use this appliance in a room with continuously operating ignition sources such as open flames, gas appliances, or electric heaters.
- Do not alter, change, or modify the appliance.

CAUTION

- Prevent children from accessing the work area during installation to prevent unforeseeable accident.
- Carry out a test run after the installation.
- Wear protective gloves and clothing during installation to prevent cuts or injuries.
- The unit must be installed on a stable and leveled ground.
- Make sure the surrounding space clearances of the unit are observed for optimal operation. Blocking airflow may cause overheating or damage to the unit.

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Warning and Safety

About Power and Electricity





- Ensure that the power voltage corresponds to that stamped on the rating plate.
- Make sure this appliance is connected to a properly grounded power outlet to prevent electric shock.
- Make sure electrical components do not directly contact with water.
- Keep the power plug and outlet elevated and away from standing water.





- Do not bend, tug, or compress the power cord during installation to prevent damaging the power cord. Damaged electrical cord should be replaced by a qualified electrician.
- This appliance must be plugged directly into a wall power socket. Do not use power extensions and / or multi-socket modules for appliance installation. Use of extension cords may result in fire, electric shock, or overheating.

About Operation





- Do not disconnect the appliance from the power supply before shutting off the appliance. This might create a spark and potentially cause a fire.
- Do not place flammable substances near the appliance.
- Do not climb onto or place any objects on the appliance.
- Do not insert any objects into the appliance to prevent damage or injury.
- Do not obstruct the air inlet or outlet.
- Do not operate the appliance with wet hands.



- Only use the appliance as instructed in this booklet. These instructions are not intended to cover every possible condition and situation. As with any electrical household appliance, common sense and caution are therefore always recommended for usage and maintenance.
- Children shall not play with the appliance.
- Check the power cord before using the appliance, Do not operate if the power cord or plug is damaged.

Encountering Troubles





- In the case of the appliance emitting smoke, burning smell, leaking water, or making unusual noise, shut down the appliance and disconnect from the power supply immediately. Contact a qualified technician for inspection and repair.

About Handling and Maintenance



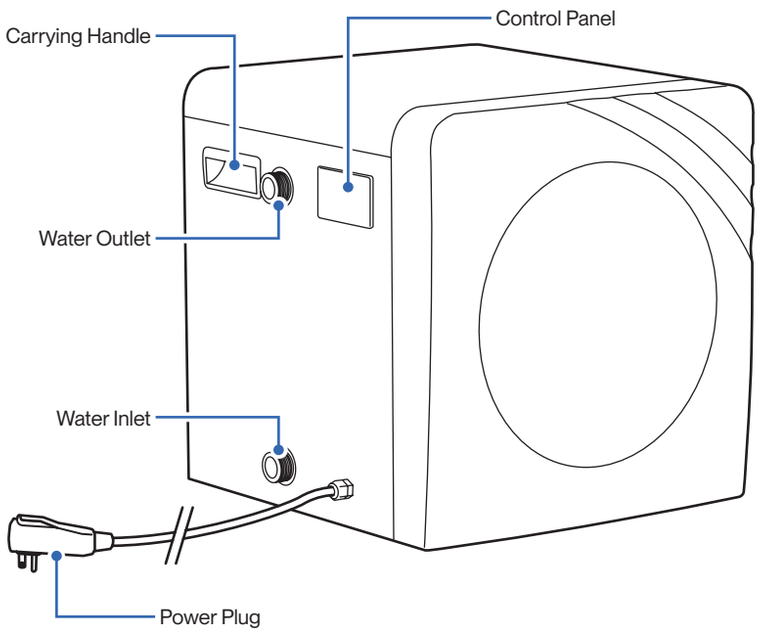


- Do not attempt to disassemble, alter, or modify the appliance.



- Repairs should be carried out by a professional or qualified technician only. Incorrect repair could expose the user to potential electric shock or other kinds of hazard.

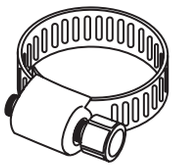
Name of Parts



Page 13

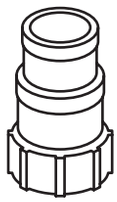
Name of Parts

Package Contents



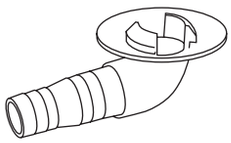
Metal Water Hose Clamp

2x



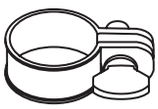
1.25" - 1.5" PVC Hose Adapter

2x



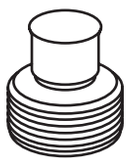
Drain Hose Connector

1x



Plastic Water Hose Clamp

2x



1.25" to 1.5" PVC Hose Type- B Adapter

2x

Parts / Tools Needed (Not Included)

- PVC Pipes / PVC Flex Pipe
- ø16mm Drain Hose
- PVC Pipe Cutting Tools

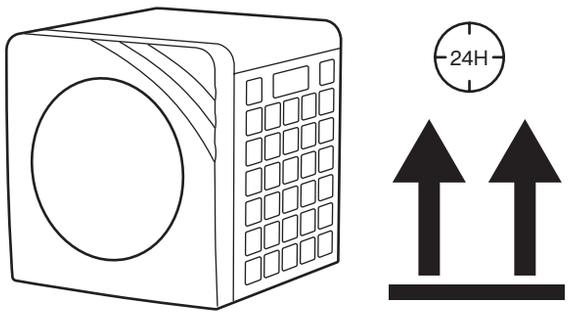
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Product Specification

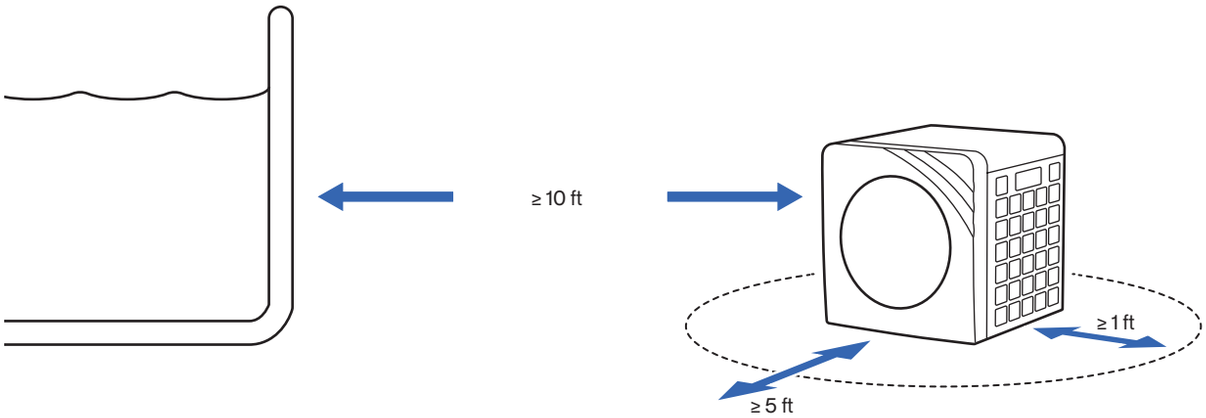
		PH-021-1V-S
Power Supply		110 - 120 V / 60 Hz / 1P
Max. Power Input		1.35 kW
Max. Current		12.5 A
Noise Level		48 dBA
Dimension		17.91" x 17.91" x 18.30"
Net Weight		59.5 lb
Refrigerant (Type, Charge, GWP)		R32, 10.58 oz, 675
Operation Pressure	Low Side	1.6 MPa
	High Side	4.15 MPa
Maximum Allowable Pressure		4.55 MPa
Water Pipe Fitting		1.25" / 1.5"
Water Flow Volume		9.03 gal / min
Recommended Pool Volume (Indoor)		1911 - 6463 gal
Recommended Pool Volume (outdoor)	(w/o cover)	956 - 3084 gal
	(w/ cover)	1584 - 4847 gal
Operating Ambient Temperature Range	Heat Mode	41°F - 109°F / 5°C - 43°C
	Cool Mode	59°F - 109°F / 15°C - 43°C
Set Temperature Range	Heat Mode	47°F - 104°F / 8°C - 40°C
	Cool Mode	47°F - 83°F / 8°C - 28°C
Heating Capacity	80.6°F Air 80% Humidity 80°F Water In	21160 btu/h
Power Input		1250 w
COP		4.97 w/w
Heating Capacity	80.6°F Air 63% Humidity 80°F Water In	20130 btu/h
Power Input		1220 w
COP		4.82 w/w
Heating Capacity	50°F Air 60% Humidity 80°F Water In	6180 btu/h
Power Input		450 w
COP		4.02 w/w
Cooling Capacity	95°F Air 84.2°F Water In 80.6°F Water Out	7510 btu/h
Power Input		760 w
EER		2.89 w/w
CO_2 Equivalent		0.2025 t
IP Class		IPX4
Power Cord		GFCI Plug / 14 AWG

Installation Info

- Before installation, make sure the product is placed on a flat and stable platform in its upright position for at least 24 hours to prevent lubricating oil from damaging the compressor.



Installation Location and Clearance



- The pool heat pump must be placed on a flat and stable ground.
- Keep the heat pump at least 1 foot from any wall or obstacles, 5 feet away from the compressor fan grill and 10 feet away from the swimming pool or hot spa.
- Do not place the heat pump near any open ignition sources such as open flames, gas appliances, or electric heaters.
- Do not install the heat pump in areas subject to flooding, standing water, or poor drainage.

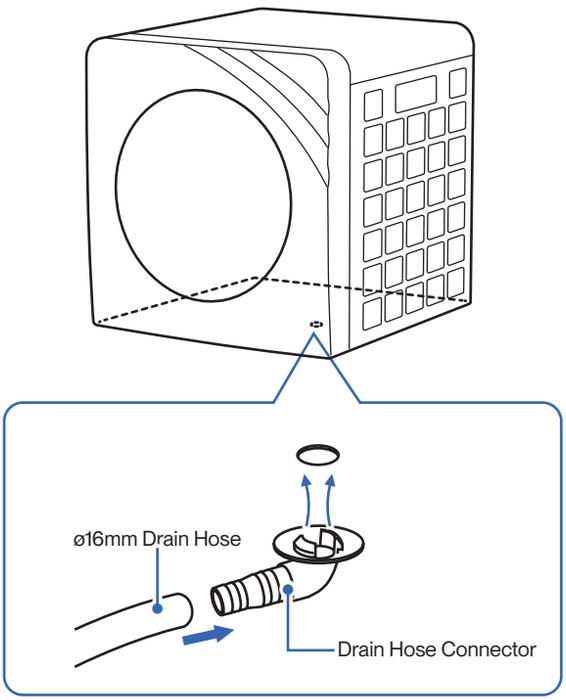
Attention Installer:

- This unit is supplied with a waterproof energy efficiency plate. This plate must be permanently affixed to the unit or provided to the owner. It contains the energy efficiency rating and instruction for efficient operation.

Installation

Connect the Drain Hose

1. Attach the drain hose connector to the bottom of the heat pump.
2. Connect the one end of the drain hose (not included) to the connector and lead the other end to a water drain.

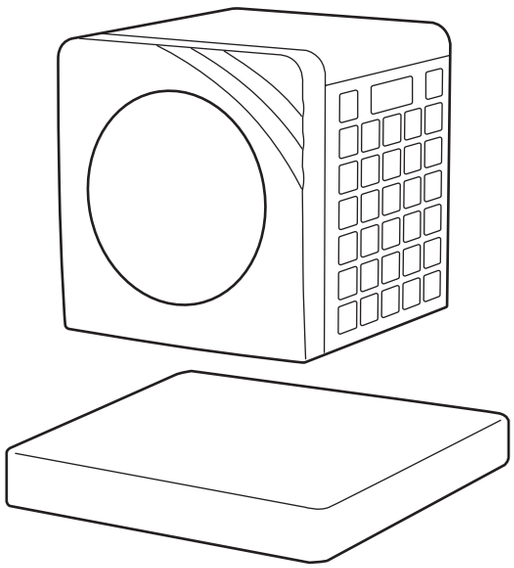


QUICK TIPS

It is optional to connect drain hose if the mini heat pump is being used temporarily in an outdoor environment.

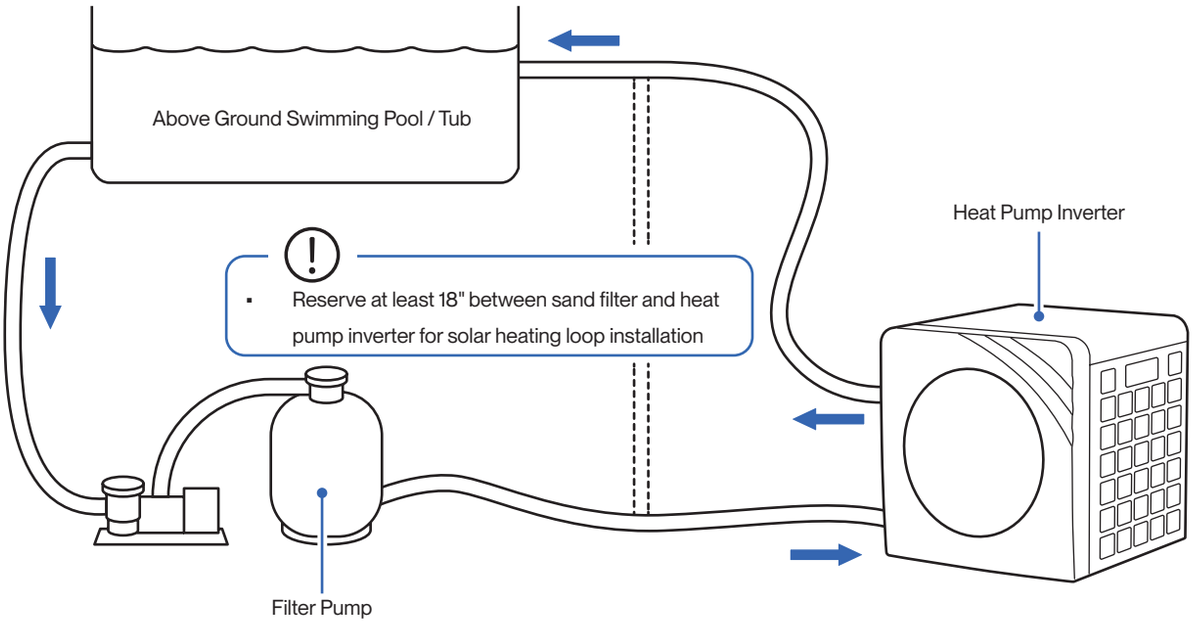
Placing the Heat Pump

1. The heat pump should be placed on a flat and stable ground.
2. A concrete pad or concrete slab can be used as a base for the heat pump. Make sure the pad is leveled.



Installation

Plumbing Work



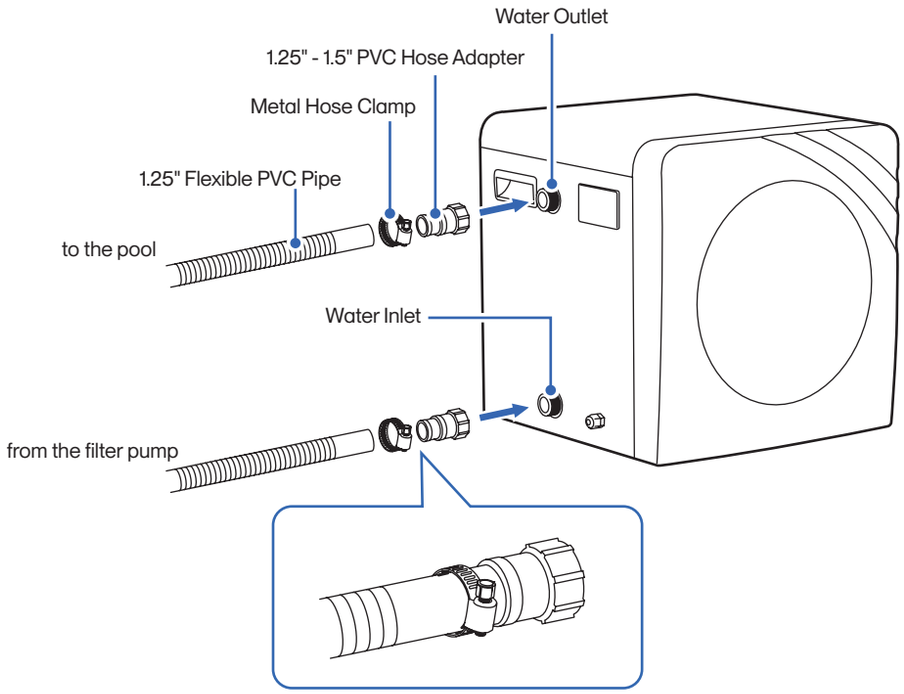
- This heat pump is designed to be used with flexible PVC pipe.
- Do not use this heat pump for in-ground pool which requires rigid PVC piping.
- A filter pump is necessary for water circulation. This heat pump must be connected and operated along with a filter pump

Installation

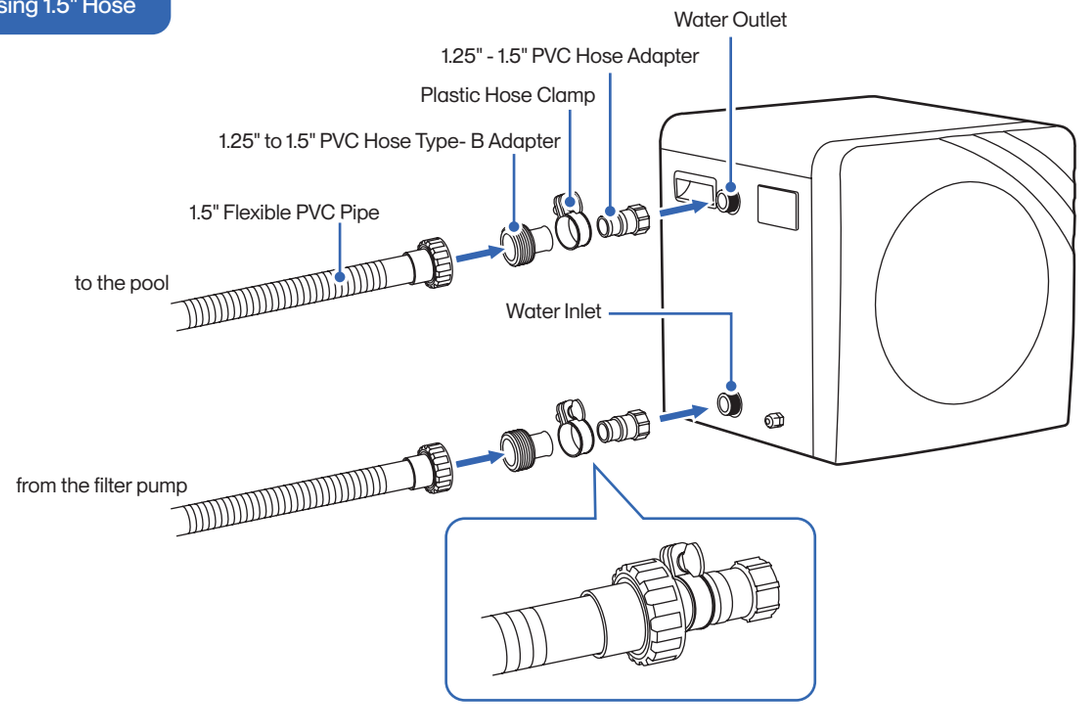
Plumbing Work

1. Attach 1.25" - 1.5" PVC hose adapter to the water inlet and water outlet on the heat pump inverter.
2. Attach the PVC pipe from the filter pump to a type-B adapter and then connect to the hose adapter on the water inlet port.
3. Then attach the PVC pipe connected to the pool using a type-B adapter and then connect to the hose adapter on the water outlet port.
4. Use metal hose clamps to tightly secure the adapters in place.

Using 1.25" Hose



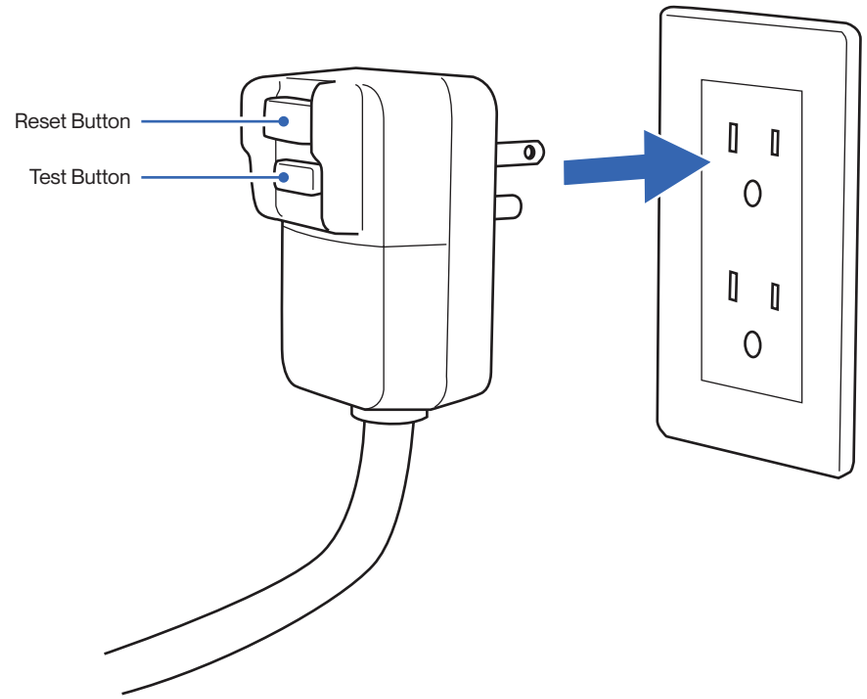
Using 1.5" Hose



Installation

Power Connection

1. Insert the power plug into a wall power socket.



Power Plug Testing

This appliance is equipped with a Leakage Current Detection Interrupter (LCDI) power plug. LCDI plug will cut power if it detects an imbalance electric current. Test the LCDI plug to check if the plug is functioning properly.

1. Insert the plug into a grounded 3 prong power outlet.
2. Press the RESET button.
3. Press the TEST button. If the plug is functioning properly, the circuit should trip, cutting power and the appliance should not work.
4. Press the RESET button again, you will hear a click and the appliance should work again without any problem.

WARNING

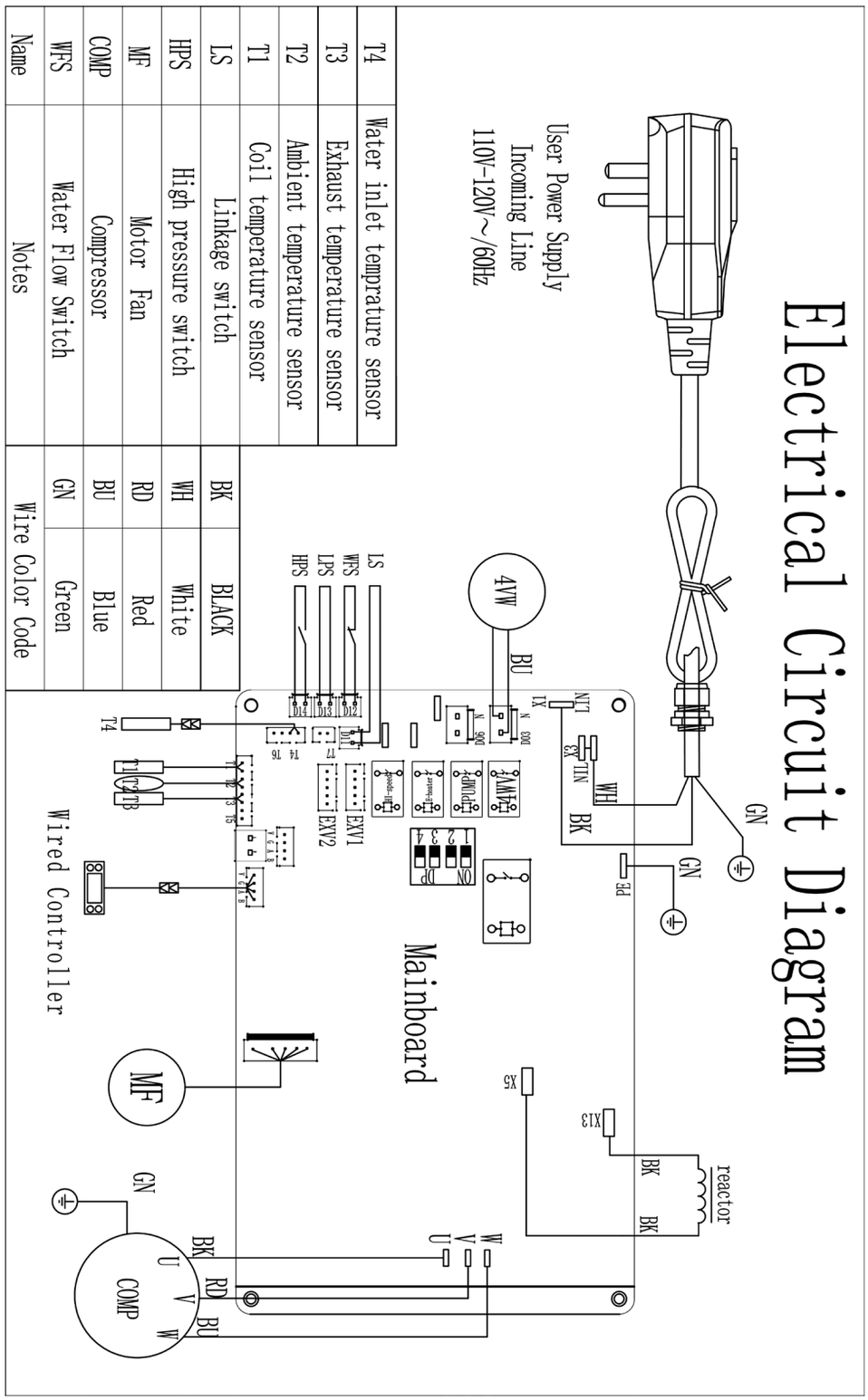
- Do not operate the appliance with a defective LCDI plug.
- DANGER: ELECTRICAL SHOCK AND FIRE HAZARD,
  DIRECT PLUG-IN REQUIRED: This appliance must be plugged directly into a grounded 3-prong wall outlet. Never use an extension cord or power strip.
- LCDI COMPLIANCE: This unit is equipped with a UL 1028 Listed leakage Current Detection Interrupter (LCDI) plug. DO NOT remove, replace, or bypass this plug. Altering this plug violates the National Electrical Code (NEC 680) and can result in death.
- GFCI CIRCUIT: The wall outlet must be protected by a Ground Fault Circuit Interrupter (GFCI) as required by the NEC.

Installation

Installation

Circuit Diagram

PH-021-1V-S



Name	Wire Color Code
T4	Water inlet temprature sensor
T3	Exhaust temperature sensor
T2	Ambient temperature sensor
T1	Coil temperature sensor
LS	Linkage switch
HPS	High pressure switch
MF	Motor Fan
COMP	Compressor
WFS	Water Flow Switch
Notes	Wire Color Code
	BK BLACK
	WH White
	RD Red
	BU Blue
	GN Green

Before Using

Operation Tips

- Before powering on the heat pump and filter pump, make sure all plumbing connections are securely tightened.
- Power ON your filter pump to circulate the water. Check for any possible leaks and verify the water flows properly.
- Power ON the heat pump. Page 14
- The heat pump has a built-in 3 minutes start up delay to protect the circuitry and prevent excessive contact wear. The unit will start automatically after the delay expires.
- After powering ON the unit for a few minutes, check if the cooling fan is blowing air.
- When turning OFF the filter pump, the heat pump will also turn off automatically.
- Depending on the initial water temperature and ambient air temperature, it might take some time to heat the water to your desired temperature. Using a swimming pool cover can dramatically limit heat loss and shorten the heat up time.

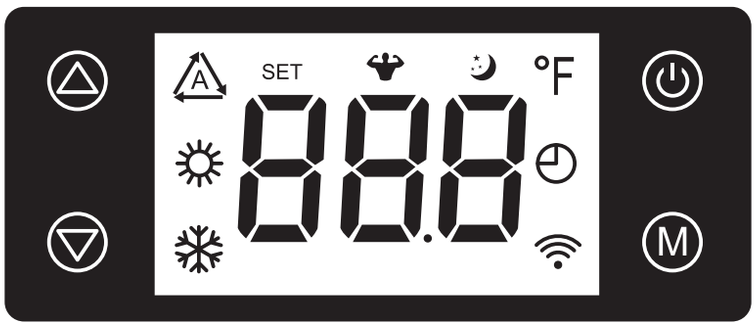
Before Using



- The U.S. Consumer Product Safety Commission (CPSC) warns that pool or spa water temperature should never exceed 104°F / 40°C to avoid drowning from drowsiness or heat stroke.
- Pregnant women should stick to the 100°F / 38°C maximum rule. Soaking in water above 102°F / 38.9°C can cause fetal damage during the first 3 months of pregnancy.
- Special caution regarding high water temperature is suggested for young children.
- Avoid drinking alcoholic beverages while, or prior to, soaking in hot water to reduce the risk of increased body temperature, heat stroke, or unconsciousness which subsequently result in drowning.

Before Using

Control Panel



Icon	Function
	Power Button Power ON / OFF the heat pump / return to main menu
	Mode Button Select operation mode
	Increase / Decrease Button Adjust temperature / parameter setting value
	Auto Icon Indicate the unit is operating in auto mode
	Heat Icon Indicate the unit is operating in heat mode
	Cool Icon Indicate the unit is operating in cool mode
	Timer Icon Show Timer function status (Timer function is only accessible on Della+ app)
	Wi-Fi Icon Show Wi-Fi function status
SET	**Set Indicator** Lights up when the display shows set temperature
	Boost Mode Icon Indicate the unit is operating in strong mode for increased performance
	Eco Mode Icon Indicate the unit is operating for energy efficiency

Basic Operation

Power ON / OFF

Press and hold ⏻ for 1 second on the control panel.

- After turning ON the heat pump, the LED display will shows the main menu and display the set water temperature.
- One of the operation mode lights will turn on and indicate the operating mode at the moment.

Select Operation Mode

Press Ⓜ on the control panel to select operation mode..

- Auto Mode
- Cooling Mode
- Boost Cooling Mode
- ECO Cooling Mode
- Heating Mode
- Boost Heating Mode
- ECO Heating Mode

Operation Mode	Set Temperature Range
Heating Mode	46°F -104°F/8°C-40°C
Cooling Mode	46°F - 82°F / 8°C - 28°C

Adjust Temperature

In main menu, press △ ▽ on the control panel to adjust temperature setting.

Basic Operation

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Advance Function

Parameter Query

In the main interface, press and hold (M) for 5 seconds on the control panel to access parameter query menu.
Press (△) or (▽) to select the parameter code and press (M) to check its status.
Press (△) or (▽) to adjust the parameter status (if applicable), then press (M) to confirm changes
Press (⏻) at any page to return to main interface.

Operation Parameter Query

Code	Description	Range
0	Compressor Operating Frequency	Measured Value / Hz
1	Fan Motor Operating Frequency	Measured Value
2	Electronic Expansion Valve Steps	Measured Value
4	AC Input Voltage	Measured Value / V
5	AC Input Current	Measured Value / A
6	Compressor Chase Current	Measured Value / A
7	Compressor IPM temperature	Measured Value / A
8	DC Voltage	Measured Value / V
10	External Ambient Temperature	Measured Value / °C
11	Outer Coil (Fin)	Measured Value / °C
14	Air Exhaust Temperature	Measured Value / °C
15	Water Return Temperature	Measured Value / °C
19	Unit Tooling Number	

Advance Function

Operation Parameter Query

Code	Description	Range
26	Unit Input Voltage	Measured Value / V
27	Unit Input Current	Measured Value / A
28	Unit Input Power	Measured Value / W
29	Unit Total Power Consumption	Measured Value / kWh
30	4-Way Valve	0 = OFF , 1 = ON
32	High Pressure Switch	0 = OFF , 1 = ON
33	Low Pressure Switch	0 = OFF , 1 = ON
34	Water Flow Switch	0 = OFF , 1 = ON
35	Linkage Switch	0 = OFF , 1 = ON

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Advance Function

Auto Wi-Fi Pairing

Press and hold ⏻ and △ for 5 seconds on the control panel to enable Wi-Fi compatibility mode for automatic pairing with your heat pump to the "Della+" app.

Manual Wi-Fi Pairing

Press and hold ⏻ and ▽ for 5 seconds on the control panel to enable Wi-Fi compatibility mode for pairing with your heat pump to the "Della+" app.

°F / °C

Press and hold △ and ▽ on the control panel for 3 seconds to change the temperature unit on the display.

- The temperature unit will switch between °F and °C.

Manual Defrost

Press and hold Ⓜ and ▽ for 5 seconds on the control panel.

- The heat pump will enter defrosting function.

Advance Function

Wi-Fi Set up

To set up the DELLA+ app to control your heat pump.

1. Search “DELLA+” on Apple app store or Google Play, or scan the QR code below to download the application.
2. Register an account in the app.
3. Follow the in-app instructions to add and pair your heat pump to the app and complete the Wi-Fi set up. You can also scan the device QR code in the DELLA+ app for a quick device search.

DELLA+ App Download

Download on the App Store

GET IT ON Google Play

You can also scan the download QR code

Device QR code

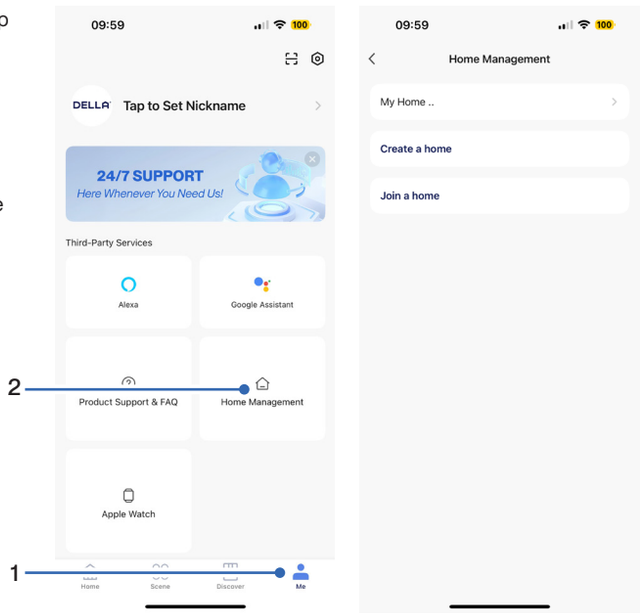
Scan this QR code in your Della+ app to quickly add device.

Household Set up (Optional)

Create and Join home to control your Della heat pump via the Della+ app from multiple devices and multiple accounts.

1. Click "Me" on the Della+ app.
2. Choose "Home Management".
3. Follow the in app instructions to create or join a home.

NOTE: Pairing your Della heat pump with a different account outside the household will remove the original pairing. Only one household can be paired at a time.



- The Della+ application is free, however, data charges may apply when downloading or using the application.
- Della+ can be altered without notice for quality improvement and also be deleted depending on the circumstances of manufacturing firms.
- All trademarks, logo, brand names are the property of their respective companies. Use of these names, brands, and trademarks does not imply endorsement. Della assumes no responsibility with regard to the performance or use of these products.

QUICK TIPS

Check out detailed tutorial on the most updated application on dellahome.com/support.

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Care and Maintenance

Regular Maintenance

- Check pool's water supply system and make sure water level do not drop too low to prevent air from entering the heat pump which might reduce performance and reliability of the unit.
- Regularly check the filtration system and make sure the filter is not clogged.
- Make sure air flow from the compressor fan is not obstructed.
- Regularly check the plumbing work and make sure there is no water leak and the pipes are not damaged.
- Check the power supply and cable connection often. Make sure there is no damage on any electrical components.

Planning to Not Operate the Heat Pump for a Long Period

- Discharge all the water from the heat pump if you are planning to not operate the heat pump for a long period such as in winter season.
- Store the heat pump is a dry place.

Using the Air Conditioner After a Long Idle Period

- Inspect the heat pump for any debris or damage.
- Before powering ON the heat pump, make sure the filter pump is turned ON and water is flowing through the heat pump.

Care and Maintenance

Troubleshooting

WARNING

Switch off the heat pump immediately and cut off the power supply in the event of:

- Strange, loud noises during operation.
- Faulty electronic control board.
- Faulty fuses or switches.
- Frequent circuit breaker tripping during operation.
- Abnormally hot or damaged power cord or plug.
- Very strong smells discharging from the appliance.

Problem	Possible Cause / Explanation / Solution
Heat Pump is not running	No Power Supply. Check the PCD power plug, reset the plug if necessary.
	Water temperature reached your desired temperature. It is functioning normally.
	Built-In 3 minute delay protection is activated, wait until the delay protection expires.
Noise or Vibration	The heat pump is placed on uneven ground. Put it on a flat surface.
Heat Pump only runs for a short period of time	Insufficient air ventilation. Make sure there is no obstacles or debris blocking air ventilation.
	Low Refrigerant. Contact professional technician to inspect the unit.
Water Stains	Possible water leak or accumulated condensation. Check all plumbing connections, heat exchanger and drain pipe connection.

Having Problems?

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Troubleshooting

Error Code

Error Code	Description	Solution / Remark
E03	Water Flow Switch Fault	Check water flow, water pump, and plumbing work Check water flow switch
E05	High Pressure Switch Fault	High voltage switch failed Excessive refrigerant Fan not working properly Abnormal water circulation Contaminated refrigeration system Water scale built up on heat exchanger
E09	Controller and Motherboard Communication Failure	Check communication connection
E12	Exhaust Air Temperature Too High	Damaged Sensor Low refrigerant
E15	Water Inlet Temperature Sensor Failure	Damaged motherboard / Sensor
E16	Coil Sensor Failure	Damaged motherboard / Sensor
E18	Exhaust Air Sensor Fault	Damaged motherboard / Sensor
E21	Environmental Sensor Failure	Damaged motherboard / Sensor
E38	DC Fan Failure	Damaged drive board / Fan motor
E44	Ambient Temperature Too Low or Too High	Normal Protection
E88	Drive Failure	Contact Customer Service
E96	Abnormal Communication Between Compressor Driver and Main Control Board	Poor or Damaged Cable Connection
E98	Abnormal Communication Between Fan Motor and Main Control Board	Poor or Damaged Cable Connection

Having Problems?

Disposal Guideline

This appliance contains refrigerant and other potentially hazardous materials. When disposing of the appliance, follow all federal, state, and local regulations. DO NOT dispose of this product as normal household waste or unsorted municipal waste.

When disposing of this appliance, you have the following options:

- Dispose of the appliance at a designated municipal electronic waste collection facility.
- When buying a new appliance, the retailer will take the old appliance.
- The manufacturer may take back the old appliance.
- Sell the appliance to a certified scrap metal dealer.

Having Problems?
Having Problems?

DELLA®

Warranty

QUICK TIPS

Scan the QR code or visit our page on **dellahome.com/pages/warranty** to sign up for warranty coverage on your new DELLA appliance.

dellahome.com/pages/warranty

Warranty

Compliance Information

Radio Frequency Interference



Model: PH-021-1V-S

ID: 2ANDL-WBR1D

FCC Caution

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.



www.dellahome.com
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800-863-4143
6:00 a.m. – 4:00 p.m. PST Monday – Friday

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The design and specifications are subject to change without prior notice for product improvement. Any updates to the manual will be uploaded to the della website.