User's Manual **8HP16BE**

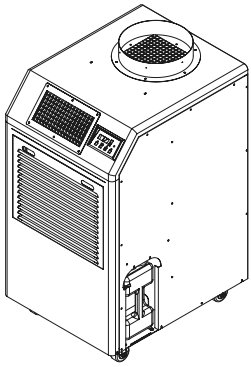
Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described.
Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and / or property damage! Retain instructions for future reference.

KOLDWAVE

Portable Air Conditioners

Description

KOLDWAVE Portable Heat Pump feature spot cooling/heating for large areas where cooling/heating of the entire area is not practical. A dedicated spot cooling/heating thermostat controls the unit in this application.
This unit can also be used in smaller areas for room cooling/heating. A control panel provides ease of use and contains a self-diagnostic function and display, showing operating modes, room and set temperatures, and faults.
If an abnormal operation occurs, a visual display of the fault is shown. Caster wheels are included for easy portability. Suitable applications include: a factory or work place, industrial kitchen, computer room, emergency cooling/heating, outdoor event, supplement cooling / heating etc.



8HP16BE
Figure 1

Unpacking

After unpacking the unit, carefully inspect unit for any damage that may have occurred during transit. Check for any loose, missing, or damaged parts.

Specifications

Model No.	Power Supply Ph-V-Hz	Cooling Capacity Btu/h	Power Consumption Watts	Rated Current Amps	EER Btu/Wh
8HP16BE	Single Phase, 115V, 60Hz	16,800 (Cooling) 18,500 (Heating)	1,440 W(Cooling) 1,390 W(Heatling)	12,8 A (Cooling) 12.3 A(Heatling)	11.7 13.3

Model No.	Nema Plug	Power Cord Gauge AWG	Power Cord Length ft	Dimensions W x D x H - in. (mm)
8HP16BE	5-20P	12	6	24.1x 30.2 x 40.9 (612x 768 x 1040)

Specifications *(Continued)*

Model No.	Weight (Net / Gross) Lbs(kg)	No. of Cool Air Outlets Pcs	Condensate tank Gallons(Liters)	Setting temperature (In temp mode) °F(°C)
8HP16BE	229.3 / 251 lbs. (104 / 114 kg)	2	3.96 (15)	Cooling 64-113(18-45) Heating 56-80(12-27)

Model No.	Application Area (Room cool mode) ft²(m²)	Refrigerant Type / oz(g)	Design Pressure - Hi/Low Psig
8HP16BE	355 (33)	R32 / 31.7 (900)	460 / 250

Model No.	Indoor Air Flow (High/Low) CFM(CMM)	Wheels pcs / diameter	Hot Air Duct Diameter In.(mm)	Maximum Duct Length ft(m)
8HP16BE	H:470 (13.3)	4 / 76mm	12 (300)	50 (15)

Safety Devices	Compressor overload protector, Anti-freezing thermister, Full drain tank switch, Automatic restart (Power interruption), Compressor time delay program, High pressure sensor, Low pressure sensor.
Features	Temperature control, Self-diagnostic function, Six speed fan, Optional drain pump kit, Washable filters, °F (°C) display, Off-timer, Auto fan speed option.

Thank you for selecting this Koldwave Portable Heat pump. It provides you with spot cooling/heating for large areas where cooling/heating of an entire area is not practical or possible. **Please read this manual** before installing the 8HP16BE as it provides important information that should be followed during installation and maintenance of the Portable Heat pump, allowing you to correctly set up your system for the maximum safety and performance. Included is information on customer support and service, if it is required. If you experience a problem with the unit, please refer to the Troubleshooting section in this manual to correct the problem. If the problem is not corrected, please collect information so that the Technical Support personnel can more effectively assist you.

General Safety Information

Please read this manual carefully for instructions on correct installation and usage. Please read all safeguards.

1. Transport and store the unit in an upright position only. Leave unit in an upright position for at least 3 hours before first use.
2. Always place the unit on an even, level surface.
3. Ensure the unit is connected to a grounded power supply of the correct rating / capacity.
4. The unit will cool when the room temperature is between 64°F (18°C) - 113°F (45°C) and heat when the room temperature is between 56°F (12°C) - 80°F (27°C), depending on the thermostat setting.
5. DO NOT use this unit for functions other than those described in this instruction manual.
6. DO NOT tilt the unit.
7. DO NOT cover or obstruct the unit's inlet and outlet grilles.
8. DO NOT use the unit in areas where it will be exposed to rain or water.
9. NEVER unplug the unit while it is operating.

⚠ WARNING ***DO NOT use the unit in wet environments, such as a laundry room, to avoid the risk of electrical shock.***

10. DO NOT place any foreign objects on the unit.
11. DO NOT operate the unit with wet or damp hands.
12. DO NOT allow chemical substances to come into contact with the unit.
13. DO NOT operate the unit in the presence of flammable substances or vapors such as alcohols, pesticides, gasoline, etc.

⚠ WARNING ***DO NOT operate the unit in explosive or flammable environments.***

14. DO NOT use the plug to start and to stop the unit. Always use the control panel to start and to stop the unit.
15. Always turn off the unit when it is not in use and unplug the power plug from the electrical outlet.
16. Always turn the unit off and unplug the main power plug from the electrical outlet before cleaning, moving or performing maintenance.
17. AVOID the use of adapter plugs or extension cords. If it is necessary to use an extension cord or an adapter plug to operate the unit, ensure that they are correctly rated for the application. Consult a local qualified lectrician and all local electrical codes to ensure proper setup. Any extension cord used with this device must be rated for a minimum of 15A.
18. DO NOT unplug the unit by pulling on the electrical cord. Keep electrical cord away from heat sources and always completely unroll the cord to avoid overheating. If the power cord becomes damaged, a qualified service agent, qualified electrician, or similarly qualified person must replace it, in order to avoid a hazard or shock.

⚠ WARNING ***DO NOT operate a unit with a damaged power cord.***

19. The filters must be used with the product at all times. When the filters are removed for cleaning, always ensure that the unit has been turned off and unplugged from the electrical outlet.
20. Regularly clean the filters to maintain efficiency. If the filters are not cleaned regularly, the units output performance and efficiency will decline and energy consumption will increase.
21. DO NOT operate the unit with a damaged power cord or plug, after it malfunctions, has been dropped or damaged.
22. Only use in the upright position on an even, flat surface. Unit must be positioned at least 24 inches (60 cm) from the nearest object in any direction.
23. Stop operation immediately if abnormal noise or odor is noticed. Contact a local service center.
24. Appliance is not to used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.
25. Children being supervised not to play with appliance.
26. That the appliance shall be installed in accordance with national wiring regulations.
27. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

SAVE THESE INSTRUCTIONS

Shipping List

- (1) Portable Heat Pump
- (1) User's Manual
- (1) Power Cord Holder
- (2) Discharge / Supply Air Ducts
- (1) Exhaust Flange

WARNING

This symbol means to read the instruction manual carefully.

This symbol indicates that information is provided, such as in the user manual or installation manual.

This symbol means that this appliance uses a flammable refrigerant. There is a risk of fire if refrigerant leaks and is exposed to an external ignition source.

This symbol means that service personnel must refer to the installation instructions when handling this equipment.

– Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
– The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater.)
– Do not pierce or burn.
– Be aware that refrigerants may not contain an odor.

General

– The installation of pipe-work shall be kept to a minimum.
– National gas regulations shall be observed.
– Mechanical connections shall be accessible for maintenance purpose.
– The appliance shall be stored in a well-ventilated area.
– Keep any required ventilation openings clear of obstruction.

Unventilated areas

– The appliance shall be stored so as to prevent mechanical damage from occurring.
– When storing the appliance, do not put in a room with any open flame appliance (for example an operating gas appliance) or other potential ignition sources. (for example an operating electric heater, hot surfaces).
– Damaged units should be repaired before storage.

Checks to the area

Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimized. For repair to the refrigerating system, the following precautions shall be complied with prior to conducting work on the system.

Work procedure

Work shall be undertaken under a controlled procedure so as to minimize the risk of a flammable gas or vapor being present while the work is being performed.

General work area

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.

Qualification of workers

– Use caution while handling and prevent damage to unit. Do not put any holes into product for any reason. This can cause damage to product and prevent unit from cooling.
– Service should only be performed by technicians properly trained and certified in the use of flammable refrigerants. Any service performed by unauthorized servicers/individuals will void all warranties.
– Maintenance and cleaning of unit should be performed by trained personnel. Failure to properly clean unit can result in damage to the refrigeration system and or the electrical system.
– Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.
– The refrigerant and insulation blowing gas used in the appliance require special disposal procedures. Consult a service agent or a similarly qualified person before disposing of them.
– Any person who is involved with working on or breaking into a refrigerant circuit or opening of sealed components or opening of ventilated enclosures should hold a current valid certificate from an industry-accredited assessment authority, which authorizes their competence to handle refrigerants safely in accordance with an industry recognized assessment specification.

Checking for presence of refrigerant

The area shall be checked with an appropriate 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, i.e. non-sparking, adequately sealed or intrinsically safe.

Presence of fire extinguisher

If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available on hand. Have a dry powder or CO_2 fire extinguisher adjacent to the charging area.

No ignition sources

No person carrying out work in relation to a refrigerating system which involves exposing any pipe work shall use any sources of ignition in such a manner that it can lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

Ventilated area

Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

Checks to the refrigerating equipment

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer's technical department for assistance.

The following checks shall be applied to installations using flammable refrigerants:

– the refrigerant charge is in accordance with the room size within which the refrigerant containing parts are installed;
– the ventilation machinery and outlets are operating adequately and are not obstructed;
– if an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
– marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
– refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which can corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

Checks to electrical devices

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with.
If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

Initial safety checks shall include:
– that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
– that no live electrical components and wiring are exposed while charging, recovering or purging the system;
– that there is continuity of earth bonding.

During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.

Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.

Sealed electrical components shall be replaced.

Ensure that seals or sealing materials have not degraded to the point that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer's specifications.

Repair to intrinsically safe components

Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.

Intrinsically safe components must be replaced.

Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

Cabling

Cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

Detection of flammable refrigerants

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

The following leak detection methods are deemed acceptable for all refrigerant systems.

Electronic leak detectors may be used to detect refrigerant leaks but, in the case of flammable refrigerants, the sensitivity may not be adequate, or may need re-calibration.
(Detection equipment shall be calibrated in a refrigerant-free area.)

Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used.

Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25% maximum) is confirmed.

NOTE Examples of leak detection methods are
– bubble method,
– fluorescent agent method.

If a leak is suspected, all naked flames shall be removed/extinguished.
If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak.

Removal and evacuation

When breaking into the refrigerant circuit to make repairs – or for any other purpose – conventional procedures shall be used. However, for flammable refrigerants it is important that best practice is followed since flammability is a consideration. The following procedure shall be adhered to:

- evacuate;
- purge the circuit with inert gas (optional for A2L);
- evacuate (optional for A2L);
- continuously flush or purge with inert gas when using flame to open circuit; and
- open the circuit.

The refrigerant charge shall be recovered into the correct recovery cylinders if venting is not allowed by local and national codes. For appliances containing flammable refrigerants, the system shall be purged with oxygen-free nitrogen to render the appliance safe for flammable refrigerants. This process might need to be repeated several times.
Compressed air or oxygen shall not be used for purging refrigerant systems.

Labeling

Equipment shall be labeled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. For appliances containing flammable refrigerants, ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

For appliances containing flammable refrigerants, refrigerants purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum (optional for A2L). This process shall be repeated until no refrigerant is within the system (optional for A2L). When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.

The outlet for the vacuum pump shall not be close to any potential ignition sources, and ventilation shall be available.

Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of reclaimed refrigerant. It is essential that electrical power is available before the task is commenced.

a) Become familiar with the equipment and its operation.
b) Isolate system electrically.
c) Before attempting the procedure, ensure that:
- mechanical handling equipment is available, if required, for handling refrigerant cylinders;
- all personal protective equipment is available and being used correctly;
- the recovery process is supervised at all times by a competent person;
- recovery equipment and cylinders conform to the appropriate standards.

d) Pump down refrigerant system, if possible.
e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
f) Make sure that cylinder is situated on the scales before recovery takes place.

g) Start the recovery machine and operate in accordance with manufacturer's instructions.
h) Do not overfill cylinders. (No more than 80 % volume liquid charge).
i) Do not exceed the maximum working pressure of the cylinder, even temporarily.
j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
k) Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

Recovery

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.
When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge are available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.
The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of the flammable refrigerant. If in doubt, the manufacturer should be consulted. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition.

The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.
If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The compressor body shall not be heated by an open flame or other ignition sources to accelerate this process. When oil is drained from a system, it shall be carried out safely.

Charging procedures

In addition to conventional charging procedures, the following requirements shall be followed.

– Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them.
– Cylinders shall be kept upright.
– Ensure that the refrigeration system is earthed prior to charging the system with refrigerant.
– Label the system when charging is complete (if not already).
– Extreme care shall be taken not to overfill the refrigeration system.

Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas.
The system shall be leak-tested on completion of charging but prior to commissioning.
A follow up leak test shall be carried out prior to leaving the site.

Assembly

Component parts

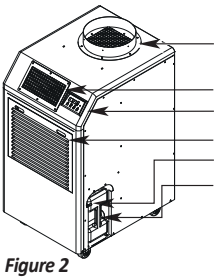


Figure 2
Front and Right Side View

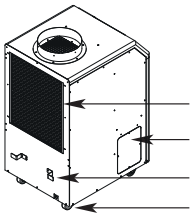


Figure 3
Back and Left Side View

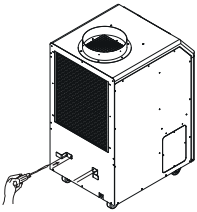


Figure 4

POWER CORD HOLDER

1. Take out the cord holder from the accessory box.
2. Place the cord holder on the back side of the unit
3. Use screws (enclosed inside of accessory box with cord holder) to install the cord holder on the air conditioner as shown in Figure 4.

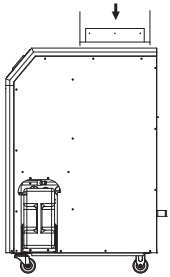


Figure 6

TOP FAN EXHAUST FLANGE

1. Remove the top fan exhaust flange from carton.
2. Place the top fan exhaust flange on the top of the unit.
3. Use screws (enclosed inside of box with the top fan exhaust flange) to install the top fan exhaust flange on the unit as shown in Figure 6.

Installation

WARNINGS REGARDING PROPER LOCATION FOR INSTALLATION

⚠ WARNING ***Do not use the unit in explosive environments or in areas where flammable gas leakage may occur.***

⚠ WARNING ***Do not use the unit in areas where it will be exposed to rain or water.***

⚠ WARNING ***Do not use the unit in a corrosive atmosphere.***

⚠ WARNING ***Do not use the unit above 54°F (12°C) - 113°F (45°C).***

⚠ WARNING ***Do not install the unit on uneven or sloping surface. The unit may roll or topple over even if the casters are set to the locked position.***

MOVING THE UNIT

Unlock the casters and push the unit using the side handles to a flat, level surface and set the caster brakes to the locked position.

PLUGGING IN THE UNIT

Check the prongs and surface of the power cord plug for dust/dirt. If dust and/or dirt are present, wipe off with a clean, dry cloth.
Check the power cord, plug and prongs for damage or excess play.
If any damage or excess play is found, contact a qualified repair technician or a qualified electrician to perform replacement or repair of the power cord, plug or prongs.

⚠ WARNING ***If the power cord or plug is damaged, repair should only be performed by qualified electrical personnel.***

⚠ WARNING ***Do not connect / disconnect the power cord or attempt to operate buttons with wet hands. This could result in electrical shock.***

NOTE: Make sure the AC outlet is free of dirt, dust, oil, water, or any other foreign material. The unit is equipped with an approved NEMA plug configuration. The appropriate outlet must be used for each plug type.

Operation

CONTROL PANEL

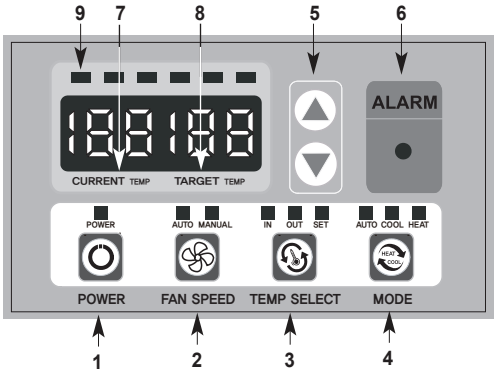


Figure 9

When power is connected POWER lamp will be on.

1. POWER BUTTON

- Activates unit when POWER BUTTON is pressed for 2 seconds. If POWER BUTTON is pressed for 2 seconds during operation, unit stops.

Note : It will take more than 10 seconds to start fans.

2. FAN SPEED BUTTON

- Changes fan speed from (AUTO) to (MANUAL) when pressed.
- When MANUAL lamp is on, change fan speed between 1 and 6 step by pressing UP/DOWN BUTTONS.
- When AUTO lamp is on, fan speed is changed automatically between 1 and 6 step. When COOL mode, fan speed starts in high speed. When HEAT mode, fan speed starts in low speed.

3. TEMP SELECT BUTTON

- Choose temperature sensor by pressing this button shortly.
- When IN lamp is on, inlet temperature sensor works so it is used to control inside of a room.
- When OUT lamp is on, outlet temperature sensor works so it is used to provide cool air or hot air directly to people or material.
- By pressing this button for 2 seconds, SET lamp will be on and SET mode activates. Then set the target temperature by pressing UP/DOWN BUTTONS. After setting the target temperature, press TEMP SELECT BUTTON for 2 seconds and SET lamp will be off and setting temperature will be memorized.

4. MODE
- Choose cooling, heating or auto by pressing this button. When all lamps are off, it is blower mode so only fan operates without operating compressor.
- When AUTO lamp is on, it activates cooling or heating automatically according to TARGET TEMP. It activates cooling when TARGET TEMP is lower than CURRENT TEMP and will change to activate heating when CURRENT TEMP reach over the TARGET TEMP by 6°F (3°C) and change to activate cooling when CURRENT TEMP reach over the TARGET TEMP by 6°F (3°C).

5. UP/DOWN BUTTONS
- Change TARGET TEMP value by +/-1.

6. ALARM
- ALARM indicator lights (blinks) and indicates abnormal system operation. If ALARM occurs, compressor stops. System operation stops when ALARM light is activated (blinks) longer than 3 minutes.

7. CURRENT TEMP
- When IN lamp is on in TEMP SELECT, it displays current room temperature.
- When OUT lamp is on in TEMP SELECT, it displays outlet (cool/hot air) temperature.
- Initial unit is °F. In order to change from °F to °C, press POWER BUTTON and MODE BUTTON together for 2 seconds. Choose 7 by pressing UP/DOWN BUTTON. Choose 0 by pressing UP/DOWN BUTTON. Press MODE BUTTON for 2 seconds then figure will change to °C

8. TARGET TEMP
- Displays the unit set temperature.
- When OUT lamp is on in TEMP SELECT, always set TARGET TEMP value 32°F (0°C) for COOL mode and 122°F (50°C) for HEAT mode.
- When IN lamp is on in TEMP SELECT, recommendable TARGET TEMP is between 64°F and 113°F (18°C and 45°C) for both COOL mode and HEAT mode. Recommendable TARGET TEMP for Auto mode is between 70°F and 113°F (21°C and 45°C)

9. EVA FAN STEP
- Lamp(s) is(are) on according to eva fan speed. 1 lamp is on when 1 step and 2 lamps are on when 2 step ... 6 lamps are on when 6 step.

OFF-TIMER
- Enter to timer setting mode by pressing FAN SPEED BUTTON and TEMP SELECT BUTTON together for 2 seconds.
- Press UP/DOWN BUTTON to set the timer until it shows the figure you want to set. Setting range is between 30 minutes and 12 hours.
- If you press MODE BUTTON for 2 seconds, the figure will be memorized and the compressor will stop after the time set.
- Display will show CURRENT TEMP (for 5 seconds) and remaining time (for 2 seconds) in turn repeatedly.

AUTO RESTART
- If the unit goes off due to an electrical interruption, the unit will automatically restart when the power resume.

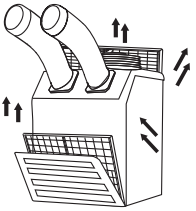
Maintenance

FILTER CLEANING *(See Figures 10 and 11)*

There are two filters in the unit. The evaporator filter is located at the front of the unit. The condenser filter is located at the back of the unit.

1. Pull the filter frame forward to remove the front filter.
2. Slide filter up and use a vacuum cleaner to remove the dust from the filter.
3. If the filter is heavily covered with dust and dirt, warm water and mild soap or neutral detergent may be used to wash the filter. Do not use any other chemicals to clean filter, as they will likely damage the filter.
4. Dry the filter in a shaded area before replacing it. Do not operate the unit without the filter installed and the filter guard in the closed position.
5. Replace the clean filter and close the filter guard.
6. To clean the condenser filter, lift up on the rear filter from the middle bar slightly and then angle the filter outwards from the bottom and remove.
7. Use the same cleaning procedure as above (3 – 5).
8. To replace the condenser filter, place the top of the filter in the guide and slide the filter up until the bottom of the filter clears the frame. Then push the bottom of filter into the guide and let filter gently fall inside the guide.

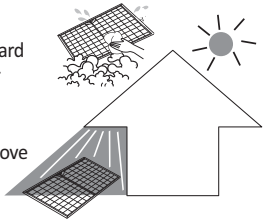
NOTE: For effective cooling clean the filter at least every 2 weeks.



– Pull the filter frame forward to remove the front filter

– Slide filter up and use a vacuum cleaner to remove the dust from the filter.

Figure 10 – Removing Filters



– Remove dust from the filter using a vacuum cleaner hose attachment.

– If required wash the filter in lukewarm water with a mild detergent. Leave to dry in a shaded area before reinstalling.

Figure 11 – Removal of Dust

⚠ WARNING ***Do not operate without the filter fitted.***

⚠ WARNING ***Do not operate the unit with a damaged cord or plug, after the unit malfunctions, or if the unit has been dropped or damaged.***

– For your convenience, record the complete model number and product name (located on the Product Identification Plate), the purchase date, purchase location, serial number, and warranty period in the table below.
– Also, attach your purchase receipt as proof of purchase to this instruction manual for future reference.
– To ensure your product is covered by warranty, the complete faulty product along with your original purchase receipt must be provided at the place of purchase.

Maintenance *(Continued)*

– To ensure your product is covered by warranty, the complete faulty product along with your original purchase receipt must be provided at the place of purchase.

Product	Portable Air Conditioner
Model No.	
Date of Purchase	
Place of Purchase	
Serial No.	
Period of Warranty	

Customer: Please read and keep this manual for future reference and keep sales receipt as proof of purchase.

SPRING REPLACEMENT (See Figure 12)

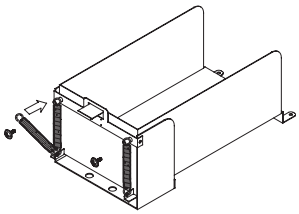


Figure 12 – The process of spring replacement

There are two springs on the rear of condensate water tank guide.
1. Release the screw on the spring hook.
2. Take off the spring hook, and then pull out the opposite spring hook from hole in the condensate water tank guide.
3. Replace with a new spring in reverse order.
4. Repeat this cycle for the other spring.

SELF-DIAGNOSTIC CODES *(See Table 1)*

The alarm light is activated if abnormal operation occurs, and a code is displayed on the control panel. The compressor and condenser fan motor will stop operating. The evaporator fan will continue to run for 3 minutes. If the fault is rectified within 3 minutes, the unit will resume operation. If the fault persists for more than 3 minutes, the evaporator fan also stops. The fault must be rectified before the unit can resume normal operation.

SELF-DIAGNOSTIC ALARM CODES			
Alarm Display	Problem	Cause	Corrective Action
	Low pressure sensor works	● Coolant leakage ● Low pressure sensor has a loose or broken connection	Contact a qualified service agent
	Frost prevention sensor and Abnormal temperature sensor value	● Indoor heat exchanger temperature is too low ● Eva filter is blocked ● Low pressure sensor has a loose or broken connection	● Do not use the air conditioner if ambient temperature is lower than 64℉(18℃) ● Clean the Eva filter ● Contact a qualified service agent
	High pressure sensor works	● Cond filter is blocked ● Exhaust duct is blocked or kinked ● Ambient temperature is too high ● High pressure sensor has a loose or broken connection	● Clean the Cond filter ● Ensure exhaust duct is not blocked/kinked ● Do not use the air conditioner if ambient temperature is higher than 113℉(45℃) ● Contact a qualified service agent
	High pressure sensor works	● Ambient temperature is too high ● Cond filter is blocked	● Do not use this product if ambient temperature is higher than 113℉(45℃) when cooling, 77℉(25℃) when heating ● Clean the Cond filter
	Abnormal temperature sensor value	Inlet temperature sensor has a loose or broken connection	Contact a qualified service agent
	Abnormal temperature sensor value	Outlet temperature sensor has a loose or broken connection	Contact a qualified service agent
	Compressor overloaded	● Ambient temperature is too high ● Unstable voltage supply ● Defective compressor	● Do not use the air conditioner if ambient temperature is higher than 113℉(45℃) ● Contact a qualified service agent ● Replace compressor

Table 1-1- Alarm Codes

SELF-DIAGNOSTIC ALARM CODES			
Alarm Display	Problem	Cause	Corrective Action
	Condenser fan alarm	● Voltage of condenser fan is lower than normal. Condenser fan is failure.	● Contact a qualified service agent
	Evaporator fan alarm	● Voltage of evaporator fan is lower than normal. Evaporator fan is failure.	● Contact a qualified service agent
	Drain pump alarm	Drain pump defective or improper hose connection (including kink or blockage)	● Check the hose connection and hose ● Replace drain pump ● After corrective action, press the UP/DOWN buttons together for 2 seconds to resume operation
	Condensate water level alarm	Condensate tank is full	● Empty the water tank ● After installation of the water tank, press the UP/DOWN buttens together for 2 seconds to resume operation
※ The unit operates without stop even though FC alarm occurs.			

Table 1-2- Alarm Codes

Wiring Diagram

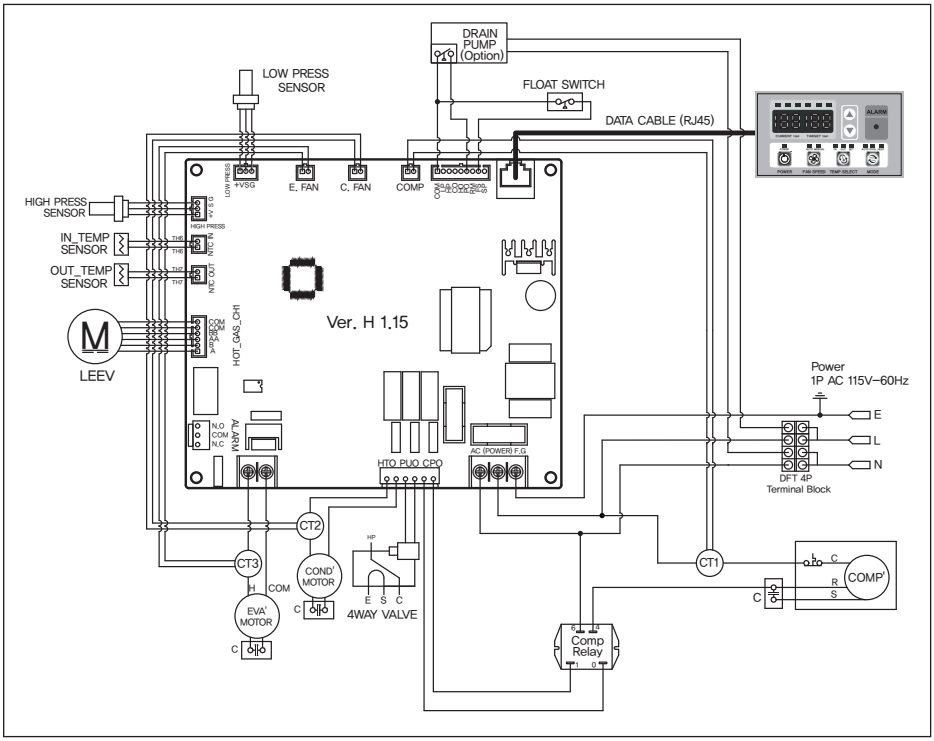


Figure 13

Obtaining Service

If the Koldwave Portable Air Conditioner requires Service:

1. Use the TROUBLESHOOTING section in this manual to eliminate obvious causes.
2. Verify there are no circuit breakers tripped.
3. Call your dealer for assistance. If you cannot reach your dealer, or if they cannot resolve the problem, call Koldwave Portable Air Conditioner Technical Support at 413-564-5520 Please have the following information available BEFORE calling the Technical Support Department:
   a. Your name and address.
   b. The serial number of the unit.
   c. Where and when the unit was purchased.
   d. All of the model information about your Koldwave Portable Air Conditioner.
   e. Any information on the failure, including LED's that may or may not be illuminated.
   f. A description of the protected equipment, including model numbers if possible.

Troubleshooting chart

Symptom	Possible Cause(s)	Corrective Action
Water leakage	Position issue / Damage	1. Check that the water tank is placed on the correct position. Replace the damaged water tank with a new one. 2. Remove any object stuck underneath the Drain Pan underneath the water tank
	FT sensor error	Replace the FT sensor.
	Drain pump issue	1. Remove blockage from drain hose. 2. Replace the defective drain pump with the new one.
The unit doesn't work	Check the power supply to verify that power is available to the unit	Reset the circuit breaker and restart the unit.
	Verify that the power cord is connected	Connect power cord.
	Trip off the circuit breaker	Reset the circuit breaker and restart the unit.
No cold air flows from the cold air outlet	Ambient air cannot be properly cooled if the filter is dirty and not regularly cleaned	Clean the filter.

A defective unit must be repaired by a qualified company.

Symptom	Possible Cause(s)	Corrective Action
No cold air flows from the cold air outlet	Compressor will not work if the unit is turned off and on quickly.	1. Wait 3 minutes after unit is turned off before turning the unit back on. 2. Check the Cool Icon If the light is off, A/C will be activated after light is on.
	Refrigerant leaking	Charge the refrigerant.
	The ambient air temperature may be too high	The temperature of the compressor can be higher when the ambient temperature is too high. The compressor will not work unless the ambient air temperature is within the acceptable operating range of the unit.
Water flow can be heard after compressor shuts off	No cause	Common to hear coolant flowing after unit shuts off.
Alarm displays "FT" with less than half of condensate water in the tank Spring is possibly broken	Spring is possibly broken	Replace with new spring. (See Maintenance)

A defective unit must be repaired by a qualified company.

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