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 property damage! Retain instructions for future reference.

KOLDWAVE
Modular Multi Air Conditioner

WMC-2500
Figure 1

Description

Koldwave Modular Multi Air conditioner feature multi-function spot cooler providing various accessories available to fit customer needs. This Unit is used to spot cooling for large areas where cooling of the entire area is not practical or possible. A dedicated spot cooling thermostat controls the unit in this application. This Unit can also be used in smaller areas for room cooling.
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.
Suitable applications include :
a factory or work place, computer rooms, emergency cooling, outdoor event, etc..

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.

Table of Contents

SPECIFICATION.....4
GENERAL SAFETY INFORMATION.....4
APPLICATIONS.....6
Portable
Server Rack
Mounted, Hang
Stack
ASSEMBLY (STANDARD).....7
Component Parts
Power Cord Holder
ASSEMBLY (PORTABLE).....8
Component Parts
Handle
Cool air duct assembly
Caster
ASSEMBLY (SERVER RACK).....9
Component Parts
Universal adjust
Rack Assembly
Rack Diffuser
ASSEMBLY (MOUNTED, HANG).....10
Condenser Intake Air Duct Flange
Eva Intake Air Duct Flange
Hanging Kit
ASSEMBLY (STACK).....12
Universal Adjust
Stacking Bracket
INSTALLATION GUIDE.....13
Moving the Unit
Plugging the Unit
OPERATION.....14
Control Panel
MAINTENANCE.....16
Filter Cleaning
WIRING DIAGRAM.....20
TROUBLESHOOTING.....21
LIMITED WARRANTY.....24

Shipping list

Modular air conditioner 1 unit
Owner's Manual 1 pcs
Power Cord Holder 1 pcs
Drain hose (20ft length) 1 pcs

* The WMC-2500 is used in conjunction with various accessories to adapt to your environmental needs. These accessories (Portable Kit, Server Rack Kit, Hanging Kit, Stack Kit) are sold separately to allow you to customize the WMC-2500 to your specific needs

Specifications

Model No.	Power Supply Ph-V-Hz	Cooling Capacity Btu/h	Power Consumption Watts	Rated Current Amps	EER Btu/Wh
WMC-2500	Single Phase, 115V, 60Hz	10,000	1000	10	10.0

Model No.	Nema Plug	Power Cord Gauge AWG	Power Cord Length ft	Dimensions W x D x H - in. (mm)
WMC-2500	5-15P	14	10	17.25 x 24 x 20 (438 x 610 x 508)

Model No.	Weight (Net / Gross) Lbs(kg)	No. of Cool Air Outlets Pcs	Condensate tank Gallons(Liters)	Ambient temperature range °F(°C)
WMC-2500	121 / 128 (54 / 58)	1	Auto Pump Included	64~113 (18~45)

Model No.	Setting temperature (Room cool mode) °F(°C)	Setting temperature (Spot cool mode) °F(°C)
WMC-2500	64~86 (18~30)	32~86 (0~30)

Model No.	Application Area (Room cool mode) $ft^2(m^2)$	Refrigerant Type / oz(g)	Design Pressure - Hi/Low Psig
WMC-2500	258 (24)	16 (440)	465 / 250

Model No.	Indoor Air Flow (High/Low)CFM(CMM)	Wheels pcs / diameter	Hot Air Duct Diameter In.(mm)	Maximum Duct Length ft(m)
WMC-2500	320 / 220 (9.1 / 6.2)	4 / 76.2mm	6 (150)	10 (3)

Safety Devices	Compressor overload protector, Anti-freezing thermister, Automatic restart (Power interruption), Compressor time delay program, High pressure switch
Features	Temperature control, Self-diagnostic function, Two speed fan, Washable filters, °F(°C) display, Off-timer, Drain pump is included, Humiaity control.

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 and 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 18℃ (64.4℉) ~ 45℃ (113℉) 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 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 operated 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 electrician 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 unit 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 (60cm) 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 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.

Applications

With various accessories, Modular multi air conditioner provides best application to suit customer's individual needs.

PORTABLE

- This unit has ability to move easily from room to room using portable kit. It is available spot cooling for large areas where cooling of the entire area in not practical. This air conditioner can also be used in smaller areas for room cooling.
  Portable kit includes casters, cool air duct assy and handle.

SERVER RACK

- It can be rack-mounted inside 19" computer server rack for cooling small computer and server rooms. This unit occupies just 12U of valuable rack space.
  Server Rack kit includes server rack assy (shelf), universal adjust (mount feet) and rack diffuser.

MOUNTED, HANG

- It can be used to mounted type where your needs and hung type using ceiling mounted kit.
  Hanging kit includes a eva intake air flange, a condenser filter/ intake air flange and hanging kit (support).
  All hanging installations must be completed by a qualified electrical technician to permanently connect the unit to a fixed location (hardwared).

STACK

- This unit can be stacked on top of each other to produce a capacity of 20,000BTU or 30,000 BTU in same area. It allows you to stack WMC-2500 up to 3 high. You can enjoy space efficiency and bigger cooling capacity.
  Stack kit includes universal adjust (mount feet) and stacking bracket.

ASSEMBLY (Standard)

COMPONENT PARTS

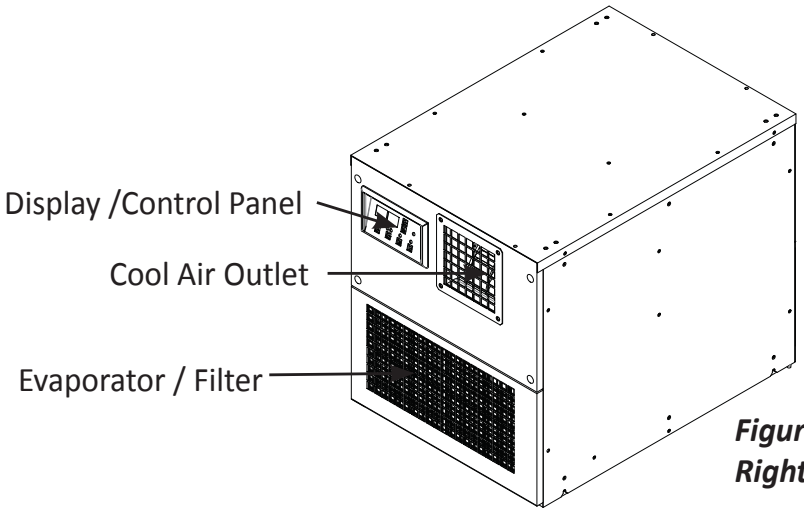


Figure 2 - front and Right Side View

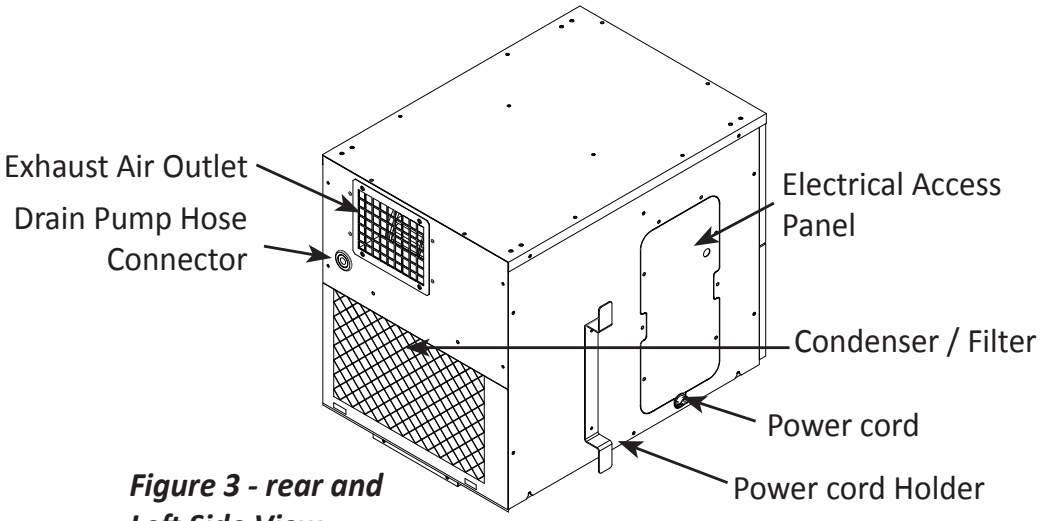


Figure 3 - rear and Left Side View

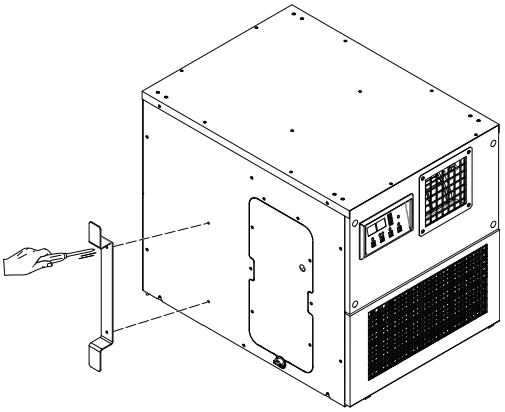


Figure 4 - power cord holder attachment

POWER CORD HOLDER

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

ASSEMBLY (Portable)

COMPONENT PARTS

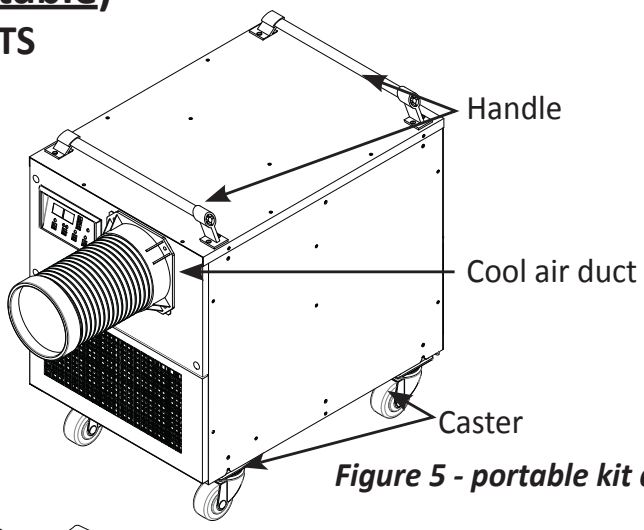


Figure 5 - portable kit attachment

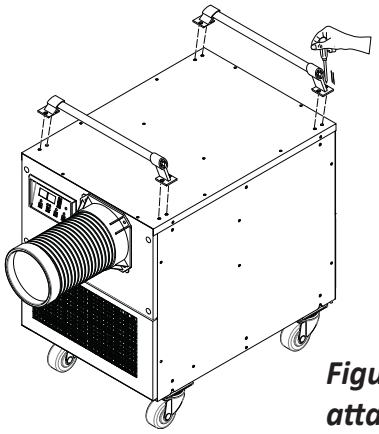


Figure 6 - handle attachment

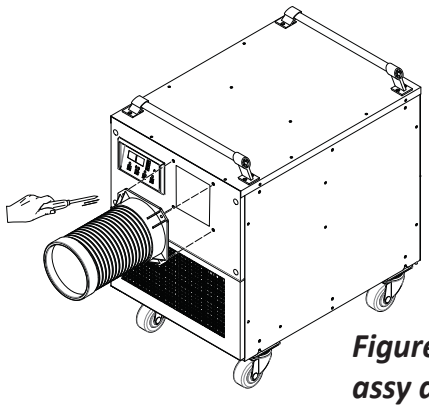


Figure 7 - cool air duct assy attachment

HANDLE

1. Take out the handle 2 pcs from the accessory box.
2. Place the handle on the top of unit.
3. Use screws (enclosed inside of accessory box with handle) to install the handle on the unit as shown in Figure 6.

COOL AIR DUCT ASSEMBLY

1. Remove cool air duct assembly 1 pcs from carton.
2. Replace air cover with air duct assembly on the top front of unit.
3. Use screws (enclosed inside of box with cool air duct assembly) on the unit as shown in Figure 7.

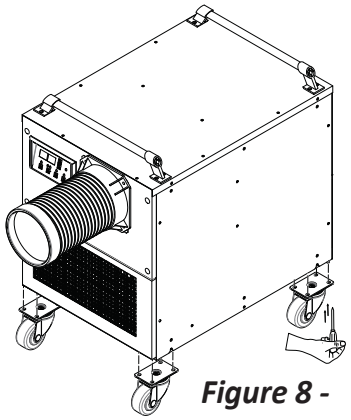


Figure 8 - caster attachment

CASTER

1. Take out the caster 4 pcs from the accessory box.
2. Place the casters on the base panel of unit.
3. Use screws (enclosed inside of accessory box with caster) to install in the unit as shown in Figure 8.

⚠ WARNING ***DO NOT tilt the unit on it's side.***

The unit is upright position only. Leave unit in an upright position for at least 3 hours before first use.

ASSEMBLY (Server Rack)

COMPONENT PARTS

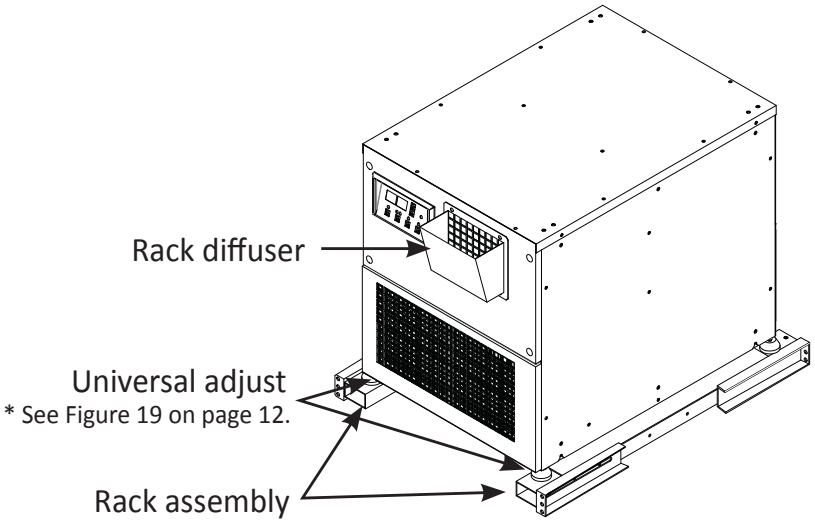


Figure 9 - server rack kit attachment

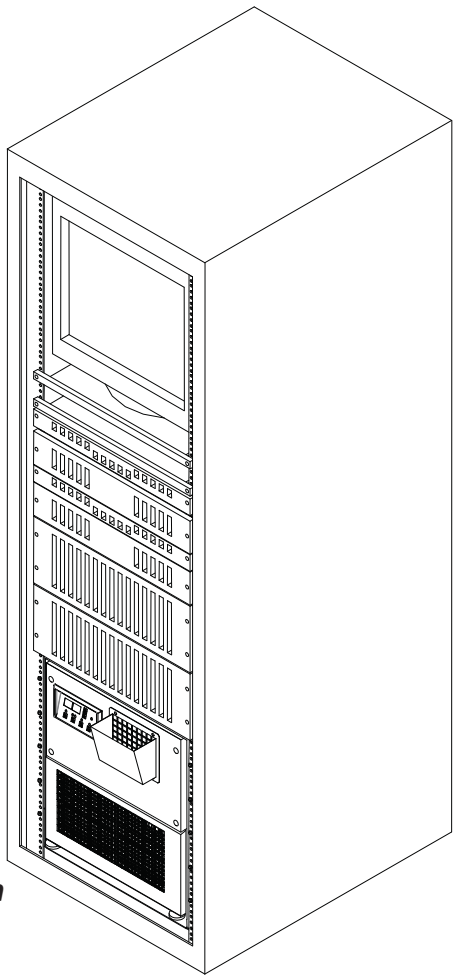


Figure 10 - installation in 19" server rack

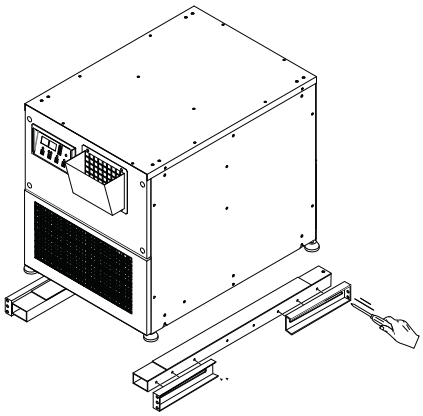


Figure 11- rack assembly attachment

RACK ASSEMBLY

1. Assemble the rack assembly parts 1set (6ea) to fit in server rack.
2. Use screws to install the rack assembly in server rack as shown in Figure 11.
3. Place the unit on the rack assembly.

RACK DIFFUSER

1. Remove rack diffuser 1 pcs from carton.
2. Replace air cover with rack diffuser on the top front of unit.
3. Use screws (enclosed inside of box with rack diffuser) on the unit as shown in Figure 12.

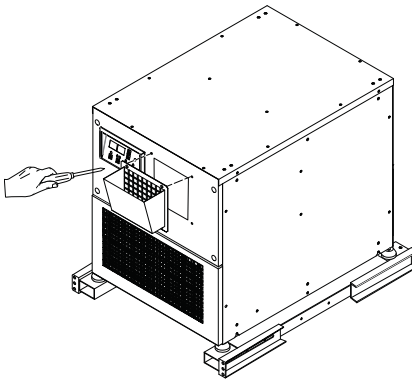


Figure 12 - rack diffuser attachment

ASSEMBLY (Mounted, Hang)

COMPONENT PARTS

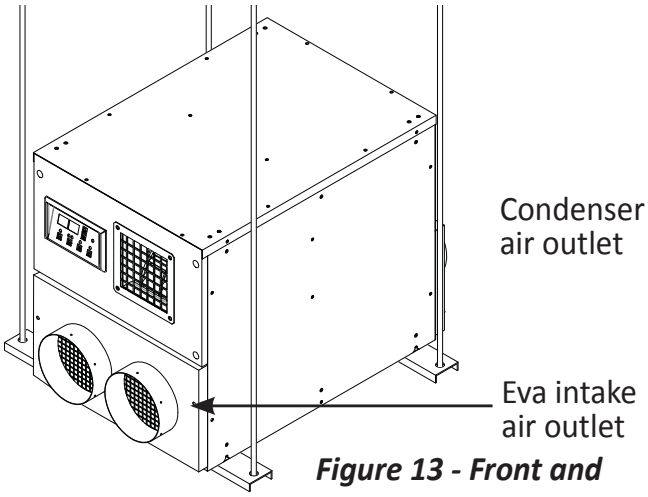


Figure 13 - Front and Right Side View

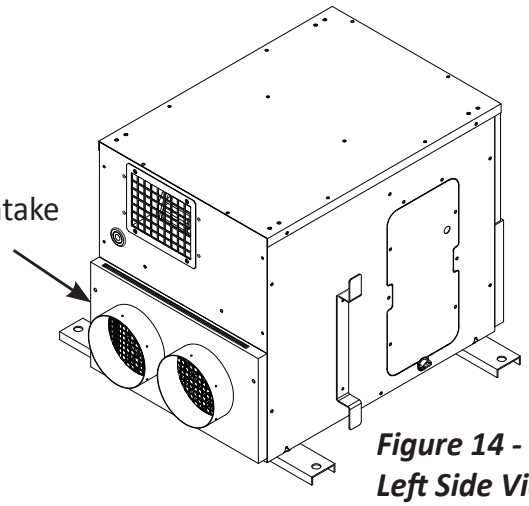


Figure 14 - Rear and Left Side View

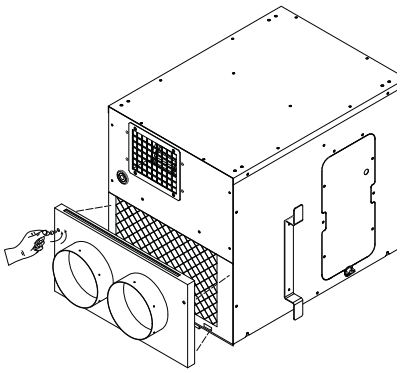


Figure 15 - condenser flange attachment

CONDENSER INTAKE AIR DUCT FLANGE

1. Remove condenser intake air duct flange (included filter) 1 pcs from carton.
2. Take out condenser filter of unit and U Panel of rear bottom.
3. Place the condenser flange on the rear of air conditioner.
4. Use screw (enclosed inside of box with condenser flange) to install the flange as shown in Figure 15.

EVA INTAKE AIR DUCT FLANGE

1. Remove Eva intake air duct flange 1 pcs from carton.
2. Slide up filter on the front of the unit and take out front grill.
3. Put the filter in the eva flange and place the air duct on the front of air conditioner.
4. Use screw (enclosed inside of box with air duct flange) to install the flange as shown in Figure 16.

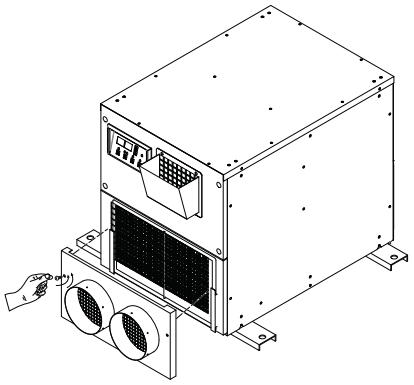


Figure 16 - eva flange attachment

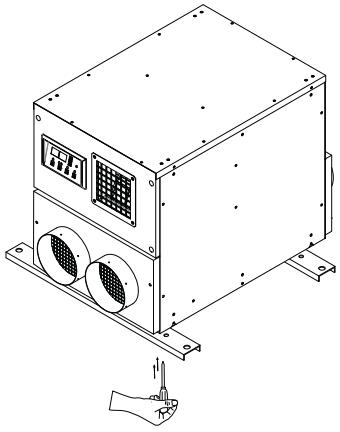


Figure 17 - hanging assembly attachment

HANGING ASSEMBLY

1. Install 1/2" threaded rod and vibration insulator to ceiling.
2. Remove Hanging assembly 1 set (2ea) from carton.
3. Place the hanging assy horizontally on the base of air conditioner.
4. Use screw (enclosed inside of box with hanging kit) to install as shown in Figure 17.
5. Lift and mounted the unit.

⚠ WARNING

Removing the power supply cord and permanently connection the unit should be performed only by a qualified electrician.
WMC-2500 is heavy.(121lbs) A minimum of 2 people are required to lift the unit.
When hanging and permanently connecting the unit all applicable local/state/federal building codes must be followed.
The structural beam being used must be properly support the weight of WMC-2500.

ASSEMBLY (Stack)
COMPONENT PARTS

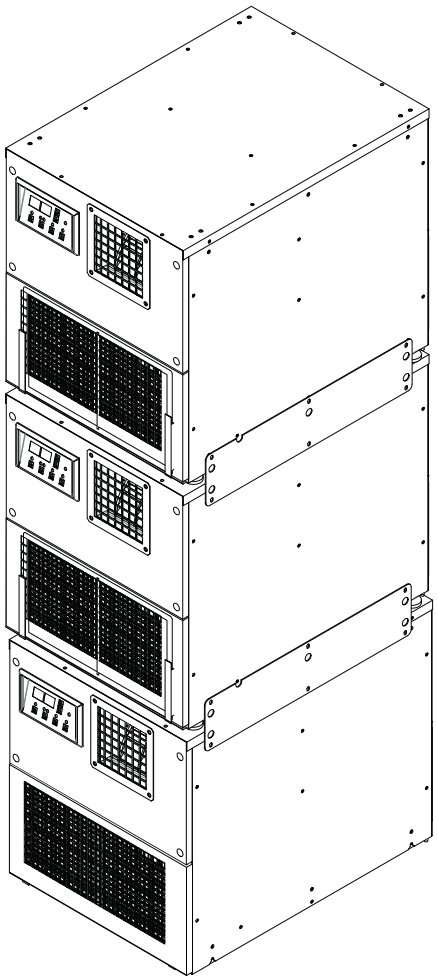


Figure 18 - 3 unit stacked application.

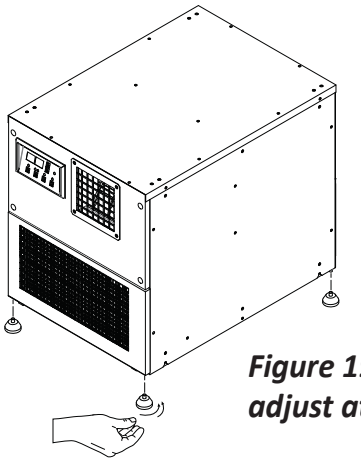


Figure 19 - universal adjust attachment

UNIVERSAL ADJUST

1. Take out the universal adjust 4 pcs from the accessory box.
2. Place the universal adjust on the base panel of unit.
3. Install on the unit as shown in Figure 19.

⚠ WARNING ***DO NOT tilt the unit on it's side.***

The unit is upright position only. Leave unit in an upright position for at least 3 hours before first use.

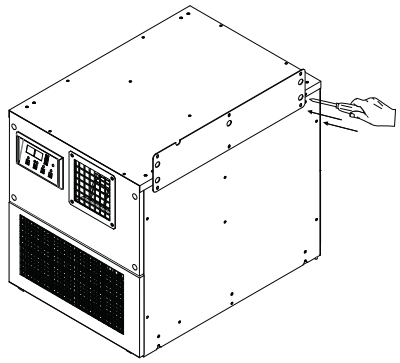


Figure 20 - braket attachment

STACKING BRACKET

1. Take out the stacking bracket 1 pcs from the accessory box.
2. Place the stacking bracket on the right side panel of unit.
3. Use screw (enclosed inside of box with bracket) to install as shown in Figure 20.
4. Stack the Unit.
5. Use screw (enclosed inside of box with bracket) to install as shown in Figure 20.

Installation Guide

WARNING 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 a corrosive atmosphere.***

⚠ WARNING ***Do not use the unit above 18˚C(64.4˚F)~45˚C(113˚F)***

⚠ 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

Please lift and carry more than 2 people. If casters are set to the unit, unlock the casters and push the unit to a flat, level surface and set the caster brakes to the locked position.

PLUGGING 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. (WMC-2500: 5-15P) The appropriate outlet must be used for each plug type.

Operation

CONTROL PANEL

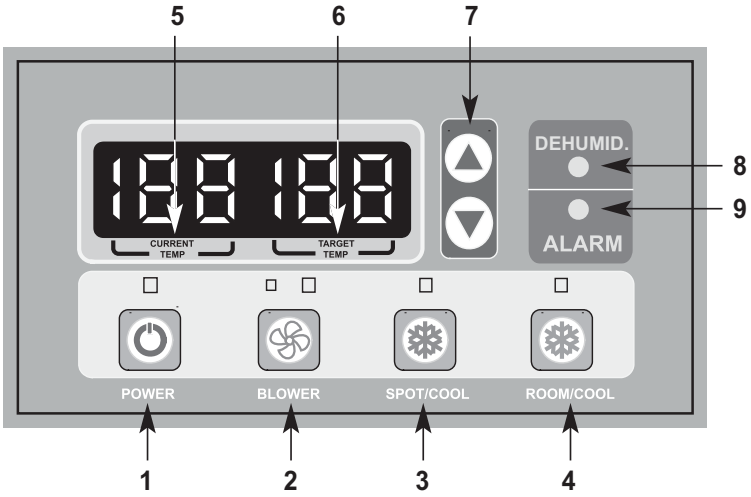


Figure 21 - Display/Control Panel

1. POWER BUTTON

Activates unit when POWER BUTTON is pressed. (Fan stats on low speed.)
If power button is pressed during operation, unit stops.

2. BLOWER BUTTON

Changes fan speed [LOW]-[HIGH]-[AUTO] when pressed.
[LOW]-Small LED blinking
[HIGH]-Large LED blinking
[AUTO]-Both Small and Large LED blingking

***** **AUTO** : AUTO mode will change the fan speed automatically by difference of current temp. and target temp.

When difference between current temp. and target temp. is above 7°C/7°F, the unit will operate in HIGH speed.
When difference between current temp. and target temp. is under 7°C/7°F, the unit will operate in LOW speed.
Changing time delay is 25 seconds.
(Time delay is applied to spot cool mode and room cool mode.)

3. SPOT/COOL BUTTON

Activates compressor and begins producing cool air 5 seconds after button is pressed.
Regulates temperature based on outlet cool air temperature.

4. ROOM/COOL BUTTON

Activates compressor and begins producing cool air 5 seconds after button is pressed.
Regulates temperature based on inlet ambient air temperature.

5. CURRENT TEMP

Displays current room temperature is display in Fahrenheit. (In Room Cool Mode only)
SPOT/COOL Mode – Displays outlet (cool air) temperature during normal operations.

6. TARGET TEMP
Displays the unit set temperature for ROOM/COOL mode only.

7. SET TEMP BUTTONS
Change target temperature/data value by +/-1. Change data value by +/- 10 by pressing continually.
Press the SET TEMP BUTTONS to set temperature.
Upper button is to higher temperature and Low button is to lower temperature.

8. DEHUMIDIFICATION MODE.
Enter to Dehumidification Mode if you press SPOT/COOL button and ROOM/COOL button together for 1 second.
In Dehumidification mode, it will blink DEHUMID. Indicator LED,
If you want to use air conditioner, press SPOT/COOL button and ROOM/COOL button together for 1 second again.

9. 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.

***DATA INITIALIZATION**
It will be initialization when you pressed "BLOWER+SPOT+ROOM" together more than 5 seconds.
If you pressed button together, you can see "in it" and blinking 2 seconds.
Then reset your target temperature.

***OFF-TIMER**
The TIMER control turns off within a 12-hour period.
Enter to Timer Setting Mode if you press BLOWER button and SPOT/COOL button together for 1 second.
Press UP/DOWN button to set the timer until it shows the figure you want to set. (Setting is available per 30 minutes)
After 5 seconds or press SPOT/BUTTON, the figure will be memorized and compressor will stop after the time set.
OFF Timer is hold until time up even though the unit restarts by power failure etc.

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

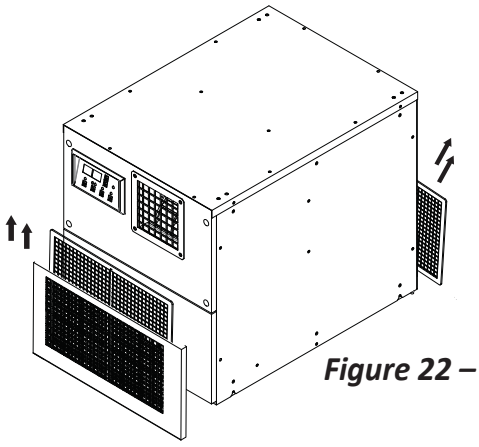
Maintenance

FILTER CLEANING (Without flange)

There are 2 filters in the unit. The evaporator filter is located at the front of the unit. The condenser filter is located at the rear of the unit.

1. Open the front grill.
2. Slide filter up and use 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 grill.
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 sale 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 into guide and let filter 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.
– Lift up on the rear filter from the middle bar slightly and then angle the filter outwards from the bottom and remove.

Figure 22 – 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.

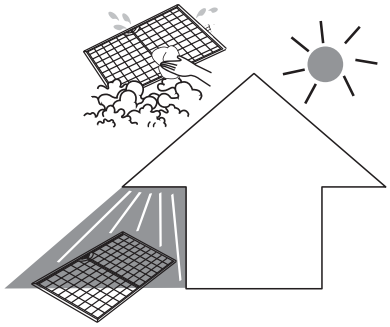


Figure 23 – Removal of dust

FILTER CLEANING (With flange)

1. Loosen up 2 bolts on flange.
2. Slide filter up and use 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 re-assembly flange on the unit..

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

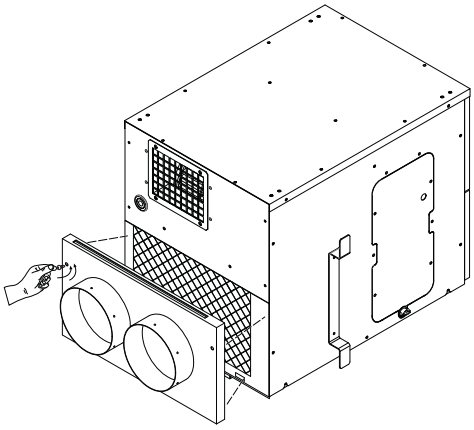


Figure 24 - Removing condenser Filters

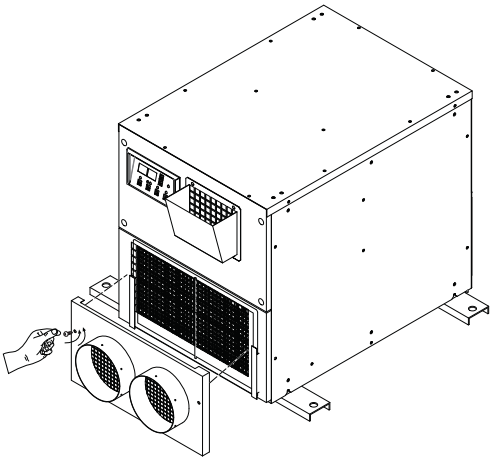


Figure 25 - Removing evaporator Filters

⚠ WARNING ***Do not operate with out 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 you 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.

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
	Frost prevention sensor and Abnormal temperature sensor value	• Indoor heat exchanger temperature too low • TH3 temperature sensor has a loose or broken connection	• Do not use the air conditioner if ambient temperature is lower than 18°C (64°F) • Contact a qualified service agent
	Refrigerant high pressure switch	• Blocked air filter • Blocked / kinked exhaust duct • Ambient temperature is too high	• Clean air filter • Ensure exhaust duct is not blocked / kinked • Do not use the air conditioner if ambient temperature is higher than 45°C (113°F)
	Abnormal temperature sensor value	TH1(Outlet) temperature sensor has a loose or broken connection	Contact a qualified service agent
	Abnormal temperature sensor value	TH2(Inlet) 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 • Over current relay defect or broken connection	• Do not use the air conditioner if ambient temperature is higher than 45°C (113°F) • Contact a qualified service agent • Replace compressor
	Drain pump alarm	Drain pump defective or improper hose connection (including kink or blockage)	• Contact a qualified service agent • Check the hose connection and hose • Replace drain pump
	Abnormal dehumidification sensor value	TH4(Dehumidification) sensor has a loose or broken connection	Contact a qualified service agent

Table 1- Alarm Codes

Wiring Diagram

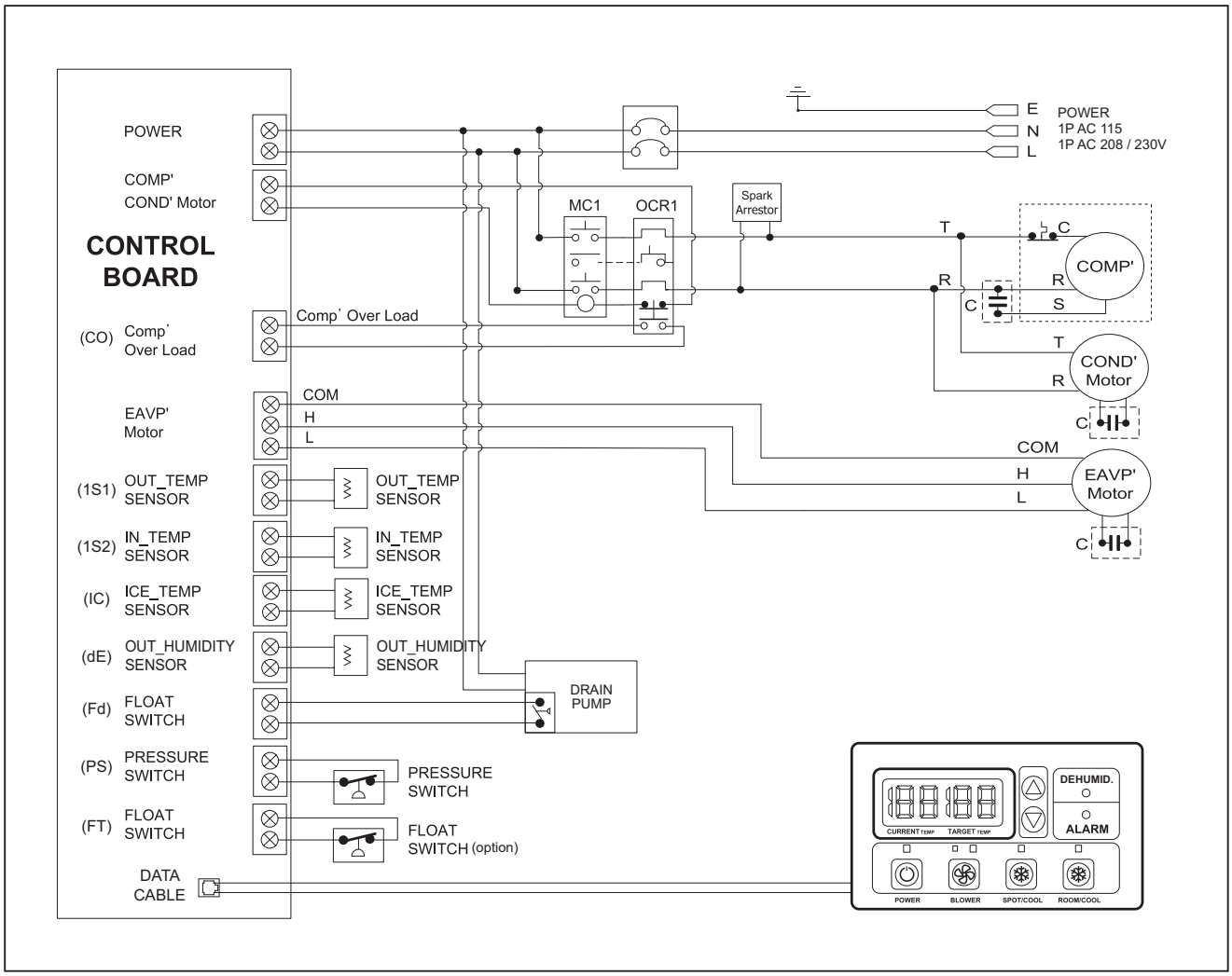


Figure 26 - Circuit Wiring Diagram

Troubleshooting chart

Symptom	Possible Cause(s)	Corrective Action
The unit doesn't work	1. Check the power supply to verify that power is available to the unit	1. Reset the circuit breaker and restart the unit
	2. Verify that the power cord is connected	2. Connect power cord
No cold air flows from the cold air outlet	1. Ambient air cannot be properly cooled if the filter is dirty and not regularly cleaned	1. Clean the filter
	2. Compressor will not work if the unit is turned off and on quickly.	2. Wait 2 minutes after unit is turned off before turning the unit back on.
	3. The ambient air temperature may be too high	3. 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

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 214-638-6010. 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.

For Koldwave warranty please visit
http://koldwave.com/html/literature.asp

KOLDWAVE
4830 Transport Drive
Dallas, TX 75247
PH : 214-638-6010 FX : 214-905-0806
www.koldwave.com

printed in April, 2013