U-MATCH SERIES

MANUAL DE USO E INSTALACIÓN

Sistema Dividido Comercial U-MATCH

Muchas gracias por adquirir nuestro producto.
Antes de utilizar su unidad, lea atentamente este manual y consérvelo para futuras consultas.
La figura que se muestra en este manual es solo de referencia y puede ser ligeramente diferente del producto real.

HVAC SYSTEMS

MODELOS

UADMAC090DN300E1/I

UADMAC120DN300E1/I

UADTDC096EN300E1/O

UADTDC120EN300E1/O

CONTENTS PAGE

1. PRECAUTIONS

Precautions before reading the installation manual.

- Read this user manual carefully before installing the equipment.
- The air conditioner must be installed by professional technicians.
- When installing the indoor unit and its accessory pipes, adhere to this user's manual as far as possible.
- Inspect and make sure the piping and cabling are correct before powering on the air conditioner.
- This information may change with the update of this machine, and no further notice will be given for such change.

The safety precautions listed here are divided into two categories. In either case, important safety information is listed which must be read carefully.

WARNING

Failure to observe a warning may result in death.

CAUTION

Failure to observe a caution may result in injury or damage to the equipment.

After completing the installation, make sure that the unit operates on how to operate the unit and keep it maintained.Also, inform customers that they should store this installation manual along with the owner's manual for future reference.

WARNING

- Do not throw or slam the remote controller.
- Operate the remote controller within the receiving scope of the indoor unit, and direct the transmitting part of the remote controller to the receiver of the indoor unit.
- The remote controller should be over 1m away from the television or sound box.
- Do not place the remote controller at a moist place, near the heat sources such as stove, or expose it directly in the sunlight.
- Ensure correct positive and negative poles when loading the batteries.
- Decide the correct way of conveying the equipment.
- Try to transport this equipment with the original package.
- If the a ir conditioner needs to be installed on a metal part of the building, electric insulation must be performed, and the installation must meet the relevant technical standards of electric devices.
- **The appliance must be installed 2.3m above floor.**
- **The appliance shall not be installed in the laundry.**
- **Before obtaining access to terminals, all supply circuits must be disconnected.**
- **The appliance must be positioned so that the plug is accessible.**
- **The enclosure of the appliance shall be marked by word, or by symbols, with the direction of the fluid flow.**
- **If the supply cord is damaged, it must be replaced by the manufacture or its service agent or a similarly qualified person in order to avoid a hazard.**
- **An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.**

CAUTION

- Before installing the unit,it is necessary to check whether the ground wire is charged.
  If it is,the unit shall not be installed before correction.
- Before installing the unit,be sure to confirm with the user whether there are wires,water pipes,air pipes and so on in the wall or ground of the installation site to avoid accidents due to damage.
- Install the unit where enough space of installation and maintenance is available.
- Install the unit where the ceiling is horizontal and enough for bearing the weight of the indoor unit.
- Install the unit where the air inlet and outlet are not baffled and are the least affected by external air.
- Install the unit where the supply air flow can be sent to all parts

- Install the unit where it is easy to lead out the connective pipe and the drain pipe.
- Install the unit where no heat is emitted from a heat source directly.
- Installing the equipment in any of the following places may lead to faults of the equipment (if that is inevitable, consult the supplier):
  - The site contains mineral oils such as cutting lubricant.
  - Seaside where the air contains much salt.
  - Hotpring area where corrosive gases exist, e.g., sulfide gas.
  - Factories where the supply voltage fluctuates seriously.
  - Inside a car or cabin.
  - Place like kitchen where oil permeates.
  - Place where strong electromagnetic waves exist.
  - Place where flammable ga ses or materials exist.
  - Place where acid or alkali gases evaporate.
  - Other special environments.
- Install the unit where enough space of installation and maintenance is available.
- Install the unit where the air inlet and air outlet are free from obstacles and strong wind.
- Install the unit in a dry and well ventilated place.
- Install the unit where the bearing surface is level and can bear weight of the unit, and is suitable for installing the unit horizontally without increasing noise or vibration.
- Install the unit where the operation noise and the expelling of air do not affect neighbours.
- Install the unit where no flammable gas is leaked.
- Install the unit where it is convenient for pipe connection and electric connection.

2. ACCESSORIES (INDOOR UNIT)

NOTE

- If in the wire control mode, the accessories do not include display panel assembly remote controller or mounting bracket.

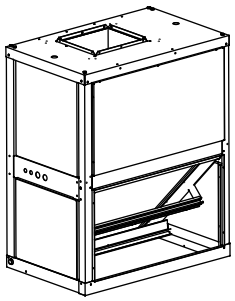
Table 2-1

Accessory name	Model	Qty.	Shape	Purpose
Installation and Operation Manual	——	1	This manual	——————
refrigerant pipe	90	4	——	Connect to system
refrigerant pipe	120	4	——	Connect to system
Y type refrigerant pipe	——	2	——	Connect to system
Drain outlet	——	1		
Drain plug	——	1		Connect to water drainage pipe
Sealing tape	——	1		Sealing drain
Plastic ring	——	5		Protect copper pipe and wire

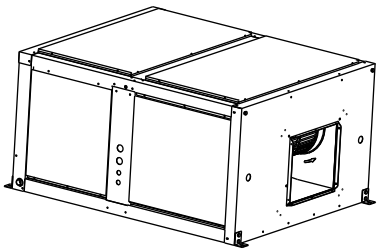
3. INSTALLATING INDOOR UNIT

UNIT FEATURES

HORIZONTAL OR VERTICAL--All models are designed for either application and can be installed in either position as supplied from the factory.
DRAIN PAN (NOT VISIBLE)--The zinc coating steel drain pan is designed to trap condensate in either vertical or horizontal installations.All pans are insulated with insulation between the bottom of the pan and the unit and may be connected for either right or left hand drains,if unit is to be installed over a finished ceiling and in an unconditioned space, it is recommended an auxiliary drain pan be placed under the entire unit.
MANIFOLD--All models are furninshed with dual circuit manifolds for dual condensing unit application. The circuitry is so arranged to provide full face coil operation from each unit, Fitting may be installed for either right or left hand tubing connections.



Vertical



Horizontal

3.1 Installation Space

Ensure enough space required for installation and maintenance.

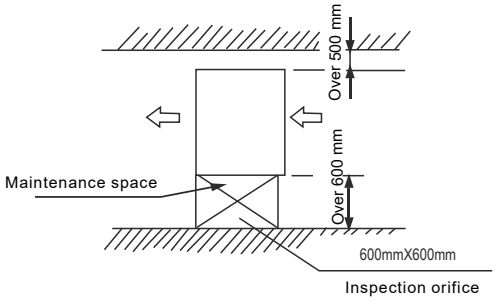


Fig.3-1

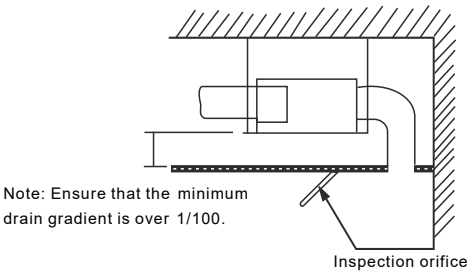


Fig.3-2

3.2 Install Φ 10 or bigger Pendant Bolts Or Ground Bolts

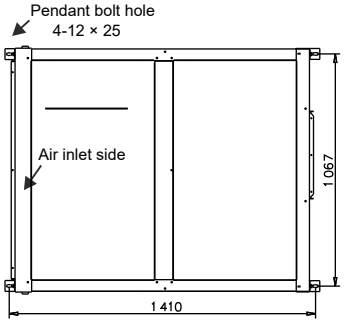


Fig.3-3

MVB-90HWN1-V MVB-120HWN1-V (Unit:mm)

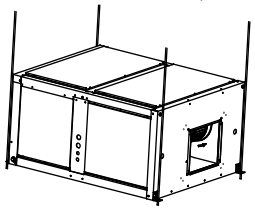


Fig.3-4

- Use Φ 10 or bigger screws. The screw material is high-quality carbon steel (whose surface is zinc plated or undergoes other rustproof treatment) or stainless steel.
- The treatment of the ceiling varies between buildings. For detailed measures, consult with the fitting-out staff.
- Fix the pendant bolts firmly and reliably in light of the specific situation.
- Installation of the pendant bolt in different environments.

A. Wooden structure
Put rectanglar sticks across the beams, and set pendant bolts.

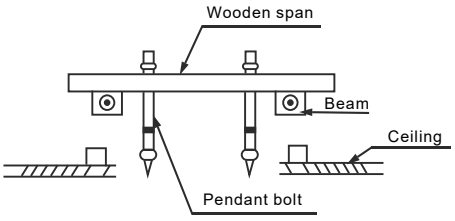


Fig.3-5

B. New concrete roughcast
Use embedded bolts, embedded pulling plugs, and embedded stick harness.

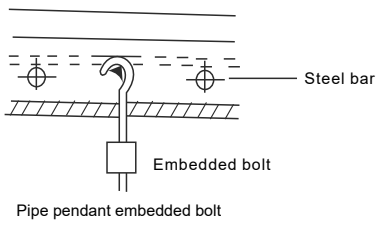


Fig.3-6

C. New concrete roughcast
Set it with embedded bushes or embedded bolts.

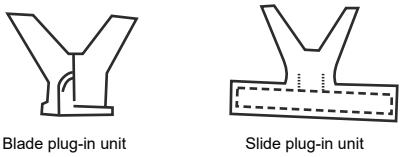


Fig.3-7

D. Steel beam and girder structure
Set and use supportive angle steel.

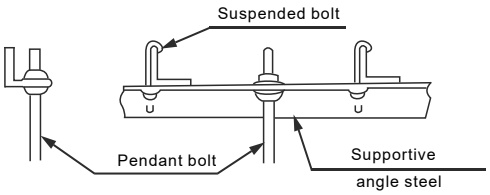


Fig.3-8

3.3 Suspending The Indoor Unit

Use a hoisting device to hoist the indoor unit, align it with the installation screw, adjust the horizontality and then tighten it.

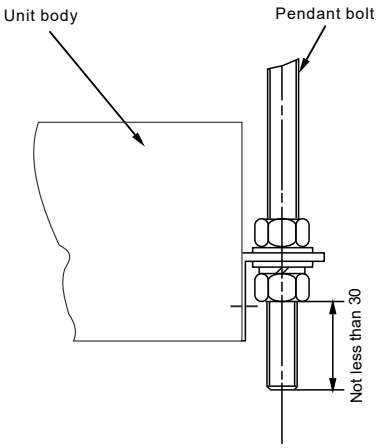


Fig.3-9

3.4 Design And Connection Of Duct

- The duct design must comply with the national heating air conditioner pipeline design specifications.
- The duct accessories and materials must be produced by professional manufacturers.
- In order to prevent air flow shorting, do not keep the air inlet pipe near the air outlet pipe.
- Install a filter at an easy-to-maintain place such as intake pipe. (Otherwise, the duct will gather on the air heat exchanger and lead to fault and water leak of the air conditioner.)
- In order to suppress noise effectively, install noise suppression and sound insulation devices, especially in the noise-sensitive spaces such as meeting rooms.
- For connection of the flange plane, use non-flammable canvas adapter to prevent transmission of vibration. For its size, see the indoor unit outline diagram. Use M6 X 20 screws (configured on site) for connection.
- All pipelines must be connected closely and soundly without leak of air. The pipelines must be adiabatic and free from condensation.

Key points of duct connection

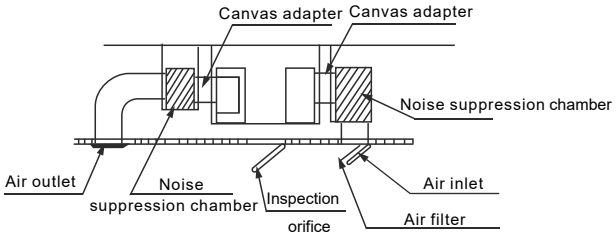


Fig.3-10

3.5 Install the condensate drainpipe

1. Install the indoor unit drainpipe

Two drain couplings are provided on alll models.select either one for condensate outlet and plug the other.

consult local codes or ordinances for specific requirement regarding condensate drain.

condensate drain is open to atmosphere and must be trapped. trap must be at least 3 incheds deep and made of flexible material or fabricated to prevent freeze-up.

if air handler is installed in a non-conditioned space,it is recommended an auxillary drain pan be fabricated and installed under entire unit.

Do not reduce the drain line size from the connection size provided on the unit.

Install a drain stream trap in the drainpipe to prevent water from overflowing. (The drainpipe absorbs the odor. When the outside static pressure is high (especially the air inlet),it is difficult to drain the water.)

Drainage should be natural. When constructing, the outside pipe of outdoor unit should be inclined (1/50~1/100).

The bending part of drainpipe should be fewer than 2. Furthermore, to reduce the depositing dust, avoid bending the pipe as possible as you can.

Make sure there is no dust or rubbish falling into indoor unit drain elbow and drainpipe.

After installation, remove the checking panel, pour some water in the drain elbow to see whether it drains smoothly.

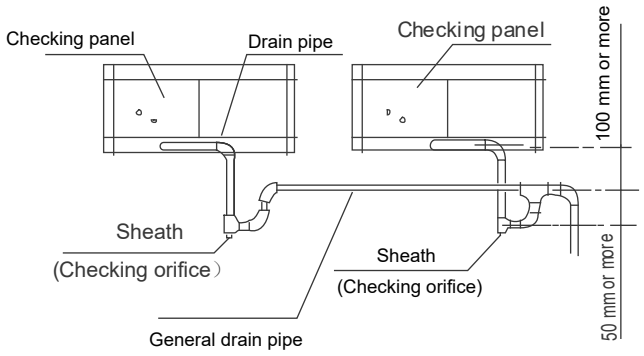


Fig.3-11

CAUTION

Rubbish is easy to accumulate at drain stream trap. Make sure to install a plug or other things which is easy to clean.
Unit must be slightly inclined toward drain,
Use drain connection size or larger,
Do not operate unit without trap

2. Test draining

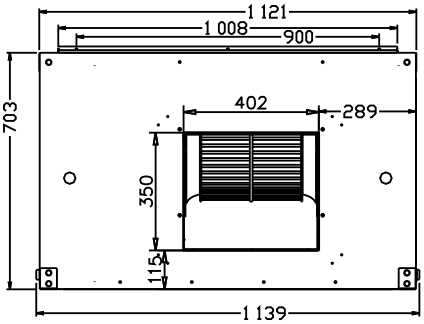
Open the clapboard of indoor unit, pour the water in to see whether it drain smoothly and whether there is water leakage.

3. Heat insulation

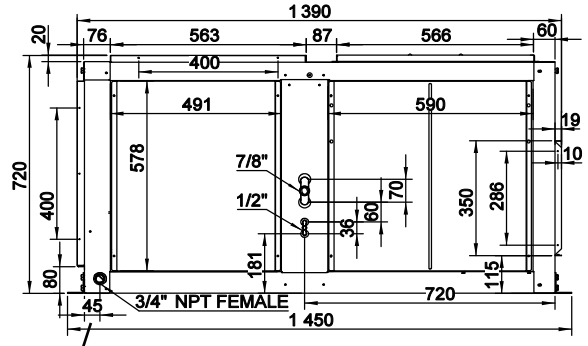
After confirming that drainage is smoothly and there is no leakage, wrap the drainpipe with insulation material, or there will be condensed water.

3.6 Dimension(Unit:mm)

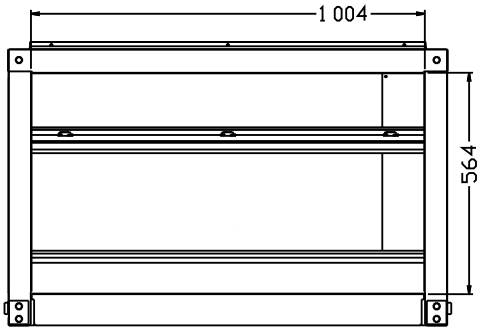
■ MVB-90HWN1-V MVB-120HWN1-V



Front view (Air supply outlet) *Fig.3-12*



Side view (Pipes) *Fig.3-13*



Rear view (Air return vent) *Fig.3-14*

3.7 Field Installed Mixing Box Accessory

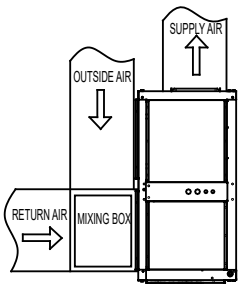


Fig.3-15

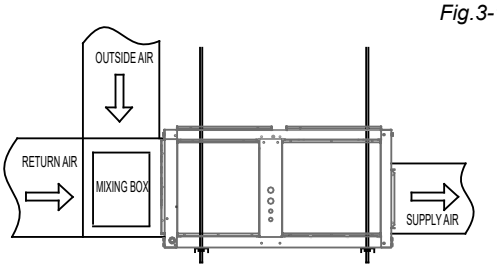


Fig.3-16

4. INSTALLATING OUTDOOR UNIT

4.1 Important: Construction Checkpoints

■ **Installation**
Check the model and name to avoid mistaken installation.

■ **Refrigerant pipe**

- The refrigerant pipes must have the specified diameter.
- Nitrogen of a certain pressure must be filled into the refrigerant pipe before welding.
- The refrigerant pipe must undergo heat insulation treatment.
- After the refrigerant pipe is installed completely, the indoor unit cannot be powered on before performing the airtight test and creating a vacuum.

■ **Refrigerant pipe**
The refrigerant pipe must undergo the airtight test [with 2.94 MPa (30 kgf/cm^{2}G) nitrogen].

■ **Creating a vacuum**
Be sure to use the vacuum pump to create a vacuum of the connective pipe at both air side and liquid side concurrently.

■ **Refrigerant replenishment**

- If the pipe is longer than the reference pipe, the refrigerant replenishment quantity for each outdoor unit should be calculated through the formula obtained according to the actual length of the pipe.
- Record the refrigerant replenishment quantity, actual length of pipe and the height difference of the indoor & outdoor units onto the operation confirmation table (on the electric control box) of the outdoor unit in advance for future reference.

■ **Electric wiring**

- Select the power supply capacity and wire size according to the design manual. The power wire size of the air conditioner should be greater than that of ordinary motors.
- In order to prevent misoperation of the air conditioner, do not interleave or entwine the power cable (220 V 3~ 60 Hz) with the connection wires (low-voltage wires) of the indoor/outdoor unit.
- Power on the indoor unit after performing the airtight test and making a vacuum.

■ **Trial run**
Perform the trial run only after the outdoor unit has been powered on for over 12 hours.

4.2 Installation Space

■ When installing the unit, leave a space for maintenance shown in the following figure. Install the power supply at the side of the outdoor unit. For installation procedure, see the relevant installation manual.

Ensure enough space for installation and maintenance.(see *Fig.4-1* and *Fig.4-2)*

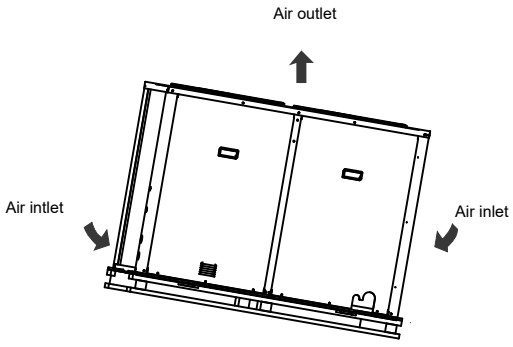
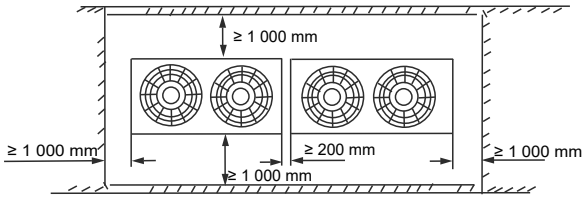


Fig.4-1

Installation & maintenance surface



Top view of the outdoor unit (multiple units installed)

Fig.4-2

NOTE

■ In case any obstacles exist above the outdoor unit, such obstacles must be 2 000 mm above the outdoor unit.

■ If miscellaneous articles are piled around the outdoor unit, such articles must be 400 mm below the top of the outdoor unit.

4.3 Convey Outdoor Unit

■ Use 4 steel ropes of a 6 mm or bigger size to hoist the outdoor unit and convey it into the room.

■ In order to prevent scratch and deformity the outdoor unit, apply a guard board to the surface of contact between the steel wire and the air conditioner.

■ Remove the cushion for use in the transport after finishing the transport.

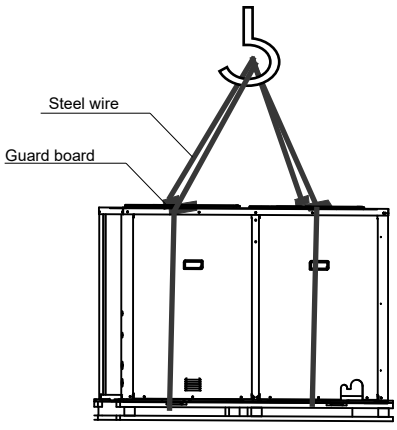


Fig.4-3

4.4 Installing The Outdoor Unit

- As shown in *Fig.4-4*, leave an interval of 100mm between the outdoor units.

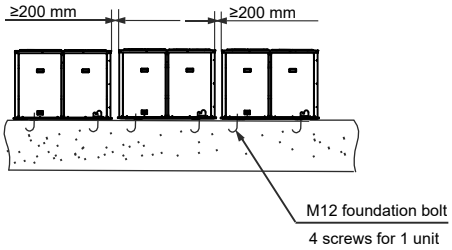


Fig.4-4

- The distance of the foundation bolt is shown in *Fig.4-5*.

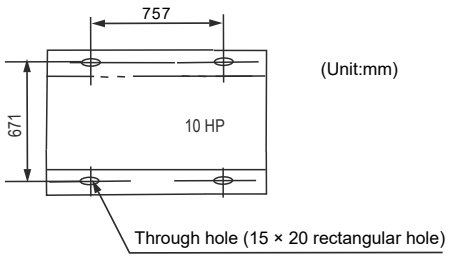


Fig.4-5

- Snow protection facilities must be installed in the snowfall areas. (See the right figure) (in case the snow protection facilities are incomplete, faults may occur). In order to prevent influence caused by snow, set up raised pavilion, and install snow protection sheds at the air inlet and air outlet.

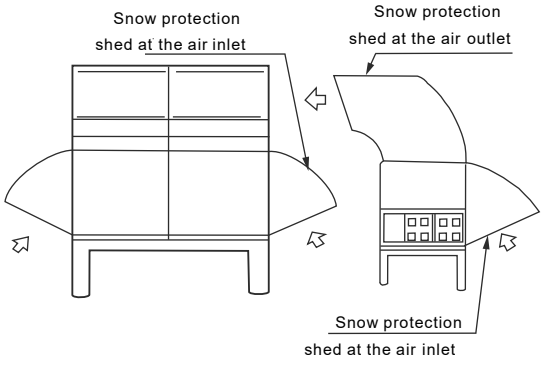


Fig.4-6

4.5 Refrigerant Pipe

- The refrigerant pipe adapter is located inside the outdoor unit. So remove the right front board first.(three M5 screw)
- When the pipe is connected from the front side, the pipe can be led out through the right front board.
- As shown in *Fig.4-7*, when brazing the indoor and outdoor connective lines, pad a sheet metal under the valve avoids the flame burning the chassis.

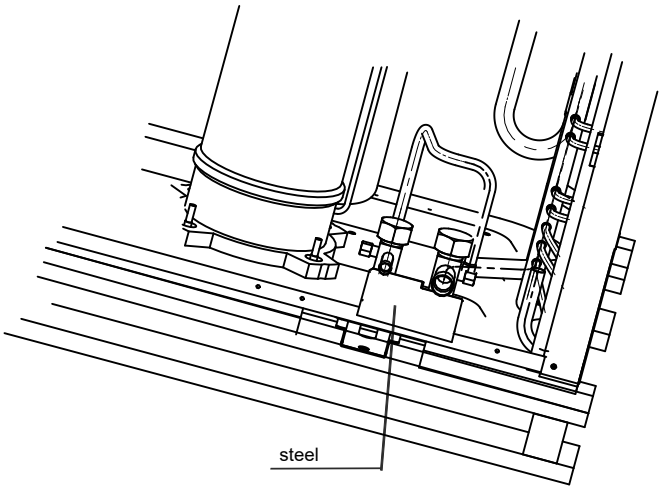


Fig.4-7

NOTE

- When welding the refrigerant pipe, in order to prevent internal oxidation of the pipe, nitrogen must be filled in. Otherwise, the oxidized chips may block refrigerating circulatory system.

4.6 Size Of Outdoor Unit Pipes And Piping Methods

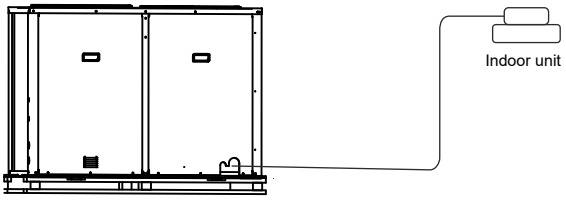


Fig.4-8

- Size of outdoor unit pipes and piping methods

Table.4-1

Model	Gas side	Liquid side
UADMAC090DN300E1/I	ϕ 25.0	ϕ 9.52
UADMAC120DN300E1/I	ϕ 28.6	ϕ 12.7

- Allowed length of refrigerant pipe and height difference

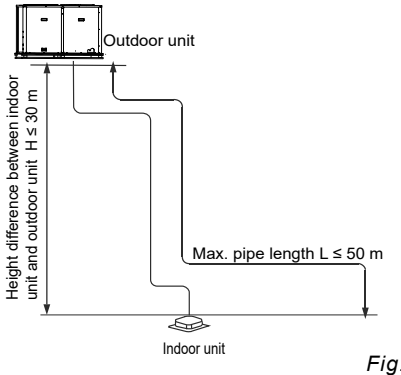


Fig.4-9

Table.4-2

			Allowed value
Max. actual length of pipe (L)			50 m
Max. height difference	Height difference between indoor unit and outdoor unit (H)	Outdoor (upper)	25 m
		Outdoor (lower)	30 m

4.7 Airtight Test

After the pipes between the indoor unit and the outdoor unit are connected, replenish compressed nitrogen to perform airtight test.

NOTE

- The airtight test is performed by using the compressed nitrogen [2.94 MPa(30 kg/cm^{2}G)].
- Tighten the spool of the gas valve and liquid valve before compressing the nitrogen.
- Compress the nitrogen at the air vent of the gas valve.
- The gas valve and liquid valve are closed in the process of compressing the nitrogen.
- Do not use oxygen, flammable gas or toxic gas in the airtight test.

4.8 Use A Vacuum Pump To Create A Vacuum

- Use a vacuum pump to make a vacuum. Do not use refrigerant gas to expel air.
- When making the vacuum, start from the air side.

4.9 Open All Valves

4.10 Refrigerant Replenishment Quantity

According to the diameter and length of the connective liquid-side pipe of the outdoor unit and indoor unit, calculate the refrigerant replenishment quantity. The refrigerant for replenishment is R410A/R22.

Table.4-3

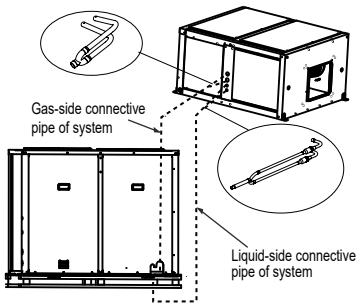
Diameter of liquid-side pipe	Quantity of refrigerant replenished for 1 m pipe length
ϕ 9.52	0.060 kg
ϕ 12.7	0.120 kg

4.11 Remove Trash And Moist In The Pipe

- Trash and foreign matters may come into the pipe in the process of installing the refrigerant pipe. Be sure to blow them off with nitrogen before connecting the pipe to the outdoor units.
- Use high-pressure nitrogen to clean the pipelines. Do not use the refrigerant of the outdoor unit for cleaning.

4.12 Schematic Diagram Of Connection Between Indoor Unit And Outdoor Unit

MVB-90HWN1-V



MVB-120HWN1-V

Fig.4-10

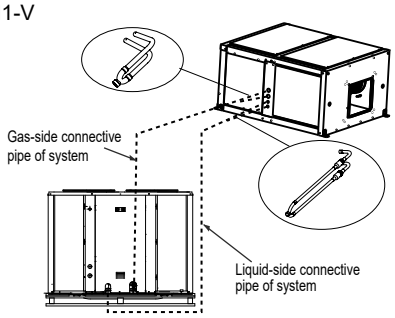


Fig.4-11

4.13 Refrigerant Leak Precautions

This air conditioner uses refrigerant R410A. The R410A is safe refrigerant which is harmless and non-flammable. The room for placing the air conditioner should have a proper space. Even if refrigerant leakage occurs, the density threshold will not be crossed. Additional measures may also be taken.

- Density threshold: Density of the Freon gas that does not harm the human body. Density threshold of R410A: 0.3 [kg/m^3]
- Calculate the total quantity of refrigerant to be replenished (A [kg]). Total refrigerant quantity for 10HP = refrigerant replenishment quantity upon shipment (11[kg]) + additional refrigerant replenishment corresponding to the pipe length
- Calculate out the indoor volume (B[m^3]) (according to the minimum volume)
- Calculate out the refrigerant density:

$$\frac{A[kg]}{B[m^3]} \leq \text{Density threshold: } 0.3\ [kg/m^3]$$

- Measures against crossing of the refrigerant density threshold
- In order to keep the refrigerant density below the threshold value, please install a mechanic ventilation device. (perform ventilation often)
- In case frequent ventilation is impossible, please install the leakage detection alarm device linked with the mechanical ventilation device.

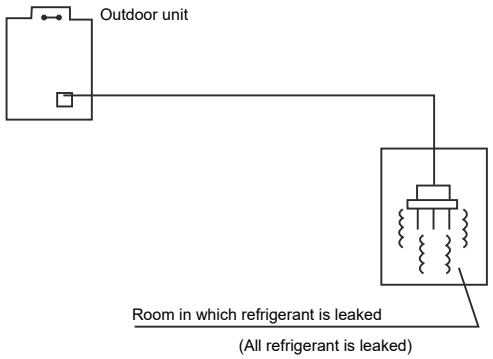
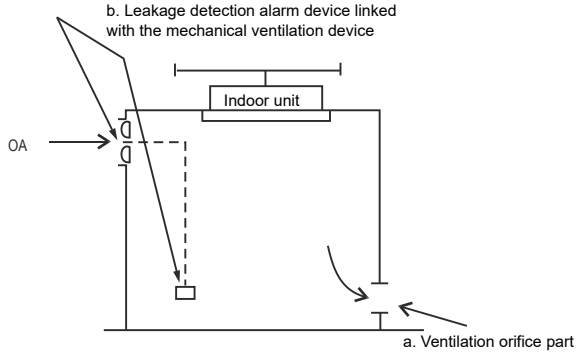


Fig.4-12



(The leakage detection alarm device should be installed at the place vulnerable to retention of the refrigerant)

Fig.4-13

4.14 Completing The Connection System Name

In case multiple systems are set, in order to identify the connection system of the indoor unit and outdoor unit, it is necessary to give name to each system, and mark it onto the nameplate on the electric control box cover of the outdoor unit.

NOTE

- The indoor unit and outdoor unit are categorized into system A and system B. When installing and connecting the indoor unit and outdoor unit, identify the label carefully, and make sure that indoor unit corresponds to the outdoor unit exactly. Otherwise, it may lead to fault of the air conditioner.
- Model of indoor unit.Room name
  Example: The first system indoor unit (A) of the 2nd floor is recorded as: 2F 1A

5. HEAT INSULATION OF THE PIPE

5.1 Heat Insulation Of The Pipe

In order to prevent faults caused by condensate of the refrigerant pipe and drain pipe, perform condensate prevention and heat insulation properly.

CAUTION

- If it is forecast that high humidity/temperature environment (condensate temperature is over 23 ℃) may exist in the ceiling, e.g., inside the ceiling with slab, ceiling which is in the same environment as the outdoor air), it is necessary to apply 10 mm or thicker adiabatic wool (16 kg/m^2 to 20 kg/m^2) to the refrigerant pipe and the drain pipe in addition to applying the general heat insulation materials. Enough heat insulation materials should also be applied to the refrigerant joint and the pipe joint.

5.2 Heat Insulation Of The Drain Pipe

- Be sure to entwine heat insulation materials round the drain pipe which runs through the room.
- Carry through heat insulation for the drain pipes thoroughly.

5.3 Heat Insulation Of The Refrigerant Pipe

- Please use heat-resistant materials as heat insulation materials of the air-side pipe. (e.g., EPT)
- Cover heat insulation materials separately at the liquid side and the air side. Moreover, perform heat insulation thoroughly for the air-side pipes of the indoor unit, and prevent water from dripping outside the unit.

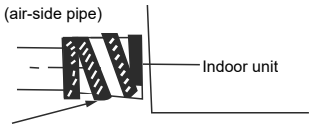


Fig.5-1

- After applying the auxiliary heat insulation materials, use vinylresin tape to seal it lest water leak.

6. INSTALL THE CONNECTIVE PIPE

6.1 Preparation Before Installtion

- Check the height difference between the indoor unit and the outdoor unit, and check the length and number of bends of the refrigerant pipeline, which must meet the following requirements:
  Max. height difference....20 m (If the height difference is greater than 5 m, it is best to put the outdoor unit above the indoor unit)
  Max. pipeline length.....30 m
  Max. number of bends....15
- In the process of installing the connective pipe, do not letmmmm the air, dust or foreign substance intrude into the pipeline system.
- Install the connective pipe only after fixing the indoor and outdoor units.
- Keep dry when installing the connective pipe. Do not let moist intrude into the pipeline system.

6.2 PRECAUTIONS DURING BRAZING OF LINES

All outdoor unit and evaporator coil connections are copper-to-copper and should be brazed with a phosphorous-copper alloy material such as Silfos-5 or equivalent. DO NOT use soft solder. The outdoor units have reusable service valves on both the liquid and vapor connections. The total system refrigerant charge is retained within the outdoor unit during shipping and installation. The reusable service valves are provided to evacuate and charge per this instruction.
Serious service problems can be avoided by taking adequate precautions to assure an internally clean and dry system.

CAUTION

Dry nitrogen should always be supplied through the tubing while it is being brazed, because the temperature required is high enough to cause oxidation of the copper unless an inert atmosphere is provide. The flow of dry nitrogen should continue until the joint has cooled. Always use a pressure regulator and safety valve to insure that only low pressure dry nitrogen is introduced into the tubing.Only a small flow is necessary to displace air and prevent oxidation.

6.3 PRECAUTIONS DURING BRAZING SERVICE VALVE

Precautions should be taken to prevent heat damage to service valve by wrapping a wet rag around it as shown in *Fig. 6*.
Also, protect all painted surfaces, insulation, during brazing. After brazlng cool joint with wet rag.

Valve can be opened by removing the plunger cap and fully inserting a hex wrench into the stem and backing out counter-clockwise until valve stem just touches the chamfered retaining wall.

Connect the refrigerant lines using the following procedure:

1. Remove the cap and Schrader core from both the liquid and vapor service valve service ports at the outdoor unit. Connect low pressure nitrogen to the liquid line service port.

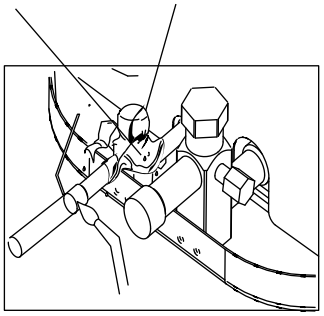


Fig.6-1

2. Braze the liquid line to the liquid valve at the outdoor unit. Be sure to wrap the valve body with a wet rag. Allow the nitrogen to continue flowing. Refer to the Tabular Data Sheet for proper liquid line sizing.
3. Carefully remove the rubber plugs from the evaporator liquid and vapor connections at the indoor coil.
4. Braze the liquid line to the evaporator liquid connection. Nitrogen should be flowing through the evaporator coil.
5. Slide the plastie cap away from the vapor connection at the indoor coil. Braze the vapor line to the evaporator vapor connection. Refer to the Table 1 for proper vapor line sizing.
6. Protect the vapor valve with a wet rag and braze the vapor line connection to the outdoor unit. The nitrogen flow should be exiting the system from the vapor service port connection. After this connection has cooled, remove the nitrogen source from the liquid fitting service port.
7. Replace the Schrader core in the liquid and vapor valves.
8. Leak test all refrigerant piping connections including the service port flare caps to be sure they are leak tight. DO NOT OVER TIGHTEN (between 40 and 60 inch -lbs. maximum).
9. Evacuate the vapor line, evaporator and the liquid line, to 500 microns or less.

NOTE

1. Tube diameters are for lengths up to 50 equivalent ft and/or 20 ft vertical differential.
2. Do not increase or decrease tubing sizes.

NOTE

Line set and indoor coil can be pressurized, to 250 psig with dry nitrogen and leak tested with a bubble type leak detector. Than release the nitrogen charge. Do not use the system refrigerant in the outdoor unit to purge or leak test.

10. Replace cap on service ports. Do not remove the flare caps from the service ports except when necessary for servicing the system.

CAUTION

Do not connect manifold gauges unless trouble is suspected. Approximately 3/4 ounce of refrigerant will be lost each time a standard manifold gauge is connected.

11. Release the refrigerant charge into the system. Open both the liquid
and vapor valves by removing the plunger cap and with an hex wrench back out counter-clockwise until valve stem just touches the chamfered retaining wall.
12. Replace plunger cap finger tight, then tighten an additional 1/12 turn (1/2 hex flat). Cap must be replaced to prevent leaks.

WARNING

Never attempt to repair any brazed connections while the system is under pressure. Personal injury could result.

See "System Charge" section for checking and recording system charge.

6.4 Expelling Air

■ From the following table, select a method of expelling air.

Table.6-2

Length of connective pipe (single pass)	Procedure of expelling air
Less than 5 m	Use refrigerant in the outdoor unit
5 m to 15 m	Use vacuum pump or refrigerant tank.

- If the air conditioner is relocated, be sure to use a vacuum pump or refrigerant tank to expel air.

■ Use the refrigerant in the outdoor unit to expel air(see *Fig.6-2* and *Fig.6-3*)

- Screw up the pipe nuts at A, B, C and D completely.
- Loosen and remove the square-head cover of valves A and B, rotate the square-head spool of valve B counterclockwise for 45 degrees and stay for about 10 seconds, and then close the spool of valve B tightly.
- Detect leak for all adapters at A, B, C and D. After making sure that no leak exists, open the maintenance orifice nut of valve A. After all air is expelled, tighten the maintenance orifice nut of valve A.
- Open the spools of valves A and B completely.
- Tighten the square-head cover of valves A and B completely.

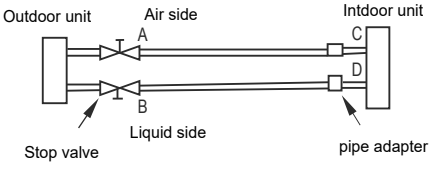


Fig.6-2

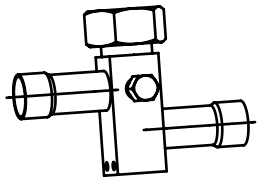


Fig.6-3

- Use refrigerant tank to expel air (see *Fig.6-2* and *Fig.6-3*)
- Screw up the pipe nuts at A, B, C and D completely.
- Loosen and remove the square-head cover and the maintenance orifice nut of valves A and B.
- Connect the filler hose of the refrigerant tank with the maintenance orifice of valve A.
- Loosen the valve of the refrigerant tank, continue filling refrigerant for 6 seconds to expel the air, and tighten the nut of valve B quickly.
- Loosen the valve of the refrigerant tank again, and fill the refrigerant for 6 seconds. Detect leak for all adapters at A, B, C and D. After making sure that no leak exists, screw off the filler hose. After all the filled refrigerant is expelled, screw up the maintenance orifice nut of valve A quickly.
- Open the square-head spools of valves A and B completely.
- Tighten the square-head cover of valves A and B.
- Use a vacuum pump to expel the air (*Fig.6-4*): (For method of using the manifold valve, see the operation manual of manifold valve)
- Loosen and remove the maintenance orifice nut of valve A, and connect the filler hose of the manifold valve to the maintenance orifice of valve A (tighten both valve A and valve B).
- Connect the filler hose adapter to the vacuum pump.
- Open the low pressure (Lo) handle of the manifold valve completely.
- Start the vacuum pump to extract air. At the beginning of extracting air, slightly loosen the maintenance orifice nut of valve B, check whether any air enters it (the vacuum pump noise changes, and the multimeter indicates from negative to 0). Then tighten this maintenance orifice nut.
- Upon completion of vacuuming, tighten the low pressure (Lo) handle of the manifold valve completely and stop the vacuum pump. Keep extracting air for over 15 minutes. Check whether the multimeter points at -1.0 X 10 Pa(-76 cmHg).
- Loosen and remove the square-head cover of valves A and B. After opening valves A and B completely, tighten the square-head cover of valves A and B.
- Remove the filler hose off the maintenance orifice of valve A, and then tighten the nut.

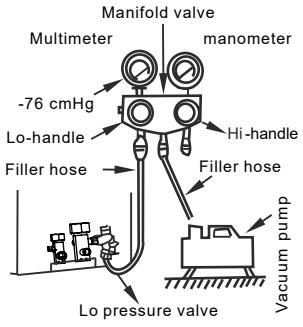


Fig.6-4

- Procedure of using stop valve
- Open the spool until it touches the stop block. Do not attempt to open further.
- Use a spanner or a similar tool to tighten the bonnet. The bonnet tightening torque is shown in aboveTable “Tightening torque”.
- Upon completion of installation, open all valves before trial run. Each unit has two valves of different sizes located at the outdoor unit side. Of the two valves, one is gas valve and the other is liquid valve. The procedure of opening/closing the valve is shown in the right figure (*Fig.6-5)*.
- Procedure of opening the valve: Open the square-head cover, use a spanner to capture the square head and open it thoroughly. Then tighten the square-head cover.
- Procedure of closing the valve: Same as the procedure of opening the valve, but rotate the spanner clockwise thoroughly.

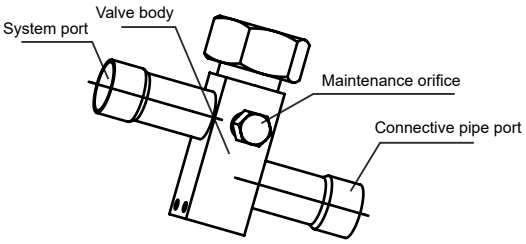


Fig.6-5

6.5 Leak Detection

- Use soap water or a leak detector to check whether gas leakage exists at the adapters.

6.6 Heat Insulation

- Use heat insulation materials to wrap the part protruding outside the flared pipe joint and the refrigerant pipe of the liquid pipe and the gas pipe, and ensure that no gap exists between them.
- Imperfect heat insulation may lead to condensate drips.

7. INSTALL THE DRAIN PIPE

- Install the drain pipe of the indoor unit

  In order to prevent drain overflow, install a drainage controller at place 1 of the drain pipe. (The drainage controller is designed to smoothen the drainage when the static pressure outside the unit is high, especially at the air inlet, in addition to remove stink through the drain pipe.)

  The drain of water is natural. In the construction, the external pipe of the outdoor unit slants downward at a gradient of 1/50~1/100.

  The number of bends and folds of the drain pipe should not exceed 2. Try to avoid bends in order to prevent trash accumulation.
  In the construction, do not drop trash into the drip tray or drain pipe of the indoor unit.

  Upon completion of installing the drain pipe, remove the inspection panel. Put water into the drip tray to check whether the water can be drained levelly and steadily.

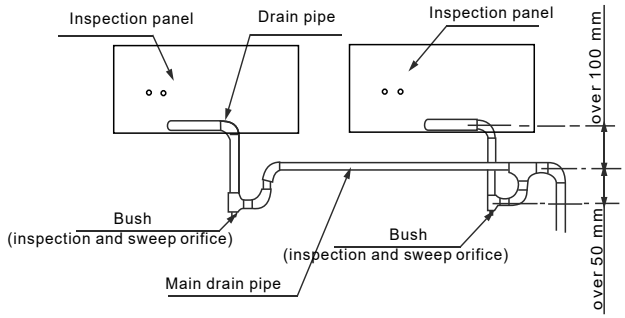


Fig.7-1

NOTE

- Drain pipe trash gains easily at the drainage controller. Be sure to install a stopper and a structure that cleans up trash easily.

- Trial draining of the drain pipe
  Open the side panel of the indoor unit, fill water inward, and check whether the water can be drained smoothly. Check water leak at the joint.

- Heat insulation of drain pipe
  After making sure that the water drains smoothly and no water is leaked, use adiabatic wool bushes to preserve heat of the drain pipe. Otherwise, condensate will occur.

8. ELECTRIC CONNECTION

CAUTION

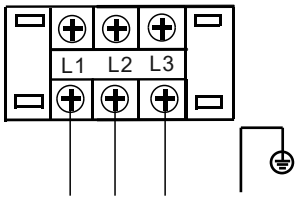
- Use special power supply for the air conditioner. Design power supplies specific to the indoor unit and outdoor unit. The supply voltage must comply with the nominal voltage.
- The external supply circuit of the air conditioner must have a ground wire, and the power supply ground wire of the indoor unit must be connected with the external ground wire firmly.
- The wiring must be performed by professional technicians according to the circuit diagram labels.
- Distribute the wires according to the relevant electric technical standards promulgated by the State, and set the Residual Current-operated Circuit Breaker (RCCB) properly.
- The power wire and the signal wire shall be laid out neatly and properly, without mutual interference or contacting the connection pipe or valve.
- No power cable is attached to this equipment. The user can select the power cable by reference to the stipulated power supply specifications. No joint of wires is allowed.
- Upon completion of wire connection, double check it and then connect the power supply.
- The appliance shall be installed in accordance with national wiring regulations.

■

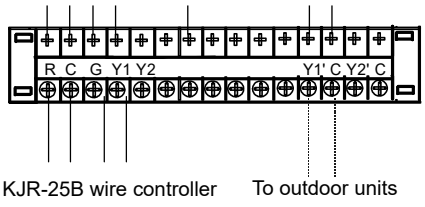
Table 8-1

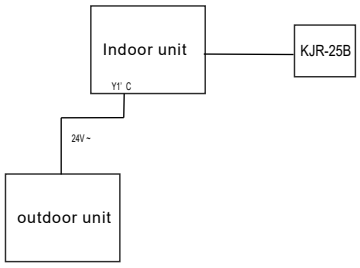
	Indoor unit	Outdoor unit
Model	UADMAC090DN300E1/I	UADTDC096EN300E1/O
	UADMAC120DN300E1/I	UADTDC120EN300E1/O
Power	220 V 3~ 60 Hz	208-230 V 3N~ 60 Hz
Switch capacity of the main power suppliy/fuse(A)	15/10	
Indoor unit power cable includes grounded wire	RVV-300/500 3×2.5 mm^2 + 1×1.0mm^2	———
Outdoor unit power cable includes grounded wire	———	
connective wire of indoor outside unit	Outdoor unit 1:RVV-300/500 2×0.75 mm^2 Outdoor unit 2:RVV-300/500 2×0.75 mm^2	
Wire controls connective wire	RVVP-300/300 5×0.75 mm^2	

■ Power supply

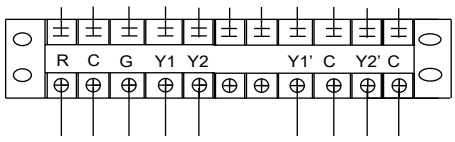


■ To connect with wire controller and outdoor units





■ Indoor unit have evaporator temperature protection switch, when the evaporator temperature < -4 ℃ outdoor unit will stop. until the temperature > 7 ℃ the outdoor unit will recover.



9. TRIAL RUN

Please conduct in accordance with “Trial Run Tenor Nameplate” on the electric control box.

CAUTION

- Perform the trial run only after the outdoor unit has been powered on for over 12 hours.
- Check that all valves are opened before trial run.
- Check the electric safety before trial run.
- Do not perform compulsory operation in any way.(It is very dangerous if the protection device is not active)

- Perform trial run only after all installations are finished.
- Confirm the following issues before trial operation, and √ the box for the confirmed items.

- Check whether the indoor unit and the outdoor are installed properly. ☐
- Check whether the piping and wiring are correct. ☐
- Check whether the refrigerant pipeline system is inspected for leakage. ☐
- Check whether the drain is smooth. ☐
- Check whether the heat insulation is perfect. ☐
- Check whether the ground cables are connected correctly. ☐
- Check whether the pipe length and the refrigerant amount are recorded. ☐
- Check whether the supply voltage is equal to the rated voltage of the air conditioner. ☐
- Check whether any obstacles exist at the air inlet/outlet of the indoor or outdoor unit. ☐
- Open the gas valve and the liquid valve. ☐
- Connect the power supply to preheat the air conditioner. ☐

- Install the remote controller holder as required by the user. The holder must be installed in a location suitable for transmitting the signals of the remote controller to the indoor unit.
- Trial run
  Use the remote controller or wire controller (matched) to let the air conditioner run in the cooling mode. Inspect the following items against the operation manual. (If any fault occurs, remove the fault by reference to the Section headed “Faults of Air Conditioner and Causes” in the Operation Manual.)

Voltage
With the unit operating, check the line voltage of the unit. The voltage should be within the range shown on the unit nameplate.
If low voltage is encountered, check the size and length of the supply line from the main disconnect to the unit. The line may be undersized for the length of the run.

- Outdoor unit
- Check whether any vibration or abnormal sound occurs during the operation.
- Check whether the air, noise and condensate generated by the unit affect the neighbors.
- Check whether any refrigerant is leaked.
- Indoor unit
- Check whether the switch of the remote controller or wire controller is normal.
- Check whether the functional keys of the remote controller or wire controller are normal.
- Check whether the indoor temperature conditioning is normal.
- Check whether the indicators illuminate normally.
- Check whether the manual operation buttons are normal.
- Check whether the drain function is normal.
- Check whether the connective copper pipes and the drain pipes generate condensate due to loose wrapping.
- Open the air inlet grille to check whether any penetration or leak of water occurs, especially at the drain stopper.
- Check whether any vibration or abnormal sound occurs during the operation.
- Test whether the unit works normally in the heatig mode.

Inspection of Fan and Fan Motor

1) Check whether there is sundries in fan whorl,whether there is collision and friction between whorl and impeller when rotate impeller by hand and listen if there is abnormal noise on fan bearing.

2) Check whether fan,fan motor and belt pulley is loose,check whether tightness of belt is up to the demand and whether belt pulley of fan and motor is on one plane according to following drawing.Check whether fan and fan motor rotate smoothly.

3) Check whether the two belt pulleys are on the same plane as the following left figure, use the thumb vertically stand on the middle of the belt, and check whether the tension of the belt meet the requirements as the following right figure.

4) Electrify unit and start fan then check whether fan rotation direction is correct, stop unit and adjust phase sequence if fan rotation direction is adverse. Check motor running current by amperemeter and compare with motor nameplate parameter, change motor or belt pulley and adjust the fan valve opening if the measured value exceed nameplate parameter too much.

10. MAINTENANCE

■ Regular maintenance

Some regular maintenance have been carried on by user, includes: clean dust filter, clean casing, wash condenser and replace a new belt, as well as do some test for the equipment.

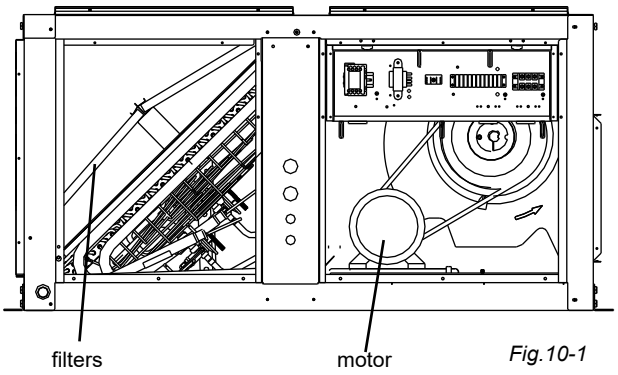


Fig.10-1

■ Motor mounting

One of the most critical aspects of an air handler installation is the mounting of the motor,motor sheave, fan pulley and the belts,and the adjustment of these items.

■ Motor sheave and fan pulley mounting and adjustment

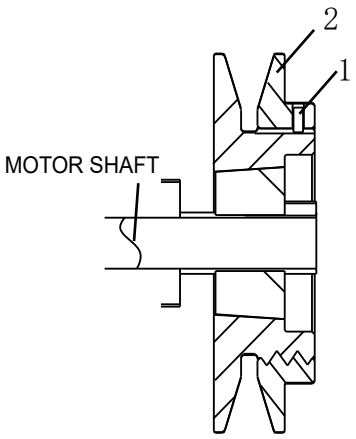
The adjustable pitch sheave which is mounted on the motor shaft controls the fan speed. To adjust the fan speed refer to figure at right ,proceed as followese adjustment of these items.

a. Loosen the four set screw, item 1.

b. Rotate the adjustable sheave ,item 2,to the desired position.

c. Lock the adjustable sheave in place by tightening the set screw, item 1.

NOTE:the adjustable sheave is not to be used to adjust belt tension



WARNING

BEFORE MAKING FAN ADJUSTMENTS, BE SURE THE MAIN ELECTRICAL DISCONNECT SWITCH IS IN THE "OFF" POSITION TO PREVENT POSSIBLE INJURY DUE TO ACCIDENTAL OPERATION OF THE MOTOR.

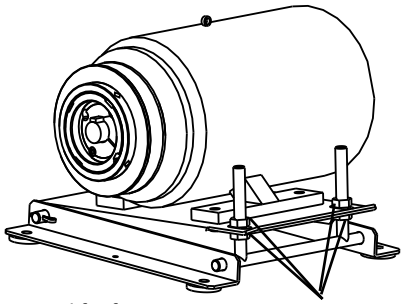
■ FAN BELT ALIGNMENT AND ADJUSTMENT

Place belt on the groove of the fan pulley and motor sheave to obtain the approximate alignment and belt tension.

Remove the belt and align the fan pulley and motor sheave using a straight edge,refer to figure.

When the pulley and sheave are properly aligned, re-install belt.do not force or pry the belt onto the pulley and sheave. with the belt in place, adjust so that all the slack is on one side of the drive.The belt should have from 3/4" to 1" of slack at 3 lbs pressure, refet to figure . Adjust the belt to this tension, first, loosen the four screw as figure ,then raise or lower the swing base via the adjusting rods and nuts.

Refer to *Fig.10-2*, loose 4 nuts, and move the electric motor to adjust belt tension.



The 4 nuts are used for factory precision adjustment only,that shall not be adjusted except professional maintenance staff.

Fig.10-2

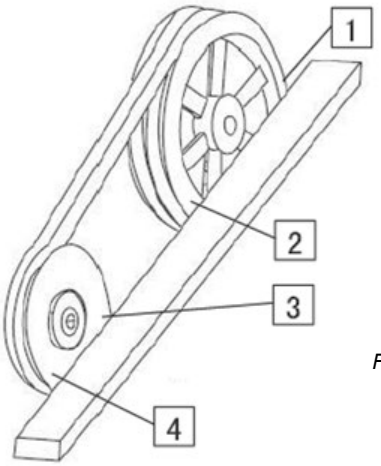


Fig.10-3

Use a straight ruler against the side of two pulleys

■

•

• Belt tension is measured by belt tension indicator

Calculate the deflection, deflection = A/64. A = 315 mm

Measure the belt deflection force, the force shuold be between the values shown in Tab.10-1

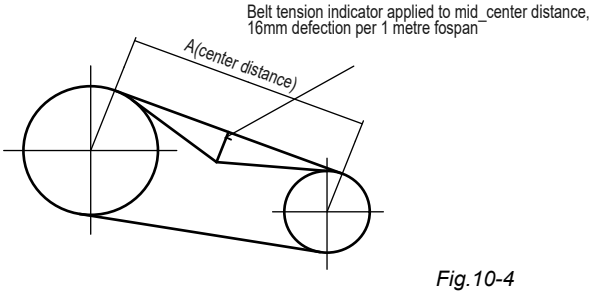


Fig.10-4

Belt section	For required to deflection		
	Small pulley diameter (mm)	Newton(N)	Kilogram-force(kgf)
SPA	109 to133	25 to 35	2.5 to 3.6

Tab.10-1

NOTE

The belt which is too tight or too loose may generate noise and be harmful to the unit.

1) Maintenance of fan :

One week after the unit is running, the elastic belt should be re-adjusted, and should be inspected once every three months in accordance with the requirements of inspection.

2) Maintenance of belt and pulley :

When the unit is running, check tension of the belt in a regular time. Do the inspection job according to requirements of inspection

■ Tension adjustment of the belt: If the belt tension is proper, it will help to avoid fan vibration, reduce noise and belt abrasion. Customers should check belt tension every week and do adjustment according to the following procedures if necessary:

a. Loosen the 4 fixed nuts of motor. Tighten or loosen the nuts to move the motor.

b. Act in the middle of the belt perpendicularly with a finger. Adjust belt tension until there's deflection distance, please refer to Fig 10-4 If possible, it is better to use a tension frequency test device, in order to get a more precise tension.

c. Tighten the fixed bolt of motor again.

■ Pulley revise: Fan pulley and motor pulley should on the same plane, or it will consume much more energy and curtail service life of belt. Every time after belt adjustment, you should check if positions of the 2 pulleys are correct, refer to figure 10-3, you can put a ruler on the same side of 2 pulleys to check if positions of 2 pulleys are correct. Check if point 1, point 2, point 3 and point 4 are in the same plane. If not, you can loosen fixed screws of fan pulleys and along the fan axle to slide fan pulleys. Loosen motor to adjust the angle on the fan slide way. Adjust to straightness≤ 2mm.

3) When the unit is not running and heating system is not run-time in the winter, the water must be drained out the coil (system) or add the appropriate concentration antifreeze, otherwise the coil will be frost crack.

4) Filter should be cleaned by using water or detergents depending on the degree of dirt, cleaning frequency according to the using environment, it is recommended a regular once a month.

5) For the units with humidifier, ECSE etc. special functions, pay attention to read the components operation instructions along with the unit, and do periodic check as the instructions.

NOTE

1. Straightness requirements and tension requirements should be satisfied at the same time after adjusting belt and pulleys.
2. When the service time has reached to 24 hours for the newly used belt, you must check belt tension and adjust it properly. Improper adjustment or no adjustment may result in belt lifespan reduction. Even more it will cause belt fracture.
3. Belt is consumable. It is normal when after 6-months usage, the belt is abraded and lose efficacy. You need to change a new belt at this time. If multi-belts rotate, you should change the group of belts simultaneously.

■ Replace the air filter.

- Loose filter access panel's pole and remove it.
- pull out the filter along the supporting slot.

■ Clean the air filter (Vacuum cleaner or fresh water may be used to clean the air filter. If the dust accumulated too much, please use soft brush and mild detergent to clean and dry out in cool place) .

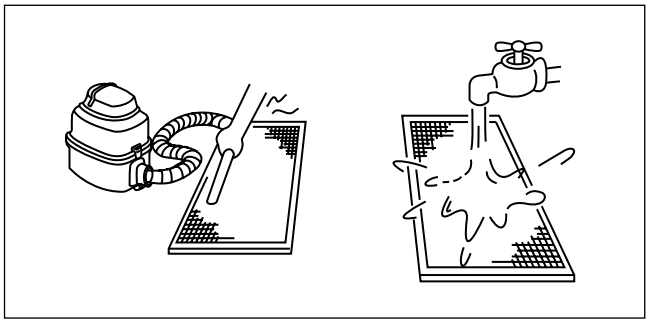


Fig.10-6

- The air-in side should face up when using vacuum cleaner.
- The air-in side should face down when using water.

CAUTION

Do not dry out the air filter under direct sunshine or heat.

- Re-install the air filter

■ Condenser coil
Unfiltered air circulates through the unit's condenser coil can cause the coil's surface to become clogged with dust, etc. Clean the coil, vertically (i.e., with the fins), and stroke the coil surface with a soft brush. Be sure to keep all vegetation away from the condenser coil area.

■ Maintenance performed by serviceman.
To keep your unit operating safely and efficiently, the manufacturer recommends that a qualified serviceman check the entire system at least once each year and any other time that you feel one is needed. Your serviceman should examine these areas of your unit:

- Filters
- Motors and drive system components
- Economizer gaskets (for possible replacement)
- Safety controls (for mechanical cleaning)
- Electrical components and wiring (for possible replacement and connection tightness)
- Condensate drain (for cleaning)
- Unit duct connections (to see that they are physically sound and sealed to the unit casing)
- Unit mounting support (for structural integrity)
- The unit (for obvious unit deterioration)

CAUTION

■ Do not operate the unit without the evaporator fan access panel in place. Reinstall the access panel after performing any maintenance. Operating the unit without the access panel may result in severe personal injury or death.

■ This unit is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
Children should be supervised to ensure that they do not play with the unit.

■ Disconnect the power supply before cleaning and maintenance.

■ The unit shall be installed in accordance with national wiring regulations.

DISPOSAL: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

■ Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.

■ Contact you local government for information regarding the collection systems available.

■ If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

11 PRECAUTIONS

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

The safety precautions listed are divided into two categories. In either case, important safety information is listed which must be read.

WARNING

Failure to observe a warning may result in death. The appliance shall be installed in accordance with national wiring regulations.

CAUTION

Failure to observe a caution may result in injury or damage to the equipment.

WARNING

Ask your dealer for installation of the air conditioner.
Incomplete installation performed by yourself may result in a water leakage, electric shock, and fire.

Ask your dealer for improvement, repair, and maintenance.
Incomplete improvement, repair, and maintenance may result in a water leakage, electric shock, and fire.

In order to avoid electric shock, fire or injury, or if you detect any abnormality such as smell of fire, turn off the power supply and call your dealer for instructions.

Never let the indoor unit or the remote controller get wet.
It may cause an electric shock or a fire.

Never press the button of the remote controller with a hard, pointed object.
The remote controller may be damaged.

Never replace a fuse with that of wrong rated current or other wires when a fuse blows out.

Use of wire or copper wire may cause the unit to break down or cause a fire.

It is not good for your health to expose your body to the air flow for a long time.

Do not insert fingers, rods or other objects into the air inlet or outlet.
When the fan is rotating at high speed, it will cause injury.

Never use a flammable spray such as hair spray, lacquer or paint near the unit.
It may cause a fire.

Never touch the air outlet or the horizontal blades while the swing flap is in operation.
Fingers may become caught or the unit may break down.

Never put any objects into the air inlet or outlet.
Objects touching the fan at high speed can be dangerous.

Never inspect or service the unit by yourself.
Ask a qualified service person to perform this work.

Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.
Contact you local government for information regarding the connection systems available.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundeater and get into the food chain, damaging your health and well-being.

To prevent refrigerant leak, contact your dealer.
When the system is installed and runs in a small room, it is required to keep the concentration of the refrigerant, if by any chance coming out, below the limit. Otherwise, oxygen in the room may be affected, resulting in a serious accident.

The refrigerant in the air conditioner is safe and normally does not leak.
If the refrigerant leaks in the room, contact with a fire of a burner, a heater or a cooker may result in a harmful gas.

Turn off any combustible heating devices, ventilate the room, and contact the dealer where you purchased the unit.
Do not use the air conditioner until a service person confirms that the portion where the refrigerant leaks is repaired.

CAUTION

Do not use the air conditioner for other purposes.
In order to avoid any quality deterioration, do not use the unit for cooling precision instruments, food, plants, animals or works of art.

Before cleaning, be sure to stop the operation, turn the breaker off or pull out the supply cord.
Otherwise, an electric shock and injury may result.

In order to avoid electric shock or fire, make sure that an earth leak detector is installed.

Be sure the air conditioner is grounded.
In order to avoid electric shock, make sure that the unit is grounded and that the earth wire is not connected to gas or water pipe, lightning conductor or telephone earth wire.

In order to avoid injury, do not remove the fan guard of the outdoor unit.

Do not operate the air conditioner with a wet hand.
An electric shock may happen.

Do not touch the heat exchanger fins.
These fins are sharp and could result in cutting injuries.

Do not place items which might be damaged by moisture under the indoor unit.
Condensation may form if the humidity is above 80%, the drain outlet is blocked or the filter is polluted.

After a long use, check the unit stand and fitting for damage.
If damaged, the unit may fall and result in injury.

To avoid oxygen deficiency, ventilate the room sufficiently if equipment with burner is used together with the air conditioner.

Arrange the drain hose to ensure smooth drainage.
Incomplete drainage may cause wetting of the building, furniture etc.

Never touch the internal parts of the controller.
Do not remove the front panel. Some parts inside are dangerous to touch, and a machine trouble may happen.

Never expose little children, plants or animals directly to the air flow.
Adverse influence to little children, animals and plants may result.

Do not allow a child to mount on the outdoor unit or avoid placing any object on it.
Falling or tumbling may result in injury.

Do not operate the air conditioner when using a room fumigation - type insecticide.
Failure to observe could cause the chemicals to become deposited in the unit, which could endanger the health of those who are hypersensitive to chemicals.

Do not place appliances which produce open fire in places exposed to the air flow from the unit or under the indoor unit.
It may cause incomplete combustion or deformation of the unit due to the heat.

Do not install the air conditioner at any place where flammable gas may leak out.
If the gas leaks out and stays around the air conditioner, a fire may break out.

The appliance is not intended for use by young children or infirm persons without supervision.

DISPOSAL：Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

12 ELECTRIC SAFETY REQUIREMENT

Wire distribution must be performed by duly qualified electricians.

All wire distribution must comply with electric safety specifications.

Ensure that the air coditioner is grounded properly. Namely, the main switch of the air conditioner must have reliable ground wires.

Provide the air conditioner with a separate power supply compliant with the nominal parameter values.

■ Electric performance requirements:

Table.12-1

	Model	Power supply	The main switch specification	Fuse specification
Outdoor unit	UADTDC096EN300E1/O	208-230 V 3N~ 60 Hz	70 A	50 A
Indoor unit	UADMAC090DN300E1/I	220 V 3~ 60 Hz	20 A	8 A
Outdoor unit	UADTDC120EN300E1/O	208-230 V 3N~ 60 Hz	100 A	70 A
Indoor unit	UADMAC120DN300E1/I	220 V 3~ 60 Hz	20 A	8 A

NOTE

- Do not cut off the ground wire of the main power switch in any circumstance.
- Do not use damaged power wires. Change the damaged power wires once they are detected.
- Connect the power supply of the air conditioner for preheating it for at least 12 hours before using the air conditioner. Besides that, please be keep in mind that do not cut off the power supply immediately, for the unit completely shut down needs to spend a day-night.(In order to prevent the compressor drive-up by forced, then heating the crankcase.)
- Do not block the air inlet and outlet, if that so the performance would reduce and the unit couldn't be start for which protect device is on service.

13 FUNCTIONS & FEATURES

- Nested in the ceiling, space-saving and noble.
- High capacity of cooling/heating, efficient, and energy-saving.
- Innovative air supply, which provides homogeneous conditioning of the room temperature.
- Remote control or wired control function.
- Low noise design.
- The air outlet is laid out in the way you desire.
- Use refrigerant to transmit cool/heat directly, which provides a high transmitting efficiency.
- It is suitable be used for office, hospital, commerical place and home, the air conditioner will creat the comfortable and elegance enviroment for you.

14 NAMES AND FUNCTIONS OF AIR CONDITIONER COMPONENTS

MVB-90HWN1-V
MVB-120HWN1-V

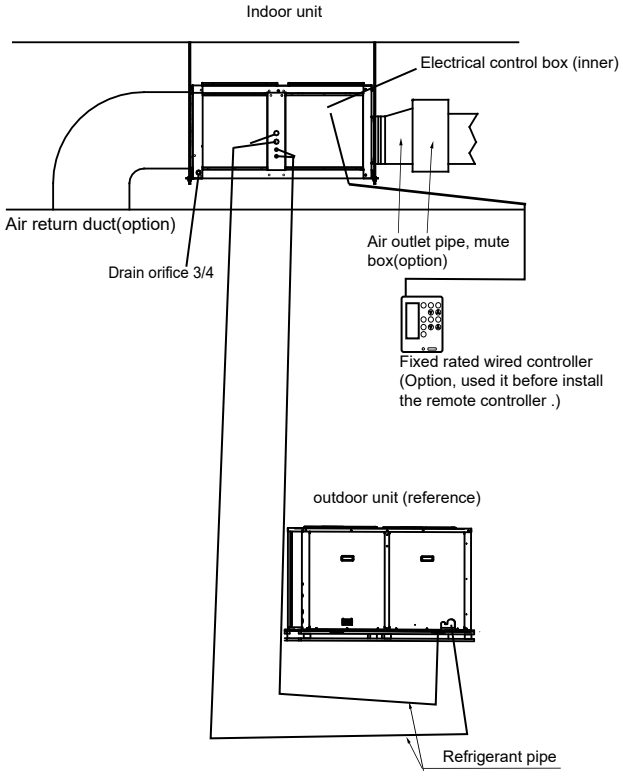


Fig.14-1

15 OPERATION PRECAUTIONS

Read this operation manual carefully before operating the unit. Grasp the key points in the manual, and seek help from the con distributor for any question.
This air conditioner is designed to provide a comfortable room environment, and is applicable to the purposes described in the manual only.

■ **Inspection before operation**

- Check whether the ground wire is broken or disconnected.
- Check whether the air filter is installed properly.
- If the air conditioner has been out of service for a long period, be sure to clean the filter before resuming the service of the air conditioner. Cleanse it biweekly during continuous service of the air conditioner. For details, see the chapter headed “Maintenance and Upkeep”.
- Check that the air inlet and outlet of the indoor/outdoor unit are not blocked.

■ **Safety precautions**

- Do not let the indoor unit or remote controller moistened. Otherwise, electric short-circuit or fire may occur.
- Do not use or store flammable gases or liquids near the air conditioner, e.g., hair styling jelly, paint and gasoline. Otherwise, fire may occur.
- Do not touch the deflector plate while the air deflector works. Otherwise, the fingers may be clipped or the driving parts of the indoor unit deflector may be damaged.
- When the fuse blows out, do not substitute any fuse of an improper nominal current value or other wires. Substituting conductor or copper wire for fuse may cause damage to the air conditioner or cause fire.
- Do not insert any objects like sticks into the air inlet or outlet. It is very dangerous when the blade touches any foreign objects during high-speed running of the fan.
- Do not remove the fan cover of the outdoor unit. The fan without any external cover is very dangerous during high-speed running.
- Do not use the main power switch to start up or shut down the air conditioner, but use the ON/OFF button on the remote controller.
- Do not let children toy with the air conditioner.
- Do not repair the air conditioner by yourself. Delegate professional maintainers to do the repair.
- Cut off the main power switch before cleansing the filter and the unit body. This unit is grounded and provides dual protection against accidental electric shock. No electric shock will occur when you normally replace or cleanse the filter or use a dry cloth to clean the unit body. However, to be on the safe side, cut off the power supply before performing maintenance or up-keep work.
- The electric circuit must be installed RCCB and manual switch.

Table 15-1

Cooling operation	Outdoor temperature:17 °C to 46 °C
	Intdoor temperature:≥ 17 °C
Heating operation	Outdoor temperature:-7 °C to 24 °C
	Intdoor temperature:≤ 30 °C
Dewetting operation	Outdoor temperature:17 °C to 46 °C
	Intdoor temperature:17 °C to 32 °C

NOTE

■ The indoor relative humidity should be lower than 80%. If the air conditioner works in an environment with a relative humidity higher than mentioned above, the surface of the air conditioner may condensate.In this case, it is recommended to set the air speed of the indoor unit to high.

■ If the air conditioner works in other than the above circumstances, functions may fail.

16 BEAT OPERATION

- Pay attention to the following issues to ensure that the system is in normal operation. For detailed operation procedure, see the corresponding instructions.
- Adjust the air flow direction properly, and do not aim the air flow at the persons in the room directly.
- Adjust the room temperature properly to get a comfortable environment. Avoid being too hot or too cold.
- In the cooling operation, use curtains or window shades to prevent direct sunlight.
- Close all windows and doors. If the doors and windows are open, the air in the room will flow out and the effect of cooling/heating will be compromised.
- Set the predetermined operation time through the remote controller.
- Do not put any objects near the air inlet or outlet which obstruct air flow. Otherwise, it will reduce efficiency of the air conditioner or even lead to system interruption.

NOTE

- Before leaving the unit idle for a long period, cut off the main power switch, and remove the batteries in the remote controller. When the main power switch is turned on, a certain extent of electric power is consumed even if the air conditioner does not run. Turning off the main power switch can save energy. Before restart the unit, please connect the power supply advance 12 hours before restart the unit, for ensure the power the unit could proform in normally.
- Cleanse the air filter every another two weeks. The effect of cooling or heating will be compromised if the air filter is blocked.
- Please consign professional personnel to check, clean and maintain the duct, drain system regularly.

17 MAINTENANCE & UPKEEP

17.1 Importants

- Only the professionals can perform repair.
- Before performing operation for the electric connectors or cleansing the filter, turn off the main power switch.
- Do not use water or air with a temperature higher than 50°C to cleanse the filter or panel.
- Check and maintain the ventilating slot once every half years, wash and maintain with corresponding disinfection shall process once
- every two years are recommended. The filter can expel dust and other particles in the air. If it is blocked, the effect of the air conditioner will be degraded.Therefore, clean it every another two weeks if you use the air conditioner for a long period.
- If the indoor unit is installed in a place with heavy dust, clean the filter more often.
- If the stain is heavy and difficult to clean, replace the filter (the substitute filter is an optional assembly in the sale).
- Do not replace the power cable without permission. If the power cable is damaged, specialized power cable must be used as substitute. No not repair the air conditioner without permission. The foregoing operations must be performed by the local distributor or aftersales service office of manfacturer.

17.2 Maintenance & Upkeep Of Outdoor Unit

- The edge of some sheet metal assemblies and the fin of the condenser are very sharp. Incorrect operation may cause harm. Be cautious when cleaning them up.
- Check the air inlet and outlet of the outdoor unit periodically to see whether they are blocked by stain or lampblack.
- Contact the distributor or the aftersales service center of manfacturer.

17.3 Operation Required Before Leaving The Air Conditioner Idle For A Long Period:

- Let the air conditioner run in the air supply mode for about half a day, and let its interior be fully dry.
- Switch off the power by the button in remote controller, and then cut off the power supply.
- When the main power switch is turned on, a certain extent of electric power is consumed even if the air conditioner does not run. Turning off the main power switch can save energy.
- Remove the batteries out of the remote controller.
- After the air conditioner has been in service for several seasons, foreign substance accumulates inside the unit to an extent dependent on the working conditions. Therefore, shut down the air conditioner through the ON/OFF button of the remote controller, and then cut off the power supply.

17.4 Startup After A Long Period Out Of Service

- Check the following issues:
  - Check whether the air inlet or outlet of the indoor unit and outdoor unit is blocked. Remove foreign substance if any.
  - Check whether the ground wire is connected properly.
  - Check whether the condensate water is discharged normally.(Cooling operation season)
  - Check whether the insulation work of refrigerant circuit and ventilating duct is on sound status.
  - Check whether the installing seat is corroded or rusted.
- Startup
  - Connect the indoor unit 12 hours after connect the outdoor unit to power supply.
  - Switch on the power control of remote controller or wired controller, and than startup the air conditioning.

17.5 Maintenance & Upkeep Of indoor Unit

1) Maintenance of fan :

One week after the unit is running, the elastic belt should be re-adjusted, and should be inspected once every three months in accordance with the requirements of inspection.

2) Maintenance of belt and pulley :

When the unit is running, check tension of the belt in a regular time. Do the inspection job according to requirements of inspection

■ Tension adjustment of the belt: If the belt tension is proper, it will help to avoid fan vibration, reduce noise and belt abrasion. Customers should check belt tension every week and do adjustment according to the following procedures if necessary:

a. Loosen the 4 fixed bolts of motor. Tighten or loosen the bolts to move the motor.

b. Act in the middle of the belt perpendicularly with a finger. Adjust belt tension until there's deflection distance, please refer to Fig 3-2 If possible, it is better to use a tension frequency test device, in order to get a more precise tension.

c. Tighten the fixed bolt of motor again.

■ Pulley revise: Fan pulley and motor pulley should on the same plane, or it will consume much more energy and curtail service life of belt. Every time after belt adjustment, you should check if positions of the 2 pulleys are correct, refer to figure 3-3, you can put a ruler on the same side of 2 pulleys to check if positions of 2 pulleys are correct. Check if point 1, point 2, point 3 and point 4 are in the same plane. If not, you can loosen fixed screws of fan pulleys and along the fan axle to slide fan pulleys. Loosen motor to adjust the angle on the fan slide way. Adjust to straightness≤ 2mm.

3) When the unit is not running and heating system is not run-time in the winter, the water must be drained out the coil (system) or add the appropriate concentration antifreeze, otherwise the coil will be frost crack.

4) Filter should be cleaned by using water or detergents depending on the degree of dirt, cleaning frequency according to the using environment, it is recommended a regular once a month.

5) For the units with humidifier, ECSE etc. special functions, pay attention to read the components operation instructions along with the unit, and do periodic check as the instructions.

6) A comprehensive maintenance should be taken every two years. Chemical methods can be used to remove the scale in the coil, and water or detergent can be used to clean the dirt on the surface of the coil. Pay attention to check the water pipeline and wind duct for sealing and insulation in order to reduce energy loss.

NOTE

1. Straightness requirements and tension requirements should be satisfied at the same time after adjusting belt and pulleys.
2. When the service time has reached to 24 hours for the newly used belt, you must check belt tension and adjust it properly. Improper adjustment or no adjustment may result in belt lifespan reduction. Even more it will cause belt fracture.
3. Belt is consumable. It is normal when after 6-months usage, the belt is abraded and lose efficacy. You need to change a new belt at this time. If multi-belts rotate, you should change the group of belts simultaneously.

18 PHENOMENA NOT ATTRIBUTABLE TO FAULTS OF AIR CONDITIONER

The following phenomena do not indicate exception of air conditioner

■ The system does not run.

- After pressing the ON/OFF button, the system does not run immediately.
- If the RUN indicator is on, it indicates the air conditioner runs in the normal status.
- It does not run immediately because the safety device in the system is active to prevent overload.
- Three minutes later, the air conditioner compressor will run automatically.
- If the RUN indicator and the Defrost/Preheat indicator are on, it indicates you have selected the heating mode. At the beginning after startup, since the compressor does not run, the temperature of the indoor unit is too low. See the chapter headed “Cooling/Heating/Supply Air Operation Procedure".

■ The indoor unit gives out white aerosol

- This phenomenon may occur when the indoor relative humidity is too high and the unit runs in the cooling mode (in a place where there is much oil mist or dust).
- If the internal stain of the indoor unit is heavy, the temperature in the room will be distributed unevenly. In this case, the interior of the indoor unit must be cleaned.
- Contact the local distributor or the aftersales service center of manfacturer to inquire about the methods of cleaning the indoor unit. This job must be performed by professional maintainers.
- This phenomenon may also occur when the air conditioner shifts from defrosting operation to heating operation.
- That is because the moist generated by defrosting is expelled as steam.

■ Noise of air conditioner

- When the air conditioner runs in the cooling, dewetting or heating mode automatically, grave continuous sizzles may occur.
- That is the sound of flow of refrigerant between the indoor unit and the outdoor unit.
- The sizzles may be heard shortly after the unit stops running or when the unit runs in the defrost mode. That is the sound raised because the refrigerant stops flowing or changes the volume of flow.
- Squeak may occur when the air conditioner starts or stops running. That is the sound raised because the plastic assemblies inflate or deflate when the temperature changes.

■ Dust is blown out of the indoor unit.
When the air conditioner resumes service after a long period out of service, the dust in the indoor unit will be blown out.

■ The indoor gives out smell
The indoor unit absorbs the smell of the room, furniture or smoking, and gives it out when running.

■ Shift from cooling mode to air supply mode.

- In order to prevent frosting of the indoor heat exchanger, the air conditioner shifts to the air supply mode automatically, and resumes to cooling mode in a short time.
- When the room temperature decreases to the set temperature, the air conditioner will shut down the compressor automatically, and shifts to the air supply status. After the room temperature rises, the compressor will restart. The action of the compressor in the heating mode is the contrary.

19 FAULTS OF AIR CONDITIONER AND CAUSE

■ If any of the following exceptions occurs, stop operation of the air conditioner immediately. Turn off the power switch, and contact the local aftersales service center of manfacturer:

- The RUN indicator blinks quickly (2 blinks per second).
- After turning off the power switch and then turning it on again, that indicator still blinks quickly.
- The receiving function of the remote controller fails, or the start/shutdown operation is abnormal.
- The fuse blows out frequently, or the circuit breaker protection occurs frequently.
- Foreign substance or moist enters the air conditioner.
- The indoor unit leaks water.
- Other exceptions occur.

■ If the air conditioner fails but does not meet the foregoing phenomena obviously, check the system in the following procedure:

Table 19-1

Symptom	Possible causes	Way of handling
The system does not run	• Power supply fails • The power switch is not connected • The fuse blows out or the circuit breaker snaps of • The remote controller or the wired controller fails	Operate it after power supply resumes Connect the power supply properly. Replace the fuse or check whether electric leakage occurs. Check the remote controller or wired controller.
The air conditioner sends air out but cannot provide cool air at all	• The set temperature is improper • 3-minute protection of the compressor	The set temperature is lower than the room temperature during the cooling. Or the set temperature is higher than the room temperature during the heating.
The unit keep starting up and shutting down frequently	• The refrigerant is excessive or deficient. • Air or noncondensable gas exists in the refrigerant loop. • The compressor fails. • The voltage is too high or too low. • The refrigerant loop is obstructed	Detect leak, and fill the refrigerant of a correct quantity Make a vacuum again and fill the refrigerant. Repair or replace the compressor. Install a voltage regulator. Locate the causes and replace thepart.
The cooling effect is poor	• The condenser of the outdoor unit or indoor unit is too dirty • The filter is blocked • The intake orifice or exhaust orifice of the outdoor/indoor unit is blocked • The door or window is open • Directly exposed to sunlight • Too many heat sources • Too high outdoor environment temperature • The refrigerant is leaked or the replenishment is deficient	Cleanse the condenser Cleanse the filter Remove foreign matters to keep well ventilated. Close all windows and doors. Use curtains or jalousie to obstructsunlight. Reduce heat sources The cooling effect of the air conditioner is deteriorated (but normal) Detect leak, and fill the refrigerant of a correct quantity
The heating effect is poor	• The outdoor environment temperature is lower than -7 °C • The door or window is not closed tightly • The refrigerant is leaked or the replenishment is deficient	Use a heating device. Close doors and windows properly Detect leak, and fill the refrigerantof a correct quantity.

20 FAULTS OF REMOTE CONTROLLER AND CAUSE

Before requesting for maintenance or repair, inspect the following:

Table 20-1

The shift function cannot be set		
Symptom	Check item	cause
The wind speed cannot be shifted	Check whether the mode marked on the screen is AUTO	When you select the AUTO mode, the indoor unit will select “AUTO” for the air speed automatically
	Check whether the mode marked on the screen is DEWET	When you select the DEWET mode, the indoor unit will select “AUTO” for the air speed automatically.The aie speed is selectable only in the“cooling”,“heating” and “supply air” mode

Table 20-2

The transmitting symbol“▲”does not blink		
Symptom	Check item	cause
When you press ON/OFF button, the remote controller signal cannot be transmitted	Check whether the batteries of remote controller are low	When the batteries are exhausted, the signals cannot be transmitted

Table 20-3

The temperature indicator dose not light up		
Symptom	Check item	cause
The temperature indicator does not light up	Check whether the mode narked on the screen is Supply Air	In the Supply Air mode, the temperature cannot be set

Table 20-4

The display disappears		
Symptom	Check item	cause
After a while, the ON/OFF display disappears	Check whether the time set on the timer has expired	The air conditioner stops running because the set time has expired
After a while, the TIMING ON display disappears	Check whether the time set on the timer has expired	When it comes to the set time of starting operation of the air conditioner,the air conditionerwill start running automatically, and the corresponding display will disappear.

Table 20-5

No sound of receiving signal		
Symptom	Check item	cause
When pressing the ON/OFF button, the air conditioner does not raise the receiving tone	When the ON/OFF button is pressed, check whether the signal transmitting part of the remote controller is aligned with the receiving part of the indoor unit. Check whether the power switch of the air conditioner is connected properly	Align the signal transmiting part of the remote controller with the receiving part of the indoor unit. Then press the ON/OFF button repeatedly.The air conditioner cannot receive the signals of the remote controller because it is shut down.

21 REPAIR

In case your air conditioner fails to operate normally, shut down the unit and cut off the power supply promptly. Then contact the manfacturer distributor. Report the model, operation environment and fault information of the air conditioner in detail, request for sending technicians to repair, but do not fix it by yourself at your discretion.

22 MODEL, SPECIFICATION & PARAMETERS

In case any parameters in the following table are changed, no other notice will be given. The parameters specified on the nameplate shall prevail.

NOTE

- The cooling capacity of the air conditioner is measured in a standard environment where the indoor dry/wet bulb temperature is 27 °C/19 °C and the outdoor dry/wet bulb temperature is 35 °C/24 °C; the heating capacity is measured in a standard environment where the indoor dry/wet bulb temperature is 20 °C/15 °C and the outdoor dry/wet bulb temperature is 7 °C/6 °C; and the actual cooling/heating capacity changes with the rise/fall of the indoor/outdoor environment temperature and relative humidity.
- The noise of the unit is measured in the semi noise suppression lab according to the national standards, and the accuracy extent is ±4 dB(A).
- During the actual service, the noise will be changed according by ducts, and the practical noise value is about 45 dB(A) or lower.(after be installed the mute device.)
- External static pressure range of the air conditioner under experiment is 0 Pa.

Model		UADMAC090DN300E1/I	UADMAC120DN300E1/I
Standard cooling capacity (Btu/h)		88 700	119 400
Standard heating capacity (Btu/h)		——	——
Standard power (kW)	Cooling	9. 0	12. 1
	Heating	——	——
Standard current (A)	Cooling	26. 1	34. 4
	Heating	——	——
Rated input power（kW）		1. 6	1. 8
Rated input current（A）		6. 6	7. 8
Circulating air flow (CFM)		3 000	3 000
Noise dB(A)	Indoor unit	56	60
	Outdoor unit	67	70
Dimension (mm) (wide×high×deep)	Indoor unit	1 450 x 1 140 x 720	
	Outdoor unit	1 255 x 700 x 908	
Weight(kg)	Indoor unit	190	190
	Outdoor unit	187	199
Power supply (V/Hz)	Indoor unit	220 V 3~ 60 Hz	
	Outdoor unit	208-230 V 3N~ 60 Hz	
Applicable area(m^2)		120~160 × 2 = 240~320	
Control method		Remote control or wired control or centralized control	
Hot fuse specification		T5A250VAC;15A250VAC	

Note: 1. Cooling capacity test condition: indoor dry bulb /wet bulb temp: 27 °C/19 °C; outdoor dry bulb/wet bulb temp:35 °C/24 °C. Heating capacity test condition : indoor dry bulb/wet bulb temp:20 °C/15 °C; outdoor dry bulb/wet bulb temp: 7 °C/6 °C. The actual cooling and heating capacity is proportional to the value of ambient temp and relative humidity.
2. Noise level is tested in half-anechoic room.
3. In actual situation, the outlet noise level will change according to different duct. The actual noise level is about 45 dB(A) or smaller.

PÓLIZA DE GARANTÍA HVAC SYSTEMS

Atención: Leer cuidadosamente el manual de mantenimiento e instalación y ponerlos en práctica, le brindará lo necesario para un funcionamiento adecuado de su equipo. Para validar la garantía favor de acudir directamente con el distribuidor autorizado que le vendió este equipo.

Se validará la garantía bajo las siguientes condiciones:

Cláusulas

1. Requisitos. Para validar su garantía, se deberá presentar la póliza debidamente sellada por distribuidor autorizado que vendió este producto o en su caso, copia respectiva de la factura o recibo que acredite la compra-venta de su unidad.
2. Producto. Esta póliza de garantía es exclusivamente para el producto adquirido y cuyo número de serie está identificado tanto en unidades exterior (condensadora) e interior (evaporadora), así como en los empaques de los mismos. Se recomienda conservar estas etiquetas para futuras aclaraciones.
3. Vigencia y alcance. La vigencia de esta póliza de garantía es de 3 meses en partes electrónicas (tarjetas, display y control remoto), 12 meses en el resto de partes (motores, aspas, serpentines, compresor, etc), a partir de la adquisición del producto; se extiende única y exclusivamente a fallas o defectos de fabricación.
4. La instalación, reparación y manipulación de esta unidad deberá ser realizada por personal calificado y autorizado por nuestras marcas.

La garantía de este producto no será válida en las siguientes situaciones:

a) Cuando el producto haya sido instalado de manera diferente a la que se expresa en este manual.
b) Cuando el producto haya sufrido daños por problemas climatológicos, ambientales o desastres naturales.
c) Cuando presente daños en su estructura debido al mal manejo de la unidad.
d) Cuando el producto sea destinado para fines distintos a los indicados en el manual.
e) Cuando el producto no sea instalado y/o utilizado de acuerdo a las especificaciones que se indican en el manual de usuario.
f) Cuando el producto sea instalado, alterado o reparado por personal no autorizado por la marca.
g) Cuando el producto no se encuentre el periodo de garantía especificado en esta póliza.
h) Por la implementación de accesorios que no correspondan a la marca.
i) Cuando el producto sea instalado para fines comerciales y no domésticos.
j) Cuando la unidad sea desinstalada.

Refacciones

1. Las refacciones y componentes empleados para la reparación de su unidad no tendrán costo extra únicamente cuando estén sujetos a esta póliza de garantía, de igual forma se cubrirán los gastos de transportación y mano de obra que se deriven del fallo que se presente.
2. El consumidor puede obtener partes, componentes, consumibles y accesorios con el distribuidor autorizado que vendió en la zona.

Atención y servicio. Esta garantía podrá ser atendida únicamente por el distribuidor que vendió el producto. Cuando el producto se haya adquirido en cadenas comerciales, la garantía se hará válida en los centros de servicio autorizados, mismos publicados en www.unitedappliances.com. Para más información llame al Tel. 800-788-4040 o comuníquese vía correo electrónico: soporte.tecnico@unitedappliances.com, Por estos medios se le brindará la información que se requiera.

ALLOSTE S.A DE C.V se deslinda de responsabilidad alguna al momento en que se presente un fallo en el equipo por instalaciones defectuosas o erróneas realizadas por personal no autorizado.

HVAC SYSTEMS

CENTROS DE ATENCIÓN
DIRECTA A CLIENTES:

(Distribuidor / Comercializador Autorizado)
Sello de Garantía del Distribuidor

DATOS DE DISTRIBUIDOR / COMERCIALIZADOR AUTORIZADO:

Razón Social: _____

Dirección: _____

DATOS DEL ARTÍCULO:

Marca: _____

Modelo: _____

FIRMA DEL TÉCNICO INSTALADOR:

Nombre: _____

E-Mail: _____

Teléfono: _____

HVAC SYSTEMS	
ACONDICIONADOR DE AIRE	
TIPO DIVIDIDO SUBTIPO ON-OFF	
UNIDAD EVAPORADORA U.M.A.	MARCA: UA HVAC SYSTEMS
MODELO EVAPORADORA **UADMAC090DN300E1/I**	
3 FASES	220V ~ 60Hz
CAPACIDAD DE ENFRIAMIENTO:	88 700 BTU/h
POTENCIA DE ENTRADA NOMINAL:	1 600 W
REFRIGERANTE:	R410A
LÍMITES DE PRESIÓN DE OPERACIÓN (ALTA/BAJA):	4,4 / 2,6 MPa
HECHO EN CHINA	

IMPORTADO POR: ALLOSTE, S.A. DE C.V.
Boulevard Insurgentes No. 18302-3, Colonia El Lago.
Tijuana, B.C., México, C.P. 22210.
R.F.C.: ALO201127UZ4
Tel: +52 (664) 830-1323

MUY IMPORTANTE: DEBE SER OPERADO POR UN ADULTO NO DEBE SER OPERADO POR UN MENOR Ó GENTE CON CAPACIDADES DIFERENTES. ESTE APARATO NO ES UN JUGUETE VER INSTRUCTIVO ANEXO

www.uahvacsystems.com

HVAC SYSTEMS	
ACONDICIONADOR DE AIRE	
TIPO DIVIDIDO SUBTIPO ON-OFF	
UNIDAD EVAPORADORA U.M.A.	MARCA: UA HVAC SYSTEMS
MODELO EVAPORADORA **UADMAC120DN300E1/I**	
3 FASES	220V ~ 60Hz
CAPACIDAD DE ENFRIAMIENTO:	119 400 BTU/h
POTENCIA DE ENTRADA NOMINAL:	1 800 kW
REFRIGERANTE:	R410A
LÍMITES DE PRESIÓN DE OPERACIÓN (ALTA/BAJA):	4,4 / 2,6 MPa
HECHO EN CHINA	

IMPORTADO POR: ALLOSTE, S.A. DE C.V.
Boulevard Insurgentes No. 18302-3, Colonia El Lago.
Tijuana, B.C., México, C.P. 22210.
R.F.C.: ALO201127UZ4
Tel: +52 (664) 830-1323

MUY IMPORTANTE: DEBE SER OPERADO POR UN ADULTO NO DEBE SER OPERADO POR UN MENOR Ó GENTE CON CAPACIDADES DIFERENTES. ESTE APARATO NO ES UN JUGUETE VER INSTRUCTIVO ANEXO

www.uahvacsystems.com

HVAC SYSTEMS	
ACONDICIONADOR DE AIRE	
TIPO DIVIDIDO SUBTIPO ON-OFF	
UNIDAD CONDENSADORA	MARCA: UA HVAC SYSTEMS
MODELO CONDENSADORA **UADTDC096EN300E1/O**	
3 FASES	208/230V ~ 60Hz
CAPACIDAD DE ENFRIAMIENTO:	96 000 BTU/h
POTENCIA DE ENTRADA NOMINAL:	16 700 W
CORRIENTE NOMINAL:	44,4 A
REFRIGERANTE:	R410A
CARGA DE REFRIGERANTE:	6,5 kg
LÍMITES DE PRESIÓN DE OPERACIÓN (ALTA / BAJA):	4,4 / 2,6 MPa
GRADO DE PROTECCIÓN:	IP24
HECHO EN CHINA	

IMPORTADO POR: ALLOSTE, S.A. DE C.V.
Boulevard Insurgentes No. 18302-3, Colonia El Lago.
Tijuana, B.C., México, C.P. 22210.
R.F.C.: ALO201127UZ4
Tel: +52 (664) 830-1323

MUY IMPORTANTE: DEBE SER OPERADO POR UN ADULTO NO DEBE SER OPERADO POR UN MENOR Ó GENTE CON CAPACIDADES DIFERENTES. ESTE APARATO NO ES UN JUGUETE VER INSTRUCTIVO ANEXO

www.uahvacsystems.com

HVAC SYSTEMS	
ACONDICIONADOR DE AIRE	
TIPO DIVIDIDO SUBTIPO ON-OFF	
UNIDAD CONDENSADORA	MARCA: UA HVAC SYSTEMS
MODELO CONDENSADORA **UADTDC120EN300E1/O**	
3 FASES	208/230V ~ 60Hz
CAPACIDAD DE ENFRIAMIENTO:	120 000 BTU/h
POTENCIA DE ENTRADA NOMINAL:	18 200 W
CORRIENTE NOMINAL:	53,1 A
REFRIGERANTE:	R410A
CARGA DE REFRIGERANTE:	7,5 kg
LÍMITES DE PRESIÓN DE OPERACIÓN (ALTA/BAJA):	4,4 / 2,6 MPa
GRADO DE PROTECCIÓN:	IP24
HECHO EN CHINA	

IMPORTADO POR: ALLOSTE, S.A. DE C.V.
Boulevard Insurgentes No. 18302-3, Colonia El Lago.
Tijuana, B.C., México, C.P. 22210.
R.F.C.: ALO201127UZ4
Tel: +52 (664) 830-1323

MUY IMPORTANTE: DEBE SER OPERADO POR UN ADULTO NO DEBE SER OPERADO POR UN MENOR Ó GENTE CON CAPACIDADES DIFERENTES. ESTE APARATO NO ES UN JUGUETE VER INSTRUCTIVO ANEXO

www.uahvacsystems.com

HVAC SYSTEMS

IMPORTADO POR:
ALLOSTE, S.A. DE C.V.
Blvd. Insurgentes #18302-3 Col. El Lago
C.P. 22210 Tijuana. B.C. México.
R.F.C. ALO201127UZ4