

ΚΛΙΜΑΤΙΣΤΙΚΑ ΣΥΣΤΗΜΑΤΑ
AIR CONDITIONING SYSTEMS

Μοντέλα/Models

V2KI-12
V2KI-18
V2KI-24
V2KI-30
V2KI-36
V2KI-45
V2KI-50
V2KI-60

Μονάδα Δαπέδου - Οροφής Inverter U-match
Εγχειρίδιο Χρήστη

DC Inverter U-match Series Floor Ceiling Type Unit
Owner's Manual

Σας ευχαριστούμε που επιλέξατε τη μονάδα κλιματισμού της INVENTOR. Για τη σωστή χρήση της μονάδος, παρακαλούμε διαβάστε προσεκτικά το παρόν εγχειρίδιο και φυλάξτε το για αναφορά στο μέλλον.

Thank you for choosing INVENTOR air conditioning system. For correct use of this unit, please read this manual carefully and keep it for future reference.



English/Ελληνικά/ Româna


 **inventor**
Your-conditions

Contents

1 Safety Precautions	1
2 Outline of the Unit and Main Parts.....	2
3 Preparative for Installation.....	3
3.1 Standard Accessory Parts	3
3.2 Selection of the Installation Location	4
3.3 Connection Pipe Requirement	5
3.4 Electrical Requirement	6
4 Installation of the Unit.....	8
4.1 Installation of the Indoor Unit.....	8
4.2 Installation of the Outdoor Unit.....	10
4.3 Installation of the Connection Pipe.....	12
4.4 Vacuum and Gas Leakage Inspection.....	15
4.5 Installation of the Drain Pipe	17
4.6 Electrical Wiring.....	19
5 Installation of Controllers	24
6 Test Running.....	24
6.1 Trial Operation and Testing.....	24
6.2 Working Temperature Range.....	25
7. Troubleshooting and Maintenance	26
7.1 Troubleshooting	26
7.2 Routine Maintenance	26

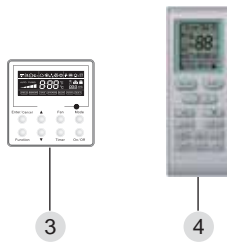
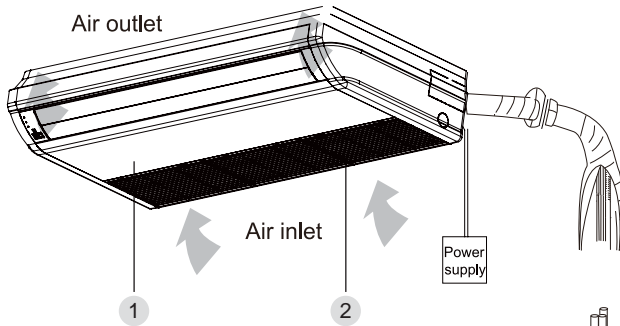
1 Safety Precautions

 WARNING!	This mark indicates procedures which, if improperly performed, might lead to the death or serious injury of the user.
 CAUTION!	This mark indicates procedures which, if improperly performed, might possibly result in personal harm to the user, or damage to property.

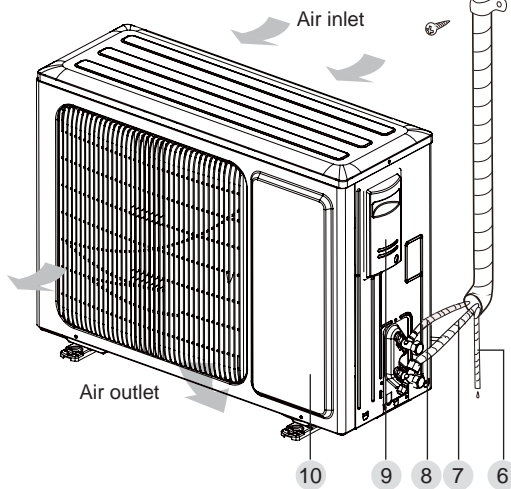
 WARNING!	
(1).	For operating the air conditioner pleasantly, install it as outlined in this installation manual.
(2).	Connect the indoor unit and outdoor unit with the room air conditioner piping and cord available from our standard parts. This installation manual describes the correct connections using the installation set available from our standard parts.
(3).	Installation work must be performed in accordance with national wiring standards by authorized personnel only.
(4).	If refrigerant leaks while work is being carried out, ventilate the area. If the refrigerant comes in contact with a flame, it produces toxic gas.
(5).	Do not power on until all installation work is complete.
(6).	During installation, make sure that the refrigerant pipe is attached firmly before you run the compressor. Do not operate the compressor under the condition of refrigerant piping not attached properly with 2-way or 3-way valve open. This may cause abnormal pressure in the refrigeration cycle that leads to breakage and even injury.
(7).	During the pump-down operation, make sure that the compressor is turned off before you remove the refrigerant piping. Do not remove the connection pipe while the compressor is in operation with 2-way or 3-way valve open. This may cause abnormal pressure in the refrigerant cycle that leads to breakage and even injury.
(8).	When installing and relocating the air conditioner, do not mix gases other than the specified refrigerant (R410A) to enter the refrigerant cycle. If air or other gas enters the refrigerant cycle, the pressure inside the cycle will rise to an abnormally high value and cause breakage, injury, etc.
(9).	This appliance 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.
(10).	Children should be supervised to ensure that they do not play with the appliance.
(11).	If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

2 Outline of the Unit and Main Parts

Indoor



Outdoor



- 1. Guide louver
- 2. Air filter
- 3. Wired controller
- 4. Wireless Controller
- 5. Binding tape
- 6. Drain Pipe
- 7. Gas Pipe
- 8. Lipuid Pipe
- 9. Big Handle
- 10. Front Board

Fig.1

Notes:

- ① . The connection pipe and duct for this unit should be prepared by the user.
- ② . This unit is standard equipped with the rectangular duct.

3 Preparative for Installation

3.1 Standard Accessory Parts

The standard accessory parts listed below are furnished and should be used as required.

Table 1










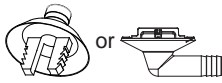
Indoor Unit Accessories				
No.	Name	Appearance	Q'ty	Usage
1	Nut with Washer		8	To fix the hook on the cabinet of the unit.
2	Wireless Controller+Battery		1+2	To control the indoor unit
3	Insulation		1	To insulate the gas pipe
4	Insulation		1	To insulate the liquid pipe
5	Installation Paperboard		2	To insulate the drain pipe
6	Fastener		4	To fasten the sponge
7	Nut		1	To connect gas pipe
8	Nut		1	To connect liquid pipe

Table 2

Outdoor Unit Accessories				
No.	Name	Appearance	Q'ty	Usage
1	Drain Plug		3	To plug the unused drain hole.
2	Drainage Connector		1	To connect with the hard PVC drain pipe

3.2 Selection of the Installation Location

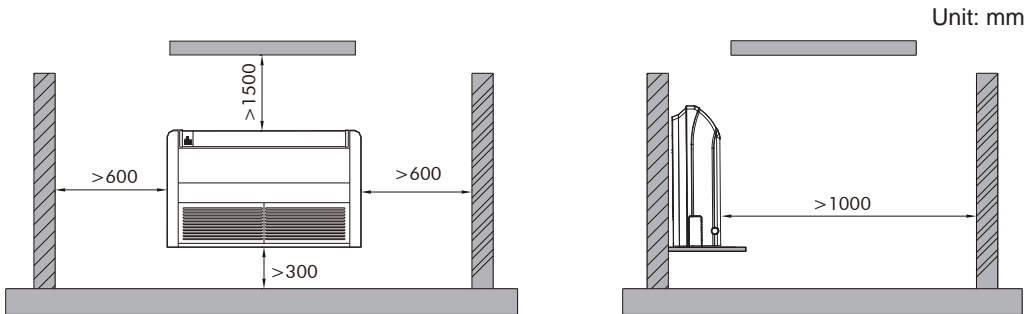
⚠ WARNING!
The unit must be installed where strong enough to withstand the weight of the unit and fixed securely, otherwise the unit would topple or fall off.
⚠ CAUTION!
① . Do not install where there is a danger of combustible gas leakage.
② . Do not install the unit near heat source, steam, or flammable gas.
③ . Children under 10 years old must be supervised not to operate the unit.

Decide the installation location with the customer as follows:

3.2.1 Indoor Unit

- (1). Install the unit at a place where is strong enough to withstand the weight of the unit.
- (2). The air inlet and outlet of the unit should never be clogged so that the airflow can reach every corner of the room.
- (3). Leave service space around the unit as required in Fig.2.

◆ Floor type



◆ Ceiling type

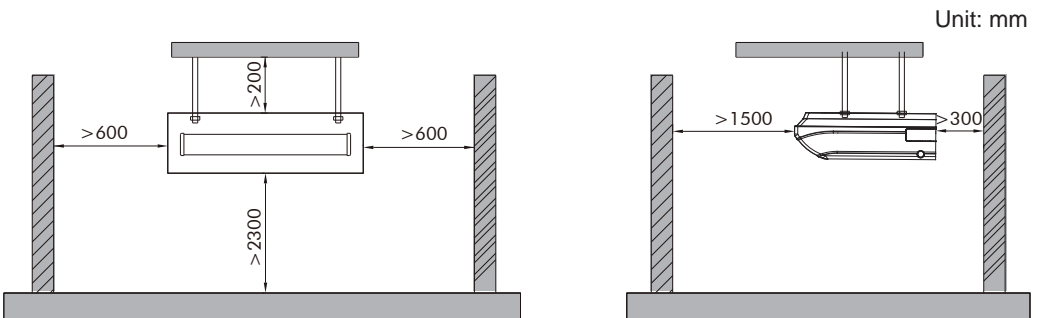


Fig. 2

- (4). Install the unit where the drain pipe can be easily installed.
- (5). The space from the unit to the ceiling should be kept as much as possible so as for more convenient service.

3.2.2 Outdoor Unit



WARNING!

- ① . Install the unit where it will not be tilted by more than 5°.
- ② . During installation, if the outdoor unit has to be exposed to strong wind, it must be fixed securely.

If possible, do not install the unit where it will be exposed to direct sunlight. (If necessary, install a blind that does not interfere with the air flow.)

- (1). Install the outdoor unit in a place where it will be free from being dirty or getting wet by rain as much as possible.
- (2). Install the outdoor unit where it is convenient to connect with the indoor unit.
- (3). Install the outdoor unit where the condensate water can be drained out freely during heating operation.
- (4). Do not place animals and plants in the path of the warm air.
- (5). Take the air conditioner weight into account and select a place where noise and vibration are small.
- (6). Install the outdoor unit where is capable of withstanding the weight of the unit and generates as less noise and vibration as possible.
- (7). Provide the space shown in Fig.3, so that the air flow is not blocked. Also for efficient operation, leave three of four directions of peripheral constructions open.

Units: mm

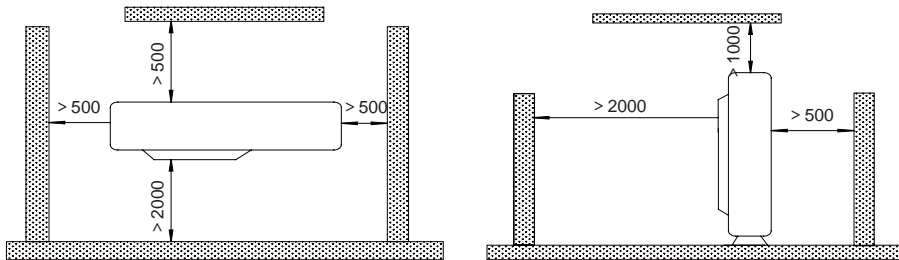


Fig.3

3.3 Connection Pipe Requirement



CAUTION!

The maximum length of the connection pipe is listed in the table below. Do not place the units between which the distance exceeds the maximum length of the connection pipe.

Table 3

Item Model	Size of Fitting Pipe(Inch)		Max. Pipe Length (m)	Max. Height Difference between Indoor Unit and Outdoor Unit (m)	Drainage pipe(Outer Diameter x wall thickness) (mm)
	Liquid	Gas			
V2KI-12 U2RS-12	1/4	3/8	20	15	φ17×1.75
V2KI-18 U2RS-18	1/4	1/2	20	15	φ17×1.75
V2KI-24 U2RS-24	3/8	5/8	30	15	φ17×1.75
V2KI-30 U2RS-30	3/8	5/8	30	15	φ17×1.75
V2KI-36 U2RS-36	3/8	5/8	30	15	φ17×1.75
V2KI-45 U2RS-45	3/8	5/8	50	30	φ17×1.75
V2KI-50 U2RS-50	3/8	5/8	50	30	φ17×1.75
V2KI-36 U2RT-36	3/8	5/8	30	15	φ17×1.75
V2KI-45 U2RT-45	3/8	5/8	50	30	φ17×1.75
V2KI-50 U2RT-50	3/8	5/8	50	30	φ17×1.75
V2KI-60 U2RT-60	3/8	3/4	50	30	φ17×1.75

- (1). The connecting pipe should be thermally insulated properly.
- (2). The pipe wall thickness shall be 0.5-1.0mm and the pipe wall shall be able to withstand the pressure of 6.0 MPa. The longer the connecting pipe, the lower the cooling and heating effect performs.
- (3). The pipe wall thickness shall be 0.5-1.0mm and the pipe wall shall be able to withstand the pressure of 6.0 MPa. The longer the connecting pipe, the lower the cooling and heating effect performs.

3.4 Electrical Requirement

Electric Wire Size and Fuse Capacity.

Table 4

Indoor Units	Power Supply	Fuse Capacity	Breaker Capacity	Min. Power Supply Cord
	V/Ph/Hz	A	A	mm ²
12K~60K	220-240V~ 50Hz	3.15	6	1.0

Table 5

Model	Power Supply	Capability of Air Switch(A)	Minimum Sectional Area of Power Cable and Earth line (mm ²)
U2RS-12	220-240V ~ 50Hz	13	1.5
U2RS-18		16	1.5
U2RS-24		20	2.5
U2RS-30		20	2.5
U2RS-36		25	2.5
U2RS-45		25	2.5
U2RS-50		40	6.0
U2RT-36	380-415V 3N ~ 50Hz	20	2.5
U2RT-45		20	2.5
U2RT-50		25	2.5
U2RT-60		25	2.5


Notes:

- ① . The fuse is located on the main board.
- ② . Install the disconnect device with a contact gap of at least 3mm in all poles nearby the units (Both indoor unit and outdoor unit).The appliance must be positioned so that the plug is accessible.
- ③ . The specifications of the breaker and power cable listed in the table above are determined based on the maximum power (maximum amps) of the unit.
- ④ . The specifications of the power cable listed in the table above are applied to the conduit-guarded multi-wire copper cable (like, YJV copper cable, consisting of PE insulated wires and a PVC cable jacket) used at 40°C and resistible to 90°C(see IEC 60364-5-52). If the working condition changes, they should be modified according to the related national standard.
- ⑤ . The specifications of the breaker listed in the table above are applied to the breaker with the working temperature at 40°C. If the working condition changes, they should be modified according to the related national standard.
- ⑥ . Take 2 pieces of power cord of 0.75mm² as the communication lines between indoor and outdoor unit, with their longest lengths of 50m. Please select the appropriate line length as per the actual installation conditions. The communication lines can not be twisted together. For the unit (≤30K), it's recommended to use 8m long communication line.
- ⑦ . Take 2 pieces of power cord of 0.75mm² as the communication lines between the wired controller and the indoor unit, with their longest lengths of 30m. Please select the appropriate line length as per the actual installation conditions. The communication lines can not be twisted together. It's recommended to use 8m long communication line.
- ⑧ . The wire size of the communication line should be no less than 0.75mm². It's recommended to take 0.75mm² power cords as the communication line.

4 Installation of the Unit

4.1 Installation of the Indoor Unit

4.1.1 Indoor unit dimension

 WARNING !	
①	Install the indoor unit in a location which can withstand a load of at least five times the weight of the main unit and which will not amplify sound or vibration.
②	If the installation location is not strong enough, the indoor unit may fall and cause injuries.
③	If the job is done with the panel frame only, there is a risk that the unit will come loose. Please take care.

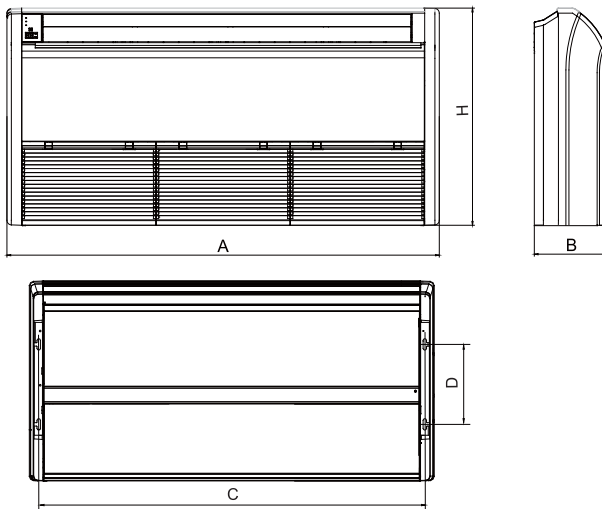


Fig.4

Table 6

Model	A	B	C	D	H
V2KI-12	1220	225	1158	280	700
V2KI-18					
V2KI-24					
V2KI-30	1420	245	1354	280	700
V2KI-36					
V2KI-45					
V2KI-50	1700	245	1634	280	700
V2KI-60					

4.1.2 Preparation for Installing the Indoor Unit

- (1). Open the air inlet grille and the screw cover, and remove the screws.
- (2). Release the claws in the 3 places indicated.
- (3). Release the center hook and remove the front panel.
- (4). Release the claws in the 2 or 3 places indicated and remove the electric component cover.

4.1.3 Indoor Unit Installation

- (1). Determine the location of the hanger through the paper template, and then remove the paper template.

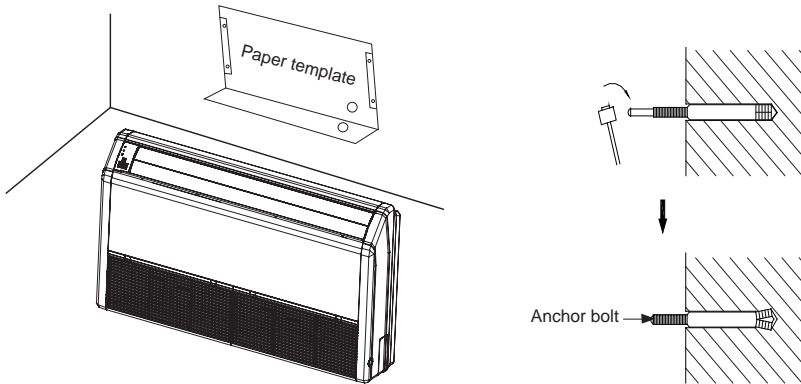


Fig.5

- (2). Insert the anchor bolts into the drilled holes, and drive the pins completely into the anchor bolts with a hammer.
- (3). Remove the right and left side panels.
- (4). Put the hanger bolt into the clasp of the indoor unit and tighten screws on the hanger to prevent the indoor unit from moving.
- (5). Reinstall and tighten the right and left side panels.

◆ Floor type

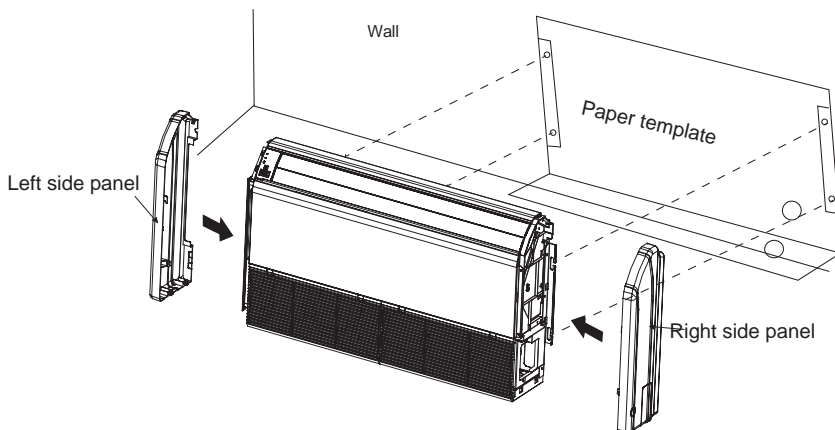


Fig.6

◆ Ceiling type

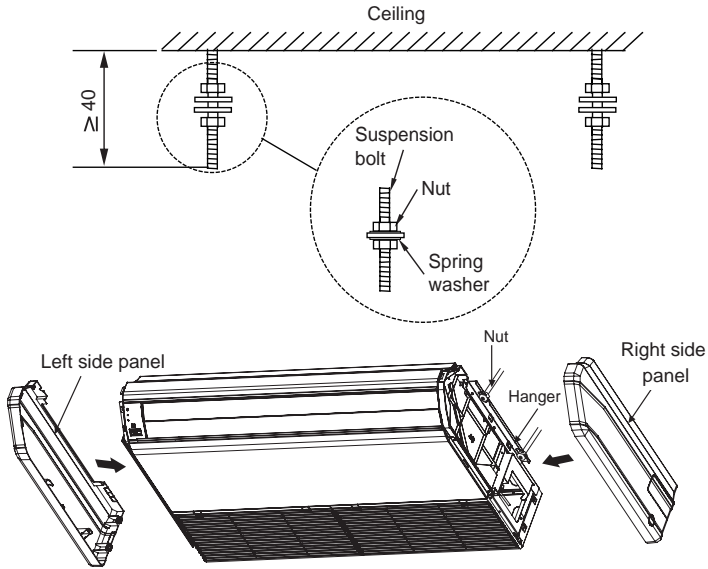


Fig.7

(6). Adjust the height of the unit to make the drain pipe slant slightly downward so that the drainage will become much smoother.

4.1.4 Leveling

The water level test must be done after installing the indoor unit to make the unit is horizontal, as shown below.

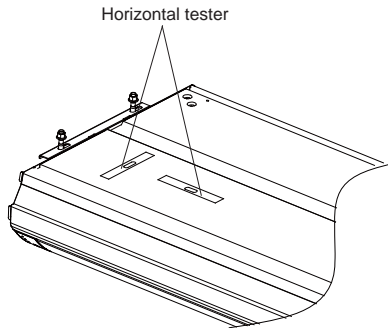


Fig.8

4.2 Installation of the Outdoor Unit



① . Install the unit where it will not be tilted by more than 5°.

② . During installation, if the outdoor unit has to be exposed to strong wind, it must be fixed securely.

4.2.1 Outdoor unit dimension

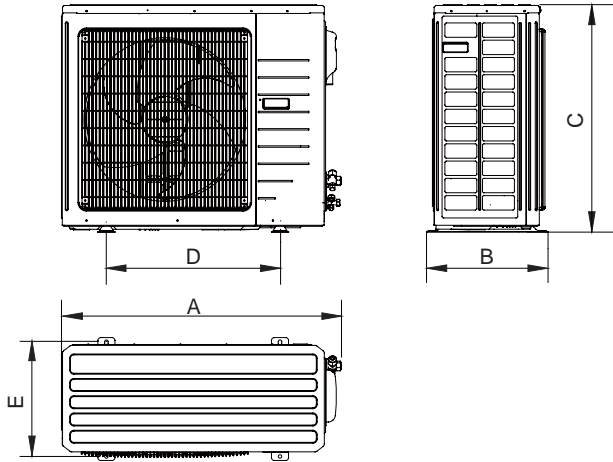


Fig.9

Table 7

Unit: mm

Item Model	A	B	C	D	E
U2RS-12	848	320	540	540	286
U2RS-18	955	396	700	560	360
U2RS-24	980	427	790	610	395
U2RS-30					
U2RS-36	1107	440	1100	631	400
U2RT-36					
U2RS-45	958	412	1349	572	376
U2RT-45					
U2RS-50					
U2RT-50					
U2RT-60	1085	427	1365	620	395

4.2.2 Condensate Drainage of the Outdoor Unit(Only for the heat pump unit) (Fig.10)

- (1). It is required to install a drain pipe for the outdoor unit to drain out the condensate water during heating operation. (only for the heat pump unit)
- (2). When installing the drain pipe, apart from the drain pipe mounting hole, all other holes should be plugged so as to avoid water leakage.(only for the heat pump unit)
- (3). Installation Method: Insert the pipe joint into the hole $\phi 25$ located at the base plate of the unit and then connect the drain pipe to the pipe joint.

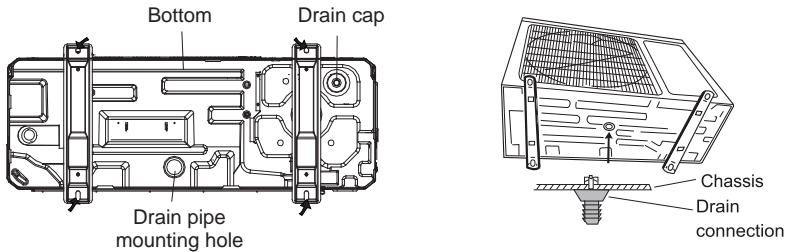


Fig.10

4.3 Installation of the Connection Pipe

4.3.1 Flare Processing

- (1). Cut the connection pipe with the pipe cutter and remove the burrs.
- (2). Hold the pipe downward to prevent cuttings from entering the pipe.
- (3). Remove the flare nuts at the stop valve of the outdoor unit and inside the accessory bag of the indoor unit, then insert them to the connection pipe, after that, flare the connection pipe with a flaring tool.
- (4). Check if the flare part is spread evenly and there are no cracks (see Fig.11).

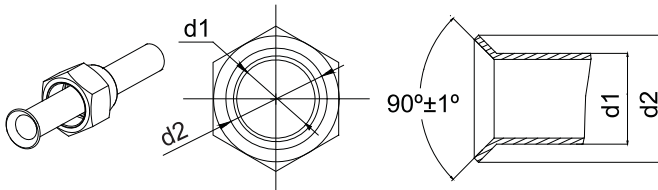


Fig.11

4.3.2 Bending Pipes

- (1). The pipes are shaped by your hands. Be careful not to collapse them.

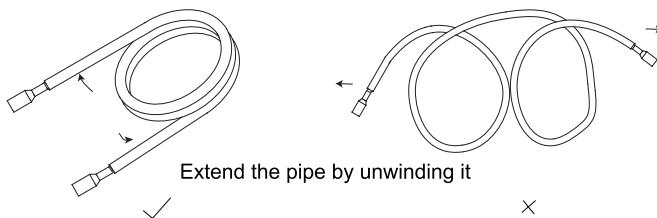


Fig.12

- (2). Do not bend the pipes in an angle more than 90°.
- (3). When pipes are repeatedly bent or stretched, the material will harden, making it difficult to bend or stretch them any more. Do not bend or stretch the pipes more than three times.

- (4). When bending the pipe, do not bend it as is. The pipe will be collapsed. In this case, cut the heat insulating pipe with a sharp cutter as shown in Fig.13, and bend it after exposing the pipe. After bending the pipe as you want, be sure to put the heat insulating pipe back on the pipe, and secure it with tape.

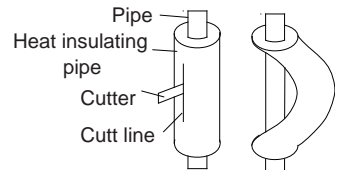


Fig.13

⚠ CAUTION!

- ① . To prevent breaking of the pipe, avoid sharp bends. Bend the pipe with a radius of curvature of 150 mm or over.
- ② . If the pipe is bent repeatedly at the same place, it will break.

4.3.3 Connecting the Pipe at the Indoor Unit Side

Detach the caps and plugs from the pipes.

⚠ CAUTION!

- ① . Be sure to apply the pipe against the port on the indoor unit correctly. If the centering is improper, the flare nut cannot be tightened smoothly. If the flare nut is forced to turn, the threads will be damaged.
- ② . Do not remove the flare nut until the connection pipe is to be connected so as to prevent dust and impurities from coming into the pipe system.

When connecting the pipe to the unit or removing it from the unit, please do use both the spanner and the torque wrench.(Fig.14)

When connecting, smear both inside and outside of the flare nut with refrigeration oil, screw it hand tight and then tighten it with the spanner.

Refer to Table 10 to check if the wrench has been tightened properly (too tight would mangle the nut and lead to leakage).

Examine the connection pipe to see if it leaks, then take the treatment of heat insulation, as shown in the Fig.15.

Use the medium-sized sponge to insulate the coupler of the gas pipe.

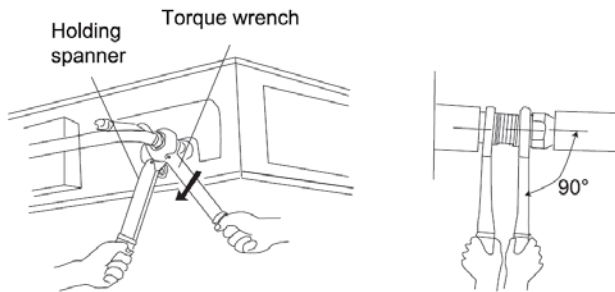


Fig.14

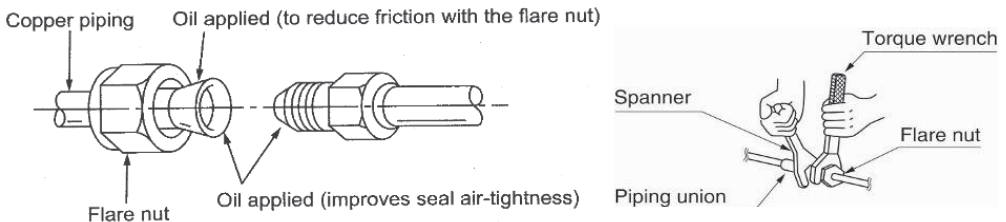


Fig.15

Table 8 Flare nut tightening torque

Pipe Diameter	Tightening Torque
1/4"(Inch)	15-30 (N·m)
3/8"(Inch)	35-40 (N·m)
5/8"(Inch)	60-65 (N·m)
1/2"(Inch)	45-50 (N·m)
3/4"(Inch)	70-75 (N·m)
7/8"(Inch)	80-85 (N·m)

⚠ CAUTION!

Be sure to connect the gas pipe after connecting the liquid pipe completely.

4.3.4 Connecting the Pipe at the Outdoor Side Unit

Tighten the flare nut of the connection pipe at the outdoor unit valve connector. The tightening method is the same as that as at the indoor side.

4.3.5 Checking the Pipe Connections for Gas Leaking

For both indoor and outdoor unit side, check the joints for gas leaking by the use of a gas leakage detector without fail when the pipes are connected.

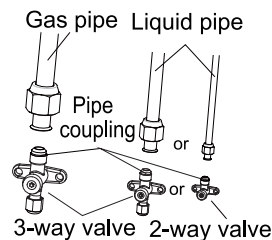


Fig.16

4.3.6 Heat Insulation on the Pipe Joints (Indoor Side Only)

Stick coupler heat insulation (large and small) to the place where connecting pipes.

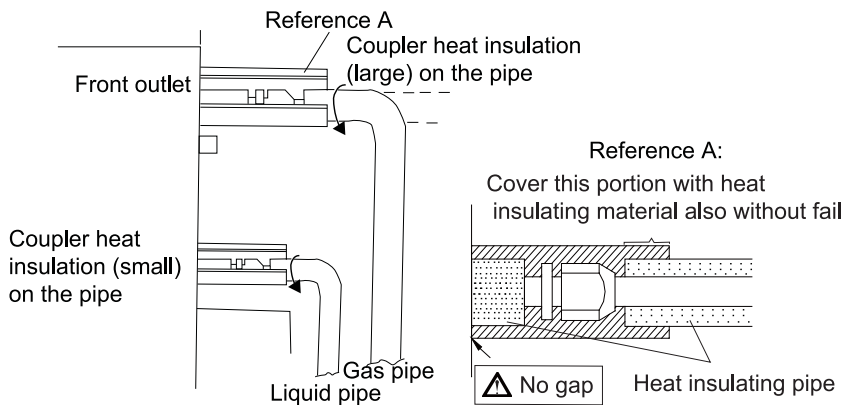


Fig.17

4.3.7 Liquid Pipe and Drain Pipe

If the outdoor unit is installed lower than the indoor unit (See Fig.18)

- (1). A drain pipe should be above ground and the end of the pipe does not dip into water. All pipes must be restrained to the wall by saddles.
- (2). Taping pipes must be done from bottom to top.
- (3). All pipes are bound together by tape and restrained to wall by saddles.

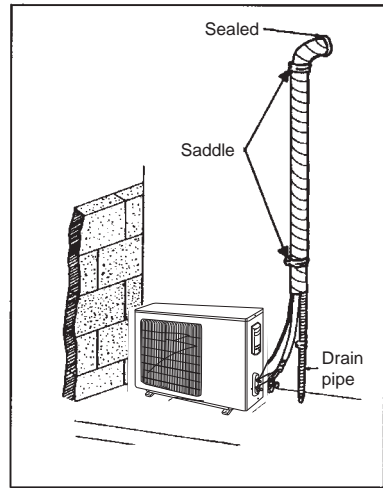


Fig.18

If the outdoor unit is installed higher than the indoor unit

- (1). Taping should be done from lower to the upper part.
- (2). All pipes are bound and taped together and also should be trapped to prevent water from returning to the room (See Fig.19)
- (3). Restraint all pipes to the wall with saddles.

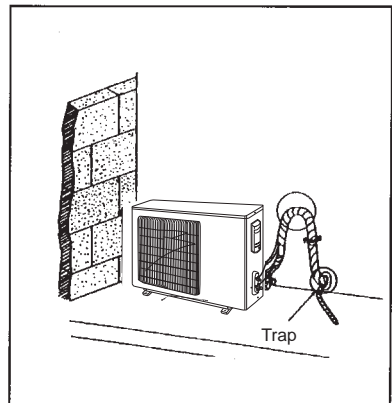


Fig.19

4.4 Vacuum and Gas Leakage Inspection



Do not purge the air with refrigerants but use a vacuum pump to vacuum the installation! There is no extra refrigerant in the outdoor unit for air purging!

4.4.1 Vacuum

- (1). Remove the caps of the liquid valve, gas valve and also the service port.
- (2). Connect the hose at the low pressure side of the manifold valve assembly to the service port of the unit's gas valve, and meanwhile the gas and liquid valves should be kept closed in case of refrigerant leak.
- (3). Connect the hose used for evacuation to the vacuum pump.
- (4). Open the switch at the lower pressure side of the manifold valve assembly and start the

vacuum pump. Meanwhile, the switch at the high pressure side of the manifold valve assembly should be kept closed, otherwise evacuation would fail.

- (5). The evacuation duration depends on the unit's capacity, generally, 15 minutes for the 12K units, 20 minutes for the 18K units, 30 minutes for the 24/30/36K units, 45 minutes for the 45/50/60 units. And verify if the pressure gauge at the low pressure side of the manifold valve assembly reads -1.0Mp (-75cmHg), if not, it indicates there is leak somewhere. Then, close the switch fully and then stop the vacuum pump.
- (6). Wait for some time to see if the system pressure can remain unchanged, 3 minutes for the units less than 18K, 5 minutes for the 18K~24K units, 10 minutes for the units more than 45K. During this time, the reading of the pressure gauge at the low pressure side can not be larger than 0.005Mp (0.38cmHg).
- (7). Slightly open the liquid valve and let some refrigerant go to the connection pipe to balance the pressure inside and outside of the connection pipe, so that air will not come into the connection pipe when removing the hose. Note that the gas and liquid valve can be opened fully only after the manifold valve assembly is removed.
- (8). Place back the caps of the liquid valve, gas valve and also the service port.

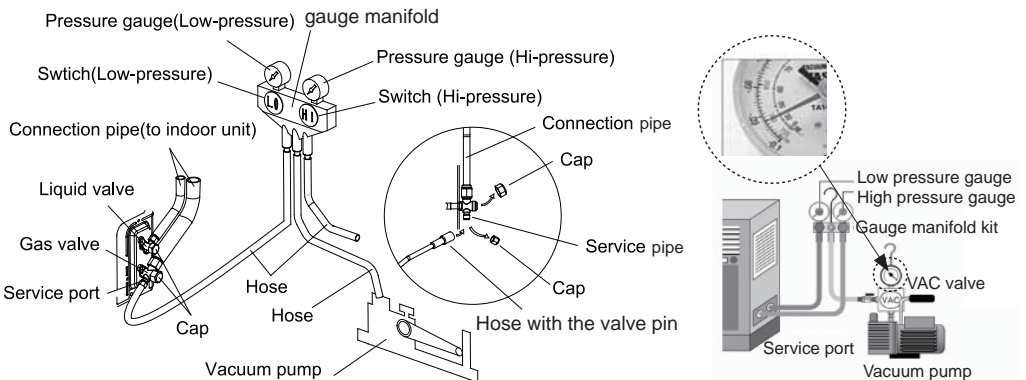


Fig.20

Note: For the large-sized unit, it has the service port for both the gas valve and the liquid valve. During evacuation, it is available to connect two hoses of the manifold valve assembly to two service ports to quicken the evacuating speed.

4.4.2 Additional Charge

Refrigerant suitable for a piping length of 5m is charged in the outdoor unit at the factory.

When the piping is longer than 7 m, additional charging is necessary.

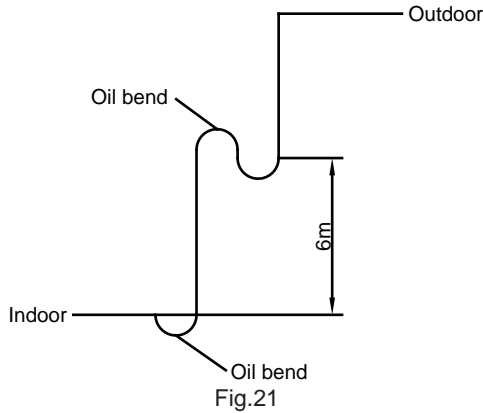
For the additional amount, see Table 9.

Table 9

Mode \ Item	Additional Refrigerant Amount for Extra Pipe
12~18K	30 g/m
24~60K	60 g/m

When the height difference between the indoor unit and outdoor unit is larger than 10 meters,

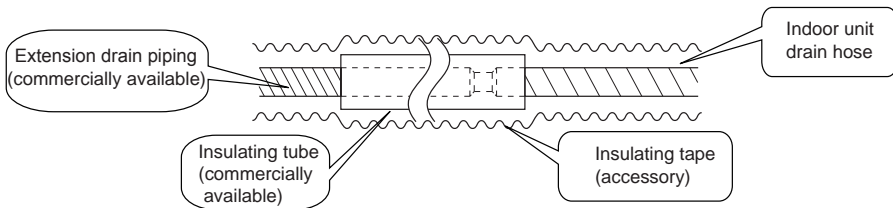
an oil bend should be employed for every 6 meters.



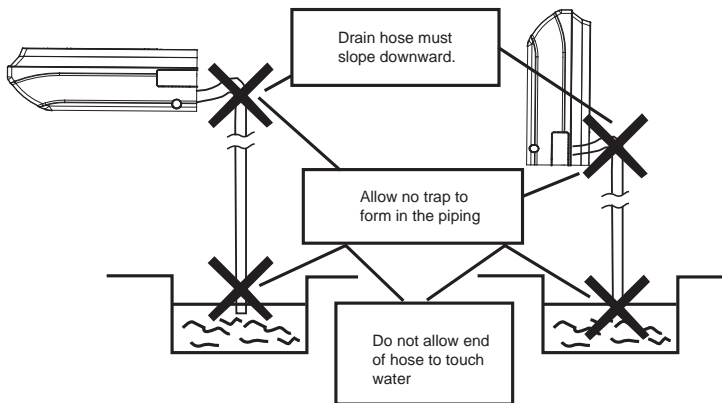
4.5 Installation of the Drain Pipe

4.5.1 Precautions When Doing the Piping Work

- (1). Keep piping as short as possible and slope it downwards at a gradient of at least 1/100 so that air may not remain trapped inside the pipe.
- (2). Keep pipe size equal to or greater than that of the connecting pipe.
- (3). Install the drain piping as shown and take measures against condensation. Improperly rigged piping could lead to leaks and eventually wet furniture and belongings.



- (4) Connect the drain hose.(Fig.23)



4.5.2 Installing the Drain Pipes

- (1). For determining the position of the drain hose, perform the following procedures.
- (2). Insert the drain pipe to the drain outlet of the unit and then tighten the clamp securely with tape. (Fig.24)
- (3). Connect the extension drain pipe to the drain pipe and then tighten the clamp with tape.

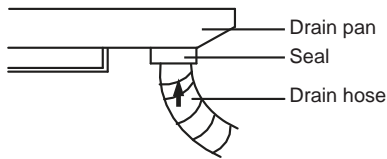


Fig.24

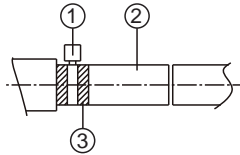


Fig.25

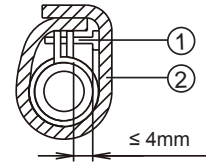


Fig.26

Tighten the clamp until the screw head is less than 4 mm from the hose.(Fig.25)

① – Metal clamp ② – Drain hose ③ – Grey tape

Insulate the pipe clamp and the drain hose using heat insulation sponge.(Fig.26)

① – Metal clamp ② – Insulation sponge

- (4). When drain hose requires extension, obtain an extension hose commercially available.
- (5). After connecting the local drain hose, tape the slits of the heat insulation tube.
- (6). Connect the drain hose to the local drain pipe. Position the inter connecting wire in the same direction as the piping.

4.5.3 Connecting the Drain Hose

- (1). Connect the extension auxiliary pipe to the local piping.
- (2). Prepare the local piping at the connection point for the drain pipe, as shown in the installation drawings.

Note: Be sure to place the drain hose as shown in the diagram below, in a downward sloping direction.

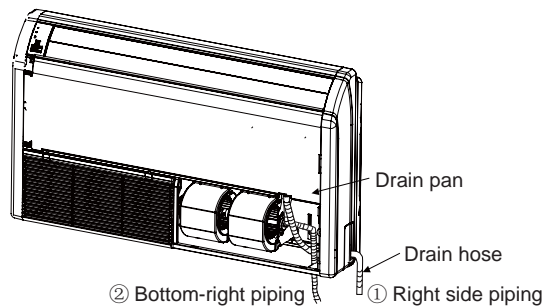


Fig.27

4.5.4 Testing of Drain Piping

- (1) After piping work is finished, check if drainage flows smoothly.
- (2) As shown in the figure, pour water into the drain pan from the right side to check that water flows smoothly from the drain hose.

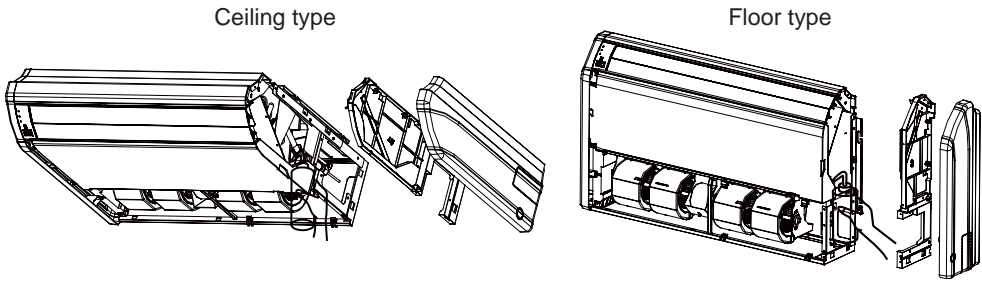




Fig.28

4.6 Electrical Wiring

4.6.1 Wiring Precautions

 WARNING !
① . Before obtaining access to terminals, all supply circuits must be disconnected.
② . The rated voltage of the unit is as shown as Table 4 and Table 5
③ . Before turning on, verify that the voltage is within the 198~264V range (for single phrase unit) or 342~457V range (for three-phrase unit).
④ . Always use a special branch circuit and install a special receptacle to supply power to the air conditioner.
⑤ . Use a special branch circuit breaker and receptacle matched to the capacity of the air conditioner.
⑥ . The special branch circuit breaker is installed in the permanent wiring. Always use a circuit that can trip all the poles of the wiring and has an isolation distance of at least 3mm between the contacts of each pole.
⑦ . Perform wiring work in accordance with standards so that the air conditioner can be operated safely and positively.
⑧ . Install a leakage special branch circuit breaker in accordance with the related laws and regulations and electric company standards.

 CAUTION !
① . The power source capacity must be the sum of the air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contracted capacity.
② . When the voltage is low and the air conditioner is difficult to start, contact the power company to raise the voltage.

4.6.2 Electrical Wiring

- (1). For solid core wiring (Fig.29)
 - 1). Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation about 25 mm (15/16") .
 - 2). Using a screwdriver, remove the terminal screw(s) on the terminal board.
 - 3). Using pliers, bend the solid wire to form a loop suitable for the terminal screw.

- 4). Shape the loop wire properly, place it on the terminal board and tighten securely with the terminal screw using a screwdriver.
- (2). For strand wiring (Fig.29)
 - 1). Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation about 10 mm (3/8") .
 - 2). Using a screwdriver, remove the terminal screw (s) on the terminal board.
 - 3). Using a round terminal fastener or pliers, securely clamp a round terminal to each stripped wire end.
 - 4). Position the round terminal wire, and replace and tighten the terminal screw with a screwdriver.(Fig.30)

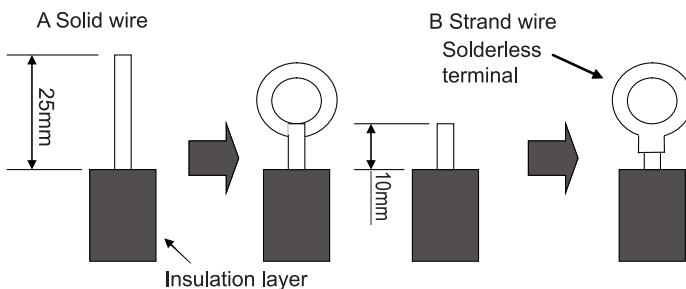


Fig.29

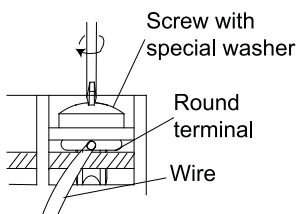
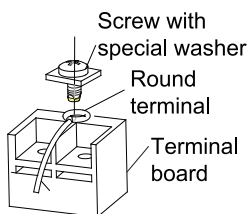


Fig.30

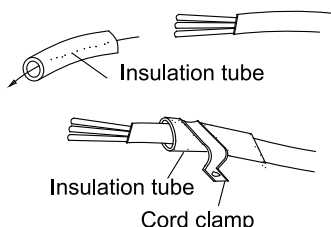


Fig.31

- (3). How to fix connection cord and power cord by cord clamp

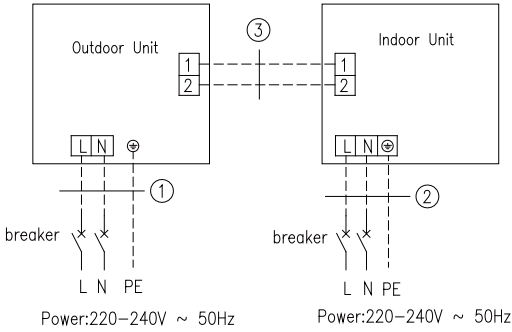
After passing the connection cord and power cord through the insulation tube, fasten it with the cord clamp.(Fig.31)

WARNING!
① . Before starting work, check that power is not being supplied to the indoor unit and outdoor unit.
② . Match the terminal block numbers and connection cord colors with those of the indoor unit side.
③ . Erroneous wiring may cause burning of the electric parts.
④ . Connect the connection cords firmly to the terminal block. Imperfect installation may cause a fire.
⑤ . Always fasten the outside covering of the connection cord with cord clamps. (If the insulator is not clamped, electric leakage may occur.)
⑥ . Always connect the ground wire.

DC Inverter U-match Series Floor Ceiling Type Unit

(4). Electric wiring between the indoor and outdoor units

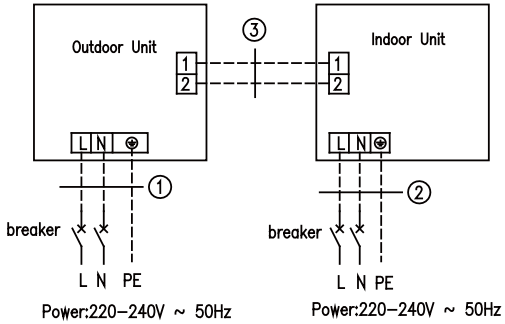
Single-phase units(12K~30K)



U2RS-12+V2KI-12
U2RS-18+V2KI-18
① . Power cord 3×1.5mm ² (H07RN-F)
② . Power cord 3×1.0mm ² (H05RN-F)
③ . Communication Cords 2×0.75mm ² (H05RN-F)

U2RS-24+V2KI-24
U2RS-30+V2KI-30
① . Power cord 3×2.5mm ² (H07RN-F)
② . Power cord 3×1.0mm ² (H05RN-F)
③ . Communication Cords 2×0.75mm ² (H05RN-F)

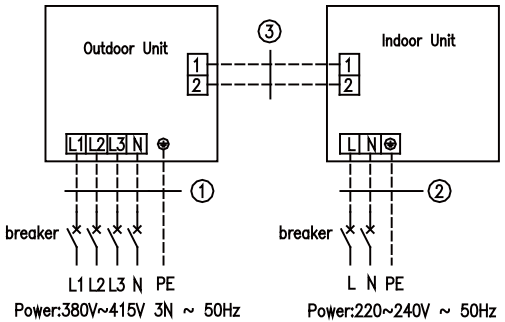
Single-phase units(36K~50K)



U2RS-36+V2KI-36
U2RS-45+V2KI-45
① . Power cord 3×2.5mm ² (H07RN-F)
② . Power cord 3×1.0mm ² (H05RN-F)
③ . Communication Cords 2×0.75mm ² (H05RN-F)

U2RS-50+V2KI-50
① . Power cord 3×6.0mm ² (H07RN-F)
② . Power cord 3×1.0mm ² (H05RN-F)
③ . Communication Cords 2×0.75mm ² (H05RN-F)

Three-phase units



U2RT-36+V2KI-36
U2RT-45+V2KI-45
U2RT-50+V2KI-50
U2RT-60+V2KI-60
① . Power cord 3×2.5mm ² (H07RN-F)
② . Power cord 3×1.0mm ² (H05RN-F)
③ . Communication Cords 2×0.75mm ² (H05RN-F)

Fig.32

(5). Electric wiring of indoor unit side

Remove the left cover plate and the electric box cover then insert the end of the communication cord and the power cable into the terminal board.

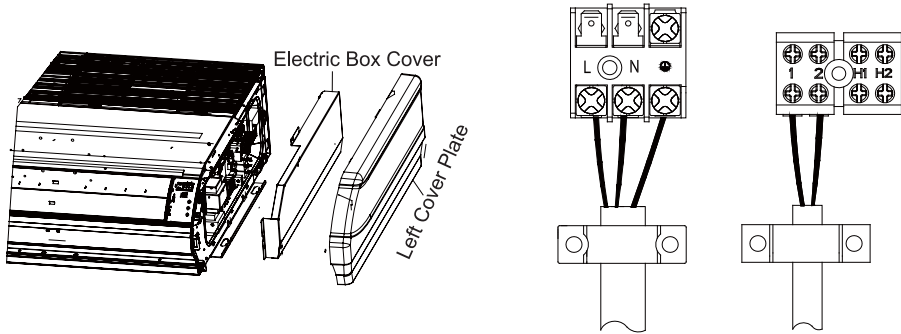


Fig.33

⚠ CAUTION!

⚠ CAUTION!
① . The power cord and the wire of the fresh air valve are high-voltage, while the communication cord and connection wire of the wired controller are low-voltage. They should run separately against electromagnetic interference.
② . The high-voltage and low-voltage lines should pass through the rubber rings at different electric box covers.
③ . Do not bundle the connection wire of the wired controller and the communication cord together, or arrange them in parallel, otherwise improper operation would occur.
④ . The high-voltage and low-voltage lines should be fixed separately and securely, with internal big clamps for the former and small clamps for the latter.
⑤ . Tighten the indoor/outdoor connection cord and power cord respectively on the terminal boards with screws. Faulty connection may cause a fire.
⑥ . If the indoor unit connection cord (to the outdoor unit) and power supply are wired incorrectly, the air conditioner may be damaged.
⑦ . Connect the indoor unit connection cord properly based on the corresponding marks as shown in Fig. 32.
⑧ . Ground both the indoor and outdoor units by attaching a ground wire.
⑨ . Unit shall be grounded in compliance with the applicable local and national codes.

DC Inverter U-match Series Floor Ceiling Type Unit

(6). Electric wiring of outdoor unit side

Note: When connecting the power supply cord, make sure that the phase of the power supply matches with the exact terminal board. If not, the compressor will rotate reversely and run improperly.

Remove the big handle(12~45K) /front board(50/60K) of the outdoor unit and insert the end of the communication cord and the power cable into the terminal board.

Single phase:

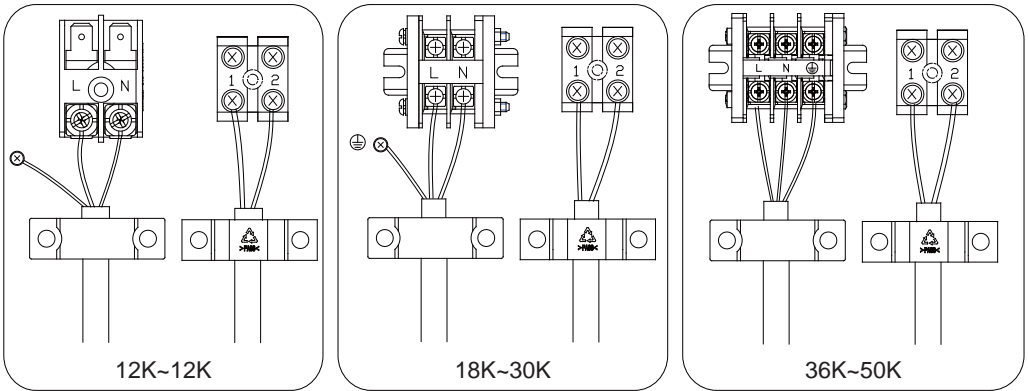


Fig.34

Three-phase:

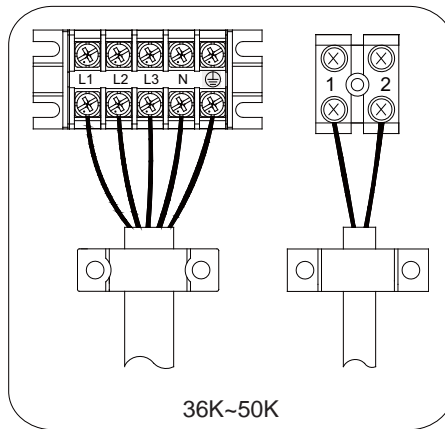


Fig.35

5 Installation of Controllers

Refer to the Installation Manual of the controller for more details.

6 Test Running

6.1 Trial Operation and Testing

(1). The meaning of error codes as shown below:

Table 10

Number	Error code	Error	Remarks
1	E1	Compressor high pressure protection	
2	E2	Indoor anti-freeze protection	
3	E3	Compressor low pressure protection, refrigerant lack protection and refrigerant collecting mode	
4	E4	Compressor high discharge temperature protection	
5	E6	Communication error	
6	E8	Indoor fan motor error	
7	E9	Full water protection	
8	F0	Indoor ambient temperature sensor error	
9	F1	Evaporator temperature sensor error	
10	F2	Condenser temperature sensor error	
11	F3	Outdoor ambient temperature sensor error	
12	F4	Discharge temperature sensor error	
13	F5	Temperature sensor error of wired controller	
15	C5	Capacity code error	
16	EE	Outdoor memory chip error	
17	PF	Electric box sensor error	
18	H3	Compressor overload protection	
19	H4	Overloading	
20	H5	IPM protection	
21	H6	DC fan motor error	
22	H7	Drive desynchronizing protection	
23	Hc	Pfc protection	
25	Lc	Activation failure	
26	Ld	Compressor phase sequence protection	
27	LE	Compressor stalling protection	
28	LF	Power protection	
29	Lp	Indoor and outdoor mismatch	
30	U7	4-way valve direction changing protection	
31	P0	Drive reset protection	
32	P5	Over-current protection	
33	P6	Communication error between main control and drive	
34	P7	Drive module sensor error	
35	P8	Drive module over temperature protection	
36	P9	Zero passage protection	

DC Inverter U-match Series Floor Ceiling Type Unit

37	PA	AC current protection	
38	Pc	Drive current error	
39	Pd	Sensor connecting protection	
40	PE	Temperature drift protection	
41	PL	Bus low voltage protection	
42	PH	Bus high voltage protection	
43	PU	Charge loop error	
44	PP	Input voltage abnormality	
45	ee	Drive memory chip error	

Note: When the unit is connected with the wired controller, the error code will be simultaneously shown on it.

(2). Instructions to the Error Indicating Lamps on the Panel of the Floor Ceiling Type Unit.

States of the Indicating Lamps:

① . Indicating Lamp of “POWER”: The indicating lamp will shine when power on, while it will go out when power off.

② . Indicating Lamp of “COOL” :

The indicating lamp will shine when “COOL” is activated, while it will go out when “COOL” is deactivated.

③ . Indicating Lamp of “HEAT”:

The indicating lamp will shine when “HEAT” is activated, while it will go out when “HEAT” is deactivated.

④ . Indicating Lamp of “TIMER”:

The indicating lamp will shine when “TIMER” is activated, while it will go out when “TIMER” is deactivated or the set.

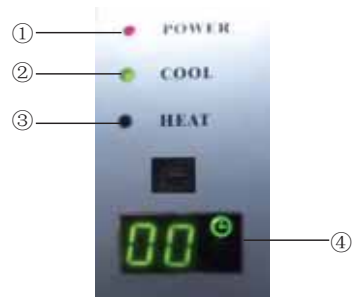


Fig.36

6.2 Working Temperature Range

Table 11

Test Condition	Indoor Side		Outdoor Side	
	DB(°C)	WB(°C)	DB(°C)	WB(°C)
Nominal Cooling	27	19	35	24
Nominal Heating	20	–	7	6
Rated Cooling	32	23	48	–
Low Temp. Cooling	21	15	-15	–
Rated Heating	27	–	24	18
Low Temp. Heating	20	–	-10	-11

Note:

- ① . The design of this unit conforms to the requirements of EN14511 standard.
- ② . The air volume is measured at the relevant standard external static pressure.
- ③ . Cooling (heating) capacity stated above is measured under nominal working conditions corresponding to standard external static pressure. The parameters are subject to change with the improvement of products, in which case the values on nameplate shall prevail.
- ④ . In this table, there are two outside DB values under the low temp cooling conditions, and the one in the brackets is for the unit which can operate at extreme low temperature.

7. Troubleshooting and Maintenance

7.1 Troubleshooting


If your air-conditioning unit suffers from abnormal operation or failure, please first check the following points before repair:

Table 12

Failure	Possible Reasons
The unit cannot be started.	① . The power supply is not connected. ② . Electrical leakage of air-conditioning unit causes tripping of the leakage switch. ③ . The operating keys are locked. ④ . The control loop has failure.
The unit operates for a while and then stops.	① . There is obstacle in front of the condenser. ② . The control loop is abnormal. ③ . Cooling operation is selected when the outdoor ambient temperature is above 48°C.
Poor cooling effect.	① . The air filter is dirty or blocked. ② . There is heat source or too many people inside the room. ③ . The door or window is open. ④ . There is obstacle at the air intake or outlet. ⑤ . The set temperature is too high. ⑥ . There is refrigerant leakage. ⑦ . The performance of room temperature sensor becomes worse
Poor heating effect	① . The air filter is dirty or blocked. ② . The door or window is not firmly closed. ③ . The set room temperature is too low. ④ . There is refrigerant leakage. ⑤ . The outdoor ambient temperature is lower than -5°C. ⑥ . Control loop is abnormal.

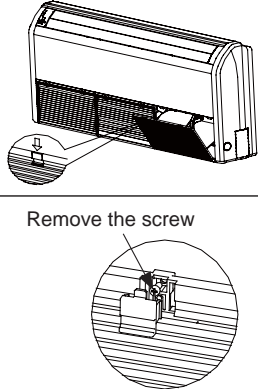

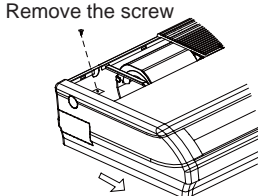
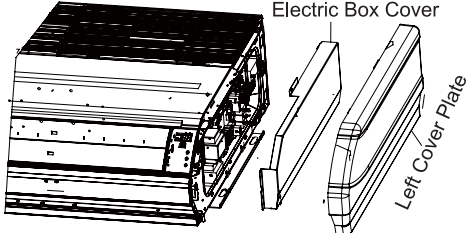
Note: After carrying out the check of the above items and taking relevant measures to solve the problems found but the air-conditioning unit still does not function well, please stop the operation of the unit immediately and contact the local service agency designated by Inventor. Only ask professional serviceman to check and repair the unit.

7.2 Routine Maintenance

 WARNING !
① . Do turn off the unit and cut off the main power supply when cleaning the air conditioner, otherwise electric shock may happen.
② . Do not make the air conditioner wet or electric shock may be lead; Ensure that the air conditioner will not be cleaned by water rinsing under any circumstance.
③ . Volatile liquid like thinner or gasoline would damage the appearance of air conditioner. (So, only soft dry cloth and wet cloth moistened by neutral cleaning fluid could be used to clean the surface panel of air conditioner.)

DC Inverter U-match Series Floor Ceiling Type Unit

(1). Disassembly method of filter screen and electric box cover

<p>1. Open the air inlet grille</p> <ol style="list-style-type: none"> ① . Firstly unfix two buckles on the grille as shown on the picture. ② . Remove the screws under the buckles by a screwdriver and then open the inlet grille. 	 <p style="text-align: center;">Remove the screw</p>
<p>2. Clean the filter screen</p> <p>Clean the filter screen by a vacuum cleaner or wash it by flashing water. If the oil stain on the filter can not be removed or cleaned up, wash it by warm water meld with the detergent. Dry the filter in the shadow.</p> <p>Note:</p> <ol style="list-style-type: none"> ① . Never use hot water over 45°C in case of color fading or turning yellow. ② . Never dry it by fire so as to prevent the filter caught fire or deformation. 	
<p>3. Disassemble the left and right side board</p> <ol style="list-style-type: none"> ① . After the grille is removed, use a screwdriver to remove the screws shown on the picture. ② . Push the side plate as per the arrowed direction and take it down. 	 <p style="text-align: center;">Remove the screw</p>
<p>4. Disassemble the right side board</p>	<p>Disassembly method of right side board Step 3</p>
<p>5. Disassemble the electric box cover</p> <p>After the right side board is removed, the electric box cover will be shown up and disassemble the fixed screws on it.</p>	 <p style="text-align: right;">Electric Box Cover</p> <p style="text-align: right;">Left Cover Plate</p>

(2). At the Start of the Seasonal Use

- 1) Check if there is blockage at the inlet or outlet vent of air conditioner.
- 2) Check if the earth wire has been attached reliably by the skilled serviceman.
- 3) Check if the exhausted batteries of the wireless controller have been replaced.
- 4) Check if the air filter had been installed well by professional.

Keep the power switch "On" 8 hours before the startup of the unit which has not been used for a long period.

Note: all above should be operated by the skilled serviceman.

(3). At the End of the Seasonal Use

- 1) Cut off the power supply main switch
- 2) Clean the air filters and other parts by the skilled serviceman.
- 3) Leave the fan running for 2-3 hours to dry the inside of the unit.



Note: all above should be operated by the skilled serviceman.


Notes:

Περιεχόμενα

1. Οδηγίες ασφαλείας	30
2. Διαστάσεις της μονάδας και βασικά μέρη	31
3. Προετοιμασία εγκατάστασης	32
3.1 Βασικά μέρη	32
3.2 Επιλογή θέσης εγκατάστασης	33
3.3 Απαιτήσεις σύνδεσης σωλήνων	34
3.4 Απαιτήσεις ηλεκτρικής εγκατάστασης	35
4. Εγκατάσταση της μονάδας	37
4.1 Εγκατάσταση της εσωτερικής μονάδας	37
4.2 Εγκατάσταση της εξωτερικής μονάδας	39
4.3 Εγκατάσταση σωληνώσεων	41
4.4 Κενό και έλεγχος διαρροής αερίου	44
4.5 Εγκατάσταση σωλήνα αποστράγγισης	46
4.6 Ηλεκτρολογική σύνδεση	48
5. Εγκατάσταση χειριστηρίων	53
6. Δοκιμαστική λειτουργία	53
6.1 Δοκιμαστική λειτουργία	53
6.2 Θερμοκρασιακά εύρη λειτουργίας	54
7. Διαχείριση σφαλμάτων και συντήρηση	55
7.1 Επίλυση σφαλμάτων	55
7.2 Προληπτική συντήρηση	55

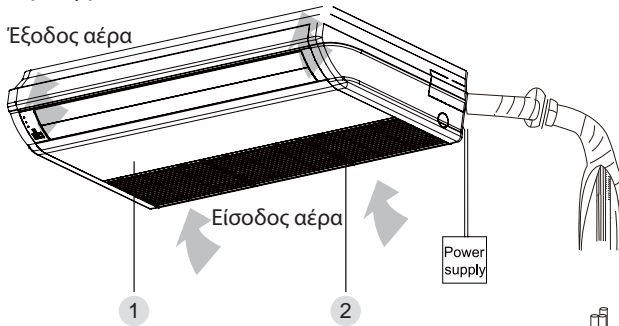
1 Προφυλάξεις Ασφαλείας

 Προειδοποίηση!	Αυτό το σύμβολο εμφανίζεται για διαδικασίες, οι οποίες όταν δεν εκτελεστούν σωστά μπορεί να προκαλέσουν σοβαρό τραυματισμό ή ακόμα και θάνατο.
 Προσοχή!	Αυτό το σύμβολο εμφανίζεται για διαδικασίες, οι οποίες όταν δεν εκτελεστούν σωστά μπορεί να προκαλέσουν σοβαρό τραυματισμό ή καταστροφή της μονάδας

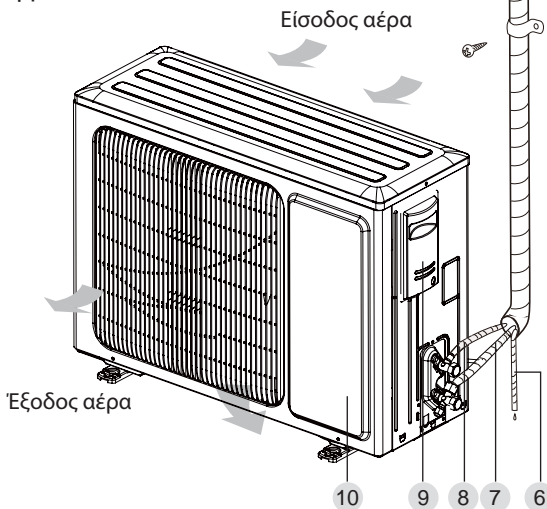
 Προειδοποίηση!	
(1).	Για την σωστή λειτουργία της μονάδας, εγκαταστήστε τη σύμφωνα με τις οδηγίες αυτού του εγχειριδίου
(2).	Συνδέστε την εσωτερική και εξωτερική μονάδα με τις σωληνώσεις και τα καλώδια με τα πρότυπα του κατασκευαστή. Το εγχειρίδιο εγκατάστασης περιγράφει τις σωστές συνδέσεις χρησιμοποιώντας τα παρεκόμενα που περιέχονται.
(3).	Η εγκατάσταση πρέπει να γίνει σύμφωνα με τα πρότυπα και μόνο από εξουσιοδοτημένο προσωπικό.
(4).	Εάν παρουσιαστεί διαρροή κατά την εγκατάσταση, αερίστε καλά τον χώρο. Εάν το ψυκτικό μέσο έρθει σε επαφή με φλόγες παράγει τοξικά αέρια.
(5).	Μην ρευματοδοτήσετε τη μονάδα πριν ολοκληρώσετε την εγκατάσταση
(6).	Κατά την εγκατάσταση βεβαιωθείτε πως οι ψυκτικές σωληνώσεις είναι συνδεδεμένες σωστά πριν την εκκίνηση του συμπιεστή. Μην λειτουργείτε τον συμπιεστή όταν οι ψυκτικές σωληνώσεις δεν έχουν συνδεθεί σωστά με την 2οδη ή 3οδη βάνα ανοιχτή. Μπορεί να προκαλέσει μη ομαλή πίεση στον ψυκτικό κύκλο το οποίο μπορεί να έχει ως αποτέλεσμα σπάσιμο ακόμα και τραυματισμό.
(7).	Κατά τη λειτουργία ramp-down βεβαιωθείτε πως ο συμπιεστής έχει σταματήσει να λειτουργεί πριν αφαιρέσετε τις ψυκτικές σωληνες. Μην αφαιρείτε τις ψυκτικές σωληνώσεις όταν ο συμπιεστής λειτουργεί και η 2οδη ή 3οδη βάνα είναι ανοιχτή. Μπορεί να προκαλέσει μη ομαλή πίεση στον ψυκτικό κύκλο το οποίο μπορεί να έχει ως αποτέλεσμα σπάσιμο ακόμα και τραυματισμό.
(8).	Κατά την εγκατάσταση ή μετακίνηση της κλιματιστικής μονάδας μην χρησιμοποιήσετε άλλο ψυκτικό μέσο από αυτό που είναι προδιαγραφμένο (R410A). Θα προκληθεί απότομη αύξηση της πίεσης στο ψυκτικό κύκλωμα με αποτέλεσμα να προκληθεί σπάσιμο, τραυματισμός κλπ
(9).	Αυτή η μονάδα δεν πρέπει να χρησιμοποιείτε από παιδιά, άτομα με ειδικές ανάγκες, άτομα χωρίς γνώση ή εμπειρία εκτός εάν καθοηγούνται και επιβλέπονται από άτομο υπεύθυνο για την ασφάλειά τους
(10).	Τα παιδιά πρέπει να επιβλέπονται ώστε να μην παίζουν με τη μονάδα
(11).	Εάν το παροχικό καλώδιο φθαρεί, πρέπει να αντικατασταθεί από τον κατασκευαστή, από εξουσιοδοτημένο προσωπικό ή εξειδικευμένο τεχνικό, για την αποφυγή τραυματισμού.

2 Διαστάσεις της Μονάδας και Κύρια Μέρη

Εσωτερική μονάδα




Εξωτερική μονάδα



1. Παροχικό καλώδιο
2. Φίλτρο αέρα
3. Ενσύρματο χειριστήριο
4. Ασύρματο τηλεχειριστήριο
5. Συνδετική ταινία
6. Αγωγός αποστράγγισης
7. Σωλήνας αερίου
8. Σωλήνας υγρού
9. Μεγάλη λαβή
10. Μπροστινό κάλυμμα

Εικ. 1

 Σημείωση!

- ① . Η σωλήνα σύνδεσης και ο αεραγωγός θα πρέπει να προετοιμαστούν από τον χρήστη
- ② . Η μονάδα έρχεται εξοπλισμένη με ορογώνιο αεραγωγό

3 Προετοιμασία για την εγκατάσταση


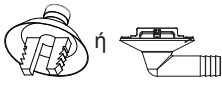
3.1 Βασικά εξαρτήματα

Τα βασικά εξαρτήματα που περιγράφονται παρακάτω παρέχονται και πρέπει να χρησιμοποιηθούν όπως απαιτείται.

Πίνακας 1

Εξαρτήματα εσωτερικής μονάδας				
No.	Ονοματολογία	Εμφάνιση	Ποσότητα	Χρήση
1	Παξιμάδι με δακτύλιο		8	Για να στερεώσετε το άγκιστρο στο πλαίσιο της μονάδας
2	Ασύρματο τηλεχειριστήριο και μπαταρίες		1+2	Για τον χειρισμό της μονάδας
3	Μόνωση		1	Για την μόνωση του σωλήνα αερίου
4	Μόνωση		1	Για την μόνωση του σωλήνα υγρού
5	Χάρτινος πίνακας εγκατάστασης		2	Για την μόνωση του αγωγού αποστράγγισης
6	Συνδετήρας		4	Για να σφίξετε τον σπόγγο
7	Παξιμάδι		1	Για να συνδέσετε τη σωλήνα υγρού
8	Παξιμάδι		1	Για να συνδέσετε τη σωλήνα αερίου

Πίνακας 2

Εξαρτήματα εξωτερικής μονάδας				
No.	Ονοματολογία	Εμφάνιση	Ποσότητα	Χρήση
1	Δακτύλιος αποστράγγισης		3	Για την κάλυψη της οπής αποστράγγισης
2	Συνδετήρας αποστράγγισης		1	Για τη σύνδεση του σωλήνα αποστράγγισης από σκληρό PVC

3.2 Επιλογή της θέσης εγκατάστασης



Προειδοίηση!

Η μονάδα πρέπει να εγκατασταθεί σταθερά ώστε να αντέχει το βάρος της μονάδας, αλλιώς μπορεί να προκληθεί πτώση.



Προσοχή!

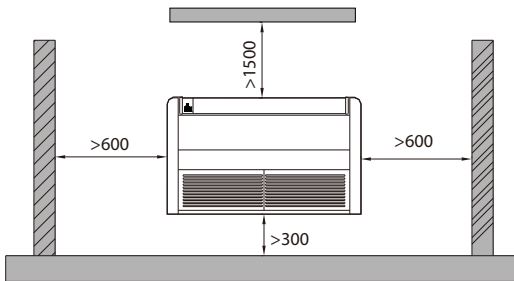
- ① . Μην τοποθετείτε τη μονάδα σε μέρη όπου υπάρχει κίνδυνος διαρροής ευφλέκτων αερίων
- ② . Μην τοποθετείτε τη μονάδα κοντά σε πηγές θερμότητας, ατμού ή εύφλεκτων αερίων
- ③ . Τα παιδιά κάτω 10 ετών θα πρέπει να επιβλέπονται για να μην χρησιμοποιούν τη μονάδα.

Επιλέξτε τη θέση εγκατάστασης με τονπελάτη όπως περιγράφεται παρακάτω:

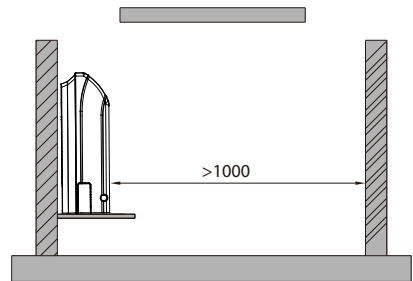
3.2.1 Εσωτερική μονάδα

- (1). Εγκαταστήστε τη μονάδα σε μέρος που μπορεί να αντέξει το βάρος της μονάδας
- (2). Η είσοδος και η έξοδος του αέρα δεν πρέπει να φράσσονται ώστε ο αέρας να φτάνει σε όλο τον χώρο.
- (3). Αφήστε χώρο για την συντήρηση όπως φαίνεται στην εικ.2

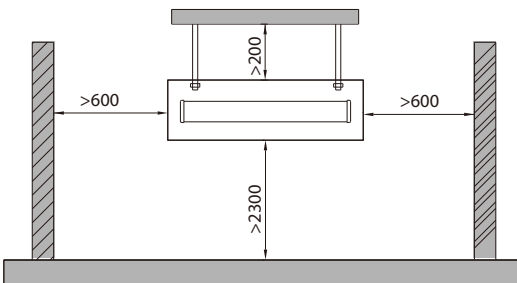
◆ Τύπου δαπέδου:



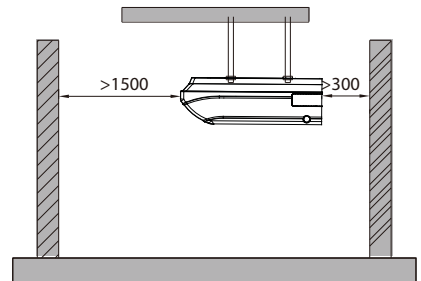
Μονάδα μέτρησης: mm



◆ Τύπου οροφής:



Μονάδα μέτρησης: mm



Εικ. 2

- (4). Εγκαταστήστε τη μονάδα σε μέρος που μπορεί να εγκαταστασθεί εύκολα ο αγωγός αποστράγγισης
- (5). Η απόσταση από την οροφή θα πρέπει να είναι όσο το δυνατό μεγαλύτερη για να είναι εύκολη η συντήρησή της.

3.2.2 Εξωτερική Μονάδα

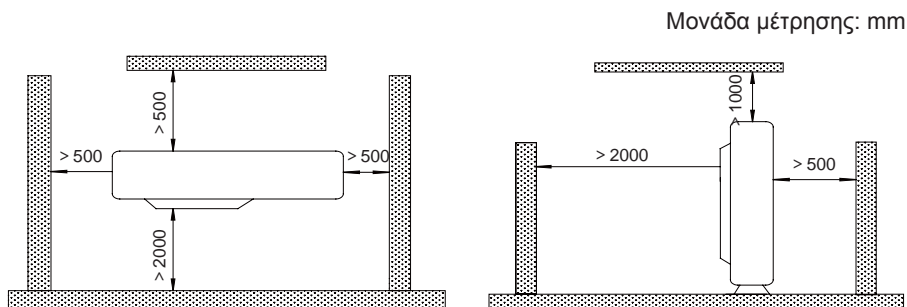


Προειδοποίηση!

- ① Τοποθετήστε τη μονάδα σε μέρος όπου η κλίση δεν θα είναι πάνω από 5°
- ② Κατά την εγκατάσταση, εάν η εξωτερική μονάδα είναι εκτεθειμένη σε ισχυρούς ανέμους βεβαιωθείτε πως είναι σταθερά στερεωμένη.

Εάν είναι δυνατό μην τοποθετήσετε τη μονάδα σε μέρη που θα είναι εκτεθειμένη στο ηλιακό φως.

1. Εγκαταστήστε την εξωτερική μονάδα σε μέρη μακριά από βρωμίες ή βροχή
2. Τοποθετήστε την εσωτερική μονάδα σε μέρος που είναι εύκολο που είναι εύκολη η σύνδεση με την εσωτερική μονάδα
3. Τοποθετήστε την εξωτερική μονάδα σε μέρος όπου τα συμπυκνώματα θα αποστραγγίζονται ελεύθερα κατά τη λειτουργία.
4. Μην τοποθετείτε ζώα ή φυτά στην έξοδο του ζεστού αέρα.
5. Να έχετε υπόψη το βάρος της μονάδας και τοποθετήστε τη σε μέρη όπου ο θόρυβος και οι κραδασμοί θα είναι μικροί
6. Βεβαιωθείτε πως η εγκατάσταση της μονάδας αντέχει το βάρος της και πως δεν θα παράγεται θόρυβος και κραδασμοί.
7. Βεβαιωθείτε πως γύρω από τη μονάδα υπάρχει ελεύθερος χώρος όπως φαίνεται στην εικ.3 για να μην μπλοκάρει η ροή του αέρα. Επιπλέον, για βέλτιστη λειτουργία αφήστε τις 3 από τις 4 διευθύνσεις ελεύθερες.



Εικ.3

3.3 Απαιτήσεις Σωληνώσεων Σύνδεσης



Προσοχή!

Το μέγιστο μήκος σωληνώσεων παρουσιάζεται στον παρακάτω πίνακα. Μην συνδέετε τις μονάδες με μήκος σωληνώσεων που να ξεπερνάει το μέγιστο.

Πίνακας 3

Item Μοντέλο	Διατομή σωλήνα (Inch)		Μέγιστο Μήκος Σωληνώσεων (m)	Μέγιστη υψομετρική διαφορά ανάμεσα στην εσωτερική και εξωτερική μονάδα (m)	Διαμέτρος σωλήνα αποστράγγισης (εξωτερική διάμετρος x πάχος τοίχου)
	Υγρό	Αέριο			
V2KI-12 U2RS-12	1/4	3/8	20	15	φ17×1.75
V2KI-18 U2RS-18	1/4	1/2	20	15	φ17×1.75
V2KI-24 U2RS-24	3/8	5/8	30	15	φ17×1.75
V2KI-30 U2RS-30	3/8	5/8	30	15	φ17×1.75
V2KI-36 U2RS-36	3/8	5/8	30	15	φ17×1.75
V2KI-45 U2RS-45	3/8	5/8	50	30	φ17×1.75
V2KI-50 U2RS-50	3/8	5/8	50	30	φ17×1.75
V2KI-36 U2RT-36	3/8	5/8	30	15	φ17×1.75
V2KI-45 U2RT-45	3/8	5/8	50	30	φ17×1.75
V2KI-50 U2RT-50	3/8	5/8	50	30	φ17×1.75
V2KI-60 U2RT-60	3/8	3/4	50	30	φ17×1.75

- (1). Οι σωλήνες σύνδεσης θα πρέπει να μονωθούν με ειδικό αδιαβροχο μονωτικό υλικό.
- (2). Το πάχος του τοίχου πρέπει να είναι 0.5 -1.0 mm και η σωλήνα θα πρέπει να αντέχει πίεση 6.0 Μpa. Όσο μεγαλύτερο είναι το μήκος των σωληνώσεων θα επηρεάζεται αντίστοιχα και η απόδοση της μονάδας σε ψύξη και θέρμανση

3.4 Ηλεκτρικές Απαιτήσεις

Διαστάσεις καλωδίου και ασφάλεια

Πίνακας 4

Εσωτερικές μονάδες	Παροχή ρεύματος	Ασφάλεια	Ασφαλειοδιακόπτης	Ελάχιστες διαστάσεις καλωδίου
	V/Ph/Hz	A	A	mm ²
12K~60K	220-240V~ 50Hz	3.15	6	1.0

Πίνακας 5

Μοντέλο	Παροχή	Ασφάλεια (A)	Ελάχιστες διατομές παροχικού καλωδίου και γείωσης (mm ²)
U2RS-12	220-240V ~ 50Hz	13	1.5
U2RS-18		16	1.5
U2RS-24		20	2.5
U2RS-30		20	2.5
U2RS-36		25	2.5
U2RS-45		25	2.5
U2RS-50		40	6.0
U2RT-36	380-415V 3N ~ 50Hz	20	2.5
U2RT-45		20	2.5
U2RT-50		25	2.5
U2RT-60		25	2.5

Σημειώσεις:

1. Η ασφάλεια βρίσκεται πάνω στην πλακέτα
2. Ο ασφαλειοδιακόπτης πρέπει να έχει απόσταση σε όλους τους πόλους τουλάχιστον 3mm (και στην εσωτερική και στην εξωτερική μονάδα). Βεβαιωθείτε πως η μονάδα έχει τοποθετηθεί με τέτοιο τρόπο ώστε να είναι εύκολη η πρόσβαση στην πρίζα.
3. Τα χαρακτηριστικά της ασφάλειας και του παροχικού καλωδίου που αναγράφονται στον παραπάνω πίνακα βασίζονται στην μέγιστη ισχύ (μέγιστα A) της μονάδας.
4. Τα χαρακτηριστικά του παροχικού καλωδίου που αναγράφονται παραπάνω αναφέρονται μονωμένο καλώδιο χαλκού (όπως YJV καλώδιο χαλκού, με ρε μόνωση και θερμομονωτικό περίβλημα από pvc) για χρήση στους 40°C και αντοχή ως τους 90°C (βλ. IEC 60364-5-52). Εάν οι συνθήκες λειτουργίας αλλάξουν, θα πρέπει και τα καλώδια να αλλάξουν σύμφωνα με τους εθνικούς κανονισμούς.
5. Τα χαρακτηριστικά του ασφαλειοδιακόπτη που αναγράφονται παραπάνω αναφέρονται σε θερμοκρασία λειτουργίας 40°C. Εάν οι συνθήκες λειτουργίας μεταβληθούν, τότε θα πρέπει να γίνει τροποποίηση σύμφωνα με τους εθνικούς κανονισμούς.
6. Χρησιμοποιήστε δύο καλώδια 0,75mm² για την ενδοεπικοινωνία ανάμεσα στην εσωτερική και την εξωτερική μονάδα με μέγιστο μήκος 50m. Παρακαλούμε επιλέξτε το κατάλληλο μήκος καλωδίου ανάλογα με την εγκατάσταση. Τα καλώδια ενδοεπικοινωνίας δεν πρέπει να είναι στριμμένα μεταξύ τους. Για τη μονάδα (≤30K) προτείνεται η χρήση καλωδίου με μήκος 8m.
7. Χρησιμοποιήστε 2 καλώδια 0,75mm² για την ενδοεπικοινωνία ανάμεσα στην εσωτερική και την εξωτερική μονάδα με μέγιστο μήκος 30m. Παρακαλούμε επιλέξτε το κατάλληλο μήκος καλωδίου ανάλογα με την εγκατάσταση. Τα καλώδια ενδοεπικοινωνίας δεν πρέπει να είναι στριμμένα μεταξύ τους. Προτείνεται η χρήση καλωδίου με μήκος 8m.
8. Η διατομή του καλωδίου ενδοεπικοινωνίας δεν πρέπει να είναι μικρότερη από 0,75mm²

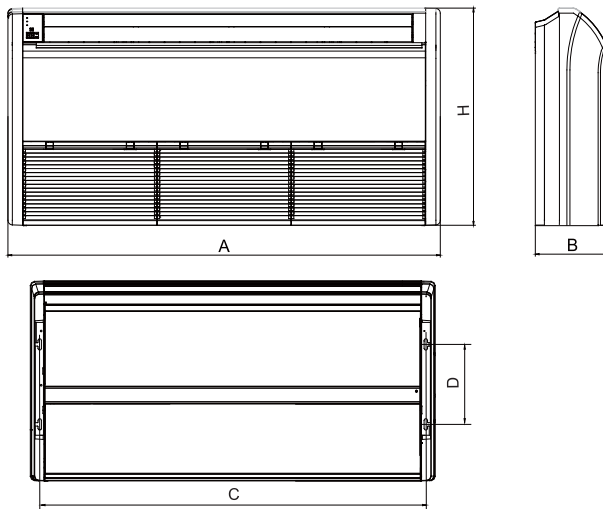
4 Εγκατάσταση Της Μονάδας

4.1 Εγκατάσταση της εσωτερικής μονάδας

4.1.1 Διαστάσεις εσωτερικής μονάδας

 Προειδοποίηση!

- ① . Εγκαταστήστε τη μονάδα με μέρος που μπορεί να αντέξει έως 5 φορές το βάρος της μονάδας χωρίς να αυξηθεί η στάθμη θορύβου ή να δημιουργηθούν κραδασμοί.
- ② . Εάν η εγκατάσταση της μονάδας δεν είναι σταθερή, η μονάδα μπορεί να πέσει και να προκληθεί τραυματισμός
- ③ . Εάν η εγκατάσταση γίνει μόνο με το πλαίσιο υπάρχει κίνδυνος να μην είναι σταθερή. Δώστε προσοχή



Εικ.4

Πίνακας 6

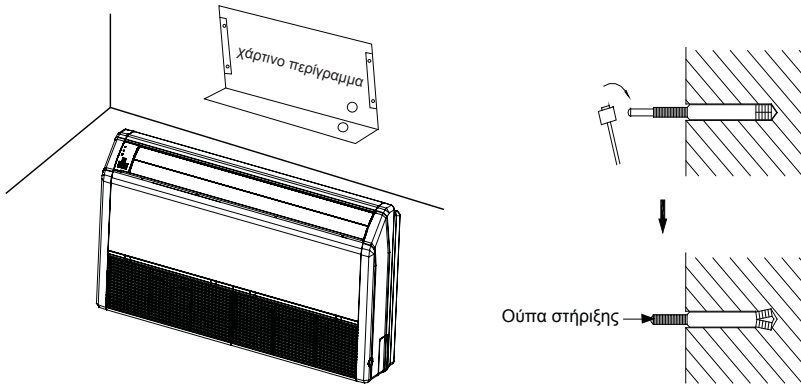
Μοντέλο	A	B	C	D	H
V2KI-12	1220	225	1158	280	700
V2KI-18					
V2KI-24					
V2KI-30	1420	245	1354	280	700
V2KI-36					
V2KI-45					
V2KI-50	1700	245	1634	280	700
V2KI-60					

4.1.2 Προετοιμασία για την εγκατάσταση της εσωτερικής μονάδας

- (1). Ανοίξετε το πλέγμα εισόδου του αέρα και τα καλύμματα των βίδων και αφαιρέστε τις βίδες
- (2). Αφαιρέστε τα άκρα στα 3 σημεία που υποδεικνύονται
- (3). Ανοίξετε το μεσαίο άγκιστρο και αφαιρέστε το μπροστινό πάνελ
- (4). Απελευθερώστε τα άκρα στα δύο ή τρία σημεία που υποδεικνύονται και αφαιρέστε το κάλυμμα των ηλεκτρικών συνδέσεων

4.1.3 Εγκατάσταση της εσωτερικής μονάδας

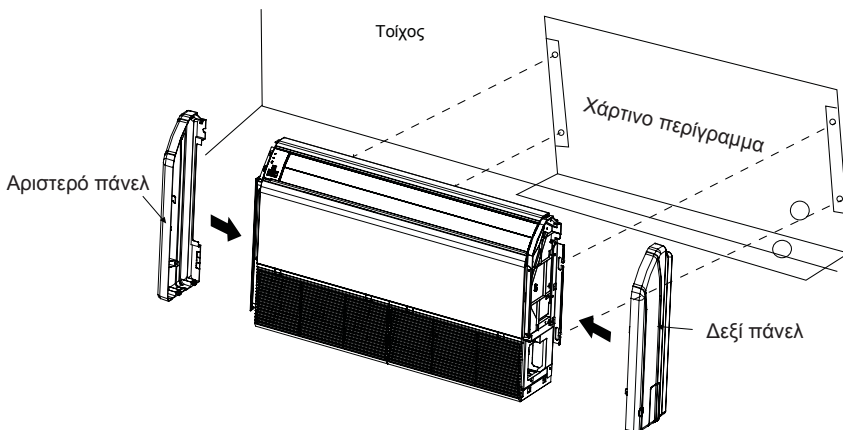
- (1). Επιλέξτε τη θέση κρέμασης μέσω του χάρτινου περιγράμματος και αφαιρέστε το χάρτινο περίγραμμα



Εικ.5

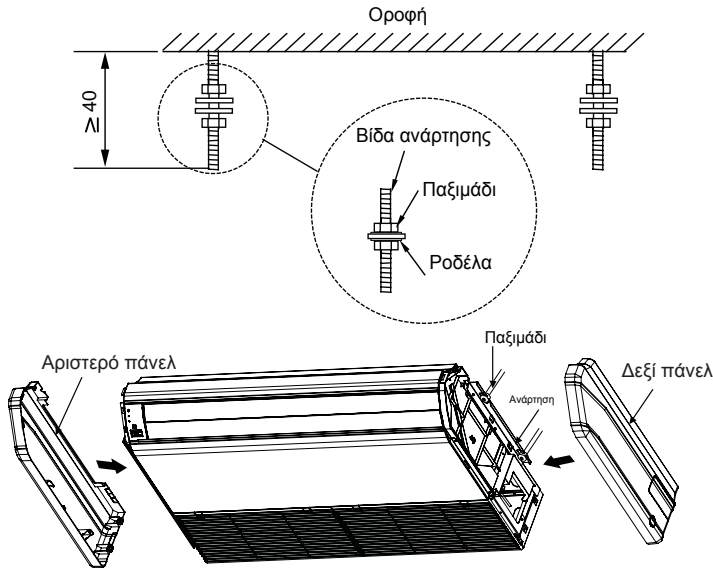
- (2). Εισάγετε τα ούπα στις τρύπες που έχετε διανοίξει στον τοίχο, και εισάγετε τα καρφιά με ένα σφυρί
- (3). Αφαιρέστε τα δεξιά και αριστερά πάνελ
- (4). Τοποθετήστε την βίδα ανάρτησης στο άγκιστρο της εσωτερικής μονάδας και σφίξτε τις βίδες στην ανάρτηση για την αποφυγή μετακίνησης της μονάδας
- (5). Επανατοποθετήστε και στερεώστε το δεξί και αριστερό πάνελ

◆ Τύπου δαπέδου



Εικ.6

◆ Τύπου οροφής

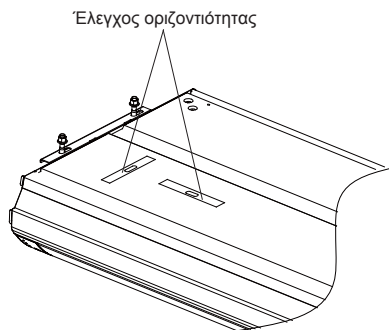


Εικ.7

(6). Ρυθμίστε το ύψος της μονάδας έτσι ώστε ο αγωγός αποστράγγισης να έχει ελαφρώς κλίση προς τα κάτω, για να είναι ομαλότερη η απορροή συμπυκνωμάτων

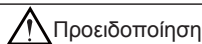
4.1.4 Επίπεδο

Μετά το πέρας της εγκατάστασης της εσωτερικής μονάδας, κάντε τον έλεγχο επίπεδου νερού για να βεβαιωθείτε πως η μονάδα είναι οριζόντια, όπως φαίνεται παρακάτω:



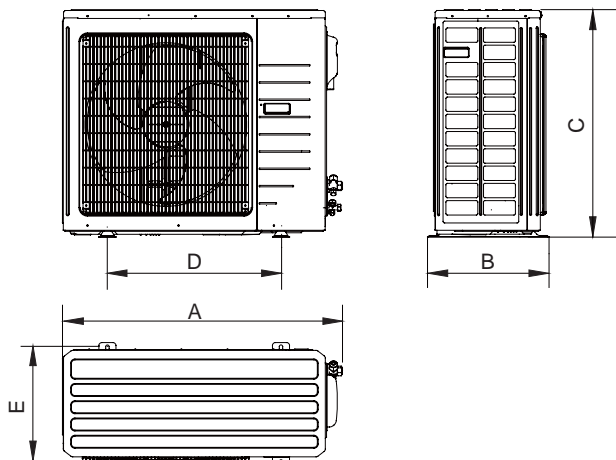
Εικ.8

4.2 Εγκατάσταση της εξωτερικής μονάδας



- ① . Βεβαιωθείτε πως η μονάδα δεν θα έχει κλίση πάνω από 5°.
- ② . Εάν η εξωτερική μονάδα κατά την εγκατάσταση είναι εκτεθειμένη σε δυνατό άνεμο, βεβαιωθείτε πως είναι ασφαλώς στερεωμένη.

4.2.1 Διαστάσεις Εξωτερικής Μονάδας



Εικ.9

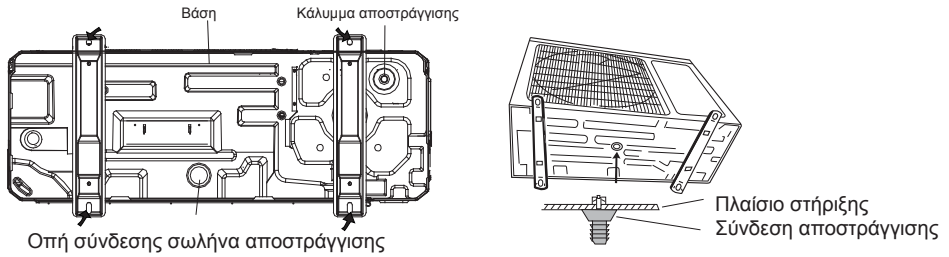
Πίνακας 7

Unit: mm

Item Μοντέλο	A	B	C	D	E
U2RS-12	848	320	540	540	286
U2RS-18	955	396	700	560	360
U2RS-24 U2RS-30	980	427	790	610	395
U2RS-36 U2RT-36	1107	440	1100	631	400
U2RS-45 U2RT-45 U2RS-50 U2RT-50	958	412	1349	572	376
U2RT-60	1085	427	1365	620	395

4.2.2 Αποστράγγιση συμπυκνωμάτων της εξωτερικής μονάδας
(μόνο για μονάδες τύπου αντλίας θερμότητας)(εικ.10)

- (1). Απαιτείται η εγκατάσταση σωλήνα αποστράγγισης στην εξωτερική μονάδα για την απορροή συμπυκνωμάτων κατά τη λειτουργία της θέρμανση
- (2). Κατά την τοποθέτηση του σωλήνα αποστράγγισης, θα πρέπει όλες οι άλλες οπές εκτός από την οπή αποστράγγισης, να ταπωθούν για την αποφυγή διαρροής νερού
- (3). Μέθοδος τοποθέτησης: εισάγετε τον συνδετικό σωλήνα στην οπή Φ25 στο κάτω μέρος της μονάδας και συνδέστε τον αγωγό.

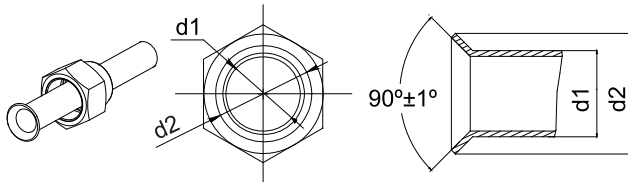


Εικ.10

4.3 Εγκατάσταση Του Συνδετικού Σωλήνα

4.3.1 Διαδικασία Διαστολής

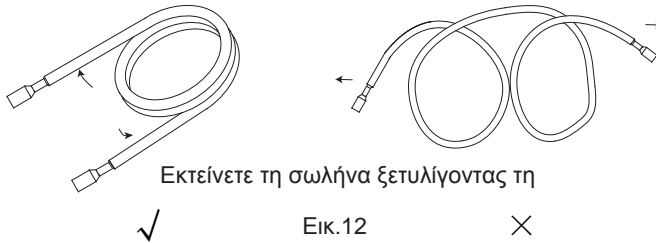
1. Κόψτε το σωλήνα σύνδεσης και απομακρύνετε τις φρέζες
2. Κρατήστε το σωλήνα προς τα κάτω για να αποτρέψετε την εισροή φρεζών εντός του σωλήνα.
3. Αφαιρέστε τα παξιμάδια και τις βάνες από τη εξωτερική μονάδα και από τη σακούλα που υπάρχει στην εσωτερική μονάδα. Τοποθετήστε τα στον σωλήνα σύνδεσης και με εργαλείο διαστολής διαστείλετε τον σωλήνα.
4. Βεβαιωθείτε πως η διαστολή έχει γίνει ομοιόμορφα και πως δεν υπάρχουν ρωγμές (εικ.11)



Εικ.11

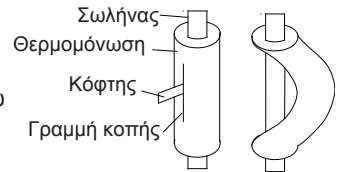
4.3.2 Λύγισμα Σωλήνων

- (1). Οι σωλήνες παίρνουν αντίστοιχο σχήμα από τα χέρια σας. Βεβαιωθείτε πως δεν τους τσακίζετε



Εικ.12

- (2). Μην λυγίζετε τους σωλήνες σε γωνία πάνω από 90°
- (3). Όταν οι σωλήνες λυγίζονται και τεντώνονται συνεχώς το υλικό σκληραίνει και γίνεται δύσκολο να τους λυγίσετε ή τεντώσετε. Μην λυγίζετε ή τεντώνετε τους σωλήνες πάνω απο 3 φορές.
- (4). Μην λυγίζετε τη σωλήνα όπως είναι διότι μπορεί να τσακίσει. Κόψτε πρώτα την μόνωση όπως φαίνεται στην εικ.13 και λυγίστε αφού εμφανιστεί η σωλήνα. Αφού τη λυγίσετε όπως θέλετε τοποθετήστε πάλι τη μόνωση και ασφαλίστε με ταινία.



Εικ.13



Προσοχή!

- ① . Για την αποφυγή σπασίματος του σωλήνα, αποφύγετε τα αιχμηρά λυγίσματα. Λυγίστε τον σωλήνα με ακτίνα καμπής 150mm και πάνω
- ② . Εάν λυγίζετε συνεχώς το σωλήνα στο ίδιο σημείο θα σπάσει

4.3.3 Σύνδεση Του Σωλήνα Στην Εσωτερική Μονάδα

Αφαιρέστε τα καλύμματα από τις σωλήνες



Προσοχή!

- ① . Βεβαιωθείτε πως η σωλήνα είναι κεντραρισμένη στην εσωτερική μονάδα. Εάν δεν είναι, το παξιμάδι δεν μπορεί να σφίξει σωστά. Εάν εξαναγκάσετε το παξιμάδι να γυρίσει, θα σπάσουν οι βόλτες.
- ② . Μην αφαιρείτε το παξιμάδι αν ο σωλήνας δεν είναι έτοιμος να συνδεθεί, για την αποφυγή εισροής σκόνης και ακαθαρσιών στη μονάδα.

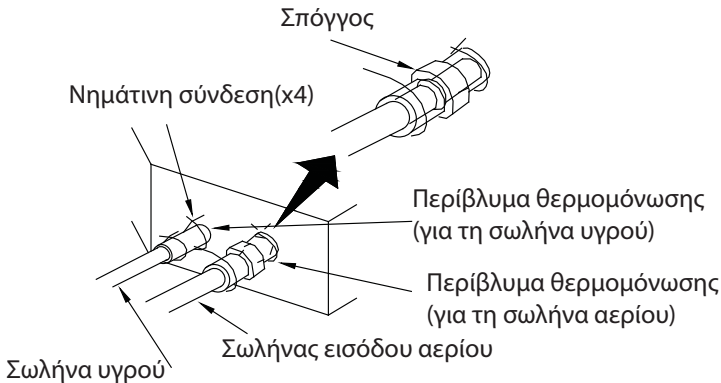
Όταν συνδέετε ή αποσυνδέετε τη σωλήνα απο τη μονάδα χρησιμοποιείτε γαλλικό κλειδί και ροπόκλειδο (εικ14)

Κατά τη σύνδεση αλείψτε με ψυκτικό λάδι την εσωτερική και εξωτερική πλευρά του παξιμαδιού, βιδώστε το με το χέρι και μετά σφίξτε με γαλλικό κλειδί.

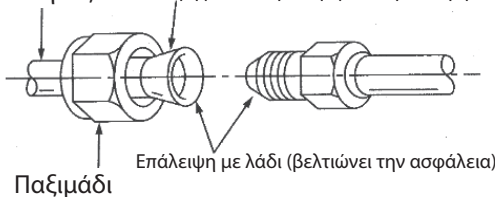
Ανατρέξτε στον πίνακα 10 για να βεβαιωθείτε πως έχετε σφίξει σωστά (εάν είναι πολύ σφιχτά μπορεί να χαλάσει το παξιμάδι και να προκληθεί διαρροή)

Ελέγξτε τη σύνδεση για τυχόν διαρροές. Έπειτα φροντίστε για την θερμομόνωση, όπως φαίνεται στην εικ. 15

Χρησιμοποιήστε μεσαίου μεγέθους σφουγγάρι για την μόνωση της σύνδεσης του σωλήνα αερίου



Χαλκοσωλήνας (Copper pipe), Επάλειψη με λάδι (για την μείωση των τριβών με το παξιμάδι) (Grease application for reducing friction with the nut)



Εικ. 15

Πίνακας 8 Ροπή σύσφιξης ρακόρ

Διατομή σωλήνα	Ροπή συσφιξης
1/4"(Inch)	15-30 (N·m)
3/8"(Inch)	35-40 (N·m)
5/8"(Inch)	60-65 (N·m)
1/2"(Inch)	45-50 (N·m)
3/4"(Inch)	70-75 (N·m)
7/8"(Inch)	80-85 (N·m)



Προσοχή!

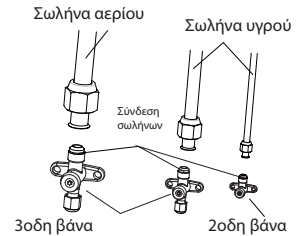
Βεβαιωθείτε πως συνδέετε τη σωλήνα αερίου αφού πρώτα έχετε συνδέσει τη σωλήνα υγρού

4.3.4 Σύνδεση Του Σωλήνα Στην Εξωτερική Μονάδα

Σφίξτε το παξιμάδι του συνδετικού σωλήνα στην βάνα της εξωτερικής μονάδας. Η μέθοδος είναι ίδια με αυτή όπως στην εσωτερική.

4.3.5 Έλεγχος Των Συνδέσεων Για Διαρροές

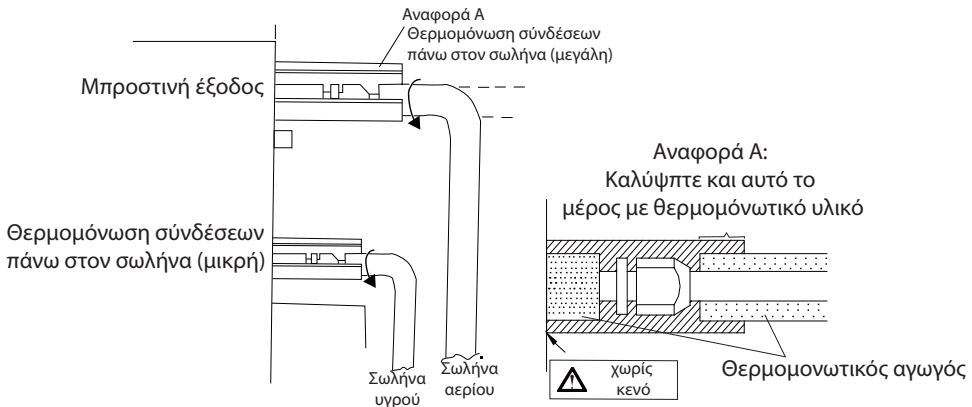
Ελέγξτε τις συνδέσεις της εσωτερικής μονάδας και της εξωτερικής μονάδας με ανιχνευτή διαρροών.



Εικ. 16

4.3.6 Θερμομόνωση Στις Συνδέσεις Των Σωληνώσεων (Μόνο Στην Εσωτερική)

Περάστε θερμομόνωση στις συνδέσεις (μικρή και μεγάλη) στις συνδέσεις των σωληνώσεων.



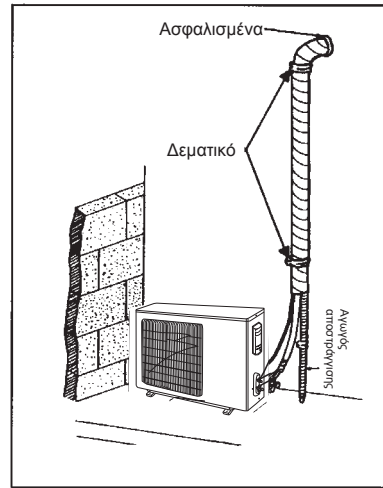
Εικ. 17

4.3.7 Γραμμή Υγρού Και Αγωγός Αποστράγγισης

Εάν η εξωτερική μονάδα είναι εγκατεστημένη χαμηλότερα από την εσωτερική (εικ.18)

1. Ο αγωγός αποστράγγισης θα πρέπει να είναι πάνω από το δάπεδο και η άκρη του να μην βρίσκεται μέσα σε νερό. Όλες οι σωληνώσεις θα πρέπει να είναι στερεωμένες στον τοίχο με ειδικά δεματικά.
2. Η στερέωση των σωλήνων θα πρέπει να έχει γίνει από πάνω ως κάτω
3. Όλες οι σωλήνες θα πρέπει να είναι δεμένες μεταξύ τους με ταινία και στερεωμένες στον τοίχο με δεματικά.

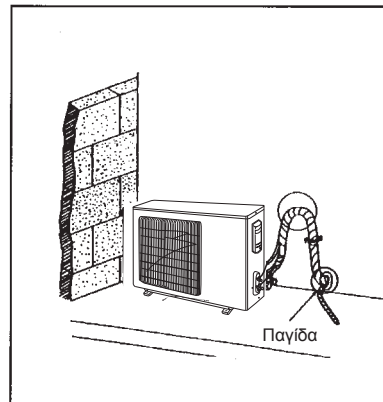
Εικ. 18



Εάν η εξωτερική μονάδα είναι εγκατεστημένη ψηλότερα από την εσωτερική (εικ.19)

1. Το δέσιμο θα πρέπει να γίνει από κάτω προς τα πάνω
2. Όλες οι σωλήνες πρέπει να είναι δεμένες μεταξύ τους έτσι ώστε μην επιτρέπεται στο νερό να γυρίσει στον χώρο
3. Στερεώστε όλες τις σωλημένες στον τοίχο με δεματικά.

Εικ. 19



4.4 Κενό Και Έλεγχος Διαρροής Αερίου

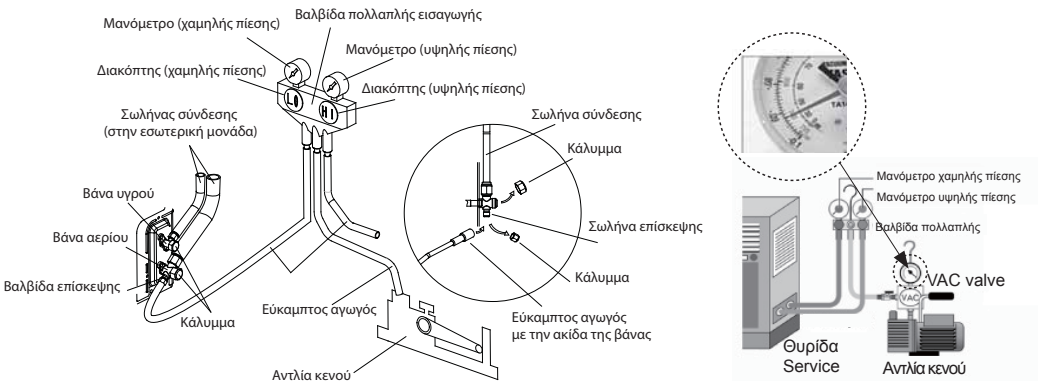


Μην εξαερώνετε την εγκατάσταση με ψυκτικά μέσα, χρησιμοποιείστε αντλία κενού. Δεν υπάρχει επιπλέον ψυκτικό υγρό στην εξωτερική μονάδα για εξαερισμό

4.4.1 Κενό

- (1). Αφαιρέστε τα καλύμματα από τις βάνες.
- (2). Συνδέστε τον εύκαμπτο αγωγό από την πλευρά χαμηλής πίεσης της βαλβίδας πολλαπλής στη θυρίδα επίσκεψης της βάνας αερίου, ενώ οι βάνες θα πρέπει να είναι κλειστές για την αποφυγή διαρροής ψυκτικού μέσου.
- (3). Συνδέστε τον εύκαμπτο αγωγό για το κενό στην αντλία κενού.
- (4). Ανοίξτε τον διακόπτη στην πλευρά της χαμηλής πίεσης της βαλβίδας πολλαπλής και ξεκινήστε το κενό. Ο διακόπτης στην πλευρά υψηλής πίεσης της βαλβίδας πολλαπλής πρέπει να είναι κλειστή, αλλιώς δεν θα γίνει κενό.

- (5). Η διάρκεια του κενού εξαρτάται από την απόδοση της μονάδας. Γενικά είναι 15λεπτα για τις 12κ, 20λεπτα για τις 18κ, 30λεπτα για τις 24/3036κ και 45 λεπτα για τις 45/50/60. Ελέγξτε πως η πίεση που διαβάζετε στο μανόμετρο χαμηλής είναι $-1.0\text{mp}(-75\text{cmHg})$. Εάν όχι, σημαίνει πως κάπου υπάρχει διαρροή. Έπειτα κλείστε τελείως τον διακόπτη και σταματήστε την αντλία κενού
- (6). Περιμένετε λίγη ώρα για να ελέγξετε αν το κύκλωμα διατηρεί σταθερή την πίεση. 3 λεπτα για μονάδες κάτω από 18κ, 5 λεπτά για τις μονάδες 18-24κ, 10 λεπτά για τις μονάδες πάνω από 45κ. Κατά τη διάρκεια αυτού του χρόνου, ελέγξτε πως η πίεση που διαβάζετε στο μανόμετρο χαμηλής δεν είναι πάνω από $0.005\text{mp}(0.38\text{cmHg})$
- (7). Ανοίξτε ελαφρώς τη βάνα υψηλής και επιτρέψτε να περάσει λίγο ψυκτικό υγρό ώστε να ισορροπήσει η πίεση μέσα και έξω από τον σωλήνα σύνδεσης, ώστε να αποφευχθεί η είσοδος αέρα κατά την απομάκρυνση του εύκαμπτου αγωγού. Σημείωση: τις βάνες αερίου και υγρού μπορείτε να τις ανοίξετε τελείως μόνο όταν έχετε αποσυνδέσει την βαλβίδα πολλαπλής.
- (8). Επανατοποθετήστε τα καλύμματα στις βάνες και στην βαλβίδα επίσκεψης.



Εικ.20

Σημείωση: Στις μεγάλες μονάδες, υπάρχουν βαλβίδες επίσκεψης και στην βάνα υγρού και στη βάνα αερίου. Για γρηγορότερη εκκένωση μπορείτε να συνδέτε και τους δύο εύκαμπτους αγωγούς της βαλβίδας πολλαπλής στις δύο βαλβίδες επίσκεψης.

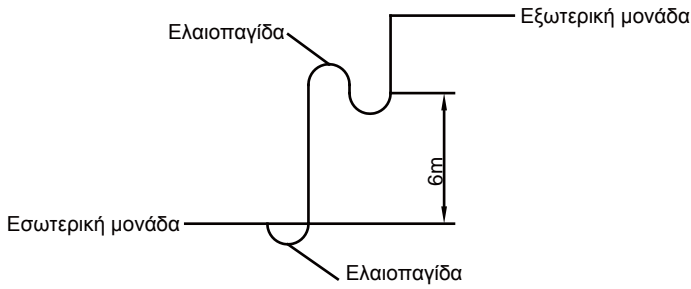
4.4.2 Επιπλέον Πλήρωση

Η μονάδα είναι εργοστασιακά πληρωμένη με ψυκτικό υγρό για μήκος σωληνώσεων έως 5m. Όταν το μήκος σωληνώσεων είναι πάνω από 7m, χρειάζεται επιπλέον πλήρωση. Για την επιπλέον πλήρωση, δείτε τον πίνακα 9.

Πίνακας 9

Mode	Item	Επιπλέον ποσότητα ανά επιπλέον μέτρο
12~18K		30 g/m
24~60K		60 g/m

Όταν η υψομετρική διαφορά μεταξύ της εσωτερικής και εξωτερικής μονάδας είναι πάνω από 10m, τότε θα πρέπει ανα 6m να τοποθετήσετε ελαιοπαγίδες.

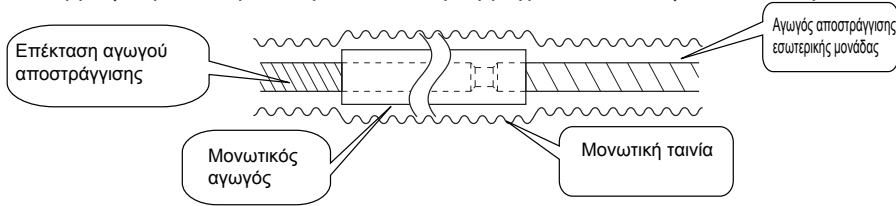


Εικ.21

4.5 Εγκατάσταση Του Σωλήνα Αποστράγγισης

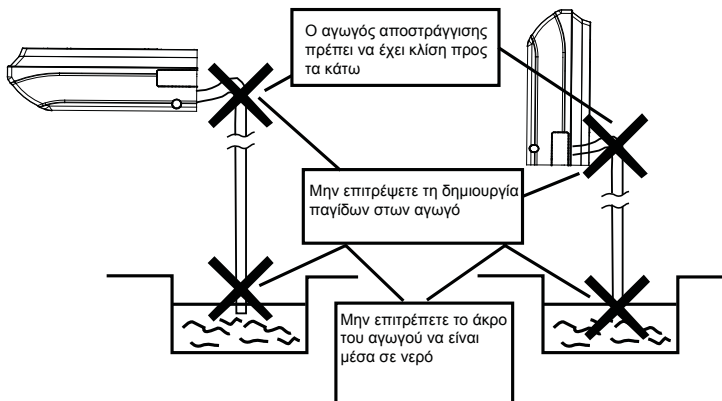
4.5.1 Εγκατάσταση Του Αγωγού Αποστράγγισης

- (1). Προσπαθήστε ο αγωγός να είναι όσο πιο κοντός γίνεται και με κλίση προς τα κάτω τουλάχιστον 1/100, έτσι ώστε να μην εγκλωβίζεται αέρας μέσα στον αγωγό
- (2). Διατηρήστε το μέγεθος ίδιο ή μεγαλύτερο από αυτό του σωλήνα σύνδεσης
- (3). Τοποθετήστε τον αγωγό αποστράγγισης όπως φαίνεται παρακάτω και βεβαιωθείτε πως δεν θα υπάρχει παρουσία συμπυκνωμάτων. Ακατάλληλη τοποθέτηση μπορεί να προκαλέσει διαρροή συμπυκνωμάτων με αποτέλεσμα βρεγμένα έπιπλα ή άλλα αντικείμενα.



Εικ.22

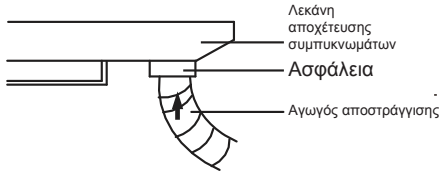
- (4). Σύνδεση του αγωγού αποστράγγισης (εικ.23)



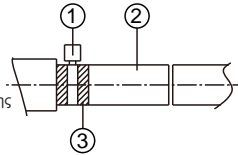
Εικ.23

4.5.2 Εγκατάσταση των αγωγών αποστράγγισης

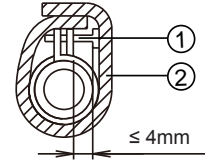
- (1). Για την επιλογή της θέσης του αγωγού αποστράγγισης, ακολουθείστε τα παρακάτω
- (2). Περάστε τον αγωγό αποστράγγισης από την έξοδο αποστράγγισης και σφίξτε το κολάρο με ταινία.(εικ.24)
- (3). Συνδέστε την επέκταση αγωγού αποστράγγισης και σφίξτε με ταινία.



Εικ.24



Εικ.25



Εικ.26

Σφίξτε το κολάρο μέχρι το το κεφάλι της βίδας να απέχει 4mm από τον αγωγό.(εικ.25)

- ① – Μεταλικό κολάρο ② – Αγωγός αποστράγγισης ③ – Γκρι ταινία

Μονώστε τον σωλήνα σύνδεσης και τον αγωγό αποστράγγισης με ειδικό σπόγγο θερμομόνωσης.(εικ.26)

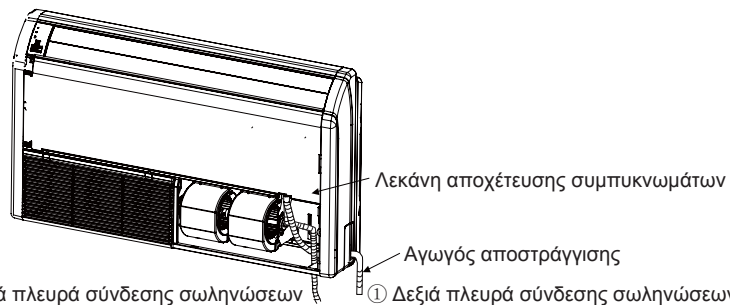
- ① – Μεταλικό κολάρο ② – Μονωτικός σπόγγος

- (4). Αν χρειαστεί επέκταση για τον αγωγό αποστράγγισης, προμηθευτείτε από την τοπική αγορά
- (5). Αφού ολοκληρώσετε την τοποθέτηση του αγωγού αποστράγγισης, καλύψτε με ταινία τις σχισμές στον θερμομονωτικό αγωγό
- (6). Συνδέστε τον αγωγό αποστράγγισης στην αποχέτευση. Βεβαιωθείτε πως το καλώδιο επικοινωνίας είναι στην ίδια πλευρά με τις σωληνώσεις.

4.5.3 Σύνδεση του αγωγού αποστράγγισης

- (1). Συνδέστε τον βοηθητικό αγωγό στον κύριο
- (2). Συνδέστε τις σωληνώσεις στο σημείο σύνδεσης, όπως φαίνεται στα σκαρφήματα εγκατάστασης

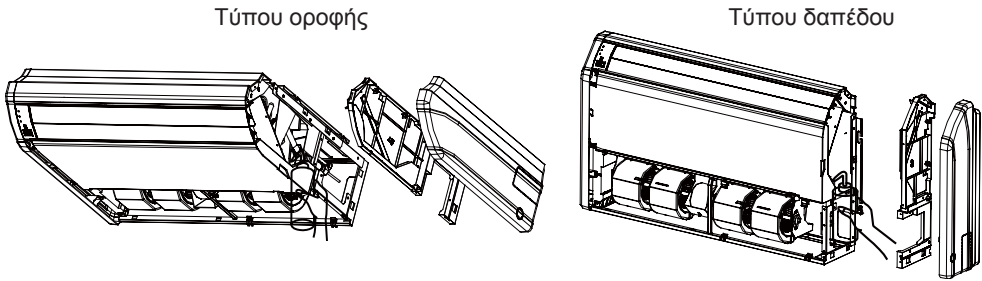
Σημείωση: Βεβαιωθείτε πως έχετε τοποθετήσει τον αγωγό αποστράγγισης όπως στο παρακάτω διάγραμμα, με κλίση προς τα κάτω.



Εικ.27

4.5.4 Έλεγχος του αγωγού αποστράγγισης


- (1). Αφού ολοκληρώσετε την εγκατάσταση, ελέγξτε αν η απορροή είναι ομαλή.
- (2). Όπως φαίνεται στην εικ.27, ρίξτε σιγά 1 λίτρο νερού στη λεκάνη αποχέτευσης και ελέγξτε πως η απορροή γίνεται ομαλά κατά τη λειτουργία της ψύξης.




Εικ.28

4.7 Ηλεκτρολογική Σύνδεση

4.7.1 Προφυλάξεις Για Την Συνδεσμολογία

 Προειδοποίηση!
① . Πριν έρθετε σε επαφή με τις τερματικές επαφές, πρέπει όλα τα κυκλώματα παροχής ρεύματος να έχουν αποσυνδεθεί.
② . Η Τάση λειτουργίας της μονάδας φαίνεται στους πίνακες 5 και 6
③ . Πριν τη ρευματοδότηση βεβαιωθείτε πως η τάση είναι 198~264V (για μοναφασικές μονάδες) ή 342~457V (για τριφασικές μονάδες)
④ . Χρησιμοποιείτε πάντα ειδικό κύκλωμα και βεβαιωθείτε πως η τάση είναι η κατάλληλη για τη μονάδα
⑤ . Χρησιμοποιείτε πάντα ξεχωριστό ασφαλειοδιακόπτη και βεβαιωθείτε πως ταιριάζει στην απόδοση της μονάδας
⑥ . Ο ασφαλειοδιακόπτης τοποθετείται στη σταθερή συνδεσμολογία. Χρησιμοποιήστε κύκλωμα που μπορεί να ελευθερώνει όλους τους πόλους της συνδεσμολογίας και η απόσταση μόνωσης ανάμεσα στις επαφές κάθε πόλου πρέπει να είναι τουλάχιστον 3mm
⑦ . Συνδέστε τα καλώδια σύμφωνα με τα πρότυπα έτσι ώστε η μονάδα να λειτουργήσει σωστά και με ασφάλεια.
⑧ . Τοποθετήστε έναν ασφαλειοδιακόπτη διαρροής στο κύκλωμα σύμφωνα με τους νόμους και κανονισμούς και τα ηλεκτρικά προτυπα του κατασκευαστή

 Προσοχή!
① . Η συνολική παροχή θα πρέπει α προκύπτει από το άθροισμα της έντασης του ρεύματος της κλιματιστικής μονάδας και της έντασης του ρεύματος των υπόλοιπων ηλεκτρικών συσκευών. Εάν η χωρητικότητα έντασης (ασφάλεια) δεν είναι επαρκής, αλλάξτε την.
② . Όταν η τάση είναι πολύ χαμηλή και η μονάδα δυσκολεύεται να ξεκινήσει, επικοινωνήστε με τη ΔΕΗ για να αυξήσει την τάση.

4.7.2 Ηλεκτρική Σύνδεση

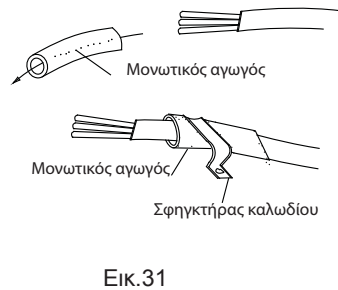
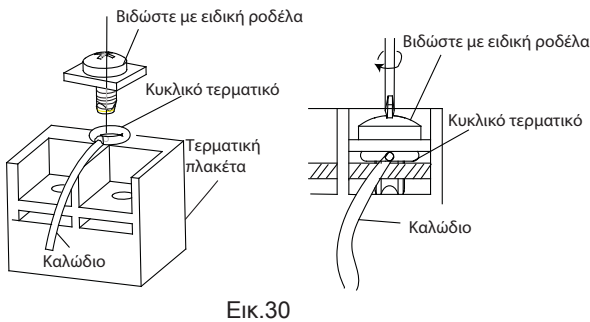
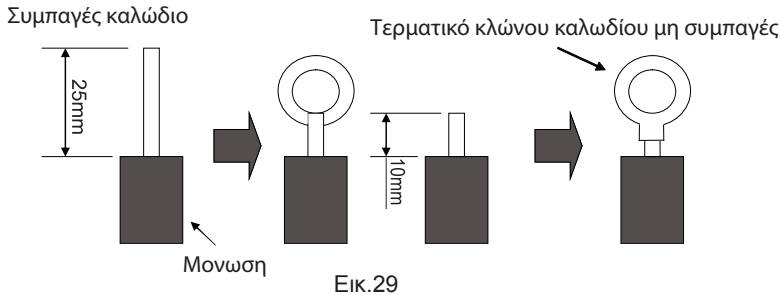
(1). Για συμπαγές καλώδιο (εικ.29)

1. Κόψτε το άκρο του καλωδίου με κόπτη, και αφαιρέστε τη μόνωση για περίπου 25mm (15/16")
2. Με ένα καταβίδι αφαιρέστε τις βίδες των τερματικών από την πλακέτα.
3. Με ένα μυτοσίμπιδο λυγίστε το συμπαγές καλώδιο για να σχηματίσετε έναν βρόγχο κατάλληλο για την τερματική βίδα

4. Σχηματίστε τον βρόγχο του καλωδίου, τοποθετήστε το στην τερματική πλακέτα και σφίξτε με την βίδα με την χρήση κατασαβιδιού.

(2). Για συνδεσμολογία κλωνων καλωδίου (εικ.39)

1. Κόψτε το άκρο του καλωδίου με κοπτή, και αφαιρέστε τη μόνωση για περίπου 10mm (3/8")
2. Με ένα κατασαβίδι αφαιρέστε τις βίδες των τερματικών από την πλακέτα.
3. Με τη χρήση μυτοσίμπιδου στερεώστε σε κάθε άκρο γυμνού καλωδίου ένα τερματικό
4. Τοποθετήστε το καλώδιο και αντικαταστήστε και σφίξτε την τερματική βίδα με κατασαβίδι (εικ.40)

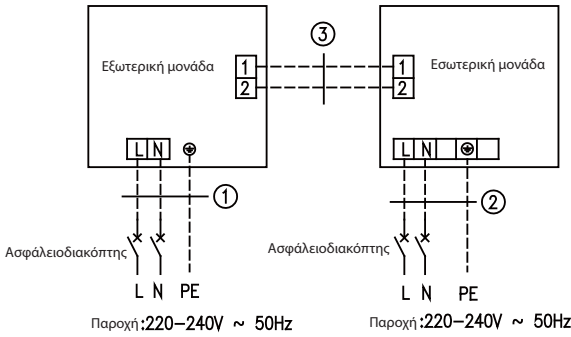


(3). Πως να στερεώσετε το παροχικό καλώδιο και το καλώδιο σύνδεσης με σφηνκτήρα καλωδίου Αφού οδηγήσετε τα καλώδια μέσα στον μονωτικό αγωγό, στερεώστε τα με τον σφηνκτήρα καλωδίου (εικ.31)

Προειδοποίηση!
① . Πριν ξεκινήσετε τις εργασίες βεβαιωθείτε πως η μονάδα δεν είναι ρευματοδοτημένη
② . Συνδυάστε τα νούμερα στα τερματικά και τα χρώματα των καλωδίων σύνδεσης με αυτά της εσωτερικής μονάδας
③ . Λανθασμένη συνδεσμολογία μπορεί να προκαλέσει την καύση των ηλεκτρικών μερών
④ . Συνδέστε σωστά τα καλώδια, αλλιώς μπορεί να προκληθεί πυρκαγιά.
⑤ . Να στερεώνετε πάντα το εξωτερικό περίβλημα του καλωδίου με σφηνκτήρες.(εάν δεν τα στερεώσετε μπορεί να προκληθεί διαρροή ρεύματος)
⑥ . Πάντα να συνδέετε το καλώδιο γείωσης.

Μονάδα Δαπέδου - Οροφής Inverter U-Match

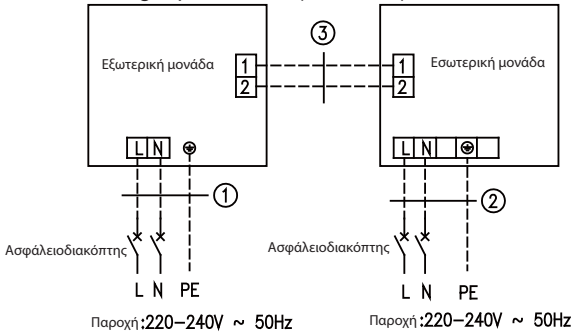
(4). Ηλεκτρολογική συνδεσμολογία ανάμεσα στις εσωτερικές και εξωτερικές μονάδες
Μονοφασικές μονάδες(12K~30K)



U2RS-12 +V2KI-12
U2RS-18 +V2KI-18
① . Παροχικό καλώδιο 3×1.5mm ² (H07RN-F)
② . Παροχικό καλώδιο 3×1.0mm ² (H05RN-F)
③ . Καλώδια επικοινωνίας 2×0.75mm ² (H05RN-F)

U2RS-24 +V2KI-24
U2RS-30 +V2KI-30
① . Παροχικό καλώδιο 3×2.5mm ² (H07RN-F)
② . Παροχικό καλώδιο 3×1.0mm ² (H05RN-F)
③ . Καλώδια επικοινωνίας 2×0.75mm ² (H05RN-F)

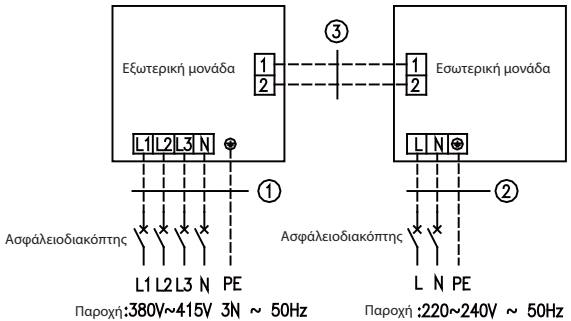
Single-phase units(36K~50K)



U2RS-36 +V2KI-36
U2RS-45 +V2KI-45
① . Παροχικό καλώδιο 3×2.5mm ² (H07RN-F)
② . Παροχικό καλώδιο 3×1.0mm ² (H05RN-F)
③ . Καλώδια επικοινωνίας 2×0.75mm ² (H05RN-F)

U2RS-50 +V2KI-50
① . Παροχικό καλώδιο 3×6.0mm ² (H07RN-F)
② . Παροχικό καλώδιο 3×1.0mm ² (H05RN-F)
③ . Καλώδια επικοινωνίας 2×0.75mm ² (H05RN-F)

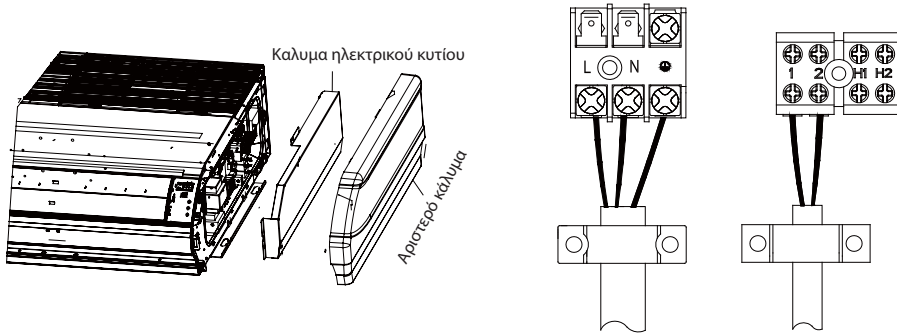
Three-phase units



U2RT-36 +V2KI-36
U2RT-45 +V2KI-45
U2RT-50 +V2KI-50
U2RT-60 +V2KI-60
① Παροχικό καλώδιο 5×2.5mm ² (H07RN-F)
② . Παροχικό καλώδιο 3×1.0mm ² (H05RN-F)
③ . Καλώδια επικοινωνίας 2×0.75mm ² (H05RN-F)

Εικ.32

- (5). Συνδεσμολογία της εσωτερικής μονάδας
Αφαιρέστε το κάλυμμα από το κουτί και συνδέστε τα καλώδια



Εικ.33

⚠ Προσοχή!

- ① . Το παροχικό καλώδιο και το καλώδιο του φρέσκου αέρα είναι υψηλής τάσης, ενώ το καλώδιο επικοινωνίας και το καλώδιο σύνδεσης του ενσύρματου χειριστηρίου είναι χαμηλής τάσης. Θα πρέπει να τρέχουν ξεχωριστά για την αποφυγή ηλεκτρομαγνητικών παρεμβολών.
- ② . Οι γραμμές υψηλής τάσης και χαμηλής τάσης πρέπει να οδηγούνται μέσα από τους λαστιχένιους δακτύλιους σε ξεχωριστά κουτιά.
- ③ . Μην τοποθετείτε μαζί το καλώδιο επικοινωνίας και το καλώδιο του ενσύρματου χειριστηρίου και μην τα έχετε παράλληλα. Μπορεί να προκληθεί ακατάλληλη λειτουργία.
- ④ . Τα καλώδια υψηλής και χαμηλής τάσης πρέπει να ενώνονται ξεχωριστά με σφιγκτήρες μεγάλους για τα πρώτα και μικρούς για τα δεύτερα
- ⑤ . Στερεώστε τα καλώδια επικοινωνίας και τα παροχικά καλώδια της εσωτερικής/εξωτερικής μονάδας στις τερματικές πλακέτες. Λανθασμένη συνδεσμολογία μπορεί να προκαλέσει πυρκαγιά.
- ⑥ . Εάν η συνδεσμολογία επικοινωνίας και η παροχή είναι λάθος, μπορεί να προκληθεί βλάβη στη μονάδα
- ⑦ . Συνδέστε το καλώδιο επικοινωνίας της εσωτερικής μονάδας σύμφωνα με τις αναφερόμενες σημειώσεις όπως φαίνονται στην εικ.42
- ⑧ . Γειώστε και την εσωτερική και την εξωτερική μονάδα με καλώδιο γείωσης
- ⑨ . Η μονάδα πρέπει να γειωθεί σύμφωνα με τους εθνικούς και διεθνείς κανονισμούς

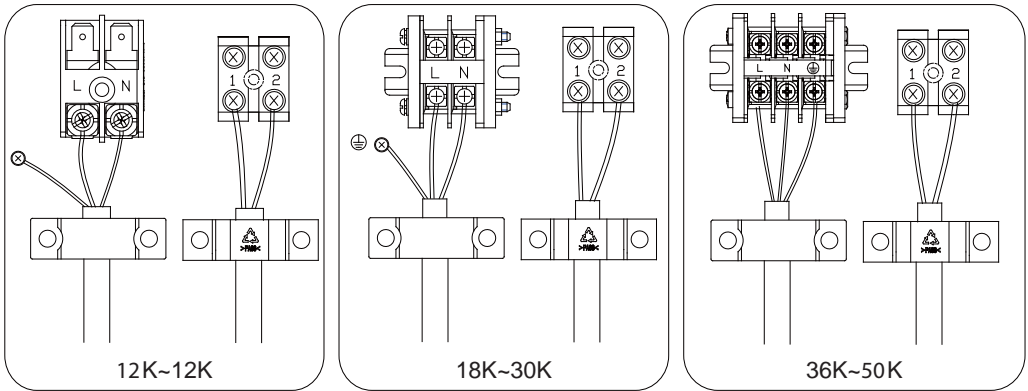
Μονάδα Δαπέδου - Οροφής Inverter U-Match

(6). Ηλεκτρολογική σύνδεση της εξωτερικής μονάδας

Σημείωση: κατά τη σύνδεση του παροχικού καλωδίου βεβαιωθείτε πως η φάση του ρεύματος είναι σωστή. Αν όχι ο συμπιεστής θα γυρίζει ανάποδα και δεν θα λειτουργεί σωστά.

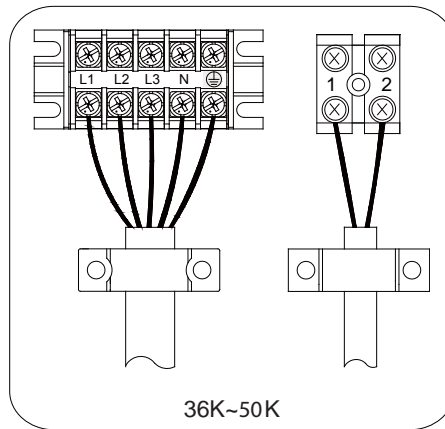
Αφαιρέστε την μεγάλη λαβή(12~45K)/μπροστινό κάλυμμα(50/60K) της εξωτερικής μονάδας και τοποθετήστε τα άκρα του παροχικού και του καλωδίου επικοινωνίας στην τερματική πλακέτα.

Μονοφασικό:



Εικ.34

Τριφασικό:



Εικ.35

5 Εγκατάσταση Των Χειριστηρίων

Ανατρέξτε στο εγχειρίδιο εγκατάστασης του χειριστηρίου για λεπτομέρειες

6 Δοκιμαστική Λειτουργία

6.1 Δοκιμαστική Λειτουργία

(1). Η περιγραφή των κωδικών των σφαλμάτων φαίνεται παρακάτω:

Πίνακας 10

Νούμερο	Κωδικός σφάλματος	Περιγραφή σφάλματος
1	E1	Προστασία από υψηλή πίεση
2	E2	Προστασία αποπάγωσης της εσωτερικής μονάδας
3	E3	Προστασία από χαμηλή πίεση, έλλειψη ψυκτικού μέσου
4	E4	Προστασία του συμπιεστή από υψηλή θερμοκρασία στην κατάθλιψη
5	E6	Σφάλμα στην επικοινωνία
6	E8	Σφάλμα στο μοτέρ του εσωτερικού ανεμιστήρα
7	E9	Προστασία υπερχέλισης
8	F0	Σφάλμα του αισθητήρα χώρου
9	F1	Σφάλμα του αισθητήρα του στοιχείου (εξαμιστή)
10	F2	Σφάλμα του αισθητήρα του στοιχείου (συμπυκνωτή)
11	F3	Σφάλμα του αισθητήρα εξωτερικού περιβάλλοντος
12	F4	Σφάλμα στον αισθητήρα κατάθλιψης
13	F5	Σφάλμα στον αισθητήρα του ενσύρματου χειριστηρίου
14	C5	Σφάλμα κωδικού απόδοσης
15	EE	Σφάλμα στο τοιπ της μνήμης της εξωτερικής μονάδας
16	PF	Σφάλμα στον αισθητήρα του ηλεκτρικού κυτίου
17	H3	Προστασία του συμπιεστή από υπερφόρτωση
18	H4	Υπερφόρτωση
19	H5	Προστασία IPM
20	H6	Σφάλμα στο μοτέρ του ανεμιστήρα
21	H7	Προστασία λόγω αποσυγχρονισμού στο inverter
22	Hc	Προστασία Pfc
23	L1	Σφάλμα στον αισθητήρα υγρασίας
24	Lc	Σφάλμα ενεργοποίησης
25	Ld	Προστασία συμπιεστή λόγω συνέχειας των φάσεων
26	LF	Προστασία παροχής
27	Lp	Δεν ταιριάζει η εσωτερική με την εξωτερική μονάδα
28	U7	Προστασία αλλαγής κατεύθυνσης της 4οδης
29	P0	Προστασία λόγω επανεκκίνησης του inverter
30	P5	Προστασία υπερέντασης
31	P6	Σφάλμα στην επικοινωνία μεταξύ της κεντρικής πλακέτας και του inverter
32	P7	Σφάλμα του αισθητήρα του inverter
33	P8	Προστασία λόγω υπερθέρμανσης του inverter
34	P9	Zero passage protection
35	PA	Προστασία ρεύματος ac
36	Pc	Σφάλμα ρεύματος inverter
37	Pd	Προστασία σύνδεσης αισθητήρα

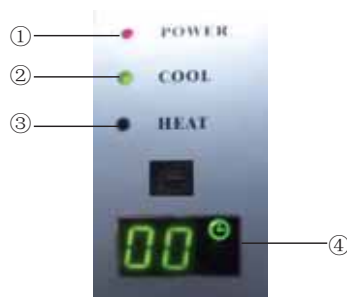
37	Pd	Προστασία σύνδεσης αισθητήρα
38	PE	Προστασία αλλαγής της θερμοκρασίας
39	PL	Χαμηλή τάση πυκνωτή
40	PH	Υψηλή τάση πυκνωτή
41	PU	Σφάλμα φόρτισης
42	PP	Σφάλμα τάσης δικτύου
43	ee	Σφάλμα στο τσιπ της μήμης του inverter

Σημείωση: Όταν η μονάδα είναι συνδεδεμένη με το ενσύρματο χειριστήριο, ο κωδικός σφαλματος θα εμφανίζεται εκεί.

(2). Οδηγίες για τις ενδεικτικές λυχνίες σφαλμάτων πάνω στο πάνελ της μονάδας

Κατάσταση των ενδεικτικών λυχνιών:

- ① . **Ενδεικτική λυχνία POWER:** η ενδεικτική λυχνία θα ανάβει όταν η μονάδα είναι ενεργοποιημένη και θα είναι σβηστή όταν η μονάδα είναι απενεργοποιημένη
- ② . **Ενδεικτική λυχνία COOL(ψύξη):** όταν η μονάδα λειτουργεί σε ψύξη τότε η λυχνία θα είναι αναμμένη
- ③ . **Ενδεικτική λυχνία HEAT(θέρμανση):** όταν η μονάδα λειτουργεί σε θέρμανση τότε η λυχνία θα είναι αναμμένη
- ④ . **Ενδεικτική λυχνία TIMER:** όταν ενεργοποιείται το timer, θα ανάβει η ενδεικτική λυχνία και θα είναι σβηστή όταν η λειτουργία timer είναι ανενεργή



Εικ.36

6.2 Θερμοκρασιακά εύρη λειτουργίας

Πίνακας 11

Συνθήκες δοκιμής	Θερμοκρασία χώρου		Θερμοκρασία εξωτερικού περιβάλλοντος	
	ΞB(°C)	ΥB(°C)	ΞB(°C)	ΥB(°C)
Ονομαστική ψύξη	27	19	35	24
Ονομαστική θέρμανση	20	-	7	6
Λειτουργία ψύξης	32	23	48	-
Ψύξη χαμηλής εξωτερικής θερμοκρασίας	21	15	-15	-
Λειτουργία θέρμανσης	27	-	24	18
Θέρμανση σε χαμηλές εξωτερικές θερμοκρασίες	20	-	-10	-11

Σημείωση:

- ① . Ο σχεδιασμός αυτής της μονάδας ακολουθεί τις απαιτήσεις του πρότυπου EN14511.
- ② . Η παροχή του αέρα είναι με την σχετική πρότυπη στατική πίεση
- ③ . Οι παραπάνω αποδόσεις είναι υπό ονομαστικές συνθήκες λειτουργίας σύμφωνα με προτυπη εξωτερική στατική πίεση. Οι παράμετροι μπορεί να αλλάξουν με την αναβάθμιση των προϊόντων. Σε αυτή την περίπτωση ισχύουν τα χαρακτηριστικά που θα βλέπετε πάνω στο ταμπλεάκι της μονάδας.
- ④ . Σε αυτόν τον πίνακα εμφανίζονται 2 θερμοκρασίες DB για την ψύξη σε χαμηλές θερμοκρασίες και αυτή στις ακύλες είναι για τη μονάδα που μπορεί να δουλέψει σε πολύ χαμηλές θερμοκρασίες.

7 Διαχείριση Σφαλμάτων και Συντήρηση

7.1 Διαχείριση Σφαλμάτων


Εάν η κλιματιστική μονάδα δεν λειτουργεί σωστά ή υπάρχει κάποιο σφάλμα ελέγξτε πρώτα τα παρακάτω:

Πίνακας 12

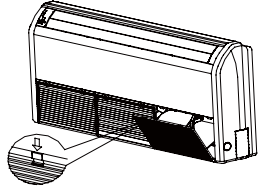
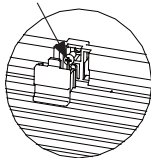

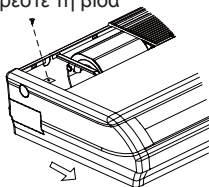
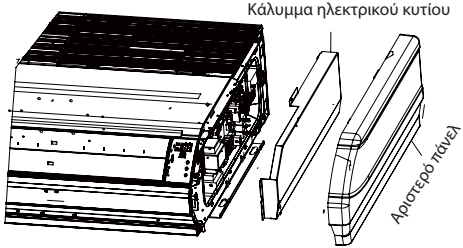
Σφάλμα	Πιθανές αιτίες
Η μονάδα δεν ξεκινάει	<ol style="list-style-type: none"> 1. Δεν έχει συνδεθεί η παροχή 2. Πέφτει η ασφάλεια λόγω διαρροής ρεύματος 3. Είναι κλειδωμένα τα πλήκτρα λειτουργίας 4. Σφάλμα στο κύκλωμα επικοινωνίας
Η μονάδα λειτουργεί για λίγο και μετά σταματάει	<ol style="list-style-type: none"> 1. Υπάρχει εμπόδιο μπροστά στον συμπυκνωτή 2. Υπάρχει σφάλμα στο κύκλωμα επικοινωνίας 3. Έχει επιλεγεί η λειτουργία σε ψύξη ενώ η εξωτερική θερμοκρασία είναι πάνω από 48°C
Ανεπαρκής απόδοση ψύξης	<ol style="list-style-type: none"> 1. Το φίλτρο είναι βρώμικο ή φραγμένο 2. Κοντά στη μονάδα υπάρχει πηγή θερμότητας ή υπάρχουν πολλά άτομα στον χώρο 3. Είναι ανοιχτά πόρτες ή παράθυρα 4. Υπάρχει εμπόδιο στην είσοδο ή την έξοδο του αέρα 5. Η επιλεγμένη θερμοκρασία είναι υψηλή 6. Υπάρχει διαρροή ψυκτικού υγρού 7. Κακή απόδοση του αισθητήρα του χώρου
Ανεπαρκής απόδοση στη θέρμανση	<ol style="list-style-type: none"> 1. Το φίλτρο είναι βρώμικο ή φραγμένο 2. Οι πόρτες και τα παράθυρα δεν είναι καλά κλεισμένα 3. Η επιλεγμένη θερμοκρασία είναι πολύ χαμηλή 4. Διαρροή ψυκτικού υγρού 5. Η εξωτερική θερμοκρασία είναι κάτω από -5°C 6. Σφάλμα στο κύκλωμα επικοινωνίας

Σημείωση: Αφού κάνετε τα παραπάνω και το πρόβλημα παραμένει, τότε σταματήστε τη λειτουργία της μονάδας και επικοινωνήστε με το εξουσιοδοτημένο συνεργείο, ώστε η επισκευή να γίνει από εξειδικευμένο τεχνικό.

7.2 Προληπτική Συντήρηση

 Προειδοποίηση !
① . Πριν τον καθαρισμό της μονάδας, βεβαιωθείτε πως η μονάδα είναι απενεργοποιημένη και δεν είναι συνδεδεμένη στην παροχή ρεύματος. Μπορεί να προκληθεί ηλεκτροπληξία.
② . Μην βρέχετε την κλιματιστική μονάδα, μπορεί να προκληθεί ηλεκτροπληξία. Βεβαιωθείτε πως ο καθαρισμός της μονάδας δεν γίνεται με τη χρήση νερού.
③ . Η χρήση βενζίνης ή σκληρού απορρυπαντικού μπορεί να βλαπεί την εμφάνιση της μονάδας (επομένως, μπορείτε να χρησιμοποιήσετε στεγνό ή πανί βρεγμένο με ουδέτερο απορρυπαντικό για τον καθαρισμό του πάνελ της μονάδας).

(1). Μέθοδος αποσυναρμολόγησης του φίλτρου και του καλύμματος του ηλεκτρικού κυτίου

<p>1. Ανοίξτε το πλέγμα εισόδου του αέρα</p> <ol style="list-style-type: none"> ① .Πρώτα ξεσφίξτε τις ασφάλειες όπως φαίνεται στην εικ. ② . Αφαιρέστε τις βίδες που είναι κατω από τις ασφάλειες με κατσαβίδι και ανοίξτε το πλέγμα εισόδου του αέρα 	 <p>Αφαιρέστε τη βίδα</p> 
<p>2. Καθαρισμός του φίλτρου</p> <p>Καθαρίστε με τη χρήση ηλεκτρικής σκούπας ή πλύντε το φίλτρο με νερό. Εάν πάνω στο φίλτρο υπάρχει κηλίδα λαδιού που δεν μπορεί να καθαριστεί, τότε πλύντε το φίλτρο με χλιαρό νερό και ουδέτερο απορρυπαντικό. Στεγνώστε το φίλτρο σε σκιερό μέρος</p> <p>Σημείωση:</p> <ol style="list-style-type: none"> ① .Μην χρησιμοποιείτε ποτέ νερό πάνω από 45°C μπορεί να κιτρινίσει το φίλτρο ② .Μην στεγνώνετε το φίλτρο κοντά σε φωτιά, μπορεί να καεί ή να παραμορφωθεί 	
<p>3. Αποσυναρμολόγηση του δεξιού και αριστερού πάνελ</p> <ol style="list-style-type: none"> ① .Μόλις αποσυναρμολογήσετε το πλέγμα, με τη χρήση ενός κατσαβιδιού αφαιρέστε τις βίδες, όπως φαίνεται στην εικόνα. ② .Πιέστε το πάνελ με τη φορά του βέλους και αφαιρέστε το. 	<p>Αφαιρέστε τη βίδα</p> 
<p>4. Αποσυναρμολόγηση του δεξιού πάνελ</p>	<p>Ίδια μέθοδος όπως περιγράφεται στο βήμα 3</p>
<p>5. Αποσυναρμολογήστε το κάλυμα του ηλεκτρικού κυτίου. Αφού αφαιρέσετε το δεξί πάνελ, θα δείτε το κάλυμμα του ηλεκτρικού κυτίου. Αφαιρέστε τις βίδες για να αποσυναρμολογήσετε το κάλυμμα</p>	 <p>Κάλυμμα ηλεκτρικού κυτίου</p> <p>Αριστερό πάνελ</p>

(2). Πριν την ενεργοποίηση της μονάδας:

1. Ελέγξτε αν υπάρχουν εμπόδια στην είσοδο και έξοδο αέρα της μονάδας
2. Βεβαιωθείτε πως η γείωση έχει συνδεθεί σωστά από εξειδικευμένο τεχνικό
3. Ελέγξτε τις μπαταρίες του ασύρματου χειριστηρίου και αν έχουν λήξει βεβαιωθείτε πως έχουν αντικατασταθεί
4. Βεβαιωθείτε πως το φίλτρο έχει τοποθετηθεί σωστά

Να έχετε ρευματοδοτημένη τη μονάδα για τουλάχιστον 8 ώρες πριν την ενεργοποίησή της, αν έχει να λειτουργήσει για αρκετό διάστημα.

Σημείωση: όλα τα παραπάνω πρέπει να γίνουν απο εξειδικευμένο τεχνικό.

(3). Κατά το τέλος της περιόδου χρήσης της μονάδας

1. Διακόψτε τη ρευματοδότηση της μονάδας
2. Να γίνει καθαρισμός των φίλτρων και των υπόλοιπων μερών από εξειδικευμένο τεχνικό
3. Αφήστε τον ανεμιστήρα της εσωτερικής μονάδας να λειτουργεί για 2-3 ώρες ώστε να αφαιρεθεί όλη η υγρασία από την εσωτερική μονάδα.



Σημείωση: όλα τα παραπάνω πρέπει να γίνουν από εξειδικευμένο τεχνικό


Σημειώσεις:

CUPRINS

1. Măsuri de siguranță	59
2 Prezentarea unității și a componentelor principale	60
3 Pregătirea pentru instalare	61
3.1 Piese și componentele accesorii standard.....	61
3.2 Alegerea locului de instalare.....	62
3.3 Condiții privind conducta de legătură	63
3.4 Condiții privitoare la electricitate	64
4 Instalarea unității	66
4.1 Instalarea unității de interior	66
4.2 Instalarea unității de exterior	68
4.3 Instalarea conductei de legătură	70
4.4 Verificarea contra scurgerilor de gaz sau lichid	73
4.5 Instalarea conductei de evacuare	75
4.6 Racordarea la rețeaua electrică	77
5. Instalarea dispozitivelor de comandă	82
6. Încercare de funcționare	82
6.1 Funcționarea de probă și testarea	82
6.2 Gama de temperaturi în lucru	83
7. Detectarea defecțiunilor și întreținere	84
7.1 Detectarea defecțiunilor	84
7.2 Întreținere de rutină	84

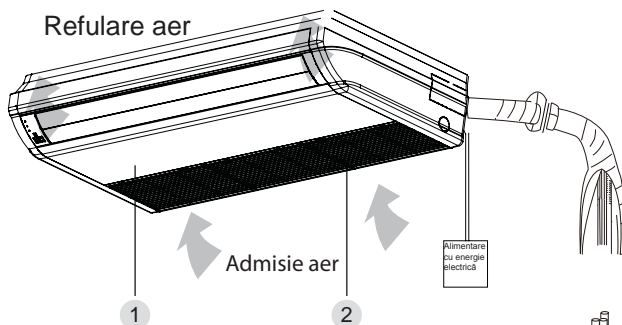
1 Măsurile de siguranță

 AVERTIZARE!	Acest simbol indică proceduri care, în cazul în care sunt efectuate necorespunzător, pot duce la accidentul mortal sau rănirea gravă a utilizatorului.
 ATENȚIE!	Acest simbol indică proceduri care, în cazul în care sunt efectuate necorespunzător, ar putea produce rănirea utilizatorului sau distrugerea proprietății.

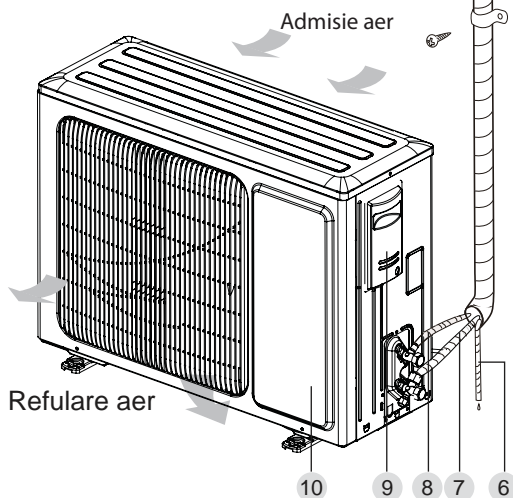
 AVERTIZARE!	
(1).	Pentru funcționarea aparatului de aer condiționat într-un mod plăcut, vă rugăm să îl instalați așa cum este indicat în acest manual de instalare
(2).	Conectați unitatea de interior și cea de exterior la instalația de conducte a camerei și la cordonul de alimentare disponibil împreună cu părțile și componentele noastre standard. Acest manual de instalare prezintă conexiunile corecte cu ajutorul setului de instalare disponibil împreună cu părțile și componentele noastre standard.
(3).	Instalarea trebuie efectuată cu respectarea standardelor internaționale de cuplare, doar de către personal autorizat.
(4).	În cazul în care agentul de refrigerare prezintă scurgeri în timpul efectuării lucrărilor, aerisiți zona. În cazul în care agentul de refrigerare intră în contact cu o flacără, acesta produce un gaz toxic
(5).	Nu conectați unitatea la rețeaua de electricitate dacă lucrările de instalare nu sunt terminate
(6).	În timpul instalării, asigurați-vă că conducta pentru agentul de refrigerare este conectată strâns înainte de a pune în funcțiune compresorul. Nu puneți în funcțiune compresorul dacă instalația de conducte cu agent de refrigerare nu este conectată adecvat la deschiderea cu supapă cu două sau trei căi. Acest lucru poate crea o presiune necorespunzătoare în ciclul de refrigerare care poate duce la avariere sau chiar lezare.
(7).	În timpul procesului de reducere a presiunii, asigurați-vă că compresorul este închis înainte de a îndepărta instalația de conducte cu agent de refrigerare. Nu îndepărtați conducta de conectare la deschiderea cu supapă cu două sau trei căi în timp ce compresorul este în funcțiune. Acest lucru poate cauza o presiune necorespunzătoare în ciclul de refrigerare care poate duce la avariere sau chiar lezare
(8).	Atunci când instalați și mutați aparatul de aer condiționat, nu amestecați gaze altele decât agentul de refrigerare specificat (R410A) pentru a intra în ciclul de răcire. În cazul în care în ciclul de răcire pătrunde aer sau alt gaz, presiunea din interiorul ciclului va crește la o valoare necorespunzător de mare și va cauza avarieri, lezări, etc.
(9).	Acest dispozitiv nu este destinat folosirii de către persoane (inclusiv copii) cu abilități fizice, senzoriale sau mentale deficiente sau care nu au experiență și cunoștințe dacă nu au fost îndrumați sau instruiți în ceea ce privește utilizarea dispozitivului de către o persoană responsabilă de siguranța acestora.
(10).	Copii trebuie supravegheați pentru a vă asigura că nu se joacă cu dispozitivul.
(11).	În cazul în care cablul de alimentare este avariât, acesta trebuie înlocuit de către producător, agentul său de service sau de persoane asemănătoare calificate, astfel încât să se evite orice pericol.

2 Prezentarea unității și a componentelor principale

La interior



La exterior



1. Gură de tiraj de ghidare
2. Filtu de aer
3. Telecomandă cu fir
4. Telecomandă fara fir
5. Banda de izolare
6. Conducta de evacuare
7. Conducta de gaz
8. Conducta de lichid
9. Mâner mare
10. Panou frontal

Fig.1

Mențiuni :









- ① . Conducta și tubul de conectare pentru această unitate trebuie asigurate de către utilizator.
- ② . Această unitate este echipată standard cu un tub dreptunghiular

3 Pregătirea pentru instalare


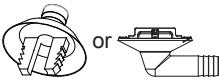
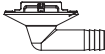
3.1 Piese și componentele accesorii standard

Piese și componentele accesorii standard prezentate mai jos sunt livrate și trebuie utilizate așa cum este recomandat.

Tabelul 1

Accesoriiile unității de interior				
Nr.	Denumire	Prezentare	Cant.	Utilizare
1	Manșon cu șaibă de etanșare		8	Pentru a fixa mânerul pe carcasa unității.
2	Aparat de comandă fără fir + baterie		1+2	Pentru a opera unitatea de interior
3	Izolație		1	Pentru a izola conducta de gaz
4	Izolație		1	Pentru a izola conducta de lichid
5	Carton de izolare		2	Pentru a izola conducta de evacuare
6	Colier		4	Pentru a strânge buretele
7	Manșon		1	Pentru a conecta conducta de gaz
8	Manșon		1	Pentru a conecta conducta de lichid

Tabelul 2

Accesoriiile unității de exterior				
Nr.	Denumire	Prezentare	Cant.	Utilizare
1	Dop de evacuare		3	Pentru a închide gura de evacuare.
2	Conector de scurgere	 or 	1	Pentru a conecta la conducta de evacuare din PVC dur.

3.2 Alegerea locului de instalare

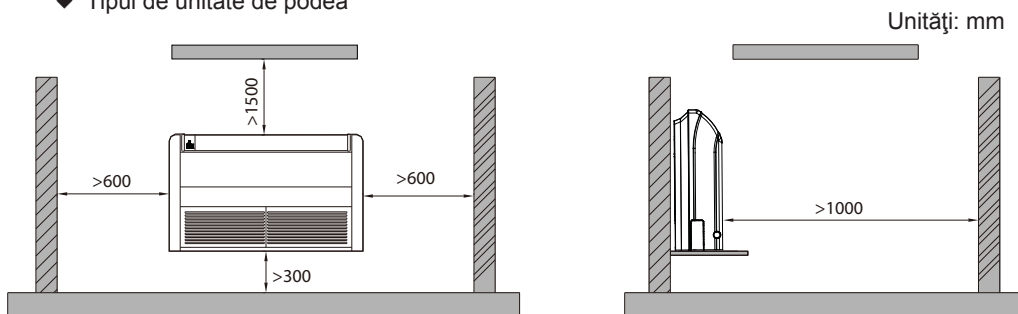
⚠️ AVERTIZARE!
Unitatea trebuie să fie instalată într-un loc cu o rezistență suficientă pentru a putea susține greutatea unității și pentru a o fixa la loc sigur. Altfel, unitatea s-ar putea răsturna sau cădea
⚠️ ATENȚIE!
① . Nu instalați într-un loc unde există pericolul de scurgere de gaze.
② . Nu instalați unitatea lângă o sursă de căldură, aburi sau gaz inflamabil
③ . Copiii cu vârsta sub 10 ani trebuie supravegheați pentru a nu pune în funcțiune unitatea.

Stabiliți locul de instalare împreună cu clientul după cum urmează

3.2.1 Unitatea de interior

- (1). Instalați unitatea într-un loc care este destul de rezistent pentru a susține greutatea unității.
- (2). Gura de admisia și de evacuare a unității nu trebuie să fie niciodată obturată astfel încât fluxul de aer să poată ajunge în fiecare colț al camerei
- (3). Lăsați loc de acces în jurul unității pentru service, așa cum este prezentat în Fig. 2.

◆ Tipul de unitate de podea



◆ Tipul de unitate de plafon

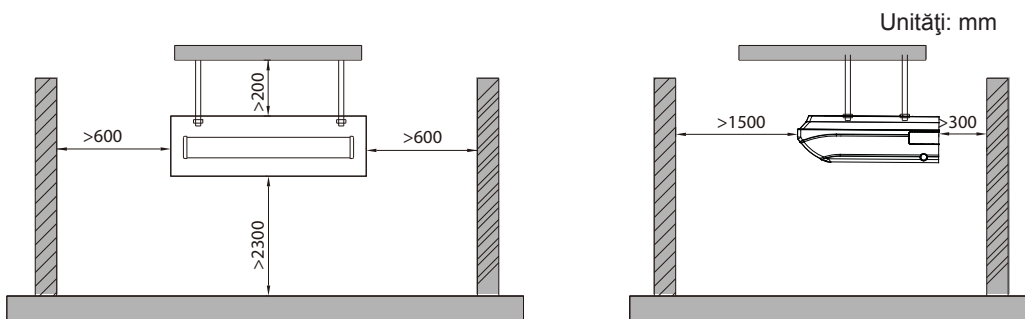


Fig. 2

- (4). Instalați unitatea acolo unde conducta de evacuare poate fi fixată cu ușurință
- (5). Spațiul dintre unitate și plafon trebuie să fie lăsat astfel încât să permită o depanare sau exploatare ușoară

3.2.2 Unitatea de exterior



AVERTIZARE!

- ① . Instalați unitatea astfel încât să nu aibă o înclinare mai mare de 5°.
- ② . În timpul instalării, în cazul în care unitatea de exterior trebuie să fie expusă vântului puternic, aceasta trebuie fixată foarte bine

Dacă este posibil, nu montați unitatea acolo unde va fi expusă la lumina directă a soarelui. (Dacă este necesar, instalați un ecran care să nu blocheze fluxul de aer).

- (1). Instalați unitatea de exterior într-un loc unde nu va fi expusă murdăriei sau umezelii pe cât posibil
- (2). Instalați unitatea de exterior acolo unde este convenabil pentru a fi legată de unitatea de interior.
- (3). Instalați unitatea de exterior acolo unde apa condensată poate să se scurgă nestingherită pe durata operației de încălzire.
- (4). Nu puneți animale sau plante în calea aerului cald.
- (5). Luați în considerare greutatea aparatului de aer condiționat și alegeți un loc unde nivelul de zgomot și vibrație este mic.
- (6). Instalați unitatea de exterior acolo unde greutatea unității poate fi suportată și se generează un nivel de zgomot și vibrație cât mai mic posibil.
- (7). Asigurați spațiul așa cum este prezentat în Fig. 3, astfel încât fluxul de aer să nu fie blocat. De asemenea, pentru o funcționare optimă, lăsați deschise trei din patru direcții ale construcțiilor periferice.

Unități: mm

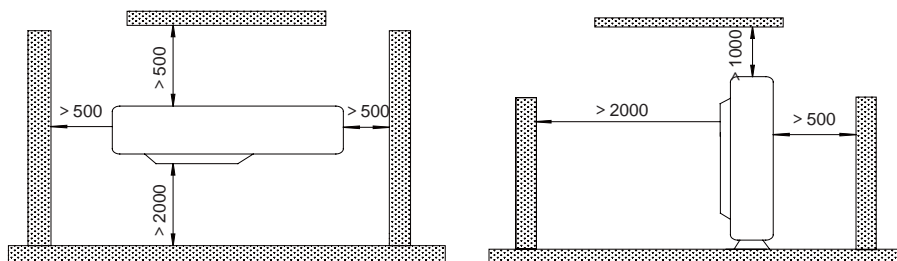


Fig.3

3.3 Condiții privind conducta de legătură



ATENȚIE!

Lungimea maximă a conductei de legătură este prezentată în tabelul de mai jos. Nu amplasați unitățile unde distanța dintre ele depășește lungimea maximă a conductei de legătură.

Tabelul 3

Model \ Articol	Mărimea racordului (în Inch)		Lungimea max. a conductei (m)	Diferența de înălțime maximă dintre unitatea de interior și cea de exterior (m)	Conducta de evacuare (diametru exterior x grosime perete) (mm)
	Liquid	Gas			
V2KI-12 U2RS-12	1/4	3/8	20	15	φ17×1.75
V2KI-18 U2RS-18	1/4	1/2	20	15	φ17×1.75
V2KI-24 U2RS-24	3/8	5/8	30	15	φ17×1.75
V2KI-30 U2RS-30	3/8	5/8	30	15	φ17×1.75
V2KI-36 U2RS-36	3/8	5/8	30	15	φ17×1.75
V2KI-45 U2RS-45	3/8	5/8	50	30	φ17×1.75
V2KI-50 U2RS-50	3/8	5/8	50	30	φ17×1.75
V2KI-36 U2RT-36	3/8	5/8	30	15	φ17×1.75
V2KI-45 U2RT-45	3/8	5/8	50	30	φ17×1.75
V2KI-50 U2RT-50	3/8	5/8	50	30	φ17×1.75
V2KI-60 U2RT-60	3/8	3/4	50	30	φ17×1.75

- (1). Conducta de legătură trebuie să fie izolată adecvat din punct de vedere termic.
- (2). Grosimea peretelui conductei va fi de 0.5-1.0mm și peretele conductei va putea rezista la o presiune de 6.0 MPa. Cu cât este mai lungă conducta de legătură, cu atât mai slab va fi procesul de răcire sau încălzire.

3.4 Condiții privitoare la electricitate

Dimensiunile firului electric și capacitatea de întrerupere

Tabelul4

Unități de interior	Sursă de energie	Capacitate de întrerupere	Capacitatea întreruptorului	Cablu de alimentare min. la rețea
	V/Ph/Hz	A	A	mm ²
12K~60K	220-240V~ 50Hz	3.15	6	1.0

Tabelul 5

Model	Sursă de alimentare	Capacitatea întrerupătorului pneumatic(A)	Zona sectorială minimă a cablului electric și a liniei de împământare (mm ²)
U2RS-12	220-240V ~ 50Hz	13	1.5
U2RS-18		16	1.5
U2RS-24		20	2.5
U2RS-30		20	2.5
U2RS-36		25	2.5
U2RS-45		25	2.5
U2RS-50		40	6.0
U2RT-36	380-415V 3N ~ 50Hz	20	2.5
U2RT-45		20	2.5
U2RT-50		25	2.5
U2RT-60		25	2.5

Mențiuni:

1. Siguranța este amplasată pe panoul principal.
2. Instalați dispozitivul de deconectare cu interval de contact de cel puțin 3mm la toate polurile din vecinătatea unităților (atât a unității de interior cât și a celei de exterior). Dispozitivul trebuie poziționat astfel încât priza să fie accesibilă.
3. Detaliile întrerupătorului și cablului de alimentare prezentate în tabelul de mai sus sunt stabilite în baza puterii maxime (maximum de amp) a unității.
4. Detaliile cablului de alimentare prezentate în tabelul de mai sus se aplică cablului de cupru cu fire multiple și canal conductor (cum ar fi cablul de cupru YJV format din fire izolate PE și înveliș al cablului din PVC) folosit la 40°C i rezistent la 90°C(a se vedea IEC 60364-5-52). În cazul în care condiția de funcționare se schimbă, acestea ar trebui modificate în funcție de standardul național aferent.
5. Detaliile întrerupătorului prezentate în tabelul de mai sus se aplică întrerupătoarelor cu temperatură de funcționare la 40°C. În cazul în care condiția de funcționare se schimbă, acestea ar trebui modificate în funcție de standardul național aferent.
6. Luați două cabluri electrice de 0.75mm² drept linii de comunicare dintre unitatea de interior și cea de exterior, cu lungime maxime de 50m. Vă rugăm să alegeți lungimea de linie adecvată în funcție de condițiile efective de instalare. Liniile de comunicare nu pot fi răsucite între ele. Pentru unitate (S30K), se recomandă să se folosească linii de comunicare de 8m lungime.
7. Luați două cabluri electrice de 0.75mm² drept linii de comunicare dintre aparatul de comandă cu fir și unitatea de interior, cu lungimi maxime de 30m. Vă rugăm să alegeți lungimea de linie adecvată în funcție de condițiile efective de instalare. Liniile de comunicare nu pot fi răsucite între ele. Se recomandă să se folosească linii de comunicare de 8m lungime.
8. Dimensiunea firului linie de comunicare nu trebuie să fie mai mică de 0.75mm². Se recomandă să se ia cabluri electrice de 0.75mm² drept linie de comunicare.

4 Instalarea unității

4.1 Instalarea unității de interior

4.1.1 Dimensiunea unității de interior

⚠ AVERTIZARE !

- ① . Instalați unitatea de interior într-un loc care să poată susține o încărcătură de cel puțin cinci ori greutatea unității principale și care să nu amplifice sunetul sau vibrațiile
- ② . În cazul în care locul instalării nu este destul de rezistent, este posibil ca unitatea să cadă și să provoace lezări
- ③ . În cazul în care lucrarea este efectuată doar cu ramă cu tăblie, există riscul ca unitatea să se detașeze. Vă rugăm aveți grijă

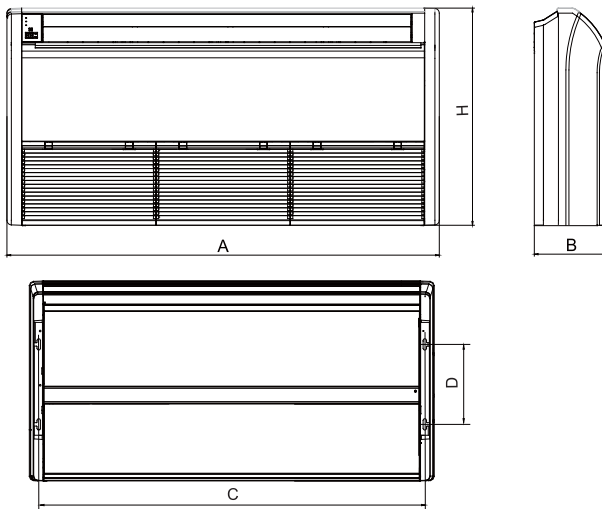


Fig.4

Tabelul 6

Model	A	B	C	D	H
V2KI-12					
V2KI-18	1220	225	1158	280	700
V2KI-24					
V2KI-30					
V2KI-36	1420	245	1354	280	700
V2KI-45					
V2KI-50	1700	245	1634	280	700
V2KI-60					

4.1.2 Pregătirea pentru instalare a unității de interior

- (1). Deschideți grila admisiei de aer și piulița-capac și îndepărtați șuruburile.
- (2). Desfaceți clemele în cele 3 locuri indicate.
- (3). Desfaceți mânerul central și îndepărtați panoul frontal.
- (4). Desfaceți clemele din locurile 2 și 3 indicate și îndepărtați capacul componentei electrice.

4.1.3 Instalarea unității de interior

- (1). Stabiliți locul consolei prin șablonul de hârtie și apoi îndepărtați șablonul de hârtie

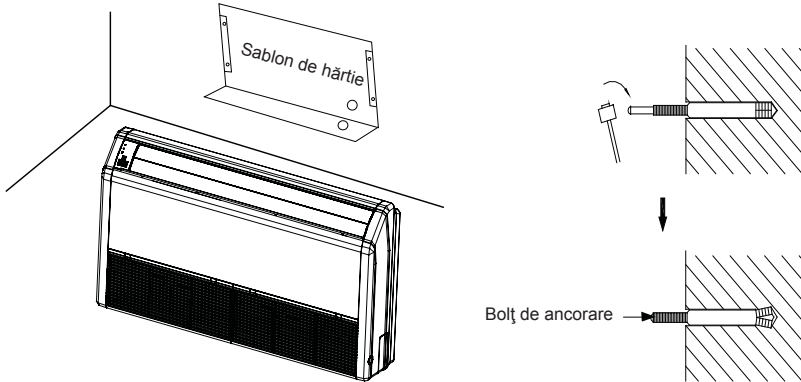


Fig.5

- (2). Introduceți bolțurile de ancorare în dibluri și băgați holșuruburile complet în balonul de ancorare cu ajutorul unui ciocan
- (3). Îndepărtați panourile laterale drept și stâng
- (4). Puneți bolțul de suspenzie în interiorul clemei unității de interior și strângeți șuruburile de consolă pentru a preveni ca unitatea să se miște.
- (5). Reinstalați și strângeți panourile laterale stâng și drept

◆ Modelul de podea

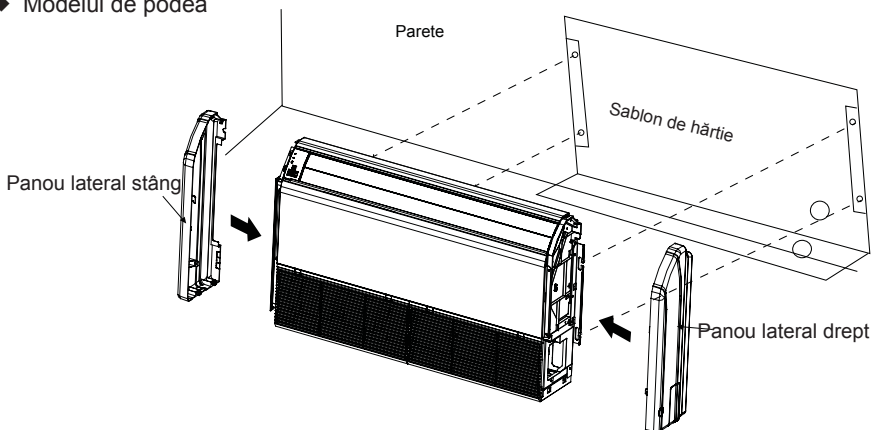


Fig.6

◆ Modelul de plafon

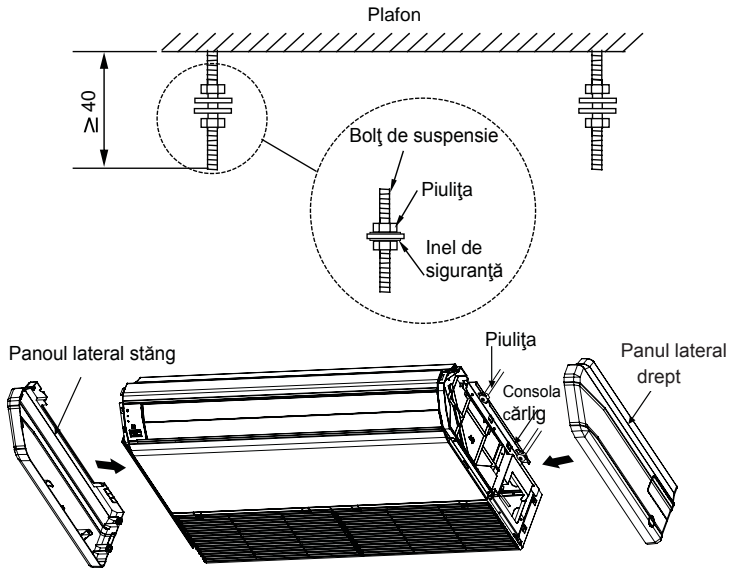


Fig.7

- (6). Reglați înălțimea unității pentru a înclina conducta de evacuare ușor în înspre partea de jos astfel încât evacuarea să devină mult mai fluentă

4.1.4 Nivelare

Testul nivelului apei trebuie efectuat după instalarea unității de interior pentru ca unitatea să fie orizontală, așa cum este prezentat mai jos.

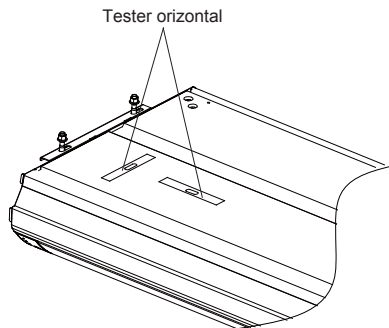


Fig.8

4.2 Instalarea unității de exterior



① . Instalați unitatea astfel încât să nu fie înclinată cu mai mult de 5°.

② . În timpul instalării, în cazul în care unitatea trebuie expusă la vânt puternic, aceasta trebuie să fie fixată în siguranță

4.2.1 Dimensiunea unității de exterior

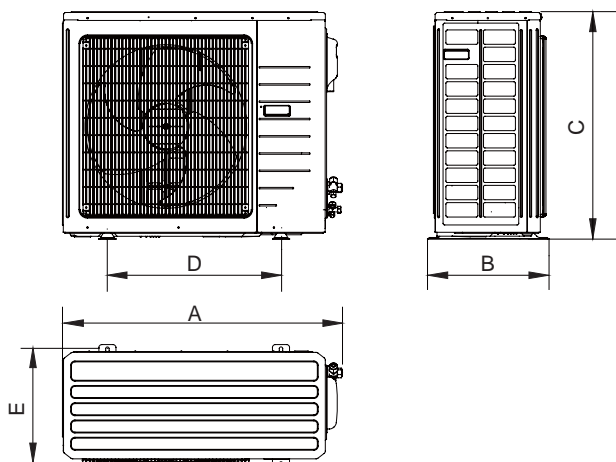


Fig.9

Tabelul 7

Unitati: mm

Articol Model	A	B	C	D	E
U2RS-12	848	320	540	540	286
U2RS-18	955	396	700	560	360
U2RS-24 U2RS-30	980	427	790	610	395
U2RS-36 U2RT-36	1107	440	1100	631	400
U2RS-45 U2RT-45 U2RS-50 U2RT-50	958	412	1349	572	376
U2RT-60	1085	427	1365	620	395

4.2.2 Asanarea condensului la unitatea de exterior(Doar pentru unitatea cu pompă de căldură) (Fig.10)

- (1). Se impune instalarea unei conducte de evacuare pentru unitatea de exterior care să asaneze apa condensată rezultată în timpul procesului de încălzire (doar pentru unitatea cu pompă de căldură).
- (2). Atunci când se instalează conducta de evacuare, pe lângă gaura de pierdere a pompei de evacuare, toate celelalte guri trebuie închise astfel încât să se evite scurgerile de apă. (doar pentru unitatea cu pompă de căldură)
- (3). Modul de instalare: Introduceți manșonul de țevă în gaura 25 localizată în placa de bază a unității și apoi conectați conducta de evacuare la manșonul de țevă.

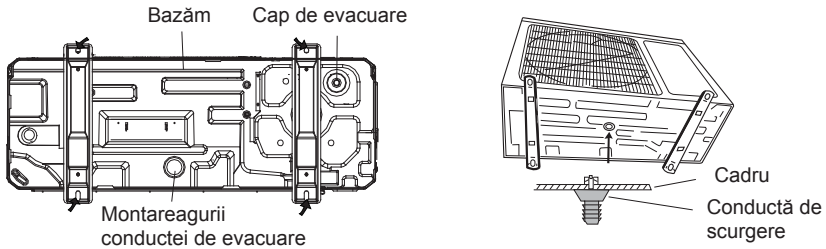


Fig.10

4.3 Instalarea conductei de legătură

4.3.1 Pregătirea manșonului

- (1). Tăiați conducta de legătură cu cleștele de tăiat țevi și îndepărtați bravurile.
- (2). Țineți conducta în jos pentru a nu lăsa ca așchiile să intre în conductă.
- (3). Îndepărtați capacele manșonului de la supapa de oprire a unității de exterior și în interiorul sacului de accesorii al unității de interior, apoi introduceți-le în conducta de legătură și apoi lărgiți conducta de legătură cu o sculă de evazare.
- (4). Verificați dacă piesa manșonului este uniformă și dacă sunt fisuri. (a se vedea Fig.11)

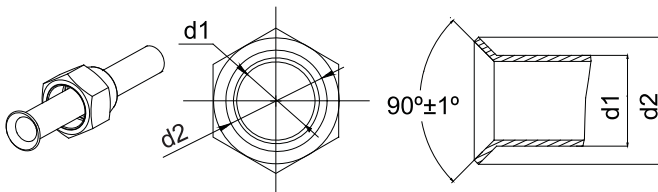


Fig.11

4.3.2 Conductele curbate (Coturile)

- (1). Conductele se modelează cu mâna. Aveți grijă să nu le rupeți

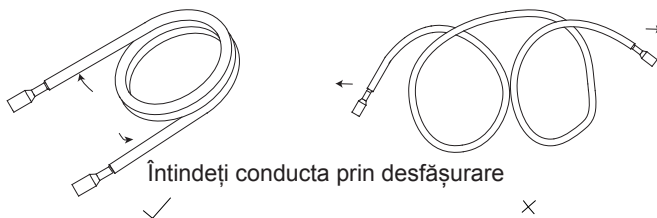


Fig.12

- (2). Nu curbați conductele într-un unghi mai mare de 90°.
- (3). Dacă conductele sunt în mod repetat curbate sau întinse, materialul se va întări, făcându-le dificile de curbat sau îndoit. Nu curbați sau întindeți conductele mai mult de trei ori.

- (4). Atunci când curbați conducta, nu o curbați ca atare. Conducta se va rupe. În acest caz, tăiați conducta de izolare a căldurii cu un cuțit ascuțit așa cum este prezentat în Fig. 13, și curbați-o după ce ați expus conducta. După ce ați curbat conductele după cum ați dorit, asigurați-vă că puneți la loc conducta de izolare termică pe conductă și sigilați-o cu bandă.

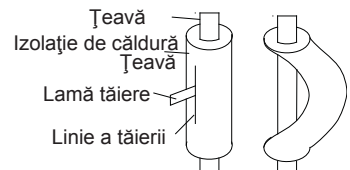


Fig.13



- ① . Pentru a preveni ruperea conductei, evitați curbările bruște. Curbați conducta cu o rază de curbură de 150mm sau peste.
- ② . În cazul în care conducta este curbată în mod repetat în același loc, aceasta se va sparge

4.3.3 Conectarea conductei în partea laterală a unității de interior

Scoateți capacele și dopurile de la conducte.



- ① . Asigurați-vă că aplicați în mod corect conducta pe orificiul de pe unitatea de interior. În cazul în care centrarea este incorectă, manșonul nu va putea fi strâns ușor. În cazul în care acesta este forțat pentru a se învârti, firele se vor deteriora.
- ② . Nu îndepărtați manșonul până ce conducta de conectare nu urmează a fi racordată astfel încât să se prevină intrarea prafului și a impurităților în sistemul de conducte.

Atunci când conectați conducta de conectare sau o îndepărtați de la unitate, vă rugăm să folosiți atât cheia inelară cât și cheia de cuplu. (Fig.14)

Atunci când faceți racordul, gresați atât partea de interior cât și cea de exterior a manșonului cu ulei de refrigerare, înșurubați-l strâns cu mâna și apoi strângeți-l cu cheia inelară.

A se consulta Tabelul 10 pentru a verifica dacă a fost strâns în mod corect cuplul (dacă este prea strâns se deformează manșonul și pot apărea scurgeri).

Verificați de legătură să vedeți dacă prezintă scurgeri, apoi aplicați tratarea izolației termice, așa cum este prezentat în Fig. 15.

Folosiți un burete de dimensiune medie pentru a izola cuplajul conductei de gaz.

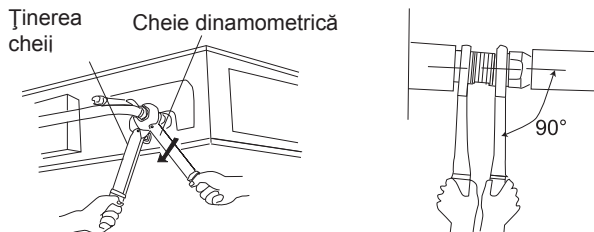


Fig.16

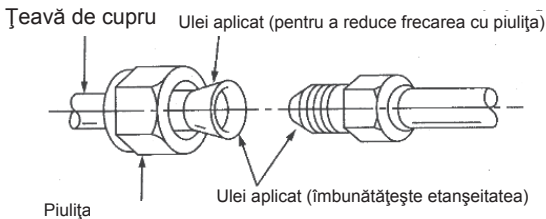
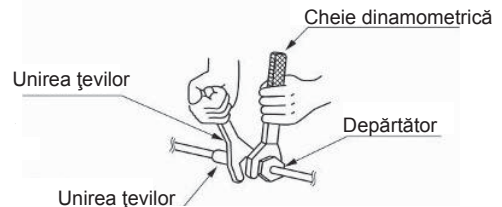


Fig.15



Tabelul8 Cuplul de strângere a manșonului de racord

Diametrul țevii	Cuplul de strângere
1/4"(Inch)	15-30 (N·m)
3/8"(Inch)	35-40 (N·m)
5/8"(Inch)	60-65 (N·m)
1/2"(Inch)	45-50 (N·m)
3/4"(Inch)	70-75 (N·m)
7/8"(Inch)	80-85 (N·m)



Asigurați-vă că ați conectat conducta de gaz după ce ați instalat complet conducta de lichid.

4.3.4 Conectarea conductei la unitatea laterală de exterior

Strângeți manșonul de racord al conductei de legătură la conectorul cu supapă al unității de exterior. Modul de strângere este același ca la partea laterală de la interior

4.3.5 Verificarea racordurilor conductelor pentru detectarea scurgerilor de gaz

Atât pentru partea unității de interior cât și de exterior, verificați conexiunile în vederea detectării de scurgeri de gaze folosind un detector de gaz care nu dă erori atunci când sunt conectate supapele cu 2 și 3 căi.

4.3.6 Izolarea termică pe conexiunile conductelor (doar partea de interior)

Lipiți bandă termoizolantă (mare sau mică) la locul de racordare a țevelor.

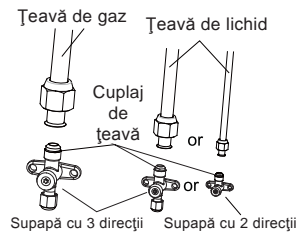


Fig.16

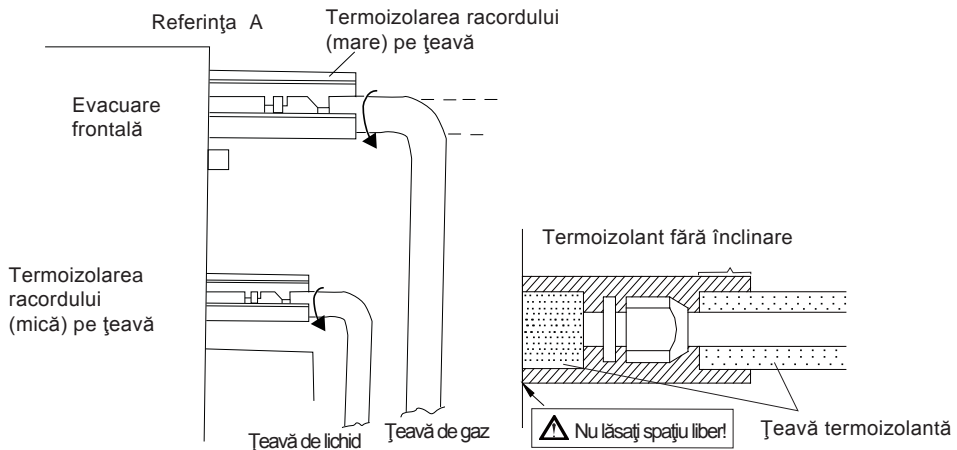


Fig.17

4.3.7 Conducta de lichid și conducta de evacuare

În cazul în care unitatea de exterior este montată mai jos decât unitatea de interior (Vedeți Fig.18)

- (1). O țevă de drenaj ar trebui să fie deasupra solului iar capătul țevii nu trebuie să stea în apă. Toate țevile trebuie să fie fixate de perete cu brățări.
- (2). Țevile de evacuare trebuie să fie făcute de jos în sus.
- (3). Toate țevile sunt legate împreună cu bandă adezivă și fixate de perete cu brățări.

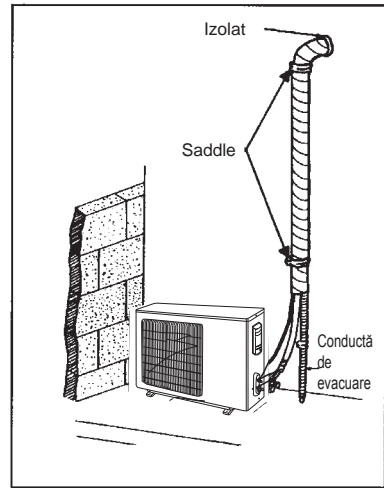


Fig.18

În cazul în care unitatea de exterior este montată mai sus decât cea de interior (Vedeți Fig.19)

- (1). Evacuarea ar trebui să fie făcută de jos în sus.
- (2). Toate țevile sunt legate împreună cu bandă și ar trebui de asemenea să fie prevăzute cu sifon pentru a împiedica apa să se întoarcă în încăpere (Vedeți Fig.19)
- (3). Fixați toate țevile de perete cu brățări.

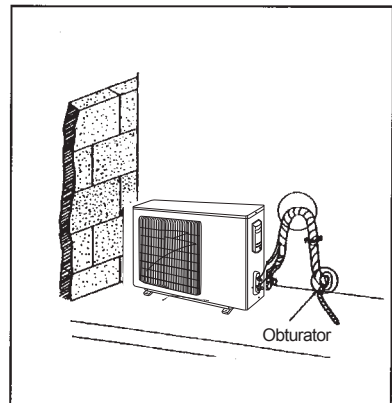


Fig.19

4.4 Vidare și verificarea scurgerilor de gaz



Nu purjați aerul cu agenți de răcire ci utilizați o pompă de vacuum pentru a vida instalația! Nu există agent suplimentar de refrigerare în unitatea de interior pentru purjarea aerului!

4.4.1 Vidare

- (1). Îndepărtați capacele de la supapele de lichid, de gaz și de la portul de service.
- (2). Conectați furtunul la capătul de presiune joasă al ansamblului de supape al distribuitorului, și între timp supapele de gaz și de lichid ar trebui să fie ținute închise în cazul în care ar exista scurgeri de agent de răcire.
- (3). Conectați furtunul utilizat pentru evacuare la pompa de vid.
- (4). Deschideți comutatorul de la capătul de presiune înaltă al ansamblului de supape al distribuitorului și porniți pompa de vid. Între timp, comutatorul de la capătul de presiune înaltă al ansamblului de supape al distribuitorului ar trebui să fie ținut închis, altfel evacuarea va eșua.

- (5). Durata de evacuare depinde de capacitatea unității, în general, 15 minute pentru unități de 12K, 20 de minute pentru unități de 18K, 30 de minute pentru unități de 24/30/36K, 45 de minute pentru unități de 45/50/60. Și verificați dacă manometrul de la capătul de presiune joasă al ansamblului de supape al distribuitorului arată -1,0Mp (-75cmHg), dacă nu, acest lucru indică faptul că undeva există o scurgere. Apoi, închideți comutatorul complet și opriți pompa de vid.
- (6). Așteptați un timp să vedeți dacă presiunea sistemului rămâne neschimbată, 3 minute pentru unități mai mici de 18K, 5 minute pentru unități de 18K~24K, 10 minute pentru unități mai mari de 45K. În acest timp, presiunea indicată de manometrul de la capătul de presiune redusă nu poate fi mai mare de 0,005Mp (0,38cmHg).
- (7). Deschideți ușor supapa de lichid și lăsați o parte din agentul de refrigerare să treacă în țeava de racordare pentru a echilibra presiunea în interiorul și în exteriorul țevii de racordare, astfel încât aerul nu va intra în țeava de racordare atunci când îndepărtăm furtunul. Fiți atenți la faptul că supapele de gaz și de lichid pot fi complet deschise doar după ce este îndepărtat ansamblul de supape ale distribuitorului.
- (8). Puneți înapoi capacele de la supapa de gaz și supapa de lichid și de asemenea de la portul de service.

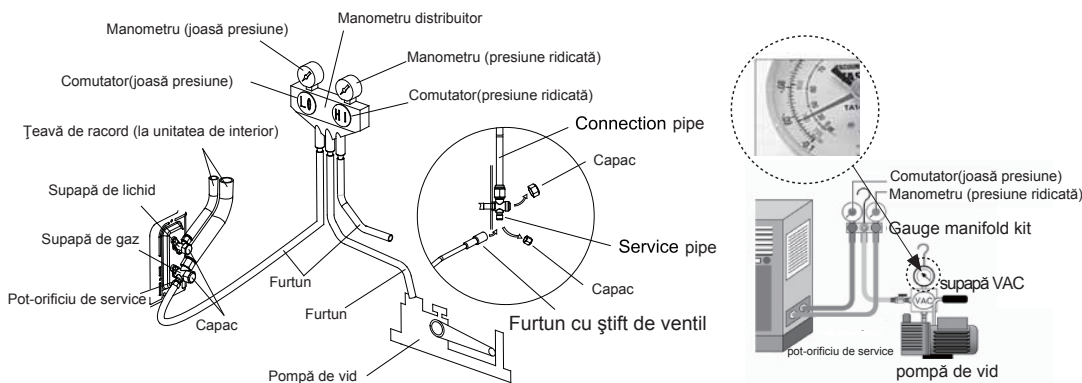


Fig.20

Observați: Pentru unități de dimensiuni mari, există porturi de service atât pentru supapa de gaz cât și pentru supapa de lichid. Pe parcursul evacuării, se pot conecta cele două furtunuri ale ansamblului de supape ale distribuitorului la porturile de service pentru a mări viteza de evacuare.

4.4.2 Încărcarea suplimentară

Cantitatea de agent de răcire potrivită pentru o lungime a țevii de 5 m este încărcată în unitatea de exterior în fabrică.

Atunci când țevile sunt mai lungi de 7 m este necesară o încărcare suplimentară.

Pentru cantitatea suplimentară, vedeți Tabelul 9.

Tabelul 9

Model	Articol	Cantitatea suplimentară de agent de refrigerare pentru conductele mai mari
12~18K		30 g/m
24~60K		60 g/m

Atunci când diferența de înălțime dintre unitatea de interior și cea de exterior este mai mare de 10 metri, trebuie aplicat un cot de ulei la fiecare 6 metri

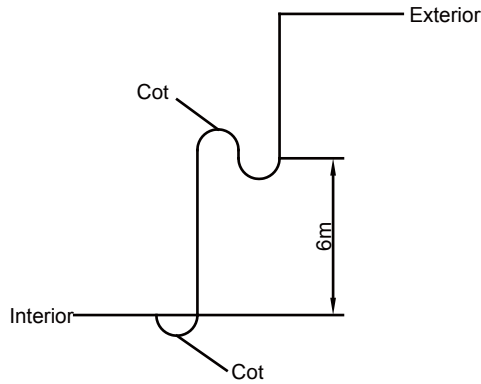


Fig.21

4.5 Montarea furtunului de drenaj

4.5.1 Montarea instalației de drenaj

- (1). Păstrați țevile cât se poate de scurte și îndreptate în jos la un gradient de cel puțin 1/100 astfel încât aerul să nu rămână prins în interiorul țevii.
- (2). Păstrați dimensiunea țevelor egală cu sau mai mare decât ce a țevii de racordare.
- (3). Montați instalația de drenaj așa cum este prezentat și luați măsuri împotriva condensării. Instalațiile inadecvate ar putea duce la scurgeri și în cele din urmă la udarea mobilei și a bunurilor

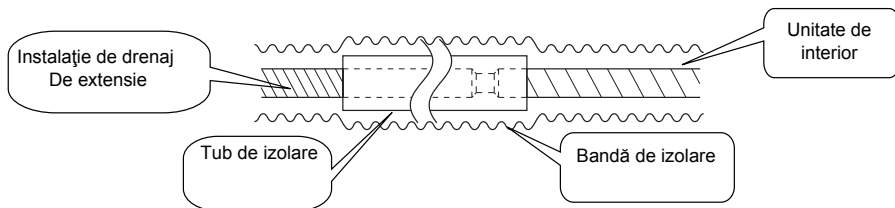


Fig.22

(4) Conectați furtunul de evacuare. (Fig.23)

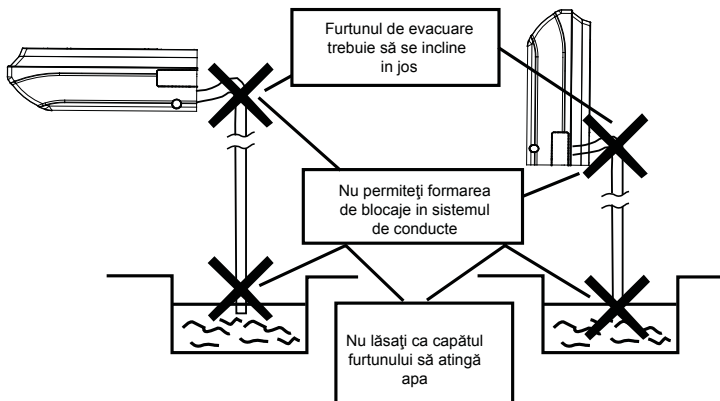


Fig.23

4.5.2 Instalarea conductelor de evacuare

- (1). Pentru stabilirea poziției furtunului de evacuare, urmați procedurile de mai jos.
- (2). Introduceți furtunul de evacuare în gura de ieșire a unității și apoi strângeți bine colierul cu bandă. (Fig.24)
- (3). Conectați conducta de evacuare prelungită la conducta de evacuare și apoi strângeți colierul cu bandă.

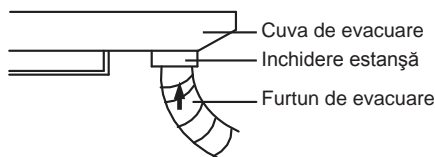


Fig.24

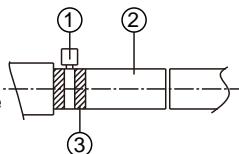


Fig.25

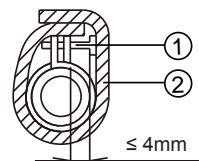


Fig.26

Strângeți colierul până ca capul șurubului este la o distanță mai mică de 4mm de furtun (Fig.25)

① – Colier de metal ② – Furtun de evacuare ③ – Bandă gri

Izolați colierul conductei și furtunul de evacuare folosind burete de izolare termică.(Fig.26)

① – Colier de metal ② – Burete de izolare

- (4). Atunci când este necesar să prelungiți furtunul de evacuare, puteți procura un furtun de prelungire din comerț.
- (5). După conectarea furtunului de evacuare locală, înfășurați cu bandă culele tubului de izolare termică
- (6). Conectați furtunul de evacuare la conducta de evacuare locală. Poziționați cablul de interconectare în aceeași direcție cu conducta.

4.5.3 Conectarea furtunului de evacuare

- (1). Conectați conducta de prelungire auxiliară la conductele locale
- (2). Pregătiți conductele locale la punctul de legătură pentru conducta de evacuare, așa cum este prezentat în schițele de instalare.

Observație: Asigurați-vă că amplasați furtunul de evacuare așa cum este prezentat în imaginea de mai jos, într-o direcție cu înclinare în jos

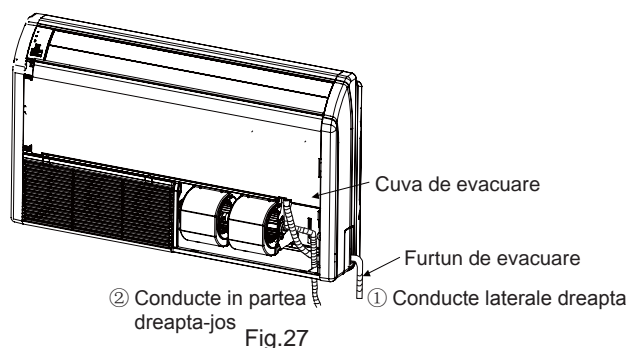


Fig.27

4.5.4 Testarea conductelor de evacuare

- (1). După terminarea lucrărilor la conducte, verificați dacă evacuarea se face lin.
- (2). Așa cum este prezentat în imagine, turnați apă în cuva de evacuare din partea dreaptă pentru a verifica dacă apa se scurge lin din furtunul de evacuare.

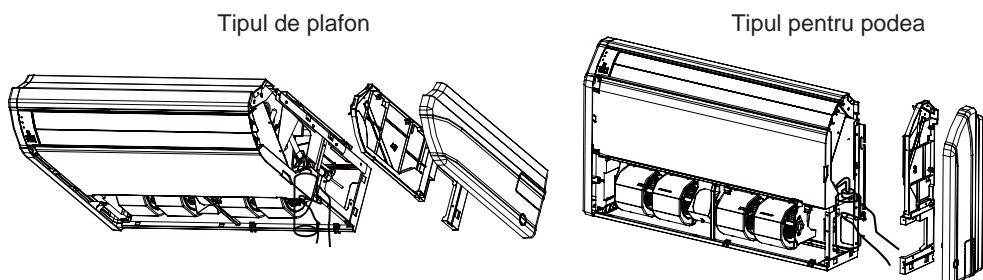




Fig.28

4.6 Racordarea la rețeaua electrică

4.6.1 Măsurile de siguranță

 AVERTIZARE !	
①	Înainte de obține acces la terminale, toate circuitele de alimentare trebuie să fie deconectate
②	tensiunea electrică nominală a unității este prezentată în Tabelul 4 și tabelul 5.
③	Înainte de punerea în funcțiune, verificați ca tensiunea să aibă o valoare nominală între 198~264V (pentru unitățile mono-fazice) sau între 342~457V (pentru unitățile trifazice).
④	Folosiți întotdeauna un circuit special de branșare și instalați o priză specială pentru alimentarea cu curent a aparatului de aer condiționat
⑤	Folosiți un întrerupător special pentru circuitul de branșare și o priză care să se potrivească capacității aparatului de aer condiționat
⑥	Întrerupătorul special pentru circuitul de branșare este instalat în rețeaua permanentă. Folosiți întotdeauna un circuit care să poată declanșa toate polurile rețelei electrice și care să aibă o distanță de izolare de cel puțin 3mm între contactele fiecărui pol
⑦	Efectuați lucrările la instalația electrică în conformitate cu standardele în vigoare astfel încât aparatul de aer condiționat să poată fi operat în mod corespunzător și în siguranță.
⑧	Instalați un întrerupător special pentru circuitul de branșare împotriva fisurilor de apă, respectând legile și reglementările în domeniu, cât și standardele companiei de electricitate

 ATENȚIE !	
①	Capacitatea sursei de curent trebuie să reprezinte suma curentului aparatului de aer condiționat și curentul celorlalte aparate electrice. Atunci când capacitatea contractată de curent este insuficientă, schimbați capacitatea contractată
②	Atunci când tensiunea electrică este scăzută și aparatul de aer condiționat are dificultate în a porni, contactați compania de electricitate pentru ca aceasta să crească tensiunea.

4.6.2 Instalația electrică

(1). Pentru circuite cu miez magnetic masiv (Fig.29)

- 1). Tăiați capătul cablului cu un clește sau foarfece de tăiat sârmă, apoi îndepărtați izolația aproape 25mm (15/16") .
- 2). Folosind o șurubelniță, îndepărtați șurubul/șuruburile de fixare de pe tabloul de conexiune.
- 3). Folosind cleștele-patent, îndoiți firul solid pentru a forma o buclă potrivită pentru șurubul de fixare.

4). Modelați bucla de cablu în mod adecvat, amplasați-o pe tabloul de conexiune și strângeți bine cu șurubul de fixare, folosind o șurubelniță.

(2). Pentru circuite cu lițe (Fig.29)

1). Tăiați capătul cablului cu un clește sau foarfece de tăiat sârmă, apoi îndepărtați izolația aproape 10mm (3/8").

2). Folosind o șurubelniță, îndepărtați șurubul/șuruburile de fixare de pe tabloul de conexiune.

3). Folosind un colier de strângere rotund sau patent, prindeți bine o clemă filetantă la fiecare capăt desfăcut de fire.

4). Poziționați firul cu clemă filetantă rotundă și înlocuiți și strângeți șurubul de fixare cu o șurubelniță. (Fig. 30)

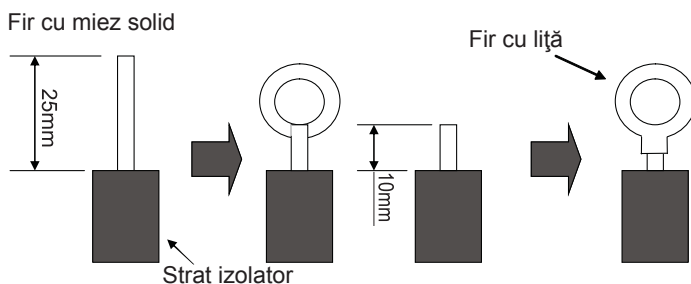


Fig.39

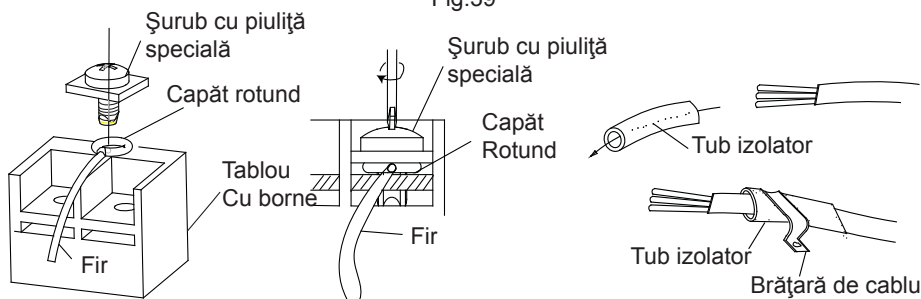


Fig.30

Fig.31

(3). Cum să fixați cablul de conectare și cablul electric cu colierul pentru cabluri

După ce treceți cablul de conectare și cel de alimentare prin cablul de izolare, strângeți-l cu colierul pentru cabluri. (Fig.31)

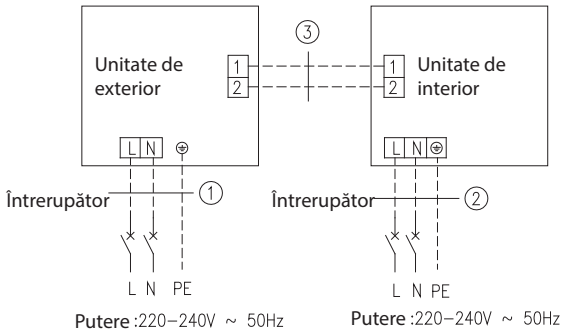
⚠ AVERTIZARE!

- ① . Înainte de a începe lucrarea, verificați ca unitatea de interior cât și cea de exterior să nu fie alimentate.
- ② . Potrivii numerele de pe cutia de borne și colorile de pe cablurile de racord cu cele de pe unitatea de interior
- ③ . Circuitele eronate pot cauza arderea părților electrice
- ④ . Fixați bine cablurile de racord la cutia de borne. Montarea imperfectă poate provoca incendii.
- ⑤ . Fixați mereu partea exterioară a cablului de racord cu brățări de cablu. (Atunci când izolatorul nu este prins, pot apărea scurgeri de curent)
- ⑥ . Conectați întotdeauna împământarea

Unitate de aer condiționat tip podea-plafon DC Inverter Seria U-Match

(4). Cablarea electrică dintre unitățile de interior și cele de exterior – Fig. 32

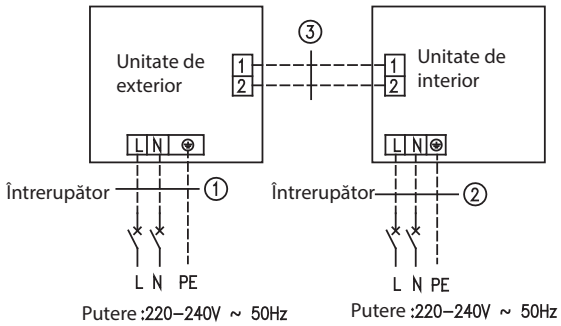
Unitățile mono-fazice(12K~30K)



U2RS-12 +V2KI-12
U2RS-18 +V2KI-18
① . Power cord 3×1.5mm ² (H07RN-F)
② . Power cord 3×1.0mm ² (H05RN-F)
③ . Communication Cords 2×0.75mm ² (H05RN-F)

U2RS-24 +V2KI-24
U2RS-30 +V2KI-30
① . Power cord 3×2.5mm ² (H07RN-F)
② . Power cord 3×1.0mm ² (H05RN-F)
③ . Communication Cords 2×0.75mm ² (H05RN-F)

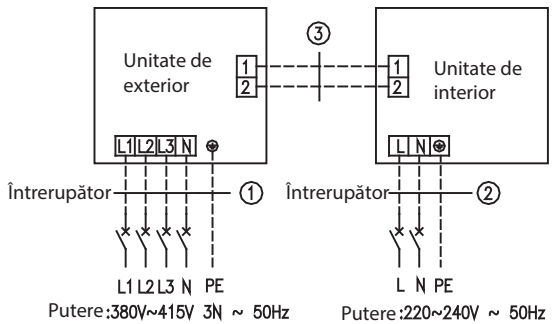
Unități monofazice(36K~50K)



U2RS-36 +V2KI-36
U2RS-45 +V2KI-45
① . Power cord 3×2.5mm ² (H07RN-F)
② . Power cord 3×1.0mm ² (H05RN-F)
③ . Communication Cords 2×0.75mm ² (H05RN-F)

U2RS-50 +V2KI-50
① . Power cord 3×6.0mm ² (H07RN-F)
② . Power cord 3×1.0mm ² (H05RN-F)
③ . Communication Cords 2×0.75mm ² (H05RN-F)

Unități trifazice



U2RT-36 +V2KI-36
U2RT-45 +V2KI-45
U2RT-50 +V2KI-50
U2RT-60 +V2KI-60
① . Power cord 3×2.5mm ² (H07RN-F)
② . Power cord 3×1.0mm ² (H05RN-F)
③ . Communication Cords 2×0.75mm ² (H05RN-F)

Fig.32

(5). Cablarea electrică a părții unității de interior

Îndepărtați capacul lateral stâng și capacul panoului electric, apoi introduceți capătul cablului de comunicare și cablul de alimentare electrică în tabloul de conexiune.

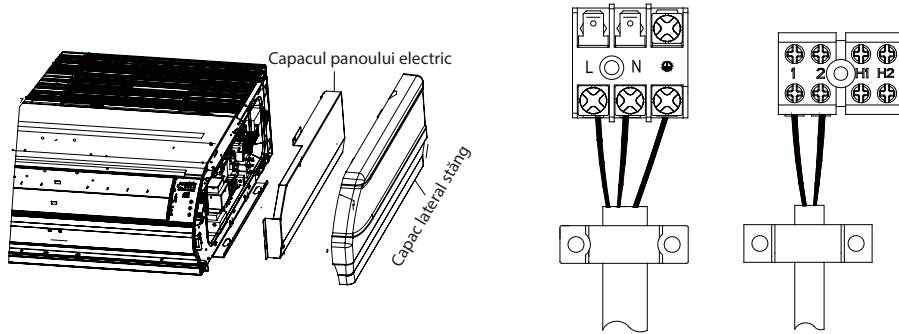


Fig.33

⚠ ATENȚIE!

① . Cablul electric și firul supapei de aer proaspăt sunt de înaltă tensiune, în timp ce cablul de comunicare și firul de conectare ale dispozitivului de control cu fir sunt de tensiune joasă. Acestea ar trebui să funcționeze separat pentru a evita interferența electromagnetică
② . Liniile de înaltă și joasă tensiune ar trebui să treacă prin inele de cauciuc la nivelul diferitelor capace ale panoului electric.
③ . Nu grupați împreună firul de conectare al aparatului de comandă fără fir și cablul de comunicare, sau aranjați-le în paralel, altfel se poate ca aparatul să nu funcționeze corect
④ . Liniile de înaltă și de joasă tensiune trebuie fixate separat și în siguranță, cu coliere interioare mari pentru primele linii și mici pentru liniile de joasă tensiune.
⑤ . Strângeți cablul de conexiune interior/ exterior și cablul de alimentare respectiv pe tablourile de conexiune cu șuruburi. Conectările defectuoase pot cauza incendiu.
⑥ . În cazul în care cablul de conexiune al unității de interior (către unitatea de exterior) și alimentarea cu electricitate sunt legate incorect, aparatul de aer condiționat se poate defecta.
⑦ . Conectați cablul de conexiune a unității de interior în mod corespunzător, respectând instrucțiunile din Fig. 32.
⑧ . Împământați atât unitatea de interior cât și cea de exterior prin atașarea firului de împământare
⑨ . Unitatea va avea împământare, în conformitate cu regulile locale și naționale aplicabile

(6). Cablarea electrică a unității exterioare

Observație: Atunci când conectați cablul de alimentare cu curent electric, asigurați-vă că faza sursei de curent se potrivește cu tabloul de conexiuni exact. În caz contrar, compresorul se va roti în revers și va funcționa eronat.

Îndepărtați mânerul mare (12~45K) /panou frontal (50/60K) al unității de exterior și introduceți capătul cablului de comunicare și cablul de alimentare la tabloul de conexiuni.

Monofazic:

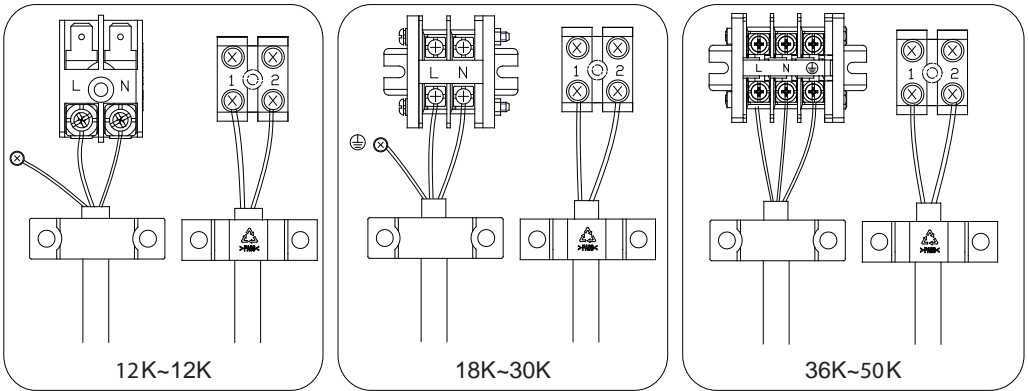


Fig.34

Trifazic:

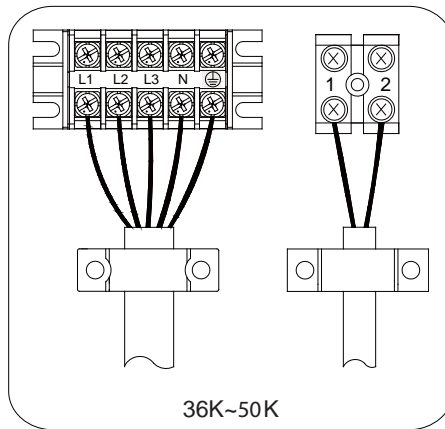


Fig.35

5. Instalarea dispozitivelor de comandă

Pentru mai multe informații, a se vedea Manualul de instalare a dispozitivului de comandă.

6. Încercare de funcționare

6.1 Funcționarea de probă și testarea

(1). Explicarea codurilor de eroare este prezentată mai jos:

Tabelul 10

Număr	Cod de eroare	Eroare	Observații
1	E1	Protecție presiune înaltă a compresorului	
2	E2	Protecție anti-îngheț pentru interior	
3	E3	Protecție presiune joasă a compresorului, protecție lipsă de agent de refrigerare și mod de fixare a agentului de refrigerare	
4	E4	Protecție temperaturi mari ale compresorului	
5	E6	Eroare de comunicare	
6	E8	Eroare motor ventilator interior	
7	E9	Protecție apă nivel maxim	
8	F0	Eroare senzor temperatură de ambient interior	
9	F1	Eroare senzor temperatură de evaporare	
10	F2	Eroare senzor temperatură de condensare	
11	F3	Eroare senzor temperatură de ambient exterior	
12	F4	Eroare senzor temperatură debit	
13	F5	Eroare senzor temperatură al aparatului de comandă	
15	C5	Eroare cod capacitate	
16	EE	Eroare chip memorie exterior	
17	PF	Eroare senzor cutie electrică	
18	H3	Protecție suprasarcină compresor	
19	H4	Supraîncărcare	
20	H5	Protecție IPM	
21	H6	Eroare motor ventilator DC	
22	H7	Protecție desincronizare de acționare	
23	Hc	Protecție Pfc	
25	Lc	Eșec activare	
26	Ld	Protecție succesiune de fază a compresorului	
27	LE	Protecție oprire compresor	
28	LF	Protecție alimentare	
29	Lp	Nepotrivre interior și exterior	
30	U7	Protecție modificare direcție la supapa în 4 direcții	
31	P0	Protecție resetare circuit	
32	P5	Protecție supraindensitate	
33	P6	Eroare de comunicare între comanda principală și circuit	
34	P7	Eroare senzor modul de acționare(circuit)	
35	P8	Protecție supraîncălzire modul de acționare	
36	P9	Protecție trecere zero	

37	PA	Protecție curent AC	
38	Pc	Eroare curent motor	
39	Pd	Protecție conectare senzor	
40	PE	Protecție variație de temperatură	
41	PL	Protecție tensiune joasă magistrală	
42	PH	Protecție tensiune înaltă magistrală	
43	PU	Eroare buclă de încărcare	
44	PP	Tensiune la intrare anormală	
45	ee	Eroare chip memorie de acționare	

Notă: Atunci când unitatea este conectată cu un dispozitiv de comandă cu fir, codul de eroare va fi afișat simultan pe acesta

(2). Instrucțiuni privind becurile indicatoare de erori pe Panoul unității pentru podea și plafon. Stările luminilor indicatoare:

1. Becul indicator "POWER": Becul indicator va lumina când alimentarea cu electricitate este pornită și se va stinge când aceasta este închisă.

2. Becul indicator "COOL" (Răcire):

Becul indicator va lumina când este activată funcția "COOL" și se va stinge atunci când funcția este dezactivată.

3. Becul indicator "HEAT" (Căldură):

Becul indicator va lumina când este activată funcția "HEAT" și se va stinge atunci când funcția "HEAT" este dezactivată..

4. Becul indicator "TIMER" (Temporizator):

Becul indicator va lumina când este activată funcția "TIMER" și se va stinge atunci când funcția "TIMER" este dezactivată

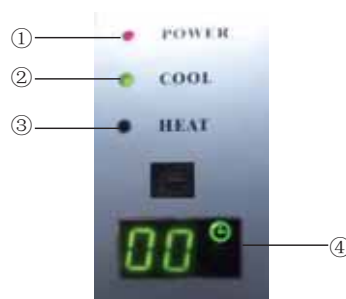


Fig.36

6.2 Gama de temperaturi în lucru

Tabelul 11

Condiția testată	Partea de interior		Partea de exterior	
	DB(°C)	WB(°C)	DB(°C)	WB(°C)
Răcire nominala	27	19	35	24
Încălzire nominala	20	-	7	6
Răcire normala	32	23	48	-
Răcire la temperatură joasă	21	15	-15	-
Încălzire normala	27	-	24	18
Încălzire la temperatură joasă	20	-	-10	-11

Nota:

1. Această unitate este proiectată în conformitate cu cerințele standardului EN14511.

2. Volumul de aer este măsurat conform presiunii statice externe la standardul relevant.

3. Capacitatea de răcire (încălzire) menționată mai sus este măsurată conform condițiilor de funcționare nominale corespunzătoare presiunii statice externe conform standardului. Parametrii se supun schimbării odată cu îmbunătățirea produselor, caz în care vor prevala valorile de pe plăcuțele fabricii constructoare.

4. În acest tabel, sunt două valori DB externe în condiții de răcire la temperatură joasă și cea din paranteză este pentru unitatea care poate funcționa la temperaturi extrem de joase

7. Detectarea defecțiunilor și întreținere

7.1 Detectarea defecțiunilor

Dacă unitatea dvs. de aer condiționat prezintă elemente de funcționare anormală sau avarii, vă rugăm să verificați următoarele date înainte de începerea reparațiilor:


Tabelul 12

Simptom	Motive posibile
Unitatea nu poate fi pornită	Cablul de alimentare nu este conectat. Pierderi de electricitate ale unității cauzează declanșarea întrerupătorului. Telecomanda este blocată. Telecomanda nu funcționează.
Unitatea funcționează o perioadă, apoi se oprește.	Există obstacole în fața condensatorului Conexiunile sunt slăbite Operațiunea de răcire este selectată atunci când temperatura exterioară ambientală depășește 43 °C
Aerul condiționat nu răcește suficient.	Filtrul de aer este murdar sau îmbăxhit Există o sursă de încălzire sau în spațiu sunt foarte multe persoane Verificați dacă ușile sau ferestrele sunt deschise Verificați dacă există obstrucționări ale evacuării aerului Verificați dacă temperatura presetată este prea mare
Aerul condiționat nu încălzește suficient.	Verificați dacă filtrul de aer este murdar sau îmbăxhit Verificați dacă ușile și ferestrele sunt deschise Există pierderi de agent frigorific Temperatura setată este prea joasă și astfel încălzirea este îndelungată

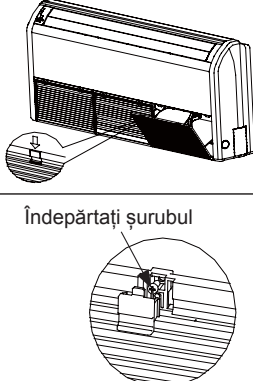

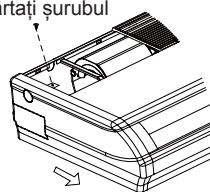
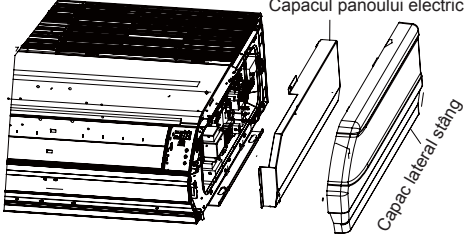
Mențiuni:

După verificarea itemilor de mai sus și asumarea măsurilor necesare pentru a rezolva problemele localizate, dacă unitatea de aer condiționat nu funcționează corect în continuare, scoateți imediat din funcțiune unitatea și contactați reprezentantul local desemnat de Inventor. Doar personalul calificat trebuie să inspecteze și să verifice unitatea.

7.2 Întreținere de rutină

 AVERTIZARE !
① . Închideți complet unitatea și scoateți din priză cablul de alimentare atunci când curățați unitatea de aer condiționat, altfel vă expuneți posibilelor șocuri electrice.
② . Nu udați aparatul de aer condiționat, există pericolul de conducere a șocului electric; Asigurați-vă că aparatul de aer condiționat nu va fi sub nicio formă curățat prin clătirea cu apă.
③ . Lichidul volatil precum diluantul sau benzina pot avaria înfățișarea aparatului de aer condiționat. (Astfel, se pot folosi doar materiale moi uscate sau umezite în lichid de curățare neutru pentru curățarea carcasei aparatului de aer condiționat).

(1). Modul de dezasamblare a sitei cu filtru și a capacului cutiei electrice

<p>1. Deschideți grila de admisie a aerului Mai întâi desfaceți două cuplaje de pe grilă așa cum este prezentat în imagine Îndepărtați șuruburile de sub cuplaje cu o șurubelniță și apoi deschideți grila de admisie.</p>	 <p>Îndepărtați șurubul</p>
<p>2. Curățarea sitei cu filtru Curățați sита cu filtru cu un aspirator sau spălați-o. Dacă pata de ulei de pe filtru nu poate fi îndepărtată sau curățată, spălați-l cu apă caldă cu detergent. Uscați filtrul ferit de razele soarelui. Nota: Nu folosiți niciodată apă mai fierbinte de 45°C în cazul în care se decolorează culoarea sau se îngălbenesc. Nu uscați niciodată lângă foc deschis pentru a preveni incendierea sau deformarea.</p>	
<p>3. Dezasamblarea pereților laterali stâng și drept După îndepărtarea grilei, folosiți o șurubelniță pentru a îndepărta șuruburile din imagine Împingeți peretele lateral în direcția prezentată și îndepărtați-l.</p>	 <p>Îndepărtați șurubul</p>
<p>4. Dezasamblarea peretelui lateral drept</p>	<p>Metoda de dezasamblare a peretelui lateral drept – Pas 3</p>
<p>5. Dezasamblarea capacului casetei panoului electrice După îndepărtarea peretelui lateral drept, se va vedea capacul panoului electric și dezamblați șuruburile fixate pe acesta.</p>	 <p>Capacul panoului electric</p> <p>Capac lateral stâng</p>

(2). Înainte de pornire, la început de sezon de utilizare

1) Verificați dacă sunt blocaje pe canalul de admisie și evacuare a aerului al aparatului de aer condiționat.

2) Verificați dacă firul de împământare este ataat în mod corespunzător de către instalatorul autorizat.

3) Verificați dacă au fost înlocuite bateriile terminate din telecomandă.

4) Verificați dacă filtrul de aer a fost instalat corespunzător de către persoana autorizată.

Țineți butonul "On" pornit timp de 8 ore înainte de a porni unitatea care nu a mai fost folosită de mult timp.

Nota: Toate indicațiile de mai sus ar trebui efectuate de către o persoană autorizată.

(3). La sfârșitul sezonului de utilizare

1) Întrerupeți alimentarea cu curent din butonul principal.

2) Curățați filtrele de aer și a altor componente de către o persoană autorizată.

3) Lăsați ventilatorul să funcționeze timp de 2-3 ore pentru a usca interiorul unității.

Notă: Toate indicațiile de mai sus ar trebui efectuate de către o persoană autorizată.

Notițe:

