

ΚΛΙΜΑΤΙΣΤΙΚΑ ΣΥΣΤΗΜΑΤΑ
AIR CONDITIONING SYSTEMS

Μοντέλα/Models

V2CI-12
V2CI-18
V2CI-24
V2CI-30
V2CI-36
V2CI-45
V2CI-50
V2CI-60

Μονάδα κασέτας Inverter u-match Εγχειρίδιο Χρήστη

DC Inverter U-match Series Cassette 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

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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). Installation should be left to the dealer or another professional. Improper installation may cause water leakage, electrical shock, or fire.
	(2). Install the air conditioner according to the instructions given in this manual. Incomplete installation may cause water leakage, electrical shock, or fire.
	(3). Be sure to use the supplied or specified installation parts. Use of other parts may cause the unit to come to lose, water leakage, electrical shock, or fire.
	(4). Install the air conditioner on a solid base that can support the weight of the unit. An inadequate base or incomplete installation may cause injury in the event the unit falls off the base.
	(5). Electrical work should be carried out in accordance with the installation manual and the national electrical wiring rules or code of practice. Insufficient capacity or incomplete electrical work may cause electrical shock or fire.
	(6). Be sure to use a dedicated power circuit. Never use a power supply shared by another appliance.
	(7). For wiring, use a cable length enough to cover the entire distance with no connection. Do not use an extension cord. Do not put other loads on the power supply, use a dedicated power circuit. (Failure to do so may cause abnormal heat, electric shock or fire.)
	(8). Use the specified types of wires for electrical connections between the indoor and outdoor units. Firmly clamp the interconnecting wires so their terminals receive no external stresses. Incomplete connections or clamping may cause terminal overheating or fire.
	(9). After connecting interconnecting and supply wiring be sure to shape the cables so that they do not put undue force on the electrical covers or panels. Install covers over the wires. Incomplete cover installation may cause terminal overheating, electrical shock, or fire.
	(10). If any refrigerant has leaked out during the installation work, ventilate the room. (The refrigerant produces a toxic gas if exposed to flames.)
	(11). After all installation is complete, check to make sure that no refrigerant is leaking out. (The refrigerant produces a toxic gas if exposed to flames.)
	(12). When installing or relocating the system, be sure to keep the refrigerant circuit free from substances other than the specified refrigerant (R410A), such as air. (Any presence of air or other foreign substance in the refrigerant circuit causes an abnormal pressure rise or rupture, resulting in injury.)
	(13). During pump-down, stop the compressor before removing the refrigerant piping. If the compressor is still running and the stop valve is open during pump-down, air will be sucked in when the refrigerant piping is removed, causing abnormal pressure in the freezer cycle which will lead to breakage and even injury.

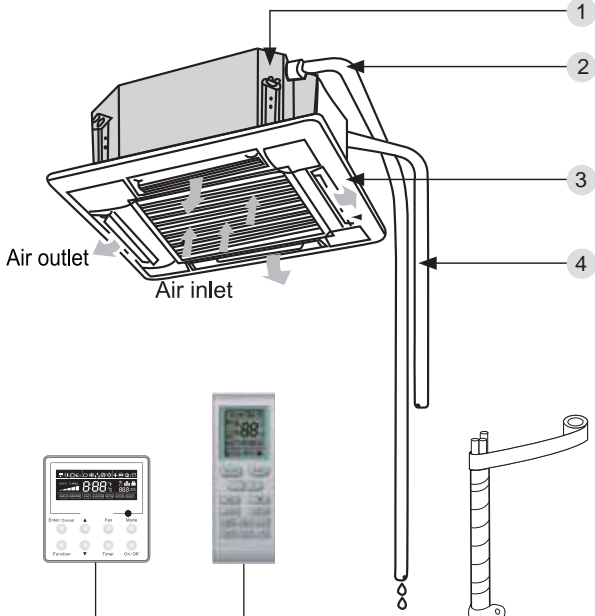
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|---|
| (14). During installation, attach the refrigerant piping securely before running the compressor. If the compressor is not attached and the stop valve is open during pump-down, air will be sucked in when the compressor is run, causing abnormal pressure in the freezer cycle which will lead to breakage and even injury. |
| (15). Be sure to establish an earth. Do not earth the unit to a utility pipe, arrester, or telephone earth. Incomplete earth may cause electrical shock, or fire. A high surge current from lightning or other sources may cause damage to the air conditioner. |
| (16). Be sure to install an earth leakage breaker. Failure to install an earth leakage breaker may result in electric shocks, or fire. |
| (17). 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. |
| (18). Children should be supervised to ensure that they do not play with the appliance. |
| (19). 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. |

 CAUTION!

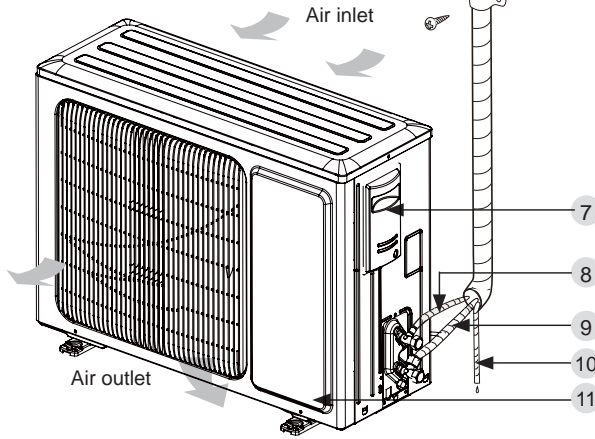
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|---|
| (1). Do not install the air conditioner in a place where there is danger of exposure to inflammable gas leakage. If the gas leaks and builds up around the unit, it may catch fire. |
| (2). Establish drain piping according to the instructions of this manual. Inadequate piping may cause flooding. |
| (3). Tighten the flare nut according to the specified method such as with a torque wrench. If the flare nut is tightened too hard, the flare nut may crack after a long time and cause refrigerant leakage. |

2 Outline of the Unit and Main Parts

Indoor



Outdoor



- 1. Drainage device
- 2. Drainage pipe
- 3. Air flow flap
- 4. Connection pipe
- 5. Wireless Controller
- 6. Wired Controller
- 7. Big handle
- 8. Liquid Pipe
- 9. Gas pipe
- 10. Drainage pipe
- 11. Front Board

Fig.1

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
















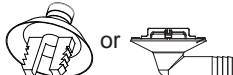


Indoor Unit Accessories				
No.	Name	Appearance	Q'ty	Usage
1	Drain Hose		1	To connect with the hard PVC drain pipe
2	Nut with Washer		4	To fix the hook on the cabinet of the unit.
3	Washer		10	To be used together with the hanger bolt for installing the unit.
4	installation paperboard		1	used for ceiling drilling
5	Gasket mounting board		4	Used to prevent gasket from falling off
6	Wireless Controller +Battery		1+2	To control the indoor unit
7	sealing plaster		1	
8	Fastener		4	To fasten the sponge
9	Insulation		1	To insulate the gas pipe
10	Insulation		1	To insulate the liquid pipe
11	Sponge		4	To insulate the drain pipe
12	Nut		1	To connect gas pipe
13	Nut		1	To connect liquid pipe
14	Enswathement		2	

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 the danger of combustible gas leakage.
② . Do not install the unit near heat source of heat, 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

Select an installation site where the following conditions are fulfilled and that meets your customer's approval.

- (1). Obstruct should be put away from the intake or outlet vent of the indoor unit so that the airflow can be blown through all the room.
- (2). Make sure that the installation meets the requirement of the schematic diagram of installation spaces.
- (3). Select the place where can stand 4 times of the weight of the indoor unit and would not increase the operating noise and vibration.
- (4). The horizontality of the installation place should be guaranteed.
- (5). Select the place where is easy to drain out the condensate water, and connect with outdoor unit.
- (6). Make sure that there are enough space for care and maintenance, and the height fall between the indoor unit and ground is above 1800mm.
- (7). When installing the suspension bolt, check if the installation place can stand 4 times of the weight of the unit. If not, reinforce it before installation.

Note: There will be large amount of greasy dirt accumulated on the fan, heat exchanger and water pump located in the dining room and kitchen, which would reduce the capacity of the heater exchanger, lead to leakage and abnormal operation of the water pump.

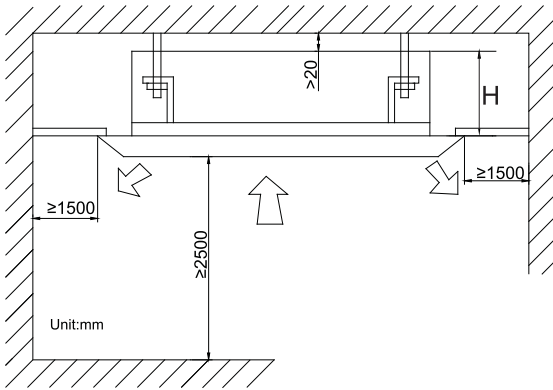


Fig.2

Table 3

Models	H(mm)
V2CI-12	255
V2CI-18	
V2CI-20	260
V2CI-30	340
V2CI-36	
V2CI-45	
V2CI-50	320
V2CI-60	

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

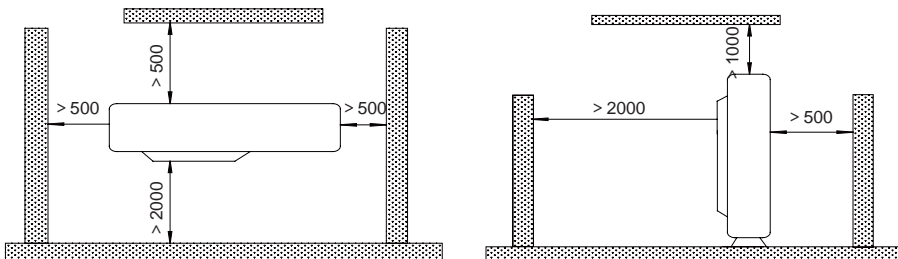


Fig.3

3.3 Connection Pipe Requirement



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 4

Model \ Item	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			
V2CI-12 U2RS-12	1/4	3/8	20	15	Φ25×1.5
V2CI-18 U2RS-18		1/2	20	15	
V2CI-24 U2RS-24	3/8	5/8	30	15	
V2CI-30 U2RS-30			30	15	
V2CI-36 U2RS-36			30	15	
V2CI-45 U2RS-45			50	30	
V2CI-50 U2RS-50			50	30	
V2CI-36 U2RT-36			30	15	
V2CI-45 U2RT-45	50	30			
V2CI-50 U2RT-50	50	30			
V2CI-60 U2RT-60	3/8	3/4	50	30	

The connection pipe should be insulated with proper water-proof insulating material.

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 5

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 6

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

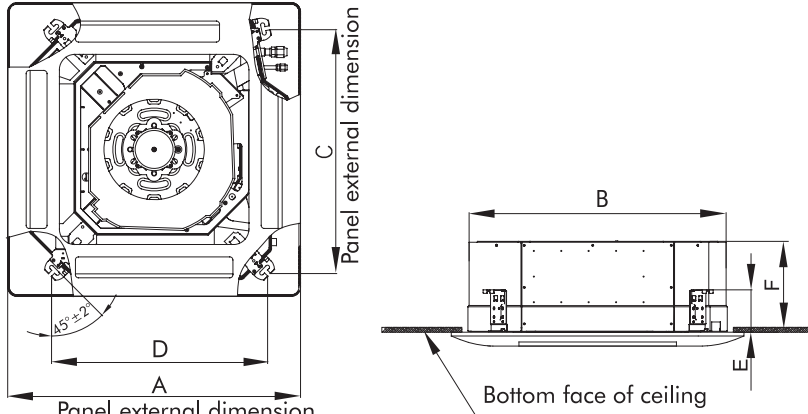


Fig.4

Table 7

Item / Model	A	B	C	D	E	F
V2CI-12	670	596	592	571	145	240
V2CI-18						
V2CI-20	950	840	780	680	160	240
V2CI-30						
V2CI-36	950	840	892	980	160	320
V2CI-45						
V2CI-50	1040	910	842	788	170	290
V2CI-60						

4.1.2 Installing the Main Body Unit

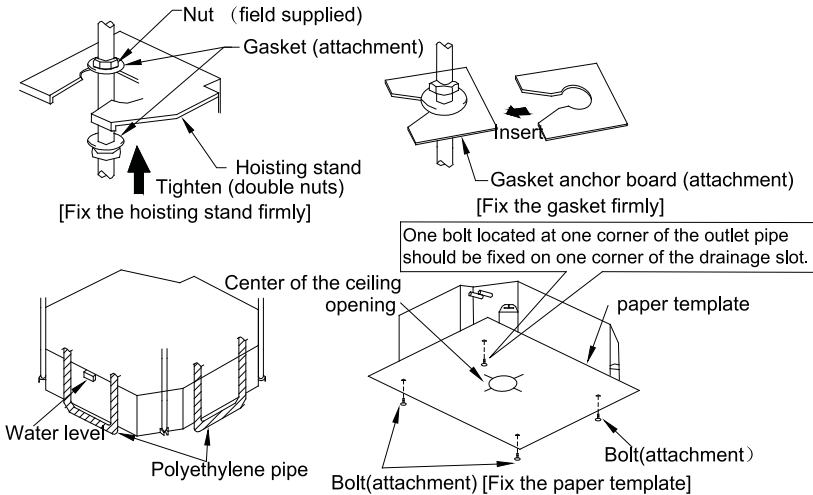


Fig.5

- (1). Install the hoisting stand on the hoisting screw by using nuts and gaskets at both the upper and lower sides of the hoisting stand. To prevent the gasket from breaking off, a gasket anchor board can be helpful.
- (2). Install the paper template on the unit, and fix the drain pipe at the outlet vent.
- (3). Adjust the unit to the best position.
- (4). Check if the unit is installed horizontally at four directions. If not, the water pump and the float switch would function improperly and even lead to water leakage.
- (5). Remove the gasket anchor board and tighten the nut remained.
- (6). Remove the paper template.

4.1.3 Installing the Suspension Bolts

- (1). Using the installation template, drill holes for bolts (four holes). (Fig. 6)
- (2). Install the bolts to the ceiling at a place strong enough to hang the unit. Mark the bolt positions from the installation template. With a concrete drill, drill for 12.7mm (1/2") diameter holes. (Fig.7)
- (3). Insert the anchor bolts into the drilled holes, and drive the pins completely into the anchor bolts with a hammer. (Fig.8)

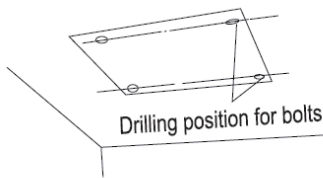


Fig.6

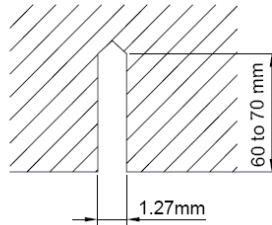


Fig.7

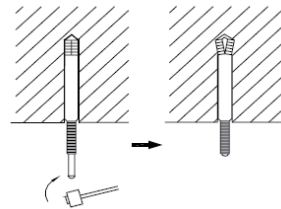


Fig.8

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.

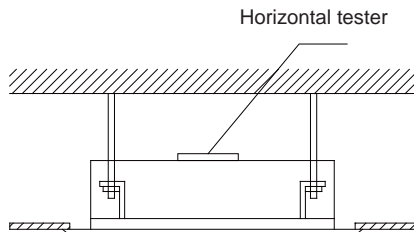


Fig.9

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

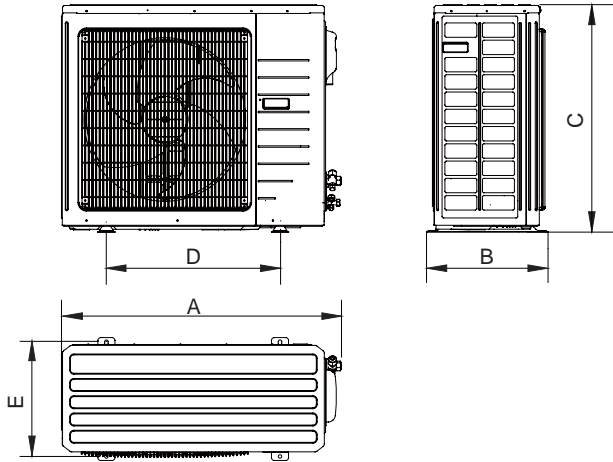


Fig.10

Table 8

Unit: mm

Model \ Item	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.11)

- (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.

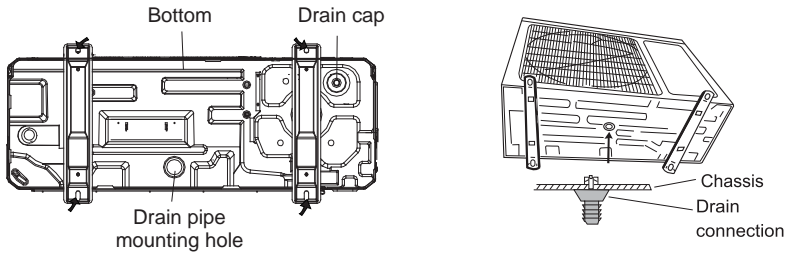


Fig.11

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.12).

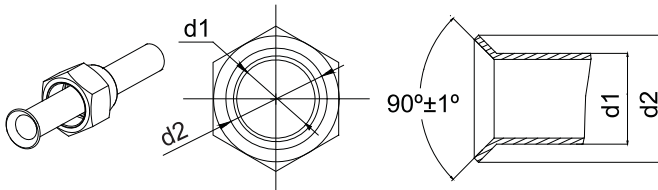


Fig.12

4.3.2 Bending Pipes

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

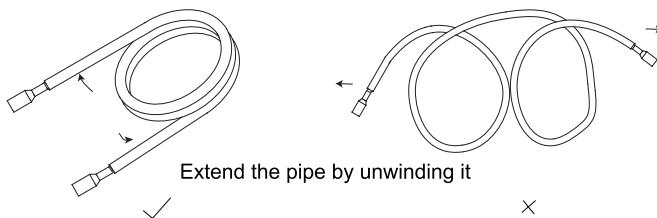


Fig.13

- (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.14, 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.

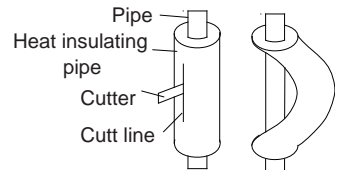


Fig.14

⚠ 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.15)

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 9 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.

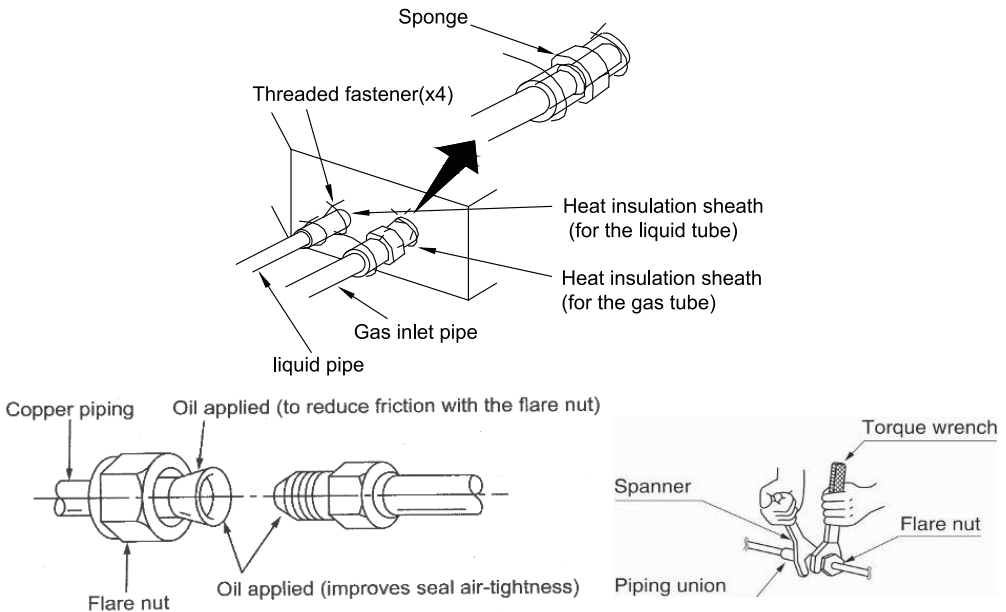


Fig.15

Table 9 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)



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.

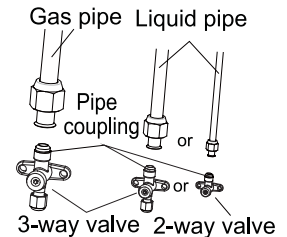


Fig.16

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.

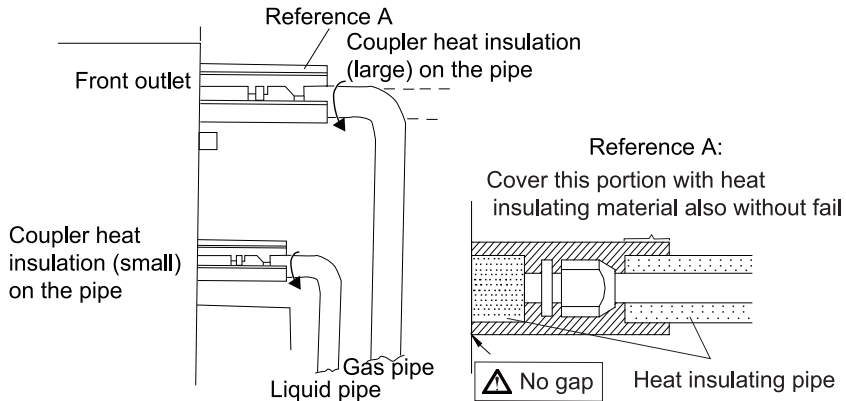


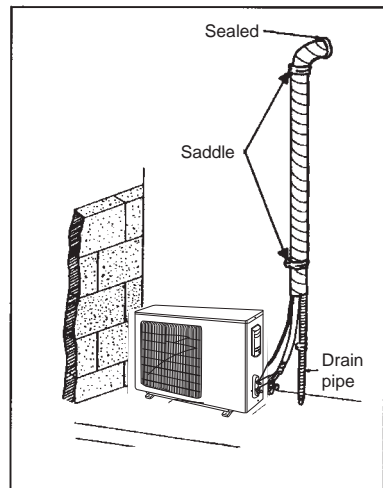
Fig.17

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.

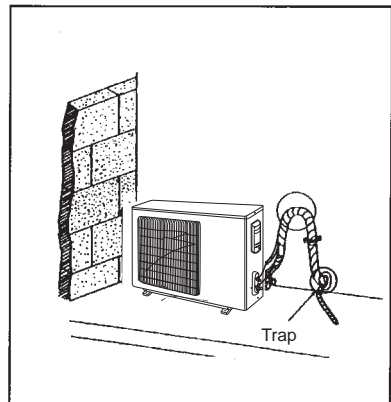
Fig.18



If the outdoor unit is installed higher than the indoor unit (See Fig.19)

- (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.
- (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.

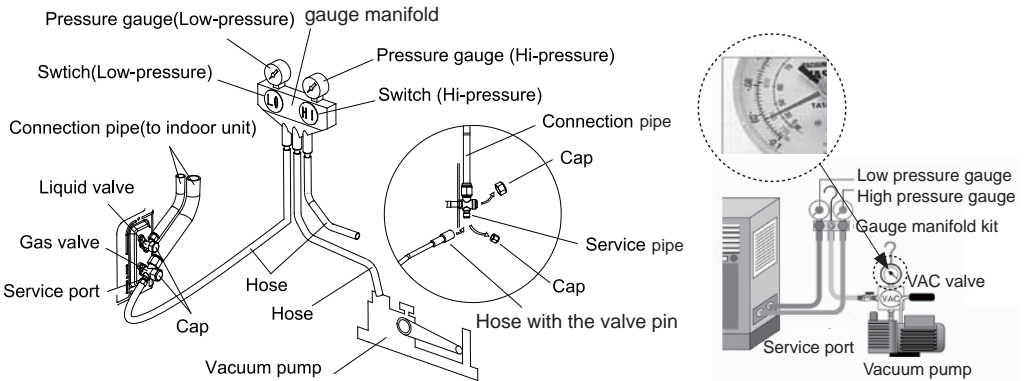


Fig.20

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 10.

Table 10

Item Mode	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.

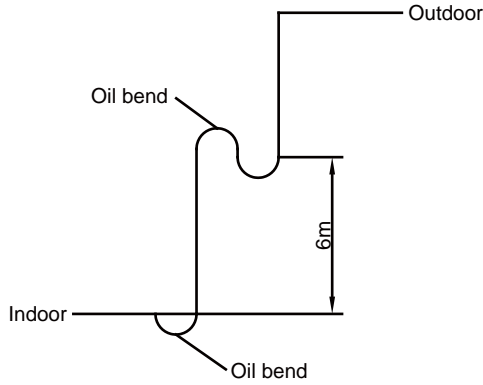


Fig.21

4.5 Installation of the Drain Hose

4.5.1 Installation of Drain Piping

- (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.

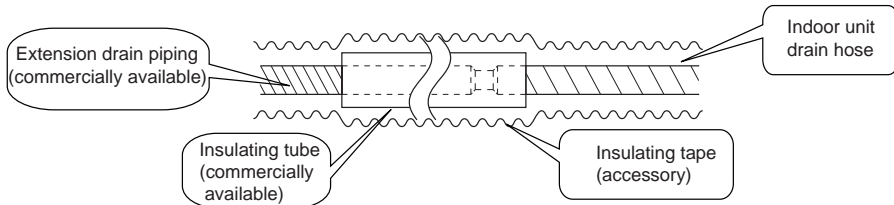


Fig.22

4.5.2 Installing the Drain Pipes

- (1). Insert the drain pipe to the drain outlet of the unit and then tighten the clamp securely with tape.
- (2). Connect the extension drain pipe to the drain pipe and then tighten the clamp with tape.

<p>Tighten the clamp until the screw head is less than 4mm from the hose. Metal clamp Drain hose (accessory) Grey tape (accessory)</p>	<p>Insulate the pipe clamp and the drain hose using heat insulation sponge. Metal clamp (accessory) Insulation sponge (accessory)</p>

- (3). When unifying multiple drain pipes, install the pipes as Fig.23. Select converging drain pipes whose gauge is suitable for the operating capacity of the unit.(take the cassette type unit for example)

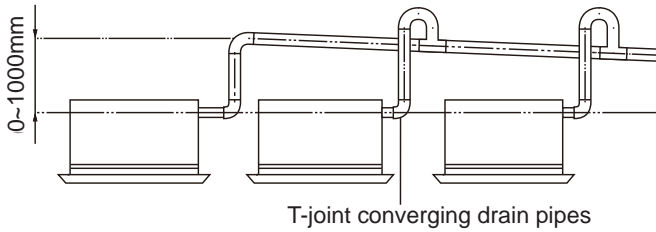
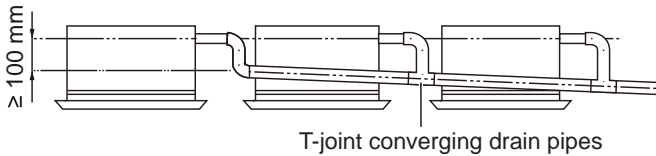


Fig.23

- (4). When the drain hose cannot keep a sufficient gradient, it is necessary to fit a riser pipe (field supplied) to it.
- (5). If the air flow of indoor unit is high, this might cause negative pressure and result in return suction of outdoor air. Therefore, U-type water trap shall be designed on the drainage side of each indoor unit.(Fig.24)
- (6). Install one water trap for each unit.
- (7). Installation of water trap shall consider easy cleaning in the future.

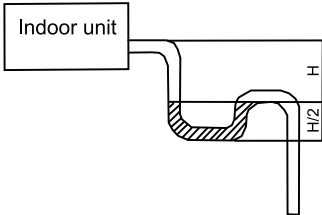


Fig.24

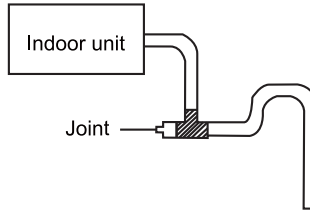


Fig.25

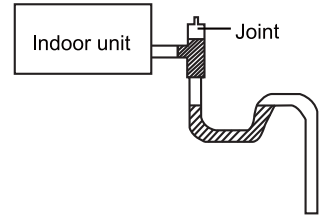
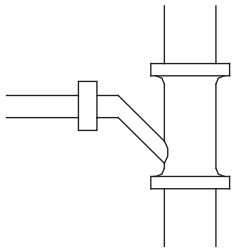


Fig.26

- (8). Connection of drainage branch pipe to the standpipe or horizontal pipe of drainage main pipe

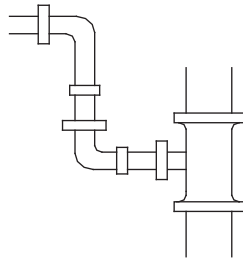
The horizontal pipe cannot be connected to the vertical pipe at a same height. It can be connected in a manner as shown below:

- NO.1: Attach the 3-way connection of the drainage pipe joint as shown in Fig.27.
- NO.2: Attach the drain elbow as shown in Fig.28.
- NO.3: Attach the horizontal pipe as shown in Fig.29.



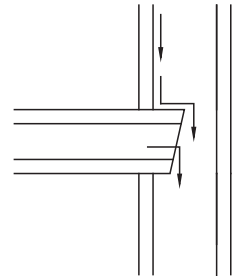
3-way connection of drainage pipe joint

Fig.27



Connection of drain elbow

Fig.28



Connection of horizontal pipe

Fig.29

4.5.3 Precautions When Doing Riser Piping Work

- (1). Make sure that heat insulation work is executed on the following 2 spots to prevent any possible water leakage due to dew condensation.
 - 1). Connect the drain hose to the drain lift pipe, and insulate them.
 - 2). Connect the drain hose to the drain outlet on the indoor unit, and tighten it with the clamp.

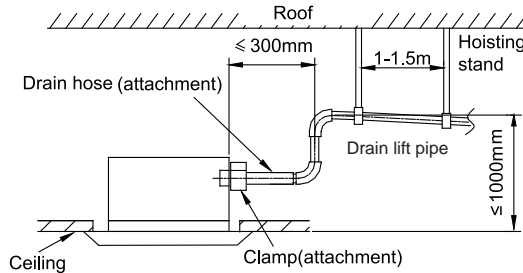


Fig.30

- (2). Make sure the lift pipe is at most 280mm.
- (3). Stand the lift pipe vertically, and make sure it is not further than 300mm from the base of the drain outlet.
- (4). Secure a downward gradient of 1/100 or more for the drain pipe. To accomplish this, mount supporting brackets at an interval of 1 -1.5 m.

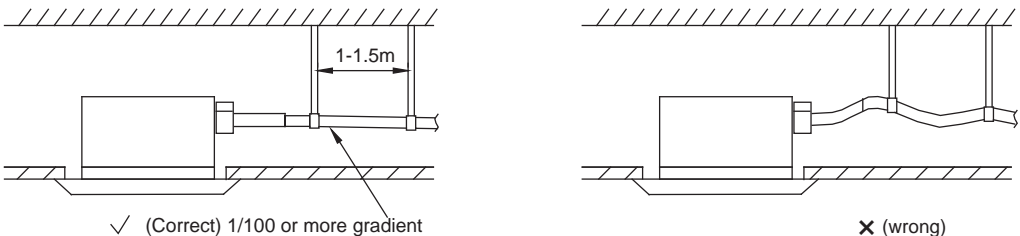


Fig.31

- (5). The incline of attached drain hose should be 75mm or less so that the drain outlet does not have to withstand additional force.

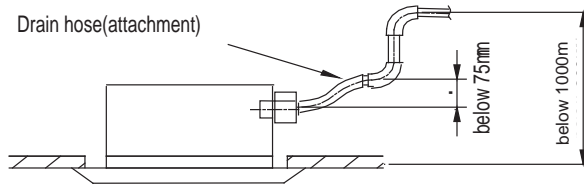


Fig.32

4.5.4 Testing of Drain Piping

After piping work is finished, check if drainage flows smoothly.

Shown in the Fig.33, Add approximately 1liter of water slowly into the drain pan and check drainage flow during COOL running.

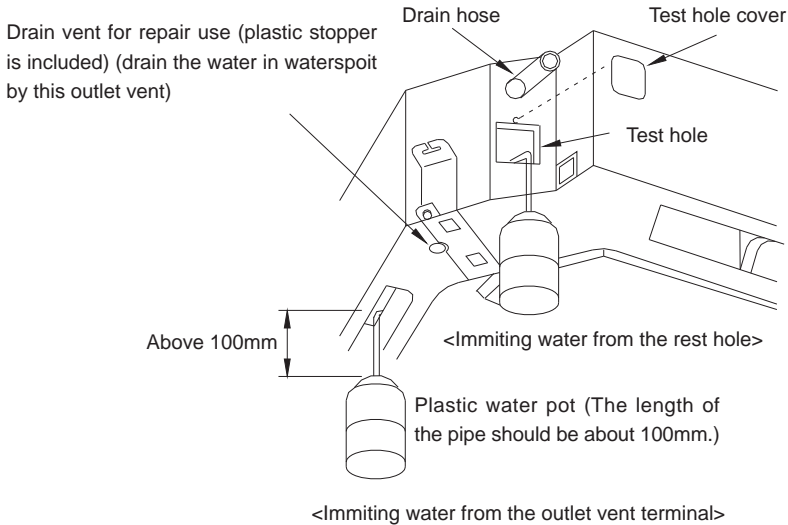


Fig.33

4.6 The Panel Installation

4.6.1 Precautions

- (1). See the figure below for the relationship of the front panel and the connecting pipe.

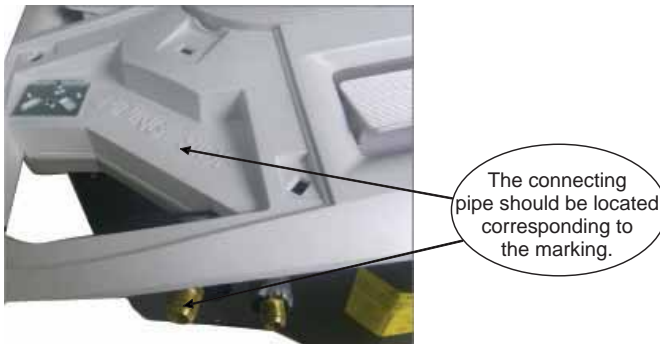


Fig.34

- (2). Improper screwing of the screws may cause the troubles shown in Fig.35.

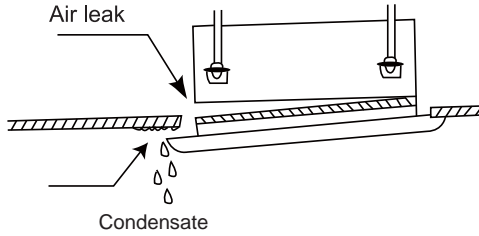


Fig.35

- (3). If gap still exists between ceiling and decoration panel after tightening the screws, readjust the height of the indoor unit. (Fig.36)

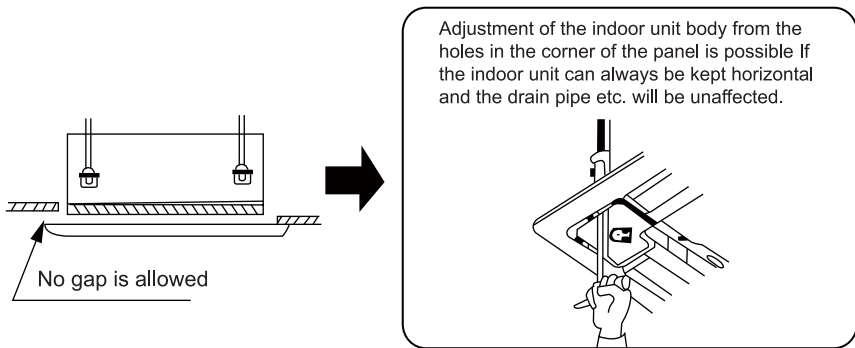


Fig.36

- (4). Wire the swing flap motor as shown in Fig.37.

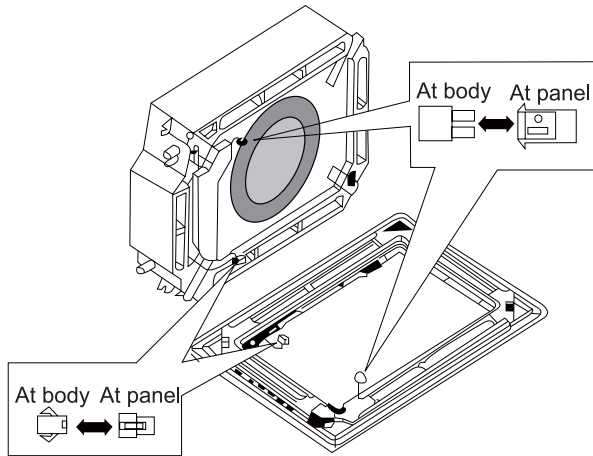


Fig.37

4.6.2 Installing the Panel

- (1). Place the panel at the unit, and latch the hooks beside and opposite the swing flap motor.
- (2). Latch other two hooks.
- (3). Tighten four hexagonal screws under the latches about 15mm.

- (4). Adjust the panel along the direction indicated by the arrow as shown in Fig.38.
- (5). Tighten the screws until the thickness of the sealing material between the panel and the indoor unit reduces to 5-8cm.

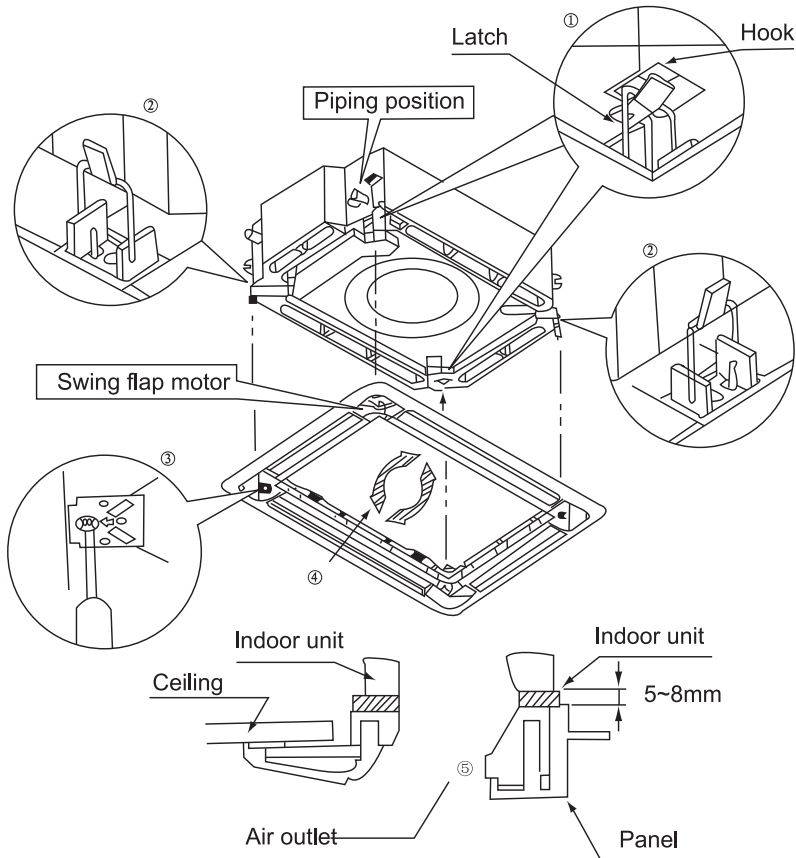



Fig.38

4.7 Electrical Wiring

4.7.1 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 5 and Table 6
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.

4.7.2 Electrical Wiring

(1). For solid core wiring (Fig.39)

- 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.39)

- 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.40)

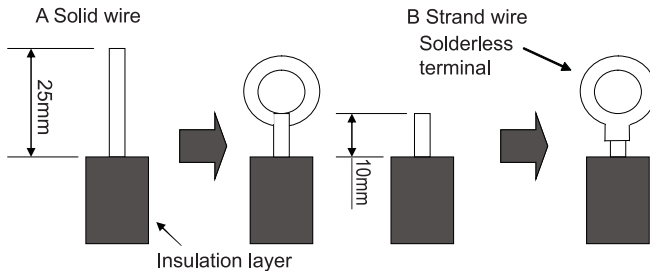


Fig.39

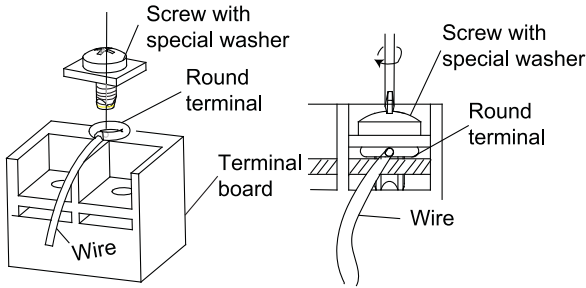


Fig.40

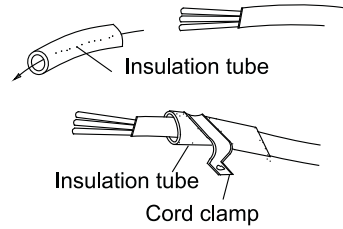


Fig.41

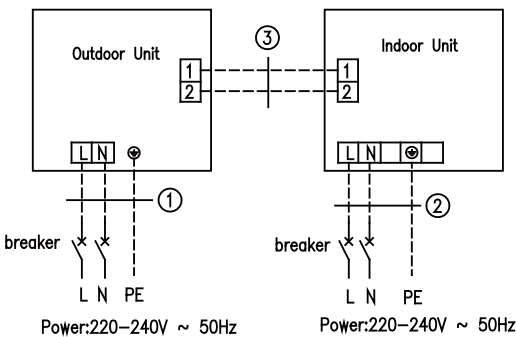
(3). How to fix connection cord and power cord by cord clamp

After passing the connection cord and power cord through the insulation tube, fasten it with the cord clamp.(Fig.41)

⚠ 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.

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

Single-phase units(12K~30K)

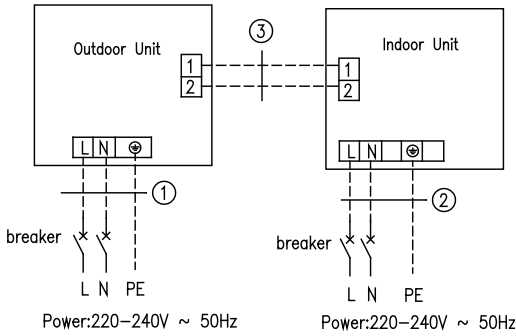


U2RS-12+V2CI-12
U2RS-18+V2CI-18
① . Power cord 3×1.5mm ² (H07RN-F)
② . Power cord 3×1.0mm ² (H05RN-F)
③ . Communication Cords 2×0.75mm ² (H05RN-F)

U2RS-24+V2CI-24
U2RS-30+V2CI-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)

DC Inverter U-match Series Cassette Type Unit

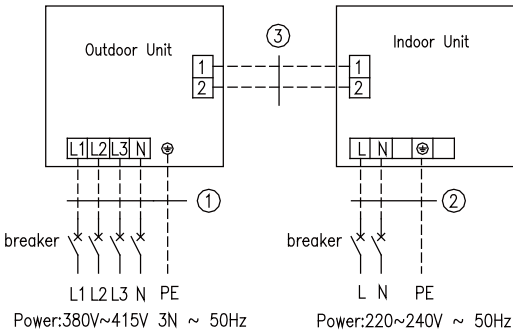
Single-phase units(36K~50K)



U2RS-36+V2CI-36
U2RS-45+V2CI-45
① . Power cord 3x2.5mm ² (H07RN-F)
② . Power cord 3x1.0mm ² (H05RN-F)
③ . Communication Cords 2x0.75mm ² (H05RN-F)

U2RS-50+V2CI-50
① . Power cord 3x6.0mm ² (H07RN-F)
② . Power cord 3x1.0mm ² (H05RN-F)
③ . Communication Cords 2x0.75mm ² (H05RN-F)

Three-phase units



U2RT-36+V2CI-36
U2RT-45+V2CI-45
U2RT-50+V2CI-50
U2RT-60+V2CI-60
① . Power cord 3x2.5mm ² (H07RN-F)
② . Power cord 3x1.0mm ² (H05RN-F)
③ . Communication Cords 2x0.75mm ² (H05RN-F)

Fig.42

(5). Electric wiring of indoor unit side

Remove the electric box cover from the electric box sub-assy and then connect the wire.

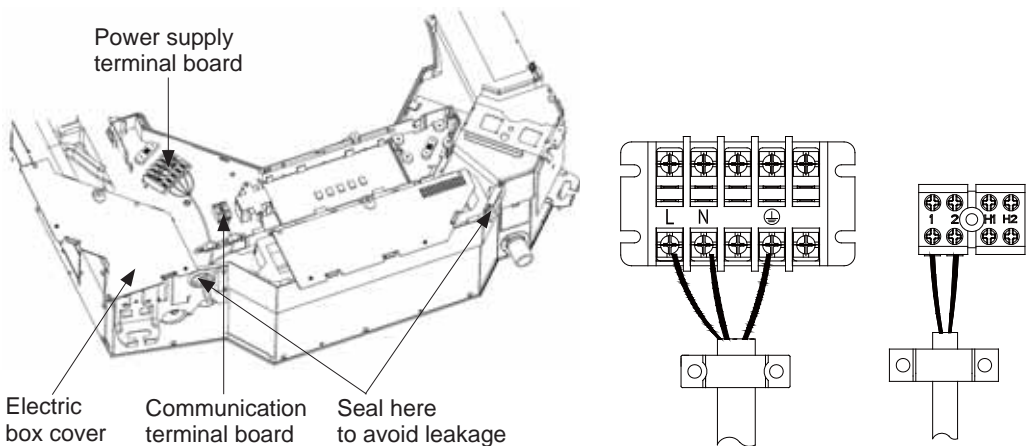



Fig.43

 CAUTION!
<p>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.</p>
<p>② . The high-voltage and low-voltage lines should pass through the rubber rings at different electric box covers.</p>
<p>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.</p>
<p>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.</p>
<p>⑤ . Tighten the indoor/outdoor connection cord and power cord respectively on the terminal boards with screws. Faulty connection may cause a fire.</p>
<p>⑥ . If the indoor unit connection cord (to the outdoor unit) and power supply are wired incorrectly, the air conditioner may be damaged.</p>
<p>⑦ . Connect the indoor unit connection cord properly based on the corresponding marks as shown in Fig.42.</p>
<p>⑧ . Ground both the indoor and outdoor units by attaching a ground wire.</p>
<p>⑨ . Unit shall be grounded in compliance with the applicable local and national codes.</p>

(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:

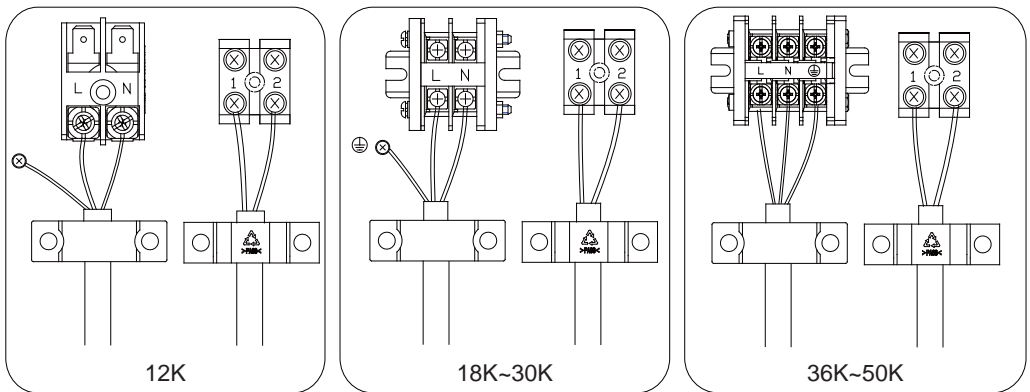


Fig.44

Three-phase:

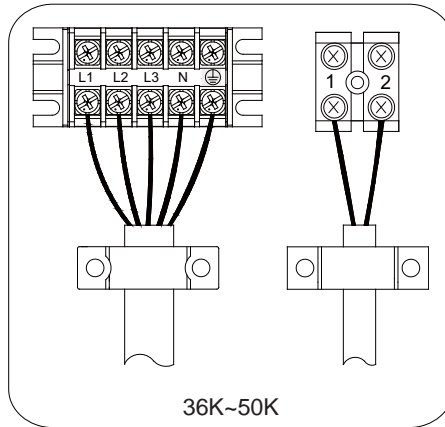


Fig.45

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 11

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 colleting 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	
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 Cassette Type Unit.

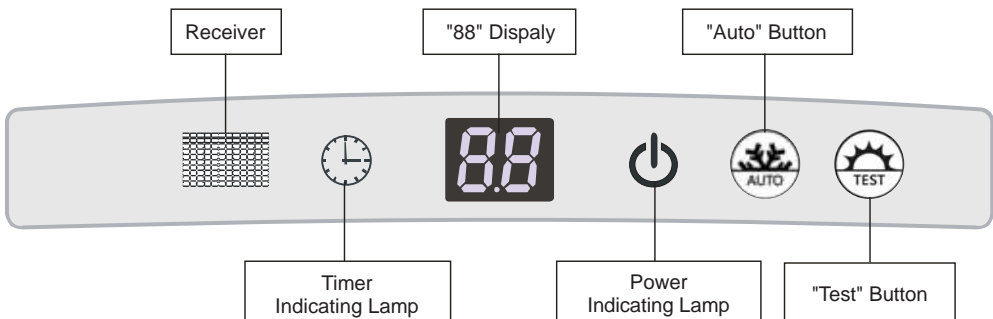


Fig.46

◆ Power and ON/OFF Indicating Lamp:

It goes red when the unit is powered on while it goes white when the unit is started.

◆ Timer Indicating Lamp:

It goes on when the timer is set and goes off when it is not. Its display is in yellow.

◆ “88” Display:

When there is no error, and it receives valid remote control information. It will display the temp setup for 5s, then display the temp of indoor. When the unit has error, It will display the error code. When there are more than one error, the error code will be displayed alternately.

After the grille of the front panel is opened, the front panel is still allowed to realize the following functions by pressing the “Auto” button and the nearby “Test” button simultaneously for five seconds when the unit is “Off”.

6.2 Working Temperature Range

Table12

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 13

Failure	Possible Reasons
The unit cannot be started.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 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

Only a qualified service person is allowed to perform maintenance.

Before accessing to terminal devices, all power supply circuits must be disconnected.



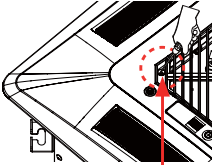
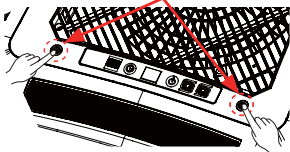
Do not use water or air of 50°C or higher for cleaning air filters and outside panels.

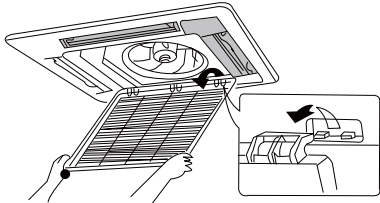

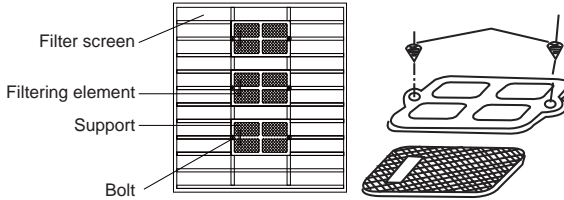
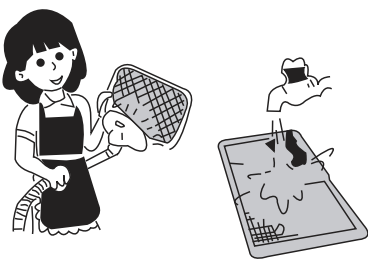
Notes:

- ① . Do not operate the air conditioner with the filter uninstalled, otherwise dust would come into the unit.
- ② . Do not remove the air filter except for cleaning. Unnecessary handling may damage the filter.
- ③ . Do not clean the unit with gasoline, benzene, thinner, polishing powder or liquid insecticide, otherwise it would cause discoloration and deformation of the unit.
- ④ . Do not wet the indoor unit in case of electric shock or fire hazard.

Increase the frequency of cleaning if the unit is installed in a room where the air is extremely contaminated. (As a yardstick for yourself, consider cleaning the filter once a half year.)

If dirt becomes impossible to clean, change the air filter.

How to clean the air filter	
<p>1. Open the air inlet grille</p> <p>(1). How to open the panel grille of the 24K~45K cassette type unit</p> <ul style="list-style-type: none"> ① . Push the buckle as shown in the figure. ② . Release the screws under buckles by a screwdriver. ③ . Push the fastener and open the panel grille. 	 <p style="text-align: center;">Remove the screw</p>
	 <p style="text-align: center;">Push the fastener</p>
<p>(2). How to open the panel grille of the 12K\18K\50K\60K cassette type unit</p> <ul style="list-style-type: none"> ① . Remove the screws by a screwdriver as shown in the picture. ② . Push those two fasteners and open the panel grille. 	 <p style="text-align: center;">Remove the screw</p>
	 <p style="text-align: center;">Push the fastener</p>



<p>2. Disassemble the air inlet grille Open the air inlet grille at 45°, raise it and remove the grille.</p>	
<p>3. Disassemble the filter screen Draw out the filter screen and remove it.</p>	
<p>4. Disassemble the air purifier Remove the air purifier after removing the fixed screws on it.</p>	
<p>5. Clean the filter screen 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 with the detergent. Dry the filter in the shadow. Note: Never use hot water over 45°C in case of color fading or turning yellow. Never dry it by fire so as to prevent the filter caught fire or deformation.</p>	
<p>6. Reset the filter</p>	<p>The same as step 3</p>
<p>7. Install the grille well</p>	<p>The same as step 1 and 2</p>


Notes:

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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).	Η εγκατάσταση πρέπει να γίνει από εξουσιοδοτημένο και εξειδικευμένο προσωπικό. Κακή εγκατάσταση μπορεί να προκαλέσει διαρροή νερού, ηλεκτροπληξία ή πυρκαγιά.
(2).	Η εγκατάσταση της μονάδας πρέπει να γίνει σύμφωνα με τις οδηγίες του συγκεκριμένου εγχειριδίου. Ατελής εγκατάσταση μπορεί να προκαλέσει διαροή νερού, ηλεκτροπληξία ή πυρκαγιά.
(3).	Βεβαιωθείτε πως χρησιμοποιείτε τα παρελκόμενα που περιέχονται στη συσκευασία ή προδιαγραφμένα εξαρτήματα εγκατάστασης. Η χρήση άλλων εξαρτημάτων μπορεί να προκαλέσει χαλαρή εγκατάσταση, διαρροή νερού, ηλεκτροπληξία ή πυρκαγιά.
(4).	Εγκαταστήστε τη μονάδα σε συμπαγή βάση που μπορεί να κρατήσει το βάρος της μονάδας. Ακατάλληλη βάση ή ατελής εγκατάσταση μπορεί να προκαλέσουν τραυματισμό ή πτώση της μονάδας.
(5).	Η ηλεκτρική εγκατάσταση πρέπει να γίνει σύμφωνα με τις οδηγίες του εγχειριδίου εγκατάστασης και τους εθνικούς κανονισμούς. Ανεπαρκής χωρητικότητα ή ατελής εγκατάσταση μπορεί να προκαλέσει ηλεκτροπληξία ή πυρκαγιά.
(6).	Βεβαιωθείτε πως έχετε ξεχωριστό ηλεκτρικό κύκλωμα. Μην χρησιμοποιείτε ηλεκτρικό κύκλωμα στο οποίο είναι συνδεδεμένες και άλλες συσκευές.
(7).	Για την ηλεκτρική σύνδεση, χρησιμοποιείτε καλώδιο με επαρκές μήκος για να καλύψει όλη την απόσταση χωρίς να γίνει μάτιση. Μην χρησιμοποιήσετε επέκταση καλωδίου. Μην συνδέετε άλλα φορτία στο ηλεκτρικό κύκλωμα, χρησιμοποιήστε αποκλειστικό κύκλωμα. (αλλιώς μπορεί να προκληθεί υπερθέρμανση, ηλεκτροπληξία ή πυρκαγιά).
(8).	Χρησιμοποιήστε τους προδιαγραφμένους τύπους καλωδίων για τις ηλεκτρικές συνδέσεις μεταξύ των εσωτερικών και εξωτερικών μονάδων. Σφίξτε τα καλώδια ενδοεπικοινωνίας ώστε οι επαφές να μη δέχονται εξωτερικές πιέσεις. Ακατάλληλες συνδέσεις μπορεί να προκαλέσουν υπερθέρμανση ή πυρκαγιά.
(9).	Βεβαιωθείτε πως τα παροχικά καλώδια και τα καλώδια ενδοεπικοινωνίας δεν προκαλούν πίεση στα καλύμματα πάνω από τα καλώδια. Ακατάλληλη εγκατάσταση μπορεί να προκαλέσει υπερθέρμανση, ηλεκτροπληξία ή πυρκαγιά.
(10).	Εάν έχει διαρρεύσει ψυκτικό υγρό κατά την εγκατάσταση, τότε αερίστε καλά το δωμάτιο (το ψυκτικό μέσο παράγει τοξικά αέρια αν έρθει σε επαφή με φλόγες)
(11).	Όταν ολοκληρώσετε την εγκατάσταση, ελέγξτε πως δεν υπάρχει διαρροή ψυκτικού μέσου. (το ψυκτικό μέσο παράγει τοξικά αέρια εάν εκτεθεί σε φλόγες)
(12).	Κατά την εγκατάσταση ή τη μεταφορά της μονάδας, βεβαιωθείτε πως το ψυκτικό κύκλωμα είναι μακριά από άλλες ουσίες, όπως ο αέρας. (η παρουσία αέρα ή άλλης ουσίας μπορεί να προκαλέσει απότομη αύξηση ή μείωση της πίεσης, με αποτέλεσμα να προκληθεί τραυματισμός).
(13).	Κατά το rump-down, σταματήστε τη λειτουργία του συμπιεστή πριν την αποσύνδεση των σωληνώσεων. Εάν ο συμπιεστής λειτουργεί και οι βάνες είναι ανοιχτές, κατά την αποσύνδεση των σωληνώσεων θα αναρροφηθεί αέρας προκαλώντας μη ομαλή πίεση στον ψυκτικό κύκλο, το οποίο μπορεί να προκαλέσει ρωγμή ακόμα και τραυματισμό

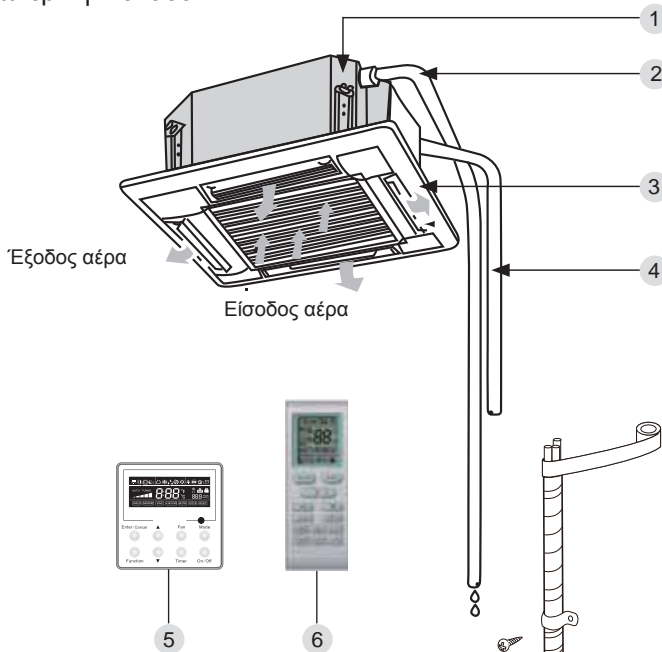
(14). Κατά τη εγκατάσταση συνδέστε ασφαλώς τις σωληνώσεις πριν την εκκίνηση του συμπιεστή. Εάν ο συμπιεστής δεν είναι συνδεδεμένος και οι βάνες είναι ανοιχτές κατά το ramp-down θα αναρροφηθεί αέρας προκαλώντας μη ομαλή πίεση στον ψυκτικό κύκλο, το οποίο μπορεί να προκαλέσει ρογμή ακόμα και τραυματισμό
(15). Βεβαιωθείτε πως έχετε συνδέσει τη γείωση. Μην συνδέσετε τη γείωση σε κοινους σωλήνες ή τηλεφωνική γείωση. Ανεπαρκής γείωση μπορεί να προκαλέσει ηλεκτροπληξία ή πυρκαγιά. Ένα μεγάλο ρεύμα έντασης από φωτισμό ή άλλες πηγές μπορεί να προκαλέσει βλάβη στη μονάδα.
(16). Βεβαιωθείτε πως έχετε εγκαταστήσει διακόπτη διαρροής για τη γείωση. Σε αντίθετη περίπτωση μπορεί να προκληθεί ηλεκτροπληξία ή πυρκαγιά.
(17). Η μονάδα αυτή δεν πρέπει να χρησιμοποιείτε από παιδιά άτομα με ειδικές ανάγκες, άτομα χωρίς γνώση ή εμπειρία, εκτός αν καθοδούνται και επιβλέπονται από άτομο υπεύθυνο για την ασφάλειά τους.
(18). Τα παιδιά θα πρέπει να επιβλέπονται, ώστε να μην παίζουν με τη μονάδα.
(19). Εάν το παροχικό καλώδιο φθαρεί, η αντικατάσταση πρέπει να γίνει από εξειδικευμένο, εξουσιοδοτημένο προσωπικό ή από τον κατασκευαστή.

**Προσοχή!**

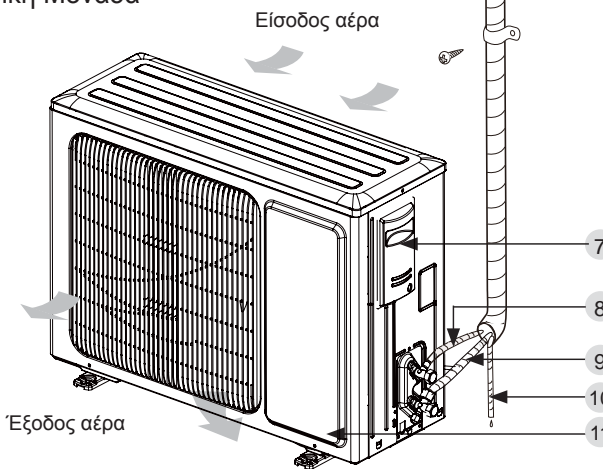
(1). Μην τοποθετείτε τη μονάδα σε μέρη που υπάρχει ο κίνδυνος έκθεσης σε εύφλεκτα αέρια. Εάν υπάρξει διαρροή κοντά στη μονάδα υπάρχει κίνδυνος πυρκαγιάς.
(2). Η εγκατάσταση του σωλήνα αποστράγγισης πρέπει να γίνει σύμφωνα με τις οδηγίες που υπάρχουν στο εγχειρίδιο, αλλιώς μπορεί να προκληθεί πλυμύρα.
(3). Σφίξτε τα παξιμάδια σύμφωνα με τις οδηγίες με ροποκλειδο. Εάν σφίξετε το παξιμάδι πολύ μπορεί να σπάσει και να προκληθεί διαρροή ψυκτικού μέσου.

2 Διαστάσεις Της Μονάδας Και Τα Κύρια Μέρη

Εσωτερική Μονάδα



Εξωτερική Μονάδα

















1. Αποχέτευση συμπυκνωμάτων
2. Σωλήνας αποστράγγισης
3. Περσίδες αέρα
4. Σωλήνας σύνδεσης
5. Ενσύρματο χειριστήριο
6. Ασύρματο χειριστήριο
7. Μεγάλη λαβή
8. Γραμμή υγρού
9. Γραμμή αερίου
10. Σωλήνας αποστράγγισης
11. Μπροστικό καλυμμα

Εικ. 1

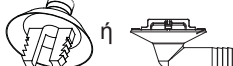
3 Προετοιμασία Εγκατάστασης

3.1 Βασικά Εξαρτήματα



Τα βασικά εξαρτήματα που περιγράφονται παρακάτω περιέχονται στη συσκευασία και πρέπει να χρησιμοποιηθούν όπως απαιτείται. Πίνακας 1

Εξαρτήματα εσωτερικής μονάδας				
No.	Ονοματολογία	Εμφάνιση	Ποσότητα	Χρήση
1	Σωλήνας Αποστράγγισης		1	Συνδέεται με σωλήνα Αποστράγγισης από σκληρό PVC
2	Βίδα με δακτύλιο		4	Για να στερεώσετε το άγκιστρο στο πλαίσιο της μονάδας
3	Δακτύλιος		10	Χρησιμοποιείται μαζί την βίδα για την εγκατάσταση της κρέμασης της μονάδας
4	Σκαρίφημα Εγκατάστασης		1	Χρησιμοποιείται για την κρέμαση στην οροφή
5	Τσιμούχα σύνδεσης		4	Χρησιμοποιείται για την αποφυγή πτώσης
6	Ασύρματο τηλεχειριστήριο και μπαταρίες		1+2	Για τον χειρισμό της εσωτερικής μονάδας
7	Ειδικός γύψος Για την οροφή		1	
8	Συνδετήρας		4	Για τη σύνδεση
9	Μόνωση		1	Για τη μόνωση της σωλήνας υγρού
10	Μόνωση		1	Για τη μόνωση της σωλήνας αερίου
11	Σπογγος		4	Για την μόνωση του σωλήνα αποστράγγισης
12	Παξιμάδι		1	Για τη σύνδεση της σωλήνας αερίου
13	Παξιμάδι		1	Για τη σύνδεση της σωλήνας υγρού
14	Enswathement		2	

Πίνακας 2

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

3.2 Επιλογή της Θέσης Εγκατάστασης

 Προειδοποίηση!
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 εύφλεκτων 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 τον πελάτη όπως περιγράφεται παρακάτω:

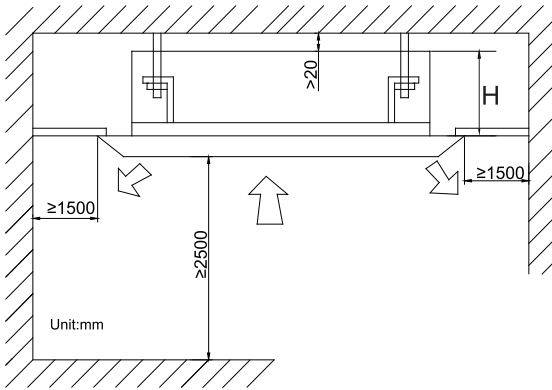
3.2.1 Εσωτερική Μονάδα:

Εσωτερική μονάδα:

Επιλέξτε τη θέση εγκατάστασης σύμφωνα με τις παρακάτω συνθηκες και με την έγκριση του πελάτη:

1. Δεν θα πρέπει να υπάρχει εμπόδιο στην είσοδο και την έξοδο του αέρα, ώστε να διαχέεται σε όλο τον χώρο.
2. Βεβαιωθείτε πως η εγκατάσταση συμφωνεί με το σχηματικό διάγραμμα
3. Βεβαιωθείτε πως η εγκατάσταση μπορεί να αντέξει 4 φορές το βάρος της εσωτερικής μονάδας χωρίς την αύξηση θορύβου ή κραδασμών.
4. Η μονάδα θα πρέπει να εγκατασταθεί οριζόντια
5. Βεβαιωθείτε πως η εγκατάσταση εξασφαλίζει την απορροή συμπυκνωμάτων και την σύνδεση με την εξωτερική μονάδα
6. Βεβαιωθείτε πως υπάρχει αρκετος χώρος για την συντήρηση της μονάδας και πως η απόσταση από το δάπεδο είναι τουλάχιστον 1800mm
7. Κατά την τοποθέτηση της ανάρτησης, βεβαιωθείτε πως μπορεί να αντέξει 4 φορές το βάρος της εσωτερικής μονάδας και ενισχύστε τη πριν την εγκατάσταση

Σημείωση: Η εγκατάσταση σε μέρη όπως κουζίνα και τραπεζαρία θα έχει ως αποτέλεσμα τη συγκέντρωση λίπους πάνω στον ανεμιστήρα, στον εναλλάκτη και την αντλία, άρα και σε πιθανή διαρροή και μη ομαλή λειτουργία της αντλίας



Εικ.2

Πίνακας 3

Μοντέλα	Ύψος(mm)
V2CI-12	255
V2CI-18	
V2CI-20	260
V2CI-30	340
V2CI-36	
V2CI-45	
V2CI-50	320
V2CI-60	

3.2.2 Εξωτερική Μονάδα



Προειδοποίηση!

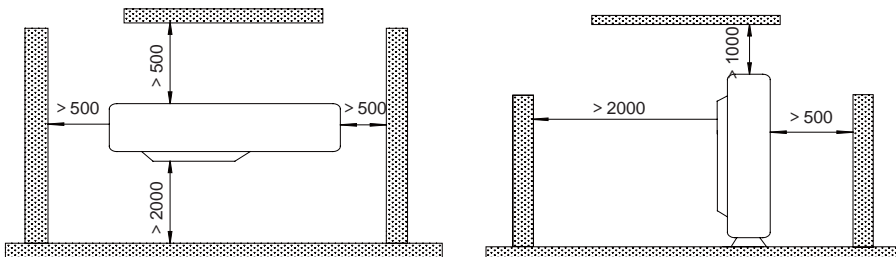
① Τοποθετήστε τη μονάδα σε μέρος όπου η κλίση δεν θα είναι πάνω από 5°

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.

Μονάδες: mm



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 4

Μοντέλο Item	Διατομή σωλήνα (Inch)		Μέγιστο Μήκος Σωληνώσεων (m)	Μέγιστη υψομετρική διαφορά ανάμεσα στην εσωτερική και εξωτερική μονάδα (m)	Διάμετρος σωλήνα αποστράγγισης (εξωτερική διάμετρος x πάχος τοίχου)
	Υγρό	Αέριο			
V2CI-12 U2RS-12	1/4	3/8	20	15	Φ25×1.5
V2CI-18 U2RS-18		1/2	20	15	
V2CI-24 U2RS-24	3/8	5/8	30	15	
V2CI-30 U2RS-30			30	15	
V2CI-36 U2RS-36			30	15	
V2CI-45 U2RS-45			50	30	
V2CI-50 U2RS-50			50	30	
V2CI-36 U2RT-36			30	15	
V2CI-45 U2RT-45	50	30			
V2CI-50 U2RT-50	50	30			
V2CI-60 U2RT-60	3/8	3/4	50	30	

Οι σωλήνες σύνδεσης θα πρέπει να μονωθούν με ειδικό αδιαβροχο μονωτικό υλικό.

Το πάχος του τοίχου πρέπει να είναι 0.5 -1.0 mm και η σωλήνα θα πρέπει να αντέχει πίεση 6.0

Mpa. 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 5

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

Πίνακας 6

Μοντέλο	Παροχή	Ασφάλεια (A)	Ελάχιστες διαστάσεις 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

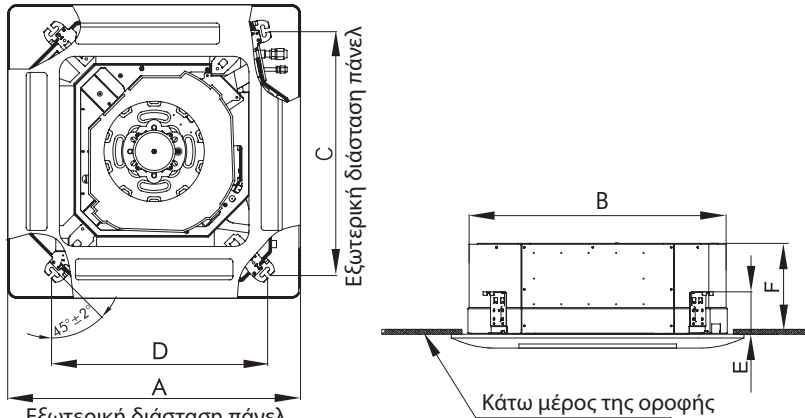
Σημειώσεις:

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 2 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

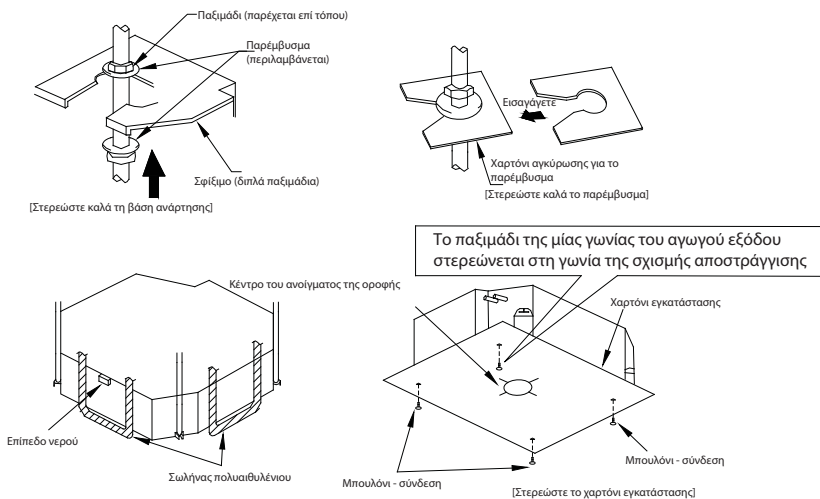


Εικ.4

Πίνακας 7

Item Μοντέλο	A	B	C	D	E	F
V2CI-12	670	596	592	571	145	240
V2CI-18						
V2CI-20	950	840	780	680	160	240
V2CI-30						
V2CI-36	950	840	892	980	160	320
V2CI-45						
V2CI-50	1040	910	842	788	170	290
V2CI-60						

4.1.2 Εγκατάσταση του κυρίως μέρους

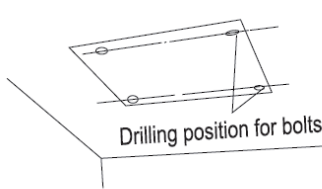


Εικ.5

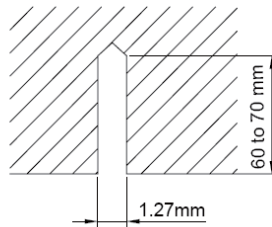
1. Το πρώτο βήμα για την εγκατάσταση της εσωτερικής μονάδας. Κατά την τοποθέτηση της βάσης ανάρτησης στη βίδα ανάρτησης, χρησιμοποιήστε το παξιμάδι και το παρέμβυσμα στο επάνω, αλλά και στο κάτω μέρος της βάσης ανάρτησης για να τη στηρίξετε. Χρησιμοποιώντας ένα χαρτόνι αγκύρωσης για το παρέμβυσμα μπορείτε να αποτρέψετε πιθανό σπάσιμο.
2. Τοποθετείστε το χαρτόνι πάνω στη μονάδα για να στερεώσετε το σωλήνα αποστράγγισης και την έξοδο του αέρα.
3. Προσαρμόστε τη μονάδα στην κατάλληλη θέση εγκατάστασης.
4. Βεβαιωθείτε ότι η μονάδα είναι σε οριζόντια θέση.
5. Η εσωτερική αντλία αποστράγγισης και ο διακόπτης με φλοτέρ παρέχονται με την εσωτερική μονάδα. Βεβαιωθείτε ότι οι 4 γωνίες κάθε μονάδας είναι σε οριζόντια θέση σε σχέση με την επιφάνεια του νερού (αν η μονάδα γέρνει προς την αντίθετη πλευρά από τη ροή των συμπυκνωμάτων, ενδέχεται να παρουσιαστεί δυσλειτουργία του διακόπτη με φλοτέρ και να στάξει νερό.)
5. Αφαιρέστε το χαρτόνι αγκύρωσης για το παρέμβυσμα που χρησιμοποιήσατε για να μην σπάσει το παρέμβυσμα και σφίξτε το παξιμάδι.
6. Αφαιρέστε το χαρτόνι εγκατάστασης

4.1.3 Τοποθέτηση Των Αναρτήσεων

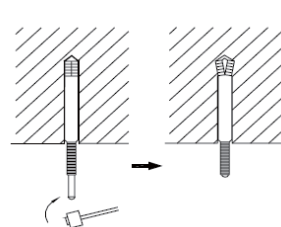
1. Χρησιμοποιώντας το περίγραμμα, ανοίξτε 4 οπές για τα μπουλόνια (εικ.6)
2. Τοποθετήστε τα μπουλόνια στην οροφή σε σταθερό και γερό μέρος που μπορεί να κρεμαστεί η μονάδα. Με ένα τρυπάνι ανοίξτε οπές διαμέτρου 12,7mm(1/2") (εικ.7)
3. Εισάγετε τα μπουλόνια στήριξης στις οπές και οδηγήστε τη σφήνα με ένα σφυρί (εικ.8)



Εικ.6



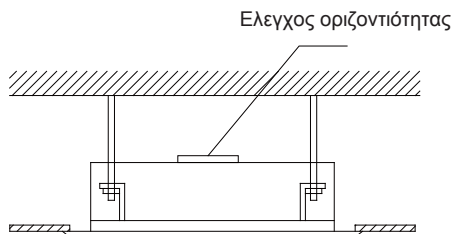
Εικ.7



Εικ.8

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.9

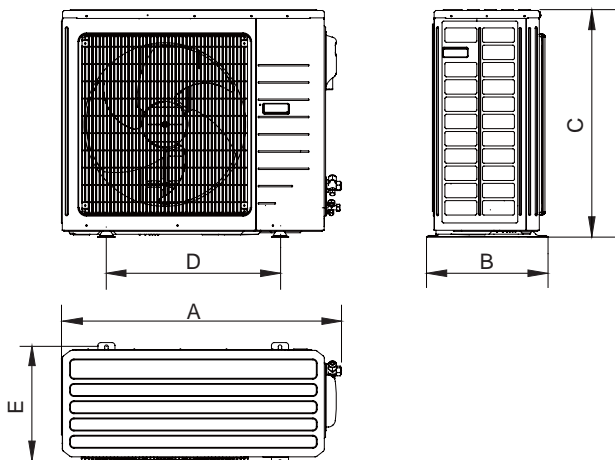
4.2 Εγκατάσταση Της Εξωτερικής Μονάδας



Προειδοποίηση!

- 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. 10

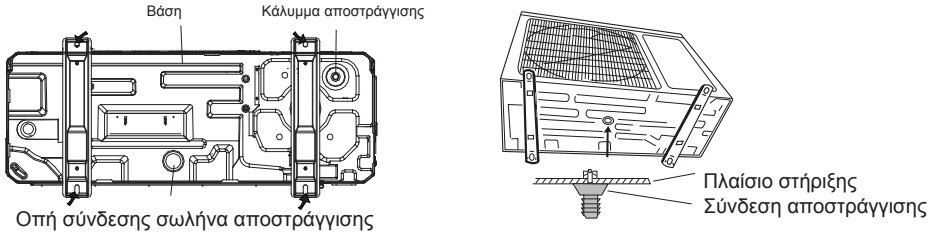
Πίνακας 8

Μονάδα μέτρησης: mm

Item Μοντέλο	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 Αποστράγγιση συμπυκνωμάτων της εξωτερικής μονάδας (μόνο για μονάδες τύπου αντλίας θερμότητας)(εικ. 11)

- (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 οπες 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.

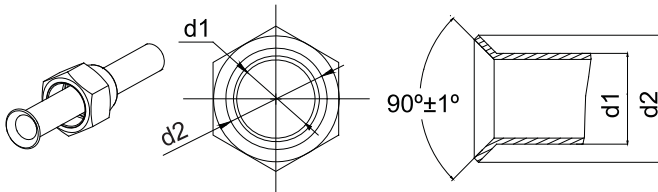


Εικ.11

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 διαστείτε τον σωλήνα.
4. Βεβαιωθείτε πως η διαστολή έχει γίνει ομοιόμορφα και πως δεν υπάρχουν ρωγμές (εικ.12)



Εικ.12

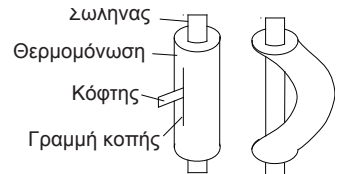
4.3.2 Λύγισμα Σωλήνων

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



Εικ.13

- (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 από 3 φορές.



Εικ.14

- (4). Μην λυγίζετε τη σωλήνα όπως είναι διότι μπορεί να τσακίσει. Κόψτε πρώτα την μόνωση όπως φαίνεται στην εικ.14 και λυγίστε αφού εμφανιστεί η σωλήνα. Αφού τη λυγίσετε όπως θέλετε τοποθετήστε πάλι τη μόνωση και ασφαλίστε με ταινία.



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.

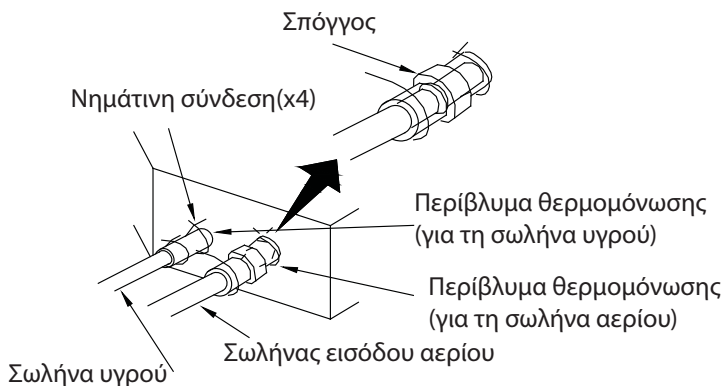
Όταν συνδέετε ή αποσυνδέετε τη σωλήνα απο τη μονάδα χρησιμοποιείτε γαλλικό κλειδί και ροπόκλειδο (εικ15)

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.

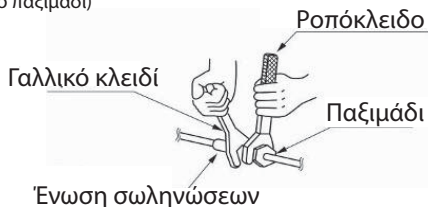
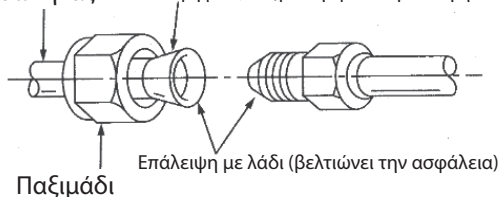
Ανατρέξτε στον πίνακα 9 για να βεβαιωθείτε πως έχετε σφίξει σωστά (εάν είναι πολύ σφιχτά μπορεί να χαλάσει το παξιμάδι και να προκληθεί διαρροή)

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 9 ροπή στρέψης του παξιμαδιού

Διάμετρος αγωγού	Ροπή
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!

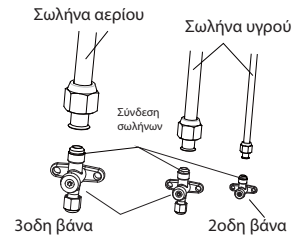
Βεβαιωθείτε πως συνδέετε τη σωλήνα αερίου αφού πρώτα έχετε συνδέσει τη σωλήνα υγρού

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

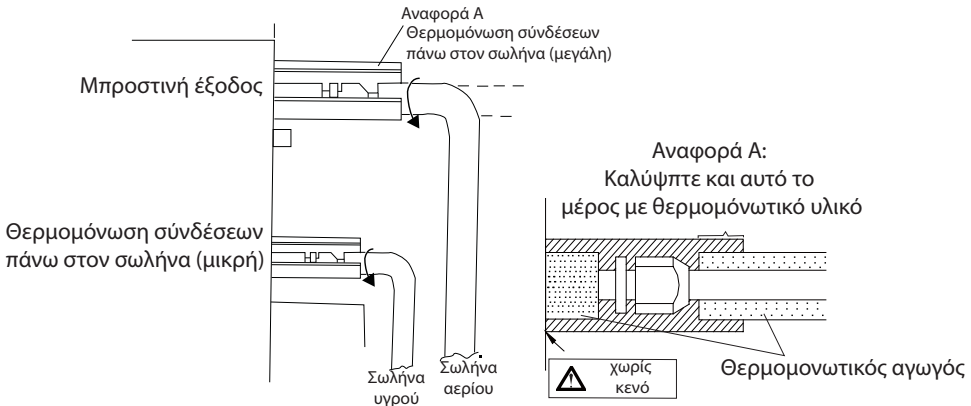
Ελέγξτε τις συνδέσεις της εσωτερικής μονάδας και της εξωτερικής μονάδας με ανιχνευτή διαρροών.



Εικ. 16

4.3.6 Θερμομόνωση Στις Συνδέσεις Των Σωληνώσεων (Μόνο Στην Εσωτερική)

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



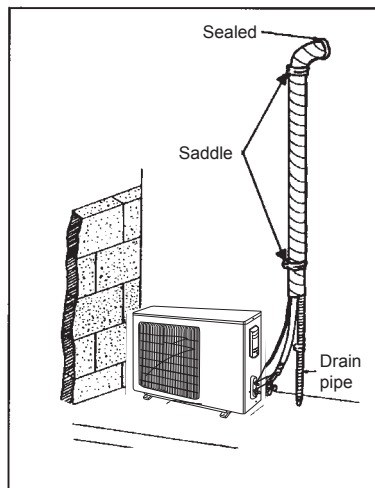
Εικ. 17

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 σωληνών 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.

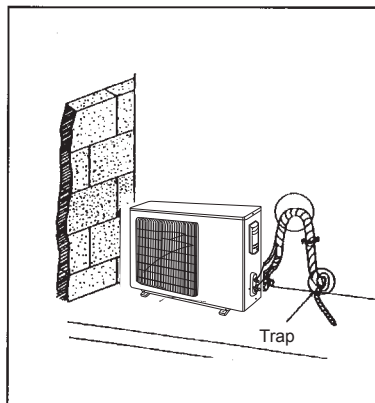
Εικ. 18



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 σωλήνες στον τοίχο με δεματικά.

Εικ. 19



4.4 Κενό Και Έλεγχος Διαρροής Αερίου

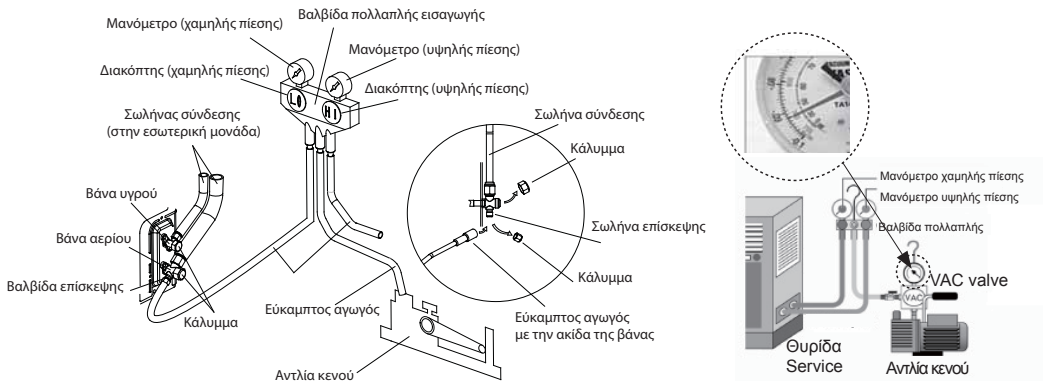


Μην εξαερώνετε την εγκατάσταση με ψυκτικά μέσα, χρησιμοποιήστε αντλία κενού. Δεν υπάρχει επιπλέον ψυκτικό υγρό στην εξωτερική μονάδα για εξαερισμό

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 -1.0mp(-75cmHg). 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 0.005mp(0.38cmHg)
- (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 συνδέσετε και τους δύο εύκαμπτους αγωγούς της βαλβίδας πολλαπλής στις δύο βαλβίδες επίσκεψης.

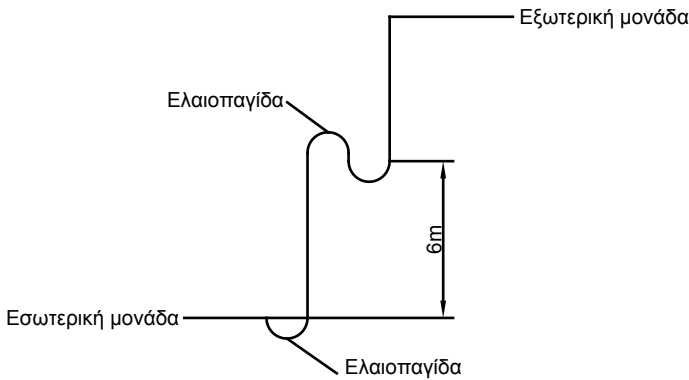
4.4.2 Επιπλέον Πλήρωση

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 10.

Πίνακας 10

Item Μοντέλο	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.

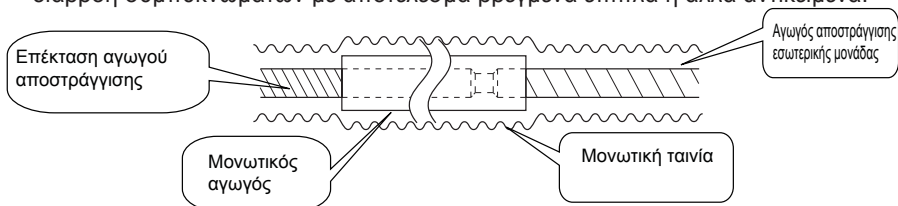


Εικ.21

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.



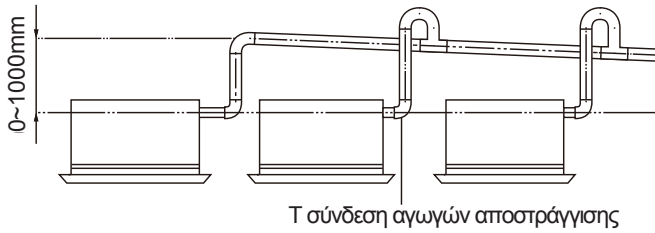
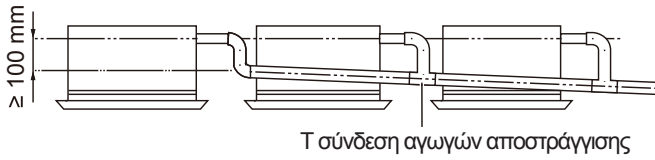
Εικ.22

4.5.2 Εγκατάσταση Των Αγωγών Αποστράγγισης

- (1). Περάστε τον αγωγό αποστράγγισης από την έξοδο αποστράγγισης και σφίξτε το κολάρο με ταινία.
- (2). Συνδέστε την επέκταση αγωγού αποστράγγισης και σφίξτε με ταινία

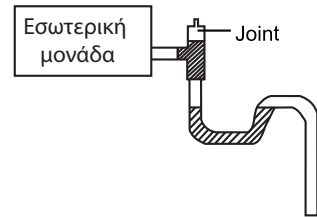
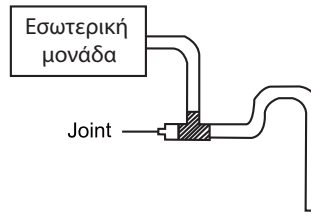
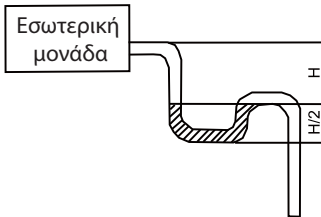
<p>Σφίξτε το κολάρο μέχρι το κεφάλι της βίδας να απέχει 4mm από τον αγωγό. Μεταλικό κολάρο Αγωγός αποστράγγισης Ταινία</p>	<p>Μονώστε τον σωλήνα σύνδεσης και τον αγωγό αποστράγγισης με ειδικό σπόγγο θερμομόνωσης. Μεταλικό κολάρο Μονωτικός σπόγγος</p>

- (3). Όταν θέλετε να ενώσετε πολλούς αγωγούς αποστράγγισης, κάντε την εγκατάσταση όπως φαίνεται στην εικ.28. Βεβαιωθείτε πως οι αγωγοί αποστράγγισης που ενώνετε έχουν διαστάσεις κατάλληλες για την απόδοση λειτουργίας της μονάδας (δείτε το παράδειγμα με τις κασέτες)



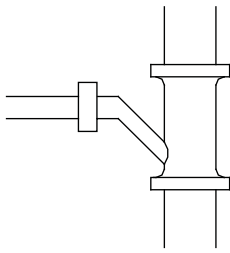
Εικ.23

- (4). Όταν ο αγωγός αποστράγγισης δεν μπορεί να παραμείνει σε ικανοποιητική κλίση, είναι απαραίτητο να τοποθετήσετε έναν κάθετο αγωγό.
- (5). Εάν η παροχή του αέρα είναι υψηλή, μπορεί να προκληθεί υποπίεση και επιστροφή στην αναρρόφηση εξωτερικού αέρα. Για αυτό θα πρέπει να σχεδιάζεται μια παγίδα νερού τύπου U σε κάθε εσωτερική μονάδα (εικ24).
- (6). Τοποθετήστε 1 παγίδα νερού για κάθε μονάδα
- (7). Η τοποθέτηση της παγίδας νερού θα πρέπει να γίνει με τέτοιο τρόπο ώστε να είναι εύκολος ο καθαρισμός.



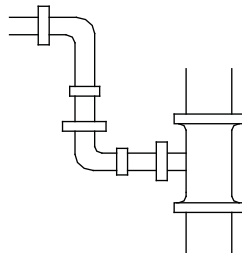
- (8). Σύνδεση της διακλάδωσης του αγωγού αποστράγγισης στον κάθετο ή οριζόντιο αγωγό του κυρίως αγωγού αποστράγγισης.
Ο οριζόντιος αγωγός δεν μπορεί να συνδεθεί με τον κάθετο αγωγό στο ίδιο ύψος. Ο τρόπος σύνδεσης φαίνεται παρακάτω:

- No1: Προσδέστε την 3οδη σύνδεση του αγωγού αποστράγγισης όπως φαίνεται στην εικ.27
No2: Προσδέστε την γωνία αποστράγγισης όπως φαίνεται στην εικ.28
No3: Προσδέστε τον οριζόντιο αγωγό όπως φαίνεται στην εικ.29



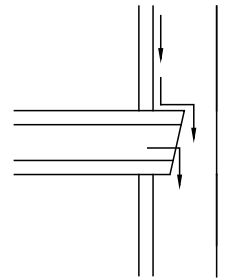
30δη σύνδεση του αγωγού αποστράγγισης

Εικ.27



Σύνδεση της γωνίας αποστράγγισης

Εικ.28

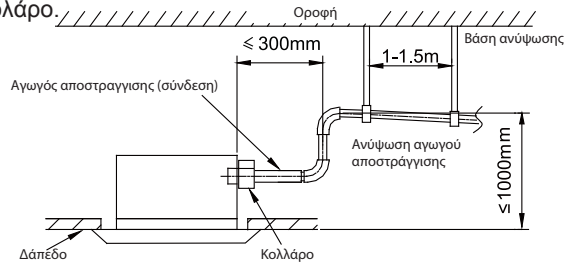


Σύνδεση του οριζόντιου αγωγού

Εικ.29

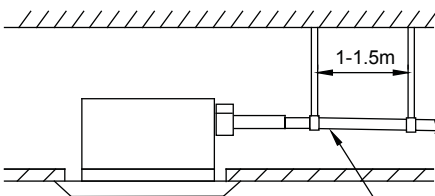
4.5.3 Προφυλάξεις Κατά Την Ανύψωση Των Σωληνώσεων

- (1). Βεβαιωθείτε πως τα παρακάτω 2 σημεία έχουν μονωθεί για την αποφυγή διαρροή νερού εξαιτίας συμπυκνωμάτων.
- 1). Συνδέστε τον αγωγό αποστράγγισης στον αγωγό ανύψωσης και μονώστε τους
- 2). Συνδέστε τον αγωγό αποστράγγισης στην έξοδο αποστράγγισης της εσωτερικής μονάδας και σφίξτε τα με κολάρο.

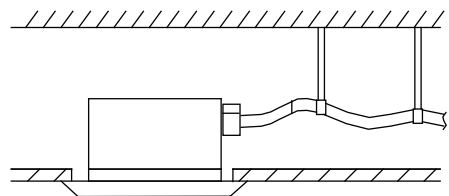


Εικ.30

- (2). Βεβαιωθείτε πως ο αγωγός ανύψωσης είναι το μέγιστο 280mm
- (3). Στερεώστε τον αγωγό ανύψωσης κάθετα και βεβαιωθείτε πως δεν απέχει πάνω από 300mm από τη βάση της εξόδου αποστράγγισης
- (4). Εξασφαλίστε την κλίση του αγωγού αποστράγγισης 1/100 και περισσότερο. Για να το επιτύχετε τοποθετήστε βραχίονες στήριξης ανά 1-1,5m.



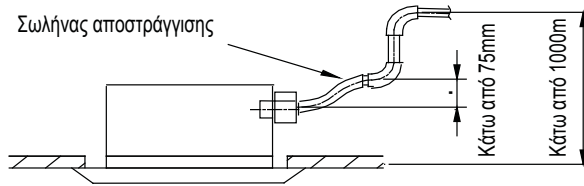
✓ (σωστά) κλίση 1/100 και πάνω



✗ (λάθος)

Εικ.31

- (5). Η κλίση του αγωγού αποστράγγισης θα πρέπει να είναι 75mm ή λιγότερο, ώστε η έξοδος αποστράγγισης να μην δέχεται περεταίρω πίεση

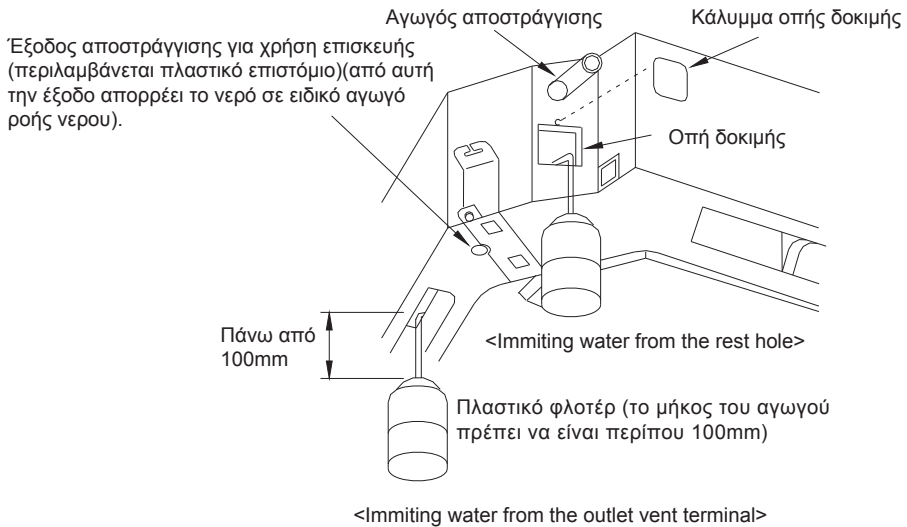


Εικ.32

4.5.4 Έλεγχος Του Αγωγού Αποστράγγισης

Μετά την ολοκλήρωση της εγκατάστασης, ελέγξτε πως η απορροή γίνεται ομαλά.

Όπως φαίνεται στην εικ.33, ρίξτε σιγά 1 λίτρο νερού στη λεκάνη αποχέτευσης και ελέγξτε πως η απορροή γίνεται ομαλά κατά τη λειτουργία της ψύξης.



Εικ.33

4.6 Εγκατάσταση Του Πάνελ

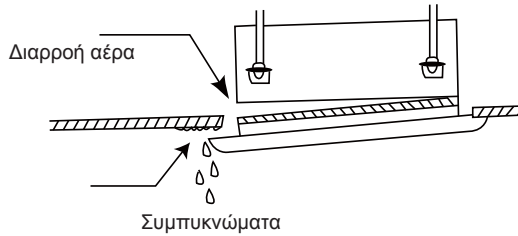
4.6.1 Προφυλάξεις

(1). Δείτε την παρακάτω εικόνα, σχετικά με τη σύνδεση του πάνελ και των σωληνώσεων



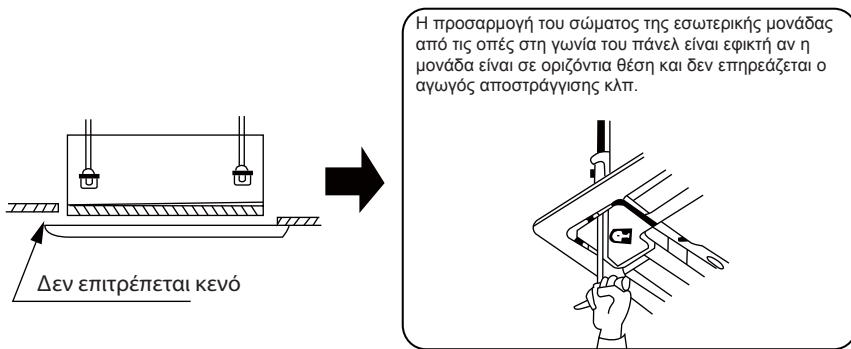
Εικ.34

- (2). Ακατάλληλη τοποθέτηση των βιδών μπορεί να προκαλέσει προβλήματα όπως φαίνονται στην εικ.35



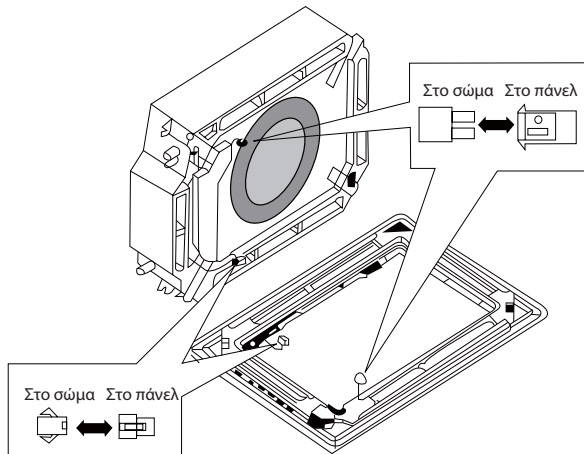
Εικ.35

- (3). Εάν υπάρχει κενό ανάμεσα στην οροφή και το πάνελ ενώ έχετε σφίξει τις βίδες, αναπροσαρμόστε το ύψος της εσωτερικής μονάδας (εικ.36)



Εικ.36

- (4). Συνδέστε το μοτέρ κίνησης περισίδων όπως φαίνεται στην εικ.37

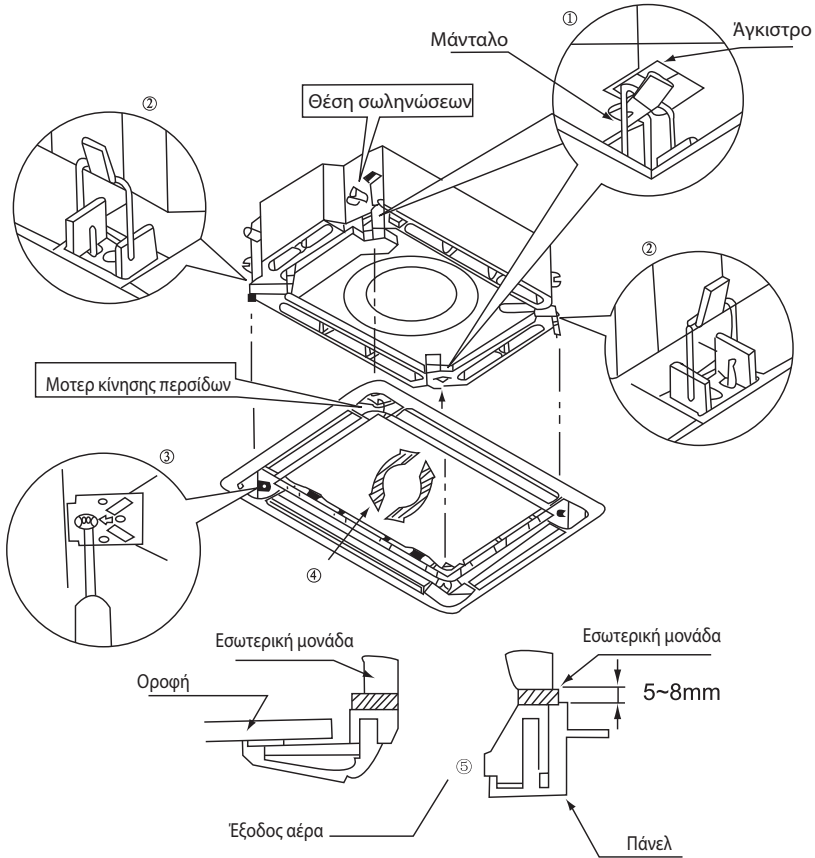


Εικ.37

4.6.2 Εγκατάσταση Του Πάνελ

- (1). Τοποθετήστε το πάνελ στη μονάδα και τοποθετήστε τα άγκιστρα πίσω και απέναντι από το μοτέρ κίνησης περισίδων
- (2). Κλειδώστε άλλα 2 άγκιστρα
- (3). Σφίξτε 4 εξαγωνικές βίδες κάτω από τα μάνταλα περίπου 15mm


- (4). Προσαρμόστε το πάνελ σύμφωνα με τη φορά του βέλους όπως φαίνεται στην εικ.38
- (5). Σφίξτε τις βίδες μέχρι το υλικό ασφαλείας ανάμεσα στο πάνελ και την εσωτερική μονάδα να μειωθεί σε 5-8cm.



Εικ.38

4.7 Ηλεκτρολογική Σύνδεση

4.7.1 Προφυλάξεις Για Την Συνδεσμολογία

 Προειδοποίηση!
<p>① . Πριν έρθετε σε επαφή με τις θερματικές επαφές, πρέπει όλα τα κυκλώματα παροχής ρεύματος να έχουν αποσυνδεθεί.</p>
<p>② . Τάση λειτουργίας της μονάδας φαίνεται στους πίνακες 5 και 6</p>
<p>③ . Πριν τη ρευματοδότηση βεβαιωθείτε πως η τάση είναι 198~264V (για μονοφασικές μονάδες) ή 342~457V (για τριφασικές μονάδες)</p>
<p>④ . Χρησιμοποιείτε πάντα ειδικό κύκλωμα και βεβαιωθείτε πως η τάση είναι η κατάλληλη για τη μονάδα</p>

- | |
|---|
| 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 να προκύπτει από το άθροισμα της έντασης του ρεύματος της κλιματιστικής μονάδας και της έντασης του ρεύματος των υπόλοιπων ηλεκτρικών συσκευών. Εάν 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. |

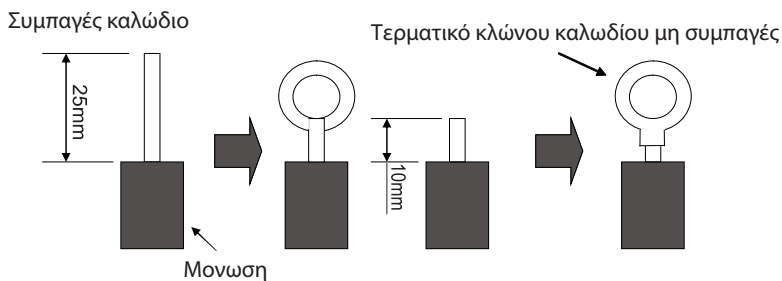
4.7.2 Ηλεκτρική Σύνδεση

(1). Για συμπαγές καλώδιο (εικ.39)

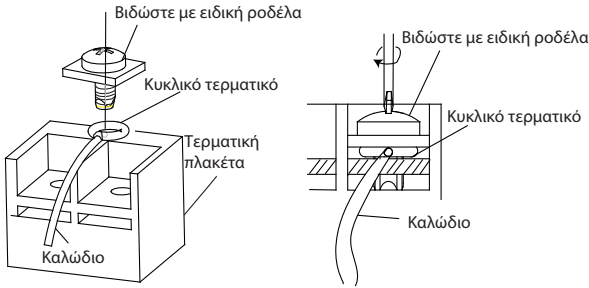
1. Κόψτε το άκρο του καλωδίου με κόπτη, και αφαιρέστε τη μόνωση για περίπου 25mm (15/16")
2. Με ένα καταβίδι αφαιρέστε τις βίδες των τερματικών από την πλακέτα.
3. Με ένα μυτοσίμπιδο λυγίστε το συμπαγές καλώδιο για να σχηματίσετε έναν βρόγχο κατάλληλο για την τερματική βίδα
4. Σχηματίστε τον βρόγχο του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

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

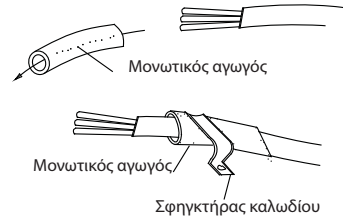
1. Κόψτε το άκρο του καλωδίου με κόπτη, και αφαιρέστε τη μόνωση για περίπου 10mm (15/16")
2. Με ένα καταβίδι αφαιρέστε τις βίδες των τερματικών από την πλακέτα.
3. Με τη χρήση μυτοσίμπιδου στερεώστε σε κάθε άκρο γυμνού καλωδίου ένα τερματικό
4. Τοποθετήστε το καλώδιο και αντικαταστήστε και σφίξτε την τερματική βίδα με καταβίδι (εικ.40)



Εικ.39




Εικ.40

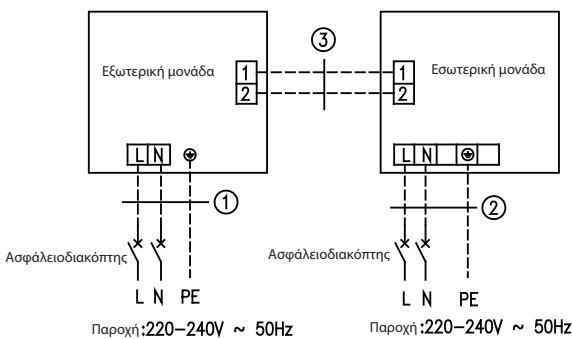


Εικ.41

(3) Πως να στερεώσετε το παροχικό καλώδιο και το καλώδιο σύνδεσης με σφιγκτήρα καλωδίου. Αφού οδηγήσετε τα καλώδια μέσα στον μονωτικό αγωγό, στερεώστε τα με τον σφιγκτήρα καλωδίου (εικ.41)

 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 σφιγκτήρες.(εάν δεν τα στερεώσετε μπορεί να προκληθεί διαρροή ρεύματος)
⑥ . Πάντα να συνδέετε το καλώδιο γείωσης.

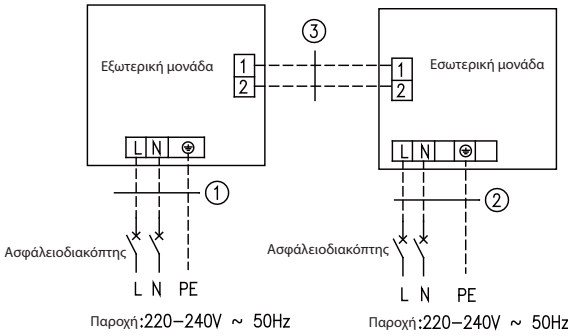
(4). ηλεκτρολογική συνδεσμολογία ανάμεσα στις εσωτερικές και εξωτερικές μονάδες
Μονοφασικές μονάδες(12k~30k)



U2RS-12+V2CI-12
U2RS-18+V2CI-18
① .Παροχικό καλώδιο 3×1.5mm ² (H07RN-F)
② .Παροχικό καλώδιο3×1.0mm ² (H05RN-F)
③ .Καλώδια επικοινωνίας 2×0.75mm ² (H05RN-F)

U2RS-24+V2CI-24
U2RS-30+V2CI-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)

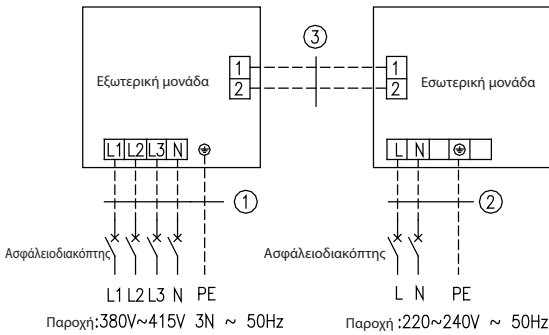
Μονοφασικές μονάδες(36~50K)



U2RS-36 +V2CI-36
U2RS-45 +V2CI-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 +V2CI-50
① . Παροχικό καλώδιο 3×6.0mm ² (H07RN-F)
② . Παροχικό καλώδιο 3×1.0mm ² (H05RN-F)
③ . Παροχικό καλώδιο 2×0.75mm ² (H05RN-F)

Τριφασικές μονάδες

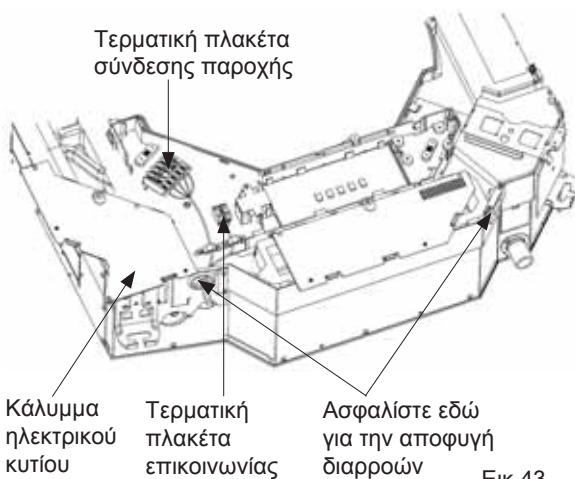


U2RT-36 +V2CI-36
U2RT-45 +V2CI-45
U2RT-50 +V2CI-50
U2RT-60 +V2CI-60
① . Παροχικό καλώδιο 3×2.5mm ² (H07RN-F)
② . Παροχικό καλώδιο 3×1.0mm ² (H05RN-F)
③ . Παροχικό καλώδιο 2×0.75mm ² (H05RN-F)

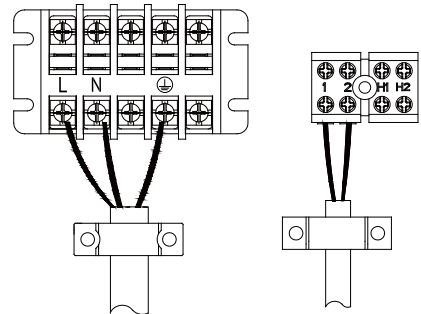
Εικ.42

(5). Συνδεσμολογία της εσωτερικής μονάδας

Αφαιρέστε το κάλυμμα από το κουτί και συνδέστε τα καλώδια



Εικ.43





Προσοχή!

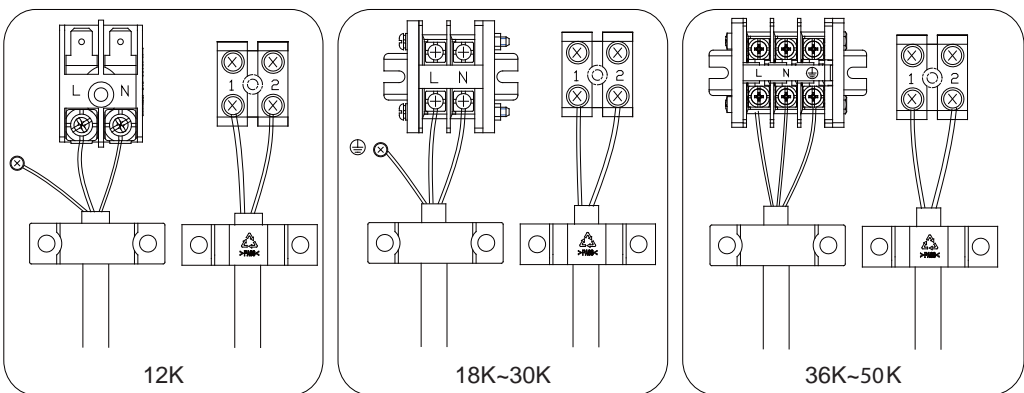
- ① . Το παροχικό καλώδιο και το καλώδιο του φρέσκου αέρα είναι υψηλής τάσης, ενώ το καλώδιο επικοινωνίας και το καλώδιο σύνδεσης του ενσύρματου χειριστηρίου είναι χαμηλής τάσης. Θα πρέπει να τρέχουν ξεχωριστά για την αποφυγή ηλεκτρομαγνητικών παρεμβολών.
- ② . Οι γραμμές υψηλής τάσης και χαμηλής τάσης πρέπει να οδηγούνται μέσα από τους λαστιχένιους δακτύλιους σε ξεχωριστά κυτία.
- 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

(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.

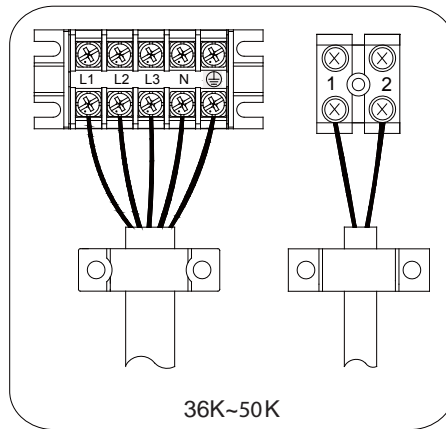
Αφαιρέστε την μεγάλη λαβή(12~45K)/μπροστινό κάλυμμα(50/60K) της εξωτερικής μονάδας και τοποθετήστε τα άκρα του παροχικού και του καλωδίου επικοινωνίας στην τερματική πλακέτα.

Μονοφασικό:



Εικ.44

Τριφασικό:



Εικ.45

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:

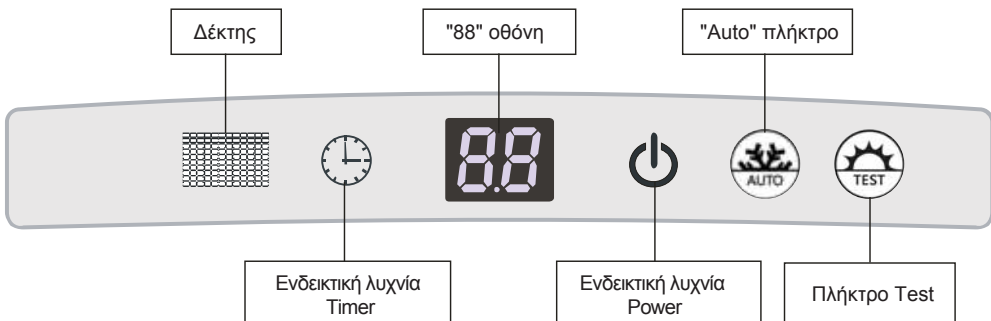
Πίνακας 11

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 υπερχειλίσης
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 τσιπ 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 rfc
23	L1	Σφάλμα στον αισθητήρα υγρασίας
24	Lc	Σφάλμα ενεργοποίησης
25	Ld	Προστασία συμπίεστή 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
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 σφάλματος θα εμφανίζεται εκεί.

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



Εικ.46

◆ Ενδεικτική λυχνία power και on/off:

Είναι κόκκινη όταν η μονάδα είναι ρευματοδοτημένη και αλλάζει σε λευκό όταν η μονάδα ξεκινήσει λειτουργία

◆ Ενδεικτική λυχνία timer:

Ανάβει όταν έχει οριστεί η επιλογή Timer. Το χρώμα της είναι κίτρινο.

◆ “88” οθόνη:

Όταν δεν υπάρχει κάποιο σφάλμα και λαμβάνει σωστή εντολή από το ασύρματο τηλεχειριστήριο θα εμφανίσει για 5 δευτερόλεπτα την επιλεγμένη θερμοκρασία και έπειτα τη θερμοκρασία του χώρου.

Όταν υπάρχει σφάλμα, τότε στην οθόνη θα εμφανιστεί ο κωδικός σφάλματος. Όταν υπάρχουν πάνω από 1 σφάλματα, θα εμφανίζονται με τη σειρά.

Όταν ανοιχτεί το πλέγμα του πάνελ, το πάνελ μπορεί ακόμα να λαμβάνει τις παρακάτω λειτουργίες πιέζοντας ταυτόχρονα τα πλήκτρα auto και test για 5 δευτερόλεπτα όταν η μονάδα είναι απενεργοποιημένη.

6.2 Θερμοκρασιακά Εύρη Λειτουργίας

Πίνακας12

Συνθήκες δοκιμής	Εσωτερική		Εξωτερική	
	DB(°C)	WB(°C)	DB(°C)	WB(°C)
Ονομαστική ψύξη	27	19	35	24
Ονομαστική θέρμανση	20	-	7	6
Λειτουργία ψύξης	32	23	48	-
Ψύξη χαμηλής θερμοκρασίας	21	15	-15	-
Λειτουργία θέρμανσης	27	-	24	18
Θέρμανση σε χαμηλές 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 αγκύλες 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 13

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 η 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 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

Η προληπτική συντήρηση μπορεί να γίνει μόνο από εξειδικευμένο τεχνικό.



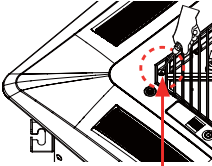
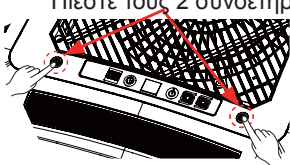
Πριν ξεκινήσουν οι εργασίες πρέπει να έχει γίνει διακοπή στο κύκλωμα παροχής ρεύματος.

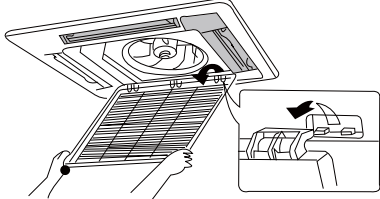

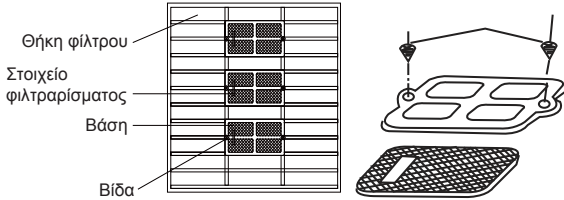
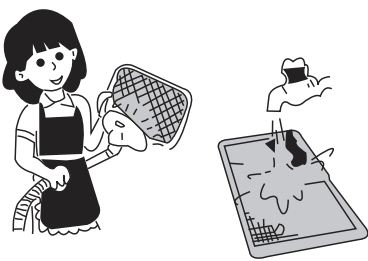
Μην χρησιμοποιείτε νερό από 50°C και πάνω για τον καθαρισμό των φίλτρων και των πάνελ.

Σημειώσεις:

- ① . Μην λειτουργείτε την μονάδα χωρίς τα φίλτρα διότι θα περάσει σκόνη στη μονάδα
- ② . Μην αφαιρείτε τα φίλτρα παρα μόνο για να τα καθαρίσετε. Κακός χειρισμός μπορεί να τα φθείρει.
- ③ . Μην καθαρίζετε τη μονάδα με βενζίνη, διαλυτικά, γυαλιστικά κ.α. Μπορεί να προκληθεί αποχρωματισμός και παραμόρφωση της μονάδας.
- ④ . Μην βρέχετε την εσωτερική μονάδα. Μπορεί να προκληθεί ηλεκτροπληξία ή πυρκαγιά.

Αυξήστε τη συχνότητα καθαρισμού της μονάδας εάν βρίσκετε τοποθετημένη σε μολυσμένο περιβάλλον. Εάν το φίλτρο δεν καθαρίζεται, αντικαταστήστε το.

Πως να καθαρίσετε το φίλτρο	
<p>Ανοίξτε το πλέγμα εισόδου του αέρα</p> <p>1. Πως να ανοίξετε το πλέγμα εισόδου αέρα στην κασέτα 24K~45K</p> <p>1. Πιέστε τα κλιπ όπως φαίνεται στην εικόνα</p> <p>2. Αφαιρέστε τις βίδες κάτω από τα κλιπ με κατσαβίδι</p> <p>3. Πιέστε τα κλιπ και ανοίξτε το πλέγμα του πάνελ</p>	 <p style="text-align: center;">Αφαιρέστε τις βίδες</p>
<p>2. Πως να ανοίξετε το πλέγμα του πάνελ στις κασέτες 12K118K150K160K</p> <p>1. Αφαιρέστε τις βίδες με κατσαβίδι όπως φαίνεται στην εικόνα</p> <p>2. Πιέστε τα 2 κλιπ και ανοίξτε το πλέγμα του πάνελ</p>	 <p style="text-align: center;">Πιέστε τον συνδετήρα</p>
<p>2. Πως να ανοίξετε το πλέγμα του πάνελ στις κασέτες 12K118K150K160K</p> <p>1. Αφαιρέστε τις βίδες με κατσαβίδι όπως φαίνεται στην εικόνα</p> <p>2. Πιέστε τα 2 κλιπ και ανοίξτε το πλέγμα του πάνελ</p>	 <p style="text-align: center;">Αφαιρέστε τις βίδες</p> <p style="text-align: center;">Πιέστε τους 2 συνδετήρες</p> 



<p>2. Αποσυναρμολόγηση του πλεγματος εισόδου του αέρα. Ανοίξτε το πλέγμα εισόδου σε γωνία 45°C, σηκώστε το και αφαιρέστε το πλέγμα</p>	
<p>3. Αποσυναρμολόγηση του φίλτρου. Τραβήξτε τη θήκη και αφαιρέστε το φίλτρο</p>	
<p>4. Αποσυναρμολόγηση του air purifier Αφαιρέστε το air purifier αφού αφαιρέσετε τις βίδες που υπάρχουν</p>	<p>Θήκη φίλτρου Στοιχείο φιλτραρίσματος Βάση Βίδα</p> 
<p>5. Καθαρίστε το φίλτρο αέρα Χρησιμοποιήστε ηλεκτρική σκούπα ή πλύνετε το φίλτρο αέρα με νερό αν είναι πολύ βρόμικο. Χρησιμοποιείτε ουδέτερο απορρυπαντικό και νερό. Αφήστε το φίλτρο να στεγνώσει μόνο του σε σκιερό μέρος. Σημείωση: Μην καθαρίζετε με καυτό νερό. Μην στεγνώνετε πάνω από φωτιά. Μην λειτουργείτε την κλιματιστική μονάδα χωρίς το φίλτρο αέρα.</p>	
<p>6. Επανατοποθετήστε το φίλτρο</p>	<p>Όπως στο βήμα 3</p>
<p>7. Επανατοποθετήστε το πλέγμα</p>	<p>Όπως στα βήματα 1 & 2</p>


Σημειώσεις:

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1 Măsurile de siguranță

 AVERTIZARE!	Acest semn indică proceduri care, atunci când sunt realizate necorespunzător, ar putea conduce la moartea sau rănirea gravă a utilizatorului.
 ATENȚIE!	Acest semn indică proceduri care, atunci când sunt realizate necorespunzător, ar putea avea ca rezultat vătămarea utilizatorului sau avarierea proprietății.

 AVERTIZARE!	
(1).	Montarea ar trebui să fie realizată de către distribuitor sau alt profesionist. O montare nepotrivită poate cauza scurgeri de apă, șocuri electrice, sau incendii.
(2).	Montați aerul condiționat conform instrucțiunilor oferite în acest manual. Montarea incompletă poate cauza scurgeri de apă, șocuri electrice, sau incendii.
(3).	Asigurați-vă că utilizați piesele fumizate sau specificate. Utilizarea altor piese poate duce la deteriorarea unității, scurgeri de apă, șocuri electrice, sau incendii.
(4).	Montați aerul condiționat pe o suprafață rezistentă care poate susține greutatea unității. O suprafață neadecvată sau o montare incompletă poate duce la rănirea persoanelor în cazul în care unitatea se desprinde de suprafață.
(5).	Lucrările electrice ar trebui să se realizeze în conformitate cu manualul de instalare și cu regulile naționale sau codul de practică legat de instalațiile electrice. Capacitatea insuficientă sau lucrările electrice incomplete pot cauza șocuri electrice sau incendii.
(6).	Asigurați-vă că utilizați un circuit electric special. Nu utilizați niciodată o alimentare împreună cu alte dispozitive.
(7).	Pentru instalația electrică, utilizați o lungime a cablului care să acopere întreaga distanță fără conexiuni. Nu utilizați un cablu de extensie. Nu puneți alte sarcini la sursa de alimentare, utilizați un circuit electric special. (În cazul în care nu respectați acest lucru, puteți cauza încălzire anormală, șoc electric sau incendii).
(8).	Utilizați tipurile specifice de fire pentru conexiunile electrice între unitățile de interior și de exterior. Fixați bine firele de interconectare astfel încât capetele acestora să nu primească un stres suplimentar. Conexiunile sau fixările neterminate pot cauza supraîncălzire terminală, șoc electric sau incendii.
(9).	După conectarea firelor de interconectare și alimentare, asigurați-vă că dați o formă cablului astfel încât acesta să nu exercite presiune asupra capacelor sau panourilor electrice. Montați capace peste fire. O instalație neacoperită complet poate cauza supraîncălzire terminală, șoc electric sau incendii.
(10).	În cazul în care agentul de răcire scapă pe parcursul lucrărilor de montare, ventilați încăperea. (Agentul de răcire produce un gaz toxic în cazul în care este expus la sursă de foc.)
(11).	Când se termină complet montarea, verificați ca să fiți siguri că agentul de răcire nu are scăpări. (Agentul de răcire produce un gaz toxic în cazul în care este expus la sursă de foc.)
(12).	Atunci când se instalează sau se rezonează sistemul, asigurați-vă să țineți circuitul de răcire fără să intre în contact cu alte gaze decât agentul de răcire specificat (R410A), cum ar fi aerul. (Prezența aerului sau a altor substanțe străine în circuitul de răcire cauzează o creștere anormală a presiunii sau fisuri care duc la rănirea persoanelor.)
(13).	Pe parcursul evacuării, opriți compresorul înainte de a îndepărta instalația de răcire. În cazul în care compresorul încă mai funcționează și supapa de oprire este deschisă în timpul evacuării, aerul va fi aspirat în interior atunci când se îndepărtează instalația de răcire, cauzând o presiune anormală în ciclul răcitorului care va duce la deteriorare și chiar rănirea persoanelor.

- | |
|--|
| <p>(14). În timpul montării, atașați instalația de răcire cu atenție înainte de a pune în funcțiune compresorul. În cazul în care compresorul nu este atașat și supapa de oprire este deschisă în timpul evacuării, aerul va fi aspirat în interior atunci când compresorul este pronit, cauzând o presiune anormală în ciclul răcitorului care va duce la deteriorare și chiar rănirea persoanelor.</p> |
| <p>(15). Asigurați-vă că montați împământare. Nu împământați unitatea la o țevă de utilități, paratrăsnet sau împământarea telefonului. O împământare nerealizată complet poate cauza șocuri electrice sau incendii. Un curent cu supratensiune mare de la trăsnete sau alte surse poate cauza deteriorări unității de aer condiționat.</p> |
| <p>(16). Asigurați-vă că instalați un întrerupător cu împământare. În cazul în care nu instalați un întrerupător cu împământare se pot produce șocuri electrice sau incendii.</p> |
| <p>(17). Acest dispozitiv nu este destinat utilizării de către persoane (inclusiv copii) cu abilități fizice, senzoriale sau mentale reduse, sau care nu au experiență și cunoștințe, cu excepția cazului în care au fost instruite în legătură cu utilizarea aparatului de către o persoană care este responsabilă pentru siguranța acestora.</p> |
| <p>(18). Copiii ar trebui să fie supravegheați pentru a vă asigura că nu se joacă cu acest dispozitiv.</p> |
| <p>(19). În cazul în care cablul de alimentare este deteriorat, acesta trebuie să fie înlocuit de către producător, agentul său de service sau persoane care au calificare similară pentru a evita pericolele.</p> |

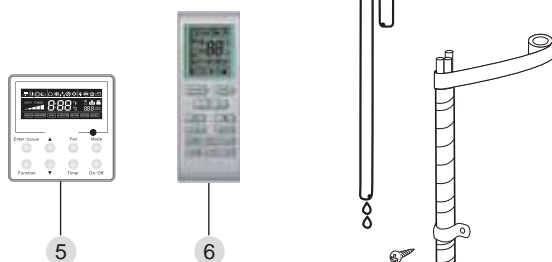
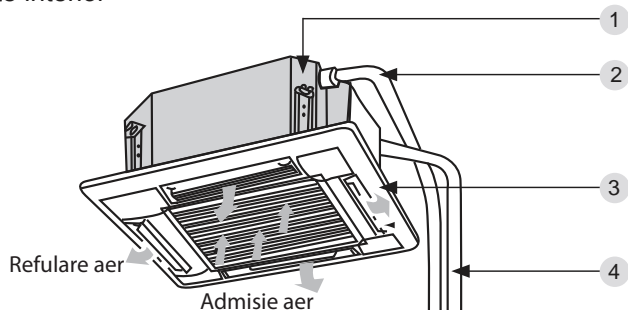


ATENȚIE!

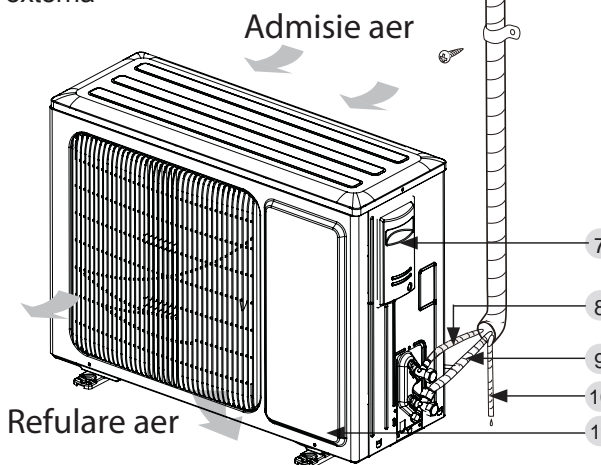
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|---|
| <p>(1). Nu montați aerul condiționat într-un loc în care există pericolul de expunere la scurgeri de gaze inflamabile. În cazul în care gazul se scurge și se adună în jurul unității, poate lua foc.</p> |
| <p>(2). Montați instalația de drenaj conform instrucțiunilor din acest manual. Instalațiile neadecvate pot cauza inundații.</p> |
| <p>(3). Strângeți piulița manșonului conform metodei specificate cu o cheie dinamometrică. În cazul în care piulița manșonului este strânsă prea tare, piulița poate crăpa după un timp și poate cauza scurgeri de agent de răcire.</p> |

2 Schema unității și a principalelor părți componente

Unitate interior



Unitate externă



1. Dispozitiv de drenaj

2. Țeavă de drenaj

3. Flaps dirijare aer

4. Țeavă de conexiune

5. Telecomandă cu fir

6. Telecomandă fara fir

7. Mâner mare

8. Țeava de lichid

9. Țeava de gaz

10. Țeava de drenaj

11. Panou frontal






Fig.1

3 Pregătirea montării

3.1 Componentele accesorii standard

Componentele accesorii standard incluse în lista de mai jos sunt oferite și ar trebui să fie utilizate așa cum se specifică.



Tabelul 1

Accesoriile unității de interior				
Nr.	Denumire	Aspect	Cant	Utilizare
1	Furtun de drenaj		1	Pentru a face legătura cu țeava de drenaj din PVC dur
2	Piuliță cu șaibă		4	Pentru a fixa cârligul pe carcasa unității.
3	Șaibă		10	Pentru a fi utilizate împreună cu bolțul consolei pentru montarea unității.
4	Carton de montare		1	Utilizat pentru găurirea tavanului
5	Panou de montare a garniturii		4	Utilizat pentru a împiedica garnitura să cadă
6	Telecomandă + baterii		1+2	Pentru a controla unitatea de interior
7	Ipsos de etanșare		1	
8	Clemă		4	Pentru a fixa buretele
9	Izolație		1	Pentru a izola țeava de gaz
10	Izolație		1	Pentru a izola țeava de lichid
11	Burete		4	Pentru a izola țeava de drenaj
12	Piuliță		1	Pentru a conecta țeava de lichid
13	Piuliță		1	Pentru a conecta țeava de gaz
14	Feșe		2	

Tabelul 2

Accesoriile unității de exterior				
Nr.	Denumire	Aspect	Cant	Utilizare
1	Dop de drenaj		3	Pentru a acoperi gaura de drenaj nefolosită
2	Conector de drenaj	 sau 	1	Pentru a conecta la țeava de drenaj din PVC dur

3.2 Selectarea locului pentru montare

 AVERTIZARE!
Unitatea trebuie să fie montată într-un loc destul de rezistent ca să susțină greutatea unității și trebuie să fie bine fixată, altfel unitatea va cădea
 ATENȚIE!
① . Nu instalați acolo unde există pericol de scurgere de gaz.
② . Nu instalați unitatea lângă surse de căldură, abur sau gaze inflamabile.
③ . Copiii cu vârsta sub 10 ani trebuie să fie supravegheați pentru a nu pune în funcțiune unitatea.

Decideți asupra locului de instalare împreună cu clientul după cum urmează:

3.2.1 Unitatea de interior

Selectați un loc de montare în care să fie îndeplinite următoarele condiții și care să fie aprobat de client:

- (1). Trebuie să fie îndepărtate obiectele care obstrucționează orificiile de admisie sau evacuare ale unității de interior astfel încât fluxul de aer să poată circula prin încăpere.
- (2). Asigurați-vă că montarea corespunde cerințelor diagramei schematice a spațiilor de montare.
- (3). Selectați locul care poată să susțină de 4 ori mai mult decât greutatea unității de interior și care nu va mări zgomotul și vibrațiile în timpul funcționării.
- (4). Orizontalitatea locului de montare ar trebui să fie garantată.
- (5). Selecționați locul din care este ușor de drenat apa de condensare și de realizat conexiunea cu unitatea de exterior.
- (6). Asigurați-vă că există destul spațiu pentru întreținere și îngrijire și că înălțimea dintre unitatea de interior și nivelul solului este mai mare de 1800mm.
- (7). Atunci când montați bolțul de susținere, verificați dacă locul de montare poate să susțină de 4 ori greutatea unității. Dacă nu, întăriți locul înainte de montare.

Notă: Va fi o cantitate mare de mizerie unsuroasă acumulată pe ventilator, schimbătorul de căldură și pompa de apă amplasate în sufragerii și bucătării, ceea ce va reduce capacitatea schimbătorului de căldură, va duce la apariția scurgerilor și a funcționării anormale a pompei de apă.

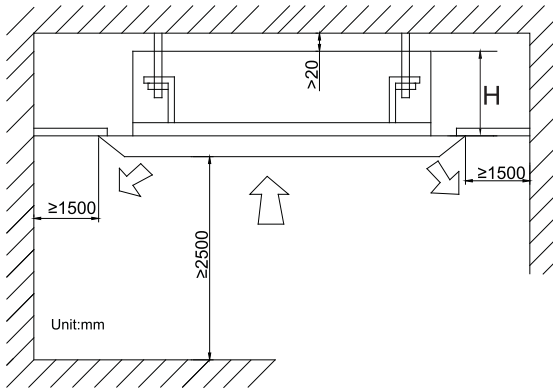


Fig.2

Tabelul 3

Modele	H(mm)
V2CI-12	255
V2CI-18	
V2CI-20	260
V2CI-30	340
V2CI-36	
V2CI-45	320
V2CI-50	
V2CI-60	

3.2.2 Unitatea de exterior

AVERTIZARE!

- ① . Montați unitatea acolo unde nu va fi aplecată mai mult de 5°.
- ② . Pe parcursul montării, în cazul în care unitatea de exterior trebuie să fie expusă la vânt puternic, trebuie să fie foarte bine fixată.

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 care, pe cât posibil, nu se va murdări sau nu se va uda atunci când plouă.
- (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 amplasați animale sau plante pe traseul aerului cald.
- (5). Aveți în vedere și greutatea aerului condiționat și alegeți un loc în care zgomotul și vibrațiile sunt mici.
- (6). Montați unitatea de exterior într-un loc capabil să susțină greutatea unității și care să genereze cât mai puțin zgomot și cât mai puține vibrații.
- (7). Oferiți spațiul prezentat în Fig. 3 astfel încât fluxul de aer să nu fie blocat. De asemenea, pentru o funcționare eficientă, lăsați deschise trei din cele patru direcții ale construcțiilor periferice.

Unități: mm

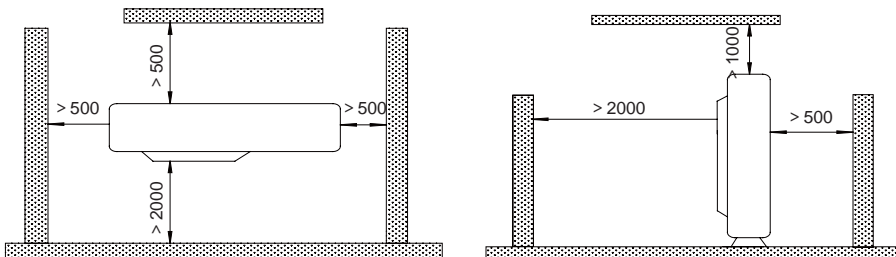


Fig.3

3.3 Cerințele legate de țeava de racordare



Lungimea maximă a țevii de racordare este inclusă în tabelul de mai jos. Nu amplasați unități între care există o distanță mai mare de lungimea maximă a țevii de racordare.

Tabelul 4

Model	Articol	Mărimea țevii pentru montaj (inci)		Lungimea maximă a țevii (m)	Înălțimea maximă Diferența dintre unitatea de interior și unitatea de exterior (m)	Țeava de drenaj (Diametru exterior X grosimea peretelui) (mm)
		Lichid	Gaz			
V2CI-12 U2RS-12		1/4	3/8	20	15	Φ25×1.5
V2CI-18 U2RS-18			1/2	20	15	
V2CI-24 U2RS-24				30	15	
V2CI-30 U2RS-30				30	15	
V2CI-36 U2RS-36				30	15	
V2CI-45 U2RS-45				50	30	
V2CI-50 U2RS-50				50	30	
V2CI-36 U2RT-36				3/8	5/8	
V2CI-45 U2RT-45	50	30				
V2CI-50 U2RT-50	50	30				
V2CI-60 U2RT-60	3/8	3/4	50			

Țeava de racordare ar trebui să fie izolată cu material impermeabil adecvat.

Grosimea peretelui țevii va fi de 0,5-1,0 mm și peretele țevii va trebui să poată susține presiunea a 6,0 MPa. Cu cât este mai lungă țeava de racordare, cu atât va fi mai slab efectul de răcire și încălzire.

3.4 Cerințe ale instalației electrice

Dimensiunea firelor electrice și capacitatea siguranței.

Tabelul 5

Unități de interior	Alimentare	Capacitatea siguranței	Capacitatea întrerupătorului	Cablu de alimentare min.
	V/Ph/Hz	A	A	mm ²
12K~60K	220-240V~ 50Hz	3.15	6	1.0

Tabelul 6

Model	Alimentare	Capacitatea întrerupătorului cu aer (A)	Suprafața minimă în secțiune a cablului de alimentare și a împământării (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

Atenție:

1. Siguranța este amplasată pe panoul principal.
2. Instalați dispozitivul deconectat cu un spațiu de contact de cel puțin 3 mm la toate fișele din apropierea unităților (Atât unitatea de interior cât și unitatea de exterior). Dispozitivul trebuie să fie amplasat astfel încât priza să fie accesibilă.
3. Specificațiile referitoare la întrerupător și cablul de alimentare incluse în tabelul de mai sus sunt determinate pe baza puterii maxime (amperi maximi) a unității.
4. Specificațiile referitoare la cablul de alimentare incluse în tabelul de mai sus sunt aplicate la cablul de cupru multifilar pozat în țevă (cum ar fi cablul de cupru YJV, care constă în fire izolate cu PE și un înveliș al cablului din PVC) utilizat la 40°C și rezistent la 90°C (consultați IEC 60364-5-52). În cazul în care se schimbă condițiile de funcționare, ele ar trebui să fie modificate în conformitate cu standardele naționale aferente.
5. Specificațiile referitoare la întrerupător incluse în tabelul de mai sus sunt aplicate întrerupătorului cu o temperatură de funcționare la 40°C. În cazul în care se schimbă condițiile de funcționare, ele ar trebui să fie modificate în conformitate cu standardele naționale aferente.
6. Luați 2 bucăți de cablu de alimentare de 0,75mm² ca și cabluri de comunicare între unitatea de interior și cea de exterior, cu cea mai mare lungime de 50m. Vă rugăm să selectați lungimea adecvată a cablului în funcție de condițiile reale de instalare. Cablurile de comunicare nu pot să fie răsucite împreună. Pentru unitate (≤30K), este recomandat să se utilizeze un cablu de comunicare cu lungimea de 8m.
7. Luați 2 bucăți de cablu de alimentare de 0,75mm² ca și cabluri de comunicare între aparatul de comandă și unitatea de interior, cu cea mai mare lungime fiind de 30m. Vă rugăm să selectați lungimea adecvată a cablului în funcție de condițiile reale de instalare. Cablurile de comunicare nu pot să fie răsucite împreună. Este recomandat să se utilizeze un cablu de comunicare cu lungimea de 8m.
8. Dimensiunea firului din cablul de comunicare nu ar trebui să fie mai mică de 0,75mm². Este recomandat să se utilizeze cabluri de alimentare de 0,75mm² ca și cabluri de comunicare.

4 Montarea unității

4.1 Montarea unității de interior

4.1.1 Dimensiunea unității de interior

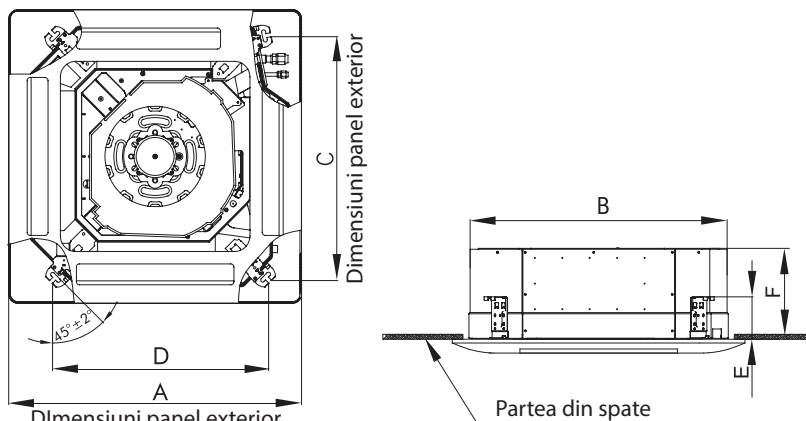


Fig.4

Tabelul 7

Articol Model	A	B	C	D	E	F
V2CI-12	670	596	592	571	145	240
V2CI-18						
V2CI-20	950	840	780	680	160	240
V2CI-30	950	840	892	980	160	320
V2CI-36						
V2CI-45						
V2CI-50	1040	910	842	788	170	290
V2CI-60						

4.1.2 Montarea corpului principal al unității

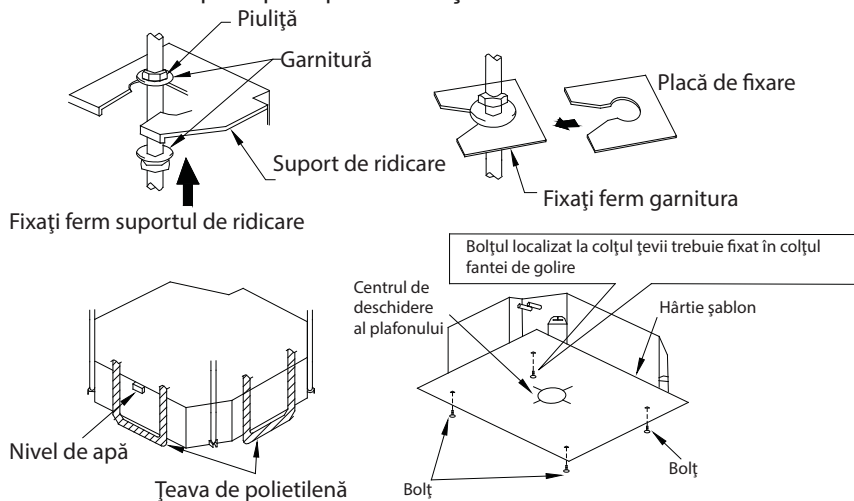


Fig.5

- (1). Instalați suportul de ridicare pe șurubul de ridicare folosind piulițe și garnituri atât la părțile de sus cât și la cele de jos ale suportului de ridicare. Pentru a împiedica ruperea garniturii, puteți utiliza o șaibă de fixare.
- (2). Montați șablonul de hârtie pe unitate și fixați țeava de drenaj la supapa din exterior.
- (3). Găsiți în cea mai bună poziție pentru unitate.
- (4). Verificați dacă unitatea este montată orizontal în patru direcții. Dacă nu este, pompa de apă și comutatorul acționat de flotor vor funcționa eronat și vor duce chiar la scurgeri de apă.
- (5). Îndepărtați garnitura și strângeți piulița rămasă.
- (6). Îndepărtați șablonul de hârtie.

4.1.3 Montarea bolțurilor de suspensie

- (1). Utilizând șablonul de montare, dați găuri pentru bolțuri (patru găuri) (Fig.6)
- (2). Montați bolțurile în tavan într-un loc destul de rezistent pentru a putea suspena unitatea. Marcați pozițiile bolțurilor conform șablonului de montare. Cu un burghiu pentru beton, dați găuri cu diametrul de 12,7mm (1/2"). (Fig. 7)
- (3). Introduceți diblul în găurile perforate, și introduceți bolțurile complet în dibluri cu ajutorul unui ciocan. (Fig. 8)

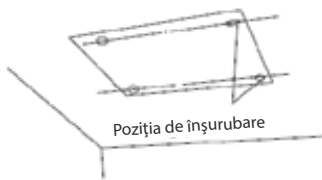


Fig.6

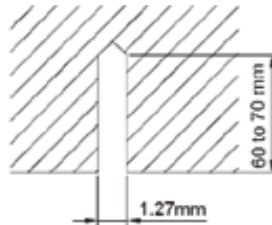


Fig.7

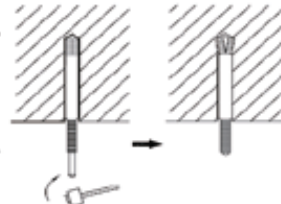


Fig.8

4.1.4 Asigurarea orizontalității

Testul nivelului de apă trebuie să fie realizat după montarea unității de interior pentru a fi siguri că unitatea este perfect orizontală, așa cum se prezintă mai jos.

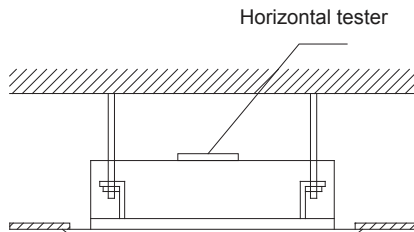


Fig.9

4.2 Montarea unității de exterior

⚠️ AVERTIZARE!

- ① . Montați unitatea acolo unde nu va fi înclinată mai mult de 5°.
- ② . Pe parcursul montării, în cazul în care unitatea de exterior trebuie să fie expusă la vânt puternic, trebuie să fie bine fixată.

4.2.1 Dimensiunea unității de exterior

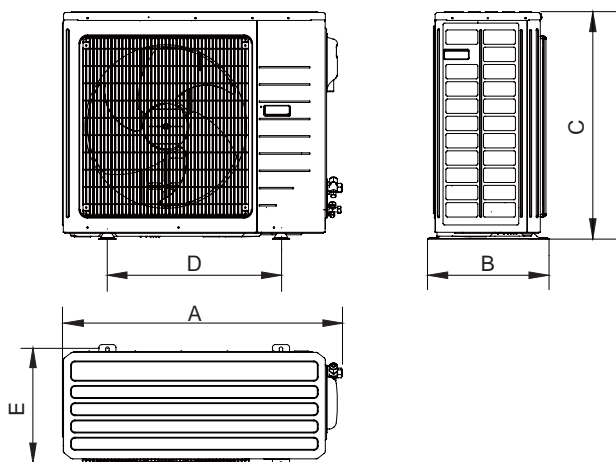


Fig.10

Tabelul 8

Unități: mm

Articol 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 Evacuarea condensului la unitatea de exterior (Doar pentru unități cu pompă de căldură) (Fig.12)

- (1). Este necesar să se monteze o țevă de drenaj pentru unitatea de exterior pentru a evacua apa condensată pe parcursul operației de încălzire. (doar pentru unități cu pompă de căldură)
- (2). Atunci când se montează țevă de drenaj, în afară de gaura de ancorare a țevii de drenaj, toate celelalte găuri ar trebui să fie acoperite pentru a evita scurgerea apei. (doar pentru unități cu pompă de căldură)
- (3). Metoda de montare: Introduceți racordul de țevă în gaura cu $\varnothing 25$ amplasată pe placa de bază a unității și apoi conectați țevă de drenaj la racordul de țevă

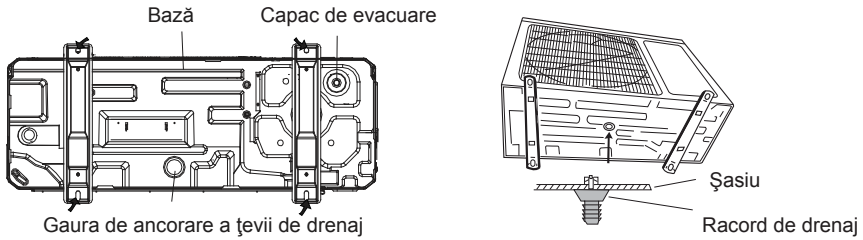


Fig.11

4.3 Montarea țevii de racordare

4.3.1 Pregătirea mufei

- (1). Tăiați țeava de racordare cu un cuțit pentru țevi și debavurați.
- (2). Țineți țeava în jos pentru a împiedica așchiile să intre în țeavă.
- (3). Îndepărtați piulițele mufei de la supapa de oprire a unității de exterior și în interiorul sacului cu accesorii al unității de interior, apoi introduceți-le pe țeava de racordare după care mufați țeava de conexiune cu o unealtă de mufare.
- (4). Verificați dacă partea de mufare este bine așezată și dacă nu există crăpături (vedeți Fig.12)

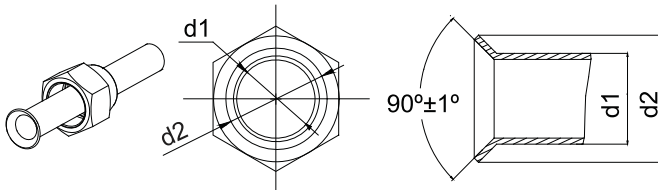


Fig.12

4.3.2 Țevile de flexiune

- (1). Țevile sunt modelate în mână. Aveți grijă să nu le rupeți.

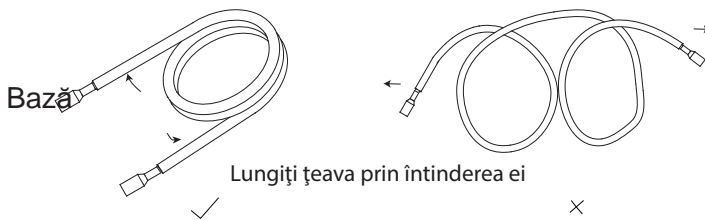


Fig.13

- (2). Nu îndoiiți țeava la un unghi mai mare de 90° .
- (3). Atunci când țevile sunt îndoite sau întinse în mod repetat este dificil să le mai îndoim sau să le întindem. Nu îndoiiți sau întindeți țevile mai mult de trei ori.

- (4). Atunci când îndoiiți țeava, nu o îndoiiți așa cum este. Țeava se va rupe. În acest caz, tăiați țeava de izolare a căldurii cu un cuțit ascuțit așa cum este prezentat în Fig. 15, și îndoiiți-o după expunerea țevii. După ce îndoiiți țeava în forma dorită, asigurați-vă că puneți țeava termoizolantă înapoi pe țeavă, și fixați-o cu bandă adezivă

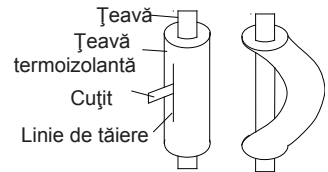


Fig.14



① . Pentru a împiedica ruperea țevii, evitați îndoirile bruște. Îndoiiți țeava cu ajutorul unei spițe de coturi de 150 mm sau mai mare.

② . În cazul în care țeava este îndoită în mod repetat în același loc, aceasta se va rupe.

4.3.3 Conectarea țevii la unitatea de interior

Scoateți capacele și dopurile de pe țevi.



① . Asigurați-vă că puneți corect țeava în dreptul portului de pe unitatea de interior. În cazul în care nu centrați corect, piulița manșonului nu va putea să fie strânsă cu ușurință. În cazul în care piulița este forțată să se învârtă, vor fi deteriorate filetele

② . Nu îndepărtați piulița manșonului până când țeava de racordare nu este conectată pentru a împiedica praful și impuritățile să intre în sistemul de țevi.

Atunci când conectăm țeava la unitate sau când o decuplăm de la unitate, vă rugăm să utilizați atât cheia de piulițe cât și cheia dinamometrică. (Fig. 15)

Atunci când o conectăm, gresați atât interiorul cât și exteriorul piuliței manșonului cu ulei de răcire, înșurubați-l cu mâna cât de tare se poate și apoi strângeți-l cu o cheie de piulițe.

Consultați Tabelul 9 ca să verificați dacă cheia a fost strânsă bine (dacă e prea strâns, piulița se deformează și apar scurgeri).

Examinați țeava de conexiune ca să vedeți dacă are scurgeri, apoi faceți termoizolarea așa cum se prezintă în Fig. 15.

Utilizați un burete de mărime medie pentru a izola îmbinarea țevii de gaz.

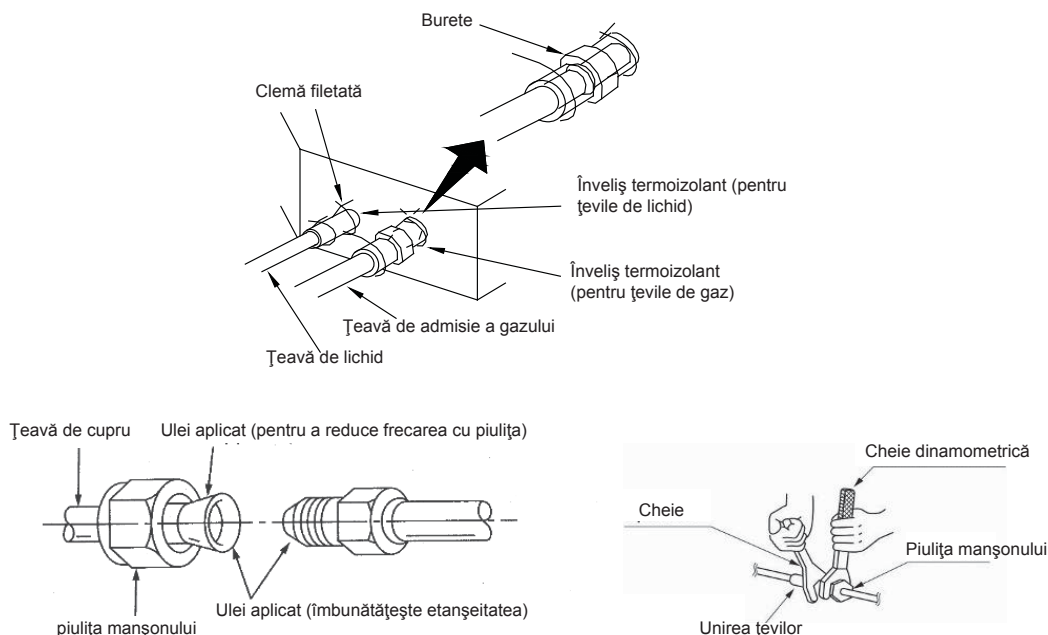


Fig.15

Tabelul 9 Cuplu de fixare a piuliței manșonului

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)



Aveți grijă să racordați țeava de gaz după racordarea completă a țevii de lichid.

4.3.4 Racordarea țevii la unitatea din exterior

Fixați piulița manșonului țevii de racordare la racordul cu supapă de la unitatea din exterior. Metoda de fixare este aceeași ca și la unitatea de interior.

4.3.5 Verificarea racordurilor țevii pentru scurgeri de gaz

Atât pentru unitatea de interior cât și pentru cea de exterior, verificați îmbinările pentru eventualele scurgeri de gaz utilizând un detector de scurgeri de gaz care nu dă greș atunci când țevile sunt racordate

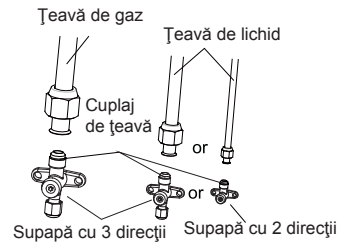


Fig. 16

4.3.6 Termoizolarea pe racordurile țevilor (doar pentru unitatea de interior)

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

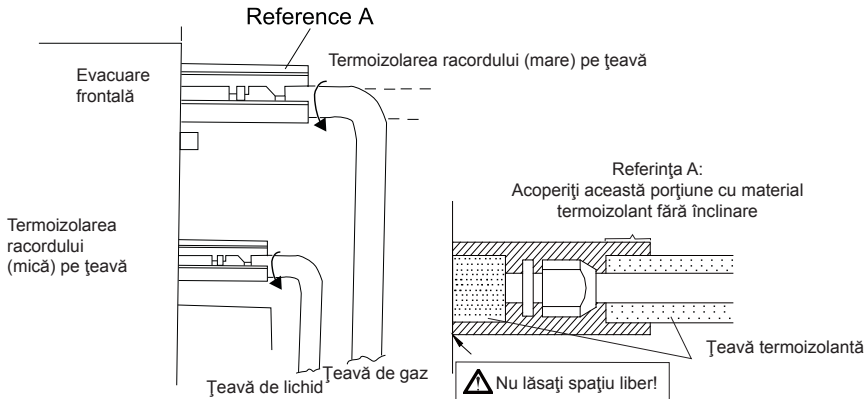


Fig. 17

4.3.7 Țeava de lichid și țeava de gaz

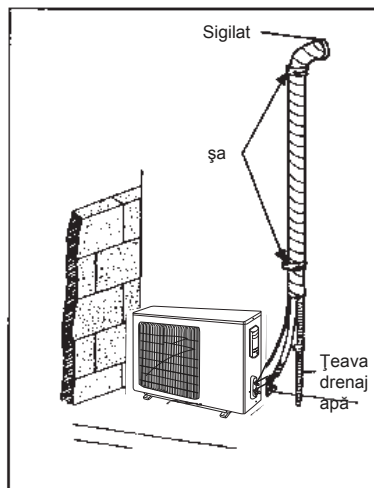
În cazul în care unitatea de exterior este montată mai jos decât unitatea de interior (Vedeți Fig.18)

(1). O țeavă 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



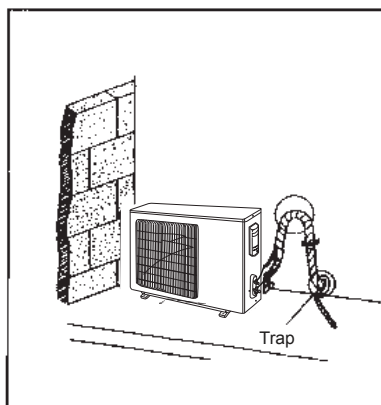
În cazul în care unitatea de exterior este montată mai sus decât cea de interior (Vedeți Fig.19)

(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 încăperea (Vedeți Fig.49)

(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.

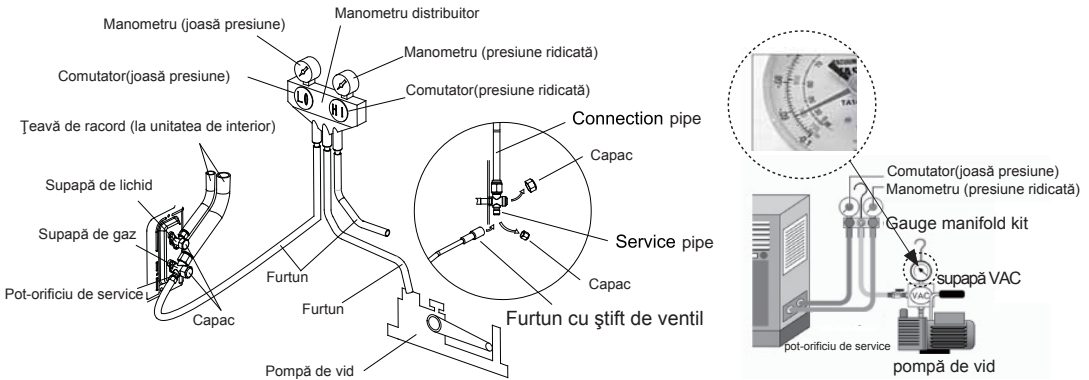


Fig.20

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 10.

Tabelul 10

Mode	Articol	Cantitatea suplimentară de agent de răcire pentru țevile mai lungi
	12~18K	30 g/m
	24~60K	60 g/m

Atunci când diferența de greutate între unitatea de interior și unitatea de exterior este mai mare de 10 metri, ar trebui să fie utilizat un cot de ulei la fiecare 6 metri.

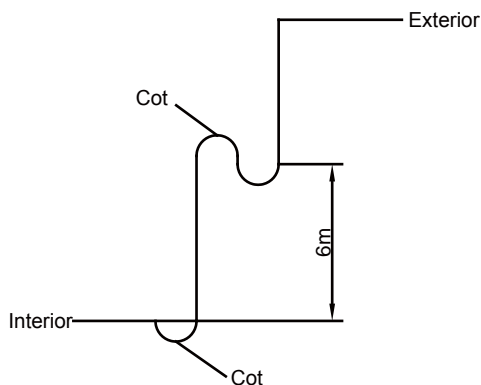


Fig.21

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

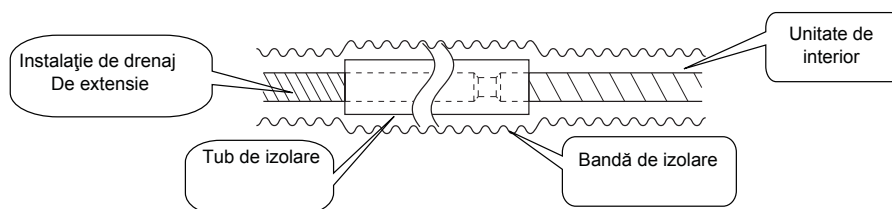


Fig.22

4.5.2 Montarea țevelor de drenaj

- (1). Introduceți țeava de drenaj în orificiul de evacuare a scurgerilor și apoi strângeți bine brățara cu bandă.
- (2). Conectați țeava de drenaj de extindere la țeava de drenaj și apoi strângeți bine brățara cu bandă.

<p>Strângeți brățara până când capiiul șurubului este la mai puțin de 4 mm de furtun Brățară din metal Furtun de drenaj (accesoriu) Bandă gri (accesorie)</p>	<p>Izolați brățara țevii și furtunul de drenaj folosind burete termoizolant. Brățară din metal (accesoriu) Burete de izolare (accesoriu)</p>

(3). Atunci când sunt adunate mai multe țevi de drenaj, montați țevile așa cum se prezintă în Fig. 23. Selectați țevi de drenaj convergente al căror calibru este potrivit pentru capacitatea de funcționare a unității. (luați ca exemplu tipul casetă)

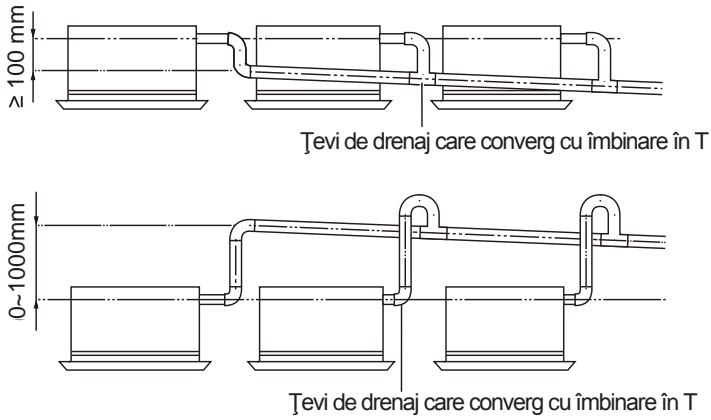


Fig.23

(4). Atunci când furtunul de drenaj nu poate să susțină un gradient suficient, este necesar să se monteze o țeavă de ridicare la acesta (pusă la dispoziție).

(5). În cazul în care fluxul de aer al unității de interior este mare, acest lucru ar putea cauza o presiune negativă și ar avea ca rezultat aspirarea aerului din exterior. De aceea, un captator de apă în U va fi amplasat pe partea de drenaj a fiecărei unități de interior. (Fig. 24)

(6). Montați un captator de apă la fiecare unitate de interior.

(7). Montarea captatorului de apă va avea în vedere posibilitatea de a fi ușor de curățat ulterior.

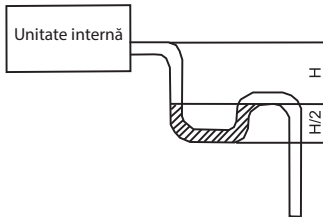


Fig.24

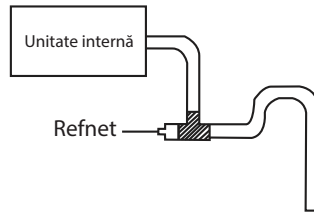


Fig.25

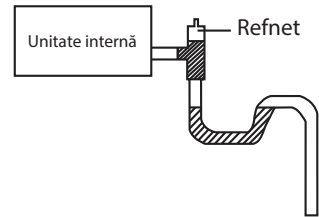


Fig.26

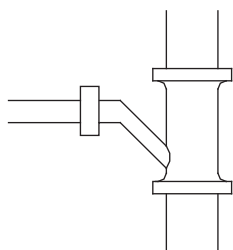
(8). Conectarea unei țevi de drenaj de derivație la o coloană montantă sau o țeavă orizontală a țevii principale de drenaj

Țeava orizontală nu poate fi conectată la țeava verticală la aceeași înălțime. Ea poate fi conectată în maniera care este prezentată mai jos:

Nr.1: Atașați conectorul în 3 direcții al țevii de drenaj așa cum se prezintă în Fig. 27

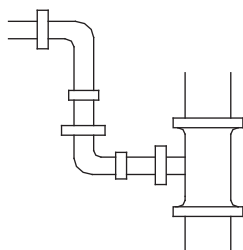
Nr.2: atașați cotul de drenaj așa cum se prezintă în Fig. 28

Nr.3: atașați țeava orizontală așa cum se prezintă în Fig. 29



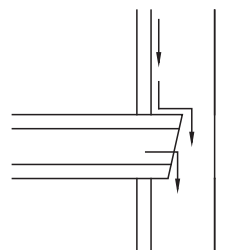
Țeava pentru drenare cu 3 căi

Fig.27



Conectarea cotului de scurgere

Fig.28



Conectarea țevii horizontale

Fig.29

4.5.3 Precauții la lucrările de instalații de ridicare

(1). Asigurați-vă că lucrările de termoizolare sunt executate în următoarele două locuri pentru a împiedica orice posibilă scurgere de apă cauzată de condensare.

1). Conectați furtunul de drenaj la țeava de drenaj de ridicare și izolați-le.

2). Conectați furtunul de drenaj la orificiul de evacuare a drenajului de pe unitatea de interior, și strângeți-l cu o brățară.

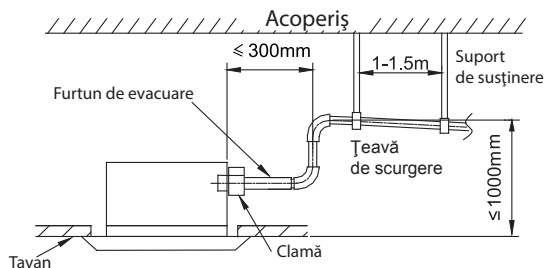
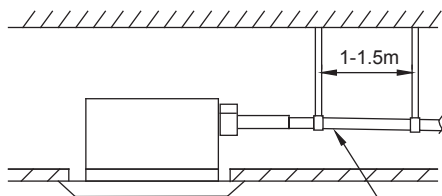


Fig.30

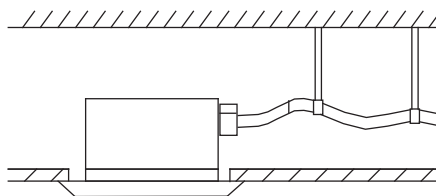
(2). Asigurați-vă că țeava de ridicare este la maxim 280mm.

(3). Țineți țeava de ridicare în poziție verticală și asigurați-vă că nu este mai departe de 300mm de la baza orificiului de drenaj.

(4). Fixați un gradient descendent de 1/100 sau mai mult pentru țeava de drenaj. Pentru a realiza acest lucru, montați brățări de susținere la un interval de 1 – 1,5 m.



✓ Corect



✗ (Greșit)

Fig.31

(5). Înclinația furtunului de drenaj atașat ar trebui să fie de 75 mm sau mai puțin astfel încât orificiul de evacuare a drenajului nu trebuie să susțină o forță suplimentară.

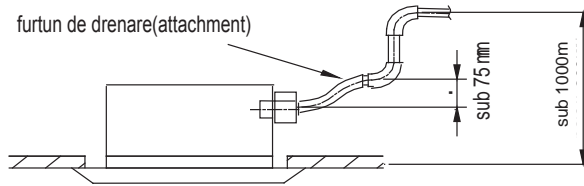


Fig.32

4.5.4 Testarea instalației de drenaj

După terminarea lucrărilor de instalație, verificați dacă drenajul curge ușor. Se prezintă în Fig. 33. Adăugați aproximativ 1 litru de apă ușor în tava de drenaj și verificați fluxul drenajului pe parcursul funcționării în regim COOL (RĂCIRE).

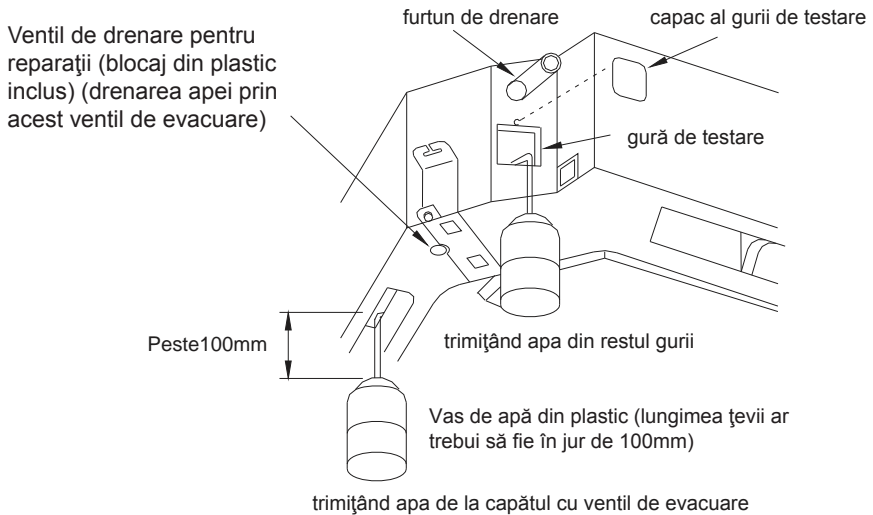


Fig.33

4.6 Montarea panoului

4.6.1 Precauții

(1). Vedeți în figura de mai jos poziția panoului frontal față de țeava de racordare.

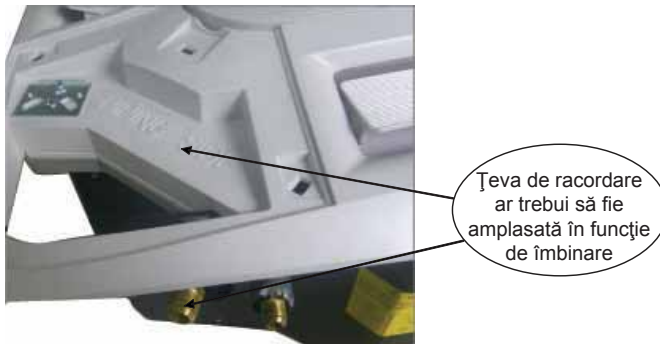


Fig.34

(2). O strângere neadecvată a șuruburilor poate cauza problemele prezentate în Fig. 35

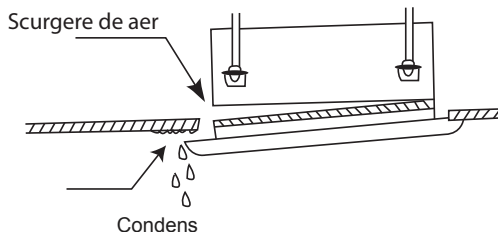


Fig.35

(3). Dacă încă mai există spațiu între tavan și panoul decorativ după strângerea șuruburilor, reajustați înălțimea unității de interior. (Fig. 36)

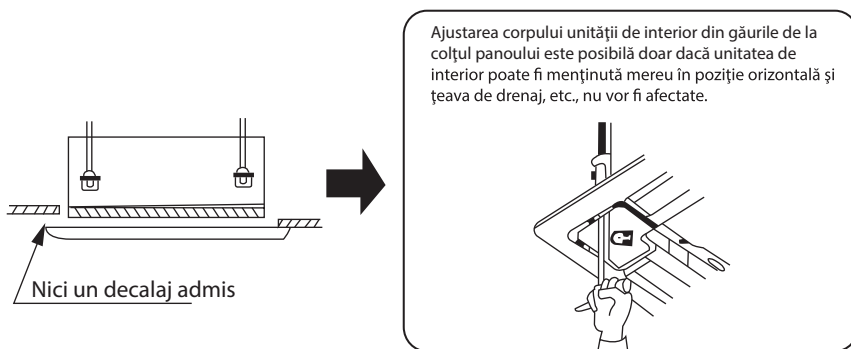


Fig.36

(4). Conectați motorul așa cum se prezintă în Fig. 37.

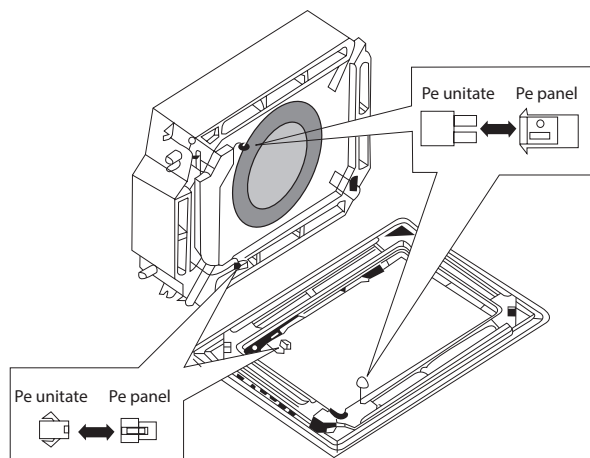


Fig.37

4.6.2 Montarea panoului

- (1). Puneți panoul pe unitate și prindeți cârligele de lângă motor și din partea opusă.
- (2). Prindeți celelalte două cârlige.
- (3). Strângeți cele patru șuruburi hexagonale de sub cârlige cam 15mm.

(4). Ajustați panoul pe direcția indicată de săgeată așa cum se prezintă în Fig. 38.

(5). Strângeți șuruburile până când grosimea materialului de etanșare dintre panou și unitatea de interior se reduce la 5-8cm.

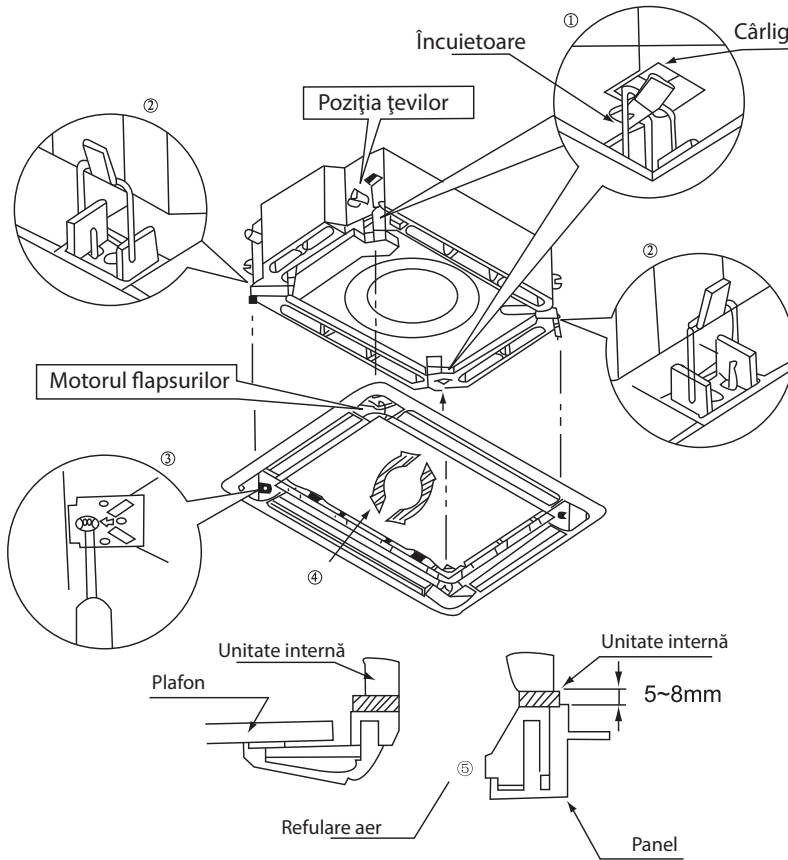


Fig.38

4.7 Instalația electrică

4.7.1 Precauții legate de instalația electrică



- | |
|---|
| ① . Înainte de a obține acces la terminale, toate circuitele de alimentare trebuie să fie deconectate |
| ② . Tensiunea nominală a unității este cea prezentată în Tabelul 5 și Tabelul 6. |
| ③ . Înainte de a porni unitatea, verificați dacă tensiunea se încadrează între 198~264V (pentru unitate monofazică) sau 342~457V (pentru unitate trifazică) |
| ④ . Utilizați permanent un circuit special derivat și instalați o priză specială de alimentare pentru unitatea de aer condiționat. |

- ⑤ . Utilizați un întrerupător pentru circuitul derivat special și o priză care să se potrivească capacității instalației de aer condiționat.
- ⑥ . Întrerupătorul circuitului derivat special este instalat în cadrul instalației electrice permanente. Utilizați mereu un circuit care poate să declanșeze toți polii instalației și care este izolat la o distanță de cel puțin 3mm între contactele fiecărui pol.
- ⑦ . Realizați lucrările de instalație electrică în conformitate cu standardele cerute astfel încât instalația de aer condiționat să poată fi utilizată în deplină siguranță
- ⑧ . Montați un întrerupător al circuitului special derivat pentru scurgeri în conformitate cu legile și reglementările specifice și cu standardele companiei de electricitate.

⚠ ATENȚIE!

- ① . Capacitatea sursei de curent trebuie să fie suma curentului pentru aerul condiționat și a curentului pentru alte dispozitive electrice. Atunci când capacitatea curentă este insuficientă, modificați capacitatea.
- ② . Atunci când tensiunea este scăzută și aerul condiționat pornește greu, contactați compania care furnizează energie electrică pentru a mări tensiunea.

4.7.2 Instalația electrică

(1). Pentru circuite cu fir cu miez masiv (Fig. 39)

1). Tăiați capătul firului cu un cuțit pentru fire sau un clește de tăiat fire, apoi desfaceți izolatorul cam 25 mm (15/16").

2). Utilizând o șurubelniță, îndepărtați șurubul(șuruburile) de conexiune de pe placa terminală.

3). Utilizând cleștele, îndoiiți firul solid ca să formați o buclă care să se potrivească șurubului de conexiune.

4). Dați o formă potrivită buclei de fir, puneți-o pe cutia de borne și fixați-o bine cu un șurub folosind o șurubelniță.

(2). Pentru circuitele cu fir cu liță (Fig. 39)

1). Tăiați capătul firului cu un cuțit pentru fire sau un clește de tăiat fire, apoi desfaceți izolatorul cam 10 mm (3/8").

2). Utilizând o șurubelniță, îndepărtați șurubul(șuruburile) de conexiune de pe cutia de borne.

3). Utilizând un colier de fixare rotund sau un clește, fixați bine un capăt rotund la fiecare capăt dezvelit al firului.

4). Poziționați capătul rotund al firului și înlocuiți și fixați șurubul de conexiune cu o șurubelniță. (Fig. 40)

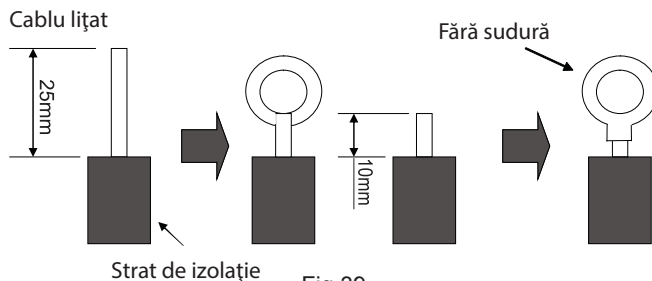


Fig.39

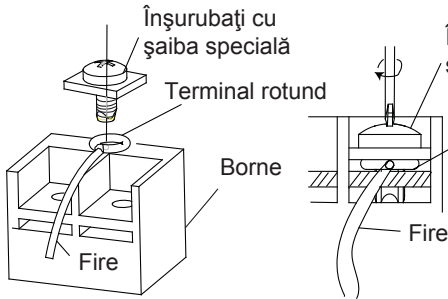


Fig.40

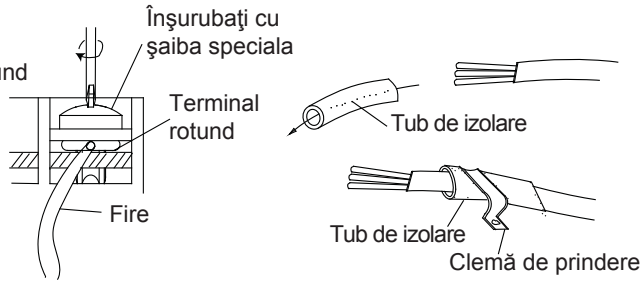


Fig.41

(3). Cum să fixăm cablul de racordare și cablul de alimentare cu brățări de cablu

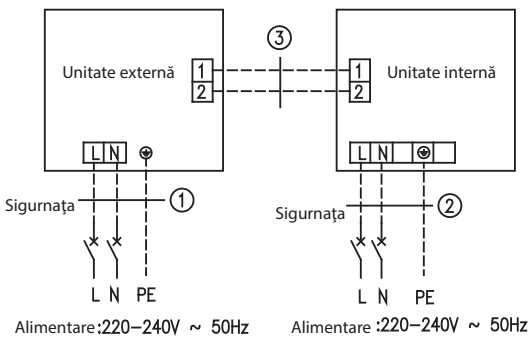
După ce treceți cablul de racordare și cablul de alimentare prin tubul de izolare, fixați-l cu brățară de cablu. (Fig.41)

⚠ 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 culorile 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. Instalarea imperfectă poate provoca incendii
- ⑤ . Fixați mereu partea exterioră a cablului de racord cu brățări de cablu. (Atunci când izolatorul nu este prins, pot apărea scurgeri de curent)
- ⑥ . Conectați întotdeauna împământarea

(4). Instalația electrică între unitatea de interior și unitatea de exterior

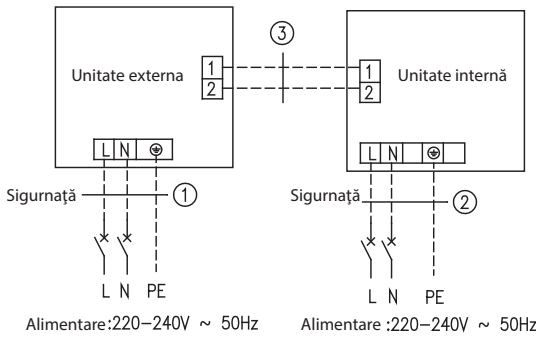
Unități monofazice (12K~30K)



U2RS-12+V2CI-12
U2RS-18+V2CI-18
① . Cablu de alimentare 3x1,5mm ² (H07RN-F)
② . Cablu de alimentare 3x1,0mm ² (H05RN-F)
③ . Cabluri de comunicare 2x0,75mm ² (H05RN-F)

U2RS-24+V2CI-24
U2RS-30+V2CI-30
① . Cablu de alimentare 3x2,5mm ² (H07RN-F)
② . Cablu de alimentare 3x1,0mm ² (H05RN-F)
③ . Cabluri de comunicare 2x0,75mm ² (H05RN-F)

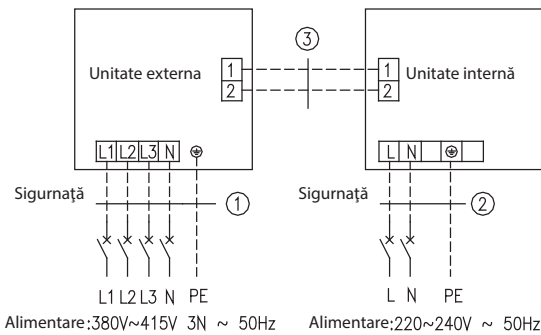
Echipamente monofazice(36K~50K)



U2RS-36 +V2CI-36
U2RS-45 +V2CI-45
① . Cablu de alimentare 3x2,5mm ² (H07RN-F)
② . Cablu de alimentare 3x1,0mm ² (H05RN-F)
③ . Cabluri de comunicare 2x0,75mm ² (H05RN-F)

U2RS-50 +V2CI-50
① . Cablu de alimentare 3x6,0mm ² (H07RN-F)
② . Cablu de alimentare 3x1,0mm ² (H05RN-F)
③ . Cabluri de comunicare 2x0,75mm ² (H05RN-F)

Echipamente trifazice



U2RT-36 +V2CI-36
U2RT-45 +V2CI-45
U2RT-50 +V2CI-50
U2RT-60 +V2CI-60
① . Cablu de alimentare 3x2,5mm ² (H07RN-F)
② . Cablu de alimentare 3x1,0mm ² (H05RN-F)
③ . Cabluri de comunicare 2x0,75mm ² (H05RN-F)

Fig.42

(5). Instalația electrică pentru unitatea de interior Îndepărtați capacul dozei electrice și apoi conectați firele.

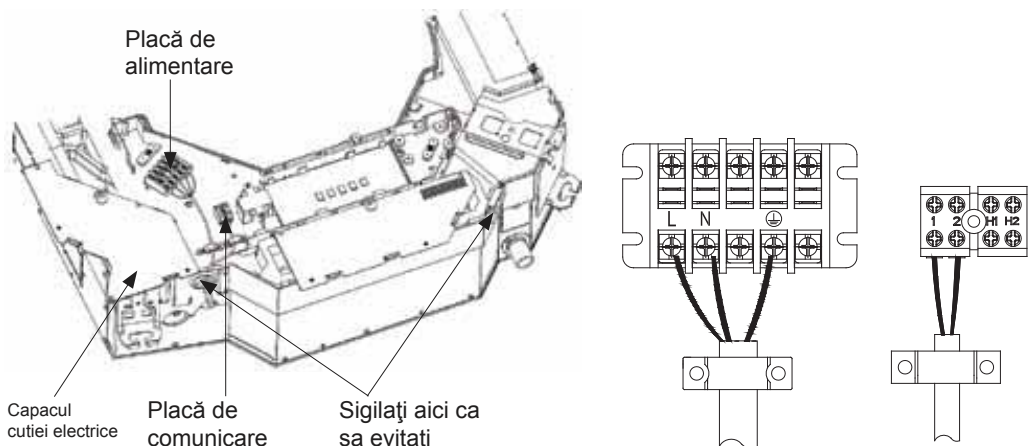


Fig.43

⚠️ ATENȚIE!	
①	Cablul de alimentare și firul supapei de aer proaspăt au tensiune înaltă, în timp ce cablul de comunicare și firul de conexiune al aparatului de comandă au tensiune joasă. Ele ar trebui să fie plasate separat ca să nu facă interferență magnetică.
②	Liniile de înaltă și joasă tensiune ar trebui să treacă prin inele de cauciuc la capace diferite ale dozei
③	Nu strângeți mănunchi firele de conexiune ale aparatului de comandă împreună cu cablul de comunicare, și nu le aranjați în paralel, cu excepția cazului în care ar apărea o funcționare inadecvată.
④	Liniile de înaltă și joasă tensiune ar trebui să fie fixate separat și în siguranță cu brățări interne mari în primul caz și cu brățări mici pentru cele din urmă.
⑤	Fixați cablul de conexiune interior/exterior și respectiv cablul de alimentare pe panoul de conexiune cu șuruburi. Conexiunile greșite pot cauza incendii.
⑥	În cazul în care cablul de conexiune al unității de interior (la unitatea de exterior) și cablul de alimentare sunt cablate incorect, instalația de aer condiționat poate fi avariată.
⑦	Conectați așa cum trebuie cablul de conexiune al unității de interior pe baza marcajelor corespunzătoare prezentate în Fig. 42
⑧	Împământați atât unitatea de interior cât și unitatea de exterior atașând un cablu de împământare
⑨	Unitatea trebuie să fie împământată conform codurilor locale și naționale.

(6). Instalația electrică a unității de exterior

Atenție: Atunci când conectați un cablu de alimentare vă asigurați că faza de alimentare se potrivește cu tabloul cu borne. În cazul în care nu se potrivește, compresorul va roti invers și va funcționa eronat.

Îndepărtați mânerul mare (12~45K) /panoul frontal (50/60K) al unității de exterior și introduceți capătul cablului de comunicare și cablul de alimentare în tabloul cu borne

Monofazic:

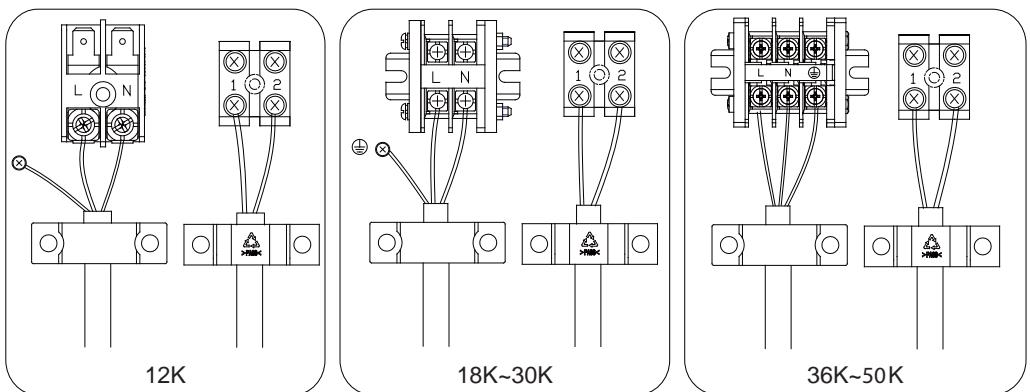


Fig.44

Monofazic:

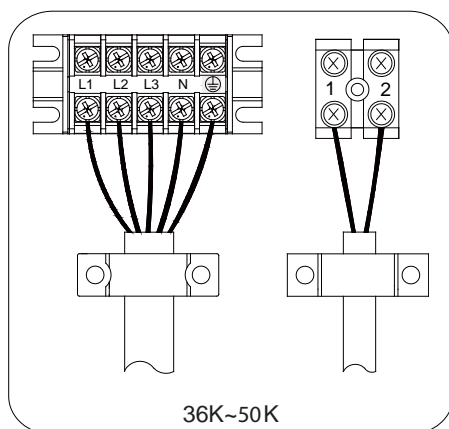


Fig.45

5 Montarea aparatelor de comandă

Apelați la Manualul de montare a aparatului de comandă pentru mai multe detalii.

6 Testare

6.1 Funcționare de probă și testare

(1). Identificarea codurilor de eroare prezentate mai jos:

Tabelul 11

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	Nepotrivire interior și exterior	
30	U7	Protecție modificare direcție la supapa în 4 direcții	
31	P0	Protecție resetare circuit	
32	P5	Protecție supraincaltate	
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	

Atenție: Atunci când unitatea este conectată la un aparat de comandă, codul de eroare va fi afișat și pe acesta în mod simultan.

(2). Instrucțiuni pentru becurile de semnalizare a erorilor de pe panoul unității de tip casetă.

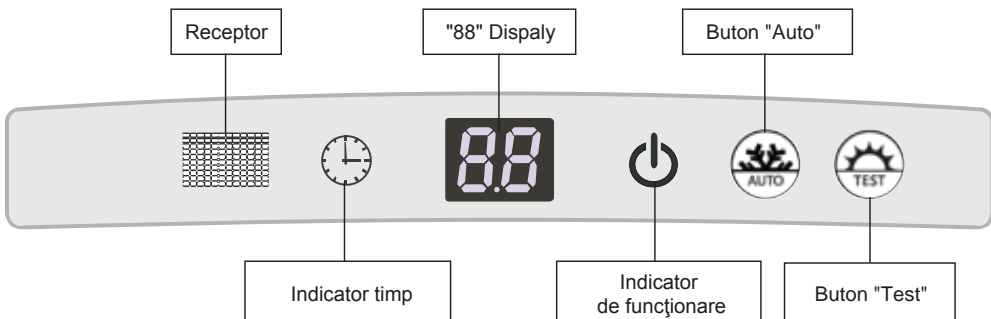


Fig.46

- ◆ Becul de semnalizare Power(Alimentare) și ON/OFF
Se aprinde în roșu atunci când unitatea este alimentată și se aprinde în alb atunci când unitatea este pornită.
- ◆ •Becul de semnalizare Timer (temporizator)
Se aprinde atunci când este setat temporizatorul și se stinge atunci când nu este setat. Afișajul său are culoarea galbenă.

◆ Afișajul “88”

Atunci când nu există vreo eroare, și când primește informații valide de la telecomandă. Va afișa temperatura setată timp de 5 secunde, apoi va afișa temperatura din interior. Atunci când unitatea are o eroare, va afișa codul de eroare. Atunci când sunt mai multe erori, codul de eroare va fi afișat în mod alternativ.

După ce grila panoului frontal este deschisă, panoul frontal încă mai poate să realizeze următoarele funcții apăsând butonul “Auto” și butonul “Test” de lângă el în mod simultan timp de 5 secunde atunci când unitatea este decuplată

6.2 Gama de temperaturi de funcționare

Tabelul 12

Condiție de test	Partea de interior		Partea de exterior	
	DB(°C)	WB(°C)	DB(°C)	WB(°C)
Răcire nominală	27	19	35	24
Încălzire nominală	20	–	7	6
Răcire nominală	32	23	48	–
Răcire la temp. mici	21	15	-15	–
Încălzire nominală	27	–	24	18
Încălzire la temp. mici	20	–	-10	-11

Note:

- ① . Proiectarea acestei unități se conformează cerințelor standardului EN14511.
- ② . Volumul de aer este măsurat la presiunea statică externă standardul specific.
- ③ . Capacitatea de răcire (încălzire) menționată mai sus este măsurată în condiții de funcționare nominale corespunzătoare presiunii statice externe standard. Parametrii sunt supuși modificărilor în momentul îmbunătățirii produselor, caz în care valorile de pe plăcuțele de identificare vor preleva.
- ④ În acest tabel există două valori DB de exterior în condiții de răcire la temperaturi joase, și cea din paranteză este pentru unitatea care poate funcționa la temperaturi extrem de scăzute

7 Depanare și întreținere

7.1 Depanare

În cazul în care unitatea de aer condiționat funcționează anormal sau nu mai funcționează, vă rugăm să verificați mai întâi următoarele aspecte înainte de a o repara:

Tabelul 13

Avarie	Posibile motive
Unitatea nu pornește	(1). Nu este cuplată alimentarea. (2). Scurgere electrică a unității de aer condiționat cauzează declanșarea prizei cu scurgere (3). Tastele de funcționare sunt blocate (4). Bucla de comandă nu pornește
Unitatea funcționează un timp, apoi se oprește	(1). Există un obstacol în fața condensatorului (2). Bucla de comandă este anormală (3). Operația de răcire este selectată atunci când temperatura de ambient este peste 48°C
Efect de răcire slab	(1). Filtrul de aer este murdar sau blocate (2). Există o sursă de căldură sau sunt prea multe persoane în încăperea (3). Ușa sau fereastra sunt deschise (4). Există un obstacol la gura de admisie sau evacuare a aerului (5). Temperatura setată este prea mare (6). Există scăpări de agent de refrigerare (7). Senzorul de temperatură de ambient nu mai este performant
Efect de încălzire slab	(1). Filtrul de aer este murdar sau blocate (2). Ușa sau fereastra sunt închise bine (3). Temperatura din încăperea este prea scăzută (4). Există scăpări de agent de refrigerare (5). Temperatura de ambient exterior este mai mică de -5°C (6). Bucla de comandă este anormală

Notă: După ce se realizează verificările părților menționate mai sus și după ce se iau măsuri relevante pentru a rezolva problema, în cazul în care unitatea tot nu funcționează bine, opriți funcționarea unității imediat și contactați o agenție de service locală desemnată de Inventor. Cereți doar personalului calificat să verifice și să repare unitatea.

7.2 Întreținere de rutină

Doar o persoană calificată are dreptul să realizeze lucrări de întreținere.

Înainte de a accesa dispozitivele terminale, toate circuitele de alimentare trebuie să fie deconectate.



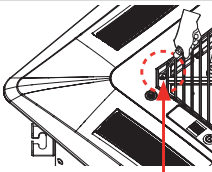
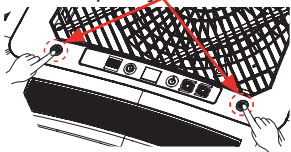
Nu utilizați apă sau aer la 50°C sau mai mult pentru a curăța filtrele de aer sau panourile exterioare.

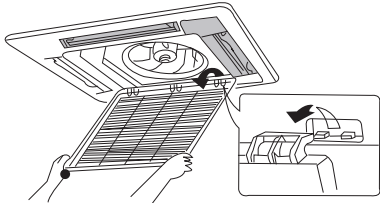

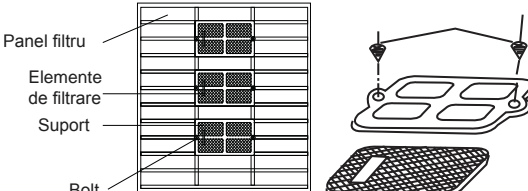
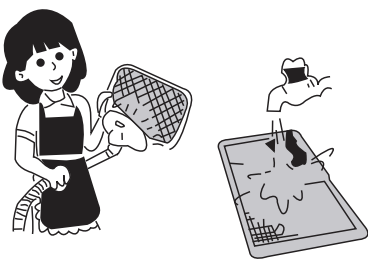
Atenție:

- (1). Nu utilizați aerul condiționat cu filtrul neinstalat, altfel praful ar putea intra în unitate.
- (2). Nu îndepărtați filtrul de aer decât dacă îl curățați. Mănuirea inutilă poate deteriora filtrul.
- (3). Nu curățați unitatea cu gaz, benzen, tiner, pudră de lustruire sau insecticid lichid, altfel veți cauza decolorarea și deformarea unității.
- (4). Nu umeziți unitatea de interior în caz de șoc electric sau pericol de incendiu.

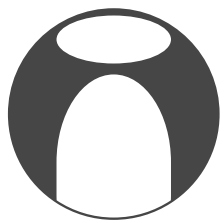
Creșteți frecvența de curățare dacă unitatea este instalată într-o încăpere în care aerul este extrem de contaminat. (Ca etalon, considerați curățarea filtrului o dată la jumătate de an.)

În cazul în care mizeria devine imposibil de curățat, schimbați filtrul.

Cum să curățați filtrul de aer	
<p>1. Deschideți grila de la gura de admisie a aerului</p> <p>(1). Cum să deschideți grila panoului unității tip casetă 24K~45K</p> <ol style="list-style-type: none">1. Împingeți capacul așa cum arată figura.2. Îndepărtați șuruburile de sub clemă cu o șurubelniță3. Împingeți clema și deschideți grila panoului.	 <p>Îndepărtați șuruburile</p>
	 <p>Apasați clema</p>
<p>(2). Cum să deschideți grila panoului unității tip casetă 12K/18K/50K/60K</p> <ol style="list-style-type: none">1. Îndepărtați șuruburile cu o șurubelniță așa cum arată figura2. Împingeți cele două cleme și deschideți grila panoului	 <p>Îndepărtați șuruburile</p>
	 <p>Apăsați clemele</p>

<p>2. Scoateți grila de la gura de admisie a aerului Deschideți grila de la gura de admisie a aerului la 45°, ridicați-o și îndepărtați grila.</p>	
<p>3. Scoateți filtrul Trageți filtrul și îndepărtați-l.</p>	
<p>4. Scoateți purificatorul de aer Îndepărtați purificatorul de aer după îndepărtarea șuruburilor fixate pe acesta</p>	
<p>5. Curățați filtrul Curățați filtrul cu un aspirator sau spălați-l cu apă. În cazul în care petele de ulei de pe filtru nu pot fi îndepărtate sau curățate, spălați-l cu apă caldă amestecată cu detergent. Uscați filtrul într-un loc ferit de soare. Atenție: Nu utilizați niciodată apă la temperaturi mai mari de 45° în cazul în care culoarea este ștersă sau se îngălbenește. Nu îl uscați niciodată la sursă de foc pentru ca filtrul să nu ia foc sau să se deformeze.</p>	
<p>6. Reașezați filtrul</p>	<p>La fel ca la pasul 3</p>
<p>7. Montați bine grila</p>	<p>La fel ca la pasul 1 și 2</p>

Note:



inventor[®]

Your-conditions

