ΚΛΙΜΑΤΙΣΤΙΚΑ ΣΥΣΤΗΜΑΤΑ
AIR CONDITIONING SYSTEMS

Μοντέλα/Models

V2DI-12
V2DI-18
V2DI-24
V2DI-30
V2DI-36
V2DI-45
V2DI-50
V2DI-60

Μονάδα δικτύου αεραγωγών Inverter U-match

Εγχειρίδιο Χρήστη

DC Inverter U-match Series Duct 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/ Română

inventor
Your-conditions

Contents

1 Safety Precautions

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

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

2 Outline of the Unit and Main Parts

Indoor

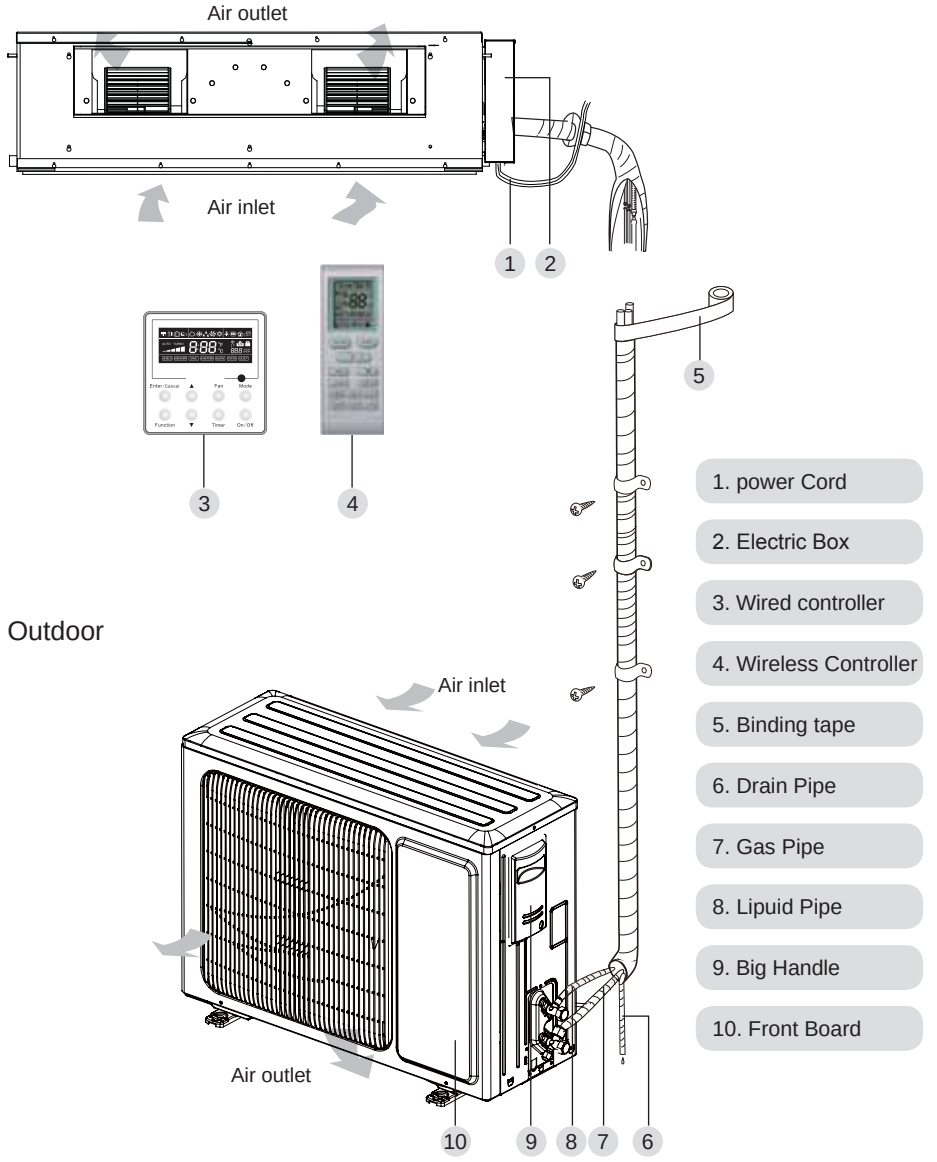


Fig.1

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

3 Preparative for Installation

3.1 Standard Accessory Parts

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

Table 1

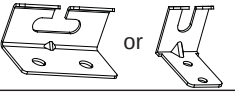
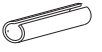
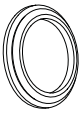
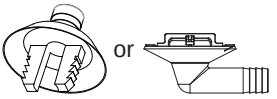
Indoor Unit Accessories				
No.	Name	Appearance	Q'ty	Usage
1	Wired Controller		1	To control the indoor unit
2	Hanger		4	To fix the indoor unit
3	Nut with Washer		8	To fix the hook on the cabinet of the unit.
4	Nut with Washer		4	To fix the hook on the cabinet of the unit.
5	Nut		4	To be used together with the hanger bolt for installing the unit.
6	Washer		4	To be used together with the hanger bolt for installing the unit.
7	Insulation		1	To insulate the gas pipe
8	Insulation		1	To insulate the liquid pipe
9	Fastener		8	To fasten the sponge
10	Nut		1	To connect liquid pipe
11	Nut		1	To connect gas pipe

Table 2

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

3.2 Selection of the Installation Location

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

Decide the installation location with the customer as follows:

3.2.1 Indoor Unit

(1). Install the unit at a place where is strong enough to withstand the weight of the unit.

(2). The air inlet and outlet of the unit should never be clogged so that the airflow can reach every corner of the room.

(3). Leave service space around the unit as required in Fig.2.

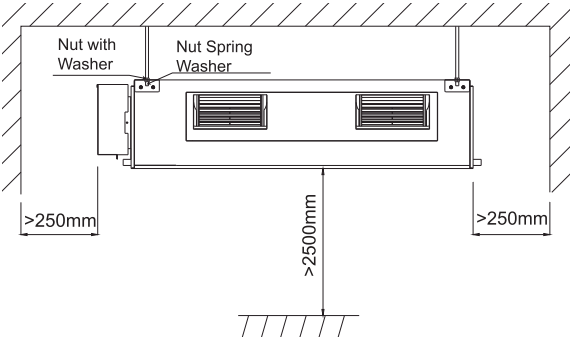


Fig.2

(4). Install the unit where the drain pipe can be easily installed.

(5). The space from the unit to the ceiling should be kept as much as possible so as for more convenient service.

3.2.2 Outdoor Unit

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

(1). 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.)

(2). Install the outdoor unit in a place where it will be free from getting dirty or getting wet by rain as much as possible.

(3). Install the outdoor unit where it is convenient to connect the indoor unit.

(4). Install the outdoor unit where the condensate water can be drained out freely during heating operation. Do not place animals and plants in the path of the warm air.

(5). Take the air conditioner weight into account and select a place where noise and vibration are small.

(6). Install the outdoor unit where is capable of withstanding the weight of the unit and generates as less noise and vibration as possible.

(7). Provide the space shown in Fig.3, so that the air flow is not blocked. Also for efficient operation, leave three of four directions of peripheral constructions open.

Units: mm

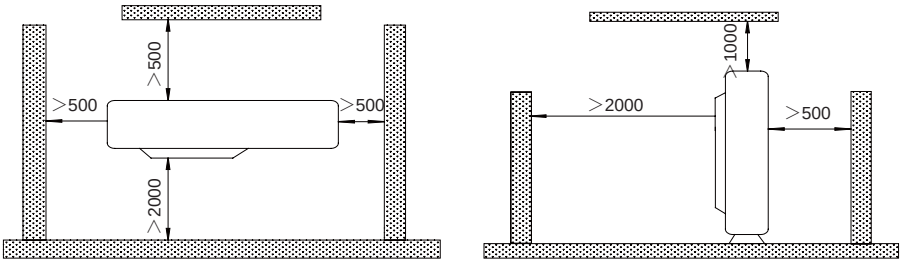


Fig.3

3.3 Connection Pipe Requirement

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

Table 3

Item / Model	Size of Fitting Pipe(Inch)		Max. Pipe Length (m)	Max. Height Difference between Indoor Unit and Outdoor Unit (m)	Drainage pipe(Outer Diameter × wall thickness) (mm)
	Liquid	Gas			
V2DI-12 U2RS-12	1/4	3/8	20	15	Φ30X1.5
V2DI-18 U2RS-18	1/4	1/2	20	15	Φ30X1.5
V2DI-24 U2RS-24	3/8	5/8	30	15	Φ20X1.2
V2DI-30 U2RS-30	3/8	5/8	30	15	Φ20X1.2
V2DI-36 U2RS-36	3/8	5/8	30	15	Φ20X1.2
V2DI-45 U2RS-45	3/8	5/8	50	30	Φ20X1.2
V2DI-50 U2RS-50	3/8	5/8	50	30	Φ20X1.2
V2DI-36 U2RT-36	3/8	5/8	30	15	Φ20X1.2
V2DI-45 U2RT-45	3/8	5/8	50	30	Φ20X1.2
V2DI-50 U2RT-50	3/8	5/8	50	30	Φ20X1.2
V2DI-60 U2RT-60	3/8	3/4	50	30	Φ20X1.2

①. The connection pipe should be insulated with proper water-proof insulating material.

②. The pipe wall thickness shall be 0.5-1.0mm and the pipe wall shall be able to withstand the pressure of 6.0 MPa.The longer the connecting pipe, the lower the cooling and heating effect performs.

3.4 Electrical Requirement

Electric Wire Size and Fuse Capacity.

Table 4

Indoor Units	Power Supply	Fuse Capacity	Breaker Capacity	Min. Power Supply Cord
	V/Ph/Hz	A	A	mm^2
12K~45K	220-240V~ 50Hz	3.15	6	1.0
50K~60K	220-240V~ 50Hz	5	6	1.0

Table 5

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

Note:

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 0.75mm^2 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 0.75mm^2 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 0.75mm^2. It's recommended to take 0.75mm^2 power cords as the communication line.

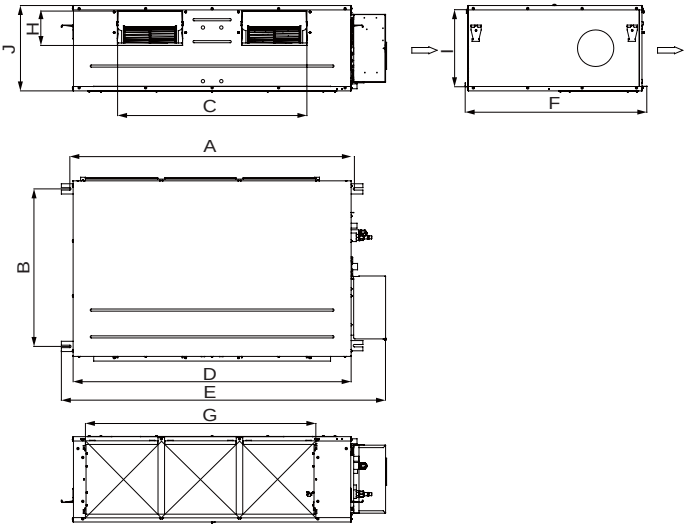
4 Installation of the Unit

4.1 Installation of the Indoor Unit

4.1.1 Indoor unit dimension

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

For the units: 12~18K, 50k,60k



For the units: 24~45K

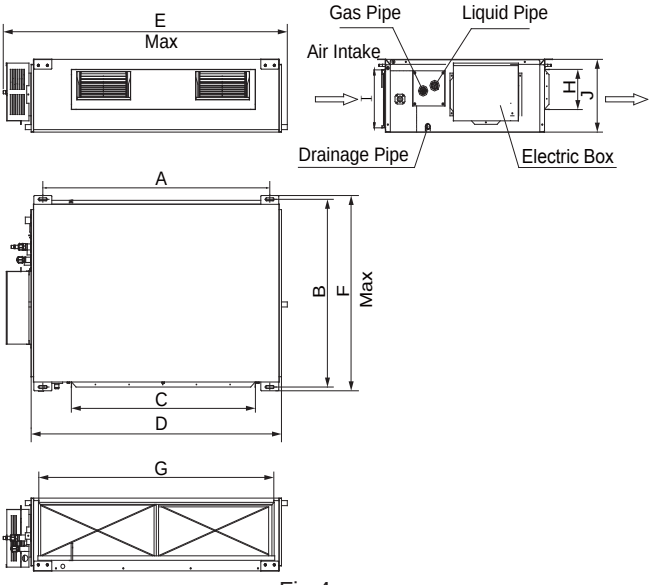


Fig.4

Table 6

Item / Model	A	B	C	D	E	F	G	H	I	J
V2DI-12	932	430	738	892	998	721	738	125	203	266
V2DI-18										
V2DI-24	1101	515	820	1159	1239	558	1002	160	235	268
V2DI-30										
V2DI-36	1011	748	820	1115	1226	775	979	160	231	290
V2DI-45										
V2DI-50	1177	646	782	1150	1340	751	953	141	316	350
V2DI-60										

4.1.2 Drilling Holes for Bolts and Installing the Bolts

Using the installation template, drill holes for bolts (four holes). (Fig. 5)

4.1.3 Installing the Suspension Bolts

(1). 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. 6)

(2). Insert the anchor bolts into the drilled holes, and drive the pins completely into the anchor bolts with a hammer. (Fig. 7)

(3). Install the hanger to the unit. (Fig.8)

(4). Pass the unit hangers over the bolts installed to the ceiling and install the unit with the special nut.(Fig.9)

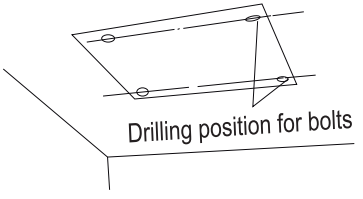


Fig. 5

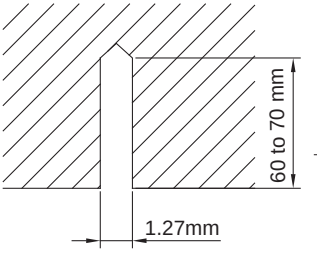


Fig.6

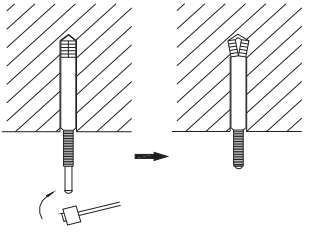


Fig.7

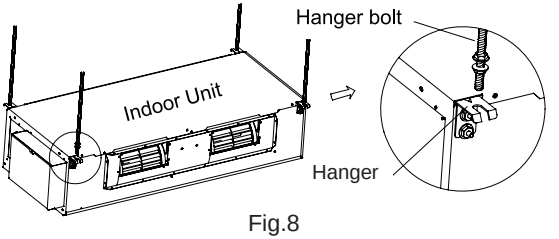


Fig.8

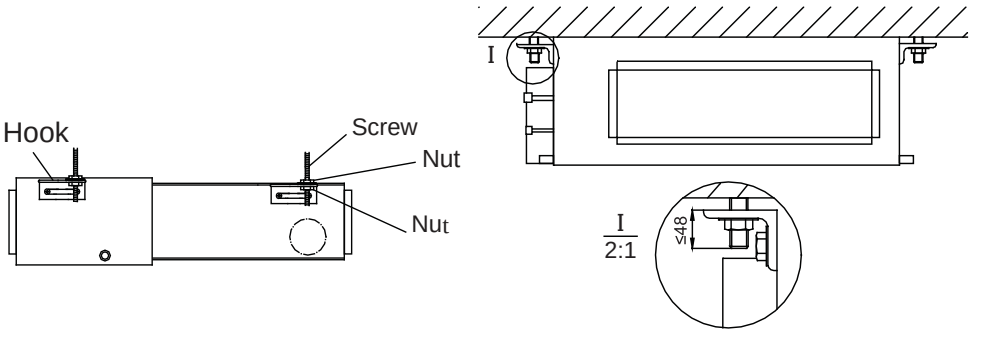


Fig.9

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.

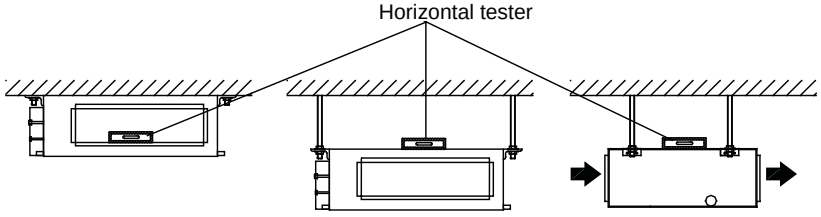


Fig.10

4.2 Installation of the 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.

4.2.1 Outdoor unit dimension

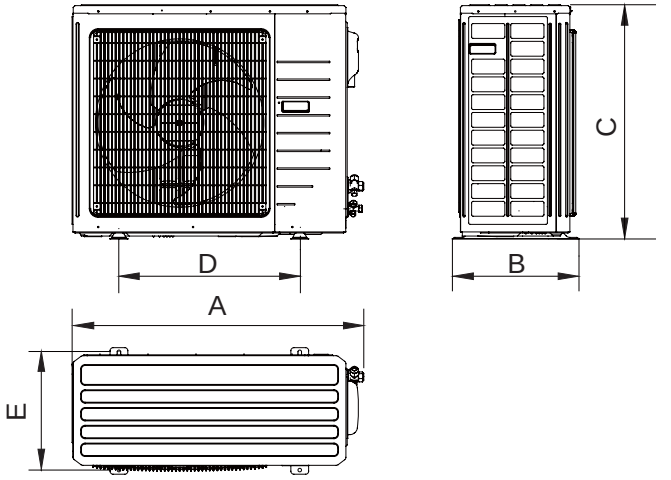


Fig.11

Table 6 Unit: mm

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

4.2.2 Condensate Drainage of the Outdoor Unit(Only for the heat pump unit) (Fig.12)

(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 φ25 located at the base plate of the unit and then connect the drain pipe to the pipe joint.

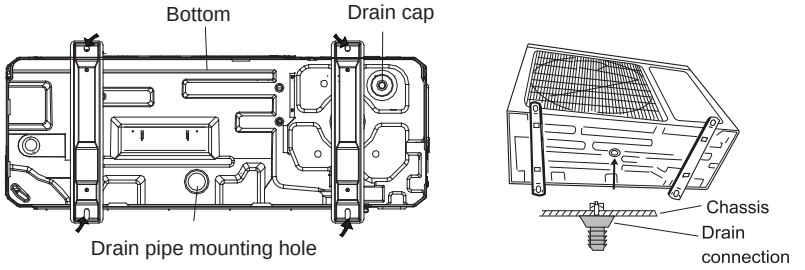


Fig.12

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.13).

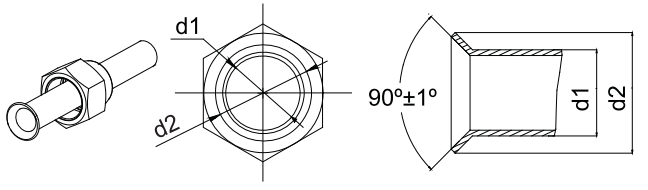


Fig.13

4.3.2 Bending Pipes

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

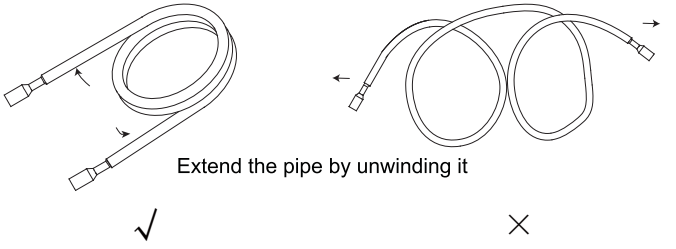


Fig.14

(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.15, 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.

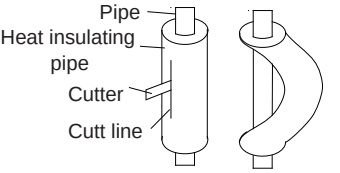


Fig.15

⚠ 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.

Centering the pipe against port on the indoor unit, turn the flare nut with your hand.

⚠ CAUTION!
Hold the torque wrench at its grip, keeping it in the right angle with the pipe as shown in Fig. 15, in order to tighten the flare nut correctly.

When the flare nut is tightened properly by your hand, use a torque wrench to finally tighten it.

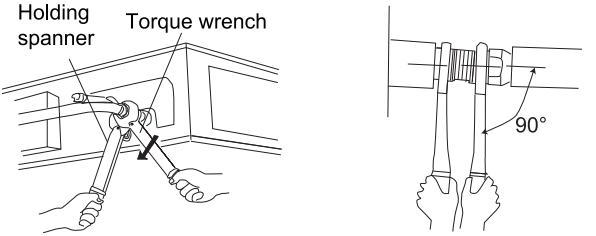


Fig.16

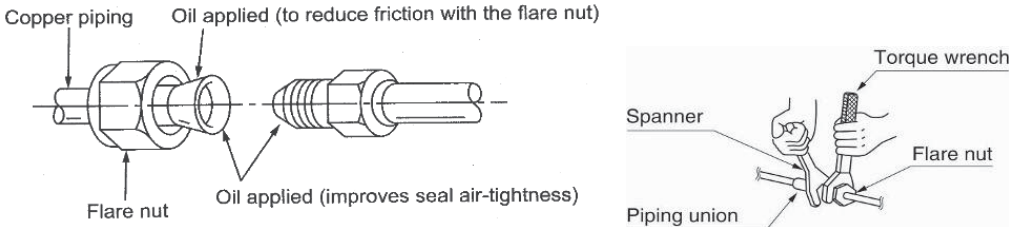


Fig.17

Table 7 Flare nut tightening torque

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

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

4.3.4 Connecting the Pipe at the Outdoor Side Unit

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

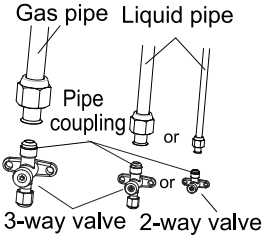


Fig.18

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.

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.

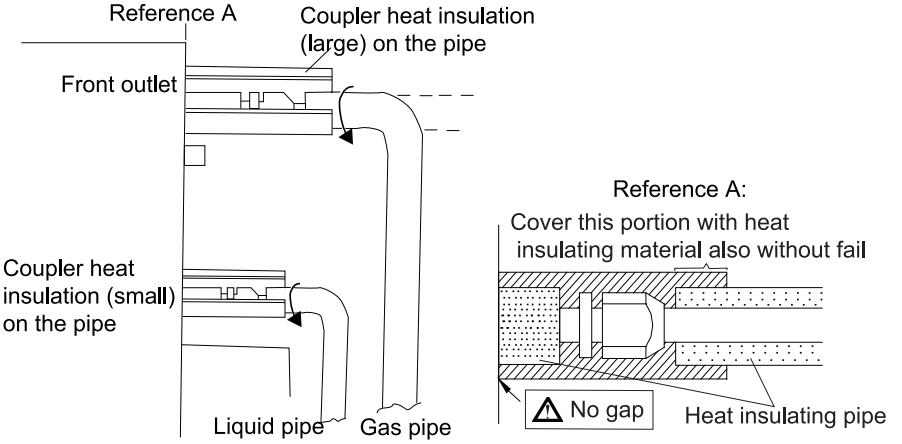


Fig.19

4.3.7 Liquid Pipe and Drain Pipe

If the outdoor unit is installed lower than the indoor unit (See Fig.20)

(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.

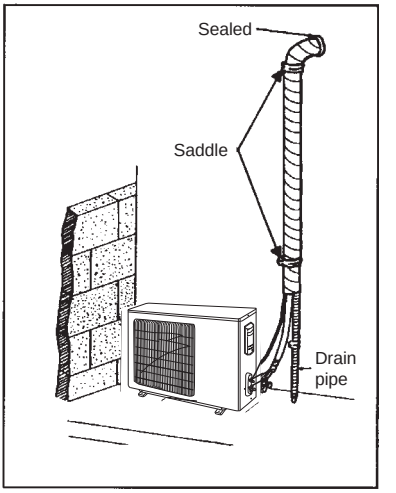


Fig.20

If the outdoor unit is installed higher than the indoor unit (See Fig.21)

(1). Taping should be done from lower to the upper part.

(2). All pipes are bound and taped together and also should be trapped to prevent water from returning to the room (See Fig.49)

(3). Restraint all pipes to the wall with saddles.

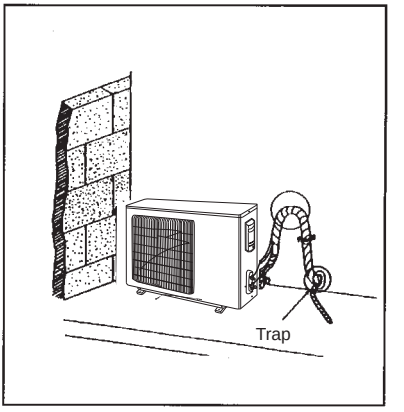


Fig.21

4.4 Vacuum and Gas Leakage Inspection

⚠ CAUTION!
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.

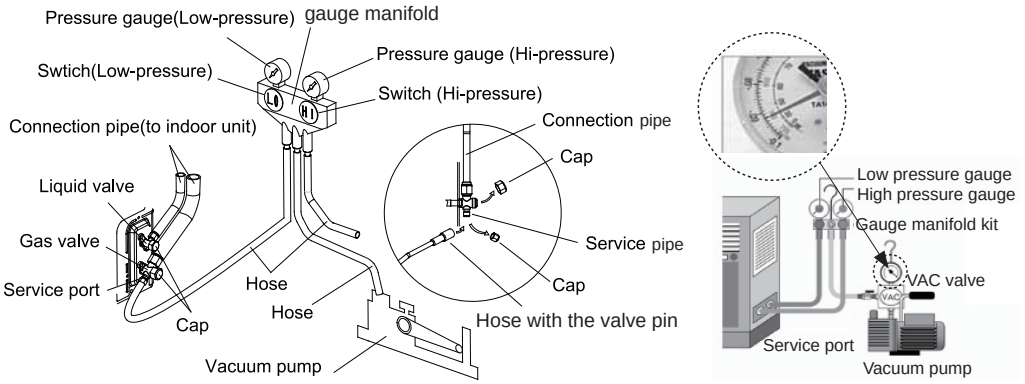


Fig.22

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

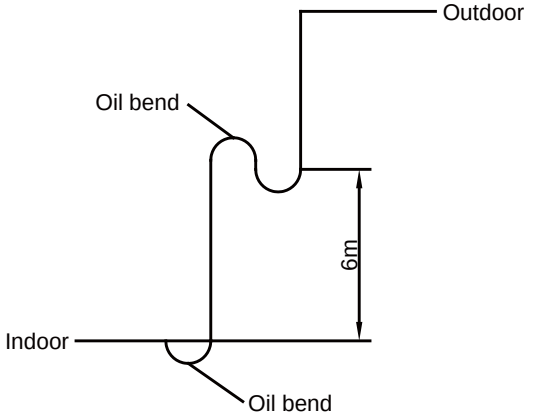
Refrigerant suitable for a piping length of 5m is charged in the outdoor unit at the factory.
When the piping is longer than 7m, additional charging is necessary.
For the additional amount, see Table 8.

Table 8

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

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

an oil bend should be employed for every 6 meters.



4.5 Installation of the Drain Hose

4.5.1 Installation of Drain Piping

CAUTION!
Install the drain hose in accordance with the instructions in this installation manual and keep the area warm enough to prevent condensation. Problems with the piping may lead to water leaks.

(1). Install the drain hose with downward gradient (1/50 to 1/100) and no risers or traps are used for the hose.(Fig.23)

(2). Be sure there is no crack or leak on the drain hose to avoid the formation of air pocket. (Fig.23)

(3). When the hose is long, install supporters.(Fig.24)

(4). Always use the drain hose which has been insulated properly.

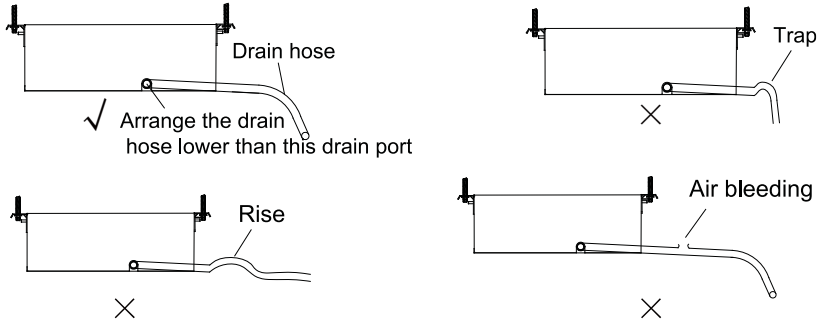


Fig.23

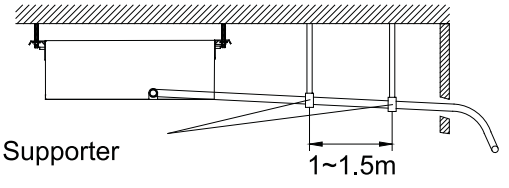


Fig.24

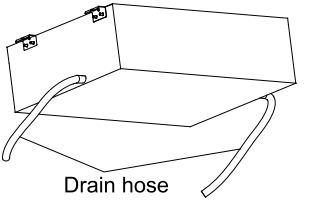
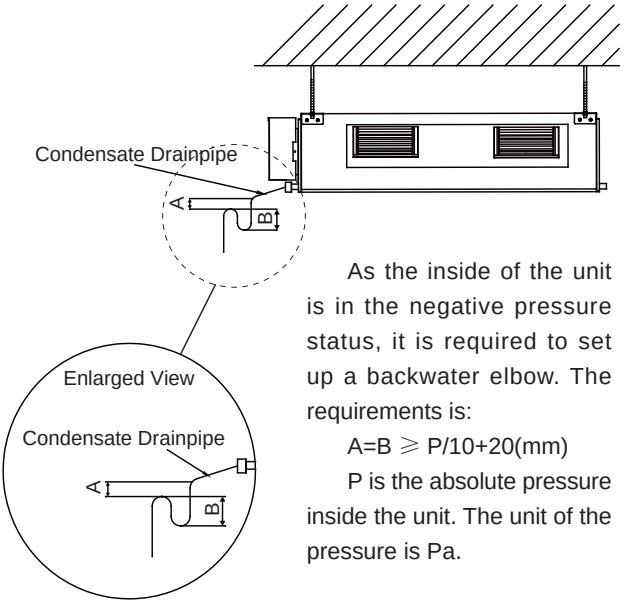


Fig.25



As the inside of the unit is in the negative pressure status, it is required to set up a backwater elbow. The requirements is:

A=B ⩾ P/10+20(mm)

P is the absolute pressure inside the unit. The unit of the pressure is Pa.

Fig.26

(5). Use a suitable drain hose, and see Table 3 for its size.

(6). There is a drain port on both the left and right sides. Select the drain port to match the local conditions.(Fig.25)

(7). When the unit is shipped from the factory, the drain port is defaulted to be the one on the left side (electric box side), the port on right side has been plugged.

(8). When using the drain port on the right side of the unit, reinstall the drain cap to the left side drain port.(Fig.27)

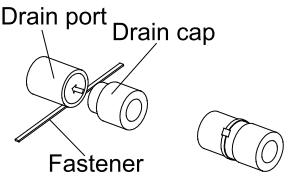


Fig.27

⚠ CAUTION!
Always check that the drain cap is installed to the unused drain port and is fastened with the nylon fastener. If the drain cap is not installed, or is not sufficiently fastened by the nylon fastener, water may drip during the cooling operation.

(9). Be sure to insulate where the drain port and the drain hose is connected.(Fig.28)

(10). The unused drain port also should be insulated properly.(Fig.29)

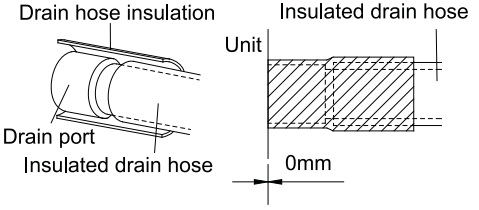


Fig.28

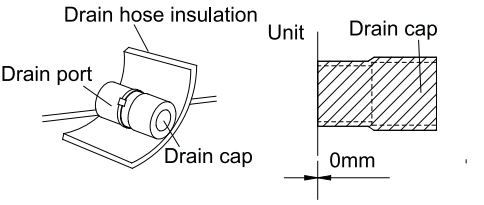


Fig.29

(11). There is adhesive on one side of the insulation so that after removing the protective paper

over it the insulation can be directly attached to the drain hose.

(12). Considerations for the unit with the condensate pump:

1). For the unit with the condensate pump, only one drain port at the side close to the electric box is prepared and only through it the drain hose can be connected.

2). See table 3 for the size of the drain port of the unit with the condensate pump, which is different from that of the unit without the condensate pump.

3). For the unit with the condensate pump, two drain ports at the bottom are defaulted to be factory plugged with drain caps. After the installation of the drain hose, these two drain ports also need to be insulated properly with the same way aforementioned.

4). The drain hose for the unit with the condensate pump should be arranged as shown in the figure below.

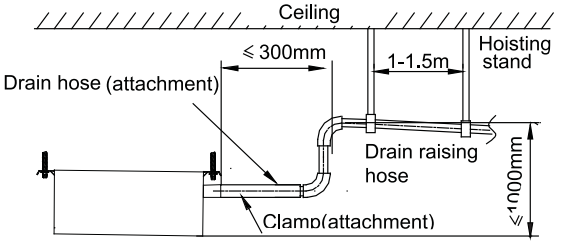


Fig.30

a. The vertical height of the drain hose should be 75mm or less so that it is unnecessary for the drain port to withstand additional force.

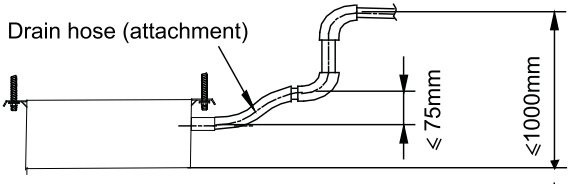


Fig.31

b. When multiple drain hoses are used, their installation should be performed as shown in the figure below.

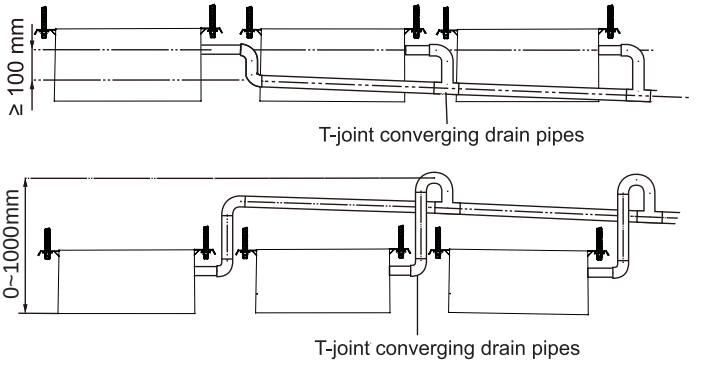


Fig.32

4.5.2 Testing of Drain Piping

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

As shown in the figure, add approximately 1liter of water slowly into the drain pan and check drainage flow during COOL running.

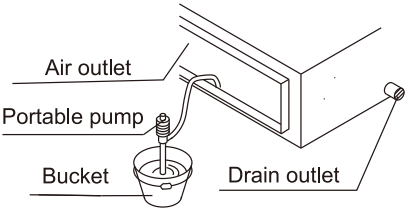


Fig.33

4.6 Installation of the Duct

4.6.1 Dimensions of the Supply Air Outlet/Return Air Inlet

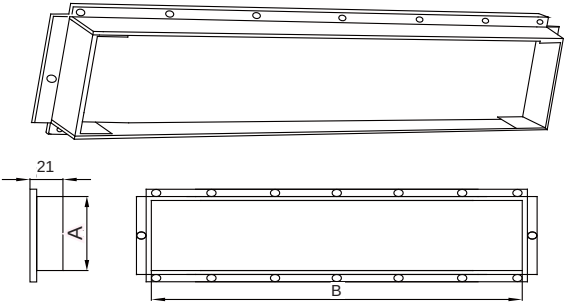


Fig.34 Supply Air Outlet

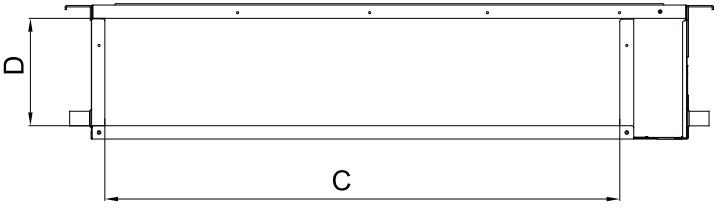


Fig.35 Return Air Inlet

Table 9

Item / Model	Supply Air Outlet		Return Air Inlet	
	A	B	C	D
V2DI-12	123	736	710	166
V2DI-18	123	736	710	166
V2DI-24	158	818	994	195
V2DI-30	158	818	994	195
V2DI-36	158	818	1000	206
V2DI-45	158	818	1000	206
V2DI-50	157	850	943	286
V2DI-60	157	850	943	286

4.6.2 Installation of the Supply Air Duct

(1). Installation of the Rectangular Duct.

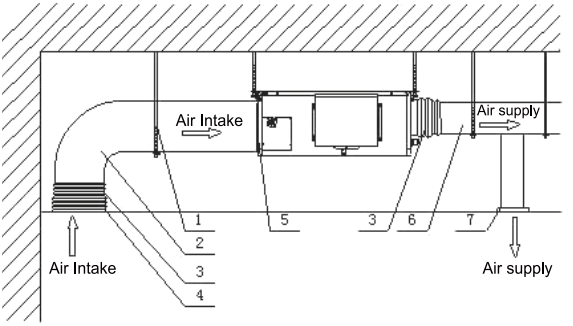


Fig.36

No.	Name	No.	Name
1	Hanger	5	Filter
2	Air Intake Pipe	6	Main Air Supply Pipe
3	Canvas Air Pipe	7	Air Supply Outlet
4	Air Intake		

⚠ CAUTION!
①. The maximum length of the duct means the maximum length of the supply air duct plus the maximum length of the return air duct.
②. The duct is rectangular and connected with the air inlet/outlet of the indoor unit. Among all supply air outlets, at least one should be kept open.

Bottom Return Air Installation only for Units 12/18K

(2). The default installation location of the rectangular flange is at the back and the return air cover plate is at the bottom, as shown in Fig.37 .

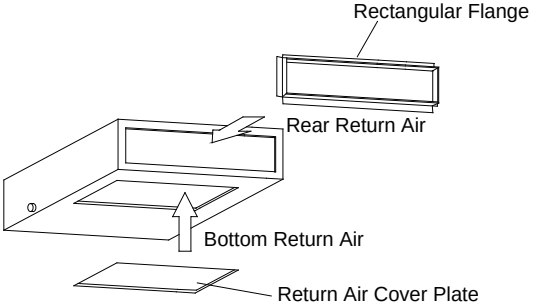


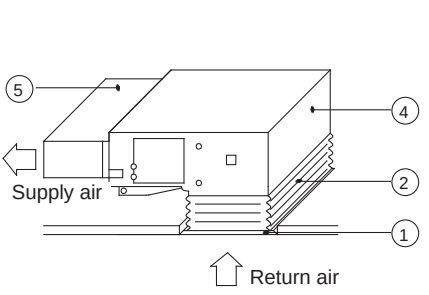
Fig.37

(3). If the bottom return air is desired, just change the place of the rectangular flange and the return air cover plate.

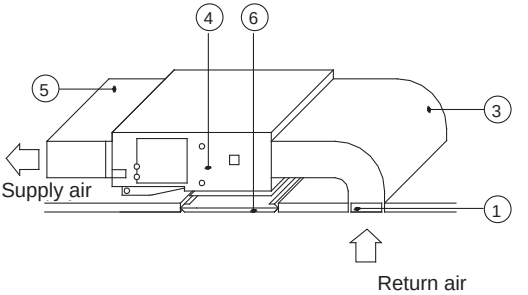
(4). Connect one end of the return air duct to the return air outlet of the unit by rivets and the other to the return air louver. For the sake of the convenience to freely adjust the height, a cutting of canvas duct will be helpful, which can be reinforced and folded by 8# iron wire

(5). More noise is likely to be produced in the bottom return air mode than the backward return air mode, so it is suggested to install a silencer and a static pressure box to minimize the noise.

(6). The installation method can be chosen with considering the conditions of the building and maintenance etc., as shown in Fig.38.



Install the return air duct (a)



Install the return air duct (b)

Fig.38

Table 10 Installation of the return air duct

No.	Name	No.	Name
1	Return Air Inlet (with filter)	4	Indoor unit
2	Canvas Duct	5	Supply Air Duct
3	Return Air Duct	6	Grille

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

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

4.7.2 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)

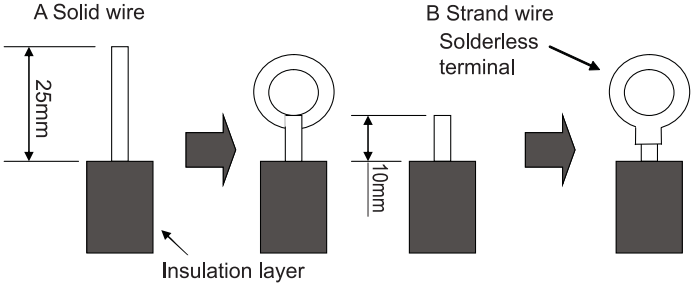


Fig.39

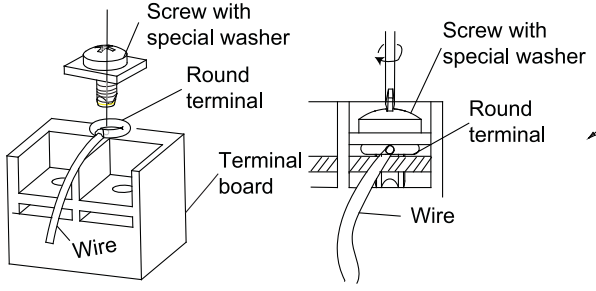


Fig.40

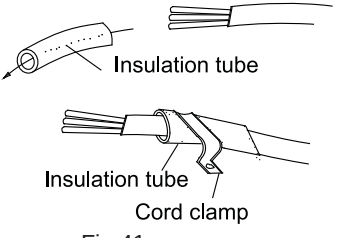


Fig.41

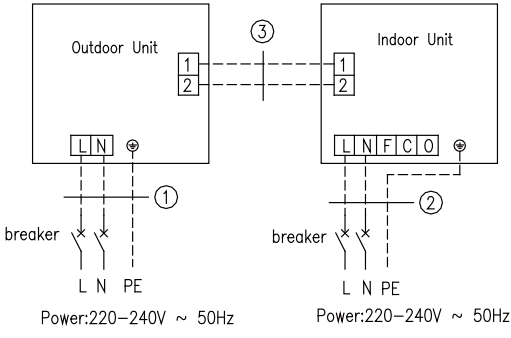
(3). How to fix connection cord and power cord by cord clamp

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

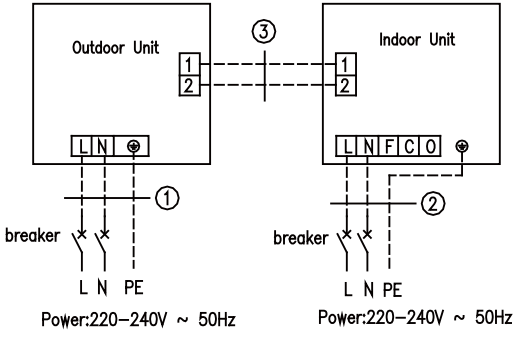
Single-phase units (12K~30K)



U2RS-12+V2DI-12
U2RS-18+V2DI-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+V2DI-24
U2RS-30+V2DI-30
①. Power cord 3×2.5mm^2(H07RN-F)
②. Power cord 3×1.0mm^2(H05RN-F)
③. Communication Cords 2×0.75mm^2(H05RN-F)

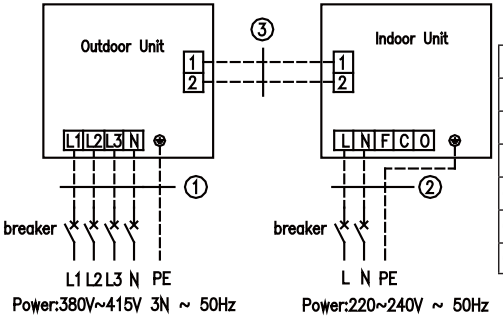
Single-phase units (36K~50K)



U2RS-30+V2DI-36
U2RS-45+V2DI-45
①. Power cord 3×2.5mm^2(H07RN-F)
②. Power cord 3×1.0mm^2(H05RN-F)
③. Communication Cords 2×0.75mm^2(H05RN-F)

U2RS-50+V2DI-50
①. Power cord 3×6.0mm^2(H07RN-F)
②. Power cord 3×1.0mm^2(H05RN-F)
③. Communication Cords 2×0.75mm^2(H05RN-F)

Three-phase units



U2RT-36+V2DI-36
U2RT-45+V2DI-45
U2RT-50+V2DI-50
U2RT-60+V2DI-60
①. Power cord 3×2.5mm^2(H07RN-F)
②. Power cord 3×1.0mm^2(H05RN-F)
③. Communication Cords 2×0.75mm^2(H05RN-F)

Fig.42

(5). Electric wiring of indoor unit side

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

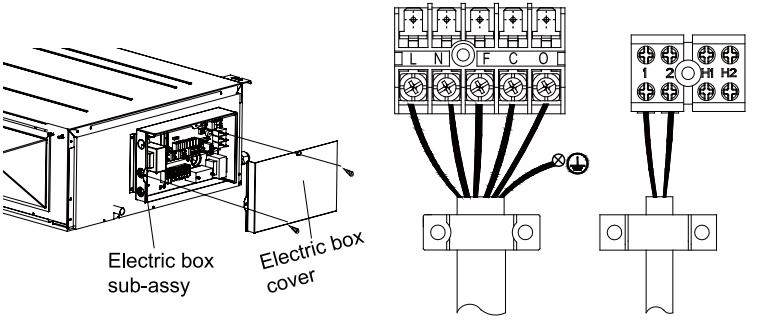


Fig.43

The F, C, O connect to the COMMOM, CLOSE and OPEN terminal of the fresh air valve respectively.

⚠ CAUTION!
①. The power cord and the wire of the fresh air valve are high-voltage, while the communication cord and connection wire of the wired controller are low-voltage. They should run separately against electromagnetic interference.
②. The high-voltage and low-voltage lines should pass through the rubber rings at different electric box covers.
③. Do not bundle the connection wire of the wired controller and the communication cord together, or arrange them in parallel, otherwise improper operation would occur.
④. The high-voltage and low-voltage lines should be fixed separately and securely, with internal big clamps for the former and small clamps for the latter.
⑤. Tighten the indoor/outdoor connection cord and power cord respectively on the terminal boards with screws. Faulty connection may cause a fire.
⑥. If the indoor unit connection cord (to the outdoor unit) and power supply are wired incorrectly, the air conditioner may be damaged.

⑦. Connect the indoor unit connection cord properly based on the corresponding marks as shown in Fig.42.
⑧. Ground both the indoor and outdoor units by attaching a ground wire.
⑨. Unit shall be grounded in compliance with the applicable local and national codes.

(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:

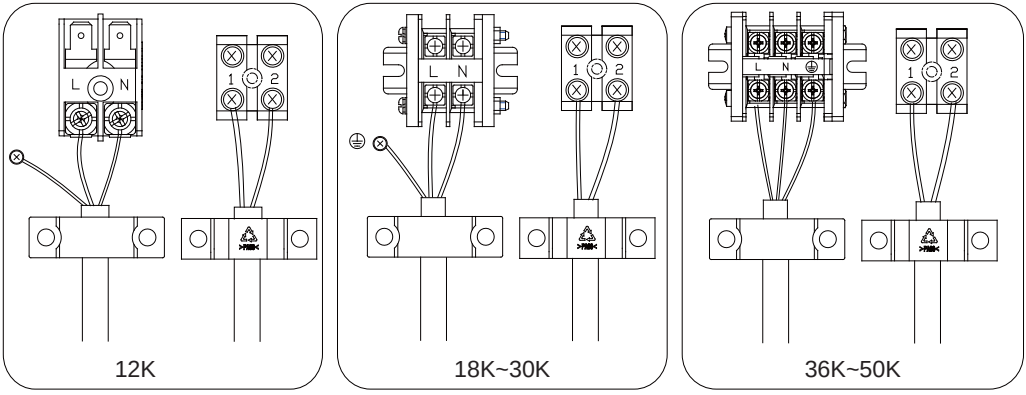


Fig.44

Three-phase:

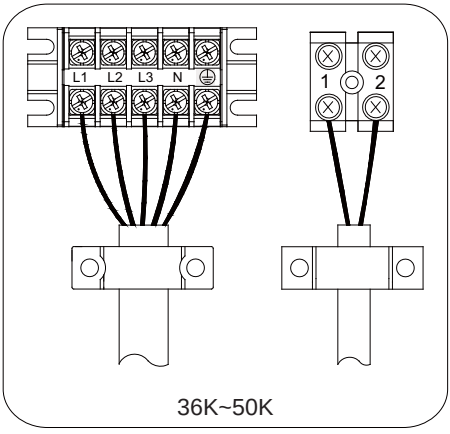


Fig.45

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 Duct Type Unit.

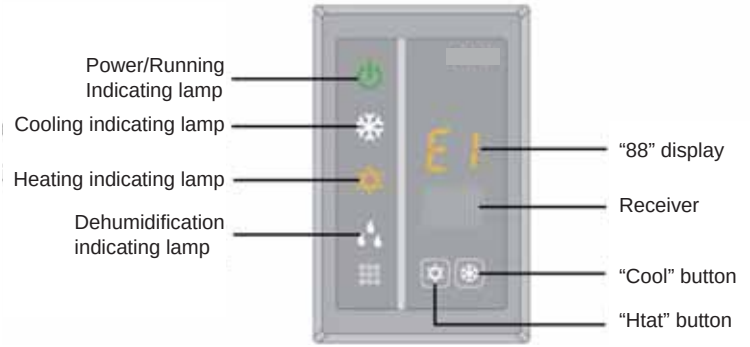


Fig.47

6.2.Working Temperature Range

Table 12

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 Unit Function

7.1 Setting of Double Indoor Room Sensors

This series of ducted air-conditioning unit has two indoor room sensors. One is located at the air intake of the indoor unit and the other one is located inside the wire controller.

User can select one from the two indoor room sensors on the basis of the engineering requirement.

(Refer to the section of wire controller instructions for detailed operation.)

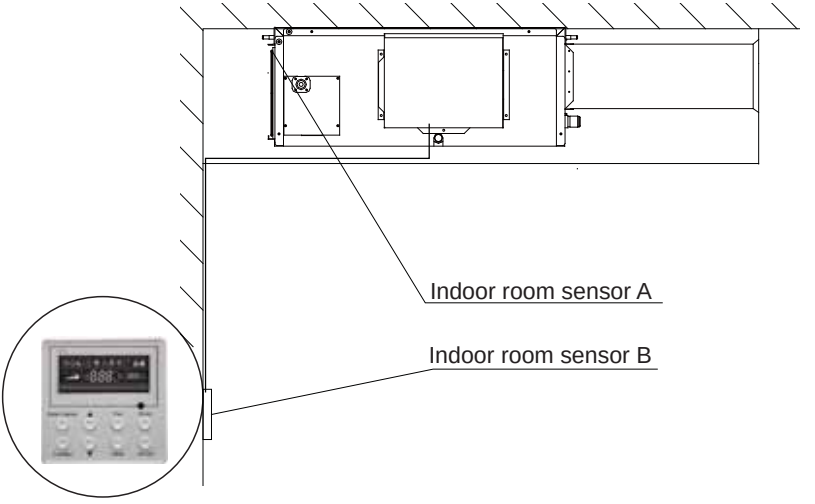


Fig.48

7.2 Checking of Outdoor Ambient Temperature

The outdoor ambient temperature can be checked on the wire controller for the convenience of users before going out. (Refer to the section of wire controller instructions for detailed operation.)

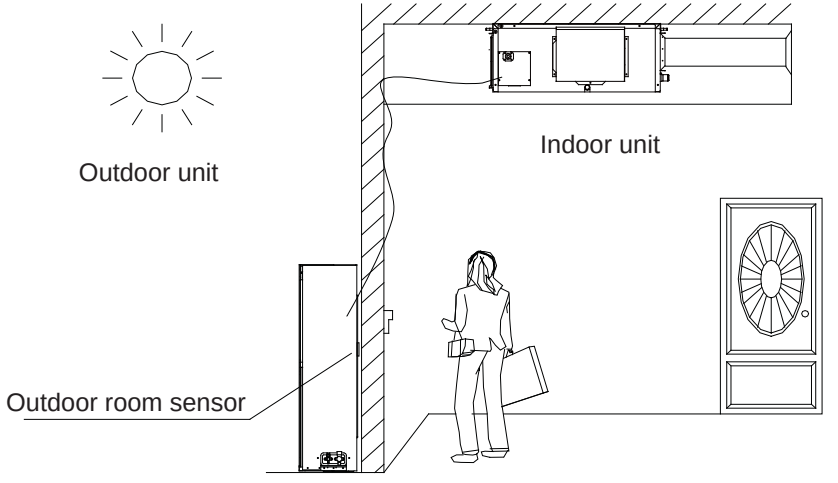


Fig.49

7.3 Fresh Air Control

11-levels control can be realized for the amount of fresh air taken in. The function not only facilitates the health of users, but also controls the electricity consumption loss because of taking in fresh air. This kind of control can be carried out through the wire controller. The function can set at any time, goes into effect at any time, and features very simple operation. (Refer to the section of wire controller instructions for detailed operation.)

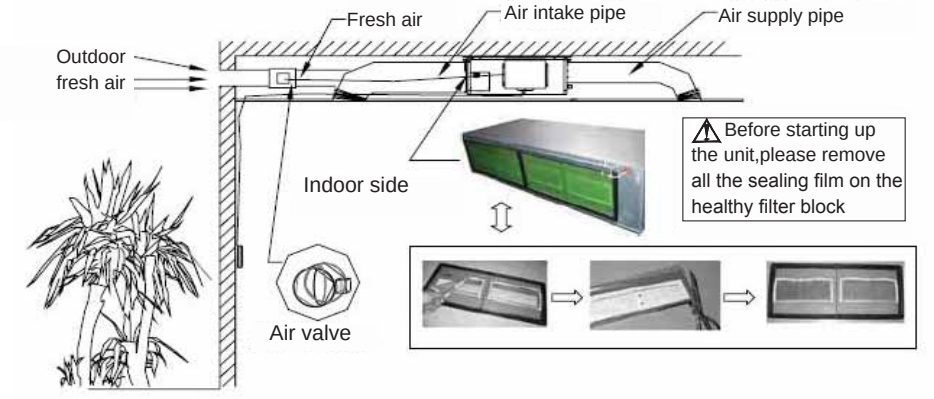


Fig.50

8 Troubleshooting and Maintenance

8.1 Troubleshooting

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

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

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

8.2 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.

Note:

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 gasolene, 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.)

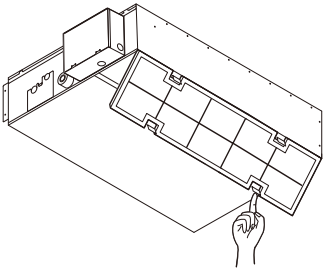
If dirt becomes impossible to clean, change the air filter. (Air filter for exchange is optional.)

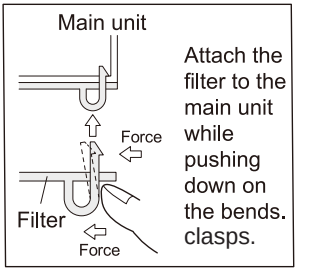
(1). Removing the air filter from the duct.

(2). Cleaning the air filter

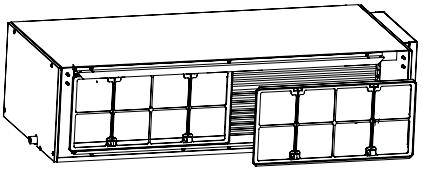
Remove dust from the air filter using a vacuum cleaner and gently rinse them in cool water. Do not use detergent or hot water to avoid filter shrinking or deformation. After cleaning dry them in the shade.

12/18k:





24~60k:



Press the return air inlet filter downward against the guide groove sponge and take it off along the arrow direction.There are two return air inlet filters.

(3). Replacing the air filter

Reinstall the filter as before.

Notes:

Περιεχόμενα

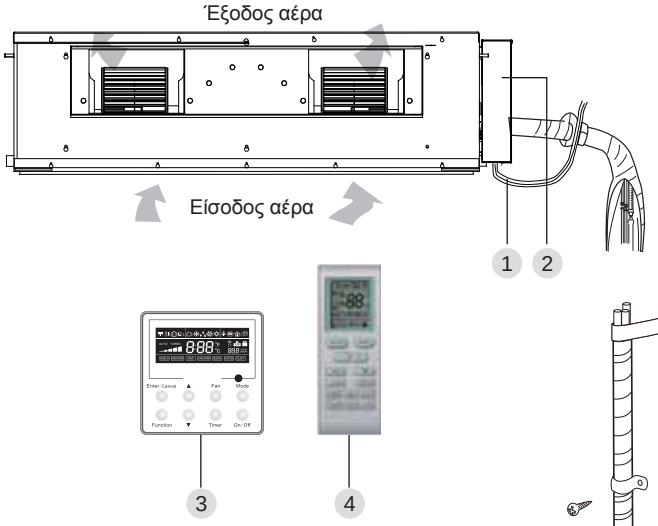
1 Προφυλάξεις Ασφαλείας

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

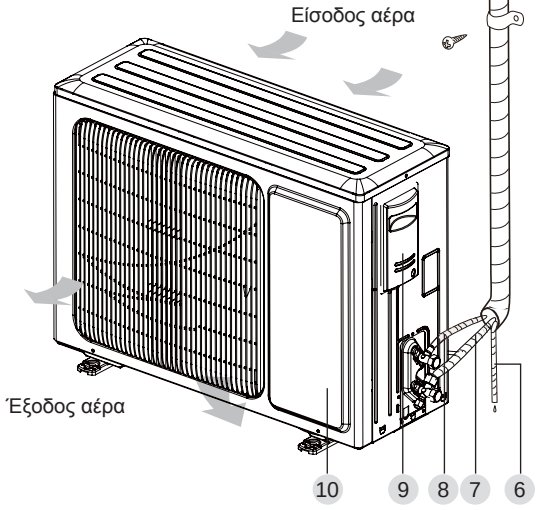
⚠ Προειδοποίηση!
(1). Για την σωστή λειτουργία της μονάδας, εγκαταστήστε τη σύμφωνα με τις οδηγίες αυτού του εγχειριδίου
(2). Συνδέστε την εσωτερική και εξωτερική μονάδα με τις σωληνώσεις και τα καλώδια με τα πρότυπα του κατασκευαστή. Το εγχειρίδιο εγκατάστασης περιγράφει τις σωστές συνδέσεις χρησιμοποιώντας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

2 Διαστάσεις της μονάδας και κύρια μέρη

Εσωτερική μονάδα



Εξωτερική μονάδα



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

εικ.1

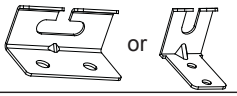
⚠ Σημείωση!
①. Η σωλήνα σύνδεσης και ο αεραγωγός θα πρέπει να προετοιμαστούν από τον χρήστη
②. Η μονάδα έρχεται εξοπλισμένη με ορθογώνιο αεραγωγό

3 Προετοιμασία για την εγκατάσταση

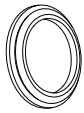
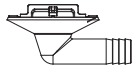
3.1 Βασικά εξαρτήματα

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

Πίνακας 1

Εξαρτήματα εσωτερικής μονάδας				
No.	Ονοματολογία	Εμφάνιση	Ποσότητα	Χρήση
1	Ενσύρματο χειριστήριο		1	Για τον έλεγχο της εσωτερικής μονάδας
2	Κρέμαση		4	Για να στερεώσετε την εσωτερική μονάδα
3	Παξιμάδι με δακτύλιο		8	Για να στερεώσετε το άγκιστρο στο πλαίσιο της μονάδας
4	Παξιμάδι με δακτύλιο		4	Για να στερεώσετε το άγκιστρο στο πλαίσιο της μονάδας
5	Παξιμάδι		4	Για να χρησιμοποιηθεί με το μπουλόνι κρέμασης για την εγκατάσταση της μονάδας
6	Δακτύλιος		4	Για να χρησιμοποιηθεί με το μπουλόνι κρέμασης για την εγκατάσταση της μονάδας
7	Μόνωση		1	Για την μόνωση του σωλήνα αερίου
8	Μόνωση		1	Για την μόνωση του σωλήνα υγρού
9	Συνδετήρας		8	Για να σφίξετε τον σπόγγο
10	Παξιμάδι		1	Για να συνδέσετε τη σωλήνα υγρού
11	Παξιμάδι		1	Για να συνδέσετε τη σωλήνα αερίου

Πίνακας 2

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

3.2 Επιλογή της θέσης εγκατάστασης

⚠ Προειδοίηση!
Η μονάδα πρέπει να εγκατασταθεί σταθερά ώστε να αντέχει το βάρος της μονάδας, αλλίως μπορεί να προκληθεί πτώση.
⚠ Προσοχή!
① . Μην τοποθετείτε τη μονάδα σε μέρη όπου υπάρχει κίνδυνος διαρροής ευφλέκτων αερίων
② . Μην τοποθετείτε τη μονάδα κοντά σε πηγές θερμότητας, ατμού ή εύφλεκτων αερίων
③ . Τα παιδιά κάτω 10 ετών θα πρέπει να επιβλέπονται για να μην χρησιμοποιούν τη μονάδα.

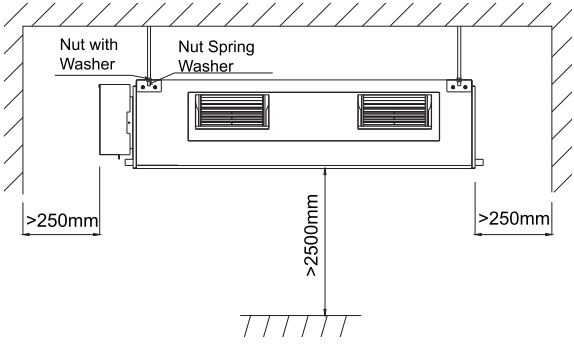
Επιλέξτε τη θέση εγκατάστασης με τονπελάτη όπως περιγράφεται παρακάτω:

3.2.1 Εσωτερική μονάδα

(1). Εγκαταστήστε τη μονάδα σε μέρος που μπορεί να αντέξει το βάρος της μονάδας

(2). Η είσοδος και η έξοδος του αέρα δεν πρέπει να φράσονται ώστε ο αέρας να φτάνει σε όλο τον χώρο.

(3). Αφήστε χώρο για την συντήρηση όπως φαίνεται στην εικ.2



εικ.2

(4). Εγκαταστήστε τη μονάδα σε μέρος που μπορεί να εγκαταστασθεί εύκολα ο αγωγός αποστράγγισης

(5). Η απόσταση από την οροφή θα πρέπει να είναι όσο το δυνατό μεγαλύτερη για να είναι εύκολη η συντήρησή της.

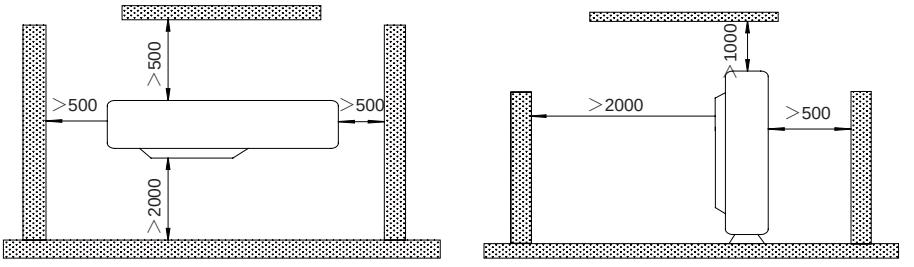
3.2.2 Εξωτερική Μονάδα

⚠ Προειδοποίηση!
① Τοποθετήστε τη μονάδα σε μέρος όπου η κλιση δεν θα είναι πάνω από 5º
② . Κατά την εγκατάσταση, εάν η εξωτερική μονάδα είναι εκτεθειμένη σε ισχυρούς ανέμους βεβαιωθείτε πως είναι σταθερά στερεωμένη.

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

1. Εγκαταστήστε την εξωτερική μονάδα σε μέρη μακρια από βρωμίες ή βροχή
2. Τοποθετήστε την εσωτερική μονάδα σε μέρος 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 μπλοκάρεται 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 3

Item / Μοντέλο	Διατομή σωλήνα (Inch)		Μέγιστο Μήκος Σωληνώσεων (m)	Μέγιστη υψομετρική διαφορά ανάμεσα στην εσωτερική και εξωτερική μονάδα (m)	Διαμέτρος σωλήνα αποστράγγισης (εξωτερική διάμετρος x πάχος τοίχου)
	Υγρό	Αέριο			
V2DI-12 U2RS-12	1/4	3/8	20	15	Φ30X1.5
V2DI-18 U2RS-18	1/4	1/2	20	15	Φ30X1.5
V2DI-24 U2RS-24	3/8	5/8	30	15	Φ20X1.2
V2DI-30 U2RS-30	3/8	5/8	30	15	Φ20X1.2
V2DI-36 U2RS-36	3/8	5/8	30	15	Φ20X1.2
V2DI-45 U2RS-45	3/8	5/8	50	30	Φ20X1.2
V2DI-50 U2RS-50	3/8	5/8	50	30	Φ20X1.2
V2DI-36 U2RT-36	3/8	5/8	30	15	Φ20X1.2
V2DI-45 U2RT-45	3/8	5/8	50	30	Φ20X1.2
V2DI-50 U2RT-50	3/8	5/8	50	30	Φ20X1.2
V2DI-60 U2RT-60	3/8	3/4	50	30	Φ20X1.2

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 4

Εσωτερικές μονάδες	Παροχή ρεύματος	Ασφάλεια	Ασφαλειοδιακόπτης	Ελάχιστες διαστάσεις καλωδίου
	V/Ph/Hz	A	A	mm^2
12K~45K	220-240V~ 50Hz	3.15	6	1.0
50K~60K	220-240V~ 50Hz	5	6	1.0

Πίνακας 5

Μοντέλο	Παροχή ρεύματος	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 τουλαχιστον 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 40ºC και αντοχή ως τους 90ºC (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 40ºC. Εάν οι συνθήκες λειτουργίας μεταβληθουν, τότε θα πρέπει να γίνει τροποποίηση σύμφωνα με τους εθνικούς κανονισμούς.
6. Χρησιμοποιήστε 2 καλώδια 0,75mm^2 για την ενδοεπικοινωνία ανάμεσα στην εσωτερική και την εξωτερική μονάδα με μέγιστο μηκος 50m. Παρακαλούμε επιλέξτε το κατάλληλο μήκος καλωδίου ανάλογα με την εγκατάσταση. Τα καλώδια ενδοεπικοινωνίας δεν πρεπει να είναι στριμμένα μεταξύ τους. Για τη μονάδα (≤30K) προτείνεται η χρήση καλωδίου με μήκος 8m.
7. Χρησιμοποιήστε 2 καλώδια 0,75mm^2 για την ενδοεπικοινωνία ανάμεσα στην εσωτερική και την εξωτερική μονάδα με μέγιστο μηκος 30m. Παρακαλούμε επιλέξτε το κατάλληλο μήκος καλωδίου ανάλογα με την εγκατάσταση. Τα καλώδια ενδοεπικοινωνίας δεν πρεπει να είναι στριμμένα μεταξύ τους. Προτείνεται η χρήση καλωδίου με μήκος 8m.
8. Η διατομή του καλωδίου ενδοεπικοινωνίας δεν πρέπει να είναι μικρότερη από 0,75mm2

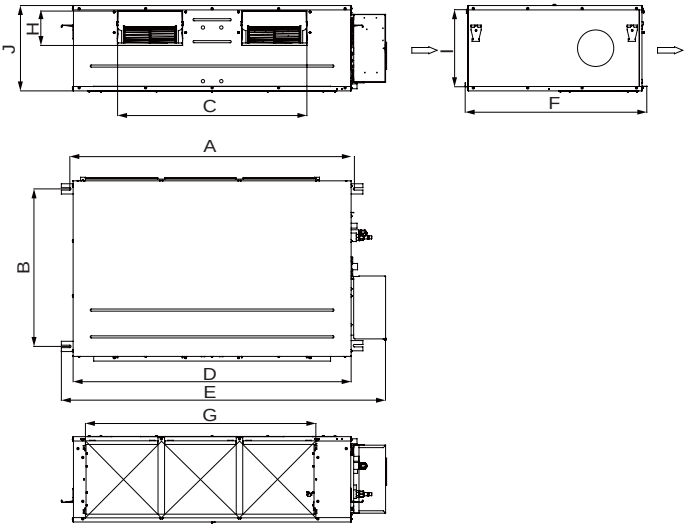
4 Εγκατάσταση Της Μονάδας

4.1 Εγκατάσταση της εσωτερικής μονάδας

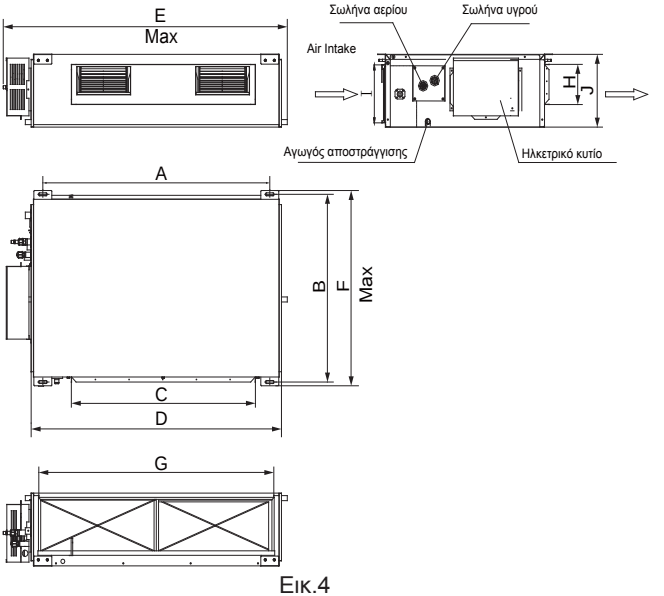
4.1.1 Διαστάσεις εσωτερικής μονάδας

⚠ Προειδοποίηση!
① . Εγκαταστήστε τη μονάδα σε μερος που μπορεί να αντέξει εως 5 φορές το βάρος της μονάδας χωρίς να αυξηθεί η στάθμη θορύβου ή να δημιουργηθούν κραδασμοί. ② Εάν η εγκατάσταση της μονάδας δεν είναι σταθερή, η μονάδα μπορεί να πέσει και να προκληθεί τραυματισμός ③ Εάν η εγκατάσταση γίνει μόνο με το πλάισιο υπάρχει κίνδυνος να μην είναι σταθερή. Δώστε προσοχή

Για τις μονάδες: 12~18K, 50k,60k



Για τις μονάδες: 24~45K



Εικ.4

Πίνακας 6

Item / Μοντέλο	A	B	C	D	E	F	G	H	I	J
V2DI-12	932	430	738	892	998	721	738	125	203	266
V2DI-18										
V2DI-24	1101	515	820	1159	1239	558	1002	160	235	268
V2DI-30										
V2DI-36	1011	748	820	1115	1226	775	979	160	231	290
V2DI-45										
V2DI-50	1177	646	782	1150	1340	751	953	141	316	350
V2DI-60										

4.1.2 Διάνοιξη οπών και τοποθέτηση των μπουλονιών(εικ5)

Με το περίγραμα εγκατάστασης, ανοίξτε τις οπές για τα μπουλόνια (4 οπές) Εικ. 5)

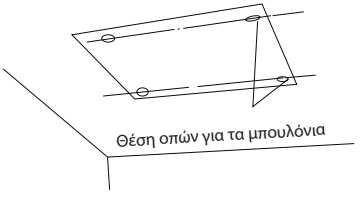
4.1.3 Τοποθέτηση των αναρτήσεων

(1). Τοποθετήστε τα μπουλόνια στην οροφή σε σταθερό και γερό μέρος που μπορεί να κρεμαστεί η μονάδα. Με ένα τρυπάνι ανοιξτε οπές διαμέτρου 12,7mm(1/2") (εικ.6)

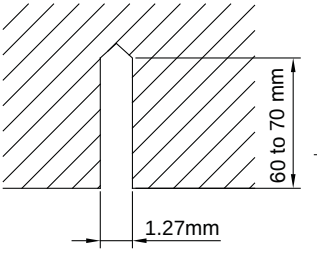
(2). Εισάγετε τα μπουλόνια στήριξης στις οπές και οδηγήστε τη σφήνα με ένα σφυρί (εικ.7)

(3). Τοποθετήστε την ανάρτηση στη μονάδα (εικ.8)

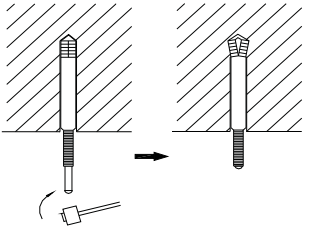
(4). Οδηγήστε τις αναρτήσεις της μονάδας από τα μπουλόνια που είναι τοποθετημένα στην οροφή και στηρίξτε τη μονάδα με το ειδικό παξιμάδι (εικ9)



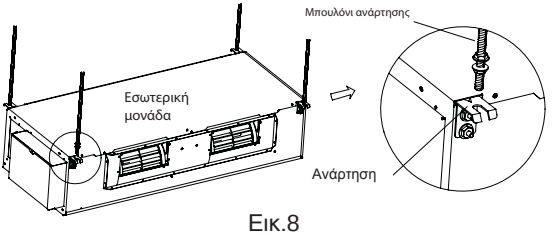
Εικ. 5



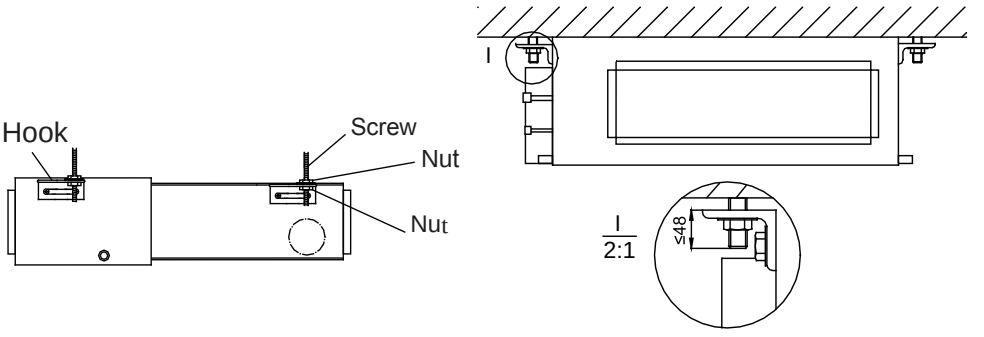
Εικ.6



Εικ.7



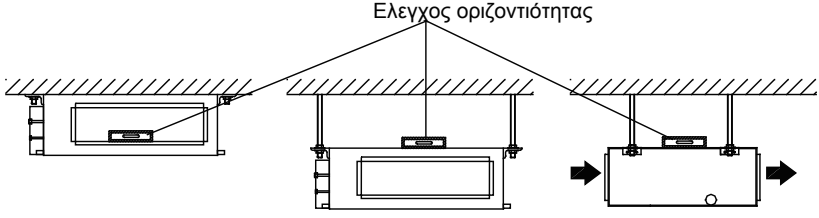
Εικ.8



Εικ.9

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

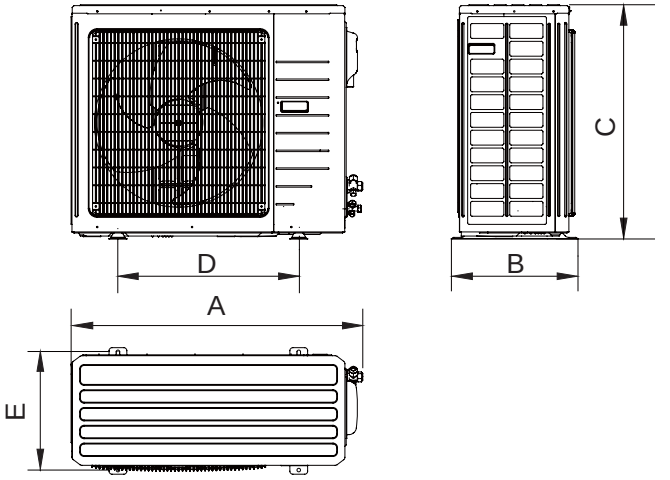


Εικ.10

4.2 Εγκατάσταση Της Εξωτερικής Μονάδας

⚠ **Προειδοποιηση!**
①. Βεβαιωθείτε πως η μονάδα δεν θα έχει κλίση πάνω από 5º
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.11

Πίνακας 6 Μονάδα μέτρησης: mm

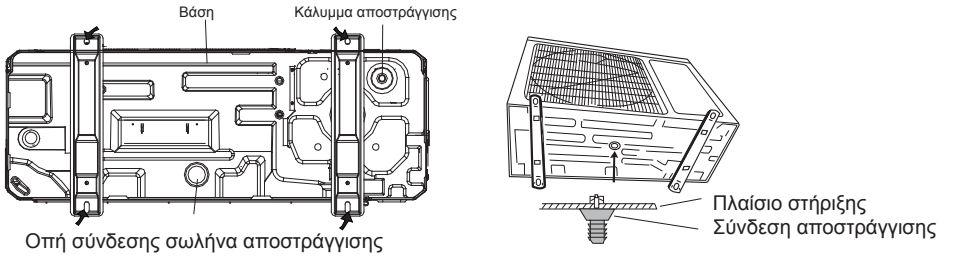
Item / Μοντέλο	A	B	C	D	E
U2RS-12	848	320	540	540	286
U2RS-18	955	396	700	560	360
U2RS-24	980	427	790	610	395
U2RS-30					
U2RS-36	1107	440	1100	631	400
U2RT-36					
U2RS-45	958	412	1349	572	376
U2RT-45					
U2RS-50					
U2RT-50					
U2RT-60	1085	427	1365	620	395

4.2.2 Αποστράγγιση συμπυκνωμάτων της εξωτερικής μονάδας (μόνο για μονάδες τύπου αντλίας θερμότητας)(εικ.12)

(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.

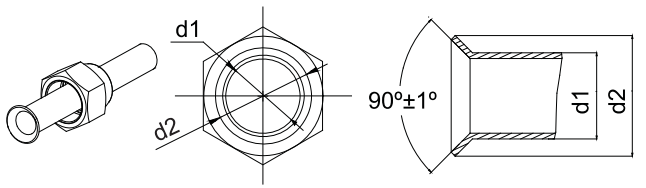


Εικ.12

4.3 Εγκατάσταση Του Συνδετικού Σωλήνα

4.3.1 Διαδικασία Διαστολής

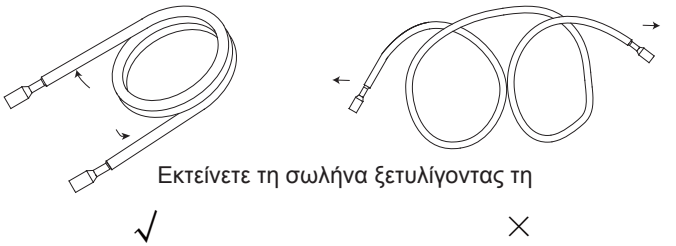
1. Κόψτε το σωλήνα σύνδεσης και απομακρύνετε τις φρέζες
2. Κρατήστε το σωλήνα προς τα κάτω για να αποτρέψετε την εισροή φρεζών εντός του σωλήνα.
3. Αφαιρέστε τα παξιμάδια και τις βάνες από τη εξωτερική μονάδα και από τη σακούλα που υπάρχει στην εσωτερική μονάδα. Τοποθετήστε τα στον σωλήνα σύνδεσης και με εργαλείο διαστολής διαστείλετε τον σωλήνα.
4. Βεβαιωθείτε πως η διαστολή έχει γίνει ομοιόμορφα και πως δεν υπάρχουν ρωγμές (εικ.13)



Εικ.13

4.3.2 Λύγισμα Σωλήνων

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

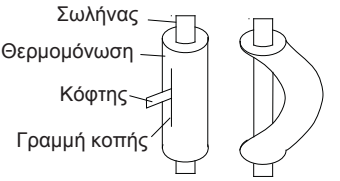


Εικ.14

(2). Μην λυγίζετε τους σωλήνες σε γωνία πάνω από 90º

(3). Όταν οι σωλήνες λυγίζονται και τεντώνονται συνεχώς το υλικό σκληραίνει και γίνεται δύσκολο να τους λυγίσετε ή τεντώσετε. Μην λυγίζετε ή τεντώνετε τους σωλήνες πάνω απο 3 φορές.

(4). Μην λυγίζετε τη σωλήνα όπως είναι διότι μπορεί να τσακίσει. Κόψτε πρώτα την μόνωση όπως φαίνεται στην εικ.15 και λυγίστε αφού εμφανιστεί η σωλήνα. Αφού τη λυγίσετε όπως θέλετε τοποθετήστε πάλι τη μόνωση και ασφαλείστε με ταινία.



Εικ.15

⚠ 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

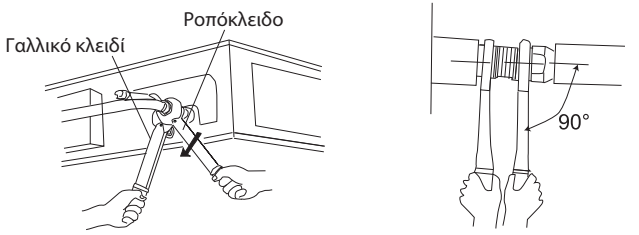
Αφαιρέστε τα καλύμματα από τις σωλήνες

⚠ 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.

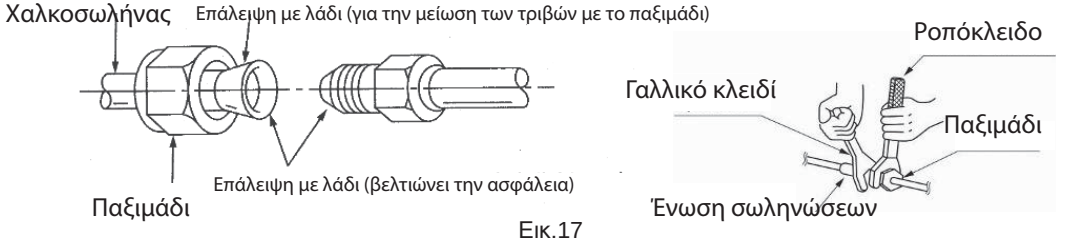
Κεντράρετε την σωλήνα με το άνοιγμα στην εσωτερική μονάδα και στρίψτε το παξιμάδι με το χέρι

⚠ Προσοχή!
Κρατήστε το ροπόκλειδο από την λαβή του και κρατήστε το στη σωστή γωνία με τη σωλήνα όπως φαίνεται στην εικ.16 ώστε να σφίξετε σωστά το παξιμάδια

Όταν σφίξετε το παξιμάδι με το χέρι, τότε χρησιμοποιείστε το ροπόκλειδο για να το σφίξετε.



Εικ.16



Εικ.17

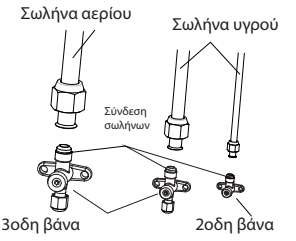
Πίνακας 7 ροπή στρέψης του παξιμαδιού

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.



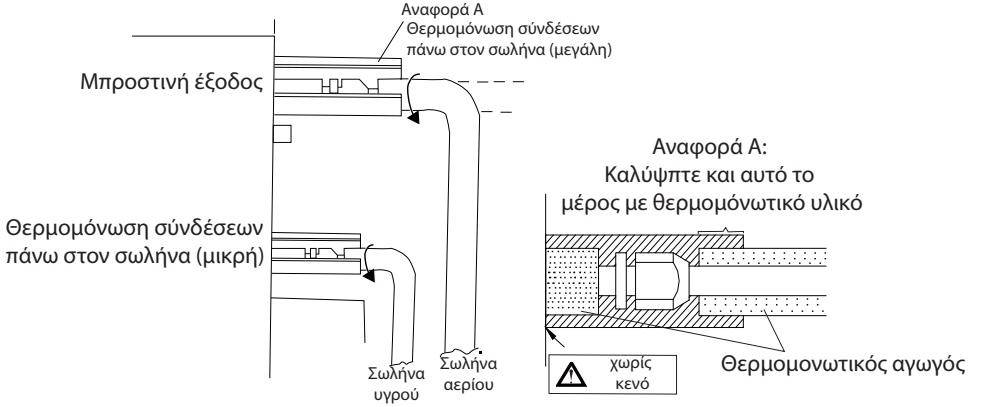
Εικ.18

4.3.5 Έλεγχος Των Συνδέσεων Για Διαρροές

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

4.3.6 Θερμομόνωση Στις Συνδέσεις Των Σωληνώσεων (Μόνο Στην Εσωτερική)

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

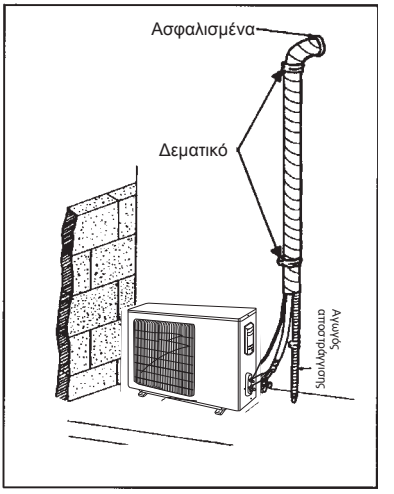


Εικ.19

4.3.7 Γραμμή Υγρού Και Αγωγός Αποστράγγισης

Εάν η εξωτερική μονάδα είναι εγκατεστημένη χαμηλότερα από την εσωτερική (εικ.20)

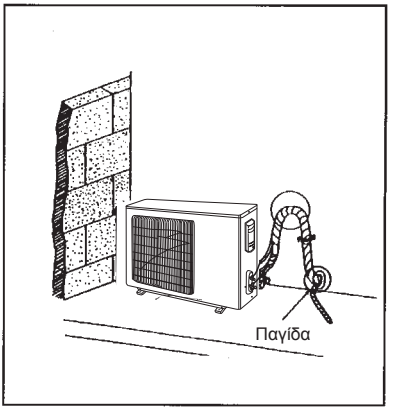
1. Ο αγωγός αποστράγγισης θα πρέπει να είναι πάνω από το δάπεδο και η άκρη του να μην βρίσκεται μέσα σε νερό. Όλες οι σωληνώσεις θα πρέπει να είναι στερεωμένες στον τοίχο με ειδικά δεματικά.
2. Η στερέωση των σωλήνων θα πρέπει να έχει γίνει από πάνω ως κάτω
3. Όλες οι σωλήνες θα πρέπει να είναι δεμένες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



Εικ.20

Εάν η εξωτερική μονάδα είναι εγκατεστημένη ψηλότερα από την εσωτερική (εικ.21)

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.21

4.4 Κενό Και Έλεγχος Διαρροής Αερίου

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

4.4.1 Κενό

(1). Αφαιρέστε τα καλύμματα από τις βάνες.

(2). Συνδέστε τον εύκαμπτο αγωγό από την πλευρά χαμηλής πίεσης της βαλβίδας πολλαπλής στη θυρίδα επίσκεψης της βάνας αερίου, ενώ οι βάνες θα πρέπει να είναι κλειστές για την αποφυγή διαρροής ψυκτικού μέσου.

(3). Συνδέστε τον εύκαμπτο αγωγό για το κενό στην αντλία κενού.

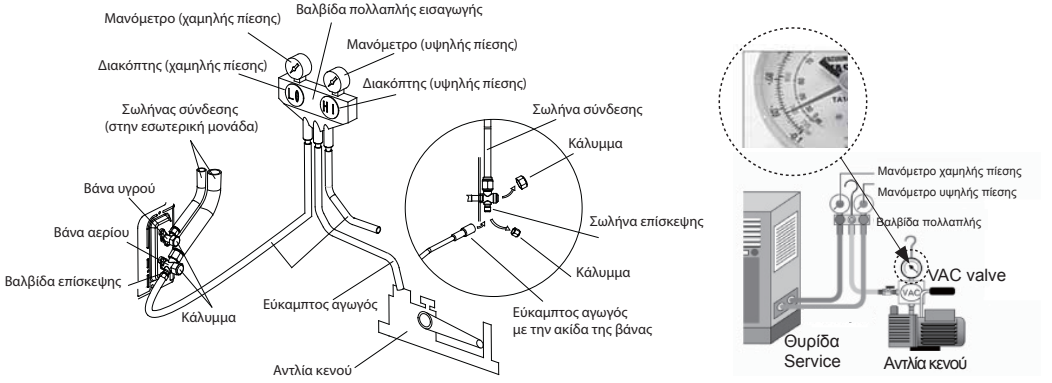
(4). Ανοίξτε τον διακόπτη στην πλευρά της χαμηλής πίεσης της βαλβίδας πολλαπλής και ξεκινήστε το κενό. Ο διακόπτης στην πλευρά υψηλής πίεσης της βαλβίδας πολλαπλής πρέπει να είναι κλειστή, αλλιώς δεν θα γίνει κενό.

(5). Η διάρκεια του κενού εξαρτάται από την απόδοση της μονάδας. Γενικά είναι 15λεπτα για τις 12κ, 20λεπτα για τις 18κ, 30λεπτα για τις 24/30/36K 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). Ανοιξτε 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 αεριου 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.22

Σημείωση: Στις μεγάλες μονάδες, υπάρχουν βαλβίδες επίσκεψης και στην βάνα υγρού και στη βάνα αερίου. Για γρηγορότερη εκκένωση μπορείτε να συνδέετε και τους δύο εύκαμπτους αγωγούς της βαλβίδας πολλαπλής στις 2 βαλβίδες επίσκεψης.

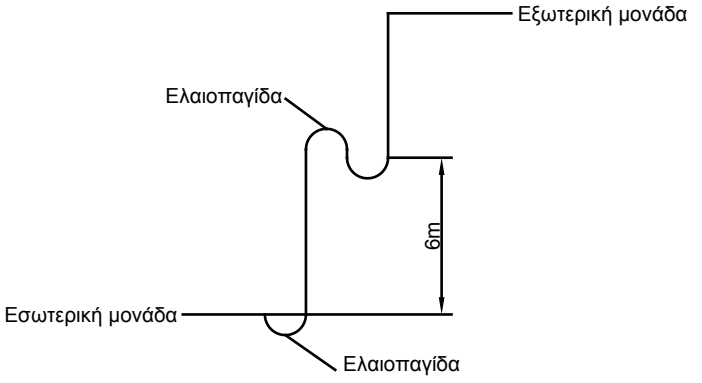
4.4.2 Επιπλέον Πλήρωση

Η μονάδα είναι εργοστασιακά πληρωμένη με ψυκτικό υγρό για μήκος σωληνώσεων εώς 5m.
Όταν το μήκος σωληνώσεων είναι πάνω από 7m, χρειάζεται επιπλέον πλήρωση.
Για την επιπλέον πλήρωση, δείτε τον πίνακα 8.

Πίνακας 8

Μοντέλο / Item	Επιπλεόν ποσότητα ανά επιπλεόν μέτρο
12~18K	30g/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.



4.5 Εγκατάσταση Του Σωλήνα Αποστράγγισης

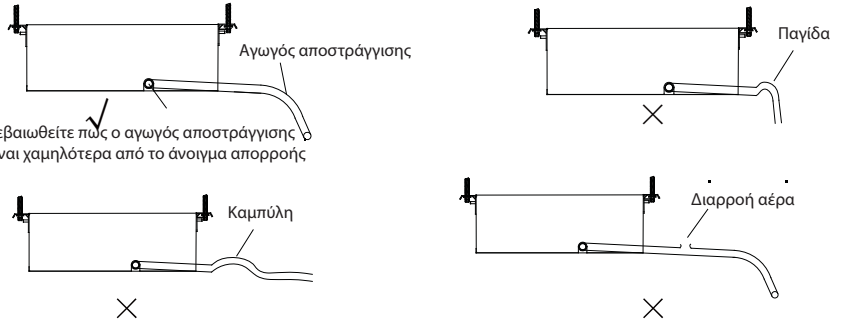
4.5.1 Εγκατάσταση Του Αγωγού Αποστράγγισης

⚠ Προσοχή!
Εγκαταστήστε τον αγωγό αποστράγγισης σύμφωνα με τις οδηγίες αυτού του εγχειριδίου και φροντίστε ο χώρος να είναι θερμός για την αποφυγή συμπυκνωμάτων. Προβήματα με τις σωληνώσεις μπορεί να οδηγήσουν σε διαρροή νερού.

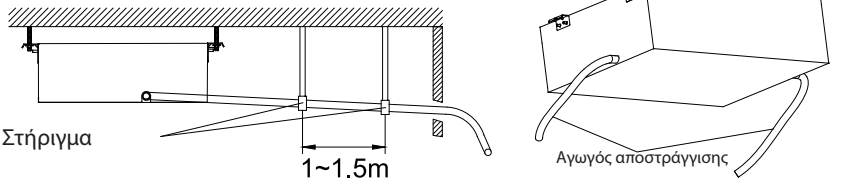
(1). Τοποθετείστε τον αγωγό αποστράγγισης με κλίση προς τα κάτω (1/50 ως 1/100) χωρίς τη χρήση ανυψωτών ή παγίδων (εικ.23)

(2). Όταν ο αγωγός έχει μεγάλο μήκος, τοποθετίστε στηρίγματα (εικ.24)

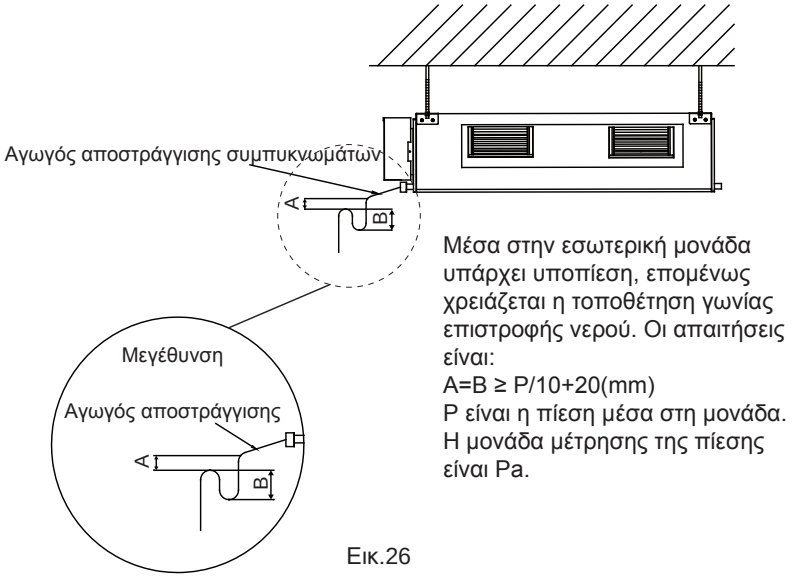
(3). Χρησιμοποιείτε πάντα αγωγό αποστράγγισης κατάλληλα μονωμένο



Εικ.23



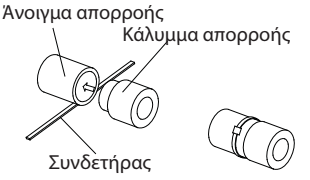
Εικ.24 Εικ.25



Μέσα στην εσωτερική μονάδα υπάρχει υποπίεση, επομένως χρειάζεται η τοποθέτηση γωνίας επιστροφής νερού. Οι απαιτήσεις είναι:
A=B ≥ P/10+20(mm)
P είναι η πίεση μέσα στη μονάδα.
Η μονάδα μέτρησης της πίεσης είναι Pa.

Εικ.26

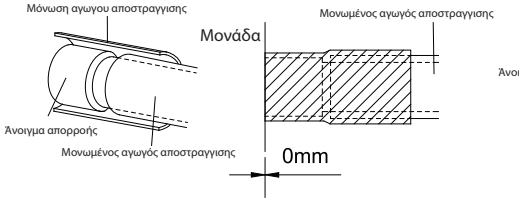
(5). Χρησιμοποιείστε τον κατάλληλο αγωγό αποστράγγισης και δέιτε τον πίνακα 3 για το μέγεθός του
(6). Υπάρχει άνοιγμα απορροής και στη δεξιά και στην αριστερή πλευρά. Επιλέξτε την καταλληλότερη ανάλογα με τις συνθήκες (εικ.25)
(7). Εργοστασιακά το άνοιγμα είναι από την αριστερή πλευρά (πλευρά που βρίσκεται το ηλεκτρικό κυτίο) και το άνοιγμα στη δεξιά πλευρά είναι ταπωμένο
(8). Όταν χρησιμοποιήσετε το άνοιγμα στη δεξιά πλευρά, επανατοποθετήστε το κάλυμα στο αριστερό άνοιγμα (εικ.27)



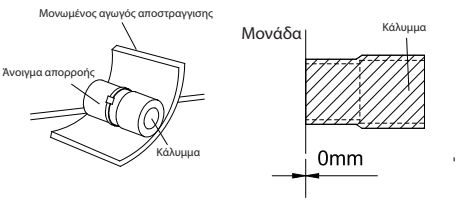
Εικ.27

⚠ Προσοχή!
Βεβαιωθείτε πως το κάλυμα του ανοίγματος που δεν χρησιμοποιείται έχει τοποετηθεί σωστά και έχει στερεωθεί με ειδικό ναύλον. Σε αντίθετη περίπτωση μπορεί να προκληθεί διαρροή νερού κατά τη λειτουργία της ψύξης.

(9). Βεβαιωθείτε πως έχετε μονώσει το σημείο που έχει συνδεθεί ο αγωγός αποστράγγισης με το άνοιγμα απορροής (εικ.28)
(10). Πρέπει επίσης να μονώνεται και το άνοιγμα που δεν χρησιμοποιείται. (εικ.29)



Εικ.28

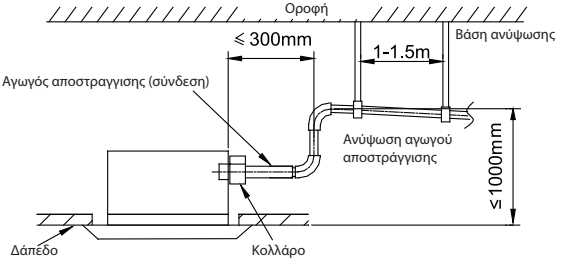


Εικ.29

(11). Από τη μια μεριά της μόνωσης υπάρχει κόλα, ώστε αφού αφαιρέσετε το προστατευτικό χαρτί να μπορέσετε να την κολήσετε απευθείας στη σωλήνα

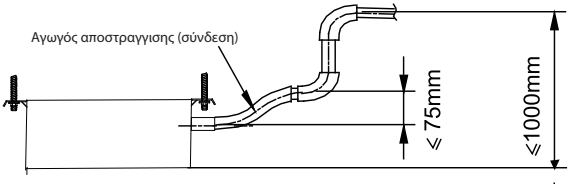
(12). Για τις μονάδες με αντλια συμπυκνωμάτων λάβετε υπόψη τα παρακάτω:

1. Στις μονάδες με αντλία συμπυκνωμάτων μπορέιτε να χρησιμοποιέισετε μόνο το άνοιγμα απορροής που βρίσκεται στην πλέυρά του ηλεκτρικού κυτίου για να συνδέσετε τον αγωγό αποστράγγισης
2. Στον πίνακα 3 θα δείτε τις διαστάσεις του ανοιγματος απορροής για τις μονάδες με αντλία συμπυκνωμάτων, οι οποίες είναι διαφορετικές από αυτές σε μονάδες με φυσική ροή
3. Στις μονάδες με αντλία συμπυκνωμάτων υπάρχουν δυο ανοίγματα απορροής στο κάτω μέρος οι οποίες είναι εργοστασιακά καλυμένες. Μετά το πέρας τις εγκατάστασης μην ξεχάσετε να μονώσετε και αυτά τα ανοιγματα με τον τρόπο που αναφέρθηκε παραπάνω
4. Στην παρακάτω εικ. Φαίνεται πως πρέπει να τοποθετήσετε τον αγωγό αποστράγγισης σε μονάδα με αντλία συμπυκνωμάτων



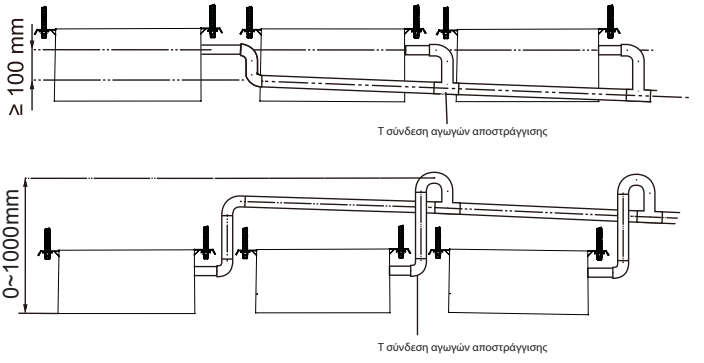
Εικ.30

a. Το κάθετο ύψος του αγωγού αποστράγγισης θα πρέπει να είναι το μέγιστο 75mm, ώστε το άνοιγμα απορροής να μην δέχεται μεγαλύτερες πιέσεις.



Εικ.31

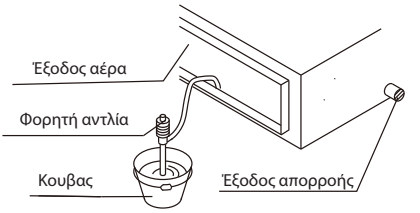
b. Όταν χρησιμοποιούνται πολλοι αγωγοί αποστράγγισης, η εγκατάσταση πρέπει να γίνει όπως φαίνεται στην παρακάτω εικόνα.



Εικ.32

4.5.2 Έλεγχος του αγωγου αποστράγγισης

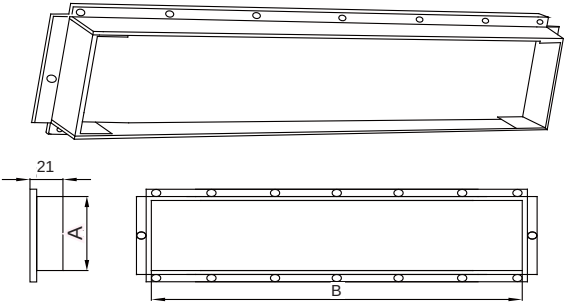
Αφού ολοκληρώσετε την εγκατάσταση, ελέγξτε αν η απορροή είναι ομαλή.
πως φαίνεται στην εικ.23, ρίξτε σιγά 1 λίτρο νερού στη λεκάνη αποχέτευσης και ελέγξτε πως η απορροή γίνεται ομαλά κατά τη λειτουργία της ψύξης.



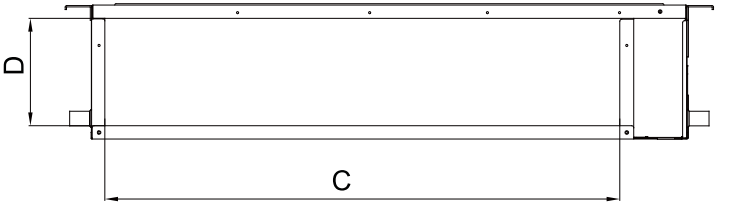
Εικ.33

4.6 Εγκατάσταση του αεραγωγού

4.6.1 Διαστάσεις της εξόδου προσαγωγής αέρα/ της εισόδου επιστροφής αέρα



Εικ.34 Έξοδος προσαγωγής αέρα



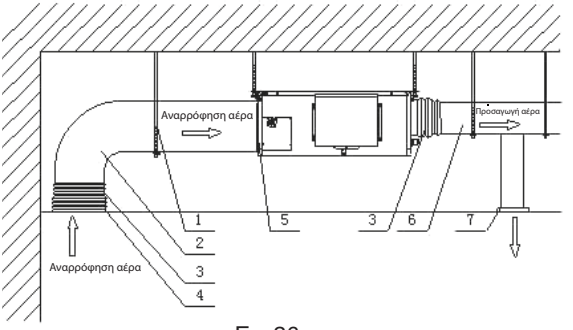
Εικ.35 Είσοδος επιστροφης του αερα

Πίνακας 9

Item / Μοντέλο	Έξοδος προσαγωγής αέρα		Είσοδος επιστροφής αέρα	
	A	B	C	D
V2DI-12	123	736	710	166
V2DI-18	123	736	710	166
V2DI-24	158	818	994	195
V2DI-30	158	818	994	195
V2DI-36	158	818	1000	206
V2DI-45	158	818	1000	206
V2DI-50	157	850	943	286
V2DI-60	157	850	943	286

4.6.2 Εγκατάσταση του αεραγωγού προσαγωγής αέρα

(1). Εγκατάσταση ορθογώνιου αεραγωγού



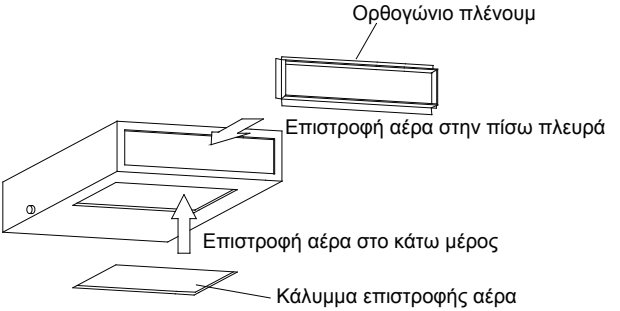
No	Περιγραφή	No	Περιγραφή
1	Ανάρτηση	5	Φίλτρο
2	Αεραγωγός αναρρόφησης αέρα	6	Κεντρικός αεραγωγός προσαγωγής αέρα
3	Αεραγωγός από κανβά	7	Έξοδος προσαγωγής αέρα
4	Αναρρόφηση αέρα		

Εικ.36

⚠ Προσοχή!
①. Το συνολικό μέγιστο μήκος αεραγωγού προκύπτει από το άθροισμα του μέγιστου μήκους του αεραγωγού προσαγωγής αέρα και του μέγιστου μήκους του αεραγωγού επιστροφής αέρα
②. Ο αεραγωγός είναι ορθογώνιος και συνδέεται με την είσοδο/έξοδο αέρα της εσωτερικής μονάδας. Μια από τις εξόδους προσαγωγής αέρα θα πρέπει να μείνει ανοιχτή.

Εγκατάσταση επιστροφής του αέρα από το κάτω μέρος για τις μονάδες 12/18k

(2). Εργοστασιακά η θέση του ορθογώνιου πλένουμ είναι στην πίσω πλευρά της μονάδας και το κάλυμμα για την επιστροφή του αέρα είναι στο κάτω μέρος, όπως φαίνεται στην εικ.37



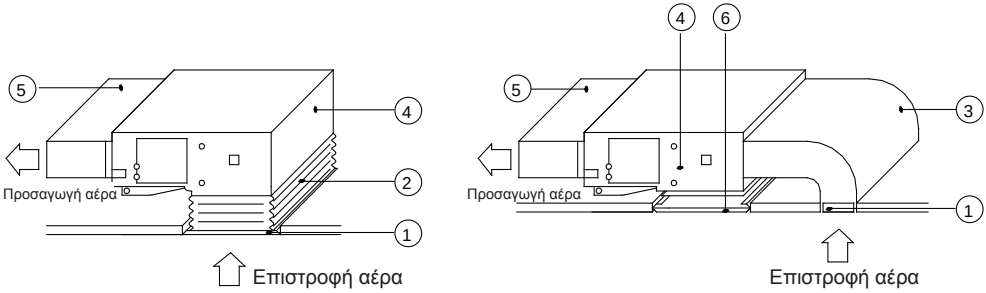
Εικ.37

(3). Εάν είναι επιθυμητή η επιστροφή του αέρα από κάτω, απλά αλλάξτε τη θέση του ορθογώνιου πλένουμ και του καλύματος επιστροφής του αέρα

(4). Συνδέστε το ένα άκρο του αεραγωγού επιστροφής αέρα στην έξοδο επιστροφής της μονάδας με πριτσίνια και το άλλο στο στόμιο επιτροφής του αέρα. Για την καλύτερη και ευκλότερη ρύθμιση του ύψους, θα βοηθούσε ένα κομμάτι αεραγωγού από κανβά το οποίο μπορεί να διπλωθεί και ενισχυθεί από σύρμα σιδήρου 8#

(5). Εάν επιλέξετε την επιστροφή αέρα από την κάτω πλευρά, υπάρχει περίπτωση να παράγεται περισσότερος θόρυβος. Προτείνεται η τοποθέτηση ενός σιγαστήρα και ένα κυτίο στατικής πίεσης για την μείωση του θορύβου

(6). Η μέθοδος εγκατάστασης εξαρτάται από τις συνθήκες του κτηρίου, την συντήρηση κλπ, όπως φαίνεται στην εικ.38



Εγκατάσταση του αεραγωγού επιστροφής (α)

Εγκατάσταση του αεραγωγού επιστροφής (β)

Εικ.38

Πίνακας 10 Εγκατάσταση του αεραγωγού επιστροφής του αέρα

No.	Περιγραφή	No.	Περιγραφή
1	Είσοδος επιστροφής του αέρα (με φίλτρο)	4	Εσωτερική μονάδα
2	Αεραγωγός από κανβά	5	Αεραγωγός προσαγωγής του αέρα
3	Αεραγωγός επιστροφής του αέρα	6	Στόμιο

4.7 Ηλεκτρολογική Σύνδεση

4.7.1 Προφυλάξεις Για Την Συνδεσμολογία

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

⚠ Προσοχή!
①. Η συνολική παροχή θα πρέπει να προκείπτει 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.

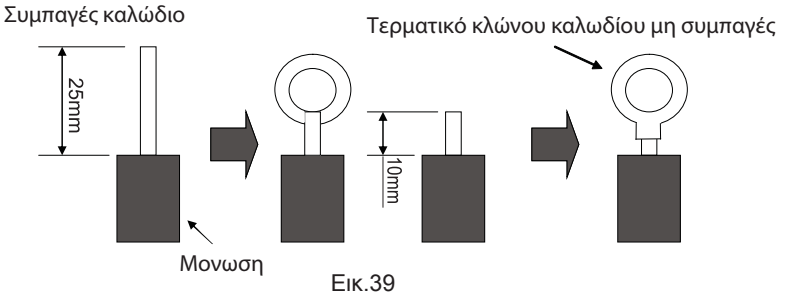
4.7.2 Ηλεκτρική Σύνδεση

(1). Για συμπαγές καλώδιο (εικ.39)

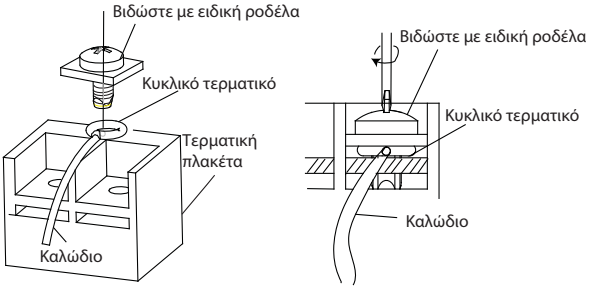
1. Κόψτε το άκρο του καλωδίου με κόπτη, και αφαιρέστε τη μόνωση για περίπου 25mm (15/16")
2. Με ένα κατσαβίδι αφαιρέστε τις βίδες των τερματικών από την πλακέτα.
3. Με ένα μυτοτσίμπιδο λυγίστε το συμπαγές καλώδιο για να σχηματίσετε έναν βρόγχο κατάλληλο για την τερματική βίδα
4. Σχηματίστε τον βρόγχο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

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

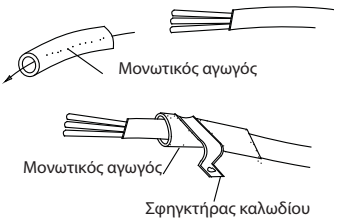
1. Κόψτε το άκρο του καλωδίου με κοπτη, και αφαιρέστε τη μόνωση για περίπου 10mm (3/8")
2. Με ένα κατσαβίδι αφαιρέστε τις βίδες των τερματικών από την πλακέτα.
3. Με τη χρήση μυτοτσίμπιδου στερεώστε σε κάθε άκρο γυμνού καλωδίου ένα τερματικό
4. Τοποθετήστε το καλώδιο και αντικαταστήστε και σφίξτε την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



Εικ.39



Εικ.40



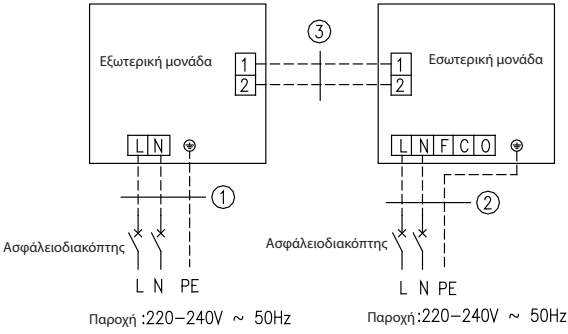
Εικ.41

(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

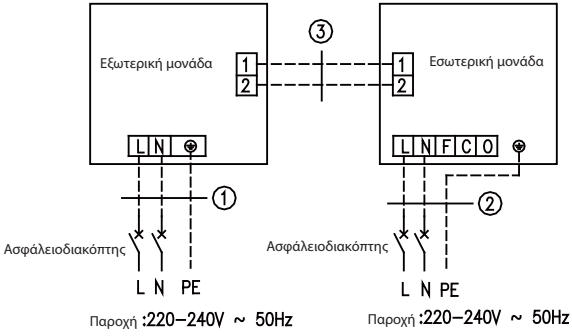
Μονοφασικες μονάδες(12K~30K)



U2RS-12+V2DI-12
U2RS-18+V2DI-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+V2DI-24
U2RS-30+V2DI-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)

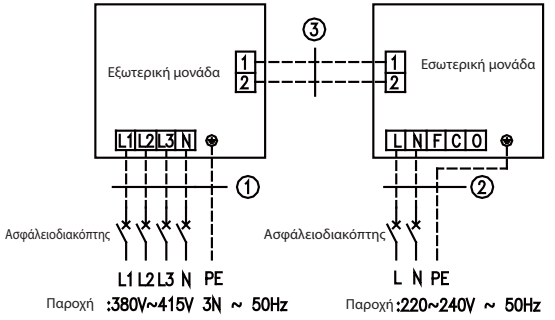
Μονοφασικες μονάδες(36K~50K)



U2RS-30 +V2DI-36
U2RS-45 +V2DI-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 +V2DI-50
① . Παροχικό καλώδιο 3×6.0mm ^{2}(H07RN-F)
② . Παροχικό καλώδιο 3×1.0mm ^{2}(H05RN-F)
③ . Καλώδια επικοινωνίας 2×0.75mm^2(H05RN-F)

Τριφασικές μονάδες

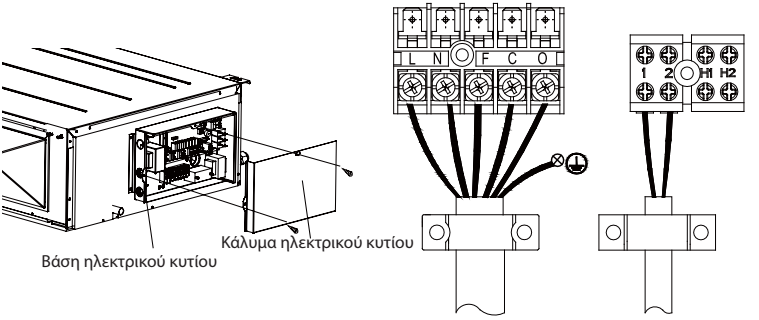


U2RT-36 +V2DI-36
U2RT-45 +V2DI-45
U2RT-50 +V2DI-50
U2RT-60 +V2DI-60
① . Παροχικό καλώδιο 3×2.5mm^2(H07RN-F)
② . Παροχικό καλώδιο 3×1.0mm^2(H05RN-F)
③ . Παροχικό καλώδιο 2×0.75mm^2(H05RN-F)

Εικ.42

(5). Συνδεσμολογία της εσωτερικής μονάδας

Αφαιρέστε το κάλυμμα από το κυτίο και συνδέστε τα καλώδια



Εικ.43

Τα F,C,O συνδέστε τα με τις επαφές COMMON, CLOSE, OPEN για την βαλβίδα φρέσκου αέρα.

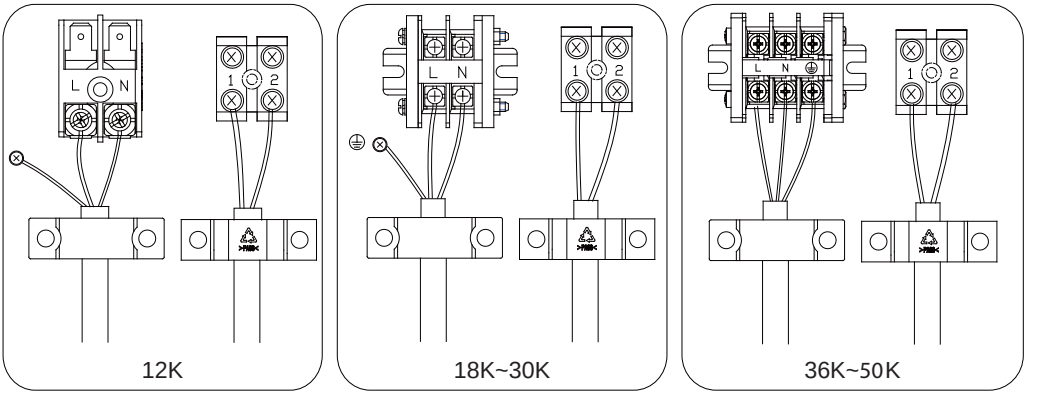
⚠ Προσοχή!
① . Το παροχικό καλώδιο και το καλωδιο του φρέσκου αέρα είναι υψηλής τάσης, ενώ το καλώδιο επικοινωνίας και το καλώδιο σύνδεσης του ενσύρματου χειριστηριου είναι χαμηλής τάσης. Θα πρέπει να τρέχουν ξεχωριστά για την αποφυγή ηλεκτρομαγνητικών παρεμβολών.
② . Οι γραμμές υψηλής τάσης και χαμηλής τάσης πρέπει να οδηγούνται μέσα από τους λαστιχένιου δακτύλιους σε ξεχωριστά κυτία.
③ . Μην τοποθετείτε μαζί το καλώδιο επικοινωνίας και το καλωδιο 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 σφηγκτήρες 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

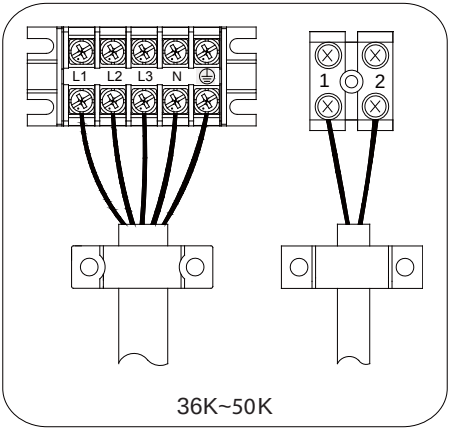
Σημείωση: κατά τη σύνδεση του παροχικού καλωδίου βεβαιωθείτε πως η φάση του ρεύματος είναι σωστή. Αν όχι ο συμπιεστής θα γυρίζει ανάποδα και δεν θα λειτουργεί σωστά.
Αφαιρέστε την μεγάλη λαβή(12~45K)/μπροστινό κάλυμμα(50/60K) της εξωτερικής μονάδας και τοποθετήστε τα άκρα του παροχικού και του καλωδίου 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:

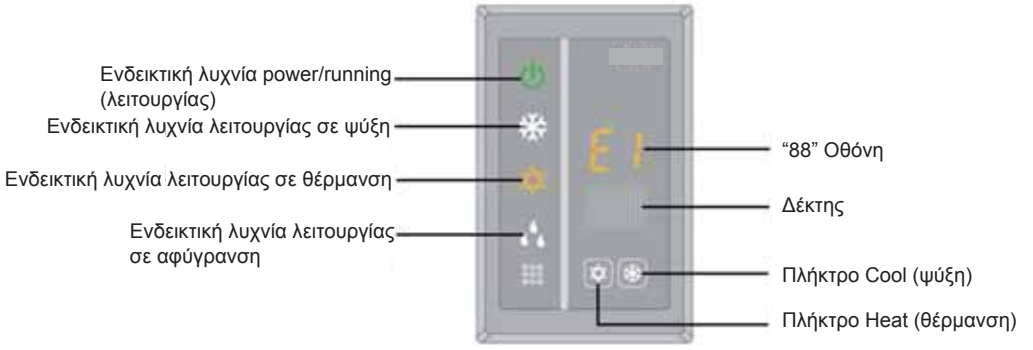
Πίνακας 11

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 εκτόνωση
5	E6	Σφάλμα στην επικοινωνία
6	E8	Σφάλμα στο μοτέρ του εσωτερικού ανεμιστήρα
7	E9	Προστασία υπερχείλισης
8	F0	Σφάλμα του αισθητήρα χώρου
9	F1	Σφάλμα του αισθητήρα του στοιχείου (εξατμιστή)
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 pfc
23	L1	Σφάλμα στον αισθητήρα υγρασίας
24	Lc	Σφάλμα ενεργοποίησης
25	Ld	Προστασία συμπιεστή λόγω συνέχειας των φάσεων
26	LF	Προστασία παροχής
27	Lp	Δεν ταιριάζει η εσωτερική με την εξωτερική μονάδα
28	U7	Προστασία αλλαγής κατεύθυνσης της 4οδης
29	P0	Προστασία λόγω επανεκκίνησης του inverter
30	P5	Προστασία υπερέντασης
31	P6	Σφάλμα στην επικοινωνία μεταξύ της κεντρικής πλακέτας και του inverter
32	P7	Σφάλμα του αισθητήρα του inverter
33	P8	Προστασία λόγω υπερθέρμανσης του inverter
34	P9	Zero passage protection
35	PA	Προστασία ρεύματος ac
36	Pc	Σφάλμα ρεύματος inverter
37	Pd	Προστασία σύνδεσης αισθητήρα

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

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

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



Εικ.47

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 ισχύον τα χαρακτηριστικά που θα βλέπετε πάνω στο ταμπελάκι 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.

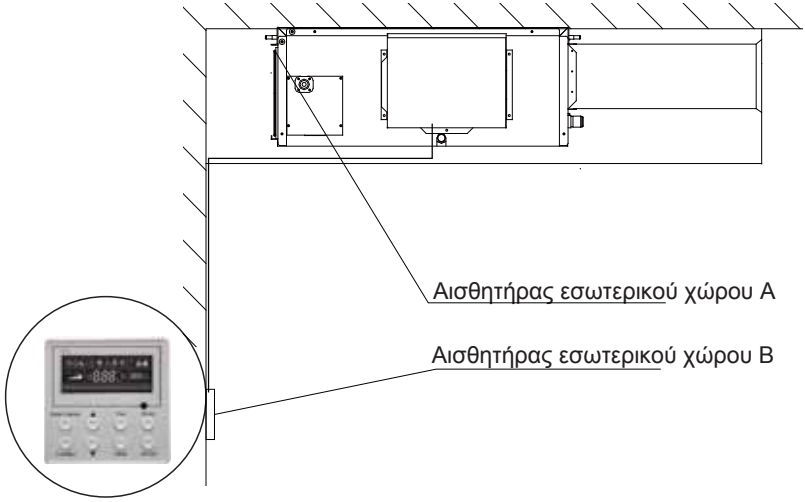
7 Λειτουργία μονάδας

7.1 Ρύθμιση διπλού αισθητήρα εσωτερικού χώρου

Αυτή η σειρά κλιματιστικών μονάδων με δίκτυο αεραγωγών διαθέτει δύο αισθητήρες εσωτερικού χώρου. Ο ένας βρίσκεται στην είσοδο αέρα της εσωτερικής μονάδας και ο άλλος στο εσωτερικό του ενσύρματου χειριστηρίου.

Ο χρήστης μπορεί να επιλέξει έναν από τους δύο αισθητήρες εσωτερικού χώρου με βάση τις μηχανολογικές απαιτήσεις

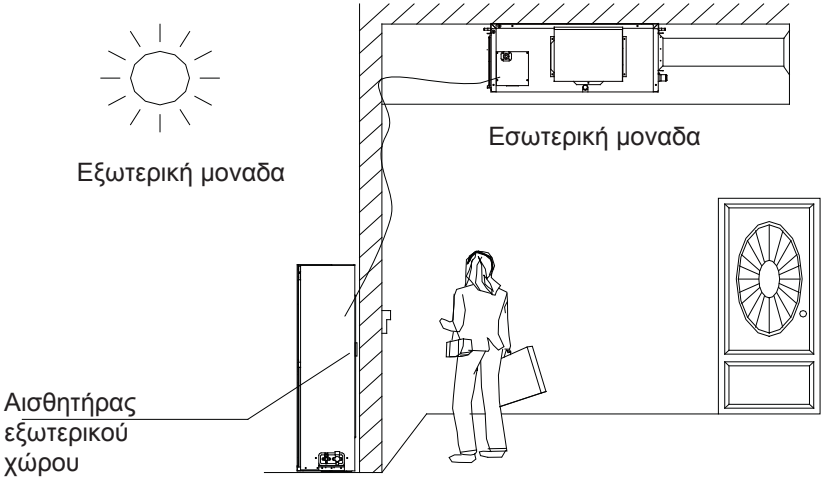
(Για την αναλυτική λειτουργία, ανατρέξτε στην ενότητα οδηγιών του ενσύρματου χειριστηρίου)



Εικ.48

7.2 Έλεγχος θερμοκρασίας εξωτερικού περιβάλλοντος

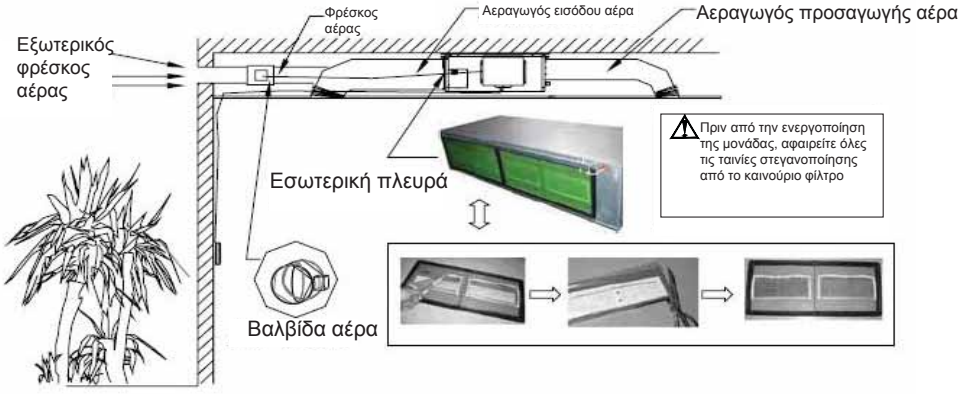
Οι χρήστες μπορούν, πριν βγουν έξω, να ενημερώνονται για τη θερμοκρασία του εξωτερικού περιβάλλοντος από το ενσύρματο χειριστήριο. (Για την αναλυτική λειτουργία, ανατρέξτε στην ενότητα οδηγιών για το ενσύρματο χειριστήριο)



Εικ.49

7.3 Έλεγχος φρέσκου αέρα

Υπάρχουν 11 επίπεδα που μπορείτε να ορίσετε σχετικά με την ποσότητα του εισερχόμενου φρέσκου αέρα. Η λειτουργία αυτή δεν έχει μόνο ευεργετικές επιπτώσεις στην υγεία των χρηστών, αλλά περιορίζει και τις απώλειες από την κατανάλωση ενέργειας, καθώς στο χώρο εισέρχεται φρέσκος αέρας. Ο χειρισμός αυτός μπορεί να πραγματοποιηθεί μέσω του ενσυρματου χειριστηρίου. Η λειτουργία αυτή μπορεί να ρυθμιστεί και να ενεργοποιηθεί οποιαδήποτε στιγμή, και ο χειρισμός της είναι πολύ απλός. (Για την αναλυτική λειτουργία, ανατρέξτε στην ενότητα οδηγιών του ενσύρματου χειριστηρίου.)



Εικ.50

8 Διαχείρηση Σφαλμάτων Και Συντήρηση

8.1 Διαχείρηση Σφαλμάτων

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

Σφάλμα	Πιθανές αιτίες
Η μονάδα δεν ξεκινάει	1. Δεν έχει συνδεθεί η παροχή 2. Πέφτει η ασφάλεια λογω διαρροής ρεύματος 3. Είναι κλειδωμένα τα πλήκτρα λειτουργίας 4. Σφάλμα στο κύκλωμα επικοινωνίας
Η μονάδα λειτουργεί για λίγο και μετά σταματάει	1. Υπάρχει εμπόδιο μπροστά στον συμπυκνωτή 2. Υπάρχει σφάλμα στο κύκλωμα επικοινωνίας 3. Έχει επιλεγεί η λειτουργία σε ψύξη ενώ η εξωτερική θερμοκρασία ειναι πάνω απο 48ºC
Ανεπαρκής απόδοση ψύξης	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	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 παραμείνει, τότε σταματήστε τη λειτουργία της μονάδας και επικοινωνήστε με το εξουσιοδοτημένο συνεργείο, ώστε η επισκευή να γίνει από εξειδικευμένο τεχνικό.

8.2 Προληπτική Συντήρηση

Η προληπτική συντήρηση μπορεί να γίνει μόνο απο εξειδικευμένο τεχνικό.
Πριν ξεκινήσουν οι εργασίες πρέπει να έχει γίνει διακοπή στο κύκλωμα παροχής ρεύματος.
Μην χρησιμοποιείτε νερό από 50 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.

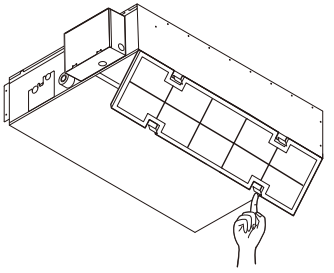
④ . Μην βρέχετε την εσωτερική μονάδα. Μπορεί να προκληθεί ηλεκτροπληξία ή πυρκαγιά.

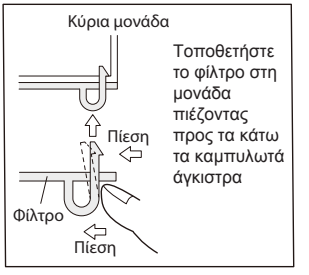
Αυξήστε τη συχνότητα καθαρισμού της μονάδας εάν βρίσκετε τοποθετημένη σε μολυσμένο περιβάλλον. Εάν το φίλτρο δεν καθαρίζεται, αντικαταστήστε το.

(1). Αφαιρέστε το φίλτρο
(2). Καθαρίστε το φίλτρο

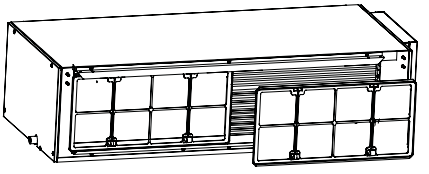
Απομακρύνετε τη σκόνη με τη χρήση ηλεκτρικής σκούπας και ξεβγάλτε με κρύο νερό. Μην χρησιμοποιείτε ζεστό νερό ή καθαριστικά για την αποφυγή παραμόρφωσης και σμίκρυνσης. Μετά τον καθαρισμό αφήστε το φίλτρο να στεγνλωση σε σκιερό μέρος

12/18k:





24~60k:



Πιέστε το φίτρο επιστροφής του αέρα προς τα κάτω απέναντι από το αυλάκι και αφαιρέστε το με τη φορά του βέλους. Τα φίλτρα επιστροφής του αέρα είναι δύο

(3). Επανατοποθέτηση του φίλτρου
επανατοποθετήστε το φίλτρο όπως πριν

Σημειώσεις:

Cuprins

1 Măsuri de siguranţă

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

⚠ AVERTIZARE!
(1). Pentru utilizarea plăcută a aerului condiţionat, instalaţi dispozitivul aşa cum este prezentat în acest manual de instalare.
(2). Conectaţi unitatea de interior şi unitatea de exterior la conductele de aer condiţionat şi la cablul care este disponibil la componentele standard. Acest manual de instalare descrie conexiunile corecte folosind setul de instalare disponibil la componentele standard.
(3). Lucrările de montare trebuie să se desfăşoare conform standardelor naţionale de racordare la reţea doar de către personal autorizat.
(4). În cazul în care agentul de răcire scapă pe parcursul funcţionării, ventilaţi zona. În cazul în care agentul de răcire intră în contact cu sursă de foc, acesta produce un gaz toxic.
(5). Nu conectaţi la curent electric până când nu sunt finalizate lucrările de montare.
(6). În timpul instalării, asiguraţi-vă că este bine fixată conducta agentului de răcire înainte de a pune în funcţiune compresorul. Nu utilizaţi compresorul în cazul în care conducta agentului de răcire nu este bine fixată şi valva cu trecere bi- sau tridirecţională nu este deschisă. Acest lucru poate produce o presiune anormală în ciclul de răcire care duce la deteriorare sau chiar vătămare.
(7). Pe parcursul operaţiei de evacuare, asiguraţi-vă că aţi închis compresorul înainte de a îndepărta conducta agentului de răcire. Nu îndepărtaţi conducta de conectare în timp de compresorul este în stare de funcţionare cu supapa cu trecere bi- sau tridirecţională deschisă. Acest lucru poate produce o presiune anormală în ciclul agentului de răcire care duce la deteriorare sau chiar vătămare.
(8). Atunci când se instalează sau se repoziţionează aerul condiţionat, nu lăsaţi alte gaze decât agentul de răcire specificat (R410A) să intre în ciclul de răcire. În cazul în care intră aer sau alte gaze, presiunea din interiorul ciclului va creşte la o valoare anormal de mare şi va cauza deteriorare, vătămare, etc.
(9). Acest dispozitiv nu este destinat utilizării de către persoane (inclusiv copii) cu abilităţi fizice, senzoriale sau mentale reduse, sau care nu au experienţă şi cunoştinţe, cu excepţia cazului în care au fost instruite în legătură cu utilizarea aparatului de către o persoană care este responsabilă pentru siguranţa acestora.
(10). Copiii ar trebui să fie supravegheaţi pentru a fi siguri că nu se joacă cu acest dispozitiv.
(11). În cazul în care cablul de alimentare al aparatului este deteriorat, acesta trebuie să fie înlocuit de către producător, agentul său de service sau persoane care au calificare similară pentru a evita pericolele

2 Schema unităţii şi a principalelor părţi componente

Unitate internă

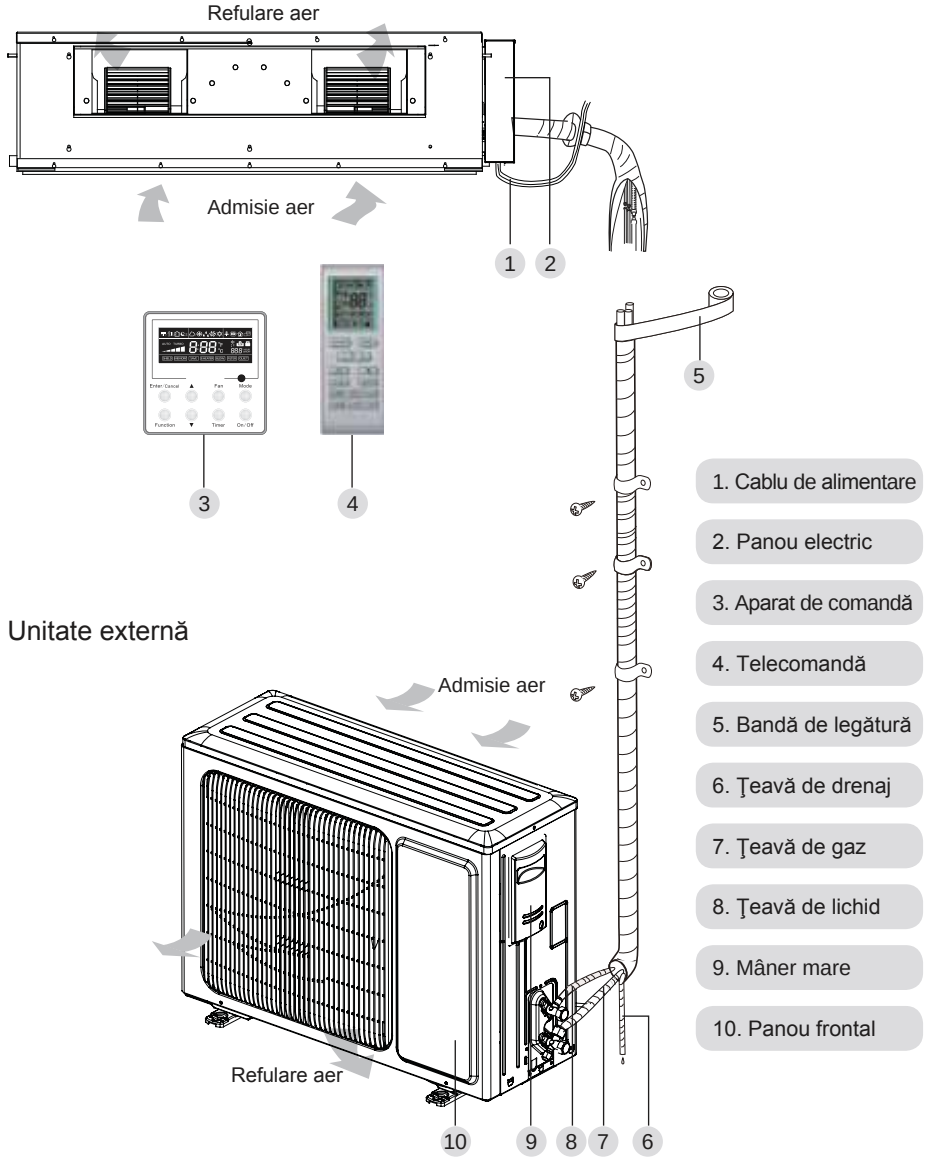


Fig.1

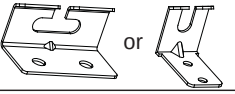
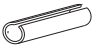
⚠ ATENŢIE!
① . Conducta şi ductul de legătură pentru această unitate ar trebui să fie pregătite de către utilizator
② . Unitatea este echipată în mod standard cu duct rectangular.

3 Pregătirea montării

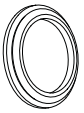
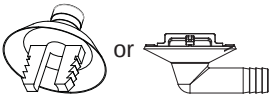
3.1 Componentele accesorii standard

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

Tabelul 1

Accesoriile unităţii de interior				
No.	Denumire	Aspect	Cant	Utilizare
1	Aparat de comandă		1	Pentru a regla unitatea de interior
2	Consolă		4	Pentru a fixa unitatea de interior
3	Piuliţă cu şaibă		8	Pentru a fixa cârligul pe carcasa unităţii.
4	Piuliţă cu şaibă		4	Pentru a fixa cârligul pe carcasa unităţii.
5	Piuliţă		4	Pentru a fi utilizată împreună cu bolţul consolei pentru a monta unitatea.
6	Şaibă		4	Pentru a fi utilizată împreună cu bolţul consolei pentru a monta unitatea.
7	Izolaţie		1	Pentru a izola ţeava de gaz
8	Izolaţie		1	Pentru a izola ţeava de lichid
9	Clemă		8	Pentru a fixa buretele
10	Piuliţă		1	Pentru a conecta ţeava de lichid
11	Piuliţă		1	Pentru a conecta ţeava de gaz

Tabelul 2

Accesoriile unităţii de exterior				
No.	Denumire	Aspect	Cant.	Utilizare
1	Dop de drenaj		3	Pentru a acoperi gaura de drenaj nefolosită
2	Conector de drenaj		1	Pentru a conecta la ţeava 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 susţină greutatea unităţii şi trebuie să fie bine fixată, altfel unitatea va cădea.
⚠ ATENŢIE!
① . Nu montaţi acolo unde există pericol de scurgere de gaz.
② . Nu montaţi unitatea lângă surse de căldură, abur sau gaze inflamabile.
③ . Copiii cu vârsta sub 10 ani trebuie să fie supravegheaţi pentru a nu pune în funcţiune unitatea

Decideţi asupra locului de montare împreună cu clientul după cum urmează:

3.2.1 Unitatea de interior

(1). Montaţi unitatea într-un loc care este destul de rezistent pentru a susţine greutatea unităţii

(2). Intrarea şi ieşirea aerului nu trebuie să fie blocate pentru ca fluxul de aer să ajungă în fiecare colţ al încăperii.

(3). Lăsaţi spaţiu pentru service în jurul unităţii aşa cum se arată în Fig.2

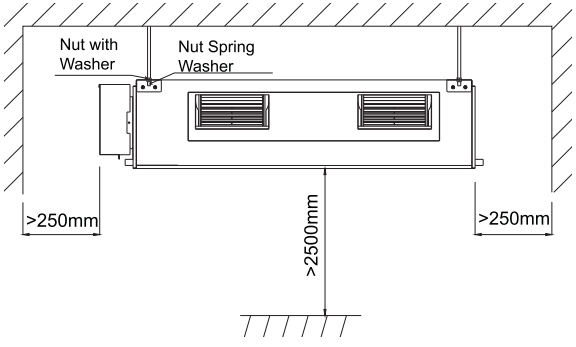


Fig.2

(4). Instalaţi unitatea acolo unde ţeava de drenaj poate să fie instalată uşor.

(5). Spaţiul de la unitate la tavan ar trebui să fie menţinut cât de mare se poate pentru a asigura un service convenabil

3.2.2 Unitatea de exterior

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

(1).Dacă este posibil, nu montaţi unitatea acolo unde va fi expusă la lumina directă a soarelui. (Dacă este necesar, instalaţi un ecran care să nu blocheze fluxul de aer).
(2). Montaţi unitatea de exterior într-un loc care, pe cât posibil, nu se va murdări sau nu se va uda atunci când plouă.
(3). Montaţi unitatea de exterior acolo unde este convenabil pentru a fi legată de unitatea de interior.
(4). Montați unitatea de exterior acolo unde apa condensată poate să se scurgă nestingherită pe durata operaţiei de încălzire. Nu amplasaţi animale sau plante pe traseul aerului cald.
(5). Aveţi în vedere şi greutatea aerului condiţionat şi alegeţi un loc în care zgomotul şi vibraţiile sunt mici.
(6). Montaţi unitatea de exterior într-un loc capabil să susţină greutatea unităţii şi care să genereze cât mai puţin zgomot şi cât mai puţine vibraţii.
(7). Oferiţi spaţiul prezentat în Fig. 3 astfel încât fluxul de aer să nu fie blocat. De asemenea, pentru o funcţionare eficientă, lăsaţi deschise trei din cele patru direcţii ale construcţiilor periferice.

Unităţi:mm

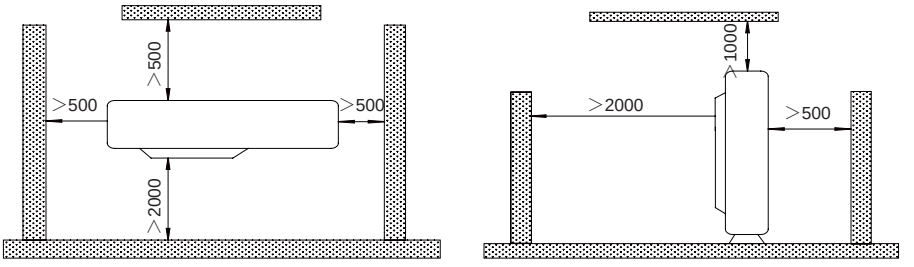


Fig.3

3.3 Cerinţele legate de ţeava de racordare

⚠ ATENŢIE!
Lungimea maximă a ţevii de racordare este inclusă în tabelul de mai jos. Nu amplasaţi unităţi între care există o distanţă mai mare de lungimea maximă a ţevii de racordare.

Tabelul

Articol / Model	Mărimea ţevii pentru montaj (inci)		Lungimea maximă a ţevii (m)	Înălţimea maximă Diferenţa dintre unitatea de interior şi unitatea de exterior (m)	Ţeava de drenaj (Diametru exterior X grosimea peretelui) (mm)
	Lichid	Gaz			
V2DI-12 U2RS-12	1/4	3/8	20	15	Φ30X1.5
V2DI-18 U2RS-18	1/4	1/2	20	15	Φ30X1.5
V2DI-24 U2RS-24	3/8	5/8	30	15	Φ20X1.2
V2DI-30 U2RS-30	3/8	5/8	30	15	Φ20X1.2
V2DI-36 U2RS-36	3/8	5/8	30	15	Φ20X1.2
V2DI-45 U2RS-45	3/8	5/8	50	30	Φ20X1.2
V2DI-50 U2RS-50	3/8	5/8	50	30	Φ20X1.2
V2DI-36 U2RT-36	3/8	5/8	30	15	Φ20X1.2
V2DI-45 U2RT-45	3/8	5/8	50	30	Φ20X1.2
V2DI-50 U2RT-50	3/8	5/8	50	30	Φ20X1.2
V2DI-60 U2RT-60	3/8	3/4	50	30	Φ20X1.2

(1). Ţeava de racordare ar trebui să fie izolată cu material impermeabil adecvat.
(2). Grosimea peretelui ţevii va fi de 0,5-1,0 mm şi peretele ţevii va trebui să poată susţine presiunea a 6,0 MPa. Cu cât este mai lungă ţeava de racordare, cu atât va fi mai slab efectul de răcire şi încălzire.

3.4 Cerinţe ale instalaţiei electrice

Dimensiunea firelor electrice şi capacitatea siguranţei

Tabelul 4

Unităţi de interior	Sursă de energie	Capacitatea siguranţei	Capacitatea întrerupătorului	Cablu de alimentare min.
	V/Ph/Hz	A	A	mm^2
12K~45K	220-240V~ 50Hz	3.15	6	1.0
50K~60K	220-240V~ 50Hz	5	6	1.0

Tabelul 5

Model	Alimentare	Capacitatea întrerupătorului cu aer (A)	Suprafaţa minimă în secţiune a cablului de alimentare şi 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

Atenţie:
1. Siguranţa este amplasată pe panoul principal.
2. Instalaţi dispozitivul deconectat cu un spaţiu de contact de cel puţin 3 mm la toate fişele din apropierea unităţilor (Atât unitatea de interior cât şi unitatea de exterior). Dispozitivul trebuie să fie amplasat astfel încât priza să fie accesibiă.
3. Specificaţiile referitoare la întrerupător şi cablul de alimentare incluse în tabelul de mai sus sunt determinate pe baza puterii maxime (amperi maximi) a unităţii.
4. Specificaţiile referitoare la cablul de alimentare incluse în tabelul de mai sus sunt aplicate la cablul de cupru multifilar pozat în ţeavă (cum ar fi cablul de cupru YJV, care constă în fire izolate cu PE şi un înveliş al cablului din PVC) utilizat la 40°C şi rezistent la 90°C (consultaţi IEC 60364-5-52). În cazul în care se schimbă condiţiile de funcţionare, ele ar trebui să fie modificate în conformitate cu standardele naţionale aferente.
5. Specificaţiile referitoare la întrerupător incluse în tabelul de mai sus sunt aplicate întrerupătorului cu o temperatură de funcţionare la 40°C. În cazul în care se schimbă condiţiile de funcţionare, ele ar trebui să fie modificate în conformitate cu standardele naţionale aferente.
6. Luaţi 2 bucăţi de cablu de alimentare de 0,75mm^2 ca şi cabluri de comunicare între unitatea de interior şi cea de exterior, cu cea mai mare lungime de 50m. Vă rugăm să selectaţi lungimea adecvată a cablului în funcţie de condiţiile 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. Luaţi 2 bucăţi de cablu de alimentare de 0,75mm^2 ca şi cabluri de comunicare între aparatul de comandă şi unitatea de interior, cu cea mai mare lungime fiind de 30m. Vă rugăm să selectaţi lungimea adecvată a cablului în funcţie de condiţiile 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 0,75mm^2. Este recomandat să se utilizeze cabluri de alimentare de 0,75mm^2 ca şi cabluri de comunicare.

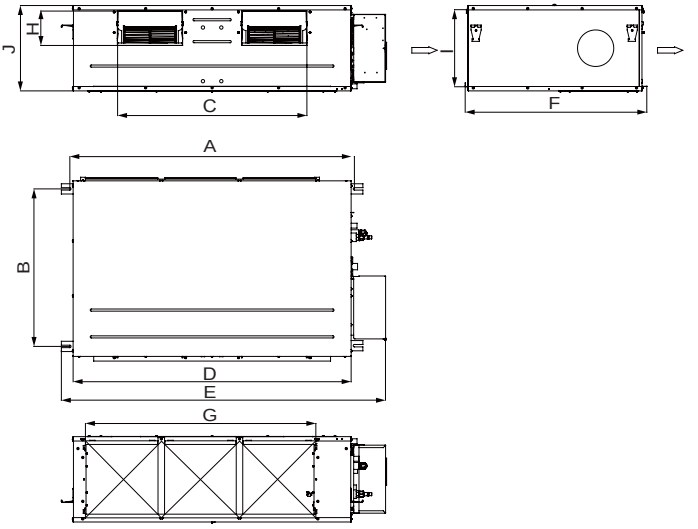
4 Montarea unităţii

4.1 Montarea unităţii de interior

4.1.1 Dimensiunea unităţii de interior

⚠ AVERTIZARE!
(1).Montaţi unitatea de interior într-o locaţie care poate să susţină o greutate de cel puţin cinci ori greutatea unităţii principale şi care nu va amplifica zgomotul şi vibraţiile. (2).În cazul în care locul de montare nu este suficient de rezistent, unitatea de interior poate cădea şi poate cauza rănirea persoanelor. (3). În cazul în care operaţiunea se realizează doar cu panoul frontal, există riscul ca unitatea să se desprindă. Vă rugăm să aveţi grijă

Pentru unităţile: 12~18K, 50k,60k



Pentru unităţile: 24~45K

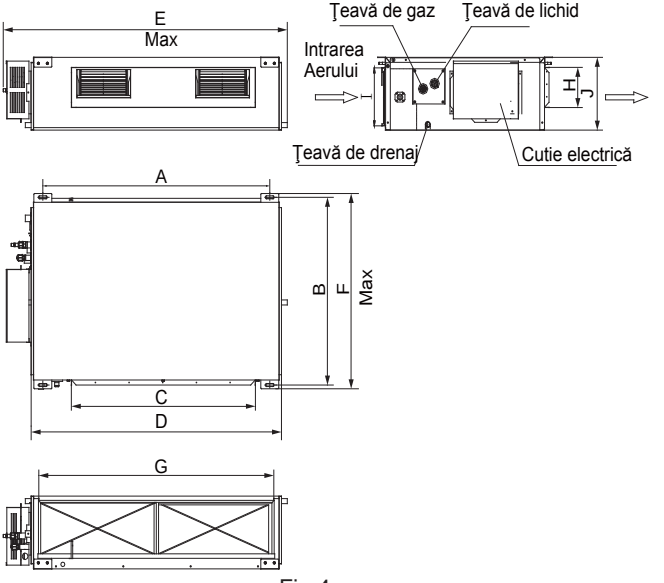


Fig.4

Tabelul 6

Articol / Model	A	B	C	D	E	F	G	H	I	J
V2DI-12	932	430	738	892	998	721	738	125	203	266
V2DI-18										
V2DI-24	1101	515	820	1159	1239	558	1002	160	235	268
V2DI-30										
V2DI-36	1011	748	820	1115	1226	775	979	160	231	290
V2DI-45										
V2DI-50	1177	646	782	1150	1340	751	953	141	316	350
V2DI-60										

4.1.2 Realizarea găurilor pentru bolţuri şi montarea bolţurilor
Folosind schema de montare, daţi găuri pentru bolţuri (patru găuri). (Fig. 5)

4.1.3 Montarea bolţurilor pentru agăţare
(1). Montaţi bolţurile în tavan într-un loc destul de rezistent pentru a putea suspenda unitatea. Marcaţi poziţiile bolţurilor conform schemei de montare. Cu un burghiu pentru beton, daţi găuri cu diametrul de 12,7mm (1/2"). (Fig. 6)
(2). Introduceţi diblul în găurile perforate, şi introduceţi bolţurile complet în dibluri cu ajutorul unui ciocan. (Fig. 7)
(3). Montaţi consola la unitate. (Fig.8)
(4). Treceţi consola unităţii peste bolţurile montate pe tavan şi montaţi unitatea cu piuliţe speciale. (Fig.9)

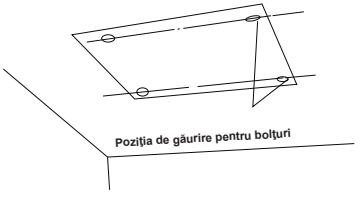


Fig. 5

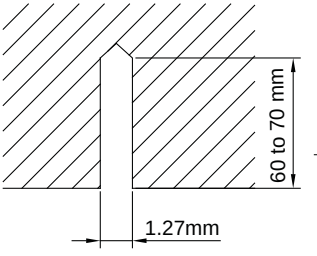


Fig.6

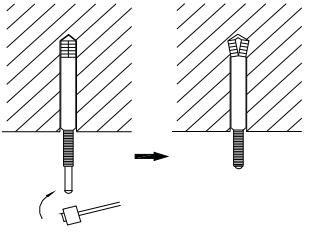


Fig.7

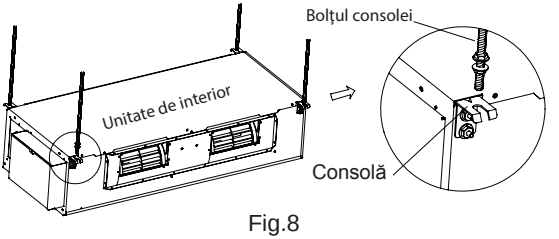


Fig.8

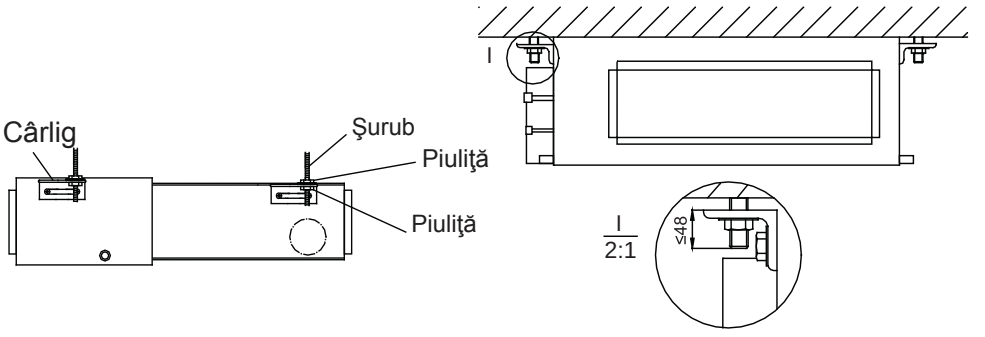


Fig.9

4.1.4 Asigurarea orizontalităţii

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

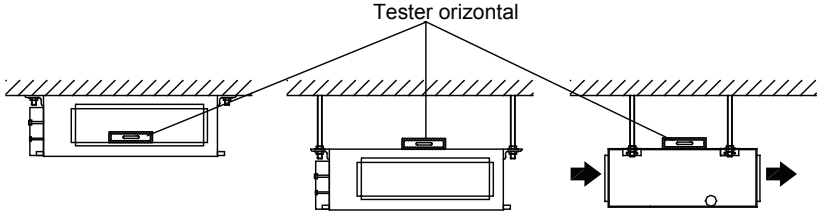


Fig.10

4.2 Montarea unităţii de exterior

⚠AVERTIZARE
① . Montaţi unitatea acolo unde nu va fi înclinată mai mult de 5º.
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 unităţii de exterior

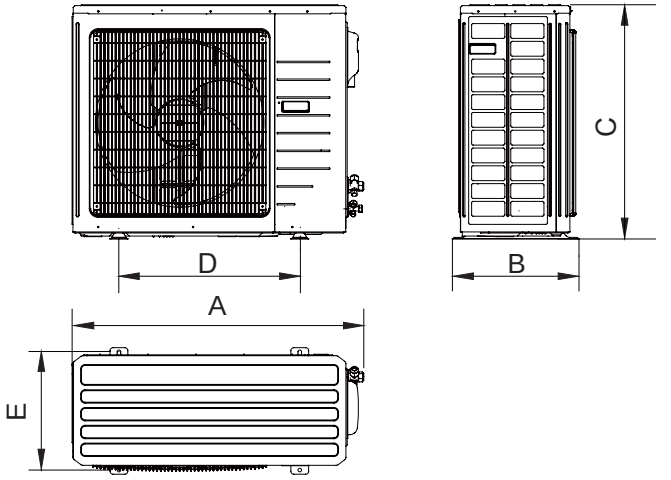


Fig.11

Tabelul 6 Unităţi: 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 unităţi cu pompă de căldură) (Fig.12)

(1). Este necesar să se monteze o ţeavă de drenaj pentru unitatea de exterior pentru a evacua apa condensată pe parcursul operaţiei de încălzire. (doar pentru unităţi cu pompă de căldură)
(2). Atunci când se montează ţeava de drenaj, în afară de gaura de ancorare a ţevii de drenaj, toate celelalte găuri ar trebui să fie acoperite pentru a evita scurgerea apei. (doar pentru unităţi cu pompă de căldură)
(3). Metoda de montare: Introduceţi racordul de ţeavă în gaura cu φ25 amplasată pe placa de bază a unităţii şi apoi conectaţi ţeava de drenaj la racordul de ţeavă.

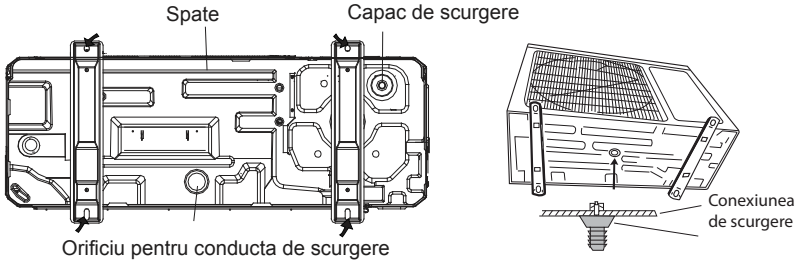


Fig.12

4.3 Montarea ţevii de racordare

4.3.1 Pregătirea mufei

(1). Tăiaţi ţeava de racordare cu un cuţit pentru ţevi şi debavuraţi.
(2). Ţineţi ţeava în jos pentru a împiedica aşchiile să intre în ţeavă.
(3). Îndepărtaţi piuliţele mufei de la supapa de oprire a unităţii de exterior şi în interiorul sacului cu accesorii al unităţii de interior, apoi introduceţi-le pe ţeava de racordare după care mufaţi ţeava de conexiune cu o unealtă de mufare.
(4). Verificaţi dacă partea de mufare este bine aşezată şi dacă nu există crăpături (vedeţi Fig.13)

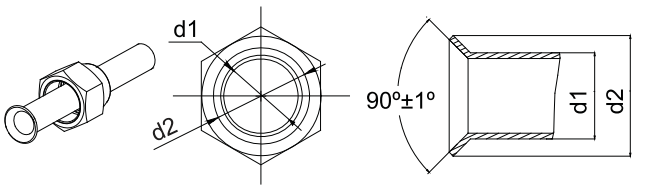


Fig.13

4.3.2 Ţevile de flexiune

(1). Ţevile sunt modelate în mână. Aveţi grijă să nu le rupeţi.

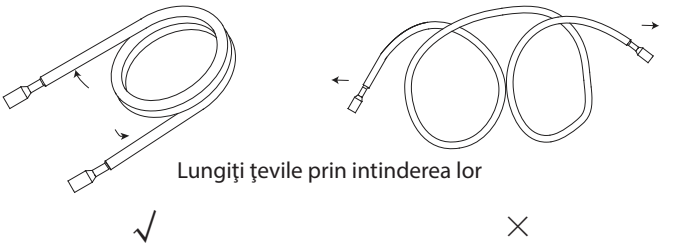


Fig.14

(2). Nu îndoiţi ţeava la un unghi mai mare de 90º.
(3). Atunci când ţevile sunt îndoite sau întinse în mod repetat este dificil să le mai îndoim sau să le întindem. Nu îndoiţi sau întindeţi ţevile mai mult de trei ori.

(4). Atunci când îndoiţi ţeava, nu o îndoiţi aşa cum este. Ţeava se va rupe. În acest caz, tăiaţi ţeava de izolare a căldurii cu un cuţit ascuţit aşa cum este prezentat în Fig. 15, şi îndoiţi-o după expunerea ţevii. După ce îndoiţi ţeava în forma dorită, asiguraţi-vă că puneţi ţeava termoizolantă înapoi pe ţeavă, şi fixaţi-o cu bandă adezivă

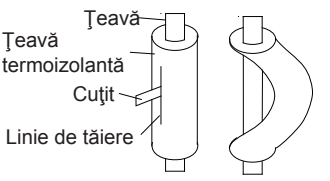


Fig.15

⚠ ATENŢIE!
①. Pentru a împiedica ruperea ţevii, evitaţi îndoirile bruşte. Îndoiţi ţeava cu ajutorul unei spiţe de coturi de 150 mm sau mai mare.
②. În cazul în care ţeava este îndoită în mod repetat în acelaşi loc, aceasta se va rupe.

4.3.3 Conectarea ţevii la unitatea de interior

Scoateţi capacele şi dopurile de pe ţevi.

⚠ ATENŢIE!
①. Asiguraţi-vă că puneţi corect ţeava în dreptul portului de pe unitatea de interior. În cazul în care nu centraţi corect, piuliţa manşonului nu va putea să fie strânsă cu uşurinţă. În cazul în care piuliţa este forţată să se învârtă, vor fi deteriorate filetele
②. Nu îndepărtaţi piuliţa manşonului până când ţeava de racordare nu este conectată pentru a împiedica praful şi impurităţile să intre în sistemul de ţevi.

Se centrează ţeava în dreptul portului de pe unitatea de interior şi se roteşte piuliţa manşonului cu mâna.

⚠ ATENŢIE!
Ţineţi cheia dinamometrică de mâner, ţinând-o în unghi corect faţă de ţeavă aşa cum se prezintă în Fig. 15, pentru a strânge corect piuliţa manşonului

După ce piuliţa manşonului este strânsă corect cu mâna, utilizaţi o cheie dinamometrică pentru a finaliza strângerea

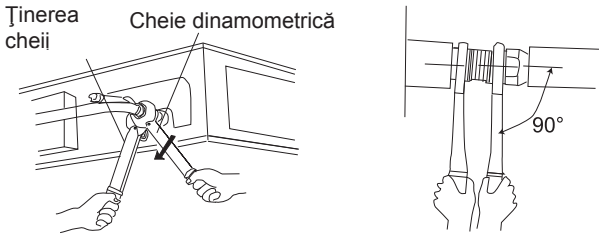


Fig.16

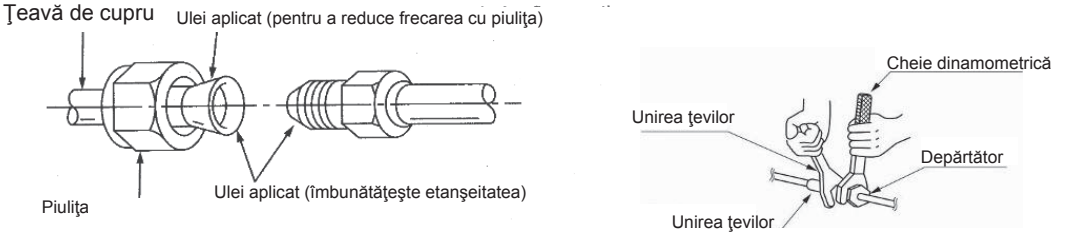


Fig.17

Tabelul 7 Cuplu de fixare a piuliţei manşonului

Diametrul ţevii	Cuplul de fixare
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)

⚠ ATENŢIE!
Aveţi grijă să racordaţi ţeava de gaz după racordarea completă a ţevii de lichid.

4.3.4 Racordarea ţevii la unitatea din exterior

Fixaţi piuliţa manşonului ţevii de racordare la racordul cu supapă de la unitatea din exterior. Metoda de fixare este aceeaşi ca şi la unitatea de interior.

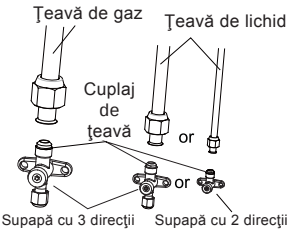


Fig.18

4.3.5 Verificarea racordurilor ţevii pentru scurgeri de gaz

Atât pentru unitatea de interior cât şi pentru cea de exterior, verificaţi îmbinările pentru eventualele scurgeri de gaz utilizând un detector de scurgeri de gaz care nu dă greş atunci când ţevile sunt racordate.

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

Lipiţi bandă termoizolantă (mare sau mică) la locul de racordare a ţevilor.

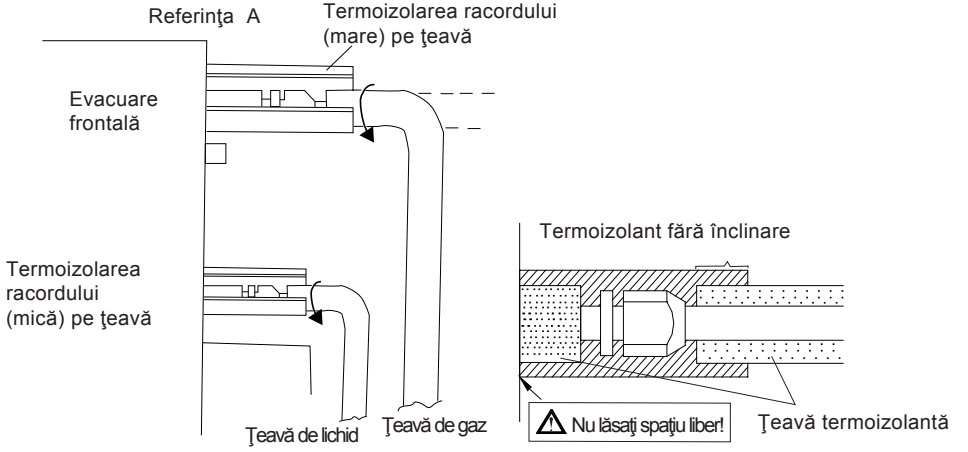


Fig.19

4.3.7 Ţeava de lichid şi ţeava de gaz

În cazul în care unitatea de exterior este montată mai jos decât unitatea de interior (Vedeţi Fig.20)
(1). O ţeavă de drenaj ar trebui să fie deasupra solului iar capătul ţevii nu trebuie să stea în apă. Toate ţevile trebuie să fie fixate de perete cu brăţări.
(2). Ţevile de evacuare trebuie să fie făcute de jos în sus.
(3). Toate ţevile sunt legate împreună cu bandă adezivă şi fixate de perete cu brăţări.

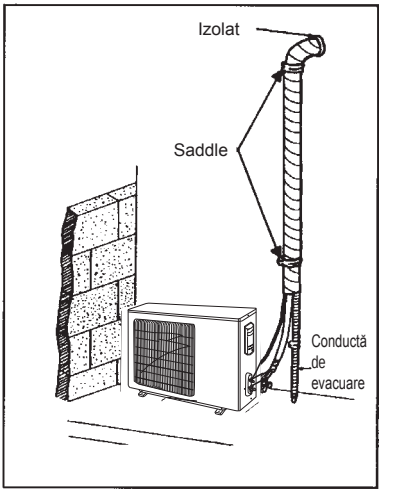


Fig.20

În cazul în care unitatea de exterior este montată mai sus decât cea de interior (Vedeţi Fig.21)
(1). Evacuarea ar trebui să fie făcută de jos în sus.
(2). Toate ţevile sunt legate împreună cu bandă şi ar trebui de asemenea să fie prevăzute cu sifon pentru a împiedica apa să se întoarcă în încăpere (Vedeţi Fig.21)
(3). Fixaţi toate ţevile de perete cu brăţări.

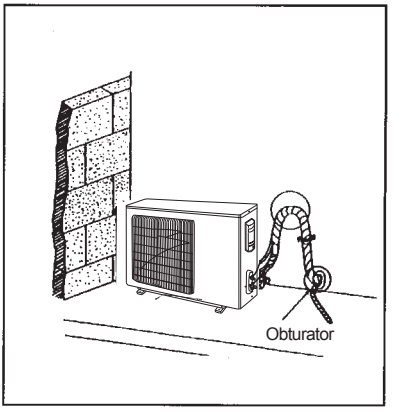


Fig.21

4.4 Vidare şi verificarea scurgerilor de gaz

⚠ ATENŢIE!
Nu purjaţi aerul cu agenţi de răcire ci utilizaţi o pompă de vacuum pentru a vida instalaţia! Nu există agent suplimentar de refrigerare în unitatea de interior pentru purjarea aerului!

4.4.1 Vidare

(1). Îndepărtaţi capacele de la supapele de lichid, de gaz şi de la portul de service.
(2). Conectaţi furtunul la capătul de presiune joasă al ansambului de supape al distribuitorului, şi între timp supapele de gaz şi de lichid ar trebui să fie ţinute închise în cazul în care ar exista scurgeri de agent de răcire.
(3). Conectaţi furtunul utilizat pentru evacuare la pompa de vid.
(4). Deschideţi comutatorul de la capătul de presiune înaltă al ansamblului de supape al distribuitorului şi porniţi pompa de vid. Între timp, comutatorul de la capătul de presiune înaltă al ansamblului de supape al distribuitorului ar trebui să fie ţinut închis, altfel evacuarea va eşua.

(5). Durata de evacuare depinde de capacitatea unităţii, în general, 15 minute pentru unităţi de 12K, 20 de minute pentru unităţi de 18K, 30 de minute pentru unităţi de 24/30/36K, 45 de minute pentru unităţi de 45/50/60. Şi verificaţi 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, închideţi comutatorul complet şi opriţi pompa de vid.
(6). Aşteptaţi un timp să vedeţi dacă presiunea sistemului rămâne neschimbată, 3 minute pentru unităţi mai mici de 18K, 5 minute pentru unităţi de 18K~24K, 10 minute pentru unităţi 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). Deschideţi uşor supapa de lichid şi lăsaţi o parte din agentul de refrigerare să treacă în ţeava de racordare pentru a echilibra presiunea în interiorul şi în exteriorul ţevii de racordare, astfel încât aerul nu va intra în ţeava de racordare atunci când îndepărtăm furtunul. Fiţi atenţi la faptul că supapele de gaz şi de lichid pot fi complet deschise doar după ce este îndepărtat ansamblul de supape ale distribuitorului.
(8). Puneţi înapoi capacele de la supapa de gaz şi supapa de lichid şi de asemenea de la portul de service.

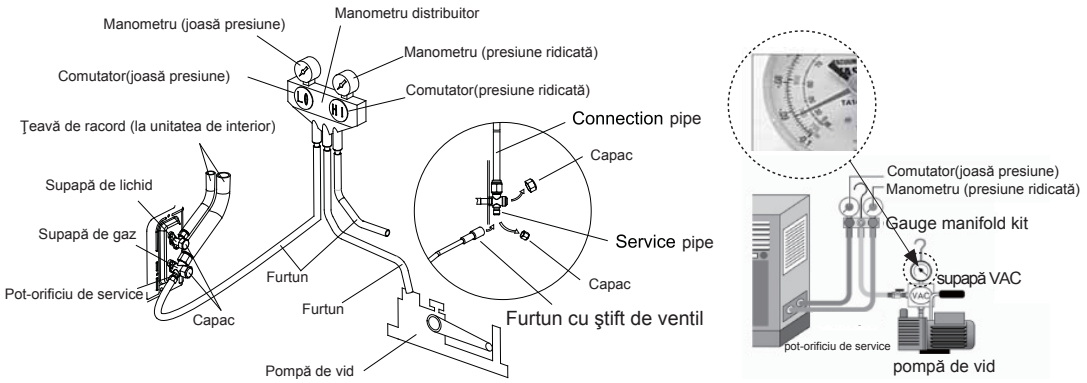


Fig.22

Observaţi: Pentru unităţi de dimensiuni mari, există porturi de service atât pentru supapa de gaz cât şi 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

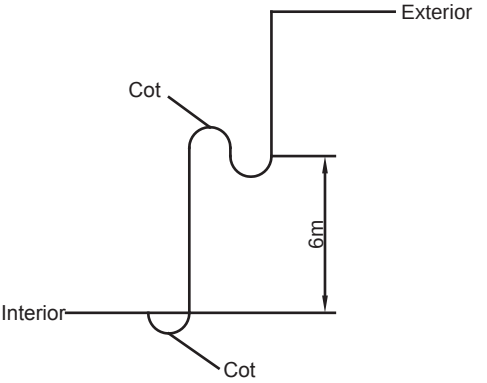
4.4.2 Încărcarea suplimentară

Cantitatea de agent de răcire potrivită pentru o lungime a ţevii de 5 m este încărcată în unitatea de exterior în fabrică.
Atunci când ţevile sunt mai lungi de 7 m este necesară o încărcare suplimentară.
Pentru cantitatea suplimentară, vedeţi Tabelul 8

Tabelul 8

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

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



4.5 Montarea furtunului de drenaj

4.5.1 Montarea instalaţiei de drenaj

⚠ ATENŢIE!
Montaţi furtunul de drenaj în conformitate cu acest manual de instalare şi păstraţi zona destul de caldă pentru a împiedica formarea condensului. Problemele legate de ţevi pot duce la scurgeri ale apei.

(1). Montaţi furtunul de drenaj cu înclinare în jos (1/50 până la 1/100) şi nu se utilizează ridicări sau obturatoare pentru furtunuri. (Fig. 23)
(2). Asiguraţi-vă că nu există crăpături sau scurgeri la furtunul de drenaj pentru a evita formarea unei pungi de aer. (Fig.23)
(3). Utilizaţi întotdeauna furtun de drenaj care a fost bine izolat.

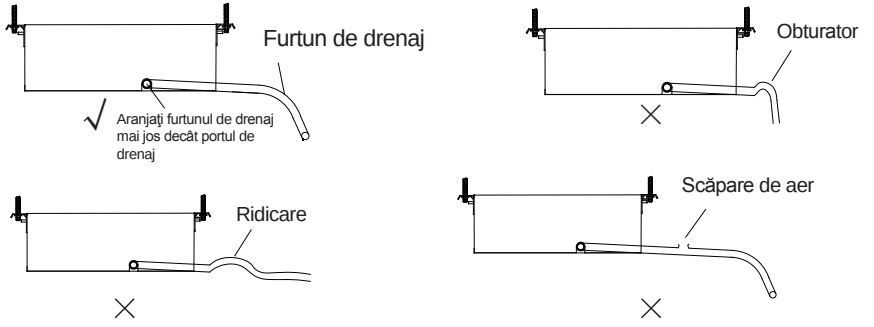


Fig.23

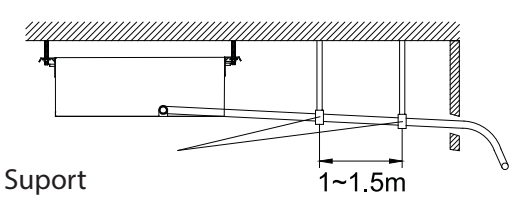


Fig.24

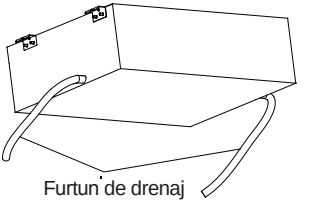
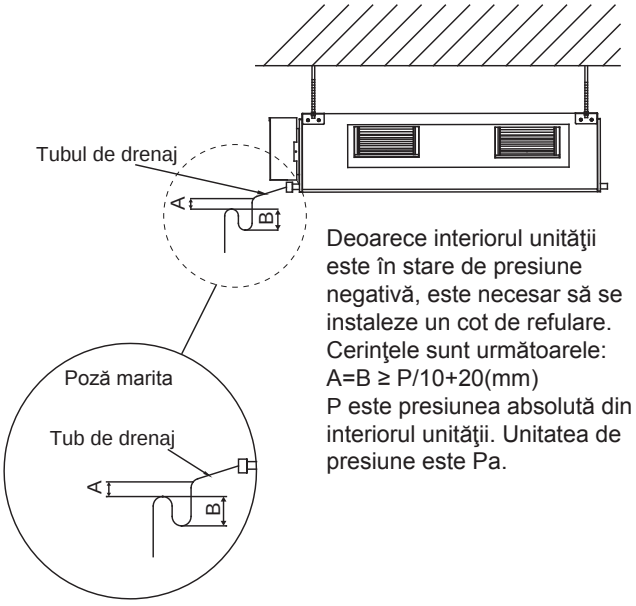


Fig.25



Deoarece interiorul unităţii este în stare de presiune negativă, este necesar să se instaleze un cot de refulare. Cerinţele sunt următoarele:
A=B ≥ P/10+20(mm)
P este presiunea absolută din interiorul unităţii. Unitatea de presiune este Pa.

Fig.26

(5). Utilizaţi un furtun de drenaj adecvat şi consultaţi Tabelul 3 pentru dimensiuni.

(6). Există un orificiu de drenaj atât în partea dreaptă cât şi în partea stângă. Selectaţi orificiul de drenaj care să se potrivească condiţiilor locale.(Fig.25)

(7). Atunci când unitatea este livrată de la fabrică, orificiul de drenaj este stabilit implicit a fi cel din partea stângă (partea de la cutia electrică), orificiul de pe partea dreaptă este blocat.

(8). Atunci când se utilizează orificiul de drenaj de pe partea dreaptă a unităţii, remontaţi capacul de drenaj la orificiul de drenaj de pe partea stângă.(Fig.27)

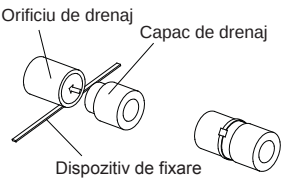


Fig.27

ATENŢIE!

Verificaţi mereu să fie montat capacul de drenaj la orificiul de drenaj pe care nu îl utilizaţi şi ca acesta să fie strâns cu nailon. În cazul în care capacul de drenaj nu este montat sau nu este suficient de bine strâns, apa poate să picure în timpul operaţiei de răcire.

(9). Asiguraţi-vă că aţi izolat locul în care orificiul de drenaj şi furtunul de drenaj sunt conectate.(Fig.28)

(10). Orificiul de drenaj care nu este utilizat ar trebui, de asemenea, să fie izolat în mod corespunzător. (Fig.29)

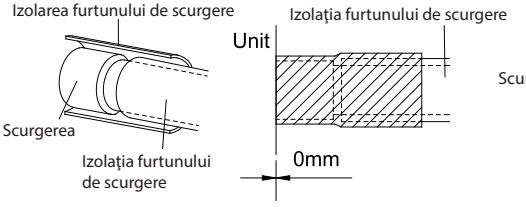


Fig.28

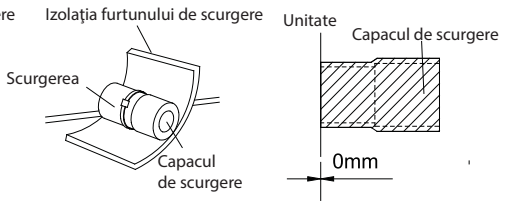


Fig.29

(11). Există adeziv pe o parte a izolaţiei aşa că după îndepărtarea hârtiei de protecţie de pe aceasta, izolaţia poate fi aplicată direct pe furtunul de drenaj.
(12). Observaţii pentru unităţile cu pompă de condensare:
1). Pentru unităţile cu pompă de condensare, este pregătit doar un singur orificiu la capătul apropiat de doza electrică şi furtunul de drenaj poate fi conectat doar prin acesta.
2). Vedeţi tabelul 3 pentru dimensiunile orificiului de drenaj la unităţile cu pompă de condensare, care sunt diferite de cele pentru unităţile fără pompă de condensare.
3). Pentru unităţile cu pompă de condensare, cele două orificii de drenaj de la bază sunt implicit setate pentru a fi acoperite cu capace de drenaj. După montarea furtunului de drenaj, aceste două orificii de drenaj trebuie să fie izolate în mod adecvat în acelaşi mod menţionat anterior.
4). Furtunul de drenaj pentru unităţile cu pompă de condensare ar trebui să fie aranjat aşa cum se prezintă în figura de mai jos.

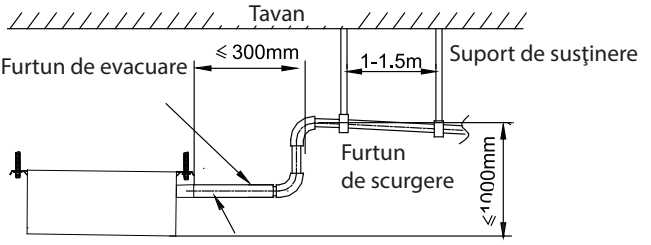


Fig.30

a. Înălţimea verticală a furtunului de drenaj ar trebui să fie de 75 mm sau mai mică astfel încât să fie inutil pentru orificiul de drenaj să susţină o forţă suplimentară.

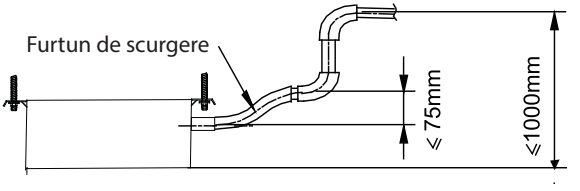


Fig.31

b. Atunci când se utilizează mai multe furtunuri de drenaj, montarea acestora ar trebui să se realizeze aşa cum se prezintă în figura de mai jos.

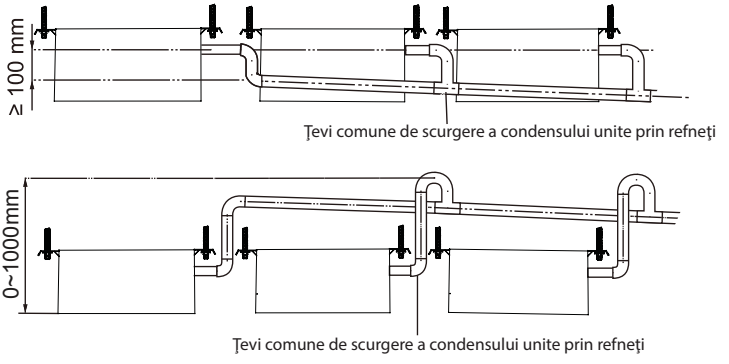


Fig.32

4.5.2 Testarea ţevilor de drenaj

După ce sunt finalizate lucrările de montare a ţevilor, verificaţi dacă scurgerea funcţionează uşor.
Aşa cum se arată în figură, adăugaţi aproximativ 1 litru de apă încet în tava de scurgere şi verificaţi fluxul de scurgere pe parcursul funcţionării în modul COOL (RĂCIRE).

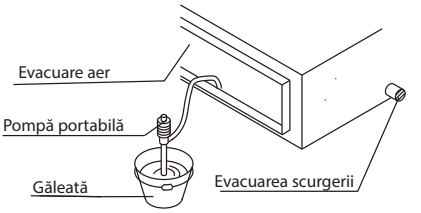


Fig.33

4.6 Montarea ductului

4.6.1 Dimensiunile orificiului de evacuare a aerului/orificiu de retur al aerului

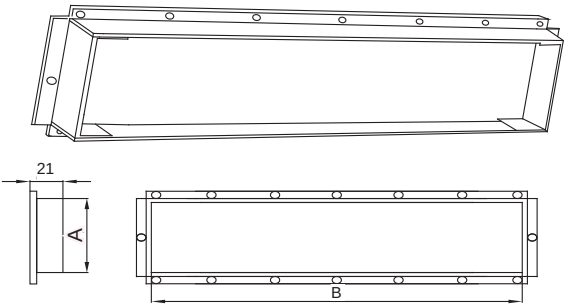


Fig.34 Orificiul de evacuare a aerului

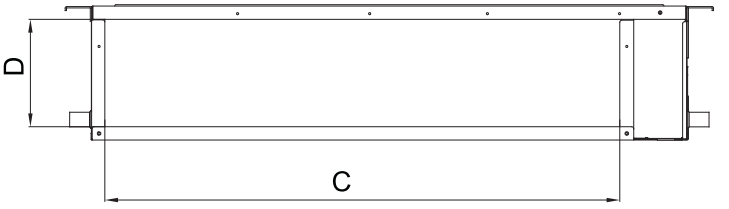


Fig.35 Orificiul aerului recirculat

Tabelul 9

Articol / Model	Orificiul de evacuare a aerului		Orificiul de aerului recirculat	
	A	B	C	D
V2DI-12	123	736	710	166
V2DI-18	123	736	710	166
V2DI-24	158	818	994	195
V2DI-30	158	818	994	195
V2DI-36	158	818	1000	206
V2DI-45	158	818	1000	206
V2DI-50	157	850	943	286
V2DI-60	157	850	943	286

4.6.2 Montarea ductului de admisie a aerului

(1). Montarea ductului rectangular

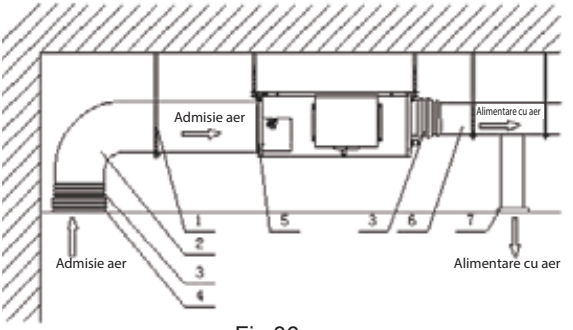


Fig.36

Nr.	Denumire	Nr.	Denumire
1		5	Filtru
2	Ţeavă de admisie a aerului	6	Ţeavă principală de admisie a aerului
3	Ţeavă de aer	7	Orificiu de evacuare a aerului
4	Admisie a aerului		

⚠ ATENŢIE!
①. Lungimea maximă a ductului înseamnă lungimea maximă a ductului de admisie a aerului plus lungimea maximă a ductului de evacuare a aerului.
②. Ductul este rectangular şi conectat la orificiul de admisie/evacuare al unităţii de interior. Măcar un orificiu dintre cele de evacuare a aerului trebuie să fie ţinut deschis.

Instalaţia aerului recirculat doar pentru unităţile 12/18K

(2). Amplasarea implicită pe instalaţie a flanşei dreptunghiulare este la spate, iar capacul pentru aer recirculat este jos, la bază, aşa cum se prezintă în Fig.37.

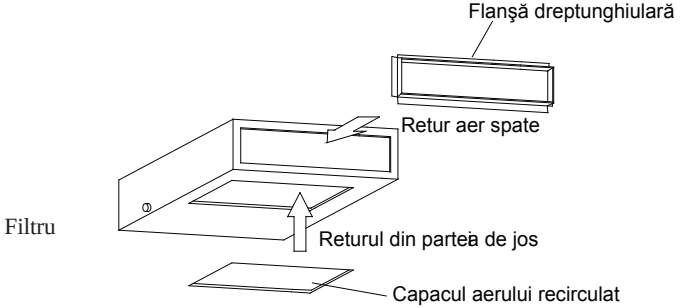
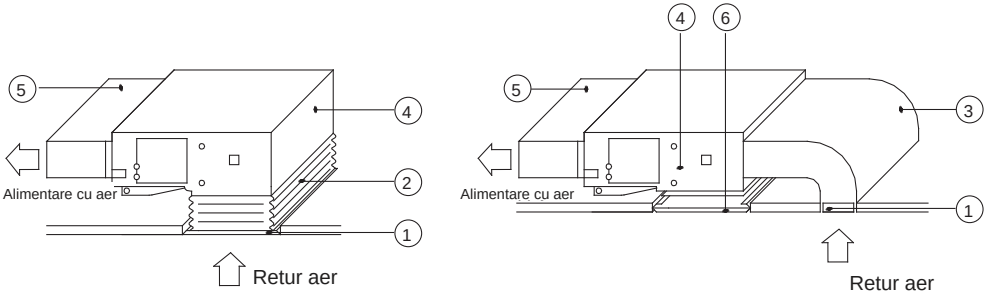


Fig.37

(3). Dacă se doreşte ca recircularea aerului să se realizeze în partea de jos, schimbaţi doar locul flanşei dreptunghiulare şi al capacului orificiului de recirculare.
(4). Conectaţi un capăt al ductului de recirculare a aerului la orificiul de evacuare a aerului de recirculare al unităţii cu nituri şi pe celălalt la fanta de aerului recirculat. Pentru a fi convenabil să ajustăm uşor înălţimea, va fi de ajutor să tăiem ductul de pânză, care poate fi întărit şi pliat cu 8# fire de oţel.
(5). Este posibil să se producă mai mult zgomot atunci când alegem modul de recirculare prin partea de jos, aşa că este sugerat să se instaleze un amortizor şi o cutie de presiune statică pentru a micşora zgomotul.
(6). Metoda de montare poate fi selectată luând în considerare starea clădirii şi întreţinerea, etc., aşa cum se prezintă în Fig.38



Montarea ductului de aer recirculat(a) Montarea ductului de aer recirculat (b)

Fig.38

Tabelul 10 Montarea ductului de aer recirculat

Nr.	Denumire	Nr.	Denumire
1	Orificiul de admisie a aerului recirculat (cu filtru)	4	Unitate de interior
2	Duct din pânză	5	Ductul de admisie a aerului
3	Ductul aerului recirculat	6	Grilaj

4.7 Instalaţia electrică

4.7.1 Precauţii legate de instalaţia electrică

⚠ AVERTIZARE !
①. Înainte de a obţine acces la terminale, toate circuitele de alimentare trebuie să fie deconectate.
②. Tensiunea nominală a unităţii este cea prezentată în Tabelul 5 şi Tabelul 6.
③. Înainte de a porni unitatea, verificaţi dacă tensiunea se încadrează între 198~264V (pentru unitate monofazică) sau 342~457V (pentru unitate trifazică)
④. Utilizaţi permanent un circuit special derivat şi instalaţi o priză specială de alimentare pentru unitatea de aer condiţionat.
⑤. Utilizaţi un întrerupător pentru circuitul derivat special şi o priză care să se potrivească capacităţii instalaţiei de aer condiţionat.
⑥. Întrerupătorul circuitului derivat special este instalat în cadrul instalaţiei electrice permanente. Utilizaţi mereu un circuit care poate să declanşeze toţi polii instalaţiei şi care este izolat la o distanţă de cel puţin 3mm între contactele fiecărui pol.
⑦. Realizaţi lucrările de instalaţie electrică în conformitate cu standardele cerute astfel încât instalaţia de aer condiţionat să poată fi utilizată în deplină siguranţă.
⑧. Montaţi un întrerupător al circuitului special derivat pentru scurgeri în conformitate cu legile şi reglementările specifice şi cu standardele companiei de electricitate.

⚠ ATENŢIE !
① . Capacitatea sursei de curent trebuie să fie suma curentului pentru aerul condiționat şi a curentului pentru alte dispozitive electrice. Atunci când capacitatea curentă este insuficientă, modificaţi capacitatea.
② . Atunci când tensiunea este scăzută şi aerul condiţionat porneşte greu, contactaţi compania care furnizează energie electrică pentru a mări tensiunea.

4.7.2 Instalaţia electrică

(1). Pentru circuite cu fir cu miez masiv (Fig. 39)
1). Tăiaţi capătul firului cu un cuţit pentru fire sau un cleşte de tăiat fire, apoi desfaceţi izolatorul cam 25 mm (15/16").
2). Utilizând o şurubelniţă, îndepărtaţi şurubul(şuruburile) de conexiune de pe placa terminală.
3). Utilizând cleştele, îndoiţi firul solid ca să formaţi o buclă care să se potrivească şurubului de conexiune.
4). Daţi o formă potrivită buclei de fir, puneţi-o pe cutia de borne şi fixaţi-o bine cu un şurub folosind o şurubelniţă.
(2). Pentru circuitele cu fir cu liţă (Fig. 39)
1). Tăiaţi capătul firului cu un cuţit pentru fire sau un cleşte de tăiat fire, apoi desfaceţi izolatorul cam 10 mm (3/8").
2). Utilizând o şurubelniţă, îndepărtaţi şurubul(şuruburile) de conexiune de pe cutia de borne.
3). Utilizând un colier de fixare rotund sau un cleşte, fixaţi bine un capăt rotund la fiecare capăt dezvelit al firului.
4). Poziţionaţi capătul rotund al firului şi înlocuiţi şi fixaţi şurubul de conexiune cu o şurubelniţă. (Fig. 40)

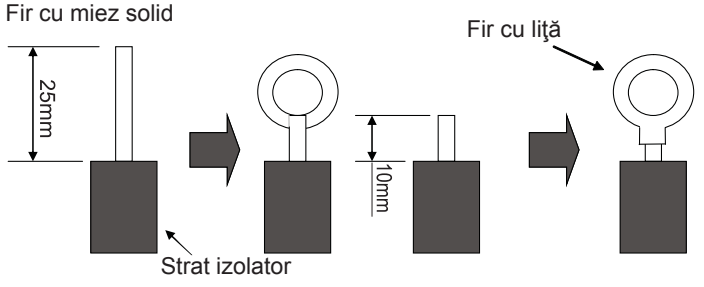


Fig.39

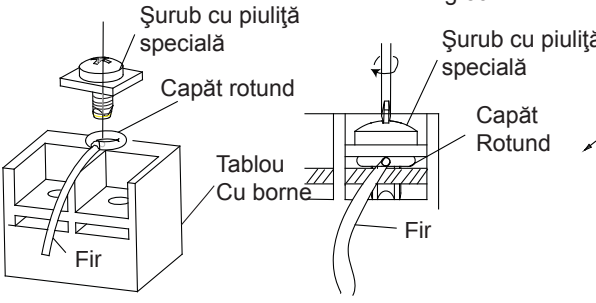


Fig.40

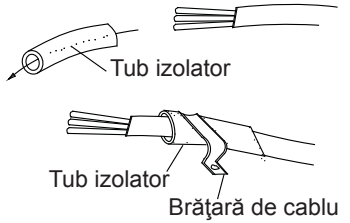


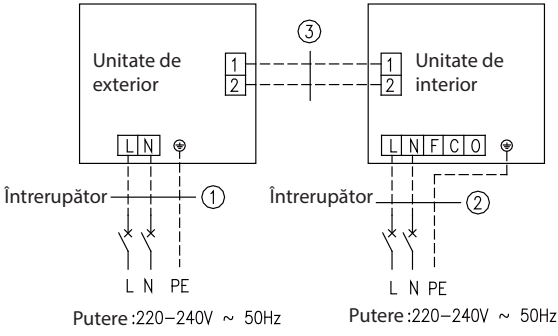
Fig.41

(3). Cum să fixăm cablul de racordare şi cablul de alimentare cu brăţări de cablu
După ce treceţi cablul de racordare şi cablul de alimentare prin tubul de izolare, fixaţi-l cu brăţară de cablu. (Fig.41)

⚠ AVERTIZARE!
①. Înainte de a începe lucrarea, verificaţi ca unitatea de interior cât şi cea de exterior să nu fie alimentate.
②. Potriviţi numerele de pe cutia de borne şi culorile de pe cablurile de racord cu cele de pe unitatea de interior
③. Circuitele eronate pot cauza arderea părţilor electrice
④. Fixaţi bine cablurile de racord la cutia de borne. Montarea imperfectă poate provoca incendii.
⑤. Fixaţi mereu partea exterioară a cablului de racord cu brăţări de cablu. (Atunci când izolatorul nu este prins, pot apărea scurgeri de curent)
⑥. Conectaţi întotdeauna împământarea

(4). Instalaţia electrică între unitatea de interior şi unitatea de exterior

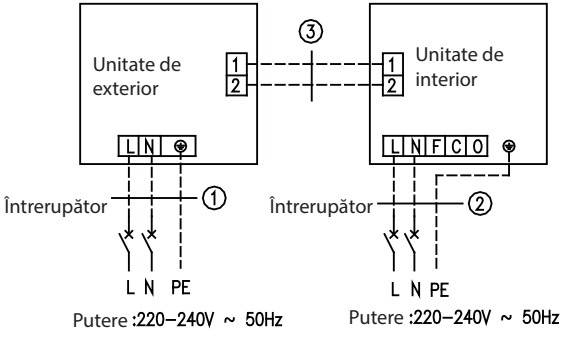
Unităţi monofazice (12K~30K)



U2RS-12 +V2DI-12
U2RS-18 +V2DI-18
①. Cablu de alimentare 3x1.5mm² (H07RN-F)
②. Cablu de alimentare 3x1.0mm²(H05RN-F)
③. Cabluri de comunicare 2x0.75mm²(H05RN-F)

U2RS-24 +V2DI-24
U2RS-30 +V2DI-30
①. Cablu de alimentare 3x2.5mm² (H07RN-F)
②. Cablu de alimentare 3x1.0mm² (H05RN-F)
③. Cabluri de comunicare 2x0.75mm² (H05RN-F)

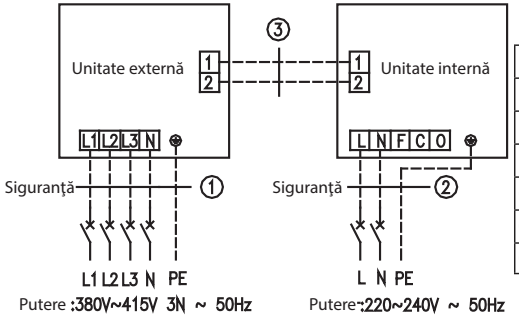
Unităţi monofazice (36K~50K)



U2RS-30 +V2DI-36
U2RS-45 +V2DI-45
①. Cablu de alimentare 3x2.5mm² (H07RN-F)
②. Cablu de alimentare 3x1.0mm² (H05RN-F)
③. Cabluri de comunicare 2x0.75mm² (H05RN-F)

U2RS-50 +V2DI-50
①. Cablu de alimentare 3x6.0mm² (H07RN-F)
②. Cablu de alimentare 3x1.0mm² (H05RN-F)
③. Cabluri de comunicare 2x0.75mm² (H05RN-F)

Unităţi trifazice



U2RT-36 +V2DI-36
U2RT-45 +V2DI-45
U2RT-50 +V2DI-50
U2RT-60 +V2DI-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). Instalaţia electrică pentru unitatea de interior

Îndepărtaţi capacul dozei electrice şi apoi conectaţi firele

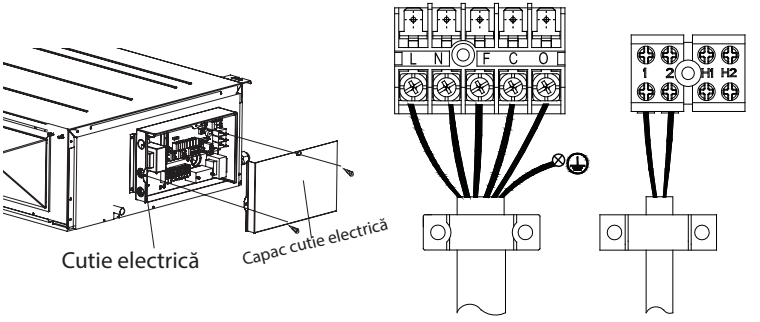


Fig.43

The F, C, O connect to the COMMOM, CLOSE and OPEN terminal of the fresh air valve respectively.

⚠ ATENŢIE!
① . Cablul de alimentare şi firul supapei de aer proaspăt au tensiune înaltă, în timp ce cablul de comunicare şi firul de conexiune al aparatului de comandă au tensiune joasă. Ele ar trebui să fie plasate separat ca să nu facă interferenţă magnetică.
② . Liniile de înaltă şi joasă tensiune ar trebui să treacă prin inele de cauciuc la capace diferite ale dozei.
③ . Nu strângeţi mănunchi firele de conexiune ale aparatului de comandă împreună cu cablul de comunicare, şi nu le aranjaţi în paralel, cu excepţia cazului în care ar apărea o funcţionare inadecvată.
④ . Liniile de înaltă şi joasă tensiune ar trebui să fie fixate separat şi în siguranţă cu brăţări interne mari în primul caz şi cu brăţări mici pentrru cele din urmă.
⑤ . Fixaţi cablul de conexiune interior/exterior şi respectiv cablul de alimentare pe panoul de conexiune cu şuruburi. Conexiunile greşite pot cauza incendii.
⑥ . În cazul în care cablul de conexiune al unităţii de interior (la unitatea de exterior) şi cablul de alimentare sunt cablate incorect, instalaţia de aer condiţionat poate fi avariată.

⑦ . Conectaţi aşa cum trebuie cablul de conexiune al unităţii de interior pe baza marcajelor corespunzătoare prezentate în Fig. 42
⑧ . Împământaţi atât unitatea de interior cât şi unitatea de exterior ataşând un cablu de împământare.
⑨ . Unitatea trebuie să fie împământată conform codurilor locale şi naţionale.

(6). Instalaţia electrică a unităţii de exterior

Atenţie: Atunci când conectaţi un cablu de alimentare vă asiguraţi că faza de alimentare se potriveşte cu tabloul cu borne. În cazul în care nu se potriveşte, compresorul va roti invers şi va funcţiona eronat. Îndepărtaţi mânerul mare (12~45K) /panoul frontal (50/60K) al unităţii de exterior şi introduceţi capătul cablului de comunicare şi cablul de alimentare în tabloul cu borne.

Monofazic:

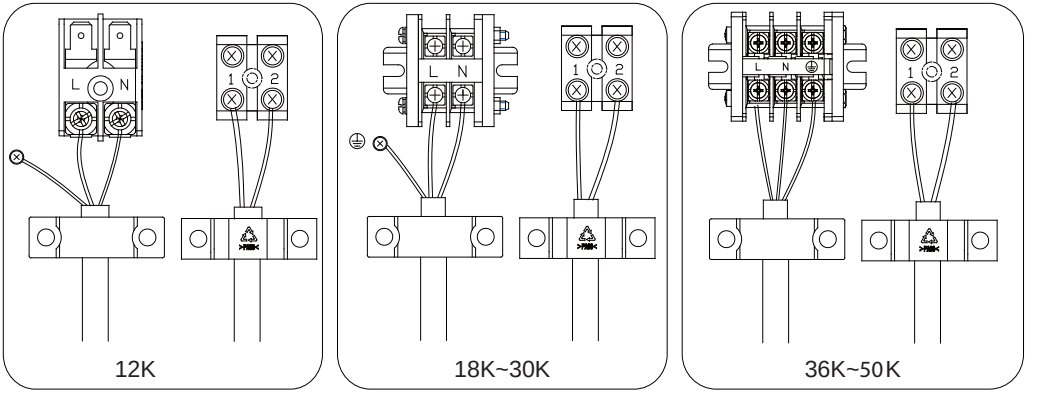


Fig.44

Trifazic:

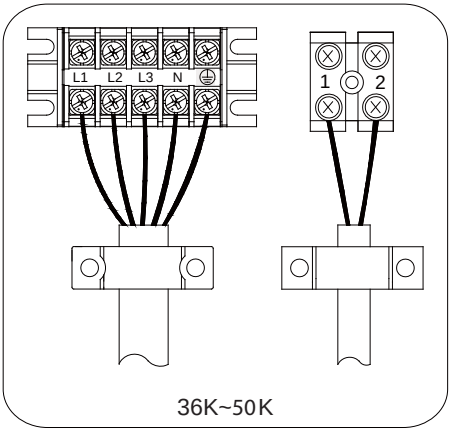


Fig.45

5 Montarea aparatelor de comandă

Studiați Manualul de montare a aparatului de comandă pentru mai multe detalii.

6 Testare

6.1 Funcţionare de probă şi testare

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

Tabelul 11

Număr	Cod de eroare	Eroare	Observaţii
1	E1	Protecţie presiune înaltă a compresorului	
2	E2	Protecţie anti-îngheţ pentru interior	
3	E3	Protecţie presiune joasă a compresorului, protecţie lipsă de agent de refrigerare şi mod de fixare a agentului de refrigerare	
4	E4	Protecţie temperaturi mari ale compresorului	
5	E6	Eroare de comunicare	
6	E8	Eroare motor ventilator interior	
7	E9	Protecţie 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	Protecţie suprasarcină compresor	
19	H4	Supraîncărcare	
20	H5	Protecţie IPM	
21	H6	Eroare motor ventilator DC	
22	H7	Protecţie desincronizare de acţionare	
23	Hc	Protecţie Pfc	
25	Lc	Eşec activare	
26	Ld	Protecţie succesiune de fază a compresorului	
27	LE	Protecţie oprire compresor	
28	LF	Protecţie alimentare	
29	Lp	Nepotrivire interior şi exterior	
30	U7	Protecţie modificare direcţie la supapa în 4 direcţii	
31	P0	Protecţie resetare circuit	
32	P5	Protecţie supraintensitate	
33	P6	Eroare de comunicare între comanda principală şi circuit	
34	P7	Eroare senzor modul de acţionare(circuit)	
35	P8	Protecţie supraîncălzire modul de acţionare	
36	P9	Protecţie trecere zero	

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

Atenţie: Atunci când unitatea este conectată la un aparat de comandă, codul de eroare va fi afişat şi pe acesta în mod simultan.

(2). Instrucţiuni pentru becurile de semnalizare a erorilor de pe panoul unităţii de tip duct.

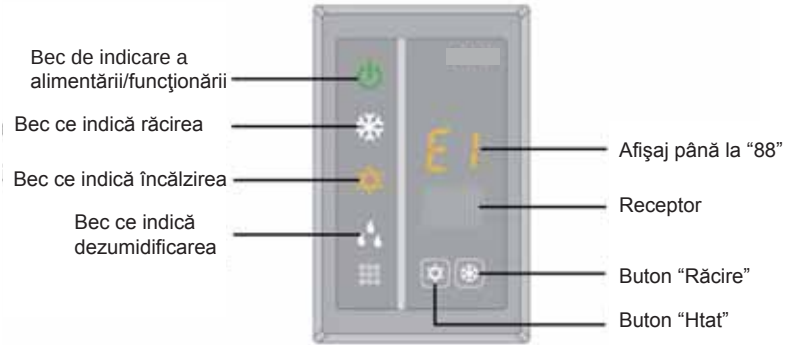


Fig.47

6.2 Gama de temperaturi de funcţionare

Tabelul 12

Condiţie 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

Atenţie:

(1). Proiectarea acestei unităţi se conformează cerinţelor standardului EN14511.
(2). Volumul de aer este măsurat la presiunea statică externă standardul specific.
(3). Capacitatea de răcire (încălzire) menţionată mai sus este măsurată în condiţii de funcţionare nominale corespunzătoare presiunii statice externe standard. Parametrii sunt supuşi modificărilor în momentul îmbunătăţirii produselor, caz în care valorile de pe plăcuţele de identificare vor preleva.
(4). În acest tabel există două valori DB de exterior în condiţii de răcire la temperaturi joase, şi cea din paranteză este pentru unitatea care poate funcţiona la temperaturi extrem de scăzute.

7 Funcţionarea unităţii

7.1 Setarea senzorilor dubli de interior

Această serie de unităţi de aer condiţionat de tip duct are doi senzori de interior. Unul este amplasat la orificiul de admisie a aerului al unităţii de interior şi celălalt este amplasat în interiorul aparatului de comandă.
Utilizatorul poate selecta unul dintre cei doi senzori de interior în funcţie de necesităţile tehnice. Consultaţi secţiunea de instrucţiuni legate de aparatul de comandă pentru funcţionare detaliată.)

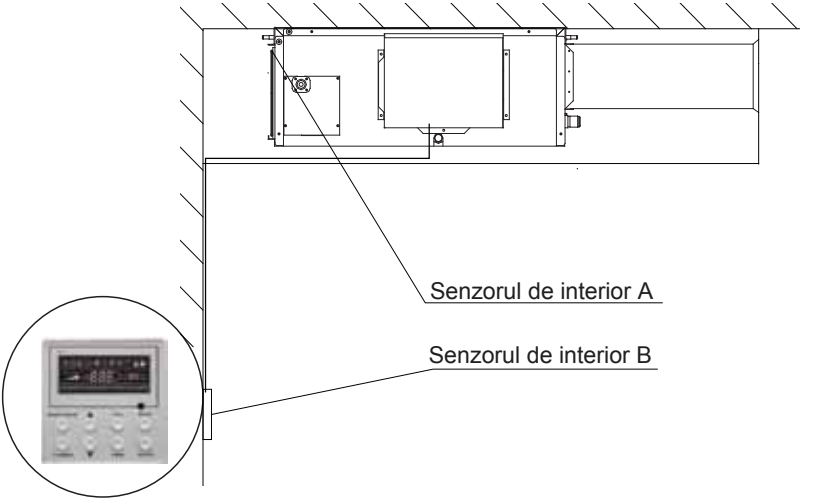


Fig.48

7.2 Verificarea temperaturii de ambient exterior

Temperatura de ambient exterior poate fi verificată pe aparatul de comandă pentru confortul utilizatorului înainte de a ieşi afară. (Consultaţi secţiunea de instrucţiuni legate de aparatul de comandă pentru funcţionare detaliată.)

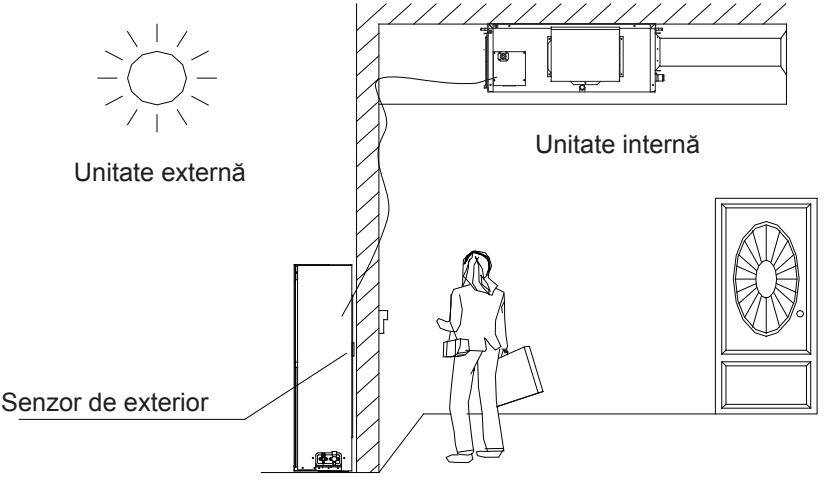


Fig.49

7.3 Controlul aerului proaspăt

Se poate realiza controlul pe 11 nivele pentru cantitatea de aer proaspăt admis. Funcţia nu numai că facilitează sănătatea utilizatorului, dar controlează şi pierderile consumului de energie cauzate de admisia de aer proaspăt. Acest tip de control poate fi realizat prin intermediul aparatului de comandă. Funcţia poate fi setată oricând, intră în vigoare imediat, şi presupune o funcţionare foarte simplă. (Consultaţi secţiunea de instrucţiuni legate de aparatul de comandă pentru funcţionare detaliată.)

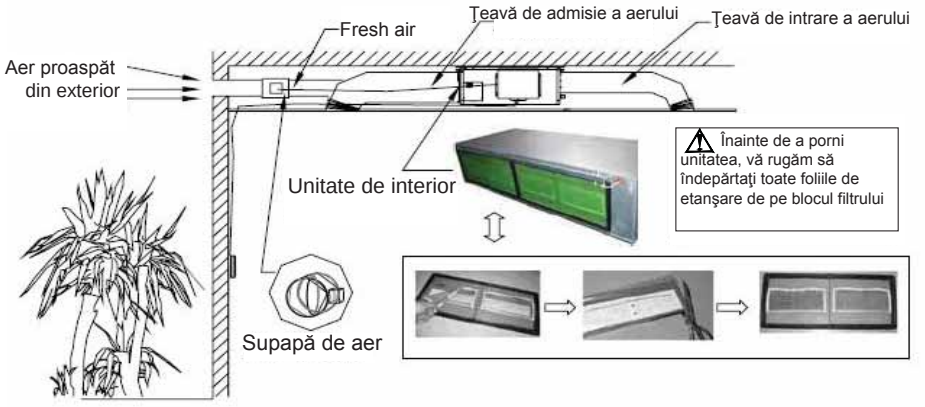


Fig.50

8 Depanare şi întreţinere

8.1 Depanare

În cazul în care unitatea de aer condiţionat funcţionează anormal sau nu mai funcţionează, vă rugăm să verificaţi mai întâi următoarele aspecte înainte de a o repara:

Avarie	Posibile motive
Unitatea nu porneşte	(1). Nu este cuplată alimentarea. (2). Scurgere electrică a unităţii de aer condiţionat cauzează declanşarea prizei cu scurgere (3). Tastele de funcţionare sunt blocate (4). Bucla de comandă nu porneşte
Unitatea funcţionează un timp, apoi se opreşte	(1). Există un obstacol în faţa condensatorului (2). Bucla de comandă este anormală (3). Operaţia de răcire este selectată atunci când temperatura de ambient este peste 48ºC
Efect de răcire slab	(1). Filtrul de aer este murdar sau blocat (2). Există o sursă de căldură sau sunt prea multe persoane în încăpere (3). Uşa 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 blocat (2). Uşa sau fereastra sunt închise bine (3). Temperatura din încăpere este prea scăzută (4). Există scăpări de agent de refrigerare

După ce se realizează verificările părţilor menţionate mai sus şi după ce se iau măsuri relevante pentru a rezolva problema, în cazul în care unitatea tot nu funcţionează bine, opriţi funcţionarea unităţii imediat şi contactaţi o agenţie de service locală desemnată de Inventor. Cereţi doar personalului calificat să verifice şi să repare unitatea.

8.2 Întreţinere de rutină

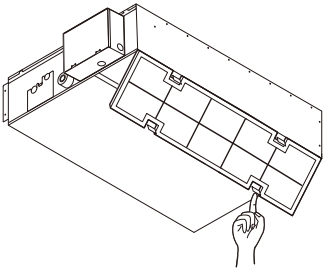
Doar o persoană calificată are dreptul să realizeze lucrări de întreţinere.
Înainte de a accesa dispozitivele terminale, toate circuitele de alimentare trebuie să fie deconectate.
Nu utilizaţi apă sau aer la 50°C sau mai mult pentru a curăţa filtrele de aer sau panourile exterioare.

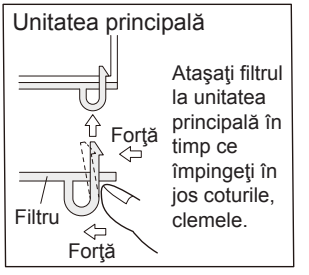
Atenţie:
(1). Nu utilizaţi aerul condiţionat cu filtrul neinstalat, altfel praful ar putea intra în unitate.
(2). Nu îndepărtaţi filtrul de aer decât dacă îl curăţaţi. Mânuirea inutilă poate deteriora filtrul.
(3). Nu curăţaţi unitatea cu gaz, benzen, tiner, pudră de lustruire sau insecticid lichid, altfel veţi cauza decolorarea şi deformarea unităţii.

4). Nu umeziţi unitatea de interior în caz de şoc electric sau pericol de incendiu.

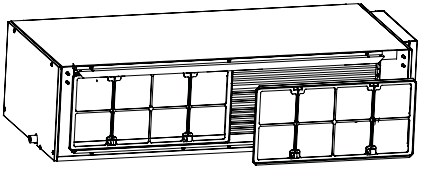
Creşteţi frecvenţa de curăţare dacă unitatea este instalată într-o încăpere în care aerul este extrem de contaminat. (Ca etalon, consideraţi curăţarea filtrului o dată la jumătate de an.)
În cazul în care mizeria devine imposibil de curăţat, schimbaţi filtrul. (Filtrul de aer se schimbă opţional.)
(1). Îndepărtarea filtrului de aer din duct.
(2). Curăţarea filtrului de aer.
Îndepărtaţi praful de pe filtrul de aer utilizând un aspirator şi clătiţi uşor în apă rece. Nu utilizaţi detergenţi sau apă fierbinte pentru a evita intrarea la apă a filtrului sau deformarea sa. După curăţare uscaţi-le la loc ferit de soare.

12/18k:





24~60k:



Apăsaţi filtrul de la gura de admisie a aerului recirculat în jos spre buretele şanţului de direcţie şi scoateţi-l în direcţia arătată de săgeată. Sunt două filtre la gura de admisie a aerului recirculat.

(3). Înlocuirea filtrului de aer

Reinstalaţi filtrul ca mai înainte.

Note:

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