AIR CONDITIONING SYSTEMS
DUCT TYPE

- **USER'S MANUAL**
- **ΕΓΧΕΙΡΙΔΙΟ ΧΡΗΣΗΣ**
- **MANUAL UTILIZATORULUI**



MODELS:
V4MDI-12/U4MRS-12
V4MDI-18/U4MRS-18
V4MDI-24/U4MRS-24
V4MDI-36/U4MRS-36
V4MDI-42/U4MRT-42
V4MDI-50/U4MRT-50
V4MDI-60/U4MRT-60

ENGLISH | ΕΛΛΗΝΙΚΑ | ROMANA

- **If used as MULTI unit, please refer to the Installation & operation manuals packed with outdoor unit.**

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1. SAFETY PRECAUTIONS

- **Keep this manual where the operator can easily find them.**
- **Read this manual attentively before starting up the units.**
- **For safety reason the operator must read the following cautions carefully.**
- **Installation must be performed in accordance with the requirement of NEC and CEC by authorized personnel only.** （**Applicable to the North American area only**）

The safty precautions listed here are divided into two categories.

WARNING

If you do not follow these instrutions exactly, the unit may cause property damage, personal injury or loss of life.

CAUTION

If you do not follow these instrutions exactly, the unit may cause minor or moderate property damage, personal injury.

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

WARNING

Be sure only trained and qualified service personnel to install, repair or service the equipment.

Improper installation, repair, and maintenance may result in electric shocks, short-circuit, leaks, fire or other damage to the equipment.

Install according to this installation instructions strictly.
If installation is defective, it will cause water leakage, electrical shock and fire.

When installing the unit in a small room, take measures against to keep refrigerant concentration from exceeding allowable safety limits in the event of refrigerant leakage.
Contact the place of purchase for more information. Excessive refrigerant in a closed ambient can lead to oxygen deficiency.

Use the attached accessories parts and specified parts for installation.
otherwise, it will cause the set to fall, water leakage, electrical shock and fire.

Install at a strong and firm location which is able to withstand the set' s weight.
If the strength is not enough or installation is not properly done, the set will drop to cause injury.

The appliance must be installed 2.3m / 7.5ft above floor.

The appliance shall not be installed in the laundry.

Before obtaining access to terminals, all supply circuits must be disconnected.

The appliance must be positioned so that the plug is accessible.

The enclosure of the appliance shall be marked by word, or by symbols, with the direction of the fluid flow.

For electrical work, follow the local national wiring standard, regulation and this installation instructions. An independent circuit and single outlet must be used.
If electrical circuit capacity is not enough or defect in electrical work, it will cause electrical shock or fire.

Use the specified cable and connect tightly and clamp the cable so that no external force will be acted on the terminal.
If connection or fixing is not perfect, it will cause heat-up or fire at the connection.

Wiring routing must be properly arranged so that control board cover is fixed properly.
If control board cover is not fixed perfectly, it will cause heat-up at connection point of terminal, fire or electrical shock.

If the supply cord is damaged, it must be replaced by the manufacture or its service agent or a similarly qualified person in order to avoid a hazard.

An all-pole disconnection switch having a contact separation of at least 3mm/0.118in in all poles should be connected in fixed wiring.

When carrying out piping connection, take care not to let air substances go into refrigeration cycle.
Otherwise, it will cause lower capacity, abnormal high pressure in the refrigeration cycle, explosion and injury.

Do not modify the length of the power supply cord or use of extension cord, and do not share the single outlet with other electrical appliances.
Otherwise, it will cause fire or electrical shock.

Carry out the specified installation work after taking into account strong winds, typhoons or earthquakes.
Improper installation work may result in the equipment falling and causing accidents.

If the refrigerant leaks during installation, ventilate the area immediately.
Toxic gas may be produced if the refrigerant comes into the place contacting with fire.

The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.

After completing the installation work, check that the refrigerant does not leak.
Toxic gas may be produced if the refrigerant leaks into the room and comes into contact with a source of fire, such as a fan heater, stove or cooker.

CAUTION

Ground the air conditioner.
Do not connect the ground wire to gas or water pipes, lightning rod or a telephone ground wire.inappropriate grounding may result in electric shocks.

Be sure to install an earth leakage breaker.
Failure to install an earth leakage breaker may result in electric shocks.

Connect the outdoor unit wires , then connect the indoor unit wires.
You are not allowed to connect the air conditioner with the power supply until the wiring and piping is done.

While following the instructions in this installation manual, install drain piping in order to ensure proper drainage and insulate piping in order to prevent condensation.
Improper drain piping may result in water leakage and property damage.

Install the indoor and outdoor units, power supply wiring and connecting wires should be at least 1 meter away from televisions or radios in order to prevent image interference or noise.
Depending on the radio waves, a distance of 1 meter may not be sufficient enough to eliminate the noise.

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

Don't install the air conditioner in the following circumstance:

- There is petrolatum existing.
- There is salty air surrounding (near the coast).
- There is caustic gas (the sulfide, for example) existing in the air (near a hot spring).
- The Volt vibrates violently (in the factories).
- In buses or cabinets.
- In kitchen where it is full of oil gas.
- There is strong electromagnetic wave existing.
- There are inflammable materials or gas.
- There is acid or alkaline liquid evaporating.
- Other special conditions.

The appliance shall be installed in accordance with national wiring regulations.

Do not operate your air conditioner in a wet room such as a bathroom or laundry room.

An all-pole disconnection device which has at least 3mm clearances in all poles , and have a leakage current that may exceed 10mA, the residual current device (RCD) having a rated residual operating current not exceeding 30mA, and disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.

2. INSTALLATION INFORMATION

- **To install properly, please read this "installation manual" at first.**
- **The air conditioner must be installed by qualified persons.**
- **When installing the indoor unit or its tubing, please follow this manual as strictly as possible.**
- **If the air conditioner is installed on a metal part of the building, it must be electrically insulated according to the relevant standards to electrical appliances.**
- **When all the installation work is finished, please turn on the power only after a thorough check.**
- **Regret for no further announcement if there is any change of this manual caused by product improvement.**

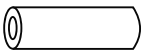
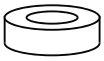
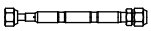
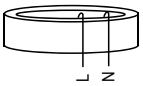
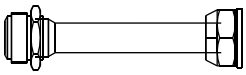
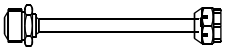
INSTALLATION ORDER

- Select the location;
- Install the indoor unit;
- Install the outdoor unit;
- Install the connecting pipe ;
- Connect the drain pipe;
- Wiring;
- Test operation.

3. ATTACHED FITTINGS

Please check whether the following fittings are of full scope. If there are some spare fittings , please restore them carefully.

Table 3-1

	NAME	SHAPE	QUANTITY
Tubing & Fittings	1. Soundproof / insulation sheath		2
	2. Binding tape		1
	3.Seal sponge		1
	4.Orifice		1 (on some models)
Drainpipe Fittings (for cooling & heating)	5. Drain joint		1
	6. Seal ring		1
Remote controller & Its Frame (Match with remote controller) (for some models)	7. Remote controller		1
	8. Frame		1
	9.Mounting screw(ST2.9×10-C-H)		2
	10.Alkaline dry batteries (AM4)		2
	11. Remote controller manual	—	1
Wire controller & Its Frame (Match with wire controller) (for some models)	12. Wire controller	—	1
	13. Wire controller owner's manual	—	1
	14. Wire controller installation manual	—	1
EMC & Its Fitting (for some models)	15. Magnetic ring (twist the electirc wires L and N around the magnetic ring to five circles)		1
Others	16. Owner's manual	—	1
	17. Installation manual	—	1
	18 .Transfer connector(Φ12.7-Φ15.9)/ (Φ0.5in-Φ0.63in) (Packed with the indoor unit) (NOTE: Pipe size differ from appliance to appliance.To meet different pipe size requirement, sometimes the pipe connections need the transfer connector to install on the outdoor unit .)		1 (on some models)
	19 .Transfer connector(Φ6.35-Φ9.52)/ （Φ0.25in-Φ0.375in ） (Packed with the indoor unit) (NOTE: Pipe size differ from appliance to appliance.To meet different pipe size requirement, sometimes the pipe connections need the transfer connector to install on the outdoor unit .)		1 (on some models)
	20 .Transfer connector(Φ9.52-Φ12.7)/ (Φ0.375in-Φ0.5in) (Packed with the indoor unit,used for multi-type models only) (NOTE: Pipe size differ from appliance to appliance.To meet different pipe size requirement, sometimes the pipe connections need the transfer connector to install on the outdoor unit .)	—	1 (on some models)
	21. Connecting wire for display (2M)	—	1 (on some models)
	22. Cord protection rubber ring		1 (on some models)

4. INSPECTING AND HANDLING THE UNIT

At delivery, the package should be checked and any damage should be reported immediately to the service agent.

When handling the unit, take into account the following:

1 Fragile, handle the unit with care.

Keep the unit upright in order to avoid compressor damage.

2 Choose on before hand the path along which the unit is to be brought in.

3 Move this unit as originally package as possible.

4 When lifting the unit , always use protectors to prevent belt damage and pay attention to the position of the unit's centre of gravity.

5. INDOOR UNIT INSTALLATION

5.1 Installation place

The indoor unit should be installed in a location that meets the following requirements:

- There is enough room for installation and maintenance.
- The ceiling is horizontal, and its structure can endure the weight of the indoor unit.
- The outlet and the inlet are not impeded, and the influence of external air is the least.
- The air flow can reach throughout the room.
- The connecting pipe and drainpipe could be extracted out easily.
- There is no direct radiation from heaters.

Maintenance roomage

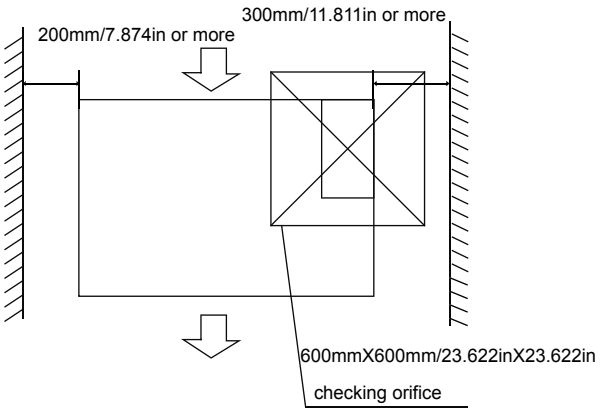


Fig.5-1

CAUTION

Keep indoor unit, outdoor unit, power supply wiring and transmission wiring at least 1 meter away from televisions and radios. This is to prevent image interference and noise in those electrical appliances. (Noise may be generated depending on the conditions under which the electric wave is generated, even if 1 meter is kept.)

5.2 Install the main body

1 Installing Ø10/Ø0.394in hanging screw bolts. (4 bolts)

- Please refer to the following figures for positioning 4 screw bolts.
- Evaluate the ceiling construction and please install with Ø10 / Ø0.394in hanging screw bolts.
- Consult the construction personnels for the specific procedures.
  - Do keep the ceiling flat. Consolidate the roof beam to avoid possible vibration.
- Carry out the pipe and line operation in the ceiling after finishing the installation of the main body. While choosing where to start the operation, determine the direction of the pipes to be drawn out. Especially in case there is a ceiling, position the refrigerant pipes, drain pipes,indoor & outdoor lines to the connection places before hanging up the machine.
- The installation of hanging screw bolts.
  - Cut off the roof beam.
  - Strengthen the place that has been cut off, and consolidatethe roof beam.
- After the selection of installation location, position the refrigerant pipes, drain pipes, indoor & outdoor wires to the connection places before hanging up the machine.
- The installation of hanging screw bolts.

NOTE

Confirm the minimum drain tilt is 1/100 or more

5.2.1 Wooden construction

Put the square timber traversely over the roof beam, then install the hanging screw bolts. *(Refer to Fig.5-2)*

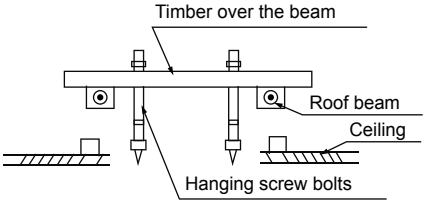


Fig.5-2

5.2.2 New concrete bricks

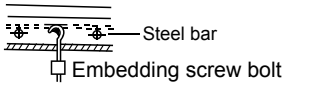
Inlaying or embedding the screw bolts. (Refer to Fig. 5-3)



Fig.5-3

5.2.3 For Original concrete bricks

Use embedding screw bold, crock and stick harness.
(Refer to Fig.5-4)



(Pipe hanging and embedding screw bolt)

Fig.5-4

5.2.4 Steel roof beam structure

Install and use directly the supporting angle steel. (Refer to Fig.5-5)

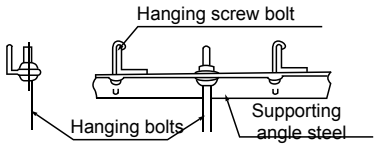


Fig.5-5

2 Overhanging the indoor unit

(1) Overhang the indoor unit onto the hanging screw bolts with block.
(2) Position the indoor unit in a flat level by using the level indicator, unless it may cause leakage.

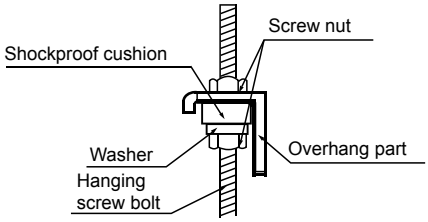


Fig.5-6

5.3 Duct and accessories installation

1. Install the filter(optional) according to air inlet size.
2. Install the canvas tie-in between the body and duct.
3. Air inlet and air outlet duct should be apart far enough to avoid air passage short-circuit.
4. Recommended duct connection

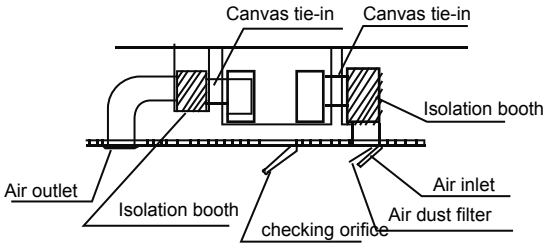


Fig.5-7

5. Please refer to the following static pressure to install

Table.5-1

MODEL (Btu/h)	Static Pressure (Pa)
12	30
18	70
24	70
30~36	80
42~60	100

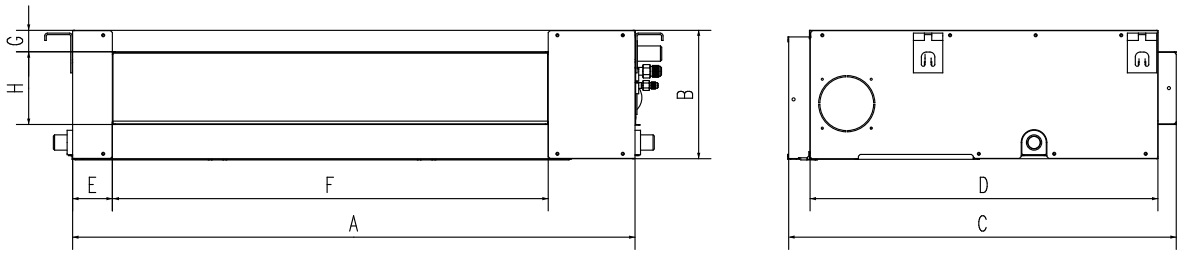
Change the fan motor static pressure corresponding to external duct static pressure.

NOTE

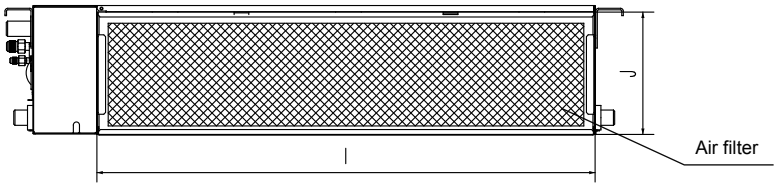
1. Do not put the connecting duct weight on the indoor unit.
2. When connecting duct, use inflammable canvas tie-in to prevent vibrating.
3. Insulation foam should be wrapped outside the duct to avoid condensate and internal duct underlayer shall be added to reduce the noise for special requirement.

Dimension and air outlet size

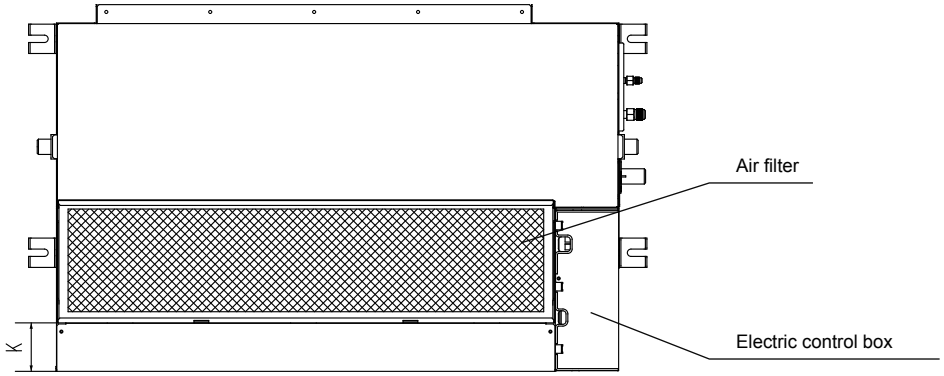
Unit: mm



Air inlet size



Position size of descensional ventilation opening



Size of mounted hook

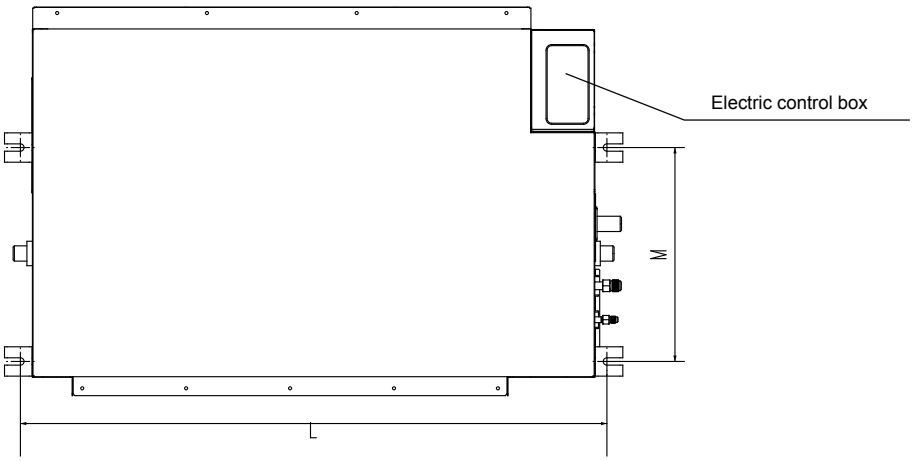


Fig.5-8

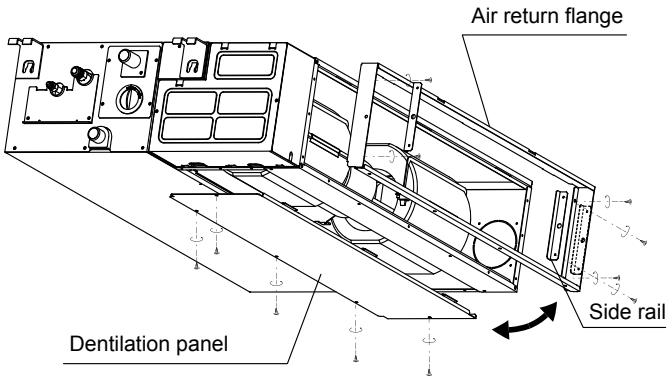
Table.5-2 mm

	Outline dimension				air outlet opening size				air return opening size			Size of mounted lug	
	A	B	C	D	E	F	G	H	I	J	K	L	M
12	700	210	635	570	65	493	35	119	595	200	80	740	350
12~18	920	210	635	570	65	713	35	119	815	200	80	960	350
24	920	270	635	570	65	713	35	179	815	260	20	960	350
36 (small model)	920	270	635	570	65	713	35	179	815	260	20	1180	490
30~36	1140	270	775	710	65	933	35	179	1035	260	45	1240	500
42~60	1200	300	865	800	80	968	40	204	1094	288	45	1240	500

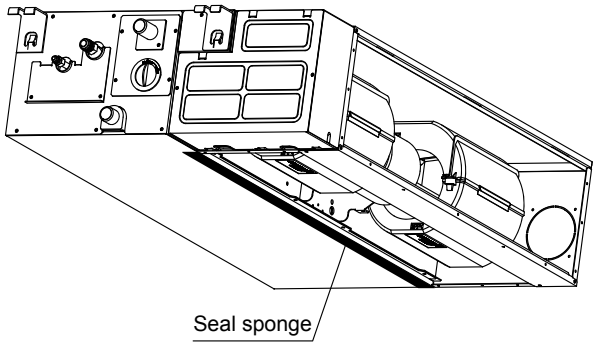
(in=mm/25.4)

How to adjust the air inlet direction? (From rear side to under-side.)

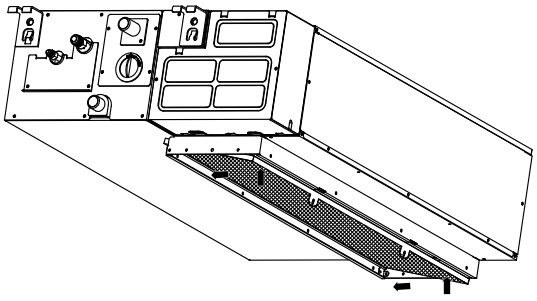
1. Take off ventilation panel and flange, cut off the staples at side rail.



2. Stick the attached seal sponge as per the indicating place in the following fig, and then change the mounting positions of air return panel and air return flange .



3. When install the filter mesh, please plug it into flange inclined from air return opening, and then push up.



4. The installation has finish, upon filter mesh which fixing blocks have been insert to the flange positional holes.

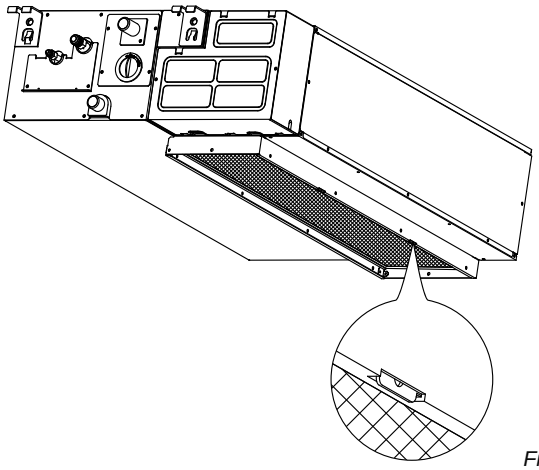


Fig.5-9

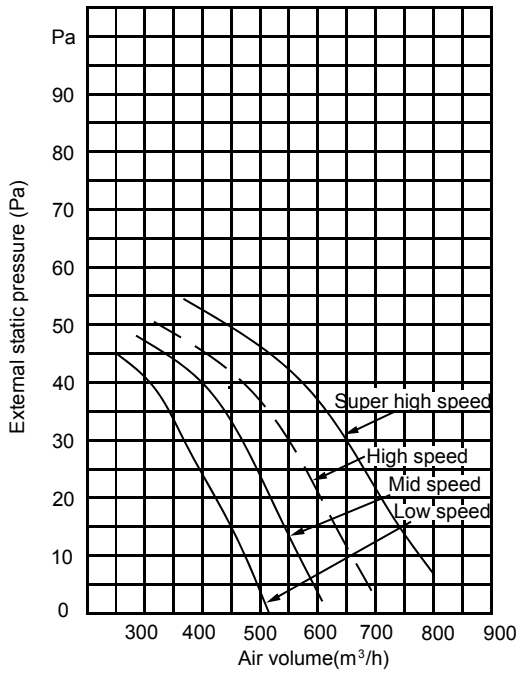
NOTE

All the figures in this manual are for explanation purpose only. They may be slightly different from the air conditioner you purchased.The actual unit shall prevail.

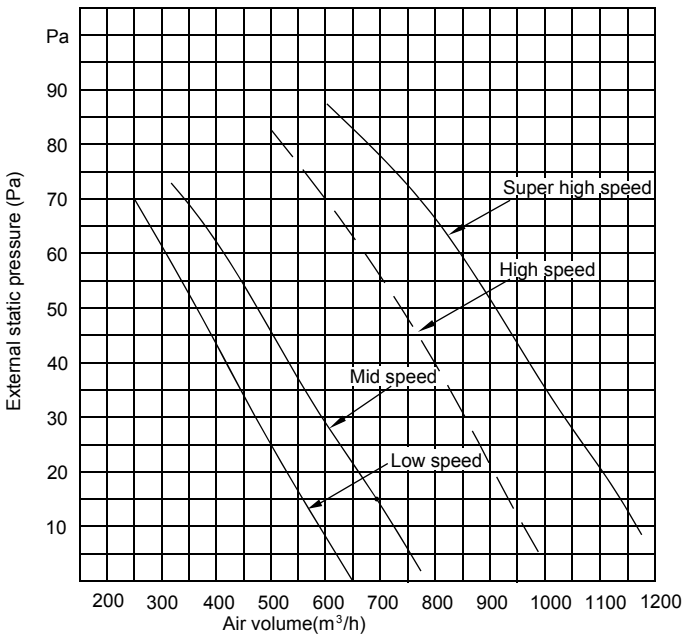
5.9 Fan performances

Static pressure curve(middle static pressure duct)

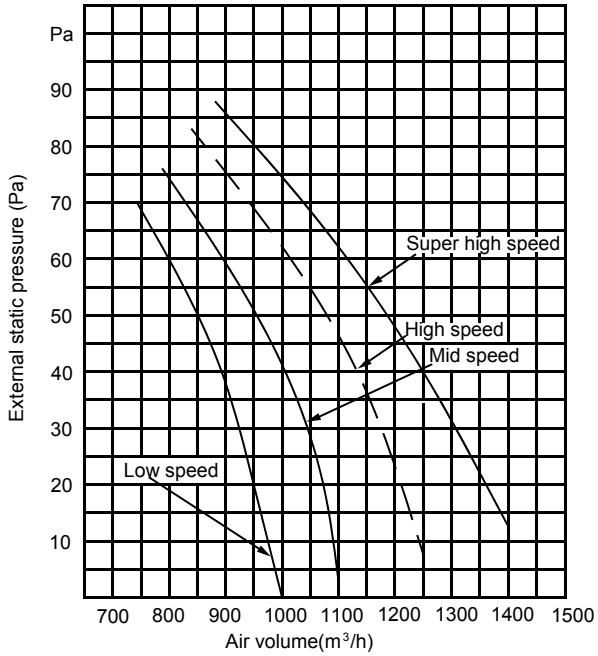
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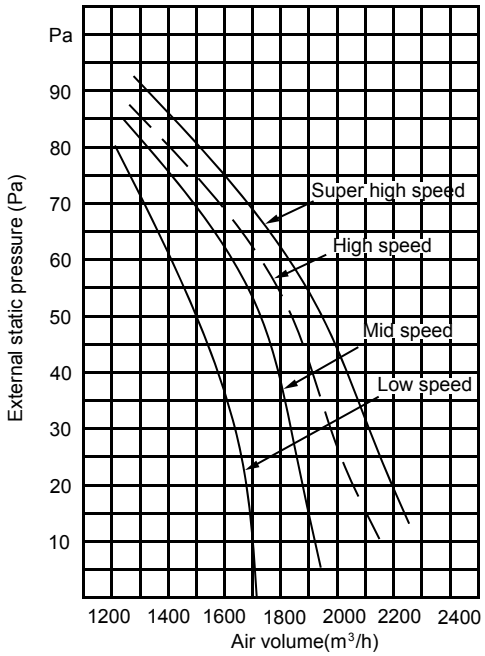
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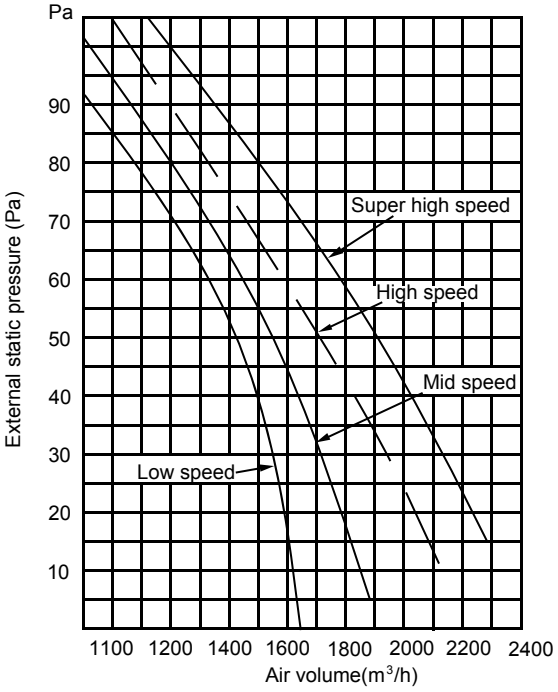
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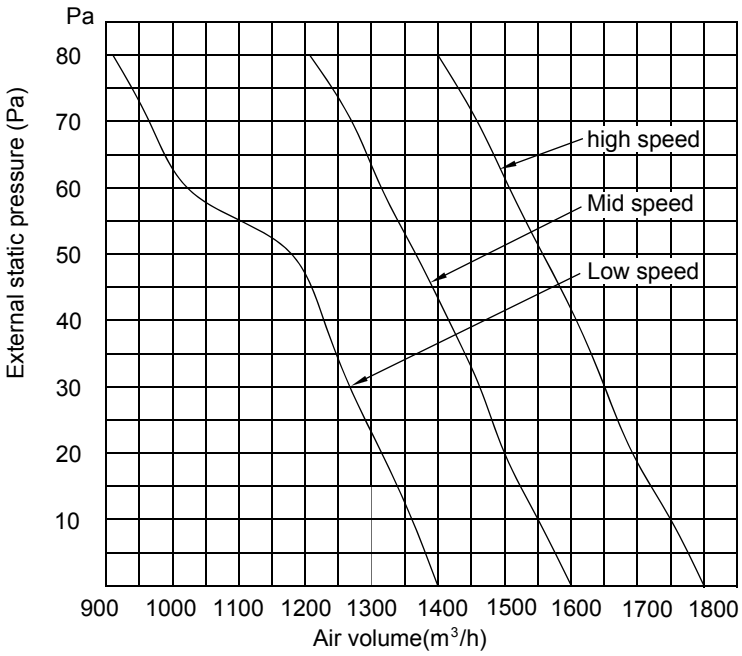
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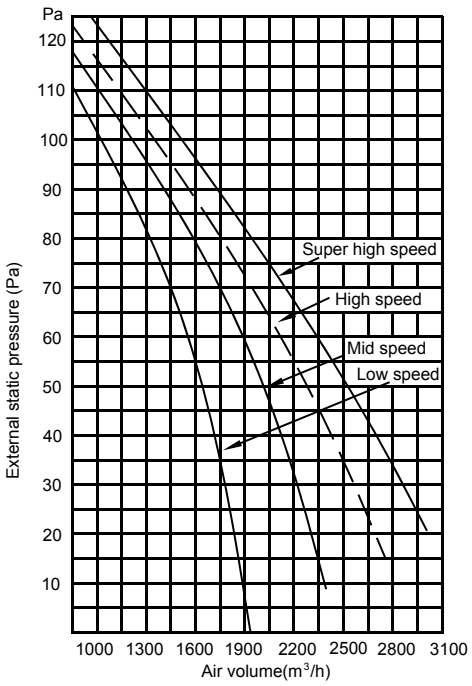
36K



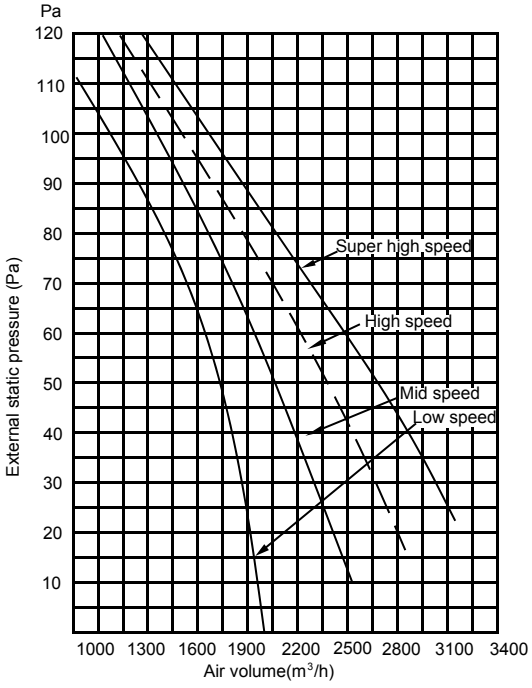
36K(small model)



48K

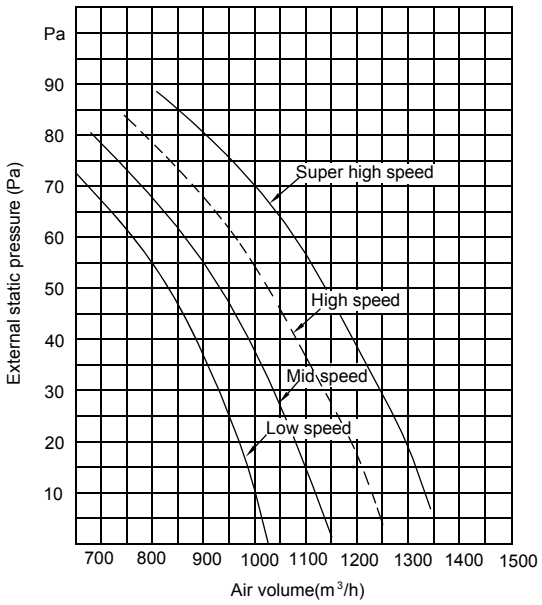


60K

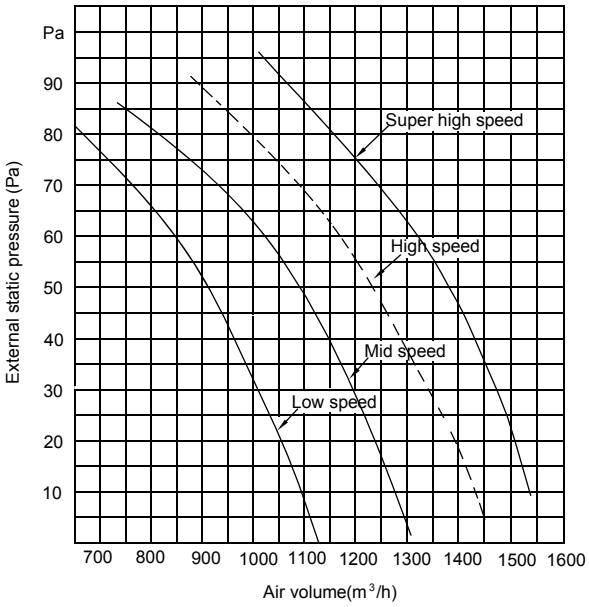


Static pressure curve(high static pressure duct)

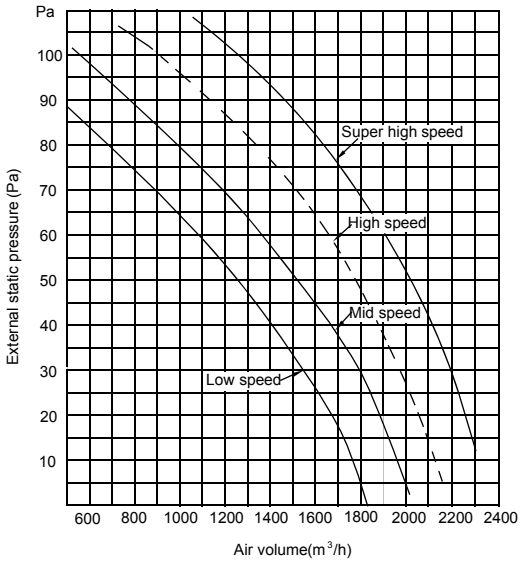
18k



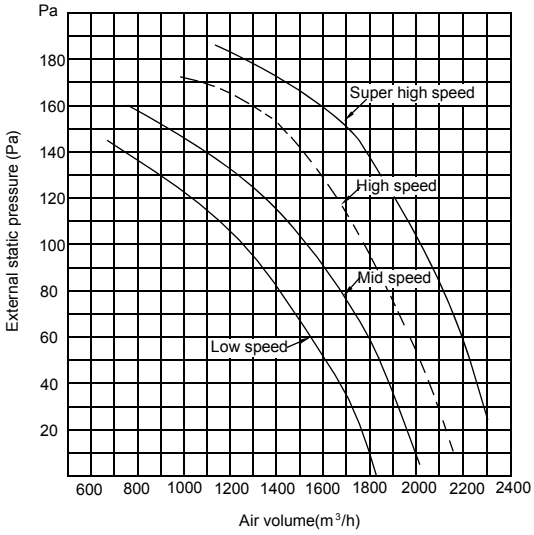
24K



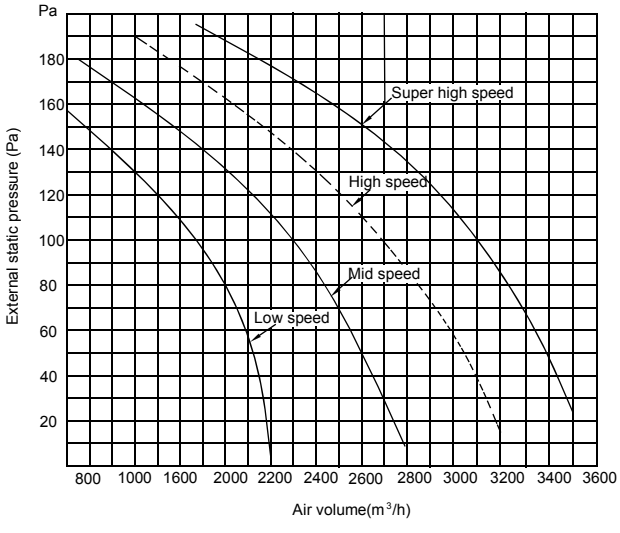
30K



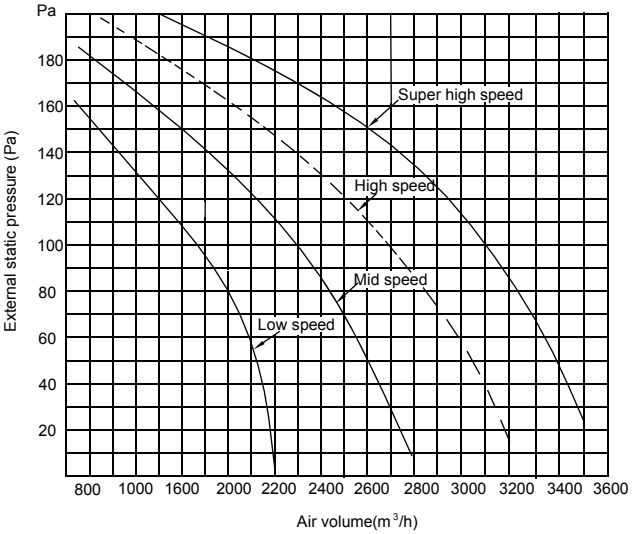
36K



48K



60K



6. OUTDOOR UNIT INSTALLATION

6.1 Installation Place

■ **The outdoor unit should be installed in the location that meets the following requiements:**

- There is enough room for installation and maintenance.
- The air outlet and the air inlet are not impeded, and can not be reached by strong wind.
- It must be a dry and well ventilating place.
- The support is flat and horizontal and can stand the weight of the outdoor unit. And will no additional noise or vibration.
- Your neighborhood will not feel uncomfortable with the noise or expelled air.
- It is easy to install the connecting pipes or cables.
- Determine the air outlet direction where the discharged air is not blocked.
- There is no danger of fire due to leakage of inflammable gas.
- The piping length between the outdoor unit and the indoor unit may not exceed the allowable piping length.
- In the case that the installation place is exposed to strong wind such as a seaside, make sure the fan operating properly by putting the unit lengthwise along the wall or using a dust shield.*(Refer to Fig.6-1)*
- If possible, do not install the unit where it is exposed to direct sunlight.
- If necessary, install a blind that does not interfere with the air flow.
- During the heating mode, the water drained off the outdoor unit ,The condensate should be well drained away by the drain hole to an appropriate place, so as not to interfere other people.
- Select the position where it will not be subject to snow drifts, accumulation of leaves or other seasonal debris. If unavoidable, please cover it with a shelter.
- Locate the outdoor unit as close to the indoor unit as possible.
- If possible, please remove the obstacles nearby to prevent the performance from being impeded by too little of air circulation.
- The minimum distance between the outdoor unit and obstacles described in the installation chart does not mean that the same is applicable to the situation of an airtight room. Leave open two of the three directions (M,N,P) *(Refer to Fig.6-5)*

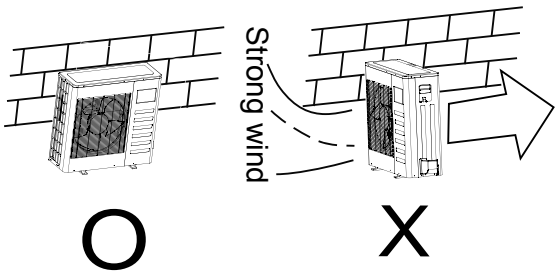


Fig.6-1

NOTE

All the figures in this manual are for explanation purpose only. They may be slightly different from the air conditioner you purchased.The actual uint shall prevail.

6.2 Figure of body size

1. Split type outdoor unit

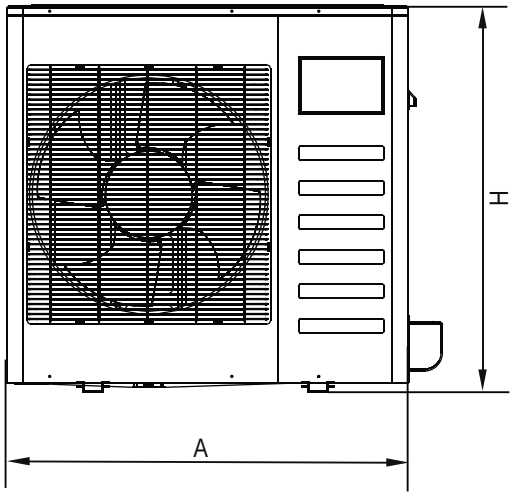


Fig.6-2

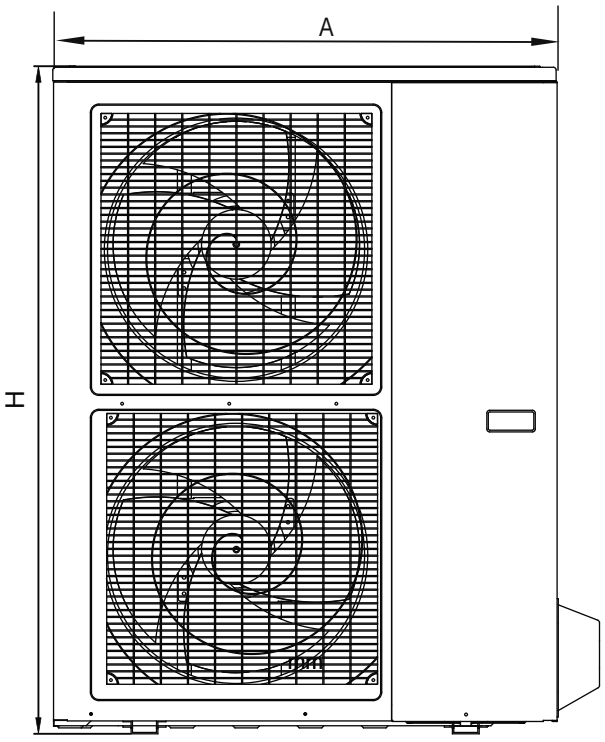


Fig.6-3

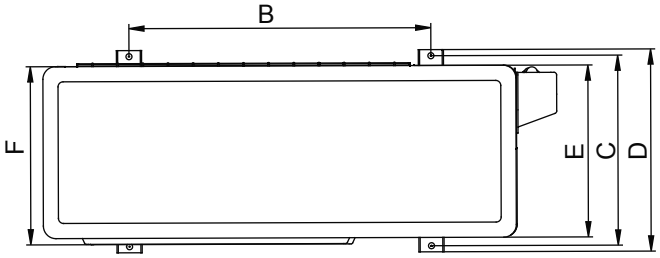


Fig.6-4

Table 6-1 mm

MODEL	A	B	C	D	E	F	H	REMARK
09~36	780	548	266	300	241	250	540	*Fig.6-2*
	770	487	298	322	260	300	555	*Fig.6-2*
	800	514	290	340	365	315	333	*Fig.6-2*
	845	540	350	376	335	340	700	*Fig.6-2*
	760	530	290	315	270	285	590	*Fig.6-2*
	845	560	335	360	312	320	700	*Fig.6-2*
	810	549	325	350	305	310	558	*Fig.6-2*
	945	640	405	448	385	395	810	*Fig.6-2*
	900	590	333	355	302	315	860	*Fig.6-2*
	990	624	366	396	340	345	965	*Fig.6-2*
	900	590	378	400	330	350	1170	*Fig.6-3*
	938	634	404	448	368	392	1369	*Fig.6-3*
42~60	946	673	403	455	405	420	810	*Fig.6-2*
	950	634	404	448	382	410	1333	*Fig.6-3*
	990	624	366	396	340	345	965	*Fig.6-2*
	938	634	404	448	368	392	1369	*Fig.6-3*
	900	590	378	400	330	350	1170	*Fig.6-3*

(in=mm/25.4)

2. Vertical discharge type outdoor unit

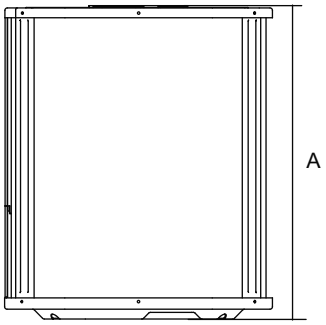


Fig.6-5

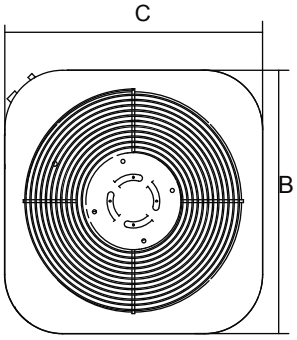


Fig.6-6

Table 6-2 unit：mm

MODEL	DIMENSIONS			REMARK
	A	B	C	
18	633/24.92in	554/21.81in	554/21.81in	Refore to *Fig.6-5* *Fig.6-6*
24	633/24.92in	554/21.81in	554/21.81in	
36	759/29.88in	554/21.81in	554/21.81in	
36	633/24.92in	600/23.62in	600/23.62in	
48	759/29.88in	710/27.95in	710/27.95in	
60	843/33.19in	710/27.95in	710/27.95in	

3. Centrifugal fan type outdoor unit

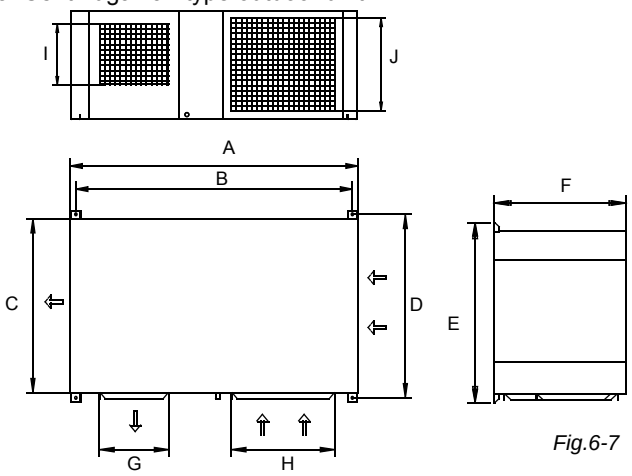


Fig.6-7

Table 6-3 unit：mm

MODEL	A	B	C	D	E	F	G	H	I	J
18	1174	1120	680	720	750	475	300	430	265	393
24	1174	1120	680	720	750	475	300	430	265	393
30	1381	1328	702	740	770	520	336	500	296	443
36	1381	1328	702	740	770	520	336	500	296	443
48	1394	1338	783	820	850	568	398	574	342	463
60	1394	1338	783	820	850	568	398	574	342	463

6.3 Space of installation and maintenance

1. Split type outdoor unit

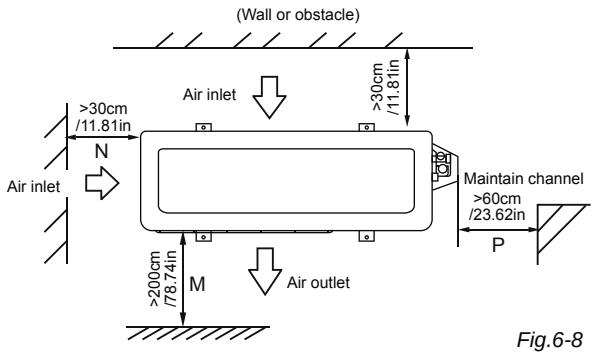


Fig.6-8

2. Vertical discharge type outdoor unit

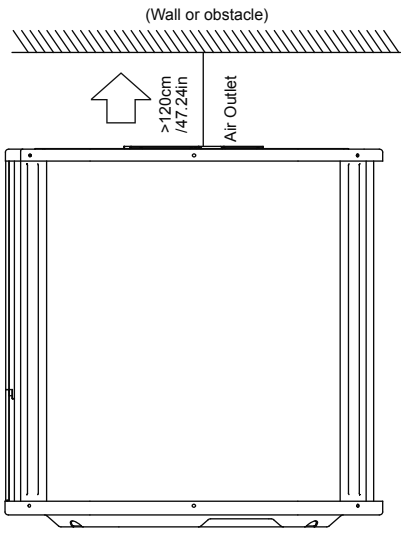


Fig.6-9

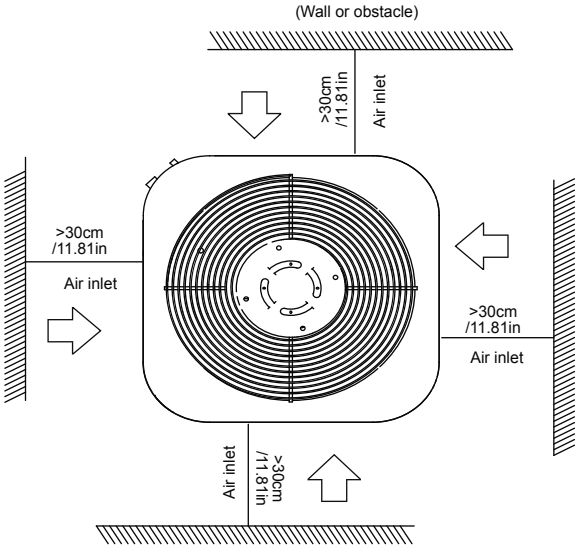


Fig.6-10

3. Centrifugal fan type outdoor unit

a) In case that suspending in the ceiling

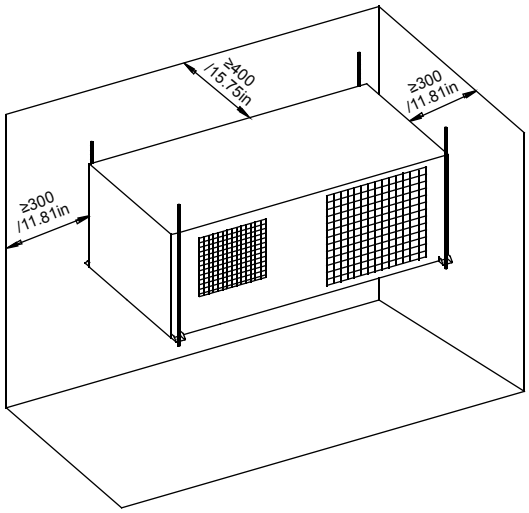


Fig.6-11

b)In case that installing on the floor

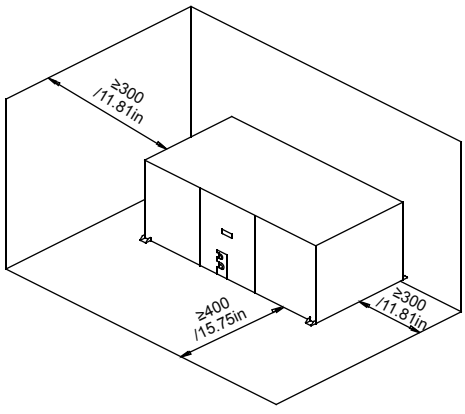


Fig.6-12

NOTE

All the figures in this manual are for explanation purpose only. They may be slightly different from the air conditioner you purchased.The actual unit shall prevail.

6.4 Available configuration for centrifugal fan type outdoor unit

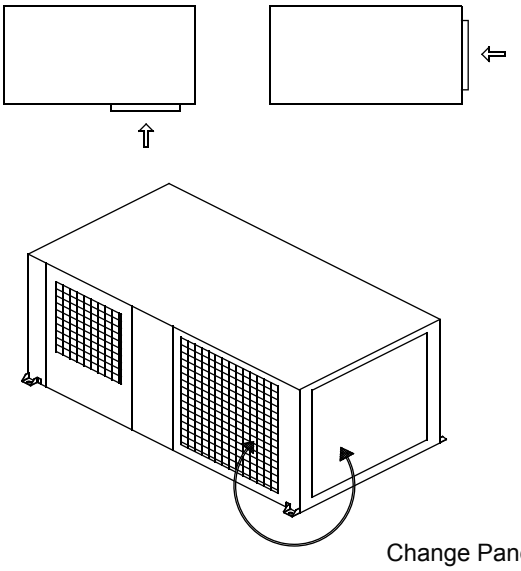
Four different configuration are available for oudoor unit only changing the panels and fan position.

NOTE

Keep in mind that fan unit weight is aprox 30kg/1058oz ,the unit as well as relevant equipment covered with the vinyl cover during installation work.

■ **Air inlet modification**

To change air inlet is only necessary to interchange the indicated panels position. Both panels use screws to be fixed to unit chassis.



Change Panel

Fig6-13

To change air outlet is necessary to interchange panels too. Fan outlet panel is attached to fan structure, which must be mounted as follow.

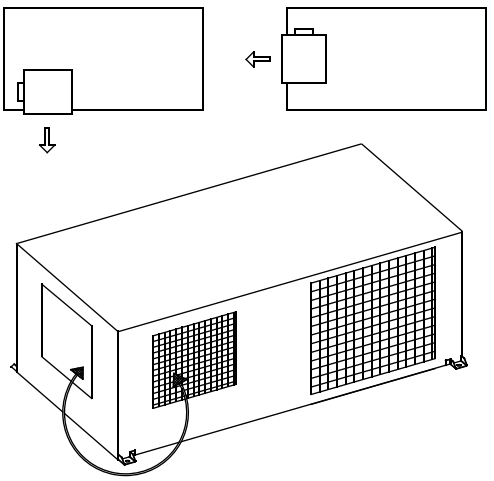


Fig.6-14

6.5 Moving and installation

- Since the gravity center of the unit is not at its physical center, so please be careful when lifting it with a sling.
- Never hold the inlet of the outdoor unit to prevent it from deforming.
- Do not touch the fan with hands or other objects.
- Do not lean it more than 45°, and do not lay it sidelong.
- Make concrete foundation accoding to the sepecif-ications of the outdoor units.*(Refer to Fig.6-15)*
- Fasten the feet of this unit with bolts firmly to prevent it from collapsing in case of earthquake or strong wind.*(Refer to Fig.6-15)*

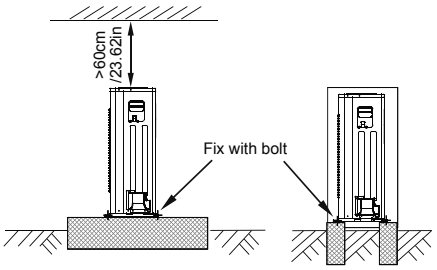


Fig.6-15

■ Concrete Foundation

1. Foundation could be on flat and is recommended be 100-300mm /3.94-11.81in higher than ground level.
2. Install a drainage around foundation for smooth drain
3. When installing the outdoor unit fix the unit by anchor bolts of M10
4. When installing the unit on a roof or a veranda, drain water sometimes turns to ice on the cold weather. Therefore, avoid draining in an area that people often use because it is slippery.

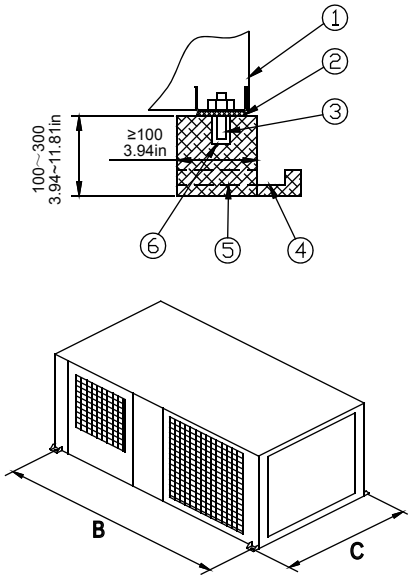


Fig.6-16

Table 6-4

No	Description
①	Outdoor Unit
②	Vibration-proof rubber
③	Anchor Bolt M10
④	Drainage (Wide 100/3.94in×Depth 150/5.9in)
⑤	Drainage
⑥	Mortar Hole (Φ100/3.94in×Depth 150/5.9in)

Table 6-5 unit：mm

MODEL	B	C
18～24	1120/44.1in	720/28.35in
30	1338/52.67in	820/32.28in
36	1338/52.67in	820/32.28in
48～60	1338/52.67in	820/32.28in

■ Suspended unit

1. Suspend the unit as the drawing indicates.
2. Ensure that ceiling can resist the Outdoor unit weight indicated in specification label plate.

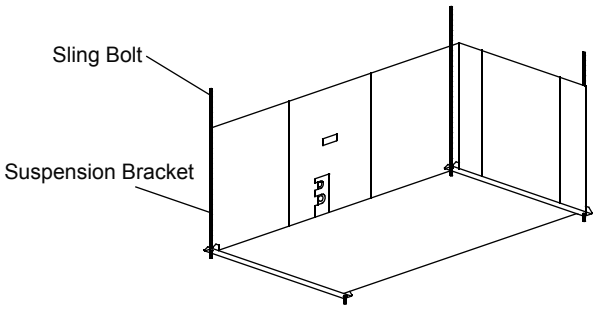


Fig.6-17

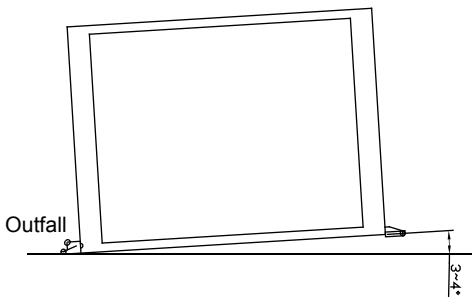


Fig.6-18

NOTE: Make sure 3-4 degree of angel is kept between the unit and the floor when the unit is installed in the low temperauture and humid environment.
Make sure the ice on the chassis of the outdoor unit can be dealt with when the unit is installed in the low temperature and humid enviroment.
The outdoor unit should be installed in mounting rack 30cm /11.81in high.The enviroment temperature should be above 0°.
The machine must be installed indoor.

7. INSTALL THE CONNECTING PIPE

7.1 Preparation and Caution

Before installation make sure the height difference, the length of refrigerant pipe, and the number of the bends between the indoor unit and outdoor unit meet the following requirements:

Table 7-1 unit:m

The type of models	Model	The length of refrigerant pipe	The max height drop
50Hz T1 condition/R22 Split type air conditioner	12K	15/49.21ft	8/26.25ft
	18K-24K	30/98.42ft	10/32.8ft
	30K-42K	50/164.04ft	20/65.62ft
	48K-60K	50/164.04ft	25/82.02ft
50Hz Vertical discharge air conditioner /60Hz T1 condition/R22 Split type air conditioner and Vertical discharge air conditioner	12K	15/49.21ft	8/26.25ft
	18K-24K	30/98.42ft	10/32.8ft
	30K-60K	30/98.42ft	20/65.62ft
R410A inverter Split type air conditioner and and Centrifugal fan outdoor unit	12K	10/32.8ft	5/16.4ft
	18K-24K	25/82.02ft	12/39.37ft
	30K	25/82.02ft	15/49.21ft
	36K	30/98.42ft	20/65.62ft
	48K-60K	50/164.04ft	25/82.02ft
R410A Split type air conditioner and and Centrifugal fan outdoor unit	12K	15/49.21ft	8/26.25ft
	18K-30K	25/82.02ft	15/49.21ft
	36K	30/98.42ft	20/65.62ft
	48K-60K	50/164.04ft	25/82.02ft
50Hz/60Hz T3 condition (outdoor unit down)	18K-24K	25/82.02ft	10/32.8ft
	30K	30/98.42ft	15/49.21ft
	36K	30/98.42ft	20/65.62ft
	42K-60K	50/164.04ft	25/82.02ft
50Hz/60Hz T3 condition (outdoor unit up)	18K-24K	25/82.02ft	15/49.21ft
	30K	30/98.42ft	20/65.62ft
	36K	30/98.42ft	25/82.02ft
	42K	50/164.04ft	30/98.42ft
	48K-60K	50/164.04ft	35/114.83ft
the unit with quick joint	12K-18K	5/16.4ft	5/16.4ft

The outdoor unit is charged with rating refrigerant amount in the factory.Additional charge refers to the table below:

Table 7-2

liquid tube(mm)		R410A	R22
Ø6.35	orifice in the indoorunit	0.022kg/m×(L-5)	0.030kg/m×(L-5)
	orifice in the outdoorunit	0.011kg/m×(L-5)	0.015kg/m×L
Ø9.53	orifice in the indoorunit	0.060kg/m×(L-5)	0.065kg/m×(L-5)
	orifice in the outdoorunit	0.030kg/m×(L-5)	0.030kg/m×L
Ø12.7	orifice in the indoorunit	0.110kg/m×(L-5)	0.115kg/m×(L-5)
	orifice in the outdoorunit	0.060kg/m×(L-5)	0.060kg/m×L
Ø15.9	orifice in the indoorunit	0.170kg/m×(L-5)	0.190kg/m×(L-5)
	orifice in the outdoorunit	0.085kg/m×(L-5)	0.095kg/m×L
Ø19.0	orifice in the indoorunit	0.250kg/m×(L-5)	0.290kg/m×(L-5)
	orifice in the outdoorunit	0.125kg/m×(L-5)	0.145kg/m×L

- NOTE:the table above refer to the liquid tube.
- NOTE:The number of bends is up to the length of the max height drop.Usually for each 10m/32.8ft need a bend.

CAUTION

All field piping must be provided by a licensed refrigeration technician and must comply with the relevant local and national codes.

Prevent let air, dust, or other impurities enter in the pipe system during installation.

Insulation pipe shall be used to the gas piping and the liquid piping. Otherwise, the condensate may happen.

7.2 The Procedure of Connecting Pipes

1 Measure the required length of the connecting pipe, then make it by the following way.

■ Connect the indoor unit first, then the outdoor unit.

• Bend the tubing in proper way. Do not twist the pipe.

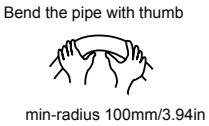


Fig.7-1

• Put some refrigerant oil on the surfaces of the flare pipe and the joint nuts then wrench it for 3~4 rounds with hands before fasten the flare nuts.(Refer to chart 16)

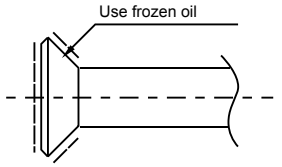


Fig.7-2

• Be sure to use two wrenches simultaneously when you connect or disconnect the pipes.

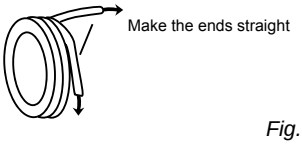


Fig.7-3

■ The service valves of the outdoor unit should be completely closed(as original status).Every time to connect,first to loosen nuts, then connect the flare pipes within 5 minutes. If the nuts have been loosened for a long time, dusts and other impurities may enter the pipe system and may cause malfunction.So please expel the air out of the pipe with refrigerant before connection.

■ Expel the air(refer to the “8.1”)after connecting the refrigerant pipe with the indoor unit and the outdoor unit.
Then fasten the nuts at the service valves.

■ Bend the connecting pipe of small wall thickness.

- Cut out a proper concave at the bending part of the insulating pipe.
- Then expose the pipe(cover it with tapes after bending).
- To prevent twist of deforming, please bend the pipe at a proper radius.

NOTE

The bending angle should not exceed 90 . ◦

Bending position is preferably in the middle of the bendable pipe.

Do not bend the pipe more than three times.

Be sure to use the same insulating materials when you buy the brass pipe. (More than 9mm/0.35in thick)

2. Place The Pipe

- Drill a hole in the wall (suitable just for the size of the wall sleeve), then set on the fittings such as the wall sleeve and its cover.
- Bind the connecting pipe and the cables together tightly with binding tapes.
- Pass the bound connecting pipe through the wall sleeve from outside. Make sure of the pipe allocation not to damage the copper tubes.

3 Connect the pipes.

4 Expel the air with a vacuum pump or refrigerant.

5 Open the service valves of the outdoor unit .

6 Check the refrigerant leakage. Check all the joints with the leak detector or soap water.

7 Cover the joints of the connecting pipe with the insulation foam, and bind them well with the tapes to prevent potential leakage.

8. REFRIGERANT PIPE(the unit with the twins function)

8.1 Length and drop height permitted of the refrigerant piping

Note: Reduced length of the branching tube is the 0.5m/1.64ft of the equivalent length of the pipe.

Table.8-1

		Permitted value		Piping
Pipe length	Total pipe length (Actual)	18K+18K	30m/98.42ft	L+L1+L2
		24K+24K/ 30K+30K	50m/164.04ft	
	(farthest from the line pipe branch)	15m/49.21ft		L1,L2
	(farthest from the line pipe branch)	10m/32.8ft		L1-L2
Drop height	Indoor unit-outdoor unit drop height	20m/65.8ft		H1
	Indoor unit to indoor unit drop height	0.5m/1.64ft		H2

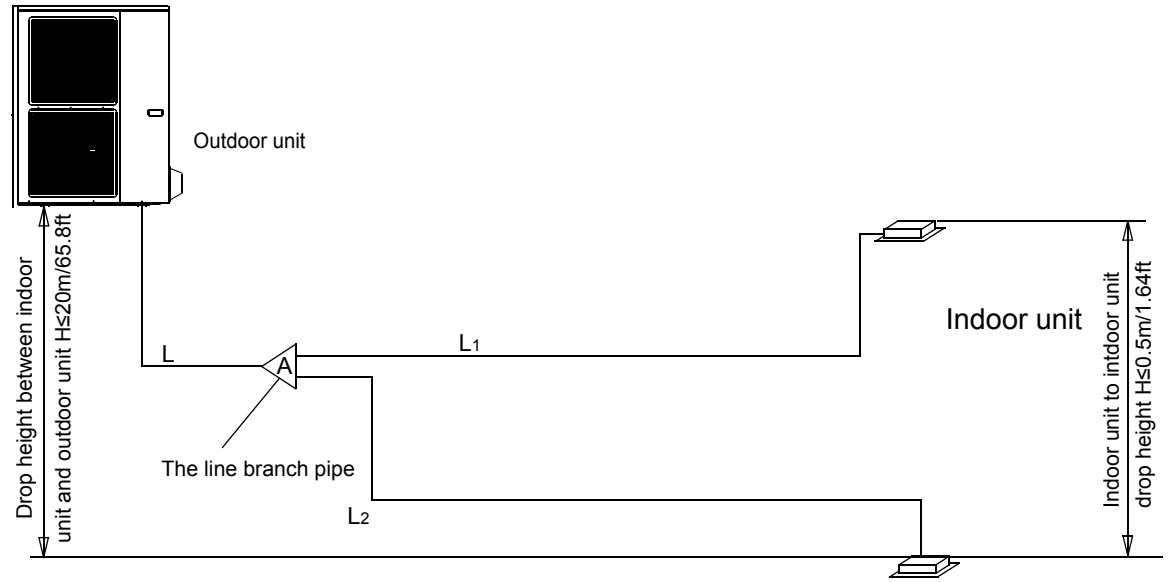


Fig.8-1

Note: All used branch pipe must be produced by Midea, otherwise it causes malfunction. The indoor units should be installed equivalently at the both side of the U type branch pipe.

8.2 Size of joint pipes for indoor unit

Table.8-2 Size of joint pipes for 410A indoor unit

Capacity of indoor unit (A)	Size of main pipe(mm)		
	Gas side	Liquid side	Available branching pipe
18K	Φ12.7/0.5in	Φ6.35/0.25in	CE-FQZHN-01C
24K	Φ15.9/0.626in	Φ9.5/0.375in	CE-FQZHN-01C
30K	Φ15.9/0.626in	Φ9.5/0.375in	CE-FQZHN-01C

8.3 Size of joint pipes for outdoor unit

Base on the following tables, select the diameters of the outdoor unit connective pipes. In case of the main accessory pipe large than the main pipe, take the large one for the selection.

Table.8-3 Size of joint pipes for 410A outdoor unit

Model	the size of main pipe(mm)		
	Gas side	Liquid side	The 1st branching pipe
36K	Φ15.9/0.626in	Φ9.5/0.375in	CE-FQZHN-01C
48K	Φ15.9/0.626in	Φ9.5/0.375in	CE-FQZHN-01C
60K	Φ15.9/0.626in	Φ9.5/0.375in	CE-FQZHN-01C

8.4 Vacuum with vacuum pump

1) Use the vacuum pump which vacuum level lower than -0.1MPa and the air discharge capacity above 40L/min.

2) The outdoor unit is not necessary to vacuum, don't open the outdoor unit gas and liquid pipe shut-off valves.

3) Make sure the vacuum pump could result as -0.1MPa or below after 2 hrs or above operation. If the pump operated 3 hrs or above could not achieve to -0.1MPa or below, please check whether water mix or gas leak inside of the pipe.

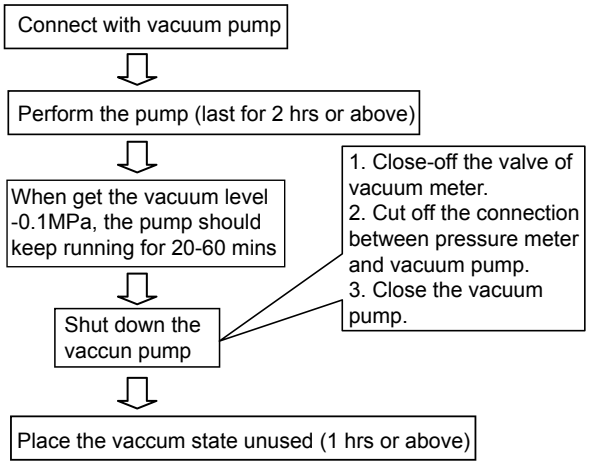


Fig.8-2

CAUTION

- Don't mix up the different refrigerants or abuse the tools and measurements which directly contact with refrigerants.
- Don't adopt refrigerant gas for air vacuuming.
- If vacuum level could not get to -0.1MPa, please check whether resulted by leakage and confirm the leakage site.If no leakage, please operate the vacuum pump again 1 or 2 hrs.

8.5 Refrigerant amount to be added

Calculate the added refrigerant according to the diameter and the length of the liquid side pipe of the outdoor/indoor unit connection. The refrigerant is R410A.

Table.8-4

Pipe size on liquid side	Refrigerant to be Added per meter
Φ6.35/0.25in	0.015kg/0.033lb
Φ9.52/0.375in	0.030kg/0.066lb

1) The branching pipe must be installed horizontally, error angle of it should not large than 10°. Otherwise, malfunction will be caused.

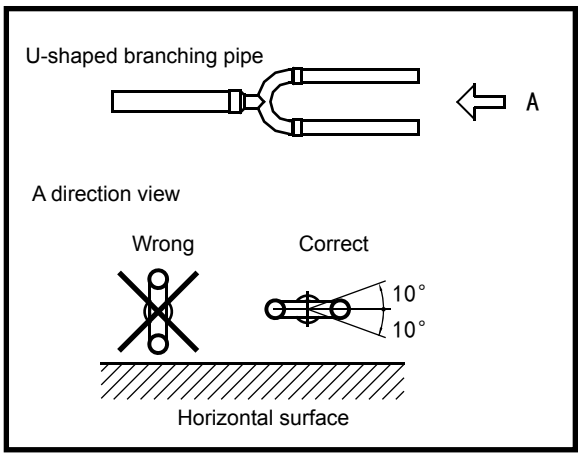


Fig.8-3

9. REFRIGERANT PIPE CONNECTION

9.1 Expel The Air

1 Flaring

- Cut a pipe with a pipe cutter. *(Refer to Fig.9-1)*

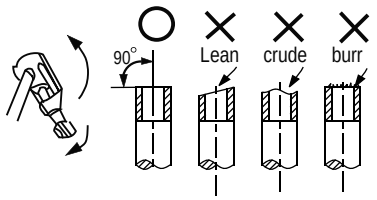


Fig.9-1

- Insert a flare nut into a pipe and flare the pipe.

2 Fasten the nut

- Put the connecting pipes at the proper position, wrench the nuts with hands then fasten it with two wrenches simultaneously. *(Refer to Fig.9-2)*

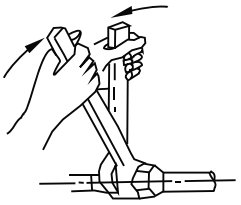
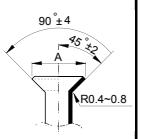


Fig.9-2

CAUTION

Too large torque will harm the bellmouthing and too small will cause leakage. Please determine the torque according to Table 9-1.

Table 9-1

Pipe gauge	Tightening torque	Flare dimensin A min (mm)	max	Flare shape
Ø6.35/0.25in	14.2～17.2 N.m (144～176 kgf.cm)	8.3/0.327in	8.7/0.343in	
Ø9.52/0.375in	32.7～39.9 N.m (333～407 kgf.cm)	12.0/0.472in	12.4/0.488in	
Ø12.7/0.5in	49.5～60.3 N.m (504～616 kgf.cm)	15.4/0.606in	15.80.622in	
Ø15.9/0.626in	61.8～75.4 N.m (630～770 kgf.cm)	18.6/0.732in	19.0/0.748in	
Ø19.1/0.725in	97.2～118.6 N.m (990～1210 kgf.cm)	22.9/0.902in	23.3/0.917in	

3 Expel the air with a vacuum pump*(Refer to Fig.9-3)*

(Please refer to its manual for the way of using manifold valve)

- Loosen and remove the nuts of service valves A and B, and connect the charge hose of the manifold valve with the maintenance terminator of service valve A. (Be sure that service valves A and B are both closed)
- Connect the joint of the charge hose with the vacuum pump.
- Open the Lo-lever of the manifold valve completely.
- Turn on the vacuum pump. At the beginning of pumping, loosen the nut of service valve B a little to check whether the air comes in (the sound of the pump changes, and the indicator of compound meter turns below zero). Then fasten the nut.
- When the pumping has finished, close the Lo-lever of the manifold valve completely and turn off the vacuum pump. When you have pumped for over 15 minutes, please confirm that the indicator of multimeter is on -1.0X10^{-5}Pa (-76cmHg)
- Loosen and remove the nuts of service valves A and B to open service valve A andB completely, then fasten nuts.
- Disassemble the charge hose of service valve A, and fasten the nut.

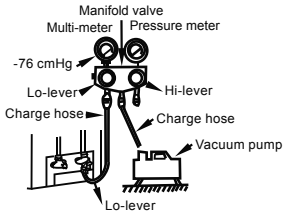


Fig.9-3

CAUTION

Both service valves should be open before test operation. Each air conditioner has two service valves of different sizes.(Refer to *Fig.8-4*)

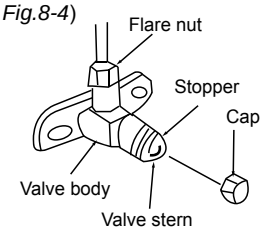


Fig.9-4

9.2 Check the Leakage

Check all the joints with the leak detector or soap water. (*Refer Fig.9-5* as a reference illustration)
in the chart
A.....Lo-stop valve
B.....Hi-stop valve
C,D..Joints of the connecting pipe to the indoor unit.

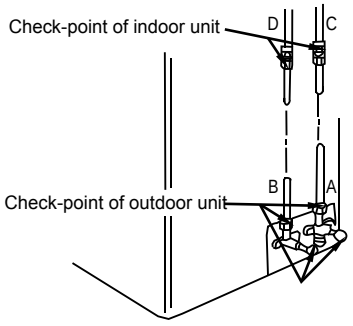


Fig.9-5

9.3 Insulation

- Be sure to completely insulate all the exposed parts of the flare pipes.
- Incomplete insulation may cause condensate.

10. CONNECTIVE DIAGRAM

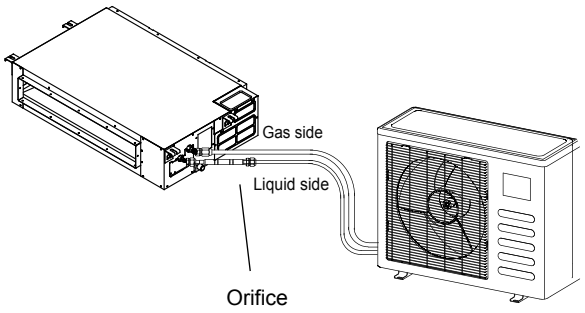


Fig. 10-1

NOTE

For ensuring throttled efficiency , Please mount the Orifice as horizontally as possible; and anti-shock rubber should be wrapped at external of the Orifice for denoise.

Mark the data plate with the Orifice installed.(for some models)

- Please purchase the fittings according to the requirements in the manual strictly.
- Refer the diagram when installing.

NOTE:the orifice should be horizontally installed.

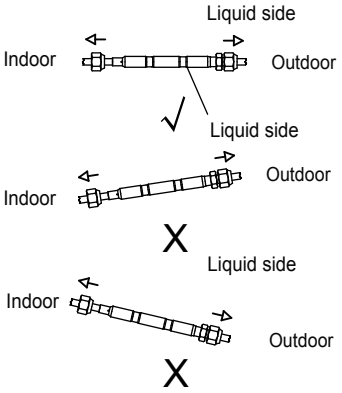


Fig. 10-2

11. CONNECT THE DRAIN PIPE

Install the drainpipe of the indoor unit

- Use a polyethylene tube as the drainpipe (out-dia.29-31mm /1.14-1.22in, in-dia.25mm/0.984in). It could be bought from the local market.
- When extending drainpipe,tighten the connector with water-proof tape to prevent it leakage.
- Please lean the drainpipe down toward outdoor (outlet-side) at a degree of over 1/ 50 to avoid water flowing back. And please avoid any bulge.
- Do not drag the drainpipe violently. Meanwhile, one supportpoint should be set every 1~1.5m/3.28~4.92ft to prevent the drainpipe from yielding. Or tie the drainpipe with the connecting pipe to fix it.
- If the outlet of the drainpipe is higher than the body's pump joint, the pipe should be arranged as vertically as possible. And the lift distance must be less than 550mm/21.65in, otherwise the water can not be lifted completely and cause overflow.(Only available for the unit with pump.)
- The end of the drainpipe should be over 50mm/1.969in higher than the ground , and do not immerse it in water. If you discharge the water directly into sewage, be sure to make a U-form aquaseal by bending the pipe up to prevent the smelly gas entering the house through the drain pipe.

The drain pipe installation for the unit with pump.

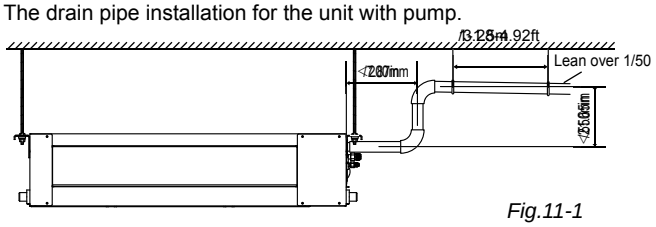


Fig.11-1

The drain pipe installation for the unit without pump.

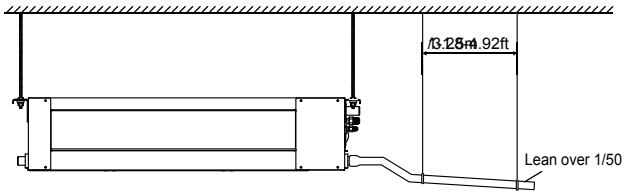


Fig.11-2

■ Drainage test

- **Check whether the drainpipe is unhindered.**
- **New built house should have this test done before paving the ceiling.**

■ **The unit with pump.**

1 Remove the test cover, and stow about 2000ml water to the water pan.

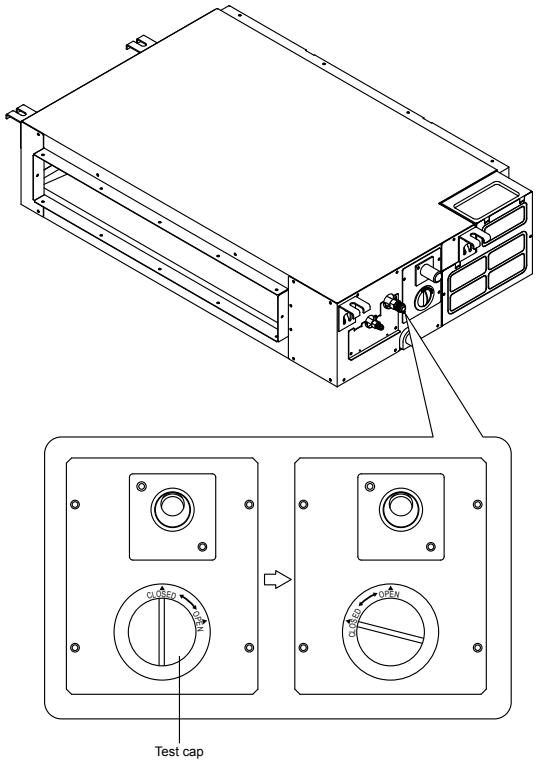


Fig.11-3

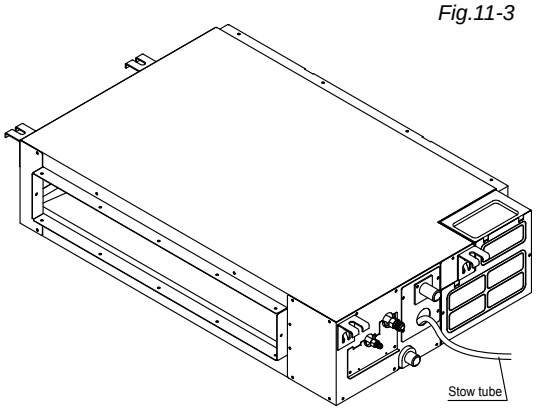


Fig.11-4

2 Operate the air conditioner in "COOLING" mode. The sound of the drain pump shall be heard. Check whether the water is discharged well (1 min lag is possible, according to the length of the drain pipe), and check whether the water leaks from the joints.

3 Power off the air conditioner and recover the cap.

■ **The unit without pump.**

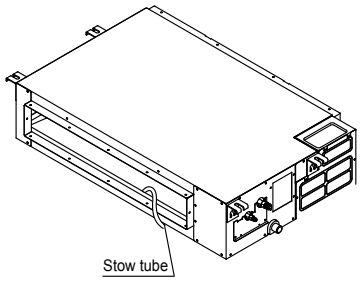


Fig.11-5

- Stow 2000ml water to the water pan through the stow tube,check whether the drainpipe is unhindered.

■ Install the drain joint of the outdoor unit (For Heat Pump Models)

Fit the seal into the drain joint, then insert the drain joint into the base pan hole of outdoor, rotate 90° to securely assemble them. Connect the drain joint with an extension drain hose (Locally purchased)to avoid condensate draining off the outdoor unit during the heating mode.

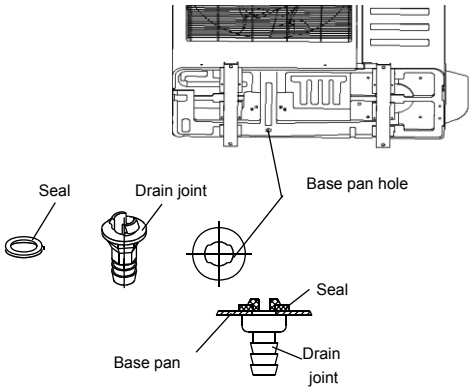


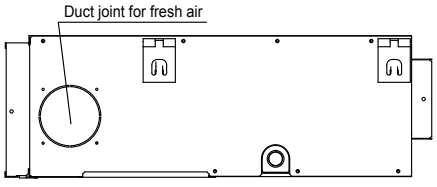
Fig.11-6

NOTE

All the figures in this manual are for explanation purpose only. They may be slightly different from the air conditioner you purchased.The actual unit shall prevail.

12. FRESH AIR DUCT INSTALLATION

Dimension :



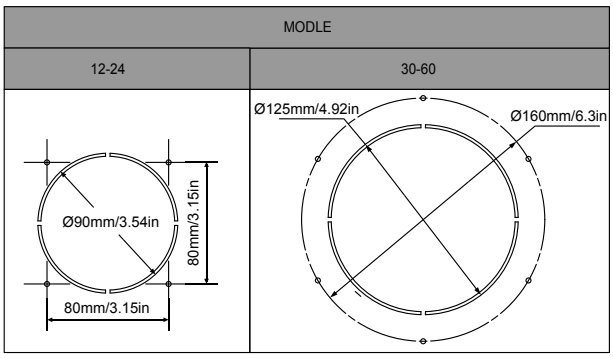


Fig.12-1

12.1Motor and drain pump maintenance

(Take rear ventilated as example)

Motor maintain:

1. Take off the ventilated panel.
2. Take off the blower housing.
3. Take off the motor.

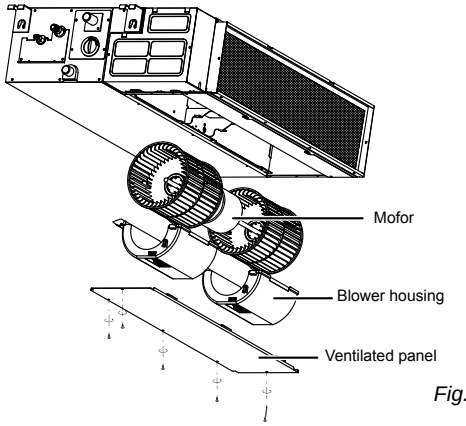


Fig.12-2

Pump maintainance:

1. Screw off four screws from drain pump.
2. Plug off pump power supply and water level switch cable.
3. Take off pump.

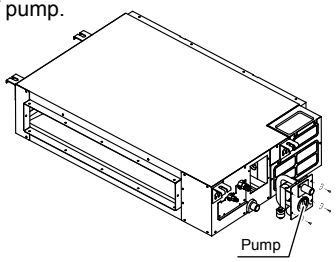


Fig.12-3

13. CONTROL(ONLY FOR INVERTER UNITS)

- **The capacity of the system and the network address of the air-conditioner can be set by the switches on the indoor Main Control Board.**
- **Before setting, turn off the power. After setting, restart the unit.**
- **Setting is not allowed when the unit is power on.**

13.1 Horsepower code setting

The capacity of the indoor unit has been set in the factory according to the below table.

Horsepower code

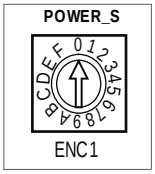


Table 13-1

ENC1	Toggle switch Code	Capacity(kw)
Note: The capacity has been set in the factory , anyone can't adjust it except the qualified person.	4	5.3
		5.6
	5	7.1
	7	9.0
	8	10.5
	9	14.0
		16.0

13.2 Network address set

Every air-conditioner in network has only one network address to distinguish each other. Address code of air-conditioner in LAN is set by code switches S1 & S2 on the Main Control Board of the indoor unit, and the set range is 0-63.

Table 13-2

Toggle switch set		Network address code
S1	S2	
		00~15
		16~31
		32~47
		48-63

14. WIRING

The appliance shall be installed in accordance with national wiring regulations.

The air conditioner should use separate power supply with rated voltage.

The external power supply to the air conditioner should be grounded, which is linked to the ground wiring of the indoor and outdoor unit.

The wiring work should be done by qualified persons according to wiring diagram.

A circuit breaker and a residual current device (RCD) with above 10mA rating shall be installed in the power circuit according to the national rule.

Be sure to locate the power wiring and the signal wring well to avoid cross-disturbance.

Do not turn on the power until you have confirmed proper wiring.

The power cord type is H07RN-F.

NOTE

Refer to EMC Directive 2004/108/EC

To prevent flicker impressions during the start of the compressor，following installation conditions do apply.

1 The power connection for the air conditioner has to be done at the main power distribution. The distribution has to be of a low impedance, normally the required impedance reaches at a 32 A fusing point.

2 No other equipment has to be connected with this power line.

3 For detailed installation acceptance please refer to your power supplier, if restrictions do apply for products like washing machines, air conditioners or electrical ovens.

4 For power details of the air conditioner refer to the rating nameplate of the product.

5 For any question contact your local dealer.

14.1 Connect the cable

- Disassemble the cover.(If there isn't a cover on the outdoor unit, disassemble the screw from the maintenance board, and pull it in the direction of the arrow to remove the protection board.) *(Refer to Fig.14-1)*
- Connect the cables to the terminals correspondingly.
- Re-install the cover or the protection board.

14.2 The Specification of Power

(Refer to Table14-1~14-8)

14.3 Wiring figure *(Refer to Fig.14-2～Fig.14-5)*

1.split type outdoor unit

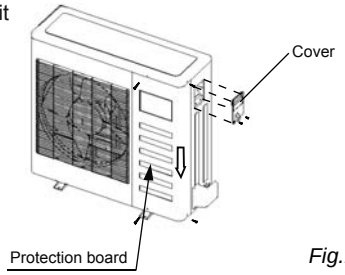


Fig.13-1

2.Centrifugal fan outdoor unit

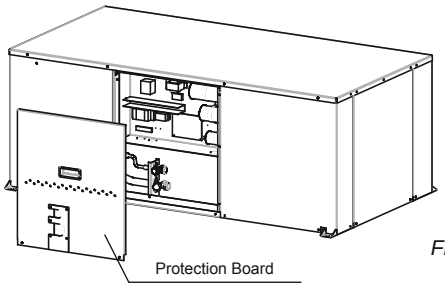


Fig.14-2

NOTE

All the figures in this manual are for explanation purpose only. They may be slightly different from the air conditioner you purchased(depend on model).The actual unit shall prevail.

15. TEST OPERATION

1 The test operation must be carried out after the entire installation.

2 Please confirm the following points before the test operation:

- The indoor unit and outdoor unit are installed properly.
- Tubing and wiring are correctly completed.
- The refrigerant pipe system is leakage-checked.
- The drainage is unimpeded.
- The heating insulation works well.
- The ground wiring is connected correctly.
- The length of the tubing and additional charge amount have been recorded.
- The power voltage matches rated voltage of the air conditioner.
- There is no obstacle at the outlet and inlet of the outdoor and indoor units.
- The gas-side and liquid-side service valves are both completely open.
- The air conditioner is pre-heated by turning on the power.

3 Test operation

■ Set the air conditioner in cooling mode with the remote controller, and check the following points. If there is any malfunction, please resolve it according to the chapter "Troubleshooting" in the "Owner's Manual".

- 1) The indoor unit
  a. Whether the buttons on the remote controller works well.
  b. Whether the air flow louver moves normally.
  c. Whether the room temperature is adjusted suitable.
  d. Whether the indicator lights normally.
  e. Whether the temporary switch on the unit works well.
  f. Whether the drainage is normal.
  g. Whether there is abnormal vibration or noise during operation.
  h. Whether the air conditioner works well in heating mode(heat pump model).
- 2) The outdoor unit
  a. Whether there is abnormal vibration and noise during operation.
  b. Whether the exhaust air, noise, or condensate influence your neighborhood.
  c. Whether there is any refrigerant leakage during operation.

CAUTION

3 minutes delay is normal when restarting the unit for compressor protection.

The Specification of Power(indoor power supply)

■ **Table 14-1**

MODEL		18	24	30~36	42~48	60
POWER	PHASE	1Phase	1Phase	1Phase	1Phase	1Phase
	FREQUENCY AND VOLT	208-240V	208-240V	208-240V	208-240V	208-240V
CIRCUIT BREAKER/FUSE(A)		20/16	40/25	50/30	60/45	60/50

■ **Table 14-2**

MODEL		30~36	42~60	30~36	42~60
POWER	PHASE	3Phase	3Phase	3Phase	3Phase
	FREQUENCY AND VOLT	380-420V	380-420V	208-240V	208-240V
CIRCUIT BREAKER/FUSE(A)		25/20	25/20	40/25	45/35

The Specification of Power(outdoor power supply)

■ **Table 14-3**

MODEL		12~18	24	30~36	42~48	60
POWER	PHASE	1Phase	1Phase	1Phase	1Phase	1Phase
	FREQUENCY AND VOLT	208-240V	208-240V	208-240V	208-240V	208-240V
CIRCUIT BREAKER/FUSE(A)		20/16	40/30	60/40	70/55	70/60

■ **Table 14-4**

MODEL		30~36	42~60	30~36	42~60
POWER	PHASE	3Phase	3Phase	3Phase	3Phase
	FREQUENCY AND VOLT	380-420V	380-420V	208-240V	208-240V
CIRCUIT BREAKER/FUSE(A)		25/20	25/20	40/25	45/35

The Specification of Power(independence power supply)

■ **Table 14-5**

MODEL		18	24	30~36	42~48	60
POWER (indoor)	PHASE	1Phase	1Phase	1Phase	1Phase	1Phase
	FREQUENCY AND VOLT	208-240V	208-240V	208-240V	208-240V	208-240V
CIRCUIT BREAKER/FUSE(A)		20/16	20/16	20/16	20/16	20/16
POWER (outdoor)	PHASE	1Phase	1Phase	1Phase	1Phase	1Phase
	FREQUENCY AND VOLT	208-240V	208-240V	208-240V	208-240V	208-240V
CIRCUIT BREAKER/FUSE(A)		20/16	40/25	50/30	60/45	60/50

■ **Table 14-6**

MODEL		30~36	42~60	30~36	42~60
POWER (indoor)	PHASE	1Phase	1Phase	1Phase	1Phase
	FREQUENCY AND VOLT	208-240V	208-240V	208-240V	208-240V
CIRCUIT BREAKER/FUSE(A)		20/16	20/16	20/16	20/16
POWER (outdoor)	PHASE	3Phase	3Phase	3Phase	3Phase
	FREQUENCY AND VOLT	380-420V	380-420V	208-240V	208-240V
CIRCUIT BREAKER/FUSE(A)		25/20	25/20	40/25	45/35

The Specification of Power for the invert type air conditioner(independence power supply)

■ **Table 14-7**

MODEL		18	24	30~36	42~48	60
POWER (indoor)	PHASE	1Phase	1Phase	1Phase	1Phase	1Phase
	FREQUENCY AND VOLT	220-240V	220-240V	220-240V	220-240V	220-240V
CIRCUIT BREAKER/FUSE(A)		15/10	15/10	15/10	15/10	15/10
POWER (outdoor)	PHASE	1Phase	1Phase	1Phase	1Phase	1Phase
	FREQUENCY AND VOLT	208-240V	208-240V	208-240V	208-240V	208-240V
CIRCUIT BREAKER/FUSE(A)		30/20	30/20	40/30	40/35	50/40

■ **Table 14-8**

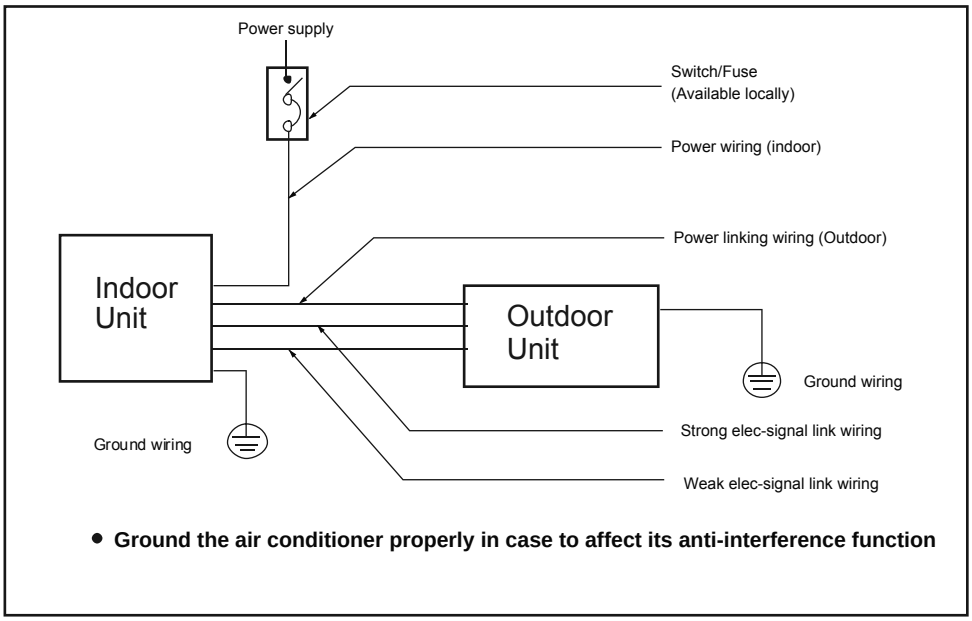
MODEL		30~36	42~60	30~36	42~60
POWER (indoor)	PHASE	1Phase	1Phase	1Phase	1Phase
	FREQUENCY AND VOLT	220-240V	220-240V	220-240V	220-240V
CIRCUIT BREAKER/FUSE(A)		15/10	15/10	15/10	15/10
POWER (outdoor)	PHASE	3Phase	3Phase	3Phase	3Phase
	FREQUENCY AND VOLT	380-420V	380-420V	208-240V	208-240V
CIRCUIT BREAKER/FUSE(A)		30/20	30/25	50/40	50/40

CAUTION

The power supply is included in the power supply above mentioned can be applied to the table.
Before obtaining access to terminals, all supply circuits must be disconnected.

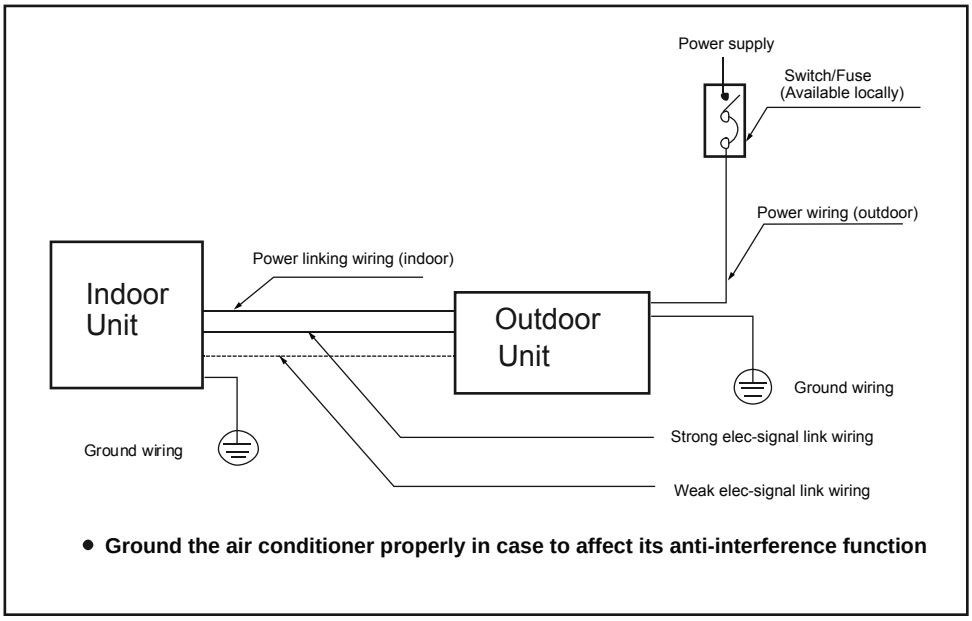
■ Wiring figure

■ **Fig.14-3**



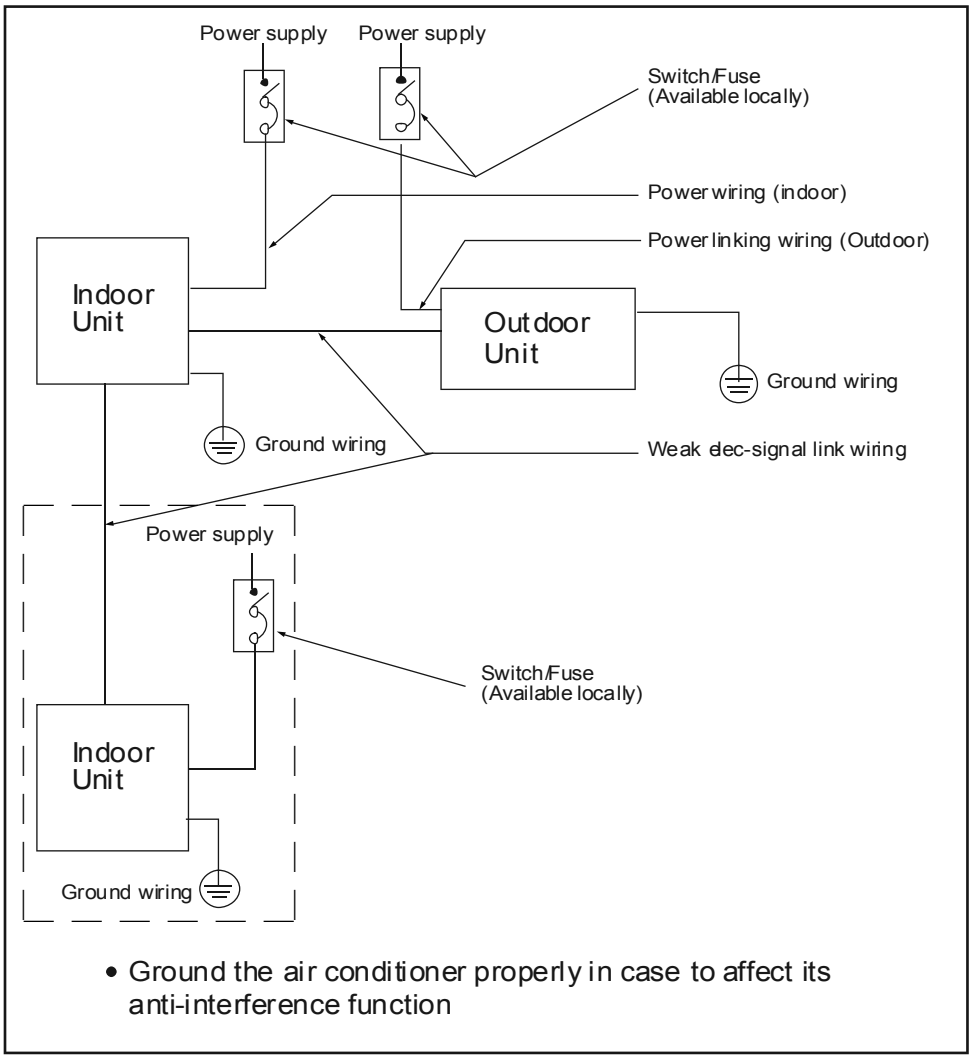
- **Ground the air conditioner properly in case to affect its anti-interference function**

■ **Fig.14-4**

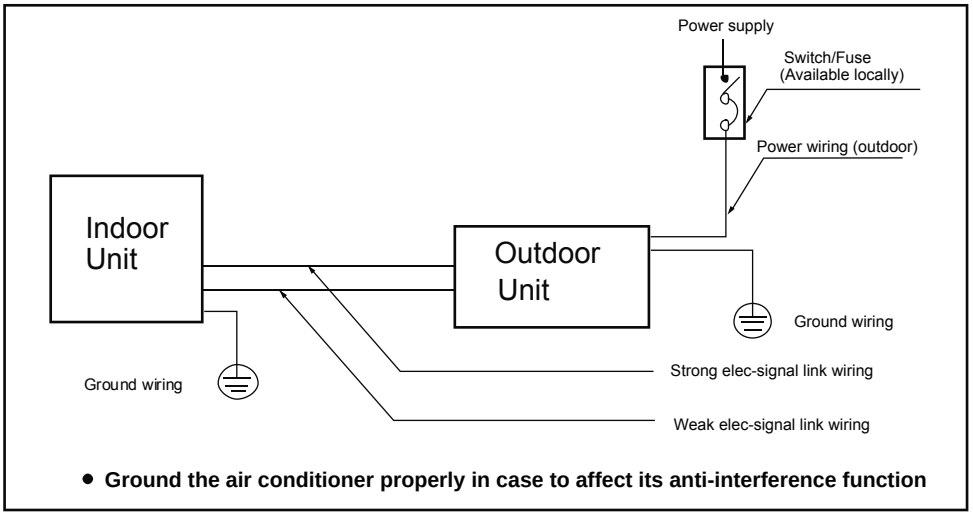


- **Ground the air conditioner properly in case to affect its anti-interference function**

■ **Fig.14-5**



■ **Fig.14-6**



CAUTION

A disconnection device having an air gap contact separation in all active conductors should be incorporated in the fixed wiring according to the National Wiring Regulation.

When wiring, please choose the corresponding chart, or it may cause damage.The signs of the indoor terminal block in the some of following fugures may be replaced by L N L1 N1.

The design and specifications are subject to change without prior notice for product improvement.Consult with the sales agency or manufacturer for details.

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20150825

- **Εάν η μονάδα λειτουργήσει σε σύστημα MULTI, ανατρέξτε στα αντίστοιχα εγχειρίδια εγκατάστασης & λειτουργίας που συνοδεύουν την εξωτερική μονάδα.**

ΠΕΡΙΕΧΟΜΕΝΑ **ΣΕΛΙΔΑ**

ΟΔΗΓΙΕΣ ΑΣΦΑΛΕΙΑΣ....1

ΠΛΗΡΟΦΟΡΙΕΣ ΕΓΚΑΤΑΣΤΑΣΗΣ.... 2

ΠΑΡΕΛΚΟΜΕΝΑ ΕΞΑΡΤΗΜΑΤΑ....3

ΕΛΕΓΧΟΣ ΚΑΙ ΜΕΤΑΦΟΡΑ ΤΗΣ ΜΟΝΑΔΑΣ....4

ΕΓΚΑΤΑΣΤΑΣΗ ΕΣΩΤΕΡΙΚΗΣ ΜΟΝΑΔΑΣ....4

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ΕΓΚΑΤΑΣΤΑΣΗ ΣΩΛΗΝΩΝ ΣΥΝΔΕΣΗΣ....15

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ΧΕΙΡΙΣΤΗΡΙΟ....20

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ΔΟΚΙΜΑΣΤΙΚΗ ΛΕΙΤΟΥΡΓΙΑ....21

1. ΟΔΗΓΙΕΣ ΑΣΦΑΛΕΙΑΣ

- **Φυλάξτε το παρόν εγχειρίδιο σε μέρος όπου μπορεί ο χρήστης να το βρει εύκολα.**
- **Πριν την ενεργοποίηση των μονάδων διαβάστε προσεκτικά τις οδηγίες ασφαλείας.**
- **Για λόγους ασφαλείας ο χρήστης θα πρέπει να διαβάσει προσεκτικά τις παρακάτω οδηγίες.**
- **Η εγκατάσταση θα πρέπει να γίνει σύμφωνα με τους κανονισμούς, τις αντίστοιχες προδιαγραφές και μόνο από εξειδικευμένο τεχνικό προσωπικό.**

Οι οδηγίες ασφαλείας που αναφέρονται εδώ είναι χωρισμένες σε 2 κατηγορίες.

ΠΡΟΕΙΔΟΠΟΙΗΣΗ

Εάν δεν ακολουθηθούν οι συγκεκριμένες οδηγίες μπορεί να προκληθεί φθορά στη μονάδα ή τραυματισμός.

ΠΡΟΣΟΧΗ

Εάν δεν ακολουθηθούν οι συγκεκριμένες οδηγίες μπορεί να προκληθεί φθορά στη μονάδα ή τραυματισμός.

Αφού ολοκληρωθεί η εγκατάσταση, βεβαιωθείτε πως η μονάδα κατά την εκκίνηση λειτουργεί σωστά. Καθοδηγήστε τον χρήστη για τη σωστή λειτουργία της μονάδας. Επιπλέον, ενημερώστε τους χρήστες πως το συγκεκριμένο εγχειρίδιο πρέπει να φυλάγεται μαζί με το εγχειρίδιο χρήστη για μελλοντική αναφορά.

ΠΡΟΕΙΔΟΠΟΙΗΣΗ

Βεβαιωθείτε πως η εγκατάσταση ή οποιαδήποτε επισκευή στην κλιματιστική μονάδα έχει γίνει από εξειδικευμένο προσωπικό.

Ακατάλληλη εγκατάσταση, επισκευή ή συντήρηση μπορεί να προκαλέσει ηλεκτροπληξία, βραχυκύκλωμα, διαρροή, πυρκαγιά ή άλλη βλάβη στη μονάδα.

Βεβαιωθείτε πως η εγκατάσταση έχει γίνει σύμφωνα με το συγκεκριμένο εγχειρίδιο.
Εάν η εγκατάσταση είναι ελλιπής, θα προκληθεί διαρροή νερού, ηλεκτροπληξία και πυρκαγιά.

Όταν η κλιματιστική μονάδα εγκαθίσταται σε μικρό χώρο, φροντίστε σε περίπτωση κάποιας διαρροής ψυκτικού υγρού η συγκέντρωση ψυκτικού υγρού να μην υπερβαίνει τα επιτρεπτά όρια ασφαλείας.
Για περισσότερες πληροφορίες επικοινωνήστε με τον προμηθευτή σας. Η υπερβολική συγκέντρωση ψυκτικού υγρού μπορεί να προκαλέσει έλλειψη οξυγόνου.

Χρησιμοποιήστε για την εγκατάτσταση τα παρελκόμενα και τα προδιαγραμένα εξαρτήματα.
Σε αντίθετη περίπτωση μπορεί να προκληθεί πτώση της μονάδας, διαρροή νερού, ηλεκτροπληξία ή πυρκαγιά.

Εγκαταστήστε τη μονάδα σε σταθερή βάση η οποία είναι ικανή να αντέξει το βάρος της.
Εάν η βάση δεν είναι στιβαρή ή η εγκατάσταση δεν έχει γίνει σωστά, μπορεί να προκληθεί πτώση και τραυματισμός.

Η μονάδα πρέπει να εγκαθίσταται 2-3m πάνω από το έδαφος.

Η μονάδα δεν πρέπει να εγκαθίσταται σε χώρους με υψηλή υγρασία.

Πριν τη συνδεσμολογία, βεβαιωθείτε πως η μονάδα δεν είναι συνδεδεμένη με την παροχή ρεύματος.

Η μονάδα πρέπει να είναι τοποθετημένη με τρόπο ώστε να είναι προσβάσιμη η πρίζα.

Στη συσκευασία της μονάδας πρέπει να είναι σημειωμένη η κατεύθυνση ροής του ψυκτικού υγρού.

Για την ηλεκτρολογική σύνδεση θα πρέπει να ακολουθούνται οι εθνικοί κανονισμοί και οδηγίες. Θα πρέπει να χρησιμοποιηθεί ξεχωριστό κύκλωμα.
Εάν η χωρητικότητα του κυκλώματος δεν είναι επαρκής ή αν η ηλεκτρολογική σύνδεση δεν είναι σωστή, θα προκληθεί ηλεκτροπληξία ή πυρκαγιά.

Χρησιμοποιήστε προδιαγραμένο καλώδιο και συνδέστε το σφιγκτά στην τερματική επαφή.
Εάν η σύνδεση δεν έχει γίνει σωστά, θα προκληθεί υπερθέρμανση ή πυρκαγιά.

Η οδήγηση των καλωδίων πρέπει να γίνει με τρόπο ώστε το κάλυμμα της πλακέτας να κλείνει σωστά.
Εάν το κάλυμμα δεν κλείνει σωστά, θα προκληθεί υπερθέμανση, ηλεκτροπληξία ή πυρκαγιά.

Εάν φθαρεί το καλώδιο τροφοδοσίας, πρέπει να αντικατασταθεί από εξειδικευμένο προσωπικό, για την αποφυγή τραυματισμού.

Στο κύκλωμα θα πρέπει να τοποθετηθεί διακόπτης με απόσταση ανάμεσα στους πόλους τουλάχιστον 3mm/0.118inches.

Κατά τη σύνδεση των σωλήνων, βεβαιωθείτε ότι δεν έχει εισέλθει αέρας στο ψυκτικό κύκλωμα.
Μπορεί να προκληθεί πτώση απόδοσης, υψηλή πίεση στο ψυκτικό κύκλωμα, έκρηξη και τραυματισμός.

Μην κάνετε μετατροπές στο καλώδιο τροφοδοσίας και μην χρησιμοποιείτε μπαλαντέζα. Μην χρησιμοποιείτε το ίδιο ηλεκτρικό κύκλωμα και για άλλες συσκευές.
Μπορεί να προκληθεί ηλεκτροπληξία ή πυρκαγιά.

Εγκαταστήστε τη μονάδα αφού έχετε λάβει υπόψη σας καιρικά φαινόμενα, όπως δυνατούς ανέμους, τυφώνες ή σεισμούς.
Ελλιπής εγκατάσταση μπορεί να προκαλέσει πτώση της μονάδας και τραυματισμούς.

Εάν προκληθεί διαρροή ψυκτικού υγρού κατά την εγκατάσταση, αερίστε αμέσως τον χώρο.
Εάν το ψυκτικό υγρό έρθει σε επαφή με φωτιά μπορεί να παραχθεί τοξικό αέριο.

Η θερμοκρασία του ψυκτικού κυκλώματος θα είναι υψηλή. Βεβαιωθείτε πως το καλώδιο ενδοεπικοινωνίας βρίσκεται σε μακρινή απόσταση από τον χαλκοσωλήνα.

Αφού ολοκληρωθούν οι εργασίες εγκατάστασης, ελέγξτε για τυχόν διαρροή ψυκτικού υγρού.
Εάν υπάρχει διαρροή ψυκτικού υγρού στον χώρο και έρθει σε επαφή με πηγή θερμότητας, όπως αερόθερμο, σόμπα ή κουζίνα, μπορεί να παραχθεί τοξικό αέριο**.**

⚠ ΠΡΟΣΟΧΗ

Βεβαιωθείτε πως υπάρχει γείωση στη μονάδα.
Μην συνδέετε το καλώδιο γείωσης σε σωλήνες αερίου ή νερού, σε γραμμές ρεύματος ή τηλεφωνικές.
Ελλιπής γείωση μπορεί να προκαλέσει ηλεκτροπληξία.

Βεαβαιωθείτε πως έχει τοποθετηθεί ρελέ διαφυγής.
Η απουσία του μπορεί να προκαλέσει ηλεκτροπληξία.

Συνδέστε πρώτα τα καλώδια της εξωτερικής μονάδας και κατόπιν της εσωτερικής μονάδας.
Μην συνδέσετε την μονάδα με την παροχή ρεύματος αν δεν έχετε ολοκληρώσει την σύνδεση των σωληνώσεων και των καλωδίων.

Ακολουθώντας τις οδηγίες του παρόντος εγχειριδίου, τοποθετήστε τον αγωγό αποστράγγισης για την διασφάλιση της απορροής συμπυκνωμάτων και βεβαιωθείτε πως οι σωλήνες έχουν μονωθεί.
Αν δεν υπάρχει αγωγός αποστράγγισης μπορεί να προκληθεί διαρροή νερού και φθορά περιουσίας.

Εγαταστήστε την εσωτερική και εξωτερική μονάδα, το καλώδιο τροφοδοσίας και τα καλώδια επικοινωνίας τουλάχιστον σε 1m απόσταση από τηλεοράσεις ή ραδιόφωνα, για την αποφυγή παρεμβολών ή θορύβου.
Ανάλογα με τα ραδιοκύματα, το 1m μπορεί να μην είναι επαρκές για την αποφυγή θορύβου.

Η κλιματιστική μονάδα δεν πρέπει να χρησιμοποιείται από μικρά παιδιά και άτομα με ειδικές ανάγκες χωρίς επίβλεψη.

Μην τοποθετείτε την κλιματιστική μονάδα σε κάποια από τις παρακάτω συνθήκες:

- Σε μέρος που μπορεί να υπάρχει κοντά βενζίνη.
- Κοντά σε ακτές.
- Σε περιοχές όπου ο αέρας περιέχει καυστικά αέρια.
- Απότομες αυξομειώσεις τάσης (σε εργοστάσια).
- Σε λεωφορία ή καμπίνες
- Σε κουζίνες που ο αέρας του περιέχει πολλά αέρια λαδιού.
- Σε μέρος όπου υπάρχουν ισχυρά ηλεκτρομαγνητικά κύματα.
- Σε μέρος όπου υπάρχουν εύφλκτα υλικά ή αέρια.
- Σε μέρη όπου εξατμίζονται όξινα ή αλκαλικά υγρά
- Σε μέρη με άλλες ειδικές συνθήκες.

Η μονάδα θα πρέπει να εγκαθίσταται σύμφωνα με τους εθνικούς κανονισμούς.

Μην λειτουργείτε την κλιματιστική μονάδα σε χώρους με υψηλή υγρασία.

Στο κύκλωμα θα πρέπει να τοποθετηθεί διακόπτης με απόσταση ανάμεσα στους πόλους τουλάχιστον 3mm και ένταση διαρροής 10mA. Η διάταξη RCD θα πρέπει να έχει ρεύμα λειτουργίας μικρότερο από 30mA.

2. ΠΛΗΡΟΦΟΡΙΕΣ ΕΓΚΑΤΑΣΤΑΣΗΣ

- **Για την σωστή εγκατάσταση της κλιματιστικής μονάδας, διαβάστε πρώτα το παρόν εγχειρίδιο εγκατάστασης.**
- **Η κλιματιστική μονάδα πρέπει να εγκαθίσταται από εξειδικευμένο προσωπικό.**
- **Κατά την εγκατάσταση της εσωτερικής μονάδας ή τις σωληνώσεις της, ακολουθείστε αυστηρά τις οδηγίες του παρόντος εγχειριδίου.**
- **Εάν η κλιματιστική μονάδα εγκατασταθεί σε μεταλλικό μέρος ενός κτιρίου, θα πρέπει να είναι ηλεκτρικά μονωμένο σύμφωνα με τα ηλεκτρολογικά πρότυπα.**
- **Όταν ολοκληρωθεί η εγκατάσταση της μονάδας, ενεργοποιήστε τη αφού κάνετε έναν τελικό έλεγχο.**
- **Δεν θα υπάρξει ενημέρωση για οποιαδήποτε αλλαγή στο παρόν εγχειρίδιο λόγω βελτίωσης της κλιματιστικής μονάδας.**

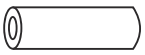
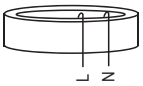
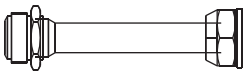
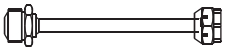
ΣΕΙΡΑ ΕΓΚΑΤΑΣΤΑΣΗΣ

- Επιλέξτε την θέση εγκατάστασης
- Εγκατάσταση της εσωτερικής μονάδας
- Εγκατάσταση της εξωτερικής μονάδας
- Εγκατάσταση σωληνώσεων
- Σύδεση του αγωγού αποστράγγισης
- Σύνδεση καλωδίων
- Δοκιμαστική λειτουργία

3. ΠΑΡΕΛΚΟΜΕΝΑ ΕΞΑΡΤΗΜΑΤΑ

Ελέγξτε πως τα παρακάτω παρελκόμενα εξαρτήματα υπάρχουν. Εάν υπάρχουν και κάποια επιπλεόν, φυλάξτε τα προσεκτικά.

Πίνακας 3-1

	ΠΕΡΙΓΡΑΦΗ	ΣΧΗΜΑ	ΠΟΣΟΤΗΤΑ
Σωληνώσεις και παρελκόμενα	1. Περίβλημα μόνωσης		2
	2. Ταινία		1
	3.Στεγανοποιητικό σπογγώδες υλικό		1
	4.Εξάρτημα σύνδεσης		1 (Σε ορισμένα μοντέλα)
Παρελκόμενα αγωγού αποστράγγισης	5. Σύνδεσμος αποστράγγισης		1
	6. Στεγανοποιητικός δακτύλιος		1
Ασύρματο τηλεχειριστήριο & η βάση του (σε ορισμένα μοντέλα)	7. Ασύρματο τηλεχειριστήριο		1
	8. Βάση		1
	9.Βίδες(ST2.9×10-C-H)		2
	10.Αλκαλικές μπαταρίες ξηρού τύπου (AM4)		2
	11. Εγχειρίδιο τηλεχειριστηρίου	—	1
Ενσύρματο χειριστήριο και βάση (σε ορισμένα μοντέλα)	12. Ενσύρματο χειριστήριο	—	1
	13. Εγχειρίδιο χρήστη ενσύρματου χειριστηρίου	—	1
	14. Εγχειρίδιο εγκατάστασης ενσύρματου χειριστηρίου	—	1
EMC & παρελκόμενα (σε ορισμένα μοντέλα)	15. Μαγνητικός δακτύλιος (Στρέψτε τα καλώδια L και N γύρω από τον μαγνητικό δακτύλιο 5 φορές)		1
Άλλα	16. Εγχειρίδιο χρήστη	—	1
	17. Εγχειρίδιο εγκατάστασης	—	1
	18 .Σύνδεσμος(Φ12.7-Φ15.9) (Συμπεριλαμβάνεται στην εσωτερική μονάδα) ΣΗΜΕΙΩΣΗ: Οι σωληνώσεις μπορεί να διαφέρουν ανάλογα το μοντέλο. Για να ικανοποιηθούν οι απαιτήσεις στις διατομές των σωληνώσεων, μπορεί να χρειαστεί ο σύνδεσμος να τοποθετηθεί στην εξωτερική μονάδα.		1 (Σε ορισμένα μοντέλα)
	19 .Σύνδεσμος(Φ6.35-Φ9.52) (Συμπεριλαμβάνεται στην εσωτερική μονάδα) ΣΗΜΕΙΩΣΗ: Οι σωληνώσεις μπορεί να διαφέρουν ανάλογα το μοντέλο. Για να ικανοποιηθούν οι απαιτήσεις στις διατομές των σωληνώσεων, μπορεί να χρειαστεί ο σύνδεσμος να τοποθετηθεί στην εξωτερική μονάδα.		1 (Σε ορισμένα μοντέλα)
	20 .Σύνδεσμος(Φ9.52-Φ12.7) (Συμπεριλαμβάνεται στην εσωτερική μονάδα, μόνο για συστήματα multi) ΣΗΜΕΙΩΣΗ: Οι σωληνώσεις μπορεί να διαφέρουν ανάλογα το μοντέλο. Για να ικανοποιηθούν οι απαιτήσεις στις διατομές των σωληνώσεων, μπορεί να χρειαστεί ο σύνδεσμος να τοποθετηθεί στην εξωτερική μονάδα.	—	1 (Σε ορισμένα μοντέλα)
	21. Καλώδιο σύνδεσης για την οθόνη (2M)	—	1 (Σε ορισμένα μοντέλα)
	22. Προστατευτικό υλικό για τα καλώδια		1 (Σε ορισμένα μοντέλα)

4. ΕΛΕΓΧΟΣ ΚΑΙ ΜΕΤΑΦΟΡΑ ΤΗΣ ΜΟΝΑΔΑΣ

Κατά την παραλαβή, ελέγξτε τη συσκευασία και αν διαπιστώσετε κάποια φθορά απευθυνθείτε αμέσως στον προμηθευτή σας.

Κατά την μεταφορά της μονάδας, λάβετε υπόψη τα παρακάτω:

1 Εύθραυστο. Μεταφέρετε τη μονάδα με προσοχή.

Βεβαιωθείτε πως η μονάδα βρίσκεται σε όρθια θέση, για την αποφυγή φθοράς του συμπιεστή.

2 Επιλέξτε πριν τη μεταφορά της μονάδας από ποια είσοδο θα την μεταφέρετε στον χώρο.

3 Μεταφέρετε χωρίς να φθαρεί η συσκευασία όσο είναι δυνατόν.

4 Όταν σηκώνετε τη μονάδα, να χρησιμοποιείτε πάντα προστατευτικά ώστε να μην προκληθεί φθορά στον ιμάντα και δώστε ιδιαίτερη προσοχή στο κέντρο βάρους της μονάδας.

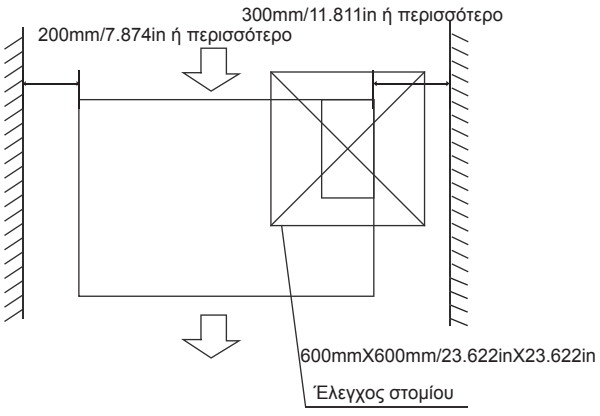
5. ΕΓΚΑΤΑΣΤΑΣΗ ΤΗΣ ΕΣΩΤΕΡΙΚΗΣ ΜΟΝΑΔΑΣ

5.1 Θέση εγκατάστασης

Η θέση εγκατάστασης πρέπει να πληρεί τις παρακάτω απαιτήσεις:

- Υπάρχει αρκετός χώρος για την εγκατάσταση και τη συντήρηση.
- Ο οροφή είναι οριζόντια και μπορεί να αντέξει το βάρος της εσωτερικής μονάδας.
- Δεν παρεμποδίζονται η είσοδος και έξοδος του αέρα και η επιρροή από τον εξωτερικό αέρα είναι ελάχιστη.
- Η παροχή αέρα μπορεί να καλύψει όλο τον χώρο.
- Να είναι εύκολη η οδήγηση των ψυκτικών σωληνώσεων και του αγωγού αποστράγγισης.
- Δεν υπάρχει απευθείας ακτινοβολία από θερμαντικά σώματα.

Ελεύθερος χώρος για εργασίες συντήρησης



Εικ.5-1

ΠΡΟΣΟΧΗ

Εγαταστήστε την εσωτερική και εξωτερική μονάδα, το καλώδιο τροφοδοσίας και τα καλώδια επικοινωνίας τουλάχιστον σε 1m απόσταση από τηλεοράσεις η ραδιόφωνα, για την αποφυγή παρεμβολών ή θορύβου.
(Ανάλογα με τα ραδιοκύματα, το 1m μπορεί να μην είναι επαρκές για την αποφυγή θορύβου.)

5.2 Εγκατάσταση της εσωτερικής μονάδας

1 Τοποθέτηση των ντίζων ανάρτησης Φ10/Φ0.39in (4 βίδες)

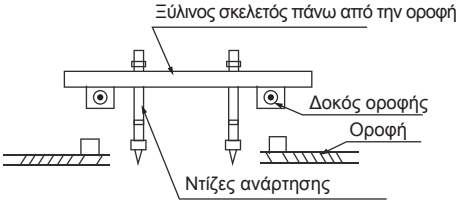
- Ανατρέξτε στις παρκάτω εικόνες για την τοποθέτηση των 4 ντίζων.
- Αξιολογήστε την κατασκευή της οροφής και τοποθετήστε τις 4 ντίζες ανάρτησης Φ10/Φ0.39in
- Για την διαδικασία συμβουλευτείτε το προσωπικό που έχει αναλάβει την κατασκευή. Ενισχύστε τους δοκούς της οροφής για την αποφυγή κραδασμών.
- Αφού ολοκληρώσετε την εγκατάσταση της εσωτερικής μονάδας προχωρήστε με την τοποθέτηση των σωληνώσεων και των καλωδίων στην οροφή. Κατά την επιλογή της θέσης, επιλέξτε την κατεύθυνση των σωληνώσεων. Ειδικά όταν υπάρχει ψευδοροφή τοποθετήστε τις ψυκτικές σωληνώσεις, τον αγωγό αποστράγγισης και τα καλώδια στα σημεία σύνδεσης πριν αναρτήσετε την μονάδα.
- Εγκατάσταση των ντίζων ανάρτησης
  - Δημιουργείστε άνοιγμα στην οροφή
  - Ενισχύστε το σημείο που έχετε κόψει και ενισχύστε το δοκό.
- Αφού επιλέξετε την θέση εγκατάστασης, τοποθετήστε τις ψυκτικές σωληνώσεις, τον αγωγό αποστράγγισης και τα καλώδια πριν αναρτήσετε τη μονάδα.
- Εγκατάσταση των ντίζων ανάρτησης

ΣΗΜΕΙΩΣΗ

Η ελάχιστη κλίση απορροής πρέπει να είναι 1/100

5.2.1 Ξύλινη κατασκευή

Τοποθετήστε τον τετράγωνο ξύλινο σκελετό εγκάρσια πάνω από την οροφή και τοποθετήστε τις ντίζες ανάρτησης.
(Ανατρέξτε στην Εικ.5-2)



Εικ.5-2

5.2.2 Τούβλα σκυροδέματος νέου τύπου

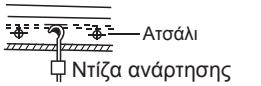
Ένθεση των ντιζών ανάρτησης. (Ανατρέξτε στην Εικ. 5-3)



Εικ.5-3

5.2.3 Για τα συνήθη τούβλα σκυροδέματος

Χρησιμοποιήστε την ντίζα και ράβδο με άγκιστρο.
(Ανατρέξτε στην Εικ. 5-4)

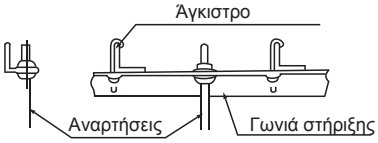


(Αναρτώμενη σωλήνα και ντίζα)

Εικ.5-4

5.2.4 Οροφή με δοκούς από ατσάλι

Τοποθετήστε και χρησιμοποιήστε το άγκιστρο στήριξης από ατσάλι.
(Ανατρέξτε στην Εικ.5-5)

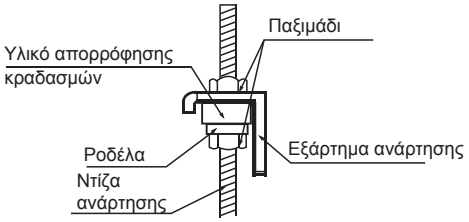


Εικ.5-5

2 Ανάρτηση της εσωτερικής μονάδας

(1) Ανάρτηση της εσωτερικής μονάδας στις ντίζες ανάρτησης.

(2) Τοποθετήστε την εσωτερική μονάδα σε οριζόντιο επίπεδο χρησιμοποιώντας αλφάδι, αλλιώς μπορεί να προκληθεί διαρροή.

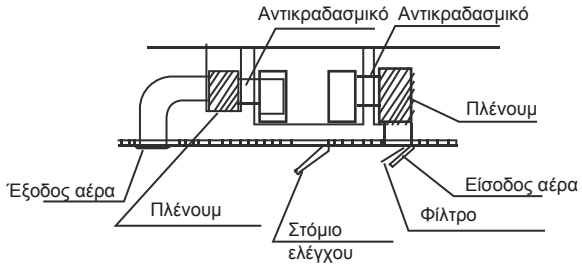


Εικ.5-6

5.3 Εγκατάσταση αεραγωγών και παρελκόμενων εξαρτημάτων

1. Τοποθετήστε το φίλτρο (προαιρετικά) σύμφωνα με το μέγεθος της εισόδου του αέρα.
2. Τοποθετήστε το αντικραδασμικό ανάμεσα στην μονάδα και τον αεραγωγό.
3. Ο αεραγωγός εισόδου του αέρα δεν θα πρέπει να είναι κοντά στον αεραγωγό εξόδου του αέρα.

4. Προτεινόμενη σύνδεση αεραγωγού



Εικ.5-7

5. Για την στατική πίεση ανατρέξτε στον παρακάτω πίνακα

Πίνακας.5-1

ΜΟΝΤΕΛΟ (Btu/h)	Στατική Πίεση (Pa)
12	30
18	70
24	70
30~36	80
42~60	100

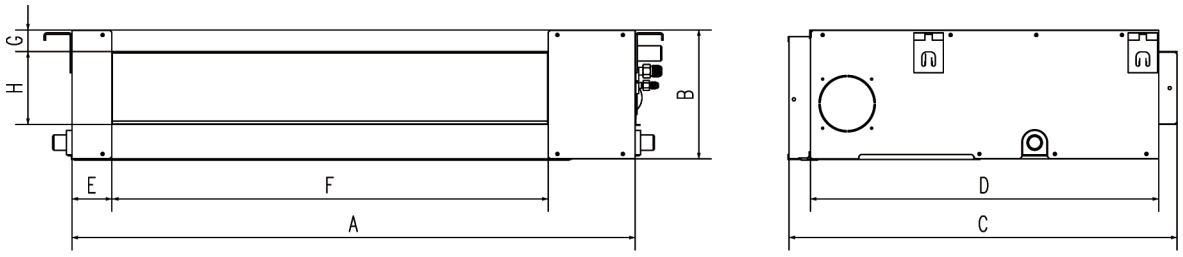
Αλλάξτε την στατική πίεση του μοτέρ του ανεμιστήρα ανάλογα με την εξωτερική στατική πίεση του αεραγωγού

ΣΗΜΕΙΩΣΗ

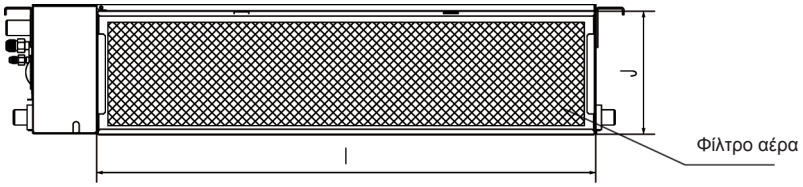
1. Μην τοποθετείτε το βάρος του αεραγωγού σύνδεσης στην εσωτερική μονάδα.
2. Κατά τη σύνδεση του αεραγωγού, τοποθετήστε σύνδεση από κανβά για την αποφυγή κραδασμών.
3. Στην εξωτερική πλευρά του αεραγωγού θα πρέπει να τοποθετηθεί μονωτικό αφρώδες υλικό για την αποφυγή εμφάνισης συμπυκνωμάτων και στην εσωτερική πλευρά ειδική επίστρωση για την μείωση του θορύβου.

Διαστάσεις και μέγεθος ανοίγματος εξόδου αέρα

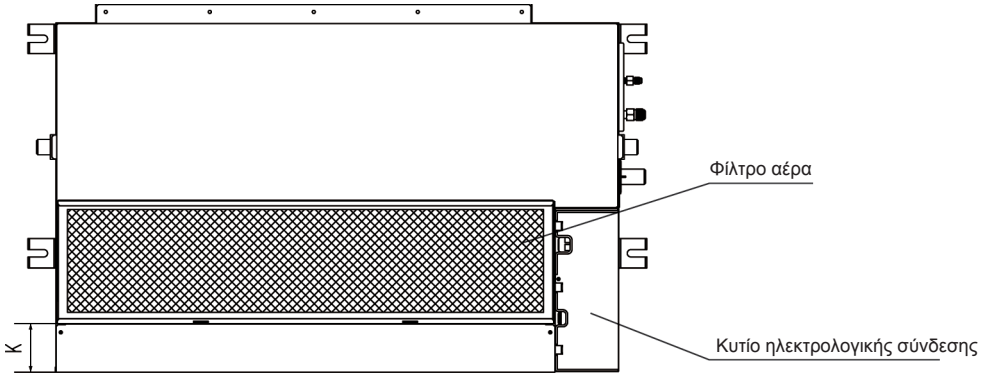
Μονάδα μέτρησης: mm



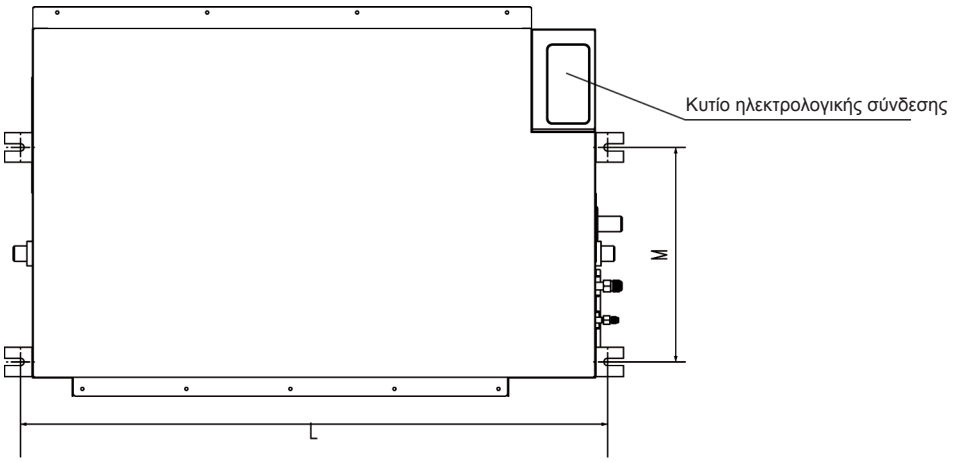
Διαστάσεις ανοίγματος εισόδου αέρα



Θέση θυρίδας επιστροφής αέρα από την κάτω πλευρά



Διαστάσεις του άγκιστρου στήριξης



Εικ.5-8

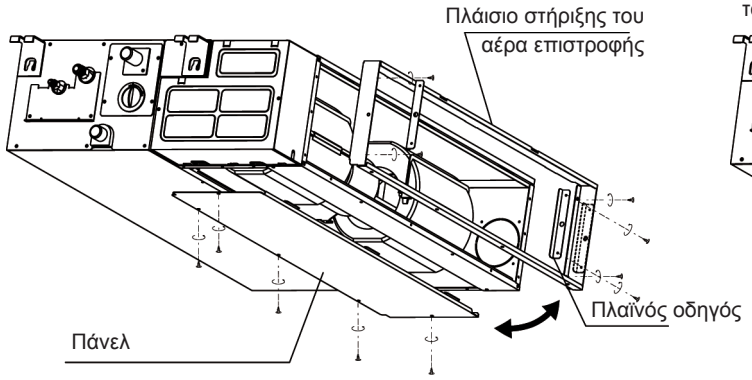
Πίνακας 5-2 mm

	Διαστάσεις				Διαστάσεις ανοίγματος της εξόδου του αέρα				Διαστάσεις ανοίγματος της επιστροφής του αέρα			Διαστάσεις της λαβής στήριξης	
	A	B	C	D	E	F	G	H	I	J	K	L	M
12	700	210	635	570	65	493	35	119	595	200	80	740	350
12~18	920	210	635	570	65	713	35	119	815	200	80	960	350
24	920	270	635	570	65	713	35	179	815	260	20	960	350
36 (Μικρό μοντέλο)	920	270	635	570	65	713	35	179	815	260	20	1180	490
30~36	1140	270	775	710	65	933	35	179	1035	260	45	1240	500
42~60	1200	300	865	800	80	968	40	204	1094	288	45	1240	500

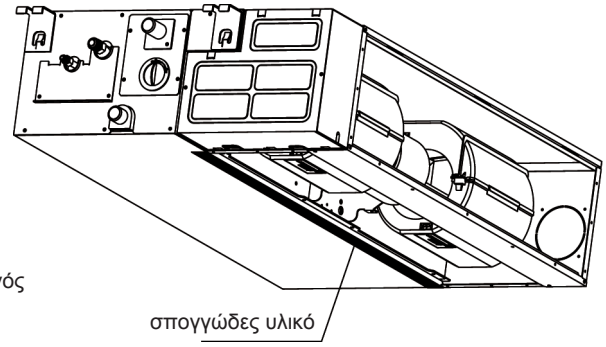
(in=mm/25.4)

Πως να ρυθμίσετε την κατεύθυνση της ροής του αέρα εισόδο (Από την πλαϊνή πλευρά προς την κάτω πλευρά)

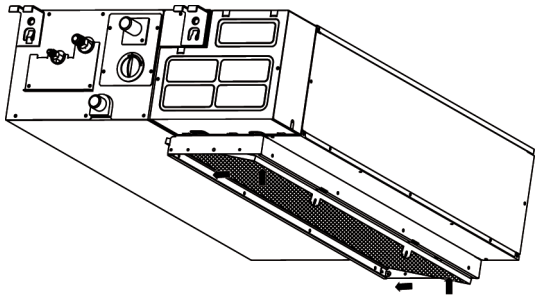
1. Αφαιρέστε το πάνελ και το στήριγμα πλαισίου



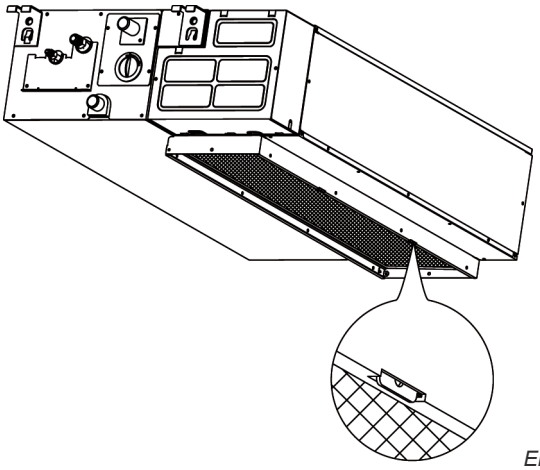
2. Τοποθετήστε το στεγανοποιητικό αφρώδες υλικό όπως φαίνεται στην παρακάτω εικόνα και αλλάξτε τις θέσεις στήριξης του πάνελ και του πλαισίου στήριξης της επιστροφής του αέρα.



3. Κατά την εγκατάσταση του φίλτρου, τοποθετήστε το στο πλαίσιο και πιέστε το προς τα πάνω.



4. Η εγκατάσταση έχει ολοκληρωθεί όταν τα στηρίγματα έχουν εισέλθει στις αντίστοιχες θέσεις του πλαισίου στήριξης.



Εικ.5-9

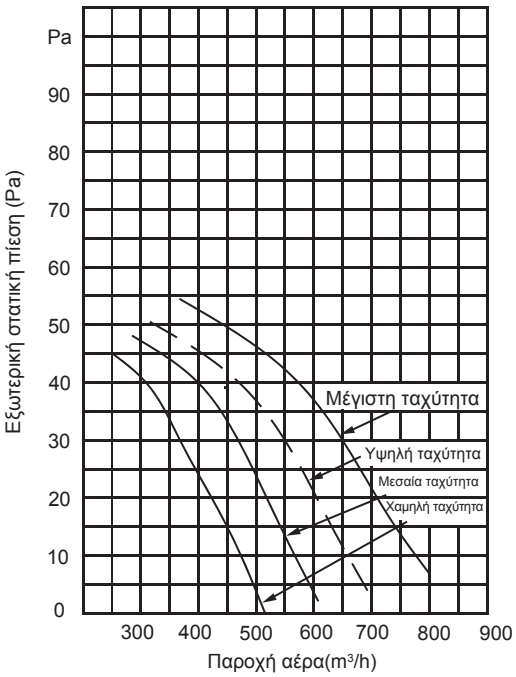
ΣΗΜΕΙΩΣΗ

Όλες οι εικόνες στο παρόν εγχειρίδιο είναι αναφορικές. Η κλιματιστική μονάδα που προμηθευτήκατε μπορεί να διαφέρει.

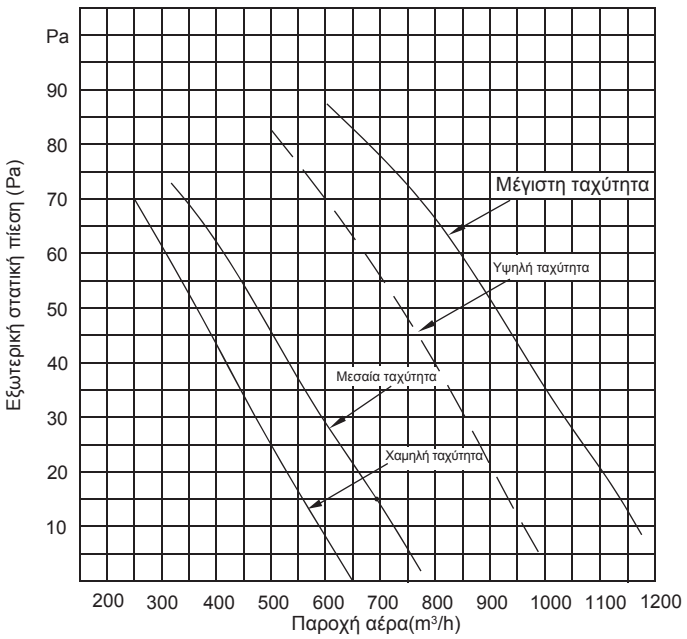
5.9 Αποδόσεις ανεμιστήρα

Καμπύλη στατικής πίεσης (Μέσης στατικής πίεσης)

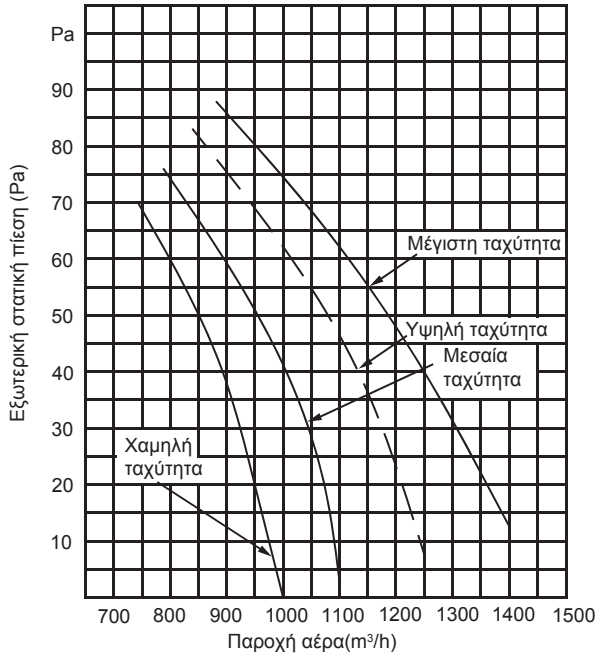
12K



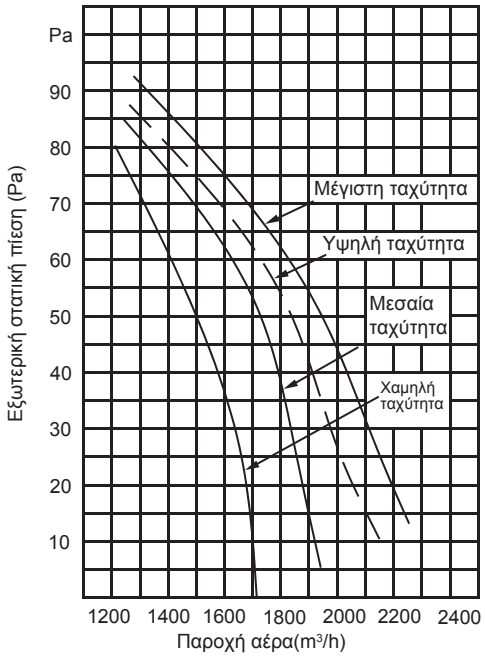
18K



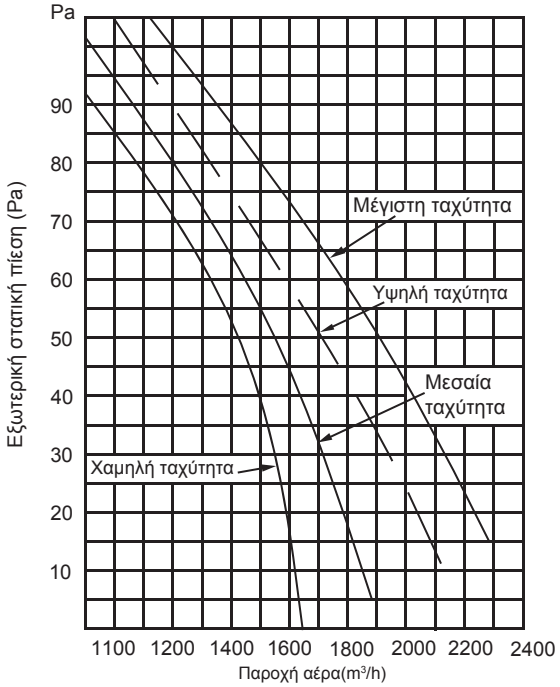
24K



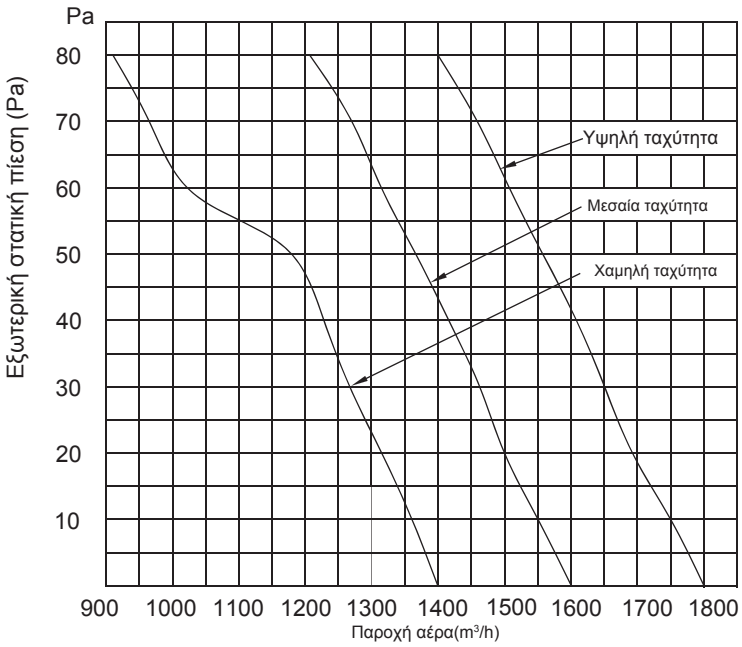
30K



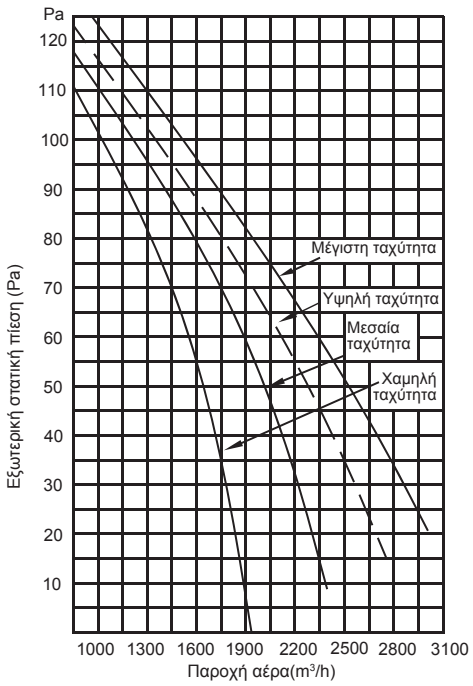
36K



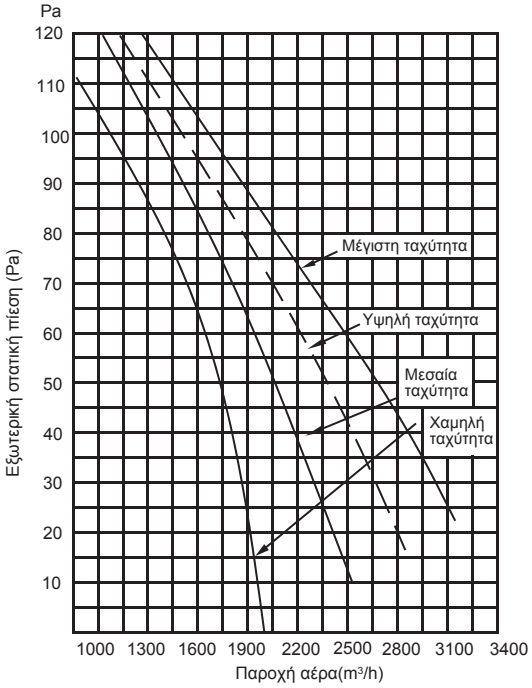
36K(μικρό μοντέλο)



48K

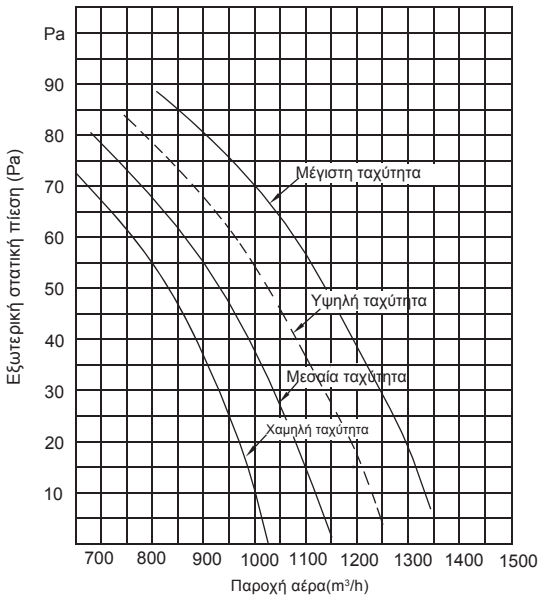


60K

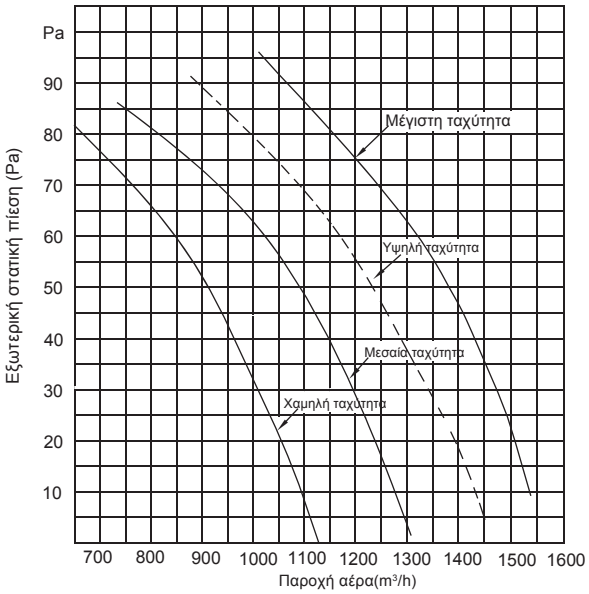


Καμπύλη στατικής πίεσης (υψηλή στατική πίεση)

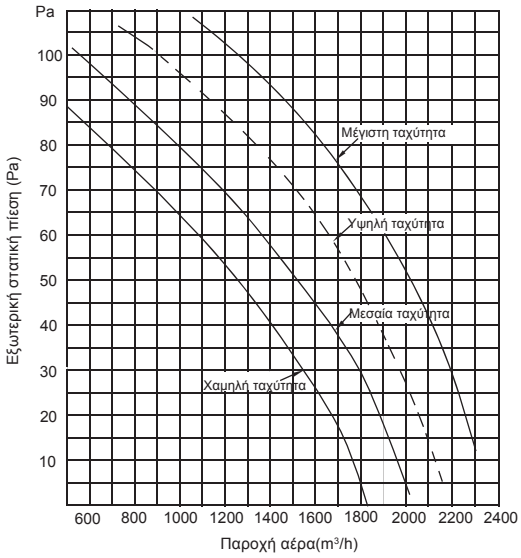
18k



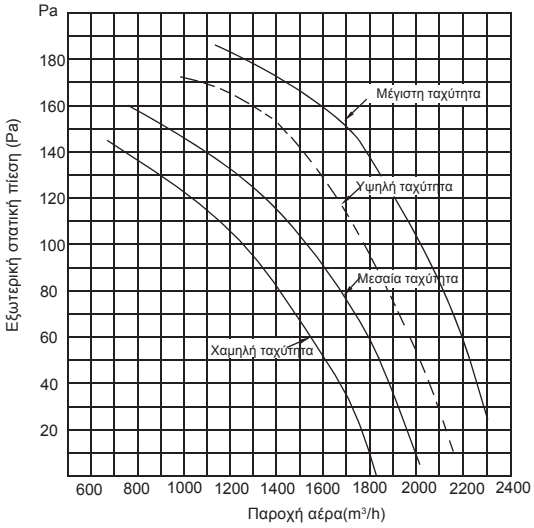
24K



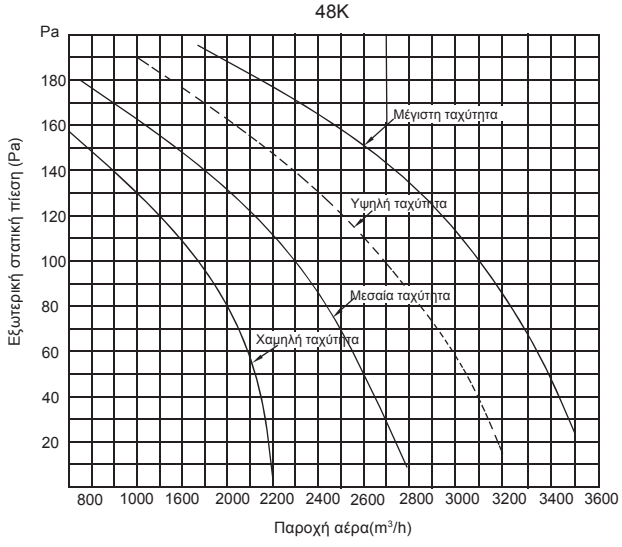
30K



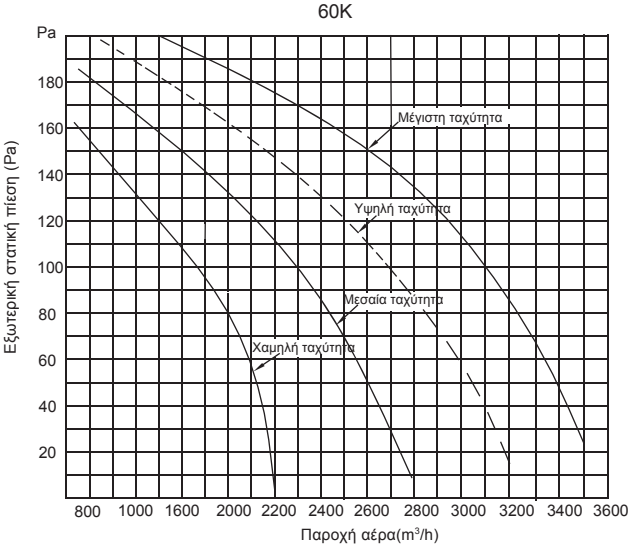
36K



48K



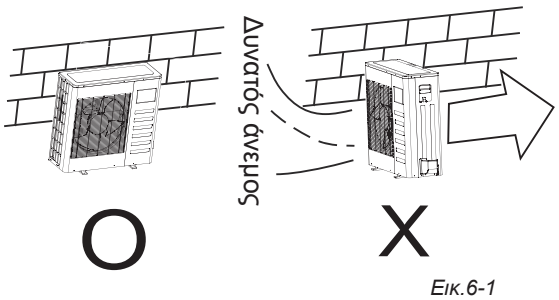
60K



6. ΕΓΚΑΤΑΣΤΑΣΗ ΕΞΩΤΕΡΙΚΗΣ ΜΟΝΑΔΑΣ

6.1 Θέση Εγκατάστασης

- **Η εξωτερική μονάδα θα πρέπει να τοποθετηθεί σε θέση που καλύπτει τις παρακάτω απαιτήσεις:**
  - Υπάρχει αρκετός ελεύθερος χώρος για τις εργασίες εγκατάτασης και συντήρησης.
  - Η είσοδος και έξοδος του αέρα δεν είναι φραγμένες και δεν επηρεάζεται από ισχυρούς ανέμους.
  - Πρέπει να είναι ένα ξηρό μέρος και να αερίζεται σωστά.
  - Η βάση στήριξης είναι επίπεδη και οριζόντια, μπορεί να αντέξει το βάρος της εξωτερικής μονάδας και δεν προκαλείται επιπλεόν θόρυβος ή κραδασμοί.
  - Να μην επιβαρύνονται οι γείτονες από θόρυβο ή τον αποβαλλόμενο αέρα.
  - Να είναι εύκολη η σύνδεση των σωληνώσεων και τον καλωδίων.
  - Δεν υπάρχει κίνδυνος πυρκαγίας εξαιτίας διαρροής εύφλεκτων αερίων.
  - Το μήκος σωληνώσεων ανάμεσα στην εξωτερική και εσωτερική μονάδα δεν ξεπερνά το μέγιστο επιτρεπτό.
  - Βεβαιωθείτε πως η έξοδος του αποβαλλόμενου αέρα δεν παρεμποδίζεται.
  - Σε περίπτωση που η θέση εγκατάστασης είναι εκτεθειμένη σε ισχυρούς ανέμους όπως σε παραθαλάσσια περιοχή, βεβαιωθείτε πως ο ανεμιστήρας λειτουργεί σωστά τοποθετώντας τη μονάδα παράλληλα με τον τοίχο ή χρησιμοποιώντας προστατευτικό κάλυμμα. (Ανατρέξτε στην Εικ. 6-1)
  - Εάν είναι εφικτό, αποφύγετε την εγκατάσταση της μονάδας σε μέρος που θα είναι απευθείας εκτεθειμένη σε ηλιακή ακτινοβολία.
  - Εάν κριθεί απαραίτητο τοποθετήστε γρίλλιες που δεν θα επηρεάζουν όμως τη ροή του αέρα.
  - Κατά τη λειτουργία της θέρμανσης τα συμπυκνώματα αποστραγγίζονται στην εξωτερική μονάδα και θα πρέπει η απορροή τους να γίνεται σε κατάλληλο μέρος ώστε να μην επηρεάζουν άλλα άτομα.
  - Επιλέξτε μια τοποθεσία όπου η μονάδα δεν θα είναι εκτεθειμένη σε χιόνι, πτώση φύλλων ή άλλα καιρικά φαινόμενα. Εάν αυτό είναι αναπόφευκτο, τοποθετήστε ένα σκέπαστρο.
  - Τοποθετήστε την εξωτερική μονάδα όσο πιο κοντά γίνεται στην εσωτερική μονάδα.
  - Απομακρύνεται όσο είναι εφικτό όλα τα εμπόδια που βρίσκονται κοντά στη μονάδα ώστε να αποφευχθεί μείωση απόδοσης εξαιτίας ανεπαρκούς κυκλοφορίας αέρα.
  - Η ελάχιστες αποστάσεις μεταξύ της εσωτερικής μονάδας και των αντικειμένων που αναφέρονται δεν σημαίνει πως μπορούν να εφαρμοστούν και σε στενό χώρο. Αφήστε ανοιχτές 2 από τις 3 κατευθύνσεις (M,N,P) (Ανατρέξτε στην Εικ. 6-5)



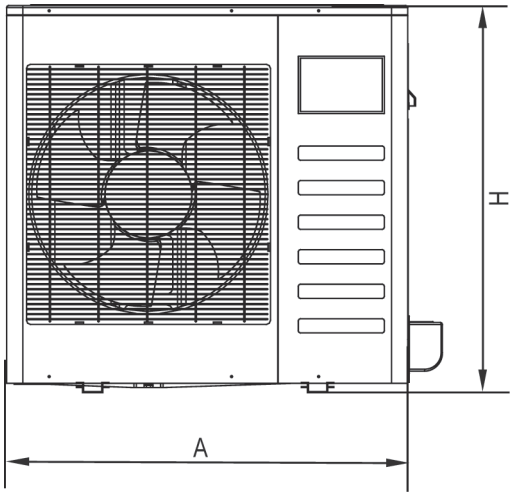
Εικ.6-1

ΣΗΜΕΙΩΣΗ

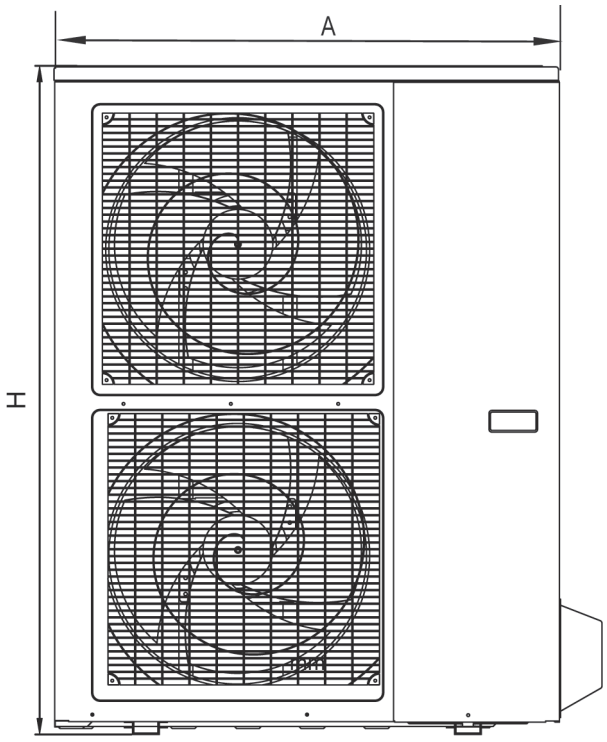
Όλες οι εικόνες σε αυτό το εγχειρίδιο είναι μόνο για επεξηγηματικούς σκοπούς. Μπορεί να υπάρχουν διαφορές με την κλιματιστική μονάδα που έχετε προμηθευτεί.

6.2 Απεικόνιση μεγέθους της μονάδας

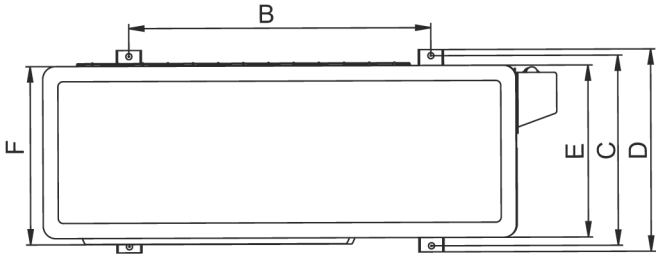
1. Εξωτερική μονάδα διαιρούμενου τύπου



Εικ.6-2



Εικ.6-3



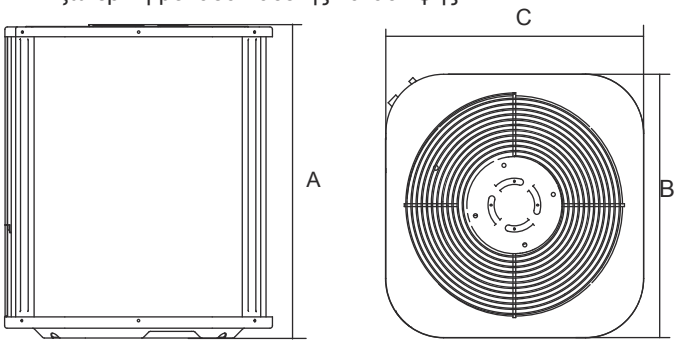
Εικ.6-4

Πίνακας 6-1 mm

ΜΟΝΤΕΛΟ	A	B	C	D	E	F	H	REMARK
09~36	780	548	266	300	241	250	540	*Fig.6-2*
	770	487	298	322	260	300	555	*Fig.6-2*
	800	514	290	340	365	315	333	*Fig.6-2*
	845	540	350	376	335	340	700	*Fig.6-2*
	760	530	290	315	270	285	590	*Fig.6-2*
	845	560	335	360	312	320	700	*Fig.6-2*
	810	549	325	350	305	310	558	*Fig.6-2*
	945	640	405	448	385	395	810	*Fig.6-2*
	900	590	333	355	302	315	860	*Fig.6-2*
	990	624	366	396	340	345	965	*Fig.6-2*
	900	590	378	400	330	350	1170	*Fig.6-3*
	938	634	404	448	368	392	1369	*Fig.6-3*
42~60	946	673	403	455	405	420	810	*Fig.6-2*
	950	634	404	448	382	410	1333	*Fig.6-3*
	990	624	366	396	340	345	965	*Fig.6-2*
	938	634	404	448	368	392	1369	*Fig.6-3*
	900	590	378	400	330	350	1170	*Fig.6-3*

(in=mm/25.4)

2. Εξωτερική μονάδα κάθετης κατάθλιψης

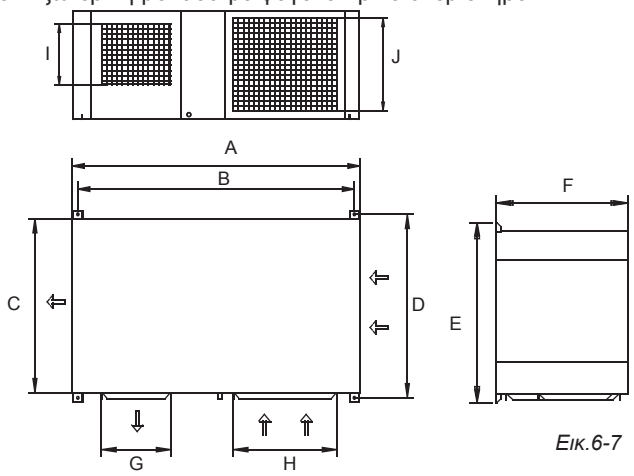


Εικ.6-5 *Εικ.6-6*

Πίνακας 6-2 Μονάδα μέτρησης: mm

ΜΟΝΤΕΛΟ	ΔΙΑΣΤΑΣΕΙΣ			ΠΑΡΑΤΗΡΗΣΗ
	A	B	C	
18	633/24.92in	554/21.81in	554/21.81in	Ανατρέξτε στις Εικ. 6-5 και Εικ. 6-6
24	633/24.92in	554/21.81in	554/21.81in	
36	759/29.88in	554/21.81in	554/21.81in	
36	633/24.92in	600/23.62in	600/23.62in	
48	759/29.88in	710/27.95in	710/27.95in	
60	843/33.19in	710/27.95in	710/27.95in	

3. Εξωτερική μονάδα με φυγοκεντρικό ανεμιστήρα



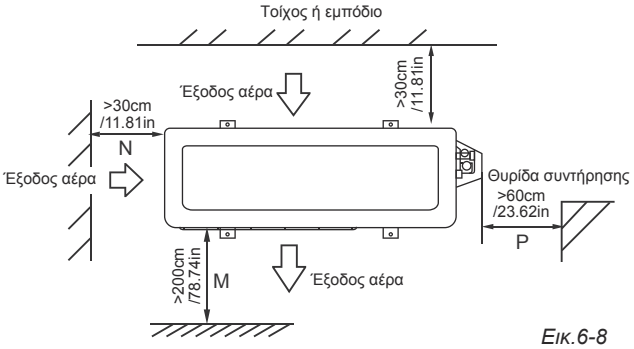
Εικ.6-7

Πίνακας 6-3 Μονάδα μέτρησης: mm

ΜΟΝΤΕΛΟ	A	B	C	D	E	F	G	H	I	J
18	1174	1120	680	720	750	475	300	430	265	393
24	1174	1120	680	720	750	475	300	430	265	393
30	1381	1328	702	740	770	520	336	500	296	443
36	1381	1328	702	740	770	520	336	500	296	443
48	1394	1338	783	820	850	568	398	574	342	463
60	1394	1338	783	820	850	568	398	574	342	463

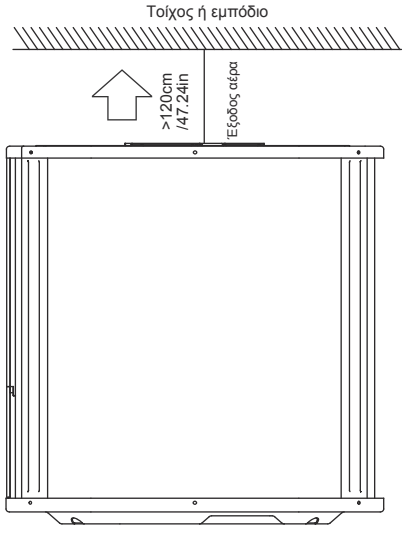
6.3 Αποστάσεις που αφορούν την εγκατάσταση και συντήρηση

1. Εξωτερική μονάδα διαιρούμενου τύπου

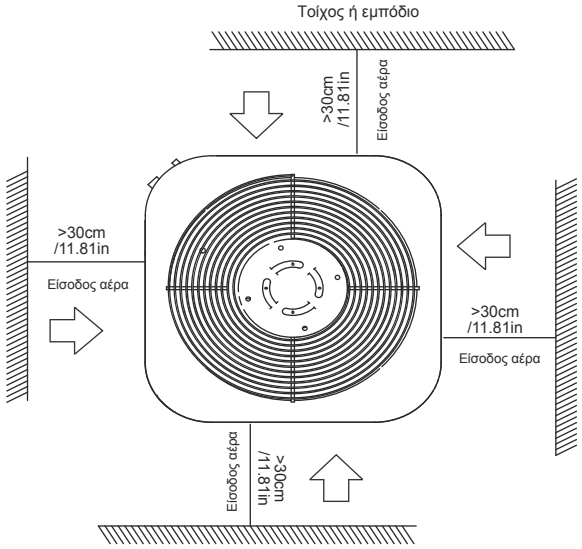


Εικ.6-8

2. Εξωτερική μονάδα κάθετης κατάθλιψης



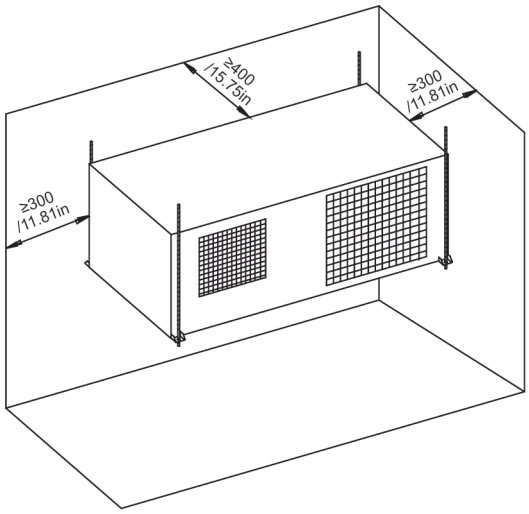
Εικ.6-9



Εικ.6-10

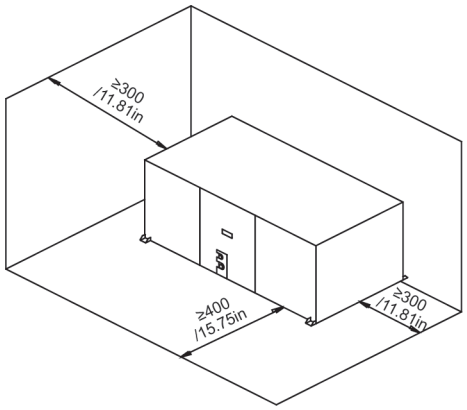
3. Εξωτερική μονάδα με φυγοκετρικό ανεμιστήρα

α) Ανάρτηση στην οροφή



Εικ.6-11

β) Τοποθέτηση στο δάπεδο



Εικ.6-12

ΣΗΜΕΙΩΣΗ

Όλες οι εικόνες σε αυτό το εγχειρίδιο είναι μόνο για επεξηγηματικούς σκοπούς. Μπορεί να υπάρχουν διαφορές με την κλιματιστική μονάδα που έχετε προμηθευτεί.

6.4 Διαθέσιμες διατάξεις για εξωτερική μονάδα με φυγοκεντρικό ανεμιστήρα

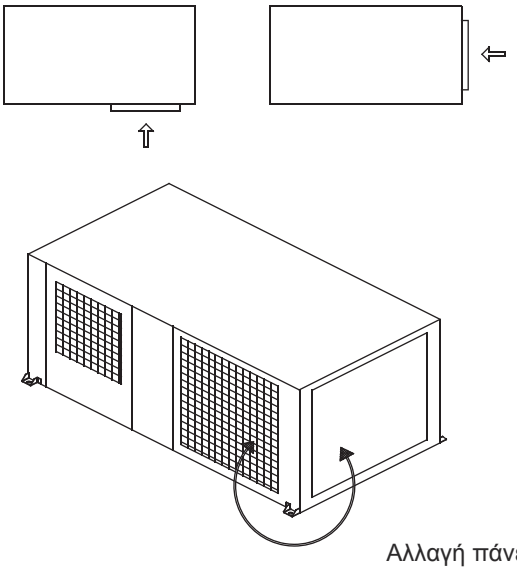
Υπάρχει δυνατότητα για 4 διατάξεις της εξωτερικής μονάδας αλλάζοντας απλά τα πάνελ και τη θέση του ανεμιστήρα.

ΣΗΜΕΙΩΣΗ

Λάβετε υπόψιν σας πως το βάρος του ανεμιστήρα είναι περίπου 30kg. Η μονάδα όπως επίσης και τα σχετικά εξαρτήματα είναι καλυμμένα με κάλυμμα βινυλίου κατά τις εργασίες εγκατάστασεις.

■ **Τροποποίηση εισόδου αέρα**

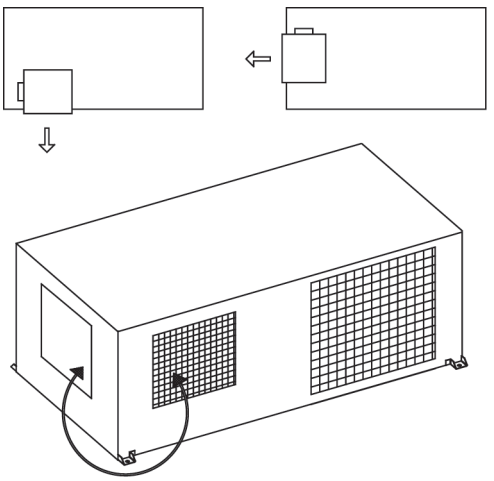
Για να αλλάξετε την είσοδο του αέρα το μόνο που χρειάζεται είναι αλλάξετε τις θέσεις των πάνελ. Τα πάνελ στερεώνονται στον σκελετό της μονάδας με βίδες.



Αλλαγή πάνελ

Εικ.6-13

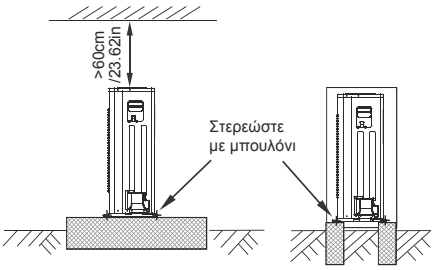
Για την αλλαγή της εξόδου του αέρα είναι επίσης απαραίτητη η αλλαγή των πάνελ. Το πάνελ εξόδου βρίσκεται συνδεδεμένο στη διάρθωση του ανεμιστήρα, το οποίο πρέπει να τοποθετηθεί όπως παρακάτω



Εικ.6-14

6.5 Μεταφορά και εγκατάσταση

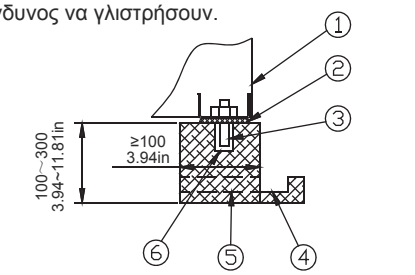
- Όταν σηκώνετε την μονάδα με ιμάντα να είστε ιδιαίτερα προσεκτικοί, καθώς το κέντρο βάρους της μονάδας δεν θα είναι το φυσιολογικό του.
- Μην κρατάτε την εξωτερική μονάδα από το εσωτερικό της μέρος για την αποφυγή παραμόρφωσης.
- Μην ακουμπάτε τους ανεμιστήρες με τα χέρια ή άλλα αντικείμενα
- Αποφύγετε κλίση πάνω από 45° μοίρες και μην ακουμπάτε τη μονάδα λοξά.
- Φτιάξτε βάση από σκυρόδεμα σύμφωνα με τις προδιαγραφές των εξωτερικών μονάδων. (Ανατρέξτε στην Εικ. 6-15)
- Στερεώστε τα πόδια της μονάδας σταθερά για την αποφυγή πτώσης από σεισμό ή δυνατό άνεμο. (Ανατρέξτε στην Εικ. 6-15)

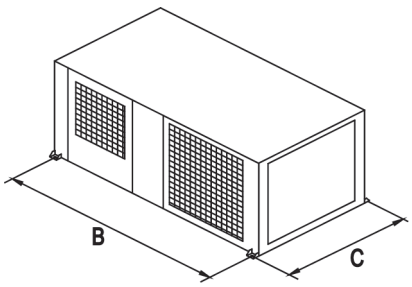


Εικ.6-15

■ Βάση σκυροδέματος

1. Η βάση πρέπει να βρίσκεται πάνω σε επίπεδο έδαφος και 100-300mm/ 3.94-11.81in πάνω από το έδαφος.
2. Τοποθετήστε αγωγό αποστράγγισης γύρω από τη βάση και ομαλή απορροή συμπυκνωμάτων.
3. Κατά την εγκατάσταση της εξωτερικής μονάδας στερεώστε τη με βίδες M10.
4. Όταν η μονάδα είναι εγκατεστημένη σε οροφή ή βεράντα, τα συμπυκνώματα μπορεί να μετασχηματιστούν σε πάγο κάποιο κρύο πρωινό. Επομένως αποφύγετε την τοποθέτηση της απορροής των συμπυκνωμάτων σε μέρος όπου κυκλοφορούν άτομα διότι υπάρχει κίνδυνος να γλιστρήσουν.





Εικ.6-16

Πίνακας 6-4

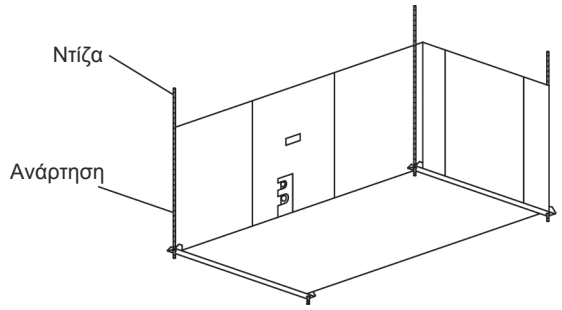
A/A	ΠΕΡΙΓΡΑΦΗ
①	Εξωτερική Μονάδα
②	Υλικό απορρόφησης καρδασμών
③	Άγκιστρο M10
④	Αποστράγγιση (Πλάτος 100/3.94in x Βάθος 150/5.9in)
⑤	Αποστράγγιση
⑥	Οπή (Φ100/3.94in x Βάθος 150/5.9in)

Πίνακας 6-5 Μονάδα μέτρησης：mm

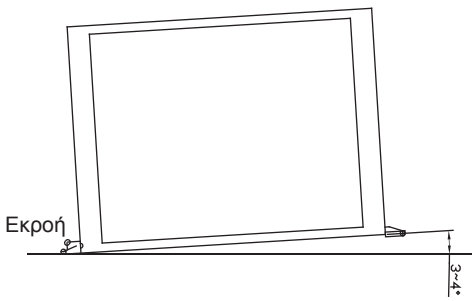
Μοντέλο	B	C
18～24	1120/44.1in	720/28.35in
30	1338/52.67in	820/32.28in
36	1338/52.67in	820/32.28in
48～60	1338/52.67in	820/32.28in

■ Αναρτημένη μονάδα

1. Αναρτήστε τη μοναδα όπως φαίνεται στο σκαρίφημα.
2. Βεβαιωθείτε πως η οροφή μπορεί να αντέξει το βάρος της μονάδας.



Εικ.6-17



Εικ.6-18

ΣΗΜΕΙΩΣΗ: Όταν η μονάδα εγκαθίσταται σε περιβάλλον με υψηλή υγρασία και χαμηλή θερμοκρασία βεβαιωθείτε πως υπάρχει μια γωνία 3-4 μοίρες της μονάδας από το έδαφος.
Βεβαιωθείτε πως ο πάγος που σχηματίζεται πάνω στην εξωτερική μονάδα μπορεί να αντιμετωπιστεί.
Η εξωτερική μονάδα πρέπει να τοποθετηθεί σε βάση ύψους 30cm.
Η θερμοκρασία περιβάλλοντος πρέπει να είναι πάνω από 0°C.
Η μονάδα πρέπει να τοποθετηθεί σε εσωτερικό χώρο.

7. ΕΓΚΑΤΑΣΤΑΣΗ ΤΩΝ ΣΩΛΗΝΩΣΕΩΝ ΣΥΝΔΕΣΗΣ

7.1 Προετοιμασία

Πριν την εγκατάσταση βεβαιωθείτε ότι η υψομετρική διαφορά μεταξύ εσωτερικής με εξωτερική μονάδα, το μήκος των ψυκτικών σωληνώσεων και ο αριθμός των καμπυλών συμφωνούν με τις παρακάτω απαιτήσεις:

Πίνακας 7-1 Μονάδα μέτρησης:m

Τύπος μοντέλων	Μοντέλο	Μήκος ψυκτικών σωληνώσεων	Μέγιστη υψομετρική διαφορά
Διαιρούμενου τύπου κλιματιστικό 50Hz κατάστασης T1 / R22	12K	15/49.21ft	8/26.25ft
	18K-24K	30/98.42ft	10/32.8ft
	30K-42K	50/164.04ft	20/65.62ft
	48K-60K	50/164.04ft	25/82.02ft
Κλιματιστική μονάδα κάθετης κατάθλιψης αέρα 50Hz / Κλιματιστική μονάδα R22 διαιρούμενου τύπου και κλιματιστική μονάδα κάθετης κατάθλιψης αέρα	12K	15/49.21ft	8/26.25ft
	18K-24K	30/98.42ft	10/32.8ft
	30K-60K	30/98.42ft	20/65.62ft
Κλιματιστική μονάδα Inverter διαιρούμενου τύπου R410A και εξωτερική μονάδα με φυγοκεντρικό ανεμιστήρα.	12K	10/32.8ft	5/16.4ft
	18K-24K	25/82.02ft	12/39.37ft
	30K	25/82.02ft	15/49.21ft
	36K	30/98.42ft	20/65.62ft
	48K-60K	50/164.04ft	25/82.02ft
Κλιματιστική μονάδα διαιρούμενου τύπου R410A και εξωτερική μονάδα με φυγοκεντρικό ανεμιστήρα.	12K	15/49.21ft	8/26.25ft
	18K-30K	25/82.02ft	15/49.21ft
	36K	30/98.42ft	20/65.62ft
	48K-60K	50/164.04ft	25/82.02ft
50Hz / 60Hz κατάσταση T3(εξωτερική μονάδα κάτω)	18K-24K	25/82.02ft	10/32.8ft
	30K	30/98.42ft	15/49.21ft
	36K	30/98.42ft	20/65.62ft
	42K-60K	50/164.04ft	25/82.02ft
50Hz / 60Hz κατάσταση T3(εξωτερική μονάδα πάνω)	18K-24K	25/82.02ft	15/49.21ft
	30K	30/98.42ft	20/65.62ft
	36K	30/98.42ft	25/82.02ft
	42K	50/164.04ft	30/98.42ft
	48K-60K	50/164.04ft	35/114.83ft
μονάδα με ταχεία σύνδεση	12K-18K	5/16.4ft	5/16.4ft

Η εξωτερική μονάδα έρχεται προπληρωμένη με ψυκτικό υγρό από το εργοστάσιο κατασκευής. Η ποσότητα επιπλέον πλήρωσης αναφέρεται στον παρακάτω πίνακα:

Πίνακας 7-2

Γραμμή υγρού(mm)		R410A	R22
Ø6.35	Εκτονωτική διάταξη στην εσωτερική μονάδα	0.022kg/m×(L-5)	0.030kg/m×(L-5)
	Εκτονωτική διάταξη στην εξωτερική μονάδα	0.011kg/m×(L-5)	0.015kg/m×L
Ø9.53	Εκτονωτική διάταξη στην εσωτερική μονάδα	0.060kg/m×(L-5)	0.065kg/m×(L-5)
	Εκτονωτική διάταξη στην εξωτερική μονάδα	0.030kg/m×(L-5)	0.030kg/m×L
Ø12.7	Εκτονωτική διάταξη στην εσωτερική μονάδα	0.110kg/m×(L-5)	0.115kg/m×(L-5)
	Εκτονωτική διάταξη στην εξωτερική μονάδα	0.060kg/m×(L-5)	0.060kg/m×L
Ø15.9	Εκτονωτική διάταξη στην εσωτερική μονάδα	0.170kg/m×(L-5)	0.190kg/m×(L-5)
	Εκτονωτική διάταξη στην εξωτερική μονάδα	0.085kg/m×(L-5)	0.095kg/m×L
Ø19.0	Εκτονωτική διάταξη στην εσωτερική μονάδα	0.250kg/m×(L-5)	0.290kg/m×(L-5)
	Εκτονωτική διάταξη στην εξωτερική μονάδα	0.125kg/m×(L-5)	0.145kg/m×L

- ΣΗΜΕΙΩΣΗ: Ο παραπάνω πίνακας αναφέρεται στην γραμμή υγρού
- ΣΗΜΕΙΩΣΗ: Ο αριθμός των καμπυλών είναι ανάλογος με την μέγιστη υψομετρική διαφορά. Συνήθως για κάθε 10m/32.8ft χρειάζεται μια καμπύλη.

ΠΡΟΣΟΧΗ

Όλες οι σωληνώσεις πρέπει να εγκατασταθούν από αδειούχο ψυκτικό και θα πρέπει η εγκατάσταση να γίνει σύμφωνα με τους εθνικούς κανονισμούς.

Μην επιτρέψετε να εισέλθουν στο ψυκτικό κύκλωμα σκόνη, αέρας ή ακαθαρσίες κατά τη διάρκεια της εγκατάστασης.

Οι σωληνώσεις της γραμμής αερίου και της γραμμής υγρού θα πρέπει να μονώνονται για την αποφυγή εμφάνισης συμπυκνωμάτων.

7.2 Διαδικασία σύνδεσης σωληνώσεων

1 Υπολογίστε το απαιτούμενο μήκος των σωληνώσεων και συνδέστε όπως περιγράφεται παρακάτω

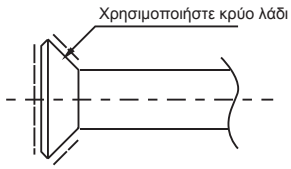
■ Συνδέστε πρώτα την εσωτερική μονάδα και μετά την εξωτερική

• Κάμψτε τον σωλήνα με τον σωστό τρόπο, μην τον στρίβετε.



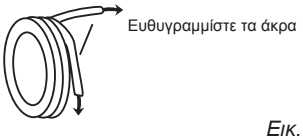
Εικ.7-1

• Αλλοίψτε τις επιφάνειες του σωλήνα και τα σημεία σύνδεσης με ψυκτικό λάδι, έπειτα βιδώστε πρώτα χειροκίνητα 3-4 φορές και έπειτα σφίξτε τα παξιμάδια (Ανατρέξτε στο γράφημα 16)



Εικ.7-2

• Όταν συνδέετε ή αποσυνδέετε τις σωληνώσεις να χρησιμοποιείτε ταυτόχρονα 2 γαλλικά κλειδιά.



Εικ.7-3

■ Στην εξωτερική μονάδα θα πρέπει οι βάνες να είναι κλειστές. Χαλαρώστε τα παξιμάδια και εντός 5 λεπτών συνδέστε τις σωληνώσεις. Εάν παραμείνουν έτσι για περισσότερο χρόνο μπορεί να εισέλθει στο κύκλωμα σκόνη ή ακαθαρσίες και να προκληθεί δυσλειτουργία. Επομένως πριν την σύνδεση αφαιρέστε τον αέρα από τις σωληνώσεις.

■ Αφαιρέστε τον αέρα αφού συνδέσετε τις ψυκτικές σωληνώσεις στην εσωτερική και εξωτερική μονάδα (Ανατρέξτε στο 8.1). Έπειτα σφίξτε τις βάνες.

■ Κάμψη του συνδετικού σωλήνα μικρού πάχους

- Κόψτε ένα κοίλο κομμάτι της μόνωσης στο σημείο κάμψης.
- Εμφανίστε τον σωλήνα (μετά την ολοκλήρωση της κάμψης καλύψτε τον σωλήνα με ταινία)
- Για την αποφυγή παραμόρφωσης κάμψτε τον σωλήνα με την κατάλληλη γωνία.

ΣΗΜΕΙΩΣΗ

Η γωνία κάμψης δεν πρέπει να υπερβένει τις 90μοίρες. Η θέση κάμψης είναι προτιμότερο να βρίσκεται στη μέση του σωλήνα. Μην κάμπτετε τον σωλήνα πάνω από 3 φορές. Κατά την προμήθεια χαλκοσωλήνα από την τοπική αγορά μην ξεχνάτε να χρησιμοποιείτε το ίδιο μονωτικό υλικό (Πάχος τουλάχιστον 9mm/0.35in)

2. Τοποθέτηση των σωληνώσεων

- Διανοίξτε μια οπή στον τοίχο (κατάλληλη για το μέγεθος του αγωγού των ηλεκτρικών καλωδίων), έπειτα τοποθετήστε τα εξαρτήματα όπως τον αγωγό ηλεκτρικών καλωδίων και το κάλυμμά του.
- Δέστε τις σωληνώσεις και τα καλώδια με ταινίες.
- Οδηγήστε τον σωλήνα μέσω της οπής από έξω προς τα μέσα. Να είστε πολύ προσεκτικοί ώστε να μην προκληθεί φθορά στις σωληνώσεις

3 Συνδέστε τις σωληνώσεις.

4 Αφαιρέστε τον αέρα με τη χρήση αντλίας κενού.

5 Ανοίξτε τις βάνες της εξωτερικής μονάδας.

6 Ελέγξτε για διαρροές. Ελέγξτε τις συνδέσεις με ανιχνευτή διαρροών ή σαπουνοδιάλυμα.

7 Καλύψτε τις συνδέσεις των σωληνώσεων με μονωτικό περίβλημα και δέστε το καλά με ταινία για την αποφυγή διαρροών.

Σημείωση: Όλες οι διακλαδώσεις πρέπει να έχουν παραχθεί από τον κατασκευαστή, διότι σε αντίθετη περίπτωση μπορεί να προκληθεί δυσλειτουργία. Οι εσωτερικές μονάδες πρέπει να τοποθετηθούν ισοδύναμα και στις 2 πλευρές της διακλάδωσης τύπου U.

8.2 Διαστάσεις διακλαδώσεων της εσωτερικής μονάδας

Πίνακας 8-2 Οι διαστάσεις αναφέρονται σε εσωτερική μονάδα R410A

Απόδοση εσωτερικής μονάδας (A)	Διατομή κύριων σωληνώσεων		
	Γραμμή αερίου	Γραμμή υγρού	Διακλάδωση
18K	Φ12.7/0.5in	Φ6.35/0.25in	CE-FQZHN-01C
24K	Φ15.9/0.626in	Φ9.5/0.375in	CE-FQZHN-01C
30K	Φ15.9/0.626in	Φ9.5/0.375in	CE-FQZHN-01C

8. ΨΥΚΤΙΚΕΣ ΣΩΛΗΝΩΣΕΙΣ

(για σύστημα με ζεύγος διδύμων εσωτερικών μονάδων)

8.1 Επιτρεπόμενα μήκη και υψομετρική διαφορά των ψυκτικών σωληνώσεων

Σημείωση: Το μήκος του διακλαδωτή είναι μειωμένο κατά 0,5m από το ισοδύναμο μήκος του σωλήνα

Πίνακας 8-1

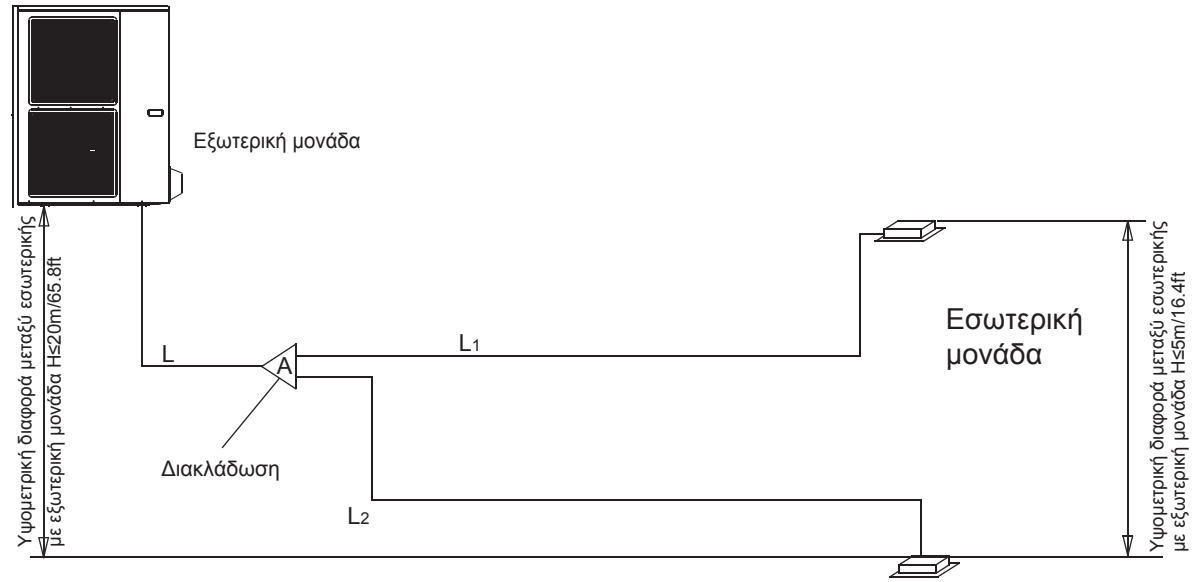
		Επιτρεπόμενη τιμή		Σωληνώσεις
Μήκος σωληνώσεων	Συνολικό μήκος σωληνώσεων (Πραγματικό)	18K+18K	30m/98.42ft	L+L1+L2
		24K+24K/ 30K+30K	50m/164.04ft	
	Μέγιστη απόσταση από την διακλάδωση	15m/49.21ft		L1,L2
	Μέγιστη απόσταση από την διακλάδωση	10m/32.8ft		L1-L2
Υψομετρική διαφορά	Υψομετρική διαφορά εσωτερικής με εξωτερική μονάδα	20m/65.8ft		H1
	Υψομετρική διαφορά μεταξύ εσωτερικών μονάδων	0.5m/1.64ft		H2

8.3 Διαστάσεις διακλαδώσεων της εξωτερικής μονάδας

Η επιλογή των διατομών των σωληνώσεων σύνδεσης της εξωτερικής μονάδας θα πρέπει να γίνει σύμφωνα με τον παρακάτω πίνακα.

Πίνακας 8-3 Οι διαστάσεις αναφέρονται σε εξωτερική μονάδα R410A

Μοντέλο	Διατομή κύριων σωληνώσεων		
	Γραμμή αερίου	Γραμμή υγρού	Διακλάδωση
36K	Φ15.9/0.626in	Φ9.5/0.375in	CE-FQZHN-01C
48K	Φ15.9/0.626in	Φ9.5/0.375in	CE-FQZHN-01C
60K	Φ15.9/0.626in	Φ9.5/0.375in	CE-FQZHN-01C



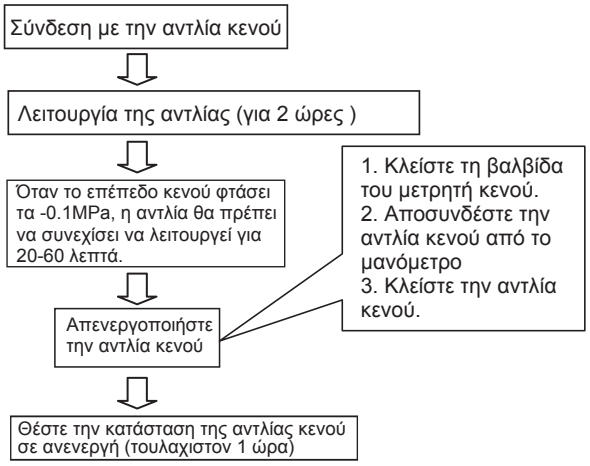
Εικ.8-1

8.4 Κενό με αντλία κενού

1) Χρησιμοποιήστε αντλία κενού με επιπέδο εκκένωσης κάτω από -0.1MPa και χωρητικότητα εκκένωσης αέρα πάνω από 40L/min.

2) Δεν χρειάζεται να γίνει κενό στην εξωτερική μονάδα. Μην ανοίξετε της βαλβίδες της γραμμής αερίου και της γραμμής υγρού στης εξωτερικής μονάδας

3) Βεβαιωθείτε πως η αντλία κενού φτάνει στα -0.1MPa ή λιγότερο μετά πό 2 ώρες ή την παραπάνω διαδικασία. Εάν μετά από 3 ώρες δεν έχει επιτευχθεί το -0.1MPa ή λιγότερο, ελέγξτε αν υπάρχει νερό στις σωληνώσεις ή αν υπάρχει διαρροή αερίου.



Εικ.8-2

ΠΡΟΣΟΧΗ

- Μην ανακατεύετε διαφορετικά ψυκτικά υγρά και μην φθείρετε τα εργαλεία ή τα όργανα μέτρησης που έρχονται σε επαφή με τα ψυκτικά υγρά.
- Μην χρησιμοποιείτε ψυκτικά αέρια για το κενό.
- Εάν το επίπεδο κενού δεν φτάσει στα -0.1MPa, ελέγξτε για τυχόν διαρροές. Εάν δεν διαπιστωθεί διαρροή λειτουργήστε την αντλία κενού για άλλες 1 ή 2 ώρες.

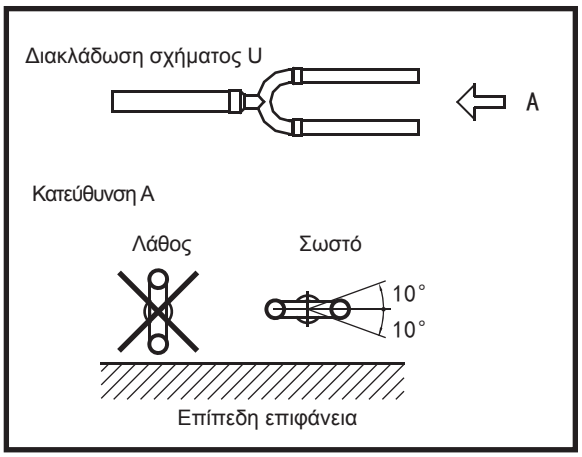
8.5 Ποσότητα ψυκτικού υγρού που πρέπει να συμπληρωθεί.

Ο υπολογισμός της επιπλέον ποσότητας πλήρωσης ψυκτικού υγρού γίνεται σύμφωνα με τη διατομή και το μήκος της γραμμής υγρού ανάμεσα στην εσωτερική και εξωτερική μονάδα. Το ψυκτικό υγρό είναι R410A.

Πίνακας.8-4

Διατομή σωλήνα γραμμής υγρού	Ποσότητα πλήρωσης ψυκτικού υγρού ανά μέτρο
Φ6.35/0.25in	0.015kg/0.033lb
Φ9.52/0.375in	0.030kg/0.066lb

1) Η διακλάδωση θα πρέπει να τοποθετηθεί οριζόντια. Η απόκλιση δεν θα πρέπει να ξεπερνάει τις 10 μοίρες. Σε αντίθετη περίπτωση μπορεί να προκληθεί δυσλειτουργία



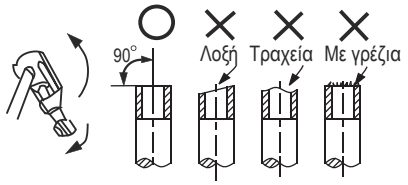
Εικ.8-3

9. ΣΥΝΔΕΣΗ ΨΥΚΤΙΚΩΝ ΣΩΛΗΝΩΣΕΩΝ

9.1 Απομάκρυνση του αέρα

1 Εκχείλωση

- Κόψτε τον σωλήνα με ειδικό κοπτικό εργαλείο (Ανατρέξτε στην Εικ. 9-1)

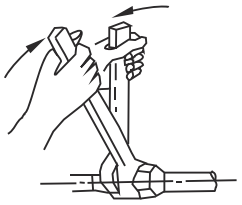


Εικ.9-1

- Εισάγετε το αντίστοιχο εργαλείο στον σωλήνα και προχωρήστε με την εκχείλωση

2 Σφίξτε τα ρακόρ

- Τοποθετήστε τους σωλήνες στη σωστή θέση, σφίξτε τα ρακόρ αρχικά χειροκίνητα και έπειτα ταυρόχρονα με 2 γαλλικά κλειδιά. (Ανατρέξτε στην Εικ.9-2)

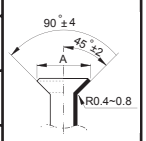


Εικ.9-2

ΠΡΟΣΟΧΗ

Υπερβολική ροπή θα προκαλέσει φθορά στη σύνδεση και πολλή μικρή θα προκαλέσει διαρροή. Συμβουλευτείτε τον πίνακα 9-1.

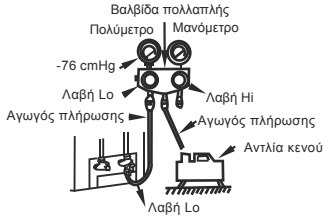
Πίνακας 9-1

Διατομή σωλήνα	Ροπή σύσφιξης	Διάσταση εκχείλωσης A Ελάχιστη (mm)	Μέγιστη	Σχήμα εκχείλωσης
Ø6.35/0.25in	14.2～17.2 N.m (144～176 kgf.cm)	8.3/0.327in	8.7/0.343in	
Ø9.52/0.375in	32.7～39.9 N.m (333～407 kgf.cm)	12.0/0.472in	12.4/0.488in	
Ø12.7/0.5in	49.5～60.3 N.m (504～616 kgf.cm)	15.4/0.606in	15.80.622in	
Ø15.9/0.626in	61.8～75.4 N.m (630～770 kgf.cm)	18.6/0.732in	19.0/0.748in	
Ø19.1/0.725in	97.2～118.6 N.m (990～1210 kgf.cm)	22.9/0.902in	23.3/0.917in	

3 Πως αφαιρείται ο αέρας με τη χρήση αντλίας κενού (Ανατρέξτε στην Εικ. 9-3)

Για τον τρόπο χρήσης της βαλβίδας πολλαπλής ανατρέξτε στο αντίστοιχο εγχειρίδιο

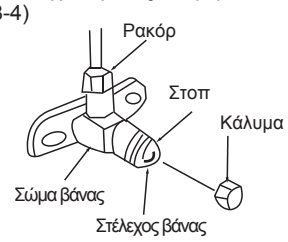
- Αφαιρέστε τα παξιμάδια από της βάνες A και B και συνδέστε τον αγωγό πλήρωσης της βαλβίδας πολλαπλής στην θυρίδα της βάνας A. (Βεβαιωθείτε πως και οι 2 βάνες είναι κλειστές).
- Συνδέστε τον αγωγό πλήρωσης με την αντλία κενού.
- Ανοίξτε τελείως την λαβή Lo της βαλβίδας πολλαπλής.
- Ενεργοποιήστε την αντλία κενού. Όταν αρχίσει η άντληση χαλαρώστε ελαφρώς το παξιμάδι της βάνας B για να ελέγξετε αν εισέρχεται αέρας (αλλάζει ο ήχος της αντλίας και η ένδειξη στον μετρητή γίνεται 0). Έπειτα σφίξτε το παξιμάδι.
- Όταν ολοκληρωθεί η άντληση κλείστε την λαβή Lo της βαλβίδας πολλαπλής και απενεργοποιήστε την αντλία κενού. Η διάρκεια της άντλησης είναι τουλάχιστον 15 λεπτά και ελέγξτε πως η ένδειξη στον μετρητή είναι -76cmHg(-1X10^{-5} Pa).
- Αφαιρέστε τα καλύμματα από τις βάνες A και B, ανοίξτε τις τελείως και επανατοποθετήστε τα καλύμματα.
- Αποσυνδέστε τον αγωγό πλήρωσης από την θυρίδα συντήρησης της βάνας A και τοποθετήστε το παξιμάδι.



Εικ.9-3

ΠΡΟΣΟΧΗ

Πριν τη δοκιμαστική λειτουργία και οι 2 βάνες πρέπει να είναι ανοιχτές. Κάθε κλιματιστική μονάδα έχει 2 βάνες διαφορετικού μεγέθους (Ανατρέξτε στην Εικ. 8-4)

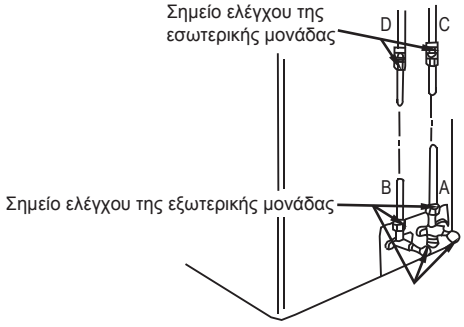


Εικ.9-4

9.2 Έλεγχος για διαρροές

Ελέγξτε όλες τις ενώσεις είτε με ανιχνευτή διαρροών είτε με σαπουνο-διάλυμα. (Ανατρέξτε στην Εικ. 9-5)

A.....Βάνα Lo (χαμηλής)
B.....Βάνα Hi (υψηλής)
C,D..Σημείο σύνδεσης του σωλήνα με την εσωτερική μονάδα

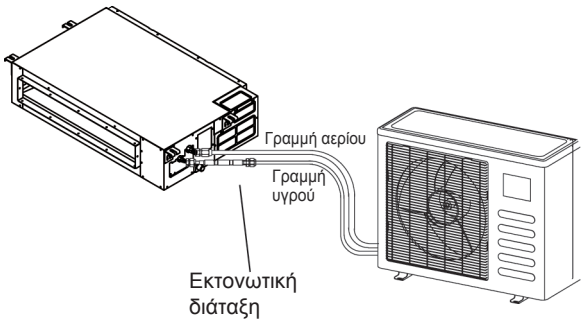


Εικ.9-5

9.3 Μόνωση

- Βεβαιωθείτε πως όλα τα μέρη των σωληνώσεων είναι μονωμένα
- Ανεπαρκής μόνωση μπορεί να προκαλέσει την εμφάνιση συμπυκνωμάτων.

10. ΔΙΑΓΡΑΜΜΑ ΣΥΝΔΕΣΗΣ



Εικ. 10-1

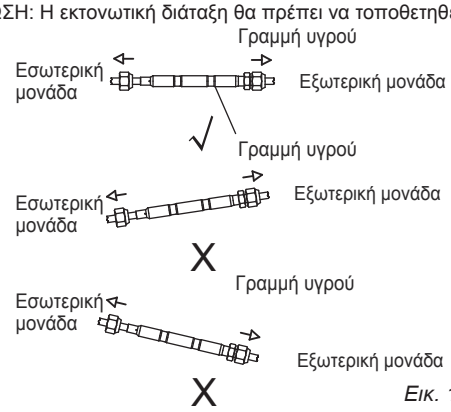
ΣΗΜΕΙΩΣΗ

Για την διασφάλιση της απόδοσης, τοποθετήστε την εκτονωτική διάταξη όσο πιο οριζόντια γίνεται και στο εξωτερικό μέρος της εκτονωτικής διάταξης θα πρέπει να τοποθετηθεί αντικραδασμικό υλικό για την απόσβεση του θορύβου.

Παρατηρήστε την πινακίδα χαρακτηριστικών με τοποθετημένη την εκτονωτική διάταξη (σε ορισμένα μοντέλα)

- Βεβαιωθείτε πως τα εξαρτήματα που προμηθευτήκατε είναι σύμφωνα με τις απαιτήσεις του συγκεκριμένου εγχειριδίου
- Κατά την εγκατάσταση ανατρέξτε στο διάγραμμα

ΣΗΜΕΙΩΣΗ: Η εκτονωτική διάταξη θα πρέπει να τοποθετηθεί οριζόντια



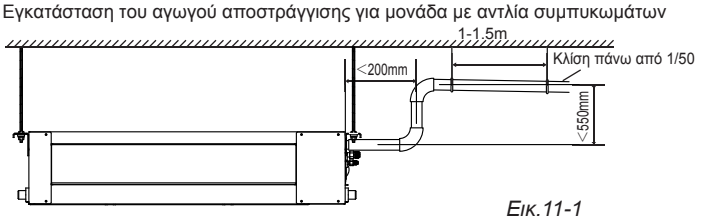
Εικ. 10-2

11. ΣΥΝΔΕΣΗ ΤΟΥ ΑΓΩΓΟΥ ΑΠΟΣΤΡΑΓΓΙΣΗΣ

■ **Σύνδεση του αγωγού αποστράγγισης στην εσωτερική μονάδα**

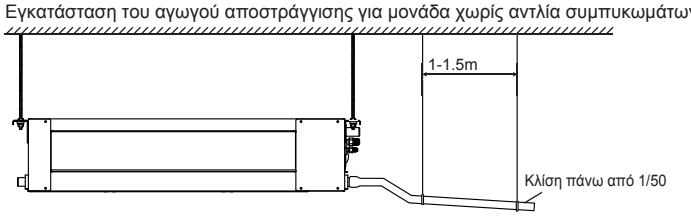
- Ως αγωγό αποστράγγισης μπορείτε να χρησιμοποιήσετε αγωγό πολυαιθυλενίου (εξωτ. διαμ 37-39mm/1.14-1.22in, εσωτ. διαμ. 32mm/0.984in), το οποίο μπορείτε να προμηθευτείτε από την τοπική αγορά.
- Κατά τη σύνδεση του αγωγού αποστράγγισης καλύψτε το σημείο σύνδεσης με αδιάβροχη ταινία για την αποφυγή διαρροών.
- Η κλίση του αγωγού αποστράγγισης θα πρέπει να είναι 1/50 προς τα κάτω για την αποφυγή επιστροφής του νερού. Αποφύγετε οποιαδήποτε διόγκωση.
- Μην τραβάτε απότομα τον αγωγό αποστράγγισης κατά τη σύνδεση, διότι μπορεί να αποσυνδεθεί από την έξοδο της μονάδας. Κάθε 1-1,5m θα πρέπει να τοποθετηθεί στήριγμα ή μπορείτε να στηρίξετε τον αγωγό αποστράγγισης στον αγωγό σύνδεσης.
- Εάν η έξοδος του αγωγού αποστράγγισης είναι ψηλότερα από την έξοδο αποχέτευσης της μονάδας, ο αγωγός θα πρέπει να τοποθετηθεί όσο το δυνατόν κάθετα και το μανομετρικό θα πρέπει να είναι τουλάχιστον 550mm/21.65in, αλλιώς θα δημιουργηθεί υπερχείλιση. (Για μονάδες με αντλία συμπυκνωμάτων)
- Το τελικό άκρο του αγωγού αποστράγγισης θα πρέπει να έχει τουλάχιστον 50mm/1.969in απόσταση από το έδαφος και δεν θα πρέπει να βρίσκεται βυθισμένο σε νερό. Εάν θέλετε η απορροή των συμπυκνωμάτων να γίνεται απευθείας στην αποχέτευση, λυγίστε ελαφρώς τον αγωγό ώστε να αποφευχθεί η είσοδος οσμών στον χώρο μέσω του αγωγού αποστράγγισης.

Εγκατάσταση του αγωγού αποστράγγισης για μονάδα με αντλία συμπυκωμάτων



Εικ.11-1

Εγκατάσταση του αγωγού αποστράγγισης για μονάδα χωρίς αντλία συμπυκωμάτων



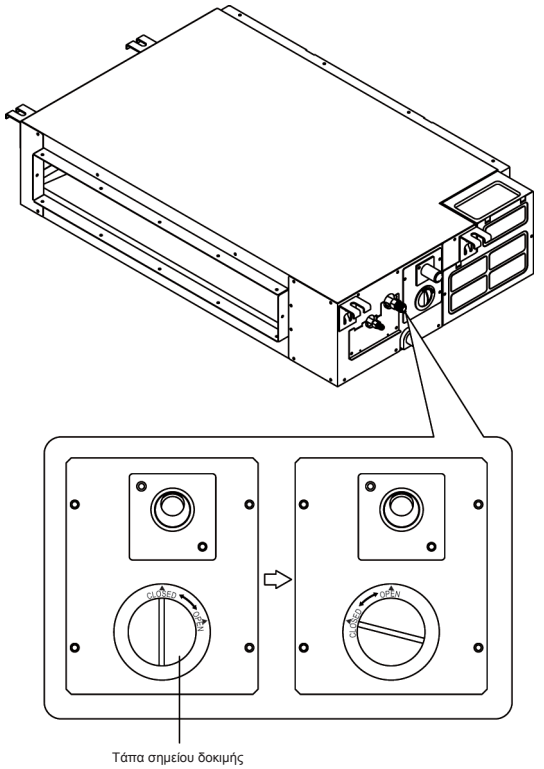
Εικ.11-2

■ Έλεγχος απορροής συμπυκνωμάτων

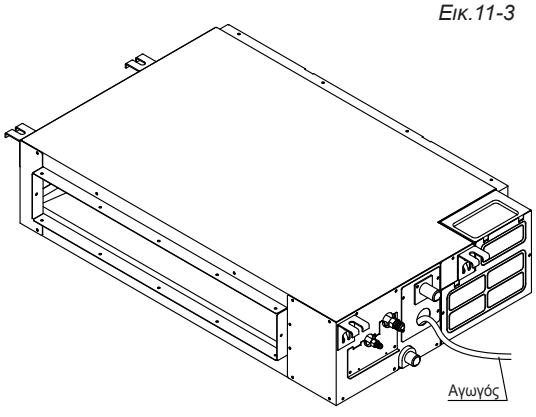
- **Ελέγξτε αν παρεμποδίζεται ο αγωγός αποστράγγισης.**
- **Σε νεόκτιστα σπίτια αυτή η δοκιμή θα πρέπει να γίνει πριν κλειστεί η οροφή.**

■ Μονάδα με αντλία συμπυκνωμάτων

1. Αφαιρέστε το κάλυμμα και ρίξτε περίπου 2000ml νερό στη λεκάνη αποχέτευσης μέσω του αγωγού.



Εικ.11-3

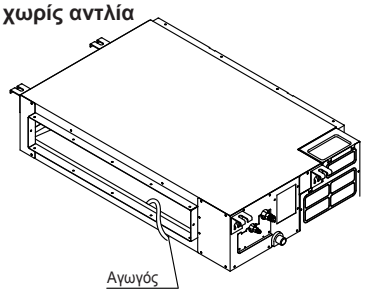


Εικ.11-4

2 Ενεργοποιήστε τη μονάδα και θέστε τη σε λειτουργία ψύξης. Ακούστε τον ήχο της αντλίας συμπυκνωμάτων. Ελέγξτε πως το νερό αποστραγγίζεται ομαλά (1 λεπτό χρονοκαθυστέρησης πριν την απορροή είναι επιτρεπτό, ανάλογα το μήκος του αγωγού αποστράγγισης). Ελέγξτε αν υπάρχει διαρροή νερού από τις συνδέσεις.

3 Διακόψτε τη λειτουργία, απενεργοποιήστε τη μονάδα και επανατοποθετήστε το κάλυμμα στην αρχική του θέση.

■ Μονάδα χωρίς αντλία

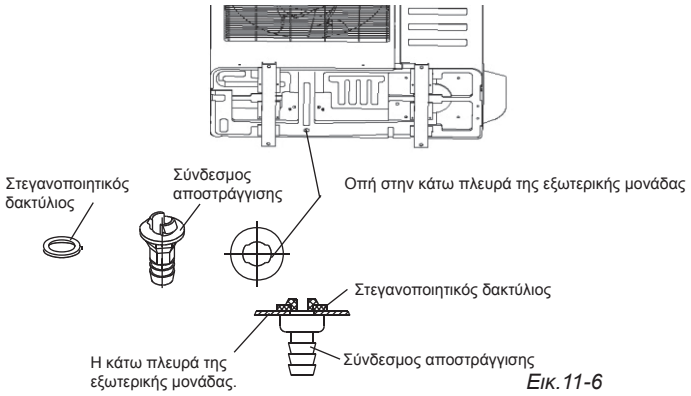


Εικ.11-5

- Ρίξτε 2000ml νερό μέσω του αγωγού στην λεκάνη αποχέτευσης συμπυκνωμάτων και ελέγξτε αν η απορροή γίνεται ομαλά.

■ Εγκατάσταση του σύνδεσμου αποστράγγισης της εξωτερικής μονάδας

Τοποθετήστε τον στεγανοποιητικό δακτύλιο στον σύνδεσμο αποστράγγισης, τοποθετήστε τον στην οπή της κάτω πλευράς της εξωτερικής μονάδας και στρέψτε τον 90 μοίρες για την συναρμολόγηση. Συνδέστε έναν αγωγό αποστράγγισης (μπορείτε να τον προμηθευτείτε από την τοπική αγορά), για την απορροή συμπυκνωμάτων της εξωτερικής μονάδας κατά τη λειτουργία της θέρμανσης.



Εικ.11-6

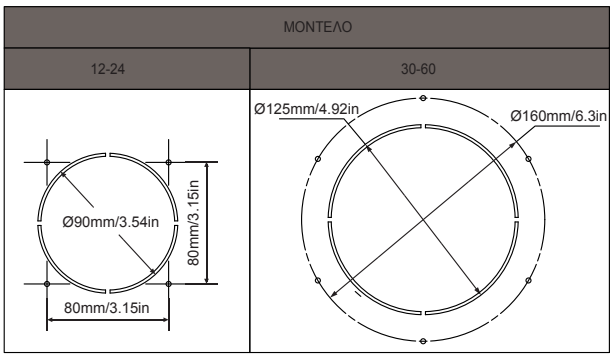
ΣΗΜΕΙΩΣΗ

Όλες οι εικόνες σε αυτό το εγχειρίδιο είναι αναφορικές. Μπορεί να υπάρχει διαφοροποίηση από την κλιματιστική μονάδα που προμηθευτήκατε. Ισχύει το πραγματικό σχήμα και μέγεθος.

12. ΕΓΚΑΤΑΣΤΑΣΗ ΑΕΡΑΓΩΓΟΥ ΦΡΕΣΚΟΥ ΑΕΡΑ

Διαστάσεις:



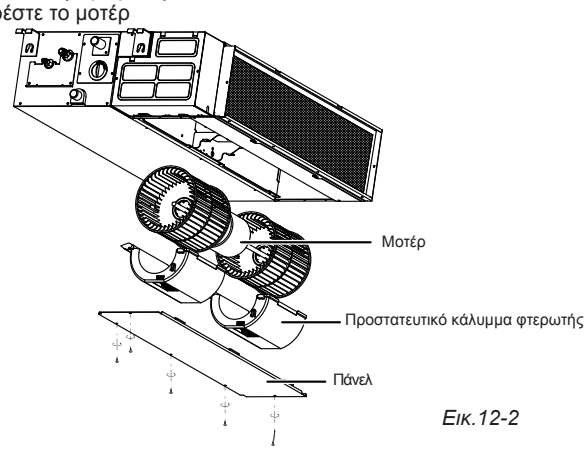


Εικ.12-1

12.1 Συντήρηση του μοτέρ ανεμιστήρα και της αντλίας συμπυκνωμάτων

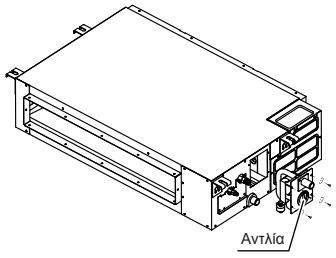
(Παράδειγμα με επιστροφή αέρα από πίσω)

Συντήρηση μοτέρ:
1. Αφαιρέστε το πάνελ
2. Αφαιρέστε την φτερωτή
3. Αφαιρέστε το μοτέρ



Εικ.12-2

Συντήρηση αντλίας συμπυκνωμάτων:
1. Ξεβιδώστε τις 4 βίδες από την αντλία συμπυκνωμάτων.
2. Αποσυνδέστε το καλώδιο τροφοδοσίας και το φλοτέρ.
3. Αφαιρέστε την αντλία συμπυκνωμάτων.



Εικ.12-3

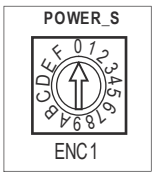
13. ΧΕΙΡΙΣΜΟΣ (ΜΟΝΟ ΓΙΑ ΜΟΝΑΔΕΣ ΤΥΠΟΥ INVERTER)

- Η απόδοση της κλιματιστικής μονάδας και οι διευθύνσεις ορίζονται από τους διακόπτες πάνω στην κεντρική πλακέτα της εσωτερικής μονάδας.
- Πριν την ρύθμιση απενεργοποιήστε τη μονάδα και μετά τη ρύθμιση επανεκκινήστε τη μονάδα.
- Δεν επιτρέπεται η ρύθμιση όταν η μονάδα είναι ενεργοποιημένη

13.1 Ρύθμιση κωδικού ιπποδύναμης

Η απόδοση της εσωτερικής μονάδας έχει οριστεί από τον κατασκευαστή σύμφωνα με τον παρακάτω πίνακα

Κωδικός ιπποδύναμης



Πίνακας 13-1

ENC1	Κωδικός διακόπτη	Απόδοση
Σημείωση: Η απόδοση που έχει οριστεί από τον κατασκευαστή μπορεί να επαναρ-ρυθμιστεί μόνο από εξειδικευμένο προσωπικό.	4	5.3
		5.6
	5	7.1
	7	9.0
	8	10.5
	9	14.0
		16.0

13.2 Ρύθμιση διευθύνσεων δικτύου

Κάθε κλιματιστική μονάδα στο δίκτυο έχει μια μοναδική διεύθυνση. Ο κωδικός διευθυνσης της κλιματιστικής μονάδας ορίζεται από τους διακόπτες S1 &S2 στην κεντρική πλακέτα της εσωτερικής μονάδας και το εύρος ρύθμισης είναι 0-63

Πίνακας 13-2

Διακόπτης		Κωδικός διεύθυνσης δικτύου
S1	S2	
		00~15
		16~31
		32~47
		48-63

14. ΣΥΝΔΕΣΜΟΛΟΓΙΑ

Η κλιματιστική μονάδα θα πρέπει να εγκατασταθεί σύμφωνα με τους εθνικούς κανονισμούς.
Η κλιματιστική μονάδα θα πρέπει να συνδεέται σε ξεχωριστή παροχή ρεύματος.
Η παροχή ρεύματος που συνδεέται στην κλιματιστική μονάδα θα πρέπει να έχει γείωση η οποία θα συνδεθεί με την γείωση της εσωτερικής και εξωτερικής μονάδας.
Η συνδεσμολογία θα πρέπει να γίνει από εξειδικευμένο προσωπικό σύμφωνα με το ηλεκτρολογικό διάγραμμα της μονάδας.
Στο κύκλωμα θα πρέπει να τοποθετηθεί ένας διακόπτης στον οποίο θα πρέπει οι πόλοι του να έχουν τουλάχιστον 3mm απόσταση μεταξύ τους και μια διάταξη RCD πάνω από 10mA.
Βεβαιωθείτε πως το καλώδιο τροφοδοσίας και το καλώδιο σήματος δεν διασταυρώνονται.
Ενεργοποιήστε τη μονάδα αφού έχετε ολοκληρώσει την συνδεσμολογία και έχετε κάνει τους απαραίτητους ελέγχους
Το καλώδιο τροφοδοσίας πρέπει να είναι τύπου H07RN-F.

ΣΗΜΕΙΩΣΗ

Παρατήρηση σύμφωνα με την οδηγία 2004/108/EC
Για την αποφυγή διαταραχών κατά την εκκίνηση του συμπιεστή, ακολουθήστε τα παρακάτω.

1. Η σύνδεση της παροχής ρεύματος της κλιματιστικής μονάδας θα πρέπει να γίνει από τον κεντρικό πίνακα. Η αντίσταση του κυκλώματος θα πρέπει να είναι χαμηλή και η συνήθης ασφάλεια που χρησιμο-ποιείται είναι 32A.
2. Στην συγκεκριμένη γραμμή δεν πρέπει να συνδεθεί άλλη συσκευή.
3. Για περισσότερες λεπτομέρειες όσον αφορά την εγκατάσταση της κλιματιστικής σας μονάδας απευθυνθείτε στον προμηθευτή σας και τον πάροχο ρεύματος.
4. Για λεπτομέρειες σε ότι αφορά τα ηλεκτρικά χαρακτηριστικά της κλιματιστικής σας μονάδας ανατρέξτε στην αντίστοιχη πινακίδα που υπάρχει στη μονάδα.
5. Για οποιεσδήποτε άλλες πληροφορίες απευθυνθείτε στον προμηθευτή σας.

14.1 Σύνδεση του καλωδίου

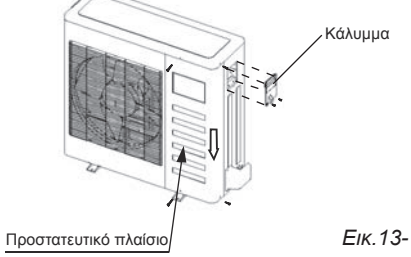
- Αφαιρέστε τις βίδες από το κάλυμμα. (Εάν δεν υπάρχει κάλυμμα στην εξωτερική μονάδα, αφαιρέστε τις βίδες από το προστατευτικό πλαίσιο και αφαιρέστε το με τη φορά του βέλους). (Ανατρέξτε στην εικ. 14-1)
- Συνδέστε τα καλώδια στις τερματικές επαφές στους αντίστοιχους αριθμούς στην εσωτερική και εξωτερική μονάδα.
- Επανατοποθετήστε το πάνελ.

14.2 Χαρακτηριστικά παροχής ρεύματος

(Ανατρέξτε στον πίνακα 14-1 - 14-8)

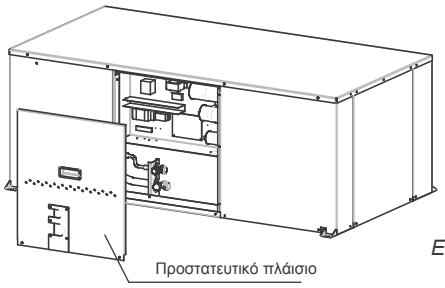
14.3 Συνδεσμολογία (Ανατρέξτε στις Εικ.14-2 - Εικ. 14-5)

1. Εξωτερική μονάδα διαιρούμενου τύπου.



Εικ.13-1

2. Εξωτερική μονάδα με φυγοκεντρικό ανεμιστήρα



Εικ.14-2

ΣΗΜΕΙΩΣΗ

Όλες οι εικόνες του παρόντος εγχειριδίου είναι αναφορικές. Η κλιματιστική μονάδα που προμηθευτήκατε μπορεί να διαφέρει (ανάλογα το μοντέλο).

15. ΔΟΚΙΜΑΣΤΙΚΗ ΛΕΙΤΟΥΡΓΙΑ

1 Η δοκιμαστική λειτουργία θα πρέπει να διεξάγεται αφού ολοκληρωθεί η εγκατάσταση.

2 2. Πριν τη δοκιμαστική λειτουργία ελέγξτε τα παρακάτω:

- Η εσωτερική και εξωτερική μονάδα έχουν εγκατασταθεί σωστά
- Έχει ολοκληρωθεί η διαδικασία εγκατάστασης των σωληνώσεων και η συνδεσμολογία.
- Έχει γίνει έλεγχος για διαρροές.
- Η απορροή των συμπυκνωμάτων γίνεται ομαλά.
- Η θερμομόνωση είναι επαρκής.
- Έχει συνδεθεί σωστά η γείωση.
- Έχει γίνει καταγραφή του συνολικού μήκους σωληνώσεων και της ποσότητας ψυκτικού υγρού που προστέθηκε.
- Η τάση του ρεύματος συμφωνεί με την αναγραφόμενη στη μονάδα.
- Δεν παρεμποδίζονται οι είσοδοι και έξοδοι αέρα της εσωτερικής και εξωτερικής μονάδας.
- Οι βάνες της γραμμής υγρού και αερίου είναι ανοιχτές.
- Η μονάδα είναι συνδεδεμένη στην παροχή ρεύματος.

3 Δοκιμαστική λειτουργία

■ Θέστε τη κλιματιστική μονάδα σε λειτουργία ψύξης και ελέγξτε τα παρακάτω. Εάν εμφανιστεί κάποια δυσλειτουργία επιλύστε τη σύμφωνα με το κεφάλαιο "Αντιμετώπιση προβλημάτων" στο εγχειρίδιο χρήσης.

- 1) Η εσωτερική μονάδα
  - α. Ελέγξτε αν ο διακόπτης στο ασύρματο τηλεχειριστήριο λειτουργεί σωστά.
  - β. Ελέγξτε αν τα πλήκτρα στο ασύρματο τηλεχειριστήριο λειτουργούν σωστά.
  - γ. Ελέγξτε αν οι περσίδες κινούνται ομαλά.
  - δ. Ελέγξτε αν η θερμοκρασία έχει ρυθμιστεί σωστά.
  - ε. Ελέγξτε αν οι ενδεικτικές λυχνίες ανάβουν.
  - στ. Ελέγξτε αν τα πλήκτρα προσωρινής λειτουργίας λειτουργούν.
  - ζ. Ελέγξτε αν η απορροή συμπυκνωμάτων γίνεται ομαλά.
  - η. Ελέγξτε για κραδασμούς ή περίεργους θορύβους κατά τη λειτουργία.
  - θ. Ελέγξτε αν η μονάδα λειτουργεί σωστά στη θέρμανση.

- 2) Η εξωτερική μονάδα
  - α. Ελέγξτε για κραδασμούς ή περίεργους θορύβους κατά τη λειτουργία.
  - β. Ελέγξτε αν ο θόρυβος, ο αέρας ή τα συμπυκνώματα που παραάγονται από την κλιματιστική μονάδα ενοχλούν τους γείτονες.
  - γ. Ελέγξτε για διαρροή ψυκτικού υγρού.

ΠΡΟΣΟΧΗ

3. Κατά την επανεκκίνηση της μονάδας είναι φυσιολογική μια χρονο-καθυστέρηση 3 λεπτών για την προστασία του συμπιεστή.

Ηλεκτρικά Χαρακτηριστικά (παροχή ρεύματος στην εσωτερική μονάδα)

■ **Πίνακας 14-1**

ΜΟΝΤΕΛΟ		18	24	30~36	42~48	60
ΠΑΡΟΧΗ ΡΕΥΜΑΤΟΣ	ΦΑΣΕΙΣ	1 Φάση	1 Φάση	1 Φάση	1 Φάση	1 Φάση
	ΣΥΧΝΟΤΗΤΑ ΚΑΙ ΤΑΣΗ	208-240 V	208-240V	208-240V	208-240V	208-240V
ΔΙΑΚΟΠΤΗΣ / ΑΣΦΑΛΕΙΑ (A)		20/16	40/25	50/30	60/45	60/50

■ **Πίνακας 14-2**

ΜΟΝΤΕΛΟ		30~36	42~60	30~36	42~60
ΠΑΡΟΧΗ ΡΕΥΜΑΤΟΣ	ΦΑΣΕΙΣ	3 Φάσεις	3 Φάσεις	3 Φάσεις	3 Φάσεις
	ΣΥΧΝΟΤΗΤΑ ΚΑΙ ΤΑΣΗ	380-420 V	380-420 V	208-240V	208-240V
ΔΙΑΚΟΠΤΗΣ / ΑΣΦΑΛΕΙΑ (A)		25/20	25/20	40/25	45/35

Ηλεκτρικά Χαρακτηριστικά (παροχή ρεύματος στην εξωτερική μονάδα)

■ **Πίνακας 14-3**

ΜΟΝΤΕΛΟ		12~18	24	30~36	42~48	60
ΠΑΡΟΧΗ ΡΕΥΜΑΤΟΣ	ΦΑΣΕΙΣ	1 Φάση	1 Φάση	1 Φάση	1 Φάση	1 Φάση
	ΣΥΧΝΟΤΗΤΑ ΚΑΙ ΤΑΣΗ	208-240V	208-240V	208-240V	208-240V	208-240V
ΔΙΑΚΟΠΤΗΣ / ΑΣΦΑΛΕΙΑ (A)		20/16	40/30	60/40	70/55	70/60

■ **Πίνακας 14-4**

ΜΟΝΤΕΛΟ		30~36	42~60	30~36	42~60
ΠΑΡΟΧΗ ΡΕΥΜΑΤΟΣ	ΦΑΣΕΙΣ	3 Φάσεις	3 Φάσεις	3 Φάσεις	3 Φάσεις
	ΣΥΧΝΟΤΗΤΑ ΚΑΙ ΤΑΣΗ	380-420 V	380-420 V	208-240V	208-240V
ΔΙΑΚΟΠΤΗΣ / ΑΣΦΑΛΕΙΑ (A)		25/20	25/20	40/25	45/35

Ηλεκτρικά Χαρακτηριστικά (ξεχωριστές παροχές)

■ **Πίνακας 14-5**

ΜΟΝΤΕΛΟ		18	24	30~36	42~48	60
ΠΑΡΟΧΗ ΡΕΥΜΑΤΟΣ (εσωτερική μονάδα)	ΦΑΣΕΙΣ	1 Φάση	1 Φάση	1 Φάση	1 Φάση	1 Φάση
	ΣΥΧΝΟΤΗΤΑ ΚΑΙ ΤΑΣΗ	208-240 V	208-240V	208-240V	208-240V	208-240V
ΔΙΑΚΟΠΤΗΣ / ΑΣΦΑΛΕΙΑ (A)		20/16	20/16	20/16	20/16	20/16
ΠΑΡΟΧΗ ΡΕΥΜΑΤΟΣ (εξωτερική μονάδα)	ΦΑΣΕΙΣ	1 Φάση	1 Φάση	1 Φάση	1 Φάση	1 Φάση
	ΣΥΧΝΟΤΗΤΑ ΚΑΙ ΤΑΣΗ	208-240 V	208-240V	208-240V	208-240V	208-240V
ΔΙΑΚΟΠΤΗΣ / ΑΣΦΑΛΕΙΑ (A)		20/16	40/25	50/30	60/45	60/50

■ **Πίνακας 14-6**

ΜΟΝΤΕΛΟ		30~36	42~60	30~36	42~60
ΠΑΡΟΧΗ ΡΕΥΜΑΤΟΣ (εσωτερική μονάδα)	ΦΑΣΕΙΣ	1 Φάση	1 Φάση	1 Φάση	1 Φάση
	ΣΥΧΝΟΤΗΤΑ ΚΑΙ ΤΑΣΗ	208-240V	208-240V	208-240V	208-240V
ΔΙΑΚΟΠΤΗΣ / ΑΣΦΑΛΕΙΑ (A)		20/16	20/16	20/16	20/16
ΠΑΡΟΧΗ ΡΕΥΜΑΤΟΣ (εξωτερική μονάδα)	ΦΑΣΕΙΣ	3 Φάσεις	3 Φάσεις	3 Φάσεις	3 Φάσεις
	ΣΥΧΝΟΤΗΤΑ ΚΑΙ ΤΑΣΗ	380-420 V	380-420 V	208-240V	208-240V
ΔΙΑΚΟΠΤΗΣ / ΑΣΦΑΛΕΙΑ (A)		25/20	25/20	40/25	45/35

Ηλεκτρικά Χαρακτηριστικά για μονάδες inverter (ξεχωριστές παροχές)

■ **Πίνακας 14-7**

ΜΟΝΤΕΛΟ		18	24	30~36	42~48	60
ΠΑΡΟΧΗ ΡΕΥΜΑΤΟΣ (εσωτερική μονάδα)	ΦΑΣΕΙΣ	1 Φάση	1 Φάση	1 Φάση	1 Φάση	1 Φάση
	ΣΥΧΝΟΤΗΤΑ ΚΑΙ ΤΑΣΗ	220-240 V	220-240V	220-240V	220-240V	220-240V
ΔΙΑΚΟΠΤΗΣ / ΑΣΦΑΛΕΙΑ (A)		15/10	15/10	15/10	15/10	15/10
ΠΑΡΟΧΗ ΡΕΥΜΑΤΟΣ (εξωτερική μονάδα)	ΦΑΣΕΙΣ	1 Φάση	1 Φάση	1 Φάση	1 Φάση	1 Φάση
	ΣΥΧΝΟΤΗΤΑ ΚΑΙ ΤΑΣΗ	208-240 V	208-240V	208-240V	208-240V	208-240V
ΔΙΑΚΟΠΤΗΣ / ΑΣΦΑΛΕΙΑ (A)		30/20	30/20	40/30	40/35	50/40

■ **Πίνακας 14-8**

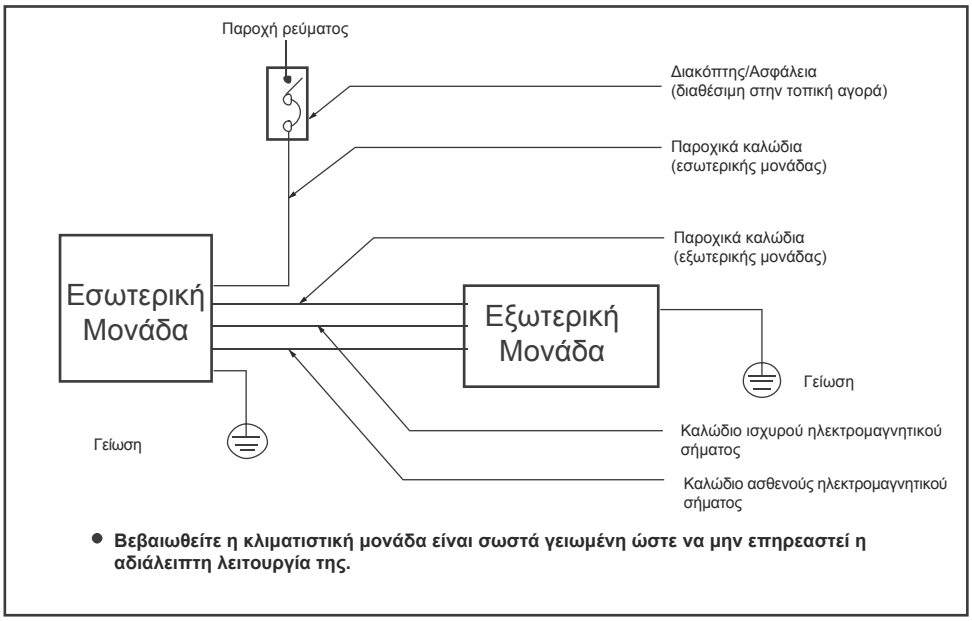
ΜΟΝΤΕΛΟ		30~36	42~60	30~36	42~60
ΠΑΡΟΧΗ ΡΕΥΜΑΤΟΣ (εσωτερική μονάδα)	ΦΑΣΕΙΣ	1 Φάση	1 Φάση	1 Φάση	1 Φάση
	ΣΥΧΝΟΤΗΤΑ ΚΑΙ ΤΑΣΗ	220-240V	220-240V	220-240V	220-240V
ΔΙΑΚΟΠΤΗΣ / ΑΣΦΑΛΕΙΑ (A)		15/10	15/10	15/10	15/10
ΠΑΡΟΧΗ ΡΕΥΜΑΤΟΣ (εξωτερική μονάδα)	ΦΑΣΕΙΣ	3 Φάσεις	3 Φάσεις	3 Φάσεις	3 Φάσεις
	ΣΥΧΝΟΤΗΤΑ ΚΑΙ ΤΑΣΗ	380-420 V	380-420 V	208-240V	208-240V
ΔΙΑΚΟΠΤΗΣ / ΑΣΦΑΛΕΙΑ (A)		30/20	30/25	50/40	50/40

ΠΡΟΣΟΧΗ

Η παροχή ρεύματος που πρέπει να συνδεθεί είναι αυτή που αναφέρεται παραπάνω. Πριν έρθετε σε επαφή με τις τερματικές επαφές θα πρέπει το κύκλωμα να είναι αποσυνδεδεμένο.

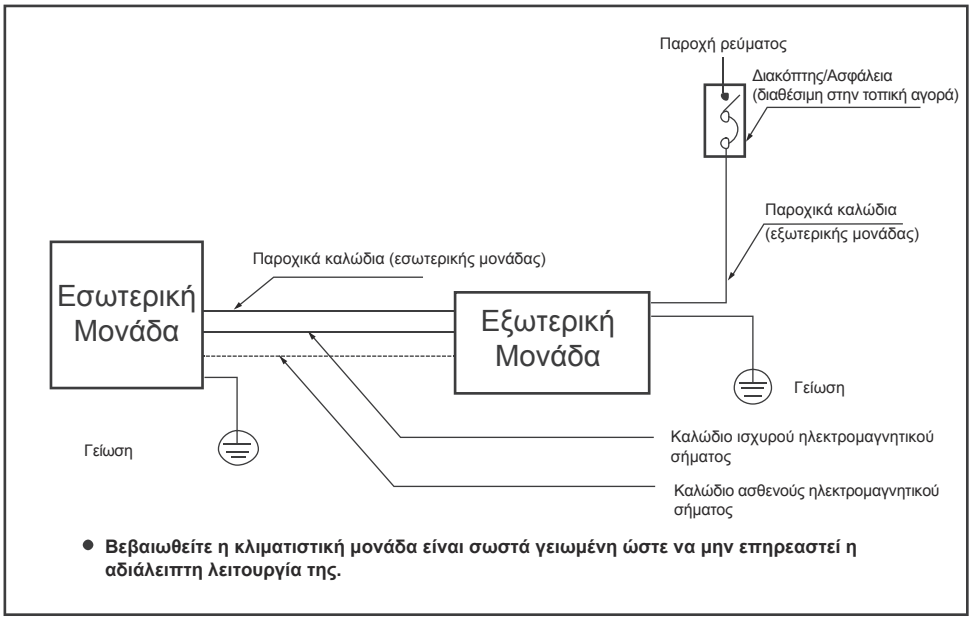
■ Σχηματικό διάγραμμα συνδεσμολογίας

■ **Εικ. 14-3**



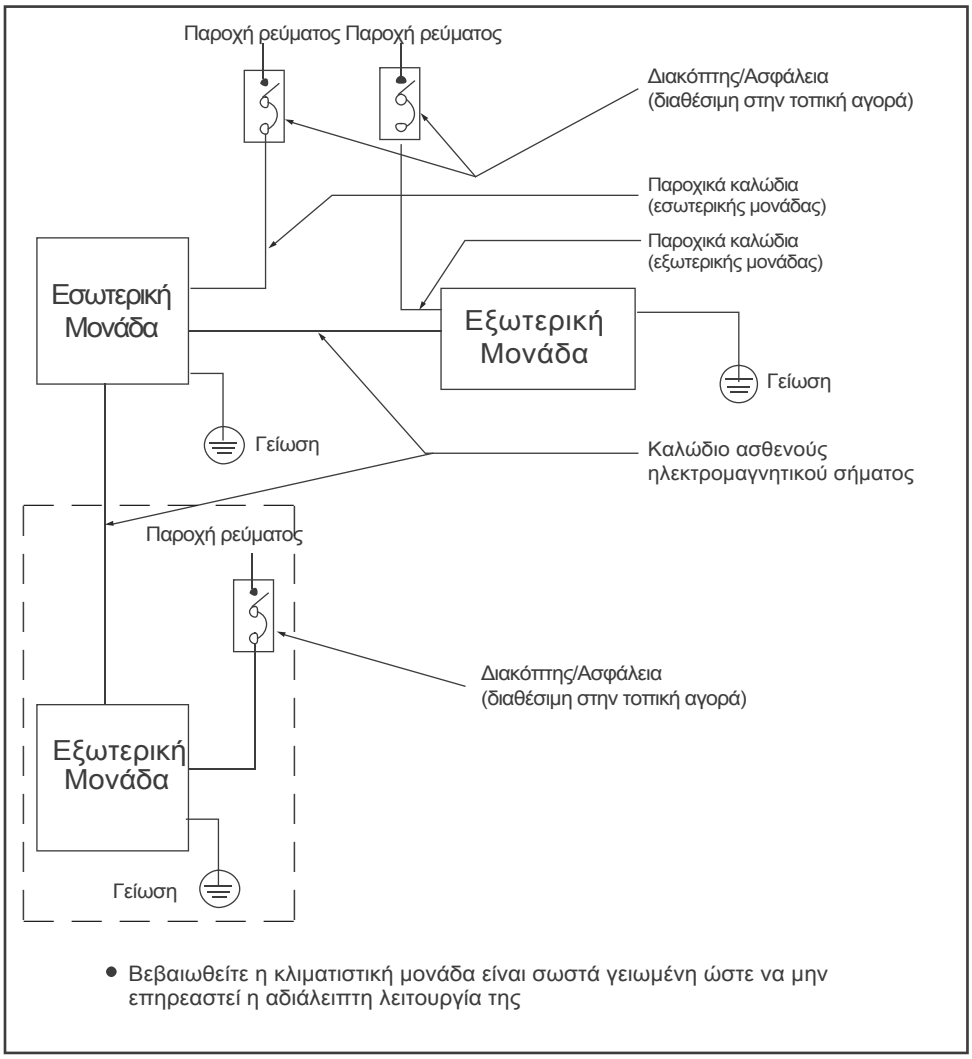
- **Βεβαιωθείτε η κλιματιστική μονάδα είναι σωστά γειωμένη ώστε να μην επηρεαστεί η αδιάλειπτη λειτουργία της.**

■ **Εικ.14-4**

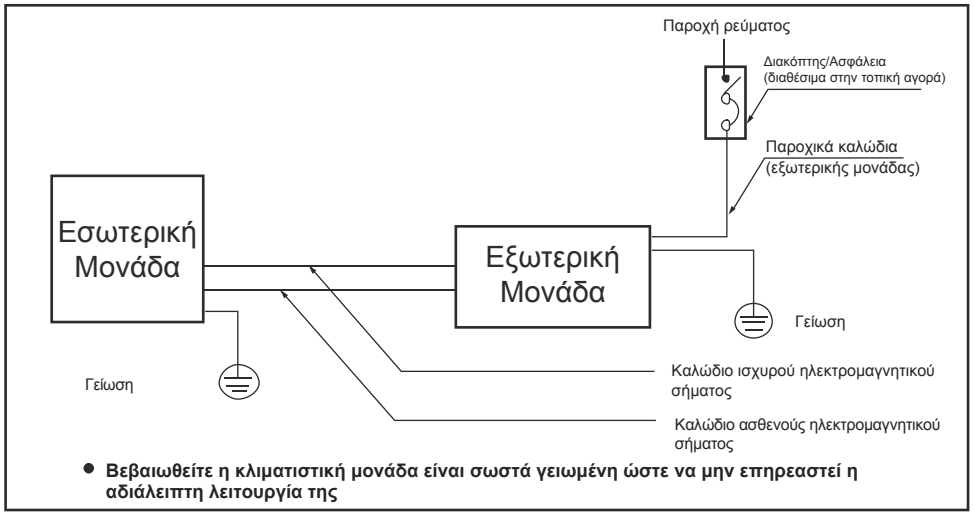


- **Βεβαιωθείτε η κλιματιστική μονάδα είναι σωστά γειωμένη ώστε να μην επηρεαστεί η αδιάλειπτη λειτουργία της.**

■ **Εικ.14-5**



■ **Εικ.14-6**



ΠΡΟΣΟΧΗ

Σύμφωνα με τους εθνικούς κανονισμούς θα πρέπει να τοποθετηθεί στο κυκλωμα ένας διακόπτης με κενό ανάμεσα στους πόλους.

Κατά τη συνδεσμολογία επιλέξτε το ανάλογο γράφημα αλλιώς μπορεί να προκληθεί δυσλειτουργία. Κάποιες ενδείξεις στις τερματικές επαφές της εσωτερικής μονάδας μπορεί να αντικατασταθούν από L N L1 N1.

Ο σχεδιασμός και τα χαρακτηριστικά μπορεί να αλλάξουν χωρίς προειδοποίηση για τη βελτίωση του προϊόντος. Για λεπτομέρειες απευθυνθείτε στον προμηθευτή σας ή τον κατασκευαστή.

- **Dacă se foloseşte ca un aparat MULTIPLU, consultaţi manualele de Instalare & utilizare furnizate împreună cu aparatul de interior.**

CUPRINS **PAGINA**

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1. MĂSURI DE SIGURANȚĂ

- Păstraţi acest **manual la îndemâna utilizatorului. Citiţi**
- **acest manual cu atenţie înainte de a porni aparatele. Din**
- **motive de siguranţă, operatorul trebuie să citească**

  următoarele măsuri de siguranţă cu atenţie.
- **Instalarea se va efectua conform condiţiei NEC şi CEC doar de către personalul autorizat.**
  （**Aplicabil doar în zona America de Nord**）

Măsurile de siguranţă listate aici sunt împărţite în două categorii.

AVERTISMENT

Dacă nu respectaţi întocmai aceste instrucţiuni, aparatul poate provoca daune proprietăîi, vătămare corporală sau deces.

ATENȚIE

Dacă nu respectaţi întocmai aceste instrucţiuni, aparatul poate provoca daune minore sau moderate proprietăţii, vătămare corporală.

După încheierea instalării, asiguraţi-vă că aparatul funcţionează corespunzător la pornire. Informaţi clienţii despre modul de operare al aparatului şi întreţinere. De asemenea, recomandaţi clienţilor să păstreze acest manual de instalare împreună cu manualul de utilizare pentru referinţă viitoare.

AVERTISMENT

Asiguraţi-vă că doar personalul instruit şi calificat instalează, repară sau asigură service-ul echipamentului.
Instalarea, repararea şi întreţinerea necorespunzătoare pot provoca electrocutări, scurt-circuit, scurgeri, incendiu sau alte daune echipamentului.

Instalaţi strict conform instrucţiunilor de instalare.
Dacă instalarea nu se efectuează corespunzător, poate provoca scurgerea apei, electrocutare şi incendiu.

Când instalaţi aparatul într-o încăpere mică, luaţi măsuri pentru a vă asigura că respectiva concentraţie a agentului termic nu depăşeşte limitele de siguranţă permise în caz de scurgere a agentului termic. Contactaţi comerciantul pentru mai multe informaţii. Agentul termic în exces într-un mediu închis poate determina o deficienţă de oxigen.

Folosiţi piesele accesorii ataşate şi piesele specificate pentru instalare.
În caz contrar, se poate produce o defecţiune, scurgere de apă, electrocutare sau incendiu.

Instalaţi într-un spaţiu solid şi ferm ce poate susţine greutatea aparatului.
Dacă rezistenţa nu este suficientă sau instalarea nu este corespunzătoare, aparatul va cădea şi există risc de vătămare.

Aparatul se va instala la 2.3m / 7.5ft de podea. Aparatul

nu se va instala într-o cameră de spălătorie.

Înainte de a obţine acces la terminale, toate circuitele de alimentare trebuie să fie deconectate.

Aparatul trebuie poziţionat astfel încât priza să fie accesibilă.

Cadrul aparatului se va marca prin litere sau simboluri, cu direcţia fluxului fluidului.

Pentru lucrarea electrică, respectaţi standardul de cablaj local naţional, regulamentul şi aceste instrucţiuni de instalare. Se vor utiliza un circuit independent şi o singură priză.
În cazul în care capacitatea circuitului electric nu este suficientă sau lucrarea electrică este defectă, există risc de electrocutare sau incendiu.

Folosiţi un cablu specific şi conectaţi strâns şi prindeţi cablul cu o clemă astfel încât nicio forţă externă să nu acţioneze asupra terminalului.
Dacă racordarea sau fixarea nu sunt perfecte, există risc de încălzire sau incendiu la racordare.

Ruta cablului trebuie aranjată corespunzător astfel încât capacul cutiei de control să fie fixat corespunzător.
În cazul în care capacul cutiei de control nu este fixat corespunzător, există risc de încălzire la punctul de racordare al terminalului, incendiu sau electrocutare.

În cazul în care cablul de alimentare este deteriorat, trebuie înlocuit de către producător sau agentul service sau de o persoană cu o calificare similară pentru a evita un risc.

Un comutator de deconectare cu toţi polii cu o separare de contact de cel puţin 3mm/0.118in la toţi polii trebuie racordat în cablu fixat.
La racordarea tubulaturii, atenţie ca sustanţele din aer să nu pătrundă în ciclul frigorific.
În caz contrar, capacitatea va scădea, se înregistrează o presiune anormal de ridicată în ciclul frigorific, risc de explozie şi vătămare.
Nu modificaţi lungimea cablului de alimentare şi nu folosiţi prelungitor, şi nu împărţiţi o priză cu alte aparate electrice.
În caz contrar, există risc de incendiu sau electrocutare.
Executaţi lucrarea de instalare specifică ţinând cont de condiţii de vânt puternic, taifun sau cutremure.
instalarea necorespunzătoare creează risc de defectare a echipamentului şi accidente.

Dacă agentul frigorific se scurge în timpul instalării, aerisiţi imediat zona.
Se poate produce gaz toxic dacă agentul frigorific intră în contact cu focul.

Temperatura circuitului agentului termic va fi ridicată, ţineţi cablul de interracordare departe de tubul de cupru.

După încheierea lucrării de instalare, verificaţi dacă există scurgeri de agent termic.
Există risc de producere a gazului toxic dacă acentul termic se scurge în cameră şi intră în contact cu o sursă de incendiu, cum ar fi încălzitorul cu ventilator, soba sau maşina de gătit.

ATENȚIE

Împământaţi aerul condiţionat.
Nu racordaţi cablul de împământare la conducte de gaz sau apă, paratrăznet sau cablu de împământare telefon. Împământarea necorespunzătoare creează risc de electrocutare.

Instalaţi un disjunctor de împământare.
Neinstalarea unui disjunctor de împământare poate provoca electrocutarea.

Racordaţi cablurile de la aparatul de exterior , apoi conectaţi cablurile aparatului de interior.
Este interzis să conectaţi aparatul de aer condiţionat la sursa de alimentare până nu se realizează cablajul şi tubulatura.

Conform instrucţiunilor din acest manual de instalare, instalaţi conducta de scurgere pentru a asigura o scurgere corespunzătoare şi izolaţi tubulatura pentru a preveni condensarea.
Conductele de scurgere necorespunzătoare pot cauza scurgerea apei şi deteriorarea proprietăţii.

Instalaţi aparatele de interior şi exterior, cablajul de alimentare şi cablurile de racordare trebuie să fie la cel puţin 1 metru distanţă de televizoare şi radiouri pentru a putea preveni interferenţa imaginii sau zgomotul.
În funcţie de undele radio, o distanţă de 1 metru ar putea să nu fie suficientă pentru a elimina zgomotul.

Aparatul nu este destinat utilizării de către copii sau persoane infirme fără supraveghere.

Nu instalaţi aerul condiţionat în următoarele situaţii:

- Există petrolatum.
- Există aer sărat în jur (lângă coastă).
- Există gaz caustic (sulfid, de exemplu) în aer (lângă un arc fierbinte).
- Voltul vibrează puternic (în fabrici).
- În autobuze şi cabinete.
- În bucătărie unde există o cantitate mare de gaz de ulei.
- Există o undă electromagnetică puternică.
- Există materiale inflamabile sau gaz.
- Există evaporare de acid sau lichid alcalin.
- Alte condiţii speciale.

Aparatul se va instala conform regulamentelor de cablaj naţionale.

Nu utilizaţi aparatul de aer condiţionat într-un mediu umed cum ar fi baia sau spălătoria.

Un dispozitiv de deconectare cu toţi polii cu o distanţă de cel puţin 3mm între poli, şi un curent de scurgere ce depăşeşte 10mA, dispozitivul de curent rezidual (RCD) înregistrând un curent de operare rezidual nominal ce nu depăşeşte 30mA, şi deconectarea vor fi incluse în cablajul fixat conform regulilor de cablare.

2. INFORMAȚII INSTALARE

- **Pentru a instala corespunzător, vă rugăm să citiţi acest " manual de instalare" mai întâi.**
- **Aparatul de aer condiţionat trebuie instalat de persoane calificate. Când instalaţi aparatul de interior sau tubulatura sa, respectaţi acest manual cât de strict posibil.**
- Dacă **aparatul de aer condiţionat este instalat pe o parte metalică a clădirii, trebuie izolat electric potrivit standardelor relevante aplicate aparatelor electrice.**
- **Când se încheie toate lucrările de instalare, porniţi sursa de alimentare doar după o verificare amănunţită.**
- **Nu există notificări cu privire la orice modificare apărută în acest manual ca urmare a îmbunătăţirii produsului.**

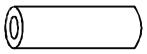
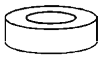
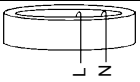
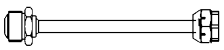
ORDINE DE INSTALARE

- Selectaţi locaţia;
- Instalaţi aparatul de interior;
- Instalaţi unitatea de exterior;
- Instalaţi conducta de racordare ;
- Racordaţi conducta de scurgere;
- Cablaj;
- testare.

3. GARNITURI ATAȘATE

Vă rugăm să verificaţi dacă următoarele garnituri sunt complete. Dacă există garnituri de rezervă , vă rugăm să le păstraţi cu atenţie.

Tabelul 3-1

	DENUMIRE	FORMĂ	CANTITATE
Tubulatură & garnituri	1. Izolare fonică/membrană izolare		2
	2. Bandă de legare		1
	3.Burete de sigilare		1
	4.Orificiu		1 la unele modele
Garnituri conductă scurgere (pentru răcire & încălzire)	5. Racord de scurgere		1
	6. Inel de sgilare		1
Telecomandă & cadru (Ajustaţi cu telecomanda) (pentru anumite modele)	7. Telecomandă		1
	8. Cadru		1
	9.Montare şurub (ST2.9×10-C-H)		2
	10.Baterii uscate alcaline (AM4)		2
Telecomandă cu fir & cadru (Ajustaţi cu telecomanda cu fir) (pentru anumite modele)	11. Manual telecomandă		1
	12. Telecomandă cu fir		1
	13. Manual telecomandă cu fir		1
	14. Manual de instalare telecomandă cu fir		1
EMC şi garnitură (pentru unele modele)	15. Inel magnetic (răsuciţi cablurile electrice L şi N În jurul inelului magnetic de cinci ori)		1
Altele	16. Manualul utilizatorului		1
	17. Manual de instalare		1
	18 .Transfer connector(Φ12.7-Φ15.9)/ (Φ0.5in-Φ0.63in) (Ambalat cu aparatul de interior) (NOTĂ: Dimensiunea conductei diferă de la aparat la aparat.Pentru a îndeplini cerinţele diferite ale dimensiunii conductei uneori racordările conductei necesită conectorde transfer pentru a se instala pe aparatul de exterior.)		1 (la unele modele)
	19 .Conector transfer(Φ6.35-Φ9.52)/ (Φ0.25in-Φ0.375in (Ambalat cu aparatul de interior) (NOTĂ: Dimensiunea conductei diferă de la aparat la aparat.Pentru a îndeplini cerinţele diferite ale dimensiunii conductei uneori racordările conductei necesită conectorde transfer pentru a se instala pe aparatul de exterior.)		1 (la unele modele)
	20 .Conector transfer(Φ9.52-Φ12.7)/ (Φ0.375in-Φ0.5in) (Ambalat cu aparatul de interior,folosit doar la modelele multi tip) (NOTĂ:Dimensiunea conductei diferă de la aparat la aparat.Pentru a îndeplini cerinţele diferite ale dimensiunii conductei uneori racordările conductei necesită conector de transfer pentru a se instala pe aparatul de exterior.)		1 (la unele modele)
	21. Cablu de racordare pentru afişaj (2M)		1 (la unele modele)
	22. Inel cauciuc de protecţie cablu		1 (la unele modele)

4. INSPECTARE ŞI UTILIZARE APARAT

La livrare, pachetul va fi verificat iar orice daune vor fi raportate imediat agentului service.

Când se gestionează aparatul, luaţi în calcul următoarele:

1 Fragil, gestionaţi aparatul cu grijă.

Ţineţi aparatul în poziţie verticală pentru a evita deteriorarea compresorului.

2 Alegeţi înainte ruta aparatului.

3 Mutaţi acest aparat cât de mult posibil în ambalajul original.

4 Când ridicaţi aparatul, folosiţi întotdeauna protectori pentru a preveni deteriorarea benzii şi atenţie la poziţia centrului de gravitate al aparatului.

5. INSTALARE APARAT DE INTERIOR

5.1 Loc de instalare

Aparatul de interior se va instala într-un spaţiu **care respectă următoarele condiţii:**

- Există suficient spaţiu pentru instalare şi întreţinere.
- Tavanul este orizontal, iar structura sa poate susţine greutatea aparatului de interior.
- Orificiul de ieşire şi de intrare nu sunt obstrucţionate, iar influenţa aerului extern este minimă.
- fluxul de aer poate ajunge în întreaga cameră.
- conducta de racordare şi conducta de scurgere pot fi extrase cu uşurinţă.
- nu există radiere directă de la sursele de încălzire.

Capacitate de întreţinere

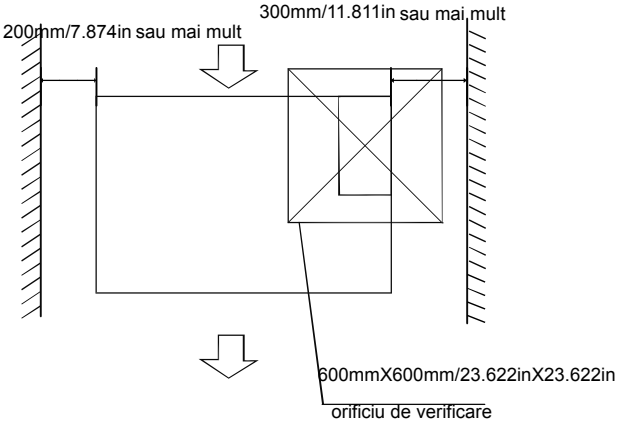


Fig.5-1

ATENŢIE

Menţineţi o distanţă de cel puţin 1 metru între aparatul de interior, unitatea de exterior, cablul de alimentare şi cablul de transmisie şi televizoare şi radiouri. Astfel se previne interferenţa imaginii şi zgomotul la acele aparate electrice. (Se poate genera zgomot în funcţie de condiţiile în care este generată unda electrică, chiar dacă se menţine o distanţă de un metru.)

5.2 Instalaţi corpul principal

1 Instalarea bolţilor de prindere Ø10/Ø0.394in. (4 bolţi)

- Vă rugăm să consultaţi următoarele figuri pentru instalarea
- celor 4 bolţi.

Evaluaţi construcţia tavanului şi folosiţi bolţi de prindere de Ø10 / Ø0.394in.

- Consultaţi personalul constructor pentru proceduri specifice.
  - menţineţi tavanul neted. Consolidaţi grinda acoperişului pentru o posibilă vibraţie.
- Executaţi conductele şi linia în tavan după instalarea corpului principal. În timp ce alegeţi unde să începeţi operarea, indicaţi direcţia conductelor ce se vor realiza. În special în cazul în care există un tavan, poziţionaţi conductele de agent termic, conductele de scurgere, liniile de interior & exterior la locurile de racordare înainte de a fixa aparatul.
- Instalarea bolţilor de prindere.
  - Tăiaţi grinda acoperişului.

    Consolidaţi locul care a fost tăiat, şi grinda acoperişului.

După selectarea locaţiei de instalare, instalaţi conductele agentului termic, conductele de scurgere, cablurile de interior şi
- de exterior în locurile de racordare înainte de a instala aparatul.

Instalarea bolţilor de prindere.

NOTĂ

Se confirmă că înclinarea maximă de scurgere este de 1/100 sau mai mult

5.2.1 Construcţie din lemn

Aşezaţi lemnul ecarisat transversal deasupra grinzii acoperişului, apoi instalaţi bolţii de prindere. *(Consultaţi Fig.5-2)*

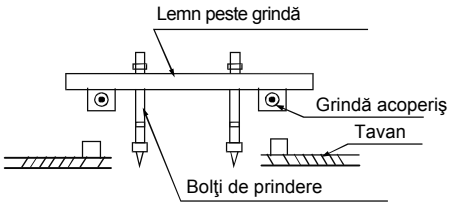


Fig.5-2

5.2.2 Noi bucăţi de beton

Acoperă sau încorporează bolţi. (Consultaţi Fig. 5-3)

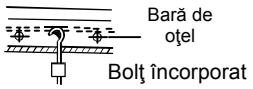


(Inserţie formă lamă) (Inserţie glisare)

Fig.5-3

5.2.3 Pentru bucăţile de beton originale

Folosiţi şurub încorporat, vas sau harnaşament.
(Consultaţi Fig.5-4)



(Fixare conductă şi bolţ încorporat)

Fig.5-4

5.2.4 Structură grindă de acoperiş din oţel

Instalaţi şi folosiţi direct unghiul din oţel de susţinere. (Consultaţi Fig.5-5)

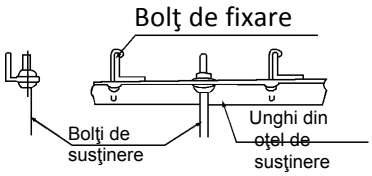


Fig.5-5

2 Fixare aparat de interior

(1) Fixaţi aparatul de interior pe bolţii de prindere cu bloc.
(2) Aşezaţi aparatul de interior pe o suprafaţă netedă folosind indicatorul de nivel, în caz contrar există risc de scurgere.

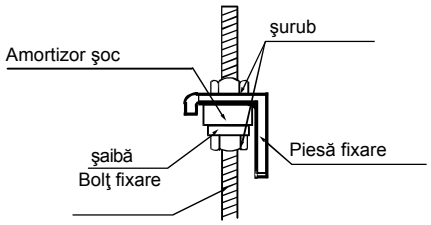


Fig.5-6

3. Conducta orificiului de intrare şi a orificiului de ieşire a aerului trebuie să fie la o distanţă suficientă pentru a evita scurt circuitul cauzat de trecerea aerullui.

4. Racordare recomandată a conductei

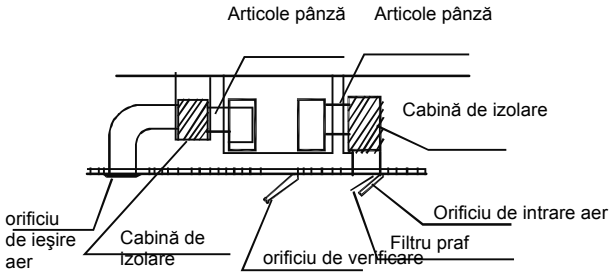


Fig.5-7

5. Consultaţi următoarea presiune statică de instalare

Tabel.5-1

MODEL (Btu/h)	Presiune statică (Pa)
12	30
18	70
24	70
30~36	80
42~60	100

Schimbaţi presiunea statică a motorului ventilatorului corespunzătoare presiunii statice a conductei externe.

NOTĂ

1. Nu aşezaţi conducta de racordare pe aparatul de interior.
2. Când racordaţi conducta, folosiţi articole de pânză inflamabile pentru a preveni vibrarea.
3. Spuma de instalare trebuie împachetată în afara conductei pentru a evita condensarea iar substratul intern al conductei se va adăuga pentru a reduce zgomotul de cerinţă specială.

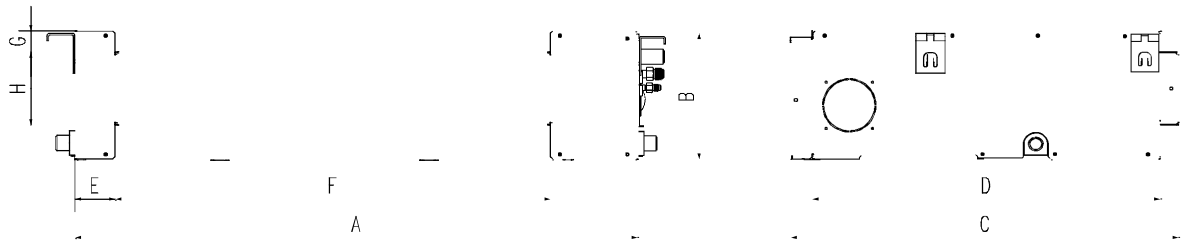
5.3 Instalare conductă şi accesorii

1. Instalaţi filtrul (opţional) în funcţie de dimensiunea orificiului de pătrundere a aerului.
2. Instalaţi articolele de pânză între corp şi conductă.

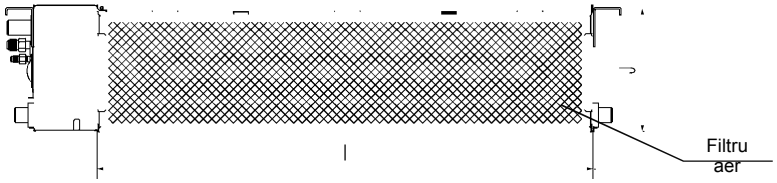
Poziţia orificiului din tavan, a aparatului de la interior şi bolţilor de prindere

Dimensiune şi calibru orificiu ieşire aer

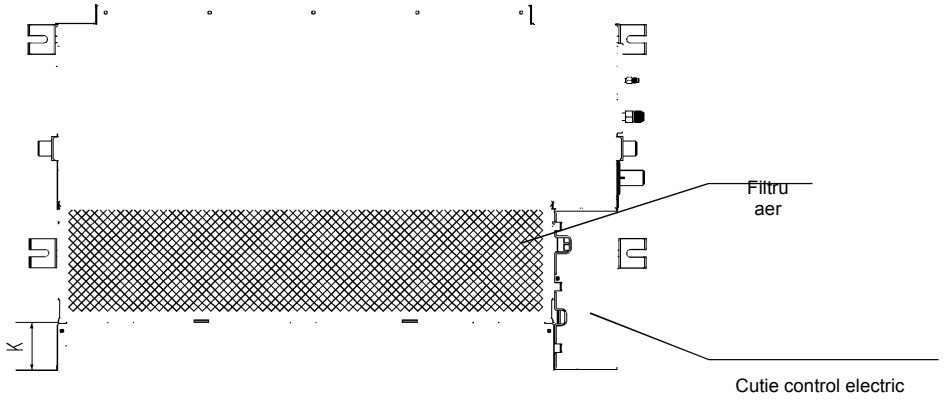
Unitate: mm



Calibru orificiu intrare aer



Dimensiune poziţie **deschidere ventilaţie descendentă**



Dimensiune cârlig montat

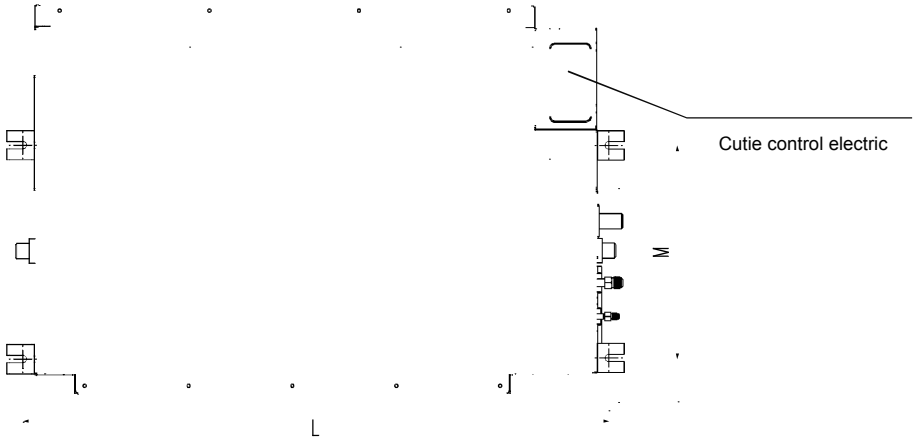


Fig.5-8

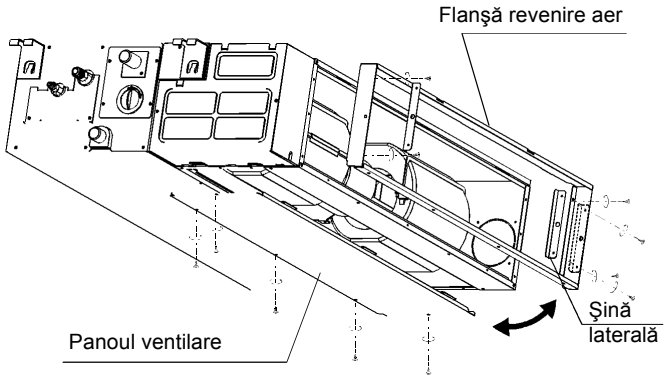
Tabelul.5-2 mm

	Dimensiune				Calibru deschidere orificiu ieşire aer				Calibru deschidere orificiu revenire aer			Dimensiune bornă montată	
	A	B	C	D	E	F	G	H	I	J	K	L	M
12	700	210	635	570	65	493	35	119	595	200	80	740	350
12~18	920	210	635	570	65	713	35	119	815	200	80	960	350
24	920	270	635	570	65	713	35	179	815	260	20	960	350
36 (model mic)	920	270	635	570	65	713	35	179	815	260	20	1180	490
30~36	1140	270	775	710	65	933	35	179	1035	260	45	1240	500
42~60	1200	300	865	800	80	968	40	204	1094	288	45	1240	500

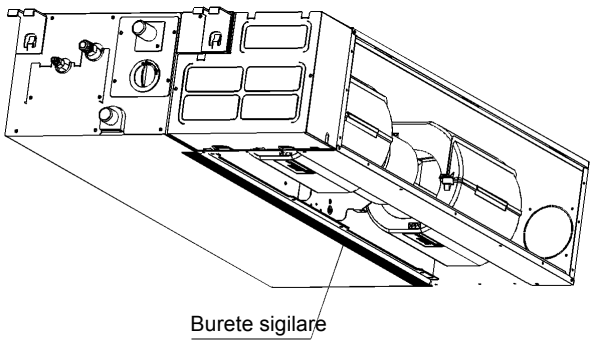
(in=mm/25.4)

Cum se ajustează direcţia de intrare a aerului? (Din partea anterioară laterală dedesupt.)

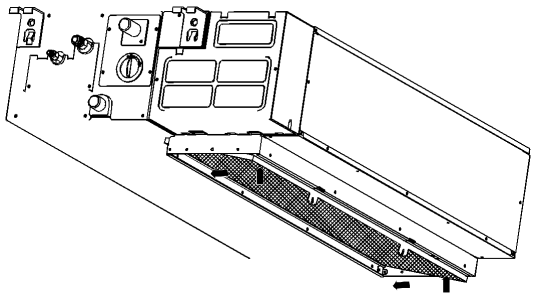
1. Scoateţi panoul de ventilare şi flanşa, scoateţi clemele de pe şina laterală.



2. Fixaţi buretele de sigilare ataşat în locul indicat în următoarea fig, şi schimbaţi poziţiile de montare ale panoului de revenire a aerului şi flanşa de revenire a aerului .



3. Când instalaţi sita filtrului, introduceţi-o în flanşa înclinată din deschiderea de revenire a aerului, apoi apăsaţi.



4. Instalarea s-a încheiat, cu sita filtrului a căror blocuri de fixare au fost introduse în orificiile de poziţionare a flanşei.

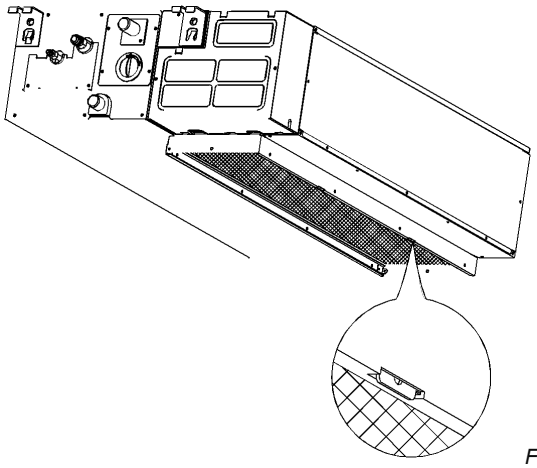


Fig.5-9

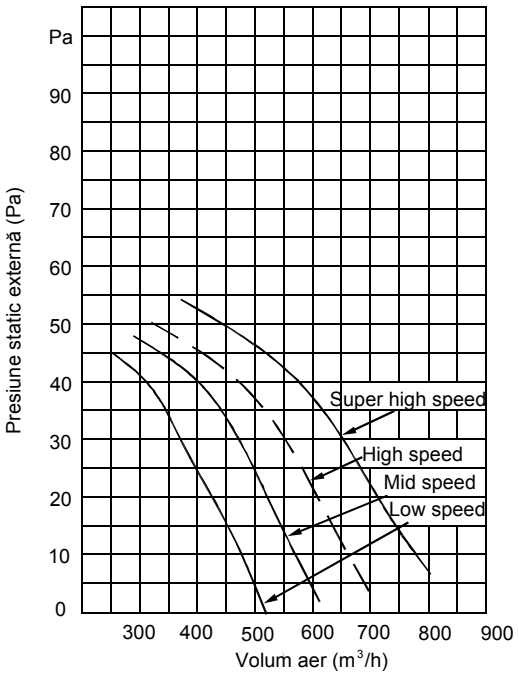
NOTĂ

Toate figurile din acest manual au doar scop informativ. Pot diferi uşor de aparatul de aer condiţionat pe care l-aţi cumpărat. Aparatul actual va prevala.

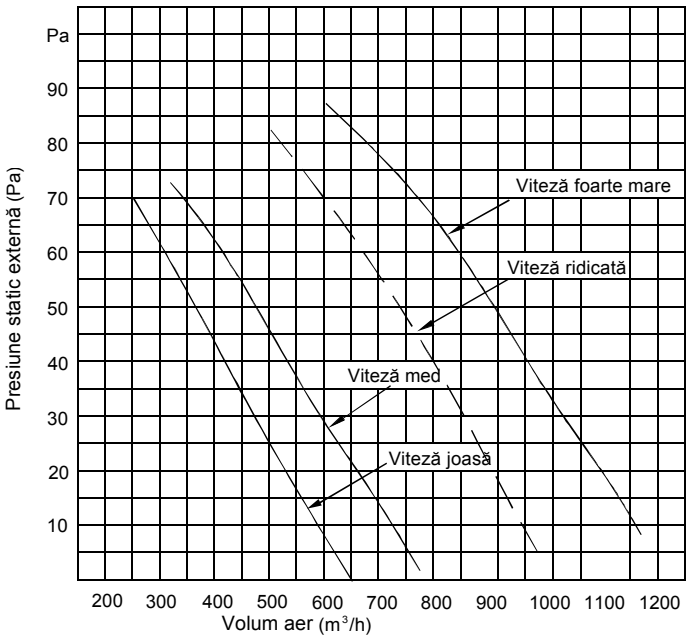
5.9 Performanţe ventilator

Curba presiunii statice (conductă presiune statică medie)

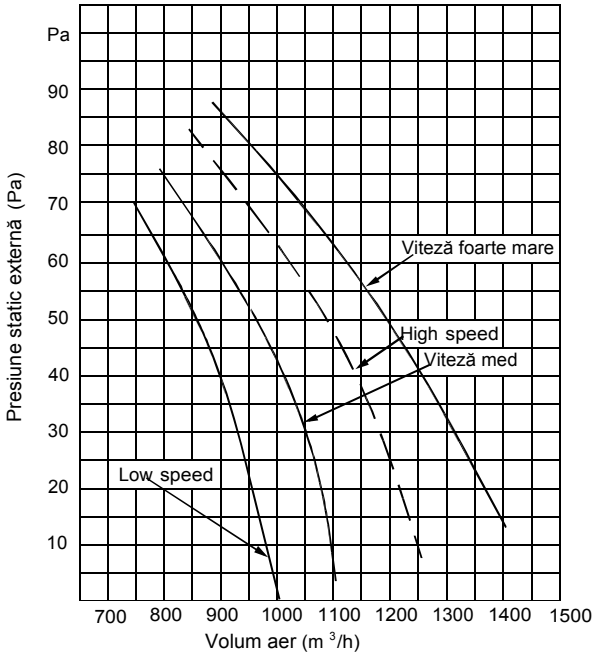
12K



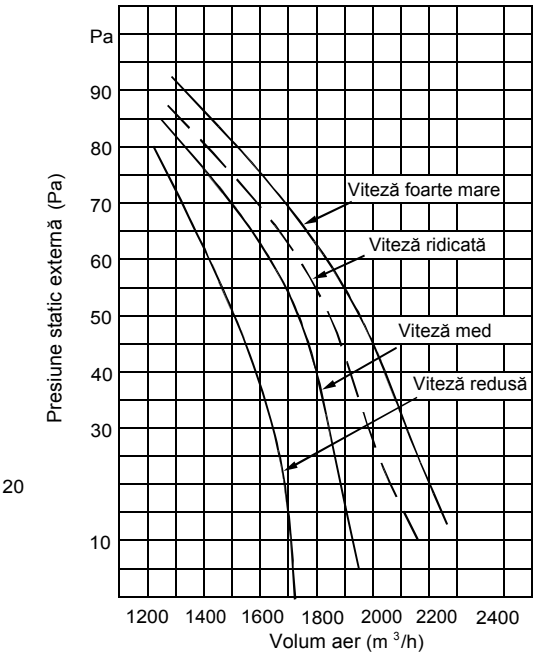
18K



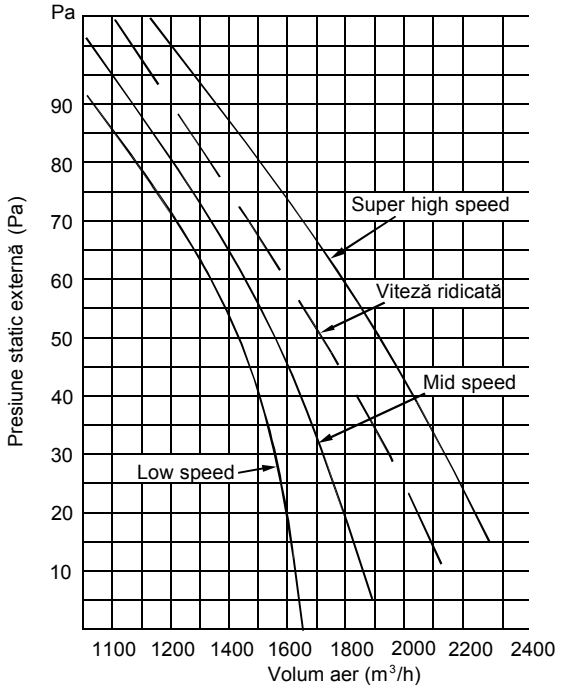
24K



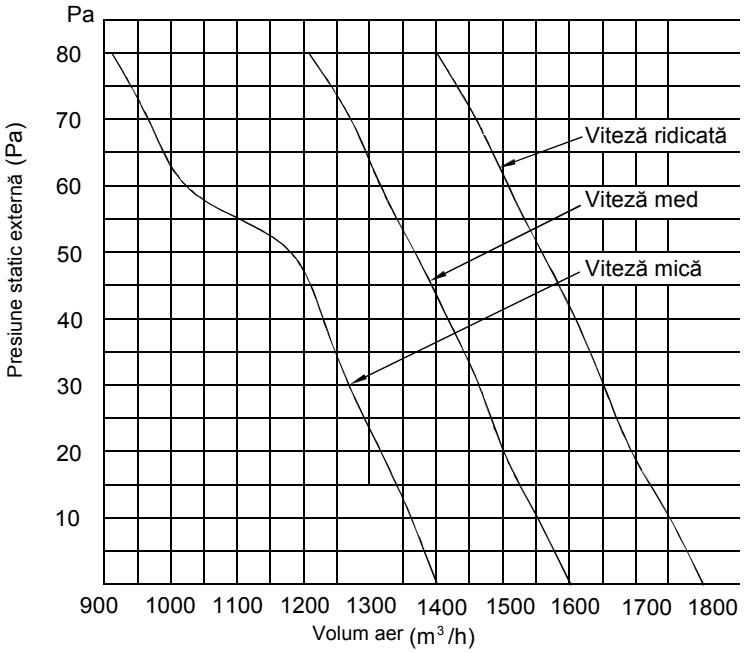
30K



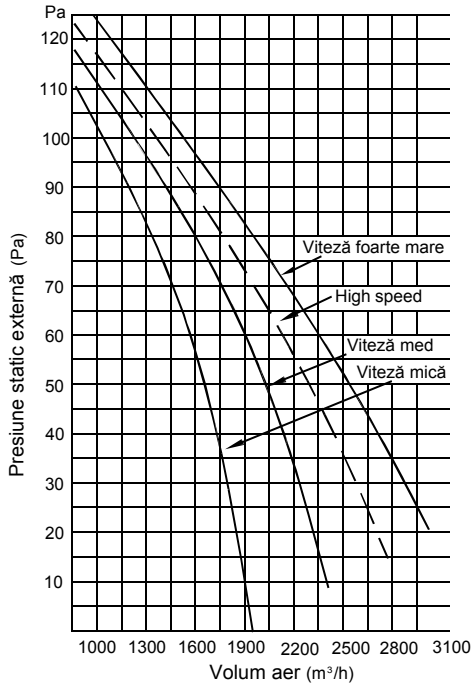
36K



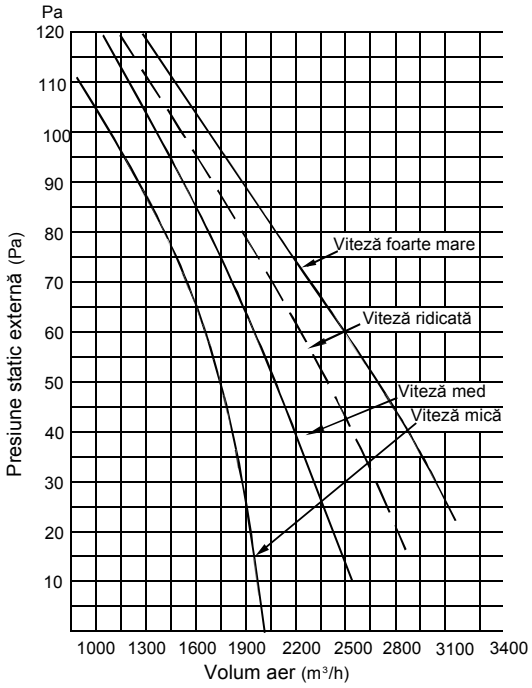
36K(model mic)



48K

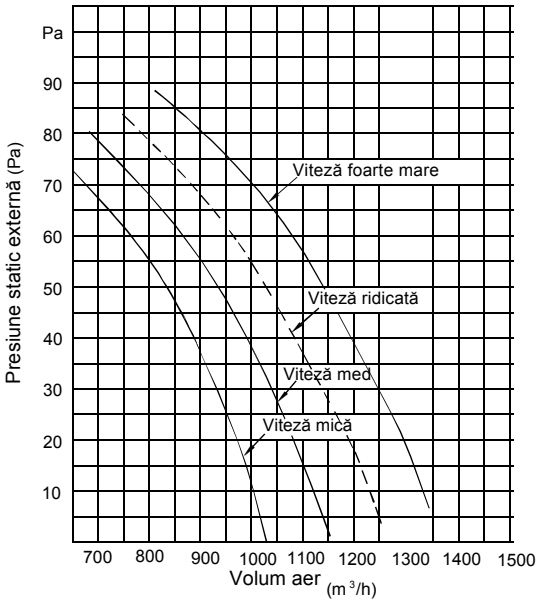


60K

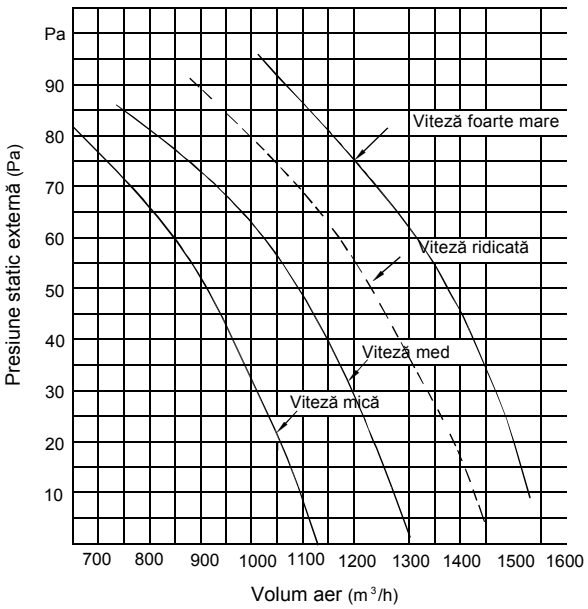


Curbă presiune statică (conductă presiune statică ridicată)

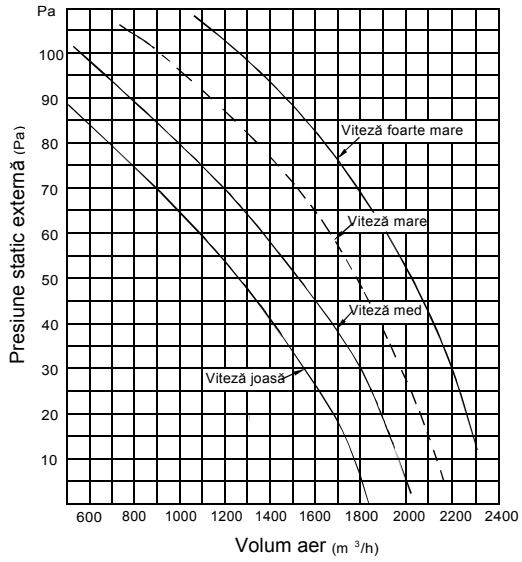
18k



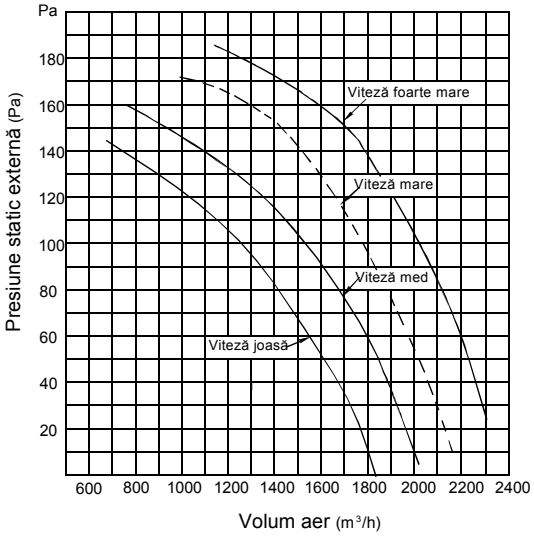
24K



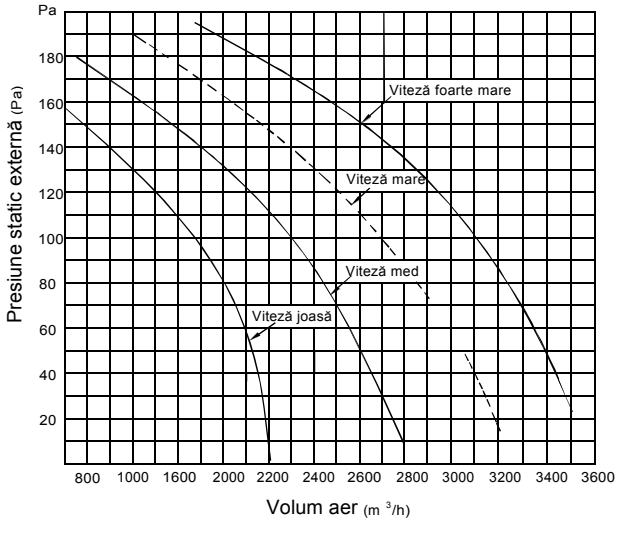
30K



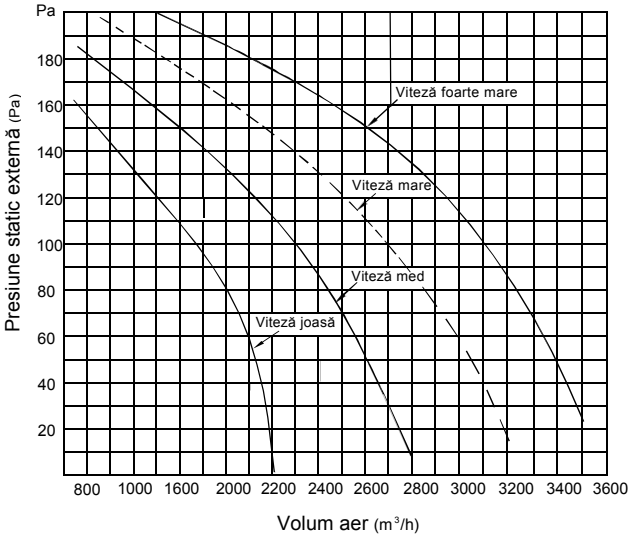
36K



48K



60K



6. INSTALARE APARAT EXTERIOR

6.1 Loc de instalare

- **Aparatul de exterior se va instala în locaţia care respectă următoarele cerinţe:**

  - există suficient spaţiu de instalare şi întreţinere. Orificiile
  - de ieşire şi intrare aer nu sunt obstrucţionate, şi nu sunt afectate de vânt puternic.
  - Trebuie să fie un spaţiu uscat şi bine aerisit.
  - Suportul este neted şi orizontal şi poate susţine greutatea aparatului de exterior. Şi nu generează zgomot şi vibraţie suplimentară.
  - Vecinii nu vor fi deranjaţi de zgomotul şi aerul eliminat.
  - Sunt uşor de instalat conductele de racordare şi cablurile.
  - Stabiliţi direcţiade ieşire a aerului când aerul eliminat nu este blocat.
  - Nu există risc de incendiu datorită scurgerii de gaze inflamabile.
  - Lungimea conductei între aparatul de exterior şi aparatul de interior nu poate depăşi lungimea permisă.
  - în cazul în care locul de instalare este expus la vânt puternic cum ar fi la mare, asiguraţi-vă că ventilatorul funcţionează corespunzător istalând aparatul de-a lungul peretelui sau folosind un dispozitiv anti-praf.*(Consultaţi Fig.6-1)*
  - în măsura posibilului, nu instalaţi aparatul la lumina directă a razelor solare.
  - dacă este necesar, instalaţi o jaluzea care să nu interfereze fluxului aerului.
  - în modul de încălzire, apa se scurge din aparatul de exterior. Condensarea se va elimina prin orificiu de scurgere într-un loc corespunzător, pentru a nu interfera cu alte persoane.
  - selectaţi o poziţie în care să nu fie afectat de căderile de zăpadă, acumulările de frunze sau alte resturi sezoniere. Dacă nu se poate evita, acoperiţi cu o protecţie.
  - Instalaţi unitatea de exterior cât de aproape posibil de aparatul de interior.
  - în măsura posibilului, eliminaţi obstacolele din apropiere pentru a nu împiedica performanţa circulaţiei aerului.
  - Distanţa minimă dintre unitatea de exterior şi obstacolele prezentate în graficul de instalare nu înseamnă că se aplică situaţiei unei încăperi etanşe. Lăsaţi deschise două din trei orificii (M,N,P) *(Consultaţi Fig.6-5)*

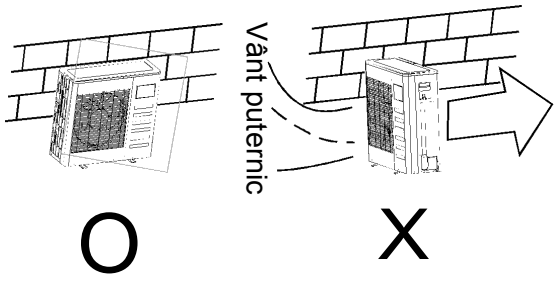


Fig.6-1

NOTĂ

Toate figurile din acest manual au doar scop informativ. Pot diferi uşor de aparatul de aer condiţionat pe care l-aţi cumpărat. Aparatul actual va prevala.

6.2 Figura dimensiunii corpului

1. Unitate de interior tip împărţit

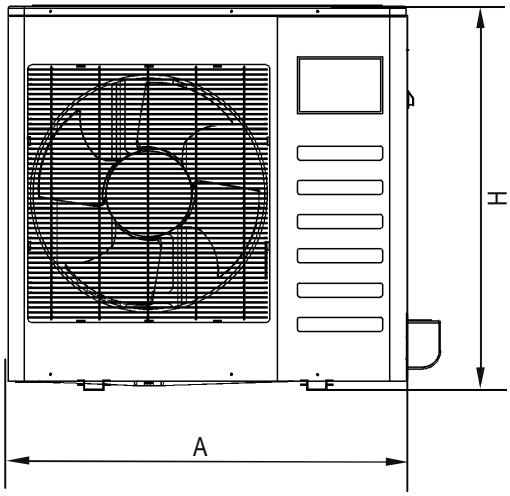


Fig.6-2

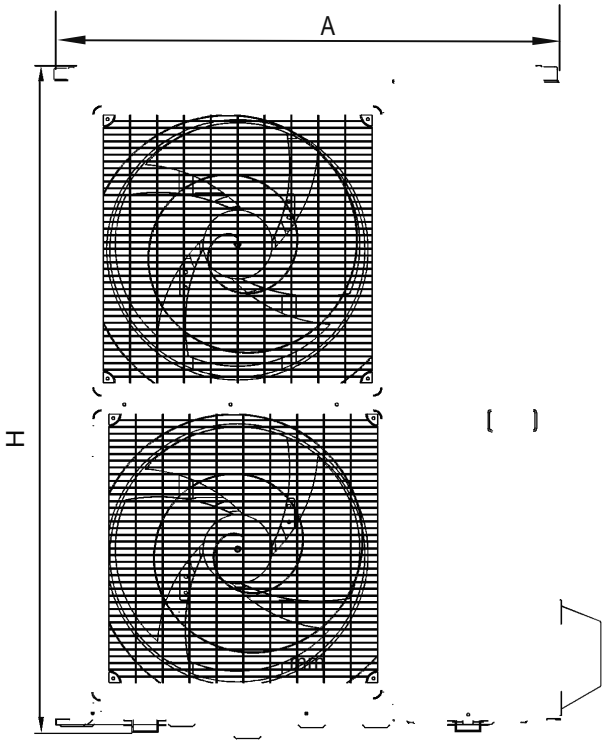


Fig.6-3

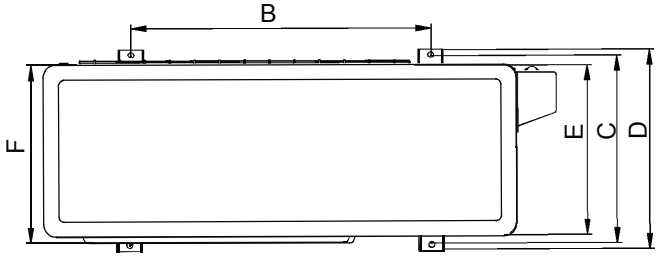


Fig.6-4

Table 6-1 mm

MODEL	A	B	C	D	E	F	H	REMARK
09~36	780	548	266	300	241	250	540	*Fig.6-2*
	770	487	298	322	260	300	555	*Fig.6-2*
	800	514	290	340	365	315	333	*Fig.6-2*
	845	540	350	376	335	340	700	*Fig.6-2*
	760	530	290	315	270	285	590	*Fig.6-2*
	845	560	335	360	312	320	700	*Fig.6-2*
	810	549	325	350	305	310	558	*Fig.6-2*
	945	640	405	448	385	395	810	*Fig.6-2*
	900	590	333	355	302	315	860	*Fig.6-2*
	990	624	366	396	340	345	965	*Fig.6-2*
	900	590	378	400	330	350	1170	*Fig.6-3*
	938	634	404	448	368	392	1369	*Fig.6-3*
42~60	946	673	403	455	405	420	810	*Fig.6-2*
	950	634	404	448	382	410	1333	*Fig.6-3*
	990	624	366	396	340	345	965	*Fig.6-2*
	938	634	404	448	368	392	1369	*Fig.6-3*
	900	590	378	400	330	350	1170	*Fig.6-3*

(in=mm/25.4)

2. Unitate de exterior tip descărcare pe verticală

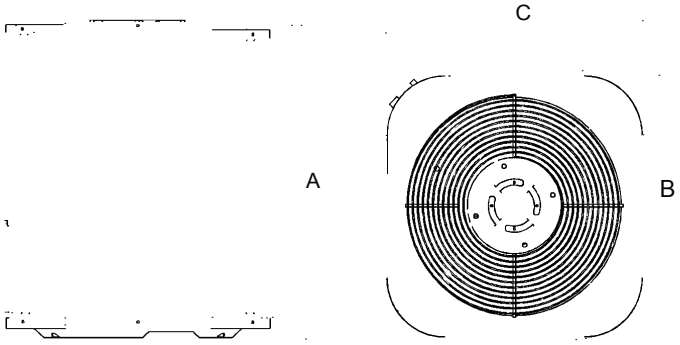


Fig.6-5 *Fig.6-6*

Tabel 6-2 unitate：mm

MODEL	DIMENSIUNI			OBSERTAȚIE
	A	B	C	
18	633/24.92in	554/21.81in	554/21.81in	Consultaţi *Fig.6-5* *Fig.6-6*
24	633/24.92in	554/21.81in	554/21.81in	
36	759/29.88in	554/21.81in	554/21.81in	
36	633/24.92in	600/23.62in	600/23.62in	
48	759/29.88in	710/27.95in	710/27.95in	
60	843/33.19in	710/27.95in	710/27.95in	

3. Unitate de exterior tip ventilator cu centrifugă

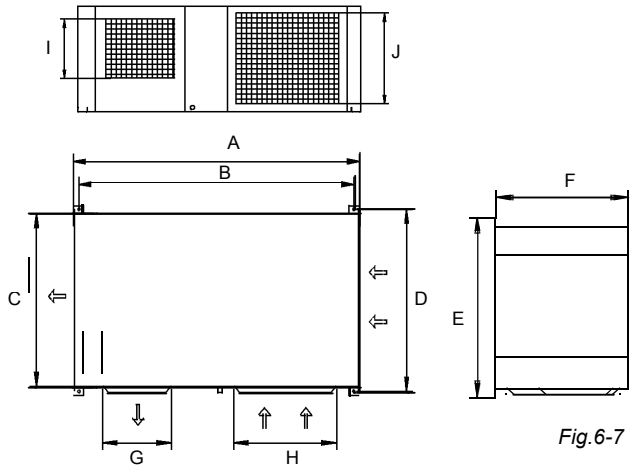


Fig.6-7

Table 6-3 unitate：mm

MODEL	A	B	C	D	E	F	G	H	I	J
18	1174	1120	680	720	750	475	300	430	265	393
24	1174	1120	680	720	750	475	300	430	265	393
30	1381	1328	702	740	770	520	336	500	296	443
36	1381	1328	702	740	770	520	336	500	296	443
48	1394	1338	783	820	850	568	398	574	342	463
60	1394	1338	783	820	850	568	398	574	342	463

6.3 Spaţiu de instalare şi întreţiere

1. Unitate de exterior tip împărţit

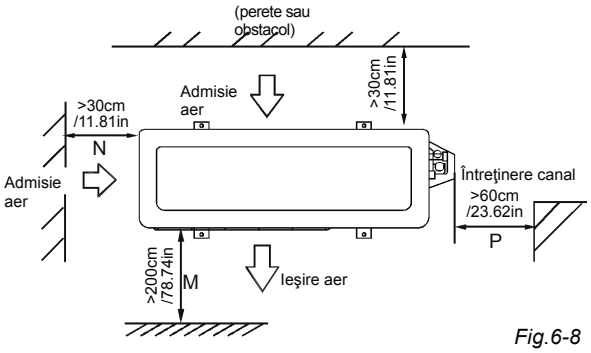


Fig.6-8

2. Unitate de exterior tip descărcare pe verticală

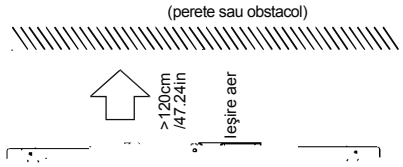


Fig.6-9

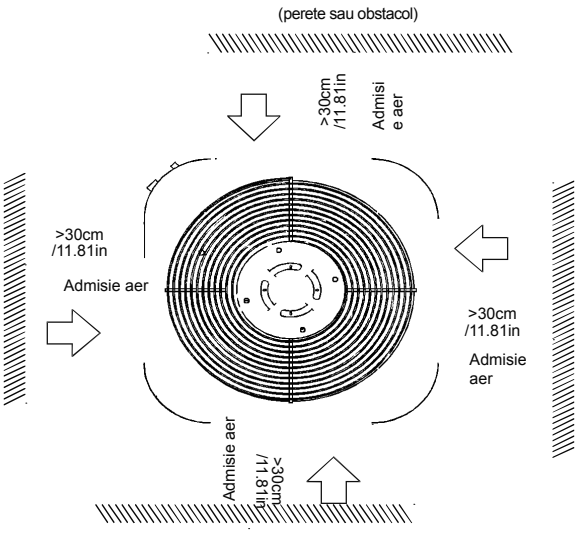


Fig.6-10

3. Unitate de exterior tip ventilator cu centrifugă

a) În cazul suspendării pe tavan

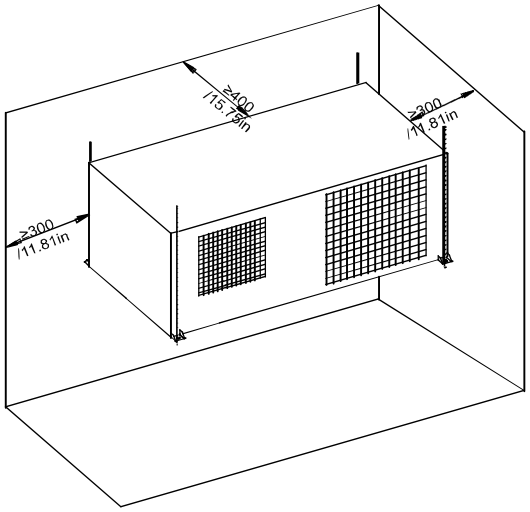


Fig.6-11

b)În cazul instalării pe podea

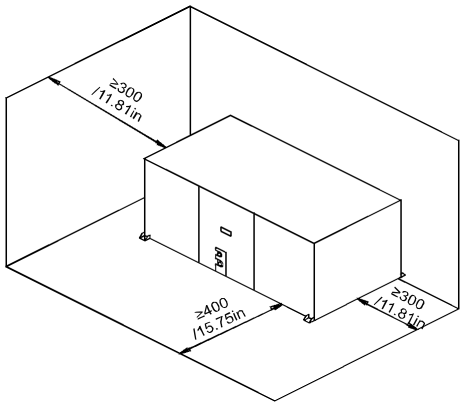


Fig.6-12

NOTĂ

Toate figurile din acest manual au doar scop informativ. Pot diferi uşor de aparatul de aer condiţionat pe care l-aţi cumpărat. Aparatul actual va prevala.

6.4 Configuraţia disponibilă pentru unitate de exterior cu ventilator cu centrifugă

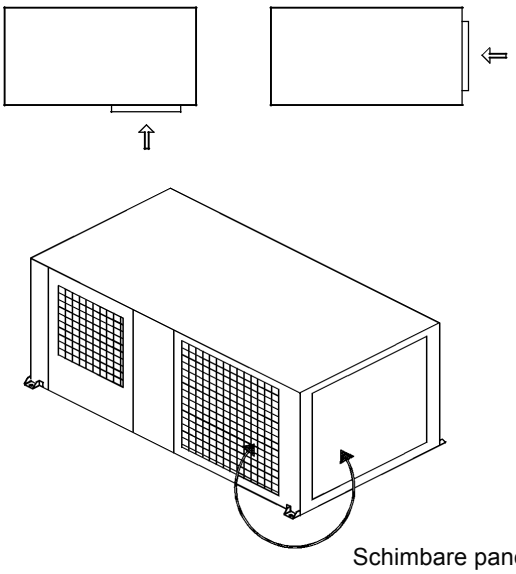
Patru configuraţii diferite sunt disponibile pentru unitatea de exterior schimbând doar panourile şi poziţia ventilatorului.

NOTĂ

Atenţie, greutatea ventilatorului este de aprox 30kg/1058oz ,aparatul precum şi echipamentul corespunzător sunt acoperite cu vinil în timpul instalării.

■ Modificare orificiu de admisie aer

Pentru a se schimba orificiul de admisie aer este necesar să se schimbe poziţia panourilor indicate. Ambele panouri folosesc şuruburi pentru fixare pe şasiul aparatului.



Schimbare panou

Fig6-13

Pentru schimbarea orificiului de ieşire a aerului este necesar să se schimbe şi panourile. Panoul de ieşire cu ventilator este ataşat structurii panoului, ce se va monta după cum urmează.

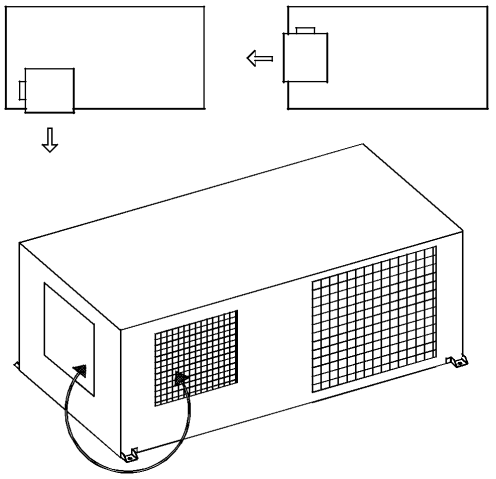


Fig.6-14

6.5 Deplasare şi instalare

- Dat fiind că centrul de gravitaţie al aparatului nu este în centrul său fizic, atenţie când ridicaţi cu o funie.
- Nu ţineţi niciodată orificiul de admisie al unităţii de exterior pentru a preveni deformarea.
- Nu atingeţi ventilatorul cu mâna sau cu alte obiecte.
- Nu înclinaţi mai mult de 45, şi nu-l aşezaţi înclinat.
- Realizaţi o fundaţie de beton conform specificaţiilor unităţilor de exterior.*(Consultaţi Fig.6-15)*
- Fixaţi picioarele acestui aparat ferm cu bolţi pentru a preveni căderea în caz de cutremur sau vânt puternic.*(Consultaţi Fig.6-15)*

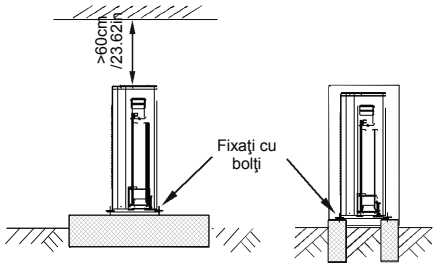


Fig.6-15

■ Fundaţie de beton

1. Fundaţia este netedă şi se recomandă să se realizeze la 100-300mm /3.94-11.81in deasupra nivelului pământului.

2.Instalaţi o scurgere în jurul fundaţiei pentru o evacuare fără probleme

3.Când instalaţi unitatea de exterior fixaţi unitatea cu ancore de M10

4.Când instalaţi unitatea pe un acoperiş sau verandă, apa scursă uneori îngheaţă la temperaturii reduse. Astfel, evitaţi scurgerea într-o zonă în care oamenii o folosesc deoarece este alunecoasă.

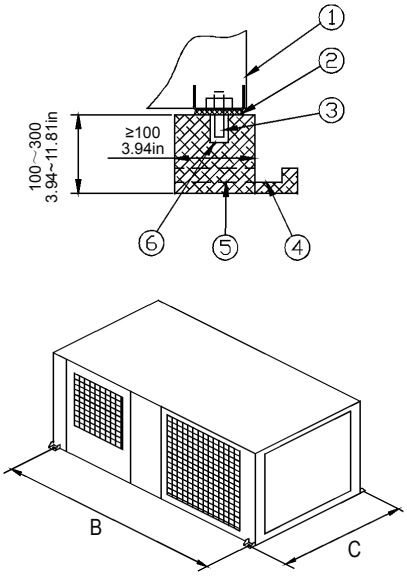


Fig.6-16

Tabel 6-4

Nr	Descriere
①	Unitate de exterior
②	Cauciuc împotriva vibraţiei
③	Bolţ de ancorare M10
④	Scurgere (Lăţime 100/3.94in×Adâncime 150/5.9in)
⑤	Drainage
⑥	Orificiu mortar (Φ100/3.94in×Adâncime 150/5.9in)

Table 6-5 unitate: mm

MODEL	B	C
18～24	1120/44.1in	720/28.35in
30	1338/52.67in	820/32.28in
36	1338/52.67in	820/32.28in
48～60	1338/52.67in	820/32.28in

■ Unitate suspendată

1. Suspendaţi unitatea aşa cum indică desenul.
2. Asiguraţi-vă că tavanul susţine greutatea unităţii de exterior indicată pe plăcuţa cu etichetă specificaţii.

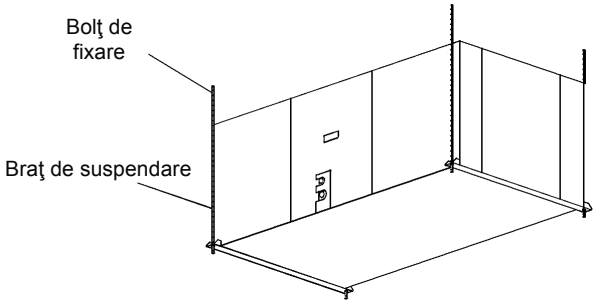


Fig.6-17

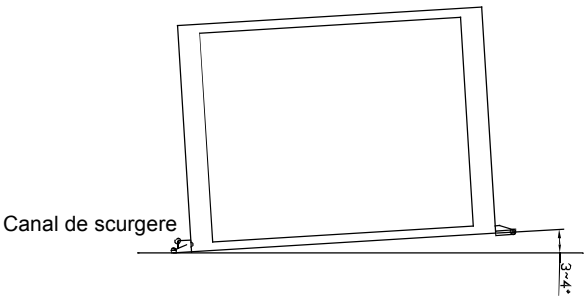


Fig.6-18

NOTĂ: Asiguraţi-vă că se menţine un unghi de 3-4 grade între aparat şi podea când aparatul este instalat la temperautură scăzută şi într-un mediu umed.
Asiguraţi-vă că gheaţa de pe şasiul unităţii de exterior poate fi gestionată când aparatul este instalat la temperatură redusă şi într-un mediu umed.
Unitatea de exterior se va instala în grilaj cadru de 30cm /11.81in înălţime. Temperatura mediului va fi peste 0°.
Aparatul se va instala în interior.

7. INSTALARE CONDUCTĂ DE RACORDRE

7.1 Pregătire şi măsuri de siguranţă

Înainte de instalare asiguraţi-vă că diferenţa de înălţime, lungimea conductei agentului termic, şi numărul îndoirilor dintre aparatul de la interior şi unitatea de la exterior respectă următoarele condiţii:

Table 7-1 unitate:m

Tip modele	Model	Lungime conductă agent termic	Înălţime max cădere
50Hz T1 condiţie/R22 Aer condiţionat tip împărţit	12K	15/49.21ft	8/26.25ft
	18K-24K	30/98.42ft	10/32.8ft
	30K-42K	50/164.04ft	20/65.62ft
	48K-60K	50/164.04ft	25/82.02ft
50Hz Aer condiţionat descărcare verticală /60Hz T1 condiţie/R22 Aer condiţionat tip împărţit şi aer condiţionat cu descărcare pe verticală	12K	15/49.21ft	8/26.25ft
	18K-24K	30/98.42ft	10/32.8ft
	30K-60K	30/98.42ft	20/65.62ft
R410A Aer condiţionat tip împărţit şi unitate exterior cu ventilator centrifug	12K	10/32.8ft	5/16.4ft
	18K-24K	25/82.02ft	12/39.37ft
	30K	25/82.02ft	15/49.21ft
	36K	30/98.42ft	20/65.62ft
	48K-60K	50/164.04ft	25/82.02ft
R410A Aer condiţionat tip împărţit şi unitate exterior cu ventilator centrifug	12K	15/49.21ft	8/26.25ft
	18K-30K	25/82.02ft	15/49.21ft
	36K	30/98.42ft	20/65.62ft
	48K-60K	50/164.04ft	25/82.02ft
50Hz/60Hz T3 condiţie (unitate exterior jos)	18K-24K	25/82.02ft	10/32.8ft
	30K	30/98.42ft	15/49.21ft
	36K	30/98.42ft	20/65.62ft
	42K-60K	50/164.04ft	25/82.02ft
50Hz/60Hz T3 condiţie (unitate exterior sus)	18K-24K	25/82.02ft	15/49.21ft
	30K	30/98.42ft	20/65.62ft
	36K	30/98.42ft	25/82.02ft
	42K	50/164.04ft	30/98.42ft
	48K-60K	50/164.04ft	35/114.83ft
	12K-18K	5/16.4ft	5/16.4ft

Unitatea de exterior este încărcată cu **agent frigorific în fabrică. Încărcarea suplimentară se prezintă în tabelul de mai jos:**

Tabel 7-2

liquid tube(mm)		R410A	R22
Ø6.35	Orificiu aparat interior	0.022kg/m×(L-5)	0.030kg/m×(L-5)
	Orificiu unitate exterior	0.011kg/m×(L-5)	0.015kg/m×L
Ø9.53	Orificiu aparat interior	0.060kg/m×(L-5)	0.065kg/m×(L-5)
	Orificiu unitate exterior	0.030kg/m×(L-5)	0.030kg/m×L
Ø12.7	Orificiu aparat interior	0.110kg/m×(L-5)	0.115kg/m×(L-5)
	Orificiu unitate exterior	0.060kg/m×(L-5)	0.060kg/m×L
Ø15.9	Orificiu aparat interior	0.170kg/m×(L-5)	0.190kg/m×(L-5)
	Orificiu unitate exterior	0.085kg/m×(L-5)	0.095kg/m×L
Ø19.0	Orificiu aparat interior	0.250kg/m×(L-5)	0.290kg/m×(L-5)
	Orificiu unitate exterior	0.125kg/m×(L-5)	0.145kg/m×L

- NOTĂ:tabelul de mai sus face referire la tubul cu lichid.
- NOTĂ:Numărul îndoiturilor are o lungime egală cu înălţimea max de cădere. De regulă pentru fiecare 10m/32.8ft este necesară o cotitură.

ATENŢIE

Toate tubulaturile se vor realiza de către un tehnician autorizat în frigotehnică şi vor respecta codurile naţionale şi locale relevante.

Nu permiteţi pătrunderea de aer, praf sau alte impurităţi în sistemul tubulaturii în timpul instalării.

Conducta de izolare se va utiliza pentru tubulatura de gaz şi de lichide. În caz contrar, poate apărea condensul.

7.2 Procedura de racordare a conductelor

1 Măsuraţi lungimea solicitată a conductei de racordare, apoi acţionaţi după cum urmează.

■ racordaţi mai întâi aparatul de la interior, apoi unitatea de la exterior

• îndoiţi tubul corespuzător. Nu răsuciţi.

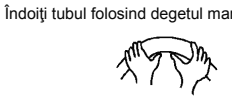


Fig.7-1

• Puneţi ulei de agent refrigorific pe suprafeţele conductei de lărgire şi cuplaţi şuruburile apoi strângeţi 3~4 ori cu mâna înainte de a fixa şuruburile.(Consultaţi graficul 16)

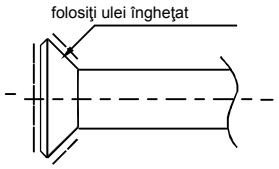


Fig.7-2

• Asiguraţi-vă că folosiţi două chei simultan când conectaţi sau deconectaţi conductele.

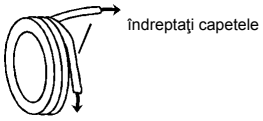


Fig.7-3

■ Valvele service ale unităţii de exterior se vor închide complet (ca în statutul original). De fiecare dată când racordaţi, mai întâi slăbiţi şuruburile, apoi racordaţi conductele de lărgine în interval de 5 minute. Dacă şuruburile au fost slăbite o perioadă mai lungă de timp, praful şi alte impurităţi pot pătrunde în sistemul tubular şi pot cauza disfuncţie. Vă recomandăm să eliminaţi aerul din conductă folosind agent refrigorific înainte de racordare.

■ Eliminaţi aerul (consultaţi “8.1”) după ce racordaţi conducta agentului termic la aparatul de interior şi unitatea de la exterior. Apoi fixaţi şuruburile la valvele service.

■ îndoiţi conducta de racordare a peretelui de grosime mică.

- tăiaţi o formă concavă corespunzătoare în partea îndoită a conductei de izolare.
- apoi expuneţi conducta (acoperiţi cu benzi după îndoire).
- pentru a preveni răsucirea sau deformarea, îndoiţi conducta la o rază corespunzătoare.

NOTĂ

Unghiul de îndoire nu va depăşi 90°.

Poziţia de îndoire este de preferat în mijlocul conductei îndoite.

Nu îndoiţi conducta mai mult de trei ori.

Asiguraţi-vă că folosiţi aceleaşi materiale de izolare când cumpăraţi conductă din alamă. (Peste 9mm/0.35in grosime)

2. Instalaţi conducta

- efectuaţi o gaură în perete (potrivită doar pentru dimensiunea canalului din perete), apoi instalaţi accesoriile cum ar fi canalul din perete şi capacul.
- îndoiţi conducta de racordare şi cablurile împreună cu benzile de legătură.
- treceţi conducta de racordare prin canalul din perete prin exterior. Asiguraţi-vă că alocarea conductei nu afectează tuburile de cupru.

3 Racordaţi conductele.

4 Evacuaţi aerul folosind o pompă de vid sau agent frigorific.

5 Deschideţi valvele service ale unităţii de exterior .

6 Verificaţi scurgerea de agent frigorific. Verificaţi toate joncţiunile cu detectorul de scurgeri sau apă cu săpun.

7 Acoperiţi joncţiunile conductei de racordare cu spună izolatoare, şi fixaţi cu benzi pentru a preveni scurgerea.

8. CONDUCTĂ AGENT FRIIFORIFIC (aparatul cu funcţie dublă)

8.1 Lungimea şi înălţimea de cădere permisă a conductei de agent friforific

Notă: Lungimea redusă a tubului de deviere este de 0.5m/1.64ft din lungimea echivalentă a conductei.

Tabelul.8-1

		Valoare permisă		Tubulatură
Lungime conductă	Total lungime conductă (Actual)	18K+18K	30m/98.42ft	L+L1+L2
		24K+24K/ 30K+30K	50m/164.04ft	
	(cel mai departe de deviaţia conductei)	15m/49.21ft		L1,L2
	(cel mai departe de deviaţia conductei)	10m/32.8ft		L1-L2
Înălţime de cădere	Înălţime cădere aparat interior – unitate exterior	20m/65.8ft		H1
	Înălţime cădere aparat de interior	0.5m/1.64ft		H2

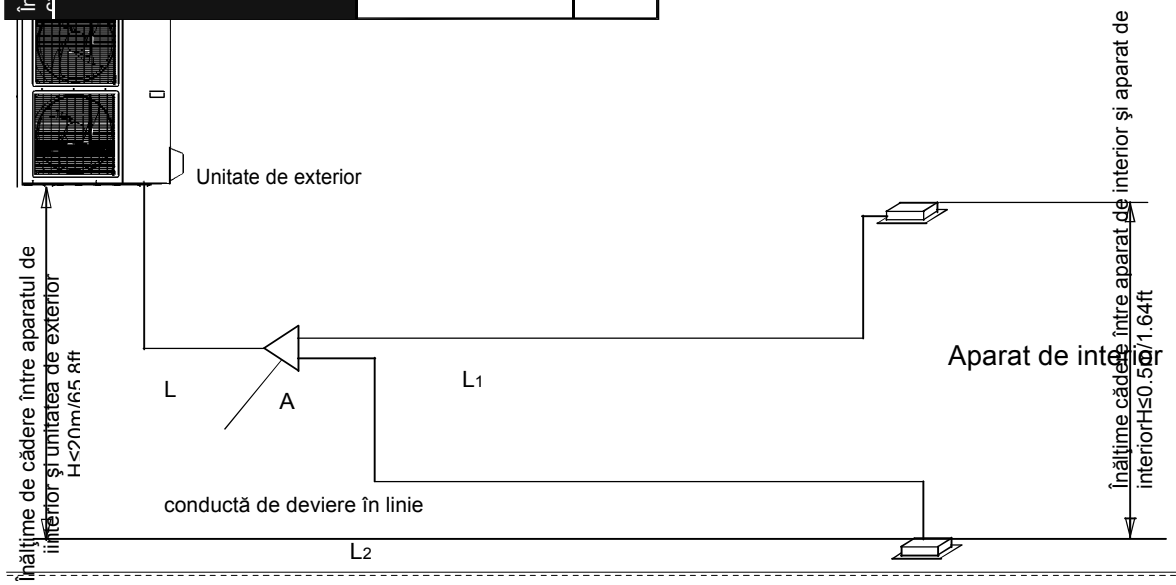


Fig.8-1

Notă: Toate conductele de deviaţie folosite trebuie să fie fabricate de Midea, în caz contrar apare disfuncţia. Aparatele de interior se vor instala echivalent la ambele capete ale conductei de deviaţie tip U.

8.2 Dimensiune îmbinări conducte pentru aparat de interior

Tabel.8-2 Dimensiunea îmbinărilor de conducte pentru aparat de interior 410A

Capacitate aparat de interior (A)	Dimensiune conduct principală(mm)		
	Latură gaz	Latură lichid	Conduct de deviaţie disponibilă
18K	Φ12.7/0.5in	Φ6.35/0.25in	CE-FQZHN-01C
24K	Φ15.9/0.626in	Φ9.5/0.375in	CE-FQZHN-01C
30K	Φ15.9/0.626in	Φ9.5/0.375in	CE-FQZHN-01C

8.3 Dimensiunea îmbinărilor de conducte pentru unitatea de exterior

În baza următoarelor tabele, selectaţi diametrele conductelor de racordare ale unităţilor de exterior. În cazul unei conducte accesorii principale mai mari decât conducta principală, alegeţi-o pe cea mare pentru selectare.

Tabel.8-3 Dimensiunea îmbinărilor de conducte pentru unitatea de exterior 410A

Model	Dimensiunea conductei principale (mm)		
	Latură gaz	Latură lichid	Prima conduct de deviaţie
36K	Φ15.9/0.626in	Φ9.5/0.375in	CE-FQZHN-01C
48K	Φ15.9/0.626in	Φ9.5/0.375in	CE-FQZHN-01C
60K	Φ15.9/0.626in	Φ9.5/0.375in	CE-FQZHN-01C

8.4 Aspirare cu pompă cu vid

1) Folosiţi pompa cu vid cu un nivel de aspirare sub -0.1MPa şi capacitate de eliminare a aerului peste 40L/min.

2) unitatea de exterior nu este necesară pentru aspirare, nu deschideţi supapele de închidere ale conductei de gaz şi lichide a unităţii de exterior.

3) Asiguraţi-vă că pompa de vid poate înregistra -0.1MPa sau mai puţin după 2 ore sau mai mult de operare. Dacă pompa care a funcţionat 3 ore sau mai mult nu poate atinge -0.1MPa sau mai puţin, verificaţi mixul de apă sau scurgerea de gaz din pompă.

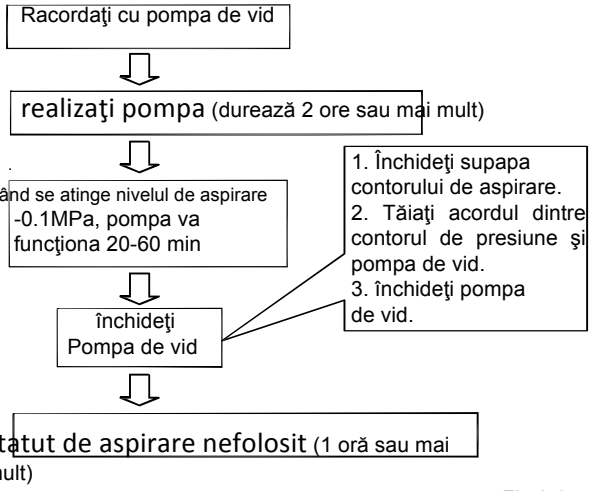


Fig.8-2

ATENȚIE

- Nu amestecaţi diferiţi agenţi refrigorifici şi nu abuzaţi de instrumente sau măsurători care intră direct în contact cu agenţii refrigorifici.
- nu folosiţi gaz de agent refrigorific pentru aspirarea aerului.
- dacă nivelul de aspirare nu poate atinge -0.1MPa, verificaţi dacă există scurgere şi confirmaţi locul scurgerii. În cazul în care nu există scurgere, folosiţi din nou pompa de vid 1 sau 2 ore.

8.5 Cantitatea de agent frigorific ce se adaugă

Calculaţi agentul frigorific adăugat conform diametrului şi lungimii conductei laterale de lichid a racordării aparatului de exterior/interior. Agentul refrigorific este R410A.

Tabelul 8-4

Dimensiunea conductei pe	Agent refrigorific ce se va adăuga per metru
Φ6.35/0.25in	0.015kg/0.033lb
Φ9.52/0.375in	0.030kg/0.066lb

1) Conducta de deviaţie se va instala orizontal, unghiul său de eroare nu trebuie să depăşească 10°. În caz contrar, se va produce disfuncţie.

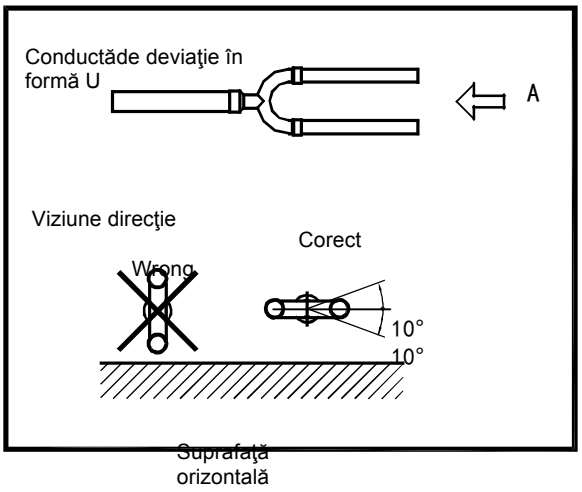


Fig.8-3

9. REFRIGERANT PIPE CONNECTION

9.1 Eliminare aer

1 Lărgire

- Tăiaţi un tub cu un tăietor de tuburi. *(Consultaţi Fig.9-1)*

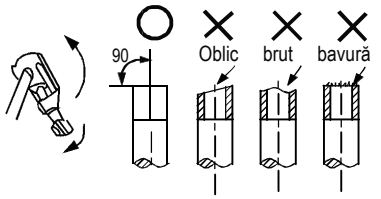


Fig.9-1

- Introduceţi un şurub de lărgire în conductă şi lărgiţi conducta.

2 Fixaţi şurubul

- puneţi conductele de racordare în poziţia corespunzătoare, strângeţi şuruburile cu mâna apoi fixaţi simultan cu două chei. *(Consultaţi Fig.9-2)*

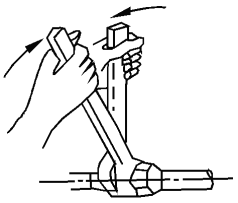
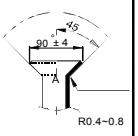


Fig.9-2

ATENȚIE

O torsiune prea mare va afecta capătul lărgit iar prea mică va provocca scurgerea. Stabiliţi torsiunea conform tabelului 9-1.

Tabel 9-1

Calibru conductă	Torsiune de strângere	Dimensiune lărgire A min (mm)	max	Formă lărgită
Ø6.35/0.25in	14.2～17.2 N.m (144～176 kgf.cm)	8.3/0.327in	8.7/0.343in	
Ø9.52/0.375in	32.7～39.9 N.m (333～407 kgf.cm)	12.0/0.472in	12.4/0.488in	
Ø12.7/0.5in	49.5～60.3 N.m (504～616 kgf.cm)	15.4/0.606in	15.80.622in	
Ø15.9/0.626in	61.8～75.4 N.m (630～770 kgf.cm)	18.6/0.732in	19.0/0.748in	
Ø19.1/0.725in	97.2～118.6 N.m (990～1210 kgf.cm)	22.9/0.902in	23.3/0.917in	

3 Eliminaţi aerul cu o pompă de vid *(Consultaţi Fig.9-3)*

(Consultaţi manualul pentru modalitatea de utilizare a supapei de colectare)

- slăbiţi şi scoateţi şuruburile supapelor service A şi B, şi racordaţi furtunul de încărcare al supapei de colectare la terminatorul de întreţinere al supapei service A. (asiguraţi-vă că supapele service A şi B sunt închise)
- conectaţi îmbinarea furtunului e încărcare la pompa de vid.
- deschideţi complet levierul inferior al supapei de colectare.
- porniţi pompa de vid. La începutul pompării, slăbiţi şurubul supapei service B puţin pentru a verifica dacă intră aer (sunetul pompei se schimbă iar indicatorul contorului componentului are o valoare sub zero). Apoi fixaţi şurubul.
- când s-a încheiat pomparea, închideţi levierul inferior al supapei de colectare complet şi opriţi pompa de vid. După ce aţi pompat peste 15 minute, vă rugăm să confirmaţi că indicatorul multimetrului indică -1.0X10^{-5}Pa (-76cmHg)
- slăbiţi şi scoateţi şuruburile supapelor service A şi B pentru a deschide supapa service A şi B complet, apoi strângeţi şuruburile.
- demontaţi furtunul de încărcare al supapei service A, şi strângeţi şurubul.

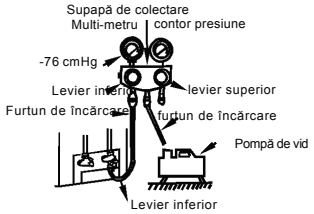


Fig.9-3

ATENȚIE

Ambele supape service trebuie deschise înainte de testare. Fiecare aer condiţionat prezintă două supape service de diferite dimensiuni.(Consultaţi *Fig.8-4*)

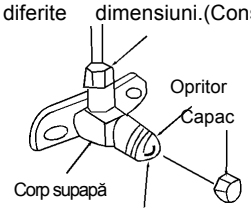


Fig.9-4

9.2 Verificaţi scurgerea

Verificaţi toate îmbinările cu detectorul de scurgere sau apă cu săpun.
(*Consultaţi Fig.9-5* ca ilustraţie de referinţă) în grafic
A.....Supapă oprire inferioară
B..... Supapă oprire superioară
C,D..joncţiuni ale conductei de racordare la aparatul de interior.

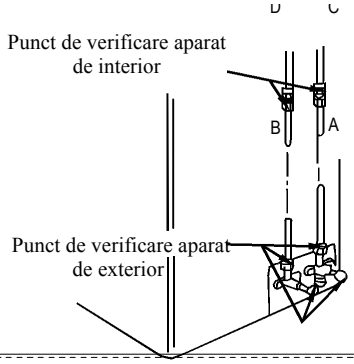
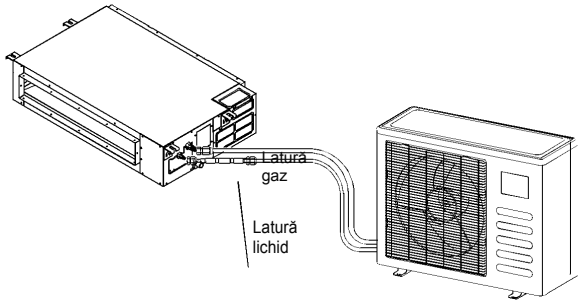


Fig.9-5

9.3 Izolare

- Asiguraţi-vă că izolaţi complet toate piesele expuse ale conductelor de lărgire.
  Izolarea incompletă poate provoca condens.

10. DIAGRAMĂ RACORDARE



Orificiu

Fig. 10-1

NOTĂ

Pentru eficienţă , montaţi orificiul cât de orizontal posibil; iar cauciucul anti-şoc va fi înfăşurat la exteriorul orificiului pentru evitarea zgomotului.

Marcaţi plăcuţa de date cu orificiul instalat.(pentru unele modele)

Vă rugăm să cumpăraţi accesorii strict conform condiţiilor din manual.

- consultaţi diagrama la instalare.

NOTĂ:orificiul se va instala orizontal.

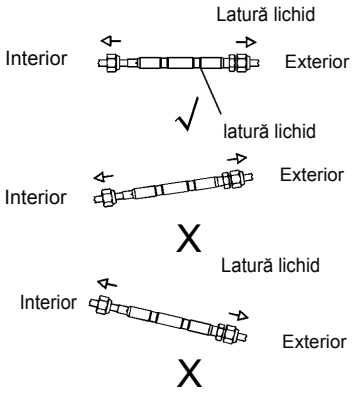


Fig. 10-2

11. RACORDARE CONDUCTĂ DE SCURGERE

instalaţi conducta de scurgere a aparatului de interior

- folosiţi un tub de polietilenă ca şi conductă de scurgere (dia.ext.29-31mm /1.14-1.22in, dia.int.25mm/0.984in). Se poate cumpăra după piaţa locală.
- când prelungiţi conducta de scurgere,strângeţi conectorul cu bandă etanşă pentru a preveni scurgerea.
- Înclinaţi conducta de scurgere în jos spre exterior (latură ieşire) la peste 1/ 50 pentru a evita fluxul înapoi. Şi evitaţi orice bombare.
- Nu trageţi violent de conducta de scurgere. Între timp se va fixa un punct de susţinere la fiecare 1~1.5m/3.28~4.92ft pentru a preveni deformarea pompei de scurgere. Sau strângeţi pompa de scurgere cu tubul de racordare pentru fixare

  Dacă orificiul de ieşire al conductei de scurgere este mai înalt decât îmbinara pompei corpului, pompa se va monta cât de vertical posibil. Iar distanţa de ridicare trebuie să fie mai mica de 550mm/21,65in, în caz contrar apa nu se poate ridica în totalitate şi apare supraflux (disponibil doar pentru aparatul cu pompă)

  Capătul conductei de scurgere va avea o înălţime mai mare de 50mm/1.969in faţă de sol si nu pătrunde în apă. Dacă evacuati Apa direct în canalizare, asiguraţi sigiliu apei în formă de U prin îndoirea tubului în sus pentru a preveni intrarea aerului mirositor în cas prin conducta de scurgere.

Instalarea tubului de scurgere pentru aparatul cu pompă.

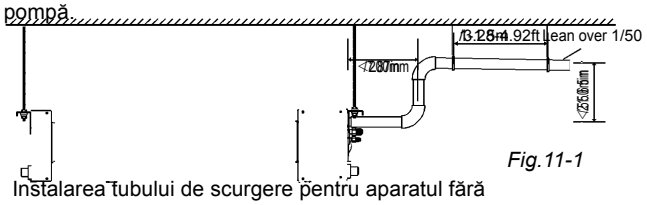


Fig.11-1

Instalarea tubului de scurgere pentru aparatul fără pompă.

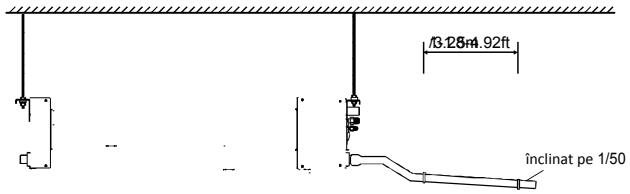


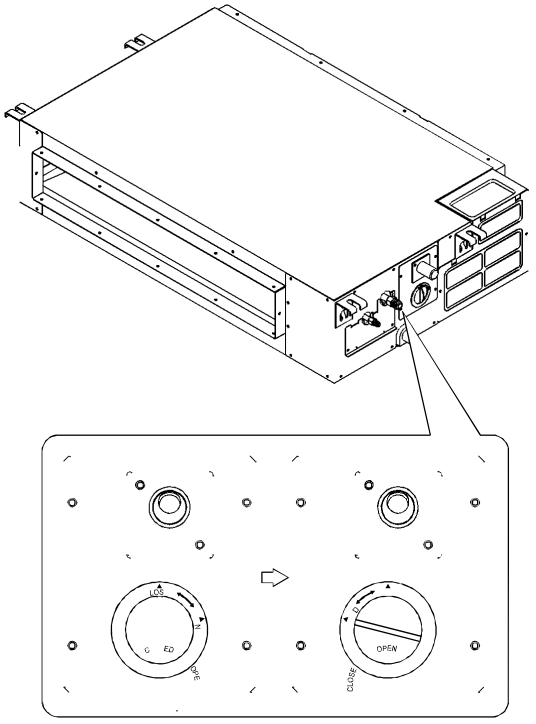
Fig.11-2

■ test scurgere

- **verificaţi să nu fie obstrucţionată pompa de scurgere.**
- **Carcasa nou construită trebuie supusă acestui test înainte de pavarea tavanului.**

■ **Aparatul cu pompă.**

1 scoateţi capacul pentru testare, şi puneţi aproximativ 2000ml apă într-un rezervor de apă.



capac testare

Fig.11-3

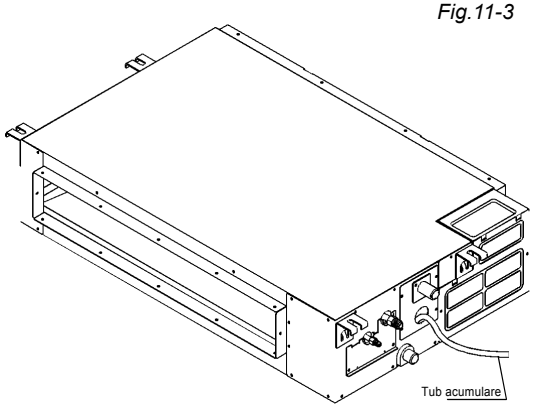


Fig.11-4

2 Folosiţi aerul condiţionat în modul "RĂCIRE". Se va auzi sunetul pompei de scurgere. Verificaţi dacă apa este scursă bine (este posibilă o întârziere de 1 min, în funcţie de lungimea pompei de scurgere), şi verificaţi dacă apa se scurge din joncţiuni.

3 opriţi aerul condiţionat şi recuperaţi capacul.

■ **Aparatul fără pompă.**

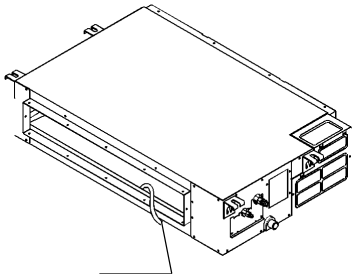


Fig.11-5

• Colectaţi 2000ml apă într-un rezervor de apă prin tubul de colectare,verificaţi să nu fie obstrucţionată conducta de scurgere.

■ instalaţi racordul de scurgere al unităţii de exterior **(pentru modelel cu pompă încălzire)**

fixaţi sigiliul în racordul de scurgere, apoi introduceţi racordul de scurgere în orificiul bazinului de bază de la exterior, rotiţi 90° pentru a asambla în siguranţă. Conectaţi racordul de scurgere la un furtun de scurgere prelungitor (achiziţionat local) pentru a evita scurgerea apei provenită din condensare din unitatea de exterior în timpul modului de încălzire.

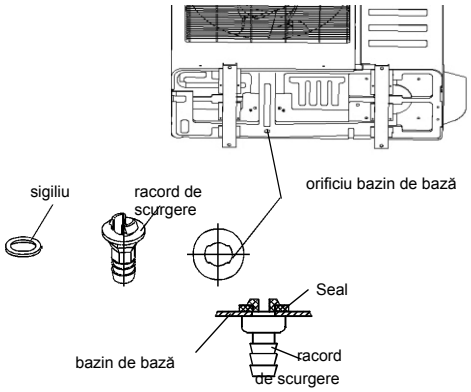


Fig.11-6

NOTĂ

Toate figurile din acest manual au doar scop informativ. Pot diferi uşor de aparatul de aer condiţionat pe care l-aţi cumpărat. Aparatul actual va prevala.

12. INSTALARE CONDUCTĂ AER PROASPĂT

Dimensiune :

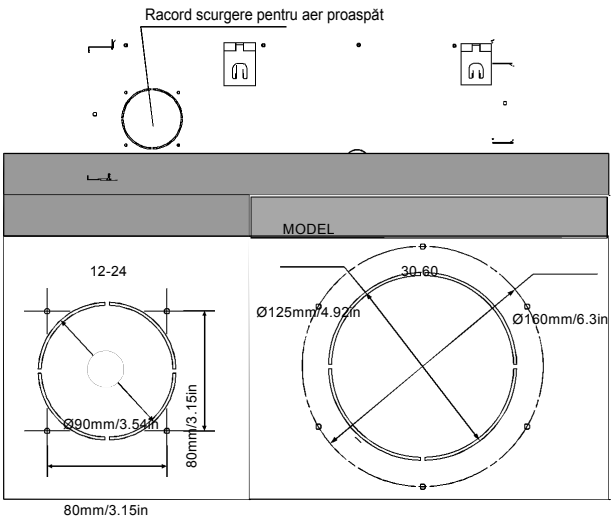


Fig.12-1

12.1 Întreţinere motor şi pompă scurgere

(se ia ventilarea anterioară ca exemplu)

Întreţinere motor:

1. Scoateţi panoul ventilatorului.
2. Scoateţi carcasa suflantei.
3. Scoateţi motorul.

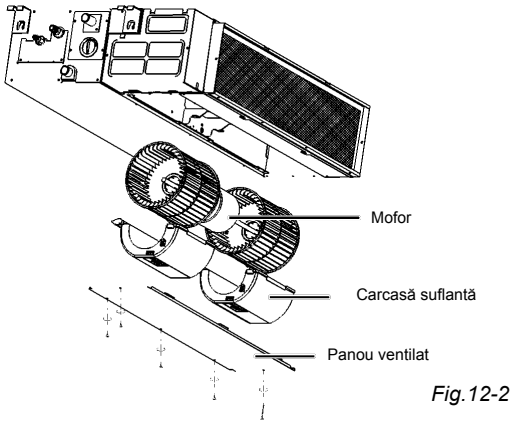


Fig.12-2

Întreţinere pompă:

1. desfaceţi patru şuruburi ale pompei de scurgere.
2. Deconectaţi pompa de la sursa de alimentare şi cablul comutatorului nivelului apei.
3. Scoateţi pompa.

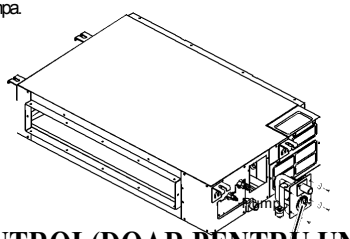


Fig.12-3

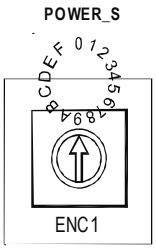
13. CONTROL(DOAR PENTRU UNITĂŢILE INVERSOR)

- **Capacitatea sistemului şi reţeaua de aer condiţionat se pot seta prin comutatoare de pe panoul de control principal de exterior.**
- **înainte de a seta, opriţi alimentarea. După setare, reporniţi aparatul.**
- **setarea nu este permisă când aparatul este pornit.**

13.1 Setare cod cai putere

Capacitatea aparatului de interior s-a setat în fabrică potrivit tabelului de mai jos.

Cod cai putere



Tabelul 13-1

ENC1	Cod întrerupător cu manetă	Capacitate(kw)
Notă: Capacitatea s-a setat în fabrcă nu se poate ajusta decât de personal calificat.	4	5.3
		5.6
	5	7.1
	7	9.0
	8	10.5
	9	14.0
		16.0

13.2 Set adresă reţea

Fiecare are condiţionat din reţea are o singură adresă din reţea pentru a se distinge. Codul adresă al aerului condiţionat din LAN este setat de codul comutatoarelor S1 & S2 din panoul de control principal al aparatului de interior, iar categoria setului este 0-63.

Tabel 13-2

▪▪	ON ~	00~15
▪▪	ON ~	1 ~31
▪▪	ON ~	32~47
▪▪	ON ~	48 63

14. CABLAJ

Aparatul se va instala conform regulamentelor internaţionale de cablare.
Aerul condiţionat va folosi o sursă de alimentare separată cu tensiune nominală.
Sursa de alimentare externă a aerului condiţionat trebuie împământată, care este legat de cablul de împământare al aparatului de interior şi unităţii de exterior.
Lucrarea de cablare se va face de persoane calificate conform diagramei de cablare.

Un întrerupător şi un dispozitiv de curent rezidual (RCD) cu peste 10mA se vor instala în circuitul de alimentare conform regulii naţionale.
Instalaţi cablul de alimentare şi cablul de semnal pentru a evita perturbarea încrucişată.
Nu porniţi sursa de alimentare până nu aţi confirmat cablajul corespunzător.
Cablul de alimentare este tip H07RN-F.

NOTĂ

Consultaţi Directiva EMC 2004/108/EC
Pentru a preveni licărirea la pornirea compresorului,
se vor aplica următoarele condiţii de instalare.

1 Conectarea la sursa de alimentare a aerului condiţionat se va face la sursa de distribuţie principală. Distribuţia trebuie să fie de impedanţă redusă, de regulă impedanţa solicitată normal atinge punctul de topire 32 A.

2 niciun alt echipament nu se conectează la această linie de alimentare.

3 pentru aprobarea detaliată a instalării consultaţi furnizorul de alimentare, dacă restricţiile se aplică unor produse precum maşini de spălat, aer condiţionat sau cuptoare electrice.

4 pentru detalii despre alimentarea aparatului de aer condiţionat consultaţi plăcuţa cu denumirea produsului.

5 pentru mai multe informaţii contactaţi comerciantul local.

14.1 Racordare cablu

- demontaţi capacul.(If there isn't a cover on the outdoor unit, desfaceţi şurubul din panoul de întreţinere, şi trageţi în direcţia săgeţii pentru a scoate panoul de protecţie.) *(Consultaţi Fig.14-1)*
- conectaţi cablurile la terminalele corespunzătoare.
- Reinstalaţi capacul sau panoul de protecţie.

14.2 Specificarea curentului(Consultaţi tabelul14-1~14-8)

14.3 Figură cablu *(Consultaţi Fig.14-2～Fig.14-5)*

1.unitate exterior împărţită

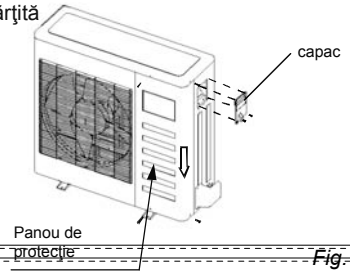


Fig.13-1

2.Unitate de exterior cu ventilator centrifug

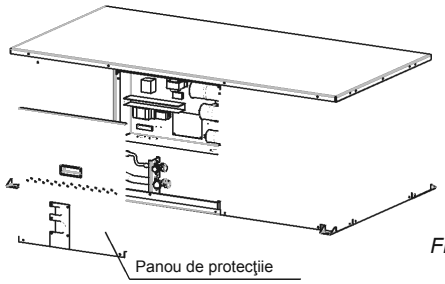


Fig.14-2

NOTĂ

Toate figurile din acest manual au doar scop informativ. Pot diferi uşor de aparatul de aer condiţionat pe care l-aţi cumpărat. Aparatul actual va prevala.

15. TESTARE

1 Testarea se va efectua după instalarea completă.

2 Confirmaţi următoarele puncte înainte de testare:

- Aparatul de interior şi unitatea de exterior sunt
- instalate corespunzător. Tubulatura şi cablajul sunt realizate corect.
- sistemul conductei de agent frigorific este
- verificat de scurgere. scurgerea este obstrucţionată.
- izolarea căldurii funcţionează bine.
- împământarea este corectă.
- Lungimea tubulaturii şi şi încărcătura suplimentară au fost înregistrate.
- Tensiunea de alimentare se potriveşte cu tensiunea nominală a aerului condiţionat.
- nu există niciun obstacol la ieşirea şi la intrarea aparatelor de interior şi exterior.
- supapele service de pe latura de gaz şi lichid sunt complet deschise.
- aerul condiţionat este încălzit prin pornirea alimentării.

3 Testare

■ Setaţi aerul condiţionat în modul răcire folosind telecomanda, şi verificaţi următoarele puncte. În caz de disfuncţie, reparaţi conform capitolului "Depanare" din "Manualul utilizatorului".

- 1) Aparat de interior
  a. Dacă butoanele telecomenzii funcţionează bine.
  b. dacă orificiul fluxuluide aer se mişcă normal.
  c. dacă temperatura camerei este ajustată corespunzător. d. dacă indicatorul se aprinde normal.
  e. dacă indicatorul temporar al aparatului funcţionează bine. f. dacă scurgerea este normală.
  g. dacă vibraţia este anormală sau există zgomot în timpul operării.
  h. dacă aerul condiţionat funcţionează bine în modul încălzire (model pompă încălzire).
- 2) Aparat de exterior
  a. dacă există vibraţie anormală sau zgomot în timpul funcţionării.
  b. dacă aerul eliminat, zgomotul sau condensarea afectează vecinii.
  c. dacă există scurgere de agent frigorific în timpul operării.

ATENȚIE

3 minute întârziere este normal când se reporneşte aparatul pentru protecţia compresorului.

Specificarea curentului (sursă alimentare interior)

■ Tabelul **14-1**

MODEL		18	24	30~36	42~48	60
CURENT	FAZĂ	1 faza	1 faza	1 faza	1 faza	1 faza
	FRECVENȚĂ ȘI VOLT	208-240 V	208-240V	208-240V	208-240V	208-240V
CIRCUIT ÎNTRERUPĂTOR/SIGURANȚĂ (A)		20/16	40/25	50/30	60/45	60/50

■ Tabel **14-2**

MODEL		30~36	42~60	30~36	42~60
CURENT	FAZĂ	3 faze	3 faze	3 faze	3 faze
	FRECVENȚĂ ȘI VOLT	380-420 V	380-420 V	208-240V	208-240V
CIRCUIT ÎNTRERUPĂTOR/SIGURANȚĂ (A)		25/20	25/20	40/25	45/35

Specificarea curentului (sursă alimentare exterior)

■ Tabel **14-3**

MODEL		12~18	24	30~36	42~48	60
CURENT	FAZĂ	1 faza	1 faza	1 faza	1 faza	1 fază
	FRECVENȚĂ ȘI VOLT	208-240V	208-240V	208-240V	208-240V	208-240V
CIRCUIT ÎNTRERUPĂTOR/SIGURANȚĂ (A)		20/16	40/30	60/40	70/55	70/60

■ Tabel **14-4**

MODEL		30~36	42~60	30~36	42~60
CURENT	FAZĂ	3 faze	3 faze	3 faze	3 faze
	FRECVENȚĂ ȘI VOLT	380-420 V	380-420 V	208-240V	208-240V
CIRCUIT ÎNTRERUPĂTOR/SIGURANȚĂ (A)		25/20	25/20	40/25	45/35

Specificarea curentului (sursă alimentare independentă)

■ Tabel **14-5**

MODEL		18	24	30~36	42~48	60
CURENT (interior)	FAZĂ	1 fază	1 fază	1 fază	1 fază	1 fază
	FRECVENȚĂ ȘI VOLT	208-240V	208-240V	208-240V	208-240V	208-240V
ÎNTRERUPĂTOR/SIGURANȚĂ (A)		20/16	20/16	20/16	20/16	20/16
CURENT (exterior)	FAZĂ	1 fază	1 fază	1 fază	1 fază	1 fază
	FRECVENȚĂ ȘI VOLT	208-240V	208-240V	208-240V	208-240V	208-240V
ÎNTRERUPĂTOR/SIGURANȚĂ (A)		20/16	40/25	50/30	60/45	60/50

■ tabel **14-6**

MODEL		30~36	42~60	30~36	42~60
CURENT (interior)	FAZĂ	1 fază	1 fază	1 fază	1 fază
	FRECVENȚĂ ȘI VOLT	208-240V	208-240V	208-240V	208-240V
ÎNTRERUPĂTOR/SIGURANȚĂ (A)		20/16	20/16	20/16	20/16
CURENT (exterior)	FAZĂ	3 faze	3 faze	3 faze	3 faze
	FRECVENȚĂ ȘI VOLT	380-420V	380-420V	208-240V	208-240V
ÎNTRERUPĂTOR/SIGURANȚĂ (A)		25/20	25/20	40/25	45/35

Specificarea curentului pentru aer condiţionat tip inversor (sursă alimentare independentă)

■ Tabel **14-7**

MODEL		18	24	30~36	42~48	60
CURENT (interior)	FAZĂ	1 fază	1 fază	1 fază	1 fază	1 fază
	FRECVENȚĂ ȘI VOLT	220-240V	220-240V	220-240V	220-240V	220-240V
ÎNTRERUPĂTOR/SIGURANȚĂ (A)		15/10	15/10	15/10	15/10	15/10
CURENT (exterior)	FAZĂ	1 fază	1 fază	1 fază	1 fază	1 fază
	FRECVENȚĂ ȘI VOLT	208-240V	208-240V	208-240V	208-240V	208-240V
ÎNTRERUPĂTOR/SIGURANȚĂ (A)		30/20	30/20	40/30	40/35	50/40

■ Tabel **14-8**

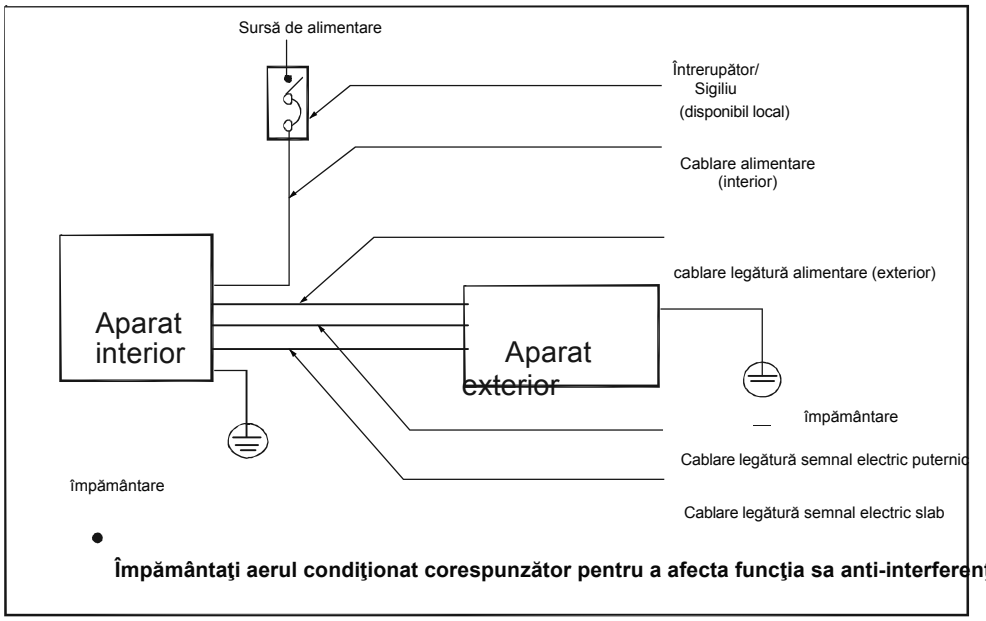
MODEL		30~36	42~60	30~36	42~60
CURENT (interior)	FAZĂ	1 fază	1 fază	1 fază	1 fază
	FRECVENȚĂ ȘI VOLT	220-240V	220-240V	220-240V	220-240V
ÎNTRERUPĂTOR/SIGURANȚĂ (A)		15/10	15/10	15/10	15/10
CURENT (exterior)	FAZĂ	3 fază	3 fază	3 fază	3 fază
	FRECVENȚĂ ȘI VOLT	380-420V	380-420V	208-240V	208-240V
ÎNTRERUPĂTOR/SIGURANȚĂ (A)		30/20	30/25	50/40	50/40

ATENȚIE

Sursa de alimentare care este inclusă în sursa de alimentare mai sus menţionată se poate aplica tabelului.
Înainte de accesul la terminale, toate circuitele de alimentare trebuie deconectate.

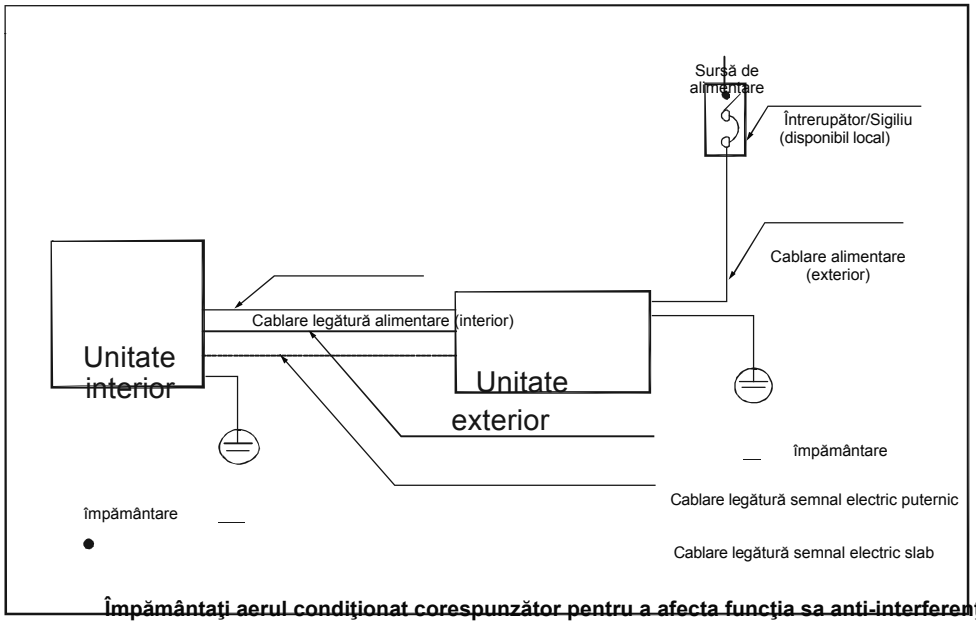
■ Figură cablare

■ **Fig.14-3**



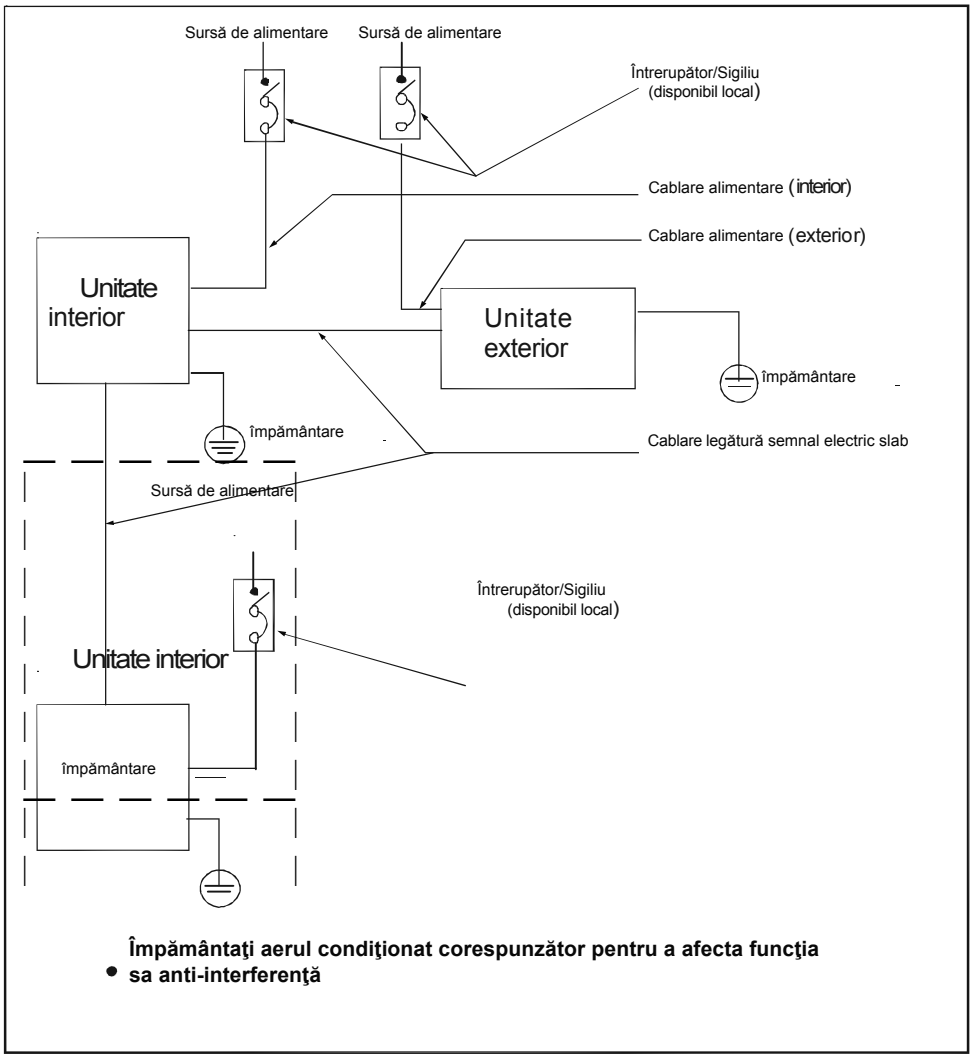
● **Împământaţi aerul condiţionat corespunzător pentru a afecta funcţia sa anti-interferenţă**

■ **Fig.14-4**



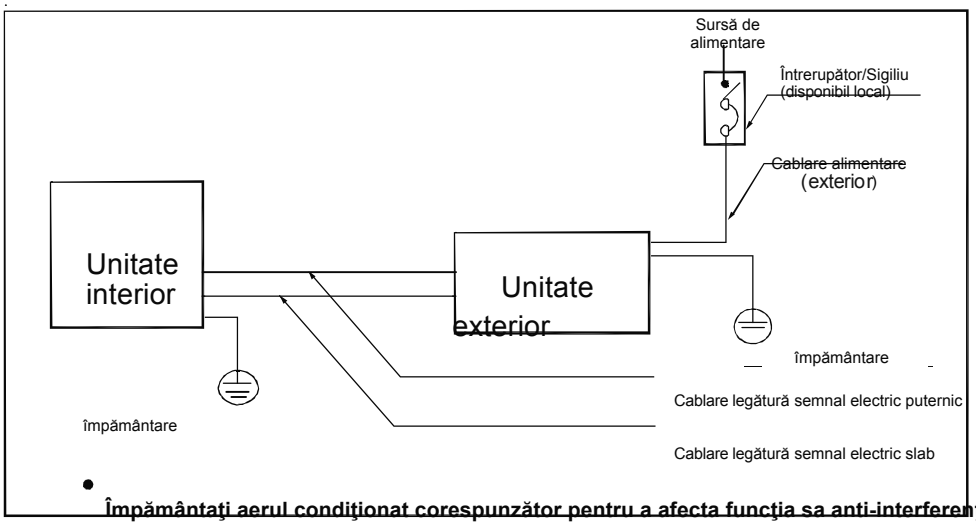
● **Împământaţi aerul condiţionat corespunzător pentru a afecta funcţia sa anti-interferenţă**

■ **Fig.14-5**



- **Împământaţi aerul condiţionat corespunzător pentru a afecta funcţia sa anti-interferenţă**

■ **Fig.14-6**



- **Împământaţi aerul condiţionat corespunzător pentru a afecta funcţia sa anti-interferenţă**

ATENȚIE

Un dispozitiv de deconectare cu o separare de contact orificiu de aer la toţi conductorii activi va fi inclus în cablajul fixat conform regulamentului de cablaj naţional.

Când se efectuează cablarea, alegeţi graficul corespunzător, pentru a evita un risc de daună. Semnele blocului terminal de la interior din una din următoarele figuri se pot înlocui cu L N L1 N1.

Modelul şi specificaţiile fac obiectul modificării fără notificare prealabilă pentru îmbunătăţirea produsului. Consultaţi agenţia de vânzări sau producătorul pentru detalii.

AIR CONDITIONING SYSTEMS
DUCT TYPE

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