

- **INSTALLATION MANUAL**
- **ΕΓΧΕΙΡΙΔΙΟ ΕΓΚΑΤΑΣΤΑΣΗΣ**
- **MANUAL DE INSTALARE**

**TS2MVI32-09 / TS2MVO32-09**  
**TS2MVI32-12 / TS2MVO32-12**



Before using your air conditioner, please read  
this manual carefully and keep it for future reference.

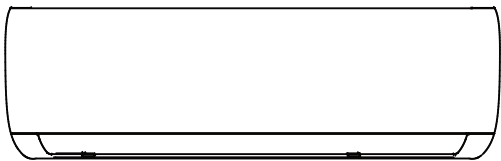
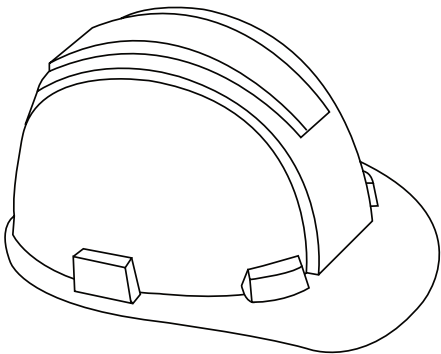
## **INVERTER SPLIT-TYPE ROOM AIR CONDITIONER**

**ENGLISH | ΕΛΛΗΝΙΚΑ | ROMANA**

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## Installation Manual

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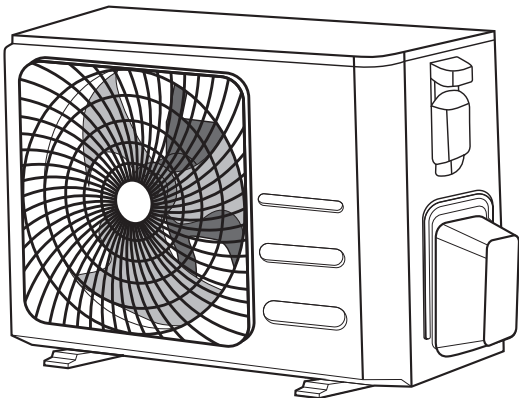


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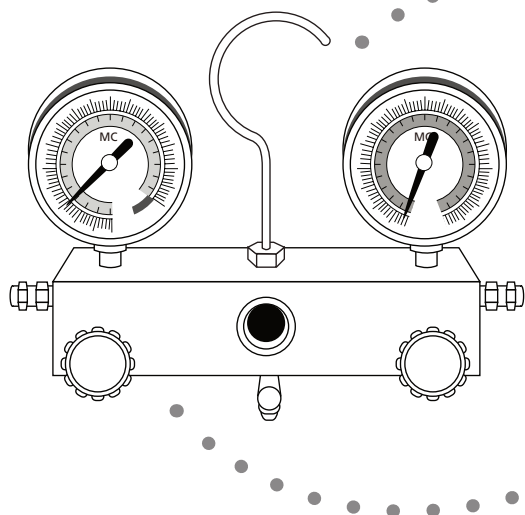
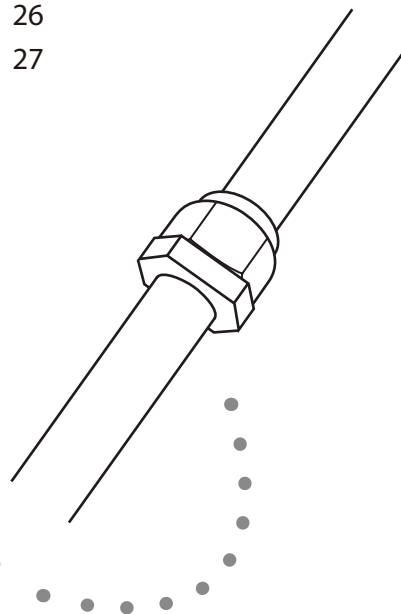


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**Caution: Risk of fire**  
(for R32/R290 refrigerant only)



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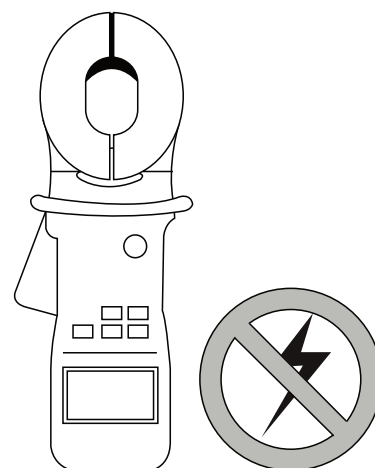
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# Safety Precautions

## Read Safety Precautions Before Installation

Incorrect installation due to ignoring instructions can cause serious damage or injury.

The seriousness of potential damage or injuries is classified as either a **WARNING** or **CAUTION**.



**WARNING**

This symbol indicates that ignoring instructions may cause death or serious injury.



**CAUTION**

This symbol indicates that ignoring instructions may cause moderate injury to your person, or damage to your unit or other property.



This symbol indicates that you must never perform the action indicated.



### **WARNING**

- ⊘ **Do not** modify the length of the power supply cord or use an extension cord to power the unit. **Do not** share the electrical outlet with other appliances. Improper or insufficient power supply can cause fire or electrical shock.
- ⊘ When connecting refrigerant piping, **do not** let substances or gases other than the specified refrigerant enter the unit. The presence of other gases or substances will lower the unit's capacity, and can cause abnormally high pressure in the refrigeration cycle. This can cause explosion and injury.
- ⊘ **Do not** allow children to play with the air conditioner. Children must be supervised around the unit at all times.
- 1. Installation must be performed by an authorized dealer or specialist. Defective installation can cause water leakage, electrical shock, or fire.
- 2. Installation must be performed according to the installation instructions. Improper installation can cause water leakage, electrical shock, or fire. (In North America, installation must be performed in accordance with the requirement of NEC and CEC by authorized personnel only.)
- 3. Contact an authorized service technician for repair or maintenance of this unit.
- 4. Only use the included accessories, parts, and specified parts for installation. Using non-standard parts can cause water leakage, electrical shock, fire, and can cause the unit to fail.
- 5. Install the unit in a firm location that can support the unit's weight. If the chosen location cannot support the unit's weight, or the installation is not done properly, the unit may drop and cause serious injury and damage.
- 6. Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- 7. The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater)
- 8. Do not pierce or burn.
- 9. Appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.
- 10. Be aware that refrigerants may not contain an odour.

**NOTE:** Clause 7 to 10 are required for the units adopt R32/R290 Refrigerant.





## WARNING

11. For all electrical work, follow all local and national wiring standards, regulations, and the Installation Manual. You must use an independent circuit and single outlet to supply power. Do not connect other appliances to the same outlet. Insufficient electrical capacity or defects in electrical work can cause electrical shock or fire.
12. For all electrical work, use the specified cables. Connect cables tightly, and clamp them securely to prevent external forces from damaging the terminal. Improper electrical connections can overheat and cause fire, and may also cause shock.
13. All wiring must be properly arranged to ensure that the control board cover can close properly. If the control board cover is not closed properly, it can lead to corrosion and cause the connection points on the terminal to heat up, catch fire, or cause electrical shock.
14. In certain functional environments, such as kitchens, server rooms, etc., the use of specially designed air-conditioning units is highly recommended.
15. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
16. This appliance can be used by children aged from 8 years and above and persons with reduced Physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.



## CAUTION

- ⊗ For units that have an auxiliary electric heater, **do not** install the unit within 1 meter (3 feet) of any combustible materials.
  - ⊗ **Do not** install the unit in a location that may be exposed to combustible gas leaks. If combustible gas accumulates around the unit, it may cause fire.
  - ⊗ **Do not** operate your air conditioner in a wet room such as a bathroom or laundry room. Too much exposure to water can cause electrical components to short circuit.
1. The product must be properly grounded at the time of installation, or electrical shock may occur.
  2. Install drainage piping according to the instructions in this manual. Improper drainage may cause water damage to your home and property.
  3. The appliance shall be stored so as to prevent mechanical damage from occurring.
  4. Any person who is involve with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorizes their competence to handle refrigerants safely in accordance with an industry recognized assessment specification.

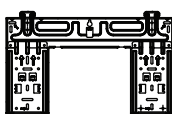
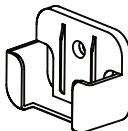
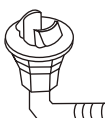
## Note about Fluorinated Gasses

1. This air-conditioning unit contains fluorinated gasses. For specific information on the type of gas and the amount, please refer to the relevant label on the unit itself. Compliance with national gas regulations shall be observed.
2. Installation, service, maintenance and repair of this unit must be performed by a certified technician.
3. Product uninstallation and recycling must be performed by a certified technician.
4. If the system has a leak-detection system installed, it must be checked for leaks at least every 12 months. When the unit is checked for leaks, proper record-keeping of all checks is strongly recommended.

# Accessories

# 1

The air conditioning system comes with the following accessories. Use all of the installation parts and accessories to install the air conditioner. Improper installation may result in water leakage, electrical shock and fire, or cause the equipment to fail.

| Name                                                 | Shape                                                                               | Quantity                                 |                |
|------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------|----------------|
| Mounting plate                                       |    | 1                                        |                |
| Clip anchor                                          |    | 5                                        |                |
| Mounting plate fixing screw ST3.9 X 25               |   | 5                                        |                |
| Remote controller                                    |  | 1                                        |                |
| Fixing screw for remote controller holder ST2.9 x 10 |  | 2                                        | Optional Parts |
| Remote controller holder                             |  | 1                                        |                |
| Dry battery AAA.LR03                                 |  | 2                                        |                |
| Seal                                                 |  | 1<br>(for cooling & heating models only) |                |
| Drain joint                                          |  |                                          |                |

| Name                           | Shape                                                                                                                                                                                                                                                              | Quantity    |               |               |          |               |               |             |             |                                                                     |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------|---------------|----------|---------------|---------------|-------------|-------------|---------------------------------------------------------------------|
| Owner's manual                 |                                                                                                                                                                                   | 1           |               |               |          |               |               |             |             |                                                                     |
| Installation manual            |                                                                                                                                                                                   | 1           |               |               |          |               |               |             |             |                                                                     |
| Remote controller illustration |                                                                                                                                                                                   | 1           |               |               |          |               |               |             |             |                                                                     |
| Connecting pipe assembly       | <table><tr><td rowspan="2">Liquid side</td><td>Φ 6.35(1/4in)</td></tr><tr><td>Φ 9.52(3/8in)</td></tr><tr><td rowspan="4">Gas side</td><td>Φ 9.52(3/8in)</td></tr><tr><td>Φ 12.7(1/2in)</td></tr><tr><td>Φ 16(5/8in)</td></tr><tr><td>Φ 19(3/4in)</td></tr></table> | Liquid side | Φ 6.35(1/4in) | Φ 9.52(3/8in) | Gas side | Φ 9.52(3/8in) | Φ 12.7(1/2in) | Φ 16(5/8in) | Φ 19(3/4in) | Parts you must purchase.<br>Consult the dealer about the pipe size. |
| Liquid side                    | Φ 6.35(1/4in)                                                                                                                                                                                                                                                      |             |               |               |          |               |               |             |             |                                                                     |
|                                | Φ 9.52(3/8in)                                                                                                                                                                                                                                                      |             |               |               |          |               |               |             |             |                                                                     |
| Gas side                       | Φ 9.52(3/8in)                                                                                                                                                                                                                                                      |             |               |               |          |               |               |             |             |                                                                     |
|                                | Φ 12.7(1/2in)                                                                                                                                                                                                                                                      |             |               |               |          |               |               |             |             |                                                                     |
|                                | Φ 16(5/8in)                                                                                                                                                                                                                                                        |             |               |               |          |               |               |             |             |                                                                     |
|                                | Φ 19(3/4in)                                                                                                                                                                                                                                                        |             |               |               |          |               |               |             |             |                                                                     |



## WARNING

Appliance shall be stored in a well -ventilated area where the room size corresponds to the room area as specific for operation.

For R32 frigerant models:

Appliance shall be installed, operated and stored in a room with a floor area larger than  $4\text{m}^2$ .

Appliance shall not be installed in an unventilated space, if that space is smaller than  $4\text{m}^2$ .

For R290 refrigerant models, the minimum room size needed:

$\leq 9000\text{Btu/h}$  units:  $13\text{m}^2$

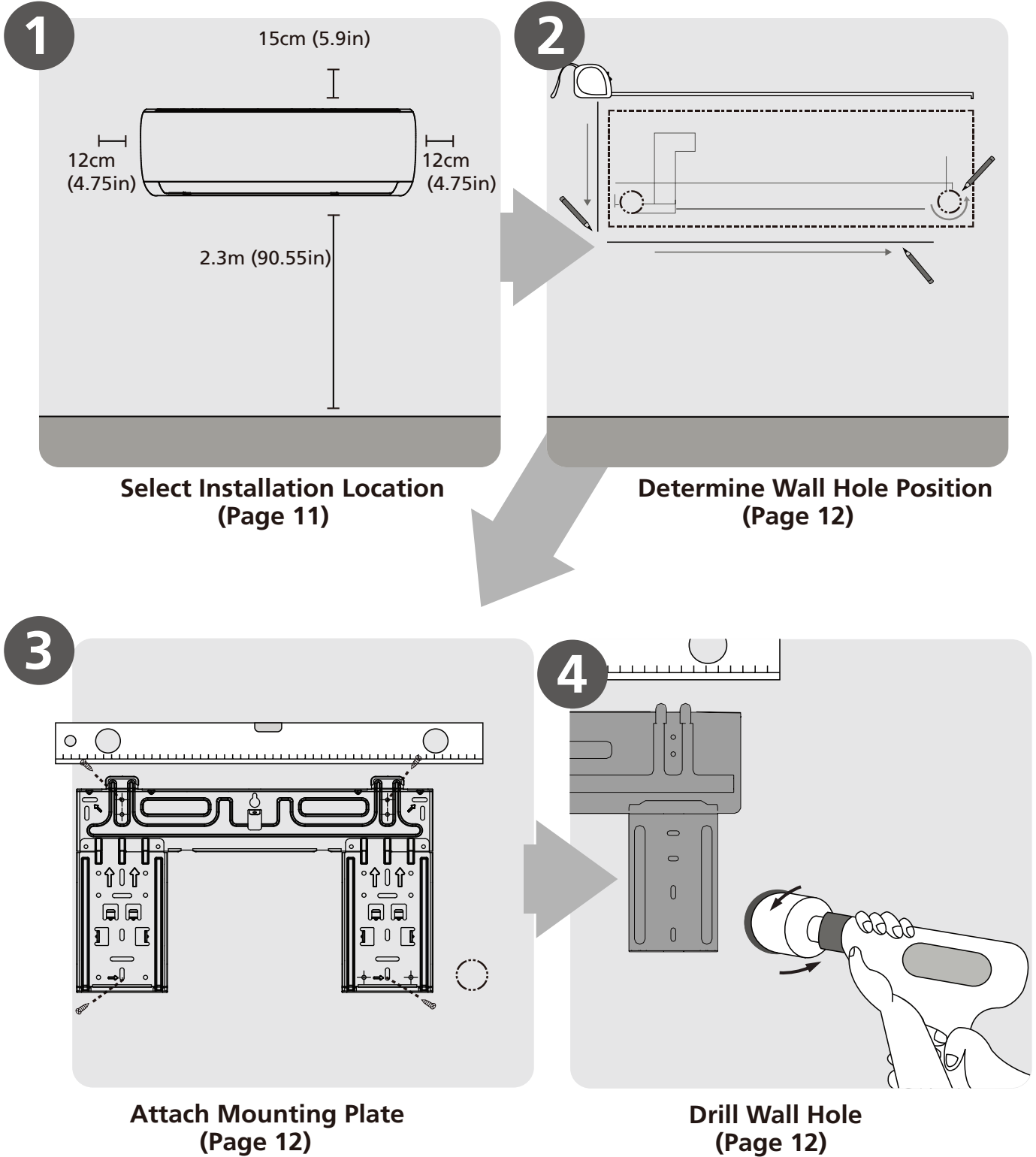
$> 9000\text{Btu/h}$  and  $\leq 12000\text{Btu/h}$  units:  $17\text{m}^2$

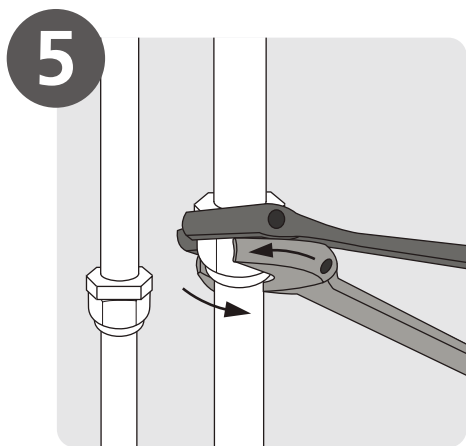
$> 12000\text{Btu/h}$  and  $\leq 18000\text{Btu/h}$  units:  $26\text{m}^2$

$> 18000\text{Btu/h}$  and  $\leq 24000\text{Btu/h}$  units:  $35\text{m}^2$

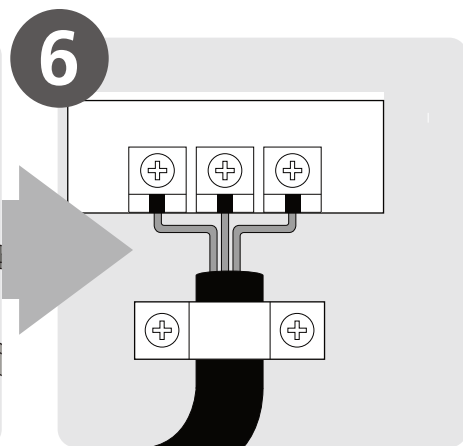
# Installation Summary - Indoor Unit

# 2

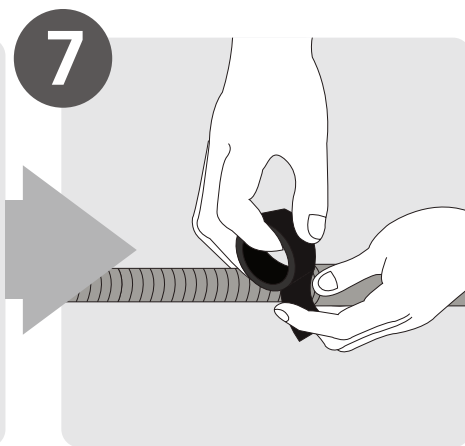




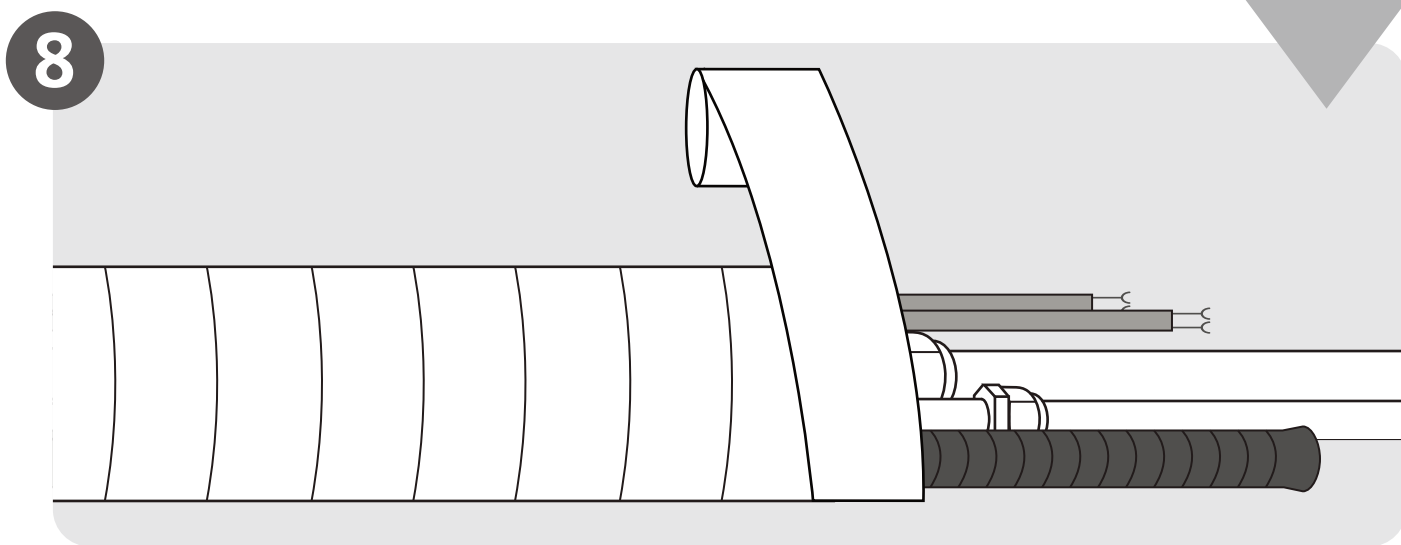
**5**  
**Connect Piping**  
(Page 25)



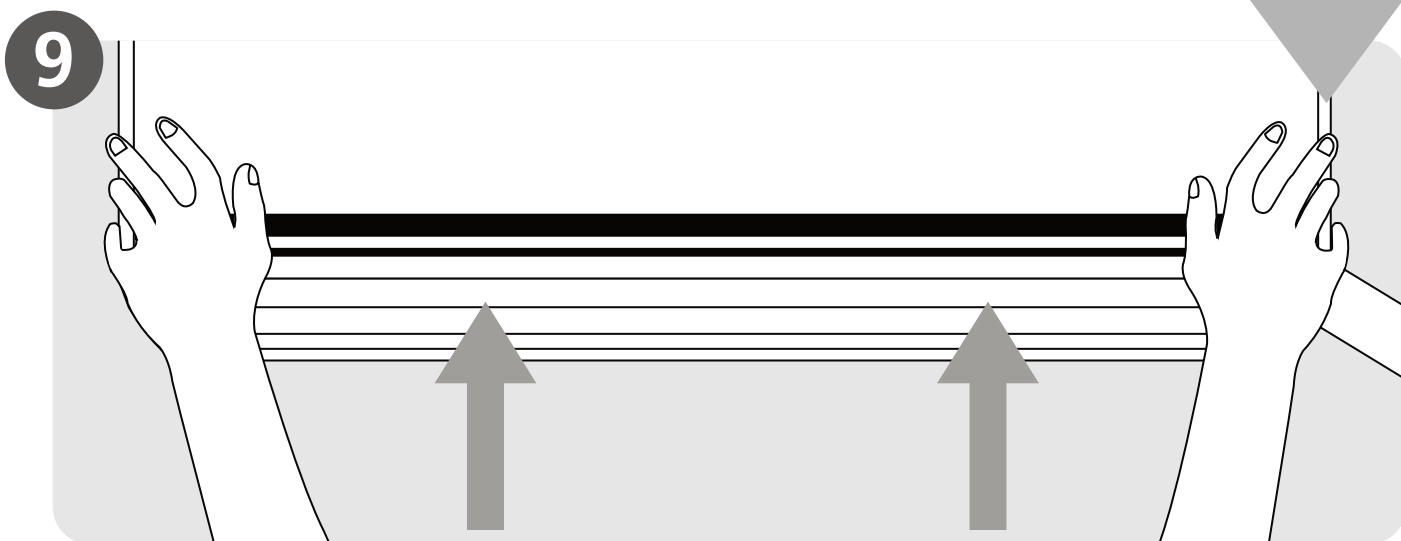
**6**  
**Connect Wiring**  
(Page 17)



**7**  
**Prepare Drain Hose**  
(Page 14)



**8**  
**Wrap Piping and Cable**  
(not applicable for some locations in the US )  
(Page 18)



**9**  
**Mount Indoor Unit**  
(Page 18)

# Unit Parts

## 3

**NOTE:** The installation must be performed in accordance with the requirement of local and national standards. The installation may be slightly different in different areas.

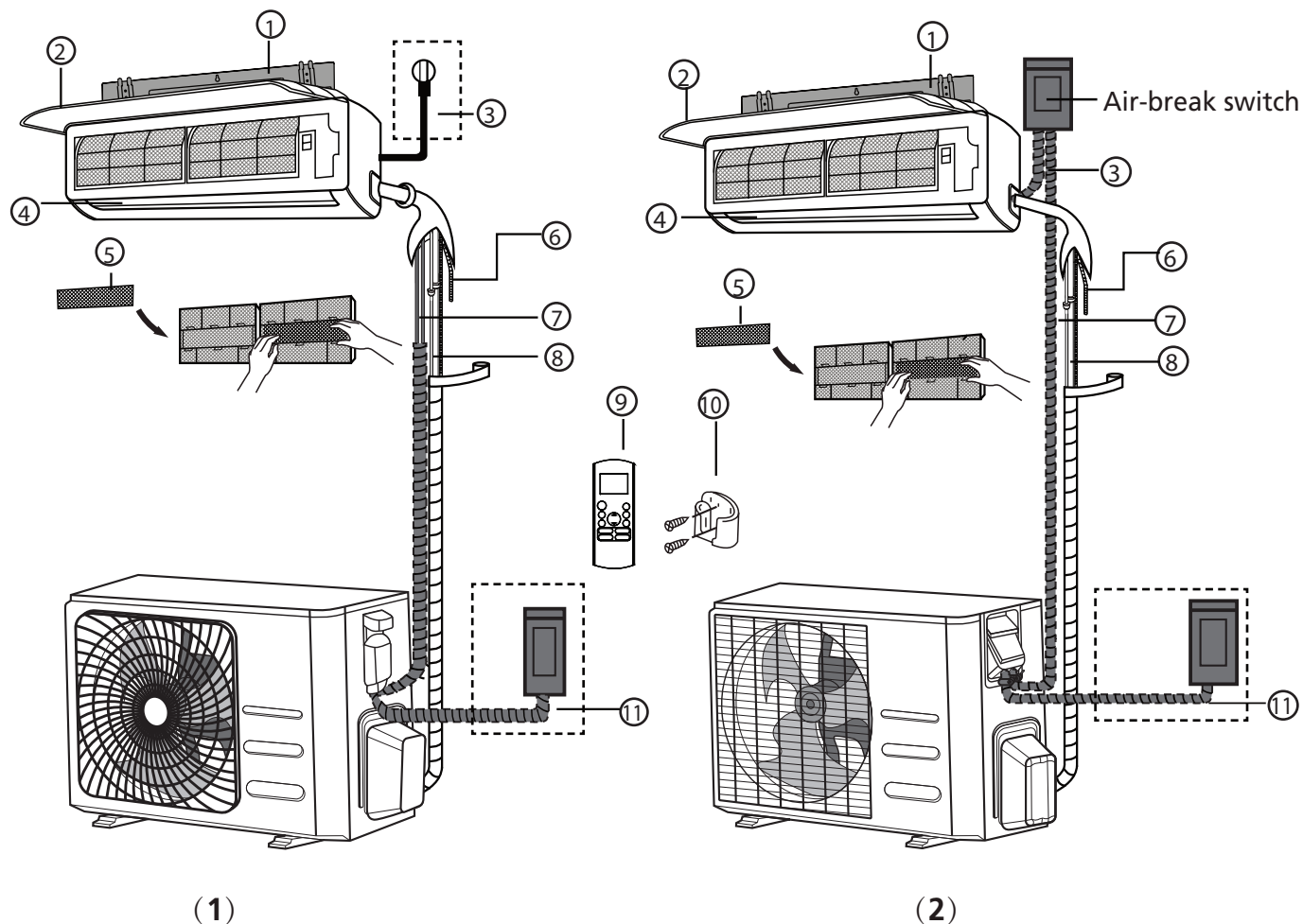


Fig. 3.1

- |                            |                                                            |                                         |
|----------------------------|------------------------------------------------------------|-----------------------------------------|
| ① Wall Mounting Plate      | ⑤ Functional Filter (On Front of Main Filter - Some Units) | ⑨ Remote Controller                     |
| ② Front Panel              | ⑥ Drainage Pipe                                            | ⑩ Remote controller Holder (Some Units) |
| ③ Power Cable (Some Units) | ⑦ Signal Cable                                             | ⑪ Outdoor Unit Power Cable (Some Units) |
| ④ Louver                   | ⑧ Refrigerant Piping                                       |                                         |

### NOTE ON ILLUSTRATIONS

Illustrations in this manual are for explanatory purposes. The actual shape of your indoor unit may be slightly different. The actual shape shall prevail.

# Indoor Unit Installation

## 4

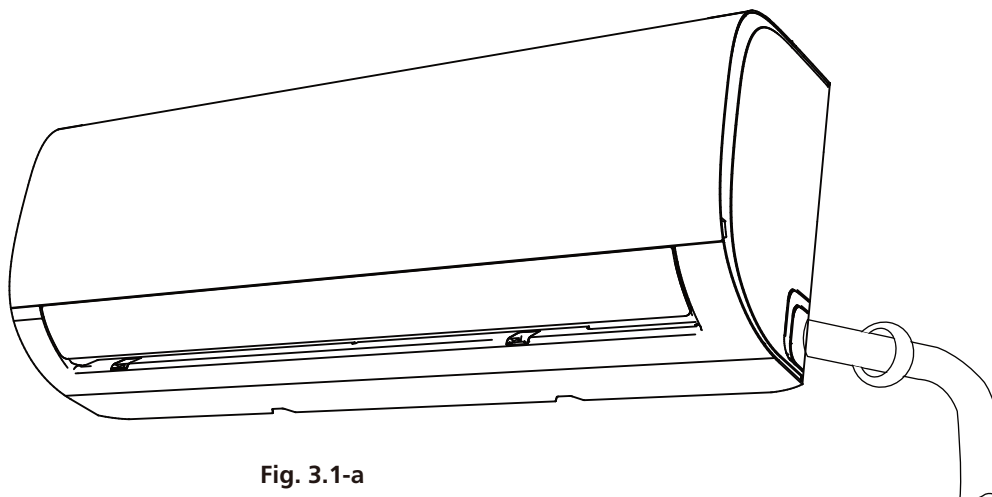


Fig. 3.1-a

### Installation Instructions – Indoor Unit

#### PRIOR TO INSTALLATION

Before installing the indoor unit, refer to the label on the product box to make sure that the model number of the indoor unit matches the model number of the outdoor unit.

#### Step 1: Select installation location

Before installing the indoor unit, you must choose an appropriate location. The following are standards that will help you choose an appropriate location for the unit.

#### Proper installation locations meet the following standards:

- ✓ Good air circulation
- ✓ Convenient drainage
- ✓ Noise from the unit will not disturb other people
- ✓ Firm and solid—the location will not vibrate
- ✓ Strong enough to support the weight of the unit
- ✓ A location at least one meter from all other electrical devices (e.g., TV, radio, computer)

#### **DO NOT** install unit in the following locations:

- ⊘ Near any source of heat, steam, or combustible gas
- ⊘ Near flammable items such as curtains or clothing
- ⊘ Near any obstacle that might block air circulation
- ⊘ Near the doorway
- ⊘ In a location subject to direct sunlight

#### **NOTE ABOUT WALL HOLE:**

If there is no fixed refrigerant piping:

While choosing a location, be aware that you should leave ample room for a wall hole (see **Drill wall hole for connective piping** step) for the signal cable and refrigerant piping that connect the indoor and outdoor units. The default position for all piping is the right side of the indoor unit (while facing the unit). However, the unit can accommodate piping to both the left and right.

Refer to the following diagram to ensure proper distance from walls and ceiling:

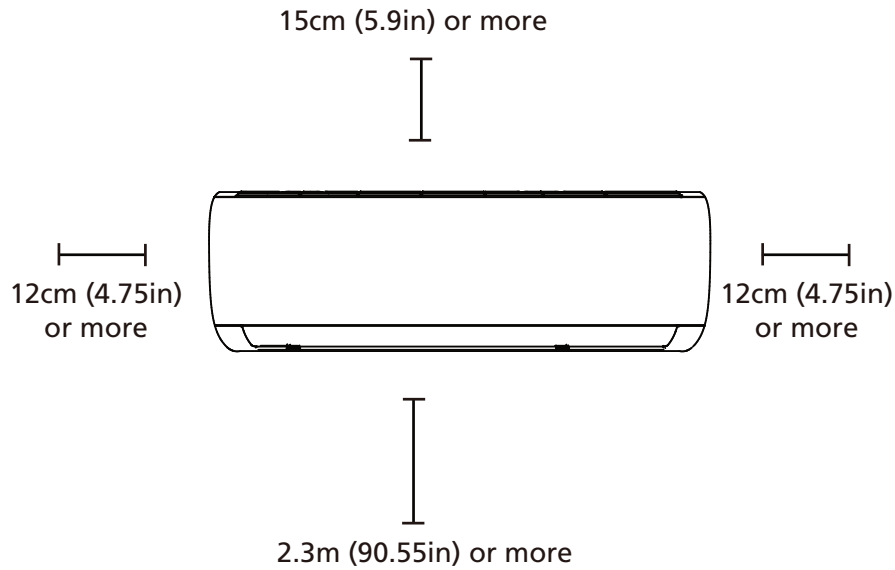


Fig. 3.1-b

### Step 2: Attach mounting plate to wall

The mounting plate is the device on which you will mount the indoor unit.

1. Remove the screw that attaches the mounting plate to the back of the indoor unit.
2. Place the mounting plate against the wall in a location that meets the standards in the **Select Installation Location** step. (See **Mounting Plate Dimensions** for detailed information on mounting plate sizes.)
3. Drill holes for mounting screws in places that:
  - have studs and can support the weight of the unit
  - correspond to screw holes in the mounting plate
4. Secure the mounting plate to the wall with the screws provided.
5. Make sure that mounting plate is flat against the wall.

#### NOTE FOR CONCRETE OR BRICK WALLS:

If the wall is made of brick, concrete, or similar material, drill 5mm-diameter (0.2in-diameter) holes in the wall and insert the sleeve anchors provided. Then secure the mounting plate to the wall by tightening the screws directly into the clip anchors.

### Step 3: Drill wall hole for connective piping

You must drill a hole in the wall for refrigerant piping, the drainage pipe, and the signal cable that will connect the indoor and outdoor units.

1. Determine the location of the wall hole based on the position of the mounting plate. Refer to **Mounting Plate Dimensions** on the next page to help you determine the optimal position. The wall hole should have a 65mm (2.5in) diameter at least, and at a slightly lower angle to facilitate drainage.
2. Using a 65mm (2.5in) or 90mm(3.54in) (depending on models) core drill, drill a hole in the wall. Make sure that the hole is drilled at a slight downward angle, so that the outdoor end of the hole is lower than the indoor end by about 5mm to 7mm (0.2-0.27in). This will ensure proper water drainage. (See **Fig. 3.2**)
3. Place the protective wall cuff in the hole. This protects the edges of the hole and will help seal it when you finish the installation process.

#### ! CAUTION

When drilling the wall hole, make sure to avoid wires, plumbing, and other sensitive components.



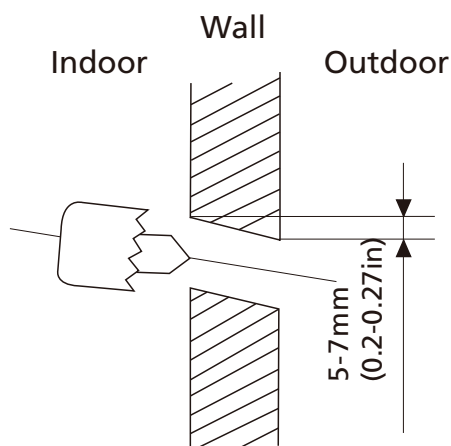


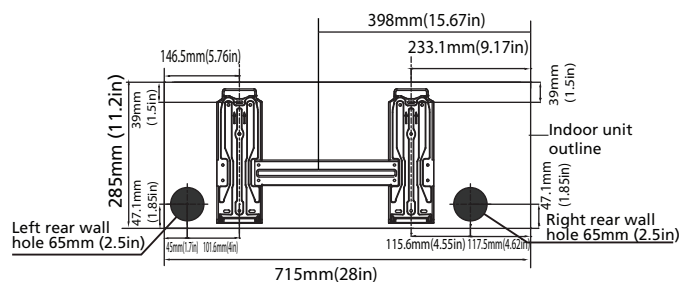
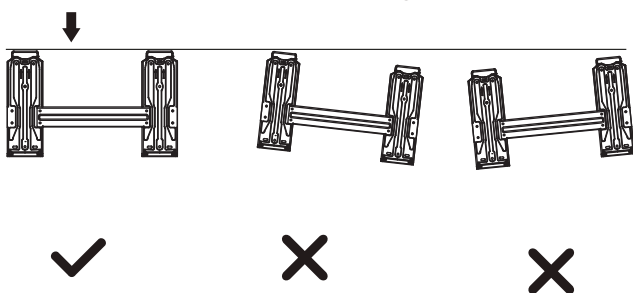
Fig. 3.2

## MOUNTING PLATE DIMENSIONS

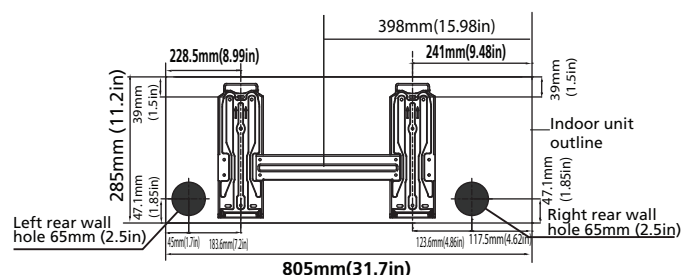
Different models have different mounting plates. In order to ensure that you have ample room to mount the indoor unit, the diagrams to the right show different types of mounting plates along with the following dimensions:

- Width of mounting plate
- Height of mounting plate
- Width of indoor unit relative to plate
- Height of indoor unit relative to plate
- Recommended position of wall hole (both to the left and right of mounting plate)
- Relative distances between screw holes

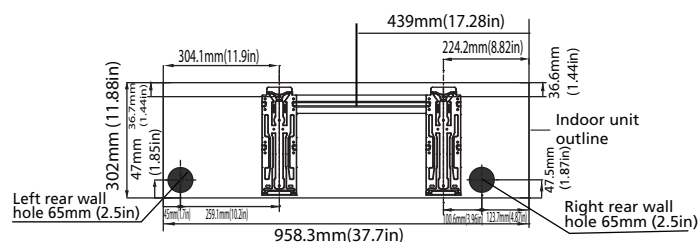
Correct orientation of Mounting Plate



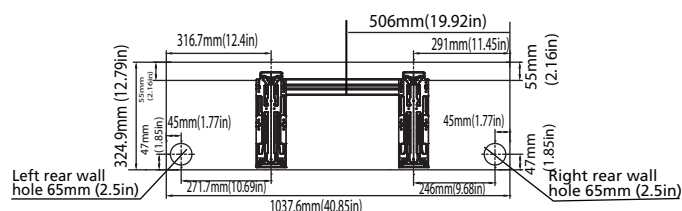
Model A



Model B



Model C



Model D

**NOTE:** When the gas side connective pipe is  $\Phi 16\text{mm}$ (5/8in) or more, the wall hole should be 90mm(3.54in).

#### Step 4: Prepare refrigerant piping

The refrigerant piping is inside an insulating sleeve attached to the back of the unit. You must prepare the piping before passing it through the hole in the wall. Refer to the **Refrigerant Piping Connection** section of this manual for detailed instructions on pipe flaring and flare torque requirements, technique, etc.

1. Based on the position of the wall hole relative to the mounting plate, choose the side from which the piping will exit the unit.
2. If the wall hole is behind the unit, keep the knock-out panel in place. If the wall hole is to the side of the indoor unit, remove the plastic knock-out panel from that side of the unit. (See **Fig. 3.3** ). This will create a slot through which your piping can exit the unit. Use needle nose pliers if the plastic panel is too difficult to remove by hand.

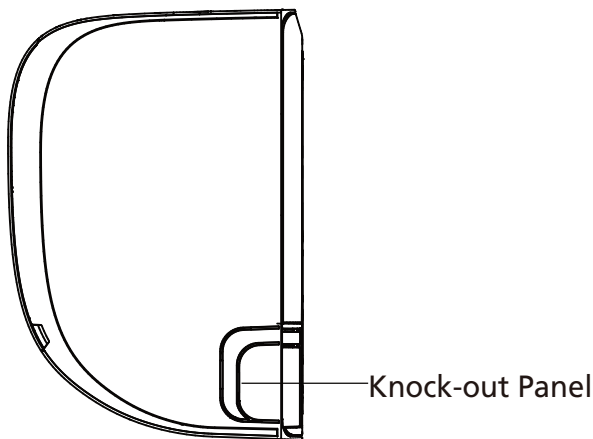


Fig. 3.3

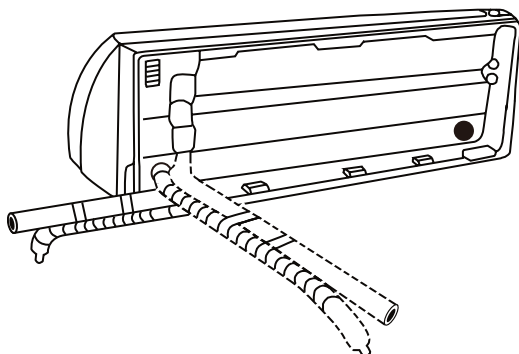


Fig. 3.4

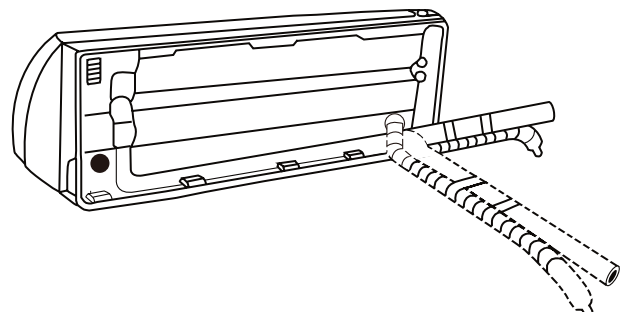
3. Use scissors to cut down the length of the insulating sleeve to reveal about 15cm (6in) of the refrigerant piping. This serves two purposes:
  - To facilitate the **Refrigerant Piping Connection** process
  - To facilitate Gas Leak Checks and enable you to check for dents
4. If existing connective piping is already embedded in the wall, proceed directly to the **Connect Drain Hose** step. If there is no embedded piping, connect the indoor unit's refrigerant piping to the connective piping that will join the indoor and outdoor units. Refer to the **Refrigerant Piping Connection** section of this manual for detailed instructions.
5. Based on the position of the wall hole relative to the mounting plate, determine the necessary angle of your piping.
6. Grip the refrigerant piping at the base of the bend.
7. Slowly, with even pressure, bend the piping towards the hole. **Do not** dent or damage the piping during the process.

#### NOTE ON PIPING ANGLE

Refrigerant piping can exit the indoor unit from four different angles:

- Left-hand side
- Left rear
- Right-hand side
- Right rear

Refer to **Fig. 3.4** for details.



#### ! CAUTION

Be extremely careful not to dent or damage the piping while bending them away from the unit. Any dents in the piping will affect the unit's performance.

## Step 5: Connect drain hose

By default, the drain hose is attached to the left-hand side of unit (when you're facing the back of the unit). However, it can also be attached to the right-hand side.

1. To ensure proper drainage, attach the drain hose on the same side that your refrigerant piping exits the unit.
2. Attach drain hose extension (purchased separately) to the end of drain hose.
3. Wrap the connection point firmly with Teflon tape to ensure a good seal and to prevent leaks.
4. For the portion of the drain hose that will remain indoors, wrap it with foam pipe insulation to prevent condensation.
5. Remove the air filter and pour a small amount of water into the drain pan to make sure that water flows from the unit smoothly.

### ! NOTE ON DRAIN HOSE PLACEMENT

Make sure to arrange the drain hose according to **Fig. 3.5**.

- ⊘ **DO NOT** kink the drain hose.
- ⊘ **DO NOT** create a water trap.
- ⊘ **DO NOT** put the end of drain hose in water or a container that will collect water.

### PLUG THE UNUSED DRAIN HOLE

To prevent unwanted leaks you must plug the unused drain hole with the rubber plug provided.

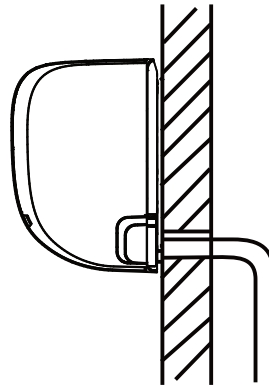
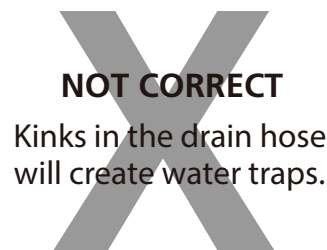


Fig. 3.5

### CORRECT

Make sure there are no kinks or dent in drain hose to ensure proper drainage.



Kinks in the drain hose will create water traps.

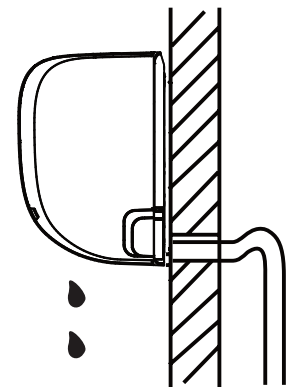


Fig. 3.6

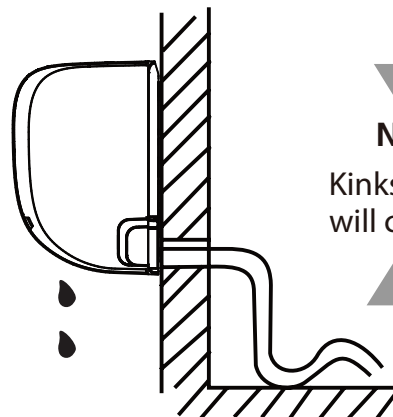


Fig. 3.7

**NOT CORRECT**  
Kinks in the drain hose will create water traps.

**NOT CORRECT**  
Do not place the end of the drain hose in water or in containers that collect water. This will prevent proper drainage.

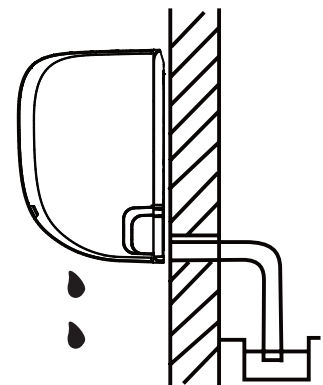


Fig. 3.8

## **BEFORE PERFORMING ELECTRICAL WORK, READ THESE REGULATIONS**

1. All wiring must comply with local and national electrical codes, and must be installed by a licensed electrician.
2. All electrical connections must be made according to the Electrical Connection Diagram located on the panels of the indoor and outdoor units.
3. If there is a serious safety issue with the power supply, stop work immediately. Explain your reasoning to the client, and refuse to install the unit until the safety issue is properly resolved.
4. Power voltage should be within 90-110% of rated voltage. Insufficient power supply can cause malfunction, electrical shock, or fire.
5. If connecting power to fixed wiring, install a surge protector and main power switch with a capacity of 1.5 times the maximum current of the unit.
6. If connecting power to fixed wiring, a switch or circuit breaker that disconnects all poles and has a contact separation of at least 1/8in (3mm) must be incorporated in the fixed wiring. The qualified technician must use an approved circuit breaker or switch.
7. Only connect the unit to an individual branch circuit outlet. Do not connect another appliance to that outlet.
8. Make sure to properly ground the air conditioner.
9. Every wire must be firmly connected. Loose wiring can cause the terminal to overheat, resulting in product malfunction and possible fire.
10. Do not let wires touch or rest against refrigerant tubing, the compressor, or any moving parts within the unit.
11. If the unit has an auxiliary electric heater, it must be installed at least 1 meter (40in) away from any combustible materials.

### **WARNING**

**BEFORE PERFORMING ANY ELECTRICAL OR WIRING WORK, TURN OFF THE MAIN POWER TO THE SYSTEM.**

## Step 6: Connect signal cable

The signal cable enables communication between the indoor and outdoor units. You must first choose the right cable size before preparing it for connection.

### Cable Types

- **Indoor Power Cable** (if applicable): H05VV-F or H05V2V2-F
- **Outdoor Power Cable:** H07RN-F
- **Signal Cable:** H07RN-F

### Minimum Cross-Sectional Area of Power and Signal Cables

#### North America

| Appliance Amps (A) | AWG |
|--------------------|-----|
| 10                 | 18  |
| 13                 | 16  |
| 18                 | 14  |
| 25                 | 12  |
| 30                 | 10  |

#### Other Regions

| Rated Current of Appliance (A) | Nominal Cross-Sectional Area (mm <sup>2</sup> ) |
|--------------------------------|-------------------------------------------------|
| > 3 and ≤ 6                    | 0.75                                            |
| > 6 and ≤ 10                   | 1                                               |
| > 10 and ≤ 16                  | 1.5                                             |
| > 16 and ≤ 25                  | 2.5                                             |
| > 25 and ≤ 32                  | 4                                               |
| > 32 and ≤ 40                  | 6                                               |

### CHOOSE THE RIGHT CABLE SIZE

The size of the power supply cable, signal cable, fuse, and switch needed is determined by the maximum current of the unit. The maximum current is indicated on the nameplate located on the side panel of the unit. Refer to this nameplate to choose the right cable, fuse, or switch.

### TAKE NOTE OF FUSE SPECIFICATIONS

The air conditioner's circuit board (PCB) is designed with a fuse to provide overcurrent protection. The specifications of the fuse

are printed on the circuit board, such as:

**Indoor unit:** T5A/250VAC

**Outdoor unit**(applicable to units adopt R32 or R290 refrigerant only):

T20A/250VAC(≤18000Btu/h units)

T30A/250VAC(>18000Btu/h units)

**NOTE: The fuse is made of ceramic.**

1. Prepare the cable for connection:
  - a. Using wire strippers, strip the rubber jacket from both ends of signal cable to reveal about 40mm (1.57in) of the wires inside.
  - b. Strip the insulation from the ends of the wires.
  - c. Using wire crimper, crimp u-type lugs on the ends of the wires.

### PAY ATTENTION TO LIVE WIRE

While crimping wires, make sure you clearly distinguish the Live ("L") Wire from other wires.

2. Open front panel of the indoor unit.
3. Using a screwdriver, open the wire box cover on the right side of the unit. This will reveal the terminal block.

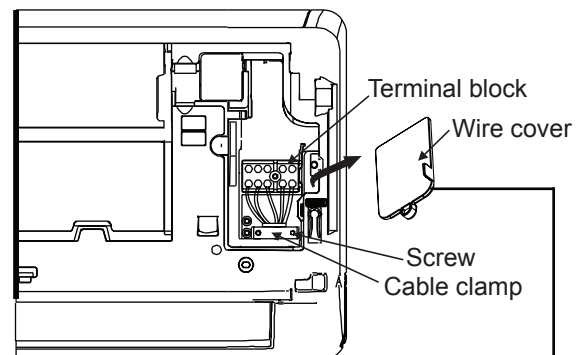


Fig. 3.9

The Wiring Diagram is located on the inside of the indoor unit's wire cover.



### WARNING

**ALL WIRING MUST PERFORMED STRICTLY IN ACCORDANCE WITH THE WIRING DIAGRAM LOCATED ON THE INSIDE OF THE INDOOR UNIT'S WIRE COVER.**

4. Unscrew the cable clamp below the terminal block and place it to the side.

5. Facing the back of the unit, remove the plastic panel on the bottom left-hand side.
6. Feed the signal wire through this slot, from the back of the unit to the front.
7. Facing the front of the unit, match the wire colors with the labels on the terminal block, connect the u-lug and and firmly screw each wire to its corresponding terminal.

### ! CAUTION

#### DO NOT MIX UP LIVE AND NULL WIRES

This is dangerous, and can cause the air conditioning unit to malfunction.

8. After checking to make sure every connection is secure, use the cable clamp to fasten the signal cable to the unit. Screw the cable clamp down tightly.
9. Replace the wire cover on the front of the unit, and the plastic panel on the back.

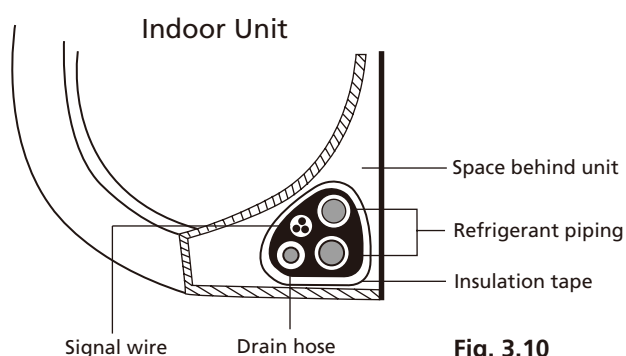
### ! NOTE ABOUT WIRING

**THE WIRING CONNECTION PROCESS MAY DIFFER SLIGHTLY BETWEEN UNITS.**

#### Step 7: Wrap piping and cables

Before passing the piping, drain hose, and the signal cable through the wall hole, you must bundle them together to save space, protect them, and insulate them.

1. Bundle the drain hose, refrigerant pipes, and signal cable according to **Fig. 3.10**.



**Fig. 3.10**

#### DRAIN HOSE MUST BE ON BOTTOM

Make sure that the drain hose is at the bottom of the bundle. Putting the drain hose at the top of the bundle can cause the drain pan to overflow, which can lead to fire or water damage.

#### DO NOT INTERTWINE SIGNAL CABLE WITH OTHER WIRES

While bundling these items together, do not intertwine or cross the signal cable with any other wiring.

2. Using adhesive vinyl tape, attach the drain hose to the underside of the refrigerant pipes.
3. Using insulation tape, wrap the signal wire, refrigerant pipes, and drain hose tightly together. Double-check that all items are bundled in accordance with **Fig. 3.10**.

#### DO NOT WRAP ENDS OF PIPING

When wrapping the bundle, keep the ends of the piping unwrapped. You need to access them to test for leaks at the end of the installation process (refer to **Electrical Checks and Leak Checks** section of this manual).

#### Step 8: Mount indoor unit

**If you installed new connective piping to the outdoor unit,** do the following:

1. If you have already passed the refrigerant piping through the hole in the wall, proceed to Step 4.
2. Otherwise, double-check that the ends of the refrigerant pipes are sealed to prevent dirt or foreign materials from entering the pipes.
3. Slowly pass the wrapped bundle of refrigerant pipes, drain hose, and signal wire through the hole in the wall.
4. Hook the top of the indoor unit on the upper hook of the mounting plate.
5. Check that unit is hooked firmly on mounting by applying slight pressure to the left and right-hand sides of the unit. The unit should not jiggle or shift.
6. Using even pressure, push down on the bottom half of the unit. Keep pushing down until the unit snaps onto the hooks along the bottom of the mounting plate.
7. Again, check that the unit is firmly mounted by applying slight pressure to the left and the right-hand sides of the unit.

**If refrigerant piping is already embedded in the wall, do the following:**

1. Hook the top of the indoor unit on the upper hook of the mounting plate.
2. Use a bracket or wedge to prop up the unit, giving you enough room to connect the refrigerant piping, signal cable, and drain hose. Refer to **Fig. 3.11** for an example.

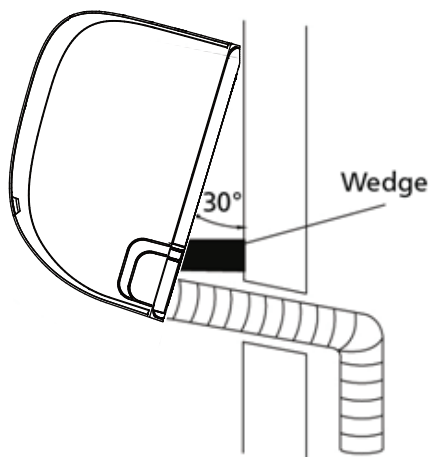
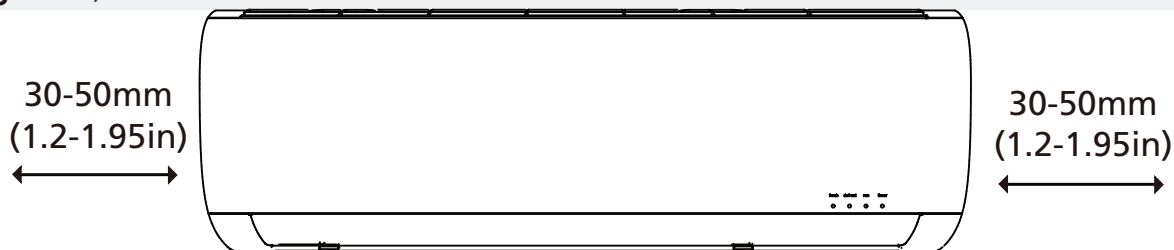


Fig. 3.11

3. Connect drain hose and refrigerant piping (refer to **Refrigerant Piping Connection** section of this manual for instructions).
4. Keep pipe connection point exposed to perform the leak test (refer to **Electrical Checks and Leak Checks** section of this manual).
5. After the leak test, wrap the connection point with insulation tape.
6. Remove the bracket or wedge that is propping up the unit.
7. Using even pressure, push down on the bottom half of the unit. Keep pushing down until the unit snaps onto the hooks along the bottom of the mounting plate.

#### UNIT IS ADJUSTABLE

Keep in mind that the hooks on the mounting plate are smaller than the holes on the back of the unit. If you find that you don't have ample room to connect embedded pipes to the indoor unit, the unit can be adjusted left or right by about 30-50mm (1.25-1.95in), depending on the model. (See **Fig. 3.12.**)



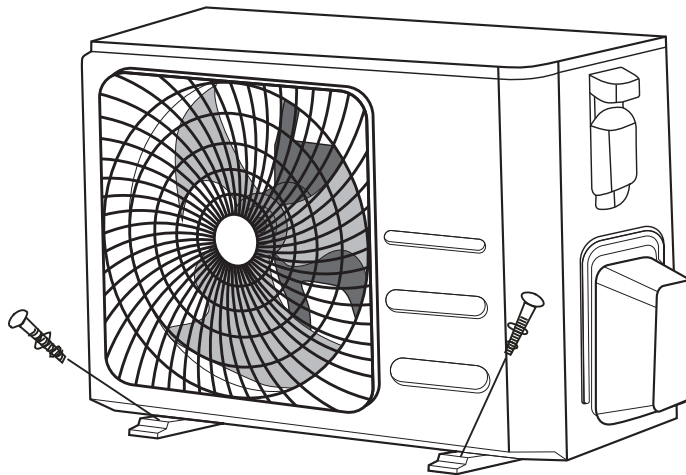
Move to left or right

Fig. 3.12



# Outdoor Unit Installation

## 5



### Installation Instructions – Outdoor Unit

#### Step 1: Select installation location

Before installing the outdoor unit, you must choose an appropriate location. The following are standards that will help you choose an appropriate location for the unit.

#### Proper installation locations meet the following standards:

- ☑ Meets all spatial requirements shown in Installation Space Requirements (**Fig. 4.1**)
- ☑ Good air circulation and ventilation
- ☑ Firm and solid—the location can support the unit and will not vibrate
- ☑ Noise from the unit will not disturb others
- ☑ Protected from prolonged periods of direct sunlight or rain

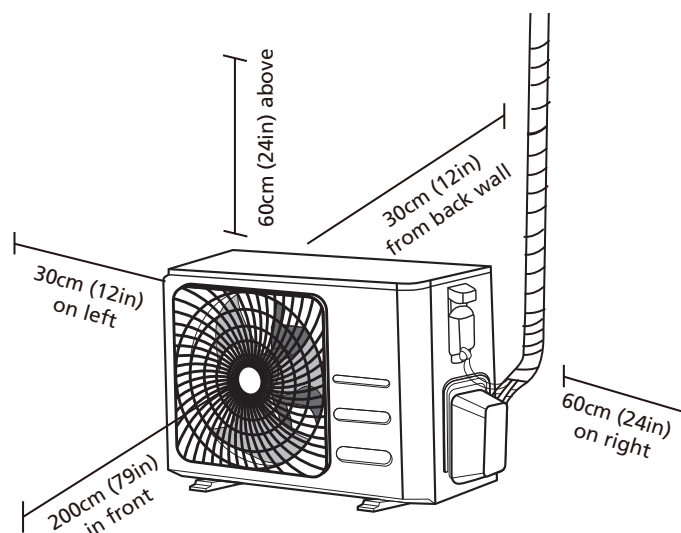


Fig. 4.1

#### **DO NOT** install unit in the following locations:

- ⊘ Near an obstacle that will block air inlets and outlets
- ⊘ Near a public street, crowded areas, or where noise from the unit will disturb others
- ⊘ Near animals or plants that will be harmed by hot air discharge
- ⊘ Near any source of combustible gas
- ⊘ In a location that is exposed to large amounts of dust
- ⊘ In a location exposed to excessive amounts of salty air

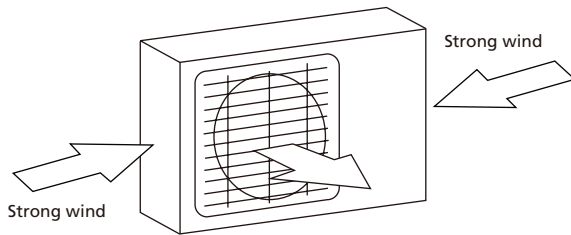


## SPECIAL CONSIDERATIONS FOR EXTREME WEATHER

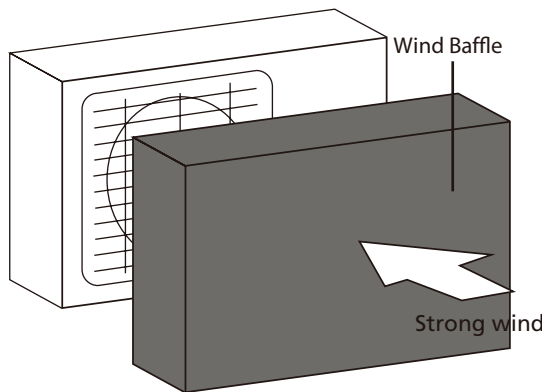
### If the unit is exposed to heavy wind:

Install unit so that air outlet fan is at a 90° angle to the direction of the wind. If needed, build a barrier in front of the unit to protect it from extremely heavy winds.

See **Fig. 4.2** and **Fig. 4.3** below.



**Fig. 4.2**



**Fig. 4.3**

### If the unit is frequently exposed to heavy rain or snow:

Build a shelter above the unit to protect it from the rain or snow. Be careful not to obstruct air flow around the unit.

### If the unit is frequently exposed to salty air (seaside):

Use outdoor unit that is specially designed to resist corrosion.

## Step 2: Install drain joint

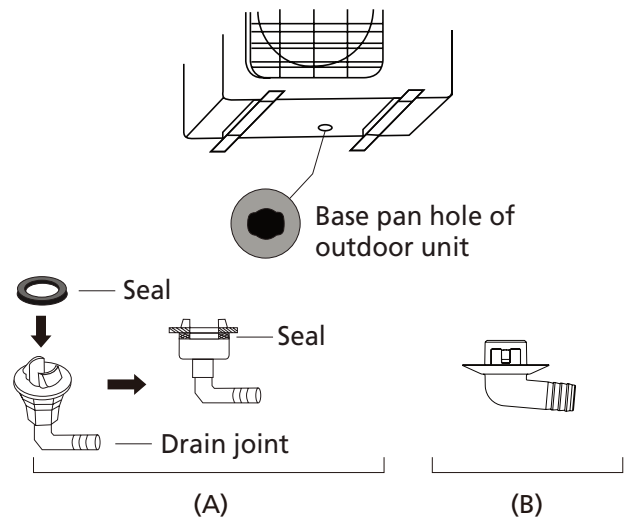
Heat pump units require a drain joint. Before bolting the outdoor unit in place, you must install the drain joint at the bottom of the unit. Note that there are two different types of drain joints depending on the type of outdoor unit.

If the drain joint comes with a rubber seal (see **Fig. 4.4 - A**), do the following:

1. Fit the rubber seal on the end of the drain joint that will connect to the outdoor unit.
2. Insert the drain joint into the hole in the base pan of the unit.
3. Rotate the drain joint 90° until it clicks in place facing the front of the unit.
4. Connect a drain hose extension (not included) to the drain joint to redirect water from the unit during heating mode.

If the drain joint doesn't come with a rubber seal (see **Fig. 4.4 - B**), do the following:

1. Insert the drain joint into the hole in the base pan of the unit. The drain joint will click in place.
2. Connect a drain hose extension (not included) to the drain joint to redirect water from the unit during heating mode.



**Fig. 4.4**

## ! IN COLD CLIMATES

In cold climates, make sure that the drain hose is as vertical as possible to ensure swift water drainage. If water drains too slowly, it can freeze in the hose and flood the unit.

### Step 3: Anchor outdoor unit

The outdoor unit can be anchored to the ground or to a wall-mounted bracket.

#### UNIT MOUNTING DIMENSIONS

The following is a list of different outdoor unit sizes and the distance between their mounting feet. Prepare the installation base of the unit according to the dimensions below.

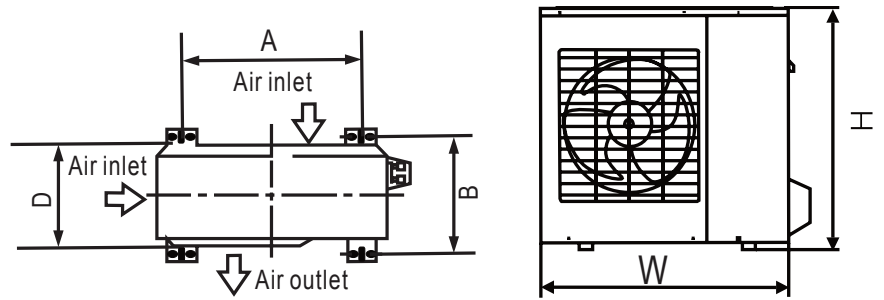


Fig. 4.5

| Outdoor Unit Dimensions (mm)<br>W x H x D | Mounting Dimensions |                 |
|-------------------------------------------|---------------------|-----------------|
|                                           | Distance A (mm)     | Distance B (mm) |
| 681x434x285 (26.8"x17"x11.2")             | 460 (18.10")        | 292 (11.49")    |
| 700x550x270 (27.5"x21.6"x10.62")          | 450 (17.7")         | 260 (10.24")    |
| 780x540x250 (30.7"x21.25"x9.85")          | 549 (21.6")         | 276 (10.85")    |
| 845x700x320 (33.25"x27.5"x12.6")          | 560 (22")           | 335 (13.2")     |
| 810x558x310 (31.9"x22"x12.2")             | 549 (21.6")         | 325 (12.8")     |
| 700x550x275 (27.5"x21.6"x10.82")          | 450 (17.7")         | 260 (10.24")    |
| 770x555x300 (30.3"x21.85"x11.81")         | 487 (19.2")         | 298 (11.73")    |
| 800x554x333 (31.5"x21.8"x13.1")           | 514 (20.24")        | 340 (13.39")    |
| 845x702x363 (33.25"x27.63"x14.29")        | 540 (21.26")        | 350 (13.8")     |
| 900x860x315 (35.4"x33.85"x12.4")          | 590 (23.2")         | 333 (13.1")     |
| 945x810x395 (37.2"x31.9"x15.55")          | 640 (25.2")         | 405 (15.95")    |
| 946x810x420 (37.21"x31.9"x16.53")         | 673 (26.5")         | 403 (15.87")    |
| 946x810x410 (37.21"x31.9"x16.14")         | 673 (26.5")         | 403 (15.87")    |

**If you will install the unit on the ground or on a concrete mounting platform, do the following:**

1. Mark the positions for four expansion bolts based on dimensions in the Unit Mounting Dimensions chart.
2. Pre-drill holes for expansion bolts.
3. Clean concrete dust away from holes.
4. Place a nut on the end of each expansion bolt.
5. Hammer expansion bolts into the pre-drilled holes.

6. Remove the nuts from expansion bolts, and place outdoor unit on bolts.
7. Put washer on each expansion bolt, then replace the nuts.
8. Using a wrench, tighten each nut until snug.



#### WARNING

**WHEN DRILLING INTO CONCRETE, EYE PROTECTION IS RECOMMENDED AT ALL TIMES.**

If you will install the unit on a wall-mounted bracket, do the following:

### CAUTION

Before installing a wall-mounted unit, make sure that the wall is made of solid brick, concrete, or of similarly strong material. **The wall must be able to support at least four times the weight of the unit.**

1. Mark the position of bracket holes based on dimensions in the Unit Mounting Dimensions chart.
2. Pre-drill the holes for the expansion bolts.
3. Clean dust and debris away from holes.
4. Place a washer and nut on the end of each expansion bolt.
5. Thread expansion bolts through holes in mounting brackets, put mounting brackets in position, and hammer expansion bolts into the wall.
6. Check that the mounting brackets are level.
7. Carefully lift unit and place its mounting feet on brackets.
8. Bolt the unit firmly to the brackets.

### TO REDUCE VIBRATIONS OF WALL-MOUNTED UNIT

If allowed, you can install the wall-mounted unit with rubber gaskets to reduce vibrations and noise.

### Step 4: Connect signal and power cables

The outside unit's terminal block is protected by an electrical wiring cover on the side of the unit. A comprehensive wiring diagram is printed on the inside of the wiring cover.



### BEFORE PERFORMING ELECTRICAL WORK, READ THESE REGULATIONS

1. All wiring must comply with local and national electrical codes, and must be installed by a licensed electrician.
2. All electrical connections must be made according to the Electrical Connection Diagram located on the side panels of the indoor and outdoor units.
3. If there is a serious safety issue with the power supply, stop work immediately. Explain your reasoning to the client, and refuse to install the unit until the safety issue is properly resolved.
4. Power voltage should be within 90-110% of rated voltage. Insufficient power supply can cause electrical shock or fire.
5. If connecting power to fixed wiring, install a surge protector and main power switch with a capacity of 1.5 times the maximum current of the unit.
6. If connecting power to fixed wiring, a switch or circuit breaker that disconnects all poles and has a contact separation of at least 1/8in (3mm) must be incorporated in the fixed wiring. The qualified technician must use an approved circuit breaker or switch.
7. Only connect the unit to an individual branch circuit outlet. Do not connect another appliance to that outlet.
8. Make sure to properly ground the air conditioner.
9. Every wire must be firmly connected. Loose wiring can cause the terminal to overheat, resulting in product malfunction and possible fire.
10. **Do not** let wires touch or rest against refrigerant tubing, the compressor, or any moving parts within the unit.
11. If the unit has an auxiliary electric heater, it must be installed at least 1 meter (40in) away from any combustible materials.



## WARNING

**BEFORE PERFORMING ANY ELECTRICAL OR WIRING WORK, TURN OFF THE MAIN POWER TO THE SYSTEM.**

1. Prepare the cable for connection:

### USE THE RIGHT CABLE

- Indoor Power Cable (if applicable): H05VV-F or H05V2V2-F
- Outdoor Power Cable: H07RN-F
- Signal Cable: H07RN-F

### Minimum Cross-Sectional Area of Power and Signal Cables

#### North America

| Appliance Amps (A) | AWG |
|--------------------|-----|
| 10                 | 18  |
| 13                 | 16  |
| 18                 | 14  |
| 25                 | 12  |
| 30                 | 10  |

#### Other Regions

| Rated Current of Appliance (A) | Nominal Cross-Sectional Area (mm <sup>2</sup> ) |
|--------------------------------|-------------------------------------------------|
| > 3 and ≤ 6                    | 0.75                                            |
| > 6 and ≤ 10                   | 1                                               |
| > 10 and ≤ 16                  | 1.5                                             |
| > 16 and ≤ 25                  | 2.5                                             |
| > 25 and ≤ 32                  | 4                                               |
| > 32 and ≤ 40                  | 6                                               |

- a. Using wire strippers, strip the rubber jacket from both ends of cable to reveal about 40mm (1.57in) of the wires inside.
- b. Strip the insulation from the ends of the wires.
- c. Using a wire crimper, crimp u-lugs on the ends of the wires.

## PAY ATTENTION TO LIVE WIRE

While crimping wires, make sure you clearly distinguish the Live ("L") Wire from other wires.



## WARNING

**ALL WIRING MUST PERFORMED STRICTLY IN ACCORDANCE WITH THE WIRING DIRGRAM LOCATED INSIDE THE OUTDOOR UNIT'S WIRE COVER.**

2. Unscrew the electrical wiring cover and remove it.
3. Unscrew the cable clamp below the terminal block and place it to the side.
4. Match the wire colors/labels with the labels on the terminal block, and firmly screw the u-lug of each wire to its corresponding terminal.
5. After checking to make sure every connection is secure, loop the wires around to prevent rain water from flowing into the terminal.
6. Using the cable clamp, fasten the cable to the unit. Screw the cable clamp down tightly.
7. Insulate unused wires with PVC electrical tape. Arrange them so that they do not touch any electrical or metal parts.
8. Replace the wire cover on the side of the unit, and screw it in place.

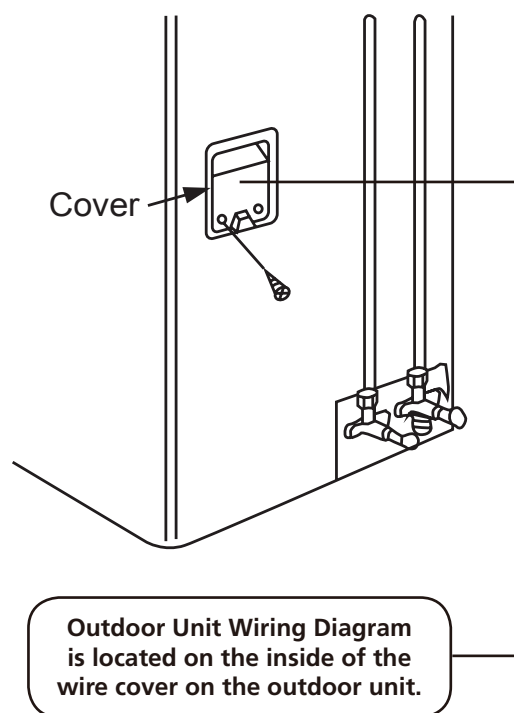
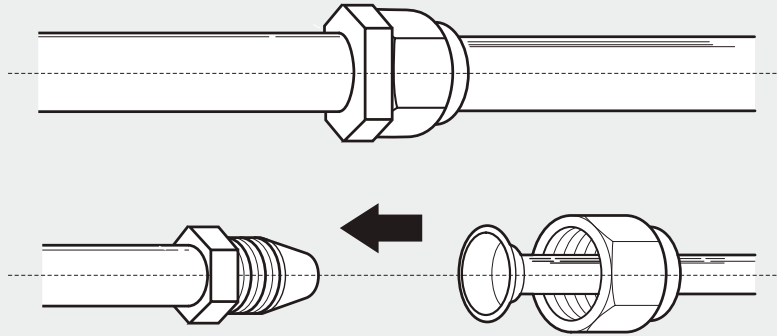


Fig. 4.6

# Refrigerant Piping Connection

6



## Note on Pipe Length

The length of refrigerant piping will affect the performance and energy efficiency of the unit. Nominal efficiency is tested on units with a pipe length of 5 meters (16.5ft). A minimum pipe run of 3 metres is required to minimise vibration & excessive noise.

For special tropical area, the maximum length of refrigerant pipe should not exceed 10 meters(32.8ft) and no refrigerant can be added(For R290 refrigerant models).

Refer to the table below for specifications on the maximum length and drop height of piping.

**Maximum Length and Drop Height of Refrigerant Piping per Unit Model**

| Model                                | Capacity (BTU/h)      | Max. Length (m) | Max. Drop Height (m) |
|--------------------------------------|-----------------------|-----------------|----------------------|
| R410A Inverter Split Air Conditioner | < 15,000              | 25 (82ft)       | 10 (33ft)            |
|                                      | ≥ 15,000 and < 24,000 | 30 (98.5ft)     | 20 (66ft)            |
|                                      | ≥ 24,000 and < 36,000 | 50 (164ft)      | 25 (82ft)            |
|                                      | ≥ 36,000 and ≤ 60,000 | 65 (213ft)      | 30 (98.5ft)          |

## Connection Instructions – Refrigerant Piping

### Step 1: Cut pipes

When preparing refrigerant pipes, take extra care to cut and flare them properly. This will ensure efficient operation and minimize the need for future maintenance. **For R32/R290 refrigerant models, the pipe connection points must be placed outside of room.**

1. Measure the distance between the indoor and outdoor units.

2. Using a pipe cutter, cut the pipe a little longer than the measured distance.
3. Make sure that the pipe is cut at a perfect 90° angle. Refer to **Fig. 5.1** for bad cut examples.

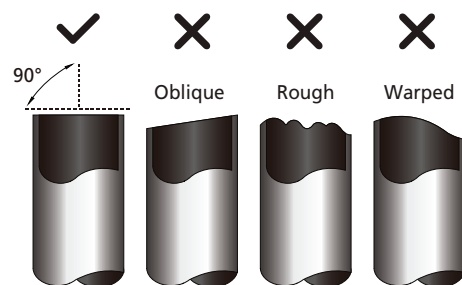


Fig. 5.1



## DO NOT DEFORM PIPE WHILE CUTTING

Be extra careful not to damage, dent, or deform the pipe while cutting. This will drastically reduce the heating efficiency of the unit.

### Step 2: Remove burrs

Burrs can affect the air-tight seal of refrigerant piping connection. They must be completely removed.

1. Hold the pipe at a downward angle to prevent burrs from falling into the pipe.
2. Using a reamer or deburring tool, remove all burrs from the cut section of the pipe.

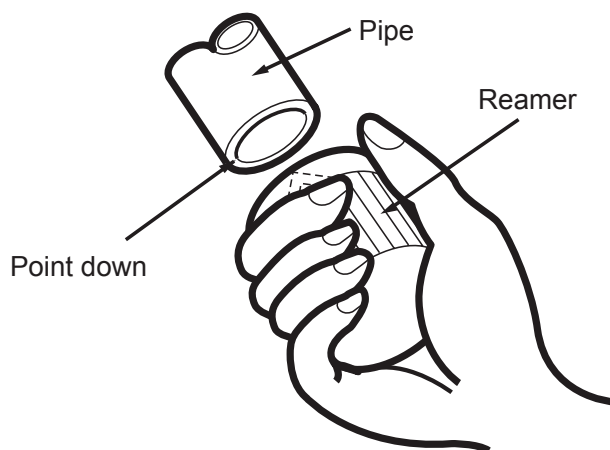


Fig. 5.2

### Step 3: Flare pipe ends

Proper flaring is essential to achieve an airtight seal.

1. After removing burrs from cut pipe, seal the ends with PVC tape to prevent foreign materials from entering the pipe.
2. Sheath the pipe with insulating material.
3. Place flare nuts on both ends of pipe. Make sure they are facing in the right direction, because you can't put them on or change their direction after flaring. See **Fig. 5.3**

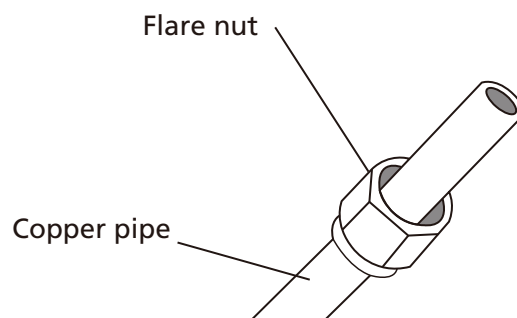


Fig. 5.3

4. Remove PVC tape from ends of pipe when ready to perform flaring work.
5. Clamp flare form on the end of the pipe. The end of the pipe must extend beyond the edge of the flare form in accordance with the dimensions shown in the table below.

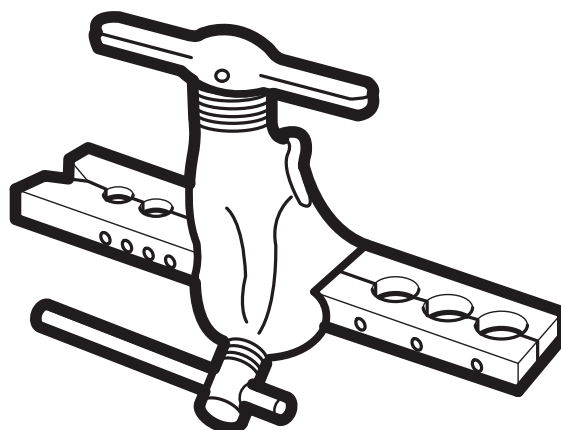


Fig. 5.4

### PIPING EXTENSION BEYOND FLARE FORM

| Outer Diameter of Pipe (mm) | A (mm)        |              |
|-----------------------------|---------------|--------------|
|                             | Min.          | Max.         |
| Ø 6.35 (Ø 0.25")            | 0.7 (0.0275") | 1.3 (0.05")  |
| Ø 9.52 (Ø 0.375")           | 1.0 (0.04")   | 1.6 (0.063") |
| Ø 12.7 (Ø 0.5")             | 1.0 (0.04")   | 1.8 (0.07")  |
| Ø 16 (Ø 0.63")              | 2.0 (0.078")  | 2.2 (0.086") |
| Ø 19 (Ø 0.75")              | 2.0 (0.078")  | 2.4 (0.094") |

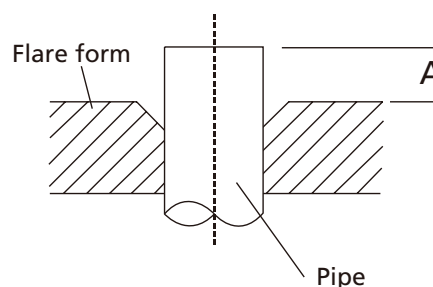


Fig. 5.5

6. Place flaring tool onto the form.
7. Turn the handle of the flaring tool clockwise until the pipe is fully flared.
8. Remove the flaring tool and flare form, then inspect the end of the pipe for cracks and even flaring.

#### Step 4: Connect pipes

When connecting refrigerant pipes, be careful not to use excessive torque or to deform the piping in any way. You should first connect the indoor unit, then the outdoor unit.

#### MINIMUM BEND RADIUS

When bending connective refrigerant piping, the minimum bending radius is 10cm. See **Fig.5.6**

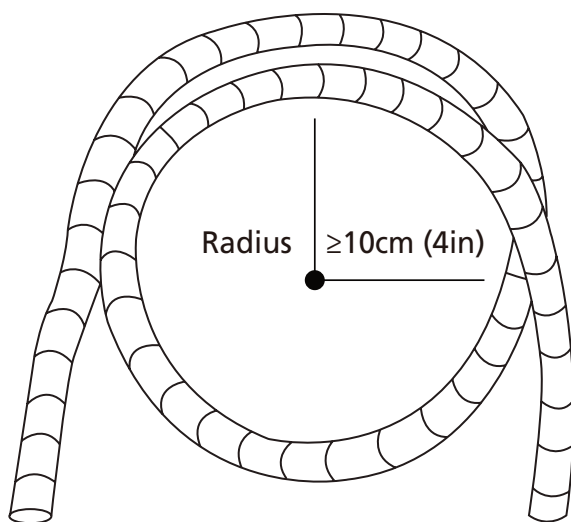


Fig. 5.6

#### Instructions for Connecting Piping to Indoor Unit

1. Align the center of the two pipes that you will connect. See **Fig. 5.7**.

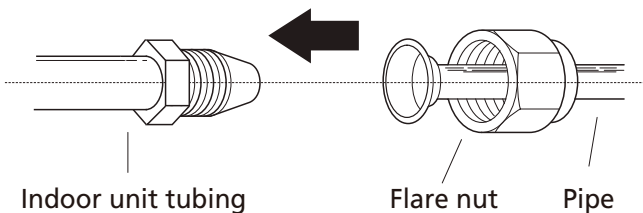


Fig. 5.7

2. Tighten the flare nut as tightly as possible by hand.
3. Using a spanner, grip the nut on the unit tubing.
4. While firmly gripping the nut on the unit tubing, use a torque wrench to tighten the flare nut according to the torque values in the **Torque Requirements** table below. Loosen the flaring nut slightly, then tighten again.

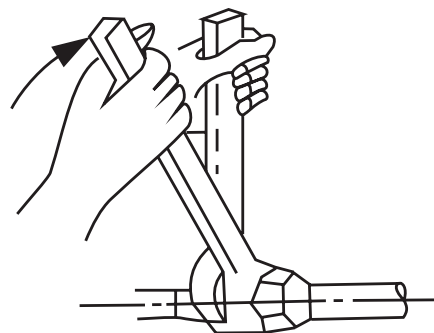


Fig. 5.8

#### TORQUE REQUIREMENTS

| Outer Diameter of Pipe (mm) | Tightening Torque (N•cm) | Add. Tightening Torque (N•cm) |
|-----------------------------|--------------------------|-------------------------------|
| Ø 6.35 (Ø 0.25")            | 1,500 (11lb • ft)        | 1,600 (11.8lb • ft)           |
| Ø 9.52 (Ø 0.375")           | 2,500 (18.4lb • ft)      | 2,600 (19.18lb • ft)          |
| Ø 12.7 ( Ø 0.5")            | 3,500 (25.8lb•ft)        | 3,600 (26.55lb•ft)            |
| Ø 16 ( Ø 0.63")             | 4,500 (33.19lb•ft)       | 4,700 (34.67lb•ft)            |
| Ø 19 ( Ø 0.75")             | 6,500 (47.94lb•ft)       | 6,700 (49.42lb•ft)            |

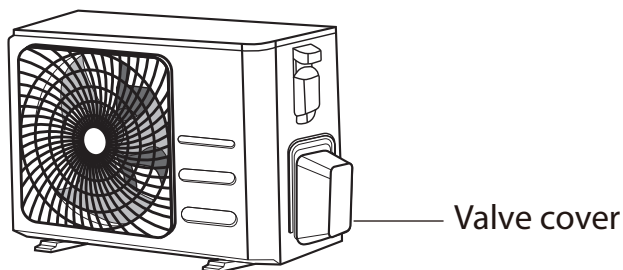
#### ! DO NOT USE EXCESSIVE TORQUE

Excessive force can break the nut or damage the refrigerant piping. You must not exceed torque requirements shown in the table above.



## Instructions for Connecting Piping to Outdoor Unit

1. Unscrew the cover from the packed valve on the side of the outdoor unit. (See **Fig. 5.9**)

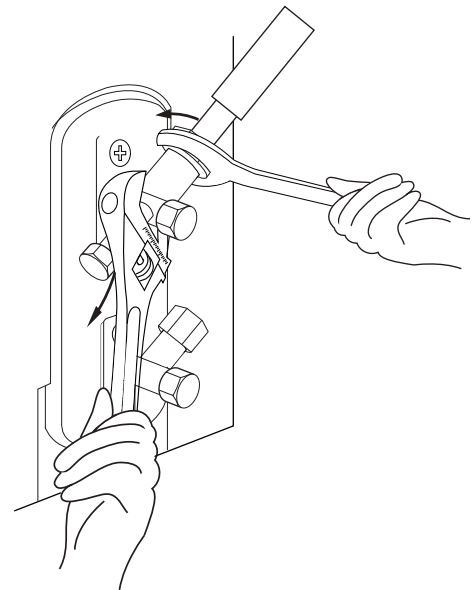


**Fig. 5.9**

2. Remove protective caps from ends of valves.
3. Align flared pipe end with each valve, and tighten the flare nut as tightly as possible by hand.
4. Using a spanner, grip the body of the valve. Do not grip the nut that seals the service valve. (See **Fig. 5.10**)

## ! USE SPANNER TO GRIP MAIN BODY OF VALVE

Torque from tightening the flare nut can snap off other parts of valve.



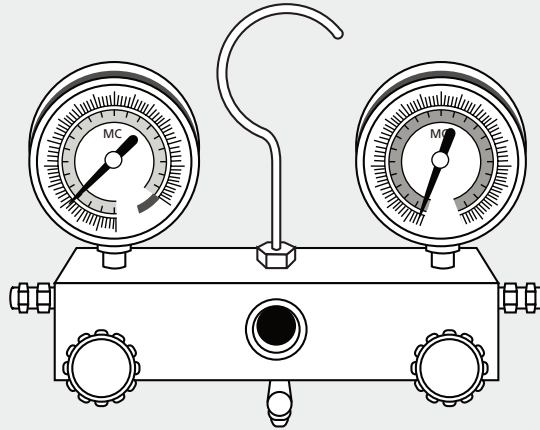
**Fig. 5.10**

5. While firmly gripping the body of the valve, use a torque wrench to tighten the flare nut according to the correct torque values.
6. Loosen the flaring nut slightly, then tighten again.
7. Repeat Steps 3 to 6 for the remaining pipe.



# Air Evacuation

# 7



## Preparations and Precautions

Air and foreign matter in the refrigerant circuit can cause abnormal rises in pressure, which can damage the air conditioner, reduce its efficiency, and cause injury. Use a vacuum pump and manifold gauge to evacuate the refrigerant circuit, removing any non-condensable gas and moisture from the system.

Evacuation should be performed upon initial installation and when unit is relocated.

### BEFORE PERFORMING EVACUATION

- ☑ Check to make sure that both high-pressure and low-pressure pipes between the indoor and outdoor units are connected properly in accordance with the Refrigerant Piping Connection section of this manual.
- ☑ Check to make sure all wiring is connected properly.

## Evacuation Instructions

Before using the manifold gauge and vacuum pump, read their operation manuals to familiarize yourself with how to use them properly.

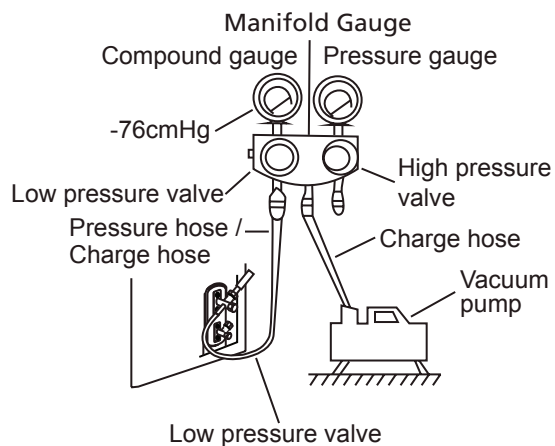


Fig. 6.1

1. Connect the charge hose of the manifold gauge to service port on the outdoor unit's low pressure valve.
2. Connect another charge hose from the manifold gauge to the vacuum pump.
3. Open the Low Pressure side of the manifold gauge. Keep the High Pressure side closed.
4. Turn on the vacuum pump to evacuate the system.
5. Run the vacuum for at least 15 minutes, or until the Compound Meter reads -76cmHG (-10<sup>5</sup> Pa).

6. Close the Low Pressure side of the manifold gauge, and turn off the vacuum pump.
7. Wait for 5 minutes, then check that there has been no change in system pressure.
8. If there is a change in system pressure, refer to Gas Leak Check section for information on how to check for leaks. If there is no change in system pressure, unscrew the cap from the packed valve (high pressure valve).
9. Insert hexagonal wrench into the packed valve (high pressure valve) and open the valve by turning the wrench in a 1/4 counterclockwise turn. Listen for gas to exit the system, then close the valve after 5 seconds.
10. Watch the Pressure Gauge for one minute to make sure that there is no change in pressure. The Pressure Gauge should read slightly higher than atmospheric pressure.
11. Remove the charge hose from the service port.

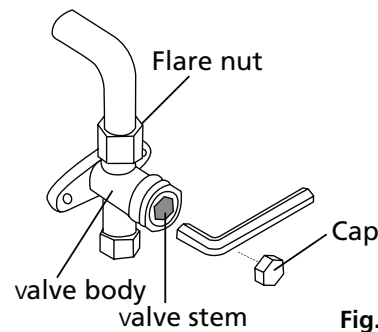


Fig. 6.2

12. Using hexagonal wrench, fully open both the high pressure and low pressure valves.
13. Tighten valve caps on all three valves (service port, high pressure, low pressure) by hand. You may tighten it further using a torque wrench if needed.

### ! OPEN VALVE STEMS GENTLY

When opening valve stems, turn the hexagonal wrench until it hits against the stopper. Do not try to force the valve to open further.

## Note on Adding Refrigerant

Some systems require additional charging depending on pipe lengths. The standard pipe length varies according to local regulations. For example, in North America, the standard pipe length is 7.5m (25'). In other areas, the standard pipe length is 5m (16'). The refrigerant should be charged from the service port on the outdoor unit's low pressure valve. The additional refrigerant to be charged can be calculated using the following formula:

### ADDITIONAL REFRIGERANT PER PIPE LENGTH

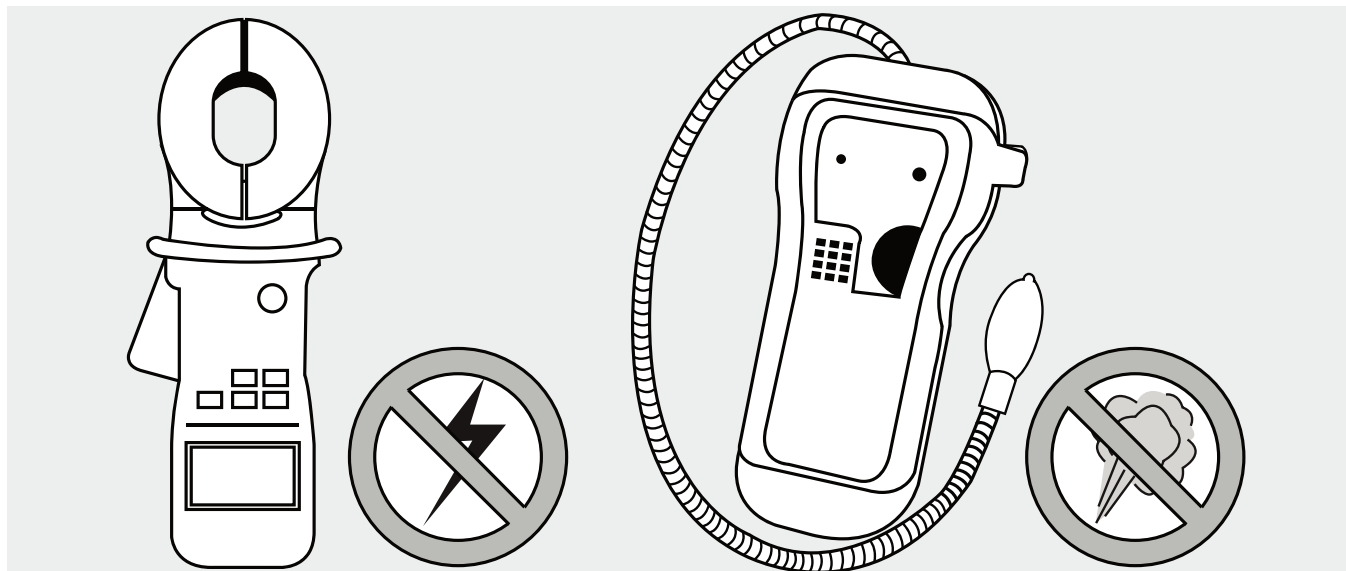
| Connective Pipe Length (m) | Air Purging Method | Additional Refrigerant                                                                                  |                                                                                                         |
|----------------------------|--------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| ≤ Standard pipe length     | Vacuum Pump        | N/A                                                                                                     |                                                                                                         |
| > Standard pipe length     | Vacuum Pump        | Liquid Side: Ø 6.35 (ø 0.25")                                                                           | Liquid Side: Ø 9.52 (ø 0.375")                                                                          |
|                            |                    | <b>R32:</b><br>(Pipe length – standard length) x 12g/m<br>(Pipe length – standard length) x 0.13oz/ft   | <b>R32:</b><br>(Pipe length – standard length) x 24g/m<br>(Pipe length – standard length) x 0.26oz/ft   |
|                            |                    | <b>R290:</b><br>(Pipe length – standard length) x 10g/m<br>(Pipe length – standard length) x 0.10oz/ft  | <b>R290:</b><br>(Pipe length – standard length) x 18g/m<br>(Pipe length – standard length) x 0.19oz/ft  |
|                            |                    | <b>R410A:</b><br>(Pipe length – standard length) x 15g/m<br>(Pipe length – standard length) x 0.16oz/ft | <b>R410A:</b><br>(Pipe length – standard length) x 30g/m<br>(Pipe length – standard length) x 0.32oz/ft |

For R290 refrigerant unit, the total amount of refrigerant to be charged is no more than: 387g(≤9000Btu/h), 447g(>9000Btu/h and ≤12000Btu/h), 547g(>12000Btu/h and ≤18000Btu/h), 632g(>18000Btu/h and ≤24000Btu/h).

**! CAUTION** DO NOT mix refrigerant types.

# Electrical and Gas Leak Checks

# 8



## Electrical Safety Checks

After installation, confirm that all electrical wiring is installed in accordance with local and national regulations, and according to the Installation Manual.

### BEFORE TEST RUN

#### Check Grounding Work

Measure grounding resistance by visual detection and with grounding resistance tester. Grounding resistance must be less than  $0.1\Omega$ .

**Note:** This may not be required for some locations in the US.

### DURING TEST RUN

#### Check for Electrical Leakage

During the **Test Run**, use an electroprobe and multimeter to perform a comprehensive electrical leakage test.

If electrical leakage is detected, turn off the unit immediately and call a licensed electrician to find and resolve the cause of the leakage.

**Note:** This may not be required for some locations in the US.



## WARNING – RISK OF ELECTRIC SHOCK

**ALL WIRING MUST COMPLY WITH LOCAL AND NATIONAL ELECTRICAL CODES, AND MUST BE INSTALLED BY A LICENSED ELECTRICIAN.**

## Gas Leak Checks

There are two different methods to check for gas leaks.

### Soap and Water Method

Using a soft brush, apply soapy water or liquid detergent to all pipe connection points on the indoor unit and outdoor unit. The presence of bubbles indicates a leak.

### Leak Detector Method

If using leak detector, refer to the device's operation manual for proper usage instructions.

## AFTER PERFORMING GAS LEAK CHECKS

After confirming that the all pipe connection points DO NOT leak, replace the valve cover on the outside unit.

# Test Run

# 9

## Before Test Run

Only perform test run after you have completed the following steps:

- **Electrical Safety Checks** – Confirm that the unit's electrical system is safe and operating properly
- **Gas Leak Checks** – Check all flare nut connections and confirm that the system is not leaking
- Confirm that gas and liquid (high and low pressure) valves are fully open

## Test Run Instructions

You should perform the **Test Run** for at least 30 minutes.

1. Connect power to the unit.
2. Press the **ON/OFF** button on the remote controller to turn it on.
3. Press the **MODE** button to scroll through the following functions, one at a time:
  - COOL – Select lowest possible temperature
  - HEAT – Select highest possible temperature
4. Let each function run for 5 minutes, and perform the following checks:

| List of Checks to Perform                      | PASS/FAIL    |             |
|------------------------------------------------|--------------|-------------|
| No electrical leakage                          |              |             |
| Unit is properly grounded                      |              |             |
| All electrical terminals properly covered      |              |             |
| Indoor and outdoor units are solidly installed |              |             |
| All pipe connection points do not leak         | Outdoor (2): | Indoor (2): |
| Water drains properly from drain hose          |              |             |
| All piping is properly insulated               |              |             |
| Unit performs COOL function properly           |              |             |
| Unit performs HEAT function properly           |              |             |
| Indoor unit louvers rotate properly            |              |             |
| Indoor unit responds to remote controller      |              |             |

## DOUBLE-CHECK PIPE CONNECTIONS

During operation, the pressure of the refrigerant circuit will increase. This may reveal leaks that were not present during your initial leak check. Take time during the Test Run to double-check that all refrigerant pipe connection points do not have leaks. Refer to **Gas Leak Check** section for instructions.

5. After the Test Run is successfully completed, and you confirm that all checks points in List of Checks to Perform have PASSED, do the following:
  - a. Using remote control, return unit to normal operating temperature.
  - b. Using insulation tape, wrap the indoor refrigerant pipe connections that you left uncovered during the indoor unit installation process.

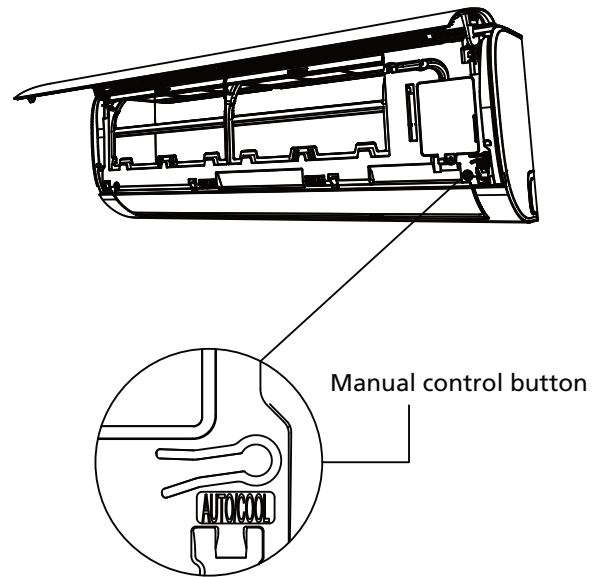


Fig. 8.1

## IF AMBIENT TEMPERATURE IS BELOW 17°C (63°F)

You can't use the remote controller to turn on the COOL function when the ambient temperature is below 17°C. In this instance, you can use the **MANUAL CONTROL** button to test the COOL function.

1. Lift the front panel of the indoor unit, and raise it until it clicks in place.
2. The **MANUAL CONTROL** button is located on the right-hand side of the unit. Press it 2 times to select the COOL function. See **Fig.8.1**
3. Perform Test Run as normal.

# European Disposal Guidelines

# 10

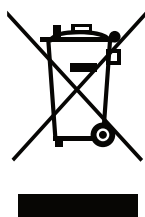
This appliance contains refrigerant and other potentially hazardous materials. When disposing of this appliance, the law requires special collection and treatment. **Do not** dispose of this product as household waste or unsorted municipal waste.

When disposing of this appliance, you have the following options:

- Dispose of the appliance at designated municipal electronic waste collection facility.
- When buying a new appliance, the retailer will take back the old appliance free of charge.
- The manufacturer will take back the old appliance free of charge.
- Sell the appliance to certified scrap metal dealers.

## Special notice

Disposing of this appliance in the forest or other natural surroundings endangers your health and is bad for the environment. Hazardous substances may leak into the ground water and enter the food chain.



# Information Servicing

(Required for the units adopt R32/R290 Refrigerant only)

11

## 1. Checks to the area

Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised. For repair to the refrigerating system, the following precautions shall be complied with prior to conducting work on the system.

## 2. Work procedure

Works shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.

## 3. General work area

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided. The area around the work space shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable material.

## 4. Checking for presence of refrigerant

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. no sparking, adequately sealed or intrinsically safe.

## 5. Presence of fire extinguisher

If any hot work is to be conducted on the refrigeration equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry power or CO2 fire extinguisher adjacent to the charging area.

## 6. No ignition sources

No person carrying out work in relation to a refrigeration system which involves exposing any pipe work that contains or has contained flammable refrigerant shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which flammable refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. **NO SMOKING** signs shall be displayed.

## 7. Ventilated area

Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

## 8. Checks to the refrigeration equipment

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt consult the manufacturer's technical department for assistance. The following checks shall be applied to installations using flammable refrigerants:

- the charge size is in accordance with the room size within which the refrigerant containing parts are installed;
- the ventilation machinery and outlets are operating adequately and are not obstructed;
- if an indirect refrigerating circuit is being used, the secondary circuits shall be checked for the presence of refrigerant; marking to the equipment continues to be visible and legible.
- marking and signs that are illegible shall be corrected;
- refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless
- the components are constructed of materials which are inherently resistant to being
- corroded or are suitably protected against being so corroded.

## 9. Checks to electrical devices

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, and adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

### **Initial safety checks shall include:**

- that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking
- that there no live electrical components and wiring are exposed while charging, recovering or purging the system;
- that there is continuity of earth bonding.

## 10. Repairs to sealed components

10.1 During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.

10.2 Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.

- Ensure that apparatus is mounted securely.
- Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer s specifications.

**NOTE:** The use of silicon sealant may inhibit the effectiveness of some types of leak detection equipment. Intrinsically safe components do not have to be isolated prior to working on them.



### **11. Repair to intrinsically safe components**

Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use. Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating.

Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

### **12. Cabling**

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

### **13. Detection of flammable refrigerants**

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

### **14. Leak detection methods**

The following leak detection methods are deemed acceptable for systems containing flammable refrigerants. Electronic leak detectors shall be used to detect flammable refrigerants, but the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed and the appropriate percentage of gas (25% maximum) is confirmed. Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

If a leak is suspected, all naked flames shall be removed or extinguished. If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.

### **15. Removal and evacuation**

When breaking into the refrigerant circuit to make repairs or for any other purpose conventional procedures shall be used. However, it is important that best practice is followed since flammability is a consideration. The following procedure shall be adhered to:

- remove refrigerant;
- purge the circuit with inert gas;
- evacuate;
- purge again with inert gas;
- open the circuit by cutting or brazing.

The refrigerant charge shall be recovered into the correct recovery cylinders. The system shall be flushed with OFN to render the unit safe. This process may need to be repeated several times. Compressed air or oxygen shall not be used for this task.

Flushing shall be achieved by breaking the vacuum in the system with OFN and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process shall be repeated until no refrigerant is within the system.

When the final OFN charge is used, the system shall be vented down to atmospheric pressure to enable work to take place. This operation is absolutely vital if brazing operations on the pipe-work are to take place.

Ensure that the outlet for the vacuum pump is not closed to any ignition sources and there is ventilation available.

## **16. Charging procedures**

In addition to conventional charging procedures, the following requirements shall be followed:

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them.
- Cylinders shall be kept upright.
- Ensure that the refrigeration system is earthed prior to charging the system with refrigerant.
- Label the system when charging is complete(if not already).
- Extreme care shall be taken not to overfill the refrigeration system.
- Prior to recharging the system it shall be pressure tested with OFN. The system shall be leak tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

## **17. Decommissioning**

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken.

In case analysis is required prior to re-use of reclaimed refrigerant. It is essential that electrical power is available before the task is commenced.

- a) Become familiar with the equipment and its operation.
- b) Isolate system electrically
- c) Before attempting the procedure ensure that:
  - mechanical handling equipment is available, if required, for handling refrigerant cylinders;
  - all personal protective equipment is available and being used correctly;
  - the recovery process is supervised at all times by a competent person;
  - recovery equipment and cylinders conform to the appropriate standards.
- d) Pump down refrigerant system, if possible.
- e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- f) Make sure that cylinder is situated on the scales before recovery takes place.
- g) Start the recovery machine and operate in accordance with manufacturer's instructions.
- h) Do not overfill cylinders. (No more than 80% volume liquid charge).
- i) Do not exceed the maximum working pressure of the cylinder, even temporarily.
- j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- k) Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

## **18. Labelling**

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. Ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

## **19. Recovery**

- When removing refrigerant from a system, either for service or decommissioning, it is recommended good practice that all refrigerants are removed safely.
- When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct numbers of cylinders for holding the total system charge are available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure relief valve and associated shut-off valves in good working order.
- Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.
- The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of flammable refrigerants. In addition, a set of calibrated weighing scales shall be available
- and in good working order.
- Hoses shall be complete with leak-free disconnect couplings and in good condition. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.
- The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant Waste Transfer Note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.
- If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The evacuation process shall be carried out prior to retraining the compressor to the suppliers. Only electric heating to the compressor body shall be employed to accelerate this process. When oil is drained from a system, it shall be carried out safely.

## **20. Transportation, marking and storage for units**

1. Transport of equipment containing flammable refrigerants  
Compliance with the transport regulations
2. Marking of equipment using signs  
Compliance with local regulations
3. Disposal of equipment using flammable refrigerants  
Compliance with national regulations
4. Storage of equipment/appliances  
The storage of equipment should be in accordance with the manufacturer's instructions.
5. Storage of packed (unsold) equipment  
Storage package protection should be constructed such that mechanical damage to the equipment inside the package will not cause a leak of the refrigerant charge.  
The maximum number of pieces of equipment permitted to be stored together will be determined by local regulations.

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



# Πίνακας Περιεχομένων

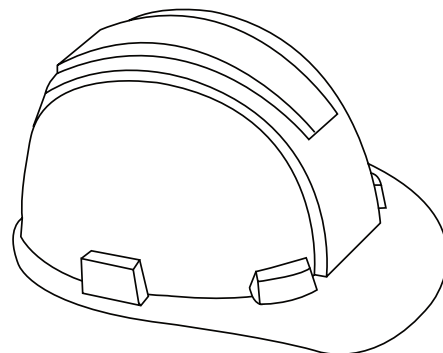
## Εγχειρίδιο Εγκατάστασης

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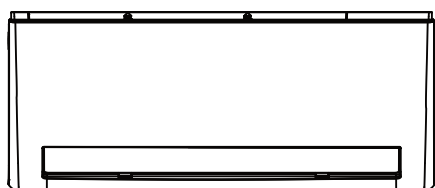
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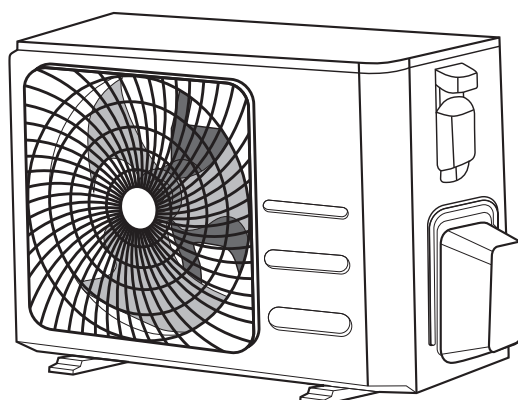
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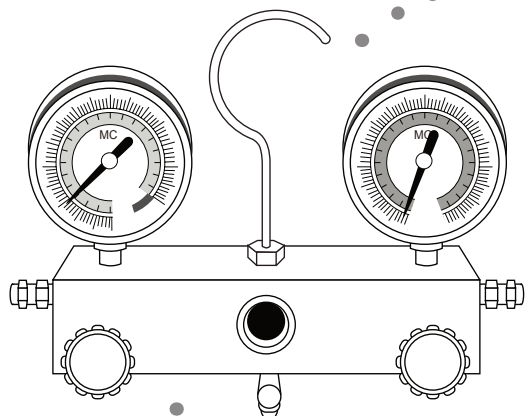
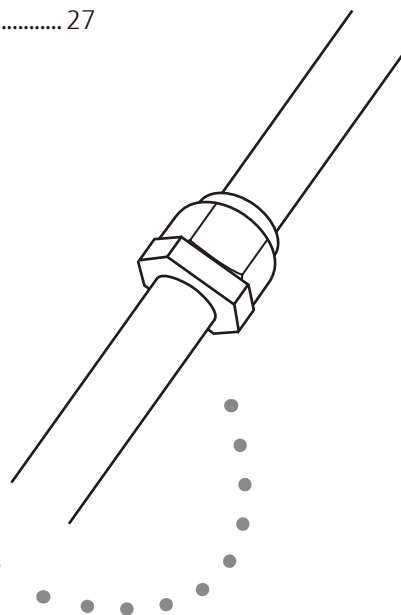


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(αφορά τα μοντέλα με ψυκτικό υγρό R32/R290)



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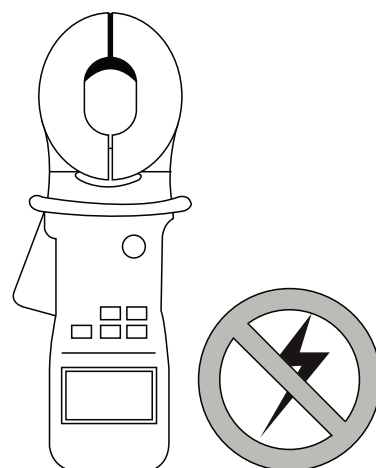
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# Οδηγίες Ασφαλείας

## Διαβάστε τις Οδηγίες Ασφαλείας πριν την εγκατάσταση

Εσφαλμένη εγκατάσταση λόγω αγνόησης των οδηγιών μπορεί να προκαλέσει σοβαρές καταστροφές ή τραυματισμούς. Η σοβαρότητα των πιθανών καταστροφών ή τραυματισμών εμφανίζεται ως ΠΡΟΕΙΔΟΠΟΙΗΣΗ ή ΠΡΟΣΟΧΗ.



### ΠΡΟΕΙΔΟΠΟΙΗΣΗ

Αυτό το σύμβολο δείχνει ότι αγνοώντας τις οδηγίες μπορεί να προκληθεί θάνατος ή σοβαρός τραυματισμός.



### ΠΡΟΣΟΧΗ

Αυτό το σύμβολο δείχνει ότι αγνοώντας τις οδηγίες μπορεί να προκληθεί κάποιος τραυματισμός τόσο στον ίδιο τον άνθρωπο όσο και καταστροφές στη συσκευή ή σε άλλη ιδιοκτησία.



Αυτό το σύμβολο δείχνει ότι δεν πρέπει ποτέ να πραγματοποιείτε την λειτουργία που δείχνει.



### ΠΡΟΕΙΔΟΠΟΙΗΣΗ

- ⊗ **ΜΗΝ** παραποιείτε το μήκος του καλωδίου ρεύματος και μην χρησιμοποιείτε πολύπριζα. ΜΗΝ τοποθετείτε και άλλες συσκευές στην ίδια πρίζα. Λανθασμένη και μη αποτελεσματική παροχή ρεύματος μπορεί να προκαλέσει φωτιά ή ηλεκτροπληξία.
- ⊗ Όταν συνδέετε με τον αγωγό ψυκτικού μέσου, **μην** αφήνετε ουσίες ή αέρια πέραν όσων ενδείκνυνται να εισέλθουν στη μονάδα. Η παρουσία άλλων αερίων ή ουσιών θα μειώσει την ισχύ και μπορεί να προκαλέσει ασυνήθιστη υψηλή πίεση στον ψυκτικό κύκλο. Αυτό μπορεί να φέρει έκκριξη και τραυματισμό.
- ⊗ **ΜΗΝ** αφήνετε τα παιδιά να παίξουν με το κλιματιστικό. Τα παιδιά πρέπει να επιβλέπονται αναφορικά με τη μονάδα κάθε στιγμή.

1. Η εγκατάσταση πρέπει να πραγματοποιείται από εξουσιοδοτημένο προμηθευτή ή ειδικό. Αναποτελεσματική εγκατάσταση μπορεί να προκαλέσει διαρροές νερού, ηλεκτροπληξία ή φωτιά.
2. Η εγκατάσταση πρέπει να πραγματοποιείται σύμφωνα με τις οδηγίες εγκατάστασης. Εσφαλμένη εγκατάσταση μπορεί να προκαλέσει διαρροή νερού, ηλεκτροπληξία ή φωτιά. (Στην Βόρεια Αμερική, η εγκατάσταση πρέπει να πραγματοποιείται σύμφωνα με τις προδιαγραφές της NEC και CEC από εξουσιοδοτημένο προσωπικό και μόνο).
3. Επικοινωνήστε με εξουσιοδοτημένο κέντρο σέρβις για επισκευή ή συντήρηση της μονάδας.
4. Χρησιμοποιήστε μόνο τα συμπεριλαμβανόμενα εξαρτήματα, μέρη και ειδικά στοιχεία για εγκατάσταση. Η χρήση άλλων εξαρτημάτων μπορεί να προκαλέσει διαρροή νερού, ηλεκτροπληξία, φωτιά καθώς και καταστροφή της μονάδας.
5. Εγκαταστήστε τη μονάδα σε τοποθεσία που μπορεί να υποστηρίξει το βάρος της μονάδας καθώς αν δεν γίνει η εγκατάσταση σωστά, η μονάδα μπορεί να πέσει και να προκαλέσει σοβαρούς τραυματισμούς και καταστροφές.
6. Μην χρησιμοποιείτε άλλα μέσα για να επισπεύσετε τη διαδικασία απόψυξης ή καθαρισμού, εκτός όσων συστήνονται από τον κατασκευαστή.
7. Η μονάδα θα πρέπει να τοποθετείται σε χώρους όπου δεν υπάρχουν εύφλεκτα στοιχεία όπως για παράδειγμα πηγές θερμότητας, συσκευές αερίου ή θερμαντικά σώματα.
8. Μην αποσυναρμολογείτε την μονάδα και μην τροποποιείτε το ψυκτικό κύκλωμα.
9. Η μονάδα θα πρέπει να εγκαθίσταται σε χώρους με επαρκή εξαερισμό και σε μέρη που το μέγεθος τους μπορεί να υποστηρίξει τη λειτουργία αυτής της μονάδας.
10. Το ψυκτικό υγρό με το οποίο λειτουργεί η μονάδα, είναι άοσμο.

**ΣΗΜΕΙΩΣΗ:** 7 στα 10 κλιματιστικά υποχρεούνται να υιοθετήσουν ψυκτικό υγρό R32/R290.





## ΠΡΟΕΙΔΟΠΟΙΗΣΗ

11. Για ηλεκτρολογικές διεργασίες, ακολουθήστε τις τοπικές και εθνικές ηλεκτρολογικές προδιαγραφές, νόμους και εγχειρίδια εγκατάστασης. Θα πρέπει να χρησιμοποιείτε ανεξάρτητο κύκλωμα τροφοδοσίας με ρεύμα και ξεχωριστή πρίζα. Μην συνδέετε άλλες συσκευές στην ίδια πρίζα. Αναποτελεσματική παροχή ρεύματος ή σφάλματα στην ηλεκτρολογική σύνδεση μπορεί να προκαλέσουν φωτιά καθώς και ηλεκτροπληξία.
12. Για ηλεκτρολογικές διεργασίες, χρησιμοποιήστε ειδικά καλώδια. Ενώστε τα καλώδια σφιχτά και σφίξτε τα με απόλυτη ασφάλεια ώστε να εμποδίσετε εξωτερικούς παράγοντες να προκαλέσουν καταστροφές. Εσφαλμένη ηλεκτρολογική σύνδεση μπορεί να προκαλέσει υπερθέρμανση, φωτιά και ηλεκτροπληξία.
13. Όλα τα καλώδια θα πρέπει να είναι σωστά τοποθετημένα ώστε να διασφαλίζεται το σωστό κλείσιμο του πίνακα ελέγχου. Αν δεν έχει γίνει σωστό κλείσιμο του πίνακα ελέγχου, μπορεί να οδηγήσει σε διάβρωση, υπερθέρμανση, φωτιά και ηλεκτροπληξία.
14. Σε συγκεκριμένα περιβάλλοντα λειτουργίας, όπως κουζίνες, δωμάτια σερβιρίσματος κλπ, συνιστάται η χρήση ειδικών κλιματιστικών μονάδων.
15. Αν το καλώδιο τροφοδοσίας έχει φθαρεί, θα πρέπει να αντικατασταθεί αμέσως από τον κατασκευαστή ή από αδειοδοτημένο τεχνικό, ώστε να αποφευχθούν πιθανά ατυχήματα.
16. ΜΗΝ ΕΠΙΤΡΕΠΕΤΕ σε παιδιά κάτω των 8 ετών να χρησιμοποιούν αυτή τη συσκευή. Βεβαιωθείτε ότι, τα παιδιά και τα άτομα με ειδικές ανάγκες ή με έλλειψη γνώσης και εμπειρίας, επιβλέπονται από άτομα υπεύθυνα για την ασφάλειά τους και δεν αναλαμβάνουν διαδικασίες όπως τον καθαρισμό ή τη συντήρηση της συσκευής. Τα παιδιά θα πρέπει πάντοτε να επιβλέπονται ώστε να μην παίζουν με τη συσκευή.



## ΠΡΟΣΟΧΗ

- ⊗ Για μονάδες που έχουν βοηθητικά θερμαντικά σώματα, ΜΗΝ εγκαθιστάτε τη μονάδα σε λιγότερο από 1 μέτρο (3 πόδια) απόσταση από εύφλεκτα υλικά.
  - ⊗ ΜΗΝ εγκαθιστάτε τη μονάδα σε περιοχή που μπορεί να υπάρξει διαρροή εύφλεκτου αερίου. Αν μαζευτεί γύρω από τη μονάδα εύφλεκτο υλικό, μπορεί να προκληθεί φωτιά.
  - ⊗ ΜΗΝ λειτουργείτε τη μονάδα σε υγρό περιβάλλον όπως μπάνιο ή δωμάτιο μπουγάδας. Η υπερβολική έκθεση σε νερό μπορεί να προκαλέσει βραχυκύκλωμα στα ηλεκτρολογικά μέρη.
1. Το προϊόν πρέπει να είναι σωστά εδραιωμένο τη στιγμή της εγκατάστασης αλλιώς μπορεί να προκληθεί ηλεκτροπληξία.
  2. Εγκαταστήστε αγωγό αποστράγγισης σύμφωνα με τις οδηγίες στο εγχειρίδιο. Εσφαλμένη αποστράγγιση μπορεί να προκαλέσει καταστροφές στο σπίτι και την ιδιοκτησία σας.
  3. Το κλιματιστικό θα πρέπει να τοποθετείται με τέτοιο τρόπο που να εξασφαλίζεται η σωστή λειτουργία του, προς αποφυγή δυσλειτουργιών.
  4. Το άτομο που θα εμπλακεί με την επισκευή ή συντήρηση του κλιματιστικού και θα παρέμβει στο ψυκτικό κύκλωμα θα πρέπει να φέρει όλα τα απαραίτητα πιστοποιητικά που ορίζουν την αδειοδότηση του ατόμου, ως ψυκτικού.

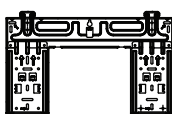
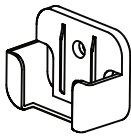
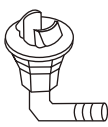
## Σημείωση σχετικά με Φθοριούχα Αέρια

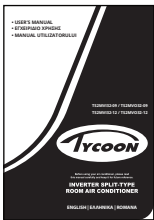
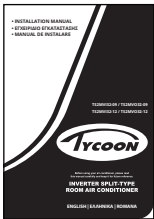
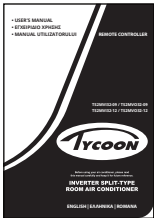
1. Το κλιματιστικό εμπεριέχει φθοριούχα αέρια. Για συγκεκριμένες πληροφορίες σχετικά με τον τύπο του αερίου και την ποσότητα, παρακαλείσθε να ανατρέξετε στο σχετικό ταμπελάκι της μονάδας.
2. Η εγκατάσταση, η συντήρηση και η επισκευή του πρέπει να πραγματοποιούνται από εξειδικευμένο τεχνικό.
3. Η απεγκατάσταση του προϊόντος και η ανακύκλωσή του πρέπει να πραγματοποιούνται από εξειδικευμένο τεχνικό.
4. Αν υπάρχει εγκατεστημένο σύστημα ελέγχου διαρροών, θα πρέπει να ελέγχεται κάθε 12 μήνες για διαρροή.
5. Όταν ελεγχθεί η μονάδα για διαρροή, συνιστάται η καταγραφή του ιστορικού ελέγχων.

# Εξαρτήματα

# 1

Η κλιματιστική μονάδα παρέχεται με τα ακόλουθα εξαρτήματα. Χρησιμοποιήστε όλα τα μέρη εγκατάστασης και τα εξαρτήματα ώστε να εγκαταστήσετε το κλιματιστικό. Εσφαλμένη εγκατάσταση μπορεί να έχει ως αποτέλεσμα διαροή νερού, ηλεκτροπληξία και φωτιά, ή καταστροφές στο προϊόν.

| Όνομα                                                         | Σχήμα                                                                               | Ποσότητα                             |                     |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------|---------------------|
| Επιτοίχια βάση                                                |    | 1                                    |                     |
| Ούπα                                                          |    | 5                                    |                     |
| Αυτοδιάτρητη βίδα ST3.9 X 25                                  |   | 5                                    |                     |
| Ασύρματο τηλεχειριστήριο                                      |  | 1                                    |                     |
| Αυτοδιάτρητη Βίδα για τη βάση του τηλεχειριστηρίου ST2.9 x 10 |  | 2                                    | Προαιρετικά<br>Μέρη |
| Βάση Ασύρματου τηλεχειριστηρίου                               |  | 1                                    |                     |
| Μπαταρίες ξηρού τύπου AAA LR03                                |  | 2                                    |                     |
| Πώμα                                                          |  | 1                                    |                     |
| Σύνδεσμος αποστράγγισης                                       |  | (Για μοντέλα ψύξης & θέρμανσης μόνο) |                     |

| Όνομα                        | Σχήμα                                                                             | Ποσότητα                                                                                         |
|------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Εγχειρίδιο Χρήστη            |  | 1                                                                                                |
| Εγχειρίδιο Εγκατάστασης      |  | 1                                                                                                |
| Εγχειρίδιο Τηλεχειριστηρίου  |  | 1                                                                                                |
| Ένωση<br>Συνδεδεμένων Αγωγών | Γραμμή<br>ρευστού                                                                 | Φ 6.35 (1/4in)                                                                                   |
|                              |                                                                                   | Φ 9.52 (3/8in)                                                                                   |
|                              | Γραμμή<br>Αερίου                                                                  | Φ 9.52 (3/8in)                                                                                   |
|                              |                                                                                   | Φ 12.7 (1/2in)                                                                                   |
|                              |                                                                                   | Φ 16 (5/8in)                                                                                     |
|                              |                                                                                   | Φ 19 (3/4in)                                                                                     |
|                              |                                                                                   | Εξαρτήματα που πρέπει να αγοράσετε. Συμβουλευτείτε τον προμηθευτή σας για το μέγεθος των αγωγών. |



## ΠΡΟΕΙΔΟΠΟΙΗΣΗ

Η μονάδα θα πρέπει να εγκαθίσταται σε χώρους με επαρκή εξαερισμό και σε μέρη που το μέγεθος τους μπορεί να υποστηρίξει τη λειτουργία αυτής της μονάδας.

Για κλιματιστικά με ψυκτικό υγρό R32:

Η μονάδα θα πρέπει να εγκατασταθεί σε χώρο μεγαλύτερο των 4 m<sup>2</sup> και με επαρκή εξαερισμό.

Για κλιματιστικά με ψυκτικό υγρό R290, τα ελάχιστα επιτρεπτά τετραγωνικά του χώρου είναι:

<=9000Btu/h μονάδες: 13m<sup>2</sup>

>9000Btu/h and <=12000Btu/h μονάδες: 17m<sup>2</sup>

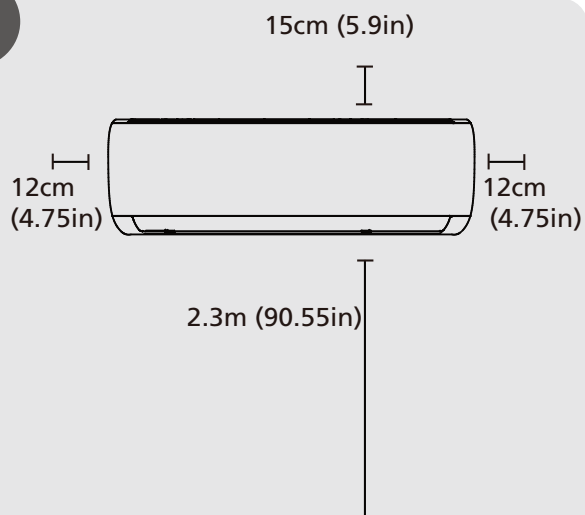
>12000Btu/h and <=18000Btu/h μονάδες: 26m<sup>2</sup>

>18000Btu/h and <=24000Btu/h μονάδες: 35m<sup>2</sup>

# Περίληψη Εγκατάστασης - Εσωτερική Μονάδα

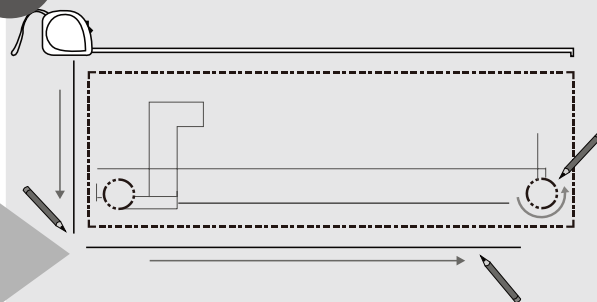
# 2

## 1

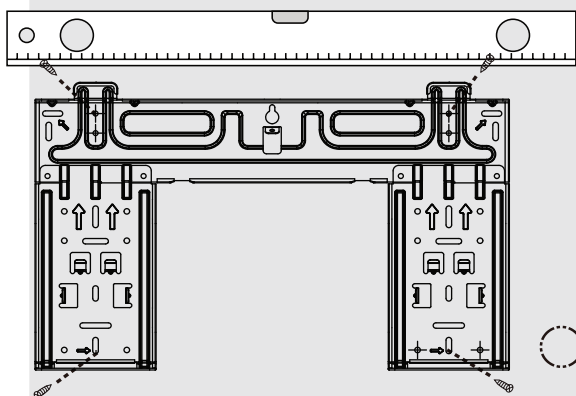


Επιλέξτε θέση Εγκατάστασης  
(Σελίδα 11)

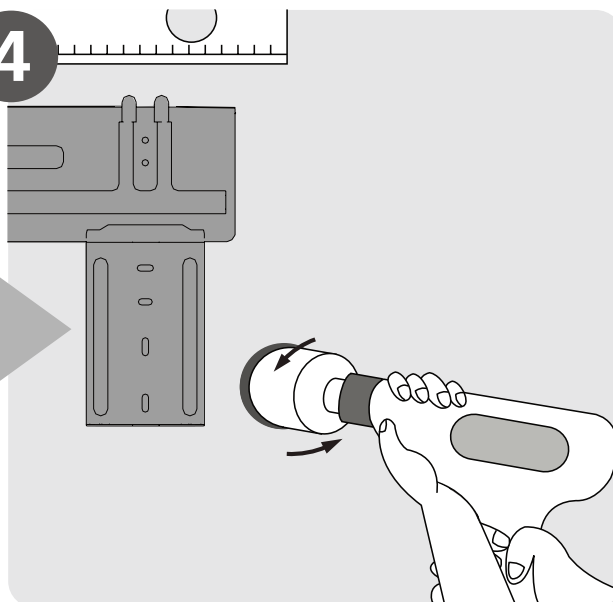
## 2



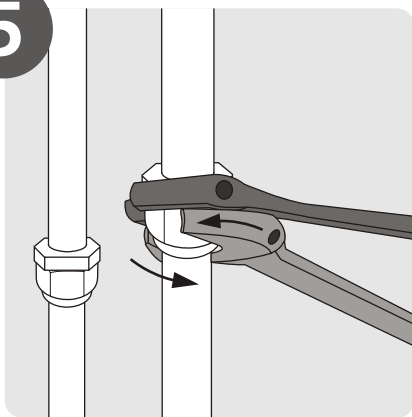
## 3



## 4

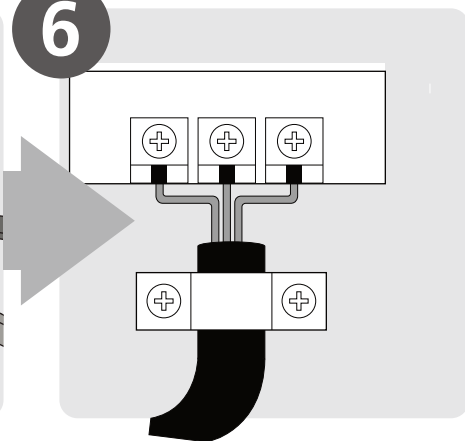


5



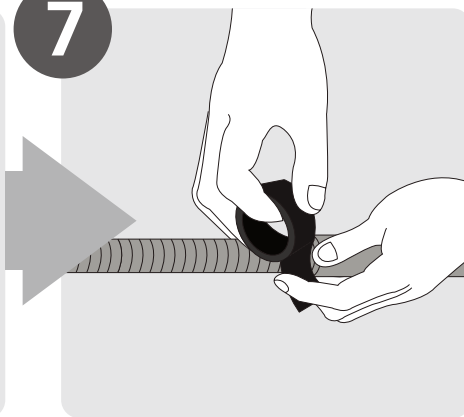
Συνδέστε τους αγωγούς  
(Σελίδα 25)

6



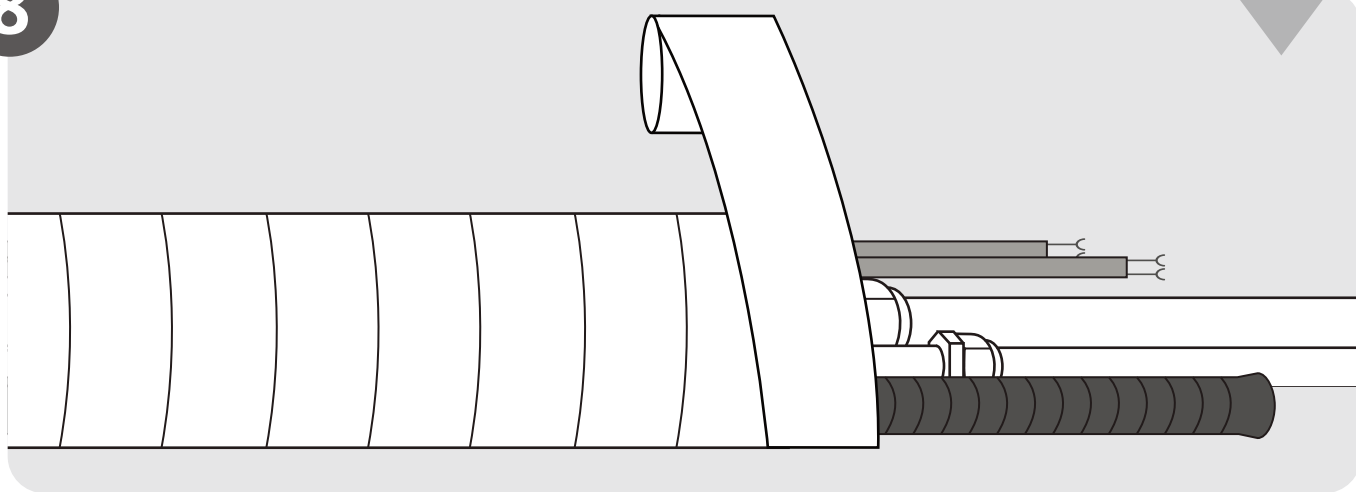
Συνδέστε τις καλωδιώσεις  
(Σελίδα 17)

7



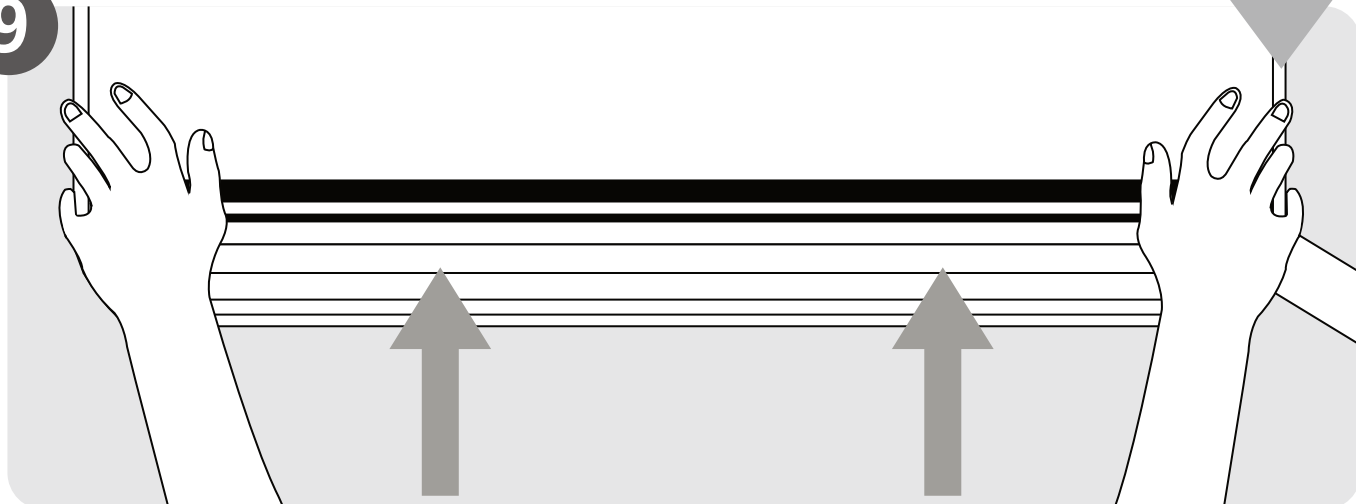
Προετοιμάστε τον  
αγωγό αποστράγγισης  
(Σελίδα 14)

8



Τυλίξτε Αγωγούς και Καλωδιώσεις  
(δεν μπορεί να εφαρμοστεί σε ορισμένες περιοχές στην Αμερική)  
(Σελίδα 18)

9

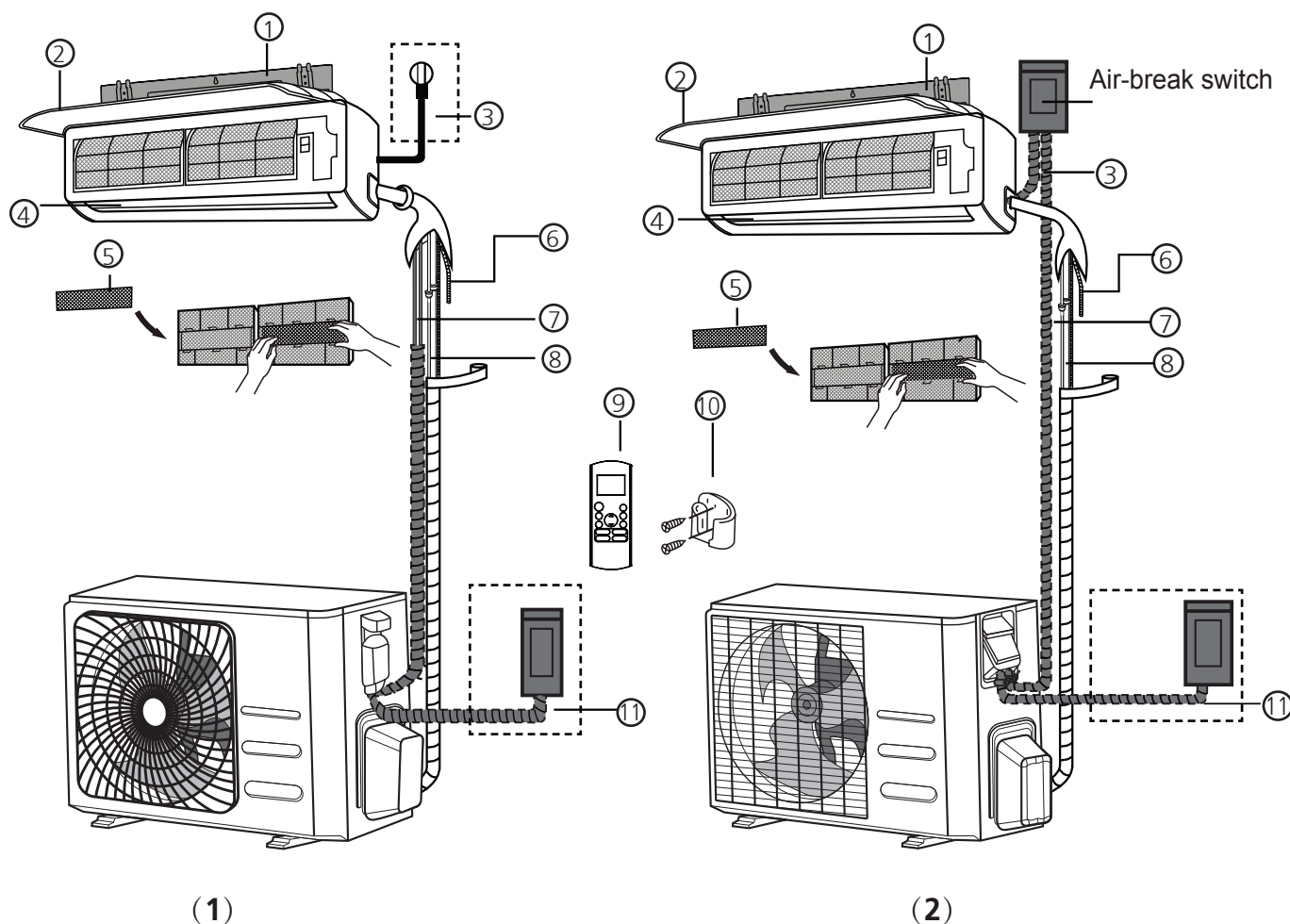


Τοποθετήστε την Εσωτερική Μονάδα  
(Σελίδα 18)

# Μέρη Μονάδας

# 3

**ΣΗΜΕΙΩΣΗ:** Η εγκατάσταση του κλιματιστικού θα πρέπει να γίνεται πάντα σύμφωνα με τους τοπικούς κανόνες και τις εθνικές διατάξεις. Ο τρόπος εγκατάστασης μπορεί να εμφανίζει μικρές διαφορές ανάλογα τη περιοχή εγκατάστασης.



Εικ. 3.1

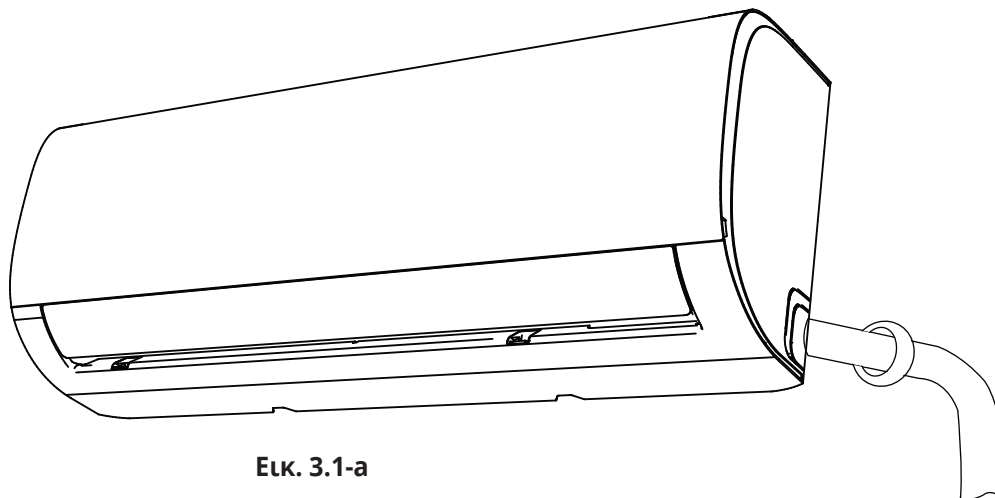
- |                                        |                                                                       |                                                         |
|----------------------------------------|-----------------------------------------------------------------------|---------------------------------------------------------|
| ① Βάση στήριξης                        | ⑤ Φίλτρο Λειτουργίας (Μπροστά από το κύριο Φίλτρο – Ορισμένα μοντέλα) | ⑨ Τηλεχειριστήριο                                       |
| ② Μπροστινό Πάνελ                      | ⑥ Αγωγός Αποστράγγισης                                                | ⑩ Βάση Τηλεχειριστηρίου (ορισμένες μονάδες)             |
| ③ Καλώδιο Ρεύματος (Ορισμένες Μονάδες) | ⑦ Καλώδιο Σήματος                                                     | ⑪ Εξωτερική Μονάδα Καλώδιο Ρεύματος (Ορισμένες Μονάδες) |
| ④ Περσίδα                              | ⑧ Αγωγός ψυκτικού μέσου                                               |                                                         |

## ΣΗΜΕΙΩΣΗ ΕΙΚΟΝΟΓΡΑΦΗΜΕΝΩΝ

Οι εικονογραφήσεις σε αυτό το εγχειρίδιο είναι για επεξηγηματικούς σκοπούς. Το πραγματικό σχήμα της εσωτερικής σας μονάδας μπορεί να διαφέρει ελαφρώς. Το πραγματικό σχήμα θα επικρατήσει.

# · Εγκατάσταση Εσωτερικής Μονάδας

# 4



Εικ. 3.1-a

## Οδηγίες Εγκατάστασης- Εσωτερική Μονάδα

### ΣΗΜΑΝΤΙΚΟ ΣΤΗΝ ΕΓΚΑΤΑΣΤΑΣΗ

Πριν την εγκατάσταση της εσωτερικής μονάδας, ανατρέξτε στο ταμπελάκι του κουτιού του προϊόντος για να διασφαλίσετε ότι ο αριθμός του μοντέλου της εσωτερικής μονάδας ταιριάζει με τον αριθμό του μοντέλου της εξωτερικής μονάδας.

### Βήμα 1: Επιλέξτε τοποθεσία εγκατάστασης.

Πριν εγκαταστήσετε την εσωτερική μονάδα, θα πρέπει να επιλέξετε κατάλληλη τοποθεσία. Οι ακόλουθες είναι προϋποθέσεις που θα σας βοηθήσουν να βρείτε κατάλληλη τοποθεσία.

### Για σωστή τοποθεσία εγκατάστασης ακολουθήστε τις παρακάτω οδηγίες:

- ☒ Καλή ανακυκλοφορία αέρα
- ☒ Επαρκής αποστράγγιση
- ☒ Ο θόρυβος από τη μονάδα δεν θα ενοχλεί τους παρευρισκόμενους
- ☒ Σταθερή και στιβαρή τοποθεσία για αποφυγή κραδασμών
- ☒ Στιβαρό αρκετά να υποστηρίξει το βάρος της μονάδας
- ☒ Τοποθεσία τουλάχιστον 1 μέτρο μακριά από ηλεκτρικές συσκευές (πχ. Τηλεόραση, Ραδιόφωνο, Υπολογιστή)

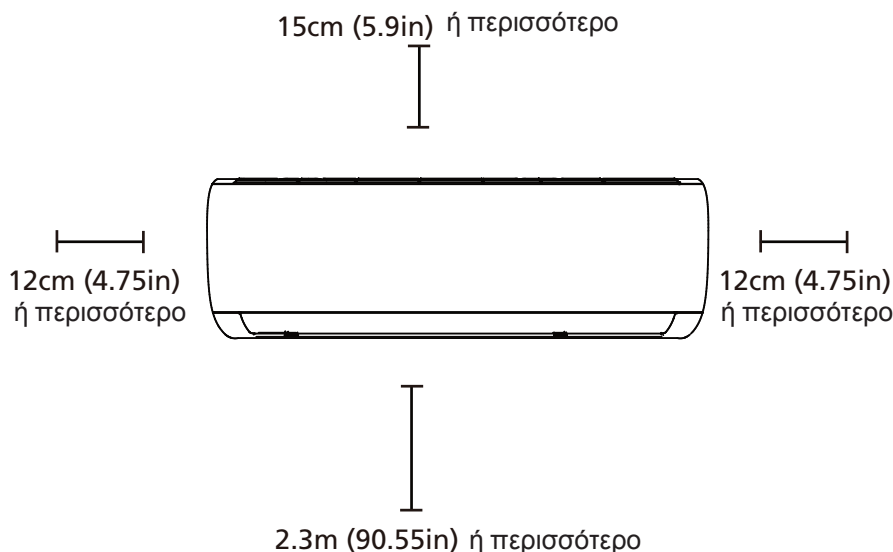
### ΜΗΝ εγκαθιστάτε τη μονάδα στις ακόλουθες τοποθεσίες:

- ⊗ Δίπλα σε εύφλεκτα αντικείμενα όπως κουρτίνες ή ρούχα
- ⊗ Δίπλα σε εμποδία που μπορεί να μπλοκάρουν την ανακυκλοφορία του αέρα
- ⊗ Δίπλα από το άνοιγμα πόρτας
- ⊗ Σε περιοχές απευθείας έκθεσης στην ηλιακή ακτινοβολία

### ΣΗΜΕΙΩΣΗ ΓΙΑ ΤΗΝ ΟΠΗ ΤΟΙΧΟΥ:

Αν δεν υπάρχει σταθερός αγωγός ψυκτικού μέσου: Όταν θα ψάχνετε για τοποθεσία εγκατάστασης, να γνωρίζετε ότι πρέπει να αφήσετε αρκετό χώρο για την οπή στον τοίχο (Δείτε το Βήμα "Ανοίξτε την οπή στον τοίχο για τον αγωγό σύνδεσης) για το καλώδιο σήματος και τον αγωγό ψυκτικού μέσου που ενώνει την εσωτερική με την εξωτερική μονάδα. Η προεπιλεγμένη τοποθέτηση για όλες τις σωληνώσεις είναι η δεξιά πλευρά της εσωτερικής μονάδας (όπως βλέπετε τη μονάδα). Παρόλα αυτά, η μονάδα μπορεί να προσαρμόσει αγωγό και στις δυο πλευρές, αριστερά και δεξιά.

**Ανατρέξτε στο ακόλουθο διάγραμμα ώστε να επιβεβαιώσετε την κατάλληλη απόσταση από τους τοίχους και την οροφή:**



**Εικ. 3.1-b**

### **Βήμα 2: Προσαρμόστε την επιτοίχια πλακέτα στον τοίχο**

Η επιτοίχια πλακέτα είναι η συσκευή στην οποία τοποθετείτε την εσωτερική μονάδα.

1. Αφαιρέστε τη βίδα που προσαρμόζεται η επιτοίχια πλακέτα στο πίσω μέρος της εσωτερικής μονάδας.
2. Τοποθετήστε την επιτοίχια μονάδα στον τοίχο σε τοποθεσία που συμφωνεί με τις προϋποθέσεις του βήματος “Επιλέξτε Τοποθεσία Εγκατάστασης”. (Δείτε Διαστάσεις Επιτοίχιας Πλακέτας για περισσότερες πληροφορίες σχετικά με τα μεγέθη επιτοίχιας πλακέτας.)
3. Ανοίξτε οπές για τις επιτοίχιες βίδες σε μέρη που:
  - έχουν καρφιά που υποστηρίζουν το βάρος της μονάδας
  - ανταποκρίνονται ορθά στις προδιαγραφές βιδών της επιτοίχιας πλακέτας
4. Επιβεβαιώστε το ταίριασμα στις βίδες μεταξύ επιτοίχιας πλακέτας και τοίχου
5. Βεβαιωθείτε ότι η επιτοίχια πλακέτα είναι επίπεδη στον τοίχο.

### **ΣΗΜΕΙΩΣΗ ΓΙΑ ΤΟΙΧΟΥΣ ΜΕ ΤΟΥΒΛΑ Η ΣΚΥΡΟΔΕΜΑ:**

Αν ο τοίχος είναι κατασκευασμένος από τούβλο, σκυρόδεμα ή παρόμοια υλικά, ανοίξτε οπές διαμέτρου (0.2in) στον τοίχο και τοποθετήστε ούπες στερεώματος που παρέχονται. Έπειτα εφαρμόστε την επιτοίχια πλακέτα στον τοίχο βιδώνοντας στα κλιπ στερέωσης.

### **Βήμα 3: Διάνοξη οπής στον τοίχο για τον αγωγό σύνδεσης**

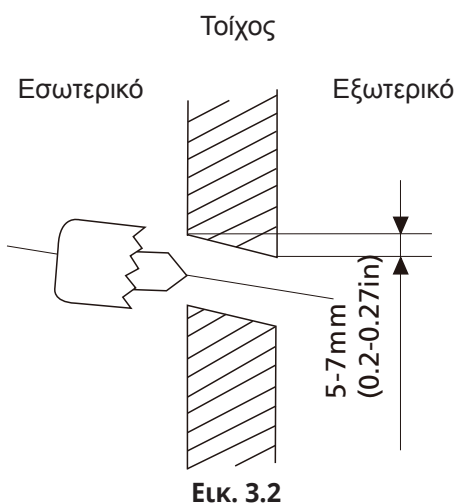
Θα πρέπει να ανοίξετε οπή στον τοίχο για τη σωλήνα ψυκτικού μέσου, τη σωλήνα αποστράγγισης και το καλώδιο σήματος που θα ενώνει την εσωτερική με την εξωτερική μονάδα.

1. Εξακριβώστε τη τοποθεσία της οπής στον τοίχο βάση της θέσης της επιτοίχιας πλακέτας. Ανατρέξτε στις Διαστάσεις Επιτοίχιας Πλακέτας στο επόμενο βήμα ώστε να εξακριβώσετε την ιδανική θέση. Η οπή στον τοίχο θα πρέπει να έχει διάμετρο 65mm (2.5in) το λιγότερο και να είναι ελαφρώς υπό γωνία ώστε να πραγματοποιείται αποστράγγιση.
2. Χρησιμοποιώντας τρυπάνι Φ65mm, ανοίξτε οπή στον τοίχο. Βεβαιωθείτε ότι η οπή θα ανοιχτεί υπό κάθετη γωνία, έτσι ώστε το εξωτερικό τελείωμα της τρύπας να είναι χαμηλότερο από το εσωτερικό τελείωμα κατά 5mm έως 7mm (0.2- 0.275in). Αυτό θα επιβεβαιώσει την απαραίτητη αποστράγγιση νερού. (Δείτε Σχ.3.2)
3. Τοποθετήστε το προστατευτικό κάλυμμα πάνω από τη τρύπα. Αυτό προστατεύει τις γωνίες της οπής και θα βοηθήσει στη κάλυψή της όταν τελειώσετε τη διαδικασία εγκατάστασης.

### **! ΠΡΟΣΟΧΗ**

Όταν ανοίγετε την οπή στον τοίχο, βεβαιωθείτε ότι αποφεύγετε καλώδια, υδραυλικούς αγωγούς ή άλλα ευαίσθητα εξαρτήματα.

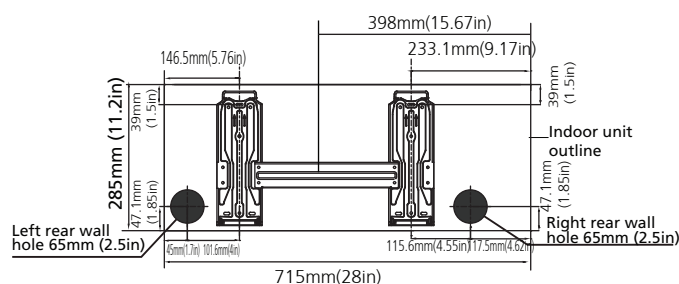




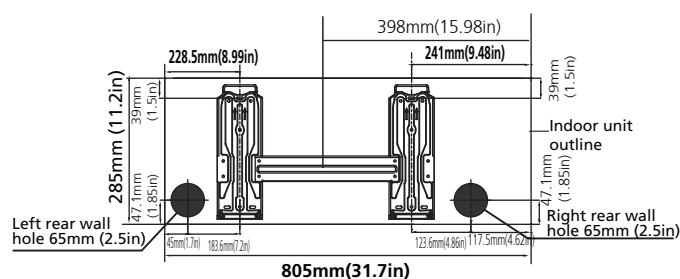
### ΔΙΑΣΤΑΣΕΙΣ ΒΑΣΗΣ ΣΤΗΡΙΞΗΣ

Διαφορετικά μοντέλα έχουν διαφορετικές βάσεις στήριξης. Με σκοπό να επιβεβαιωθείτε ότι έχετε αρκετό χώρο στο δωμάτιο για να τοποθετήσετε την εσωτερική σας μονάδα, το διάγραμμα στα δεξιά εμφανίζει διαφορετικούς τύπους επιτοίχιων μονάδων σύμφωνα με τις ακόλουθες διαστάσεις:

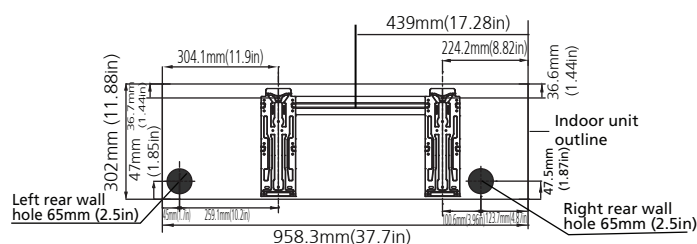
- Πλάτος βάσης στήριξης
- Ύψος βάσης στήριξης
- Πλάτος εσωτερικής μονάδας αναφορικά με την βάση στήριξης
- Ύψος εσωτερικής μονάδας αναφορικά με την βάση στήριξης
- Προτεινόμενη θέση της τρύπας τοίχου (για τη δεξιά και αριστερή βάση στήριξης)
- Σχετικές αποστάσεις μεταξύ βιδών



Model A

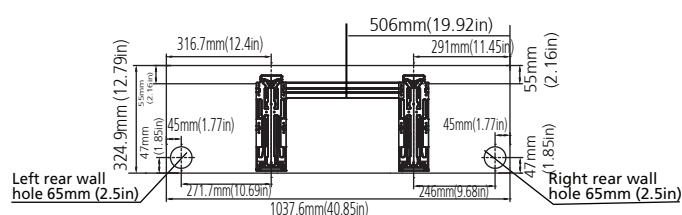
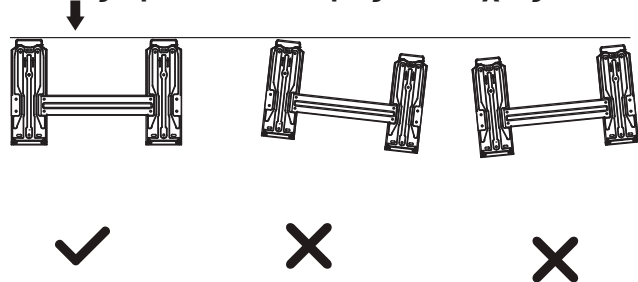


Model B



Model C

### Σωστός προσανατολισμός Επιτοίχιας Μονάδας



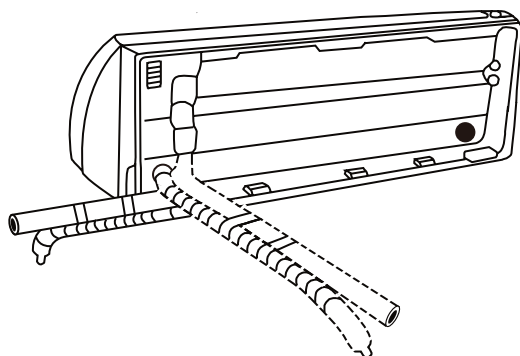
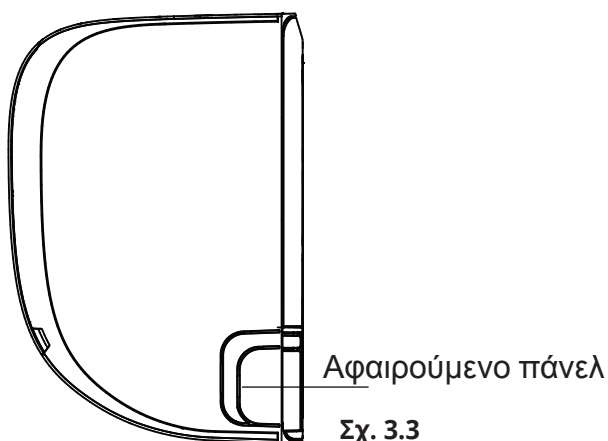
Model D

**ΣΗΜΕΙΩΣΗ:** Όταν ο αγωγός αερίου έχει διάμετρο Φ16mm(5/8in) ή μεγαλύτερη, η οπή στον τοίχο θα πρέπει να είναι 90mm(3.54in).

#### Βήμα 4: Προετοιμάστε τον αγωγό ψυκτικού μέσου

Ο αγωγός ψυκτικού μέσου είναι εντός της προστατευμένης θήκης στο πίσω μέρος της μονάδας. Πρέπει να προετοιμάσετε τη σωλήνωση πριν τη περάσετε μέσα από τον τοίχο. Ανατρέξτε στην ενότητα Σύνδεση Αγωγού Ψυκτικού Μέσου αυτού του εγχειριδίου για περισσότερες λεπτομέρειες σχετικά με το άνοιγμα του αγωγού, την περιστροφή του, τις τεχνικές προδιαγραφές κλπ.

1. Βασιζόμενοι στη θέση της οπής του τοίχου σχετικά με την επιτοίχια πλακέτα, επιλέξτε τη πλευρά από την οποία θα βγαίνει ο αγωγός από τη μονάδα.
2. Αν η οπή είναι πίσω από τη μονάδα, κρατήστε εκεί το αφαιρούμενο πάνελ. Αν η οπή είναι από τη πλευρά της εσωτερικής μονάδας, αφαιρέστε το πλαστικό αφαιρούμενο πάνελ από αυτή τη πλευρά της μονάδας. (Δείτε Σχ. 3.8). Αυτό θα δημιουργήσει ένα κενό μέσω του οποίου μπορεί να βγαίνει ο αγωγός από τη μονάδα. Χρησιμοποιήστε ειδική πένσα αν το πλαστικό πάνελ είναι πολύ δύσκολο να αφαιρεθεί με το χέρι.



3. Χρησιμοποιήστε ψαλίδια να κόψετε το μήκος της μονωτικής ταινίας αφήνοντας περίπου 15cm (6in) από τον αγωγό ψυκτικού μέσου. Αυτό εξυπηρετεί 2 σκοπούς:
  - Να διευκολύνει τη διαδικασία σύνδεσης του αγωγού Ψυκτικού Μέσου
  - Να διευκολύνει τον έλεγχο για διαρροή και τον έλεγχο βαθουλώματος
4. Εάν υπάρχουν ήδη υπάρχουσες συνδετικές σωληνώσεις ενσωματωμένες στον τοίχο, προχωρήστε απευθείας στο το βήμα σύνδεσης σωλήνα αποστράγγισης. Εάν δεν υπάρχουν ενσωματωμένες σωληνώσεις, συνδέστε τον αγωγό ψυκτικού μέσου της εσωτερικής μονάδας στον αγωγό σύνδεσης της εσωτερικής με την εξωτερική μονάδα. Ανατρέξτε στην ενότητα Σύνδεση Αγωγού Ψυκτικού Μέσου αυτού του εγχειριδίου για περισσότερες πληροφορίες.
5. Βασιζόμενοι στη θέση της οπής του τοίχου σχετικά με την επιτοίχια πλακέτα, επιβεβαιώστε την απαραίτητη γωνία του αγωγού.
6. Τυλίξτε τον αγωγό ψυκτικού μέσου στη βάση στήριξης.
7. Αργά, χωρίς σχεδόν καμία πίεση, στηρίξτε τον αγωγό σύμφωνα με την οπή. **ΜΗΝ** λυγίζετε ή καταστρέψετε τον αγωγό κατά τη διάρκεια της διαδικασίας.

#### ΣΗΜΕΙΩΣΗ ΓΙΑ ΓΩΝΙΑ ΑΓΩΓΟΥ

Ο αγωγός του ψυκτικού μέσου μπορεί να βγει από την εσωτερική μονάδα από 4 διαφορετικές γωνίες:

- Αριστερή πλευρά
- Αριστερή πίσω πλευρά
- Δεξιά πλευρά
- Δεξιά πίσω πλευρά

Ανατρέξτε στο Σχ.3.4 για λεπτομέρειες

#### ! ΠΡΟΣΟΧΗ

Να είστε ιδιαίτερα προσεκτικοί να μην προκαλέσετε βαθούλωμα ή καταστροφή του αγωγού κατά τη διάρκεια που τα βγάζετε από το μηχάνημα. Οποιοδήποτε βαθούλωμα στον αγωγό μπορεί να έχει επιπτώσεις στην λειτουργία της μονάδας.

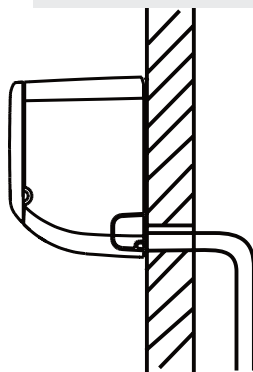
### Βήμα 5. Συνδέστε τον αγωγό αποστράγγισης

Προεπιλεγμένα, ο αγωγός αποστράγγισης είναι ενσωματωμένος στην αριστερή πλευρά της μονάδας (όπως βλέπετε το πίσω μέρος της μονάδας). Παρόλα αυτά, μπορεί επίσης να ενσωματωθεί στη δεξιά πλευρά.

1. Για να διασφαλίσετε την απαραίτητη αποστράγγιση, ενσωματώστε τον αγωγό αποστράγγισης στην ίδια πλευρά που ο αγωγός του ψυκτικού μέσου βγαίνει από τη μονάδα.
2. Ενσωματώστε επέκταση του αγωγού αποστράγγισης παγίδευση του νερού. (ξεχωριστή χρέωση) στο τέλος του αγωγού αποστράγγισης.
3. Τυλίξτε το σημείο σύνδεσης με Teflon ταινία ώστε να διασφαλίσετε καλή μόνωση και να αποφύγετε την όποια διαρροή.
4. Για το τμήμα του αγωγού αποστράγγισης που θα παραμείνει εντός της μονάδας, τυλίξτε το με αφρώδη μόνωση σωλήνα ώστε να αποφύγετε την όποια υγραποίηση.
5. Αφαιρέστε το φίλτρο αέρα και αδειάστε μικρή ποσότητα νερού μέσα στο δοχείο αποστράγγισης ώστε να βεβαιωθείτε ότι το νερό ρέει ομαλά.

### ΦΡΑΣΤΕ ΤΟΝ ΑΧΡΗΣΙΜΟΠΟΙΗΤΟ ΑΓΩΓΟ ΑΠΟΣΤΡΑΓΓΙΣΗΣ

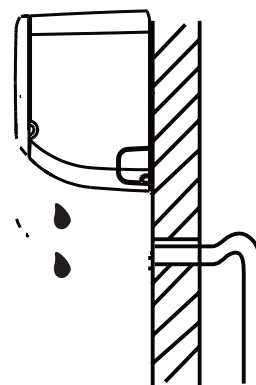
Για να αποφύγετε ανεπιθύμητες διαρροές θα πρέπει να φράσετε τον αχρησιμοποίητο αγωγό αποστράγγισης με την ενδεικνυμένη τσιμούχα.



Σχ. 3.5

#### ΣΩΣΤΟ

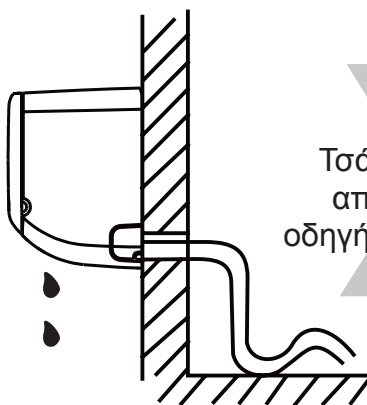
Βεβαιωθείτε ότι δεν υπάρχουν τσακίσματα ή βαθουλώματα στον αγωγό αποστράγγισης ώστε να διασφαλίσετε την απαραίτητη αποστράγγιση



Σχ. 3.6

#### ΛΑΘΟΣ

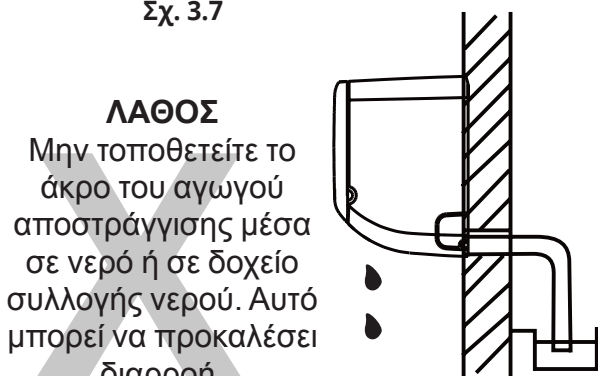
Τσακισή στον αγωγό αποστράγγισης θα οδηγήσει στη παγίδευση του νερού.



Σχ. 3.7

#### ΛΑΘΟΣ

Τσακισή στον αγωγό αποστράγγισης θα οδηγήσει στην παγίδευση του νερού.



Σχ. 3.8

### ΣΗΜΕΙΩΣΗ ΣΤΗΝ ΤΟΠΟΘΕΤΗΣΗ ΤΟΥ ΑΓΩΓΟΥ ΑΠΟΣΤΡΑΓΓΙΣΗΣ

Βεβαιωθείτε ότι τοποθετήσατε τον αγωγό αποστράγγισης σύμφωνα με το Σχ. 3.9.

⊗ **ΜΗΝ** λυγίζετε τον αγωγό αποστράγγισης.

⊗ **ΜΗΝ** παγιδεύετε το νερό.

⊗ **ΜΗΝ** τοποθετείτε το άκρο του αγωγού αποστράγγισης μέσα στο νερό ή σε δοχείο που συλλέγει νερό.

#### ΛΑΘΟΣ

Μην τοποθετείτε το άκρο του αγωγού αποστράγγισης μέσα σε νερό ή σε δοχείο συλλογής νερού. Αυτό μπορεί να προκαλέσει διαρροή.

## ΠΡΙΝ ΕΚΚΙΝΗΣΕΤΕ ΤΙΣ ΗΛΕΚΤΡΟΛΟΓΙΚΕΣ ΕΡΓΑΣΙΕΣ, ΔΙΑΒΑΣΤΕ ΑΥΤΕΣ ΤΙΣ ΟΔΗΓΙΕΣ

1. Η ηλεκτρολογικές συνδέσεις θα πρέπει να συμφωνούν πλήρως με τις τοπικές και εθνικές οδηγίες και θα πρέπει να εγκατα- σταθούν από εξουσιοδοτημένο ηλεκτρολόγο.
2. Όλες οι ηλεκτρολογικές συνδέσεις πρέπει να είναι σύμφωνες με Διάγραμμα Ηλεκτρο- λογικής Σύνδεσης που βρίσκεται στο πάνελ της εσωτερικής και εξωτερικής μονάδας.
3. Αν υπάρχει σοβαρό θέμα ασφαλείας με τη παροχή ρεύματος, σταματήστε τις διεργασίες αμέσως. Εξηγήστε τους λόγους στον πελάτη και αρνηθείτε να εγκαταστήσετε τη μονάδα μέχρι να αποκατασταθεί η βλάβη.
4. Η τάση του ρεύματος θα πρέπει να είναι μεταξύ 90-100% της βαθμονομημένης τάσης. Απροσδιόριστη παροχή ρεύματος μπορεί να προκαλέσει δυσλειτουργία, ηλεκτροπληξία ή φωτιά.
5. Αν τροφοδοτήσετε με ρεύμα την ηλεκτρολογική εγκατάσταση του χώρου παρακαλείσθε να βάλετε διάταξη προστασίας υπέρτασης και ασφαλειοδιακόπτη με χωρητι- κότητα 1.5 φορά μεγαλύτερη από τη μέγιστη ένταση ρεύματος της μονάδας.
6. Αν τροφοδοτήσετε με ρεύμα τις ηλεκτρολογικές συνδέσεις, ένας διακόπτης ή ασφαλειο- διακόπτης που αποσυνδέει όλους τους πόλους και έχει διαχωριστική επαφή τουλάχιστον 1/8in (3mm) θα πρέπει να είναι σύμφωνος με την ηλεκτρολογική σύνδεση. Ο εξειδικευμένος τεχνικός πρέπει να χρησιμοποιεί αυτόματο διακόπτη κυκλώματος.
7. Συνδέστε τη μονάδα σε ανεξάρτητο ηλεκτρο- λογικό κύκλωμα. Μην συνδέετε άλλες συσκευές σε αυτή τη πρίζα.
8. Βεβαιωθείτε ότι το κλιματιστικό είναι σωστά στερεωμένο.
9. Κάθε καλώδιο θα πρέπει να είναι σφιχτά συν- δεσμένο. Απώλεια ρεύματος μπορεί να οδη- γήσει σε υπερθέρμανση της μονάδας, οδηγώ- ντας σε δυσλειτουργία του προϊόντος και πιθανή φωτιά.
10. Μην αφήνετε τις επαφές καλωδίων ή άλλα μέρη εκτεθειμένα στον ψυκτικό κύκλο, τον συμπιεστή ή οποιοδήποτε άλλο κινητό μέρος της μονάδας.
11. Αν η μονάδα έχει βοηθητικό θερμαντικό σώμα, αυτό θα πρέπει να εγκατασταθεί τουλά- χιστον 1 μέτρο (40in) μακριά από εύφλεκτα υλικά.

## ΠΡΟΕΙΔΟΠΟΙΗΣΗ

**ΠΡΙΝ ΤΙΣ ΗΛΕΚΤΡΟΝΙΚΕΣ Ή ΗΛΕΚΤΡΟΛΟΓΙΚΕΣ ΔΙΕΡΓΑΣΙΕΣ, ΑΠΟΣΥΝΔΕΣΤΕ ΤΗ ΚΥΡΙΑ ΠΑΡΟΧΗ ΡΕΥΜΑΤΟΣ ΑΠΟ ΤΟ ΣΥΣΤΗΜΑ.**

## Βήμα 6: Συνδέστε το καλώδιο σήματος

Το καλώδιο σήματος διευκολύνει την επικοινωνία μεταξύ εξωτερικής και εσωτερικής μονάδας. Θα πρέπει πρώτα να επιλέξετε το σωστό μέγεθος καλωδίου πριν παραγματοποιήσετε τη σύνδεση.

### Τύποι Καλωδίων

- Εσωτερικό Καλώδιο Παροχής (Αν εφαρμόζεται) H05V2V2-F
- Εξωτερικό Καλώδιο Παροχής H07RN-F
- Καλώδιο σήματος: H07RN-F

### Ελάχιστη Διατομή Καλωδίου για καλώδια Ρεύματος και Σήματος Βόρεια Αμερική

| Τάση Συσκευής (Α) | AWG |
|-------------------|-----|
| 10                | 18  |
| 13                | 16  |
| 18                | 14  |
| 25                | 12  |
| 30                | 10  |

### Άλλες περιοχές

| Τάση Συσκευής (Α) | Διατομή Καλωδίου (mm <sup>2</sup> ) |
|-------------------|-------------------------------------|
| > 3 και ≤ 6       | 0,75                                |
| > 6 και ≤ 101     | 1                                   |
| > 10 και ≤ 161    | 1,5                                 |
| > 16 και ≤ 252    | 2,5                                 |
| > 25 και ≤ 324    | 4                                   |
| > 32 και ≤ 406    | 6                                   |

### ΕΠΙΛΕΞΤΕ ΚΑΤΑΛΛΗΛΟ ΜΕΓΕΘΟΣ ΚΑΛΩΔΙΟΥ

Το κατάλληλο μέγεθος του καλωδίου τροφοδοσίας, του καλωδίου σήματος, του καλωδίου ασφαλείας και του διακόπτη καθορίζεται από το μέγιστο ρεύμα που ενδείκνυται από τη συσκευή. Ανατρέξτε στο ταμπελάκι που βρίσκεται στη πλευρά του πίνακα, ώστε να επιλέξετε το σωστό μέγεθος καλωδίου, την ασφαλεία ή τον διακόπτη.

### ΣΗΜΕΙΩΣΤΕ ΤΙΣ ΠΡΟΔΙΑΓΡΑΦΕΣ ΚΑΛΩΔΙΟΥ ΑΣΦΑΛΕΙΑΣ

Ο ηλεκτρολογικός πίνακας του κλιματιστικού είναι σχεδιασμένος με καλώδιο ασφαλείας ώστε να παρέχει προστασία. Οι προδιαγραφές του καλωδίου ασφαλείας είναι τυπωμένες στον ηλεκτρολογικό πίνακα, όπως:

### Εσωτερική μονάδα: T5A/250VAC

**Εξωτερική μονάδα** (εφαρμόζεται σε μονάδες που περιέχουν ψυκτικό R32 ή R290):  
T20A/250VAC(<=18000Btu/h μοντέλα)  
T30A/250VAC(>18000Btu/h μοντέλα)

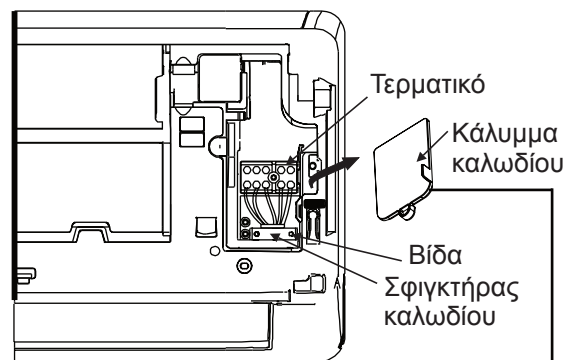
**ΣΗΜΕΙΩΣΗ: Οι ασφάλειες κατασκευάζονται από κεραμικό υλικό.**

1. Ετοιμάστε το καλώδιο για τη σύνδεση:  
Α. Χρησιμοποιήστε απογυμνωτές καλωδίων, αφαιρέστε το πλαστικό περίβλημα και στα δυο άκρα του καλωδίου ώστε να αποκαλυφθούν περίπου 15 cm (6in) των καλωδίων  
Β. Βγάλτε τη μόνωση από τις άκρες των καλωδίων. Γ. Χρησιμοποιήστε πένσα για να δημιουργήσετε απολύξεις τύπου U στις άκρες των καλωδίων.

### ΠΡΟΣΕΞΤΕ ΤΟ ΚΑΛΩΔΙΟ ΦΑΣΗΣ

Όταν πιέζετε μαζί τα καλώδια, βεβαιωθείτε ότι έχετε ξεχωρίσει το καλώδιο φάσης από τα άλλα καλώδια.

2. Ανοίξτε το μπροστινό πάνελ της εσωτερικής μονάδας.
3. Χρησιμοποιήστε κατσαβίδι Phillips και αφαιρέστε το κάλυμμα του ηλεκτρικού κουτιού στη δεξιά πλευρά της μονάδας. Αυτό θα ελευθερώσει το μπλοκ των ακροδεκτών.



Σχ. 3.9

Το Διάγραμμα Καλωδίων βρίσκεται στο εσωτερικό μέρος του καλύμματος καλωδίων της εσωτερικής μονάδας.

### ! ΠΡΟΕΙΔΟΠΟΙΗΣΗ

**ΟΛΕΣ ΟΙ ΚΑΛΩΔΙΩΣΕΙΣ ΠΡΕΠΕΙ ΝΑ ΕΙΝΑΙ ΑΠΟΛΥΤΑ ΣΥΜΦΩΝΕΣ ΜΕ ΤΟ ΔΙΑΓΡΑΜΜΑ ΚΑΛΩΔΙΩΣΗΣ ΠΟΥ ΒΡΙΣΚΕΤΑΙ ΣΤΟ ΕΣΩΤΕΡΙΚΟ ΜΕΡΟΣ ΤΟΥ ΚΑΛΥΜΜΑΤΟΣ ΚΑΛΩΔΙΩΝ ΤΗΣ ΕΣΩΤΕΡΙΚΗΣ ΜΟΝΑΔΑΣ.**

4. Ξεβιδώστε τον σφιγκτήρα καλωδίου κάτω από το τερματικό



5. Βλέποντας το πίσω μέρος της μονάδας, αφαιρέστε το πλαστικό πάνελ στο κάτω μέρος της αριστερής πλευράς.
6. Τροφοδοτήστε το καλώδιο σήματος μέσω αυτής της υποδοχής, από το πίσω μέρος της μονάδας στο μπροστινό.
7. Βλέποντας το μπροστινό μέρος της μονάδας, ταιριάζετε τα χρώματα των καλωδίων με τα ταμπελάκια στο τερματικό, ενώστε την επαφή και σφικτά βιδώστε κάθε καλώδιο στην αντίστοιχη υποδοχή.

## ! ΠΡΟΣΟΧΗ

### ΜΗΝ ΜΠΛΕΚΕΤΕ ΤΑ ΚΑΛΩΔΙΑ ΤΑΣΗΣ ΚΑΙ ΟΥΔΕΤΕΡΟΥ

Αυτό είναι επικίνδυνο και μπορεί να προκαλέσει δυσλειτουργίες στο κλιματιστικό.

8. Αφότου ελέγξετε να βεβαιωθείτε ότι κάθε σύνδεση είναι ασφαλής, χρησιμοποιήστε το σφιγκτήρα καλωδίων ώστε να συνδέσετε το καλώδιο σήματος στη μονάδα. Βιδώστε τον σφιγκτήρα καλωδίων προς τα κάτω γερά.
9. Αντικαταστήστε το κάλυμμα του καλωδίου στο μπροστινό μέρος της μονάδας και το πλαστικό κάλυμμα στο πίσω μέρος.

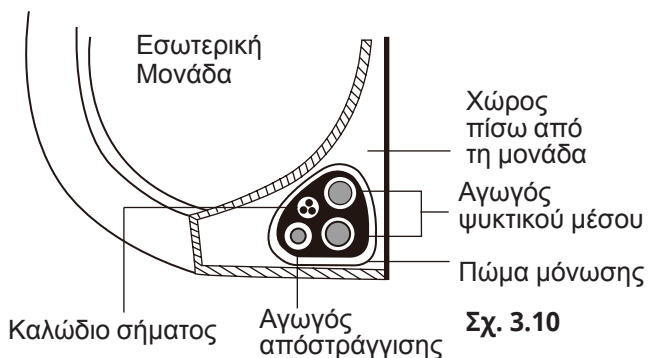
## ! ΣΗΜΕΙΩΣΗ ΓΙΑ ΚΑΛΩΔΙΩΣΕΙΣ

### Η ΗΛΕΚΤΡΟΛΟΓΙΚΗ ΣΥΝΔΕΣΗ ΜΠΟΡΕΙ ΝΑ ΔΙΑΦΕΡΕΙ ΕΛΑΦΡΩΣ ΜΕΤΑΞΥ ΤΩΝ ΜΟΝΑΔΩΝ.

#### Βήμα 7: Τυλίξτε καλώδια και αγωγούς

Πριν περάσετε τον αγωγό, τον αγωγό αποστράγγισης και το καλώδιο σήματος μέσω της οπής του τοίχου, θα πρέπει να τα δέσετε μαζί ώστε να εξοικονομήσετε χώρο, να τα προστατέψετε και να τα μονώσετε.

1. Τυλίξτε τον αγωγό αποστράγγισης, τους αγωγούς του ψυκτικού και το καλώδιο σήματος σύμφωνα με τον πίνακα Σχ. 3.10.



## Ο ΑΓΩΓΟΣ ΑΠΟΣΤΡΑΓΓΙΣΗΣ ΠΡΕΠΕΙ ΝΑ ΒΡΙΣΚΕΤΑΙ ΣΤΟ ΚΑΤΩ ΜΕΡΟΣ

Βεβαιωθείτε ότι ο αγωγός αποστράγγισης βρίσκεται στο κάτω μέρος του τυλίγματος. Η τοποθέτηση του στο πάνω μέρος μπορεί να επιφέρει υπερχειλίση προκαλώντας ηλεκτροπληξία & φθορές.

## ΜΗΝ ΜΠΛΕΚΕΤΕ ΤΑ ΚΑΛΩΔΙΑ ΣΗΜΑΤΟΣ ΜΕ ΤΑ ΥΠΟΛΟΙΠΑ ΚΑΛΩΔΙΑ

Όταν τυλίγετε τα καλώδια μαζί, μην μπλέκετε ή σταυρώνετε το καλώδιο σήματος με κάποιο άλλο καλώδιο

2. Χρησιμοποιείτε κολλώδη ταινία βυνιλίου, ώστε να προσαρμόσετε τον αγωγό αποστράγγισης στην κάτω μεριά του αγωγού ψυκτικού μέσου.
3. Χρησιμοποιήστε μονωτική ταινία, τυλίξτε το καλώδιο σήματος, τους αγωγούς ψυκτικού μέσου και τον αγωγό αποστράγγισης σφικτά μεταξύ τους. Ελέγξτε διπλά ότι όλα τα καλώδια είναι τυλιγμένα σύμφωνα με το Σχ. 3.14

## ΜΗΝ ΤΥΛΙΓΕΤΕ ΤΙΣ ΑΚΡΕΣ ΤΩΝ ΑΓΩΓΩΝ

Όταν τυλίγετε τη δέσμη των αγωγών, κρατήστε τις άκρες τους ξετυλιγμένες. Χρειάζεται να έχετε πρόσβαση στις άκρες ώστε να κάνετε έλεγχο για διαρροές στο τέλος της διαδικασίας εγκατάστασης (ανατρέξτε στην ενότητα Ηλεκτρολογικός Έλεγχος και Έλεγχος Διαρροών αυτού του εγχειριδίου)

#### Βήμα 8: Τοποθετήστε την εσωτερική μονάδα

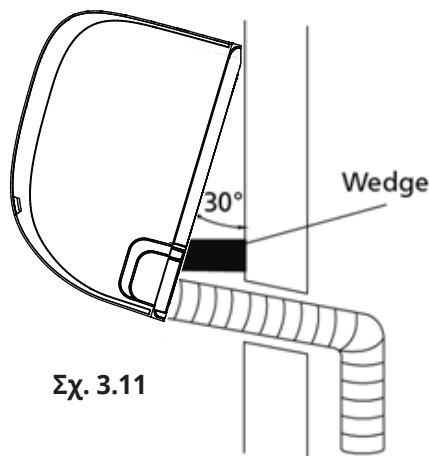
Αν εγκαταστήσετε νέους αγωγούς σύνδεσης στην εξωτερική μονάδα, ακολουθήστε τα παρακάτω:

1. Αν έχετε ήδη περάσει τον αγωγό ψυκτικού μέσου μέσα στην τρύπα του τοίχου, προχωρήστε στο Βήμα 4.
2. Διαφορετικά, ελέγξτε διπλά ότι οι άκρες των αγωγών ψυκτικού μέσου είναι μονωμένες ώστε να αποφευχθεί η βρωμιά ή η εισχώρηση άλλων αντικειμένων μέσα στους αγωγούς.
3. Περάστε αργά τη τυλιγμένη δέσμη των αγωγών ψυκτικού μέσου, αποστράγγισης και καλωδίου σήματος, μέσα από την οπή του τοίχου.
4. Γαντζώστε το πάνω μέρος της εσωτερικής μονάδας στον πάνω γάντζο της επιτοίχιας πλακέτας.
5. Ελέγξτε ότι η μονάδα είναι σφικτά γαντζωμένη στην επιτοίχια πλακέτα εφαρμόζοντας ελαφριά πίεση στην αριστερή και δεξιά πλευρά της μονάδας. Η μονάδα δεν θα πρέπει να κουνιέται ή να αλλάζει θέση.

6. Ασκήστε παραπάνω πίεση, σπρώξτε προς τα κάτω στα μέσα της μονάδας. Συνεχίστε να πιέζετε προς τα κάτω, μέχρι η μονάδα να γαντζωθεί σε όλο το μήκος το κάτω μέρος της επιτοίχιας μονάδας.
7. Ξανά, ελέγξτε ότι η μονάδα εφαρμόζεται ακριβώς ασκώντας ελαφριά πίεση στην αριστερή και δεξιά πλευρά της μονάδας.

**Αν ο αγωγός ψυκτικού μέσου είναι έτοιμος να διαπεράσει τον τοίχο, ακολουθήστε το παρακάτω:**

1. Στηρίξτε το πάνω μέρος της εσωτερικής μονάδας στο επάνω άγκιστρο της πλακέτας στήριξης.

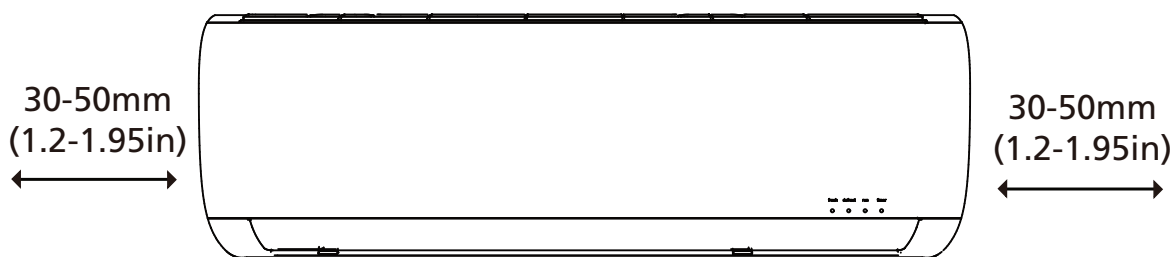


Σχ. 3.11

2. Χρησιμοποιήστε ένα βραχίονα ή μια σφήνα για να στηρίξετε τη μονάδα, εξασφαλίζοντας αρκετό χώρο για να συνδέσετε τις τις σωληνώσεις του ψυκτικού μέσου, το καλώδιο σήματος και τον αγωγό αποστράγγισης. Ανατρέξτε στο Σχ. 3.11
3. Συνδέστε τον σύνδεσμο αποστράγγισης και τον αγωγό ψυκτικού μέσου (ανατρέξτε στην ενότητα Αγωγός Ψυκτικού Μέσου αυτού του εγχειριδίου για οδηγίες)
4. Κρατήστε το σημείο σύνδεσης του αγωγού εκτεθειμένο ώστε να κάνετε το τεστ διαρροής (ανατρέξτε στην ενότητα ελέγχου για Ηλεκτρολογικές Διαρροές και Διαρροές Υγρών αυτού του εγχειριδίου).
5. Μετά από το τεστ διαρροής, τυλίξτε το σημείο σύνδεσης με μονωτική ταινία.
6. Αφαιρέστε το κομμάτι που φέρει η μονωτική ταινία.
7. Ασκήστε πίεση, πιέζοντας προς τα κάτω στη μέση της μονάδας. Συνεχίστε να πιέζετε προς τα κάτω μέχρι η μονάδα να γαντζωθεί στην επιτοίχια πλακέτα.

## ΠΡΟΣΑΡΜΟΓΗ ΤΗΣ ΜΟΝΑΔΑΣ

Τα άγκιστρα στην πλακέτα στήριξης είναι μικρότερα από τις οπές στο πίσω μέρος της μονάδας. Εάν διαπιστώσετε ότι δεν έχετε αρκετό χώρο για να συνδέσετε τους ενσωματωμένους σωλήνες στην εσωτερική μονάδα, τότε η μονάδα θα πρέπει να ρυθμιστεί αριστερά ή δεξιά κατά περίπου 30-50mm (1,25-1,95in), ανάλογα με το μοντέλο. (Δείτε Σχήμα 3.12)

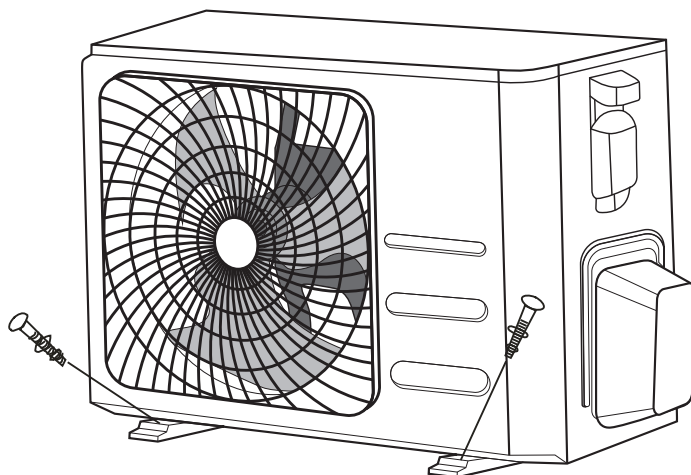


Μετακινήστε αριστερά ή δεξιά

Σχ. 3.12

# Εγκατάσταση Εξωτερικής Μονάδας

# 5



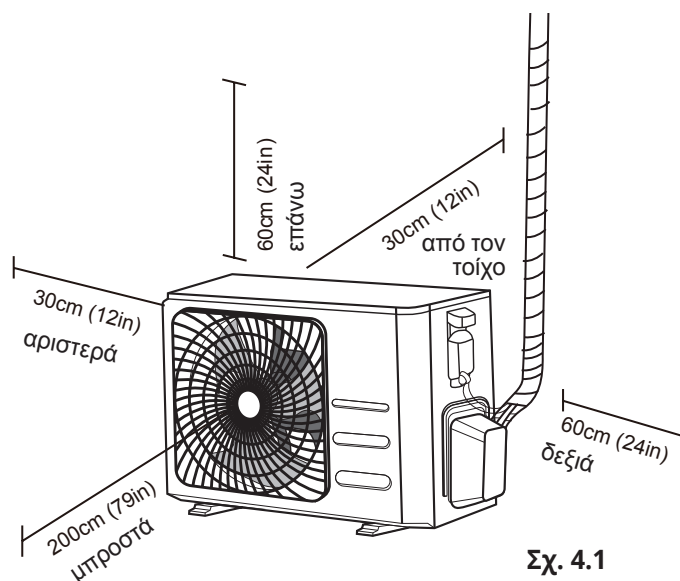
## Οδηγίες Εγκατάστασης - Εξωτερική Μονάδα

### Βήμα 1. Επιλέξτε τοποθεσία εγκατάστασης

Πριν εγκαταστήσετε την εξωτερική μονάδα, πρέπει να επιλέξετε τη κατάλληλη θέση. Οι ακόλουθες προδιαγραφές θα σας βοηθήσουν να επιλέξετε μια κατάλληλη τοποθεσία για τη μονάδα.

**Οι κατάλληλες τοποθεσίες εγκατάστασης συναντούν τις ακόλουθες προδιαγραφές:**

- ☑ Συναντούν όλες τις προϋποθέσεις όπως φαίνεται στις Προδιαγραφές Χώρου Εγκατάστασης (Σχ. 4.1)
- ☑ Καλή ανακυκλοφορία του αέρα και εξαέρωση
- ☑ Σταθερή και στιβαρή τοποθεσία για αποφυγή κραδασμών
- ☑ Ο θόρυβος της μονάδας δεν θα ενοχλεί τους παρευρισκόμενους
- ☑ Προστατεύεται από μεγάλες περιόδους έκθεσης στην ηλιακή ακτινοβολία ή τη βροχή.



Σχ. 4.1

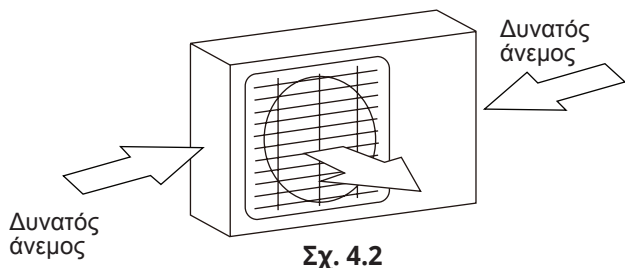
### ΜΗΝ εγκαθιστάτε στις ακόλουθες τοποθεσίες:

- ⊗ Κοντά σε εμπόδια που θα παρεμποδίσουν τον αέρα να εισέλθει και να εξέλθει
- ⊗ Κοντά σε ζώα ή φυτά που μπορεί να τραυματιστούν από τον ζεστό αέρα που αποβάλλεται
- ⊗ Κοντά σε κάθε είδους εύφλεκτη πηγή
- ⊗ Σε περιοχές που αποβάλλεται μεγάλη ποσότητα σκόνης
- ⊗ Σε περιοχή όπου υπάρχει μεγάλη ποσότητα άλατος στον αέρα.

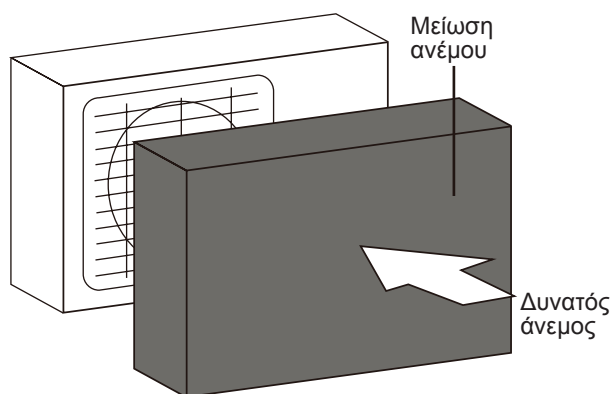


## ΕΙΔΙΚΕΣ ΣΥΝΘΗΚΕΣ ΓΙΑ ΕΝΤΟΝΑ ΚΑΙΡΙΚΑ ΦΑΙΝΟΜΕΝΑ

Αν η μονάδα εκτίθεται σε έντονο άνεμο: Εγκαταστήστε τη μονάδα έτσι ώστε η έξοδος ανεμιστήρα να είναι υπό γωνία 90ο στη κατεύθυνση του ανεμιστήρα. Αν χρειαστεί, φτιάξτε ένα φράγμα μπροστά από τη μονάδα ώστε να τη προστατέψετε από τον ισχυρό άνεμο. Δείτε Σχ. 4.2 και Σχ. 4.3 παρακάτω.



Σχ. 4.2



Σχ. 4.3

### Αν η μονάδα συχνά εκτίθεται σε έντονη βροχόπτωση ή χιονιά:

Φτιάξτε ένα ράφι πάνω από τη μονάδα ώστε να τη προστατεύει από βροχή και χιόνι. Προσέξτε να μην εμποδίζετε τον αέρα γύρω από τη μονάδα.

### Αν η μονάδα εκτίθεται συχνά σε αέρα με ποσότητα άλατος (παραθαλάσσια):

Χρησιμοποιήστε εξωτερική μονάδα που είναι ειδικά σχεδιασμένη για να αποφεύγεται η διάβρωση.

## Βήμα 2: Εγκαταστήστε τον σύνδεσμο αποστράγγισης

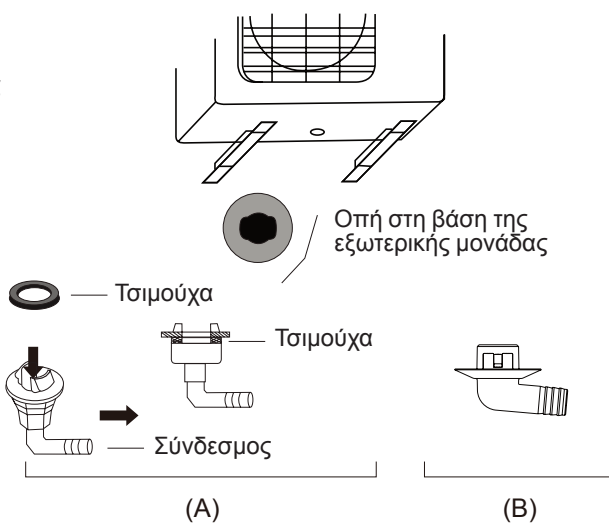
Μονάδες αντλιών θερμότητας προϋποθέτουν σύνδεσμο αποστράγγισης. Πριν βιδώσετε την εξωτερική μονάδα στη βάση, πρέπει να εγκαταστήσετε τον σύνδεσμο αποστράγγισης στο κάτω μέρος της μονάδας. Σημειώστε ότι υπάρχουν δυο διαφορετικοί τύποι συνδέσμων αποστράγγισης που εξαρτώνται από τον τύπο της εξωτερικής μονάδας.

Εάν ο σύνδεσμος φέρει λαστιχένια τσιμούχα (Δείτε Σχ. 4.4-A), κάντε τα ακόλουθα:

1. Προσαρμόστε τη λαστιχένια τσιμούχα στο τέλος του συνδέσμου αποστράγγισης που ενώνεται με την εξωτερική μονάδα.
2. Τοποθετήστε τον σύνδεσμο αποστράγγισης στην οπή της βάσης της μονάδας.
3. Περιστρέψτε τον σύνδεσμο κατά 90ο μέχρι να ακούσετε το κλικ στο μπροστινό μέρος της μονάδας.
4. Ενώστε προέκταση του αγωγού αποστράγγισης (δεν συμπεριλαμβάνεται) στον σύνδεσμο αποστράγγισης ώστε να στρέψετε τη ροή του νερού από τη μονάδα κατά τη διάρκεια της λειτουργίας θέρμανσης.

Αν ο σύνδεσμος αποστράγγισης δεν φέρει λαστιχένια τσιμούχα (Δείτε Σχ. 4.4 -B), κάντε τα ακόλουθα:

1. Τοποθετήστε αγωγό αποστράγγισης στη τρύπα στη βάση της μονάδας. Ο σύνδεσμος αποστράγγισης πρέπει να κουμπώσει στη βάση.
2. Ενώστε την προέκταση του αγωγού αποστράγγισης (δεν συμπεριλαμβάνεται) με τον σύνδεσμο αποστράγγισης ώστε να στρέψετε το νερό από τη μονάδα κατά τη διάρκεια της λειτουργίας θέρμανσης.



Σχ. 4.4

## ΣΕ ΠΑΓΕΡΕΣ ΚΛΙΜΑΤΙΚΕΣ ΣΥΝΘΗΚΕΣ

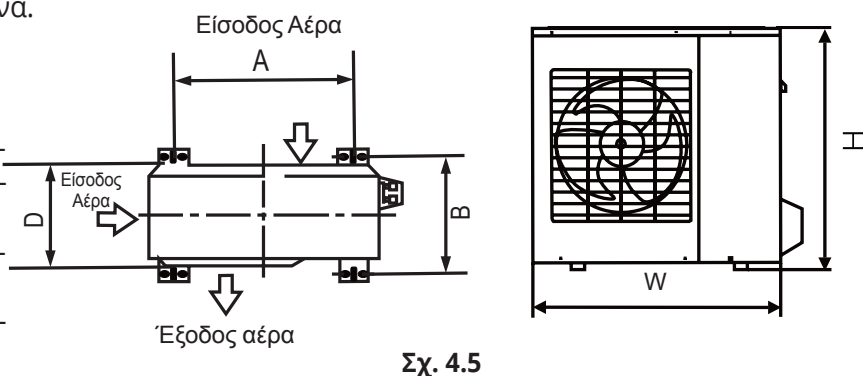
Σε παγερές συνθήκες περιβάλλοντος, βεβαιώστε ότι ο αγωγός αποστράγγισης είναι κάθετος όσο το δυνατόν περισσότερο ώστε να εξασφαλίσετε την αλλαγή στο νερό αποστράγγισης. Αν η αποστράγγιση του νερού γίνεται πολύ αργά, μπορεί να παγώσει στη τρύπα και να υπερχειλίσει τη μονάδα.

### Βήμα 3: Στερεώστε την εξωτερική μονάδα

Η εξωτερική μονάδα μπορεί να στερεωθεί στο έδαφος ή σε επιτοίχιο βραχίονα.

#### ΔΙΑΣΤΑΣΕΙΣ ΕΞΩΤΕΡΙΚΗΣ ΜΟΝΑΔΑΣ

Τα ακόλουθα είναι μια λίστα από διαφορετικές διαστάσεις εξωτερικών μονάδων και αποστάσεις μεταξύ των επιτοιχίων μονάδων. Προετοιμάστε την βάση εγκατάστασης της μονάδας σύμφωνα με τις ακόλουθες διαστάσεις.



| Διαστάσεις εξωτερικής μονάδας (mm)<br>W x H x D | Διαστάσεις επιτοιχίας μονάδας<br>Απόσταση A (mm/in) | Απόσταση B (mm/in) |
|-------------------------------------------------|-----------------------------------------------------|--------------------|
| 681x434x285 (26.8"x17"x11.2")                   | 460 (18.10")                                        | 292 (11.49")       |
| 700x550x270 (27.5"x21.6"x10.62")                | 450 (17.7")                                         | 260 (10.24")       |
| 780x540x250 (30.7"x21.25"x9.85")                | 549 (21.6")                                         | 276 (10.85")       |
| 845x700x320 (33.25"x27.5"x12.6")                | 560 (22")                                           | 335 (13.2")        |
| 810x558x310 (31.9"x22"x12.2")                   | 549 (21.6")                                         | 325 (12.8")        |
| 700x550x275 (27.5"x21.6"x10.82")                | 450 (17.7")                                         | 260 (10.24")       |
| 770x555x300 (30.3"x21.85"x11.81")               | 487 (19.2")                                         | 298 (11.73")       |
| 800x554x333 (31.5"x21.8"x13.1")                 | 514 (20.24")                                        | 340 (13.39")       |
| 845x702x363 (33.25"x27.63"x14.29")              | 540 (21.26")                                        | 350 (13.8")        |
| 900x860x315 (35.4"x33.85"x12.4")                | 590 (23.2")                                         | 333 (13.1")        |
| 945x810x395 (37.2"x31.9"x15.55")                | 640 (25.2")                                         | 405 (15.95")       |
| 946x810x420 (37.21"x31.9"x16.53")               | 673 (26.5")                                         | 403 (15.87")       |
| 946x810x410 (37.21"x31.9"x16.14")               | 673 (26.5")                                         | 403 (15.87")       |

Αν θα εγκαταστήσετε τη μονάδα στο έδαφος ή σε βάση σκυροδέματος, κάντε τα ακόλουθα:

1. Προσδιορίστε τις θέσεις των τεσσάρων βιδών σύμφωνα με τις διαστάσεις που υπάρχουν στον πίνακα με τις διαστάσεις της Επιτοιχίας Μονάδας. 2. Προσχεδιάστε το άνοιγμα οπών για τα βύσματα προέκτασης
3. Απομακρύνετε τη σκόνη που προέρχεται από το σκυρόδεμα μακριά από τις οπές.
4. Τοποθετήστε ένα παξιμάδι στο τέλος κάθε βίδας.
5. Καρφώστε τα βύσματα προέκτασης στις προσχεδιασμένες οπές.

6. Αφαιρέστε τα παξιμάδια από τα βύσματα προέκτασης και τοποθετήστε την εξωτερική μονάδα στις βίδες.
7. Τοποθετήστε ροδέλες σε κάθε βύσμα προέκτασης και μετά αντικαταστήστε τα παξιμάδια.
8. Χρησιμοποιώντας γαλλικό κλειδί, σφίξτε κάθε παξιμάδι μέχρι να κουμπώσει.



#### ΠΡΟΕΙΔΟΠΟΙΗΣΗ

**ΟΤΑΝ ΤΡΥΠΑΤΕ ΣΕ ΣΚΥΡΟΔΕΜΑ, ΠΡΟΣΤΑΤΕΨΤΕ ΤΑ ΜΑΤΙΑ ΚΑΘΩΣ ΚΑΙ ΤΗ ΔΙΑΡΚΕΙΑ.**

**Αν εγκαταστήσετε την μονάδα σε επιτοίχιο βραχίονα, κάντε τα ακόλουθα:**

### ΠΡΟΣΟΧΗ

Πριν την εγκατάσταση της επιτοίχιας μονάδας, βεβαιωθείτε ότι ο τοίχος είναι φτιαγμένος από συμπαγή τούβλα, σκυρόδεμα ή όμοια στιβαρά υλικά. Ο τοίχος πρέπει να είναι ικανός να υποστηρίξει τουλάχιστον τέσσερις φορές το βάρος της μονάδας.

1. Προσδιορίστε τις θέσεις των βραχιόνων σύμφωνα με τις διαστάσεις που υπάρχουν στον πίνακα με τις διαστάσεις της Επιτοίχιας Μονάδας.
2. Προετοιμάστε τις οπές για τα βύσματα προέκτασης.
3. Απομακρύνετε τη σκόνη και τα χαλάσματα μακριά από τις οπές.
4. Τοποθετήστε ένα παξιμάδι στο τέλος κάθε βίδας.
5. Περάστε τα βύσματα προέκτασης μέσα από τις οπές στους επιτοίχιους βραχίονες, τοποθετήστε τους επιτοίχιους βραχίονες στη κατάλληλη θέση και καρφώστε τα βύσματα προέκτασης στον τοίχο.
6. Ελέγξτε ότι τοποθετήθηκαν σωστά οι επιτοίχιοι βραχίονες.
7. Προσεκτικά σηκώστε τη μονάδα και τοποθετήστε τα στηρίγματα της μονάδας πάνω στους βραχίονες. 8. Βιδώστε τη μονάδα ακριβώς στους βραχίονες.

### **ΜΕΙΩΣΤΕ ΤΟΥΣ ΚΡΑΔΑΣΜΟΥΣ ΣΤΗΝ ΕΠΙΤΟΙΧΙΑ ΜΟΝΑΔΑ**

Αν επιτρέπεται, μπορείτε να εγκαταστήσετε την επιτοίχια μονάδα με λαστιχένιους συνδέσμους ώστε να μειώσετε τους κραδασμούς και τον θόρυβο.

### **Βήμα 4: Συνδέστε τα καλώδια σήματος και ρεύματος**

Το τερματικό τμήμα της εξωτερικής μονάδας προστατεύεται από ένα κάλυμμα καλωδίου στο πλάγιο μέρος της μονάδας. Ένα γενικό διάγραμμα καλωδιώσεων είναι τυπωμένο στο εσωτερικό μέρος του καλύμματος καλωδίων.

### ΠΡΙΝ ΠΡΑΓΜΑΤΟΠΟΙΗΣΕΤΕ ΗΛΕΚΤΡΟΛΟΓΙΚΕΣ ΔΙΕΡΓΑΣΙΕΣ, ΔΙΑΒΑΣΤΕ ΤΙΣ ΟΔΗΓΙΕΣ

1. Όλες οι καλωδιώσεις θα πρέπει να είναι σύμφωνες με τους τοπικούς και εθνικούς ηλεκτρολογικούς κανονισμούς και θα πρέπει να εγκαθιστώνται από εξουσιοδοτημένο ηλεκτρολόγο.
2. Όλες οι ηλεκτρολογικές συνδέσεις πρέπει να γίνουν σύμφωνα με το Διάγραμμα Ηλεκτρολογικών Συνδέσεων που βρίσκεται στη μεριά των πάνελ της εξωτερικής και εσωτερικής μονάδας.
3. Αν υπάρχει σοβαρό θέμα ασφάλειας με τη παροχή ρεύματος, σταματήστε τη λειτουργία αμέσως. Εξηγήστε τους λόγους στον πελάτη και αρνηθείτε να πραγματοποιήσετε την εγκατάσταση μέχρι να αποκατασταθεί το πρόβλημα.
4. Η τάση του ρεύματος πρέπει να είναι μεταξύ 90-100% της βαθμονομημένης τάσης. Ανεπαρκής παροχή ρεύματος μπορεί να προκαλέσει ηλεκτροπληξία ή φωτιά.
5. Αν συνδέσετε με το ρεύμα τις καλωδιώσεις, βάλτε διάταξη προστασίας υπέρτασης και ασφαλειοδιακόπτη με χωρητικότητα 1.5 φορά παραπάνω από αυτή που λειτουργεί κανονικά η μονάδα.
6. Αν συνδέσετε με ρεύμα τις καλωδιώσεις, ένας διακόπτης ή ασφαλειοδιακόπτης που αποσυνδέει όλους τους πόλους και έχει διαχωριστική επαφή τουλάχιστον 1/8in (3mm) πρέπει να είναι ενσωματωμένα στο ηλεκτρολογικό κύκλωμα. Ένας εξειδικευμένος τεχνικός πρέπει να χρησιμοποιήσει έναν ενδεικνυμένο ασφαλειοδιακόπτη ή διακόπτη.
7. Συνδέστε τη μονάδα σε ξεχωριστή πρίζα. Μην συνδέετε άλλες συσκευές στην ίδια πρίζα.
8. Βεβαιωθείτε η μονάδα είναι γειωμένη σωστά.
9. Κάθε καλώδιο θα πρέπει να είναι σωστά συνδεδεμένο. Ελλιπής σύνδεση μπορεί να προκαλέσει υπερθέρμανση που οδηγεί σε δυσλειτουργία της μονάδας και σε πιθανή φωτιά.
10. ΜΗΝ αφήνετε τις επαφές των καλωδίων εκτεθειμένες στον αγωγό του ψυκτικού μέσου, στον συμπιεστή ή σε οποιοδήποτε κινητό μέρος μέσα στη μονάδα. 11. Αν η μονάδα έχει βοηθητική ηλεκτρική θέρμανση, πρέπει να εγκατασταθεί τουλάχιστον σε 1 μέτρο (40in) μακριά από εύφλεκτα υλικά.

## ! ΠΡΟΕΙΔΟΠΟΙΗΣΗ

**ΠΡΙΝ ΞΕΚΙΝΗΣΕΤΕ ΟΠΟΙΑΔΗΠΟΤΕ ΗΛΕΚΤΡΟΝΙΚΗ ΚΑΙ ΗΛΕΚΤΡΟΛΟΓΙΚΗ ΔΙΕΡΓΑΣΙΑ, ΑΠΕΝΕΡΓΟΠΟΙΗΣΤΕ ΤΗ ΚΥΡΙΑ ΤΡΟΦΟΔΟΣΙΑ ΤΟΥ ΣΥΣΤΗΜΑΤΟΣ.**

1. Προετοιμάστε το καλώδιο για σύνδεση:

### ΧΡΗΣΙΜΟΠΟΙΗΣΤΕ ΤΟ ΣΩΣΤΟ ΚΑΛΩΔΙΟ

- Εσωτερικό καλώδιο τροφοδοσίας (αν εφαρμόζεται): H05VV-F ή H05V2V2-F
- Εξωτερικό καλώδιο τροφοδοσίας: H07RN-F
- Καλώδιο Σήματος: H07RN-F

### Ελάχιστη Διατομή Καλωδίων Τροφοδοσίας και Σήματος

#### Βόρεια Αμερική

| Τάση Συσκευής (A) | AWG |
|-------------------|-----|
| 10                | 18  |
| 13                | 16  |
| 18                | 14  |
| 25                | 12  |
| 30                | 10  |

#### Άλλες Περιοχές

| Τάση Συσκευής (A) | Διατομή Καλωδίου (mm <sup>2</sup> ) |
|-------------------|-------------------------------------|
| > 3 $\leq$ 6      | 0,75                                |
| > 6 $\leq$ 101    | 1                                   |
| > 10 $\leq$ 161   | 1,5                                 |
| > 16 $\leq$ 252   | 2,5                                 |
| > 25 $\leq$ 324   | 4                                   |
| > 32 $\leq$ 406   | 6                                   |

- α. Χρησιμοποιώντας πένσα απογυμνώστε τα καλώδια στις δυο άκρες για 15cm (6in) ώστε να εκτεθούν τα εσωτερικά καλώδια
- β. Μονώστε τις άκρες των καλωδίων.
- γ. Χρησιμοποιήστε σφιγκτήρα καλωδίου και σφίξτε τις συνδέσεις στις άκρες των καλωδίων.

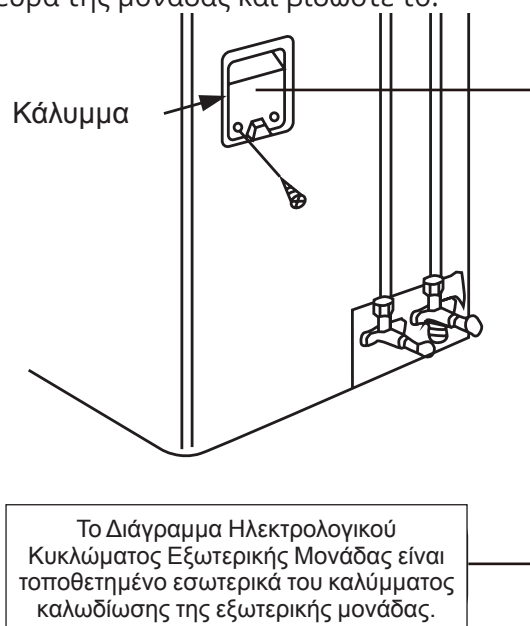
## ΠΡΟΣΕΞΤΕ ΤΟ ΚΑΛΩΔΙΟ ΦΑΣΗΣ

Όταν πιέζετε τα καλώδια, βεβαιωθείτε ότι έχετε ξεκαθαρίσει το καλώδιο φάσης από τα υπόλοιπα καλώδια.

## ! ΠΡΟΕΙΔΟΠΟΙΗΣΗ

**ΟΛΕΣ ΟΙ ΚΑΛΩΔΙΩΣΕΙΣ ΘΑ ΠΡΕΠΕΙ ΝΑ ΑΚΟΛΟΥΘΟΥΝ ΑΥΣΤΗΡΑ ΤΟ ΔΙΑΓΡΑΜΜΑ ΚΑΛΩΔΙΩΣΕΩΝ ΠΟΥ ΒΡΙΣΚΕΤΑΙ ΜΕΣΑ ΣΤΟ ΚΑΛΥΜΜΑ ΚΑΛΩΔΙΩΝ ΤΗΣ ΕΞΩΤΕΡΙΚΗΣ ΜΟΝΑΔΑΣ.**

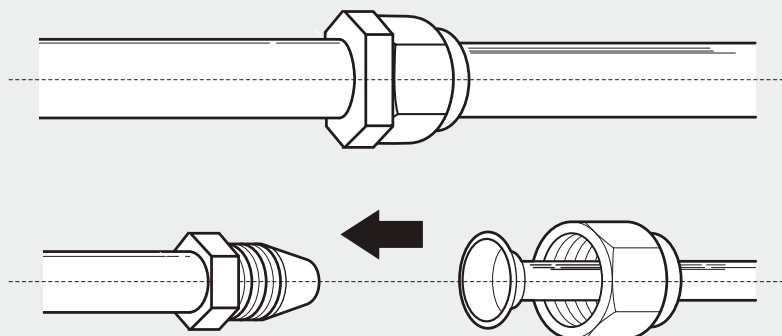
2. Ξεβιδώστε το κάλυμμα ηλεκτρολογικού καλωδίου και απομακρύντε το.
3. Ξεβιδώστε τον σφιγκτήρα καλωδίων κάτω από το τερματικό και τοποθετήστε το στη πλαϊνή πλευρά.
4. Ταιριάξτε τα χρώματα των καλωδίων/ ταμπελάκια με τα ταμπελάκια στο τερματικό και βιδώστε με ακρίβεια τις συνδέσεις κάθε καλωδίου στην αντίστοιχη υποδοχή
5. Αφότου ελέγξτε για επιβεβαίωση ότι κάθε σύνδεση είναι ασφαλής, τυλίξτε τα καλώδια ώστε να αποφύγετε πτώση νερού μέσα στις υποδοχές.
6. Χρησιμοποιώντας τον σφιγκτήρα καλωδίων, δέστε το καλώδιο στη μονάδα. Βιδώστε τον σφιγκτήρα κάτω γερά.
7. Μονώστε τα αχρησιμοποίητα καλώδια με PVC ταινία. Ταξινομήστε τα έτσι ώστε να μην ακουμπούν τα ηλεκτρικά ή τα μεταλλικά μέρη.
8. Αντικαταστήστε το κάλυμμα καλωδίων στη πλευρά της μονάδας και βιδώστε το.



Σχ. 4.6

# Σύνδεση αγωγού ψυκτικού μέσου

6



## Σημείωση στο Μήκος του Αγωγού

Το μήκος του αγωγού ψυκτικού μέσου θα επηρεάσει την λειτουργία και την ενεργειακή απόδοση της μονάδας. Η εικονική απόδοση είναι ελεγμένη στις μονάδες με μήκος αγωγού 5 μέτρων (16.5ft). Το ελάχιστο μήκος του αγωγού θα πρέπει να είναι 3 μέτρα ώστε να εξασφαλίζεται η αποτροπή κραδασμών και ο έντονος θόρυβος. Σε ειδικές περιπτώσεις, το μέγιστο μήκος του αγωγού του ψυκτικού υγρού δεν θα πρέπει να ξεπερνά τα 10 μέτρα (32.8ft) και η προσθήκη ψυκτικού ΔΕΝ επιτρέπεται (αναφορά στα μοντέλα με R290 ψυκτικό μέσο).

Ανατρέξτε στο παρακάτω πίνακα για λεπτομέρειες στο μέγιστο μήκος και δώστε ύψος στον αγωγό

## Μέγιστο Μήκος και Ύψος Αγωγού Ψυκτικού Μέσου για κάθε Μοντέλο Μονάδας

| Μοντέλο                              | Απόδοση (BTU/h)      | Lungime max. (m) | Înălțime maximă de cădere (m) |
|--------------------------------------|----------------------|------------------|-------------------------------|
| R410A Inverter Split Air Conditioner | < 15,000             | 25 (82ft)        | 10 (33ft)                     |
|                                      | ≥ 15,000 și < 24,000 | 30 (98.5ft)      | 20 (66ft)                     |
|                                      | ≥ 24,000 și < 36,000 | 50 (164ft)       | 25 (82ft)                     |
|                                      | ≥ 36,000 și ≤ 60,000 | 65 (213ft)       | 30 (98.5ft)                   |

## Οδηγίες Σύνδεσης - Αγωγός Ψυκτικού Μέσου

### Βήμα 1: Κόψτε τους αγωγούς

Όταν ετοιμάζετε τους αγωγούς ψυκτικού μέσου, δώστε παραπάνω προσοχή να τους κόψετε και να τους εκχειλώσετε σωστά. Αυτό θα σας εξασφαλίσει αποδοτική λειτουργία και μειώνει την ανάγκη για μελλοντική συντήρηση. **Για τα μοντέλα με R32/R290, τα σημεία σύνδεσης των αγωγών θα πρέπει να βρίσκονται εξωτερικά του δωματίου.**

1. Μετρήστε την απόσταση μεταξύ της εσωτερικής και εξωτερικής μονάδας.

- Χρησιμοποιώντας κοπτικό, κόψτε τον αγωγό λίγο παραπάνω από τη μετρημένη απόσταση.
  - Βεβαιωθείτε ότι ο αγωγός είναι κομμένος σε τέλεια 90ο γωνία.
- Ανατρέξτε στο Σχ. 5.1 για κακή κοπή των αγωγών.



Σχ. 5.1



## ! ΜΗΝ ΠΑΡΑΜΟΡΦΩΝΕΤΕ ΤΟΝ ΑΓΩΓΟ ΚΑΤΑ ΤΗ ΚΟΠΗ

Να είστε ιδιαίτερα προσεκτικοί να μην κα-  
ταστρέψετε, λυγίσετε ή παραμορφώσετε τον  
αγωγό κατά τη διάρκεια κοπής. Αυτό μπορεί  
δραστικά να μειώσει την απόδοση θέρμανσης  
της μονάδας.

### Βήμα 2: Απαλλαγείτε από τα βουητά

Τα γρέζια μπορεί να επηρεάσουν την αεροστεγή  
σύνδεση του πώματος στον αγωγό ψυκτικού μέ-  
σου. Πρέπει να αφαιρεθούν τελείως.

1. Κρατήστε τον αγωγό σε κατακόρυφη κλίση  
ώστε να αποφύγετε την εισχώρηση των  
γρεζιών στον αγωγό.
2. Χρησιμοποιώντας γλείφανο ή εργαλείο  
λείανσης, απομακρύνετε όλα τα γρέζια από το  
κομμένο τμήμα του αγωγού.

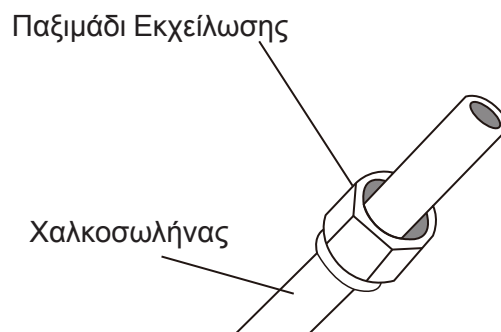


Σχ. 5.2

### Βήμα 3: Εκχείλωση των άκρων του αγωγού

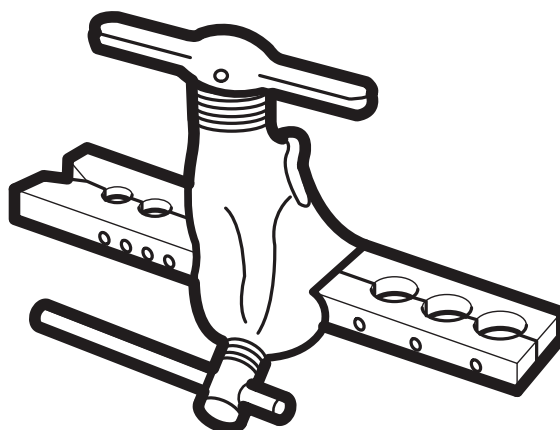
Σωστή εκχείλωση είναι απαραίτητη ώστε να  
πραγματοποιηθεί αεροστεγές κλείσιμο.

1. Αφότου αφαιρέσετε τα γρέζια από τον κομμένο  
αγωγό, καλύψτε τις άκρες με πλαστική ταινία  
ώστε να αποφύγετε την εισχώρησή τους στον  
αγωγό.
2. Τυλίξτε τον αγωγό με μονωτικό υλικό.
3. Τοποθετήστε παξιμάδια και στις δύο  
απολήξεις των αγωγών. Βεβαιωθείτε ότι έχουν  
τοποθετηθεί με τη σωστή κατεύθυνση. Δείτε  
Σχ. 5.3.



Σχ. 5.3

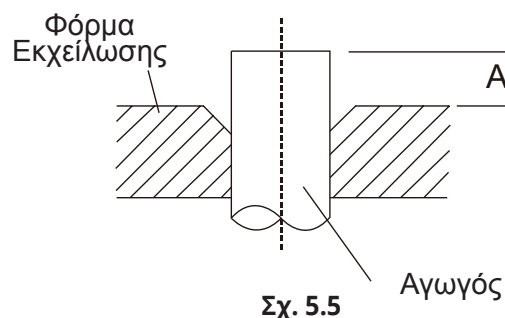
4. Αφαιρέστε τη πλαστική μονωτική ταινία από  
τις απολήξεις των αγωγών όταν είστε έτοιμοι  
να ξεκινήσετε τη διαδικασία καύσης.
5. Σχηματίζετε φλόγα στο άκρο του σωλήνα. Το  
άκρο του σωλήνα πρέπει να εκτείνεται πέρα  
της φλόγας σύμφωνα με τις διαστάσεις που  
φαίνονται στον παρακάτω πίνακα.



Σχ. 5.4

### ΕΠΕΚΤΑΣΗ ΑΓΩΓΟΥ ΠΕΡΑΝ ΤΟΥ ΠΑΞΙΜΑΔΙΟΥ

| Εξωτερική<br>Διάμετρος Αγωγού<br>(mm) | Α (mm)        |              |
|---------------------------------------|---------------|--------------|
|                                       | Ελάχιστη      | Μέγιστη      |
| Ø 6.35 (Ø 0.25")                      | 0.7 (0.0275") | 1.3 (0.05")  |
| Ø 9.52 (Ø 0.375")                     | 1.0 (0.04")   | 1.6 (0.063") |
| Ø 12.7 (Ø 0.5")                       | 1.0 (0.04")   | 1.8 (0.07")  |
| Ø 16 (Ø 0.63")                        | 2.0 (0.078")  | 2.2 (0.086") |
| Ø 19 (Ø 0.75")                        | 2.0 (0.078")  | 2.4 (0.094") |



Σχ. 5.5

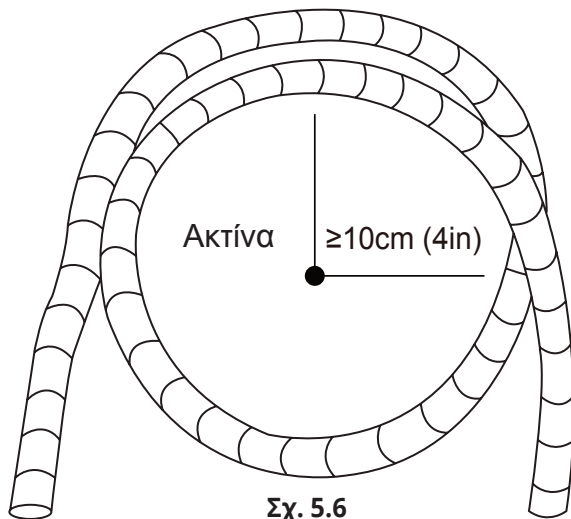
6. Τοποθετήστε το εργαλείο εκχείλωσης μέσα στη φόρμα.
7. Γυρίστε το εργαλείο εκχείλωσης με φορά ρολογιού, μέχρι να πραγματοποιηθεί η εκχείλωση.
8. Αφαιρέστε το εργαλείο εκχείλωσης και τη φόρμα αυτού, μετά εξετάστε τις άκρες του αγωγού για ραγίσματα και ανοίγματα.

#### Βήμα 4: Ενώστε τους αγωγούς

Όταν ενώνετε τους αγωγούς του ψυκτικού μέσου, προσέξτε να μην ασκήσετε υπερβολική ροπή ή να μην παραμορφώσετε τον αγωγό για οποιοδήποτε λόγο. Θα πρέπει αρχικά να συνδέσετε τον αγωγό χαμηλής πίεσης και μετά τον αγωγό υψηλής πίεσης.

#### ΕΛΑΧΙΣΤΗ ΑΚΤΙΝΑ ΛΥΓΙΣΜΑΤΟΣ

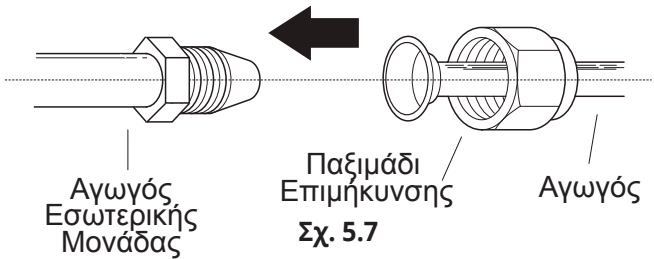
Όταν λυγίζετε τον αγωγό σύνδεσης ψυκτικού μέσου, η ελάχιστη ακτίνα λυγίσματος είναι 10cm. Δείτε Σχ. 5.6



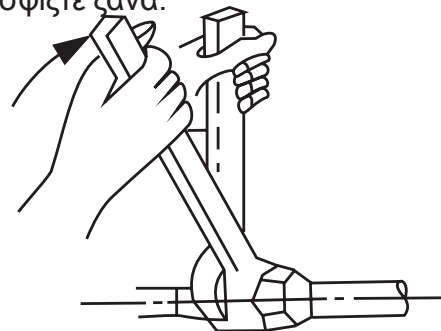
Σχ. 5.6

#### Οδηγίες για Σύνδεση του Αγωγού στην Εσωτερική Μονάδα

1. Ευθυγραμμίστε στο κέντρο τους δυο αγωγούς που θέλετε να συνδέσετε. Δείτε Σχ. 5.7.



2. Σφίξτε το παξιμάδι επιμήκυνσης όσο σφιχτά μπορείτε με το χέρι.
3. Χρησιμοποιήστε γερμανικό κλειδί, σφίξτε το παξιμάδι επιμήκυνσης στον αγωγό της μονάδας.
4. Όταν σφίγγετε γερά το παξιμάδι στον αγωγό της μονάδας, χρησιμοποιήστε κλειδί στρέψης ώστε να σφίξετε τα παξιμάδια σύμφωνα με τις αρχές σύσφιξης των Προδιαγραφών Στρέψης όπως φαίνεται στον παρακάτω πίνακα. Χαλαρώστε ελαφρώς τα παξιμάδια, μετά σφίξτε ξανά.



Σχ. 5.8

#### ΠΡΟΫΠΟΘΕΣΕΙΣ ΣΤΡΕΨΗΣ

| Εξωτερική Διάμετρος Αγωγού (mm) | Ροπή Στρέψης (N/cm) | Επιπρόσθετη ροπή σύσφιξης (N/m) |
|---------------------------------|---------------------|---------------------------------|
| Ø 6.35 (Ø 0.25")                | 1,500 (11lb•ft)     | 1,600 (11.8lb•ft)               |
| Ø 9.52 (Ø 0.375")               | 2,500 (18.4lb•ft)   | 2,600 (19.18lb•ft)              |
| Ø 12.7 (Ø 0.5")                 | 3,500 (25.8lb•ft)   | 3,600 (26.55lb•ft)              |
| Ø 16 (Ø 0.63")                  | 4,500 (33.19lb•ft)  | 4,700 (34.67lb•ft)              |
| Ø 19 (Ø 0.75")                  | 6,500 (47.94lb•ft)  | 6,700 (49.42lb•ft)              |



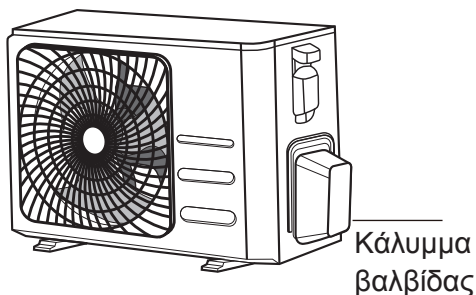
#### ΜΗΝ ΑΣΚΕΙΤΕ ΠΑΡΑΠΑΝΩ ΡΟΠΗ

Παραπάνω ροπή μπορεί να σπάσει το παξιμάδι ή να καταστρέψει τον αγωγό ψυκτικού μέσου. Πρέπει να μην ξεπερνάτε τις αρχές ροπής που φαίνονται στο παραπάνω πίνακα.



## Οδηγίες Σύνδεσης Αγωγού στην Εξωτερική Μονάδα

1. Ξεβιδώστε το κάλυμμα από τη πλακέτα της εξωτερικής μονάδας. (Δείτε Σχ. 5.9)

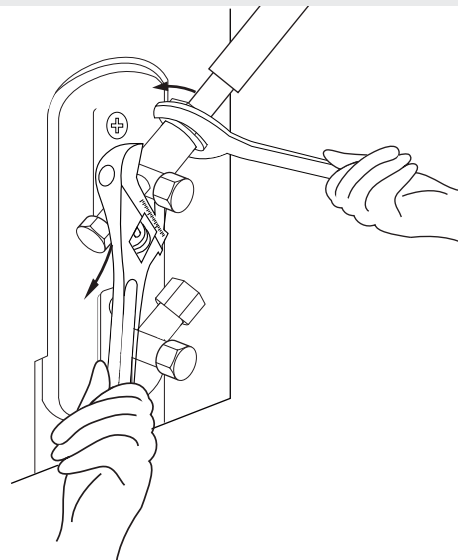


Σχ. 5.9

2. Αφαιρέστε τα προστατευτικά πώματα από κάθε βαλβίδα.
3. Ευθυγραμμίστε τις άκρες των αγωγών με τις βαλβίδες και σφίξτε τα παξιμάδια επιμήκυνσης όσο πιο πολύ μπορείτε χειροκίνητα.
4. Χρησιμοποιώντας γερμανικό κλειδί, κρατήστε το σώμα της βαλβίδας. Μην κρατάτε το παξιμάδι που καλύπτει τη βαλβίδα

## ! ΧΡΗΣΙΜΟΠΟΙΗΣΤΕ ΓΕΡΜΑΝΙΚΟ ΚΛΕΙΔΙ ΓΙΑ ΝΑ ΚΡΑΤΗΣΕΤΕ ΤΟ ΣΩΜΑ ΤΗΣ ΒΑΛΒΙΔΑΣ

Η ροπή από την εκχείλωση μπορεί να προκαλέσει φθορά ή να κόψει τμήμα της βαλβίδας

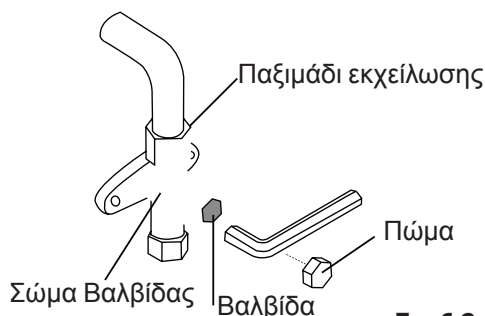


Σχ. 5.10

5. Ενώ κρατάτε το σώμα της βαλβίδας, χρησιμοποιήστε μηχανικό κλειδί ασφαλείας να σφίξετε το παξιμάδι σύμφωνα με της αρχές του μηχανικού κλειδιού.
6. Χαλαρώστε το παξιμάδι επιμήκυνσης ελαφρώς, μετά σφίξτε ξανά.
7. Επαναλάβετε τα Βήματα 3 έως 6 για τον αγωγό που έχει απομένει.



6. Κλείστε τη πλευρά Χαμηλής Θέρμανσης της πολλαπλής βαλβίδας και απενεργοποιήστε την αντλία κενού.
7. Αναμείνετε για 5 λεπτά, μετά ελέγξτε ότι δεν υπάρχει αλλαγή στη πίεση του συστήματος.
8. Αν υπάρχει αλλαγή στη πίεση του συστήματος, ανα- τρέξτε στην ενότητα Έλεγχος Διαρροής Ρευστού για πληροφορίες σχετικές με το πώς ελέγχουμε για τυχόν διαρροή. Αν δεν υπάρχει αλλαγή στη πίεση του συστήματος, ξεβιδώστε το πώμα από την βαλβίδα υψηλής πίεσης.
9. Βάλτε το εξάγωνο κλειδί στη βαλβίδα (υψηλής πίεσης) και ανοίξτε τη βαλβίδα γυρνώντας το κλειδί σε 1/4 περιστροφή δεικτών ρολογιού. Ακούστε το αέριο να αποβάλλεται από το σύστημα και μετά από 5 δευτερόλεπτα κλείστε τη βαλβίδα.
10. Παρατηρήστε το Μανόμετρο Πίεσης για ένα λεπτό να βεβαιωθείτε ότι δεν υπάρχει αλλαγή στη πίεση. Το μανόμετρο θα πρέπει να δείχνει τιμή ελάχιστα υψηλότερη της ατμοσφαιρικής πίεσης.
11. Αφαιρέστε τον αγωγό τροφοδοσίας από τη θύρα επισκευής.



Σχ. 6.2

12. Χρησιμοποιήστε εξάγωνο κλειδί και ανοίξτε τέρμα και τις δυο βαλβίδες υψηλής και χαμηλής πίεσης.
13. Σφίξτε και τις τρεις βαλβίδες (θύρα επισκευής, υψηλής πίεσης χαμηλής πίεσης) χειροκίνητα. Για παραπάνω σφίξιμο μπορείτε να χρησιμοποιήσετε μηχανικό κλειδί, αν χρειαστεί.

### ! ΑΝΟΙΞΤΕ ΠΡΟΣΕΚΤΙΚΑ ΤΙΣ ΒΑΛΒΙΔΕΣ

Όταν ανοίγετε τις βαλβίδες, γυρίστε το εξάγωνο κλειδί μέχρι να τερματίσει. Μην προσπαθήσετε να ασκήσετε παραπάνω δύναμη για περισσότερο άνοιγμα

## Σημείωση στη Προσθήκη Ψυκτικού Υγρού

Ορισμένα συστήματα προϋποθέτουν παραπάνω πρόσθεση ψυκτικού μέσου σύμφωνα με τα μήκη των αγωγών. Το κανονικό μήκος αγωγών ποικίλει σύμφωνα με τους τοπικούς κανονισμούς. Για παράδειγμα, στη Νότια Αμερική, το κανονικό μήκος αγωγού είναι 7.5m (25'). Σε άλλες περιοχές, το κανονικό μήκος είναι 5m (16'). Η προσθήκη του ψυκτικού υγρού θα πρέπει να πραγματοποιείται στη βαλβίδα χαμηλής πίεσης της εξωτερικής μονάδας. Η προσθήκη ψυκτικού μπορεί να υπολογιστεί ακολουθώντας την παρακάτω φόρμα

### ΠΡΟΣΘΗΚΗ ΨΥΚΤΙΚΟΥ ΜΕΣΟΥ ΓΙΑ ΚΑΘΕ ΜΗΚΟΣ ΑΓΩΓΟΥ

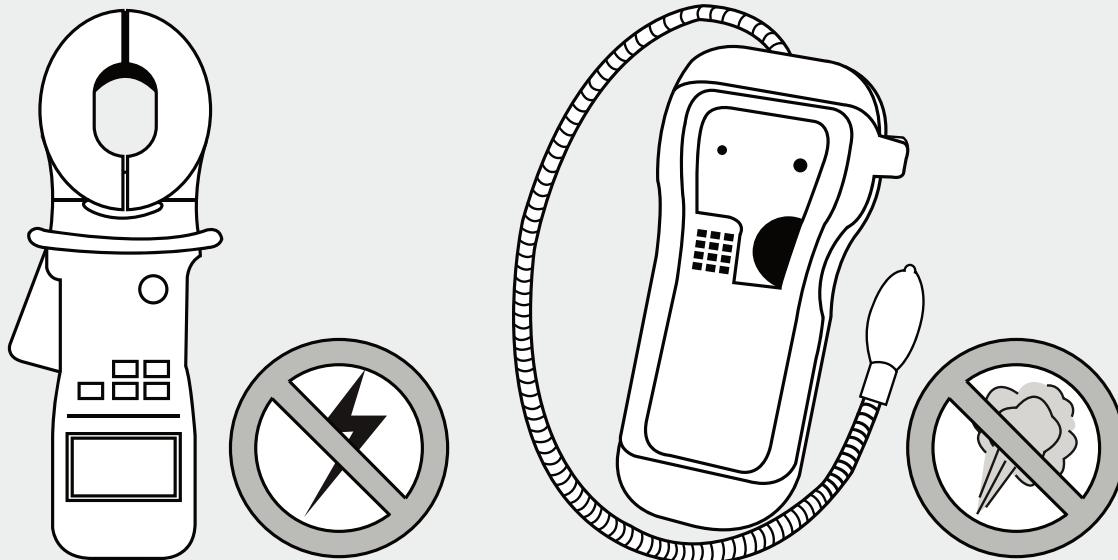
| Μήκος Αγωγού<br>Σύνδεσης (m) | Μέθοδος<br>Απομάκρυνσης<br>Αέρα | Προσθήκη Ψυκτικού Μέσου                                                                               |                                                                                                       |
|------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| ≤ Κανονικό μήκος<br>αγωγού   | Αντλία<br>κενού                 | N/A                                                                                                   |                                                                                                       |
| > Κανονικό<br>μήκος αγωγού   | Αντλία<br>κενού                 | Γραμμή Ρευστού: Ø 6.35 (ø 0.25")                                                                      | Partea lichidă: Ø 9.52 (ø 0.375")                                                                     |
|                              |                                 | <b>R32:</b><br>(Μήκος Αγωγού- Κανονικό μήκος) x 12g/m<br>(Μήκος Αγωγού- Κανονικό μήκος) x 0.13oz/ft   | <b>R32:</b><br>(Μήκος Αγωγού- Κανονικό μήκος) x 24g/m<br>(Μήκος Αγωγού- Κανονικό μήκος) x 0.26oz/ft   |
|                              |                                 | <b>R290:</b><br>(Μήκος Αγωγού- Κανονικό μήκος) x 10g/m<br>(Μήκος Αγωγού- Κανονικό μήκος) x 0.10oz/ft  | <b>R290:</b><br>(Μήκος Αγωγού- Κανονικό μήκος) x 18g/m<br>(Μήκος Αγωγού- Κανονικό μήκος) x 0.19oz/ft  |
|                              |                                 | <b>R410A:</b><br>(Μήκος Αγωγού- Κανονικό μήκος) x 15g/m<br>(Μήκος Αγωγού- Κανονικό μήκος) x 0.16oz/ft | <b>R410A:</b><br>(Μήκος Αγωγού- Κανονικό μήκος) x 30g/m<br>(Μήκος Αγωγού- Κανονικό μήκος) x 0.32oz/ft |

Για μονάδες με R290 ψυκτικό υγρό, η μέγιστη ποσότητα επιπλέον ψυκτικού δεν μπορεί να είναι: 387g(≤9000Btu/h), 447g(>9000Btu/h και ≤12000Btu/h), 547g(>12000Btu/h και ≤18000Btu/h), 632g(>18000Btu/h και ≤24000Btu/h).

! **ΠΡΟΣΟΧΗ** ΜΗΝ αναμιγνύετε τύπους ψυκτικών μέσων.

# Έλεγχος Ηλεκτρολογικής Διαρροής και Διαρροής Αερίου

# 8



## Έλεγχος Ηλεκτρολογικής Ασφάλειας

Μετά την εγκατάσταση, επιβεβαιώστε ότι όλες οι ηλεκτρολογικές καλωδιώσεις είναι σε πλήρη συμφωνία με τις τοπικές και εθνικές προδιαγραφές και σύμφωνα με το Εγχειρίδιο Εγκατάστασης.

## ΠΡΙΝ ΤΗ ΔΟΚΙΜΑΣΤΙΚΗ ΛΕΙΤΟΥΡΓΙΑ

### Ελέγξτε τη καλωδίωση της γείωσης

Μετρήστε την αντίσταση της γείωσης με γυμνό μάτι και με ελεγκτή αντίστασης γείωσης. Θα πρέπει να είναι λιγότερο από 4.

**Σημείωση:** Αυτό μπορεί να μην είναι προϋπόθεση για κάποιες περιοχές στην Αμερική.

## ΚΑΤΑ ΤΗ ΔΙΑΡΚΕΙΑ ΔΟΚΙΜΑΣΤΙΚΗΣ ΛΕΙΤΟΥΡΓΙΑΣ

### Έλεγχος για Ηλεκτρολογική Διαρροή

Κατά τη διάρκεια της Δοκιμαστικής Λειτουργίας, χρησιμοποιήστε δοκιμαστικό κατσαβίδι και πολύ-μετρα να πραγματοποιήσετε έλεγχο διαρροής ρευστού.

Αν διαγνωθεί ηλεκτρολογική διαρροή, απενεργοποιήστε τη μονάδα αμέσως και καλέστε εξουσιοδοτημένο ηλεκτρολόγο να βρείτε και να επιλύσετε τα αίτια της διαρροής.

**Σημείωση:** Αυτό μπορεί να μην χρειάζεται σε κάποιες περιοχές στην Αμερική.



## ΠΡΟΕΙΔΟΠΟΙΗΣΗ- ΚΙΝΔΥΝΟΣ ΓΙΑ ΗΛΕΚΤΡΟΠΛΗΞΙΑ

**ΟΛΕΣ ΟΙ ΚΑΛΩΔΙΩΣΕΙΣ ΠΡΕΠΕΙ ΝΑ ΕΙΝΑΙ ΣΕ ΠΛΗΡΗ ΣΥΜΦΩΝΙΑ ΜΕ ΤΟΥΣ ΤΟΠΙΚΟΥΣ ΚΑΙ ΕΘΝΙΚΟΥΣ ΗΛΕΚΤΡΟΛΟΓΙΚΟΥΣ ΚΑΝΟΝΙΣΜΟΥΣ ΚΑΙ ΘΑ ΠΡΕΠΕΙ ΝΑ ΕΓΚΑΤΑΣΤΑΘΟΥΝ ΑΠΟ ΕΞΟΥΣΙΟΔΟΤΗΜΕΝΟ ΗΛΕΚΤΡΟΛΟΓΟ**

## Έλεγχος Διαρροής Αερίου

Υπάρχουν δυο διαφορετικοί τρόποι να ελέγχετε για διαρροή ρευστού ή αερίου.

### Μέθοδος με σαπούνι και νερό

Χρησιμοποιήστε μαλακή βούρτσα, εφαρμόστε σαπουνοδιάλυμα ή ουδέτερο απορρυπαντικό σε όλα τα σημεία σύνδεσης των αγωγών στην εσωτερική και εξωτερική μονάδα. Αν εμφανιστούν φυσαλίδες σημαίνει ότι υπάρχει διαρροή.

### Μέθοδος Ανίχνευσης Διαρροής

Αν χρησιμοποιείτε ελεγκτή διαρροής, ανατρέξτε στο εγχειρίδιο λειτουργίας του μηχανήματος για περισσότερες λεπτομέρειες χρήσης.

## ΑΦΟΤΟΥ ΠΡΑΓΜΑΤΟΠΟΙΗΣΕΤΕ ΔΙΑΡΡΟΗ ΑΕΡΙΟΥ

Αφότου επιβεβαιώσετε ότι όλα τα σημεία σύνδεσης των αγωγών δεν παρουσιάζουν διαρροές, αντικαταστήστε το κάλυμμα βαλβίδας στην εξωτερική μονάδα

## Πριν τη Δοκιμαστική Λειτουργία

Πραγματοποιήστε δοκιμαστικό έλεγχο μόνο αφού έχετε ολοκληρώσει τα ακόλουθα βήματα:

- Έλεγχος Ασφαλείας Ηλεκτρικών: Επιβεβαιώστε ότι το ηλεκτρολογικό σύστημα της μονάδας είναι ασφαλές και λειτουργεί σωστά.
- Έλεγχος Διαρροής Αερίου: Ελέγξτε τα παξιμάδια επιμήκυνσης στις συνδέσεις των αγωγών και επιβεβαιώστε ότι το σύστημα δεν παρουσιάζει διαρροές.
- Επιβεβαιώστε ότι οι βαλβίδες αερίου και ρευστού (υψηλή και χαμηλή πίεση) είναι εντελώς ανοιχτές.

## Οδηγίες Δοκιμαστικής Λειτουργίας

Θα πρέπει να πραγματοποιήσετε τη Δοκιμαστική Λειτουργία για τουλάχιστον 30 λεπτά.

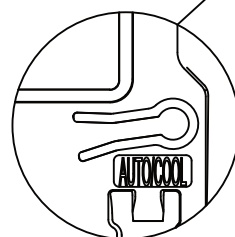
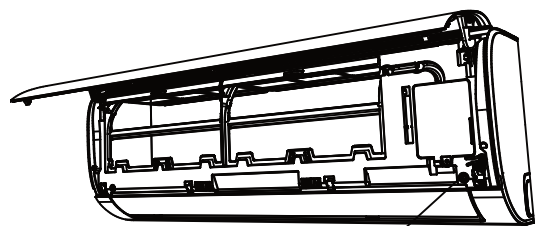
1. Συνδέστε τη μονάδα στο ρεύμα.
2. Πατήστε το κουμπί ON/OFF στο τηλεχειριστήριο να το ενεργοποιήσετε.
3. Πατήστε το κουμπί MODE να περιγηθείτε στις ακόλουθες λειτουργίες, μια τη φορά:
  - ΨΥΞΗ- Επιλέξτε τη χαμηλότερη δυνατή θερμοκρασία
  - ΘΕΡΜΑΝΣΗ- Επιλέξτε την υψηλότερη δυνατή θερμοκρασία
4. Αφήστε κάθε λειτουργία να πραγματοποιηθεί για 5 λεπτά και πραγματοποιήστε τους ακόλουθους ελέγχους:

| Λίστα Πραγματοποίησης Ελέγχων                                  | ΠΕΡΑΣΕ / ΑΠΕΤΥΧΕ      |                       |
|----------------------------------------------------------------|-----------------------|-----------------------|
| Δεν υπάρχει ηλεκτρολογική διαρροή                              |                       |                       |
| Η μονάδα είναι σταθερά εδραιωμένη                              |                       |                       |
| Όλες οι ηλεκτρολογικές απολήξεις είναι σωστά καλυμμένες        |                       |                       |
| Η εσωτερική και εξωτερική μονάδα είναι σταθερά εγκατεστημένες. |                       |                       |
| Όλα τα σημεία σύνδεσης του αγωγού δεν παρουσιάζουν διαρροές    | Εξωτερική μονάδα (2): | Εξωτερική μονάδα (2): |
| Το νερό αποστραγγίζεται επαρκώς από τον αγωγό αποστράγγισης    |                       |                       |
| Όλοι οι αγωγοί είναι επαρκώς μονωμένοι                         |                       |                       |
| Η μονάδα πραγματοποιεί την λειτουργία ΨΥΞΗΣ σωστά              |                       |                       |
| Η μονάδα πραγματοποιεί την λειτουργία ΘΕΡΜΑΝΣΗΣ σωστά          |                       |                       |
| Οι εσωτερικές περσίδες περιστρέφονται σωστά                    |                       |                       |
| Η εσωτερική μονάδα ανταποκρίνεται στο τηλεχειριστήριο          |                       |                       |

## ΔΙΠΛΟΣ ΕΛΕΓΧΟΣ ΣΥΝΔΕΣΗΣ ΑΓΩΓΟΥ

Κατά τη λειτουργία, η πίεση του ψυκτικού κύκλου θα αυξηθεί. Αυτό μπορεί να προκαλέσει διαρροή ρευστού που δεν υπήρχε στον αρχικό έλεγχο διαρροών. Πάρτε χρόνο να ελέγξετε διπλά πως όλα τα σημεία του αγωγού ψυκτικού μέσου δεν έχουν διαρροές. Ανατρέξτε στην ενότητα Έλεγχος Διαρροής Ρευστού για οδηγίες.

5. Αφότου η Δοκιμαστική Λειτουργία πραγματοποιηθεί με επιτυχία και επιβεβαιώσετε ότι όλα τα σημεία στη Λίστα Ελέγχου έχουν γίνει, ακολουθήστε τα παρακάτω:
- α. Χρησιμοποιήστε το τηλεχειριστήριο να αλλάξετε τη θερμοκρασία της μονάδας σε φυσιολογική.
  - β. Χρησιμοποιήστε μονωτική ταινία να τυλίξετε τους εσωτερικούς αγωγούς του ψυκτικού μέσου που μπορεί να αφήσατε ακάλυπτους κατά τη διάρκεια εγκατάσταση της εσωτερικής μονάδας.



Κουμπί Manual Control

Σχ. 8.1

## ΑΝ Η ΘΕΡΜΟΚΡΑΣΙΑ ΔΩΜΑΤΙΟΥ ΕΙΝΑΙ ΚΑΤΩ ΑΠΟ 17°C (63°F)

Δεν μπορείτε να χρησιμοποιήσετε το τηλεχειριστήριο να ενεργοποιήσετε τη λειτουργία ΨΥΞΗΣ όταν τη θερμοκρασία περιβάλλοντος είναι κάτω από 17°C.

Σε αυτή τη περίπτωση, μπορείτε να χρησιμοποιήσετε το κουμπί MANUAL CONTROL ώστε να ελέγξετε τη λειτουργία ΨΥΞΗΣ.

1. Ανασηκώστε τον μπροστινό πάνελ της εσωτερικής μονάδας έως ότου ασφαλίσει στη θέση του.
2. Η θέση του κουμπιού MANUAL CONTROL είναι στη δεξιά πλευρά της μονάδας. Πιέστε το πλήκτρο 2 φορές για να επιλέξετε τη λειτουργία COOL. Δείτε Σχ. 8.1.
3. Πραγματοποιήστε φυσιολογικά την Δοκιμαστική Λειτουργία.

# Ευρωπαϊκές Προδιαγραφές Απόρριψης

10

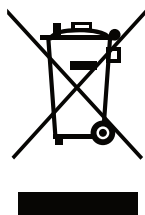
Αυτή η συσκευή περιέχει ψυκτικό υγρό και άλλα πιθανώς επικίνδυνα υλικά. Όταν θέλετε να απορρίψετε αυτή τη συσκευή, ο νόμος προϋποθέτει ειδική περισυλλογή και μεταχείριση. ΜΗΝ απορρίπτετε αυτό το προϊόν όπως τα οικιακά ή δημοτικά απορρίμματα.

Όταν απορρίπτετε αυτή τη συσκευή, ακολουθήστε τα παρακάτω:

- Απορρίψτε τη συσκευή στους ειδικά διαμορφωμένους ηλεκτρονικούς κάδους απόρριψης.
- Όταν αγοράζετε νέα συσκευή, ο έμπορος θα πάρει την παλιά συσκευή χωρίς χρέωση.
- Ο κατασκευαστής θα πάρει πίσω τη παλιά συσκευή χωρίς χρέωση.
- Πουλήστε τη συσκευή σε πιστοποιημένο έμπορο άχρηστων μετάλλων

## Ειδική Σημείωση

Η απόρριψη αυτής της συσκευής στα δάση ή σε άλλα φυσικά περιβάλλοντα θέτει σε κίνδυνο την υγεία και είναι βλαβερή για το περιβάλλον. Επικίνδυνες ουσίες μπορεί να διαρρεύσουν στα υπόγεια ύδατα και να εισχωρήσουν στη τροφική αλυσίδα.





# Πληροφορίες Επισκευής

(Οι κλιματιστικές μονάδες υποχρεούνται να υιοθετήσουν ψυκτικό υγρό R32/R290)

# 11

## 1. Έλεγχος στη περιοχή

Βασική προϋπόθεση για να ξεκινήσετε τις εργασίες σε συστήματα που περιέχουν εύφλεκτο ψυκτικό υγρό, είναι ο έλεγχος για την αποτροπή πυρκαγιάς. Για την διαδικασία της επισκευής σε ψυκτικά κυκλώματα, οι παρακάτω προφυλάξεις θα πρέπει να τηρούνται επακριβώς για την αποφυγή κινδύνων.

## 2. Διαδικασία Εργασιών

Θα πρέπει να υπάρχει μια αυστηρών ελέγχων διαδικασία ώστε να μην παρουσιαστούν εκκενώσεις αερίου ή ατμού.

## 3. Γενικές Προφυλάξεις

Όσοι εμπλέκονται με τη διαδικασία θα πρέπει να είναι πλήρως ενημερωμένοι για τις δικλίδες ασφαλείας και να ακολουθούν τις οδηγίες που προτείνονται κατά την επεξεργασία ψυκτικού κυκλώματος με εύφλεκτο ψυκτικό υγρό.

## 4. Έλεγχος του ψυκτικού υγρού

Η περιοχή θα πρέπει να ελέγχεται με το ειδικό εργαλείο διάγνωσης ψυκτικού υγρού τόσο πριν τη διαδικασία όσο κατά τη διάρκεια, ώστε ο τεχνικός να αποκτήσει την απαραίτητη πληροφορία που χρειάζεται αναφορικά με το ψυκτικό υγρό. Βεβαιωθείτε ότι χρησιμοποιείτε εξοπλισμό ανίχνευσης διαρροής ψυκτικού μέσου κατάλληλο για εύφλεκτα ψυκτικά υγρά, π.χ. να μην πετάει σπινθήρες, να είναι πλήρως στεγανωμένος ή πλήρως ασφαλής.

## 5. Πυροσβεστήρας

Κατά τις διαδικασίες συντήρησης ή επισκευής θα πρέπει απαραίτητως να υπάρχει στον χώρο πυροσβεστήρας. Διασφαλίστε την ύπαρξη πυροσβεστήρα στον χώρο.

## 6. Εύφλεκτες πηγές

Τα άτομα που εμπλέκονται στη διαδικασία συντήρησης ή επισκευής και αναμυγνούνται με το ψυκτικό κύκλωμα, δεν θα πρέπει να έρχονται σε επαφή με άλλου είδους εύφλεκτες πηγές προς αποφυγή πυρκαγιάς ή έκρηξης. Όλες οι πιθανές πηγές εύφλεκτων στοιχείων, όπως είναι ο καπνός τσιγάρου, θα πρέπει να αποτρέπονται κατά τη διαδικασία εγκατάστασης, συντήρησης επισκευής, αφαίρεσης και απόρριψης. Βασική προτεραιότητα είναι να ελεγχθεί ο χώρος και να διασφαλιστεί ότι δεν περιέχει εύφλεκτες πηγές. Συστήνεται η τοποθέτηση σημάτων στον χώρο που πραγματοποιείται η διαδικασία, οι οποίες θα προειδοποιούν ότι «ΑΠΑΓΟΡΕΥΕΤΑΙ ΤΟ ΚΑΠΝΙΣΜΑ».

## 7. Εξαέρωση

Θα πρέπει να εξασφαλίζεται ότι έχει γίνει η απαραίτητη εξαέρωση στον χώρο προτού προχωρήσει ο αρμόδιος τεχνικός στην επεξεργασία του ψυκτικού κυκλώματος. Η εξαέρωση του χώρου θα πρέπει να συνεχίζεται και κατά τη διάρκεια της διαδικασίας ούτως ώστε σε περίπτωση που υπάρξει διαρροή αερίου να απομακρύνεται άμεσα από τον χώρο.

## 8. Απαραίτητος εξοπλισμός

Κατά τις διαδικασίες εγκατάστασης, συντήρησης και επισκευής θα πρέπει ο αρμόδιος τεχνικός να διαθέτει όλο τον απαραίτητο εξοπλισμό που αναφέρεται στο παρόν εγχειρίδιο και ο οποίος συστήνεται από τον κατασκευαστή. Για οποιαδήποτε απορία προκύψει κατά τη διεκπεραίωση των εργασιών, θα πρέπει να απευθυνθείτε στον κατασκευαστή ή στο αρμόδιο τεχνικό τμήμα για να σας καθοδηγήσει. Οι παρακάτω έλεγχοι θα πρέπει να πραγματοποιηθούν σε εγκαταστάσεις με εύφλεκτο ψυκτικό υγρό:

- Η επιπλέον προσθήκη ψυκτικού υγρού θα πρέπει να είναι ανάλογη των διαστάσεων του χώρου που είναι εγκατεστημένη μονάδα.
- Θα πρέπει να εξασφαλίζεται η σωστή και επαρκής ανακυκλοφορία του αέρα.
- Αν χρησιμοποιείται δευτερεύον κύκλωμα ψυκτικού υγρού θα πρέπει ελέγχεται ως προς την επαρκή ποσότητα του. Οι σημάσεις θα πρέπει να είναι πάντοτε ορατές και ευανάγνωστες.
- Οι ενδείξεις και οι σημάσεις που δεν είναι ευανάγνωστες θα πρέπει να διορθωθούν.
- Οι σωλήνες ψύξης ή τα εξαρτήματα θα πρέπει να εγκαθίστανται έτσι ώστε να μην εκτεθειμένα σε στοιχεία που μπορεί να διαβρώσουν τα συστατικά που περιέχουν όπως πχ. το ψυκτικό υγρό, εκτός εάν τα εξαρτήματα κατασκευάζονται από υλικά που είναι εγγενώς ανθεκτικά και δεν διαβρώνονται ή διαθέτουν κατάλληλα προστατευτικά.

## 9. Ηλεκτρολογικός Έλεγχος

Η επισκευή και συντήρηση των ηλεκτρικών μερών ν πρέπει να ακολουθεί τους αρχικούς ελέγχους ασφαλείας και τις διαδικασίες επιθεώρησης των στοιχείων. Εάν υπάρχει βλάβη που θα μπορούσε να θέσει σε κίνδυνο την ασφάλεια, τότε θα πρέπει αμέσως να αποσυνδέεται η μονάδα από την παροχή ρεύματος έως ότου αντιμετωπιστεί το πρόβλημα. Αν το πρόβλημα δεν μπορεί να διορθωθεί αμέσως αλλά είναι απαραίτητο να συνεχιστεί η λειτουργία της μονάδας, θα πρέπει να βρεθεί μια προσωρινή λύση. Αυτό πρέπει να αναφέρεται στον ιδιοκτήτη του εξοπλισμού μαζί με όλα τα συμβαλλόμενα μέρη.

### Προαπαιτούμενοι έλεγχοι:

- Απόρριψη πυκνωτών: θα πρέπει να πραγματοποιείται με ασφαλή τρόπο για να αποφευχθούν πιθανοί σπινθήρες.
- Δεν υπάρχουν εκτεθειμένα ηλεκτρικά εξαρτήματα και καλώδια κατά την φόρτιση, την ανάκτηση ή τον καθαρισμό του συστήματος.

## 10. Επισκευή σφραγισμένων εξαρτημάτων

10.1. Κατά τη διάρκεια επισκευών σε σφραγισμένα εξαρτήματα, όλα τα ηλεκτρικά μέρη θα πρέπει να αποσυνδεθούν από τον εξοπλισμό που υφίσταται επεξεργασία πριν από οποιαδήποτε αφαίρεση των σφραγισμένων καλυμμάτων κλπ. Εάν είναι απόλυτα απαραίτητο να υπάρχει ηλεκτρική τροφοδοσία του εξοπλισμού κατά τη διάρκεια της συντήρησης, τότε θα πρέπει να υπάρχει μόνιμη εγκατάσταση ανίχνευσης διαρροών ειδικά στο πιο κρίσιμο σημείο για να προειδοποιήσει για κάθε επικίνδυνο ενδεχόμενο.

10.2. Ιδιαίτερη προσοχή πρέπει να δοθεί στα ακόλουθα για να διασφαλιστεί ότι με την επεξεργασία των ηλεκτρικών εξαρτημάτων, το περίβλημα δεν μεταβάλλεται κατά τέτοιο τρόπο ώστε να επηρεάζεται το επίπεδο προστασίας. Σε αυτό περιλαμβάνονται η ζημιά στα καλώδια, η υπερφόρτωση συνδέσεων στο σύστημα, τερματικά που δεν έχουν κατασκευαστεί σύμφωνα με τις αρχικές προδιαγραφές, η φθορά των στεγανών, η εσφαλμένη τοποθέτηση των συνδέσμων κλπ.

- Βεβαιωθείτε ότι η συσκευή είναι στερεωμένη με ασφάλεια.
- Βεβαιωθείτε ότι τα υλικά στεγανοποίησης δεν έχουν φθαρεί, σε σημείο που να μην εξυπηρετούν πλέον τον λόγο ύπαρξής τους και να μην συμβάλουν στην πρόληψη της εισροής εύφλεκτων στοιχείων. Τα ανταλλακτικά μέρη πρέπει να συμφωνούν με τις προδιαγραφές του κατασκευαστή.

**ΣΗΜΕΙΩΣΗ:** Η χρήση στεγανωτικού πυριτίου μπορεί να εμποδίσει την αποτελεσματικότητα ορισμένων τύπων εξοπλισμού ανίχνευσης διαρροών. Τα κρίρια εξαρτήματα ασφαλείας δεν χρειάζεται να απομονωθούν πριν από την εργασία τους.

## 11. Επισκευή σε εγγενώς ασφαλή εξαρτήματα

Μην εφαρμόζετε μόνιμα φορτία επαγωγής ή χωρητικότητας στο κύκλωμα χωρίς να εξασφαλίζετε ότι αυτό δεν θα υπερβαίνει την επιτρεπόμενη τάση και το ρεύμα που συνιστάται για τον εξοπλισμό. Τα εγγενώς ασφαλή εξαρτήματα αποτελούν τους μοναδικούς τύπους που μπορούν να εφαρμοστούν παρουσία εύφλεκτων στοιχείων. Η συσκευή πρέπει να έχει τη σωστή διαβάθμιση. Αντικαταστήστε τα εξαρτήματα μόνο με εξαρτήματα που καθορίζει ο κατασκευαστής. Διαφορετικού τύπου εξαρτήματα μπορεί να προκαλέσουν την ανάφλεξη ψυκτικού μέσου στην ατμόσφαιρα λόγω διαρροής.

## 12. Καλωδίωση

Ελέγξτε ότι η καλωδίωση δεν έχει υποστεί φθορές, διάβρωση, υπερβολική πίεση, κραδασμούς ή άλλες δυσμενείς περιβαλλοντικές επιπτώσεις. Ο έλεγχος θα πρέπει να περιλαμβάνει επίσης το γεγονός της καταπόνησης από πηγές όπως αυτές του συμπιεστή ή του ανεμιστήρα.

## 13. Ανίχνευση εύφλεκτων ψυκτικών υγρών

Δεν θα πρέπει να χρησιμοποιούνται πηγές ανάφλεξης κατά την αναζήτηση ή ανίχνευση διαρροών του ψυκτικού υγρού. Ένας αλογονιδωτός πυρσός (ή οποιοσδήποτε άλλο είδος ανίχνευσης που χρησιμοποιείται γυμνή φλόγα) απαγορεύεται να χρησιμοποιηθεί.

## 14. Μέθοδοι ανίχνευσης διαρροής ψυκτικού υγρού

Οι ακόλουθες μέθοδοι ανίχνευσης διαρροών θεωρούνται αποδεκτές για συστήματα που περιέχουν εύφλεκτα ψυκτικά υγρά. Πρέπει να χρησιμοποιούνται ηλεκτρονικοί ανιχνευτές διαρροών για την ανίχνευση εύφλεκτων ψυκτικών μέσων, αλλά η ευαισθησία τους ενδέχεται να μην είναι επαρκής ή μπορεί να χρειαστεί επαναπροσδιορισμός (ο εξοπλισμός ανίχνευσης πρέπει να είναι βαθμονομημένος σε περιοχή χωρίς ψυκτικό μέσο.) Βεβαιωθείτε ότι ο ανιχνευτής δεν αποτελεί πιθανή πηγή ανάφλεξης και είναι κατάλληλος για το ψυκτικό μέσο με το οποίο λειτουργεί το κλιματιστικό που προμηθευτήκατε. Ο εξοπλισμός ανίχνευσης διαρροών ορίζεται σε ποσοστό LFL του ψυκτικού μέσου και βαθμονομείται με το ψυκτικό μέσο που χρησιμοποιείται και το κατάλληλο ποσοστό αερίου είναι μέγιστο 25%. Τα υγρά ανίχνευσης διαρροών είναι κατάλληλα για χρήση στα περισσότερα ψυκτικά μέσα, αλλά η χρήση απορρυπαντικών που περιέχουν χλώριο πρέπει να αποφεύγεται καθώς μπορεί να αντιδράσει με το ψυκτικό υγρό και να διαβρώσει το χάλκινο σωλήνα.

Σε περίπτωση ανίχνευσης διαρροής, όλες οι γυμνές φλόγες πρέπει να σβηστούν. Εάν υπάρχει διαρροή ψυκτικού - το οποίο απαιτεί συγκόλληση, όλη η ποσότητα του ψυκτικού υγρού θα πρέπει να ανακληθεί από το σύστημα ή να απομονωθεί (μέσω βαλβίδων διακοπής) σε ένα τμήμα του συστήματος που είναι απομακρυσμένο από το σημείο που ανιχνεύθηκε η διαρροή. Άζωτο (OFN) χωρίς οξυγόνο θα πρέπει να χρησιμοποιηθεί έπειτα για τον καθαρισμό του συστήματος τόσο πριν όσο και κατά τη διάρκεια της διαδικασίας συγκόλλησης.

## 15. Αφαίρεση και εκκένωση

Κατά τη επεξεργασία του κυκλώματος του ψυκτικού μέσου, αν επιθυμείτε να κάνετε επισκευές για οποιονδήποτε άλλο σκοπό, θα πρέπει να ακολουθήσετε τις προτεινόμενες συμβατικές διαδικασίες. Ωστόσο, είναι σημαντικό να ακολουθείται η βέλτιστη πρακτική δεδομένου ότι θα πρέπει να αποτρέπεται το ενδεχόμενο ανάφλεξης. Ακολουθήστε την παρακάτω διαδικασία:

- Αφαιρέστε το ψυκτικό
- Καθαρίστε το κύκλωμα με τη χρήση αδρανούς αερίου
- Εκκενώστε
- Καθαρίστε ξανά το κύκλωμα με τη χρήση αδρανούς αερίου
- Ανοίξτε το κύκλωμα με κοπή ή συγκόλληση

Το φορτίο του ψυκτικού μέσου πρέπει να ανακτηθεί εντός των σωστών κυλίνδρων ανάκτησης. Το σύστημα πρέπει να εκκενωθεί με OFN για να καταστεί η μονάδα ασφαλής. Αυτή η διαδικασία μπορεί να χρειαστεί να επαναληφθεί αρκετές φορές. Ο πεπιεσμένος αέρας ή το οξυγόνο δεν πρέπει να χρησιμοποιούνται για την εργασία αυτή. Η έξαψη πρέπει να επιτυγχάνεται με το σπάσιμο του κενού στο σύστημα με OFN και να συνεχίζεται με το γέμισμα μέχρις ότου να επιτευχθεί η πίεση λειτουργίας. Στη συνέχεια εξαερώστε και τέλος τραβήξτε προς τα κάτω σε κενό. Η διαδικασία αυτή επαναλαμβάνεται μέχρις ότου να μην υπάρχει εντός του συστήματος ψυκτικό υγρό.

Όταν χρησιμοποιείται το τελικό φορτίο OFN, το σύστημα πρέπει να εξαερίζεται μέχρι να φτάσει τα επίπεδα της ατμοσφαιρικής πίεσης για να επιτραπεί η πραγματοποίηση των εργασιών. Αυτή η λειτουργία είναι απολύτως απαραίτητη αν πρόκειται να ακολουθήσουν εργασίες συγκόλλησης στις σωλήνες. Βεβαιωθείτε ότι η έξοδος της αντλίας κενού δεν είναι κλειστή σε πηγές ανάφλεξης και υπάρχει επαρκής εξαερισμός.

## **16. Διαδικασία πλήρωσης πρόσθετης ποσότητας ψυκτικού υγρού**

Εκτός από τις συμβατικές διαδικασίες πλήρωσης, πρέπει να τηρούνται τα ακόλουθα:

- Βεβαιωθείτε ότι δεν υπάρχει ανάμειξη διαφορετικών ψυκτικών μέσων κατά τη χρήση της φόρτισης του εξοπλισμού. Οι σωλήνες πρέπει να είναι όσο το δυνατόν πιο μικροί ώστε να ελαχιστοποιείται η ποσότητα του ψυκτικού υγρού που περιέχεται σε αυτά.
- Οι κύλινδροι θα πρέπει να βρίσκονται σε κατακόρυφη θέση.
- Βεβαιωθείτε ότι το σύστημα ψύξης είναι επαρκώς γεωμένο πριν τη φόρτιση του συστήματος με ψυκτικό υγρό.
- Επισημάνετε το σύστημα όταν ολοκληρωθεί η φόρτιση (αν δεν το έχετε κάνει ήδη).
- Ιδιαίτερη προσοχή ώστε να μην υπερφορτιστεί το ψυκτικό κύκλωμα.
- Πριν από τη φόρτιση του συστήματος πρέπει να πραγματοποιούνται δοκιμές πίεσης με OFN. Το σύστημα πρέπει να ελέγχεται για ενδεχόμενο διαρροής μετά την ολοκλήρωση της φόρτισης και πριν την έναρξη λειτουργίας της μονάδας.

## **17. Παροπλισμός**

Πριν από τη διεξαγωγή αυτής της διαδικασίας, είναι απαραίτητο ο τεχνικός να είναι εξοικειωμένος με τον εξοπλισμό και όλες τις λεπτομέρειες του. Συνιστάται καλή πρακτική για όλα τα ψυκτικά μέσα ώστε να ανακτώνται με ασφάλεια. Πριν από την εκτέλεση της εργασίας, πρέπει να ληφθεί δείγμα λαδιού και ψυκτικού μέσου.

Σε περίπτωση που απαιτείται ανάλυση πριν από την επαναχρησιμοποίηση του ψυκτικού μέσου είναι σημαντικό το σύστημα να τροφοδοτείται με ρεύμα.

A) Εξοικείωση με τον εξοπλισμό και τη λειτουργικότητά του.

B) Απομόνωση του ηλεκτρολογικού συστήματος.

Γ) Προτού ξεκινήσετε τη διαδικασία, διασφαλίστε ότι:

- υπάρχει μηχανικός εξοπλισμός, εάν απαιτείται, για το χειρισμό των ψυκτικών κυλίνδρων
- ο προστατευτικός εξοπλισμός είναι διαθέσιμος και χρησιμοποιείται σωστά
- η διαδικασία ανάκτησης εποπτεύεται από αρμόδιο πρόσωπο
- ο εξοπλισμός ανάκτησης και οι κύλινδροι συμμορφώνονται με τα κατάλληλα πρότυπα

Δ) Αφαιρέστε το ψυκτικό κύκλωμα

E) Εάν η εκκένωση δεν είναι εφικτή, προσαρμόστε τη βαλβίδα πολλαπλής έτσι ώστε να μπορεί να αφαιρεθεί το ψυκτικό από τα διάφορα μέρη του συστήματος.

ΣΤ) Βεβαιωθείτε ότι ο κύλινδρος είναι σωστά τοποθετημένος πριν την ανάκτηση.

Z) Ξεκινήστε την ανάκτηση βάσει των οδηγιών του κατασκευαστή.

H) Μην υπερφορτώνετε τους κυλίνδρους – όχι περισσότερο από το 80%.

Θ) Μην υπερβαίνετε τη μέγιστη πίεση λειτουργίας του κυλίνδρου, ούτε για προσωρινό διάστημα.

I) Όταν οι κύλινδροι έχουν πληρωθεί επαρκώς και η διαδικασία λάβει τέλος, βεβαιωθείτε ότι οι κύλινδροι και ο εξοπλισμός έχουν αφαιρεθεί αμέσως από την εγκατάσταση και όλες οι βαλβίδες απομόνωσης στον εξοπλισμό είναι κλειστές.

K) Το ανακτημένο ψυκτικό μέσο δεν πρέπει να φορτίζεται σε άλλο ψυκτικό σύστημα εκτός εάν έχει καθαριστεί και ελεγχθεί.

## 18. Χαρακτηρισμός

Ο εξοπλισμός φέρει την ένδειξη ότι έχει εκκενωθεί και αδειάσει από αρμόδιο ψυκτικό. Η ετικέτα θα πρέπει να αναγράφει ημερομηνία και να φέρει την υπογραφή του. Βεβαιωθείτε ότι υπάρχουν ετικέτες στον εξοπλισμό που δηλώνουν ότι περιέχει εύφλεκτο ψυκτικό υγρό.

## 19. Επαναφορά

- Κατά την αφαίρεση ψυκτικού υγρού από ένα σύστημα, είτε για σκοπούς επισκευής είτε για παροπλισμό, συνιστάται καλή πρακτική ώστε όλη η ποσότητα ψυκτικού υγρού να αφαιρεθεί με ασφάλεια.
- Κατά τη μεταφορά ψυκτικού υγρού στους κύλινδρους, βεβαιωθείτε ότι υπάρχει μόνο το ψυκτικό υγρό που χρησιμοποιούν και οι κύλινδροι ανάκτησης. Βεβαιωθείτε ότι είναι σωστός ο αριθμός κυλίνδρων για τη συγκρότηση της συνολικής χρέωση του συστήματος με ψυκτικό. Όλοι οι κύλινδροι που πρόκειται να χρησιμοποιηθούν προορίζονται για την ανάκτηση του ψυκτικού μέσου. Οι κύλινδροι πρέπει να είναι διαθέτουν εκτονωτικές βαλβίδες και βαλβίδες διακοπής για να εξασφαλίζεται η σωστή λειτουργία.
- Οι κύλινδροι ανάκτησης εκκενώνονται και, αν είναι εφικτό, ψύχονται πριν γίνει η ανάκτηση.
- Ο εξοπλισμός ανάκτησης είναι σε καλή κατάσταση λειτουργίας ώστε να επιτευχθεί η ανάκτηση του εύφλεκτου ψυκτικού υγρού. Επιπλέον, πρέπει να είναι διαθέσιμη μια σειρά βαθμονομημένων ζυγών σε καλή κατάσταση λειτουργίας.
- Οι σωλήνες πρέπει να είναι σε καλή κατάσταση για την αποφυγή διαρροών. Πριν χρησιμοποιήσετε τον εξοπλισμό ανάκτησης, ελέγξτε ότι βρίσκετε σε ικανοποιητική κατάσταση λειτουργίας και είναι σωστά συντηρημένος, καθώς και ότι όλα τα ηλεκτρολογικά εξαρτήματα είναι στεγανομένα για να αποφευχθεί ενδεχόμενο ανάφλεξης σε περίπτωση απελευθέρωσης ψυκτικού υγρού στην ατμόσφαιρα. Συμβουλευτείτε τον κατασκευαστή σε περίπτωση που υπάρχει η οποιαδήποτε απορία.
- Το ανακτημένο ψυκτικό υγρό επιστρέφεται στον προμηθευτή ψυκτικού στο σωστό κύλινδρο ανάκτησης και με το σχετικό σημείωμα μεταφοράς αποβλήτων. Μην αναμειγνύετε διαφορετικούς τύπους ψυκτικών υγρών σε μονάδες ανάκτησης και ιδιαίτερα σε κύλινδρους.
- Εάν πρόκειται να αφαιρεθεί ο συμπιεστής ή τα λάδια του συμπιεστή, βεβαιωθείτε ότι έχουν εκκενωθεί και βεβαιωθείτε ότι δεν έχει παραμείνει ποσότητα ψυκτικού υγρού εντός του λιπαντικού. Η διαδικασία εκκένωσης πρέπει να διεξάγεται πριν από την επιστροφή του συμπιεστή στον προμηθευτή. Μπορεί να εφαρμοστεί μόνο θέρμανση στο σώμα του συμπιεστή για να επιταχυνθεί αυτή η διαδικασία. Όταν το λάδι αποστραγγίζεται από ένα σύστημα, πρέπει να απομακρύνεται με ασφάλεια.

## 20. Μεταφορά, σήμανση και αποθήκευση μονάδων

1. Μεταφορά εξοπλισμού που περιέχει εύφλεκτα ψυκτικά μέσα. Συμμόρφωση με τους κανονισμούς μεταφοράς.
2. Σήμανση του εξοπλισμού με πινακίδες. Συμμόρφωση με τους τοπικούς κανονισμούς.
3. Απόρριψη εξοπλισμού που φέρει εύφλεκτο ψυκτικό υγρό. Συμμόρφωση με τους εθνικούς κανονισμούς.
4. Αποθήκευση εξοπλισμού / συσκευών. Η αποθήκευση του εξοπλισμού πρέπει να γίνεται σύμφωνα με τις οδηγίες του κατασκευαστή.
5. Αποθήκευση συσκευασμένου (που δεν έχει πουληθεί) εξοπλισμού. Η προστατευτική συσκευασία πρέπει να κατασκευάζεται κατά τρόπο ώστε αν προκληθεί μηχανική βλάβη στο σύστημα, ο εξοπλισμός εντός της συσκευασίας να μην επιφέρει διαρροή του ψυκτικού υγρού. Ο μέγιστος αριθμός τεμαχίων εξοπλισμού που επιτρέπεται να αποθηκεύονται μαζί καθορίζεται από τους τοπικούς κανονισμούς.

**Ο σχεδιασμός και οι προδιαγραφές μπορεί να αλλάξουν χωρίς σχετική ενημέρωση για τη βελτιστοποίηση του προϊόντος. Συμβουλευτείτε τον πωλητή σας ή τον κατασκευαστή για λεπτομέρειες.**



# Cuprins

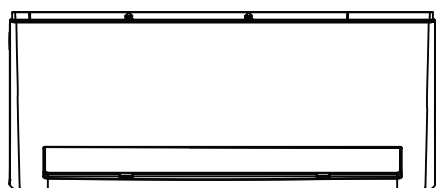
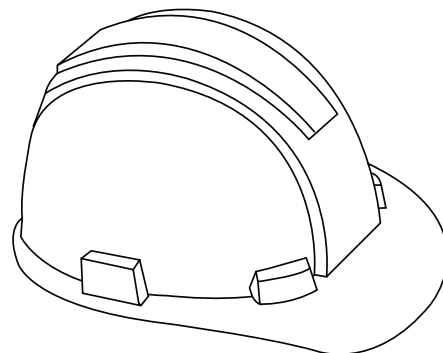
## Manual de Instalare

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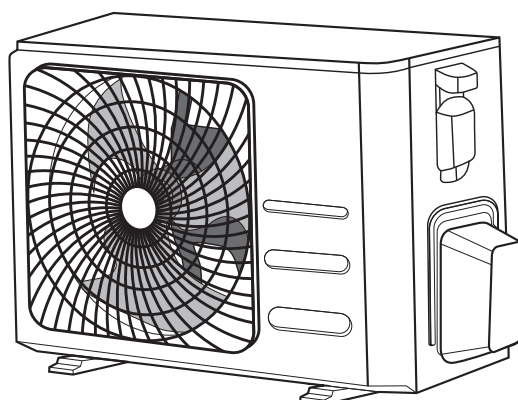


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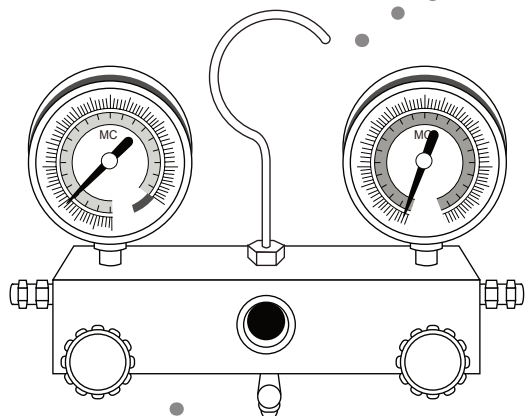
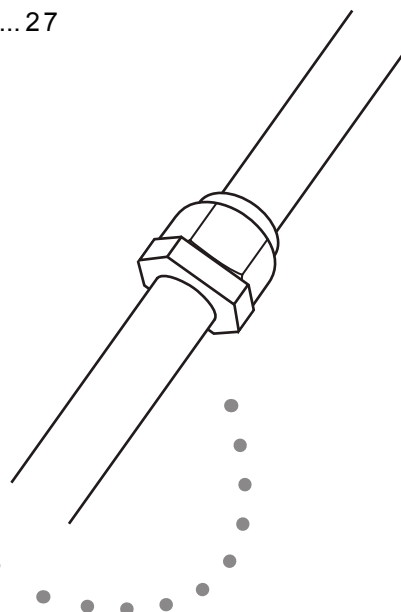


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**ATENȚIE: Pericol de incendiu**  
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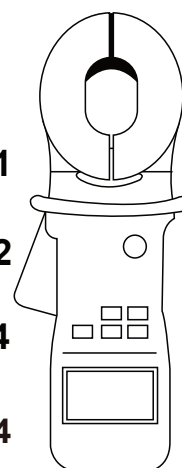
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## Măsuri de siguranță

### Citiți măsurile de siguranță înainte de instalare

Instalarea incorectă datorată ignorării instrucțiunilor poate duce la daune însemnate sau vătămare serioasă. Gradul de seriozitate al potențialelor daune sau vătămări este clasificat fie ca AVERTIZARE fie ca ATENȚIONARE.



#### WARNING

Acest simbol indică faptul că ignorarea instrucțiunilor poate duce la deces sau vătămare serioasă.



#### CAUTION

Acest simbol indică faptul că ignorarea instrucțiunilor poate duce la vătămare moderată a unei persoane sau daune asupra aparatului sau a bunurilor.



Acest simbol indică faptul că nu trebuie niciodată să realizați acțiunea indicată.



#### WARNING

- ⊗ **Nu** modificați lungimea cablului de alimentare electrică sau nu utilizați un prelungitor pentru alimentarea aparatului. **Nu** împărțiți aceeași priză cu alte aparate. O alimentare electrică neadecvată sau insuficientă poate duce la incendiu sau electrocutare.
- ⊗ La conectarea conductei de agent frigorific, **nu** permiteți substanțelor sau gazelor în afară de cele specificate ca și agent frigorific să pătrundă în aparat. Prezența altor gaze sau substanțe va scădea capacitatea aparatului și va cauza o presiune anormală în ciclul agentului frigorific. Acest lucru poate duce la explozie și vătămare.
- ⊗ **Nu** permiteți copiilor să se joace cu aparatul de aer condiționat. Copiii trebuie supravegheați în preajma aparatului întotdeauna.
  1. Instalația trebuie realizată de către un dealer autorizat sau un specialist. O instalație defectuoasă poate duce la scurgeri de apă, electrocutare sau incendiu.
  2. Instalarea trebuie realizată conform cu instrucțiunile de instalare. Instalarea neadecvată poate duce la scurgeri de apă, electrocutare sau incendiu.  
(în America de Nord, instalarea trebuie realizată în conformitate cu cerințele NEC și CEC și doar de către personal autorizat)
  3. Contactați un tehnician de service autorizat pentru repararea sau mentenanța acestui aparat.
  4. Utilizați doar accesoriile și componentele incluse, componentele specificate pentru instalare. Utilizarea componentelor ce nu corespund standardelor pot duce la scurgeri de apă, electrocutare, incendiu și pot duce la defectarea aparatului.
  5. Instalați aparatul într-o locație solidă ce poate susține greutatea unității. Dacă locația aleasă nu poate susține greutatea unității sau dacă instalarea nu este realizată adecvat, aparatul poate cădea și poate duce la vătămare serioasă sau daune.
  6. Nu folosiți alte mijloace pentru accelerarea procesului de decongelare.
  7. Aparatul va fi depozitat într-o încăpere în care nu există surse de scanteie (flacăra deschisă, aparate pe gaz sau încălzitoare electrice).
  8. Nu strângeți și nu ardeți aparatul.
  9. Aparatul va fi depozitat într-o încăpere ventilată și care corespunde ca suprafața, specificațiilor tehnice ale aparatului.
  10. ATENȚIE ! Agenții frigorifici nu au miros.

**NOTA:** Clauzele 7-10 se referă la unitățile care funcționează cu agent refrigerant R32/R290.



## WARNING

11. Pentru lucrările electrice, respectați standardele, reglementările de cablare locale și naționale precum și acest manual de instalare. Trebuie să utilizați un circuit independent și o singură priză pentru alimentare electrică. Nu conectați alte aparate la aceeași priză. O capacitate electrică insuficientă sau defecte ale lucrărilor electrice pot duce la electrocutare sau incendiu.
12. Pentru toate lucrările electrice, folosiți cablurile specificate. Conectați în mod sigur cablurile și prindeți-le cu clemă pentru a preveni ca forțe din exterior să avarieze terminalul. Legăturile electrice neadecvate pot duce la supraîncălzire și pot cauza incendii sau electrocutare.
13. Toate cablajele trebuie aranjate adecvat pentru a asigura închiderea adecvată a capacului panoului de control. Dacă acest capac al panoului de control nu este bine închis, acest lucru poate duce la coroziune și poate cauza ca punctele de legătură de pe terminal să se încingă, să se aprindă sau să cauzeze electrocutare.
14. În anumite medii funcționale de genul bucătăriilor, camerelor pentru servere, etc. utilizarea unor aparate de aer condiționat speciale este recomandată.
15. În cazul deteriorării cablului de alimentare, acesta va fi înlocuit doar de către un reprezentant al unității de service sau un tehnician autorizat.
16. Acest aparat poate fi folosit de către copii cu vârsta peste 8 ani și persoane cu dizabilități fizice, senzoriale sau mintale, dacă aceste persoane au fost instruite și sub constanta supraveghere. Nu permiteți copiilor să se joace. Curățarea și mentenanța produsului nu va fi făcută de către copii fără supraveghere.



## CAUTION

- ⊗ Pentru aparatele care au un radiator suplimentar, **nu** instalați aparatul la o distanță mai mică de 1 m (3 picioare) de orice materiale combustibile.
- ⊗ **Nu** instalați aparatul într-o locație ce poate fi expusă scurgerilor de gaze inflamabile. Dacă se acumulează gaze inflamabile în jurul aparatului, acest lucru poate duce la incendiu.
- ⊗ **Nu** puneți în funcțiune aparatul de aer condiționat într-o cameră cu umiditate mare de genul unei băi sau unei spălătorii. Expunerea excesivă la apă poate duce la un scurtcircuit al componentelor electrice.
  1. Produsul trebuie să fie adecvat împământat în momentul instalării, în caz contrar poate apărea electrocutare.
  2. Instalați conducta de scurgere adecvat conform cu instrucțiunile din acest manual. O scurgere improprie poate duce la daune cauzate de apă asupra casei sau bunurilor dvs.
  3. Aparatul va fi pastrat în așa fel încât se evite deteriorarea mecanică.
  4. Persoanele care vor efectua lucrări asupra aparatului sau asupra traseului frigorific vor fi persoane calificate de către o autoritate evaluatoare competentă.

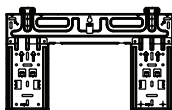
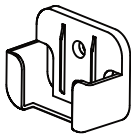
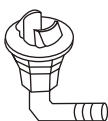
## Mai multe informații despre gazele florinate

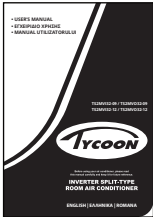
1. Acest aparat de aer condiționat conține gaze florinate. Pentru informații specifice cu privire la tipul de gaz și cantitatea acestuia, vă rugăm consultați eticheta corespunzătoare de pe aparat.
2. Instalarea, repararea, și întreținerea acestui aparat trebuie realizate de către un tehnician calificat.
3. Dezinstalarea produsului și reciclarea trebuie realizate de către un tehnician calificat.
4. Dacă sistemul cuprinde un sistem de detectare a scurgerilor, acesta trebuie să verifice scurgerile cel puțin odată la 12 luni.
5. Atunci când aparatul este verificat pentru scurgeri, păstrarea adecvată a documentelor de verificare este recomandată.

# Accesorii

# 1

Aparatul de aer condiționat este livrat însoțit de următoarele accesorii. Utilizați toate componentele de instalare și accesoriile pentru instalarea aparatului de aer condiționat. O instalare neadecvată poate duce la scurgeri de apă, electrocutare și incendiu sau poate cauza defectarea echipamentului.

| Denumire                                                   | Formă                                                                               | Cantitate                                                 |                         |
|------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------|
| Placă de montare                                           |    | 1                                                         |                         |
| Diblu pentru ancorare                                      |    | 5                                                         |                         |
| Șurub de fixare placă montare<br>ST3,9 x 25                |   | 5                                                         |                         |
| Telecomandă                                                |  | 1                                                         |                         |
| Șuruburi de fixare pentru suport<br>telecomandă ST2,9 x 10 |  | 2                                                         | Componente<br>opționale |
| Suport telecomandă                                         |  | 1                                                         |                         |
| Baterii uscate AAA LR03                                    |  | 2                                                         |                         |
| Garnitură                                                  |  | 1<br><br>(doar pentru modelele cu răcire<br>și încălzire) |                         |
| Racord de scurgere                                         |  |                                                           |                         |

| Denumire                  | Formă                                                                             | Cantitate      |                                                                                                |
|---------------------------|-----------------------------------------------------------------------------------|----------------|------------------------------------------------------------------------------------------------|
| Manual de utilizare       |  | 1              |                                                                                                |
| Manual de instalare       |  | 1              |                                                                                                |
| Manual pentru telecomandă |  | 1              |                                                                                                |
| Sistem de conectare țeavă | Partea lichidă                                                                    | Φ 6.35 (1/4in) | Componente ce trebuie achiziționate. Consultați dealerul în legătură cu dimensiunea conductei. |
|                           |                                                                                   | Φ 9.52 (3/8in) |                                                                                                |
|                           | Partea gazoasă                                                                    | Φ 9.52 (3/8in) |                                                                                                |
|                           |                                                                                   | Φ 12.7 (1/2in) |                                                                                                |
|                           |                                                                                   | Φ 16 (5/8in)   |                                                                                                |
|                           |                                                                                   | Φ 19 (3/4in)   |                                                                                                |



## WARNING

Aparatul va fi depozitat într-o încăpere ventilată care corespunde cerințelor de suprafață. Informație valabilă pentru aparatele ce funcționează pe baza de agent frigorific R32: Aparatul va fi instalat, operat și depozitat într-o încăpere cu o suprafață de cel puțin 4 metri pătrați.

Aparatul nu va fi instalat într-o încăpere care nu este ventilată, cu o suprafață mai mică de 4mp.

Informații cu privire la cerințele de spațiu pentru aparatele cu agent frigorific R290:

Unități cu capacitate < 9000 Btu/h : 13mp

Unități 9000-12000 Btu/h : 17mp

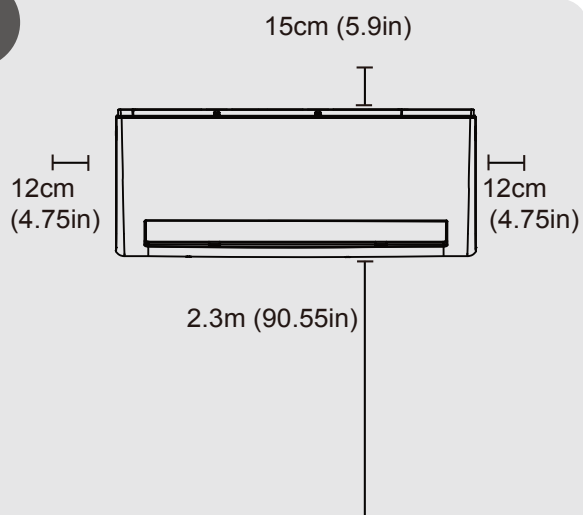
Unități 12-18000 Btu/h: 26mp

Unități 18-24000 Btu/h: 35mp

## Sumar instalare – unitate interioară

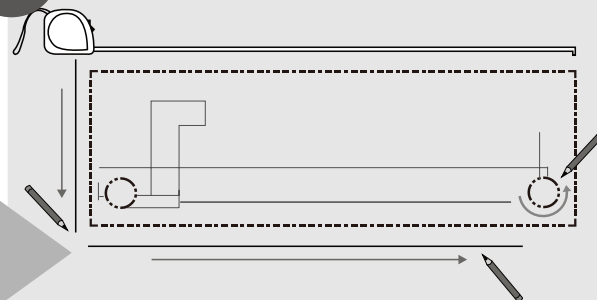
# 2

1

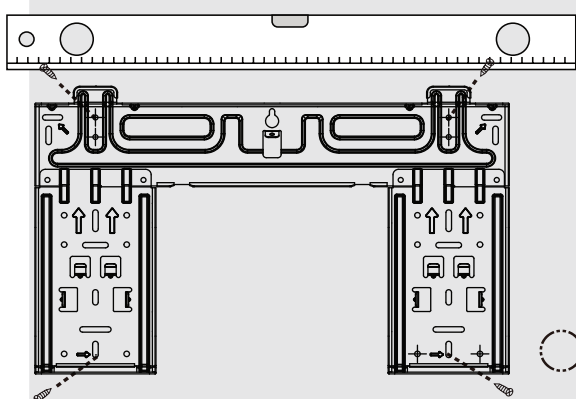


Alegeți locația pentru instalare  
(pagina 11)

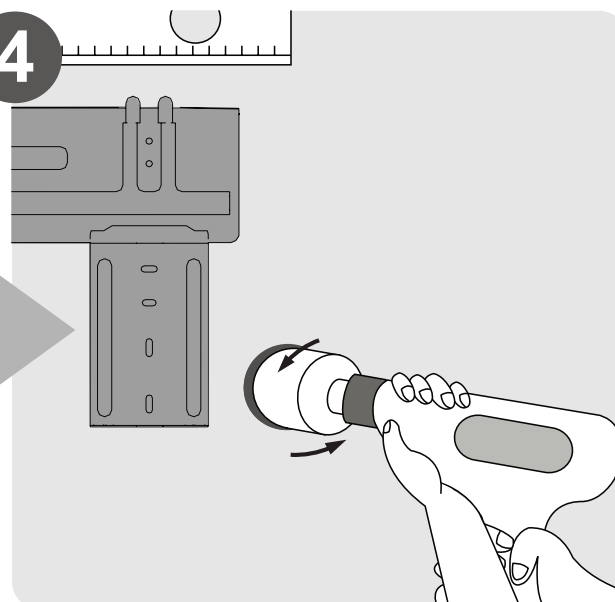
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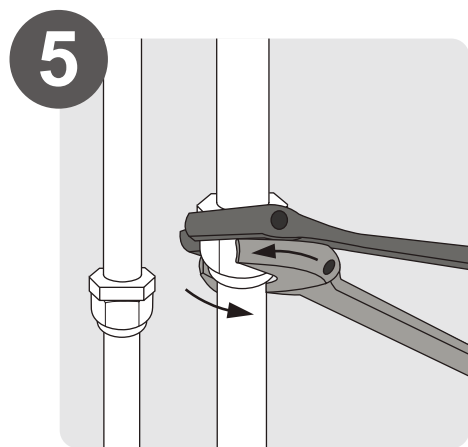


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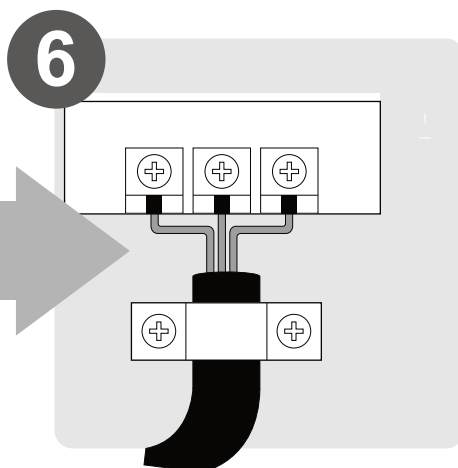


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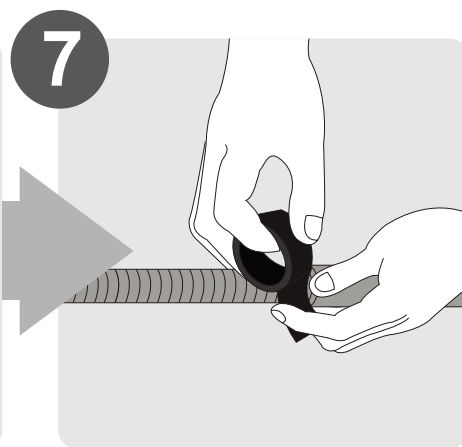




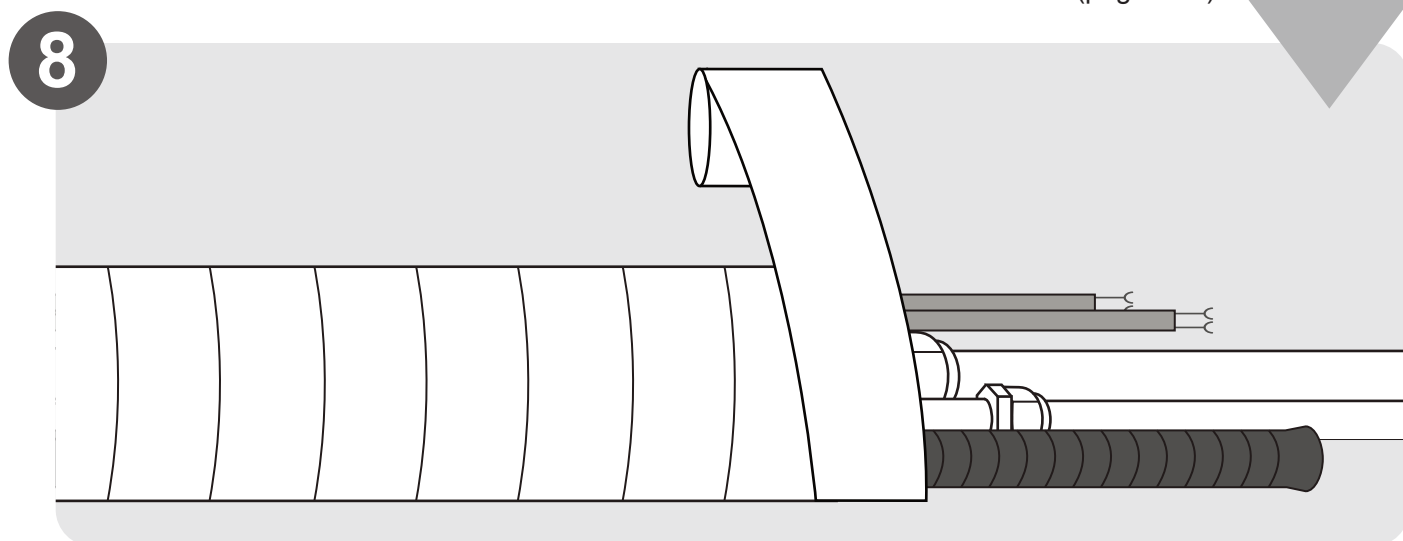
Conectați țeava  
(pagina 25)



Conectați cablurile  
(pagina 17)



Pregătiți furtunul  
de scurgere  
(pagina 14)



Înveliți conductele și cablurile  
(condiție neaplicabilă în anumite zone din Statele Unite ale Americii).  
(pagina 18)



Montați unitatea interioară  
(pagina 18)

# Componente aparat

# 3

**NOTA:** Instalarea se va face in conformitate cu standardele, normele si reglementarile locale. Condițiile de instalare pot diferi in functie de zona.

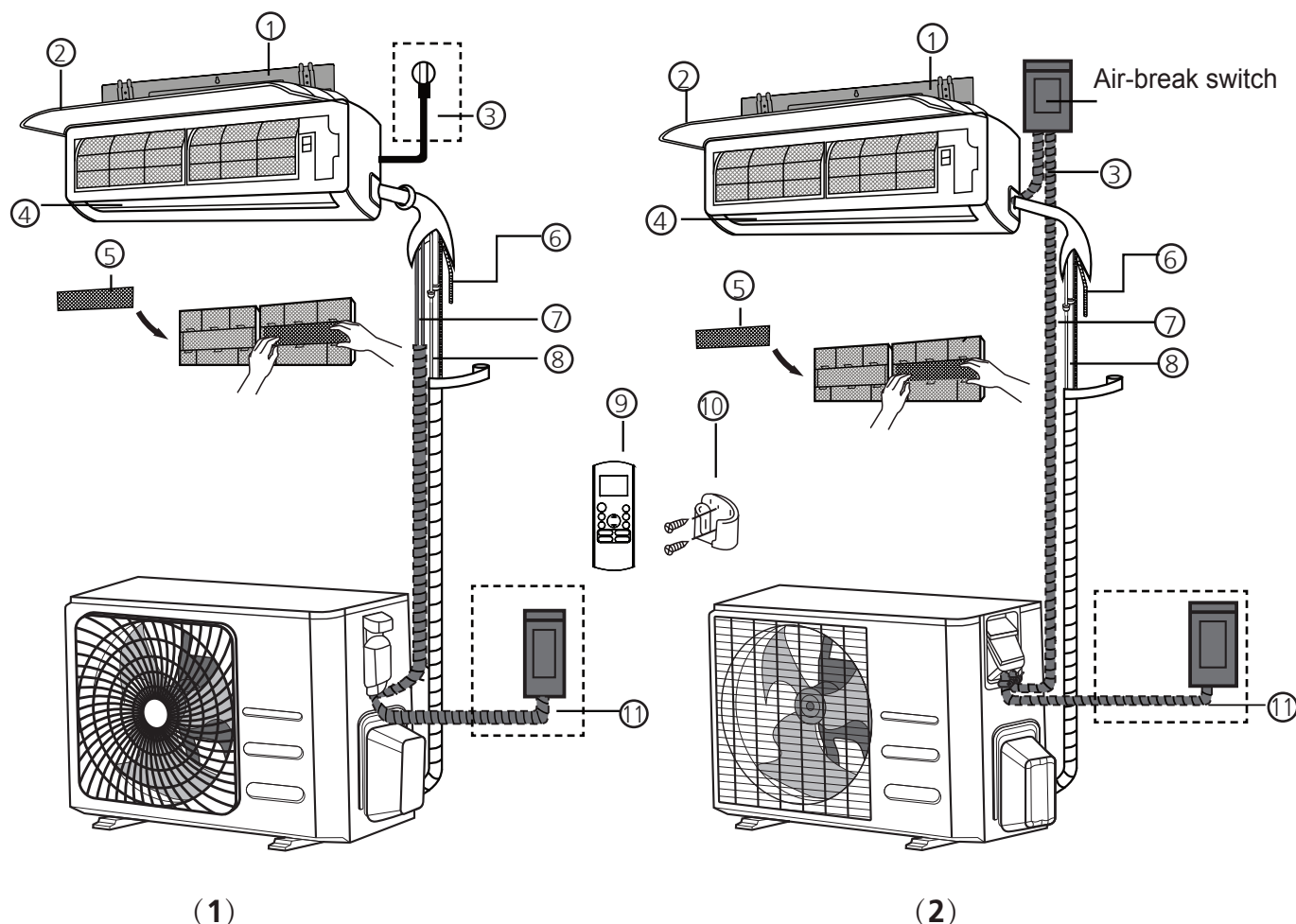


Fig. 3.1

- |                                         |                                                                                               |                                                            |
|-----------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------|
| ① Placă de montare pe perete            | ⑤ Filtrul Funcțional (situat in fata filtrului principal - disponibil doar la anumite modele) | ⑨ Telecomandă                                              |
| ② Panou frontal                         | ⑥ Conductă de scurgere                                                                        | ⑩ Suport telecomandă (la unele modele)                     |
| ③ Cablu de alimentare (la unele modele) | ⑦ Cablu de semnal                                                                             | ⑪ Cablu de alimentare unitate exterioară (la unele modele) |
| ④ Fantă                                 | ⑧ Țeavă agent frigorific                                                                      |                                                            |

## NOTĂ CU PRIVIRE LA ILUSTRAȚII

Ilustrațiile din prezentul manual au doar scop de exemplificare. Forma reală a unității interioare poate fi ușor diferită. Forma reală va fi cea care va fi luată în considerare.



# Instalare unitate interioară

# 4

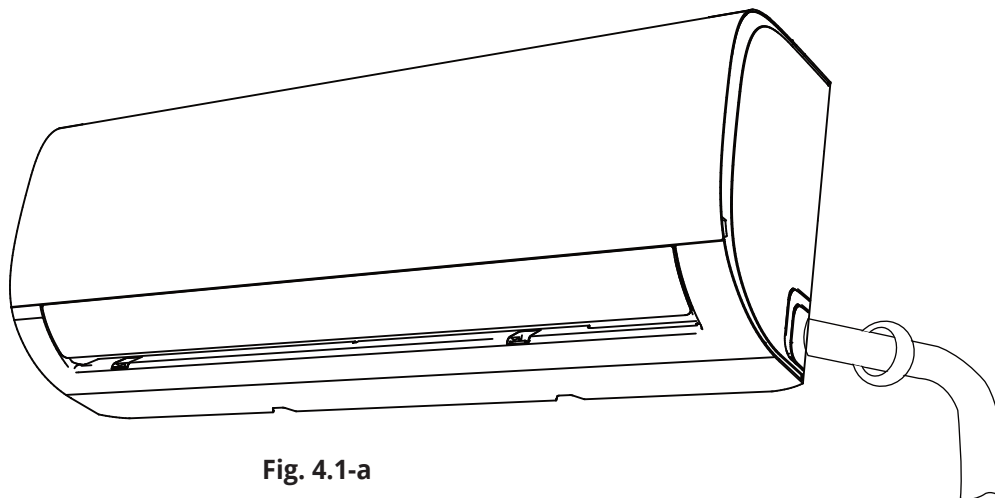


Fig. 4.1-a

## Instrucțiuni instalare – unitate interioară

### ÎNAINTE DE INSTALARE

Înainte de instalarea unității interioare, consultați eticheta de pe cutia produsului pentru a vă asigura că numărul modelului unității interioare se potrivește cu numărul modelului unității exterioare.

### Etape 1: Alegere locație pentru instalare

Înainte de a instala unitatea interioară, trebuie să alegeți o locație adecvată. Următoarele reprezintă standarde ce vă vor ajuta în alegerea unei locații adecvate pentru aparat.

### Locațiile adecvate pentru instalare trebuie să îndeplinească următoarele condiții:

- ☒ O circulație bună a aerului
- ☒ O scurgere convenabilă
- ☒ Zgomotul produs de aparat nu va deranja alți oameni
- ☒ Un loc ferm și solid – locația nu va vibra
- ☒ Destul de solidă pentru a suporta greutatea aparatului
- ☒ O locație la cel puțin 1 m distanță de toate dispozitivele electrice (de exemplu televizor, aparat radio, calculator)

### NU instalați aparatul în următoarele locații:

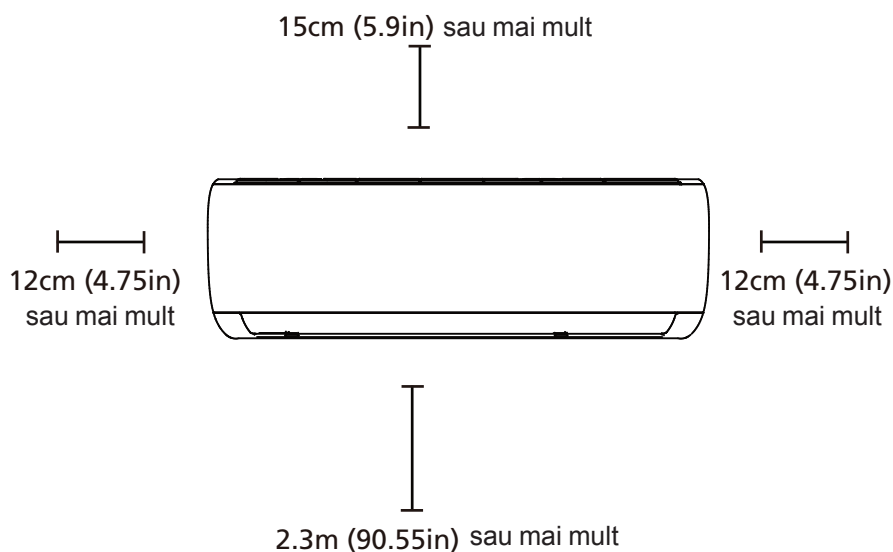
- ⊗ În apropierea unei surse de căldură, aburi sau gaze inflamabile
- ⊗ În apropierea elementelor inflamabile de genul perdelelor sau hainelor
- ⊗ În apropierea obstacolelor ce pot bloca circulația aerului
- ⊗ Aproape de ușă
- ⊗ Într-o locație supusă luminii directe a soarelui

### NOTĂ CU PRIVIRE LA ORIFICIUL DIN PERETE:

Dacă nu există conducte de agent frigorific fixe:

Atunci când alegeți o locație, vă rugăm să țineți cont de faptul că trebuie să lăsați spațiu suficient pentru un orificiu în perete (consultați etapa realizare orificiul în perete pentru conectare conducte) pentru cablul de semnal și conducta de agent frigorific ce leagă unitățile interioare și exterioare. Poziția implicită pentru toate conductele este pe partea dreaptă a unității interioare (atunci când vă uitați la aparat). Însă, aparatul poate suporta și legarea conductelor pe stânga sau pe dreapta.

**Consultați următoarea schemă pentru a asigura distanța adecvată de la tavan și de la pereți:**



**Fig. 4.1-b**

### **Etapă 2: Atașare placă de montare pe perete**

Placa de montare este dispozitivul pe care veți monta unitatea interioară.

1. Îndepărtați șurubul care atașează placa de montare la partea din spate a unității interioare.
2. Amplasați placa de montare pe perete într-o locație care întrunește standardele din etapa alegerii locației de instalare. (Consultați secțiunea Dimensiunile Plăcii de Montare pentru informații detaliate cu privire la dimensiunile plăcii de montare).
3. Realizați orificii pentru șuruburile de montare în locurile în care:
  - au bolțuri și pot susține greutatea unității
  - corespund orificiilor pentru șuruburi din placa de montare
4. Asigurați placa de montare de perete cu șuruburile incluse.
5. Asigurați-vă că placa de montare este dreaptă pe perete

#### **NOTĂ CU PRIVIRE LA PEREȚI DE BETON SAU DIN CĂRĂMIDĂ:**

Dacă peretele este din cărămidă, beton sau material asemănător, realizați găuri de 5mm diametru (0,2 diametru) în perete și introduceți diblurile incluse. Apoi asigurați placa de montare de perete prin strângerea șuruburilor direct în dibluri.

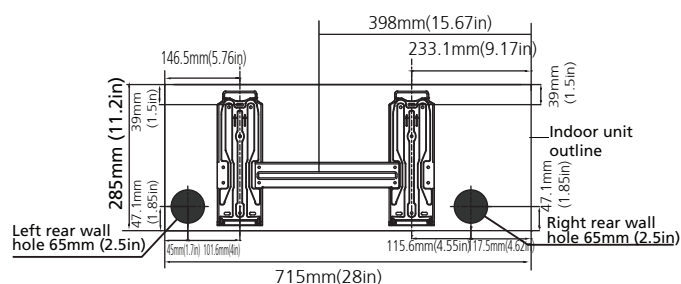
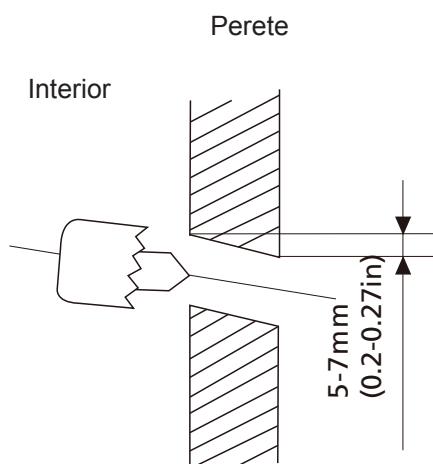
### **Etapă 3: Realizare orificiu perete pentru conducte**

Trebuie să realizați gaura din perete pentru conducta de agent frigorific, conducta de scurgere și cablul de semnal ce vor lega unitatea interioară de cea exterioară.

1. Stabiliți locația orificiului din perete pe baza poziției plăcii de montare. Consultați capitolul Dimensiunile Plăcii de Montare de pe pagina următoare pentru stabilirea poziției optime. Orificiul din perete trebuie să aibă un diametru de cel puțin de 65mm (2,5in) și să aibă un unghi ușor înclinat pentru a face scurgerea mai ușoară.
2. Utilizând un burghiu de 65 mm (2,5in), realizați o gaură în perete. Asigurați-vă că orificiul este în unghi ușor înclinat astfel încât partea exterioară a orificiului să fie mai jos decât cea interioară cu 5-7 mm (0,2-0,275in). Acest lucru asigură scurgerea adecvată a apei (Consultați Fig. 3.2)
3. Amplasați manșeta de protecție în orificiu. Acest lucru protejează marginile și ajută la etanșarea acesteia la finalizarea procesului de instalare.

#### **! ATENȚIE**

Realizând orificiul din perete, asigurați-vă că veți evita cablurile, instalația și alte componente sensibile.

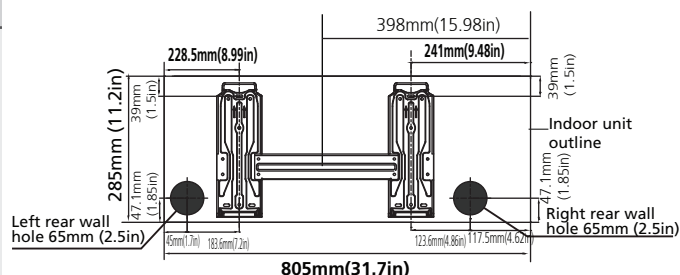


**Model A**

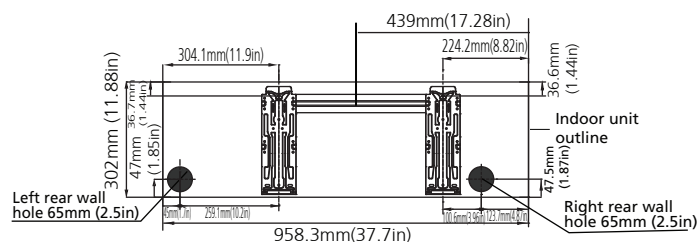
## DIMENSIUNI PLACĂ DE MONTARE

Modelele diferite au plăci de montare diferite. Pentru a vă asigura că aveți suficient spațiu pentru montarea unității interioare, schițele din dreapta arată diferite tipuri de placă de montare împreună cu următoarele dimensiuni:

- Lățimea plăcii de montare
- Înălțimea plăcii de montare
- Lățimea unității interioare comparativ cu placa
- Înălțimea unității interioare comparativ cu placa
- Poziția recomandată a orificiului din perete (atât la stânga cât și la dreapta plăcii de montare)
- Distanțele relative dintre orificiile pentru șuruburi

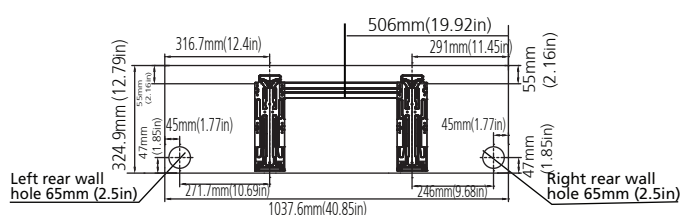
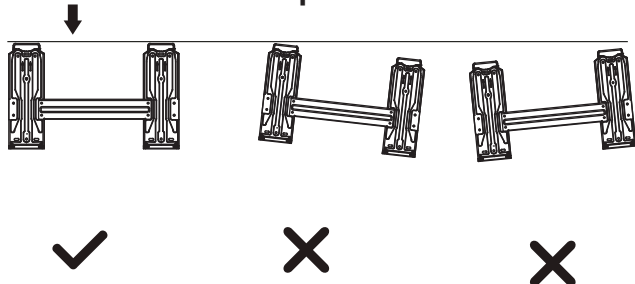


**Model B**



**Model C**

## Orientare corectă a plăcii de montare



**Model D**

**NOTA:** In cazul in care conducta de legatura (pentru gaz) are dimensiunea de Ø16mm(5.8 in) strapungerea din perete va avea dimensiunea de Ø90mm(3.54 in)

#### Etapa 4: Pregătire conducte de agent frigorific

Conductele de agent frigorific se găsesc în interiorul unui manșon de etanșare atașat în spatele aparatului. Trebuie să pregătiți conducta înainte de trecerea acesteia prin orificiul din perete. Consultați secțiunea legarea conductei de agent frigorific din prezentul manual pentru instrucțiuni detaliate cu privire la lărgirea conductelor și cerințele, tehnica privind strângerea expandării.

1. Pe baza poziției orificiului din perete comparativ cu placa de montare, alegeți partea prin care conducta să iasă din perete.
2. Dacă orificiul din perete se află în spatele unității, păstrați panoul de îndepărtat la locul său. Dacă orificiul din perete este pe partea laterală a unității interioare, îndepărtați panoul din partea laterală a unității (consultați Fig. 4.3). Acest lucru va crea o fantă prin care conducta poate ieși din unitate. Utilizați clești cu vârf ascuțit dacă panoul din plastic este dificil de îndepărtat cu mâna.

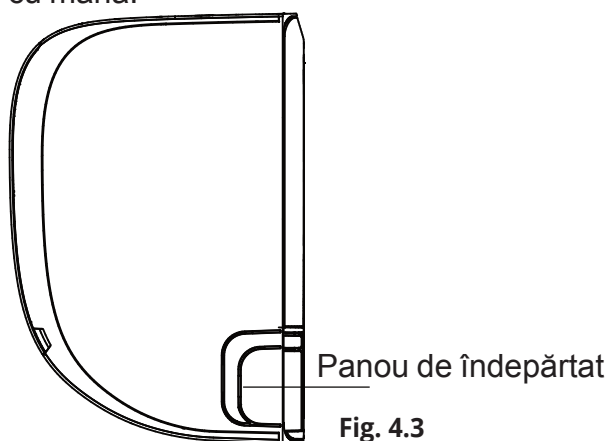


Fig. 4.3

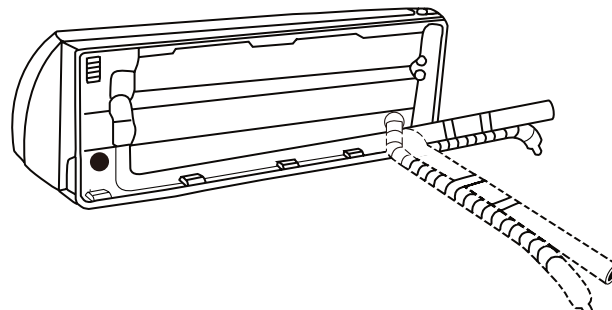
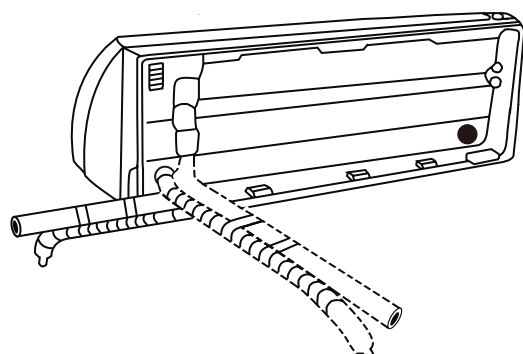


Fig. 4.4

3. Utilizați foarfecile pentru a tăia pe lungimea manșonului de izolare și a avea aproximativ 15 cm (6in) din conducta de agent frigorific. Acest lucru deservește pentru două scopuri:
  - Pentru a facilita procesul de conectare al conductei de agent frigorific
  - Pentru a facilita verificările pentru scurgerile de gaze și pentru a vă permite să verificați pentru lovituri.
4. Dacă există deja tubulatura instalată prin perete, treceți direct la conectarea furtunului de scurgere. În cazul în care nu aveți tubulatura instalată, conectați conducta de agent frigorific a unității interioare la țeava de legătură care va conecta unitatea interioară și exterioară. Consultați secțiunea Conectarea Conductei de agent frigorific a prezentului manual pentru instrucțiuni detaliate.
5. Pe baza poziției orificiului din perete comparativ cu placa de montare, stabiliți unghiul necesar pentru conducte.
6. Apucați țeava de agent frigorific la baza îndoirii.
7. Încet, folosind o presiune constantă, îndoiți țeava spre orificiu. Nu loviți sau nu avariați conducta pe parcursul acestei operațiuni.

#### NOTĂ CU PRIVIRE LA UNGHIUL CONDUCTEI

Conductele de agent frigorific pot ieși din unitatea interioară prin 4 unghiuri diferite:

- Partea stângă
- Stânga-spate
- Partea dreaptă
- Dreapta-spate

Consultați **Fig. 4.4** pentru detalii.

#### ! ATENȚIE

Aveți deosebită grijă să nu loviți sau avariați conducta în timpul îndoirii dinspre unitate. Orice lovituri din conducte vor afecta performanța aparatului.

### Etapa 5: Conectarea furtunului de scurgere

Implicit, furtunul de scurgere este atașat pe partea stângă a unității (atunci când sunteți cu spatele la aparat). Însă, acesta poate fi atașat pe partea dreaptă.

1. Pentru a asigura o scurgere adecvată, atașați furtunul de scurgere pe aceeași parte cu conductele existente de pe aparatul dvs.
2. Atașați extensia furtunului de scurgere (achiziționată separat) la capătul furtunului de scurgere.
3. Strângeți ferm punctul de legătură cu bandă de teflon pentru a asigura o etanșare bună și pentru a preveni scurgerile.
4. Pentru partea din furtunul de scurgere care va rămâne la interior, folosiți spumă de etanșare pentru țevi pentru a preveni condensul.
5. Îndepărtați filtrul de aer și puneți o cantitate mică de apă în tava de scurgere pentru a vă asigura că apa se scurge adecvat din aparat.

#### **NOTĂ CU PRIVIRE LA AMPLASAREA FURTUNULUI DE SCURGERE**

Asigurați aranjarea furtunului de scurgere conform cu **Fig. 4.5**.

- ⊗ **NU** îndoiți furtunul în bucle.
- ⊗ **NU** creați locuri unde poate să se adune apa
- ⊗ **NU** puneți capătul furtunului de scurgere în apă sau într-un container care colectează apă.

### ASTUPAȚI ORIFICIUL DE SCURGERE NEUTILIZAT

Pentru a preveni scurgerile nedorite trebuie să astupați orificiile de scurgere neutilizate cu dopul de cauciuc inclus.

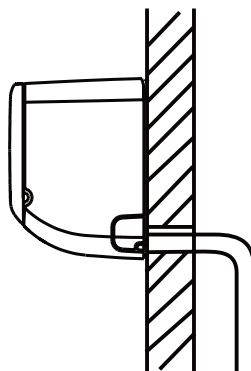


Fig. 4.5

#### **CORECT**

Asigurați-vă că nu există bucle sau lovituri ale furtunului de scurgere pentru a asigura o scurgere adecvată.

#### **GREȘIT**

Buclele din furtun vor crea locuri în care se poate aduna apa.

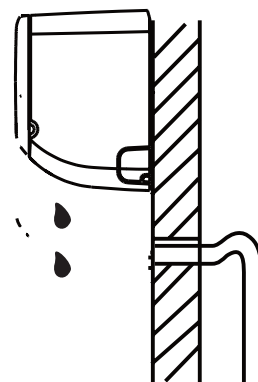


Fig. 4.6

#### **GREȘIT**

Buclele din furtun vor crea locuri în care se poate aduna apa.

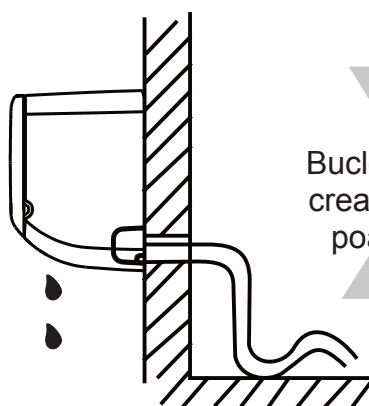


Fig. 4.7

#### **GREȘIT**

Nu puneți capătul furtunului de scurgere în apă sau într-un container de apă. Acest lucru va împiedica scurgerea adecvată.

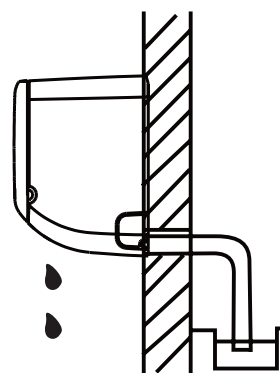


Fig. 4.8



## **ÎNAINTE DE REALIZAREA LUCRĂRILOR ELECTRICE, CITIȚI ACESTE REGLEMENTĂRI**

- 1 Toate cablajele trebuie să fie în conformitate cu codurile electrice locale și naționale, și trebuie izolate de către un electrician autorizat.
- 2 Toate legăturile electrice trebuie realizate în conformitate cu diagrama conexiunilor electrice localizată pe panourile unităților interioare și exterioare.
- 3 Dacă există o problemă de siguranță serioasă cu privire la alimentarea electrică, opriți imediat aparatul. Explicați acest motiv clientului și refuzați instalarea până ce aparatul nu va avea această problemă de siguranță rezolvată.
- 4 Voltajul electric trebuie să fie între 90 – 100% din voltajul nominal. O alimentare electrică insuficientă poate duce la defecțiune, electrocutare sau incendiu.
- 5 Dacă alimentarea electrică este legată de cablarea fixă, instalați o protecție la supratensiune și păstrați comutatorul principal cu o capacitate de 1,5 ori mai mare decât capacitatea maximă a curentului aparatului.
- 6 Dacă electricitatea este conectată la cablarea fixă, un comutator sau un întrerupător de circuit ce deconectează toți poli și are o separare de contact de cel puțin 1/8 in (3 mm) trebuie încorporat în cablarea fixă. Tehnicianul calificat trebuie să utilizeze un întrerupător de circuit adecvat.
- 7 Conectați aparatul la priza de circuit a ramificației. Nu conectați alte aparate la aceeași priză.
- 8 Asigurați-vă de împământarea adecvată a aparatului de aer condiționat.
- 9 Fiecare cablu trebuie conectat bine. Cablurile conectate slab pot duce la supraîncălzirea terminalului, ce duce la defectarea produsului și un posibil incendiu.
- 10 Nu permiteți cablurilor să atingă sau să stea pe conducta de agent frigorific, compresor sau orice componente în mișcare ale aparatului.
- 11 Dacă aparatul este însoțit de un radiator electric suplimentar, acesta trebuie instalat la cel puțin 1 m (40in) departe de materiale combustibile.



## **AVERTIZARE**

**ÎNAINTE DE REALIZAREA ORICĂROR LUCRĂRI ELECTRICE, OPRIȚI ALIMENTAREA ELECTRICĂ A APARATULUI DIN COMUTATORUL PRINCIPAL.**



## Etapa 6: Conectare cablu pentru semnal

Cablul de semnal permite comunicarea dintre unitatea interioară și cea exterioară. Trebuie să alegeți mai întâi dimensiunea corectă a cablului înainte de a-l pregăti pentru conectare.

### Tipuri de cabluri

- Cablu de alimentare intern (dacă este cazul) H05W-F sau H05V2V2-F
- Cablu de alimentare extern: H07RN-F
- Cablu de semnal: H07RN-F

### Secțiunea transversală minimă a cablurilor de alimentare și de semnal

America de Nord

| Amperi aparat (A) | AWG |
|-------------------|-----|
| 10                | 18  |
| 13                | 16  |
| 18                | 14  |
| 25                | 12  |
| 30                | 10  |

Alte regiuni

| Curentul nominal al aparatului (A) | Zonă nominală transversală (mm <sup>2</sup> ) |
|------------------------------------|-----------------------------------------------|
| > 3 și ≤ 6                         | 0,75                                          |
| > 6 și ≤ 101                       | 1                                             |
| > 10 și ≤ 161                      | 1,5                                           |
| > 16 și ≤ 252                      | 2,5                                           |
| > 25 și ≤ 324                      | 4                                             |
| > 32 și ≤ 406                      | 6                                             |

### ALEGEȚI DIMENSIUNEA CORECTĂ A CABLULUI

Dimensiunea cablului de alimentare, cablului de semnal, siguranței și comutatorului necesare sunt stabilite de curentul maxim al aparatului. Curentul maxim este indicat pe plăcuța de identificare localizată pe panoul lateral al aparatului. Consultați plăcuța de identificare pentru a alege cablul, siguranța sau comutatorul adecvat.

### ȚINEȚI CONT DE SPECIFICAȚIILE SIGURANȚEI

Placa de circuit a aparatului de aer condiționat (PCB) este prevăzută cu o siguranță pentru a oferi protecție la supra circuit. Specificațiile

siguranței sunt tipărite pe panou, de genul

**Unitate interioară:** T5A/250VAC

**Unitate exterioară** (valabil doar pentru unitățile ce utilizează freon R32 sau R290):  
T20A/250VAC (capacitate de până la 18000 BTU).  
T30A/250VAC (capacitate peste 18000 BTU).

**NOTA:** siguranța este ceramica.

1. Pregătiți cablul pentru conectare:
  - a. Utilizând un instrument de de-izolat cabluri, îndepărtați stratul de cauciuc de la ambele capete ale cablului de semnal pentru a avea liberi aproximativ 15cm (6in) de cablu la interior.
  - b. Îndepărtați izolația de la capetele cablurilor.
  - c. Utilizând o mașină de ambutisat cabluri ambutisați caneluri de tip U la capetele cablurilor.

### ȚINEȚI CONT DE CABLURILE ALIMENTATE

În operațiunea de ambutisare, aveți grijă la diferențierea clară a cablurilor alimentate (cu inscripția L-live) de celelalte cabluri.

2. Deschideți panoul frontal al unității interioare.
3. Folosind surubelnita, deschideți capacul cutiei pentru cabluri, situate în partea dreaptă a unității. Înlăturând capacul, veți putea accesa blocul terminal.

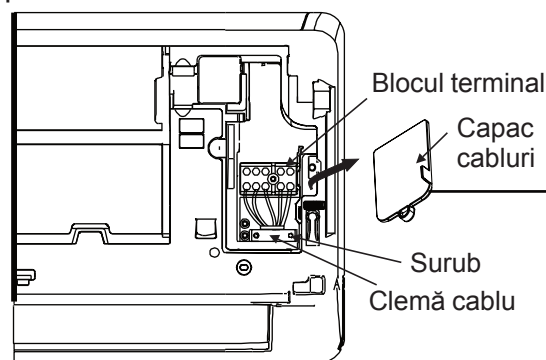


Fig. 4.9

Diagrama de cablaje se află la interiorul panoului de cabluri al unității interioare.

### ⚠️ AVERTIZARE

**TOATE CABLAJELE TREBUIE REALIZATE STRICT ÎN CONFORMITATE CU DIAGRAMA DE CABLARE DIN INTERIORUL PANOULUI UNITĂȚII INTERIOARE**

4. Deșurubați clemă cablului din partea de jos a terminalului și puneți-o deoparte.



5. Privind în spatele unității, îndepărtați capacul de plastic din partea de jos al părții din stânga.
6. Treceți cablul de semnal prin fanta din spatele unității spre față.
7. Cu fața la aparat, potriviți culorile cu etichetele de pe blocul terminal, conectați ambutisarea sub formă de U și înșurubați ferm fiecare cablu la terminalul său corespunzător.

## **! ATENȚIE**

### **NU AMESTECAȚI FIRELE SUB TENSIUNE CU CELE NULE**

Acest lucru este periculos și poate duce la defectarea aparatului de aer condiționat.

8. După verificarea pentru a vă asigura că fiecare conexiune este sigură, utilizați clema pentru cabluri pentru a strânge cablul de semnal al unității. Strângeți ferm clema pentru cabluri.
9. Puneți la loc capacul firelor din fața unității, precum și panoul de plastic din spate.

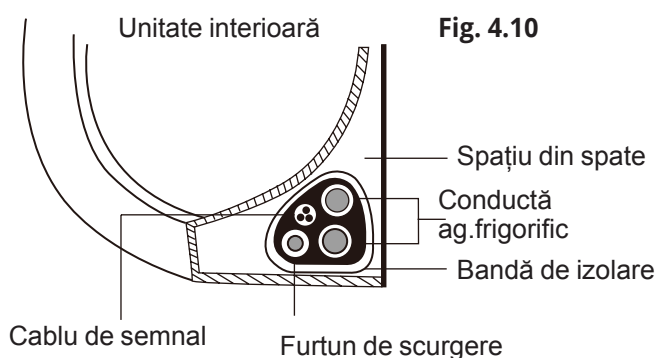
## **! NOTĂ CU PRIVIRE LA CABLARE**

**PROCESUL DE CONECTARE A CABLURILOR POATE FI UȘOR DIFERIT ÎN FUNCȚIE DE MODEL.**

### **Etapa 7: Înfășurare conducte și cabluri**

Înainte de a trece conductele, furtunul de scurgere și cablurile prin orificiul din perete, trebuie să le strângeți pe toate pentru a economisi spațiul, să le protejați și să le izolați.

1. Strângeți furtunul de scurgere, conducta de agent frigorific și cablul de semnal conform figurii 4.10.



**Fig. 4.10**

## **FURTUNUL DE SCURGERE TREBUIE SĂ FIE DEDESUBT**

Asigurați-vă că furtunul de scurgere este dedesubt în timpul strângerii. Dacă așezați deasupra furtunul de scurgere, acest lucru poate duce la revărsarea tăvii de umplere ceea ce poate duce la incendiu și daune din cauza apei.

## **NU INTERCALAȚI CABLUL DE SEMNAL CU ALTE CABLURI**

În timpul strângerii acestor elemente, nu intercalați și nu treceți cablul de semnal peste niciun alt cablu.

2. Utilizând bandă adezivă de vinil, atașați furtunul de scurgere pe sub conductele de agent frigorific.
3. Utilizând bandă izolatoare, înfășurați strâns cablul de semnal, conductele de agent frigorific și furtunul de scurgere. Verificați de două ori ca toate acestea să fie strânse conform cu **Fig. 4.10**.

## **NU STRÂNGEȚI CAPETELE CONDUCTELOR**

În timpul strângerii acestor elemente, păstrați capetele conductelor neînfășurate. Trebuie să aveți acces la ele pentru a testa împotriva scurgerilor la finalul procesului de instalare (consultați capitolele Verificarea Electrică și Verificarea pentru scurgeri din acest manual).

### **Etapa 8: Montare unitate interioară**

Dacă ați instalat conducte de legătură noi pe unitatea exterioară, urmați următorii pași:

1. Dacă ați trecut deja conducta de agent frigorific prin orificiul din perete, treceți la pasul 4.
2. În caz contrar, verificați de două ori să sigilați capetele conductei de agent frigorific pentru a preveni ca murdăria sau corpurile străine să intre în conductă.
3. Treceți ușor conductele de agent frigorific, furtunul de scurgere și cablul de semnal strânse împreună prin orificiul din perete.
4. Agățați partea de sus a unității interioare pe cârligul de sus de pe placa de montare.
5. Verificați ca unitatea să fie ferm agățată pe placa de montare prin apăsarea ușoară

- în stânga și dreapta unității. Unitatea nu trebuie să se miște sau să se mute.
- Utilizând o presiune egală, apăsați pe partea de jos a unității. Continuați să apăsați până ce aparatul se prinde de cârligele de pe capătul plăcii de montare.
  - Din nou, verificați ca unitatea să fie ferm montată prin apăsarea ușoară în stânga și dreapta unității. Dacă conducta de agent frigorific este deja introdusă în perete, urmați următoarele indicații:

**Dacă conductele de agent frigorific existente sunt deja încastate în perete, faceți următoarele:**

- Agatați partea superioară a unității interioare, de carligul superior situat pe placa de montaj.

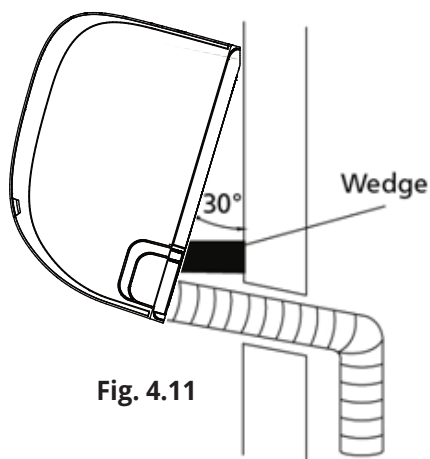
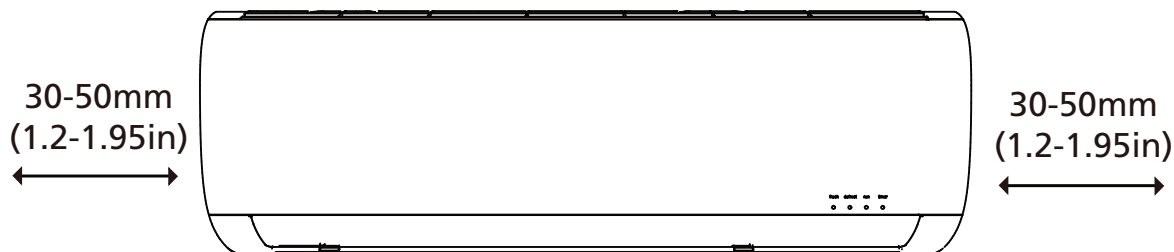


Fig. 4.11

- Folosiți o pană pentru a fixa unitatea. Asigurați suficient spațiu pentru conectarea tubulaturii, cablurilor de semnal și a conductei de scurgere. Consultați imaginea 3.11 pentru mai multe informații.
- Conectați furtunul de scurgere și conducta de agent frigorific (consultați secțiunea Conectarea Conductei de Agent Frigorific din acest manual pentru instrucțiuni).
- Țineți punctul de conexiune al conductei expus pentru a realiza testul de scurgeri (consultați capitolul Verificări Electrice și Verificări pentru Scurgeri din prezentul manual).
- După testul de scurgeri, înfășurați punctul de conexiune cu bandă izolatoare.
- Îndepărtați consola sau manșonul care susține unitatea cu bandă izolatoare.
- Utilizând o presiune egală, apăsați în jos pe butonul din jumătatea unității. Continuați apăsarea în jos până ce unitatea se închide în cârligele de în partea de jos a plăcii de montare.

## Unitatea este ajustabila

Luati in considerare faptul ca suportii de instalare aflati pe suportul de montaj au o dimensiune redusa in comparative cu orificiile de pe unitatea interioara. Daca veti constata ca nu aveti spatiu suficient pentru conectarea tubulaturii, puteti ajusta unitatea interioara cu 30-50mm (1.25-1.95), in functie de model. (vezi imaginea 3.12)

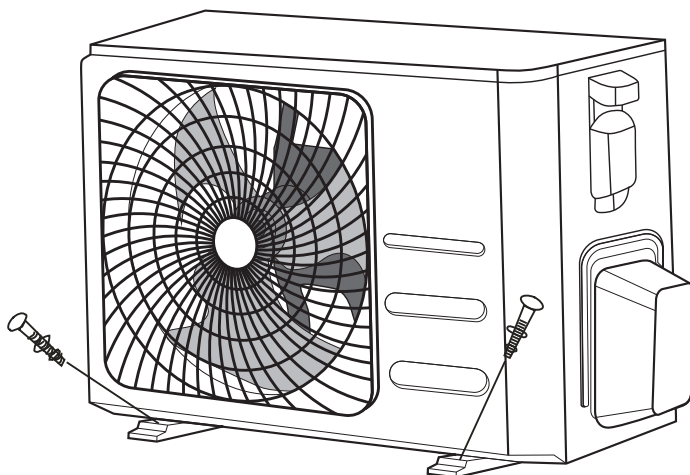


Mișcați la stânga sau la dreapta

Fig. 4.12

# Instalare unitate exterioară

# 5



## Instrucțiuni instalare – unitate exterioară

### Etapa 1: Alegere locație pentru instalare

Înainte de a instala unitatea exterioară, trebuie să alegeți o locație adecvată. Următoarele reprezintă standarde ce vă vor ajuta în alegerea unei locații adecvate pentru aparat.

**Locațiile adecvate pentru instalare trebuie să îndeplinească următoarele condiții:**

- ☑ Întrunirea tuturor cerințelor speciale ce se pot vedea în Cerințele de spațiu ale instalării (Fig. 5.1)
- ☑ O circulație bună a aerului
- ☑ Un loc ferm și solid – locația va putea susține unitatea și nu va vibra
- ☑ Zgomotul produs de aparat nu va deranja alți oameni
- ☑ O locație ferită de perioadele lungi de expunere la razele solare.

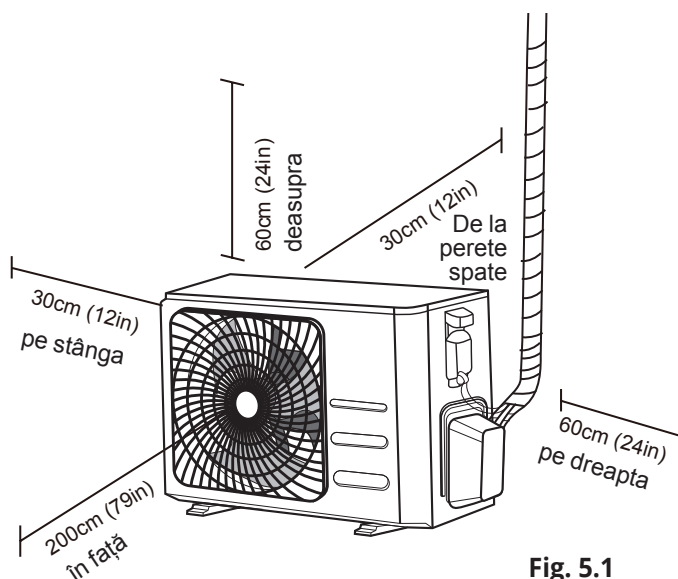


Fig. 5.1

### NU instalați aparatul în următoarele locații:

- ⊗ În apropierea unui obstacol ce va bloca admisia și evacuarea aerului.
- ⊗ În preajma unei străzi publice, unei zone aglomerate, sau unde zgomotul aparatului va deranja alți oameni
- ⊗ În apropierea animalelor sau plantelor care vor suferi din urma evacuării de aer.
- ⊗ În apropierea oricărei surse de gaze inflamabile.
- ⊗ Într-o locație care este expusă cantităților mari de praf
- ⊗ Într-o locație supusă unei cantități excesive de aer sărat

## CONSIDERENTE SPECIALE PENTRU VREME EXTREMĂ

Dacă unitatea este expusă vântului puternic: Instalați unitatea astfel încât fanta de evacuare este la unghi de 90° în direcția vântului. Dacă este nevoie, construiți o barieră în fața unității pentru a o proteja de vânturile extrem de puternice. Consultați Fig. 5.2 și Fig. 5.3 de mai jos.

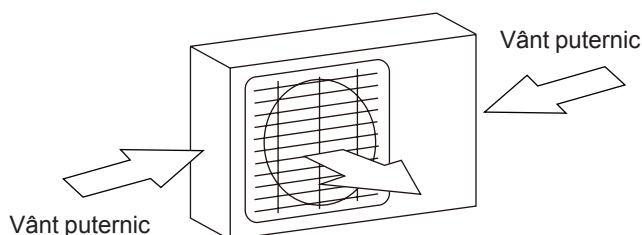


Fig. 5.2

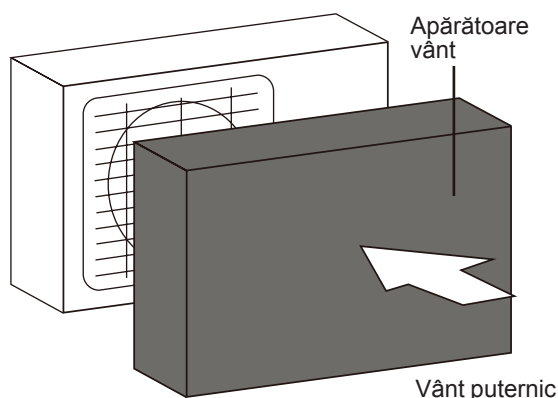


Fig. 5.3

**Dacă unitatea este expusă frecvent ploilor torențiale sau căderilor masive de zăpadă:** Construiți un adăpost deasupra unității pentru a o proteja de ploaie sau zăpadă. Aveți grijă să nu blocați fluxul de aer din jurul unității.

**Dacă unitatea este expusă frecvent la aer sărat (pe malul mării):** Utilizați o unitate exterioară special proiectată pentru a rezista la coroziune.

### Etapa 2: Instalare racord de scurgere

Unitatea pompei de căldură necesită un racord de scurgere. Înainte de fixarea unității exterioare, trebuie să instalați un racord de scurgere în partea de jos a unității. Țineți minte că există două tipuri diferite de racorduri de scurgere în funcție de tipul unității exterioare.

**Dacă racordul de scurgere este prevăzut cu o garnitură din cauciuc** (consultați Fig. 5.4 – A), acționați în următorul fel:

1. Potrivii garnitura de cauciuc pe capătul racordului de scurgere care va conecta unitatea exterioară.
2. Introduceți racordul de scurgere în orificiul din tava de colectare de la baza unității.
3. Rotiți racordul de scurgere 90° până ce se fixează printr-un sunet de clic cu fața spre partea frontală a unității.
4. Conectați o extensie a furtunului de scurgere (nu este inclusă) la racordul de scurgere pentru a redirecționa apa din unitate în timpul modului de încălzire.

**Dacă racordul de scurgere nu este prevăzut cu garnitură din cauciuc** (consultați Fig. 5.4 – B), urmați următoarele etape:

1. Introduceți racordul de scurgere în orificiul din tava de colectare de la baza unității. Racordul de scurgere va scoate un sunet de clic atunci când este fixat.
2. Conectați o extensie a furtunului de scurgere (nu este inclusă) la racordul de scurgere pentru a redirecționa apa din unitate în timpul modului de încălzire.

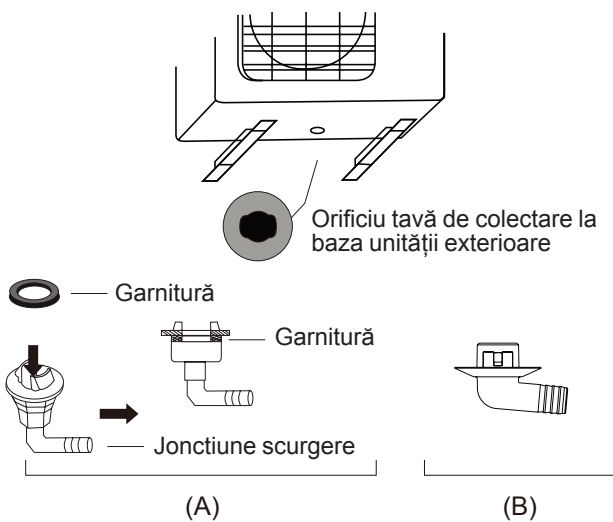


Fig. 5.4

### ! ÎN MEDIILE RECI

În mediile reci, asigurați-vă că furtunul de scurgere este pe cât de vertical posibil pentru a asigura o scurgere rapidă a apei. Dacă apa se scurge prea încet, aceasta poate să înghețe pe furtun și să inunde unitatea.

### Etapa 3: Ancorare unitate exterioară

Unitate exterioară poate fi ancorată de pământ sau pe consolă montată pe perete

#### Dimensiunile de montare ale unității

Următorul tabel reprezintă o listă cu diversele dimensiuni ale unității exterioare și distanța dintre picioarele de montare. Pregătiți baza de instalare a unității conform cu dimensiunile de mai jos.

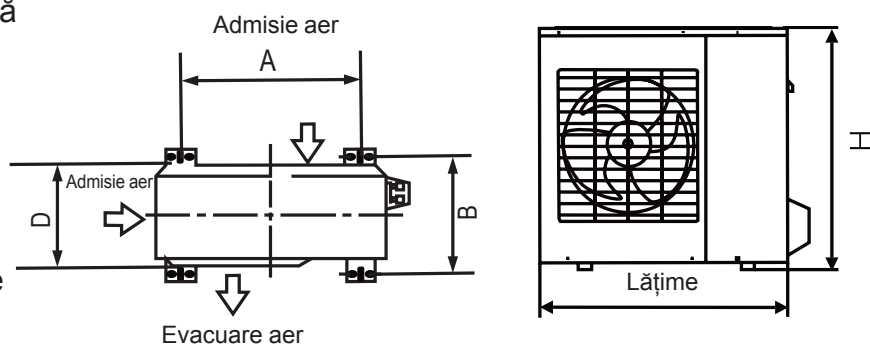


Fig. 5.5

| Dimensiunile unității exterioare (mm/in)<br>W x H x D | Dimensiuni de montare |                    |
|-------------------------------------------------------|-----------------------|--------------------|
|                                                       | Distanța A (mm/in)    | Distanța B (mm/in) |
| 681x434x285 (26.8"x17"x11.2")                         | 460 (18.10")          | 292 (11.49")       |
| 700x550x270 (27.5"x21.6"x10.62")                      | 450 (17.7")           | 260 (10.24")       |
| 780x540x250 (30.7"x21.25"x9.85")                      | 549 (21.6")           | 276 (10.85")       |
| 845x700x320 (33.25"x27.5"x12.6")                      | 560 (22")             | 335 (13.2")        |
| 810x558x310 (31.9"x22"x12.2")                         | 549 (21.6")           | 325 (12.8")        |
| 700x550x275 (27.5"x21.6"x10.82")                      | 450 (17.7")           | 260 (10.24")       |
| 770x555x300 (30.3"x21.85"x11.81")                     | 487 (19.2")           | 298 (11.73")       |
| 800x554x333 (31.5"x21.8"x13.1")                       | 514 (20.24")          | 340 (13.39")       |
| 845x702x363 (33.25"x27.63"x14.29")                    | 540 (21.26")          | 350 (13.8")        |
| 900x860x315 (35.4"x33.85"x12.4")                      | 590 (23.2")           | 333 (13.1")        |
| 945x810x395 (37.2"x31.9"x15.55")                      | 640 (25.2")           | 405 (15.95")       |
| 946x810x420 (37.21"x31.9"x16.53")                     | 673 (26.5")           | 403 (15.87")       |
| 946x810x410 (37.21"x31.9"x16.14")                     | 673 (26.5")           | 403 (15.87")       |

Dacă instalați unitatea pe pământ sau pe o platformă de montare din beton, urmați pașii următori:

1. Marcați pozițiile pentru 4 bolțuri de expansiune pe baza dimensiunilor din Schema Dimensiunilor de Montare ale Unității.
2. Realizați dinainte orificii pentru bolțurile de expansiune.
3. Curățați praful provenit din beton din găuri.
4. Puneți o piuliță la capătul fiecărui bolț de expansiune.
5. Bateți cu ciocanul bolțurile de expansiune în

găurile date dinainte.

6. Îndepărtați piulițele de pe bolțurile de expansiune și puneți unitatea exterioară pe bolțuri.
7. Puneți șaibe pe fiecare bolț de expansiune apoi înlocuiți piulițele.
8. Utilizând o cheie, strângeți fiecare piuliță bine.



#### AVERTIZARE

**ATUNCI CÂND REALIZAȚI GĂURI ÎN BETON, ESTE RECOMANDATĂ PROTEJAREA OCHILOR ÎN PERMANENȚĂ.**



**Dacă veți instala unitatea pe o consolă montată pe perete, faceți următoarele:**

### **ATENȚIE**

Înainte de instalarea unei unități pe perete, asigurați-vă că acel perete este construit din cărămidă, beton sau din materiale asemănătoare și rezistente. **Peretele trebuie să poată susține cel puțin de patru ori greutatea unității.**

1. Marcați poziția orificiilor pentru consolă pe baza dimensiunilor din Schema Dimensiunilor de Montare ale Unității.
2. Realizați dinainte orificii pentru bolțurile de expansiune.
3. Curățați praful provenit din beton din găuri.
4. Puneți o piuliță la capătul fiecărui bolț de expansiune.
5. Treceți bolțurile de expansiune prin găurile din consola de montare, puneți consola de montare în poziție și bateți cu ciocanul bolțurile de expansiune în perete.
6. Verificați dacă consola de montare este dreaptă.
7. Ridicați cu atenție unitatea și puneți picioarele de montare pe consolă.
8. Prindeți cu șuruburi în mod ferm unitatea de consolă.

### **PENTRU A REDUCE VIBRAȚIILE UNITĂȚII MONTATE PE PERETE**

Dacă vi se permite, puteți instala unitatea pe perete împreună cu o garnitură din cauciuc pentru a reduce vibrațiile și zgomotul.

### **Etapă 4: Conectare cablu semnal și cablu electric**

Blocul terminal al unității exterioare este protejat de o carcasă de cablaje electrice pe o parte a unității. O diagramă de cablare cuprinzătoare este tipărită pe interiorul capacului de cablare.

### **ÎNAINTE DE EFECTUAREA LUCRĂRILOR ELECTRICE, CITIȚI ACESTE REGLEMENTĂRI**

1. Toate cablurile trebuie să fie conform cu codurile electrice locale și naționale și trebuie să fie instalate de către un electrician autorizat.
2. Toate conexiunile electrice trebuie realizate conform cu diagrama legăturilor electrice localizată pe panourile laterale ale unităților interioare și exterioare.
3. Dacă există o problemă serioasă de siguranță cu alimentarea electrică, opriți lucrările imediat. Explicați acest motiv clientului și refuzați instalarea unității până ce problema legată de siguranță este rezolvată în mod adecvat.
4. Voltajul electric trebuie să fie între 90 – 100% din voltajul nominal. Alimentarea insuficientă cu energie electrică poate cauza electrocutare sau incendiu.
5. Dacă se conectează electricitatea la cablarea fixă, instalați o protecție la supratensiune și un comutator principal cu o capacitate de 1,5 ori mai mare față de curentul maxim al unității.
6. Dacă conectați alimentarea electrică la cablarea fixă, un comutator sau un întrerupător de circuit care deconectează toți polii și care are o separare de contact de cel puțin 1/8 in (3 mm) trebuie încorporat în cablarea fixă. Tehnicianul calificat trebuie să utilizeze un întrerupător de circuit sau un comutator aprobat.
7. Conectați aparatul doar la o priză de circuit individuală. Nu conectați alte aparate la aceeași priză.
8. Asigurați-vă că împământați adecvat aparatul de aer condiționat.
9. Fiecare cablu trebuie conectat ferm. Cablurile slabe pot duce la supraîncălzirea terminalului, ceea ce rezultă în defectarea produsului și un posibil incendiu.
10. Nu permiteți ca firele să atingă sau să stea pe conductele de agent frigorific, compresor sau alte părți care se mișcă ale unității.
11. Dacă unitatea are un radiator electric suplimentar, acesta trebuie instalat la cel puțin 1 m (40 in) departe de materiale combustibile.

## **! AVERTIZARE**

**ÎNAINTE DE REALIZAREA ORICĂROR LUCRĂRI ELECTRICE SAU DE CABLARE, OPRIȚI ALIMENTAREA ELECTRICĂ A SISTEMULUI.**

1. Pregătiți cablul pentru conexiune:

### **UTILIZAȚI CABUL CORECT**

- Cablu de alimentare intern (dacă este cazul) H05W-F sau H05V2V2-F
- Cablu de alimentare extern: H07RN-F
- Cablu de semnal: H07RN-F

### **Secțiunea transversală minimă a cablurilor de alimentare și de semnal**

America de Nord

| Amperi aparat (A) | AWG |
|-------------------|-----|
| 10                | 18  |
| 13                | 16  |
| 18                | 14  |
| 25                | 12  |
| 30                | 10  |

Alte regiuni

| Curentul nominal al aparatului (A) | Zonă nominală transversală (mm <sup>2</sup> ) |
|------------------------------------|-----------------------------------------------|
| > 3 și ≤ 6                         | 0,75                                          |
| > 6 și ≤ 101                       | 1                                             |
| > 10 și ≤ 161                      | 1,5                                           |
| > 16 și ≤ 252                      | 2,5                                           |
| > 25 și ≤ 324                      | 4                                             |
| > 32 și ≤ 406                      | 6                                             |

- Utilizând un instrument de de-izolat cabluri, îndepărtați stratul de cauciuc de la ambele capete ale cablului de semnal pentru a avea liberi aproximativ 15cm (6in) de cablu la interior.
- Îndepărtați izolația de la capetele cablurilor.
- Utilizând o mașină de ambutisat cabluri ambutisați caneluri de tip U la capetele cablurilor.

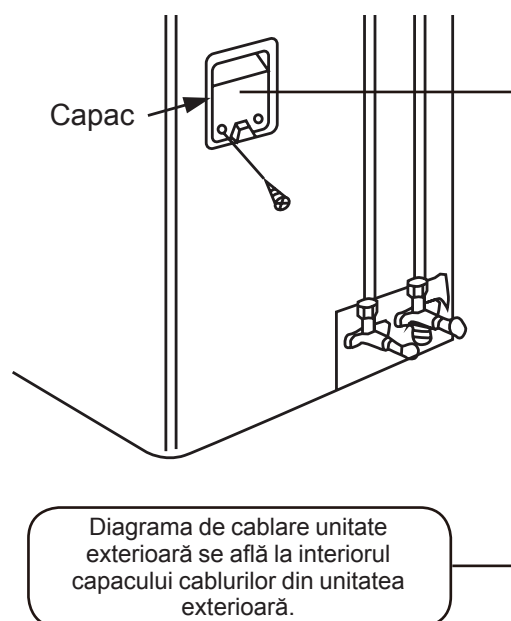
## **ȚINEȚI CONT DE CABLURILE ALIMENTATE**

În operațiunea de ambutisare, aveți grijă la diferențierea clară a cablurilor alimentate (cu inscripția L-live) de celelalte cabluri.

## **! AVERTIZARE**

**TOATE CABLAJELE TREBUIE REALIZATE STRICT ÎN CONFORMITATE CU DIAGRAMA DE CABLARE DIN INTERIORUL PANOULUI UNITĂȚII INTERIOARE**

- Deșurubați capacul cablurilor electrice și îndepărtați-l.
- Deșurubați clema cablului din partea de jos a terminalului și puneți-o deoparte.
- Potrivii culorile cu etichetele de pe blocul terminal, conectați ambutisarea sub formă de U și înșurubați ferm fiecare cablu la terminalul său corespunzător.
- După verificare, pentru a vă asigura că fiecare conexiune este sigură, treceți cablurile printr-o buclă pentru a preveni ca apa din ploaie să pătrundă în terminal.
- Folosind clema pentru cabluri strângeți cablul de unitate. Strângeți ferm clema pentru cabluri.
- Izolați cablurile neutilizate cu bandă izolatoare din PVC. Aranjați-le astfel încât să nu atingă nicio parte electrică sau metalică.
- Puneți la loc capacul firelor din lateralul unității, și înșurubați-l la loc.

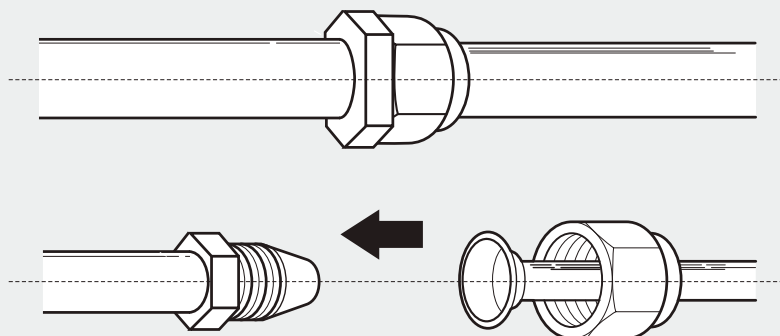


**Fig. 5.6**



# Conectare conductă agent frigorific

6



## Notă cu privire la lungimea conductei

Lungimea conductei de agent frigorific va afecta performanța și eficiența energetică a aparatului. Eficiența nominală este testată la unitățile cu o lungime a conductei de 5 m (16 in). Pentru a micșora nivelul zgomotului și vibrațiilor, lungimea minimă a conductei va fi de 3 etri. Pentru zone speciale, tropicale, lungimea maximă a conductei nu trebuie să depășească 10m (32.8ft) și cantitatea de agent frigorific nu va fi completată (valabil doar pentru modelele cu freon R290). Consultați tabelul de mai jos pentru specificații cu privire la lungimea maximă și înălțimea maximă de cădere a conductei.

## Lungimea maximă și înălțimea maximă a conductei de agent frigorific în funcție de modelul aparatului

| Model                                | Capacitate (BTU/h)   | Lungime max. (m) | Înălțime maximă de cădere (m) |
|--------------------------------------|----------------------|------------------|-------------------------------|
| R410A Inverter Split Air Conditioner | < 15,000             | 25 (82ft)        | 10 (33ft)                     |
|                                      | ≥ 15,000 și < 24,000 | 30 (98.5ft)      | 20 (66ft)                     |
|                                      | ≥ 24,000 și < 36,000 | 50 (164ft)       | 25 (82ft)                     |
|                                      | ≥ 36,000 și ≤ 60,000 | 65 (213ft)       | 30 (98.5ft)                   |

## Instrucțiuni de conectare – Conducte agent frigorific

### Etapa 1 : Tăiere țevă

Atunci când pregătiți conductele de agent frigorific, aveți deosebită grijă să le tăiați și să le expandați adecvat. Acest lucru va asigura o funcționare eficientă și va reduce la minim necesitatea unei mentenanțe viitoare. **Pentru unitatile cu freon R32/R290, punctele de jonctiune a conductelor trebuie situate în exteriorul incaperii.**

1. Măsurați distanța dintre unitatea interioară și cea exterioară.

- Utilizând un clește de tăiat țevi, tăiați conducta puțin mai lungă decât distanța măsurată.
- Asigurați-vă că țeava este tăiată la un unghi perfect de 90°. Consultați **Fig. 6.1** pentru exemple proaste de tăiere.

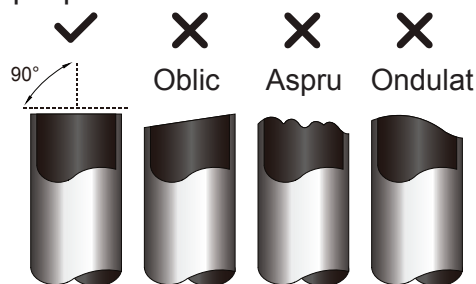


Fig. 6.1

## ! NU DEFORMAȚI ȚEAVA ÎNAINTE DE TĂIERE

Aveți deosebită grijă să nu avariați, îndoiți sau deformați țeava în timpul tăierii. Acest lucru va reduce drastic eficiența de încălzire a aparatului.

### Etapa 2: Îndepărtare bavura

Bavura poate afecta garnitura de etanșare a conexiunii conductei de agent frigorific. Aceasta trebuie îndepărtată complet.

1. Țineți țeava în unghi înclinat pentru a preveni ca bavura să pătrundă în conductă.
2. Utilizând un formator sau un instrument de debavurare, îndepărtați toată bavura din partea tăiată a conductei.

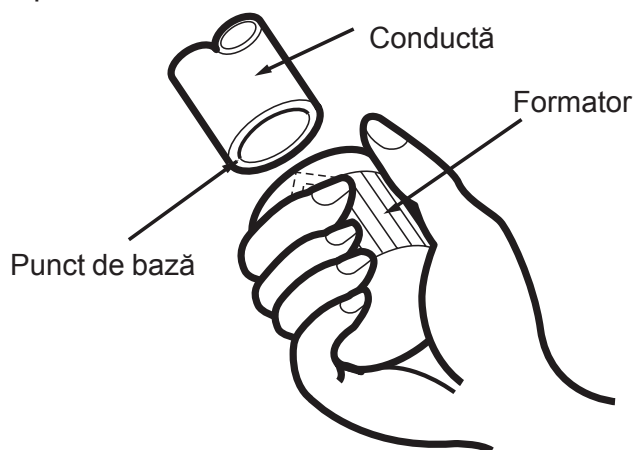


Fig. 6.2

### Etapa 3: Capete conductă expandată

O expandare este esențială pentru a avea o etanșare bună.

1. După îndepărtarea bavurii din țeava tăiată, etanșați capetele cu bandă din PVC pentru a preveni ca materiile străine să pătrundă în conductă.
2. Acoperiți țeava cu material de izolare.
3. Atașați piulițe la ambele capete ale conductei. Asigurați-vă că sunt îndreptate în direcția corectă, deoarece nu le puteți instala și nu le puteți schimba direcția după expandare. Consultați Fig. 6.3.

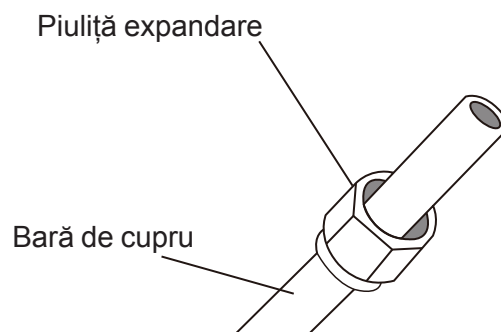


Fig. 6.3

4. Îndepărtați banda din PVC din capetele conductei atunci când trebuie să realizați expandarea.
5. Atașați expansorul la capătul conductei. Capătul conductei trebuie să depășească marginea expansorului conform cu dimensiunile din tabelul de mai jos.

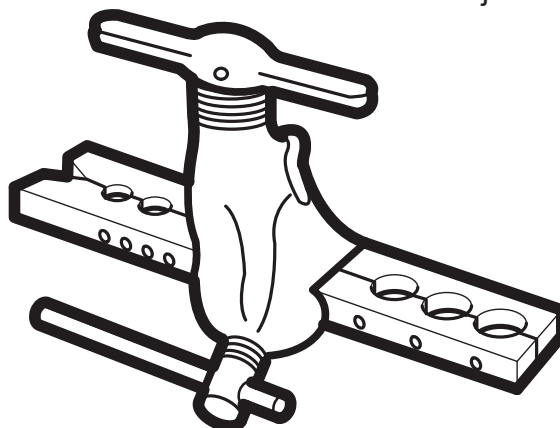


Fig. 6.4

### EXTENSIE CONDUCTĂ DUPĂ EXPANDARE

| Diametru exterior al conductei (mm) | A (mm)        |              |
|-------------------------------------|---------------|--------------|
|                                     | Min.          | Max.         |
| Ø 6.35 (Ø 0.25")                    | 0.7 (0.0275") | 1.3 (0.05")  |
| Ø 9.52 (Ø 0.375")                   | 1.0 (0.04")   | 1.6 (0.063") |
| Ø 12.7 (Ø 0.5")                     | 1.0 (0.04")   | 1.8 (0.07")  |
| Ø 16 (Ø 0.63")                      | 2.0 (0.078")  | 2.2 (0.086") |
| Ø 19 (Ø 0.75")                      | 2.0 (0.078")  | 2.4 (0.094") |

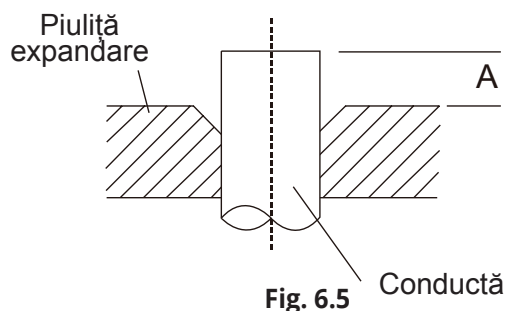


Fig. 6.5

6. Puneți expansorul pe forma de expandare.
7. Rotiți mânerul expansorului în sensul acelor de ceasornic până ce conducta este expandată complet.
8. Îndepărtați expansorul și forma de expandare, apoi inspectați capătul conductei pentru crăpături și expandare uniformă.

#### Etapa 4: Legare conducte

La conectarea conductelor de agent frigorific, aveți grijă să nu folosiți un cuplu de torsiune excesiv sau să deformați conductele în orice fel. Trebuie să conectați mai întâi conducta cu presiune scăzută apoi conducta cu presiune crescută.

#### RAZĂ MINIMĂ DE ÎNDOIRE

Atunci când îndoii conductele de agent frigorific, raza minimă de îndoire este de 10 cm. Consultați Fig. 65.6.

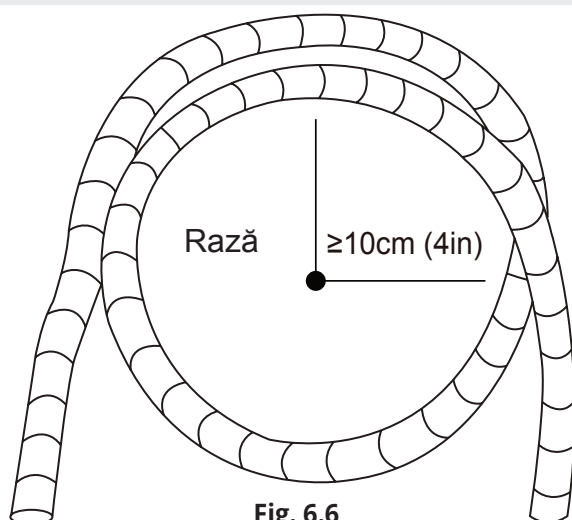


Fig. 6.6

#### Instrucțiuni pentru conectarea conductei la unitatea interioară

1. Aliniați centrul celor două conducte pe care urmează să le conectați. Consultați Fig.6.7

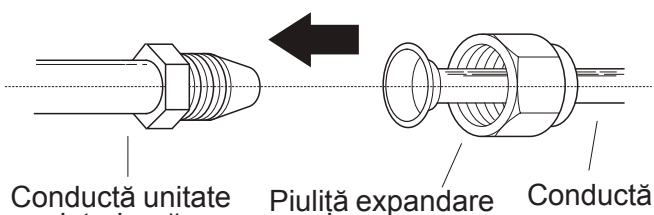


Fig. 6.7

2. Strângeți piulița pe cât de mult posibil cu mâna.
3. Utilizând o cheie de buloane apucați piulița de pe conducta unității.
4. După ce apucați ferm piulița de pe conducta unității, utilizați o cheie dinamometrică pentru a strânge piulița conform cu valorile de torsiune din cerințele cuplului de torsiune din tabelul de mai jos. Slăbiți ușor piulița de expandare apoi strângeți-o din nou.

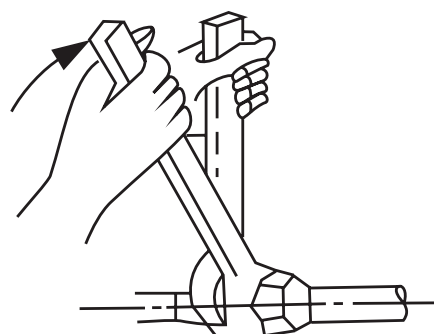


Fig. 6.8

#### CERINȚE CUPLU DE TORSIUNE

| Diametru exterior al conductei (mm) | Cuplu de torsiune (N.cm) | Cuplu de torsiune suplimentar (N.m) |
|-------------------------------------|--------------------------|-------------------------------------|
| Ø 6.35 (Ø 0.25")                    | 1,500 (11lb•ft)          | 1,600 (11.8lb•ft)                   |
| Ø 9.52 (Ø 0.375")                   | 2,500 (18.4lb•ft)        | 2,600 (19.18lb•ft)                  |
| Ø 12.7 (Ø 0.5")                     | 3,500 (25.8lb•ft)        | 3,600 (26.55lb•ft)                  |
| Ø 16 (Ø 0.63")                      | 4,500 (33.19lb•ft)       | 4,700 (34.67lb•ft)                  |
| Ø 19 (Ø 0.75")                      | 6,500 (47.94lb•ft)       | 6,700 (49.42lb•ft)                  |

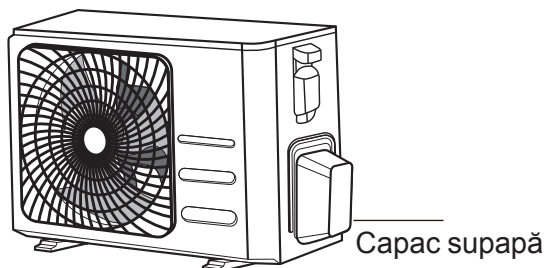


#### NU UTILIZAȚI UN CUPLU DE TORSIUNE EXAGERAT

Forță excesivă poate rupe piulița sau poate avaria conducta de agent frigorific. Nu trebuie să depășiți cuplul de torsiune conform cerințelor din tabelul de mai sus.

## Instrucțiuni pentru conectarea conductei la unitatea exterioară

1. Deșurubați capacul supapei ceva din lateralul unității exterioare (consultați **Fig. 6.9**).

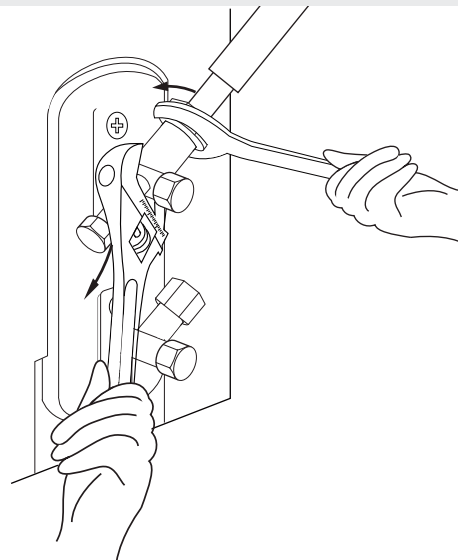


**Fig. 6.9**

2. Îndepărtați capacul de protecție de la capătul supapelor.
3. Aliniați conducta lărgită cu fiecare supapă și strângeți piulița de expansiune pe cât de strâns posibil cu mâna
4. Utilizând o cheie de buloane, apucați corpul supapei. Nu apucați piulița ce detașează supapa de service (consultați **Fig. 6.10**).

## ! UTILIZAȚI O CHEIE DE BULOANE PENTRU A ȚINE DE CORPUL SUPAPEI

Cuplul de torsiune din strângerea piuliței de expansiune poate să desprindă o altă parte a supapei.

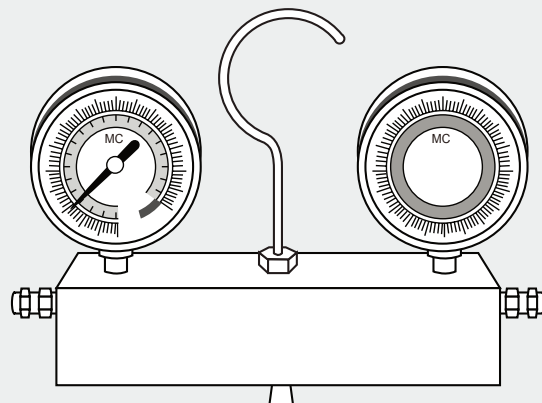


**Fig. 6.10**

5. Atunci când apucați ferm corpul supapei, folosiți o cheie dinamometrică pentru a strânge piulița de expansiune conform valorilor corecte de torsiune.
6. Slăbiți ușor piulița de expansiune apoi strângeți-o din nou.
7. Repetați etapele de la 3 până la 6 pentru conductele rămase.

# Evacuare aer

# 7



## Pregătire și măsuri de siguranță

Aerul și materiile străine din circuitul agentului frigorific pot duce la creșteri anormale de presiune, ce pot avaria aparatul de aer condiționat, pot să-i reducă eficiența și pot cauza vătămare. Utilizați o pompă de vid și o supapă colectoare pentru a evacua circuitul agentului frigorific, îndepărtând gazele ce nu provoacă condens și umezeala din sistem.

Evacuarea trebuie realizată la instalarea inițială și atunci când unitatea este mutată.

## ÎNAINTE DE A REALIZA EVACUAREA

- ☑ Verificați pentru a vă asigura că ambele conducte cu presiune ridicată și presiune scăzută dintre unitatea interioară și unitatea exterioară sunt conectate adecvat, conform cu capitolul conectarea conductei de agent frigorific din acest manual.
- ☑ Verificați pentru a vă asigura că toate cablurile sunt conectate adecvat.

## Instrucțiuni evacuare

Înainte de utilizarea supapei colectoare și a pompei de vid, citiți manualul lor de utilizare pentru a vă familiariza cu modul de utilizare adecvată a acestora.

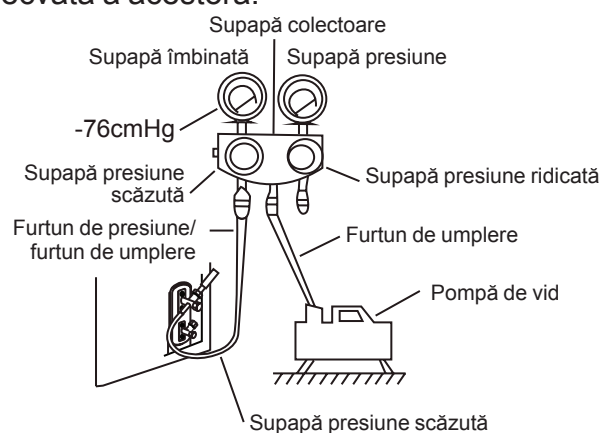


Fig. 7.1

1. Conectați furtunul de încărcare la supapa colectoare din portul de service al supapei de presiune scăzută a unității exterioare.
2. Conectați un alt furtun de încărcare din supapa colectoare la pompa de vid.
3. Deschideți partea de presiune scăzută a supapei colectoare. Păstrați partea de presiune crescută închisă.
4. Porniți pompa de vid pentru a evacua sistemul.
5. Lăsați pompa să acționeze timp de cel puțin 15 minute sau până ce contorul integral indică - 70 6 cm Hg (-105Pa).

6. Închideți partea de presiune joasă de pe supapa colectoare apoi opriți pompa de vid.
7. Așteptați 5 minute, apoi verificați dacă există schimbări în presiunea sistemului.
8. Dacă există schimbări în presiunea sistemului, consultați secțiunea Verificarea Scurgerilor de Gaze pentru informații cu privire la modul de verificare a scurgerilor. Dacă nu există schimbări în presiunea sistemului, deșurubați capacul supapei incluse (supapei de presiune crescută).
9. Introduceți o cheie hexagonală în supapa inclusă (supapa de presiune crescută) și deschideți supapa prin rotirea cheii cu 1/4 rotire în sensul invers acelor de ceasornic. Ascultați ieșirea gazului din sistem, apoi închideți supapa după 5 secunde.
10. Monitorizați indicatorul de presiune timp de un minut pentru a vă asigura că nu există schimbări ale presiunii. Indicatorul de presiune trebuie să arate o presiune ușor mai mare decât presiunea atmosferică.
11. Îndepărtați furtunul de încărcare de la portul de service.

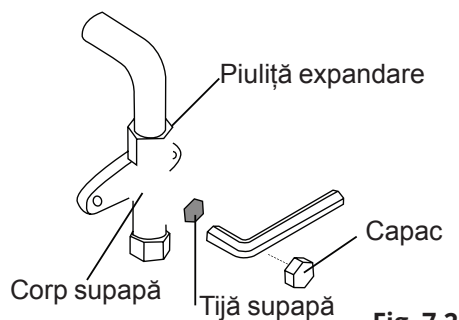


Fig. 7.2

12. Utilizați o cheie hexagonală, deschideți atât supapa de presiune crescută cât și supapa de presiune scăzută.
13. Strângeți capacele supapelor pe toate cele 3 supape (portul de service, supapa de presiune scăzută, supapa de presiune crescută) cu mâna. Apoi puteți să le strângeți utilizând o cheie dinamometrică dacă este nevoie.

### ! DESCHIDEȚI ÎNCET TIJELE SUPAPEI

Atunci când deschideți tije supapei, rotiți cheia hexagonală până ce atinge opritorul. Nu încercați să forțați supapa să se deschidă mai mult de atât.

## Notă cu privire la adăugarea de agent frigorific

Unele sisteme necesită încărcare suplimentară în funcție de lungimea conductelor. Lungimea standard a conductelor variază conform cu reglementările locale. De exemplu, în America de Nord, lungimea standard a conductei este de 7,5 m (25 in). În alte zone, mărimea standard a conductei este de 5 m (16 in). Freonul va fi încărcat prin supapa de presiune scăzută, localizată în portul de serviciu al unității exterioare. Agentul frigorific suplimentar ce trebuie încărcat poate fi calculat utilizând următoarea formulă:

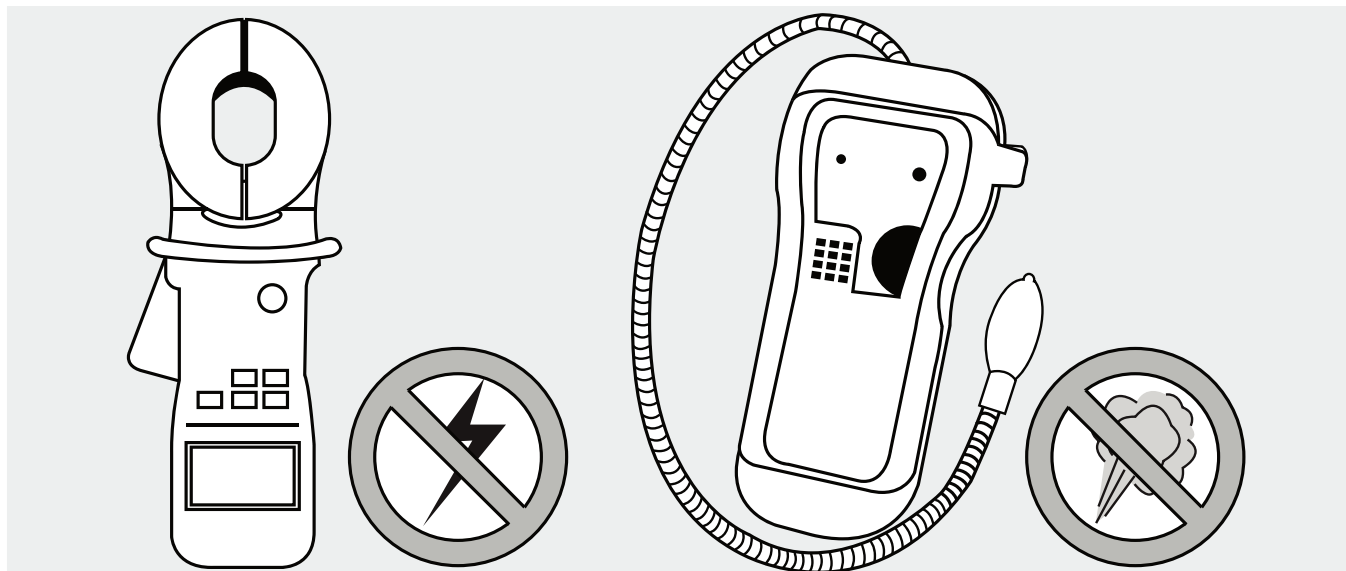
### LUNGIME CONDUCTĂ AGENT FRIGORIFIC SUPLEMENTAR

| Lungime conductă de corecție (m) | Metoda de purjare aer | Agent frigorific suplimentar                                                                                        |                                                                                                                     |
|----------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| ≤ Lungime standard conductă      | Pompă de vid          | N/A                                                                                                                 |                                                                                                                     |
| > Lungime standard conductă      | Pompă de vid          | Partea lichidă: Ø 6.35 (ø 0.25")                                                                                    | Partea lichidă: Ø 9.52 (ø 0.375")                                                                                   |
|                                  |                       | <b>R32:</b><br>(Lungime conductă – lungime standard) x 12g/m<br>(Lungime conductă – lungime standard) x 0.13oz/ft   | <b>R32:</b><br>(Lungime conductă – lungime standard) x 24g/m<br>(Lungime conductă – lungime standard) x 0.26oz/ft   |
|                                  |                       | <b>R290:</b><br>(Lungime conductă – lungime standard) x 10g/m<br>(Lungime conductă – lungime standard) x 0.10oz/ft  | <b>R290:</b><br>(Lungime conductă – lungime standard) x 18g/m<br>(Lungime conductă – lungime standard) x 0.19oz/ft  |
|                                  |                       | <b>R410A:</b><br>(Lungime conductă – lungime standard) x 15g/m<br>(Lungime conductă – lungime standard) x 0.16oz/ft | <b>R410A:</b><br>(Lungime conductă – lungime standard) x 30g/m<br>(Lungime conductă – lungime standard) x 0.32oz/ft |

Cantitatea de freon R290 care trebuie încărcată nu va depăși următoarele valori : 387g(<9000 Btu/h), 447g (9-12000Btu/h), 547g (>12-18000Btu/h), 632g(>18-24000Btu/h).

**! ATENȚIE** NU amestecați tipul de agent frigorific.





## Verificări electrice de siguranță

După instalare, confirmați că toate cablaje electrice sunt instalate în conformitate cu reglementările locale și naționale și respectând manualul de instalare.

## ÎNAINTE DE TESTAREA FUNCȚIONĂRII

### Verificați lucrările de împământare

Măsurați rezistența la împământare prin detectarea vizuală și prin testarea rezistenței de împământare. Rezistența de împământare trebuie să fie mai mică decât 4.

**Notă:** Acest lucru poate să nu fie necesar pentru anumite locații din SUA.

## ÎN TIMPUL TESTĂRII DE FUNCȚIONARE

### Verificați pierderile electrice

În timpul testării funcționării, utilizați o sondă de curent electric și un multimetru pentru a realiza un test de pierderi electrice elaborat.

Dacă se detectează pierderi electrice, opriți imediat aparatul și apelați la un electrician autorizat pentru a găsi și a rezolva cauza pierderilor.

**Notă:** Acest lucru poate să nu fie cerut în unele locații din SUA.



## AVERTIZARE – RISC DE ELECTROCUTARE

**TOATE CABLURILE TREBUIE SĂ FIE ÎN CONFORMITATE CU CODURILE ELECTRICE LOCALE ȘI NAȚIONALE ȘI TREBUIE INSTALATE DE CĂTRE UN ELECTRICIAN AUTORIZAT.**

## VERIFICĂRI SCURGERI DE GAZE

Există două metode diferite pentru a verifica scurgerile de gaze.

### Metoda soluției de apă cu săpun

Utilizând o perie moale, aplicați o soluție de apă cu săpun sau detergent lichid la toate punctele de legătură ale conductelor din unitatea interioară și cea exterioară. Prezența bulelor de aer indică o scurgere.

### Metoda detectorului de scurgeri

Dacă utilizați un detector de scurgeri, vă rugăm consultați manualul de utilizare al dispozitivului pentru instrucțiuni de utilizare adecvate.

## DUPĂ REALIZAREA VERIFICĂRII DE SCURGERI DE GAZE

După confirmarea că toate punctele de conexiune ale conductelor nu curg, înlocuiți capacul supapei de la unitatea exterioară



# TESTARE FUNCȚIONARE

9

## Înainte de testarea funcționării

Realizați testarea de funcționare numai după ce ați îndeplinit următoarele etape:

- Verificările de siguranță electrică – confirmați ca sistemul electric al unității este sigur și funcționează adecvat
- Verificări ale scurgerilor de gaze – verificați toate piulițele de expansiune ale conexiunilor și confirmați că sistemul nu curge.
- Confirmați că sub apele de gaze și deschide (presiune crescută și scăzută) sunt deschise la maxim

## Instrucțiuni cu privire la testarea funcționării

Trebuie să realizați testarea funcționării timp de cel puțin 30 de minute.

1. Conectați alimentarea electrică la aparat.
2. Apăsați butonul PORNIRE / OPRIRE (ON/OFF) de pe telecomandă pentru a porni aparatul.
3. Apăsați butonul MODUL (MODE) pentru a alege una din următoarele funcții, câte una pe rând:
  - RĂCIRE (COOL) – alegeți cea mai mică temperatură posibilă
  - ÎNCĂLZIRE (HEAT) – alegeți cea mai mare temperatură posibilă
4. Lăsați fiecare funcție să funcționeze aproximativ 5 minute și realizați următoarele verificări:

| Listă de verificări<br>ce trebuie efectuate               | TRECUTE/ EȘUATE |              |
|-----------------------------------------------------------|-----------------|--------------|
| Nu există pierderi electrice                              |                 |              |
| Aparatul este adecvat împământat                          |                 |              |
| Toate terminalele electrice sunt acoperite adecvat        |                 |              |
| Unitățile interioare și exterioare sunt bine instalate    |                 |              |
| Toate punctele de legătură ale conductelor nu curg        | Exterior (2)    | Interior (2) |
| Apa se scurge în mod adecvat prin furtunul de scurgere    |                 |              |
| Toate conductele sunt izolate în mod adecvat              |                 |              |
| Aparatul realizează funcțiile de răcire în mod adecvat    |                 |              |
| Aparatul realizează funcțiile de încălzire în mod adecvat |                 |              |
| Fantele unității interioare se rotesc în mod adecvat      |                 |              |
| Unitatea interioară răspunde la comenzile telecomenzii    |                 |              |

## VERIFICAȚI DE DOUĂ ORI CONEXIUNILE CONDUCTELOR

În timpul funcționării, presiunea circuitului agentului frigorific va crește. Acest lucru poate însemna că există scurgeri ce nu au fost vizibile în timpul testelor inițiale pentru scurgeri. Nu vă grăbiți în timpul testării funcționării și verificați de două ori ca toate punctele de conexiune ale conductelor de agent frigorific să nu prezinte scurgeri. Consultați secțiunea Verificarea Scurgerilor de Gaze pentru instrucțiuni.

5. După finalizarea cu succes a testării funcționării și după ce confirmați că toate punctele de verificare de pe lista de verificare au fost trecute, faceți următoarele:
  - a. Utilizând telecomanda, setați aparatul pe temperatura normală de funcționare.
  - b. Utilizând bandă izolatoare, izolați conexiunile conductei de agent frigorific din interior ce pot rămâne descoperite în timpul procesului de instalare al unității interioare

## DACĂ TEMPERATURA AMBIENTALĂ ESTE SUB 17°C (63°F)

Nu puteți utiliza telecomanda pentru a porni funcția RĂCIRE(COOL) atunci când temperatura ambientală este sub 17 °C. În acest caz, puteți utiliza butonul de control manual pentru a testa funcția de răcire.

1. Ridicați panoul frontal al unitatii interioare pana cand veti auzi un “clic”
2. Butonul pentru control manual este localizat in partea dreapta a panoului, apasati butonul de 2 ori pentru a activa modul COOL vezi FIG 9.1
3. Continuați cu testarea, in mod normal.

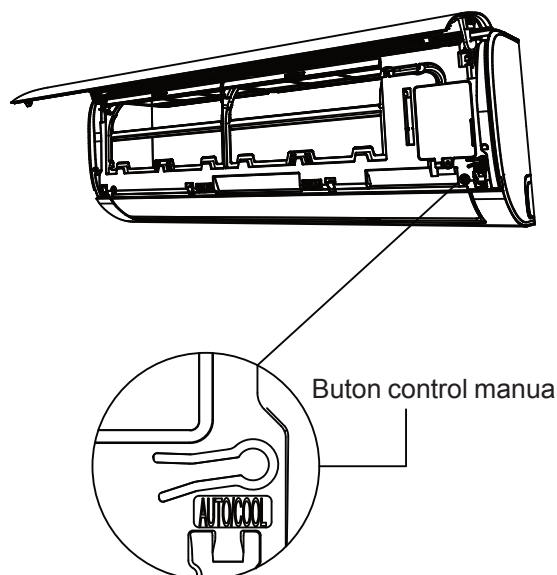


Fig. 9.1

# DISPOZIȚII EUROPENE PENTRU ELIMINARE

# 10

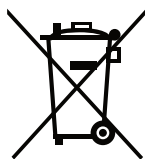
Acest aparat conține agent frigorific și alte materiale periculoase cu potențial vătămător. Atunci când eliminați acest aparat, legea vă cere o colectare specială și tratament special. Nu aruncați acest produs ca și gunoi menajer sau gunoi municipal nesortat.

Atunci când eliminați acest aparat, aveți următoarele opțiuni:

- Eliminați aparatul în cadrul instituției specializate de colectare a deșeurilor electronice din municipiu.
- La achiziționarea unui nou produs, vânzătorul va lua la schimb vechiul produs fără costuri suplimentare.
- Producătorul va lua înapoi vechiul aparat gratuit.
- Vindeți aparatul către dealeri de fier vechi autorizați.

## Notificare specială

Eliminarea produsului în păduri sau pe diverse terenuri din natură pune în pericol sănătatea dvs. și dăunează mediului înconjurător. Substanțe periculoase se pot scurge în pânza freatică și reușesc să pătrundă în lanțul alimentar.



# Informare cu privire la service.

(Valabil doar pentru unitatile care utilizeaza freon R32/R290)

11

## 1. Verificati zona

Inainte de a incepe lucrari la sistemele ce contin agenti frigorifici inflamabili, efectuati verificari ale mediului inconjurator pentru a elimina posibilitatea aparitiei unei scantei.

## 2. Procedura

Lucrarile vor fi facute intr-un mediu controlat, pentru a minimiza riscul aprinderii gazelor sau vaporilor inflamabili.

## 3. Zona de lucru

Toti participantii la lucrare si ceilalti angajati care sunt prezenti in zona lucrarii, vor fi informati despre natura reparatiilor. Zona in care se fac lucrarile va fi delimitata. Asigurati-va ca mediul de lucru din acea incapere va permite lucrul cu materiale inflamabile.

## 4. Verificati daca exista scurgeri de freon

Verificati cu un detector de freon, daca exista gaz in incapere. Folositi echipamentul de detectare a scurgerilor inainte de a incepe lucrarea. Asigurati-va ca echipamentul de detectare a scurgerilor este perfect functional (nu emite scantei, este sigilat, etc.)

## 5. Disponibilitatea unui extingtor

Asigurati disponibilitatea unui extingtor cu pudra uscata sau CO2 in incaperea unde se executa lucrarile.

## 6. Eliminati sursele de scanteie.

In timpul lucrarilor la traseele frigorifice, ce presupun expunerea conductelor, este interzisa folosirea oricarui produs ce poate genera scanteie. Toate sursele de scanteie, incluzand fumatul, vor fi mentinute departe de locul lucrarii. Semnalizati locul lucrarii cu panouri prin care se interzice fumatul: "FUMATUL INTERZIS"

## 7. Aerisiti incaperea

Inainte de a incepe, asigurati-va ca incaperea in care se vor face lucrarile, este bine ventilata. Mentineti ventilatia incaperii pe toata durata lucrarilor. Acest lucru va ajuta la eliminarea freonului in caz de scurgeri.

## 8. Verificari ale traseului frigorific.

Asigurati-va ca, in cazul in care schimbati piese componente, acestea corespund specificatiilor impuse. Informatiile despre service si instructiunile producatorului vor fi respectate tot timpul. Daca aveti indoilei cu privire la lucrare, contactati departamentul de service al producatorului. Urmatoarele verificari sunt necesare pentru toate instalatiile care utilizeaza agenti frigorifici inflamabili:

- Cantitatea de freon incarcata, corespunde cu dimensiunea incaperii in care este instalat aparatul.

- Prizele de ventilare/evacuare a aerului nu sunt obstructionate.
- Daca folositi un un traseu frigorific, toate celelalte circuite si trasee vor fi verificate pentru a determina prezenta freonului. Informatiile inscrite pe echipament vor fi vizibile si lizibile.
- Marcajele si semnele care nu pot fi citite, vor fi corectate.
- Verificati daca traseul frigorific si celelalte componente sunt instalate intr-o locatie in care este putin probabil ca acestea sa intre in contact cu substante corozive. Se face exceptie de la aceasta regula daca acele componente sunt construite din materiale rezistente la substante corozive.

## **9. Verificari ale dispozitivelor electrice.**

Reparatiile si lucrarile de mentenanta executate asupra componentelor electrice vor include verificari initiale cu privire la siguranta si inspectia componentelor. In cazul existentei unei situatii care poate compromite siguranta, nici un circuit electric nu va fi conectat la reseaua electrica pana ce defectul nu este remediat. Daca remedierea nu poate fi facuta imediat dar totusi continuarea lucrarii este necesara, folositi o alta metoda, temporara, potrivita situatiei. Transmiteti informatia proprietarului pentru ca toate partile sa fie in cunostiinta de cauza.

### **Verificarile initiale includ:**

- Descarcarea capacitorilor: aceasta lucrare se va face cu evitarea oricarei situati care poate produce o scanteie.
- Nici un component electric nu va fi alimentat si expus in timpul lucrarilor de incarcare, recuperare sau eliminare a agentului frigorific.
- Impamantarea este legata.

## **10. Reparatii asupra componentelor sigilate**

- 10.1 In cazul lucrarilor asupra componentelor sigilate, aparatul va fi oprit si scos din priza, inainte de inceperea lucrarilor sau inlaturarea oricarui capac. In cazul in care este neaparat necesara conectarea componentelor, instalati un echipament de detectare a scurgerilor.
- 10.2 Lucrati cu atentie, pentru a evita deteriorarea carcaselor componentelor altfel nivelul de protectie poate scadea. De atentie sporita este nevoie si atunci cand lucrati la instalatia electrica (deteriorarea cablurilor, un numar prea mare de conexiuni, conexiunile terminale nu respecta paraetrii, etc.)
  - Asigurati-va ca aparatul este montat corect.
  - Verificati materialele cu ajutorul carora ati sigilat traseele, pentru a va asigura ca nu sunt degradate. Piese de schimb vor corespunde specificatiilor producatorului.

**NOTA:** Eficienta in detectarea scurgerilor poate scadea in cazul utilizarii siliconului pentru sigilare. Componentele sigure, nu trebuie izolate inainte de a incepe lucrarea asupra lor.

## **11. Repararea componentelor sigure.**

Nu depasiti limitele superioare ale tensiunii si intensitatii, permise de catre aparat. Componentele sigure ale aparatului, sunt singurele componente pe care se poate lucra in timp ce sunt alimentate cu energie electrica, in prezenta materialelor inflamabile. In caz de inlocuire a unei piese, aceasta va fi inlocuita doar cu o piesa originala, specificata de catre producator. Folosirea altor piese decat cele recomandate de producator, pot produce scantei la momentul unei scurgeri de freon.

## 12. Cablarea

Verificati cablarea pentru a va asigura ca nu este deteriorata si ca nu exista margini ascutite in apropiere. Cand verificati, luati in considerare si “îmbatranirea cablurilor” sau vibratia continua provocata de compresor si ventilatoare.

## 13. Detectia agentilor frigorifici inflamabili.

Nu folositi sub nici o forma surse de scantei, atunci cand verificati scurgerile de freon. De asemenea, nu trebuie folosit nici un aparat cu flama deschisa in acea incapere.

## 14. Metode de detectare a scurgerilor.

Metodele descrise mai jos sunt acceptate pentru sistemele ce contin agenti frigorifici inflamabili.

- Detectia electronica a scurgerilor poate fi folosita pentru a detecta scurgerile de freon inflamabil dar eficienta poate fi scazuta si recalibrarea este recomandata (recalibrarea va fi facuta intr-o incapere in care nu exista agenti frigorifici). Asigurati-va ca detectorul in sine nu este o sursa de scanteie si ca este potrivit pentru detectia agentilor frigorifici inflamabili. Echipamentului ii va fi setat un procentaj minim de detectie si va fi calibrat in functie de tipul agentului frigorific si concentratia de gaz (maxim 25%).
- Lichidele pentru detectie pot fi folosite cu toate tipurile de agenti frigorifici. Nu folositi detergenti ce contin clor deoarece acesta ar putea reactiona impreuna cu freonul si pot coroda conductele de cupru.

Daca suspectati prezenta unei scurgeri, eliminati toate flacarile deschise. Daca descoperiti o fisura ce necesita lipire, recuperati tot freonul din sistem. Pentru purjarea sistemului, folositi azot fara oxygen (OFN), pe toata durata procesului de lipire.

## 15. Inlaturarea si evacuarea.

Cand accesati un traseu frigorific, se recomanda respectarea instructiunilor de mai jos:

- eliminati agentul frigorific
- purjati intreg sistem cu un gaz inert.
- Eliminati aerul
- Repetati procesul de purjare.
- Deschideti circuitul prin taiere.

Freonul va fi recuperat in containere corespunzatoare. Sistemul va fi purjat cu OFN pentru siguranta aparatului. In functie de necesitati, puteti repeta procesul.

Nu folositi aer comprimat sau oxigen pentru purjare.

Eliminarea freonului se face prin pomparea de OFN in sistem pana cand se atinge presiunea sistemului, apoi evacand intregul sistem si folosind pompa de vid. Repetati acest proces pana cand eliminati intreaga cantitate de freon.

La ultima incarcare cu OFN, sistemul trebuie ventilat si depresurizat pana la presiunea normala atmosferica. Aceasta operatiune este vitala daca urmeaza sa faceti lucrari de lipire a conductelor.

Asigurati-va ca evacuarea pompei de facuum nu se afla in apropierea unei surse de scanteie.

## **16. Procedura de incarcare.**

Pe langa procedura normala de incarcare cu agent frigorific, respectati urmatoarele instructiuni:

- Asigurati-va ca agentul frigorific nu va fi contaminat cu alte substante, atunci cand folositi echipamentul de incarcare. Furtunul sau conductele de alimentare trebuie sa fie cat mai scurte.
- Recipientele vor fi mentinute in pozitie verticala.
- Asigurati-va ca traseul frigorific este impamantat.
- Dupa incarcare, etichetati sistemul.
- Nu incarcati peste limita acceptata.
- Inainte de incarcare, testati sistemul cu OFN, pentru a descoperii eventualele scurgeri.

## **17. Scoaterea din utilizare a aparatului.**

Inainte de a incepe aceasta lucrare, este esential ca tehnicianul sa se familiarizeze cu aparatul. Este recomandat sa recuperati intreaga cantitate de agent frigorific. Inainte de a incepe lucrarea, prelevati esantioane din ulei si din agentul frigorific.

inainte de a incepe recoltarea agentului frigorific, asigurati-va ca este disponibila alimentarea cu energie electrica.

a) Familiarizati-va cu aparatul si modul de functionare.

b) izolati electric sistemul

c) Inainte de a incepe procedura faceti urmatoarele verificari :

- Aveti disponibil intregul echipament necesar.
- Aveti disponibil intregul echipament de protectie necesar si ca este folosit corect.
- Procesul de recuperare a freonului este supravegheat in permanenta de catre personal calificat.
- Echipamentul pentru recuperare si cilindrii de depozitare sunt conforme cu standardele.

d) Pompati freonul, daca este posibil.

e) Daca vidarea nu este posibila, folositi colectorul pentru a recupera agentul frigorific din intreaga instalatie.

f) Asigurati-va ca cilindrii de depozitare se afla pe cantar inainte de recuperare.

g) Operati echipamentul pentru recuperare respectand instructiunile producatorului.

h) Nu supraincarcati cilindrii de depozitare. (volumul lichid nu trebuie sa depaseasca 80%).

i) Nu depasiti limita superioara a presiunii in cilindru.

j) Cand recipientele au fost umplute si lucrarea a fost terminata, inlaturati-le imediat din incapere si inchideti corect toate supapele.

k) Nu utilizati agentul frigorific recuperat in alta instalatie decat dupa ce acesta a fost verificat si purificat.

## **18. Etichetarea.**

O data ce ati scos din functie aparatul, asigurati-va ca acesta este etichetat corespunzator. Etichetele trebuie sa contina tipul de agent frigorific continut.

## **19. Recuperarea.**

- Atunci cand eliminati freonul dintr-un sistem, pentru service sau scoaterea din folosire, este recomandat sa respectati normele.
- Cand transferati freonul in recipiente, asigurati-va ca doar cilindrele sunt cele potrivite.



Asigurați-vă ca aveți disponibile suficiente recipiente pentru întreaga cantitate de freon.

Cilindrii vor fi echipați cu supape de presiune și supape de închidere.

- Recipientele vor fi goale și racite înainte de recuperare.
- Echipamentul folosit pentru recuperare este funcțional, are instrucțiuni disponibile și este potrivit pentru respectiva lucrare. De asemenea, trebuie să aveți disponibil un cântar calibrat și funcțional.
- Furtunul pentru transfer trebuie să fie în stare perfectă, cu protecție la scurgere. Înainte de începerea recuperării, asigurați-vă ca toate componentele electrice sunt izolate pentru a preveni apariția scanteilor în cazul unei scurgeri de freon.
- Freonul recuperat trebuie returnat distribuitorului în recipiente corespunzătoare, etichetate corect. Nu amestecați agenții frigorifice!
- În cazul în care trebuie să înlăturați compresorul sau uleiul pentru compresor, asigurați-vă ca ați eliminat întreaga cantitate de freon înainte de returnarea către producător. Pentru a accelera procesul, puteți folosi DOAR încălzirea electrică.

## **20. Transportul, etichetarea și depozitarea aparatelor.**

1. Transportul echipamentelor care conțin materiale inflamabile trebuie să respecte normele și legile în vigoare.
  2. Semnalizarea echipamentelor se va face prin marcaje și etichete ce respectă normele și legile în vigoare.
  3. Eliminarea deșeurilor se va face respectând legile în vigoare.
  4. Depozitarea echipamentelor va respecta instrucțiunile producătorului.
  5. Depozitarea produselor în ambalaj original (nevândute), se va face astfel încât, orice deteriorare mecanică nu va produce scurgeri de freon.
- Numărul maxim de unități depozitate va respecta normele locale.

**Aspectul fizic și specificațiile tehnice se pot schimba fără o notificare prealabilă datorită îmbunătățirii continue a echipamentelor noastre. Pentru mai multe informații, contactați vânzătorul sau producătorul.**

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.





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