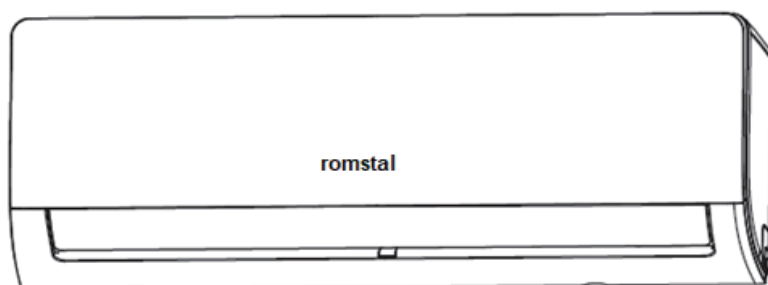


# romstal

## EcoVent

Aparat de aer conditionat, romstal, de tip monosplit cu inverter 9000-24000 BTU, R32, Wireless control/Control fara fir

Cod Romstal : 81AC0248 81AC0249 81AC0230 81AC0231 81AC0232  
81AC0233 81AC0234 81AC0235 81AC0236 81AC0237 81AC0238  
81AC0239 81ACI109 81ACI112 81ACI118



### ***INSTRUCTIUNI DE UTILIZARE SI INSTALARE***





## **NOTA IMPORTANTA:**

Cititi cu atentie manualul inainte de a instala sau utiliza noul dumneavoastra aparat de aer conditionat. Asigurati-va ca ati salvat acest manual pentru a va permite o ulterioara consultare.

Va rugam sa verificati modelele disponibile, datele tehnice, F-GAS (daca exista) si informatiile despre producator din "Manualul utilizatorului – Fisa Produsului" din ambalajul unitatii externe (numai pentru produsele din Uniunea Europeana) sau din ambalajul unitatii interne (model dependent)

Cuprins

### **Instructiuni de siguranta**

### **Manualul utilizatorului**

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2. Temperatura de functionare
3. Alti parametrii
4. Unghiul fluxului de aer setat
5. Functionare manuala (fara telecomanda)

### **Instructiuni de curatare si intretinere**

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### **Manual de instalare**

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### **Instalarea unitatii interne**

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5. Conectarea furtunului de golire
6. Conectarea cablului de semnal si de alimentare electrica
7. Infasurarea tevilor si cablurilor
8. Montarea unitatii interne

### **Instalarea unitatii externe**

1. Selectarea locului de instalare
2. Instalarea racordului de golire
3. Fixarea unitatii externe
4. Conectarea cablurilor de semnal si de alimentare electrica

### **Racordul tevilor de agent frigorific**

- A. Note referitoare la lungimea tevi
  - B. Instructiuni de conectare – Tevi de agent frigorific
1. Taierea tevilor



2. Indepartarea bavurilor
3. Bercluirea capetelor tevilor
4. Conectarea tevilor

### **Evacuarea aerului**

1. Instructiuni de evacuare
2. Note referitoare la adaugarea de agent frigorific

### **Verificarea pierderilor electrice si de gaze**

### **Teste de functionare**

## **MASURI DE PRECAUTIE**

**Inainte de instalare este necesara citirea cu atentie a prezentului manual de instructiuni.**

**Instalarea incorecta din cauza ignorarii instructiunilor poate genera deteriorarea echipamentului sau ranirea.**

Gradul de seriozitate al unei potentiale deteriorari sau raniri este clasificat fie ca **AVERTISMENT** fie ca **PRECAUTIE**.



### **AVERTISMENT**

Acest simbol indica faptul ca ignorarea instructiunilor poate provocamoaarta sau ranirea grava.



### **PRECAUTIE**

Acest simbol indica faptul ca ignorarea instructiunilor poate provoca vatamari corporale moderate sau va poate afecta aparatul sau alte proprietati.



### **AVERTISMENT**

Echipamentul poate fi utilizat de catre copii peste 8 ani si persoane cu capacitati reduse fizice, senzoriale si mentale, sau fara experienta si cunstiintele necesare, daca acestora li s-a acordat supravegherea sau li s-au dat instructiunile referitoare la utilizarea echipamentului, intr-un mod sigur si au inteles pericolele pe care le implica aceasta utilizare. Este interzis copiilor sa se joace cu echipamentul. Curatarea si efectuarea operatiunilor de intretinere nu trebuie efectuate de catre copii nesupravegheati. (Tarile Uniunii Europene).

Acest echipament nu este conceput pentru uilizarea de catre persoane (inclusiv copii) cu capacitati fizice, senzoriale si mentale reduse, sau lipsa de experienta si cunostinte, decat daca sunt supravegheate sau li s-au dat instructiuni referitoare la utilizarea echipamenului de catre o persoana responsabila pentru siguranta lor. Copiii trebuie supravegheati pentru a va asigura ca acestia nu se joaca cu echipamentul.



### **AVERTISMENTE PENTRU UTILIZAREA PRODUSULUI**

- Daca apare o situatie anormala (cum ar fi un miros de ars), opriti imediat unitatea si scoateti



stecherul din priza. Sunati dealerul dumneavoastra pentru a primi instructiunile necesare in vederea evitarii elctrocutarii, incendiilor sau ranirilor.

- **Nu** introduceti degetele in panoul de refulare si in partea de aspiratie. Ventilatorul de mare viteza din interior poate provoca pericol.
- **Nu** utilizati spray-uri inflamabile cum ar fi fixativ, lacuri sau vopsea langa unitate. Acestea pot genera incendiu sau combustie.
- **Nu** actionati aparatul de aer conditionat in locuri aflate langa sau in jurul gazelor combustibile. Gazele emise s-ar putea colecta in jurul unitatii si genera explozii.
- **Nu** actionati aparatul de aer conditionat intr-o camera umeda (e.x., baie sau spalatorie). In caz contrar se poate provoca electrocutarea si deteriorarea produsului.
- **Nu** va expuneti corpul direct la aer rece pentru o perioada prelungita de timp.
- **Nu** permiteti copiilor sa se joace cu aerul conditionat. In apropierea unitatilor copiii trebuie supravegheati continuu.
- Daca aparatul de aer conditionat este utilizat impreuna cu arzatoare sau ale generatoare de caldura, aerisiti foarte bine camera pentru a evita deficitul de oxigen.
- In anumite medii de lucru, cum ar fi bucatariile, camerele de server, se recomanda utilizarea unor aparate de aer conditionat speciale.

## AVERTISMENTE DE CURATARE SI INTRETINERE

- Opriti echipamentul si scoateti stecherul din priza inainte de a efectua curatarea. Neefectuarea acestor operatiuni poate provoca electrocutarea.
- **Nu** curatati aparatul de aer conditionat cu o cantitate excesiva de apa.
- **Nu** curatati aparatul de aer conditionat cu agenti de curatare combustibili. Agentii de curatare combustibili pot provoca incendii sau deformare.



### PRECAUTIE

- Opriti aparatul de aer conditionat si decuplati unitatea daca nu o veti utiliza o perioada mai lunga de timp.
- Opriti si decuplati unitatea in timpul furtunilor.
- Asigurati-va ca se scurge liber condensul de apa de la unitate.
- **Nu** actionati aparatul de aer conditionat cu mainile ude. Daca nu se procedeaza astfel exista riscul de electrocutare.
- **Nu** utilizati echipamentul pentru niciun alt scop decat acela pentru care a fost conceput.
- **Nu** urcati pe aparatul de aer conditionat sau nu asezati obiecte pe unitatea externa.
- **Nu** permiteti aparatului de aer conditionat sa functioneze perioade lungi de timp cu usile sau ferestrele deschise, sau daca nivelul de umiditate este foarte ridicat.



### AVERTISMENTE ELECTRICE

- Utilizati numai cablul de alimentare specificat. Daca este deteriorat cablul de alimentare, acesta trebuie inlocuit de producator sau de catre un operator de service autorizat.



- Mentineti curat cablul de alimentare electrica. Indepartati praful sau funinginea care se acumuleaza pe sau in jurul stecherului. Un stecher murdar poate provoca incendiu sau electrocutare.
- **Nu** scoateti niciodata din priza tragand de cablu. Tineti stecherul ferm si scoateti-l din priza, in caz contrar exista riscul de deteriorare a cablului, sau de a provoca incendiu sau electrocutare.
- **Nu** prelungiti cablul si nu folositi niciodata prize multiple. O conexiune deficitara, o izolatie necorespunzatoare sau o tensiune care este mai mare decat aceea permisa poate cauza incendiu.
- Pentru toate lucrarile electrice, respectati toate standardele de cablare locale si nationale, reglementarile si Manualul de instalare. Pentru toate lucrarile electrice, respectati toate standardele de cablare locale si nationale, reglementarile si Manualul de instalare. Trebuie sa utilizati un circuit independent si o singura priza pentru alimentarea cu energie. Nu conectati alte aparate la aceeasi priza. Capacitatea electrica insuficienta sau defectele la lucrarile electrice pot provoca socuri electrice sau incendii.
- Toate cablajele trebuie aranjate corespunzator pentru a se asigura ca capacul tabloului de comanda se poate inchide corect. Daca capacul tabloului de comanda nu este inchis corect, poate duce la coroziune si poate provoca incalzirea, aprinderea sau socurile electrice la borne.
- Daca sursa de alimentare electrica este conectata prin cablaje fixe, trebuie inclus un intrerupator multipolar cu distanta dintre poli de cel putin 3mm, si are un curent de scurgere ce poate depasi 10mA, dispozitivul de curent rezidual (RCD) avand un curent rezidual de functionare (RCD) care sa nu depaseasca 30 mA, si intrerupatorul decuplarea trebuie inclus incorporat in cablajele fixe in conformitate cu regulamentele de conectare.

### **ATENTIE LA SPECIFICATIILE TEHNICE ALE SIGURANTEI FUZIBILE**

Placa de comanda a aparatelor de aer conditionat (PCB) este proiectata pentru a furniza protectia la supracurent. Specificatiile digurantei fuzibile, sunt imprimate pe placa circuitelor, cum ar fi:

T3.15A/250VAC, T5A/250VAC, T3.15A/250VAC, T5A/250VAC, T20A/250VAC, T30A/250VAC,etc.

**NOTA:** Pentru unitatile care folosesc agen frigorific R32 sau R290, poae fi utilizata numai siguranta ceramica anti-explozie.

### **Lampa UV-C (Aplicabila numai pe unitatile care contin o lampa UV-C)**

Acest echipament contine lampa UV-C. Cititi instructiunile de intretinere inainte de a deschide echipamentul.

1. Nu folositi lampa UV-C decat in cadrul echipamentului.
2. Nu trebuie folosite echipamentele care sunt in mod evident deteriorate.
3. Daca lampa este utilizata in alte scopuri decat acelea specificate sau s-a deteriorat carcasa acesteia, ar putea aparea pierderi periculoase de radiatii UV-C, chiar si in doze mici, acestea fiind periculoase pentru ochi si ten.
4. Inainte de a deschide usitele si a avea acces la panourile pe care este prezent simbolul de pericol RADIATII ULTRAVIOLETE pentru a efectua intretinerea destinata uilizatorului, se recomanda sase decupleze alimentarea electrica.



5. Lampa UV-C nu poate fi curatata, reparata sau inlocuita.
6. Nu trebuie indepartate barierele UV-C pe care este indicat simbolul de pericol RADIATII ULTRAVIOLETE.



**AVERTISMENT!** Echipamentul contine un emitator UV. Nu privii spre sursa de lumina.



#### **AVERTISMENTE LA INSTALARE**

1. Instalarea trebuie efectuata de catre un dealer specializat. Daca instalarea este necorespunzatoare, se pot genera pierderi de apa, electrocutari sau incendii.
2. Instalarea trebuie efectuata de catre un specialist sau de un dealer autorizat. Daca instalarea este gresita, se pot genera pierderi de apa, electrocutari sau incendii.
3. Contactati un operator de service autorizat pentru repararea si intretinerea acestei unitati. Aceasta unitate trebuie instalata in conformitate cu reglementarile nationale in vigoare.
4. Utilizati accesoriile atasate si componentele specificate pentru instalare, in caz contrar se pot genera pierderi de apa, electrocutari sau incendii si se poate provoca chiar caderea unitatii.
5. Instalati unitatea intr-un loc ferm care poate suporta greutatea unitatii. Daca locul ales nu poate suporta greutatea unitatii sau daca instalarea nu este efectuata in mod corespunzator, aparatul poate cadea si poate cauza vatamari corporale grave.
6. Instalati teava de drenare in conformitate cu instructiunile din prezentul manual. Scurgerea incorecta ar putea provoca pagube materiale.
7. Pentru unitatile care au un incalzitor auxiliar, **nu** instalati unitatea la o distanta de mai putin de 1 m fata de orice material combustibil.
8. **Nu** instalati unitatea intr-un spatiu in care pot aparea pierderi de gaz inflamabil. In cazul in care exista pierderi de gaz si se acumuleaza in jurul unitatii, s-ar putea genera foc.
9. Nu porniti aparatul pana cand nu s-au executat toate lucrarile.
10. Cand se deplaseaza sau se muta aparatul de aer conditionat, consultati operatorii de service experimentati pentru a decupla si reinstala unitatea.
11. Pentru a stabili cum sa instalati unitatea pe suportul sau, va rugam sa cititi informatiile din "instructiuni de instalare a unitatii interne".

#### **Note referitoare la gazele fluorurate (nu se aplica la Agentul frigorific R290)**

1. Unitatea de aer conditionat contine gaze fluorurate. Pentru informatii specifice referitoare la acest tip de gaze si cantitatea acestora, va rugam sa consultati eticheta relevanta aplicata pe aparatul respectiv de aer conditionat.
2. Instalarea, service-ul, intretinerea si repararea acestei unitati trebuie efectuata de catre un operator de service autorizat.
3. Instalarea si reciclarea trebuie efectuata de catre un operator de service autorizat

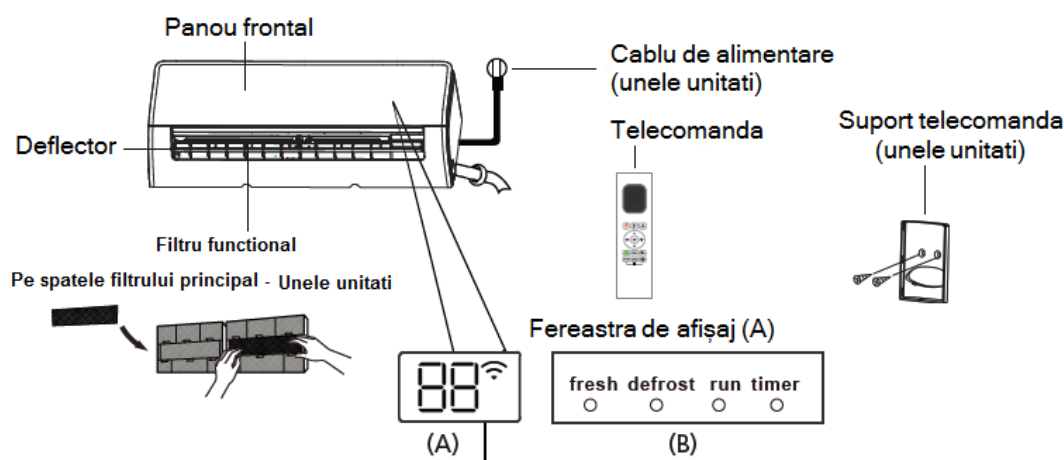




4. Pentru unitatile care contin gaze de sera florinate in cantitati mai mari de 5 tone de CO2 echivalent sau mai mult, dar mai putin de 50 tone de CO2 echivalent, sau mai multe, daca in sistem este instalat un detector de pierderi de gaz, acesta trebuie verificat cel putin o data la 24 luni.

5. Cand unitatea este verificata pentru pierderi, se recomanda inregistrarea adecvata a verificarilor.

## Specificatiile sau parametrii functionali ai unitatii

### Componentele unitatii interne



"fresh"	cand parametru de introducere aer proaspat <u>Fresh</u> este activat (unele unitati).
"defrost"	cand este activata functia <u>defrost</u> /degivrare
"run"	cand unitatea este pornita.
"timer"	cand este setat <u>TIMER</u> /TEMPORIZATOR
"88"	Nu este disponibila pentru toate unitatile
" 	cand este activat parametru de Control Wireless (unele unitati)
	Cand functia ECO (unele unitati) este activata, "88" se aprinde treptat ca <u>E C 0</u> -- temperatura setata -- <u>E</u> ..... la un interval de 1 secunda.
	In alte regimuri de functionare, unitatea va afisa temperatura dumneavoastra setata.
	In regimul de ventilatie, unitatea va afisa temperatura din ambient. Cand apare o eroare, se afiseaza codul de eroare
"01"	timp de 3 secunde cand:
	• Este setat <u>TIMER ON</u> / TEMPORIZATOR PORNIT
	• Sunt activate functiile <u>FRESH</u> /introducere aer proaspat, <u>SWING</u> /baleiere, <u>TURBO</u> sau <u>SILENCE</u> /functionare silentioasa
"0F"	timp de 3 secunde cand:
	• Este setat <u>TIMER OFF</u> / TEMPORIZATOR OPRIT
	• Sunt dezactivate functiile <u>FRESH</u> /introducere aer proaspat, <u>SWING</u> /baleiere, <u>TURBO</u> sau <u>SILENCE</u> /functionare silentioasa
"cF"	Cand functia anti-racire este activata
"dF"	Cand se degivreaza
"SC"	Cand unitatea este cu <u>auto-curatare</u>
"FP"	Cand este activata protectia la inghet
" 	cand functia de control wireless este activata (unele unitati)

Semnificatia  
codurilor afisate



## Obținerea performanțelor optime

Cand este utilizat aparatul de aer conditionat in afara acestor domenii, anumiți parametrii de protecție vor activa și vor genera o funcționare mai slabă.

### Split cu Inverter

	Regim de racire	Regim de incalzire	Regim de dezumidificare	<b>PENTRU UNITATIILE CU INCALZITOR ELECTRIC AUXILIAR</b> Cand temperatura externa este sub 0°C (32°F), va recomandam sa mentineti mereu in priza unitatea pentru a asigura o functionare continua fara perturbari.
Temperatura din ambient	16°C - 32°C	0°C - 30°C	10°C - 32°C	
Temperatura externa	0°C - 50°C	-15°C - 24°C	0°C - 50°C	
	-15°C - 50°C (Pentru modelele cu temperatura joasa – sistemele de racire)			
	0°C - 52°C (Pentru modele special tropicale)		0°C - 52°C (Pentru modele special tropicale)	

	Regim de racire	Regim de incalzire	Regim de dezumidificare
Temperatura din ambient	16°C-32°C (60°F-90°F)	0°C-30°C (32°F-86°F)	10°C-32°C (50°F-90°F)
Temperatura externa	18°C-43°C (64°F-109°F)	-7°C-24°C (19°F-75°F)	11°C-43°C (52°F-109°F)
	-7°C-43°C (19°F-109°F) (Pentru modelele cu temperatura joasa - sistemele de racire)		18°C-43°C (64°F-109°F)
	18°C-52°C (64°F-126°F) (Pentru modele speciale tropicale)		18°C-52°C (64°F-126°F) (Pentru modele speciale tropicale)

**NOTA:** Umiditate relativa mai mica de 80%. Daca aparatul de aer conditionat functioneaza cu umiditate in exces, suprafata aparatului atrage condensul. Va rugam sa setati deflectorul de aer vertical la unghiul sau maxim (vertical pe pardoseala), si seteaza regimul ventilator la viteza INALTA.

**Pentru a optimiza ulterior performanta unitatii, efectuati urmatoarele operatiuni:**

- Mentineti usile si ferestrele inchise.
- Limitati utilizarea energiei utilizand functiile TIMER ON sau TIMER OFF.
- Nu blocati gura de admisie sau refulare a aerului.
- Inspectati regulamentele si curatati filtrele de aer.

Pentru explicatii detaliate pentru fiecare functie, consultati **Manualul Telecomenzii**.

Un ghid de utilizare a telecomenzii cu infrarosii nu este inclus in acest pachet. Nu toate



functiile sunt disponibile pentru aparatul de aer conditionat, va rugam sa verificati ecranul unitatii interne si telecomanda unitatii pe care o achizitionati.

## **Alti parametri**

### **Repornire automata (unele uniti)**

Daca se intrerupe alimentarea cu energie electrica a unitatii, aceasta va reporni la setarile anterioare imediat dupa ce se reia alimentarea cu energie electrica.

### **Anti-muceagai (unele unitati)**

Cand se opreste unitatea de la regimurile de racire, functionarea automata sau dehumidificare, COOL, AUTO (COOL), sau DRY, aparatul de aer conditionat va continua sa functioneze la putere foarte redusa pentru a usca apa condensata si a preveni proliferarea mucegaiului.

### **Controlul wireless (unele unitati)**

Controlul wireless: pentru a putea controla de la distanță utilizând telefonul mobil, aparatele de aer conditionat.

Pentru accesul dispozitivului USB, operatiile de inclocuire, intretinere trebuie sa fie executate de personal calificat.

### **Memoria unghiului deflectorului (unele unitati)**

Cand este pornita unitatea, deflectorul va reveni automat la unghiul anterior.

### **Funcția de curatare Clean activa:**

- Tehnologia de Curatare Activa indeparteaza praful ce ar putea adera pe suprafata schimbatorului de caldura prin inghetarea automata si prin indepartarea ulterioara rapida a inghetului. Se va auzi un sunet "pi-pi". Functionarea Active Clean este utilizata pentru a produce mai multa apa condensata imbunatatind efectul de curatare, iar aerul rece va fi suflat spre exterior. Dupa curatare, aerul cald uscat suflat va curata vaporizatorul, astfel incat sa fie mentinuta partea interioara curata.
- Cand aceasta functie este activata, pe display-ul unitatii interne se afiseaza "CL", dupa 20 pana la 45 sau 130 de minute, unitatea se va opri automat si va anula functia CLEAN.
- Pentru unele unitati, sistemul va incepe procesul de curatare la temperatura inalta, iar temperatura de refulare este foarte mare. Acest aspect va conduce la cresterea temperaturii camerei.

### **Funcția de Protectie aer rece**

Această caracteristică evită suflarea directă a fluxului de aer catre utilizator și te face să te simți răsfățat invaluit într-o răcoare fina.

### **Detectarea pierderilor de agent frigorific (unele unitati)**

Unitatea interna va afisa automat "ELOC" sau clipeste LEDS (in functie de model) cand detecteaza o pierdere de agent frigorific.

### **Funcția somn – Sleep**

**Funcția somn – Sleep** este utilizata pentru a reduce energia utilizata in timpul somnului (nemaifiind necesara aceeași temperatura setata pentru a obtine confortul). Aceasta functie poate fi activata

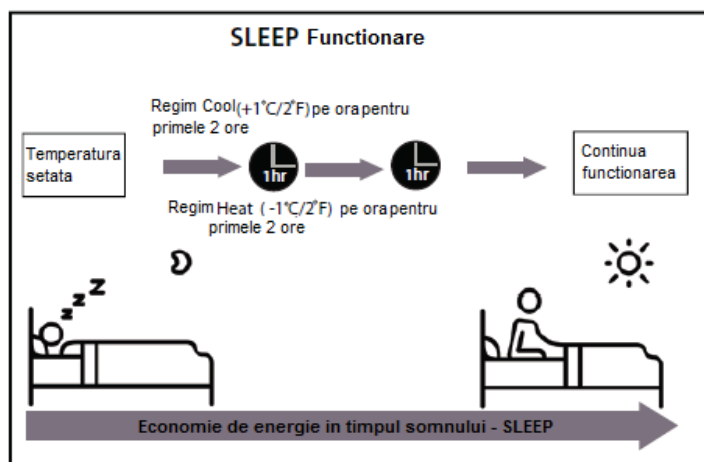


numai prin telecomanda.

Functia somn – Sleep nu este disponibila in regimurile de functionare ventilatie FAN si dezumidificare DRY.

Apasati butonul **SLEEP** cand sunteti gata sa va culcati. Cand se afla in regim COOL, unitatea va creste temperatura cu 1°C (2°F) dupa 1 ora, si vei scadea cu inca 1°C (2°F) dupa inca 1 ora.

Functia de somn – SLEEP se va opri dupa 8 ore si sistemul va continua sa functioneze pana la situatia finala.



#### NOTA:

Pentru aparatele de aer conditionat multi-split, nu sunt disponibile urmatoarele functii:

**Functia de curatare Clean activa, Functia silentioasa, Functia de Protectie aer rece, Functia de Protectie aer rece si parametru Eco.**

#### Setarea unghiului jetului de aer

##### Setarea unghiului vertical al debitului de aer

In timp ce unitatea este pornita, utilizati butonul **SWING /DIRECT** pentru a seta unghiul vertical) al jetului de aer.

#### NOTA REFERITOARE LA UNGHIURILE DEFLECTORULUI

Cand se utilizeaza regimul de racire sau dezumidificare, COOL/RACIRE sau DRY/USCARE, nu setati deflectorul la unghi prea vertical pentru perioade mai lungi de timp. Daca acesta are un unghi prea vertical, apa ar putea condensa pe deflector astfel incat picaturile sa curga pe pardoseala sau mobilier.

Cand se utilizeaza regimul de racire sau incalzire, modul COOL/RACIRE sau HEAT/INCALZIRE, setarea unghiului deflectorului prea vertical poate reduce performanta unitatii din cauza jetului de aer restrictionat.

NOTA: Conform standardelor aferente, va rugam sa setati fluxul de aer vertical al deflectorului la unghiul sau maxim in timpul testului capacitatii de incalzire.

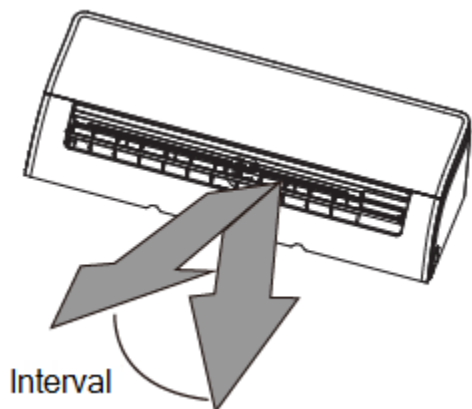
#### Setarea unghiului orizontal pentru jetul de aer

Unghiul orizontal al jetului de aer trebuie sa fie setat manual. Fixati tija deflectorului (Consultati



**Fig.B)** si ajustati-o manual pentru directia preferata.

**Pentru unele unitati**, unghiul orizontal al fluxului de aer poate fi setat prin intermediul telecomenzii. Va rugam sa consultati Manualul Telecomenzii.



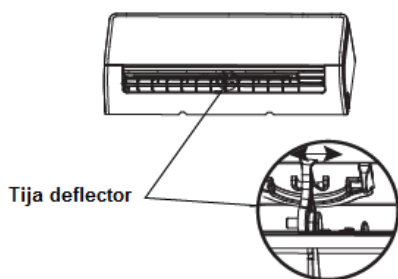
NOTA: Nu deplasati manual deflectorul. Astfel ar putea sa iasa din lacas. Daca se intampla acest lucru, opriti unitatea si decuplati-o timp de cateva secunde, apoi reporniti unitatea. Astfel se va reseta deflectorul.

**Fig. A**



#### **PRECAUTIE**

Nu introduceti degetele in sau langa ventilator si partea de aspiratie a unitatii. Ventilatorul de viteza inalta din interiorul unitatii poate provoca ranirea.



**Fig. B**

#### **Functionarea manuala (fara telecomanda)**



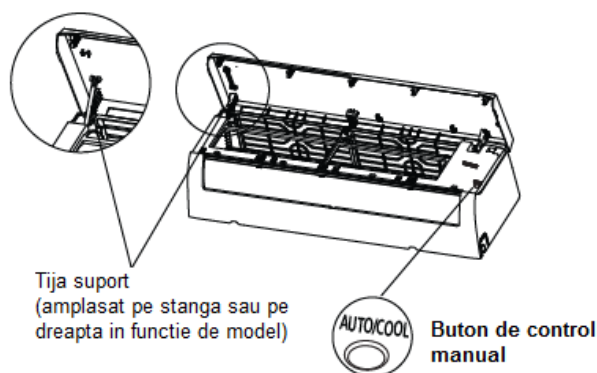
#### **PRECAUTIE**

Butonul manual este conceput numai pentru testare si functionare in regim de urgenta. Va rugam sa nu utilizati aceasta functie decat daca pierdeti telecomanda si acest lucru este neaparat necesar. Pentru a relua functionarea normala, utilizati telecomanda pentru a porni unitatea.

Pentru a porni unitatea manual:



1. Deschideti panoul frontal al unitatii de interior.
2. Amplasati **butonul MANUAL CONTROL** pe partea dreapta a panoului unitatii.
3. Apasati **butonul MANUAL CONTROL** o data pentru a activa regimul de functionarefortata FORCED AUTO.
4. Apasati din nou **butonul MANUAL CONTROL** pentru a activa regimul de functionare fortata FORCED COOLING.
5. Apasati **butonul MANUAL CONTROL** a treia oara pentru a opri unitatea.
6. Inchideti panoul frontal.



## Instructiuni de curatare si intretinere

### Curatarea unitatii interne

#### ! INAINTE DE INTRETINERE

**Porniti intotdeauna sistemul dumneavoastra de aer conditionat si decuplati de la alimentarea electrica inainte de curatare sau intretinere.**

#### ! PRECAUTIE

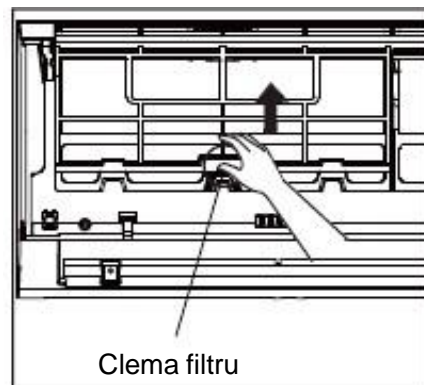
Poate fi folosita o carpa inmuata in apa calda pe unitatea interioara daca este foarte murdara. Apoi stergeti cu o carpa uscata.

- **Nu** folositi materiale tratate chimic sau aspiratoare de praf pentru a curata unitatea.
- **Nu** folositi benzina, diluant, pudra de lustruire sau solventi similari pentru curatare. Acestia pot constitui cauza pentru care suprafata de plastic ar putea sa se crape sau sa se deformeze.
- **Nu** folositi niciodata apa mai calda de 40°C/104°F pentru a curata panoul frontal, poate produce deformarea sau decolorarea lui.

### Curatarea filtrului de aer

Un filtru de aer infundat reduce eficienta de racire a acestei unitati si poate constitui un factor nociv pentru sanatate. Va rugam sa curatati filtrul o data la doua saptamani.

1. Ridicati panoul frontal al unitatii de interior.
2. Apucati manerul de la filtrul de aer si ridicati-l in sus usor pentru a-l scoate afara din suportul filtrului, apoi trageți-l in jos catre dumneavoastra.
3. Acum scoateti filtrul.





4. Dacă filtrul dumneavoastră are un filtru de aer proaspăt mic, ridicați panoul frontal al unității interne, demontați-l de pe suportul filtrului. Curățați acest filtru de aer proaspăt cu un aspirator manual.
5. Curățați filtrul cel mare de aer cu apă caldă și săpun. Asigurați-vă că utilizați un detergent slab.
6. Limpeziți filtrul cu apă curată, apoi eliminați excesul de apă.
7. Uscăți-l într-un loc rece și uscat și nu îl expuneți la soare.
8. Când este uscat, reasamblați filtrul de improspătare a aerului la filtrul mai mare, apoi glisați-l înapoi în unitatea de interior.
9. Închideți panoul frontal al unității de interior.



#### **PRECAUTIE**

Nu atingeți filtrul de aer proaspăt (Plasma) cel puțin 10 minute după ce se oprește unitatea.



#### **PRECAUTIE**

- Înainte de a schimba sau a curăța filtrul, opriți unitatea și decuplați alimentarea cu energie electrică.
- Când se îndepărtează filtrul, nu atingeți componentele metalice ale unității. Marginile metalice ascuțite vă pot tăia.
- Nu utilizați apă pentru a curăța partea interioară a unității interne. Astfel s-ar putea distruge izolația sau provoca electrocutarea.
- Nu expuneți filtrul direct la lumina soarelui când se usuca. Această acțiune ar putea micșora filtrul.

#### **Atentionare filtru de aer (Optional)**

##### **Atentionare curățare filtru de aer**

După 240 de ore de utilizare, pe fereastra de afișare a unității interne se va aprinde intermitent “CL.” Acesta constituie o atentionare pentru a curăța filtrul dumneavoastră. După 15 secunde, unitatea va reveni la afișajul anterior.

Pentru a reseta atentionarea, apăsați butonul **LED** de pe telecomandă dumneavoastră. de 4 ori, sau apăsați butonul **MANUAL CONTROL** de 3 ori. Dacă nu resetați atentionarea, indicatorul “CL” se va aprinde din nou intermitent când reporniți unitatea.



### Atentionare cu privire la inlocuire a filtrului de aer

Dupa 2.880 de ore de utilizare, pe fereastra de afisaj a unitatii interne se va aprinde intermitent “nF.” Aceasta constituie o atentionare pentru a inlocui filtrul dumneavoastra. Dupa 15 secunde, unitatea va reveni la afisajul anterior.

Pentru a reseta atentionarea, apasati butonul **LED** de pe telecomanda dumneavoastra. de 4 ori, sau apasati butonul **MANUAL CONTROL** de 3 ori. Daca nu resetati atentionarea, indicatorul “nF” se va aprinde din nou intermitent cand reporniti unitatea.

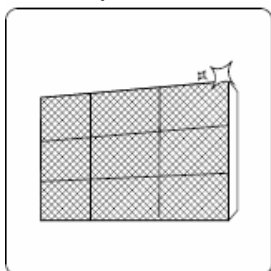


#### PRECAUTIE

- Orice operatiune de intretinere sau curatare asupra unitatii externe trebuie sa fie efectuata de un dealer autorizat sau un operator de service calificat.
- Orice reparatie trebuie sa fie efectuata de un dealer autorizat sau un operator de service calificat.

### Intretinere – Perioade lungi de neutilizare

Daca va propuneti sa nu folositi o perioada lunga de timp aparatul de aer conditionat, efectuati urmatoarele operatii:



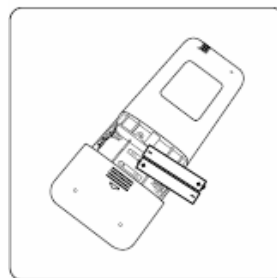
Curatati toate filtrele



Porniti ventilatorul FAN pana cand unitatea se usuca complet



Opriti echipamentul si decuplati alimentarea cu energie electrica



Scoateti bateriile din telecomanda

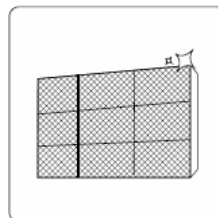
### Intretinere – inspectie inainte de sezonul de exploatare

Dupa perioade lungi de neutilizare, sau inainte de perioadele de utilizare, efectuati urmatoarele operatii:





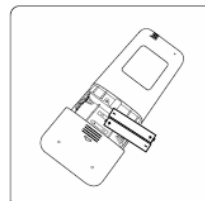
Verificati cablurile deteriorate



Curatati toate filtrele



Verificati pierderile



Inlocuiti bateriile



Asigurati-va ca nimic nu blocheaza admisia și refularea aerului

## Remedierea defectiunilor



### PRECAUTII DE SIGURANTA

Daca apare oricare din urmatoarele situatii, opriti imediat unitatea!

- Cablul de alimentare este deteriorate sau anormal de cald
- Simtiti un miros de ars
- Unitatea emite zgomote puternice sau anormale
- A sarit o siguranta fuzibila sau se declanseaza frecvent intrerupatorul.
- Apa sau alte obiecte cad inauntru sau in afara unitatii

**NU INCERCATI SA REPARATI ACESTE PROBLEME SINGUR! CONTACTATI IMEDIAT UN OPERATOR DE SERVICE AUTORIZAT!**

### Probleme uzuale

Urmatoarele probleme nu constituie defectiuni de functionare si in cea mai mare parte din situatii nu vor necesita reparatii.



Probleme	Cauze posibile
<b>Unitatea nu porneste cand se apasa butonul de ON/OFF</b>	Unitatea are un parametru de protectie timp de 3 minute care previne supraincercarea unitatii. Unitatea nu poate fi repornita in termen de trei minute de la oprirea acesteia.
<b>Aparatul de aer conditionat se schimba din modul racire/incalzire COOL/HEAT in modul FAN/VENTILATIE.</b>	Unitatea isi poate schimba setarile pentru a preveni formarea gheții pe unitate. Dupa ce crește temperatura, unitatea va incepe din nou funcționarea in regimul de lucru setat anterior.
	Temperatura setata a fost atinsa, moment in care unitatea opreste compresorul. Unitatea va continua functionarea cand temperatura fluctueaza din nou.
<b>Un abur alb iesind din unitatea interioara</b>	Un abur alb poate fi generat din cauza unei diferente mari de temperatura dintre admisia de aer si evacuarea de aer din aparatul de aer conditionat.
<b>Atat unitatea Interna cat si aceea externa emit un abur alb</b>	Un abur alb poate fi generat din cauza umiditatii generate de procesul de dezghetare cand aparatul de aer conditionat reporneste in actionarea modului INCALZIRE/HEAT dupa dezghetare.
<b>Zgomot in unitatea interna</b>	Se poate auzi un zgomot de aer cand deflectorul isi restabileste pozitia.
	Puteti auzi un zgomot ca de scartait dupa ce functioneaza unitatea in regim de incalzire HEAT datorita dilatarii si contractarii componentelor din plastic ale unitatii.
<b>Atat unitatea interna cat si cea externa emit niste zgomote</b>	Puteti auzi un sunet de pocnitura in timpul functionarii: Acest sunet este normal si reprezinta sunetul fluxului de agent frigorific circuland atat prin unitatea interna cat si externa.
	Puteti auzi un sunet de pocnitura redus cand sistemul porneste, tocmai s-a oprit sau este in regim de dezghet : Acest sunet este normal si reprezinta sunetul fluxului de agent frigorific oprindu-se sau schimbandu-si directia.
	Sunet de scartait : Acesta este cauzat de dilatarea datorata caldurii sau contractia la racire a componentelor din material plastic sau metalic din unitate, cand temperatura se schimba.
<b>Unitatea externa emite zgomote</b>	Echipamentul va emite zgomote diferite in funcție de regimul sau curentul de functionare.
<b>Atat unitatea interna cat si cea externa degaja praf</b>	In echipament se poate acumula praf pe parcursul unor perioade prelungite de neutilizare, praf care va fi degajat cand unitatea este pornita. Acest efect neplacut poate fi redus prin acoperirea unitatii in timpul unor perioade mai lungi de inactivitate.
<b>Unitatea emana un miros neplacut</b>	Unitatea poate absorbi mirosurile din mediul inconjurator (cum ar fi mobilierul, gatitul, tigarile etc.) care vor fi emise in timpul operatiunilor. Filtrele aparatului au devenit mucegaite si trebuie curatate.



Probleme	Cauze posibile
Ventilatorul unitatii de exterior nu functioneaza	In timpul functionarii, viteza ventilatorului este controlata pentru a optimiza functionarea produsului.
Functionarea este neregulata, imprevizibila sau unitatea nu raspunde	Interferentele de la turnurile de telefoane mobile si de amplificatoare de la distanta pot provoca defectiuni ale unitatii. In acest caz, incercati urmatoarele: <ul style="list-style-type: none"> <li>• Decuplati alimentarea, apoi reconectati.</li> <li>• Apasati butonul ON / OFF de pe telecomanda pentru a reporni functionarea.</li> </ul>

**NOTA:** Daca problema persista, contactati dealerul local sau cel mai apropiat centru de service. Furnizati-le o descriere cat mai detaliata a defectiunii de functionare precum si seria modelului dumneavoastra.

## Remedierea defectiunilor

Cand apar defectiuni de functionare, va rugam sa verificati urmatoarele puncte inainte de a contacta un service specializat in reparatii.

Defectiuni	Cauze	Remedii
<b>Performanta de racire redusa</b>	Temperatura setata s-ar putea sa fie mai mare decat temperatura ambianta	Reduceti temperatura setata
	Schimbatorul de caldura al unitatii interne si externe este murdar	Curatati schimbatorul de caldura afectat
	Filtrul de aer este murdar	Scoateti filtrul de aer si curatati-l conform instructiunilor
	Admisia si refularea aerului sunt blocate	Opriti unitatea, indepartati
	Admisia sau refularea aerului este blocata	Opriti unitatea, indepartati obstacolul si reporniti-l
	Usile si ferestrele sunt deschise	Asigurati-va ca toate usile si ferestrele sunt inchise in timp ce unitatea functioneaza
	Caldura excesiva este generata de razele soare	Inchideti ferestrele si perdelele in timpul perioadelor de incalzire puternica sau soare puternic
	Prea multe surse de caldura in camera (persoane, computere, aparate electronice, etc.)	Reduceti numarul de surse de caldura
	Cantitate redusa de agent frigorific datorita pierderilor sau utilizarii pe termen lung	Verificati pierderile, refaceti etansarea si reincarcati sistemul cu agent frigorific.




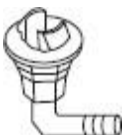







Defectiuni	Cauze	Remedii
<b>Performanta deracire redusa</b>	Este activate functia SILENCE/FUNCTIONARE SILENTIOASA	Functia SILENCE/FUNCTIONARE SILENTIOASA poate reduce performante produsului prin reducerea frecventei de functionare. Opriti functia SILENCE/FUNCTIONARE SILENTIOASA.
<b>Unitatea nu porneste</b>	Alimentarea cu tensiune intrerupta	Asteptati restabilirea alimentarii cu tensiune
	Alimentarea cu tensiune este oprita	Porniti alimentarea cu tensiune
	Siguranta poate fi arsa	Inlocuiti siguranta
	Bateriile din telecomanda pot fi consumate	Inlocuiti bateria
	Protectia de 3 minute a compresorului a fost activata	Asteptati trei minute dupa repornirea unitatii
	Timerul este activat	Timerul este deazactivat
<b>Unitatea porneste si se opreste in mod frecvent</b>	Exista prea mult sau prea putin agent frigorific in sistem	Verificati pierderile si reincarcati sistemul cu agent frigorific.
	In sistem au patruns gaze ne comprimabile sau umiditate.	Evacuati si reincarcati sistemul cu agent frigorific
	Compresorul este defect	Inlocuiti compresorul
	Tensiunea este prea inalta sau prea redusa	Instalati un aparat de reglare a tensiunii
<b>Performanta de incalzire redusa</b>	Temperatura externa este mai mica de 7°C (44.5°F)	Utilizati un incalzitor auxiliar
	Aerul rece intra prin usi si ferestre	Asigurati-va ca toate usile si ferestrele sunt inchise in timpul utilizarii
	Cantitate mica de agent frigorific datorita pierderilor sau utilizarii pe termen lung	Verificati pierderile, reetansati daca este necesar si completati cu agent frigorific
<b>Lampile indicatoare continua sa clipeasca</b>	<p>Unitatea poate opri functionarea sau poate continua sa functioneze in siguranta. Daca lampile indicatoare continua sa clipeasca sau apar coduri de eroare, asteptati aproximativ 10 minute. Problema se poate rezolva singura.</p> <p>Daca nu, deconectati alimentarea, apoi conectati-o din nou. Porniti unitatea. Daca problema persista, deconectati alimentarea si contactati cel mai apropiat centru de service pentru clienti.</p>	
<p>Codul de eroare apare si incepe sa clipeasca pe ecranul de afisaj al unitatii interne:</p> <ul style="list-style-type: none"> <li>• E(x), P(x), F(x)</li> <li>• EH(xx), EL(xx), EC(xx)</li> <li>• PH(xx), PL(xx), PC(xx)</li> </ul>		

**NOTA:** Daca problema dumneavoastra persista dupa efectuarea verificarilor si a diagnosticarilor de mai sus, opriti unitatea imediat si contactati un centru de service autorizat.







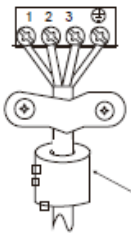

## Accesorii

Sistemul de aer conditionat este livrat impreuna cu urmatoarele accesorii. Utilizati toate componentele instalatiei si accesoriile pentru a instala aparatul de aer conditionat. Instalarea incorecta poate genera pierderi de apa, socuri electrice si foc, sau cauza caderea echipamentului.

Nume	Forma	Cantitate
Manualul de utilizare		2-3
Nume	Forma	Cantitate
Racord la scurgere(modele numai pentru racire si pentru incalzire)		1
Garnitura de etansare (modele numai pentru racire si pentru incalzire)		1
Sablon de montaj		1
Diblu de fixare		5-8 (in functie de model)
Suruburi de fixare a sablonului de montaj		5-8 (in functie de model)
Telecomanda		1
Baterii uscate AAA.LR03		2
Suport telecomanda		1

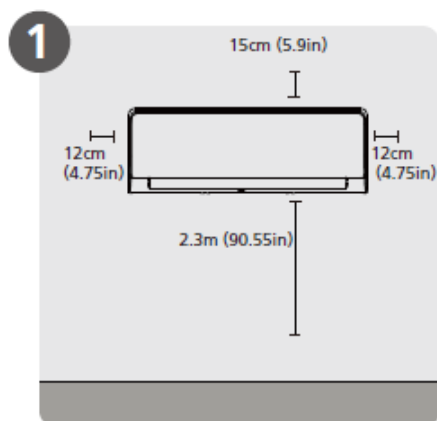


Suruburi de fixare pentru suportul telecomenzii ST2.9 x 10		2
<b>Filtru mic</b> (trebuie instalat pe spatele filtrului principal de aer de catre un operator de service autorizat in momentul instalarii echipamentului)		1-2 (in functie de model)

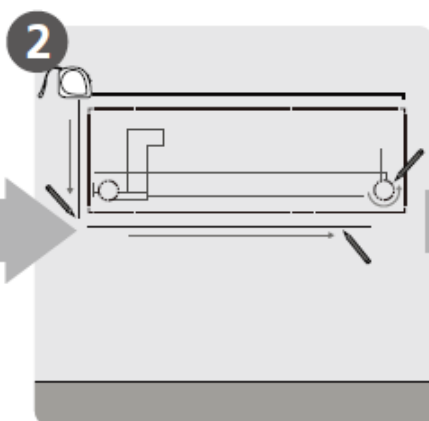
Nume	Forma		Cantitate
Suruburi de fixare pentru suportul telecomenzii ST2.9 x 10			2
<b>Filtru mic</b> (trebuie instalat pe spatele filtrului principal de aer de catre un operator de service autorizat in momentul instalarii echipamentului)			1-2 (in functie de model)
Subansamblul de racordare al tevii	Partea de lichid	Ø 6,35 (1/4 in)	Componentele pe care trebuie sa le achizitionati. Consultati dealerul referitor la dimensiunea tevii.
		Ø 9,52 (3/8 in)	
	Partea de gaz	Ø 9,52 (3/8 in)	
		Ø 12,7 (1/2 in)	
		Ø 16 (5/8 in)	
		Ø 19 (3/4 in)	
<b>Manson magnetic si curea</b> (daca sunt furnizate, va rugam sa consultati schema conexiunilor electrice pentru a-l instala pe un cablu de conexiune)	  <p>Treceti cureaua prin orificiul mansonului Magnetic pentru a fixa cablul</p>		In functie de model



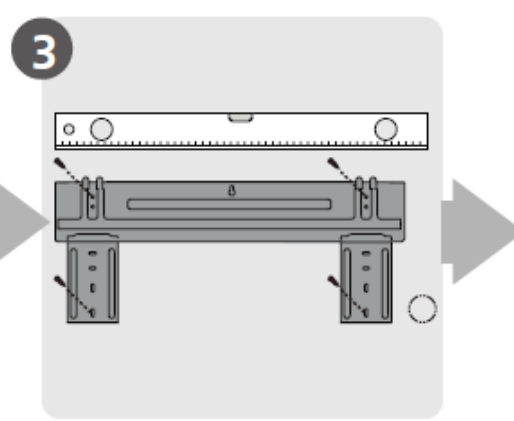
## Cuprins Instalare - Unitate interna



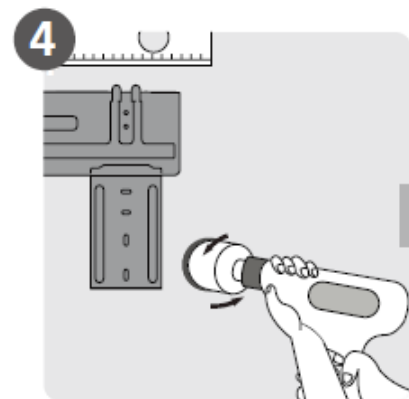
1 Selectati locul de instalare



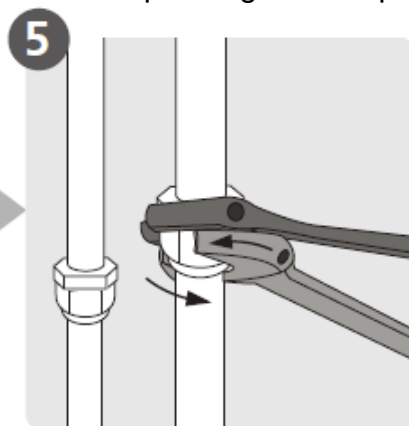
2 Determinati pozitia gaurilor in perete



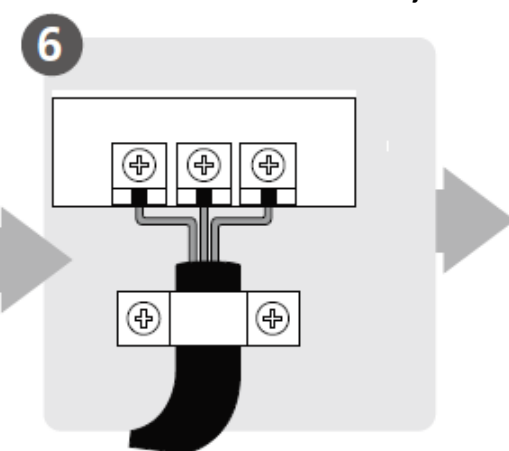
3 Fixati sablonul de montaj



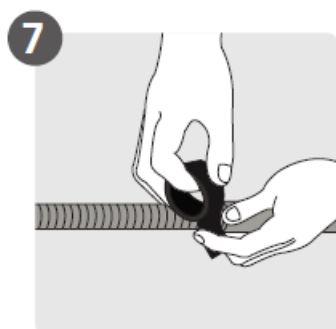
4 Executati o gaura in perete



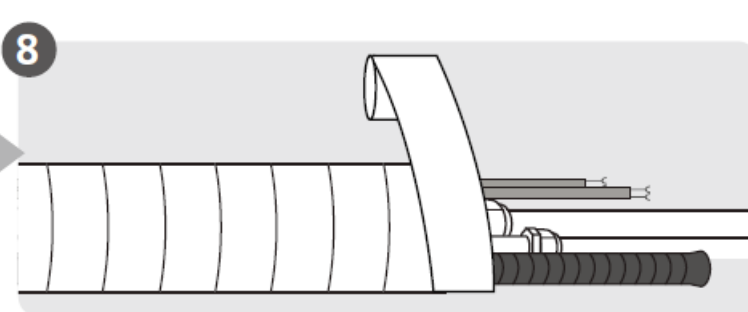
5 Racordati teava



6 Conectati cablurile (nu se aplica pentru unele locatii din America de Nord)



7 Pregatiti furtunul de golire



8 Infasurati tevile si cablurile

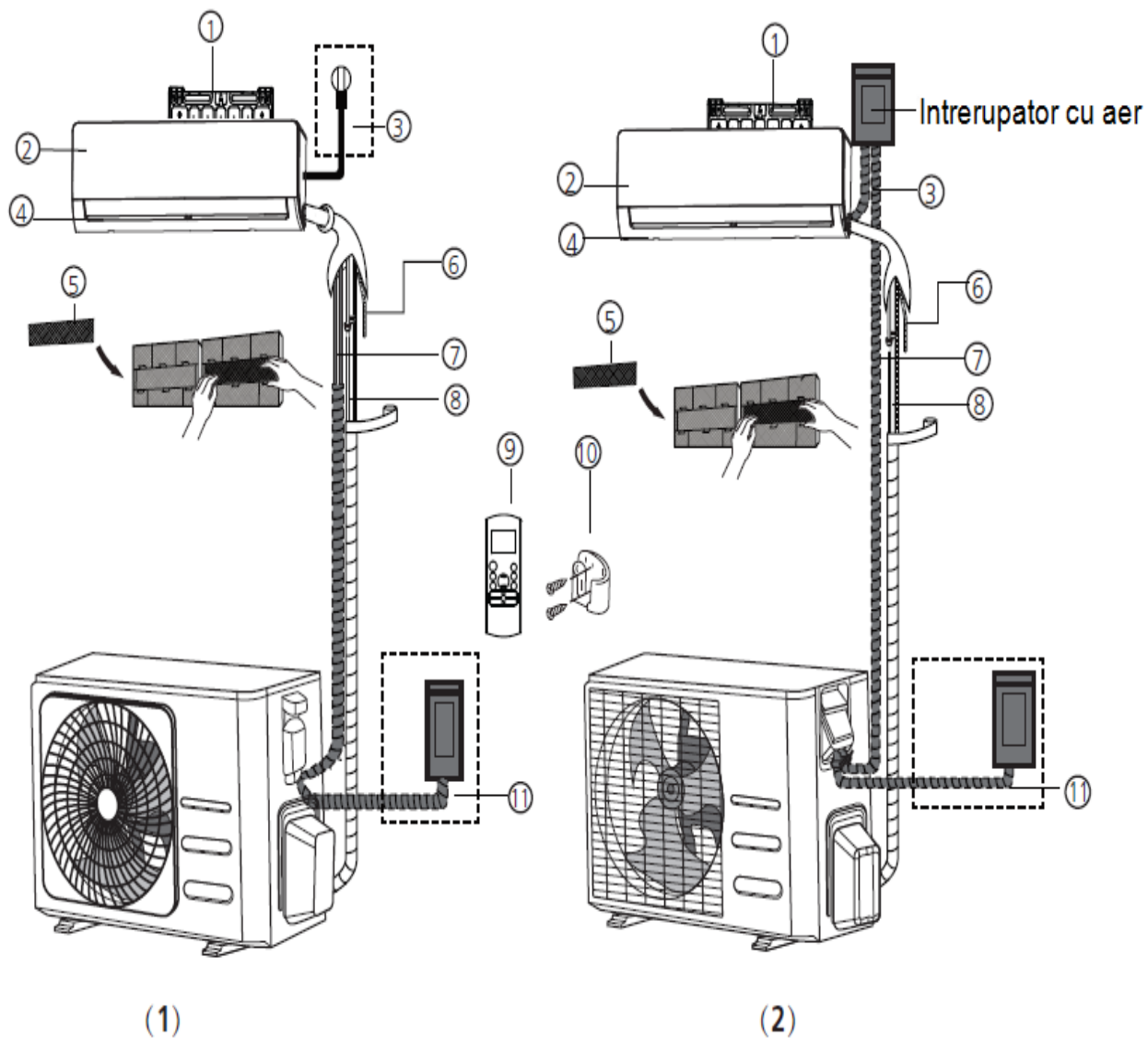


9 Montati unitatea interna



### 3 Componentele unitatii

**NOTA:** Instalarea trebuie efectuata in conformitate cu cerintele standardelor locale si nationale. Instalarea poate fi usor diferita in diferite zone.



1. Sablon de montaj
2. Panou frontal
3. Cablu de alimentare (unele unitati)
4. Deflector

5. Filtru functional (in partea din fata a filtrului principal)
6. Racord de golire
7. Cablu de semnal
8. Tevi de agent frigorific

9. Telecomanda
10. Suport telecomanda (unele unitati)
11. Cablu de alimentare unitate exterioara (unele unitati)



## NOTE REFERITOARE LA ILUSTRATII

Toate ilustratiile si specificatiile din prezentul manual sunt in scopuri explicative. Forma actuala a unitatii interne poate fi usor diferita. Forma actuala prevaleaza.

### Instalarea unitatii interne

#### Instructiuni de instalare – Unitate interna

#### INAINTE DE INSTALARE

Inainte de instalarea unitatii interne, consultati eticheta de pe cutia produsului pentru a va asigura ca seria modelului unitatii interne se potriveste cu seria modelului unitatii externe.

#### Pasul 1: Alegerea pozitiei de instalare

Inainte de instalarea unitatii interne, trebuie sa alegeti locul de instalare adecvat pentru unitate. Urmatoarele standarde va sunt utile pentru alegerea locului de amplasare al unitatii.

#### Locurile de amplasare adecvate indeplinesc urmatoarele standarde:

- ✓ Circulatie buna a aerului
- ✓ Golire convenabila
- ✓ Zgomotul de la unitate nu va deranja alte persoane
- ✓ Fix si solid — locul nu va vibra
- ✓ Suficient de rezistent pentru a sustine masa unitatii
- ✓ Amplasare la cel putin un metru fata de toate celelalte aparate electrice (de exemplu, TV, radio, computer)

#### **NU** instalati unitatea in urmatoarele locuri:

- Langa orice sursa de caldura, aburi sau gaze inflamabile
- Langa orice articol inflamabil cum ar fi perdele sau imbracaminte
- Langa orice obstacol care ar putea dauna circulatiei aerului
- In vecinatatea cadrului usii
- Intr-un loc expus la razele soarelui

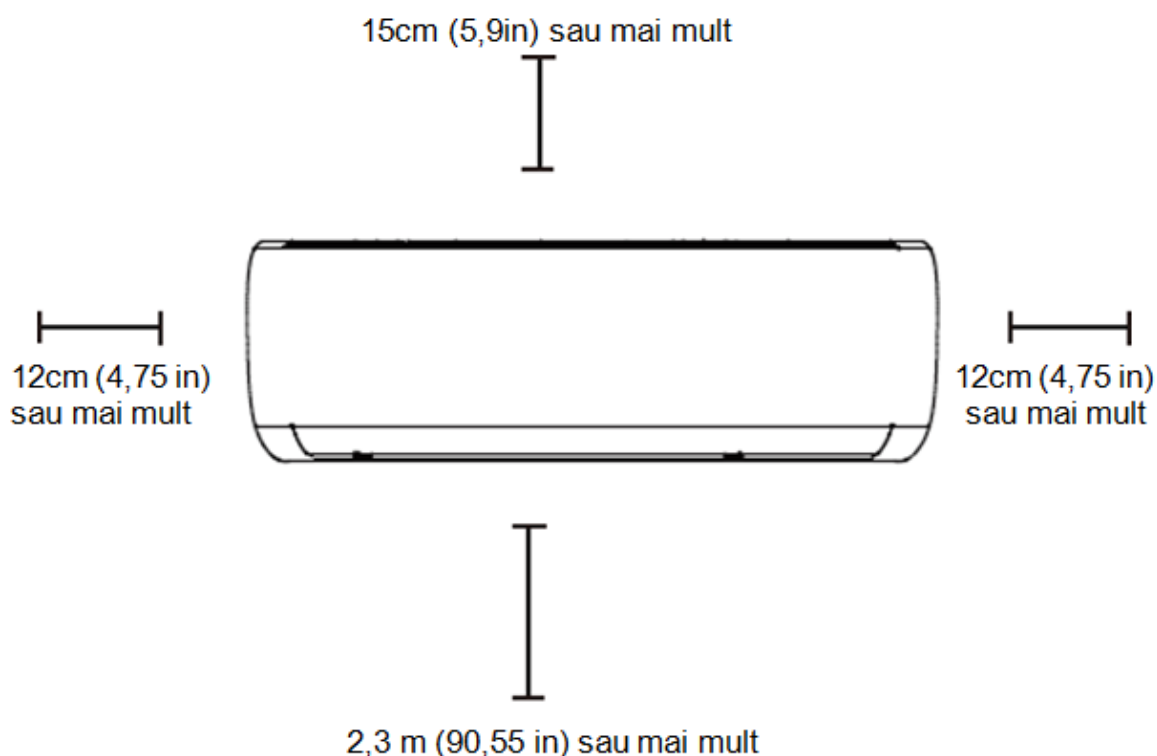
## NOTE REFERITOARE LA GAURA DIN PERETE:

Daca nu exista tevi fixe de agent frigorific:

Atunci cand alegeti locul de instalare, asigurati-va ca ati lasat spatiu suficient pentru a executa gaura in perete (consultati capitolul **Executarea unei gauri in perete pentru pasul referitor la tevil de legatura**) pentru cablul de semnal si tevil de agent frigorific care conecteaza unitatile interne de cele externe. Pozitia standard pentru toate tevil este in partea dreapta a unitatii interne (stand cu fata la unitate). Totusi, la unitate se pot amplasa tevi atat pe partea stanga cat si pe partea dreapta.

#### Consultati urmatoarea diagrama pentru a asigura distanta fata de pereti si tavan:

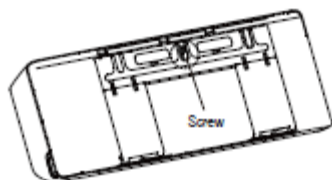




## Pasul 2: Fixarea sablonului de montaj pe perete

Sablonul de montaj este un dispozitiv pe care veti monta unitatea interna.

- Indepartati suruburile care fixeaza sablonul de montaj pe unitatea interna.



- Fixati sablonul de montaj pe perete cu suruburile furnizate. Asigurati-va ca sablonul de montaj este fixat plan pe perete.

## NOTA REFERITOARE LA PERETII DIN CARAMIDA:

Daca peretele este din caramida, beton sau materiale de acest tip, executati gauri cu diametrul de 5 mm in perete. Introduceti diblurile pentru montajul corespunzator. Fixati apoi sablonul de instalare pe perete cu suruburile de fixare direct in dibluri.

## Pasul 3: Efectuati gauri in perete pentru tevine de legatura

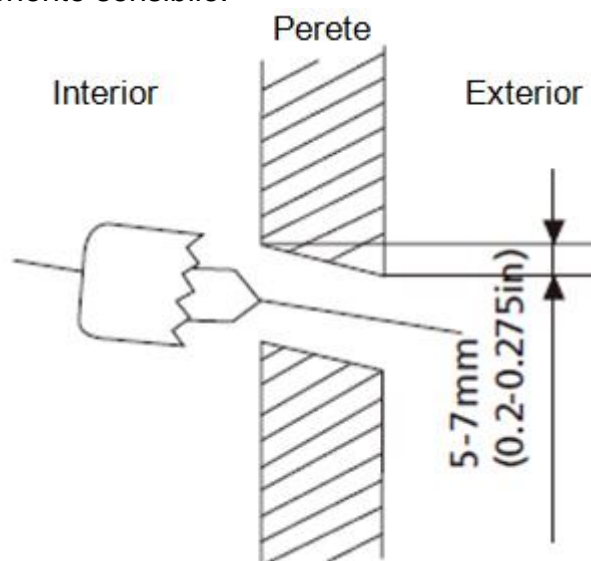
1. Determinati amplasarea gaurii pe perete tinand cont de pozitia sablonului de montaj. Pentru a determina pozitia optima, consultati **Dimensiunile sablonului de montaj**. Dimensiunea gaurii din perete trebuie sa aiba un diametru de cel putin 65 mm si un unghi putin mai redus pentru a facilita golirea.
2. Efectuati gaura in perete utilizand un burghiu de 65 mm. Asigurati-va ca gaura este executata cu o usoara panta descendenta, astfel incat extremitatea exterioara a gaurii sa fie mai jos decat extremitatea interioara cu aproximativ 5mm pana la 7mm . Astfel se asigura o drenare adecvata.
3. Amplasati mansonul de protectie la perete in gaura. Acesta protejeaza marginile gaurii si va facilita etansarea cand se incheie procesul de instalare





### PRECAUTIE

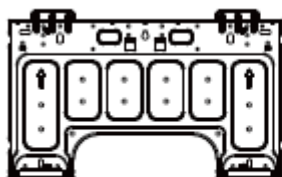
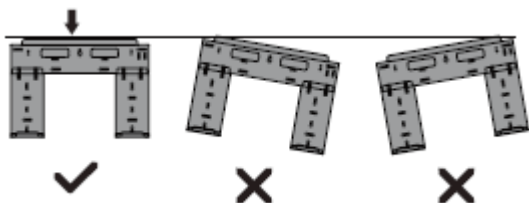
Cand se executa o gaura in perete, asigurati-va ca se evita atingerea cablurilor, tevilor si a altor componente sensibile.



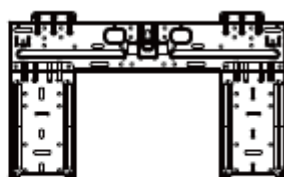
### DIMENSIUNI SABLON DE MONTAJ

Pentru a va sigura ca aveti spatiu suficient pentru a monta unitatea interna, diagramele din dreapta indica diversele tipuri sabloane de montaj impreuna cu urmatoarele dimensiuni:

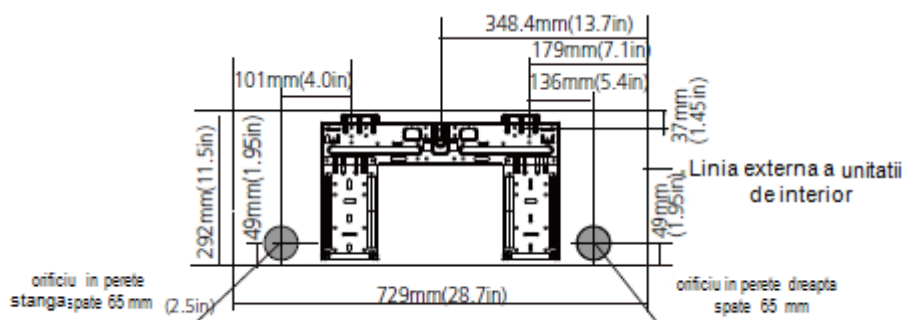
#### Orientarea corecta a sablonului de instalare



Tip A

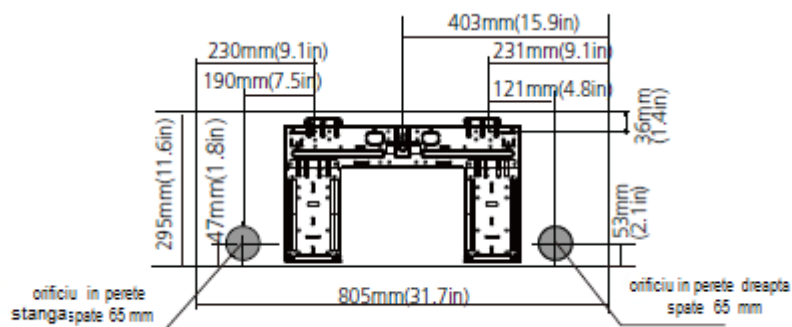


Tip B

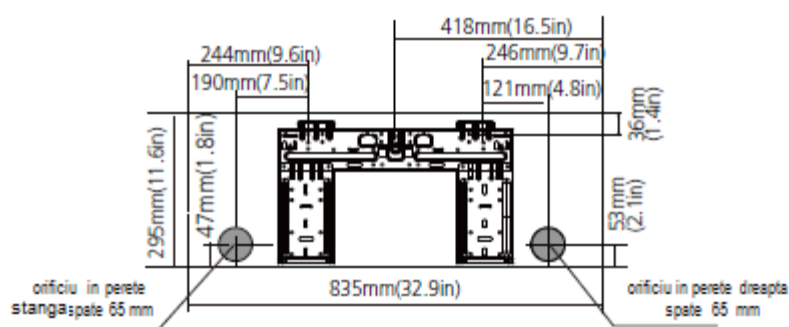


Model A

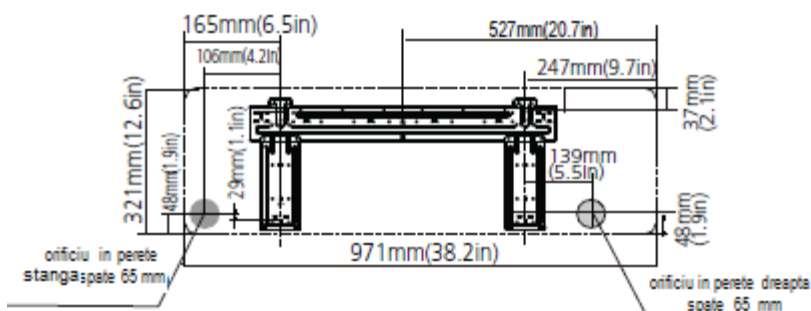




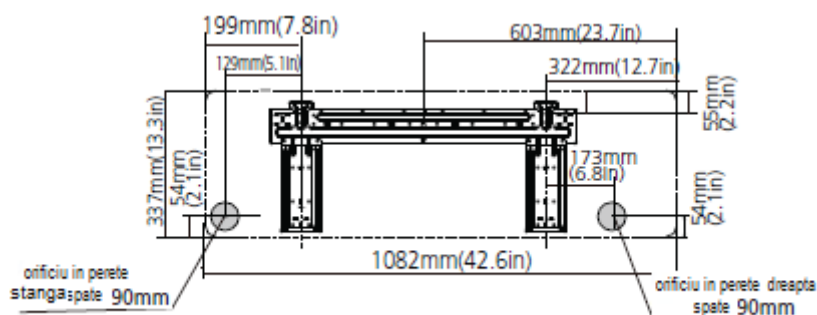
**Model B**



**Model C**

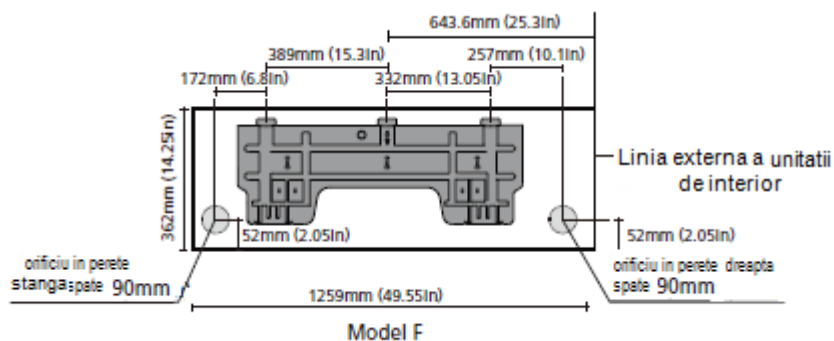


**Model D**



**Model E**



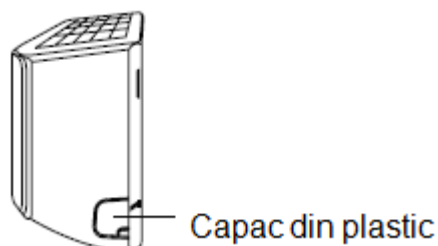


**NOTA:** Atunci cand conducta de legatura cu gaz este de Ø16 mm (5/8in) sau mai mult, gaura de perete trebuie sa fie de 90mm (3,54in)

#### Pasul 4: Pregatiti tevile de agent frigorific

Tevile de agent frigorific se afla in interiorul unui manson de izolare fixat pe spatele unitatii. Trebuie sa pregatiti tevile inainte de a trece prin orificiul din perete.

1. In functie de pozitia gaurilor din perete aferente sablonului de montaj, alegeti partea din care vor iesi tevile din unitate.
2. Daca gaura din perete este in spatele unitatii, mentineti la locul sau capacul. Daca gaura din perete este in lateralul unitatii interne, indepartati capacul de plastic din acea parte a unitatii. Utilizati un cleste cu cioc subtire daca este prea dificil de indepartat manual capacul de plastic.



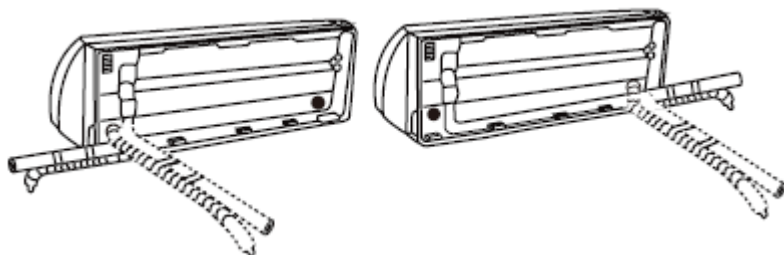
3. Daca tevile de legatura existente sunt deja ingropate in perete, procedati direct la pasul **Conectarea furtunului de golire**. Daca nu exista conducte ingropate, conectati tevile de agent frigorific ale unitatii la tevile de legatura care vor conecta unitatile interne de unitatile externe. Pentru instructiuni mai detaliate, consultati sectiunea **Conectarea tevilor de agent frigorific** din acest manual.

#### NOTE REFERITOARE LA UNGHIUL TEVILOR

Tevile de agent frigorific pot iesi din unitatea interna sub patru unghiuri diferite:

- Pe partea stanga
- Stanga spate
- Pe partea dreapta
- Dreapta spate





## PRECAUTIE

Fiti foarte atenti sa nu crestati sau deteriorati tevile in timpul infasurarii acestora in exteriorul unitatii. Orice crestatura la tevi va afecta performantele unitatii.

## Pasul 5: Conectarea furtunului de golire

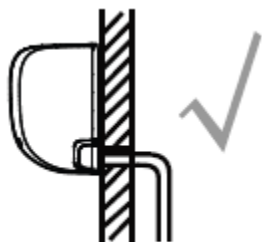
Din fabricatie, furtunul de golire este fixat pe partea stanga a unitatii (cand priviti spatele unitatii). Totusi, poate fi racordat de asemenea si la partea dreapta. Pentru a asigura golirea adecvata, fixati furtunul de golire pe aceeaasi parte cu tevile dumneavoastra de agent frigorific existente pe unitate. Fixati prelungitorul furtunului de golire (achizitionat separat) la capatul furtunului de golire.

- Infasurati punctul de conectare etans cu banda de Teflon pentru a asigura o etanseitate buna si a preveni aparitia pierderilor.
- Pentru portiunea de furtun de golire care va ramane in interior, infasurati-o cu izolatie din spuma astfel incat sa se previna aparitia condensului.
- Indepartati filtrul de aer si colectati o mica cantitate de apa in tavita de condens pentru a va asigura ca apa curge usor din unitate.



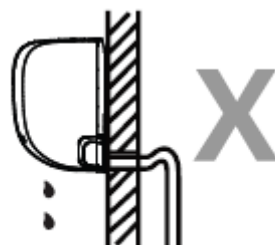
## NOTA REFERITOARE LA AMPLASAREA FURTUNULUI

Asigurati-va ca furtunul de golire conform figurilor.



**CORECT**

Asigurati-va ca nu exista incovoieri, zgarieturi sau gauri in furtunul de golire pentru a asigura golirea adecvata.



**INCORECT**

Punctele de indoire de pe furtunul de golire vor crea pungi de apa.





#### INCORECT

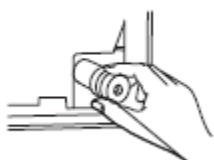
Punctele de indoire de pe furtunul de golire vor crea pungi de apa.



#### INCORECT

Nu amplasati capatul furtunului de golire in apa sau in containerele care colecteaza apa. Acesta impiedica golirea adecvata.

### ASTUPATI CU UN CAPAC ORIFICIUL DE DRENARE



Pentru a preveni pierderile nedorite trebuie sa astupati orificiile de golire cu capacul de cauciuc furnizat.



### INAINTE DE A EXECUTA CONEXIUNILE ELECTRICE, CITITI ACESTE REGLEMENTARI

1. Toate conexiunile trebuie sa fie in conformitate cu codurile locale si nationale si trebuie sa fie instalata de catre un electrician autorizat.
2. Toate conexiunile electrice trebuie efectuate conform Schemei Conexiunilor electrice amplasate pe panourile unitatilor interne si externe.
3. Daca exista o problema serioasa de siguranta legata de alimentarea electrica, intrerupeti imediat functionarea. Explicati clientului motivul acestei intreruperi si refuzati sa instalati unitatea pana cand nu s-a solutionat corespunzator motivul de siguranta.
4. Tensiunea de alimentare trebuie sa fie cuprinsa intre 90-100% din tensiunea nominala. O putere de alimentare insuficienta poate genera o defectiune de functionare, electrocutarea, sau un incendiu.
5. Daca se conecteaza alimentarea electrica prin cabluri fixe, instalati o protectie la supratensiune si un comutator pe reseaua principala de alimentare cu capacitatea de 1.5 ori mai mare decat curentul unitatii.
6. Daca se conecteaza alimentarea electrica prin cabluri fixe, trebuie inclus in cablajul fix un comutator sau un intrerupator care deconecteaza toti polii si are un contact de separare de cel putin 3mm.
7. Unitatea trebuie conectata numai la o ramificatie individuala de iesire a circuitului. Nu conectati alte echipamente la aceea iesire.
8. Asigurati-va ca ati impamantat corect aparatul de aer conditionat.
9. Fiecare cablu trebuie sa fie fixat ferm. Slabiti cablajul care poate provoca supraincalzirea terminalului, astfel incat sa se genereze defectarea produsului si un posibil incendiu.
10. Nu lasati cablurile sa atinga sau sa se aseze pe teava de agent frigorific, compresor sau multe componentele in miscare din cadrul unitatii.
11. Daca unitatea are un incalzitor electric auxiliar, acesta trebuie instalat la cel putin la 1 metru fata de orice material inflamabil.
12. Pentru a evita electrocutarea, nu atingeti niciodata componentele electrice imediat dupa ce alimentarea electrica a fost oprita. Dupa ce ati oprit, alimentarea electrica, asteptati timp de 10 minute sau mai multe inainte de a atinge componentele electrice.



## AVERTISMENT

INAINTE DE A EFECTUA ORICE CONEXIUNE ELECTRICA, INTRERUPETI ALIMENTAREA PRINCIPALA CU ENERGIE ELECTRICA A SISTEMULUI.

### Pasul 6: Conectati cablul de semnal

Cablul de semnal permite comunicarea dintre unitatile interne si externe. Trebuie mai intai sa alegeti dimensiunea corecta de cablu inainte de a-l pregati pentru conectare.

#### Tipuri de cabluri

- **Cabluri de alimentare pentru unitatile interne** (daca se aplica): H05VV-F sau H05V2V2-F
- **Cabluri de alimentare pentru unitatile externe:** H07RN-F
- **Cablu de semnal:** H07RN-F

#### Sectiunea minima a cablurilor de alimentare si de semnal.

Curent nominal al echipamentului (A)	Sectiunea nominala (mm <sup>2</sup> )
> 3 si ≤ 6	0,75
> 6 si ≤ 10	1
> 10 si ≤ 16	1,5
> 16 si ≤ 25	2,5
> 25 si ≤ 32	4
> 32 si ≤ 40	6

### ALEGETI DIMENSIUNEA CORECTA A CABLURILOR

Dimensiunea cablului de alimentare, cablului de semnal, sigurantei fuzibile, comutatorului necesar este determinata de curentul maxim al unitatii. Curentul maxim la unitatii este indicat in placuta de timbru amplasata pe lateralul panoului unitatii. Consultati placa de timbru pentru a alege cablul, siguranta fuzibila sau comutatorul adecvat.

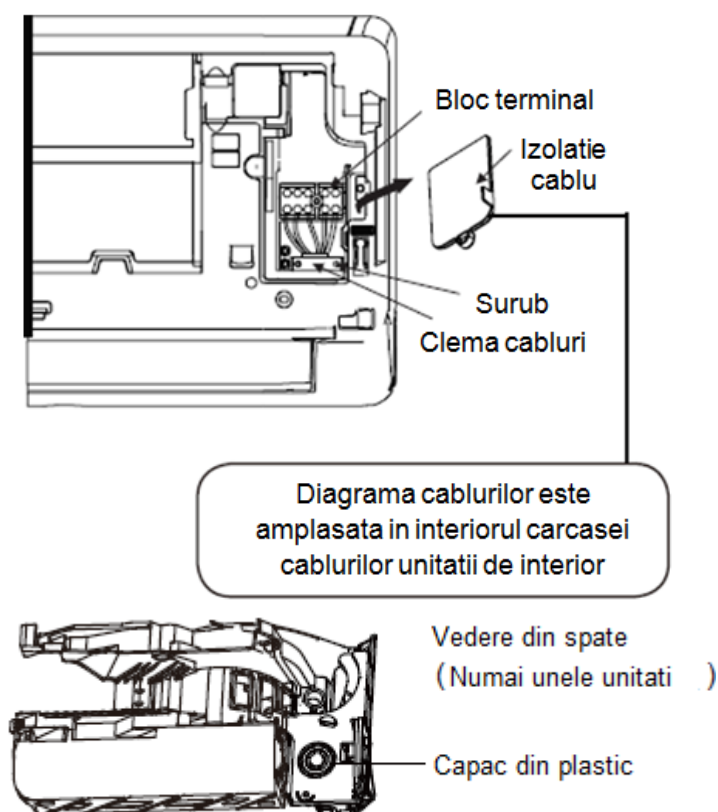


#### PRECAUTIE

**TOATE CONEXIUNILE TREBUIE EXECUTATE STRICT IN CONFORMITATE CU DIAGRAMA CONEXIUNILOR ELECTRICE AMPLASATA IN INTERIORUL CARCASEI CABLURILOR UNITATII INTERNE.**

1. Deschideti panoul frontal al unitatii interne
2. Utilizati o surubelnita, deschideti cutia de conexiuni pentru a conecta cablul.





#### NOTA:

- Pentru unitatile cu conducta de legatura pentru a conecta cablul, indepartati capacul mare din plastic pentru a crea o fanta prin care sa poata fi instalat canalul de cabluri.
- Pentru unitatile cu cabluri cu 5 fire, indepartati capacul mic din plastic median pentru a crea o fanta prin care sa poata iesi canalul de cabluri.
- pentru a crea o
- Utilizati un cleste cu cioc subtire daca este prea dificil de indepartat manual capacul de plastic.
- 3. Slabiti clema cablurilor de sub regleta amplasata in lateral.
- 4. Cu fata spre spatele unitatii, indepartati panoul din plastic din partea inferioara stanga.
- 5. Pozati cablul de semnal in acest canal, de la spatele unitatii catre partea sa frontala.
- 6. Cu fata spre unitatea frontala, potriviti culorile cablului cu etichetele de pe blocul terminal, conectati borna si fixati ferm suruburile pentru fiecare cablu la terminalul sau corespunzator.



#### PRECAUTIE

##### **NU AMESTECATI CABLURILE DE FAZA CU CELE DE NUL**

Acest lucru ar fi periculos si poate provoca defectiuni de functionare la aparatul de aer conditionat.

1. Dupa verificari, pentru a va asigura ca fiecare conexiunea este sigura, utilizati cleme de cabluri pentru a strange cablul de semnal pe unitate. Fixati etans prin insurubarea clema de cabluri.
2. Inlocuiti izolatiile cablurilor de pe partea frontala a unitatii si panoul din plastic din spate.



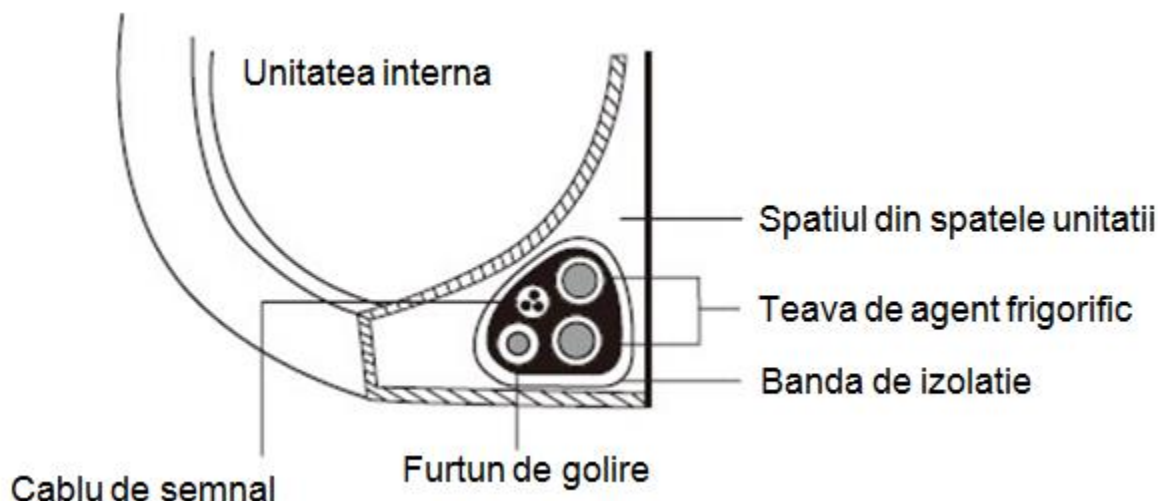
## **⚠ NOTE REFERITOARE LA CONEXIUNILE ELECTRICE**

**EXECUTIA CONEXIUNILOR ELECTRICE ESTE USOR DIFERITA DE LA O UNITATE LA ALTA.**

### **Pasul 7: Infasurati tevile si cablurile**

Înainte de a trece tevile, furtunul de golire și cablurile de semnal prin gaura din perete, trebuie să le legați împreună pentru a ocupa mai puțin spațiu, protejați-le și izolați-le.

Legati furtunul de golire, tevile de agent frigorific și cablurile de semnal conform indicațiilor de mai jos.



### **FURTUNUL DE GOLIRE TREBUIE SA FIE IN PARTEA INFERIOARA**

Asigurați-vă că furtunul de golire este amplasat cel mai jos în legatură. Amplasarea acestuia în partea superioară poate genera refularea apei din tavita de condens în unitate care provoacă incendiu sau deteriorări datorate apei.

### **NU PERMITETI INTERFERAREA CABLULUI DE SEMNAL CU ALTE CABLURI**

În timpul legării cablurilor, nu interferați sau intersectați cablul de semnal cu orice alt cablu.

Utilizând banda adezivă de vinil, fixați furtunul de golire sub tevile de agent frigorific. Utilizând banda de izolație, infasurați împreună cablul de semnal, tevile de agent frigorific și furtunele de golire etans. Verificați ca toate articolele sunt legate

### **NU INFASURATI CAPETELE TEVILOR**

Când infasurați legatură, mențineți capetele tevilor neinfasurate. Trebuie să aveți acces la acestea pentru a efectua testele de etanșeitate la pierderi după ce se încheie procesul de execuție al instalației. (consultați secțiunea **Verificări electrice și teste de etanșeitate** din acest manual)

### **Pasul 8: Montarea unitatii interne**

**Dacă instalați noi tevi de legatură la unitatea externă,** trebuie să efectuați următoarele operațiuni:

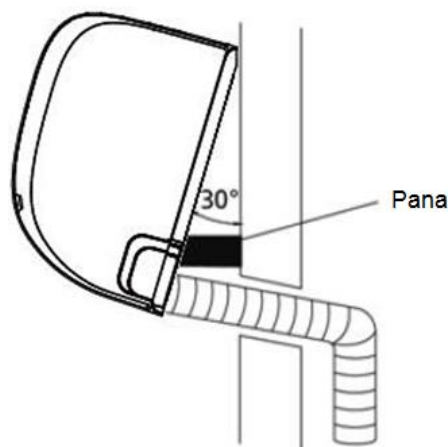
1. Dacă ați trecut deja tevile de agent frigorific prin gaura din perete, treceți la pasul 4.
2. În caz contrar, verificați faptul că capetele tevilor de agent frigorific sunt etansate pentru a preveni patrunderea murdariei sau impuritatilor în tevi.



3. Treceti incet legatura infasurata a tevilor de agent frigorific, furtune de golire si cabluri de semnal prin gaura din perete.
4. Agatati partea superioara a unitatii interne in carligul superior al sablonului de montaj.
5. Verificati faptul ca unitatea este fixata ferm pe sablonul de montaj prin apasarea usoara in partea stanga si in partea dreapta a unitatii. Unitatea nu trebuie sa se legeze sau sa se deplaseze.
6. Printr-o apasare uniforma, apasati in jumatatea inferioara a unitatii. Continuati sa apasati pana cand unitatea intra in carligele care se afla de-a lungul sablonului de montaj.
7. Din nou, verificati ca unitatea este fixata adecvat prin apasarea usoara la stanga si la dreapta unitatii.

**Daca tevile de agent frigorific sunt deja ingropate in perete,** procedati astfel:

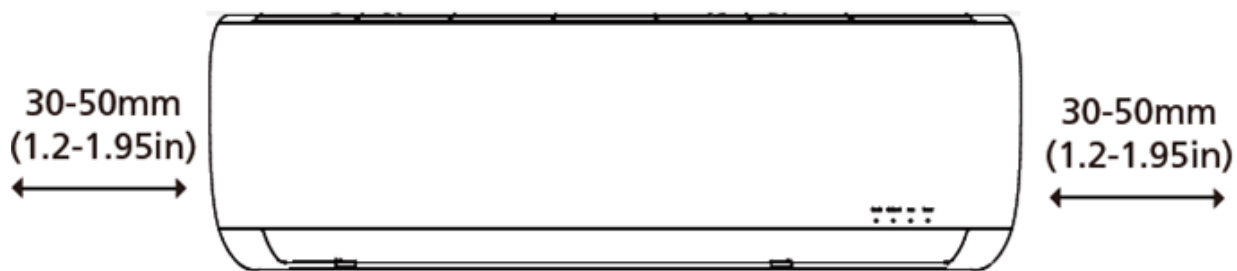
1. Agatati partea superioara a unitatii interne in carligul superior al sablonului de montaj.
2. Utilizati un suport sau o pana pentru a sustine unitatea, oferindu-va suficient spatiu pentru a conecta tevile de agent frigorific, cablul de semnal si furtunul de golire. Consultati **Fig. 3.11** pentru un exemplu.
3. Conectati furtunul de golire si tevile de agent frigorific (consultati sectiunea **Conectarea tevilor de agent frigorific** din acest manual pentru instructiuni).
4. Mentineti punctul de racordare a teyii expus pentru a efectua testul de scurgere (consultati sectiunea **Verificari electrice si Verificari de scurgere** din acest manual)
5. Dupa testul de scurgere, infasurati punctul de racordare cu banda izolatoare.
6. Scoateti consola sau pana care sustin unitatea.
7. Printr-o apasare uniforma, apasati in jumatatea inferioara a unitatii. Continuati sa apasati pana cand unitatea intra in carligele care se afla de-a lungul sablonului de montaj



## UNITATEA ESTE REGLABILA

Carligele de pe sablonul de montaj sunt mai mici decat gaurile de pe partea din spate a unitatii. Daca observati ca nu aveti suficient spatiu pentru conectarea tevilor incorporate la unitatea interioara, unitatea poate fi ajustata la stanga sau la dreapta cu aproximativ 30- 50mm (1,25-1,95in), in functie de model.

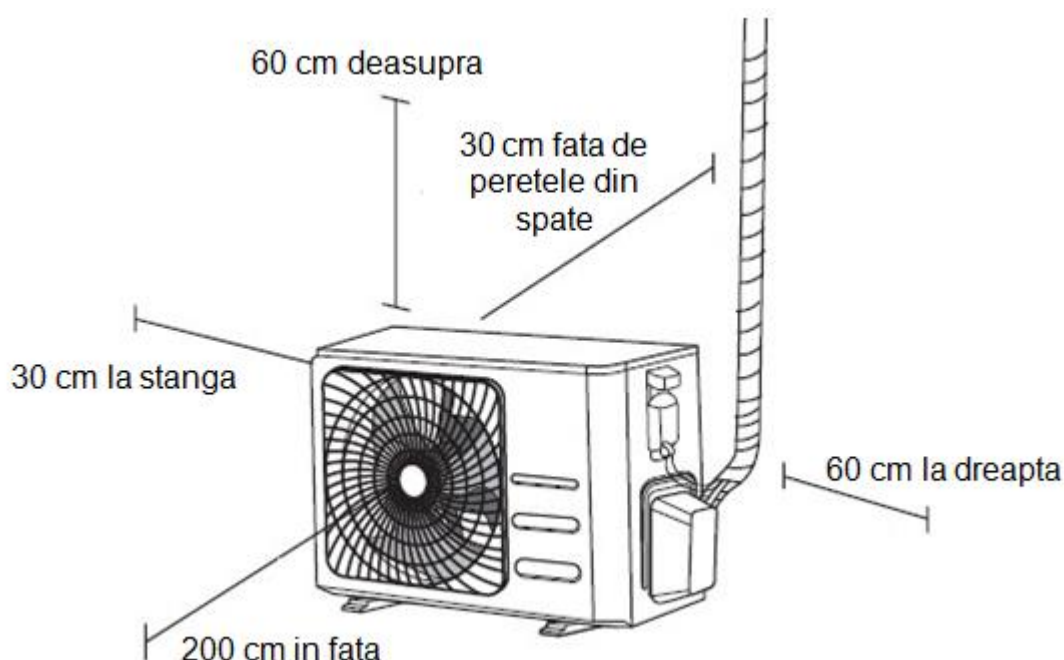




Deplasati la stanga sau la dreapta

### Instructiuni de instalare – Unitate externa

Instalati unitatea conform standardelor si reglementarilor locale in vigoare, acestea putand fi usor diferite in diferite tari.



### Pasul 1: Alegerea pozitiei de instalare

Inainte de instalarea unitatii interne, trebuie sa alegeti locul de instalare adecvat pentru unitate. Urmatoarele standarde va sunt utile pentru alegerea locului de amplasare al unitatii.

#### Locurile de amplasare adecvate indeplinesc urmatoarele standarde:

- ✓ Indepinesc toate cerintele spatiale indicate in sectiunea Cerinte referitoare la spatiu de mai sus
- ✓ Circulatie buna a aerului
- ✓ Montati unitatea externa pe un suport rigid, pentru a preveni cresterea nivelului de zgomot si a vibratiilor.
- ✓ Zgomotul de la unitate nu trebuie sa deranjeze pe altii
- ✓ Sa prezinte aparatoare impotriva intemperiiilor, pentru protectia impotriva luminii solare si a ploii
- ✓ In zonele in care se prevad ninsori abundente, luati masurile adecvate de precautie pentru a preveni depunerea ghetii si deteriorarea bateriei.



### **NU instalati unitatea in urmatoarele locuri:**

- ⊗ Asigurati-va ca nu exista nici un obstacol care blocheaza aerul refulat.
- ⊗ Langa strazile de acces public, zone aglomerate, sau in care zgomotul de la unitate va deranja pe cei din jurul sau.
- ⊗ Langa animale sau plante care ar fi afectate de aerul cald refulat Langa orice sursa de gaze inflamabile.
- ⊗ Langa orice sursa de gaze combustibile
- ⊗ Intr-un loc expus la cantitati mari de praf.
- ⊗ Intr-un loc expus la valori prea mari de aer sara

### **CONSIDERENTE SPECIALE REFERITOARE LA CONDITII CLIMATERICE EXTREME**

#### **Daca unitatea este expusa la vant puternic:**

Instalati unitatea astfel incat refularea ventilatorului sa fie la un unghi de 90° fata de directia vantului. Daca este necesar, construiti o bariera in fata unitatii pentru a o proteja de vant puternic. Consultati figurile de mai jos.

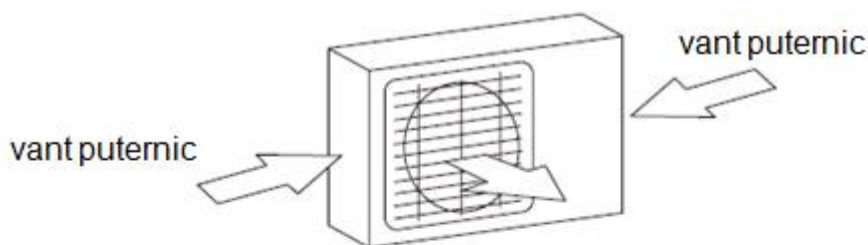
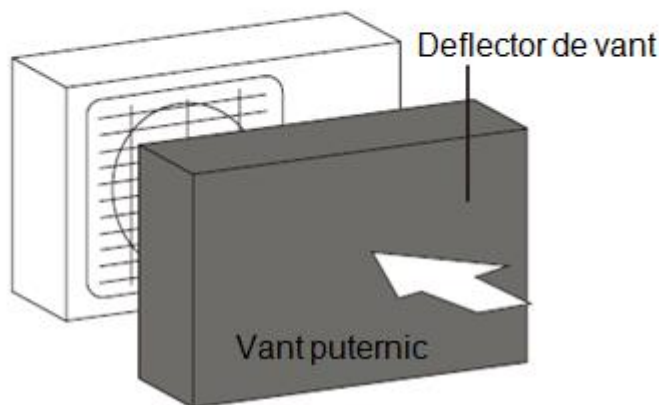


Fig. 4.2



#### **Daca unitatea este expusa frecvent la ploaie puternica sau zapada:**

Montati o protectie deasupra unitatii pentru a proteja unitatea impotriva ploii sau zapezii. Fiti atenti sa nu obstructionati fluxul de aer din jurul unitatii.

#### **Daca unitatea este expusa frecvent la o atmosfera salina (la mare):**

Utilizati o unitate externa special conceputa pentru a rezista la coroziune.

### **Pasul 2: Instalati un racord de golire**

Pompa de caldura a unitatii necesita un racord de golire. Inainte de a fixa unitatea externa la locul stabilit, trebuie sa instalati un racord de golire in partea sa inferioara. Exista doua tipuri de racorduri de golire in functie de tipul de unitate externa.

**Daca racordul de golire este prevazut cu o garnitura de etansare de cauciuc** (consultati Fig. - A), efectuati urmatoarele operatiuni:

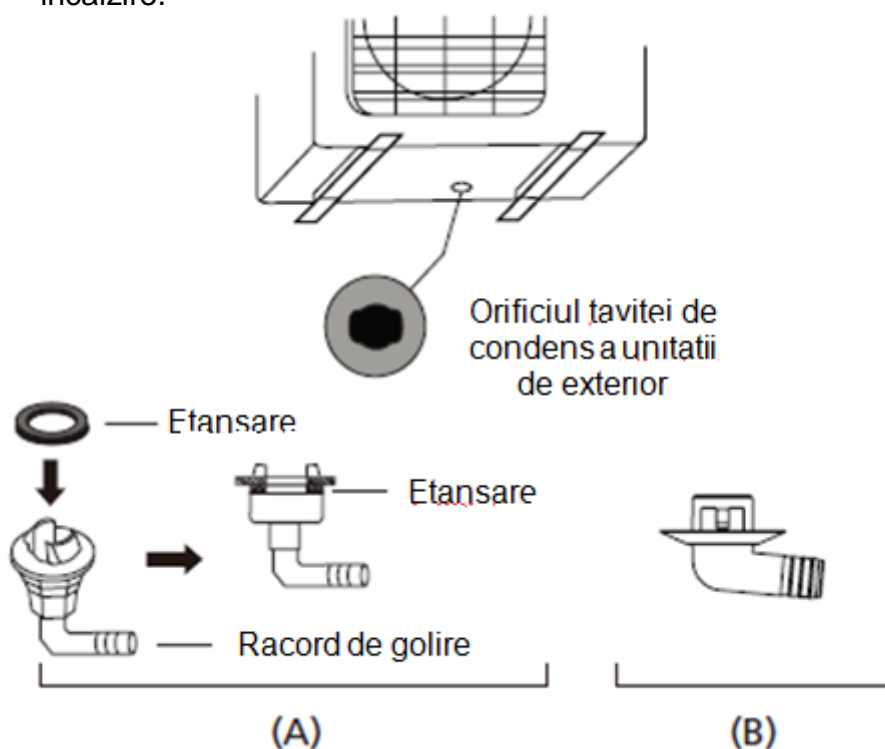


1. Amplasati garnitura de cauciuc pe capatul racordului de golire care va fi conectat la unitatea externa.
2. Introduceti racordul de golire in gaura din tavita de condens a unitatii.
3. Rotiti racordul de golire la 90° pana cand se stabilizeaza in pozitia din partea frontala a unitatii.
4. Conectati prelungirea furtunului de golire (neinclusa) la racordul de golire pentru a redirectiona apa de la unitate in timpul regimului de incalzire.

**Daca racordul de golire nu este prevazut cu o garniture de etansare**

(consultati **Fig. 4.4 - B**), efectuati urmatoarele operatiuni:

1. Introduceti racordul de golire in gaura din tavita de condens a unitatii. Racordul de golire va fi fixat la locul sau de amplasare.
2. Conectati prelungirea furtunului de golire (neinclusa) la racordul de golire pentru a redirectiona apa de la unitate in timpul regimului de incalzire.



**Pasul 3: Fixati unitatea interna**

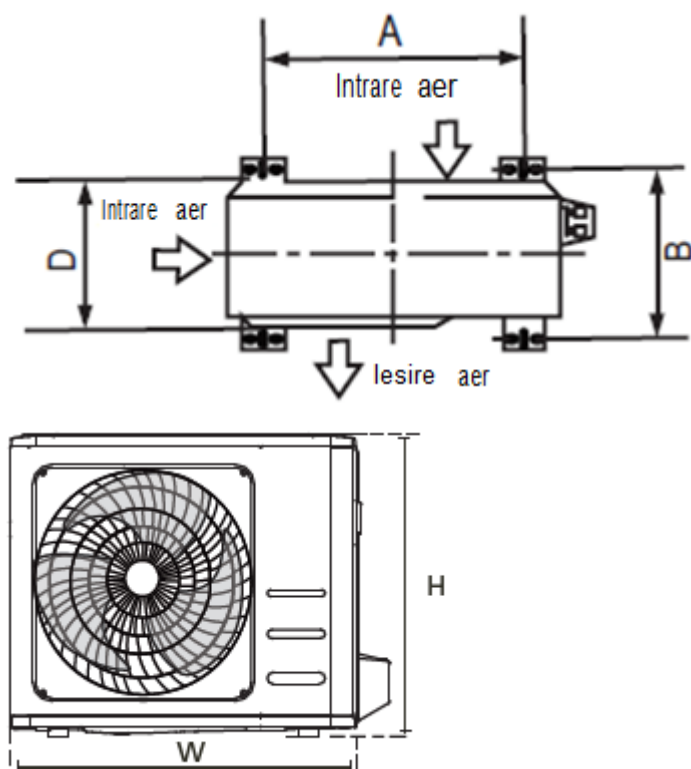
Unitatea externa poate fi fixata la sol sau montata la perete pe consola cu suruburi (M10). Pregatiti sablonul de instalare al unitatii in conformitate cu dimensiunile de mai jos.

**Unitatea externa**

**DIMENSIUNILE DE MONTAJ ALE UNITATII**

In continuare este prezentata urmatoarea lista cu dimensiunile diferitelor unitati externe si distanta dintre piciorusele de montaj. Pregatiti suportul de instalare al unitatii in conformitate cu dimensiunile de mai jos





Dimensiunile unitatii de exterior (mm)	Dimensiuni de montaj	
	Distanța A (mm)	Distanța 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")

**Daca veti instala unitatea pe sol sau pe o platforma din beton pentru montaj,**  
efectuati urmatoarele operatiuni:

1. Marcati pozitia celor patru dibluri tinand cont de dimensiunile sablonului de montaj si diagrama dimensiunilor.
2. Efectuati gaurile pentru dibluri.
3. **Amplasati o piulita la capatul fiecarui diblu.**
4. Bateti diblurile in gaurile executate in prealabil



5. Îndepătați piulițele de pe dibluri și amplasați unitatea externă pe șuruburi.
6. Amplasați o piuliță pe fiecare diblu, apoi înlocuiți piulițele.



#### **AVERTISMENT**

**CÂND SE EXECUTĂ O GĂURĂ ÎN BETON, SE RECOMANDĂ DE FIECARE DATĂ SĂ PURTAȚI OCHELARI DE PROTECȚIE**

**Dacă veți instala unitatea pe un perete printr-o consolă de montaj, efectuați următoarele operațiuni:**



#### **PRECAUȚIE**

Înainte de a instala unitatea de montat la perete, asigurați-vă că peretele este solid și executat din cărămizi, beton sau alte materiale similare rezistente. **Peretele trebuie să aibă capacitatea de a susține o greutate de cel puțin patru ori mai mare decât masa unității.**

1. Marcați poziția găurilor consolei ținând cont de dimensiunile șablonului de montaj.
2. Efectuați găurile pentru dibluri.
3. Amplasați o piuliță la capătul fiecărui diblu.
4. Introduceți diblurile în găurile din consolele de montaj, amplasați consolele de montaj pe poziție și bateți diblurile în perete.
5. Verificați ca consolele de montaj sunt la nivelul adecvat.
6. Ridicați cu atenție unitatea și amplasați-o pe picioarele de montaj ale consolei.
7. Fixați ferm unitatea pe console.
8. Dacă este permis, puteți instala unitatea cu montaj la perete cu garnituri de cauciuc pentru a reduce vibrațiile și zgomotul.

#### **Pasul 4: Conectarea cablurilor de semnal și de alimentare**

Blocul terminal al unității externe este protejat printr-o carcasă de protecție a cablurilor amplasată în lateralul unității. În partea laterală a carcasei de protecție a cablurilor este imprimată diagrama conexiunilor electrice.



**ÎNAINTE DE A EXECUTA CONEXIUNILE ELECTRICE, CITIȚI ACESTE REGLEMENTĂRI**

#### **AVERTISMENT**

**ÎNAINTE DE A EFECTUA ORICE CONEXIUNE ELECTRICA, ÎNTRERUPETI ALIMENTAREA PRINCIPALĂ CU ENERGIE ELECTRICA A SISTEMULUI.**

1. Pregătiți cablul pentru conexiune:

#### **UTILIZAȚI CABLUL ADECVAT**

Vă rugăm pentru a alege cablul corect să consultați **"Tipul cablurilor"** de la pagina 22.

#### **ALEGEREA DIMENSIUNII CORECTE A CABLULUI**



Dimensiunea cablului de alimentare, cablului de semnal, sigurantei fuzibile si comutatorului necesar este determinata de curentul maxim al unitatii. Curentul maxim al unitatii este indicat pe placuta de timbru amplasata pe panoul lateral al unitatii.

**NOTA:** in america de Nord va rugam sa alegeti cablul adecvat in functie capacitatea circuitului minim indicata in placuta de timbru a unitatii.

- a. Utilizand clesti de cabluri, indepartati stratul de cauciuc la ambele capete ale cablului de semnal pentru a descoperi aproximativ 40 mm din firele ce alcatuiesc cablul.
- b. Indepartati izolatia de pe ambele capete ale cablurilor.
- c. Utilizand o masina de sertizat, sertizati bornele de la capatul cablurilor.

## **FITI ATENTI LA CABLURILE DE FAZA**

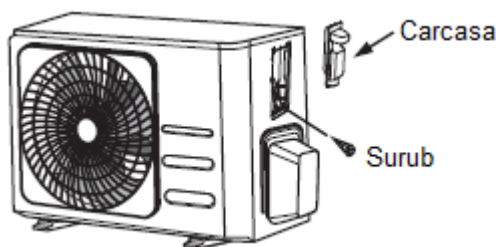
In timp ce sertizati cablurile, asigurati-va ca se face distinctie clara intre Faza ("L") fata de celelalte cabluri.



### **AVERTISMENT**

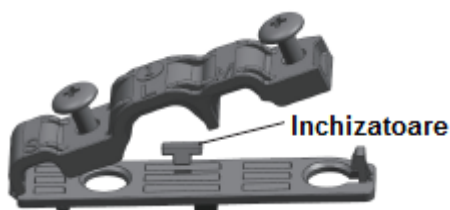
**TOATE CABLAJELE TREBUIE EXECUTATE CU RESPECTAREA STRUCTURII A SCHEMEI ELECTRICE AMPLASATE IN INTERIORUL CAPACULUI UNITATII EXTERIOARE.**

2. Slabiti conexiunea electrica si indepartati-o.
3. Slabiti clema cablurilor de sub regleta amplasata in lateral si amplasati-l in lateral.
4. Potriviti culorile cablurilor / etichetele conform indicatiilor din etichetele de pe regleta si fixati ferm surubul la borna corespunzatoare de pe terminal.
5. Dupa ce ati efectuat verificarile, asigurati-va ca toate conexiunile sunt sigure, rotiti cablurile pentru a preveni patrunderea ploii in terminal.
6. Utilizand clema cablului, strangeti cablul pe unitate. Insurubati clema cablului etans.
7. Izolati cablurile neutilizate cu banda electrica din PVC. Aranjati-le astfel incat acestea sa nu atinga nicio componenta electrica sau metalice.
8. Inlocuiti invelisul cablul pe partea unitatii si insurubati-l.

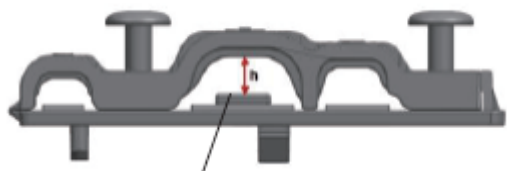


**NOTE:** Daca clema cablului are forma de mai jos, va rugam sa selectati orificiul de trecere adecvat in functie de diametrul cablului.





Orificii cu trei dimensiuni: mica, mare, medie



Cand cablul nu este strans suficient, utilizati inchizatoarea pentru a-l fixa ferm.

### Conectarea tevilor de agent frigorific

Cand se conecteaza tevilor de agent frigorific, **nu** permiteti introducerea in unitate a altor substante sau gaze decat agentul frigorific specificat. Prezenta altor gaze sau substante va scadea capacitatea unitatii, si va provoca presiune inalta anormala in ciclul de racire. Astfel se pot provoca explozii si raniri.

### Nota referitoare la lungimea tevii

Lungimea tevilor de agent frigorific va afecta performanta si randamentul energetic al unitatii. Randamentul nominal este testat pe unitati cu lungime de 5 metri. Pentru a reduce la minim vibratiile si zgomotul excesiv, este necesara o conducta minima de 3 metri.

Consultati tabelul de mai jos pentru specificatiile lungimii maxime si inaltimii tevilor.

Model	Capacitate (BTU/h)	Lungime max. (m)	Inaltime max. (m)
Aparat de aer conditionat tip inverter cu agent frigorific R410A, R32	< 15.000	25 (82 ft)	10 (33 ft)
	≥15.000 si < 24.000	30 (98,5 ft)	20 (66 ft)
	≥24.000 si < 36.000	50 (164 ft)	25 (82 ft)
	≥36.000 si ≤ 60.000	65 (213 ft)	30 (98,5 ft)
	Capacitate (BTU/h)	Lungime max. (m)	Inaltime max. (m)
	< 18.000	20 (66 ft)	8 (26 ft)
	≥18.000 si < 36.000	25 (82 ft)	10 (33 ft)
	≥36.000 si <60.000	30 (98,5 ft)	15 (49 ft)

### Instructiuni de conectare – Tevi de agent frigorific

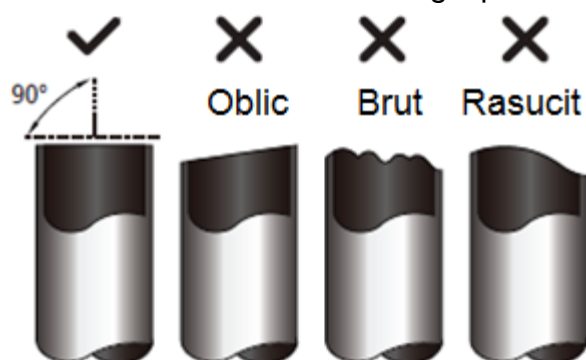
#### Pasul 1: Taierea tevilor

Cand se pregatesc tevilor de agent frigorific, fiti atenti sa le taiati si bercluiti corespunzator. Astfel se va asigura o functionare eficienta si se va minimaliza necesitatea unor eventuale operatiuni de intretinere.

1. Masurati distanta dintre unitatile interne si externe.
2. Utilizand un dispozitiv de taiere a tevilor, taiati teava putin mai lunga decat distanta masurata.



3. Asigurati-va ca teava este taiata la un unghi perfect de 90°.



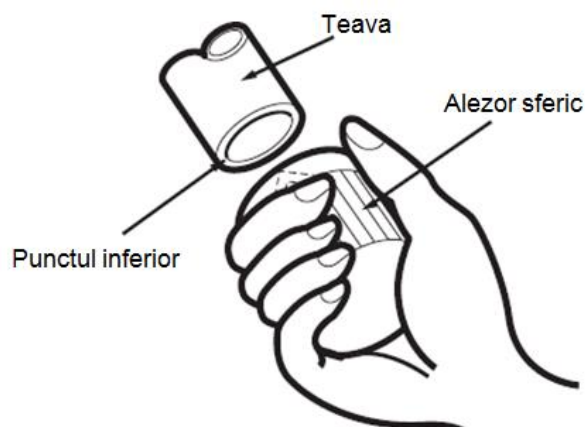
### NU DEFORMATI TEAVA IN TIMPUL TAIERII

In timpul taierii fiti foarte atenti sa nu deteriorate, zgariati sau deformati teava. Acest aspect ar reduce drastic randamentul unitatii.

### Pasul 2: Indepartati bavurile

Bavurile pot afecta etansarea tubulaturii de aer sau racordul tevilor de agent frigorific. Acestea trebuie complet indepartate.

1. Mentineti teava inclinata in jos la un unghi care previne caderea bavurilor in teava.
2. Utilizand un alezor sferic sau un dispozitiv de debavuarare, indepartati toate bavurile de pe sectiunea taiata a tevii.

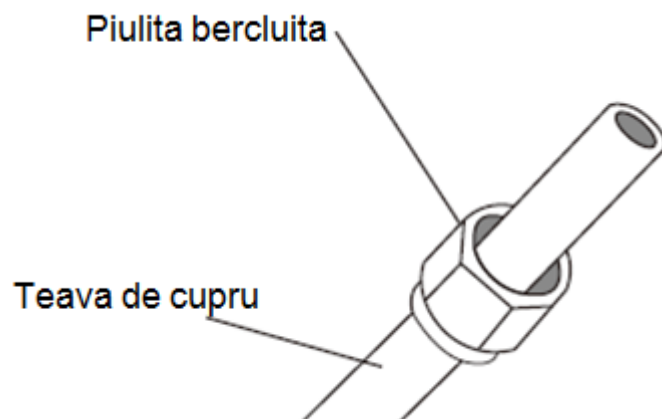


### Pasul 3: Bercluiti capetele tevii

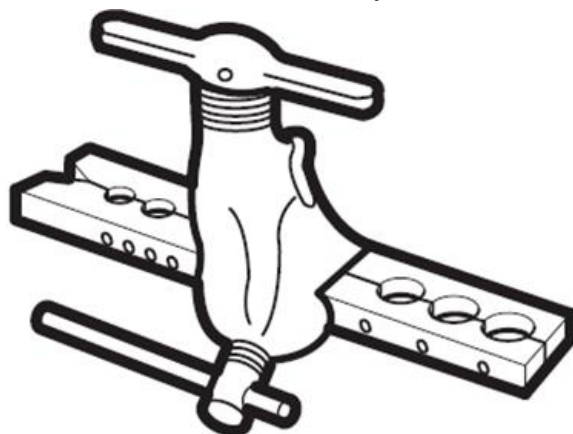
Pentru a obtine o etansare la aer este esentiala efectuarea unei bercluii adecvate.

1. Dupa ce indepartati bavurile de pe teava taiata, etansati capetele cu banda de PVC pentru a preveni patrunderea impuritatilor in teava.
2. Infasurati teava cu un material izolant.
3. Amplasati piulitele bercluite la ambele capete ale tevii. Asigurati-va ca acestea sunt indreptate in directia corecta, pentru ca nu mai este posibila amplasarea lor sau schimbarea directiei dupa ce au fost bercluite.





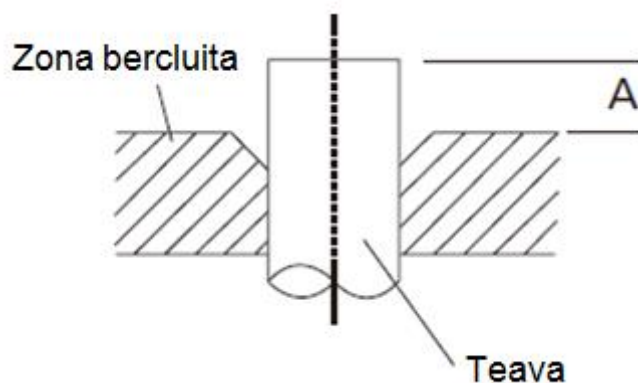
4. Indepartati banda de PVC de pe capetele tevii atunci cand sunteti pregatiti sa executati operatiunea de bercluire.
5. Fixati dispozitivul de bercluire la capatul tevii. Capatul tevii trebuie sa depaseasca marginea dispozitivului de bercluit in conformitate cu dimensiunile indicate in tabelul de mai jos.



#### EXTINDEREA TEVII FATA DE DISPOZITIVUL DE BERCLUIRE

Diametrul exterior al tevii (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")





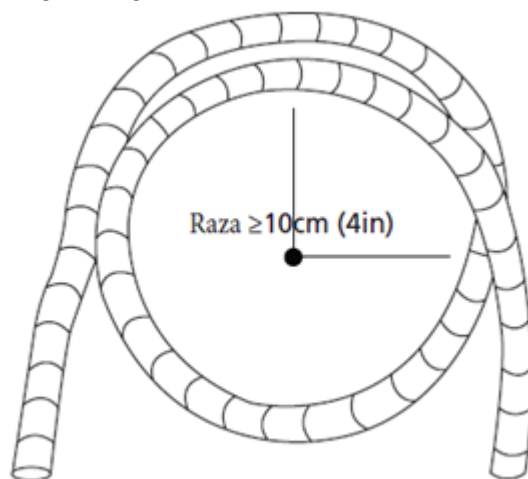
6. Amplasati dispozitivul de bercluire pe matrita.
7. Rotiti maneta dispozitivului de bercluire in sensul acelor de ceasornic pana cand teava este complet bercluita.
8. Indepartati dispozitivul de bercluire si matrita de bercluire, apoi inspectati capatul tevii pentru a verifica daca au aparut crapaturi si teava s-a bercluit corespunzator.

#### Pasul 4: Conectarea tevilor

Cand se conecteaza teville de agent frigorific, fiti atenti sa nu folositi o forta de tragere prea mare sau sa nu deformati teville in niciun fel. Mai intai trebuie sa conectati teville de joasa presiune si apoi teville de inalta presiune.

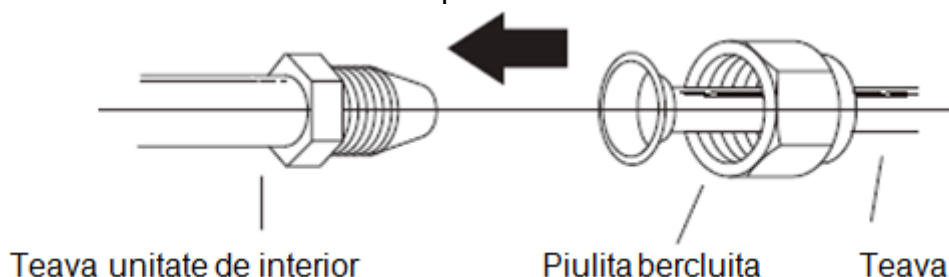
#### RAZA MINIMA DE INDOIRE

Cand se indoaie teava de agent frigorific, raza minima de indoire este 10cm.



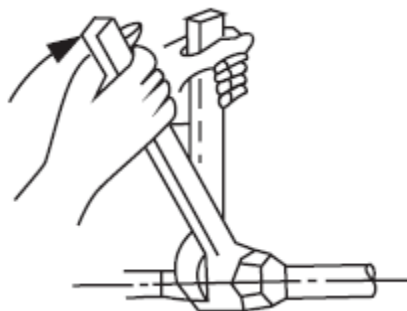
#### Instructiuni pentru conectarea tevilor la unitatea de interior

1. Aliniati centrul celor doua tevi pe care le veti conecta.





1. Strangeti manual piulita bercluita cat mai etans posibil.
2. Utilizand o cheie, fixate piulita pe teava unitatii.
3. In timp ce se fixeaza ferm piulita pe teava unitatii, utilizati o cheie dinamometrica pentru a strange piulita bercluita conform **Valorilor momentului de torsiune** din tabelul de mai jos. Slabiti piulita bercluita usor, apoi strangeti din nou.



### CERINTE PENTRU CUPLUL DE STRANGERE

Diametrul exterior al tevii (mm)	Cuplu de strangere (N•m)	Dimensiune bercluire (B) (mm)	Forma bercluire
Ø 6.35 (Ø 0.25")	18~20(180~200kgf.cm)	8.4~8.7 (0.33~0.34")	
Ø 9.52 (Ø 0.375")	32~39(320~390kgf.cm)	13.2~13.5 (0.52~0.53")	
Ø 12.7 (Ø 0.5")	49~59(490~590kgf.cm)	16.2~16.5 (0.64~0.65")	
Ø 16 (Ø 0.63")	57~71(570~710kgf.cm)	19.2~19.7 (0.76~0.78")	
Ø 19 (Ø 0.75")	67~101(670~1010kgf.cm)	23.2~23.7 (0.91~0.93")	

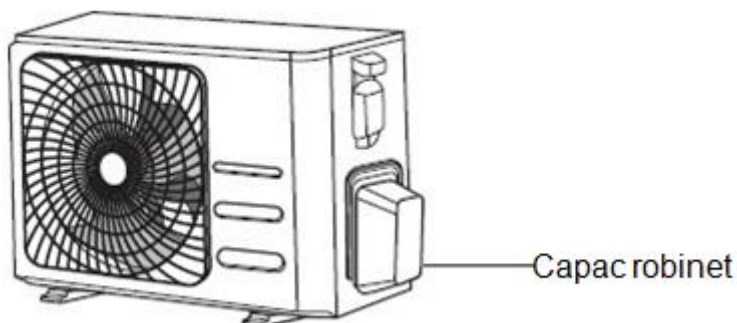


### NU APLICATI UN CUPLU DE STRANGERE EXCESIV

Forta excesiva poate sparge piulita sau poate deteriora conductele de agent frigorific. Nu trebuie sa depasiti cerintele privind cuplul de strangere afisate in tabelul de mai sus.

### Instructiuni de conectare ale tevilor la unitatea de exterior

1. Desurubati capacul de la robinetul din lateralul unitatii externe.
2. Indepartati capacele de protectie de la capetele robinetilor.
3. Aliniati capetele tevilor bercluite la fiecare robinet si strangeti manual piulitele bercluite cat mai etans posibil.
4. Utilizand o cheie, fixati corpul robinetului. Nu fixati piulita care etanseaza robinetul de serviciu.



5. In timp ce se fixeaza ferm corpul robinetului, utilizati o cheie dinamometrica pentru a strange piulita bercluita in conformitate cu valorile corecte de



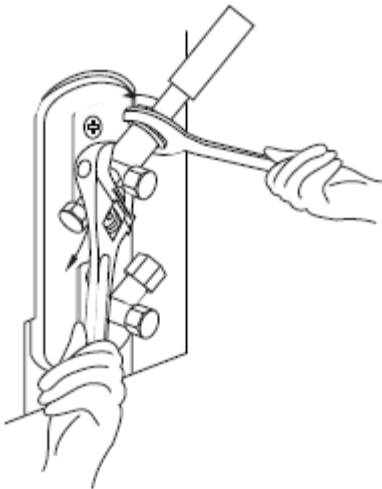
torsiune.

6. Slabiti usor piulitele, apoi strangeti di nou.
7. Pentru restul de teava repetati pasii de la 3 la 6.



#### **UTILIZATI O CHEIE PENTRU A FIXA CORPUL PRINCIPAL AL ROBINETULUI**

Cuplul de strangere rezultat din etansarea piulitei bercluite poate face sa sara alte componente ale robinetului.



#### **Evacuarea aerului**

##### **Instructiuni de pregatire si masuri de precautie**

Aerul si impuritatile din circuitul de agent frigorific pot provoca cresteri anormale de presiune, care ar putea deteriora aparatul de aer conditionat, i-ar putea reduce randamentul si provoca raniri. Pentru a evacua agentul frigorific, utilizati o pompa de vacuum si un manometru, indepartand orice gaz necondensabil si umezeala din sistem.

Trebuie efectuata evacuarea dupa ce s-a efectuat instalare initiala si cand unitatea a fost mutata.

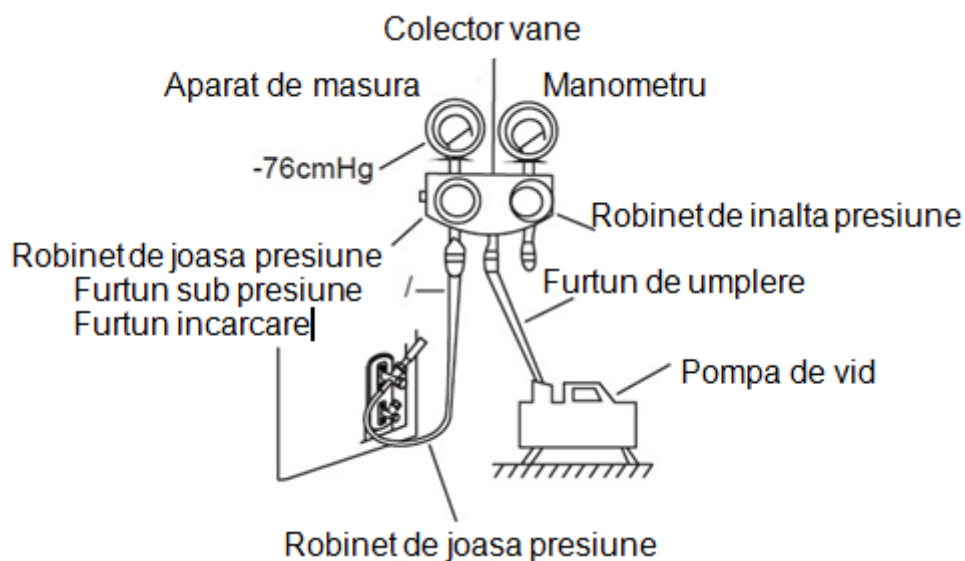
##### **INAINTE DE A EFECTUA EVACUAREA**

- ✓ Verificati daca ambele tevi de inalta presiune si de joasa presiune dintre unitatea interna si unitatea externa sunt conectate in mod adecvat in conformitate cu sectiunea Racordarea tevilor de agent frigorific din prezentul manual.
- ✓ Asigurati-va ca toate conexiunile sunt executate in mod adecvat.

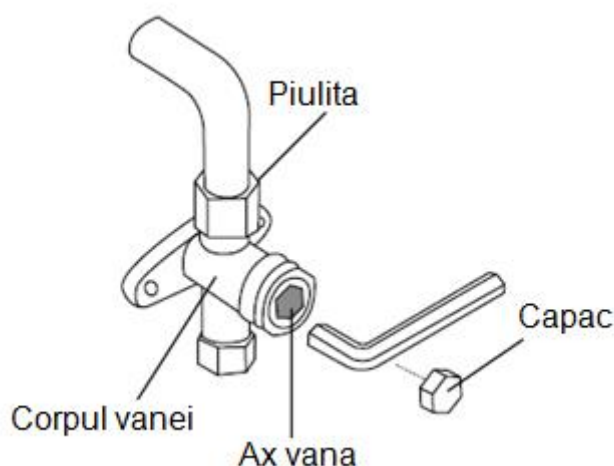
##### **Instructiuni de evacuare**

1. Conectati unul din capetele furtunului de umplere la ceasurile de masurare a presiunii (joasa/inalta), iar celalalt capat la racordul de service al robinetului de joasa presiune.
2. Conectati un alt furtun de umplere de la ceasurile de masurare a presiunii (joasa/inalta) la pompa de vacuum.
3. Deschideti partea de joasa presiune a distribuitorului. Mentineti inchisa partea de inalta presiune.
4. Porniti pompa de vacuum pentru a goli sistemul.
5. Comandati functionarea pompei de vacuum cel putin 15 minute sau pana cand pe manometru se citeste -76 cmHG (-10<sup>5</sup> Pa).





6. Inchideti partea de joasa presiune a colectorului cu manometru si opriti pompa de vacuum.
7. Asteptati timp de 5 minute, apoi verificati daca nu au aparut schimbari la presiunea din sistem.
8. Daca este o schimbare la presiunea sistemului, consultati sectiunea Verificarea Pierderilor de gaze pentru informatii referitoare la verificarea pierderilor. Daca nu exista o schimbare la presiunea sistemului, desurubati capacul de pe robinet (robinet de inalta presiune).
9. Introduceti cheia hexagonala in robinet (robinet de inalta presiune) si deschideti robinetul rotind cheia cu 1/4 ture in sens contrar acelor de ceasornic. Ascultati iesirea gazului din sistem, atunci inchideti robinetul dupa 5 secunde.
10. Urmariti ceasul manometrului timp de un minut pentru a va asigura ca nu exista o schimbare de presiune. Manometrul trebuie sa citeasca o presiune mai mare decat presiunea atmosferica.
11. Scoateti furtunul de umplere de la racordul de service.



12. Utilizand cheia hexagonala, deschideti complet atat robinetul de inalta presiune cat si joasa presiune.
13. Fixati capacele vanelor pe toate vanele cu trei cai (racordul de service, inalta presiune, joasa presiune) manual. Daca este necesar, puteti sa continuati strangerea pentru a le fixa etans cu o cheie.





## DESCHIDETI USOR AXUL VANEI

Cand deschideti axele vanei, rotiti cheia hexagonala pana cand atinge opritorul. Nu incercati sa fortati vana pentru a se deschide in continuare.

### Nota referitoare la completarea cu agent frigorific

Unele sisteme necesita completarea cu agent frigorific in functie de lungimile tevilor. Lungimea standard a tevi variaza in functie de reglementarile locale. De exemplu, in America de Nord, lungimea standard a tevi este 7,5 m. In alte zone, lungimea standard a tevi este de 5m. Cantiata de agent frigorific suplimentar de adaugat trebuie sa fie calculata utilizand urmatoarea formula:

#### CANTITATEA DE AGENT FRIGORIFIC SUPLIMENTAR DE ADAUGAT IN FUNCTIE DE LUNGIMEA TEVII

Lungimea tevi de legatura (m)	Metoda de evacuare a aerului	Agent frigorific suplimentar	
≤ Lungimea standard a tevi	Pompa de vacuum	Nu este aplicabil	
> Lungimea standard a tevi	Pompa de vacuum	Partea de lichid : Ø 6,35 (ø 0,25")	Partea de lichid: Ø 9,52 (ø 0,375")
		<b>R32:</b> (Lungimea tevi – lungimea standard) x 12g/m (Lungimea tevi – lungimea standard) x 0,13oz/ft	<b>R32:</b> (Lungimea tevi – lungimea standard) x 24g/m (Lungimea tevi – lungimea standard) x 0,26oz/ft
		<b>R290:</b> Lungimea tevi – lungimea standard) x 10g/m (Lungimea tevi – lungimea standard) x 0,10oz/ft	<b>R290:</b> (Lungimea tevi – lungimea standard) x 18g/m (Lungimea tevi – lungimea standard) x 0,19oz/ft
		<b>R410A:</b> (Lungimea tevi – lungimea standard) x 15g/m (Lungimea tevi – lungimea standard) x 0.16oz/ft	<b>R410A:</b> (Lungimea tevi – lungimea standard) x 30g/m (Lungimea tevi – lungimea standard) x 0.32oz/ft



## PRECAUTIE

**NU** amestecati tipurile de agent frigorific

### Verificarea pierderilor electrice si pierderilor de gaze

#### Inainte de efectuarea testului de functionare

Executati testul de functionare numai dupa ce ati efectuat urmatoorii pasi:

- **Verificari electrice de siguranta** – Confirmati faptul ca sistemul electric al unitatii este sigur si functioneaza corespunzator
- **Verificari pierderi de gaze** – Verificati toate racordurile bercluite si confirmati ca nu exista pierderi in sistem
- **Confirmati ca sunt complet deschisi robinetii pentru gaz si lichid** (presiune inalta si joasa)

### Verificarea elementelor de siguranta electrice

Dupa instalare, confirmati faptul ca toate conexiunile electrice sunt instalate in conformitate cu reglementarile locale si nationale si in conformitate cu manualul de instalare.



## INAINTE DE TESTAREA FUNCTIONARII

### Verificarea lucrarilor de impamantare

Masurati rezistenta la impamantare prin detectarea vizuala si cu testerul pentru rezistenta la impamantare. Rezistenta la impamantare trebuie sa fie mai mica de 4.

**Nota:** Aceasta operatiune poate sa nu fie solicitata pentru unele locuri din SUA

## IN TIMPUL TESTARII FUNCTIONARII

### Verificarea pierderilor electrice

In timpul **testarii functionarii**, utilizati o sonda electronica si un multimetru pentru a efectua o testare complexa a pierderilor electrice.

Daca este detectata o pierdere electrica, opriti unitatea imediat si solicitati interventia unui electrician autorizat pentru a detecta cauza pierderilor.

**Nota:** Aceasta operatiune poate sa nu fie solicitata pentru unele locuri din SUA.



### AVERTISMENT – RISC DE ELECTROCUTARE

**TOATE CONEXIUNILE TREBUIE SA FIE IN CONFORMITATE CU CODURILE LOCALE SI NATIONALE SI TREBUIE SA FIE EXECUTATE DE CATRE UN ELECTRICIAN AUTORIZAT.**

### Verificarea pierderilor de gaz

Exista doua metode diferite de a verifica pierderile de gaz.

#### Metoda cu apa si sapun

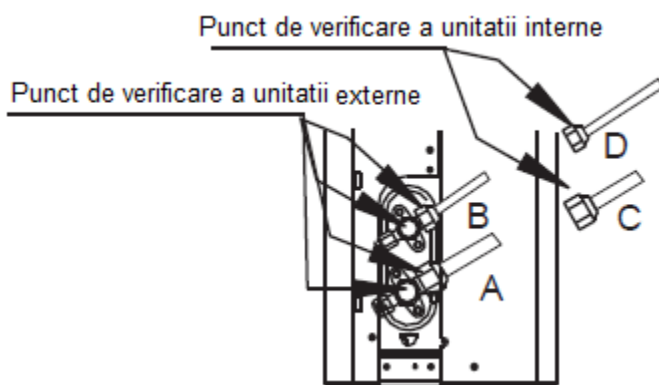
Utilizand o perie moale, aplicati apa cu sapun sau detergent lichid la toate punctele de racordare ale tevilor de la unitatea interna si unitatea externa. Prezenta bulelor indica o pierdere.

#### Metoda detectarii pierderilor

Daca se utilizeaza un detector de pierderi, consultati manualul de operare pentru a afla instructiunile de utilizare adecvate.

## DUPA CE SE EFECTUEAZA VERIFICAREA PIERDERILOR DE GAZE

Dupa ce se confirma faptul ca toate punctele de racordare ale tevii NU au pierderi, inlocuiti capacul vanei din exteriorul unitatii.



- A: Robinet de sectionare de joasa presiune
- B: Robinet de sectionare de inalta presiune
- C&D: Unitate interna piulita bercluita



## Testarea functionarii

### Instructiuni de testare a functionarii

Trebuie sa efectuati **testul de functionare** o perioada de cel putin 30 de minute.

1. Conectati alimentarea cu energie electrica la unitate.
2. Apasati butonul **ON/OFF** de pe telecomanda pentru a porni echipamentul.
3. Apasati butonul **MODE** pentru a naviga pe rand prin urmatoarele functii:
  - COOL/RACIRE – Selectati cea mai joasa temperatura posibila
  - HEAT/INCALZIRE – Selectati cea mai inalta temperatura posibila
4. Permitted functionarea fiecarei functii timp de 5 minute si efectuati urmatoarele verificari:

Lista de verificari de efectuat	TRECUT / RESPINS	
Fara pierderi electrice		
Unitatea este impamantata adecvat		
Toate terminalele electrice sunt acoperite in mod adecvat		
Unitatile interne si externe sunt instalate in mod solid		
Toate punctele de racordare nu prezinta pierderi	Externa (2):	Interna (2):
Apa se scurge in mod adecvat din furtunul de golire		
Toate tevile sunt izolate in mod adecvat		
Unitatile efectueaza functia de racire COOL in mod adecvat		
Unitatea efectueaza functia de incalzire HEAT in mod adecvat		
Jaluzele unitatii interne se rotesc in mod adecvat		
Unitatea interna raspunde la telecomanda		

### Verificati din nou racordurile tevilor

In timpul functionarii, va creste presiunea circuitului de agent frigorific. Aceasta noua verificare ar putea determina pierderi care nu existau in timpul verificarii initiale a pierderilor. In timpul verificarii functionarii verificati din nou daca exista pierderi de agent frigorific. Pentru instructiuni consultati sectiunea **Verificarea pierderilor de gaz**.

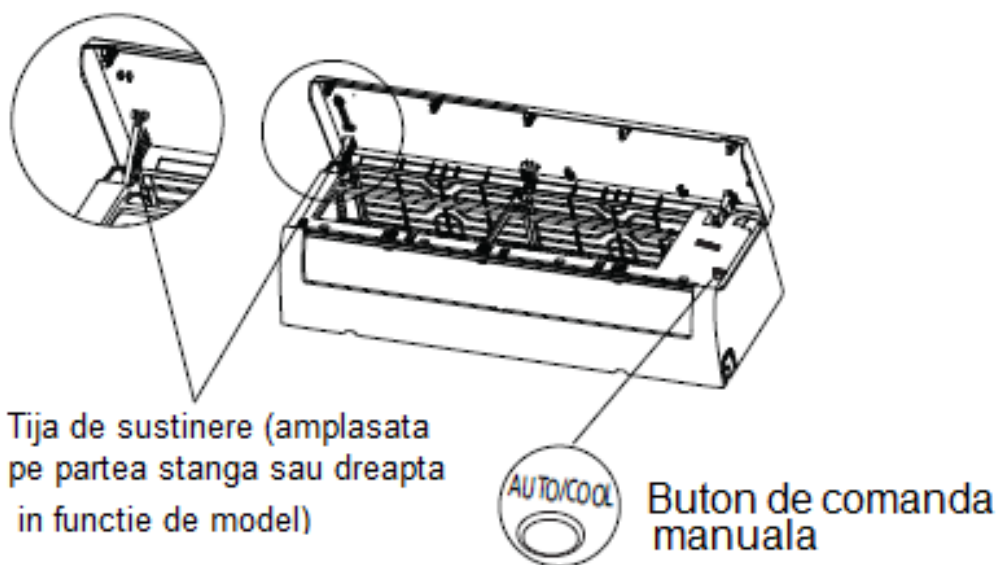
5. Dupa ce se efectueaza cu succes Testul de functionare si se confirma ca toate punctele de verificare din Lista Verificarilor de efectuat au fost TRECUTE, executati urmatoarele operatiuni:
  - a. Utilizand telecomanda, reveniti la temperatura normala de functionare a unitatii.
  - b. Utilizand banda izolanta, infasurati racordurile tevilor de agent frigorific ale unitatii interne pe care le-ati lasat neinfasurate in timpul procesului de instalare al unitatii interne.

### DACA TEMPERATURA AMBIANTA ESTE SUB 16°C (60°F)

Nu puteti utiliza telecomanda pentru a activa functia de racire COOL cand temperatura ambianta este sub 16°C. In aceasta situatie, puteti utiliza butonul de **CONTROL MANUAL** pentru a testa functia de racire COOL.

1. Ridicati panoul frontal al unitatii, si utilizati bara de sustinere pentru a deschide unitatea.
2. butonul de **CONTROL MANUAL** este amplasat pe partea dreapta a panoului unitatii. Apasati de doua ori butonul pentru a selecta functia de racire COOL.
3. Efectuati testul de functionare ca la functionarea normala





## **Ambalarea si despachetarea unitatii**

### **Instructiuni pentru impachetarea si despachetarea unitatii**

#### **Despachetare:**

##### **Unitate interna:**

1. Taiati banda de prindere a cutiei cu un cutit, o taietura la stanga, o taietura la mijloc si o taietura la dreapta.
2. Utilizati clestele pentru a indeparta capsele de inchidere din partea de sus a cutiei.
3. Deschideti cutia.
4. Scoateti suportul median daca este inclus.
5. Scoateti pachetul cu accesorii, si scoateti cablul de conexiune daca este inclus.
6. Ridicati si scoateti echipamentul din ambalaj si amplasati-l pe o suprafata plata.
7. Indeartati polistirenul din partea stanga si dreapta sau sus si jos din ambalaj.

##### **Unitate externa**

1. Taiati cureaua de ambalare.
2. Scoateti unitatea din cutie.
3. Indeartati polistirenul de pe unitate.
4. Indeartati ambalajul de pe unitate.

#### **Ambalare:**

##### **Unitate interna:**

1. Introduceti unitatea interna in ambalaj.
2. Fixati pe partea stanga si dreapta sau sus si jos poliester in ambalaj pentru a proteja unitatea.
3. Puneti unitatea in cutie, apoi puneti accesoriile in ambalaj.
4. Inchideti cutia si fixati-o etans cu banda.
5. Este necesara cureaua de impachetare.



**Unitate externa:**

1. Introduceti unitatea externa in ambalaj.
2. Puneti poliesterul pe fundul cutiei.
3. Puneti unitatea in cutie, si apoi puneti poliesterul deasupra unitatii.
4. Inchideti cutia si etansati cu o banda.
5. Utilizati o banda de ambalare daca este necesar.

**OBSERVATIE:** Va recomandam sa pastrati toate ambalajele pentru eventuale necesitati ulterioare.

Colectivul de redactare a cartii tehnice:

Traducere:

**Iuliana BELEGANTE**

Tehnoredactare:

**Iuliana BELEGANTE**

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Reg. Com. J/40/14205/1994 - Cod fiscal R 5990324 - Cont RO74RNCB5010000000130001 B.C.R.  
Sector 1, BUCURESTI - RO43BACX0000000030565310 HVB sucursala Grigore Mora  
BUCURESTI; Capital Social: 139.400.000.000 ROL (13.940.000 RON)









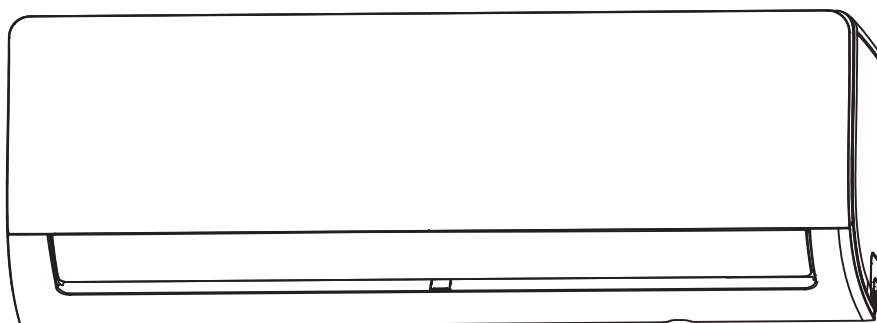
SPLIT-TYPE ROOM AIR CONDITIONER

# Owner's Manual & Installation Manual

## romstal

### EcoVent

MODEL: 81AC0248 81AC0249 81AC0230 81AC0231  
81AC0232 81AC0233 81AC0234 81AC0235 81AC0236  
81AC0237 81AC0238 81AC0239  
81ACI109 81ACI112 81ACI118



#### IMPORTANT NOTE:

Read this manual and SAFETY MANUAL(if any) carefully before installing or operating your new air conditioning unit. Make sure to save this manual for future reference.

Please check the applicable models, technical data, F-GAS(if any) and manufacturer information from the "Owner's Manual - Product Fiche " in the packaging of the outdoor unit (European Union products only) or in the packaging of the indoor unit (model dependent)







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# Installation Manual

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# Safety Precautions

## Read Safety Precautions Before Operation and 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 the possibility of personnel injury or loss of life.



### **CAUTION**

This symbol indicates the possibility of property damage or serious consequences.



### **WARNING**

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 (European Union countries).

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.



### **WARNINGS FOR PRODUCT USE**

- If an abnormal situation arises (like a burning smell), immediately turn off the unit and disconnect the power. Call your dealer for instructions to avoid electric shock, fire or injury.
- **Do not** insert fingers, rods or other objects into the air inlet or outlet. This may cause injury, since the fan may be rotating at high speeds.
- **Do not** use flammable sprays such as hair spray, lacquer or paint near the unit. This may cause fire or combustion.
- **Do not** operate the air conditioner in places near or around combustible gases. Emitted gas may collect around the unit and cause explosion.
- **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.
- **Do not** expose your body directly to cool air for a prolonged period of time.
- **Do not** allow children to play with the air conditioner. Children must be supervised around the unit at all times.
- If the air conditioner is used together with burners or other heating devices, thoroughly ventilate the room to avoid oxygen deficiency.
- In certain functional environments, such as kitchens, server rooms, etc., the use of specially designed air-conditioning units is highly recommended.

### **CLEANING AND MAINTENANCE WARNINGS**

- Turn off the device and disconnect the power before cleaning. Failure to do so can cause electrical shock.
- **Do not** clean the air conditioner with excessive amounts of water.
- **Do not** clean the air conditioner with combustible cleaning agents. Combustible cleaning agents can cause fire or deformation.



## CAUTION

- Turn off the air conditioner and disconnect the power if you are not going to use it for a long time.
- Turn off and unplug the unit during storms.
- Make sure that water condensation can drain unhindered from the unit.
- **Do not** operate the air conditioner with wet hands. This may cause electric shock.
- **Do not** use device for any other purpose than its intended use.
- **Do not** climb onto or place objects on top of the outdoor unit.
- **Do not** allow the air conditioner to operate for long periods of time with doors or windows open, or if the humidity is very high.

## ELECTRICAL WARNINGS

- Only use the specified power cord. If the power cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Keep power plug clean. Remove any dust or grime that accumulates on or around the plug. Dirty plugs can cause fire or electric shock.
- **Do not** pull power cord to unplug unit. Hold the plug firmly and pull it from the outlet. Pulling directly on the cord can damage it, which can lead to fire or electric shock.
- **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.
- The product must be properly grounded at the time of installation, or electrical shock may occur.
- For all electrical work, follow all local and national wiring standards, regulations, and the Installation Manual. 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. All electrical connections must be made according to the Electrical Connection Diagram located on the panels of the indoor and outdoor units.
- 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.
- If connecting power to fixed wiring, an all-pole disconnection device which has at least 3mm clearances in all poles, and have a leakage current that may exceed 10mA, the residual current device(RCD) having a rated residual operating current not exceeding 30mA, and disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.

## 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 :

T3.15A/250VAC, T5A/250VAC, T3.15A/250VAC, T5A/250VAC, T20A/250VAC, T30A/250VAC,etc.

**NOTE:** For the units using R32 or R290 refrigerant , only the blast-proof ceramic fuse can be used.


## UV-C lamp(Applicable to the unit contains an UV-C lamp only)

This appliance contains a UV-C lamp. Read the maintenance instructions before opening the appliance.

1. Do not operate UV-C lamps outside of the appliance.
2. Appliances that are obviously damaged must not be operated.
3. Unintended use of the appliance or damage to the housing may result in the escape of dangerous UV-C radiation. UV-C radiation may, even in small doses, cause harm to the eyes and skin.



4. Before opening doors and access panels bearing the ULTRAVIOLET RADIATION hazard symbol for the conducting USER MAINTENANCE, it is recommended to disconnect the power.
5. The UV-C lamp can not be cleaned, repaired and replaced.
6. UV-C BARRIERS bearing the ULTRAVIOLET RADIATION hazard symbol should not be removed.

 **WARNING** This appliance contains an UV emitter. Do not stare at the light source.

## **WARNINGS FOR PRODUCT INSTALLATION**

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. This appliance shall be installed in accordance with national wiring regulations.
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. Install drainage piping according to the instructions in this manual. Improper drainage may cause water damage to your home and property.
7. For units that have an auxiliary electric heater, **do not** install the unit within 1 meter (3 feet) of any combustible materials.
8. **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.
9. Do not turn on the power until all work has been completed.
10. When moving or relocating the air conditioner, consult experienced service technicians for disconnection and reinstallation of the unit.
11. How to install the appliance to its support, please read the information for details in "indoor unit installation" and "outdoor unit installation" sections.

## **Note about Fluorinated Gasses(Not applicable to the unit using R290 Refrigerant)**

1. This air-conditioning unit contains fluorinated greenhouse gasses. For specific information on the type of gas and the amount, please refer to the relevant label on the unit itself or the "Owner's Manual - Product Fiche" in the packaging of the outdoor unit. (European Union products only).
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. For equipment that contains fluorinated greenhouse gases in quantities of 5 tonnes of CO<sub>2</sub> equivalent or more, but of less than 50 tonnes of CO<sub>2</sub> equivalent, If the system has a leak-detection system installed, it must be checked for leaks at least every 24 months.
5. When the unit is checked for leaks, proper record-keeping of all checks is strongly recommended.



**WARNING for Using R32/R290 Refrigerant**

- When flammable refrigerant are employed, appliance shall be stored in a well -ventilated area where the room size corresponds to the room area as specifiec for operation.  
For R32 frigerant models:  
Appliance shall be installed, operated and stored in a room with a floor area larger than  $4\text{m}^2$ .  
For R290 refrigerant models, appliance shall be installed, operated and stored in a room with a floor area larger than:  
 $\leq 2.6\text{kW}$  units:  $17.33\text{m}^2$   
 $> 2.6\text{kW}$  and  $\leq 3.5\text{kW}$  units:  $25.4\text{m}^2$   
 $> 3.5\text{kW}$  and  $\leq 5.2\text{kW}$  units:  $34.67\text{m}^2$   
 $> 5.3\text{kW}$  and  $\leq 7.1\text{kW}$  units:  $47.33\text{m}^2$
- Reusable mechanical connectors and flared joints are not allowed indoors.  
(**EN** Standard Requirements).
- Mechanical connectors used indoors shall have a rate of not more than 3g/year at 25% of the maximum allowable pressure. When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be re-fabricated. (**UL** Standard Requirements)
- When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be re-fabricated.  
(**IEC** Standard Requirements)
- Mechanical connectors used indoors shall comply with ISO 14903.

**European Disposal Guidelines**

This marking shown on the product or its literature, indicates that waste electrical and eletrical equipment should not be mixed with general household waste.



**Correct Disposal of This Product**  
**(Waste Electrical & Electronic Equipment)**

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.

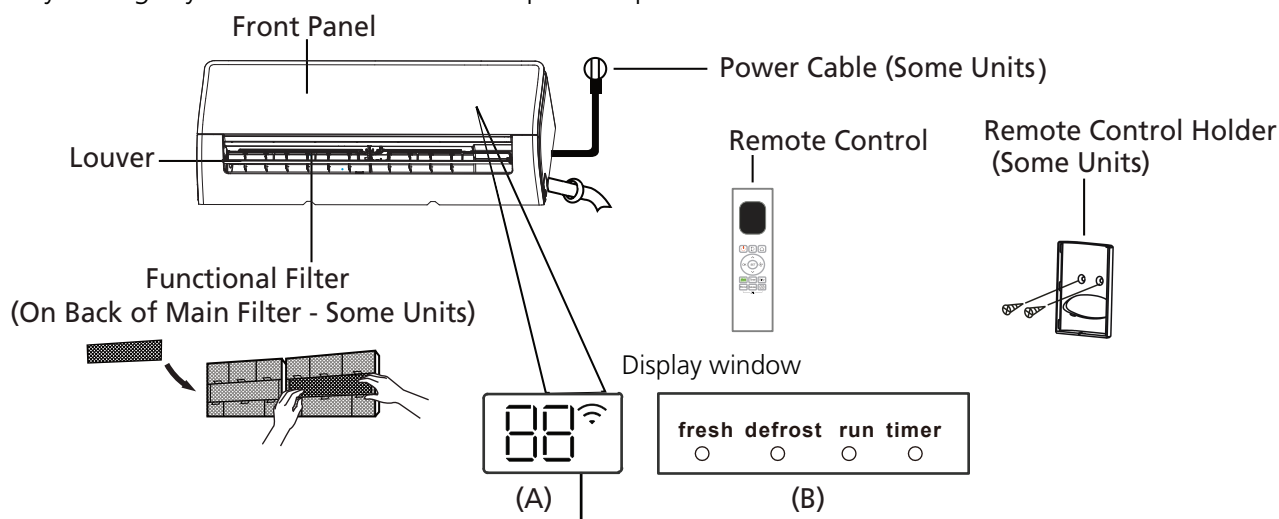


# Unit Specifications and Features

## Indoor unit display

**NOTE:** Different models have different front panels and display windows. Not all the display codes describing below are available for the air conditioner you purchased. Please check the indoor display window of the unit you purchased.

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



"fresh " when Fresh and UV-C lamp(if any)feature is activated(some units)

"defrost" when defrost feature is activated.

"run " when the unit is on.

"timer " when TIMER is set.

"📶 " when Wireless Control feature is activated(some units)

"88" Displays temperature, operation feature and error codes:

"01" for 3 seconds when:

- TIMER ON is set (if the unit is OFF, "01" remains on when TIMER ON is set )
- FRESH, UV-C lamp, SWING, TURBO, ECO, or SILENCE feature is turned on

"0F" for 3 seconds when:

- TIMER OFF is set
- FRESH, UV-C lamp, SWING, TURBO, ECO, or SILENCE feature is turned off

"dF" when defrosting(cooling & heating units only)

"FP" when 8°C heating feature is turned on(some units)

"CL" when Active Clean feature is turned on(For Inverter split type)  
when unit is self-cleaning(For Fixed-speed type)

### Display Code Meanings



## Operating temperature

When your air conditioner is used outside of the following temperature ranges, certain safety protection features may activate and cause the unit to disable.

### Inverter Split Type

	COOL mode	HEAT mode	DRY mode
Room Temperature	16°C - 32°C (60°F - 90°F)	0°C - 30°C (32°F - 86°F)	10°C - 32°C (50°F - 90°F)
Outdoor Temperature	0°C - 50°C (32°F - 122°F)	-15°C - 24°C (5°F - 75°F)	0°C - 50°C (32°F - 122°F)
	-15°C - 50°C (5°F - 122°F) (For models with low temp. cooling systems.)		
	0°C - 52°C (32°F - 126°F) (For special tropical models)		0°C - 52°C (32°F - 126°F) (For special tropical models)

#### FOR OUTDOOR UNITS WITH AUXILIARY ELECTRIC HEATER

When outside temperature is below 0°C (32°F), we strongly recommend keeping the unit plugged in at all time to ensure smooth ongoing performance.

### Fixed-speed Type

	COOL mode	HEAT mode	DRY mode
Room Temperature	16°C-32°C (60°F-90°F)	0°C-30°C (32°F-86°F)	10°C-32°C (50°F-90°F)
Outdoor Temperature	18°C-43°C (64°F-109°F)	-7°C-24°C (19°F-75°F)	11°C-43°C (52°F-109°F)
	-7°C-43°C (19°F-109°F) (For models with low-temp cooling systems)		18°C-43°C (64°F-109°F)
	18°C-52°C (64°F-126°F) (For special tropical models)		18°C-52°C (64°F-126°F) (For special tropical models)

**NOTE:** Room relative humidity less than 80%. If the air conditioner operates in excess of this figure, the surface of the air conditioner may attract condensation. Please sets the vertical air flow louver to its maximum angle (vertically to the floor), and set HIGH fan mode.

#### To further optimize the performance of your unit, do the following:

- Keep doors and windows closed.
- Limit energy usage by using TIMER ON and TIMER OFF functions.
- Do not block air inlets or outlets.
- Regularly inspect and clean air filters.



A guide on using the infrared remote is not included in this literature package. Not all the functions are available for the air conditioner, please check the indoor display and remote control of the unit you purchased.

## Other Features

- **Auto-Restart(some units)**

If the unit loses power, it will automatically restart with the prior settings once power has been restored.

- **Anti-mildew (some units)**

When turning off the unit from COOL, AUTO (COOL), or DRY modes, the air conditioner will continue operate at very low power to dry up condensed water and prevent mildew growth.

- **Wireless Control (some units)**

Wireless control allows you to control your air conditioner using your mobile phone and a wireless connection.

For the USB device access, replacement, maintenance operations must be carried out by professional staff.

- **Louver Angle Memory(some units)**

When turning on your unit, the louver will automatically resume its former angle.

- **Active Clean function(some units)**

-- The Active Clean Technology washes away dust when it adheres to the heat exchanger by automatically freezing and then rapidly thawing the frost. A "pi-pi" sound will be heard. The Active clean operation is used to produce more condensed water to improve the cleaning effect, and the cold air will blow out. After cleaning, the internal wind wheel then keeps operating with hot air to blow-dry the evaporator, thus keeping the inside clean.

-- When this function is turned on, the indoor unit display window appears "CL", after 20 to 130 minutes, the unit will turn off automatically and cancel Active Clean function.

-- For some units, the system will start high-temperature cleaning process, and the temperature of air outlet is very high. Please keep away from it. And this would lead to the rising of the room temperature.

- **Breeze Away (some units)**

This feature avoids direct air flow blowing on the body and make you feel indulging in silky coolness.

- **Refrigerant Leakage Detection (some units)**

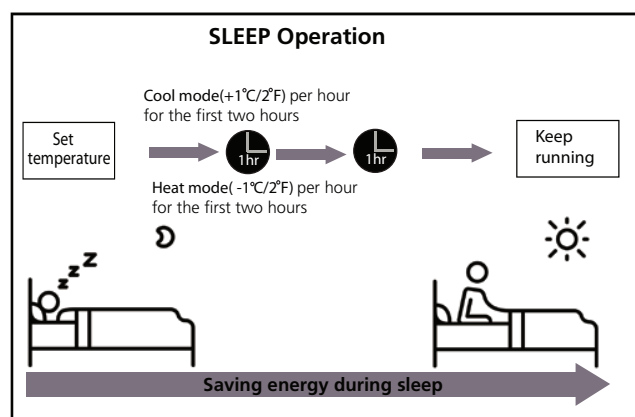
The indoor unit will automatically display "ELOC" or flash LEDS (model dependent) when it detects refrigerant leakage.

- **Sleep Operation**

The SLEEP function is used to decrease energy use while you sleep (and don't need the same temperature settings to stay comfortable). This function can only be activated via remote control. And the Sleep function is not available in FAN or DRY mode.

Press the **SLEEP** button when you are ready to go to sleep. When in COOL mode, the unit will increase the temperature by 1°C (2°F) after 1 hour, and will increase an additional 1°C (2°F) after another hour. When in HEAT mode, the unit will decrease the temperature by 1°C (2°F) after 1 hour, and will decrease an additional 1°C (2°F) after another hour.

The sleep feature will stop after 8 hours and the system will keep running with final situation.



### NOTE:

For multi-split air conditioners, the following functions are not available:

Active clean function, Silence feature, Breeze away function, Refrigerant leakage detection function and Eco feature.



## • Setting Angle of Air Flow

### Setting up and down air flow

While the unit is on, use the SWING/DIRECT button on the remote control to set the direction of airflow. Please refer to the Remote Control Manual for details.

#### NOTE ON LOUVER ANGLES

When using COOL or DRY mode, do not set louver at too vertical an angle for long periods of time. This can cause water to condense on the louver blade, which will drop on your floor or furnishings.

When using COOL or HEAT mode, setting the louver at too small an angle can reduce the performance of the unit due to restricted air flow.

**NOTE:** According to the relative standards requirement, please sets the vertical air flow louver to its maximum angle under heating capacity test.

### Setting left and right air flow

The left and right airflow must be set manually. Grip the deflector rod (See **Fig.B**) and manually adjust it to your preferred direction.

**For some units,** the left and right airflow can be set by remote control. please refer to the Remote Control Manual for details.

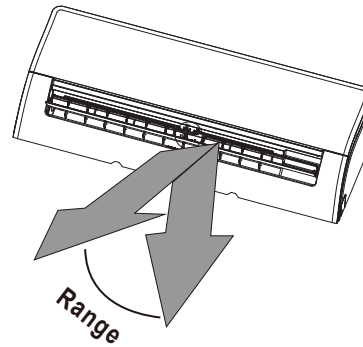
### Manual Operation(without remote)

#### CAUTION

The manual button is intended for testing purposes and emergency operation only. Please do not use this function unless the remote control is lost and it is absolutely necessary. To restore regular operation, use the remote control to activate the unit. Unit must be turned off before manual operation.

To operate your unit manually:

1. Lift the front panel of the indoor unit.  
**Note:** For some units, there is a supporting rod located on the left or right side. Please use it to prop up the panel.
2. Locate the **MANUAL CONTROL button** on the right-hand side of the unit.
3. Press the **MANUAL CONTROL button** one time to activate FORCED AUTO mode.
4. Press the **MANUAL CONTROL button** again to activate FORCED COOLING mode.
5. Press the **MANUAL CONTROL button** a third time to turn the unit off.
6. Release the supporting rod(some units), close the front panel.

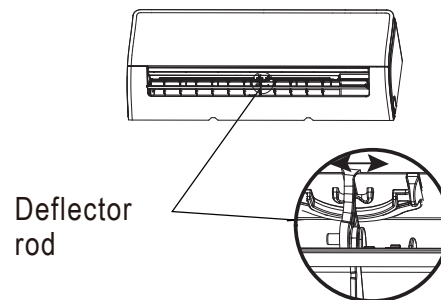


**NOTE:** Do not move louver by hand. This will cause the louver to become out of sync. If this occurs, turn off the unit and unplug it for a few seconds, then restart the unit. This will reset the louver.

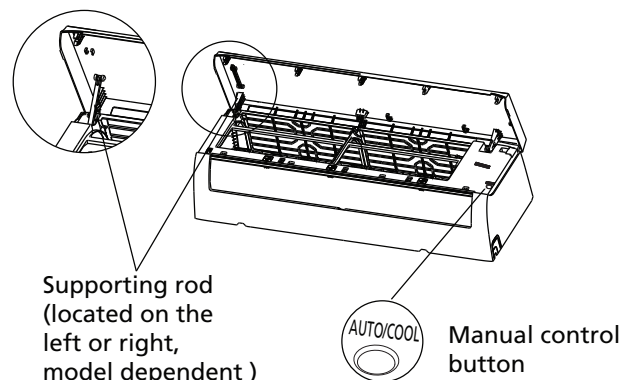
**Fig. A**

#### CAUTION

Do not put your fingers in or near the blower and suction side of the unit. The high-speed fan inside the unit may cause injury.



**Fig. B**





# Care and Maintenance

## Cleaning Your Indoor Unit



### BEFORE CLEANING OR MAINTENANCE

**ALWAYS TURN OFF YOUR AIR CONDITIONER SYSTEM AND DISCONNECT ITS POWER SUPPLY BEFORE CLEANING OR MAINTENANCE.**



### CAUTION

Only use a soft, dry cloth to wipe the unit clean. If the unit is especially dirty, you can use a cloth soaked in warm water to wipe it clean.

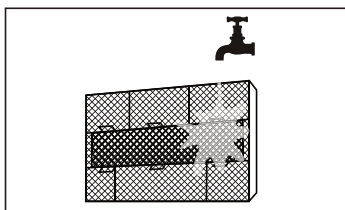
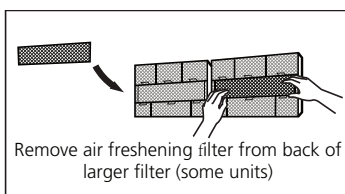
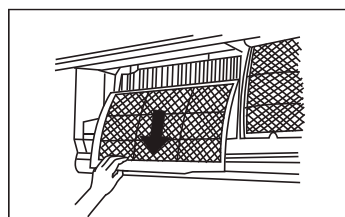
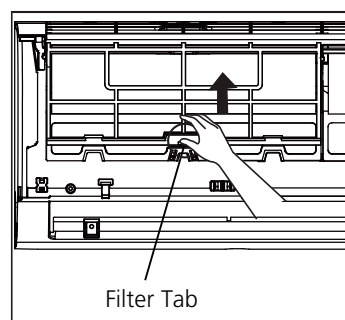
- **Do not** use chemicals or chemically treated cloths to clean the unit
- **Do not** use benzene, paint thinner, polishing powder or other solvents to clean the unit. They can cause the plastic surface to crack or deform.
- **Do not** use water hotter than 40°C (104°F) to clean the front panel. This can cause the panel to deform or become discolored.

## Cleaning Your Air Filter

A clogged air conditioner can reduce the cooling efficiency of your unit, and can also be bad for your health. Make sure to clean the filter once every two weeks.

1. Lift the front panel of the indoor unit.
2. First press the tab on the end of filter to loosen the buckle, lift it up, then pull it towards yourself.
3. Now pull the filter out.
4. If your filter has a small air freshening filter, unclip it from the larger filter. Clean this air freshening filter with a hand-held vacuum.
5. Clean the large air filter with warm, soapy water. Be sure to use a mild detergent.

6. Rinse the filter with fresh water, then shake off excess water.
7. Dry it in a cool, dry place, and refrain from exposing it to direct sunlight.
8. When dry, re-clip the air freshening filter to the larger filter, then slide it back into the indoor unit.
9. Close the front panel of the indoor unit.



### CAUTION

Do not touch air freshening (Plasma) filter for at least 10 minutes after turning off the unit.



## ⚠ CAUTION

- Before changing the filter or cleaning, turn off the unit and disconnect its power supply.
- When removing filter, do not touch metal parts in the unit. The sharp metal edges can cut you.
- Do not use water to clean the inside of the indoor unit. This can destroy insulation and cause electrical shock.
- Do not expose filter to direct sunlight when drying. This can shrink the filter.

## Air Filter Reminders (Optional)

### Air Filter Cleaning Reminder

After 240 hours of use, the display window on the indoor unit will flash "CL." This is a reminder to clean your filter. After 15 seconds, the unit will revert to its previous display.

To reset the reminder, press the **LED** button on your remote control 4 times, or press the **MANUAL CONTROL** button 3 times. If you don't reset the reminder, the "CL" indicator will flash again when you restart the unit.

### Air Filter Replacement Reminder

After 2,880 hours of use, the display window on the indoor unit will flash "nF." This is a reminder to replace your filter. After 15 seconds, the unit will revert to its previous display.

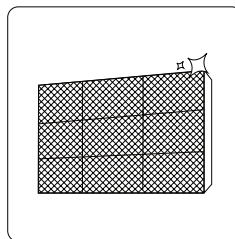
To reset the reminder, press the **LED** button on your remote control 4 times, or press the **MANUAL CONTROL** button 3 times. If you don't reset the reminder, the "nF" indicator will flash again when you restart the unit.

## ⚠ CAUTION

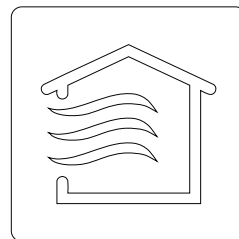
- Any maintenance and cleaning of outdoor unit should be performed by an authorized dealer or a licensed service provider.
- Any unit repairs should be performed by an authorized dealer or a licensed service provider.

## Maintenance – Long Periods of Non-Use

If you plan not to use your air conditioner for an extended period of time, do the following:



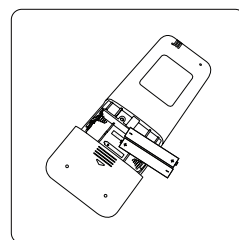
Clean all filters



Turn on FAN function until unit dries out completely



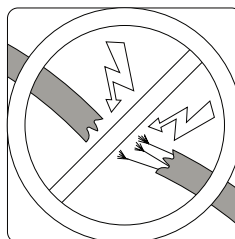
Turn off the unit and disconnect the power



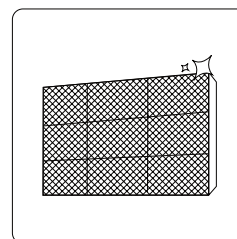
Remove batteries from remote control

## Maintenance – Pre-Season Inspection

After long periods of non-use, or before periods of frequent use, do the following:



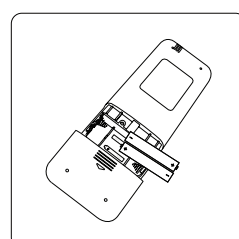
Check for damaged wires



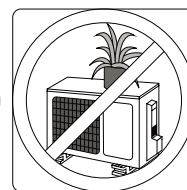
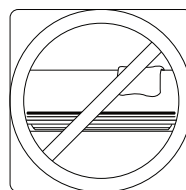
Clean all filters



Check for leaks



Replace batteries



Make sure nothing is blocking all air inlets and outlets



# Troubleshooting

## SAFETY PRECAUTIONS

If ANY of the following conditions occurs, turn off your unit immediately!

- The power cord is damaged or abnormally warm
- You smell a burning odor
- The unit emits loud or abnormal sounds
- A power fuse blows or the circuit breaker frequently trips
- Water or other objects fall into or out of the unit

**DO NOT ATTEMPT TO FIX THESE YOURSELF! CONTACT AN AUTHORIZED SERVICE PROVIDER IMMEDIATELY!**

## Common Issues

The following problems are not a malfunction and in most situations will not require repairs.

Issue	Possible Causes
<b>Unit does not turn on when pressing ON/OFF button</b>	The Unit has a 3-minute protection feature that prevents the unit from overloading. The unit cannot be restarted within three minutes of being turned off.
<b>The unit changes from COOL/HEAT mode to FAN mode</b>	The unit may change its setting to prevent frost from forming on the unit. Once the temperature increases, the unit will start operating in the previously selected mode again.
	The set temperature has been reached, at which point the unit turns off the compressor. The unit will continue operating when the temperature fluctuates again.
<b>The indoor unit emits white mist</b>	In humid regions, a large temperature difference between the room's air and the conditioned air can cause white mist.
<b>Both the indoor and outdoor units emit white mist</b>	When the unit restarts in HEAT mode after defrosting, white mist may be emitted due to moisture generated from the defrosting process.
<b>The indoor unit makes noises</b>	A rushing air sound may occur when the louver resets its position.
	A squeaking sound may occur after running the unit in HEAT mode due to expansion and contraction of the unit's plastic parts.
<b>Both the indoor unit and outdoor unit make noises</b>	Low hissing sound during operation: This is normal and is caused by refrigerant gas flowing through both indoor and outdoor units.
	Low hissing sound when the system starts, has just stopped running, or is defrosting: This noise is normal and is caused by the refrigerant gas stopping or changing direction.
	Squeaking sound: Normal expansion and contraction of plastic and metal parts caused by temperature changes during operation can cause squeaking noises.



Issue	Possible Causes
<b>The outdoor unit makes noises</b>	The unit will make different sounds based on its current operating mode.
<b>Dust is emitted from either the indoor or outdoor unit</b>	The unit may accumulate dust during extended periods of non-use, which will be emitted when the unit is turned on. This can be mitigated by covering the unit during long periods of inactivity.
<b>The unit emits a bad odor</b>	The unit may absorb odors from the environment (such as furniture, cooking, cigarettes, etc.) which will be emitted during operations.
	The unit's filters have become moldy and should be cleaned.
<b>The fan of the outdoor unit does not operate</b>	During operation, the fan speed is controlled to optimize product operation.
<b>Operation is erratic, unpredictable, or unit is unresponsive</b>	Interference from cell phone towers and remote boosters may cause the unit to malfunction.
	In this case, try the following: <ul style="list-style-type: none"> <li>• Disconnect the power, then reconnect.</li> <li>• Press ON/OFF button on remote control to restart operation.</li> </ul>

**NOTE:** If problem persists, contact a local dealer or your nearest customer service center. Provide them with a detailed description of the unit malfunction as well as your model number.

## Troubleshooting

When troubles occur, please check the following points before contacting a repair company.

Problem	Possible Causes	Solution
<b>Poor Cooling Performance</b>	Temperature setting may be higher than ambient room temperature	Lower the temperature setting
	The heat exchanger on the indoor or outdoor unit is dirty	Clean the affected heat exchanger
	The air filter is dirty	Remove the filter and clean it according to instructions
	The air inlet or outlet of either unit is blocked	Turn the unit off, remove the obstruction and turn it back on
	Doors and windows are open	Make sure that all doors and windows are closed while operating the unit
	Excessive heat is generated by sunlight	Close windows and curtains during periods of high heat or bright sunshine
	Too many sources of heat in the room (people, computers, electronics, etc.)	Reduce amount of heat sources
	Low refrigerant due to leak or long-term use	Check for leaks, re-seal if necessary and top off refrigerant
	SILENCE function is activated (optional function)	SILENCE function can lower product performance by reducing operating frequency. Turn off SILENCE function.









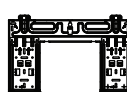




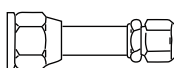
Problem	Possible Causes	Solution
<b>The unit is not working</b>	Power failure	Wait for the power to be restored
	The power is turned off	Turn on the power
	The fuse is burned out	Replace the fuse
	Remote control batteries are dead	Replace batteries
	The Unit's 3-minute protection has been activated	Wait three minutes after restarting the unit
	Timer is activated	Turn timer off
<b>The unit starts and stops frequently</b>	There's too much or too little refrigerant in the system	Check for leaks and recharge the system with refrigerant.
	Incompressible gas or moisture has entered the system.	Evacuate and recharge the system with refrigerant
	The compressor is broken	Replace the compressor
	The voltage is too high or too low	Install a manostat to regulate the voltage
<b>Poor heating performance</b>	The outdoor temperature is extremely low	Use auxiliary heating device
	Cold air is entering through doors and windows	Make sure that all doors and windows are closed during use
	Low refrigerant due to leak or long-term use	Check for leaks, re-seal if necessary and top off refrigerant
<b>Indicator lamps continue flashing</b>	<p>The unit may stop operation or continue to run safely. If the indicator lamps continue to flash or error codes appear, wait for about 10 minutes. The problem may resolve itself.</p> <p>If not, disconnect the power, then connect it again. Turn the unit on. If the problem persists, disconnect the power and contact your nearest customer service center.</p>	
<b>Error code appears and begins with the letters as the following in the window display of indoor unit:</b> <ul style="list-style-type: none"> <li>• E(x), P(x), F(x)</li> <li>• EH(xx), EL(xx), EC(xx)</li> <li>• PH(xx), PL(xx), PC(xx)</li> </ul>		

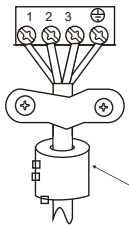

**NOTE:** If your problem persists after performing the checks and diagnostics above, turn off your unit immediately and contact an authorized service center.



# Accessories

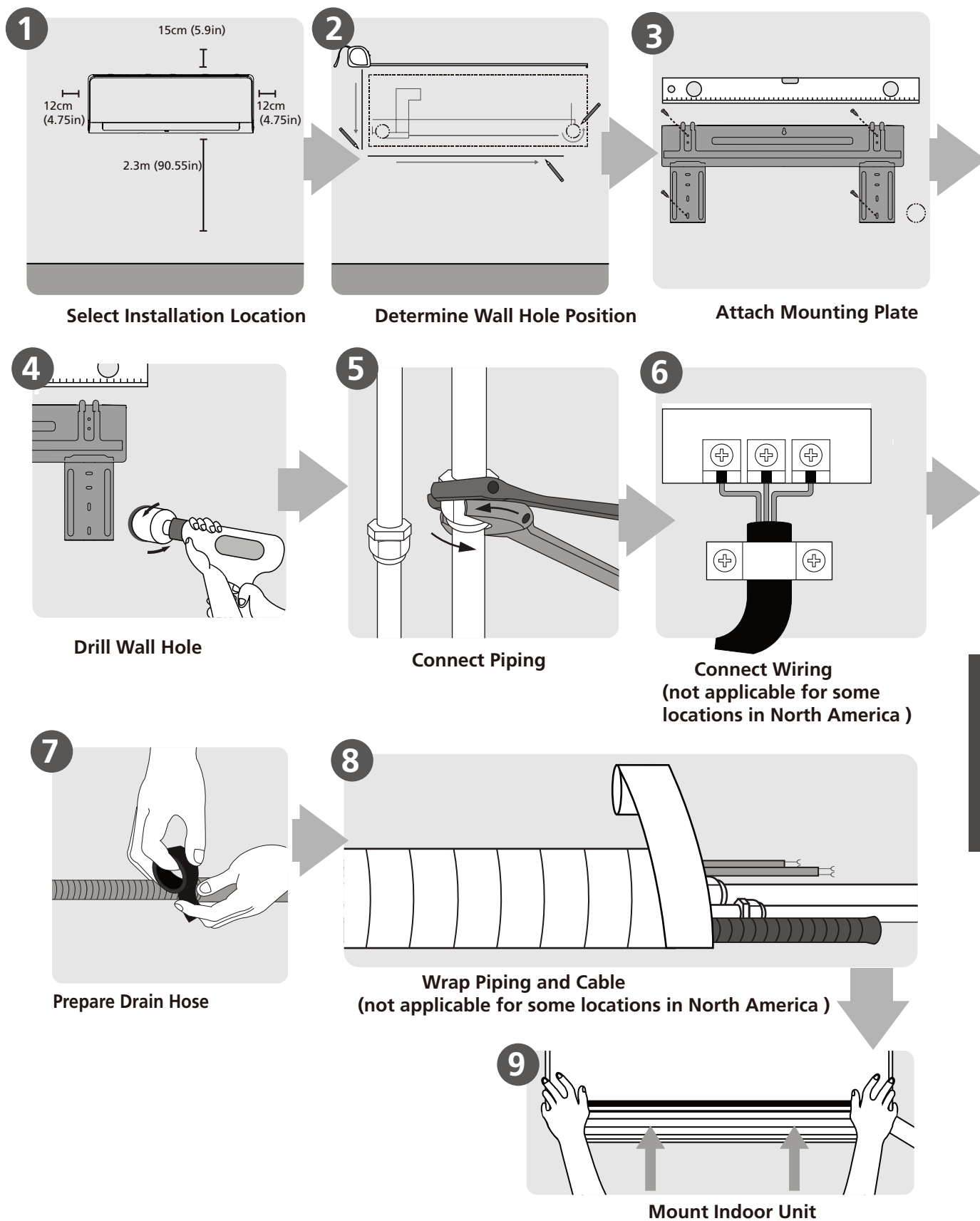
The air conditioning system comes with the following accessories. Use all of the installation parts and accessories to install the air conditioner. Improper installation may result in water leakage, electrical shock and fire, or cause the equipment to fail. The items are not included with the air conditioner must be purchased separately.

Name of Accessories	Q'ty(pc)	Shape	Name of Accessories	Q'ty(pc)	Shape
Manual	2~3		Remote controller	1	
Drain joint (for cooling & heating models)	1		Battery	2	
Seal (for cooling & heating models)	1		Remote controller holder(optional)	1	
Mounting plate	1		Fixing screw for remote controller holder(optional)	2	
Anchor	5~8 (depending on models)		Small Filter (Need to be installed on the back of main air filter by the authorized technician while installing the machine)	1~2 (depending on models)	
Mounting plate fixing screw	5~8 (depending on models)				
Transfer connector (Φ19( 3/4in) transfer to Φ16( 5/8in). Packed with the indoor unit, the North America market 33K hyper heat unit only. )	1	<div></div> <p><b>NOTE:</b> In North America market, when 33K hyper heat indoor unit matches with multi-zone condensers, you must purchase pipe with liquid side Φ9.52( 3/8in) and gas side Φ16( 5/8in).The transfer connector need to be installed on the indoor unit gas side to meet the pipe size.</p>			

Name	Shape	Quantity(PC)
Connecting pipe assembly	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)
Magnetic ring and belt (if supplied ,please refer to the wiring diagram to install it on the connective cable. )	  Pass the belt through the hole of the Magnetic ring to fix it on the cable	Varies by model



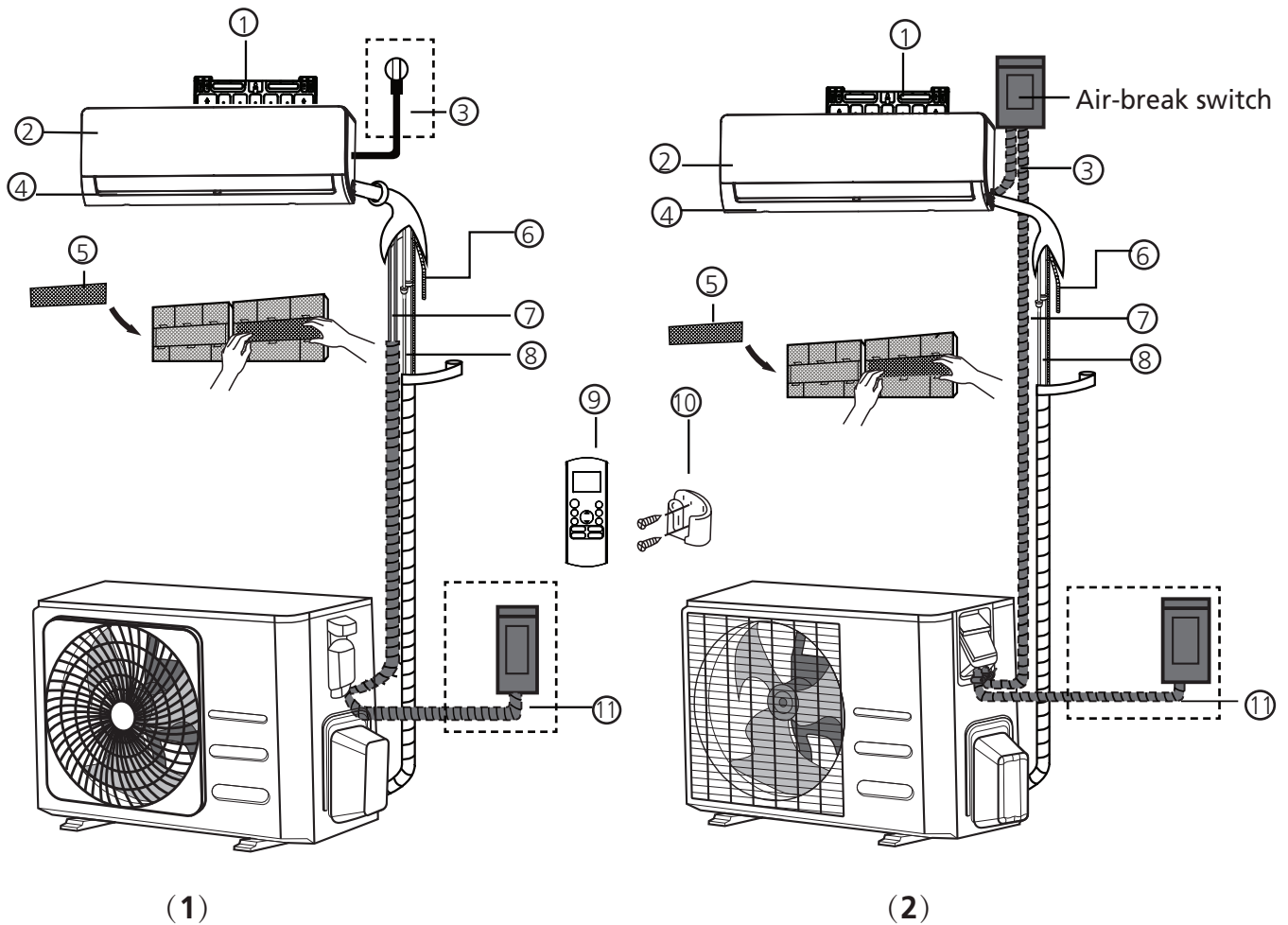
# Installation Summary - Indoor Unit





# Unit Parts

**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.



- |                            |   |   |
|----------------------------|---|---|
| ① Wall Mounting Plate      | ⑤ Functional Filter (On Back 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

## 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:

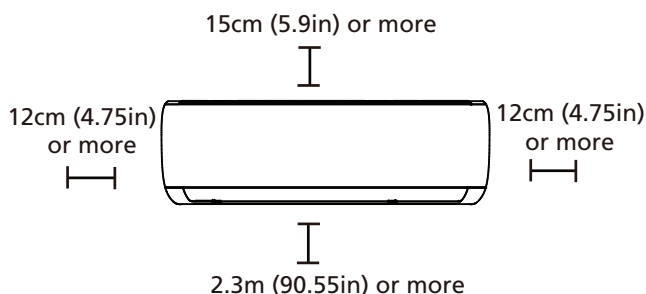
- ⊘ Near any source of heat, steam, or combustible gas
- ⊘ Near flammable items such as curtains or clothing
- ⊘ Near any obstacle that might block air circulation
- ⊘ Near the doorway
- ⊘ In a location subject to direct sunlight

### 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.

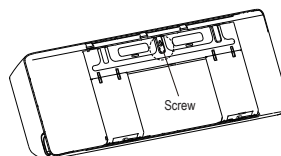
#### Refer to the following diagram to ensure proper distance from walls and ceiling:



#### Step 2: Attach mounting plate to wall

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

- Remove the screw that attaches the mounting plate to the back of the indoor unit.



- Secure the mounting plate to the wall with the screws provided. 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.

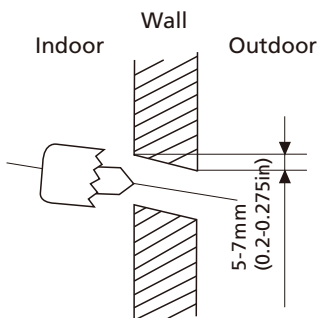


### Step 3: Drill wall hole for connective piping

1. Determine the location of the wall hole based on the position of the mounting plate. Refer to **Mounting Plate Dimensions**.
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 (0.2-0.275in). This will ensure proper water drainage.
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

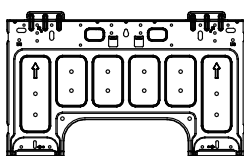
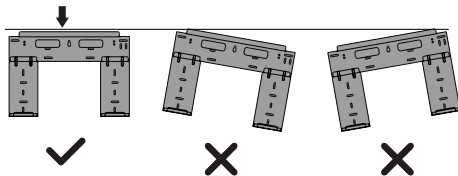
When drilling the wall hole, make sure to avoid wires, plumbing, and other sensitive components.



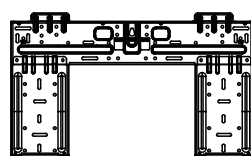
### MOUNTING PLATE DIMENSIONS

Different models have different mounting plates. For the different customization requirements, the shape of the mounting plate and the dimensions of the indoor unit may be slightly different. See Type A and Type B for example:

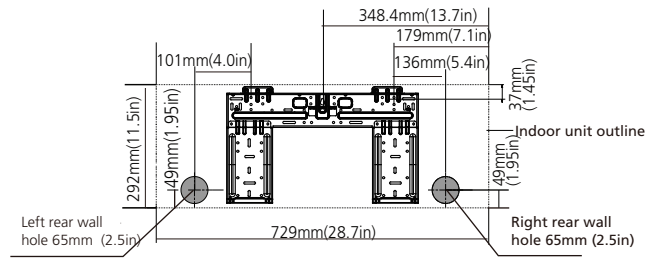
Correct orientation of Mounting Plate



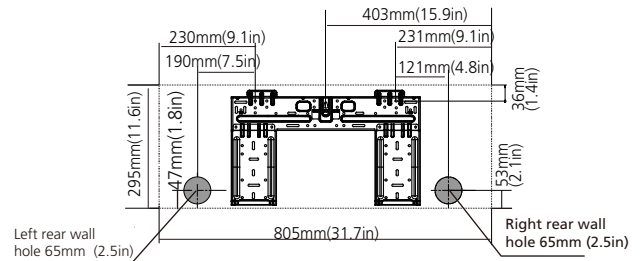
Type A



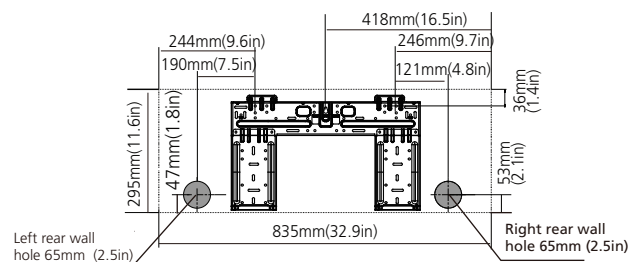
Type B



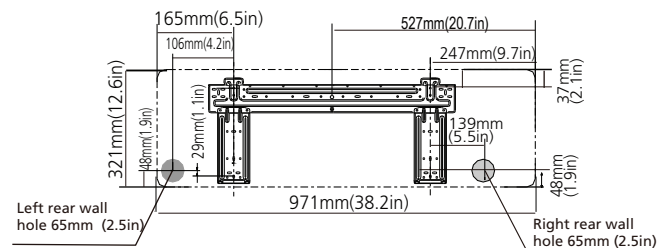
Model A



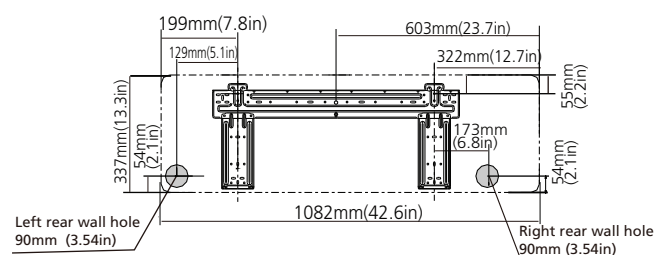
Model B



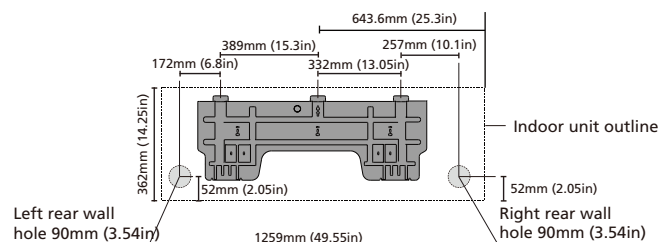
Model C



Model D



Model E



Model F

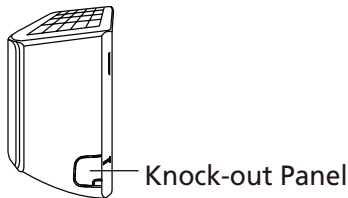
**NOTE:** When the gas side connective pipe is  $\Phi$  16mm(5/8in) or more, the wall hole should be 90mm(3.54in).



#### 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.

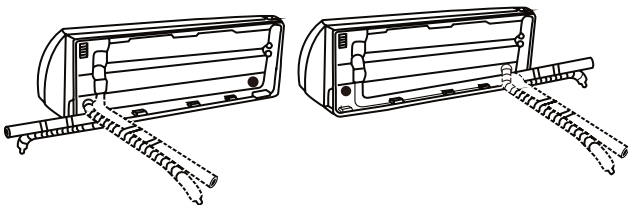
1. Based on the position of the wall hole relative to the mounting plate, choose the side from which the piping will exit the unit.
2. If the wall hole is behind the unit, keep the knock-out panel in place. If the wall hole is to the side of the indoor unit, remove the plastic knock-out panel from that side of the unit. 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. Groove has been made in the knock-out panel in order to cut it conveniently. The size of the slot is determined by the diameter of piping.



3. 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.

#### NOTE ON PIPING ANGLE

Refrigerant piping can exit the indoor unit from four different angles: Left-hand side, Right-hand side, Left rear, Right rear.



#### ⚠ 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.

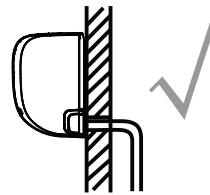
#### Step 5: Connect drain hose

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. To ensure proper drainage, attach the drain hose on the same side that your refrigerant piping exits the unit. Attach drain hose extension (purchased separately) to the end of drain hose.

- Wrap the connection point firmly with Teflon tape to ensure a good seal and to prevent leaks.
- For the portion of the drain hose that will remain indoors, wrap it with foam pipe insulation to prevent condensation.
- 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.

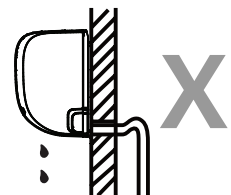
#### ! NOTE ON DRAIN HOSE PLACEMENT

Make sure to arrange the drain hose according to the following figures.



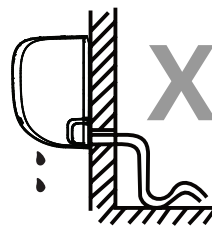
**CORRECT**

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



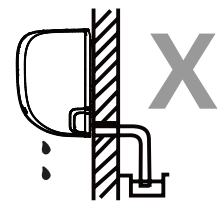
**NOT CORRECT**

Kinks in the drain hose will create water traps.



**NOT CORRECT**

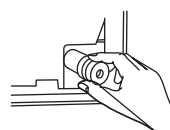
Kinks in the drain hose will create water traps.



**NOT CORRECT**

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

#### PLUG THE UNUSED DRAIN HOLE



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



## BEFORE PERFORMING ANY ELECTRICAL WORK, READ THESE REGULATIONS

1. All wiring must comply with local and national electrical codes, regulations 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, a surge protector and main power switch should be installed.
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.
12. To avoid getting an electric shock, never touch the electrical components soon after the power supply has been turned off. After turning off the power, always wait 10 minutes or more before you touch the electrical components.

## WARNING

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

### Step 6: Connect signal and power cables

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 or H05RN-F
- **Signal Cable:** H07RN-F

**NOTE:** In North America, choose the cable type according to the local electrical codes and regulations.

#### Minimum Cross-Sectional Area of Power and Signal Cables (For reference) (Not applicable for North America)

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.

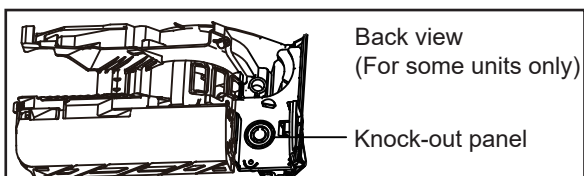
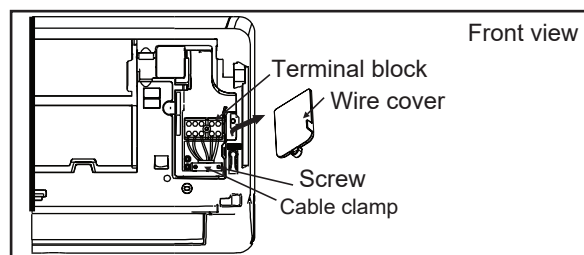
**NOTE:** In North America, please choose the right cable size according to the Minimum Circuit Ampacity indicated on the nameplate of the unit.

## WARNING

**ALL WIRING MUST BE PERFORMED STRICTLY IN ACCORDANCE WITH THE WIRING DIAGRAM LOCATED ON THE BACK OF THE INDOOR UNIT'S FRONT PANEL .**



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



**NOTE:**

- For the units with conduit tube to connect the cable, remove the big plastic knock-out panel to create a slot through which the conduit tube can be installed.
- For the units with five-core cable, remove the middle small plastic knock-out panel to create a slot through which the cable can exit.
- Use needle nose pliers if the plastic panel is too difficult to remove by hand.

3. Unscrew the cable clamp below the terminal block and place it to the side.
4. Facing the back of the unit, remove the plastic panel on the bottom left-hand side.
5. Feed the signal wire through this slot, from the back of the unit to the front.
6. Facing the front of the unit, connect the wire according to the indoor unit's wiring diagram, connect the u-lug 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.

7. 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.
8. Replace the wire cover on the front of the unit, and the plastic panel on the back.



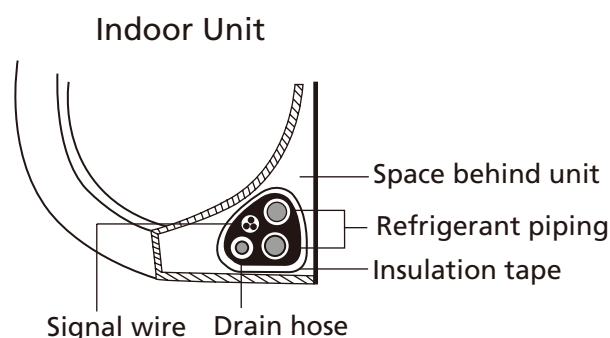
**NOTE ABOUT WIRING**

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

**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 (Not applicable in North America).

1. Bundle the drain hose, refrigerant pipes, and signal cable as shown below:



**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.

**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).



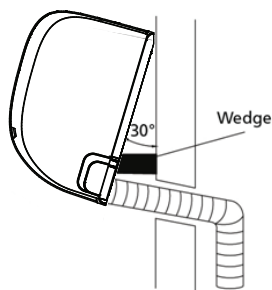
## Step 8: Mount indoor unit

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.
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.

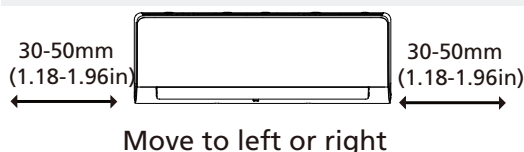
If refrigerant piping is already embedded in the wall, do the following:

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.



### UNIT IS ADJUSTABLE

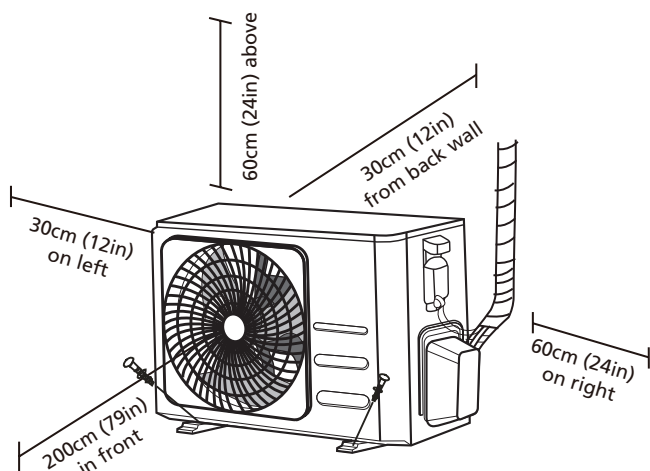
Keep in mind that the hooks on the mounting plate are smaller than the holes on the back of the unit. If you find that you don't have ample room to connect embedded pipes to the indoor unit, the unit can be adjusted left or right by about 30-50mm (1.18-1.96in), depending on the model.





# Outdoor Unit Installation

Install the unit by following local codes and regulations, there may be differ slightly between different regions.



## 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 above.
- ☑ 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
- ☑ Where snowfall is anticipated, take appropriate measures to prevent ice buildup and coil damage.

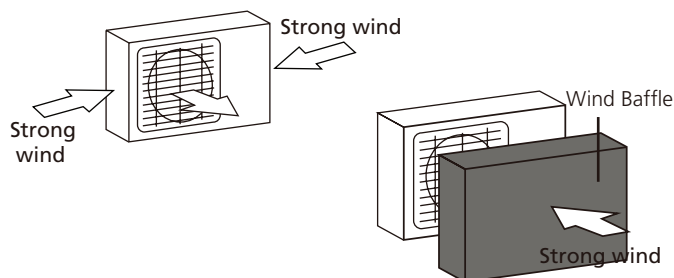
### **DO NOT** install unit in the following locations:

- ⊘ 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 a 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 Figures below.



#### 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 unit only)

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

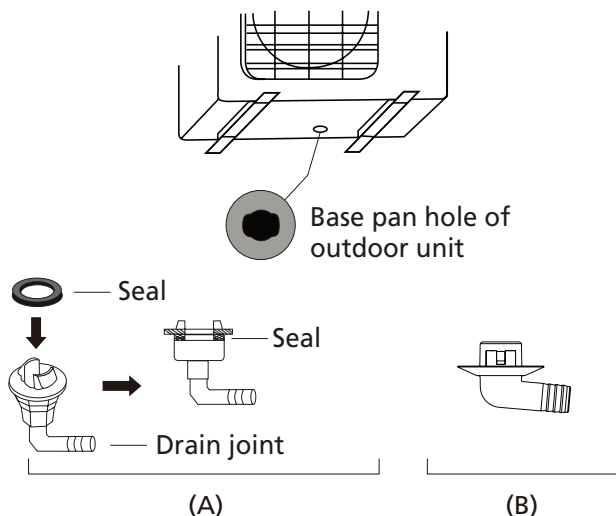
(see Fig. A ), do the following:

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. 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.



## ! 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 with bolt(M10). Prepare the installation base of the unit according to the dimensions below.

### 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 chart.
2. Pre-drill holes for expansion bolts.
3. Place a nut on the end of each expansion bolt.
4. Hammer expansion bolts into the pre-drilled holes.
5. Remove the nuts from expansion bolts, and place outdoor unit on bolts.
6. Put washer on each expansion bolt, then replace the nuts.
7. 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

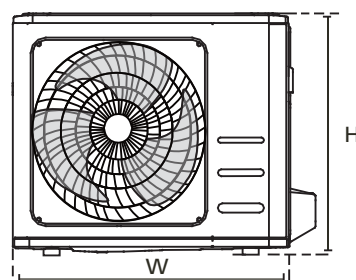
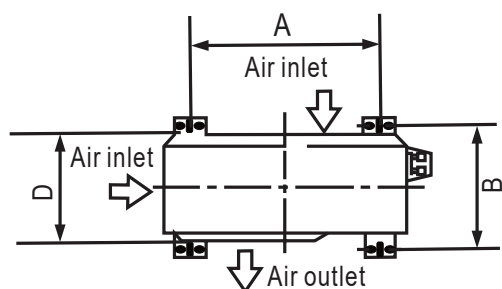
Make sure that the wall is made of solid brick, concrete, or of similarly strong material. **The wall must be able to support at least four times the weight of the unit.**

1. Mark the position of bracket holes based on dimensions chart.
2. Pre-drill the holes for the expansion bolts.
3. Place a washer and nut on the end of each expansion bolt.
4. Thread expansion bolts through holes in mounting brackets, put mounting brackets in position, and hammer expansion bolts into the wall.
5. Check that the mounting brackets are level.
6. Carefully lift unit and place its mounting feet on brackets.
7. Bolt the unit firmly to the brackets.
8. If allowed, install the unit with rubber gaskets to reduce vibrations and noise.



## 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.



Outdoor Unit Dimensions (mm) W x H x D	Mounting Dimensions	
	Distance A (mm)	Distance B (mm)
668x469x252 (26.3"x 18.5"x 9.9")	430 (16.9")	231 (9.1")
680x542x248 (26.7"x 21.3"x 9.8")	452 (17.8")	230 (9.05")
681x434x285 (26.8"x 17.1"x 11.2")	460 (18.1")	292 (11.5")
700x550x270 (27.5"x 21.6"x 10.6")	450 (17.7")	260 (10.2")
700x550x275 (27.5"x 21.6"x 10.8")	450 (17.7")	260 (10.2")
720x495x270 (28.3"x 19.5"x 10.6")	452 (17.8")	255 (10.0")
728x555x300 (28.7"x 21.8"x 11.8")	452 (17.8")	302(11.9")
765x555x303 (30.1"x 21.8"x 11.9")	452 (17.8")	286(11.3")
770x555x300 (30.3"x 21.8"x 11.8")	487 (19.2")	298 (11.7")
805x554x330 (31.7"x 21.8"x 12.9")	511 (20.1")	317 (12.5")
800x554x333 (31.5"x 21.8"x 13.1")	514 (20.2")	340 (13.4")
845x702x363 (33.3"x 27.6"x 14.3")	540 (21.3")	350 (13.8")
890x673x342 (35.0"x 26.5"x 13.5")	663 (26.1")	354 (13.9")
946x810x420 (37.2"x 31.9"x 16.5")	673 (26.5")	403 (15.9")
946x810x410 (37.2"x 31.9"x 16.1")	673 (26.5")	403 (15.9")

### 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.



#### 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

Please choose the right cable refer to " **Cable types**" in page 22.

### 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.



**NOTE:** In North America, please choose the right cable size according to the Minimum Circuit Ampacity indicated on the nameplate of the unit.

- Using wire strippers, strip the rubber jacket from both ends of cable to reveal about 40mm (1.57in) of the wires inside.
- Strip the insulation from the ends of the wires.
- 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.

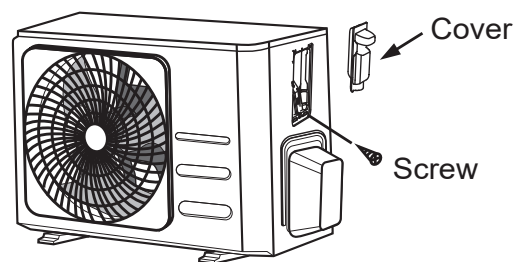
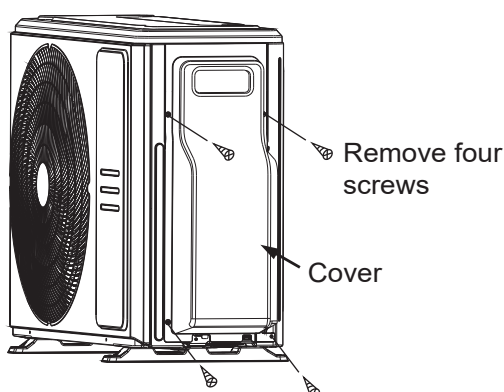


#### WARNING

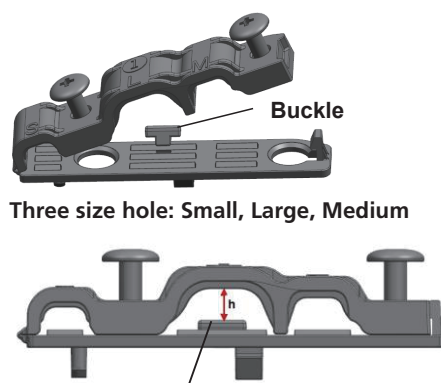
**ALL WIRING WORK MUST BE PERFORMED STRICTLY IN ACCORDANCE WITH THE WIRING DIAGRAM LOCATED INSIDE OF WIRE COVER OF THE OUTDOOR UNIT .**

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

**NOTE:** The unit you purchased may be slightly different. The illustrations below are for explanatory purposes. The actual shape shall prevail.



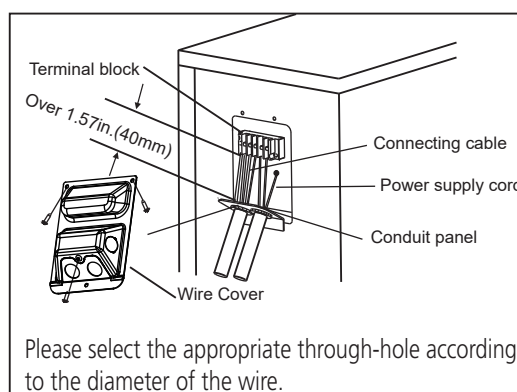
**NOTE:** If the cable clamp looks like the following, please select the appropriate through-hole according to the diameter of the wire.



When the cable is not fasten enough, use the buckle to prop it up, so it can be clamped tightly.

#### In North America

- Remove the wire cover from the unit by loosening the 3 screws.
- Dismount caps on the conduit panel.
- Temporarily mount the conduit tubes(not included) on the conduit panel.
- Properly connect both the power supply and low voltage lines to the corresponding terminals on the terminal block.
- Ground the unit in accordance with local codes.
- Be sure to size each wire allowing several inches longer than the required length for wiring.
- Use lock nuts to secure the conduit tubes.





# Refrigerant Piping Connection

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.

## 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)( In North America, the standard pipe length is 7.5m (25')). A minimum pipe run of 3 metres is required to minimise vibration & excessive noise. For the R290 refrigerant models, no refrigerant can be added and the maximum length of refrigerant pipe should not exceed 5 meters(16.5ft).

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**

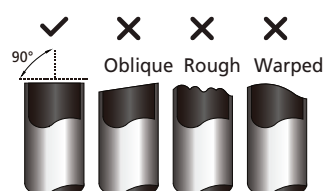
Model	Capacity (BTU/h)	Max. Length (m)	Max. Drop Height (m)
R410A,R32 Inverter Split Air Conditioner	< 15,000	25 (82ft)	10 (33ft)
	≥ 15,000 and < 24,000	30 (98.5ft)	20 (66ft)
	≥ 24,000 and < 36,000	50 (164ft)	25 (82ft)
	≥ 36,000 and < 60,000	65 (213ft)	30 (98.5ft)
R22 Fixed-speed Split Air Conditioner	< 18,000	10 (33ft)	5 (16ft)
	≥ 18,000 and < 21,000	15 (49ft)	8(26ft)
	≥ 21,000 and < 35,000	20 (66ft)	10(33ft)
	≥ 35,000 and < 41,000	25 (82ft)	10 (33ft)
R410A, R32 Fixed-speed Split Air Conditioner	< 18,000	20 (66ft)	8(26ft)
	≥ 18,000 and < 36,000	25 (82ft)	10(33ft)
	≥ 36,000 and < 60,000	30 (98.5ft)	15 (49ft)

## 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.

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.



### **DO NOT DEFORM PIPE WHILE CUTTING**

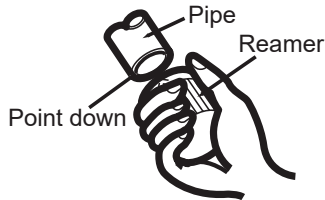
Be extra careful not to damage, dent, or deform the pipe while cutting. This will drastically reduce the heating efficiency of the unit.



## Step 2: Remove burrs

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

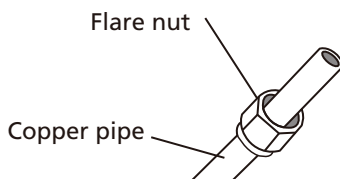
1. Hold the pipe at a downward angle to prevent burrs from falling into the pipe.
2. Using a reamer or deburring tool, remove all burrs from the cut section of the pipe.



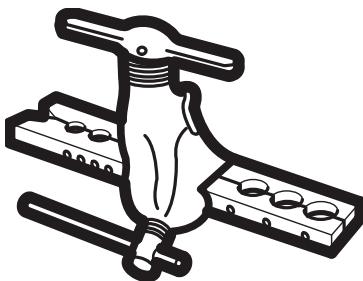
## Step 3: Flare pipe ends

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.

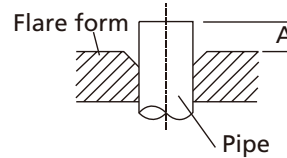


4. Remove PVC tape from ends of pipe when ready to perform flaring work.
5. Clamp flare form on the end of the pipe. The end of the pipe must extend beyond the edge of the flare form in accordance with the dimensions shown in the table below.



## 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")



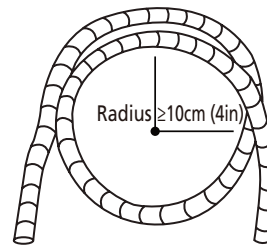
6. Place flaring tool onto the form.
7. Turn the handle of the flaring tool clockwise until the pipe is fully flared.
8. Remove the flaring tool and flare form, then inspect the end of the pipe for cracks and even flaring.

## 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 low-pressure pipe, then the high-pressure pipe.

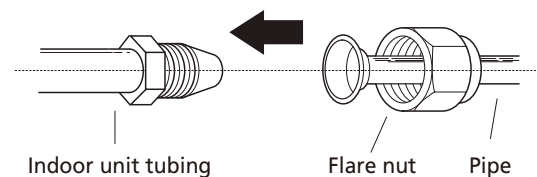
### MINIMUM BEND RADIUS

When bending connective refrigerant piping, the minimum bending radius is 10cm.



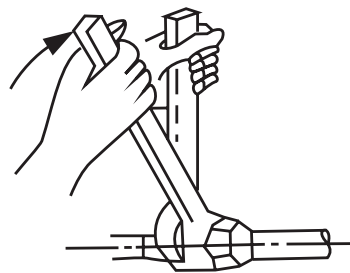
## Instructions for Connecting Piping to Indoor Unit

1. Align the center of the two pipes that you will connect.





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.



### TORQUE REQUIREMENTS

Outer Diameter of Pipe (mm)	Tightening Torque (N•m)	Flare dimension(B) (mm)	Flare shape
Ø 6.35 (Ø 0.25")	18~20(180~200kgf.cm)	8.4~8.7 (0.33~0.34")	
Ø 9.52 (Ø 0.375")	32~39(320~390kgf.cm)	13.2~13.5 (0.52~0.53")	
Ø 12.7 (Ø 0.5")	49~59(490~590kgf.cm)	16.2~16.5 (0.64~0.65")	
Ø 16 (Ø 0.63")	57~71(570~710kgf.cm)	19.2~19.7 (0.76~0.78")	
Ø 19 (Ø 0.75")	67~101(670~1010kgf.cm)	23.2~23.7 (0.91~0.93")	

### ⚠ 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.

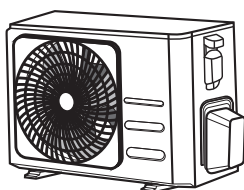
### Instructions for Connecting Piping to Outdoor Unit

1. Unscrew the cover from the packed valve on the side of the outdoor unit.
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.
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.



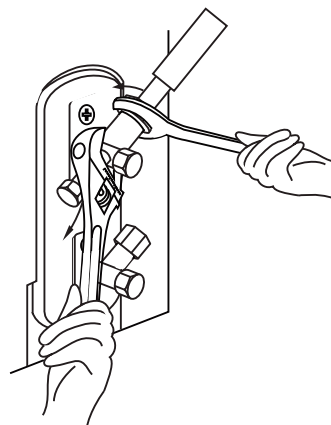
### USE SPANNER TO GRIP MAIN BODY OF VALVE

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



Valve cover

5. While firmly gripping the body of the valve, use a torque wrench to tighten the flare nut according to the correct torque values.





# Air Evacuation

## 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.

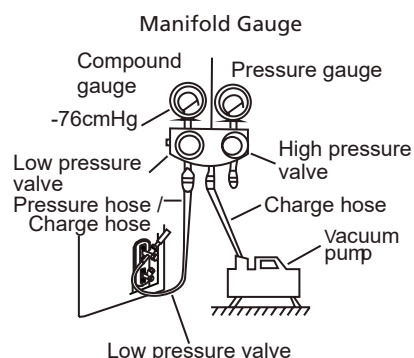
Evacuation should be performed upon initial installation and when unit is relocated.

### BEFORE PERFORMING EVACUATION

- ✓ Check to make sure the connective pipes between the indoor and outdoor units are connected properly .
- ✓ Check to make sure all wiring is connected properly.

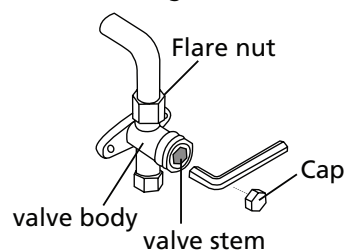
## Evacuation Instructions

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 ( $-10^5$ 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.



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. For the R290 refrigerant models, no refrigerant can be added. 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") <b>R32:</b> (Pipe length – standard length) x 12g/m (Pipe length – standard length) x 0.13oz/ft <b>R410A:</b> (Pipe length – standard length) x 15g/m (Pipe length – standard length) x 0.16oz/ft <b>R22:</b> (Pipe length – standard length) x 20g/m (Pipe length – standard length) x 0.21oz/ft	Liquid Side: Ø 9.52 (ø 0.375") <b>R32:</b> (Pipe length – standard length) x 24g/m (Pipe length – standard length) x 0.26oz/ft <b>R410A:</b> (Pipe length – standard length) x 30g/m (Pipe length – standard length) x 0.32oz/ft <b>R22:</b> (Pipe length – standard length) x 40g/m (Pipe length – standard length) x 0.42oz/ft



**CAUTION** DO NOT mix refrigerant types.

Always wear work gloves and goggles when handling refrigerant.



# Electrical and Gas Leak Checks

## 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

## 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 North America.

### 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 North America.



## 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

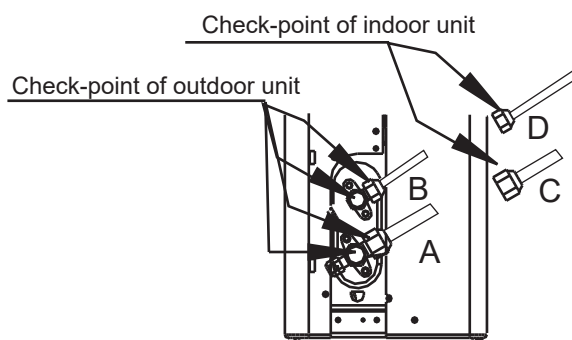
Using a soft brush, apply soapy water or liquid detergent to all pipe connection points on the indoor unit and outdoor unit. The presence of bubbles indicates a leak.

### 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.



A: Low pressure stop valve  
B: High pressure stop valve  
C & D: Indoor unit flare nuts



# Test Run

## 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.

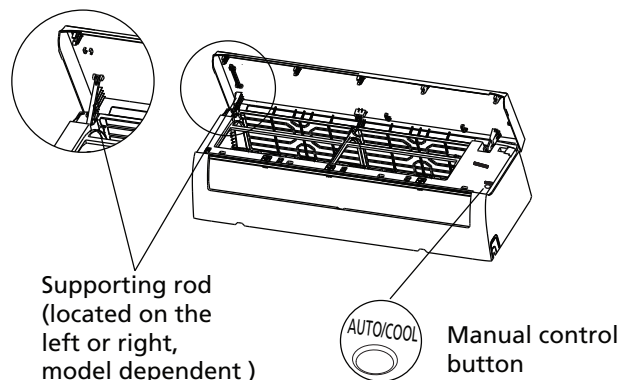
5. After the Test Run is successfully completed, and you confirm that all checks points in List of Checks to Perform have PASSED, do the following:
  - a. Using remote control, return unit to normal operating temperature.
  - b. Using insulation tape, wrap the indoor refrigerant pipe connections that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

## IF AMBIENT TEMPERATURE IS BELOW 16°C (60°F)

You can't use the remote controller to turn on the COOL function when the ambient temperature is below 16°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.
 

**NOTE:** For some units, there is a supporting rod located on the left or right side. Please use it to prop up the panel.
2. The **MANUAL CONTROL** button is located on the right-hand side of the unit. Press it 2 times to select the COOL function.
3. Perform Test Run as normal.





# Packing and unpacking the unit

## Instructions for packing and unpacking the unit:

### Unpacking:

#### Indoor unit:

1. Cut the sealing tape on the carton with a knife, one cut on the left, one cut in the middle and one cut on the right.
2. Use the vice to take out the sealing nails on the top of the carton.
3. Open the carton.
4. Take out the middle support plate if it is included.
5. Take out the accessory package, and take out the connecting wire if it is included.
6. Lift the machine out of the carton and lay it flat.
7. Remove the left and right package foam or the upper and lower packaging foam, untie the packaging bag.

#### Outdoor Unit

1. Cut the packing belt.
2. Take the unit out of the carton.
3. Remove the foam from the unit.
4. Remove the packaging bag from the unit.

### Packing:

#### Indoor unit:

1. Put the indoor unit into the packing bag.
2. Attach the left and right package foam or the upper and lower packaging foam to the unit.
3. Put the unit into the carton, then put accessory package in.
4. Close the carton and seal it with the tape.
5. Using the packing belt if necessary.

#### Outdoor unit:

1. Put the outdoor unit into the packing bag.
2. Put the bottom foam into the box.
3. Put the unit into the carton, then put the upper packaging foam on the unit.
4. Close the carton and seal it with the tape.
5. Using the packing belt if necessary.

**NOTE:** Please keep all packaging items if you may need in the future.







**The design and specifications are subject to change without prior notice for product improvement. Consult with the sales agency or manufacturer for details. Any updates to the manual will be uploaded to the service website, please check for the latest version.**

**CS445UI-18C(AG)(D)**

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