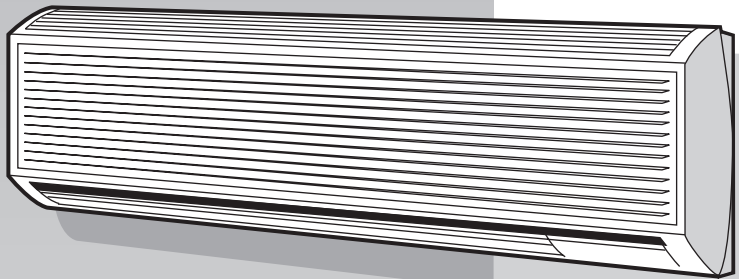
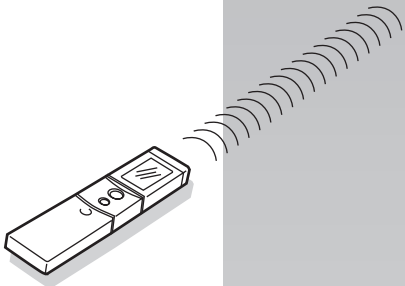
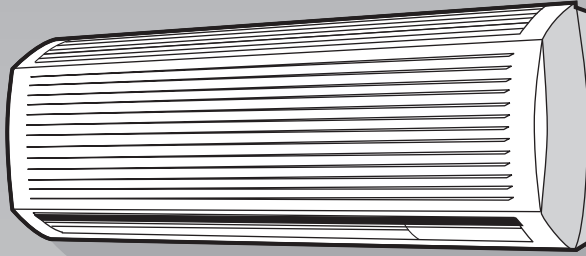


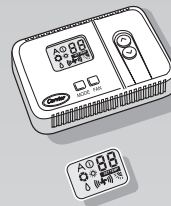
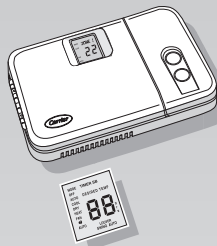
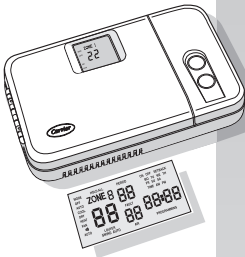


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07 - 09 - 12



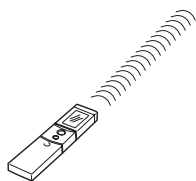
42 HWS 18 - 24



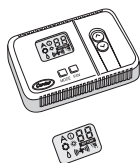
INSTALLATION MANUAL

42 HWS

Split system “Hi-Wall” indoor unit



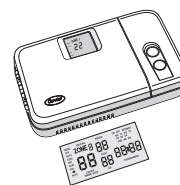
IR Remote Control



“Room Controller”



“Group Controller”



“Zone Manager”

The unit can be used with infrared Remote Control, with the Carrier “Room Controller” or “Group Controller” remote control.

Some units can be used also with the Carrier “Zone Manager” remote control.

Infrared control installation instructions are contained in this manual.

Remote controls installation instructions are contained in the relevant manuals.

The operation and maintenance instructions for the indoor unit and the installation instructions for the indoor and the outdoor unit are given in the manuals for each unit.

IMPORTANT:

When this indoor unit is connected to multisplit outdoor unit model 38YLM or 38VV (VRF), refer to the outdoor unit installation manual for the following paragraphs:

- Electrical connections
- Connection wire size
- System configuration
- Trial run procedure

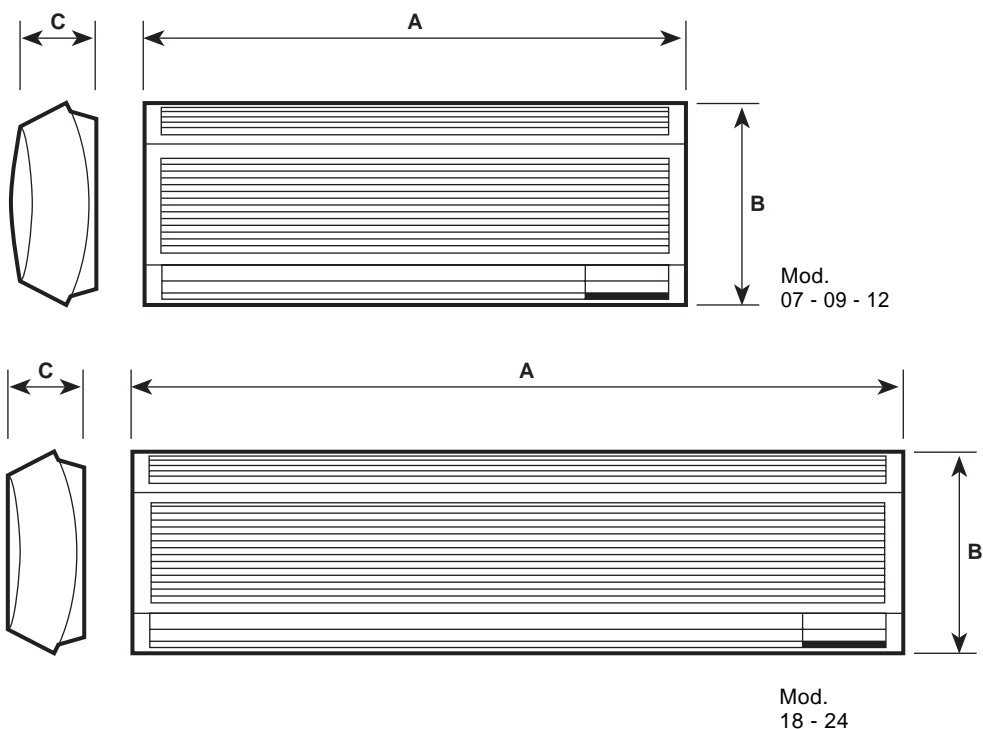
Contents


	Page
Dimensions and weight	2
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System configuration	11
Operating test	11
Alarm code	12
Guide for the owner	12
Accessories	12
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Cooling only and heat pump models	Power supply
42HWS007---703IJ-40 42HWS009---703IJ-40 42HWS012---703IJ-40 42HWS018---703IJ-40 42HWS024---703IJ-40	230V ~ 50Hz
42HWS018---703IJ-40 42HWS024---703IJ-40	230V ~ 60Hz

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Dimensions and weight



Mod.		07	09 - 12	18 - 24
A	mm	800	800	1150
B	mm	290	337	354
C	mm	145	170	180
	kg	9.5	10	15

ELECTRIC POWER INPUT		
Cooling only unit		
	Cooling W	Heating W
42HWS007---703IJ-40	37	-
42HWS009---703IJ-40	48	-
42HWS012---703IJ-40	48	-
42HWS018---03IJ-40	60 ⁽¹⁾	-
42HWS024---03IJ-40	85 ⁽¹⁾	-
Heat pump		
42HWS007---703IJ-40	37	37
42HWS009---703IJ-40	48	48
42HWS012---703IJ-40	48	48
42HWS018---03IJ-40	60 ⁽¹⁾	60 ⁽¹⁾
42HWS024---03IJ-40	85 ⁽¹⁾	85 ⁽¹⁾

Table I: Nominal data

- Unit is not suitable for operation in laundry premises.
- Sizing of power supply wires and delay type fuses, refer to the outdoor unit installation instructions.

Note:
⁽¹⁾ 50 and 60 Hz.

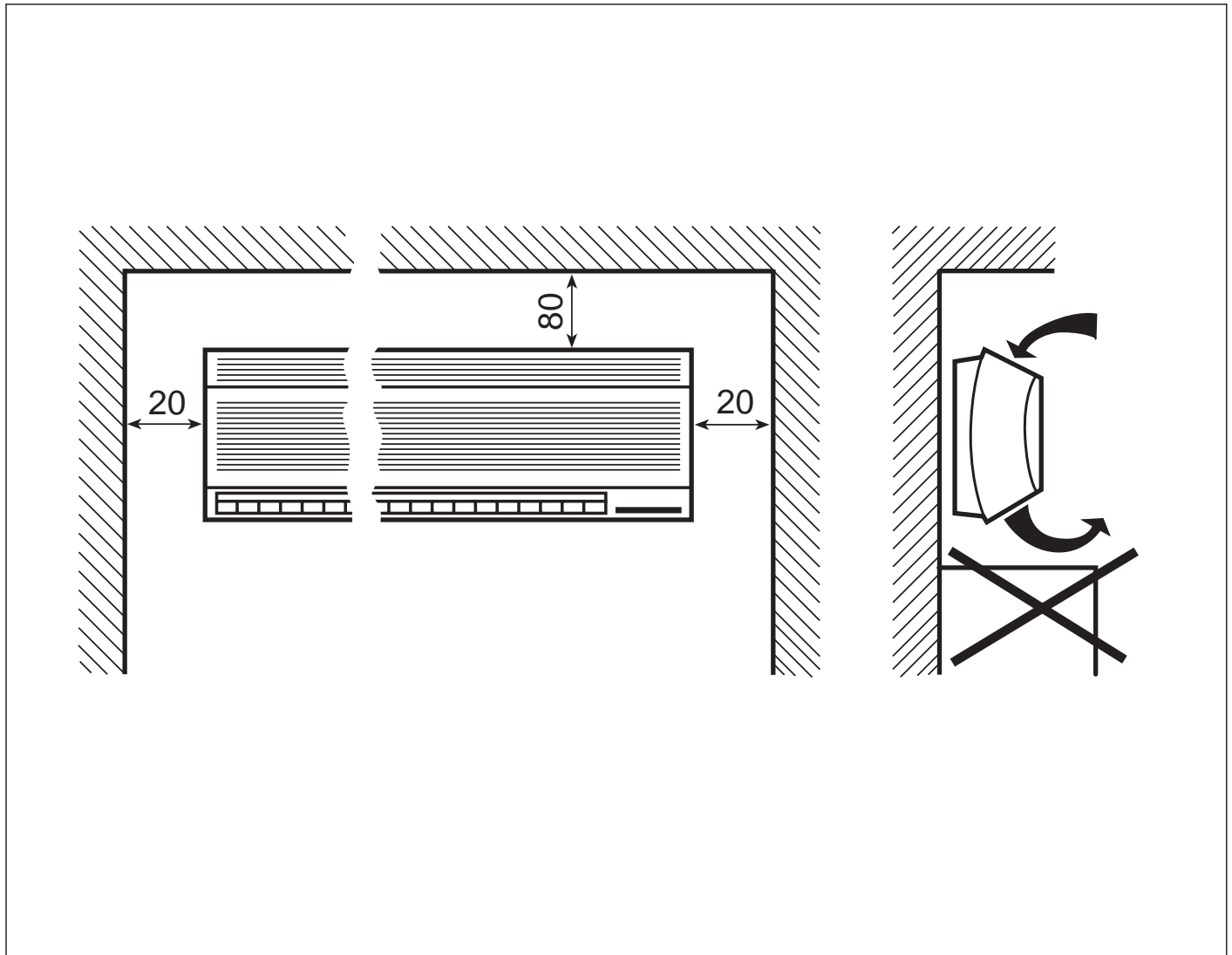


Table II: Material supplied

Ref.	Description	Q.ty	Use
1	Wall mounting plate	1	Indoor unit installation
2	Screw anchors and screws	4 + 4	Wall plate installation
3	Wireless remote controller with wall bracket and screw	1	Operation and mode selection
4	Batteries	2	Remote control operation
5	Installation manual	1	Unit installation
6	Owner's manual	1	Use and maintenance
7	Template	1	Indoor unit positioning

Table III: Operating limits

Cooling / Heating	Refer to outdoor unit installation manual.		
Mains power supply	Nominal single-phase voltage Operating voltage limits	230V ~ 50Hz min. 198V – max. 264V	230V ~ 60Hz min. 187V – max. 253V

Unit installation

Read this instruction manual thoroughly before starting the installation.

- This unit complies with low-voltage (EEC/73/23) and electromagnetic compatibility (EEC/89/336) directives.
- The installation must be carried out by a qualified installer.
- Follow all current national safety code requirements. In particular ensure that a properly sized and connected ground wire is in place.
- Check that voltage and frequency of the mains power supply are those required for the unit to be installed; the available power must be adequate to operate any other possible appliances connected to the same line. Also ensure that national safety code requirements have been followed for the mains supply circuit.
- Mains supply connection can be made to the outdoor unit only.
- Connect indoor and outdoor units with field-supplied copper pipes by means of flare connections. Use insulated seamless refrigeration grade pipe only, (Cu DHP type according to ISO 1337), degreased and deoxidized, suitable for operating pressures of at least 3000 kPa. Under no circumstances must sanitary type copper pipe be used.
- Where necessary, use field-supplied 16 mm I.D. PVC pipe of appropriate length and with the correct thermal insulation for the condensate drain extension.
- After installation thoroughly test the system operation and explain all system functions to the owner.
- Leave this manual with the owner for consultation during future periodic maintenance.
- Use this unit only for factory approved applications: **the unit cannot be used in laundry or steam pressing premises.**

WARNING:

Disconnect the mains power supply switch before servicing the system or handling any internal parts of the unit.

- Do not open the remote controller to avoid possible damage. In case of malfunctioning contact a qualified service engineer.
- Controller batteries contain polluting elements. When exhausted they must be disposed of according to local requirements.
- This installation manual describes the installation procedures of the indoor unit of a residential split system consisting of two units manufactured by Carrier Villasanta (Italy). Consult factory or a qualified system engineer prior to connecting this unit to any other manufacturer's outdoor unit. Coupling units which have different control systems, may cause irreversible damage and void the warranty protection. The manufacturer declines any liability for system malfunction resulting from unapproved coupling.
- The manufacturer declines any liability for damage resulting from modifications or errors in the electrical or refrigerant connections. Failure to observe the installation instructions or use of the unit under conditions other than those indicated in Table III (operating limits) of outdoor unit installation manual, will immediately void the unit warranty.

- Failure to observe electric safety codes may cause a fire hazard in case of short circuits.
- Inspect equipment for damage due to improper transportation or handling: file an immediate claim with the shipping company. Do not install or use damaged units.
- In case of any malfunctioning turn the unit off, disconnect the mains power supply and contact a qualified service engineer.
- This equipment contains ozone depleting substances. Maintenance of the refrigerant circuit must only be carried out by qualified personnel.
- **All of the manufacturing and packaging materials used for your new appliance are compatible with the environment and can be recycled.**
- Dispose of the packaging material in accordance with local requirements.
- This equipment contains coolant that must be disposed of in a proper manner. When disposing of the unit after its operational life, remove it carefully. The unit must then be delivered to an appropriate disposal center or to the original equipment dealer, for proper environmentally friendly disposal.

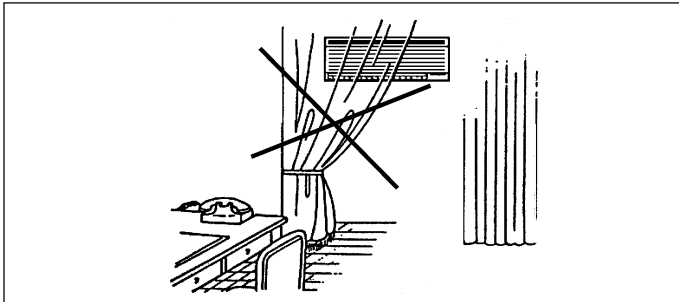
Choosing the installation site

Positions to avoid:

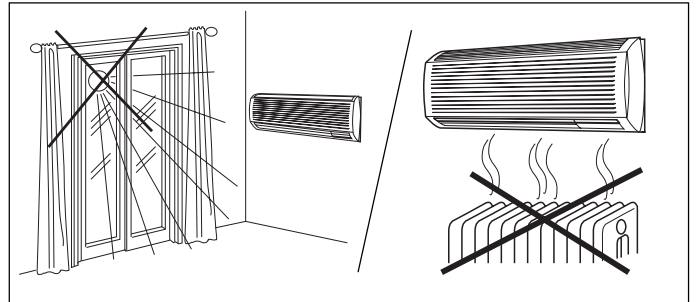
- Exposed to direct sun.
- Too close to heat sources.
- On humid walls or positions with water hazard, e.g. laundry premises.
- Where curtains or furniture may obstruct free air circulation.

Recommendations:

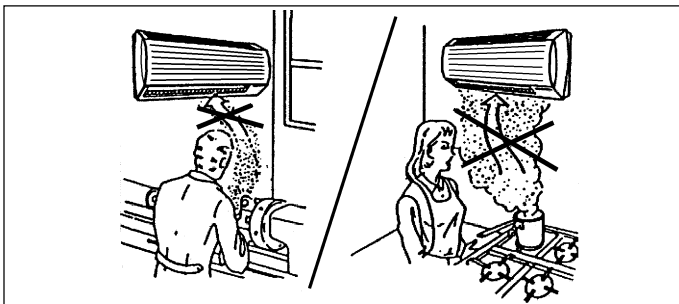
- Choose an area free from obstructions which may cause irregular air distribution and/or return.
- Check that the wall surface is flat enough to allow easy and safe installation. The wall structure should be strong enough to carry the unit weight and avoid deformation, rupture or vibration during operation.
- Consider using an area where installation is easy.
- Choose a position that allows for the clearances required (see drawing).
- Look for a position in the room which assures the best possible air distribution.
- Install unit in a position where condensate can easily be piped to an appropriate drain.



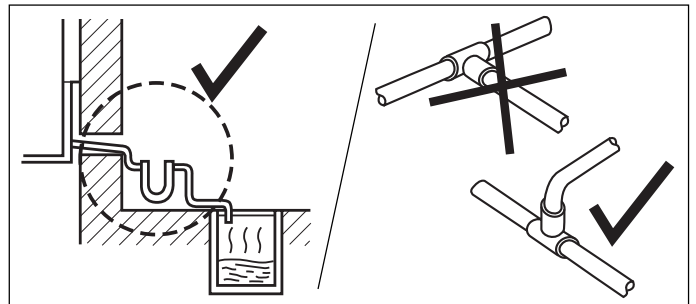
Any obstruction of the unit air outlet or return.



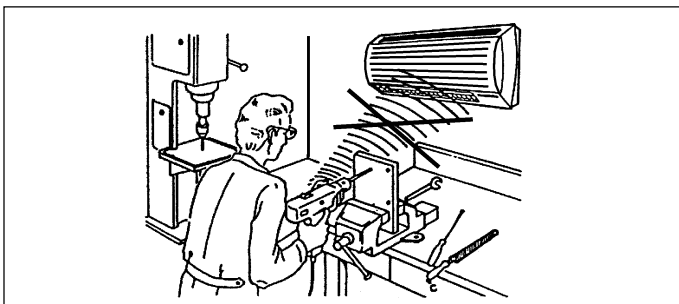
Exposure to direct sunshine, when unit is operating in cooling mode; always use shutters or shades.
Positions too close to heating sources which may damage the unit.



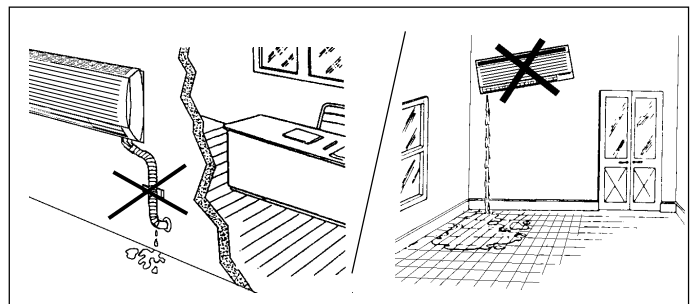
Exposure to oil vapours.



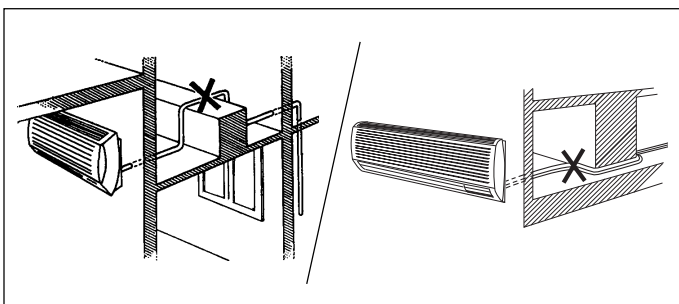
Connecting condensate piping to sewage system drain without appropriate trap. Trap height must be calculated according to the unit discharge head in order to allow sufficient and continuous water evacuation.



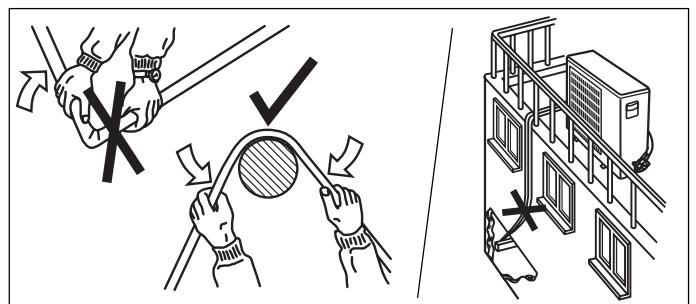
Installation in areas with high frequency waves.



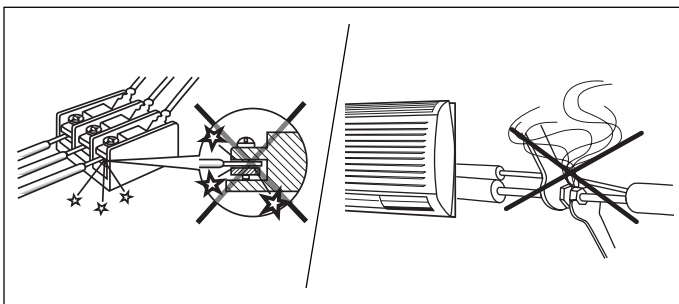
Only partial insulation of the piping.
Installation not correctly leveled which will cause condensate dripping.



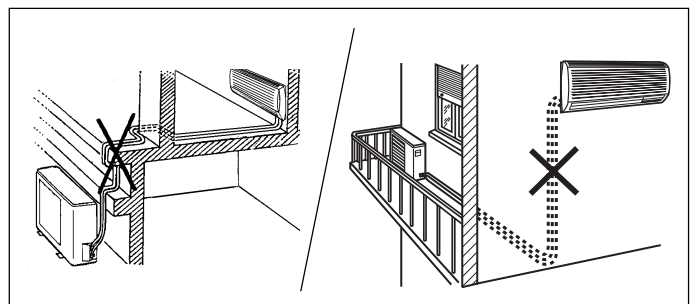
Any rise in the condensate drain piping.
Horizontal condensate drain piping with less than 2% slope.



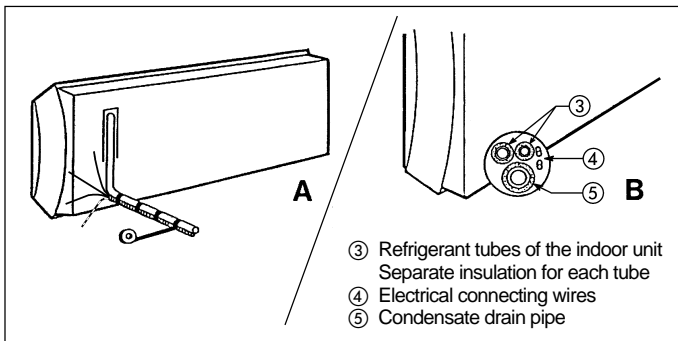
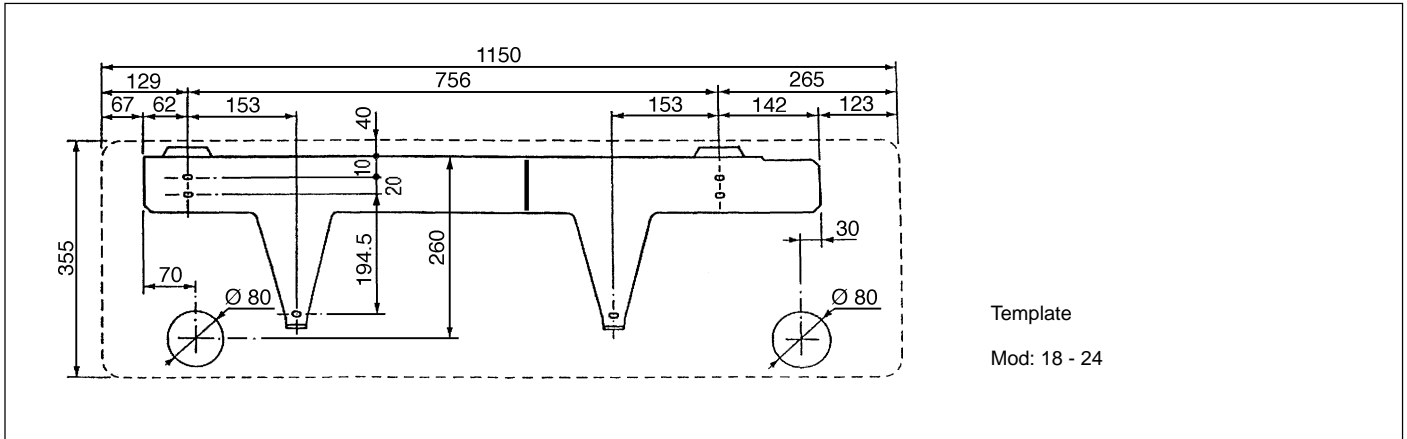
Flattening or kinking the refrigerant pipes or condensate pipes.
Excessive height difference between outdoor and indoor units (see installation manual of outdoor unit).



Slack on electrical connections. Disconnecting refrigerant connections after installation: this will cause refrigerant leaks.



Unnecessary turns and bends in interconnecting tubing. Excessive interconnecting tube length (see installation manual of outdoor unit).

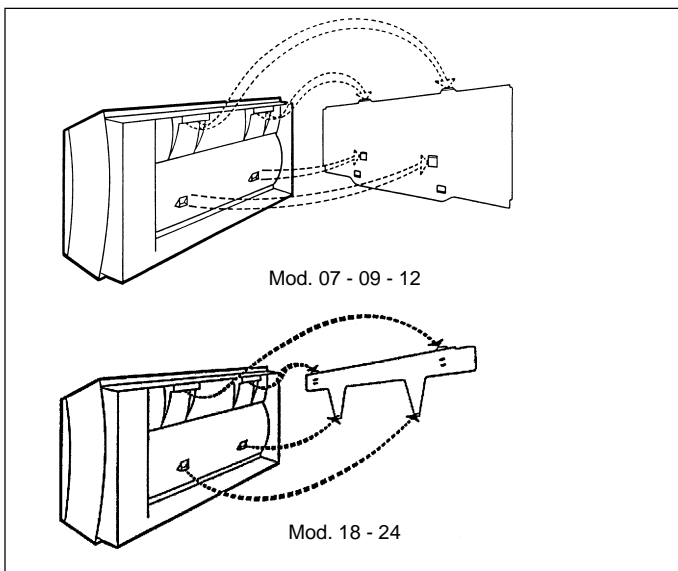


Condensate drain pipe and refrigerant tubes.

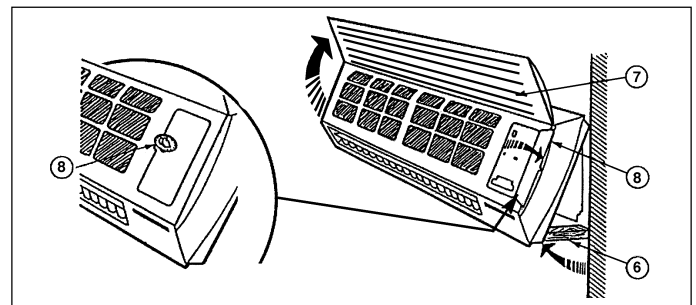
- Fasten the electric wires and refrigerant tubes together. Allow an additional length to the electric wires for easy connection to the unit connectors.
- Run refrigerant tubes so the condensate drain pipe is always positioned at the bottom of the conduit. Connect the condensate pipe to a proper drain using a flexible PVC pipe. Horizontal runs between indoor unit and drain orifice must have a minimum 2% slope.

Note:

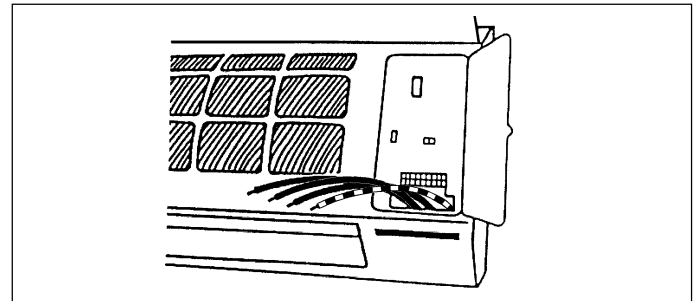
Do not kink or flatten the tubes. Avoid bends with a bending radius of less than 100 mm. Do not bend copper tubes more than three times at the same point. Do not remove flare fittings from unit tubes before actually making the connections. Do not fasten the insulation too tightly to the tubes with straps or tape.



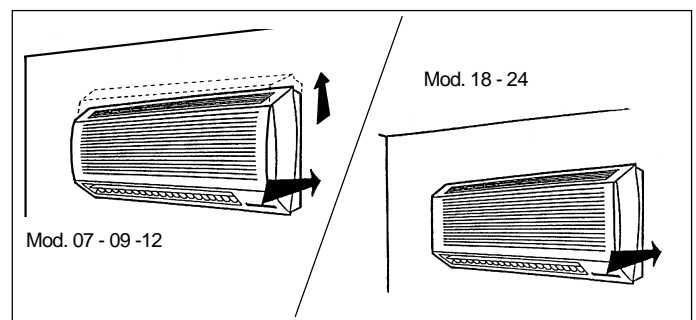
Attach the unit to the mounting plate by means of the upper hooks.



Keep the bottom end of the unit slightly away from the mounting plate and hold this position with spacer stick (6). Open the front panel (7) and remove the electrical terminal box cover (8). **This operation can be carried out without disassembling the unit front panel.**



Pass the electrical wires through the proper slot provided in the back panel of the unit and pull them out in the front. **Do not make electrical connections at this stage.**



Remove the spacer stick. To fasten the unit:

- **Sizes 07, 09, 12**
Slightly pull the bottom end of the unit from the wall, then push it firmly so that the bottom hooks engage in the appropriate slots.
- **Sizes 18, 24**
Push the unit firmly so that the bottom hooks engage in the appropriate slots.

Should it be necessary to detach the unit, proceed in the opposite way.

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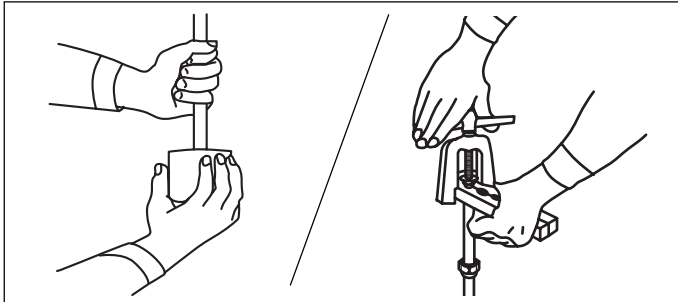
Refrigerant connections

Refer to the outdoor unit installation manual for tube sizing, and limitations (slopes, length, number of curves allowed, refrigerant charge, etc.)

Mod.	Tubing diameter			
	Gas (Suction)		Liquid (Discharge)	
	mm	(inches)	mm	(inches)
07	9.52	(3/8")	6.35	(1/4")
09	9.52	(3/8")	6.35	(1/4")
12	12.77	(1/2")	6.35	(1/4")
18	12.77	(1/2")	6.35	(1/4")
24	15.87	(5/8")	6.35	(1/4")

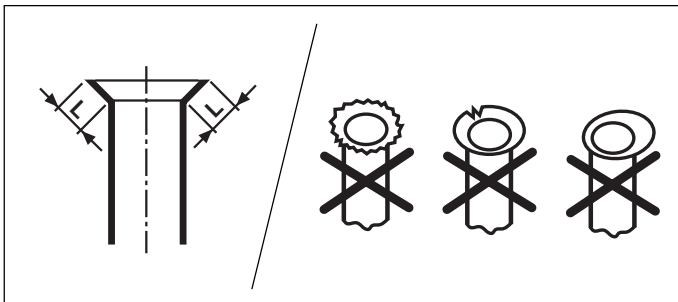
For refrigerant tubes use seamless, insulated refrigeration grade tube, (Cu DHP type according to ISO 1337), degreased and deoxidized, suitable for operating pressures of at least 3000 kPa. Under no circumstances use sanitary type copper pipe.

Flaring the end of the tubing

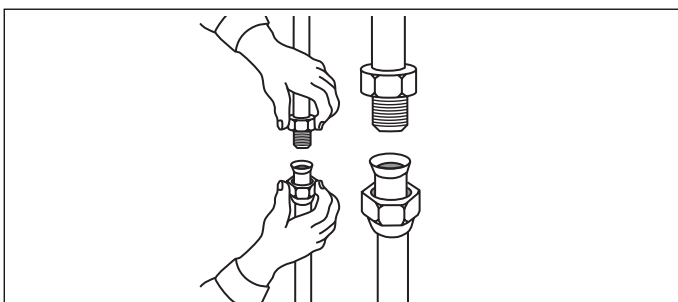


Remove protective caps from the copper tube ends. Position tube end downward, cut the tube to the required length and remove the burrs with a reamer.

Remove flare nuts from the unit connections and place them on the tube end. Flare the tube with the flaring tool.



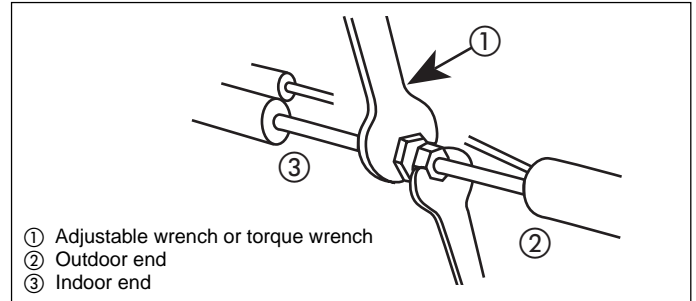
Flare end must not have any burrs or imperfections. The length of the flared walls must be uniform.



Lubricate the tube end and thread of the flare fitting with anti-freeze oil. Finger-tighten the fitting several turns, then tighten it fully with two wrenches by applying the tightening torque indicated in the table.

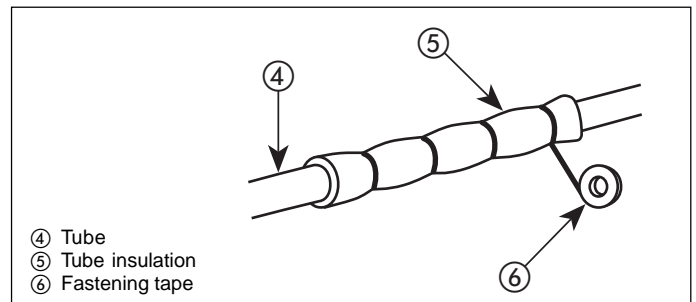
Connection to the unit

Insufficient tightening torque will cause gas leaks. Overtightening the fittings will damage the tube flaring and cause gas leaks.



- ① Adjustable wrench or torque wrench
- ② Outdoor end
- ③ Indoor end

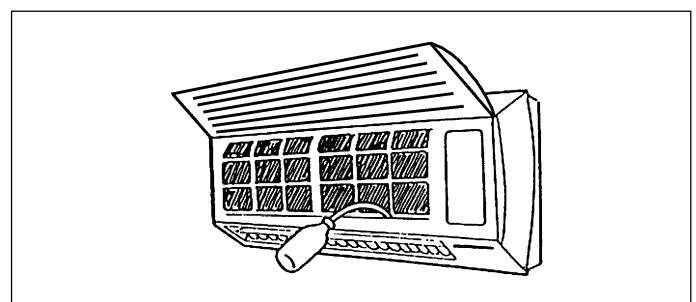
Tubing diameter mm (inches)	Torque Nm
6.35 (1/4")	15 - 20
9.52 (3/8")	31 - 35
12.77 (1/2")	50 - 55
15.87 (5/8")	50 - 55



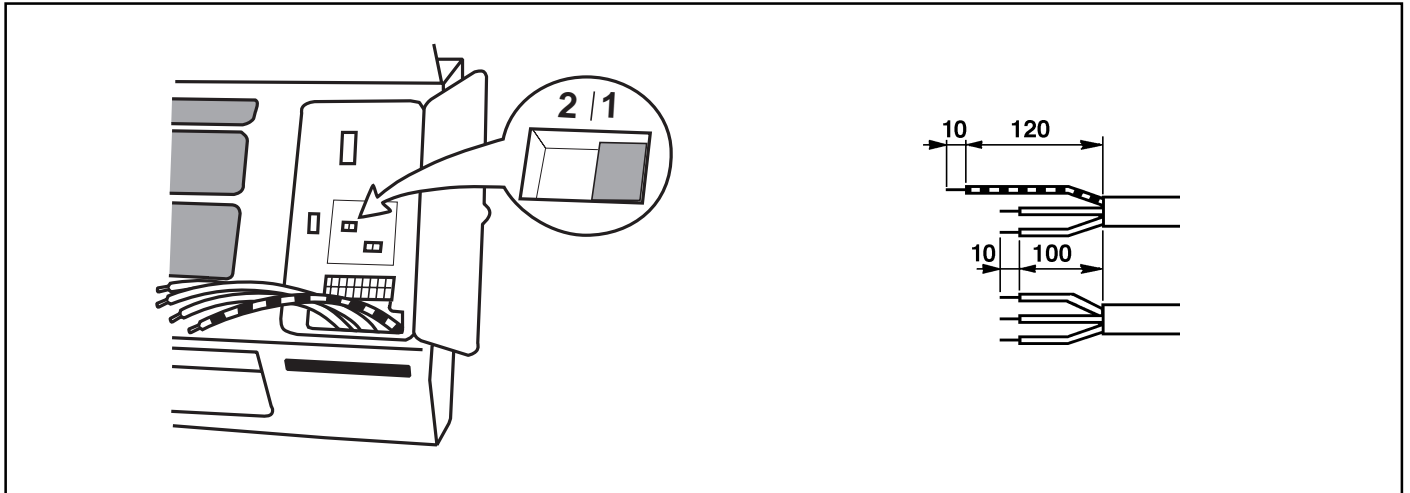
- ④ Tube
- ⑤ Tube insulation
- ⑥ Fastening tape

Once all connections have been completed, check for leaks by applying soapy water to them. Finally wrap connections with anti-condensate insulation and tighten with tape, without exerting great pressure on the insulation. Repair and cover any possible cracks in the insulation. Connection pipes and electric cables between indoor and outdoor units must be fixed to the wall with appropriate conduits. If the system power supply is connected to the indoor unit (only for models 07 - 09 and 12) the power supply cable must also be fixed to the wall in the proper conduit.

Check



Pour water into the condensate drain pan and check that it flows freely to the drain.



Operating mode setting

Prior to making the electrical connections, set the switch shown in the picture as follows:

- Position 1 for cooling only unit;
- Position 2 for heat pump unit.

In order to reset, in the event of incorrect switch positioning, proceed as follows:

- Disconnect the power supply.
- Reposition the switch correctly.
- Connect the power supply.

The switch setting must correspond to the type of outdoor unit (cooling only or heat pump) and the electrical connection. Connect electrical wires to terminal box connectors in accordance with the electric diagram and fasten down firmly.

Connect electrical wires to terminal box connectors in accordance with the electric diagram and fasten down firmly.

Cooling only unit

IMPORTANT:

- Make ground connection prior to any other electrical connections.
- First make the electric connection between the two units and then the connection of the outdoor unit to the power supply.

- Make electrical connections between units prior to proceeding to mains supply unit connection.
- Ensure that mains supply connection is made through a switch that disconnects all poles, with contact gap of a least 3 mm.
- The mains supply connecting cable must be H07 RN-F (or higher) type, while the indoor - outdoor unit interconnecting wires must be A05 RN-F type (or higher), synthetic rubber insulation with Neoprene coating, according to EN 60335-2-40 and HD277.S1 codes.

Heat pump unit

- Make ground connection prior to any other electrical connections.
- Make electrical connections between units prior to proceeding to mains supply unit connection.
- Ensure that mains supply connection is made through a switch that disconnects all poles, with contact gap of a least 3 mm.
- The mains supply connecting cable must be H07 RN-F (or higher) type, while the indoor - outdoor unit interconnecting wires must be A05 RN-F type (or higher), synthetic rubber insulation with Neoprene coating, according to EN 60335-2-40 and HD277.S1 codes.

Notes:

- Sizing of power supply wires and delay type fuses, refer to the outdoor unit installation instructions.
- All field electrical connections are the responsibility of the installer.

Connections wire minimum size between indoor and outdoor units

mm²

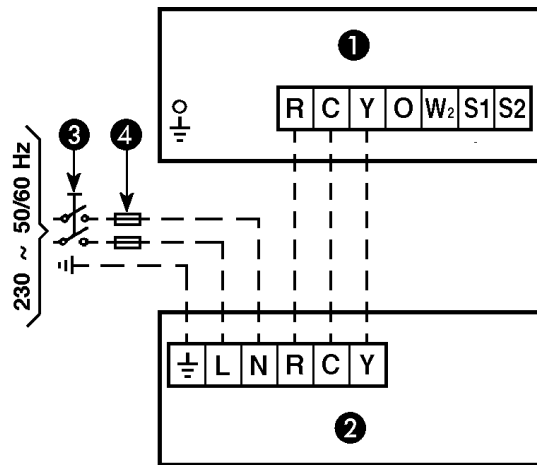
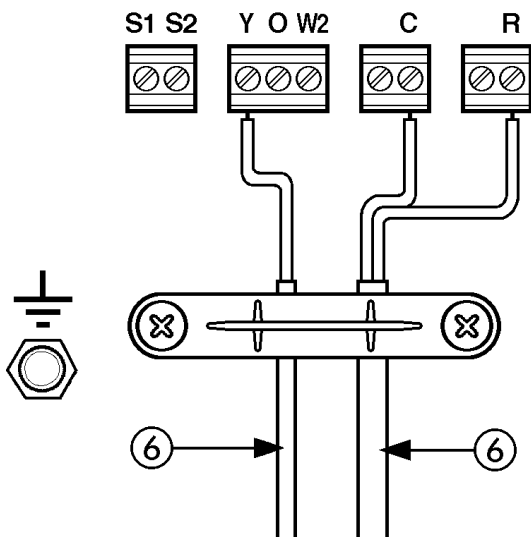
Model	R	C	Y	O ⁽¹⁾	W2 ⁽¹⁾	S1 ⁽¹⁾	S2 ⁽¹⁾
07	1.0	1.0	1.0	1.0	1.0	0.75	0.75
09	1.0	1.0	1.0	1.0	1.0	0.75	0.75
12	1.0	1.0	1.0	1.0	1.0	0.75	0.75
18	1.0	1.0	1.0	1.0	1.0	0.75	0.75
24	1.0	1.0	1.0	1.0	1.0	0.75	0.75

⁽¹⁾ Heat Pump system only.

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Electrical connections

Cooling only

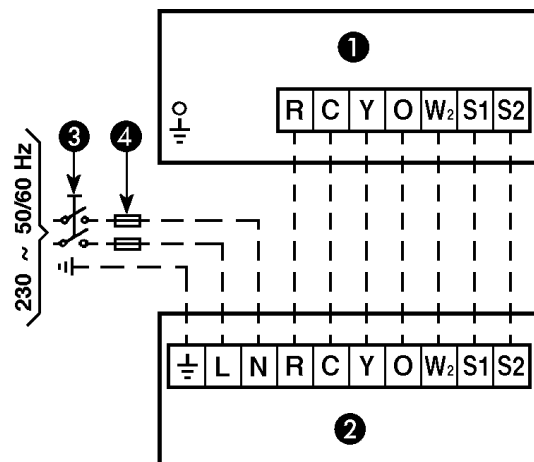
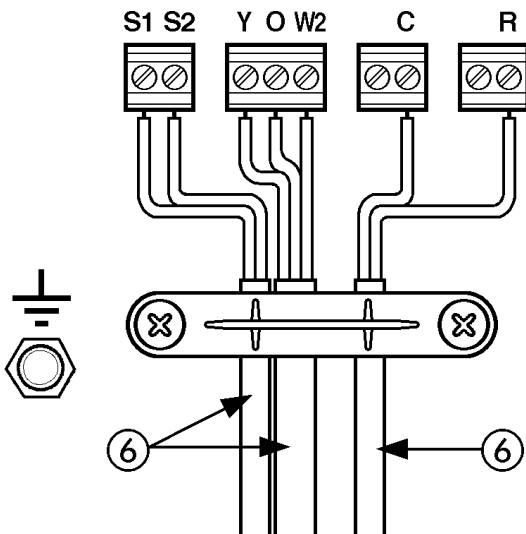


Terminal box legend, all models

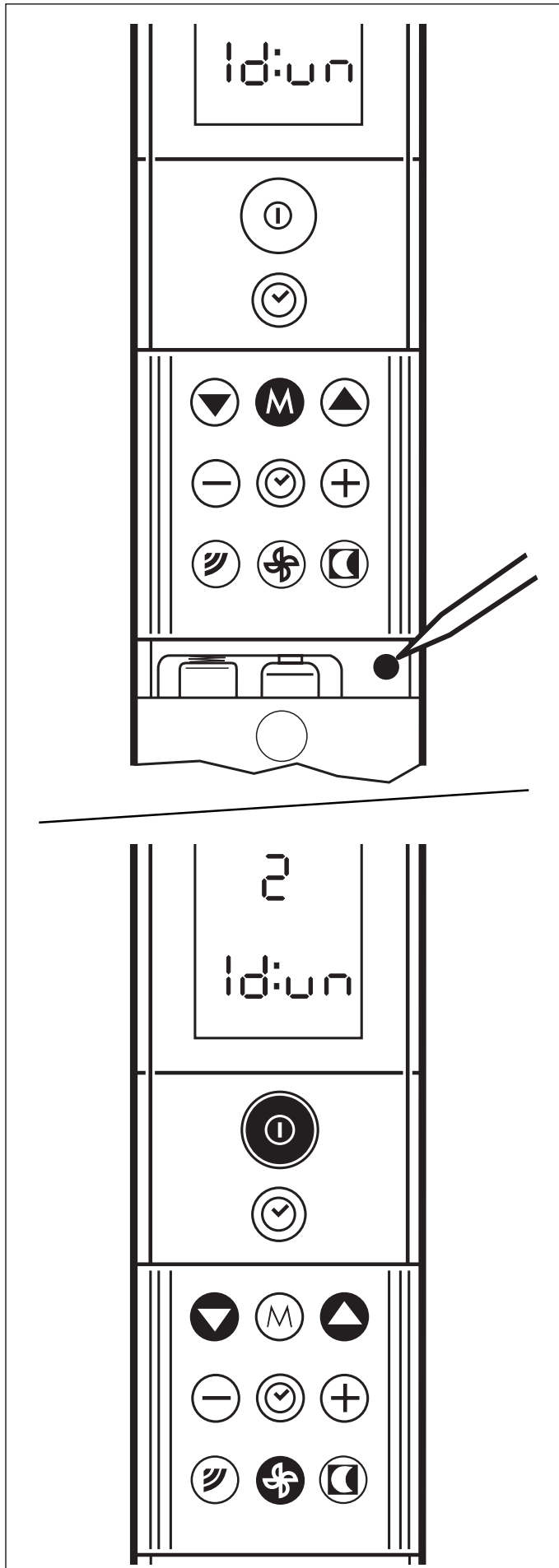
- ⊥ Earth.
- L Live power supply.
- N Neutral power supply.
- R Live connection indoor/outdoor unit.
- C Neutral connection indoor/outdoor unit.
- Y Compressor interlocking contact.
- O Reversing valve control (heat pump only).
- W2 Outdoor fan signal (heat pump only).
- S1 Outdoor coil sensor (heat pump only).
- S2 Outdoor coil sensor (heat pump only).

- 1 Indoor unit
- 2 Outdoor unit
- 3 Main switch
- 4 Time-delay fuse or circuit breaker (see outdoor unit installation manual)
- 6 Interconnecting wire, indoor-outdoor units (field wiring).

Heat pump



IMPORTANT: Use a separate bipolar wire to connect S1 and S2 terminals.



System configuration

Once the electrical connections have been completed, enter the system configuration. Check the correct switch position (see "Electrical connection") (models without electric heater). Incorrect positioning of the switch causes major system operation problems. For information on the remote controller refer to the operation and maintenance manual.

To configure the system proceed as follows:

- Place batteries in the controller, observing the polarity direction indicated.
- Energize the system by switching main switch in the ON position.
- Press the button for the selection of the operating mode (M) together with the button for the clock time adjustment for at least two seconds (the latter is recessed and located next to the battery compartment, use a pointed tool to activate).
- The controller readout will display the letters "ld:un".
- If the controller readout will display the letters "CA:P" or "Ad:dr", press button (M) until the letters "ld:un" will be displayed.
- Now, by pressing buttons for the temperature adjustment (▲▼) display one of the figures shown in the following table according to the model size in use.

Model size	Figure to select
07 - 09 - 12	1
18 - 24	2

- To send the transmission of the message to the unit, press the starting button (I), and then the button for the selection of the fan speed (⚙) for at least two seconds.
- The controller will automatically turn off and configuration is completed.

Operating test

- Energize the system by putting the mains supply switch to the ON position.
 - Position the operating switch located in the electrical board inside the unit on "Test".
- 1) The air conditioner will operate in the cooling mode for a maximum period of 30 minutes without thermostatic control of the room temperature and without the time delay protection against frequent compressor cycling.
 - 2) The air distribution louver will operate in the "SWING" mode.
 - 3) Red indicator on the unit will light up.
- During test operation, the installer must check that the 3 conditions above are fulfilled.
 - Slide the switch under the unit panel from the "Test" to the "Normal" position to exit test program.
 - During the test program, any signal sent to the unit by the remote controller will stop the test and put the air conditioner in the mode shown on display.

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Alarm code, guide for the owner, accessories and IMQ certification

Table IV: Alarm code

Code	Description
2	Indoor unit air sensor
3	Indoor unit coil sensor
4	Outdoor unit coil sensor
6	Outdoor unit in alarm mode
7	Condensation pump / Condensation level
<p>Example: Outdoor unit coil sensor not connected or not operating.</p> <p>The alarm code (3) is deduced from the number of times the green LED flashes, at intervals of 5 seconds, blocking unit operation.</p>	

Guide for the owner

When installation and tests are completed explain the Operation and Maintenance Manual to the owner, with particular attention to the main operating modes of the air conditioner, such as:

- Turning the unit on and off.
- Functions of the remote control.
- Removal and cleaning of the air filters.

Leave the two installation manuals for the indoor and outdoor units with the owner for future use during maintenance operations or for any other needs.

Table V: Accessories

Description	Part number	Mod. 42HWS								
		07	09	12	18	24				
Active carbon filter	42HWX 900---102-40	●	●	●						
	42HWX 900---100-40				●	●				
Passive electrostatic filter	42HWX 900---103-40	●	●	●						
	42HWX 900---101-40				●	●				

Note:

It is possible to have both the active carbon filter and passive electrostatic filter installed together in the unit.

IMQ certification

Your air conditioning system has been awarded IMQ certification.

The certification of the institute is only valid for systems consisting of the outdoor and indoor models listed below.

Cooling only models		Heat pump models	
Outdoor unit	Indoor unit	Outdoor unit	Indoor unit
38GL--07---703EC-40 38GLS-07G---703EC-40	42HWS007---703IJ-40	38YL--07---703EJ-40	42HWS007---703IJ-40
38GL--09---703EC-40 38GLS-09G---703EC-40	42HWS009---703IJ-40	38YL--09---703EJ-40	42HWS009---703IJ-40
38GL--12---703EC-40 38GLS-12G---703EC-40	42HWS012---703IJ-40	38YL--12---703EJ-40	42HWS012---703IJ-40
38GL--18---703EC-40 38GLS-18G---703EC-40	42HWS018---703IJ-40	38YL--18---703IJ-40	42HWS018---703IJ-40
38GL--24---703EC-40 38GLS-24G---703EC-40	42HWS024---703IJ-40	38YL--24---703IJ-40	42HWS024---703IJ-40



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The manufacturer reserves the right to change any product specifications without notice.