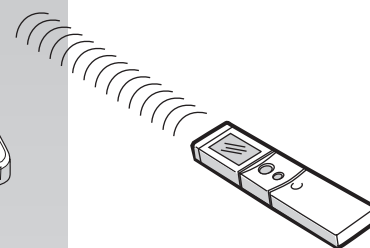
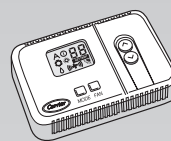
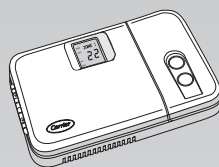
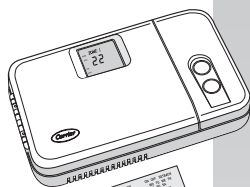
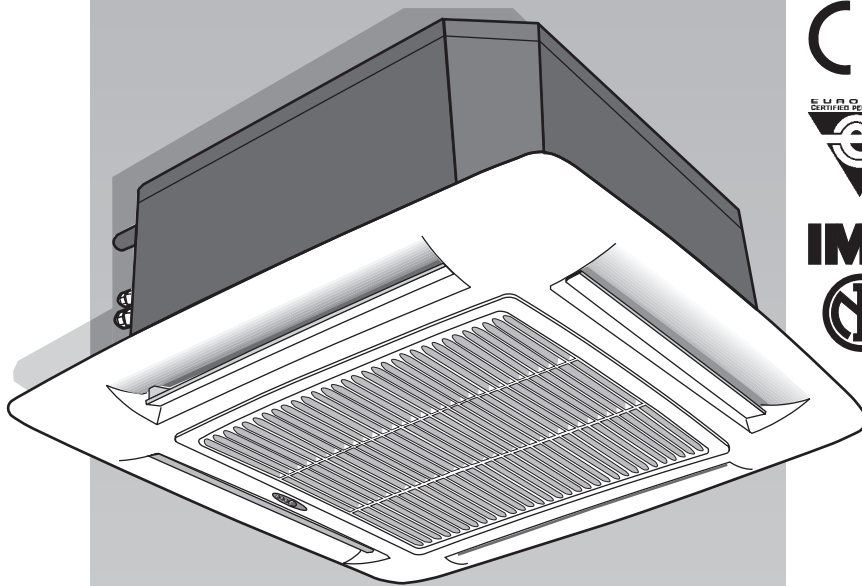




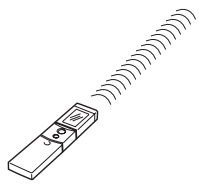
40 GKX



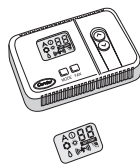
INSTALLATION MANUAL

40 GKX

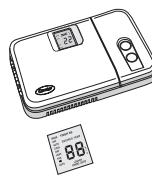
Split system “Global cassette” indoor unit



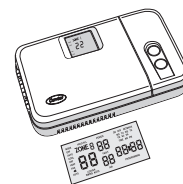
IR Remote Control



“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.

Contents

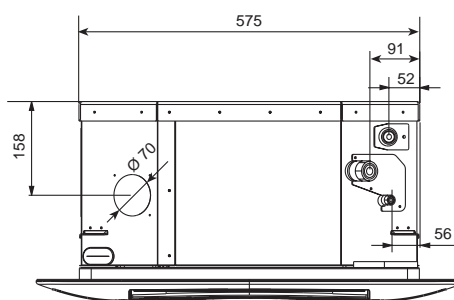
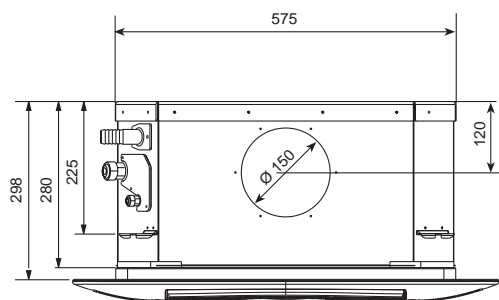
	Page
Dimensions and weight	2
Technical data	3
General information	4
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Fresh air renewal and conditioned air supply to adjacent room	14/15
System configuration	16
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AC and HP models without electric heater	AC and HP models with electric heater	Power supply
40GKX012---703-40 40GKX018---703-40 40GKX024---703-40 40GKX028---703-40 40GKX036---703-40 40GKX048---703-40 40GKX060---703-40	40GKX112W--703-40 40GKX118W--703-40 40GKX124W--703-40 40GKX128W--703-40 40GKX136W--703-40 40GKX148W--703-40 40GKX160W--703-40	230V ~ 50Hz
40GKX012W--703-40 40GKX018W--703-40 40GKX024W--703-40 40GKX028W--703-40 40GKX036W--703-40 40GKX048W--703-40 40GKX060W--703-40		230V ~ 50Hz
40GKX012W--303-40 40GKX018W--303-40 40GKX024W--303-40 40GKX028W--303-40 40GKX036W--303-40 40GKX048W--303-40 40GKX060W--303-40	40GKX112W--303-40 40GKX118W--303-40 40GKX124W--303-40 40GKX128W--303-40 40GKX136W--303-40 40GKX148W--303-40 40GKX160W--303-40	60Hz Special Export Market

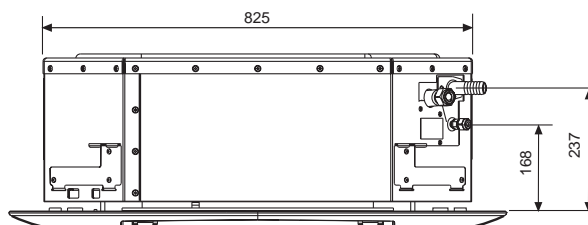
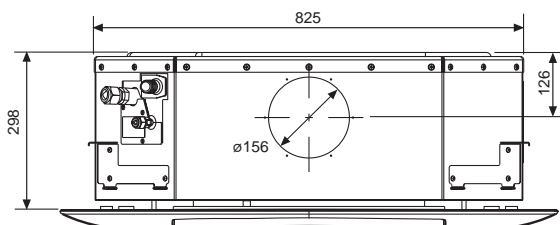
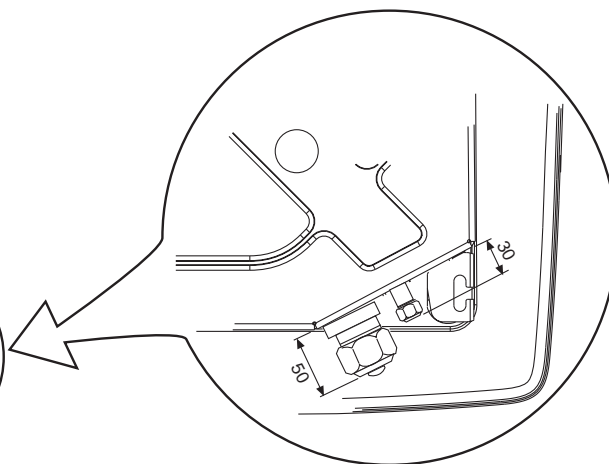
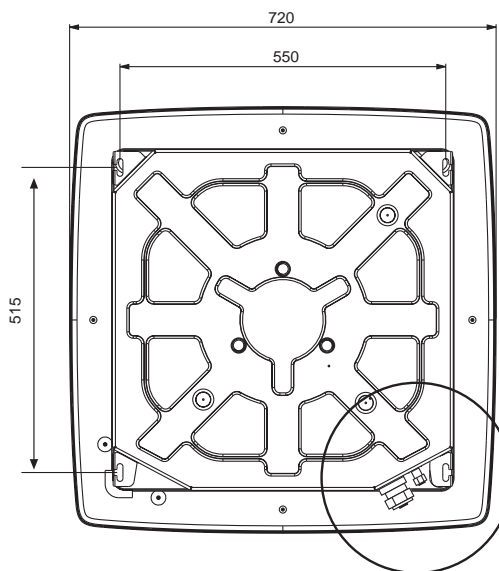
AC Cooling only - HP Heat pump

40 GKX

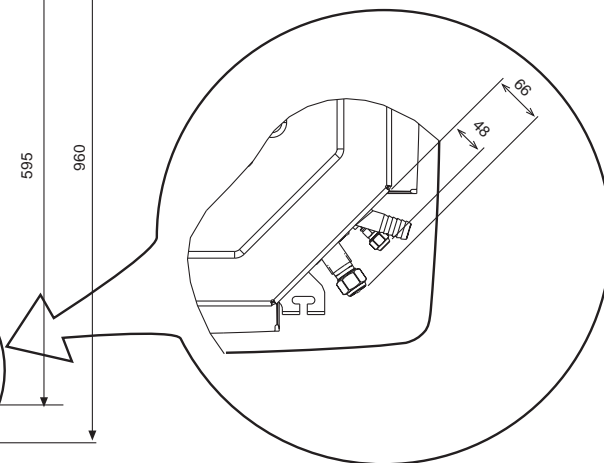
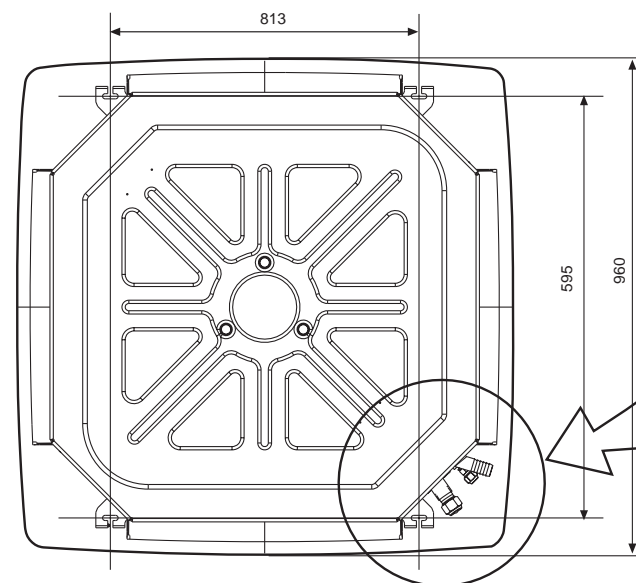
Dimensions and weight



40GKX 012 - 018 - 024



40GKX 028 - 036 - 048 - 060



40 GKX		012	018	024	028	036	048	060
Unit	kg	17.5	19	19	36	38	38	41
Frame / Grille assembly		3	3	3	5	5	5	5

Table I: Nominal data

POWER INPUT			POWER INPUT		
Cooling only			Heat pump		
	Cooling (W)	Heating (W)		Cooling (W)	Heating (W)
40GKX012---703	75	–	40GKX012---703	75	75
40GKX018---703	80	–	40GKX018---703	80	80
40GKX024---703	105	–	40GKX024---703	105	105
40GKX028---703	108	–	40GKX028---703	108	108
40GKX036---703	140	–	40GKX036---703	140	140
40GKX048---703	185	–	40GKX048---703	185	185
40GKX060---703	230	–	40GKX060---703	230	230
40GKX112W--703	75	1575	40GKX112W--703	75	1575
40GKX118W--703	80	2580	40GKX118W--703	80	1580
40GKX124W--703	105	2605	40GKX124W--703	105	1605
40GKX128W--703	108	3108	40GKX128W--703	108	2108
40GKX136W--703	140	3140	40GKX136W--703	140	2140
40GKX148W--703	185	3185	40GKX148W--703	185	2185
40GKX160W--703	230	3230	40GKX160W--703	230	2230

• For power supply wire size and delay type fuses, refer to the outdoor unit installation instructions.

Note: 230V ~ 50Hz.

Table II: Connection wire size between indoor and outdoor units (mm²)

Model	R	C	Y	O ⁽¹⁾	W2 ⁽¹⁾	S1 ⁽¹⁾	S2 ⁽¹⁾
from 12 to 60	1.0	1.0	1.0	1.0	1.0	0.75	0.75

⁽¹⁾ Heat pump unit only

- The power supply cable to the electric heaters must be H07 RN-F type.
- The connection cables between indoor and outdoor units must be:
 - type A05 RN-F (3 x 1) (R - C - Y) for cooling only units (A/C)
 - type A05 RN-F (2 x 1) (R - C) for heat pump units (H/P)
 - type A05 RN-F (3 x 1) (Y - O - W2) for heat pump units (H/P)
 - type A05 RN-F (2 x 0,75) (S1 - S2) for heat pump units (H/P)

Table III: Technical data of electric heaters (if installed)

Model	Heat pump								Cooling only						
	12	18	24	28	36	48	60	12	18	24	28	36	48	60	
Electric heater capacity	kW								1.5	1.5 + 1.0	1.5 + 1.0	2 x 1.0 + 2 x 0.5	2 x 1.0 + 2 x 0.5	2 x 1.0 + 2 x 0.5	2 x 1.0 + 2 x 0.5
Supply voltage (ph)	V	230 (1 ph)	230 (1 ph)	230 (1 ph)	230 (1 ph)	230 (1 ph)	230 (1 ph)	230 (1 ph)	230 (1 ph)	230 (*)	230 (*)	400 (*)	400 (*)	400 (*)	400 (*)
Max. current draw	A	6.5	6.5	6.5	8.7	8.7	8.7	8.7	6.5	10.8	10.8	7.5	7.5	7.5	7.5
Control device	INTERNEC electronic control														
Safety thermostat	N° 1 Automatic reset thermostat N° 1 Manual reset thermostat (electric)														
Power supply cables	mm ²	3 x 1.5	3 x 1.5	3 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	3 x 1.5	3 x 2.5	3 x 2.5	5 x 1.5	5 x 1.5	5 x 1.5	5 x 1.5
Recommended fuse (gL type)	A	8	8	8	10	10	10	10	8	12	12	10	10	10	10

*In areas with a 2 kW limit for single-phase electric heaters it is possible to divide the power supply on two phases and neutral of a three phase supply with neutral.
Use cable type H07 RN-F - 4 x 1.5 mm² - 400V 2N-

Table IV: Material supplied

Description	Quantity	Use
Installation instructions	1	Indoor unit installation
Owner's Manual	1	Correct use
Fresh air intake baffle	1	Air renewal

Table V: Operating limits

Cooling / Heating	Refer to outdoor unit installation manual.		
Main power supply	Nominal single-phase voltage	230V ~ 50Hz	60Hz Special Export Market
	Operating voltage limits	min. 198V – max. 264V	min. 187V – max. 253V
	Nominal three-phase voltage	400V 3N~ 50Hz	
	Operating voltage limits	min. 342V – max. 462V	

40 GKX

General information

Unit installation

Read this instruction manual thoroughly before starting installation.

- This unit complies with the low-voltage (EEC/73/23) and electromagnetic compatibility (EEC/ 89/336) directives.
- Follow all current national safety code requirements. In particular ensure that a properly sized and connected ground wire is in place.
- Check that the voltage and frequency of the mains power supply are as required for the unit to be installed; the available power source must be adequate to operate all other appliances connected to the same line. Also ensure that national safety code requirements have been followed for the main supply circuit.
- Connect the main supply to the outdoor unit.
- Connect indoor and outdoor units with field-supplied copper pipes with flare connections. Use insulated seamless refrigeration grade pipe only, (Cu DHP type according to ISO 1337), degreased and deoxidised, suitable for operating pressures of at least 3000 kPa. Under no circumstances must sanitary type copper pipe be used.
- Where necessary, use field-supplied 25 mm I.D. PVC pipe of appropriate length and with the correct thermal insulation for the condensate drain extension.
- After installation thoroughly test system operation and explain all system functions to the owner.
- 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 control to avoid possible damage. In case of malfunctioning contact a qualified service engineer.
- This installation manual describes the installation procedures of the indoor unit of a residential split system consisting of two Carrier manufactured units. Do not connect this unit to any other manufacturer's outdoor unit. The manufacturer declines any liability for system malfunction resulting from unauthorised system combinations.
- 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 "Operating limits" of the outdoor unit installation manual, will immediately invalidate the unit warranty.
- Failure to observe electric safety codes may cause a fire hazard in the event of short circuits.

- Inspect equipment for damage during transport. In case of damage file an immediate claim with the shipping company. Do not install or use damaged units.
- In case of malfunction 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 this appliance are biodegradable and recyclable.**
- Dispose of the packaging material in accordance with local requirements.
- This equipment contains refrigerant that must be disposed of correctly. When disposing of the unit at the end of its operational life, take the unit to an authorised waste disposal centre, or to the original equipment dealer, for correct disposal.

Choosing the installation site

Positions to avoid:

- Exposure to direct sunlight.
- Areas close to heat sources.
- On damp walls or in positions that may be exposed to water hazard.
- Where curtains or furniture may obstruct free air circulation.

Recommendations:

- Choose an area free from obstructions which may cause uneven air distribution and/or return.
- Consider using an area where installation is easy.
- Choose a position that allows for the clearances required.
- Look for a position in the room which ensures the best possible air distribution.
- Install unit in a position where condensate can easily be piped to an appropriate drain.

Table VI: Accessories

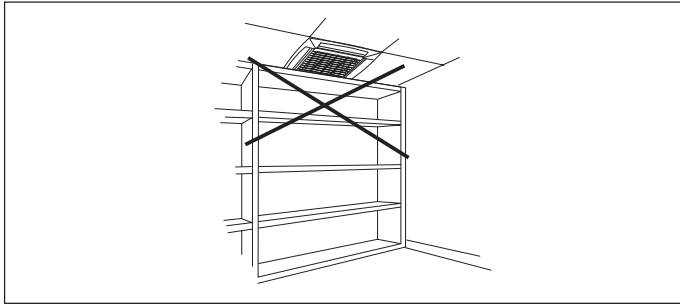
A= mod. 012, 018, 024.

B= mod. 028, 036, 048, 060.

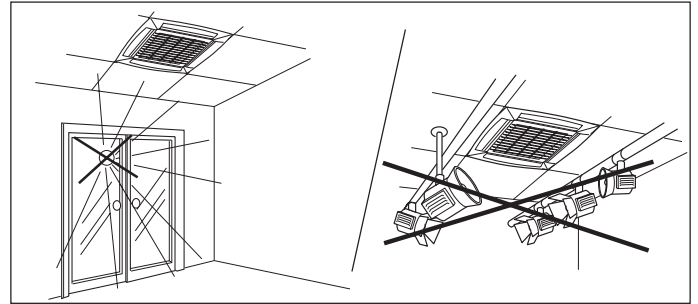
Description	Code	A	B	Description	Code	A	B
Outside condensate discharge pump, head 2 m 230V ~ 50/60Hz	40GK-900---401-40	X	X	Air supply outlet obstruction kit ⁽¹⁾	40GK-900---003-40	X	
Electrostatic filter	40GK-900---001-40	X		Group Controller	40GK-900---013-40		X
Active carbon filter	40GK-900---011-40		X	Group Controller kit	40QKX900---101-40	X	X
Room Controller	40GK-900---002-40	X		Zone Manager kit	40QKX900---103-40	X	X
	40GK-900---012-40		X	Zone Manager	40QKX900---102-40	X	X
	33DFS-RM	X	X	Infrared control kit ⁽²⁾	40QKX900---100-40	X	X
					40QKX900---104-40	X	X

Notes: ⁽¹⁾ Not to be used on units equipped with electric heater (mod. 40GKX1..W).

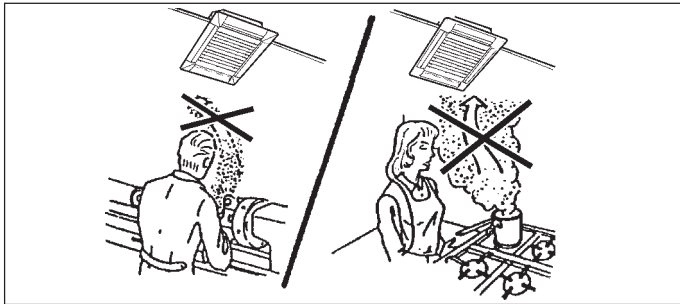
⁽²⁾ IMQ approved kit.



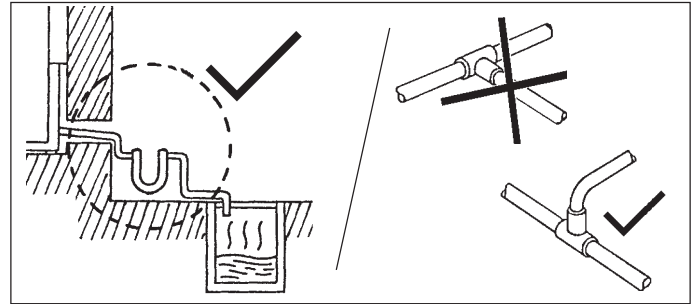
... any obstruction of the unit air intake or supply grilles.



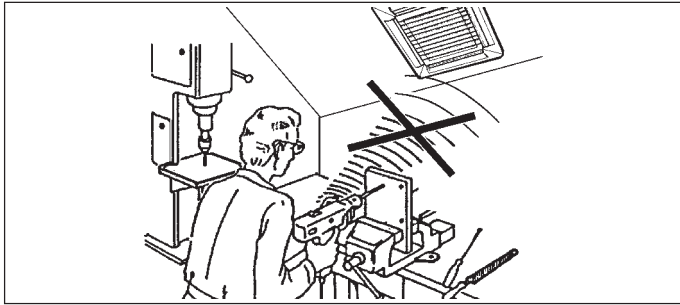
... exposure to direct sunshine, when the unit is operating in the cooling mode; always use shutters or shades.
... positions too close to heating sources which may damage the unit.



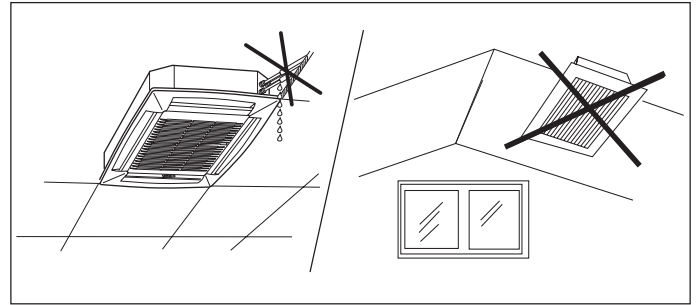
... exposure to oil vapours.



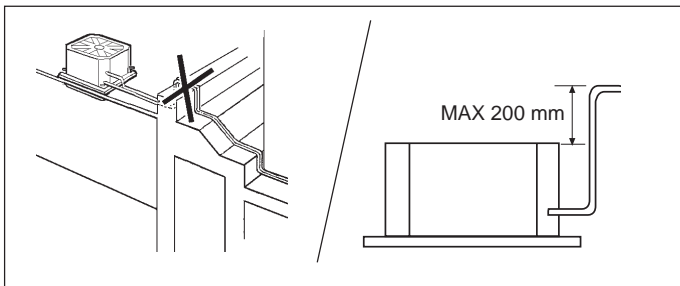
... connecting condensate piping to sewage system drain without appropriate trap. Trap height must be calculated according to the unit discharge head in order to allow sufficient and continuous water evacuation.



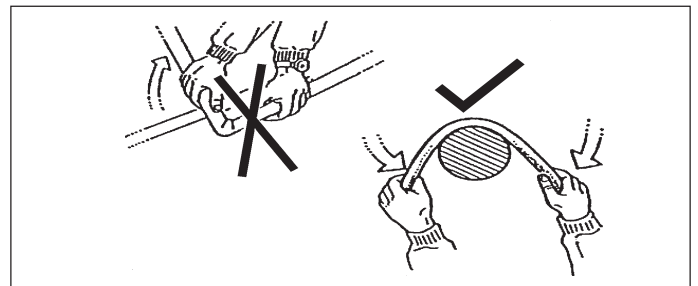
... installation in areas with high frequency waves.



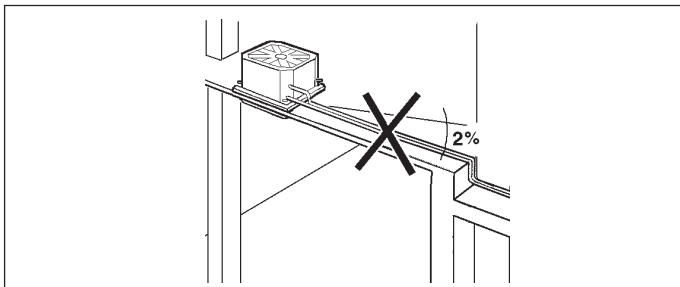
... only partial insulation of the piping.
Non-level installation which will cause condensate dripping.



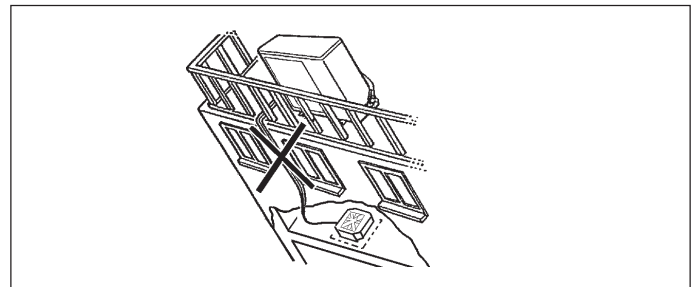
... ascending sections of condensate drain piping. These may only be used near the unit with a maximum height difference of 200 mm from the top of the unit.



... flattening or kinking the refrigerant pipes or condensate pipes.



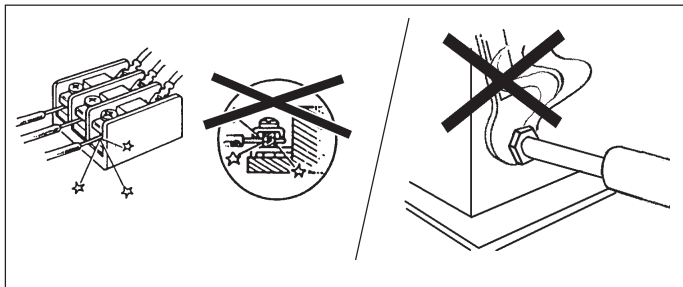
... horizontal sections or curves of condensate drain piping with less than 2% slope.



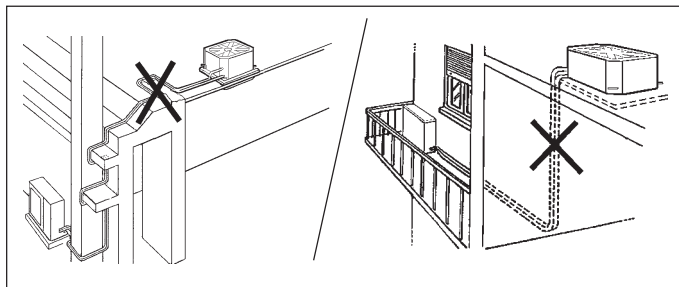
... excessive height difference between outdoor and indoor units (see installation manual of outdoor unit).

40 GKX

Avoid...

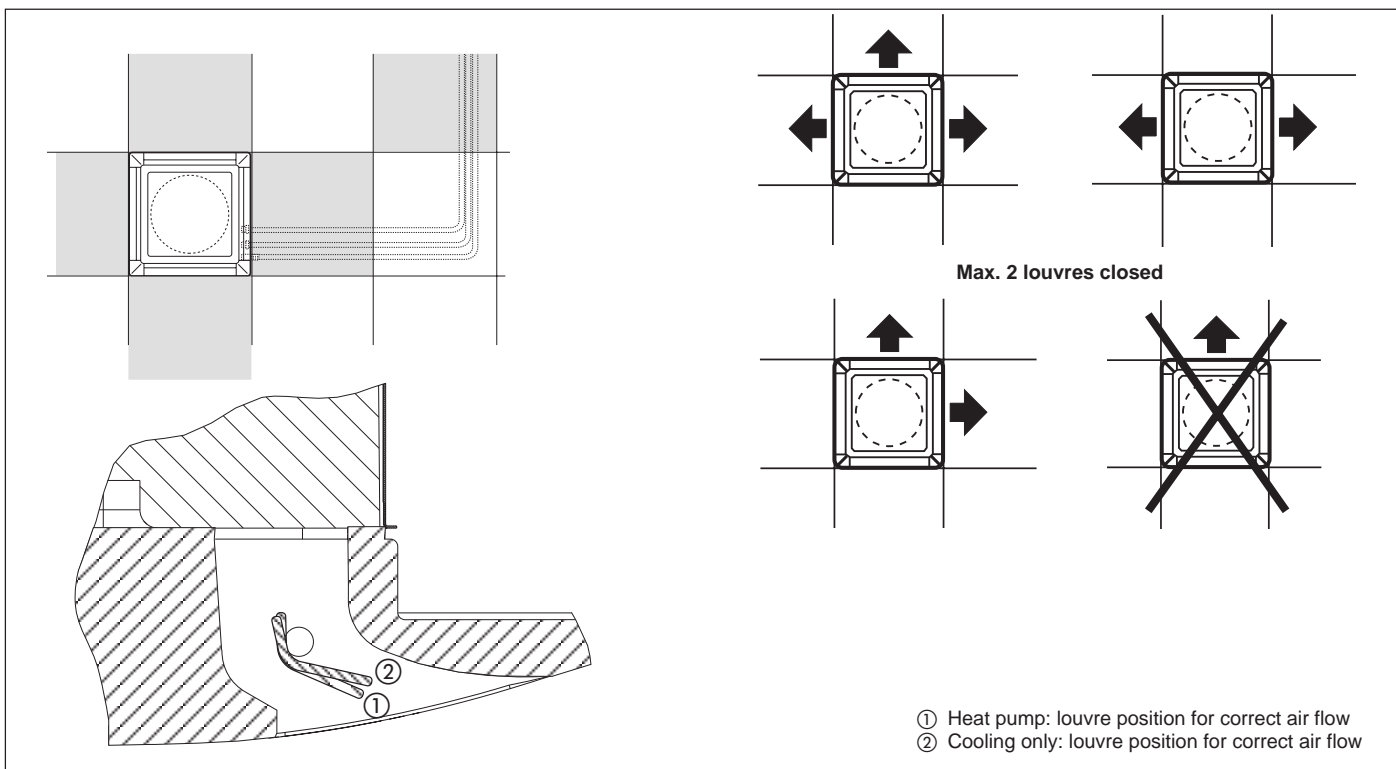


... slack on electrical connections.
... disconnecting refrigerant connections after installation: this will cause refrigerant leaks.



... unnecessary turns and bends in connection pipes (see installation manual of outdoor unit).
Excessive connection pipe length (see installation manual of outdoor unit).

Installation



• Install the unit as centrally as possible in the room, the air flow direction can be controlled by means of the remote control (where used) or automatically, according to the operating mode (cooling or heating): this will ensure optimum distribution of the air in the room.

• During cooling mode operation the best position for the deflecting louvres is one which allows air diffusion close to the ceiling (Coanda effect). In heating mode, the louvres should be positioned so that the air is directed towards the floor, in order to prevent layers of hot air forming in the upper part of the room (this will happen automatically when the deflecting louvres are positioned in the "AUTOMATIC" mode).
Alternatively the louvres can be placed in intermediate positions (with infrared control only) or allowed to move continuously (SWING).

• In order to allow easy and rapid installation and maintenance, make sure that in the selected position it is possible to remove the ceiling panels or, if the ceiling is constructed using masonry, that access to the unit is guaranteed.

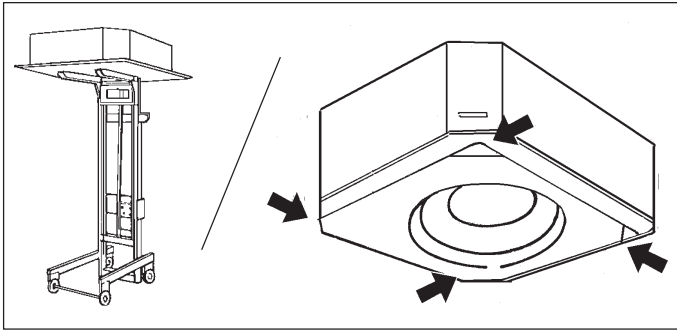
ATTENTION:
Only restrict the air outlets as indicated in the drawing.

WARNING:
To close one or two air outlets use the special kit.

40 GKX

Installation

Prior to installation



It is advisable to place the unit as close as possible to the installation site before removing it from the packaging. The grille panel and the remote control are separately packed for maximum protection.

IMPORTANT:

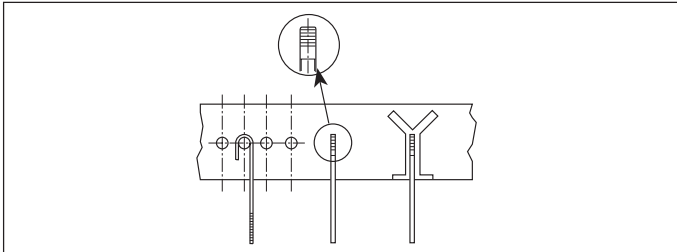
Do not lift the unit by the condensate drain discharge pipe or by the refrigerant connections; hold it by its four corners only.

Unit installation will be facilitated using a stacker.

If plaster board ceiling panels are installed the maximum dimensions of the unit housing must not exceed 660 x 660 mm (for models 12-18-24) and 900 x 900 mm (for models 28-36-48-60).

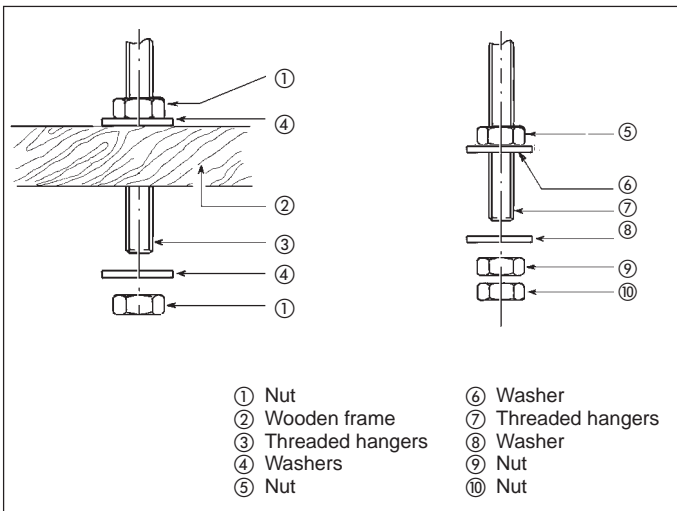
In rooms with high humidity, brackets should be insulated using the self adhesive insulation supplied.

Installation

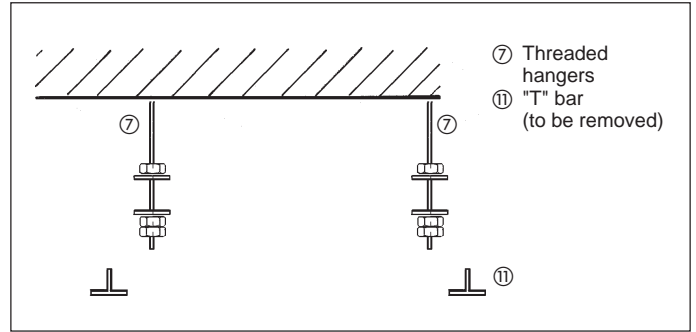


Mark the position of the hangers, refrigerant lines and condensate drain pipe, power supply cables and remote control cable (see dimensions); the cardboard template (supplied with the kit) may be of assistance for this operation.

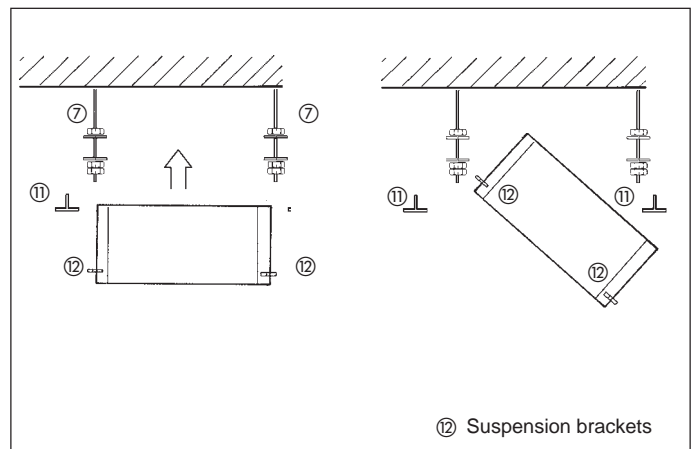
Depending on the type of ceiling the hangers can be fixed as shown in the drawing.



Once the threaded hangers have been positioned, do not tighten the nuts, and insert the washers as shown in the drawing.

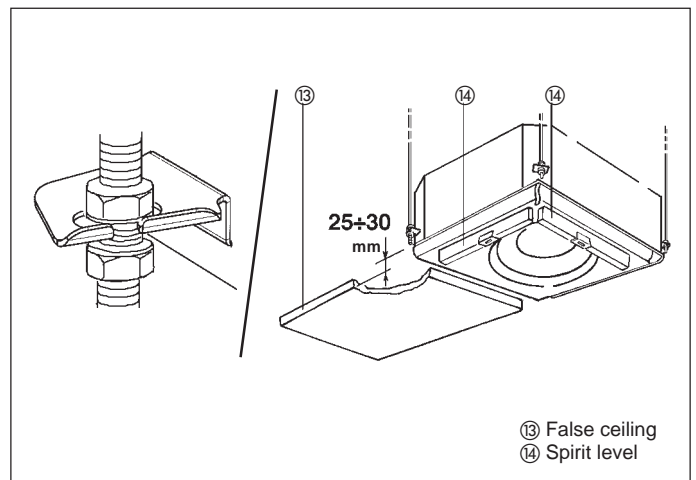


First position the refrigerant lines, as described in the chapter "Refrigerant connections". Remove the "T" bar in order to facilitate installation operations.



Carefully lift the unit (without the frame) using the four suspension brackets (or the four corners), inserting it into the false ceiling.

If the "T" bar cannot be removed the unit may need to be tilted (this operation may only be carried out with false ceilings with a minimum height of 300 mm).



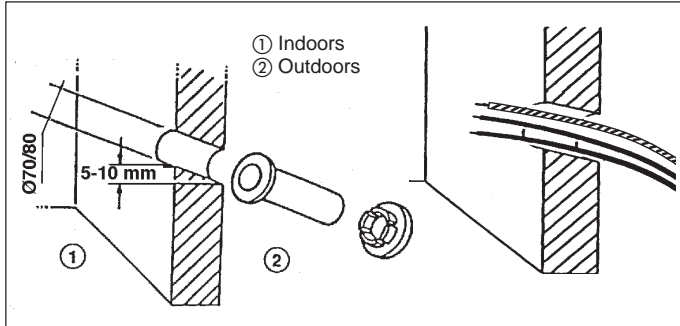
Align and level the unit by adjusting the nuts and locknuts on the threaded hangers, maintaining a distance of 25 - 30 mm between the sheet metal body and the underside of the false ceiling.

Reposition the "T" bar and align the unit in relation to the bar by tightening the nuts and locknuts.

After connection of the condensate drain line and the refrigerant lines, carry out a final check to make sure that the unit is level.

40 GKX

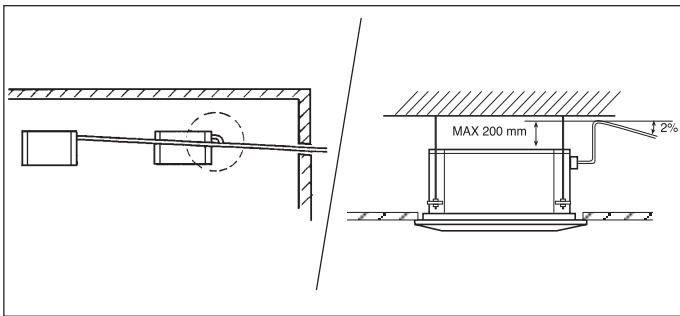
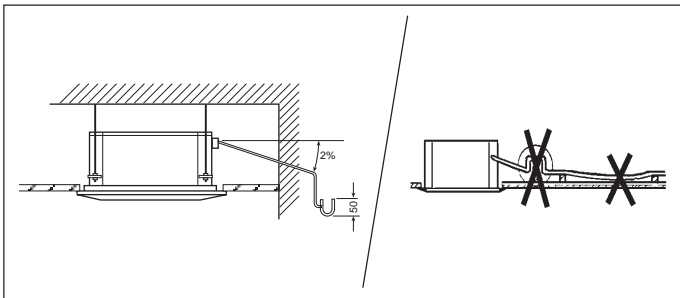
Installation



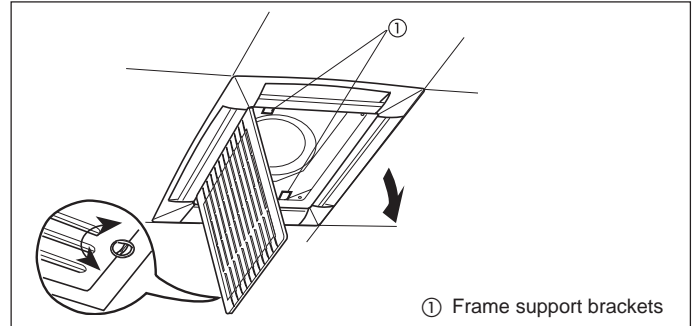
Making the hole for connection pipes in the external wall

- After positioning the units and determining the connection position, make a 70 mm Ø hole in the wall. The same hole can be used as a condensate drain pipe conduit.
- The hole should have a 5 - 10 mm slope toward the outside. Insert the plastic conduit provided.
- Pass the power connection cables through the conduit (see electrical connections).

Condensate drain pipe



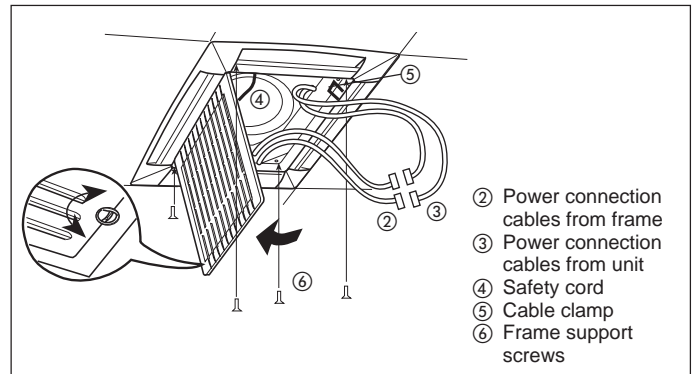
- To ensure correct condensate water flow, the drain pipe should have a gradient of 2% without obstructions. Furthermore an odour trap of at least 50 mm depth should be made to prevent unpleasant odours from reaching the room.
- Condensate may be discharged at a maximum height of 200 mm above the unit, as long as the ascending tube is vertical and aligned with the drainage flange.
- If it is necessary to discharge the condensate from a level above 200 mm, install an auxiliary water discharge pump and float valve. A float valve is recommended to stop the compressor if there is a fault at the auxiliary pump.
- The condensate pipe must be insulated with a condensation-proof material such as polyurethane, propylene or neoprene of 5 to 10 mm thickness.
- If more than one unit is installed in the room, the drain system can be made as shown in the drawing.



① Frame support brackets

Installation of grille/frame assembly

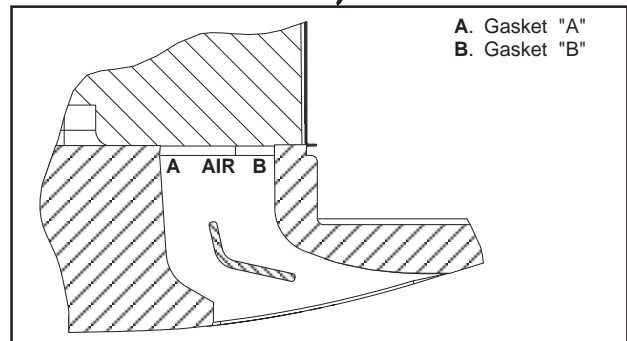
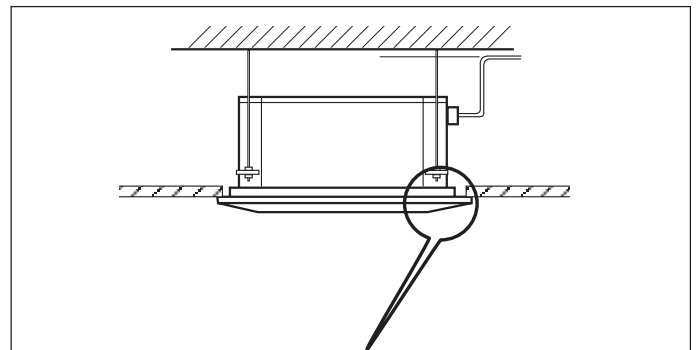
Carefully unpack the assembly and check for damage sustained in transport. Attach the assembly to the unit by using the two hooks.



- ② Power connection cables from frame
- ③ Power connection cables from unit
- ④ Safety cord
- ⑤ Cable clamp
- ⑥ Frame support screws

Tighten the four screws, link the electrical connectors and insert the wires in the cable clamp.

Use the screws supplied to fix the frame in position.



- A. Gasket "A"
- B. Gasket "B"

Ensure that the frame is not distorted by excessive tightening, that it is aligned with the false ceiling and above all that there is a seal between the air inlet and outlet.

In the drawing gasket "A" prevents return air from mixing with the supply air and gasket "B" prevents the supply air from leaking into the ceiling void.

On completion, the gap between the unit frame and the false ceiling must not be more than 5 mm.

IMPORTANT:

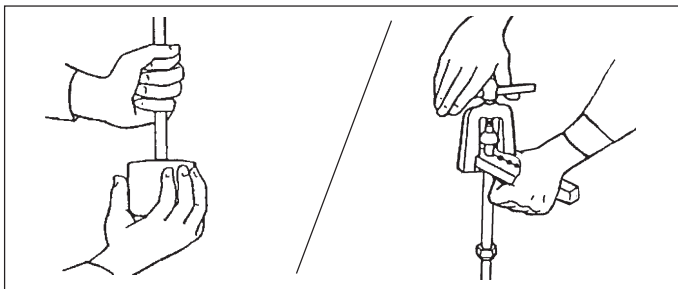
During the unit installation make first refrigerant connections and then electrical connections. If unit is uninstalled first disconnect electrical cables, then refrigerant connections.

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

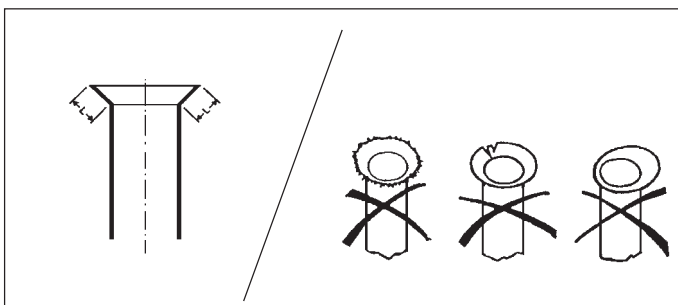
Mod.	Tube diameter			
	Gas (suction line)		Liquid (discharge line)	
	mm	(inches)	mm	(inches)
12 - 18	12	(1/2")	6	(1/4")
24 - 28	16	(5/8")	6	(1/4")
36 - 48 - 60	19	(3/4")	10	(3/8")

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

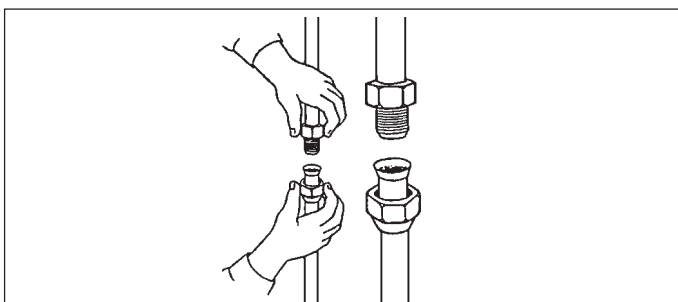
Flaring the end of pipes



Remove the protection caps from the copper pipe ends. Holding the tube downward, cut the extreme end off, removing any copper shavings with a deburring blade. Remove the flare nuts from the "FLARE" connection body of the indoor unit and insert them into the pipes. Make the flare to the pipe end with the proper flaring tool.



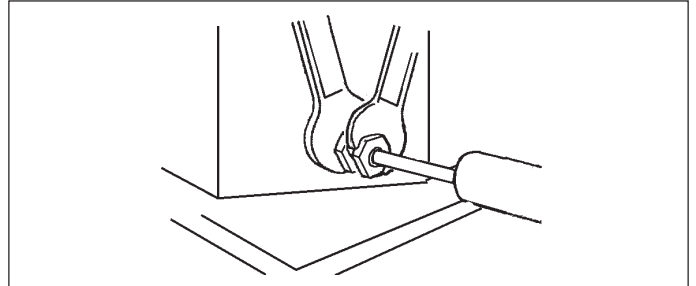
Flare end must not have any burrs or imperfections. The length of the flared walls must be uniform.



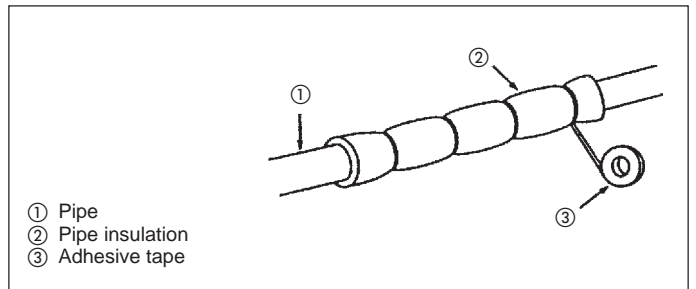
Lubricate the end of pipe and the thread of the flare connection with anti-freeze oil. Tighten by hand and then use two wrenches to tighten all connections fully, applying the tightening torque shown in the table.

Pipe connection to the unit

Use two wrenches to tighten all connections. Insufficient tightening torque could cause a refrigerant leak from the connection. Excessive tightening torque will damage the pipe flare.



Tube diameter mm (inches)	Torque Nm
6 (1/4")	15 - 20
10 (3/8")	15 - 20
12 (1/2")	50 - 55
16 (5/8")	50 - 55
19 (3/4")	50 - 55



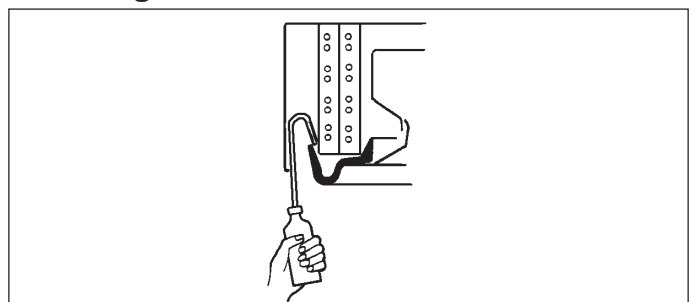
Once all connections have been completed, check for leaks using soapy water. Finally, wrap connections with anti-condensate insulation and tighten with tape, without exerting excessive pressure on the insulation. Repair and cover any possible cracks in the insulation.

Extra charge of refrigerant

With pipe lengths up to 8 metres, the models shown below need an extra charge of refrigerant (R22). For longer pipes, refer to the outdoor unit installation manual.

	40GKX024	40GKX018	40GKX048
Indoor unit model	40GKX024W 40GKX124W	40GKX018W 40GKX118W	40GKX048W 40GKX148W
Outdoor unit model	38GL024	38YL018	38YL048
Pipe lengths up to 8 m	70 g	110 g	150 g

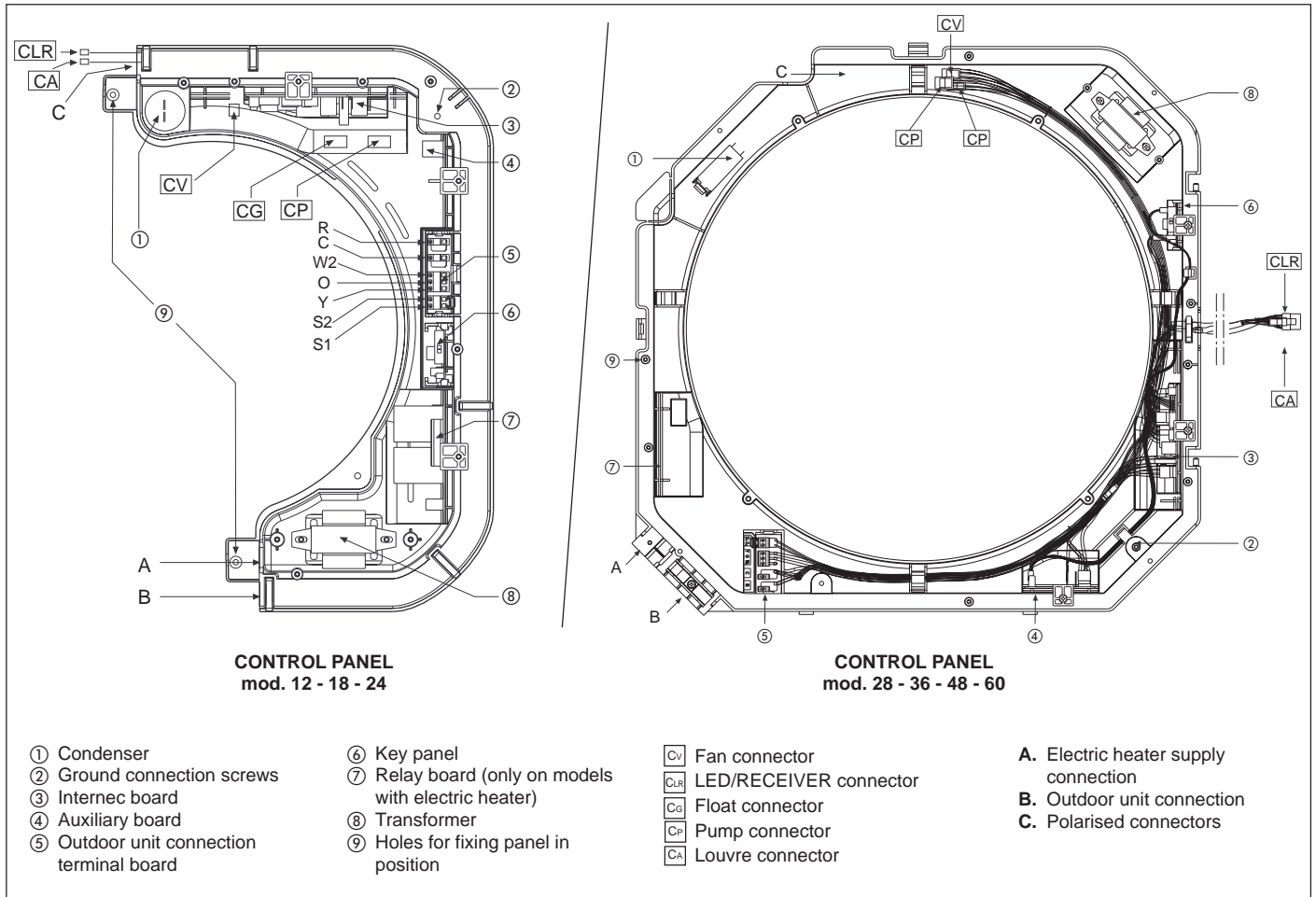
Checking



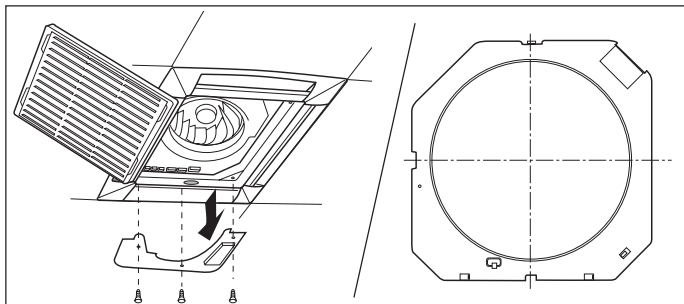
Pour several litres of water into the condensate drain pan and check that it flows freely to the drain. Check pipe gradient and look for possible obstructions.

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Electrical connections



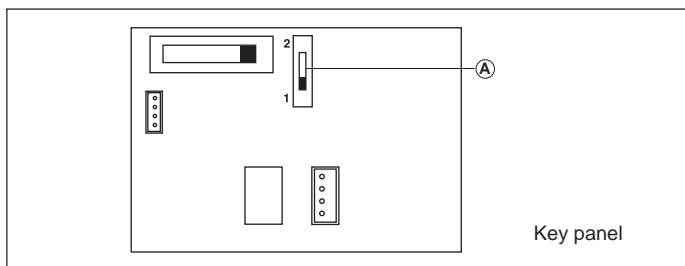
Control panel can be reached by opening the grille and removing its metal cover by 4 screws.



IMPORTANT for units equipped with electric heater:

The unit is equipped with two thermostats: one with automatic reset and one with manual (electric) reset that can be reactivated by switching the power supply off and then on.

SYSTEM CONFIGURATION



IMPORTANT:

Prior to making the electrical connections, set the switch A shown in the drawing as follows:
position 1 for cooling only unit;
position 2 for heat pump unit.

If errors are made during the operation previously described, switch off the main power supply, reposition switch A in the correct position and then switch the power on.

Connect the power cables to terminal box connectors in accordance with the wiring diagram and tighten firmly.

IMPORTANT:

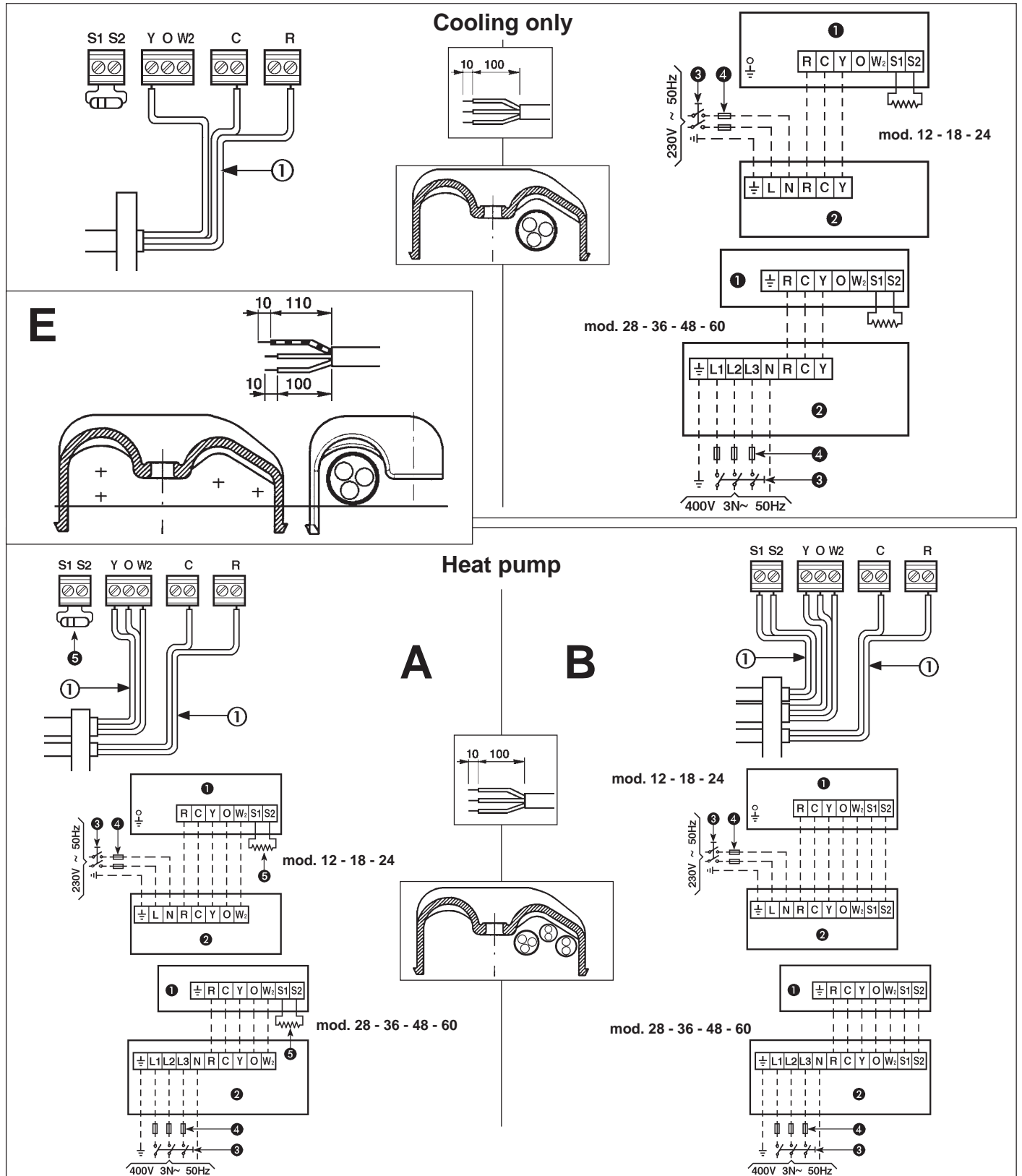
- Main power supply comes from outdoor unit.
- Make ground connection prior to any other electrical connections.

- If the indoor unit is fitted with an electric heater, this must have a separate power supply. Ensure that the mains supply connection is made through a switch that disconnects all poles, with a contact gap of a least 3 mm.
- Make the electrical connections between units prior to proceeding to the main supply unit connection. Ensure that the mains supply connection is made through a switch that disconnects all poles, with a contact gap of a least 3 mm.
- Fix the power cable of the electrical resistances under the single cable clamp. (fig. "E"). Make certain that the YELLOW/GREEN cable is stripped back further than the others.

IMPORTANT (for heat pump units):

- Check the terminal block in the outdoor unit control panel to define the electrical connections:

The indoor unit control panel is supplied with a resistor ⑤ factory-connected between terminals "S1" and "S2". If the outdoor unit terminal block is supplied without terminals "S1" and "S2", make the electrical connections as per Fig. A, leaving resistor ⑤ connected. If outdoor unit terminal block is provided with terminals "S1" and "S2", remove resistor ⑤ and make electrical connections as per Fig. B.



Terminal box legend, all models

- Earth
- R** Live connection indoor/outdoor unit
- C** Neutral connection indoor/outdoor unit
- Y** Compressor interlocking contact
- O** Reversing valve control (HP only)
- W2** Outdoor fan signal (HP only)
- S1** Outdoor coil sensor (HP only)
- S2** Outdoor coil sensor (HP only)
- HP = Heat pump

① Interconnecting wire, indoor-outdoor units (field wiring).

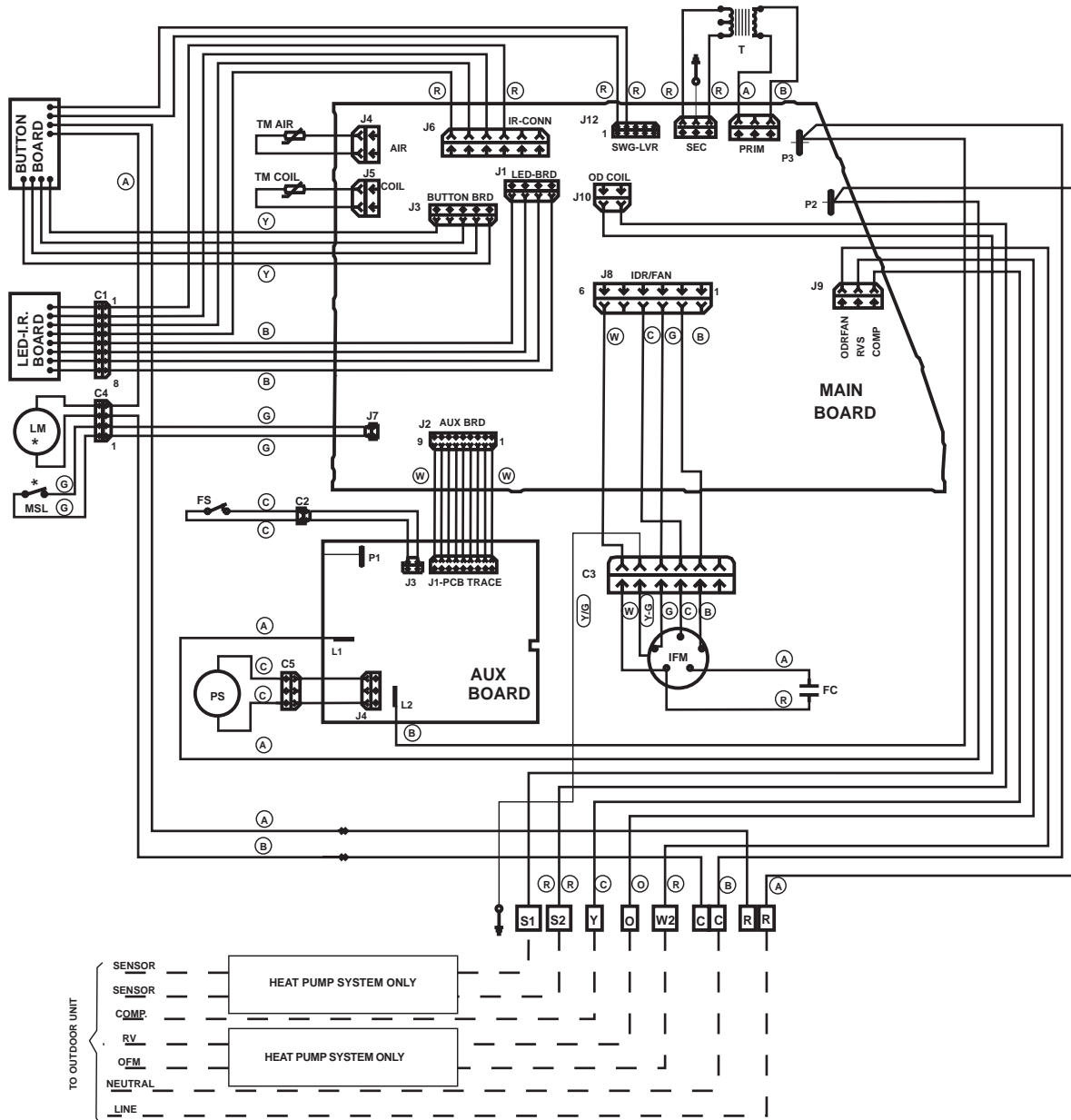
- ① Indoor unit
- ② Outdoor unit
- ③ Main switch
- ④ Time-delay fuse or circuit breaker (see outdoor unit installation manual)
- ⑤ Resistor (47 KOhm)

Note:

- Electrical connections to be made by the installer.

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Wiring diagram - Cooling only or heat pump units



WIRE COLOURS:

(A) BROWN	(D) ORANGE
(B) BLUE	(R) RED
(C) BLACK	(W) WHITE
(G) GREY	(Y) YELLOW
(Y-G) YELLOW/GREEN	

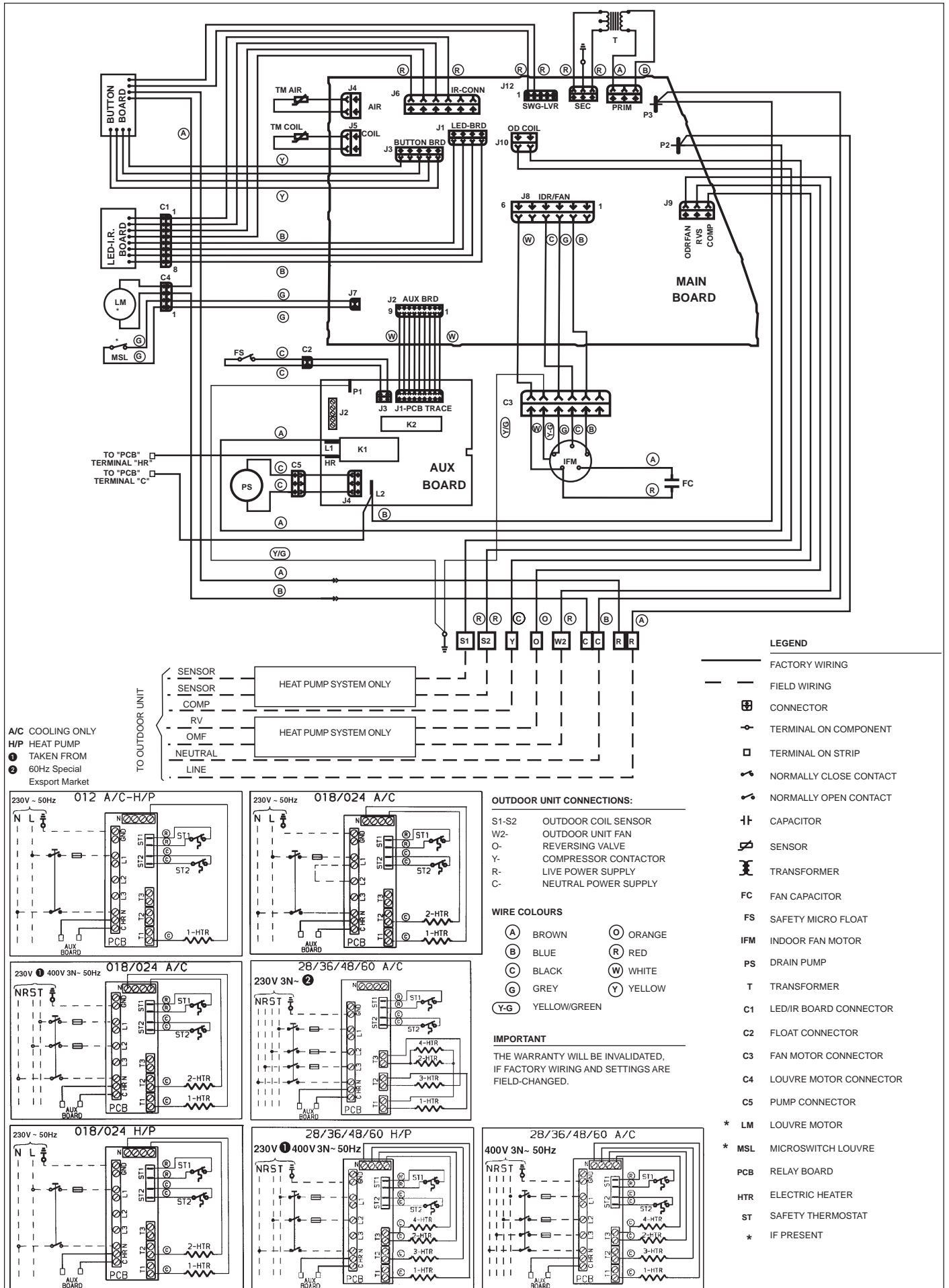
OUTDOOR UNIT CONNECTIONS:

S1-S2	OUTDOOR COIL SENSOR
W2-	OUTDOOR UNIT FAN
O-	REVERSING VALVE
Y-	COMPRESSOR CONTACTOR
R-	LIVE POWER SUPPLY
C-	NEUTRAL POWER SUPPLY

IMPORTANT THE WARRANTY WILL BE INVALIDATED, IF FACTORY WIRING AND SETTINGS ARE FIELD-CHANGED.

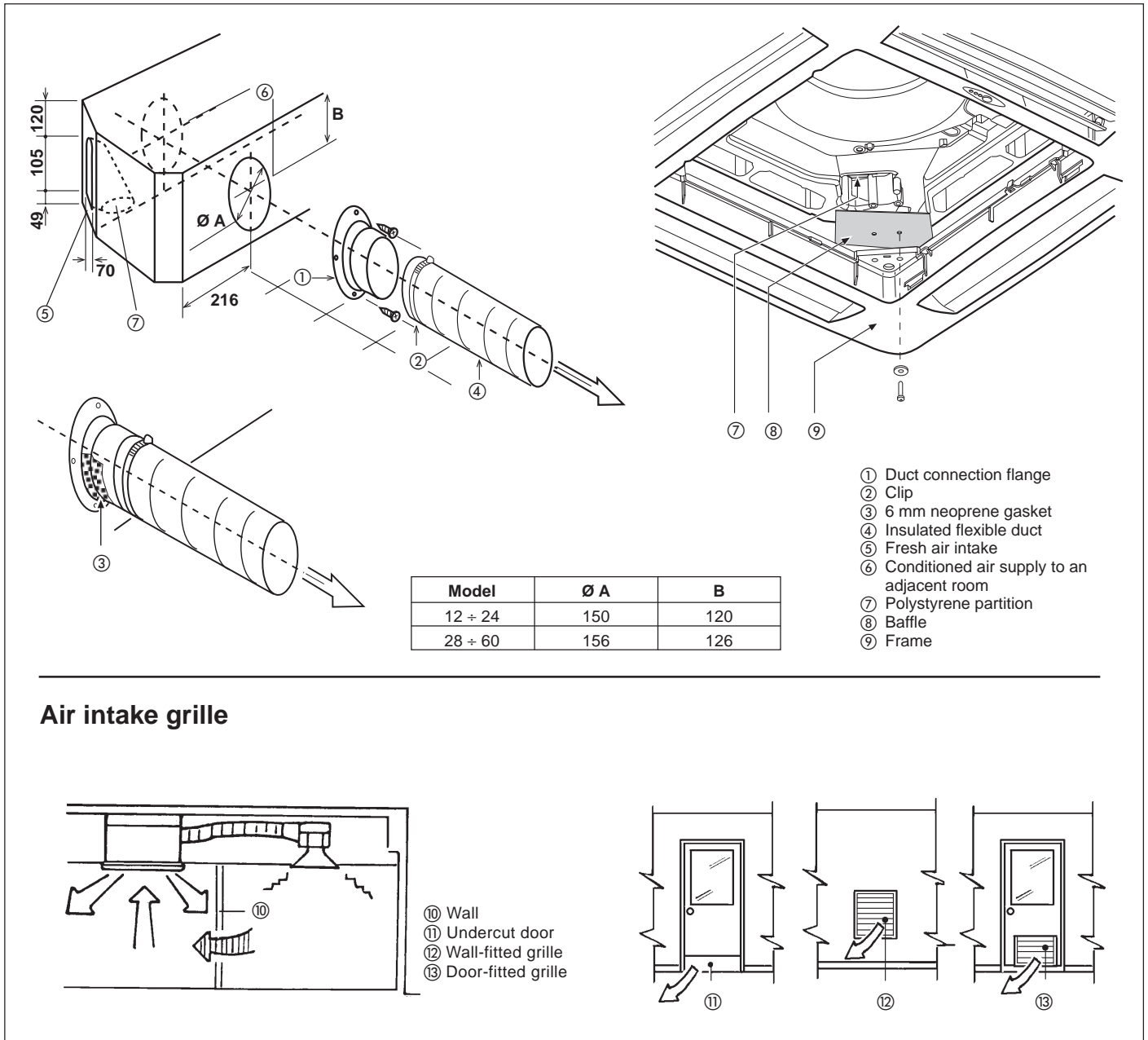
LEGEND

	FACTORY WIRING	FS	SAFETY MICRO FLOAT
	FIELD WIRING	IFM	INDOOR FAN MOTOR
	CONNECTOR	PS	DRAIN PUMP
	TERMINAL ON COMPONENT	T	TRANSFORMER
	TERMINAL ON STRIP	C1	LED/I.R. BOARD CONNECTOR
	NORMALLY CLOSE CONTACT	C2	FLOAT CONNECTOR
	NORMALLY OPEN CONTACT	C3	FAN MOTOR CONNECTOR
	CAPACITOR	C4	LOUVRE MOTOR CONNECTOR
	SENSOR	C5	PUMP CONNECTOR
	TRANSFORMER	*	LM LOUVRE MOTOR
	FAN CAPACITOR	* MSL	MICROSWITCH LOUVRE
		*	IF PRESENT

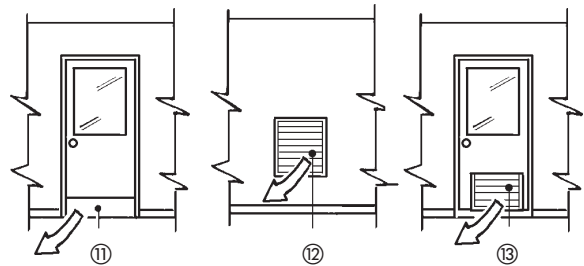
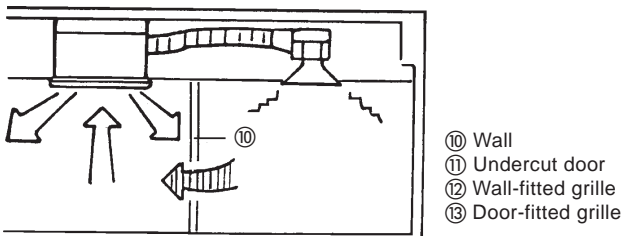


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Fresh air renewal and conditioned air supply to an adjacent room



Air intake grille



- Side knockouts allow connection of fresh air inlet ducts and ducts to deliver conditioned air to an adjacent room.
- Remove the external prepunched anti-condensate insulation and take away the knockout panels using a punch.

Air distribution to adjacent room

With a pencil, trace a line on the polystyrene around the inside edges of the panel that was previously removed. Cut away the polystyrene with a knife, taking care not to damage the heat exchange coil.

Fresh air intake

Remove the polystyrene partition. Introduce baffle supplied after frame has been hooked as per above figure (ref. 8).

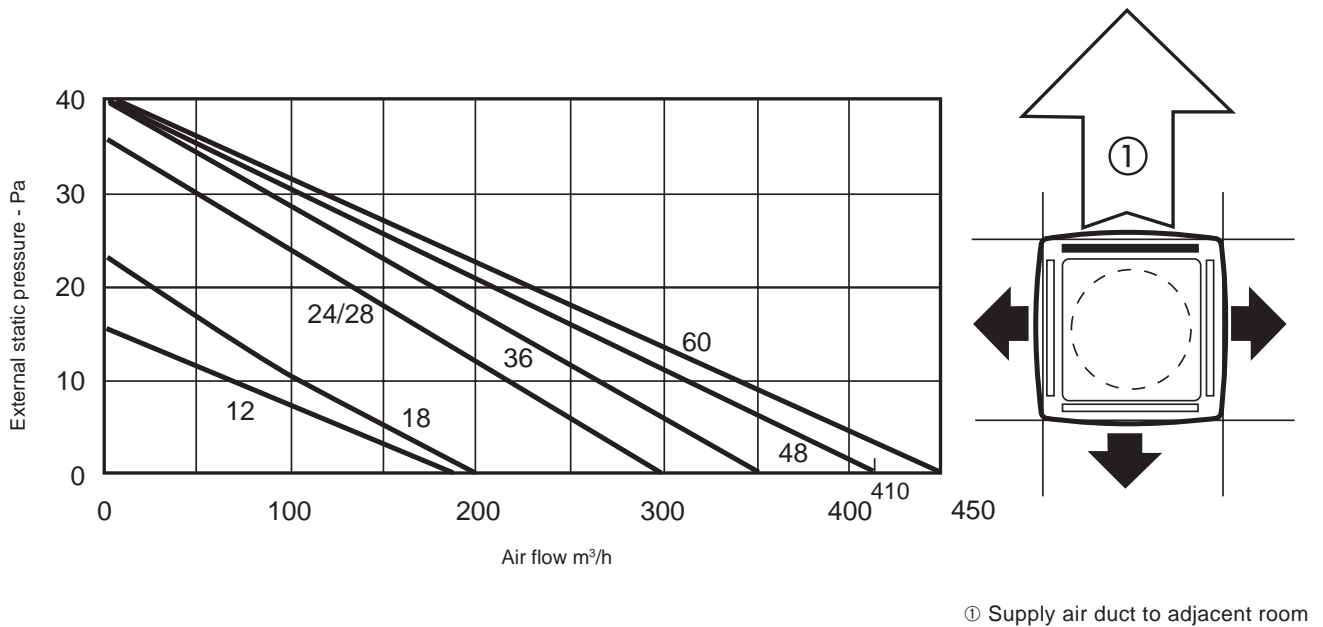
Following that screw the frame/grille assembly using the 4 screws.

- Use locally purchased material, suitable for operating temperatures of 60 °C (continuous). Conduits can be of flexible polyester (with spiral core) or corrugated aluminium, externally covered with anti-condensate material (fibre glass from 12 to 25 mm thickness).
- To complete the installation, all non-insulated ducts must be covered with anti-condensate insulation (ex. expanded neoprene, 6 mm thickness).

Not observing of these instructions may cause condensate dripping; the manufacturer will not be held responsible for any damage caused.

- The two prepunched side knockouts must not be used at the same time to deliver conditioned air to an adjacent room.
- The return and supply duct lengths can be calculated in accordance with the "air distribution to an adjacent room" and "fresh air renewal" diagrams (also taking into account the pressure drop through air diffusers, grilles and fresh air filters), as well as the increase in noise caused by these ducts.

Diagram of conditioned air supply to an adjacent room: one louvre closed



In case of two louvres closed, the fresh air flow towards the adjacent room is 50% higher compared with only one louvre closed (with equal static external pressure).

Fresh air renewal

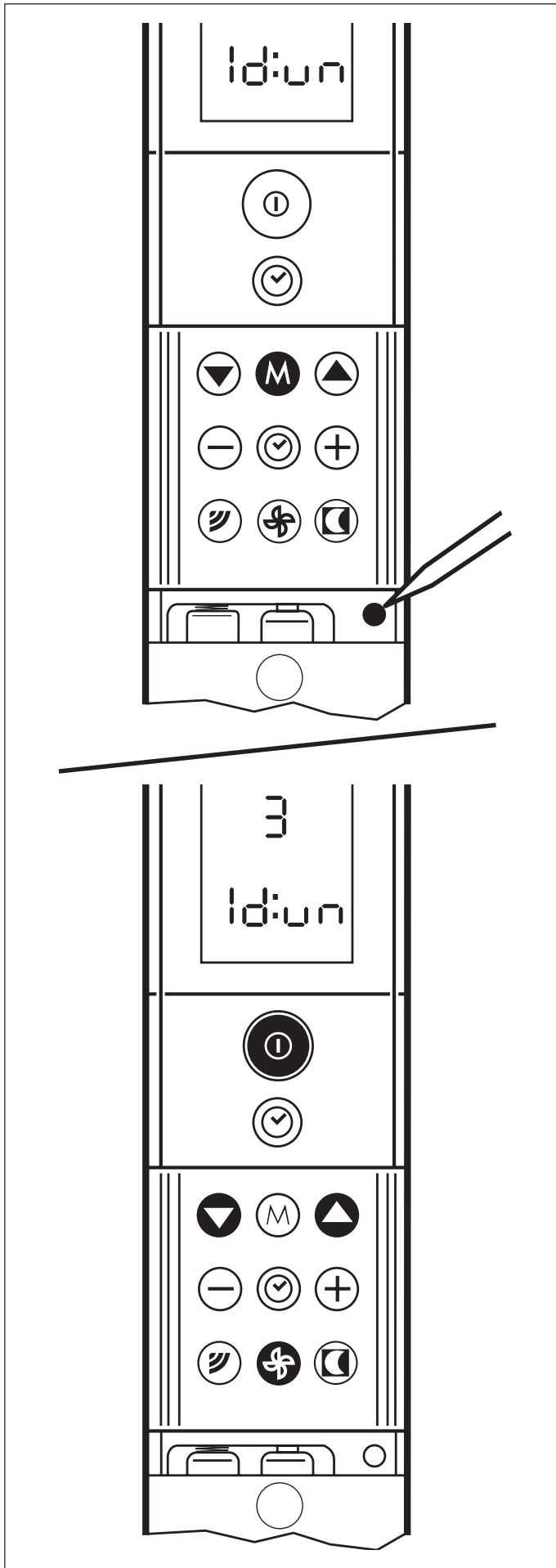
- The supplementary fan motor for outside air intake has to be supplied separately and controlled by a bipolar ON-OFF switch with safety fuses (field-installed). To adjust the fan motor air flow to the required values it is advisable to install a speed controller. Fresh air flow must be less than 10% of the total air flow, to avoid operating problems. For fresh air ventilation rates higher than 10%, a primary air treatment system with separate deflectors is recommended.
- Install an air inlet grille with filter inspection port to prevent dust and dirt from entering and fouling the indoor unit heat exchanger. Filter installation also makes the installation of a duct closing damper during shutdown periods unnecessary.

Conditioned air supply to an adjacent room

- **Air supply to an adjacent room requires that the outlet corresponding with the duct is closed, using the air supply outlet obstruction kit supplied. The kit cannot be used in units equipped with electric heater (mod. 40GKX1..W).** An air inlet grille must be fitted (if possible near the floor) between the air conditioned room (where the unit is situated) and the adjacent room or, alternatively, the door must be undercut, as shown in the drawing.
- The duct lengths can be calculated in accordance with the “air distribution to an adjacent room” diagram, also taking into account the pressure drop through air diffusers and fresh air filters.
- **DO NOT** use active carbon or electrostatic filter kits for ducts towards adjacent rooms.

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Control configuration and operating test



Remote control configuration

Once the electrical connections have been completed, enter the system configuration.

Check the correct positioning of the switch (see “Electrical connections”).

Incorrect switch positioning will cause serious damage to the system.

Remote control configuration with cable connection has to be made following the instructions contained in the respective manuals.

To configure the control proceed as follows:

- Place batteries in the remote control, observing the polarity direction indicated.
- Energise the system by switching the 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 remote control readout will display the letters “Id:un”.
- If the remote control readout displays the letters “CA:P” or “Ad:dr”, press button (M) until the letters “Id:un” are displayed.
- Using the temperature adjustment buttons (▲▼), display the number “3”.
- To send the message to the unit, press the start button (ⓘ) for at least two seconds, followed by the fan speed selection button (⊕).
- The remote control will automatically switch off, thereby completing the configuration.

For information on the remote control refer to the operation and maintenance manual.

Operating test

See owner's manual, unit LEDs and controls paragraph.

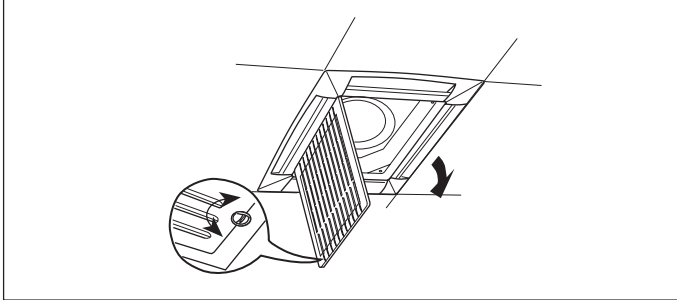
- Energise the system by putting the mains supply switch to the ON position.
- Position the operating switch, located in the electrical board inside the unit, to “Test”.
The installer must check that conditions 1, 2 have been fulfilled.
 - 1) The air conditioner will start immediately (without the time delay protection against frequent compressor cycling) in the cooling mode without thermostatic control of the room temperature.
 - 2) The red indicator on the unit will illuminate.
- Slide the switch under the unit panel from the “Test” to the “Normal” position to exit from the test program.
- During the test program, any signal sent to the unit by the remote control will stop the test.

Maintenance

Cleaning and maintenance operations must be carried out by specially trained personnel.

Before performing any service or maintenance operations, turn OFF the main power switch.

To open the unit grille:



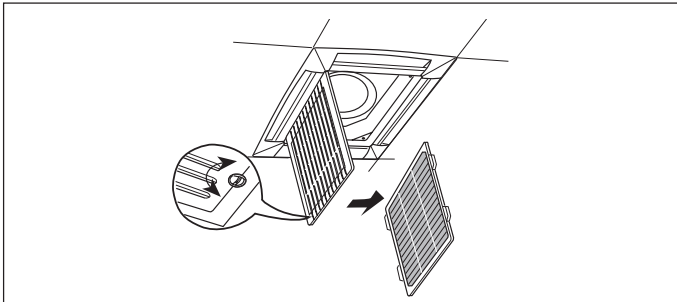
Turn the two screws through 90° (1/4 turn).

Filter cleaning

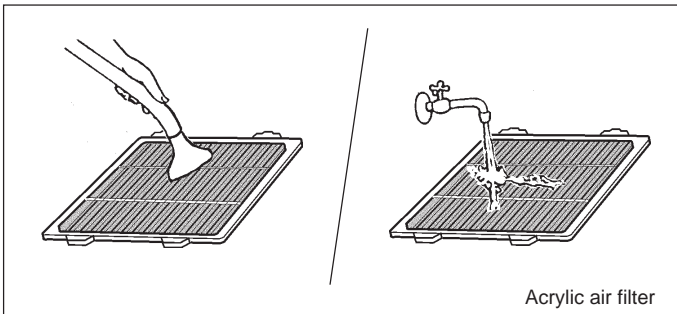
Clean filters in accordance with the actual operating conditions and times (approximately every 6 months).

- The acrylic air filter is washable in water.

Electrostatic and active carbon filters (which can be used on the unit) are not washable but must be replaced.



Extract the filter.



First vacuum clean the filter, then wash under tap water and finally dry.
Replace the filter in the correct position.

Prolonged shutdown:

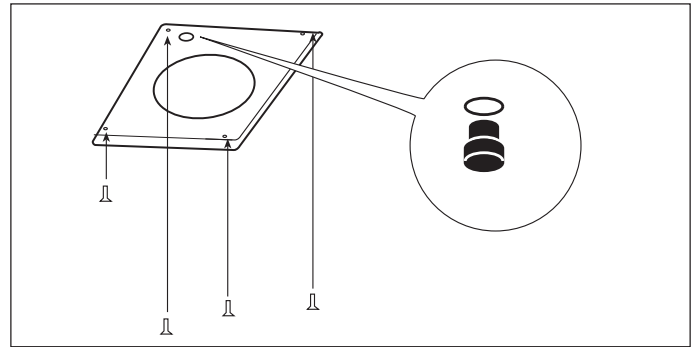
- Before starting the air conditioner:
 - inspect and clean the outdoor unit, especially the heat exchanger coil.
 - clean or replace the indoor unit air filters.
 - check and clean the indoor unit condenser drain pan; the same check must be made on the heat pump outdoor units.
 - check tightness of electric connections.

Additional maintenance

- The electric panel is easily accessible by removing the cover panel.
The inspection or replacement of internal components such as: fan motor, coil, condensate discharge pump, float switch, coil sensors, electric heater (if fitted), involve the removal of the condensate drain pan.

Condensate drain pan removal

- During the removal operation of the condensate drain pan protect the floor with a plastic sheet under the unit.
- Remove the frame-grille assembly by loosening the screws and disconnecting the CA and CLR; connectors; drain the condensate water contained in the drain pan into a bucket of at least 10 litres capacity, using the special drain with a rubber plug.
- Remove the electrical panel cover and disconnect the connections between the indoor and outdoor units (S1, S2, Y, O, W2, C, R) connectors Cv, Cg, Cp and the yellow-green ground wire ⑨ (see drawing in "electrical connections" section).



- Remove the four fixing screws on the side of the drain pan and carefully remove the condensate drain pan.

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.
- Changing the operation modes.
- Temperature selection.
- Functions of the remote control.

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.