

Interklima®

II-9-12-18-22-SCV1



HIGH WALL SPLIT AIR CONDITIONERS
HEAT PUMP

COOLING CAPACITY: 2,7kW - 6,5 kW
HEATING CAPACITY: 2,7kW - 6,8 kW
R410a – Rotary



Features

The Interklima High wall split air conditioners are ideal for residential cooling/heating applications. They are available in 4 series with nominal capacities ranging from 2,7 kW up to 6,5 kW in cooling and 2,7 kW up to 6,8 kW in heating.

This series is ideal for any residence and light commercial applications with an exceptional modern design and features satisfying even the most demanding tastes, providing a well balanced environment through out the year.

- Optimized design for R410a refrigerant.
- Class "A" energy efficiency (9 & 12K).
- Modern slim line design.
- Quiet operation.
- Multiple fan Speeds.
- Auto restart after power failure.
- Remote control handset.
- Highly efficient Rotary compressor.



NOMENCLATURE

I-X-XX-S-C-V-1
1 2 3 4 5 6 7

1 Interklima

2 I- indoor O- indoor

3 **Model numbers** (approx. capacity btu/h)
09-12-18-22

4 **Unit type**
S- split high wall

5 **Refrigerant type**
C- R410A

6 **Electrical Characteristic**
V- single phase

7 **Version**
V- 1

1. Technical Specifications
2. Outlook Drawings
3. Wiring Diagrams
4. Installation
5. Controller
- Instruction and Specifications
6. Service

1. Technical specifications

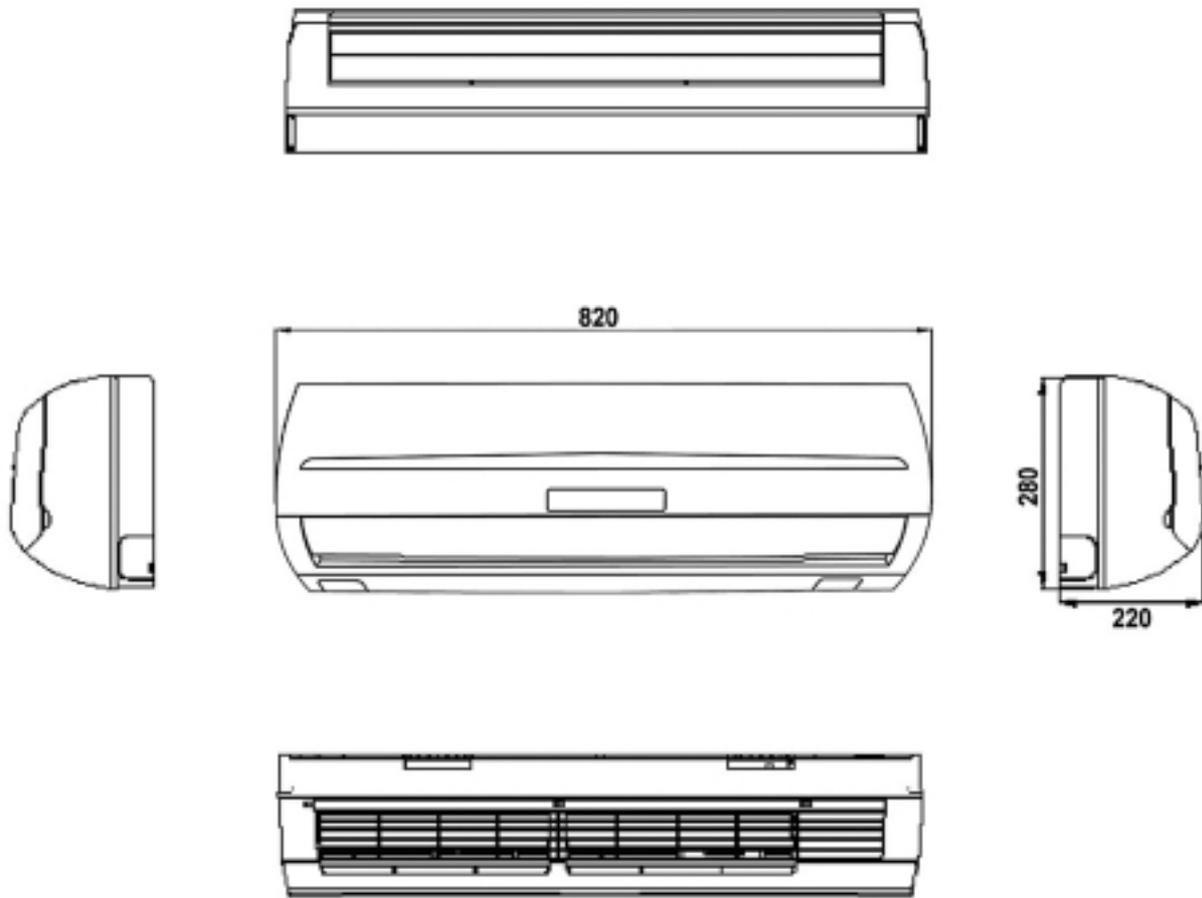
		Indoor unit	II09SCV1	IO12SCV1	II18SCV1	II22SCV1	
Model		Outdoor unit	IO09SCV1	IO12SCV1	IO18SCV1	IO22SCV1	
Nomimal cooling capacity		Btu/h	9,210	11,600	17,400	22,860	
		kW	2.7	3.4	5.1	6.7	
Nomimal heating capacity		Btu/h	9,210	11,940	18,080	23,200	
		kW	2.7	3.5	5.3	6.8	
Dehumidifying capacity		L/hr	1.0	1.2	1.45	1.75	
Power input	cooling	W	780	1,020	1,850	2,450	
	heating		740	930	1,750	2,300	
Electrical insulation protection class						1	
Water proof class (outdoor)						1P24	
COP		kW/kW	3.65	3.76	3.03	2.96	
		Energy class	A	A	D	D	
EER		kW/kW	3.46	3.33	2.76	2.73	
		Energy class	A	A	D	D	
Rated input current		Amp	3.4	4.5	8.0	10.7	
Start current		Amp	26	30	45	54	
Power supply						V/Ph/Hz. 230/1/50	
Model			II09SCV1	II12SCV1	II18SCV1	II22SCV1	
Airflow (H/M/L)		m3/h	500/450/400	730/650/580	900/800/700	1,000/900/800	
Noise level (L/M/H) @1M		dB(A)	41/43/45	41/43/45	46/44/42	46/44/42	
Cond. Drain connection OD		mm(in)	19.05 (3/4)				
indoor unit	Dimensions	H	mm	280	280	318	315
		W	mm	820	820	1,010	1,190
		D	mm	220	220	186	210
Net weight		Kgs	10	10	14	18	
Model			IO09SCV1	IO12SCV1	IO18SCV1	IO22SCV1	
Construction	Panel	PP				Steel Sheet	
	Surface finish	Plastic				Powder Coating	
Compressor	Rotary						
Refrigerant control	Capillary tube						
Noise level @1M		dB(A)	49	49	58	60	
Dimensions	H	mm	540	540	686	688	
		mm	769	845	865	915	
		mm	291	292	370	370	
Net weight		Kgs	35	39	46	49	
refriger. piping	Connection method	Panel	Flare				
	Surface finish	Flare					
Refrigerant charge (5 M)		Kgs	0.98	1.10	1.30	1.65	
Pipe size OD	Liquid	in	1/4	1/4	6.35 (1/4)	9.52 (3/8)	
	Gas	in	3/8	1/2	12.70 (1/2)	15.87 (5/8)	

NOTES

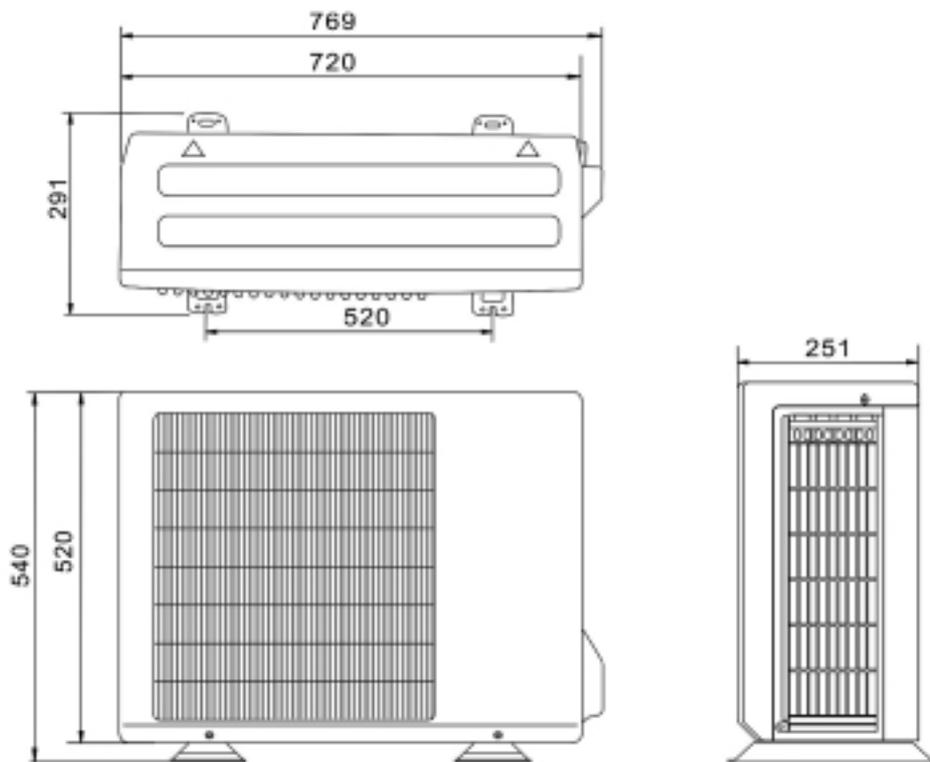
All capacities are based on: cooling: indoor 27°C DB, 19.5°C WB, outdoor 35°C DB, 24°C WB
 heating: indoor 20°C DB, outdoor 7°C DB, 6°C WB

2. Outlook drawings

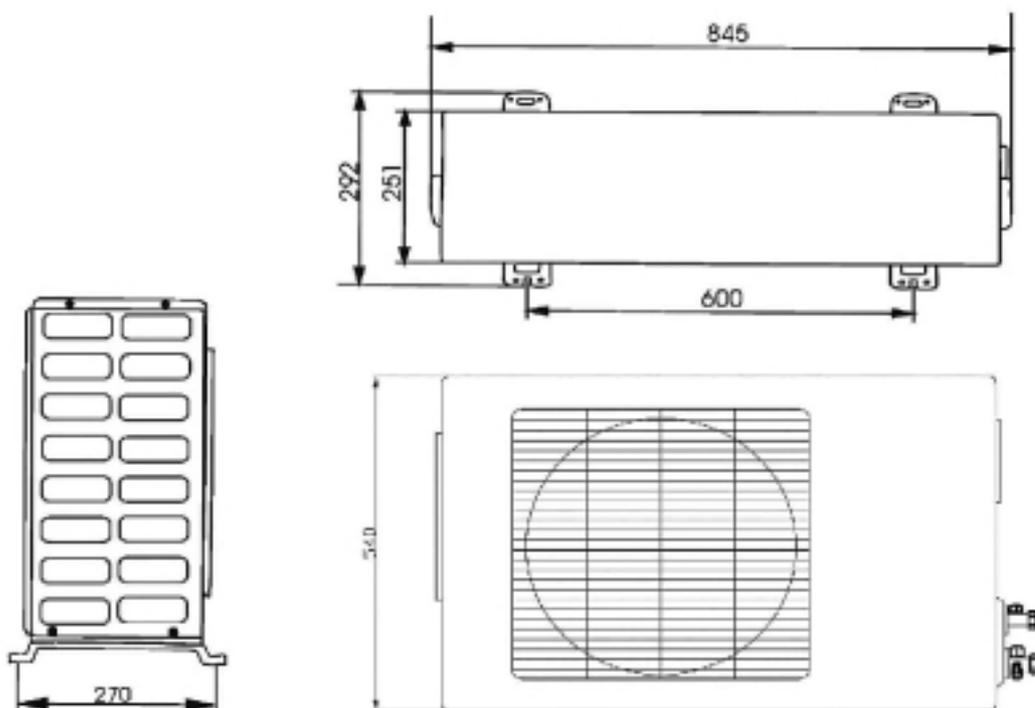
II-09/12 SCV1



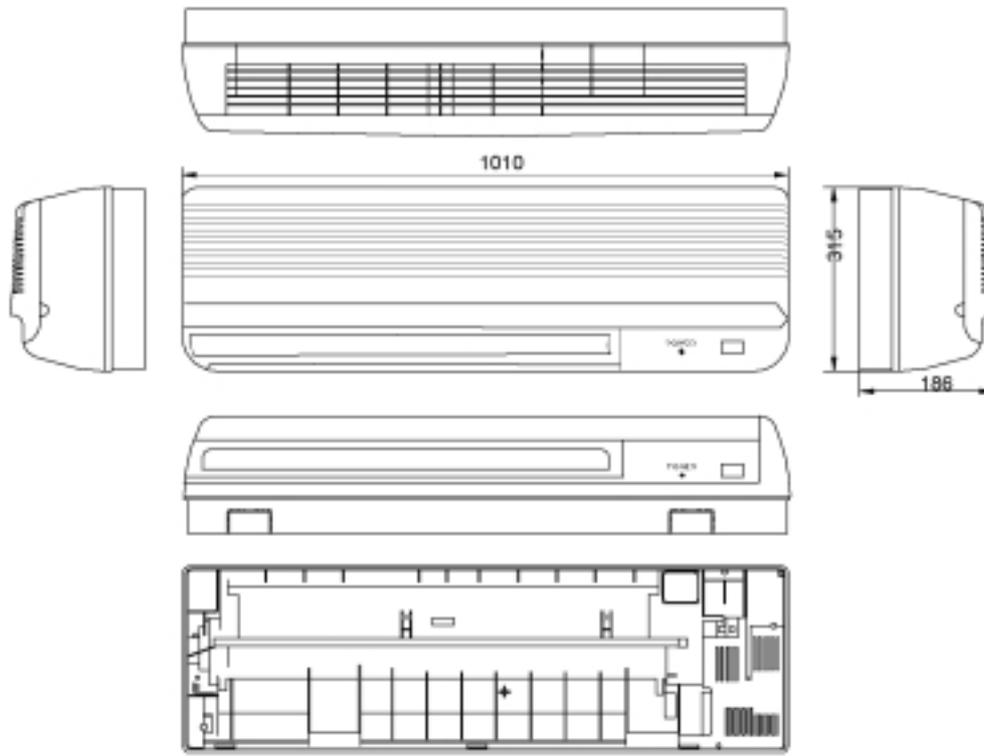
IO-09 SCV1



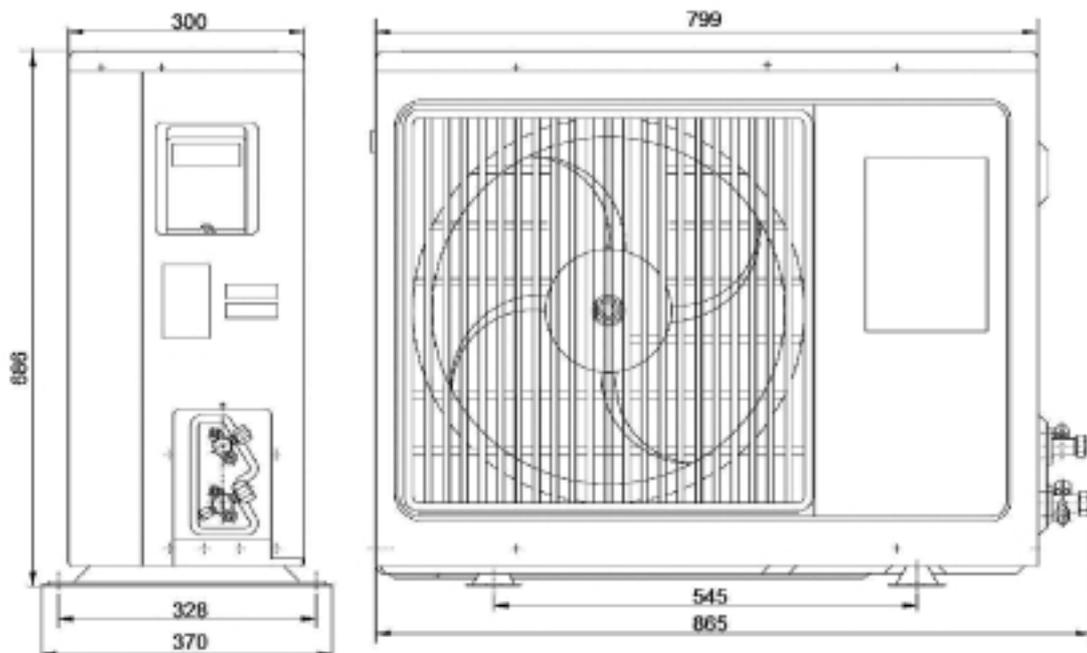
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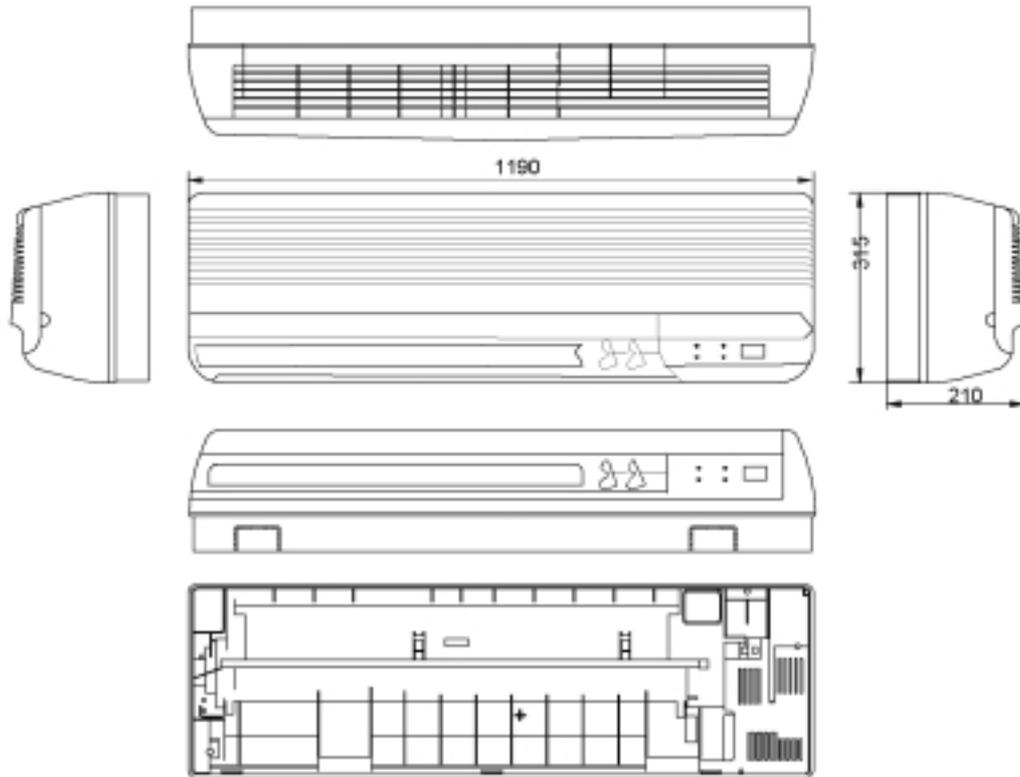
II18SCV1



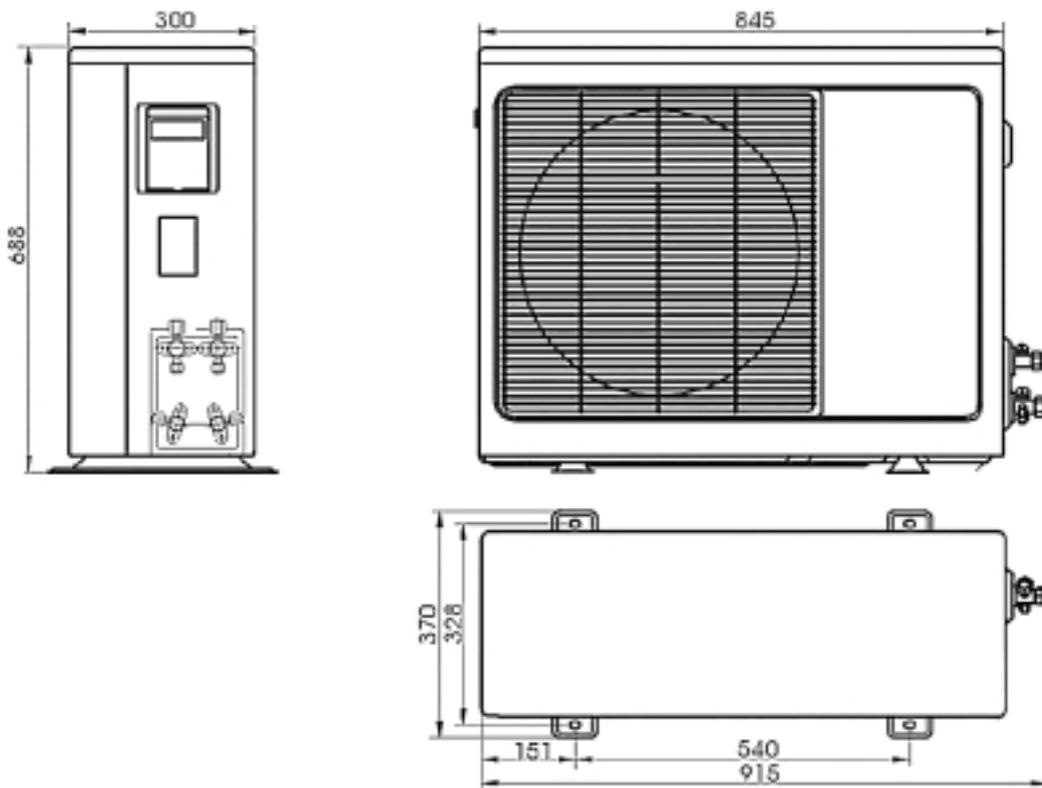
IO18SCV1



II22SCV1

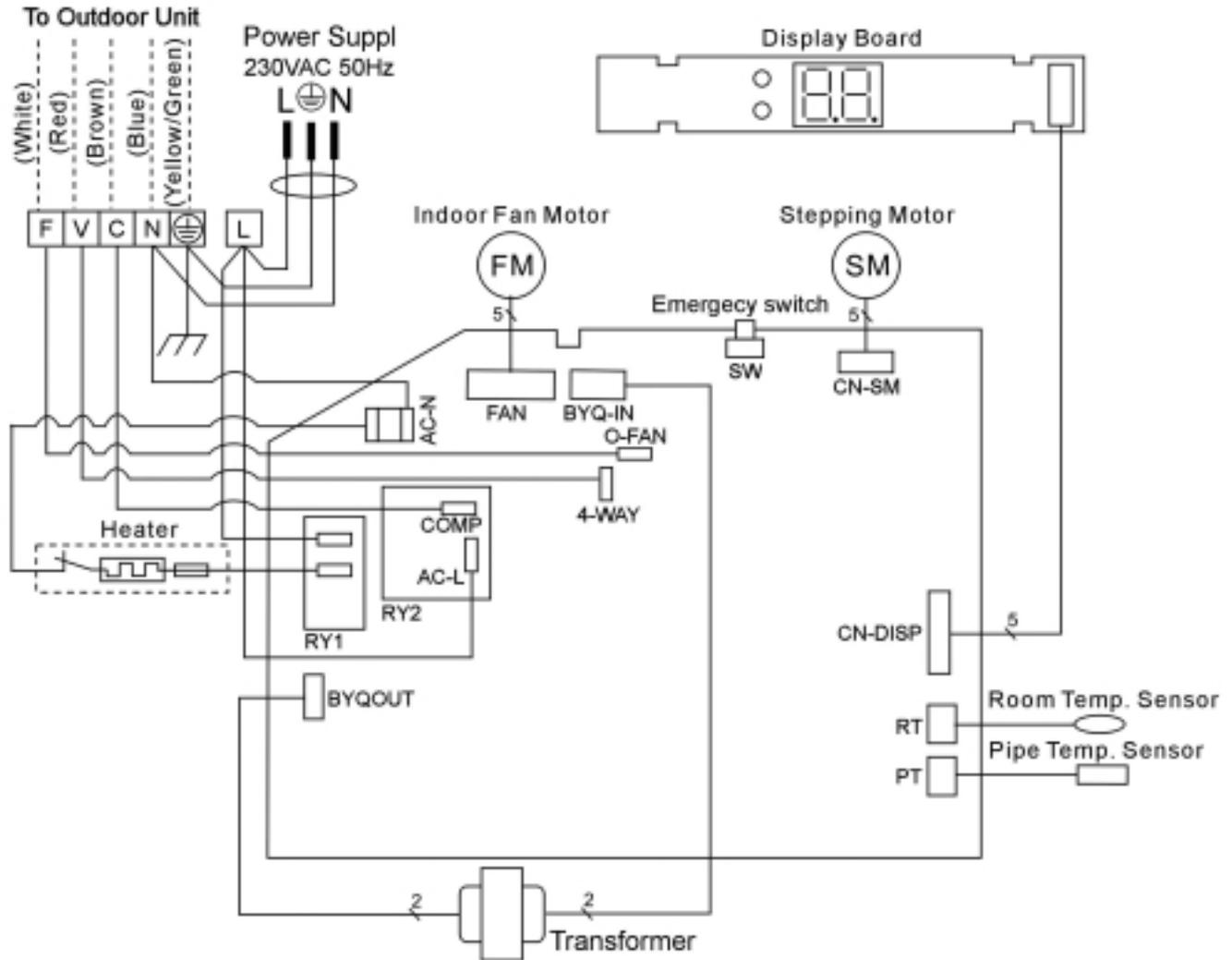


IO22SCV1



3. Wiring Diagram

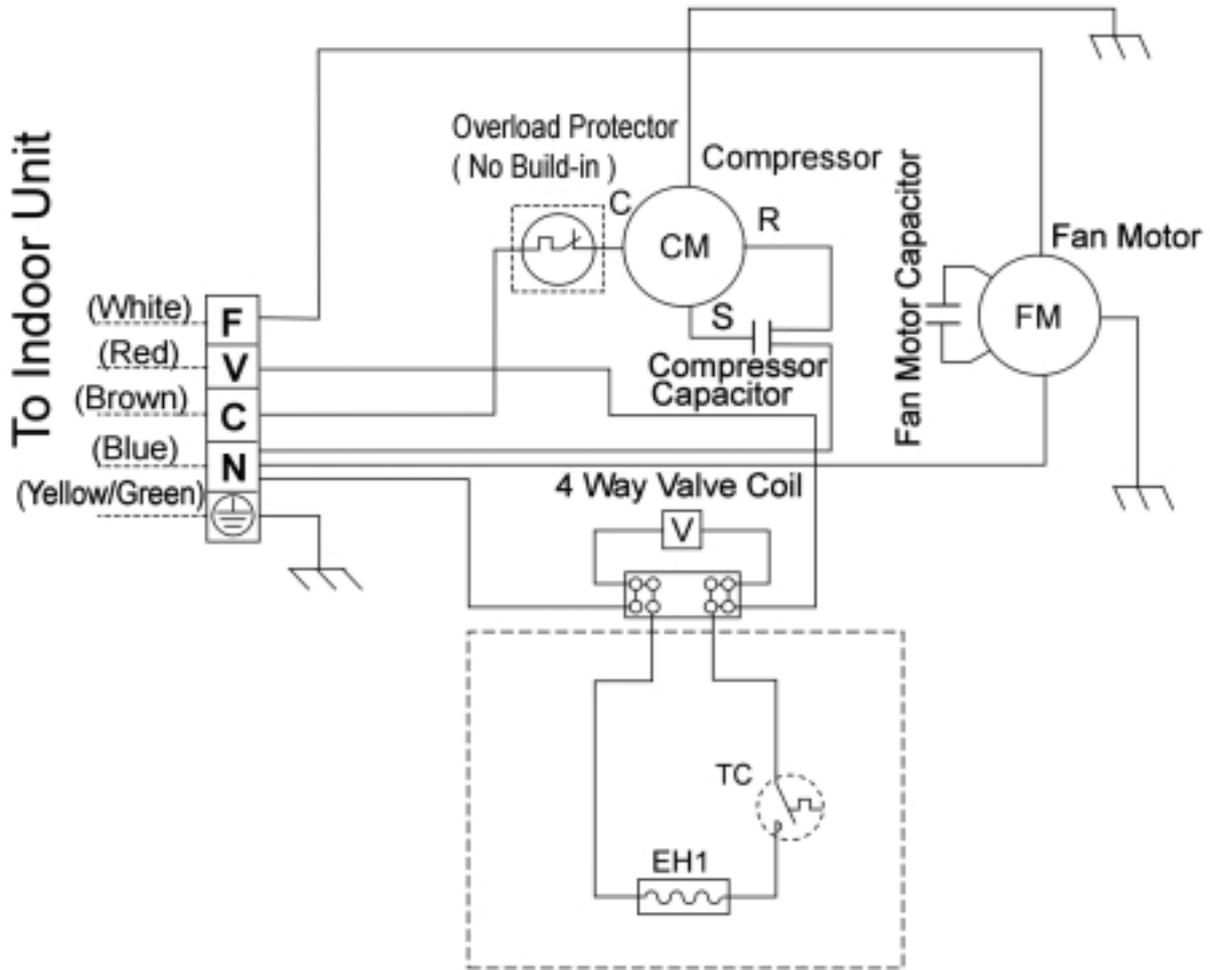
II-09/12 SCV1



NOTES

Note: Wiring diagrams on units take precedence over manual

- L - LINE
- N - NEUTRAL
- F - FAN MOTOR
- V - 4 WAY VALVE
- C - COMPRESSOR

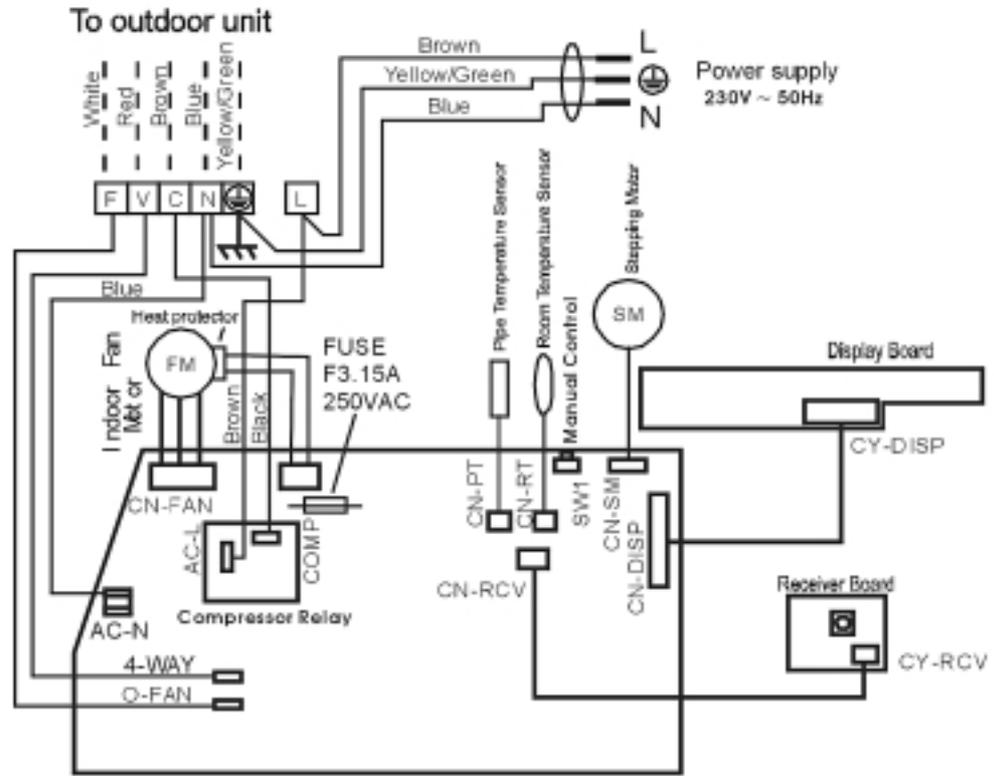


NOTES

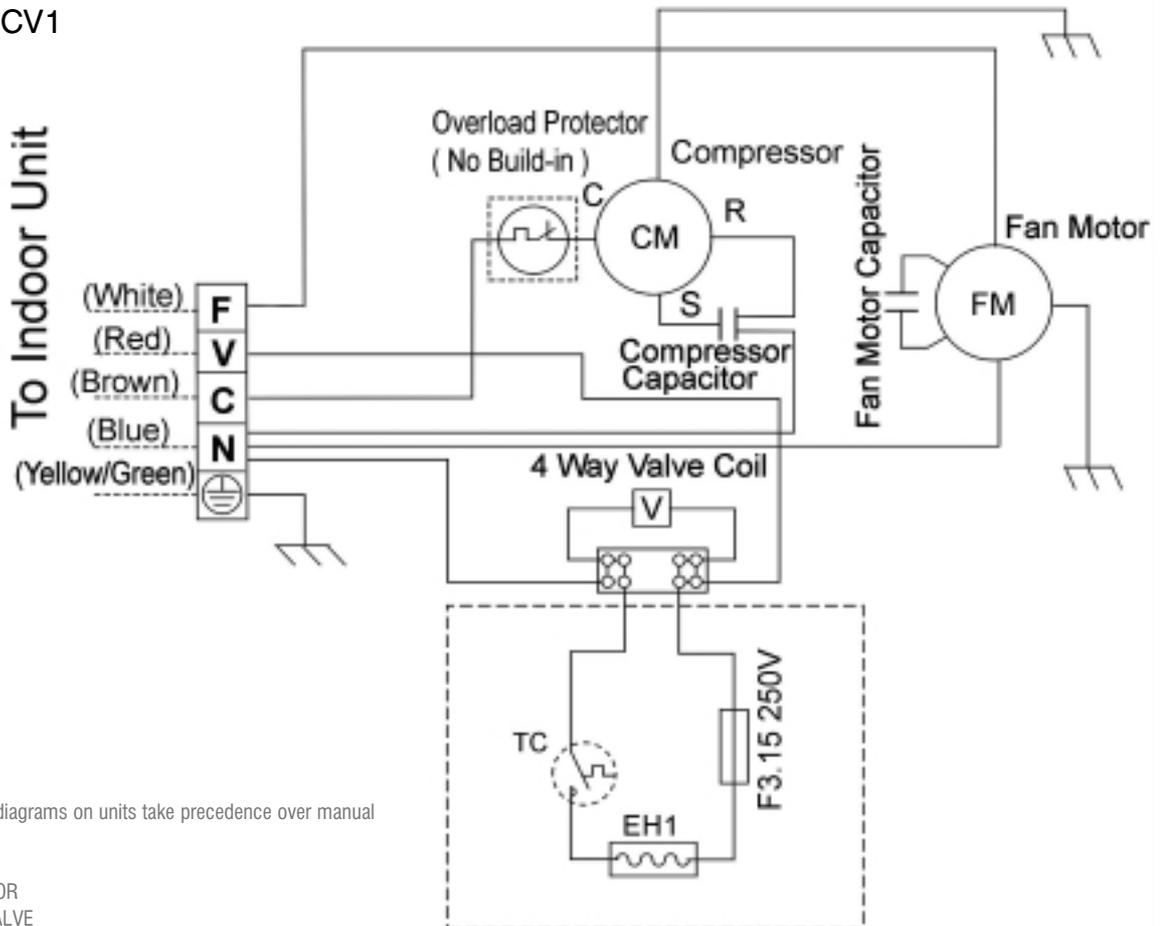
Note: Wiring diagrams on units take precedence over manual

- L - LINE
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II-18 SCV1



IO-18 SCV1

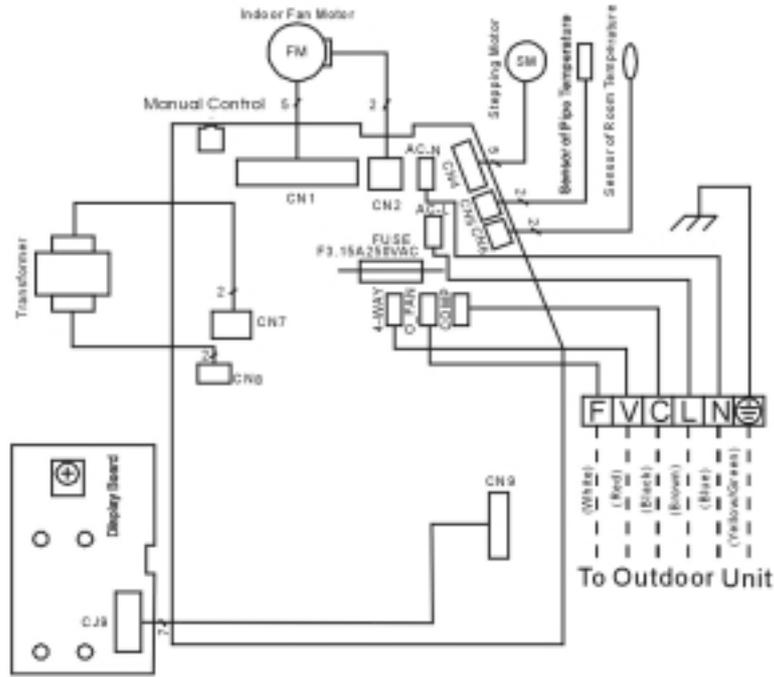


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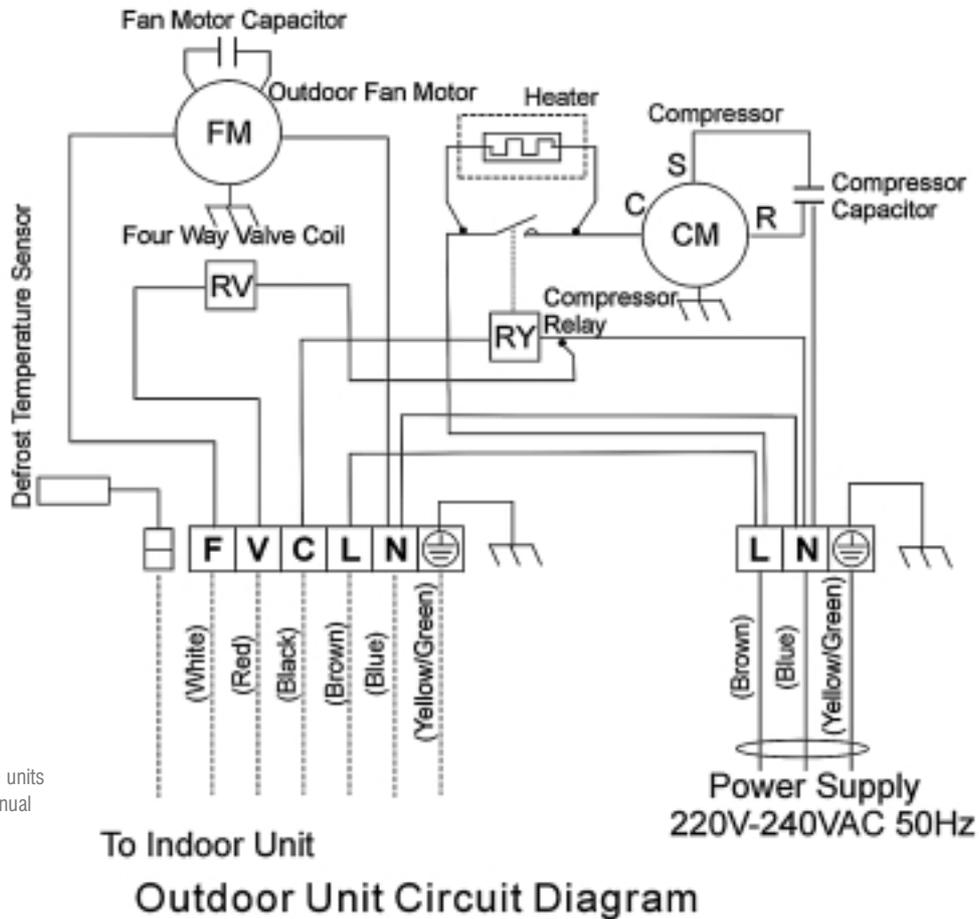
Note: Wiring diagrams on units take precedence over manual

- L - LINE
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- V - 4 WAY VALVE
- C - COMPRESSOR

II-24 SCV1



IO-24 SCV1



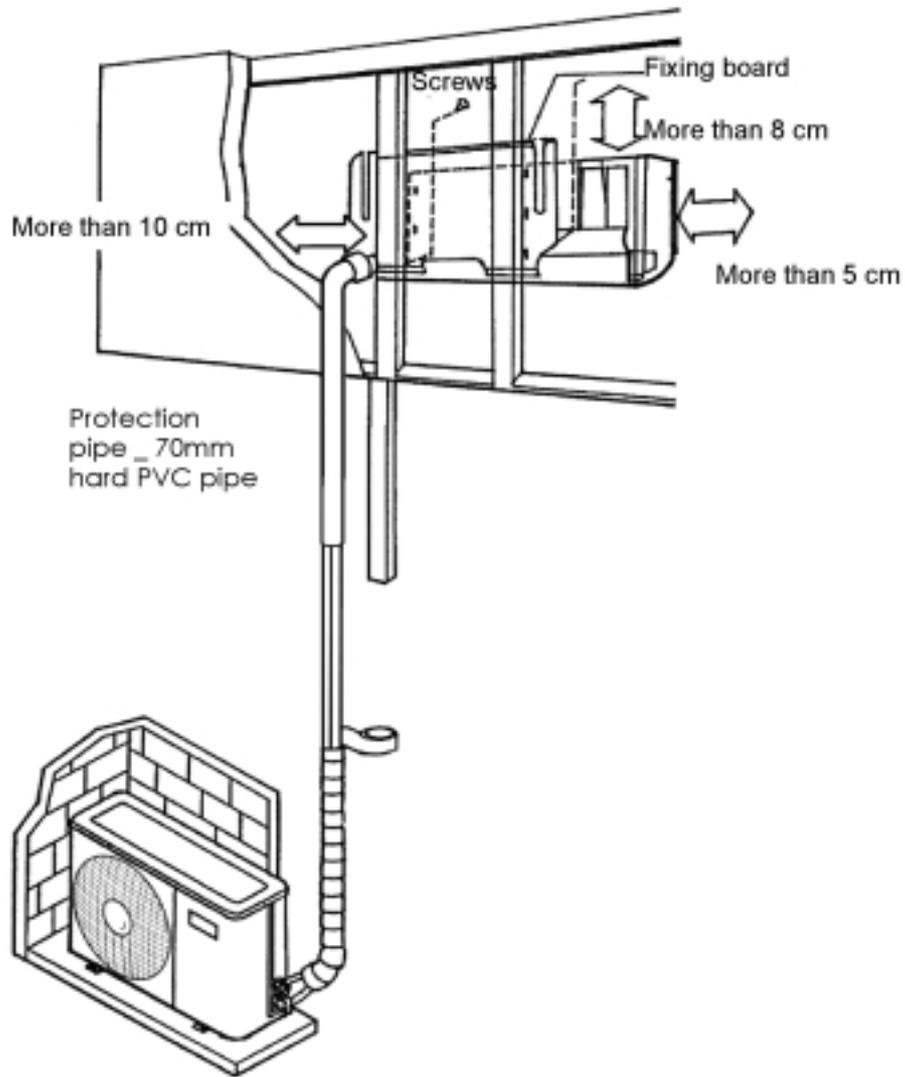
NOTES

Note: Wiring diagrams on units take precedence over manual

- L - LINE
- N - NEUTRAL
- F - FAN MOTOR
- V - 4 WAY VALVE
- C - COMPRESSOR

4. Installation

Typical system installation



Optional Accessories

Item	Accessories	Qty
1	Wall-cross protective PVC pipe	1
2	Connection copper pipe	1
3	Adhesive tape	1
4	Binding pipe	1
5	Pipe holder	1
6	Signal wire	1
7	Electric power wire	1

Standard Accessories

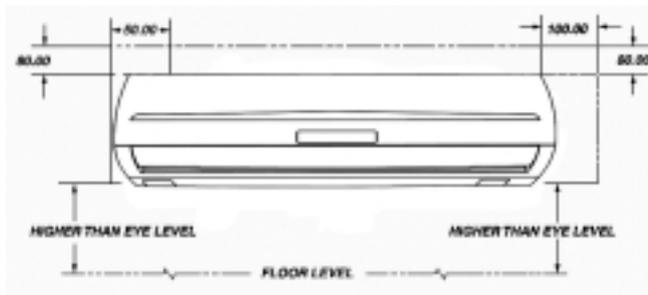
Item	Accessories	Qty
1	Fixing board	1
2	Screws M4x20	6
3	Remote Controller	1
4	Batteries	2
5	Drainage elbow	1

Installation of indoor unit

Location

Select the location of the indoor unit with the following considerations:

1. The front of the air inlet and outlet should be free from any obstructions. The air should flow freely.
2. The wall where the unit is to be mounted should be stiff enough not to resonate and produce noise.
3. The location should allow easy access to install the copper pipes to the outdoor unit and where drainage can be easily obtained.
4. Ensure the clearance on every side of the indoor unit conforms to figure 1.
5. From the floor the height should be more than eye level.
6. Avoid installing the unit in direct sunlight.
7. The microprocessor of the unit must be kept away from any high frequency emission.
8. Keep the unit away from fluorescent lamps; they could affect the communication of the remote control.



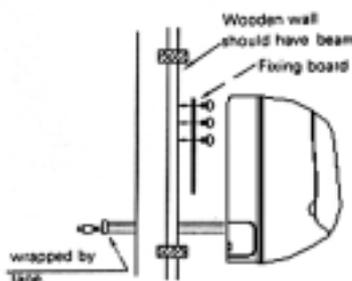
MAINTENANCE & SERVICING SPACE

- AIR FLOW DIRECTION
- DIMENSIONS IN mm

Fig. 1

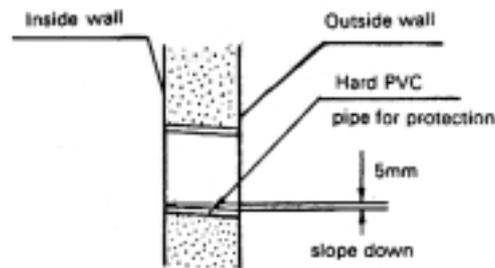
Installation of indoor unit

1. First connect the refrigerant pipe and the drain pipe to the connection at the back of the indoor unit, then install the unit to the fixing board as shown.
2. After hanging the unit, press it down, thus securing it to the fixing board (after installing it pull it towards yourself making sure it is properly in place and secured).

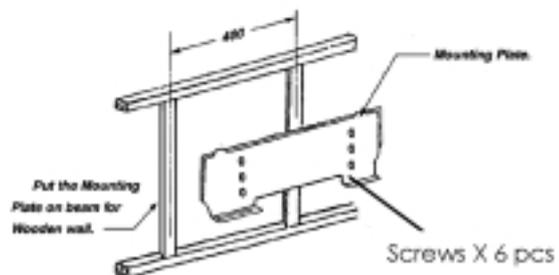


Wall penetration

1. Drill a hole in the wall as shown in diagram.
2. Hole should be drilled with a slight downward slant to the outdoor side to enable the condensed water to flow freely.



Installing mounting plate



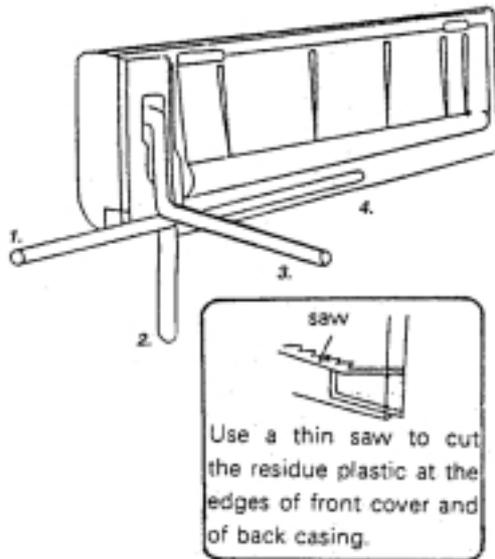
A. Brick or Concrete Wall:

1. Place the mounting plate flush against the wall making sure it is horizontal, then trace out the holes to be drilled.
2. Drill holes, insert screw plugs to which the mounting plate can be secured.
3. Before fixing screws tightly make a final check to make sure mounting plate is horizontal.
4. See Fig 2 for dimensions.

B. Wooden Wall

1. Secure the mounting plate to the beams in order to prevent vibration.
2. If there is no beam then you can only secure the mounting plate with more screws to add strength.
3. Use the accompanying screws to secure the mounting plate, but make sure it is horizontal before securing it tightly.
4. After securing the mounting plate, pull it to see whether it is strong enough to hold the unit in place.
5. See Fig 2 for dimensions.

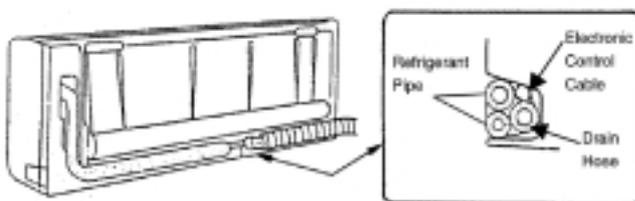
Piping direction



C. Piping Direction

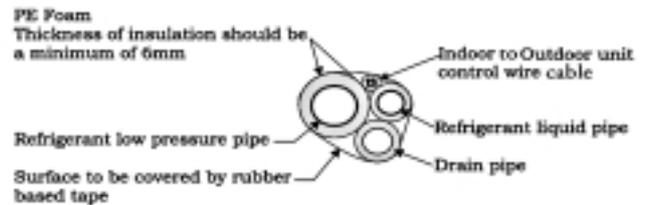
1. As shown in the drawing, there are four alternative directions for connecting pipe.
2. Please note when alternative 1, 2 or 4 connecting direction is selected, the residue plastic at the edges of front cover and back casing should be cut neatly. These plastic residue can be kept and re-used when you want to install the unit at another place.

Horizontal piping connection



1. Before securing the mounting plate all the piping should be connected and wrapped with PVC tape for protection.
2. After connecting all wires place them inside the pipe and draw the cable through the knock out hole, then secure the unit on the mounting plate.
3. Apply insulation to the indoor unit's drain pipe if it is extended.

Piping insulation method a for heat pumps



Drain pipe should be placed below the refrigerant piping

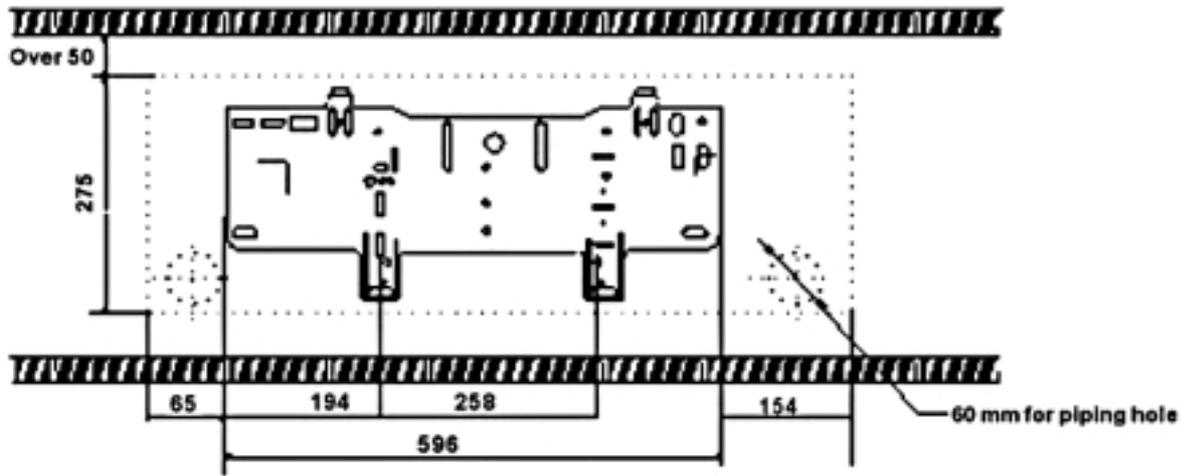
Interconnecting wiring

We recommend that screened cable be used in electrically noisy areas.

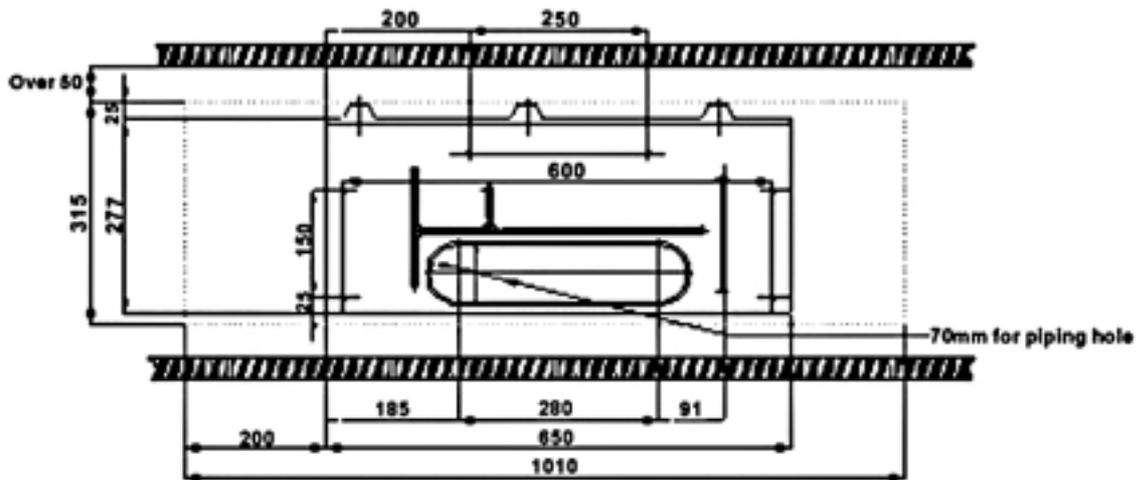
1. Always separate low voltage (5VDC) signal wires from power line (230VAC) to avoid electromagnetic disturbance of control system.
2. Do not install the unit where electromagnetic waves are directly radiated at the infra red receiver on the unit.
3. Install the unit and components as far away as is practical (at least five meters) from the electromagnetic wave source.
4. Where electromagnetic waves exist use shielded sensor cable.
5. Install a noise filter if any harmful noise exists in the power supply.

Mounting plate installation dimensions

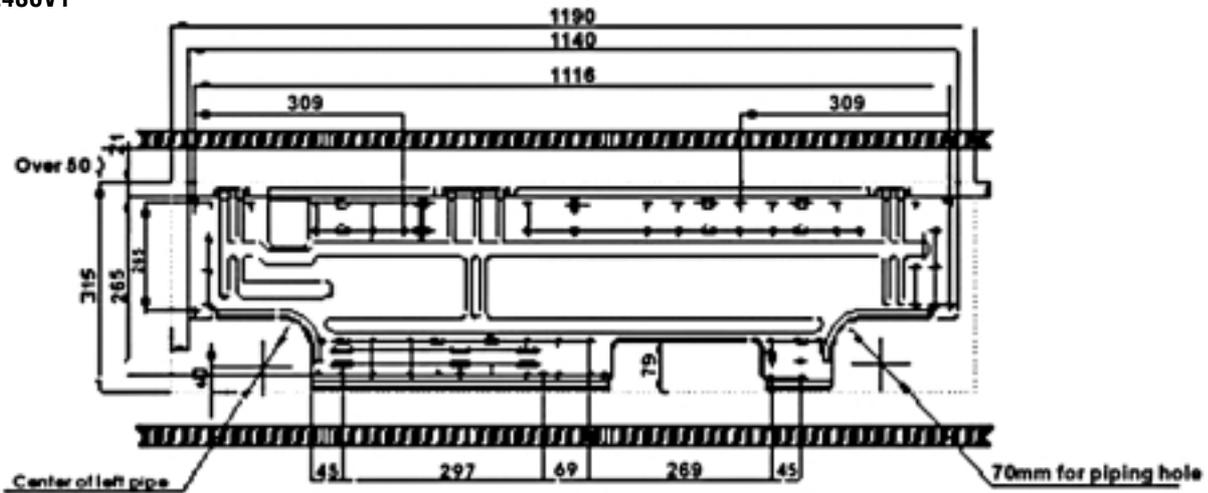
II09/12SCV1



II18SCV1



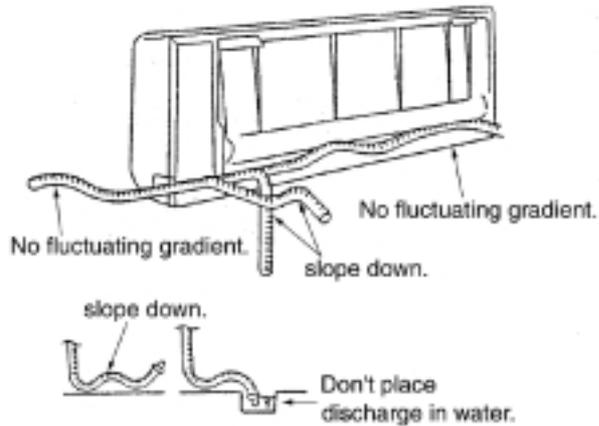
II24SCV1



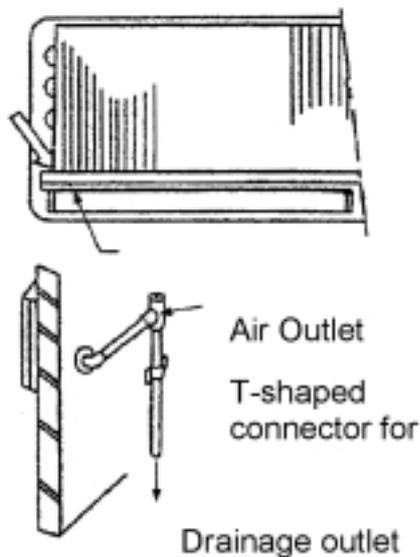
Drainage and filed piping connections

Drainage

1. For the sake of drainage, design installation with gradient.
2. Drain hose, as shown below, cannot have a fluctuating gradient or it will store water and damage the pipe.

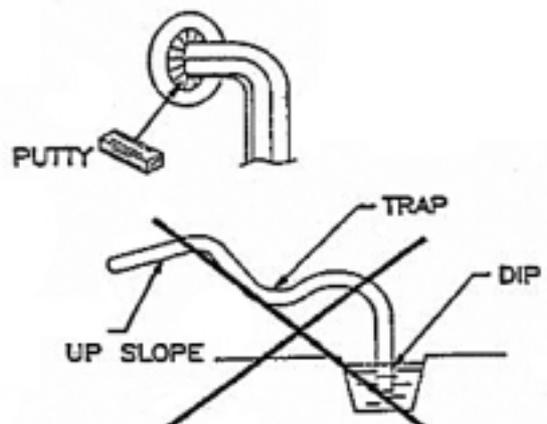
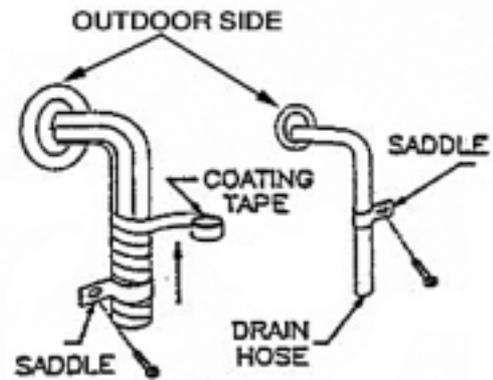
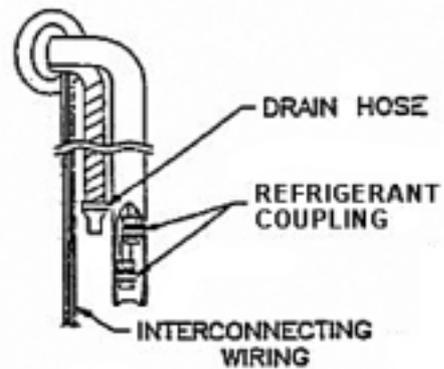


3. When drainage has been completed, it should be tested by filling the drain tray at the left corner of the indoor unit with water to ensure drainage is clear and unobstructed. See diagram below.



4. After connecting the indoor drain pipe, insulation should be applied.
5. If the horizontal drain pipe is too long an air outlet should be added, i.e. a T shaped 3 way connector (PVC material) as shown above.

Outside of the wall piping



Reduction in capacity VS increase in pipe length

MODEL	PIPING DISTANCE				
	5m.	10m.	15m.	20m.	25m.
II-SCV1 09	0	1.10%	1.65%	2.30%	3.12%
12	0	1.15%	1.85%	2.45%	3.42%
18	0	1.15%	1.85%	2.45%	3.42%
22	0	1.25%	1.95%	2.65%	3.68%

NOTES

1. The copper pipes must be installed level in both the horizontal and vertical plane.
2. If actual distance above or below condenser exceeds 3 meters make a loop.
3. If actual piping length exceeds 5 meters add refrigerant 25 grams per meter for sizes 9, 12, or until system pressures are balanced.
4. Performance reduction data is based on 10 meters height difference between indoor and outdoor unit at standard test temperature conditions.

Operation temperature limits

Operation	Temperature		Indoor DB (°C)	Outdoor DB (°C)
Cool	Max		32	45
	Min		18	7
Heat	Max		30	24
	Min		5	-5

Piping

Outdoor unit piping is connected after the indoor unit has been installed.

1. For indoor unit piping, please use 2 spanners. The small connection should not be overly tightened as it will result in deformation. Always use spanners with torque limitation.
2. First place the tapered side onto the tapered connection, use your hand to turn the tapered pipe to the end, then using the spanner to secure tightly.
3. Refer to table below for recommended details.

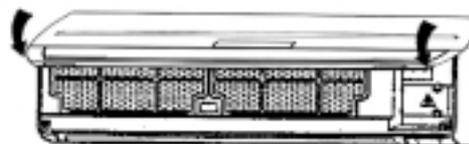
Torques for tapered washers

Pipe Diameter	Width of Washer	Required Torque of the Spanner	Conventional Spanner
6.35 mm.	17mm.	1.8 kg f.m	1.5 ~ 2.0 kg f.m
9.52 mm.	22 mm.	3.5 kg f.m	3.0 ~ 4.0 kg f.m
12.7 mm.	24 mm.	6.0 kg f.m	5.0 ~ 6.2 kg f.m
15.88mm	27mm	9.0 kg f.m	8.0-9.6 kg f.m

Opening & closing of lift up cover



Open the lift up cover by lifting up at the two positions as indicated.

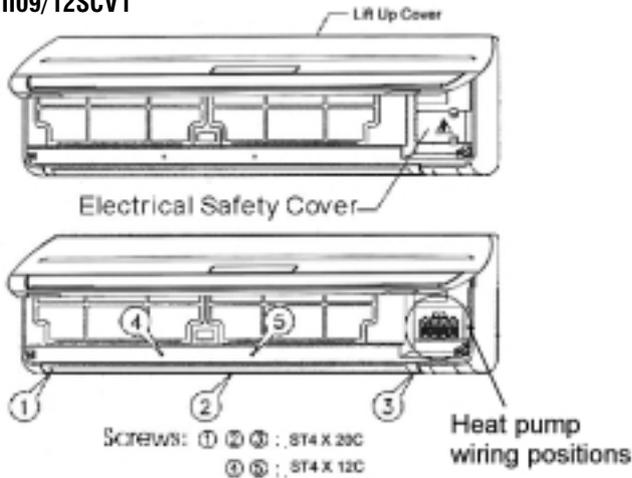


Close the lift up cover by pressing down at the two positions as indicated until the cover is firmly closed.

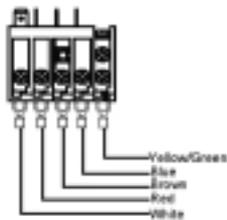
How to remove the front cover assembly

2. Set the horizontal louver to horizontal position.
3. Remove the screw caps below the louver, and then remove the mounting screws.
4. Open the lift up cover by grasping the panel at both sides as shown above.
5. Remove the remaining screws located at the centers.
6. Grasp the lower part of the front cover and pull the entire assembly out and up towards you.

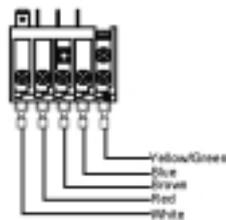
Control cable connections II09/12SCV1



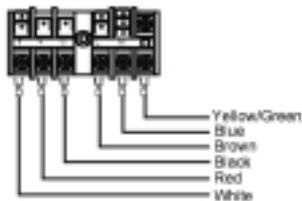
II 09/12SCV1



II 18 SCV1



II 22SCV1



1. Open the lift up cover.
2. Remove the electrical safety cover. The terminal block for cable connecting is shown.
3. Connect the control cable plug to the extension wire socket if provided or connect to terminal strip.
4. Replace the electrical safety cover after the cable connecting is finished.
5. If the front cover assembly needs to be removed, see previous heading.

Indoor unit wiring connections

Please note the colours and positions from the wiring diagram before connecting control wiring.

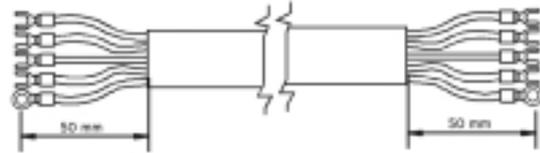
Loosen the terminal screw, put the cable in place and secure the screws tightly.

Note:

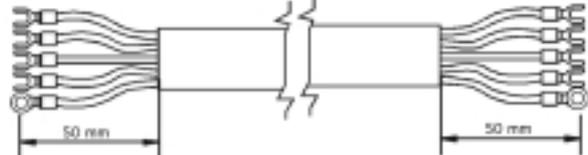
Wiring diagrams on units take precedence over manual.

Control cable connections for heat pump

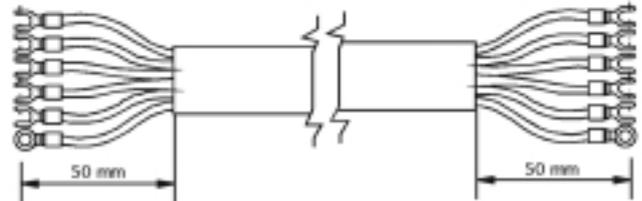
II 09/12SCV1



II 18 SCV1



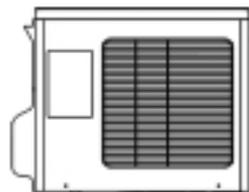
II 22SCV1



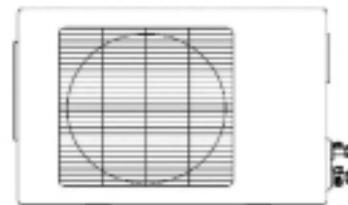
Connection of control wires

1. Take off the terminal cover at the right side of unit.
2. Fix control wires and power wires at the terminal block as indicated.
3. Make sure wiring of indoor & outdoor units are securely fixed.
4. Put on the terminal cover.

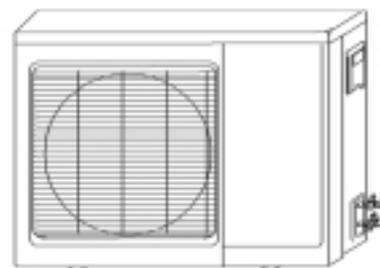
I009



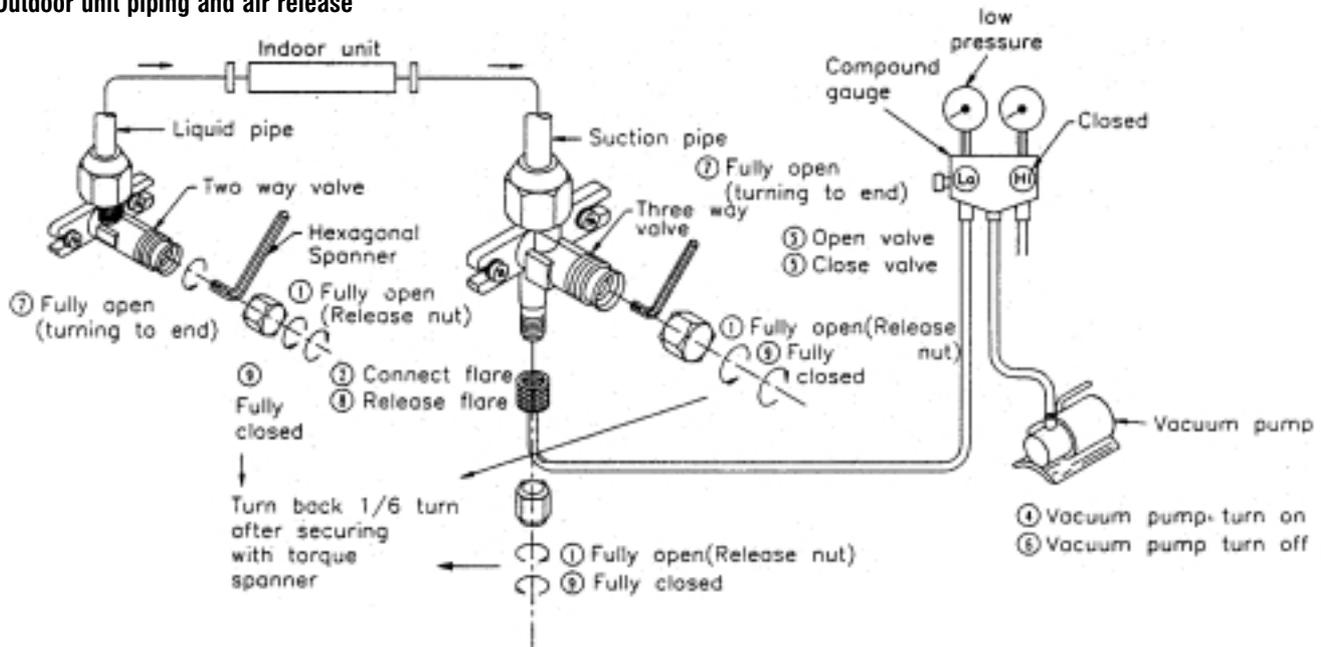
I0-12



I018/22



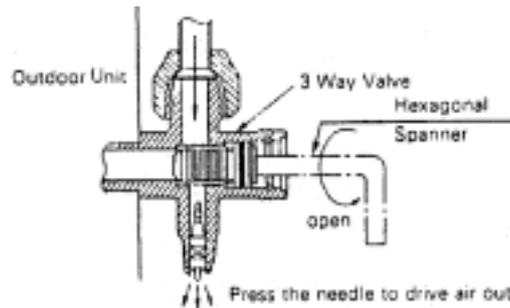
Outdoor unit piping and air release



Air release

Purge the air within the indoor unit and piping from the system by using a vacuum pump.

1. Release air as the diagram shows.
2. [4] Shows the vacuum pump operating 15 minutes at least. Read gauge meter and make sure pressure reaches -76 cmHg.
3. After [6] the vacuum pump is turned off. Please wait a few minutes and check the gauge meter doesn't change reading to confirm no leakage in the piping.
4. [9] Shows locked position.
5. Please test for leaks with gas detection instrument or soapy water before turning on the system.



Cross section of 3 way valve (Before opening)

Start-up and service instructions for condensing Units

STEP 1 - Complete pre-installation checks

Unpack unit - Move unit to its final location. Remove the carton from unit being careful not to damage the service valves and grilles.

Inspect shipment - File a claim with the shipping company if the shipment is damaged or incomplete.

Consider system requirements - Consult the local building and national electrical codes for any special installation requirements. Allow sufficient space for air flow clearance, wiring, refrigerant

piping, and servicing the unit. See fig. 1. Locate the unit so that the condenser's air flow is unrestricted on both sides. Refer to fig. 2. The unit may be mounted on a level pad directly on its base legs or mounted on raised pads at the support points.

STEP 2 - Rig and mount unit

Mounting on ground - Mount on a solid, level, concrete pad. Position unit so water or ice from the roof cannot drop directly onto the unit. If local codes require the unit be fastened to the pad, tie down bolts should be used and fastened through the slots provided in the unit's mounting feet.

Mounting on roof - Mount on a level platform or frame. See fig.2.

Rigging

Be sure unit panels are securely in place prior to rigging.

Keep unit upright. Lift unit using slings. Use cardboard or padding under sling, and spreader bars to prevent any sling damage to the unit. Install the unit so that the coil does not face into prevailing winds. If this cannot be done, and constant winds above 22 Km/h are expected, use a wind baffle.

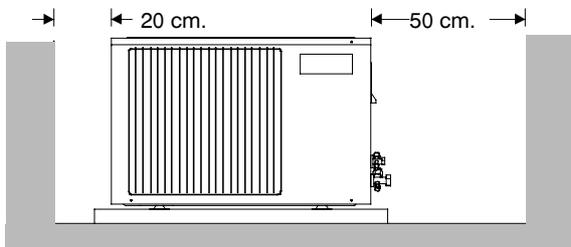


Fig.1

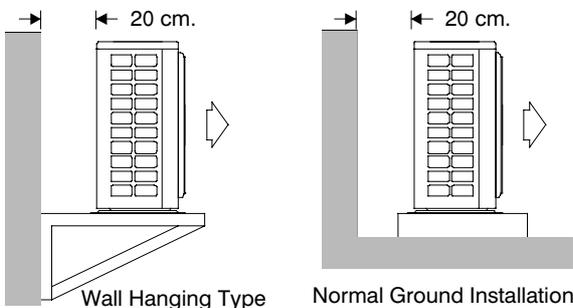


Fig.2

STEP 3 - Complete refrigerant piping connections

The condensing units may be connected to the evaporator section using field supplied tubing of the correct refrigerant grade, size and condition. Do not use less than 3m of interconnecting tubing and do not bury more than one metre of line set underground.

If more than the recommended length is buried, the refrigerant may migrate to the cooler buried section during extended periods of unit shutdown. This causes refrigerant slugging and possible compressor damage at start-up.

When more than 15 m of inter-connecting tubing and /or more than 10 m vertical lift is used, consider the amount of liquid lift and compressor oil return or contact your local distributor.

If either the refrigerant tubing or indoor coil is exposed to atmospheric conditions for longer than 1 minute, it must be evacuated to 1,000 microns to eliminate contamination and moisture in the system. Run the refrigerant tubes as directly as possible, avoiding unnecessary turns and bends. Suspend the refrigerant tubes so they do not damage

Insulation on the vapour tube and do not transmit vibration to the structure. Also, when passing the refrigerant tubes through the wall, seal the opening so vibration is not transmitted to the structure. Leave some slack in the refrigerant tubes between the

structure and unit to absorb vibration. Refer to evaporator installation instructions for additional information.

Making piping flare connections

Both the suction and liquid lines of the units are equipped with flare connections which are closed off in the factory and ready for connection. Use refrigerant grade tubing. Assemble flared joint by aligning the tubing with the machined surface of the fitting. Turn the nut anti-clockwise and then clockwise until it is fully tightened. Leak test the joint to ensure it is leak free.

STEP 4 - Complete electrical connections

Power wiring - The unit is factory wired for the voltage shown on the name plate. Provide an adequate fused disconnect switch within sight of the unit, readily accessible, but out of reach of children. Provision for locking the switch open (off) is advisable to prevent power from being turned on while unit is being serviced. Disconnect switch, fuses, and field wiring must comply with local code requirements. Use only copper wire between the disconnect switch and unit. Route power wires through the opening in unit's side panel and connect to the unit control box as shown on the unit's label wiring diagram. Unit must be grounded.

Control circuit wiring - The control voltage is 12 VDC. See unit label wiring diagram. Route the control wires through the opening in the unit's side panel to connect into the unit control box.

STEP 5 - Preliminary checks

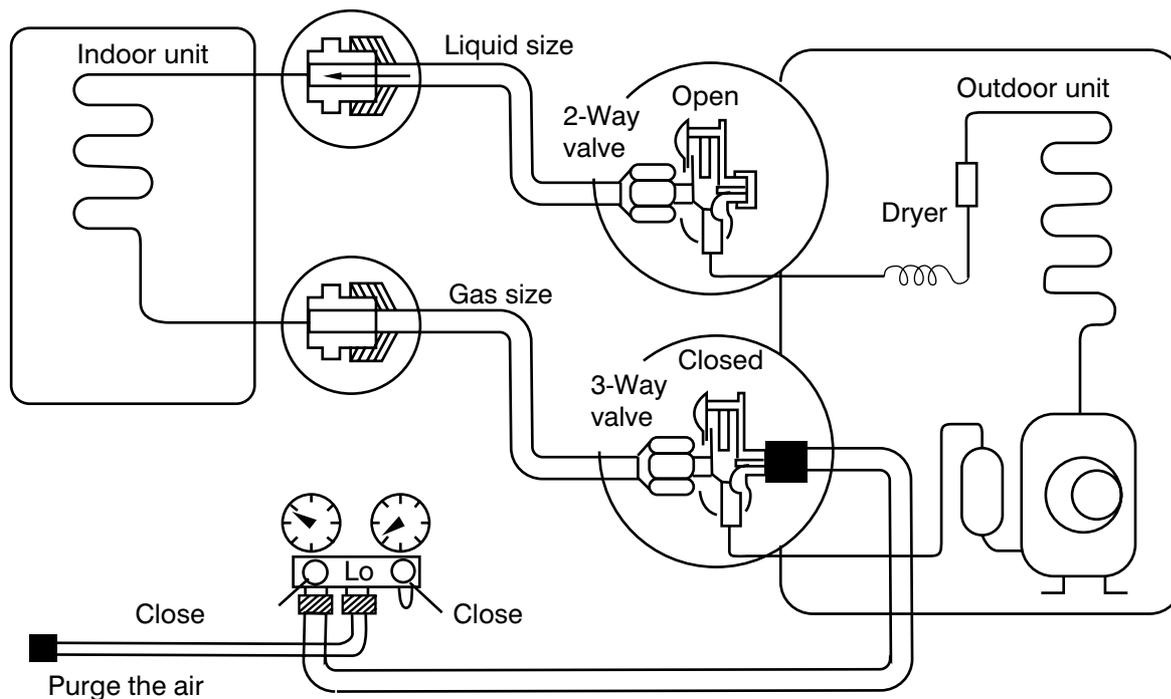
1. Check that all internal connections are tight and that all barriers, covers and panels are in place.
2. The field electrical power source must agree with the unit nameplate rating.
3. All service valves must be open.

Leak test system and field piping by pressure method at approximately 170 kpa backed up with an inert gas to a total pressure not to exceed 1400 kpa.

Evacuation and dehydration of the field piping and fan coil is necessary. Service valves must be fully back-seated to close the service port. There is no valve at the service port and failure to back seat the valve could result in a loss of the system charge or personal injury.

To start unit - Ensure the main power is switched on by closing the disconnect switch and the cooling temperature required is set below room temperature. The unit compressor will start after a 3 minute delay. Operate the unit for 15 minutes, then check the system refrigerant charge. See refrigerant charging table.

1. Evacuation Pumping down

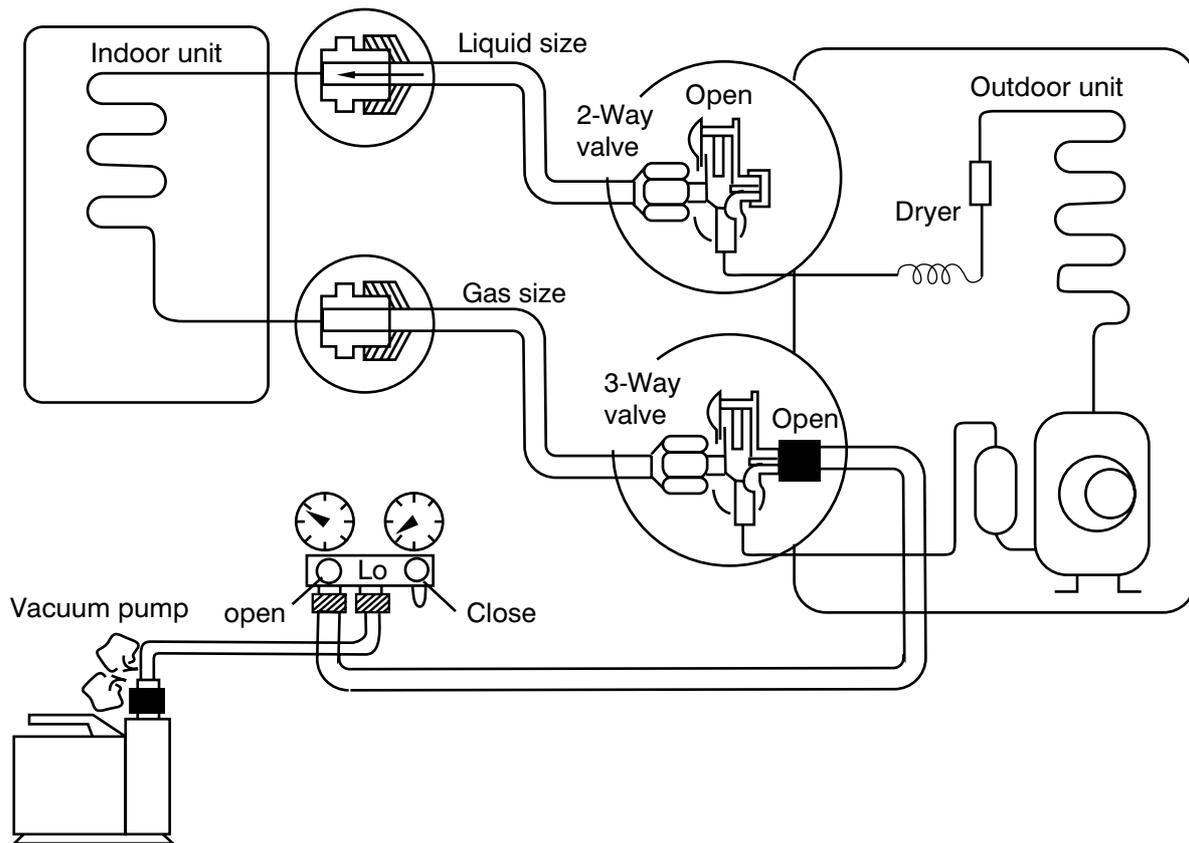


Procedure

1. Confirm that both the 2-way and 3-way valves are set to the open position.
 - Remove the valve stem caps and confirm that the valve stems are in the raised position.
 - Be sure to use a hexagonal wrench to operate the valve stems.
2. Operate the unit for 10 to 15 minutes.
3. Stop operation and wait for 3 minutes, then connect the charge set to the service port of the 3-way valve.
 - Connect the charge hose with the push pin to the service port.
4. Air purging of the charge hose.
 - Open the low-pressure valve on the charge set slightly to air purge from the charge hose.
 - Refrigerant must be recovered.

Don't vent the Refrigerant to the atmosphere.
5. Set the 2-way valve to the closed position.
6. Operate the air conditioner at the cooling cycle and stop it when the gauge indicates 0.1 Mpa.
7. Immediately set the 3-way valve to the Closed position.
 - Do this quickly so that the gauge ends up indicating 0.8 ~ 1.1MPa.
8. Disconnect the charge set, and mount the 2-way and 3-way valves' stem nuts and the service port nut.
 - Use a torque wrench to tighten the service port nut to a torque of 1.8 kg.m.
 - Be sure to check for gas leakage.

2. Evacuation (Total refrigerant leakage)



Procedure

1. First, replace a dryer with new one.
2. Connect the vacuum pump to the charge sets center hose.
3. Evacuate for approximately one hour.
 - Confirm that the gauge needle has moved toward - 76 cmHg (vacuum of 4 mmHg or less).
4. Close the valve (Low side) on the charge set, Turn off the vacuum pump, and confirm that the gauge needle does not move (approximately 5 minutes after turning off the vacuum pump).
5. Disconnect the charge hose from the vacuum pump.
 - Vacuum pump oil.
 If the vacuum pump oil becomes dirty or depleted, replenish as needed.

Caution

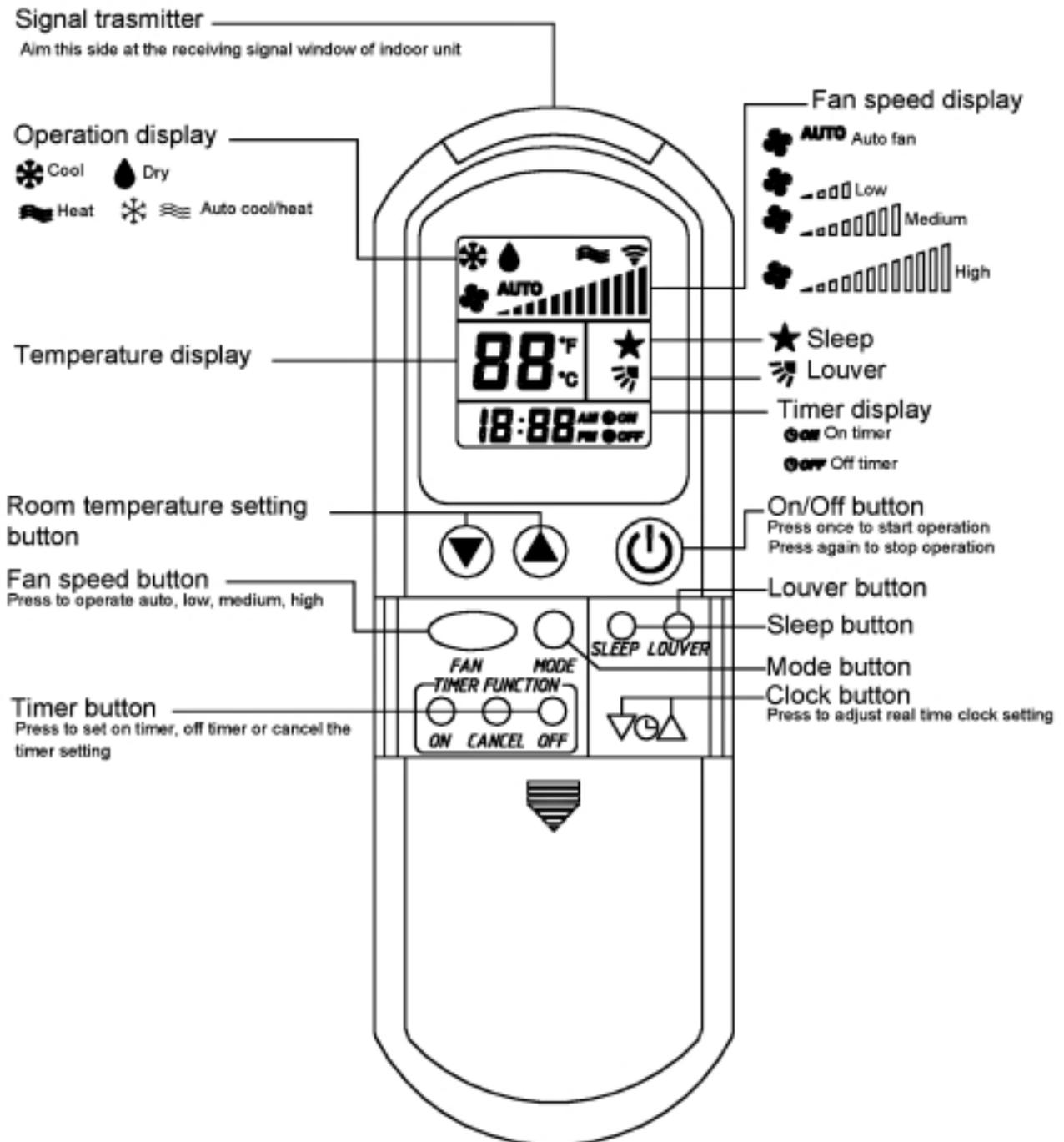
1. Use a vacuum pump equipped with check valve to prevent backward flow.
2. For R410A, only liquid side is allowed to be charged.
3. Do not attempt to charge with larger amounts of liquid refrigerant while operating the air conditioner.

2-way, 3-way Valve

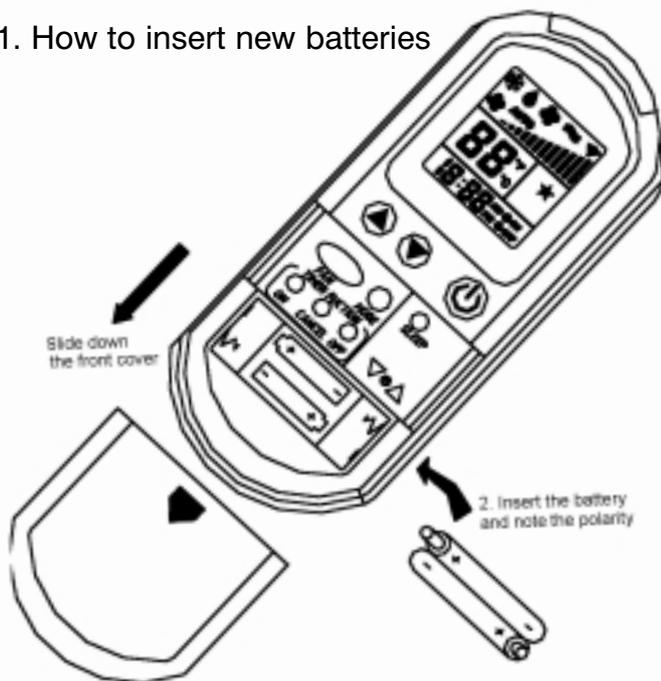
	2-way Valve (Liquid Side)	3-way Valve (Liquid Side)	
Works	Shaft position	Shaft position	Service port
Shipping	Closed (with valve cap)	Closed (with valve cap)	Closed (with cap)
1. Air purging (Installation)	Open (counter-clockwise)	Closed (clockwise)	Closed (push-pin or with vacuum pump)
	Open (with valve cap)	Open (with valve cap)	Closed (with cap)
2. Pumping down (Transferring)	Open (clockwise)	Open (counter-clockwise)	Open (connected to manifold gauge)
3. Evacuation (Servicing)	Open	Open	Open (with charging cylinder)
4. Gas charging (Servicing)	Open	Open	Open (with charging cylinder)
5. Pressure check (Servicing)	Open	Open	Open (with charging cylinder)
6. Gas releasing (Servicing)	Open	Open	Open (with charging cylinder)

5. Controller Instruction and Specifications

Remote control handset
II09/12SCV1



1. How to insert new batteries



1. On/Off

Press  to start or stop the air conditioner.

2. Temperature setting

Press temperature  or temperature  to decrease or increase the set temperature. Press temperature  and  together to change the temperature setting from C to F. Valid temperature set range is 16°C-30°C or 60F-86F. Temperature setting is not available in Fan mode.

3. Mode setting

Press  button to change the operation mode as follow:-
Cool → dry → heat → auto cool/heat

4. Fan speed setting

Press  button to change the fan speed
Auto → Low → Medium → High. Auto fan setting is not available in Fan mode. Fan speed setting is not available in dry mode.

5. Sleep setting

Press  button to activate or deactivate sleep setting.
Sleep is not available in Dry mode.

6. Louver setting

Press  button to set the louver at fixed positions 1,2,3,4, auto swing or stop position.

7. Clock setting

Press  or  for 2 seconds to change the real time clock setting. Subsequent pressing of  or  will increase or decrease the current setting in 1 minute intervals. Holding the button for 4 seconds will change the current setting with a faster speed. Holding the button for 6 seconds will change the setting with high speed.

8. On timer setting

Press  button to activate on timer setting. First press of  button will show the last timer setting and  symbol flashes. Subsequent pressing will change the timer setting in 10 minute increments.

9. Off timer setting

Press  button to activate off timer setting. First press of  button will show the last timer setting and  symbol flashes. Subsequent pressing will change the timer setting in 10 minute increments.

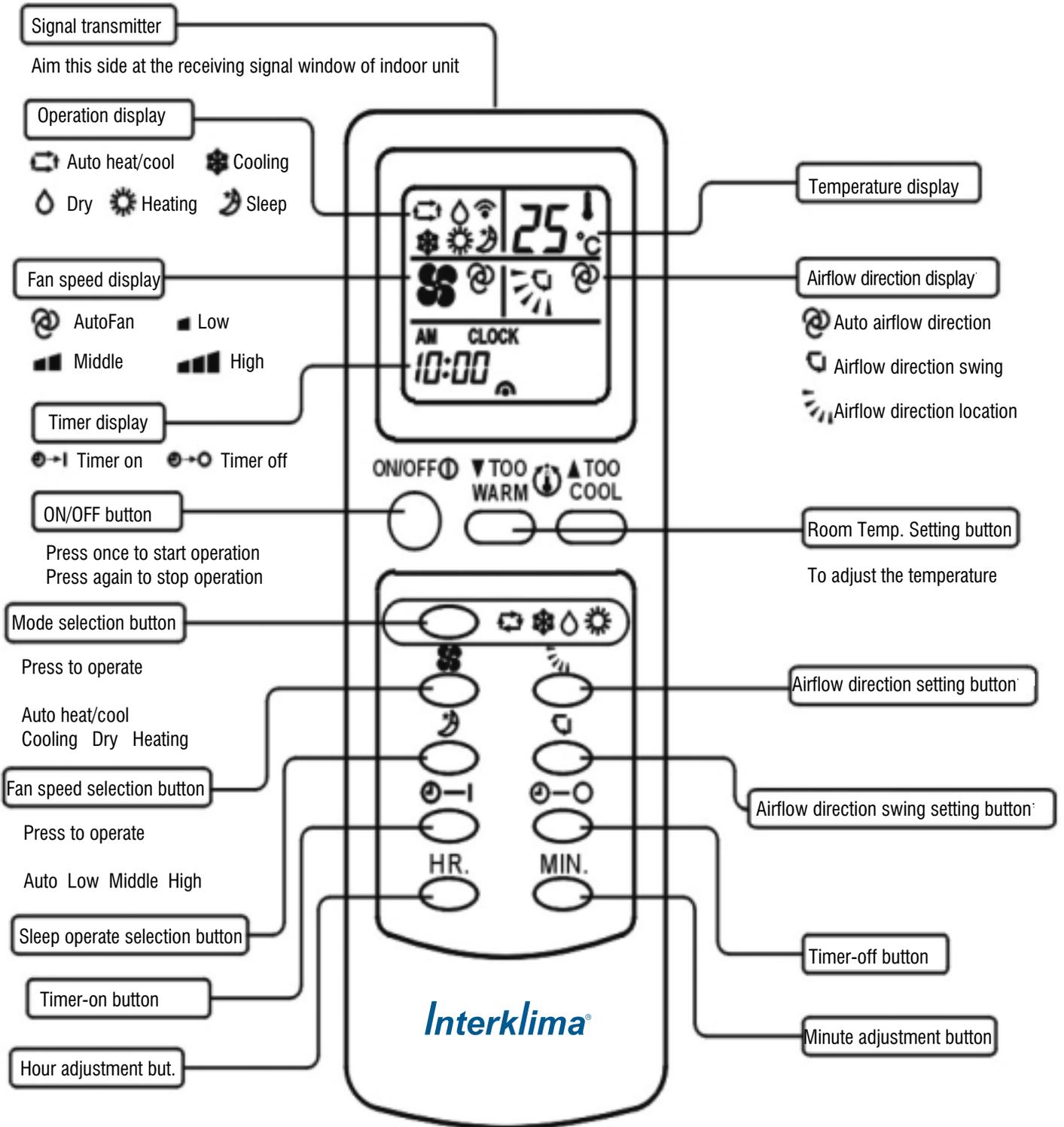
10. Cancel timer setting

Press  button to cancel both on and off timer setting.

Tips about remote control handset

- The range of handset signal is 6 meters distance, without any obstructions.
- Remote controller will show  when transmitting the signal after pressing any button and at the same time, unit will sound, meaning it has received the signal. If this sound cannot be heard, please press the button again or check if unit is within signal receiving range.
- Remote controller must not be exposed to humidity, sunlight, heat source, or rough handling.
- Signal transmitter must be aimed at signal receiving window, at a maximum angle of 30°.
- Signal receiving window must not be exposed to strong light which will interfere with handset signal.
- Pressing multiple buttons at the same time may damage the handset.

II18/22SCV1



Names and functions of Handset Display Area

- 1. Operation display area:**
 Shows the selected operation mode.
 You can select Auto heat/cool ,
 cooling ,
 heating ,
 dry ,
 or sleep .
- 2. Temperature display:**
 Show the set temperature.
- 3. Fan speed display:**
 Shows the selected fan speed.
 You can select Auto Fan ,
 low ,
 medium ,
 or high .
- 4. Airflow direction display (not applicable):**
 Shows the selected airflow direction.
 You can select  auto direction.
- 5. Time display area:**
 If you have set timer on or timer off, it will show your timing,
 or it will show you the current real time.

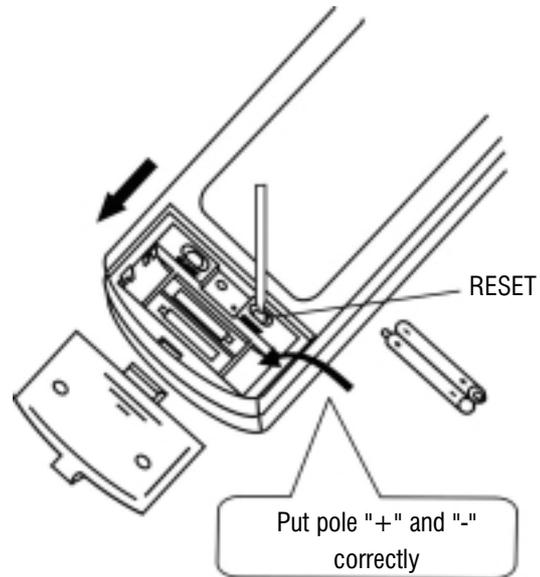
NOTES

1. All the icons shown in the picture of remote controller are for customer's reference. When in actual use, screen will only show you the corresponding area.
2. If the air-conditioner is turned off, screen will show nothing. (Except for starting air-conditioner using timer-on.)

Operation Instructions

1. How to insert new batteries

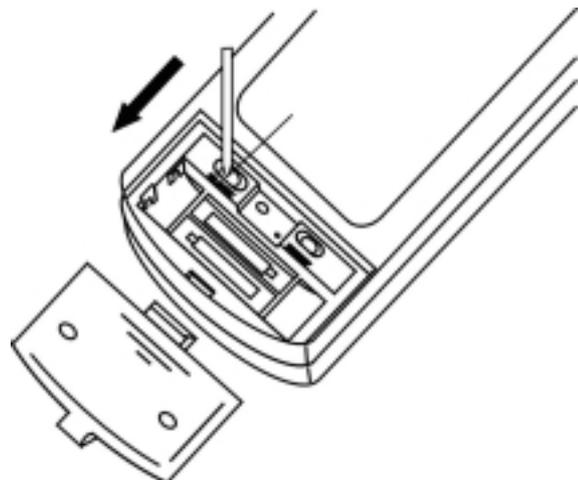
After inserting the batteries, please press the reset button to set the remote controller ready for use.



2. Adjusting the time of remote controller

Open the back cover of remote controller, press * CLOCK button, when the display is flashing * ● and CLOCK, then begin to set the time.

Press  button and press  button to change the time.
 Press *CLOCK to fix right time, then flashing will stop.



3. Auto operation

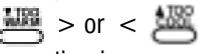
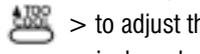
Press  button to start the air-conditioner. Now, fan speed is automatic (fan speed is selected by the micro computer to suit room cooling requirement). Press  to select desired fan speed.

Press  button to select auto heat / cool mode.

To stop working, press  button again.

Setting temperature is not shown on remote controller when in AUTO heat/cool operation.

When operation shifts from auto into heating or cooling operation, indoor fan speed can be set in low, middle, high speed or auto.

After air conditioner operation for 15 minutes, if you feel too warm, please push  > or <  > to adjust the temperature. Auto heat/cool operation is an economical mode, which selects suitable fan operation and mode according to room-temperature.

4. Cooling, dry and heating operation

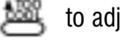
Press  button to start air conditioner.

Press  mode button to select operation.

Each press of this button changes the mode of operation from auto heat/cool → cooling → dry → heating.

Press  button to set fan speed.

Press  button to set preferred temperature.

If you feel too warm, please press  or  to adjust the temperature.

Press  button again, to stop operation.

5. Adjustment of fan speed and how to do timer on-off.

To adjust fan speed, press  button. Fan speed changes in order from  low speed,  middle speed,  high speed to auto.

To set timer on-off, press  or  button, then press  or  to adjust time.

To cancel the timer function, press  button or  button again.

Press  to start sleep mode, press  again to cancel.

Tips about remote controller

The range of handset signal is 6 metres distance from wall pad, without any obstruction.

Remote controller will show ● by pressing any button and at the same time, wall pad will sound, meaning it has received the signal. If this sound cannot be heard, please press the button again or check if unit is within signal receiving range.

Remote controller must not be exposed to humidity, sunlight, heat source, or rough handling.

Signal transmitter must be aimed at signal receiving window, at a maximum angle of 30°.

Signal receiving window must not be exposed to strong light which will interfere with handset signal.

Pressing multiple buttons at the same time may damage the handset or wall pad.

Controls specification

1. ABBREVIATIONS

Ts: Setting Temperature

Tr: Room Temperature

Ti: Indoor coil temperature sensor

2. OPERATION

2.1 COOLING MODE

- If $Tr > Ts + 1^{\circ}\text{C}$, cooling operation is activated. Compressor and outdoor fan are turned on. Indoor fan runs at the set speed.
- If $Tr \leq Ts - 1^{\circ}\text{C}$, cooling operation is terminated. Compressor and outdoor fan are turned off. Indoor fan runs at the set speed.
- The range of Ts is $16 \sim 31^{\circ}\text{C}$.
- Indoor fan speed can be adjusted for low, medium, high and auto.
- Compressor will delay for 3 minutes when it is turned on or off to balance system pressures to protect the compressor.
- The operation diagram is shown below.

In take air temp.					
Setting temp. $+1^{\circ}\text{C}$ (Compressor ON)					
Setting temp. -1°C (Compressor OFF)	More than 3 minutes	More than 3 minutes	More than 3 minutes	More than 3 minutes	
Indoor Fan Speed	Selecting fan speed	Low	Selecting fan speed	Low	Selecting fan speed
Compressor	ON	OFF	ON	OFF	ON

2.1.1 INDOOR DE-ICE

This process is checked by the indoor defrost sensor (Ti). After the compressor has worked for 4 minutes, if $Ti \leq 0^{\circ}\text{C}$ for 20 seconds continuously, compressor and outdoor fan are turned off. Indoor fan keeps running at low speed. When $Ti \geq 7^{\circ}\text{C}$ or indoor de-ice operation is on for more than 3 minutes, system will return to normal operation.

2.2 FAN MODE

- Indoor fan runs at the set speed while compressor and outdoor fan are turned off.
- Indoor fan speed can be adjusted for low, medium and high. The initial speed is medium.

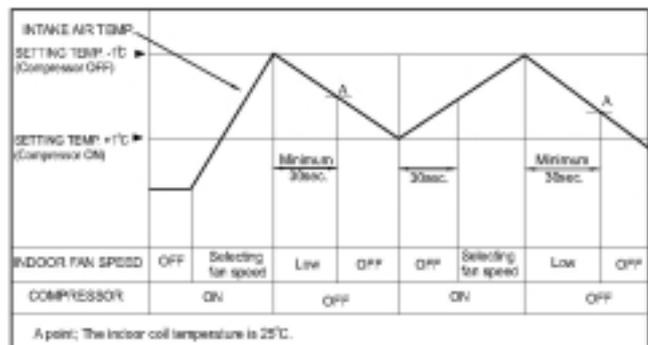
2.3 HEATING MODE

- If $Tr < Ts - 1^{\circ}\text{C}$, heating operation is activated. Compressor and outdoor fan are turned on. The indoor fan stops until the indoor coil temperature has reach 30°C .
- If $Tr \geq Ts + 1^{\circ}\text{C}$, heating operation is terminated.

Compressor and outdoor fan are turned off. The indoor fan keeps running a minimum of 60 seconds.

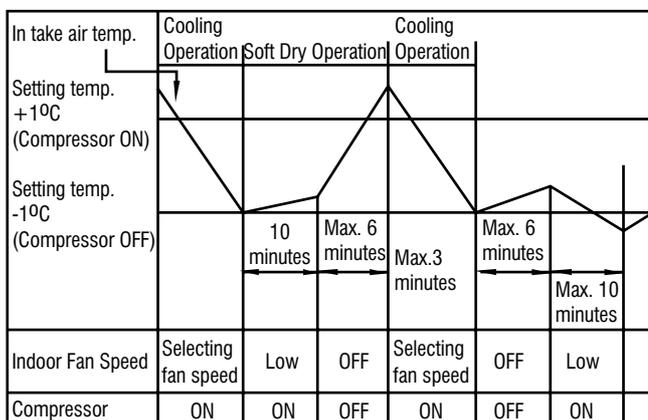
- The range of Ts is $16 \sim 31^{\circ}\text{C}$.
- Indoor fan speed can be adjusted for low, medium, high and auto.
- Compressor will delay for 3 minutes when it is turned on or off to balance system pressures to protect the compressor.

The heating operation diagram is shown below.



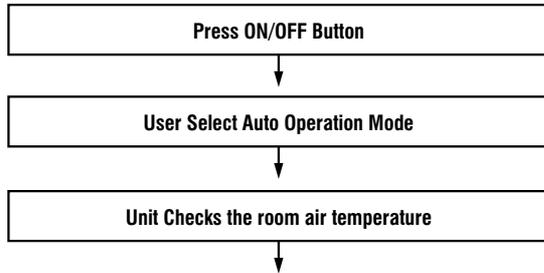
2.4 SOFT DRY OPERATION (DEHUMIDIFICATION) MODE

- During Soft Dry Operation, cooling mode turns on, set temperature is plus 1°C , and the compressor is ON.
- When the room temperature rises over set temperature, the operation mode is changed to the Cooling mode.
- When the room temperature falls between the compressor ON temperature and OFF temperature, the operation mode is changed to Soft Dry mode.
- The operation diagram is shown below.



2.5 AUTO HEAT-DRY-COOL OPERATION

The procedure is as follows.

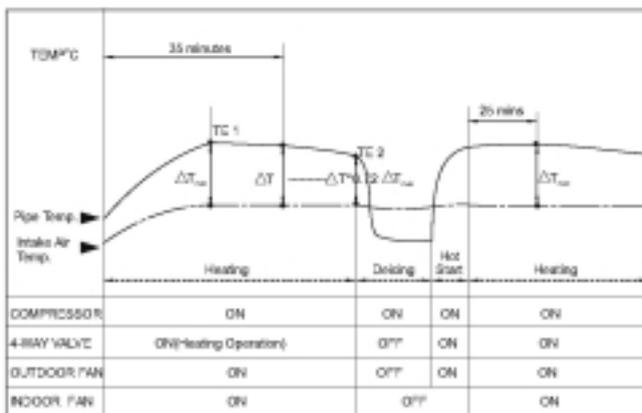


Operation mode	are automatically decided by Fuzzy rule		
Indoor fan speed	are automatically decided by Fuzzy rule		
Setting temperature	are automatically decided by Fuzzy rule		
Intake air temperature	$T_{room} < 21^{\circ}\text{C}$	$21^{\circ}\text{C} < T_{room} \leq 26^{\circ}\text{C}$	$T_{room} \geq 26^{\circ}\text{C}$
Operation mode	Heating	Soft dry	Cooling

- Initial operation mode is selected by room air temperature.
- Operation mode remains on last selection when re-starting the unit.

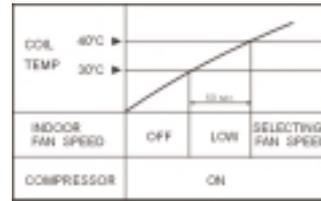
2.6 OUTDOOR UNIT DEFROST CONTROL

- Defrost operation is controlled by timer and sensing of the indoor coil temperature (T_i).
- Defrost operation checks the indoor coil temperature and intake-air temperature at 35 minutes and 40 minutes from starting of heating operation, and discriminates by temperature difference.
- The conditions for stopping defrost:
 - According to the difference of temperature and the time of entering defrost function, defrosting will end after 8 minutes, the maximum time for defrosting. The minimum defrost time is 6 minutes.
 - The compressor remains on, fan motor and 4 way valve will power-on after 55 seconds. The indoor fan remains stopped until the indoor coil temperature has reached 30°C .



2.7 PRE HEAT

- This process will operate approximately 20 seconds.
- The indoor fan stops until the indoor coil temperature has reached 30°C .
- The operation diagram is shown below.

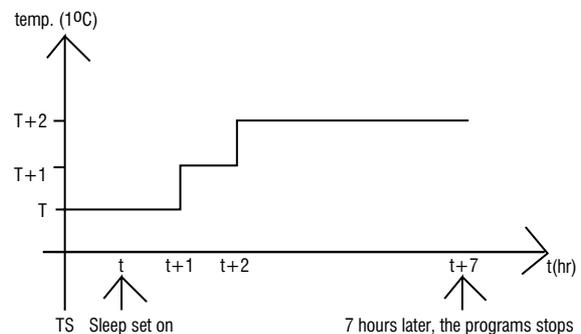


2.8 TIMER

- Timer off can only be set when the system is operating.
- Timer on can only be set when the system is off.
- The maximum set time is 24 hours.
- Changing of on/off status will cancel timer mode.

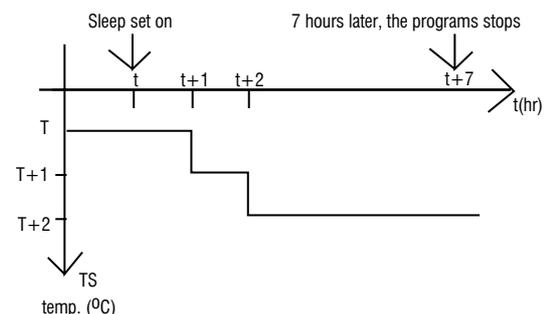
2.9 COOLING MODE WITH SLEEP MODE AUTO CONTROL

- When selecting cooling mode combined with Sleep Mode Auto Control, the operation diagram is shown below.
- The setting temperature will be automatically raised by 1°C , 60 minutes later only twice.
- If timing is set, it will take priority.
- Sleep mode will stop after 7 hours.



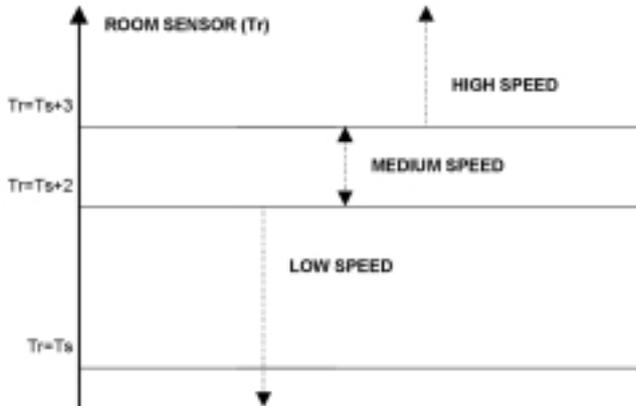
2.10 HEATING MODE WITH SLEEP MODE AUTO CONTROL

- When selecting heating mode combined with Sleep Mode Auto Control, the operation diagram is shown below.
- The setting temperature will be automatically lowered by 2°C , 60 minutes later only twice.
- If timing is set, it will take priority.
- Sleep mode will stop after 7 hours.

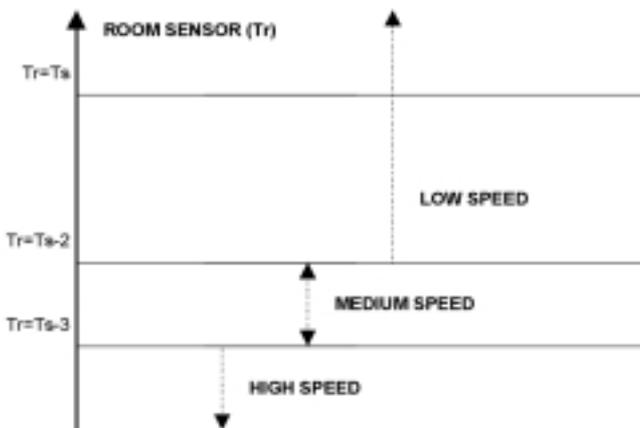


2.11 AUTO FAN SPEED

- a. In cool mode,
 if $T_r - T_s < 2^\circ\text{C}$, indoor fan is run at low speed.
 if $2^\circ\text{C} < T_r - T_s < 3^\circ\text{C}$, indoor fan is run at medium speed.
 if $T_r - T_s > 3^\circ\text{C}$, indoor fan is run at high speed.



- b. In heat mode,
 if $T_s - T_r < 2^\circ\text{C}$, indoor fan is run at low speed.
 if $2^\circ\text{C} < T_s - T_r < 3^\circ\text{C}$, indoor fan is run at medium speed.
 if $T_s - T_r > 3^\circ\text{C}$, indoor fan is run at high speed.



- c. There is no auto fan speed in fan mode.

2.12 AIR FLOW DIRECTION CONTROL

- a. This function swings the vertical louver up and down automatically or allows setting at a fixed position.
 b. The procedure is:
 Press the ON/OFF Button to operate the unit.
 Press the Airflow Direction Control Button to swing the louver up and down automatically.
 Press again the Airflow Direction Control Button to set the louver at a fixed position.

2.13 BUZZER

If a command is received, the system will respond with a beep.

2.14 AUTO RESTART

If the power fails suddenly, the preset setting will be kept in micro computer memory.

After power is available again, units will automatically restart according to the last setting.

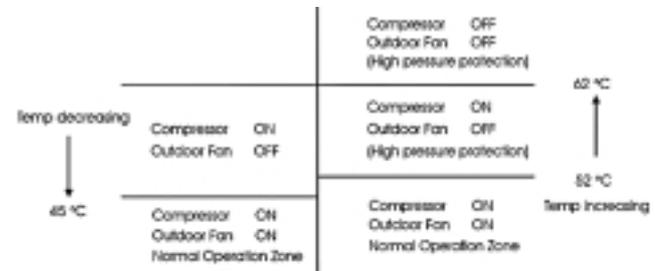
3. PROTECTION

3.1 HIGH PRESSURE

(Temperature Differential Control) PROTECTION

If Indoor Coil Temperature $> 52^\circ\text{C}$, the outdoor fan is turned off, compressor is on, after that, if Indoor Coil Temperature $< 45^\circ\text{C}$, the outdoor fan will turn on again.

If Indoor Coil Temperature $> 62^\circ\text{C}$, the outdoor fan and compressor are turned off, after that, if Indoor Coil Temperature $< 45^\circ\text{C}$, the outdoor fan and compressor will turn on again.



3.2 LOW PRESSURE

(Temperature Differential Control) PROTECTION

- a. Protection Activation

During COOL / DEHUMIDIFICATION / HEAT mode, compressor runs continuously 15 minutes,

If $T_i - T_r \leq 3$ for 5 minutes constantly, protection activates.

Changing mode does not terminate protection function, except turning off unit.

During protection:

In COOL mode, outdoor unit stops, indoor fan runs at set speed.

In DEHUMIDIFICATION mode, outdoor unit stops, indoor fan runs at low speed.

In HEAT mode, outdoor unit and indoor fan stop.

- b) Protection Deactivation

During COOL / DEHUMIDIFICATION / HEAT mode, compressor runs for 3 minutes, If $T_i - T_r > 3$ for 10 seconds, protection deactivates.

3.3 HIGH PRESSURE SWITCH PROTECTION

This is to protect the system from high pressure operation. System pressure is measured at gas discharge pipeline.

Protection activates when system pressure > 3.2 Mpa, deactivates < 2.4 Mpa.

- a. During COOL/DEHUMIDIFICATION mode, compressor stops, 3 minutes later outdoor fan stops, indoor fan runs continuously.
- b. During HEAT mode, compressor, outdoor and indoor fans stop, 4-way valve maintains position.

3.4 LOW PRESSURE SWITCH PROTECTION

This is to protect the system from too low pressure operation. Low system pressure is measured at gas suction pipeline.

Protection activates when system pressure < 0.05 Mpa, deactivates > 0.15 Mpa.

- a. During COOL/DEHUMIDIFICATION mode, compressor stops, 3 minutes later outdoor fan stops, indoor fan runs continuously.
- b. During HEAT mode, compressor, outdoor and indoor fans stop, 4-way valve maintains position.

3.5 ELECTRIC HEATER STRIP FOR COMPRESSOR

This Electric heater strip is connected with 4-way valve in parallel.

- a. Stand-by mode: Indoor Temp. $\leq 25^{\circ}\text{C}$, the electric heater strip and 4-way valve are power-on.
- b. Stand-by mode: Indoor Temp. $\geq 27^{\circ}\text{C}$, the electric heater strip and 4-way valve are power-off.
- c. When the compressor is off after cooling operation, the electric heater strip and 4-way valve off.
- d. When the compressor is off after heating operation, the electric heater strip and 4-way valve operate under above conditions a and b.

Note: For rotary compressor models, this electric heater strip installation is optional.

3.6 OUTDOOR FAN SPEED CONTROL (Optional)

The main purpose of outdoor fan speed control (OFSC) is to avoid freezing of indoor evaporator in cooling mode when outdoor ambient temperature is low:

- a. When the indoor coil temperature descends below 6°C , the outdoor fan runs 60% and stops 40% of the operation cycle. When the indoor coil temperature descends below 4°C , the outdoor fan runs 30% and stops 70% of the operation cycle. When the indoor coil temperature descends below 2°C , the outdoor fan stops.

- b. When the indoor coil temperature rises over 3°C , the outdoor fan runs 30% and stops 70% of the operation cycle. When the indoor coil temperature rises over 5°C , the outdoor fan runs 60% and stops 40% of the operation cycle. When the indoor coil temperature rises over 7°C , the outdoor fan runs continuously.

The operation cycle for each of the above is 20 seconds.

4 OPERATION OF CONTROL PANEL ON HIGH WALL UNIT

4.1 MANUAL ON/OFF BUTTON

- a. If the remote control is lost or damaged, you can use the button under the lift up cover to control the air conditioner.
- b. Push the button and operation mode changes in this order: Cooling/Heating/Off.
- c. Set temperature at 24°C and fan speed set at auto mode.

6. Service

Before performing recommended maintenance, be sure the unit main power switch is turned off. Failure to do so may result in an electric shock or injury from the rotating fan blade.

SERVICE (PACK) VALVES - The service valves in the condensing unit come from the factory closed. This means the refrigerant charge is isolated from the line side of the connection ports. The service valves must be opened (turned counter clockwise until seated) before the service port caps can be removed and the hoses of the gauge manifold connected. In this position, the refrigerant has access from and through the outdoor and indoor unit. The service valves can not be field repaired.

PUMP-DOWN PROCEDURE - The system may be pumped down in order to make repairs on the low side without losing the complete refrigerant charge.

1. Attach a pressure gauge to suction service valve gauge port.
2. Frontseat (close) the liquid line valve.
3. Start unit and run until suction pressure reaches 35 Kpa.
4. Shut unit off and frontseat (close) suction valve.
5. Vent remaining pressure.

TABLE 1: CHARGING TABLE

MODEL	PACK VALVE		SYSTEM CHARGE (kg) IO (R-410A)
	GAS	LIQUID	
II-09	3 / 8"	1 / 4"	0.98
II-12	1 / 2"	1 / 4"	1.10
II-18	1 / 4"	1 / 4"	1.30
II-22	5 / 8"	3 / 8"	1.65

SERVICE (PACK) VALVES - see liquid and suction valve as shown in fig. 3&4 - The service valves in the condensing unit come from the factory closed. This means the refrigerant charge is isolated from the line side of the connection ports.

The service valves must be open (turned counter clockwise until seated) before the service port caps can be removed and the hoses of the gauge manifold connected. In this position, the refrigerant has access from and through the outdoor and indoor unit. The service valves cannot be field repaired, there fore only a completed valve or valve system and service caps are available for replacement.

REVERSING VALVE- In heat pumps, the change over between heating and cooling modes is accomplished with a valve that reverses the flow of refrigerant in the system. The reversing valve solenoid can be checked when the power is off with an ohm meter. Check for continuity and shorting to ground. With the control circuit (230V) power on, check for the correct voltage at

the solenoid coil. Check for a burned or overheated solenoid. With the unit operating, other items can be checked, such as frost or condensate water on the refrigerant lines.

Using a remote measuring device, check the inlet and outlet line temperatures. Do not touch the lines. if the reversing valve is operating normally, the inlet and outlet temperatures on the appropriate lines should be close. Any difference would be due to heat loss or gain across the valve body. Temperatures are best checked with a remote reading electronic type thermometer with multiple probes.

Figures 3 and 4 show test points (tp) on the reversing valve for recording temperatures. Insulate points for a more accurate reading. If the valve is defective; shut off all power to the unit and remove all charge from the system. Remove the valve using a tubing cutter. Wrap the new valve with a wet rag to prevent over heating while brazing.

REVERSING VALVE IS ENERGISED WHEN CHANGING FROM COOL TO HEAT MODE OR FROM HEAT TO DEFROST MODE

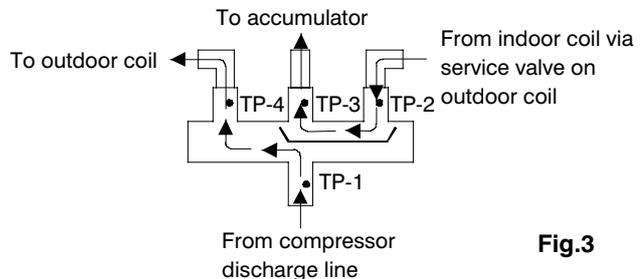
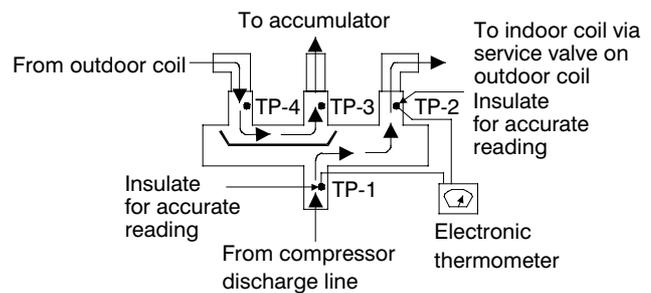


Fig.3



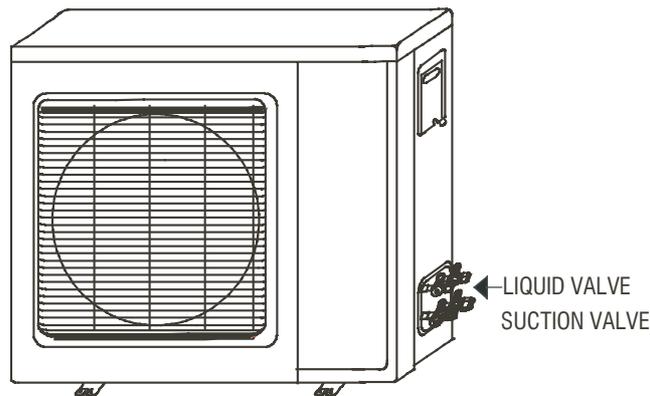
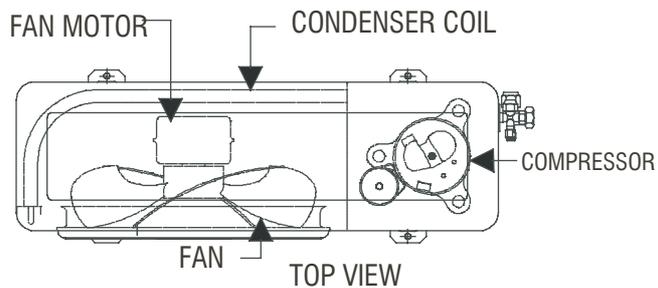
Reversing valve (heating mode, solenoid de-energized)

Fig.4

After the valve is brazed in, check for leaks, evacuate and charge system. Operate the system in both heat and cool modes several times to be sure the valve functions properly.

CLEANING COILS - The coil should be washed out with water, or blown out with compressed air. Clean the coil annually, or as required by the location or outdoor air conditions. Inspect the coil monthly and clean as required. Dirt and debris may pass through the first coil section, then become trapped between the rows of fins and restrict the condenser air flow. Use a flashlight to determine if any dirt or debris has collected between the coil sections. Clean coil as follows:

1. Turn off unit power.
2. Using a water hose, or any other suitable equipment, flush the coil from the outside to remove dirt. Be sure to flush all dirt and debris from the drain holes in the base of the unit.



THE INTERNAL CURRENT AND TEMPERATURE SENSITIVE OVERLOAD OF COMPRESSORS resets automatically when the internal compressor temperature drops to a safe level (overloads may require up to 30 minutes to reset). When an internal overload is suspected of being open, check by using an ohm-meter for continuity test. If necessary, refer to your local distributor for complete information.

TABLE 2: ELECTRIC WIRE SIZE

MODEL	INDOOR FUSE CONTROL	CIRCUIT BREAKER	ELECTRIC WIRE SIZE (mm ²)
II-09	3.15A / 250V	15A / 2P.	1.0
II-12	3.15A / 250V	15A / 2P.	1.5
II-18	3.15A / 250V	20A / 2P.	2.5
II-22	3.15A / 250V	25A / 2P.	4.0

Sensor resistance R-T Conversion table

R25: 5.00 K Ω \pm 1%

B25/50: 3470 K Ω \pm 1%

Tx (°C)	Rmin (K Ω)	Rnom (K Ω)	Rmax (K Ω)
-30	61.5127	63.7306	66.0228
-29	58.2546	60.3223	62.4578
-28	55.1899	57.1180	59.1081
-27	52.3059	54.1043	55.9593
-26	49.5909	51.2686	52.9981
-25	47.0340	48.5994	50.2122
-24	44.6249	46.0860	47.5902
-23	42.3544	43.7182	45.1215
-22	40.2135	41.4863	42.7962
-21	38.1942	39.3832	40.6052
-20	36.2887	37.3992	38.5398
-19	34.4490	35.5274	36.5922
-18	32.7916	33.7607	34.7549
-17	31.1872	32.0927	33.0211
-16	29.6710	30.5172	31.3843
-15	28.2377	29.0286	29.8385
-14	26.8824	27.6216	28.3782
-13	25.6003	26.2913	26.9981
-12	24.3870	25.0330	25.6934
-11	23.2384	23.8424	24.4595
-10	22.1508	22.7155	23.2922
-9	21.1205	21.6486	22.1875
-8	20.1443	20.6380	21.1417
-7	19.2189	19.6806	20.1513
-6	18.3414	18.7732	19.2131
-5	17.5092	17.9129	18.3241
-4	16.7195	17.0970	17.4813
-3	15.9700	16.3230	16.6822
-2	15.2585	15.5886	15.9242
-1	14.5827	14.8913	15.2050
0	13.9408	14.2293	14.5224
1	13.3320	13.6017	13.8757
2	12.7534	13.0057	13.2617
3	12.2035	12.4393	12.6786
4	11.6806	11.9011	12.1247
5	11.1833	11.3894	11.5983
6	10.7102	10.9028	11.0979
7	10.2599	10.4399	10.6221
8	9.8313	9.9995	10.1696
9	9.4231	9.5802	9.7390
10	9.0343	9.1810	9.3292
11	8.6638	8.8008	8.9391
12	8.3107	8.4385	8.5676
13	7.9740	8.0934	8.2137
14	7.6530	7.7643	7.8765
15	7.3468	7.4506	7.5551

16	7.0546	7.1513	7.2487
17	6.7757	6.8658	6.9565
18	6.5095	6.5934	6.6778
19	6.2552	6.3333	6.4118
20	6.0124	6.0850	6.1579
21	5.7803	5.8479	5.9156
22	5.5586	5.6213	5.6841
23	5.3466	5.4048	5.4631
24	5.1439	5.1978	5.2519
25	4.9500	5.0000	5.0500
26	4.7609	4.8108	4.8608
27	4.5800	4.6298	4.6797
28	4.4070	4.4566	4.5064
29	4.2415	4.2909	4.3404
30	4.0832	4.1323	4.1815
31	3.9316	3.9804	4.0293
32	3.7865	3.8349	3.8835
33	3.6475	3.6955	3.7438
34	3.5144	3.5620	3.6098
35	3.3869	3.4340	3.4814
36	3.2647	3.3113	3.3582
37	3.1476	3.1937	3.2401
38	3.0353	3.0809	3.1267
39	2.9276	2.9727	3.0180
40	2.8244	2.8688	2.9136
41	2.7253	2.7692	2.8134
42	2.6302	2.6735	2.7171
43	2.5389	2.5816	2.6247
44	2.4513	2.4934	2.5359
45	2.3672	2.4087	2.4505
46	2.2864	2.3273	2.3685
47	2.2088	2.2491	2.2897
48	2.1342	2.1739	2.2139
49	2.0626	2.1016	2.1410
50	1.9937	2.0321	2.0709
51	1.9278	1.9656	2.0038
52	1.8644	1.9015	1.9391
53	1.8033	1.8399	1.8769
54	1.7445	1.7804	1.8168
55	1.6879	1.7232	1.7590
56	1.6333	1.6680	1.7032
57	1.5808	1.6149	1.6495
58	1.5301	1.5636	1.5977
59	1.4813	1.5142	1.5477
60	1.4343	1.4666	1.4995
61	1.3889	1.4206	1.4530
62	1.3452	1.3763	1.4081

63	1.3030	1.3336	1.3648	85	0.6683	0.6885	0.7093
64	1.2623	1.2923	1.3230	86	0.6493	0.6690	0.6895
65	1.2231	1.2526	1.2827	87	0.6308	0.6502	0.6703
66	1.1852	1.2142	1.2438	88	0.6130	0.6320	0.6517
67	1.1487	1.1771	1.2062	89	0.5957	0.6144	0.6337
68	1.1134	1.1413	1.1699	90	0.5790	0.5973	0.6163
69	1.0794	1.1068	1.1348	91	0.5628	0.5808	0.5994
70	1.0465	1.0734	1.1010	92	0.5471	0.5647	0.5830
71	1.0148	1.0412	1.0682	93	0.5319	0.5492	0.5672
72	0.9842	1.0100	1.0366	94	0.5173	0.5342	0.5518
73	0.9546	0.9800	1.0061	95	0.5030	0.5196	0.5369
74	0.9260	0.9509	0.9765	96	0.4892	0.5055	0.5225
75	0.8984	0.9228	0.9480	97	0.4759	0.4919	0.5085
76	0.8717	0.8957	0.9204	98	0.4629	0.4786	0.4949
77	0.8460	0.8695	0.8937	99	0.4504	0.4658	0.4818
78	0.8211	0.8441	0.8679	100	0.4382	0.4533	0.4690
79	0.7970	0.8196	0.8429	101	0.4264	0.4412	0.4566
80	0.7737	0.7959	0.8188	102	0.4150	0.4295	0.4446
81	0.7512	0.7730	0.7954	103	0.4039	0.4182	0.4330
82	0.7294	0.7508	0.7728	104	0.3932	0.4071	0.4217
83	0.7084	0.7293	0.7510	105	0.3827	0.3965	0.4107
84	0.6880	0.7086	0.7298				

Trouble shooting

PROBLEM	CHECKLIST	REMEDY LIST
1. Nothing works	Power supply to unit	Re-set circuit breaker or change fuse
	PCB fuse	Change fuse
	Interconnecting wiring	Look for break in cable or loose connection
	PCB varistor	Replace PCB
	Transformer	Replace PCB
2. Power on but system will not function	Re-set control switch	Re-set
	Handset control	Change batteries (or hand set)
3. Power on but indoor will not function	Mode on hand set	Change function
	Power on fan terminal (PCB)	No power check relay, if faulty replace
	Evaporator sensor	If short circuit, replace
	Connector plug	Repair or replace
	Motor overload	Wait to reset and check amps
	Faulty motor	Replace
	Evaporator frozen	Defrost and check filter/gas charge & deice sensor
	Motor capacitor	Replace
4. Power on but compressor will not function	Room temp set point	Adjust on hand set
	Relay on PCB	Replace relay or PCB
	Comp contactor	If power on contactor coil, replace contactor
	Comp overload	Reset, check amps and set point
	Indoor sensor (de-ice)	See control functions
	Comp internal overload	Allow comp to cool down, check gas
	Compressor terminals	Check for good connection

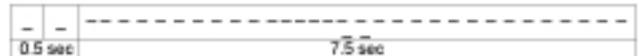
PROBLEM	CHECKLIST	REMEDY LIST
5. Power on but outdoor fan will not function	De-ice sensor (heating)	Wait for defrost to terminate
	Ambient temp low	Check gas pressure
	Outdoor sensor	See control functions
	Indoor coil too hot	Clean filter
	Fan relay on PCB	Replace relay or PCB
	Faulty motor	Replace motor
6. Power on but indoor manual key will not function	Connector plug	Replace or repair
	Faulty switch	Replace switch or PCB
7. Power on but indoor display will not function	Connector plug	Replace or repair
	Faulty display	Replace display or PCB
	Reset switch position	Correct or operate once
8. Indoor up-down louver will not function	Handset control	Change function
	Faulty stepping motor	Replace
	Connector plug	Replace or repair
9. Indoor left-right swing will not function	Handset control	Change function
	Faulty swing motor	Replace
	Connector plug	Replace or repair
	Relay on PCB	Replace relay or PCB
10. Power on but indoor fan lost Hi or Med or Low speed	Handset control	Change function
	Faulty motor	Replace
	Connector plug	Replace or repair
	3 relays on PCB	Replace relay
11. Condenser fan short cycles on cooling	Outdoor sensor	See control functions
	Unit location	Check for air recirculation
12. Condenser fan short cycles on heating	Indoor sensor	See control functions
	Dirty filter	Clean
13. High discharge pressure cooling cycle	Indoor sensor faulty	Replace
	Dirty condenser coil	Clean
	Gas overcharge	Reduce charge
	Air recirculation	Move unit
	Faulty motor	Replace
	Cap tube blocked	Replace
14. High discharge pressure heating cycle	Indoor sensor faulty	Replace
	Dirty evap coil	Clean
	Dirty filter	Clean
	Gas overcharge	Reduce charge
	Faulty indoor motor	Replace
	Cap tube blocked	Replace
15. System not heating	Reversing valve coil	Replace
	PCB relay	Replace or change PCB
	Low gas charge	Add gas and leak test
16. System not cooling	PCB relay	Replace or change PCB
	Low gas charge	Add gas and leak test
17. High suction/low discharge pressure	Reversing valve sticking	Replace

PROBLEM	CHECKLIST	REMEDY LIST
18. Outdoor coil icing up	Ambient temp low	Wait for de-ice initiation
	Dirty condenser coil	Clean
	Outdoor deice sensor faulty	Replace
	PCB faulty	Replace
	Low gas charge (heating)	Add gas and leak test
19. Indoor coil icing up	Indoor set point too low	Adjust temperature
	Dirty filter	Clean filter
	Faulty indoor sensor	Replace
	PCB faulty	Replace
	Indoor fan not working	Replace
	Low gas charge	Add gas and leak test

LIGHTS ON THE AIR CONDITIONER

- Green light is lit when the air conditioner is in operation.
- Yellow light is lit when the air conditioner is in TIMER / Sleep operation modes.
- Yellow light flashes for 8 seconds per cycle with the below different number of flash times indicates different error or malfunction:

1#: INDOOR TEMPERATURE SENSOR



2#: INDOOR COIL TEMPERATURE SENSOR



4#: REFRIGERANT SHORTAGE



Engineering Data 2007

Products are manufactured in ISO 9001:2000 certified factories. ISO 9001:2000 pertains to quality assurance regarding design, development, manufacturing and installation of products as well as to services related to the product.



Interklima units comply with the European regulations that guarantee the safety of the product



Specifications subject to change without notice

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design*

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