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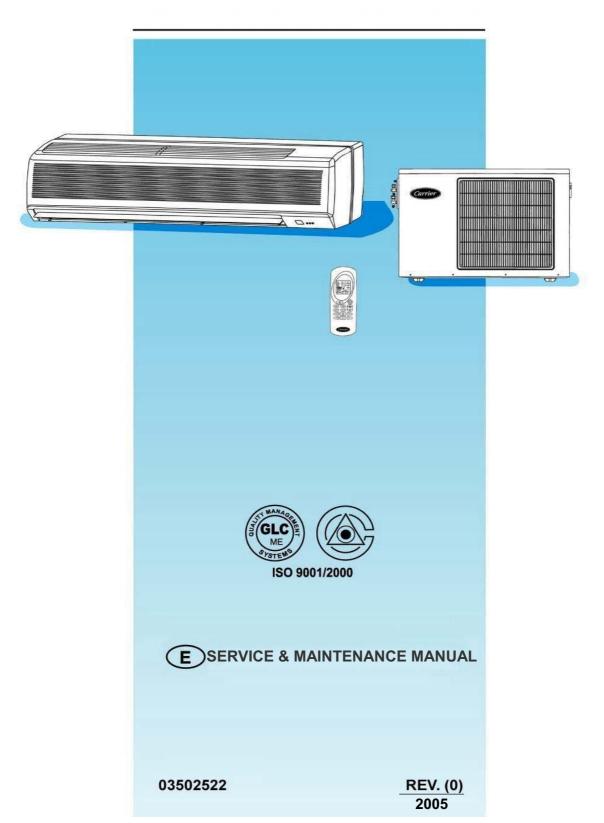




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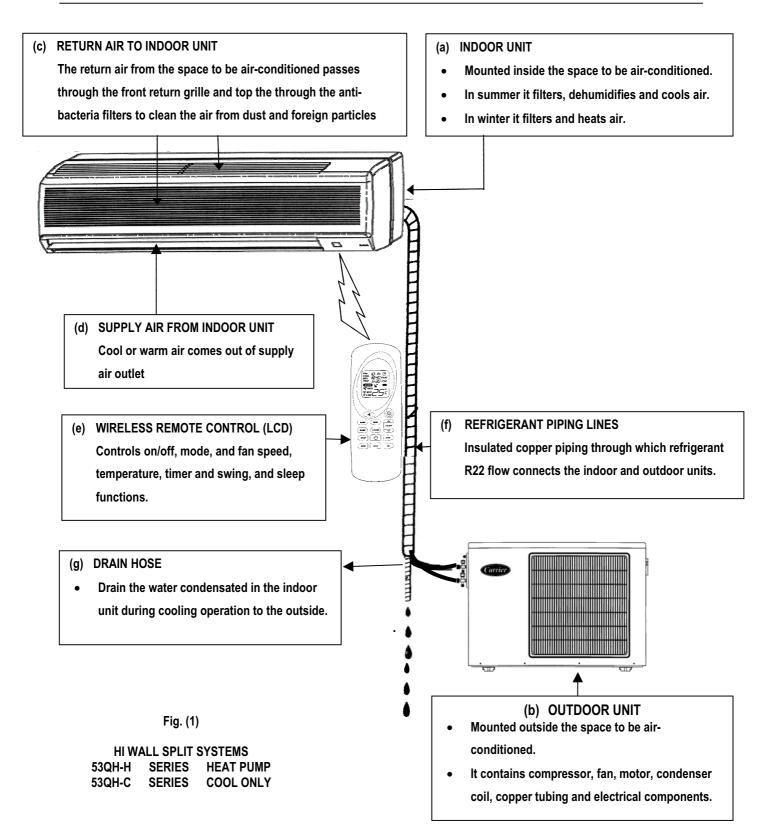
1. PRECAUTIONS BEFORE INSTALLATION

	SAFETY CONSIDERATIONS
•	Service and maintenance of air conditioning equipment can be hazardous due to system pressures and electrical components. Only trained and qualified service personnel should install, repair or service the air conditioning equipment.
•	When working on air conditioning equipment, observe precautions in the literature, tags and labels attached to the unit and other safety codes.
•	Wear safety glasses and gloves. Use quenching cloth and have fire extinguisher available for all brazing operations
•	This manual describes the service and maintenance of Carrier split room air conditioner consisting of an outdoor unit and an indoor unit manufactured by Carrier.
	What is not covered in Carrier warranty? 1- Failure due to Misuse: Abusing, overloading, careless handling and negligence.
	2- Failure due to Accident / Weather: Natural catastrophe, accident due to bad weather (Hail Storm, Sand Storm, lightning, Flooding, Acid Rain and Air Borne fallout, etc).
	3- Failure due to Damages during transport.
	4- Failure due to modification: Any modifications done on the unit without Carrier consent.
	5- Failure due to Improper Installation: Installation should be performed according to standard.
	The decision of Carrier in ascertaining the same will be final. Carrier or its approved dealer should do installation.
	6- Failure due to Improper Maintenance: Lack of professional maintenance, improper adjustments, use of improper consumables, filters, spare parts other than specified in the Carrier manuals.
	7- Failure due to use of non-genuine Carrier Parts, substitute other than Carrier parts.
	8- Refrigerant normal noise, wear and tear of deterioration.
	9- Inconvenience or commercial loss is not covered.
	The decision of Carrier in ascertaining the same will be final. Any such renairs will be carried out at the

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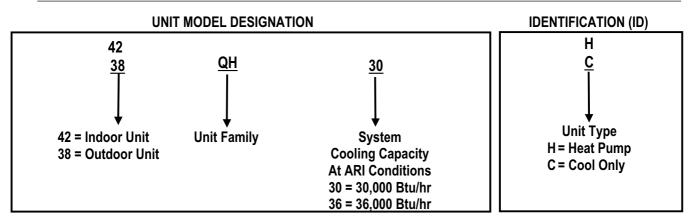


2. SPLIT SYSTEM DESCRIPTION





3. UNIT MODEL DESIGNATION & IDENTIFICATION



4. UNIT MODELS & PART NUMBERS

INDOOR UNIT

Heat Pump					Co	ol Only
	Model	I P/N ID			Model	P/N
	42QH30-H	46303188	Н		42QH30-C	4630318
	42QH36-H	46303189	Н		42QH36-C	4630318

OUTDOOR UNIT

Heat Pump						
Model	ID					
38QH30-H	46302173	Н				
38QH36-H	46302177	Η				

Cool Only						
Model P/N ID						
38QH30-C	46302179	С				
38QH36-C	46302178	С				

ID C C



5. SYSTEM OPERATING LIMITS

COOLING			HEATING			
Difference	Dry Bulb Temp. C°	Wet Bulb Temp. C°	Difference	Dry Bulb Temp. C°	Wet Bulb Temp. C°	
Indoor temperature Maximum Minimum	32 21	23 15	Indoor temperature Maximum	27	-	
Outdoor temperature Maximum Minimum	55 21**	-	Outdoor temperature Maximum	21	-	

MAIN POWER SUPPLY							
System Model	Nominal Power Supply V/1PH/50HZ	Minimum Voltage	Maximum Voltage				
Min. Voltage	Voltage 200-240		264				
Max. Voltage	220-240	198	264				

NOTES:

*

When the unit is operated above or below these limits for a long time, system diagnostics may detect a malfunction and the unit will not operate properly.

6. SYSTEM SAFETY PROTECTIONS

6-1 FOR HEAT PUMP SYSTEM

PROTECTION TYPE	PROTECTION EFFECT	OPERATION MODE	WHEN ON
Cold draft prevention	Indoor fan off	Heating mode	During unit operation
Defrost cycle	Indoor fan off	Heating mode	During unit operation
Indoor coil Freeze protection	Compressor off	Cooling mode	During unit operation
Against frequent Compressor cycling	Compressor Time delay	Cooling or heating modes	At unit start-up or change of operating mode

6-2 FOR COOL ONLY SYSTEM

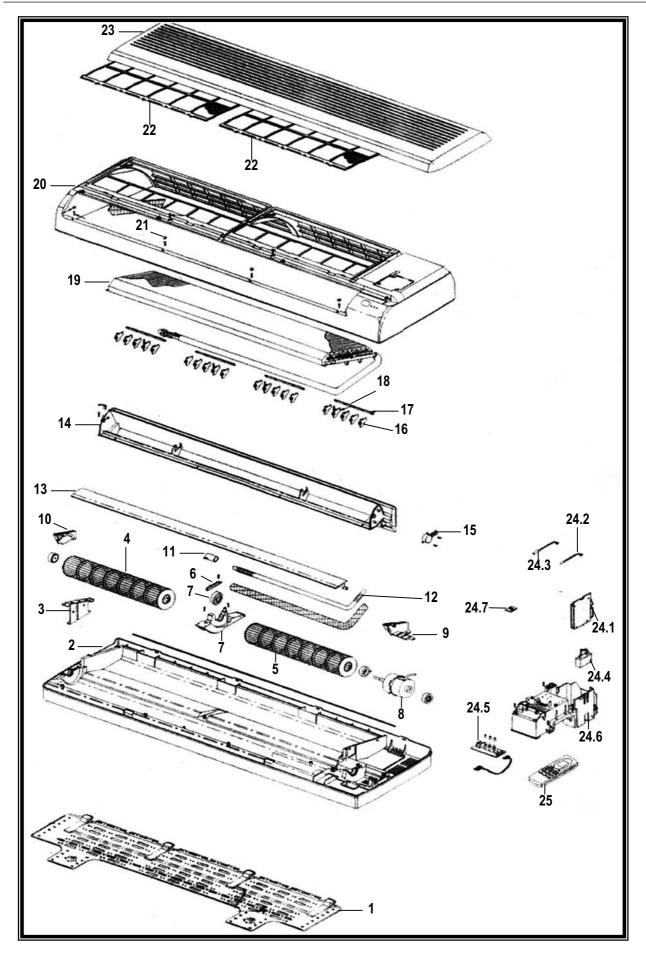
PROTECTION TYPE	PROTECTION EFFECT	OPERATION MODE	WHEN ON
Indoor coil Freeze protection	Compressor off	Cooling mode	During unit operation
Against frequent Compressor cycling	Compressor Time delay	Cooling mode	At unit start-up or change of operating mode

WARNING:

During heat pump operation the system will undergo several defrost cycles to remove ice that might collect on the outdoor unit in very low ambient temperature. In these cycles, the indoor fan will be automatically off and cannot operate until defrost cycle is completed.



7. EXPLODED VIEW OF INDOOR UNIT



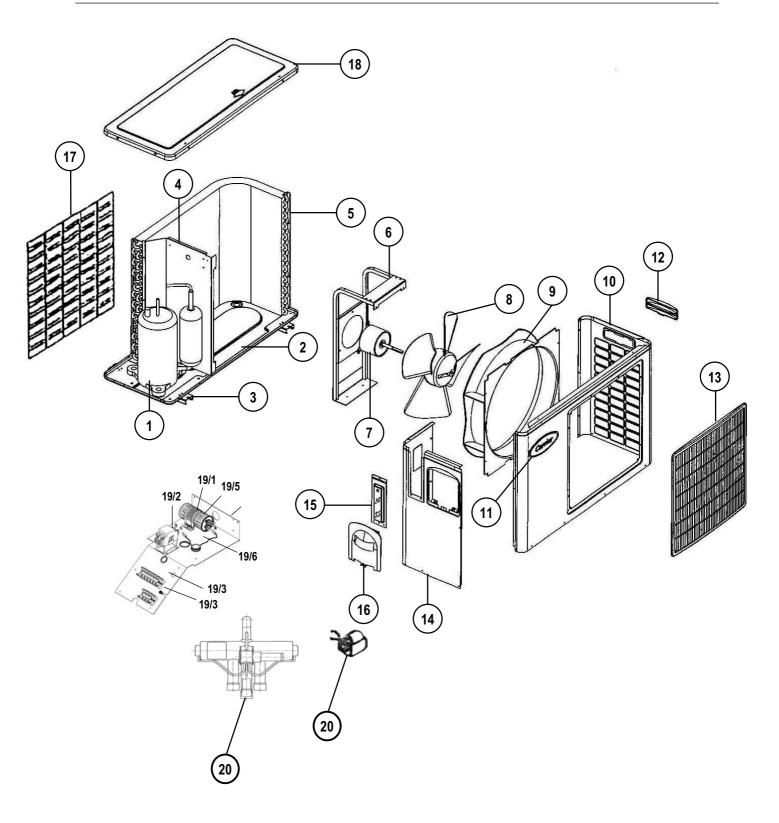


8. PART LIST OF INDOOR UNIT

	PART NAME		C	UANTI	TY / UNI	Т
NO.		PART NUMBER	42QH- H		42Q	H- C
			30	36	30	36
1	Mounting Bracket	02802426	1	1	1	1
2	Base Pan	02802427	1	1	1	1
3	End Plate Support – L	02802425	1	1	1	1
4	Blower L	02802434	1	1	1	1
5	Blower R	02802435	1	1	1	1
6	Bracket Motor	02802422	3	3	3	3
7	Center Bearing W/Bracket	02802423	1	1	1	1
8	Motor	02400017	1	1	1	1
9	Evap. Support-R	02802433	1	1	1	1
10	Evap. Support-L	02802432	1	1	1	1
11	Drain Hose Connector	02802399	1	1	1	1
12	Drain Hose	02802398	1	1	1	1
13	Horizontal Louver	02802424	1	1	1	1
14	Drain Pan	02802428	1	1	1	1
15	Step Motor MP35	02400015	1	1	1	1
16	Deflector	02802430	16	16	16	16
17	Bar Gang	02802431	4	4	4	4
18	Deflector with Arm	02802429	4	4	4	4
19	Evap. Coil-3R x 5C x 3/8"	02600159	1	1	1	1
20	Frame Grille	02802436	1	1	1	1
21	Screw Cover	02802400	4	4	4	4
22	Air Filter	02802401	2	2	2	2
23	Decorative Panel	02802437	1	1	1	1
24	Control Box Assy					
24.1	Main PCB Cool/Heat	02503154	1	1		
27.1	Main PCB Cool Only	02503186			1	1
24.2	Return Air Sensor	02503149	1	1	1	1
24.3	Indoor Coil Sensor	02503150	1	1	1	1
24.4	Capacitor 2.5 MF/ 450VAC	02400016	1	1	1	1
24.5	Lamp PCB/IR Receiver	02503151	1	1	1	1
24.6	Control Box	02503156	1	1	1	1
24.7	Auxiliary Switch	02503163	1	1	1	1
24.8	Wire Harness – Auxiliary Switch	02503162	1	1	1	1
24.9	Wire Harness – Lamp PCB	02503164	1	1	1	1
24.10	Extension Wire 8M	02503153	1	1		
25	Remote Control Cool / Heat	02503155	1	1		
23	Remote Control Cool Only	02503178			1	1
26	Battery size AAA-15.V	02501125	2	2	2	2



9. EXPLODED VIEW OF OUTDOOR UNIT



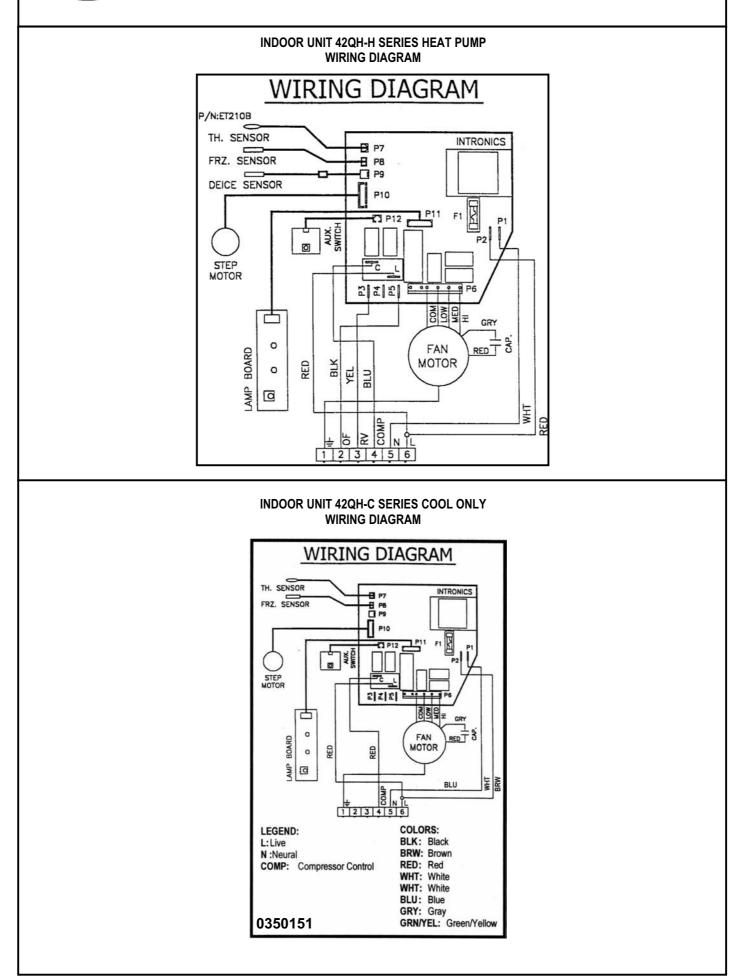


10. PART LIST OF OUTDOOR UNIT

		PART	QTY./UNIT			
SR.	DESCRIPTION	NUMBER	38Q	H-H	380	QH-C
		NUMBER	30	36	30	36
1	COMPRESSOR COMPLETE WITH GROMMETS & SPACERS					
1.1	Copeland Comp. CR37KQ-PFT	01500256	1		1	
1.2		01500172		1		1
2	COND. BASE	08107402	1	1	1	1
3	SUPPORTING LEG ASSY	36314043	4	4	4	4
4	COND. PARTITION	06307407	1		1	<u> </u>
•		06307436		1	· ·	1
5	CONDENSER COIL SUBASSY.			•		<u> </u>
5.1	Cond. Coil 2 Row – 33.15" x 22" - 14FPI	02600234	1		1	
5.2		02600231		1	'	1
6	CONDENSER MOTOR SUPPORT SUBASSY.	36313880	1	1	1	1
7	CONDENSER MOTOR		· ·		. ·	<u> </u>
7.1	Motor 1/10 HP-880 RPM	02400154	1		1	
7.2		02400179	·	1	' '	1
8	PROPELLER C/W SOCKET SET SCREW 8 X 8 MM	02600441	1	1	1	1
9	ORIFICE PROPELLER	02803112		1		1
9 10	COND. SHROUD	08107406		1		1
10		06307435		1		1
21	CARRIER LOGO	02900615	1	1	1	
12	HANDLE			1		
12		02803110	-	1		1
		02803113	1	1		
14	COND. BACK PANEL	06307409	1		1	
		06307434		1		1
15	COUPLING PANEL	06307410	1	1	1	1
16	SERVICE DOOR	02803106	1	1	1	1
17	COIL GUARD	02803114	1		1	
		02803115		1		1
18	COND. COVER	08107400	1	1	1	1
19	ELECTRICAL BOX SUBASSY	36314125	1			
		36314097		1		
		36314223			1	
		36314222				1
19.1						
	19.1.1 Dual Capacitor 50 + 5 MFD/440 VAC	02400379	1		1	
	19.1.2 Dual Capacitor 60 + 5 MFD/440 VAC	02400377		1		1
19.2	CONTACTOR FOR COMPRESSOR					
	19.2.1 Contactor 2 poles – 25 Amps	02400580	1		1	
	19.2.2 Contactor 2 poles – 30 Amps	02400572		1		1
19.3	TERMINAL BLOCKS					
	19.3.1 Terminal Block 6 Poles-30 Amps	02501433	1	1		1
	19.3.2 Terminal Block 4 Poles-30 Amps	02501405	- i		1	1
	19.3.3 Terminal Block 3 Poles-30 Amps	02501315	1 1	1	1	1
19.4	<u></u>	06307405	1	1	1	1
	CAPACITOR CLAMP	02804078	1	1		1
	SUPPORT CABLE	02802523		1	1	1
19.0		02500879	1	1	1 1	<u> </u>
19.7			-	1	I	1
10.0		02500872		I		<u> </u>
19.8		00504570			4	
	19.8.1 PTC Starter Model SPP POW-R-PAK	02501579	1	4	1	
40.0	19.8.2 PTC Starter Model SPP5	02501578		1	4	1
19.9		02400638	1	1	1	1
	PILOT LIGHT FOR LOW PRESSURE CONTROL	02502315	1	1	1	1
20	REVERSING VALVE & ELECTRIC COIL					
		02200404	1			ļ
		02200406		1		
21	ACCUMULATOR	02301012	1			<u> </u>
		02301013		1		
22	SENSOR – OUTDOOR COIL	02503015	1	1		
	TUBING	36314124	1			
23					.	1
23		36314096		1		
23		36314096 36313934		1	1	

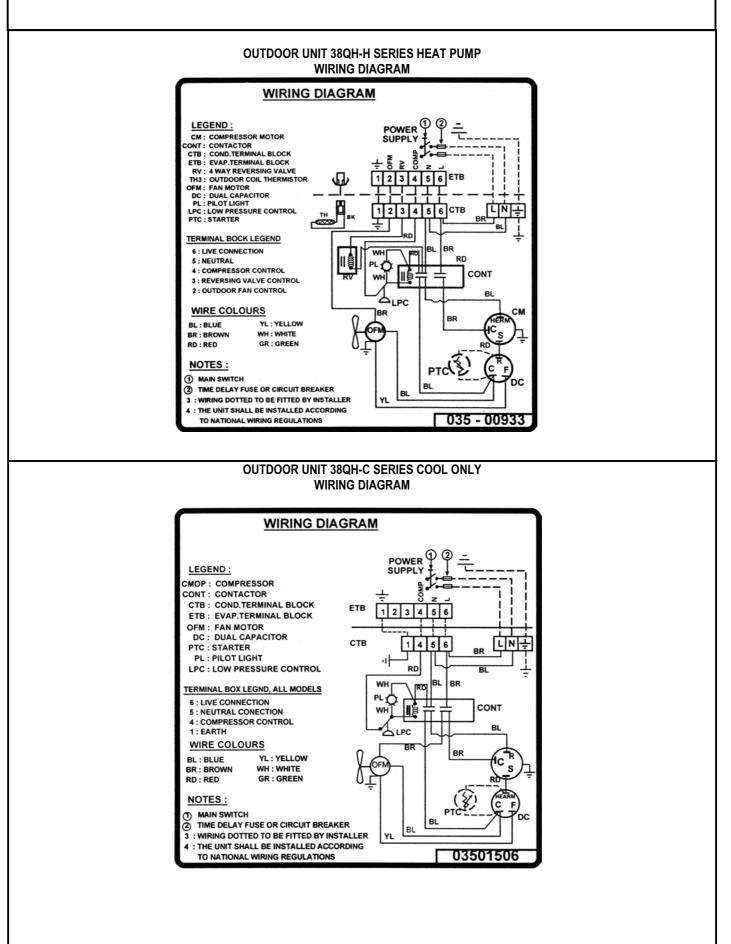


11. WIRING DIAGRAMS



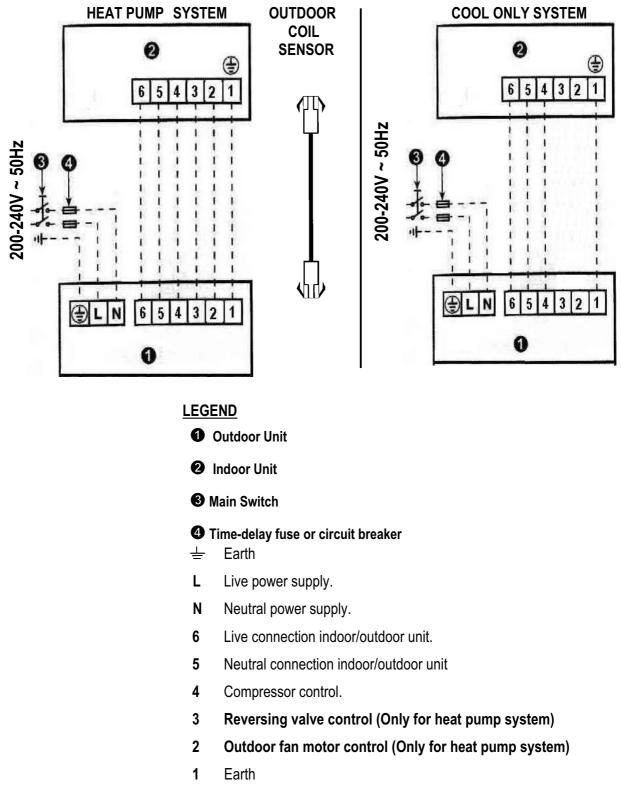


WIRING DIAGRAMS (CONT.)





12. FIELD ELECTRICAL CONNECTIONS MATCHING

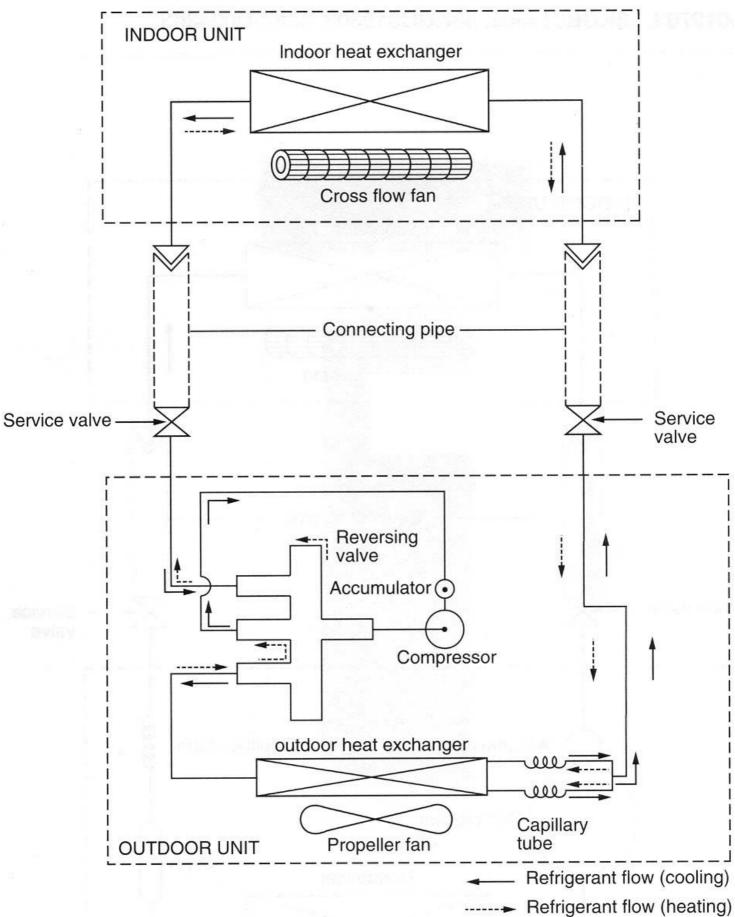


Note: The mains supply must be connected to the outdoor unit.



13. REFRIGERATION CYCLE

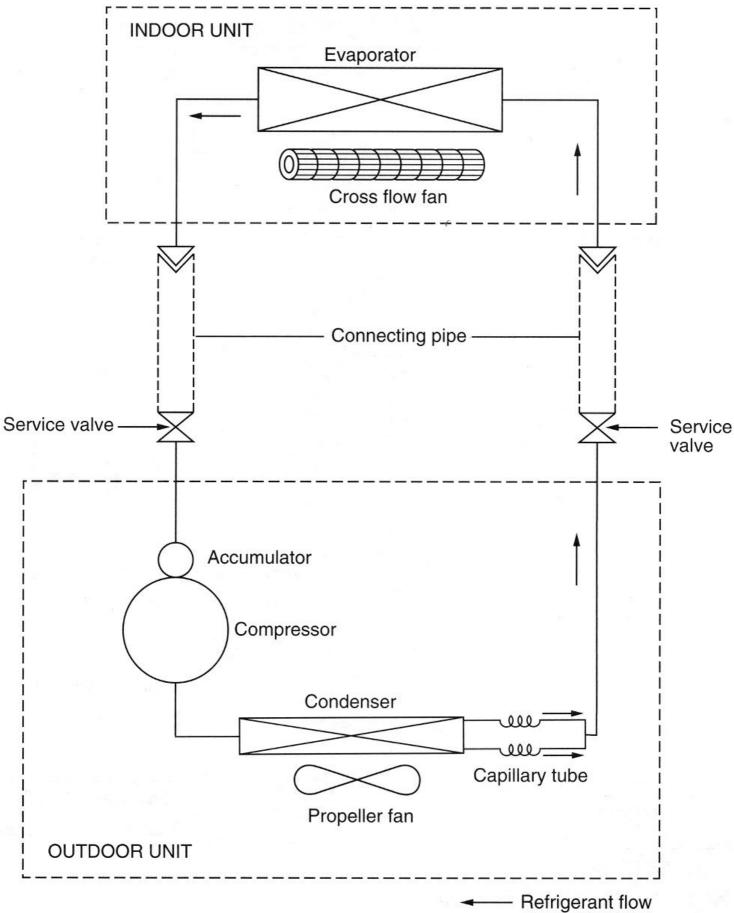
HEAT PUMP SYSTEM





REFRIGERATION CYCLE (Cont.)

COOL ONLY SYSTEM





14. SELF DIAGNOSTIC FUNCTION

14-1 INTRODUCTION

- Self-diagnostic function is the key for success of heat pump system.
- The printed circuit boards existing inside the indoor unit are equipped with self-diagnostic function to detect malfunction and automatically stops the operation at the air conditioner after blinking of power or timer led as per malfunction.

14-2 SELF DIAGNOSTIC FUNCTION

The self-diagnostic function included in the control system detects malfunctions of the following components:

- (1) Return Air Sensor
- (2) Indoor Coil Sensor
- (3) Outdoor Coil Sensor
- (4) Compressor Drive
- (5) Anti-overheat
- (6) Low ambient

Power led or Timer led Blinking								
No.	Malfunction Reason	Power Led	Timer Led					
1	Return Air Sensor	-	Blinking					
2	Indoor Coil Sensor	-	Blinking					
3	Outdoor Coil Sensor	-	Blinking					
4	Compressor Overload	Blinking	-					
5	Anti-overheat	Blinking	-					
6	Low ambient	Blinking	-					



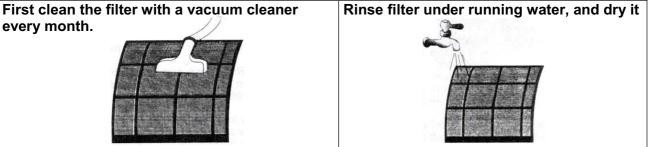
15. AIR FILTER CLEANING

- The air filters supplied with the unit are high-efficiency washable and recyclable filters.
- To establish, how frequently these should be cleaned, the operating conditions must be taken in to account.

- REMOVAL OF AIR FILTERS FOR CLEANING:

Open the return grille without removing the two screws and the central clamp from their position.	
Remove acrylic-fiber filters for cleaning.	

- CLEANING OF ACRYLIC-FIBRE STANDARD FILTERS:



- Notes: (1) After cleaning, put the filters back in the correct positions.
 - (2) Before operating the air conditioner, check that air filters are in their places inside unit.



16. PERIODICAL CHECKS

For a good operation of the air conditioner it is recommended to carry out checks and maintenance as indicated.

Recommended maintenance intervals may very depending on the installation environment, e.g. dusty zones, etc.

Indoor Unit	Every Month	Every 4 Months	Every Year
Clean air filter	●(1)		
Clean drain pipe (2)		•	
Change controller batteries			•
Outdoor Unit	Every Month	Every 4 Months	Every Year
Clean outdoor coil from outside (2)		•	
Clean outdoor coil from inside			•
Blow air over electric parts (2)			•
Check electric connection tightening (2)			•
Clean fan wheel (2)			•
Check fan tightening (2)			•
Clean drain pan (2)			•

(1) Increase frequency in dusty zones.

(2) Operations to be carried out by qualified service personnel.



17. TROUBLE SHOOTING

TROUBLE	REASON	ACTION
Compressor and outdoor fan will not	Power failure	Call power company
start	Fuse blown or / and circuit breaker tripped	Replace fuse or reset circuit breaker
	Detective contactor	Replace
	Low line voltage	Determine cause and eliminate
	Incorrect or loose wiring	Check wiring diagram and rewire correctly
	Temp. setting too low	Reset temp. setting
Compressor will not start, but outdoor fan runs	Faulty wiring or loose connections in compressor circuit	Check wiring and repair or correct
	Compressor motor burned out, stuck or internal over-load open	Replace compressor and determine cause
	Detective run capacitor	Replace
Compressor runs bur cycles on internal overload (other than normally satisfying thermostat)	Refrigerant over or under charge	Blow refrigerant, evacuate system and recharge
	Air or non condensable refrigerant in system	Blow refrigerant, evacuate system and recharge
	Detective compressor	Replace and determine cause
	Low or too high line voltage	Determine cause and correct
	Blocked outdoor coil	Determine cause and replace
	Outdoor fan stopped	Determine cause and replace
	Detective run capacitor	Replace
	Faulty fan motor of outdoor section	Replace
	Restriction in refrigerant system	Locate restriction and remove
	Capillary or Accurate restricted or ice clogged.	Blow refrigerant, evacuate system and recharge
Compressor operates continuously	System undersized for load	Decrease load or increase system size
	Temp. setting too low	Reset temp. setting
	Defective outdoor fan	Check for source and replace
	Air or non condensable refrigerant in system	Blow refrigerant, evacuate system and recharge
	Air restricted or indoor section filter dirty	Clean filter or remove restriction
Excessive head pressure	Dirty outdoor coil	Clean coil
	Detective outdoor fan	Replace
	Refrigerant over charged	Purge excess refrigerant
	Air or non condensable refrigerant in system	Blow refrigerant, evacuate system and recharge
	Outdoor section air restricted	Remove restriction



TROUBLE SHOOTING (Cont.)

TROUBLE	REASON	ACTION
Head pressure too low	Low refrigerant charge	Check for leaks, repair and recharge
	Restriction in liquid tube	Remove restriction
	Indoor section air filter dirty	Clear filter
Excessive section pressure	Reversing valve hung up or internal leak	Replace
	Internal pressure relief open	Check for source and eliminate
	Refrigerant over charged	Purge excess refrigerant
Suction pressure too low	Low refrigerant charge	Check for leaks, repair and recharge
(Low pressure control cuts-out & pilot	Indoor unit frosted	See next trouble
light for low pressure control lights off)	Low indoor air or short cycling	Eliminate cause, check for fan working
	Restriction in suction tube	Locate restriction and remove
	Capillary or accurate restricted or ice clogged	Blow refrigerant, evacuate system and
		recharge
Outdoor fan stopped or cycling on	Detective fan motor capacitor	Replace
overload	Loose leads at fan motor	Check for cause and eliminate
	Fan motor burned out	Replace
	Motor bearing sized	Check for cause and eliminate
After batteries have been placed into	Batteries are exhausted or have the wrong	Replace batteries or check polarity.
the remote control, the display is not lit.	polarity.	
When pressing the recessed lock	Recessed button has not been pressed	Press with a round point, avoid exerting
adjustment button, hour figures on	correctly.	strong pressure
display do not flash.		
When pressing any button, all symbols	Recessed button for time setting is blocked due	Check and repair.
appear on display.	to excessive pressure during use.	
	Remote control has been irreversibly damaged.	Replace with a new one.
When pressing start button, unit does	Main switch is OFF.	Switch it to ON position.
not acknowledge signal with a beep.	Remote control batteries are exhausted.	Replace batteries.
	Remote control has not been pointed correctly	Turn remote control OFF and repeat the
	to the receiver of indoor unit.	operation in the correct direction.
	There are obstacles (curtains, walls, etc.)	Repeat the operation after having
	between the remote control and the indoor unit	removed the obstacles.
	Receiver on the indoor unit or the remote	Avoid direct sun on the unit, shut curtains
	control is under intense sun radiation.	or shades.
	Signal transmission is obstructed by severe	Avoid sending signals when computers or
	interference from an electromagnetic field.	household appliances (Food processors,
		coffee makers, etc.) are operating close
		by cellular or cordless telephones may
		also interfere with the control.



TROUBLE CHART (Cont.)

TROUBLE	REASON	ACTION
When pressing stop button, unit does	Remote control batteries are exhausted.	Replace batteries.
not acknowledge signal with a beep.	Remote control has not been pointed	Turn remote control OFF and repeat the
	correctly to the receiver of indoor unit.	operation in the correct direction.
	There are obstacles (curtains, walls, etc.) between the remote control and the indoor unit	Repeat the operation after having removed the obstacles.
	Receiver on the indoor unit or the remote control is under intense sun radiation.	Avoid direct sun on the unit, shut curtains or shades.
	Signal transmission is obstructed by	Avoid sending signals when computers or
	severe interference from an	household appliances (Food processors,
	electromagnetic field.	coffee makers, etc.) are operating close by
		cellular or cordless telephones may also
		interfere with the control.
When pressing any function button,	Main switch is OFF.	Switch it to ON position.
the remote control shows the function	Remote control batteries are exhausted.	Replace batteries.
requested on the display, but unit	Remote control has not been pointed	Turn remote control OFF and repeat the
does not acknowledge signal receipt	correctly to the receiver of indoor unit.	operation in the correct direction.
with a beep and does not carry out the	There are obstacles (curtains, walls, etc.)	Repeat the operation after having removed
function.	between the remote control and the	the obstacles.
	indoor unit	
	Receiver on the indoor unit or the remote	Avoid direct sun on the unit, shut curtains or
	control is under intense sum radiation. Signal transmission is obstructed by	shades. Avoid sending signals when computers or
	· ·	
	severe interference from an	household appliances (Food processors,
	electromagnetic field.	coffee makers, etc.) are operating close by
		cellular or cordless telephones may also
		interfere with the control.
Air conditioner will not start.	Main supply switch is OFF	Switch to ON
	Fuses or main switch are blown	Replace fuses
	Protection against frequent compressor cycling is ON	Wait for 3 minutes.
	Selected temperature is higher than the	Correct selected temperature.
	room temperature in the cooling mode (or	
	lower in the heating mode).	
Air conditioner is not supplying	Air flow cannot circulate freely	Remove obstructions.
enough cooling.	Dirty filters reduce air quantity circulating.	Clean air filters
	Doors and/or windows are open.	Close doors and windows
	Fan speed has been set to "Low"	Set fan speed at high speed.
	Air flow direction is not correct	Adjust airflow direction as per the mode chosen.
	Selected temperature is higher than the	Correct selected temperature.
	room temperature in the cooling mode.	



TROUBLE CHART (Cont.)

TROUBLE	REASON	ACTION
Air conditioner is not supplying enough	Air flow cannot circulate freely	Remove obstructions.
heating.		
	Dirty filters reduce air quantity circulating.	Clean air filters
	Doors and/or windows are open.	Close doors and windows
	Fan speed has been set to "Low"	Set fan speed at high speed.
	Air flow direction is not correct	Adjust airflow direction as per the mode chosen.
	Selected temperature is Lower than the	Correct selected temperature.
	room temperature in the heating mode.	
A slight mist is emitted from the indoor	The cool air from the indoor unit is	Normal operation
unit during cooling	coming into contact with the room air.	
A slight whistling noise is heard when is	This is due to the refrigerant beginning to	Normal operation
heard when the air conditioner starts or	circulate or an adjustment of the	
stops.	refrigerant pressures.	
•		Name al an anti-a
Water vapor (mist) emanating from the	It is normal in heat pump operation, when	Normal operation
outdoor unit.	defrost is automatically activated.	
Unpleasant smells coming from the indoor	Unpleasant smells can be caused by	Switch the system OFF and contact an
unit.	substances accumulated in the air filters	authorized service center to have the filters
		cleaned.
		Restart unit in the ventilation (fan only) mode
		and open windows to change room air.
Strange noises coming from the indoor	Occasionally the indoor unit can emit	Normal operation
unit.	some strange short noises during	
	operation or when it has stopped.	
	These are generally due to the of	
	temperature changes on the plastic parts.	
Starting in heating mode for heat pump	If the system starts at low ambient	Normal operation
systems	temperatures, it takes a little while to	
	reach a comfortable room temperature. When the system is started by the	
	remote control, it emits a signal beep, but	
	the louvre does not swing and the fan	
	does not run until the operating temperature has been reached.	
Timer Led is Blinking	Faulty return air sensor	Determine reason and replace
	Faulty return indoor coil sensor	Determine reason and replace
	Faulty return outdoor coil sensor	Determine reason and replace
Power led is blinking	Compressor overheat	Determine reason and correct
č	Anti overheat	Determine reason and correct
	Low ambient	Determine reason and correct