

Haier

Air-conditioner

ENGINEERING DATA

split type air conditioner

MODELS

AS102AHAIA/AU102ACAHA(HSU-10HM03(B))(10102890700/10102890800)

AS122AHAIA/AU122ACAIA(HSU-12HM03(B))(10102890500/10102890600)

Content

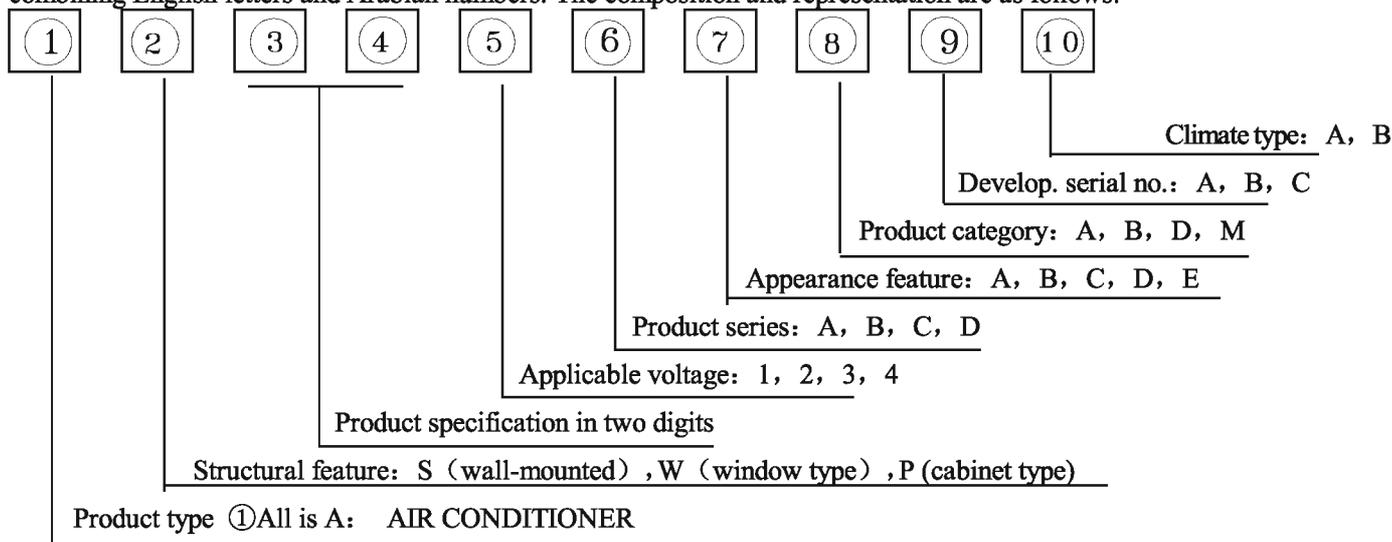
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**DESCRIPTION OF
PRODUCT MODEL CODING
& SERIES INTRODUCTION**

A. Description of coding rules of unit model

New coding rules and descriptions of models are as follows:

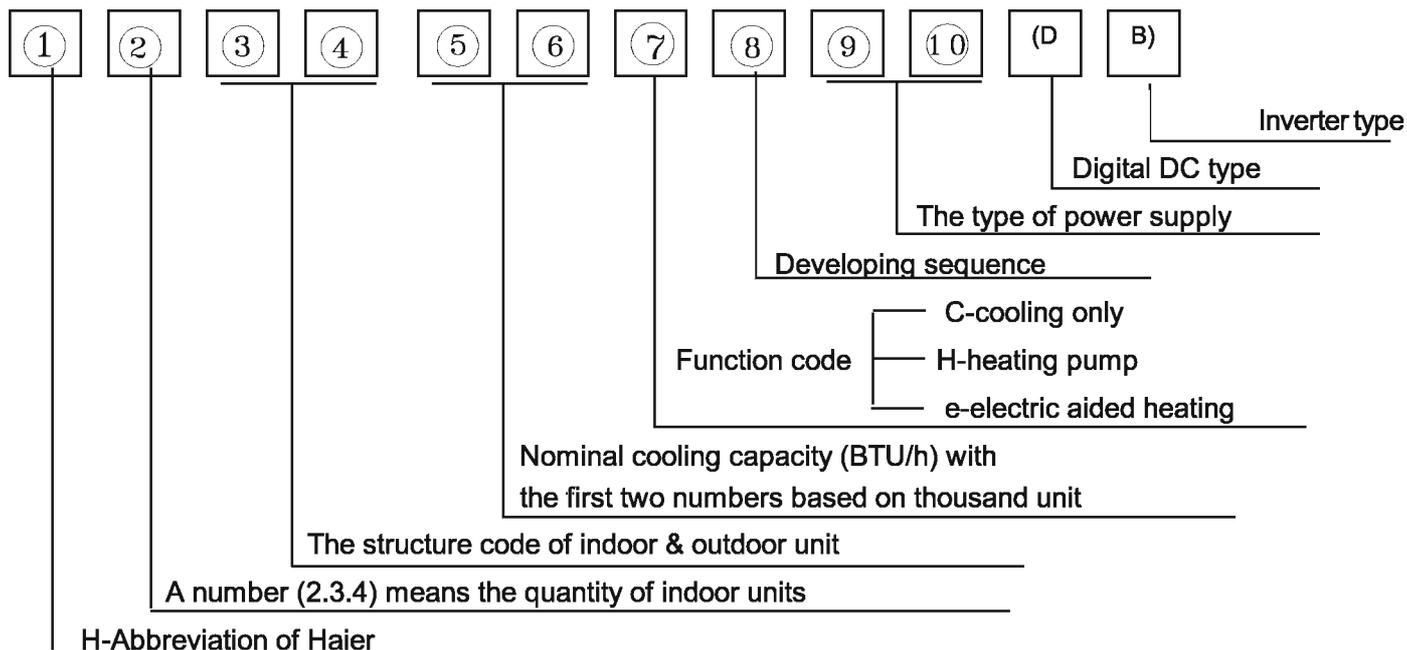
Indoor unit model and outdoor unit model of exported air conditioners shall be separately worked out in 10 digits combining English letters and Arabian numbers. The composition and representation are as follows:



E.g.: in AS102AHAIA, “A” represents air conditioner; “S” means wall mounted indoor unit; “10” indicates cooling capacity of 10000BTU/h; “2” means applicable voltage of 220-230V/50Hz; “A” represents single split system; “H” is for appearance characteristics; “A” means heat pump type and refrigerant of R22; “I” is development serial number; “A” represents climate type.

In AU102ACAHA, “A” represents air conditioner; “U” means wall mounted outdoor unit; “10” indicates cooling capacity of 10000BTU/h; “2” means applicable voltage of 220-230V/50Hz; “A” represents single split system; “C” is for appearance characteristics; “A” means heat pump type and refrigerant of R22; “H” is development serial number; “A” represents climate type.

Old coding rules and descriptions of models are as follows:



Examples:

HSU-10HM03(B)

It represents inverter wall-mounted multi-type room air conditioner(heat pump). The total cooling capacity is 10000BTU/h and the power supply is 220-230V/50Hz. “M” means the improvement.

B、 Standard operating conditions

Serial no.	Operating conditions	Indoor operating conditions		Outdoor operating conditions	
		Temperature	Humidity	Temperature	Humidity
1	Nominal cooling	27.0 DB ^{°C}	19.0 WB ^{°C}	35.0 DB ^{°C}	24.0 WB ^{°C}
2	Nominal heating	20 DB ^{°C}	- °	7.0 DB ^{°C}	6.0 WB ^{°C}
3	Nominal electrical heating	-	-	- °	-

C、 Series introduction**Features****1.High efficiency for saving energy**

Applying for high efficient digital inverter compressor, the air-conditioner starts smoothly and changes its cooling or heating capacity automatically according to your room s demand, so that the air conditioner will always run in high efficiency for saving energy.

2.Quickly cooling and heating

Applying for the “SUPER” cooling and heating function ,the compressor will run in a higher frequency and the air-conditioner will generate more cooling or heating, so the room temperature will fall or rise quickly.

3.Lower noise

When the room temperature is near to what you have set by the remote controller, the compressor will run in a lower frequency, the electric power consumption reduces and the noise gets lower.

4.Healthy and comfortable

An air purifying filter with deodorizing and disinfecting functions keeps the air clean. For some models of the series, there is a negative ion generator in the indoor unit, when you set the “HEALTH” function , it will generate negative ions .Negative ions can refresh the air in your room .All this will make you healthy.

5. Convenience

Washable panel: the front grille of the indoor unit can be removed easily and washed when necessary.

6. Anti-Corrosive case

The case of the outdoor unit is made of plastic materials, it will not corrupt for ever even in a high temperature and high humidity zone.

7. Power failure resume function

When the power resumes after power failure, the unit will run automatically, the power indicator lights up, and 3 minutes later the compressor starts running with the indicator lighting up.

8. Human sensing function

Human sensing function is to detect indoor human activity with a human sensor. After human sensing is actuated, if the unit keep detecting no human activity for 20 min, it will automatically enters standby (monitor) status, during which the unit will automatically start and resume operation if sensing human activity.

9. Light sensing function

Light sensing function is to detect indoor light intensity with a photosensor. After setting, if darkness is continuously detected for 2 min, the unit will automatically change to sleep mode; the main machine will remain current operation conditions if darkness remains after 8 hrs. Anytime brightness is detected for 10 min, the unit will quit sleep mode and resume operation conditions before sleep running. Light sensing and human sensing could be actuated simultaneously, while human sensing is unavailable during light sensing.

SPECIFICATIONS

Specifications

Models:	AS102AHAIA/AU102ACAHA (HSU-10HM03(B))	Appearance color (indoor/outdoor):	White/white
Cooling capacity:	10000(2050-12000) BTU/h	Heating capacity:	13500(2050-16000) BTU/h
Cooling coefficient:	9.1 BTU/(h·w)	Heating coefficient:	10.0 BTU/(h·w)
Cooling power:	1100(300-1450) W	Heating power:	1350(300-1600)W W
Moisture removal:	1.6 *10 ⁻³ m ³ /h	Refrigerant type:	R22
Operating voltage range:	220~230±10% V	Class of electric shock protection:	Class I
Operating temp. range:	-7~43℃	Climate type:	T1
Current entering side (indoor/outdoor) :	Indoor	Piling layers for indoor/outdoor units:	8/4
Variation of temp. adjust:	± 1 ℃	Length/diameter of drain hose:	2000*φ15.6 mm
Indoor unit noise:	38/35/30 dB(A)	Noise of outdoor unit:	48 dB(A)
Net dimensions of indoor unit:	727×195×285 mm	Net dimensions of outdoor unit:	710×545×250 mm
Packaged dimensions of indoor unit:	778×255×360 mm	Packaged dimensions of outdoor unit:	802×600×335 mm
Indoor unit net/gross weights:	9/10 kg	Outdoor unit net/gross weights:	33/37 kg
Refrigerant charge:	880g	Max. refrigerant charge:	960g
Frequency of filter cleaning:	Once/2 weeks	Type/size of evaporator and condenser:	Internal treaded pipe φ7/φ9.52 mm
Compressor model:	KHV104FCKA	Compressor manufacturer:	Guangzhou MITSUBISHI
Oil charge in compressor:	DIAMOND MS-56; 270±20ml	Size of stop valve:	1/4" 3/8"
Maxi. length of connecting pipe:	10m	Max. mounting height difference:	5m
Max. operating pressure at cool side:	2.65Mpa	Max. operating pressure at warm side:	2.65MPa
Fan speed:	1300/1125/950 r/min indoor 680 r/min outdoor	Fan type/quantity:	Indoor: Cross flow fan Outdoor: Axial fan
Cap. tube type:	TP ₂ Y copper tube	Air sending angle/distance:	60° / 7m
Product advantage:	Inverter for energy saving	Case material:	Indoor unit: PS Outdoor unit: durable PP

Specifications

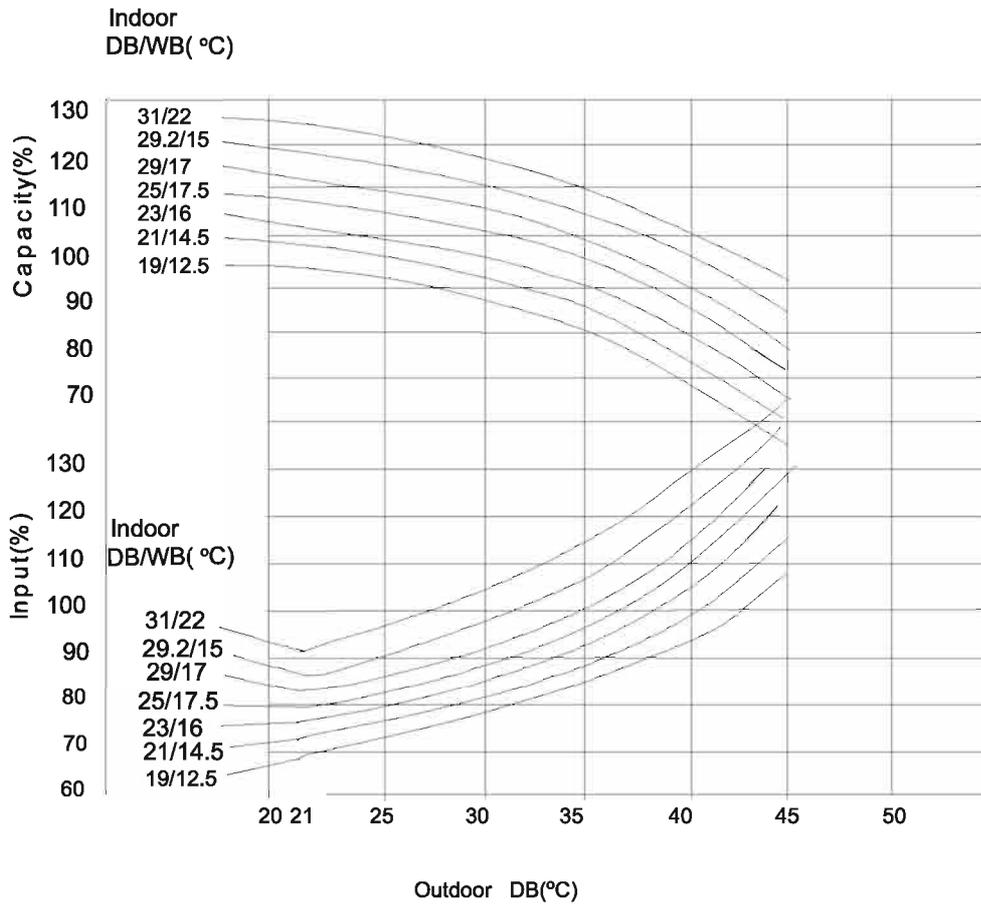
Models:	AS122AHAIA/AU122ACAHA (HSU-12HM03(B))	Appearance color (indoor/outdoor) :	White/white
Cooling capacity:	3500(380-4000)W	Heating capacity:	4500(300-6600)W
Cooling coefficient:	2.63	Heating coefficient:	2.9
Cooling power:	1330(200-1600) W	Heating power:	1550(180-2120)W
Moisture removal:	1.7 *10⁻³ m³/h	Refrigerant type:	R22
Operating voltage range:	220~230 10% V	Class of electric shock protection:	Class I
Operating temp. range:	-7~43℃	Climate type:	T1
Current entering side (indoor/outdoor) :	Indoor	Piling layers for indoor/outdoor units:	8/4
Variation of temp. adjust:	1 ℃	Length/diameter of drain hose:	2000*Φ15.6 mm
Indoor unit noise:	38/35/30 dB(A)	Noise of outdoor unit:	48 dB(A)
Net dimensions of indoor unit:	804 195 285 mm	Net dimensions of outdoor unit:	710 545 250 mm
Packaged dimensions of indoor unit:	855 255 360 mm	Packaged dimensions of outdoor unit:	802 600 335 mm
Indoor unit net/gross weights:	10/12 kg	Outdoor unit net/gross weights:	34/38 kg
Refrigerant charge:	1080g	Max. refrigerant charge:	1160g
Frequency of filter cleaning:	Once/2 weeks	Type/size of evaporator and condenser:	Internal treaded pipe Φ7/Φ9.52 mm
Compressor model:	C-1RB132H22AB	Compressor manufacturer:	SANYO
Oil charge in compressor:	DIAMOND MS-56: 270 20ml	Size of stop valve:	3/8 1/8
Maxi. length of connecting pipe:	10m	Max. mounting height difference:	5m
Max. operating pressure at cool side:	2.65Mpa	Max. operating pressure at warm side:	2.65MPa
Fan speed:	1250/1100/950 r/min indoo r 780 r/min outdoor	Fan type/quantity:	Indoor: Cross flow fan Outdoor: Axial fan
Cap. tube type:	TP₂Y copper tube	Air sending angle/distance:	60 / 7m

CURVES OF PERFORMANCE

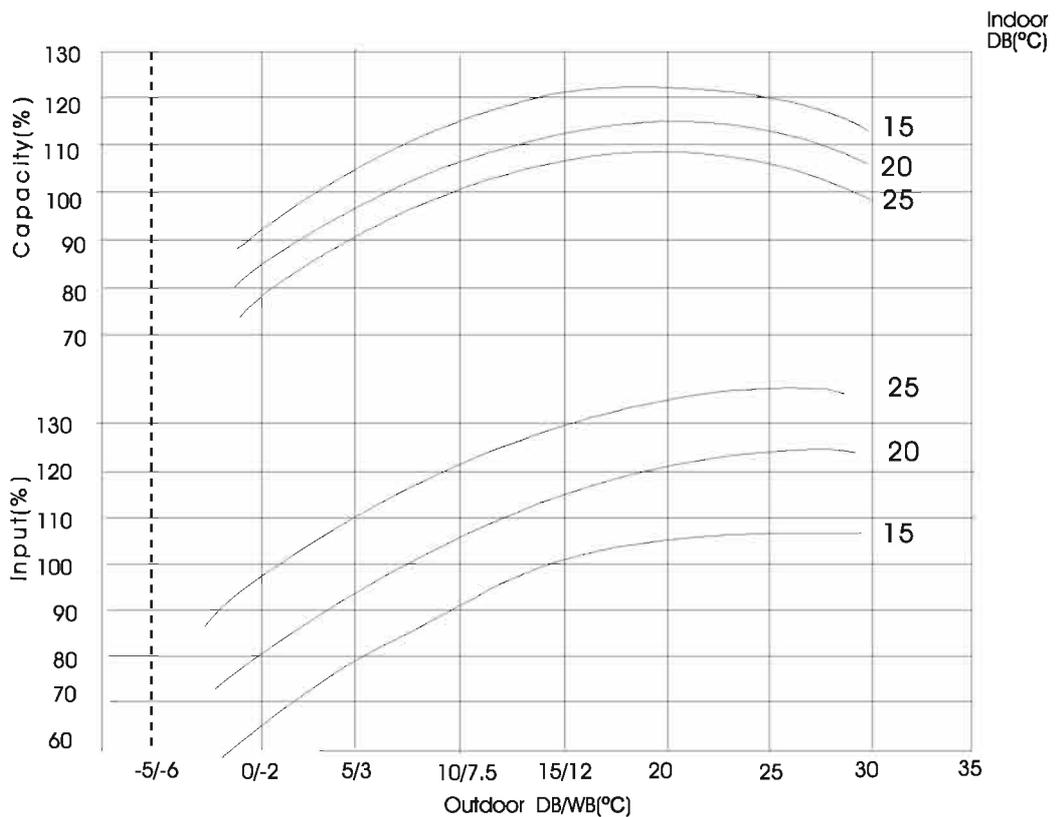
a. Curves of cooling capacity and heating capacity as a function of outdoor temperature (-7 ~+52)

Condition: Condensing Temp.: 54.4°C Evaporating Temp.: 7.2 Ambient Temp.: 35
 Liquid Subcooled Temp: 8.3 Return Gas Superheated Temp: 27.8

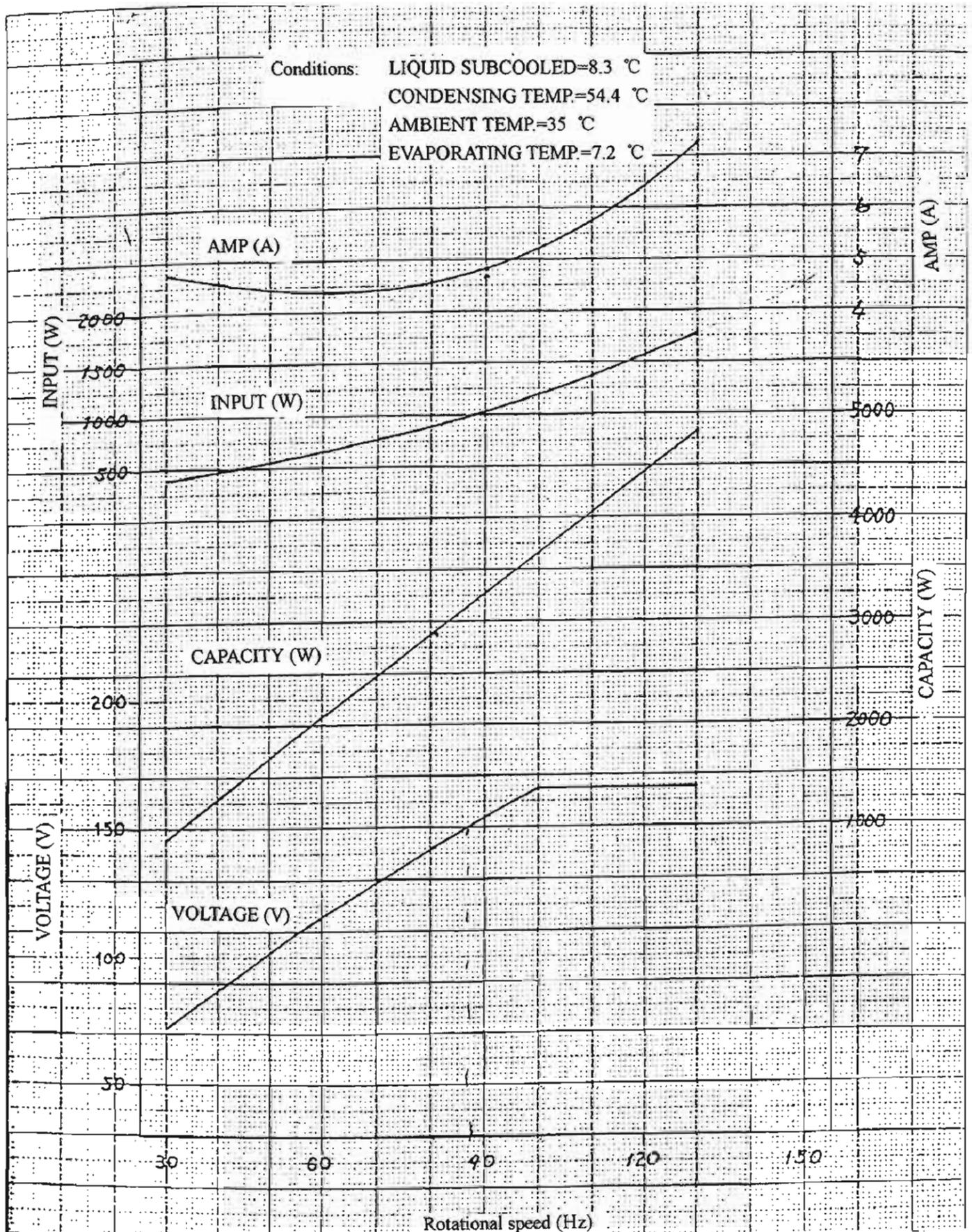
Cooling



Heating



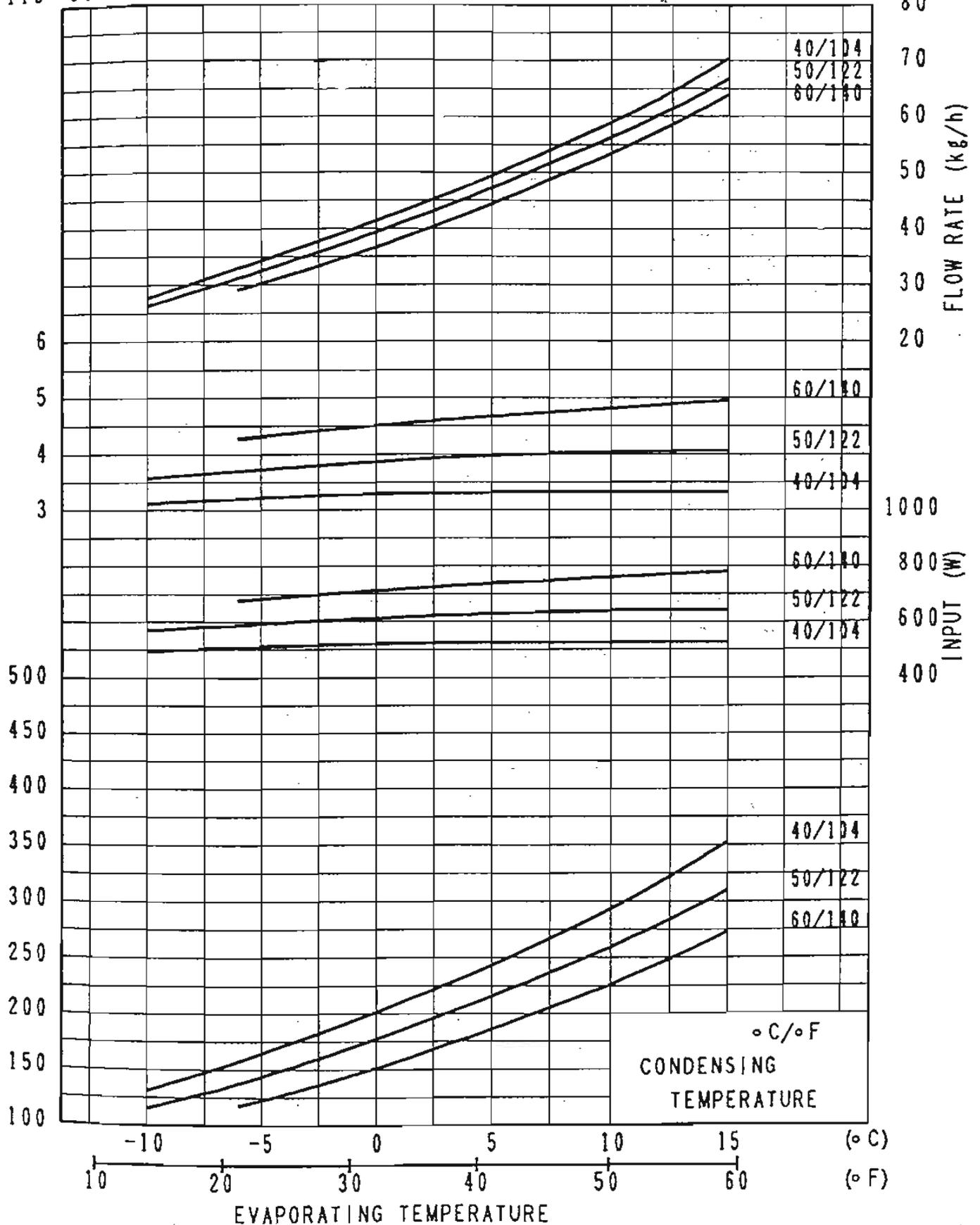
Compressor curves of performance
 MODELS:AS102AHAIA/AU102ACAHA(HSU-10HM03(B))



Compressor curves of performance

RATING CONDITION: 11°C (20°F) RETURN GAS SUPERHEATED
 8.3°C (15°F) LIQUID SUBCOOLED
 35°C (95°F) AMBIENT

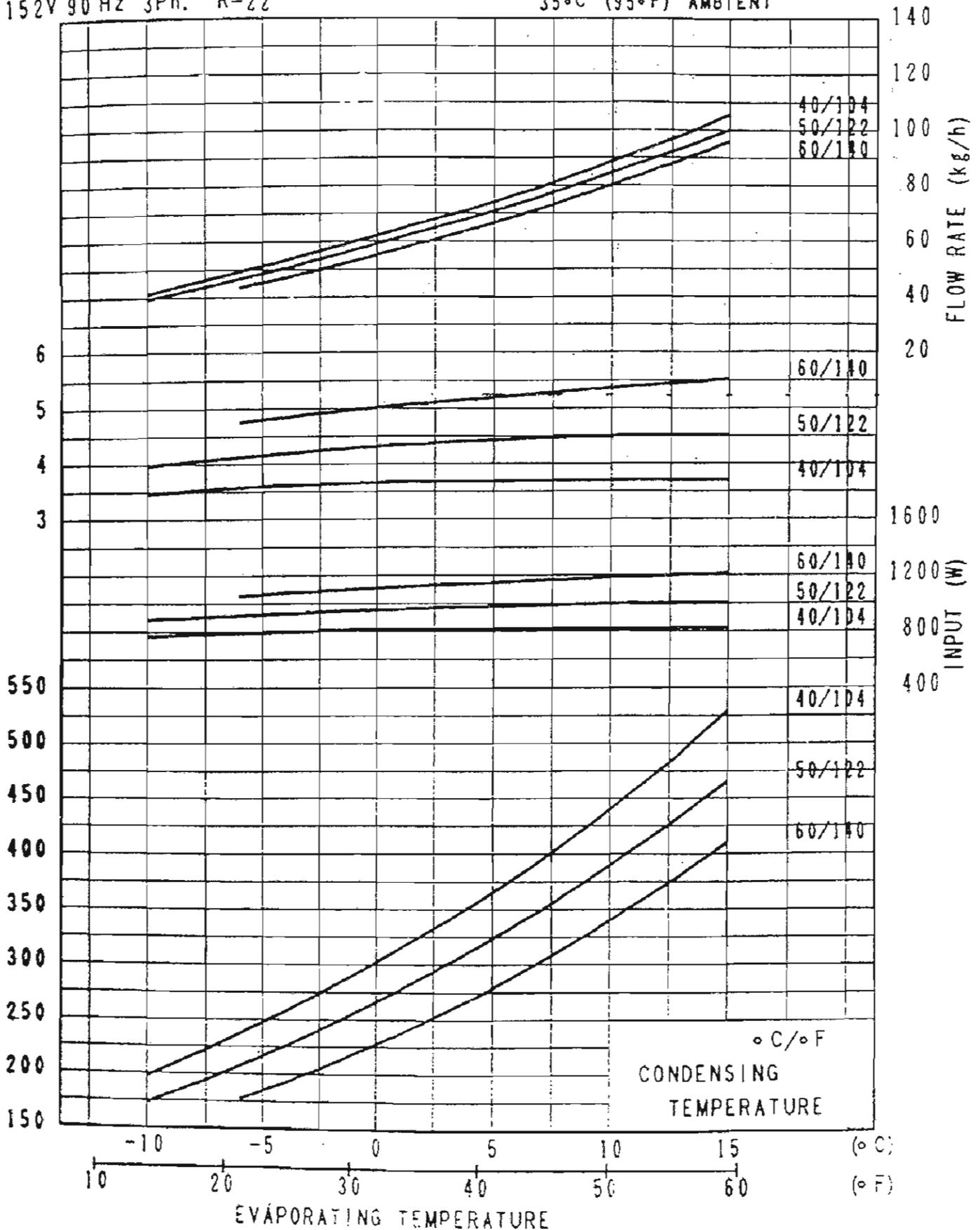
115V 60 Hz 3Ph. R-22



Compressor curves of performance

RATING CONDITION: 11°C (20°F) RETURN GAS SUPERHEATED
 8.3°C (15°F) LIQUID SUBCOOLED
 35°C (95°F) AMBIENT

152V 90 Hz 3Ph. R-22

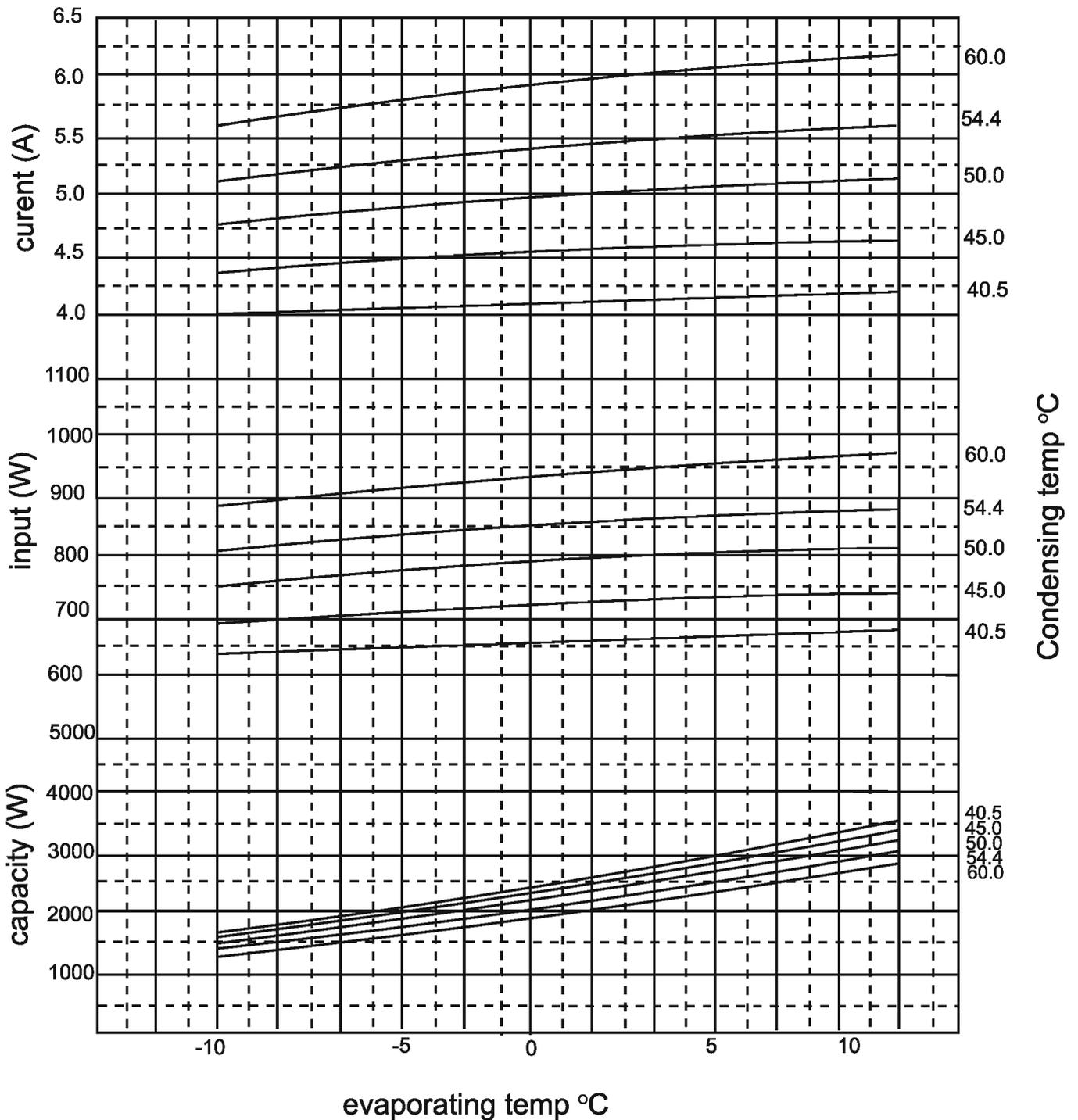


Compressor curves of performance
 MODELS AS122AHAIA/AU122ACAIA(HSU-12HM03(B))

Compressor: C-1RB132H22AB

C-1RB132H22AB
3PH,60Hz,140V
30uF/400VCA
R22

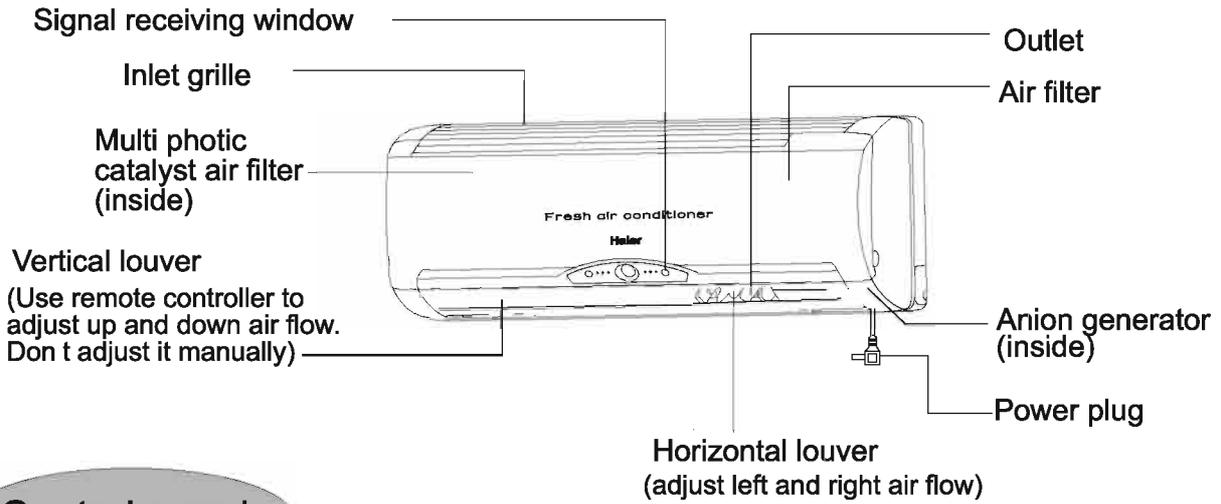
	A	B	C	D	E
Condensing temp °C	40.5	45	50	54.4	60
Return gas temp °C	35	35	35	35	35
	32.2	36.7	41.7	46.1	51.7
Ambient temp °C	35	35	35	35	35



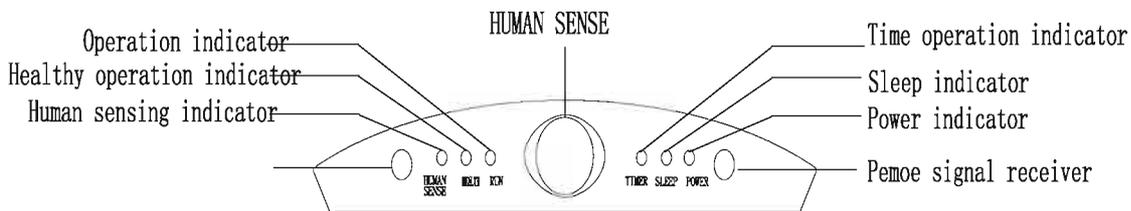
**DESCRIPTION, DIMENSION
& FUNCTION OF MAIN
COMPONENTS AND ACCESSORIES**

Description and function of main components and accessories

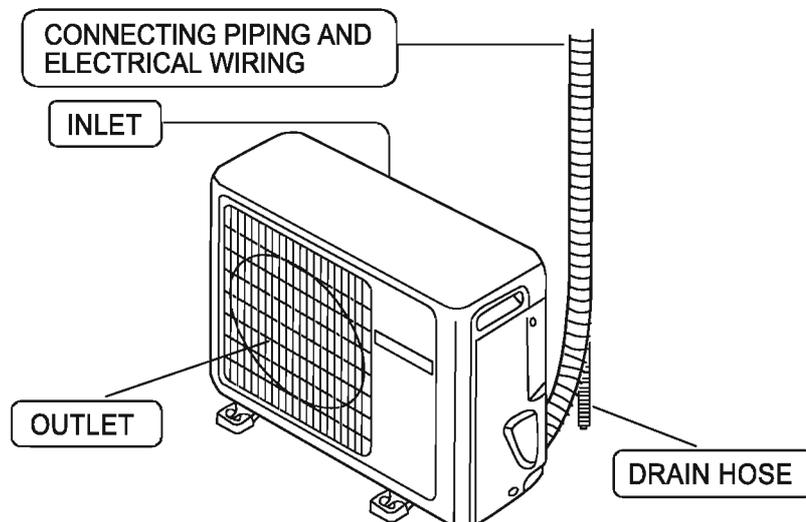
Indoor unit



Control panel

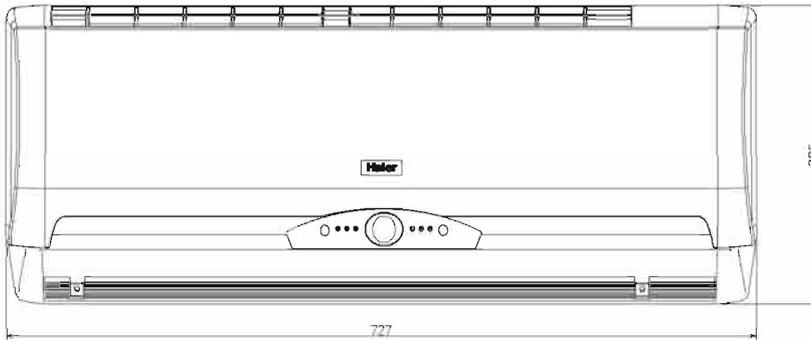


Outdoor unit

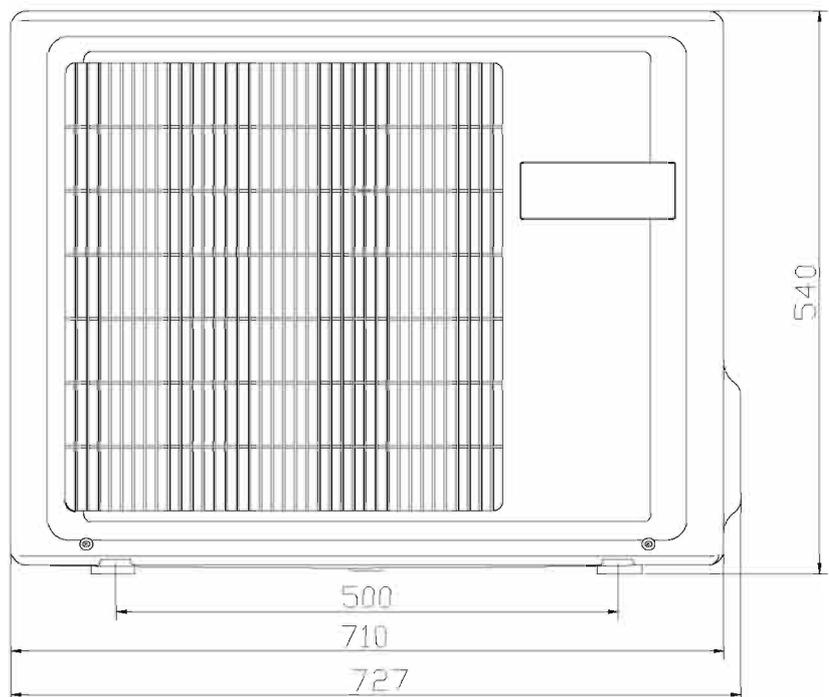
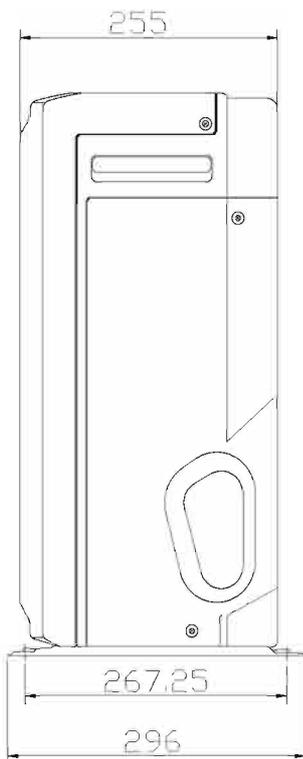
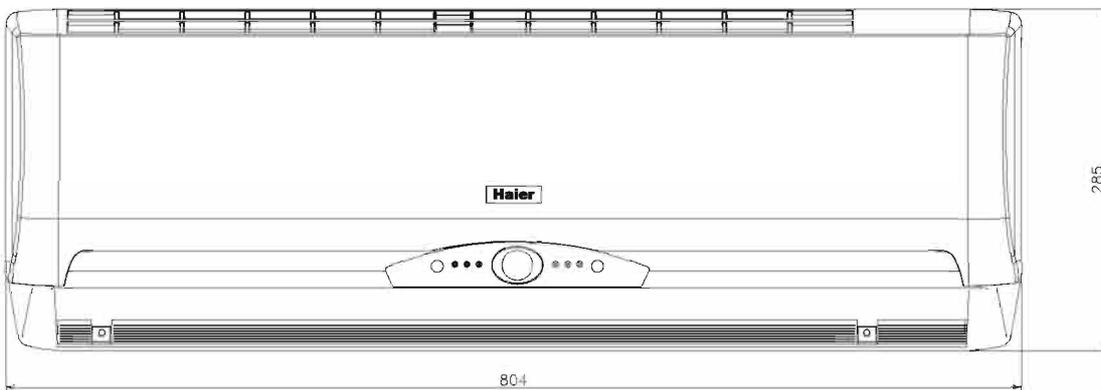


NET DIMENSIONS FOR INDOOR UNITS:

Models: AS102AHAIA/AU102ACAHA(HSU-10HM03(B))

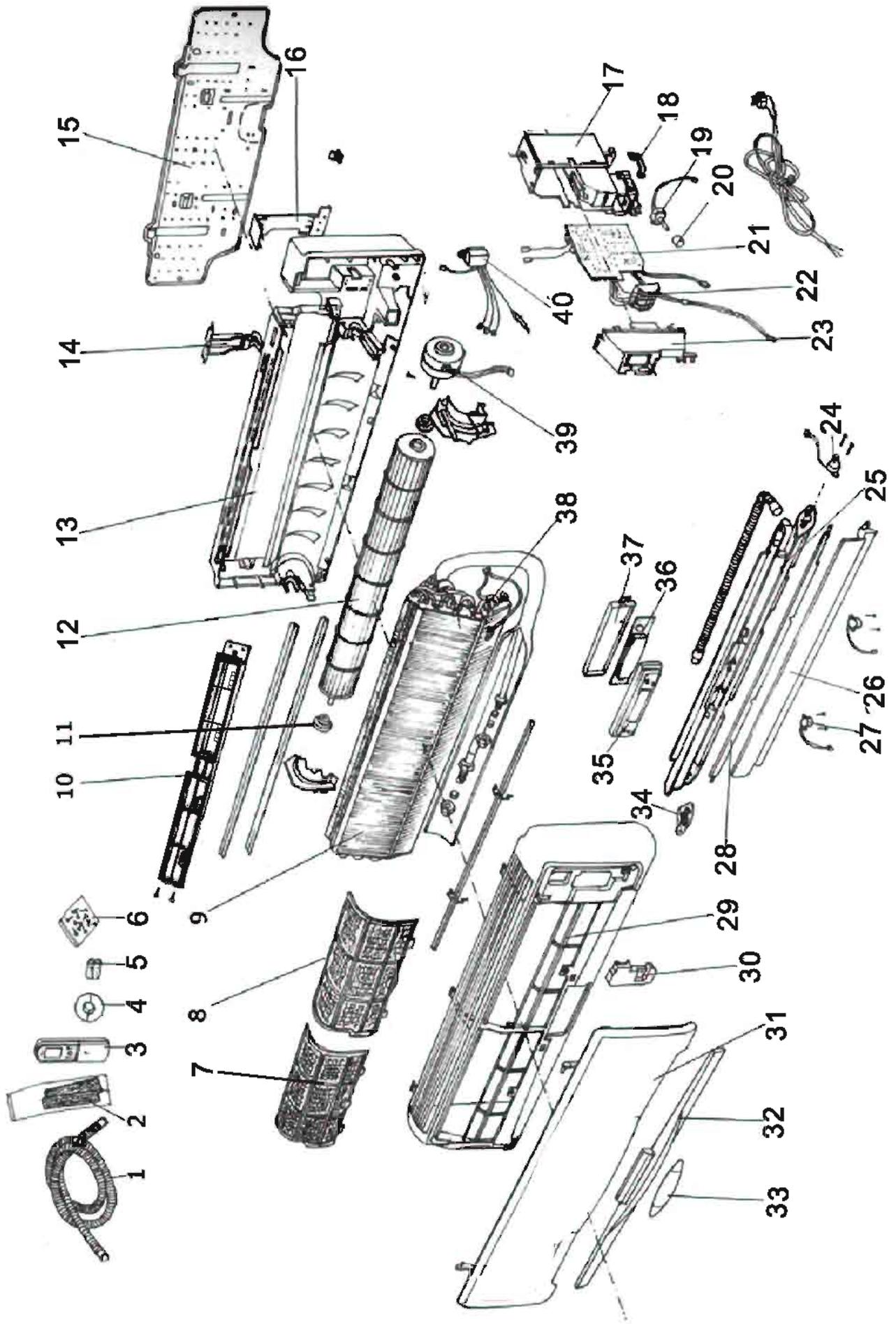


Models: AS122AHAIA/AU122ACAIA(HSU-12HM03(B))

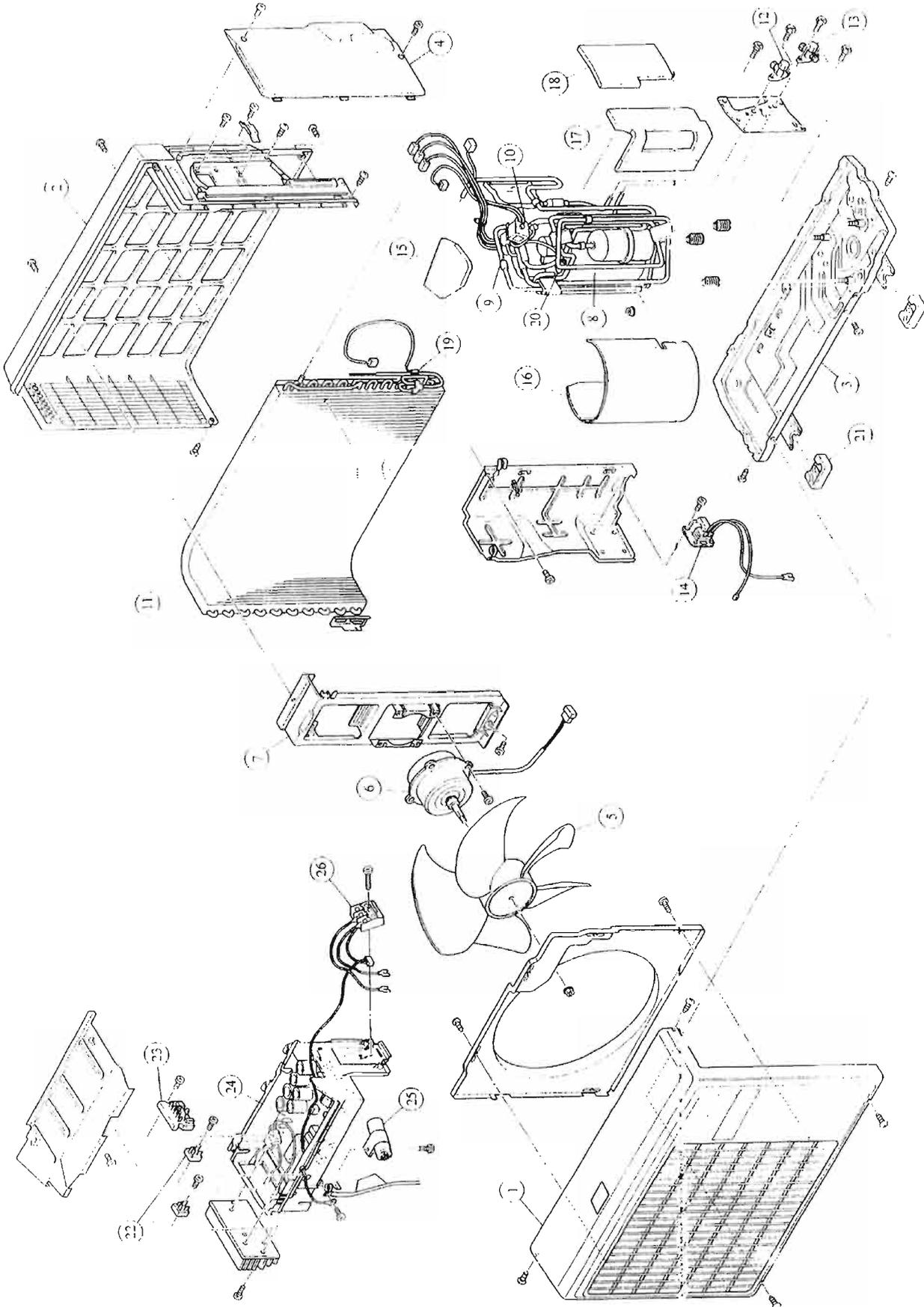


KNOCK-DOWN DRAWINGS

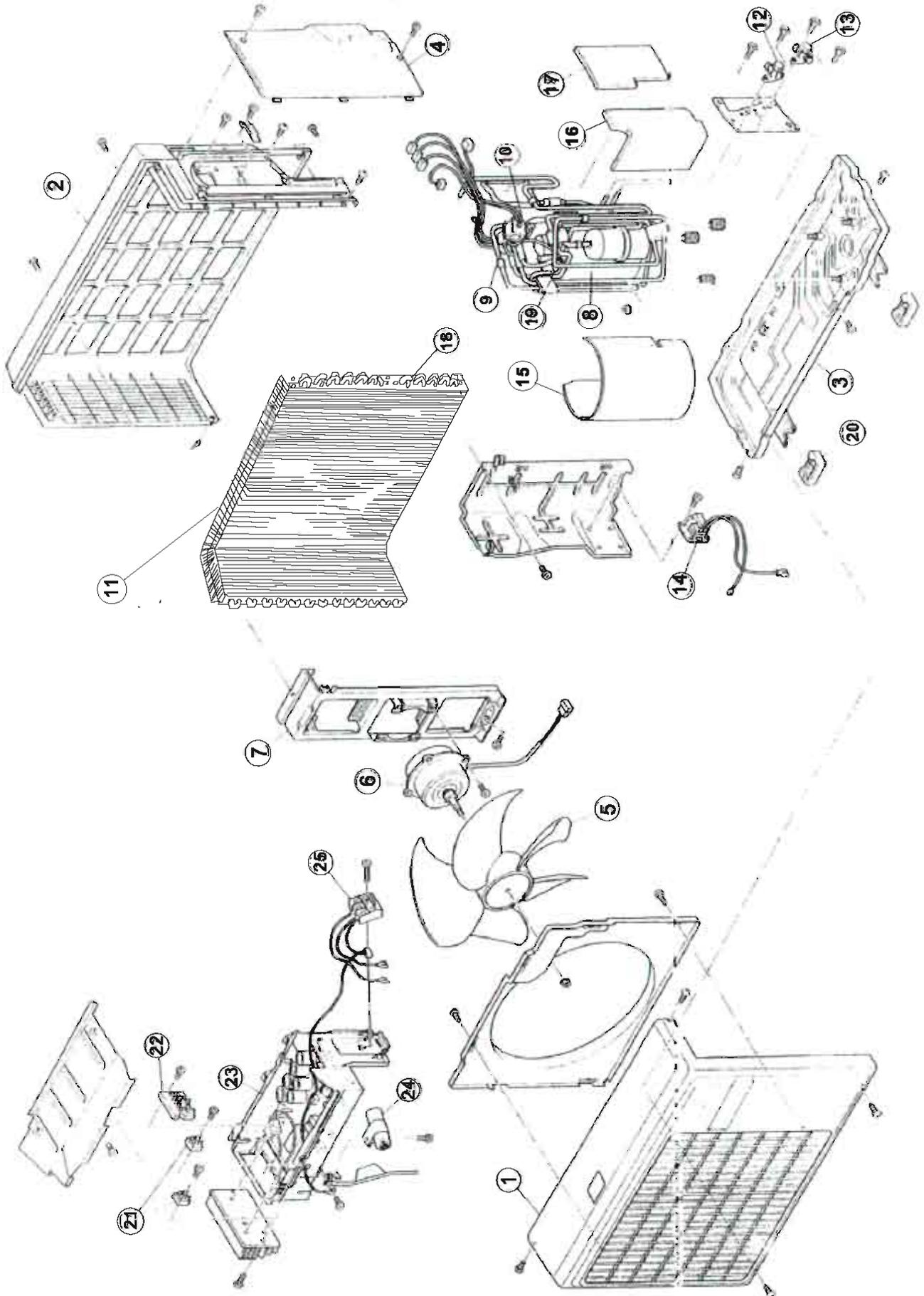
Knock-down drawings for Indoor unit:



**Knock-down drawings for outdoor unit:
MODELS:AS102AHAIA/AU102ACAHA(HSU-10HM03(B))**



Knock-down drawings for outdoor unit:
MODELS: AS122AHAIA/AU122ACAIA(HSU-12HM03(B))



Knock-down drawings for indoor unit					
MODELS:AS102AHAIA/AU102ACAH(AHSU-10HM03(B))					
No.	Specialized No.	Name of the component	QTY.	Description	Easily damaged components
1	001A1434039	Drain tube	1		
2	0010200520	Air purifying	1		
3	0010402126	Remote controller	1	YR-H06	
4	001A1436314	Guard ring	1		
5	001A4600001	Battery	1		
6	0010600115	Bolt assy.	2		
7	0010200529	Air filter	1		
8	0010200991	Air filter	1		
9	0010702914	Evaporator	1		
10	0010201065	Dust-gathered bracket	1		
11	001A0300029	Bearing	1		
12	001A0300028	Fan	1		
13	0010201302	Rear case assy.	1		
14	001A1431767	Piping support	1		
15	001A1101101	Mounting plate	1		
16	001A1231172	Pipe shield board	1		
17	0010201303	Electrical box	1		
18	001A1431899	Line press board	1		
19	----	Power switch	-	None	
20	----	Switch nip	-	None	
21	0010402067	PCB	1		Y
22	001A4000161	Terminal block	1		
23	0010201304	Electrical box cover	1		
24	0010400937	Swing motor	1		Y
25	0010800060	Drain pan assy.	1		
26	001A14311256	Big flap	1		
27	0010400937	Swing motor	2		Y
28	001A14311254	Small flap	1		
29	001A14311255	Front panel	1		
30	001A14311295	Line shelve cover	1		
31	0010202257	Front grille	1		
32	0010202258	Decorate bar	1		
33	0010802060	Decorate board	1		
34	001A0700010	Gear assy.	1		
35	0010202250	Top LED box	1		
36	0010402498	PCB board	1		Y
37	001A14311263	Bottom LED box	1		
38	001A3900059	Sensor	1		Y
39	001A3000049	Motor	1		Y

Knock-down drawings for indoor unit

MODELS:AS122AHAIA/AU122ACAIA(HSU-12HM03(B))

No.	Specialized No.	Name of the component	QTY.	Description	Easily damaged components (Y/N)
1	001A1434039	Drain tube	1		
2	0010200520	Air purifying	2		
3	0010402126	Remote controller	1	YR-H06	
4	001A1433307	Guard ring	1		
5	001A4600001	Battery	2		
6	0010600115	Bolt assy.	1		
7	0010200529	Air filter	1		
8	0010200991	Air filter	1		
9	0010702914	Evaporator	1		
10	0010201065	Dust-gathered bracket	1		
11	001A0300029	Bearing	1		
12	001A0300028	Fan	1		
13	0010201302	Rear case assy.	1		
14	001A1431767	Piping support	1		
15	001A1101101	Mounting plate	1		
16	001A1231172	Pipe shield board	1		
17	0010201303	Electrical box	1		
18	001A1431899	Line press board	1		
19	-----	Power switch	1	None	
20	-----	Switch nip	1	None	
21	0010402067	PCB	1		
22	001A4000161	Terminal block	1		Y
23	0010201304	Electrical box cover	1		
24	0010400937	Swing motor	1		Y
25	0010800060	Drain pan assy.	1		
26	001A14311256	Big flap	1		
27	0010400937	Swing motor	2		Y
28	001A14311254	Small flap	1		
29	001A14311255	Front panel	1		
30	001A14311295	Line shelve cover	1		
31	0010202243	Front grille	1		
32	0010202244	Decorate bar	1		
33	0010802060	Decorate board	1		
34	001A0700010	Gear assy.	1		
35	0010202250	Top LED box	1		
36	10402498.00	PCB board	1		Y
37	001A14311263	Bottom LED box	1		
38	001A3900059	Sensor	1		Y
39	001A3000049	Motor	1		Y
40	0010400337	Negative ion generator	1		
40	0010401111	LED PCB board	1		Y
41	14311263	Bottom LED box	1		
42	3900059	Sensor	1	PXM-D43A-H3	Y
43	001A3000049	Motor	1		Y
44	-	Motor support	-	None	
45	0010400726	Negative ion generator	1		

Knock-down drawings for outdoor unit

MODELS:AS102AHA/A/AU102ACAHA(HSU-10HM03(B))

No.	Specialized No.	Name of the component	Qty.	Description	Easily damaged components (Y/N)
1	001A0100934	Front panel assy.	1		
2	001A0100209	Back frame group	1		
3	001A1301225	Bottom panel	1		
4	001A1436314	Right Side panel	1		
5	001A2336029	Axial fan	1		
6	001A3000053	Motor	1		Y
7	001A1301227	Motor support	1		
8	001A2000196	Compressor	1	KHV104FCKA	
9	001A2500015	4-way valve	1		Y
10	001A3800044	4-way valve winding	1		
11	001A0400057	Heat exchanger	1		
12	0010702425	Stop valve	1		
13	0010702426	Stop valve	1		
14	0010401661	Reactor	1		
15	001A1762574A	Sound insulating cushion	1		
16	001A1762575A	Sound insulating cushion	1		
17	001A1762577A	Sound insulating cushion	1		
18	001A1762576A	Sound insulating cushion	1		
19	001A3900055	Thermistor	1		
20	001A3900056	Thermistor	1	PMM62A-H2	
21	001A1752769	Rubber mat	4		
22	001A3700010	BRIDGE DIODE	2	S15VB60	Y
23	0010400474	Power module	1		Y
24	0010400373	PCB(main controller)	1		Y
25	001A3600124	Electrolyte capacitance	1		
26	001A4000096	Terminal block	1		

Knock-down drawings for outdoor unit

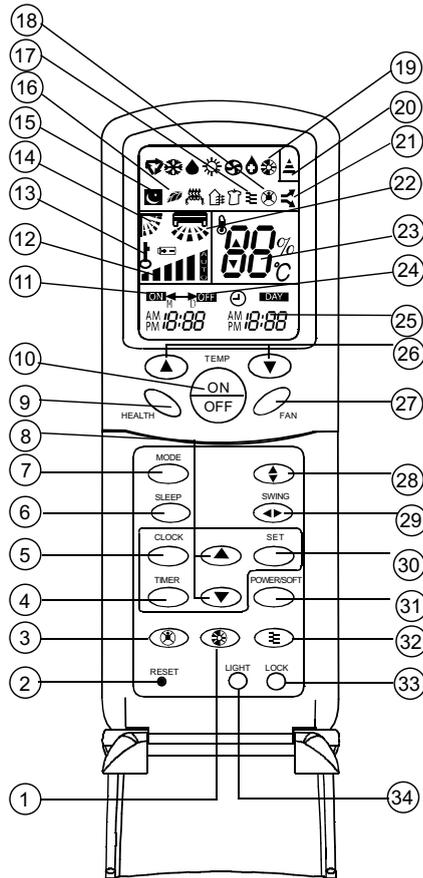
MODELS:AS122AHAIA/AU122ACAIA(HSU-12HM03(B))

No.	Specialized No.	Name of the component	QTY.	Description	Easily damaged components (Y/N)
1	001A0100934	Front panel assy.	1		
2	001A0100209	Back frame group	1		
3	001A1301225	Bottom panel	1		
4	001A1436314	Right Side panel	1		
5	001A2336029	Axial fan	1		
6	0010400896	Motor	1		Y
7	001A1301460	Motor support	1		
8	0010702115	Compressor	1	C-1RB132H22AB	
9	001A2500015	4-way valve	1		Y
10	001A3800044	4-way valve winding	1		
11	001A0400127	Heat exchanger	1		
12	0010702425	Stop valve	1		
13	0010702435	Stop valve	1		
14	0010401591	Reactor	1		
15	0010202004	Sound insulating cushion	1		
16	0010201261	Sound insulating cushion	1		
17	001A1762576A	Sound insulating cushion	1		
18	001A3900055	Thermistor	1		
19	001A3900056	Thermistor	1	PMM-62A-H2	
20	001A1752769	Rubber mat	1		
21	001A3700010	BRIDGE DIODE	4	S15VB60	
22	0010400174	Power module	1		Y
23	0010401589	PCB(main controller)	1		Y
24	0010400023	Electrolyte capacitance	1		Y

REMOTE CONTROLLER FUNCTIONS CONVERSION

Parts and Functions

Remote Controller



1. button (light sensing)
It is to set light sensing function, which enables normal operation for strong indoor light (day) or sleep running mode for weak indoor light (night).
2. RESET
When the remote controller appears abnormal, use a sharp pointed article to press this button to reset the remote controller normal.
3. button
It is to set human sensing function, which automatically gets standby if detecting no human activity for continuously 20 min, and automatically starts running upon re-detecting human activity.
4. TIMER button
Used to select TIMER ON, TIMER OFF, TIMER ON-OFF
5. CLOCK button
Used to set correct time.

6. SLEEP button
Used to select sleep mode.

7. MODE button



8. HOUR button
Used to set clock and timer setting

9. HEALTHY button
Used to set healthy operation.

10. ON/OFF button
Used for unit start and stop.

12. FAN SPEED diplay



13. LOCK diplay

14. SWING UP/DOWN diplay

15. SLEEP diplay

16. HEALTHY diplay

17. diplay

18. diplay

19. diplay

20. SIGNAL SENDING diplay

21. POWER/SOFT diplay

22. Left/right air flow diplay

23. TEMP diplay

Remote controller: to display the TEMP. setting

24. TIMER OFF diplay

25. CLOCK diplay

26. TEMP button

Used to select your desired temperature

27. FAN button

Used to select fan speed: LO, MED, HI, AUTO

28. SWING UP/DOWN button

Used to select up or down air sending direction.

29. SWING LEFT/RIGHT button

Used to select left/right air flow.

30. SET button

Used to confirm timer and clock settings.

31. POWER/SOFT button

32. button

Used to select nature air

33. LOCK

Used to lock buttons and LCD display. If pressed, the other buttons will be disabled and the lock condition display appears.

Press it once again, lock will be canceled and lock condition display disappears.

34. LIGHT diplay

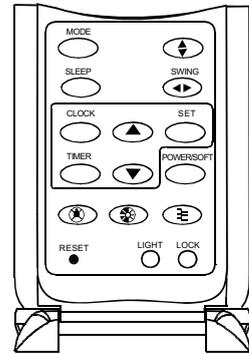
It is to set light sensing function, which enables normal operation for strong indoor light (day) or sleep running mode for weak indoor light (night).

Parts and Functions

■ Clock Set

When unit is started for the first time and after replacing batteries in remote controller, clock should be adjusted as follows:

1. Press CLOCK button, "AM" or "PM" flashes.
2. Press \triangle or ∇ to set correct time. Each press will increase or decrease 1 min. If the button is kept depressed, time will change quickly.
3. After time setting is confirmed, press SET, "AM" or "PM" stop flashing, while clock starts working.



■ Remote controller's operation

- When in use, put the signal transmission head directly to the receiver hole on the indoor unit.
- The distance between the signal transmission head and the receiver hole should be within 7 m without any obstacle as well.
- Don't throw or knock the remote controller.
- When electronic-started type fluorescent lamp or change-over type fluorescent lamp or wireless telephone is installed in the room, the receiver is apt to be disturbed in receiving the signals, so the distance to the indoor unit should be shorter.

■ Loading of the battery

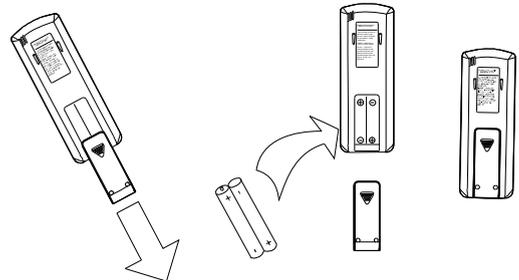
Load the batteries as illustrated right.
2 R-03 (7#) batteries

Remove the battery cover:

Slightly press "≡" area and push down the cover as illustrated.

Load the battery:

Be sure that the loading is in line with the "+" / "-" pole request as illustrated on the bottom of the case.



Put on the cover again.

Confirmation indicator:

After pressing power ON/OFF, if no display, reload the batteries.

Note:

- Full display or unclear display during operation indicates the batteries have been used up. Please change batteries.
- Used two new same-typed batteries when loading.
- If the remote controller can't run normally during operation, please remove the batteries and reload several minutes later.

Hint:

Remove the batteries in case unit won't be in usage for a long period. If there are any display after taking-out, just need to press reset key.

Operation

SLEEP Operation

Before going to bed, you can simply press the SLEEP button and unit will operate in SLEEP mode and bring you a sound sleep.

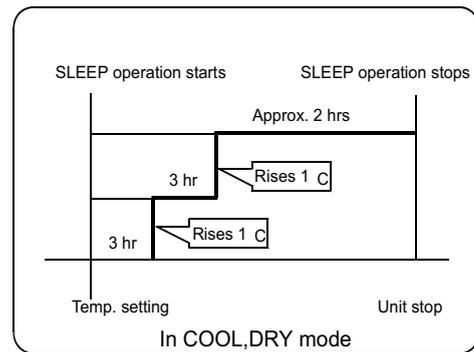
Use of SLEEP function

After the unit starts, set the operation status, then press SLEEP button before which the clock must be adjusted and time being set.

Operation Mode

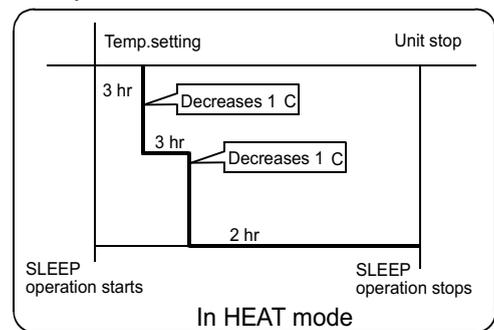
1. In COOL,DRY mode

3 hours after SLEEP mode starts, temp. will become 1 C higher than temp. setting. After another 3 hours, temp. rises by 1 C further. The unit will run for further 2 hours then stops. Temp. is higher than temp. setting so that room temperature won't be too low for your sleep.

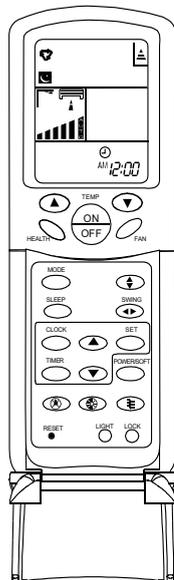


2. In HEAT mode

3 hours after SLEEP mode starts, temp. will become 1 C lower than temp. setting. After another 3 hours, temp. decrease by 1 C further. The unit will run for further 2 hours then stops. Temp. is lower than temp. setting so that room temperature won't be too high for your sleep.



Remote Controller



6. If the sleep time in cooling, dehumidifying and heating run is less than 8 hours

Within the set sleep time, the conditioner will run as per the procedure described in 1 and 2. It will be switched off automatically when the sleep time is expired.

3. In AUTO mode

The unit operates in corresponding sleep SLEEP mode adapted to the automatically selected operation mode.

4. In FAN mode

It has timing off function.

5. The sleep time can be adjusted within the range of 1-8 hours.

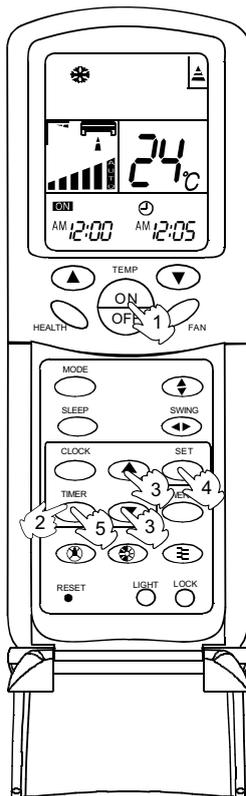
Push the SLEEP button. The remote controller will display , and display the timing off and detail off time in the timing off setting area.

Push the time adjusting button to adjust the detail sleep time.

Operation

Timer On/Off Operation

Remote Controller



Set clock correctly before starting **TIMER** operation.

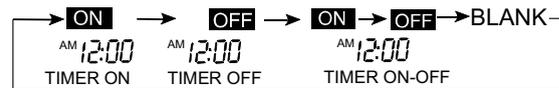
1. After unit starts, select your desired operation mode.

Operation mode will be displayed on LCD.

2. Timer mode selection

Press **TIMER** button to change **TIMER** mode. Every time the button is pressed, display changes as follows:

Remote controller:



Then select your desired **TIMER** mode (**TIMER ON** or **TIMER OFF**). **ON** or **OFF** will flash.

3. Time setting

Press **HOUR** Δ / ∇ button.

Δ Every time the button is pressed, time setting increases 1min, if kept depressed, it will increase rapidly.

∇ Every time the button is pressed, time setting decreases 1min, if kept depressed, it will decrease rapidly.

It can be adjusted within 24 hours.

4. Confirming your setting

After setting correct time, press **SET** button to confirm.

ON or **OFF** on the remote controller stops flashing.

Time displayed: Unit starts or stops at x hour x min. (**TIMER ON** or **TIMER OFF**).

5. Cancel **TIMER mode**

Just press **TIMER** button several times until **TIMER** mode disappears.

Hints:

After replacing batteries or a power failure happens, time setting should be reset.

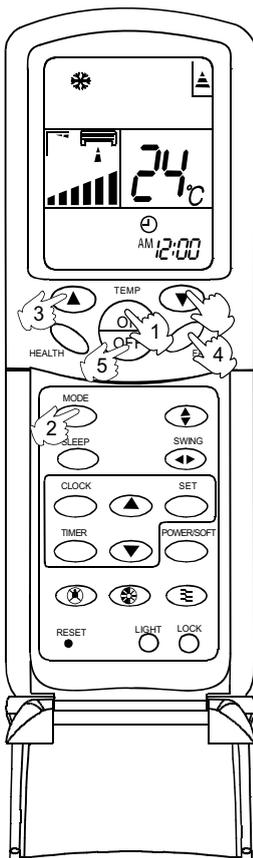
Remote controller possesses memory function, when use **TIMER** mode next time, just press

SET button after mode selecting if time setting is the same as previous one.

Operation

COOL Operation

Remote Controller



1. Unit start

Press ON/OFF on the indoor unit, or press ON/OFF on the remote controller, unit starts.

Previous operation status appears on LCD display.

2. Select operation mode

Press MODE button. For each press, operation mode changes as follows:

Remote controller:



Then

Select COOL operation.

3. Select temp. setting

Press TEMP. button.

△ Every time the button is pressed, temp. setting increases 1 C, if kept depressed, it will increase rapidly.

▽ Every time the button is pressed, temp. setting decreases 1 C, if kept depressed, it will decrease rapidly.

Select a desired temperature.

4. Fan speed selection

Press FAN button. For each press, fan speed changes as follows:

Remote controller:



When FAN is set to AUTO, the air conditioner automatically adjusts the fan speed according to room temperature.

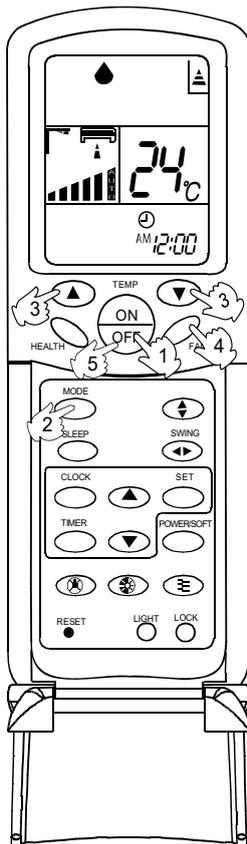
5. Unit stop

Press ON/OFF button, the unit stops.

Operation

DRY Operation

Remote Controller



1. Unit start

Press ON/OFF button on the indoor unit or press ON/OFF on the remote controller, unit starts. Previous operation status appears on LCD display .

2. Select operation mode

Press MODE button. For each press, operation mode changes as follows:

Remote controller:

Control panel:

Then Select DRY operation.

3. Select temp. setting

Press TEMP. button.

△ Every time the button is pressed, temp. setting increases 1 C , if kept depressed, it will increase rapidly.

▽ Every time the button is pressed, temp. setting decreases 1 C , if kept depressed, it will decrease rapidly.

Select a desired temperature.

4. Fan speed selection

Press FAN button. For each press, fan speed changes as follows:

Remote controller:

In DRY mode, when room temperature becomes 2 C higher than temp. setting, unit will intermittently at LO speed regardless of FAN setting.

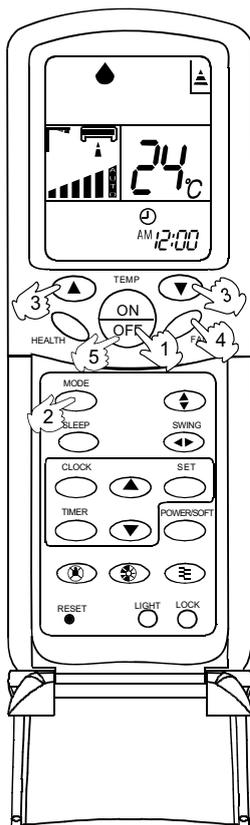
5. Unit stop

Press ON/OFF button, the unit stops.

Operation

DRY Operation

Remote Controller



1. Unit start

Press ON/OFF button on the indoor unit or press ON/OFF on the remote controller, unit starts.
Previous operation status appears on LCD display .

2. Select operation mode

Press MODE button. For each press, operation mode changes as follows:

Remote controller: AUTO → COOL → DRY → FAN → HEAT

Control panel:

Then Select DRY operation.

3. Select temp. setting

Press TEMP. button.

△ Every time the button is pressed, temp. setting increases 1 C , if kept depressed, it will increase rapidly.

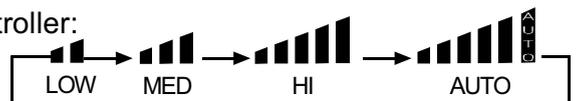
▽ Every time the button is pressed, temp. setting decreases 1 C , if kept depressed, it will decrease rapidly.

Select a desired temperature.

4. Fan speed selection

Press FAN button. For each press, fan speed changes as follows:

Remote controller:



In DRY mode, when room temperature becomes 2 C higher than temp. setting, unit will intermittently at LO speed regardless of FAN setting.

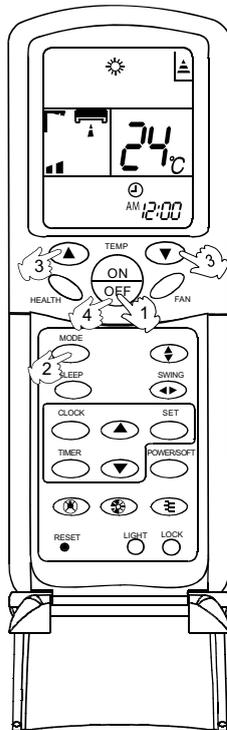
5. Unit stop

Press ON/OFF button, the unit stops.

Operation

HEAT Operation

Remote Controller



Regarding the ambient temperature display during the heating operation

In defrosting, the indoor temperature value displayed may be reduced due to the dropping of cooling air of the evaporator of indoor unit under cooling mode. It is normal phenomenon.

1. Unit start

Press ON/OFF button on the indoor unit or press ON/OFF on the remote controller, unit starts.
Previous operation status appears on LCD display (no timer and sleep).

2. Select operation mode

Press MODE button. For each press, operation mode changes as follows:

Remote controller: AUTO → COOL → DRY → FAN → HEAT

Then Select HEAT operation.

3. Select temp. setting

Press TEMP. button.

△ Every time the button is pressed, temp. setting increases 1 C , if kept depressed, it will increase rapidly.

▽ Every time the button is pressed, temp. setting decreases 1 C , if kept depressed, it will decrease rapidly.

Select a desired temperature.

Control panel displays the temperature setting and will change into room temperature after 3 times flashing.

4. Fan speed selection

Press FAN button. For each press, fan speed changes as follows:

Remote controller: LOW → MED → HI → AUTO

Control panel: see P18. The central blade keeps rotating. The Unit will operate at the indicated fan speed.

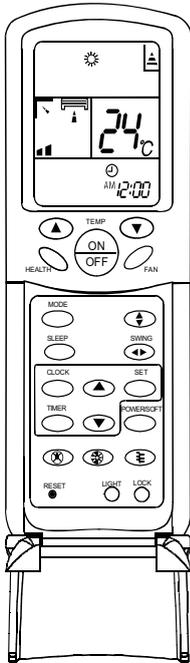
In HEAT mode, warm air will blow out after a short period of the time due to cold-draft prevention function.

5. Unit stop

Press ON/OFF button, the unit stops.

Air Flow Direction Adjustment

1. Status display of air sending direction



Vertical flap

- Pos. 1
- Pos. 2
- Pos. 3
- Pos. 4
- Pos. 5 [COOL/DRY/FAN /AUTO(COOL)NONE]
- Pos. 6 (Auto swing)

Horizontal louvers

- Pos. 1
- Pos. 2
- Pos.3
- Pos. 4
- Pos. 5
- Pos. 6
- Pos. 7
- Pos. 8

2. Up and down air flow direction

For each press of button, air flow direction on remote controller or on the control panel displays as follows according to different operation modes:
 COOL/DRY/FAN:

remote controller: → pos. 1 → pos.2 → pos. 3 → pos. 4 → pos. 6

HEAT:

remote controller: → pos. 5 → pos.4 → pos.3 → pos.2 → pos.1 → pos. 6

AUTO:

remote controller: → pos. 1 → pos. 2 → pos. 3 → pos. 4 → pos.5 → pos. 6

The vertical flap will swing according to the above positions.

3. Left and right air flow direction

For each press of button, remote controller displays as follows:

remote controller: → pos. 1 → pos. 2 → pos. 3 → pos. 4 → pos. 5 → pos. 6 → pos. 7 → pos. 8

The horizontal louvers will swing according to the above positions.

4. Note: When restart after remote turning off, the remote controller will automatically memorize the previous set swing position.

Operation

SLEEP Operation

Before going to bed, you can simply press the SLEEP button and unit will operate in SLEEP mode and bring you a sound sleep.

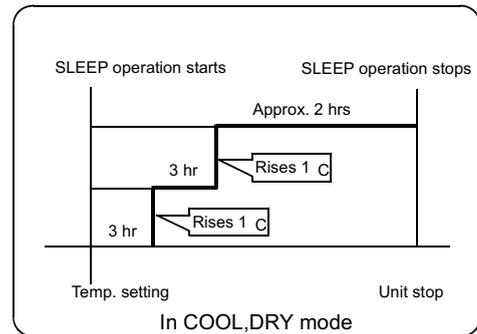
Use of SLEEP function

After the unit starts, set the operation status, then press SLEEP button before which the clock must be adjusted and time being set.

Operation Mode

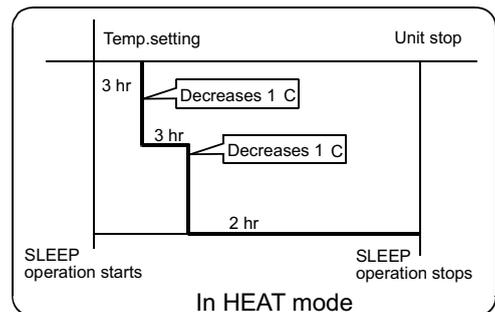
1. In COOL, DRY mode

3 hours after SLEEP mode starts, temp. will become 1 C higher than temp. setting. After another 3 hours, temp. rises by 1 C further. The unit will run for further 2 hours then stops. Temp. is higher than temp. setting so that room temperature won't be too low for your sleep.



2. In HEAT mode

3 hours after SLEEP mode starts, temp. will become 1 C lower than temp. setting. After another 3 hours, temp. decrease by 1 C further. The unit will run for further 2 hours then stops. Temp. is lower than temp. setting so that room temperature won't be too high for your sleep.



3. In AUTO mode

The unit operates in corresponding sleep SLEEP mode adapted to the automatically selected operation mode.

4. In FAN mode

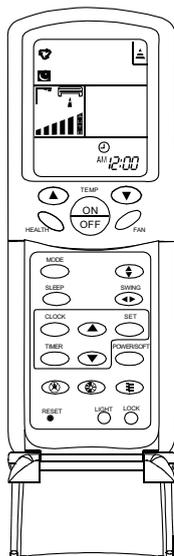
It has timing off function.

5. The sleep time can be adjusted within the range of 1-8 hours.

Push the SLEEP button. The remote controller will display , and display the timing off and detail off time in the timing off setting area.

Push the time adjusting button to adjust the detail sleep time.

Remote Controller



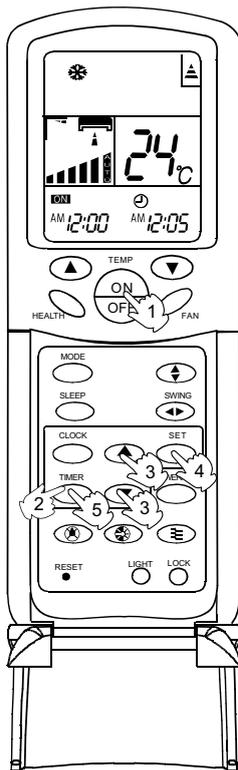
6. If the sleep time in cooling, dehumidifying and heating run is less than 8 hours

Within the set sleep time, the conditioner will run as per the procedure described in 1 and 2. It will be switched off automatically when the sleep time is expired.

Operation

Timer On/Off Operation

Remote Controller



Set clock correctly before starting **TIMER** operation.

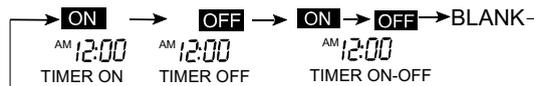
1. After unit starts, select your desired operation mode.

Operation mode will be displayed on LCD.

2. Timer mode selection

Press **TIMER** button to change **TIMER** mode. Every time the button is pressed, display changes as follows:

Remote controller:



Then select your desired **TIMER** mode (**TIMER ON** or **TIMER OFF**). **ON** or **OFF** will flash.

3. Time setting

Press **HOUR** Δ / ∇ button.

Δ Every time the button is pressed, time setting increases 1min, if kept depressed, it will increase rapidly.

∇ Every time the button is pressed, time setting decreases 1min, if kept depressed, it will decrease rapidly.

It can be adjusted within 24 hours.

4. Confirming your setting

After setting correct time, press **SET** button to confirm.

ON or **OFF** on the remote controller stops flashing.

Time displayed: Unit starts or stops at x hour x min. (**TIMER ON** or **TIMER OFF**).

5. Cancel **TIMER** mode

Just press **TIMER** button several times until **TIMER** mode disappears.

Hints:

After replacing batteries or a power failure happens, time setting should be reset.

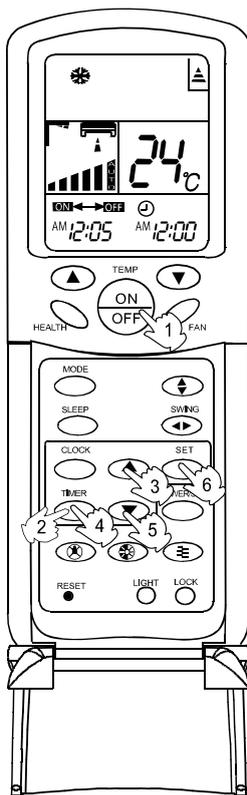
Remote controller possesses memory function, when use **TIMER** mode next time, just press

SET button after mode selecting if time setting is the same as previous one.

Operation

TIMER On-Off Operation

Remote Controller

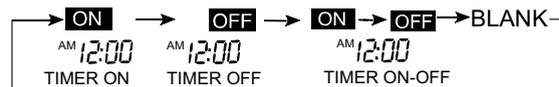


Set clock correctly before starting **TIMER** operation.

1. After unit starts, select your desired operation mode.
Operation mode will be displayed on LCD.

2. **Timer mode selection**

Press **TIMER** button to change **TIMER** mode. Every time the button is pressed, display changes as follows:
Remote controller:



Then select your desired **TIMER** mode (**TIMER ON** or **TIMER OFF**). "**ON**" will flash.

3. **Time setting**

Press **HOUR** Δ / ∇ button.

Δ Every time the button is pressed, time setting increases 1min, if kept depressed, it will increase rapidly.

∇ Every time the button is pressed, time setting decreases 1min, if kept depressed, it will decrease rapidly.

It can be adjusted within 24 hours.

4. **Time confirming for **TIMER ON****

After setting correct time, press **SET** button to confirm.

"**ON**" on the remote controller stops flashing.

"**OFF**" starts flashing.

Time displayed: Unit starts or stops at x hour x min.

5. **Time setting for **TIMER OFF****

Just press **HOUR** button, follow the same procedure in "Time setting for **TIMER ON**".

6. **Time confirming for **TIMER OFF****

After time setting, press **SET** button to confirm.

"**OFF**" on the remote controller stops blinking.

Time displayed: Unit stops at X hour X min.

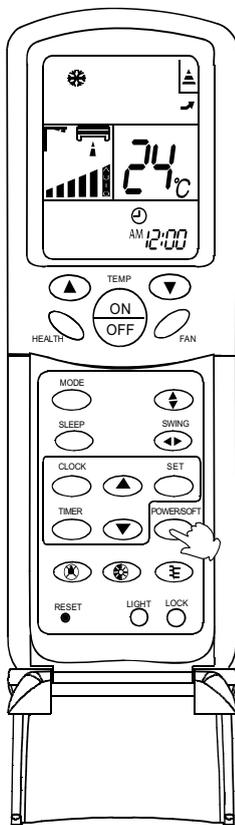
To cancel **TIMER** mode

Just press **TIMER** button several times until **TIMER** mode disappears.

According to the Time setting sequence of **TIMER ON** or **TIMER OFF**, either Start-Stop or Stop-Start can be achieved.

Operation

POWER/SOFT Operation



POWER Operation

When you need rapid heating or cooling, you can use this function.

Selecting of POWER operation

Press POWER/SOFT button. Every time the button is pressed, display changes as follows:



Stop the display at "  ".

In POWER operation status:

In HEAT or COOL mode, fan speed automatically runs in HI mode for 15 min then returns to original status setting.

To cancel POWER operation

Press POWER/SOFT button twice, POWER/SOFT disappears.

SOFT Operation

You can use this function when silence is needed for rest or reading.

Selecting of SOFT operation

Press POWER/SOFT button. Every time the button is pressed, display changes as follows:



Stop the display at "  ".

In SOFT operation mode, fan speed automatically takes "LO".

To cancel SOFT operation

Press POWER/SOFT button once, HI/SOFT disappears.

Hints:

During POWER operation, in rapid HEAT or COOL mode, the room will show inhomogeneous temperature distribution.
Long period SOFT operation will cause effect of not too cool or not too warm.

Operation

1. Unit start

After switching on and setting running mode, the LCD screen will display the operating conditions.

2. Selecting natural air function

Press  key, the remote controller displays a symbol of  and natural air function actuates. Press  key again to cancel the displayed symbol of  and the natural air function. After selecting natural air function, fan speed and left/right air direction are set as AUTO whereas after cancellation thereof, fan speed automatically resumes the status before selecting natural air function. After actuating natural air function, pressing STRONG/SOFT key will enable strong/soft running, and the remote controller displays strong/soft symbol, natural air symbol disappears and natural air function is cancelled. When strong/soft running is exited, it resumes to natural air mode. In the strong/soft mode,  key is disabled.

3. Selecting human sensing function

Press  key, the remote controller displays  symbol and human sensing function starts; pressing this key once more will get the  symbol disappear and human sensing function cancelled. After selecting human sensing function, if setting sleep mode, human sensing function will automatically cancels, and doesn't resume upon sleep mode is removed. During sleep mode, human sensing function is disabled.

4. Selecting light sensing function

Press  key, the remote controller displays  symbol and light sensing function starts; pressing this key once more will get the  symbol disappear and light sensing function cancelled.

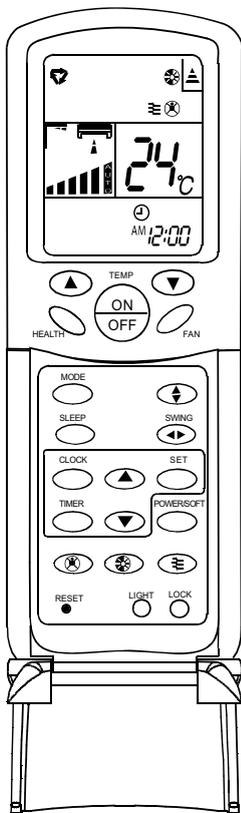
Light sensing function could be set in every running mode (excluding FAN mode) and reserved during mode changing, except that light sensing function will be automatically cancelled when changing to FAN mode and resume upon changing to other modes.

After selecting light sensing function, sleep function is unavailable; while in sleep mode, pressing  key will cancel sleep function.

If restarting the unit after switching off, light sensing function needs re-setting.

5. Unit stop

Press ON/OFF key to turn off the unit.



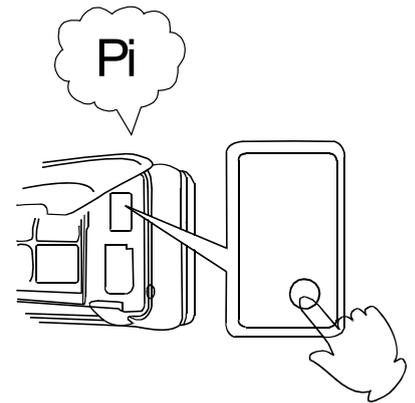
Emergency and Test Operation

Emergency operation:

- Use this operation only when the remote controller is defective or lost.
- When the emergency operation switch is pressed, the "Pi" sound is heard once, which means the start of this operation.
- In this operation, the system automatically selects the operation modes, cooling or heating, according to the room temperature, as follows.

Temperature	Operation mode	Designated temperature	Timer mode	Air flow
ABOVE 23 C	COOLING	26 C	NO	AUTOMATIC
BELOW 23 C	HEATING	23 C	NO	AUTOMATIC

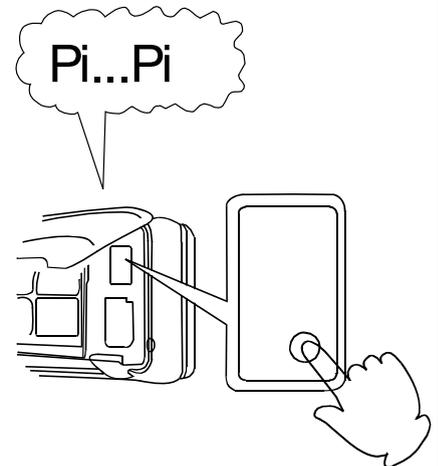
- It is not possible to operate in dry mode.



Test operation:

Test operation switch is the same as emergency switch.

- Use this switch in the test operation when the room temperature is below 16 C, do not use it in the normal operation.
- Continue to press the test operation switch for more than 5 seconds. After you hear the "Pi" sound twice, release your finger from the switch: the cooling operation starts with the air flow speed "Hi".
- After 30 minutes, test operation ends automatically.



Removal of the restriction of emergency or test operation

- Press the emergency operation switch once more, or manipulate through the remote controller; the "Pi" sound, the emergency or test operation is terminated.
- When the remote controller is manipulated, it gets the system back to the normal operation mode.

BRIEF INTRODUCTION TO ELECTRICAL CONTROL FUNCTION

Including electrically controlled function introduction of air conditioners as follows:

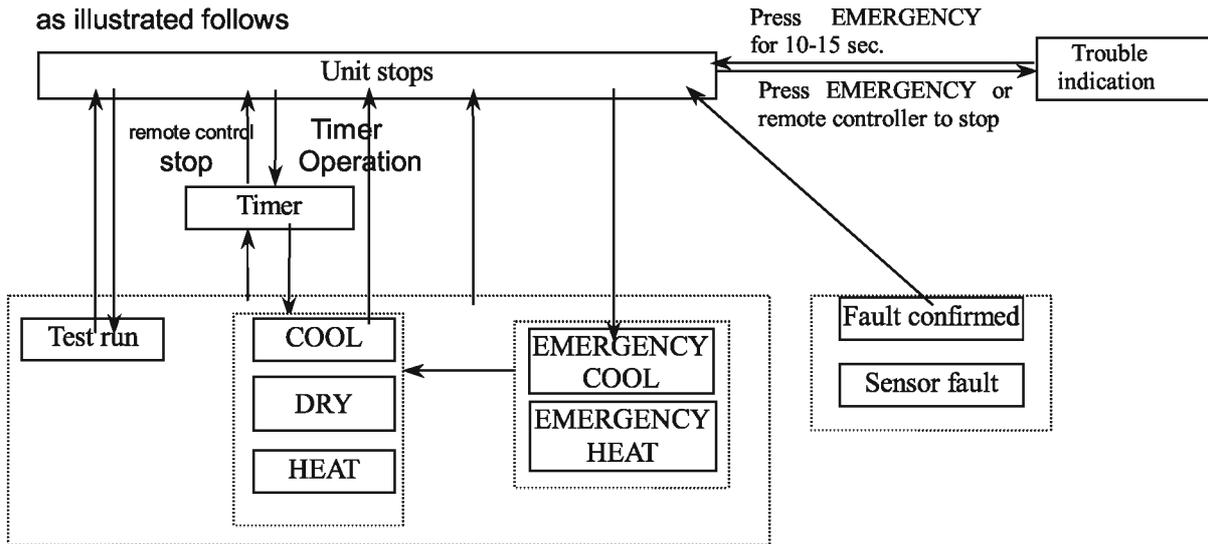
AS102AHAIA/AU102ACAHA(HSU-10HM03(B))

AS122AHAIA/AU122ACAIA(HSU-12HM03(B))

Introduction of electrically controlled functions

1.1 Status conversion

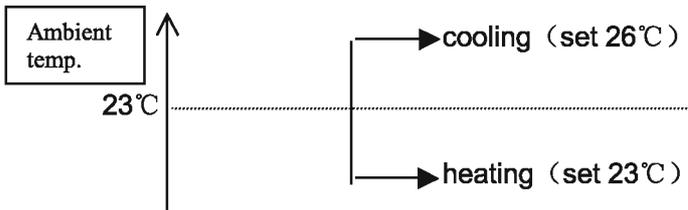
as illustrated follows



1.2 AUTO function (press EMERGENCY button 0-5 s to enter AUTO mode)

1.2.1 Status conversion during AUTO operation

as shown follows



In emergency AUTO operation, indoor unit could receive signals from the remote controller and change status.

1.2.2 Fan speed control during AUTO operation

Indoor fan speed is automatically controlled, see “fan speed control during COOL/HEAT” for details.

1.2.3 Compressor frequency control in AUTO mode

See “compressor frequency control during COOL/HEAT”

1.3 COOL operation

1.3.1 Fan speed control in COOL operation (cooling offset temp. of -0.33°C)

If selecting manual control, fan speed during compressor running shall be as setting, and as setting-60rpm when compressor stops.

If selecting auto, fan speed depends on temp. difference ΔT (| ambient temp.-offset-temp. setting |), see following table for detail information.

Temp. difference(°C)	$\Delta T > 4.3$	$4.3 \geq \Delta T \geq 0.3$	$\Delta T < 0.3$
Fan speed	HI	MED	LO

1.3.2 Compressor control during COOL operation.

Brief introduction to electrical control function

1.3.2.1 Compressor control during normal operation

Temp. diff (°C)	$\Delta T > 4.3$	$4.3 \geq \Delta T \geq 1.3$	$1.3 \geq \Delta T \geq -1$	$\Delta T < -1^\circ\text{C}$
Max.frequency (Hz)	High	Intermediate	Low	Compressor stops

1.3.2.2 In COOL mode, fan speed setting restricts frequency as follows:

Fan speed setting	Max. frequency (Hz)
MED	90Hz
LO	52Hz

1.3.2.3 In COOL mode, outdoor ambient temperature restrains frequency as follows: (for models with outdoor ambient temperature sensor only)

Outdoor ambient temp.(°C)	Max. frequency (Hz)
$\Delta T \geq 26$	Unrestricted
$\Delta T < 26$	60Hz

1.4 DRY operation

1.4.1 Fan speed control in DRY mode (cooling offset temp. of -0.33°C)

During compressor off in initial operation, fan runs at LO; when compressor stops in other cases, fan also stops.

If selected manual control, fan speed during compressor operation shall be as given in the following table:

Temp. difference	$\Delta T \geq 0.3^\circ\text{C}$	$\Delta T < 0.3^\circ\text{C}$
Fan speed	setting	LO

If selected AUTO fan speed, fan speed will depend on temperature difference (ambient temp.- temp. setting) . See the following table for details.

Temp. difference (°C)	$\Delta T > 4.3$	$4.3 \geq \Delta T \geq 0.3$	$\Delta T < 0.3$
Fan speed	HI	MED	LO

1.4.2 Compressor control in DRY mode

1.4.2.1 Compressor frequency control during normal operation

Temp. difference (°C)	$\Delta T > 4.3$	$4.3 \geq \Delta T \geq 1.3$	$1.3 \geq \Delta T \geq -1$	$\Delta T < -1^\circ\text{C}$
Max. frequency (Hz)	High	Intermediate	Low	Compressor stops

1.4.2.2 In DRY operation, fan speed setting restricts frequency as given in the following table:

Fan speed setting	Max. frequency (Hz)
MED	90Hz
LO	52Hz

1.4.2.3 In DRY mode, outdoor ambient temperature restricts frequency as given in the following table: (for models with outdoor ambient temperature sensor only)

Outdoor ambient temperature (°C)	Max. frequency (Hz)
$\Delta T \geq 26$	Unlimited
$\Delta T < 26$	60Hz

1.5 Heating running (heat compensation temp. 4.67° C)

1.5.1 Air volume control under heating running

When heating running starts, defrosting stops. When compressor restarts, it shall be warm start to prevent cold wind.

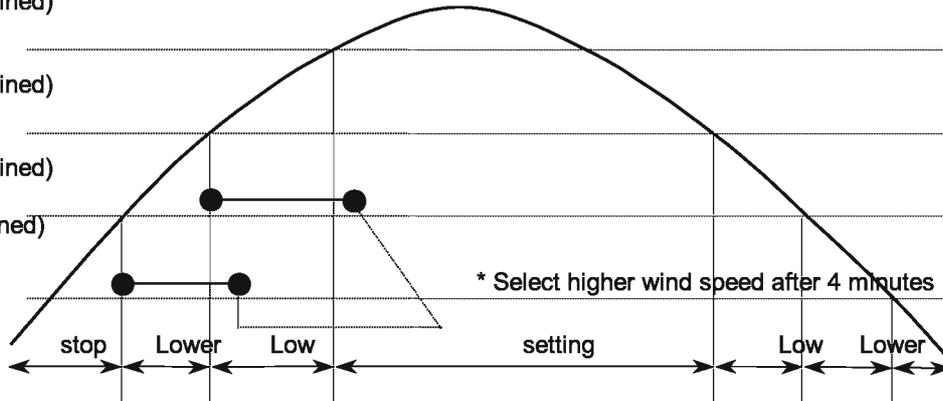
Thermal conversion temperature:

35.1° C (undetermined)

35.1° C (undetermined)

25.2° C (undetermined)

15 ° C (undetermined)



Note:

For different machine type, the “undetermined” parameters is also different, here only take this example for illustration.

“ * ” Indicating that if unit maintains in this wind speed for more than 4 minutes, it then select higher speed.

When setting automatic wind speed, its velocity is related to the temperature difference (including compensation temperature), see the following table for details:

Temperature difference (° C)	$\Delta T > 4.3$	$4.3 \geq \Delta T \geq 0.3$	$\Delta T < 0.3$
Wind speed	High	Middle	Low

1.5.2 Compressor control under heating running

1.5.2.1 When running in normal status, control of compressor frequency:

Temperature difference (° C)	$\Delta T > 4.3$	$4.3 \geq \Delta T \geq 1.3$	$1.3 \geq \Delta T \geq -1$	$\Delta T < -1$
Maximum frequency (Hz)	High frequency	Mid. frequency	Low frequency	Compressor stops

1.5.2.2 When running in dehumidify mode, the outdoor ambient temperature restricts frequency as follows: (only applying to the machine models with outdoor ambient temperature sensor).

Outdoor ambient temp. (° C)	Maximum frequency (Hz)
$\Delta T \geq 15^\circ \text{ C}$	60Hz
$\Delta T < 15^\circ \text{ C}$	Unlimited

1.6 Defrosting running

1.6.1 Defrosting process

When defrosting during heating operation, frequency is not controlled according to the temperature difference, and the maximum heating frequency is displayed.

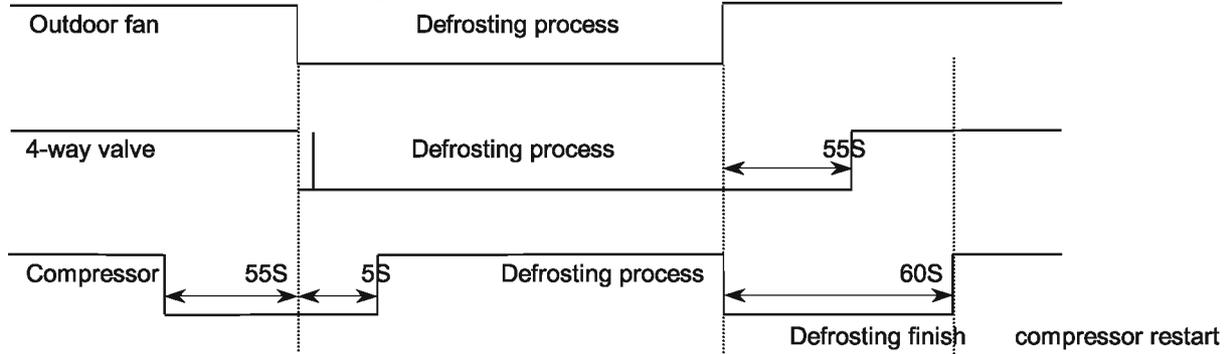
Compressor does not stop in the process of defrosting.

Defrosting beginning conditions: Heat mode, the first power on operation or the lasting time to the previous defrosting finishing is more than 47 minutes, and during compressor running, defrosting starts when the outdoor defrosting temperature is continuously found to be less than -4° C.

1.6.2 Air volume control during defrosting

20 seconds Low wind is firstly selected during defrosting, then indoor fan stops running.

Defrosting process as following illustration:



2. Special function

2.1 Trial running

2.1.1 Beginning conditions

Pressing emergency button 5-10 seconds and buzzer sounding twice, then starts.

2.1.2 Running status

When in trial running, the display frequency of compressor is 58Hz, running mode is cool, compressor keeps on running for 30 minutes and will not be restricted by low-load protection (refer to protection function).

2.1.3 Finishing conditions

Trial running will stop when remote control or emergency signal is received. After 30 minutes trial running, emergency running (automatic running) starts.

2.2 Abnormity diagnose

When displaying abnormity, using indicator to express the previous error.

When having no error code record, show nothing.

The abnormity indicating mode will automatically disappeared 30 seconds later.

The remote controller only receives stopping signal and abnormity record indicating mode will finish according to the stopping signal of the switch or the remote controller.

2.2.1 Beginning conditions

Pressing emergency switch 10-15 seconds, the buzzer sounds three times, and then start.

2.2.2 Running status

The indicator displays the previous error code (see the error code list).

2.2.3 Finishing condition

Finishing when remote control or emergency signal is received.

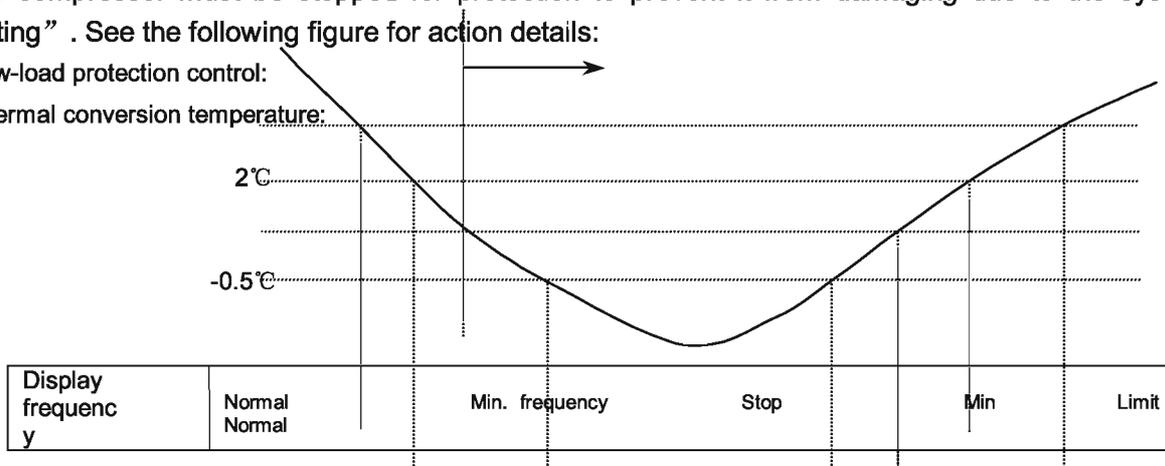
3. Protection function

3.1 Low-load protection

During cooling running, if the indoor coil-pipe does not evaporate thoroughly and the temperature is too low, the compressor must be stopped for protection to prevent it from damaging due to the system “liquid hitting” . See the following figure for action details:

Low-load protection control:

Thermal conversion temperature:



Indoor coil pipe temperature sensor type: R (25°C)=10KΩ

During cooling-dehumidification running, low-load protection is carried out according to indoor coil-pipe temperature; whereas, the displayed frequency is “58Hz” .

The minimum frequency is displayed when indoor coil- pipe temperature is lower than 2°C and coil-pipe temperature is above -0.5°C.

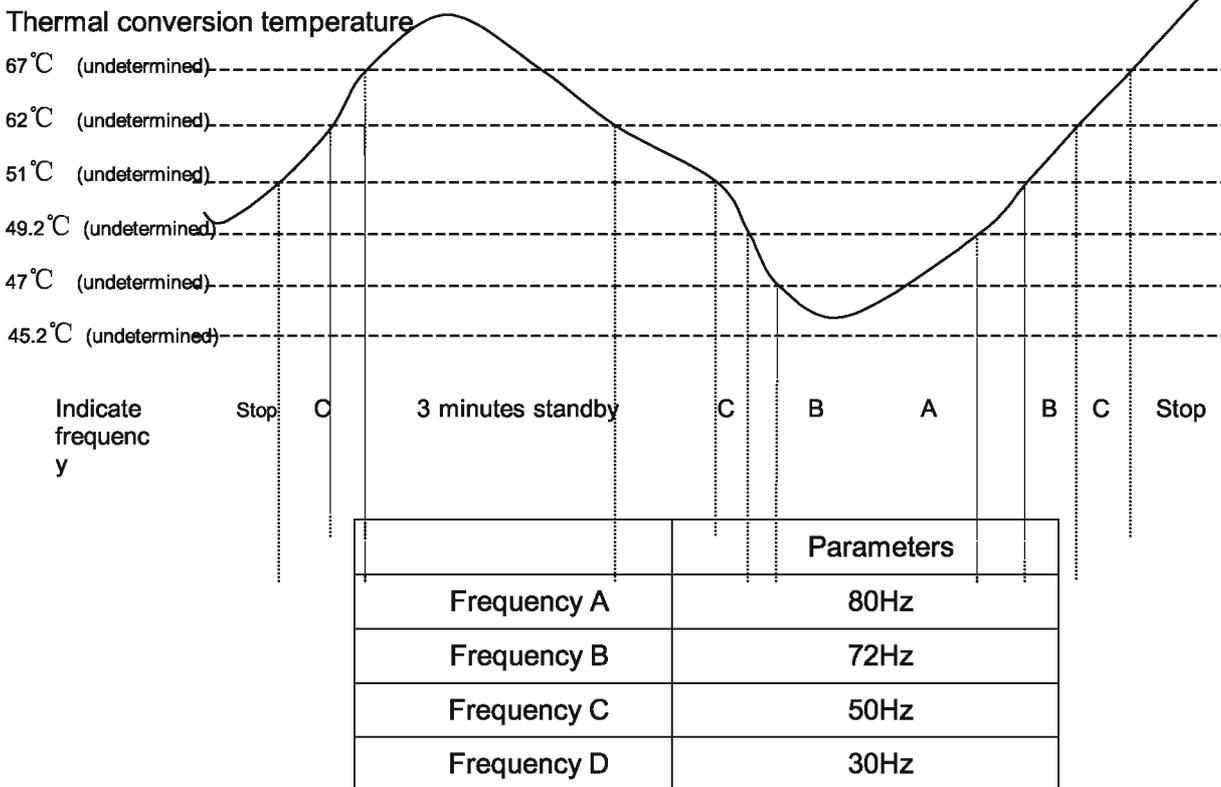
When thermal conversion temperature is lower than 0.5°C, selecting 3 minutes stand-by status.

When indoor coil-pipe temperature is 2.1°C, the compressor restarts.

During trial running, the low-load protection control can be overlooked.

3.2 High-load protection

During heating running, if the indoor coil-pipe temperature is too high, the compressor must be stopped for protection to prevent it from damaging due to the system overheating. See the following figure for details:



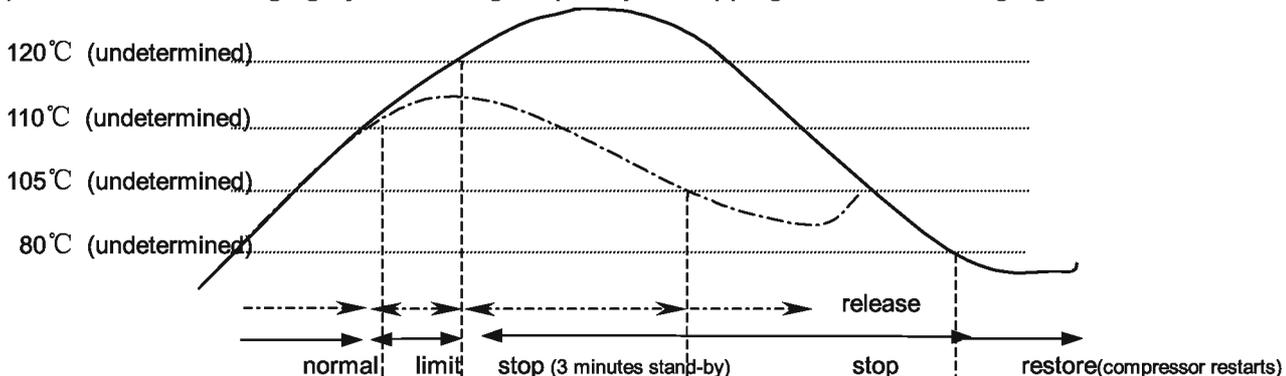
When high-load protection is limited to act twice within 30 minutes, it is high-load protection alarm.

When indoor coil pipe temperature is lower than 45°C, it comes back to normal control.

The frequency of high load protection is priority.

3.3 Compressor discharge temperature protection

When air conditioner is running, the discharge temperature need not to be detected within the first 10 minutes and starts to detect after 10 minutes. If the detected temperature is found too high, the compressor shall be protected from damaging by decreasing frequency or stopping, see the following figure for details:



If the compressor continuously stops twice within 30 minutes, the compressor discharge temperature protection alarms.

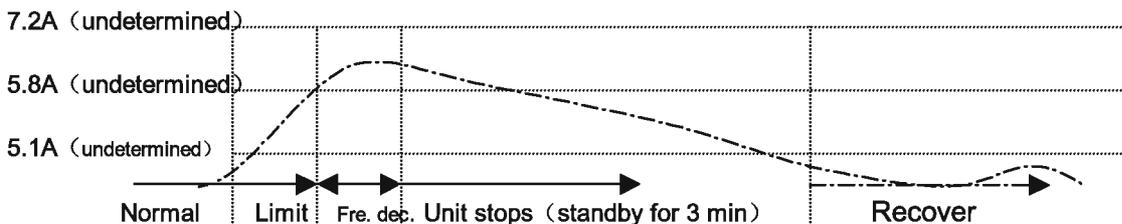
Note:

Undetermined data are for example model only but not for all models.

The dotted line is the curve of decreasing discharge temperature after frequency limit, whereas solid line indicates the curve of continuously increasing discharge temperature after frequency limit.

3.4 AC overcurrent protection

The compressor may show overcurrent in case of large system load during operation. In order to decrease the current to protect compressor, controls must be carried out to decrease frequency or stop the compressor. The details are as follows:



Is this case occurs twice in 30 min, alarm will generate for AC over-current protection.

3.5 Power module over-current protection

During compressor running, when there is “blocked rotation” or super high system pressure, to ensure power module not to be damaged, “power module over-current signal” will be transmitted to outdoor unit computer board, and the system stops and alarms.

Attachment: Critical points for main components and protective measures

No.	List of component	Protective parameter	Protecting actions
1	Indoor transformer	2A 145℃	Upon reaching the temperature, blows out once, unrecoverable.
2	Indoor motor	AC250V, 135±5℃	Upon reaching the value, indoor motor stops; when restores, motor runs.
3	Outdoor motor	AC250V, 130℃	Upon reaching the value, outdoor motor stops; when restores, motor runs.

4 Malfunction confirmation and alarm

4.1 Disorder of indoor ambient temperature sensor

During operation, temperature above 126℃ or below -31℃ is considered abnormal.

When temperature recovers beyond the above ranges, operation will automatically resume.

4.2 Indoor coil temperature sensor abnormal

During operation, temperature above 196℃ or below -53℃ is considered abnormal.

When temperature recovers beyond the above ranges, operation will automatically resume.

In abnormal condition, low load protection will be released.

4.3 High load protection

After high load high limit activation, if high load high limit re-activate within 30 min, it will alarm for high load protection.

4.4 Outdoor ambient temperature sensor fault

If the outdoor unit receives outdoor thermistor error code signals for defrost, discharge temperature, base plate, it indicate there is fault thermistor. Upon the outdoor unit receives the signal that temperature sensor fault has been resolved, it will automatically resume operation.

During fault condition, low load protection is released.

4.5 Outdoor unit protection control action

Upon the outdoor unit receives the following error codes, it determines as fault status.

Protection for excessive high discharge pipe temperature, DC peak current, CT wire breakage, AC overcurrent, protection for ultrahigh base plate temperature, low voltage protection, abnormal rotation of compressor.

4.6 Transmission abnormality

According to the communication between indoor unit and outdoor unit, it is considered abnormal if outdoor unit cannot receive signals within 20 seconds after indoor unit's sending. (Except for the first 2 minutes after power on).

It is regarded as transmission abnormality after outdoor unit receives the signal of transmission abnormality.

Transmission abnormality is released by running stopping.

4.7 EEPROM

When power on, EEPROM is abnormal if the control parameters and the checking total amount are not identical.

EEPROM is considered abnormal since the outdoor received the abnormal signal of EEPROM.

At the same time, remote control and emergency running are not accepted.

It is only can be released by power blackout.

5. The principle of Power Failure Resume

The function of Power Failure Resume uses the function that the singlechip unit can automatically determine whether the previous switching-off of the air conditioner is normal (switched off by remote controller or Emergency switch) or abnormal (there is a sudden power failure during the operation of the air conditioner), so that it can make the abnormally switched-off air conditioner to resume to the previous set mode.

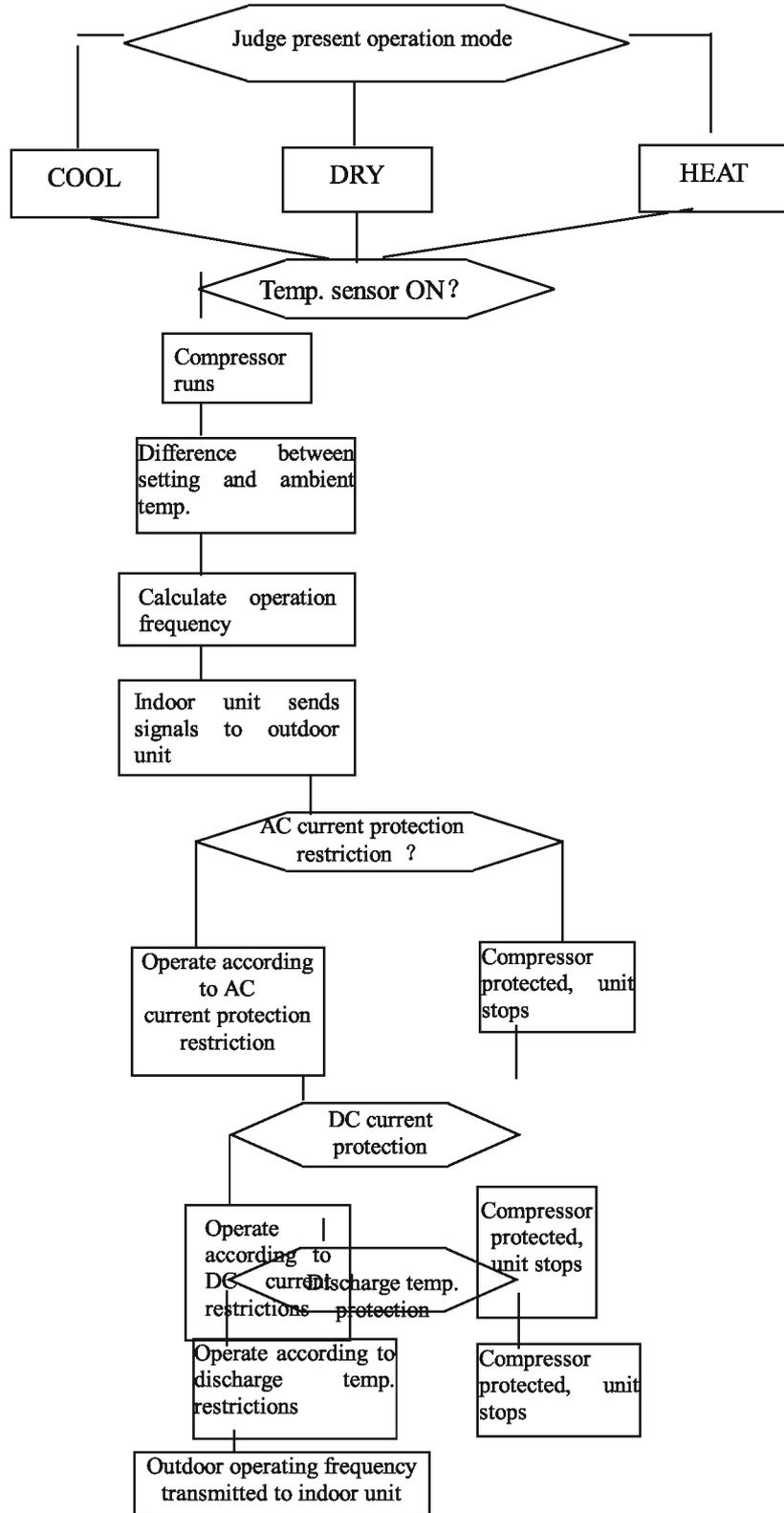
During the operation, the singlechip unit, whenever the set mode changes, the singlechip unit will write the changed contents into the erasable memory chip. The memory chip memorizes the following contents: the condition of air conditioner's on/off, the work mode set, the working temperature set, the fan speed set, the on/off condition of synchro-motor, the on/off condition of air freshing, the on/off condition of electric heating, the on/off condition of fresh air; the Timer on/off and sleep are not memorized.

If the previous time the air condition is switched off correctly, this time the powered on singlechip unit reads it is Off condition from the on/off condition of the memory chip, the singlechip unit does not start; if the previous time the air condition is abnormally switched off, this time the powered on singlechip unit reads it is On condition from the on/off condition of the memory chip, the singlechip unit starts and reads other set modes to make the air conditioner resume the previous set mode.

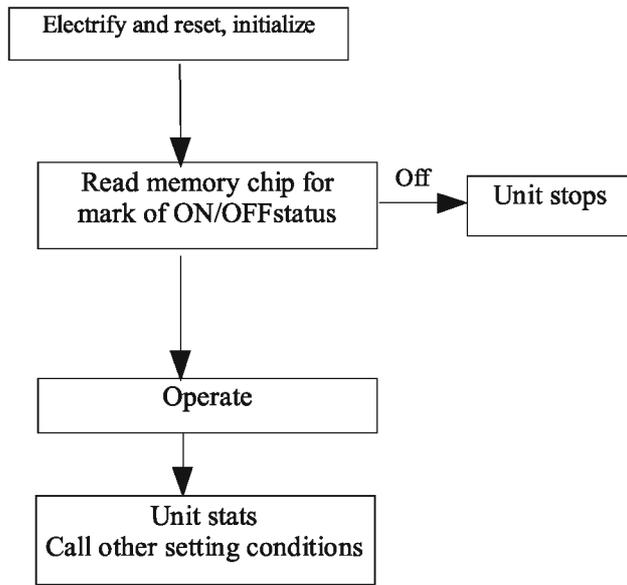
Appendix: Parameter list of the main components

No	Name	Type	Unit	Indoor unit	Outdoor unit	Remarks
1	Optical coupler	TLP371	Piece	1	1	
2	Optical silicon controlled rectifier	TLP3526	Piece	1		
3	Rectifying bridge	S15VB60 (15A 600V)	Piece		2	
4	Rectifying bridge	SINB60	Piece	1		
5	Power module	STK621-410	Piece		1	
6	Transformer		Piece	1		

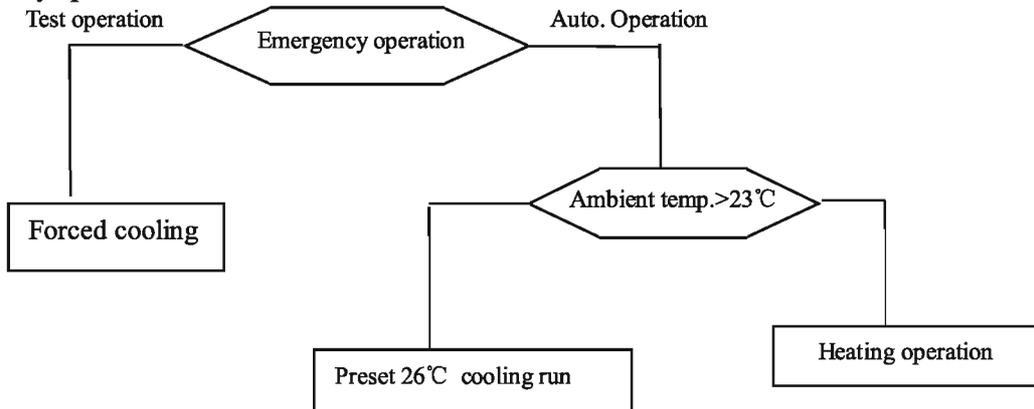
Appendix: Program flow chart
Flow chart for compressor operating conditions



Flow chart of power failure resume operation



Flow chart of emergency operation



ABNORMITY DIAGNOSE

Abnormity diagnose

The arisen trouble phenomena could be analyzed and resolved referring to the following table:
Summary of error codes:

Trouble type	Error indication			Indoor	Outdoor	Auto .restore	Cause of trouble
	POWER	TIMER	RUN				
Indoor thermistor faulty	★	■	■	*		*	1. Poor contact of connectors or poor control base plate
HX thermistor abnormal	★	□	□	*		*	1. Poor contact of connectors or poor control base plate
Defrost thermistor faulty	□	□	★		*	*	1. Poor contact of connectors or poor control base plate
Discharge thermistor disorder	★	□	■		*	*	1. Poor contact of connectors or poor control base plate
Base plate thermistor faulty	□	■	★		*	*	1. Poor contact of connectors or poor control base plate
Module thermistor faulty	□	★	□		*	*	1. Poor contact of connectors or poor control base plate
Outdoor thermistor faulty	□	★	■		*	*	1. Poor contact of connectors or poor control base plate
Signal transmission abnormal	■	■	★	*			1. There is big disturbing source in surroundings.
Compressor operation abnormal	★	■	□		*		2. Wrong wire connection or poor control base plate
Discharge temp. over-rising protection	■	★	■		*		1. If compressor shows shaft seizing. 2. If power module is damaged.
AC current protection	★	★	■		*		1. If the system is in lack of gas or over-charged of gas 2. If voltage is too high (above242V) or too low (below187V) 3. If the capillary tube is choked. 4. If the sensor or control base plate components are faulty 5. If the indoor and outdoor ambient temperature is too high
DC current protection	★	★	□		*		1. If the system is overcharged with gas 2. If voltage is too low (less than 187V) 3. If CT or control base plate components are abnormal
Inefficient voltage protection	■	★	□		*		1. If compressor shows shaft seizing 2. If power module is damaged. 3. If voltage is too high (above242V) or too low (less than 187V)
Outdoor base plate temperature protection	■	★	★		*		1. If voltage is too low 2. If control base plate is damaged
Module temperature rise protection	□	★	★		*		1. If control base plate is faulty 2. If outdoor ambient temperature is too high
High load protection	★	★	★	*			1. If compressor shows shaft seizing 2. If power module is damaged 3. If radiating rubber is uniform 4. If voltage is too high (above 242V)or too low (less than 187V)
CT wire breakage protection	★	■	★		*		1. If the filter is blocked 2. If indoor and outdoor ambient temperature is too high 3. If gas charge is excessive 4. If control base plate components damaged 5. If voltage is too high or too low
EEPROM abnormal	★	□	★	*			1. If control base plate is damaged
					*		1. If control base plate is damaged

According the state of the indicator lights of indoor unit to determine the operation trouble of the inverter 2 by 1 series air conditioner

Power	Timer	Run	★Flash	□Light up	■Go out	
★	■	■				Indoor heat sensitive resistor abnormal
★	□	□				Indoor heat exchanging resistor abnormal
★	■	□				Outdoor heat sensitive resistor abnormal
■	■	★				Communication abnormal
■	★	■				Over-heat protection of air discharging pipe
★	★	■				Over-current protection of AC
★	★	□				Over-current protection of DC
★	■	★				Over-heat protection of compressor
■	★	□				Low voltage protection
★	★	★				High load protection HIGHLIMIT

Determine which sensor of the outdoor unit has trouble by the time of outdoor indicator light flashes (open circuit or short circuit)

The different trouble of heat sensitive resistor can be determined by the different flashing times of alarm light:

Pipe temperature heat sensitive resistor A	once	0.5s flashes
Pipe temperature heat sensitive resistor B	twice	
Defrosting heat sensitive resistor	three times	
Suction temperature heat sensitive resistor	four times	
Evaporation temperature heat sensitive resistor	five times	
Discharging temperature heat sensitive resistor	six times	

Indoor indicator light: power (red), timer (yellow),run (green)	Time the alarm stands for	The parts which are regarded as having trouble		Checking method (reset, then use the operation/stop button of remote controller)
Red indicator light goes out, yellow indicator light goes out, green indicator light goes out Indoor unit does not operate		1. No power supply 2. The remote controller has no batteries or does not light up 3. Receiving display is poor 4. Fuse is blown 5. Transformer 6. Indoor control base board		1. Confirm the voltage between 1-2 of indoor terminal 2. Use multimeter to confirm the conducted character of the penetration resistant fuse 25A (outdoor terminal block) 3. Confirm the voltage of outdoor terminal block 4. The LCD screen of remote controller is weak or without any display emergency operation, use multimeter to test the indoor PC board
Red indicator light flashes, yellow indicator light goes out, green indicator light goes out Red indicator light flashes, yellow indicator light lights up, green indicator light lights up Red indicator light flashes, yellow indicator light goes out, green indicator light lights up	As soon as starting the alarm switch, the alarm is given	Heat sensitive resistor is open circuit, because it is conducted or is not inserted firmly	1. Indoor ambient temperature sensor abnormal 2. Indoor heat exchanging sensor abnormal 3. Outdoor sensor abnormal	1. Check the value of resistor 2. Check the alarm indicator light of outdoor control base board Use multimeter to check the value of resistor

Abnormity diagnose

Red indicator light goes out, yellow indicator light goes out, green indicator light flashes After indoor & outdoor unit operate 20s, the run indicator light flashes	Communication abnormal	1 .The indoor & outdoor unit connection wire is connected wrongly or not firm 2 .There is large disturbance nearby the outdoor unit 3 .There is breakdown part on the indoor & outdoor PC board	1. Check the wrong connection wire, improper contact 2. Check if there is large disturbance source nearby the outdoor unit, use aluminum foil tape to shield the outdoor chip or outdoor electric box 3. Change indoor & outdoor PC board
Red indicator light goes out, yellow indicator light flashes, green indicator light goes out After compressor starts for 30min-40min, both indoor unit and outdoor unit stop		The surface temperature of compressor is over 120 °C , discharging pipe temperature too high protection or discharging sensor is poor	1 .Leakage 2 .The valves are not open 3 .The connection pipe is bent or broken 4.Discharging temperature sensor is poor 5. Capacitor parallel connected with discharging sensor is poor
Red indicator light flashes, yellow indicator light flashes, green indicator light goes out	Over-electric-current protection AC current detection	1. Power instantaneously stops 2. Power voltage is too low 3. Compressor is locked	After confirmation of operation, check the voltage of power. Adjust the adjustable resistor on the outdoor control board to limit the current
Red indicator light flashes, yellow indicator light flashes, green indicator light lights up	DC current detection Over-electric-current protection of power module, too high temperature protection Low voltage detection of power module	1. High load compelling operation 2. Power voltage is too low 3. Open circuit circulates 4. Outdoor control base board or power module is broken down 5. Compressor is locked 6. The connection wire of compressor is wrong	1. Check the installation condition (if indoor & outdoor unit circulates in short circuit) 2. Check power voltage 3. Check the installation condition and rotation of fan motor 4. Check the damage of parts, poor contact, pull the UWW wire out from the power module to test if there is the same voltage between U-V, U-W, V-W (AC0-160V)
Red indicator light flashes, yellow indicator light flashes, green indicator light flashes (after starting HEATING operation, all indicator lights flash, both indoor and outdoor unit stop)	In HEATING, the temperature of indoor evaporator is too high or indoor fan motor rotates but airflow is too little	1. Air filter is blocked 2. Heat sensitive resistor is abnormal 3. Indoor control base board 4. Indoor fan motor	1. Eyeballing 2. Check the value of resistor 3. There is no voltage on the indoor fan motor terminal block of indoor control base board 4. Check the damage of parts and poor contact
RedRedRedRed indicator light goes out, yellow indicator light flashes, green indicator light lights up	Insufficient voltage	1. Insufficient power supply 2. Power instantaneously stops	1. Check the special circuit and the thickness of connection wire 2. Confirm the action of re-operation
After powered on, there is no response.	The power input part of PC board has no voltage		Insert the power cord well
	No voltage at fuse		Change PC board Change the fuse
	The sub-pole of transformer has no output		Insert the transformer well of change it
	The output of 7805 is abnormal		Change PC board
No COOLING or HEATING	1. Refrigerant leakage 2. Indoor heat sensitive resistor abnormal 3. Indoor heat exchanging resistor abnormal 4. Indoor fan motor 5. 4-way valve 6. Open circuit circulation 7. Insufficient power	1. Check the leaked part and use test run and emergency operation to determine the frequency of compressor, 2. Test the pressure and determine according to the operation character table 3. Check the value of resistor 4. Check the voltage between indoor fan motor and motor terminals of indoor control board, if it can reach AC50Hz90V, the indoor fan motor is poor 5. Check the resistance value of 4-way valve coil (20°C about 250 Ω) 6. Check the installation condition	

REFRIGERATING-CYCLE DIAGRAM

(1) Use of refrigerant

Freon R22 shall be used as refrigerant with the supplied charge of gas charge on the nameplate plus 50 g. The added refrigerant is used to evacuate air in the system upon first mounting. For connecting pipe length (L) equal or less than 5 m, additional refrigerant is not needed. If connecting pipe exceeds 5 m, 16 g refrigerant shall added for every additional 1 m.

(2) Vacuum pumping of the system

Vacuum pumping is to mainly draw out residual air and water in the air conditioner refrigerant system. Generally vacuum pump is connected at the processing port of the 3-way stop valve in the outdoor unit. The system vacuum degree is required to be below 200 Pa.

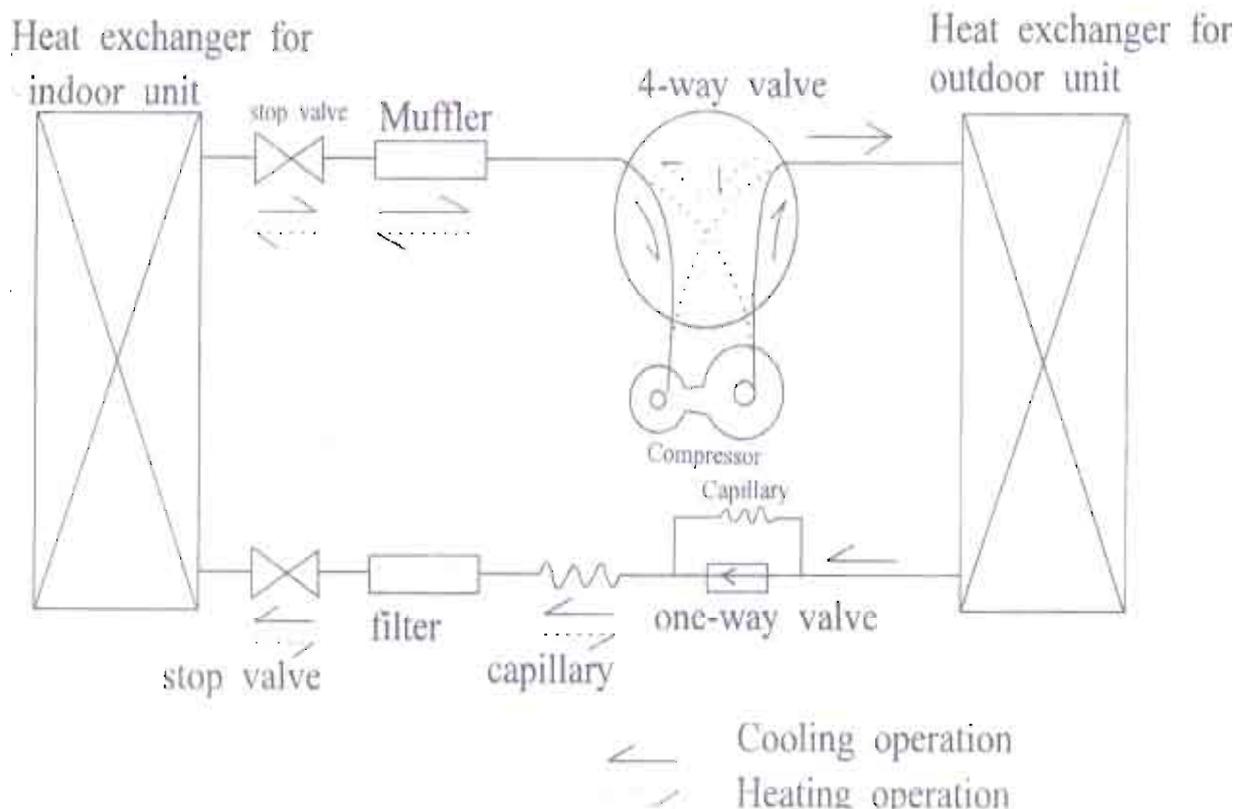
(3) Refrigerating-cycle diagram:

Model: AS102AHAIA/AU102ACAHA(HSU-10HM03(B))

AS122AHAIA/AU122ACAHA(HSU-12HM03(B))

For the above models, due to that these units apply 4-way valve electrified when in COOL mode, so piping shall be carefully connected correctly when replacing 4-way valve.

(4) Type and main features of compressor:

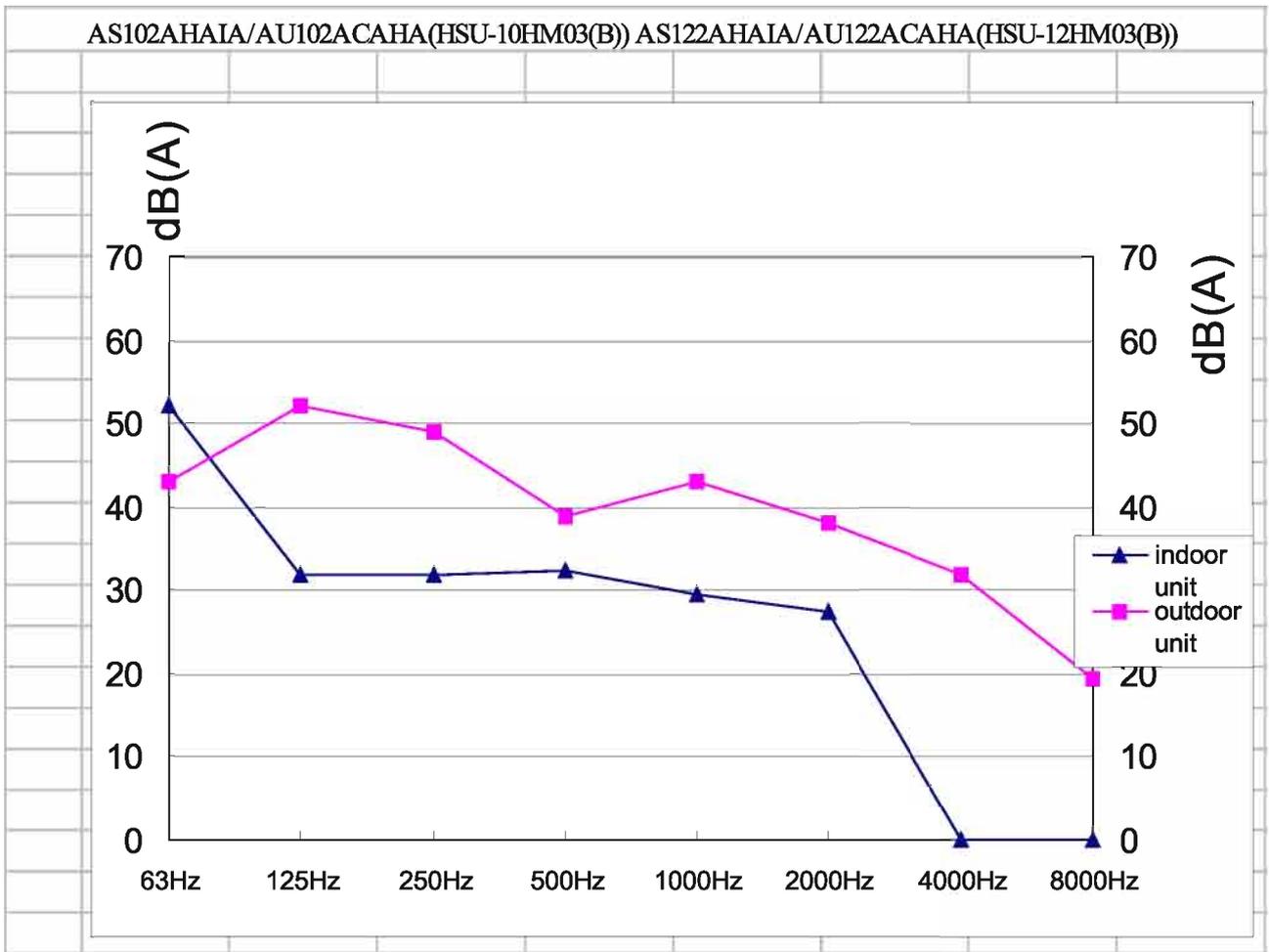


AS102AHAIA/AU102ACAHA(HSU-10HM03(B)) models adopt MITSUBISHI (Guangzhou) K1-M04FCKA type inverter compressor, volumetric displacement of 10.4 cc/rev, and frequency range of 30-140Hz. The coil resistance of compressor is 1.67 Ω (at 20°C).

AS122AHAIA/AU122ACAHA(HSU-12HM03(B)) models adopt SANYO (Shenyang) C-1RB132H22AB type inverter compressor, volumetric displacement of 13.3cc/rev, and frequency range of 30-120 Hz. The coil resistance of compressor is Ω (at 25°C).

NOISE LEVEL TEST CHART & AIR VELOCITY DISTRIBUTION

A、 Noise level test chart



B. Air velocity distribution

MODELS:AS102AHAIA(HSU-10HM03(B))

Fig 1
Top View
Flow Control Panel: Horiz.
Louver: Center

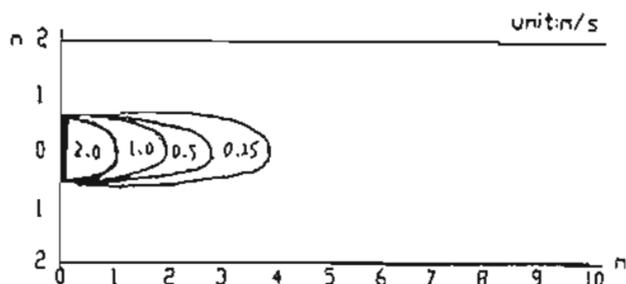


Fig 2
Top View
Flow Control Panel: Horiz.
Louver: right & left

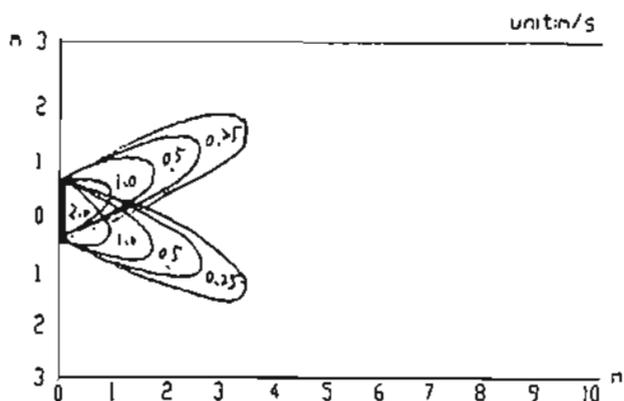


Fig 3
Side View
Flow Control Panel: Horiz.
Louver: Center

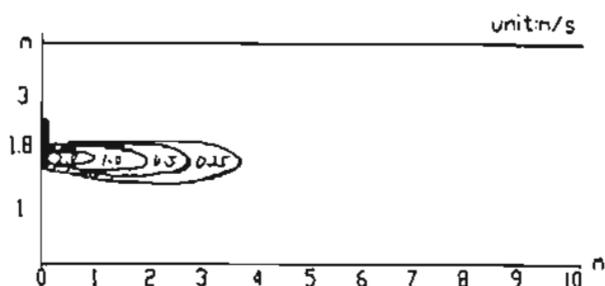
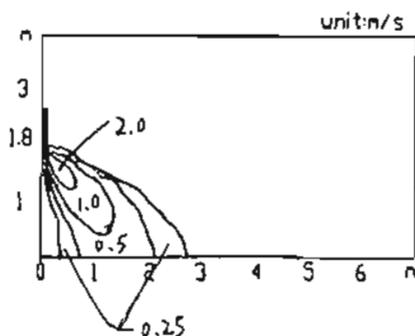


Fig 4
Side View
Flow Control Panel: Vert.
Louver: Center



Condition
Fan speed: high
Operation mode: Fan
Voltage : 230V
50Hz noise

B. Air velocity distribution

MODELS:AS122AHAIA(HSU-12HM03(B))

Fig 1
Top View
Flow Control Panel: Horiz.
Louver: Center

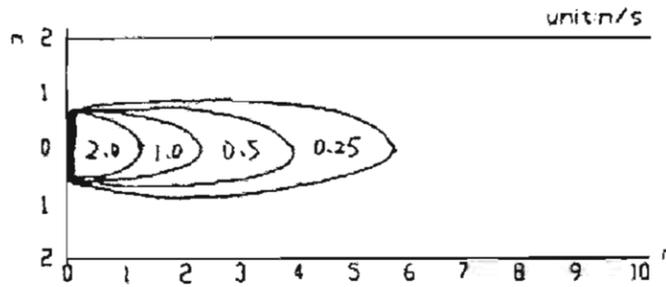


Fig 2
Top View
Flow Control Panel: Horiz.
Louver: right & left

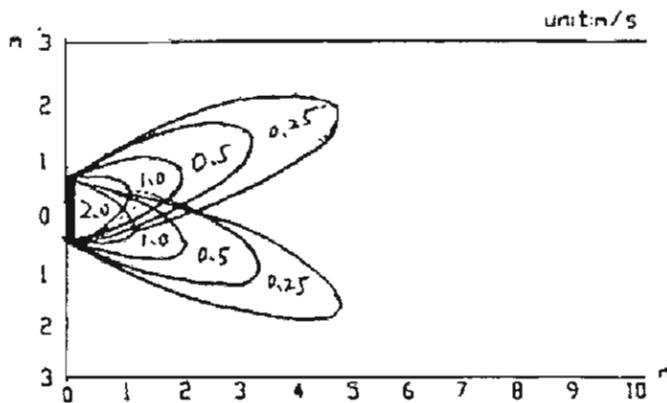


Fig 3
Side View
Flow Control Panel: Horiz.
Louver: Center

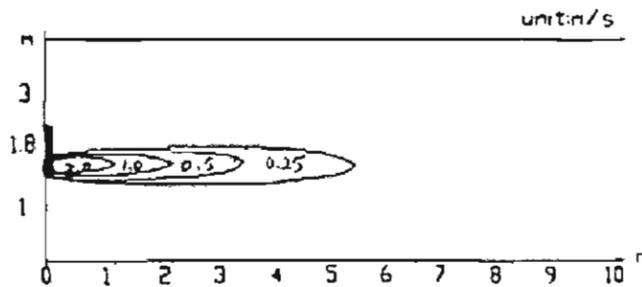
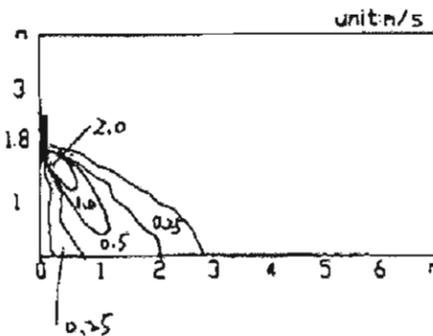


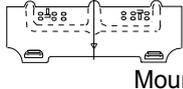
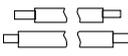
Fig 4
Side View
Flow Control Panel: Vert.
Louver: Center



Condition
Fan speed: high
Operation mode: Fan
Voltage : 230V
50Hz mode

INSTALLATION & MAINTENANCE

Accessory parts

No.	Accessory parts	Number of articles
①	Remote controller	1
②	 R-03 dry battery	2
③	 Mounting plate	1
④	 Drain hose	1
⑤	 4x50 Steel nail, cement	8
⑥	 Main pipes	1
⑦	 $\Phi 4 \times 25$ Screw Plastic cap	6
⑧	 Drain-elbow	1
⑨	 Hexagon wrench	1
⑩	 Cover	1
⑪	 Cushion	4
⑫	 Plastic clamp	1
⑬	 Connecting cable	1
⑭	 Putty	1

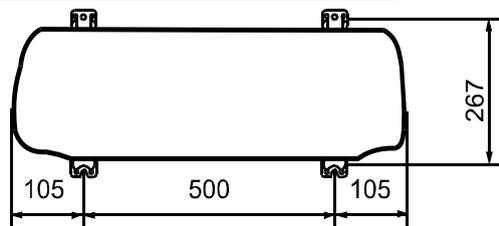
Necessary Tools for Installation

①	Driver	⑧	Flaring tool
②	Hacksaw	⑨	Knife
③	Hole core drill	⑩	Nipper
④	Hexagon wrench (5mm)	⑪	Gas leakage detector or soap-and-water solution
⑤	Spanner(14,17,19 and 24mm)	⑫	Measuring tape
⑥	Torque wrench (17mm,22mm,24mm)	⑬	Reamer
⑦	Pipe cutter	⑭	Refrigerant oil

Optional parts for piping

Mark	Parts name
①	Non-adhesive tape
②	Adhesive tape
③	Saddle(L.S) with screws
④	Connecting electric cable for indoor and outdoor
⑤	Drain hose
⑥	Heat insulation material
⑦	Piping hole cover
⑧	Putty

Fixing of outdoor unit



- Fix the unit to concrete or block with bolts ($\Phi 10\text{mm}$) and nuts firmly and horizontally.
- When fitting the unit to wall surface, roof or rooftop, fix a supporter surely with nails or wires in consideration of earthquake and strong wind.
- If vibration may affect the house, fix the unit by attaching a vibration-proof mat.

- To enable the air conditioner to work well, please install it as required by this manual.
- When moving the air conditioner, please don't scratch the shell.
- The max. length of the connection pipe is 15 meters, and the max. height difference between the indoor unit and outdoor unit is 5 meters.
- Please keep this manual carefully for maintenance and installation.
- After installation, please operate the air conditioner as per this manual.

Electrical Requirements

- A specialized power supply wire, which shall be installed by a competent person as per the rules of the national standard.
- Power supply socket must be close to the air conditioner. And the socket must have an earth to make the air conditioner be grounded through the power supply socket.
- If the power supply wire is damaged, it must be replaced by the manufacturer or its service center or professional person.

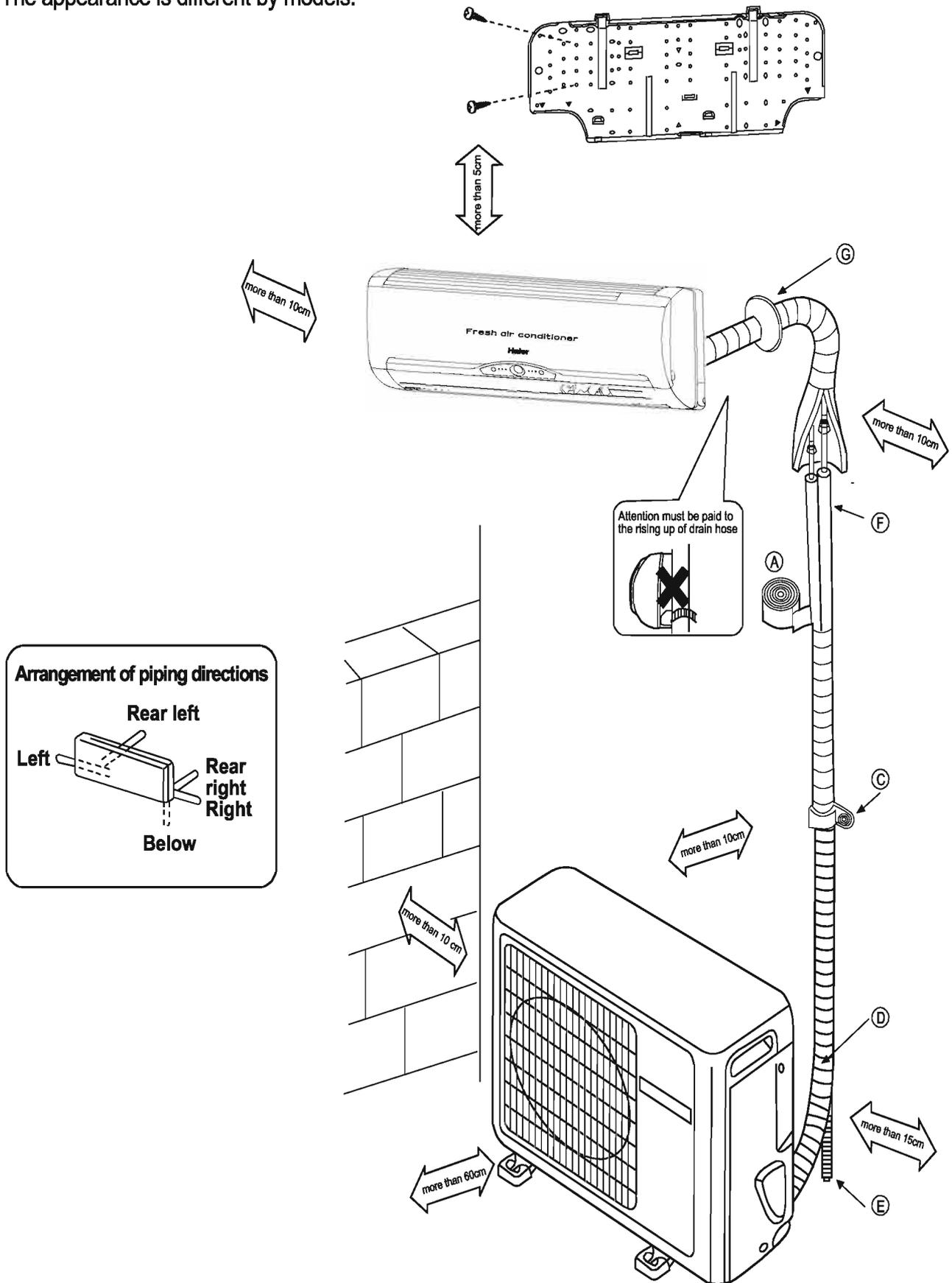
Hose Selection

description	Size
Liquid hose	Φ 6.35mm(1/4")
Gas hose	Φ 12.7mm(1/2")
	Φ 9.52mm(3/8")

Notes: After installation, please confirm that the refrigerant is not leaked.

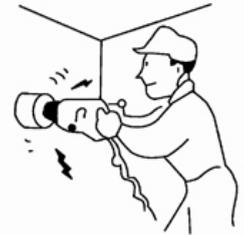
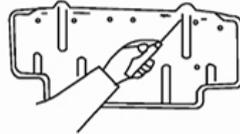
Drawing for the installation of indoor and outdoor unit

The appearance is different by models.



Installation Procedure:

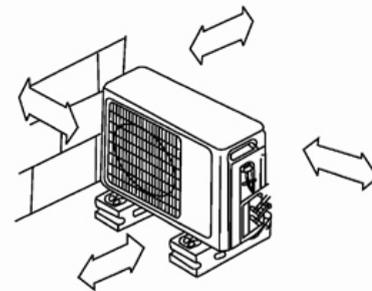
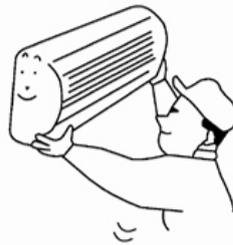
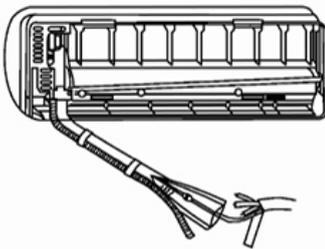
1. Installation Localization 2. Indoor Unit Mounting Plate Localization 3. Drill through Wall



4. Connect Indoor Unit

5. Install Indoor Unit

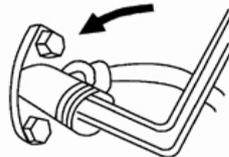
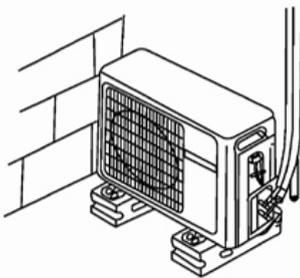
6. Install Outdoor Unit



7. Connect Outdoor Unit

8. Drain Out

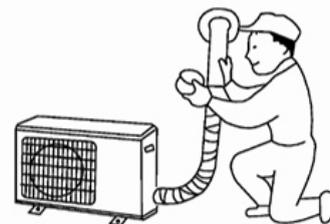
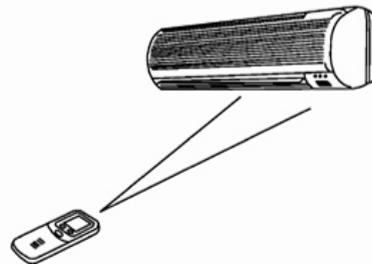
9. Check Drainage



10. Check Installation

11. Trial Operation

12. Wind up Pipes



The step 4 and step 5 above can be adjusted according to the practical situation.

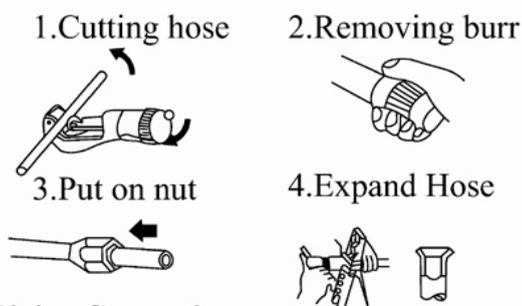
This procedure is a reference to the installation person and customer, it can be adjusted according to the practical situation.

Localize the Installation:

<u>Indoor Unit</u>
<ul style="list-style-type: none"> ● Install the indoor unit where the weight of the unit can be supported. ● Install the indoor unit where the head source and steam source are not close and the unit inlet and outlet are not blocked. ● Install the indoor unit where the drainage is easy and the outdoor unit can easily connected. ● Install the indoor unit where its cold air and hot air can be easily sent to all the corners of the room. ● Install the indoor unit where the power socket is near and there is sufficient space around the indoor unit. ● Install the indoor unit where there is no T.V set, radio set, and wireless appliance underneath, and the sunlight lamp is over one meter away. ● If the remote controller is installed on the wall, the indoor unit shall be ensured to receive the signal while the sunlight lamp is on.
<u>Outdoor Unit</u>
<ul style="list-style-type: none"> ● The location shall bear the weight of the unit and will not produce a big vibration and noise. ● The location shall be in good ventilation, and the airflow blew out and noise produced shall not affect the neighbors. ● The location shall not be directly drenched in rain, sun, or blew by sea wind. ● The location shall not be near anywhere the corrosive gas (SO₂), flammable gas (thinner or gasoline), oil mist, or steam are probably produced (for example in kitchen). ● Sufficient space shall be left for air inlet and outlet. ● The location shall be easily maintained and repaired. ● It cannot be installed on a non-professional metal structure (like anti-burglary net).

Method for Cutting and Expanding Pipes:

When the pipe is too long or its mouth is damaged, the pipe needs to cut or expand.

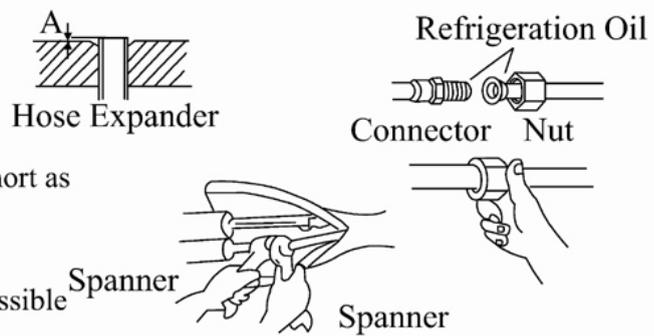


	Expansion Size	
	Hose dia. Φ	Size (mm)
Liquid hose	6.35 mm (1/4")	0.8-1.5
Gas hose	9.52 mm (3/8")	1.0-1.8
	12.7 mm (1/2")	1.0-1.8

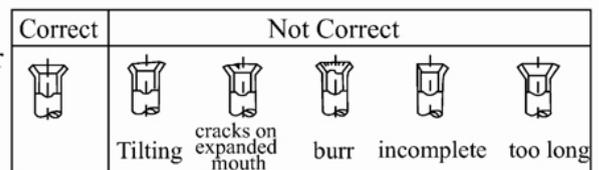
Piping Connection

1. Connecting Method

- To ensure the efficiency, the pipe should be as short as possible.
- Apply refrigerant oil at half union and flare nut.
- To bend a pipe, give the roundness as large as possible not to crash the pipe.
- When connecting pipe, hold the pipe center to center then screw nut on by hand, refer to the Drawing.
- Be careful not to let foreign matters, such as sands enter the pipe.

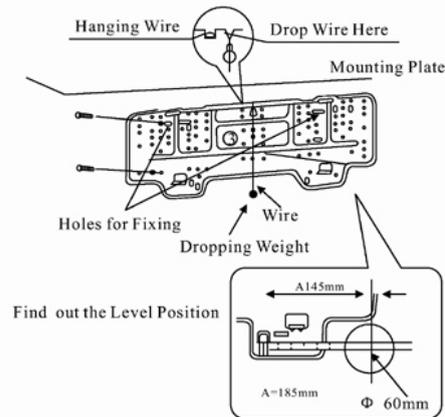


Pipe dia.	Recommended Fastening Torque
Liquid pipe 1 Φ6.35mm (1/4")	18 N.m
Gas Pipe Φ9.52mm (3/8")	42 N.m
Gas Pipe Φ12.7mm (1/2")	50 N.m



Installation of Indoor Unit

The indoor unit shall be installed as per the indoor unit installation drawing:



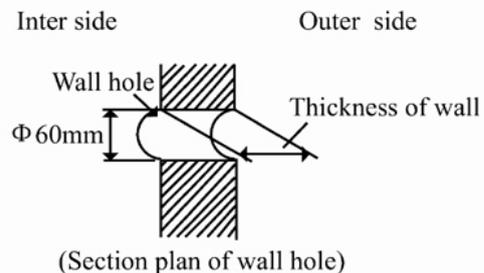
1. Fix the Mounting Plate and Localize the Wall-through Hole

Fix the mounting plate as per the selected position and the piping layout (see the installation drawing).

Fix the mounting plate on a smooth wall surface under the beam or beside a column. First fix the mounting plate with a steel nail, then level it with a level meter or a drop line, then fix it with A4 × 50 cement nails. If the expansion screws are used, first drill holes into the wall (Φ 4.8mm), then put the plastic sleeve into the holes, then fix the mounting plate with 4 × 25 screws. Measure the position the wall hole with a measuring tape.

2. Drill a Hole through the Wall and Install the Piping Protective Sleeve

Drill a hole Φ 60mm through the wall with the outer side slightly downward, then install the piping sleeve, then seal it with gypsum powder.



3. Piping Layout for Indoor Unit

Lay out the connection pipe, drain pipe, and the connection wires according to the installation position of the indoor and outdoor units. During the layout, the drain pipe shall be placed underneath, and the connection wires shall be placed on the top; the drain pipe (especially indoor or inside the unit) shall be wound up with the insulating material.



Installation of the Connection Pipe Clips (Left or Left-Back Connection):

- Insert the pipe clip into the fixing position of the pipe with the upper part inserted first.
- Press the bottom of the clip until a sound “Ka Ta” is heard.

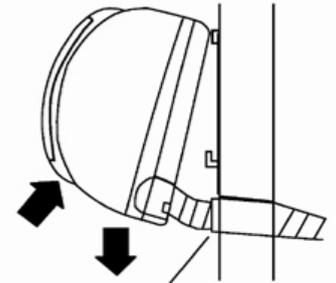


4.Piping Connection for Indoor Unit:

Insert the auxiliary hoses(liquid hose and gas hose)and the unit connection wires through the wall hole from outdoor side,and connect the pipes and wires as per the method of piping connection, or insert the auxiliary hoses(liquid hose and gas hose) and the connection wires as a whole through the wall hole from indoor side for connecting the outdoor unit after connection of the auxiliary hoses and unit connection wires.

5.Install and Fix:

Hang the indoor wall unit on the fastener of the mounting plate, and move the unit left and right to check the firmness. Hold the two sides of the unit with two hands to press the unit to the mounting plate until a sound “kacha” is heard.



Piping Protective Cover

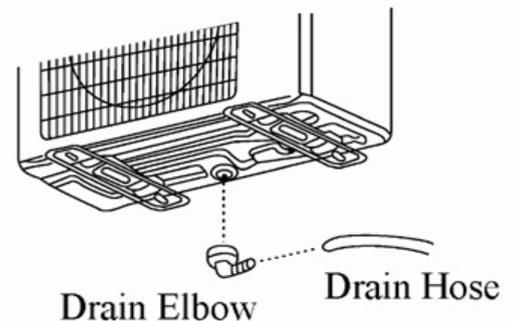
Installation of Outdoor Unit

1.Install and Fix:

Fix the outdoor support on the wall with M10 expansion screws, then screw tightly the outdoor unit on the support with M10 bolts and nuts, and leveled. If it is installed on wall or roof, the stand shall be firmly fixed to resist the earthquake or strong wind. A vibration reduction rubber ring shall be used.

2.Install the Drain Elbow

The elbow is only used for the thermal pump type air conditioner.And the cold air type air conditioner does not need it.The elbow shall be installed as per the drawing.The drain elbow is not used in a very cold weather(the air temperature is below 0°C for long).



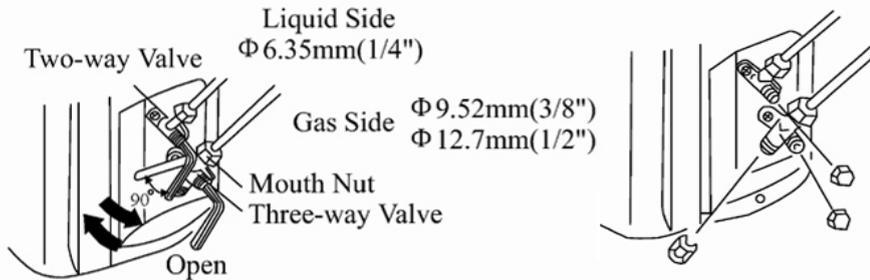
Piping Connection for Outdoor Unit

Connect the Piping and Inlet and Outlet Liquid Tubes

Gas Drainage Method:

Drain the air in the indoor unit and the pipes as per the drawing:

- (1) Remove the valve cap on the two-way valve of the indoor unit with a spanner.
- (2) Unscrew by 1/2 cycle the nut on the mouth of the thick pipe connected with the three-way valve with a spanner.
- (3) Unscrew the spool of the two-way valve by 90° with an inner hexagon spanner, and after about 10 seconds, close the two-way valve, then air will be drained out from the mouth of the thick pipe. When the air is drained out, screw tightly the nut on the mouth according to their required torque.
- (4) Open the two-way valve and three-way valve with an inner hexagon spanner.
- (5) Check the leakage with soap liquid or a leakage checker.
- (6) Screw tightly the two valve caps according to the required torque.



Required Torque

Specif.	Torque	Tight screw N. M
Valve Spool		7-9
Valve Cap		20-25

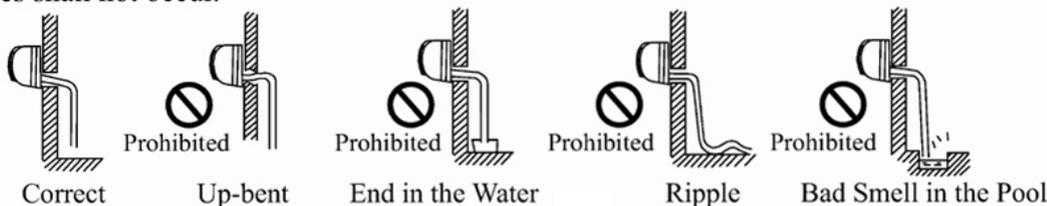
When the connection pipe is more than 5 cm, it shall be filled with refrigerant as per the following form:

Pipe Length	5m	7m	10m	15m
Refrigerant filled	none	32g	80g	160g

Notes: When the pipe is extended, the air in the connection pipe shall be drained out with the refrigerant(R22) from outside the system, then the excess refrigerant shall be drained out as per the air drainage method.

Check the Layout of the Drain Pipe and Connection Wires
 The drain pipe should be placed underneath, and the connection wires should be placed upside; and the drain pipe especially the section inside the machine and indoors must be wound up with insulating material to preserve heat

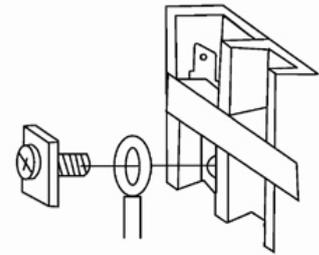
The drain pipe shall be sloped and no concave and convex shall occur along the whole pipe. And the cases as the right drawing indicates shall not occur.



Wiring for Indoor and Outdoor Units

1. Wiring Method for Ring Terminal

The wiring method is as the drawing below for the ring terminal:
Remove the connection screw and put the screw through the ring on the connection wire terminal, then connect it to the terminal blocks, then screw it tightly.



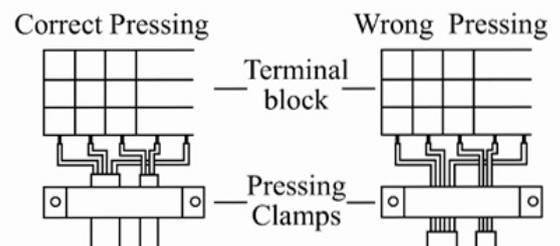
Wiring Method for Ring Terminal Block

2. Wiring Method for Line Terminal

The wiring method is as follows for the non-ring terminal:
Loosen the connection screw and insert the connection wire end into the terminal block completely, screw it tightly, then slightly pull out the connection wire to ensure it be clamped tightly.

3. Method for Pressing the Connection Wire

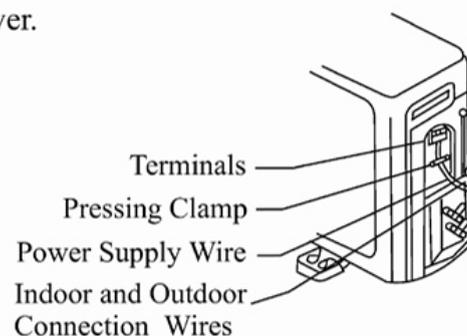
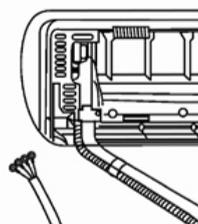
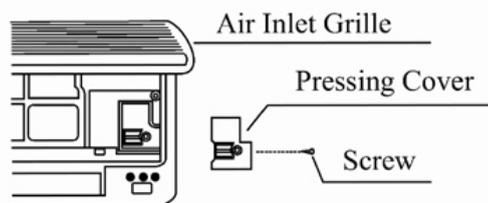
After wiring, the connection wire must be pressed tightly with a wire-pressing clip, which should press the outer sleeves of the wire as the right drawing:



Wiring for Indoor Unit and Outdoor Unit

Lay out the connection wires as the connection drawing (Notes: The two ends of the connection wires are different, never connect reversely)

- 1) Open the wire cover, unscrew the pressing clamp(outdoor unit).
- 2) Connect the connection wires as per the wiring method and the wiring drawing (the wires on the indoor unit shall be inserted from behind as the attached drawing).
- 3) Ensure that the terminals are clamped tightly, and press the connection wires(outdoor unit) as per the pressing method, then install the wire-pressing cover.



Notes:

- When connecting the wires of indoor and outdoor units, check the numbers on the terminals of the indoor and outdoor units, the same wire shall connect the same number and color terminal
- Wrong connection would damage the air conditioner's controller, or the unit cannot work.

Please operate the air conditioner in accordance with this Operation Manual

Check items for the Trial Operation(Tick “√” in□)

- Is the connector leaked?
- How is the connector insulated?
- Is the electric connection between the indoor and outdoor units firmly inserted into the terminal plate?
- Are the electric wires on the indoor and outdoor units fixed firmly?
- Is the drain pipe placed correctly?
- Is the earth line connected firmly?
- Does the power supply voltage conform to the electric regulations?
- Is there any noise?
- Is the cooling operation normal?
- Is the indoor temperature adjuster working normally?

- Power Supply:
 - L should be connected with the live wire;
 - N should be connected with the zero wire;
 - ⊕ should be connected with the earth wire.



Warning

- Ventilate the room when the refrigerant gas leakage occurs while at work.
- Never allow any gas or air other than the designated refrigerant R-22 to enter or is mixed in the refrigerating circuit. Mixed air or foreign gas, which is abnormally highly compressed in the circuit, causes explosions and injury.
- After the completion of the installation works, check no refrigerant gas leakage again.

The refrigerant gas, when exposed to fires such of fan heater, stoves and cooking stoves, generate poisonous gas.

Air purging method 2 : To use refrigerant gas

Purging by refrigerant gas may be controlled by local government because it is accompanied by the emission of refrigerant (R-22) to the environment. Follow to the purging method provided in local codes and take the vacuum pump method as long as it is available.

The refrigerant additionally filled as an allowance for the air purging method is minimum and for one purging only. Refilling of refrigerant is required in case of relocation, reinstallation of the unit or excess emission of the gas for purging in gas method.

① Check the fastening of piping connection, open a valve rod of the 2-way valve with a hexagon wrench to an angle of 90° and fasten six seconds later.

② inspection of gas leakage. If gas leakage occurs, fasten the piping connections to stop leakage, then go to ③.

③ Detach the cap of service port of the 3-way valve, push the valve core with a hexagon wrench and start purging.

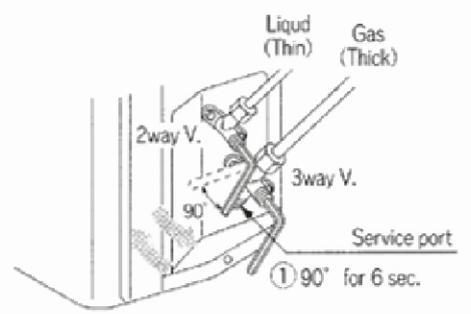
④ Cease purging when the purging sound (sounding "Shuh") get smaller.

⑤ Attach the cap of service port and fasten a little further from the point where fastening torque suddenly increases.

⑥ Open the valve rods of both 2-way and 3-way valves counter clock wise in full.
Open the valve rod until it reaches the stopper.
 No further opening force is required.

⑦ Fasten the valve rod caps of the 2-way and 3-way valve slightly further from a point where the fastening torque suddenly increases.

⑧ After attaching each caps, check no gas leakage again.



If the further fastening is not effective, discharge all of the refrigerant gas from the service port. Do the pipe flaring work once more (and vacuum the air inside of the piping) and then refill the required amount of the refrigerant gas from the vessel.

