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LG

LG

Universal System

Air Conditioner

SERVICE MANUAL

CAUTION

- BEFORE SERVICING THE UNIT, READ THE SAFETY PRECAUTIONS IN THIS MANUAL.
- ONLY FOR AUTHORIZED SERVICE PERSONNEL.

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I. Indoor Units

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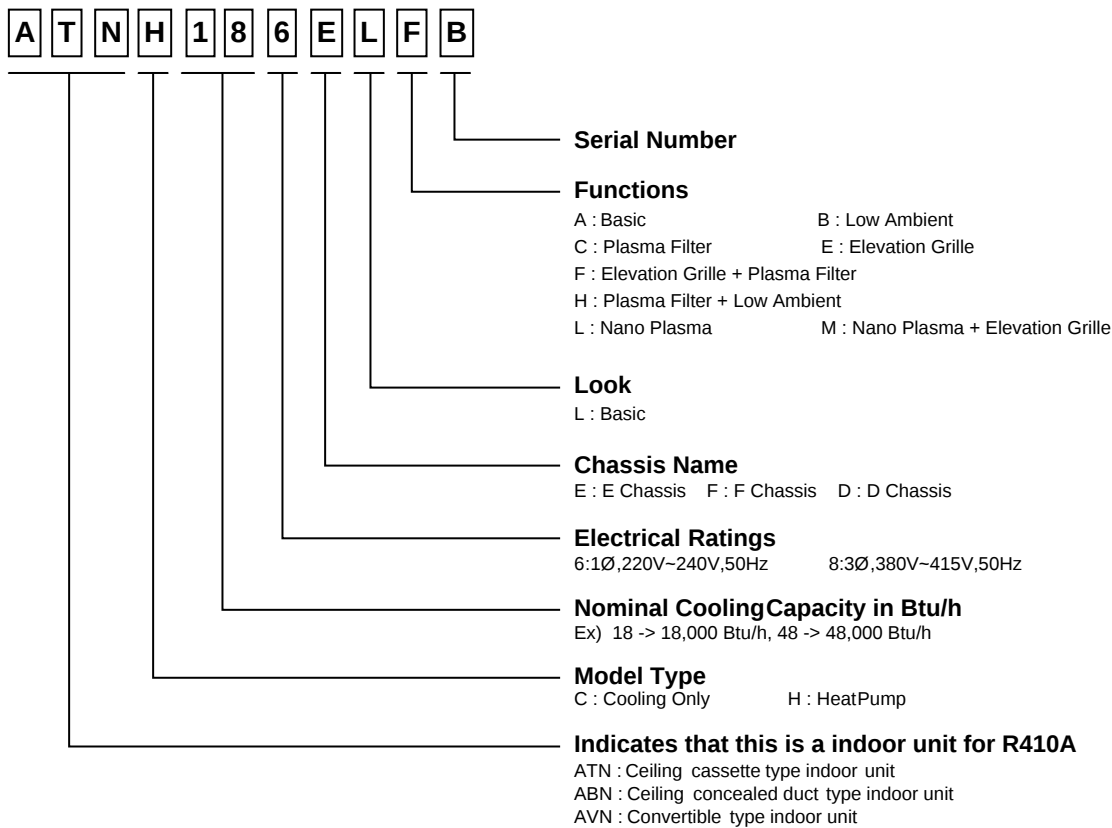
Introduction

• Models List

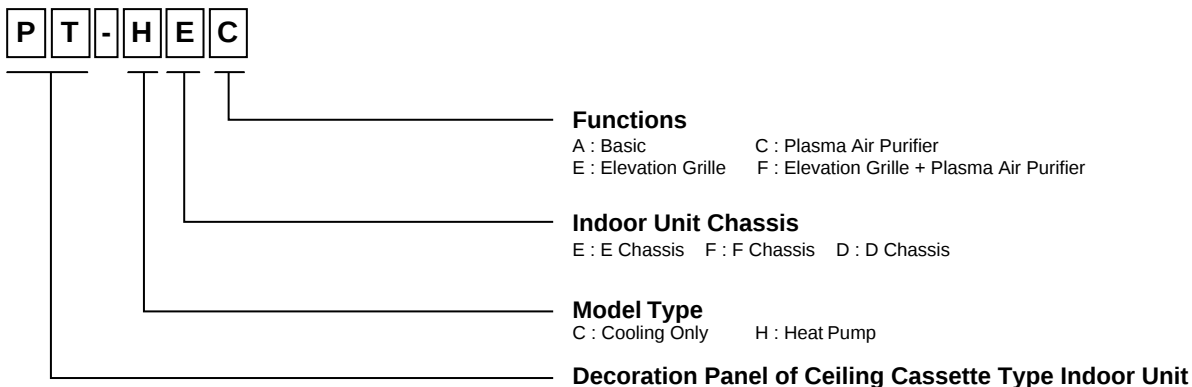
Indoor unit			Model name							Power Supply
			Nominal capacity [Btu/h(kW)]							
Type	Refrigerant	Chassis name	12,000 (3.5)	18,000 (5.3)	24,000 (7.0)	30,000 (8.8)	36,000 (10.6)	48,000 (14.1)	60,000 (17.6)	
Ceiling Cassette 4-Way	R410A	TE	ATNH 126ELFB	ATNH 186ELFB	-	-	-	-	-	1Ø, 220-240V, 50Hz
		TF	-	-	ATNH 246FLFB	ATNH 306FLFB	-	-	-	
		TD	-	-	-	-	ATNH 366DLFB	ATNH 486DLFB	ATNH 606DLFB	
Ceiling & Floor	R410A	VE	AVNH 126ELAB	-	-	-	-	-	-	
		VB	-	AVNH 186BLAB	AVNH 246BLAB	AVNH 306BLAB	-	-	-	
Ceiling Concealed Duct	R410A	BH	-	ABNH 186HLAB	ABNH 246HLAB	-	-	-	-	
		BG	-	-	-	ABNH 306GLAB	ABNH 366GLAB	-	-	
		BR	-	-	-	-	-	ABNH 486RLAB	ABNH 606RLAB	

• Model Number Nomenclature

Indoor unit



Decoration panel(For Ceiling Cassette Models)



Ceiling Cassette 4-way



Ceiling Cassette 4-way (R410A·Indoor Units) ATNH-EL/FL/DL

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1. Features & Benefits



■ Easy Installation

- Compact design & easy installation
- High ceiling corresponding operation
- High head drain pump(700mm)

■ Comfort & Reliability

- Low noise with 3-dimensional turbo fan
- 2-Thermistor control(Main body & Remote control)
- Zero standby power consumption
- Jet cool
- Swirl swing
- Space control

Compact Design and Easy Installation

Only about 269mm height in the ceiling is sufficient for installation space.

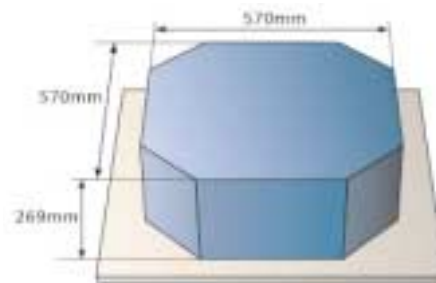
A smaller size than a Textile(600X600) is very convenient for installation.

■ Convenience

- Auto elevation grille(Accessory)
- Tele control(Accessory)
- LCD wired remote control
- Group control
- Central control(Accessory)
- Weekly program

■ Cleanness

- Plasma air purifying system
- Hygienic and easy to clean filter

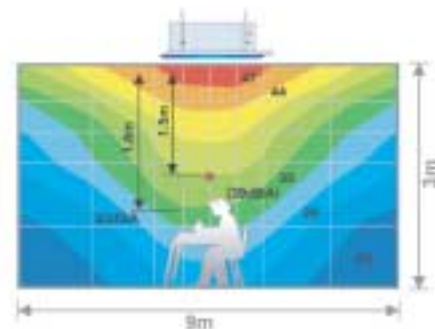


(18k Btu/h model)

Low Noise with 3-dimensional turbo fan

The most advanced low-noise design.

The adoption of turbo-fan and round type heat exchanger provides the quietest operation.



Hygienic and Easy-to-Clean Filter

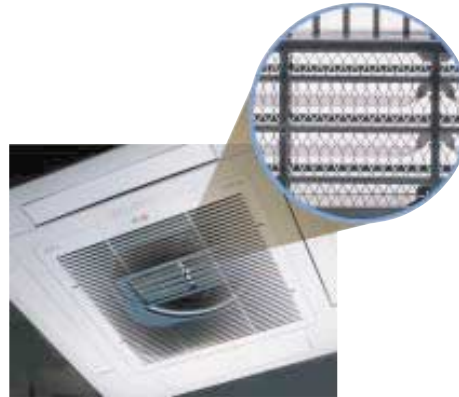
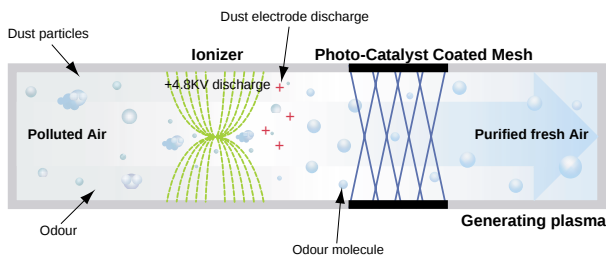
Washable and anti bacteria filter is adopted.

It is easy to open grille and replace clean filter.



Plasma Air Purifying System

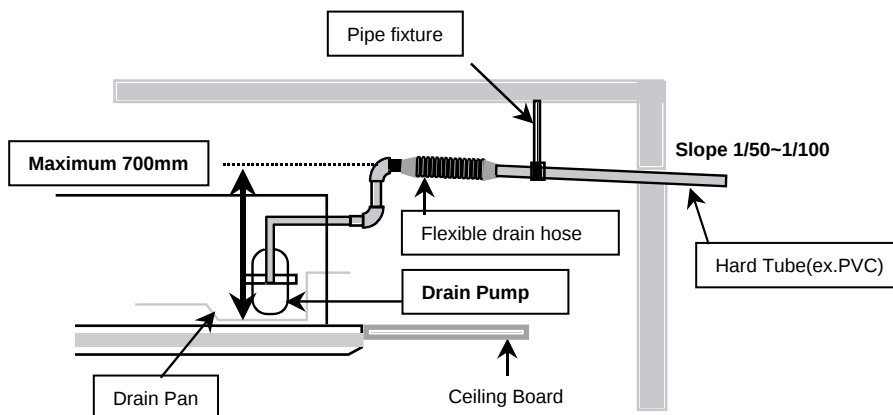
The PLASMA Air Purifying Function not only removes microscopic contaminants and dust, but also removes house mites, pollen, and pet fur helps to prevent allergic diseases like asthma.



High Head Drain Pump(700mm)

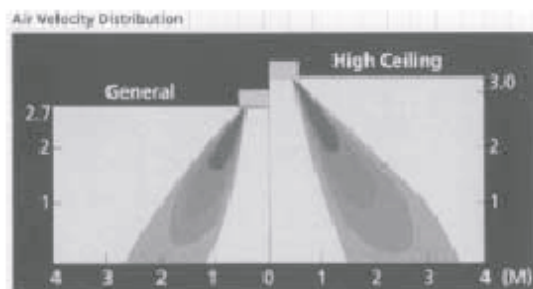
Built-in Drain Pump drains out water automatically.

A standard drain-head height of up to 700 mm is possible, creating the ideal solution for perfect water drainage.



High-Ceiling Corresponding Operation

According to the height of the installation, it provides variability of indoor fan motor rpm. If the height of installation is low then you can adjust low rpm of indoor fan motor. On the other hand if the height of the installation is high you can adjust high rpm of indoor fan motor. Selection of speed can be done by slide switch at the back of the LCD wired remote.



Switch selection	Ceiling Height
Low Ceiling	Less than 2.7m
Standard	2.7~3.3m
High Ceiling	Over than 3.3m

Tele Control (Accessory)

- It provides you ease of control. Air conditioner can be switched on/off by the telephone. It saves time & energy.

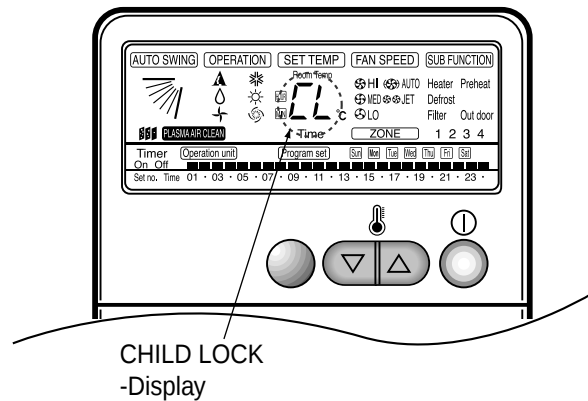


In Advance by Telephone
Before Coming Home...

In case of Going out
Without Turning off the
Air Conditioner...

Child Lock Function

-It prevents the children or others from tampering with the control buttons. Unit can be controlled by the wireless remote controller. This can be easily set by pressing timer key & Min key simultaneously. After child lock is set, pressing any key will display CL on the LCD for 3 seconds and all the keys will be ineffective.



Auto Elevation Grille(Accessory)

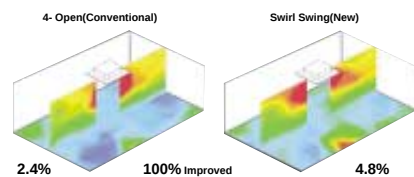
-Auto Elevation Grille is automatically down to height of max. 3.1 m. So it enables to install the Indoor unit at high ceiling space. And Auto Elevation Grille makes you cleaning the filter easily.



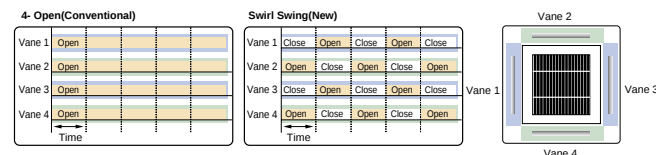
Swirl Swing

- It is the function for comfort cooling/heating operation.
- The diagonal two louvers are opened the more larger than the other louvers. After one minute, it is opposite.

Comparison of Floor Temp. Distribution(20°C)



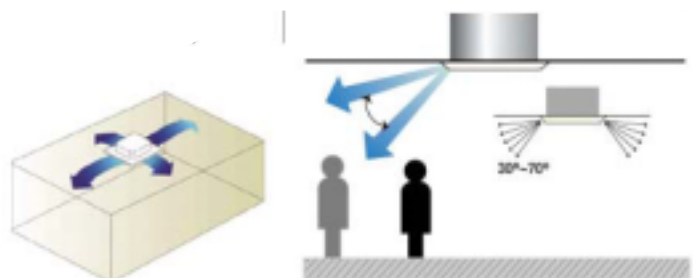
Comparison of Air Flow Types



Space Control

Vaness angle can be controlled by pair, considering its installation environment.

- For example direct drafts can be annoying, leading to discomfort and reduced productivity vane control helps to eliminate this problem.
- Easily controlled by wired remote control.
- Air Flow can be controlled easily regarding any space environment.



Weekly Program

- On/Off schedule of operation for a period of ONE week.
- No need to turn the unit On/OFF manually during working days. On/Off time is scheduled in micom of the wired remote control.

Operation Time Table (Example)

Setting	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Temp.	25°C	25°C	25°C	25°C	25°C	OFF	
On	09:00	08:00	09:00	08:00	09:00		
Off	12:00	17:00	12:00	12:00	12:00		



Auto Restart Operation

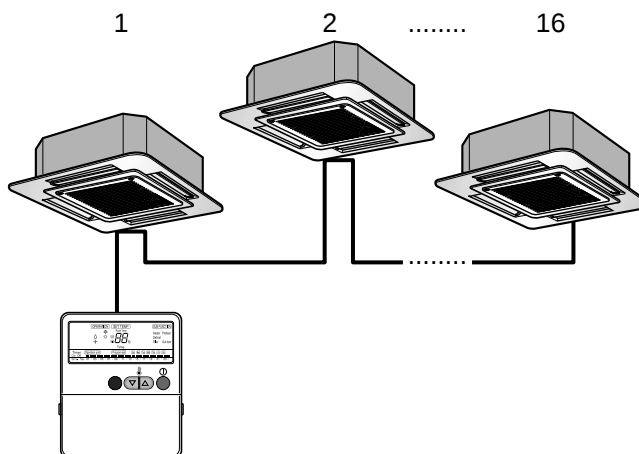
- Whenever there is electricity failure to the unit, and after resumption of the power, unit will start in the same mode prior to the power failure. Memorized condition are on / off condition, operating mode (cooling/heating), set temperature and fan speed. The unit will memorize the above conditions and start with same memorized condition.

Two Thermistor Control

- There may be a significant difference between the temperature taken at the installed product and indoor temperature. Two thermistor control provides option to control temperature by referring any of the two temperatures. With the help of the slide switch at the back of the LCD wired remote controller, selection of the desired thermistor for controlling the unit can be done. One thermistor is in the Indoor unit & the other one is in the LCD wired remote.

Group Control

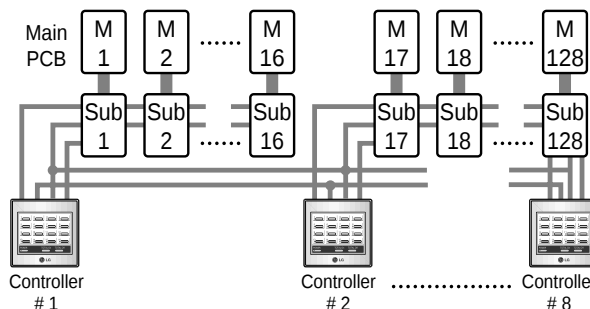
- It enables to control as much as 16 units with the help of one wired remote controller. All the units will follow same setting of temperature & other sub functions.



Central Control(Accessory)

- It enables to control 16 x 8 = 128 units with the help of 8 controllers. All units can be put on and off from one Central Room. For Setting Temperature, Fan Speed and other sub functions, access the respective LCD wired remote controller of each unit.

✳ Sub PI485(with wire assembly) should be purchased as optional.



2. List of Functions

Function	Ceiling Cassette-4way		
	ATNH-EL	ATNH-FL	ATNH-DL
Air Discharge Outlet	4	4	4
Airflow Direction control (left & right)	-	-	-
Airflow Direction control (up & down)	Auto	Auto	Auto
Airflow Steps(Fan / Cool /Heat)	3/4/3	3/4/3	3/4/3
Auto Changeover	-	-	-
Auto Elevation Grille	Accessory	Accessory	Accessory
Auto Operation	O	O	O
Auto Restart Operation	O	O	O
Auto Swing	O	O	O
Central Control	Accessory	Accessory	Accessory
CHAOS Wind (Auto wind)	-	-	-
Child Lock Function	O	O	O
Cooling & Fan Operation(Cooling Only)	-	-	-
Cooling, heating & Fan Operation(Heat Pump)	O	O	O
Defrost / Deicing	O	O	O
Deodorizing Filter	-	-	-
Drain Pump	O	O	O
E.S.P. Control	-	-	-
Electric Heater	-	-	-
Environment Friendly Refrigerant	O	O	O
Fire Alarm Function	-	-	-
Forced Operation	O	O	O
Group Control	O	O	O
High Ceiling Operation	O	O	O
Hot Start	O	O	O
Jet Cool	O	O	O
Plasma Air Purifier	O	O	O
Prefilter(Washable / Anti-fungus)	O	O	O
Self Diagnosis	O	O	O
Sleep Mode	O	O	O
Soft Dry Operation	O	O	O
Swirl Swing	O	O	O
Space Control	O	O	O
Tele Control	Accessory	Accessory	Accessory
Temperature Control	O	O	O
Test Function	O	O	O
Time Delay Safety function	O	O	O
Timer (weekly)	O	O	O
Two Thermistor Control	O	O	O
Wired LCD Remote Control	O	O	O
Wireless Remote Control	Accessory	Accessory	Accessory
Zero Standby Power	O	O	O

Notes :

O : Basic

Optional : Factory-Installed

Accessory : Field-Installed

- : Not available on this system

3. Specifications

Indoor Unit Type			Ceiling Cassette 4-way			
Model	Indoor Unit		ATNH126ELFB	ATNH186ELFB	ATNH246FLFB	ATNH306FLFB
	Decoration Panel		PT-HEC(F)	PT-HEC(F)	PT-HFC(F)	PT-HFC(F)
Nominal Cooling Capacity		kcal/h(W)	3024(3517)	4536(5275)	6048(7033)	7056(8205)
		Btu/h	12000	18000	24000	28000
Nominal Heating Capacity		kcal/h(W)	3478(4044)	5116(5949)	6955(8089)	8114(9437)
		Btu/h	13800	20300	27600	32200
Air Circulation	H/M/L	CMM(CFM)	9.5/8/7(336/283/247)	13/12/11(459/424/388)	15/14/13(523/494/459)	19/17/15(671/600/530)
Setting temperature range(cool/heat)		°C	18~30 / 16~30	18~30 / 16~30	18~30 / 16~30	18~30 / 16~30
Fan motor	Output	W	18.3	22.4	40.3	48.6
	Model		IC-9630LGAE	IC-9630LGAC	OBM-350292	OBM-4015P2
	No. of Poles		6	6	6	6
	Input	W	75	90	121	146
	Running Current	A	0.35	0.43	0.53	0.67
	Capacitor	μF/Vac	2.5/440	2.5/440	4/440	4/440
Fan	Type		Turbo Fan	Turbo Fan	Turbo Fan	Turbo Fan
	No. Used / Diameter	EA/inch(mm)	1/13.0(330)	1/13.0(330)	1/15.0(382)	1/15.0(382)
Noise Level (Sound Press,1.5m)	H/M/L	dB(A)	38 / 35 / 32	41/39/37	43/41/39	45/42/39
Temperature controller			Thermistor	Thermistor	Thermistor	Thermistor
Coil	Tube Size (OD)	inch(mm)	0.275(7)	0.275(7)	0.275(7)	0.275(7)
	Fins per inch		19	19	21	21
	No. of Rows & Column		2R,11C	2R11C	2R12C	2R12C
Dehumidification Rate		l/h	1.2	2.4	3	3.3
Dimensions (W*H*D)	Indoor Unit	inch(mm)	22.4*10.5*22.4(570*269*570)	22.4*10.5*22.4 (570*269*570)	29.3*11.5*29.4 (744*292*744)	29.3*11.5*29.3(744*292*744)
	Decoration Panel	inch(mm)	26.4*1.2*26.4(670*30*670)	26.4*1.2 *26.4(670*30*670)	33.5*1.2 *33.5(850*30*850)	33.5*1.2*33.5(850*30*850)
Net Weight	Indoor Unit	kg(lbs)	19(41.9)	19(41.9)	24(52.9)	24(52.9)
	Decoration Panel	kg(lbs)	3(6.6)	3(6.6)	3(6.6)	3(6.6)
Piping Connection	Liquid	inch(mm)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)
	Gas	inch(mm)	3/8 (9.52)	1/2 (12.7)	1/2 (12.7)	5/8 (15.88)
	Drain hose (ID Ø)	inch(mm)	1.26(32)	1.26(32)	1.26(32)	1.26(32)
Packing Dimension (W*H*D)	Indoor Unit	inch(mm)	25.2*13.0*25.2(640*330*640)	25.2*13.0*25.2(640*330*640)	32.6*14.4*32.6(828*365*828)	32.6*14.4*32.6(828*365*828)
	Decoration Panel	inch(mm)	29.5*3.1*29.5(750*80*750)	29.5*3.1*29.5(750*80*750)	36.8*3.5*36.8(935*90*935)	36.8*3.5*36.8(935*90*935)
Stuffing Quantity	Without S/Parts	20/40ft	189/378	189/378	84/168	84/168
For outdoor units	Single Split	See chapter MPS Variable SINGLE-A(AUUh-B)				
	Application Split(Simultaneous operation)	See chapter MPS Variable SINGLE-A(AUUh-B)				

Notes:

1. Capacities are based on the following conditions:

- Cooling: - Indoor Temperature 27°C(80.6°F) DB /19°C(66.2°F) WB
- Outdoor Temperature 35°C(95°F) DB /24°C(75.2°F) WB
- Interconnecting Piping Length 7.5m
- Level Difference of Zero.

- Heating: - Indoor Temperature 20°C(68°F) DB / 15°C(59°F) WB
- Outdoor Temperature 7°C(44.6°F) DB / 6°C(42.8°F) WB
- Interconnecting Piping Length 7.5 m
- Level Difference of Zero.

2. Capacities are Net Capacities.

3. Due to our policy of innovation some specifications may be changed without notification.

Indoor Unit Type			Ceiling Cassette 4-way		
Model	Indoor Unit		ATNH366DLFB	ATNH486DLFB	ATNH606DLFB
	Decoration Panel		PT-HDC(F)	PT-HDC(F)	PT-HDC(F)
Nominal Cooling Capacity		kcal/h(W)	9072(10549)	12095(14067)	14112(16412)
		Btu/h	36000	48000	56000
Nominal Heating Capacity		kcal/h(W)	10433(12130)	13305(15474)	15523(18053)
		Btu/h	41400	52800	61600
Air Circulation	H/M/L	CMM(CFM)	25/23/21(883/812/742)	30/28/26(1059/988/918)	34/32/30(1200/1130/1059)
Setting temperature range(cool/heat)		°C	18~30 / 16~30	18~30/16~30	18~30/16~30
Fan motor	Output	W	52.5	58.5	107
	Model		IC-1630LGPJ	IC-1640LGPH	IC-14640LGPM
	No. of Poles		6	6	6
	Input	W	175	195	237
	Running Current	A	0.76	1.5	1.8
	Capacitor	μF/Vac	4/440	6/400	6/400
Fan	Type		Turbo Fan	Turbo Fan	Turbo Fan
	No. Used / Diameter	EA/inch(mm)	1/18.1(460)	1/18.1(460)	1/18.1(460)
Noise Level (Sound Press,1.5m)	H/M/L	dB(A)	40/38/36	43/41/39	50/47/43
Temperature controller			Thermistor	Thermistor	Thermistor
Coil	Tube Size (OD)	inch(mm)	0.275(7)	0.275(7)	0.275(7)
	Fins per inch		21	21	21
	No. of Rows & Column		2R12C	2R12C	2R12C
Dehumidification Rate		l/h	4.0	5.5	6.5
Dimensions (W*H*D)	Indoor Unit	inch(mm)	33.1*11.3*33.1(840*288*840)	33.1*11.3*33.1(840*288*840)	33.1*11.3*33.1(840*288*840)
	Decoration Panel	inch(mm)	37.4*1.2*37.4(950*30*950)	37.4*1.2*37.4(950*30*950)	37.4*1.2*37.4(950*30*950)
Net Weight	Indoor Unit	kg(lbs)	32(70.4)	32(70.4)	32(70.4)
	Decoration Panel	kg(lbs)	5(11)	5(11)	5(11)
Piping Connection	Liquid	inch(mm)	1/4 (6.35)	3/8(9.52)	3/8(9.52)
	Gas	inch(mm)	5/8 (15.88)	3/4(19.05)	3/4(19.05)
	Drain hose (ID Ø)	inch(mm)	1.26(32)	1.26(32)	1.26(32)
Packing Dimension (W*H*D)	Indoor Unit	inch(mm)	36.4*13.8*36.4(925*350*925)	36.4*13.8*36.4(925*350*925)	36.4*13.8*36.4(925*350*925)
	Decoration Panel	inch(mm)	40.6*3.5*40.6(1,030*90*1,030)	40.6*3.5*40.6(1,030*90*1,030)	40.6*3.5*40.6(1,030*90*1,030)
Stuffing Quantity	Without S/Parts	20/40ft	72/144	72/144	72/144
For outdoor units	Single Split		See chapter MPS Variable SINGLE-A(AUUh-B)		
	Application Split(Simultaneous operation)		See chapter MPS Variable SINGLE-A(AUUh-B)		

Notes:

1. Capacities are based on the following conditions:

- Cooling: - Indoor Temperature 27°C(80.6°F) DB /19°C(66.2°F) WB
- Outdoor Temperature 35°C(95°F) DB /24°C(75.2°F) WB
- Interconnecting Piping Length 7.5m
- Level Difference of Zero.

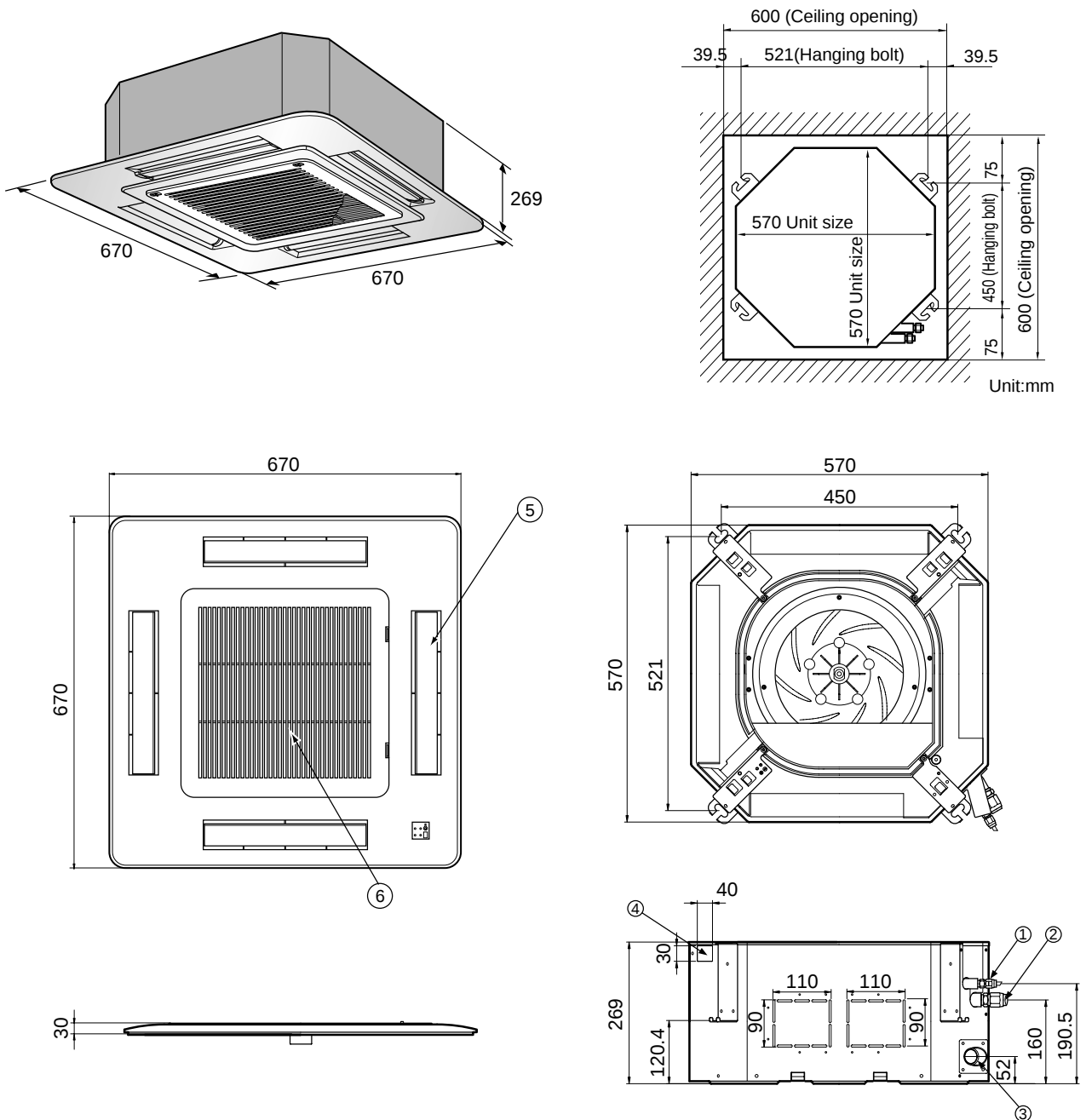
- Heating: - Indoor Temperature 20°C(68°F) DB / 15°C(59°F) WB
- Outdoor Temperature 7°C(44.6°F) DB / 6°C(42.8°F) WB
- Interconnecting Piping Length 7.5 m
- Level Difference of Zero.

2. Capacities are Net Capacities.

3. Due to our policy of innovation some specifications may be changed without notification.

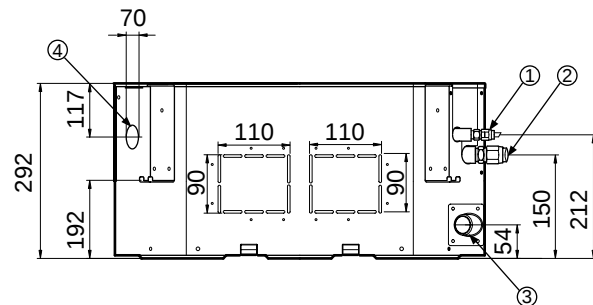
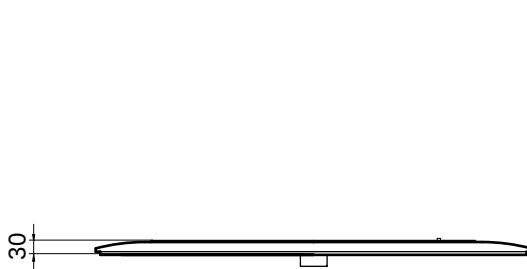
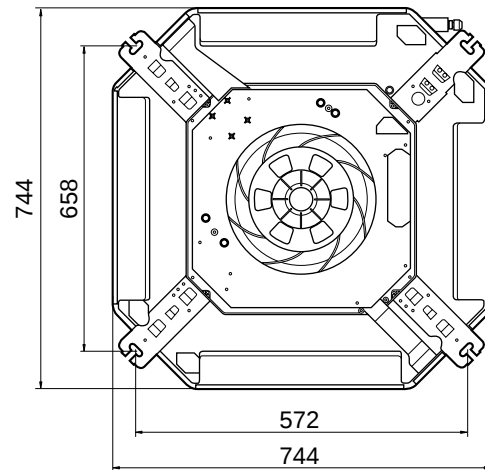
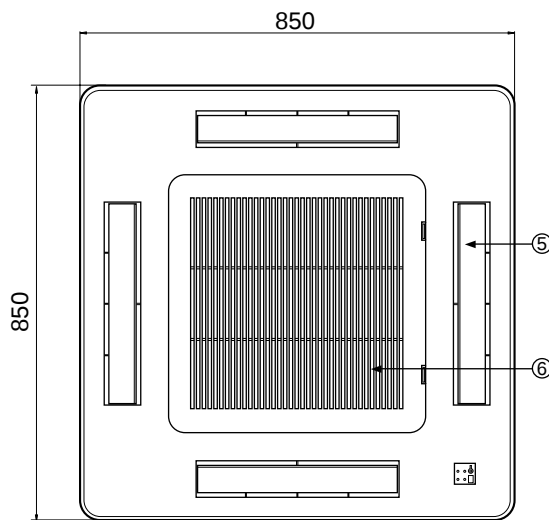
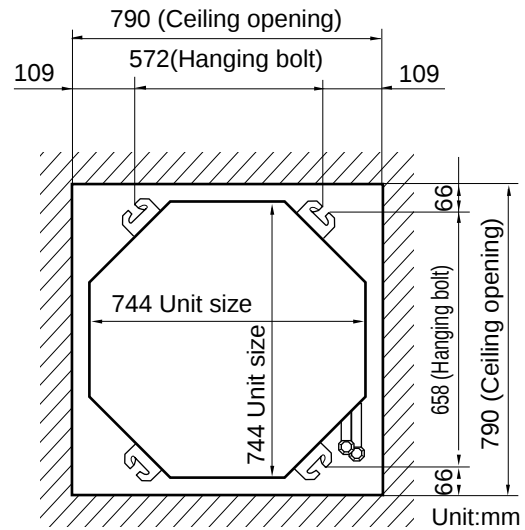
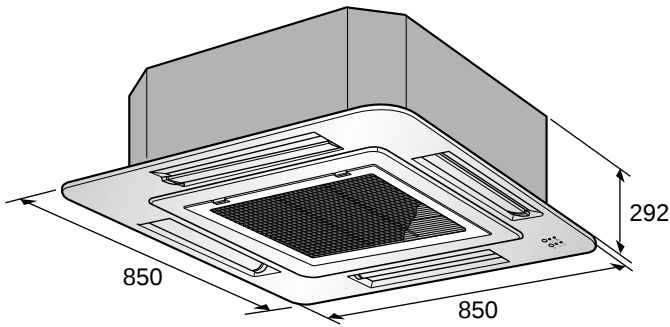
4. Dimensional Drawings

ATNH-EL



(unit : mm)

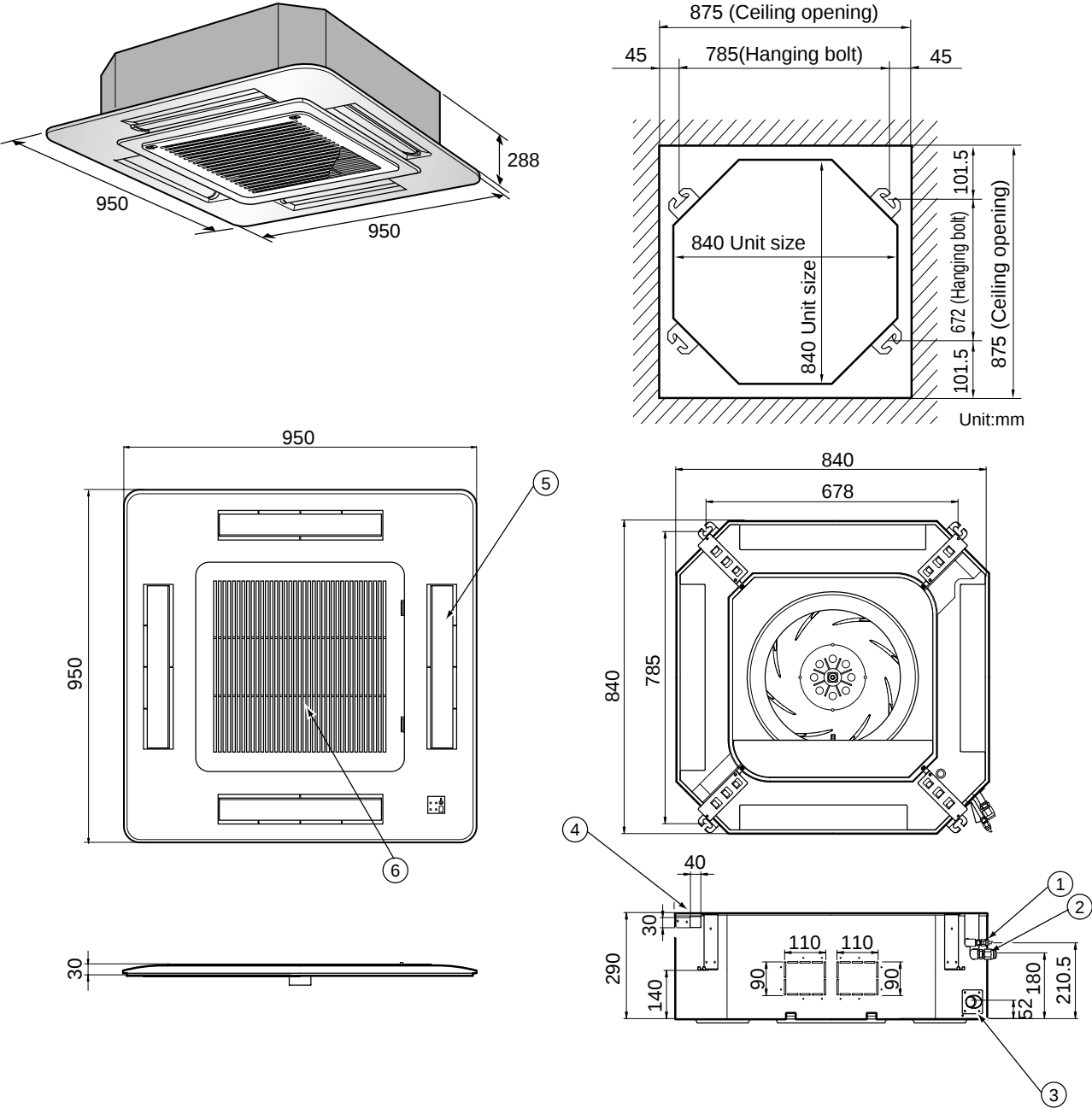
Number	Name	Description
1	Liquid pipe connection	ø6.35 flare
2	Gas pipe connection	12k: ø9.52, 18k: ø12.7 flare
3	Drain pipe connection	
4	Power supply connection	
5	Air discharge grille	
6	Air suction grille	

ATNH-FL

(unit : mm)

Number	Name	Description
1	Liquid pipe connection	ø6.35 flare
2	Gas pipe connection	24K: ø12.7, 30K: ø15.88 flare
3	Drain pipe connection	
4	Power supply connection	
5	Air discharge grille	
6	Air suction grille	

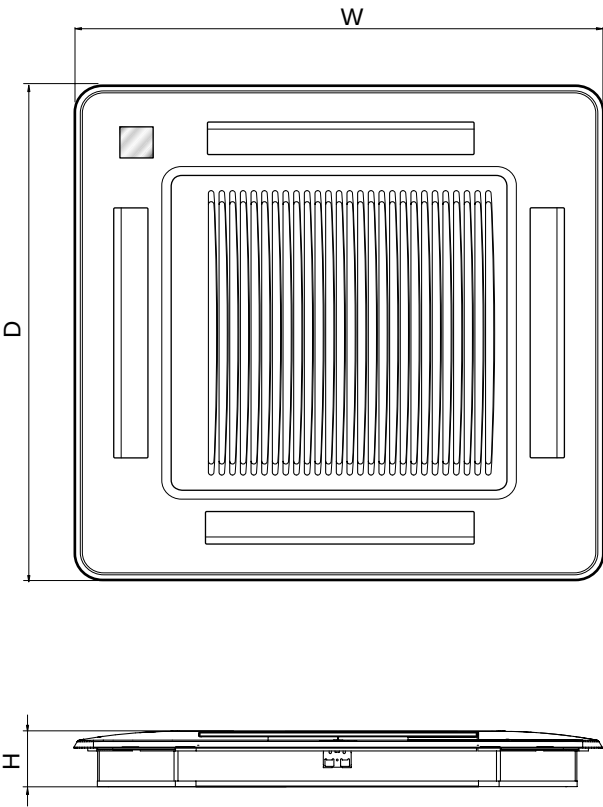
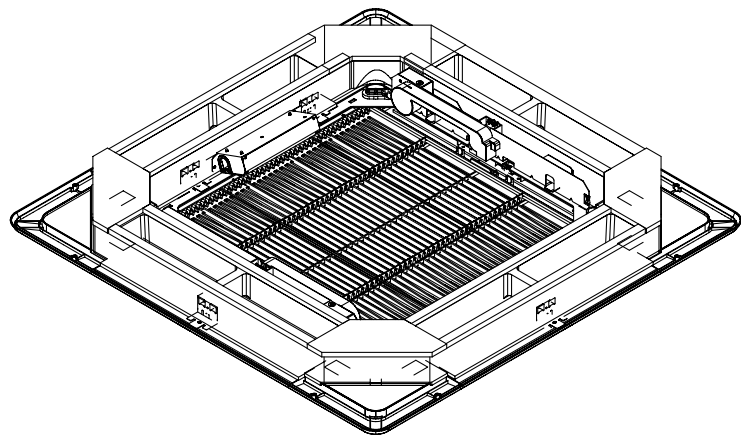
ATNH-DL



(unit : mm)

Number	Name	Description
1	Liquid pipe connection	36k:ø6.35, 48/60k: ø9.52 flare
2	Gas pipe connection	36k:ø15.88, 48/60k: ø19.05flare
3	Drain pipe connection	
4	Power supply connection	
5	Air discharge grille	
6	Air suction grille	

PT-HEF/HFF/HDF

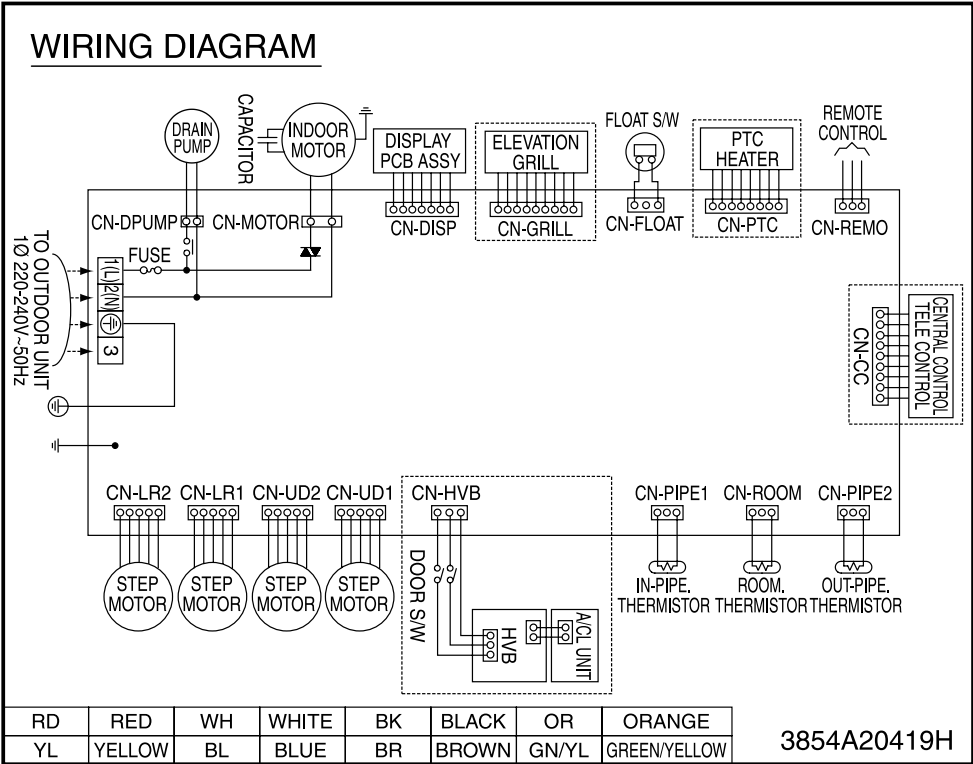


(unit : mm)

DIM	Model	PT-HEF	PT-HFF	PT-HDF
	Unit			
W	mm	670	850	950
H	mm	90	90	90
D	mm	670	850	950

5. Wiring Diagrams

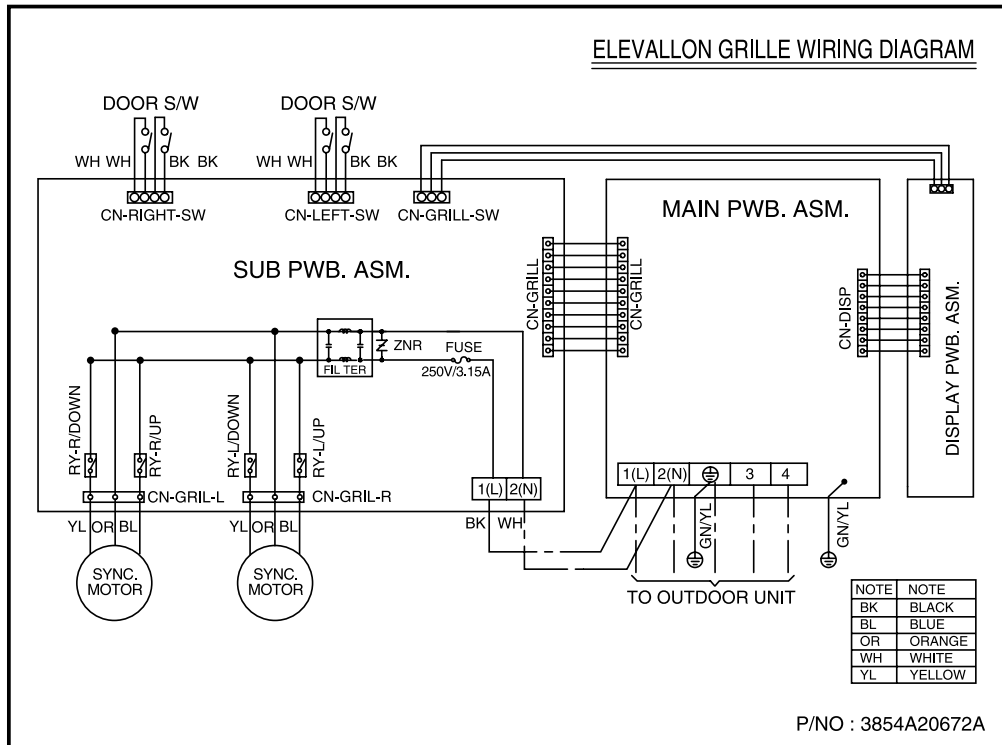
5.1 Wiring Diagrams(Product)



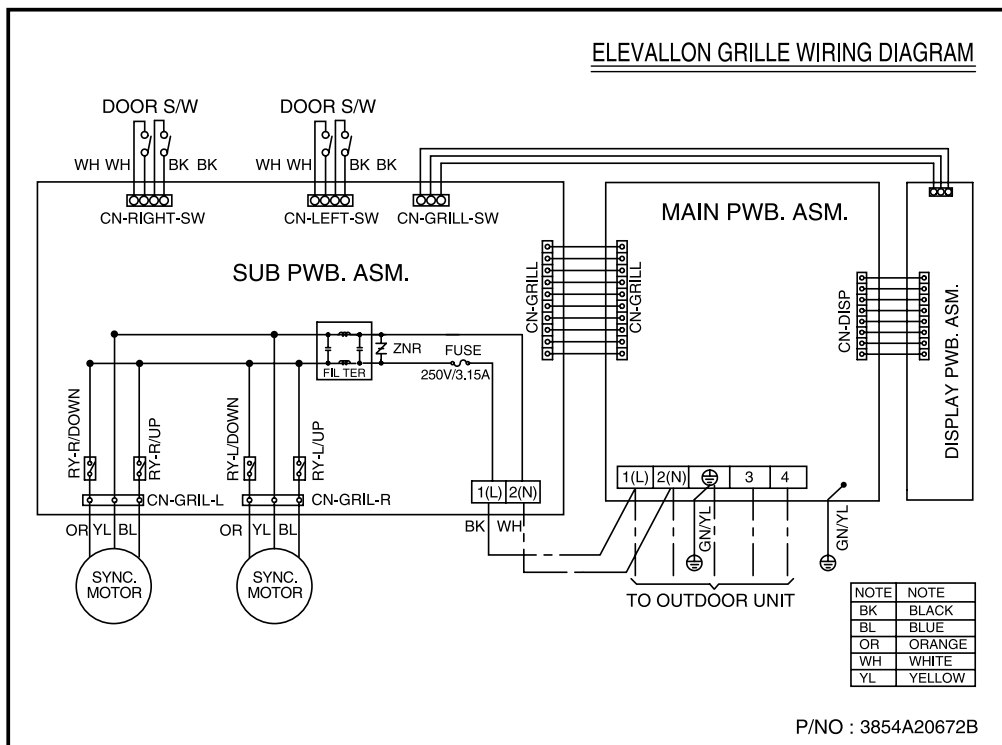
CONNECTOR NUMBER	LOCATION
CN-POWER	AC POWER SUPPLY
CN-MOTOR	BLDC FAN MOTOR OUTPUT
CN-D/PUMP	DRAIN PUMP OUTPUT
CN-DISP	DISPLAY
CN-FLOAT	FLOAT SWITCH INPUT
CN-PTC	PTC HEATER INUT
CN-REMO	REMOTE CONTROL
CN-GRILL	GRILL CONTROL
CN-CC	CENTRAL CONTROL
CN-PIPE2	DISCHARGE PIPE SENSOR
CN-ROOM	ROOM SENSOR
CN-PIPE1	PIPE SENSOR
CN-HVB	AIR CLEANER
CN-UD1	STEP MOTOR
CN-UD2	STEP MOTOR
CN-LR1	STEP MOTOR
CN-LR2	STEP MOTOR

5.2 Wiring Diagrams(Elevation Grill)

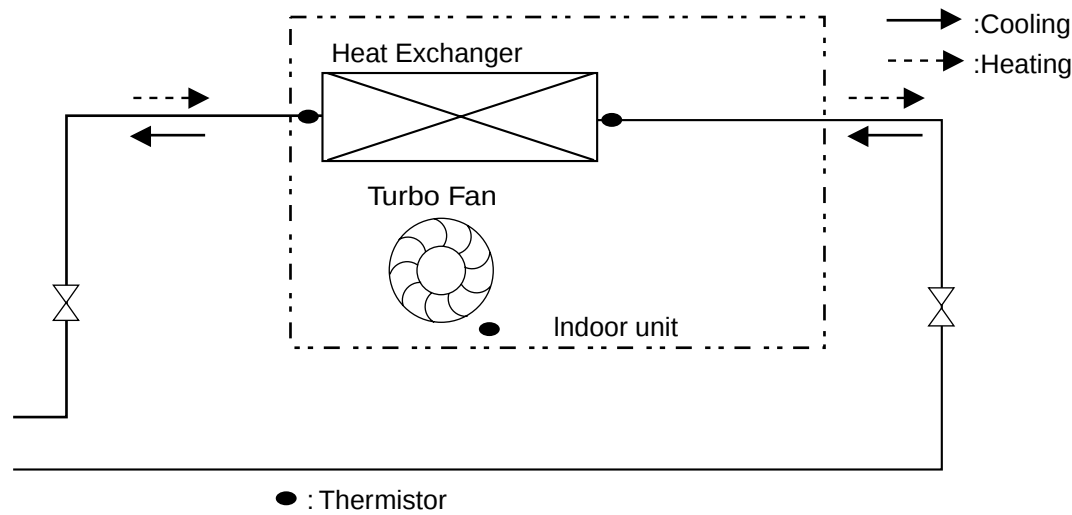
PT-HEF



PT-HFF/HDF



6. Piping Diagrams



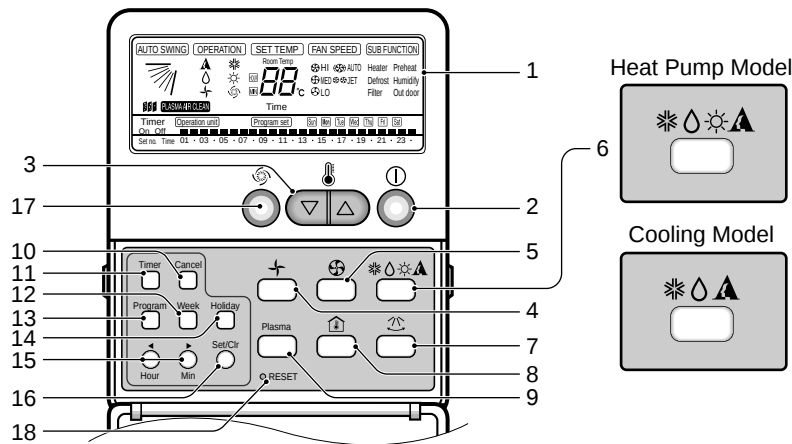
Refrigerant pipe connection port diameter

[unit: mm(inch)]

Model	Gas	Liquid
ATNH126ELFB	9.52(3/8)	6.35(1/4)
ATNH186ELFB	12.7(1/2)	
ATNH246FLFB		
ATNH306FLFB	15.88(5/8)	
ATNH366DLFB		
ATNH486DLFB	19.05(3/4)	9.52(3/8)
ATNH606DLFB		

7. Operating Instructions

■ Name and Function of Remote Controller



1. Operation display

Displays the operation conditions.

2. On/Off Button

Operation starts when this button is pressed, and stops when the button is pressed again.

3. Set Temperature Button

Used to set the temperature when the desired temperature is obtained.

4. FAN Operation Button

Used to circulate room air without cooling or heating.

5. Fan Speed (Jet Cool Button: 4 way)

Used to set the desired fan speed or select Jet cool mode.

6. Operation Mode Selection Button

Used to select the operation mode.

- Auto Operation Mode
- Cooling Operation Mode
- Soft Dry Operation Mode
- Heating Operation Mode(except cooling model)

7. Auto Swing Button

Used to swing up and down.

8. Room Temperature Checking Button

Used to check the room temperature.

9. Plasma Air Clean Button (optional)

10. Timer Cancel Button

Used to cancel the timer.

11. Timer Set Button

Used to set the timer when the desired time is obtained.

12. Week Button

Used to set a day of the week.

13. Program Button

Used to set the weekly timer.

14. Holiday Button

Used to set a holiday of the week.

15. Time Set Button

Used to set the time of the day and change the time in the weekly timer Function.

16. Set and Clear Button

Used to set and clear the weekly timer.

17. Swirl Button (4 way)

Used to select swirl mode.

Jet Cool Button (1 way)

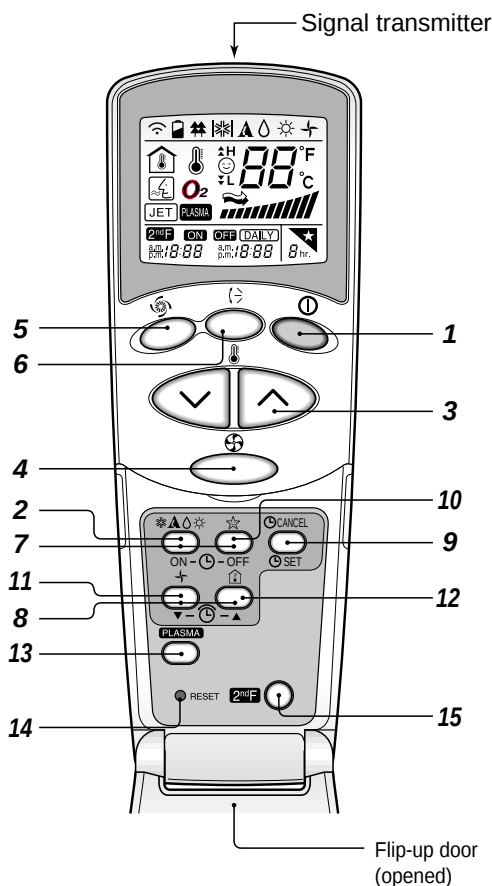
18. Reset Button

Used to set the current time and clear the setting time.

※ Display temperature can be different from actual room temperature if the remote controller is installed at the place where sun-rays are falling directly or the place nearby heat source.

■ Wireless Remote Controller (optional)

This air-conditioner is equipped with wired remote controller basically. But if you want to be available with wireless remote controller, you pay for it.



1. START/STOP BUTTON

Operation starts when this button is pressed and stops when the button is pressed again.

2. OPERATION MODE SELECTION BUTTON

Used to select the operation mode.

3. ROOM TEMPERATURE SETTING BUTTONS

Used to select the room temperature.

4. INDOOR FAN SPEED SELECTOR

Used to select fan speed in four steps low, medium, high and CHAOS.

5. JET COOL

Used to start or stop the speed cooling/heating. (Speed cooling/heating operates super high fan speed.)

6. CHAOS SWING BUTTON

Used to stop or start louver movement and set the desired up/down airflow direction.

7. ON/OFF TIMER BUTTONS

Used to set the time of starting and stopping operation.

8. TIME SETTING BUTTONS

Used to adjust the time.

9. TIMER SET/CANCEL BUTTON

Used to set the timer when the desired time is obtained and to cancel the Timer operation.

10. SLEEP MODE AUTO BUTTON

Used to set Sleep Mode Auto operation.

11. AIR CIRCULATION BUTTON

Used to circulate the room air without cooling or heating.

12. ROOM TEMPERATURE CHECKING BUTTON

Used to check the room temperature.

13. PLASMA(OPTIONAL)

Used to start or stop the plasma-purification function.

14. RESET BUTTON

Initialize remote controller.

15. 2nd F Button

Used prior to using modes printed in blue at the bottom of buttons.

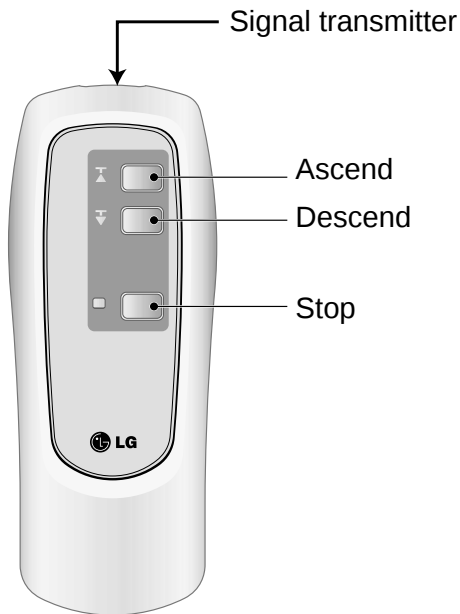
✱ The wireless remote controller do not operate the swirl mode.



CAUTION: of handling the Remote Controller

- Aim at the signal receiver on the wired remote controller so as to operate.
- The remote control signal can be received at a distance of up to about 7m.
- Be sure that there are no obstructions between the remote controller and the signal receptor.
- Do not drop or throw the remote controller.
- Do not place the remote controller in a location exposed to direct sunlight, or near the heating unit, or any other heat source.
- Block a strong light over the signal receptor with a curtain or etc. so as to prevent the abnormal operation. (ex: electronic quick start, ELBA, inverter type fluorescent lamp)

■ ELEVATION GRILL (REMOTE CONTROLLER_Accessory)



• Main Components of Lift Grill

- ① Lift grill front panel assembly
- ② Bolts for installation (4 EA, P/No. 3A00255K)
- ③ Instruction manual
- ④ Remote Controller for lift grill

• How to Use Remote Controller

As for operation of Remote Controller, use it by directing the transmitter part of Remote Controller to the receiver part of front panel directly under front panel.

- Do not drop it down or into water. Or else there is worry about trouble failure.
- Do not press hard the Remote Controller button with nail (ball-point pen or other sharp substance). Or else there is worry about trouble failure.
- In case when obstacle such as curtain hides the signal reception part of receiver in between the space interval, Remote Controller operation is infeasible.

• How to Operate the Lift Grill

⚠ CAUTION

- Always stop the air conditioner operation for safety before operating lift grill.
- Take heed _ there is worry about dust fall etc. when suction grill descends.
- In case when the set automatic stop distance goes wrong, check the set value of operation panel and confirm if there is neither obstacle nor mankind.
- When you are not to remove obstacle, stop the operation before touching the obstacle.

1. Stop the Air Conditioner Operation

Automatic Stop Distance of Grill

2. Descend the Suction Grill

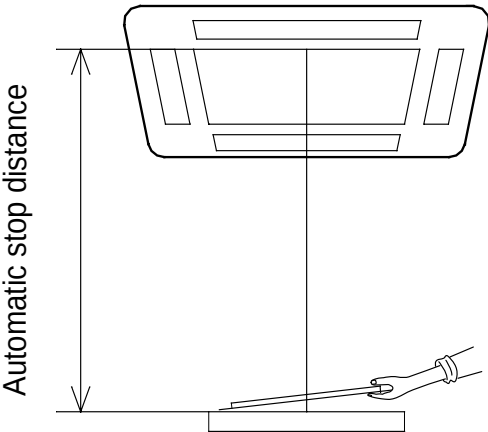
- Depress the down button(▼).
Then suction grill descends and stops automatically at a certain distance.
- You may stop it at wanted distance point by depressing the stop button (■) when descending.

3. Raise the Suction Grill

- Depress the up button(▲).
Then suction grill goes up and enters into the front panel.

4. Stop the Suction Grill during Rising

- Depress the stop button(■).
Make use of this when you want to stop it at your wished position.

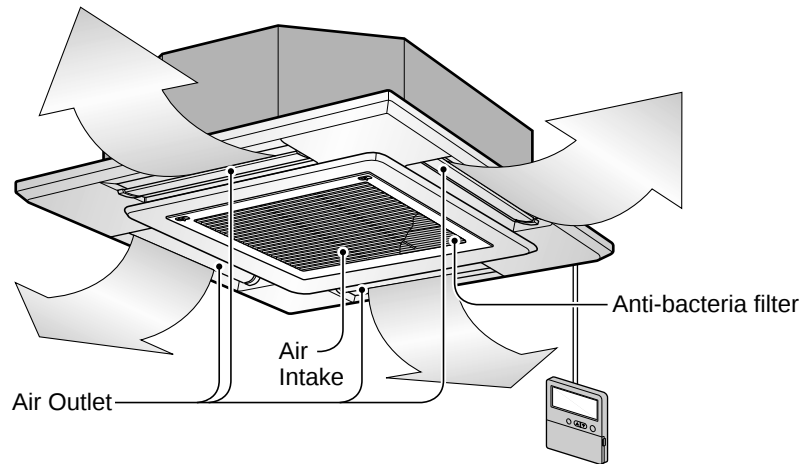


Ceiling height	Low	Medium (Height: 3~4 m)	High
Automatic stop distance	1.5±0.5 m	2.5±0.5 m	3.5±0.5 m

* If you want to change automatic distance setting, consult with your sale agency.

8. Installation

- Please read this instruction sheet completely before installing the product.
- When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.



Required Parts

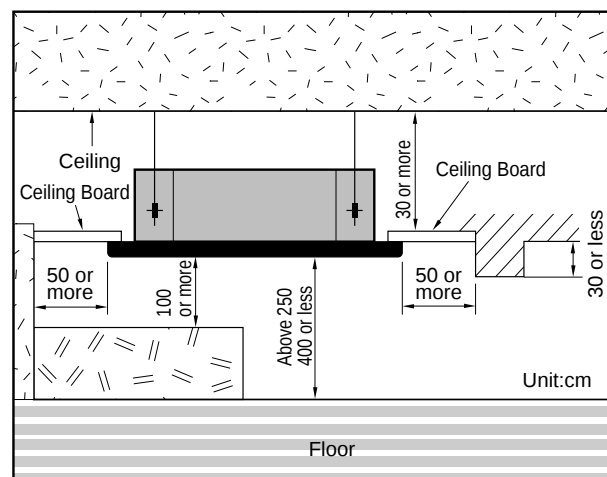
- Connecting cable
- Pipes: Gas side
Liquid side
- Hanging Bolt
(W 3/8 or M10 length 650mm)
- Insulated drain hose
- Additional Drain hose
(Inner Diameter32mm)

Required Tools

- Level
- Screw driver
- Electric drill
- Hole core drill ($\varnothing 70\text{mm}$)
- Flaring Tools set
- Torque Wrenches
- Hexagonal Wrench (4mm, 5mm)
- Gas-leak detector
- Owner's Manual
- Thermometer

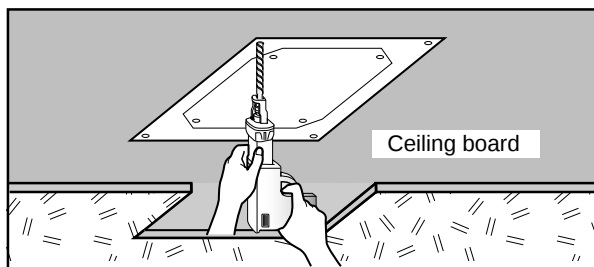
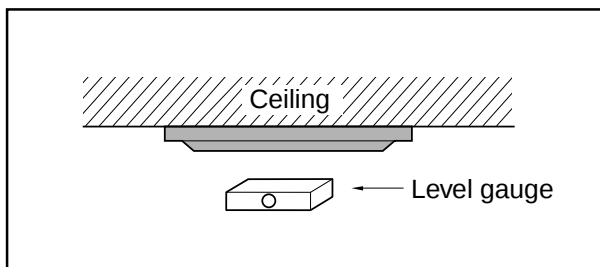
8.1 Selection of the best location

- There should not be any heat source or steam near the unit.
- There should not be any obstacles to the air circulation.
- There should be provision of easy condensate drain.
- Taking into accounting the noise prevention criteria, spot the installation location.
- Do not install the unit near the door way.
- Keep proper distances, of the unit, from ceiling, fence, floor, walls and other obstacles as shown in figure.
- The indoor unit must have the maintenance space.



8.2 Ceiling opening dimensions and hanging bolt location

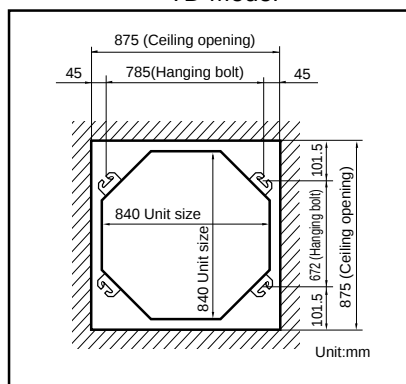
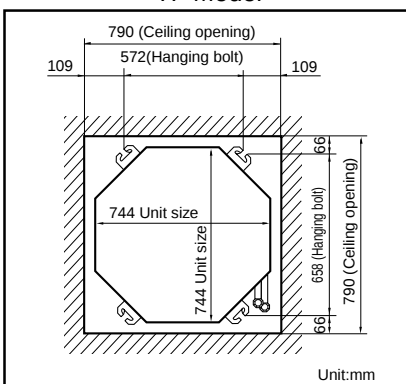
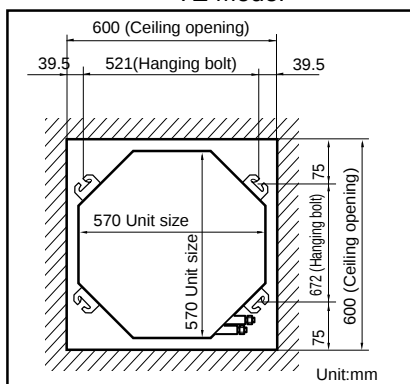
- The dimensions of the paper pattern for installation are the same as those of the ceiling opening dimensions.



TE Model

TF Model

TD Model



CAUTION

- This air-conditioner uses a drain pump.
- Install the unit horizontally using a level gauge.
- During the installation, care should be taken not to damage electric wires.

- Select and mark the position for fixing bolts and piping hole.
- Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain hose.
- Drill the hole for anchor bolt on the wall.

NOTE:

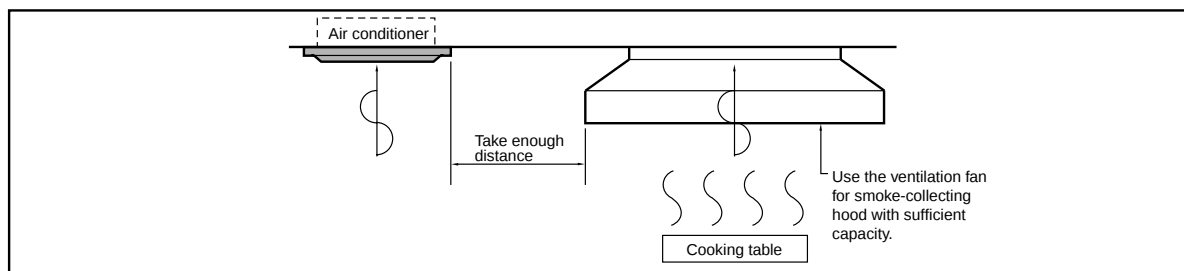
- Avoid the following installation location.

- Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated.

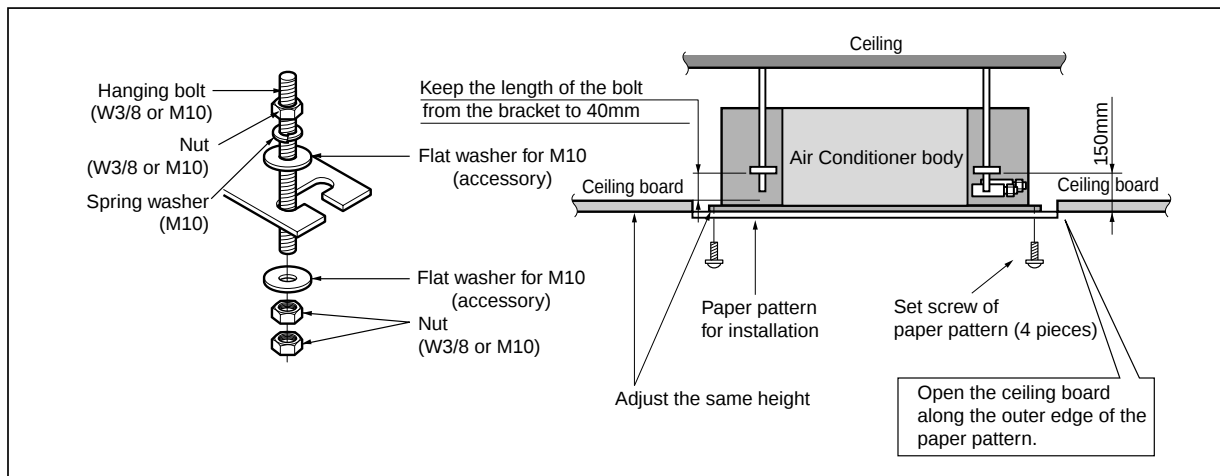
These may cause heat exchange efficiency reduction, or water drops, drain pump mal-function.

In these cases, take the following actions;

- Make sure that ventilation fan is enough to cover all noxious gases from this place.
- Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.



- Avoid installing air conditioner in such places where cooking oil or iron powder is generated.
- Avoid places where inflammable gas is generated.
- Avoid place where noxious gas is generated.
- Avoid places near high frequency generators.



• The following parts are local purchasing.

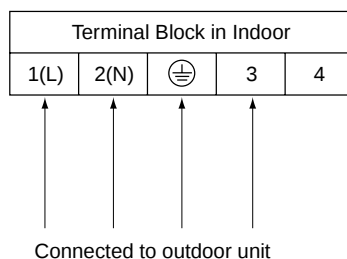
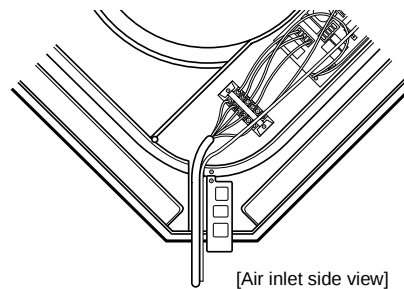
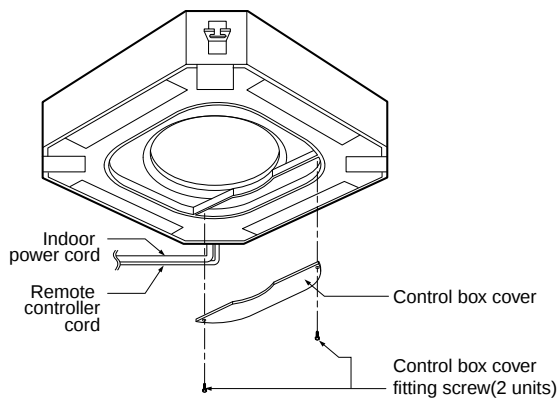
- ① Hanging Bolt - W 3/8 or M10
- ② Nut - W 3/8 or M10
- ③ Spring Washer - M10
- ④ Plate Washer - M10

CAUTION

- Tighten the nut and bolt to prevent unit from falling off.

8.3 Wiring Connection

- Open the control box cover and connect the remote control cord and Indoor power wires.



WARNING

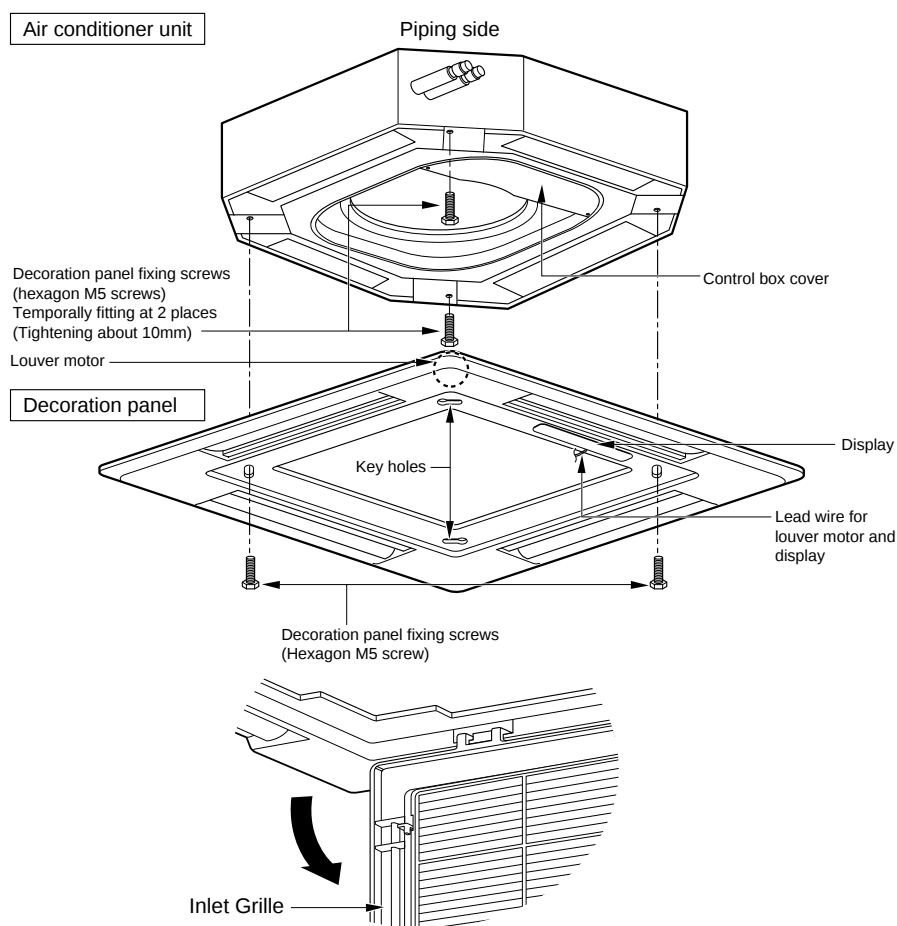
Make sure that the screws of the terminal are free from looseness.

8.4 Installation of Decoration Panel

The decoration panel has its installation direction.

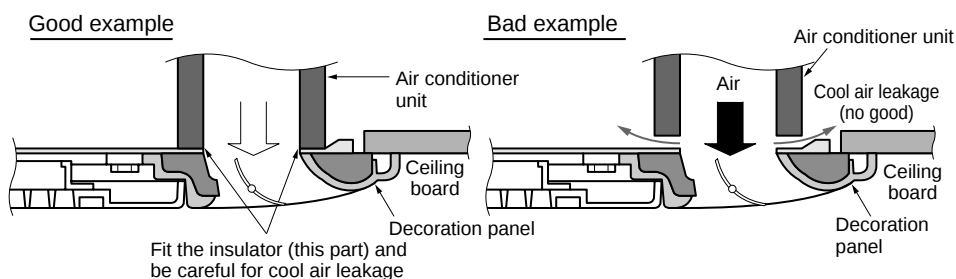
Before installing the decoration panel, always remove the paper template.

1. Temporarily fix two decoration panel fixing screws (hexagon M5 screw) on the unit body. (Tighten by amount 10mm in length.)
The fixing screws (hexagon M5 screw) are included the indoor unit box.
2. Remove the air inlet grille from the decoration panel. (Remove the hook for the air inlet grille cord.)
3. Hook the decoration panel key hole () on the screws fixed in step above, and slide the panel so that the screws reach the key hole edge.
4. Retighten completely two temporarily fixed screws and other two screws. (Total 4 screws)
5. Connect the louver motor connector and display connector.
6. After tightening these screws, install the air inlet grille (including the air filter).



CAUTION

Install certainly the decoration panel.
Cool air leakage causes sweating.
⇒ Water drops fall.

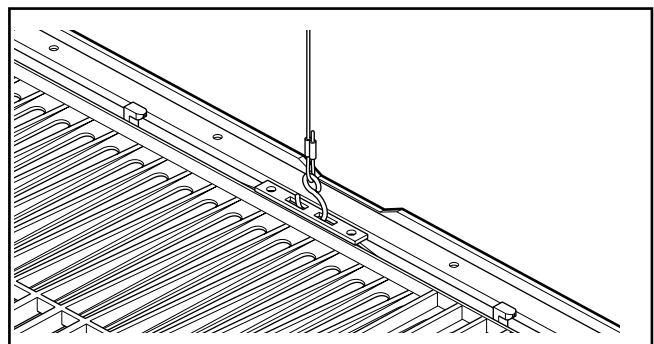
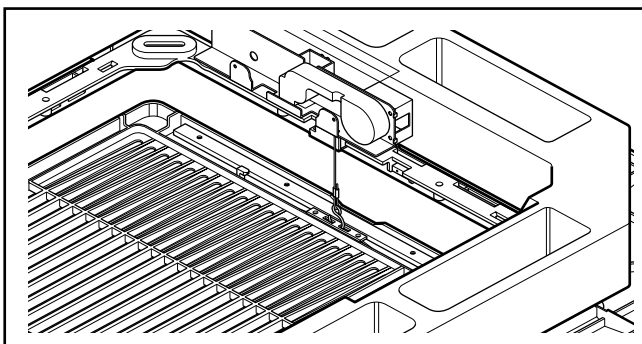
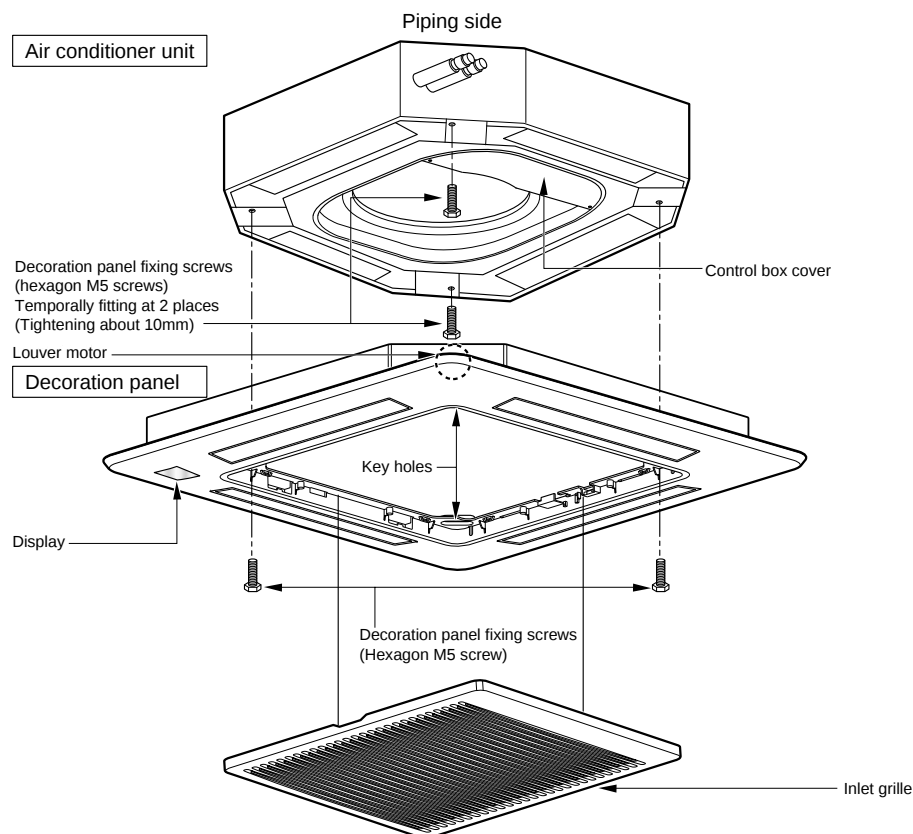


8.5 Installation of Decoration Panel(Elevation Grille)

The decoration panel has its installation direction.

Before installing the decoration panel, always remove the paper template.

1. Temporarily fix two decoration panel fixing screws (hexagon M5 screw) on the unit body. (Tighten by amount 10mm in length.)
The fixing screws (hexagon M5 screw) are included unit box.
2. Remove the air inlet grille from the decoration panel. (Remove the hook for the air inlet grille cord.)
3. Hook the decoration panel key hole () on the screws fixed in step above, and slide the panel so that the screws reach the key hole edge.
4. Retighten completely two temporarily fixed screws and other two screws. (Total 4 screws)
5. Connect the louver motor connector display connector, elevation grille connector and power supply connector
6. After tightening these screws, install the air inlet grille (including the air filter).



⚠ CAUTION

- Don't lay any material upon suction grill.
- Suction grill comprises 2 strands of wire. If any substance is placed on it then balance may be destroyed so that the substance would drop down and cause a breakage or damage. Also the matter may cause trouble owing to which the grill would not be correctly inserted at front panel.
- Don't shake suction grill. Or else there is worry that it may collide with adjacent material and the suction grill fall down.
- Don't pull suction grill. Don't draw out suction grill irrationally. Or else there is worry that lift grill drive part is damaged and suction grill might drop down.
- Don't place obstacle in lift passage of lift grill.

When suction grill descends, it automatically stops at a certain distance.

If there is any obstacle in lift passage, suction grill might drop down and there may be caused trouble failure of lift grill drive part.

- Turn off the air conditioner operation button before operating the lift grill.

Always stop the air conditioner operation for safety when suction grill descends.

- Don't damage lift rope by a sharp material. Or else there is worry about suction grill dropping because of rope cutoff.

8.5 Indoor Unit Drain Piping

- Drain piping must have down-slope (1/50 to 1/100): be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert extra force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32mm.

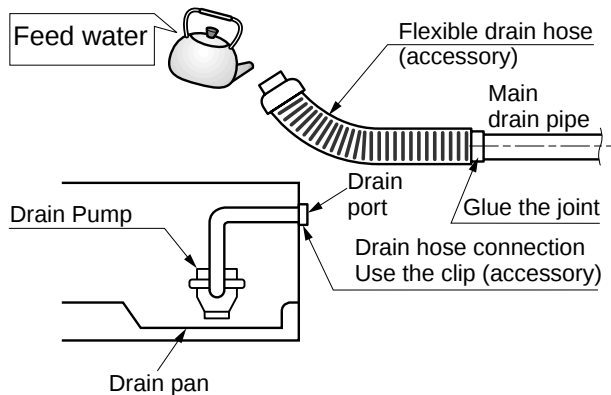
Piping material: Polyvinyl chloride pipe VP-25 and pipe fittings

- Be sure to install heat insulation on the drain piping.

Heat insulation material: Polyethylene foam with thickness more than 8 mm.

Drain test

The air conditioner uses a drain pump to drain water. Use the following procedure to test the drain pump operation:



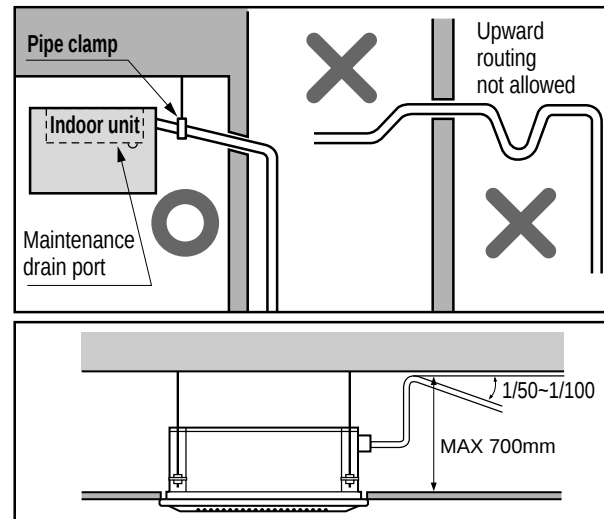
CAUTION

The supplied flexible drain hose should not be curved, neither screwed. The curved or screwed hose may cause a leakage of water.

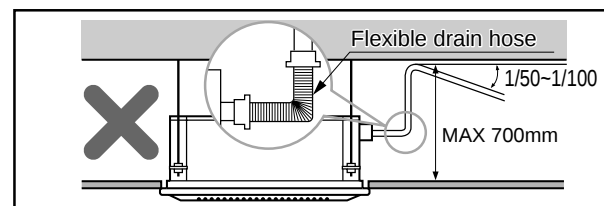
CAUTION

After the confirmation of the above conditions, prepare the wiring as follows:

- 1) Never fail to have an individual power specialized for the air conditioner. As for the method of wiring, be guided by the circuit diagram pasted on the inside of control box cover.
- 2) Provide a circuit breaker switch between power source and the unit.
- 3) The screw which fasten the wiring in the casing of electrical fittings are liable to come loose from vibrations to which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly fastened. (If they are loose, it could give rise to burn-out of the wires.)
- 4) Specification of power source
- 5) Confirm that electrical capacity is sufficient.
- 6) Be sure that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.
- 7) Confirm that the cable thickness is as specified in the power sources specification. (Particularly note the relation between cable length and thickness.)
- 8) Never fail to equip a leakage breaker where it is wet or moist.
- 9) The following troubles would be caused by voltage drop-down.
 - Vibration of a magnetic switch, damage on the contact point there of, fuse breaking, disturbance to the normal function of a overload protection device.
 - Proper starting power is not given to the compressor.

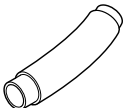
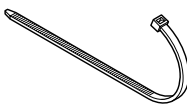
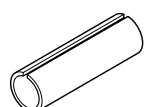


- Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
- Feed water to the flexible drain hose and check the piping for leakage.
- Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
- When the test is complete, connect the flexible drain hose to the drain port on the indoor unit.



9. Accessories

Standard Accessories

Name	Drain hose	Clamp metal	Washer for hanging bracket	Clamp	Insulation for fitting	(Other)
Quantity	1 EA	1 EA	8 EA	8 EA	1 SET	
Shape					 for gas pipe  for liquid pipe	• Paper pattern for installation • Owner's manual • Installation manual

Optional Accessories(For Unit)

No.	Item	Type	Model No.	Component Parts
1	Wireless remote control	With air purifying function	AHWRHD	• Wireless remote control : 1EA • Holder : 1EA • Battery : 2EA • Screw : 2EA
2	Central control	Simple	PQCSA101S0	• Central control • Installation manual
3	PI485 Gateway	For central control	PHNFP14A0	• PCB: 1EA • Installation manual • Wire assembly

Ceiling & Floor



Ceiling & Floor (R410A-Indoor Units)

AVNH-EL/BL

Contents

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5. Wiring Diagrams	43
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7. Operating Instructions.....	45
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9. Accessories	50

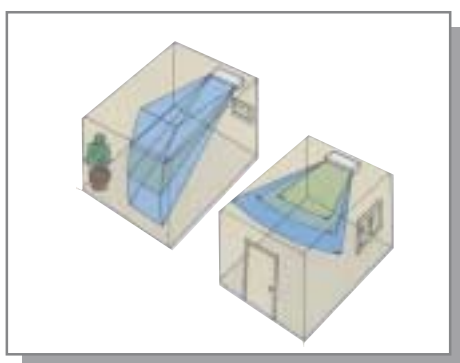
1. Features & Benefits



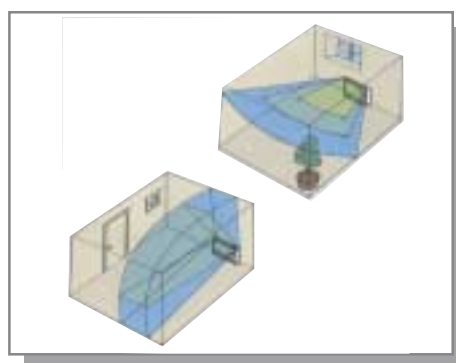
- Flexible Installation
- Low noise
- 4-Way Airflow Direction Control
(Automatic Vertical airflow & Manual Horizontal airflow)
- LCD Wireless Remote Control

Flexible Installation

It can be installed on the floor or ceiling according to your need.



<Ceiling Installation>



<Floor Installation>

Low Noise

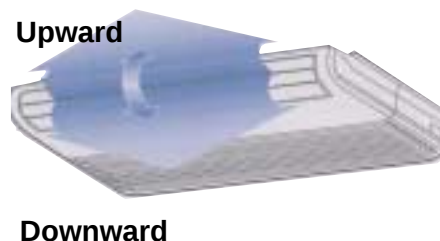
Advanced airflow system and cross flow fan give quiet and more comfortable environment.



Noise Distribution(dBA)

Vertical Airflow & Balanced Temperature Distribution

The heat distribution graph shows an example of even temperature distribution achieved by the auto-swing airflow.



2. List of Functions

Function	Ceiling & Floor (Convertible)	
	AVNH-EL	AVNH-BL
Air Discharge Outlet	1	1
Airflow Direction control (left & right)	Manual	Manual
Airflow Direction control (up & down)	Auto	Auto
Airflow Steps(Fan / Cool /Heat)	3/3/3	3/3/3
Auto Changeover	-	-
Auto Operation	O	O
Auto Restart Operation	O	O
Auto Swing	O	O
Central Control	Accessory	Accessory
CHAOS Wind (Auto wind)	O	O
Child Lock Function	-	-
Cooling & Fan Operation(Cooling Only)	-	-
Cooling, heating & Fan Operation(Heat Pump)	O	O
Defrost / Deicing	O	O
Deodorizing Filter	-	-
Drain Pump	-	-
E.S.P. Control	-	-
Electric Heater	-	-
Environment Friendly Refrigerant	O	O
Fire Alarm Function	-	-
Forced Operation	O	O
Group Control	-	-
High Ceiling Operation	-	-
Hot Start	O	O
Jet Cool	-	-
Plasma Air Purifier	Optional	-
Prefilter(Washable / Anti-fungus)	O	O
Self Diagnosis	O	O
Sleep Mode	O	O
Soft Dry Operation	O	O
Swirl Swing	-	-
Space Control	-	-
Tele Control	O	O
Temperature Control	O	O
Test Function	O	O
Time Delay Safety function	-	-
Timer (weekly)	-	-
Two Thermistor Control	-	-
Wired LCD Remote Control	-	-
Wireless Remote Control	O (LCD)	O (LCD)
Zero Standby Power	-	-
Zone Control	-	-

Notes :

O : Basic

Optional : Factory-Installed

Accessory : Field-Installed

- : Not available on this system

3. Specifications

Indoor Unit Type			Ceiling & Floor (Convertible)			
Model			AVNH126ELAB	AVNH186BLAB	AVNH246BLAB	AVNH306BLAB
Nominal Cooling Capacity	kcal/h(W)		3024(3517)	4536(5274)	6048(7032)	6653(7737)
	Btu/h		12000	18000	24000	26400
Nominal Heating Capacity	kcal/h(W)		3478(4044)	5116(5949)	6955(8089)	7635(8880)
	Btu/h		13800	20300	27600	30300
Air Circulation	H/M/L	CMM(CFM)	10.0/8.3/6.5(353/293/230)	13.5/12/11(477/424/388)	15/13.5/12(530/477/424)	18/16/14(636/564/494)
Setting temperature range(cool/heat)		°C	18-30/16-30	18-30/16-30	18-30/16-30	18-30/16-30
Fan motor	Output	W	17.5	30	35	42.5
	Model		IC-18422LG31A	IC-9430LGCG	IC-9430LGCE	OBM-3019P2
	No. of Poles		4	4	4	4
	Input	W	43	53	63	81
	Running Current	A	0.23	0.23	0.27	0.38
	Capacitor	μF/Vac	1.5/370	1.5/370	1.5/370	1.5/ 370
Fan	Type		Cross Flow Fan	Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
	No. Used / Diameter	EA/inch(mm)	1/3.7(95)	1/3.1(80)	1/3.1(80)	1/3.1(80)
Noise Level (Sound Press, 1m)	H/M/L	dB(A)	40/36/31	43/40/37	45/42/39	45/42/39
Temperature controller			Thermistor	Thermistor	Thermistor	Thermistor
Coil	Tube Size (OD)	inch(mm)	0.197(5)	0.275(7)	0.275(7)	0.275(7)
	Fins per inch		20	18	20	20
	No. of Rows & Column		2R,12C	2R 12C	2R 14C	2R 14C
Dehumidification Rate		l/h	1.2	2.3	3.2	3.5
Dimensions (W*H*D)		inch(mm)	35.4*7.9*19.3(900*200*490)	47.2*8.1*24.2(1200*205*615)	47.2*8.1*24.2(1200*205*615)	47.2*8.1*24.2(1200*205*615)
Net Weight		kg(lbs)	12(26.5)	30(66.1)	30(66.1)	30(66.1)
Piping Connection	Liquid	inch(mm)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)
	Gas	inch(mm)	3/8 (9.52)	1/2 (12.7)	1/2 (12.7)	5/8 (15.88)
	Drain hose (OD Ø)	inch(mm)	20	20	20	20
Packing Dimension (W*H*D)		inch(mm)	38.2*11.2*22.2(970*285*565)	50.8*11.4*27.4(1290*290*696)	50.8*11.4*27.4(1290*290*696)	50.8*11.4*27.4(1290*290*696)
Stuffing Quantity	Without S/Parts	20/40ft	189/383	102/219	102/219	102/219

For outdoor units	Single Split	See chapter MPS Variable SINGLE-A(AUUh-B)
	Application Split(Simultaneous operation)	See chapter MPS Variable SINGLE-A(AUUh-B)

Notes:

1. Capacities are based on the following conditions:

- Cooling: - Indoor Temperature 27°C(80.6°F) DB /19°C(66.2°F) WB
 - Outdoor Temperature 35°C(95°F) DB /24°C(75.2°F) WB
 - Interconnecting Piping Length 7.5m
 - Level Difference of Zero.

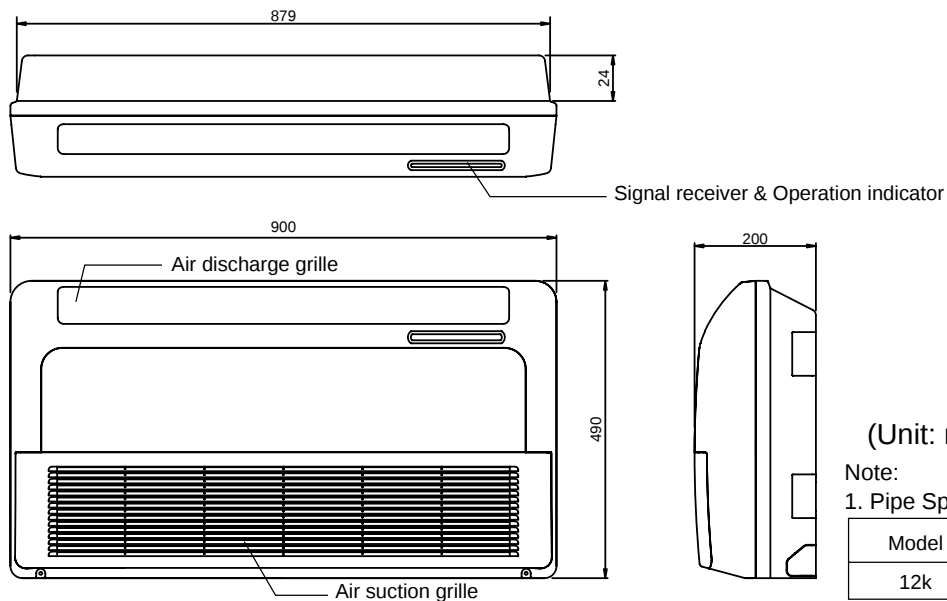
- Heating: - Indoor Temperature 20°C(68°F) DB / 15°C(59°F) WB
 - Outdoor Temperature 7°C(44.6°F) DB / 6°C(42.8°F) WB
 - Interconnecting Piping Length 7.5 m
 - Level Difference of Zero.

2. Capacities are Net Capacities.

3. Due to our policy of innovation some specifications may be changed without notification.

4. Dimensional Drawings

AVNH-EL



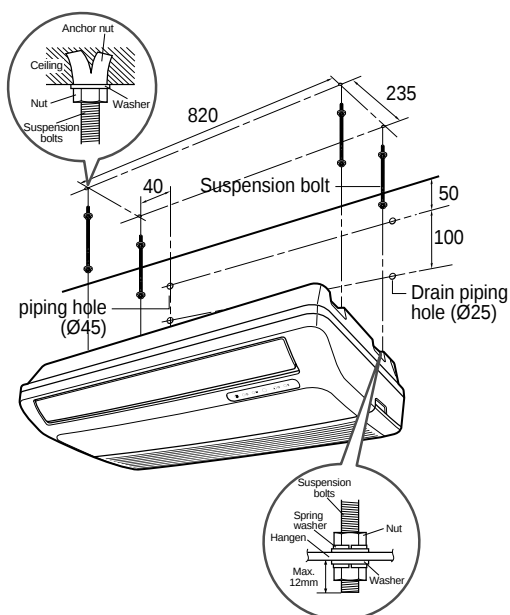
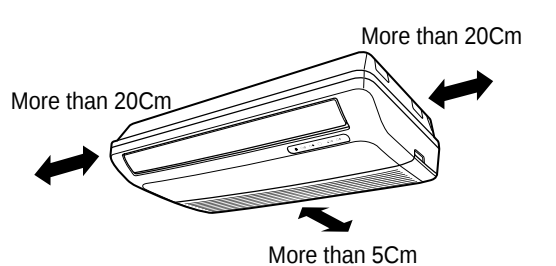
(Unit: mm)

Note:

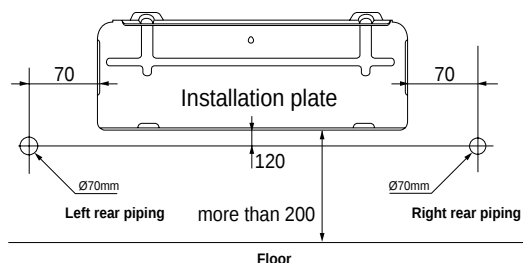
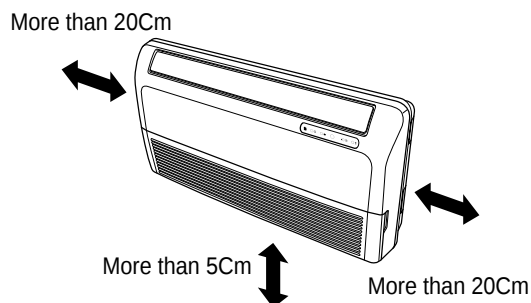
1. Pipe Specification(mm)

Model	Liquid	Gas
12k	Ø 6.35	Ø 9.52

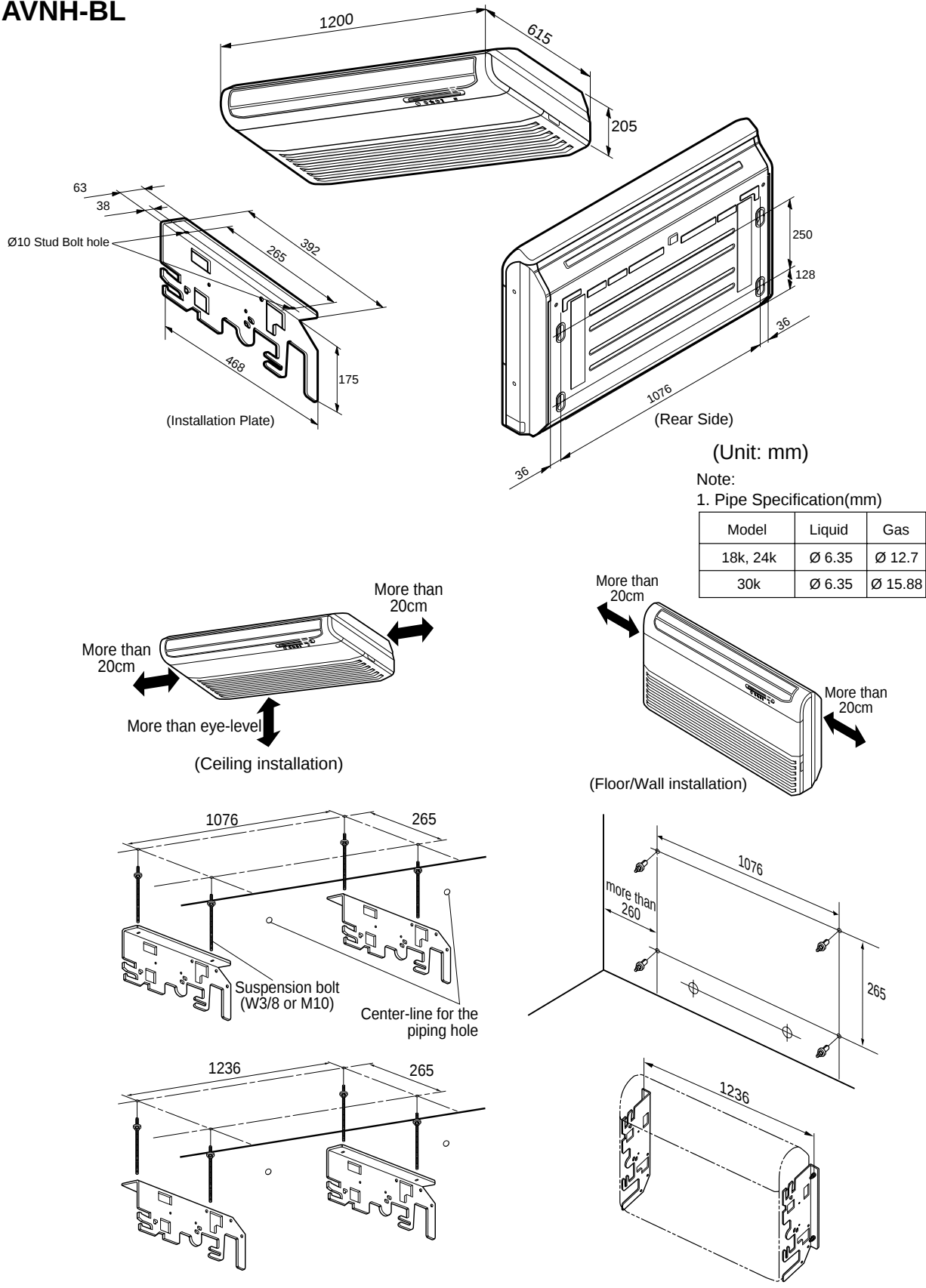
<Ceiling Installation>



<Floor Installation>

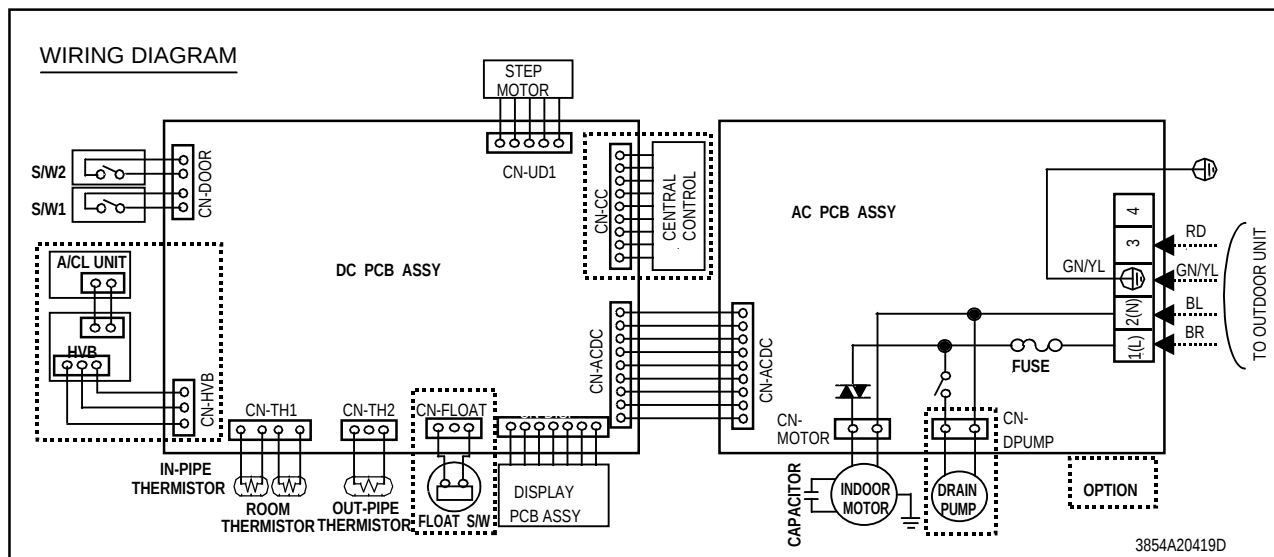


AVNH-BL

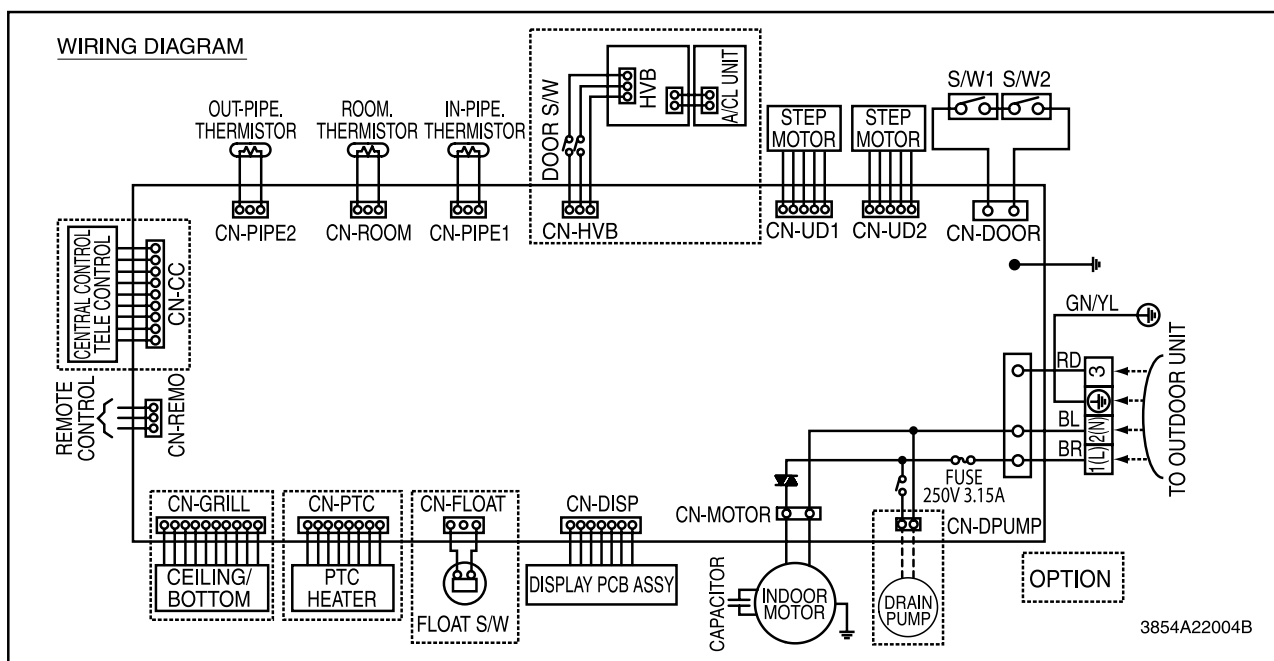


5. Wiring Diagrams

AVNH-EL

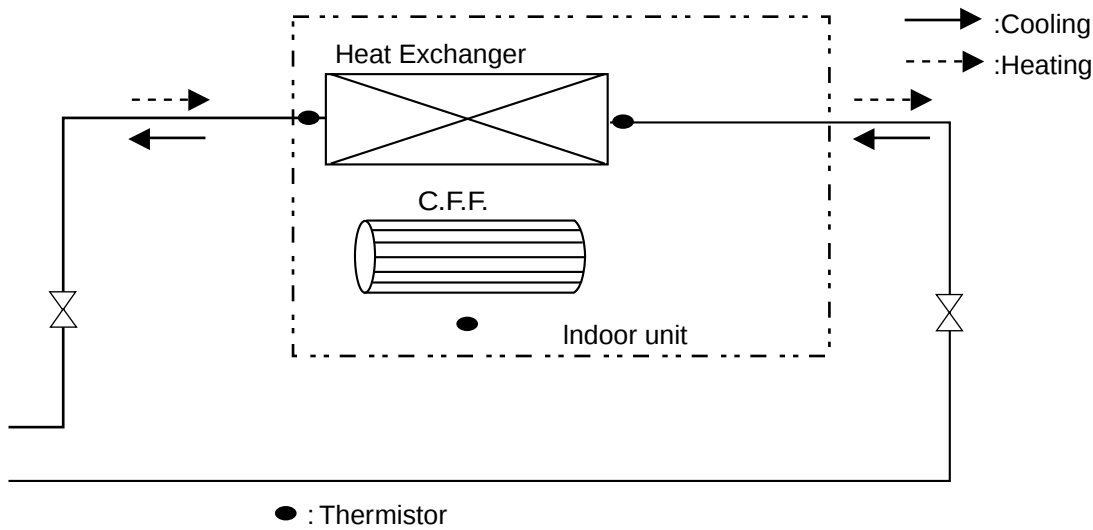


AVNH-BL



CONNECTOR NUMBER	LOCATION	CONNECTOR NUMBER	LOCATION
CN-POWER	AC POWER SUPPLY	CN-TH2	DISCHARGE PIPE SENSOR
CN-MOTOR	BLDC FAN MOTOR OUTPUT	CN-TH1	PIPE AND ROOM SENSOR
CN-D/PUMP	DRAIN PUMP OUTPUT	CN-HVB	AIR CLEANER
CN-AC/DC	AC/DC CONNECTION	CN-DOOR	STEP MOTOR
CN-DISPLAY	DISPLAY	CN-U/D1	STEP MOTOR
CN-FLOAT	FLOAT SWITCH INUT	CN-CC	CENTRAL CONTROL

6. Piping Diagrams



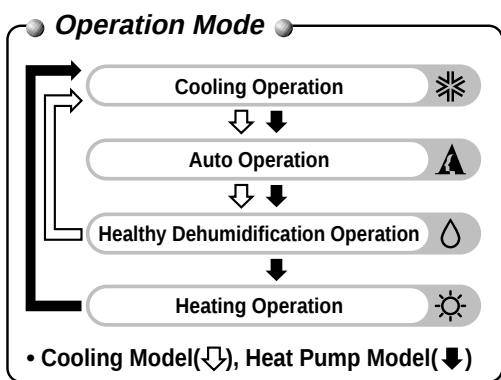
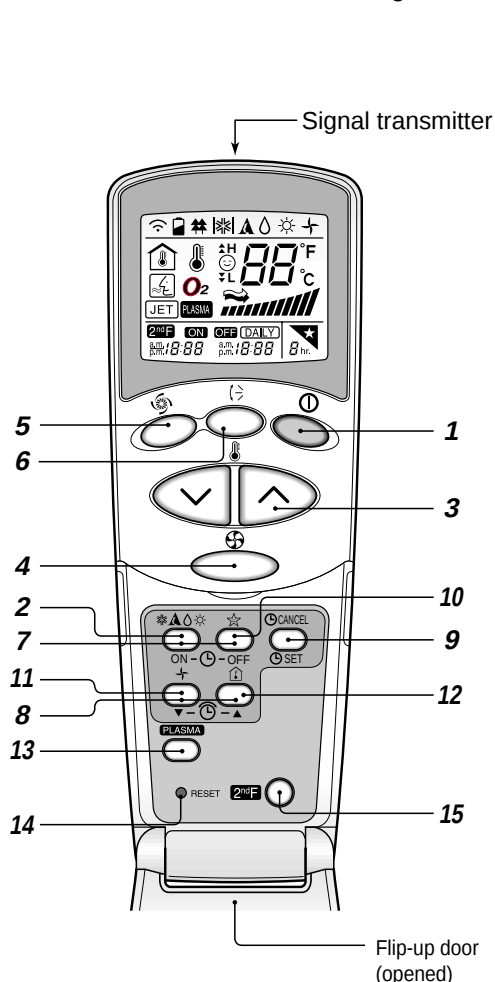
Refrigerant pipe connection port diameter

Model	Gas	[unit: mm(inch)]	
		Liquid	
AVNH126ELAB	9.52(3/8)	6.35(1/4)	
AVNH186BLAB	12.7(1/2)		
AVNH246BLAB	15.88(5/8)		
AVNH306BLAB			

7. Operating Instructions

■ Remote Control Operation

The Remote Controller transmits the signals to the system.



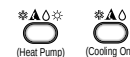
1. START/STOP BUTTON

Operation starts when this button is pressed and stops when the button is pressed again.



2. OPERATION MODE SELECTION BUTTON

Used to select the operation mode.



3. ROOM TEMPERATURE SETTING BUTTONS

Used to select the room temperature.



4. INDOOR FAN SPEED SELECTOR

Used to select fan speed in four steps low, medium, high and CHAOS.



5. JET COOL

Used to start or stop the speed cooling/heating. (Speed cooling/heating operates super high fan speed.)



6. CHAOS SWING BUTTON

Used to stop or start louver movement and set the desired up/down airflow direction.



7. ON/OFF TIMER BUTTONS

Used to set the time of starting and stopping operation.

8. TIME SETTING BUTTONS

Used to adjust the time.

9. TIMER SET/CANCEL BUTTON

Used to set the timer when the desired time is obtained and to cancel the Timer operation.

10. SLEEP MODE AUTO BUTTON

Used to set Sleep Mode Auto operation.

11. AIR CIRCULATION BUTTON

Used to circulate the room air without cooling or heating.

12. ROOM TEMPERATURE CHECKING BUTTON

Used to check the room temperature.

13. PLASMA(OPTIONAL)

Used to start or stop the plasma-purification function.

14. RESET BUTTON

Initialize remote controller.

15. 2nd F Button

Used prior to using modes printed in blue at the bottom of buttons.

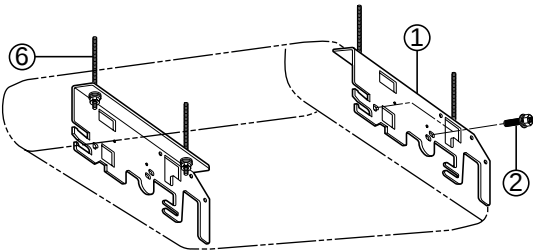
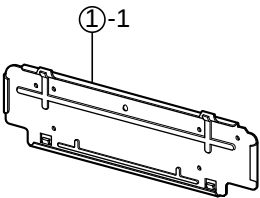
✱ For the convertible type of air conditional, jet cool mode does not operate.

8. Installation

- Please read this instruction sheet completely before installing the product.
- When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.

Installation Parts Provided

- ① Installation Plate (VB, 2pcs)
- ① -1 Installation Plate (VE, 1pc)
- ② Washer Bolt (M8 × L25, 4pcs, type "A")
- ③ Floor Mount Bracket (1pcs)
- ④ Drain Hose, Insulated
- ⑤ Drain Hose Hanger and screw

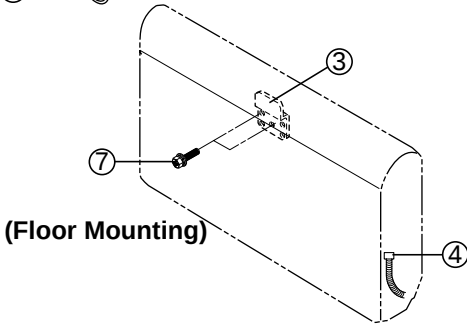


The other Installation Parts Needed

- ⑥ Suspension Bolt
- ⑦ Bolts for Mount Bracket
- ⑧ Connecting Tube(mm)
 - Gas side : Ø12.7, Ø15.88
 - Liquid side : Ø6.35
- ⑨ Connecting Cable
- ⑩ Drain Hose Extended



(Ceiling/Wall Mounting)



(Floor Mounting)

Required Parts

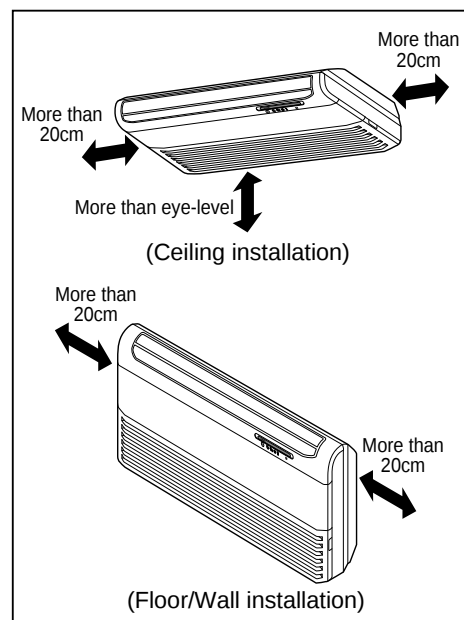
- Installation Plate
- Four Type "A" screws
- Connecting cable
- Pipes: Gas sideØ9.52, Ø12.7, Ø15.88mm
Liquid side.....Ø6.35mm
- Insulated drain hose
- Insulation materials
- Two type "B" screws

Required Tools

- Level
- Screw driver
- Electric drill
- Hole core drill (Ø70mm)
- Flaring Tools set
- Specified Torque Wrenches
 - 1.8kg·m.....Liquid side piping
 - 5.5kg·mGas side piping
- SpannerHalf union
- Specified Torque Wrenches
 - 1.8kg·m.....Liquid side piping
 - 5.5kg·m.....Gas side piping
- Hexagonal Wrench (4mm)
- Gas-leak Detector
- Owner's Manual
- Thermometer

8.1 Selection of the best location

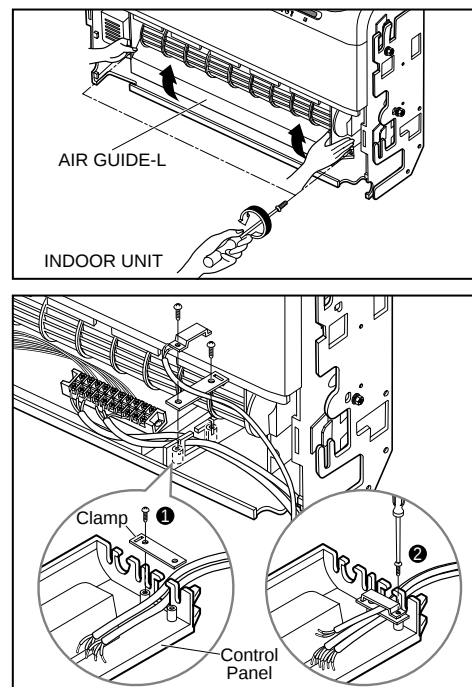
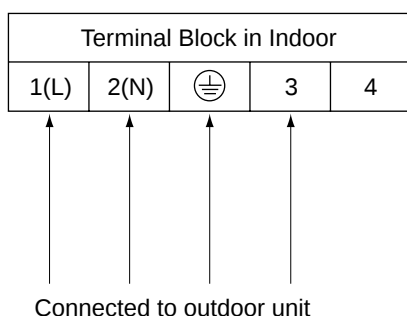
- There should not be any heat source or steam near the unit.
- There should not be any obstacles to the air circulation.
- There should be provision of easy condensate drain.
- Taking into accounting the noise prevention criteria, spot the installation location.
- Do not install the unit near the door way.
- Keep proper distances, of the unit, from ceiling, fence, floor, walls and other obstacles as shown in figure.
- The indoor unit must have the maintenance space.



8.2 Wiring connection

1) Connecting cables to the Indoor Unit

1. Remove the Air guide - L by loosening 2 screws after removing the Inlet grille from the Indoor unit.
2. Connect the wires to the terminals on the control board individually according to the outdoor unit connection.
 - Ensure that the color of the wires of outdoor unit and the terminal No. are the same as those of indoor unit respectively



2) Clamping of cables

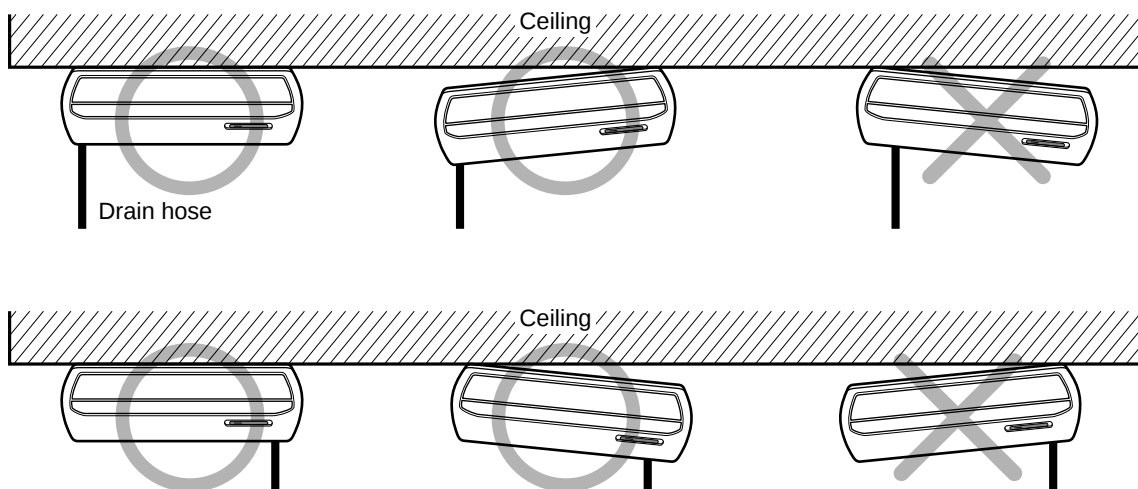
- 1) Arrange 2 power cables on the control panel.
- 2) First, fasten the steel clamp with a screw to the inner boss of control panel.
- 3) For the cooling model, fix the other side of the clamp with a screw strongly.
For the heat pump model, put the 0.75mm² cable(thinner cable) on the clamp and tighten it with a plastic clamp to the other boss of the control panel.
- 4) In Australia, the length of power supply cord measured from the entry of the power supply cord to the middle of live pin on the power plug should be over 1.8m.

CAUTION

1. **Install declination** of the indoor unit is very **important for the drain** of the convertible type air conditioner.
2. Minimum thickness of the insulation for the connecting pipe shall be 7mm.
3. If the Installation Plates are fixed to horizontal line, the indoor unit after installing will be declined to the bottomside.

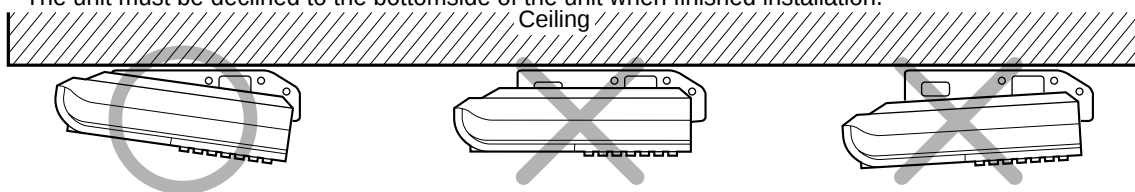
Front of view

- The unit must be horizontal or declined to the drain hose connected when finished installation.



Side of view

- The unit must be declined to the bottomside of the unit when finished installation.



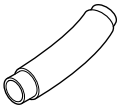
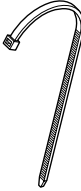
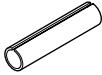
 CAUTION

After the confirmation of the above conditions, prepare the wiring as follows:

- 1) **Never fail to have an individual power specially for the air conditioner. As for the method of wiring, be guided by the circuit diagram pasted on the inside of control box cover.**
- 2) **Provide a circuit breaker switch between power source and the unit.**
- 3) **The screw which fasten the wiring in the casing of electrical fittings are liable to loose due to vibrations to which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly fastened. (If they are loose, it could give rise to burn-out of the wires.)**
- 4) **Specification of power source**
- 5) **Confirm that electrical capacity is sufficient.**
- 6) **Be sure that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.**
- 7) **Confirm that the cable thickness is as specified in the power sources specification. (Particularly note the relation between cable length and thickness.)**
- 8) **Never fail to equip a leakage breaker where it is wet or moist.**
- 9) **The following troubles would be caused by voltage drop-down.**
 - Vibration of a magnetic switch, damage on the contact point there of, fuse breaking, disturbance to the normal function of a overload protection device.
 - Proper starting power is not given to the compressor.
- 10) **The means for disconnection from a power supply shall be incorporated in the fixed wiring and have an air gap contact separation of at least 3mm in each active(phase) conductors.**

9. Accessories

Standard Accessories

Name	Drain hose	Clamp metal	Washer for hanging bracket	Clamp	Insulation for fitting	(Other)
Quantity	1 EA	1 EA	8 EA	6 EA	1 set	
Shape					 for gas pipe  for liquid pipe	

Optional Accessories(For Unit)

No.	Item	Type	Model No.	Component Parts
1	Central control	Simple	PQCSA101S0	• Central control • Installation manual
2	PI485 Gateway	For central control	PHNFP14A0	• PCB: 1EA • Installation manual • Wire assembly

Ceiling Concealed Duct



Ceiling Concealed Duct (R410A Indoor Units)

ABNH-HL/GL/RL

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7. E.S.P. Setting for 	60
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1. Features & Benefits



■ Easy Installation

- Compact & light design
- tuning (Linear E.S.P Control)
- High head drain pump(700mm, Accessory)

■ Comfort & Reliability

- Low noise design
- 2-Thermistor control(Main body & Remote control)
- Zero stanby power consumption

■ Convenience

- Tele control(Accessory)
- LCD wired remote control
- Group control
- Zone control(Accessory)
- Central control(Accessory)
- Weekly program

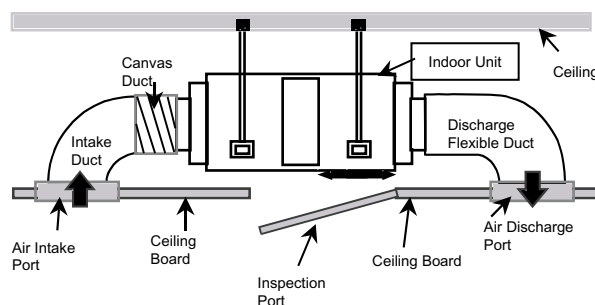
■ Cleanness

- Plasma air purifying system(Accessory)
- Hygienic and easy to clean filter

Easy Installation

Flexible Duct is easy to install, regardless of room size or heater position.

It can be installed even in a limited space and saves construction cost with slim thickness



Innovative Design of Fan and Housing System

Low Noise ! Easy Serviceability!

Plastic Fan and Housing Assembly

- Designed for low noise
- Designed to reduce weight
- Designed for easy service



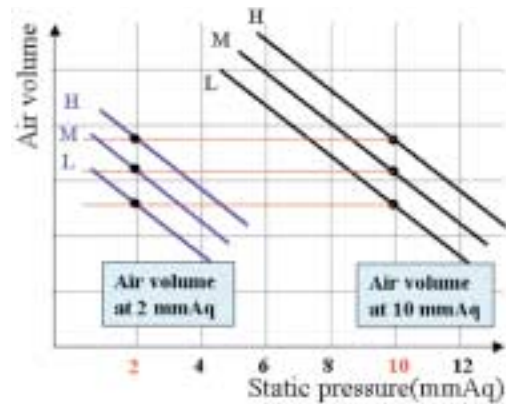
This product guarantees lower sound level and gives lesser service expenses.





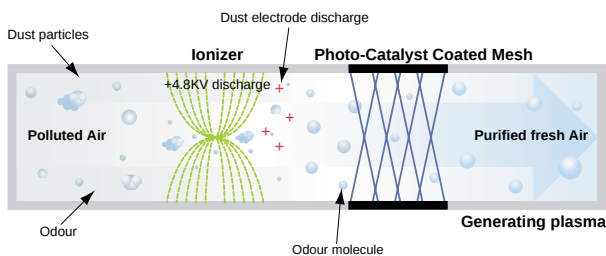
LG's High Technology provide Easy and Low cost Design of Duct work

Generally, when External Static Pressure increases air volume decreases. But by controlling the phase of motor while installing the product E.S.P. is controlled from 8~10 mmAq linearly. E.S.P. control provides required constant air volume irrespective of ESP change. Desired ESP can also be set through LCD wired remote control. Setting of the desired ESP gives required combination of ESP and airflow.



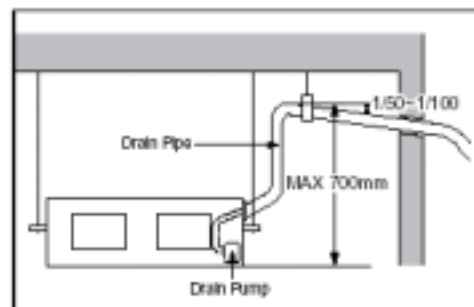
Plasma Air Purifying Kit (Accessory)

The PLASMA Air Purifying Function not only removes microscopic contaminants and dust, but also removes house mites, pollen, and pet fur helps to prevent allergic diseases like asthma.



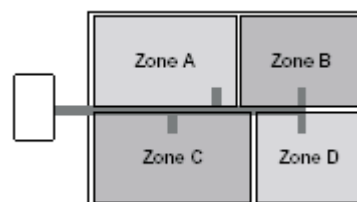
High Head Drain Pump(Accessory:700mm)

In some of the places natural drainage is not possible. For such places drain pump is very useful. It removes condensed water from the unit.



Zone Control(Accessory)

It controls the temperature of each zone. Opening or closing of the damper is controlled by sensing the temperature of each zone. In the cooling mode, if the temperature of a particular zone is lower than set temperature then the damper is closed. On the other hand if the temperature of a particular zone is higher than the set temperature, damper is opened to provide cooling to the zone and vice versa in the heating mode.



2. List of Functions

Function	Ceiling Concealed Duct		
	ABNH-HL	ABNH-GL	ABNH-RL
Air Discharge Outlet	-	-	-
Airflow Direction control (left & right)	-	-	-
Airflow Direction control (up & down)	-	-	-
Airflow Steps(Fan / Cool /Heat)	3/3/3	3/3/3	3/3/3
Auto Changeover	O	O	O
Auto Operation	O	O	O
Auto Restart Operation	O	O	O
Auto Swing	-	-	-
Central Control	Accessory	Accessory	Accessory
CHAOS Wind (Auto wind)	-	-	-
Child Lock Function	O	O	O
Cooling & Fan Operation(Cooling Only)	-	-	-
Cooling, heating & Fan Operation(Heat Pump)	O	O	O
Defrost / Deicing	O	O	O
Deodorizing Filter	-	-	-
Drain Pump	Accessory	Accessory	Accessory
E.S.P. Control	O	O	O
Electric Heater	Accessory	Accessory	Accessory
Environment Friendly Refrigerant	O	O	O
Fire Alarm Function	-	-	-
Forced Operation	O	O	O
Group Control	O	O	O
High Ceiling Operation	-	-	-
Hot Start	O	O	O
Jet Cool	-	-	-
Plasma Air Purifier	Accessory	Accessory	Accessory
Prefilter(Washable / Anti-fungus)	O	O	O
Self Diagnosis	O	O	O
Sleep Mode	O	O	O
Soft Dry Operation	O	O	O
Swirl Swing	-	-	-
Space Control	-	-	-
Tele Control	Accessory	Accessory	Accessory
Temperature Control	O	O	O
Test Function	O	O	O
Time Delay Safety function	O	O	O
Timer (weekly)	O	O	O
Two Thermistor Control	O	O	O
Wired LCD Remote Control	O	O	O
Wireless Remote Control	Accessory	Accessory	Accessory
Zero Standby Power	O	O	O
Zone Control	Accessory	Accessory	Accessory

Notes :

O : Basic

Optional : Factory-Installed

Accessory : Field-Installed

- : Not available on this system

3. Specifications

Indoor Unit Type			Ceiling Concealed Duct		
Model			ABNH186HLAB	ABNH246HLAB	ABNH306GLAB
Nominal Cooling Capacity		kcal/h(W)	4536(5275)	6048(7034)	7560(8791)
		Btu/h	18000	24000	30000
Nominal Heating Capacity		kcal/h(W)	5116(5949)	6955(8089)	8694(10110)
		Btu/h	20300	27600	34500
Air Circulation	H/M/L	CMM(CFM)	16.5/14.5/13(583/512/459)	18/16.5/14(636/583/494)	26.5/23/20(936/812/706)
External Static Pressure		mmAq	8	8	10
Setting temperature range(cool/heat)		°C	18~30 / 16~30	18~30 / 16~30	18~30 / 16~30
Fan motor	Output	W	118	118	211
	Model		IC-13450LG13C	IC-13450LG13C	IC-13450LG13J
	No. of Poles		4	4	4
	Input	W	180	180	300
	Running Current	A	0.92	0.92	1.34
	Capacitor	μF/Vac	6/370	6/370	6/370
Fan	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	No. Used / Diameter	EA/inch(mm)	1/6.97(177)	1/6.97(177)	1/6.97(177)
Noise Level (Sound Press,1.5m)	H/M/L	dB(A)	36/34/32	38/36/34	40/38/35
Temperature controller			Thermistor	Thermistor	Thermistor
Coil	Tube Size (OD)	inch(mm)	0.275(7)	0.275(7)	0.275(7)
	Fins per inch		21	21	21
	No. of Rows & Column		3R10C	3R10C	3R,12C
Dehumidification Rate		l/h	2.0	2.5	3.3
Dimensions (W*H*D)		inch(mm)	34.6*10.2*17.7(880*260*450)	34.6*10.2*17.7 (880*260*450)	46.5*11.7*17.7(1180*298*450)
Net Weight		kg(lbs)	35(77.2)	35(77.2)	38(84)
Piping Connection	Liquid	inch(mm)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)
	Gas	inch(mm)	1/2 (12.7)	1/2 (12.7)	5/8 (15.88)
	Drain hose (OD Ø)	inch(mm)	25.4	25.4	25.4
Packing Dimension (W*H*D)		inch(mm)	44.7*13.4*22.0(1135*340*565)	44.7*13.4*22.0 (1135*340*565)	56.5*14.8*22.9(1,435*375*582)
Stuffing Quantity	Without S/Parts	20/40ft	120/252	120/252	95/191
For outdoor units	Single Split		See chapter MPS Variable SINGLE-A(AUUh-B)		
	Application Split(Simultaneous operation)		See chapter MPS Variable SINGLE-A(AUUh-B)		

Notes:

1. Capacities are based on the following conditions:

- Cooling: - Indoor Temperature 27°C(80.6°F) DB /19°C(66.2°F) WB
- Outdoor Temperature 35°C(95°F) DB /24°C(75.2°F) WB
- Interconnecting Piping Length 7.5m
- Level Difference of Zero.

- Heating: - Indoor Temperature 20°C(68°F) DB / 15°C(59°F) WB
- Outdoor Temperature 7°C(44.6°F) DB / 6°C(42.8°F) WB
- Interconnecting Piping Length 7.5 m
- Level Difference of Zero.

2. Capacities are Net Capacities.

3. Due to our policy of innovation some specifications may be changed without notification.

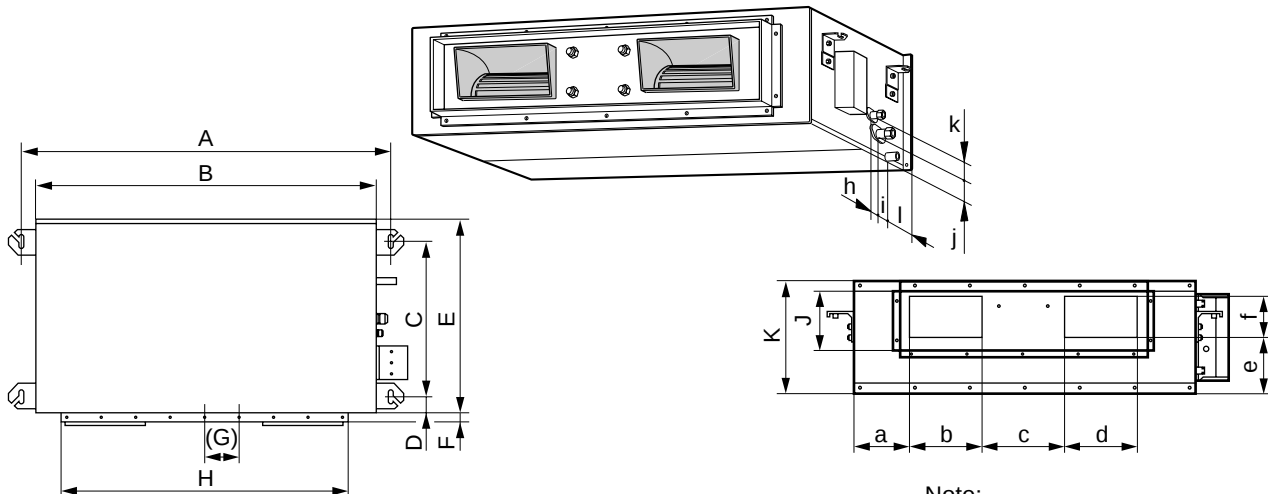
Indoor Unit Type			Ceiling Concealed Duct		
Model			ABNH366GLAB	ABNH486RLAB	ABNH606RLAB
Nominal Cooling Capacity		kcal/h(W)	9072(10549)	12095(14067)	14112(16412)
		Btu/h	36000	48000	56000
Nominal Heating Capacity		kcal/h(W)	10433(12130)	13305(15474)	15523(18053)
		Btu/h	41400	52800	61600
Air Circulation	H/M/L	CMM(CFM)	32/29/26(1130/1024/918)	40/35/30(1413/1236/1059)	50/45/40(1766/1413/1236)
External Static Pressure		mmAq	10	15	15
Setting temperature range(cool/heat)		°C	18~30 / 16~30	18~30/16~30	18~30/16~30
Fan motor	Output	W	272	431	431
	Model		IC-13450LG13A	Y002276-1	Y002276-1
	No. of Poles		4	4	4
	Input	W	323	818	818
	Running Current	A	1.42	3.65	3.65
	Capacitor	μF/Vac	6/370	15/450	15/450
Fan	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	No. Used / Diameter	EA/inch(mm)	1/6.97(177)	2/9.1(230)	2/9.1(230)
Noise Level (Sound Press,1.5m)	H/M/L	dB(A)	42/39/36	44/42/40	46/44/42
Temperature controller			Thermistor	Thermistor	Thermistor
Coil	Tube Size (OD)	inch(mm)	0.275(7)	0.375(9.52)	0.375(9.52)
	Fins per inch		21	19	19
	No. of Rows & Column		3R,10C	3R13C	4R13C
Dehumidification Rate		l/h	4.0	6	6.5
Dimensions (W*H*D)		inch(mm)	46.5*11.7*17.7(1180*298*450)	48.4*15.0*23.2(1230*380*590)	48.4*15.0*23.2(1230*380*590)
Net Weight		kg(lbs)	38(84)	60(132)	60(132)
Piping Connection	Liquid	inch(mm)	1/4 (6.35)	3/8(9.52)	3/8(9.52)
	Gas	inch(mm)	5/8 (15.88)	3/4(19.05)	3/4(19.05)
	Drain hose (OD Ø)	inch(mm)	25.4	25.4	25.4
Packing Dimension (W*H*D)		inch(mm)	56.5*14.8*22.9(1,435*375*582)	56.9*17.9*27.6(1445*455*700)	56.9*17.9*27.6(1445*455*700)
Stuffing Quantity	Without S/Parts	20/40ft	95/191	57/120	57/120
For outdoor units	Single Split	See chapter MPS Variable SINGLE-A(AUUh-B)			
	Application Split(Simultaneous operation)	See chapter MPS Variable SINGLE-A(AUUh-B)			

Notes:

- Capacities are based on the following conditions:
 Cooling: - Indoor Temperature 27°C(80.6°F) DB /19°C(66.2°F) WB
 - Outdoor Temperature 35°C(95°F) DB /24°C(75.2°F) WB
 - Interconnecting Piping Length 7.5m
 - Level Difference of Zero.
 Heating: - Indoor Temperature 20°C(68°F) DB / 15°C(59°F) WB
 - Outdoor Temperature 7°C(44.6°F) DB / 6°C(42.8°F) WB
 - Interconnecting Piping Length 7.5 m
 - Level Difference of Zero.
- Capacities are Net Capacities.
- Due to our policy of innovation some specifications may be changed without notification.

4. Dimensional Drawings

ABNH-HL, GL, RL



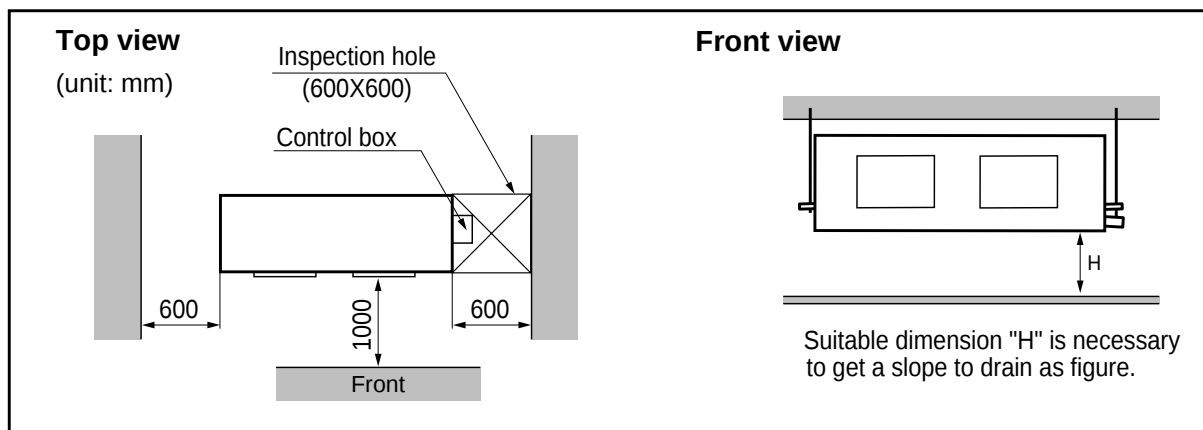
Note:

1. Pipe Specification(mm)

Model	Liquid	Gas
18, 24k	Ø 6.35	Ø 12.7
30, 36k		Ø 15.88
48, 60k	Ø 9.52	Ø 19.05

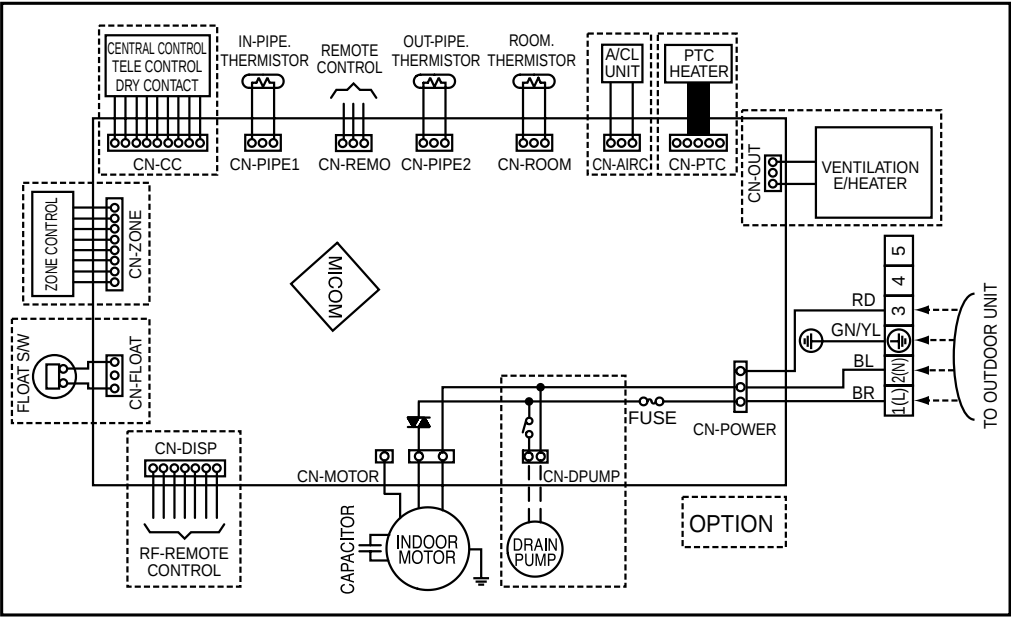
(Unit: mm)

Capacity	A	B	C	D	E	F	(G)	H	J	K	a	b	c	d	e	f	h	i	j	k	l
ABNH186HLAB ABNH246HLAB	932	882	355	45.5	450	30	87	750	163	260	61.5	243	212.3	243	110	130	52	66	81	30	158.5
ABNH306GLAB ABNH366GLAB	1232	1182	355	45.5	450	30	87	830	186	298	229.5	243	232	243	116	160	53	59	81	19	158.5
ABNH486RLAB ABNH606RLAB	1282	1230	477	56	590	30	120	1006	294	380	215	279	241	279	185	168	51	98	83	17	172

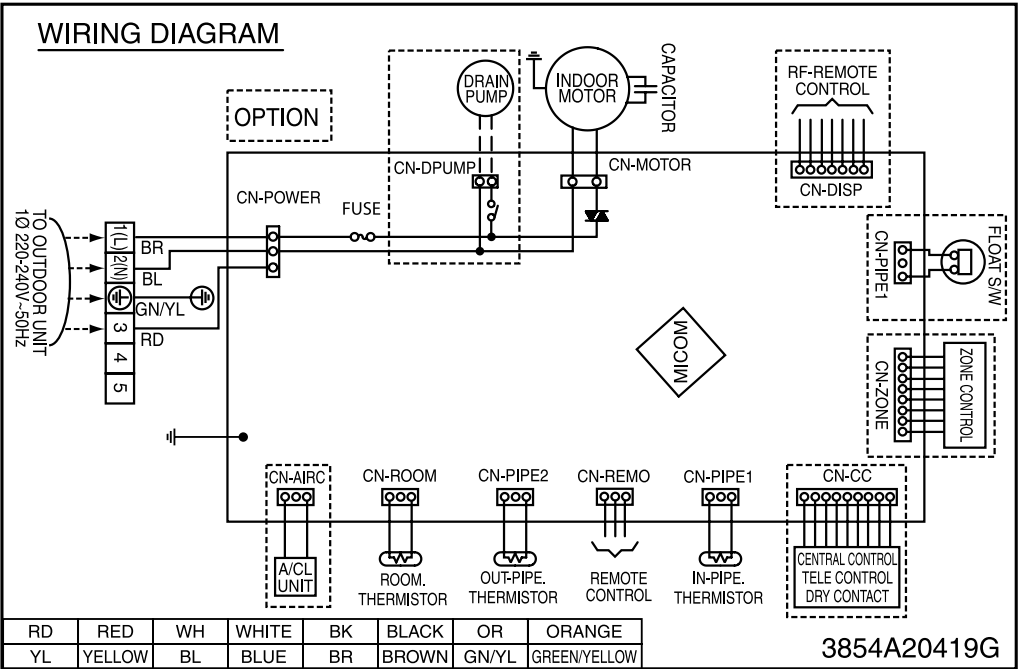


5. Wiring Diagrams

ABNH-HL, ABNH-GL

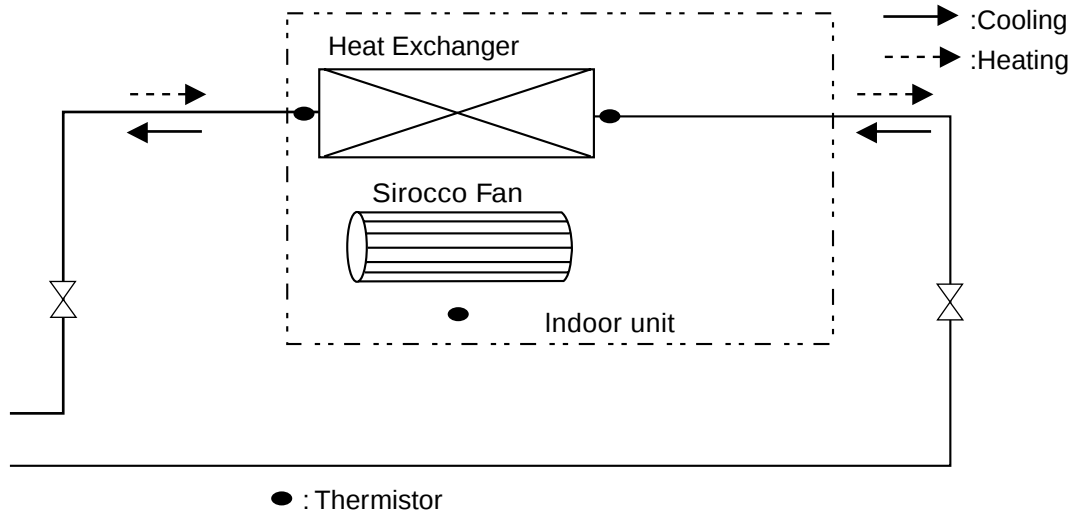


ABNH-RL



CONNECTOR NUMBER	LOCATION	CONNECTOR NUMBER	LOCATION
CN-POWER	AC POWER SUPPLY	CN-PIPE1	PIPE SENSOR
CN-MOTOR	BLDC FAN MOTOR OUTPUT	CN-PIPE2	DISCHARGE PIPE SENSOR
CN-D/PUMP	DRAIN PUMP OUTPUT	CN-REMO	REMOTE CONTROL
CN-DISP	RF-REMOTE CONTROL	CN-ROOM	ROOM SENSOR
CN-FLOAT	FLOAT SWITCH INUT	CN-AIRC	AIR CLEAN
CN-ZONE	ZONE CONTROL OUTPUT	CN-PTC	PTC HEATER
CN-CC	CENTRAL CONTROL OUTPUT	CN-OUT	VENTILATION /ELECTRIC HEATER

6. Piping Diagrams



Refrigerant pipe connection port diameter

[unit: mm(inch)]

Model	Gas	Liquid
ABNH186HLAB	12.7 (1/2)	6.35 (1/4)
ABNH246HLAB		
ABNH306GLAB	15.88(5/8)	
ABNH366GLAB		
ABNH486RLAB	19.05(3/4)	9.52(3/8)
ABNH606RLAB		

7. E.S.P. Setting for

 (E.S.P. Control) provide required constant air volume irrespective of E.S.P. charge.

(1) Open the rear cover of the wired remote-controller to set the mode.

(2) Select one of three selectable modes as follows.

■ Without Zone System

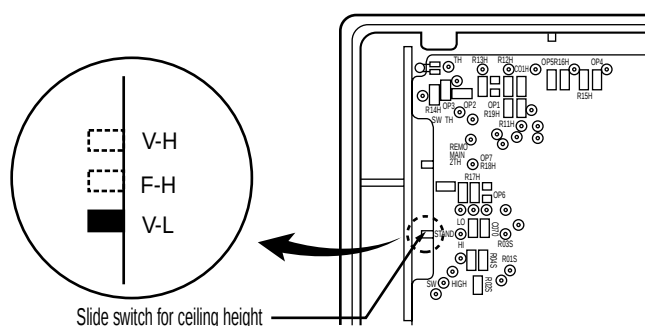
1. Position V-H, F-H:
 - This position sets the maximum E.S.P as a default set.
2. Position V-L:
 - This position sets the minimum E.S.P as a default set.

■ With Zone System

1. Position V-H:
 - Maximum E.S.P setting & Fan speed is varied according to the state of dampers by micom.
2. Position F-H:
 - Maximum E.S.P setting & Fan speed doesn't vary according to the opening & Closing of dampers.
3. Position V-L:
 - Minimum E.S.P setting & Fan speed is varied according to the state of dampers by micom.

*Maximum: 18/24k - 8mmAq
 30/36k - 10mmAq
 48/60k - 15mmAq
 Minimum: All-0mmAq

(3) Move the slide switch to set position.



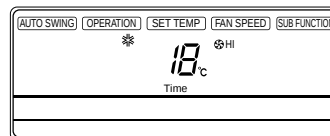
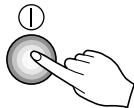
How to Set E.S.P?

Procedure of RPM change:

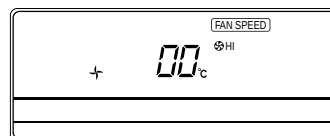
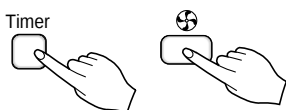
Ex) External Static pressure is 4mmAq for Model Name "ABNH246HLAB".

- To protect the unit, compressor is designed to be off during E.S.P. setting.

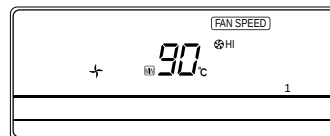
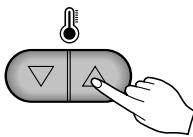
- 1** Push the "On/Off" button.
The unit will start.



- 2** Push the "Timer" and "Wind" button simultaneously for more than 3 seconds.



- 3** Push the "Up" or "Down" button for E.S.P adjustment.
And, adjust the number which you want. (In this example, the number is "190".
Refer to the table 7-1 on the next page.)



Note: The range of selection is from 1~254. Since, the display is two Digit only.
If the range selection is above 100 then the third digit will appear in the screen as shown.

- 4** Shift the fan speed mode by pressing the fan speed button.
And then, Adjust numbers of next steps by repeating the stage 3.
(In this example, the numbers are "220" and "235" respectively.)



- 5** Push the "Timer" and "Wind" button simultaneously for more than 3 seconds.
Then, Wind Data is memorized by the EEPROM of the main PCB.

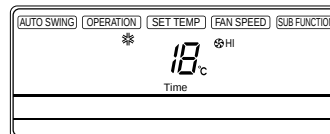
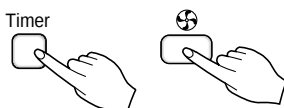


Table 7-1

Static Pressure(mmAq)			0	2	4	6	8	10	12	14	15
Model Name	Step	CMM(CFM)	Setting Value								
ABNH186HLAB	High	16.5(583)	235	230	225	215	180				
	Med	14.5(512)	245	238	235	230	215				
	Low	13(459)	254	252	248	245	240				
ABNH246HLAB	High	18(636)	220	205	190	50	1				
	Med	16.5(583)	235	230	220	200	100				
	Low	14(494)	250	240	235	230	210				
ABNH306GLAB	High	26.5(936)	153	150	150	148	130	1			
	Med	23(812)	173	173	175	175	170	155			
	Low	20(706)	190	190	190	190	190	190			
ABNH366GLAB	High	32(1130)	230	230	225	220	150	1			
	Med	29(1024)	240	238	237	235	230	220			
	Low	26.5(936)	245	245	243	243	240	240			
ABNH486RLAB	High	40(1412)	230	225	220	215	205	200	190	180	160
	Med	35(1235)	250	245	240	235	230	220	215	210	200
	Low	30(1059)	255	255	255	250	245	240	235	230	225
ABNH606RLAB	High	50(1766)	185	180	174	162	154	140	90	5	1
	Med	45(1589)	210	205	199	191	189	180	155	138	110
	Low	40(1423)	230	225	219	215	210	205	193	180	171

Note: 1. To get the desired Airflow & E.S.P combination from the table set the matching value from the table. Value other than that in table will not give the combinations of airflow & ESP which are mentioned in the table.

2. Table 7-1 is based at 230V. According to the fluctuation of voltage, air flow rate varies.

Table 7-2

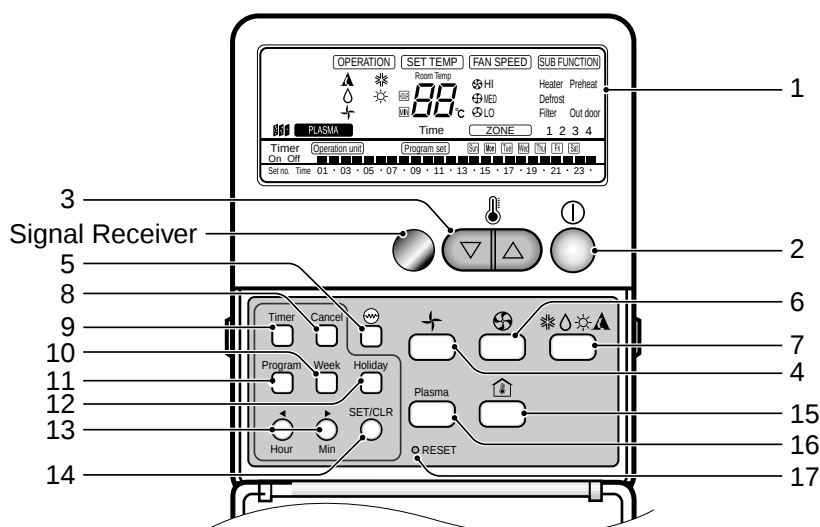
Model Name	Step	Setting Value	Static Pressure(mmAq)								
			0	2	4	6	8	10	12	14	15
			CMM(CFM)								
ABNH186HLAB	High	180	22(777)	21(742)	19.8(669)	18.3(646)	16.5(583)				
	Med	215	18.5(653)	17.8(629)	17.1(604)	16.2(572)	14.5(512)				
	Low	240	16.1(569)	15.6(551)	15.1(533)	14.2(501)	13(459)				
ABNH246HLAB	High	1	24(848)	22.5(795)	20.8(735)	19(671)	18(636)				
	Med	100	21.3(752)	19.9(703)	18.7(660)	17.2(607)	16.5(583)				
	Low	210	17(600)	16.1(569)	15.4(551)	14.7(519)	14(494)				
ABNH306GLAB	High	1	34.2(1208)	33.1(1169)	31.7(1119)	29.9(1056)	27.7(978)	26.5(936)			
	Med	155	27(954)	26.3(929)	26.1(922)	25.8(911)	24.8(876)	23(812)			
	Low	190	21(742)	20.8(735)	20.6(727)	20.4(720)	20.4(720)	20(706)			
ABNH366GLAB	High	1	42(1483)	40(1413)	38(1342)	35.5(1254)	33.5(1183)	32(1130)			
	Med	220	39(1377)	37(1307)	35(1236)	33(1165)	31(1095)	29(1024)			
	Low	240	34(1201)	32.5(1148)	31(1095)	29.5(1042)	27(954)	26.5(936)			
ABNH486RLAB	High	200	49(1730)	47.4(1675)	44.9(1584)	43.3(1529)	41.7(1472)	40(1412)	38.6(1361)	37(1305)	35.4(1249)
	Med	220	44(1554)	42.4(1498)	40.2(1420)	39.2(1384)	36.7(1296)	35(1236)	34.6(1220)	33(1164)	32.2(1137)
	Low	240	38(1342)	37.2(1314)	35(1234)	32.4(1145)	31.6(1114)	30(1059)	28.6(1008)	27(953)	26.2(925)
ABNH606RLAB	High	140	59(2083)	57.4(2028)	55.8(1969)	53.4(1886)	51.7(1826)	50(1766)	46.6(1644)	42.9(1516)	40.6(1432)
	Med	180	53(1871)	51.4(1816)	49.8(1758)	47.4(1674)	45.9(1621)	45(1589)	42.6(1502)	39.6(1397)	38.3(1352)
	Low	205	47(1660)	45.8(1618)	43.8(1547)	42.1(1488)	40.7(1435)	40(1412)	37.8(1335)	35(1234)	33.4(1179)

Notes:

- 1) The above table shows the correlation of External Static Pressure & Air Flow.
- 2) When installing, the value of motor step needs to be set according to E.S.P. of the table 7-2.

8. Operating Instructions

■ Name and Function of Remote Controller



1. Operation display

Displays the operation conditions.

2. On/Off Button

Operation starts when this button is pressed, and stops when the button is pressed again.

3. Set Temperature Button

Used to set the temperature when the desired temperature is obtained.

4. FAN Operation Button

Used to circulate room air without cooling or heating.

5. Electric Heater Button(optional)

Used to set the Electric Heater.

6. Fan Speed Button

Used to set desired fan speed.

7. Operation Mode Selection Button

Used to select the operation mode.

- Auto Operation Mode.
- Cooling Operation Mode.
- Soft Dry Operation Mode.
- Heating Operation Mode.(except cooling model)

8. Timer Cancel Button

Used to cancel the timer.

9. Timer Set Button

Used to set the timer when the desired time is obtained.

10. Week Button

Used to set a day of the week.

11. Program Button

Used to set the weekly timer.

12. Holiday Button

Used to set a holiday of the week.

13. Time Set Button

Used to set the time of the day and change the time in the weekly timer Function.

14. Set and Clear Button

Used to set and clear the weekly timer.

15. Room Temperature Checking Button

Used to check the room temperature.

16. Plasma Air Clean Button(optional)

17. Reset Button

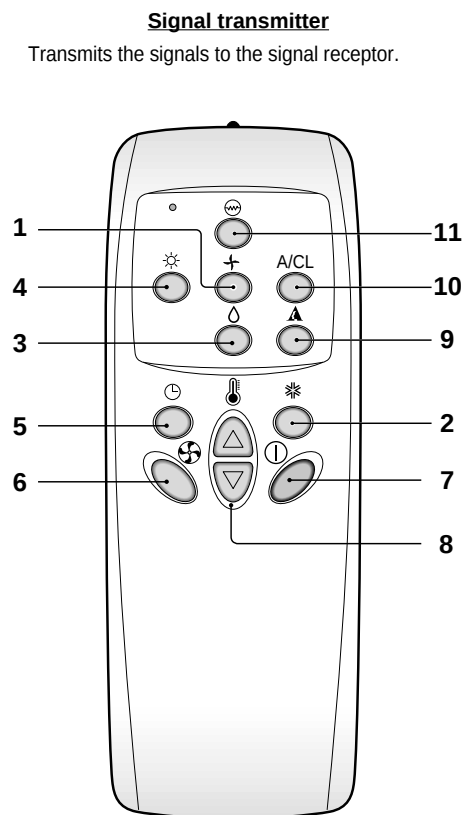
Used to set the current time and clear the setting time.

※ Display temperature can be different from actual room temperature if the remote controller is installed at the place where sun-rays are falling directly or the place nearby heat source.

■ Optional Function

• Wireless Remote Controller

This air-conditioner is equipped with wired remote controller basically. But if you want to have the wireless remote controller, you pay for it.



1. FAN Operation Button

Used to circulate room air without cooling or heating.

2. Cooling Operation Button

3. Soft Dry Operation Button

Used to dehumidify without overcooling.

4. Heating Operation Button

(Heat pump model only)

5. Timer Set Button

Used to set the timer when the desired time is obtained.

Then the wired remote controller is set up to 24 hours by an hour but the wireless remote controller is set up to 7 hours by an hour. Therefore, if you want to set over 7 hours, use the wired remote controller.

6. Fan Speed Button

Used to set the desired fan speed.

7. On/Off Button

Operation starts when this button is pressed, and stops when the button is pressed again.

8. Set Temperature Button

Used to set the temperature when the desired temperature is obtained

9. Auto Operation Button

10. Plasma Air Clean Button(Optional)

11. Electric Heater Button(Optional) Used to set the Electric Heater.

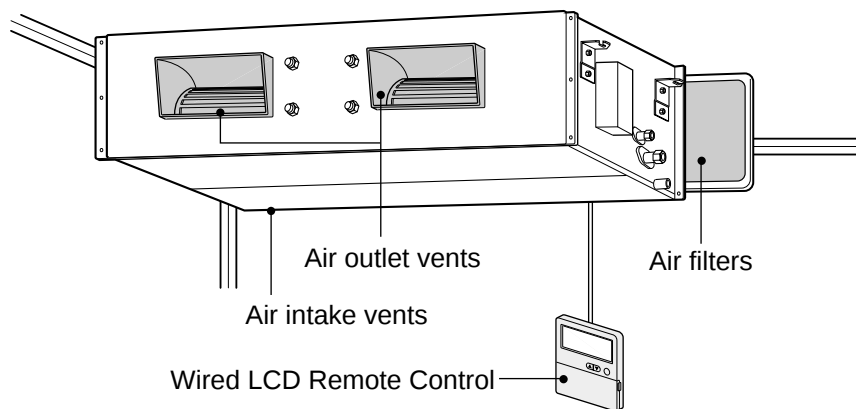


CAUTION : for handling the Remote Controller

- Aim at the signal receptor on the wired remote controller so as to operate.
- The remote control signal can be received at a distance of up to about 7m.
- Be sure that there are no obstructions between the remote controller and the signal receptor.
- Do not drop or throw the remote controller.
- Do not place the remote controller in a location exposed to direct sunlight, or near the heating unit, or any other heat source.
- Block a strong light over the signal receptor with a curtain or etc. so as to prevent the abnormal operation. (ex: electronic quick start, ELBA, inverter type fluorescent lamp)

9. Installation

- Please read this instruction sheet completely before installing the product.
- When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.



Required Parts

- Connecting cable
- Pipes: Gas side
Liquid side
- Hanging Bolt
(W 3/8 or M10 length 650mm)
- Insulated drain hose
- Additional Drain hose
(Outer Dia25.4mm)

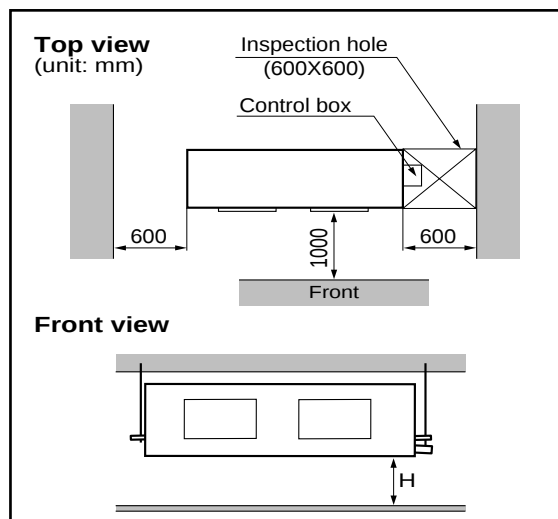
Required Tools

- Level
- Screw driver
- Electric drill
- Hole core drill ($\varnothing 70\text{mm}$)
- Flaring Tools set
- Torque Wrenches
- Hexagonal Wrench (4mm, 5mm)
- Gas-leak detector
- Owner's Manual
- Thermometer

9.1 Selection of the best location

Install the air conditioner in the location that satisfies the following conditions.

- The place shall easily bear a load exceeding four times the indoor unit's weight.
- The place should have enough area for inspection as shown in figure.
- The place where the unit shall be leveled.
- The place shall allow easy water drainage.(Suitable dimension "H" is necessary to get a slope to drain as figure.)
- The place shall easily connect with the outdoor unit.
- The place where the unit is not affected by an electrical noise.
- The place where air circulation in the room will be good .
- There should not be any heat source or steam near the unit.



9.2 Ceiling dimension and hanging bolt location

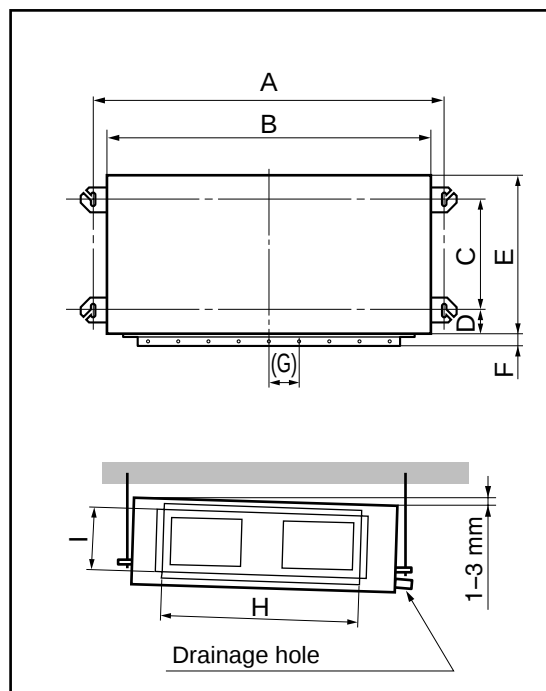
■ Installation of Unit

Install the unit above the ceiling correctly.

CASE 1

POSITION OF SUSPENSION BOLT

- Apply a joint-canvas between the unit and duct to absorb unnecessary vibration.
- Apply a filter Accessory at air return hole.
- Refer to Dimensional Drawings.

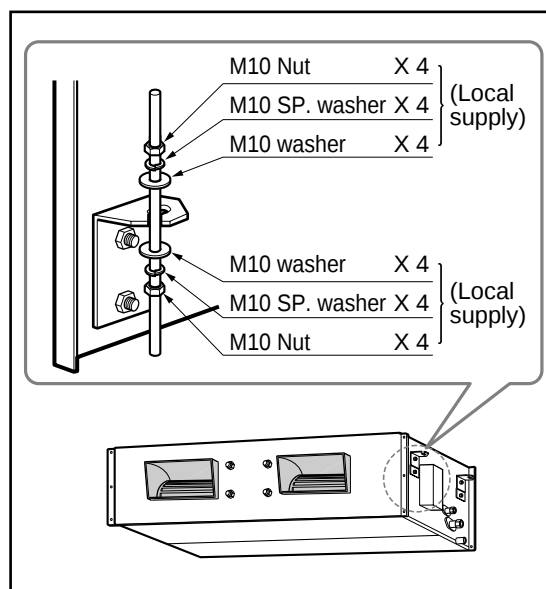


- Install the unit leaning to a drainage hole side as a figure for easy water drainage.

CASE 2

POSITION OF CONSOLE BOLT

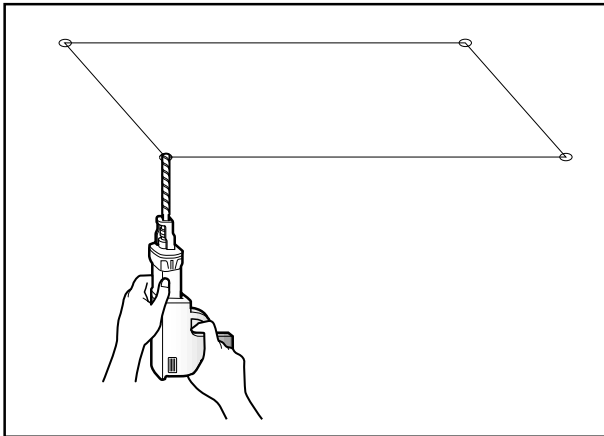
- A place where the unit will be leveled and that can support the weight of the unit.
- A place where the unit can withstand its vibration.
- A place where service can be easily performed.



NOTE:

- Thoroughly study the following installation locations:
 1. In such places as restaurants and kitchens, considerable amount of oil steam and flour adhere to the fan, the fin of the heat exchanger, resulting in heat exchange reduction, spraying, dispersing of water drops, etc.
In these cases, take the following actions:
 - Make sure that the ventilation fan for smoke-collecting hood on a cooking table has sufficient capacity so that it draws oily steam which should not flow into the suction of the air conditioner.
 - Make enough distance from a cooking room to install the air conditioner in such a place where it may not suck in oil steam.
 2. Avoid installing air conditioner in such circumstances where cutting oil mist or iron powder is in suspension in factories, etc.
 3. Avoid places where inflammable gas is generated, flows in, is stored or vented.
 4. Avoid places where sulfurous acid gas or corrosive gas is generated.
 5. Avoid places near high frequency generators.

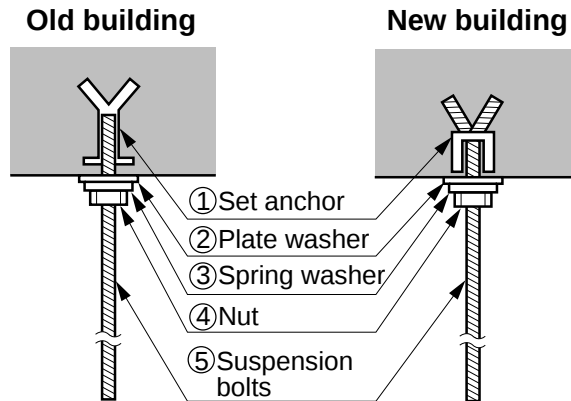
- Select and mark the position for fixing bolts.
- Drill the hole for set anchor on the face of ceiling.



CAUTION

Tighten the nut and bolt to prevent unit falling.

- Insert the set anchor and washer onto the suspension bolts for locking the suspension bolts on the ceiling.
- Mount the suspension bolts to the set anchor firmly.
- Secure the installation plates onto the suspension bolts (adjust level roughly) using nuts, washers and spring washers.



9.3 Connecting Cables

Connect the wires to the terminals on the control board individually according to the outdoor unit connection.

- Ensure that the color of the wires of outdoor unit and the terminal No. are the same as those of indoor unit respectively

Terminal Block in Indoor				
1(L)	2(N)		3	4

↑ ↑ ↑ ↑
Connected to outdoor unit

WARNING

Make sure that the screws of the terminal are free from looseness.

Clamping of cables

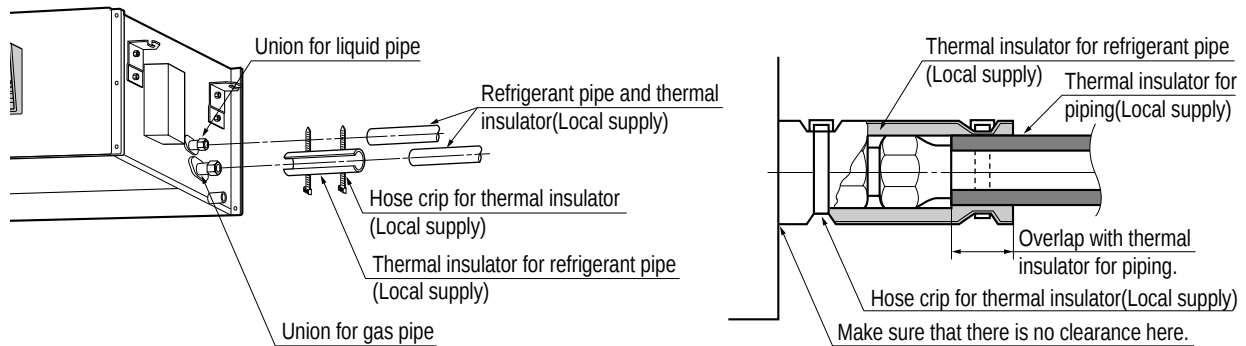
- 1) Arrange 2 power cables on the control panel.
- 2) First, fasten the steel clamp with a screw to the inner boss of control panel.
- 3) For the cooling model, fix the other side of the clamp with a screw strongly. For the heat pump model, put the 0.75mm² cable(thinner cable) on the clamp and tighten it with a plastic clamp to the other boss of the control panel.
- 4) In Australia, the length of power supply cord measured from the entry of the power supply cord to the middle of live pin on the power plug should be over 1.8m.

9.4 Insulation

THERMAL INSULATION

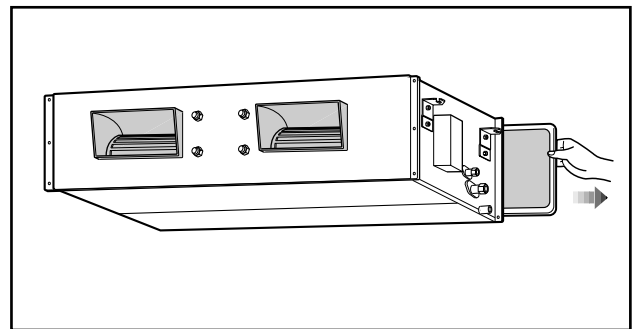
All thermal insulation must comply with local requirement.

INDOOR UNIT



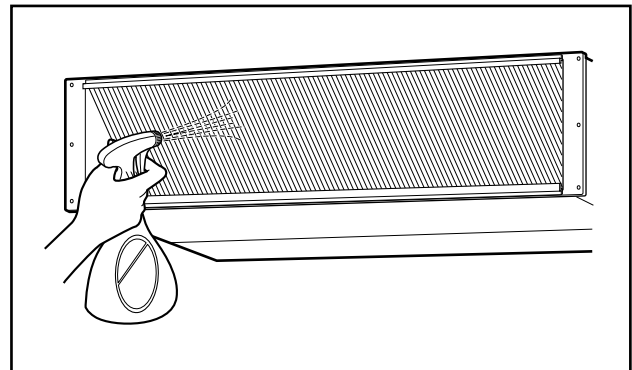
9.5 Checking the Drainage

1. Remove the Air Filter.



2. Check the drainage.

- Spray one or two glasses of water on the evaporator.
- Ensure that water flows to drain hose from indoor unit without any leakage.

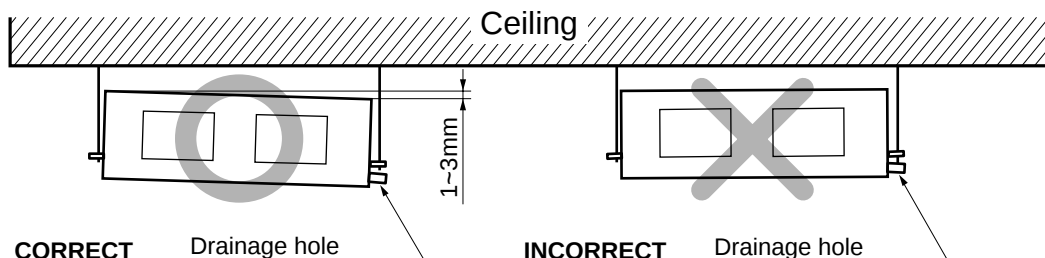


CAUTION

1. **Decline Installation** of indoor unit is very **important for the drain** of the duct type air conditioner.
2. Minimum thickness of the insulation for the connecting pipe should be 5mm.

Front of view

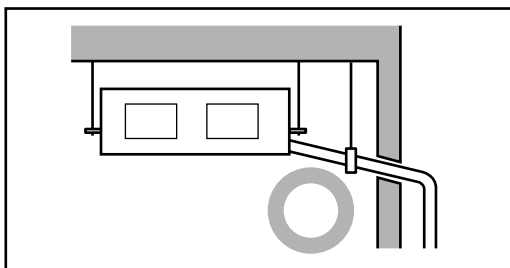
- The unit must be or declined to wards drain hose while installation.



CAUTION FOR GRADIENT OF UNIT AND DRAIN PIPING

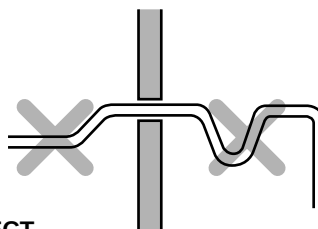
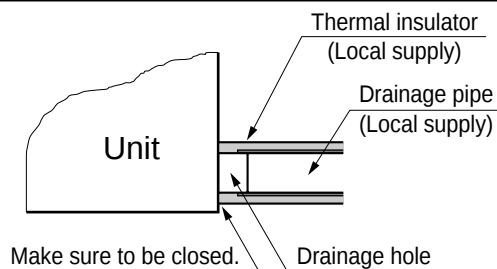
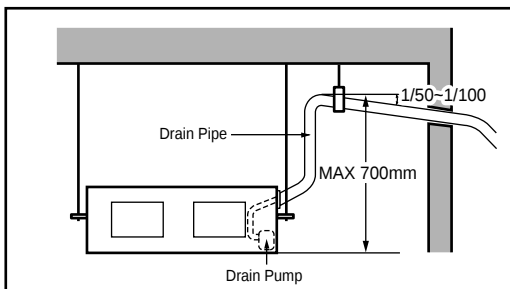
Lay the drain hose with a downware inclination so water will drain out.

- Always lay the drain with downward inclination (1/50 to 1/100). Prevent any upward flow or reverse flow in any part.
- 5mm or thicker formed thermal insulator shall always be provided for the drain pipe.



CORRECT

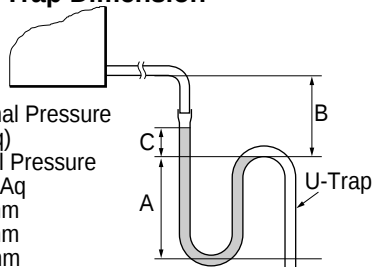
- Install the P-Trap (or U-Trap) to prevent a water leakage caused by the blocking of intake air filter.



INCORRECT

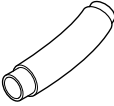
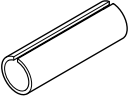
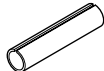
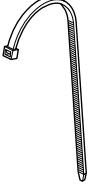
Applied U-Trap Dimension

- $A \geq 70\text{mm}$
- $B \geq 2C$
- $C \geq 2 \times \text{SP}$
- SP = External Pressure (mmAq)
- Ex) External Pressure = 10mmAq
- $A \geq 70\text{mm}$
- $B \geq 40\text{mm}$
- $C \geq 20\text{mm}$



10. Accessories

Standard Accessories

Name	Clamp metal	Drain hose	Insulation for fitting	Clamp	Screws for duct flanges	(Other)
Quantity	1 EA	1 EA	1 set	6 EA	1 set	
Shape			 for gas pipe  for liquid pipe			

- Owner's manual
- Installation manual
- Washers(8 pcs.)

Optional Accessories(For Unit)

No.	Item	Type	Model No.	Component Parts
1	Wireless remote control	With air purifying function	AHWRHS AHWRHD(LCD)	• Wireless remote control : 1EA • Holder : 1EA • Battery : 2EA • Screw : 2EA
2	Plasma air purifying filter	-	ABPAHH	• Plasm Air Purifier Kit: 1EA • Wired Remote Control: 1EA
3	Zone Control	-	ABZCA	• Factory supplied-Zone control PCB • Purchased Locally-Damper, Damper Moter, thermostat
4	Drain Pump	-	ABDPG	• Drain Pump Assembly: 1EA
5	Central control	Simple	PQCSA101S0	• Central control • Installation manual
6	PI485 Gateway	For central control	PHNFP14A0	• PCB: 1EA • Installation manual • Wire assembly

II. Outdoor Units

Introduction73

MPS Variable SINGLE A75

Introduction



SINGLE A Outdoor Units - R410A (AUUH-B)

• Models List

Series			Model name	Power supply
Single A	Heat Pump	1 Compressor	AUUH126B	1Ø, 220-240V, 50Hz
			AUUH186B	
			AUUH246B	
		MPS Variable	AUUH306B	3Ø, 380-415V, 50Hz
			AUUH368B	
			AUUH488B	
		1 Compressor	AUUH608B	

• Indoor Unit Matching

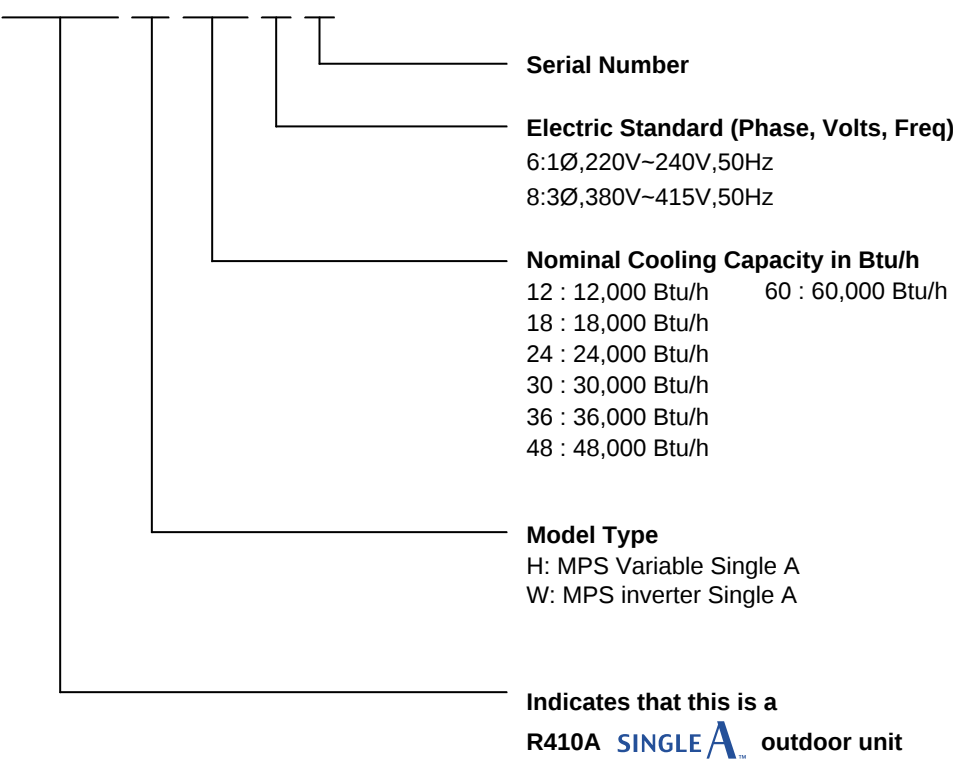
LG's **SINGLE A** system consist of one outdoor unit which can match with three different indoor units as individual system.

The indoor units are ceiling cassette, ceiling concealed duct and ceiling & floor types.

Outdoor unit	Indoor unit	
	Type	Model name
AUUH126B	Ceiling Cassette	ATNH126ELFB
	Ceiling & Floor	AVNH126ELAB
AUUH186B	Ceiling Cassette	ATNH186ELFB
	Ceiling & Floor	AVNH186BLAB
	Ceiling Concealed Duct	ABNH186HLAB
AUUH246B	Ceiling Cassette	ATNH246FLFB
	Ceiling & Floor	AVNH246BLAB
	Ceiling Concealed Duct	ABNH246HLAB
AUUH306B	Ceiling Cassette	ATNH306FLFB
	Ceiling & Floor	AVNH306BLAB
	Ceiling Concealed Duct	ABNH306GLAB
AUUH368B	Ceiling Cassette	ATNH366DLFB
	Ceiling Concealed Duct	ABNH366GLAB
AUUH488B	Ceiling Cassette	ATNH486DLFB
	Ceiling Concealed Duct	ABNH486RLAB
AUUH608B	Ceiling Cassette	ATNH606DLFB
	Ceiling Concealed Duct	ABNH606RLAB

• Model Number Nomenclature

A U U H 1 8 6 B



MPS Variable SINGLE A



SINGLE A

(R410A-Outdoor Units)

AUUh-B

Contents

1. Features & Benefits	76
2. Specifications.....	78
3. Dimensional Drawings	82
4. Wiring Diagrams	86
5. Piping Diagrams.....	90
6. Electric Characteristics	93
7. Operation Range.....	94
8. Installation.....	95

1. Features & Benefits

MPS(Multi Power System) Variable Control : (Except: AUUH126B/186B/246B/608B)

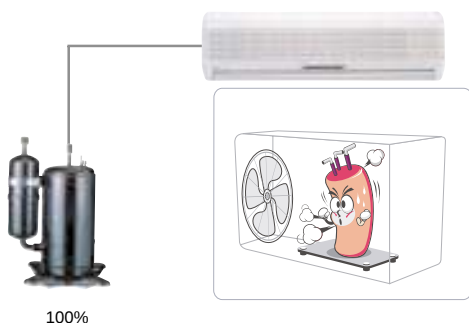


Big Energy Saving with MPS Variable Control

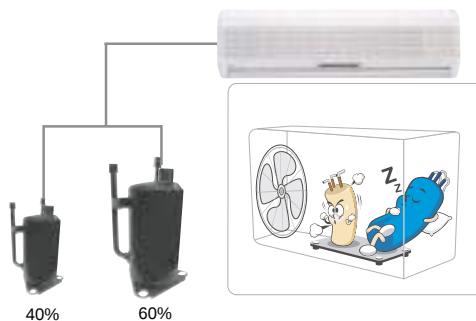
• Basic Principle of MPS Variable Control

MPS control provides comfortable and convenient environment as there are two compressors with 60% & 40% load sharing with one compressor of small capacity always working to maintain the set temperature conditions & meanwhile other compressor is at rest if the load is low whereas in conventional system the only compressor is working with ON/OFF cycles.

Conventional (On/Off Operation)

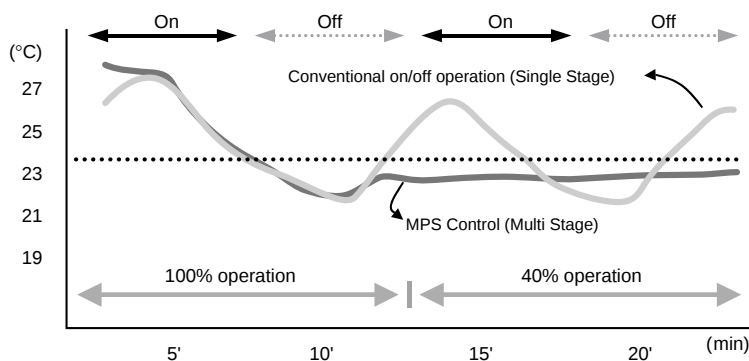


MPS Control



• Comfort Control

- Conventional Operation : The compressor must turn on and off to reach desired temperature setting. A large portion of power is used during restarting. This causes unnecessary power consumption.
- MPS(Multi Power System) Control : This is a power saving system with two rotary compressors of different capacity (60% & 40%) operating an A/C at high power until it reaches desired temperature. And when it reaches the temperature, only the 40% capacity rotary compressor operates.

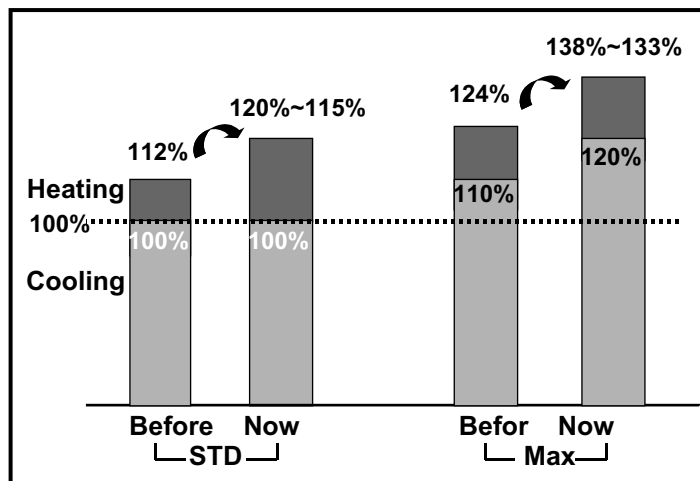


Low Ambient Control

If the outdoor temperature drops below certain temperature, liquid back to the compressor is prevented by reducing outdoor fan speed. It can prevent frosting of evaporator and keep cooling operation on.

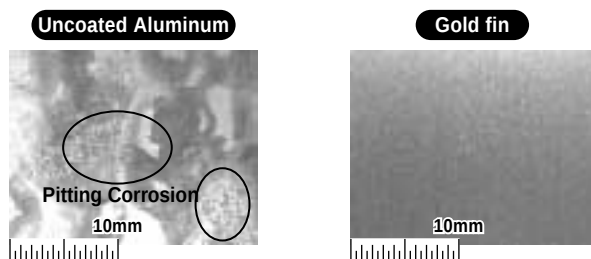
Heating Capacity Improved

- Using MPS technology, LG's air conditioning system achieved world's best wide range of operation which is from 12%~120% in cooling mode and from 12%~138% in heating mode to give quicker cooling and heating.
- Compared cooling capacity
 - Standard heating capacity 120%
 - Max heating capacity 138%



Energy Saving Gold Fin

- Outdoor Heat Exchanger fins are coated with anti-corrosive & hydrophilic layers. It prevents the corrosion of heat exchanger. Fins remain as new even after long time of operation and maintain efficiency of heat exchanger constant. It also saves power & maintenance Cost



Salt Spray Test Result : After 360 hours
 [Test Standard: ASTM B-117, KS D 9502]

2. Specifications

Nominal Capacity and Nominal Input						
For combination indoor units + outdoor units :						
Indoor Units			ATNH126ELFB	ATNH186ELFB	ATNH246FLFB	ATNH306FLFB
Outdoor Units			AUUh126B	AUUh186B	AUUh246B	AUUh306B
Nominal Capacity	Cooling	Btu/h	12,000	18,000	24,000	28,000
		W	3,517	5,275	7,034	8,205
	Heating	Btu/h	13800	20,300	27,600	32,200
		W	4044	5,949	8,089	9,437
Nominal Input	Cooling	W	1,070	1,640	2,190	2,550
	Heating	W	1,100	1,650	2,210	2,600
EER		Btu/h.W(W/W)	11.21(3.28)	10.98(3.22)	10.96(3.21)	10.98(3.22)
COP		Btu/h.W(W/W)	12.55(3.67)	12.30(3.61)	12.49(3.66)	12.38(3.63)

Nominal Capacity and Nominal Input						
For combination indoor units + outdoor units :						
Indoor Units			-	ABNH186HLAB	ABNH246HLAB	ABNH306GLAB
Outdoor Units			-	AUUh186B	AUUh246B	AUUh306B
Nominal Capacity	Cooling	Btu/h	-	18,000	24,000	30,000
		W	-	5,275	7,034	8,791
	Heating	Btu/h	-	20,300	27,600	34,500
		W	-	5,949	8,089	10,110
Nominal Input	Cooling	W	-	1,640	2,190	2,730
	Heating	W	-	1,650	2,210	2,800
EER		Btu/h.W(W/W)	-	10.98(3.22)	10.96(3.21)	10.99(3.22)
COP		Btu/h.W(W/W)	-	12.30(3.61)	12.49(3.66)	12.32(3.61)

Nominal Capacity and Nominal Input						
For combination indoor units + outdoor units :						
Indoor Units			AVNH126ELAB	AVNH186BLAB	AVNH246BLAB	AVNH306BLAB
Outdoor Units			AUUh126B	AUUh186B	AUUh246B	AUUh306B
Nominal Capacity	Cooling	Btu/h	12,000	18,000	24,000	28,000
		W	3,515	5,275	7,034	8,205
	Heating	Btu/h	13800	20,300	27,600	32,200
		W	4,042	5,949	8,089	9,437
Nominal Input	Cooling	W	1,070	1,640	2,190	2,550
	Heating	W	1,100	1,650	2,210	2,600
EER		Btu/h.W(W/W)	11.21(3.28)	10.98(3.22)	10.96(3.21)	10.98(3.22)
COP		Btu/h.W(W/W)	12.55(3.67)	12.30(3.61)	12.49(3.66)	12.38(3.63)

Nominal Capacity and Nominal Input					
For combination indoor units + outdoor units :					
Indoor Units			ATNH366DLFB	ATNH486DLFB	ATNH606DLFB
Outdoor Units			AUUh368B	AUUh488B	AUUh608B
Nominal Capacity	Cooling	Btu/h	36,000	48,000	56,000
		W	10,549	14,067	16,412
	Heating	Btu/h	41,400	55,200	64,400
		W	12,130	16,178	18,874
Nominal Input	Cooling	W	3,280	4,898	5,832
	Heating	W	3,340	5,044	6,613
EER		Btu/h.W(W/W)	10.98(3.22)	9.80(2.87)	9.60(2.81)
COP		Btu/h.W(W/W)	12.40(3.63)	10.94(3.20)	9.73(2.85)

For combination indoor units + outdoor units :					
Indoor Units			ABNH366GLAB	ABNH486RLAB	ABNH606RLAB
Outdoor Units			AUUh368B	AUUh488B	AUUh608B
Nominal Capacity	Cooling	Btu/h	36,000	48,000	56,000
		W	10,549	14,067	16,412
	Heating	Btu/h	41,400	55,200	64,400
		W	12,130	16,178	18,874
Nominal Input	Cooling	W	3,280	4,898	5,832
	Heating	W	3,340	5,044	6,613
EER		Btu/h.W(W/W)	10.98(3.22)	9.80(2.87)	9.60(2.81)
COP		Btu/h.W(W/W)	12.40(3.63)	10.94(3.20)	9.73(2.85)

Technical Specification						
Outdoor Units			AUUh126B	AUUh186B	AUUh246B	AUUh306B
Running Current	Cooling/Heating	A	5/5.1	8.3/8.9	10.8/11.2	18.8/16.2
Starting Current	Cooling/Heating	A				
Power Supply		Ø,V,Hz	1,220~240,50	1,220~240,50	1,220~240,50	1,220~240,50
Power Factor		%				
Compressor (Constant)	Type		Rotary	Rotary	Rotary	Rotary
	Model		GK151PAC	5KS225DAF21	GP290PAC	5KS225DKSM
	Quantity		1	1	1	2
	Motor Input	W	1,245	1,980	2,505	2,175
	Oil Charge	cc	350	600	1,130	1,340
	Oil Type		FVC68D	FV50S	FVC68D	FV50S
Refrigerant charge	Charge*	g(oz)	1200(42.4)	1300(45.90)	1950(68.9)	2300(81.37)
	Type		R410A	R410A	R410A	R410A
	Control		capillary	L.E.V	L.E.V	L.E.V
Coil	Tube Size (OD)	inch(mm)	0.276(7.0)	0.276(7.0)	0.276(7.0)	0.276(7.0)
	Fins per inch		18	18	18	18
	No. of Rows & Column/No.		2R,24C	2R,28C	2R,36C	2R,36C
Fan motor	Model		OBM-2012P2	IC28640LG28P	IC28640LG28P	IC28640LG28J
	Output	W	25.5	67.2	67.2	67.2
	Capacitor	µF/Vac	1.5/370	6/370	6/370	6/370
Fan	Type		Propeller	Propeller	Propeller	Propeller
	No. Used / Diameter	EA/inch(mm)	1/15.7(400)	1/18.1(460)	1/18.1(460)	1/18.1(460)
	Discharge	Side / Top	Side Discharge	Side Discharge	Side Discharge	Side Discharge
Air Circulation		CMM(CFM)	26(918)	58(2048)	58(2048)	53(1872)
Noise Level(H/L)	Sound Press,1m	dB(A)±1	47	52	52	53
Defrosting			Inversion cycle	Inversion cycle	Inversion cycle	Inversion cycle
SVC Valve	Liquid	inch(mm)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)
	Gas	inch(mm)	3/8 (9.52)	1/2 (12.7)	1/2 (12.7)	5/8 (15.88)
Dimensions	W*H*D	inch(mm)	30.3*21.3*9.6 (770*540*245)	34.3*25.8*12.6 (870*655*320)	34.3*31.5*12.6 (870*800*320)	34.3*31.5*12.6 (870*800*320)
Net Weight	Outdoor	kg(lbs)	31(68.3)	52(114.6)	60(132.2)	64(141)
Power Supply Cable(Includes earth)		No.* mm ²	3*2.5	3*2.5	3*2.5	3*2.5
Interunit Cable(Includes earth)		No.* mm ²	4*0.75	4*0.75	4*0.75	4*0.75
Max. Piping Length/Elevation		m	15/10	50/30	50/30	50/30
Additional Refrigerant Charge (Over 7.5m)		g/m	20	35	35	35
Packing Dimension	W*H*D	inch(mm)	36.2*20.8*14.2(920*580*360)	40.2*28.1*17.3(1020*715*440)	40.2*34.3*17.3(1020*870*440)	40.2*34.3*17.3(1020*870*440)
Stuffing Quantity	Without S/Parts	20/40ft	144/312	81/171	54/114	54/114

Notes:

1. Capacities are based on the following conditions:

- Cooling: - Indoor Temperature 27°C(80.6°F) DB /19°C(66.2°F) WB
 - Outdoor Temperature 35°C(95°F) DB /24°C(75.2°F) WB
- Heating: - Indoor Temperature 20°C(68°F) DB / 15°C(59°F) WB
 - Outdoor Temperature 7°C(44.6°F) DB / 6°C(42.8°F) WB
- Piping Length - Interconnecting Piping Length 7.5m(25ft)
 - Level Difference of Zero.

2. * : Full factory charge is shipped in the outdoor unit. The charge is determined based on 7.5m(25ft) of line.

3. Due to our policy of innovation some specifications may be changed without notification.

Technical Specification					
Outdoor Units			AUUh368B	AUUh488B	AUUh608B
Running Current	Cooling/Heating	A	7.8/9.9	10.0/9.5	13.6/10.9
Starting Current	Cooling/Heating	A			
Power Supply		Ø,V,Hz	3,380~415,50	3,380~415,50	3,380~415,50
Power Factor		%			
Compressor (Constant)	Type		Rotary	Rotary	SCROLL
	Model		5KS225PAA21	GPT330Y	AR073YA
	Quantity		2	2	1
	Motor Input	W	2,065	2,550	6,473
	Oil Charge	cc	1,340	1,200	2,325
	Oil Type		FV50S	FVC68D(PVE)	FVC68ST
Refrigerant charge	Charge*	g(oz)	2600(92.1)	4200(148.1) for 30m	4700(197) for 30m
	Type		R410A	R410A	R410A
	Control		L.E.V	L.E.V	L.E.V
Coil	Tube Size (OD)	inch(mm)	0.276(7.0)	0.276(7.0)	0.276(7.0)
	Fins per inch		18	17	17
	No. of Rows & Column/No.		2R,36C	2R 52C	2R 52C
Fan motor	Model		5BM-3018P2*2	AMR071B9*2	AMR071B9*2
	Output	W	47.2*2	70*2	70*2
	Capacitor	µF/Vac	2.0/400	6/370	6/370
Fan	Type		Propeller	Propeller	Propeller
	No. Used / Diameter	EA/inch(mm)	2 /15.7(400)	2/18.1(460)	2/18.1(460)
	Discharge	Side / Top	Side Discharge	Side Discharge	Side Discharge
Air Circulation		CMM(CFM)	32(1130)*2	53(1872) *2	53(1872) *2
Noise Level(H/L)	Sound Press,1m	dB(A)±1	52	57	57
Defrosting			Inversion cycle	Inversion cycle	Inversion cycle
SVC Valve	Liquid	inch(mm)	1/4 (6.35)	3/8 (9.52)	3/8 (9.52)
	Gas	inch(mm)	5/8 (15.88)	3/4 (19.05)	3/4 (19.05)
Dimensions	W*H*D	inch(mm)	35.3*41.7*12.6(870*1060*320)	35.4*45.8*14.5(900*1165*370)	35.4*45.8*14.5(900*1165*370)
Net Weight	Outdoor	kg(lbs)	80(176)	105(231)	93(205)
Power Supply Cable(Includes earth)		No.* mm ²	3*2.5	3*2.5	3*2.5
Interunit Cable(Includes earth)		No.* mm ²	4*0.75	4*0.75	4*0.75
Max. Piping Length/Elevation		m	50/30	50/30	50/30
Additional Refrigerant Charge (Over 7.5m)		g/m	40	75(30m chargeless)	75(30m chargeless)
Packing Dimension	W*H*D	inch(mm)	41.1*44.9*17.3(1045*1140*440)	41.7*48.0*18.3(1060*1220*465)	41.7*48.0*18.3(1060*1220*465)
Stuffing Quantity	Without S/Parts	20/40ft	51/111	27/55	27/55

Notes:

1. Capacities are based on the following conditions:

- Cooling:
- Indoor Temperature 27°C(80.6°F) DB /19°C(66.2°F) WB
 - Outdoor Temperature 35°C(95°F) DB /24°C(75.2°F) WB
- Heating:
- Indoor Temperature 20°C(68°F) DB / 15°C(59°F) WB
 - Outdoor Temperature 7°C(44.6°F) DB / 6°C(42.8°F) WB
- Piping Length - Interconnecting Piping Length 7.5m(25ft)
- Level Difference of Zero.

2. ★ : Full factory charge is shipped in the outdoor unit.

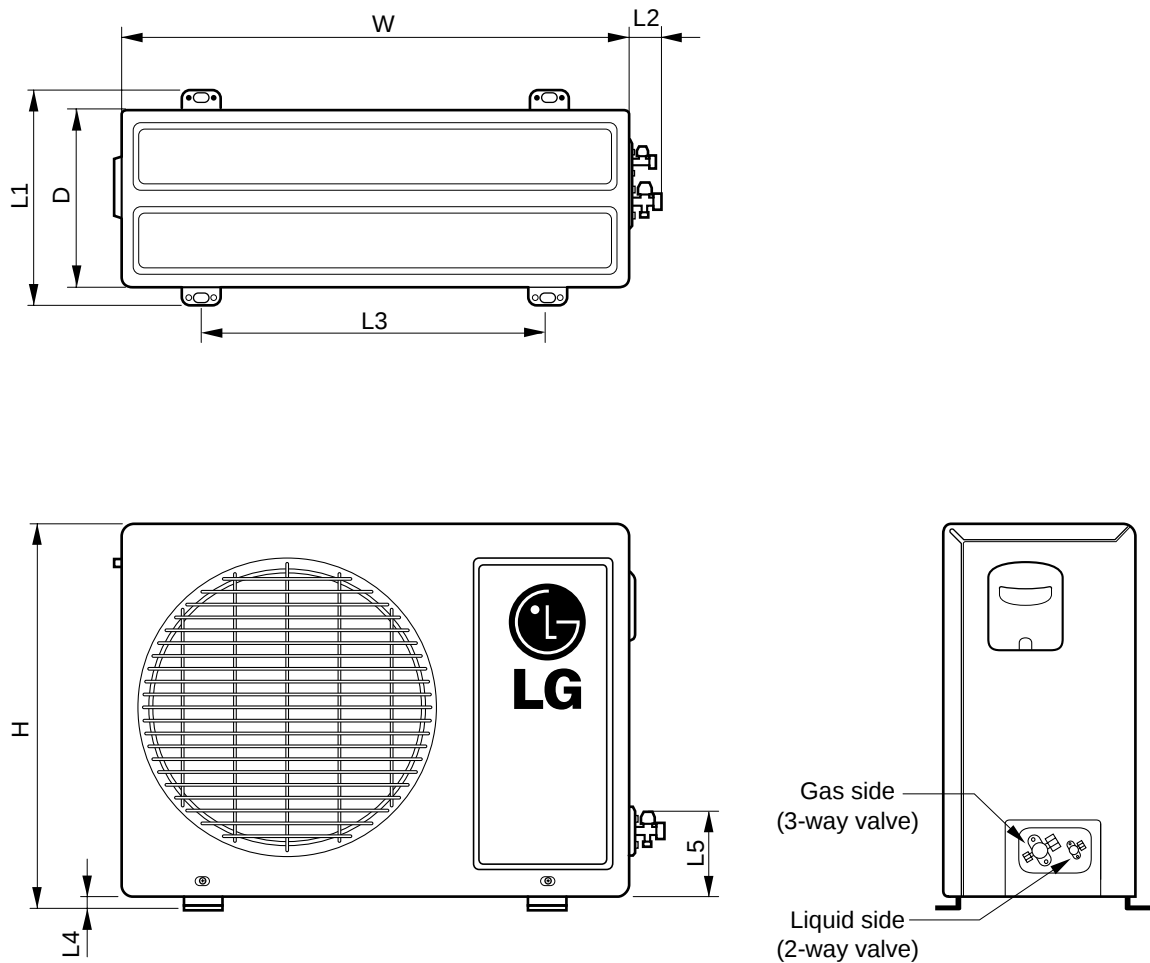
The charge of 36k model is determined based on 7.5m(25ft) of line.

48/60k models : Chargeless for 30m of piping length.

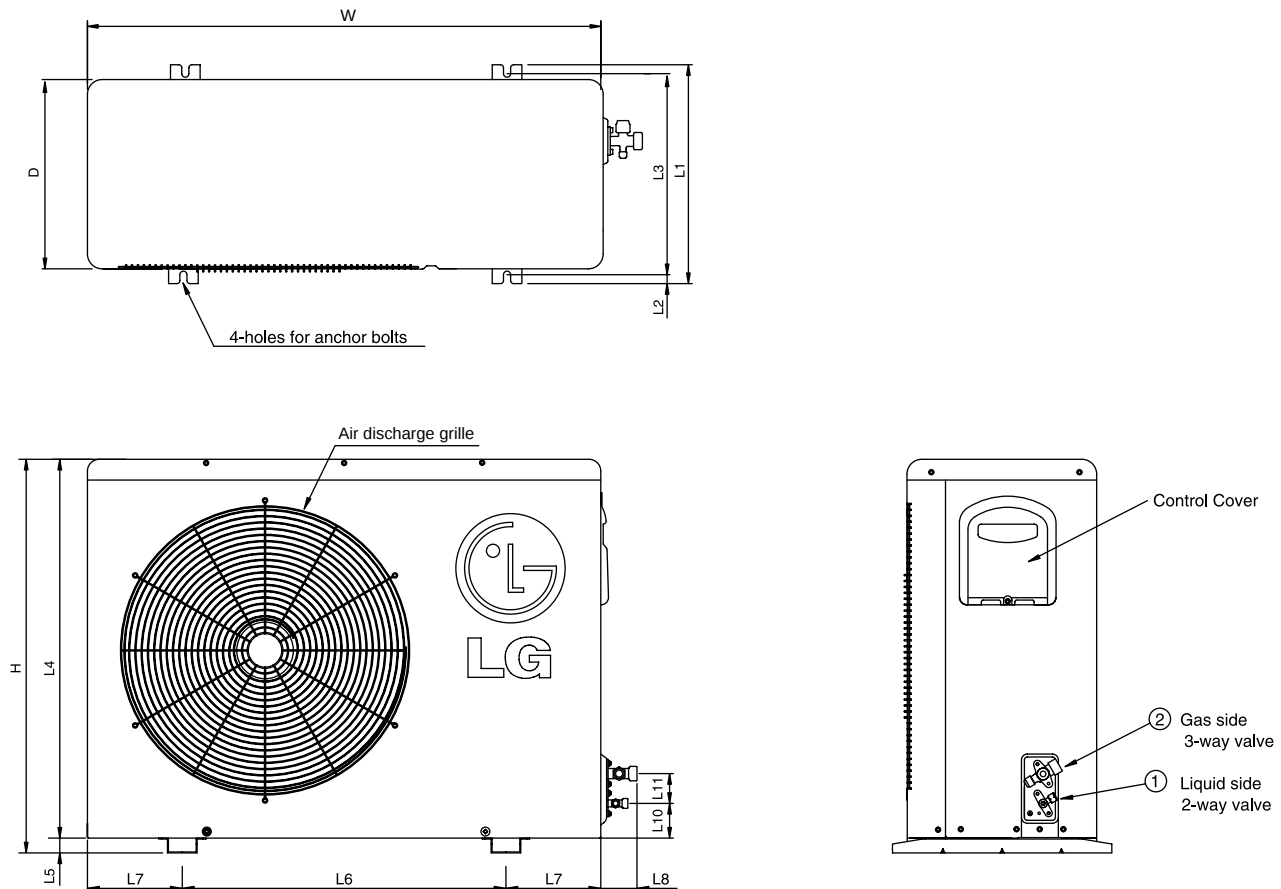
3. Due to our policy of innovation some specifications may be changed without notification.

3. Dimensional Drawings

AUUH126B

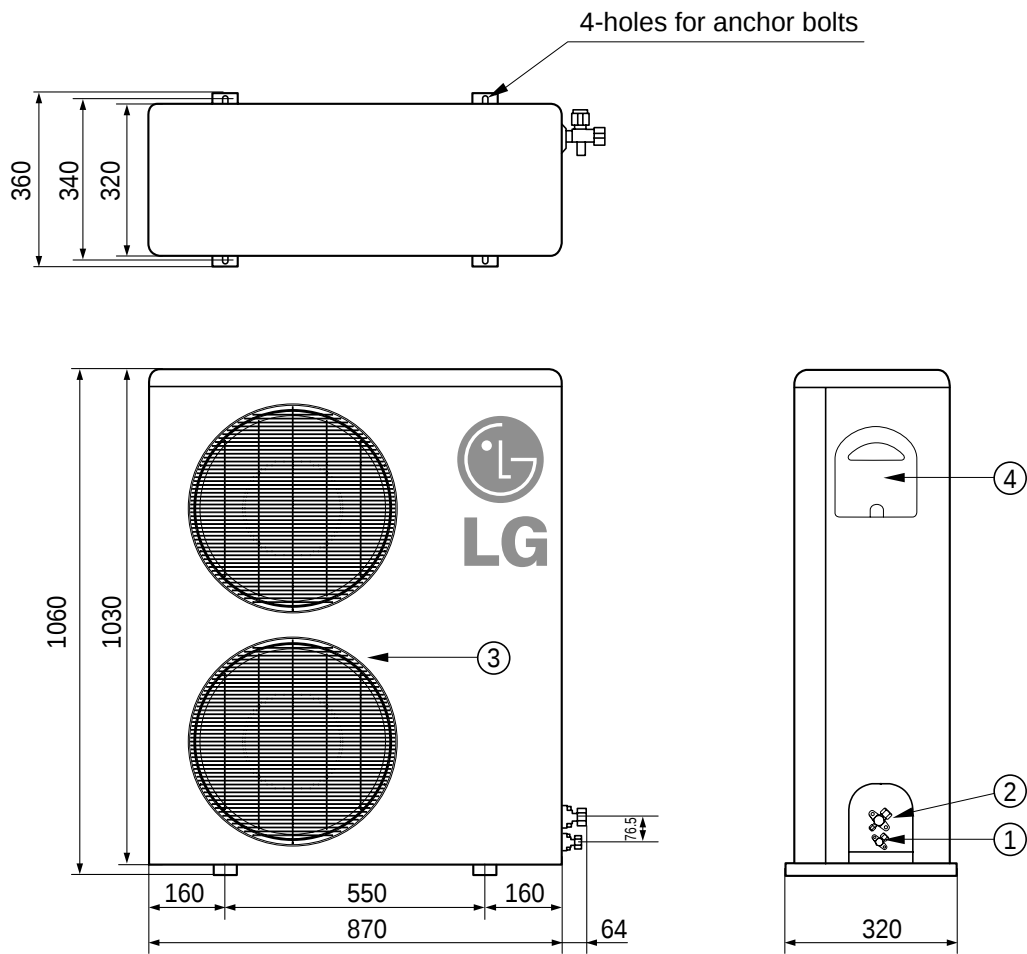


DIM	MODEL	
	unit	AUUH126B
W	mm	770
H	mm	540
D	mm	245
L1	mm	287
L2	mm	64
L3	mm	518
L4	mm	10
L5	mm	100

AUUH186B/AUUH246B/AUUH306B

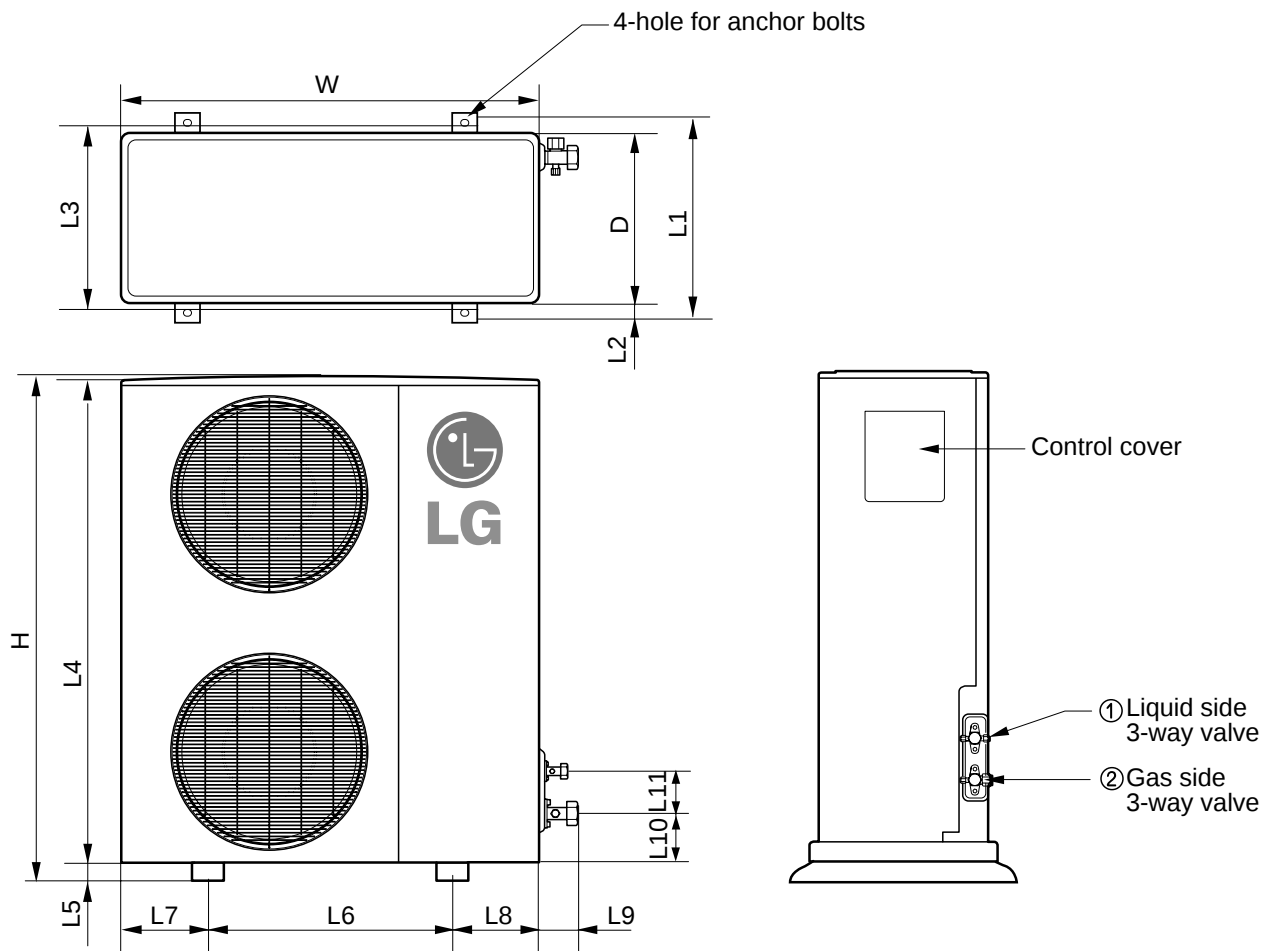
Model		AUUH186B	AUUH246B/306B
Dimensions			
W	mm	870	870
H	mm	655	800
D	mm	320	320
L1	mm	370	370
L2	mm	25	25
L3	mm	340	340
L4	mm	775	775
L5	mm	25	25
L6	mm	546	546
L7	mm	162	162
L8	mm	162	162
L9	mm	54	54
L10	mm	74.5	74.5
L11	mm	79	79
①	mm	Ø6.35	Ø6.35
②	mm	Ø12.7	24k : Ø12.7, 30k : Ø15.88

AUUh368B



(Unit: mm)

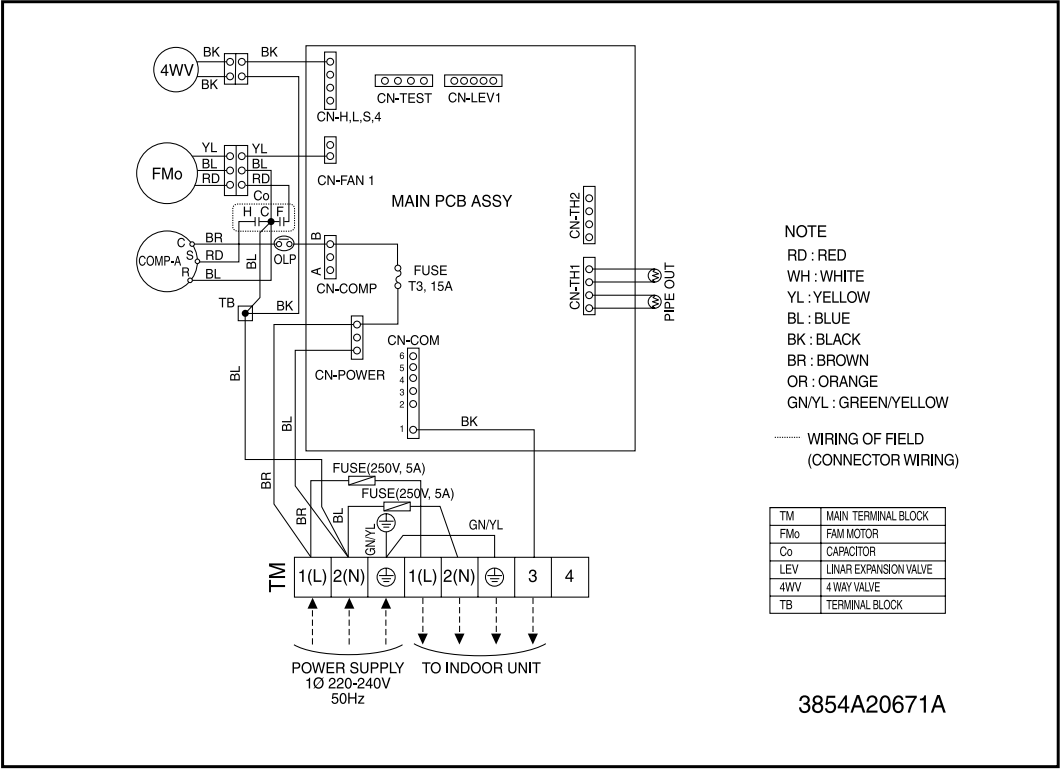
Number	Name	Description
1	Liquid side service valve(mm)	Ø6.35
2	Gas side service valve(mm)	Ø15.88
3	Air discharge grill	
4	Control Cover	

AUUh488B/AUUh608B

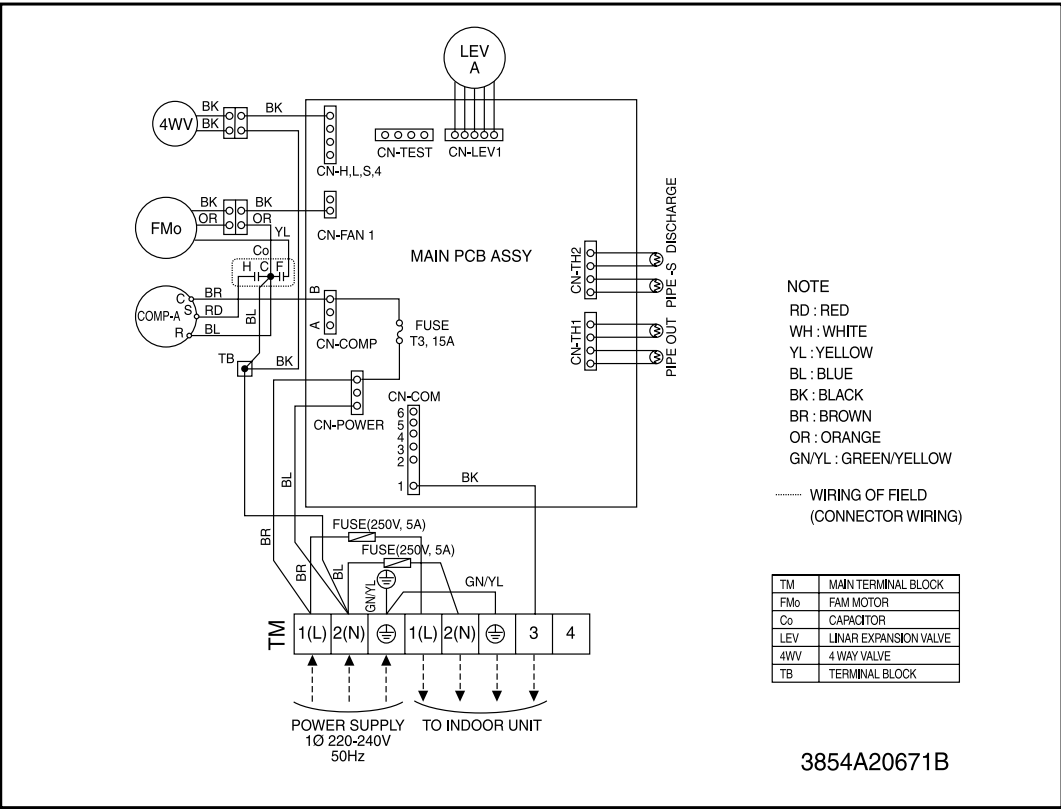
Model		AUUH488B/AUUF608B
Dimensions		
W	mm	900
H	mm	1,165
D	mm	370
L1	mm	460
L2	mm	45
L3	mm	410
L4	mm	1,135
L5	mm	30
L6	mm	550
L7	mm	175
L8	mm	175
L9	mm	112
L10	mm	120
L11	mm	83
①	mm	Ø9.52
②	mm	Ø19.05

4. Wiring Diagrams

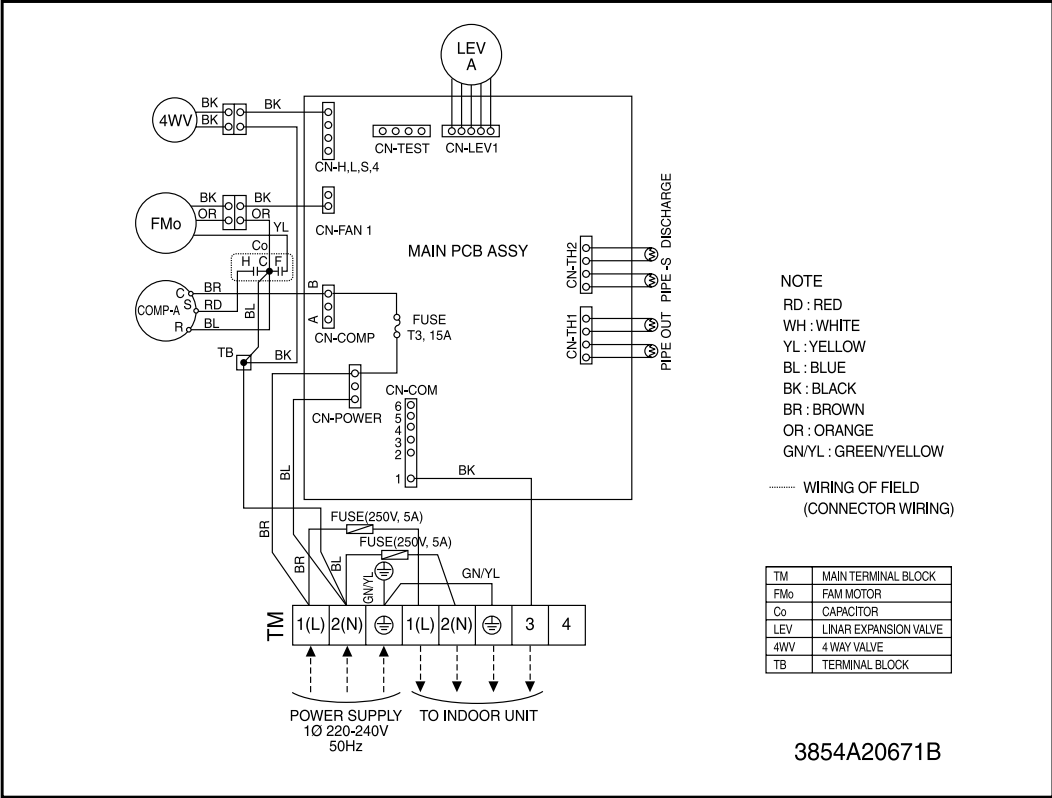
AUUh126B



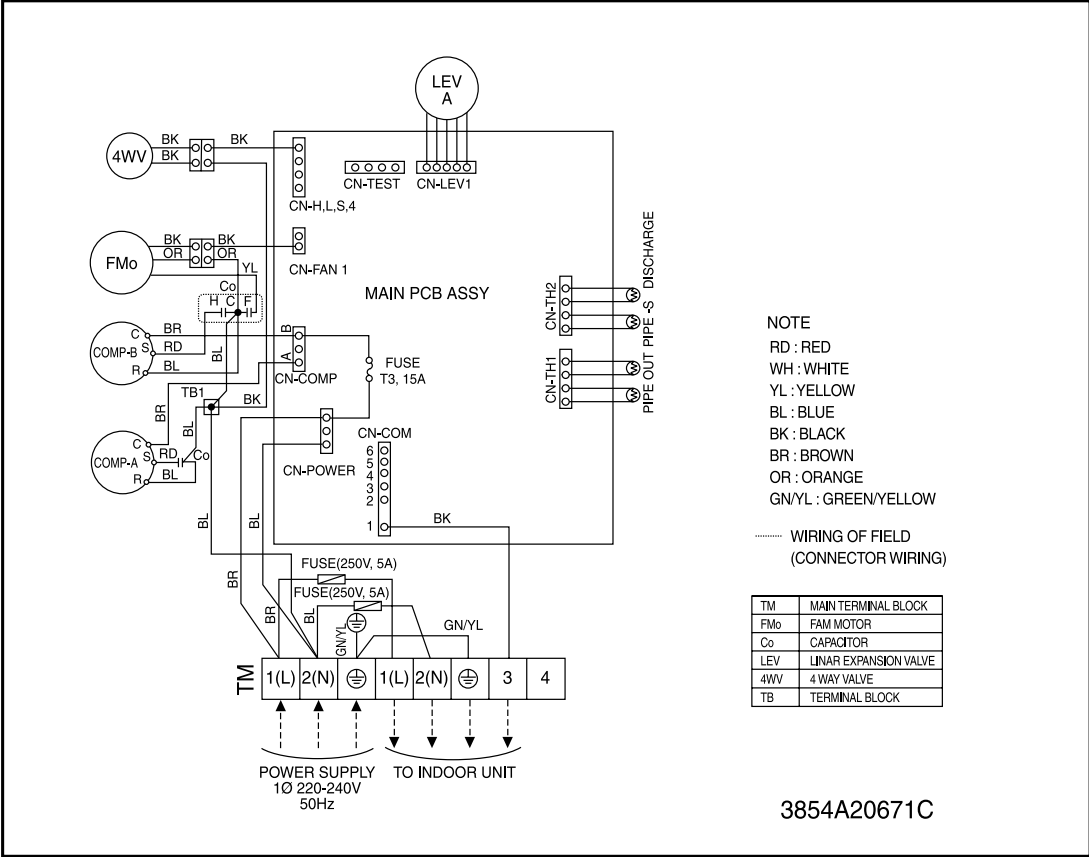
AUUh186B



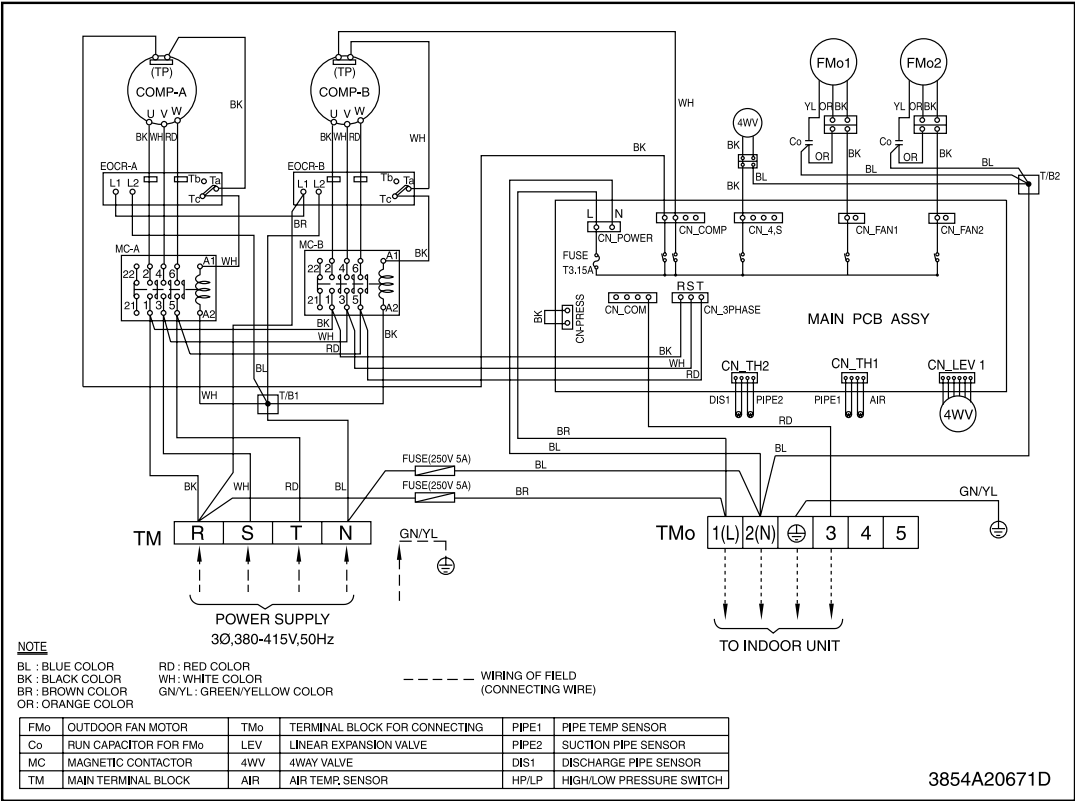
AUUh246B



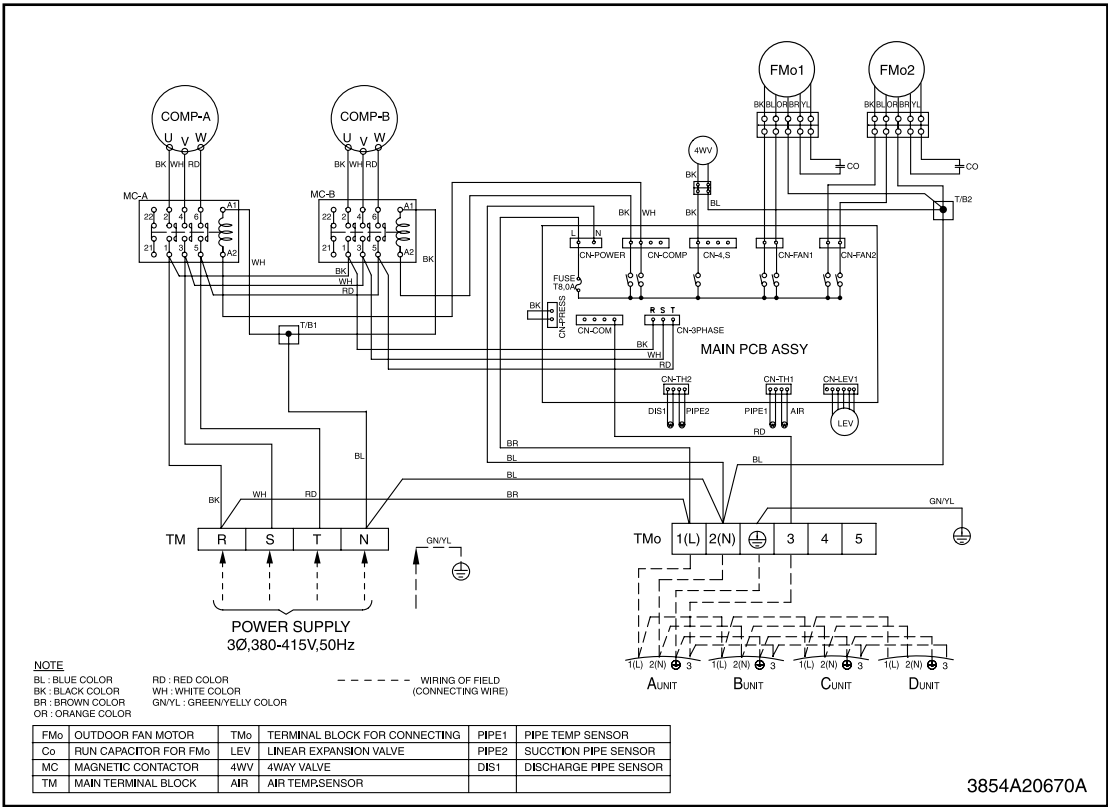
AUUh306B



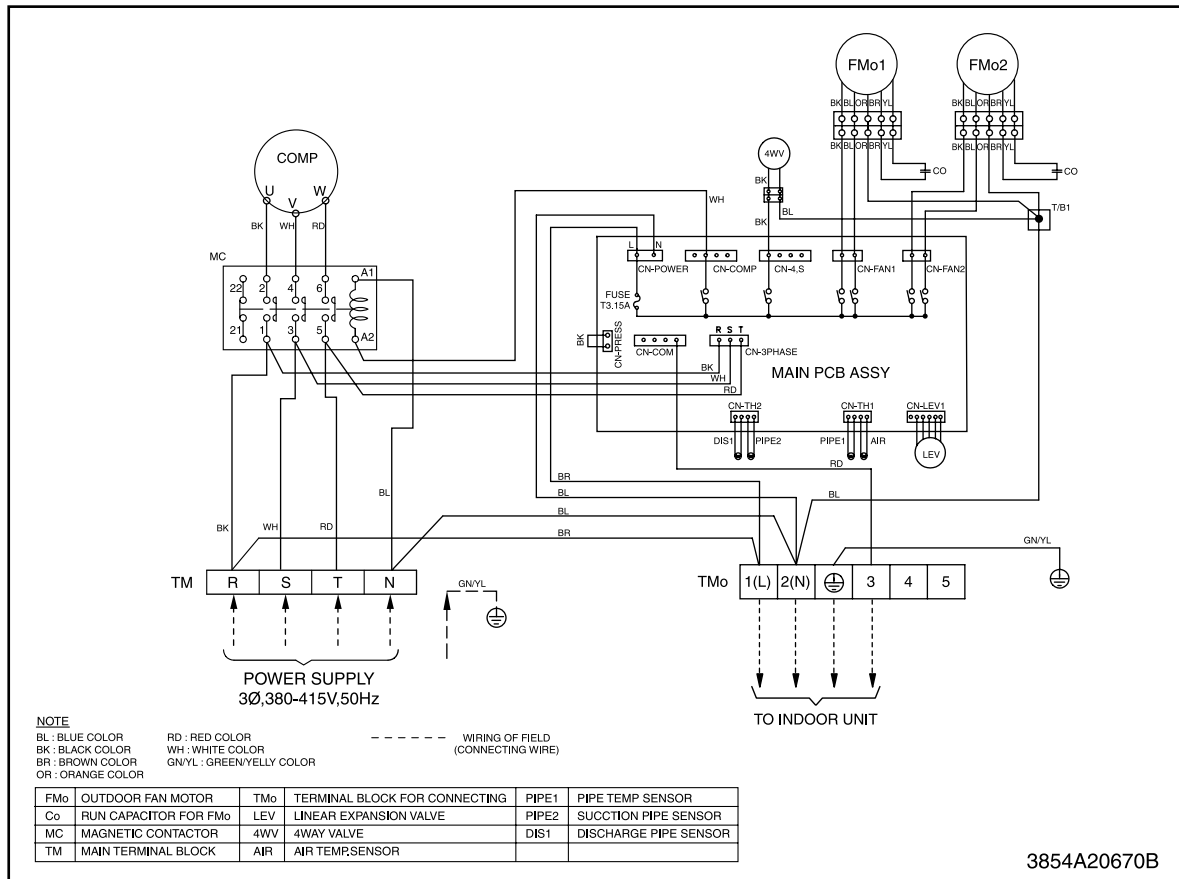
AUUh368B



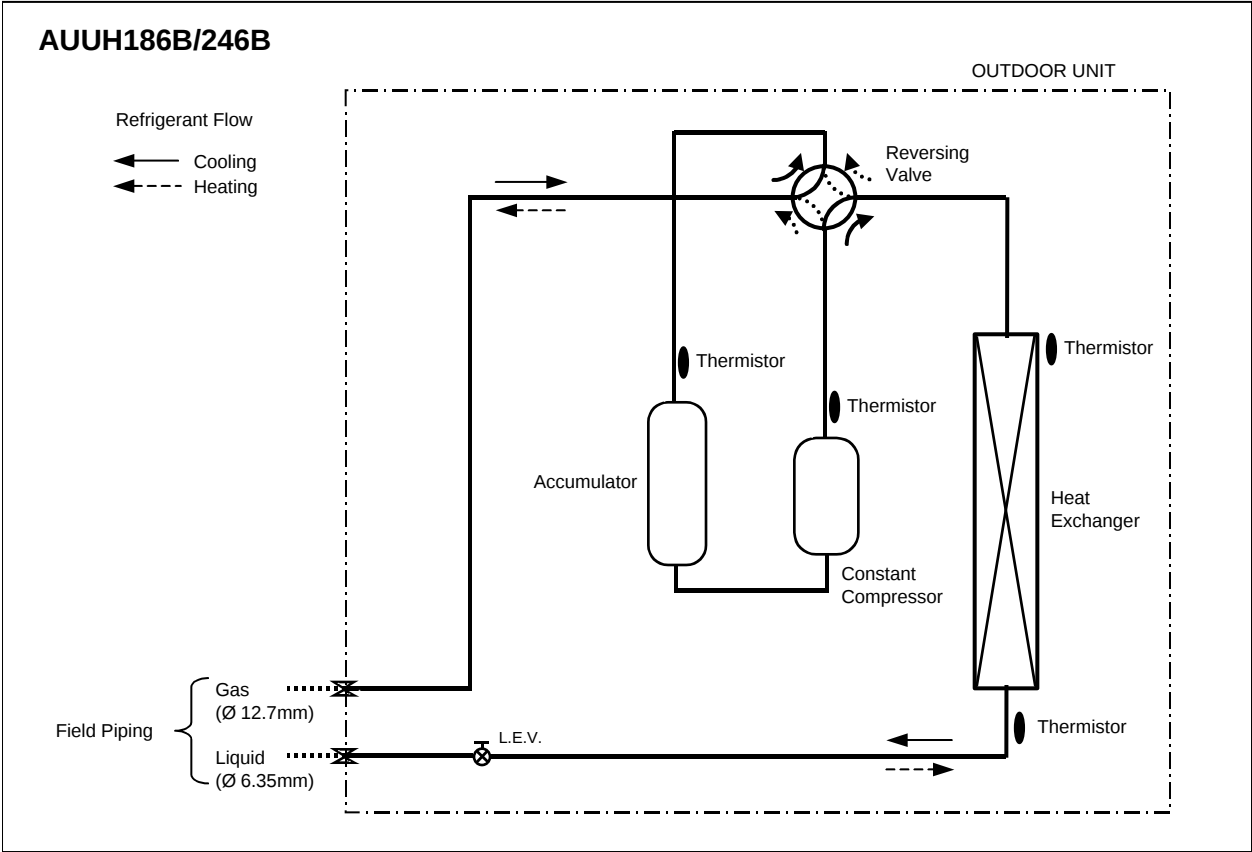
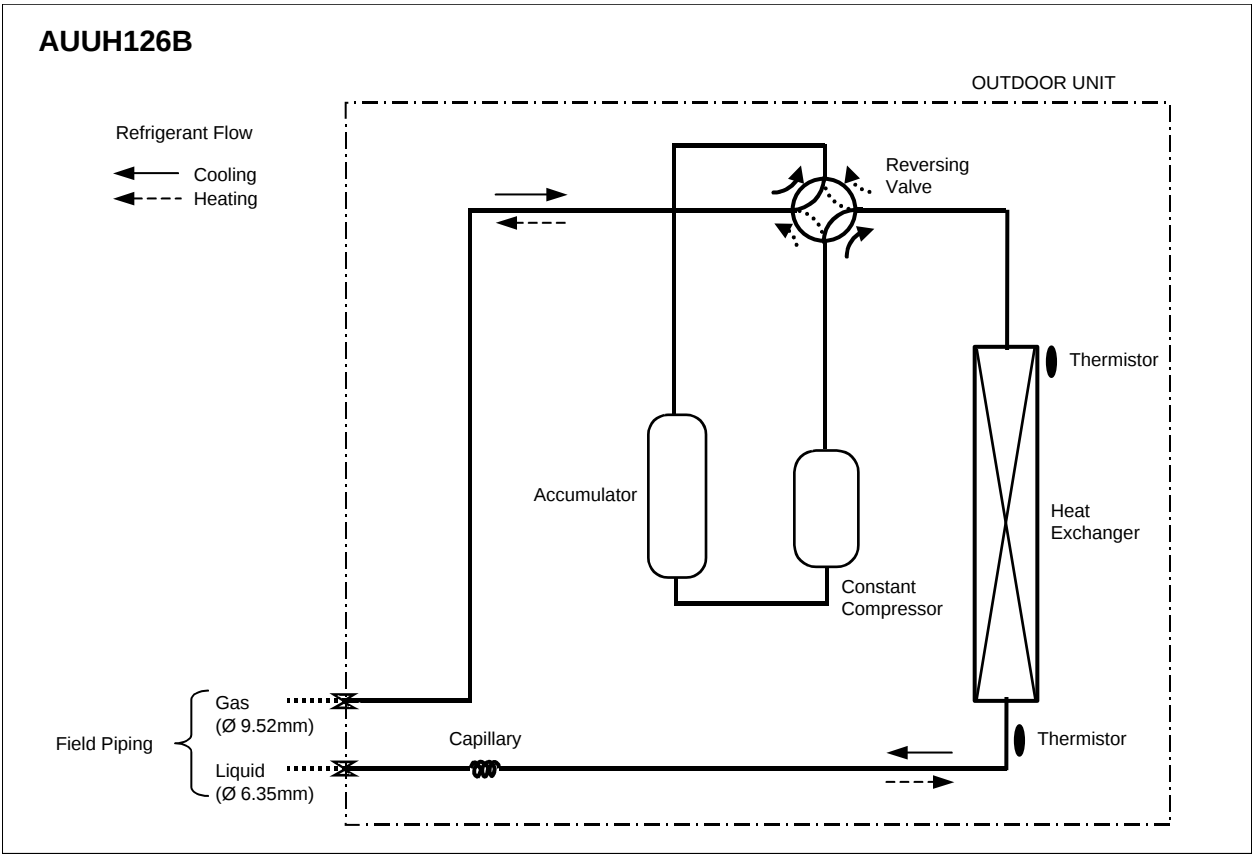
AUUh488B

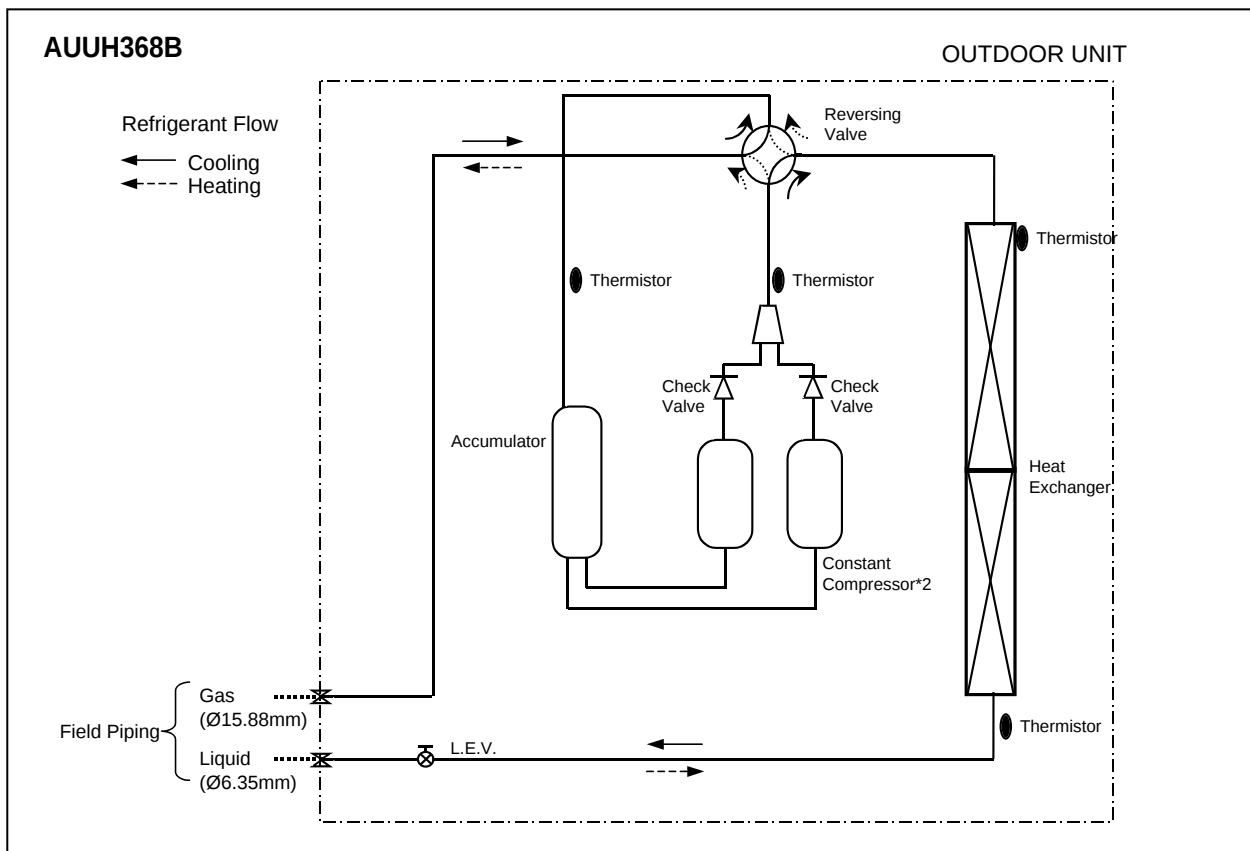
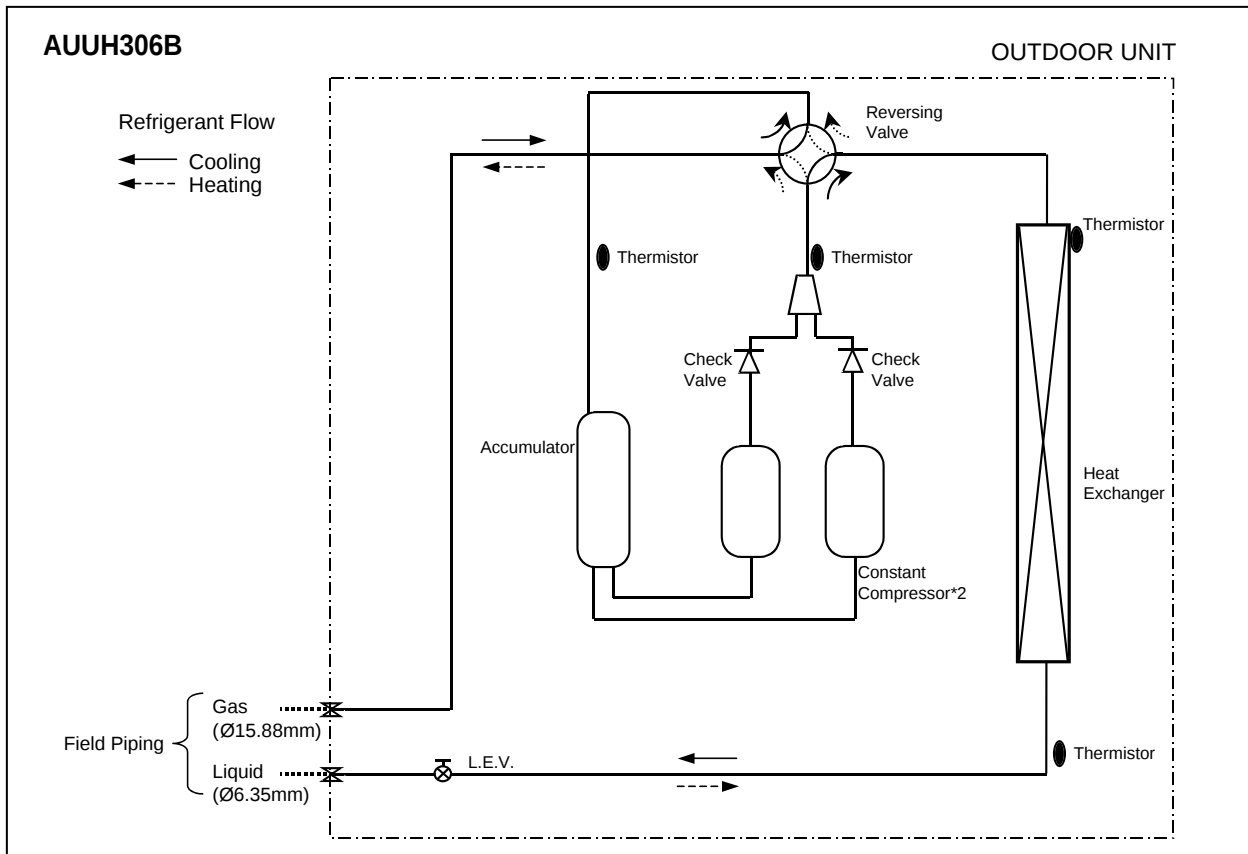


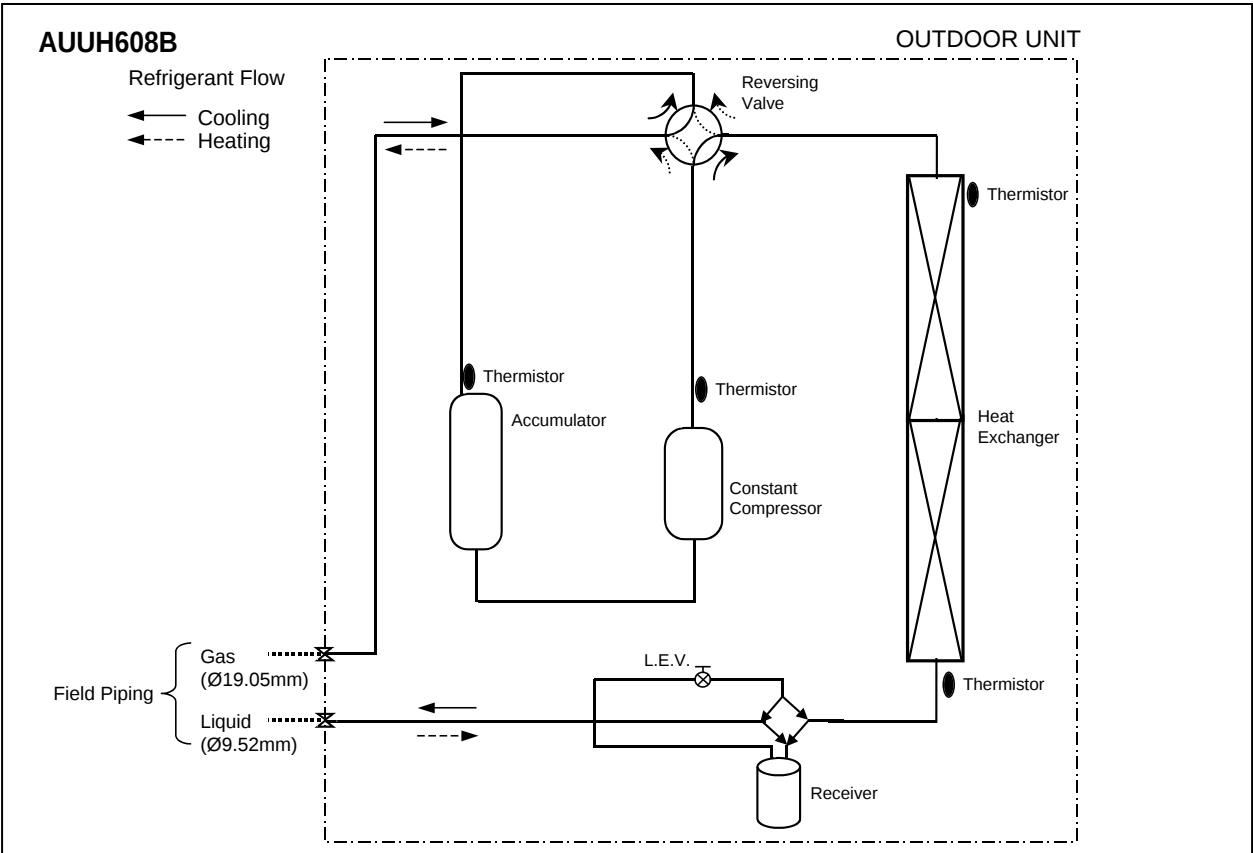
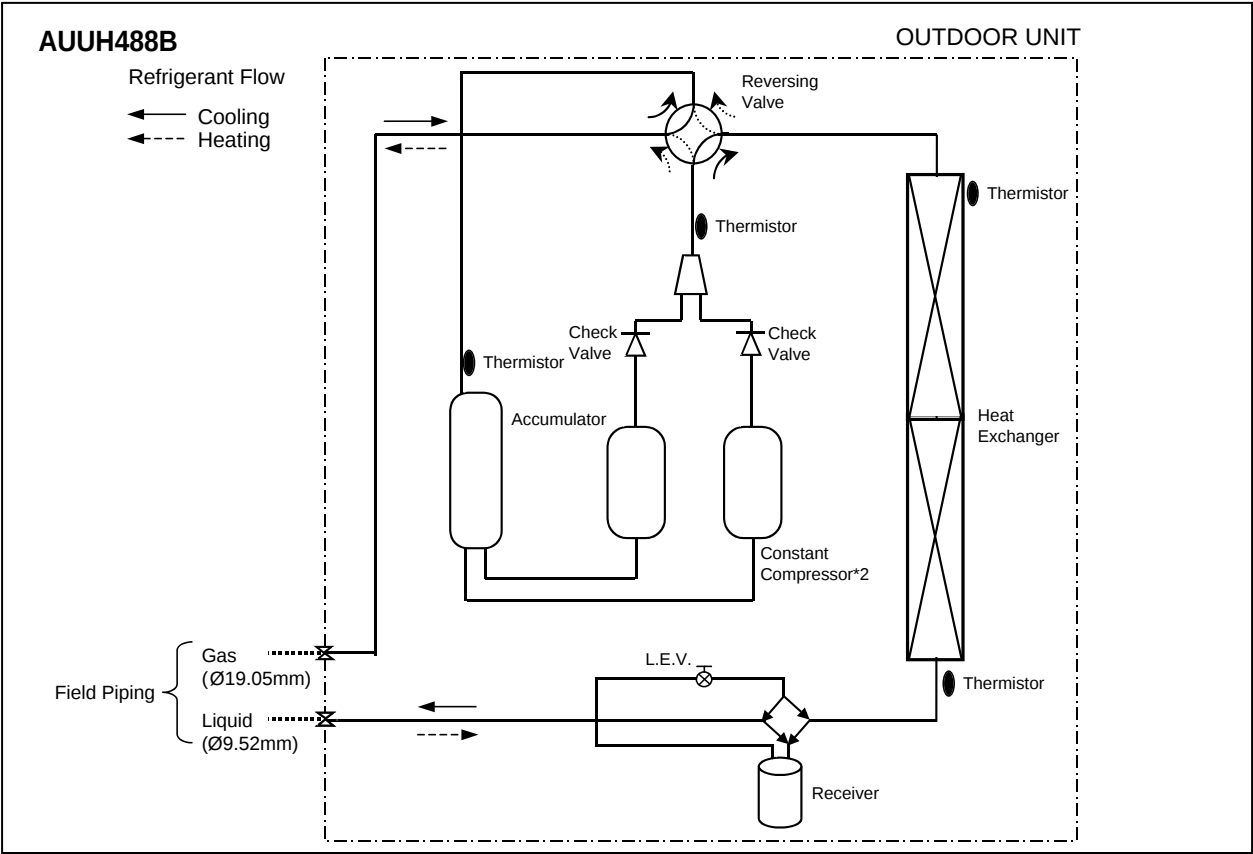
AUUH608B



5. Piping Diagram







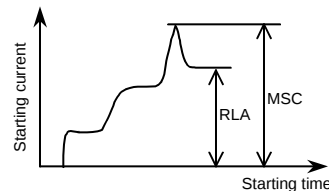
6. Electric Characteristics

Models		Power Supply				Compressor		OFM		IFM	
Indoor Unit	Outdoor Unit	Hz, Volts	Voltage range	MCA	MFA	LRA	RLA	kW	FLA	kW	FLA
ATNH126ELFB	AUUH126B	50, 220~240	Min. 198V Max. 246V	8.0	15	24	5.7	0.026	0.51	0.018	0.35
AVNH126ELAB				7.9	15		5.7		0.51	0.018	0.23
ATNH186ELFB	AUUH186B			12.3	15	33.8	8.9	0.067	0.7	0.022	0.43
ABNH186HLAB				12.8	15		8.9		0.7	0.118	0.92
AVNH186BLAB				12.1	15		8.9		0.7	0.030	0.23
ATNH246FLFB	AUUH246B			15.4	20	62	11.3	0.067	0.7	0.040	0.53
ABNH246HLAB				15.7	20		11.3		0.7	0.118	0.92
AVNH246BLAB				15.1	20		11.3		0.7	0.035	0.27
ATNH306FLFB	AUUH306B			14.4	30	36+36	9.9+9.9	0.067	1.4	0.049	0.67
ABNH306GLAB				15.1	30		9.9+9.9		1.4	0.211	1.34
AVNH306BLAB				14.2	30		9.9+9.9		1.4	0.043	0.38
ATNH366DLFB	AUUH368B			11.6	20	18+18	3.95+3.95	0.047x2	0.48x2	0.053	0.76
ABNH366GLAB				12.3	20		3.95+3.95		0.48x2	0.272	1.42
ATNH486DLFB	AUUH488B			17.1	20	42+42	5.65+5.65	0.070x2	0.73x2	0.059	1.50
ABNH486RLAB				19.2	20		5.65+5.65		0.73x2	0.431	3.65
ATNH606DLFB	AUUH608B			17.3	25	75	11.2	0.070x2	0.73x2	0.107	1.80
ABNH606RLAB				19.1	25		11.2		0.73x2	0.431	3.65

Symbols:

MCA: Minimum Circuit Amperes (A)
 MFA : Maximum Fuse Amperes(A)
 MSC : Maximum Starting Current Amperes(A)
 RLA : Rated Load Amperes(A)
 OFM : Outdoor Fan Motor
 kW : Fan Motor Rated Output(kW)
 FLA : Full Load Amperes(A)

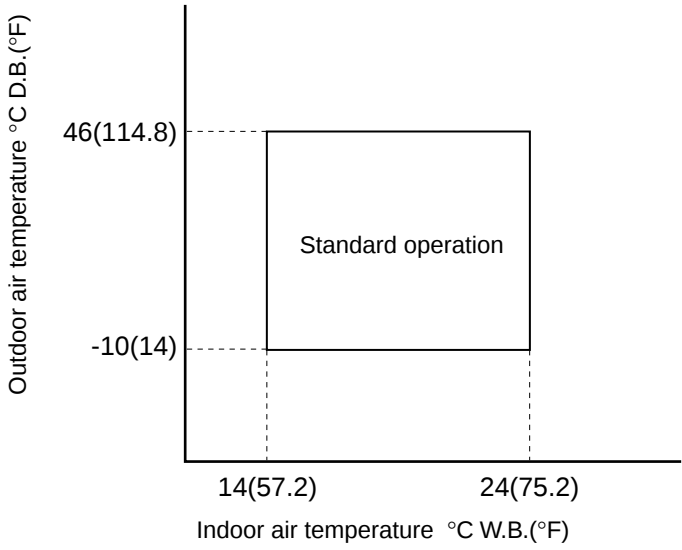
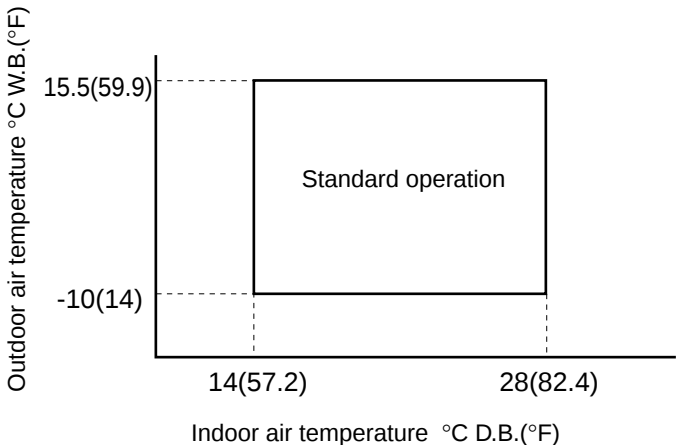
The relationship between the starting time and starting current



Note :

1. Voltage Range
Units are suitable for use on electrical system where voltage supplied to unit terminals is not below or above listed range limits.
2. Maximum allowable voltage unbalance between phase is 2%.
3. Select wire size based on the MCA
4. MFA is used to select the circuit breaker and ground fault circuit interrupter(each leakage circuit breaker).
5. RLA is based on the following conditions.
Indoor temperature : 27 DB / 19.0 WB
Outdoor temperature : 35 DB

7. Operation Range

Item	Range
Inlet air temperature (Cooling)	 Outdoor air temperature °C D.B.(°F) 46(114.8) -10(14) Standard operation 14(57.2) 24(75.2) Indoor air temperature °C W.B.(°F)
Inlet air temperature (Heating)	 Outdoor air temperature °C W.B.(°F) 15.5(59.9) -10(14) Standard operation 14(57.2) 28(82.4) Indoor air temperature °C D.B.(°F)
Power source voltage	Rating $\pm 10\%$
Voltage at starting	Min. 85% of rating

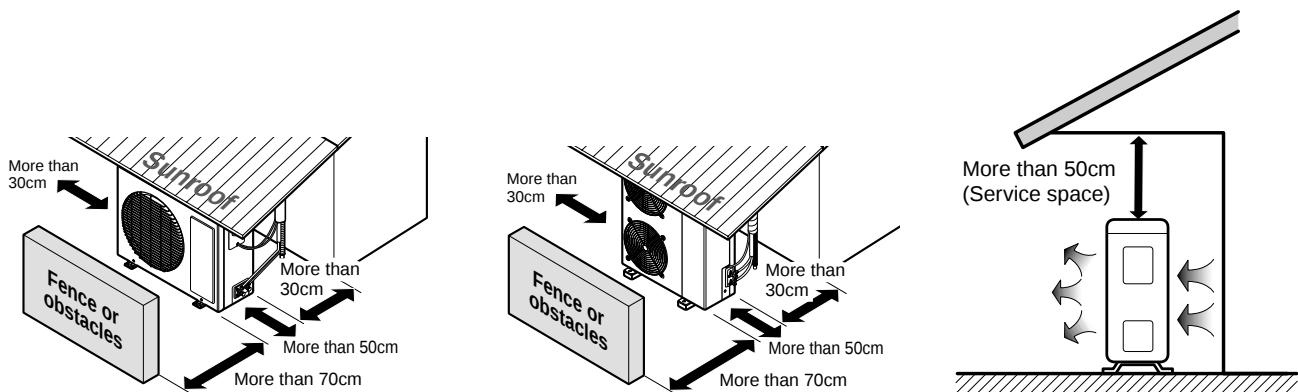
8. Installation

8.1 Selection of the best location

- If a roof is built over the unit to prevent direct sunlight or rain exposure, make sure that heat radiation from the condenser is not restricted.
- Do not place animals and plants in the path of the warm air.
- Take the air conditioner weight into account and select a place where noise and vibration are minimum.
- Select a place so that the warm air and noise from the air conditioner do not disturb neighbors.
- Rooftop Installations : If the outdoor unit is installed on a roof structure, be sure to level the unit. Ensure the roof structure and anchoring method are adequate for the unit location. Consult local codes regarding rooftop mounting.

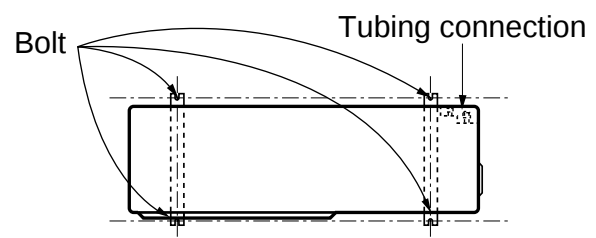
Model : AUUH12-306B, AUUH36-608B

- Ensure that the space around the back is more than 30cm and sides is more than 30cm. The front of the unit should have more than 70cm of space.



8.2 Settlement of outdoor unit

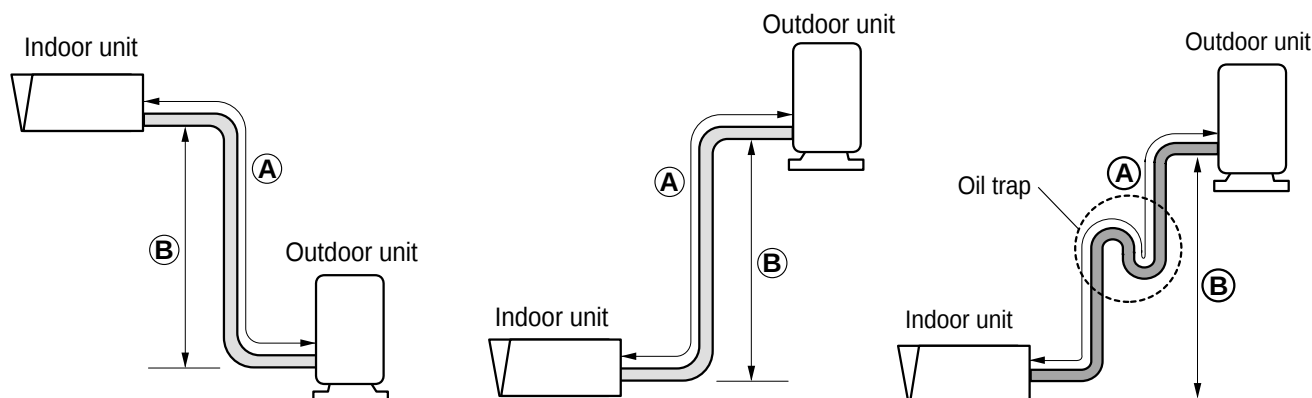
- Anchor the outdoor unit with a bolt and nut($\phi 10\text{mm}$) tightly and horizontally on a concrete or rigid mount.
- When installing on the wall, roof or rooftop, anchor the mounting base securely with a nail or wire assuming the influence of wind and earthquake.
- In the case when the vibration of the unit is conveyed to the hose, secure the unit with an anti-vibration rubber.



8.3 Piping length and the elevation

Capacity	Pipe Size (Diameter:Ø)		Length ①(m)		Elevation ②(m)		*Additional refrigerant(g/m)
	Gas	Liquid	Standard	Max.	Standard	Max.	
12k Btu/h	3/8" (9.52mm)	1/4" (6.35mm)	7.5	15	5	5	20
18k Btu/h	1/2" (12.7mm)	1/4" (6.35mm)	7.5	50	5	30	35
24k Btu/h	1/2" (12.7mm)	1/4" (6.35mm)	7.5	50	5	30	35
30k Btu/h	5/8" (15.88mm)	1/4" (6.35mm)	7.5	50	5	30	35
36k Btu/h	5/8" (15.88mm)	1/4" (6.35mm)	7.5	50	5	30	40
48k Btu/h	3/4" (19.05mm)	3/8" (9.52mm)	7.5	50	5	30	75 (Chargeless 30m)
60k Btu/h	3/4" (19.05mm)	3/8" (9.52mm)	7.5	50	5	30	80 (Chargeless 30m)

✱ Extra refrigerant = (Extended length - Rated length) x Additional refrigerant.



⚠ CAUTION

- Capacity is based on standard length and maximum allowance length is on the basis of reliability.
- Improper refrigerant charge may result in abnormal cycle.
- Oil trap should be installed every 10 meters.

8.4 Refrigerant Additional Charging Method

(Except: AUUH126B / 186B / 246B / 306B / 368B)

There is not additional charging of refrigerant by main pipe of 30m below.

For additional charging method, see below table.

* Example(AUUH608B)

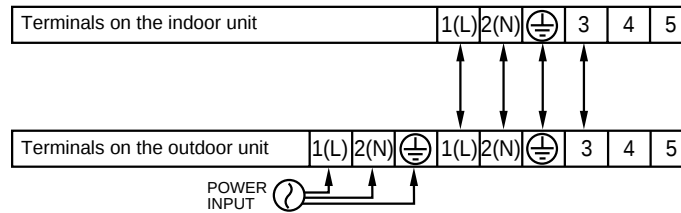
Single	Refrigerant=(L1-30)*0.08
--------	--------------------------

*(L1=Main Pipe)

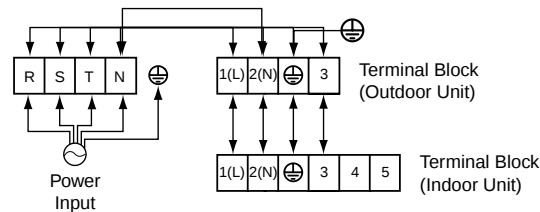
8.5 Wiring Connection

1. All wiring must comply with LOCAL REGULATIONS.
2. Select a power source that is capable of supplying the current as required by the air conditioner.
3. Feed the power source to the unit via a distribution switch board designed for this purpose.
4. The terminal screws inside the control box may be loose due to vibration during transport.
Check the screws for loose connection.
(Running the air conditioner with loose connection can overload and damage electrical components.)
5. Always ground the air conditioner with a grounding wire and connector to meet the LOCAL REGULATION.

1Phase Heat Pump Model.

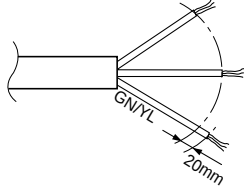


3Phase Heat Pump Model.



⚠ CAUTION

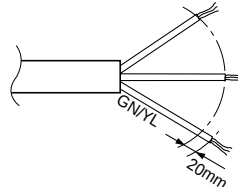
The **power cord** connected to the outdoor unit should be complied with the following specifications (Rubber insulation, type H05RN-F approved by HAR or SAA).



NORMAL CROSS-SECTIONAL AREA

Capacity	1 Phase	3 Phase
12k BTU/h	1.0mm	-
18k BTU/h	2.5mm	-
24k BTU/h	2.5mm	-
30k BTU/h	2.5mm	-
36k BTU/h	-	2.5mm ²
48k BTU/h	-	3.0mm ²
60k BTU/h	-	3.0mm ²

The **connecting cable** connected to the indoor and outdoor unit should be complied with the following specifications (Rubber insulation, type H05RN-F approved by HAR or SAA).



NORMAL

CROSS-SECTIONAL

AREA 0.75mm² (12k/18k/24k/30k)
AREA 1.25mm² (36k/48k/60k)

If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer of its service agent.



WARNING:

Make sure that the screws of the terminal are free from looseness.

III. Troubleshooting Guide

Self-diagnosis Function99

Electronic Parts Troubleshooting Guide100

Self-diagnosis Function

■ Error Indicator

- ① The function is to self-diagnosis airconditioner and express the troubles identifiably if there is any trouble.
- ② If more than two troubles occur simultaneously, primarily the highest trouble error code is expressed.
- ③ After error occurrence, if error is released, error LED is also released simultaneously.
- ④ Having or not of error code is different from Model.

■ ERROR display

- Error display method is classified depending on method and frequencies of flickering as example:

ex) ERROR CODE = 45

Number of "10" cipher "4"= Flickers lengthily 4 times.

Number of "1" cipher "5"= Flickers shortly 5 times.

■ Type and code of indoor unit error

[ERROR CODE]

① No Error	01
② Indoor Room thermistor error	01
③ Indoor in-piping sensor error	02
④ Remote controller error	03
⑤ Drain Pump error	04
⑥ Communication error between in and out	05
⑦ Indoor Out-Piping sensor error	06
⑧ Different mode operation	07

■ Type and code of outdoor unit error

[ERROR CODE]

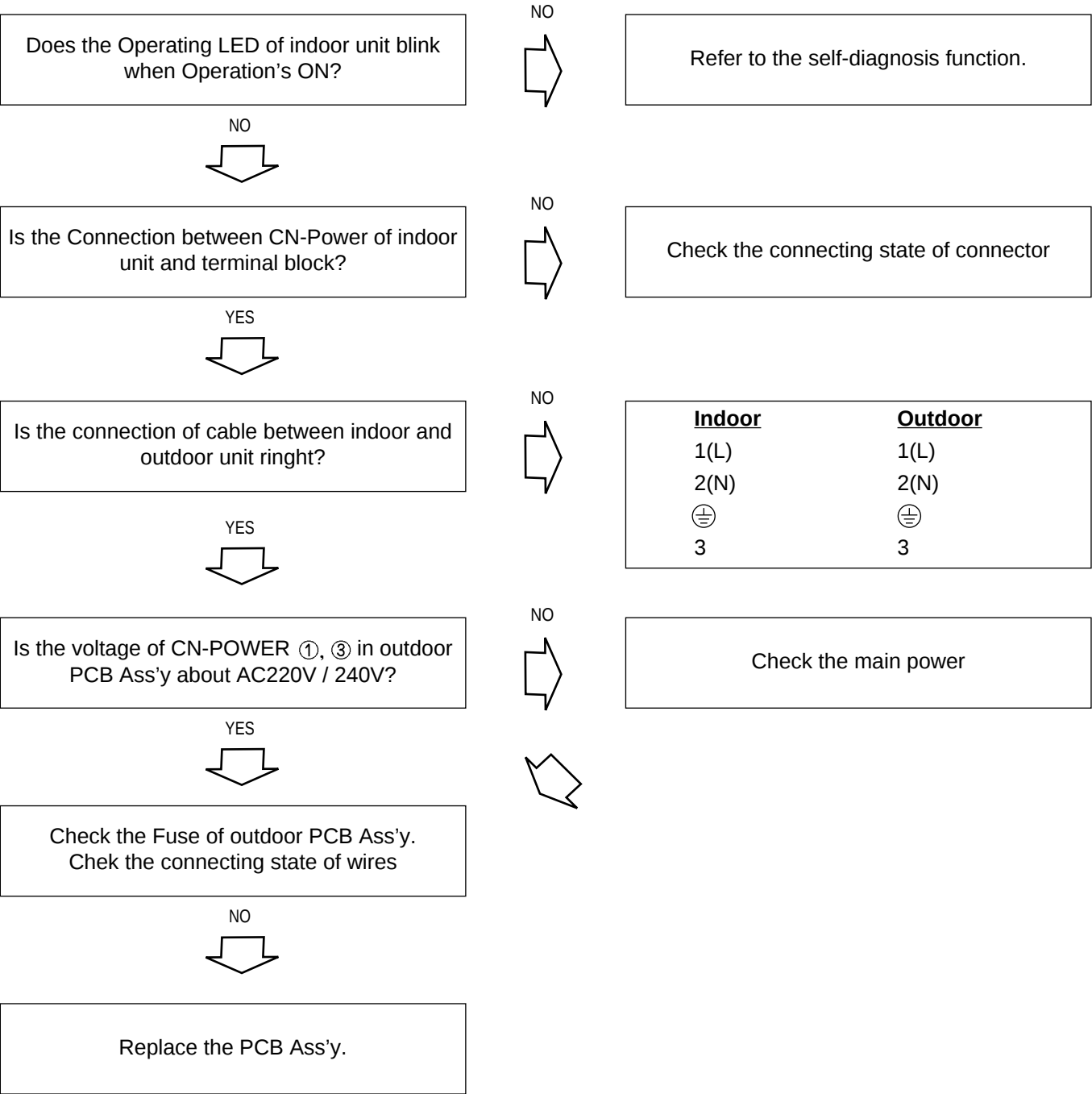
⑨ Outdoor unit, outdoor temperature Thermistor open/short	44
⑩ Outdoor unit pipe temperature Thermistor open/short	45
⑪ Excess of capacity (inconsistency with option capacity setup in outdoor unit)	51
⑫ Communication between indoor unit and outdoor unit in-available	5
⑬ D-Pipe Temperature High	33
⑭ D-Pipe thermistor open/short	47
⑮ Outdoor unit suction temperature Thermistor open/short	48

■ Countermeasure of error occurred

- 1) For error as described in above item ⑨ ~ ⑪, ⑬ ⑭): Stops operation of the outdoor unit
Transmits error code to the indoor unit.
- 2) For error as described in above item 4): Transmits error code to the indoor unit
 - For thermistor error, error terminates after powering off.
 - Excess of capacity (Where capacity of the outdoor unit differs from capacity of the indoor unit Error display)
- 3) Error of the discharge temperature sensor is processed in following method:
For sensor open process, check 4 minutes after COMP operation and 10 minutes after power application.
For short process, check and process from the time when power is applied.

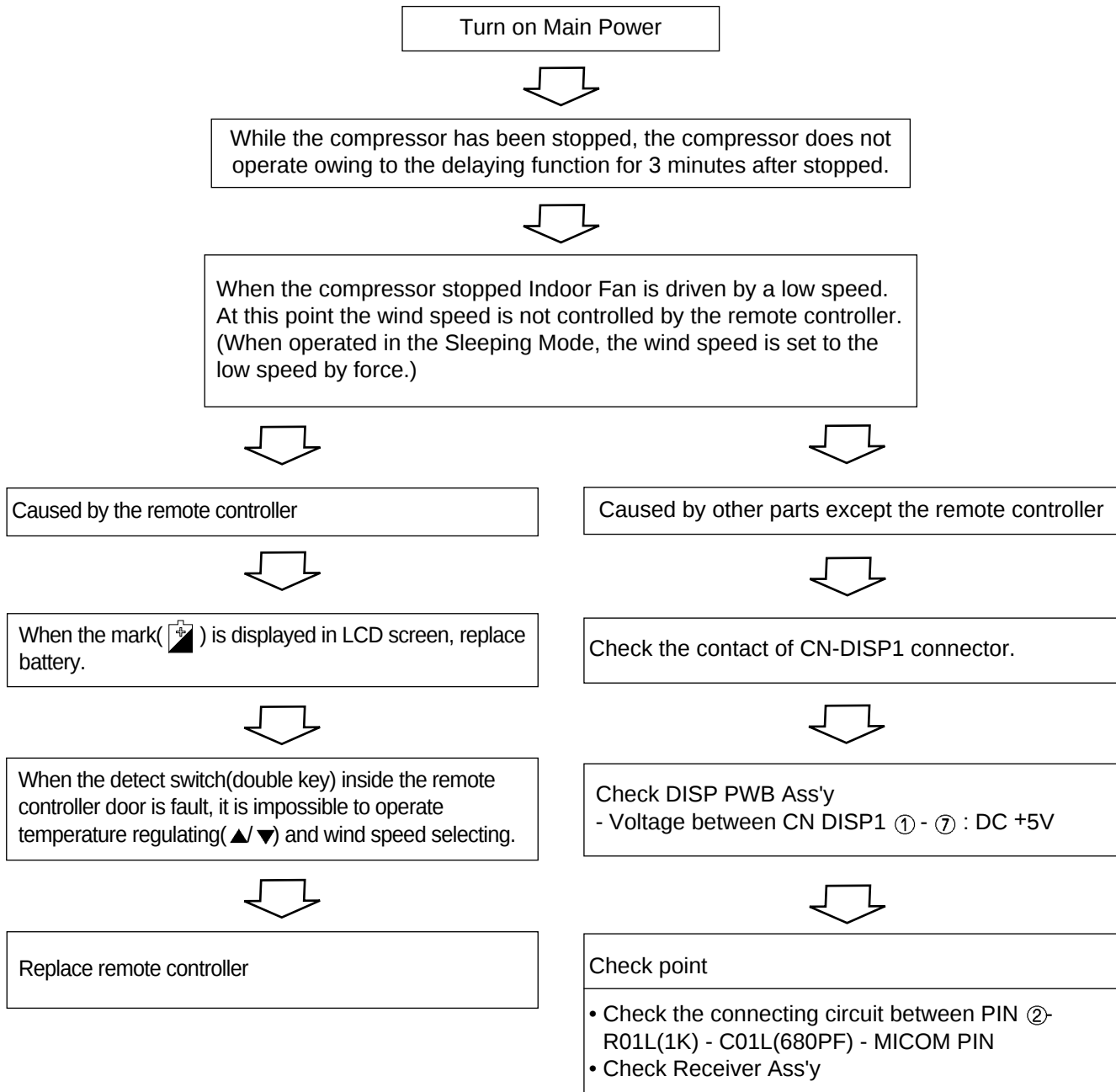
Electronic Parts Troubleshooting Guide

1. The Outdoor Unit does not operate at all

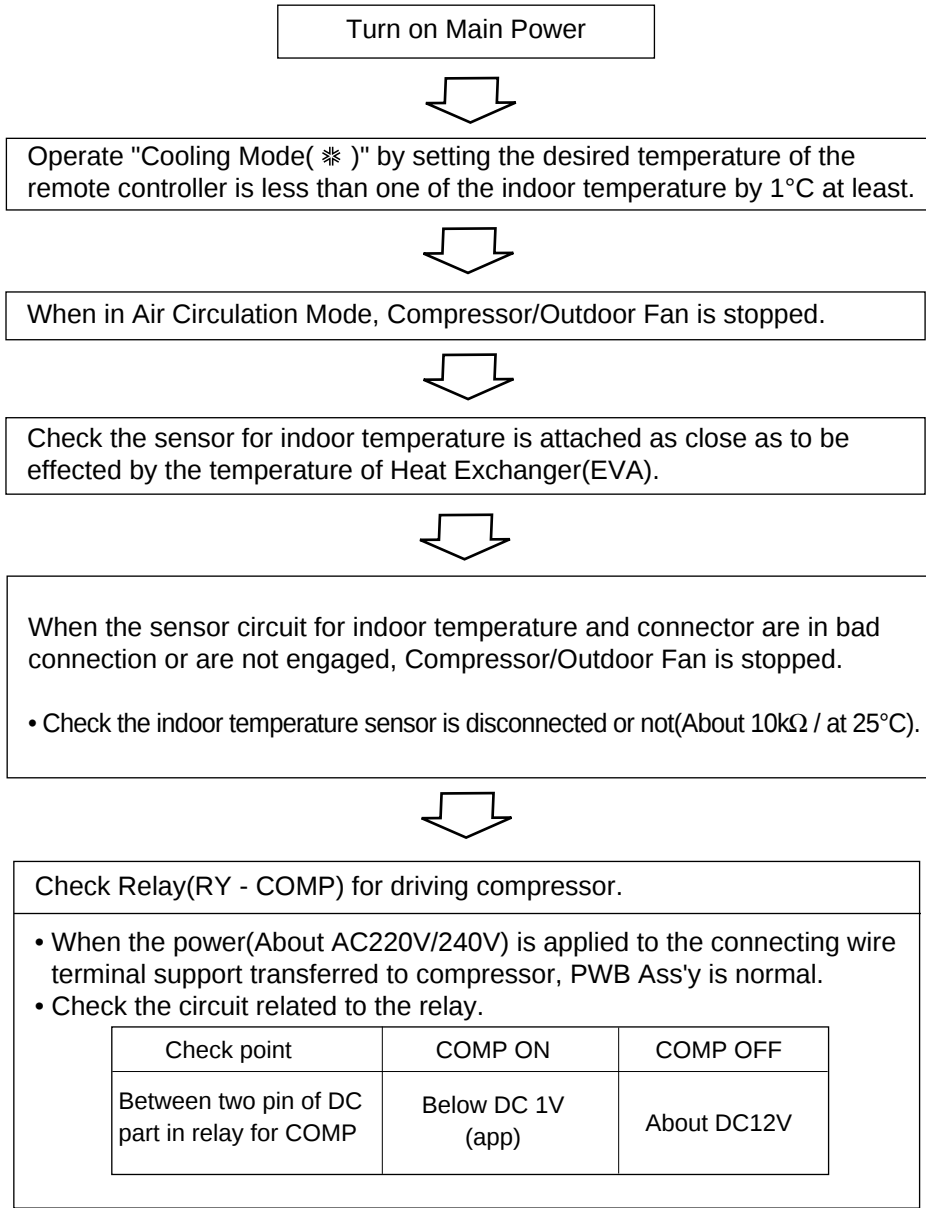


* MPS units start at three minutes after main power turning on.

2. The product is not operate with the remote controller.



3. When cooling does not operate



4. When Heating does not operate

Turn ON Main Power



Operate "Heating Mode(☀)" by setting the desired temperature of the remote control is higher than one of the indoor temperature by 2°C at least.



In heating Mode, the indoor fan operates in case the pipe temperature is higher than 28°C.



Check the connector of intake and pipe sensor(thermistors)

- Check the indoor room temperature is disconnected or not (about 10K Ω /at 25°C).
- Check the indoor pipe temperature is disconnected or not (about 5K Ω /at 25°C).



Check the DC voltage on the PWB ASS'Y

- The details of check are as followings

- Comp Relay.

Check point	Comp ON	Comp OFF
Between two pin of DC part in relay for COMP.	Below DC 1V	About DC 12V

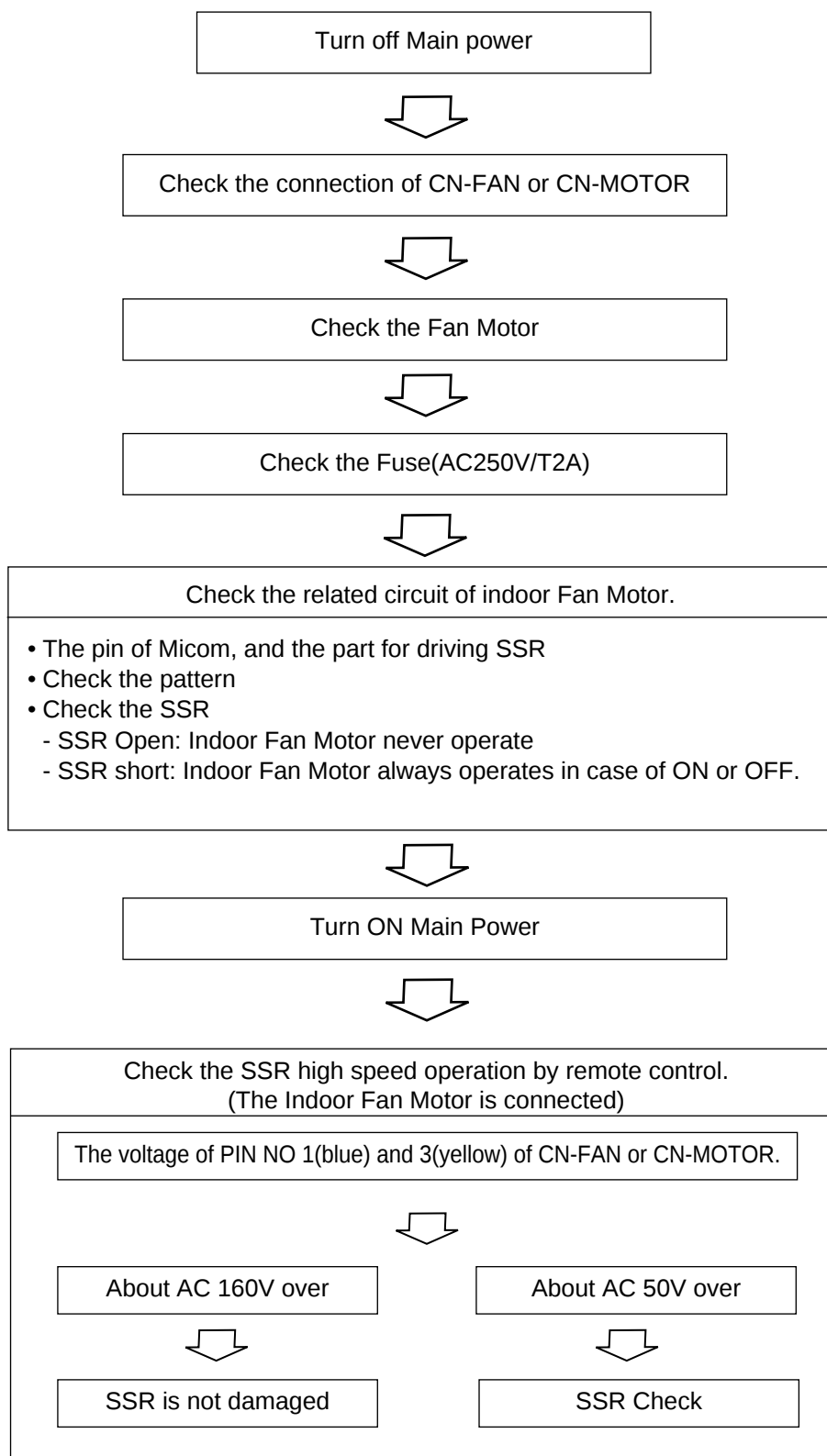
- 4-Way Relay

Check point	4-Way ON	4-Way OFF
Between two pin of DC part in relay for 4-way.	Below DC 1V	About DC 12V



Check Outdoor Unit

5. When indoor Fan does not operate



6. When Vertical Louver does not operate

- Confirm that the Vertical Louver is normally geared with the shaft of Stepping Motor.
- If the regular torque is detected when rotating the Vertical Louver with hands ⇒ Normal



- Check the connecting condition of CN-U/D Connector
- Check the soldering condition(on PWB) of CN-U/D Connector



Check the operating circuit of the Vertical Louver

- Confirm that there is DC +12V between pin ①(RED) of CN-U/D and GND.



If there are no problems after above checks

- Confirm the assembly conditions that are catching and interfering parts in the rotation radial of the Vertical Louver

IV. Electronic Control Device

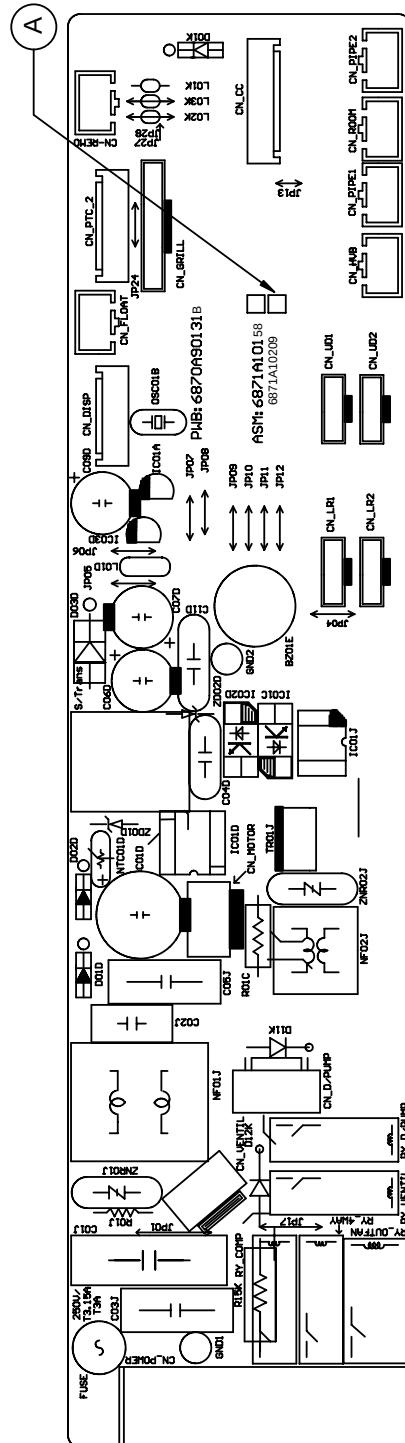
Ceiling Cacsette Type.....107

Ceiling Duct Type.....108

Celing & Floor110

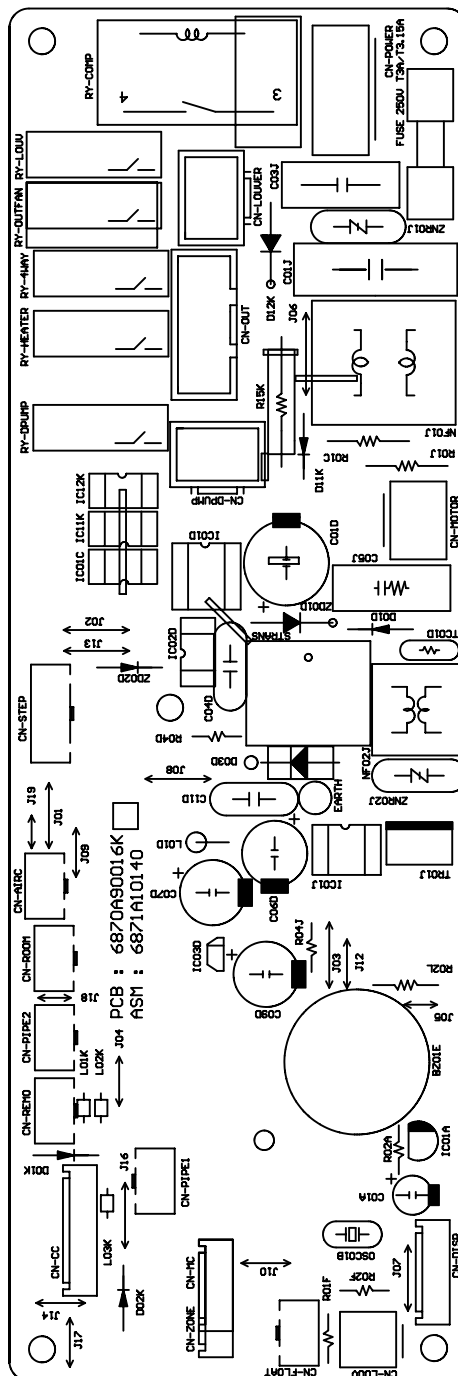
Ceiling Cacsette Type

Main P.C.B ASM

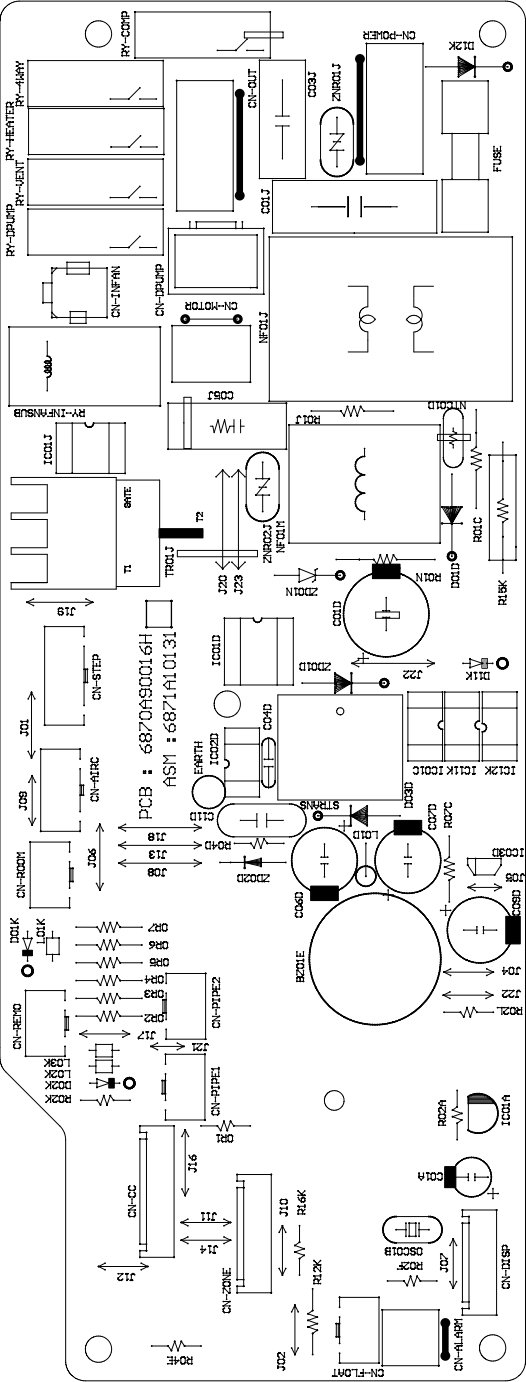


Ceiling Duct Type

(BH Series)

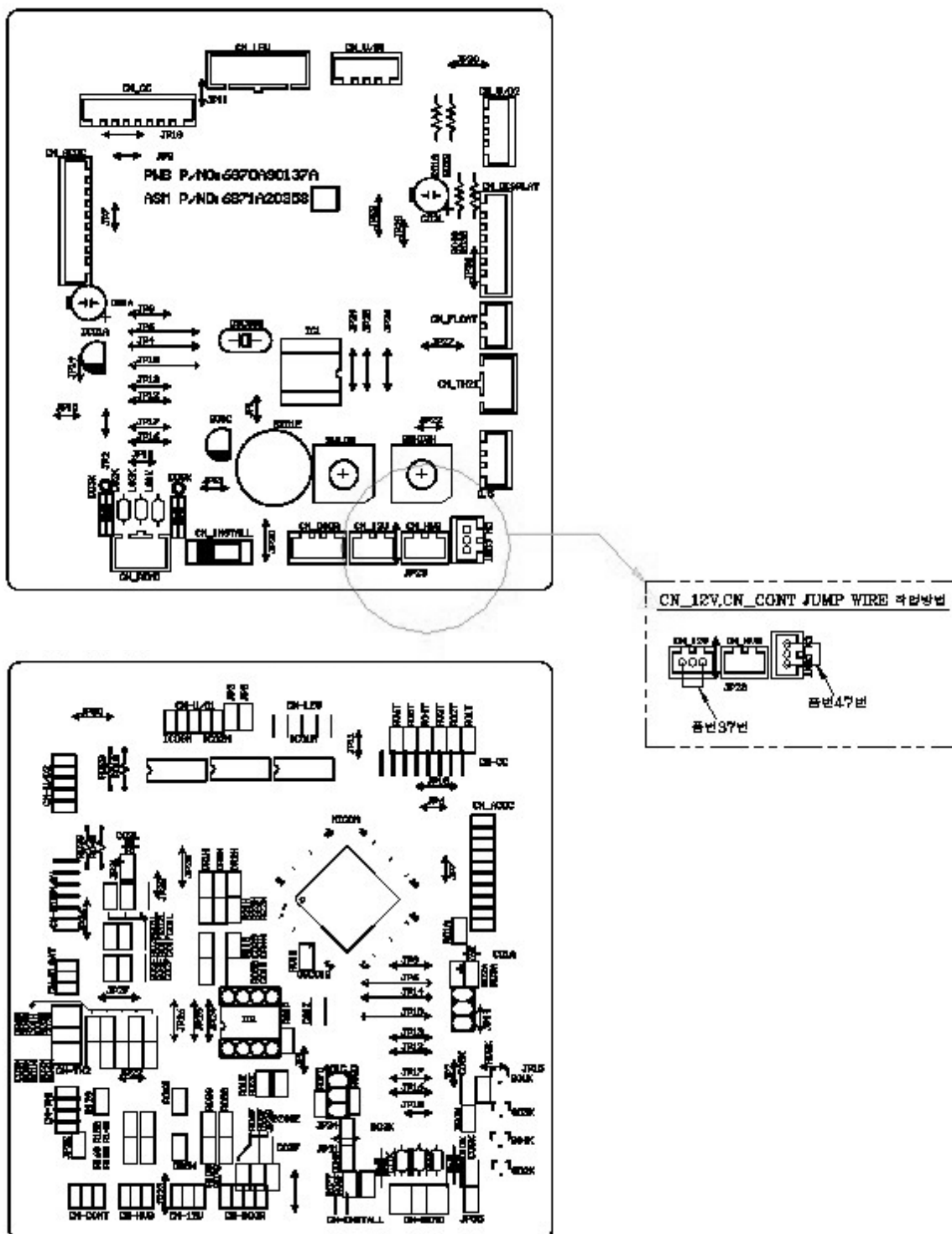


(BG/BR Series)

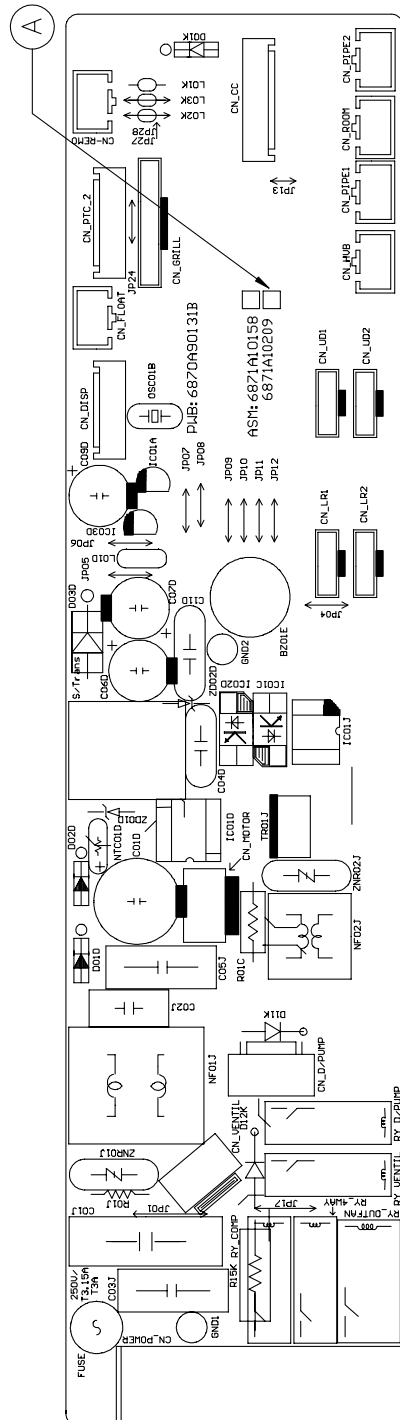


Ceiling & Floor

(VE Series)



(VB Series)



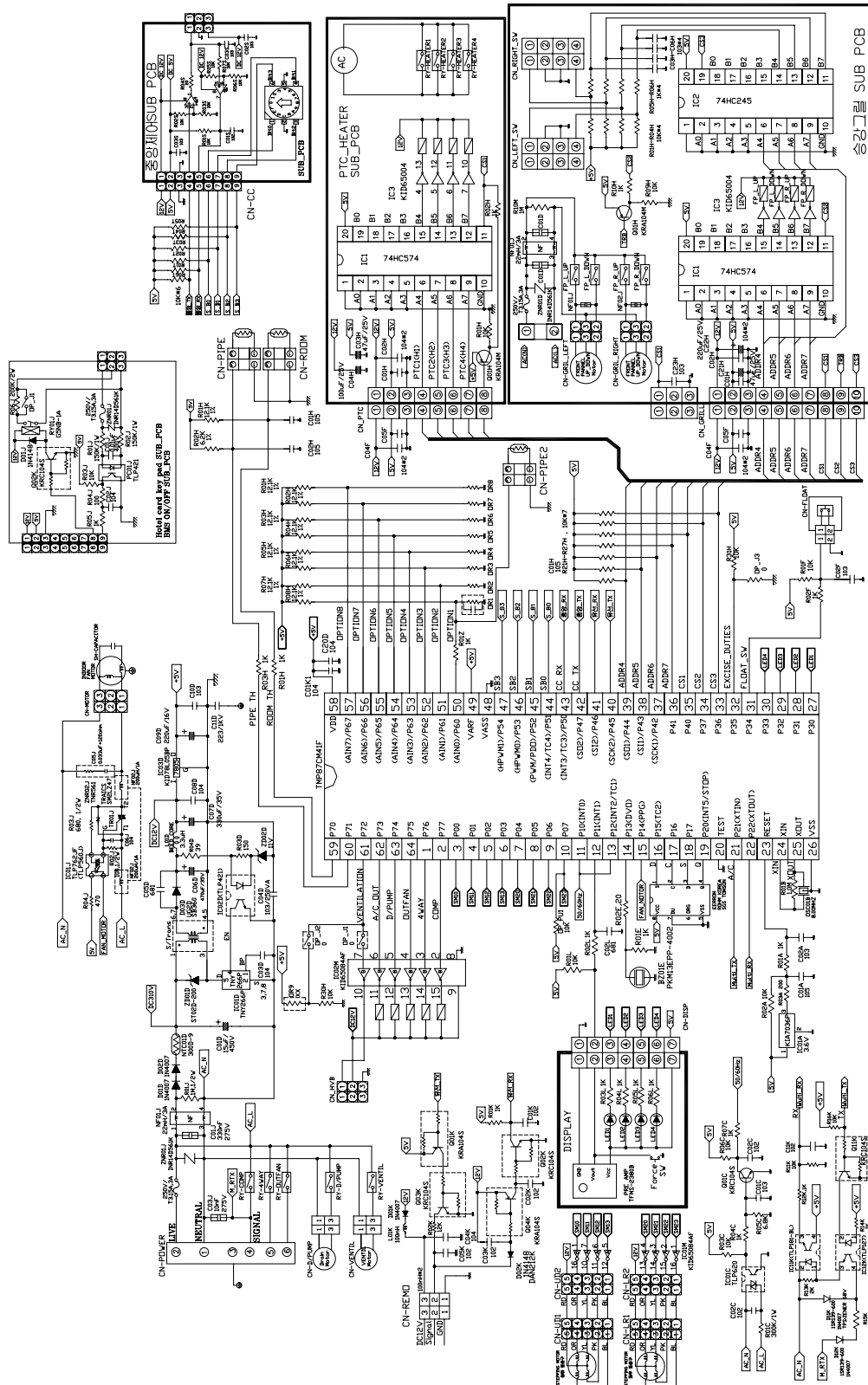
V. Schematic Diagram

Ceiling Cacsette Type.....113

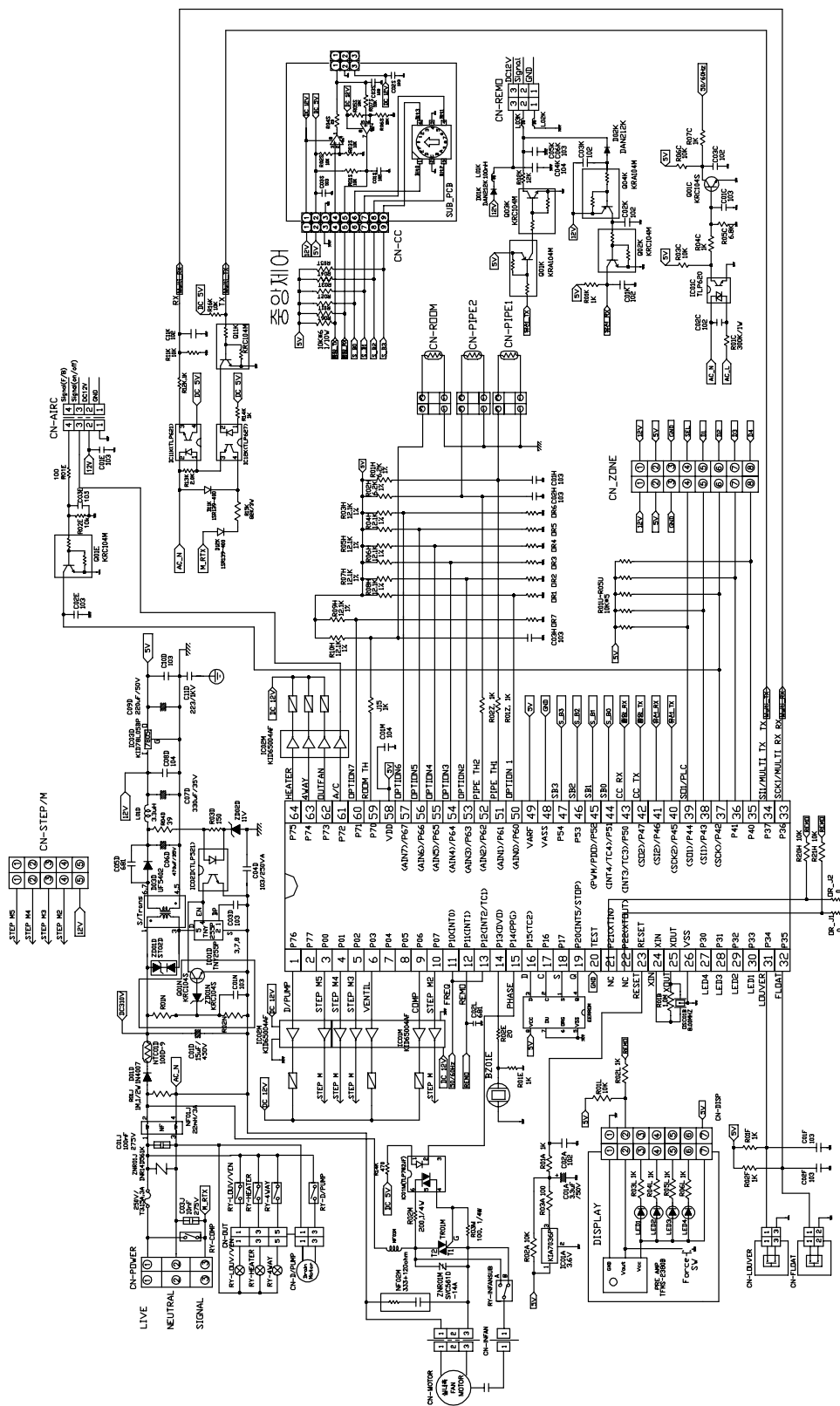
Ceiling Duct Type.....114

Celing & Floor115

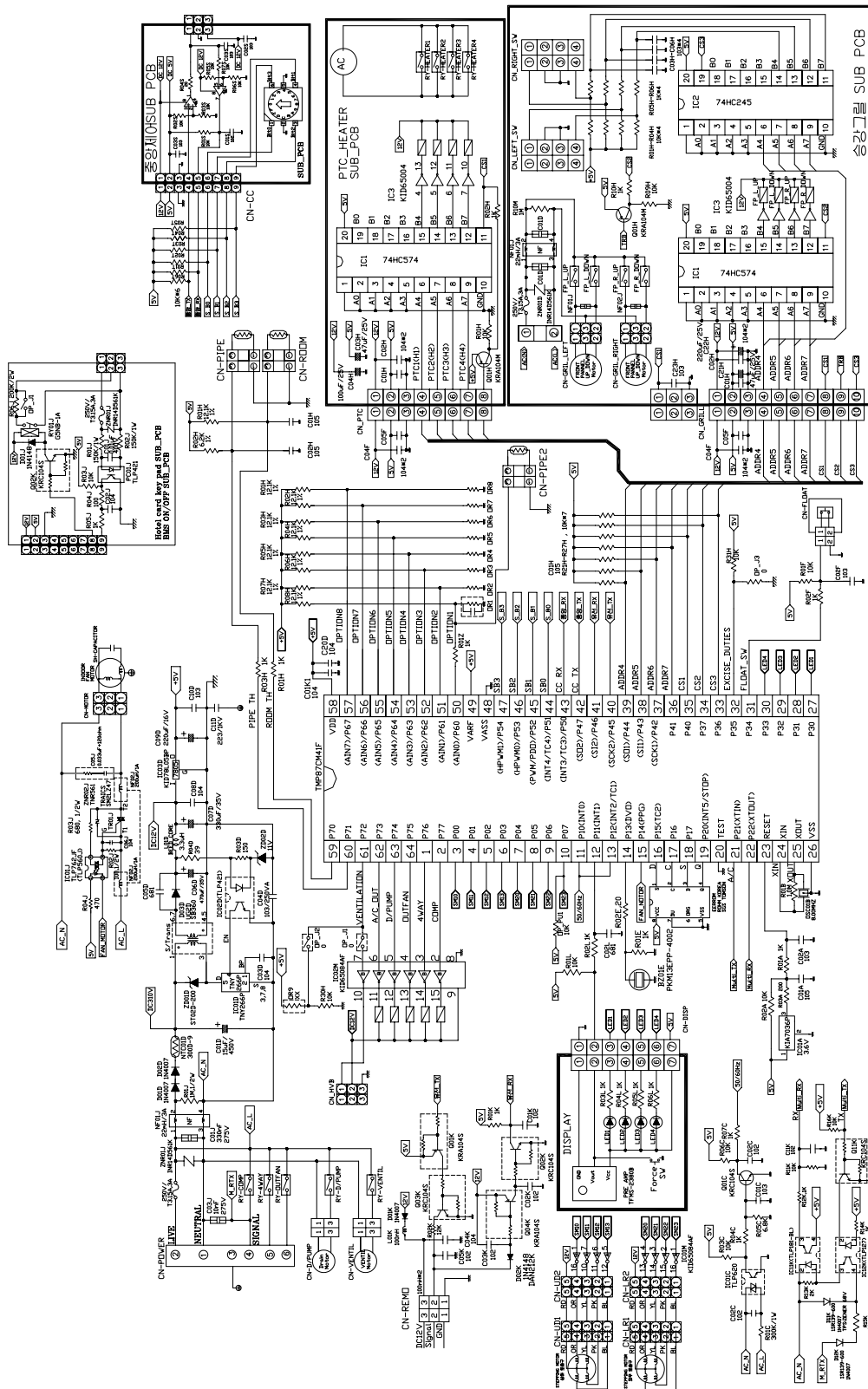
Ceiling Cassette Type



114 Universal System Air Conditioner



Ceiling & Floor



VI. Exploded View & Replacement Parts List

Indoor Unit117

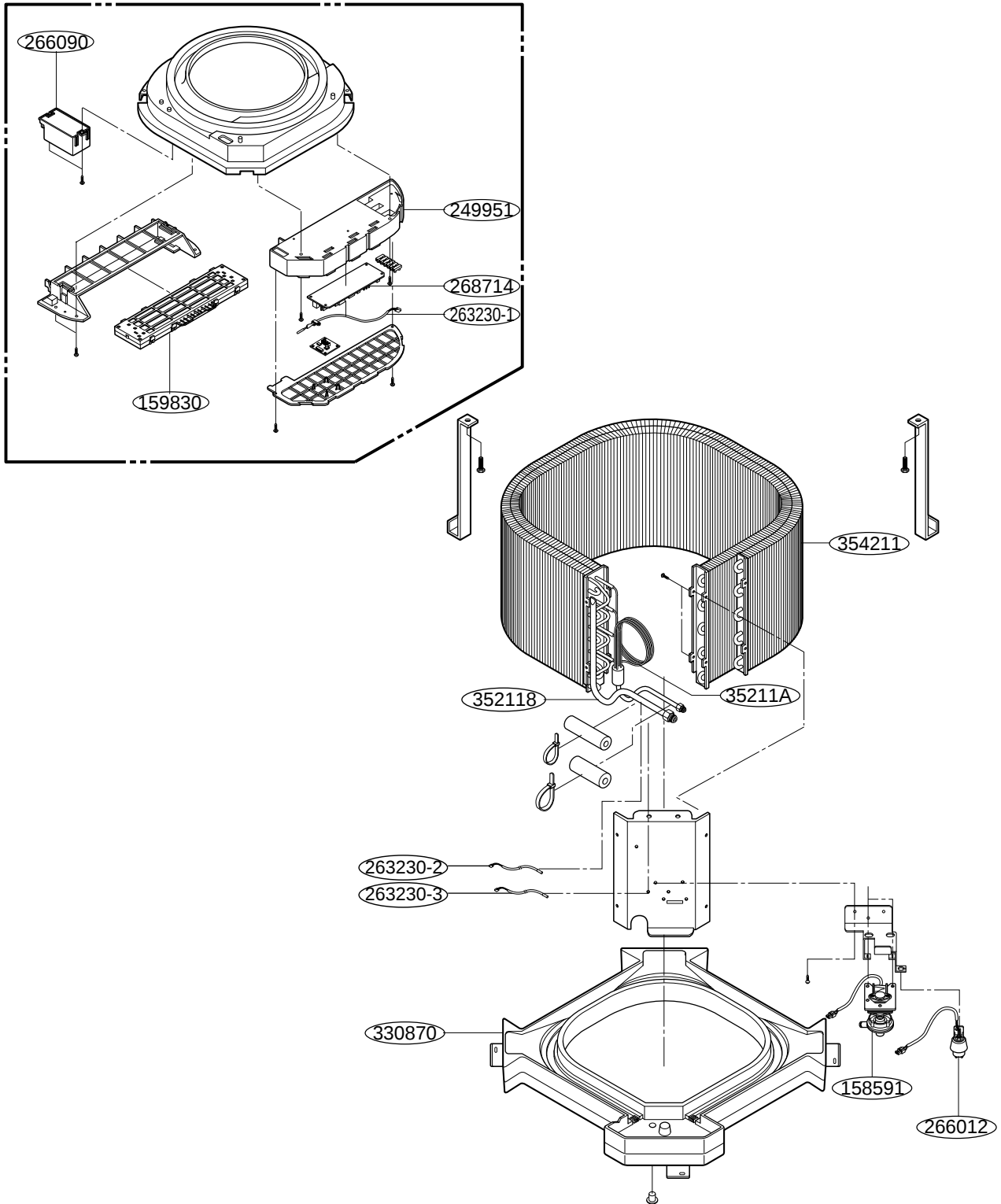
Outdoor Unit135

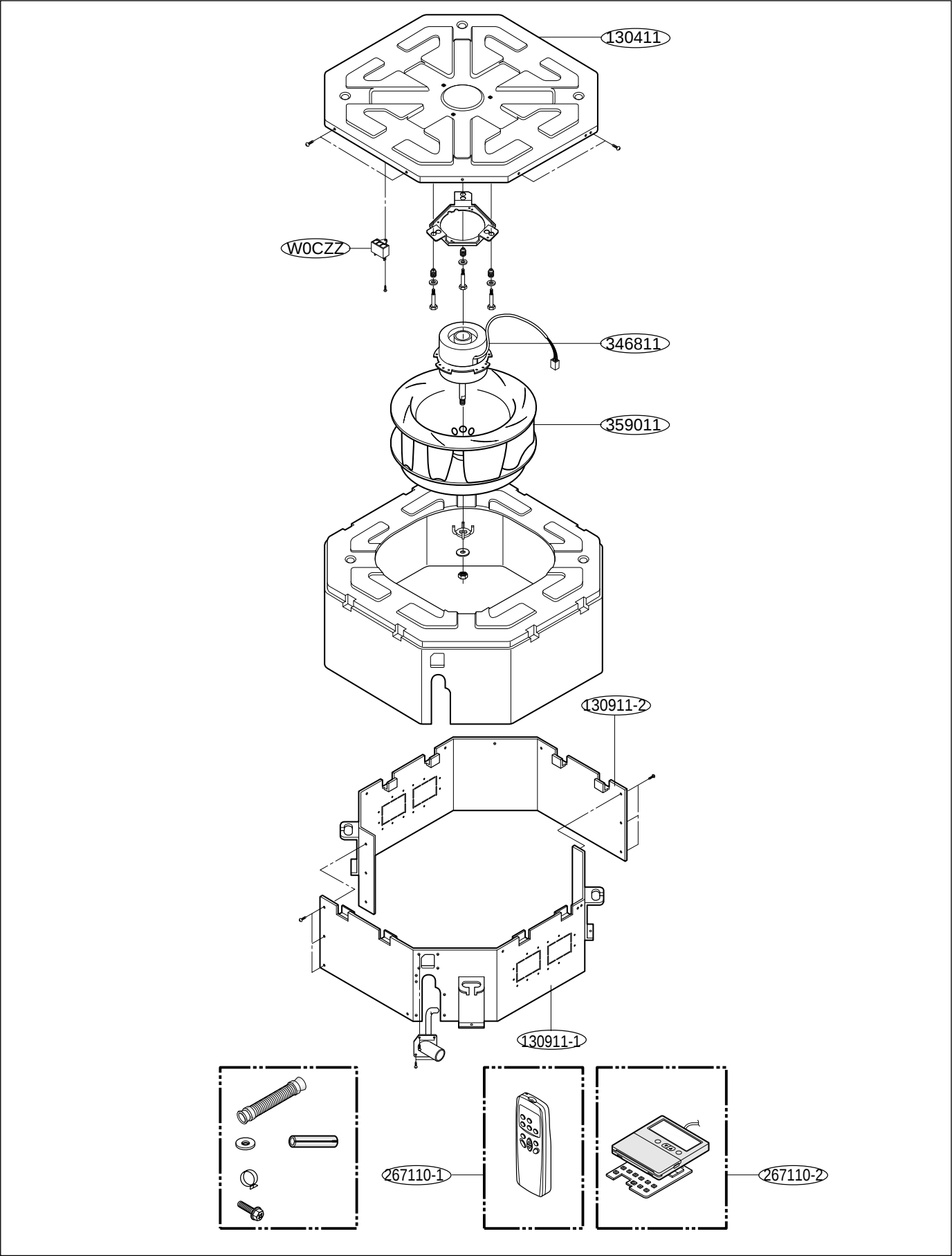
Panel Assembly, Front149

Ceiling Cassette 4-way

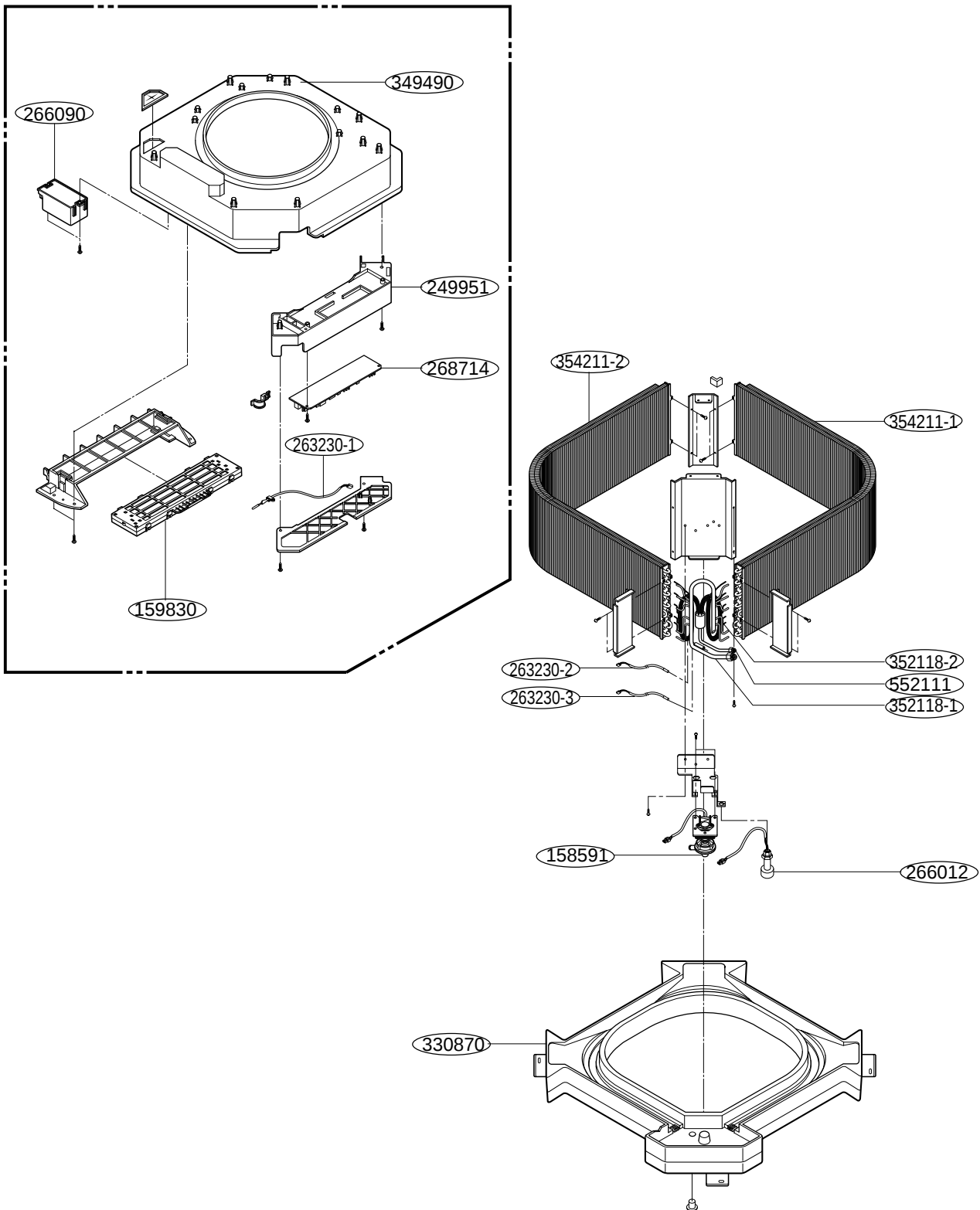
Ceiling Cassette Type

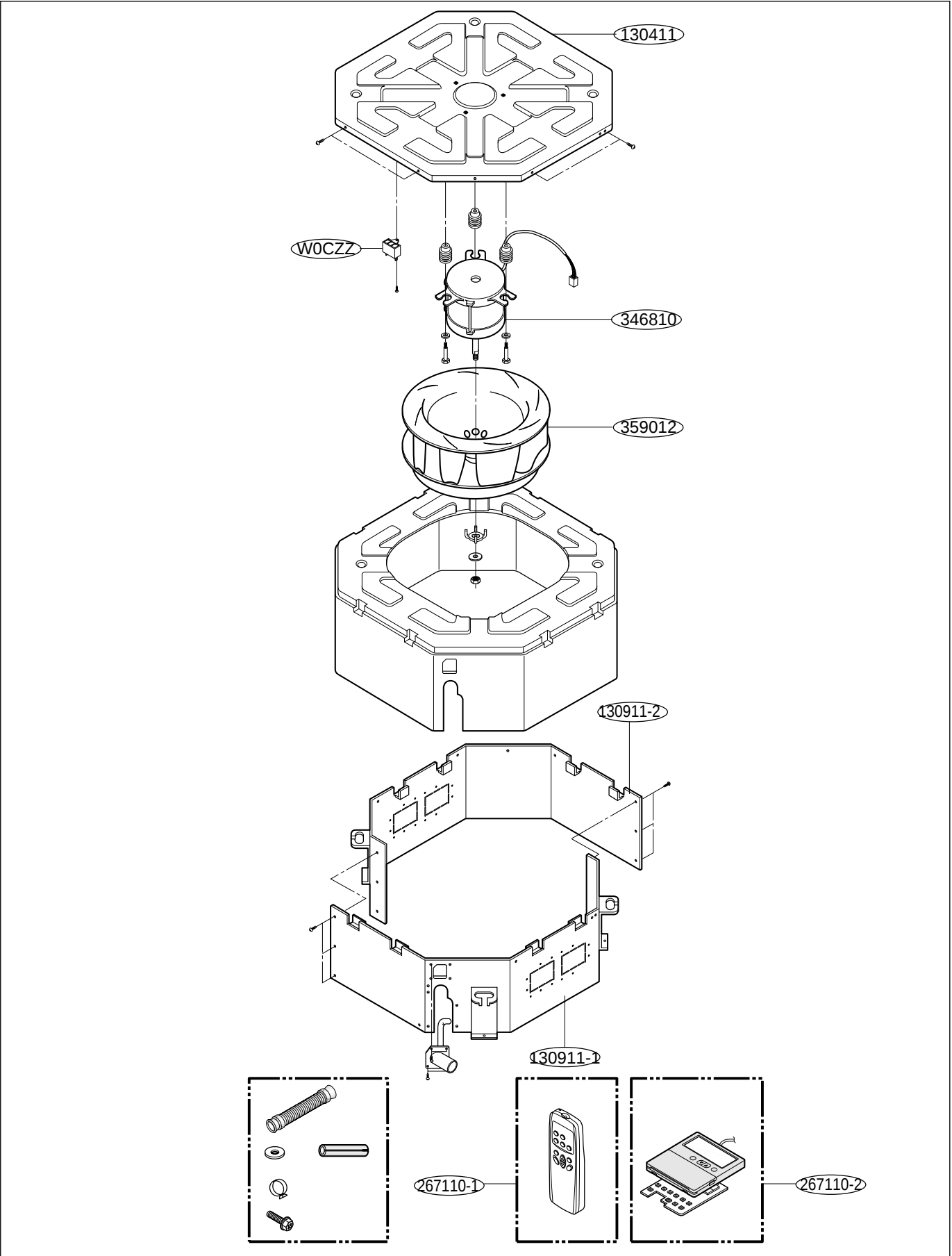
ATNH-EL



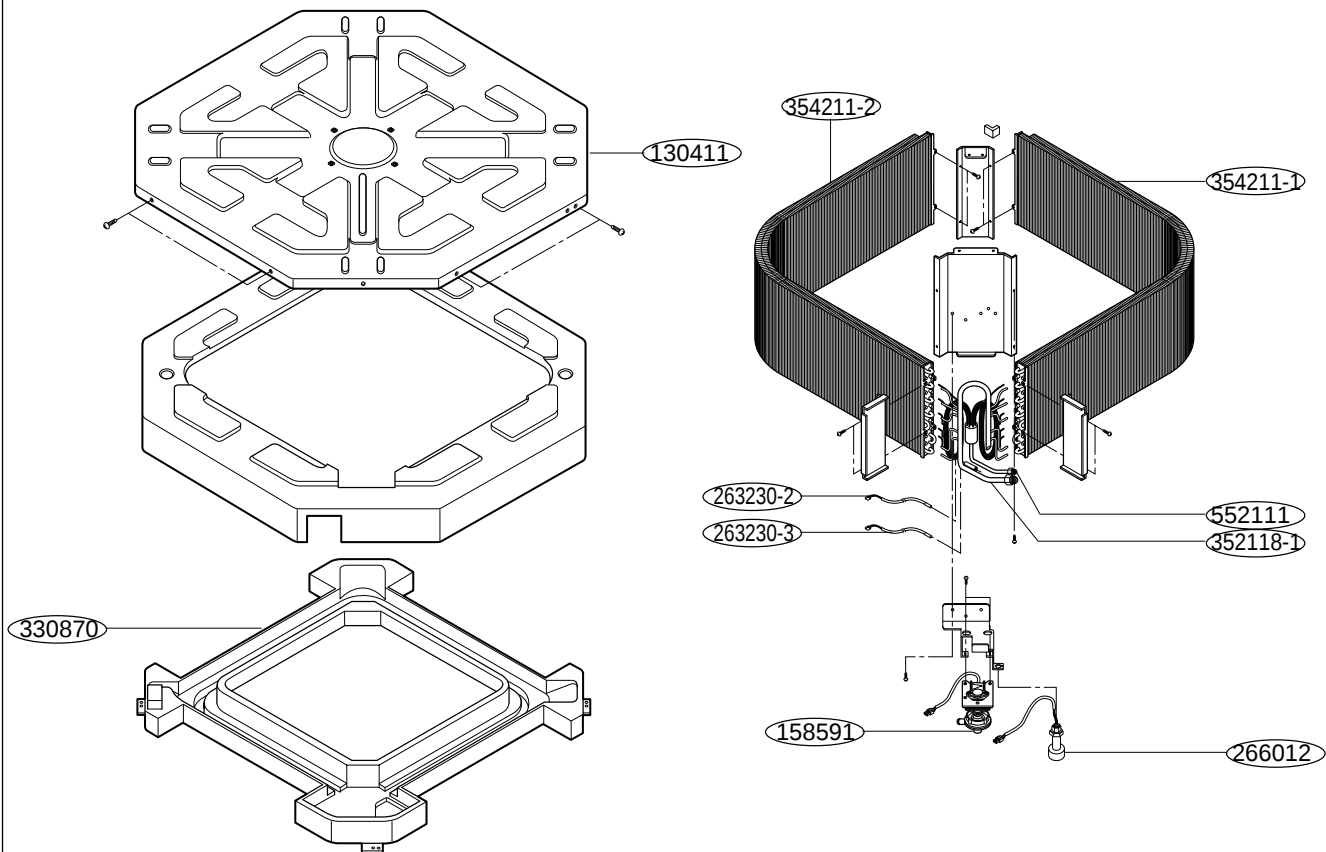
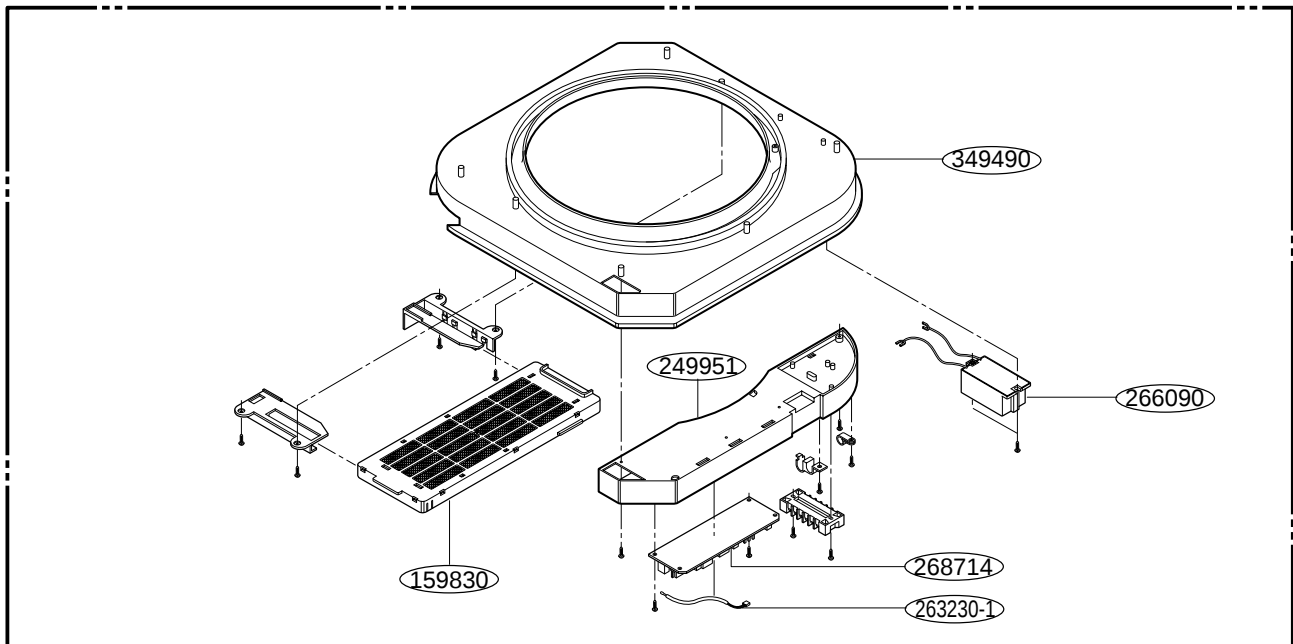


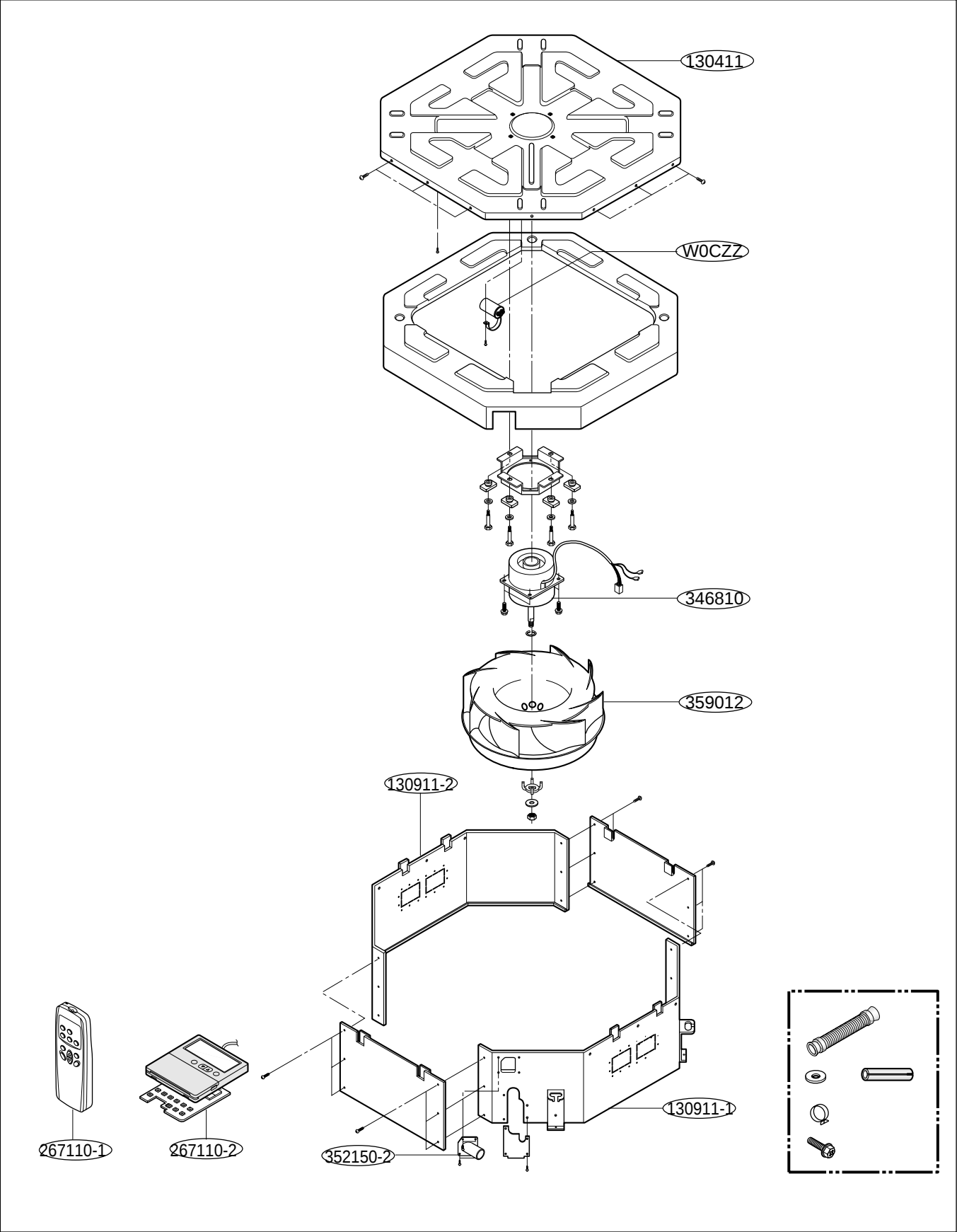
ATNH-FL





ATNH-DL





Parts List

LOCATION No.	DESCRIPTION	Part No.		SVC CODE
		ATNH126ELFB	ATNH186ELFB	
130411	BASE ASSEMBLY,WELD(INDOOR)	3041A10013A	3041A10013A	R
130911-1	CABINET ASSEMBLY,INDOOR	3091A10023C	3091A10023C	R
130911-2	CABINET ASSEMBLY,INDOOR	3091A10023D	3091A10023D	R
158591	PUMP ASSEMBLY,WATER	5859A20001M	5859A20001M	R
159830	AIR CLEANER ASSEMBLY	5983A10002A	5983A10002A	R
249951	CONTROL BOX ASSEMBLY,INDOOR	4995A14001L	4995A14001M	R
266012	SWITCH ASSY,FLOAT	6601A20001G	6601A20001G	R
266090	H.V ASSEMBLY	6609A20005C	6609A20005C	R
267110-1	REMOTE CONTROLLER ASSEMBLY	6711A20096B	6711A20096B	R
267110-2	REMOTE CONTROLLER ASSEMBLY	6711A20076J	6711A20076J	R
330870	DRAIN PAN ASSEMBLY	3087A10002A	3087A10002A	R
346811	MOTOR ASSEMBLY,SINGLE	4681AC2026E	4681AC2026C	R
35211A	TUBE ASSEMBLY,SUCTION INDOOR	5211A20243M	5211A20243N	R
354211	EVAPORATOR ASSY,BENDING	5421A10006A	5421A10006A	R
359011	FAN,TURBO	5900A10004A	5900A10004A	R
352118	TUBE ASSEMBLY,MENIFOLD(INDOOR)	5211A20241S	5211A20241R	R
W0CZZ	CAPACITOR,DRAWING	3H00660N	3H00660N	R
268714	PWB(PCB) ASSEMBLY,MAIN	6871A10209E	6871A10209F	R
263230-1	THERMISTOR ASSEMBLY	6323A10002A	6323A10002A	R
263230-2	THERMISTOR ASSEMBLY	6323AQ3226F	6323AQ3226F	R
263230-3	THERMISTOR ASSEMBLY	6323AQ3226T	6323AQ3226T	R

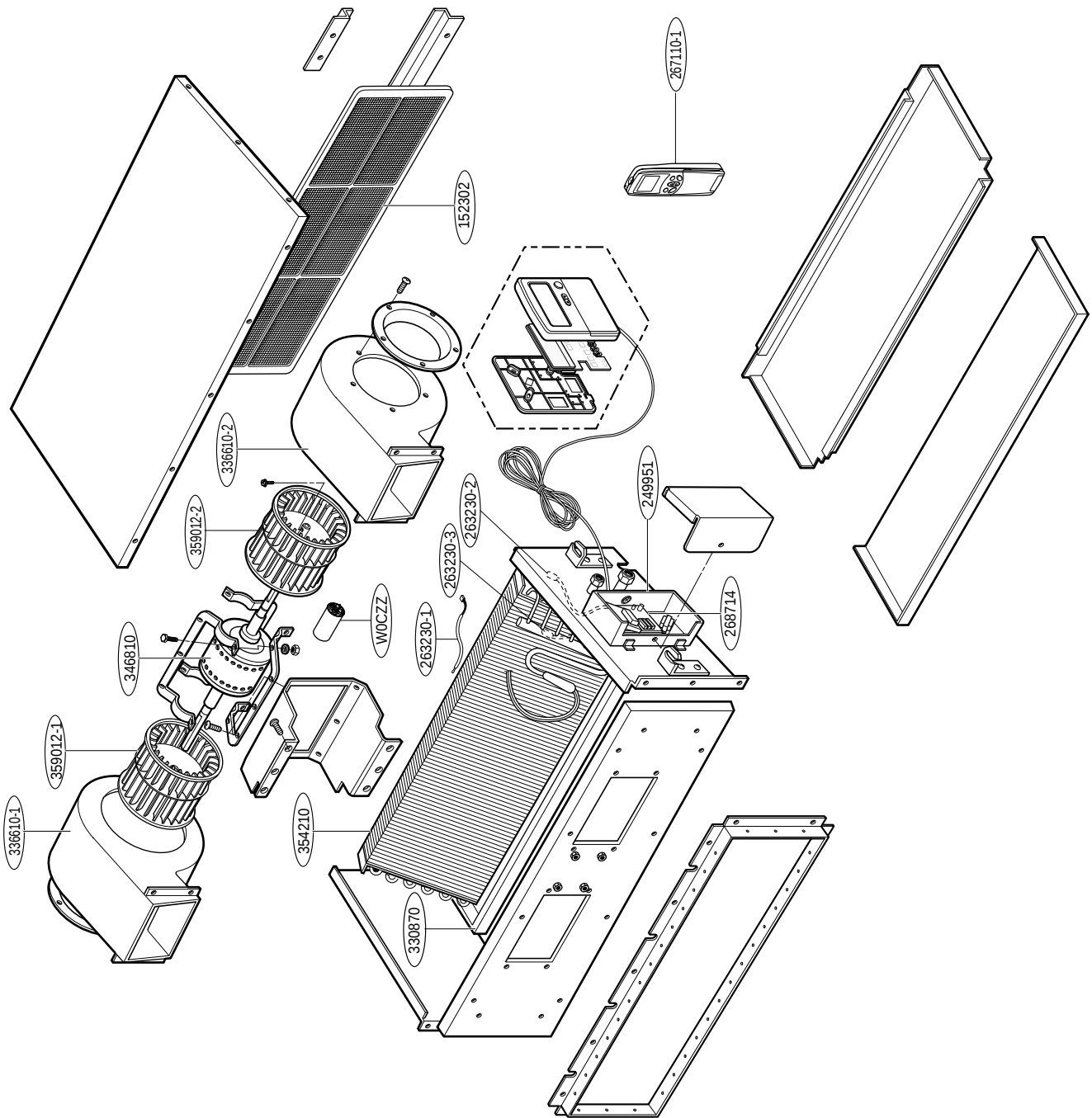
LOCATION No.	DESCRIPTION	Part No.		SVC CODE
		ATNH246FLFB	ATNH306FLFB	
130411	BASE ASSEMBLY,WELD(INDOOR)	3041A10030B	3041A10030B	R
130911-1	CABINET ASSEMBLY,INDOOR	3091A10051C	3091A10051C	R
130911-2	CABINET ASSEMBLY,INDOOR	3091A10051D	3091A10051D	R
158591	PUMP ASSEMBLY,WATER	5859A20001K	5859A20001K	R
159830	AIR CLEANER ASSEMBLY	5983A10002A	5983A10002A	R
249951	CONTROL BOX ASSEMBLY,INDOOR	4995A10093Y	4995A10093Z	R
266012	SWITCH ASSEMBLY,FLOAT	6601A20001H	6601A20001H	R
266090	H.V ASSEMBLY	6609A20005E	6609A20005E	R
267110-1	REMOTE CONTROLLER ASSEMBLY	6711A20096B	6711A20096B	R
267110-2	REMOTE CONTROLLER ASSEMBLY	6711A20076J	6711A20076J	R
268714	PWB(PCB) ASSEMBLY,MAIN	6871A10209G	6871A10209H	R
330870	DRAIN PAN ASSEMBLY	3087A10010B	3087A10010B	R
346810	MOTOR ASSEMBLY,INDOOR	4681A20051Z	4681A20051W	R
349490	ORIFICE ASSEMBLY	4949A10007B	4949A10007B	R
352118-1	TUBE ASSEMBLY,MENIFOLD(INDOOR)	5211A20251Q	5211A20251K	R
352118-2	TUBE ASSEMBLY,MENIFOLD(INDOOR)	5211A20251K	5211A20251U	R
354211-1	EVAPORATOR ASSEMBLY,BENDING	5421A10016G	5421A10016G	R
354211-2	EVAPORATOR ASSEMBLY,BENDING	5421A10016H	5421A10016H	R
359012	FAN ASSEMBLY,TURBO	5901A10036A	5901A10036A	R
552111	TUBE ASSEMBLY,CAPILLARY	5211A21137C	5211A21137C	R
W0CZZ	CAPACITOR,DRAWING	3H00660M	3H00660M	R
263230-1	THERMISTOR ASSEMBLY	6323A10002A	6323A10002A	R
263230-2	THERMISTOR ASSEMBLY	6323AQ3226Y	6323AQ3226Y	R
263230-3	THERMISTOR ASSEMBLY	6323AQ3226E	6323AQ3226E	R

Parts List

LOCA TION No.	DESCRIPTION	Part No.			SVC CODE
		ATNH366DLFB	ATNH486DLFB	ATNH606DLFB	
130411	BASE ASSEMBLY,WELD(INDOOR)	3041A10016A	3041A10016A	3041A10016A	R
130911-1	CABINET ASSEMBLY,INDOOR	3091A20035A	3091A20035A	3091A20035A	R
130911-2	CABINET ASSEMBLY,INDOOR	3091A20035B	3091A20035B	3091A20035B	R
158591	PUMP ASSEMBLY,WATER	5859A20001D	5859A20001D	5859A20001D	R
266012	SWITCH ASSY,FLOAT	6601A20001F	6601A20001F	6601A20001F	R
159830	AIR CLEANER ASSEMBLY	5983A10003D	5983A10003D	5983A10003D	R
249951	CONTROL BOX ASSEMBLY,INDOOR	4995A22004Z	4995A22004W	4995A20168A	R
266090	H.V ASSEMBLY	6609A20005H	6609A20005H	6609A20005H	R
267110-1	REMOTE CONTROLLER ASSEMBLY	6711A20096B	6711A20096B	6711A20096B	R
267110-2	REMOTE CONTROLLER ASSEMBLY	6711A20076J	6711A20076J	6711A20076J	R
330870	DRAIN PAN ASSEMBLY	3087A10006A	3087A10006A	3087A10006A	R
346810	MOTOR ASSEMBLY,INDOOR	4681A20006J	4681A20006H	4681A20006M	R
354211-1	EVAPORATOR ASSY,BENDING	5421A10016A	5421A10016A	5421A10016A	R
354211-2	EVAPORATOR ASSY,BENDING	5421A10016B	5421A10016B	5421A10016B	R
552111	TUBE ASSEMBLY,CAPILLARY	5211A20316S	5211A20316R	5211A20316R	R
352118-1	TUBE ASSEMBLY,MENIFOLD(INDOOR)	5211A20251R	5211A20251A	5211A20251A	R
352118-2	TUBE ASSEMBLY,MENIFOLD(INDOOR)	5211A20251B	5211A20251B	5211A20251B	R
359012	FAN ASSEMBLY,TURBO	5900A10003B	5900A10003B	5900A10003B	R
W0CZZ	CAPACITOR,DRAWING	3H00660M	2A00986D	2A00986D	R
268714	PWB(PCB) ASSEMBLY MAIN	6871A10209J	6871A10209K	6871A10209L	R
352150-2	ELBOW	5212A20004A	5212A20004A	5212A20004A	R
263230-1	THERMISTOR ASSEMBLY	6323A10002B	6323A10002B	6323A10002B	R
263230-2	THERMISTOR ASSEMBLY	6323A10002A	6323A10002A	6323A10002A	R
263230-3	THERMISTOR ASSEMBLY	6323AQ3226T	6323AQ3226T	6323AQ3226T	R

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ABNH-RL



Parts List

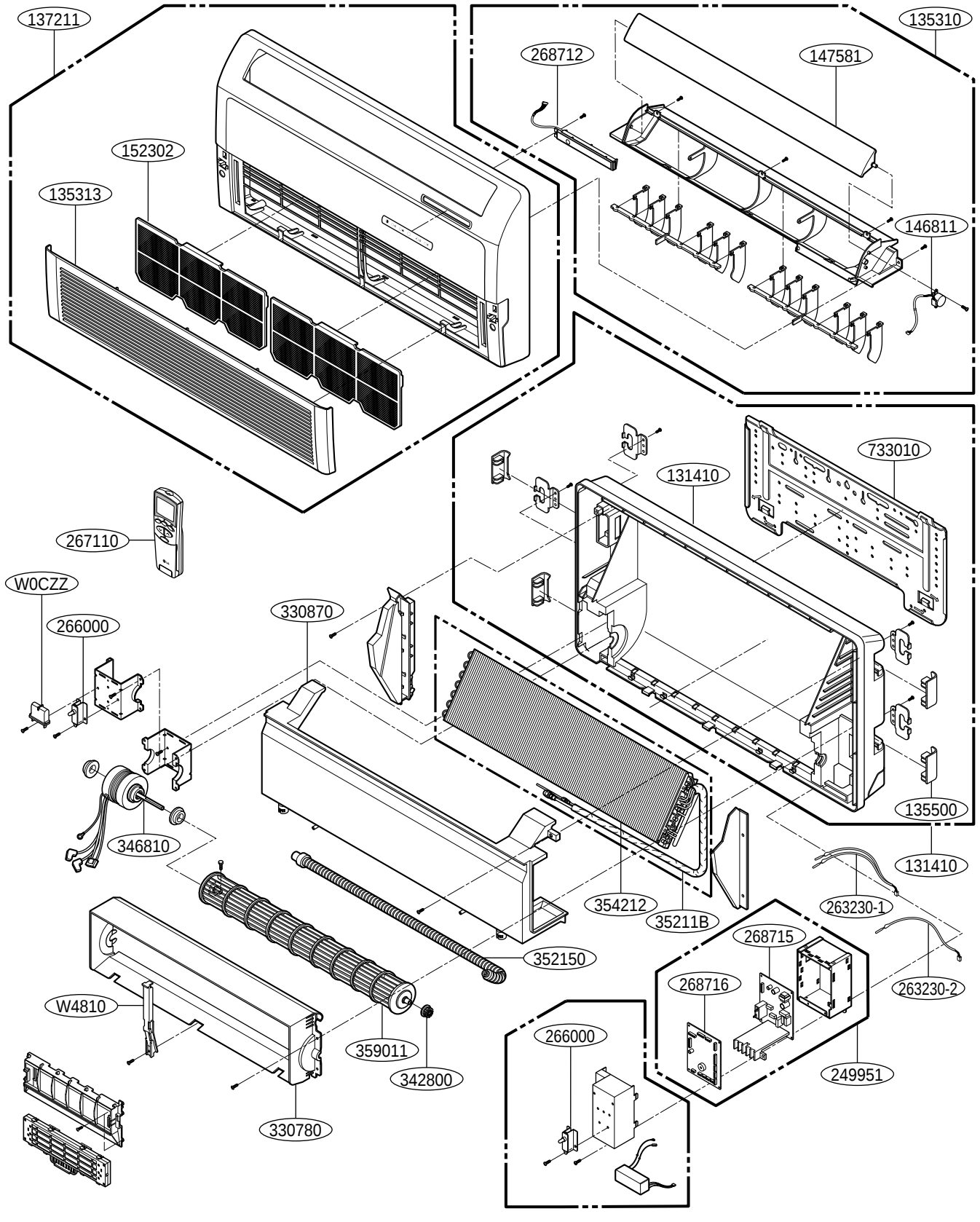
LOCATION No.	DESCRIPTION	Part No.		SVC CODE
		ABNH186HLAB	ABNH246HLAB	
336610-1	HOUSING (MECH),WRAPPER	3660A20017A	3660A20017A	R
336610-2	HOUSING (MECH),WRAPPER	3660A20018A	3660A20018A	R
346810	MOTOR ASSEMBLY,INDOOR	4681A10013C	4681A10013C	R
359012-1	FAN ASSEMBLY,BLOWER	5901A10026A	5901A10026A	R
359012-2	FAN ASSEMBLY,BLOWER	5901A10028B	5901A10028B	R
W0CZZ	CAPACITOR,DRAWING	2A00986D	2A00986D	R
354210	EVAPORATOR ASSEMBLY,FIRST	5421A10027A	5421A20100B	R
352118	TUBE ASSEMBLY,MENIFOLD(INDOOR)	5211A20416J	5211A20465G	R
552111	TUBE ASSEMBLY,CAPILLARY	5211A20693E	5211A20466N	R
330870	DRAIN PAN ASSEMBLY	3087A10008B	3087A10008B	R
249951	CONTROL BOX ASSEMBLY,INDOOR	4995A14002E	4995A14002F	R
268714	PWB(PCB) ASSEMBLY,MAIN	6871A10131R	6871A10140Y	R
267110-1	REMOTE CONTROLLER ASSEMBLY	6711A10008D	6711A10008D	R
152302	FILTER(MECH),A/C	5230A30001M	5230A30001M	R
263230-1	THERMISTOR ASSEMBLY	6323AQ3226G	6323AQ3226G	R
263230-2	THERMISTOR ASSEMBLY	6323AQ3226V	6323AQ3226V	R
263230-3	THERMISTOR ASSEMBLY	6323AQ3214E	6323AQ3214E	R

LOCATION No.	DESCRIPTION	Part No.		SVC CODE
		ABNH306GLAB	ABNH366GLAB	
336610-1	HOUSING (MECH),WRAPPER	3660A20019A	3660A20019A	R
336610-2	HOUSING (MECH),WRAPPER	3660A20020A	3660A20020A	R
346810	MOTOR ASSEMBLY,INDOOR	4681A10013J	4681A10013A	R
359012-1	FAN ASSEMBLY,BLOWER	5901A10026A	5901A10026A	R
359012-2	FAN ASSEMBLY,BLOWER	5901A10028J	5901A10028A	R
W0CZZ	CAPACITOR,DRAWING	2A00986D	2A00986D	R
354210	EVAPORATOR ASSEMBLY,FIRST	5421A10027A	5421A10027A	R
552111	TUBE ASSEMBLY,DISTRIBUTOR	5211A20693E	5211A20693E	R
352118	TUBE ASSEMBLY,MENIFOLD(INDOOR)	5211A20416J	5211A20416J	R
330870	DRAIN PAN ASSEMBLY	3087A10008A	3087A10008A	R
249951	CONTROL BOX ASSEMBLY,INDOOR	4995A14002G	4995A14002H	R
268714	PWB(PCB) ASSEMBLY,MAIN	6871A10131Q	6871A10131R	R
267110-1	REMOTE CONTROLLER ASSEMBLY	6711A10008D	6711A10008D	R
152302	FILTER(MECH),A/C	5230A30001L	5230A30001L	R
263230-1	THERMISTOR ASSEMBLY	6323AQ3226G	6323AQ3226G	R
263230-2	THERMISTOR ASSEMBLY	6323AQ3226V	6323AQ3226V	R
263230-3	THERMISTOR ASSEMBLY	6323AQ3214E	6323AQ3214E	R

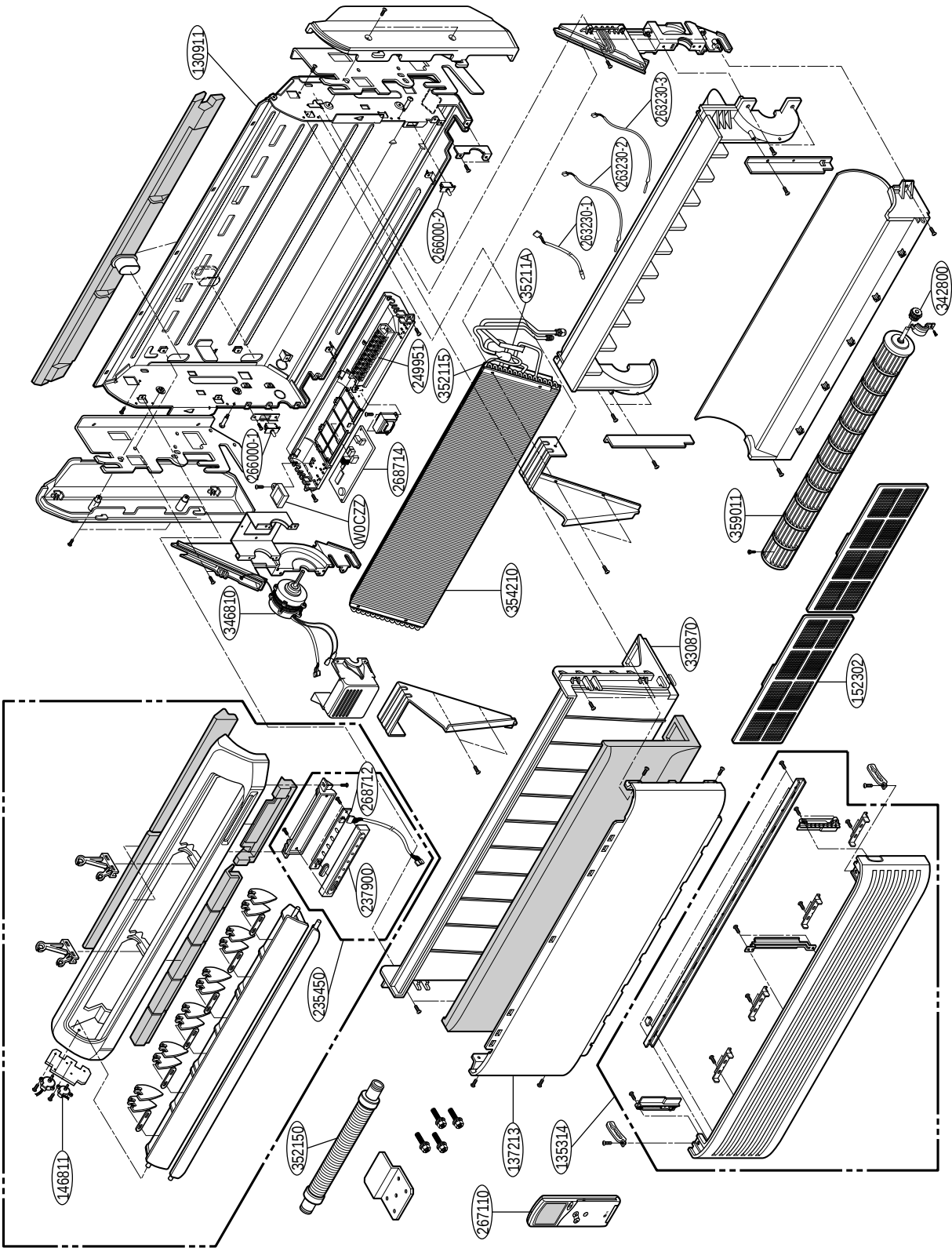
LOCATION No.	DESCRIPTION	Part No.		SVC CODE
		ABNH486RLAB	ABNH606RLAB	
336600-1	HOUSING (MECH),WRAPPER	3660A20044A	3660A20044A	R
336600-2	HOUSING (MECH),WRAPPER	3660A20045A	3660A20045A	R
346810	MOTOR ASSEMBLY,INDOOR	4681A10032A	4681A10032A	R
359012-1	FAN ASSEMBLY,BLOWER	5901A10051A	5901A10051A	R
359012-2	FAN ASSEMBLY,BLOWER	5901A10053A	5901A10053A	R
W0CZZ	CAPACITOR,DRAWING	0CZZA20001B	0CZZA20001B	R
354210	EVAPORATOR ASSEMBLY,FIRST	5421A20212B	5421A20210B	R
330870	DRAIN PAN ASSEMBLY	3087A20025A	3087A20025A	R
249951-1	CONTROL BOX ASSEMBLY,INDOOR	4994A20001C	4994A22001C	R
249951-2	CONTROL BOX ASSEMBLY,INDOOR	4995A22003G	4995A22003H	R
268714	PWB(PCB) ASSEMBLY,MAIN	6871A10131N	6871A10131P	R
267110-1	REMOTE CONTROLLER ASSEMBLY	6711A10008D	6711A10008D	R
152302	FILTER(MECH),A/C	5230A30017A	5230A30017A	R
263230-1	THERMISTOR ASSEMBLY	6323AQ3226G	6323AQ3226G	R
263230-2	THERMISTOR ASSEMBLY	6323AQ3226V	6323AQ3226V	R
263230-3	THERMISTOR ASSEMBLY	6323AQ3214E	6323AQ3214E	R

Ceiling & Floor Type

AVNH-EL



AVNH-BL



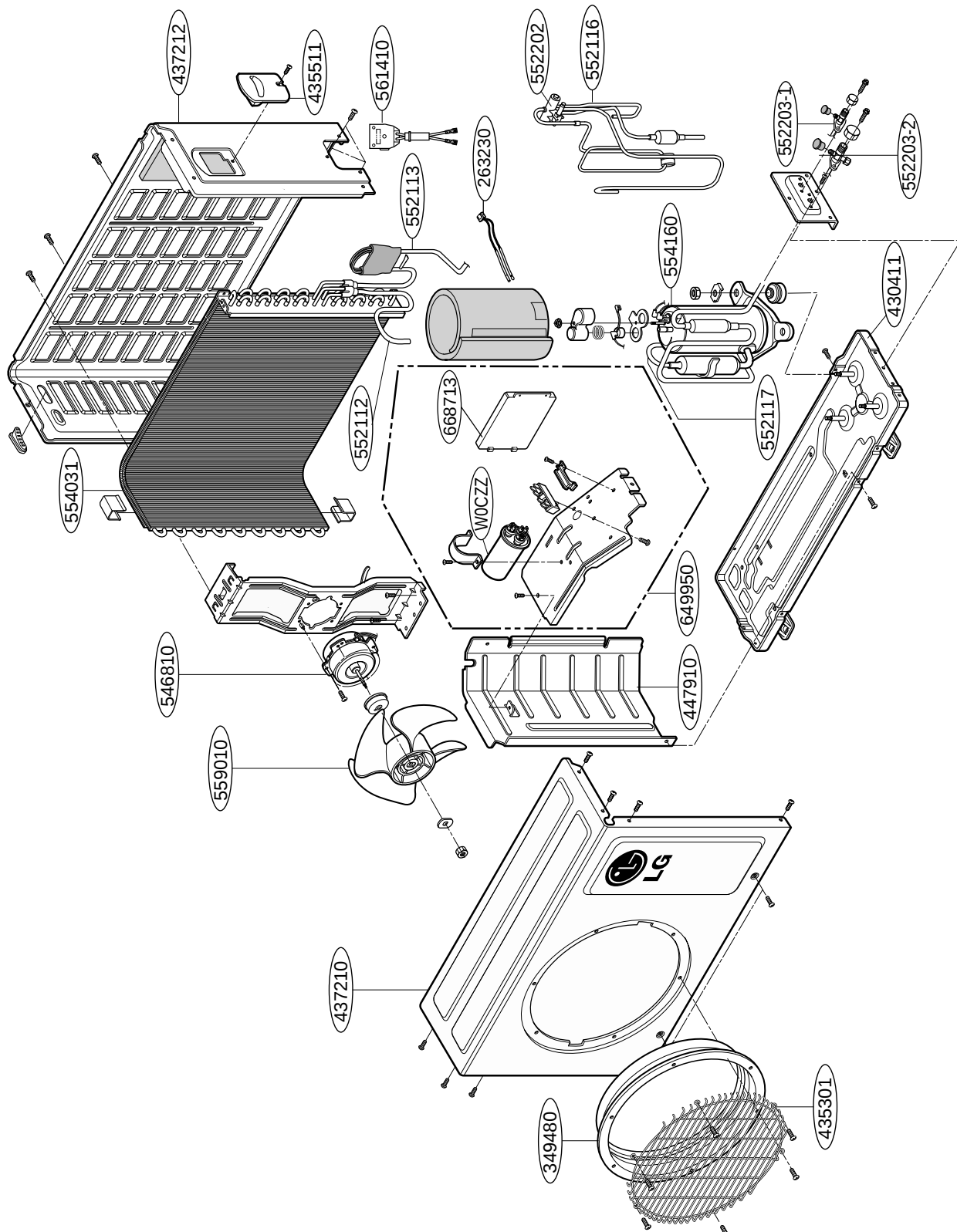
Parts List

LOCATION No.	DESCRIPTION	Part No.	SVC CODE
		AVNH126ELAB	
137211	PANEL ASSEMBLY,FRONT(INDOOR)	3721A10092A	R
146811	MOTOR ASSEMBLY,STEP	4681A20055A	R
147581	LOUVER,HORIZONTAL	4758A10006A	R
152302	FILTER(MECH),A/C	5230A10009A	R
249951	CONTROL BOX ASSEMBLY,INDOOR	4995A20356G	R
266000	SWITCH,PUSH	6600AP2059B	R
267110	REMOTE CONTROLLER ASSEMBLY	6711A20096A	R
268712	PWB(PCB) ASSEMBLY,DISPLAY	6871A20390D	R
268715	PWB(PCB) ASSEMBLY,MAIN(AC)	6871A20359B	R
268716	PWB(PCB) ASSEMBLY,MAIN(DC)	6871A20358G	R
330780	CUT OFF	3078A20001A	R
330870	DRAIN PAN ASSEMBLY	3087A10018A	R
342800	BEARING	4280A20004A	R
346810	MOTOR ASSEMBLY,INDOOR	4681A20131A	R
35211B	TUBE ASSEMBLY,TUBING	5211A21217B	R
352115	TUBE ASSEMBLY,EVAPORATOR IN	5211A25012B	R
352116	TUBE ASSEMBLY,EVAPORATOR OUT	5211A22007B	R
352150	HOSE ASSEMBLY,DRAIN	5251AR2575Q	R
354212	EVAPORATOR ASSEMBLY,FINAL	5421A10044B	R
359011	FAN ASSEMBLY,CROSS FLOW	5901A20008E	R
733010	PLATE ASSEMBLY,INSTALL	3301A10002A	R
W0CZZ	CAPACITOR,DRAWING	3H00671A	R
W4810	BRACKET	4810A21019A	R
131410	CHASSIS ASSEMBLY	3141A10009A	R
135500	COVER	3550A30201A	R
135310	GRILLE ASSEMBLY,DIFFUSER(INDOOR)	3531A10248A	R
135313	GRILLE ASSEMBLY,INLET	3531A10247A	R
263230-1	THERMISTOR ASSEMBLY	6323A20004T	R
263230-2	THERMISTOR ASSEMBLY	6323AQ3226V	R

LOCA TION No.	DESCRIPTION	Part No.			SVC CODE
		AVNH186BLAB	AVNH246BLAB	AVNH306BLAB	
135314	GRILLE ASSEMBLY,INLET SUB	5237AP2817B	5237AP2817B	5237AP2817B	R
137211	PANEL ASSEMBLY,FRONT(INDOOR)	3720AP2767P	3720AP2767P	3720AP2767P	R
146811	MOTOR ASSEMBLY,STEP	4681A20055A	4681A20055A	4681A20055A	R
152302	FILTER(MECH),A/C	5230AP7093A	5230AP7093A	5230AP7093A	R
266000-1	SWITCH,PUSH	6600AP2059A	6600AP2059A	6600AP2059A	R
266000-2	SWITCH,PUSH	6600AP2059A	6600AP2059A	6600AP2059A	R
235450	DISPLAY ASSEMBLY (MECH)	3545AP7224E	3545AP7224E	3545AP7224E	R
237900	WINDOW,DISPLAY	3790AP7080A	3790AP7080A	3790AP7080A	R
267110	REMOTE CONTROLLER ASSEMBLY	6711A20096A	6711A20096A	6711A20096A	R
268712	PWB(PCB) ASSEMBLY,DISPLAY	6871AQ3263B	6871AQ3263B	6871AQ3263B	R
268714	PWB(PCB) ASSEMBLY,MAIN	6871A10025A	6871A10025B	6871A10025C	R
330870	DRAIN PAN ASSEMBLY	3087AP7233A	3087AP7233A	3087AP7233A	R
342800	BEARING	3H02821B	3H02821B	3H02821B	R
346810	MOTOR ASSEMBLY,INDOOR	4681AP2306M	4681AP2306N	4681AP2306P	R
352115	TUBE ASSEMBLY,EVAPORATOR IN	5211AP2810Q	5211AP2810R	5211AP2810R	R
35211A	TUBE ASSEMBLY,SUCTION INDOOR	5211AP2813G	5211AP2813H	5211AP2813J	R
354210	EVAPORATOR ASSEMBLY,FIRST	5421AP2812B	5421AP2812A	5421AP2812A	R
359011	FAN ASSEMBLY,CROSS FLOW	5901AR2351E	5901AR2351E	5901AR2351E	R
352150	HOSE ASSY,DRAIN	5251AP2460B	5251AP2460B	5251AP2460B	R
W0CZZ	CAPACITOR,DRAWING	3H00671A	3H00671A	3H00671A	R
130911	CABINET ASSEMBLY,INDOOR	3091AP2533A	3091AP2533A	3091AP2533A	R
249951	CONTROL BOX ASSEMBLY,INDOOR	4995A10172A	4995A10172B	4995A10172C	R
263230-1	THERMISTOR ASSEMBLY	6323A30004D	6323A30004D	6323A30004D	R
263230-2	THERMISTOR ASSEMBLY	6323A30002C	6323A30002C	6323A30002C	R
263230-3	THERMISTOR ASSEMBLY	6323AQ3226Y	6323AQ3226Y	6323AQ3226Y	R

Outdoor Unit

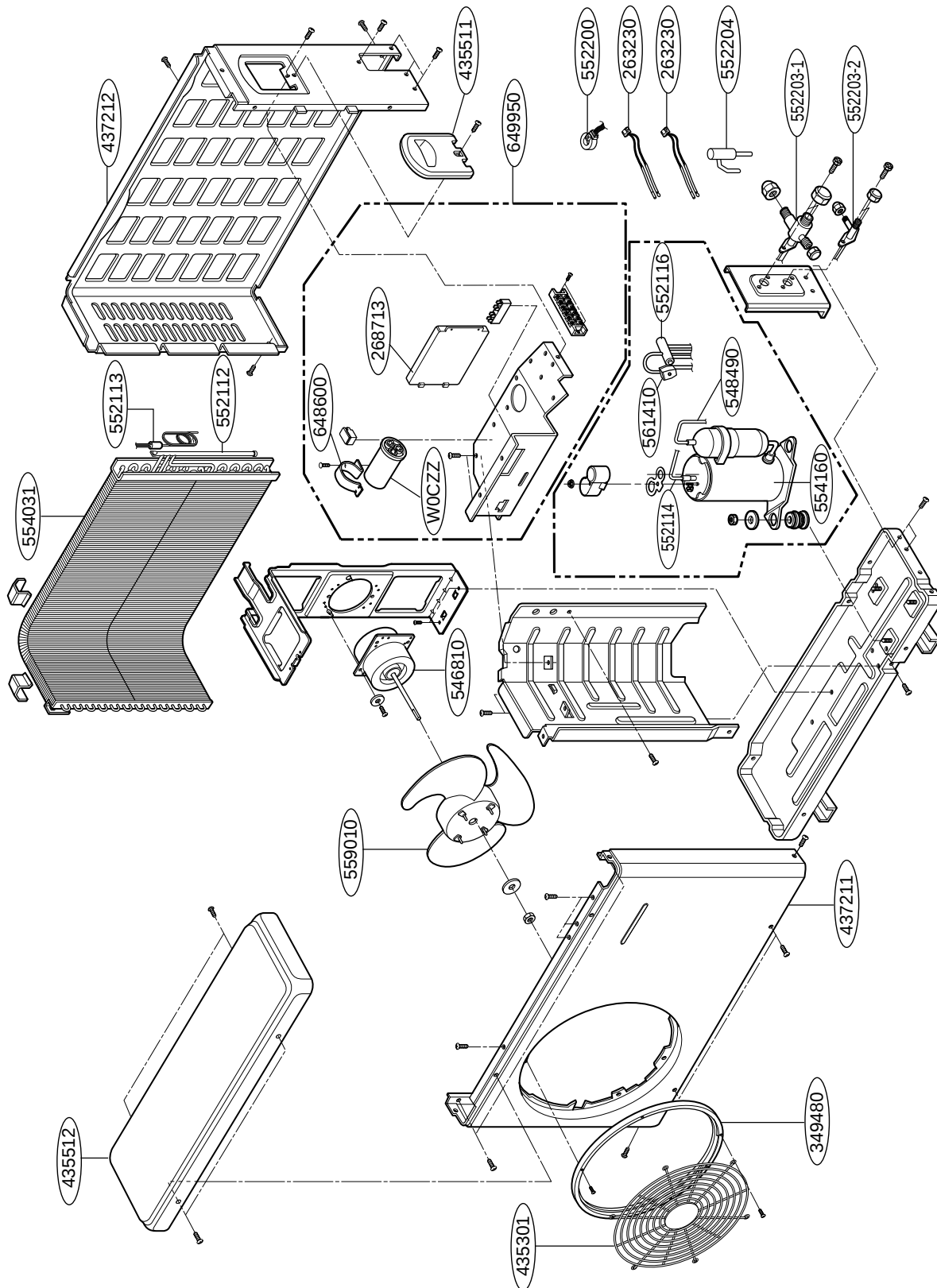
Model No.: AUUH126B



Parts List

LOCATION No.	DESCRIPTION	Part No.	SVC CODE
		AUUH126B	
349480	ORIFICE	4948A20001A	R
435301	GRILLE, DISCHARGE	3530A20006G	R
430411	BASE ASSEMBLY, OUTDOOR	3041A20008K	R
435511	COVER ASSEMBLY, CONTROL(OUTDOOR)	3551A30023W	R
437210	PANEL ASSEMBLY, FRONT(OUTDOOR)	3721A20027P	R
437212	PANEL ASSY, REAR	3721A20026K	R
447910	BARRIER ASSEMBLY, OUTDOOR	4791A30002A	R
552112	TUBE ASSEMBLY, CONDENSER IN	5211A10134Q	R
552113	TUBE ASSEMBLY, CONDENSER OUT	5211A10058A	R
552116	TUBE ASSEMBLY, REVERSING	5211A21234B	R
552202	VALVE, REVERSING	5220AR3228J	R
552203-1	VALVE, SERVICE	2H02479H	R
552203-2	VALVE, SERVICE	5220A20001B	R
546810	MOTOR ASSEMBLY, OUTDOOR	4681A20004S	R
554031	CONDENSER ASSEMBLY, BENT	5403A20019V	R
554160	COMPRESSOR	2520UGEP2AA	R
559010	FAN ASSEMBLY, PROPELLER	5901A10004A	R
561410	COIL ASSEMBLY, REVERSING VALVE	6141AR3733R	R
649950	CONTROL BOX ASSEMBLY, OUTDOOR	4995A10178A	R
668711	PWB(PCB) ASSEMBLY, MAIN(OUTDOOR)	6871A20464G	R
W0CZZ	CAPACITOR, DRAWING	2H01451T	R
263230	THERMISTOR ASSEMBLY	6323A20023E	R

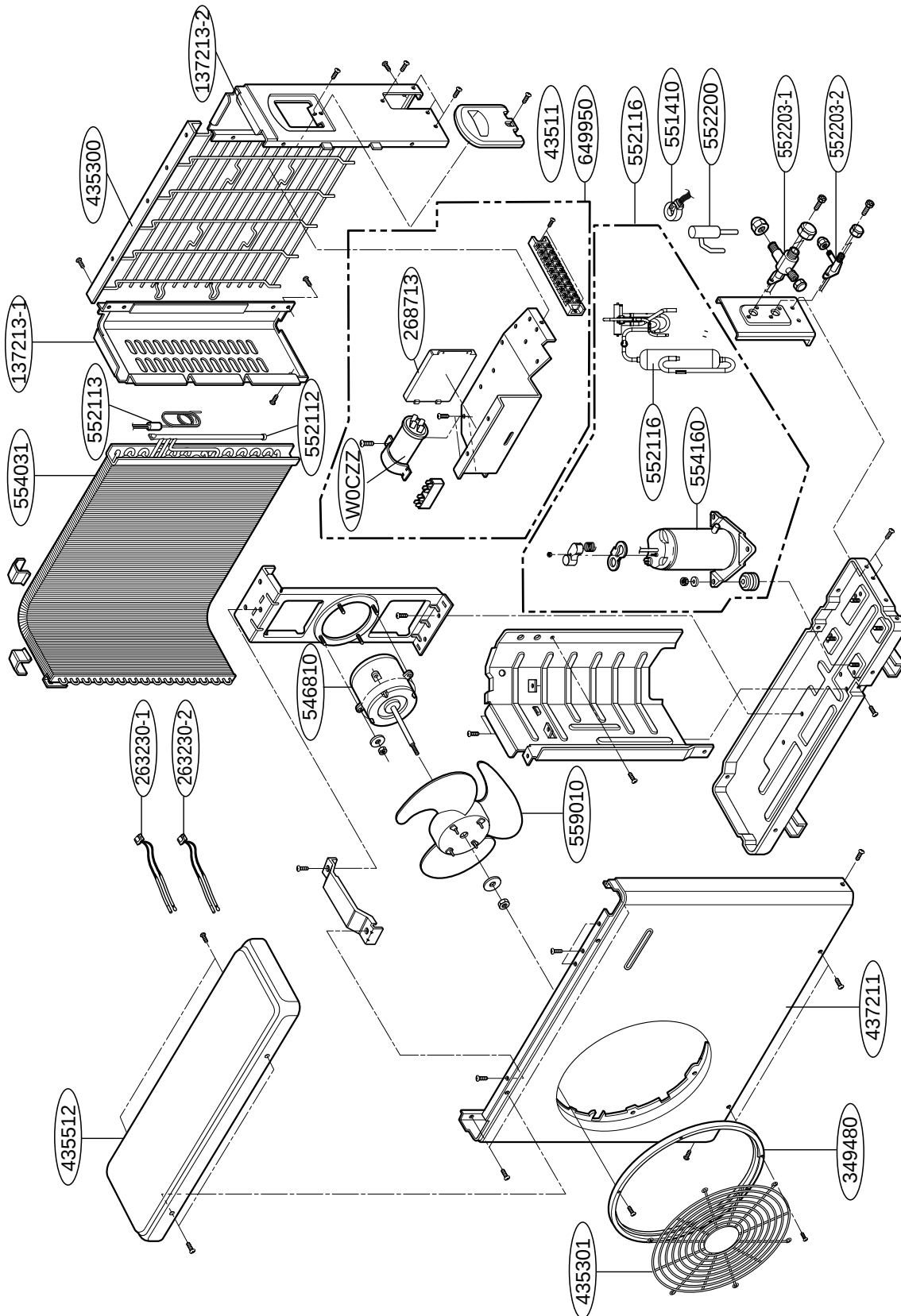
Model No.: AUUH186B



Parts List

LOCATION No.	DESCRIPTION	Part No.	SVC CODE
		AUUH186B	
237200	PANEL, CONTROL	2A00928A	R
263230-1	THERMISTOR ASSEMBLY	6323A20019C	R
263230-2	THERMISTOR ASSEMBLY	6323A20023E	R
349480	ORIFICE	4948A20005A	R
435301	GRILLE, DISCHARGE	3530A20007B	R
435511	COVER ASSEMBLY, CONTROL(OUTDOOR)	3551A30061G	R
435512	COVER	2A00915H	R
435512	COVER ASSEMBLY, TOP(OUTDOOR)	3H03266K	R
437210	PANEL, FRONT	1A00196M	R
437210	PANEL ASSEMBLY, FRONT(OUTDOOR)	3721A20005Q	R
437212	PANEL ASSY, REAR	3720AP0003L	R
552112	TUBE ASSEMBLY, CONDENSER IN	5211A30298V	R
552113	TUBE ASSEMBLY, CONDENSER OUT	5211A24003B	R
552116	TUBE ASSEMBLY, REVERSING	5211A24005B	R
552202	VALVE, REVERSING	5220AR3228E	R
552203-1	VALVE, SERVICE	5220A20006A	R
552203-2	VALVE, SERVICE	5220A20007A	R
554031	CONDENSER ASSEMBLY, BENT	5403A20022R	R
554160	COMPRESSOR	5416A90023A	R
559010	FAN ASSEMBLY, PROPELLER	5901A10032A	R
561410	COIL ASSEMBLY, REVERSING VALVE	6141AR3733R	R
668711	PWB(PCB) ASSEMBLY, MAIN(OUTDOOR)	6871A20646H	R
W0CZZ	CAPACITOR, DRAWING	2A00986Y	R
263230-1	THERMIATOR ASSEMBLY	6323A20019C	R
263230-2	THERMIATOR ASSEMBLY	6323A20023E	R
561411	COIL ASSEMBLY, EXPANSION	5220A90006A	R
552200	VALVE EXPANSIONAL BODY	6877A20050L	R

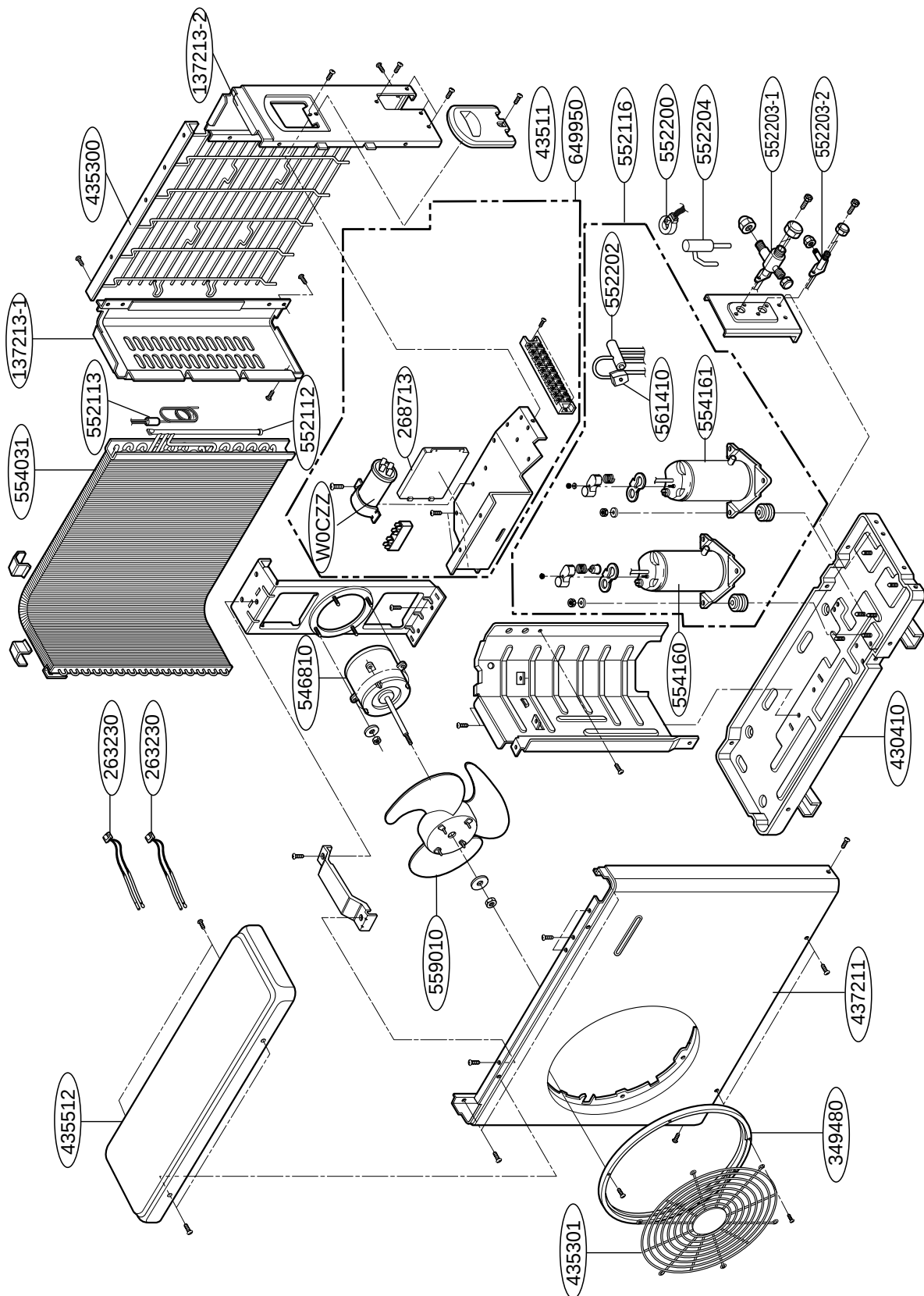
Model No.: AUUH246B



Parts List

LOCATION No.	DESCRIPTION	Part No.	SVC CODE
		AUUH246B	
137213	PANEL ASSEMBLY, SIDE	1A00202F	R
137213	PANEL ASSEMBLY, SIDE	3A02284N	R
263230-1	THERMISTOR ASSEMBLY	6323A20019C	R
263230-2	THERMISTOR ASSEMBLY	6323A20023E	R
349480	ORIFICE	4948AP2527A	R
349600	MOUNT, MOTOR	1A00206D	R
435301	GRILLE, DISCHARGE	3530A20007J	R
548490	ACCUMULATOR ASSEMBLY(MECH)	4849A22001A	R
552112	TUBE ASSEMBLY, CONDENSER IN	5211A30298K	R
552113	TUBE ASSEMBLY, CONDENSER OUT	5211A21133D	R
552202	VALVE, REVERSING	5220AR3228E	R
552203-1	VALVE, SERVICE	5220A20006A	R
552203-2	VALVE, SERVICE	5220A20007A	R
554031	CONDENSER ASSEMBLY, BENT	5403A10030A	R
554160	COMPRESSOR SET	2520UXDP2BA	R
559010	FAN ASSEMBLY, PROPELLER	5901A10032A	R
561410	COIL ASSEMBLY, REVERSING VALVE	6141AR3733R	R
649950	CONTROL BOX ASSEMBLY, OUTDOOR	4995A10178C	R
668711	PWB(PCB) ASSEMBLY, MAIN(OUTDOOR)	6871A20646J	R
W0CZZ	CAPACITOR, DRAWING	2A00986Y	R
263230-1	THERMIATOR ASSEMBLY	6323A20019C	R
263230-2	THERMIATOR ASSEMBLY	6323A20023E	R
561411	COIL ASSEMBLY, EXPANSION	5220A90006A	R
552200	VALVE EXPANSIONAL BODY	6877A20050L	R

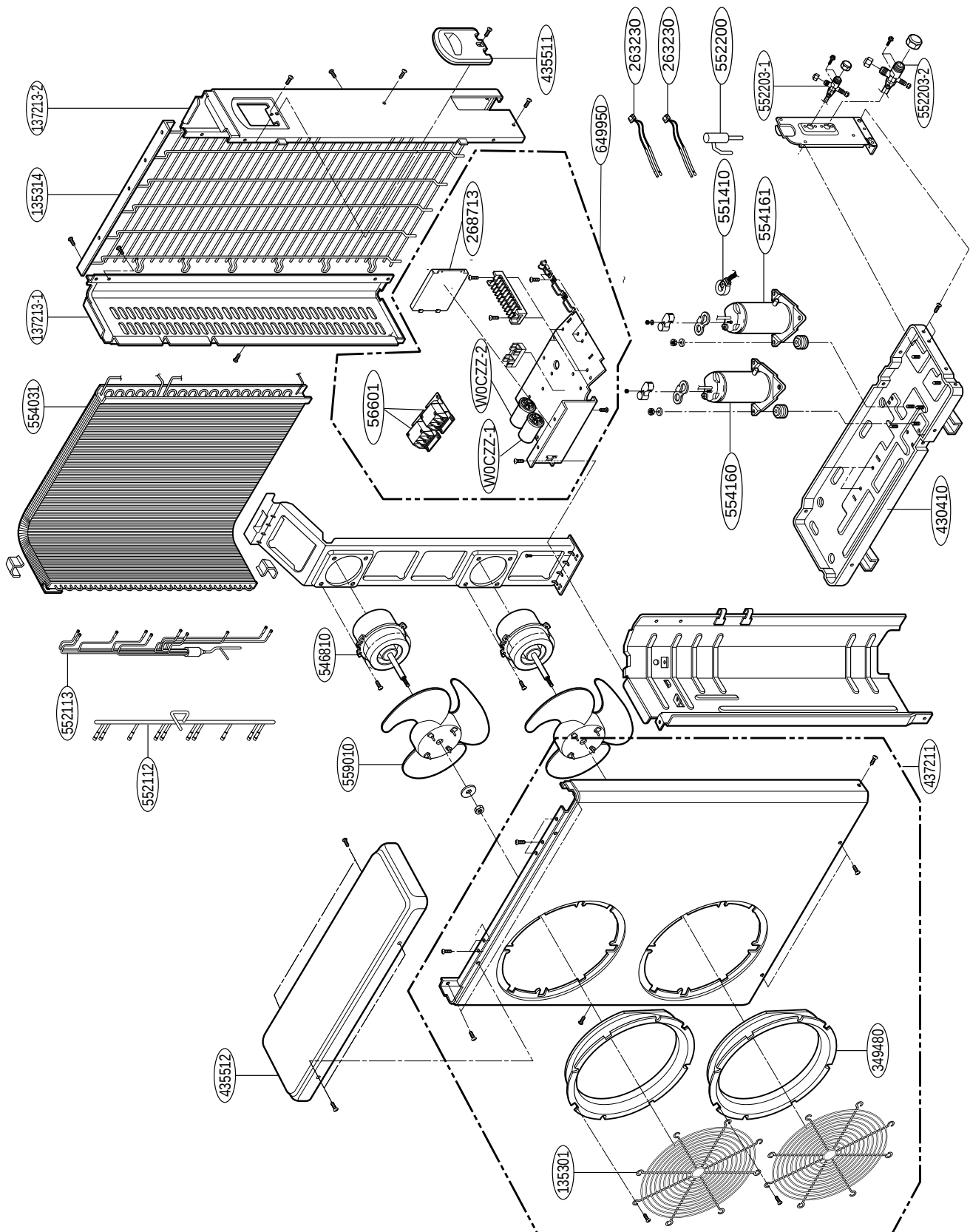
Model No.: AUUH306B



Parts List

LOCATION No.	DESCRIPTION	Part No.	SVC CODE
		AUUH306B	
137213-1	PANEL ASSEMBLY, SIDE	1A00202F	R
349600	MOUNT, MOTOR	1A00206D	R
435300	GRILLE, REAR	1A00208H	R
435301	GRILLE, DISCHARGE	3530A20007J	R
435511	COVER ASSEMBLY, CONTROL(OUTDOOR)	3551A30061G	R
437210	PANLE, ASSEMBLY, FRONT SUB	1A00197C	R
548490	ACCUMULATOR ASSEMBLY(MECH)	4849A22003M	R
549810	SUPPORTER ASSEMBLY	4980A20001B	R
552111	TUBE ASSEMBLY, CAPILLARY	5211A23322A	R
552114	TUBE ASSEMBLY, DISCHARGE(OUTDOOR)	5211A21488A	R
552115	TUBE ASSEMBLY, MENIFOLD(OUTDOOR)	5211A21440A	R
552116	TUBE ASSEMBLY, REVERSING	5211A22111B	R
552203-2	VALVE, SERVICE	5220A20007A	R
554031	CONDENSER ASSEMBLY, BENT	5403A20070B	R
554160	COMPRESSOR	5416A90022E	R
559010	FAN ASSEMBLY, PROPELLER	5901A10032A	R
649950	CONTROL BOX ASSEMBLY, OUTDOOR	4995A10178D	R
W0CZZ	CAPACITOR, DRAWING	2A00986W	R
W0CZZ	CAPACITOR, DRAWING	6120AR2194F	R
263230-1	THERMIATOR ASSEMBLY	6323A20019C	R
263230-2	THERMIATOR ASSEMBLY	6323A20023E	R
561411	COIL ASSEMBLY, EXPANSION	6877A20050L	R
552200	VALVE EXPANSIONAL BODY	5220A90001H	R

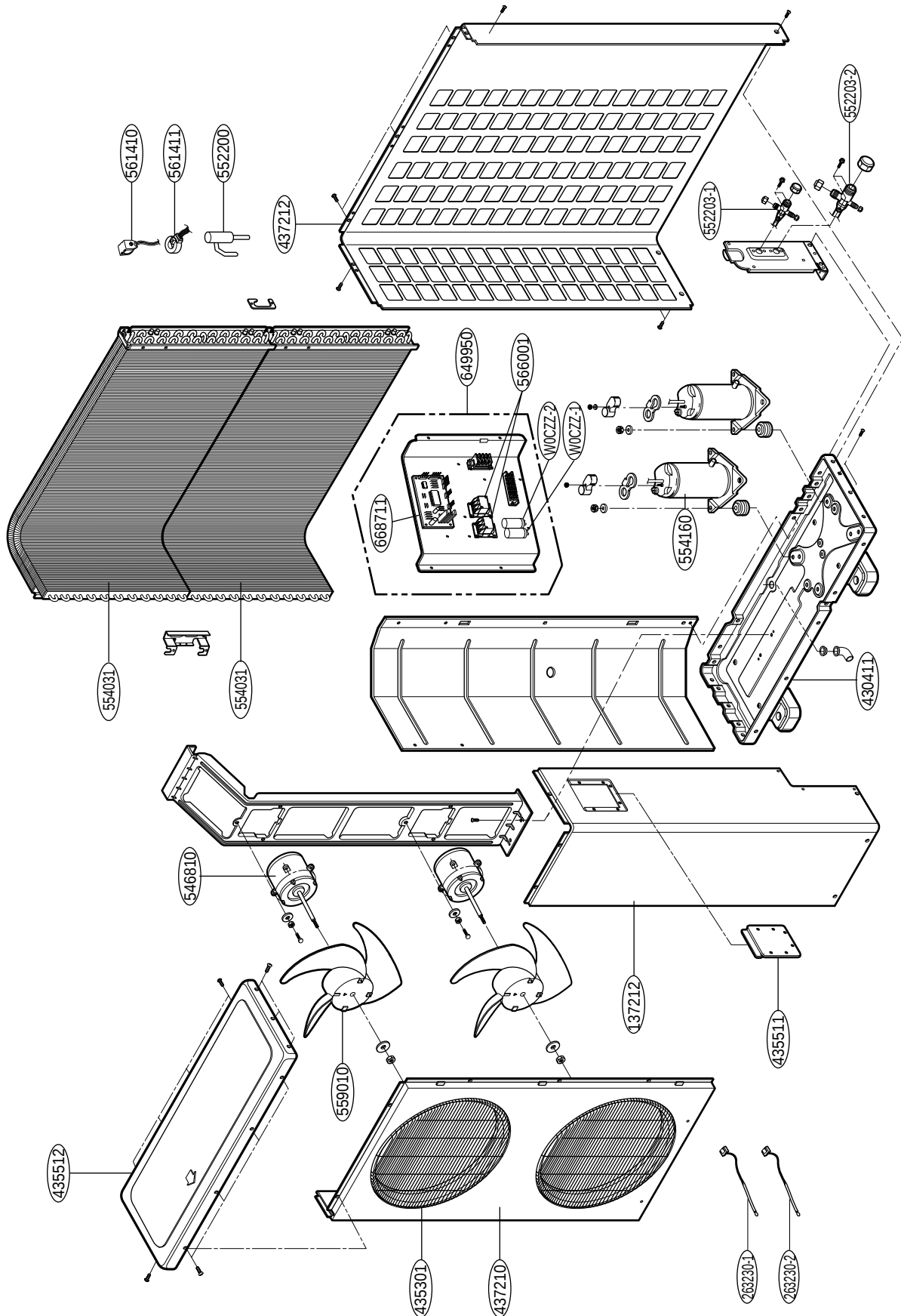
Model No.: AUUH368B



Parts List

LOCATION No.	DESCRIPTION	Part No.	SVC CODE
		AUUH368B	
135301	GRILLE, DISCHARGE	3530A20006G	R
135314	GRILLE, REAR	3530A10176B	R
137213-1	PANEL ASSEMBLY, SIDE	3721A10110A	R
137213-2	PANEL ASSEMBLY, SIDE	3721A10111B	R
263230	THERMISTOR ASSEMBLY	6323A20020X	R
430410	BASE ASSEMBLY, WELD(OUTDOOR)	3041AP7177B	R
435511	COVER ASSEMBLY, CONTROL(OUTDOOR)	3551A30088S	R
435512	COVER ASSEMBLY, TOP(OUTDOOR)	3H03266H	R
437211	PANEL ASSEMBLY, FRONT(OUTDOOR)	3721A10109A	R
447910	BARRIER ASSEMBLY, OUTDOOR	4791A10019B	R
546810	MOTOR ASSEMBLY, OUTDOOR	4681A20170A	R
550140	ISOLATOR, COMP	4H00982E	R
552114	TUBE ASSEMBLY, DISCHARGE(OUTDOOR)	5211A11076A	R
552116	TUBE ASSEMBLY, REVERSING	5211A11079A	R
552117	TUBE ASSEMBLY, SUCTION(OUTDOOR)	5211A11077A	R
552203-1	VALVE, SERVICE	5220A20013A	R
552203-2	VALVE, SERVICE	5220A20007A	R
554031	CONDENSER ASSEMBLY, BENT	5403A20168B	R
554160	COMPRESSOR	5416A90043A	R
559010	FAN ASSEMBLY, PROPELLER	5901A10033A	R
561410	COIL ASSEMBLY, REVERSING VALVE	6141AR3733R	R
649950	CONTROL BOX ASSEMBLY, OUTDOOR	4995A10178E	R
668711	PWB(PCB) ASSEMBLY, MAIN(OUTDOOR)	6871A20583H	R
263230-1	THERMIATOR ASSEMBLY	6323A20020X	R
263230-2	THERMIATOR ASSEMBLY	6323A20020Z	R
561411	COIL ASSEMBLY, EXPANSION	6141A20032A	R
552200	VALVE EXPANSIONAL BODY	5220A90003B	R
56601	SWITCH, MAGNET	6600B00039	R

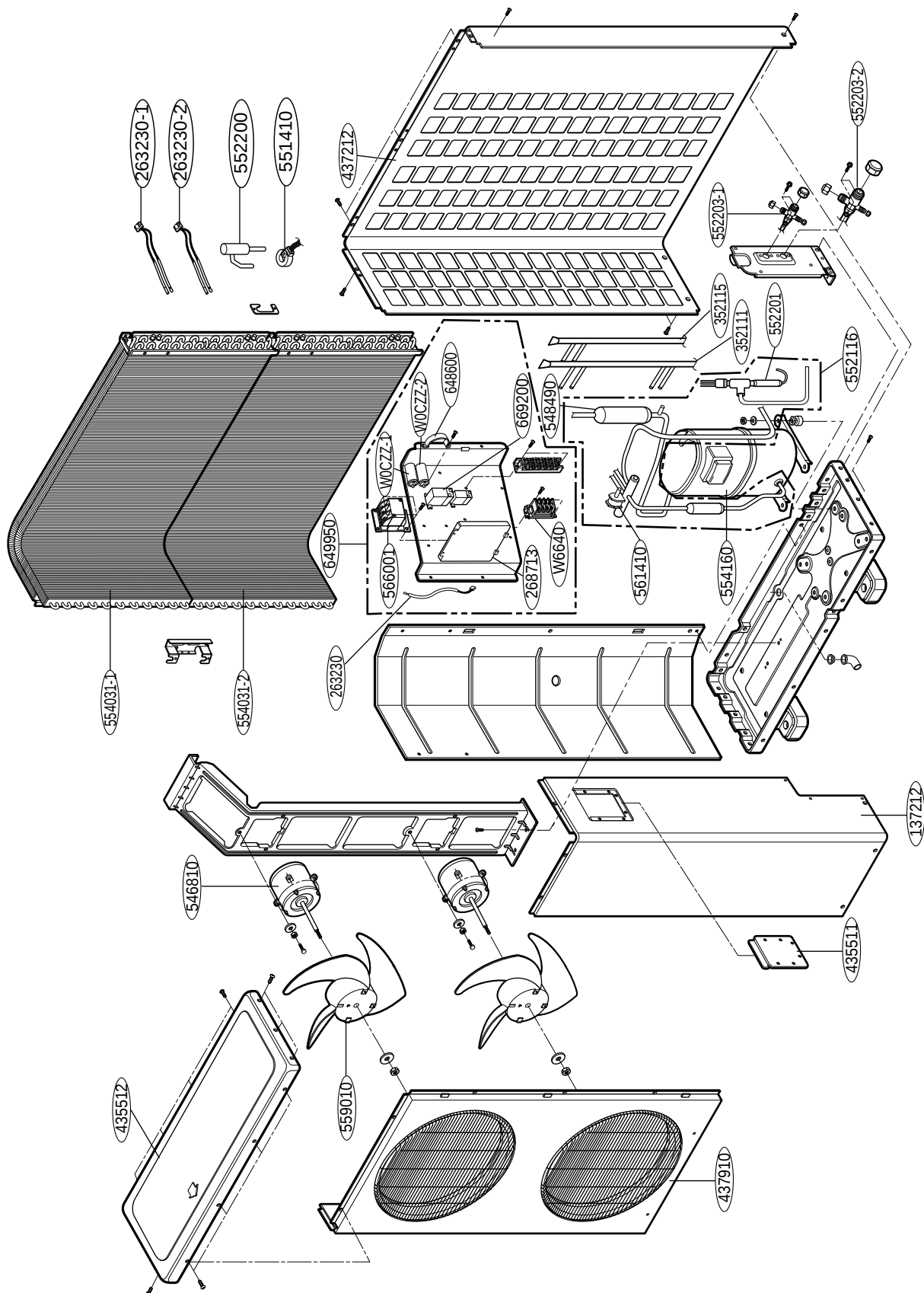
Model No.: AUUH488B



Parts List

LOCATION No.	DESCRIPTION	Part No.	SVC CODE
		AUUH488B	
135301	GRILLE,DISCHARGE	3530AP1225D	R
137213	PANEL ASSEMBLY,SIDE	3721A20229A	R
430411	BASE ASSEMBLY,WELD	3041A20047F	R
435511	COVER ASSY,CONTROL	3A01293X	R
435512	COVER ASSEMBLY, TOP	3530AP1213B	R
437210	PANEL ASSEMBLY,FRONT	3530AP1212B	R
437212	PANEL ASSEMBLY,REAR	3720AP1202C	R
546810	MOTOR ASSEMBLY,OUTDOOR	4681A20028J	R
552203-1	VALVE,SERVICE	5220A20001E	R
552203-2	VALVE,SERVICE	2A00499L	R
554031	CONDENSER ASSEMBLY,BENT	5403A20215A	R
554160	COMPRESSOR SET	2520UXGY2BA	R
559010	FAN ASSEMBLY,PROPELLER	5901A10032A	R
561410	COIL ASSEMBLY,REVERSING	6141AR3733R	R
561411	COIL ASSEMBLY,EXPANSION	6141A20011W	R
649950	CONTROL BOX ASSEMBLY,OUTDOOR	4995A20166G	R
663230-1	THERMISTOR ASSEMBLY	6323A20020X	R
663230-2	THERMISTOR ASSEMBLY	6323A20020Z	R
668711	PCB(PWB) ASSEMBLY,MAIN	6871A20583L	R
552200	VALVE EXPANSION BODY	5220A90013A	R
566001	SWITCH, MAGNET	6600B00039	R

Model No.: AUUH608B

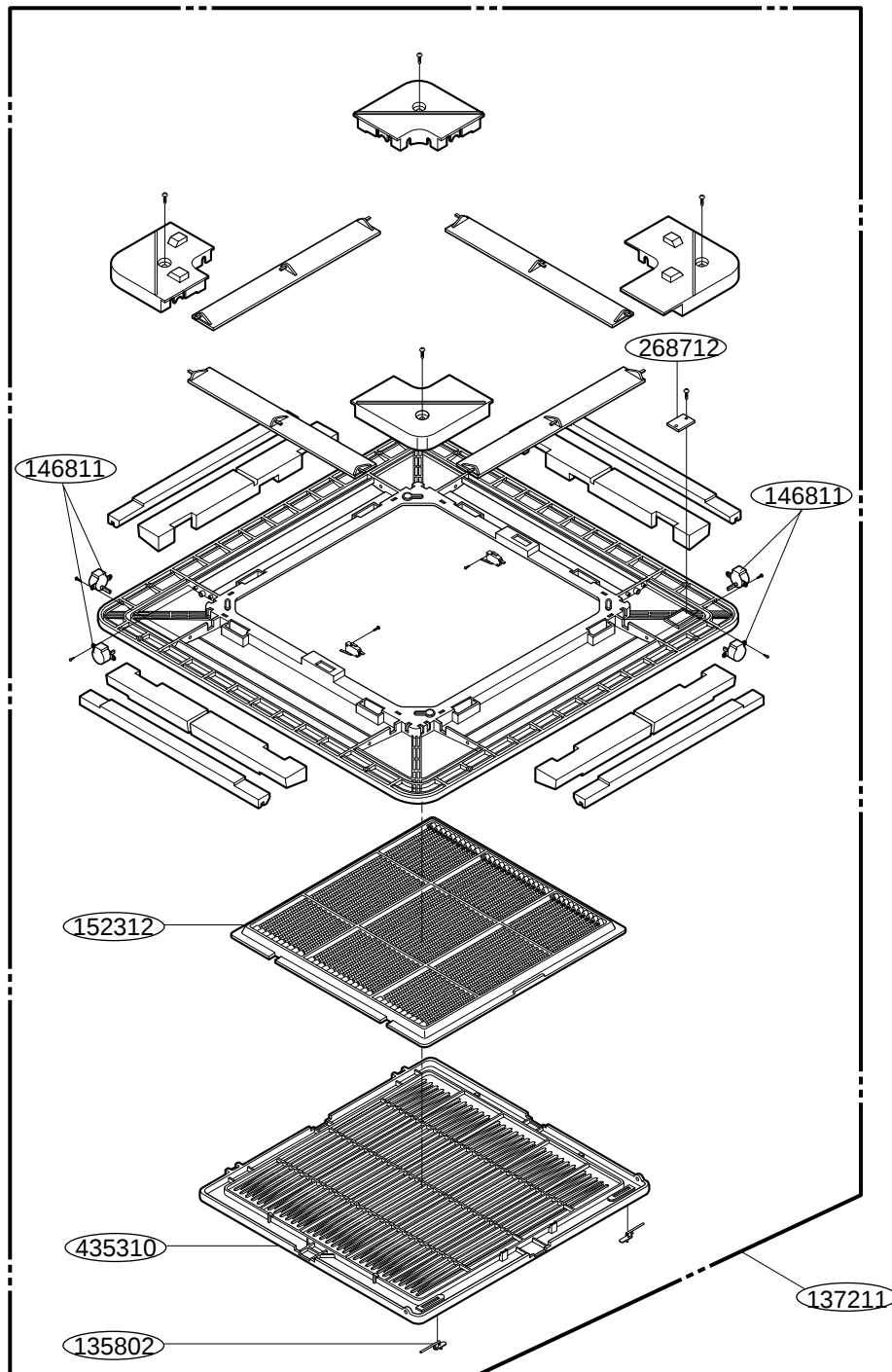


Parts List

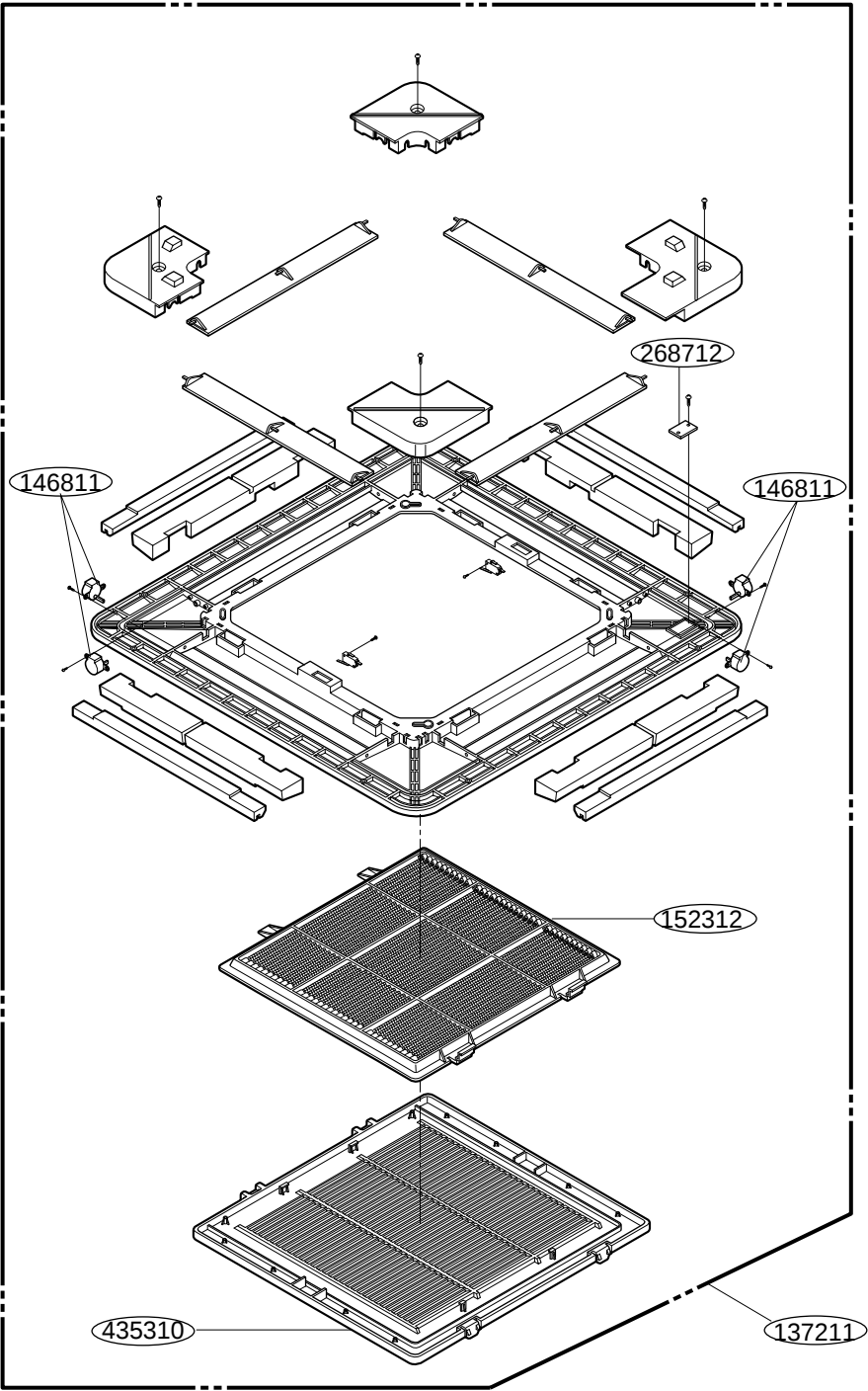
LOCATION No.	DESCRIPTION	Part No.	SVC CODE
		AUUH608B	
135301	GRILLE, DISCHARGE	3530AP1225D	R
137213	PANEL ASSEMBLY, SIDE	3721A20229A	R
430411	BASE ASSEMBLY, WELD(OUTDOOR)	3041A20047B	R
435511	COVER ASSEMBLY, CONTROL(OUTDOOR)	3A01293X	R
435512	COVER ASSEMBLY, TOP(OUTDOOR)	3550AP1213B	R
437212	PANEL ASSEMBLY, REAR(OUTDOOR)	3720AP1202C	R
546810	MOTOR ASSEMBLY, OUTDOOR	4681A20028J	R
552203	VALVE, SERVICE	2A00499L	R
552203-1	VALVE, SERVICE	5220A20001E	R
554031	CONDENSER ASSEMBLY, BENT	5403A20215A	R
554160	COMPRESSOR SET	2520UBDY2AA	R
559010	FAN ASSEMBLY, PROPELLER	5901A10032A	R
561410	COIL ASSEMBLY, ERVERSING VALVE	6141AR3733R	R
561411	COIL ASSEMBLY, EXPANSION	6141A20011V	R
649950	CONTROL BOX ASSEMBLY, OUTDOOR	4995A20166H	R
663230-1	THERMISTOR ASSEMBLY	6323A20020X	R
663230-2	THERMISTOR ASSEMBLY	6323A20020Z	R
668711	PWB(PCB) ASSEMBLY, MAIN(OUTDOOR)	6871A20583K	R
W0CZZ	CAPACITOR, DRAWING	2A00986D	R
263230-1	THERMIATOR ASSEMBLY	6323A20020X	R
263230-2	THERMIATOR ASSEMBLY	6323A20020Z	R
561411	COIL ASSEMBLY, EXPANSION	6141A20011V	R
552200	VALVE EXPANSIONAL BODY	5220A90013A	R

Panel Assembly, Front

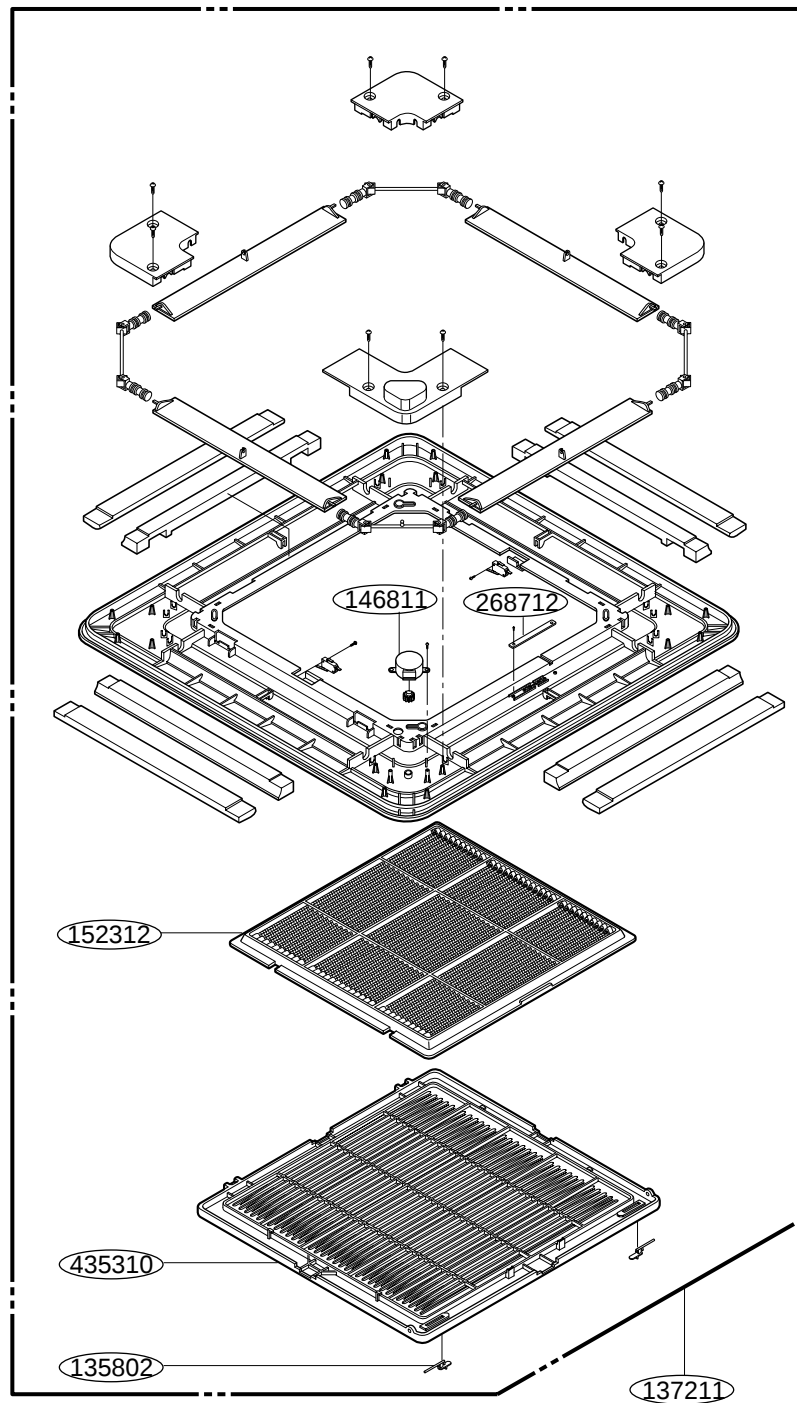
PT-HEA/C



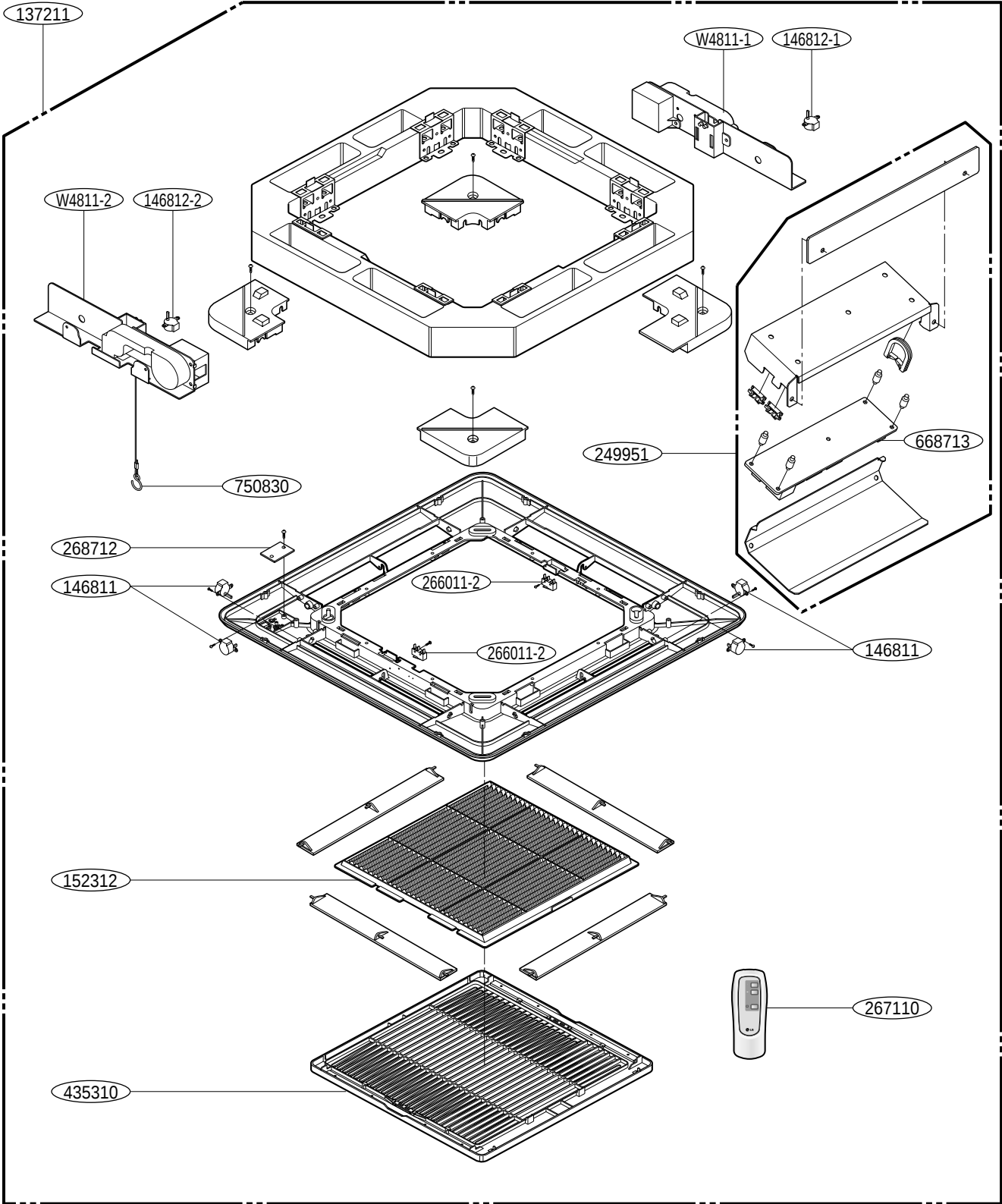
PT-HFA/C



PT-HDA/C



PT-HEF/HFF/FDF (Elevation Grille_Accessory)



Parts List

LOCATION No.	DESCRIPTION	Part No.		SVC CODE
		PT-HEA	PT-HEC	
137211	PANEL ASSEMBLY, FRONT(INDOOR)	3721A10105A	3721A10105B	R
435310	GRILLE ASSEMBLY, FRONT(INDOOR)	3531A10059A	3531A10059A	R
152312	FILTER ASSY, AIR CLEANER	5231A10005A	5231A10005A	R
146811	MOTOR ASSEMBLY, STEP	4681A20055A	4681A20055A	R
268712	PWB(PCB) ASSEMBLY, DISPLAY	6871A20096J	6871A20096J	R
135802	DOOR	3580A20005A	3580A20005A	R

LOCATION No.	DESCRIPTION	Part No.		SVC CODE
		PT-HFA	PT-HFC	
137211	PANEL ASSEMBLY, FRONT(INDOOR)	3721A10072A	3721A10072E	R
435310	GRILLE ASSEMBLY, INLET	3531A10211A	3531A10211C	R
152312	FILTER ASSY, AIR CLEANER	5231A10012A	5231A10012A	R
146811	MOTOR ASSEMBLY, STEP	4681A20055A	4681A20055A	R
268712	PWB(PCB) ASSEMBLY, DISPLAY	6871A20096J	6871A20096J	R

LOCATION No.	DESCRIPTION	Part No.		SVC CODE
		PT-HDA	PT-HDC	
137211	PANEL ASSEMBLY, FRONT(INDOOR)	3721A10106A	3721A10106B	R
435310	GRILLE ASSY INLET	3531A10066A	3531A10066A	R
152312	FILTER ASSY, AIR CLEANER	5231A10004A	5231A10004A	R
146811	MOTOR ASSEMBLY, STEP	4681A20055A	4681A20055A	R
268712	PWB(PCB) ASSEMBLY, DISPLAY	6871A20096J	6871A20096J	R
135802	DOOR	3580A20005A	3580A20005A	R

LOCATION No.	DESCRIPTION	Part No.			SVC CODE
		PT-HEF	PT-HFF	PT-HDF	
137211	PANEL ASSEMBLY,FRONT(INDOOR)	3721A10105E	3721A10072K	3721A10106J	R
146811	MOTOR ASSEMBLY, STEP	4681A20055A	4681A20055A	4681A20055A	R
435310	GRILLE ASSEMBLY, INLET	3531A10350A	3531A10211A	3531A10066M	R
152312	FILTER ASSEMBLY, AIR CLEANER	5231A10005A	5231A10012A	5231A10004A	R
W4811-1	BRACKET ASSEMBLY	4811A20073A	4811A20072A	4811A20068A	R
W4811-2	BRACKET ASSEMBLY	4811A20073B	4811A20072B	-	R
266011-2	SWITCH ASSEMBLY, MICRO	6601A20002D	6601A20002D	6601A20002C	R
266011-2	SWITCH ASSEMBLY, MICRO	6601A20002E	6601A20002E	-	R
146812-1	MOTOR ASSEMBLY, SYNC.	4681AP2596J	4681AP2596J	4681AP2596H	R
146812-2	MOTOR ASSEMBLY, SYNC.	4681AP2596M	4681AP2596M	-	R
750830	ROPE ASSEMBLY	5083A20002A	5083A20002A	5083A20002A	R
249951	CONTROL BOX ASSEMBLY, INDOOR	4995A20450B	4995A20450A	4995A20450A	R
668713	PWB(PCB) ASSEMBLY, SUB	6871A20362A	6871A20362A	6871A20362A	R
268712	PWB(PCB) ASSEMBLY, DISPLAY	6871A20096K	6871A20096K	6871A20096K	R
267110	REMOTE CONTROLLER ASSEMBLY	6711A90094A	6711A90094A	6711A90094A	R

