

# Service Manual

## Air Conditioner

Indoor Unit      Outdoor Unit  
**CS-PC30JKF    CU-PC30JKF**  
**CS-PC36JKF    CU-PC36JKF**



### **WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

### **PRECAUTION OF LOW TEMPERATURE**

In order to avoid frostbite, be assured of no refrigerant leakage during the installation or repairing of refrigeration circuit.



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# 1. Safety Precautions





- Read the following "SAFETY PRECAUTIONS" carefully before perform any servicing.
- Electrical work must be installed or serviced by a licensed electrician. Be sure to use the correct rating of the power plug and main circuit for the model installed.
- The caution items stated here must be followed because these important contents are related to safety. The meaning of each indication used is as below. Incorrect installation or servicing due to ignoring of the instruction will cause harm or damage, and the seriousness is classified by the following indications.

 <b>WARNING</b>	This indication shows the possibility of causing death or serious injury.
 <b>CAUTION</b>	This indication shows the possibility of causing injury or damage to properties.

- The items to be followed are classified by the symbols:

	This symbol denotes item that is PROHIBITED from doing.
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- Carry out test running to confirm that no abnormality occurs after the servicing. Then, explain to user the operation, care and maintenance as stated in instructions. Please remind the customer to keep the operating instructions for future reference.

 <b>WARNING</b>	
1. Do not modify the machine, part, material during repairing service.	
2. If wiring unit is supplied as repairing part, do not repair or connect the wire even only partial wire break. Exchange the whole wiring unit.	
3. Do not wrench the fasten terminal. Pull it out or insert it straightly.	
4. Engage dealer or specialist for installation and servicing. If installation of servicing done by the user is defective, it will cause water leakage, electrical shock or fire.	
5. Install according to this installation instructions strictly. If installation is defective, it will cause water leakage, electric shock or fire.	
6. Use the attached accessories parts and specified parts for installation and servicing. Otherwise, it will cause the set to fall, water leakage, fire or electrical shock.	
7. Install at a strong and firm location which is able to withstand the set's weight. If the strength is not enough or installation is not properly done, the set will drop and cause injury.	
8. For electrical work, follow the local national wiring standard, regulation and the installation instruction. An independent circuit and single outlet must be used. If electrical circuit capacity is not enough or defect found in electrical work, it will cause electrical shock or fire.	
9. This equipment is strongly recommended to install with Earth Leakage Circuit Breaker (ELCB) or Residual Current Device (RCD). Otherwise, it may cause electrical shock and fire in case equipment breakdown or insulation breakdown.	
10. Do not use joint cable for indoor / outdoor connection cable. Use the specified indoor / outdoor connection cable, refer to installation instruction CONNECT THE CABLE TO THE INDOOR UNIT and connect tightly for indoor / outdoor connection. Clamp the cable so that no external force will be acted on the terminal. If connecting or fixing is not perfect, it will cause heat up or fire at the connection.	
11. Wire routing must be properly arranged so that control board cover is fixed properly. If control board cover is not fixed perfectly, it will cause heat-up or fire at the connection point of terminal, fire or electrical shock.	
12. When install or relocate air conditioner, do not let any substance other than the specified refrigerant, eg. air etc. mix into refrigeration cycle (piping). (Mixing of air etc. will cause abnormal high pressure in refrigeration cycle and result in explosion, injury etc.).	
13. Do not install outdoor unit near handrail of veranda. When installing air-conditioner unit at veranda of high rise building, child may climb up to outdoor unit and cross over the handrail and causing accident.	
14. This equipment must be properly earthed. Earth line must not be connected to gas pipe, water pipe, earth of lightning rod and telephone. Otherwise, it may cause electric shock in case equipment breakdown or insulation breakdown.	
15. Keep away from small children, the thin film may cling to nose and mouth and prevent breathing.	
16. Do not use unspecified cord, modified cord, joint cord or extension cord for power supply cord. Do not share the single outlet with other electrical appliances. Poor contact, poor insulation or over current will cause electrical shock or fire.	
17. Tighten the flare nut with torque wrench according to specified method. If the flare nut is over-tightened, after a long period, the flare may break and cause refrigerant gas leakage.	
18. During pump down operation, stop the compressor before remove the refrigeration piping. (Removal of compressor while compressor is operating and valves are opened will cause suck-in of air, abnormal high pressure in refrigeration cycle and result in explosion, injury etc.)	
19. During installation, install the refrigerant piping properly before run the compressor. (Operation of compressor without fixing refrigeration piping and valves at opened condition will caused suck-in of air, abnormal high pressure in refrigeration cycle and result in explosion, injury, etc.)	



### WARNING

20. After completion of installation or service, confirm there is no leakage or refrigerant gas. It may generate toxic gas when the refrigerant contacts with fire.

21. Ventilate if there is refrigerant gas leakage during operation. It may cause toxic gas when refrigerant contacts with fire.

22. Do not insert your fingers or other objects into the unit, high speed rotating fan may cause injury.



23. Must not use other parts except original parts described in catalog and manual.



### CAUTION

1. Do not install the unit at place where leakage of flammable gas may occur. In case gas leaks and accumulates at surrounding of the unit, it may cause fire.



2. Carry out drainage piping as mentioned in installation instructions. If drainage is not perfect, water may enter the room and damage the furniture.

3. Tighten the flare nut with torque wrench according to specified method. If the flare nut is over-tightened, after a long period, the flare may break and cause refrigerant gas leakage.

4. Do not touch outdoor unit air inlet and aluminium fin. It may cause injury.



5. Select an installation location which is easy for maintenance.

6. Pb free solder has a higher melting point than standard solder; typically the melting point is 50°F – 70°F (30°C – 40°C) higher. Please use a high temperature solder iron. In case of the soldering iron with temperature control, please set it to 700 ± 20°F (370 ± 10°C). Pb free solder will tend to splash when heated too high (about 1100°F / 600°C).

7. Power supply connection to the air conditioner. Connect the power supply cord of the air conditioner to the mains using one of the following methods.

Power supply point shall be the place where there is ease for access for the power disconnection in case of emergency. In some countries, permanent connection of this room air conditioner to the power supply is prohibited.

i. Power supply connection to the receptacle using a power plug.

Use an approved 15/16A (1.0~1.5HP) or 16A (2.0HP) or 20A (2.5HP) power plug with earth pin for the connection to the socket.

ii. Power supply connection to a circuit breaker for the permanent component.

Use an approved 15/16A (1.0~1.5HP) or 20A (2.5HP) circuit

breaker for the permanent connection. It must be a double pole switch with a minimum 3.0 mm contact gap.

8. Do not release refrigerant during piping work for installation, servicing, reinstallation and during repairing a refrigerant parts. Take care of the liquid refrigerant, it may cause frostbite



9. Installation or servicing work: It may need two people to carry out the installation or servicing work.

10. Do not install this appliance in a laundry room or other location where water may drip from the ceiling, etc.



11. Do not sit or step on the unit, you may fall down accidentally.



12. Do not touch the sharp aluminium fin, sharp parts may cause injury.



## 2 Specifications

MODEL			INDOOR	CS-PC30JKF		CS-PC36JKF	
			OUTDOOR	CU-PC30JKF		CU-PC36JKF	
Performance Test Condition				NEW JIS		NEW JIS	
Power Supply			Phase, Hz	Single, 50		Single, 50	
			V	220	240	220	240
C o o l i n g	Capacity	kW	8.79	8.79	10.55	10.55	
		BTU/h	30000	30000	36000	36000	
		kJ/h	31640	31640	37980	37980	
	Running Current	A	14.2	13.8	16.3	17.0	
	Input Power	W	3050	3150	3300	3400	
	EER	W/W	2.88	2.79	3.20	3.10	
		Btu/hW	9.84	9.52	10.91	10.59	
	Power Factor	%	98	95	92	83	
	Indoor Noise (H / L )	dB-A	49 / 44	49 / 44	50 / 45	50 / 45	
		Power Level dB	—	—	—	—	
Outdoor Noise (H / L)	dB-A	53 / -	54 / -	54 / -	55 / -		
	Power Level dB	—	—	—	—		
Max Current (A) / Max Input Power (W)			21.2 / 4350		24.0 / 4650		
Starting Current (A)			74		114.0		
Compressor		Type	Rotary (1 Cylinder)		Hermetic Motor		
		Motor Type	Induction (2-poles)		Brushless (2-poles)		
		Output Power	W	2400	3000		
I N D O O R  F A N	Type		Cross-Flow Fan		Cross-Flow Fan		
	Material		ASG30K1 or ASG32K1		ASG30K1 or ASG32K1		
	Motor Type		PWM (8-poles)		PWM (2-poles)		
	Input Power		W	66.0	66.0		
	Output Power		W	60	60		
	Speed	QLo	rpm	—	—	—	—
		Lo	rpm	1070	1070	1120	1120
		Me	rpm	1170	1170	1220	1220
		Hi	rpm	1270	1270	1320	1320
		SHi	rpm	—	—	—	—
O U T D O O R  F A N	Type		Propeller Fan		Propeller Fan		
	Material		PP Resin		PP Resin		
	Motor Type		Induction (2-poles)		Induction (6-poles)		
	Input Power		W	148	177	148	177
	Output Power		W	73	70 × 2		
	Speed	Hi	rpm	685	735	780	810
Moisture Removal		L/h (Pt/h)	5.2 (11.0)		6.4 (13.5)		
Indoor Airflow	Lo	m³/min (ft³/min)	16.9 (598)	16.9 (598)	17.8 (629)	17.8 (629)	
	Me	m³/min (ft³/min)	18.5 (654)	18.5 (654)	19.4 (685)	19.4 (685)	
	Hi	m³/min (ft³/min)	20.1 (710)	20.1 (710)	21.0 (740)	21.0 (740)	
	SHi	m³/min (ft³/min)	—	—	—	—	
Outdoor Airflow		Hi	m³/min (ft³/min)	51.0 (1800)	56.0 (1980)	98.5 (3480)	103.0 (3640)
Refrigeration Cycle	Control Device		Expansion valve		Expansion valve		
	Refrigerant Oil	cm³	Atmos M60 or Suniso 4GDID (900cm³)		Atmos M60 or Suniso 4GDID		
	Refrigerant Type	g (oz)	R22, 2150 (75.9)		R22, 2200 (77.7)		
Dimension	Height (I/D / O/D)	mm (inch)	340 (13-13/32)	795 (31-5/16)	340 (13-13/32)	1170 (46-3/32)	
	Width (I/D / O/D)	mm (inch)	1150 (45-9/32)	900 (35-7/16)	1150 (45-9/32)	900 (35-7/16)	
	Depth (I/D / O/D)	mm (inch)	290 (11-7/16)	320 (12-5/8)	290 (11-7/16)	320 (15-5/8)	
Weight		Net (I/D / O/D)	kg (lb)	18 (40)	70.0 (154)	18 (40)	88 (194)
P I P e  I N G	Pipe Diameter (Liquid / Gas)		mm (inch)	9.52 (3/8) / 15.88 (5/8)		9.52 (3/8) / 19.05 (3/4)	
	Standard Length		m (ft)	5.0 (16.4)		5.0 (16.4)	
	Length Range (min - max)		m (ft)	3 ~ 30 (9.8 ~ 98.4)		3 ~ 30 (9.8 ~ 98.4)	
	I/D & O/D Height Different		m (ft)	20 (65.6)		20 (65.6)	
	Additional Gas Amount		g/m (oz/ft)	30 (0.3)		40 (0.4)	
	Length for Additional Gas		m (ft)	7.5 (24.6)		7.5 (24.6)	

MODEL		INDOOR	CS-PC30JKF		CS-PC36JKF	
		OUTDOOR	CU-PC30JKF		CU-PC36JKF	
Drain Hose	Inner Diameter	mm	16		16	
	Length	mm	650		650	
Indoor Heat Exchanger	Fin Material		Aluminium (Pre Coat)		Aluminium (Pre Coat)	
	Fin Type		Slit Fin		Corrugated Fin	
	Row × Stage × FPI		2 × 14 × 18		2 × 14 × 17	
	Size (W × H × L)	mm	44 × 355.6 × 880		44 × 355.6 × 880	
Outdoor Heat Exchanger	Fin Material		Aluminium (Blue Coat)		Aluminium (Blue Coat)	
	Fin Type		Louver Fin		Corrugated Fin	
	Row × Stage × FPI		2 × 30 × 17		2 × 54 × 18	
	Size (W × H × L)	mm	44 × 762 × 782.5 817.5		25.4 × 1134 × 854.7 874.7	
Air Filter	Material		Polypropylene		Polypropylene	
	Type		One-Touch		One-Touch	
Power Supply			Outdoor		Outdoor	
Power Supply Cord		A	—		—	
Thermostat			—		—	
Protection Device			—		—	
			Dry Bulb	Wet Bulb	Dry Bulb	Wet Bulb
Indoor Operation Range	Maximum		32	23	32	23
	Minimum		16	11	16	11
Outdoor Operation Range	Maximum		55	31	52	31
	Minimum		16	11	16	11

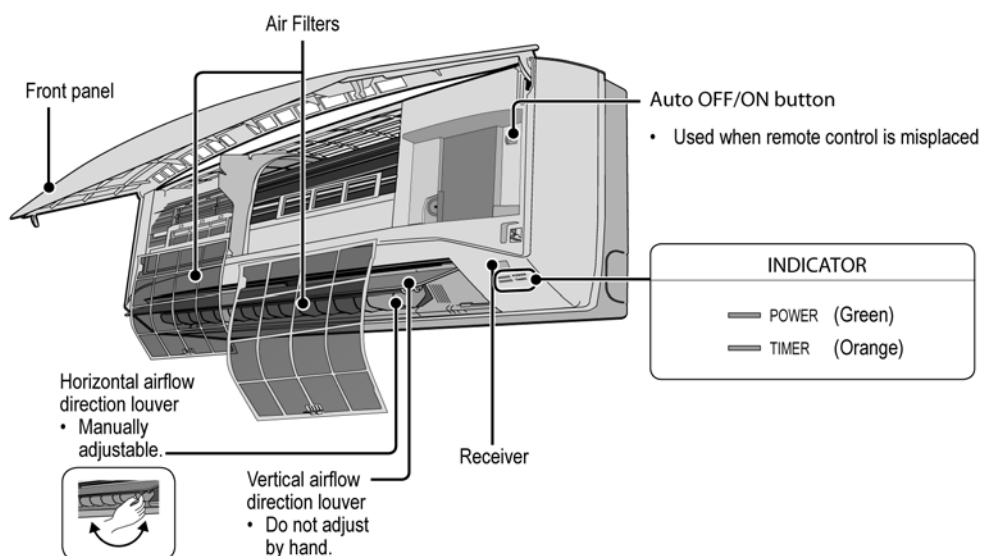
1. Cooling capacities are based on indoor temperature of 27°C Dry Bulb (80.6°F Dry Bulb), 19.0°C Wet Bulb (66.2°F Wet Bulb) and outdoor air temperature of 35°C Dry Bulb (95°F Dry Bulb), 24°C Wet Bulb (75.2°F Wet Bulb)
2. Specifications are subjected to change without prior notice for further improvement.

## 3 Features

- **Long Installation Piping**
  - Long piping up to 30 meter.
- **Easy to use remote control**
- **Quality Improvement**
  - Random auto restart after power failure for safety restart operation.
  - Gas leakage detection.
  - Prevent compressor reverse cycle.
  - Inner protector to protect compressor.
  - Noise prevention during soft dry operation.
  - Blue Coated Condenser for high resistance to corrosion.
- **Operation Improvement**
  - 24-hour timer setting
- **Serviceability Improvement**
  - Removable and washable front panel

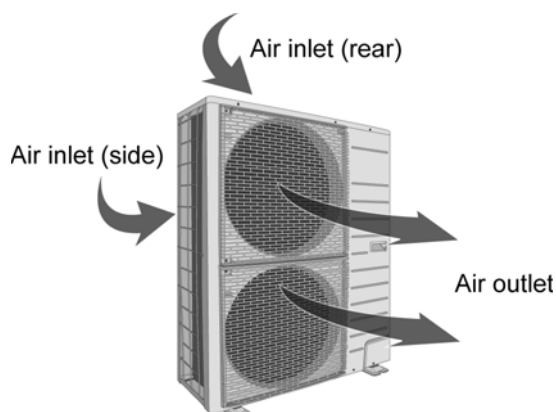
## 4 Location of Controls and Components

### 4.1. Indoor Unit

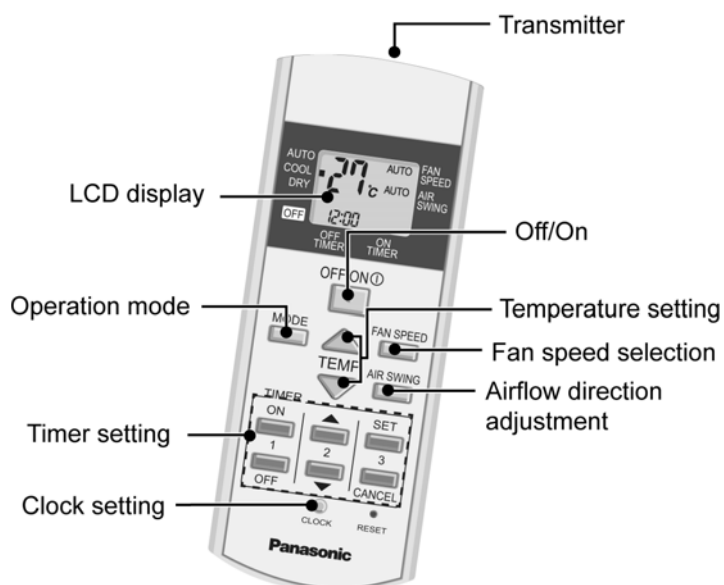


### 4.2. Outdoor Unit

- Outdoor unit shown is CU-PC36JK.



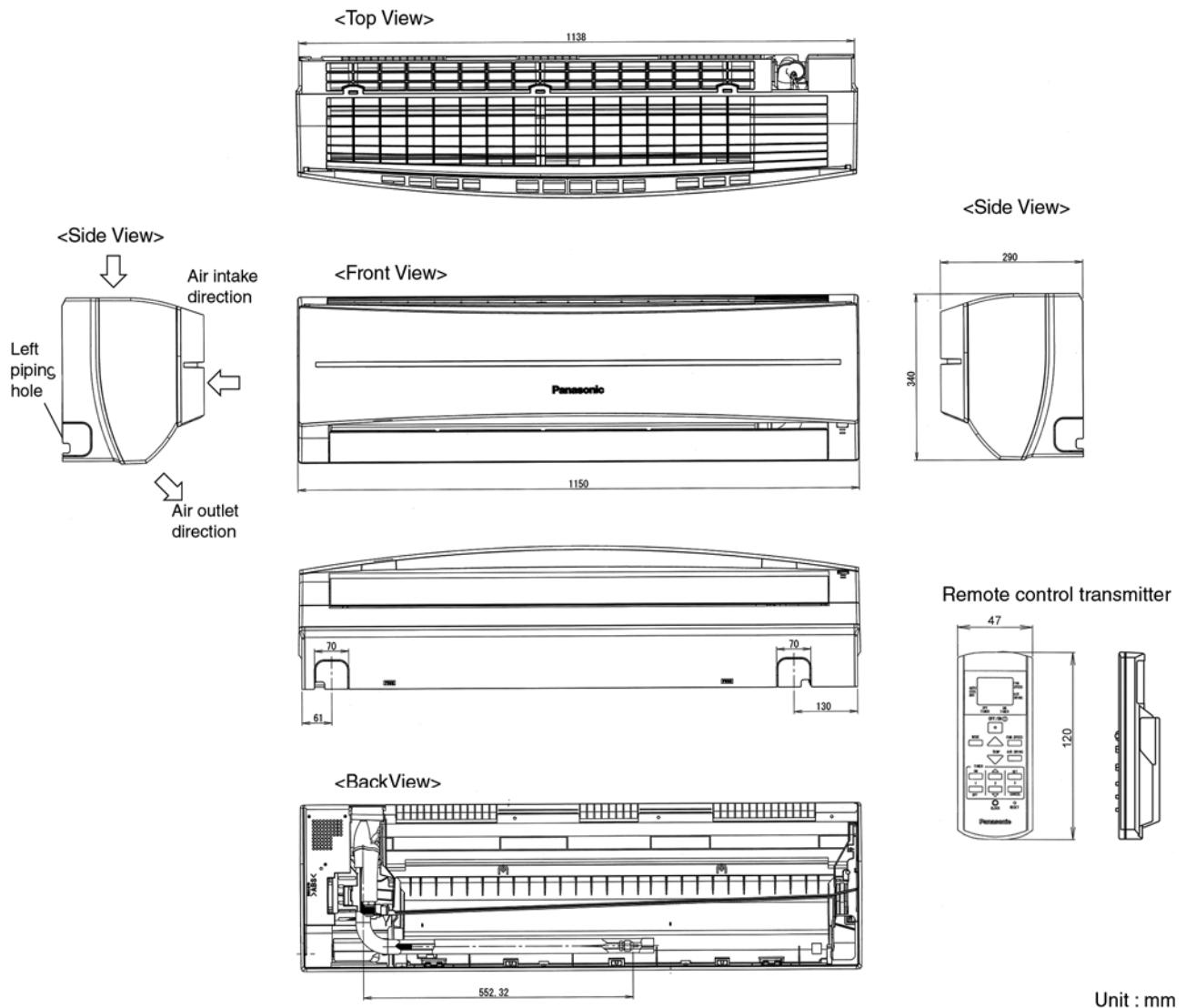
### 4.3. Remote Control



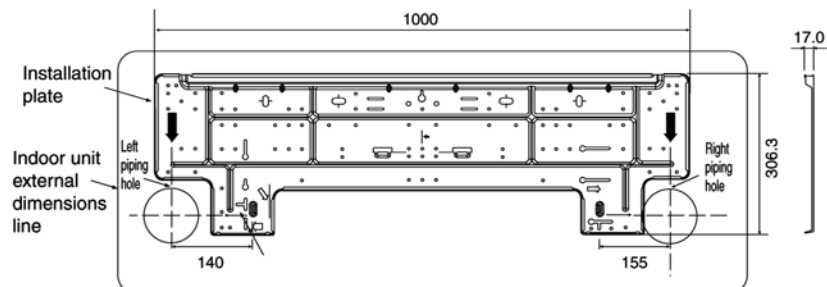


## 5 Dimensions

### 5.1. Indoor Unit & Remote Control

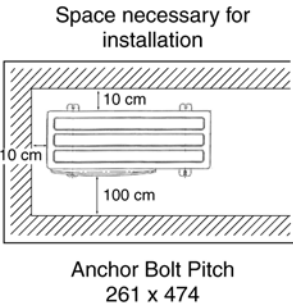


Relative position between the indoor unit and the installation plate <Front View>

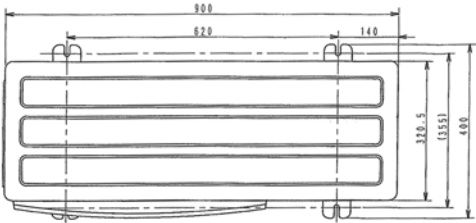


5.2. Outdoor Unit

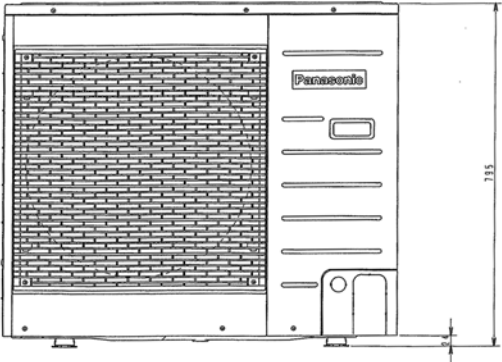
5.2.1. CU-PC30JKF



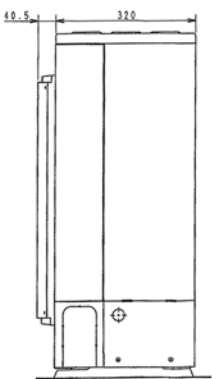
<Top View>



<Front View>

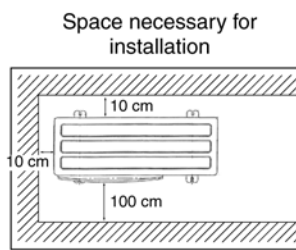


<Side View>



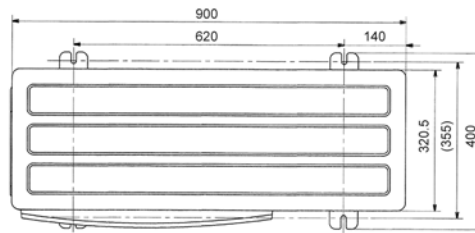
Unit : mm

## 5.2.2. CU-PC36JKF

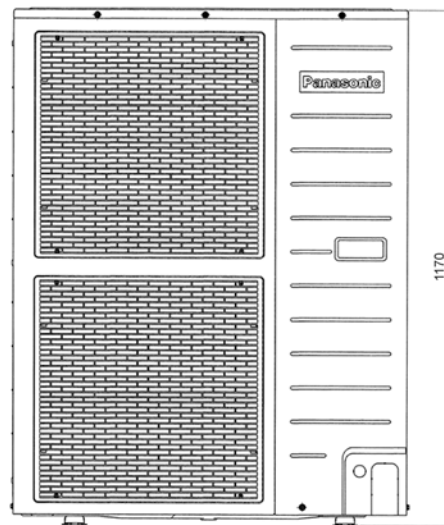


Anchor Bolt Pitch  
261 x 474

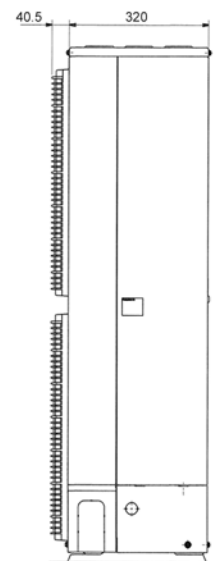
<Top View>



<Front View>



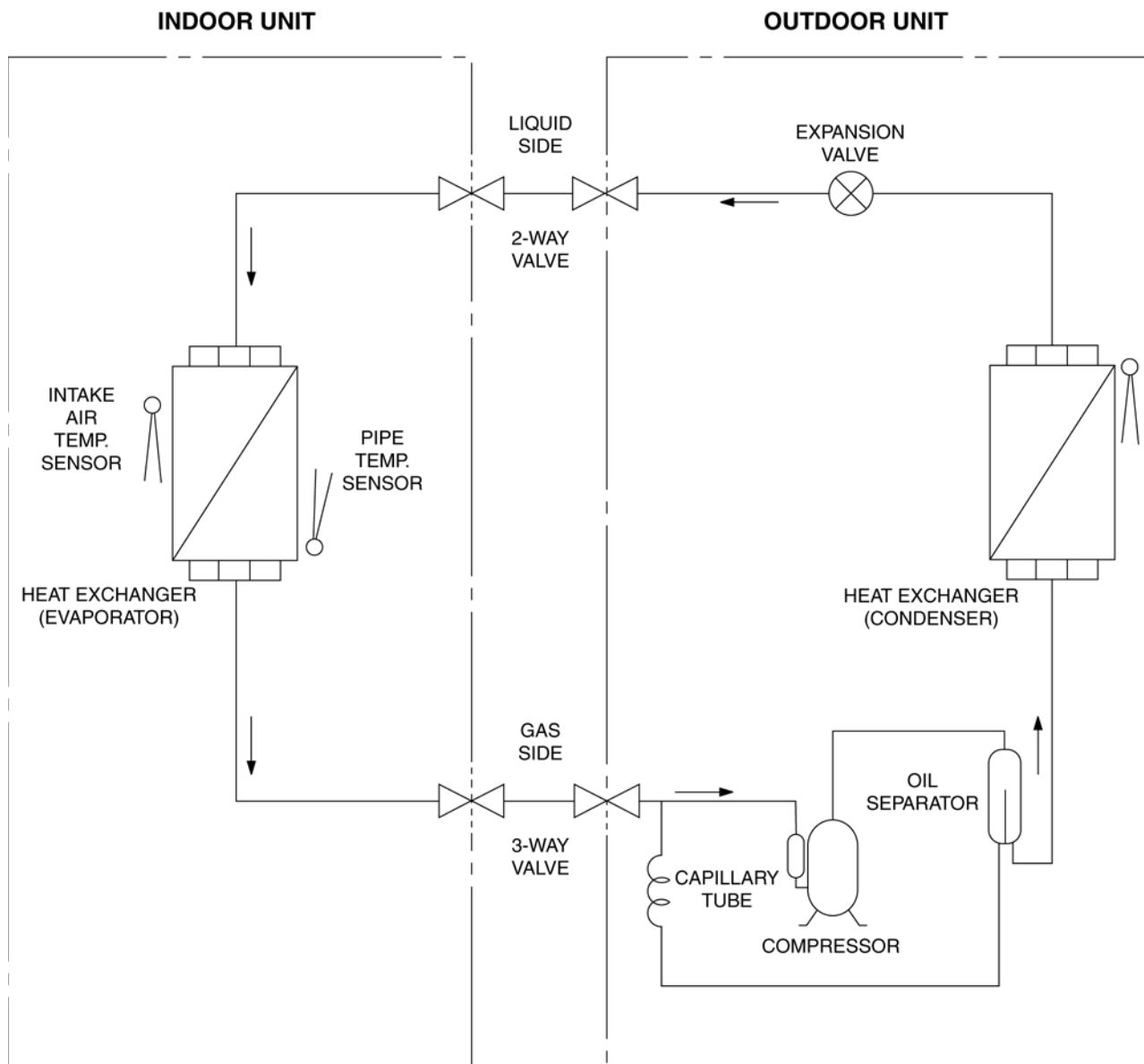
<Side View>



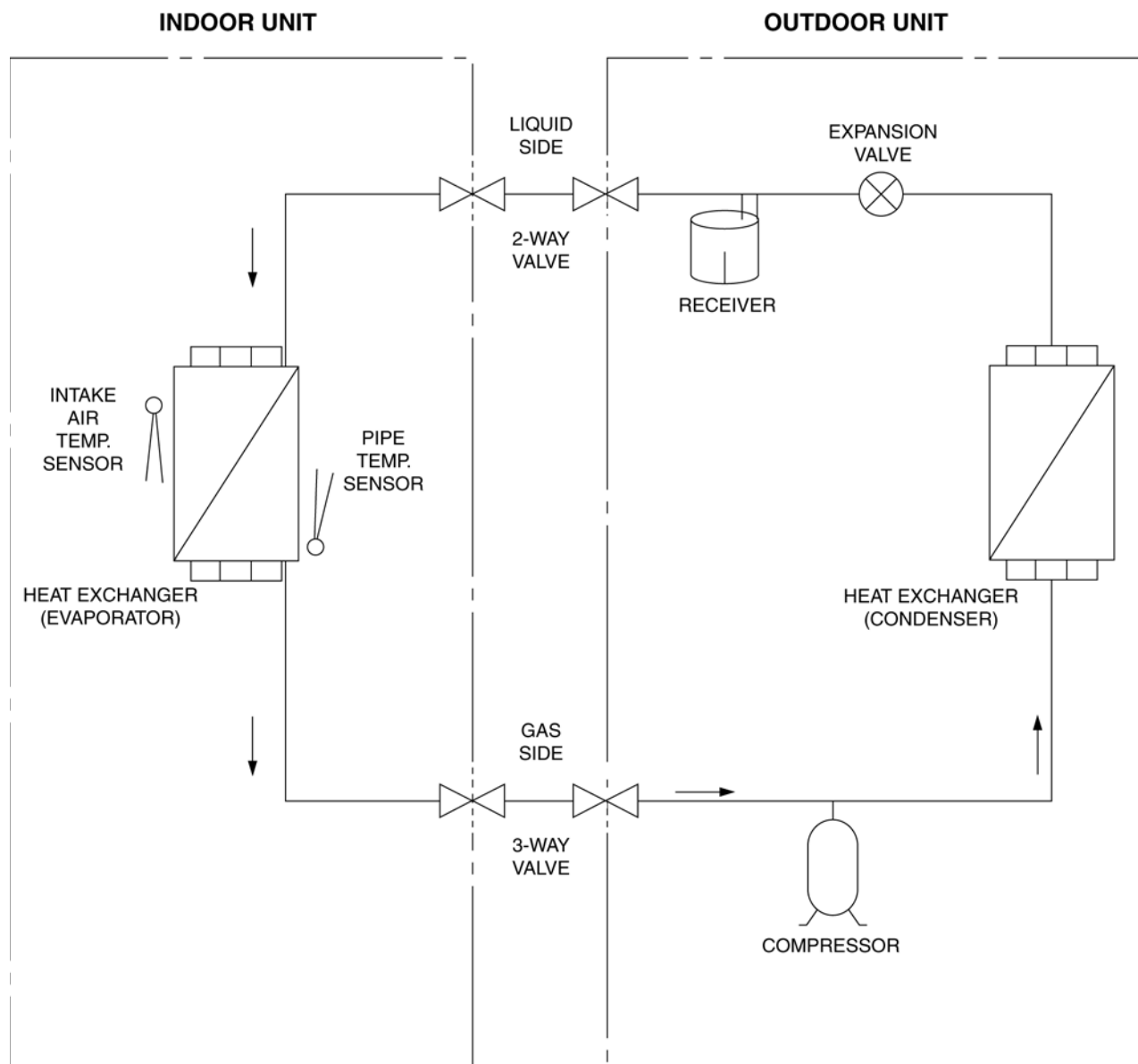
Unit : mm

## 6 Refrigeration Cycle Diagram

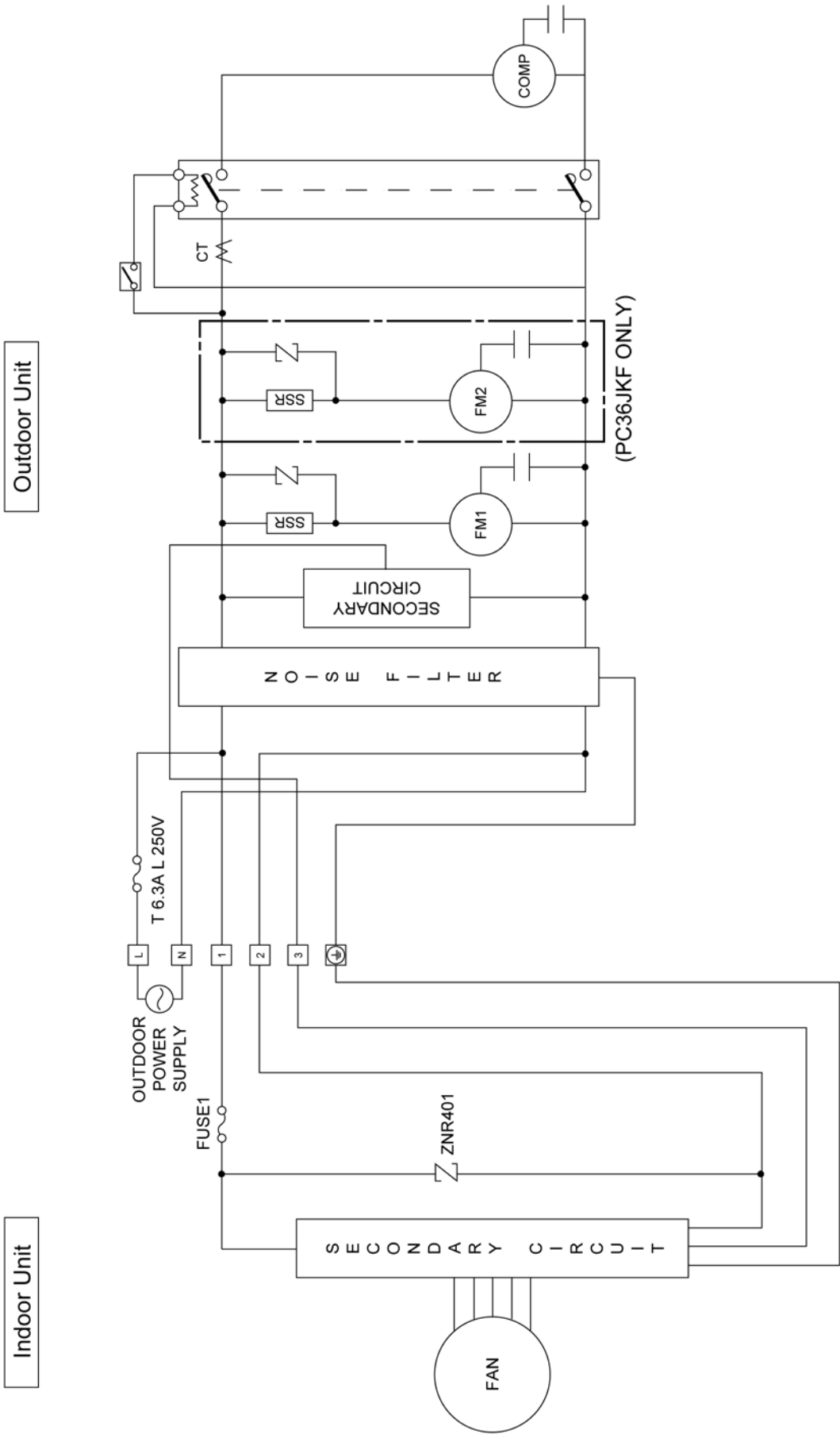
### 6.1. CS-PC30JKF CU-PC30JKF



## 6.2. CS-PC36JKF CU-PC36JKF



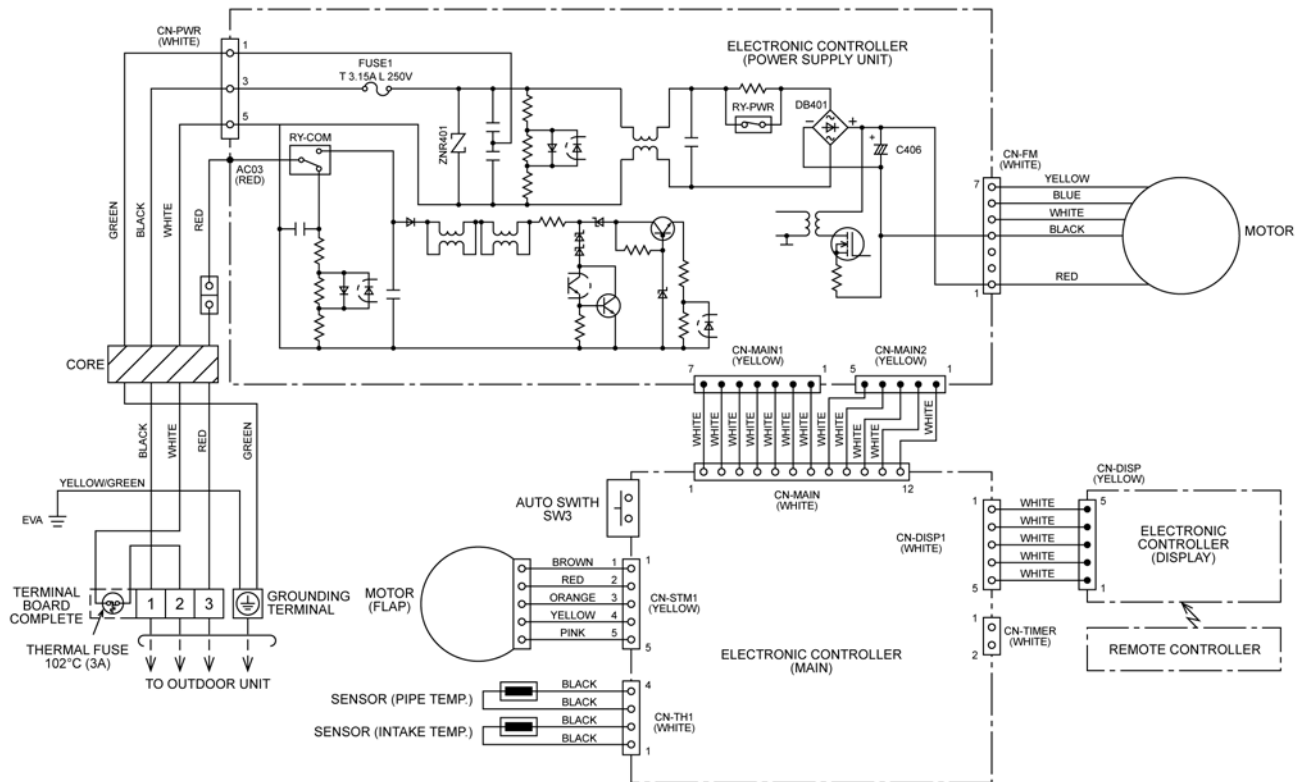
7 Block Diagram



## 8 Wiring Connection Diagram

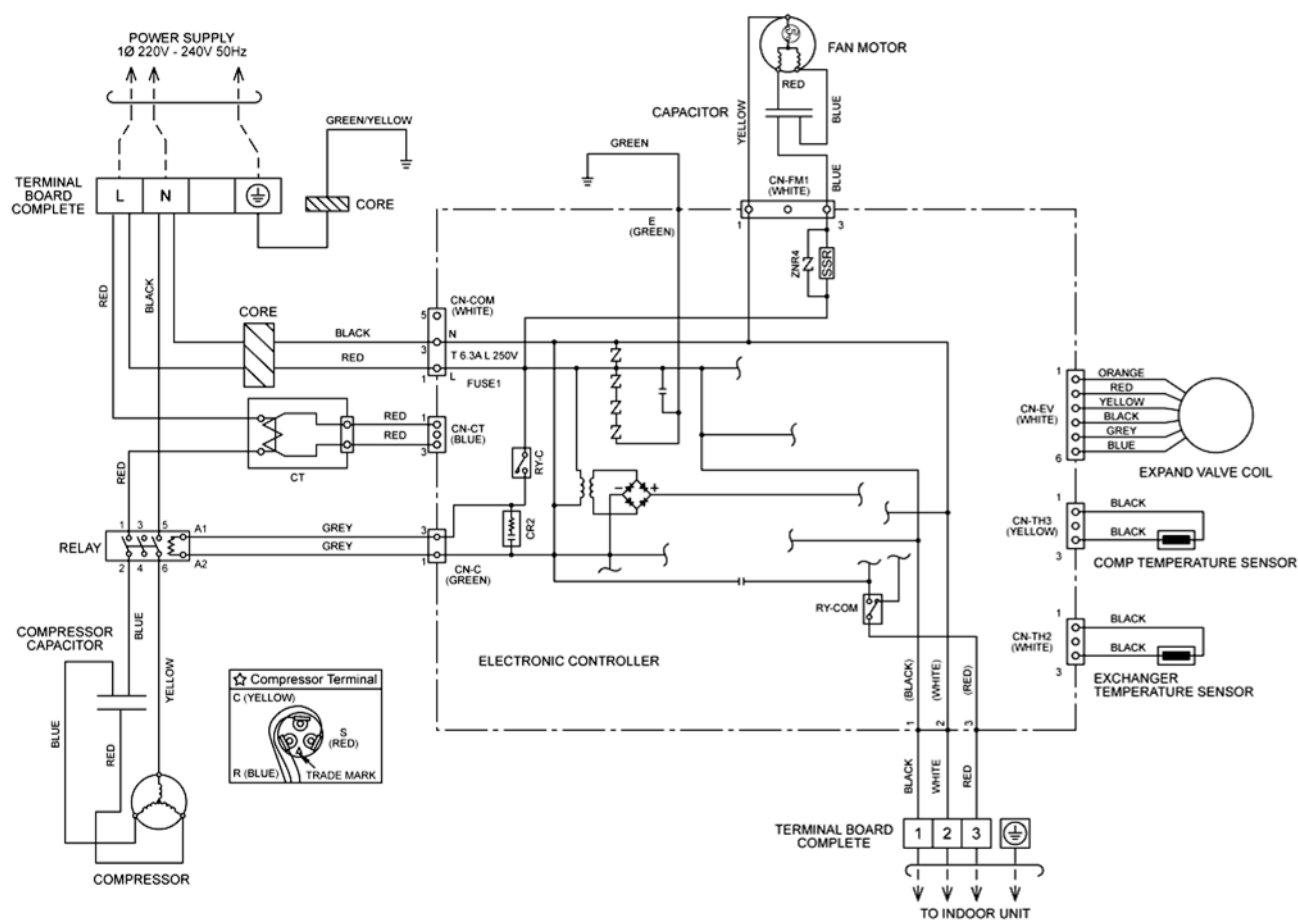
### 8.1. Indoor Unit

#### 8.1.1. CS-PC30JKF CS-PC36JKF



8.2. Outdoor Unit

8.2.1. CU-PC30JKF



Resistance of Compressor Windings

MODEL	CU-PC30JKF
CONNECTION	2JD514D5AA03
C - R	0.675 Ω
C - S	2.279 Ω

Note: Resistance at 20°C of ambient temperature.

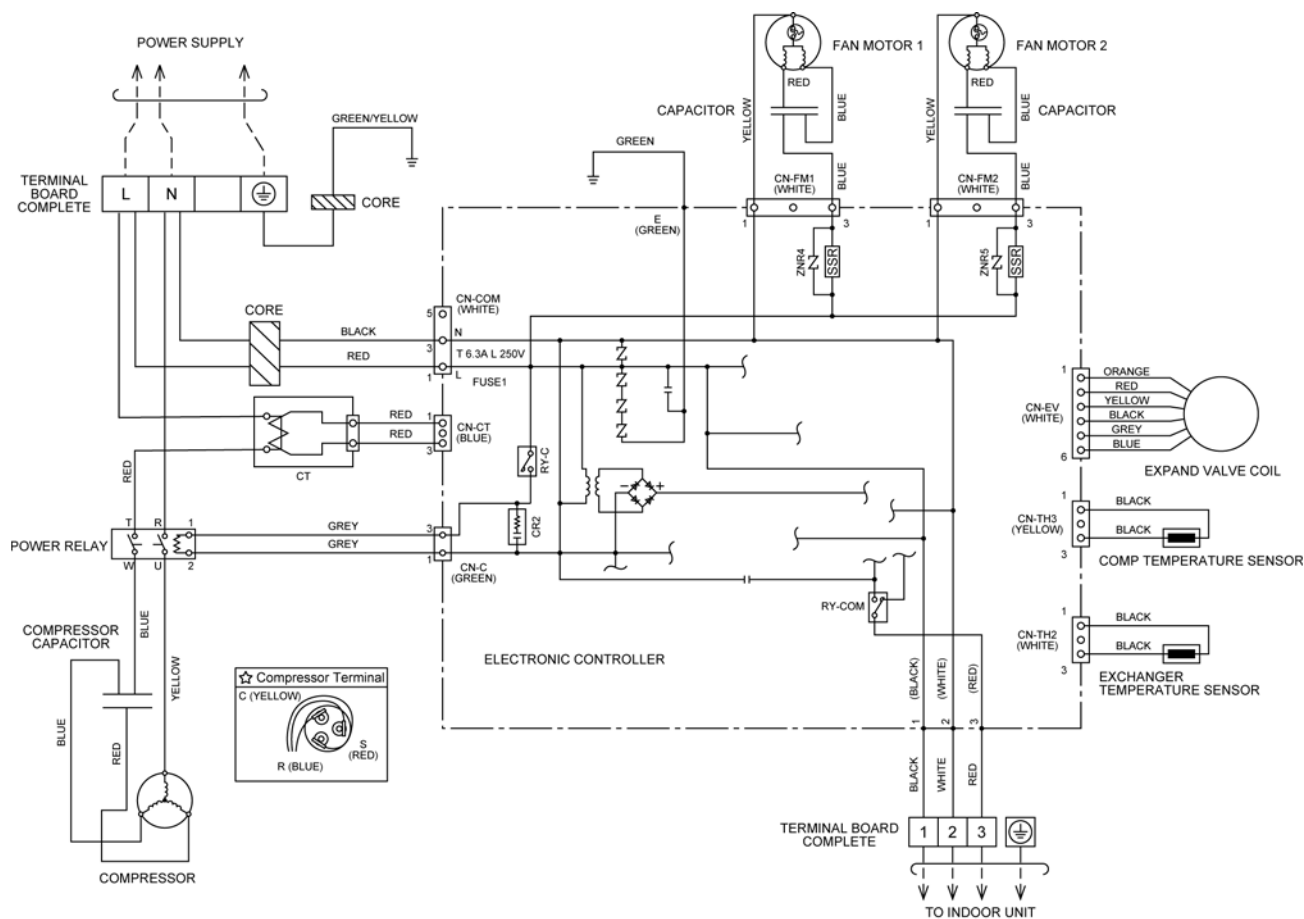
Resistance of Outdoor Fan Motor Windings

MODEL	CS-PC30JKF
CONNECTION	CWA951658
BLUE - YELLOW	73.6 Ω
YELLOW - RED	94.8 Ω

Note: Resistance at 20°C of ambient temperature.



## 8.2.2. CU-PC36JKF



### Resistance of Compressor Windings

MODEL	CU-PC36JKF
CONNECTION	ZR47K3-PFJ-512
C - R	1.67 $\Omega$
C - S	0.59 $\Omega$

Note: Resistance at 25°C of ambient temperature.

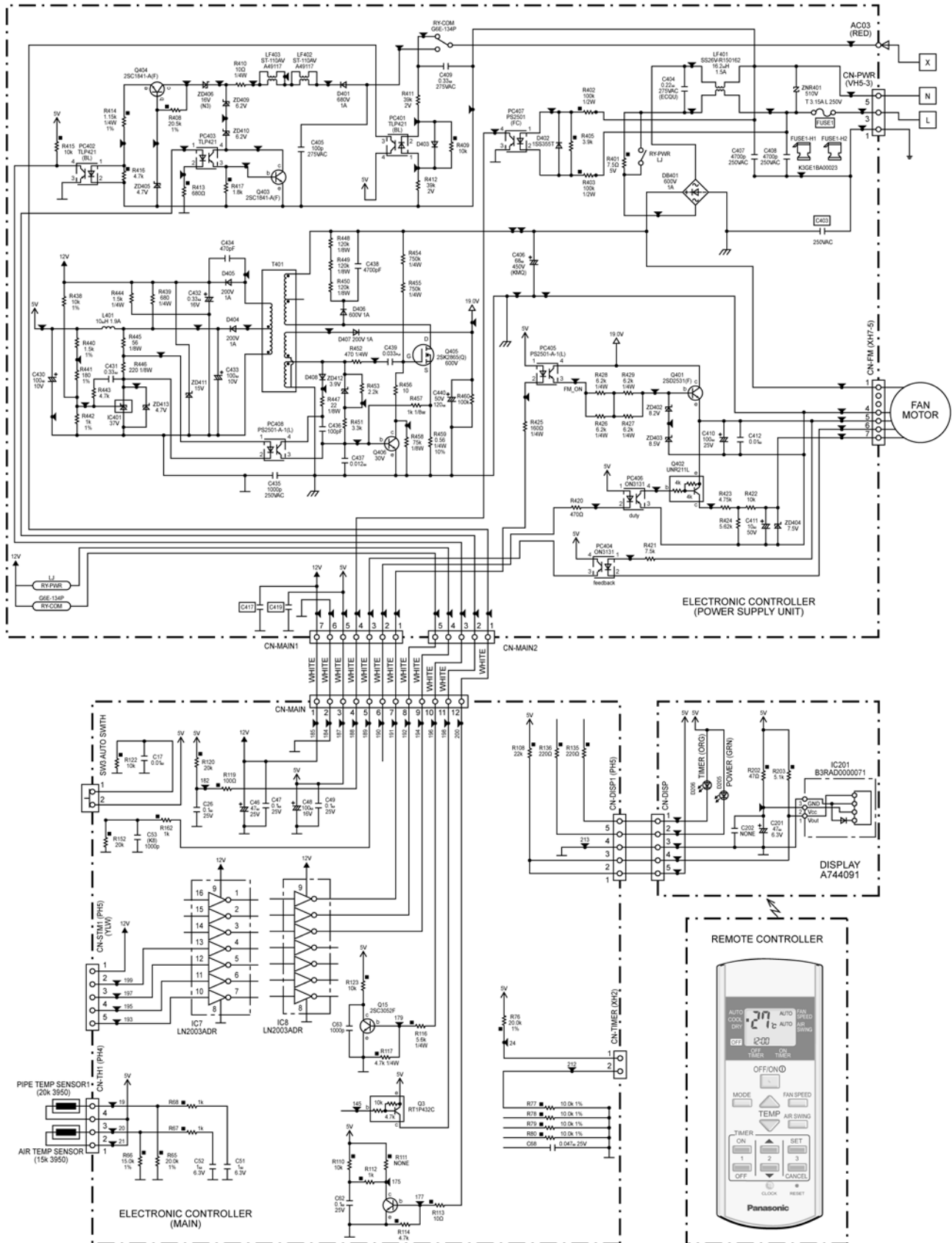
### Resistance of Outdoor Fan Motor Windings

MODEL	CS-PC36JKF
CONNECTION	CWA951366J / CWA951403J
BLUE - YELLOW	73.5 $\Omega$
YELLOW - RED	102.0 $\Omega$

Note: Resistance at 20°C of ambient temperature.

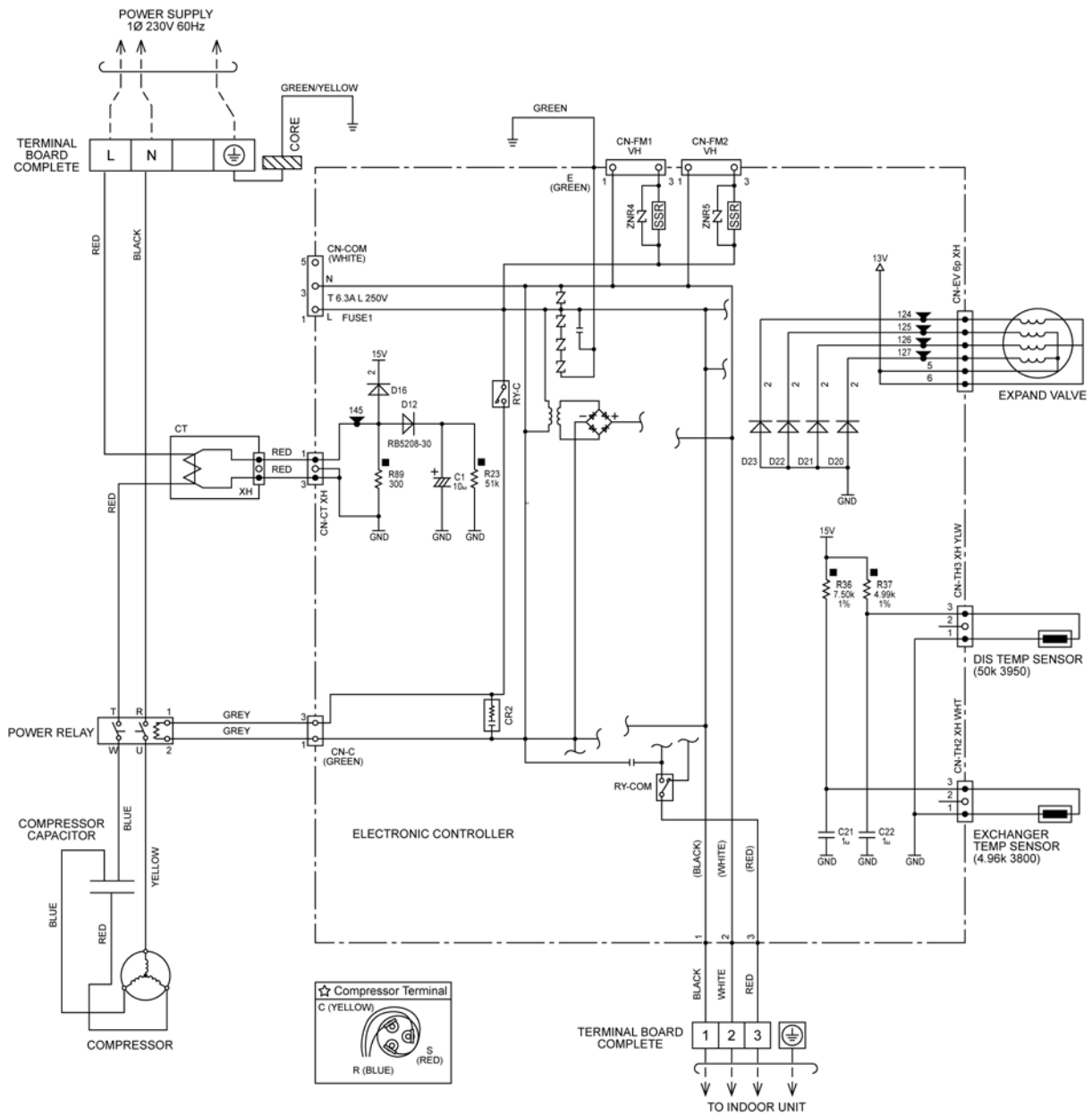
# 9 Electronic Circuit Diagram

## 9.1. Indoor Unit





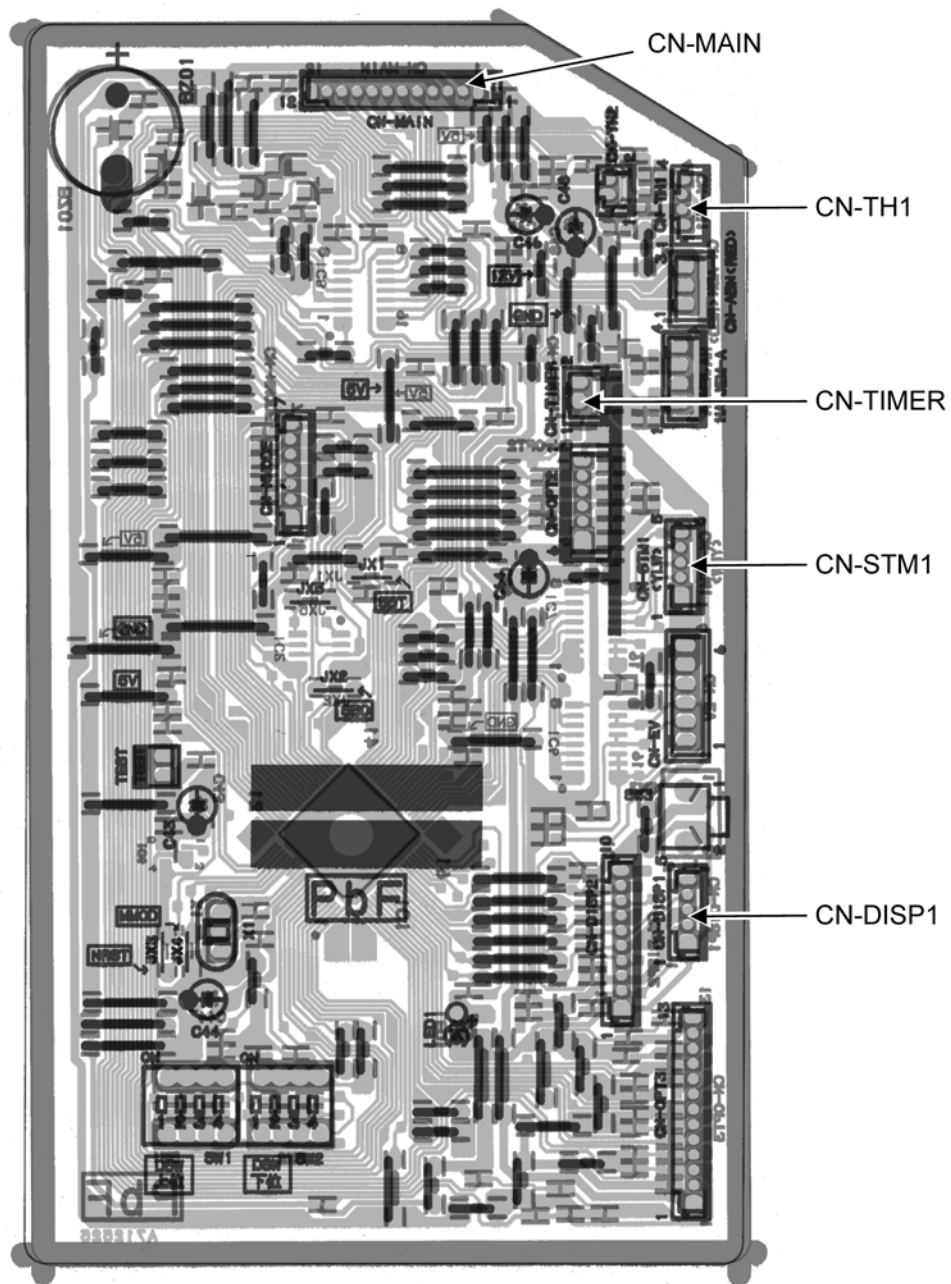
## 9.2.2. CU-PC36JKF



## 10 Printed Circuit Board

### 10.1. Indoor Unit

### 10.1.1. Main Printed Circuit Board

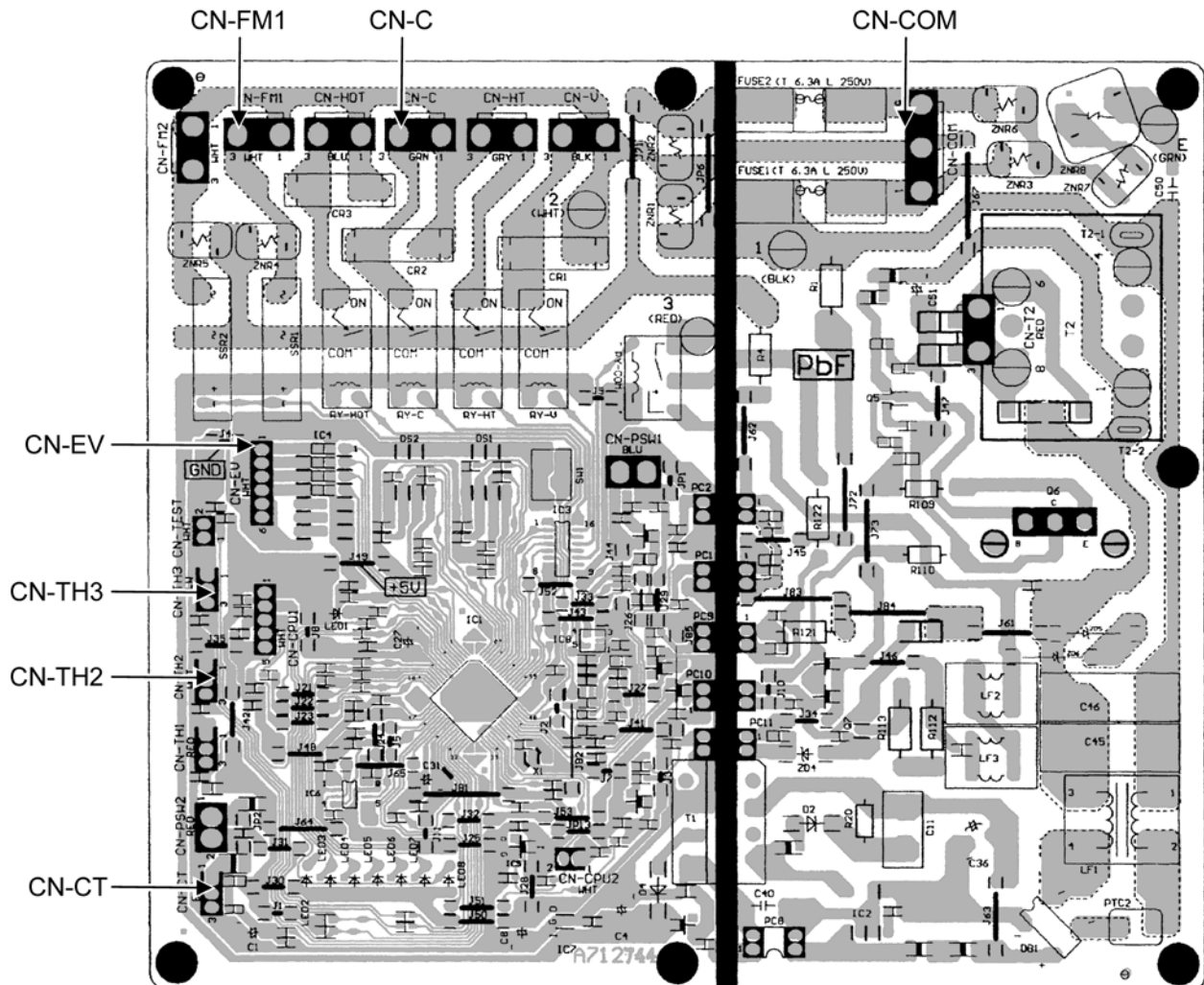




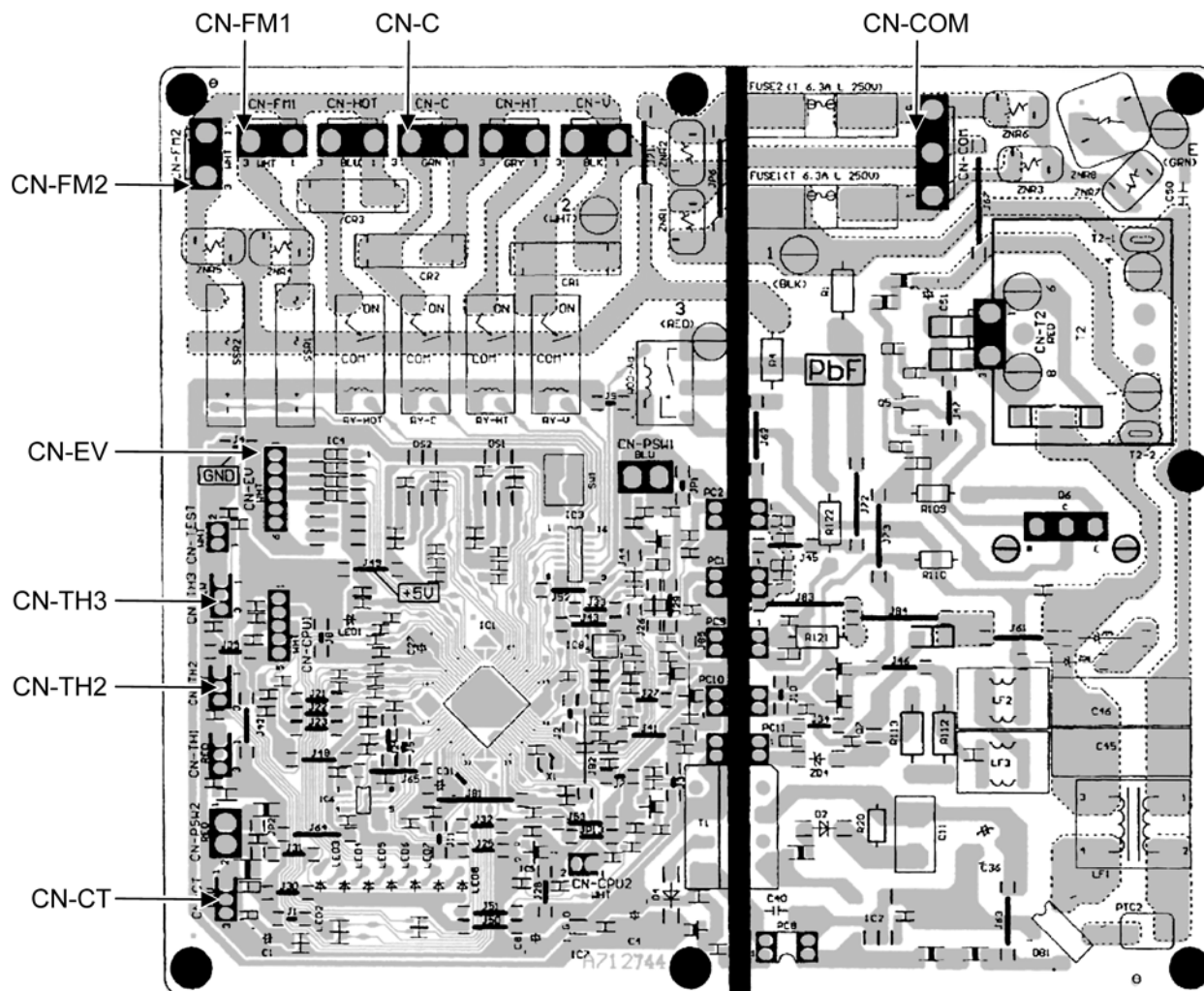
## 10.2. Outdoor Unit

### 10.2.1. Main Printed Circuit Board

#### 10.2.1.1. CU-PC30JKF



### 10.2.1.2. CU-PC36JKF





# 11 Installation Instruction

## 11.1. Select The Best Location

### 11.1.1. Indoor Unit

- Do not install the unit in excessive oil fume area such as kitchen, workshop and etc.
- There should not be any heat source or steam near the unit.
- There should not be any obstacles blocking the air circulation.
- A place where air circulation in the room is good.
- A place where drainage can be easily done.
- A place where noise prevention is taken into consideration.
- Do not install the unit near the door way.
- Ensure the spaces indicated by arrows from the wall, ceiling, fence or other obstacles.
- Recommended installation height for indoor unit shall be at least 2.5 m.

### 11.1.2. Outdoor Unit

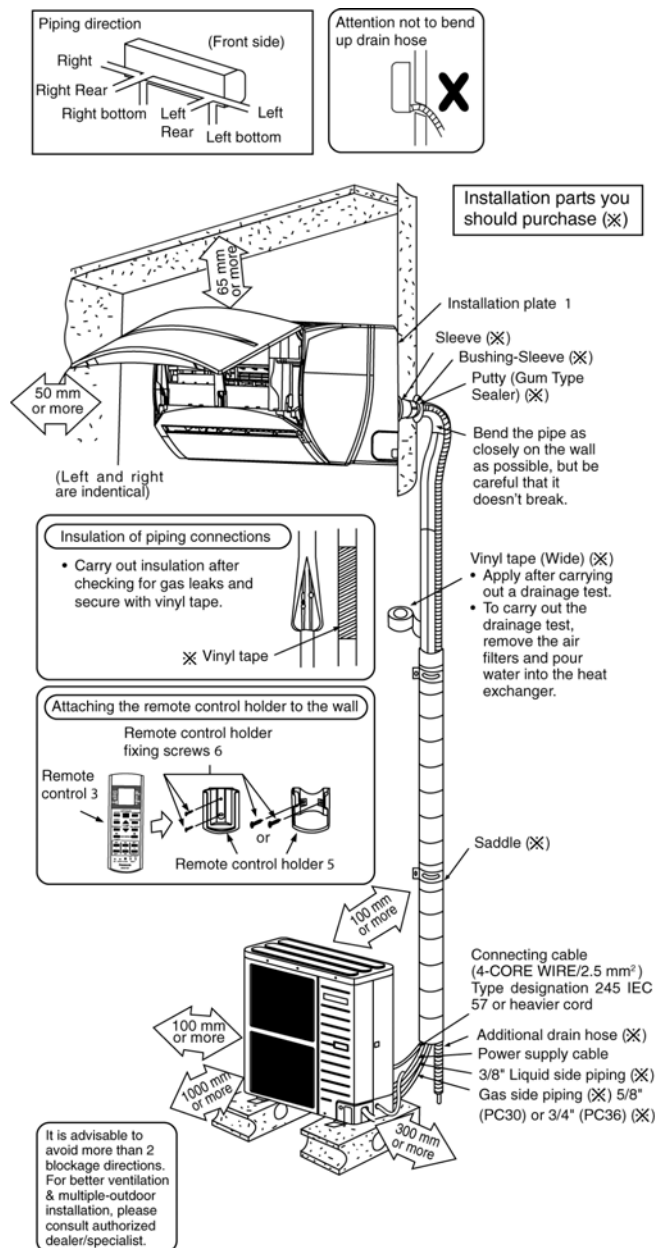
- If an awning is built over the unit to prevent direct sunlight or rain, be careful that heat radiation from the condenser is not obstructed.
- There should not be any animal or plant which could be affected by hot air discharged.
- Keep the spaces indicated by arrows from wall, ceiling, fence or other obstacles.
- Do not place any obstacles which may cause a short circuit of the discharged air.
- If piping length is over 7.5 m, additional refrigerant should be added as shown in the table.

Model	Piping size		Rated Length (m)	Max. Elevation (m)	Min. Piping Length (m)	Max. Piping Length (m)	Additional Refrigerant (g/m)
	Gas	Liquid					
PC30	5/8"	3/8"	5	20	3	30	30
PC36	3/4"	3/8"	5	20	3	30	40

Example: For PC36

If the unit is installed at a 10m distance, the quantity of additional refrigerant should 75g ..... (10 - 7.5) m x 40 g/m = 100 g

## 11.2. Indoor/Outdoor Unit Installation Diagram

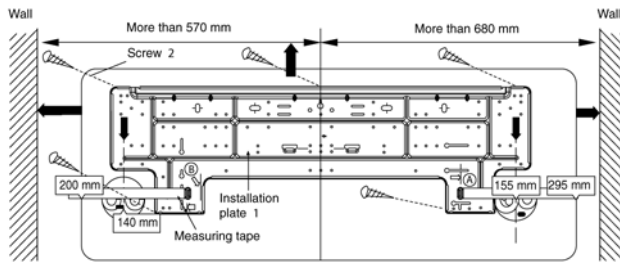


- This illustration is for explanation purposes only. The indoor unit will actually face a different way.

## 11.3. Indoor Unit

### 11.3.1. How To Fix Installation Plate

The mounting wall is strong and solid enough to prevent it from the vibration.



The centre of installation plate should be at more than 680 mm at right and 570mm at left of the wall.

The distance from installation plate edge to ceiling should more than 73 mm.

From installation plate left edge to unit's left side is 20 mm.

From installation plate right edge to unit's right is 130 mm.

- Ⓑ : For left side piping, piping connection for liquid should be about 155 mm from this line.  
 : For left side piping, piping connection for gas should be about 190 mm from this line.  
 : For left side piping, piping connection cable should be about 1100 mm from this line.

1. Mount the installation plate on the wall with 5 screws or more.  
 (If mounting the unit on the concrete wall, consider using anchor bolts.)  
 • Always mount the installation plate horizontally by aligning the marking-off line with the thread and using a level gauge.
2. Drill the piping plate hole with  $\varnothing 70$  mm hole-core drill.  
 • Line according to the arrows marked on the lower left and right side of the installation plate. The meeting point of the extended line is the centre of the hole. Another method is by putting measuring tape at position as shown in the diagram above. The hole centre is obtained by measuring the distance namely 140 mm and 155 mm for left and right hole respectively.  
 • Drill the piping hole at either the right or the left and the hole should be slightly slanted to the outdoor side.

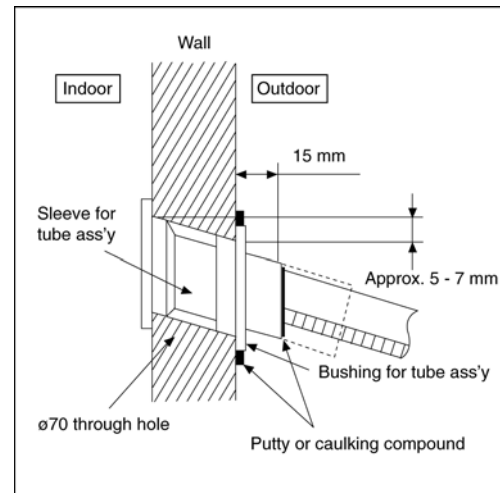
### 11.3.2. To Drill A Hole In The Wall And Install A Sleeve Of Piping

1. Insert the piping sleeve to the hole.
2. Fix the bushing to the sleeve.
3. Cut the sleeve until it extrudes about 15 mm from the wall.

#### Caution

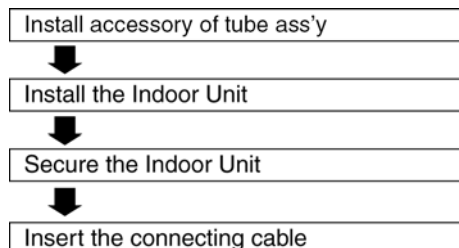
When the wall is hollow, please be sure to use the sleeve for tube ass'y to prevent dangers caused by mice biting the connecting cable.

4. Finish by sealing the sleeve with putty or caulking compound at the final stage.

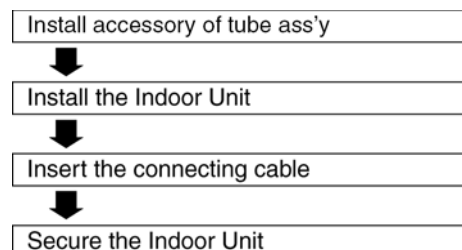


### 11.3.3. Indoor Unit Installation

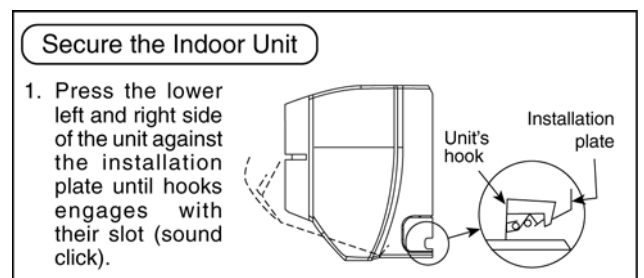
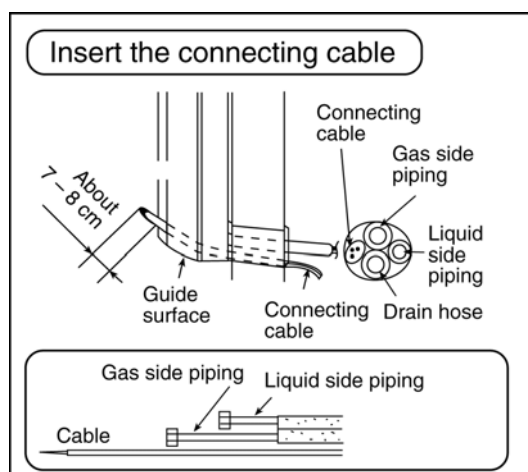
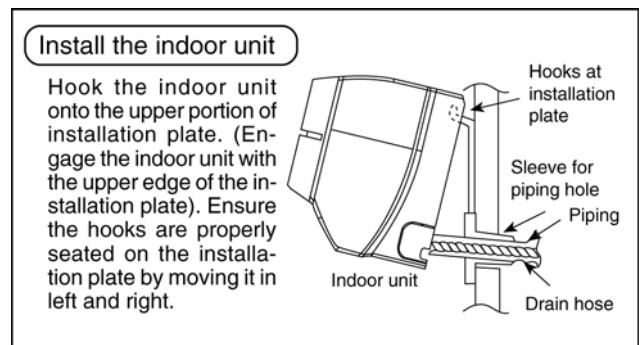
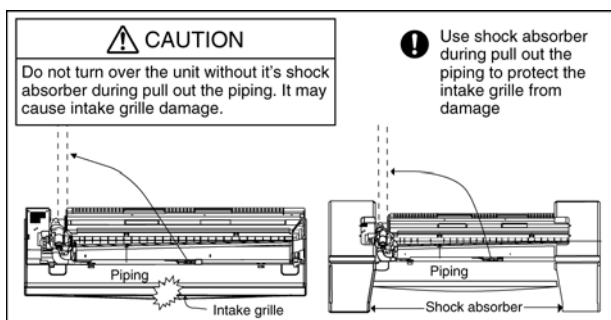
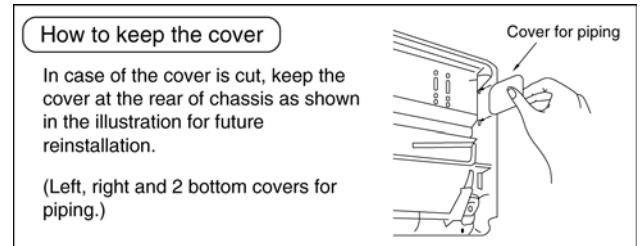
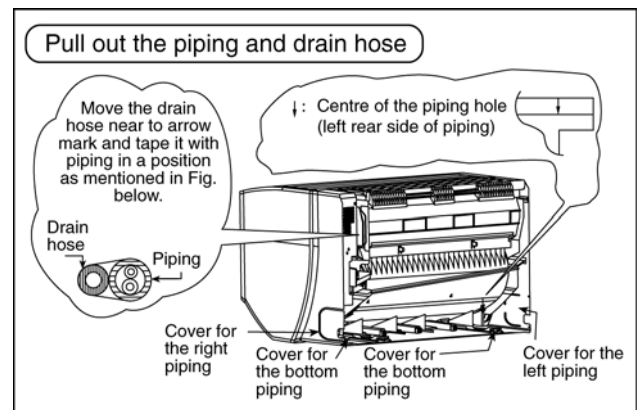
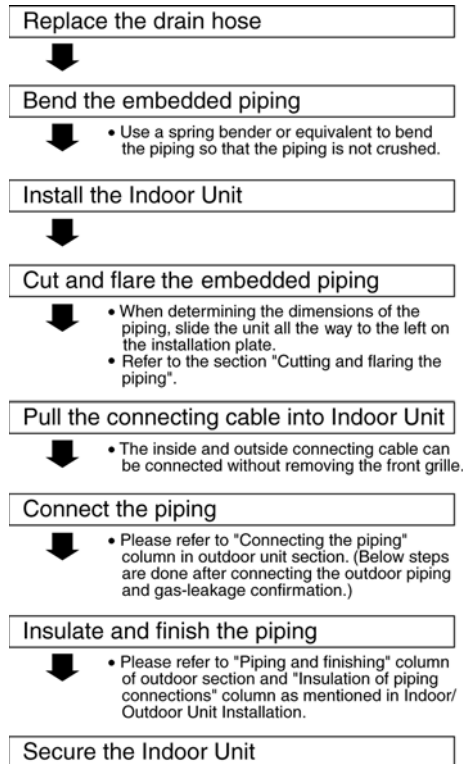
#### 11.3.3.1. For the right rear piping



#### 11.3.3.2. For the right and right bottom piping

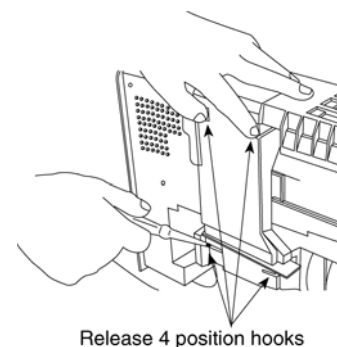


### 11.3.3.3. For the embedded piping

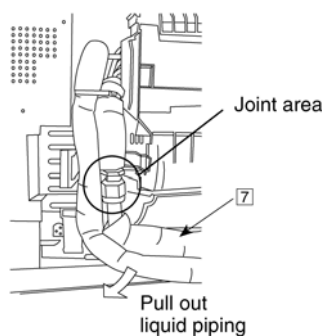


#### Install accessory of tube ass'y

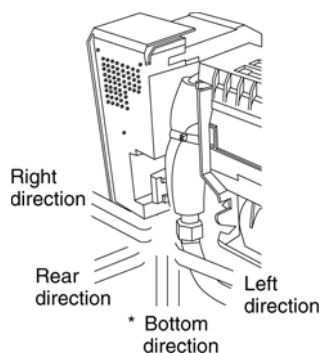
1. Remove chassis back particular piece.



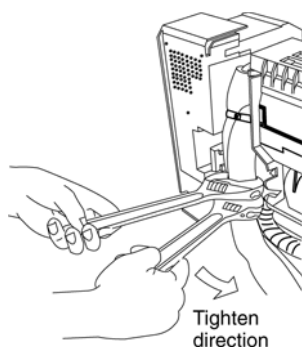
2. Connect tube ass'y 7 to gas side piping. Liquid side piping need to pull out to joint tube ass'y.



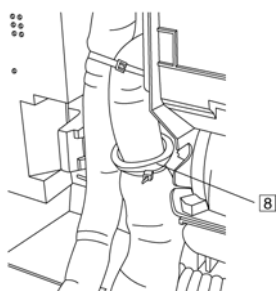
3. Set the piping direction.  
(For bottom piping, need to perform cutting and flaring process.)



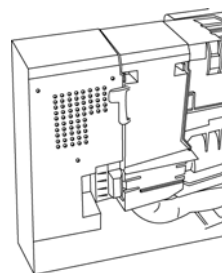
4. Use 2 spanner to tighten the nut. (tighten torque 65 NIm)



5. Check gas leak at joint area using tube connector 11 and connect to liquid side piping. (Refer indication label at chassis back for detail)
6. Cover the open tubing with the foam and bind it by band 8.

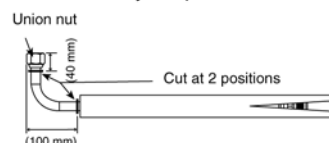


7. Close back the chassis back piece.

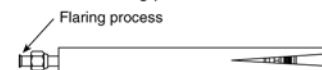


#### Cutting and flaring for bottom piping direction

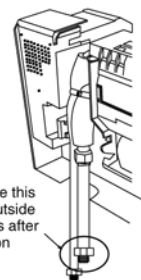
1. Cut tube ass'y at 2 positions as below.



2. After cut rejoin back union nut to tube ass'y.
3. Perform flaring process at end of tube ass'y.



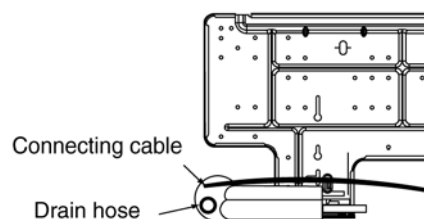
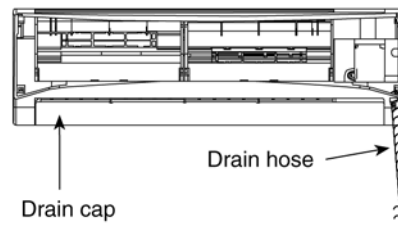
Make sure this area is outside of chassis after connection



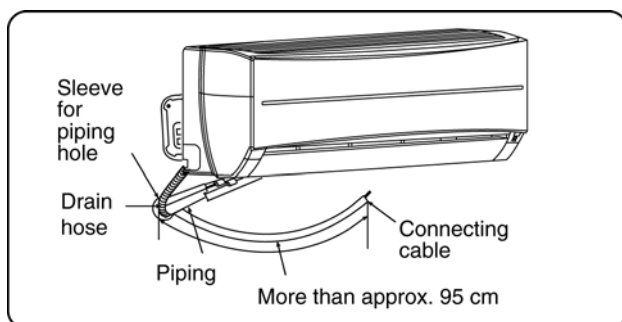
(This can be used for left rear piping and left bottom piping also.)

#### Exchange the drain hose and the cap

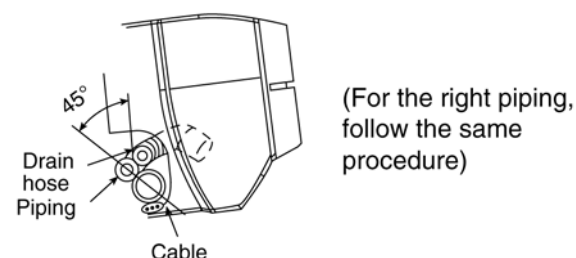
##### Rear view for left piping installation



Adjust the piping slightly downwards.

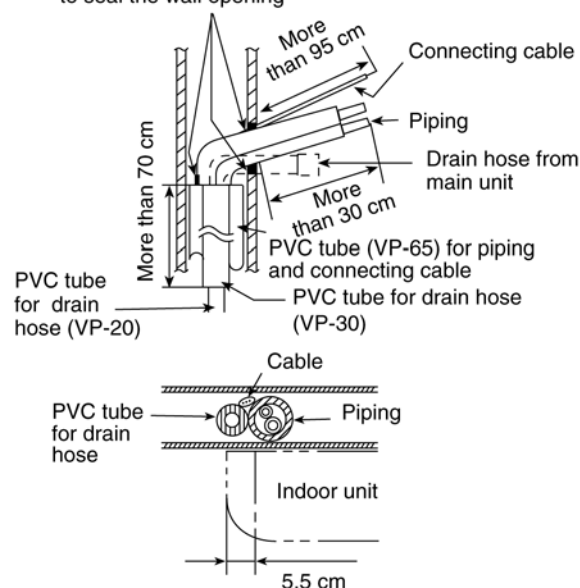


- In case of left piping how to insert the connecting cable and drain hose.



- How to pull the piping and drain hose out, in case of the embedded piping.

Apply putty or caulking material to seal the wall opening



To take out the unit, push the **PUSH** marking at the bottom unit, and pull it slightly towards you to disengage the hooks from the unit.

#### 11.3.4. Connect The Cable To The Indoor Unit

1. The indoor and outdoor connecting cable can be connected without removing the front grille.
  2. Connecting cable between indoor unit and outdoor unit shall be approved polychloroprene sheathed  $4 \times 2.5 \text{ mm}^2$  flexible cord, type designation 245 IEC 57 or heavier cord.
- Ensure the color of wires of outdoor unit and the terminal Nos. are the same to the indoor's respectively.
  - Earth lead wire shall be longer than the other lead wires as shown in the figure for the electrical safety in case of the slipping out of the cord from the anchorage.

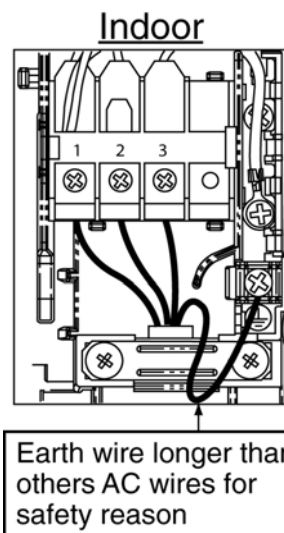
Terminals on the indoor unit		1	2	3
Colour of wires				
Terminals on the outdoor unit		1	2	3

- Secure the cable onto the control board with the holder (clammer).

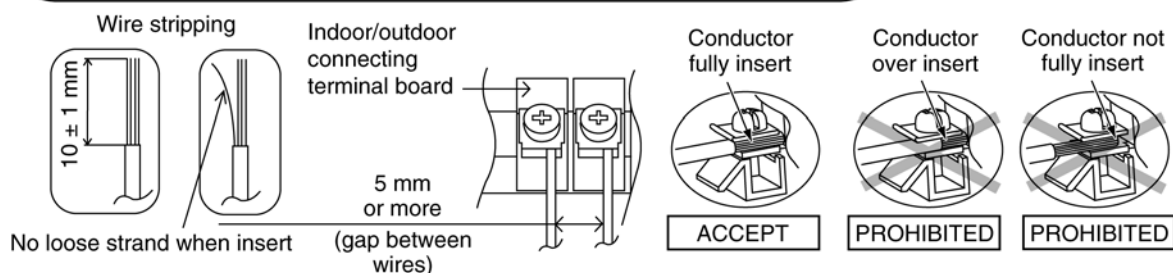
Terminal screw	Tightening torque N•cm {kgf•cm}
M3	69~98 {7~10}
M4	157~196 {16~20}
M5	196~245 {20~25}

This equipment must be properly earthed.

- Earth wire shall be Yellow/Green (Y/G) in colour and longer than other AC wires for safety reason.



## WIRE STRIPPING AND CONNECTING REQUIREMENT



## 11.4. Outdoor Unit

### 11.4.1. Install The Outdoor Unit

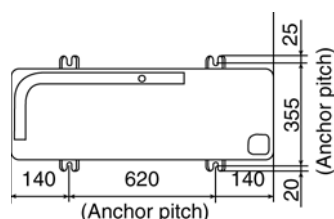
- After selecting the best location, start installation according to Indoor/Outdoor Unit Installation Diagram.

- If installing the unit to a concrete base or other solid base, use M10 or W3/8 bolts and nuts to secure the unit, and ensure that the unit is fully upright and level.

(The anchor bolt positions are shown in the diagram at the right side.)

In particular, install the unit at a distance from the neighbouring building which conforms to regulations specified by local noise emission regulation standards.

- Do not install the outdoor unit to the building's roof.
- If there is a possibility that vibration may be transmitted to the rooms of the building, place rubber insulation between the unit and the installation surface.



When installing the product in a place where it will be affected by typhoon or strong wind such as wind blowing between buildings, including the rooftop of a building and a place where there is no building in surroundings, fix the product with an overturn prevention wire, etc. (Overturn prevention fitting model number: K-KYZP15C)



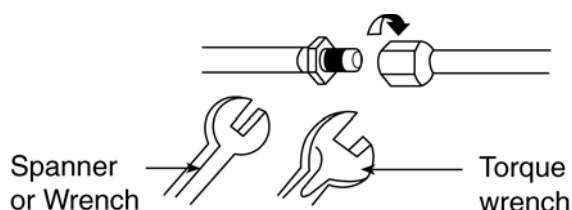
### 11.4.2. Connecting The Piping

#### 11.4.2.1. Connecting The Piping To Indoor Unit

Please make flare after inserting flare nut (locate at joint portion of tube assembly) onto the copper pipe (in case of using long piping).

Connect the piping

- Connect tube ass'y 12 as shown in the picture. (PC36 only)
- Align the center of piping and sufficiently tighten the flare nut with fingers.
- Further tighten the flare nut with torque wrench in specified torque as stated in the table.



#### CAUTION

Do not over tighten, over tightening cause gas leakage.

Model	Piping size (Torque)	
	Gas	Liquid
PC30	5/8" [65 N•m]	3/8" [42 N•m]
PC36	3/4" [100 N•m]	3/8" [42 N•m]

### 11.4.2.2. Connecting The Piping To Outdoor Unit

Decide piping length and then cut by using pipe cutter. Remove burrs from cut edge. Make flare after inserting the flare nut (locate at valve) onto the copper pipe.

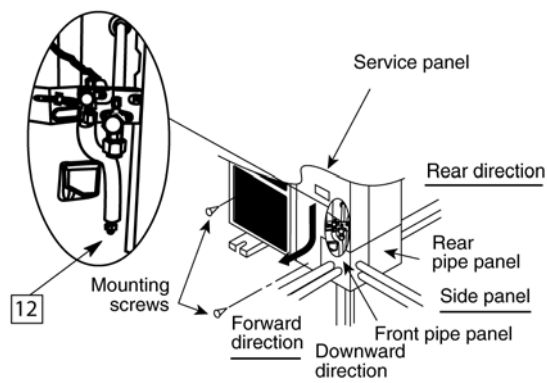
Align center of piping to valves and then tighten with torque wrench to the specified torque as stated in the table.

Local pipes can project in any of four directions.

- Make holes in the pipe panels for the pipes to pass through.
- Be sure to install the pipe panels to prevent rain from getting inside the outdoor unit.

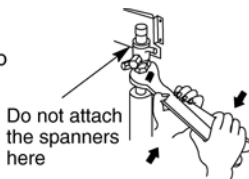
[Removing the service panel].

- (1) Remove the two mounting screws.
  - (2) Slide the service panel downward to release the pawls.
- After this, pull the service panel toward you to remove it.

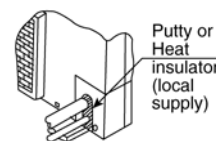


Be sure to use two spanners to tighten.  
(If the nuts are overtightened, it may cause the flares to break or leak.)

Do not attach the spanners here



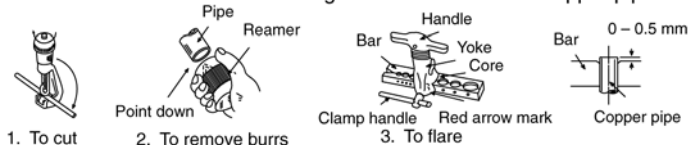
Close the tube joining area with putty heat insulator (local supply) without any gap as shown in right figure. (To prevent insects or small animal entering.)



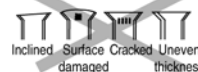
### 11.4.2.3. Cutting And Flaring The Piping

1. Please cut using pipe cutter and then remove the burrs.
2. Remove the burrs by using reamer. If burrs is not removed, gas leakage may be caused.  
Turn the piping end down to avoid the metal powder entering the pipe.
3. Please make flare after inserting the flare nut onto the copper pipes.

1. Please cut using pipe cutter and then remove the burrs.
2. Remove the burrs by using reamer. If burrs is not removed, gas leakage may be caused. Turn the piping end down to avoid the metal powder entering the pipe.
3. Please make flare after inserting the flare nut onto the copper pipes.



■ Improper flaring ■



When properly flared, the internal surface of the flare will evenly shine and be of even thickness. Since the flare part comes into contact with the connections, carefully check the flare finish.

### 11.4.3. Air Purging Of The Pipings And Indoor Unit

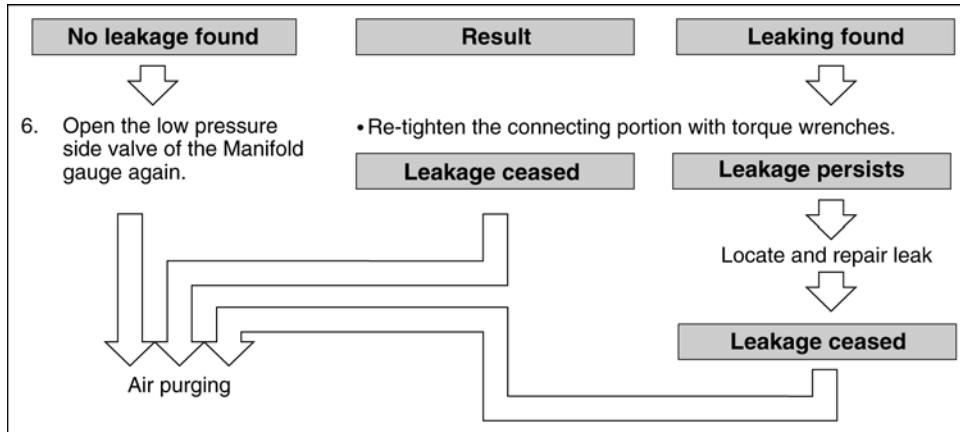
#### 1) Checking a gas leakage

1. Remove the service port cap from 3-way valves.
2. Connect the Manifold gauge set to the service port of liquid side 3-way valve.
3. Connect the Charging Cylinder to the Manifold gauge set and open the valve of the Cylinder.
4. Open the low pressure side valve of the Manifold gauge for approx. 10 seconds and then close.
5. Check gas-leakage of the connecting portion of pipings with the gas-leak detector.

<For the left pipings>

- 1) Measure the pressure.
- 2) Keep it for 5-10 minutes.

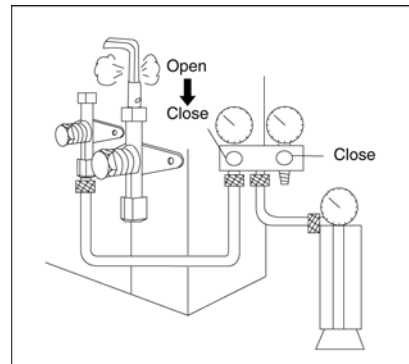
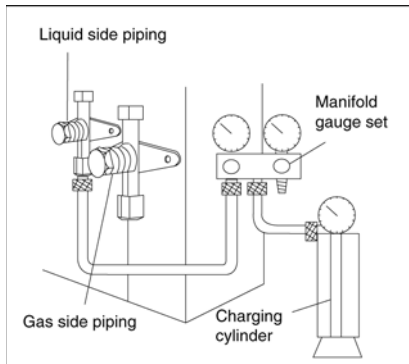
- Ensure if the pressure indicated on the gauge is as same as that of measured at first time.



#### 2) Air Purging

The air remaining in the Refrigeration cycle which contains moisture may cause malfunction on the Compressor.

1. To purge the air, push the pin on the Gas side 3-way valve for three seconds with a Hexagonal wrench and set it free for one minute.
  - Repeat this for three times.
2. To balance the refrigerant, close the low pressure side valve on the Manifold gauge and release refrigerant from the piping through service port until the gauge indicates 0.5 -0.3MPa.
3. Set both 3-way valves to open position with the Hexagonal wrench for the unit operation.

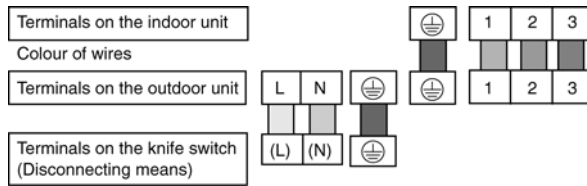




#### 11.4.4. Connect The Cable To The Outdoor Unit

(FOR DETAIL REFER TO WIRING DIAGRAM AT UNIT)

1. Remove the control board cover from the unit by loosening the screw.
2. Connecting cable between indoor unit and outdoor unit shall be approved polychloroprene sheathed 4 x 2.5 mm<sup>2</sup> flexible cord, type designation 245 IEC 57 or heavier cord.



3. Secure the cable onto the control board with the holder (clammer).
4. Cable connection to the power supply through knife switch (Disconnecting means).
  - Connect the approved polychloroprene sheathed power supply cable (3 x 4.0 mm<sup>2</sup>), type designation 245 IEC 57 or heavier cord to the terminal board, and connect the other end of the cable to knife switch (Disconnecting means).
5. Select required direction and apply protective bushing provided in accessories to protect cables from sharp edges.
6. Once all wiring work has been completed, tie the wires and cords together with the binding strap so that they do not touch other parts such as the compressor and pipes.
7. For wire stripping and connection requirement, refer to instruction ⑤ of indoor unit.

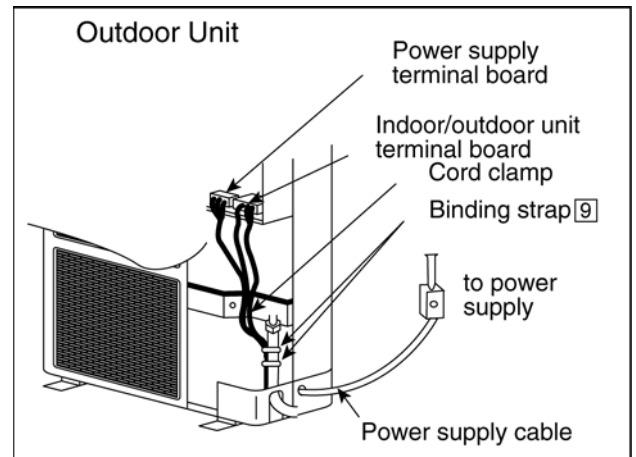
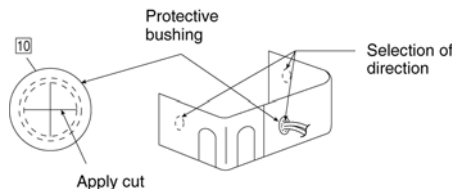
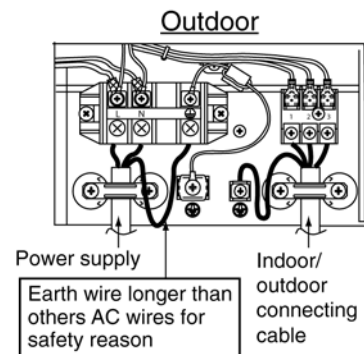
⚠ Check that the wires do not touch the compressor, etc.

**Note:** Knife switch (Disconnecting means) should have minimum 3.0 mm contact gap.

- Secure the cable onto the control board with the holder (clammer).

⚡ This equipment must be properly earthed.

- Earth wire shall be Yellow/Green (Y/G) in colour and longer than other AC wires for safety reason.



#### 11.4.5. Pipe Insulation

1. Please carry out insulation at pipe connection portion as mentioned in Indoor/Outdoor Unit Installation Diagram. Please wrap the insulated piping end to prevent water from going inside the piping.
2. If drain hose or connecting piping is in the room (where dew may form), please increase the insulation by using POLY-E FOAM with thickness 6mm or above.

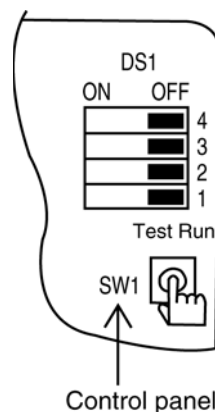
### 11.4.6. Precautions with Regard to Test Operation

- Use only insulation tool to switch on the microswitch on the electric circuit board (do not use finger or metallic tool).
- Do not switch on power before all installation is completed.
- After power on, make sure the voltage is 90% ~ 110% of the rated voltage.
- May use corresponding switches on the control panel of the outdoor unit to initiate "Test run".
- Test run consists of ① cooling and ② heating modes (Single mode unit does not have heating function).
- Press and hold SW1 more than 1 second. In DS1, under different setting condition, outdoor unit will perform "cooling" test run or "heating" test run.

DS1				Operation mode
1	2	3	4	
ON	OFF	×	×	"Cooling" test run
ON	ON	×	×	"Heating" test run
OFF	OFF	×	×	PUMP DOWN

(Must first select "cooling" mode.)

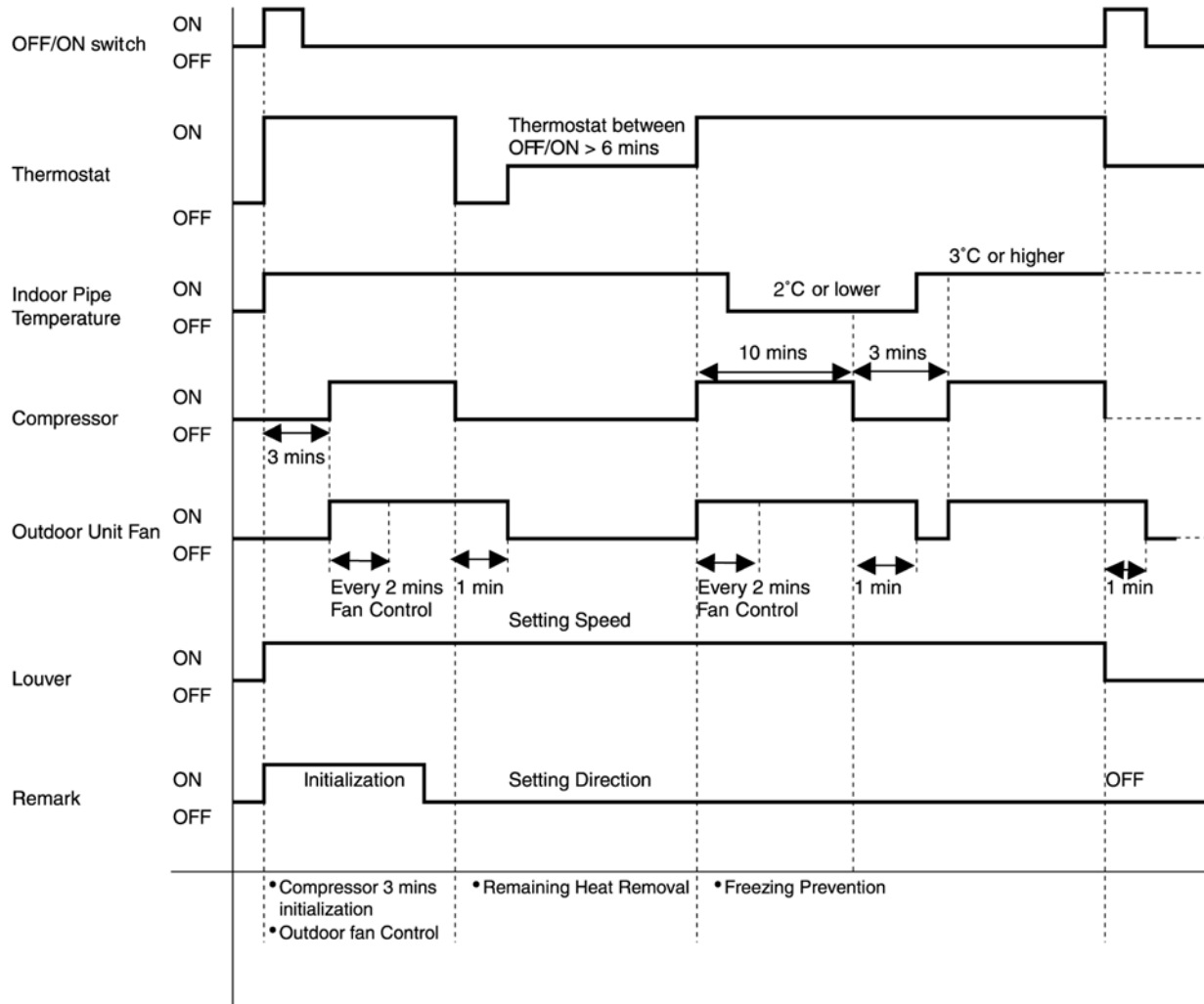
- \* When operation mode changes, the compressor stops operation momentary.
- Press SW1 again to cancel test run.
- If outdoor temperature is high during "heating" test run, or low during "cooling" test run, the protection system in the system will be activated within several minutes.



# 12 Operation Control

## 12.1. Cooling Operation

- Cooling operation can be set using remote control.
- This operation is applied to cool down the room temperature reaches the setting temperature set on the remote control.
- Cooling Operation Time Diagram.



## 12.2. Soft Dry Operation

- Soft Dry Operation can be set using remote control.
- Soft Dry operation is applied to dehumidify the room.
- When operation begins, the fan speed is fixed at Low speed while cooling operation is running until reaches the remote control setting temperature.

## 12.3. Auto Operation

- Automatic Mode can be set using remote control.
- This operation starts to judge the intake air temperature, setting temperature, and outdoor piping temperature. Then the unit starts to operate at determined operation mode.

## 12.4. Thermostat Control

- Depending on differences between room temperature and setting temperature, compressor operation is decided and starts operation.
- If temperature difference matches values shown below, thermostat switches off.

Cooling	0°C
Soft Dry	-1.0°C

## 12.5. Indoor Fan Control

### 12.5.1. Manual Fan Speed

- Fan operation can be set using remote control.
- The indoor fan is operated at High, Medium or Low speed according to remote control setting.

■	■■■	■■■■■
Low	Medium	High

### 12.5.2. Auto Fan Speed

- According to room temperature and setting temperature, indoor fan speed is determined automatically.
- The indoor fan will operate according to pattern below.



### 12.5.3. Feedback Control

- Immediately after the fan motor is started, feedback control is performed once every second.
- During fan motor on, if fan motor feedback  $\geq 2550$  rpm or  $< 50$  rpm continuously for 10 seconds, the fan motor error counter increased; fan motor is then stopped and restarted. If the fan motor error counter increased to 7, then fan motor error is detected. Operation stopped and could not be restarted.

## 12.6. Outdoor Fan Operation

- Outdoor fan speed changes according to outdoor pipe temperature.
- The fan speed is controlled by the timing of turning the outdoor fan ON and OFF within an interval.
- There unit compares current temperature (T2) with previous (2 seconds before) temperature (T1) and decides the outdoor fan ON time (X).

Judgement	Outdoor fan ON time (X)
$45^{\circ}\text{C} < T2$	$X = X + 100\text{ms}$
$40^{\circ}\text{C} \leq T2 < 45^{\circ}\text{C} \ \& \ T2 \leq T1$	$X = X + 50\text{ms}$
$40^{\circ}\text{C} \leq T2 < 45^{\circ}\text{C} \ \& \ T2 < T1$	$X = X$
$35^{\circ}\text{C} \leq T2 < 40^{\circ}\text{C}$	$X = X$
$30^{\circ}\text{C} \leq T2 < 35^{\circ}\text{C} \ \& \ T2 \leq T1$	$X = X - 50\text{ms}$
$30^{\circ}\text{C} \leq T2 < 35^{\circ}\text{C} \ \& \ T2 < T1$	$X = X$
$T2 < 30^{\circ}\text{C}$	$X = X - 50\text{ms}$

Outdoor fan ON time (X) is a variable with the range of 200ms to 1600ms or continuously ON.

- Every 2 minutes, the outdoor pipe temperature is detected and the outdoor unit fan speed is changed automatically.

## 12.7. Odour Cut Control

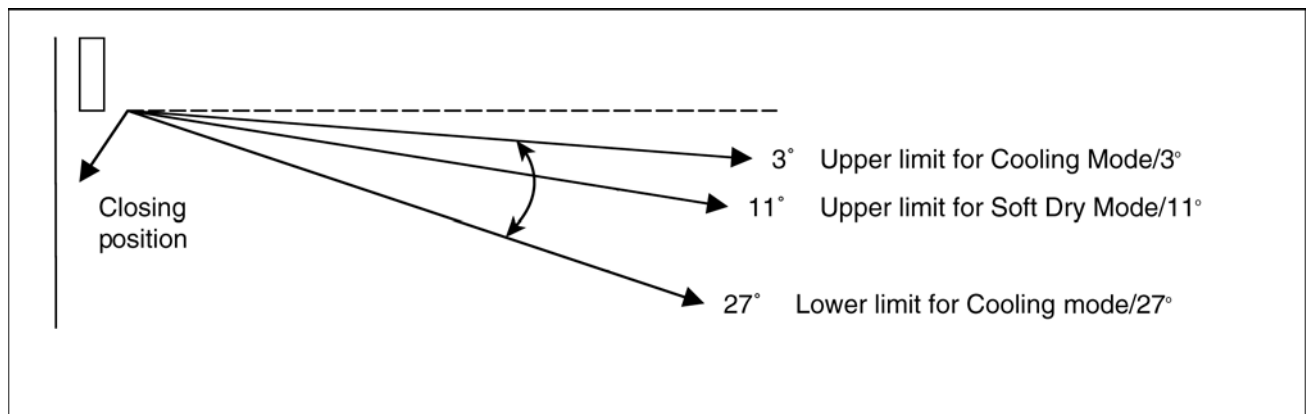
- Odour cut operation removes the odour generated at indoor heat exchanger by using drain water come out from indoor heat exchanger.
- Press “Odour” button at remote control to enable odour cut operation.
- Odour cut operation starts when compressor or thermostat is on.

Thermostat & Compressor ON/OFF	Thermostat & Compressor ON			Thermostat & Compressor OFF			Thermostat & Compressor ON		
Time	40 sec.	50sec.	-	20 sec.	160 sec.	20 sec.	40 sec.	50 sec.	-
Cooling	Off	SSLo	Normal Operation	SSLo	Off	SSLo	Off	SSLo	Normal Operation
Soft Dry	Off	SSLo	SLo	SSLo	Off	SSLo	Off	SSLo	SLo

## 12.8. Vertical Airflow Direction Control

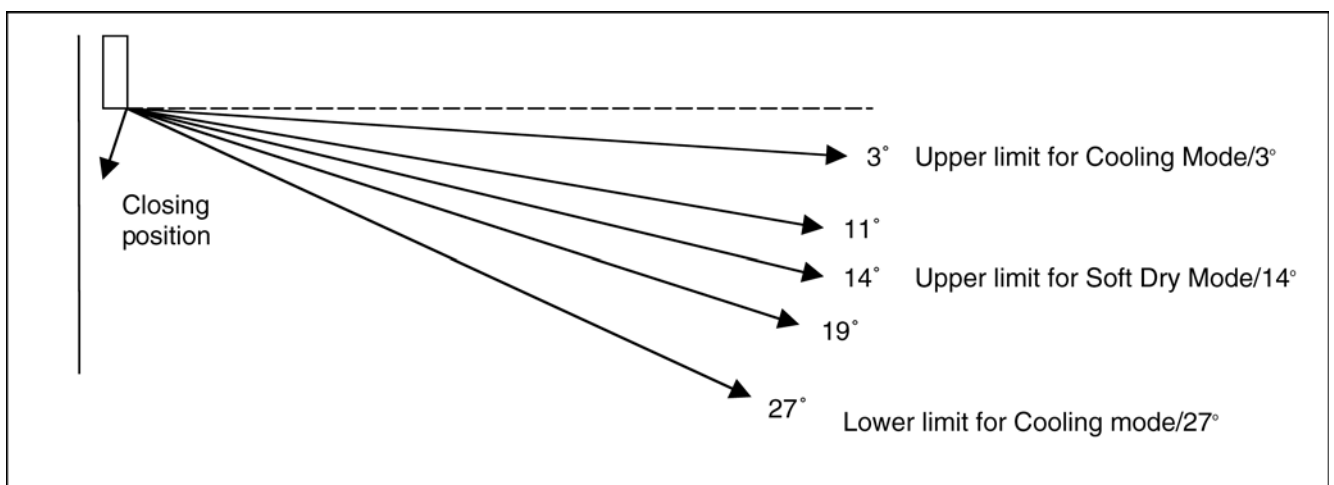
### Auto Control

- When the vertical airflow direction is set to Auto using the remote control, the louver swings up and down as shown in the diagram.
- When stop operation using the remote control, the discharge vent is reset, and stop at the closing position.
- During Cooling operation or Soft Dry operation, indoor fan motor may stop to rotate at certain periods. At that condition, the louver will stop swinging and rest at the upper limit.



### Manual Control

- When the vertical airflow direction is set to Manual using the remote control, the automatic airflow is released and the airflow direction louver move up and down in the range shown in the diagram.
- The louver can be adjusted by pressing the button to the desired louver position.
- When stop operation using the remote control, the discharge vent is reset, and stop at the closing position.



## 12.9. Horizontal Airflow Direction Control

- The horizontal airflow direction louvers can be adjusted manually by hand.

# 13 Protection Control

## 13.1. Restart Control (Time Delay Safety Control)

- When the thermo-off temperature (temperature which compressor stops to operate) is reached, the compressor stops for 3 minutes (minimum) before resume operation.
- If the operation is stopped by the remote control, the compressor will not turn on within 3 minutes from the moment operation stop, although the unit is on again within the period.
- This phenomenon is to balance the pressure inside the refrigerant cycle.

## 13.2. Freeze Prevention Control

- After compressor starts operation for 4 minutes, the outdoor unit will stop its operation if indoor pipe temperature falls below 2°C for 6 minutes.
- After 3 minutes stops, compressor restarts operation if indoor pipe temperature is 3°C or more.
- This phenomenon is to protect the indoor heat exchanger from freezing and to prevent higher volume of refrigerant in liquid from returning to the compressor.

## 13.3. Dew Form Prevention Control

- During Cooling Operation, dew form prevention control activates if:
  - Indoor temperature falls between 24°C and 30°C.
  - Compressor and thermostat is ON.
  - Indoor fan speed is Low speed.
  - Setting temperature is less than 25°C.
  - During dew form prevention control, the louver is fixed at 30°.
- Fan speed and angle of horizontal louver (vertical airflow angle) will be adjusted accordingly in this control.
  - Fan speed will be increased slowly if the unit is in quiet mode but no change in normal cooling mode.
  - The angle of horizontal louver will be changed as below figure.

Operation Mode		Airflow direction auto-control	Airflow direction manual control
Cooling, Soft Dry	A	3° ~ 27°	3°, 11°, 19°, 27°
	B	11° ~ 19°	11°, 14°, 17°, 19°

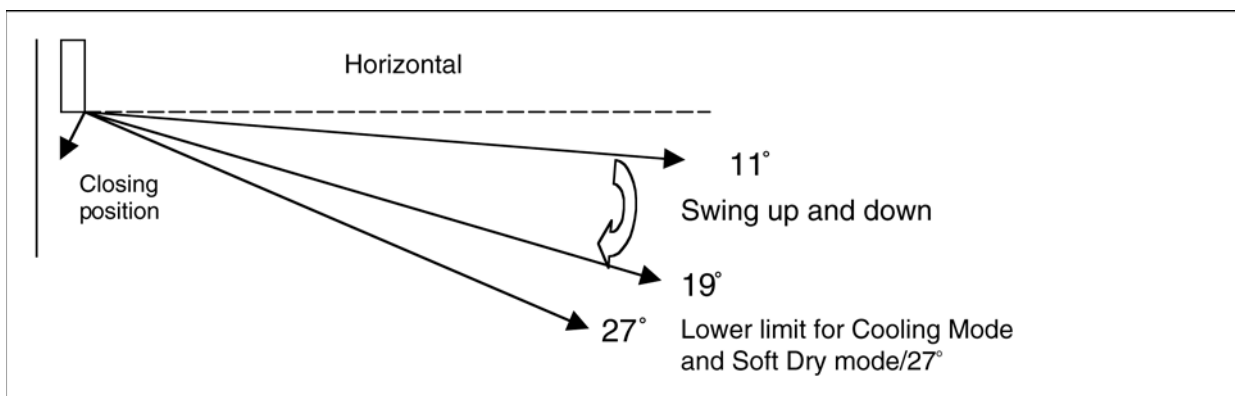
Note:

A = Normal operation angle of rotation

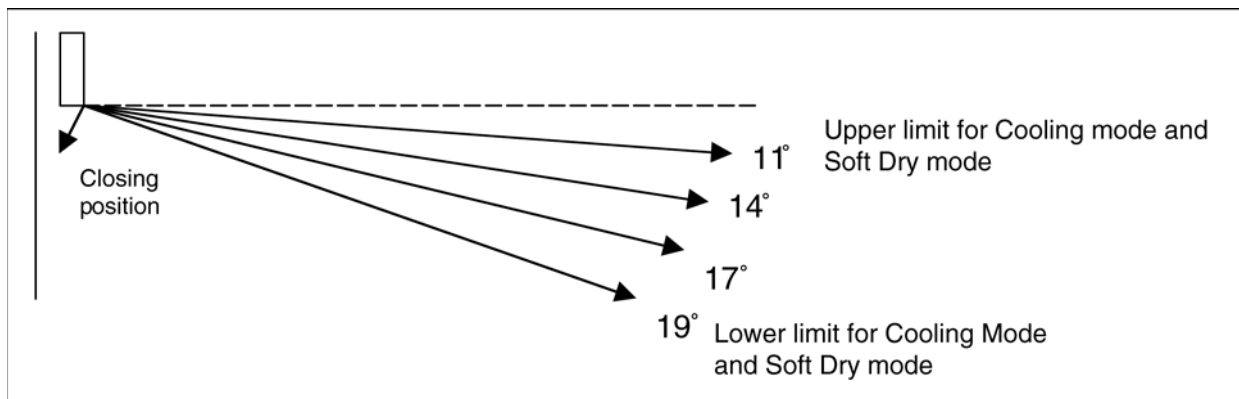
B = Dew prevention angle of rotation

Horizontal Louver Angle

During dew prevention, the horizontal louver angle in Auto-control are as below figure.



During dew prevention, the horizontal louver angle in Manual are as below figure.



- Dew prevention control will be cancel when:
  - Any one of the condition above does not comply.

### 13.4. Outdoor Fan Residual Heat Removal Control

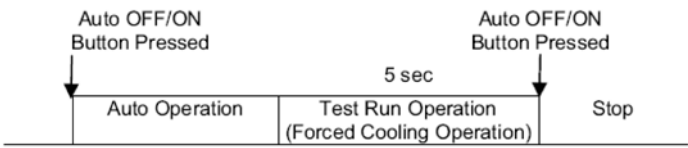
- When the compressor stops to operate, the outdoor fan motor continue to operate for 60 seconds before stops operation.
- This phenomenon is to extract the heat residual at outdoor heat exchanger.

### 13.5. 3-way Valve Error

- This control is to protect the compressor.
- Valve error is detected when:
  - Power is on for the first time and within 5 minutes from compressor starts (However, the unit is considered power on for first time when compressor starts operating continuously for 5 minutes).
  - Indoor heat exchanger temperature at compressor start -  $3^{\circ}\text{C} < \text{current indoor heat exchanger temperature}$  for 3 minute.
- Indoor suction temperature -  $3^{\circ}\text{C} < \text{current heat exchanger temperature}$  for 3 minutes.

# 14 Servicing Mode

## 14.1. Auto OFF/ON Button



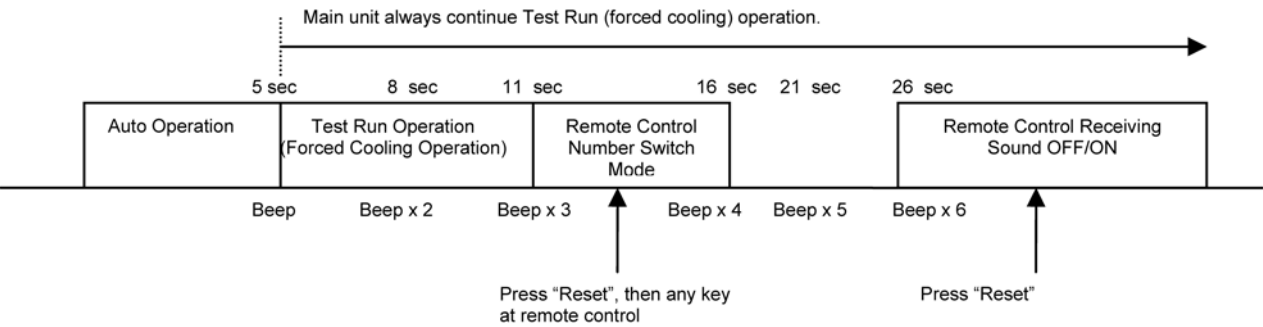
### 1. AUTO OPERATION MODE

The Auto operation will be activated immediately once the AUTO OFF/ON button is pressed. This operation can be used to operate air conditioner with limited function if remote control is misplaced or malfunction.

### 2. TEST RUN OPERATION (FOR PUMP DOWN/SERVICING PURPOSE)

The Test Run operation will be activated if the AUTO OFF/ON button is pressed continuously for more than 5 seconds. A "beep" sound will occur at the fifth seconds, in order to identify the starting of this operation.

The AUTO OFF/ON button may be used together with remote control to set/change the advance setting of air conditioner operation.




### 3. REMOTE CONTROL NUMBER SWITCH MODE

The Remote Control Number Switch mode will be activated if the AUTO OFF/ON button is pressed continuously for 11 seconds (3 "beep" sounds will occur at the 11th seconds to identify the Remote Control Number Switch mode is in standby) and press "RESET" button and then press any button at remote control to transmit and store the desired transmission code to the EEPROM.

There are 4 types of remote control transmission code could be selected. The indoor unit will only operate when received signal with same transmission code from remote control. This could prevent signal interference when there are 2 or more units installed nearby together.

To change remote control transmission code, short or open jumpers at the remote control printed circuit board.

Remote Control Printed Circuit Board	Transmission Code Combination		
	J - A	J - B	Remote Control No.
	Short	Open	A (Default)
	Open	Open	B
	Short	Short	C
	Open	Short	D

### 4. REMOTE CONTROL RECEIVING SOUND OFF/ON MODE

The Remote Control Receiving Sound OFF/ON mode will be activated if the AUTO OFF/ON button is pressed continuously for more than 26 seconds (6 "beep" sounds will occurs at 26th seconds to identify the Remote Control Receiving Sound OFF/ ON mode is in standby condition) and press "Reset" button at remote control.

Press AUTO OFF/ON button to toggle remote control receiving sound.

- Short "beep": Turn ON remote control receiving sound.
- Long "beep": Turn OFF remote control receiving sound.



After AUTO OFF/ON button is pressed, the 20 seconds counter for Remote Control Receiving Sound OFF/ON mode is restarted.

## **14.2. Remote Control Button**

### **14.2.1. SET**

- To change the type of remote control transmission signal (there are totally four types of transmission codes).
  - Modify the jumper (back of PCB) & connector (front of PCB) at remote control PCB.
  - Press with pointer for more than 10 seconds.
  - Face the transmitter towards indoor unit receiver and press the timer SET button (to send the signal) or if the timer SET button is not pressed for 30 seconds, the setting mode is cancelled.
  - Press timer CANCEL button to exit the setting mode.

### **14.2.2. CLOCK**

- To change the remote control's clock-hour and minute.
  - Press once to enter the clock setting mode.
  - Use timer increment button timer decrement button to change the time.
  - Press once again to exit the setting mode.
- To change the time format (24 hours & 12 hours timer display).
  - Press for more than 5 seconds.

### **14.2.3. RESET**

- To clear and restore the remote control setting to factory default.
  - Press for once to clear the memory.

### **14.2.4. TIMER “▲”**

- Press continuously for 5 seconds, LED intensity for Remote Control dimmer code is transmitted.
- Above condition will not happen when Timer is set.

### **14.2.5. TIMER “▼”**

- Press continuously for 10 seconds, set the operation and display changes as Celsius or Fahrenheit.
- Above condition will not happen when Timer is set.

# 15 Troubleshooting Guide

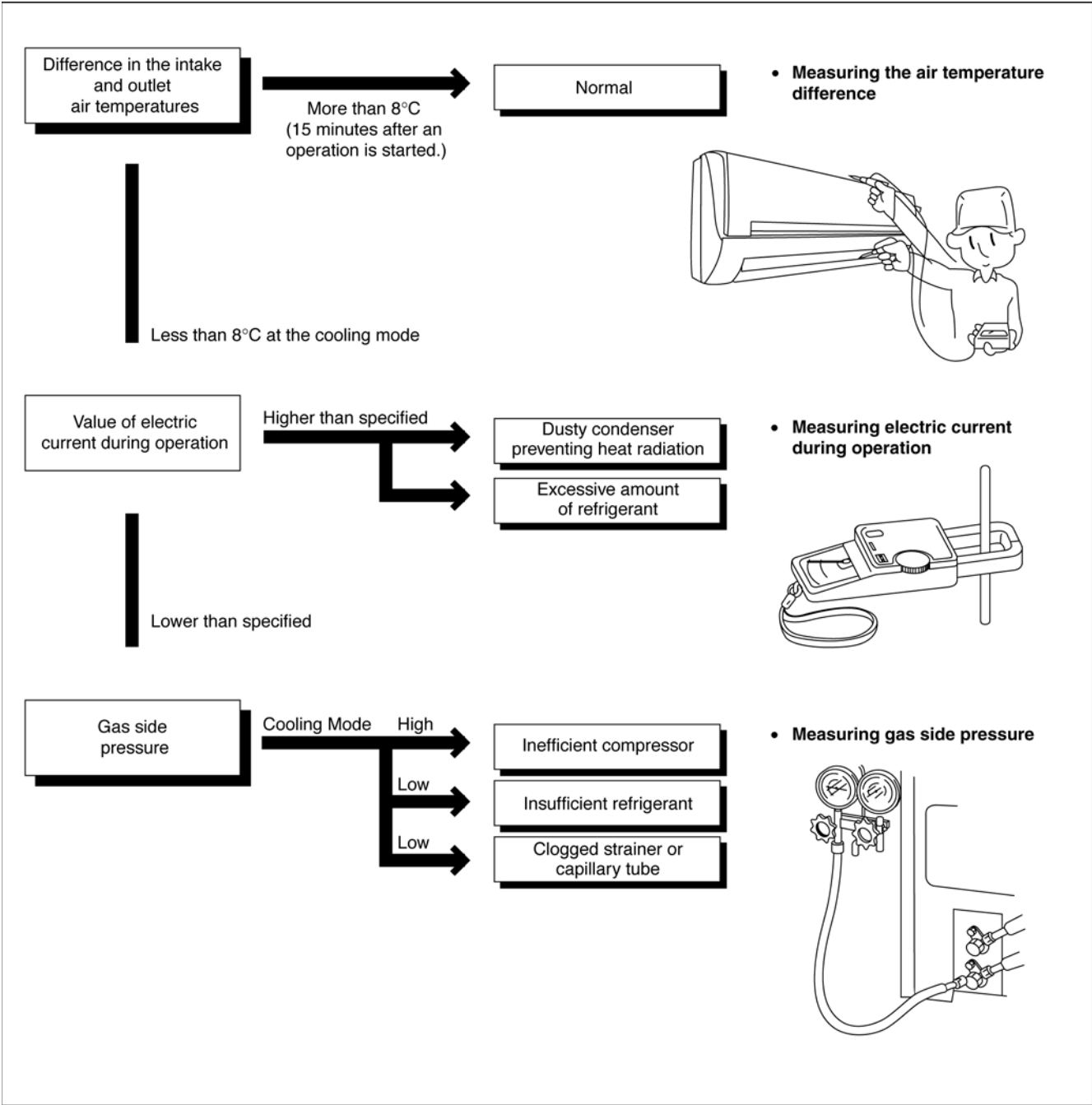
## 15.1. Refrigeration Cycle System

In order to diagnose malfunctions, make sure that there are no electrical problems before inspecting the refrigeration cycle. Such problems include insufficient insulation, problem with the power source, malfunction of a compressor and a fan. The normal outlet air temperature and pressure of the refrigeration cycle depends on various conditions, the standard values for them are shown in the table on the right.
















Normal Pressure and Outlet Air Temperature (Standard)

	Gas pressure Mpa (kg/cm <sup>2</sup> G)	Outlet air temperature (°C)
Cooling Mode	0.4 ~ 0.6 (4 ~ 6)	12 ~ 16

\* Condition: Indoor fan speed; High  
Outdoor temperature: 35°C



## 15.2. Relationship Between The Condition Of The Air Conditioner And Pressure And Electric Current

Condition of the air conditioner	Cooling Mode		
	Low Pressure	High Pressure	Electric current during operation
Insufficient refrigerant (gas leakage)			
Clogged capillary tube or Strainer			
Short circuit in the indoor unit			
Heat radiation deficiency of the outdoor unit			
Inefficient compression			

- Carry out the measurements of pressure, electric current, and temperature fifteen minutes after an operation is started.

## 15.3. Diagnosis Methods Of A Malfunction Of A Compressor

Nature of fault	Symptom
Insufficient compressing of a compressor	<ul style="list-style-type: none"> <li>• Electric current during operation becomes approximately 20% lower than the normal value.</li> <li>• The discharge tube of the compressor becomes abnormally hot (normally 70 to 90°C).</li> <li>• The difference between high pressure and low pressure becomes almost zero.</li> </ul>
Locked compressor	<ul style="list-style-type: none"> <li>• Electric current reaches a high level abnormally, and the value exceeds the limit of an ammeter. In some cases, a breaker turns off.</li> <li>• The compressor has a humming sound.</li> </ul>

## 15.4. Error Code Table

### 15.4.1. Self-diagnosis function

1. The self-diagnosis LEDs (red) on the outdoor unit printed circuit board can be used to indicate where the location of a problem is.

Refer to the table below to remove the cause of the problem and then re-start the air conditioner system.

2. If the problem disappears and operation returns to normal, the self-diagnosis LED will remain illuminated until operation is resumed.

●... flashing blank off    ○... light off    ✕...illuminated

3. When the Timer LED at indoor unit signal receiver flashes, it indicates there is error.

4. Diagnosis functions which are not applicable for this model is marked ★.

	Outdoor unit printed circuit board LED							Location of problem	Check location
	8	7	6	5	4	3	2		
★	✕	○	●	●	●	●	○	Drain level Float switch problem	Drain pump and drain pipe, indoor unit connectors
★	✕	●	○	○	○	○	○	Louver switch problem	Louver motor, decorative panel connection terminal, or indoor unit louver motor connectors
	✕	●	○	○	○	●	●	D. C Fan motor problem	Indoor unit D. C Fan motor or connection terminals
	✕	●	○	●	○	○	○	Indoor temperature sensor problem	Indoor temperature sensor lead wire or indoor unit connector
★	✕	●	○	●	○	○	●	Remote control thermistor problem	Remote control thermistor
	✕	●	○	●	○	●	○	Pipe temp. sensor problem (indoor unit)	Pipe temperature sensor lead wire or indoor unit connector
★	✕	●	●	○	●	○	○	Remote control transmission problem	Remote control unit cable and connection terminals
	✕	●	●	○	●	●	○	Indoor/outdoor unit disconnection problem	Indoor/outdoor unit connection cable and connection terminals, or indoor unit and outdoor unit power supplies (indoor side) (waiting timer approx. 13 minutes)
	✕	●	●	○	●	●	●	Indoor/outdoor unit connection error problem	Indoor/outdoor unit connection wire (indoor side)
	○	○	●	○	●	○	●	Indoor/outdoor unit disconnection problem	Indoor/outdoor unit connection cable and connection terminals, or indoor unit and outdoor unit power supplies (waiting time approx. 13 minutes)
	○	○	●	○	○	○	○	Indoor/outdoor unit connection error problem	Indoor/outdoor unit connection wire
	○	○	●	●	○	○	○	System problem	Total capacity for the number of indoor units is insufficient or over. Check the total capacity and the number of indoor units
★	○	○	●	●	●	○	○	Open phase, or reversed phase of supply	Check the main power supply terminal board connections or switch over any two of the power supply wires
★	○	○	○	○	○	●	○	Suction pressure protection	Insufficient refrigerant
	○	○	○	○	○	○	●	High-pressure cut-off	Check the Refrigeration system
★	○	○	○	●	●	○	○	4 way valve information	Check the 4 way valve or lead wire
	○	○	●	○	●	●	○	3 way valve problem	Check the Refrigeration system
	○	○	○	○	○	●	●	Compressor overcurrent protection	Open phase or lock in compressor
	○	○	○	●	○	●	●	Compressor discharge temp. protection	Insufficient refrigerant
	○	○	○	○	●	○	●	Outdoor heat exchanger outlet temperature sensor problem	Outdoor heat exchanger outlet temperature sensor (EXCHANGER TEMPERATURE SENSOR) lead wire, connector
	○	○	○	○	●	●	○	Compressor discharge temperature sensor problem	Compressor discharge temperature sensor (COMP. TEMPERATURE SENSOR) lead wire, connector
★	○	○	●	●	○	●	●	High pressure switch open circuit problem	High-pressure switch lead wire, connector
★	○	○	●	●	●	○	●	Low pressure sensor problem	Low-pressure sensor lead wire, connector
	○	○	○	●	○	●	○	Current detector open circuit	Outdoor unit P.C.B. fault or connector

## 15.5. Test Run (Forced Cooling Control)

- Test Run can be enable using the switch at the outdoor unit's PCB according to procedure below:
  - Set the DS1 to (Cooling Test Run) mode

DS1		
ON	OFF	
	■	4
	■	3
	■	2
■		1

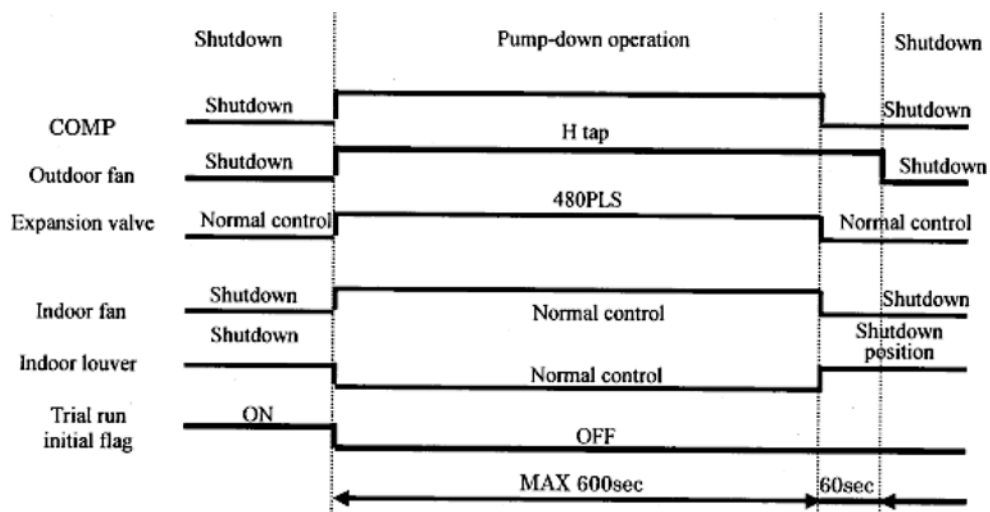
- Press SW1 for 1 second to test run.
- Be sure to select cooling mode first, and run the unit in this mode for 5 minutes or more.
- Test Run can be cancelled by pressing the SW1 at outdoor unit's PCB.

## 15.6. Pump down

- Pump down can be enable using the switch at the outdoor unit's PCB according to procedure below:
  - To enable pump down operation, at outdoor unit's PCB, set the DS1 to OFF position.

DS1		
ON	OFF	
	■	4
	■	3
	■	2
	■	1

- Press Test Run button for 1 second. Pump down performs for 10 minutes.



- Set the liquid side 3-way valve to close position until when the gauge indicates at 0.01a (0.1kg/cm<sup>2</sup>).
- Immediately set the gas side valve to close position and press SW1 to stop the operation.

# 16 Disassembly and Assembly Instructions



## WARNING

High Voltage are generated in the electrical parts area by the capacitor. Ensure that the capacitor has discharged sufficiently before proceeding with repair work. Failure to heed this caution may result in electric shocks.

## 16.1. Indoor Electronic Controllers, Cross Flow Fan and Indoor Fan Motor Removal Procedures

### 16.1.1. To remove front grille

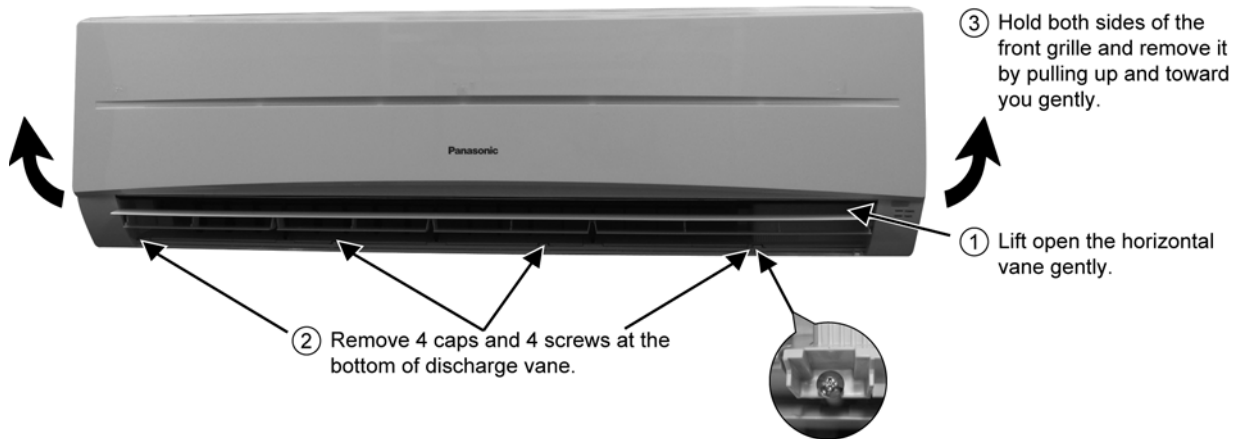


Figure 1

### 16.1.2. To remove electronic controller

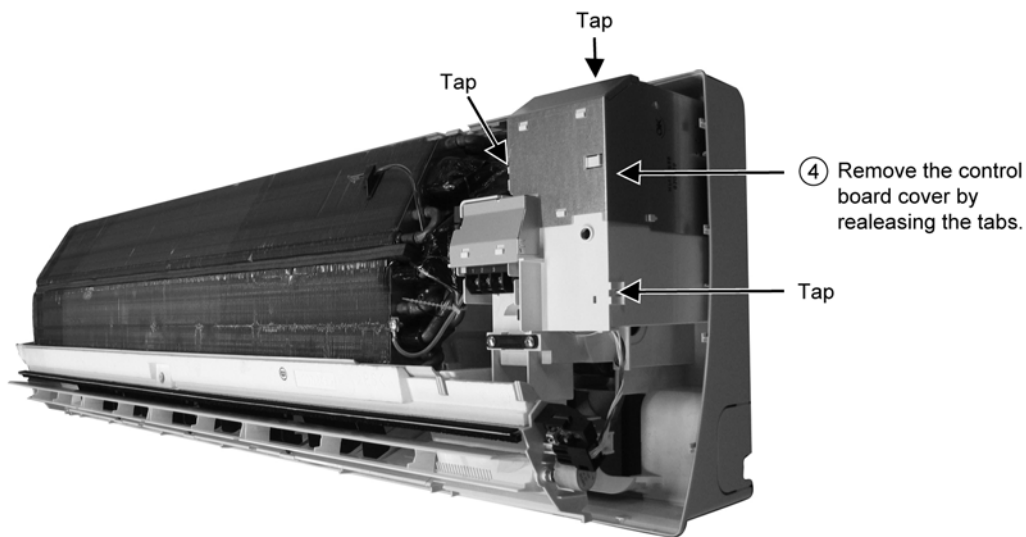


Figure 2

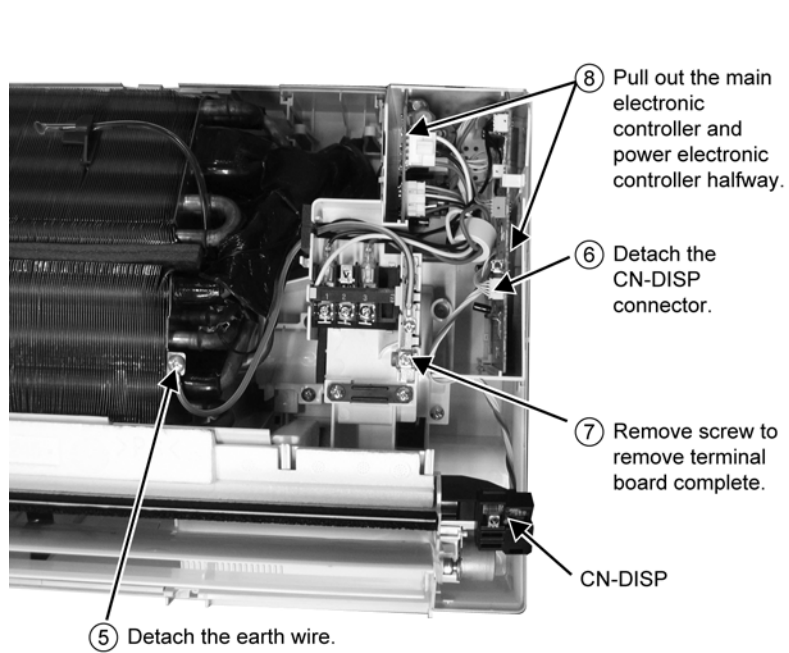


Figure 3

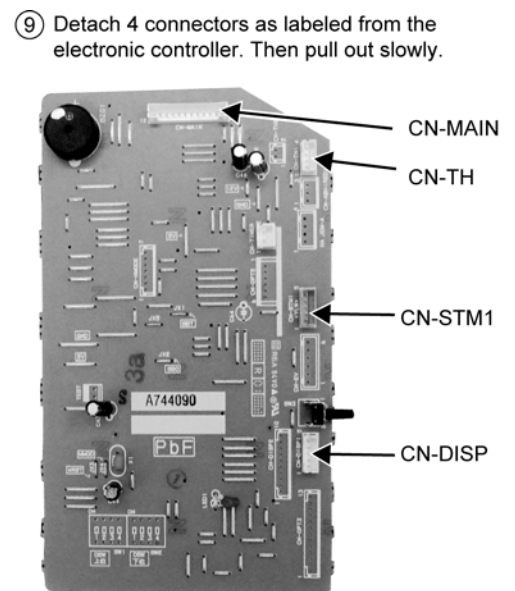


Figure 4

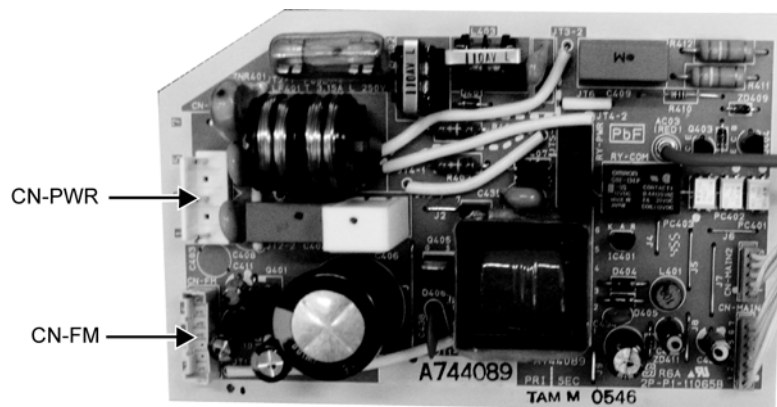


Figure 5

⑩ Detach the CN-PWR and CN-FM connector from the electronic controller. Then, pull out the power electronic controller gently.

### 16.1.3. To remove discharge grille

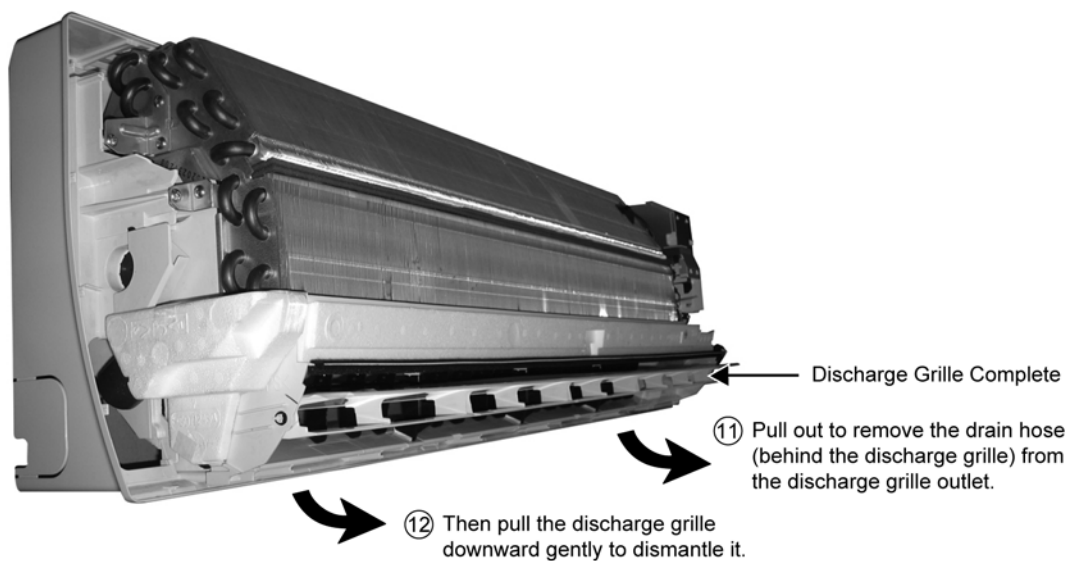


Figure 6

#### 16.1.4. To remove control board

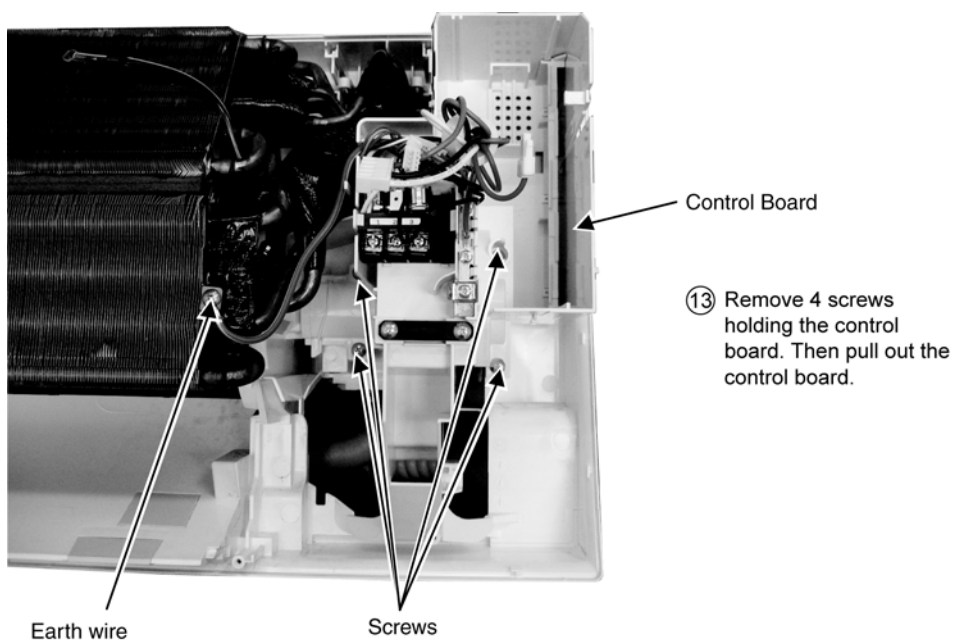


Figure 7

#### 16.1.5. To remove cross flow fan and indoor fan motor

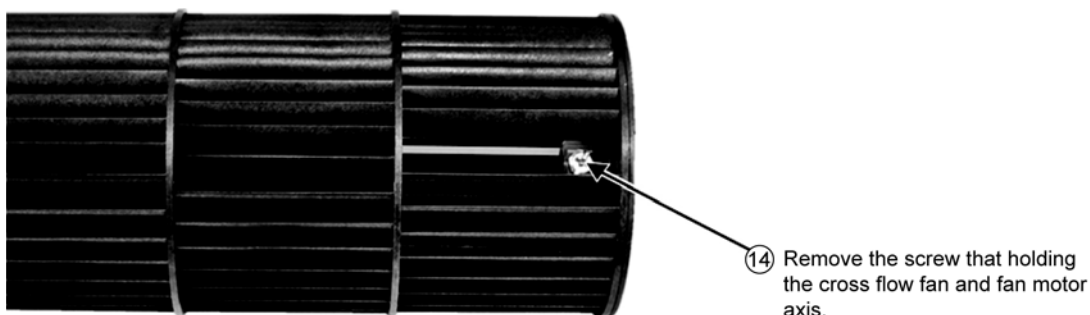


Figure 8

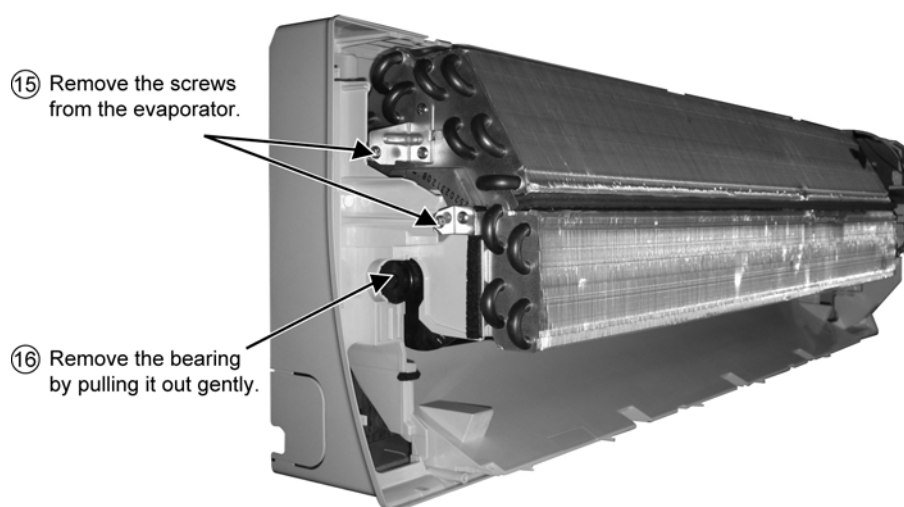


Figure 9



⑪ Push the holdfast to the left and lift up the evaporator.

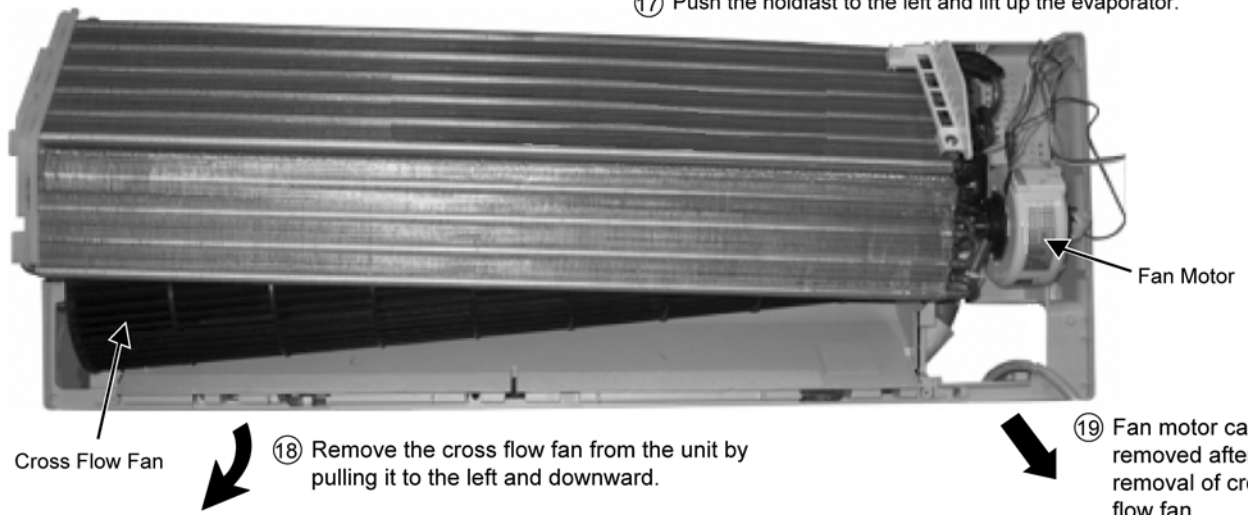
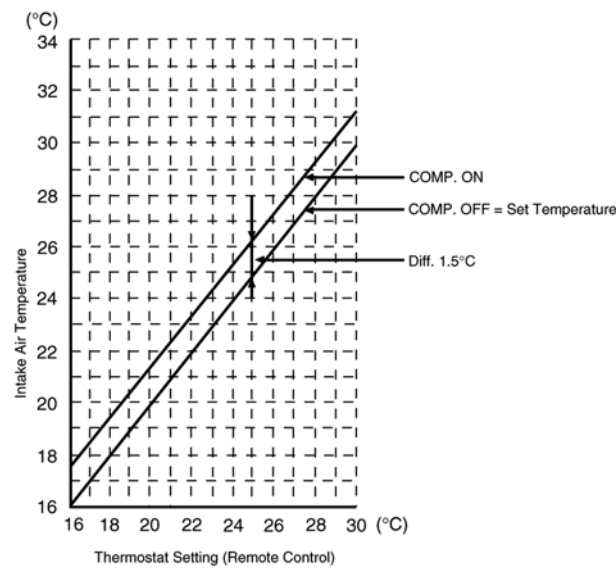


Figure 10

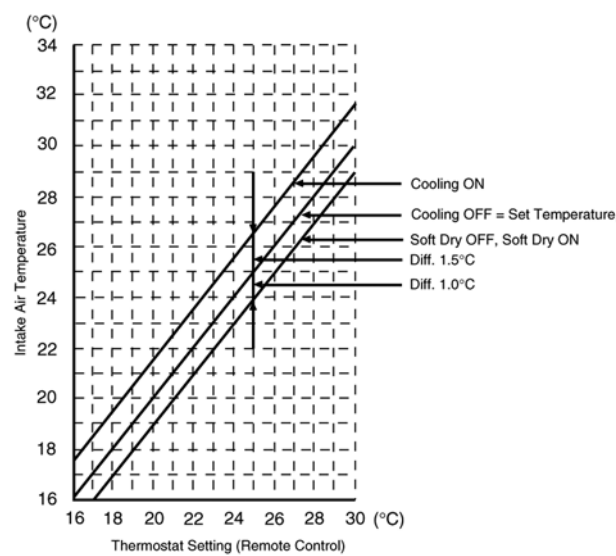
# 17 Technical Data

## 17.1. Thermostat Characteristics

### Cooling



### Soft Dry

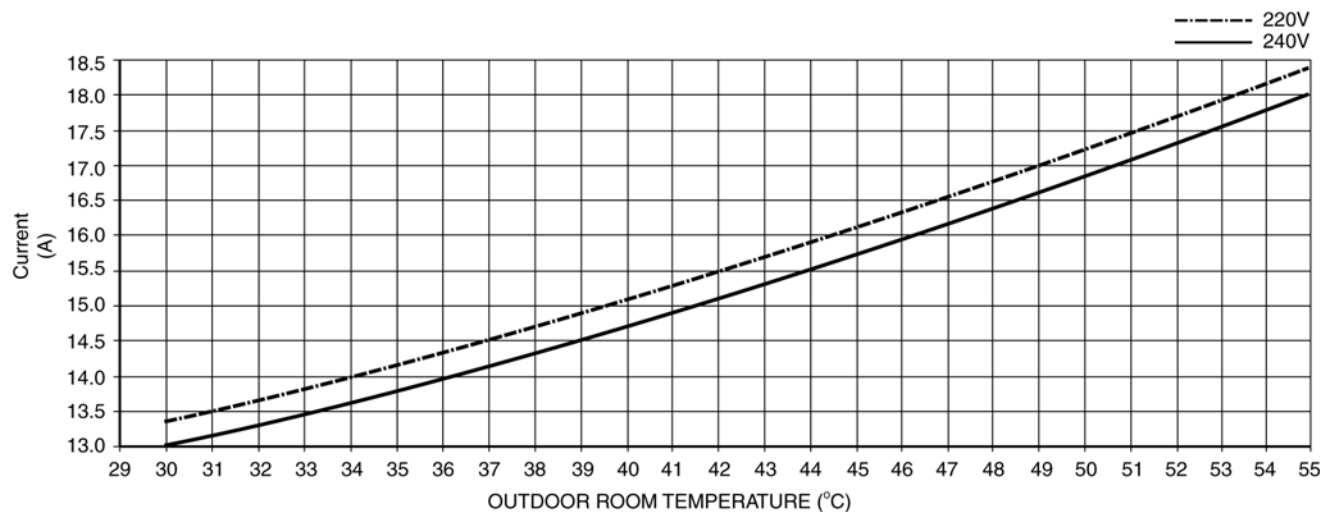
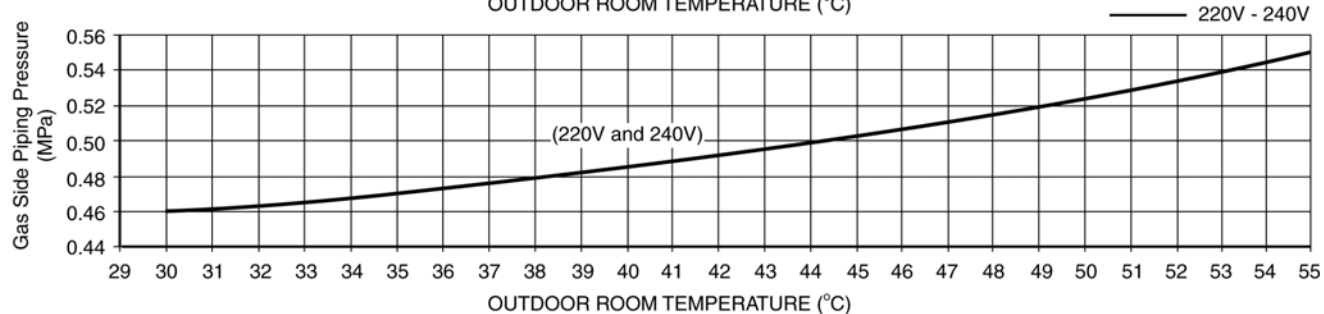
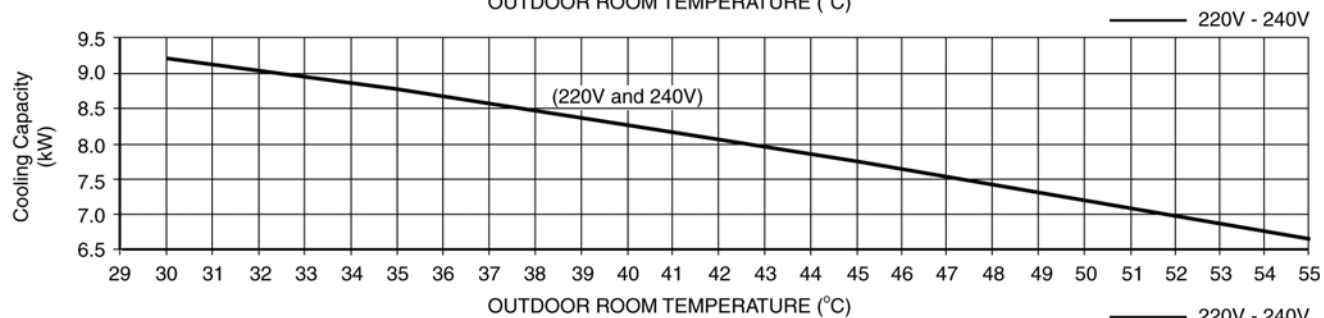
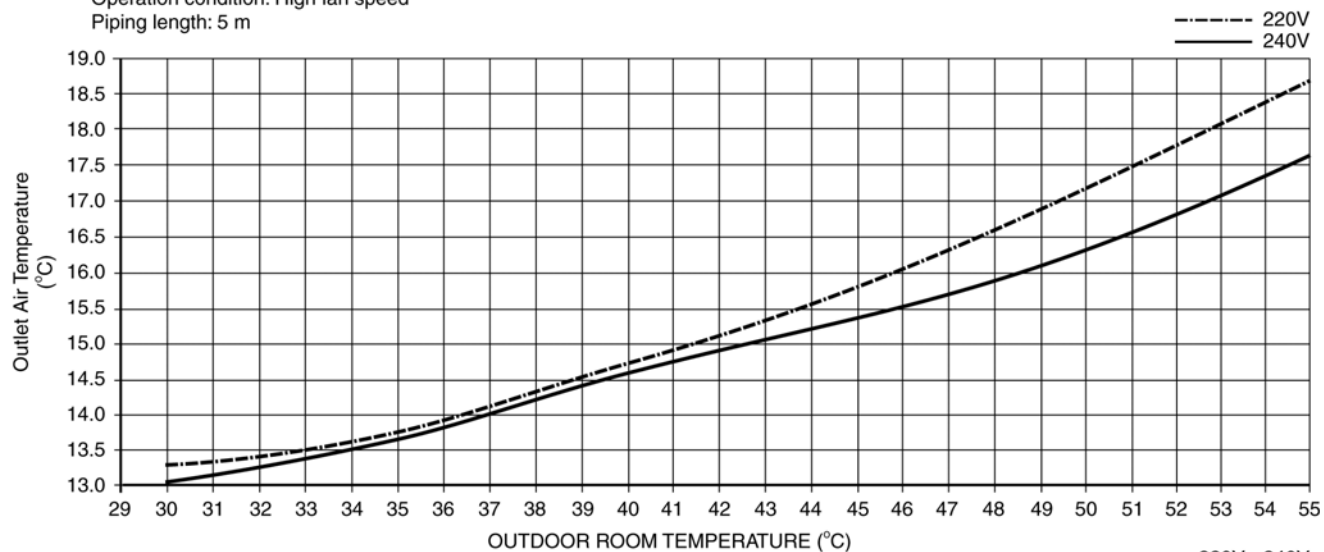


## 17.2. Operation Characteristics

### 17.2.1. CS-PC30JKF CU-PC30JKF

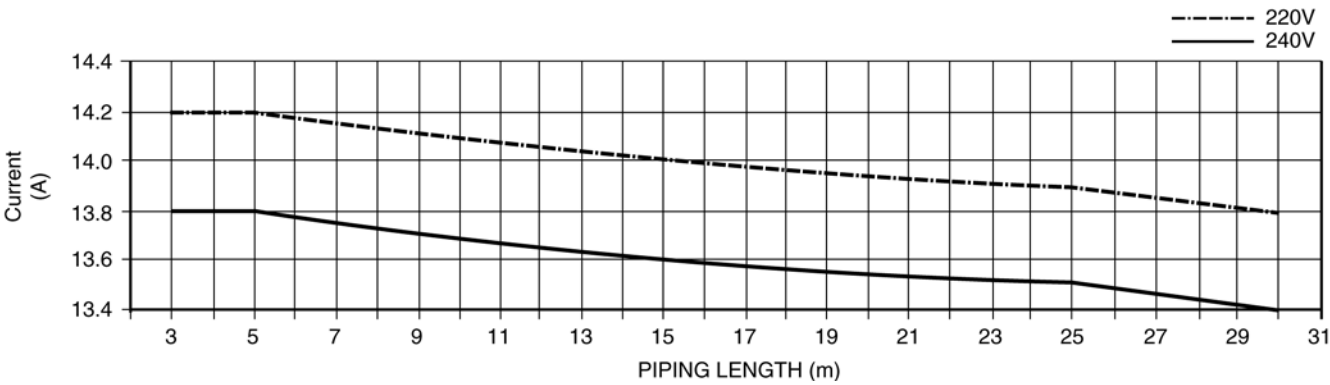
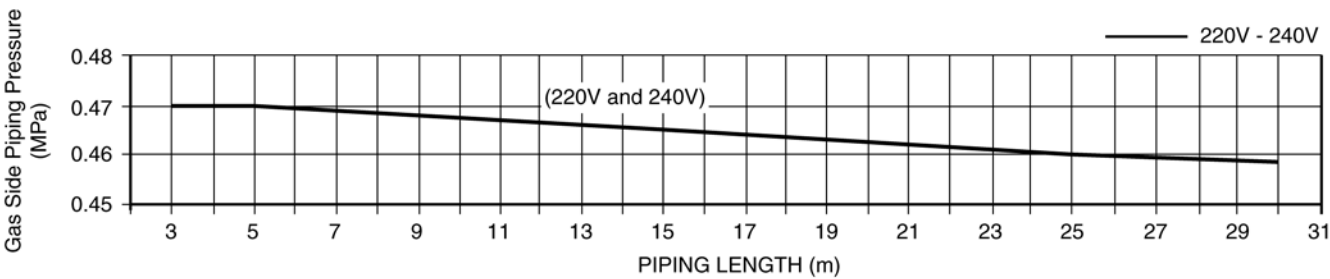
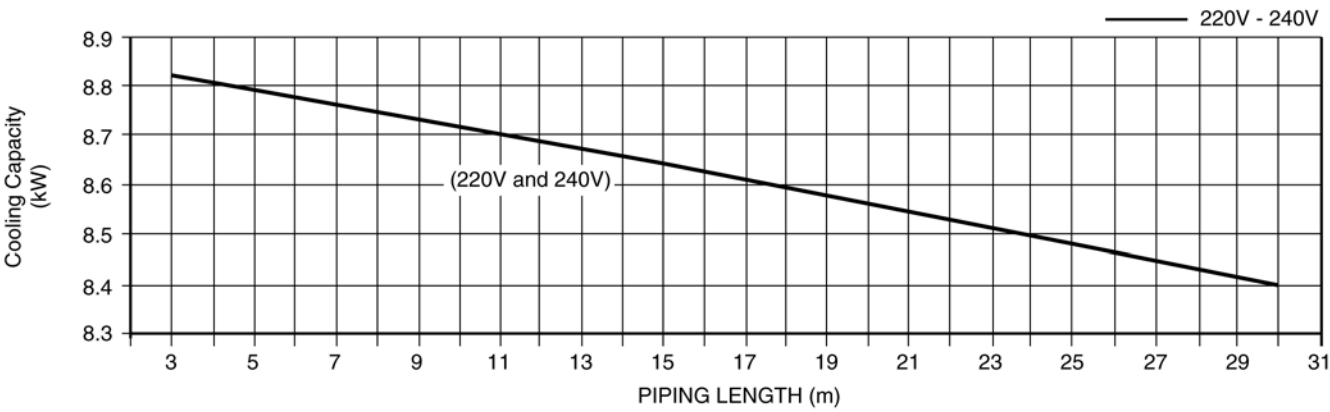
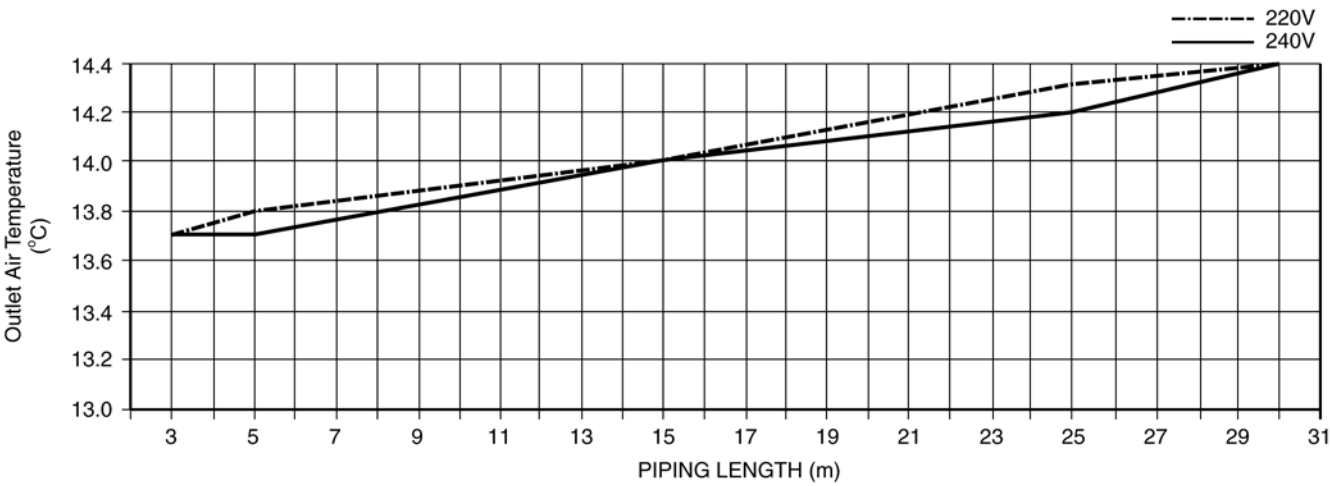
#### Cooling Characteristic

[Condition] Room temperature: 27/19°C  
Operation condition: High fan speed  
Piping length: 5 m



• Piping Length Characteristic

[Condition] Room temperature: 27/19°C  
Operation condition: High fan speed  
Outdoor temperature: 35°C



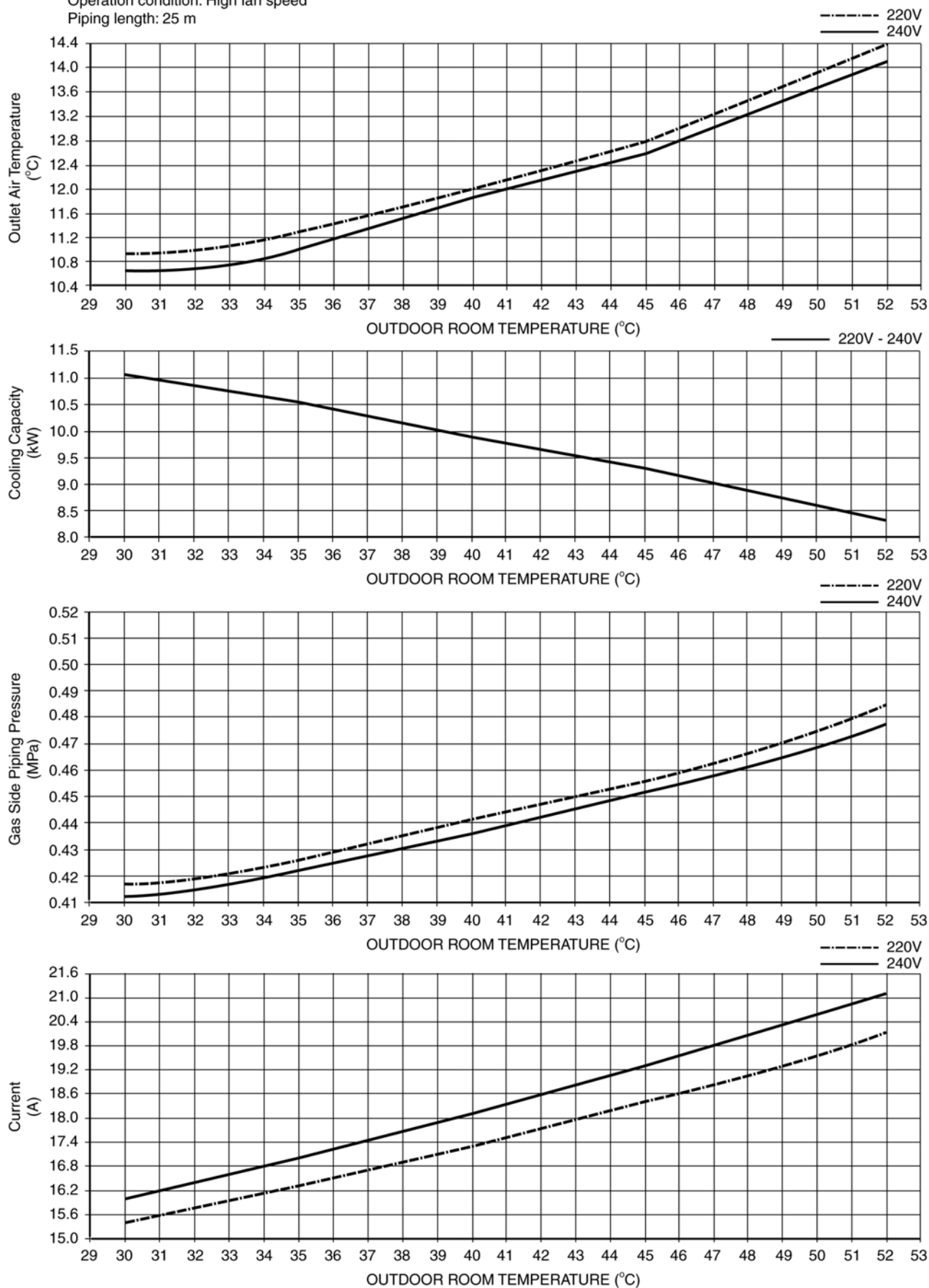
## 17.2.2. CS-PC36JKF CU-PC36JKF

### • Cooling Characteristic

[Condition] Room temperature: 27/19°C

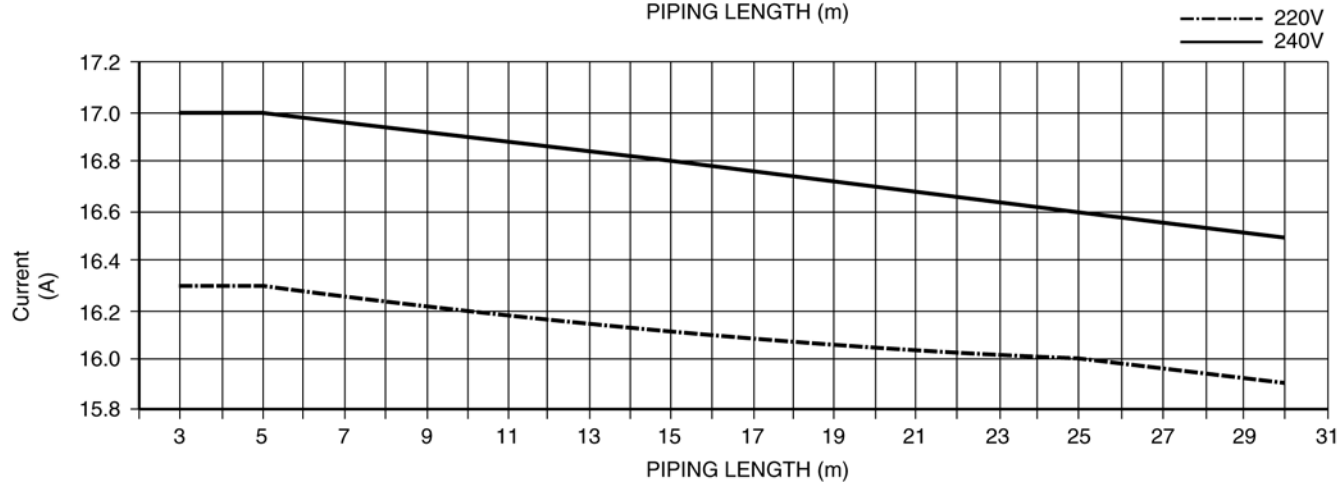
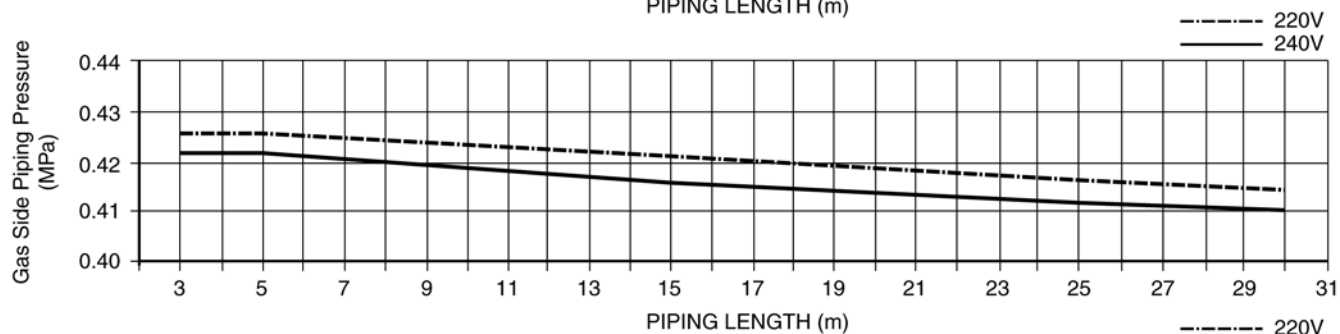
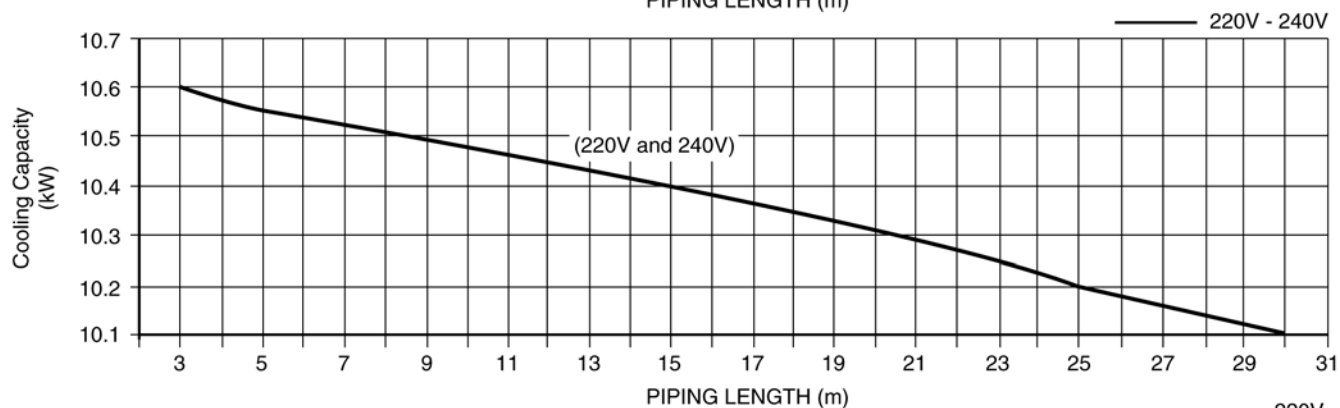
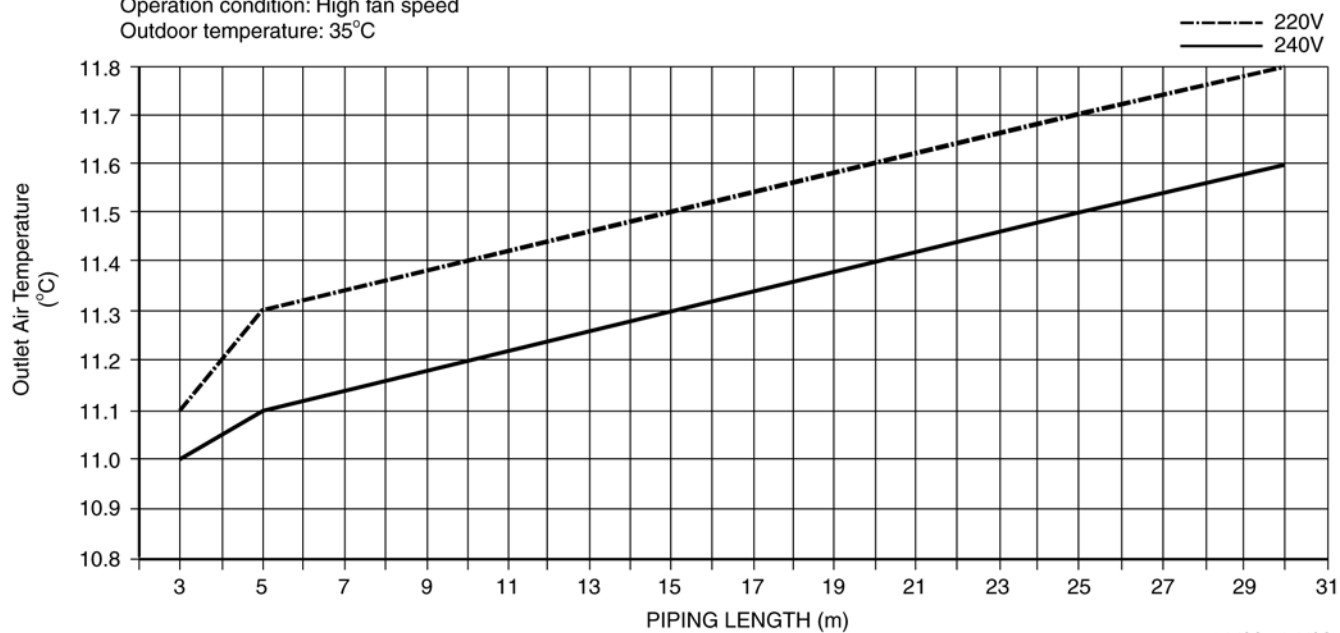
Operation condition: High fan speed

Piping length: 25 m



## • Piping Length Characteristic

[Condition] Room temperature: 27/19°C  
 Operation condition: High fan speed  
 Outdoor temperature: 35°C



## 17.3. Discharge and Suction Pressure

### 17.3.1. CS-PC30JKF CU-PC30JKF

Power source : 220V & 240V, 50Hz, 1 phase

Indoor Wet Bulb Temperature	OUTDOOR AMBIENT TEMPERATURE											
	10°C		20°C		30°C		40°C		50°C		55°C	
	Discharge pressure	Saturate temperature Discharge	Discharge pressure	Saturate temperature Discharge	Discharge pressure	Saturate temperature Discharge	Discharge pressure	Saturate temperature Discharge	Discharge pressure	Saturate temperature Discharge	Discharge pressure	Saturate temperature Discharge
	Mpa	°C	Mpa	°C	Mpa	°C	Mpa	°C	Mpa	°C	Mpa	°C
16	1.29	35.9	1.38	38.6	1.55	43.0	1.85	50.0	2.39	61.2	2.75	67.7
18	1.31	36.7	1.41	39.4	1.59	44.0	1.95	52.4	2.52	63.6	2.99	71.5
20	1.36	38.1	1.46	40.8	1.65	45.5	2.01	53.7	2.6	65.0	3.00	71.7
22	1.39	38.9	1.5	41.8	1.68	46.2	2.03	54.1	2.62	65.3	3.02	72.0

Indoor Wet Bulb Temperature	OUTDOOR AMBIENT TEMPERATURE											
	10°C		20°C		30°C		40°C		50°C		55°C	
	Suction pressure	Saturate temperature Suction	Suction pressure	Saturate temperature Suction	Suction pressure	Saturate temperature Suction	Suction pressure	Saturate temperature Suction	Suction pressure	Saturate temperature Suction	Suction pressure	Saturate temperature Suction
	Mpa	°C	Mpa	°C	Mpa	°C	Mpa	°C	Mpa	°C	Mpa	°C
16	0.39	-0.6	0.40	0.3	0.41	0.9	0.42	1.2	0.56	9.0	0.68	14.5
18	0.40	0.3	0.42	1.2	0.44	2.7	0.45	3.2	0.59	10.4	0.71	15.8
20	0.42	1.2	0.44	2.7	0.47	4.3	0.48	4.9	0.62	11.8	0.73	16.6
22	0.45	3.2	0.47	4.3	0.5	5.7	0.52	7.0	0.65	13.2	0.75	17.4

### 17.3.2. CS-PC36JKF CU-PC36JKF

Power source : 220V & 240V, 50Hz, 1 phase

Indoor Wet Bulb Temperature	OUTDOOR AMBIENT TEMPERATURE											
	10°C		20°C		30°C		40°C		50°C		52°C	
	Discharge pressure	Saturate temperature Discharge	Discharge pressure	Saturate temperature Discharge	Discharge pressure	Saturate temperature Discharge	Discharge pressure	Saturate temperature Discharge	Discharge pressure	Saturate temperature Discharge	Discharge pressure	Saturate temperature Discharge
	Mpa	°C	Mpa	°C	Mpa	°C	Mpa	°C	Mpa	°C	Mpa	°C
16	1.32	36.9	1.37	38.4	1.47	41.0	1.9	51.3	2.47	62.6	2.63	65.5
18	1.35	37.7	1.40	39.2	1.49	41.5	1.92	51.8	2.49	63.1	2.65	65.8
20	1.37	38.4	1.42	39.7	1.53	42.5	1.94	52.2	2.51	63.3	2.67	66.2
22	1.39	38.8	1.44	40.2	1.60	44.3	1.95	52.4	2.53	63.8	2.68	66.3

Indoor Wet Bulb Temperature	OUTDOOR AMBIENT TEMPERATURE											
	10°C		20°C		30°C		40°C		50°C		52°C	
	Suction pressure	Saturate temperature Suction	Suction pressure	Saturate temperature Suction	Suction pressure	Saturate temperature Suction	Suction pressure	Saturate temperature Suction	Suction pressure	Saturate temperature Suction	Suction pressure	Saturate temperature Suction
	Mpa	°C	Mpa	°C	Mpa	°C	Mpa	°C	Mpa	°C	Mpa	°C
16	0.35	-3.1	0.36	-2.4	0.37	-1.5	0.4	0.3	0.52	7.0	0.56	9.0
18	0.36	-2.4	0.38	-0.9	0.4	0.3	0.42	1.2	0.54	7.7	0.57	9.5
20	0.4	0.3	0.41	0.9	0.43	2.1	0.44	2.7	0.56	9.0	0.59	10.4
22	0.42	1.2	0.44	2.7	0.46	3.8	0.48	4.9	0.59	10.4	0.62	11.8

## 17.4. Fan Performance

### 17.4.1. CS-PC30JKF CU-PC30JKF

Item / Model		INDOOR			OUTDOOR
		CS-PC30JKF			CU-PC30JKF
Mode		Hi (220/240)	Me (220/240)	Lo (220/240)	Hi (220/240)
Air Volume	m <sup>3</sup> /min	19.70	17.50	15.30	51.00/56.00
Running Current	A	0.49/0.52	0.40/0.41	0.31/0.33	0.66/0.68
Power Consumption	KW	0.06/0.06	0.04/0.04	0.03/0.03	0.14/0.16
Fan Speed	rpm	1270/1270	1170/1170	1070/1070	685/735

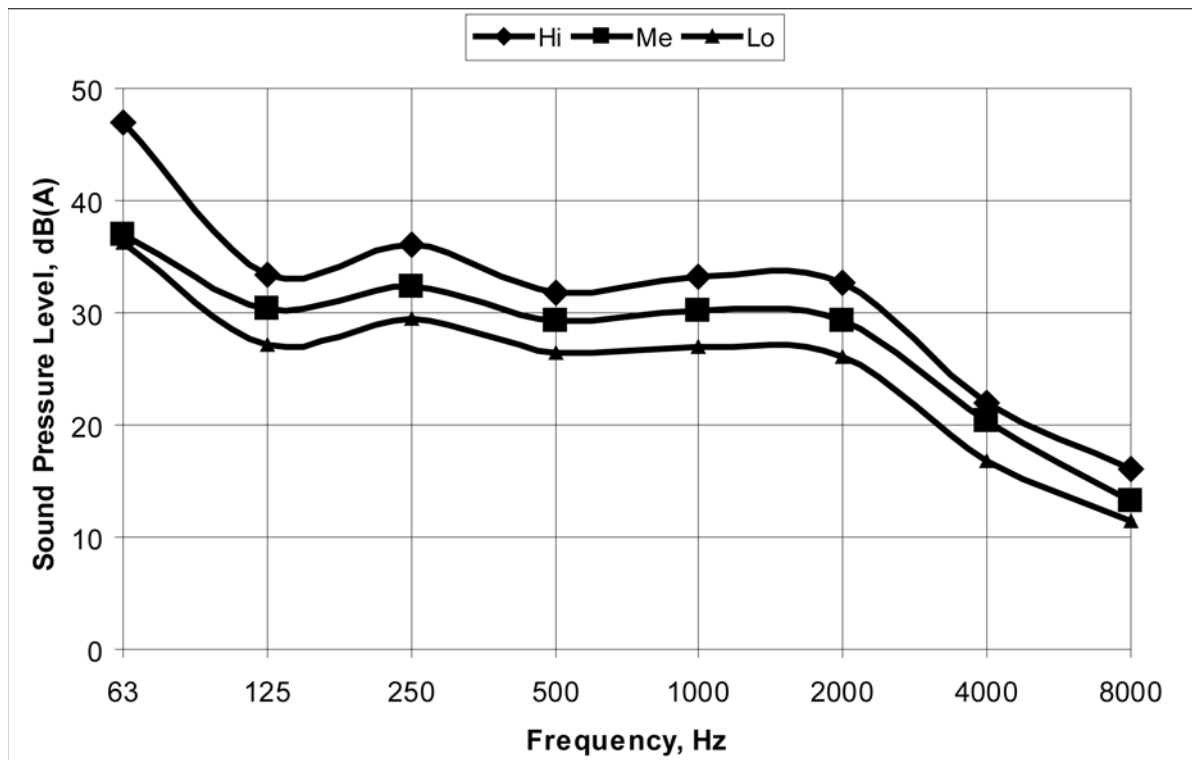
### 17.4.2. CS-PC36JKF CU-PC36JKF

Item / Model		INDOOR			OUTDOOR
		CS-PC36JKF			CU-PC36JKF
Mode		Hi (220/240)	Me (220/240)	Lo (220/240)	Hi (220/240)
Air Volume	m <sup>3</sup> /min	21.00	18.75	16.60	98.50/103.00
Running Current	A	0.52/0.55	0.42/0.44	0.34/0.36	0.55/0.56
Power Consumption	KW	0.06/0.06	0.05/0.05	0.04/0.04	0.12/0.13
Fan Speed	rpm	1320/1320	1220/1220	1120/1120	750/800

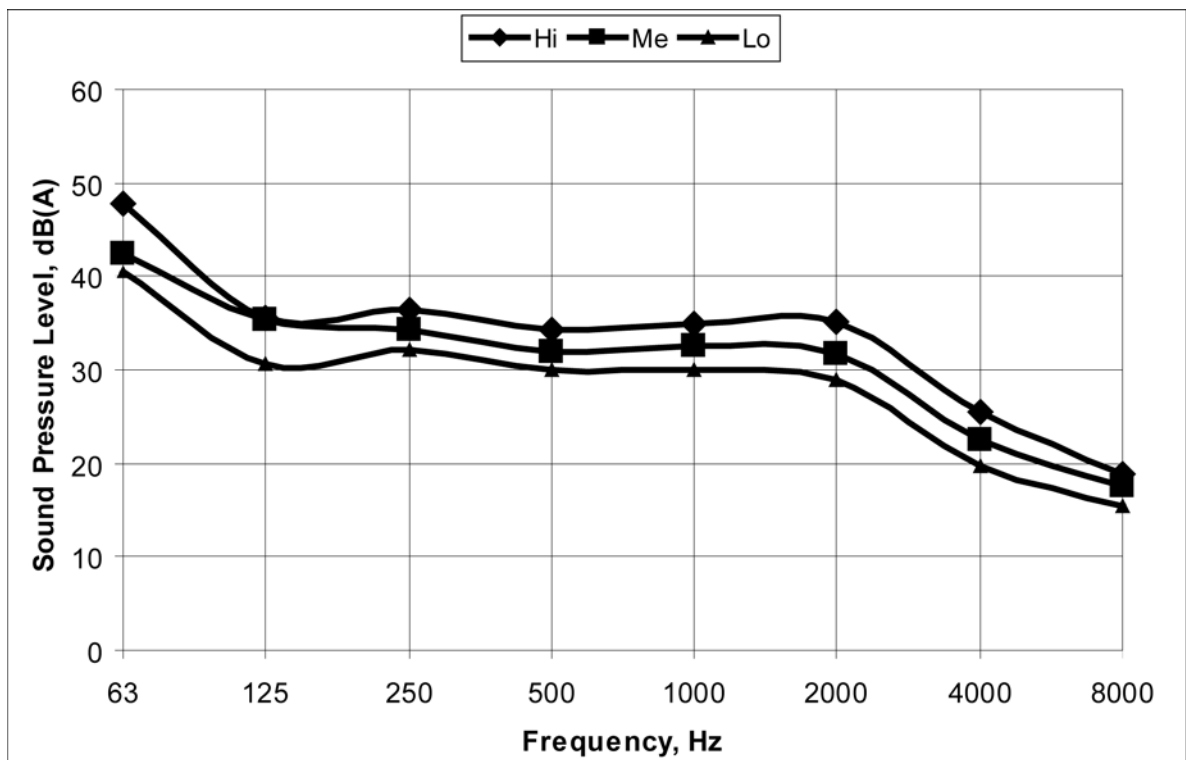


## 17.5. Sound Data

### 17.5.1. CS-PC30JKF CU-PC30JKF



### 17.5.2. CS-PC36JKF CU-PC36JKF

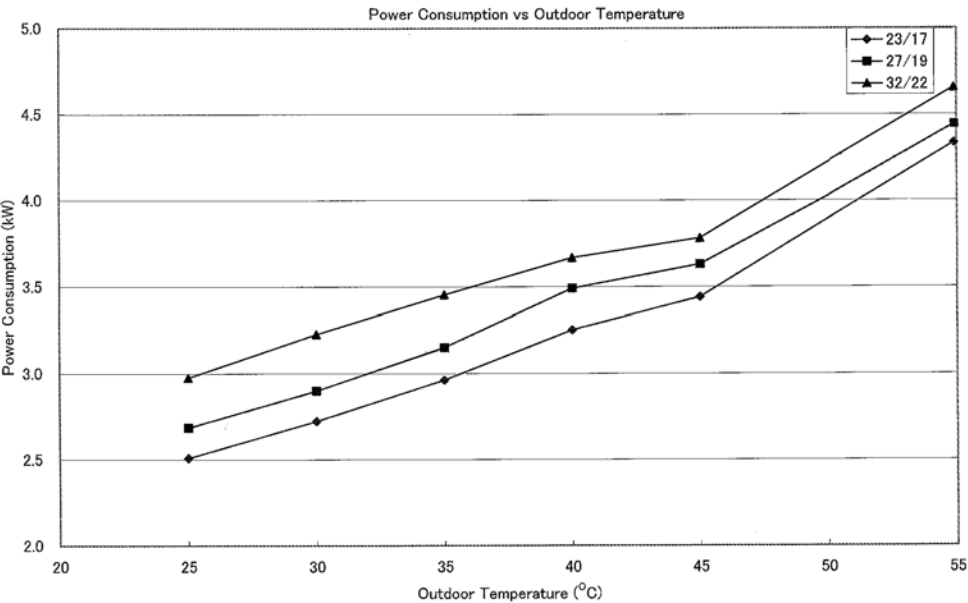
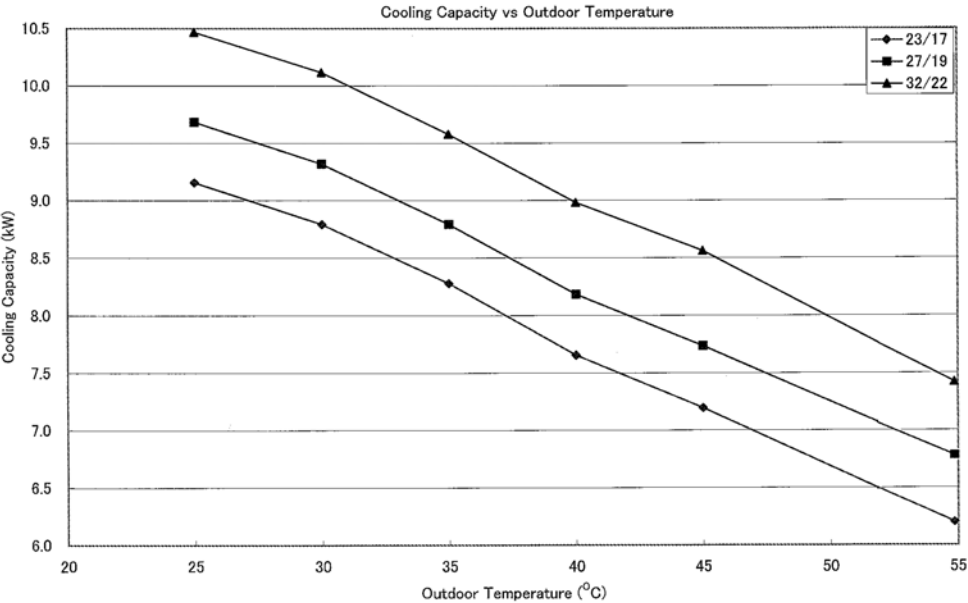


## 17.6. Cooling Capacity Performance Data

### 17.6.1. CS-PC30JKF CU-PC30JKF

Power source : 220V & 240V, 50Hz, 1 phase

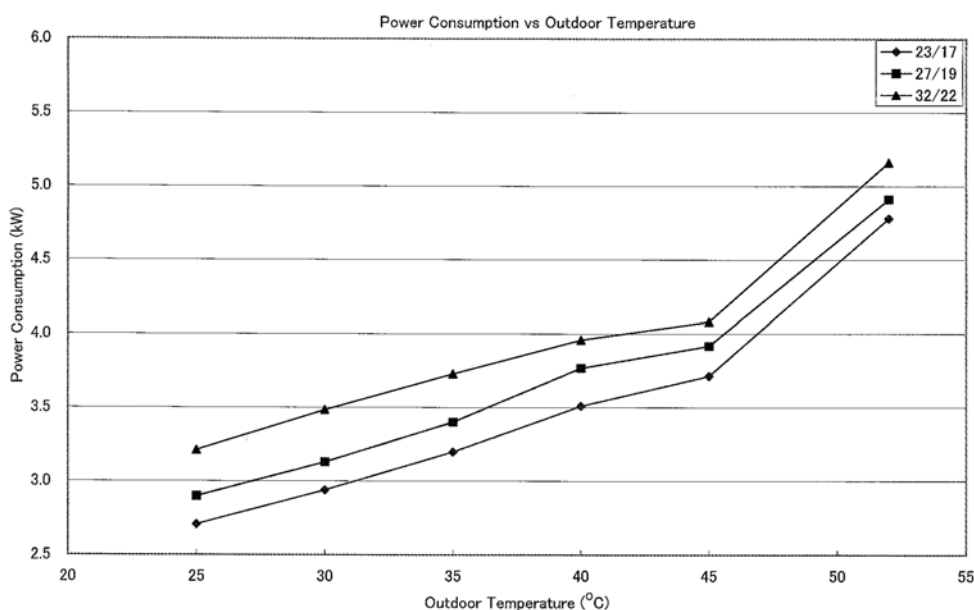
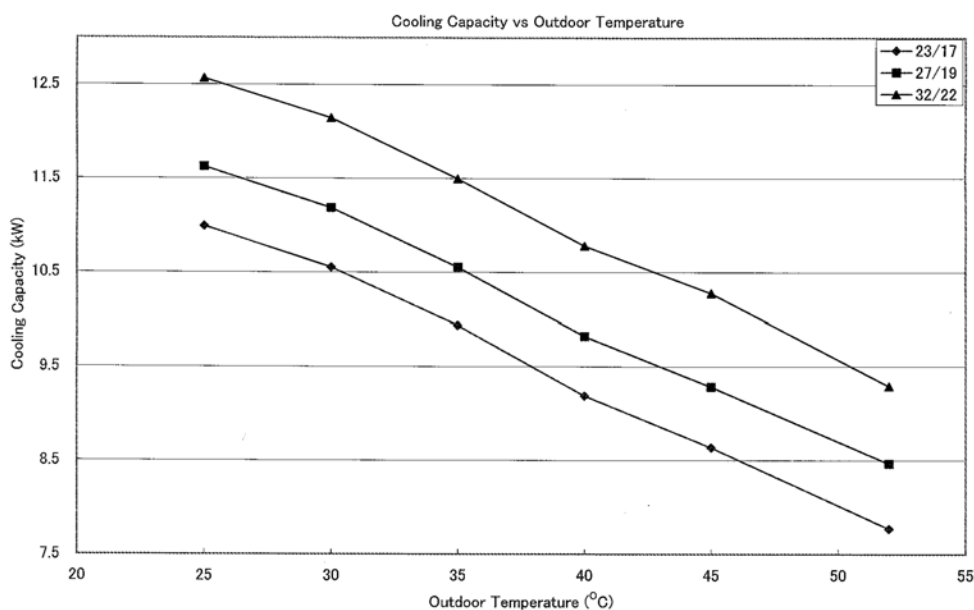
Indoor Ambient Temp.		Air Temperature Entering Condenser °C (D.B)																	
		25°C			30°C			35°C			40°C			45°C			55°C		
		TC	SHC	IPT	TC	SHC	IPT	TC	SHC	IPT	TC	SHC	IPT	TC	SHC	IPT	TC	SHC	IPT
D.B.	W.B.	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
23	17	9.1551	5.5513	2.5074	8.7900	5.6282	2.7218	8.2761	5.4487	2.9610	7.6541	5.2179	3.2508	7.1943	5.0513	3.4398	6.1398	3.9977	4.2156
	19	9.6690	4.6667	2.6586	9.3580	4.7051	2.8728	8.8847	4.6282	3.1374	8.2761	4.4744	3.4398	7.8569	4.3974	3.6414	6.8755	4.0153	4.5855
	22	10.5480	3.6026	2.8728	10.2640	3.7051	3.1122	9.8042	3.7179	3.3894	9.1686	3.6538	3.7170	8.7359	3.6410	3.9438	7.4785	3.5327	5.1770
25	17	9.0469	6.5513	2.5074	8.6953	6.4615	2.7090	8.1815	6.2436	2.9484	7.5864	6.0128	3.2256	7.1672	5.8077	3.4146	6.2110	4.5550	4.1901
	19	9.6690	5.7821	2.6712	9.3444	5.7564	2.8854	8.8306	5.6154	3.1374	8.2220	5.4231	3.4272	7.8028	5.2821	3.6414	6.8210	4.6517	4.6365
	22	10.5480	4.5513	2.8854	10.2234	4.6026	3.1122	9.7231	4.5641	3.3894	9.6459	4.4231	3.7044	8.6548	4.3846	3.9312	7.4653	4.1656	5.1635
27	17	8.9252	7.5385	2.5200	8.5872	7.4103	2.7090	8.1003	7.1410	2.9484	7.5324	6.8590	3.2004	7.1267	6.6923	3.3894	6.2031	5.4656	4.1646
	19	9.6825	6.7949	2.6838	9.3174	6.7179	2.8980	8.7900	6.5000	3.1500	8.1815	6.2821	3.4902	7.7352	6.0897	3.6288	6.6866	5.2626	4.3294
	22	10.5345	5.5000	2.8980	10.1829	5.5000	3.1248	9.6555	5.3974	3.4020	8.9658	5.1923	3.6918	8.5736	5.1154	3.9186	7.4196	4.7413	5.1499
29	17	8.9117	8.2821	2.4948	8.5872	8.0641	2.7090	8.0868	7.6667	2.9106	7.6000	7.2051	3.1248	7.2213	6.8462	3.2634	6.3666	5.0288	3.8452
	19	9.6690	7.7949	2.6712	9.3174	7.6923	2.8854	8.7900	7.4231	3.1122	8.2356	7.1538	3.3390	7.8299	6.9744	3.4776	6.8826	6.1653	4.1706
	22	10.4939	6.5128	2.9358	10.1423	6.4872	3.1878	9.5879	6.3205	3.4272	8.9793	6.1282	3.6792	8.2601	6.0128	3.8304	7.3397	5.4832	4.7502
32	17	8.8982	8.2692	2.4822	8.5872	8.1410	2.6964	7.5188	7.1282	2.8854	7.6405	7.2436	3.0744	7.2754	6.8974	3.1752	6.4563	5.1105	3.6184
	19	9.6555	9.0641	2.6586	9.3174	8.8333	2.8854	8.7900	8.3333	3.0870	8.2761	7.8462	3.2886	7.8975	7.4872	3.3894	7.0188	6.0756	3.9391
	22	10.4669	8.1410	2.9736	10.1153	8.0513	3.2256	9.5743	7.8077	3.4524	8.9793	7.5769	3.6666	8.5601	7.3846	3.7800	7.3397	6.5556	4.5518



## 17.6.2. CS-PC36JKF CU-PC36JKF

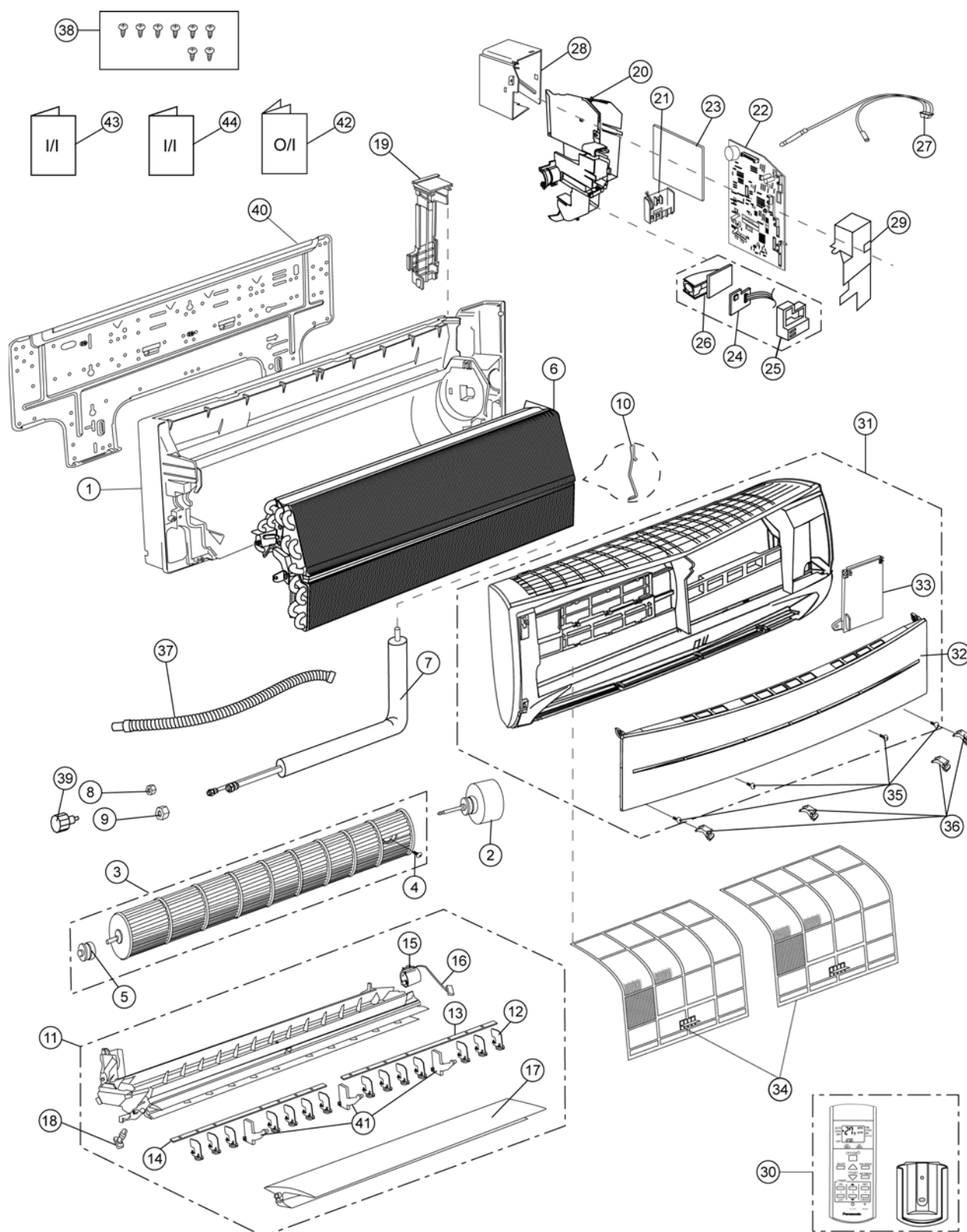
Power source : 220V & 240V, 50Hz, 1 phase

Indoor Ambient Temp.		Air Temperature Entering Condenser °C (D.B.)																	
		25°C			30°C			35°C			40°C			45°C			52°C		
		TC	SHC	IPT	TC	SHC	IPT	TC	SHC	IPT	TC	SHC	IPT	TC	SHC	IPT	TC	SHC	IPT
D.B.	W.B.	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW	KW
23	17	10.9882	6.6786	2.7064	10.5500	6.7712	2.9376	9.9332	6.5552	3.1960	9.1866	6.2776	3.5088	8.6348	6.0771	3.7128	7.7704	5.0327	4.7800
	19	11.6050	5.6144	2.8696	11.2317	5.6606	3.1008	10.6636	5.5681	3.3864	9.9332	5.3830	3.7128	9.4301	5.2905	3.9304	8.7022	4.9784	5.1996
	22	12.6600	4.3342	3.1008	12.3192	4.4576	3.3592	11.7673	4.4730	3.6584	11.0045	4.3959	4.0120	10.4851	4.3804	4.2568	9.4649	4.3200	5.8701
25	17	10.8584	7.8817	2.7064	10.4364	7.7737	2.9240	9.8196	7.5115	3.1824	9.1055	7.2339	3.4816	8.6023	6.9871	3.6856	7.8607	5.7474	4.7511
	19	11.6050	6.9563	2.8832	11.2155	6.9254	3.1144	10.5987	6.7557	3.3864	9.8683	6.5244	3.6992	9.3652	6.3547	3.9304	8.6331	5.8205	5.2572
	22	12.6600	5.4755	3.1144	12.2705	5.5372	3.3592	11.6699	5.4910	3.6584	11.5773	5.3213	3.9984	10.3877	5.2750	4.2432	9.4487	5.1214	5.8548
27	17	10.7123	9.0693	2.7200	10.3065	8.9151	2.9240	9.7222	8.5912	3.1824	9.0405	8.2519	3.4544	8.5536	8.0514	3.6584	7.8509	6.8269	4.7222
	19	11.6212	8.1748	2.8968	11.1830	8.0822	3.1280	10.5500	7.8200	3.4000	9.8196	7.5578	3.7672	9.2840	7.3264	3.9168	8.4624	6.6157	4.9091
	22	12.6438	6.6169	3.1280	12.2218	6.6169	3.3728	11.5888	6.4935	3.6720	10.7610	6.2467	3.9848	10.2903	6.1542	4.2296	9.3906	5.8650	5.8395
29	17	10.6961	9.9639	2.6928	10.3065	9.7017	2.9240	9.7060	9.2236	3.1416	9.1217	8.6683	3.3728	8.6672	8.2364	3.5224	8.0575	6.4500	4.3599
	19	11.6050	9.3778	2.8832	11.1830	9.2544	3.1144	10.5500	8.9305	3.3592	9.8845	8.6066	3.6040	9.3976	8.3907	3.7536	8.7104	7.7070	4.7290
	22	12.5951	7.8354	3.1688	12.1731	7.8046	3.4408	11.5076	7.6041	3.6992	10.7772	7.3727	3.9712	10.2741	7.2339	4.1344	9.2894	6.8100	5.3892
32	17	10.6798	9.9485	2.6792	10.3065	9.7943	2.9104	9.0243	8.5758	3.1144	9.1704	8.7146	3.3184	8.7322	8.2981	3.4272	8.1701	6.5401	4.1027
	19	11.5888	10.9048	2.8696	11.1830	10.6272	3.1144	10.5500	10.0256	3.3320	9.9332	9.4395	3.5496	9.4788	9.0077	3.6584	8.8833	7.7587	4.4664
	22	12.5626	9.7943	3.2096	12.1406	9.6863	3.4816	11.4914	9.3933	3.3764	10.7772	9.1156	3.9576	10.2741	8.8843	4.0800	9.2894	8.1973	5.1611



# 18 Exploded View and Replacement Parts List

## 18.1. Indoor Unit



### Note:

The above exploded view is for the purpose of parts disassembly and replacement.  
The non-numbered parts are not kept as standard service parts.

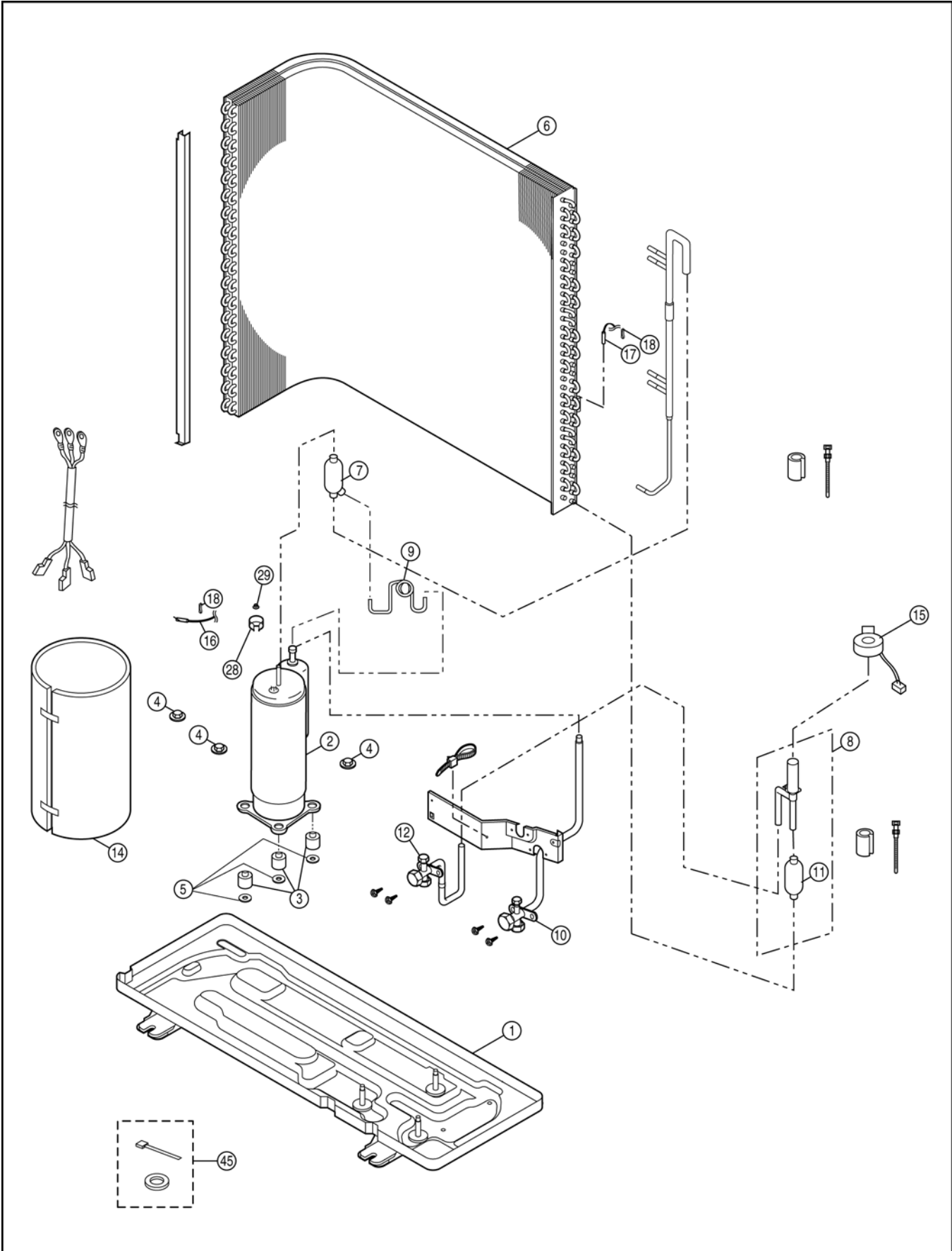
REF. NO.	PART NAME & DESCRIPTION	QTY.	CS-PC30JKF	CS-PC36JKF	REMARKS
1	CHASSY COMPLETE	1	CWD50C1477	←	
2	FAN MOTOR DC 60W 3PH	1	ARW42A8P60AC	←	O
3	CROSS FLOW FAN COMPLETE	1	CWH02C1044	←	
4	SCREW - CROSS FLOW FAN	1	CWH551146	←	
5	BEARING ASS'Y	1	CWH64K007	←	
6	EVAPORATOR COMPLETE	1	CWB30C2984	CWB30C2533	
7	TUBE ASS'Y COM (EVA)	1	CWT01C3689	CWT01C3637	
8	FLARE NUT (3/8")	1	CWT25005	←	
9	FLARE NUT (5/8")	1	CWT251036	CWT251037	
10	INTAKE AIR SENSOR HOLDER	1	CWH32143	←	
11	DISCHARGE GRILLE COMPLETE	1	CWE20C2492	CWE20C2991	
12	VERTICAL VANE	14	CWE241196	←	
13	CONNECTING BAR	1	CWE261094	←	
14	CONNECTING BAR	1	CWE261095	←	
15	A.S.MOTOR, DC SINGLE 12V 300OHM	1	CWA981154J	←	O
16	LEAD WIRE - AIR SWING MOTOR	1	CWA67C6023	←	
17	HORIZONTAL VANE	1	CWE24C1150	←	
18	CAP - DRAIN TRAY	1	CWH4612103	←	
19	BACK COVER CHASSIS	1	CWD932631	←	
20	CONTROL BOARD - CASING	1	CWH102299	←	
21	TERMINAL BOARD COMPLETE	1	CWA28C2375	←	O
22	ELECTRONIC CONTROLLER - MAIN	1	CWA73C2130	CWA73C2131	O
23	ELECTRONIC CONTROLLER - POWER	1	CWA744089	←	
24	ELEC. CONT. - INDICATOR AND RCVR	1	—	CWE39C1203	O
25	INDICATOR HOLDER	1	—	CWD933122	
26	INDICATOR HOLDER	1	—	CWD933123	
27	SENSOR COMPLETE	1	CWA50C2356	←	O
28	CONTROL BOARD TOP COVER	1	CWH131265	←	
29	CONTROL BOARD FRONT COVER	1	CWH131266	←	
30	REMOTE CONTROL COMPLETE	1	CWA75C3399	←	O
31	FRONT GRILLE COMPLETE	1	CWE11C4278	←	
32	INTAKE GRILLE COMPLETE	1	CWE22C1575	←	
33	GRILLE DOOR	1	CWE14C1060	←	
34	AIR FILTER	2	CWD001193	←	
35	SCREW - FRONT GRILLE	4	XTT4+16CFJ	←	
36	CAP - FRONT GRILLE	4	CWH521142	←	
37	DRAIN HOSE	1	CWH85284	←	
38	BAG COMPLETE - INSTALLATION SCREW	1	CWH82C1423	←	
39	BAG COMPLETE - TUBE CONNECTOR	1	CWH82C1425	←	
40	INSTALLATION PLATE	1	CWH361079	←	
41	FULCRUM	3	CWH621063	←	
42	OPERATION INSTRUCTION	1	CWF566726	←	
43	INSTALLATION INSTRUCTION	1	CWF613920	←	
44	INSTALLATION INSTRUCTION	1	CWF613923	←	

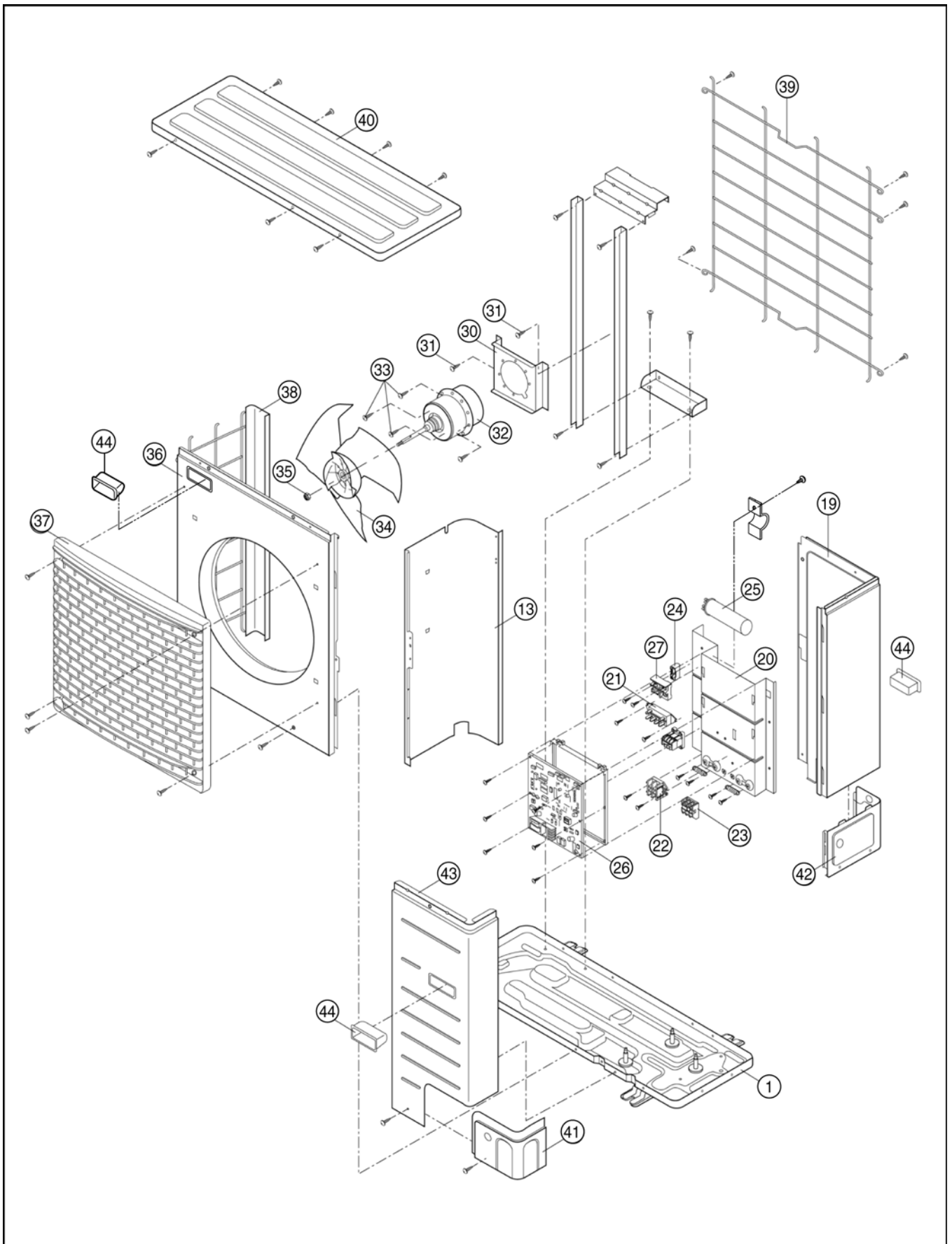
(Note)

- All parts are supplied from PHAAM, Malaysia (Vendor Code: 00029488).
- "O" marked parts are recommended to be kept in stock.

18.2. Outdoor Unit

18.2.1. CU-PC30JKF





Note:  
 The above exploded view is for the purpose of parts disassembly and replacement.  
 The non-numbered parts are not kept as standard service parts.

<Model: CU-PC30JKF>

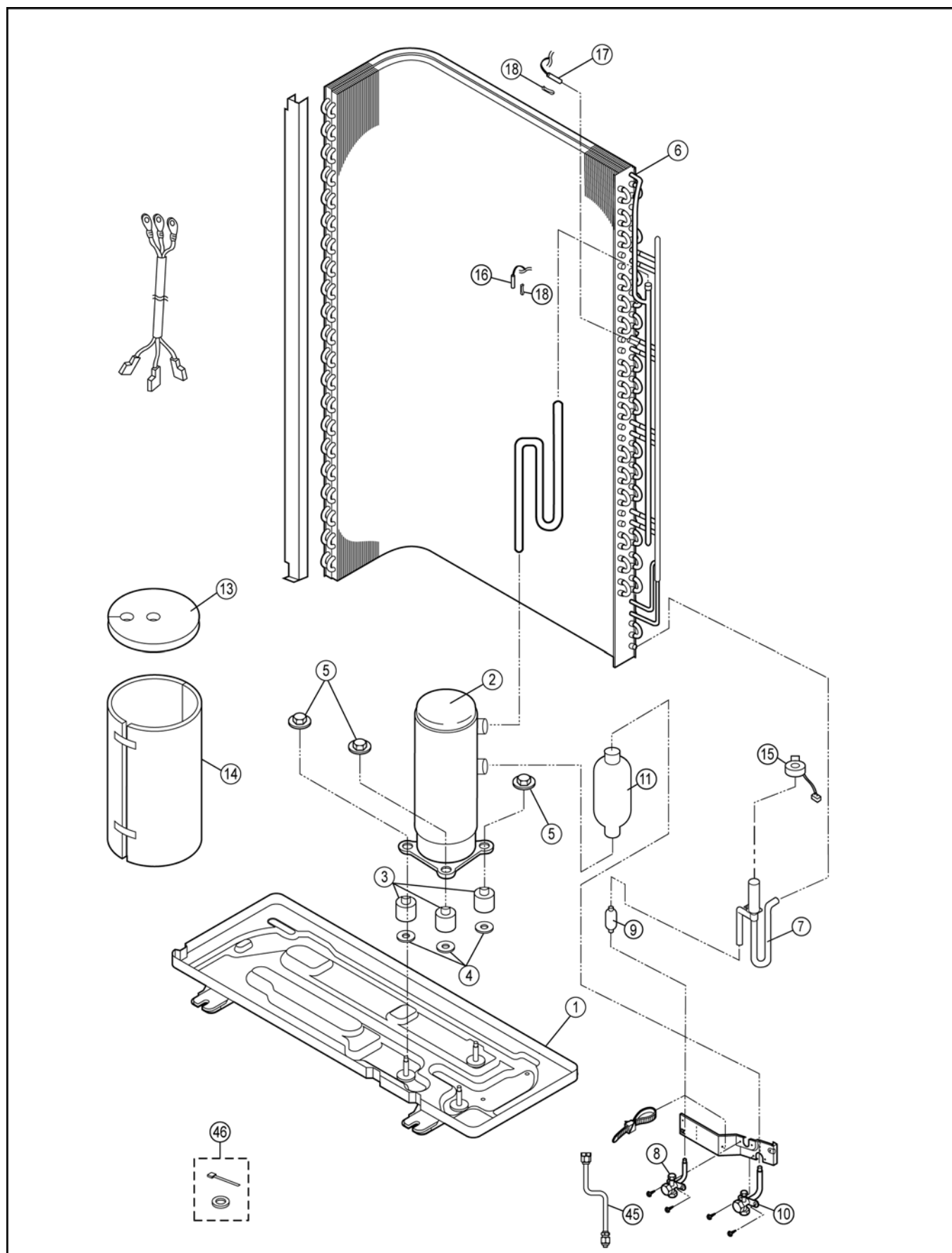
REF. NO.	PART NAME & DESCRIPTION	QTY.	CU-PC30JKF	REMARKS
1	BASE PAN ASS'Y	1	CWD52K1102	
2	COMPRESSOR	1	2JD514D5AA03	O
3	ANTI - VIBRATION BUSHING	3	CWH50055	
4	NUT FOR COMP. MOUNT.	3	CWH561049	
5	PACKING	3	CWB811017	
6	CONDENSER COMPLETE	1	CWB32C1778	
7	OIL SEPARATER	1	CWB16000	
8	TUBE ASS'Y (EXP. VALVE STRAINER)	1	CWT01C3691	
9	TUBE ASS'Y (CAPILLARY TUBE)	1	CWT024153	
10	3-WAYS VALVE (GAS)	1	CWB011429	O
11	STRAINER	1	CWB11061	
12	3-WAYS VALVE (LIQUID)	1	CWB011294	O
13	SOUND PROOF BOARD	1	CWH151078	
14	SOUND PROOF MATERIAL - COMP	1	CWG302372	
15	V-COIL COMPLETE	1	CWA43C2128J	
16	PIPE SENSOR (DISCHARGE)	1	CWA50C2292	
17	PIPE SENSOR (COIL)	1	CWA50C2406	
18	SPRING FOR SENSOR	2	CWH711010	
19	CABINET REAR PLATE	1	CWE02C1033	
20	CONTROL BOARD	1	CWH10K1078	
21	MAGNETIC RELAY	1	K6C3A8A00001	
22	TERMINAL BOARD ASS'Y	1	CWA28K1107	
23	TERMINAL BOARD ASS'Y	1	CWA28K1076J	
24	CAPACITOR - FM (3.0MF/460V)	1	DS461355QP-A	O
25	CAPACITOR - COMP. (60MF/440V)	1	DS441606CPNA	O
26	ELECTRONIC CONTROLLER - MAIN	1	CWA73C3878	O
27	TRANSFORMER	1	CWA401060	
28	TERMINAL COVER	1	CWH171012	
29	NUT FOR TERMINAL COVER	1	CWH7080300J	
30	BRACKET - FAN MOTOR	1	CWD54K1027	
31	SCREW - BRACKET FAN MOTOR	2	CWH551040J	
32	FAN MOTOR	1	CWA951658	O
33	SCREW - FAN MOTOR	4	CWH551040J	
34	PROPELLER FAN	1	CWH001019	
35	NUT FOR PROPELLER FAN	1	CWH561038J	
36	CABINET FRONT PLATE	1	CWE061118A	
37	DISCHARGE GRILLE	1	CWE201073	
38	CABINET SIDE PLATE ASS'Y	1	CWE04K1019A	
39	WIRE NET	1	CWD041100A	
40	CABINET TOP PLATE COMPLETE	1	CWE03C1032	
41	PIPE COVER (FRONT)	1	CWD601074A	
42	PIPE COVER (BACK)	1	CWD601081A	
43	CABINET FRONT PLATE COMPLETE	1	CWE06C1131	
44	HANDLE	3	CWE161008	
45	WIRING COVER AND BAND	1	CWH82C1105	

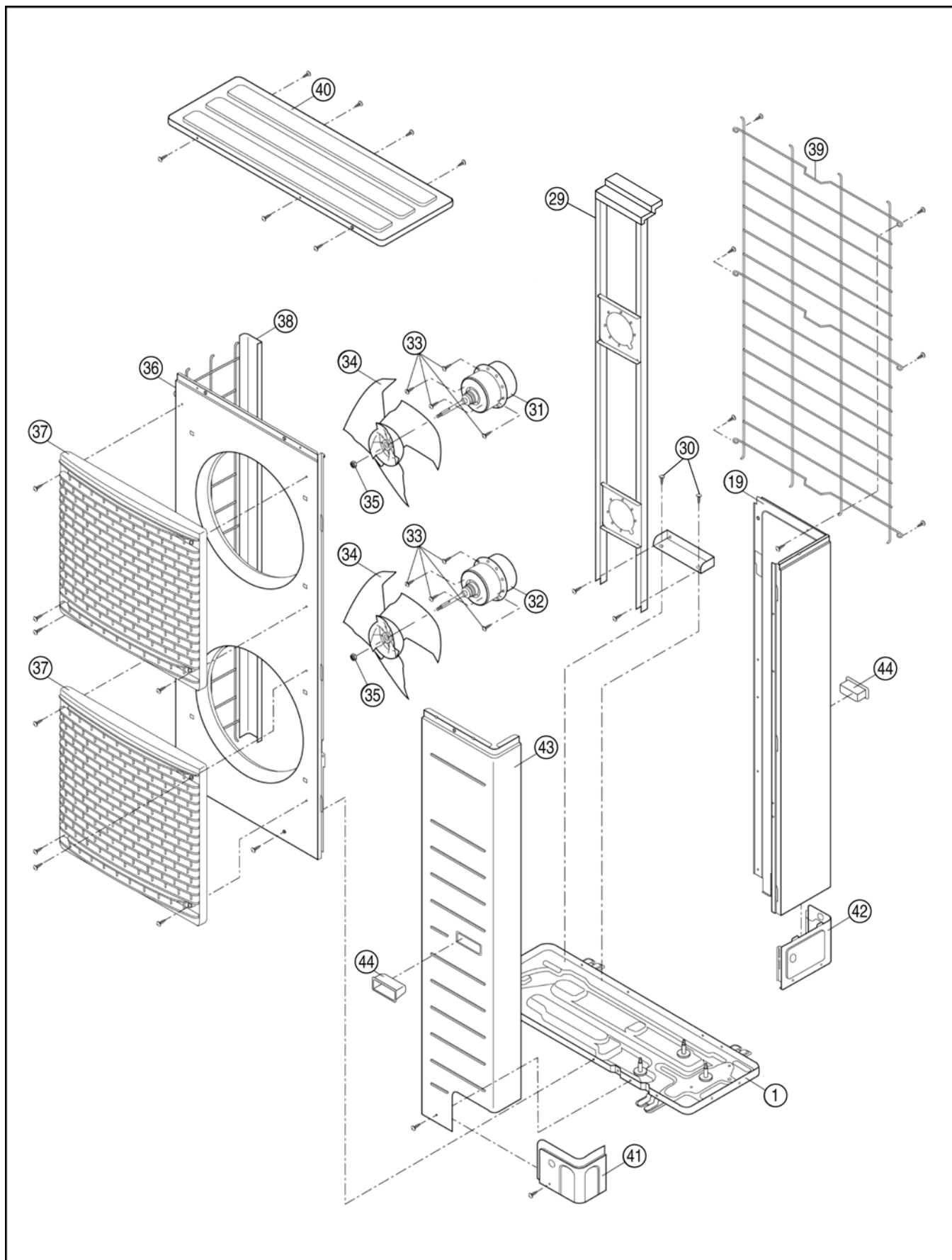
(Note)

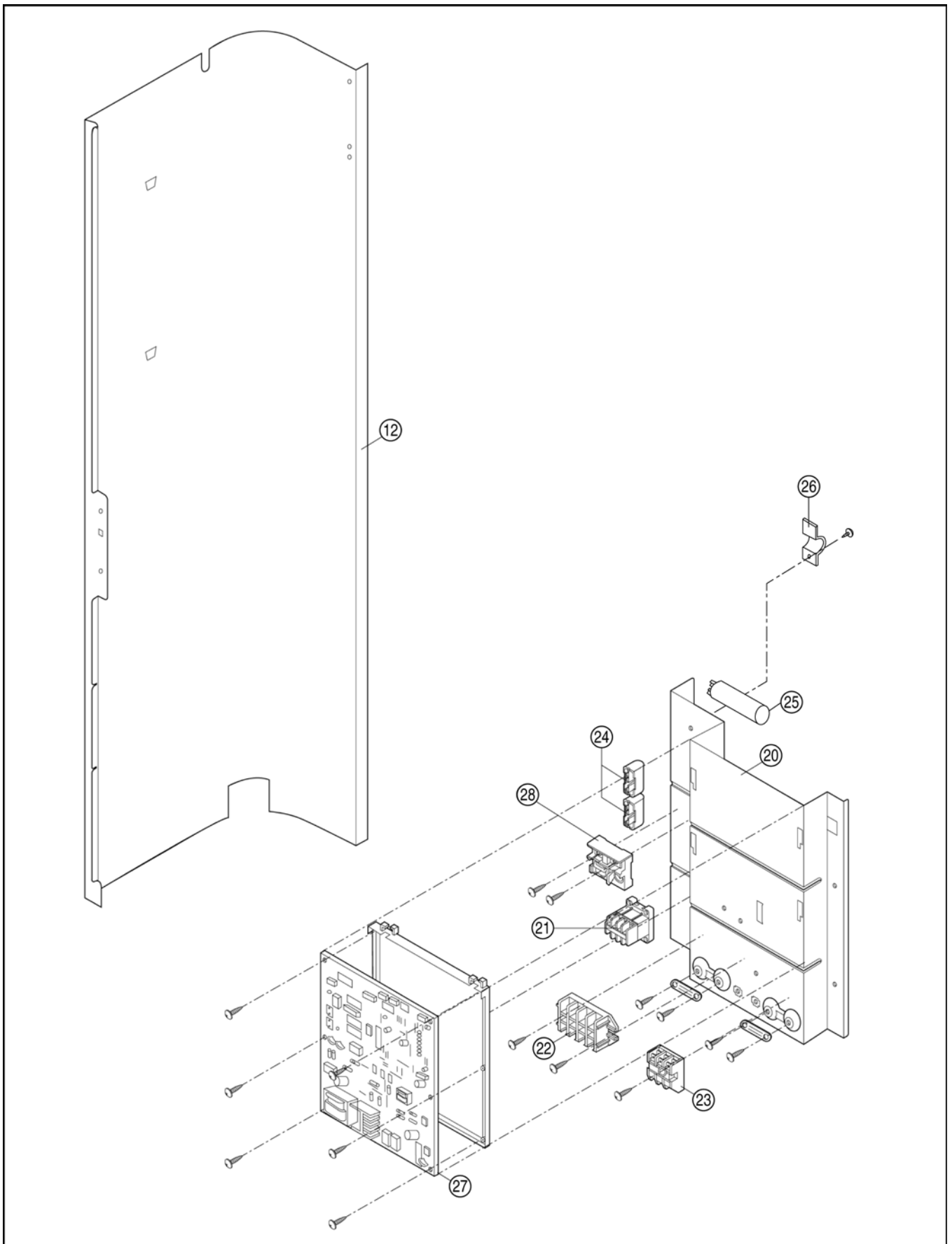
- All parts are supplied from PHAAM, Malaysia (Vendor Code: 00029488).
- "O" marked parts are recommended to be kept in stock.



## 18.2.2. CU-PC36JKF







Note:  
The above exploded view is for the purpose of parts disassembly and replacement.  
The non-numbered parts are not kept as standard service parts.

<Model: CU-PC36JKF>

REF. NO.	PART NAME & DESCRIPTION	QTY.	CU-PC36JKF	REMARKS
1	BASE PAN ASS'Y	1	CWD52K1157	
2	COMPRESSOR	1	ZR47K3PFJ512	O
3	ANTI - VIBRATION BUSHING	3	CWH501020	
4	GASKET FOR TERMINAL COVER	3	CWB811017	
5	NUT FOR COMP. MOUNT.	3	CWH561049	
6	CONDENSER COMPLETE	1	CWB32C1773	
7	TUBE ASS'Y (EXP. VALVE + STRAINER)	1	CWT01C3770	
8	3-WAYS VALVE (GAS)	1	CWB011295	O
9	STRAINER	1	CWB111032	
10	3-WAYS VALVE (LIQUID)	1	CWB011299	O
11	RECEIVER	1	CWB141022	
12	SOUND PROOF BOARD	1	CWH151079	
13	SOUND PROOF MATERIAL	1	CWG302311	
14	SOUND PROOF MATERIAL	1	CWG302389	
15	V-COIL COMPLETE	1	CWA43C2203	
16	PIPE SENSOR (DISCHARGE)	1	CWA50C2406	
17	PIPE SENSOR (COIL)	1	CWA50C2390	
18	SPRING FOR SENSOR	2	CWH711010	
19	CABINET REAR PLATE CO.	1	CWE02C1034	
20	CONTROL BOARD ASS'Y	1	CWH10K1070	
21	COMPRESSOR RELAY	1	K6C5E8A00001	
22	TERMINAL BOARD ASS'Y	1	CWA28K1107	
23	TERMINAL BOARD ASS'Y	1	CWA28K1076J	
24	CAPACITOR - FAN MOTOR (3/460)	2	DS461305BPQA	O
25	CAPACITOR - COMP.	1	DS371556CPNA	O
26	HOLDER CAPACITOR	1	CWH30071	
27	ELECTRONIC CONTROLLER - MAIN	1	CWA73C3879	O
28	TRANSFORMER	1	CWA401060	
29	BRACKET - FAN MOTOR	1	CWD54K1026	
30	SCREW - BRACKET FAN MOTOR	2	CWH551040J	
31	FAN MOTOR AC 70W SINGLE	1	CWA951366J	O
32	FAN MOTOR AC 70W SINGLE	1	CWA951403J	O
33	SCREW - FAN MOTOR	8	CWH551040J	
34	PROPELLER FAN ASS'Y	2	CWH03K1017	
35	NUT - PROPELLER FAN	2	CWH561038J	
36	CABINET FRONT PLATE ASS'Y	1	CWE061092A	
37	DISCHARGE GRILLE	2	CWE201075	
38	CABINET SIDE PLATE	1	CWE04K1022A	
39	WIRE NET	1	CWD041101A	
40	CABINET TOP PLATE COMPLETE	1	CWE03C1032	
41	PIPE COVER (FRONT)	1	CWD601074A	
42	PIPE COVER (BACK)	1	CWD60K1003A	
43	CABINET FRONT PLATE	1	CWE06C1163	
44	HANDLE	2	CWE161008	
45	TUBE ASS'Y. (FLARE NUT - LIQ. SIDE)	1	CWT01C3768	
46	WIRING COVER AND BAND	1	CWH82C1535	

(Note)

- All parts are supplied from PHAAM, Malaysia (Vendor Code: 00029488).
- "O" marked parts are recommended to be kept in stock.