16. Troubleshooting Guide

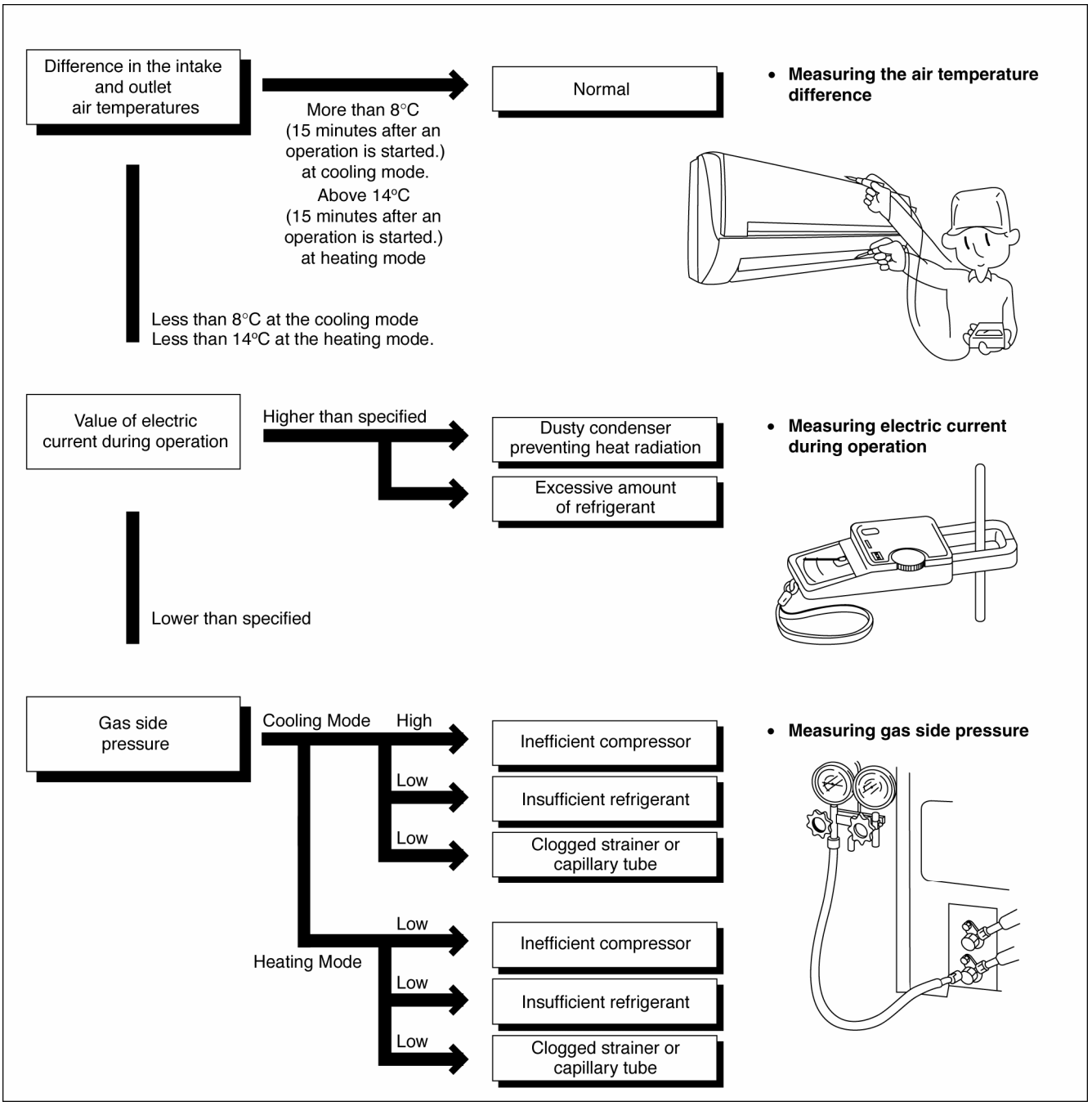
16.1 Refrigeration Cycle System

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^2G)	Outlet air Temperature (°C)
Cooling Mode	0.9 ~ 1.2 (9 ~ 12)	12 ~ 16
Heating Mode	2.3 ~ 2.9 (23 ~ 29)	36 ~ 45

*Condition: • Indoor fan speed = High
• Outdoor temperature 35°C at the cooling mode and 7°C at the heating mode
• Compressor operates at rated frequency



16.1.1 Relationship between the condition of the air conditioner and pressure and electric current

Condition of the air conditioner	Cooling Mode			Heating Mode		
	Low Pressure	High Pressure	Electric current during operation	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 measurement of pressure, electric current, and temperature fifteen minutes after an operation is started.

16.2 Breakdown Self Diagnosis Function

16.2.1 Self Diagnosis Function (Three Digits Alphanumeric Code)

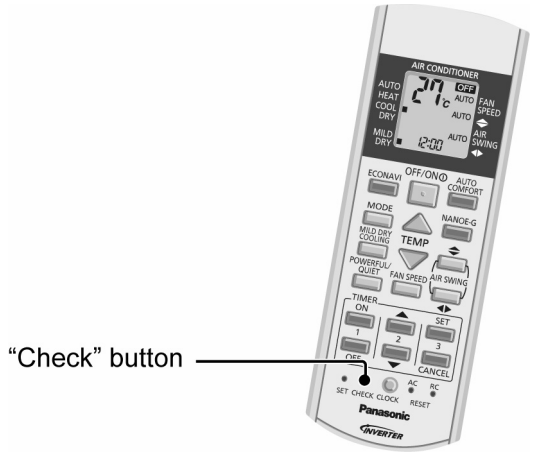
- Once abnormality has occurred during operation, the unit will stop its operation, and Timer LED blinks.
- Although Timer LED goes off when power supply is turned off, if the unit is operated under a breakdown condition, the LED will light up again.
- In operation after breakdown repair, the Timer LED will no more blink. The last error code (abnormality) will be stored in IC memory.

16.2.2 To Make a Diagnosis

1 Timer LED start to blink and the unit automatically stops the operation.
2 Press the CHECK button on the remote controller continuously for 5 seconds.
3 "- -" will be displayed on the remote controller display.
Note: Display only for "- -". (No transmitting signal, no receiving sound and no Power LED blinking.)
4 Press the "TIMER" ▲ or ▼ button on the remote controller. The code "H00" (no abnormality) will be displayed and signal will be transmitted to the main unit.
5 Every press of the button (up or down) will increase abnormality numbers and transmit abnormality code signal to the main unit.
6 When the latest abnormality code on the main unit and code transmitted from the remote controller are matched, power LED will light up for 30 seconds and a beep sound (continuously for 4 seconds) will be heard. If no codes are matched, power LED will light up for 0.5 seconds and no sound will be heard.
7 The breakdown diagnosis mode will be canceled unless pressing the CHECK button continuously for 5 seconds or operating the unit for 30 seconds.
8 The LED will be off if the unit is turned off or the RESET button on the main unit is pressed.

16.2.3 To Display Memorized Error Code (Protective Operation)

1 Turn power on.
2 Press the CHECK button on the remote controller continuously for 5 seconds.
3 "- -" will be displayed on the remote controller display.
Note: Display only for "- -". (No transmitting signal, no receiving sound and no Power LED blinking.)
4 Press the "TIMER" ▲ or ▼ button on the remote controller. The code "H00" (no abnormality) will be displayed and signal will be transmitted to the main unit. The power LED lights up. If no abnormality is stored in the memory, three beeps sound will be heard.
5 Every press of the button (up or down) will increase abnormality numbers and transmit abnormality code signal to the main unit.
6 When the latest abnormality code on the main unit and code transmitted from the remote controller are matched, power LED will light up for 30 seconds and a beep sound (continuously for 4 seconds) will be heard. If no codes are matched, power LED will light up for 0.5 seconds and no sound will be heard.
7 The breakdown diagnosis mode will be canceled unless pressing the CHECK button continuously for 5 seconds or operating the unit for 30 seconds.
8 The same diagnosis can be repeated by turning power on again.



16.2.4 To Clear Memorized Error Code after Repair (Protective Operation)

1 Turn power on (in standby condition).
2 Press the AUTO button for 5 seconds (A beep receiving sound) on the main unit to operate the unit at Forced Cooling Operation modes.
3 Press the CHECK button on the remote controller for about 1 second with a pointed object to transmit signal to main unit. A beep sound is heard from main unit and the data is cleared.

16.2.5 Temporary Operation (Depending On Breakdown Status)

1 Press the AUTO button (A beep receiving sound) on the main unit to operate the unit. (Remote control will become possible.)
2 The unit can temporarily be used until repaired.

16.3 Error Codes Table

Diagnosis display	Abnormality / Protection control	Abnormality Judgement	Protection operation	Problem	Check location
H00	No memory of failure	—	Normal operation	—	—
H11	Indoor/outdoor abnormal communication	After operation for 1 minute	Indoor fan only operation can start by entering into force cooling operation	Indoor/outdoor communication not establish	• Indoor/outdoor wire terminal • Indoor/outdoor PCB • Indoor/outdoor connection wire
H12	Indoor unit capacity unmatched	90s after power supply	—	Total indoor capability more than maximum limit or less than minimum limit, or number of indoor unit less than two.	• Indoor/outdoor connection wire • Indoor/outdoor PCB • Specification and combination table in catalogue
H14	Indoor intake air temperature sensor abnormality	Continuous for 5s	—	Indoor intake air temperature sensor open or short circuit	• Indoor intake air temperature sensor lead wire and connector
H15	Compressor temperature sensor abnormality	Continuous for 5s	—	Compressor temperature sensor open or short circuit	• Compressor temperature sensor lead wire and connector
H16	Outdoor current transformer (CT) abnormality	—	—	Current transformer faulty or compressor faulty	• Outdoor PCB faulty or compressor faulty
H19	Indoor fan motor merchanism lock	Continuous happen for 7 times	—	Indoor fan motor lock or feedback abnormal	• Fan motor lead wire and connector • Fan motor lock or block
H23	Indoor heat exchanger temperature sensor abnormality	Continuous for 5s	—	Indoor heat exchanger temperature sensor open or short circuit	• Indoor heat exchanger temperature sensor lead wire and connector
H27	Outdoor air temperature sensor abnormality	Continuous for 5s	—	Outdoor air temperature sensor open or short circuit	• Outdoor air temperature sensor lead wire and connector
H28	Outdoor heat exchanger temperature sensor 1 abnormality	Continuous for 5s	—	Outdoor heat exchanger temperature sensor 1 open or short circuit	• Outdoor heat exchanger temperature sensor 1 lead wire and connector
H30	Outdoor discharge pipe temperature sensor abnormality	Continuous for 5s	—	Outdoor discharge pipe temperature sensor open or short circuit	• Outdoor discharge pipe temperature sensor lead wire and connector
H32	Outdoor heat exchanger temperature sensor 2 abnormality	Continuous for 5s	—	Outdoor heat exchanger temperature sensor 2 open or short circuit	• Outdoor heat exchanger temperature sensor 2 lead wire and connector
H33	Indoor / outdoor misconnection abnormality	—	—	Indoor and outdoor rated voltage different	• Indoor and outdoor units check
H34	Outdoor heat sink temperature sensor abnormality	Continuous for 2s	—	Outdoor heat sink temperature sensor open or short circuit	• Outdoor heat sink sensor
H36	Outdoor gas pipe temperature sensor abnormality	Continuous for 5s	Heating protection operation only	Outdoor gas pipe temperature sensor open or short circuit	• Outdoor gas pipe temperature sensor lead wire and connector
H37	Outdoor liquid pipe temperature sensor abnormality	Continuous for 5s	Cooling protection operation only	Outdoor liquid pipe temperature sensor open or short circuit	• Outdoor liquid pipe temperature sensor lead wire and connector
H38	Indoor/Outdoor mismatch (brand code)	—	—	Brand code not match	• Check indoor unit and outdoor unit.
H39	Abnormal indoor operating unit or standby units	3 times happen within 40 minutes	—	Wrong wiring and connecting pipe, expansion valve abnormality, indoor heat exchanger sensor open circuit	• Check indoor/outdoor connection wire and connection pipe • Indoor heat exchanger sensor lead wire and connector • Expansion valve and lead wire and connector

Diagnosis display	Abnormality / Protection control	Abnormality Judgement	Protection operation	Problem	Check location
H41	Abnormal wiring or piping connection	—	—	Wrong wiring and connecting pipe, expansion valve abnormality	• Check indoor/outdoor connection wire and connection pipe • Expansion valve and lead wire and connector.
H64	Outdoor high pressure sensor abnormality	Continuous for 1 minutes	—	High pressure sensor open circuit during compressor stop	• High pressure sensor • Lead wire and connector
H97	Outdoor fan motor mechanism lock	2 times happen within 30 minutes	—	Outdoor fan motor lock or feedback abnormal	• Outdoor fan motor lead wire and connector • Fan motor lock or block
H98	Indoor high pressure protection	—	—	Indoor high pressure protection (Heating)	• Check indoor heat exchanger • Air filter dirty • Air circulation short circuit
H99	Indoor operating unit freeze protection	—	—	Indoor freeze protection (Cooling)	• Check indoor heat exchanger • Air filter dirty • Air circulation short circuit
F11	4-way valve switching abnormality	4 times happen within 30 minutes	—	4-way valve switching abnormal	• 4-way valve • Lead wire and connector.
F17	Indoor standby units freezing abnormality	3 times happen within 40 minutes	—	Wrong wiring and connecting pipe, expansion valve leakage, indoor heat exchanger sensor open circuit	• Check indoor/outdoor connection wire and pipe • Indoor heat exchanger sensor lead wire and connector • Expansion valve lead wire and connector.
F90	Power factor correction (PFC) circuit protection	4 times happen within 10 minutes	—	Power factor correction circuit abnormal	• Outdoor PCB faulty
F91	Refrigeration cycle abnormality	2 times happen within 20 minutes	—	Refrigeration cycle abnormal	• Insufficient refrigerant or valve close
F93	Compressor abnormal revolution	4 times happen within 20 minutes	—	Compressor abnormal revolution	• Power transistor module faulty or compressor lock
F94	Compressor discharge pressure overshoot protection	4 times happen within 30 minutes	—	Compressor discharge pressure overshoot	• Check refrigeration system
F95	Outdoor cooling high pressure protection	4 times happen within 20 minutes	—	Cooling high pressure protection	• Check refrigeration system • Outdoor air circuit
F96	Power transistor module overheating protection	4 times happen within 30 minutes	—	Power transistor module overheat	• PCB faulty • Outdoor air circuit (fan motor)
F97	Compressor overheating protection	3 times happen within 30 minutes	—	Compressor overheat	• Insufficient refrigerant
F98	Total running current protection	3 times happen within 20 minutes	—	Total current protection	• Check refrigeration system • Power source or compressor lock
F99	Outdoor direct current (DC) peak detection	Continuous happen for 7 times	—	Power transistor module current protection	• Power transistor module faulty or compressor lock

16.4 Self-diagnosis Method

16.4.1 H11 (Indoor/Outdoor Abnormal Communication)

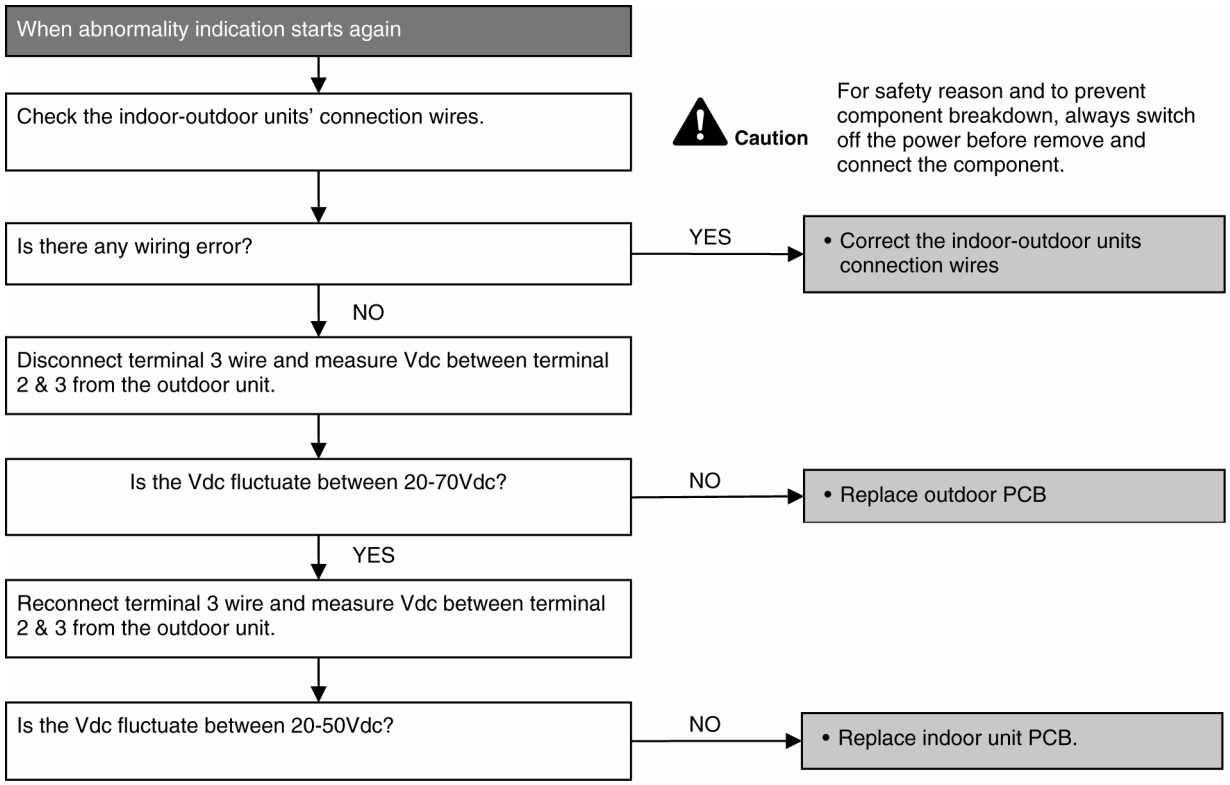
Malfunction Decision Conditions

- During startup and operation of cooling and heating, the data received from outdoor unit in indoor unit signal transmission is checked whether it is normal.

Malfunction Caused

- Faulty indoor unit PCB.
- Faulty outdoor unit PCB.
- Indoor unit-outdoor unit signal transmission error due to wrong wiring.
- Indoor unit-outdoor unit signal transmission error due to breaking of wire in the connection wires between the indoor and outdoor units.
- Indoor unit-outdoor unit signal transmission error due to disturbed power supply waveform.

Troubleshooting



16.4.2 H12 (Indoor/Outdoor Capacity Rank Mismatched)

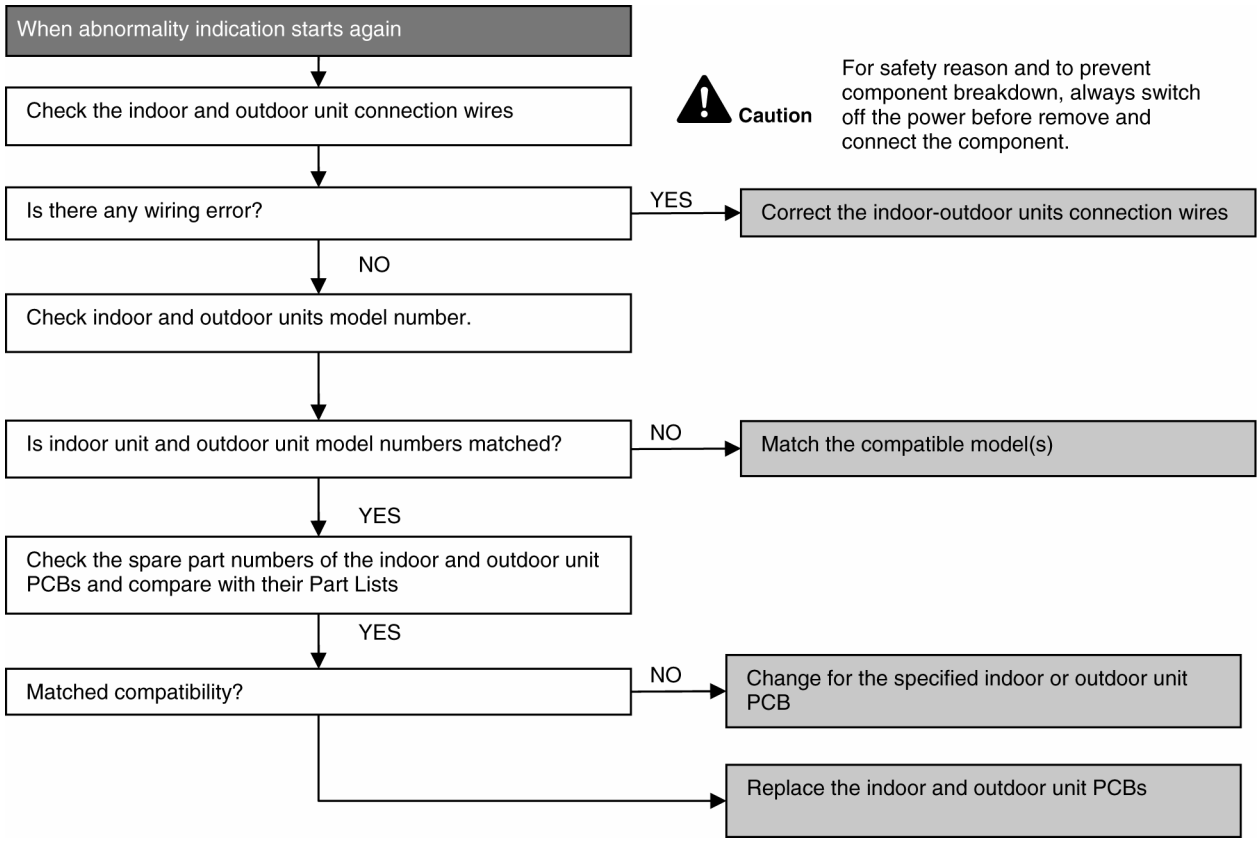
Malfunction Decision Conditions

- During startup, error code appears when different types of indoor and outdoor units are interconnected.

Malfunction Caused

- Wrong models interconnected.
- Wrong indoor unit or outdoor unit PCBs mounted.
- Indoor unit or outdoor unit PCBs defective.
- Indoor-outdoor unit signal transmission error due to wrong wiring.
- Indoor-outdoor unit signal transmission error due to breaking of wire 3 in the connection wires between the indoor and outdoor units.

Troubleshooting



16.4.3 H14 (Indoor Intake Air Temperature Sensor Abnormality)

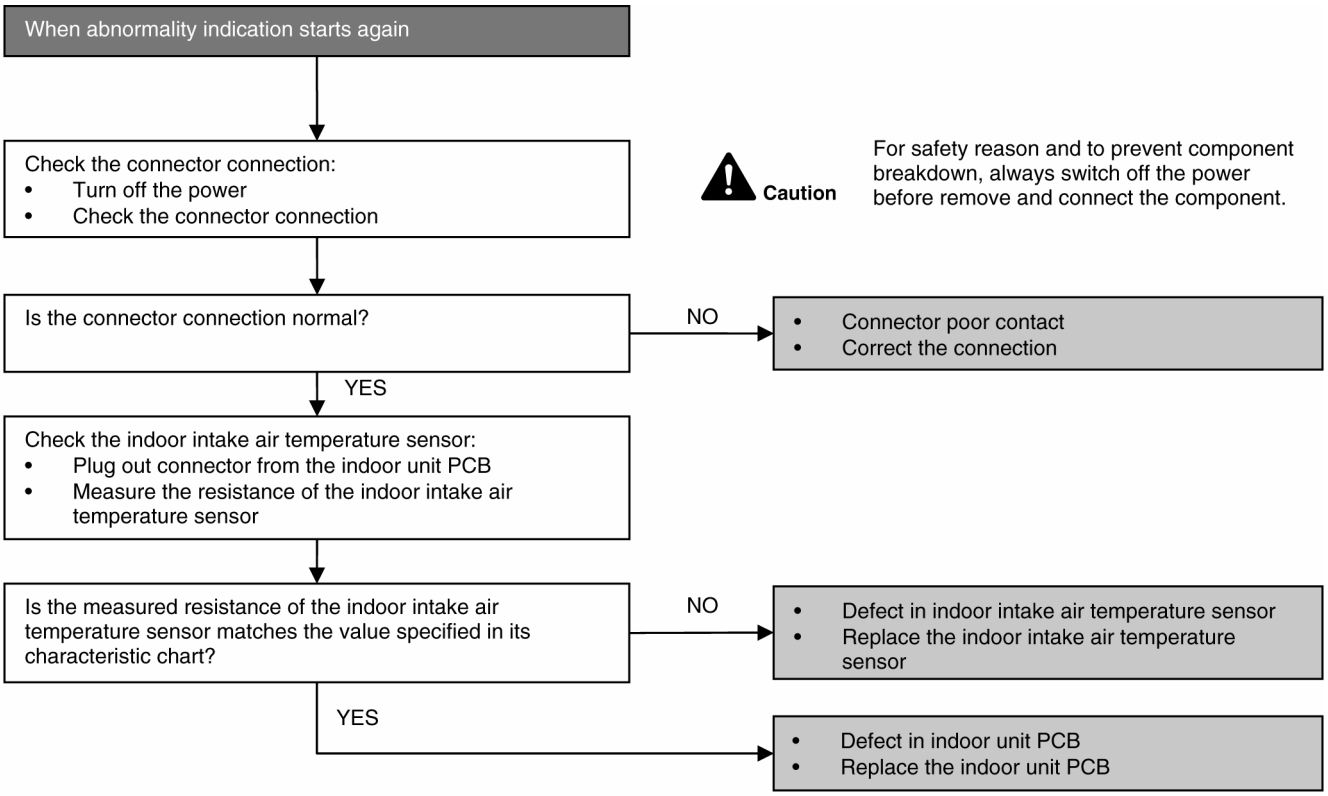
Malfunction Decision Conditions

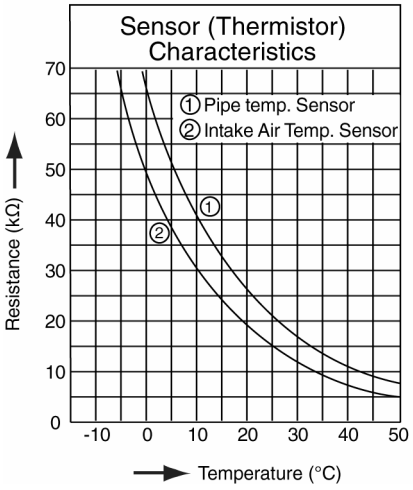
- During startup and operation of cooling and heating, the temperatures detected by the indoor intake air temperature sensor are used to determine sensor errors.

Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

Troubleshooting





16.4.4 H15 (Compressor Temperature Sensor Abnormality)

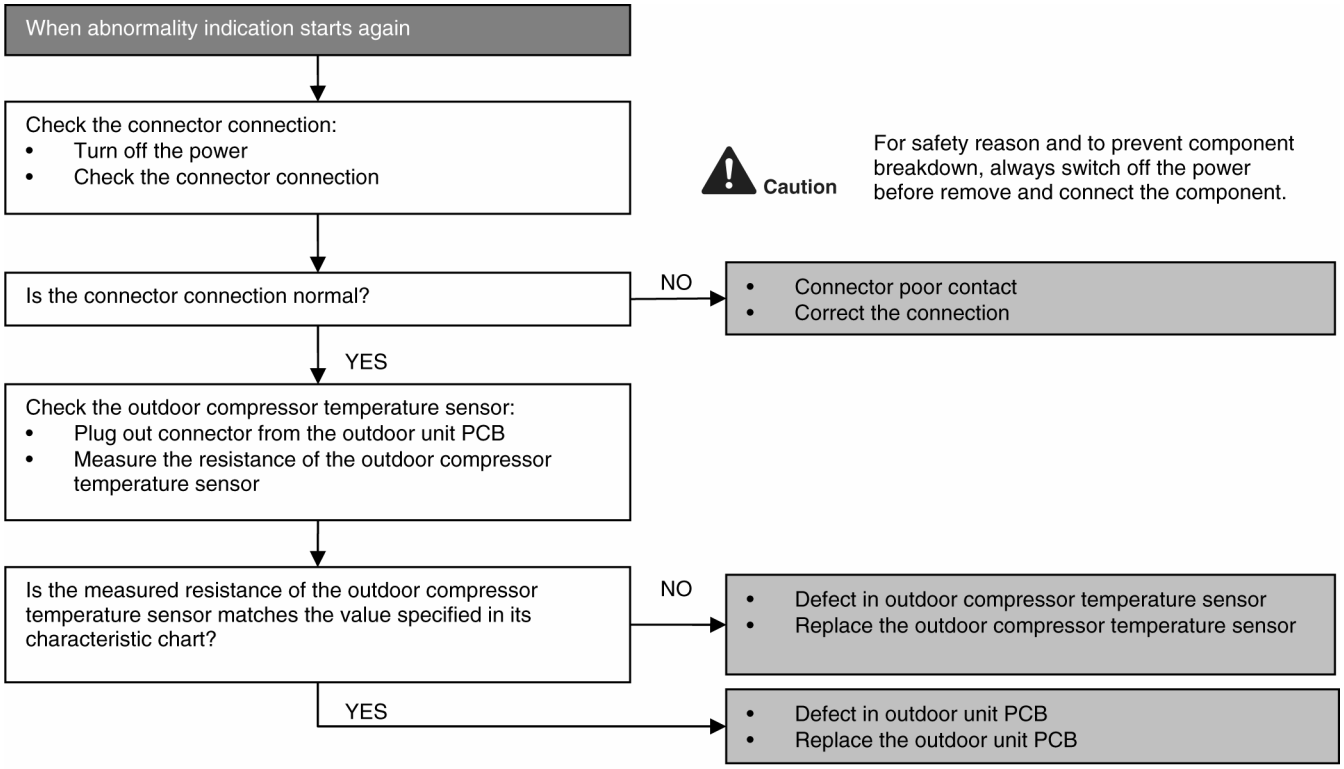
Malfunction Decision Conditions

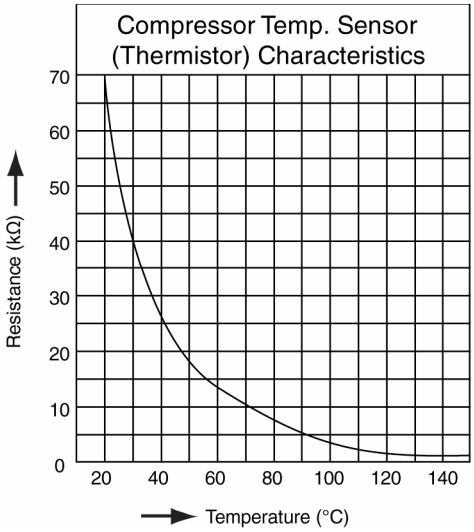
- During startup and operation of cooling and heating, the temperatures detected by the outdoor compressor temperature sensor are used to determine sensor errors.

Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

Troubleshooting





16.4.5 H16 (Outdoor Current Transformer Open Circuit)

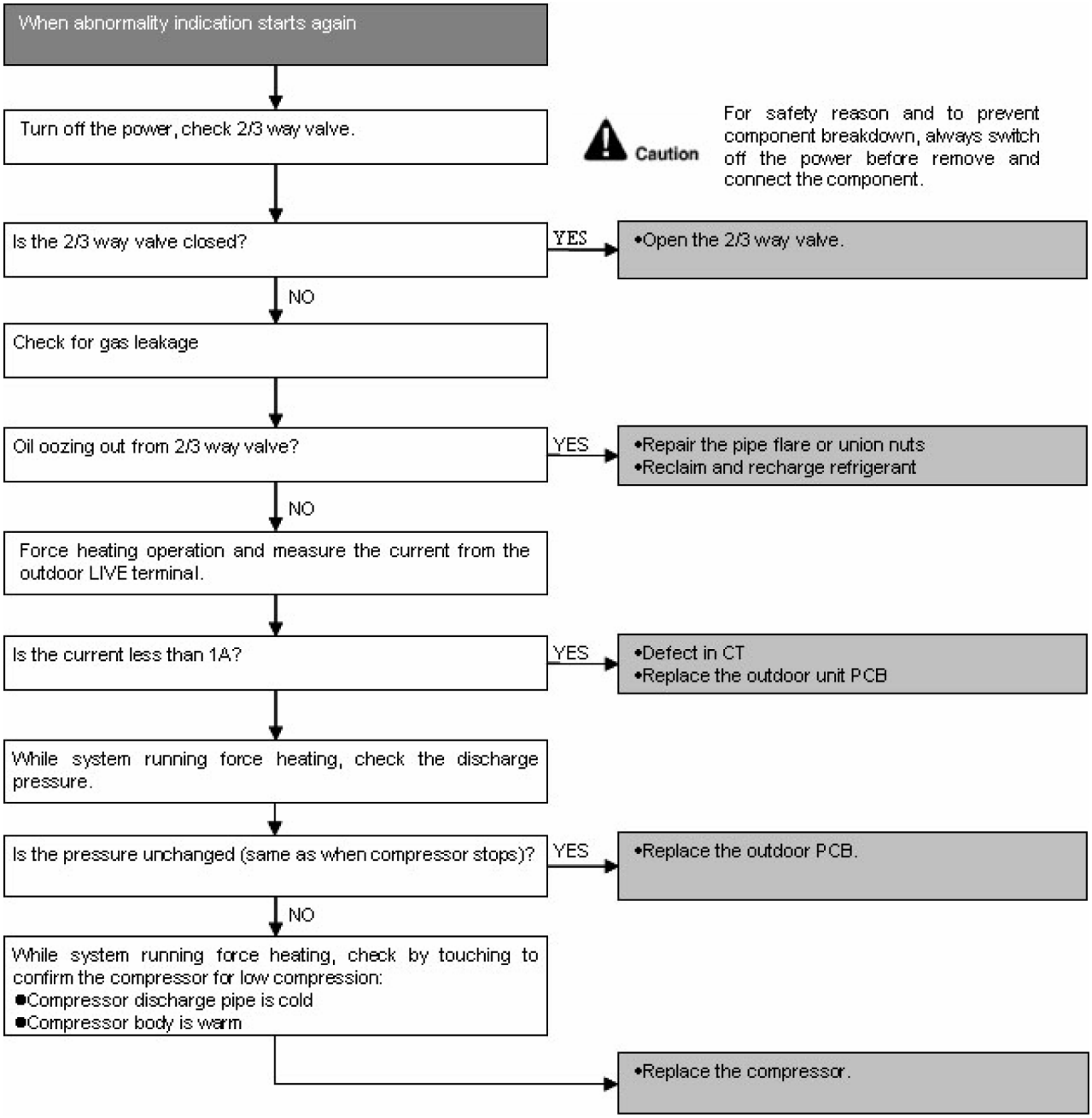
Malfunction Decision Conditions

- A current transformer (CT) is detected by checking the compressor running frequency (≥ rated frequency) and CT detected input current (less than 0.65A) for continuously 20 seconds.

Malfunction Caused

- CT defective
- Outdoor PCB defective
- Compressor defective (low compression)

Troubleshooting



16.4.6 H19 (Indoor Fan Motor – DC Motor Mechanism Locked)

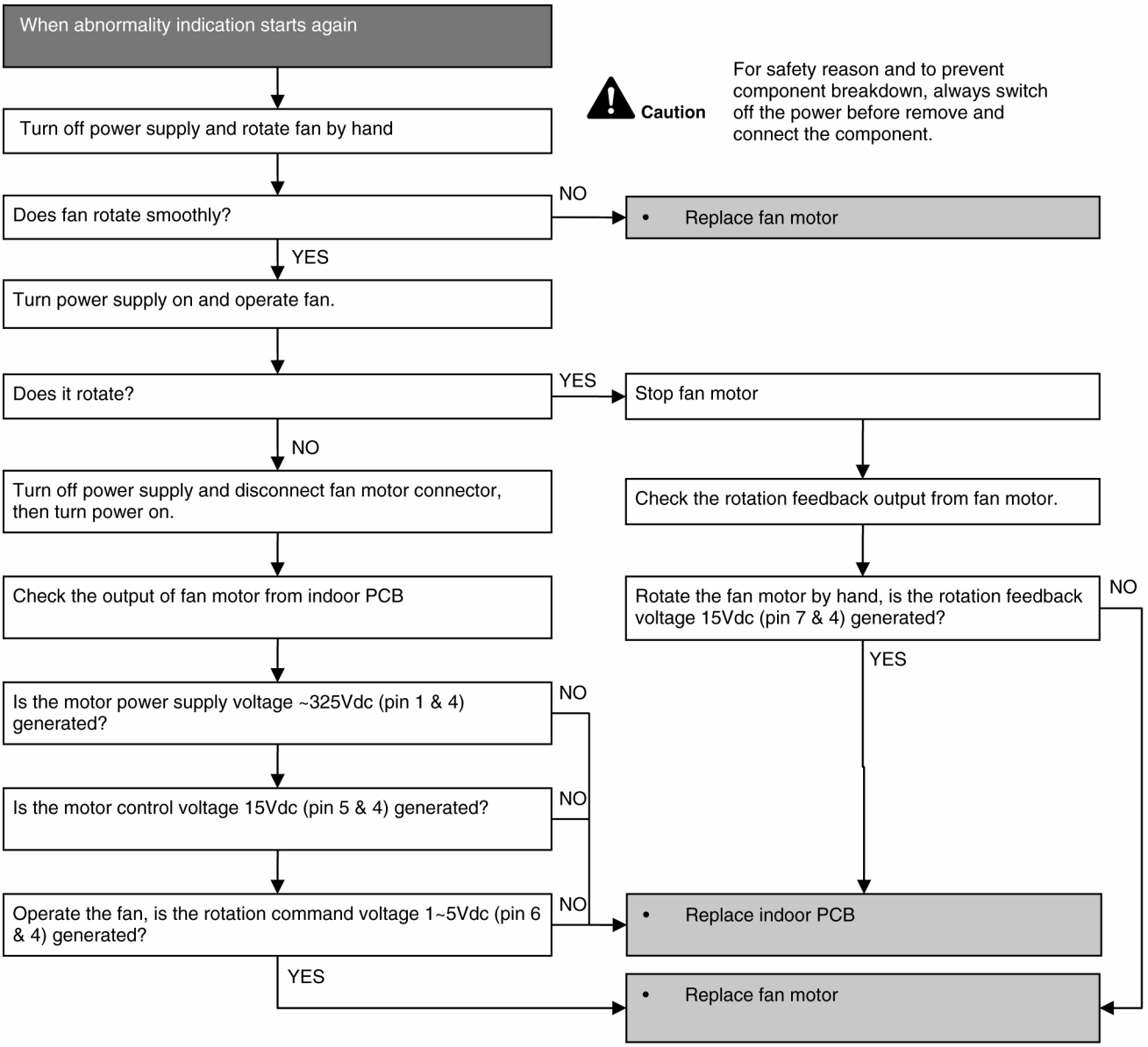
Malfunction Decision Conditions

- The rotation speed detected by the Hall IC during fan motor operation is used to determine abnormal fan motor (feedback of rotation > 2550rpm or < 50rpm)

Malfunction Caused

- Operation stops due to short circuit inside the fan motor winding.
- Operation stops due to breaking of wire inside the fan motor.
- Operation stops due to breaking of fan motor lead wires.
- Operation stops due to Hall IC malfunction.
- Operation error due to faulty indoor unit PCB.

Troubleshooting



16.4.7 H23 (Indoor Pipe Temperature Sensor Abnormality)

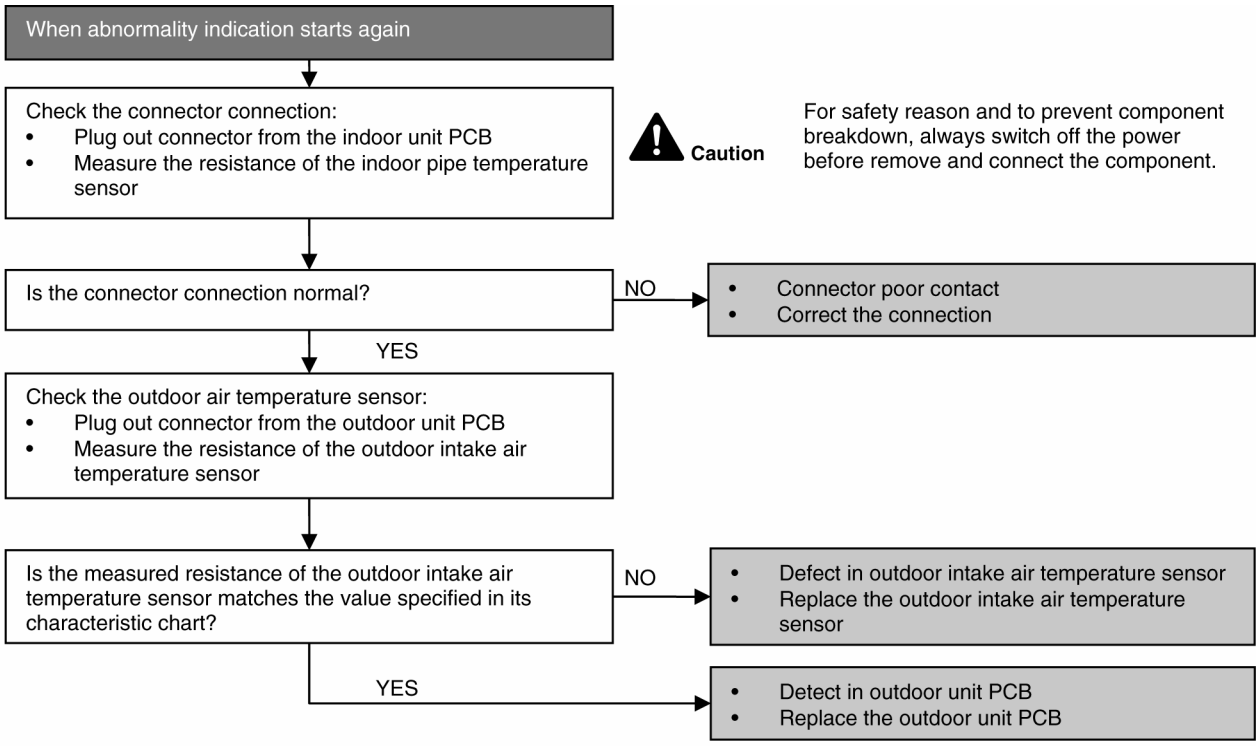
Malfunction Decision Conditions

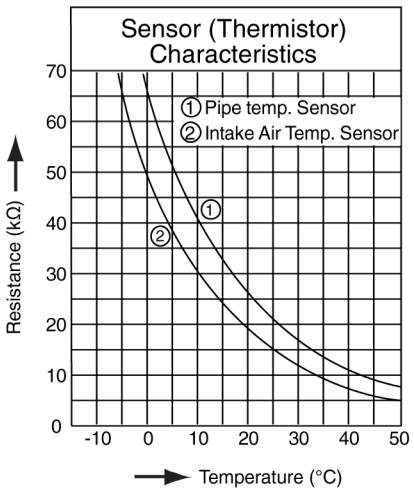
- During startup and operation of cooling and heating, the temperatures detected by the indoor heat exchanger temperature sensor are used to determine sensor errors.

Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

Troubleshooting





16.4.8 H27 (Outdoor Air Temperature Sensor Abnormality)

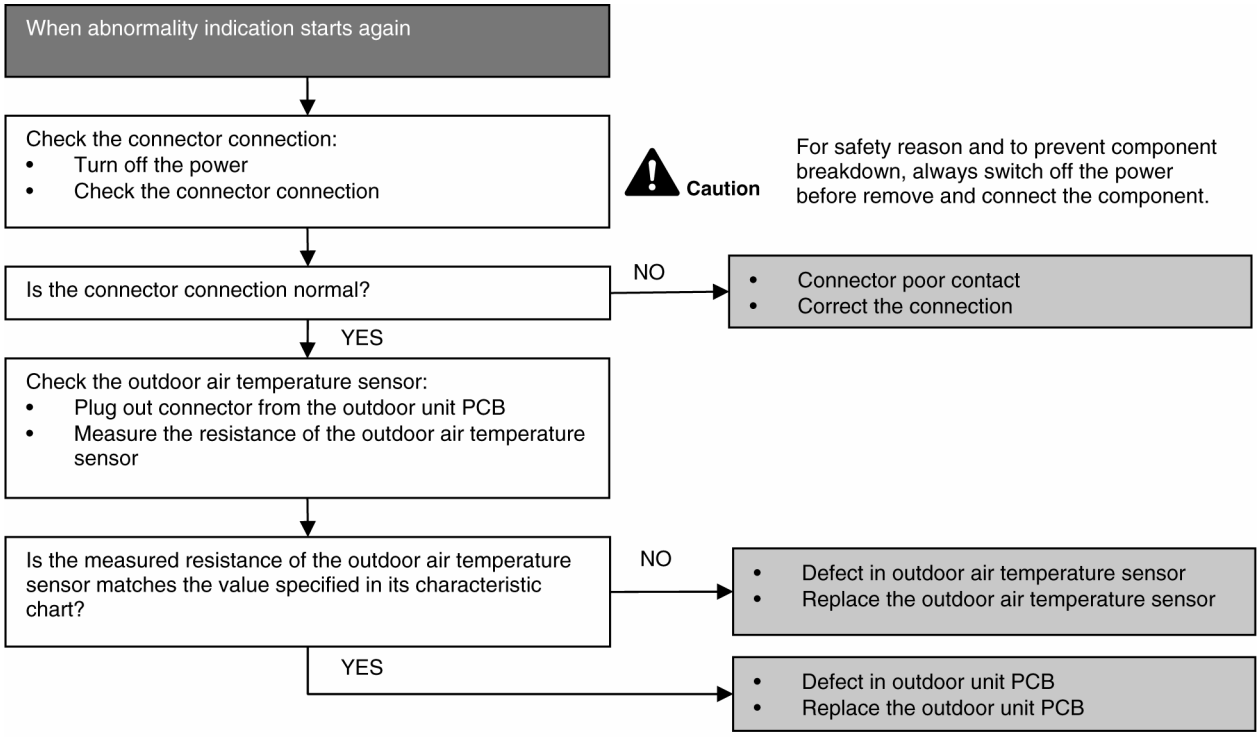
Malfunction Decision Conditions

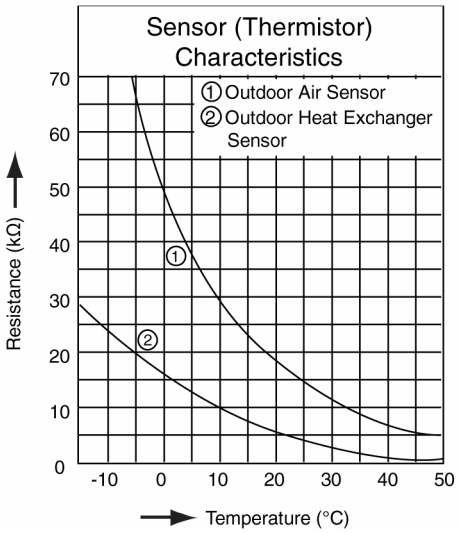
- During startup and operation of cooling and heating, the temperatures detected by the outdoor air temperature sensor are used to determine sensor errors.

Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

Troubleshooting





16.4.9 H28 (Outdoor Pipe Temperature Sensor Abnormality)

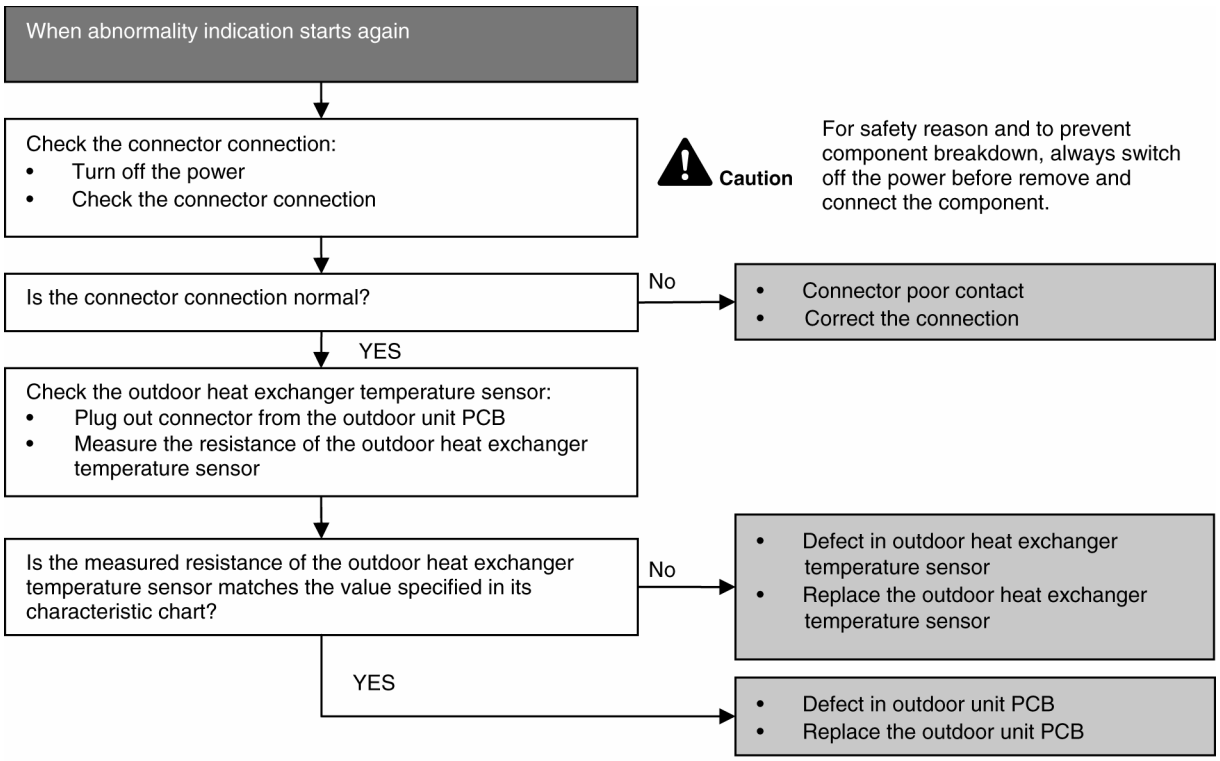
Malfunction Decision Conditions

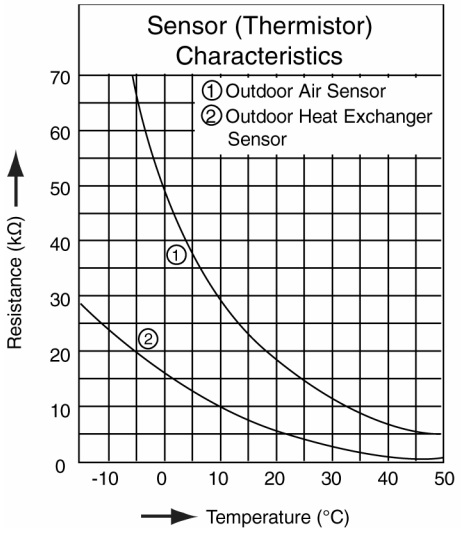
- During startup and operation of cooling and heating, the temperatures detected by the outdoor pipe temperature sensor are used to determine sensor errors.

Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

Troubleshooting





16.4.10 H30 (Compressor Discharge Temperature Sensor Abnormality)

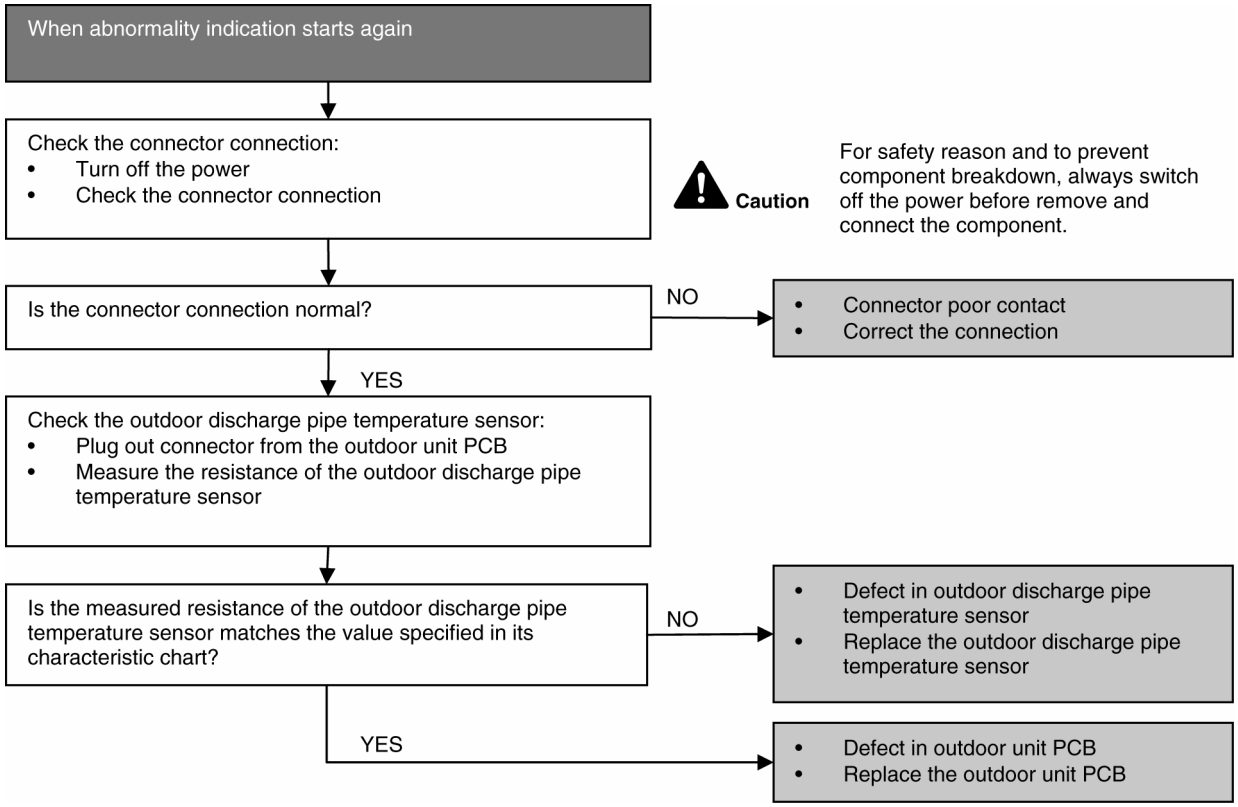
Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor discharge pipe temperature sensor are used to determine sensor errors.

Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

Troubleshooting



16.4.11 H32 (Outdoor Heat Exchanger Temperature Sensor 2 Abnormality)

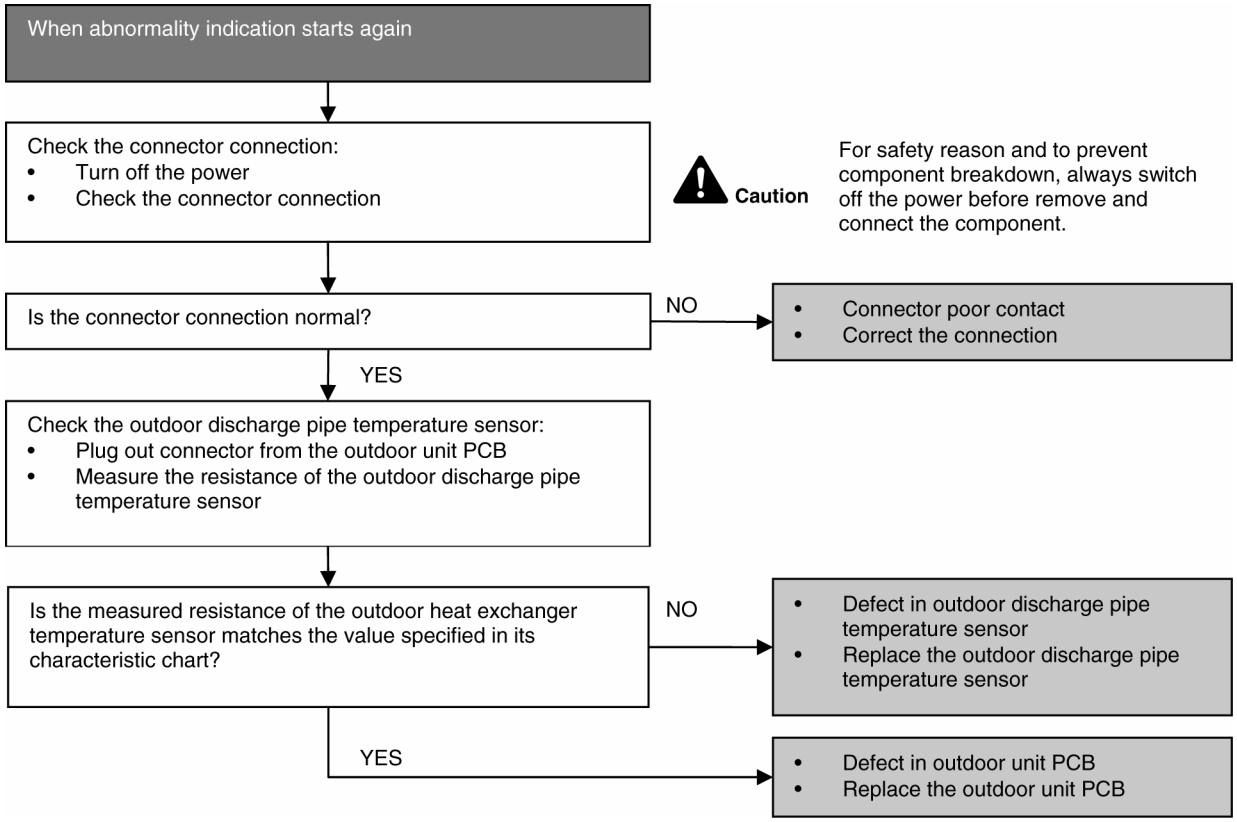
Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor heat exchanger temperature sensor are used to determine sensor errors.

Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

Troubleshooting



16.4.12 H33 (Unspecified Voltage between Indoor and Outdoor)

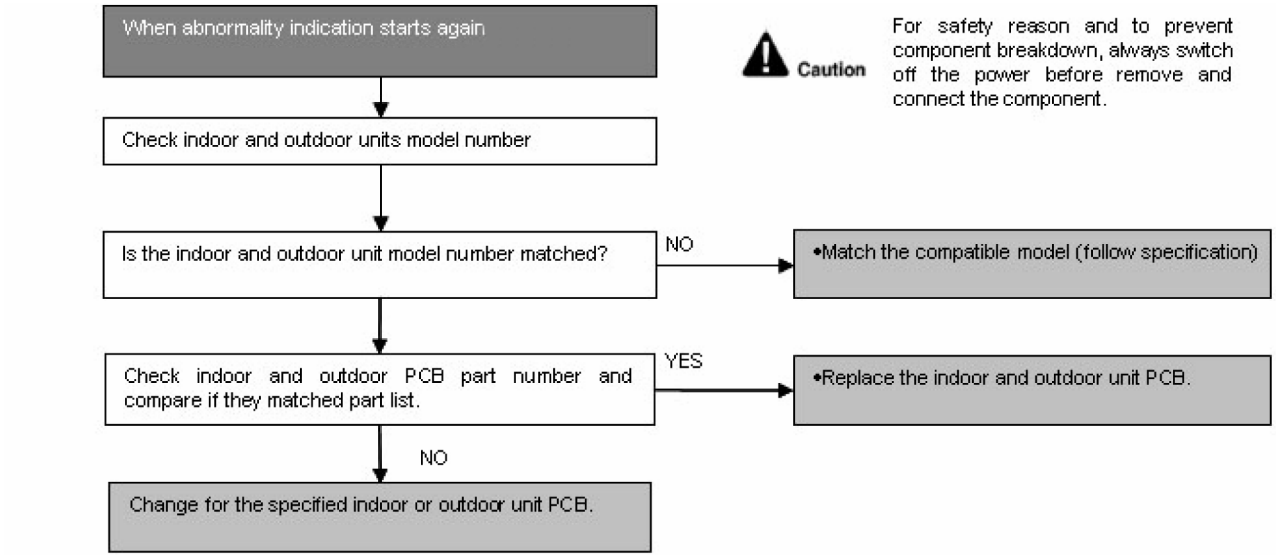
Malfunction Decision Conditions

- The supply power is detected for its requirement by the indoor/outdoor transmission.

Malfunction Caused

- Wrong models interconnected.
- Wrong indoor unit and outdoor unit PCBs used.
- Indoor unit or outdoor unit PCB defective.

Troubleshooting



16.4.13 H34 (Outdoor Heat Sink Temperature Sensor Abnormality)

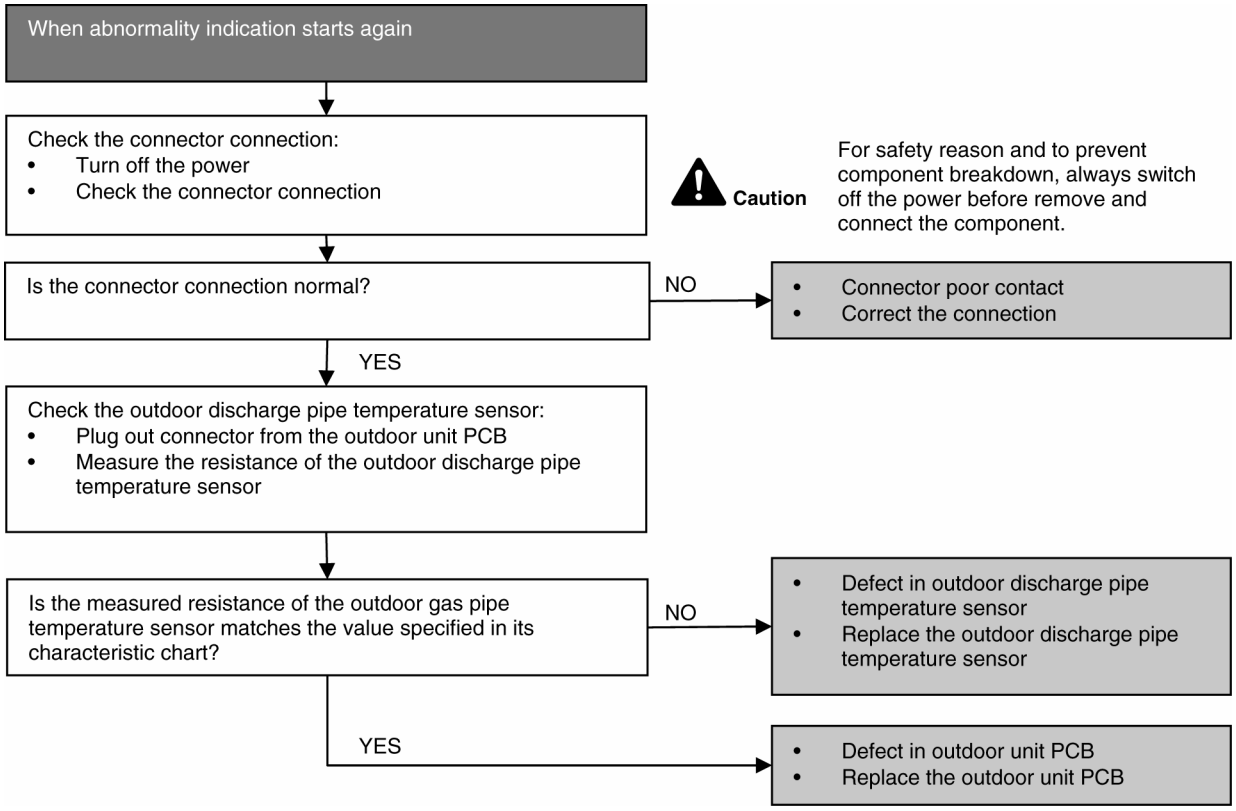
Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor heat sink temperature sensor are used to determine sensor errors.

Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

Troubleshooting



16.4.14 H36 (Outdoor Gas Pipe Sensor Abnormality)

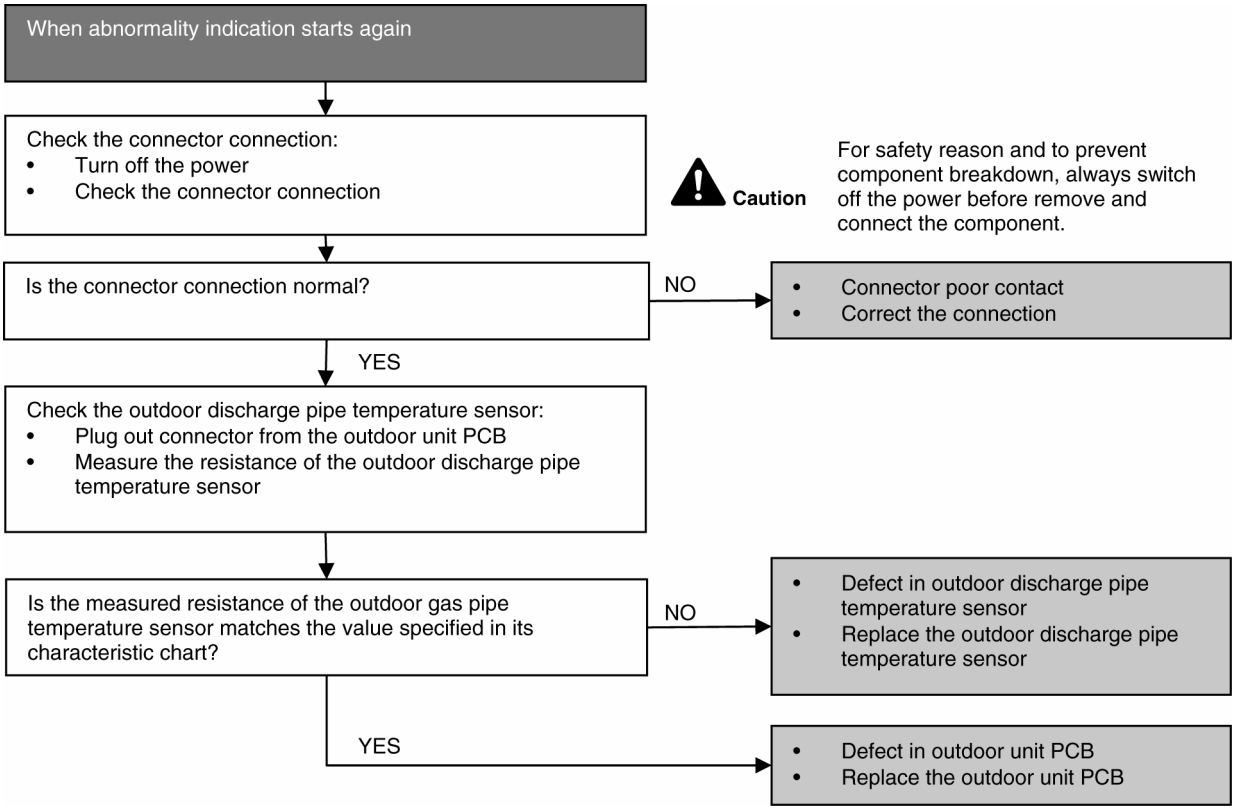
Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor gas pipe temperature sensor are used to determine sensor errors.

Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

Troubleshooting



16.4.15 H37 (Outdoor Liquid Pipe Temperature Sensor Abnormality)

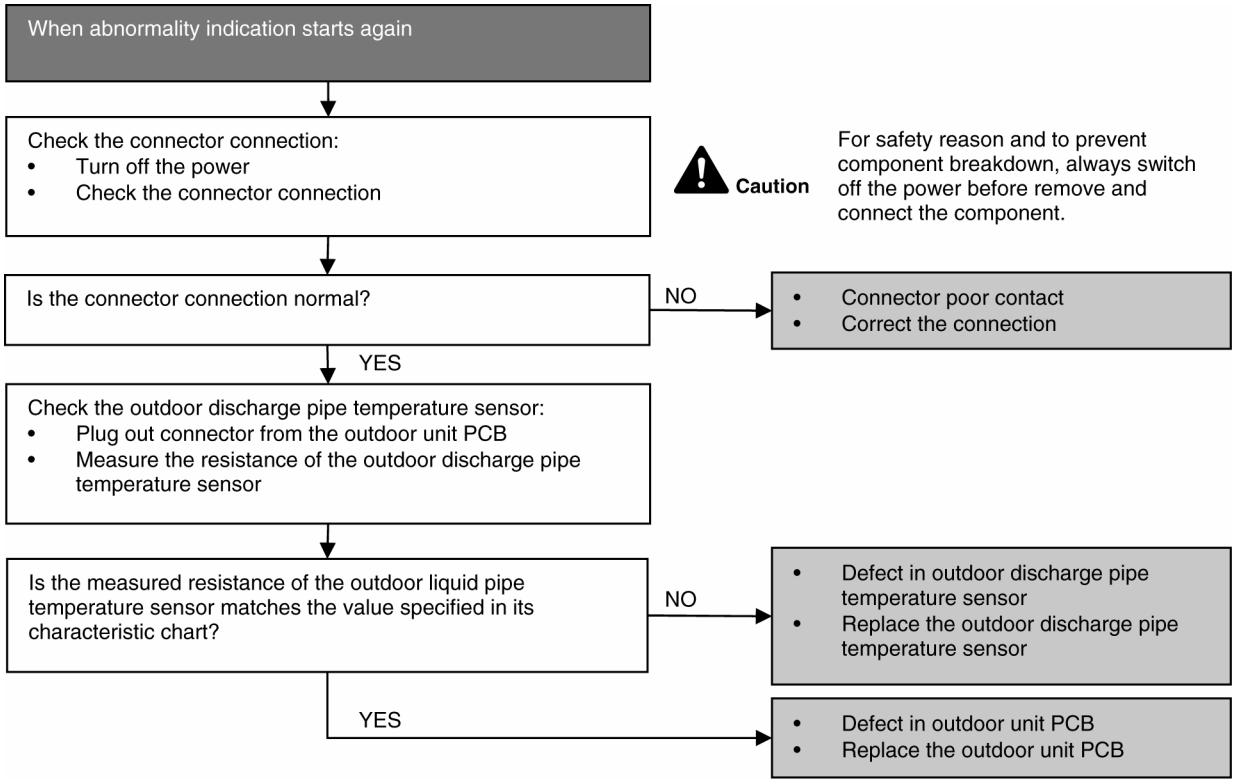
Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor liquid pipe temperature sensor are used to determine sensor errors.

Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

Troubleshooting



16.4.16 H97 (Outdoor Fan Motor – DC Motor Mechanism Locked)

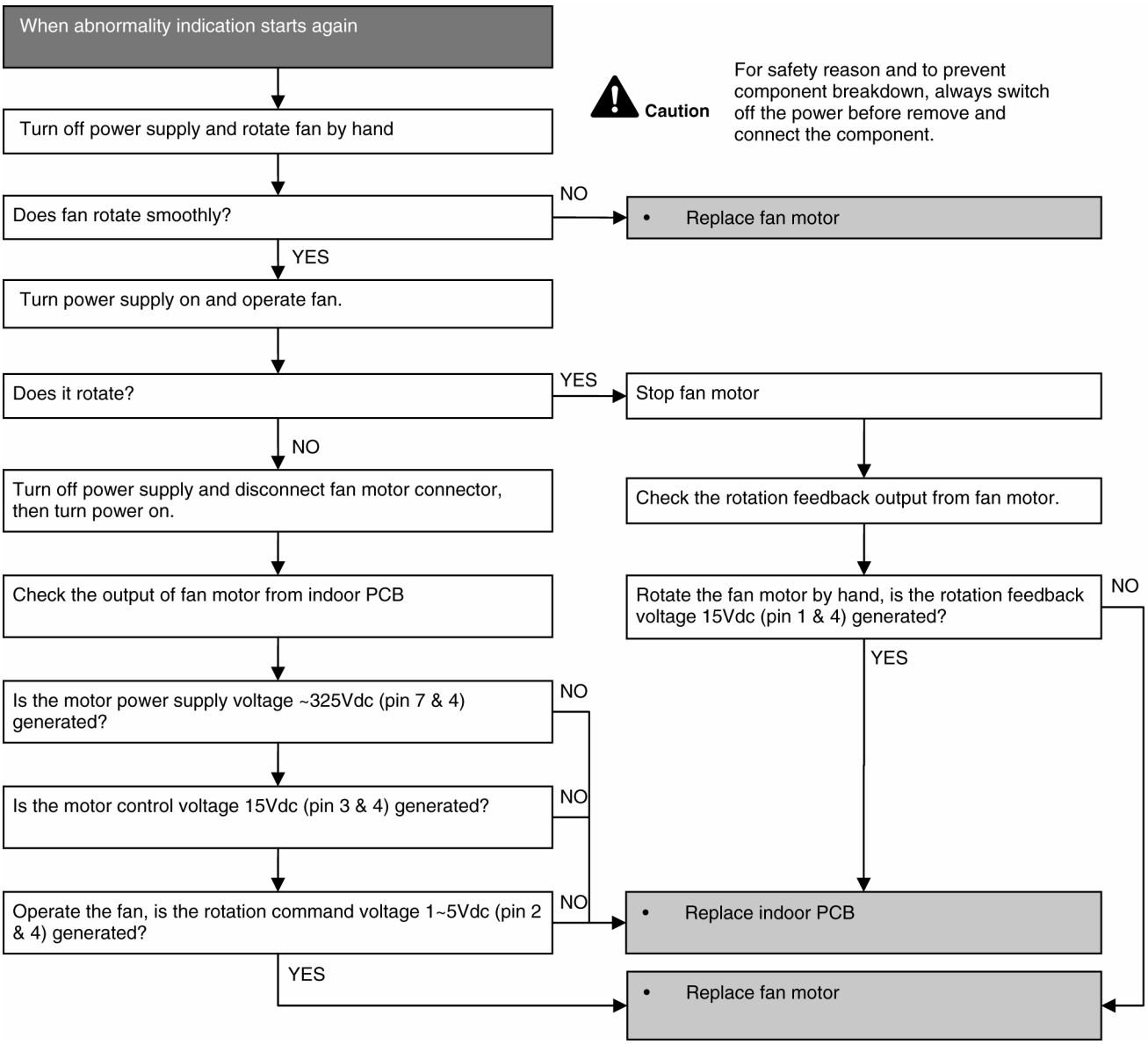
Malfunction Decision Conditions

- The rotation speed detected by the Hall IC during fan motor operation is used to determine abnormal fan motor.

Malfunction Caused

- Operation stops due to short circuit inside the fan motor winding.
- Operation stops due to breaking of wire inside the fan motor.
- Operation stops due to breaking of fan motor lead wires.
- Operation stops due to Hall IC malfunction.
- Operation error due to faulty outdoor unit PCB.

Troubleshooting



16.4.17 H98 (Indoor High Pressure Protection)

Error Code will not display (no Timer LED blinking) but store in EEPROM

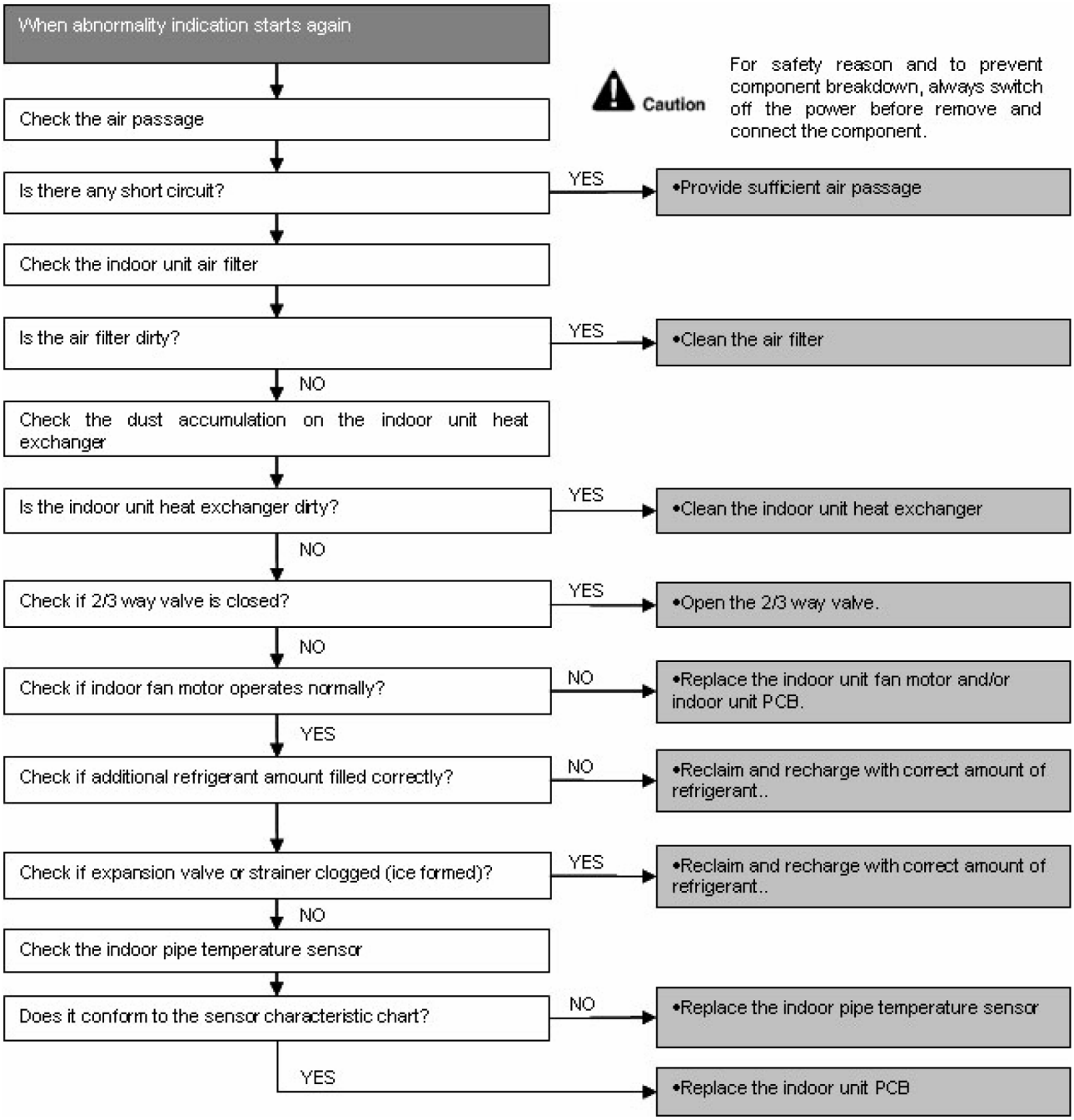
Malfunction Decision Conditions

- During heating operation, the temperature detected by the indoor pipe temperature sensor is above 60°C.

Malfunction Caused

- Air short circuit at indoor unit
- Clogged indoor unit air filter
- Dust accumulation on the indoor unit heat exchanger
- 2/3 way valve closed
- Faulty indoor unit fan motor
- Excessive refrigerant
- Clogged expansion valve or strainer
- Faulty indoor pipe temperature sensor
- Faulty indoor unit PCB

Troubleshooting



16.4.18 H99 (Indoor Freeze Prevention Protection: Cooling or Soft Dry)

Error Code will not display (no Timer LED blinking) but store in EEPROM

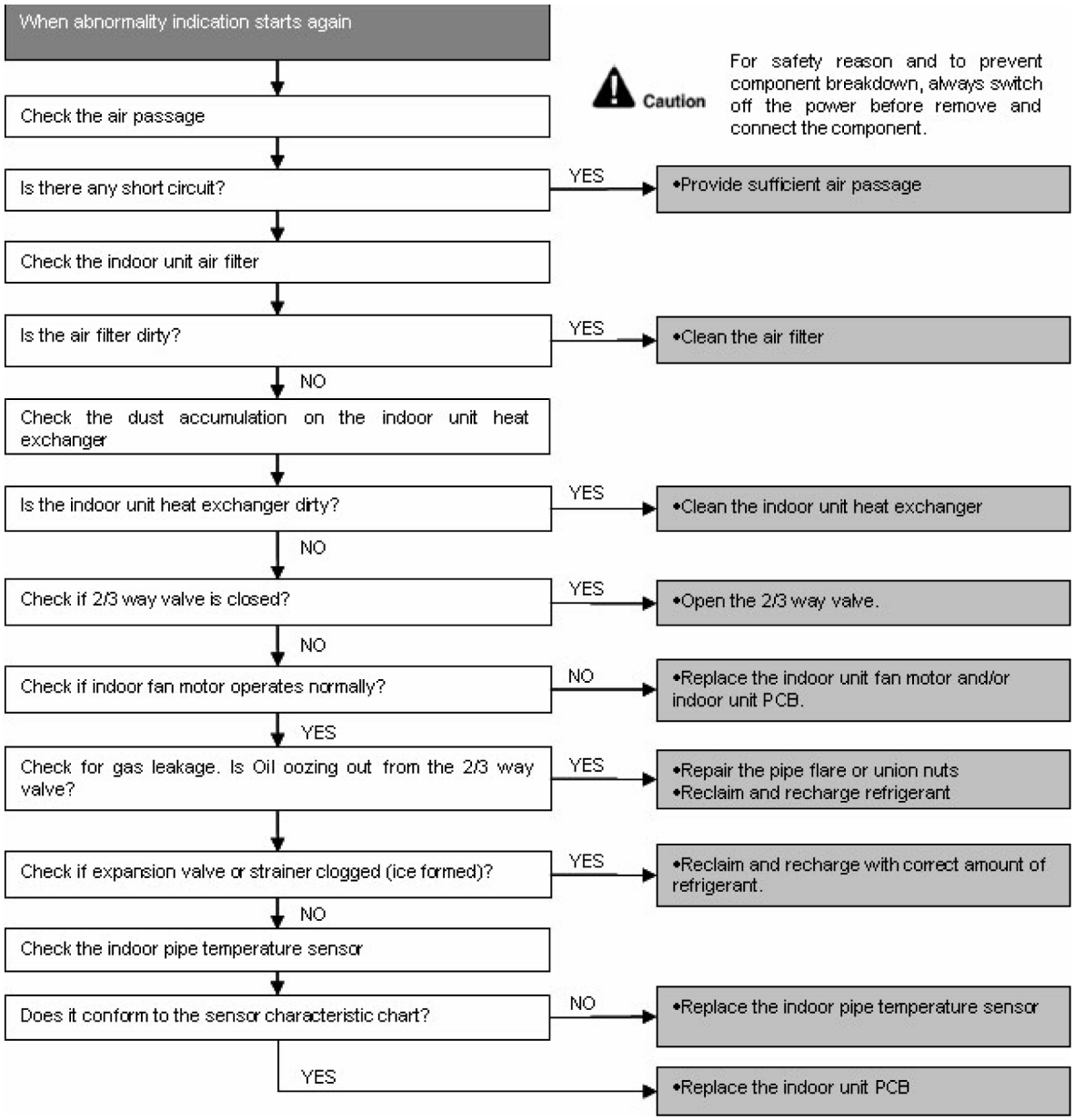
Malfunction Decision Conditions

- Freeze prevention control takes place (when indoor pipe temperature is lower than 2°C)

Malfunction Caused

- Air short circuit at indoor unit
- Clogged indoor unit air filter
- Dust accumulation on the indoor unit heat exchanger
- 2/3 way valve closed
- Faulty indoor unit fan motor
- Refrigerant shortage (refrigerant leakage)
- Clogged expansion valve or strainer
- Faulty indoor pipe temperature sensor
- Faulty indoor unit PCB

Troubleshooting



16.4.19 F11 (4-way valve Abnormality)

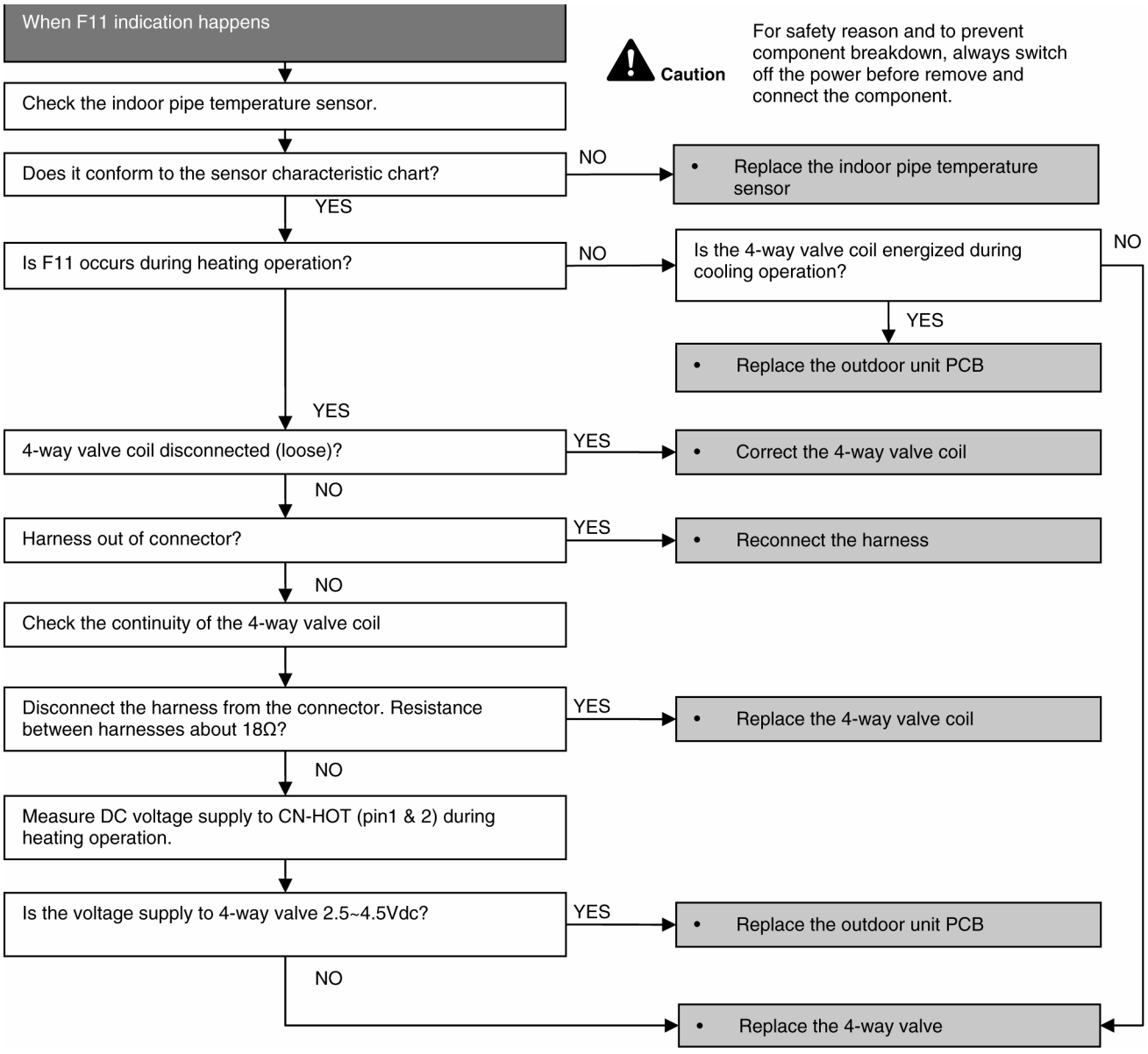
Malfunction Decision Conditions

- When heating operation, when indoor pipe temperature is below 10°C
- When cooling operation, when indoor pipe temperature is above 45°C

Malfunction Caused

- Connector in poor contact
- Faulty sensor
- Faulty outdoor unit PCB
- 4-way valve defective

Troubleshooting



16.4.20 F17 (Indoor Standby Units Freezing Abnormality)

Malfunction Decision Conditions

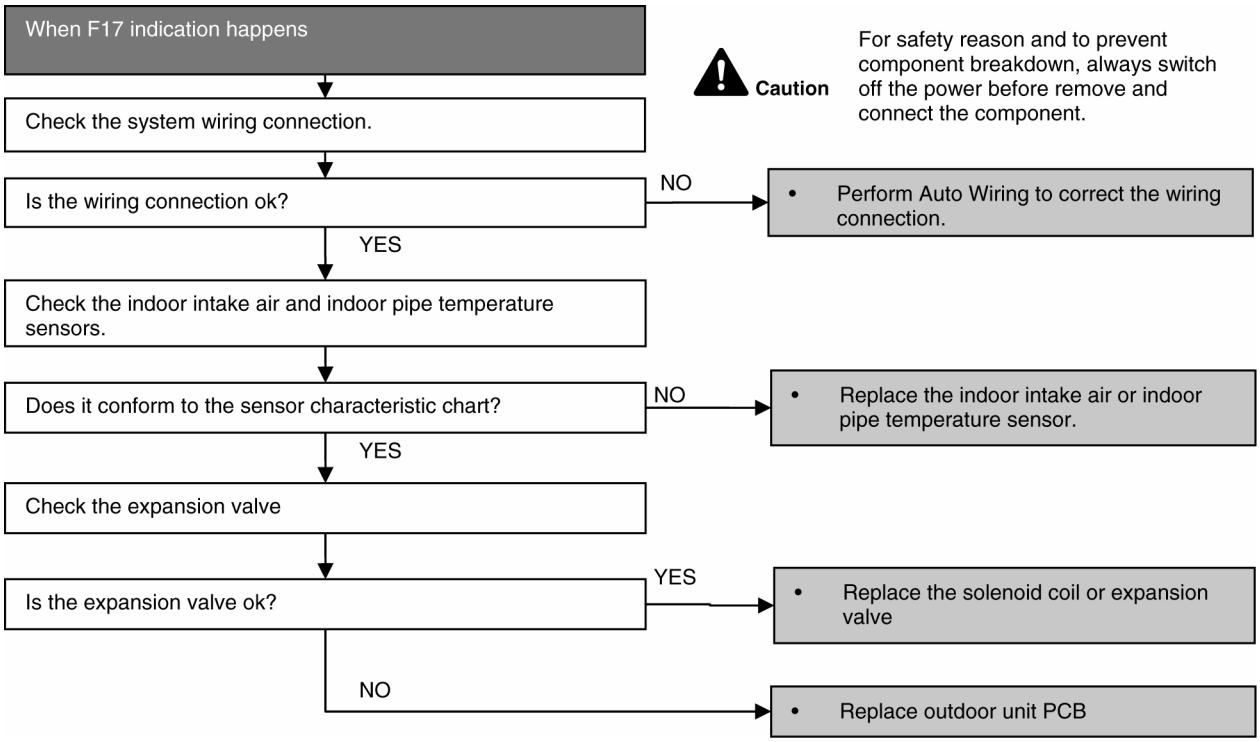
- When the different between indoor intake air temperature and indoor pipe temperature is above 10°C or indoor pipe temperature is below -1.0°C.

  Remark:
  When the indoor standby unit is freezing, the outdoor unit transfers F17 error code to the corresponding indoor unit and H39 to other indoor unit(s).

Malfunction Caused

- Wrong wiring connection
- Faulty sensor
- Faulty expansion valve

Troubleshooting



16.4.21 F90 (Power Factor Correction Protection)

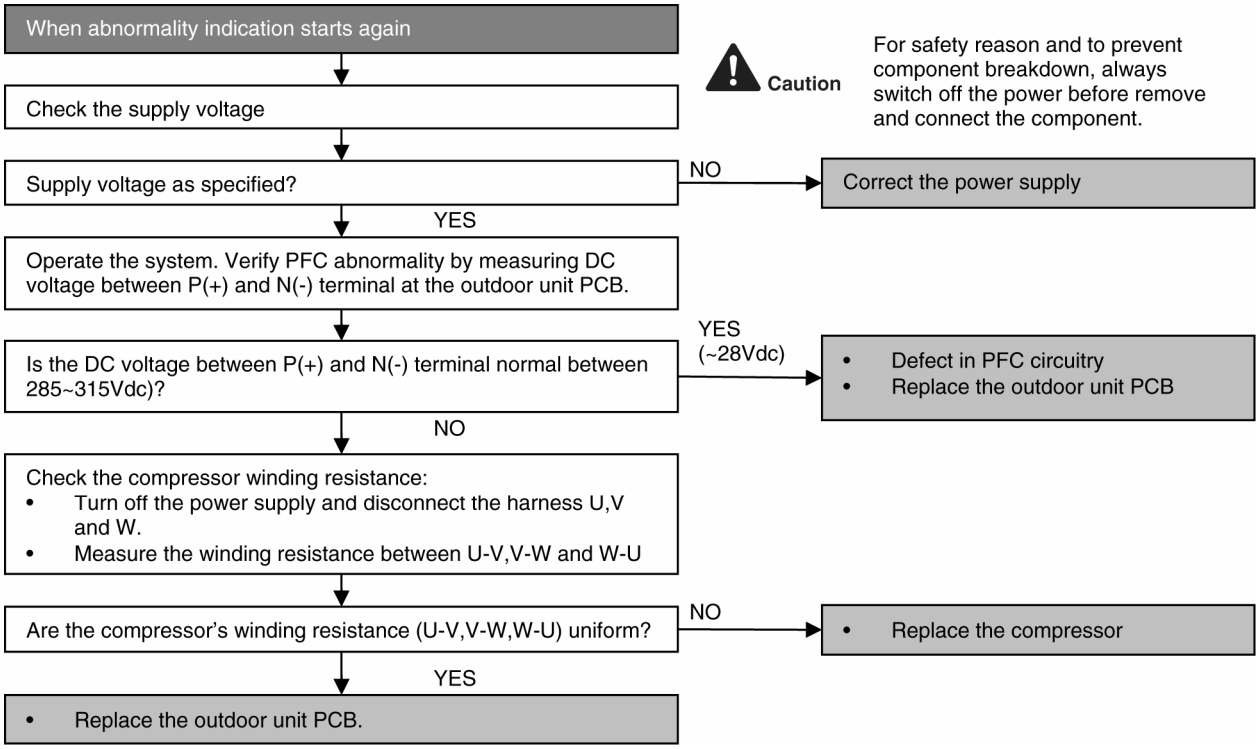
Malfunction Decision Conditions

- During startup and operation of cooling and heating, when Power Factor Correction (PFC) protection circuitry at the outdoor unit main PCB senses abnormal high DC voltage level.

Malfunction Caused

- DC voltage peak due to power supply surge.
- DC voltage peak due to compressor windings not uniform.
- Faulty outdoor PCB.

Troubleshooting



16.4.22 F91 (Refrigeration Cycle Abnormality)

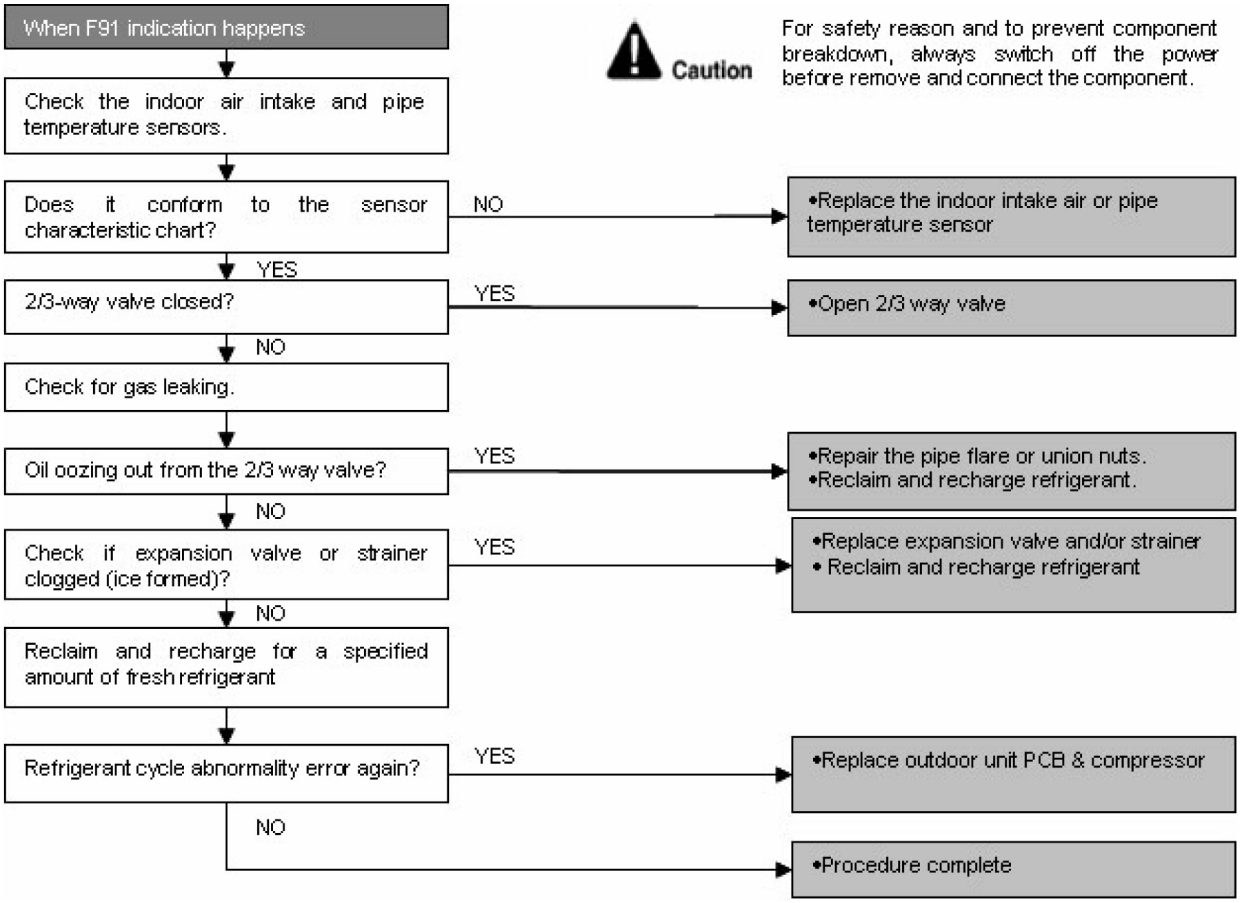
Malfunction Decision Conditions

- During cooling, compressor frequency = Fcmax.
- During heating, compressor frequency > Fhrated.
- During cooling and heating operation, running current: 0.65A < I < 1.65A.
- During cooling, indoor intake - indoor pipe < 4°C.
- During heating, indoor pipe - indoor intake < 5°C.
  Multi Models Only
  - Gas shortage detection 1: A gas shortage is detected by checking the CT-detected input current value and the compressor running frequency. During startup and operating of cooling and heating, input current < 8.78/256 (A/Hz) x compressor running frequency + 0.25.
  - Gas shortage detection 2: A gas shortage is detected by checking the difference between indoor pipe temperature and indoor intake air temperature during cooling and heating.

Malfunction Caused

- Faulty indoor intake air or pipe temperature sensor.
- 2/3 way valve closed.
- Refrigerant shortage (refrigerant leakage).
- Clogged expansion valve or strainer.
- Faulty outdoor unit.
- Poor compression of compressor.

Troubleshooting



16.4.23 F93 (Compressor Rotation Failure)

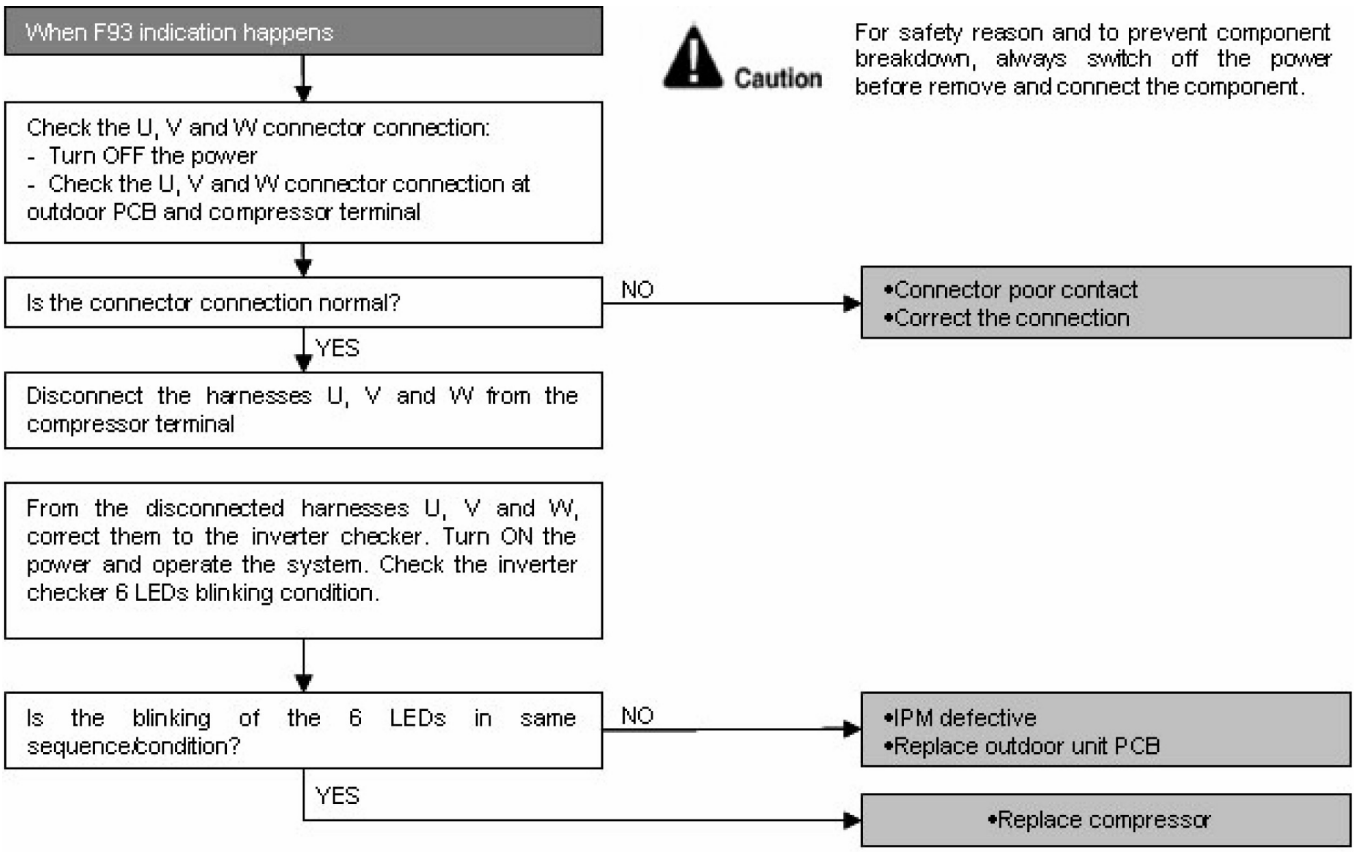
Malfunction Decision Conditions

- A compressor rotation failure is detected by checking the compressor running condition through the position detection circuit.

Malfunction Caused

- Compressor terminal disconnect
- Faulty Outdoor PCB
- Faulty compressor

Troubleshooting



16.4.24 F95 (Cooling High Pressure Abnormality)

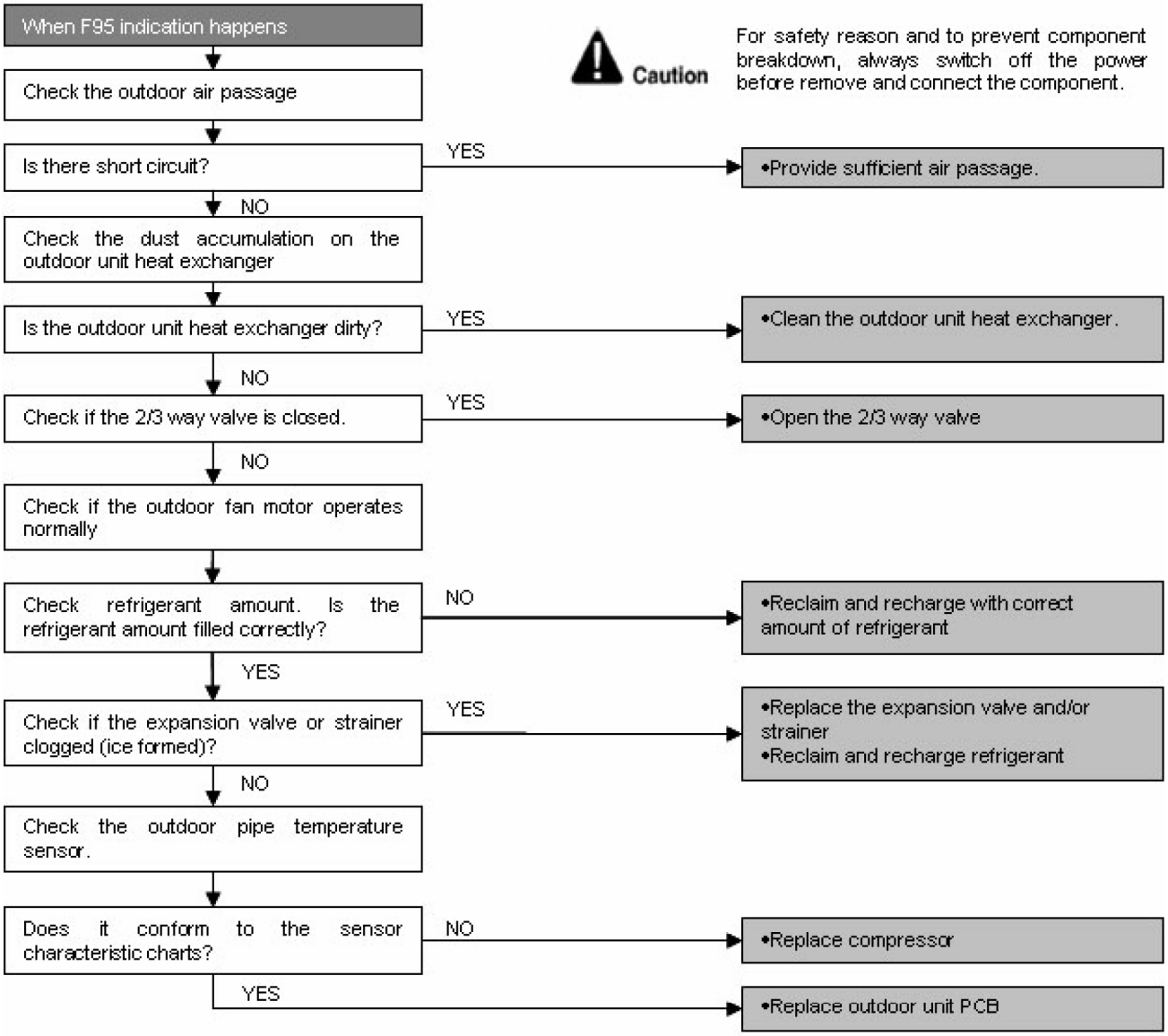
Malfunction Decision Conditions

- During operation of cooling, when outdoor unit heat exchanger high temperature data (61°C) is detected by the outdoor pipe temperature sensor.

Malfunction Caused

- Air short circuit at indoor unit
- Dust accumulation on the indoor unit heat exchanger
- 2/3 way valve closed
- Faulty outdoor unit fan motor
- Excessive refrigerant
- Clogged expansion valve or strainer
- Faulty outdoor pipe temperature sensor
- Faulty outdoor unit PCB

Troubleshooting



16.4.25 F96 (IPM Overheating)

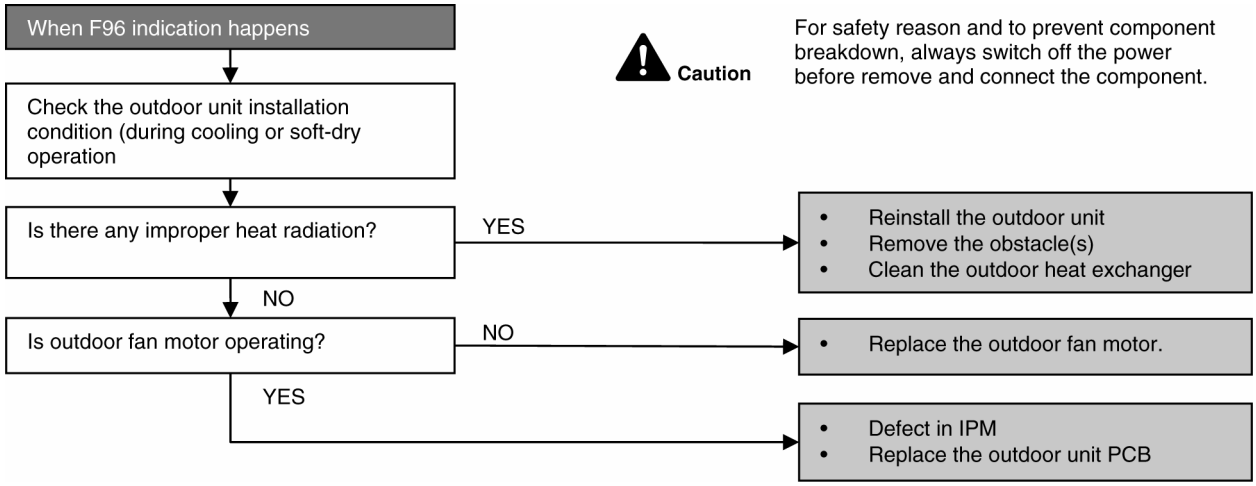
Malfunction Decision Conditions

- During operating of cooling and heating, when IPM temperature data (100°C) is detected by the IPM temperature sensor.
  Multi Models only
  - Compressor Overheating: During operation of cooling and heating, when the compressor OL is activated.
  - Heat Sink Overheating: During operation of cooling and heating, when heat sink temperature data (90°C) is detected by the heat sink temperature sensor.

Malfunction Caused

- IPM overheats due to short circuit of hot discharge air flow.
- IPM overheats due to defective of outdoor fan motor.
- IPM overheats due to defective of internal circuitry of IPM.
- IPM overheats due to defective IPM temperature sensor.
  Multi Models Only
  - Compressor OL connector poor contact.
  - Compressor OL faulty.

Troubleshooting



16.4.26 F97 (Compressor Overheating)

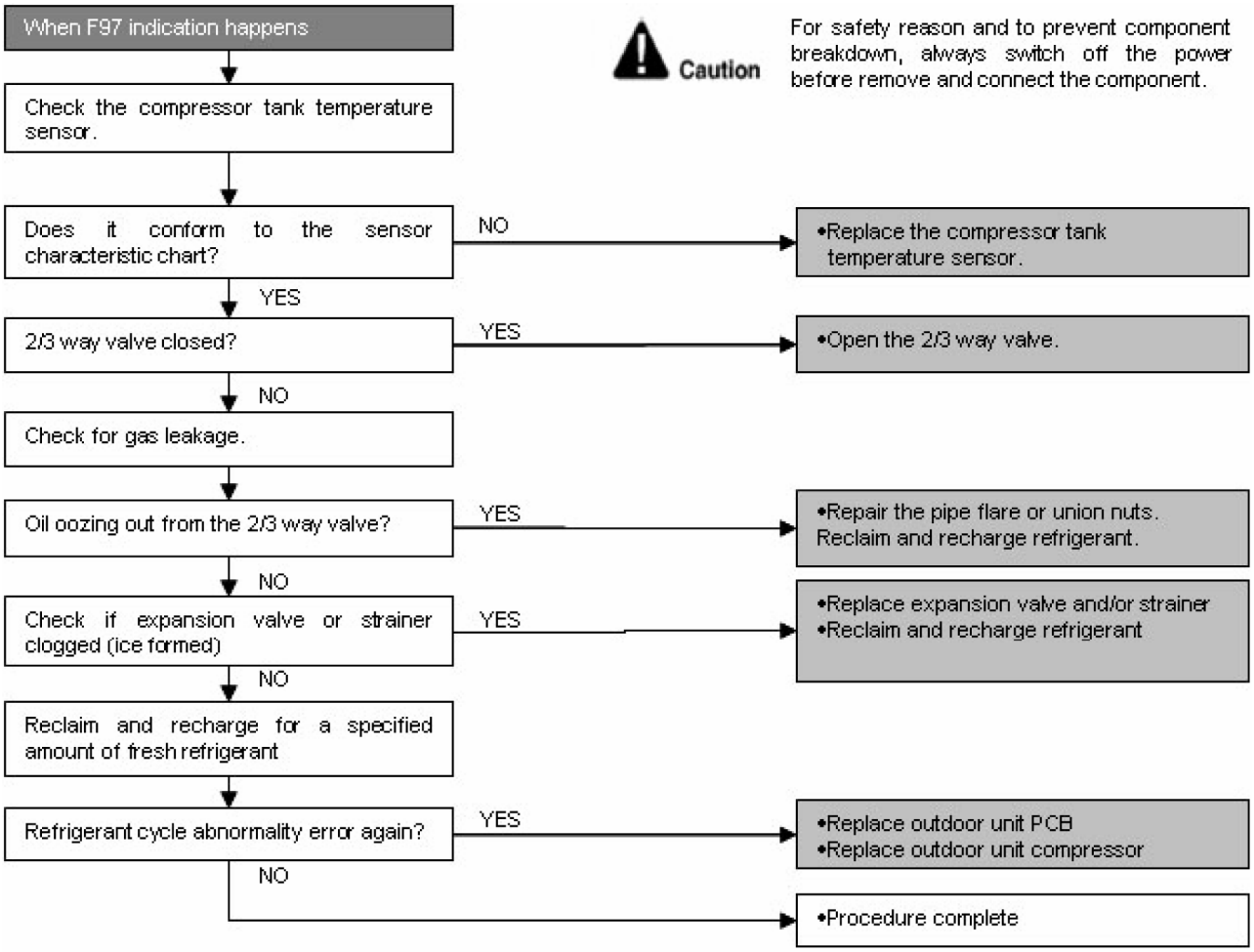
Malfunction Decision Conditions

- During operation of cooling and heating, when compressor tank temperature data (112°C) is detected by the compressor tank temperature sensor.

Malfunction Caused

- Faulty compressor tank temperature sensor
- 2/3 way valve closed
- Refrigerant shortage (refrigerant leakage)
- Faulty outdoor unit PCB
- Faulty compressor

Troubleshooting



16.4.27 F98 (Input Over Current Detection)

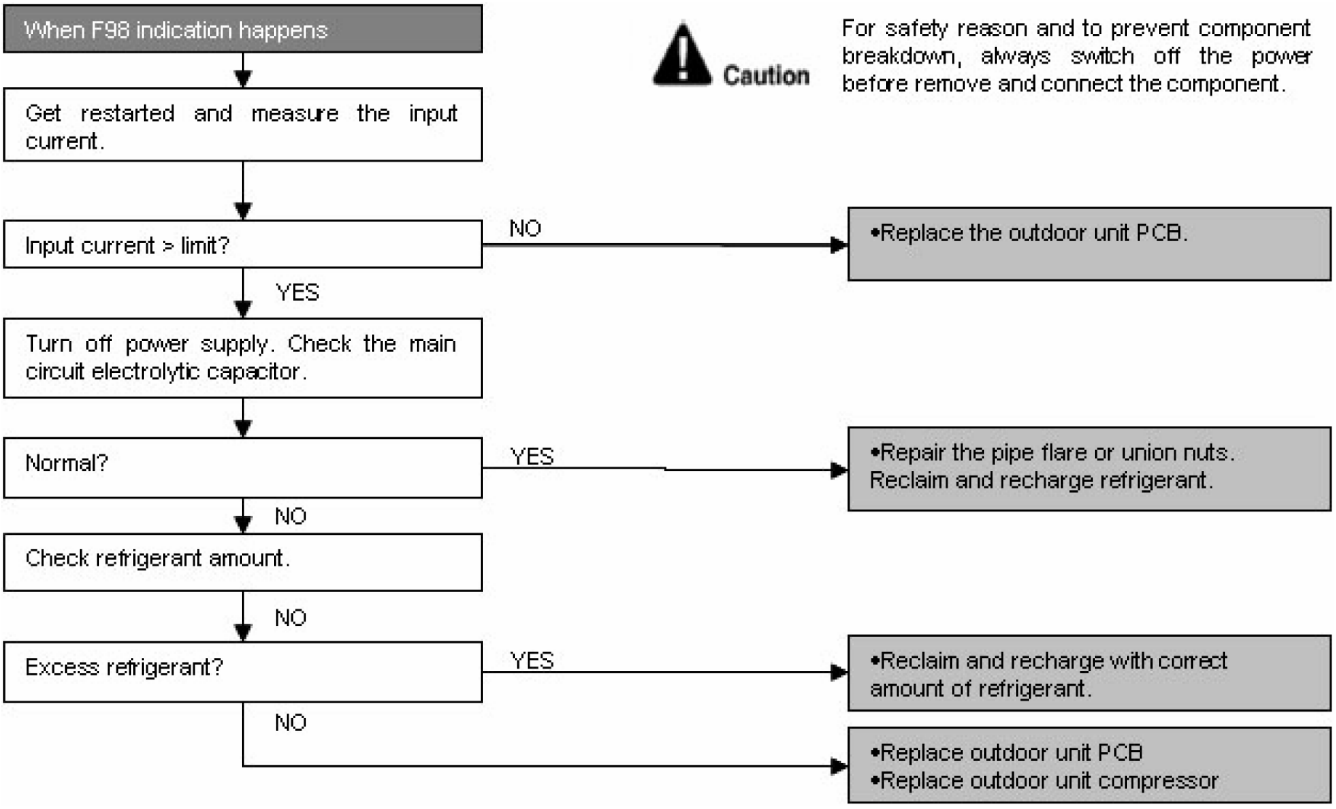
Malfunction Decision Conditions

- During operation of cooling and heating, when an input over-current (X value in Total Running Current Control) is detected by checking the input current value being detected by current transformer (CT) with the compressor running.

Malfunction Caused

- Excessive refrigerant.
- Faulty outdoor unit PCB.

Troubleshooting



16.4.28 F99 (Output Over Current Detection)

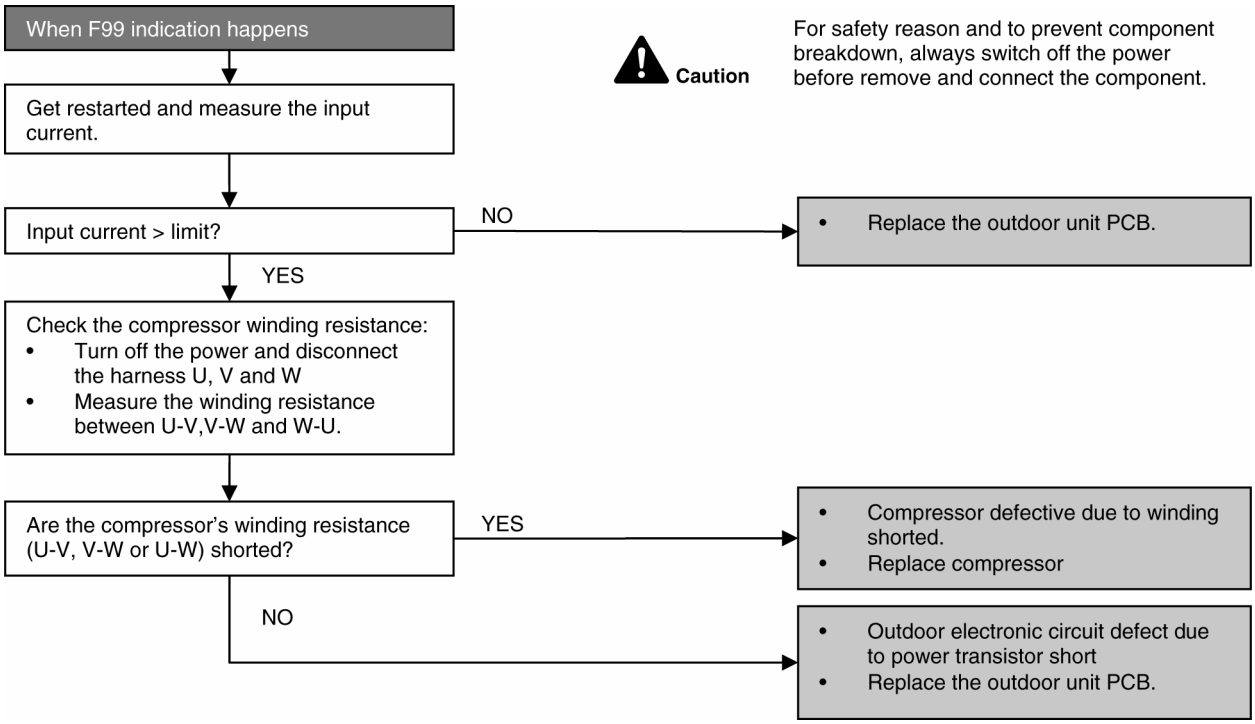
Malfunction Decision Conditions

- During operation of cooling and heating, when an output over-current (DC peak current value at IPM Prevention Control) is detected by checking the current that flows in the inverter DC peak sensing circuitry.

Malfunction Caused

- Faulty outdoor unit PCB
- Faulty compressor

Troubleshooting



- Checking the power transistor
- Never touch any live parts for at least 10 minutes after turning off the circuit breaker.
- If unavoidable necessary to touch a live part, make sure the power transistor's supply voltage is below 50V using the tester.
- For the UVW, make measurement at the Faston terminal on the board of the relay connector.

Tester's negative terminal	Power transistor (+)	UVW	Power transistor (-)	UVW
Tester's positive terminal	UVW	Power transistor (+)	UVW	Power transistor (-)
Normal resistance	Several kΩ to several MΩ			
Abnormal resistance	0 or ∞			

17. 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.

17.1 CS-E7NK CS-E9NK CS-E12NK CS-E15NK CS-XE7NK CS-XE9NK CS-XE12NK CS-XE15NK

17.1.1 Indoor Electronic Controllers, Cross Flow Fan and Indoor Fan Motor Removal Procedures

17.1.1.1 To remove front grille

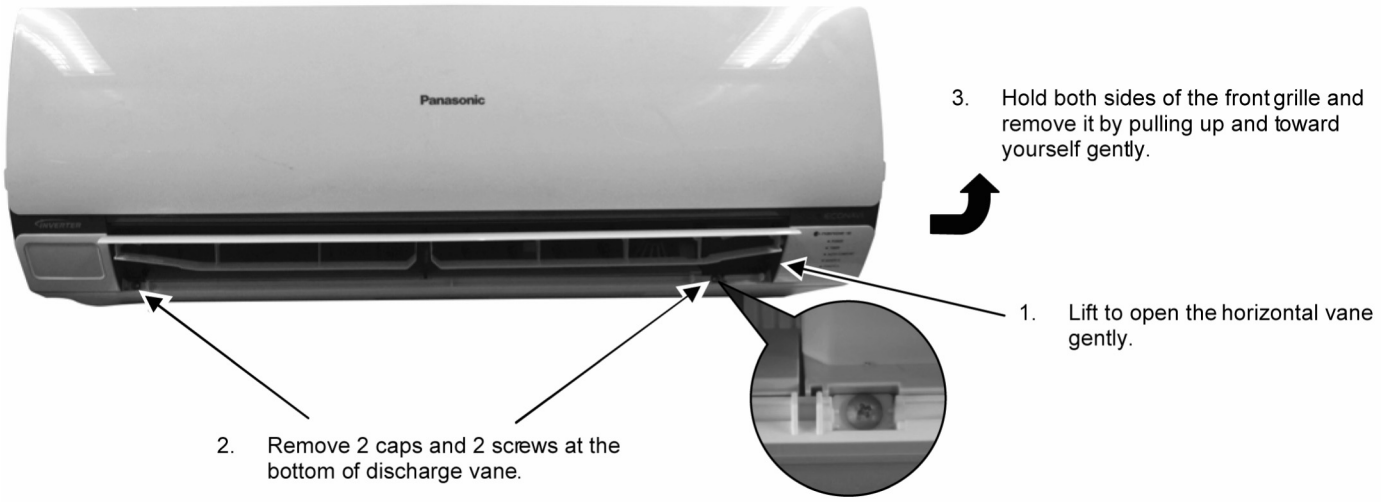


Figure 1

17.1.1.2 To remove power electronic controller

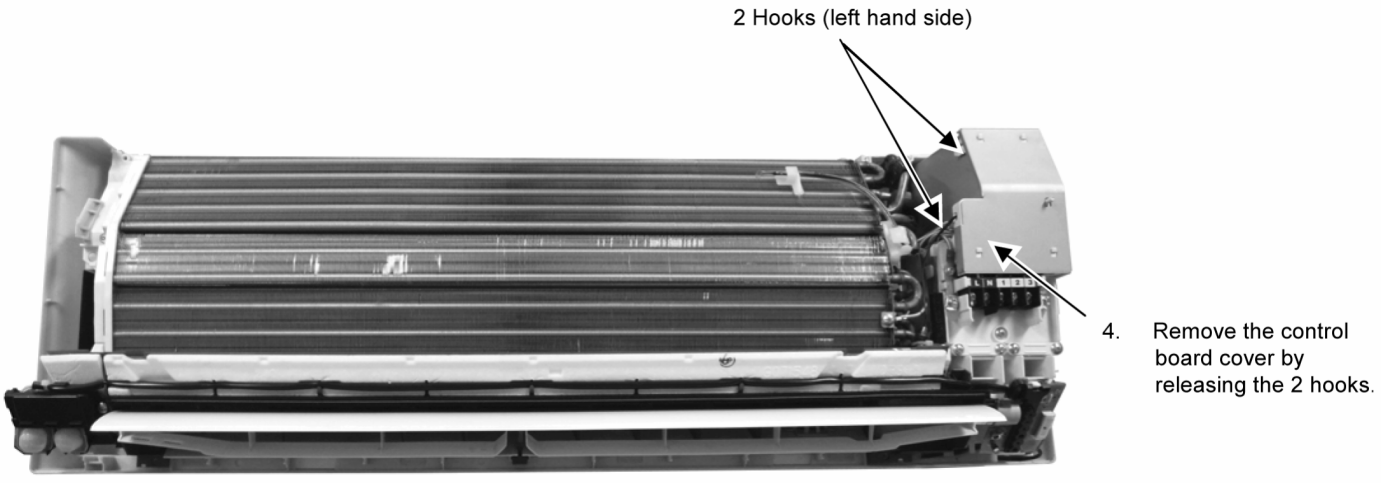


Figure 2

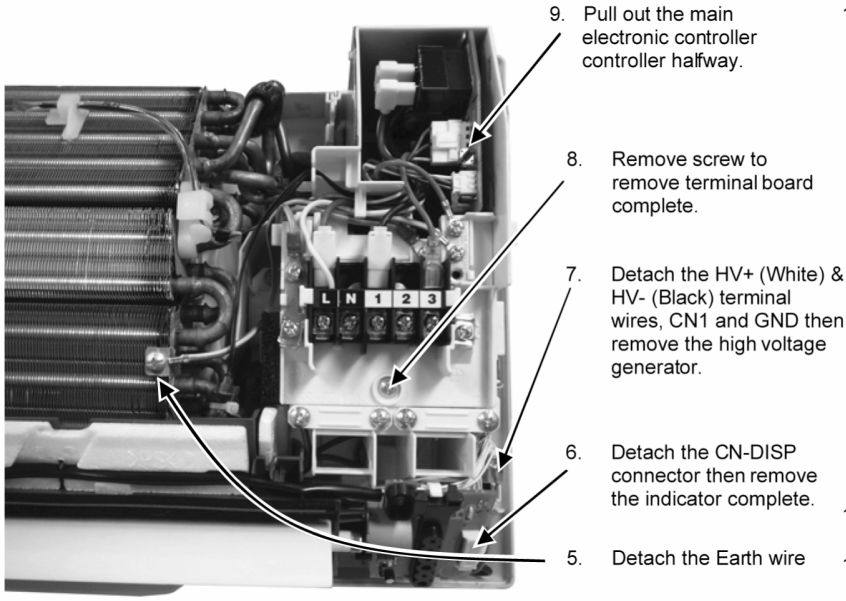


Figure 3

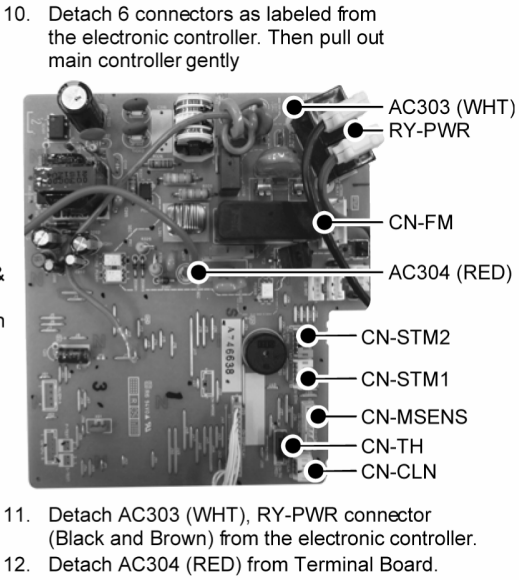


Figure 4

17.1.1.3 To remove discharge grille

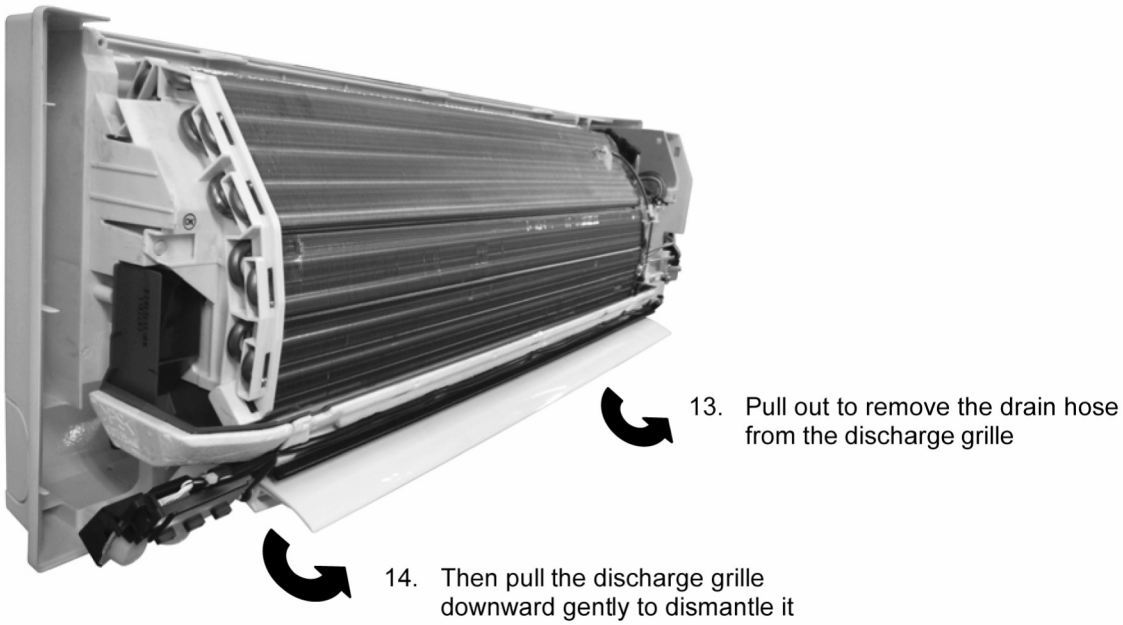
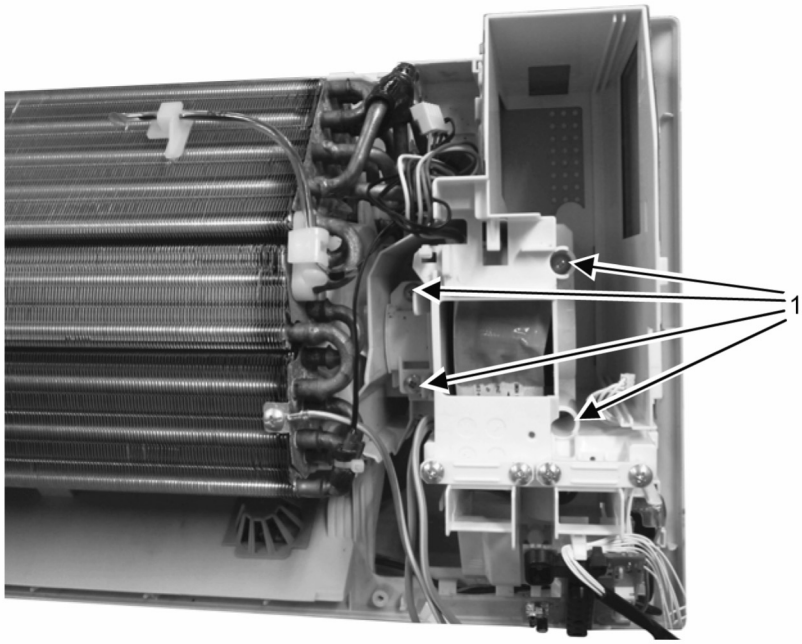


Figure 5

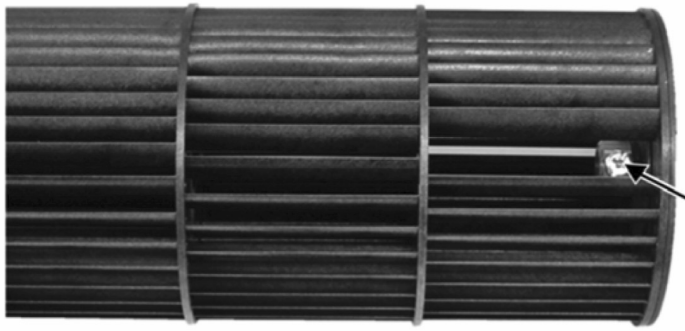
17.1.1.4 To remove control board



15. Remove 4 screws holding the control board then pull out the control board.

Figure 6

17.1.1.5 To remove cross flow fan and indoor fan motor



16. Remove the screw that holding the cross flow fan and fan motor axis.

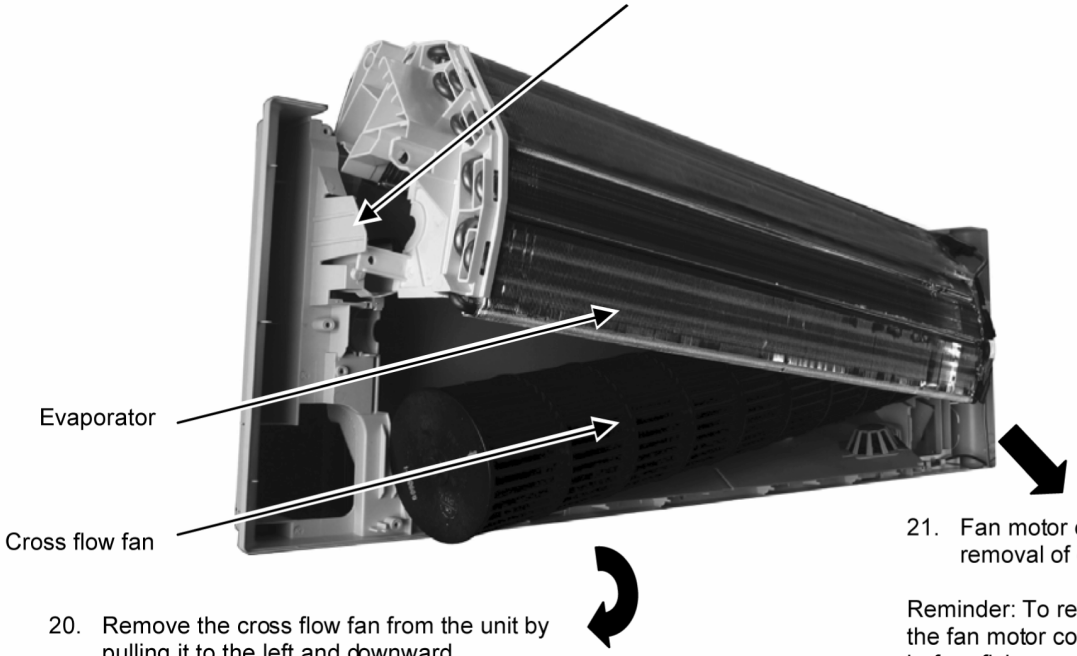
Figure 7

18. Remove the bearing by pulling it out gently

17. Remove the screw from the evaporator.

Figure 8

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

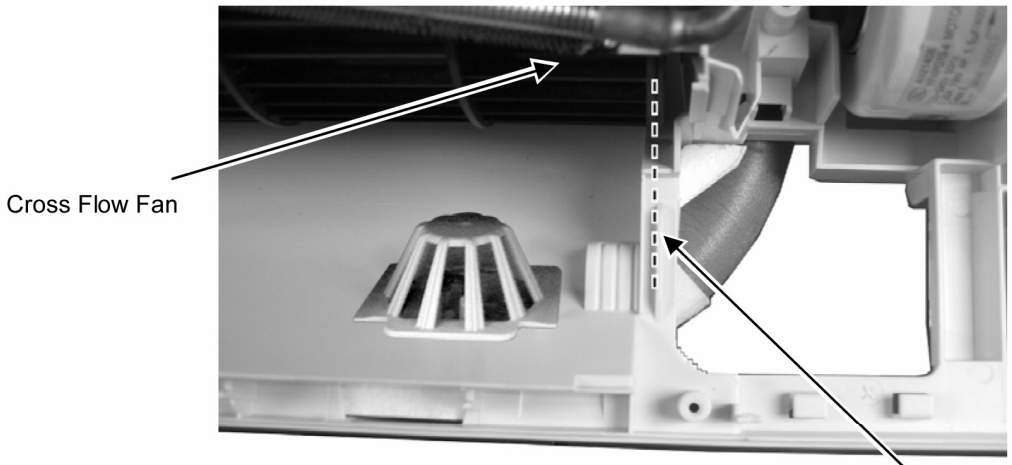


20. Remove the cross flow fan from the unit by pulling it to the left and downward.

21. Fan motor can be removed after the removal of cross flow fan.

Reminder: To reinstall the fan motor, adjust the fan motor connector to 45° towards you before fixing control board.

Figure 9



Reminder: To reinstall the cross flow fan, ensure cross flow fan is in line as shown in figure 10.

Figure 10

17.2 CS-E18NK CS-E21NK CS-XE18NK CS-XE21NK

17.2.1 Indoor Electronic Controllers, Cross Flow Fan and Indoor Fan Motor Removal Procedures

17.2.1.1 To remove front grille

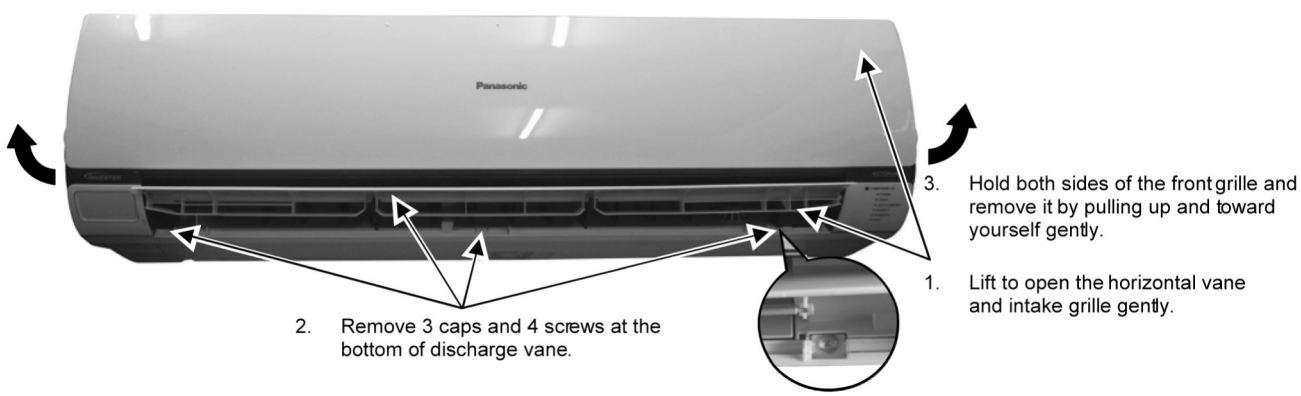


Figure 11

17.2.1.2 To remove horizontal vane

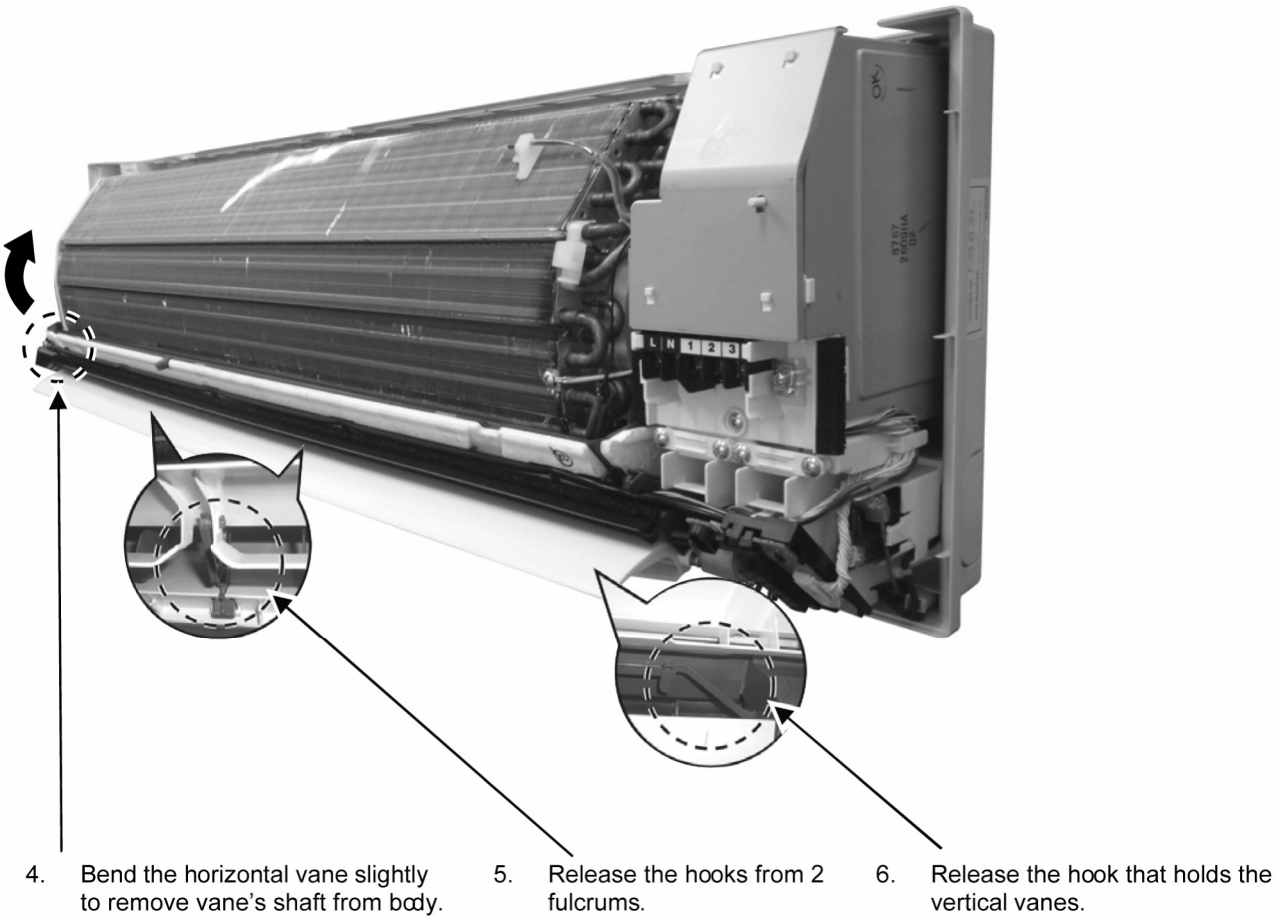


Figure 12

17.2.1.3 To remove power electronic controller

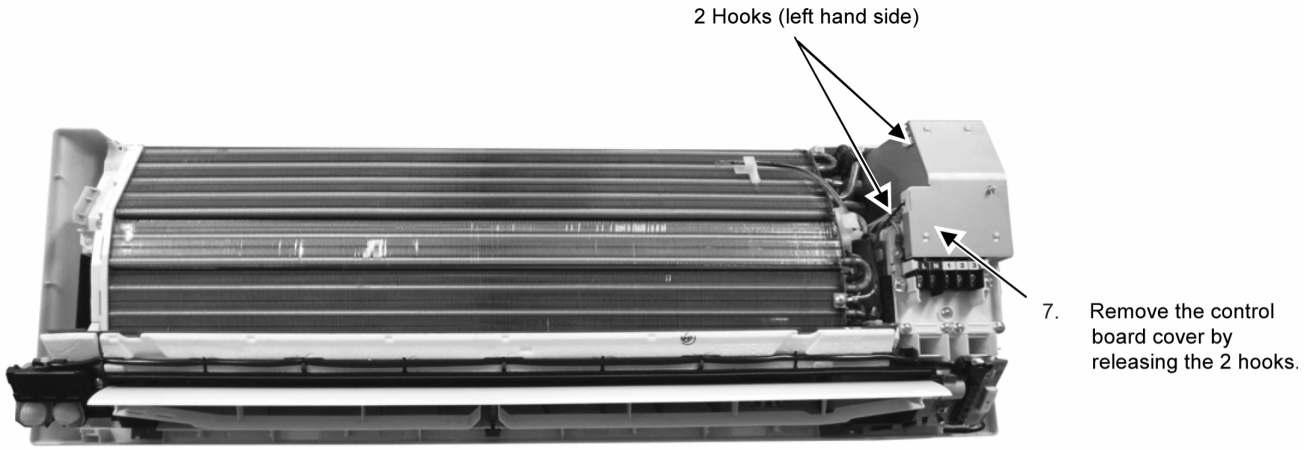
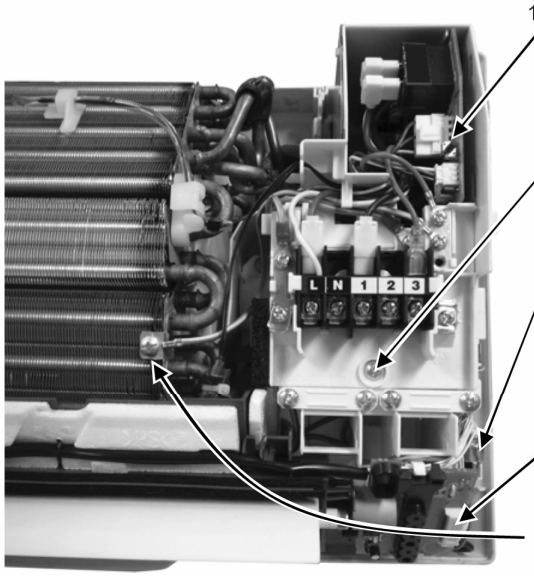


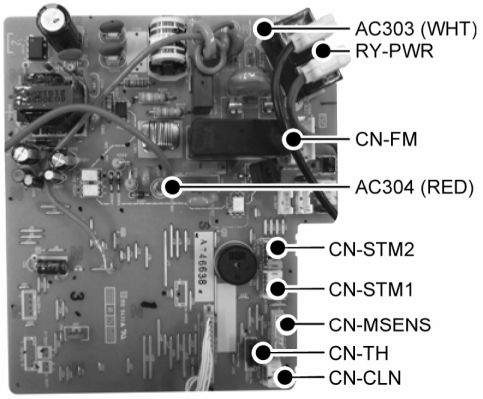
Figure 13



12. Pull out the main electronic controller controller halfway.
11. Remove screw to remove terminal board complete.
10. Detach the HV+ (White) & HV- (Black) terminal wires, CN1 and GND then remove the high voltage generator.
9. Detach the CN-DISP connector then remove the indicator complete.
8. Detach the Earth wire

Figure 14

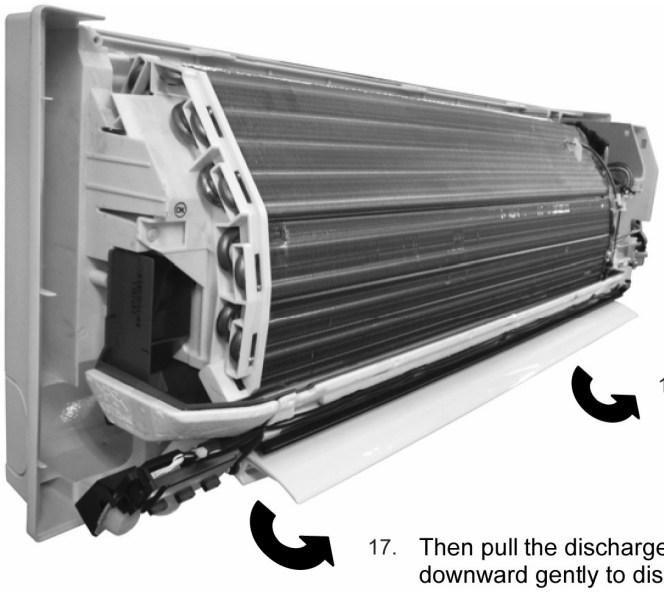
13. Detach 6 connectors as labeled from the electronic controller. Then pull out main controller gently



14. Detach AC303 (WHT), RY-PWR connector (Black and Brown) from the electronic controller.
15. Detach AC304 (RED) from Terminal Board.

Figure 15

17.2.1.4 To remove discharge grille

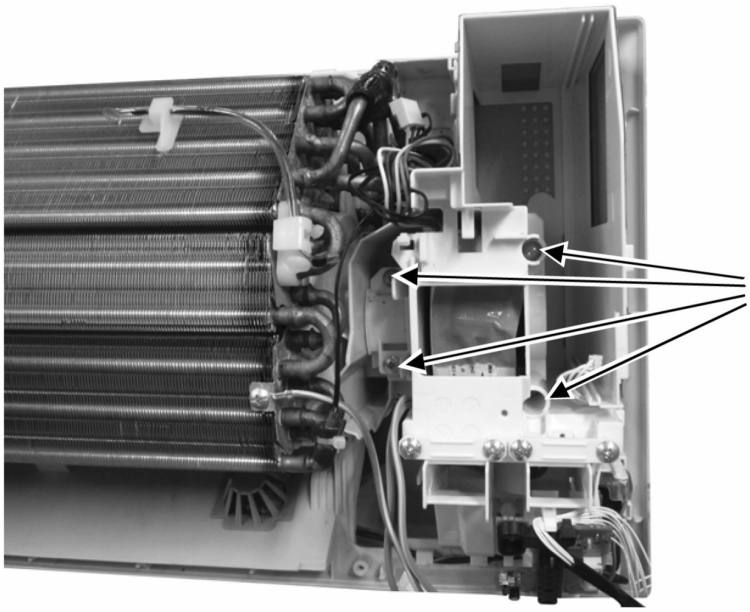


16. Pull out to remove the drain hose from the discharge grille

17. Then pull the discharge grille downward gently to dismantle it

Figure 16

17.2.1.5 To remove control board



18. Remove 4 screws holding the control board then pull out the control board.

1

Figure 17

17.2.1.6 To remove cross flow fan and indoor fan motor

19. Remove the screw that holding the cross flow fan and fan motor axis.

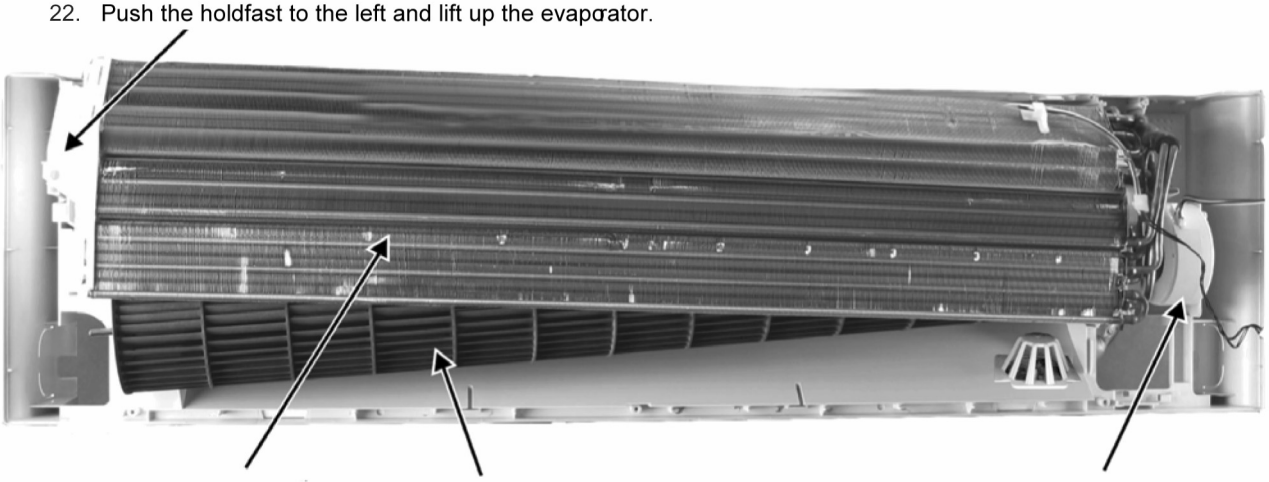
Figure 18

21. Remove the bearing by pulling it out gently

20. Remove the screw from the evaporator.

Figure 19

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



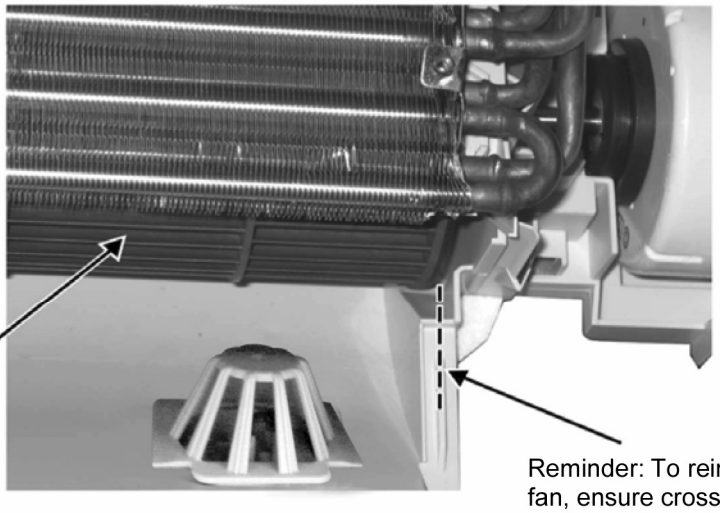
Evaporator

23. Remove the cross flow fan from the unit by pulling it to the left and downward.

24. Fan motor can be removed after the removal of cross flow fan.

Reminder: To reinstall the fan motor, adjust the fan motor connector to 45° towards you before fixing control board.

Figure 20



Cross Flow Fan

Reminder: To reinstall the cross flow fan, ensure cross flow fan is in line as shown in figure 21.

Figure 21

17.3 Outdoor Electronic Controller Removal Procedure

17.3.1 CU-E7NKE CU-E9NKE CU-E7NKE-3 CU-E9NKE-3 CU-E12NKE-3

⚠ Caution! When handling electronic controller, be careful of electrostatic discharge.

1 Remove the 3 screws of the Top Panel.

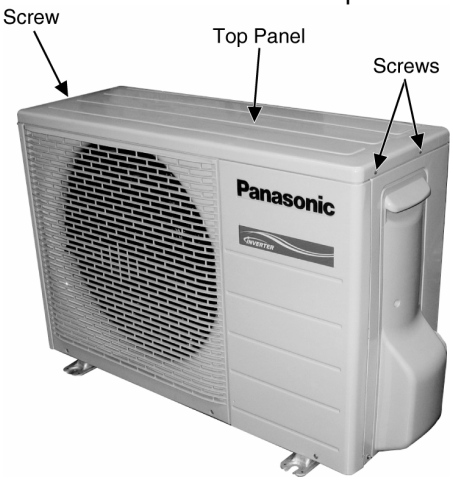


Fig. 1

2 Remove the 6 screws of the Front Panel.

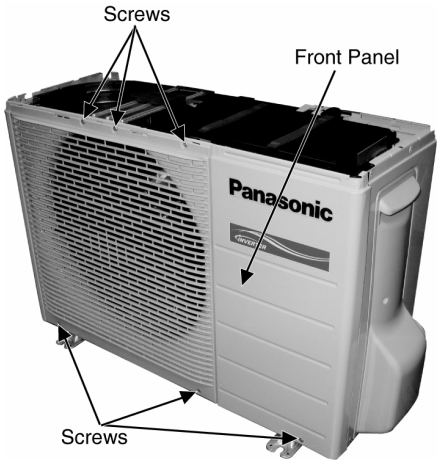


Fig. 2

3 Remove the screw of the Terminal Board Cover.

4 Remove the Top Cover of the Control Board by 4 hooks.

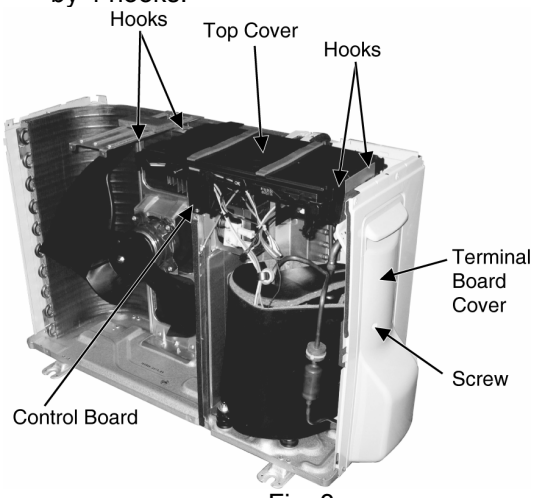


Fig. 3

5 Remove the Control Board as follows:

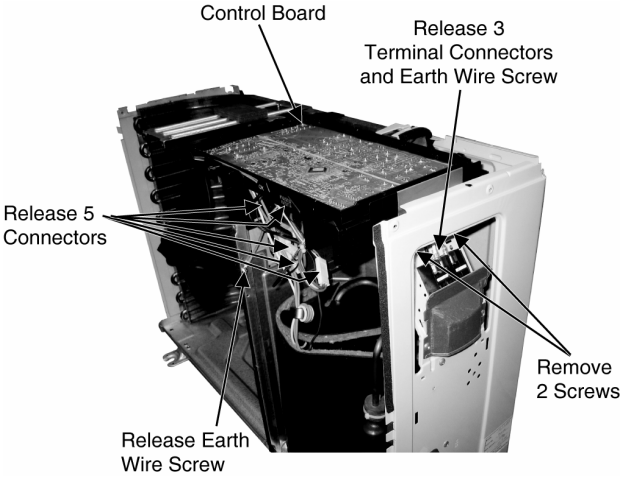


Fig. 4

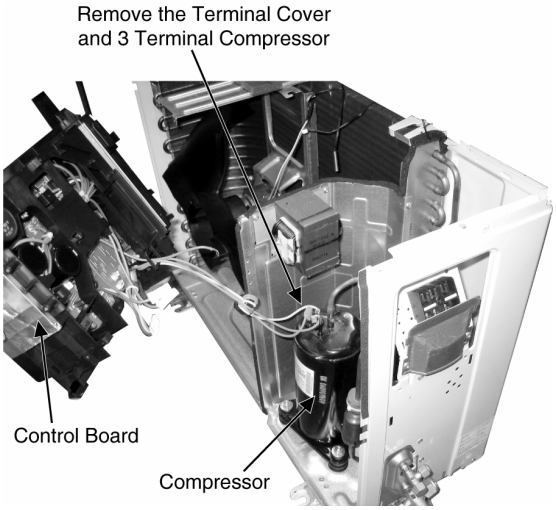


Fig. 5

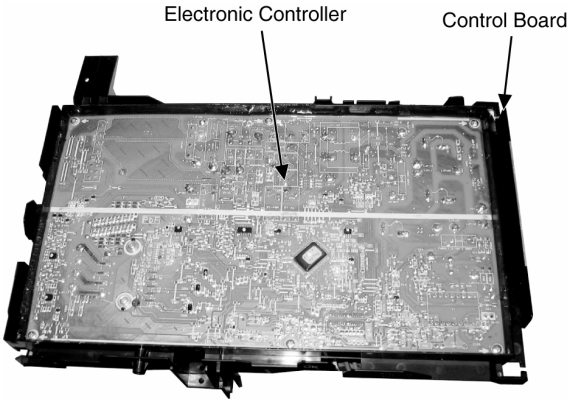


Fig. 6

17.3.2 CU-E12NKE CU-E15NKE

⚠ Caution! When handling electronic controller, be careful of electrostatic discharge.

1 Remove the 5 screws of the Top Panel.

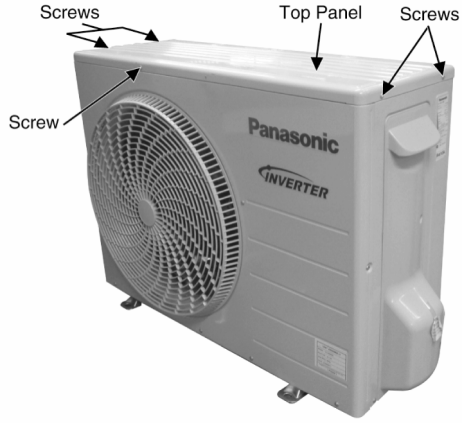


Fig. 1

2 Remove the 8 screws of the Front Panel.

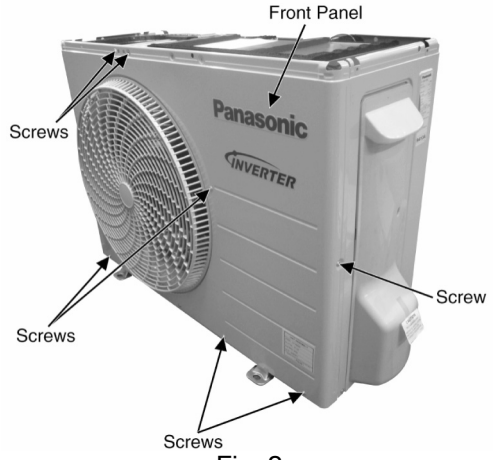


Fig. 2

3 Remove the screw of the Terminal Board Cover.

4 Remove the Top Cover of the Control Board by 4 hooks.

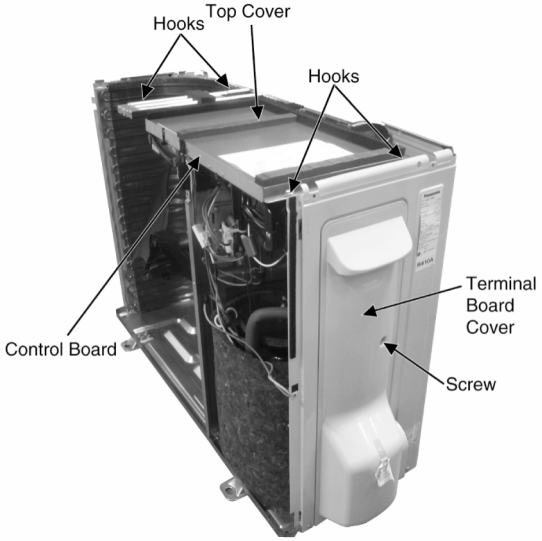


Fig. 3

5 Remove the Control Board as follows:

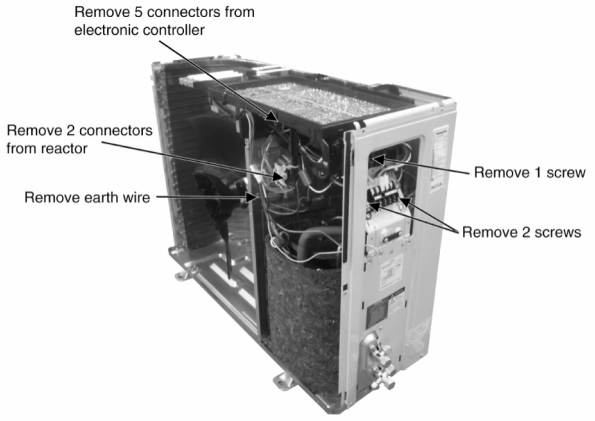


Fig. 4

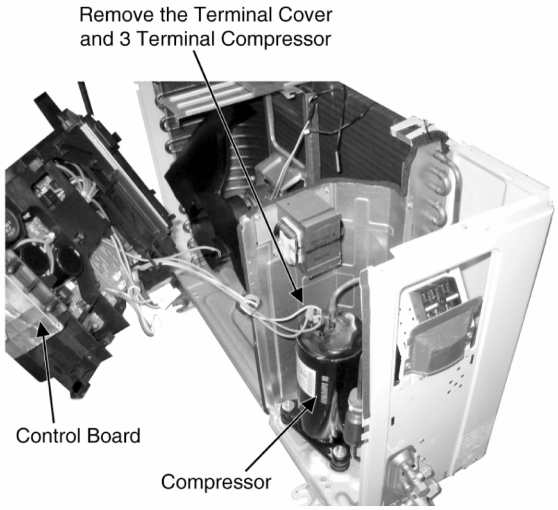


Fig. 5

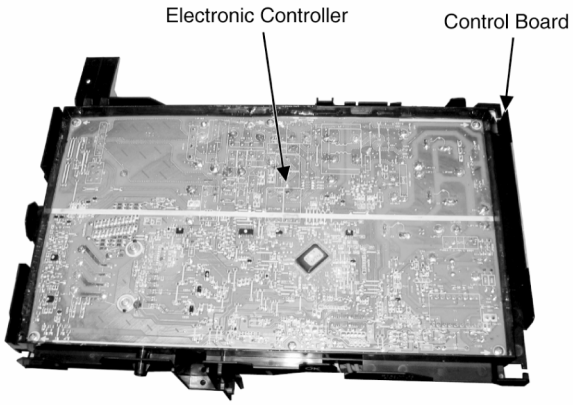


Fig. 6

17.3.3 CU-E18NKE CU-E21NKE

1 Remove the 4 screws of the Top Panel.

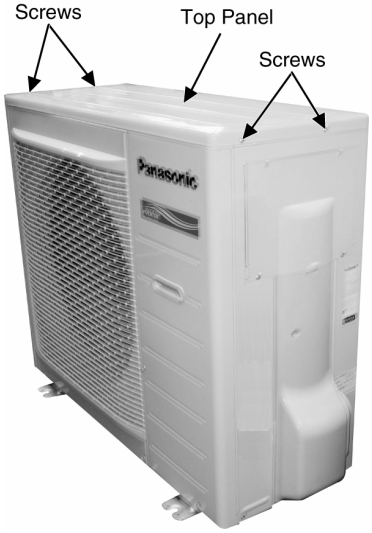


Fig. 1

2 Remove the 10 screws of the Front Panel.

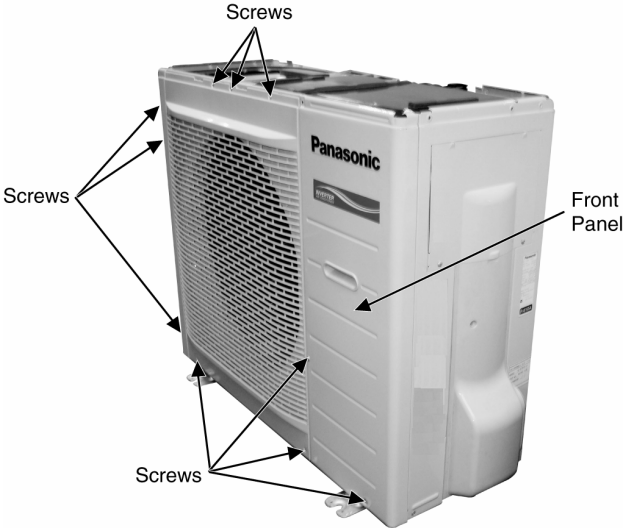


Fig. 2

3 Remove the Top Cover of the Electronic Controller.

Fig. 3

4 Remove the Control Board.

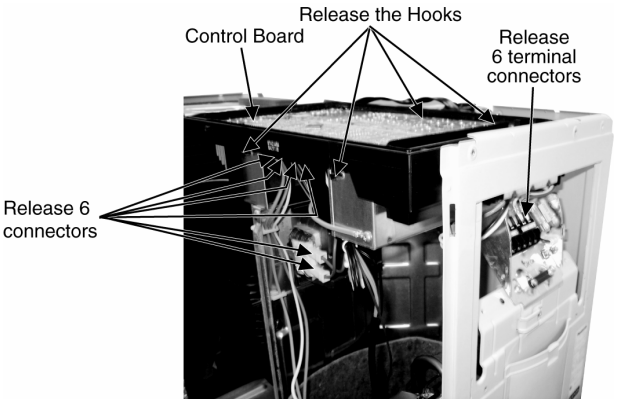


Fig. 4

5 Remove the 8 screws of the Electronic Controller.

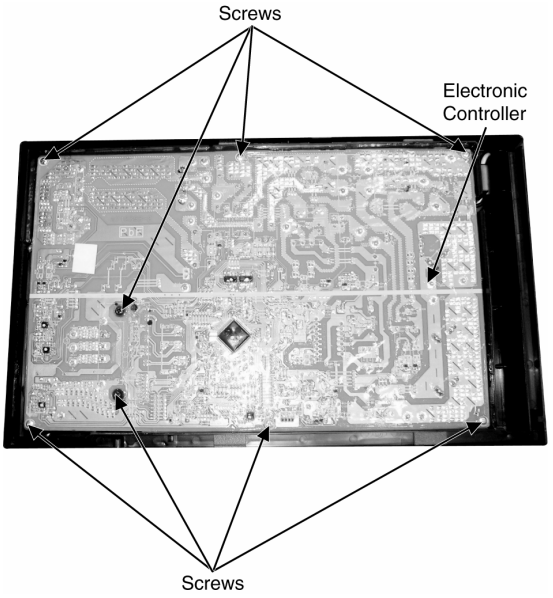


Fig. 5

⚠ Caution! When handling electronic controller, be careful of electrostatic discharge.

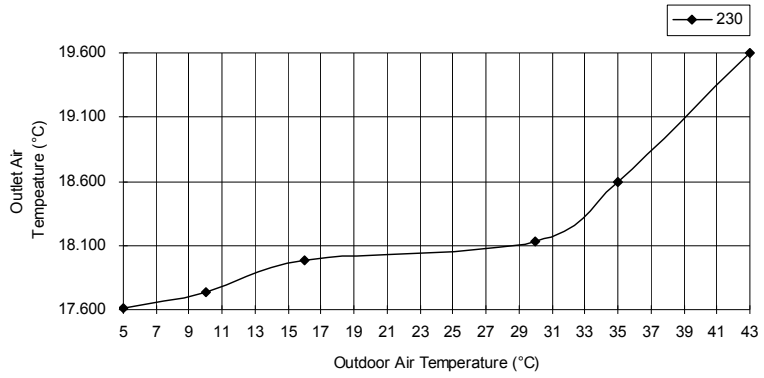
18. Technical Data

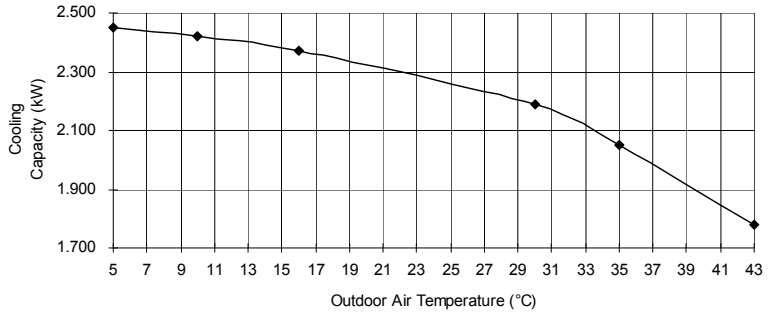
18.1 Operation Characteristics

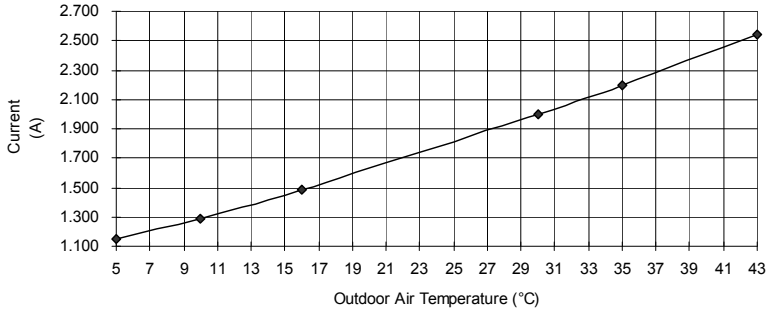
18.1.1 CU-E7NKE

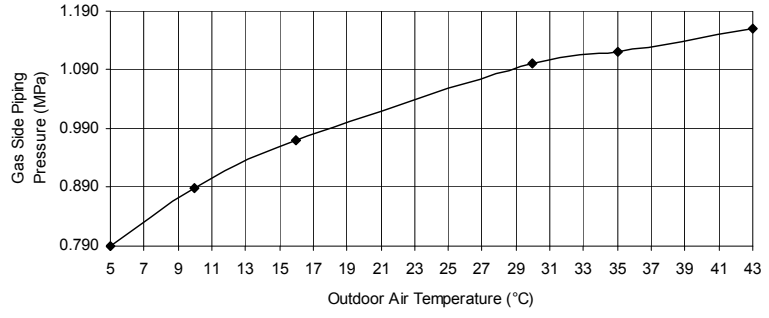
- Cooling Characteristic

[Condition] Indoor temperature: 27/19°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c



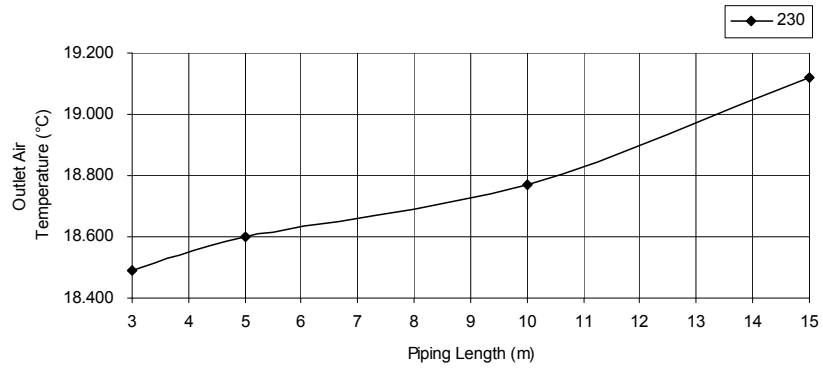


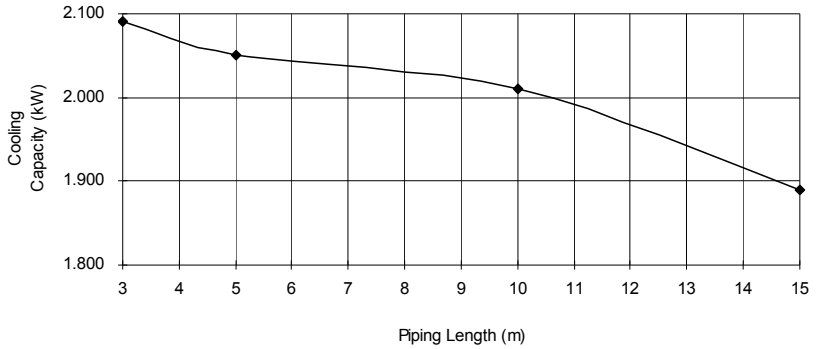


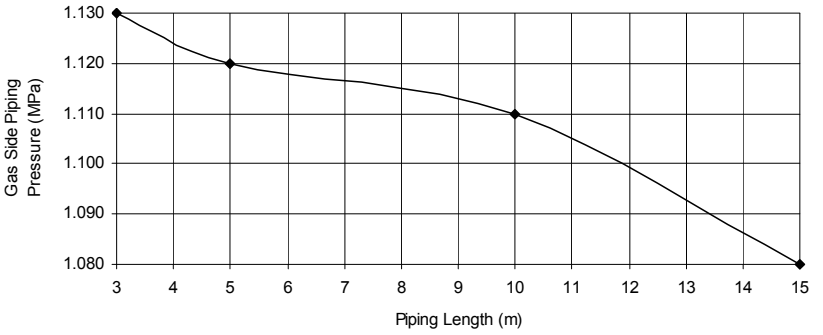


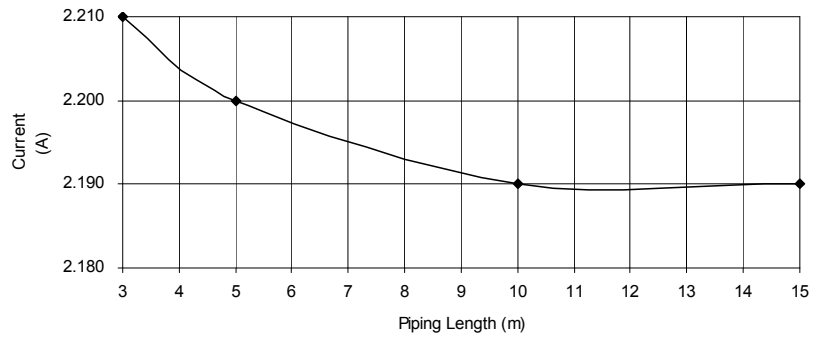
- Piping Length Characteristic

[Condition] Indoor temperature: 27/19°C, 35/-°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c



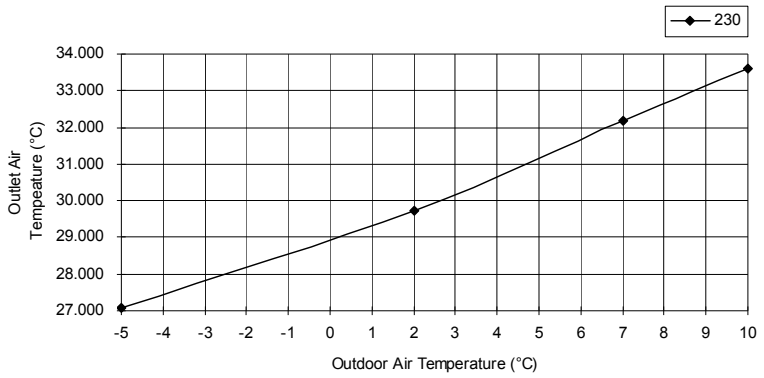


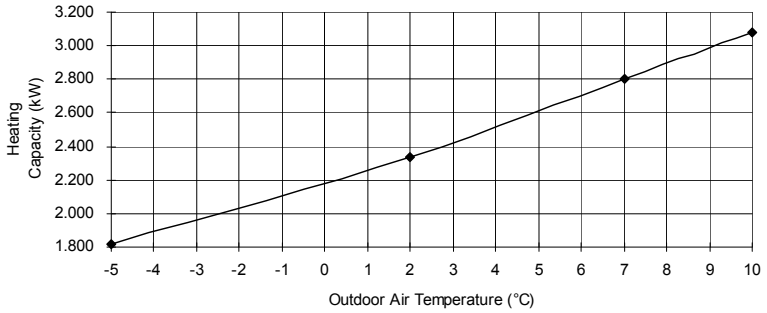


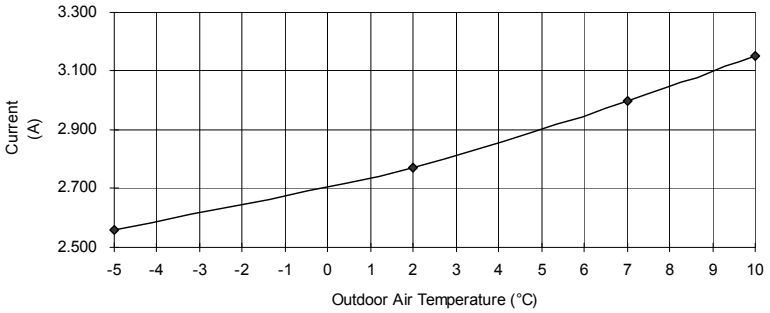


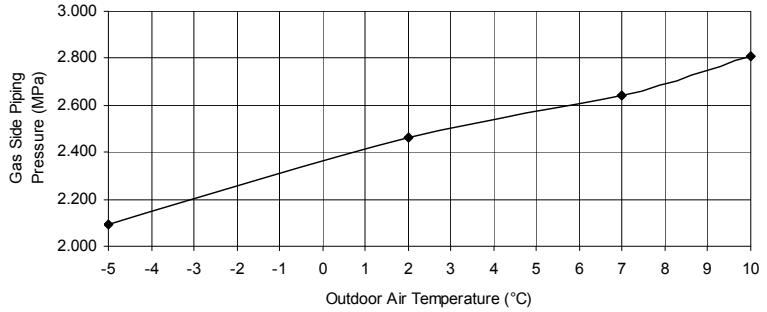
- Heating Characteristic

[Condition] Indoor temperature: 20/-°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h



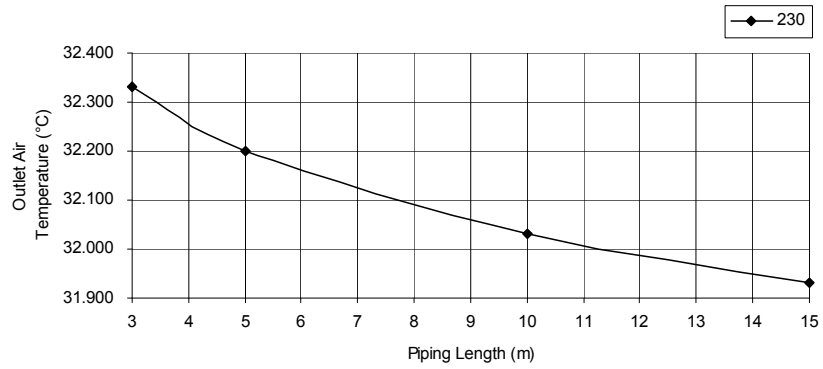


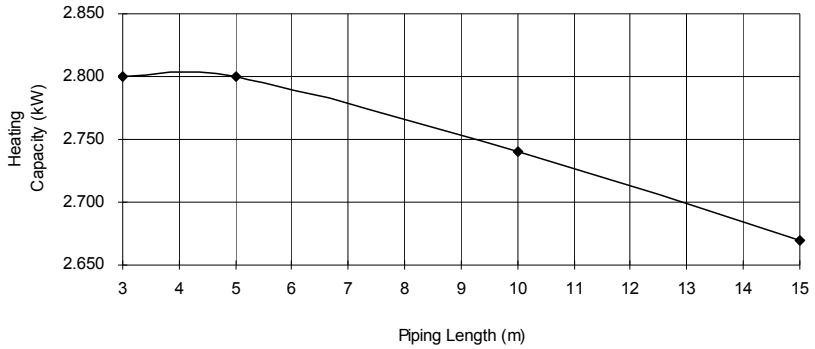


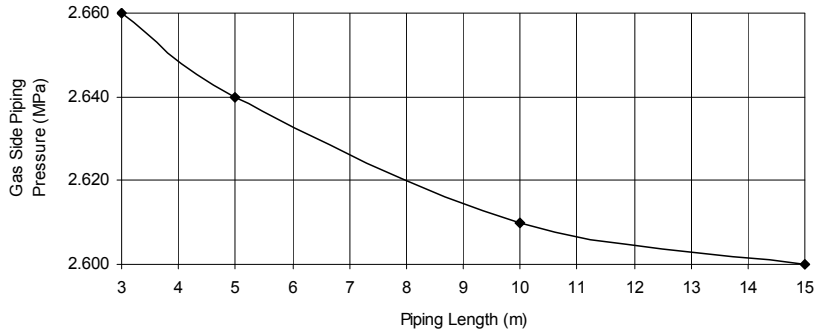


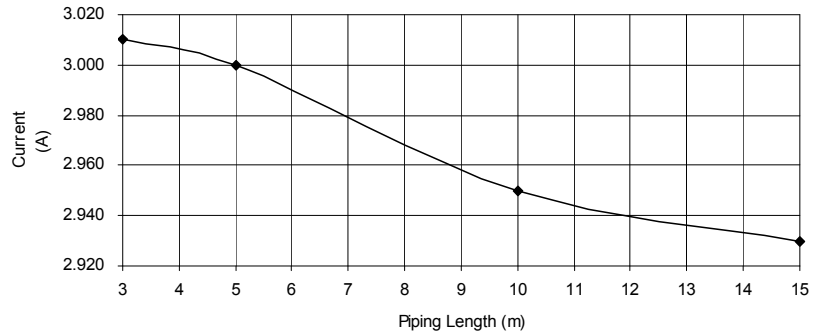
- Piping Length Characteristic

[Condition] Indoor temperature: 20/-°C, 7/6°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h





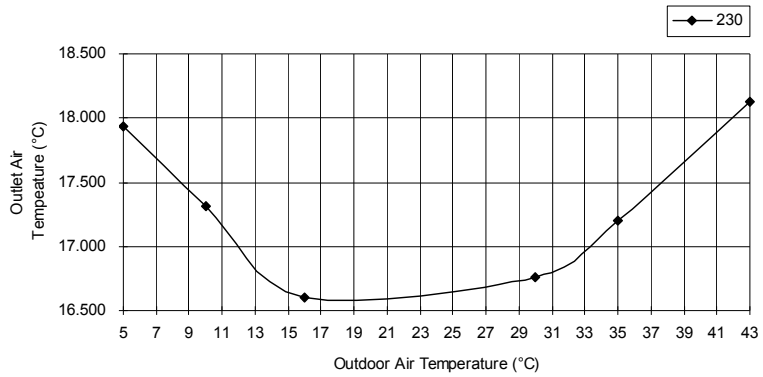


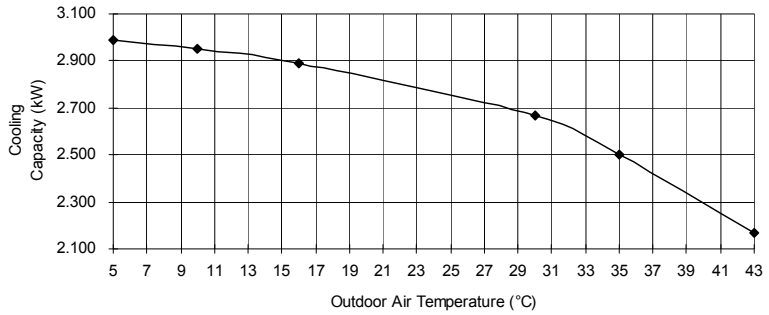


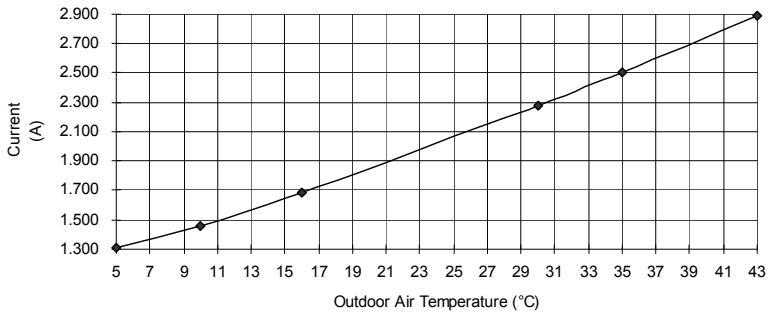
18.1.2 CU-E9NKE

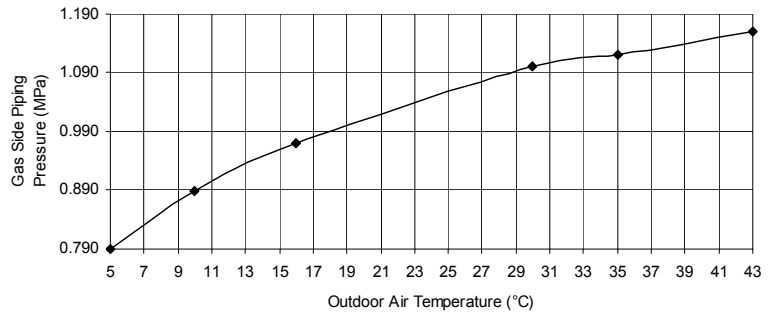
- Cooling Characteristic

[Condition] Indoor temperature: 27/19°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c



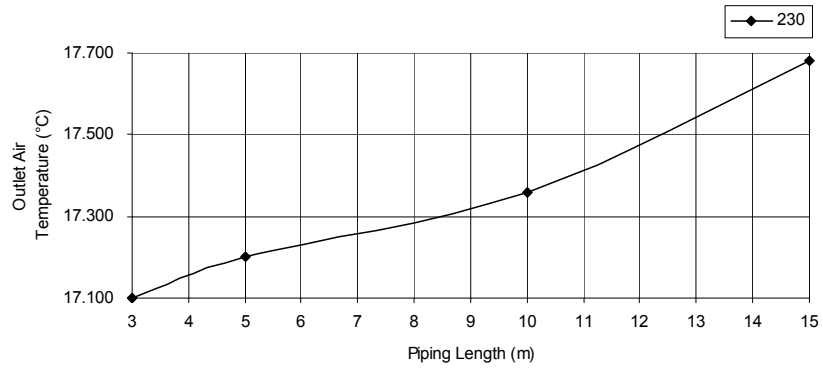


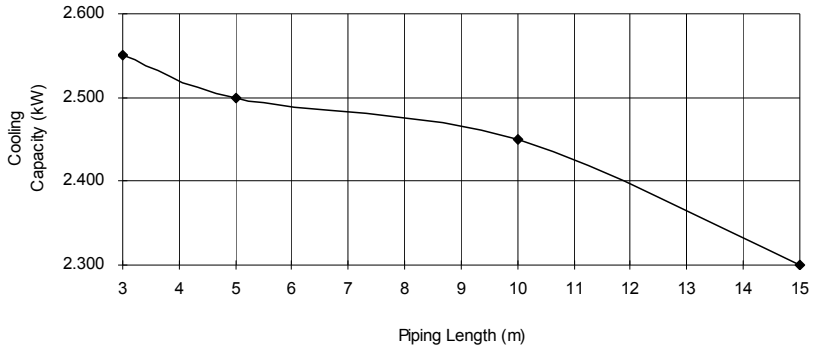


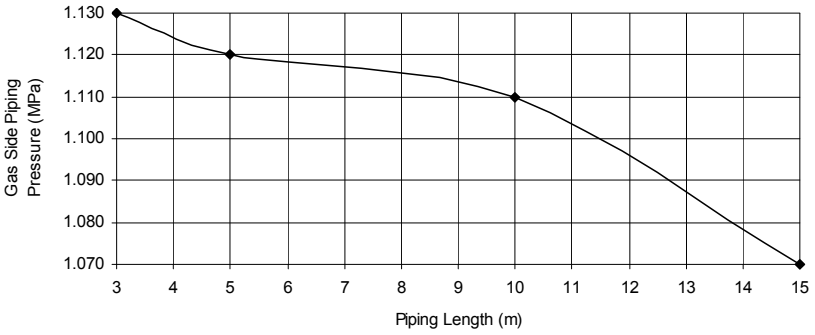


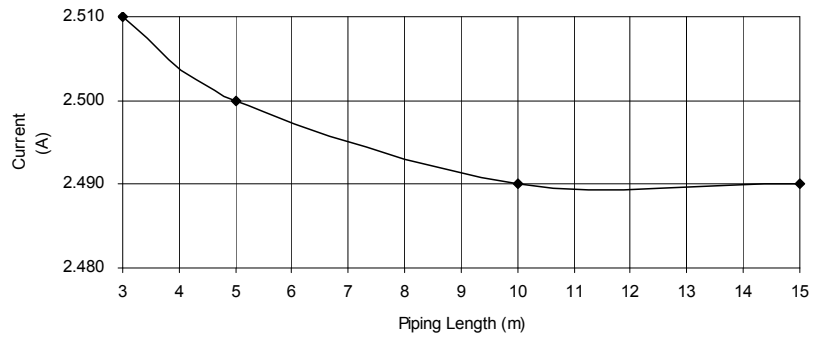
- Piping Length Characteristic

[Condition] Indoor temperature: 27/19°C, 35/-°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c



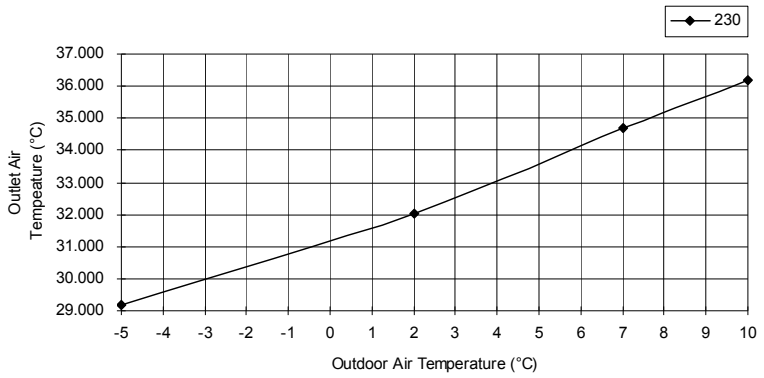


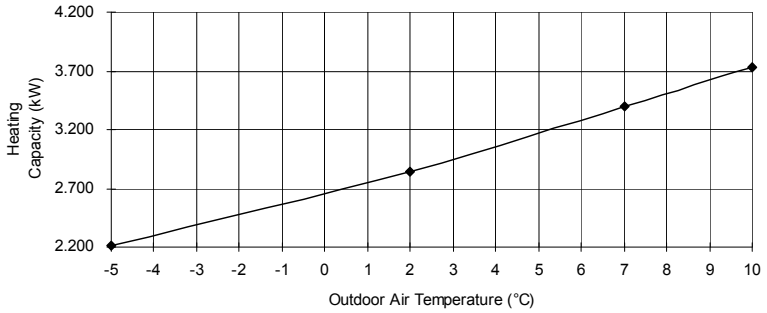


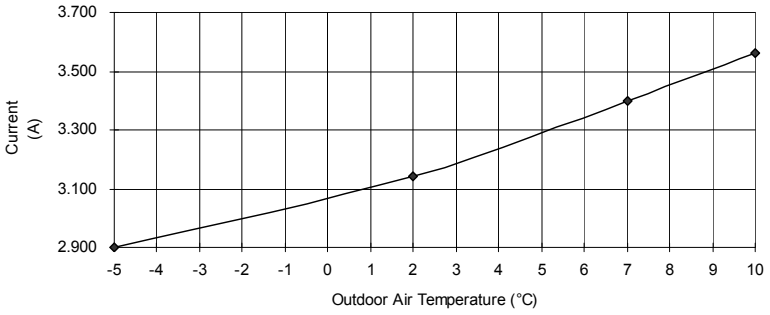


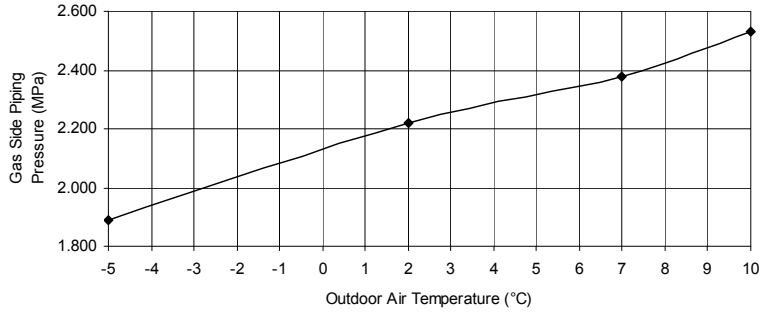
- Heating Characteristic

[Condition] Indoor temperature: 20/-°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h



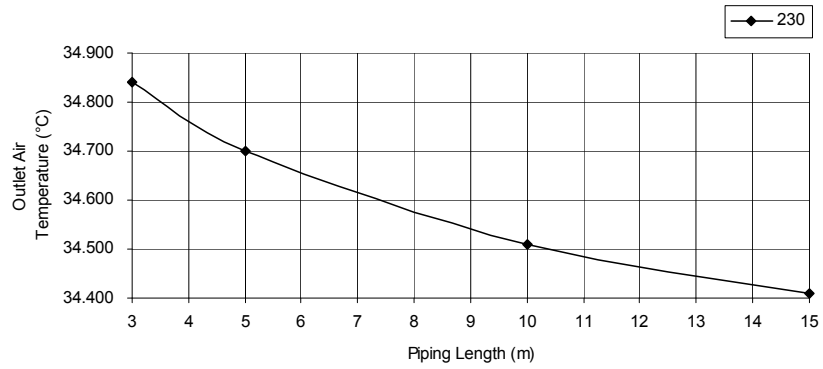


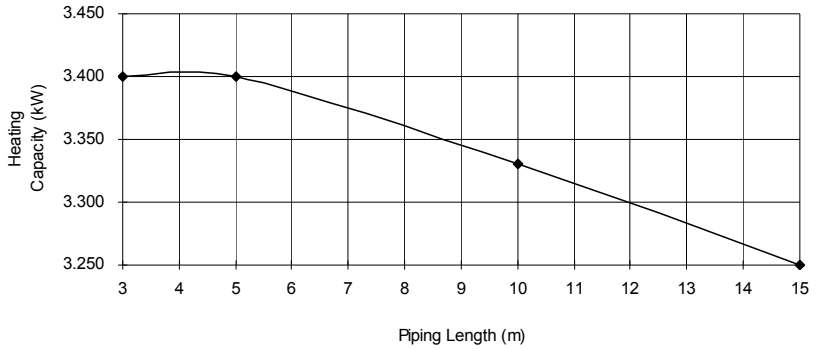


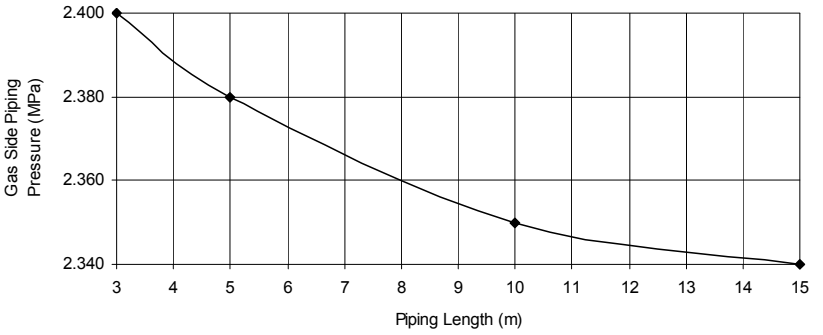


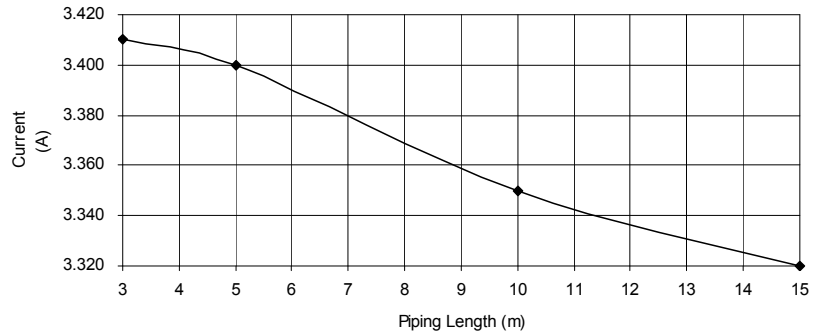
- Piping Length Characteristic

[Condition] Indoor temperature: 20/-°C, 7/6°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h





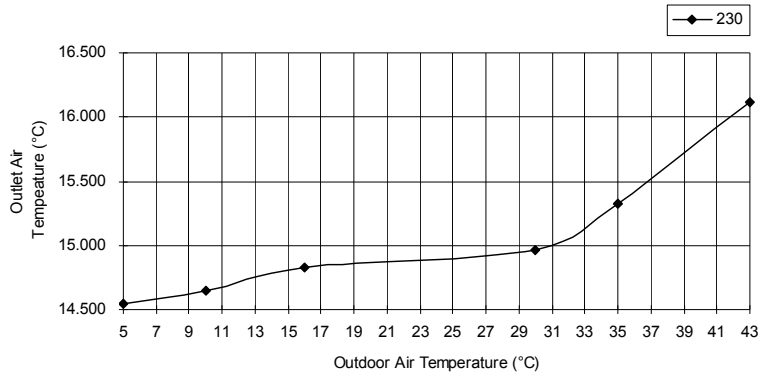


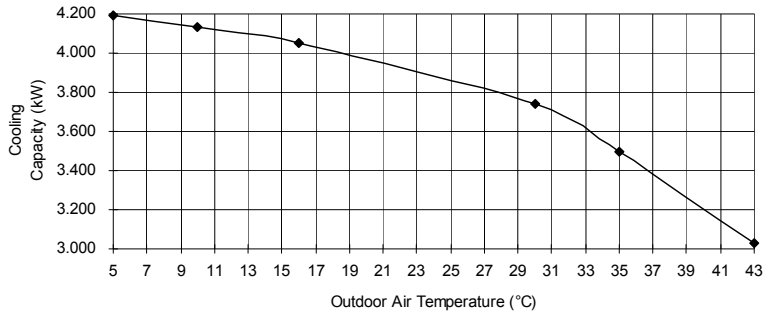


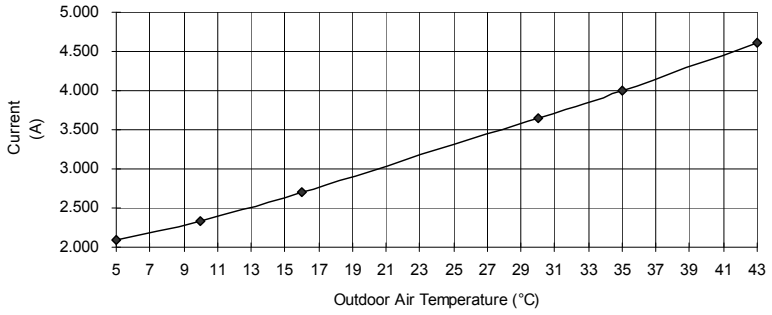
18.1.3 CU-E12NKE

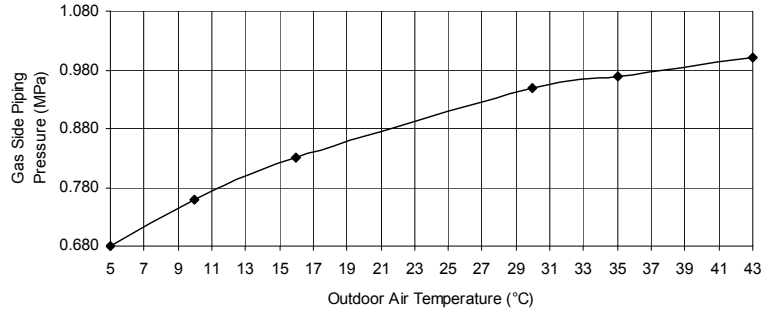
- Cooling Characteristic

[Condition] Indoor temperature: 27/19°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c



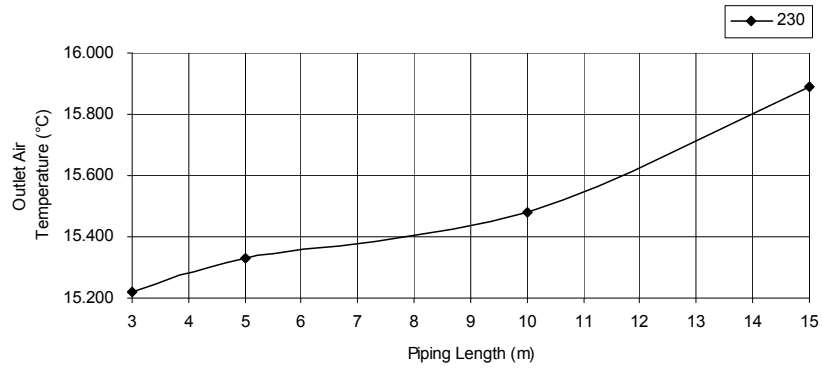


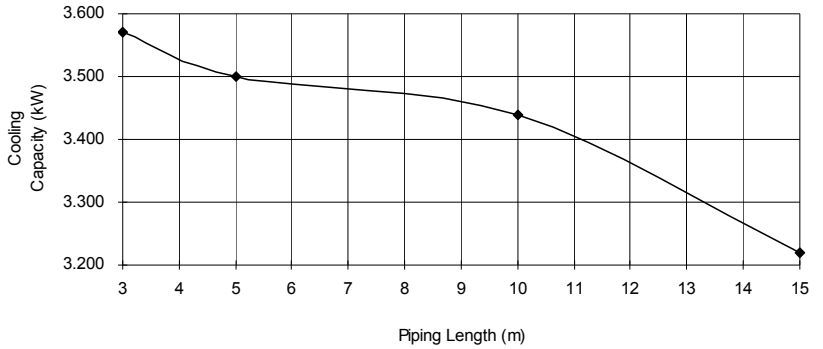


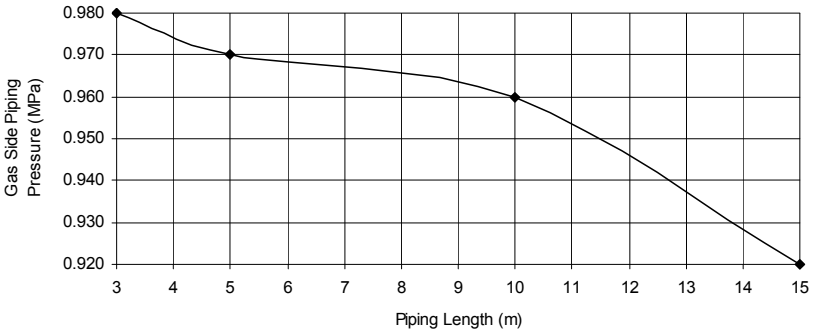


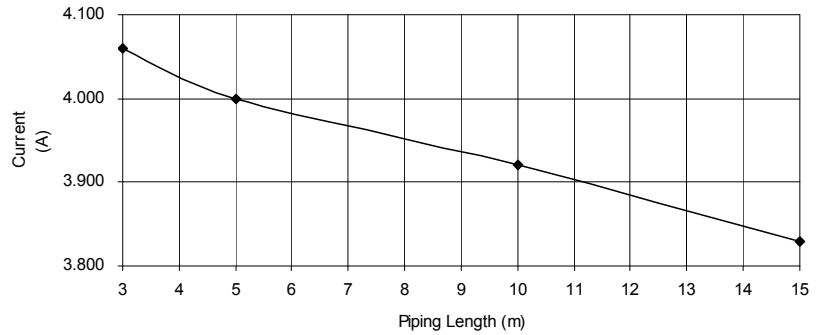
- Piping Length Characteristic

[Condition] Indoor temperature: 27/19°C, 35/-°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c



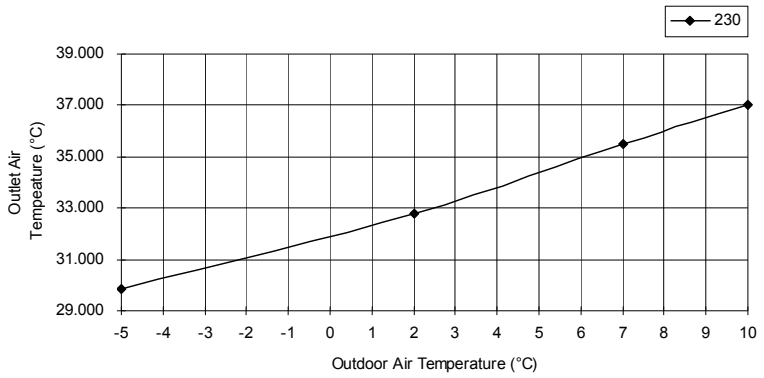


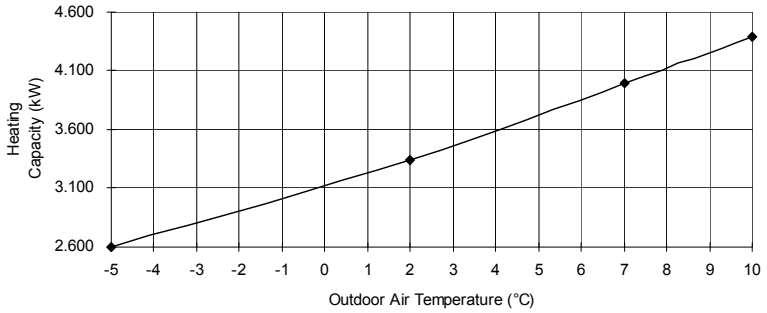


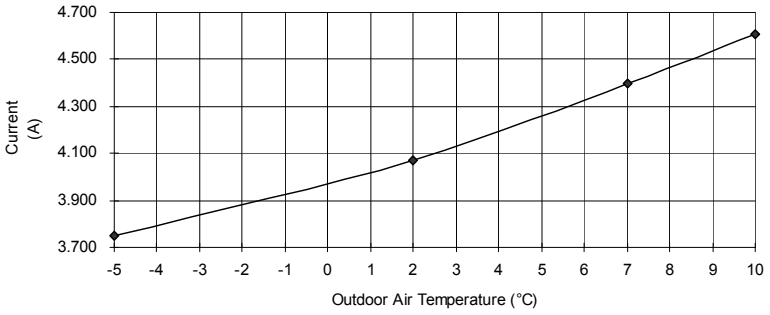


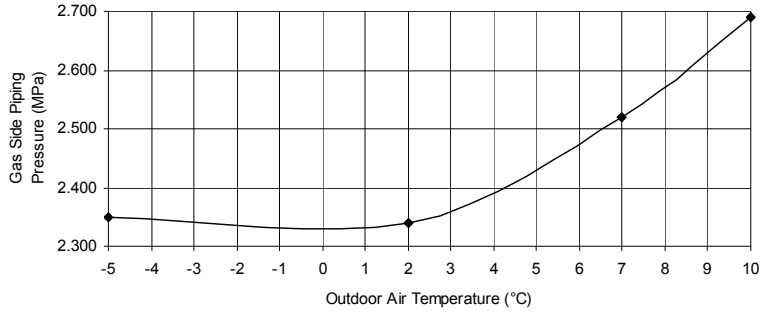
- Heating Characteristic

[Condition] Indoor temperature: 20/-°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h



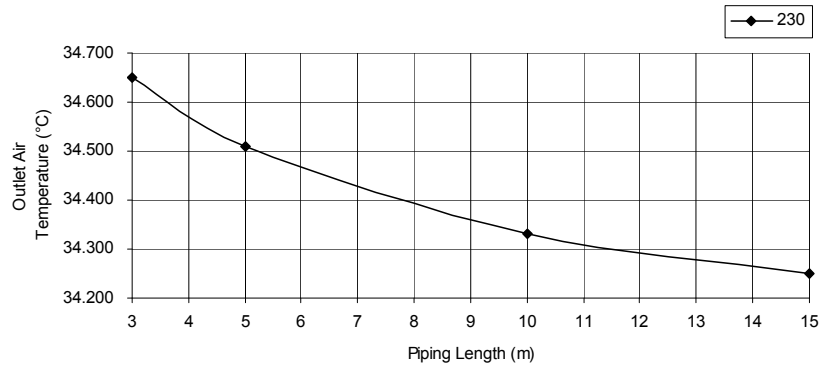


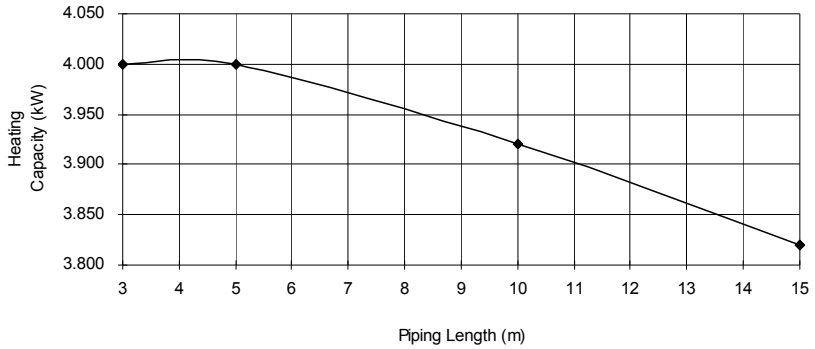


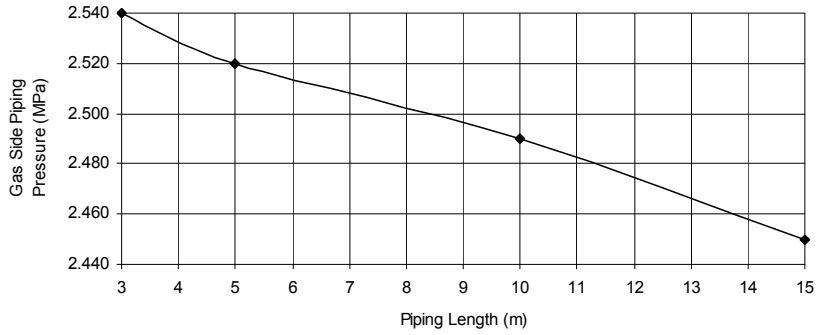


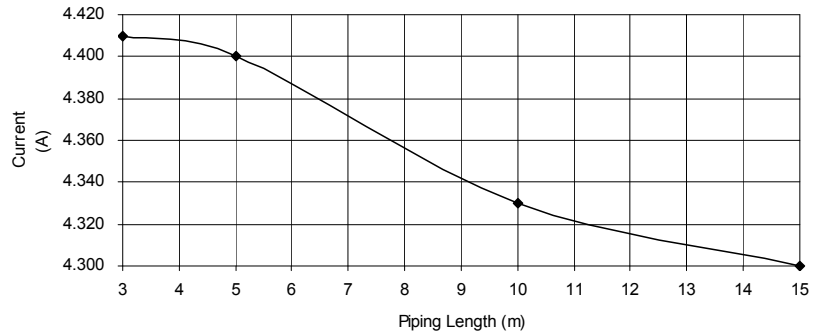
- Piping Length Characteristic

[Condition] Indoor temperature: 20/-°C, 7/6°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h





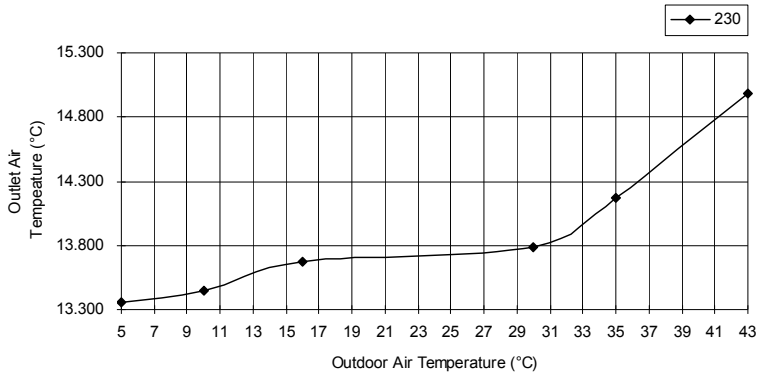


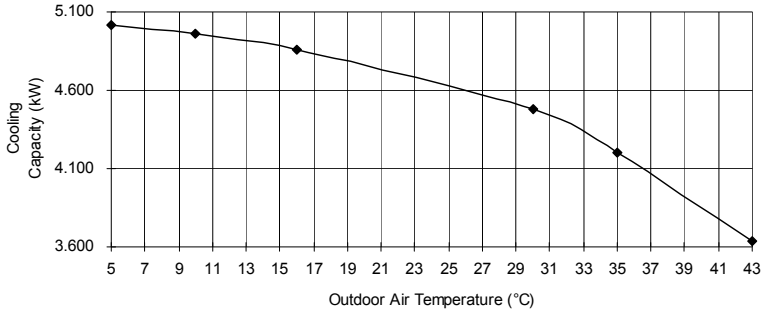


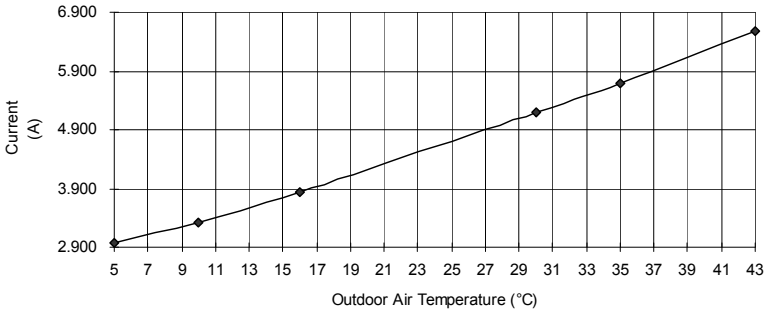
18.1.4 CU-E15NKE

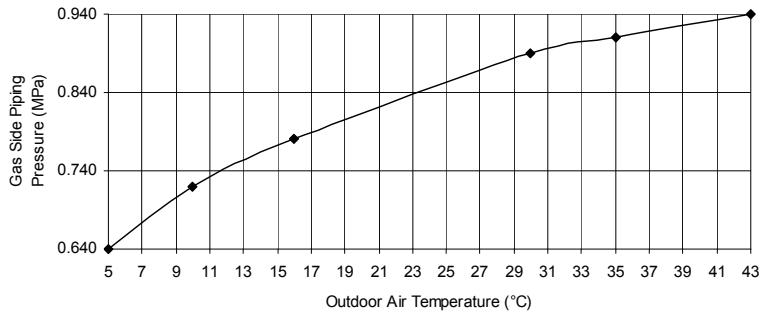
- Cooling Characteristic

[Condition] Indoor temperature: 27/19°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c



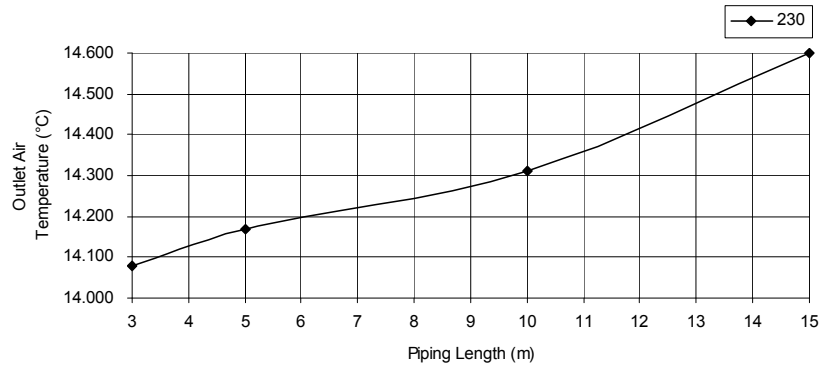


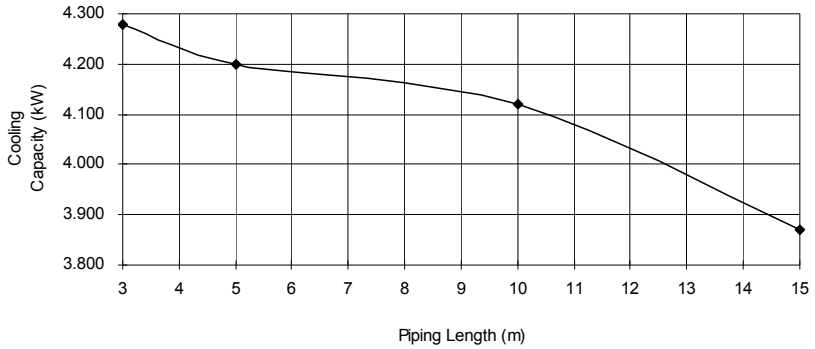


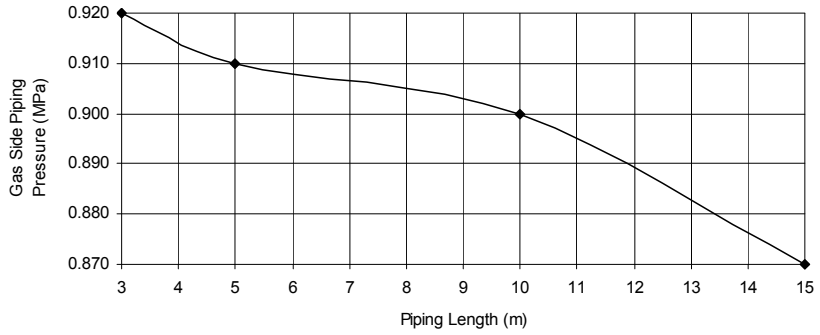


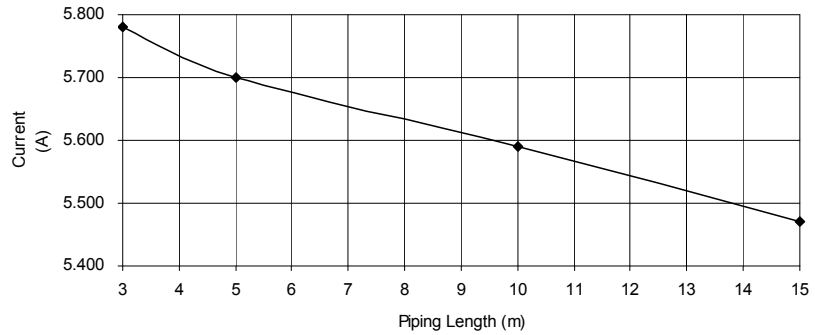
- Piping Length Characteristic

[Condition] Indoor temperature: 27/19°C, 35/-°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c



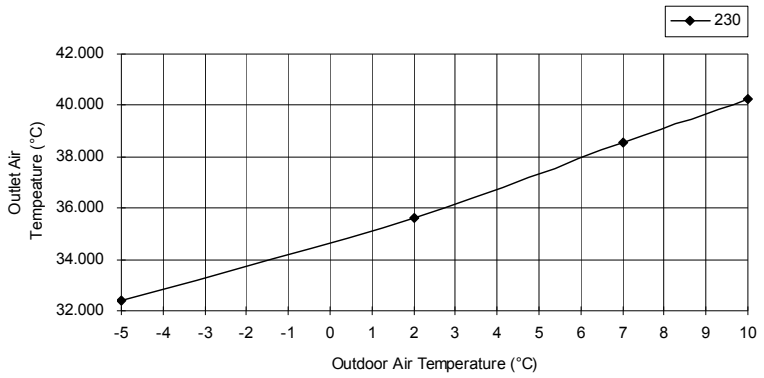


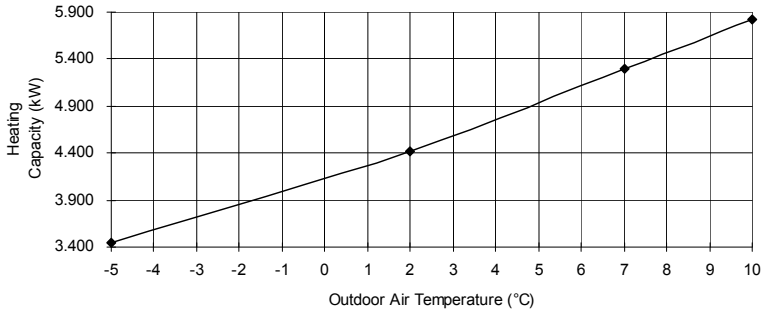


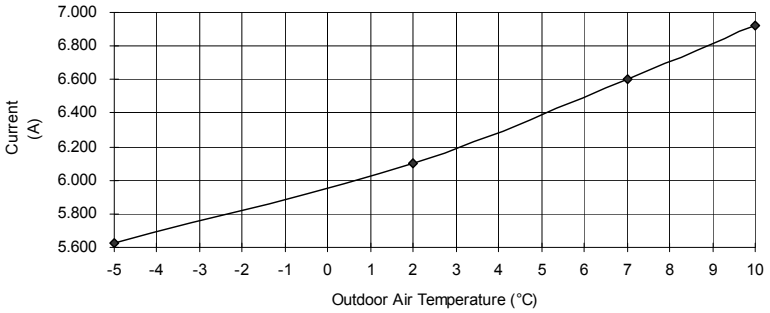


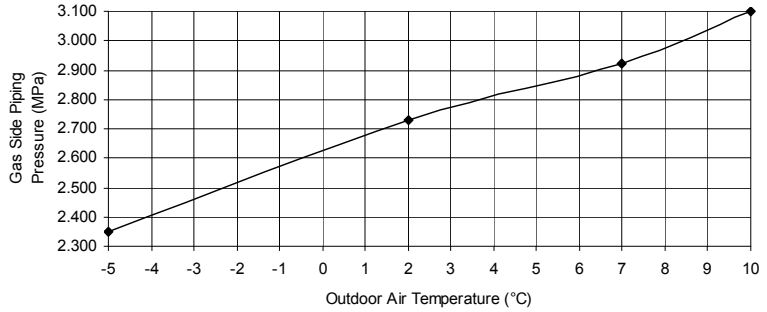
- Heating Characteristic

[Condition] Indoor temperature: 20/-°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h



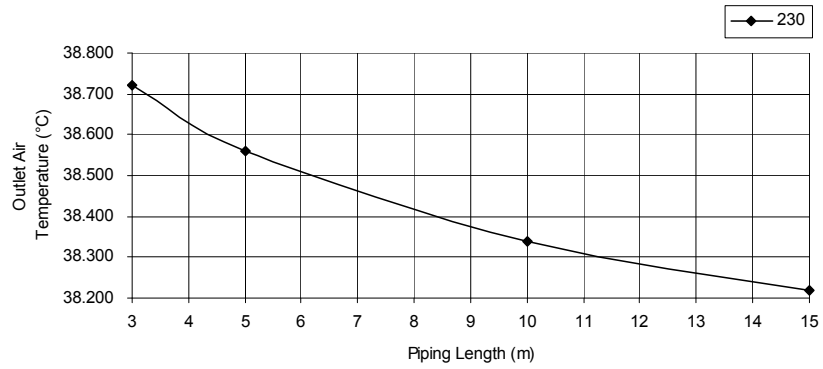


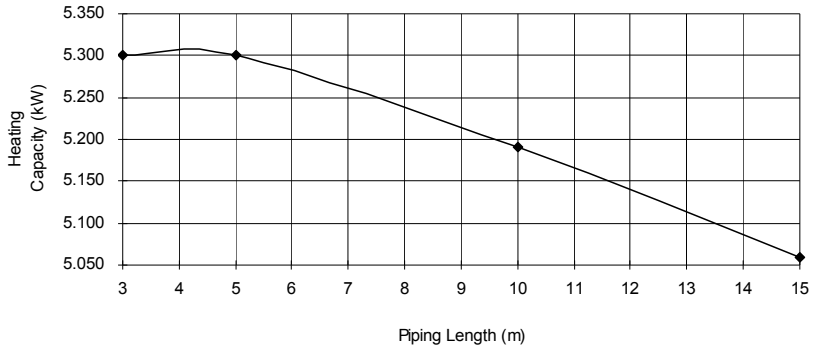


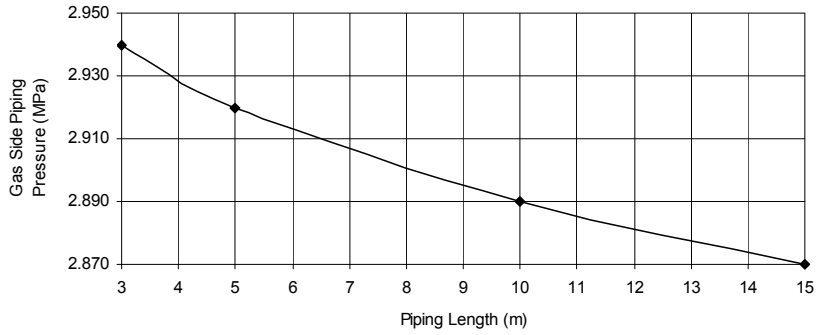


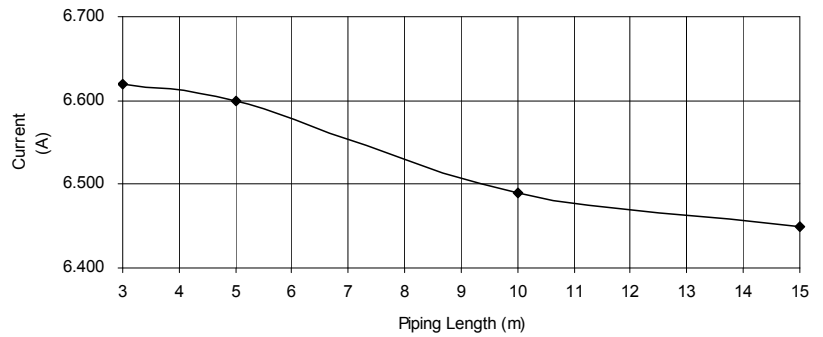
- Piping Length Characteristic

[Condition] Indoor temperature: 20/-°C, 7/6°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h





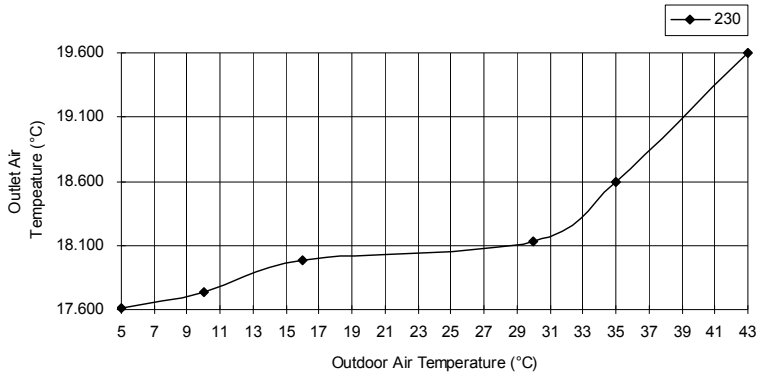


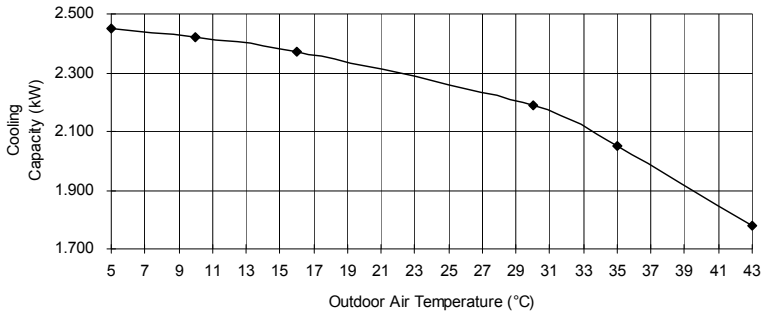


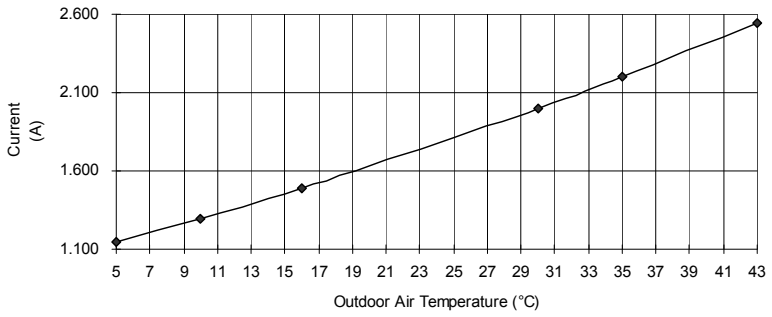
18.1.5 CU-E7NKE-3

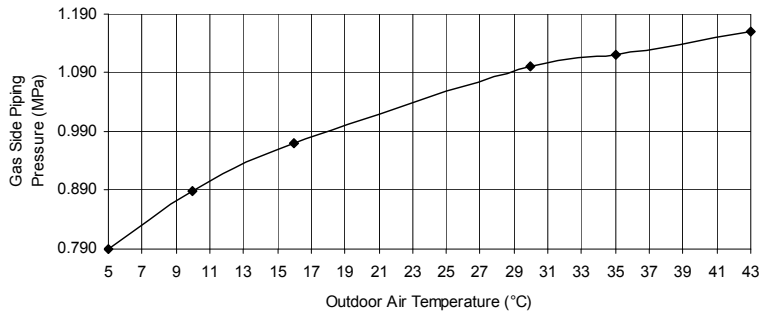
- Cooling Characteristic

[Condition] Indoor temperature: 27/19°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c



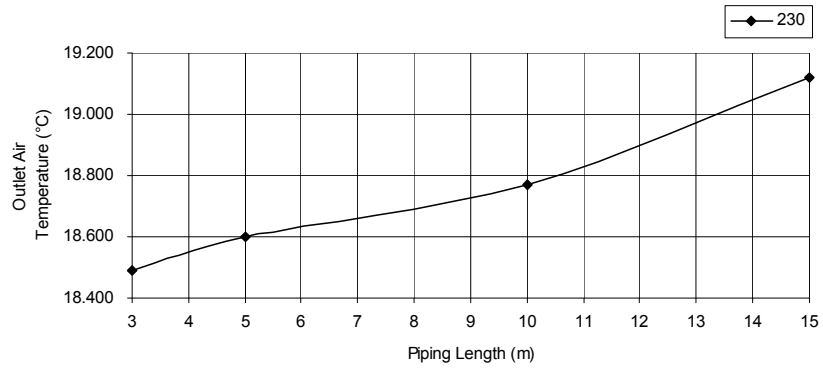


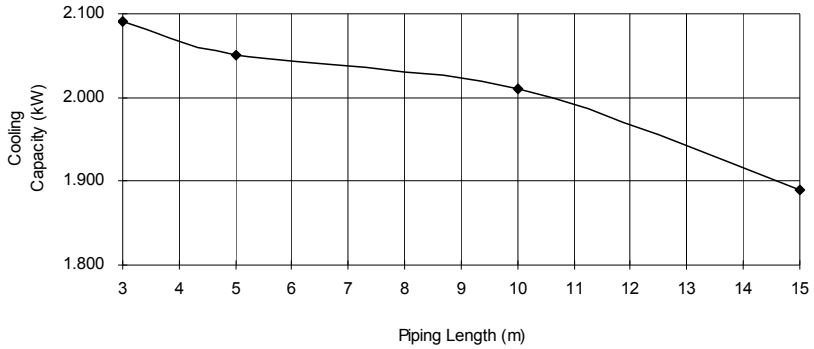


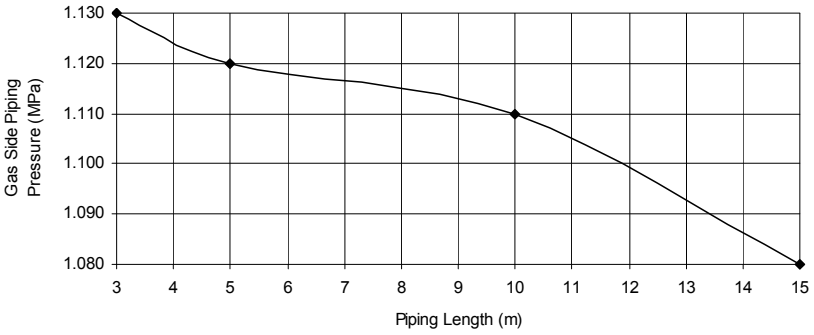


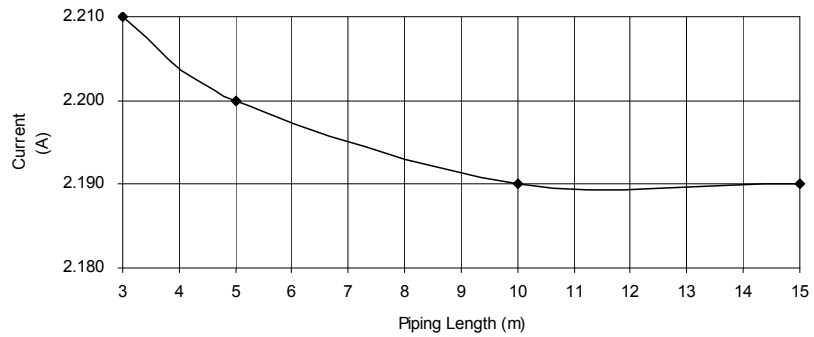
- Piping Length Characteristic

[Condition] Indoor temperature: 27/19°C, 35/-°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c



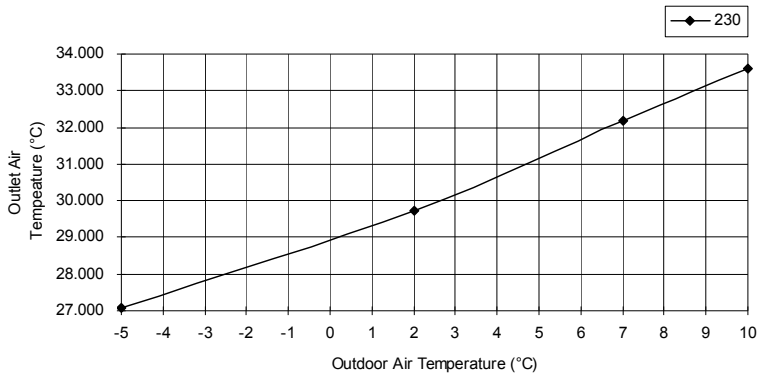


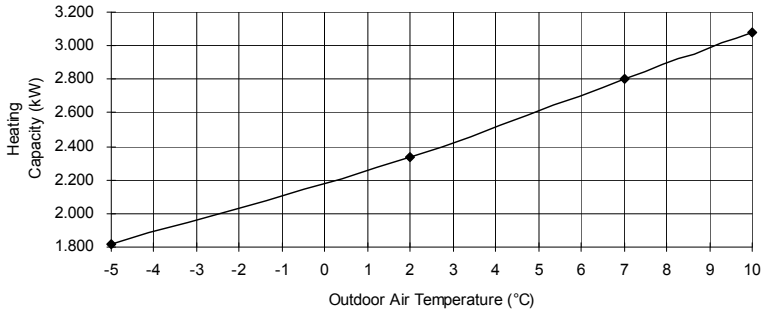


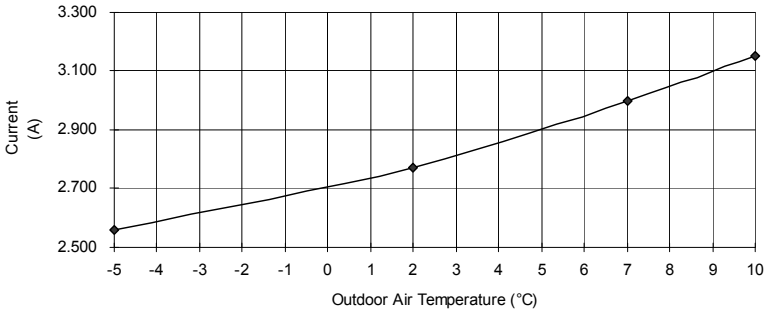


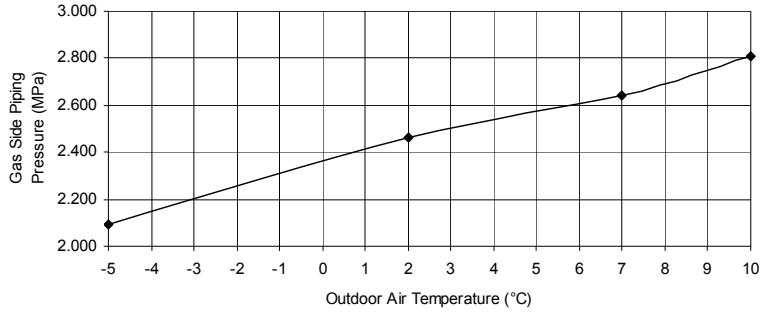
- Heating Characteristic

[Condition] Indoor temperature: 20/-°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h



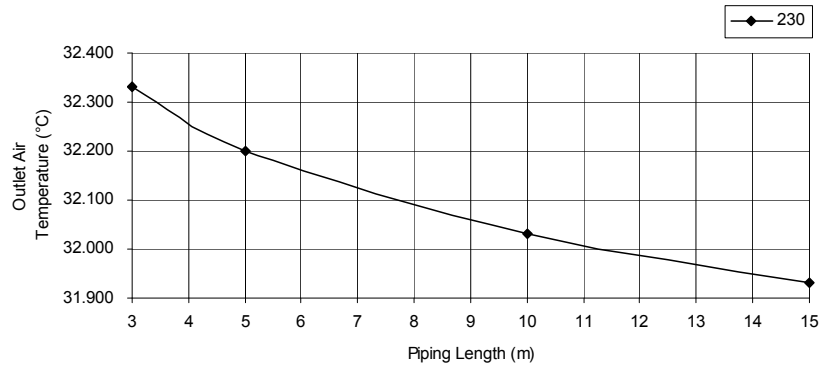


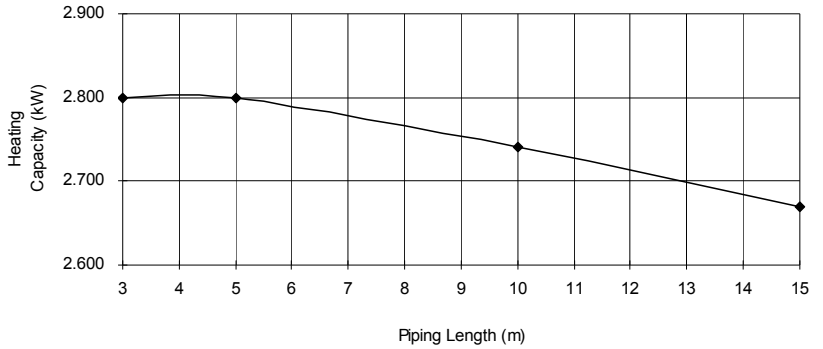


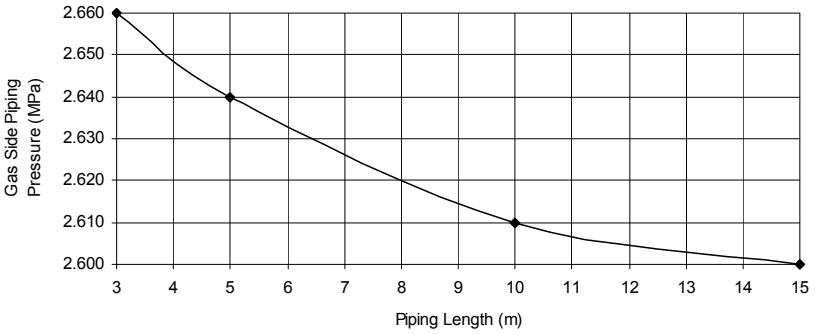


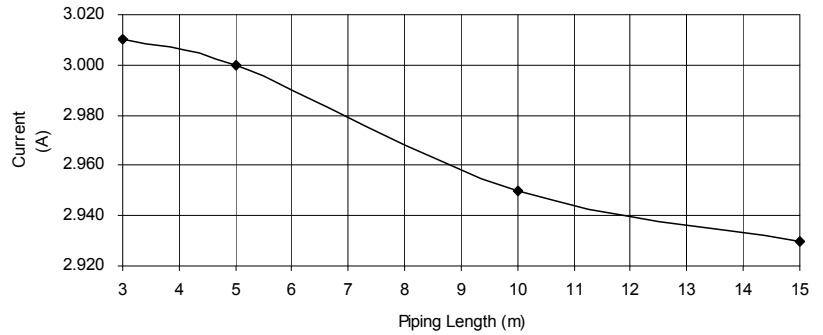
- Piping Length Characteristic

[Condition] Indoor temperature: 20/-°C, 7/6°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h





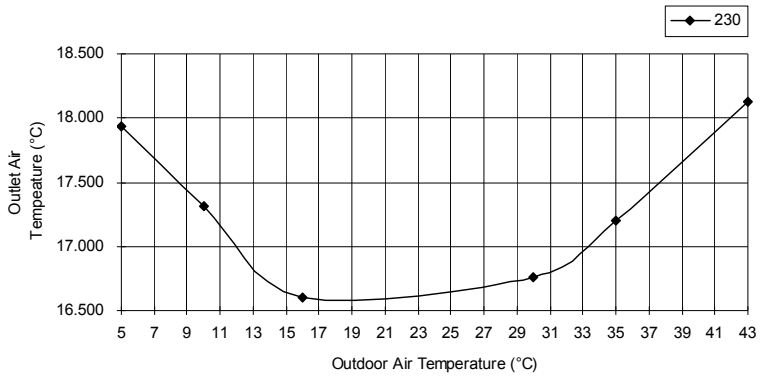


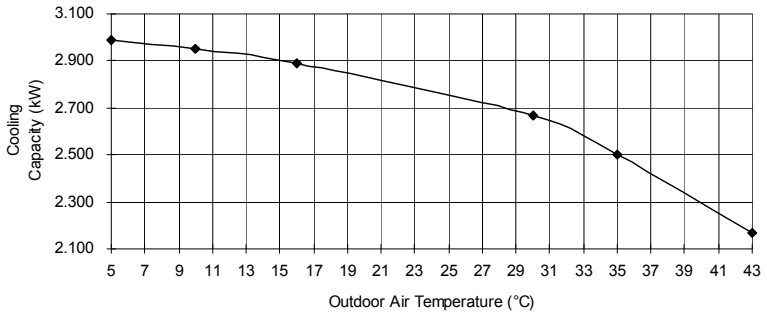


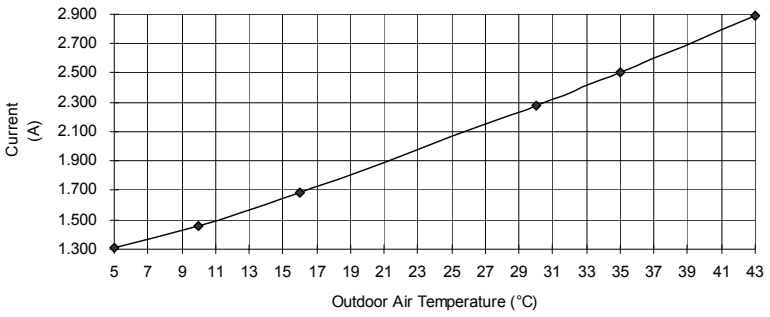
18.1.6 CU-E9NKE-3

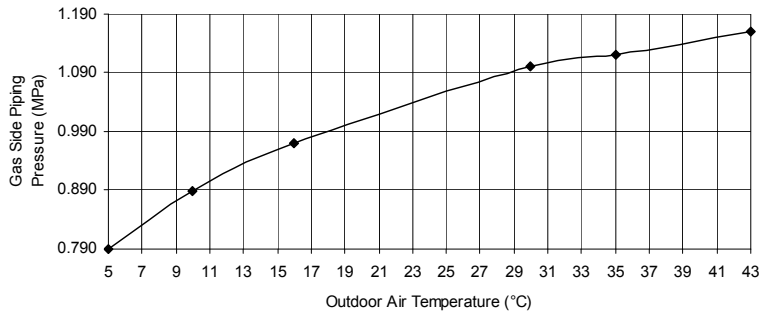
- Cooling Characteristic

[Condition] Indoor temperature: 27/19°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c



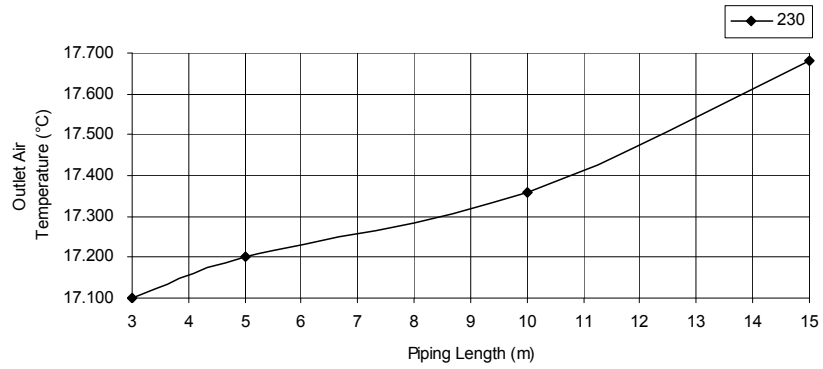


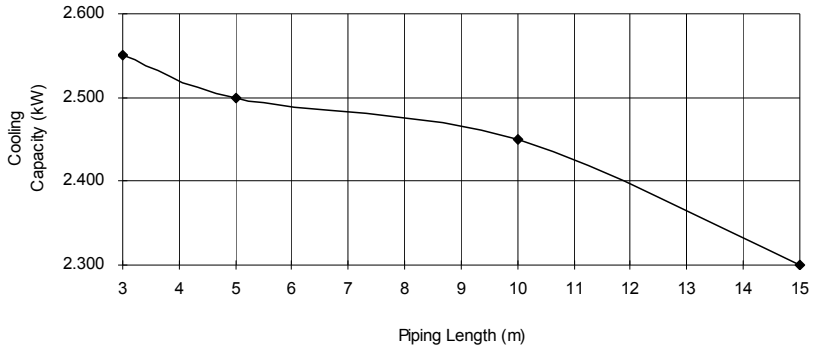


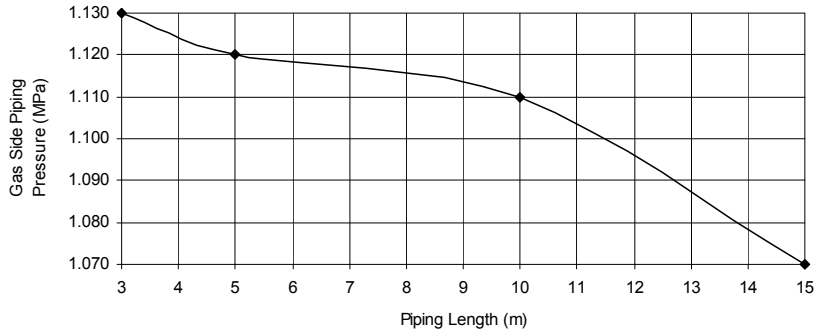


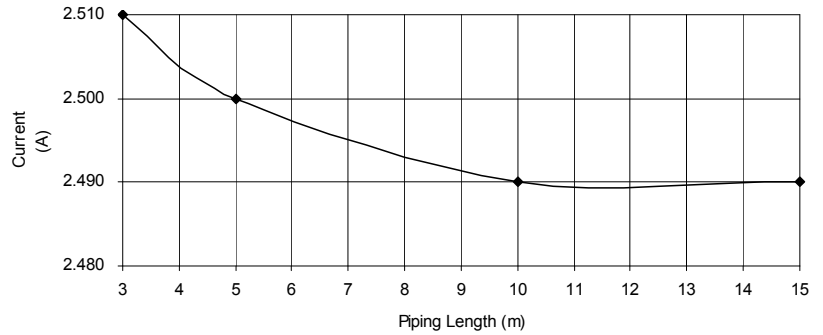
- Piping Length Characteristic

[Condition] Indoor temperature: 27/19°C, 35/-°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c



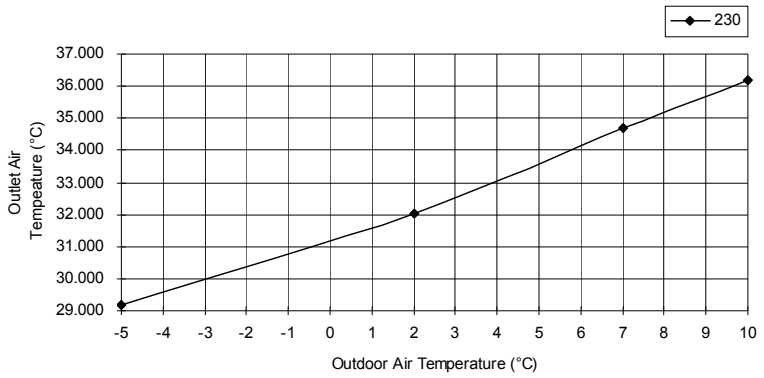


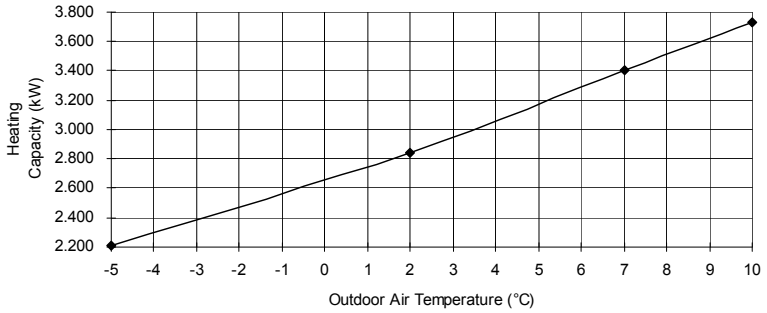


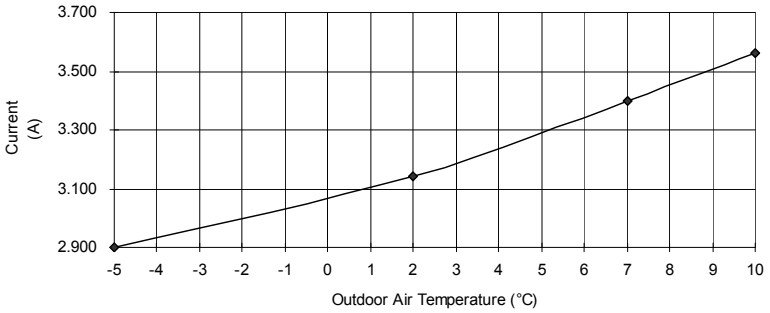


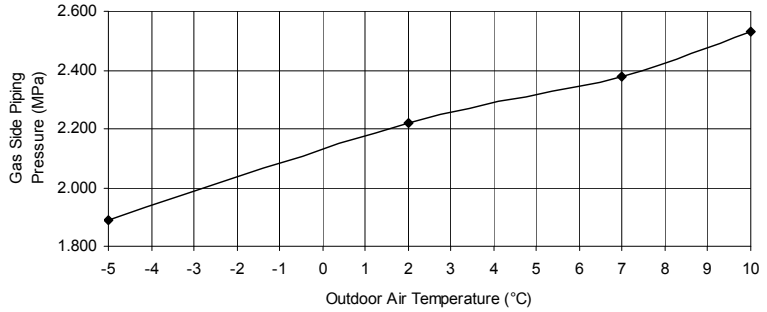
- Heating Characteristic

[Condition] Indoor temperature: 20/-°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h



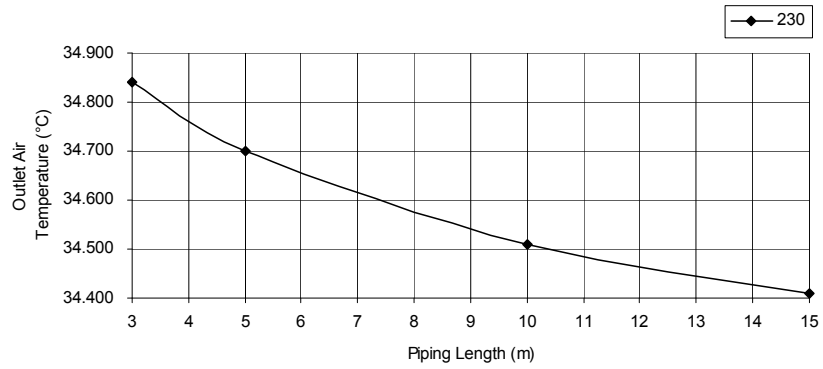


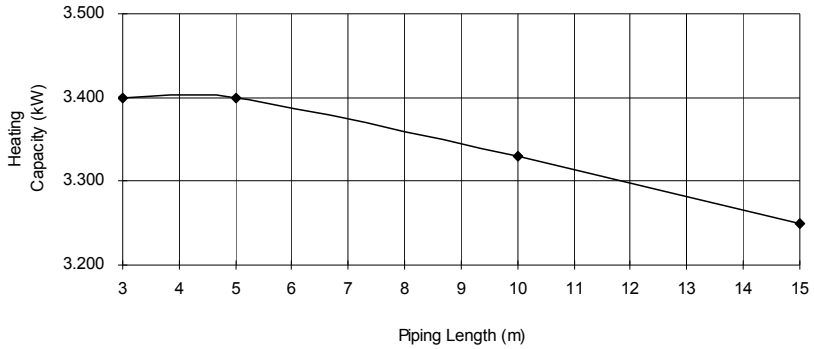


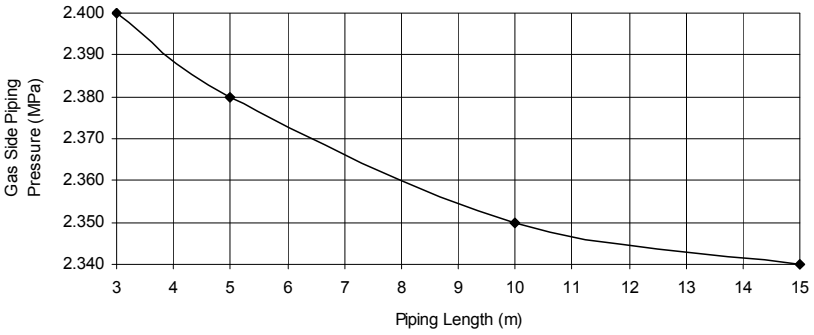


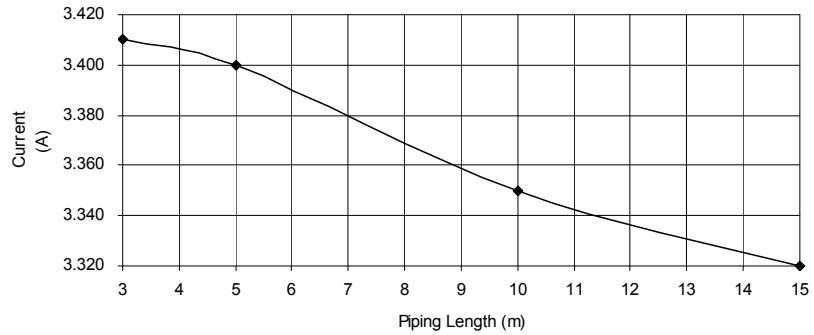
- Piping Length Characteristic

[Condition] Indoor temperature: 20/-°C, 7/6°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h





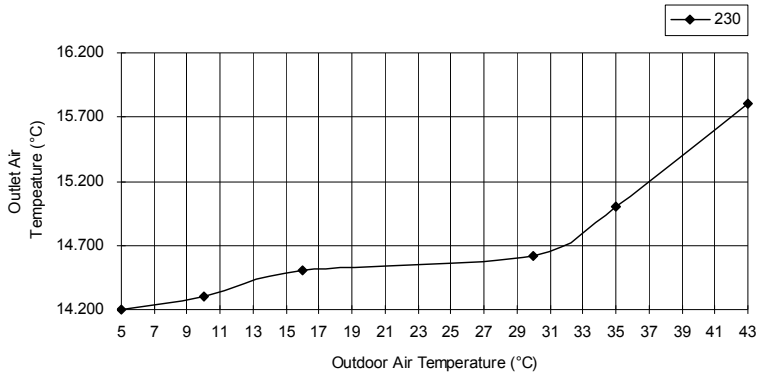


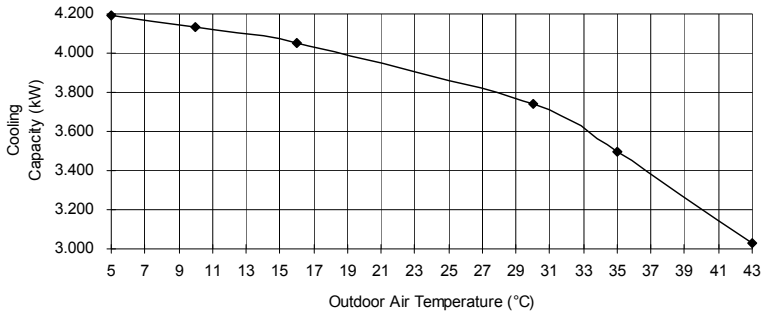


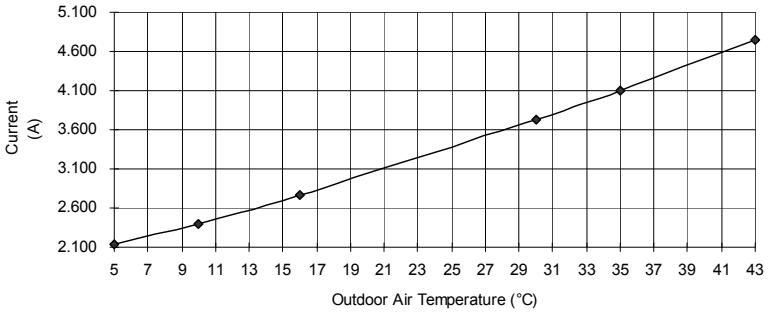
18.1.7 CU-E12NKE-3

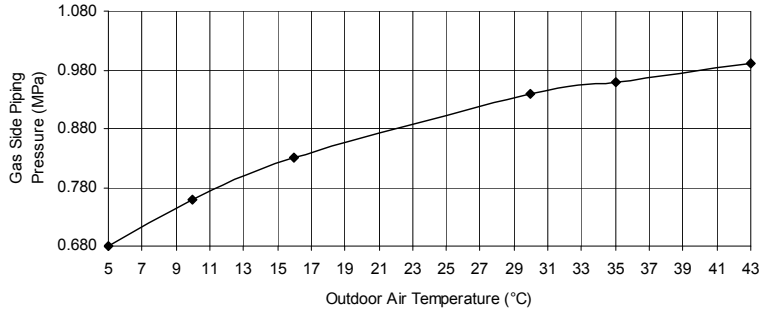
- Cooling Characteristic

[Condition] Indoor temperature: 27/19°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c



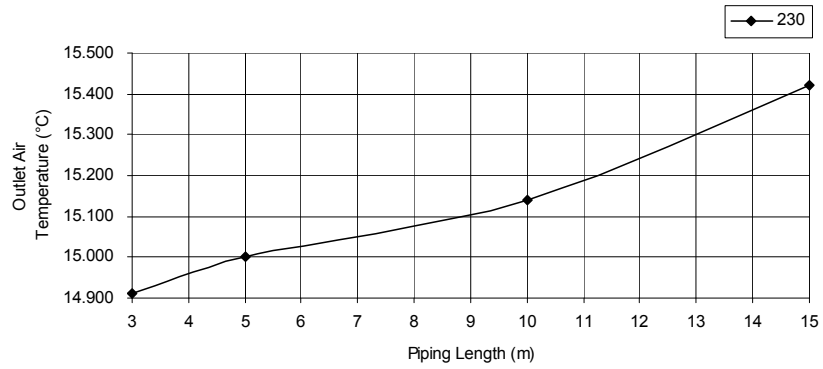


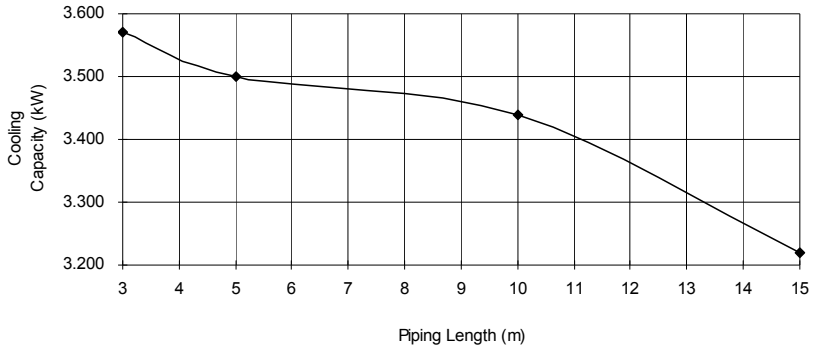


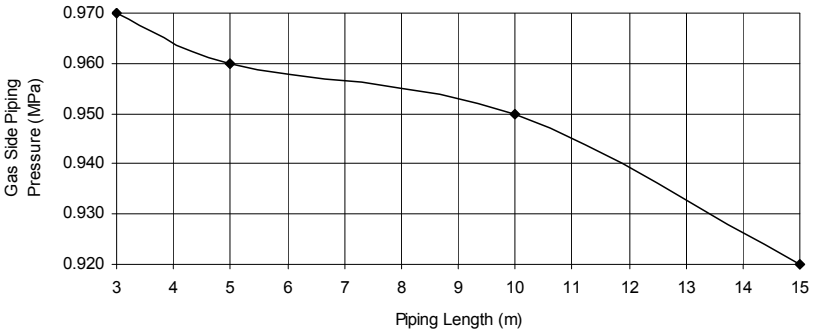


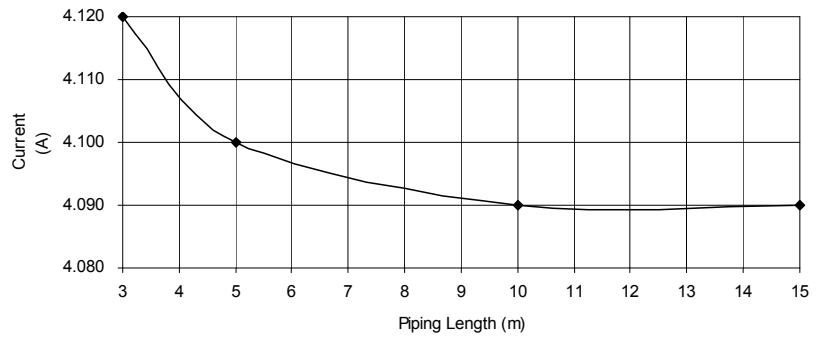
- Piping Length Characteristic

[Condition] Indoor temperature: 27/19°C, 35/-°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c



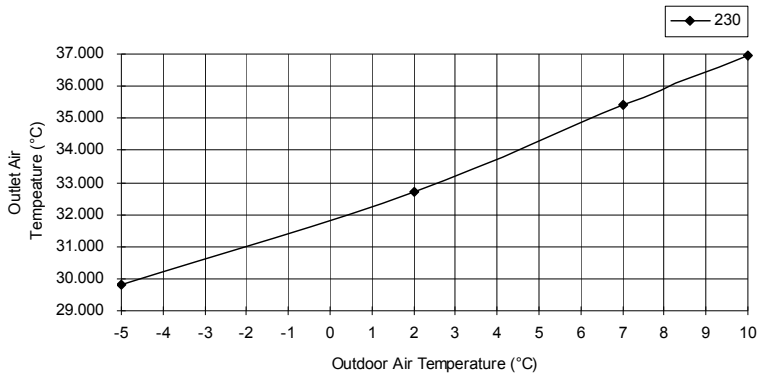


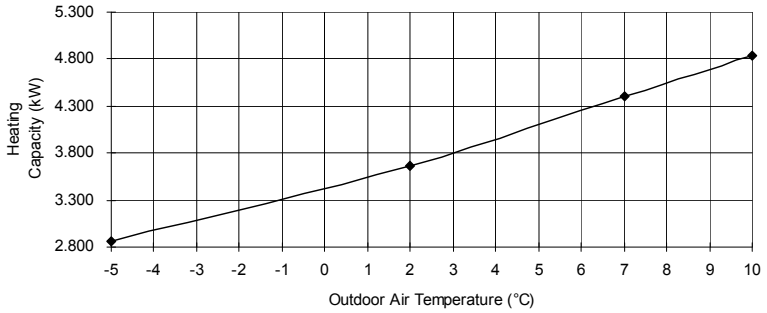


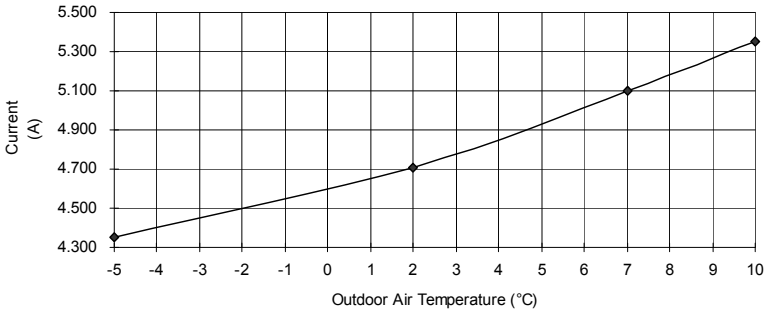


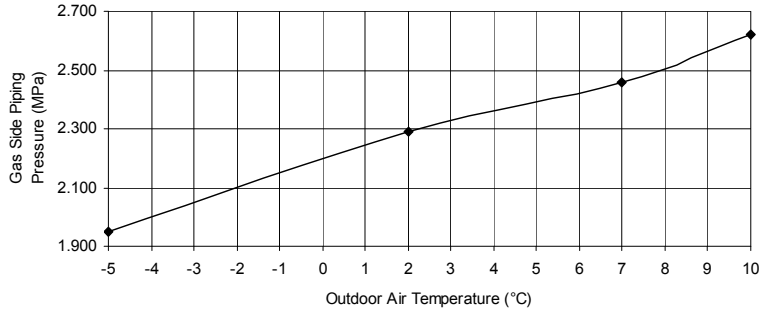
- Heating Characteristic

[Condition] Indoor temperature: 20/-°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h



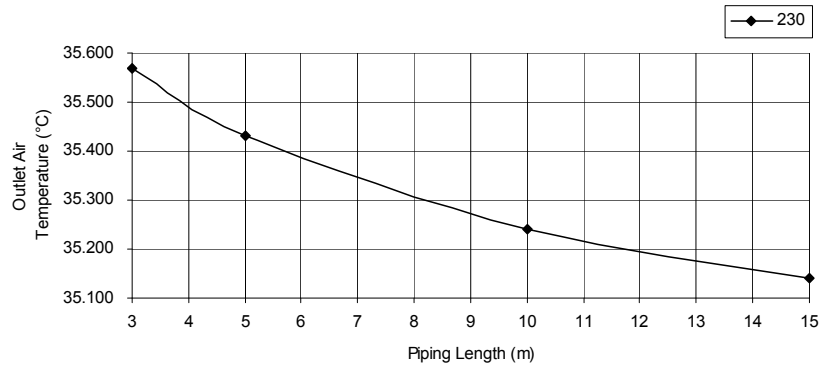


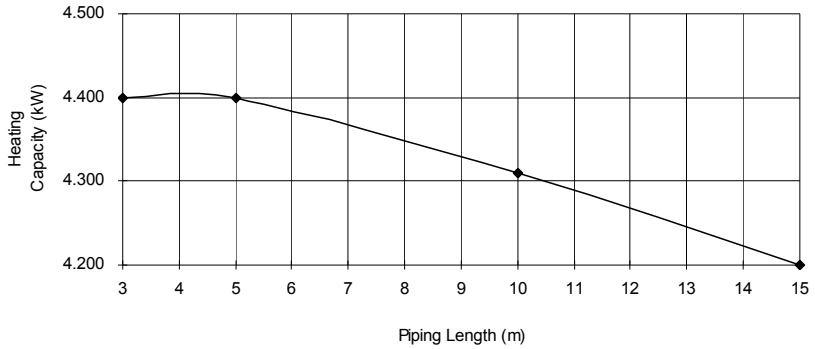


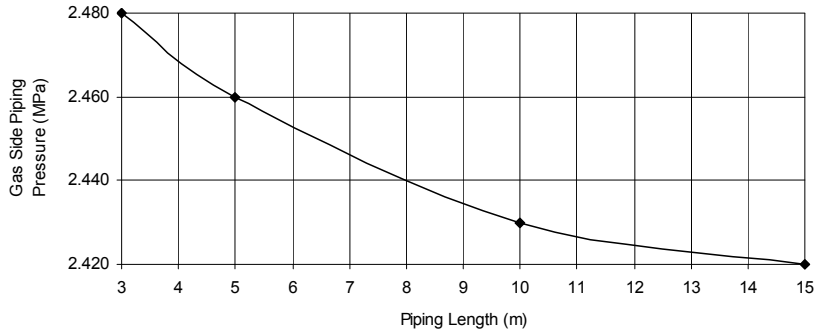


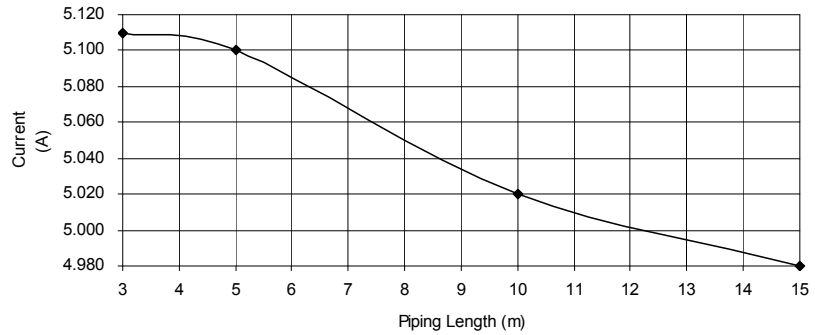
- Piping Length Characteristic

[Condition] Indoor temperature: 20/-°C, 7/6°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h







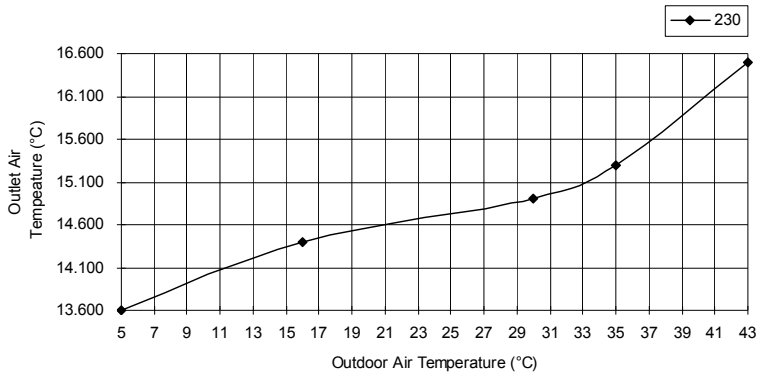


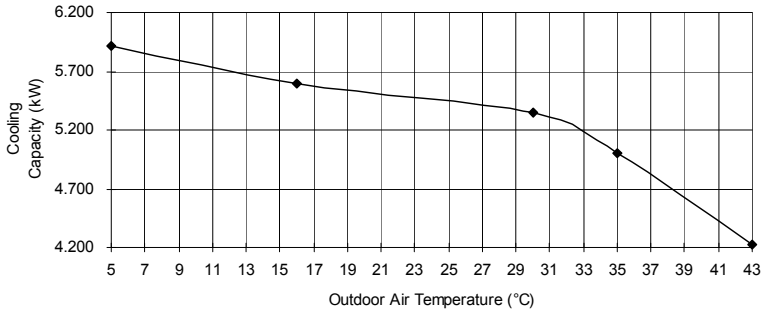
18.1.8 CU-E18NKE

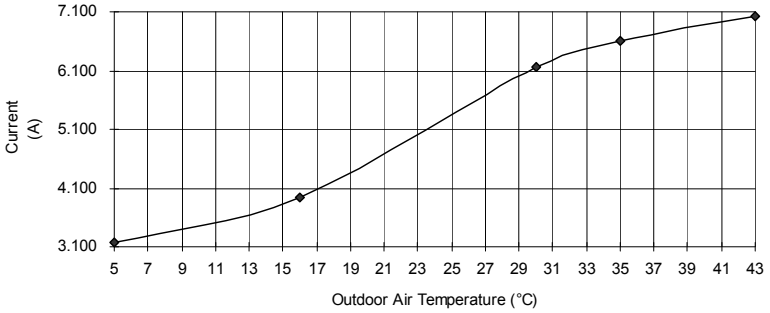
Cooling Characteristic at Different Outdoor Air Temperature

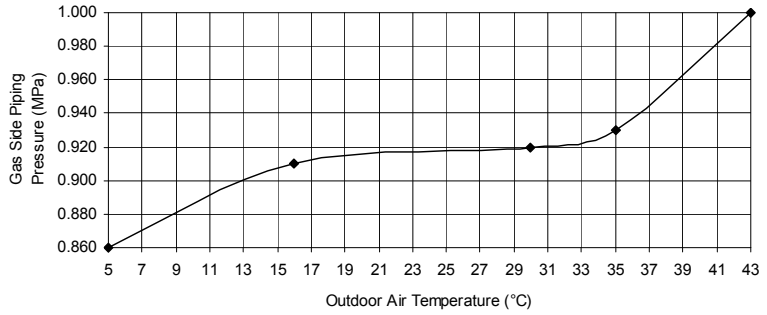
- Cooling Characteristic

[Condition] Indoor temperature: 27/19°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c





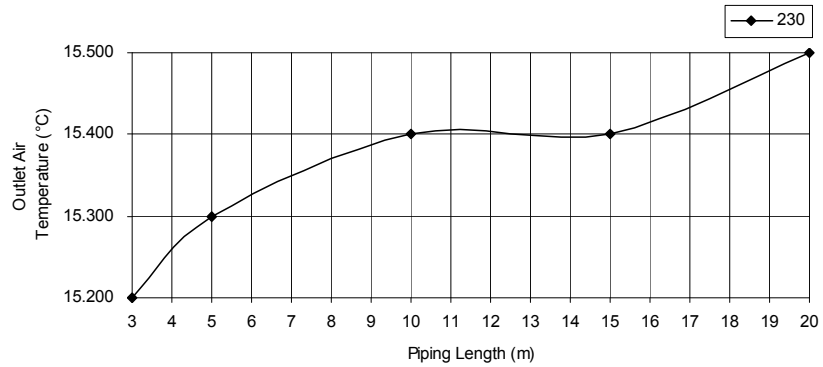


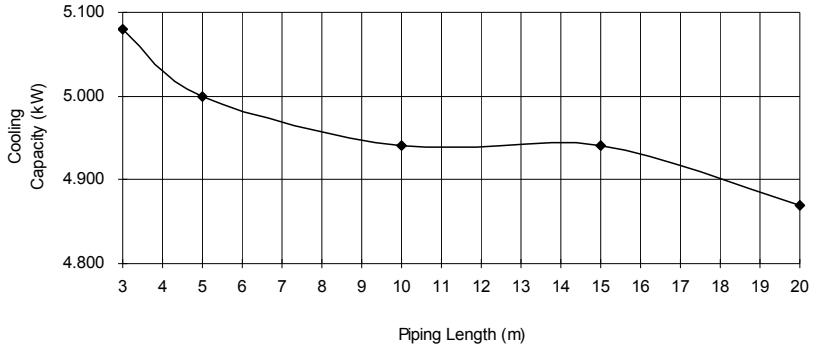


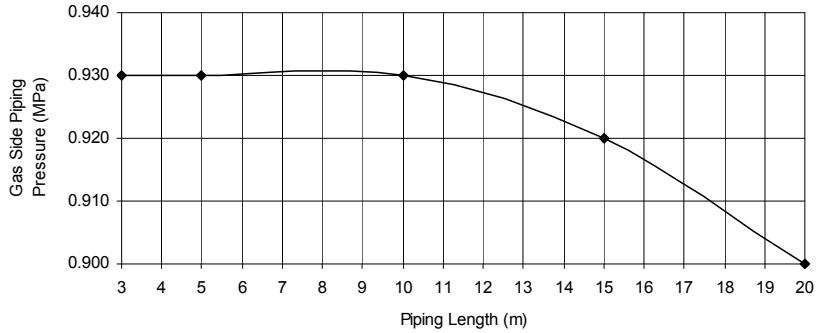
Cooling Characteristic at Different Piping Length

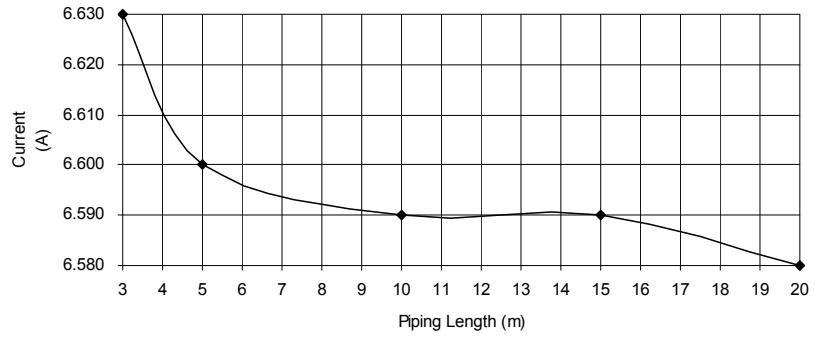
- Piping Length Characteristic

[Condition] Indoor temperature: 27/19°C, 35/-°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c





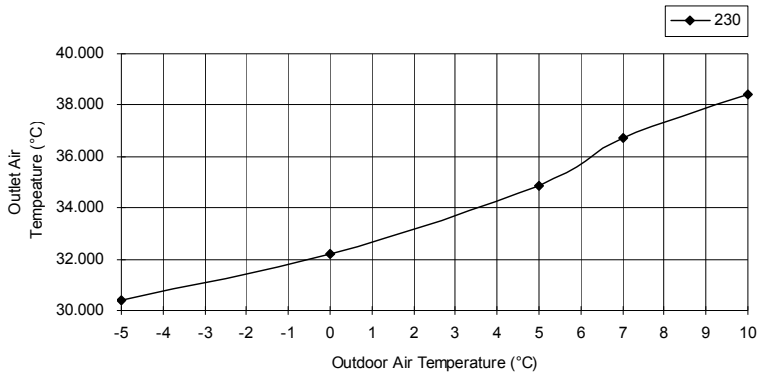


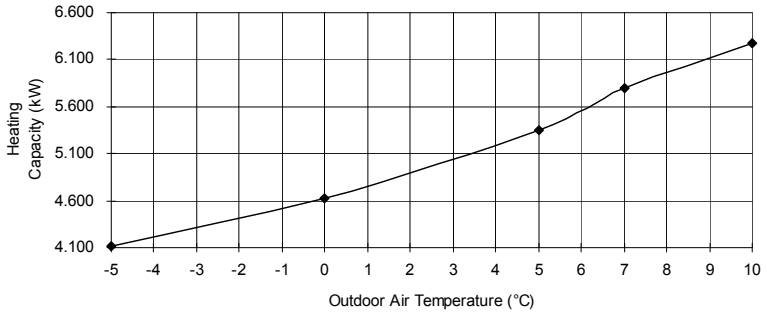


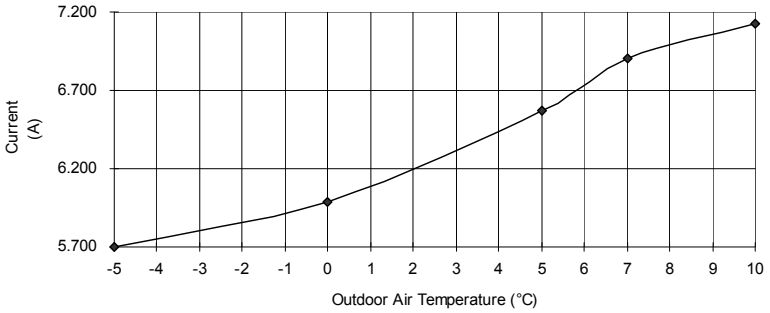
Heating Characteristic at Different Outdoor Air Temperature

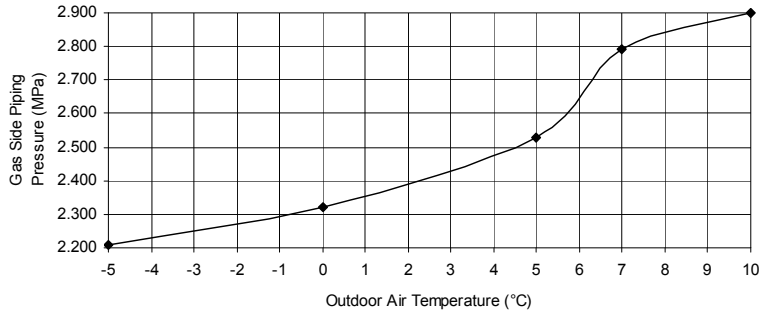
- Heating Characteristic

[Condition] Indoor temperature: 20/-°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h





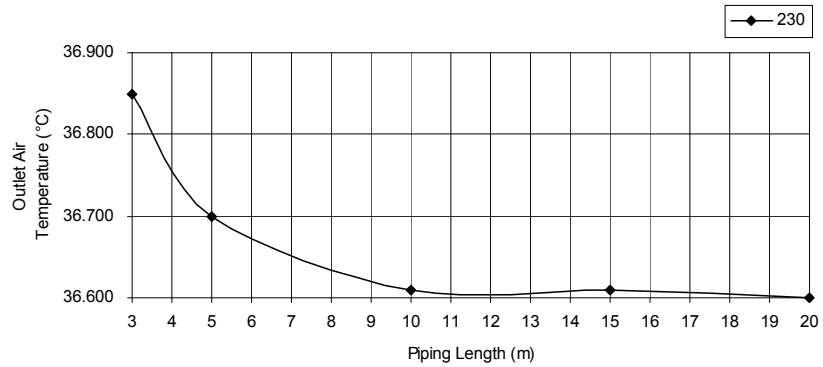


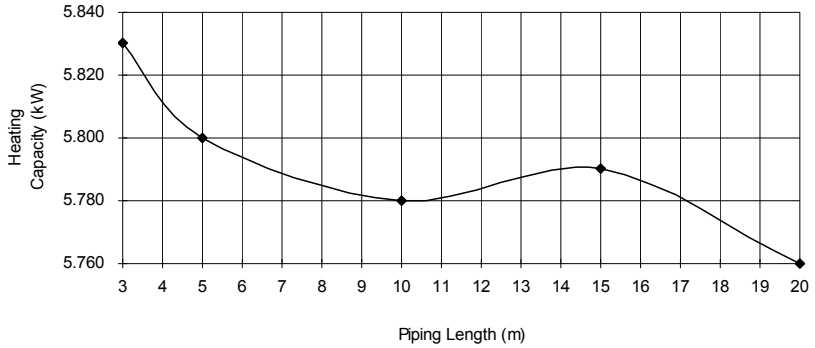


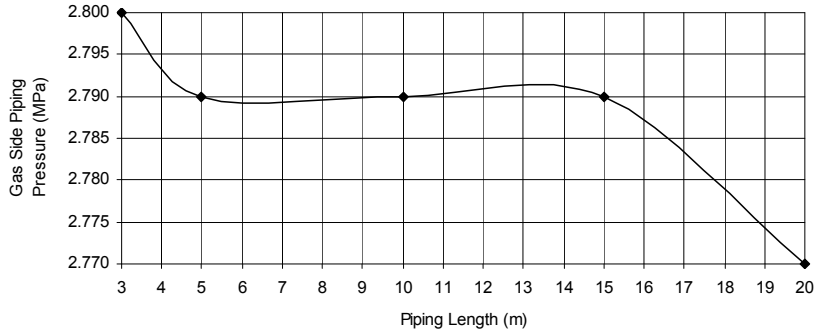
Heating Characteristic at Different Piping Length

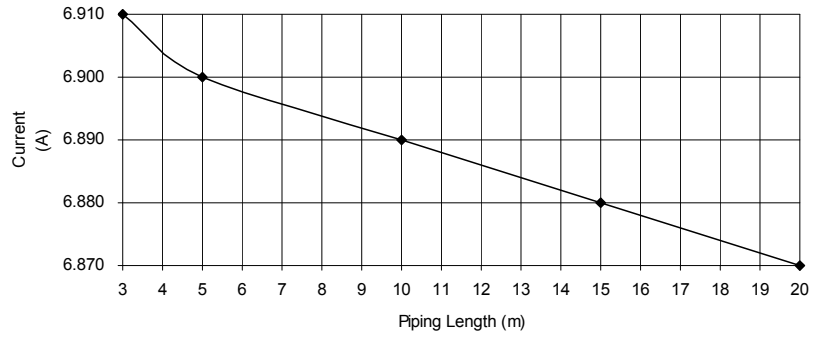
- Piping Length Characteristic

[Condition] Indoor temperature: 20/-°C, 7/6°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h







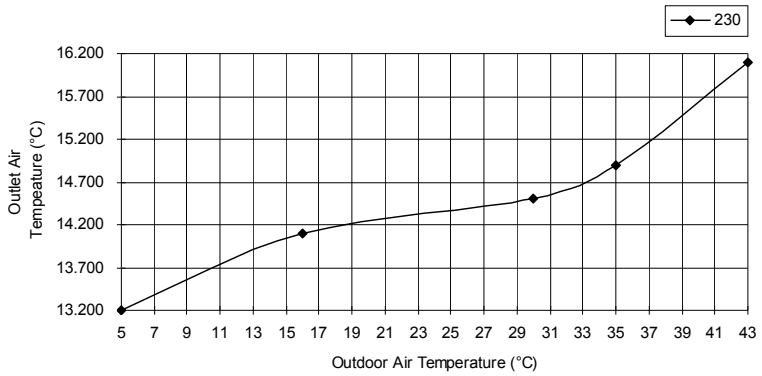


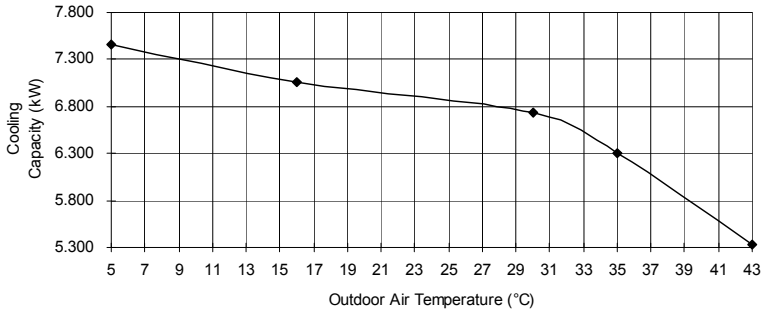
18.1.9 CU-E21NKE

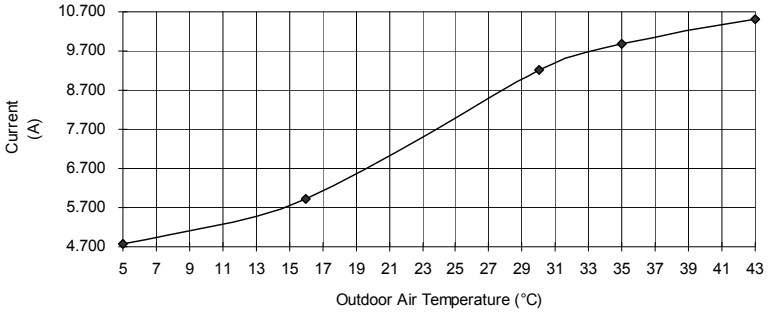
Cooling Characteristic at Different Outdoor Air Temperature

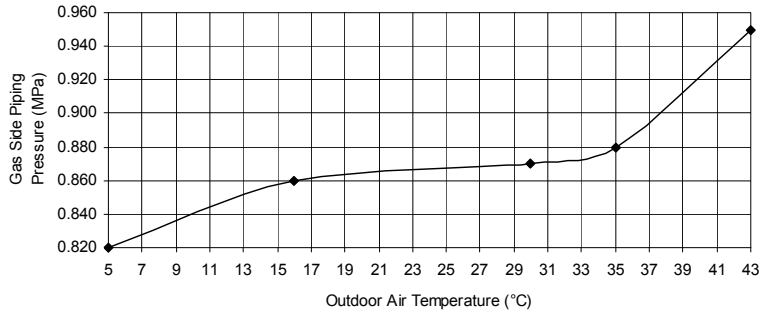
- Cooling Characteristic

[Condition] Indoor temperature: 27/19°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c





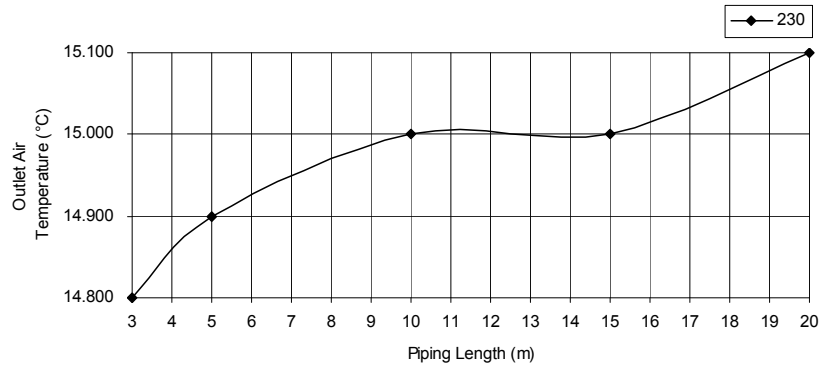


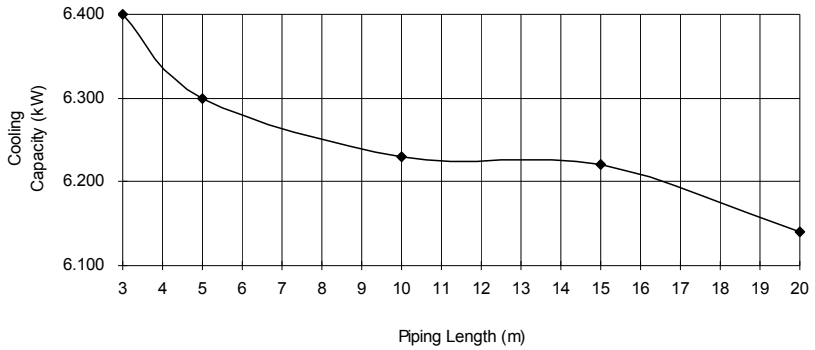


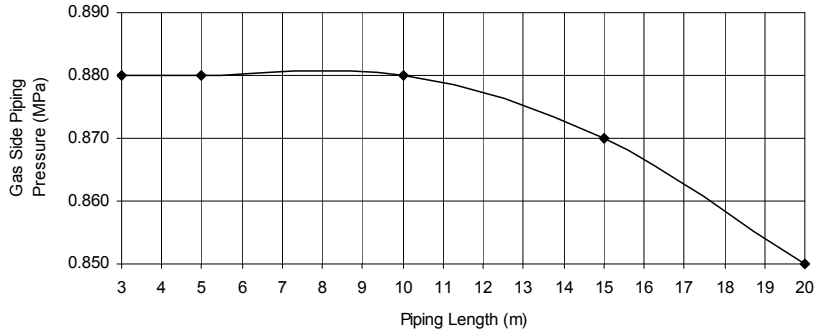
Cooling Characteristic at Different Piping Length

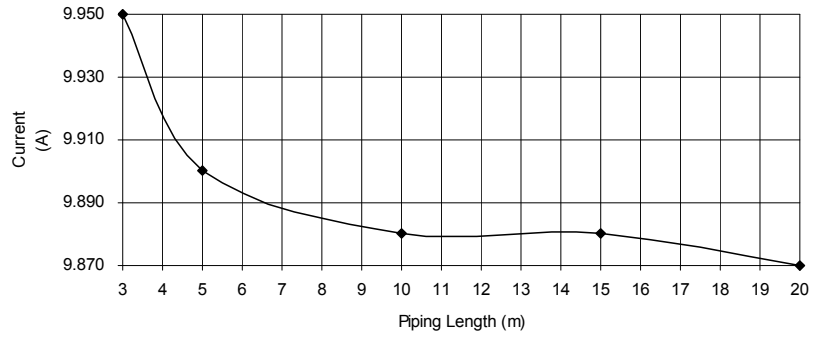
- Piping Length Characteristic

[Condition] Indoor temperature: 27/19°C, 35/-°C
Remote condition: High fan speed, Cool 16°C
Comp. Hz: F_c





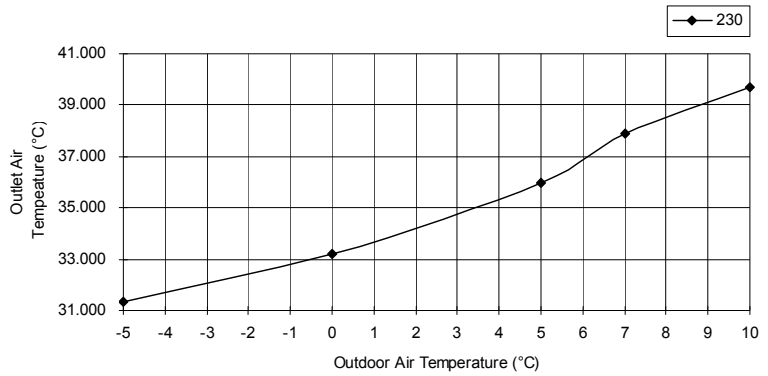


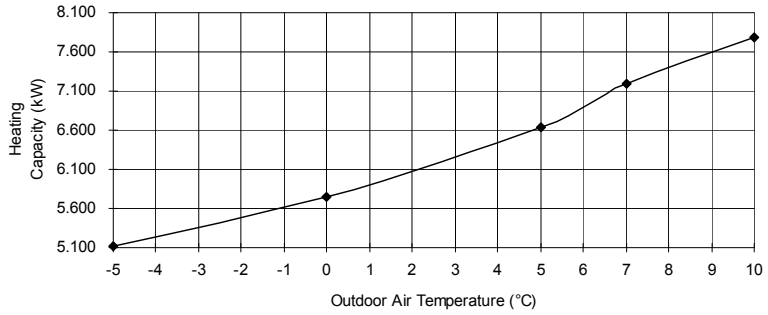


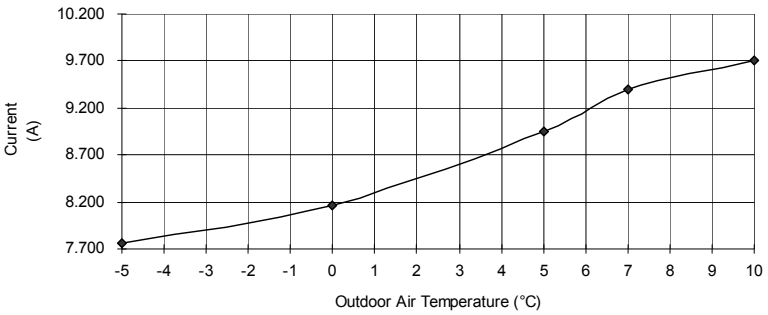
Heating Characteristic at Different Outdoor Air Temperature

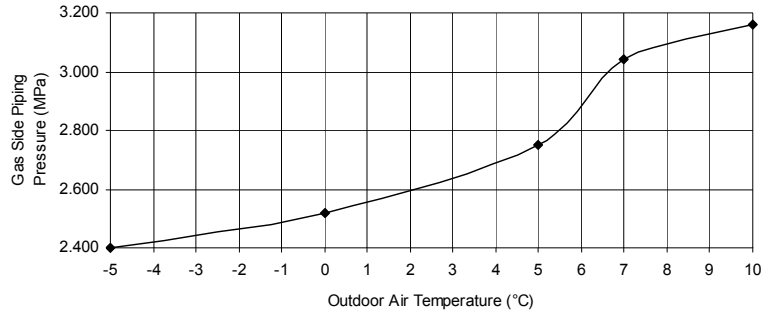
- Heating Characteristic

[Condition] Indoor temperature: 20/-°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h





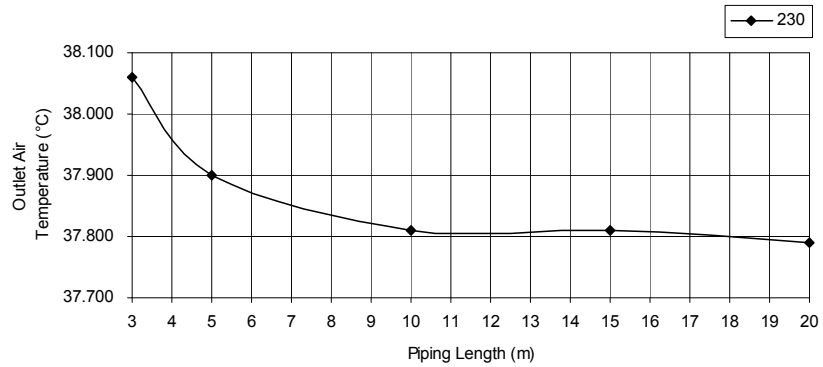


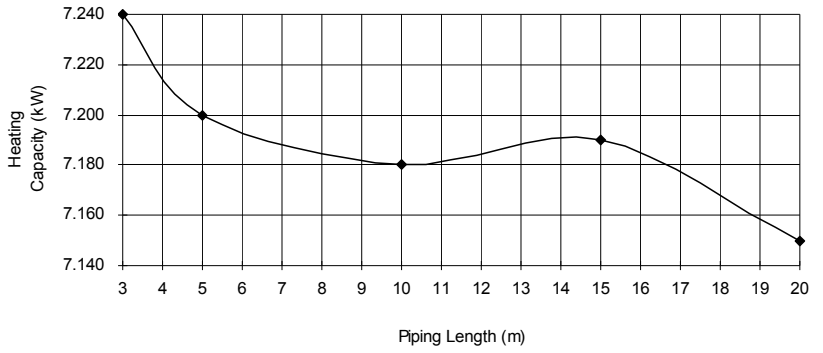


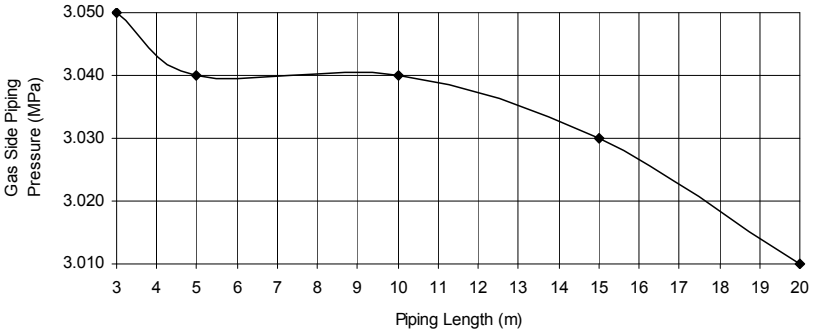
Heating Characteristic at Different Piping Length

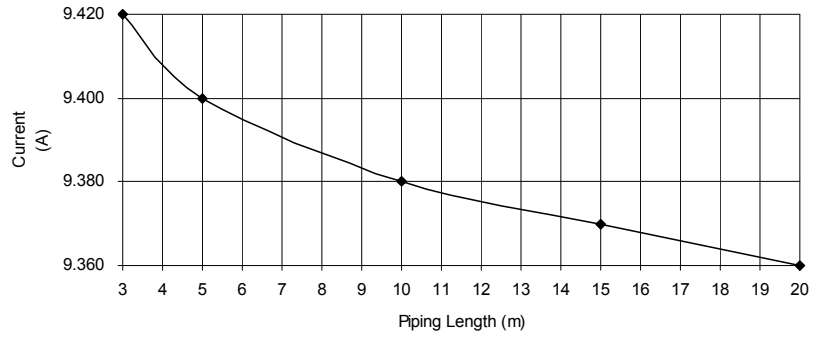
- Piping Length Characteristic

[Condition] Indoor temperature: 20/-°C, 7/6°C
Remote condition: High fan speed, Heat 30°C
Comp. Hz: F_h









18.2 Sensible Capacity Chart

- **CU-E7NKE CU-E7NKE-3**

230V	Outdoor Temp. (°C)											
Indoor wet bulb temp.	30			35			40			46		
	TC	**SHC**	**IP**	**TC**	**SHC**	**IP**	**TC**	**SHC**	**IP**	**TC**	**SHC**	**IP**
17.0°C	2.03	1.54	0.43	1.90	1.48	0.46	1.77	1.42	0.50	1.61	1.35	0.53
19.0°C				2.05		0.47						
19.5°C	2.23	1.61	0.44	2.09	1.55	0.47	1.94	1.49	0.50	1.77	1.42	0.54
22.0°C	2.43	1.67	0.45	2.27	1.61	0.48	2.12	1.55	0.51	1.92	1.48	0.55

- **CU-E9NKE CU-E9NKE-3**

230V	Outdoor Temp. (°C)											
Indoor wet bulb temp.	30			35			40			46		
	TC	**SHC**	**IP**	**TC**	**SHC**	**IP**	**TC**	**SHC**	**IP**	**TC**	**SHC**	**IP**
17.0°C	2.48	1.88	0.49	2.32	1.80	0.53	2.16	1.73	0.57	1.96	1.65	0.61
19.0°C				2.50		0.54						
19.5°C	2.72	1.97	0.50	2.55	1.89	0.54	2.37	1.82	0.58	2.15	1.73	0.63
22.0°C	2.97	2.04	0.51	2.77	1.96	0.55	2.58	1.89	0.59	2.35	1.81	0.64

- **CU-E12NKE**

230V	Outdoor Temp. (°C)											
Indoor wet bulb temp.	30			35			40			46		
	TC	**SHC**	**IP**	**TC**	**SHC**	**IP**	**TC**	**SHC**	**IP**	**TC**	**SHC**	**IP**
17.0°C	3.47	2.63	0.79	3.24	2.52	0.85	3.02	2.43	0.91	2.74	2.30	0.98
19.0°C				3.50		0.86						
19.5°C	3.81	2.76	0.80	3.56	2.65	0.86	3.31	2.55	0.92	3.01	2.43	1.00
22.0°C	4.15	2.86	0.82	3.88	2.75	0.88	3.61	2.65	0.94	3.28	2.53	1.01

- **CU-E12NKE-3**

230V	Outdoor Temp. (°C)											
Indoor wet bulb temp.	30			35			40			46		
	TC	**SHC**	**IP**	**TC**	**SHC**	**IP**	**TC**	**SHC**	**IP**	**TC**	**SHC**	**IP**
17.0°C	3.47	2.63	0.83	3.24	2.52	0.90	3.02	2.43	0.96	2.74	2.30	1.03
19.0°C				3.50		0.91						
19.5°C	3.81	2.76	0.85	3.56	2.65	0.91	3.31	2.55	0.98	3.01	2.43	1.05
22.0°C	4.15	2.86	0.86	3.88	2.75	0.93	3.61	2.65	0.99	3.28	2.53	1.07

- **CU-E15NKE**

230V	Outdoor Temp. (°C)											
Indoor wet bulb temp.	30			35			40			46		
	TC	**SHC**	**IP**	**TC**	**SHC**	**IP**	**TC**	**SHC**	**IP**	**TC**	**SHC**	**IP**
17.0°C	4.17	3.16	1.15	3.89	3.03	1.24	3.62	2.91	1.33	3.29	2.77	1.43
19.0°C				4.20		1.26						
19.5°C	4.57	3.31	1.18	4.28	3.18	1.27	3.98	3.06	1.35	3.62	2.91	1.46
22.0°C	4.99	3.43	1.20	4.66	3.30	1.29	4.33	3.18	1.38	3.94	3.03	1.49

- **CU-E18NKE**

230V	Outdoor Temp. (°C)											
Indoor wet bulb temp.	30			35			40			46		
	TC	**SHC**	**IP**	**TC**	**SHC**	**IP**	**TC**	**SHC**	**IP**	**TC**	**SHC**	**IP**
17.0°C	4.96	3.76	1.35	4.64	3.61	1.45	4.31	3.47	1.55	3.92	3.29	1.67
19.0°C				5.00		1.47						
19.5°C	5.45	3.94	1.37	5.09	3.78	1.48	4.74	3.64	1.58	4.31	3.47	1.70
22.0°C	5.94	4.08	1.40	5.55	3.93	1.50	5.16	3.79	1.61	4.69	3.61	1.73

- **CU-E21NKE**

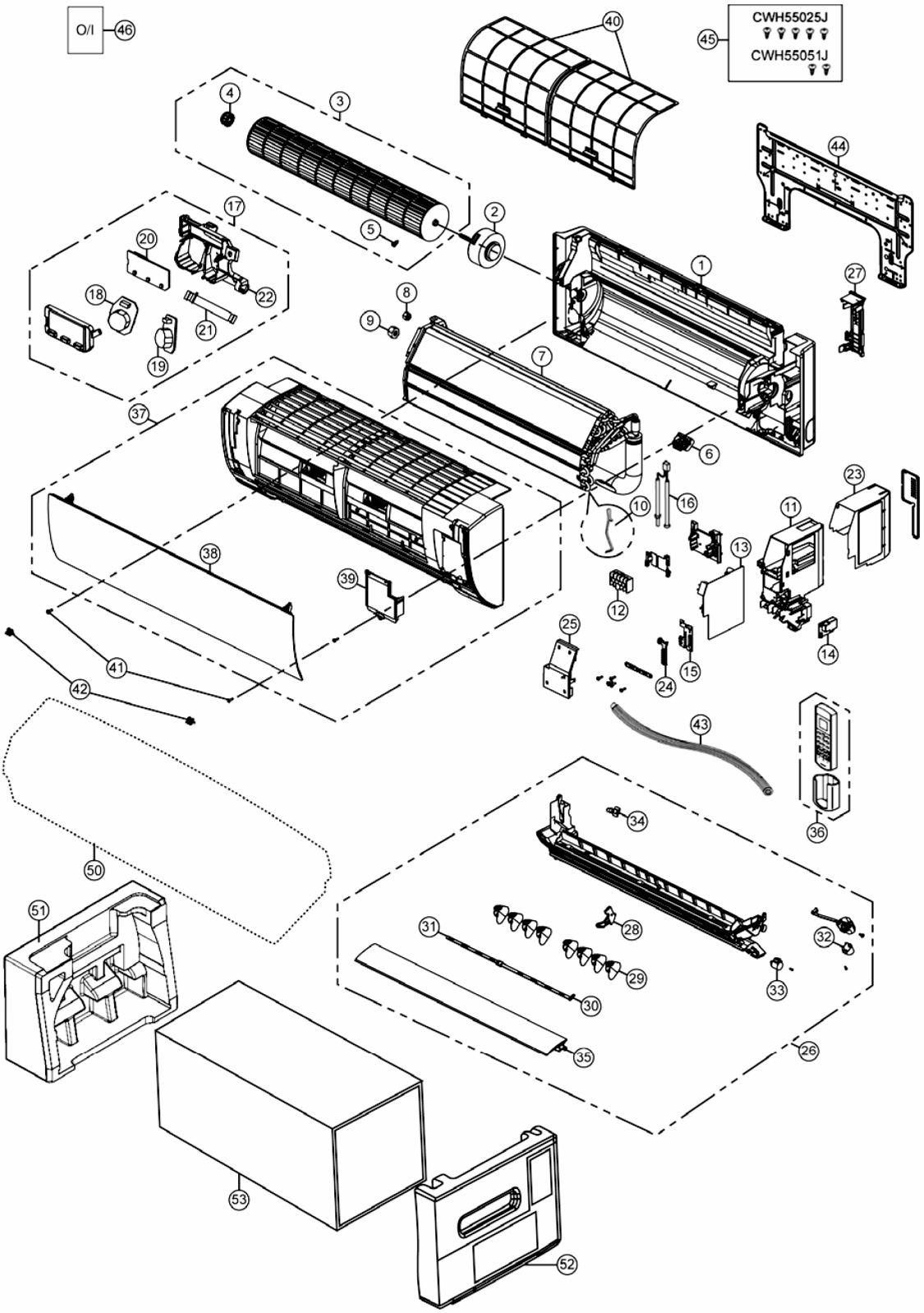
230V	Outdoor Temp. (°C)											
Indoor wet bulb temp.	30			35			40			46		
	TC	**SHC**	**IP**	**TC**	**SHC**	**IP**	**TC**	**SHC**	**IP**	**TC**	**SHC**	**IP**
17.0°C	6.25	4.74	2.02	5.84	4.54	2.18	5.43	4.37	2.33	4.94	4.15	2.51
19.0°C				6.30		2.21						
19.5°C	6.86	4.96	2.06	6.41	4.77	2.22	5.97	4.59	2.37	5.42	4.37	2.56
22.0°C	7.48	5.14	2.10	6.99	4.95	2.26	6.50	4.77	2.42	5.91	4.55	2.61

TC - Total Cooling Capacity (kW)
SHC - Sensible Heat Capacity (kW)
IP - Input Power (kW)
Indoor 27°C/19°C
Outdoor 35°C/24°C

19. Exploded View and Replacement Parts List

19.1 Indoor Unit

19.1.1 CS-E7NKEW CS-E9NKEW CS-E12NKEW CS-E15NKEW CS-XE7NKEW CS-XE9NKEW CS-XE12NKEW CS-XE15NKEW



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-E7NKEW	CS-E9NKEW	CS-E12NKEW	CS-E15NKEW	REMARK
1	CHASSIS COMPLETE	1	CWD50C1653	←	←	←	
2	FAN MOTOR	1	ARW7628AC	←	←	←	o
3	CROSS-FLOW FAN COMPLETE	1	CWH02C1076	←	←	←	
4	BEARING ASSY	1	CWH64K007	←	←	←	o
5	SCREW - CROSS-FLOW FAN	1	CWH551146	←	←	←	
6	GENERATOR COMPLETE	1	CWH94C0043	←	←	←	
7	EVAPORATOR	1	CWB30C2960	CWB30C2755	CWB30C3359	CWB30C3360	
8	FLARE NUT (LIQUID)	1	CWT251030	←	←	←	
9	FLARE NUT (GAS)	1	CWT251031	←	←	CWT251032	
10	CLIP FOR SENSOR	1	CWH32143	←	←	←	
11	CONTROL BOARD CASING	1	CWH102449	←	←	←	
12	TERMINAL BOARD COMPLETE	1	CWA28C2357	←	←	←	o
13	ELECTRONIC CONTROLLER - MAIN	1	CWA73C6641	CWA73C6642	CWA73C6643	CWA73C6644	o
14	ELECTRONIC CONTROLLER - HVU	1	N0GE1F000002	←	←	←	
15	ELECTRONIC CONTROLLER - INDICATOR & RECEIVER	1	CWA746634	←	←	←	o
16	SENSOR COMPLETE	1	CWA50C2401	←	←	←	o
17	SENSOR COMPLETE (ECO)	1	CWA50C2809	←	←	←	o
18	ELECTRONIC CONTROLLER (ECO SENSOR)	1	CWA745791	←	←	←	
19	ELECTRONIC CONTROLLER (ECO SENSOR)	1	CWA746206	←	←	←	
20	ELECTRONIC CONTROLLER (COMPARATOR)	1	CWA746653	←	←	←	
21	LEAD WIRE - PCB ECO	1	CWA67C9785	←	←	←	
22	CONTROL BOARD CASING FOR PCB ECO	1	CWD933407	←	←	←	
23	CONTROL BOARD TOP COVER	1	CWH131467	←	←	←	
24	INDICATOR HOLDER	1	CWD933406	←	←	←	
25	CONTROL BOARD FRONT COVER CO.	1	CWH13C1247	←	←	←	
26	DISCHARGE GRILLE COMPLETE	1	CWE20C3235	←	←	←	
27	BACK COVER CHASSIS	1	CWD933233	←	←	←	
28	FULCRUM	1	CWH621131	←	←	←	
29	VERTICAL VANE	8	CWE241374	←	←	←	
30	CONNECTING BAR	1	CWE261250	←	←	←	
31	CONNECTING BAR	1	CWE261256	←	←	←	
32	AIR SWING MOTOR	1	CWA98K1016	←	←	←	o
33	AIR SWING MOTOR	1	CWA981264	←	←	←	o
34	CAP - DRAIN TRAY	1	CWH521096	←	←	←	
35	HORIZONTAL VANE COMPLETE	1	CWE24C1385	←	←	←	
36	REMOTE CONTROL COMPLETE	1	CWA75C3887	←	←	←	o
37	FRONT GRILLE COMPLETE	1	CWE11C5053	←	←	←	o
38	INTAKE GRILLE COMPLETE	1	CWE22C1723	←	←	←	
39	GRILLE DOOR COMPLETE	1	CWE14C1090	←	←	←	
40	AIR FILTER	2	CWD001279	←	←	←	o
41	SCREW - FRONT GRILLE	2	XTT4+16CFJ	←	←	←	
42	CAP - FRONT GRILLE	2	CWH521227	←	←	←	
43	DRAIN HOSE	1	CWH851173	←	←	←	
44	INSTALLATION PLATE	1	CWH361097	←	←	←	
45	BAG COMPLETE - INSTALLATION SCREW	1	CWH82C1705	←	←	←	
46	OPERATING INSTRUCTION	1	CWF56C7825	←	←	←	
50	BAG	1	CWG861497	←	←	←	
51	SHOCK ABSORBER (L)	1	CWG713386	←	←	←	

52	SHOCK ABSORBER (R)	1	CWG713387	←	←	←	
53	C.C. CASE	1	CWG567354	←	←	←	

(NOTE)

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

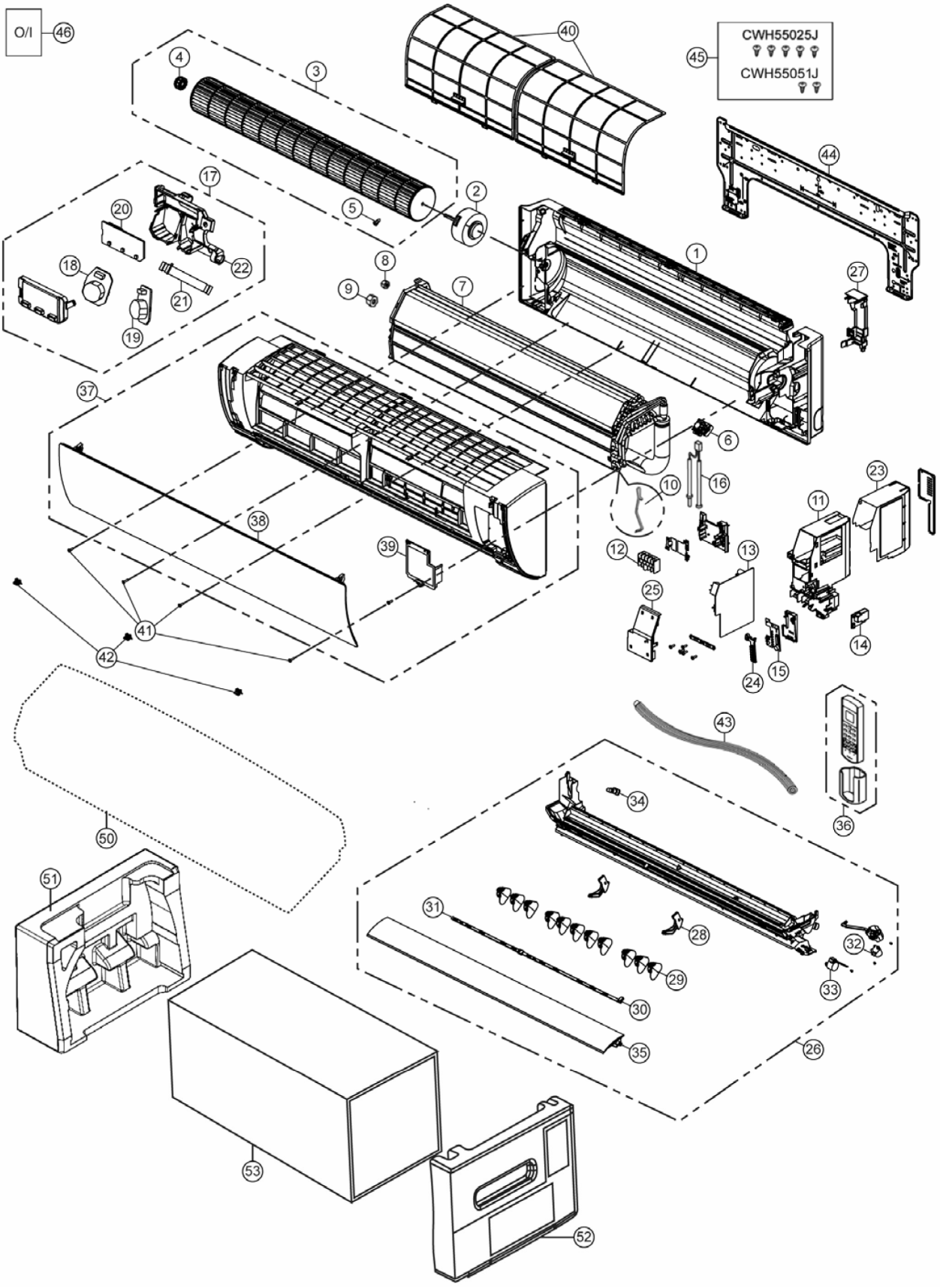
REF. NO.	PART NAME & DESCRIPTION	QTY.	CS-XE7NKEW	CS-XE9NKEW	CS-XE12NKEW	CS-XE15NKEW	REMARK
1	CHASSIS COMPLETE	1	CWD50C1666	←	←	←	
2	FAN MOTOR	1	ARW7628AC	←	←	←	o
3	CROSS-FLOW FAN COMPLETE	1	CWH02C1076	←	←	←	
4	BEARING ASSY	1	CWH64K007	←	←	←	o
5	SCREW - CROSS-FLOW FAN	1	CWH551146	←	←	←	
6	GENERATOR COMPLETE	1	CWH94C0043	←	←	←	
7	EVAPORATOR	1	CWB30C2960	CWB30C2755	CWB30C3359	CWB30C3360	
8	FLARE NUT (LIQUID)	1	CWT251030	←	←	←	
9	FLARE NUT (GAS)	1	CWT251031	←	←	CWT251032	
10	CLIP FOR SENSOR	1	CWH32143	←	←	←	
11	CONTROL BOARD CASING	1	CWH102449	←	←	←	
12	TERMINAL BOARD COMPLETE	1	CWA28C2357	←	←	←	o
13	ELECTRONIC CONTROLLER - MAIN	1	CWA73C6641	CWA73C6642	CWA73C6643	CWA73C6644	o
14	ELECTRONIC CONTROLLER - HVU	1	N0GE1F000002	←	←	←	
15	ELECTRONIC CONTROLLER - INDICATOR & RECEIVER	1	CWA746634	←	←	←	o
16	SENSOR COMPLETE	1	CWA50C2401	←	←	←	o
17	SENSOR COMPLETE (ECO)	1	CWA50C2809	←	←	←	o
18	ELECTRONIC CONTROLLER (ECO SENSOR)	1	CWA745791	←	←	←	
19	ELECTRONIC CONTROLLER (ECO SENSOR)	1	CWA746206	←	←	←	
20	ELECTRONIC CONTROLLER (COMPARATOR)	1	CWA746653	←	←	←	
21	LEAD WIRE - PCB ECO	1	CWA67C9785	←	←	←	
22	CONTROL BOARD CASING FOR PCB ECO	1	CWD933407	←	←	←	
23	CONTROL BOARD TOP COVER	1	CWH131467	←	←	←	
24	INDICATOR HOLDER	1	CWD933406	←	←	←	
25	CONTROL BOARD FRONT COVER CO.	1	CWH13C1247	←	←	←	
26	DISCHARGE GRILLE COMPLETE	1	CWE20C3234	←	←	←	
27	BACK COVER CHASSIS	1	CWD933233A	←	←	←	
28	FULCRUM	1	CWH621131	←	←	←	
29	VERTICAL VANE	8	CWE241374	←	←	←	
30	CONNECTING BAR	1	CWE261250	←	←	←	
31	CONNECTING BAR	1	CWE261256	←	←	←	
32	AIR SWING MOTOR	1	CWA98K1016	←	←	←	o
33	AIR SWING MOTOR	1	CWA981264	←	←	←	o
34	CAP - DRAIN TRAY	1	CWH521096	←	←	←	
35	HORIZONTAL VANE COMPLETE	1	CWE24C1384	←	←	←	
36	REMOTE CONTROL COMPLETE	1	CWA75C3887	←	←	←	o
37	FRONT GRILLE COMPLETE	1	CWE11C5078	←	←	←	o
38	INTAKE GRILLE COMPLETE	1	CWE22C1731	←	←	←	
39	GRILLE DOOR COMPLETE	1	CWE14C1091	←	←	←	
40	AIR FILTER	2	CWD001279	←	←	←	o
41	SCREW - FRONT GRILLE	2	XTT4+16CFJ	←	←	←	
42	CAP - FRONT GRILLE	2	CWH521227A	←	←	←	
43	DRAIN HOSE	1	CWH851173	←	←	←	
44	INSTALLATION PLATE	1	CWH361097	←	←	←	
45	BAG COMPLETE - INSTALLATION SCREW	1	CWH82C1705	←	←	←	
46	OPERATING INSTRUCTION	1	CWF56C7825	←	←	←	
50	BAG	1	CWG861497	←	←	←	
51	SHOCK ABSORBER (L)	1	CWG713386	←	←	←	

52	SHOCK ABSORBER (R)	1	CWG713387	←	←	←	
53	C.C. CASE	1	CWG567354	←	←	←	

(NOTE)

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

19.1.2 CS-E18NKEW CS-E21NKEW CS-XE18NKEW CS-XE21NKEW



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-E18NKEW	CS-E21NKEW	CS-XE18NKEW	CS-XE21NKEW	REMARK
1	CHASSIS COMPLETE	1	CWD50C1654	←	CWD50C1604	←	
2	FAN MOTOR	1	ARW7627AC	←	←	←	o
3	CROSS-FLOW FAN COMPLETE	1	CWH02C1077	←	←	←	
4	BEARING ASSY	1	CWH64K007	←	←	←	o
5	SCREW - CROSS-FLOW FAN	1	CWH551146	←	←	←	
6	GENERATOR COMPLETE	1	CWH94C0043	←	←	←	
7	EVAPORATOR	1	CWB30C3860	←	←	←	
8	FLARE NUT (LIQUID)	1	CWT251030	←	←	←	
9	FLARE NUT (GAS)	1	CWT251032	←	←	←	
10	CLIP FOR SENSOR	1	CWH32143	←	←	←	
11	CONTROL BOARD CASING	1	CWH102449	←	←	←	
12	TERMINAL BOARD COMPLETE	1	CWA28C2357	←	←	←	o
13	ELECTRONIC CONTROLLER - MAIN	1	CWA73C6645	CWA73C6646	CWA73C6645	CWA73C6646	o
14	ELECTRONIC CONTROLLER - HVU	1	N0GE1F000002	←	←	←	
15	ELECTRONIC CONTROLLER - INDICATOR & RECEIVER	1	CWA746634	←	←	←	o
16	SENSOR COMPLETE	1	CWA50C2401	←	←	←	o
17	SENSOR COMPLETE (ECO)	1	CWA50C2826	←	←	←	o
18	ELECTRONIC CONTROLLER (ECO SENSOR)	1	CWA745791	←	←	←	
19	ELECTRONIC CONTROLLER (ECO SENSOR)	1	CWA746206	←	←	←	
20	ELECTRONIC CONTROLLER (COMPARATOR)	1	CWA746653	←	←	←	
21	LEAD WIRE - PCB ECO	1	CWA67C9934	←	←	←	
22	CONTROL BOARD CASING FOR PCB ECO	1	CWD933407A	←	←	←	
23	CONTROL BOARD TOP COVER	1	CWH131467	←	←	←	
24	INDICATOR HOLDER	1	CWD933406	←	←	←	
25	CONTROL BOARD FRONT COVER CO.	1	CWH13C1247	←	←	←	
26	DISCHARGE GRILLE COMPLETE	1	CWE20C3242	←	CWE20C3244	←	
27	BACK COVER CHASSIS	1	CWD933031	←	CWD933031A	←	
28	FULCRUM	2	CWH621138	←	←	←	
29	VERTICAL VANE	11	CWE241374	←	←	←	
30	CONNECTING BAR (RIGHT)	1	CWE261257	←	←	←	
31	CONNECTING BAR (LEFT)	1	CWE261258	←	←	←	
32	AIR SWING MOTOR	1	CWA98K1018	←	←	←	o
33	AIR SWING MOTOR	1	CWA981241	←	←	←	o
34	CAP - DRAIN TRAY	1	CWH521096	←	←	←	
35	HORIZONTAL VANE COMPLETE	1	CWE24C1392	←	CWE24C1395	←	
36	REMOTE CONTROL COMPLETE	1	CWA75C3887	←	←	←	o
37	FRONT GRILLE COMPLETE	1	CWE11C5091	←	CWE11C5129	←	o
38	INTAKE GRILLE COMPLETE	1	CWE22C1728	←	CWE22C1729	←	
39	GRILLE DOOR COMPLETE	1	CWE14C1090	←	CWE14C1091	←	
40	AIR FILTER	2	CWD001283	←	←	←	o
41	SCREW - FRONT GRILLE	3	XTT4+16CFJ	←	←	←	
42	CAP - FRONT GRILLE	3	CWH521227	←	CWH521227A	←	
43	DRAIN HOSE	1	CWH851173	←	←	←	
44	INSTALLATION PLATE	1	CWH361098	←	←	←	
45	BAG COMPLETE - INSTALLATION SCREW	1	CWH82C1705	←	←	←	
46	OPERATING INSTRUCTION	1	CWF56C7825	←	←	←	
50	BAG	1	CWG861498	←	←	←	
51	SHOCK ABSORBER (L)	1	CWG713402	←	←	←	

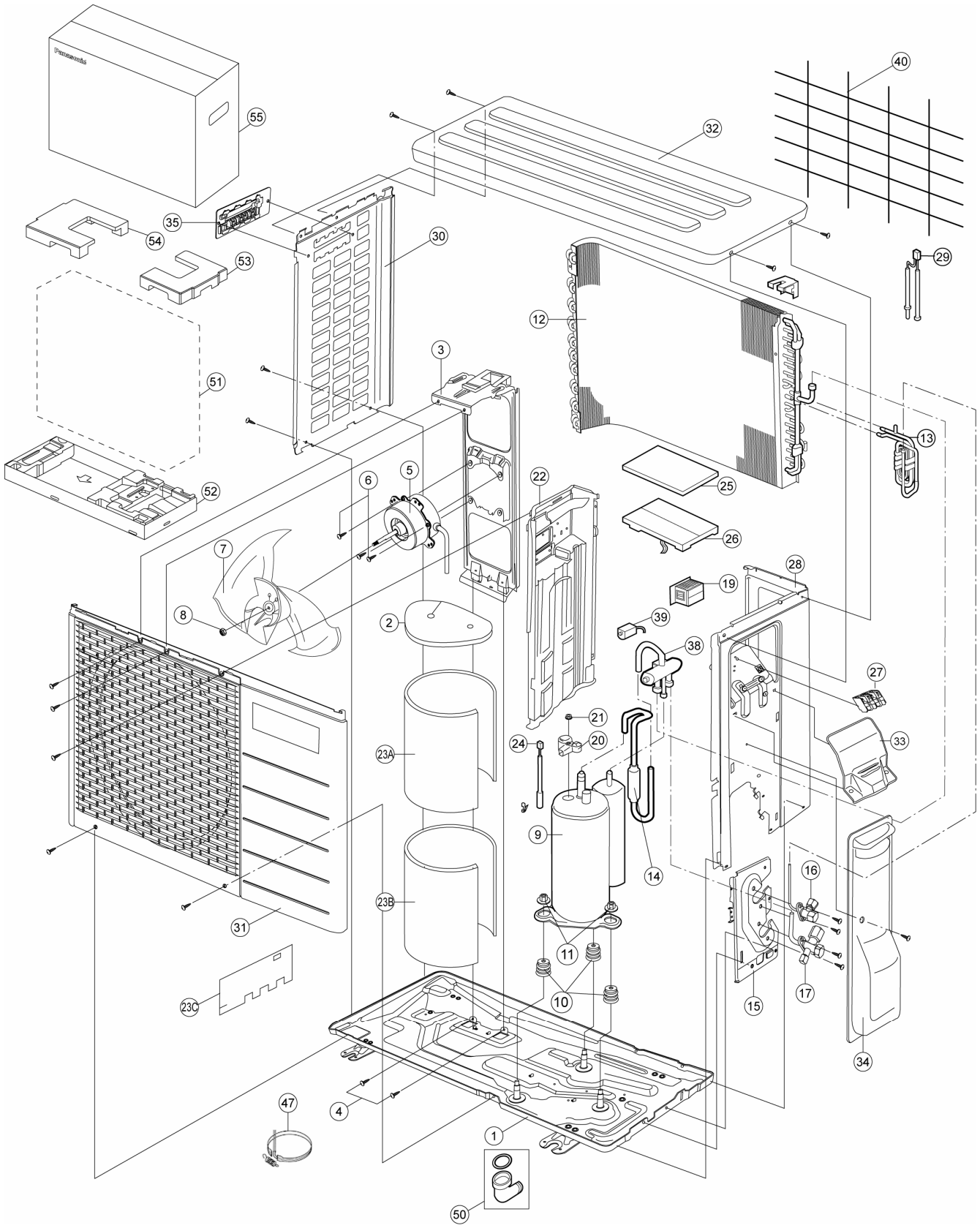
52	SHOCK ABSORBER (R)	1	CWG713403	←	←	←	
53	C.C. CASE	1	CWG567454	←	←	←	

(NOTE)

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

19.2 Outdoor Unit

19.2.1 CU-E7NKE CU-E9NKE CU-E7NKE-3 CU-E9NKE-3 CU-E12NKE-3



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.	CU-E7NKE	CU-E9NKE	REMARK
1	CHASSIS COMPLETE	1	CWD50K2073	←	
2	SOUND PROOF MATERIAL	1	CWG302447	CWG302292	
3	FAN MOTOR BRACKET	1	CWD541089	←	
4	SCREW - FAN MOTOR BRACKET	2	CWH551217	←	
5	FAN MOTOR	1	CWA951720	CWA951721	o
6	SCREW - FAN MOTOR MOUNT	4	CWH55252J	←	
7	PROPELLER FAN ASSY	1	CWH03K1010	←	
8	NUT - PROPELLER FAN	1	CWH56053J	←	
9	COMPRESSOR	1	5RS092XCD21	5RS102XBC21	o
10	ANTI - VIBRATION BUSHING	3	CWH50077	←	
11	NUT - COMPRESSOR MOUNT	3	CWH56000J	←	
12	CONDENSER	1	CWB32C2985	CWB32C2448	
13	TUBE ASSY CO. (CAP./CHK VALVE)	1	CWT01C5305	CWT01C4850	
14	DISCHARGE MUFFLER	1	CWB121010	←	
15	HOLDER COUPLING	1	CWH351023	←	
16	2-WAYS VALVE (LIQUID)	1	CWB021559	CWB021457	o
17	3-WAY VALVE (GAS)	1	CWB011374	←	o
19	REACTOR	1	G0C193J00002	←	o
20	TERMINAL COVER	1	CWH171039A	←	
21	NUT - TERMINAL COVER	1	CWH7080300J	←	
22	SOUND PROOF BOARD	1	CWH151172	←	
23A	SOUND PROOF MATERIAL	1	CWG302443	CWG302293	
24	SENSOR CO-COMP TEMP	1	CWA50C2205	←	o
25	CONTROL BOARD COVER-TOP	1	CWH131264	←	
26	ELECTRONIC CONTROLLER - MAIN	1	CWA73C6653R	CWA73C6655R	o
27	TERMINAL BOARD ASSY	1	CWA28K1110J	←	o
28	CABINET SIDE PLATE CO. (RIGHT)	1	CWE04C1116	←	
29	SENSOR CO-AIR TEMP AND PIPE TEMP	1	CWA50C2764	←	o
30	CABINET SIDE PLATE (LEFT)	1	CWE041248A	←	
31	CABINET FRONT PLATE CO.	1	CWE06C1039	←	
32	CABINET TOP PLATE	1	CWE031014A	←	
33	PLATE - C. B. COVER TERMINAL	1	CWH131301	←	
34	CONTROL BOARD COVER CO.	1	CWH13C1211	←	
35	HANDLE	1	CWE161010	←	
38	4-WAYS VALVE	1	CWB001037J	←	o
39	V-COIL COMPLETE	1	CWA43C2431	←	o
40	WIRE NET	1	CWD041111A	←	
50	BAG-COMPLETE	1	CWG87C900	←	
51	BAG	1	CWG861078	←	
52	BASE BOARD-COMPLETE	1	CWG62C1095	←	
53	SHOCK ABSORBER (RIGHT)	1	CWG712969	←	
54	SHOCK ABSORBER (LEFT)	1	CWG712970	←	
55	C.C. CASE	1	CWG568356	←	

(NOTE)

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

REF. NO.	PART NAME & DESCRIPTION	QTY.	CU-E7NKE-3	CU-E9NKE-3	CU-E12NKE-3	REMARK
1	CHASSIS COMPLETE	1	CWD50K2073	←	←	
2	SOUND PROOF MATERIAL	1	CWG302314	←	←	
3	FAN MOTOR BRACKET	1	CWD541089	←	←	
4	SCREW - FAN MOTOR BRACKET	2	CWH551217	←	←	
5	FAN MOTOR	1	CWA951720	CWA951721	CWA951699	o
6	SCREW - FAN MOTOR MOUNT	4	CWH55252J	←	←	
7	PROPELLER FAN ASSY	1	CWH03K1010	←	←	
8	NUT - PROPELLER FAN	1	CWH56053J	←	←	
9	COMPRESSOR	1	5RS092XCD21	5RS102XBC21	←	o
10	ANTI - VIBRATION BUSHING	3	CWH50077	←	←	
11	NUT - COMPRESSOR MOUNT	3	CWH56000J	←	←	
12	CONDENSER	1	CWB32C2985	CWB32C2448	←	
13	TUBE ASSY CO. (CAP./CHK VALVE)	1	CWT01C5305	CWT01C4850	CWT01C4851	
14	DISCHARGE MUFFLER	1	CWB121010	←	←	
15	HOLDER COUPLING	1	CWH351023	←	←	
16	2-WAYS VALVE (LIQUID)	1	CWB021559	CWB021457	←	o
17	3-WAY VALVE (GAS)	1	CWB011374	←	←	o
19	REACTOR	1	G0C193J00002	←	G0C193J00004	o
20	TERMINAL COVER	1	CWH171039A	←	←	
21	NUT - TERMINAL COVER	1	CWH7080300J	←	←	
22	SOUND PROOF BOARD	1	CWH151172	←	←	
23A	SOUND PROOF MATERIAL	1	CWG302316	←	←	
23B	SOUND PROOF MATERIAL	1	CWG302317	←	←	
23C	SOUND PROOF MATERIAL	1	CWG302315	←	←	
24	SENSOR CO-COMP TEMP	1	CWA50C2205	←	←	o
25	CONTROL BOARD COVER-TOP	1	CWH131264	←	←	
26	ELECTRONIC CONTROLLER - MAIN	1	CWA73C6654R	CWA73C6656R	CWA73C6658R	o
27	TERMINAL BOARD ASSY	1	CWA28K1110J	←	←	o
28	CABINET SIDE PLATE CO. (RIGHT)	1	CWE04C1116	←	←	
29	SENSOR CO-AIR TEMP AND PIPE TEMP	1	CWA50C2764	←	←	o
30	CABINET SIDE PLATE (LEFT)	1	CWE041248A	←	←	
31	CABINET FRONT PLATE CO.	1	CWE06C1039	CWE06C1136	←	
32	CABINET TOP PLATE	1	CWE031014A	←	←	
33	PLATE - C. B. COVER TERMINAL	1	CWH131301	←	←	
34	CONTROL BOARD COVER CO.	1	CWH13C1211	←	←	
35	HANDLE	1	CWE161010	←	←	
38	4-WAYS VALVE	1	CWB001037J	←	←	o
39	V-COIL COMPLETE	1	CWA43C2431	←	←	o
40	WIRE NET	1	CWD041111A	←	←	
47	CRANKCASE HEATER	1	CWA341044	←	←	
50	BAG-COMPLETE	1	CWG87C900	←	←	
51	BAG	1	CWG861078	←	←	
52	BASE BOARD-COMPLETE	1	CWG62C1095	←	←	
53	SHOCK ABSORBER	1	CWG712969	←	←	
54	SHOCK ABSORBER	1	CWG712970	←	←	
55	C.C. CASE	1	CWG568357	←	←	

(NOTE)

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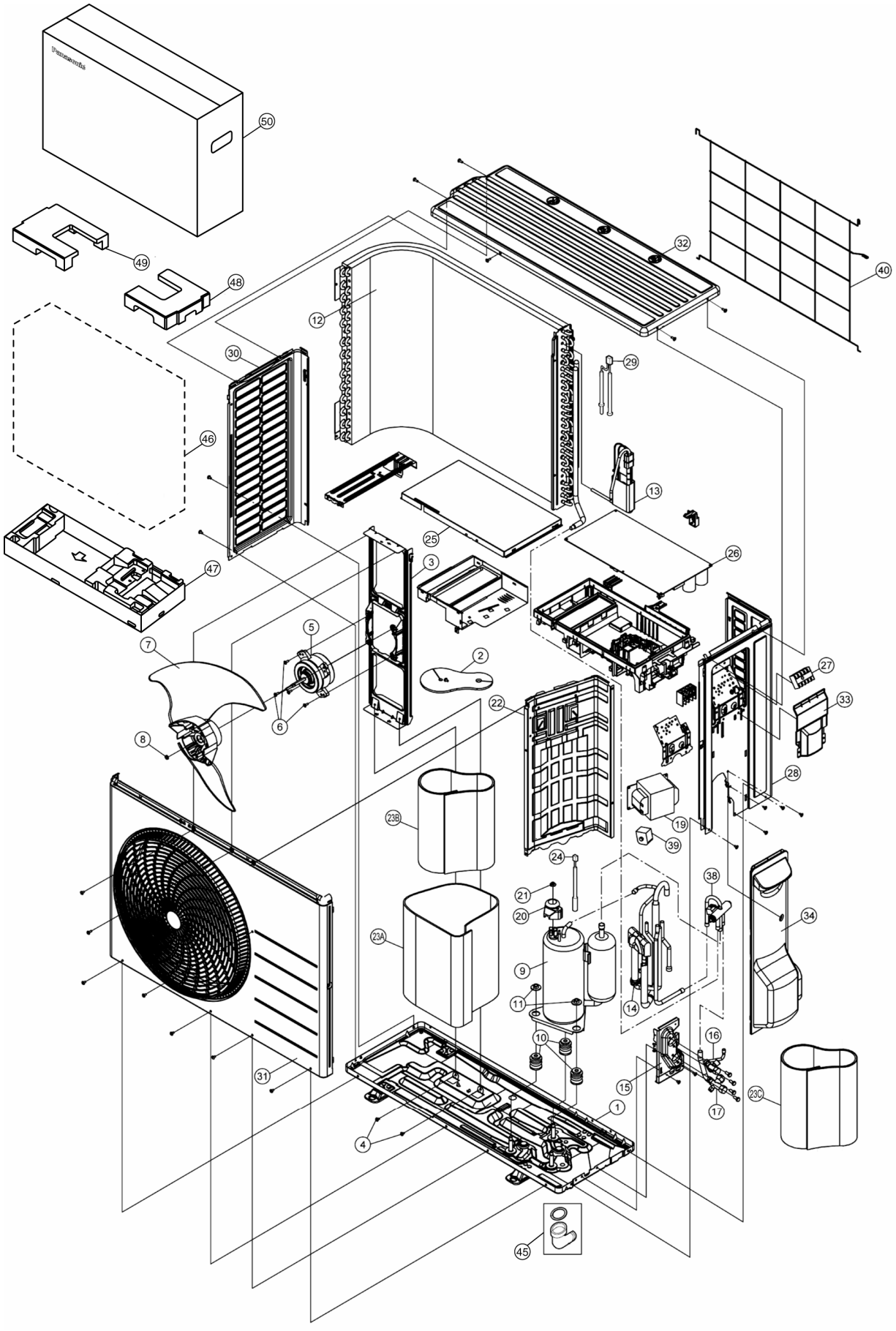
- “O” marked parts are recommended to be kept in stock.

19.2.2 CU-E12NKE CU-E15NKE



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.

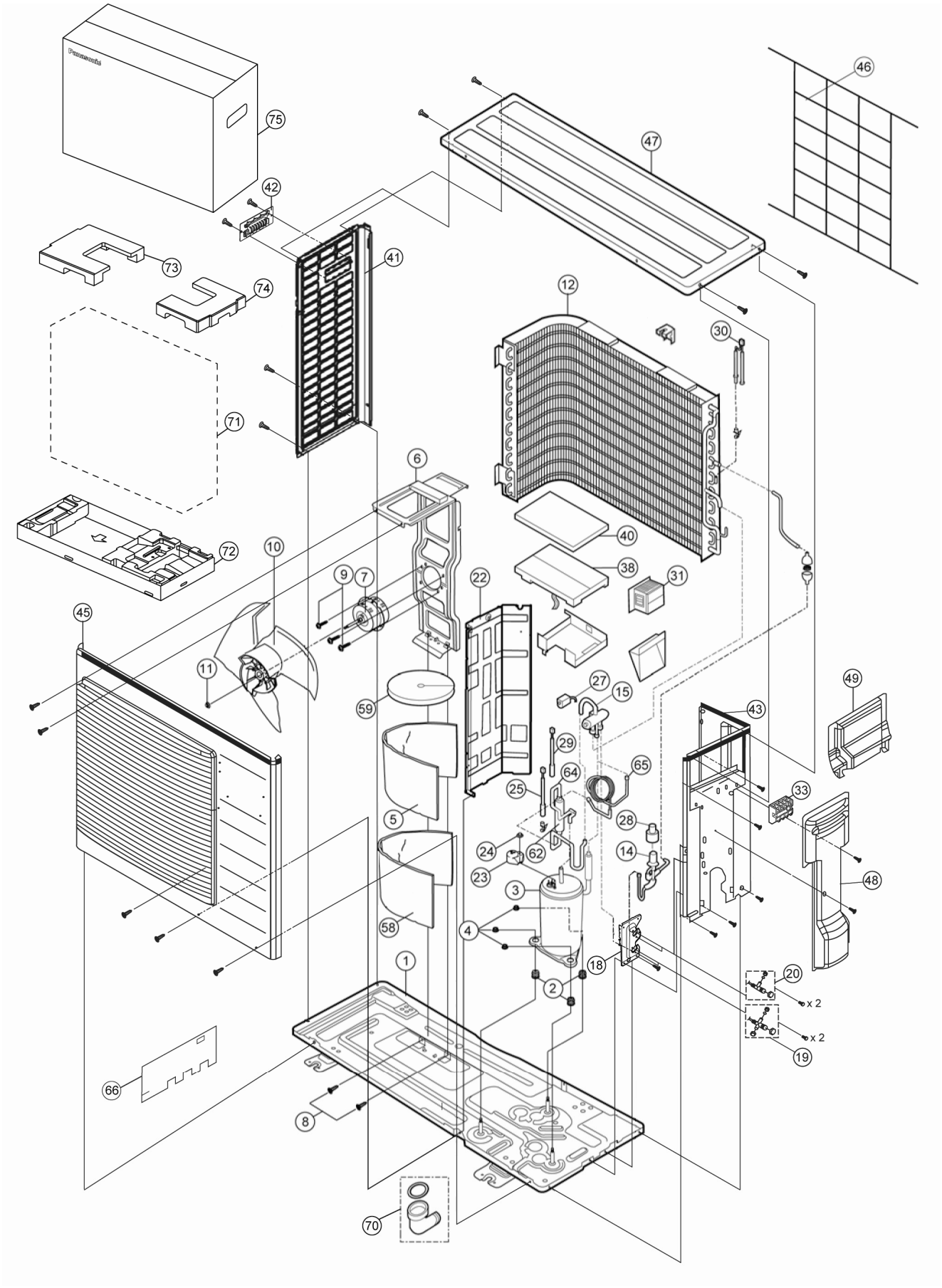
REF. NO.	PART NAME & DESCRIPTION	QTY.	CU-E12NKE	CU-E15NKE	REMARK
1	CHASSIS COMPLETE	1	CWD52K1277	←	
2	SOUND PROOF MATERIAL	1	CWG302719	←	
3	FAN MOTOR BRACKET	1	CWD541167	←	
4	SCREW - FAN MOTOR BRACKET	2	CWH551217	←	
5	FAN MOTOR	1	ARS6411AC	CWA951830	o
6	SCREW - FAN MOTOR MOUNT	4	CWH55252J	←	
7	PROPELLER FAN ASSY	1	CWH03K1066	←	
8	NUT - PROPELLER FAN	1	CWH56053J	←	
9	COMPRESSOR	1	5RS102XNA21	←	o
10	ANTI - VIBRATION BUSHING	3	CWH50077	←	
11	NUT - COMPRESSOR MOUNT	3	CWH56000J	←	
12	CONDENSER	1	CWB32C3293	CWB32C3388	
13	TUBE ASSY CO.(CAP./CHK VALVE)	1	CWT01C5990	CWT01C5985	
14	DISCHARGE MUFFLER	1	CWB121010	←	
15	HOLDER COUPLING	1	CWH351023	←	
16	2-WAYS VALVE (LIQUID)	1	CWB021400	CWB021457	o
17	3-WAY VALVE (GAS)	1	CWB011374	CWB011367	o
19	REACTOR	1	G0C193J00004	←	o
20	TERMINAL COVER	1	CWH171039A	←	
21	NUT - TERMINAL COVER	1	CWH7080300J	←	
22	SOUND PROOF BOARD	1	CWH151274	←	
23A	SOUND PROOF MATERIAL	1	CWG302317	←	
23B	SOUND PROOF MATERIAL	1	CWG302726	←	
23C	SOUND PROOF MATERIAL	1	CWG302701	←	
24	SENSOR CO-COMP TEMP	1	CWA50C2830	←	o
25	CONTROL BOARD COVER-TOP	1	CWH131473	←	
26	ELECTRONIC CONTROLLER - MAIN	1	CWA73C6657R	CWA73C6659R	o
27	TERMINAL BOARD ASSY	1	CWA28K1110J	←	o
28	CABINET SIDE PLATE CO.	1	CWE04C1296	←	
29	SENSOR CO-AIR TEMP AND PIPE TEMP	1	CWA50C2825	←	o
30	CABINET SIDE PLATE (LEFT)	1	CWE041580A	←	
31	CABINET FRONT PLATE CO.	1	CWE06C1360	←	
32	CABINET TOP PLATE	1	CWE031148A	←	
33	PLATE - C. B. COVER TERMINAL	1	CWH131470A	←	
34	CONTROL BOARD COVER CO.	1	CWH13C1253	←	
38	4-WAYS VALVE	1	CWB001037J	←	o
39	V-COIL COMPLETE	1	CWA43C2447	←	o
40	WIRE NET	1	CWD041166A	←	
45	BAG-COMPLETE	1	CWG87C900	←	
46	BAG	1	CWG861078	←	
47	BASE BOARD-COMPLETE	1	CWG62C1144	←	
48	SHOCK ABSORBER (RIGHT)	1	CWG713415	←	
49	SHOCK ABSORBER (LEFT)	1	CWG713416	←	
50	C.C. CASE	1	CWG568358	←	

(NOTE)

- All parts are supplied from PAPAMY, Malaysia (Vendor Code: 00029488).

“O” marked parts are recommended to be kept in stock.

19.2.3 CU-E18NKE CU-E21NKE



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.	CU-E18NKE	CU-E21NKE	REMARK
1	CHASSIS COMPLETE	1	CWD52K1261	←	
2	ANTI - VIBRATION BUSHING	3	CWH50077	←	
3	COMPRESSOR	1	5RD132XBA21	←	o
4	NUT - COMPRESSOR MOUNT	3	CWH56000J	←	
5	SOUND PROOF MATERIAL	1	CWG302629	←	
6	FAN MOTOR BRACKET	1	CWD541153	←	
7	FAN MOTOR	1	ARW8401AC	←	o
8	SCREW - FAN MOTOR BRACKET	2	CWH551217	←	
9	SCREW - FAN MOTOR MOUNT	4	CWH551106J	←	
10	PROPELLER FAN ASSY	1	CWH03K1065	←	
11	NUT - PROPELLER FAN	1	CWH56053J	←	
12	CONDENSER	1	CWB32C3369	CWB32C3371	
14	EXPANSION VALVE	1	CWB051016J	←	o
15	4-WAYS VALVE	1	CWB001026J	←	o
18	HOLDER COUPLING	1	CWH351056	←	
19	3-WAY VALVE (GAS)	1	CWB011361	←	o
20	2-WAYS VALVE (LIQUID)	1	CWB021292	←	o
22	SOUND PROOF BOARD	1	CWH151257	←	
23	TERMINAL COVER	1	CWH171039A	←	
24	NUT - TERMINAL COVER	1	CWH7080300J	←	
25	SENSOR CO-COMP TEMP	1	CWA50C2185	←	o
27	V-COIL COMPLETE (4-WAY VALVE)	1	CWA43C2169J	←	o
28	V-COIL COMPLETE (EXP.VALVE)	1	CWA43C2257	←	o
29	SENSOR CO-AIR TEMP AND PIPE TEMP	1	CWA50C2656	←	o
30	SENSOR-CO.(PIPING & AIR TEMP)	1	CWA50C2517	←	o
31	REACTOR	1	G0C203J00003	←	o
33	TERMINAL BOARD ASSY	1	CWA28K1110J	←	o
38	ELECTRONIC CONTROLLER - MAIN	1	CWA73C6407R	CWA73C6408R	o
40	CONTROL BOARD COVER-TOP	1	CWH131333	←	
41	CABINET SIDE PLATE (LEFT)	1	CWE041520A	←	
42	HANDLE	1	CWE161010	←	
43	CABINET SIDE PLATE CO. (RIGHT)	1	CWE041555A	←	
45	CABINET FRONT PLATE CO.	1	CWE06K1077	←	
46	WIRE NET	1	CWD041155A	←	
47	CABINET TOP PLATE	1	CWE031083A	←	
48	CONTROL BOARD COVER CO.	1	CWH13C1238	←	
49	PLATE - C. B. COVER TERMINAL	1	CWH131409A	←	
58	SOUND PROOF MATERIAL	1	CWG302636	CWG302638	
59	SOUND PROOF MATERIAL	1	CWG302630	←	
62	RECEIVER	1	CWB14011	-	
64	OIL SEPARATER ASS'Y	-	-	CWB16K1022	
65	CAPILLARY TUBE ASSY	-	-	CWB15K1376	
66	SOUND PROOF MATERIAL	1	CWG302632	CWG302600	
70	BAG-COMPLETE	1	CWG87C900	←	
71	BAG	1	CWG861461	←	
72	BASE BOARD-COMPLETE	1	CWG62C1131	←	
73	SHOCK ABSORBER (LEFT)	1	CWG713217	←	
74	SHOCK ABSORBER (RIGHT)	1	CWG713218	←	
75	C.C. CASE	1	CWG568359	←	

(NOTE)

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