DAIKIN

SiE33-201

Service Manual

R-407C VRV™ System

heat pump series

High COP Type L Series

R-407C VRV™ System, heat pump series High COP Type, L Series

1. Introduction

1.1 Safety Cautions

Cautions and Warnings

- Be sure to read the following safety cautions before conducting repair work.
- The caution items are classified into " ⚠ **Warning**" and " ⚠ **Caution**". The " ⚠ **Warning**" items are especially important since they can lead to death or serious injury if they are not followed closely. The " ⚠ **Caution**" items can also lead to serious accidents under some conditions if they are not followed. Therefore, be sure to observe all the safety caution items described below.
- About the pictograms

△ This symbol indicates an item for which caution must be exercised.
The pictogram shows the item to which attention must be paid.

◯ This symbol indicates a prohibited action.
The prohibited item or action is shown inside or near the symbol.

● This symbol indicates an action that must be taken, or an instruction.
The instruction is shown inside or near the symbol.

- After the repair work is complete, be sure to conduct a test operation to ensure that the equipment operates normally, and explain the cautions for operating the product to the customer

1.1.1 Caution in Repair.

⚠ **Warning**	
Be sure to disconnect the power cable plug from the plug socket before disassembling the equipment for a repair. Working on the equipment that is connected to a power supply can cause an electrical shook. If it is necessary to supply power to the equipment to conduct the repair or inspecting the circuits, do not touch any electrically charged sections of the equipment.	
If the refrigerant gas discharges during the repair work, do not touch the discharging refrigerant gas. The refrigerant gas can cause frostbite.	
When disconnecting the suction or discharge pipe of the compressor at the welded section, release the refrigerant gas completely at a well-ventilated place first. If there is a gas remaining inside the compressor, the refrigerant gas or refrigerating machine oil discharges when the pipe is disconnected, and it can cause injury.	
If the refrigerant gas leaks during the repair work, ventilate the area. The refrigerant gas can generate toxic gases when it contacts flames.	
The step-up capacitor supplies high-voltage electricity to the electrical components of the outdoor unit. Be sure to discharge the capacitor completely before conducting repair work. A charged capacitor can cause an electrical shock.	
Do not start or stop the air conditioner operation by plugging or unplugging the power cable plug. Plugging or unplugging the power cable plug to operate the equipment can cause an electrical shock or fire.	

Caution	
Do not repair the electrical components with wet hands. Working on the equipment with wet hands can cause an electrical shock.	
Do not clean the air conditioner by splashing water. Washing the unit with water can cause an electrical shock.	
Be sure to provide the grounding when repairing the equipment in a humid or wet place, to avoid electrical shocks.	
Be sure to turn off the power switch and unplug the power cable when cleaning the equipment. The internal fan rotates at a high speed, and cause injury.	
Do not tilt the unit when removing it. The water inside the unit can spill and wet the furniture and floor.	
Be sure to check that the refrigerating cycle section has cooled down sufficiently before conducting repair work. Working on the unit when the refrigerating cycle section is hot can cause burns.	
Use the welder in a well-ventilated place. Using the welder in an enclosed room can cause oxygen deficiency.	

1.1.2 Cautions Regarding Products after Repair

Warning	
Be sure to use parts listed in the service parts list of the applicable model and appropriate tools to conduct repair work. Never attempt to modify the equipment. The use of inappropriate parts or tools can cause an electrical shock, excessive heat generation or fire.	
When relocating the equipment, make sure that the new installation site has sufficient strength to withstand the weight of the equipment. If the installation site does not have sufficient strength and if the installation work is not conducted securely, the equipment can fall and cause injury.	
Be sure to install the product correctly by using the provided standard installation frame. Incorrect use of the installation frame and improper installation can cause the equipment to fall, resulting in injury.	For integral units only
Be sure to install the product securely in the installation frame mounted on a window frame. If the unit is not securely mounted, it can fall and cause injury.	For integral units only
Be sure to use an exclusive power circuit for the equipment, and follow the technical standards related to the electrical equipment, the internal wiring regulations and the instruction manual for installation when conducting electrical work. Insufficient power circuit capacity and improper electrical work can cause an electrical shock or fire.	

Warning	
Be sure to use the specified cable to connect between the indoor and outdoor units. Make the connections securely and route the cable properly so that there is no force pulling the cable at the connection terminals. Improper connections can cause excessive heat generation or fire.	
When connecting the cable between the indoor and outdoor units, make sure that the terminal cover does not lift off or dismount because of the cable. If the cover is not mounted properly, the terminal connection section can cause an electrical shock, excessive heat generation or fire.	
Do not damage or modify the power cable. Damaged or modified power cable can cause an electrical shock or fire. Placing heavy items on the power cable, and heating or pulling the power cable can damage the cable.	
Do not mix air or gas other than the specified refrigerant (R-407C) in the refrigerant system. If air enters the refrigerating system, an excessively high pressure results, causing equipment damage and injury.	
If the refrigerant gas leaks, be sure to locate the leak and repair it before charging the refrigerant. After charging refrigerant, make sure that there is no refrigerant leak. If the leak cannot be located and the repair work must be stopped, be sure to perform pump-down and close the service valve, to prevent the refrigerant gas from leaking into the room. The refrigerant gas itself is harmless, but it can generate toxic gases when it contacts flames, such as fan and other heaters, stoves and ranges.	
When replacing the coin battery in the remote controller, be sure to disposed of the old battery to prevent children from swallowing it. If a child swallows the coin battery, see a doctor immediately.	

Caution	
Installation of a leakage breaker is necessary in some cases depending on the conditions of the installation site, to prevent electrical shocks.	
Do not install the equipment in a place where there is a possibility of combustible gas leaks. If a combustible gas leaks and remains around the unit, it can cause a fire.	
Be sure to install the packing and seal on the installation frame properly. If the packing and seal are not installed properly, water can enter the room and wet the furniture and floor.	For integral units only

1.1.3 Inspection after Repair

Warning	
Check to make sure that the power cable plug is not dirty or loose, then insert the plug into a power outlet all the way. If the plug has dust or loose connection, it can cause an electrical shock or fire.	
If the power cable and lead wires have scratches or deteriorated, be sure to replace them. Damaged cable and wires can cause an electrical shock, excessive heat generation or fire.	
Do not use a joined power cable or extension cable, or share the same power outlet with other electrical appliances, since it can cause an electrical shock, excessive heat generation or fire.	

Caution	
Check to see if the parts and wires are mounted and connected properly, and if the connections at the soldered or crimped terminals are secure. Improper installation and connections can cause excessive heat generation, fire or an electrical shock.	
If the installation platform or frame has corroded, replace it. Corroded installation platform or frame can cause the unit to fall, resulting in injury.	
Check the grounding, and repair it if the equipment is not properly grounded. Improper grounding can cause an electrical shock.	
Be sure to measure the insulation resistance after the repair, and make sure that the resistance is 1 Mohm or higher. Faulty insulation can cause an electrical shock.	
Be sure to check the drainage of the indoor unit after the repair. Faulty drainage can cause the water to enter the room and wet the furniture and floor.	

1.1.4 Using Icons

Icons are used to attract the attention of the reader to specific information. The meaning of each icon is described in the table below:

1.1.5 Using Icons List

Icon	Type of Information	Description
 Note:	Note	A “note” provides information that is not indispensable, but may nevertheless be valuable to the reader, such as tips and tricks.
 Caution	Caution	A “caution” is used when there is danger that the reader, through incorrect manipulation, may damage equipment, loose data, get an unexpected result or has to restart (part of) a procedure.
 Warning	Warning	A “warning” is used when there is danger of personal injury.
	Reference	A “reference” guides the reader to other places in this binder or in this manual, where he/she will find additional information on a specific topic.

Part 1
Model Series and Features

1. Model Series and Features

The informations including in this book are as follows.

Outdoor Units

RSXYP 5LY1, 8LY1, 10LY1 (50Hz)
RSXYP 5LYL, 8LYL, 10LYL (60Hz)

Model Series

Type		Model Name				Power Supply
Inverter	Heat Pump	RSXYP	5L	8L	10L	Y1
			5L	8L	10L	YL

Y1 : 3ϕ 380V-415V, 50Hz
YL : 3ϕ 380V, 60Hz

External Appearance

RSXYP5L (5HP)

RSXYP8L (8HP)

RSXYP10L (10HP)

Main Features

***High COP : 3.1 (Cooling / Heating in standard condition)**
***Flexible design :**

Max. refrigerant piping length : **120m** (Actual)
Equivalent piping length : **140m**
External Static Pressure : **6mmH_2O** (Standard by field setting)

***New technology :**

- Reluctance DC compressor
- DC fan motor
- e-Pass heat exchanger
- e-Bridge circuit
- Super aero grille and powerful let fan
- Low sound function
- i-demand function
- i-Touch Controller
- intelligent Manager ECO21

Indoor Unit model Series

● New model ◎ Model change ○ Continued model

		Type P20	Type P25	Type P32	Type P40	Type P50	Type P63	Type P71	Type P80	Type P100	Type P125	Type P200	Type P250
Ceiling mounted cassette type	Multi-flow type	—	●	●	●	●	●	—	●	●	●	—	—
	Double-flow type	○	○	○	○	○	○	—	○	—	○	—	—
	Corner type	—	○	○	○	—	○	—	—	—	—	—	—
Ceiling mounted built-in type		○	○	○	○	○	○	—	○	○	○	—	—
Ceiling mounted duct type		—	—	—	○	○	○	—	○	○	○	○	○
Ceiling suspended type		—	—	○	—	—	○	—	—	○	—	—	—
Wall mounted type		○	○	○	○	○	○	—	—	—	—	—	—
Floor standing type		○	○	○	○	○	○	—	—	—	—	—	—
Concealed floor standing type		○	○	○	○	○	○	—	—	—	—	—	—
New Ceiling suspended cassette	FUYP ★ +BEV	—	—	—	—	—	—	●	—	●	●	—	—
		—	—	—	—	—	—	●	—	●	●	—	—

★Connection Unit (BEV-K) is necessary.

Connectable indoor unit

Indoor unit		Model name
Ceiling mounted cassette type	Multi-flow type	FXF25LVE, 32LVE, 40LVE, 50LVE, 63LVE, 80LVE, 100LVE, 125LVE
	Double flow type	FXYCP20KV1·25KV1·32KV1·40KV1·50KV1·63KV1·80KV1·125KV1
	Corner type	FXYKP25KV1·32KV1·40KV1·63KV1
Ceiling mounted built-in type		FXYSP20KV1·25KV1·32KV1·40KV1·50KV1·63KV1·80KV1·100KV1·125KV1
Ceiling mounted duct type		FXYMP40KV1·50KV1·63KV1·80KV1·100KV1·125KV1·200KV1·250KV1
Ceiling suspended type		FXYHP32KVE·63KVE·100KVE
Wall mounted type		FXYAP20KV1·25KV1·32KV1·40KV1·50KV1·63KV1
Floor standing type		FXYLP20KV1·25KV1·32KV1·40KV1·50KV1·63KV1
Concealed floor standing type		FXYLMP20KV1·25KV1·32KV1·40KV1·50KV1·63KV1
New Ceiling suspended cassette	FUYP	FUYP71BV1, 100BV1, 125BV1
	BEV	BEV71KVE, 140KVE

Indoor unit capacity

New refrigerant model code	P20 type	P25 type	P32 type	P40 type	P50 type	P63 type	P71 type	P80 type	P100 type	P125 type	P200 type	P250 type
Selecting model capacity	2.2 kW	2.8 kW	3.5 kW	4.5 kW	5.6 kW	7.0 kW	8.0 kW	9.0 kW	11.2 kW	14.0 kW	22.4 kW	28.0 kW
Equivalent output	0.8HP	1HP	1.25HP	1.6HP	2.0HP	2.5HP	3.0HP	3.2HP	4HP	5HP	8HP	10HP

Use the above tables to determine the capacities of indoor units to be connected. Make sure the total capacity of indoor units connected to each outdoor unit is within the specified value (kW).

- The total capacity of connected indoor units must be within a range of 50 to 130% of the rated capacity of the outdoor unit.
- In some models, it is not possible to connect the maximum number of connectable indoor units. Select models so the total capacity of connected indoor units conforms to the specification.

Part 2
Specifications

1. Specifications

1.1 Outdoor Unit 50Hz

RSXYP5LY1(E)

Model			RSXYP5LY1	RSXYP5LY1E
Power supply			3 phase 50Hz 380-415V	
★1 Cooling capacity		kw	14.0	
★2 Heating capacity		kw	16.0	
Cacing color			Ivory white(5Y7.5/1)	Light camel (2.5Y6.5/1.5)
Dimensions:(H x W x D)		mm	1440×635×690	
Heat exchanger			Cross fin coil	
Compressor	Type		Hermetically sealed scroll type	
	Displacement	m^3/h	19.36	
	Number of revolutions	r.p.m	6480	
	Motor output x number of units	kW	3.5×1	
	Starting method		Soft Start	
Fan	Type		Propellor fan	
	Motor output	W	280	
	Air flow rate	m^3/min	90	
	Drive		Direct drive	
Connecting pipes	Liquid pipe		9.5mmC1220T (Brazing connection)	
	Gas pipe		19.1mmC1220T (Brazing connection)	
Weight		kg	142	
Safety devices			High pressure switch, fan driver overload protector, inverter overload protector, fusible plugs	
Defrost method			Deicer	
Capacity control		%	24 to 100	
Refrigerant	Refrigerant name		R407C	
	Charge	kg	5.6	
	Control		Electronic expansion valve	
Refrigerator oil	Refrigerant oil		DAPHNE FVC68D	
	Charge volume	ℓ	1.2	
Standard accessories			Installation manual, Operation manual, Connection pipes, Clamps	

Notes
1:★1 Indoor temp.:27℃DB or 19℃WB／outdoor temp.:35℃DB／Equivalent piping length:7.5m, level difference:0m,
★2 Indoor temp.:20℃DB／outdoor temp.:7℃DB or 6℃WB ／Equivalent piping length:7.5m, level difference:0m,

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RSXYP8LY1(E)

Model			RSXYP8LY1	RSXYP8LY1E
Power supply			3 phase 50Hz 380-415V	
★1 Cooling capacity		kw	22.4	
★2 Heating capacity		kw	25.0	
Cacing color			Ivory white(5Y7.5/1)	Light camel (2.5Y6.5/1.5)
Dimensions:(H x W x D)		mm	1220×1280×690	
Heat exchanger			Cross fin coil	
Compressor	Type		Hermetically sealed scroll type	
	Displacement	m^3/h	19.36+10.87	
	Number of revolutions	r.p.m	6480, 2900	
	Motor output x number of units	kW	(2.7+3.0)×1	
	Starting method		Inverter:Soft start, STD:Direct on line	
Fan	Type		Propellor fan	
	Motor output	W	280+300	
	Air flow rate	m^3/min	168	
	Drive		Direct drive	
Connecting pipes	Liquid pipe		12.7mmC1220T (Flare connection)	
	Gas pipe		25.4mmC1220T (Brazing connection)	
Weight		kg	225	
Safety devices			High pressure switch, fan moter overload protection, overcurrent relay, inverter overload protector, fusible plugs	
Defrost method			Deicer	
Capacity control		%	15 to 100	
Refrigerant	Refrigerant name		R407C	
	Charge	kg	8.6	
	Control		Electronic expansion valve	
Refrigerator oil	Refrigerant oil		DAPHNE FVC68D	
	Charge volume	ℓ	1.6+1.5	
Standard accessories			Installation manual, Operation manual, Connection pipes, Clamps	

Notes

1:★1 Indoor temp.:27℃DB or 19℃WB/outdoor temp.:35℃DB/Equivalent piping length:7.5m, level difference:0m.

★2 Indoor temp.:20℃DB/outdoor temp.:7℃DB or 6℃WB /Equivalent piping length:7.5m, level difference:0m.

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RSXYP10LY1(E)

Model			RSXYP10LY1	RSXYP10LY1E
Power supply			3 phase 50Hz 380-415V	
★1 Cooling capacity		kw	28.0	
★2 Heating capacity		kw	31.5	
Cacing color			Ivory white(5Y7.5/1)	Light camel (2.5Y6.5/1.5)
Dimensions:(H x W x D)		mm	1440×1280×690	
Heat exchanger			Cross fin coil	
Compressor	Type		Hermetically sealed scroll type	
	Displacement	m^3/h	19.36+14.68	
	Number of revolutions	r.p.m	6480, 2900	
	Motor output x number of units	kW	(2.75+4.5)×1	
	Starting method		Inverter:Soft start, STD:Direct on line	
Fan	Type		Propellor fan	
	Motor output	W	280+300	
	Air flow rate	m^3/min	190	
	Drive		Direct drive	
Connecting pipes	Liquid pipe		12.7mmC1220T (Flare connection)	
	Gas pipe		28.6mmC1220T (Brazing connection)	
Weight		kg	246	
Safety devices			High pressure switch, fan driver overload protector, overcurrent relay, inverter overload protector, fusible plugs	
Defrost method			Deicer	
Capacity control		%	13 to 100	
Refrigerant	Refrigerant name		R407C	
	Charge	kg	9.6	
	Control		Electronic expansion valve	
Refrigerator oil	Refrigerant oil		DAPHNE FVC68D	
	Charge volume	ℓ	1.6+1.5	
Standard accessories			Installation manual, Operation manual, Connection pipes, Cramps	

Notes

1:★1 Indoor temp.:27℃DB or 19℃WB/outdoor temp.:35℃DB/Equivalent piping length:7.5m, level difference:0m.

★2 Indoor temp.:20℃DB/outdoor temp.:7℃DB or 6℃WB /Equivalent piping length:7.5m, level difference:0m.

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1.2 Outdoor Unit 60Hz

RSXYP5LYL(E)

Model			RSXYP5LYL	RSXYP5LYLE
Power supply			3 phase 60Hz 380V	
★1 Cooling capacity		kw	14.0	
★2 Heating capacity		kw	16.0	
Cacing color			Ivory white(5Y7.5/1)	Light camel(2.5Y6.5/1.5)
Dimensions:(H x W x D)		mm	1440×635×690	
Heat exchanger			Cross fin coil	
Compressor	Type		Hermetically sealed scroll type	
	Displacement	m^3/h	19.36	
	Number of revolutions	r.p.m	6480	
	Motor output x number of units	kW	3.5×1	
	Starting method		Soft start	
Fan	Type		Propellor fan	
	Motor output	W	280	
	Air flow rate	m^3/min	90	
	Drive		Direct drive	
Connecting pipes	Liquid pipe		9.5mmC1220T (Brazing connection)	
	Gas pipe		19.1mmC1220T (Brazing connection)	
Weight		kg	142	
Safety devices			High pressure switch, fan motor safety thermostat, inverter overload protector, fusible plugs	
Defrost method			Deicer	
Capacity control		%	24 to 100	
Refrigerant	Refrigerant name		R407C	
	Charge	kg	5.6	
	Control		Electronic expansion valve	
Refrigerator oil	Refrigerant oil		DAPHNE FVC68D	
	Charge volume	ℓ	1.2	
Standard accessories			Installation manual, Operation manual, Connection pipes, Clamps	

Notes
1: ★1 Indoor temp.: 27°CDB or 19°CWB/outdoor temp.: 35°CDB/Equivalent piping length: 7.5 m, level difference: 0m,
★2 Indoor temp.: 20°CDB/outdoor temp.: 7°CDB or 6°CWB /Equivalent piping length: 7.5 m, level difference: 0m,

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RSXYP8LYL(E)

Model			RSXYP8LYL	RSXYP8LYLE
Power supply			3 phase 60Hz 380V	
★1 Cooling capacity		kw	22.4	
★2 Heating capacity		kw	25.0	
Cacing color			Ivory white(5Y7.5/1)	Light camel(2.5Y6.5/1.5)
Dimensions:(H x W x D)		mm	1220×1280×690	
Heat exchanger			Cross fin coil	
Compressor	Type		Hermetically sealed scroll type	
	Displacement	m^3/h	19.36+12.93	
	Number of revolutions	r.p.m	6480, 3450	
	Motor output x number of units	kW	(2.7+3.0)×1	
	Starting method		Inverter:Soft start, STD:Direct on line	
Fan	Type		Propellor fan	
	Motor output	W	280+300	
	Air flow rate	m^3/min	168	
	Drive		Direct drive	
Connecting pipes	Liquid pipe		12.7mmC1220T (Flare connection)	
	Gas pipe		25.4mmC1220T (Brazing connection)	
Weight		kg	225	
Safety devices			High pressure switch, fan motor safety thermostat, overcurrent relay, inverter overload protector, fusible plugs	
Defrost method			Deicer	
Capacity control		%	14 to 100	
Refrigerant	Refrigerant name		R407C	
	Charge	kg	8.6	
	Control		Electronic expansion valve	
Refrigerator oil	Refrigerant oil		DAPHNE FVC68D	
	Charge volume	ℓ	1.6+1.5	
Standard accessories			Installation manual, Operation manual, Connection pipes, Clamps	

Notes

1:★1 Indoor temp.:27℃DB or 19℃WB/outdoor temp.:35℃DB/Equivalent piping length:7.5 m, level difference:0m,

★2 Indoor temp.:20℃DB/outdoor temp.:7℃DB or 6℃WB /Equivalent piping length:7.5 m, level difference:0m,

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RSXYP10LYL(E)

Model			RSXYP10LYL	RSXYP10LYLE
Power supply			3 phase 60Hz 380V	
★1 Cooling capacity		kw	28.0	
★2 Heating capacity		kw	31.5	
Cacing color			Ivory white(5Y7.5／1)	Light camel(2.5Y6.5／1.5)
imensions:(H x W x D)		mm	1440×1280×690	
Heat exchanger			Cross fin coil	
Compressor	Type		Hermetically sealed scroll type	
	Displacement	m^3/h	19.36+17.47	
	Number of revolutions	r.p.m	6480, 3450	
	Motor output x number of units	kW	(2.75+4.5)×1	
	Starting method		Inverter:Soft start, STD:Direct on line	
Fan	Type		Propellor fan	
	Motor output	W	280+300	
	Air flow rate	m^3/min	190	
	Drive		Direct drive	
Connecting pipes	Liquid pipe		12.7mmC1220T (Flare connection)	
	Gas pipe		28.6mmC1220T (Brazing connection)	
Weight		kg	246	
Safety devices			High pressure switch, fan motor safety thermostat, overcurrent relay, inverter overload protector, fusible plugs	
Defrost method			Deicer	
Capacity control		%	12 to 100	
Refrigerant	Refrigerant name		R407C	
	Charge	kg	9.6	
	Control		Electronic expansion valve	
Refrigerator oil	Refrigerant oil		DAPHNE FVC68D	
	Charge volume	ℓ	1.6+1.5	
Standard accessories			Installation manual, Operation manual, Connection pipes, Cramps	

Notes

1:★1 Indoor temp.:27℃DB or 19℃WB／outdoor temp.:35℃DB／Equivalent piping length:7.5 m, level difference:0m.

★2 Indoor temp.:20℃DB／outdoor temp.:7℃DB or 6℃WB ／Equivalent piping length:7.5 m, level difference:0m.

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1.3 Indoor Unit

Ceiling Mounted Cassette Type (Multi-flow)

Model			FXF25LVE	FXF32LVE	FXF40LVE	FXF50LVE
Power Supply			1 phase 50/60Hz 220~240V/220V	1 phase 50/60Hz 220~240V/220V	1 phase 50/60Hz 220~240V/220V	1 phase 50/60Hz 220~240V/220V
★1 Cooling Capacity		kW	2.8	3.6	4.5	5.6
★2 Heating Capacity		kW	3.2	4.0	5.0	6.3
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	246×840×840	246×840×840	246×840×840	246×840×840
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×8×1.2	2×8×1.2	2×8×1.2	2×8×1.2
	Face Area	m²	0.363	0.363	0.363	0.363
Fan	Model		QTS46D14M	QTS46D14M	QTS46D14M	QTS46D14M
	Type		Turbo Fan	Turbo Fan	Turbo Fan	Turbo Fan
	Motor Output × Number of Units	W	30	30	30	30
	Air Flow Rate (H/L)	m³/min	13/10	13/10	15/11	16/11
	Drive		Direct Drive	Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Polyurethane form	Polyurethane form	Polyurethane form	Polyurethane form
Piping Connections	Liquid Pipes		6.4mm (Flare Connection)	6.4mm (Flare Connection)	6.4mm (Flare Connection)	9.5mm (Flare Connection)
	Gas Pipes		12.7mm (Flare Connection)	12.7mm (Flare Connection)	12.7mm (Flare Connection)	15.9mm (Flare Connection)
	Drain Pipe	(mm)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)
Weight		kg	24	24	24	24
Safety Devices			Fuse	Fuse	Fuse	Fuse
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Decoration Panels	Mode		BYCP125D-W1	BYCP125D-W1	BYCP125D-W1	BYCP125D-W1
	Panel Color		White	White	White	White
	Dimensions: (H×W×D)	mm	45×950×950	45×950×950	45×950×950	45×950×950
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
	Weight	kg	5.5	5.5	5.5	5.5
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp metal, Washer fixing plate, Sealing pads, Clamps, Screws, Washer for hanging bracket, Insulation for fitting.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp metal, Washer fixing plate, Sealing pads, Clamps, Screws, Washer for hanging bracket, Insulation for fitting.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp metal, Washer fixing plate, Sealing pads, Clamps, Screws, Washer for hanging bracket, Insulation for fitting.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp metal, Washer fixing plate, Sealing pads, Clamps, Screws, Washer for hanging bracket, Insulation for fitting.

Notes:

★1 Nominal cooling capacities are based on the following conditions:
Return air temperature : 27˚C DB, 19˚C WB, Outdoor temperature : 35˚C DB
Equivalent ref. piping : 7.5m (Horizontal)

★2 Nominal heating capacities are based on the following conditions:
Return air temperature : 20˚C DB, Outdoor temperature : 7˚C DB, 6˚C WB
Equivalent ref. piping : 7.5m (Horizontal)

★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m³/min×35.3

Ceiling Mounted Cassette Type (Multi-flow)

Model			FXF63LVE	FXF80LVE	FXF100LVE	FXF125LVE
Power Supply			1 phase 50/60Hz 220~240V/220V	1 phase 50/60Hz 220~240V/220V	1 phase 50/60Hz 220~240V/220V	1 phase 50/60Hz 220~240V/220V
★1 Cooling Capacity		kW	7.1	9.0	11.2	14.0
★2 Heating Capacity		kW	8.0	10.0	12.5	16.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	246×840×840	246×840×840	288×840×840	288×840×840
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×10×1.2	2×10×1.2	2×12×1.2	2×12×1.2
	Face Area	m²	0.454	0.454	0.544	0.544
Fan	Model		QTS46D14M	QTS46D14M	QTS46C17M	QTS46C17M
	Type		Turbo Fan	Turbo Fan	Turbo Fan	Turbo Fan
	Motor Output × Number of Units	W	30	30	120	120
	Air Flow Rate (H/L)	m³/min	18.5/14	20/15	26/21	30/24
	Drive		Direct Drive	Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Polyurethane form	Polyurethane form	Polyurethane form	Polyurethane form
Piping Connections	Liquid Pipes		9.5mm (Flare Connection)	9.5mm (Flare Connection)	9.5mm (Flare Connection)	9.5mm (Flare Connection)
	Gas Pipes		15.9mm (Flare Connection)	15.9mm (Flare Connection)	19.1mm (Flare Connection)	19.1mm (Flare Connection)
	Drain Pipe	(mm)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)
Weight		kg	25	25	29	29
Safety Devices			Fuse	Fuse	Fuse	Fuse
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Decoration Panels	Mode		BYCP125D-W1	BYCP125D-W1	BYCP125D-W1	BYCP125D-W1
	Panel Color		White	White	White	White
	Dimensions: (H×W×D)	mm	45×950×950	45×950×950	45×950×950	45×950×950
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
	Weight	kg	5.5	5.5	5.5	5.5
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp metal, Washer fixing plate, Sealing pads, Clamps, Screws, Washer for hanging bracket, Insulation for fitting.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp metal, Washer fixing plate, Sealing pads, Clamps, Screws, Washer for hanging bracket, Insulation for fitting.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp metal, Washer fixing plate, Sealing pads, Clamps, Screws, Washer for hanging bracket, Insulation for fitting.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp metal, Washer fixing plate, Sealing pads, Clamps, Screws, Washer for hanging bracket, Insulation for fitting.

Notes:

★1 Nominal cooling capacities are based on the following conditions:
Return air temperature : 27˚C DB, 19˚C WB, Outdoor temperature : 35˚C DB
Equivalent ref. piping : 7.5m (Horizontal)

★2 Nominal heating capacities are based on the following conditions:
Return air temperature : 20˚C DB, Outdoor temperature : 7˚C DB, 6˚C WB
Equivalent ref. piping : 7.5m (Horizontal)

★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m³/min×35.3

Ceiling Mounted Cassette Type (Double-flow)

Model			FXYCP20KV1	FXYCP25KV1	FXYCP32KV1	FXYCP40KV1
Power Supply			1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V
★1 Cooling Capacity		kW	2.2	2.8	3.6	4.5
★2 Heating Capacity		kW	2.5	3.2	4.0	5.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	305×780×600	305×780×600	305×780×600	305×995×600
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×10×1.5	2×10×1.5	2×10×1.5	2×10×1.5
	Face Area	m²	2×0.100	2×0.100	2×0.100	2×0.145
Fan	Model		D17K2AA1	D17K2AB1	D17K2AB1	2D17K1AA1
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	10	15	15	20
	Air Flow Rate (H/L)	m³/min	7/5	9/6.5	9/6.5	12/9
	Drive		Direct Drive	Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Wool/Urethane Foam	Glass Wool/Urethane Foam	Glass Wool/Urethane Foam	Glass Wool/Urethane Foam
Piping Connections	Liquid Pipes		6.4mm (Flare Connection)	6.4mm (Flare Connection)	6.4mm (Flare Connection)	6.4mm (Flare Connection)
	Gas Pipes		12.7mm (Flare Connection)	12.7mm (Flare Connection)	12.7mm (Flare Connection)	12.7mm (Flare Connection)
	Drain Pipe	(mm)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)
Weight		kg	26	26	26	31
Safety Devices			Fuse Thermal Fuse for Fan Motor	Fuse Thermal Fuse for Fan Motor	Fuse Thermal Fuse for Fan Motor	Fuse Thermal Fuse for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Decoration Panels	Model		BYBC32GJW1	BYBC32GJW1	BYBC32GJW1	BYBC50GJW1
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
	Dimensions: (H×W×D)	mm	53×1,030×680	53×1,030×680	53×1,030×680	53×1,245×680
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
	Weight	kg	8	8	8	8.5
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Washer for Heating Brackets, Clamp Metal, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Washer for Heating Brackets, Clamp Metal, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Washer for Heating Brackets, Clamp Metal, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Washer for Heating Brackets, Clamp Metal, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.
Drawing No.						

Notes:

★1 Nominal cooling capacities are based on the following conditions:
Return air temperature : 27˚C DB, 19˚C WB, Outdoor temperature : 35˚C DB
Equivalent ref. piping : 5m (Horizontal)

★2 Nominal heating capacities are based on the following conditions:
Return air temperature : 20˚C DB, Outdoor temperature : 7˚C DB, 6˚C WB
Equivalent ref. piping : 5m (Horizontal)

★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m³/min×35.3

Ceiling Mounted Cassette Type (Double-flow)

Model			FXYCP50KV1	FXYCP63KV1	FXYCP80KV1	FXYCP125KV1
Power Supply			1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V
★1 Cooling Capacity		kW	5.6	7.1	9.0	14.0
★2 Heating Capacity		kW	6.3	8.0	10.0	16.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	305×995×600	305×1,180×600	305×1,670×600	305×1,670×600
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×10×1.5	2×10×1.5	2×10×1.5	2×10×1.5
	Face Area	m²	2×0.145	2×0.184	2×0.287	2×0.287
Fan	Model		2D17K1AA1	2D17K2AA1VE	3D17K2AA1	3D17K2AB1
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	20	30	50	85
	Air Flow Rate (H/L)	m³/min	12/9	16.5/13	26/21	33/25
	Drive		Direct Drive	Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Wool/Urethane Foam	Glass Wool/Urethane Foam	Glass Wool/Urethane Foam	Glass Wool/Urethane Foam
Piping Connections	Liquid Pipes		9.5mm (Flare Connection)	9.5mm (Flare Connection)	9.5mm (Flare Connection)	9.5mm (Flare Connection)
	Gas Pipes		15.9mm (Flare Connection)	15.9mm (Flare Connection)	15.9mm (Flare Connection)	19.1mm (Flare Connection)
	Drain Pipe	(mm)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)
Weight		kg	32	35	47	48
Safety Devices			Fuse Thermal Fuse for Fan Motor	Fuse Thermal Fuse for Fan Motor	Fuse Thermal Fuse for Fan Motor	Fuse Thermal Fuse for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Decoration Panels	Model		BYBC50GJW1	BYBC63GJW1	BYBC125GJW1	BYBC125GJW1
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
	Dimensions: (H×W×D)	mm	53×1,245×680	53×1,430×680	53×1,920×680	53×1,920×680
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
	Weight	kg	8.5	9.5	12	12
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Washer for Heating Brackets, Clamp Metal, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Washer for Heating Brackets, Clamp Metal, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Washer for Heating Brackets, Clamp Metal, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Washer for Heating Brackets, Clamp Metal, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.

Notes:

★1 Nominal cooling capacities are based on the following conditions:
Return air temperature : 27˚C DB, 19˚C WB, Outdoor temperature : 35˚C DB
Equivalent ref. piping : 5m (Horizontal)

★2 Nominal heating capacities are based on the following conditions:
Return air temperature : 20˚C DB, Outdoor temperature : 7˚C DB, 6˚C WB
Equivalent ref. piping : 5m (Horizontal)

★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m³/min×35.3

Ceiling Mounted Cassette Corner Type

Model			FXYKP25KV1	FXYKP32KV1	FXYKP40KV1	FXYKP63KV1
Power Supply			1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V
★1 Cooling Capacity		kW	2.8	3.6	4.5	7.1
★2 Heating Capacity		kW	3.2	4.0	5.0	8.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	215×1,110×710	215×1,110×710	215×1,110×710	215×1,310×710
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×11×1.75	2×11×1.75	2×11×1.75	3×11×1.75
	Face Area	m²	0.180	0.180	0.180	0.226
Fan	Model	V1	3D12H1AN1V1	3D12H1AN1V1	3D12H1AP1V1	4D12H1AJ1V1
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	15×1	15×1	20×1	45×1
	Air Flow Rate (H/L)	m³/min	11/9	11/9	13/10	18/15
	Drive		Direct Drive	Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Polyethylene Foam	Polyethylene Foam	Polyethylene Foam	Polyethylene Foam
Piping Connections	Liquid Pipes		6.4mm (Flare Connection)	6.4mm (Flare Connection)	6.4mm (Flare Connection)	9.5mm (Flare Connection)
	Gas Pipes		12.7mm (Flare Connection)	12.7mm (Flare Connection)	12.7mm (Flare Connection)	15.9mm (Flare Connection)
	Drain Pipe	(mm)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)
Weight		kg	31	31	31	34
Safety Devices			Fuse Thermal Fuse for Fan Motor	Fuse Thermal Fuse for Fan Motor	Fuse Thermal Fuse for Fan Motor	Fuse Thermal Fuse for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Decoration Panels	Model		BYK45FJW1	BYK45FJW1	BYK45FJW1	BYK71FJW1
	Panel Color		White	White	White	White
	Dimensions: (H×W×D)	mm	70×1,240×800	70×1,240×800	70×1,240×800	70×1,440×800
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
	Weight	kg	8.5	8.5	8.5	9.5
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Positioning Jig for Installation, Insulation for Hanger Bracket, Drain Pipe Insulation, Air Outlet Blocking Pad, Drain Raising Pipe.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Positioning Jig for Installation, Insulation for Hanger Bracket, Drain Pipe Insulation, Air Outlet Blocking Pad, Drain Raising Pipe.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Positioning Jig for Installation, Insulation for Hanger Bracket, Drain Pipe Insulation, Air Outlet Blocking Pad, Drain Raising Pipe.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Positioning Jig for Installation, Insulation for Hanger Bracket, Drain Pipe Insulation, Air Outlet Blocking Pad, Drain Raising Pipe.

Notes:

★1 Nominal cooling capacities are based on the following conditions:
Return air temperature : 27˚C DB, 19˚C WB, Outdoor temperature : 35˚C DB
Equivalent ref. piping : 5m (Horizontal)

★2 Nominal heating capacities are based on the following conditions:
Return air temperature : 20˚C DB, Outdoor temperature : 7˚C DB, 6˚C WB
Equivalent ref. piping : 5m (Horizontal)

★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m³/min×35.3

Ceiling Mounted Built-in Type

Model			FXYSP20KV1	FXYSP25KV1	FXYSP32KV1
Power Supply			1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V
★1 Cooling Capacity		kW	2.2	2.8	3.6
★2 Heating Capacity		kW	2.5	3.2	4.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	300×550×800	300×550×800	300×550×800
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.75	3×14×1.75	3×14×1.75
	Face Area	m²	0.088	0.088	0.088
Fan	Model	V1	D18H3AA1V1	D18H3AA1V1	D18H3AA1V1
		VAL	D18H3AA1	D18H3AA1	D18H3AA1
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	50×1	50×1	50×1
	Air Flow Rate (H/L)	m³/min	9/6.5	9/6.5	9.5/7
	★4 External Static Pressure (50/60Hz)	Pa	88-39-20	88-39-20	88-39-20
	Drive		Direct Drive	Direct Drive	Direct Drive
Temperature Regulator			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Fiber	Glass Fiber	Glass Fiber
Air Filter			Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
Piping Connections	Liquid Pipes		6.4mm (Flare Connection)	6.4mm (Flare Connection)	6.4mm (Flare Connection)
	Gas Pipes		12.7mm (Flare Connection)	12.7mm (Flare Connection)	12.7mm (Flare Connection)
	Drain Pipe	(mm)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)
Weight		kg	30	30	30
Safety Devices			Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Suction Half Panel	Model		BYBS32DJW1	BYBS32DJW1	BYBS32DJW1
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
	Dimensions: (H×W×D)	mm	55×650×500	55×650×500	55×650×500
	Weight	kg	3	3	3
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.

Notes:

★1 Nominal cooling capacities are based on the following conditions:
Return air temperature : 27˚C DB, 19˚C WB, Outdoor temperature : 35˚C DB
Equivalent ref. piping : 5m (Horizontal)

★2 Nominal heating capacities are based on the following conditions:
Return air temperature : 20˚C DB, Outdoor temperature : 7˚C DB, 6˚C WB
Equivalent ref. piping : 5m (Horizontal)

★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

★4 Static external pressure is changeable to change over the connectors inside electrical box, this pressure means “High static pressure-Standard-Low static pressure”.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m³/min×35.3

Ceiling Mounted Built-in Type

Model			FXYSP40KV1	FXYSP50KV1	FXYSP63KV1
Power Supply			1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V
★1 Cooling Capacity		kW	4.5	5.6	7.1
★2 Heating Capacity		kW	5.0	6.3	8.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	300×700×800	300×700×800	300×1,000×800
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.75	3×14×1.75	3×14×1.75
	Face Area	m^2	0.132	0.132	0.221
Fan	Model	V1	D18H2AC1V1	D18H2AB1V1	2D18H2AB1V1
		VAL	D18H2AC1	D18H2AB1	2D18H2AB1
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	65×1	85×1	125×1
	Air Flow Rate (H/L)	m^3/min	11.5/9	15/11	21/15.5
	★4 External Static Pressure	Pa	88-49-20	88-59-29 ★4	88-49-20 ★4
	Drive		Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Fiber	Glass Fiber	Glass Fiber
Air Filter			Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
Piping Connections	Liquid Pipes		6.4mm (Flare Connection)	9.5mm (Flare Connection)	9.5mm (Flare Connection)
	Gas Pipes		12.7mm (Flare Connection)	15.9mm (Flare Connection)	15.9mm (Flare Connection)
	Drain Pipe	(mm)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)
Weight		kg	30	31	41
Safety Devices			Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Suction Half Panel	Model		BYBS45DJW1	BYBS45DJW1	BYBS71DJW1
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
	Dimensions: (H×W×D)	mm	55×800×500	55×800×500	55×1,100×500
	Weight	kg	3.5	3.5	4.5
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.

Notes:

★1 Nominal cooling capacities are based on the following conditions:
Return air temperature : 27˚C DB, 19˚C WB, Outdoor temperature : 35˚C DB
Equivalent ref. piping : 5m (Horizontal)

★2 Nominal heating capacities are based on the following conditions:
Return air temperature : 20˚C DB, Outdoor temperature : 7˚C DB, 6˚C WB
Equivalent ref. piping : 5m (Horizontal)

★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

★4 Static external pressure is changeable to change over the connectors inside electrical box, this pressure means “High static pressure-Standard-Low static pressure”.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m^3/min×35.3

Ceiling Mounted Built-in Type

Model			FXYSP80KV1	FXYSP100KV1	FXYSP125KV1
Power Supply			1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V
★1 Cooling Capacity		kW	9.0	11.2	14.0
★2 Heating Capacity		kW	10.0	12.5	16.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	300×1,400×800	300×1,400×800	300×1,400×800
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.75	3×14×1.75	3×14×1.75
	Face Area	m²	0.338	0.338	0.338
Fan	Model	V1	3D18H2AH1V1	3D18H2AH1V1	3D18H2AG1V1
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	135×1	135×1	225×1
	Air Flow Rate (H/L)	m³/min	27/20	28/20.5	38/28
	★4 External Static Pressure	Pa	88-49	98-69	78-39
	Drive		Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Fiber	Glass Fiber	Glass Fiber
Air Filter			Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
Piping Connections	Liquid Pipes		9.5mm (Flare Connection)	9.5mm (Flare Connection)	9.5mm (Flare Connection)
	Gas Pipes		15.9mm (Flare Connection)	19.1mm (Flare Connection)	19.1mm (Flare Connection)
	Drain Pipe	(mm)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)
Weight		kg	51	51	52
Safety Devices			Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Decoration Panels	Model		BYBS125DJW1	BYBS125DJW1	BYBS125DJW1
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
	Dimensions: (H×W×D)	mm	55×1,500×500	55×1,500×500	55×1,500×500
	Weight	kg	6.5	6.5	6.5
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.

Notes:

★1 Nominal cooling capacities are based on the following conditions:
Return air temperature : 27˚C DB, 19˚C WB, Outdoor temperature : 35˚C DB
Equivalent ref. piping : 5m (Horizontal)

★2 Nominal heating capacities are based on the following conditions:
Return air temperature : 20˚C DB, Outdoor temperature : 7˚C DB, 6˚C WB
Equivalent ref. piping : 5m (Horizontal)

★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

★4 Static external pressure is changeable to change over the connectors inside electrical box, this pressure means “High static pressure-Standard”.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m³/min×35.3

Ceiling Mounted Duct Type

Model			FXYMP40KV1	FXYMP50KV1	FXYMP63KV1	FXYMP80KV1
Power Supply			1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V
★1 Cooling Capacity		kW	4.5	5.6	7.1	9.0
★2 Heating Capacity		kW	5.0	6.3	8.0	10.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	390×720×690	390×720×690	390×720×690	390×1,110×690
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×16×2.0	3×16×2.0	3×16×2.0	3×16×2.0
	Face Area	m^2	0.181	0.181	0.181	0.319
Fan	Model		D11/2D3AB1VE	D11/2D3AB1VE	D11/2D3AA1VE	2D11/2D3AG1VE
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	100	100	160	270
	Air Flow Rate (H/L)	m^3/min	14/11.5	14/11.5	19.5/16	29/23
	★4 External Static Pressure	Pa	157-118	157-118	157/108	157/98
	Drive		Direct Drive	Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Fiber	Glass Fiber	Glass Fiber	Glass Fiber
Air Filter			★5	★5	★5	★5
Piping Connections	Liquid Pipes		6.4mm (Flare Connection)	9.5mm (Flare Connection)	9.5mm (Flare Connection)	9.5mm (Flare Connection)
	Gas Pipes		12.7mm (Flare Connection)	15.9mm (Flare Connection)	15.9mm (Flare Connection)	15.9mm (Flare Connection)
	Drain Pipe	(mm)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)
Weight		kg	44	44	45	62
Safety Devices			Fuse Thermal Fuse for Fan Motor	Fuse Thermal Fuse for Fan Motor	Fuse Thermal Fuse for Fan Motor	Fuse Thermal Fuse for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Standard Accessories			Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws.

Notes:

★1 Nominal cooling capacities are based on the following conditions:
Return air temperature : 27˚C DB, 19˚C WB, Outdoor temperature : 35˚C DB
Equivalent ref. piping : 5m (Horizontal)

★2 Nominal heating capacities are based on the following conditions:
Return air temperature : 20˚C DB, Outdoor temperature : 7˚C DB, 6˚C WB
Equivalent ref. piping : 5m (Horizontal)

★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

★4 Static external pressure is changeable to change over the connectors inside electrical box, this pressure means “High Static pressure-Standard-Low static pressure”.

★5 Air filter is not standard accessory, but please mount it in the duct system of the suction side. Select its colorimetric method (gravity method) 50% or more.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m^3/min×35.3

Ceiling Mounted Duct Type

Model			FXYMP100KV1	FXYMP125KV1	FXYMP200KV1	FXYMP250KV1
Power Supply			1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V
★1 Cooling Capacity		kW	11.2	14.0	22.4	28.0
★2 Heating Capacity		kW	12.5	16.0	25.0	31.5
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	390×1,110×690	390×1,110×690	470×1,380×1,100	470×1,380×1,100
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×16×2.0	3×16×2.0	3×26×2.0	3×26×2.0
	Face Area	m²	0.319	0.319	0.68	0.68
Fan	Model		2D11/2D3AG1VE	2D11/2D3AF1VE	D13/4G2AD1×2	D13/4G2AD1×2
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	270	430	380×2	380×2
	Air Flow Rate (H/L)	m³/min	29/23	36/29	58/50	72/62
	External Static Pressure	Pa	157/98 ★4	191/152 ★4	221-132 ★5	270-191 ★5
	Drive		Direct Drive	Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Fiber	Glass Fiber	Glass Fiber	Glass Fiber
Air Filter			★5	★5	★5	★5
Piping Connections	Liquid Pipes		9.5mm (Flare Connection)	9.5mm (Flare Connection)	12.7mm (Flare Connection)	12.7mm (Flare Connection)
	Gas Pipes		19.1mm (Flare Connection)	19.1mm (Flare Connection)	25.4mm (Brazing Connection)	28.6mm (Brazing Connection)
	Drain Pipe	(mm)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)	PS1B	PS1B
Weight		kg	63	65	137	137
Safety Devices			Fuse Thermal Fuse for Fan Motor	Fuse Thermal Fuse for Fan Motor	Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Standard Accessories			Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws.	Operation Manual, Installation Manual, Sealing Pads, Connection Pipes, Screws, Clamps.	Operation Manual, Installation Manual, Sealing Pads, Connection Pipes, Screws, Clamps.

Notes:

★1 Nominal cooling capacities are based on the following conditions:
Return air temperature : 27˚C DB, 19˚C WB, Outdoor temperature : 35˚C DB
Equivalent ref. piping : 5m (Horizontal)

★2 Nominal heating capacities are based on the following conditions:
Return air temperature : 20˚C DB, Outdoor temperature : 7˚C DB, 6˚C WB
Equivalent ref. piping : 5m (Horizontal)

★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

★4 Static external pressure is changeable to change over the connectors inside electrical box, this pressure means “High Static pressure-Standard-Low static pressure”.

★5 Air filter is not standard accessory, but please mount it in the duct system of the suction side. Select its colorimetric method (gravity method) 50% or more.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m³/min×35.3

Ceiling Suspended Type

Model			FXYHP32KVE	FXYHP63KVE	FXYHP100KVE
Power Supply			1 phase 50Hz/60Hz 220-240V/220V	1 phase 50Hz/60Hz 220-240V/220V	1 phase 50Hz/60Hz 220-240V/220V
★1 Cooling Capacity		kW	3.6	7.1	11.2
★2 Heating Capacity		kW	4.0	8.0	12.5
Casing Color			White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
Dimensions: (H×W×D)		mm	195×960×680	195×1,160×680	195×1,400×680
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×12×1.75	3×12×1.75	3×12×1.75
	Face Area	m^2	0.182	0.233	0.293
Fan	Model	V1	3D12K1AA1	4D12K1AA1	3D12K2AA1
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	62	62	130
	Air Flow Rate (H/L)	m^3/min	12/10 (H/L)	17.5/14 (H/L)	25/19.5 (H/L)
	Drive		Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass wool	Glass wool	Glass wool
Air Filter			Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
Piping Connections	Liquid Pipes		6.4mm (Flare Connection)	9.5mm (Flare Connection)	9.5mm (Flare Connection)
	Gas Pipes		12.7mm (Flare Connection)	15.9mm (Flare Connection)	19.1mm (Flare Connection)
	Drain Pipe	(mm)	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)
Weight		kg	24	28	33
Safety Devices			Fuse Thermal Fuse for Fan Motor	Fuse Thermal Fuse for Fan Motor	Fuse Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Clamps, Washers, Flare Nut.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Clamps, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Clamps, Washers.

Notes:

★1 Nominal cooling capacities are based on the following conditions:
Return air temperature : 27˚C DB, 19˚C WB, Outdoor temperature : 35˚C DB
Equivalent ref. piping : 5m (Horizontal)

★2 Nominal heating capacities are based on the following conditions:
Return air temperature : 20˚C DB, Outdoor temperature : 7˚C DB, 6˚C WB
Equivalent ref. piping : 5m (Horizontal)

★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m^3/min×35.3

Wall Mounted Type

Model			FXYAP20KV1	FXYAP25KV1	FXYAP32KV1
Power Supply			1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V
★1 Cooling Capacity		kW	2.2	2.8	3.6
★2 Heating Capacity		kW	2.5	3.2	4.0
Casing Color			White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
Dimensions: (H×W×D)		mm	360×1,050×200	360×1,050×200	360×1,050×200
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×12×1.4	2×12×1.4	2×12×1.4
	Face Area	m^2	0.169	0.169	0.169
Fan	Model		QCL1165M	QCL1165M	QCL1165M
	Type		Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
	Motor Output × Number of Units	W	23	23	23
	Air Flow Rate (H/L)	m^3/min	8/6.5	8/6.5	9/7
	Drive		Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Foamed Polystyrene/ Foamed Polyethylene	Foamed Polystyrene/ Foamed Polyethylene	Foamed Polystyrene/ Foamed Polyethylene
Air Filter			Resin Net (Washable)	Resin Net (Washable)	Resin Net (Washable)
Piping Connections	Liquid Pipes		6.4mm (Flare Connection)	6.4mm (Flare Connection)	6.4mm (Flare Connection)
	Gas Pipes		12.7mm (Flare Connection)	12.7mm (Flare Connection)	12.7mm (Flare Connection)
	Drain Pipe	(mm)	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)
Weight		kg	21	21	21
Safety Devices			Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor
Refrigerant Control				Electronic Expansion Valve	Electronic Expansion Valve
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Insulation for Fitting, Screws, Clamps, Insulation Tape, Installation Panel Fixed Parts.	Operation Manual, Installation Manual, Paper Pattern for Installation, Insulation for Fitting, Screws, Clamps, Insulation Tape, Installation Panel Fixed Parts.	Operation Manual, Installation Manual, Paper Pattern for Installation, Insulation for Fitting, Screws, Clamps, Insulation Tape, Installation Panel Fixed Parts.

Notes:

★1 Nominal cooling capacities are based on the following conditions:
Return air temperature : 27˚C DB, 19˚C WB, Outdoor temperature : 35˚C DB
Equivalent ref. piping : 5m (Horizontal)

★2 Nominal heating capacities are based on the following conditions:
Return air temperature : 20˚C DB, Outdoor temperature : 7˚C DB, 6˚C WB
Equivalent ref. piping : 5m (Horizontal)

★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m^3/min×35.3

Wall Mounted Type

Model			FXYAP40KV1	FXYAP50KV1	FXYAP63KV1
Power Supply			1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V
★1 Cooling Capacity		kW	4.5	5.6	7.1
★2 Heating Capacity		kW	5.0	6.3	8.0
Casing Color			White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
Dimensions: (H×W×D)		mm	360×1,050×200	360×1,250×200	360×1,250×200
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×12×1.4	2×12×1.4	2×12×1.4
	Face Area	m^2	0.169	0.219	0.219
Fan	Model		QCL1165M	QCL1185M	QCL1185M
	Type		Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
	Motor Output × Number of Units	W	23	37	37
	Air Flow Rate (H/L)	m^3/min	11/9	13/11	15/12
	Drive		Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Foamed Polystyrene/ Foamed Polyethylene	Foamed Polystyrene/ Foamed Polyethylene	Foamed Polystyrene/ Foamed Polyethylene
Air Filter			Resin Net (Washable)	Resin Net (Washable)	Resin Net (Washable)
Piping Connections	Liquid Pipes		6.4mm (Flare Connection)	9.5mm (Flare Connection)	9.5mm (Flare Connection)
	Gas Pipes		12.7mm (Flare Connection)	15.9mm (Flare Connection)	15.9mm (Flare Connection)
	Drain Pipe	(mm)	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)
Weight		kg	21	24	24
Safety Devices			Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Insulation for Fitting, Screws, Clamps, Insulation Tape, Installation Panel Fixed Parts.	Operation Manual, Installation Manual, Paper Pattern for Installation, Insulation for Fitting, Screws, Washers, Insulation Tape, Installation Panel Fixed Parts.	Operation Manual, Installation Manual, Paper Pattern for Installation, Insulation for Fitting, Screws, Washers, Insulation Tape, Installation Panel Fixed Parts.

Notes:

★1 Nominal cooling capacities are based on the following conditions:
Return air temperature : 27˚C DB, 19˚C WB, Outdoor temperature : 35˚C DB
Equivalent ref. piping : 5m (Horizontal)

★2 Nominal heating capacities are based on the following conditions:
Return air temperature : 20˚C DB, Outdoor temperature : 7˚C DB, 6˚C WB
Equivalent ref. piping : 5m (Horizontal)

★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m^3/min×35.3

Floor Standing Type

Model			FXYLP20KV1	FXYLP25KV1	FXYLP32KV1
Power Supply			1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V
★1 Cooling Capacity		kW	2.2	2.8	3.6
★2 Heating Capacity		kW	2.5	3.2	4.0
Casing Color			Ivory White (5Y7.5/1)	Ivory White (5Y7.5/1)	Ivory White (5Y7.5/1)
Dimensions: (H×W×D)		mm	600×1,000×222	600×1,000×222	600×1,140×222
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.5	3×14×1.5	3×14×1.5
	Face Area	m²	0.159	0.159	0.200
Fan	Model		D14B20	D14B20	2D14B13
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	15×1	15×1	25×1
	Air Flow Rate (H/L)	m³/min	7/6	7/6	8/6
	Drive		Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Fiber/ Urethane Foam	Glass Fiber/ Urethane Foam	Glass Fiber/ Urethane Foam
Air Filter			Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
Piping Connections	Liquid Pipes		6.4mm (Flare Connection)	6.4mm (Flare Connection)	6.4mm (Flare Connection)
	Gas Pipes		12.7mm (Flare Connection)	12.7mm (Flare Connection)	12.7mm (Flare Connection)
	Drain Pipe	(mm)	ϕ21 O.D (Vinyl Chloride)	ϕ21 O.D (Vinyl Chloride)	ϕ21 O.D (Vinyl Chloride)
Weight		kg	25	25	30
Safety Devices			Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor	Fuse Thermal Fuse for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Standard Accessories			Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.	Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.	Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.

Notes:

★1 Nominal cooling capacities are based on the following conditions:
Return air temperature : 27˚C DB, 19˚C WB, Outdoor temperature : 35˚C DB
Equivalent ref. piping : 5m (Horizontal)

★2 Nominal heating capacities are based on the following conditions:
Return air temperature : 20˚C DB, Outdoor temperature : 7˚C DB, 6˚C WB
Equivalent ref. piping : 5m (Horizontal)

★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m³/min×35.3

Floor Standing Type

Model			FXYLP40KV1	FXYLP50KV1	FXYLP63KV1
Power Supply			1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V
★1 Cooling Capacity		kW	4.5	5.6	7.1
★2 Heating Capacity		kW	5.0	6.3	8.0
Casing Color			Ivory White (5Y7.5/1)	Ivory White (5Y7.5/1)	Ivory White (5Y7.5/1)
Dimensions: (H×W×D)		mm	600×1,140×222	600×1,420×222	600×1,420×222
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.5	3×14×1.5	3×14×1.5
	Face Area	m²	0.200	0.282	0.282
Fan	Model		2D14B13	2D14B20	2D14B20
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	25×1	35×1	35×1
	Air Flow Rate (H/L)	m³/min	11/8.5	14/11	16/12
	Drive		Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Fiber/ Urethane Foam	Glass Fiber/ Urethane Foam	Glass Fiber/ Urethane Foam
Air Filter			Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
Piping Connections	Liquid Pipes		6.4mm (Flare Connection)	9.5mm (Flare Connection)	9.5mm (Flare Connection)
	Gas Pipes		12.7mm (Flare Connection)	15.9mm (Flare Connection)	15.9mm (Flare Connection)
	Drain Pipe	(mm)	ϕ21 O.D (Vinyl Chloride)	ϕ21 O.D (Vinyl Chloride)	ϕ21 O.D (Vinyl Chloride)
Weight		kg	30	36	36
Safety Devices			Fuse Thermal Protector for Fan Motor	Fuse Thermal Fuse for Fan Motor	Fuse Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Standard Accessories			Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.	Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.	Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.

Notes:

★1 Nominal cooling capacities are based on the following conditions:
Return air temperature : 27˚C DB, 19˚C WB, Outdoor temperature : 35˚C DB
Equivalent ref. piping : 5m (Horizontal)

★2 Nominal heating capacities are based on the following conditions:
Return air temperature : 20˚C DB, Outdoor temperature : 7˚C DB, 6˚C WB
Equivalent ref. piping : 5m (Horizontal)

★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m³/min×35.3

Concealed Floor Standing Type

Model			FXYLMP20KV1	FXYLMP25KV1	FXYLMP32KV1
Power Supply			1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V
★1 Cooling Capacity		kW	2.2	2.8	3.6
★2 Heating Capacity		kW	2.5	3.2	4.0
Casing Color			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	610×930×220	610×930×220	610×1,070×220
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.5	3×14×1.5	3×14×1.5
	Face Area	m²	0.159	0.159	0.200
Fan	Model		D14B20	D14B20	2D14B13
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	15×1	15×1	25×1
	Air Flow Rate (H/L)	m³/min	7/6	7/6	8/6
	Drive		Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Fiber/ Urethane Foam	Glass Fiber/ Urethane Foam	Glass Fiber/ Urethane Foam
Air Filter			Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
Piping Connections	Liquid Pipes		6.4mm (Flare Connection)	6.4mm (Flare Connection)	6.4mm (Flare Connection)
	Gas Pipes		12.7mm (Flare Connection)	12.7mm (Flare Connection)	12.7mm (Flare Connection)
	Drain Pipe	(mm)	ϕ21 O.D (Vinyl Chloride)	ϕ21 O.D (Vinyl Chloride)	ϕ21 O.D (Vinyl Chloride)
Weight		kg	19	19	23
Safety Devices			Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor	Fuse Thermal Fuse for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Standard Accessories			Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.	Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.	Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.

Notes:

★1 Nominal cooling capacities are based on the following conditions:
Return air temperature : 27˚C DB, 19˚C WB, Outdoor temperature : 35˚C DB
Equivalent ref. piping : 5m (Horizontal)

★2 Nominal heating capacities are based on the following conditions:
Return air temperature : 20˚C DB, Outdoor temperature : 7˚C DB, 6˚C WB
Equivalent ref. piping : 5m (Horizontal)

★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m³/min×35.3

Concealed Floor Standing Type

Model			FXYLMP40KV1	FXYLMP50KV1	FXYLMP63KV1
Power Supply			1 phase 50Hz 220-240V	1 phase 50Hz 220-240V	1 phase 50Hz 220-240V
★1 Cooling Capacity		kW	4.5	5.6	7.1
★2 Heating Capacity		kW	5.0	6.3	8.0
Casing Color			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	610×1,070×220	610×1,350×220	610×1,350×220
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.5	3×14×1.5	3×14×1.5
	Face Area	m²	0.200	0.282	0.282
Fan	Model		2D14B13	2D14B20	2D14B20
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	25×1	35×1	35×1
	Air Flow Rate (H/L)	m³/min	11/8.5	14/11	16/12
	Drive		Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Fiber/ Urethane Foam	Glass Fiber/ Urethane Foam	Glass Fiber/ Urethane Foam
Air Filter			Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
Piping Connections	Liquid Pipes		6.4mm (Flare Connection)	9.5mm (Flare Connection)	9.5mm (Flare Connection)
	Gas Pipes		12.7mm (Flare Connection)	15.9mm (Flare Connection)	15.9mm (Flare Connection)
	Drain Pipe	(mm)	ϕ21 O.D (Vinyl Chloride)	ϕ21 O.D (Vinyl Chloride)	ϕ21 O.D (Vinyl Chloride)
Weight		kg	23	27	27
Safety Devices			Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor	Fuse Thermal Protector for Fan Motor
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Standard Accessories			Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.	Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.	Operation Manual, Installation Manual, Insulation for Fitting, Drain Hose, Clamps, Screws, Washers, Level Adjustment Screw.

Notes:

★1 Nominal cooling capacities are based on the following conditions:
Return air temperature : 27˚C DB, 19˚C WB, Outdoor temperature : 35˚C DB
Equivalent ref. piping : 5m (Horizontal)

★2 Nominal heating capacities are based on the following conditions:
Return air temperature : 20˚C DB, Outdoor temperature : 7˚C DB, 6˚C WB
Equivalent ref. piping : 5m (Horizontal)

★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m³/min×35.3

New Ceiling Suspended Cassette Type

Model		Indoor Unit		FUYP71BV1	FUYP100BV1	FUYP125BV1
		Connection Unit		BEV71KVE	BEV140KVE	BEV140KVE
★1 Cooling Capacity (19.5˚CWB)			kcal/h	7,100	10,000	12,500
			Btu/h	28,200	39,700	49,600
			kW	8.3	11.6	14.5
★2 Cooling Capacity (19.0˚CWB)			kW	8.0	11.2	14.0
★3 Heating Capacity			kcal/h	7,700	10,800	13,800
			Btu/h	30,700	42,700	54,600
			kW	9.0	12.5	16.0
Casing Color				White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
Dimensions: (H×W×D)			mm	165×895×895	230×895×895	230×895×895
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch		mm	3×6×1.5	3×8×1.5	3×8×1.5
	Face Area		m^2	0.265	0.353	0.353
Fan	Model			QTS48A10M	QTS50B15M	QTS50B15M
	Type			Turbo Fan	Turbo Fan	Turbo Fan
	Motor Output × Number of Units		W	45×1	90×1	90×1
	Air Flow Rate (H/L)		m^3/min	19/14	29/21	32/23
			cfm	671/494	1,024/741	1,130/812
	Drive			Direct Drive	Direct Drive	Direct Drive
Temperature Control				Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material				Heat Resistant Foamed Polyethylene, Regular Foamed Polyethylene	Heat Resistant Foamed Polyethylene, Regular Foamed Polyethylene	Heat Resistant Foamed Polyethylene, Regular Foamed Polyethylene
Piping Connections	Liquid Pipes		mm	ϕ9.5 (Flare Connection)	ϕ9.5 (Flare Connection)	ϕ9.5 (Flare Connection)
	Gas Pipes		mm	ϕ15.9 (Flare Connection)	ϕ19.1 (Flare Connection)	ϕ19.1 (Flare Connection)
	Drain Pipe		mm	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)
Machine Weight			kg	25	31	31
★5 Sound Level (H/L) (230V)			dBA	40/35	43/38	44/39
Safety Devices				Thermal Protector for Fan Motor	Thermal Protector for Fan Motor	Thermal Protector for Fan Motor
Standard Accessories				Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Joint, Holding Plate.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Joint, Holding Plate.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Joint, Holding Plate.
Drawing No.				C : 4D027886A		

Notes:

★1 Indoor temp. : 27˚CDB, 19.5˚CWB / outdoor temp.: 35˚CDB / Equivalent piping length: 7.5m, level difference: 0m.

★2 Indoor temp. : 27˚CDB, 19.0˚CWB / outdoor temp.: 35˚CDB / Equivalent piping length: 7.5m, level difference: 0m.

★3 Indoor temp. : 20˚CDB / outdoor temp.: 7˚CDB, 6˚CWB / Equivalent piping length; 7.5m, level difference; 0m. (Heat pump only)

4 Capacities are net, including a deduction for cooling (an additional for heating) for indoor fan motor heat.

★5 Anechoic chamber conversion value, measured at a point 1.5m downward from the unit center. These values are normally somewhat higher during actual operation as a result of ambient conditions.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m^3/min×35.3

BEV Units

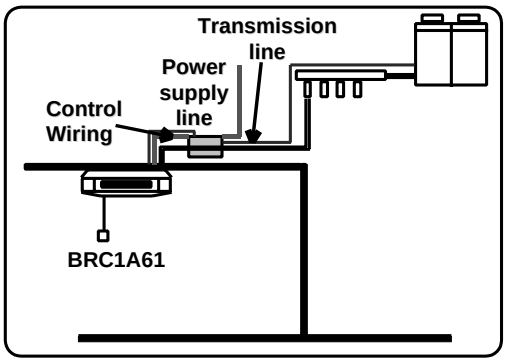
Model				BEV71KVE	BEV140KVE
Power Supply				1 Phase 50Hz 220~240V	1 Phase 50Hz 220~240V
Casing				Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)			mm	100×350×225	100×350×225
Sound Absorbing Thermal Insulation Material				Flame and Heat Resistant Foamed Polyethylene	Flame and Heat Resistant Foamed Polyethylene
Piping Connection	Indoor Unit	Liquid Pipes		9.5mm (Flare Connection) ★1	9.5mm (Flare Connection)
		Gas Pipes		15.9mm (Flare Connection) ★1	19.1mm (Flare Connection)
	Outdoor Unit	Liquid Pipes		9.5mm (Flare Connection)	9.5mm (Flare Connection)
		Suction Gas Pipes		15.9mm (Flare Connection)	19.1mm (Flare Connection)
Machine Weight			kg	3.0	3.5
Standard Accessories				Installation manual, Gas piping connections, Insulation for fitting, Attached pipe, Sealing material, Clamps	Installation manual, Gas piping connections, Insulation for fitting, Sealing material, Clamps
Drawing No.				4D033392	4D033393

Note:

★1 If the total capacity of all indoor units connected to the system is less than 5.6kW, connect the attached pipe.
(ø9.5→ø6.4, ø15.9→ø12.7) to the field pipe.
(Braze the connection between the attached pipe and field pipe.)

★2 SkyAir FUYP-B Only. Other type SkyAir indoor unit can not be connected.

Connection Example



1. Wiring Work
- The connecting line between SkyAir Indoor Unit – BEV Unit : 3 cores…like a Transmission Line
- BEV Unit's power supply line; Single phase 2 line…like a VRV Indoor unit
- BEV Unit – other **VRV** indoor unit or outdoor unit – : 2 cores…DIII network wiring (super wiring)

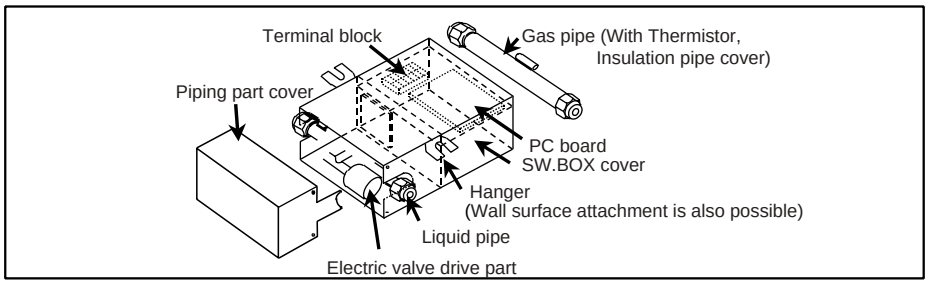
2. Piping work
SkyAir side,Outdoor Unit Side,They are both flare connection.

■Consideration matter

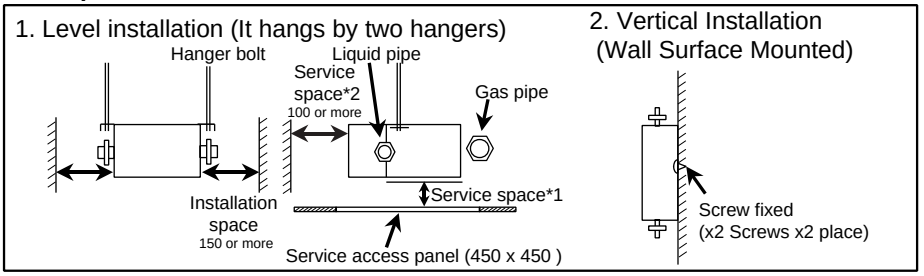
- When connecting centralized-control device, it is necessary to **install an interface adaptor for SkyAir series in an indoor unit.**

- Distance between indoor unit and –BEV unit must be **within 5m**. (V2315)

■Outline figure



■Installation pattern / maintenance



*1; Service space for switch box.
(Service access panel is required for the bottom side. When there is nothing, 350 or more spaces are required.)
*2; For electric valve drive part's maintenance. (a control box is removed) (V2316)

Part 3
Function

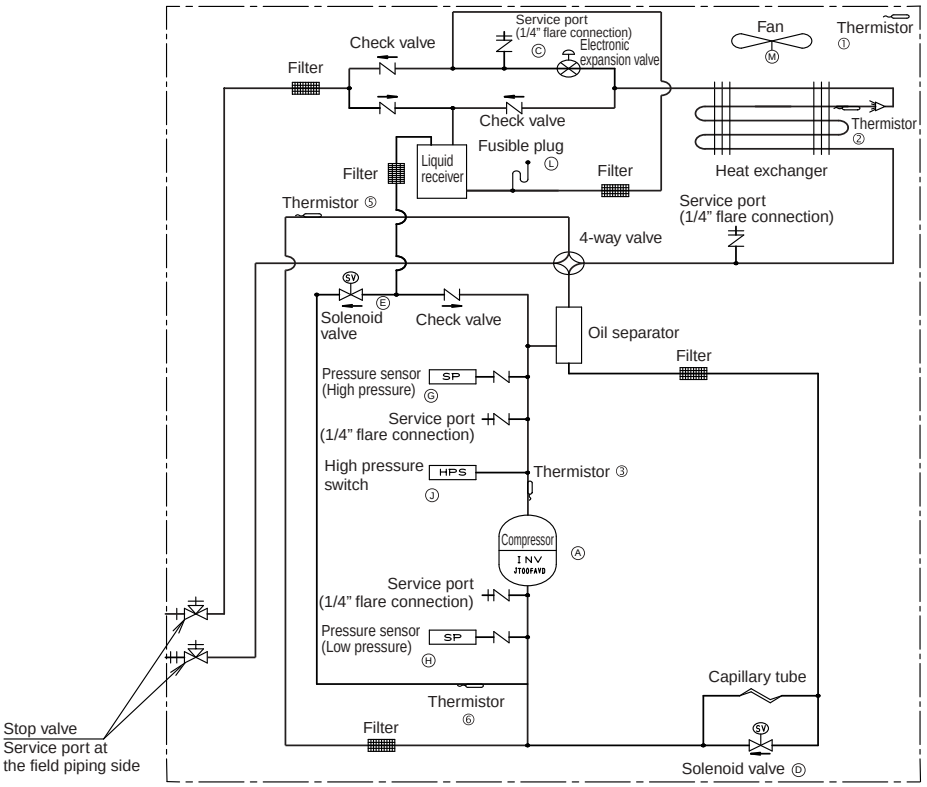
1. Outdoor Unit Refrigerant System Diagram

1.1 Outdoor Unit Refrigerant System Diagram

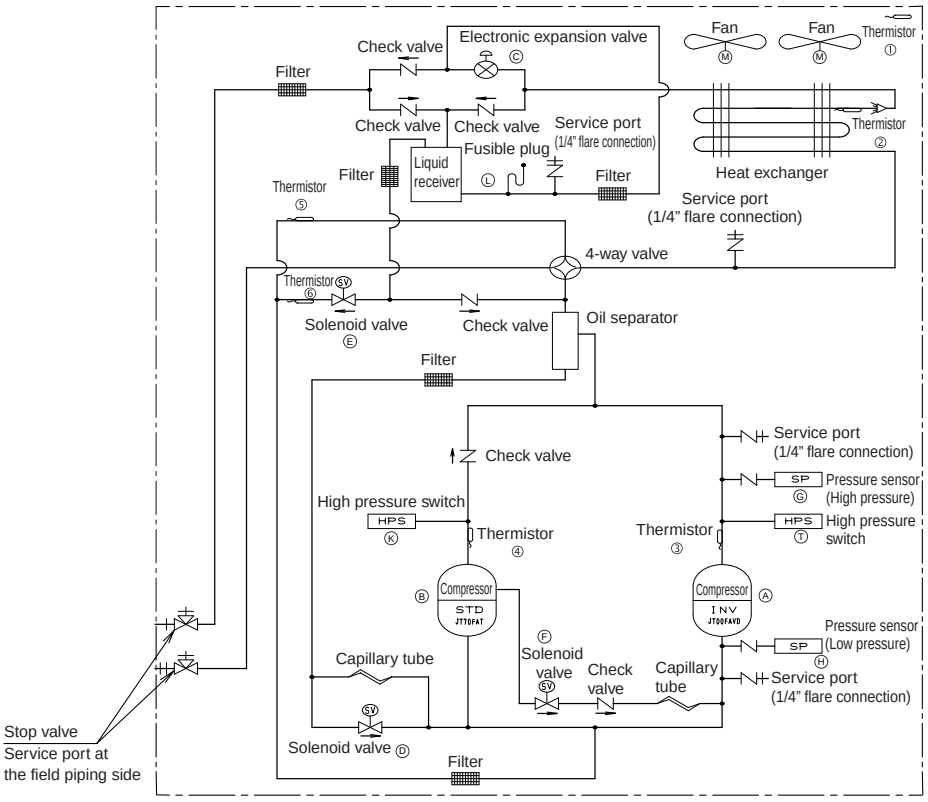
RSXYP5~10L

No.	Name	Symbol	Functions
A	Inverter compressor	M1C	Operates on 52~210Hz.
B	Standard compressor	M2C	Runs on a commercial power supply standard compressor. Only for RSXYP8 and 10L.
C	Electronic expansion valve	Y1E	When heating, carries out PI control to maintain superheat degree (SH) at constant.
D	Solenoid valve	Y1S	**(For hot gas bypass and pressure equalizing)** Provides hot gas bypass in order to prevent low pressure from drastically dropping when defrosting operation, etc. is in progress. Balances high/low pressure to reduce load when the compressor starts.
E	Solenoid valve	Y2S	**(For receiver gas purging)** Opens in order to store a surplus refrigerant in a receiver in progressive operating state (defrost, stop, etc.)
F	Solenoid valve	Y3S	**(For oil equalizing pipe)** Opens when the STD compressor is running and closed when the compressor is stopping in order to equalize oil between compressors in operation.
G	High pressure sensor	SENPH	In heating : Carries out PI control for the compressor by sensing high pressure. In cooling : Controls the compressor, etc. in order to secure high pressure when the outdoor temperature is low.
H	Low pressure sensor	SENPL	In cooling : Carries out PI control for the compressor by sensing low pressure. In heating : Controls electronic expansion valve in order to stabilize the superheat degree of evaporator.
J	High pressure switch	S1PH	Opens when the set pressure reaches 3.25MPa and stops running.
K	High pressure switch	S2PH	
L	Fusible plug	—	Fusible head is molten when refrigerant temperature in the receiver section becomes 70~75˚C discharging the refrigerant of high temperature and pressure.
1	Outdoor temperature thermistor	R1T	Used as the function for defrost IN conditions in heating operation by sensing outdoor temperature.
2	Heat exchanger temperature thermistor	R2T	Uses each heat exchanger inlet temperature together with outdoor temperature as the function for defrost IN conditions in heating.
3	Discharge pipe temperature thermistor	R3T(R3-1T)	Used for Inverter compressor discharge pipe temperature protection by sensing discharge pipe temperature of inverter compressor.
4	Discharge pipe temperature thermistor	R3-2T	Used for STD compressor discharge pipe temperature protection by sensing discharge pipe temperature of standard compressor.
5	Suction pipe temperature thermistor	R4T	Used for compressor safety by sensing suction pipe temperature.
6	Receiver gas pipe temperature thermistor	R5T	Used to judge over charge of refrigerant when carrying out test run.

RSXYP5L



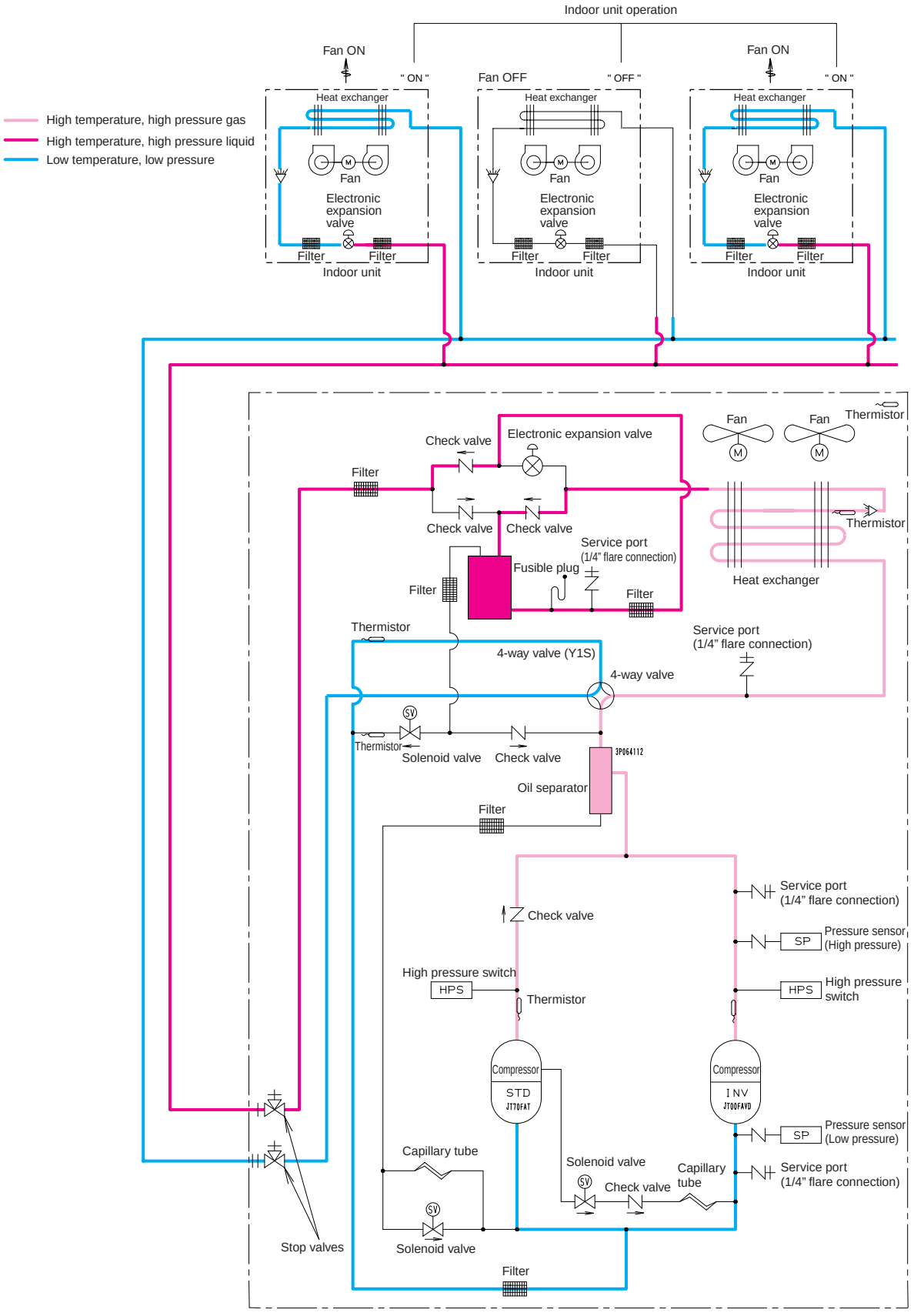
RSXYP8 / 10L



(V2578)

1.2 Refrigerant flow of different operation mode

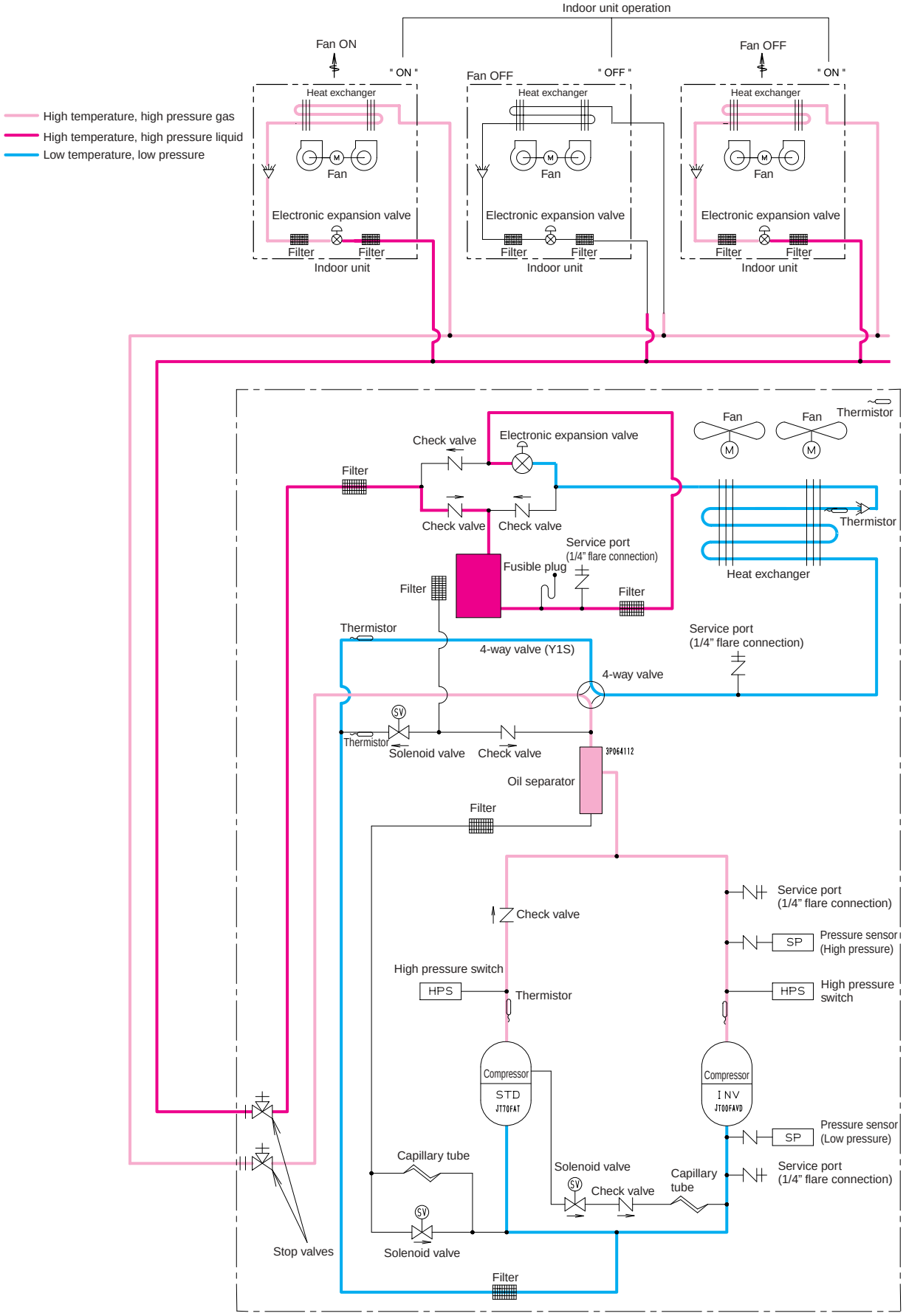
RSXYP5~10L **Cooling operation**



∗ However, RSXYP5L are not provided with Standard compressor. For the details, refer to piping system diagram.

(V2740)

RSXYP5~10L Heating operation



∗ However, RSXYP5L are not provided with Standard compressor. For the details, refer to piping system diagram.

(V2741)

2. Functions

2.1 Outdoor unit

RSXYP5~10L

(Cooling operation)

When cooling, the following basic functions are provided.

- Restart standby
- Cooling startup control
- Compressor PI control
- STD compressor changeover control
- Instruction of motor valve opening degree when indoor unit capacity changes
- MIMO control
- Compressor FF control when the capacity of indoor unit with thermostat-ON decreases
- Oil return operation (cooling)
- Pump-down residual operation (cooling)
- Low pressure protection control (cooling)
- Drooping control by low pressure (cooling)
- High pressure protection control (oil return)
- Drooping control by high pressure (cooling cycle)
- Discharge pipe temperature protection control
- Drooping control by discharge pipe temperature
- Drooping control by inverter current
- Drooping control by inverter fin temperature
- Low differential pressure/Low compression ratio protection control (cooling)
- STD compressor overload protection control
- Wet permission signal control

■ Control during compressor stop

Compressor status			During compressor stop			
Basic function			Restart standby	Thermostat-OFF standby	During compressor normal stop	Pressure equalization control prior to cooling startup
Function of individual functional parts	Compressor Class 5HP	M1C	0 Hz or OFF ∗1	0 Hz	OFF	0 Hz
	Class 8, 10HP	M1C+ M2C	0 Hz+OFF or OFF+OFF	0 Hz+OFF	OFF+OFF	0 Hz+OFF
	Outdoor fan	M1F (M2F)	For initial 30 seconds : Maintains the previous status After 30 seconds : 0 step	0 step	0 step	“Pressure equalization control prior to cooling startup”
	Indoor fan	MF	No signal from Outdoor unit	No signal from Outdoor unit	No signal from Outdoor unit	“Pressure equalization control prior to cooling startup”
	Outdoor electronic expansion valve	Y1E	0 pulse	0 pulse	0 pulse	0 pulse
	Indoor electronic expansion valve	20E	0 pulse	0 pulse	0 pulse	0 pulse
	4-way valve	Y1R	OFF (∗2)	OFF (∗2)	OFF (∗2)	OFF (∗2)
	Solenoid valve (for hot gas bypass)	Y1S	ON	OFF	OFF	ON
	Solenoid valve (for receiver gas discharge)	Y2S	OFF	OFF	OFF	OFF
	Solenoid valve (for oil equalization pipe) Only for Class 8, 10HP	Y3S	OFF	OFF	OFF	OFF
	Remarks		5 minutes after compressor stop	When START switch ON + Thermostat OFF after “Restart standby”		Minimum 10 seconds Maximum 3 minutes
			∗1 : In indication of inverter compressor operating frequency, 0Hz means K1M=ON, and OFF means K1M=OFF. ∗2 : During compressor stop when switching heating to cooling, the previous status is maintained.			

■ Startup control / Control during compressor operation

Compressor status			During compressor operation		During compressor operation	
Basic function			"Cooling startup control"		During normal operation	
			Basic function	Protection control	Basic function	Protection control
Function of individual functional parts	Compressor Class 5HP	M1C	"Cooling startup control"	"Drooping control by low pressure (cooling)" "Drooping control by high pressure (cooling cycle)" "Drooping control by discharge pipe temperature" "Drooping control by inverter current" "Drooping control by inverter fin temperature" "Drooping control by inverter Drooping demand" "Low differential pressure/Low compression ratio protection control (cooling)" "Standard compressor overload protection control"	"Compressor PI control" (Te constant control) Instruction of motor valve opening degree when indoor unit capacity changes STD compressor changeover control	"Drooping control by low pressure (cooling)" "Drooping control by high pressure (cooling cycle)" "Drooping control by discharge pipe temperature" "Drooping control by inverter current" "Drooping control by inverter fin temperature" "Drooping control by inverter Drooping demand" "Low differential pressure/Low compression ratio protection control (cooling)" "Standard compressor overload protection control"
	Class 8, 10HP	M1C+ M2C				
	Outdoor unit fan	M1F (M2F)	"Cooling startup control"	"Low differential pressure / Low compression ratio protection control (cooling)"	8 step	"Low differential pressure / Low compression ratio protection control (cooling)"
	Indoor unit fan	MF	"Cooling startup control"		No instruction	
	Outdoor unit electronic expansion valve	Y1E	0 pulse		0 pulse	
	Indoor unit electronic expansion valve	20E	"Cooling startup control" Instruction of motor valve opening degree when indoor unit capacity changes	"Discharge pipe temperature protection control" "Wet operation permission signal control (cooling)" (∗1)	Thermostat-ON unit : No instruction Thermostat-OFF unit : 0 pulse Instruction of motor valve opening degree when indoor unit capacity changes	"Discharge pipe temperature protection control" (∗1) "Wet permission signal control (cooling)" (∗1)
	4-way changeover valve	Y1R	OFF (∗2)		OFF	
	Solenoid valve (hot gas bypass)	Y1S	ON		OFF STD compressor changeover control	"Low pressure protection control (cooling)"
	Solenoid valve (receiver gas discharge)	Y2S	OFF		OFF	
	Solenoid valve (oil equalization pipe) Only for Class 8, 10HP	Y3S	∗6 Solenoid valve Y3S control (Refer P.40)		∗6 Solenoid valve Y3S control (Refer P.40)	
	Remarks		Minimum 3 minutes Maximum 10 minutes			
			∗1 : Opens indoor unit electronic expansion valve (20E) indirectly by a signal output to indoor unit ∗2 : Switches 4-way changeover valve when 4-way valve=ON at the startup			∗1 :Opens the indoor unit expansion valve (20E) indirectly by TH2 upper-limit value, subcool F, indoor unit SH correction factor and wet operation permission signal.

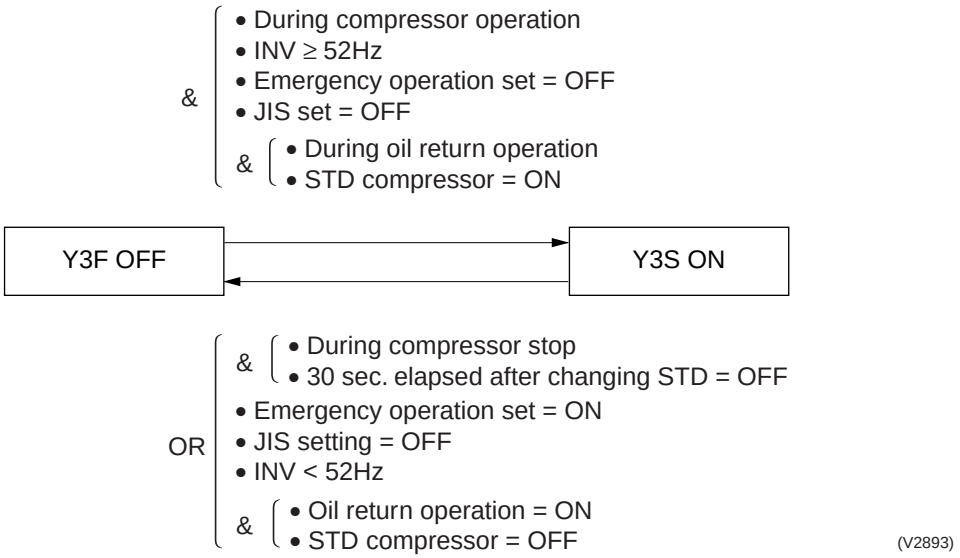
■ Pump-down residual operation / Oil return operation

Compressor status			During compressor operation		During compressor operation	
Basic function			“Cooling pump-down residual operation”		“Oil return operation”	
			Basic function	Protection control	Basic function	Protection control
Function of individual functional parts	Compressor Class 5HP	M1C	124Hz	“Drooping control by low pressure (cooling)” “Drooping control by high pressure (cooling cycle)” “Drooping control by discharge pipe temperature” “Drooping control by inverter current” “Drooping control by inverter fin temperature” “Drooping control by inverter Drooping demand”	Upper-limit frequency : Frequency prior to oil return - 6-step Compressor PI control (Te constant control) Compressor FF control when the capacity of indoor unit with thermostat-ON decreases	“Drooping control by high pressure (cooling cycle)” “Drooping control by discharge pipe temperature” “Drooping control by inverter current” “Drooping control by inverter fin temperature” “Drooping control by inverter Drooping demand” “Standard compressor overload protection control” (Only for class 8, 10HP)
	Class 8, 10HP	M1C+ M2C	124Hz+OFF		MIMO control	High pressure protection control (oil return)
	Outdoor unit fan	M1F (M2F)	“Cooling pump-down residual operation”		8step	
	Indoor unit fan	MF	No instruction		Thermostat-OFF unit : OFF Stop and thermostat-ON unit : No instruction	
	Outdoor unit electronic expansion valve	Y1E	0 pulse		0 pulse	
	Indoor unit electronic expansion valve	20E	All indoor unit 224 pulse		Stop and thermostat-OFF unit : 288 pulse Thermostat-ON unit : No instruction	
	4-way changeover valve	Y1R	OFF		OFF	
	Solenoid valve (hot gas bypass)	Y1S	OFF STD compressor changeover control	“Low pressure protection control (cooling)”	ON	
	Solenoid valve (receiver gas purge)	Y2S	ON		OFF	
	Solenoid valve (oil equalization pipe) Only for Class 8, 10HP	Y3S	∗6 Solenoid valve Y3S control (Refer P.40)		∗6 Solenoid valve Y3S control (Refer P.40)	
	Remarks		Maximum 30 seconds		Maximum 6 minutes	

∗6 Solenoid valve Y3S control

Solenoid valve Y3S is ON during compressor operation (INV compressor ≥ 52Hz) and OFF during compressor stopping.
However, it does not OFF for 30 seconds after STD compressor stops during starting control.
Solenoid valve Y3S is prohibited to ON during EMERGENCY operation set = ON or JIS set = ON.

Details are as follows ;



(Heating operation)

When heating, the following basic functions are provided.

- Restart standby
- Heating startup control
- Compressor PI control
- Electronic expansion valve PI control (heating)
- Electronic expansion valve FF control
- STD compressor changeover control
- MIMO control
- Compressor FF control when the capacity of indoor unit with thermostat-ON decreases
- Oil return operation (heating)
- Defrosting operation
- Pump-down residual operation (heating)
- Low pressure protection control (heating)
- Drooping control by low pressure (heating)
- High pressure protection control (heating)
- High pressure protection control (oil return)
- Drooping control by high pressure (cooling cycle)
- Drooping control by high pressure (heating cycle)
- Discharge pipe temperature protection control
- Drooping control by discharge pipe temperature
- Drooping control by inverter current
- Drooping control by inverter fin temperature
- Low differential pressure/Low compression ratio protection control (heating)
- STD compressor overload protection control
- Gas shortage signal control

■ Control during compressor stop

Compressor status			During compressor stop			
Basic function			Restart standby	Thermostat-OFF standby	During compressor normal stop	Pressure equalization control prior to heating startup
Function of individual functional parts	Compressor Class 5HP	M1C	0 Hz or OFF ∗1	0 Hz	OFF	0 Hz
	Class 8, 10HP	M1C+ M2C	0 Hz+OFF or OFF+OFF	0 Hz+OFF	OFF+OFF	0 Hz+OFF
	Outdoor fan	M1F (M2F)	For initial 30 seconds : Maintains the previous status After 30 seconds : 0step	0 step	0 step	"Pressure equalization control prior to heating startup"
	Indoor fan	MF	No signal from Outdoor unit	No signal from Outdoor unit	No signal from Outdoor unit	OFF(∗2)
	Outdoor electronic expansion valve	Y1E	0 pulse	0 pulse	0 pulse	0 pulse
	Indoor electronic expansion valve	20E	0 pulse	0 pulse	0 pulse	0 pulse
	4-way changeover valve	Y1R	ON (∗2)	ON (∗2)	ON (∗2) (∗3)	ON (∗2) (∗3)
	Solenoid valve (for hot gas bypass)	Y1S	ON	OFF	OFF	ON
	Solenoid valve (for receiver gas discharge)	Y2S	OFF	OFF	OFF	OFF
	Solenoid valve (for oil equalization pipe) Only for Class 8, 10HP	Y3S	OFF	OFF	OFF	OFF
	Remarks		5 minutes after compressor stop	When START switch ON + Thermostat OFF after "Restart standby"		Minimum 10 seconds Maximum 3 minutes
			∗ 1 : In indication of inverter compressor operating frequency, 0 Hz means K1M=ON, and OFF means K1M=OFF. ∗ 2 : During compressor stop when switching Cooling to heating, the previous status is maintained. ∗ 3 : OFF when the initial power supply is turned on			

■ Startup control / Operation control

Compressor status			During compressor operation		During compressor operation	
Basic function			"Heating startup control"		During normal operation	
			Basic function	Protection control	Basic function	Protection control
Function of individual functional parts	Compressor class 5HP class 8, 10HP	M1C M1C+ M2C	"Heating startup control"	"Drooping control by low pressure (heating)" "Drooping control by high pressure (heating cycle)" "Drooping control by discharge pipe temperature" "Drooping control by inverter current" "Drooping control by inverter fin temperature" "Drooping control by inverter Drooping demand" "Low differential pressure/Low compression ratio protection control (heating)" "Standard compressor overload protection control" (Only for Class 8, 10HP)	"Compressor PI control" (Tc constant control) Compressor FF control when the capacity of indoor unit with thermostat-ON decreases MIMO control	"Drooping control by low pressure (heating)" "Drooping control by high pressure (heating cycle)" "Drooping control by discharge pipe temperature" "Drooping control by inverter current" "Drooping control by inverter fin temperature" "Drooping control by inverter Drooping demand" "Low differential pressure/Low compression ratio protection control (heating)" "Standard compressor overload protection control" (Only for class 8, 10HP)
	Outdoor unit fan	M1F (M2F)	"Heating startup control"	"High pressure protection control (heating)" "Low differential pressure / Low compression ratio protection control (heating)"	8 step	"High pressure protection control (heating)" "Low differential pressure / Low compression ratio protection control (heating)"
	Indoor unit fan	MF	"Heating startup control"		No instruction	
	Outdoor unit electronic expansion valve	Y1E	"Heating startup control" "Electronic expansion valve fixed opening degree control"	"Discharge pipe temperature protection control"	"Electronic expansion valve PI control" Electronic expansion valve FF control MIMO control	"Discharge pipe temperature protection control"
	Indoor unit electronic expansion valve	20E	"Cooling startup control"	"Liquid pressure control (heating)" (∗1) "Gas shortage signal control (heating)" (∗2)	No instruction	"Liquid pressure control (heating)" (∗1) "Gas shortage signal control (heating)" (∗2)
	4-way changeover valve	Y1R	ON (∗3)		ON	
	Solenoid valve (hot gas bypass)	Y1S	ON		OFF STD compressor changeover control	"Low pressure protection control (heating)" "High pressure protection control (heating)"
	Solenoid valve (for receiver gas discharge)	Y2S	OFF		OFF	
	Solenoid valve (for oil equalization pipe) Only for class 8, 10HP	Y3S	∗6 Solenoid valve Y3S control (Refer P.44)		∗6 Solenoid valve Y3S control (Refer P.44)	
	Remarks		Minimum 3 minutes Maximum 10 minutes			
			∗ 1 : Throttles electronic expansion valve of indoor unit with thermostat ON indirectly by a signal output to indoor unit ∗ 2 : Opens electronic expansion valve of indoor unit with thermostat OFF indirectly ∗ 3 : Changes direction of 4-way valve when 4-way valve = OFF at the startup		∗ 1 : Throttles the expansion valve (20E) of indoor unit with thermostat ON indirectly by a signalsent to indoor unit ∗ 2 : Opens the expansion valve (20E) of indoor unit with thermostat ON and stopped indirectly	

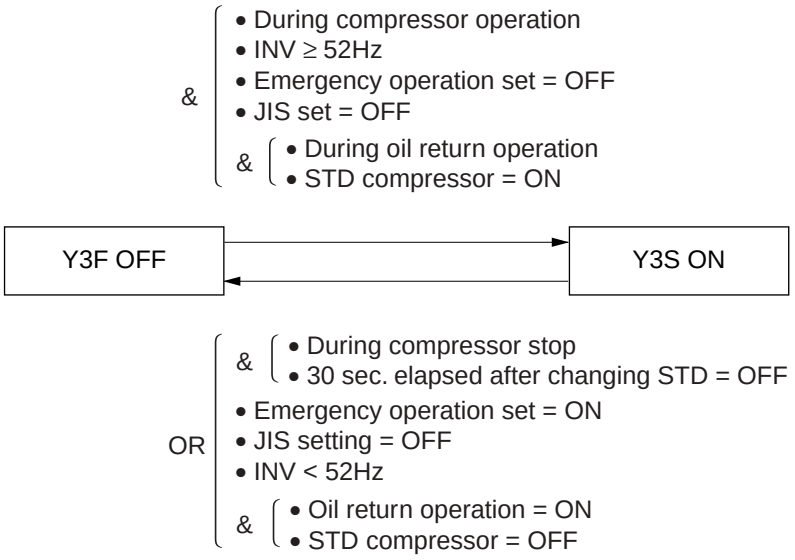
■ Pump-down residual operation

Compressor status			During compressor operation	
Basic function			"Heating pump-down residual operation"	
			Basic function	Protection control
Function of individual functional parts	Compressor class 5HP	M1C	124Hz	"Drooping control by low pressure (heating)"
	class 8, 10HP	M1C+ M2C	124Hz+OFF	"Drooping control by high pressure (heating cycle)" "Drooping control by discharge pipe temperature" "Drooping control by inverter current" "Drooping control by inverter fin temperature" "Drooping control by inverter Drooping demand"
	Outdoor fan	M1F (M2F)	8 step	"High pressure protection control (heating)"
	Indoor fan	MF	No signal from Outdoor unit	
	Outdoor electronic expansion valve	Y1E	Fixed opening degree 2 "Electronic expansion valve fixed opening degree control"	
	Indoor electronic expansion valve	20E	1984 pulse	
	4-way changeover valve	Y1R	ON	
	Solenoid valve (for hot gas bypass)	Y1S	OFF STD compressor changeover control	"Low pressure protection control (heating)" "High pressure protection control (heating)"
	Solenoid valve (for receiver gas discharge)	Y2S	ON	
	Solenoid valve (for oil equalization pipe) Only for class 8, 10HP	Y3S	∗6 Solenoid valve Y3S control (Refer P.44)	
	Remarks		Maximum 30 seconds	

∗6 Solenoid valve Y3S control

Solenoid valve Y3S is ON during compressor operation (INV compressor ≥ 52Hz) and OFF during compressor stopping.
However, it does not OFF for 30 seconds after STD compressor stops during starting control.
Solenoid valve Y3S is prohibited to ON during EMERGENCY operation set = ON or JIS set = ON.

Details are as follows ;



(V2893)

■ Oil return operation

Compressor status			During compressor operation			
Basic function			Oil return operation (heating)			
			Basic function			Protection control
			Before oil return operation (∗1)	During oil return operation (∗2)	After oil return operation (∗3)	
Function of individual functional parts	Compressor class 5HP	M1C	By 90 seconds : Same as heating normal operation After 90 seconds : Upper-limit frequency 124Hz	"Oil return operation (heating)"	124Hz	"Drooping control by low pressure (heating)" (Only ∗1, 3) "Drooping control by high pressure (cooling cycle)" (Only ∗2) "Drooping control by high pressure (heating cycle)" (Only ∗1, 3) "Drooping control by discharge pipe temperature" "Drooping control by inverter current" "Drooping control by inverter fin temperature" "Drooping control by inverter Drooping demand" "Low differential pressure/Low compression ratio protection control (heating)" (Only ∗1, 3) "Standard compressor overload protection control" (Only for Class 8, 10HP)
	class 8, 10HP	M1C+ M2C	By 90 seconds : Same as heating normal operation After 90 seconds : Upper-limit frequency 124Hz+OFF		124Hz+OFF	
	Outdoor fan	M1F (M2F)	8 step	8 step	"Oil return operation (heating)"	"High pressure protection control (heating)" (∗1, 3) "High pressure protection control (oil return)" (Only ∗2) "Low differential pressure/Low compression ratio protection control (heating)" (Only∗1, 3)
	Indoor fan	MF	No instruction (∗4)	OFF	No instruction (∗5)	
	Outdoor electronic expansion valve (outdoor)	Y1E	Same as heating normal operation	By 5 seconds : Maintains the previous opening degree After 5 seconds : 0 pulse	"Oil return operation"	"Discharge pipe temperature protection control" (Only ∗1, 3)
	Indoor electronic expansion valve (indoor)	20E	By 60 seconds : No indication For 55 seconds after elapsed time of 60 seconds : 1984pulse For 5 seconds after elapsed time of 55 seconds : 0 pulse	"Oil return operation (heating)"	By 5 seconds : Maintains the previous opening degree After 5 seconds : No instruction	
	4-way changeover valve	Y1R	ON	OFF	ON	
	Solenoid valve (for hot gas bypass)	Y1S	OFF STD compressor changeover control	ON	ON	"Low pressure protection control (heating)" (Only ∗1) High pressure protection control (heating)" (Only ∗1)
	Solenoid valve (for receiver gas discharge)	Y2S	ON	ON	OFF	
	Solenoid valve (for oil equalization pipe) Only for Class 8, 10HP	Y3S	∗6 Solenoid valve Y3S control (Refer P.44)		∗6 Solenoid valve Y3S control (Refer P.44)	
	Remarks		2 minutes	Minimum 1minute 30 seconds Maximum 6 minutes	Maximum 5 minutes	
			∗ 1 : Throttles electronic expansion valve (20E) of indoor unit with thermostat ON indirectly by a signal output to indoor unit ∗ 2 : Opens electronic expansion valve of indoor unit with thermostat OFF indirectly ∗ 3 : Switches 4-way valve when 4-way valve = OFF at the startup			
			∗ 4 : Activates indoor fan residual operation by oil return preparing signal output to the indoor unit		∗5 : Turns off indoor fan by oil return preparing signal output to the indoor unit	

■ Defrosting operation

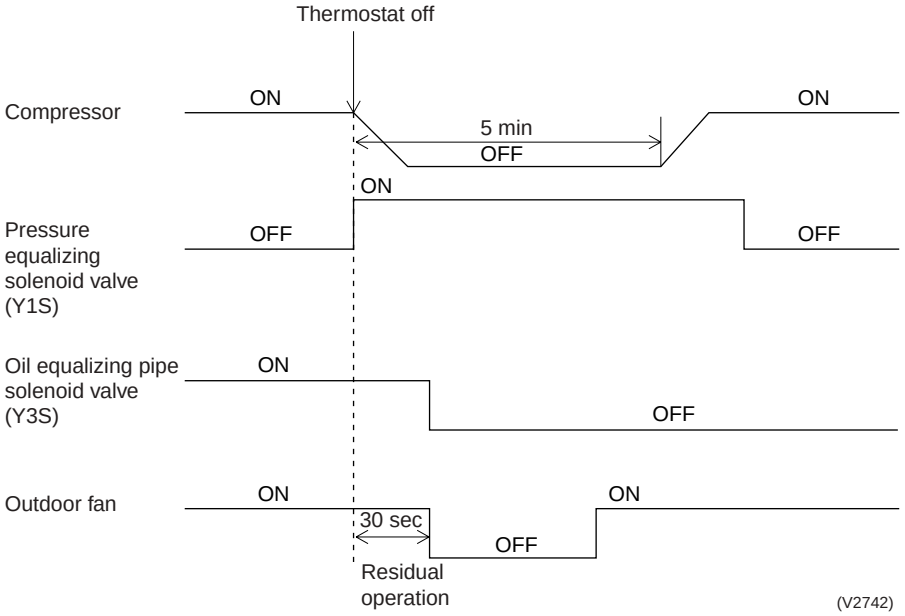
Compressor status			During compressor operation			
Basic function			Defrosting operation			
			Basic function			Protection control
			Before defrosting operation (∗1)	During defrosting operation (∗2)	After defrosting operation (∗3)	
Function of individual functional parts	Compressor class 5HP	M1C M1C+ M2C	By 60 seconds : Same as heating normal operation After 60 seconds : Upper-limit frequency 124Hz	“Defrosting operation”	124Hz	“Drooping control by low pressure (heating)” (Only ∗1, 3) “Drooping control by high pressure (cooling cycle)” (Only ∗2) “Drooping control by high pressure (heating cycle)” (Only ∗1, 3) “Drooping control by discharge pipe temperature” “Drooping control by inverter current” “Drooping control by inverter fin temperature” “Drooping control by inverter Drooping demand” “Low differential pressure/Low compression ratio protection control (heating)” (Only ∗1, 3) “Standard compressor overload protection control” (Only for Class 8, 10HP)
	class 8, 10HP	M1F (M2F)	By 60 seconds : Same as heating normal operation After 60 seconds : Defrost operation		124Hz+OFF	
	Outdoor unit fan	MF Y1E	8 step	By 5 seconds : 8 step After 5 seconds : 0 step	“Defrosting operation”	“High pressure protection control (heating)” (∗1, 3) “Low differential pressure/Low compression ratio protection control (heating)” (Only ∗1, 3)
	Indoor unit fan		No instruction (∗4)	OFF	No instruction (∗5)	
	Outdoor unit electronic expansion valve	20E	Same as heating normal operation	By 5 seconds : Maintains the opening degree After 5 seconds : 0 pulse	“Defrost operation”	“Discharge pipe temperature protection control” (Only ∗1, 3)
	Indoor unit electronic expansion valve		By 60 seconds : No. instruction For 55 seconds after elapsed time of 60 seconds : 1984pulse For 5 seconds after the above : 0 pulse	“Defrost operation”	By 5 seconds : Maintains the opening degree After 5 seconds : No instruction	
	4-way changeover valve	Y1R	ON	OFF	ON	
	Solenoid valve (hot gas bypass)	Y1S	OFF	ON	ON	“Low pressure protection control (heating)” (Only ∗1) “High pressure protection control (heating)” (Only ∗1)
	Solenoid valve (receiver gas discharge)	Y2S	ON	ON	OFF	
	Solenoid valve (oil equalization pipe) Only for Class 8, 10HP	Y3S	∗6 Solenoid valve Y3S control (Refer P.44)		∗6 Solenoid valve Y3S control (Refer P.44)	
	Remarks		2 minutes	Minimum 30 seconds Maximum 10 minutes 30 seconds	Maximum 5 minutes	
			∗ 1 : Throttles electronic expansion valve (20E) of indoor unit with thermostat ON indirectly by a signal output to indoor unit ∗ 2 : Opens electronic expansion valve of indoor unit with thermostat OFF indirectly ∗ 3 : Changes direction of 4-way valve when 4-way valve = OFF at the startup			
			∗ 4 : Activates indoor unit fan residual operation by defrost preparing signal output to the indoor unit		∗ 5 : Turns off indoor unit fan by defrost preparing signal output to the indoor unit	

3. Outline of Control (Outdoor Unit)

3.1 Restart Standby

Once the compressor stops, the compressor will not run for a fixed period of time in order to prevent it from being turned on and off in rapid succession.

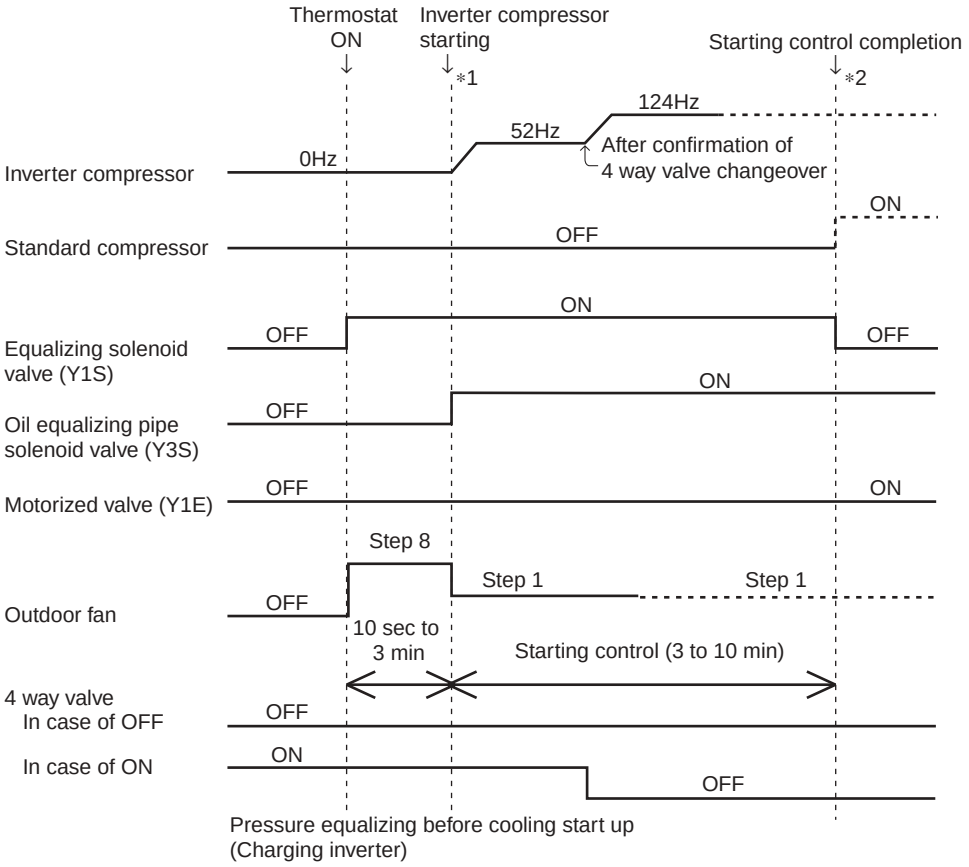
When all the compressors (inverter and standard compressors) stops, the compressor will not run for 5 minutes by making forced thermostat OFF condition. During that period of time, the pressure equalizing solenoid valve is open, and the outdoor unit fan performs residual operation right after the compressor stops.



3.2 Starting control

For starting of compressor, the compressor operates with fixed low frequency for specified period to prevent liquid refrigerant from returning.
When the 4-way valve stopped last time during heating cycle, change to cooling cycle while retaining the differential pressure required to changing cycle.

[Cooling start]



∗1 Inverter compressor starting condition

OR { & { HP<1.9MPa, HP-LP<0.2MPa } ; 3 minutes elapsed }

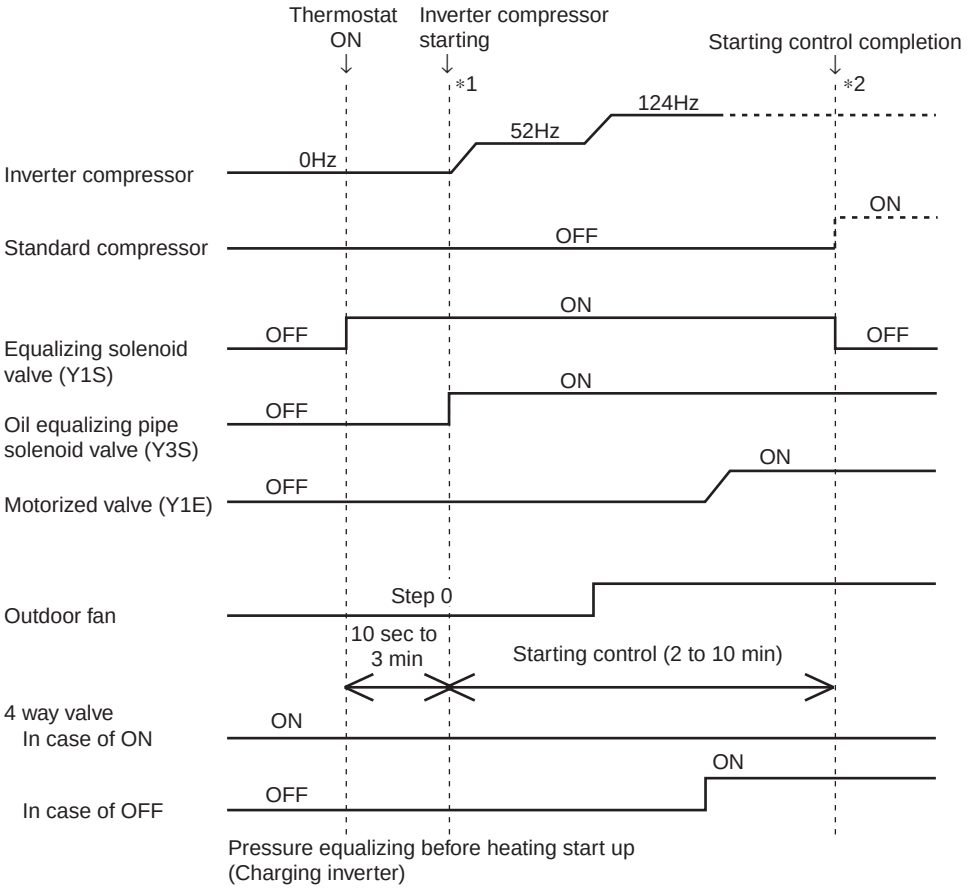
∗2 Starting control compressor condition

& { & { SH>10˚C (SH = Super heat), DSH>10˚C (DSH = Discharge superheat), LP<0.25MPa } ; 3 minutes elapsed }

(V2743)

[Heating start]

When the 4-way valve stopped last time during cooling cycle, change to heating cycle while retaining the differential pressure required to changing cycle.



∗1 Inverter compressor starting condition

OR
- & (Ambient temperature<26˚C, HP<1.9MPa, HP-LP<0.2MPa)
- 3 minutes elapsed

∗2 Starting control completion condition

&
- OR (SH>10˚C, DSH>10˚C, LP<0.08MPa)
- 3 minutes elapsed

(V2744)

3.3 Normal Control

3.3.1 Compressor Control

Compressor PI Control

Carries out the compressor capacity PI control to maintain Te at constant during cooling operation and Tc at constant during heating operation to ensure stable unit performance.

[Cooling operation]

Controls compressor capacity to adjust Te to achieve target value (TeS).

Te : Low pressure equivalent saturation temperature (˚C)

TeS : Target Te value
(Varies depending on Te setting, operating frequency, etc.)

Te setting

L	M (factory setting)	H
4.5	7.5	10.5

[Heating operation]

Controls compressor capacity to adjust Tc to achieve target value (TcS).

Tc : High pressure equivalent saturation temperature (˚C)

TcS : Target Tc value
(Varies depending on Tc setting, operating frequency, etc.)

Tc setting

L	M (factory setting)	H
45	48	51

Compressor FF control

If the indoor thermostat on capacity is decreased, controls the compressor with FF control to soften drastic decreasing of low pressure in cooling and drastic increasing of high pressure in heating due to the capacity change of the indoor thermostat on unit.

[Major purposes]

- Lowers the compressor operating frequency by using the ratio of capacity of before and after changing.
- Prohibits to increase the frequency for one minute to prevent frequency from increasing again with PI control due to rising of low pressure or lowering of high pressure after FF control.
- When the thermostat on capacity changes during oil return operation in cooling, the upper limit frequency in oil return operation is also controlled with the similar FF control as well.

Compressor Step Control

Controls the compressor operating frequency in the following steps to control the compressor performance.

Model 5L

Step No.	Inverter compressor operating frequency
1	52Hz
2	57Hz
3	62Hz
4	68Hz
5	74Hz
6	81Hz
7	88Hz
8	96Hz
9	104Hz
10	110Hz
11	116Hz
12	124Hz
13	133Hz
14	143Hz
15	158Hz
16	165Hz
17	177Hz
18	189Hz
19	202Hz
20	210Hz

Model 8 / 10L

Step No.	Compressor operating frequency	
	INV	STD
1	52Hz	OFF
2	57Hz	
3	62Hz	
4	68Hz	
5	74Hz	
6	81Hz	
7	88Hz	
8	96Hz	
9	104Hz	
10	110Hz	
11	116Hz	
12	124Hz	
13	133Hz	
14	143Hz	
15	158Hz	
16	165Hz	
17	177Hz	
18	189Hz	
19	202Hz	
20	210Hz	
21	52Hz	ON
22	62Hz	
23	74Hz	
24	88Hz	
25	104Hz	
26	116Hz	
27	133Hz	
28	158Hz	
29	177Hz	
30	202Hz	
31	210Hz	

Standard Compressor Operation Switching Control

Since ON/OFF switching of standard compressors causes a sudden change in the capacity resulting overshoot, the following operation is conducted.

[When standard compressor is turned on]

- When a standard compressor changes from OFF to ON, start the standard compressor after the inverter compressor operating frequency is lowered to 52Hz.
  (The standard compressor is started after receiving a signal of frequency matched from the inverter unit.
  At the same time, the sudden pressure change is eliminated by opening Y1S.
- When the standard compressor changed from OFF to ON, 52Hz + ON is fixed for 30 seconds.

[When standard compressor is turned off]

- The frequency of the inverter compressor changes after the standard compressor stops operation.
  At the same time, the sudden pressure change is eliminated by opening Y1S.

3.3.2 Motorized Valve Control

Motorized Valve PI Control

Carries out the motorized valve (Y1E) PI control to maintain the evaporator outlet superheated degree (SH) at constant during heating operation to make maximum use of the outdoor unit heat exchanger (evaporator).

SH = Ts - Te

SH : Evaporator outlet superheated degree (˚C)

Ts : Suction pipe temperature detected by thermistor R4T (˚C)

Te : Low pressure equivalent saturation temperature (˚C)

The optimum initial value of the evaporator outlet superheated degree is 5˚C, but varies depending on the discharge pipe superheated degree of inverter compressor.

Motorized valve FF control (heating)

Changes the opening degree of motorized valve to prevent changes in compressor operating frequency and ON/OFF switch of solenoid valve from causing a change in the capacity.
Adjusts the target opening of motorized valve to the closing side if wet and to the opening side if superheated before changes.

Motorized valve opening control when indoor unit capacity changes

When the capacity of indoor unit with thermostat ON drastically changes, throttles the indoor unit EV once to prevent refrigerant from returning without evaporation due to the temporary increase of low pressure.
When the indoor unit capacity increases by 5 times or more as large as the normal capacity, throttle the indoor unit EV once to maintain the low pressure level at constant.

3.3.3 Fan Step Table

[Fan step table (5HP)]

Step table	FAN1		
Outdoor unit fan	1	2	3
0 step	0		
1 step	300 rpm		
2 step	350		
3 step	400		
4 step	470		
5 step	530		
6 step	610		
7 step	710		
8 step	800	940	900

[Fan step table (8HP)]

Step table	FAN1			FAN2		
Outdoor unit fan	1	2	3	1	2	3
0 step	0			0		
1 step	300 rpm			0		
2 step	390			0		
3 step	510			0		
4 step	300			380 rpm		
5 step	390			470		
6 step	540			620		
7 step	750			830		
8 step	830	880	850	910	960	930

[Fan step table (10HP)]

Step table	FAN1			FAN2		
Outdoor unit fan	1	2	3	1	2	3
0 step	0			0		
1 step	300 rpm			0		
2 step	390			0		
3 step	510			0		
4 step	300			380 rpm		
5 step	410			490		
6 step	570			650		
7 step	750			830		
8 step	840	880	890	910	1000	970

1. During normal control
2. During capacity precedence operation
3. During high fan pressure setting = ON

3.3.4 MIMO Control

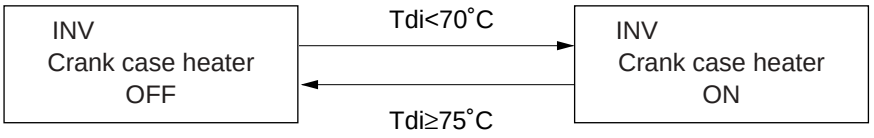
To enhance the room temperature controllability and unit reliability, controls the compressor capacity in MIMO control to maintain Te at constant during cooling operation, and controls the compressor capacity and motorized valve opening at the same time in MIMO control to maintain Tc and the outlet superheated degree (SH) of outdoor unit heat exchanger (evaporator) during heating operation.

3.3.5 Crank case Heater Control

When compressor stops for a long period of time, controls the crank case heater to prevent refrigerant from penetrating in the compressor.

[Inverter compressor]

- During INV compressor stops, crankcase heater is turned on when oil temperature drops to 70˚C or less.

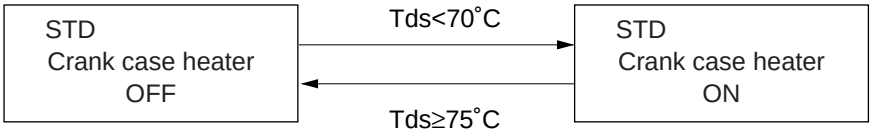


Tdi : Inverter compressor discharge pipe temperature (V2851)

- During the unit operates with INV compressor only, crankcase heater is turned on only when low pressure equivalent saturation temperature is higher than outdoor temperature.

[STD compressor]

- During STD compressor stops, crank case heater is turned on when oil temperature drops to 70˚C or less.



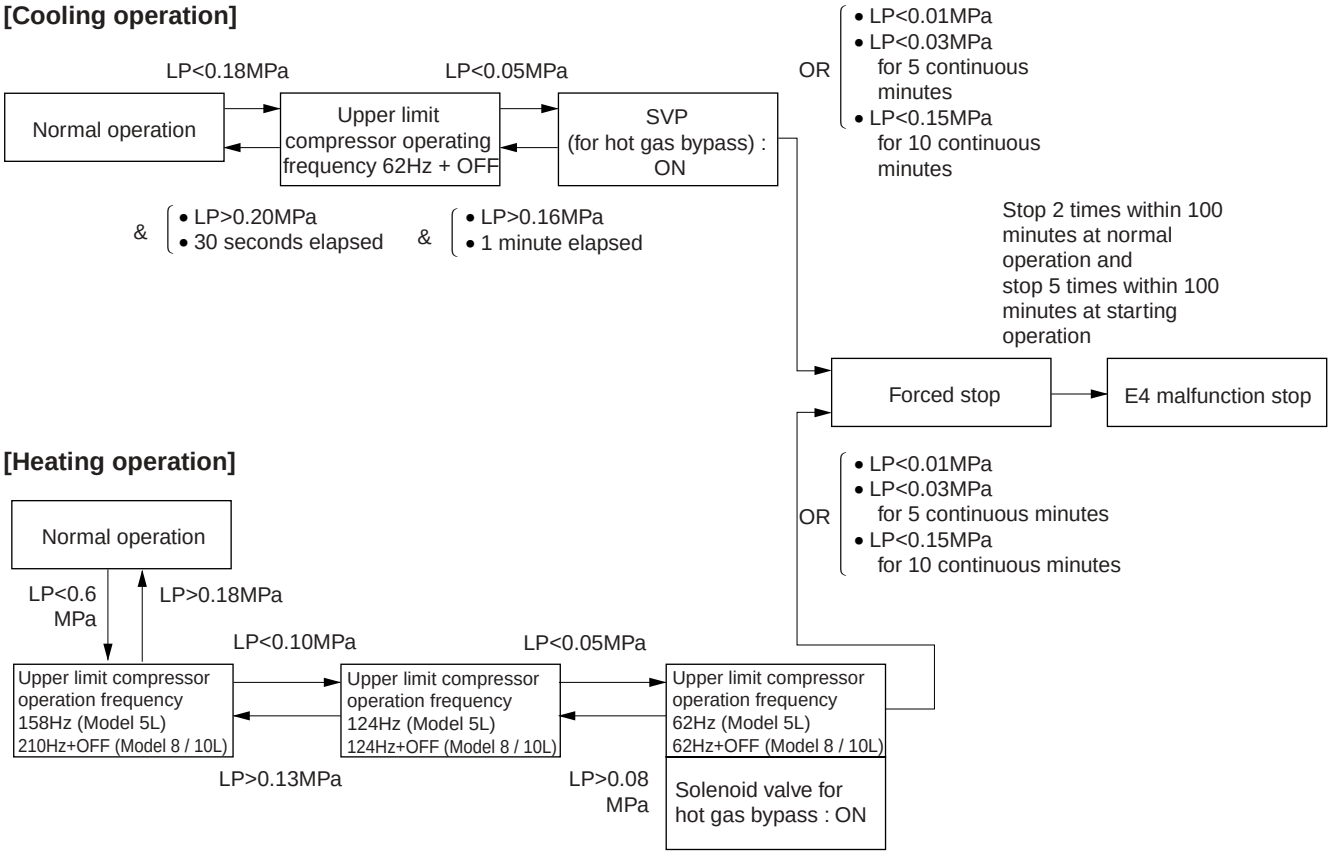
Tds : STD compressor discharge pipe temperature (V2852)

3.4 Protection Control

3.4.1 Low Pressure protection Control

The following control is provided to protect the compressor from abnormal decrease of low pressure (LP).

[Cooling operation]

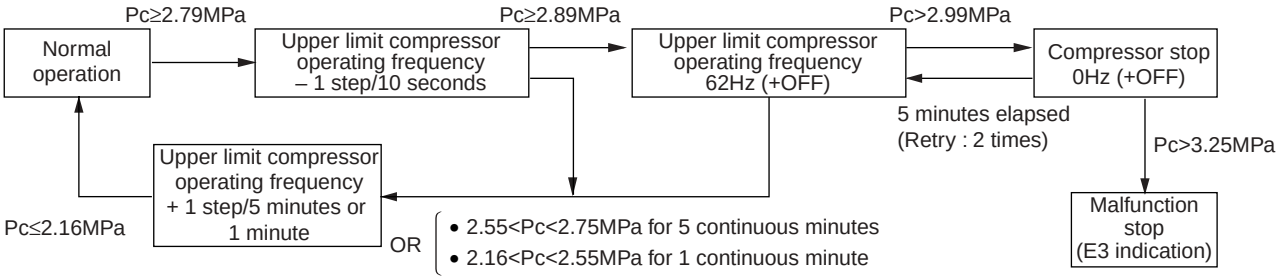


(V2745)

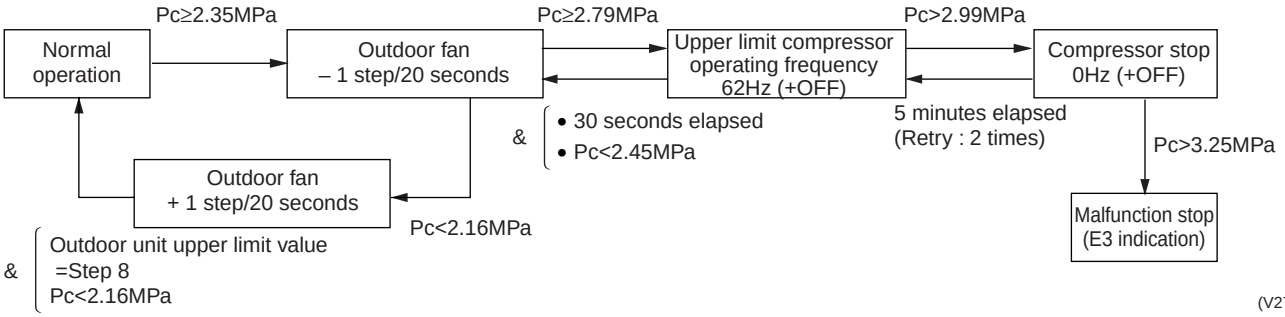
3.4.2 High Pressure Protection Control

The following control is provided for the compressor operating frequency and others to prevent protection devices from malfunctioning due to abnormal increase of high pressure (HP) and to protect the compressors..

[Cooling operation]



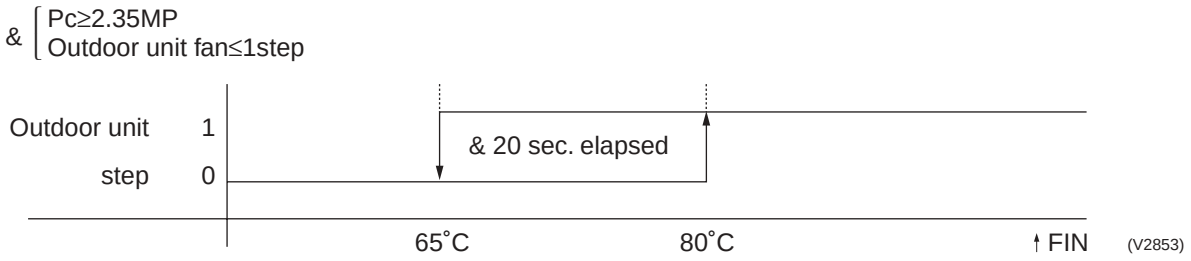
[Heating operation]



(V2746)

[Fan control by fin temperature]

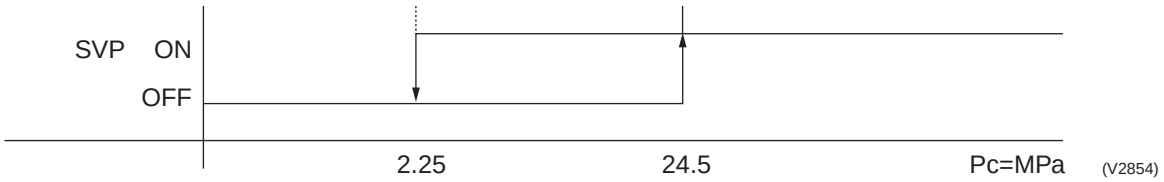
The following control is conducted by INV compressor fin temperature.
The following diagram is based on the below condition .



(V2853)

[Hot gas bypass control]

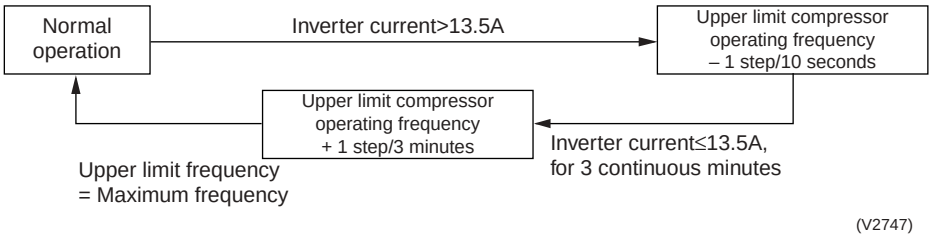
When Pc≥2.45 MPa, opens hot gas bypass valve SVP and controls not to actuate high pressure protection.



(V2854)

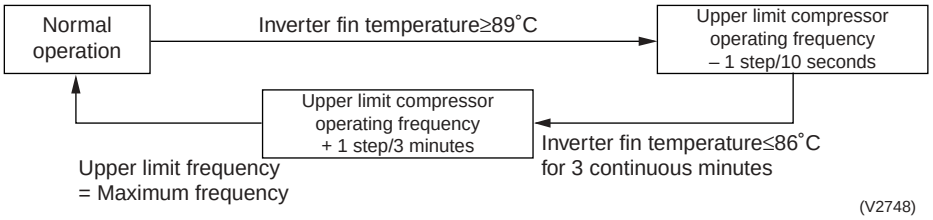
3.4.3 Protection Control by Inverter Current

Restricts the compressor upper-limit frequency to prevent tripping by inverter overcurrent.



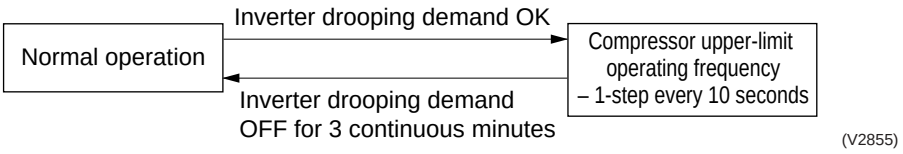
3.4.4 Protection Control by Inverter Fin Temperature

Restricts the compressor upper-limit frequency by sensing the inverter fin temperature to prevent the electrical parts from damaging due to abnormal increase of temperature inside the inverter box.



3.4.5 Drooping Control by Inverter Drooping Demand

If insufficient torque or unbalanced power supply occurs during INV compressor runs at high speed, restricts compressor upper-limit operating frequency by drooping demand from the inverter.

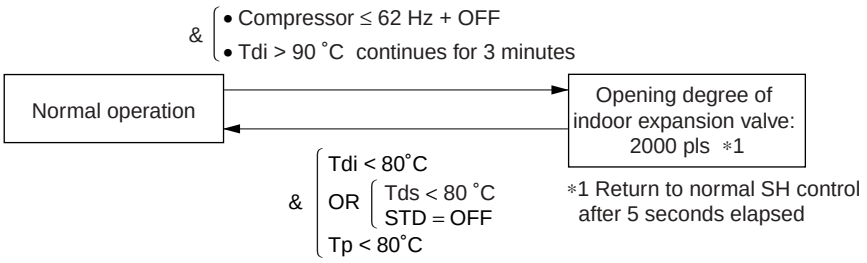


3.4.6 Discharge pipe temperature control

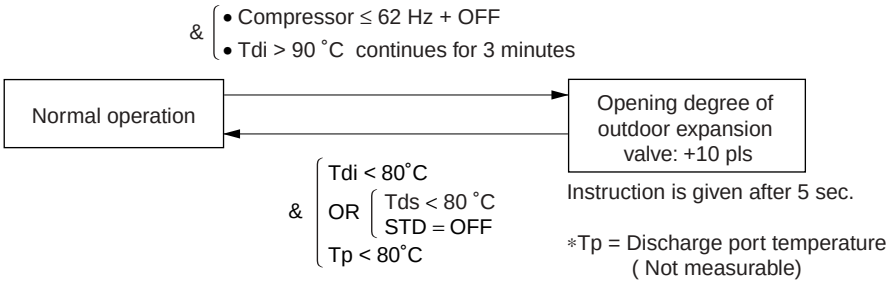
To prevent compressor from damage due to abnormal rising of discharge pipe temperature, wet control of expansion valve and compressor operating frequency control are conducted.

A. Wet control with expansion valve

[In cooling]



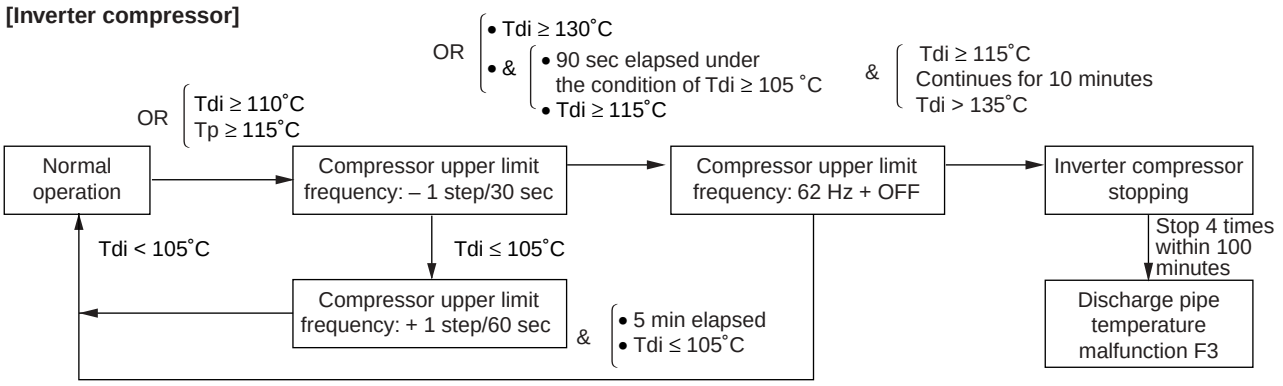
[In heating]



(V2595)

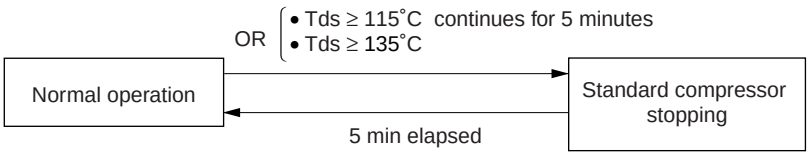
B. Compressor operation frequency control

[Inverter compressor]



(V2749)

[Standard compressor]



(V2750)

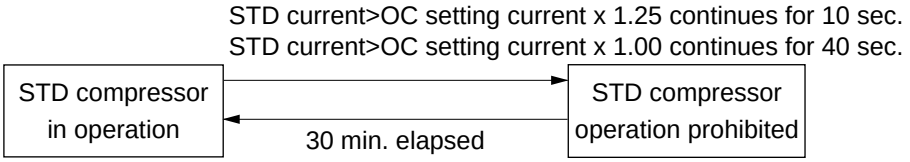
3.4.7 Low Differential Pressure/Low Compression Ratio Protection Control (Cooling/Heating)

■ In cooling operation

Controls the outdoor unit fans to maintain the compression ratio in cooling operation at low outdoor temperature and the differential pressure between liquid pressure and low pressure in cooling operation. Furthermore, changes target value of compressor PI control.

3.4.8 STD Compressor Overload Protection Control (For 8, 10 HP Only)

To prevent STD compressor from halting operation due to malfunction by the actuation of OC during the STD compressor runs overloaded, when the current of STD compressor rises, halts once and prohibits the STD compressor operation for a certain period of time.

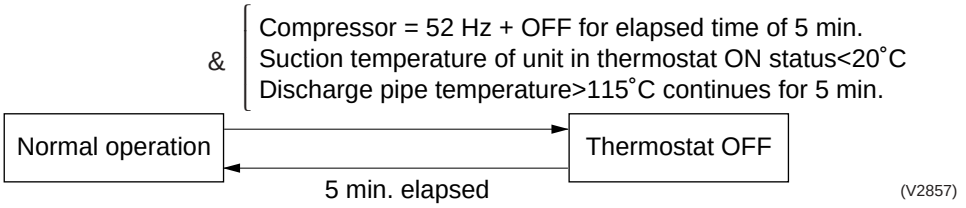


∗STD compressor setting current

8HP	10HP
10A	13A

3.4.9 When cooling low temperature is set by remote controller

If the cooling temperature is set to 20˚C or less by the remote controller, when a long piping work is executed, forced thermostat OFF is conducted in the following conditions before discharge pipe temperature malfunction is detected.

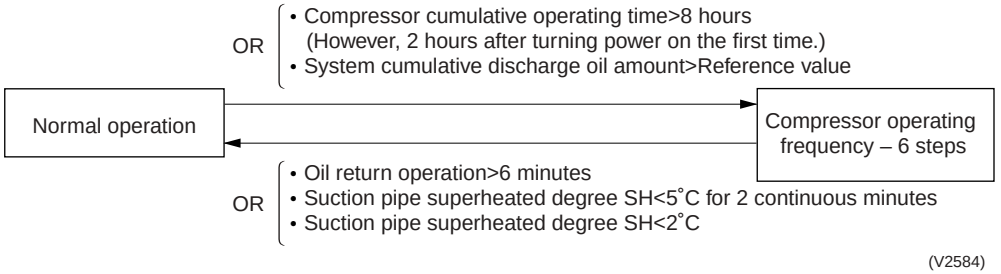


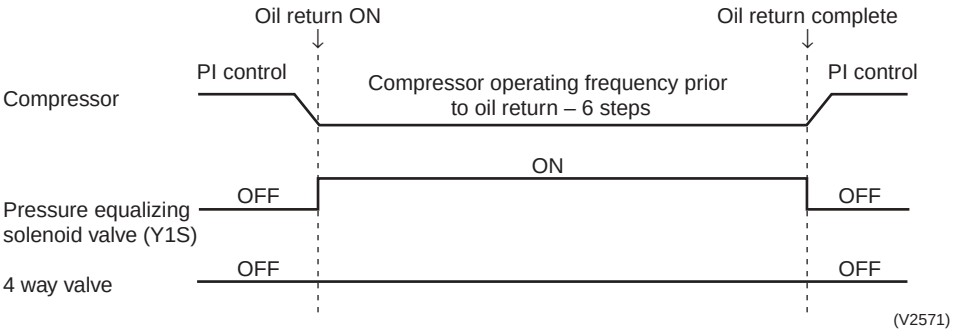
3.5 Special Control

3.5.1 Oil Return Operation

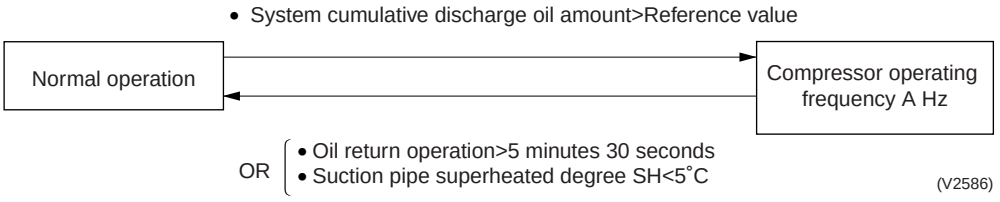
Activates the oil recovery operation to collect refrigerant oil by decreasing the compressor operating frequency for 6 minutes to prevent the compressor from oil depletion due to the oil drain from the compressor to system when the oil amount integrated by compressor operating frequency, suction pipe superheated degree, etc. comes to a constant value.

[Oil return control (cooling operation)]



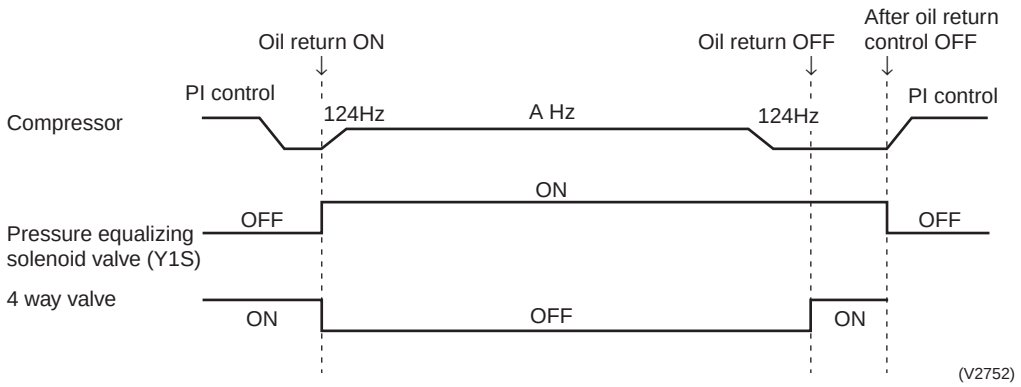


[Oil return control (heating operation)]



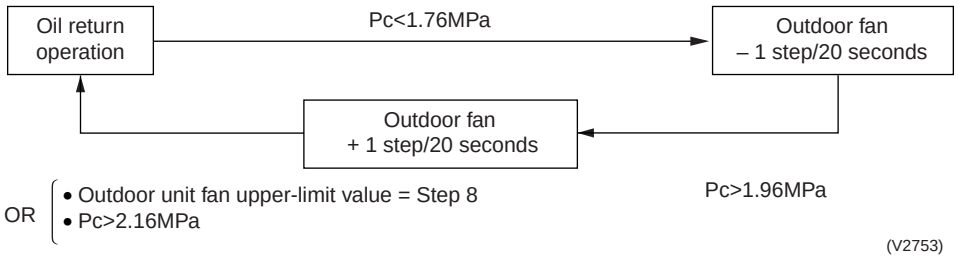
A value

P5L	96Hz
P8L	158Hz
P10L	189Hz



[High pressure maintaining control during oil return operation]

Controls outdoor unit fan to prevent oil return performance from dropping due to the high pressure decrease during oil return operation (both cooling and heating).



3.5.2 Defrost control

In heating operation, defrost operation is conducted to melt the frost on the outdoor unit heat exchanger.

[Defrost starting condition]

Defrosting operation is started when the following conditions are met.

- & (
  - Judgement conditions for defrost starting are met.
  - Decreasing of heating capacity lasted for specified period. (Calculated based on compressive characteristics, outdoor temperature and evaporating temperature.)

OR

- & (
  - Judgement conditions for defrost starting are met.
  - Tb ≤ B x Ta - A lasts for continuous 5 minutes.

OR

- & (
  - Judgement conditions for defrost starting are met.
  - Cumulative defrosting time (C+D/2) > 3 hours

Judgement permitting conditions for defrost starting

& (
- Inlet temperature of outdoor heat exchanger Tb ≤ — 10 ˚C
- Saturation temperature equivalent to low pressure Te < 0 ˚C
- High pressure Pc ≤ 2.16 MPa

Ta: Ambient temperature
Tb: Heat exchanger temperature (˚C) detected with thermistor R2T

Value A

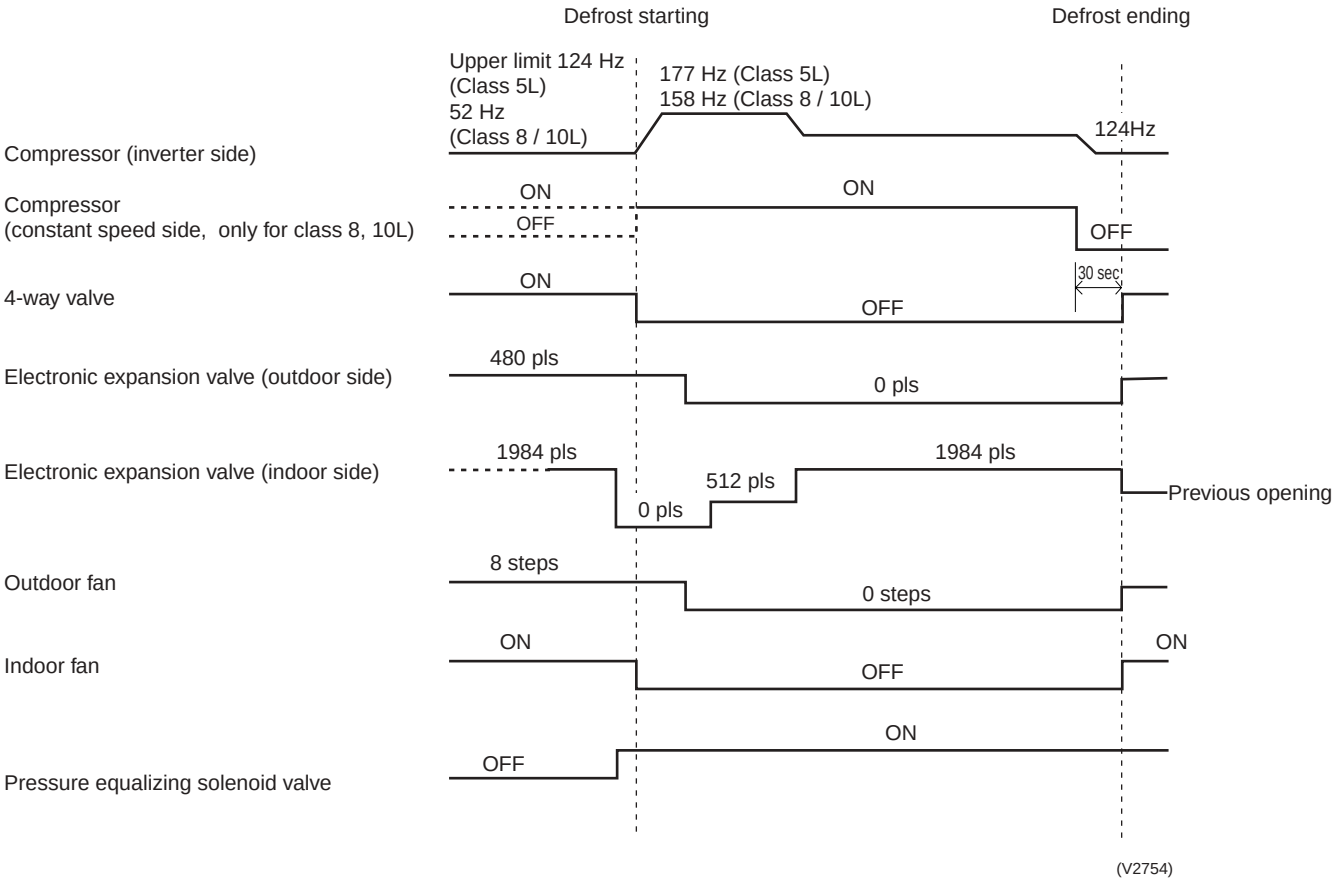
"Defrost changeover setting"	"Short"	"Medium" (factory setting)	"Long"
A	12	14	16

C: Cumulative time for the outdoor temperature of 5 ˚C or lower
D: Cumulative time for the outdoor temperature of -5 ˚C or lower

Variable B

	Ta > 0	Ta ≤ 0
B	0.6	0.8

[Defrost control]



[Defrost ending condition]

Defrosting operation is ended when the following conditions are met after 12 minutes elapsed from defrost starting.

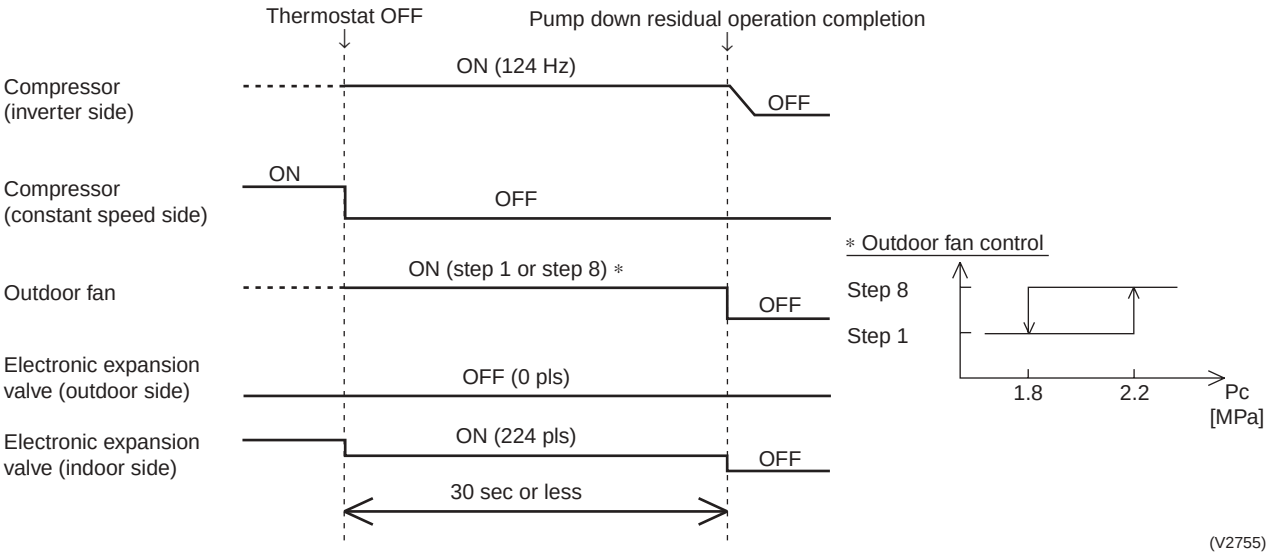
& { • Inlet temperature of outdoor heat exchanger Tb > 11 ˚C
• High pressure Pc > 2.16 MPa

3.5.3 Pump down residual operation

If liquid refrigerant remains in heat exchanger at compressor starting, it enters into the compressor resulting lubrication performance deterioration due to dilution of compressor oil. Therefore, pump down residual operation is conducted to collect the refrigerant in the heat exchanger at compressor stopping.

■ **In cooling operation**

[Pump down control]

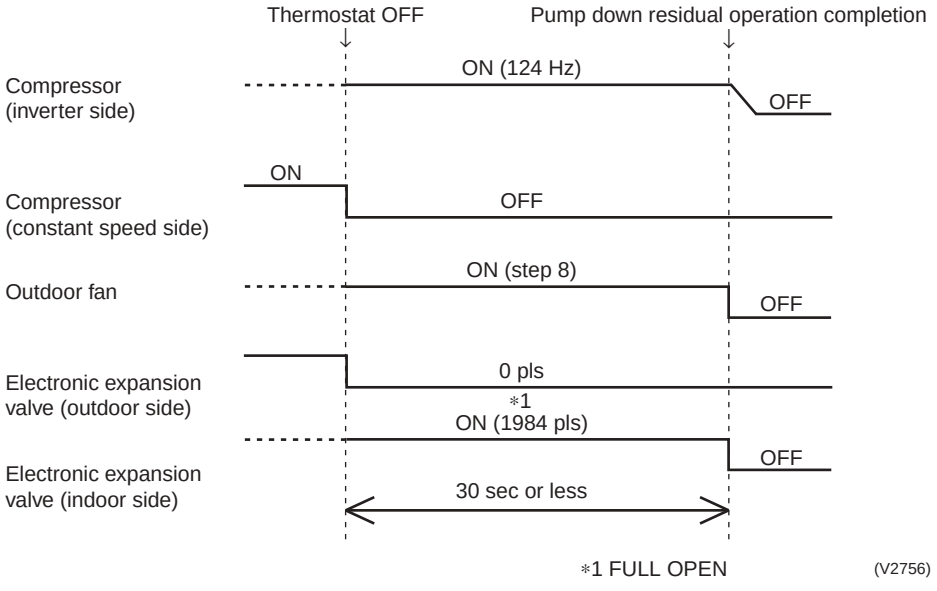


[Ending condition]

Residual operation will be ended with the condition of 30 seconds elapse after pump down residual operation started, or low pressure Pe < 0.1 MPa.

■ **In heating operation**

[Pump down control]



[Ending condition]

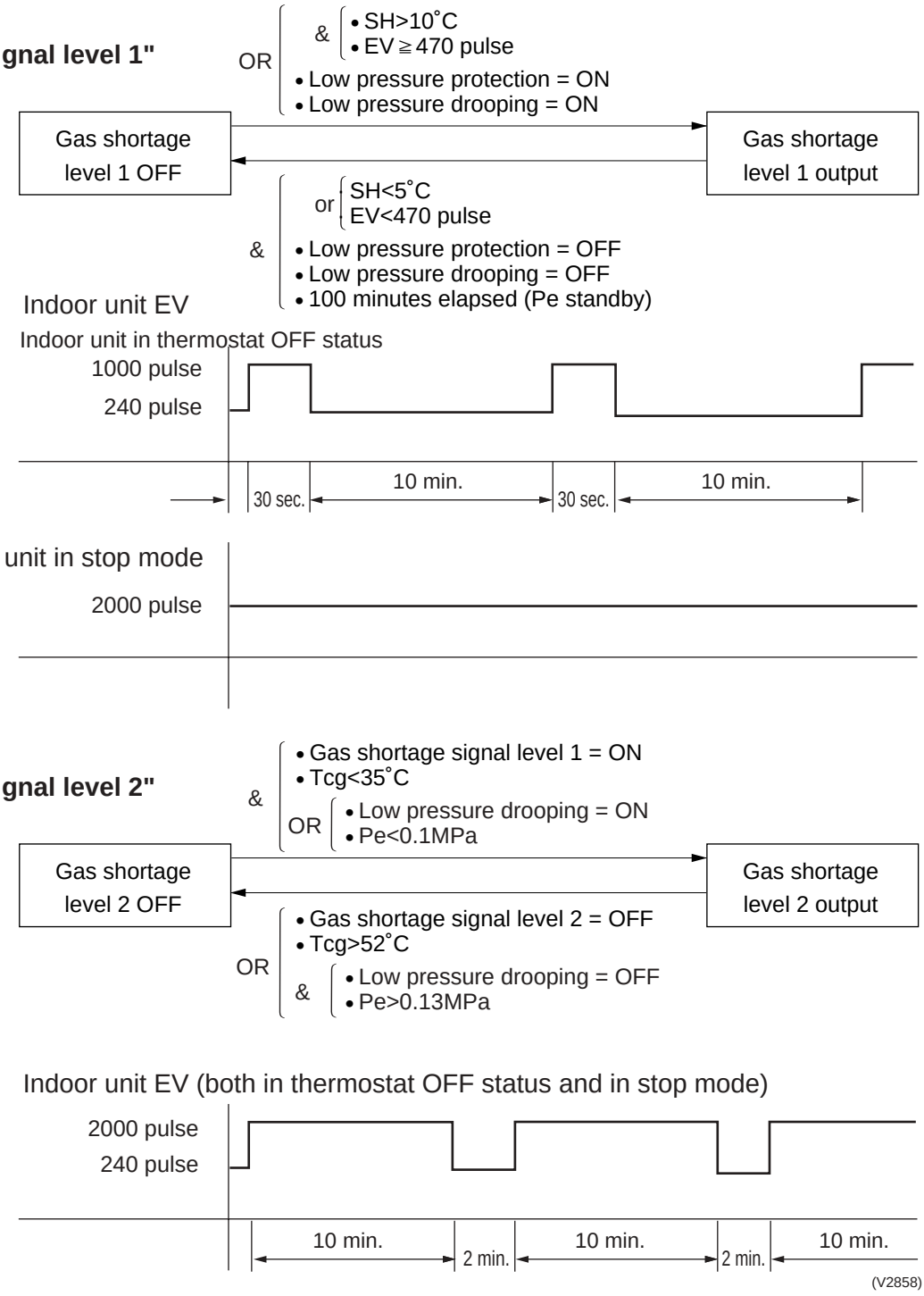
Residual operation will be ended with the condition of 30 seconds elapse after pump down residual operation started, or low pressure Pe < 0.02 MPa.

3.6 Signal Output Control

3.6.1 Gas shortage signal control (heating)

In heating operation, controls EV of indoor units in thermostat OFF status and in stop mode by judging gas shortage status on outdoor unit to output **"Gas shortage signal level 1, 2"** to the indoor unit.

"Gas shortage signal level 1"



"Gas shortage signal level 2"

(V2858)

3.6.2 Wet Permission Signal Control (Cooling)

When suction superheated degree (SH) is high with outdoor unit in cooling operation, controls the system to provide a wet tendency by outputting wet permission signal to the indoor unit and opening the indoor unit EV.

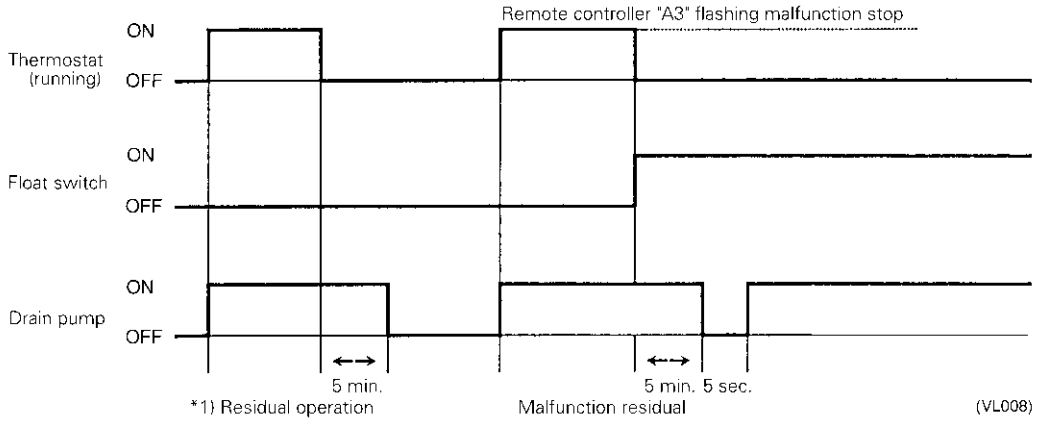
Furthermore, when the discharge pipe temperature is high, outputs the wet permission signal to control the discharge temperature.

4. Outline of Control (Indoor Unit)

4.1 Drain Pump Control

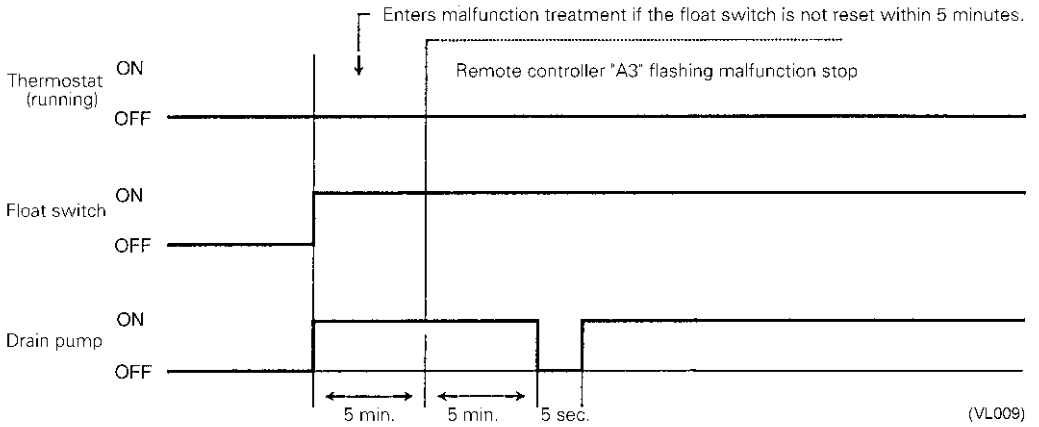
1. The drain pump is controlled by the ON/OFF buttons (4 button (1) - (4) given in the figure below).

4.1.1 When the Float Switch is Tripped While the Cooling Thermostat is ON:

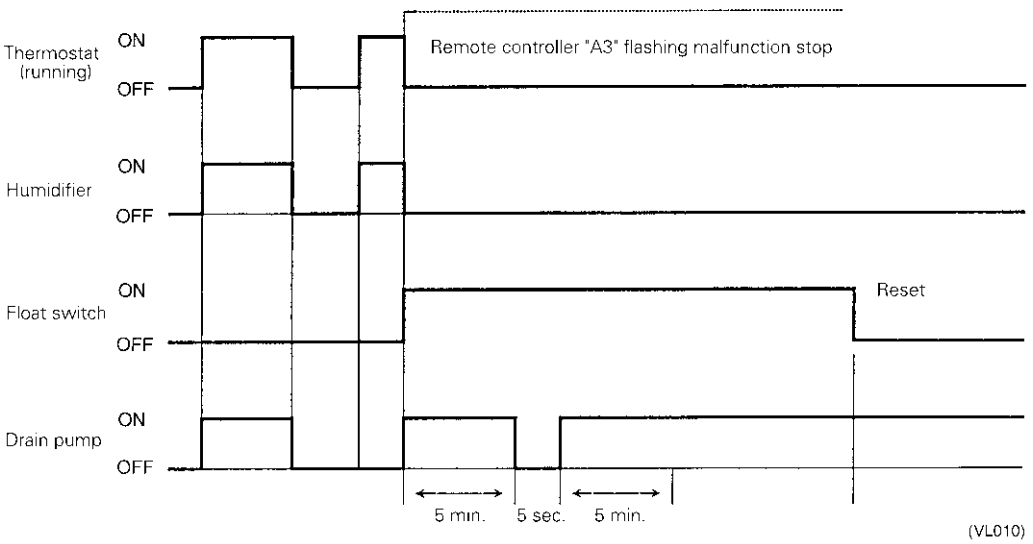


∗ 1. The objective of residual operation is to completely drain any moisture adhering to the fin of the indoor unit heat exchanger when the thermostat goes off during cooling operation.

4.1.2 When the Float Switch is Tripped During Cooling OFF by Thermostat:

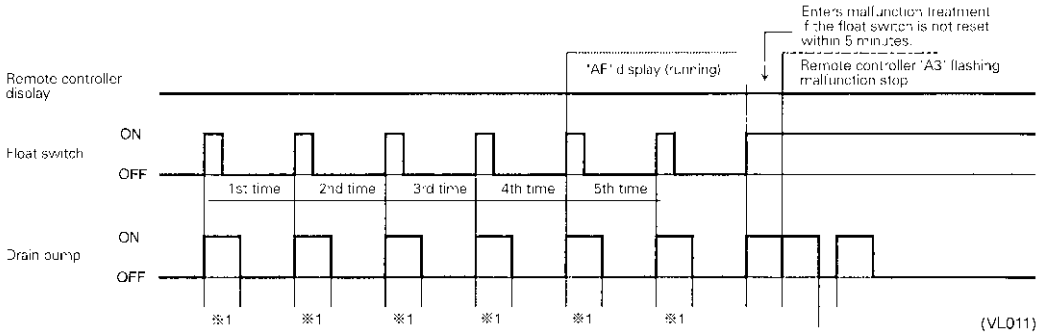


4.1.3 When the Float Switch is Tripped During Heating Operation:



During heating operation, if the float switch is not reset even after the 5 minutes operation, 5 seconds stop, 5 minutes operation cycle ends, operation continues until the switch is reset.

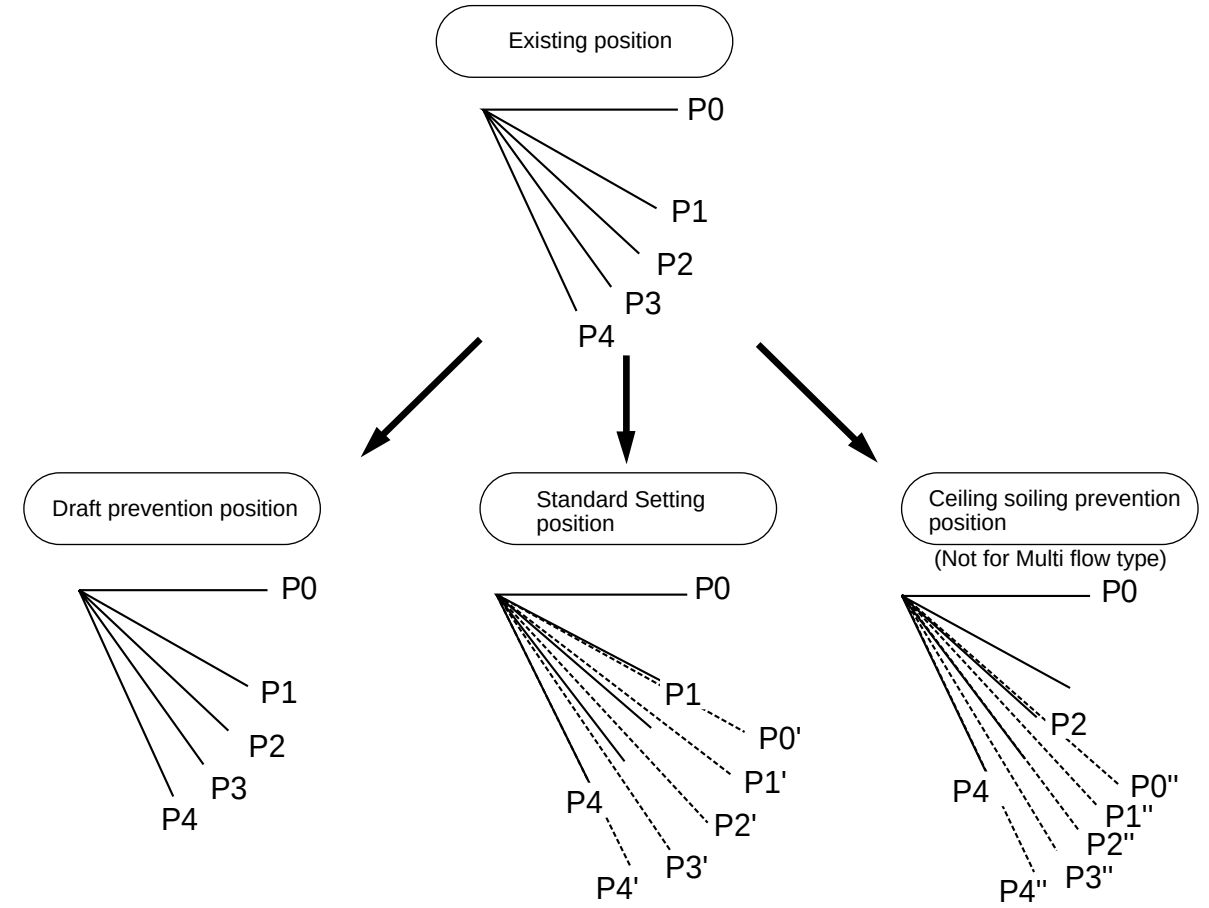
4.1.4 When the Float Switch is Tripped and “AF” is Displayed on the Remote Controller:



Note: If the float switch is tripped five times in succession, a drain malfunction is determined to have occurred. “AF” is then displayed as operation continues.

4.2 Louver Control for Preventing Ceiling Dirt

We have added a control feature that allows you to select the range of in which air direction can be adjusted in order to prevent the ceiling surrounding the air discharge outlet of ceiling mounted cassette type units from being soiled. (This feature is available on double flow, multiflow and corner types.)



Draft prevention position	P0	P1	P2	P3	P4	Same as existing position
		Range of direction adjustment				
Standard position	Prohibited	P0'	P1'	P2'	P3'	P4'	Separated into 5 positions (P1 - 4)
		Range of direction adjustment				
Dirt prevention position	Prohibited	P0''	P1''	P2''	P3''	P4''	Separated into 5 positions (P2 - 4)

The factory set position is standard position.

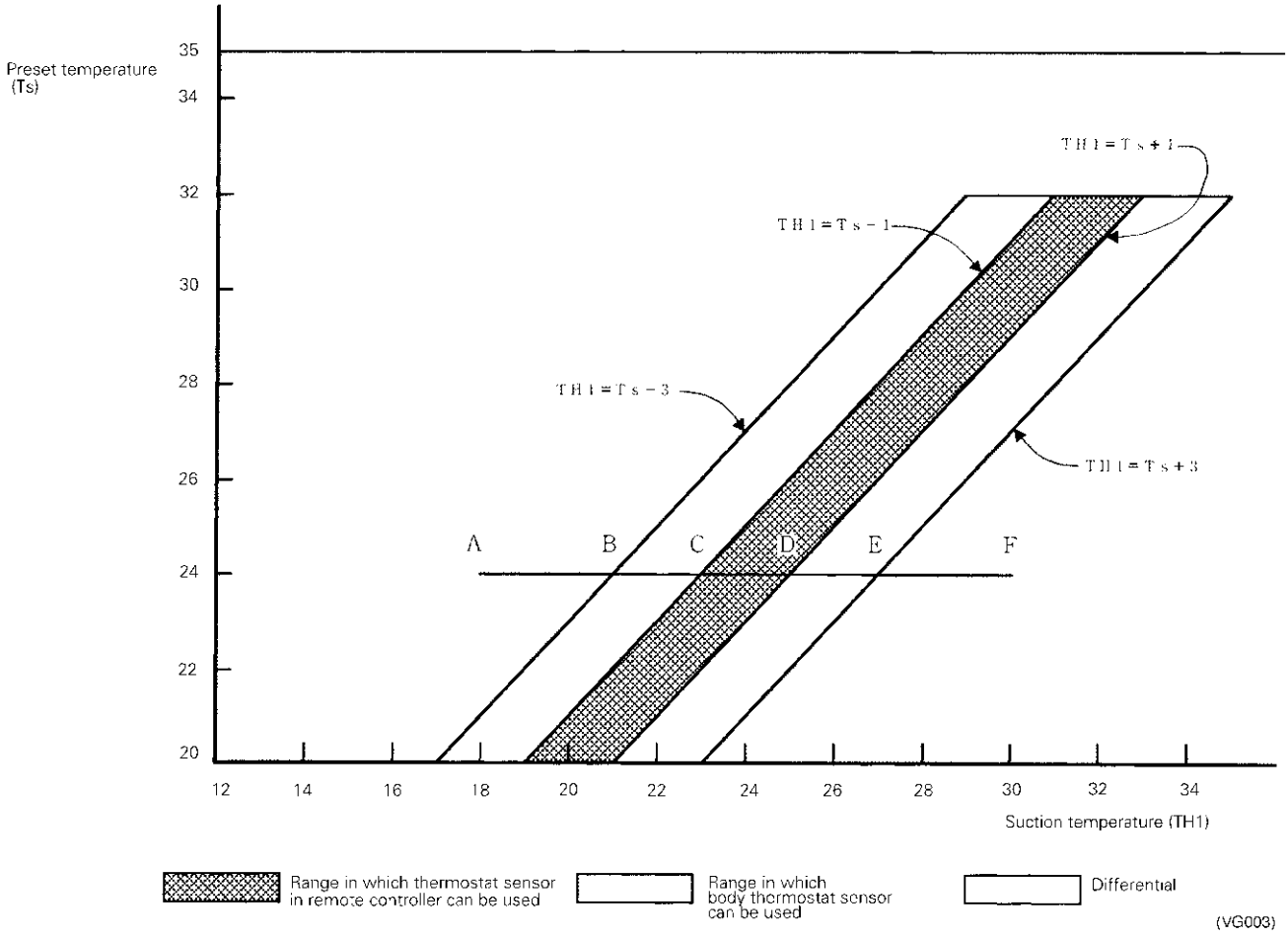
(VL012)

4.3 Thermostat Sensor in Remote Controller

Temperature is controlled by both the thermostat sensor in remote controller and air suction thermostat in the indoor unit. (This is however limited to when the field setting for the thermostat sensor in remote controller is set to “Use.”)

Cooling

If there is a significant difference in the preset temperature and the suction temperature, fine adjustment control is carried out using a body thermostat sensor, or using the sensor in the remote controller near the position of the user when the suction temperature is near the preset temperature.



■ **Ex: When cooling**

Assuming the preset temperature in the figure above is 24˚C, and the suction temperature has changed from 18˚C to 30˚C (A → F):

(This example also assumes there are several other air conditioners, the VRV system is off, and that temperature changes even when the thermostat sensor is off.)

Body thermostat sensor is used for temperatures from 18˚C to 23˚C (A → C).

Remote controller thermostat sensor is used for temperatures from 23˚C to 27˚C (C → E).

Body thermostat sensor is used for temperatures from 27˚C to 30˚C (E → F).

And, assuming suction temperature has changed from 30˚C to 18˚C (F → A):

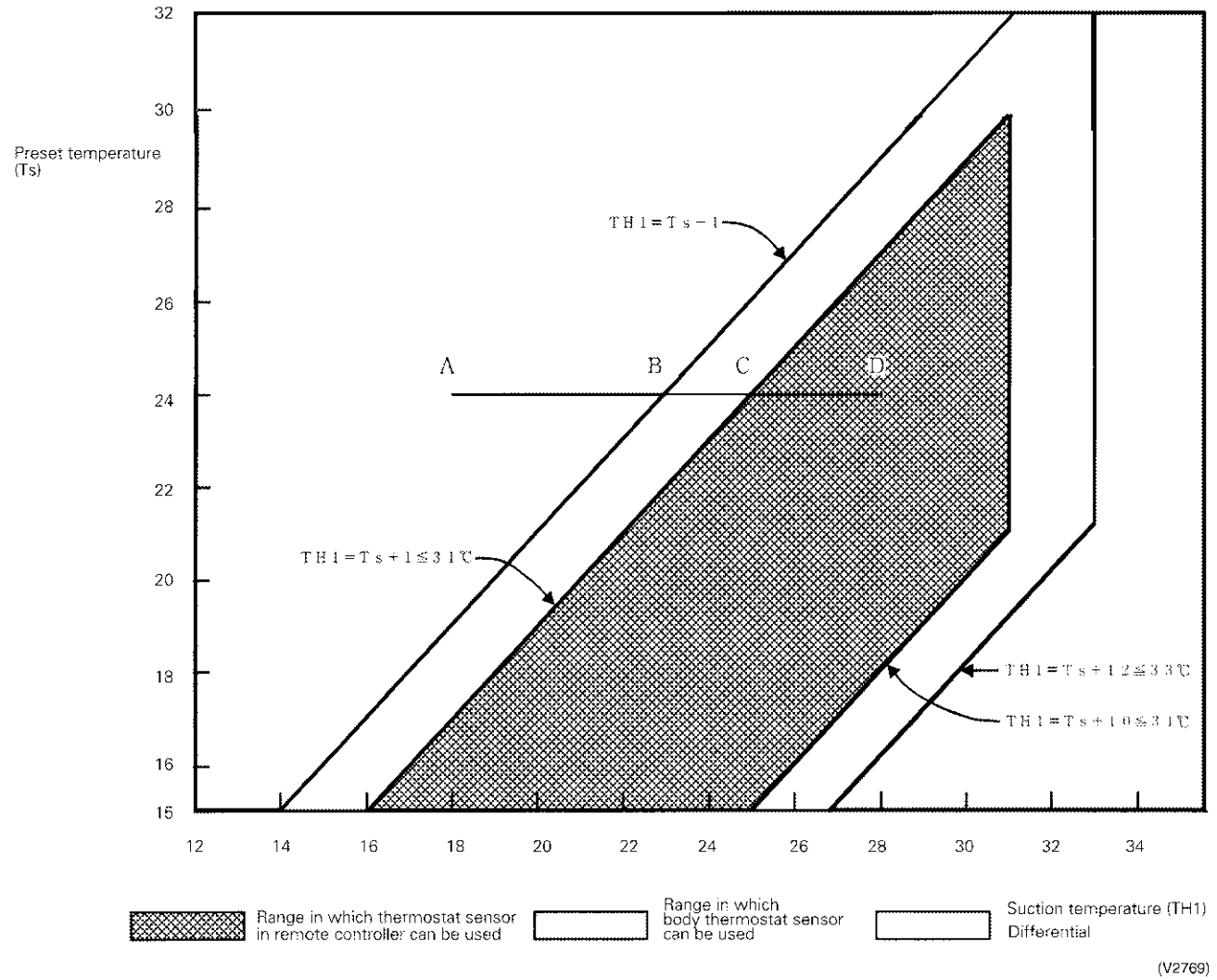
Body thermostat sensor is used for temperatures from 30˚C to 25˚C (F → D).

Remote controller thermostat sensor is used for temperatures from 25˚C to 21˚C (D → B).

Body thermostat sensor is used for temperatures from 21˚C to 18˚C (B → A).

Heating

When heating, the hot air rises to the top of the room, resulting in the temperature being lower near the floor where the occupants are. When controlling by body thermostat sensor only, the unit may therefore be turned off by the thermostat before the lower part of the room reaches the preset temperature. The temperature can be controlled so the lower part of the room where the occupants are doesn't become cold by widening the range in which thermostat sensor in remote controller can be used so that suction temperature is higher than the preset temperature.



■ **Ex: When heating**

Assuming the preset temperature in the figure above is 24˚C, and the suction temperature has changed from 18˚C to 28˚C (A → F):

(This example also assumes there are several other air conditioners, the VRV system is off, and that temperature changes even when the thermostat sensor is off.)

Body thermostat sensor is used for temperatures from 18˚C to 25˚C (A → C).

Remote controller thermostat sensor is used for temperatures from 25˚C to 28˚C (C → E).

And, assuming suction temperature has changed from 28˚C to 18˚C (D → A):

Remote controller thermostat sensor is used for temperatures from 28˚C to 23˚C (D → B).

Body thermostat sensor is used for temperatures from 23˚C to 18˚C (B → A).

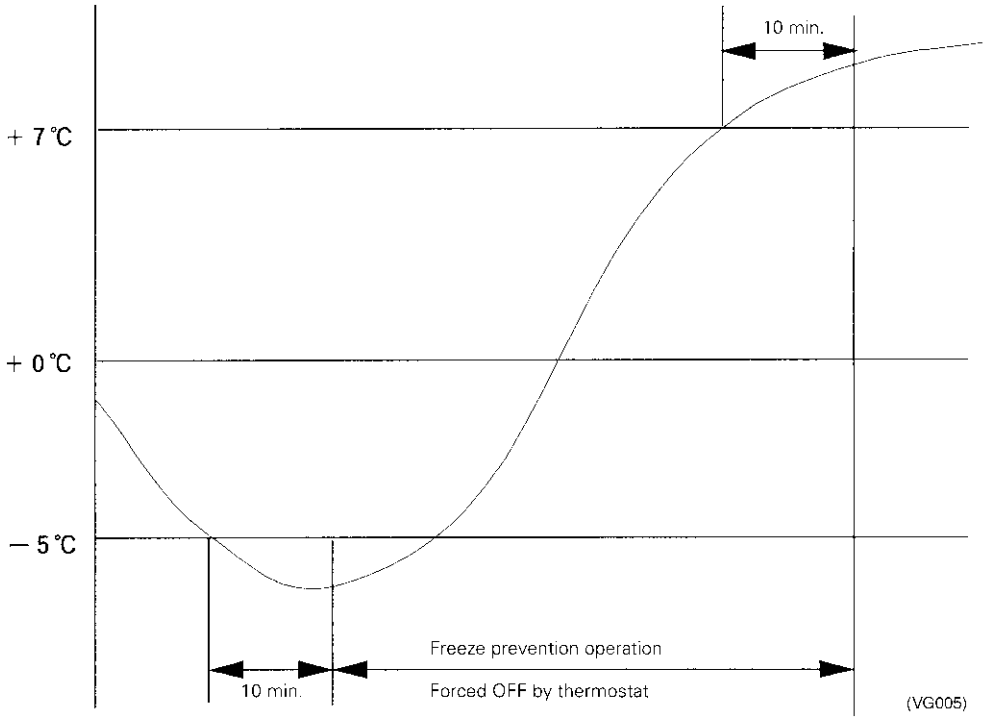
4.4 Freeze Prevention

Freeze Prevention by Off Cycle (Indoor Unit)

When the temperature detected by liquid pipe temperature thermistor (R2T) of the indoor unit heat exchanger drops too low, the unit enters freeze prevention operation in accordance with the following conditions, and is also set in accordance with the conditions given below.

Conditions for starting freeze prevention: Temperature is -1˚C or less for total of 40 min., or temperature is -5˚C or less for total of 10 min.
Conditions for stopping freeze prevention: Temperature is +7˚C or more for 10 min. continuously

Ex: Case where temperature is -5˚C or less for total of 10 min.



5. List of Electrical and Functional Parts

5.1 Outdoor Unit

5.1.1 RSXYP5~10LY1

Item	Name		Symbol	Model		
				RSXYP5LY1	RSXYP8LY1	RSXYP10LY1
Compressor	Inverter side	Type	M1C	JT1FAVDYR 3.9kW	JT1FAVDTYR 2.7kW	JT1FAVDTYR 2.75kW
		Output				
	Constant speed side	Type	M2C	—	JT125FATYE 3.0kW	JT170FATYE 4.5kW
		Output				
	Crank case heater		J1HC J2HC	33W 240V	33W+33W 240V	
	Magnetic switch Overcurrent relay (for M2C)		F2C	—	HOE-20F-TRA1 AC220V, 10A	HOE-20F-TRA1 AC220V, 13A
Fan motor	Fan motor		M1F, M2F	280W	280+300W	280+300W
	Overcurrent protection device		—	7 A (DC section)	7 A (DC section)	
Functional parts	Electronic expansion valve	Cooling	Y1E	In operation: 0 pulse (fully closed) In non-operation: 0 pulse (fully closed)		
		Heating		In operation: PI control In non-operation: 0 pulse (fully closed)		
	S.V. (for hot gas bypass)		Y1S	NEV202DXF		
	S.V. (for receiver gas purging)		Y2S	NEV202DXF		
	S.V. (for equalizing)		Y3R	—	NEV202DXF	
	4-way valve		Y1R	STF-0401	VH60100	
Pressure related device	Pressure switch (for HP protection)		S1PH	ACB-JB104 OFF : 3.25±$^{0.1}_{0.3}$MPa ON : 2.5±0.15MPa	ACB-1TB24W OFF : 3.25±$^{0.1}_{0.3}$MPa ON : 2.5±0.15MPa	
	Pressure switch (for HP protection)		S2PH	—	ACB-1TB24W OFF : 3.25±$^{0.1}_{0.3}$MPa ON : 2.5±0.15MPa	
	Fusible plug		—	FPGD-3D 70~75˚C		
	Pressure sensor		SENPH	PS8040A	PS8030A 0~3.3MPa	
	Pressure sensor		SENPL	PS8040A	PS8030A 0~0.98MPa	
Thermistor	Inverter PCB (for fin)		R1T	3.5~360Ω		
	Main PCB	For outdoor air	R1T	3.5~360Ω		
		For heat exchanger	R2T	3.5~360Ω		
		For discharge pipe	R3T	3.5~400Ω	—	
		For INV discharge pipe	R3-1T	—	3.5~400Ω	
		For STD discharge pipe	R3-2T	—	3.5~400Ω	
		For suction pipe	R4T	3.5~360Ω		
		Receiver gas pipe	R5T	3.5~360Ω	3.5~360Ω	
		Fuse (A2P)	F1U, F2U	250 VAC, 10 A, Class B		

5.1.2 RSXYP5~10LYL

Item	Name		Symbol	Model		
				RSXYP5LYL	RSXYP8LYL	RSXYP10LYL
Compressor	Inverter side	Type	M1C	JT1FAVDYR 3.9kW	JT1FAVDTYR 2.7kW	JT1FAVDTYR 2.75kW
		Output				
	Constant speed side	Type	M2C	—	JT125FATYH 3.0kW	JT170FATYH 4.5kW
		Output				
	Crank case heater		J1HC J2HC	33W 240V	33W+33W 240V	
	Magnetic switch Overcurrent relay (for M2C)		F2C	—	HOE-20F-TRA1 AC220V, 10A	HOE-20F-TRA1 AC220V, 13A
Fan motor	Fan motor		M1F, M2F	280W	280+300W	280+300W
	Overcurrent protection device		—	7 A (DC section)	7 A (DC section)	
Functional parts	Electronic expansion valve	Cooling	Y1E	In operation: 0 pulse (fully closed) In non-operation: 0 pulse (fully closed)		
		Heating		In operation: PI control In non-operation: 0 pulse (fully closed)		
	S.V. (for hot gas bypass)		Y1S	NEV202DXF		
	S.V. (for receiver gas purging)		Y2S	NEV202DXF		
	S.V. (for equalizing)		Y3R	—	NEV202DXF	
	4-way valve		Y1R	STF-0401	VH60100	
Pressure related device	Pressure switch (for HP protection)		S1PH	ACB-JB104 OFF : 3.25±$^{0.1}_{0.2}$MPa ON : 2.5±0.15MPa	ACB-1TB24W OFF : 3.25±$^{0.1}_{0.2}$MPa ON : 2.5±0.15MPa	
	Pressure switch (for HP protection)		S2PH	—	ACB-1TB24W OFF : 3.25±$^{0.1}_{0.2}$MPa ON : 2.5±0.15MPa	
	Fusible plug		—	FPGD-3D 70~75˚C		
	Pressure sensor		SENPH	PS8040A	PS8030A 0~3.3MPa	
	Pressure sensor		SENPL	PS8040A	PS8030A 0~0.98MPa	
Thermistor	Inverter PCB (for fin)		R1T	3.5~360Ω		
	Main PCB	For outdoor air	R1T	3.5~360Ω		
		For heat exchanger	R2T	3.5~360Ω		
		For discharge pipe	R3T	3.5~400Ω	—	
		For INV discharge pipe	R3-1T	—	3.5~400Ω	
		For STD discharge pipe	R3-2T	—	3.5~400Ω	
		For suction pipe	R4T	3.5~360Ω		
		Receiver gas pipe	R5T	3.5~360Ω	3.5~360Ω	
		Fuse (A2P)	F1U, F2U	250 VAC, 10 A, Class B		

5.1.3 RSXYP5~10LJY1

Item	Name		Symbol	Model		
				RSXYP5LJY1	RSXYP8LJY1	RSXYP10LJY1
Compressor	Inverter side	Type	M1C	JT1FAVDKYR@P 3.9kW	JT1FAVDKTYR@P 2.7kW	JT1FAVDKTYR@P 2.75kW
		Output				
	Constant speed side	Type	M2C	—	JT125FAKTYE 3.0kW	JT170FAKTYE 4.5kW
		Output				
	Crank case heater		J1HC J2HC	33W 240V	33W+33W 240V	
	Magnetic switch Overcurrent relay (for M2C)		F2C	—	HOE-20F-TRA1 AC220V, 10A	HOE-20F-TRA1 AC220V, 13A
Fan motor	Fan motor		M1F, M2F	280W	280+300W	280+300W
	Overcurrent protection device		—	7 A (DC section)	7 A (DC section)	
Functional parts	Electronic expansion valve	Cooling	Y1E	In operation: 0 pulse (fully closed) In non-operation: 0 pulse (fully closed)		
		Heating		In operation: PI control In non-operation: 0 pulse (fully closed)		
	S.V. (for hot gas bypass)		Y1S	NEV202DXF		
	S.V. (for receiver gas purging)		Y2S	NEV202DXF		
	S.V. (for equalizing)		Y3R	—	NEV202DXF	
	4-way valve		Y1R	STF-0401	VH60100	
Pressure related device	Pressure switch (for HP protection)		S1PH	ACB-1TB24W OFF : 3.25±$^{0}_{0.1}$MPa ON : 2.5±0.15MPa		
	Pressure switch (for HP protection)		S2PH	—	ACB-1TB24W OFF : 3.25±$^{0}_{0.1}$MPa ON : 2.5±0.15MPa	
	Fusible plug		—	FPGD-3D 70~75˚C		
	Pressure sensor		SENPH	PS8040A	PS8030A 0~3.3MPa	
	Pressure sensor		SENPL	PS8040A	PS8030A 0~0.98MPa	
Thermistor	Inverter PCB (for fin)		R1T	3.5~360Ω		
	Main PCB	For outdoor air	R1T	3.5~360Ω		
		For heat exchanger	R2T	3.5~360Ω		
		For discharge pipe	R3T	3.5~400Ω	—	
		For INV discharge pipe	R3-1T	—	3.5~400Ω	
		For STD discharge pipe	R3-2T	—	3.5~400Ω	
		For suction pipe	R4T	3.5~360Ω		
		Receiver gas pipe	R5T	3.5~360Ω	3.5~360Ω	
		Fuse (A2P)	F1U, F2U	250 VAC, 10 A, Class B		

5.2 Indoor Side

5.2.1 Indoor Unit

Parts Name		Symbol	Model								Remark
			FXF25 LVE	FXF32 LVE	FXF40 LVE	FXF50 LVE	FXF63 LVE	FXF80 LVE	FXF100 LVE	FXF125 LVE	
Remote Controller	Wired Remote Controller		BRC1A61								Option
	Wireless Remote Controller		BRC7E61W·BRC7E65								Option
Motors	Fan Motor	M1F	DC380V 30W 8P						DC 380V 120W 8P		
	Motor for Drain Pump	M1P	AC220-240V (50Hz) AC220V (60Hz) PLD12230DM								
	Swing Motor	M1S	MP35HCA[3P007482-1] Stepping Motor DC16V								
Thermistors	Thermistor (Suction Air)	R1T	In PCB A4P or wired remote controller								
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-5 ϕ8 L1000 20kΩ (25˚C)								
	Thermistor (Heat Exchanger)	R2T	ST8602A-5 ϕ6 L1000 20kΩ (25˚C)								
Others	Float Switch	33H	FS-0211								
	Fuse	F1U	250V 5A ϕ5.2								
	Thermal Fuse	TFu	—								
	Transformer	T1R	—								

Parts Name		Symbol	Model								Remark
			FXYCP 20KV1	FXYCP 25KV1	FXYCP 32KV1	FXYCP 40KV1	FXYCP 50KV1	FXYCP 63KV1	FXYCP 80KV1	FXYCP 125KV1	
Remote Controller	Wired Remote Controller		BRC1A61								Option
	Wireless Remote Controller		BRC7C62·67								Option
Motors	Fan Motor	M1F	AC 220~240V 50Hz								
			1ϕ10W	1ϕ15W		1ϕ20W		1ϕ30W	1ϕ50W	1ϕ85W	
			Thermal Fuse 152˚C				—	Thermal protector 135˚C : OFF 87˚C : ON			
	Motor for Drain Pump	M1P	AC220-240V (50Hz) Thermal Fuse 169˚C								
	Swing Motor	M1S	MT8-L[3PA07509-1] AC200~240V								
Thermistors	Thermistor (Suction Air)	R1T	ST8601-16 ϕ4 L1250 20kΩ (25˚C)								
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-6 ϕ8 L1250 20kΩ (25˚C)								
	Thermistor (Heat Exchanger)	R2T	ST8602-5 ϕ6 L1000 20kΩ (25˚C)								
Others	Float Switch	33H	FS-0211								
	Fuse	F1U	250V 5A ϕ5.2								
	Transformer	T1R	TR22M21R8								

Parts Name		Symbol	Model				Remark
			FXYKP 25KV1	FXYKP 32KV1	FXYKP 40KV1	FXYKP 63KV1	
Remote Controller	Wired Remote Controller		BRC1A61				Option
Motors	Fan Motor	M1F	AC 220~240V 50Hz				
			1φ15W 4P		1φ20W 4P	1φ45W 4P	
			Thermal Fuse 146˚C		Thermal protector 120˚C : OFF 105˚C : ON		
	Motor for Drain Pump	M1P	AC 220-240V (50Hz) Thermal Fuse 145˚C				
	Swing Motor	M1S	MT8-L[3PA07312-1] AC200~240V				
Thermistors	Thermistor (Suction Air)	R1T	ST8601-13 φ4 L630 20kΩ (25˚C)				
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-7 φ8 L1600 20kΩ (25˚C)				
	Thermistor (Heat Exchanger)	R2T	ST8602A-7 φ6 L1600 20kΩ (25˚C)				
Others	Float Switch	33H	FS-0211				
	Fuse	F1U	250V 5A φ5.2				
	Transformer	T1R	TR22M21R8				

Parts Name		Symbol	Model								Remark
			FXYSP 20KV1	FXYSP 25KV1	FXYSP 32KV1	FXYSP 40KV1	FXYSP 50KV1	FXYSP 63KV1	FXYSP 80KV1	FXYSP 100KV1	FXYSP 125KV1	
Remote Controller	Wired Remote Controller		BRC1A62									Option
Motors	Fan Motor	M1F	AC 220~240V 50Hz									
			1φ50W			1φ65W	1φ85W	1φ125 W	1φ135W		1φ225 W	
			Thermal Fuse 152˚C						Thermal protector 135˚C : OFF 87˚C : ON			
	Motor for Drain Pump	M1P	AC220-240V (50Hz) Thermal Fuse 169˚C									
Thermistors	Thermistor (Suction Air)	R1T	ST8601-4 φ4 L800 20kΩ (25˚C)									
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-7 φ8 L1600 20kΩ (25˚C)									
	Thermistor (Heat Exchanger)	R2T	ST8602-6 φ6 L1250 20kΩ (25˚C)									
Others	Float Switch	33H	FS-0211									
	Fuse	F1U	250V 10A φ5.2									
	Thermal Fuse	TFu	109˚C 10A									
	Transformer	T1R	TR22M21R8									

Parts Name		Symbol	Model								Remark
			FXYMP 40KV1	FXYMP 50KV1	FXYMP 63KV1	FXYMP 80KV1	FXYMP 100KV1	FXYMP 125KV1	FXYMP 200KV1	FXYMP 250KV1	
Remote Controller	Wired Remote Controller		BRC1A62								Option
Motors	Fan Motor	M1F	AC 220~240V 50Hz								
			1φ100W		1φ160W	1φ270W		1φ430W	1φ380W×2		
			Thermal protector 135˚C : OFF 87˚C : ON								
	Capacitor for Fan Motor	C1R	6μ F-400V		10μ F-400V				10μ F-400V	12μ F-400V	
Thermistors	Thermistor (Suction Air)	R1T	ST8601-5 φ4 L1000 20kΩ (25˚C)						ST8601-13 φ4 L630		
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-5 φ8 L1000 20kΩ (25˚C)						ST8605-5 φ8 L1000		
	Thermistor (Heat Exchanger)	R2T	ST8602-5 φ6 L1000 20kΩ (25˚C)						ST8602A-6 φ6 L1250		
Others	Fuse	F1U	250V 10A φ5.2						250V 10A		
	Transformer	T1R	TR22M21R8						TR22M21R8		

Parts Name		Symbol	Model			Remark
			FXYHP 32KVE	FXYHP 63KVE	FXYHP 100KVE	
Remote Controller	Wired Remote Controller		BRC1A61			Option
	Wireless Controller		BRC7C63W·68W			
Motors	Fan Motor	M1F	AC 220~240V/220V 50Hz/60Hz			
			1φ62W		1φ130W	
			Thermal protector 130˚C : OFF 80˚C : ON			
	Capacitor for Fan Motor	C1R	3.0μF-400V		9.0μF-400V	
	Swing Motor	M1S	MT8-L[3P058751-1] AC200~240V			
Thermistors	Thermistor (Suction Air)	R1T	ST8601-1 φ4 L250 20kΩ (25˚C)			
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-6 φ8 L = 1250 20kΩ (25˚C)		ST8605-6 φ8 L = 1250 20kΩ (25˚C)	
	Thermistor (Heat Exchanger)	R2T	ST8602-6 φ6 L = 1250 20kΩ (25˚C)		ST8602-6 φ6 L = 1250 20kΩ (25˚C)	
Others	Fuse	F1U	250V 5A φ5.2			
	Transformer	T1R	TR22H21R8			

Parts Name		Symbol	Model						Remark
			FXYAP 20KV1	FXYAP 25KV1	FXYAP 32KV1	FXYAP 40KV1	FXYAP 50KV1	FXYAP 63KV1	
Remote Controller	Wired Remote Controller		BRC1A61						Option
	Wireless Remote Controller		BRC7C510W·511W						Option
Motors	Fan Motor	M1F	AC 220~240V 50Hz						
			1φ23W				1φ37W		
			Thermal protector 130˚C : OFF 80˚C : ON						
	Capacitor for Fan Motor	C1R	1.5μF-400V				2μF-400V		
	Swing Motor	M1S	MT8-L[3SB40350-2] AC200~240V						
Thermistors	Thermistor (Suction Air)	R1T	ST8601-4 φ4 L800 20kΩ (25˚C)						
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-4 φ8 L800 20kΩ (25˚C)						
	Thermistor (for Heat Exchanger)	R2T	ST8602-4 φ6 L800 20kΩ (25˚C)						
Others	Float Switch	33H	FS-0211						
	Fuse	F1U	250V 10A φ5.2						
	Transformer	T1R	TR22M21R8						

Parts Name		Symbol	Model						Remark
			FXYLP20KV1	FXYLP25KV1	FXYLP32KV1	FXYLP40KV1	FXYLP50KV1	FXYLP63KV1	
Remote Controller	Wired Remote Controller		BRC1A62						Option
Motors	Fan Motor	M1F	AC 220~240V 50Hz						
			1φ15W		1φ25W		1φ45W		
			Thermal protector 135˚C : OFF 120˚C : ON						
	Capacitor for Fan Motor	C1R	1.2μF-400V		0.5μF-400V	1.2μF-400V	2μF-400V	2.5μF-400V	
Thermistors	Thermistor (Suction Air)	R1T	ST8601-6 φ4 L1250 20kΩ (25˚C)						
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-9 φ8 L2500 20kΩ (25˚C)						
	Thermistor (for Heat Exchanger)	R2T	ST8602-9 φ6 L2500 20kΩ (25˚C)						
Others	Fuse	F1U							
	Transformer	T1R	TR22M21R8						

Parts Name		Symbol	Model						Remark
			FXYLMP 20KV1	FXYLMP 25KV1	FXYLMP 32KV1	FXYLMP 40KV1	FXYLMP 50KV1	FXYLMP 63KV1	
Remote Controller	Wired Remote Controller		BRC1A62						Option
Motors	Fan Motor	M1F	AC 220~240V 50Hz						
			1φ15W		1φ25W		1φ45W		
			Thermal protector 135˚C : OFF 120˚C : ON						
	Capacitor for Fan Motor	C1R	1.2μF-400V		0.5μF-400V	1.2μF-400V	2μF-400V	2.5μF-400V	
Thermistors	Thermistor (Suction Air)	R1T	ST8601-6 φ4 L1250 20kΩ (25˚C)						
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-9 φ8 L2500 20kΩ (25˚C)						
	Thermistor (for Heat Exchanger)	R2T	ST8602-9 φ6 L2500 20kΩ (25˚C)						
Others	Fuse	F1U							
	Transformer	T1R	TR22M21R8						

Parts Name		Symbol	Model			Remark
			FUYP71BV1	FUYP100BV1	FUYP125BV1	
Remote Controller	Wired Remote Controller		BRC1A61			Option
	Wireless Remote Controller		BRC7C528W, 529W			Option
Motors	Fan Motor	M1F	AC 220~240V 50Hz			
			1ϕ45W	1ϕ90W	1ϕ90W	
			Thermal Protector PJV-0744 130˚C			
	Motor for Drain Pump	M1P	AC220-240V (50Hz)			
	Swing Motor	M1A	MT8-L[3PA07572-1] AC200~240V			
Thermistors	Thermistor (Suction Air)	R1T	ST8601-1 ϕ4 L=250 20kΩ (25˚C)			
	Thermistor (for Heat Exchanger High Temp.)	R3T	—			
	Thermistor (Heat Exchanger)	R2T	ST8602-4 ϕ6 L=800 20kΩ (25˚C)			
Others	Float Switch	33H	FS-0211			
	Fuse	F1U	250V 5A ϕ5.2			
	Transformer	T1R	—			

Parts Name		Symbol	Model		Remark
			BEV71KVE	BEV140KVE	
Thermistor	Thermistor (For Gus pipe)	R3T	ST8605-3 ϕ8 L=630 20kΩ (25˚C)		
	Fuse	F1U	250V 10A		

Part 4
Test Operation

1. Test Operation

1.1 Procedure and Outline

Follow the following procedure to conduct the initial test operation after installation.

1.1.1 Check work prior to turn power supply on

Check the below items.
- Power wiring
- Control transmission wiring between units
- Earth wire

⇩

Check on refrigerant piping

⇩

Check on amount of refrigerant charge

○ Is the wiring performed as specified?
○ Are the designated wires used?
○ Is the grounding work completed?
Use a 500V meger tester to measure the insulation.
- Do not use a meger tester for other circuits than 200V (or 240v) circuit.

○ Are the setscrews of wiring not loose?

○ Is pipe size proper? (The design pressure of this product is 3.3MPa.)
○ Are pipe insulation materials installed securely?
Liquid and gas pipes need to be insulated. (Otherwise causes water leak.)
○ Are respective stop valves on liquid and gas sides securely open?

○ Is refrigerant charged up to the specified amount?
If insufficient, charge the refrigerant from the service port of stop valve on the liquid side with outdoor unit in stop mode after turning power on.
○ Has the amount of refrigerant charge been recorded on “Record Chart of Additional Refrigerant Charge Amount”?

(V2845)

1.1.2 Turn power on

Turn outdoor unit power on.

⇩

Carry out field setting on outdoor PC board

⇩

Turn indoor unit power on.

○ Be sure to turn the power on 6 hours before starting operation to protect compressors. (to power on clankcase heater)

○ For field settings, refer to “Field Settings” on and after P79.
After the completion of field settings, set to “Setting mode 1”.

(V2757)

1.1.3 Test Operation

● RSXYP5~10L

Press and hold the TEST OPERATION button (BS4) on outdoor unit PC board for 5 seconds.

⇩

Check on operation

○ The test operation is started automatically.
The following judgements are conducted within 15 minutes.
- “Check for wrong wiring”
- “Check refrigerant for over charge”
- “Check stop valve for not open”
- Pipe length automatic judgement”

The following indications are conducted while in test operation.
- LED lamp on outdoor unit PC board— H2P flickers (test operation)
- Remote controller — Indicates “On Centralized Control” on upper right.
  Indicates “Test Operation” on lower left

(V2758)

1.2 Operation When Power is Turned On

1.2.1 When Turning On Power First Time

The unit cannot be run for up to 12 minutes to automatically set the master power and address (indoor-outdoor address, etc.).

Status

Outdoor unit	Test lamp H2P .... Blinks Can also be set during operation described above.
Indoor unit	If ON button is pushed during operation described above, the “UH” malfunction indicator blinks. (Returns to normal when automatic setting is complete.)

1.2.2 When Turning On Power The Second Time and Subsequent

Tap the RESET button on the outdoor unit PC board. Operation becomes possible for about 2 minutes. If you do not push the RESET button, the unit cannot be run for up to 10 minutes to automatically set master power.

Status

Outdoor unit	Test lamp H2P .... Blinks Can also be set during operation described above.
Indoor unit	If ON button is pushed during operation described above, the operation lamp lights but the compressor does not operate. (Returns to normal when automatic setting is complete.)

1.2.3 When an Indoor Unit or Outdoor unit Has Been Added, or Indoor or Outdoor Unit PC Board Has Been Changed

Be sure to pus and hold the RESET button for 5 seconds. If not, the addition cannot be recognized. In this case, the unit cannot be run for up to 12 minutes to automatically set the address (indoor-outdoor address, etc.)

Status

Outdoor unit	Test lamp H2P .... ON Can also be set during operation described above.
Indoor unit	If ON button is pushed during operation described above, the “UH” or “U4” malfunction indicator blinks. (Returns to normal when automatic setting is complete.)

Caution

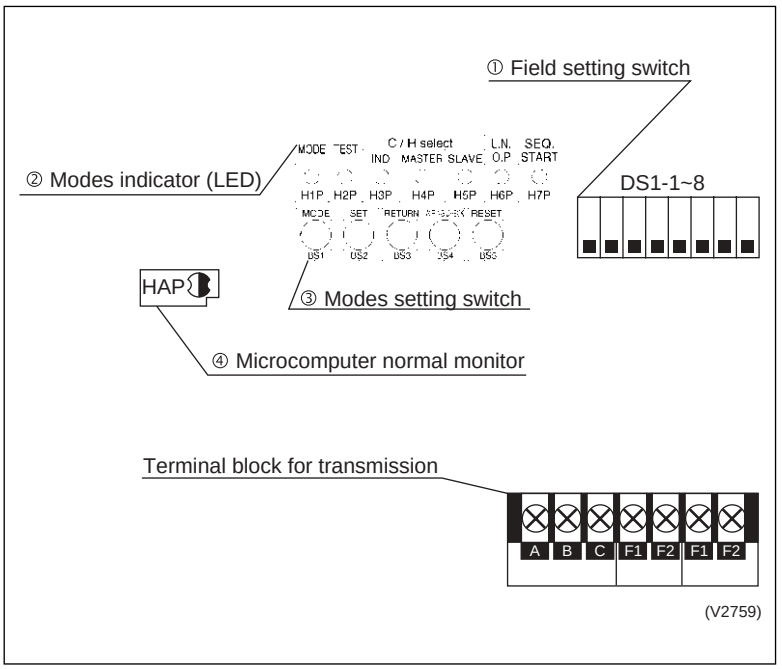
When the 400 volt power supply is applyed to "N" phase by mistake, replace Inverter P.C.B (A2P) and control transformer (T1R, T2R) in switch box together.

(V0847)

1.3 Field setting from Outdoor unit

1.3.1 Outdoor Unit PC Board Layout

■ **RSXYP5~10L**

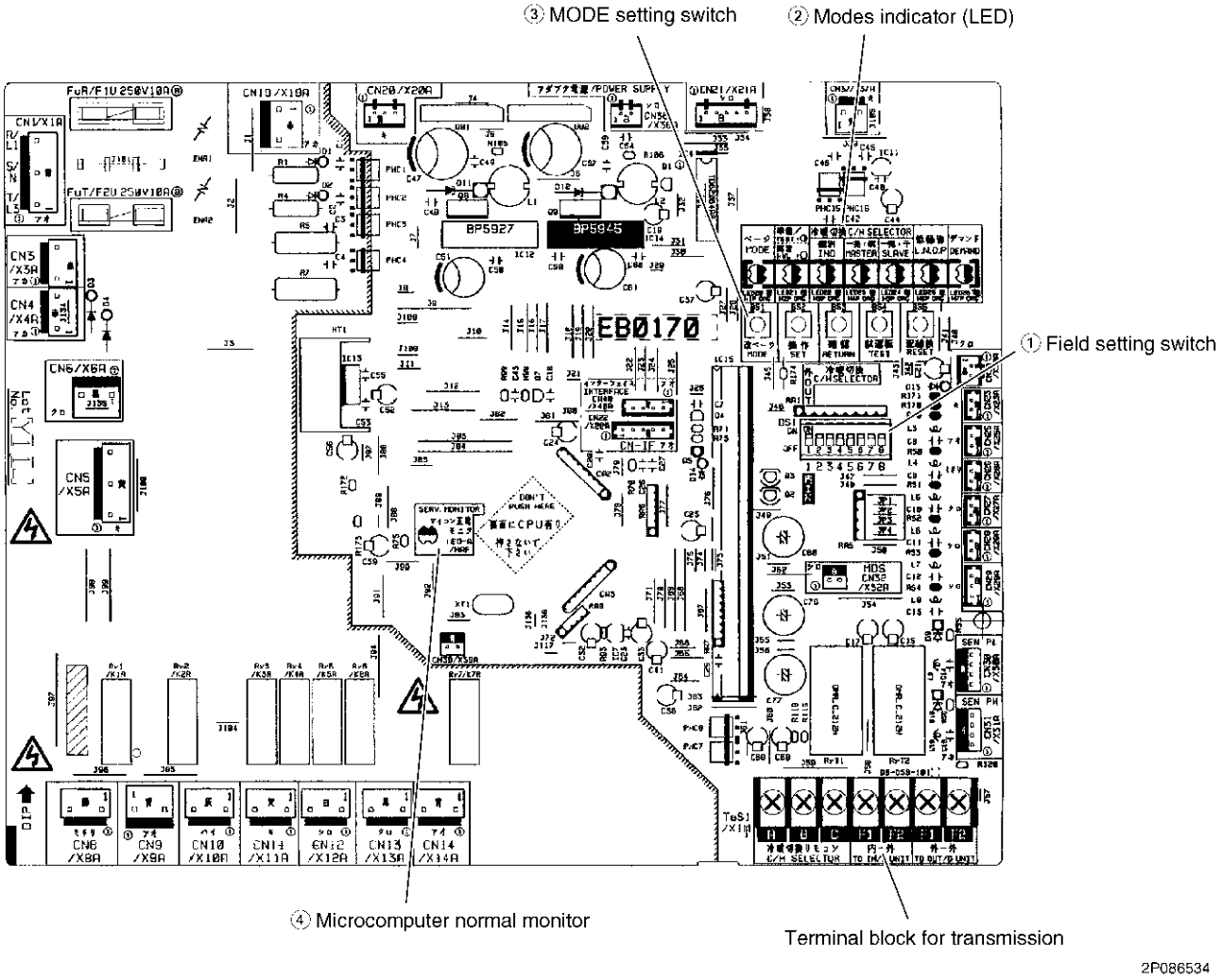


① Field setting switch (DS1-1)
Used to carry out the field settings.

② Modes indicator (LED)
Indicates the modes by 7 LED displays based on the set mode.

③ Modes setting switch
Used to change the mode.

④ Microcomputer normal monitor
Blinks when the microcomputer is functioning normally, and lights or off when the microcomputer is functioning abnormally.



1.3.2 Field Setting From Outdoor Unit

RSXYP5~10L

■ **Setting by dip switches (RSXYP5~10L)**

The following field settings are made by dipswitches on PC board.

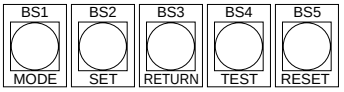
Dipswitch		Setting item	Description
No.	Setting		
DS1-1	ON	Cool/Heat select	Used to set cool/heat select by remote controller equipped with outdoor unit.
	OFF (Factory		
DS1-2	ON	Sequential startup prohibition	Used to set if the sequential startup of outdoor unit is not carried out.
	OFF (Factory		
DS1-3	ON	External low noise Demand	Used to set low-noise or demand control by external demand input. Change the modes by “Setting mode 2” if required.
	OFF (Factory		
DS1-4	ON	High static pressure	Used for operation in high static pressure mode with air discharge duct installed.
	OFF (Factory		
DS1-7	ON	Capacity	Used to set based on the table shown right when mounting a spare PC
	OFF		
DS1-8	ON		
	OFF		

	5L	8L	10L
DS1-7	ON	OFF	ON
DS1-8	OFF	ON	ON

★ DS1-5 and DS1-6 are not used. Do not change the factory settings.

■ **Setting by pushbutton switches**

The following settings are made by pushbutton switches on PC board.



(V2760)

There are the following three setting modes.

① **Setting mode 1 (H1P off)**

Initial status (when normal) : Used to select the cool/heat setting. Also indicates during “abnormal”, “low noise control” and “demand control”.

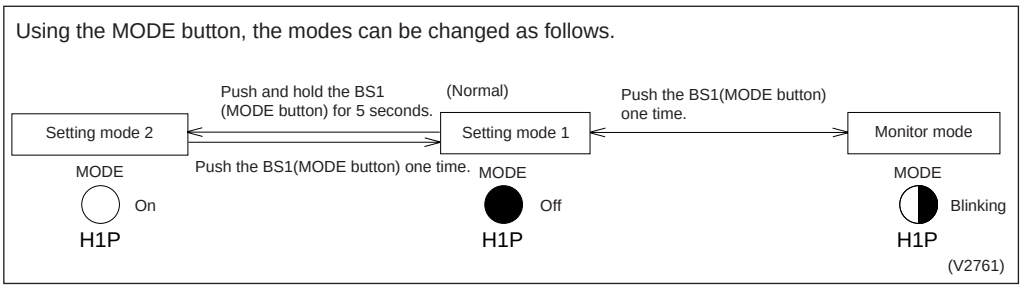
② **Setting mode 2 (H1P on)**

Used to modify the operating status and to set program addresses, etc. Usually used in servicing the system.

③ **Monitor mode (H1P blinks)**

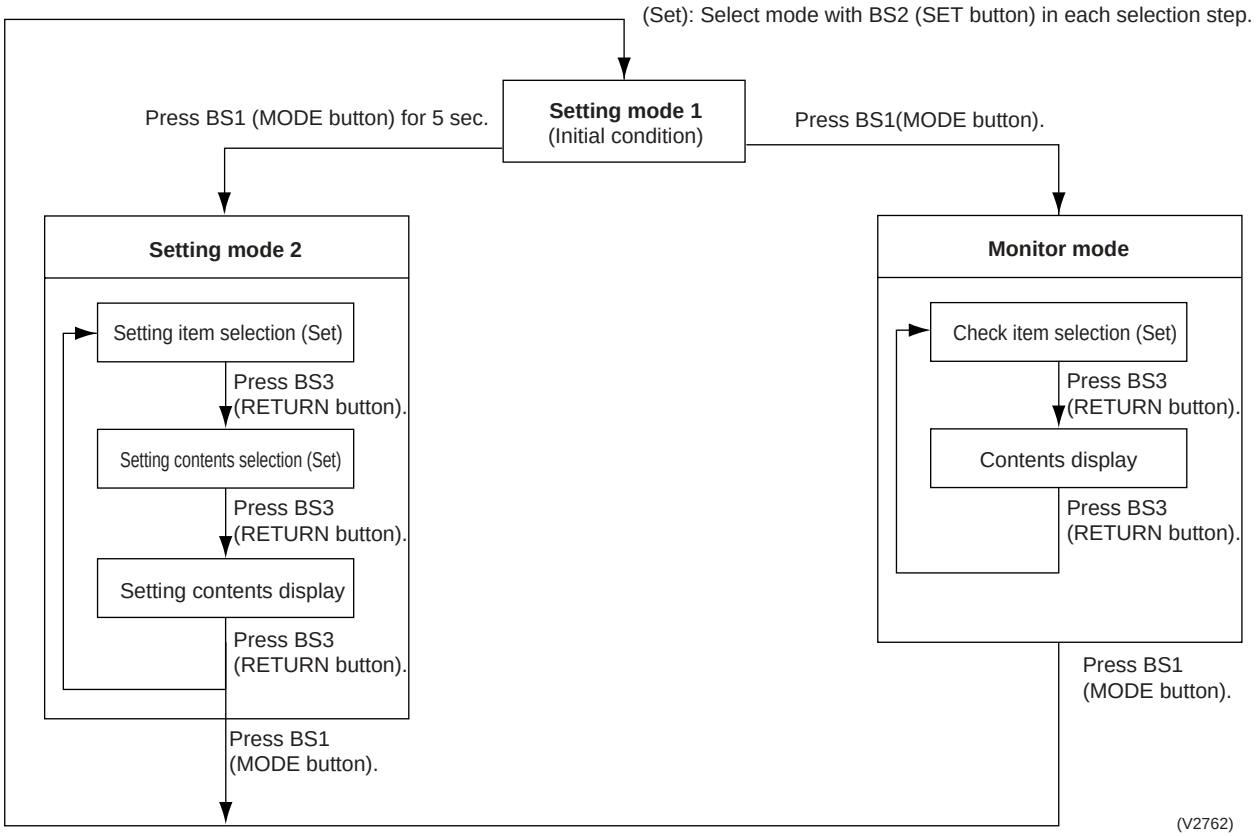
Used to check the program made in Setting mode 2.

■ **Mode changing procedure**



(V2761)

■ **Mode changing procedure**



a. “Setting mode 1”

“Normally, “Setting mode 1” is set. In case of other status, push MODE button (BS1) one time and set to “Setting mode 1”.

<Selection of setting items>

Push the SET button (BS2) and set LED display to a setting item you want.

- Regarding setting item No. 1,5,6, only the present status is displayed. For the respective description, refer to the table shown on lower right.
- The cool/heat selection setting can be changed on setting item 2, 3, 4.
  → After setting, push the RETURN button (BS3) and decide the item.

When the RETURN button (BS3) is pushed, the status becomes the initial status of “Setting mode 1”.

(V2763)

No.	Setting (displaying) item	LED display example						
		H1P	H2P	H3P	H4P	H5P	H6P	H7P
1	Display for malfunction / preparing / test run	●	●	○	●	●	●	●
2	C/H selector (individual)	●	●	○	●	●	●	●
3	C/H selector (Master)	●	●	●	○	●	●	●
4	C/H selector (Slave)	●	●	●	●	○	●	●
5	Low noise operation	●	●	○	●	●	●	●
6	Demand operation	●	●	○	●	●	●	●

Display for malfunction/preparing/test-run

Normal	●	●	○	●	●	●	●
Malfunction	●	○	○	●	●	●	●
Preparing/Test-run	●	◑	○	●	●	●	●

Display during low noise operation

Normal	●	●	○	●	●	●	●
During low noise operation	●	●	○	●	●	○	●

Display during demand operation

Normal	●	●	○	●	●	●	●
During demand operation	●	●	○	●	●	●	○

○ : ON
● : OFF
◑ : Blinking

b. “Setting mode 2”

Push and hold the MODE button (BS1) for 5 seconds and set to “Setting mode 2”.

<Selection of setting items>

Push the SET button (BS2) and set the LED display to a setting item shown in the table on the right.
↓
Push the RETURN button (BS3) and decide the item. (The present setting condition is blinked.)

<Selection of setting conditions>

Push the SET button (BS2) and set to the setting condition you want.
↓
Push the RETURN button (BS3) and decide the condition.

Push the RETURN button (BS3) and set to the initial status of “Setting mode 2”.

∗ If you become unsure of how to proceed, push the MODE button (BS1) and return to setting mode 1.

(V2764)

No.	Setting item	Description
0	EMG (Emergency operation 1)	Operates by Standard compressor only when inverter compressor malfunctions. Temporary operation until the compressor is replaced. Since the comfortability is extremely deteriorated, immediately replace the compressor. (This setting is not applicable to RSXYP5L.)
1	Cool/heat unified address	Sets address for cool/heat unified operation.
2	Low noise/demand address	Address for low noise/demand operation
5	Indoor unit forced fan H	Allows forced operation of indoor unit fan while unit is stopped. (H tap)
6	Indoor unit forced operation	Allows forced operation of indoor unit.
8	Te setting	Target evaporation temperature for cooling
9	Tc setting	Target condensation temperature for heating
10	Defrost changeover setting	Changes the temperature condition for defrost and sets to quick defrost or slow defrost.
13	AIRNET address	Set address for AIRNET.
19	Backup operation setting	Operates by Standard compressor only when inverter compressor malfunctions. Temporary operation until the compressor is replaced. Since the comfortability is extremely deteriorated, immediately replace the compressor. (This setting is not applicable to RSXYP5L.)
20	Additional refrigerant charge operation setting	Carries out additional refrigerant charge operation.
21	Refrigerant collection mode setting	Sets to refrigerant collection mode.
22	Night-time low noise setting	Sets automatic nighttime low noise operation in a simple way. The operating time is based on “Starting set” and “Ending set”.
25	Low noise setting	Sets low noise level when the low noise signal is input from outside.
26	Night-time low noise control starting setting	Sets starting time of nighttime low noise operation. (Nighttime low noise setting is also required.)
27	Night-time low noise control ending setting	Sets ending time of nighttime low noise operation. (Nighttime low noise setting is also required.)
28	Power transiator check mode ∗Check after disconnection of compressor wires	Used for trouble diagnosis of DC compressor. Since the waveform of inverter is output without wiring to the compressor, it is convenient to probe whether the trouble comes from the compressor or PC board. (This setting is applicable to RSXYP5~10L only.)
29	Capacity precedence setting	If the capacity control is required, the low noise control is automatically released by this setting during carrying out low noise operation and nighttime low noise operation.
30	Demand setting 1	Changes target value of power consumption when demand control 1 is input.
31	Demand setting 2	Changes target value of power consumption when demand control 2 is input.
32	Normal demand setting	Normally enables demand control 1 without external input. (Effective to prevent a problem that circuit breaker of small capacity is shut down due to large load.

No.	Setting item display								Setting condition display		
	Setting item	MODE H1P	TEST H2P	C/H selection			Low noise H6P	Demand H7P			
				IND H3P	Master H4P	Slave H5P					
0	EMG (emergency operation 1)	○	●	●	●	●	●	●	Normal operation		○ ● ● ● ● ● ○
									Emergency operation		○ ● ● ● ● ○ ●
1	Cool / Heat Unified address	○	●	●	●	●	●	○	Address (6 digits)	0	○ ● ● ● ● ● ●
									Binary number	1	○ ● ● ● ● ● ○
										~	
										31	○ ● ○ ○ ○ ○ ○
2	Low noise/demand address	○	●	●	●	●	○	●	Address (6 digits)	0	○ ● ● ● ● ● ●
									Binary number	1	○ ● ● ● ● ● ○
										~	
										31	○ ● ○ ○ ○ ○ ○
5	Indoor forced fan H	○	●	●	●	○	●	○	Normal operation		○ ● ● ● ● ● ○
									Indoor forced fan H		○ ● ● ● ● ○ ●
6	Indoor forced operation	○	●	●	●	○	○	●	Normal operation		○ ● ● ● ● ● ○
									Indoor forced operation		○ ● ● ● ● ○ ●
8	Te setting	○	●	●	○	●	●	●	High		○ ● ● ● ○ ● ●
									Normal (factory setting)		○ ● ● ● ● ○ ●
									Low		○ ● ● ● ● ● ○
9	Tc setting	○	●	●	○	●	●	○	High		○ ● ● ● ○ ● ●
									Normal (factory setting)		○ ● ● ● ● ○ ●
									Low		○ ● ● ● ● ● ○
10	Defrost setting	○	●	●	○	●	○	●	Quick defrost		○ ● ● ● ○ ● ●
									Normal (factory setting)		○ ● ● ● ● ○ ●
									Slow defrost		○ ● ● ● ● ● ○
13	Airnet address	○	●	●	○	○	●	○	Address (6 digits)	0	○ ● ● ● ● ● ●
									Binary number	1	○ ● ● ● ● ● ○
										~	
										63	○ ● ○ ○ ○ ○ ○
19	Backup operation setting	○	●	○	●	●	○	○	Normal operation		○ ● ● ● ● ● ○
									Backup operation		○ ● ● ● ● ○ ●
20	Additional refrigerant operation setting	○	●	○	●	○	●	●	Refrigerant charging: OFF		○ ● ● ● ● ● ○
									Refrigerant charging: ON		○ ● ● ● ● ○ ●
21	Refrigerant recovery mode setting	○	●	○	●	○	●	○	Refrigerant recovery: OFF		○ ● ● ● ● ● ○
									Refrigerant recovery: ON		○ ● ● ● ● ○ ●
22	Night-time low noise setting	○	●	○	●	○	○	●	OFF		○ ● ● ● ● ● ●
									Level 1 (outdoor fan with 6		○ ● ● ● ● ● ○
									Level 2 (outdoor fan with 5		○ ● ● ● ● ○ ●
									Level 3 (outdoor fan with 4		○ ● ● ● ● ○ ○
25	Low noise setting	○	●	○	○	●	●	○	Level 1 (outdoor fan with 6		○ ● ● ● ● ● ○
									Level 2 (outdoor fan with 5		○ ● ● ● ● ○ ●
									Level 3 (outdoor fan with 4		○ ● ● ● ○ ● ●
26	Night-time low noise operation start setting	○	●	○	○	●	○	●	About 20:00		○ ● ● ● ● ● ○
									About 22:00 (factory		○ ● ● ● ● ○ ●
									About 24:00		○ ● ● ● ○ ● ●
27	Night-time low noise operation end setting	○	●	○	○	●	○	○	About 6:00		○ ● ● ● ● ● ○
									About 7:00		○ ● ● ● ● ○ ●
									About 8:00 (factory		○ ● ● ● ○ ● ●
28	Power transistor check mode	○	●	○	○	○	●	●	OFF		○ ● ● ● ● ● ○
									ON		○ ● ● ● ● ○ ●
29	Capacity precedence setting	○	●	○	○	○	●	○	OFF		○ ● ● ● ● ● ○
									ON		○ ● ● ● ● ○ ●

No.	Setting item display								Setting condition display	
	Setting item	MODE H1P	TEST H2P	C/H selection			Low noise H6P	Demand H7P		
				IND H3P	Master H4P	Slave H5P				
30	Demand setting 1	○	●	○	○	○	○	●	60 % demand	○ ● ● ● ● ● ○
									70 % demand	○ ● ● ● ● ○ ●
									80 % demand	○ ● ● ● ○ ● ●
31	Demand setting 2	○	●	○	○	○	○	○	30 % demand	○ ● ● ● ● ● ○
									40 % demand	○ ● ● ● ● ○ ●
									50 % demand	○ ● ● ● ○ ● ●
32	Continuous demand setting	○	○	●	●	●	●	●	OFF	○ ● ● ● ● ● ○
									Continuous demand 1 fix	○ ● ● ● ● ○ ●
									Continuous demand 2 fix	○ ● ● ● ○ ● ●

c. Monitor mode

To enter the monitor mode, push the MODE button (BS1) when in "Setting mode 1".

<Selection of setting item>

Push the SET button (BS2) and set the LED display to a setting item.

<Confirmation on setting contents>

Push the RETURN button (BS3) to display different data of set items.

Push the RETURN button (BS3) and switches to the initial status of "Monitor mode".

* Push the MODE button (BS1) and returns to "Setting mode 1".

(V2765)

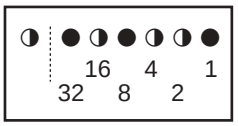
No.	Setting item	LED display							Data display
		H1P	H2P	H3P	H4P	H5P	H6P	H7P	
1	Number of units for sequential starting, and others	○	●	●	●	●	●	●	See below
2	C/H unified address	○	●	●	●	●	●	○	Lower 6 digits
3	Low noise/demand address	○	●	●	●	●	○	●	
4	Not used	○	●	●	●	●	○	○	
5	Airnet address	○	●	●	●	○	●	●	
6	Number of connected indoor units	○	●	●	●	○	●	○	
7	Number of connected BS units	○	●	●	●	○	○	●	
8	Number of connected zone units (excluding outdoor and BS unit)	○	●	●	●	○	○	○	
9	Number of outdoor units	○	●	●	○	●	●	●	
10	Number of connected BS units	○	●	●	○	●	●	○	Lower 4 digits: upper
11	Number of connected BS units	○	●	●	○	●	○	●	Lower 4 digits: lower
12	Number of zone units (excluding outdoor and BS unit)	○	●	●	○	●	○	○	Lower 6 digits
13	Number of terminal blocks	○	●	●	○	○	●	●	Lower 4 digits: upper
14	Number of terminal blocks	○	●	●	○	○	●	○	Lower 4 digits: lower
15	Contents of malfunction (the latest)	○	●	●	○	○	○	●	Malfunction code table
16	Contents of malfunction (1 cycle before)	○	●	●	○	○	○	○	
17	Contents of malfunction (2 cycles before)	○	●	○	●	●	●	●	
18	Contents of retry (the latest)	○	●	○	●	○	●	●	
19	Contents of retry (1 cycle before)	○	●	○	●	○	●	○	
20	Contents of retry (2 cycles before)	○	●	○	●	○	○	●	

Setting item 1 Display contents of "Number of units for sequential start, and others"

Number of units for sequential start	1 unit	◑	●	●	●	●	●	●
	2 units	◑	●	◑	●	●	●	●
	3 units	◑	●	○	●	●	●	●
EMG operation /backup operation setting	ON	◑	●	●	○	●	●	●
	OFF	◑	●	●	●	●	●	●
Defrost select setting	Short	◑	●	●	●	○	●	●
	Medium	◑	●	●	●	◑	●	●
	Long	◑	●	●	●	●	●	●
Te setting	H	◑	●	●	●	●	○	●
	M	◑	●	●	●	●	◑	●
	L	◑	●	●	●	●	●	●
Tc setting	H	◑	●	●	●	●	●	○
	M	◑	●	●	●	●	●	◑
	L	◑	●	●	●	●	●	●

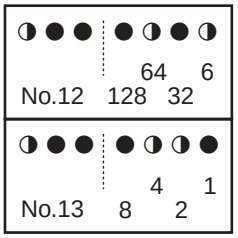
Push the SET button and match with the LEDs No. 1 - 15, push the RETURN button, and enter the data for each setting.

★ Data such as addresses and number of units is expressed as binary numbers; the two ways of expressing are as follows:



The No. 1 cool/heat unified address is expressed as a binary number consisting of the lower 6 digits. (0 - 63)

In ① the address is 010110 (binary number), which translates to 16 + 4 + 2 = 22 (base 10 number). In other words, the address is 22.



The number of terminal blocks for No. 12 and 13 is expressed as an 8-digit binary number, which is the combination of four upper, and four lower digits for No. 12 and 13 respectively. (0 - 128)
In ② the address for No. 12 is 0101, the address for No. 13 is 0110, and the combination of the two is 01010110 (binary number), which translates to 64 + 16 + 4 + 2 = 86 (base 10 number). In other words, the number of terminal block is 86..

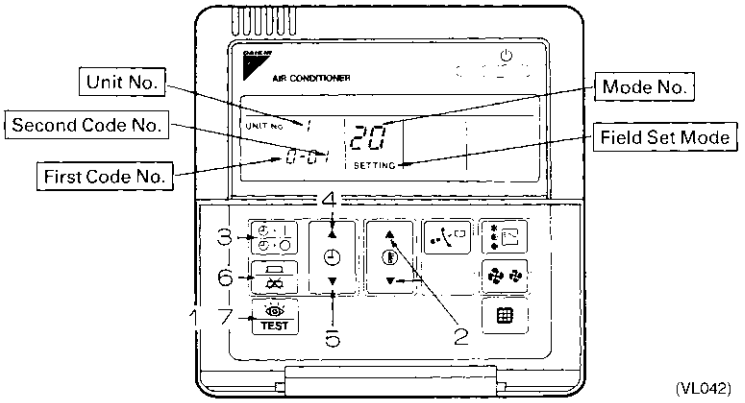
★ See the preceding page for a list of data, etc. for No. 1 - 16.

1.4 Indoor Field Setting

Making a field setting

Field settings must be made by remote controller if optional accessories have been installed on the indoor unit, or if the indoor unit's individual functions have been modified.

1.4.1 Wired Remote Controller <BRC1A51·61>



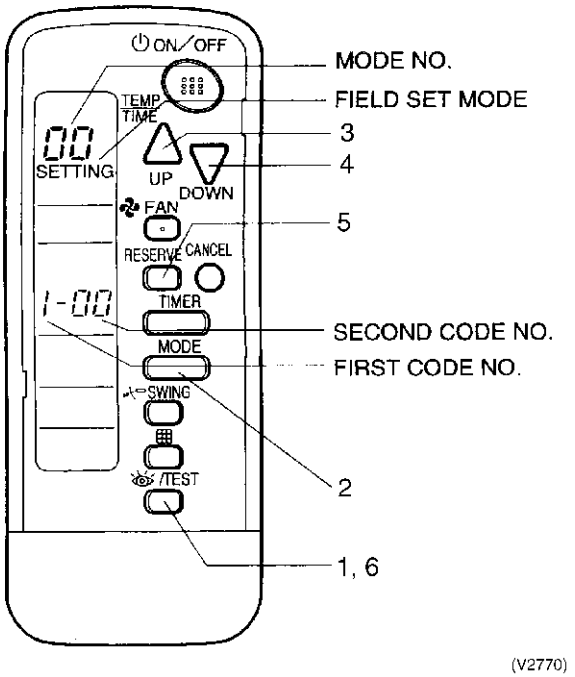
1. When in the normal mode, push the TEST button for 4 seconds or more, and operation then enters the "field set mode."
2. Select the desired "mode No." with the button.
3. During group control and you want to set by each individual indoor unit (when mode No. 20, 21, 22, 23, 25 has been selected), push the time mode button and select the "indoor unit No." to be set.
   Note: This operation is not required when setting as a group.
4. Push the button and select the first code No.
5. Push the button and select the second code No.
6. Push the timer button one time and "define" the currently set contents.
7. Push the TEST button to return to the normal mode.

(Example)

When setting the filter sign time to "Filter Dirtiness-High" in all group unit setting, set the Mode No. to "10", Mode setting No. to "0" and setting position No. to "02".

1.4.2 Wireless Remote Controller - Indoor Unit

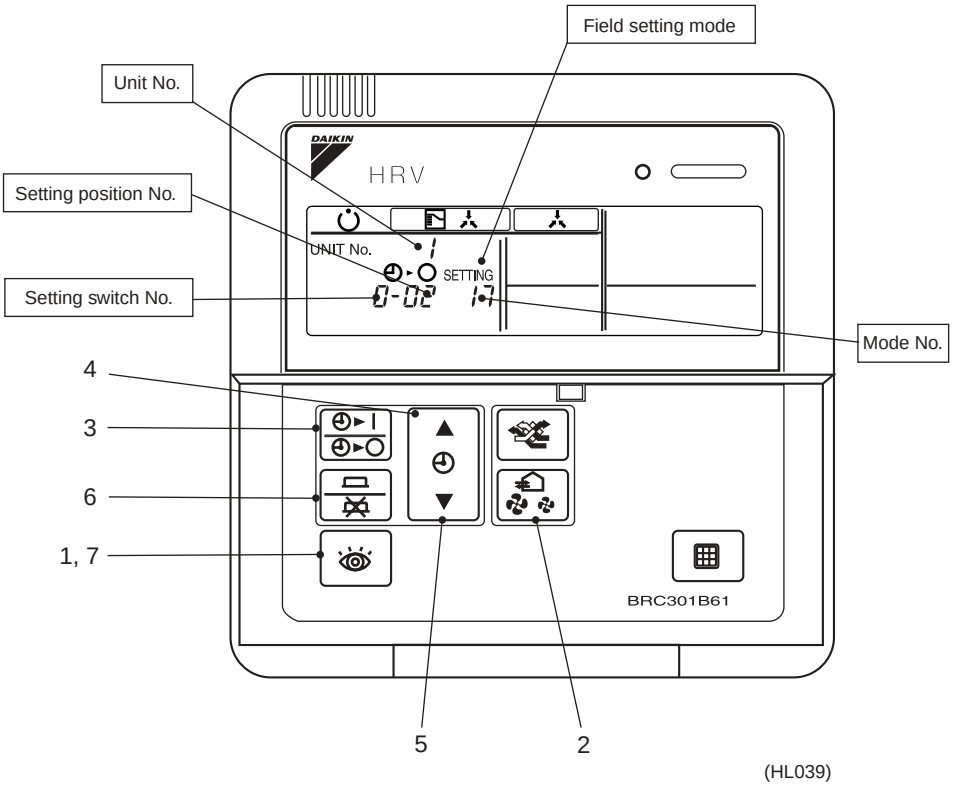
BRC7C type



1. When in the normal mode, push the /TEST button for 4 seconds or more, and operation then enters the “field set mode.”
2. Select the desired “mode No.” with the MODE button.
3. Pushing the UP button, select the first code No.
4. Pushing the DOWN button, select the second code No.
5. Push the timer RESERVE button and check the settings.
6. Push the /TEST button to return to the normal mode.

(Example)
When setting the filter sign time to “Filter Dirtiness-High” in all group unit setting, set the Mode No. to “10”, Mode setting No. to “0” and setting position No. to “02”.

1.4.3 Wired Remote Controller – Heat Reclaim Ventilation <BRC301B61>



(HL039)

Setting procedure

1. In the Normal Mode, press the button for more than 4 seconds to enter the Local Setting mode.
2. Using the (Mode No. UP) and [Ventilation Volume] (Mode No. DOWN) buttons to select a desired Mode No.
3. To set individual Heat Reclaim Ventilation units in group control (select Mode Nos. 27 and 28 (Heat Reclaim Ventilation)), press the button and choose the Unit No. to set. (This step is not necessary in all group unit setting.)
4. Press the UP button to select a Setting Switch No.
5. Press the DOWN button to select a Setting Position No.
6. Press the button once to enter the settings.
7. Depress the button for about 1 second to return to the Normal Mode.

(Example)

When setting the filter sign time to "Filter Dirtiness - High" in all group unit setting, set the Mode No. to "17," Mode Setting No. to "0" and Setting Position No. to "02."

1.4.4 Setting Contents and Code No. – VRV Unit

VRV system indoor unit settings	Mode No. Note 2	Setting Switch No.	Setting Contents		Second Code No.(Note 3)							
					01		02		03		04	
	10(20)	0	Filter contamination heavy/ light (Setting for display time to clean air filter) (Sets display time to clean air filter to half when there is heavy filter contamination.)	Super long life filter	Light	Approx. 10,000 hrs.	Heavy	Approx. 5,000 hrs.	—		—	
				Long life filter		Approx. 2,500 hrs.		Approx. 1,250 hrs.				
				Standard filter		Approx. 200 hrs.		Approx. 100 hrs.				
		1	Long life filter type		Long life filter		Super long life filter		—		—	
		2	Thermostat sensor in remote controller		Use		No use		—			
		3	Display time to clean air filter calculation (Set when filter sign is not to be displayed.)		Display		No display		—			
	12(22)	0	Optional accessories output selection (field selection of output for adaptor for wiring)		Indoor unit turned ON by thermostat				Operation output		Malfunction output	
		1	ON/OFF input from outside (Set when ON/OFF is to be controlled from outside.)		Forced OFF		ON/OFF control		—		—	
		2	Thermostat differential changeover (Set when remote sensor is to be used.)		1˚C		0.5˚C		—		—	
		3	OFF by thermostat fan speed		LL		Set fan speed		—		—	
		4	Automatic mode differential (automatic temperature differential setting for VRV system heat recovery series cool/heat)		01:0	02:1	03:2	04:3	05:4	06:5	07:6	08:7
		5	Power failure automatic reset		Not equipped		Equipped		—		—	
	13(23)	0	High air outlet velocity (Set when installed in place with ceiling higher than 2.7 m.)		N		H		S		—	
		1	Selection of air flow direction (Set when a blocking pad kit has been installed.)		F (4 directions)		T (3 directions)		W (2 directions)		—	
		3	Air flow direction adjustment (Set at installation of decoration panel.)		Equipped		Not equipped				—	
		4	Field set air flow position setting		Draft prevention		Standard		Ceiling Soiling prevention		—	
		5	Field set fan speed selection (fan speed control by air discharge outlet for phase control)		Standard		Optional accessory 1		Optional accessory 2		—	
	15(25)	1	Thermostat OFF excess humidity		Not equipped		Equipped		—		—	
		2	Direct duct connection (when the indoor unit and heat reclaim ventilation unit are connected by duct directly.)		Not equipped		Equipped		—		—	
		3	Drain pump humidifier interlock selection		Not equipped		Equipped		—		—	
		5	Field set selection for individual ventilation setting by remote controller		Not equipped		Equipped		—		—	
		6	Field set selection for individual ventilation setting by remote controller		Not equipped		Equipped		—		—	

Notes:
1. Settings are made simultaneously for the entire group, however, if you select the mode No. inside parentheses, you can also set by each individual unit. Setting changes however cannot be checked except in the individual mode for those in parentheses.
2. The mode numbers inside parentheses cannot be used by wireless remote controllers, so they cannot be set individually. Setting changes also cannot be checked.
3. Marked ▭ are factory set.
4. Do not make settings other than those described above. Nothing is displayed for functions the indoor unit is not equipped with.
5. “88” may be displayed to indicate the remote controller is resetting when returning to the normal mode.

1.4.5 Applicable range of Field setting

	Ceiling mounted cassette type			Ceiling mounted built-in type	Ceiling mounted duct type	Ceiling suspended type	Wall mounted type	Floor standing type	Concealed Floor standing type	New Ceiling suspended cassette
	Multi flow	Double flow	Corner type							
	FXF	FXYCP	FXYKP	FXYSP	FXYMP	FXYHP	FXYAP	FXYLP	FXYLMP	FUYP
Filter sign	○	○	○	○	○	○	○	○	○	○
Ultra long life filter sign	○	○	—	—	—	—	—	—	—	—
Remote controller thermostat sensor	○	○	○	○	○	○	○	○	○	○∗1
Set fan speed when thermostat OFF	○	○	○	○	○	○	○	○	○	○
Air flow adjustment Ceiling height	○	—	—	—	—	○	—	—	—	○
Air flow direction	○	—	—	—	—	—	—	—	—	○
Air flow direction adjustment (Down flow operation)	—	—	○	—	—	—	—	—	—	—
Air flow direction adjustment range	○	○	○	—	—	—	—	—	—	—
Field set fan speed selection	○	—	—	—	—	○	—	—	—	—

∗1.For FUYP model, remote controller sensor is set not to use at factory.

1.4.6 Detailed Explanation of Setting Modes

Filter Sign Setting

If switching the filter sign ON time, set as given in the table below.

Set Time

Filter Specs. / Setting	Standard	Long Life	Ultra Long Life Filter
Contamination Light	200 hrs.	2,500 hrs.	10,000 hrs.
Contamination Heavy	100 hrs.	1,100 hrs. ∗	5,000 hrs.

∗1 FHYCP only 5,000hrs., ∗2 FHYCP only 2,500 hrs.

Ultra-Long-Life Filter Sign Setting

When a Ultra-long-life filter is installed, the filter sign timer setting must be changed.

Setting Table

Mode No.	Setting Switch No.	Setting Position No.	Setting
10 (20)	1	01	Long-Life Filter
		02	Ultra-Long-Life Filter (1)
		03	—

Fan Speed OFF When Thermostat is OFF

When the cool/heat thermostat is OFF, you can stop the indoor unit fan by switching the setting to “Fan OFF.”

∗ Used as a countermeasure against odor for barber shops and restaurants.

Setting Table

Mode No.	First Code No.	Second Code No.	Setting
11(21)	2	01	—
		02	Fan OFF

Fan Speed Changeover When Thermostat is OFF

By setting to “Set Fan Speed,” you can switch the fan speed to the set fan speed when the heating thermostat is OFF.

∗ Since there is concern about draft if using “fan speed up when thermostat is OFF,” you should take the setup location into consideration.

Setting Table

Mode No.	First Code No.	Second Code No.	Setting
12(22)	3	01	LL Fan Speed
		02	Set Fan Speed

Auto restart after power failure reset

Caution When “auto restart after power failure reset” is set, be sure to turn off air conditioners, then cut off the power supply before conducting maintenance, inspection and other work. If the power supply is cut off with the power switch left ON, air conditioners will automatically start operating when the power supply is turned on and it may be dangerous.

Air Flow Adjustment - Ceiling height

Make the following setting according to the ceiling height. The setting position No. is set to “01” at the factory.

■ **In the Case of FXYAP, FXYHP**

Mode No.	Setting Switch No.	Setting Position No.	Setting
13(23)	0	01	Wall-mounted type: Standard
		02	Wall-mounted type: Slight increase
		03	Wall-mounted type: Normal increase

■ **In the Case of FUYP**

Mode No.	First code No.	Second code No.	Setting	Ceiling height		
				4-way Outlets	3-way Outlets	2-way Outlets
13 (23)	0	01	Standard (N)	Lower than 2.7 m	Lower than 3.0 m	Lower than 3.5 m
		02	High Ceiling (H)	2.7~3.0 m	3.0~3.5 m	3.5~3.8 m
		03	Higher Ceiling (S)	3.0~3.5 m	3.5~3.8 m	—

■ **In the Case of FXF25~80**

Mode No.	First code No.	Second code No.	Setting	Ceiling height		
				4-way Outlets	3-way Outlets	2-way Outlets
13 (23)	0	01	Standard (N)	Lower than 2.7 m	Lower than 3.0 m	Lower than 3.5 m
		02	High Ceiling (H)	Lower than 3.0 m	Lower than 3.3 m	Lower than 3.8 m
		03	Higher Ceiling (S)	Lower than 3.5 m	Lower than 3.5 m	—

■ **In the Case of FXF100~125**

Mode No.	First code No.	Second code No.	Setting	Ceiling height		
				4-way Outlets	3-way Outlets	2-way Outlets
13 (23)	0	01	Standard (N)	Lower than 3.2 m	Lower than 3.6 m	Lower than 4.2 m
		02	High Ceiling (H)	Lower than 3.6 m	Lower than 4.0 m	Lower than 4.2 m
		03	Higher Ceiling (S)	Lower than 4.2 m	Lower than 4.2 m	—

Air Flow Direction Setting

Set the air flow direction of indoor units as given in the table below. (Set when optional air outlet blocking pad has been installed.) The second code No. is factory set to “01.”

Setting Table

Mode No.	First Code No.	Second Code No.	Setting
13 (23)	1	01	F : 4-direction air flow
		02	T : 3-direction air flow
		03	W : 2-direction air flow

Setting of Air Flow Direction Adjustment

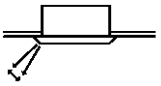
Only the model FXYKP has the function.

When only the front-flow is used, sets yes/no of the swing flap operation of down-flow.

Setting	Mode No.	First Code No.	Second Code No.
Down-flow operation: Yes	13 (23)	3	01
Down-flow operation: No			02

Setting of Air Flow Direction Adjustment Range

Make the following air flow direction setting according to the respective purpose.



(S2537)

Mode No.	First Code No.	Second Code No.	Setting
13 (23)	4	01	Upward (Draft prevention)
		02	Standard
		03	Downward (Ceiling soiling prevention)

Air flow rate switching at discharge grille for field air flow rate switching

When the optional parts (high performance filter, etc.) is installed, sets to change fan speed for securing air flow rate.

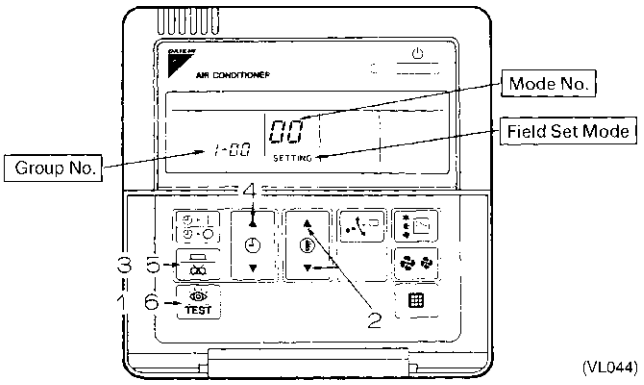
Follow the instruction manual for the optional parts to enter the setting numbers.

1.4.7 Centralized Control Group No. Setting

BRC1A Type

- If carrying out centralized control by central remote controller or unified ON/OFF controller, group No. must be set for each group individually by remote controller.
- Group No. setting by remote controller for centralized control

1. When in the normal mode, push the TEST button for 4 seconds or more, and operation then enters the “field setting mode.”
2. Set mode No. “00” with the button. *
3. Push the button to inspect the group No. display.
4. Set the group No. for each group with the button (The group No. increases in the manner of 1-00, 1-01, ...,1-15, 2-00,...4-15. However, the unified ON/OFF controller displays only the group No. within the range selected by the switch for setting each address.)
5. Push the timer button to define the selected group No.
6. Push the TEST button to return to the normal mode.



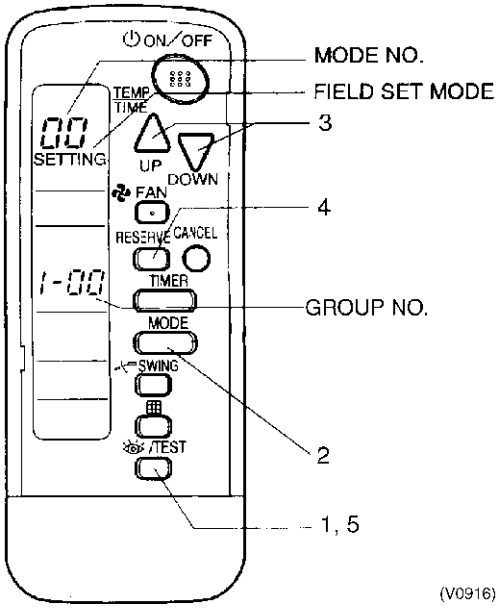
- Even if not using a remote controller, connect the remote controller when setting the group No., set the group No. for centralized control, and disconnect after making the setting.
- Set the group No. after turning on the power supply for the central remote controller, unified ON/OFF controller, and indoor unit.

BRC7C Type

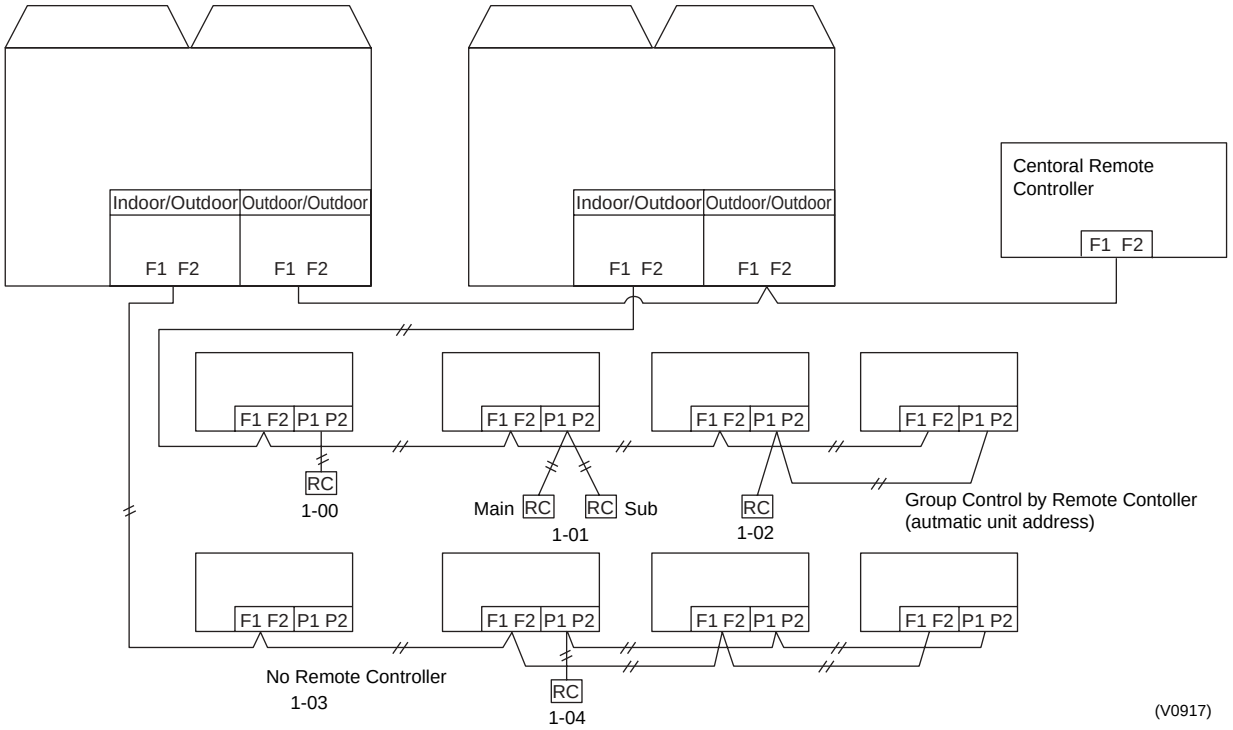
- Group No. setting by wireless remote controller for centralized control

1. When in the normal mode, push /TEST button for 4 seconds or more, and operation then enters the “field set mode.”
2. Set mode No. “00” with MODE button.
3. Set the group No. for each group with UP DOWN button (advance/backward).
4. Enter the selected group numbers by pushing RESERVE button.
5. Push /TEST button and return to the normal mode.

BRC7C Type



Group No. Setting Example



- If you have to set the address for each unit for calculating cost, etc., set the mode No. to “30.”

Caution When turning the power supply on, the unit may often not accept any operation while "88" is displaying after all indications were displayed once for about 1 minute on the liquid crystal display.
This is not an operative fault.

1.4.8 Contents of Control Modes

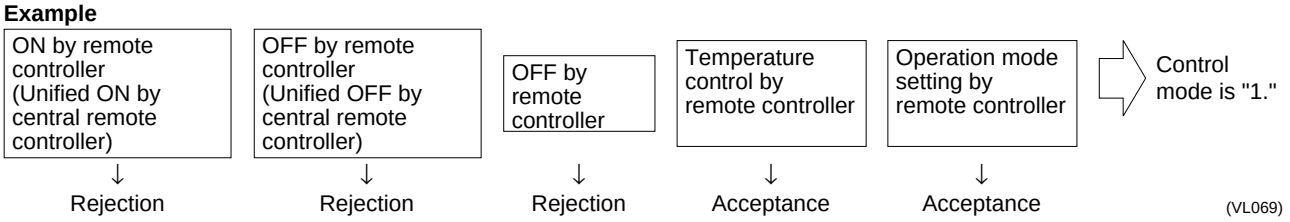
Twenty modes consisting of combinations of the following five operation modes with temperature and operation mode setting by remote controller can be set and displayed by operation modes 0 through 19.

- ON/OFF control impossible by remote controller
  Used when you want to turn on/off by central remote controller only.
  (Cannot be turned on/off by remote controller.)
- OFF control only possible by remote controller
  Used when you want to turn on by central remote controller only, and off by remote controller only.
- Centralized
  Used when you want to turn on by central remote controller only, and turn on/off freely by remote controller during set time.
- Individual
  Used when you want to turn on/off by both central remote controller and remote controller.
- Timer operation possible by remote controller
  Used when you want to turn on/off by remote controller during set time and you do not want to start operation by central remote controller when time of system start is programmed.

How to Select Operation Mode

Whether operation by remote controller will be possible or not for turning on/off, controlling temperature or setting operation mode is selected and decided by the operation mode given on the right edge of the table below.

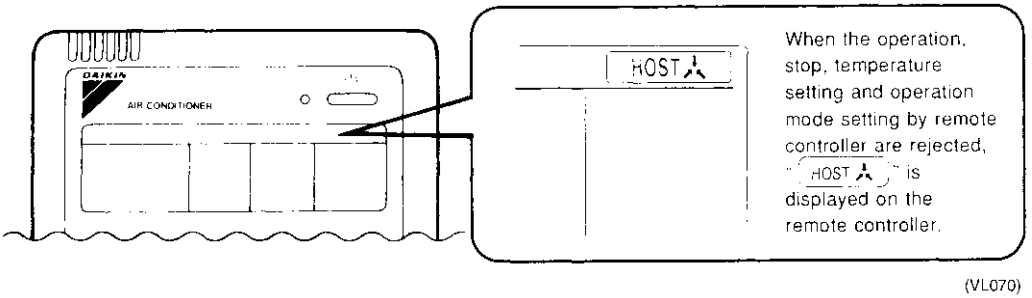
Example



Control mode	Control by remote controller					Control mode
	Operation		OFF	Temperature control	Operation mode setting	
	Unified operation, individual operation by central remote controller, or operation controlled by timer	Unified OFF, individual stop by central remote controller, or timer stop				
ON/OFF control impossible by remote controller	Rejection (Example)	Rejection (Example)	Rejection (Example)	Rejection	Acceptance	0
					Rejection	10
				Acceptance (Example)	Acceptance (Example)	1(Example)
					Rejection	11
OFF control only possible by remote controller			Acceptance	Rejection	Acceptance	2
					Rejection	12
				Acceptance	Acceptance	3
					Rejection	13
Centralized	Acceptance			Rejection	Acceptance	4
					Rejection	14
				Acceptance	Acceptance	5
					Rejection	15
Individual		Acceptance		Rejection	Acceptance	6
					Rejection	16
				Acceptance	Acceptance	7 ∗1
					Rejection	17
Timer operation possible by remote controller	Acceptance (During timer at ON position only)	Acceptance (During timer at ON position only)		Rejection	Acceptance	8
					Rejection	18
				Acceptance	Acceptance	9
					Rejection	19

Do not select “timer operation possible by remote controller” if not using a remote controller. Operation by timer is impossible in this case.

∗1. Factory setting



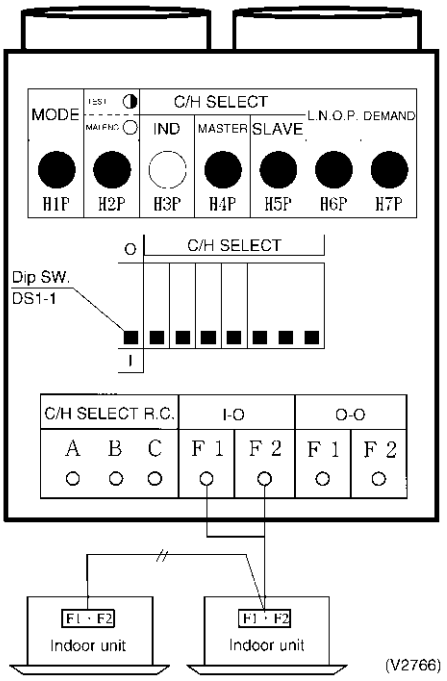
1.5 Cool/Heat Mode Switching

There are the following 5 cool/heat switching modes.

① Set cool/heat separately for each outdoor unit system by indoor unit remote controller.
② Set cool/heat separately for each outdoor unit system by cool/heat switching remote controller.
③ Set cool/heat for more than one outdoor unit system simultaneously in accordance with unified master outdoor unit by indoor unit remote controller.
④ Set cool/heat for more than one outdoor unit system simultaneously in accordance with unified master outdoor unit by cool/heat switching remote controller.

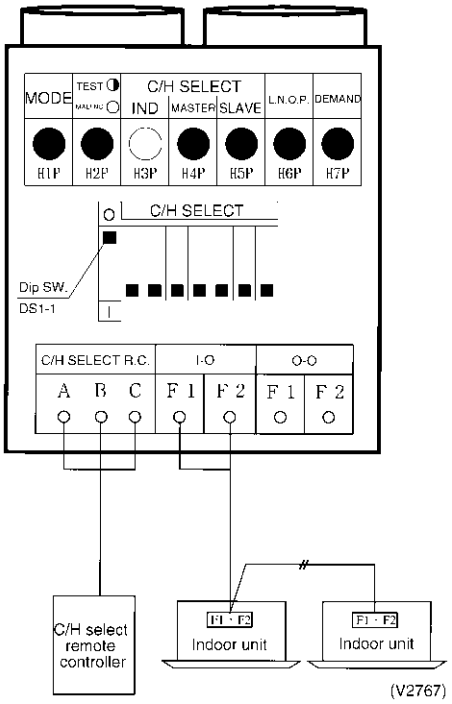
1.5.1 Set Cool/Heat Separately for Each Outdoor System by Indoor Unit Remote Controller

- It does not matter whether or not there is outdoor - outdoor unit wiring.
- Set outdoor unit PC board DS1-1 to “indoor” (factory set).
- Set cool/heat switching to “individual” for “Setting mode 1” (factory set).



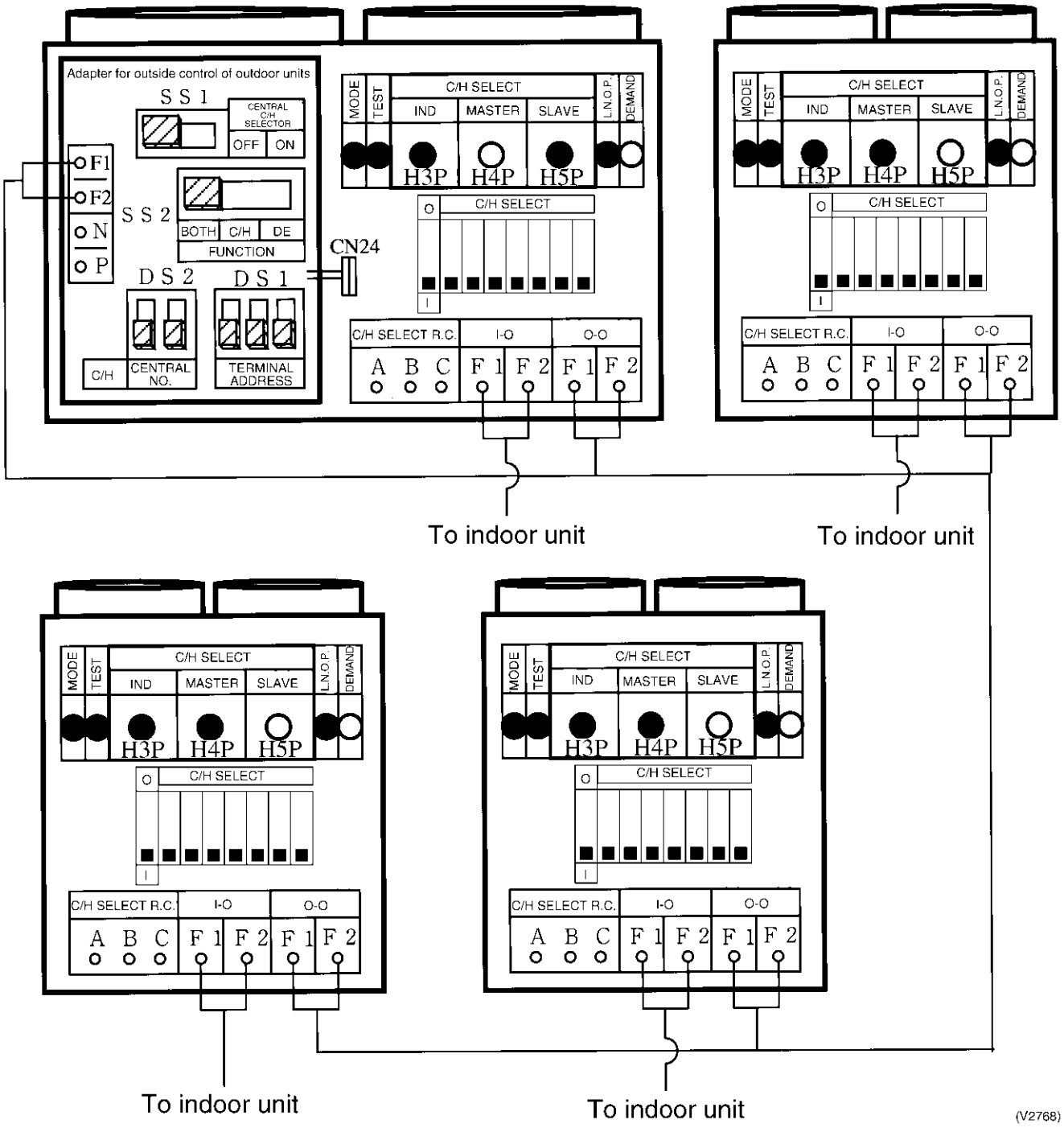
1.5.2 Set Cool/Heat Separately for Each Outdoor Unit System by Cool/Heat Switching Remote Controller.

- It does not matter whether or not there is outdoor - outdoor unit wiring.
- Set outdoor unit PC board DS1-1 to “outdoor” (factory set).
- Set cool/heat switching to “individual” for “Setting mode 1” (factory set).



1.5.3 Set Cool/Heat for More Than One Outdoor Unit System Simultaneously in Accordance with Unified Master Outdoor Unit by Indoor Unit Remote Controller.

- Install the outdoor unit external control adapter on either the outdoor-outdoor, indoor-outdoor, or indoor-indoor transmission line.
- Set outdoor unit PC board DS1-1 to “outdoor” (factory set).
- In setting mode 1, set the outdoor unit you want to give cool/heat selection permission to as the group master, and set the other outdoor units as group slave units.
- Set the outdoor unit external control adapter SS1 to Unified (factory set) or Cool, and SS2 to No (factory set).



1.5.4 Set Cool/Heat for More Than One Outdoor Unit System Simultaneously in Accordance with Unified Master Outdoor Unit by Cool/Heat Switching Remote Controller.

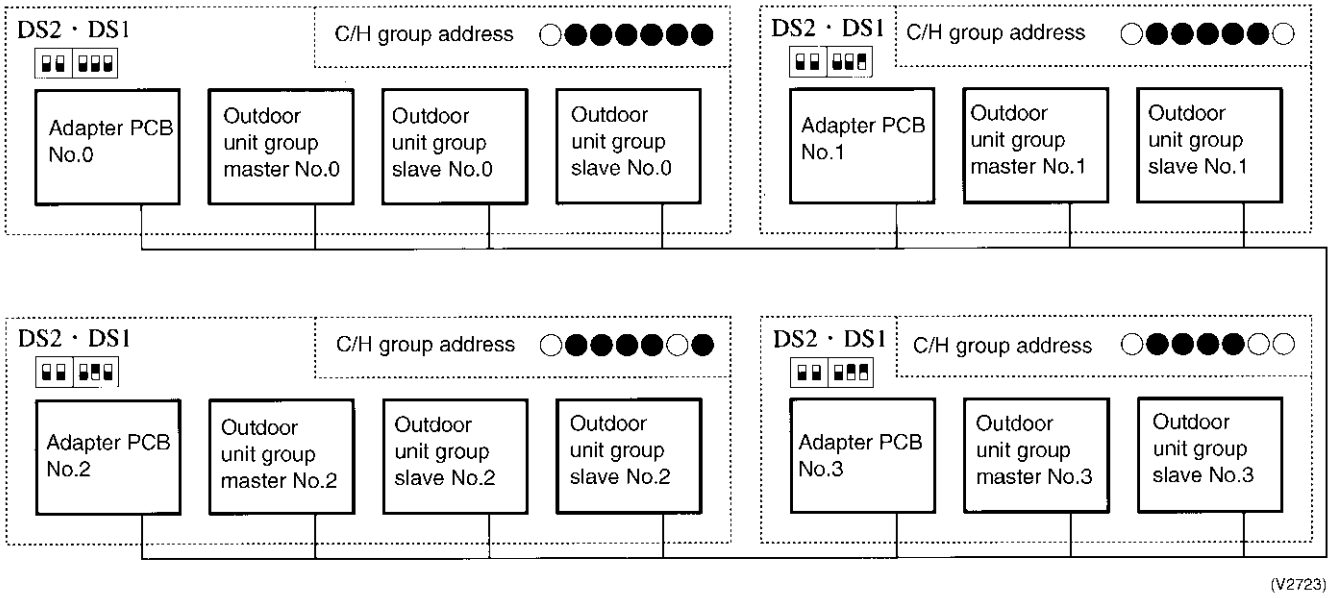
◆ Add and change the following items to ③ aforementioned.

★ Install cool/heat switching remote controller on the group master outdoor unit.

★ Set SS1 on the group master outdoor unit PC board.

Supplementation on ③ and ④

When switching cool/heat for each adapter PC board with the use of more than one adapter PC board, set the address of the adapter PC board DS1 and DS2 so that it matches the unified cool/heat address of outdoor unit PC board.



Address setting for ③ and ④ (Set lower 5 digits with binary number.) [No.0 to No.31]

Address No.	Outdoor unit PCB LED Set with setting mode 2	Adapter PCB DS2 DS1
No 0	○ ● ● ● ● ● 0	0
No 1	○ ● ● ● ● ○ 1	1
No 2	○ ● ● ● ○ ● 2	2
No 3	○ ● ● ● ○ ○ 3	3
No 4	○ ● ● ● ○ ● ● 4	4
≀	≀	≀
No 30	○ ● ○ ○ ○ ○ ● 30	30
No 31	○ ● ○ ○ ○ ○ ○ 31	31

○ ON ● OFF Upper position (ON) lower position (OFF)

(The shaded part shows knob)

(V2724)

1.6 Setting of Low Noise Operation and Demand Operation

1.6.1 Setting of Low Noise Operation

By connecting the external contact input to the low noise input of the outdoor unit external control adapter (optional), you can save capacity and lower operating noise by 2-3 dB.

A. When the low noise operation is carried out by external instructions (with the use of the outdoor unit external control adapter)

1. Set “External low noise setting” on the outdoor unit PC board, as the need arises.
   (Lower noise operation can be carried out by “Mode 2” than by “Mode 1”, and by “Mode 3” than by “Mode 2”.)
2. Set “Capacity precedence setting” on the outdoor unit PC board, as the need arises.
   (If set to “Capacity precedence”, when air conditioning load gets higher, the low noise instructions are neglected to switch to normal operation.)

B. When the low noise operation is carried out automatically at night (The outdoor unit external control adapter is not required)

1. Set “External low noise / Demand YES/NO setting” switch on the outdoor unit PC board to “External low noise / Demand YES”.
   (RSXYP5~10L: Set by dip switch DS1)
2. Set “Night-time low noise setting” on the outdoor unit PC board.
   (Lower noise operation can be carried out by “Mode 2” than by “Mode 1”, and by “Mode 3” than by “Mode 2”.)
3. Set “Night-time low noise start setting” on the outdoor unit PC board, as the need arises.
   (Since the time is presumed in accordance with the outdoor temperature, the starting time is a target only.)
4. Set “Night-time low noise end setting” on the outdoor unit PC board, as the need arises.
   (Since the time is presumed in accordance with the outdoor temperature, the ending time is a target only.)
5. Set “Capacity precedence setting” on the outdoor unit PC board, as the need arises.
   (If set to “Capacity precedence”, when air conditioning load gets higher, the status is switched to normal operation even at night.)

Image of operation in the case of A

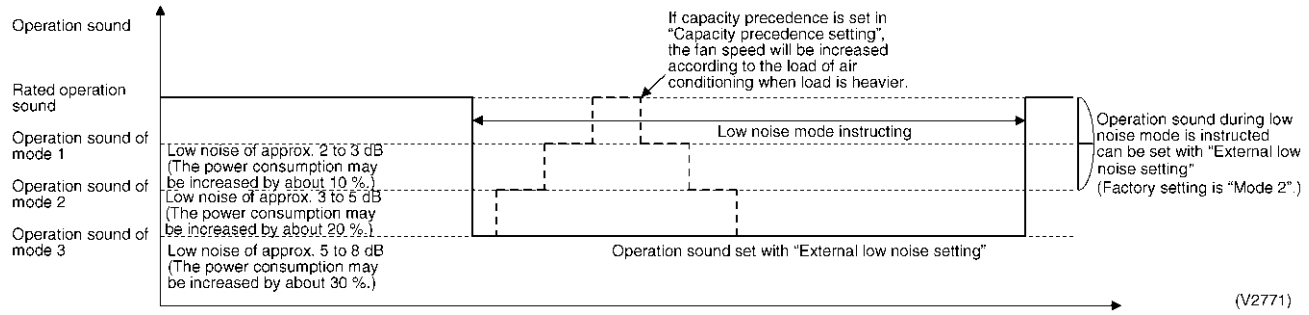


Image of operation in the case of B

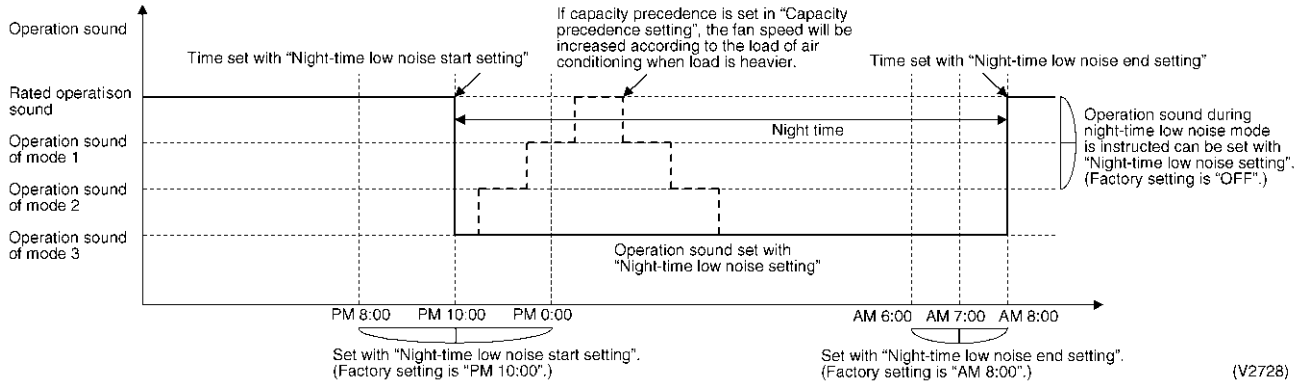
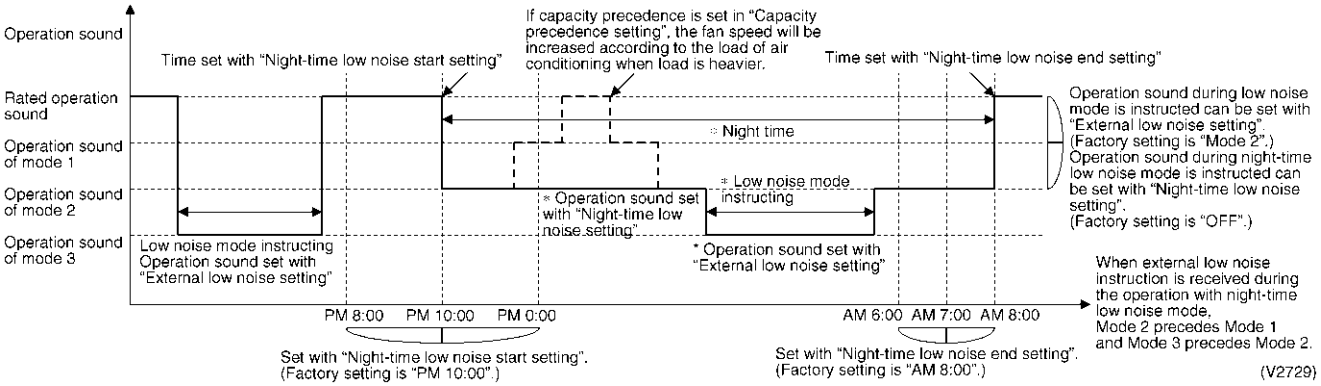


Image of operation in the case of A, B



1.6.2 Setting of Demand Operation

By connecting the external contact input to the demand input of the outdoor unit external control adopter (optional), the power consumption of unit operation can be saved suppressing the compressor operating condition.

A. When the demand operation is carried out by external instructions (with the use of the outdoor unit external control adapter).

- Set the "External low noise/Demand YES/NO setting" switch on the outdoor unit PCB to the "External low noise/Demand YES".
  (PSXYP5~10L: Set by dip switch DS1)
- Set the "Demand 1 setting " on the outdoor unit PCB, as the need arises.
  (During the demand level 1 instruction, the power consumption can be saved to 80 %, 70 % or 60 % of the rated value respectively.)

B. When the continuous demand operation is carried out. (Use of the outdoor unit external control adapter is not required.)

- Set the "Continuous demand setting" on the outdoor unit PCB.
  (The continuous demand level 1 operation is carried out when the "Continuous demand 1 fixing" is set, and the continuous demand level 2 operation when the "Continuous demand 2 fixing" is set.)
- If the "Continuous demand setting" is set to the "Continuous demand 1 fixing", set the "Demand 1 setting " on the outdoor unit PCB, as the need arises.
  (During the continuous demand level 1 operation, the power consumption can be saved to 80 %, 70 % or 60 % of the rated value respectively.)

[Demand 1 setting]

Setting	Standard for upper limit of power consumption
Demand 1 setting 1	Approx. 60%
Demand 1 setting 2 (factory setting)	Approx. 70%
Demand 1 setting 3	Approx. 80%

[Demand 2 setting]

Setting	Standard for upper limit of power consumption
Demand 2 setting 1	Approx. 30%
Demand 2 setting 2 (factory setting)	Approx. 40%
Demand 2 setting 3	Approx. 50%

★Other protection control functions have precedence over the above operation.

Image of operation in the case of A

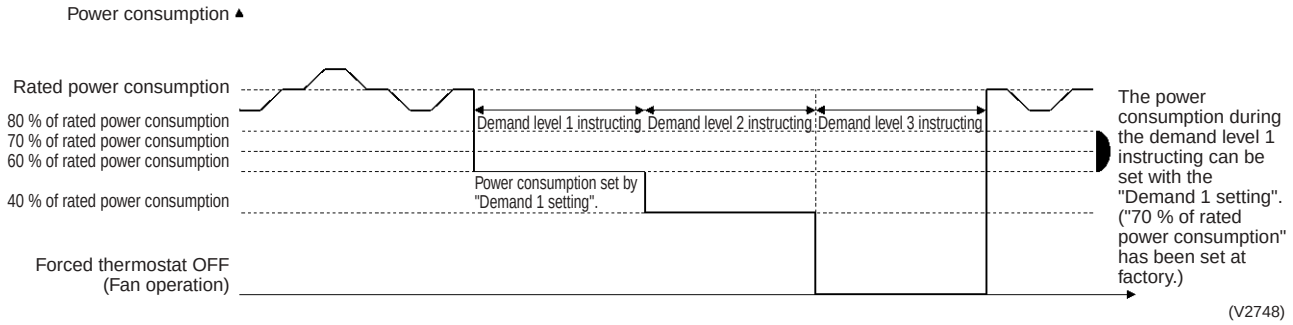


Image of operation in the case of B

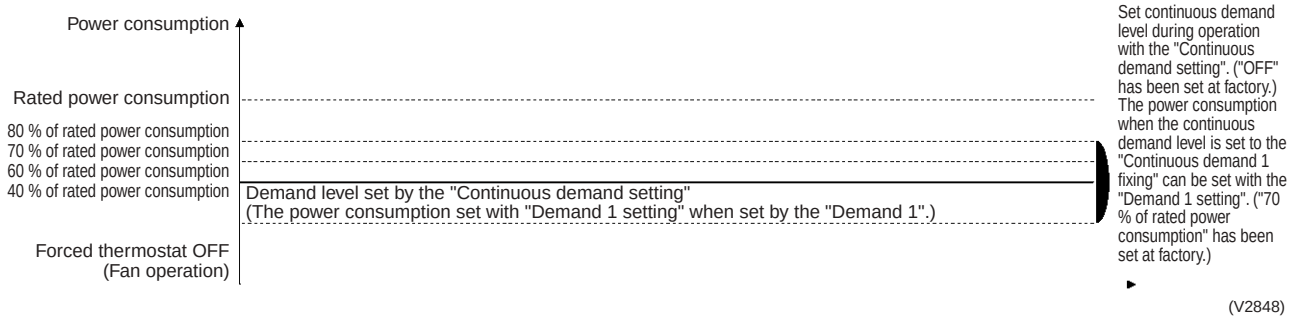
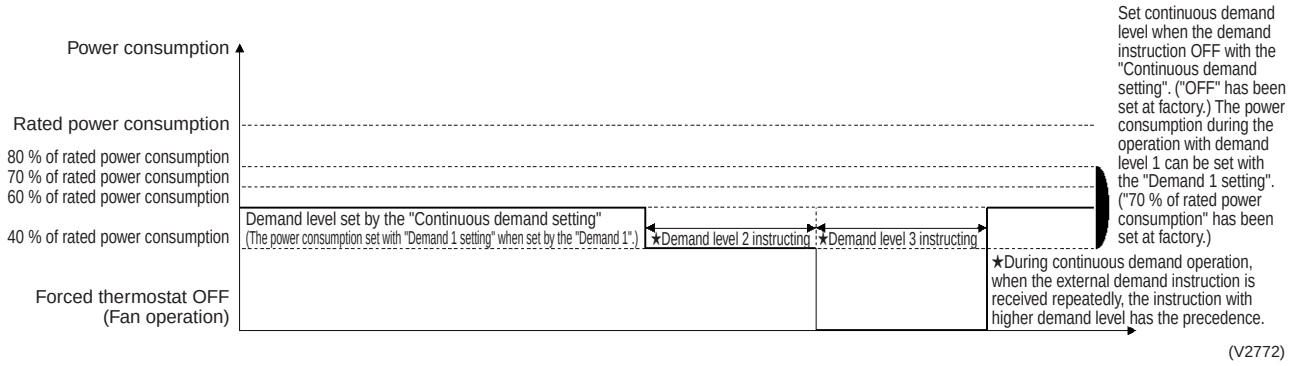


Image of operation in the case of A and B



C. Detailed Setting Procedure of Low Noise Operation and Demand Control

1. DS1 (dip switch) setting

No.	Setting contents	ON/OFF
3	External low noise Demand YES/NO setting	ON/OFF (factory set)

→ **Set to ON**

2. Setting mode 1 (H1P off)

① In setting mode 2, push the BS1 (MODE button) one time. → Setting mode 2 is entered and H1P lights.
During the setting mode 1 is displayed, “In low noise operation” and “In demand control” are displayed.

3. Setting mode 2 (H1P on)

① In setting 1, push and hold the BS1 (MODE button) for about 5 seconds. → Setting mode 2 is entered and H1P lights.
② Push the BS2 (SET button) several times and match the LED display with the Setting No. you want.
③ Push the BS3 (RETURN button) one time, and the present setting content is displayed.
→ Push the BS2 (SET button) several times and match the LED display with the setting content (as shown below) you want.
④ Push the BS3 (RETURN button) two times. → Returns to ①.
⑤ Push the BS1 (MODE button) one time. → Returns to the setting mode 1 and turns H1P off.

	①								②								③							
Setting No.	Setting contents	Setting No. indication								Setting No. indication								Setting contents	Setting contents indication (Initial setting)							
		HAP	H1P	H2P	H3P	H4P	H5P	H6P	H7P	HAP	H1P	H2P	H3P	H4P	H5P	H6P	H7P		HAP	H1P	H2P	H3P	H4P	H5P	H6P	H7P
22	Night-time low noise setting	◎	○	●	●	●	●	●	●	◎	○	●	○	●	○	○	●	OFF (Factory setting)	◎	○	●	●	●	●	●	●
																		Mode 1	◎	○	●	●	●	●	●	◎
																		Mode 2	◎	○	●	●	●	●	◎	◎
																		Mode 3	◎	○	●	●	●	●	◎	◎
25	External low noise setting									◎	○	●	○	○	●	●	○	Mode 1	◎	○	●	●	●	●	●	◎
																		Mode 2 (Factory setting)	◎	○	●	●	●	●	◎	●
																		Mode 3	◎	○	●	●	●	●	●	◎
26	Night-time low noise start setting									◎	○	●	○	○	●	○	●	PM 8:00	◎	○	●	●	●	●	◎	●
																		PM 10:00 (Factory setting)	◎	○	●	●	●	◎	●	●
																		PM 0:00	◎	○	●	●	●	●	●	◎
27	Night-time low noise end setting									◎	○	●	○	○	●	○	○	AM 6:00	◎	○	●	●	●	●	◎	●
																		AM 7:00	◎	○	●	●	●	◎	●	●
																		AM 8:00 (Factory setting)	◎	○	●	●	●	●	●	◎
29	Capacity precedence setting									◎	○	●	○	○	○	●	○	Low noise precedence (Factory setting)	◎	○	●	●	●	●	●	●
																		Capacity precedence	◎	○	●	●	●	●	◎	●
30	Demand setting 1									◎	○	●	○	○	○	○	●	60 % of rated power consumption	◎	○	●	●	●	●	●	◎
																		70 % of rated power consumption (Factory setting)	◎	○	●	●	●	●	◎	●
																		80 % of rated power consumption	◎	○	●	●	●	◎	●	●
31	Demand setting 2									◎	○	●	○	○	○	○	○	30 % of rated power consumption	◎	○	●	●	●	●	●	◎
																		40 % of rated power consumption (Factory setting)	◎	○	●	●	●	●	◎	●
																		50 % of rated power consumption	◎	○	●	●	●	◎	●	●
32	Normal demand setting									◎	○	●	●	●	●	●	●	OFF (Factory setting)	◎	○	●	●	●	●	●	◎
																		Normally demand 1 fixed	◎	○	●	●	●	●	◎	●
																		Normally demand 2 fixed	◎	○	●	●	●	◎	●	●

Setting mode indication section

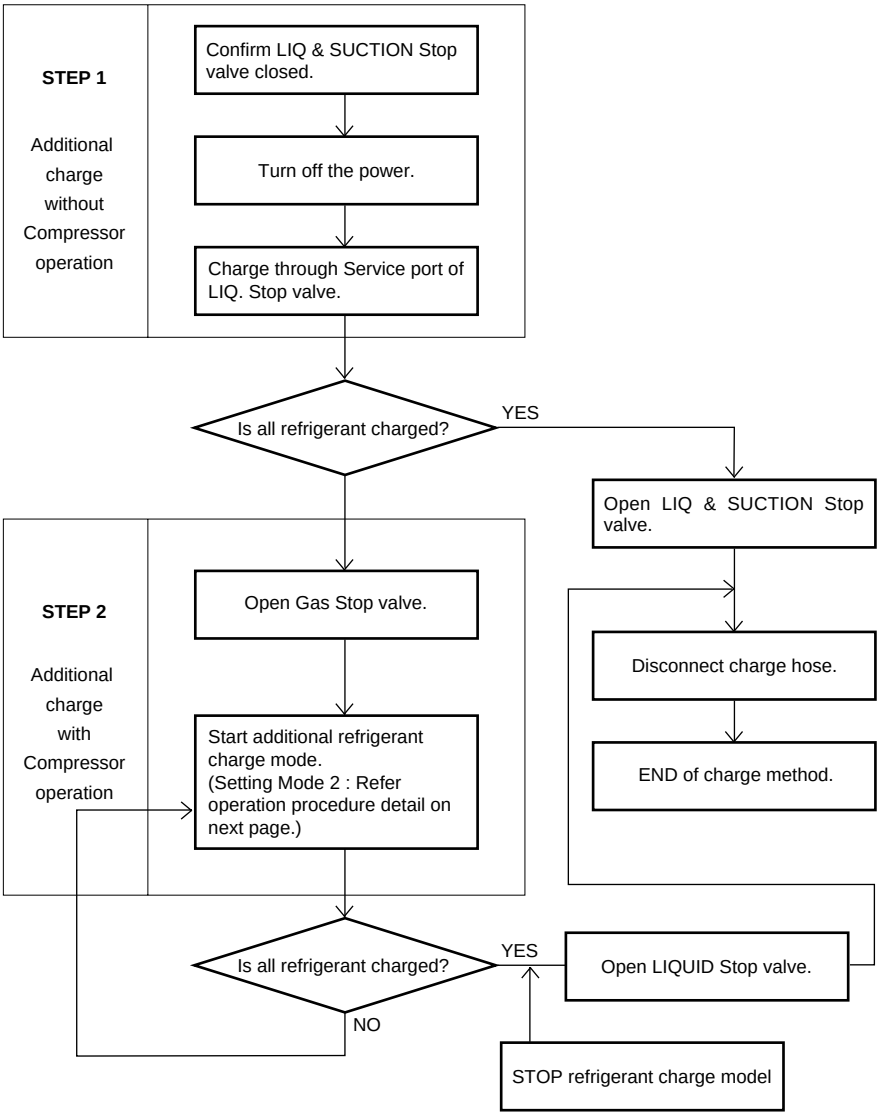
Setting No. indication section

Set contents indication section

1.7 Setting of Refrigerant Additional Charging Operation

When additional refrigerant is not charged at all with outdoor unit in stop mode, operate the outdoor unit and charge the liquid refrigerant from the service port of liquid stop value. The additional charging operation is activated by pushbutton switch on the outdoor unit PC board.

[Additional refrigerant charge total flow]



(V2892)

[Operation procedure detail]

① After turning the respective remote switch of indoor and outdoor units off and charging the refrigerant, turn on the power of indoor and outdoor units.
Do not fail to turn the power off and charge the refrigerant with outdoor unit in stop mode before adding the refrigerant following this procedure, otherwise resulting in trouble.

② Fully open the stop valve on the gas side, and do not fail to fully close the stop valve on the liquid side. (If the stop valve on the liquid side is open, the refrigerant cannot be charged.)

③ In **Setting mode 2** (H1P : ON) with outdoor unit in stop mode, Set “A Additional refrigerant charging operation” switch to ON to start the operation. (H2P turns to display TEST OPERATION (blinks), and “TEST OPERATION” and “IN CENTRALIZED CONTROL” are displayed on the remote controller.)

④ When the refrigerant is charged up to the specified amount, press the RETURN button (BS3) to stop charging.
The charging operation is automatically stopped after operating for a maximum of about 30 minutes.
If the charging is not complete within 30 minutes, set the A Additional refrigerant charging operation again to start charging. When the charging immediately stops even by restarting, the refrigerant is charged excessively. The refrigerant cannot be charged any more.

⑤ **Do not fail to fully open the stop valve on the liquid side** as soon as disconnecting the refrigerant charging hose.
(The piping may be burst due to the liquid sealing.)

[Operation state]

- Compressor frequency : 210Hz
- Y1S, Y2S, Y3S Solenoid valve : Open
- Outdoor unit fan : High pressure control
- Indoor unit expansion valve (All unit) : 1024 pulse
- Indoor unit fan : H tap

1.8 Setting of Refrigerant Recovery Mode

When carrying out the refrigerant collection on site, fully open the respective expansion valve of indoor and outdoor units.

[Operation procedure]

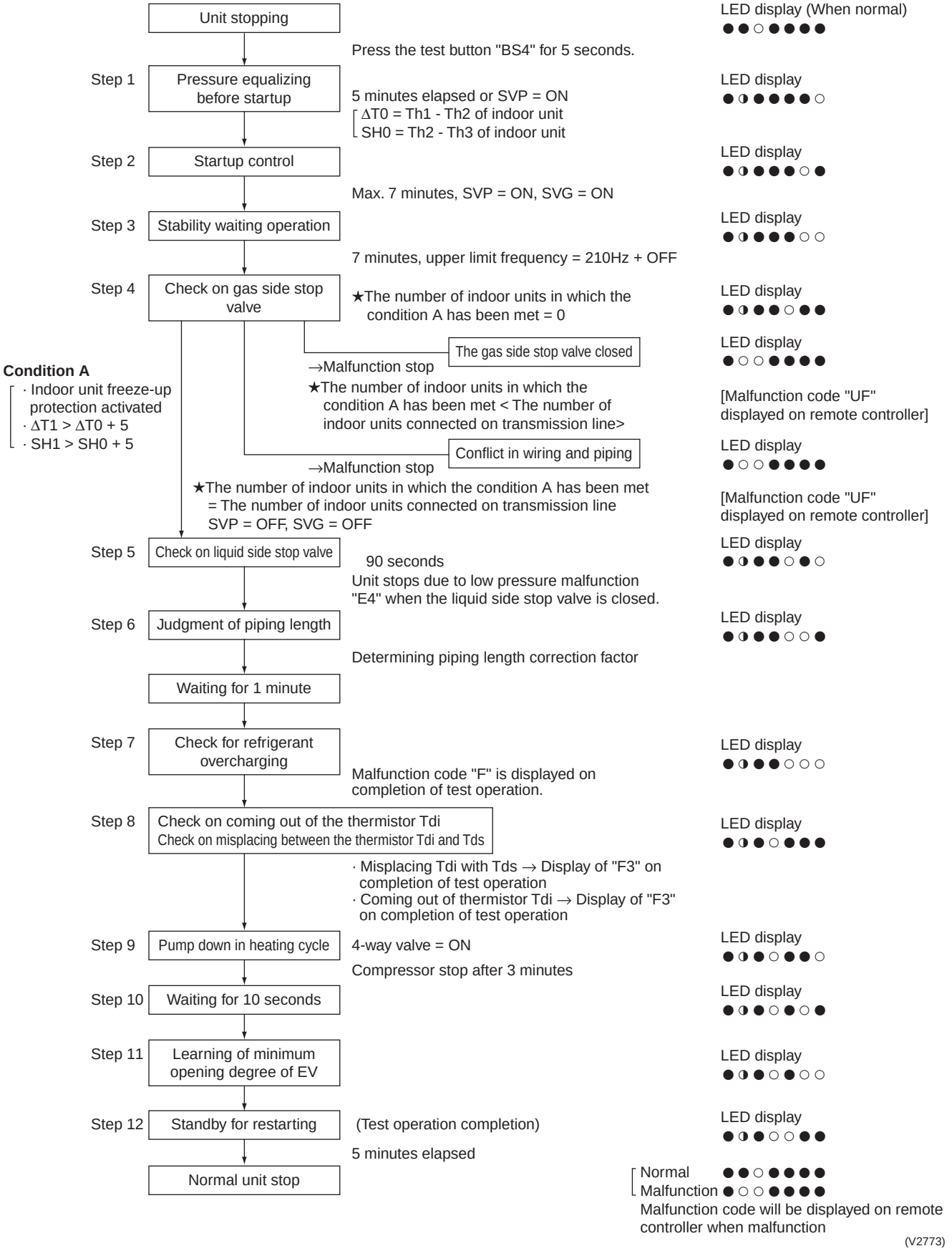
① In **setting mode 2** with units in stop mode, set “B Refrigerant Recovery mode” to ON. The respective expansion valve of indoor and outdoor units are fully opened. (H2P turns to display “TEST OPERATION” (blinks), “TEST OPERATION” and “IN CENTRALIZED CONTROL” are displayed on the remote controller, and the operation is prohibited.

② Turn the respective remote switch of indoor and outdoor units. At this time, turn either one of the power off first, and another power off within 10 minutes.
(The transmission between indoor unit-outdoor unit becomes abnormal, and the expansion valve is fully closed again.)

③ Collect the refrigerant using a refrigerant recovery unit.

1.9 Test Operation

To prevent any trouble in the period of installation at site, the system is provided with a test operation mode enabling check for incorrect wiring, stop valve left in closed, coming out (or misplacing with suction pipe thermistor) of discharge pipe thermistor and judgment of piping length, refrigerant overcharging, and learning for the minimum opening degree of motorized valve.



1.10 Backup Operation (For 8, 10 HP Types Only)

In case of STD compressor malfunctions and faulty Tds thermistor, the system operates only with INV compressor only by setting of service mode.

1. During stop mode, turn “Backup operation setting” ON in the “Setting mode 2”.
2. Operates the INV compressor only.
   Compressor upper-limit operating frequency = 210 Hz + OFF
   Masks the Tds thermistor malfunction.

1.11 Emergency Operation (For 8, 10 HP Types Only)

In case of inverter malfunctions, INV compressor malfunctions, and faulty Tdi thermistor, the system operates only with STD compressor only by setting of service mode.

1. During stop mode, turn “Emergency operation” ON in the “Setting mode 2”.
2. Operates the STD compressor only.
   Masks the inverter malfunction.
   Masks the Tdi thermistor malfunction.

1.12 Capacity Precedence Operation

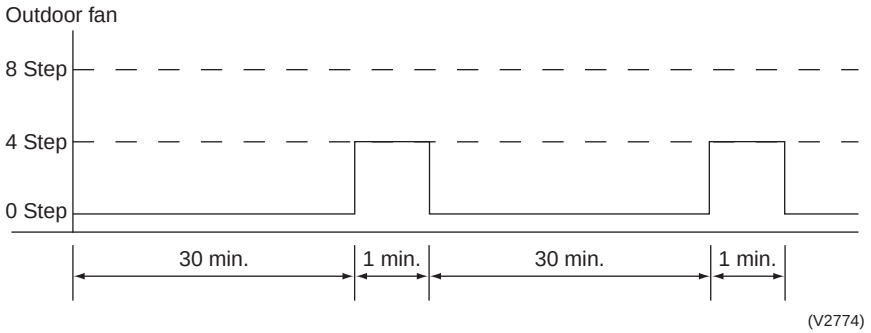
When operating in the capacity precedence setting, increases the fan speed to conduct operation with increased air flow rate. And when operating in low noise control, capacity precedence operation precedes low noise operation.

1. During stop mode, turn “Capacity precedence operation” ON in the “Setting mode 2”.
2. When the fan is running in step 8, conducts operation with increased air flow rate by step table 2 (increased capacity operation).

1.13 Fan Intermittent Operation

In cold areas, fan intermittent operation is performed in service mode setting in order to prevent an icicle and the accumulation of snow on discharge grille during compressor stop.

1. During stop mode, turn “Fan intermittent operation” ON in the “Setting mode 2”.
2. When outdoor temperature Ta<5˚C during compressor stop, the fan operation is carried out as below.



1.14 Power Transistor Check Operation

When the inverter system malfunctions (malfunction of inverter, INV compressor), to locate where the malfunction occurs, switching to the power transistor check mode of inverter in the service mode setting enables not to judge the position detection signal malfunction but to output waveform only during inverter operation. (The waveform can be checked by disconnecting the wiring of compressor.)

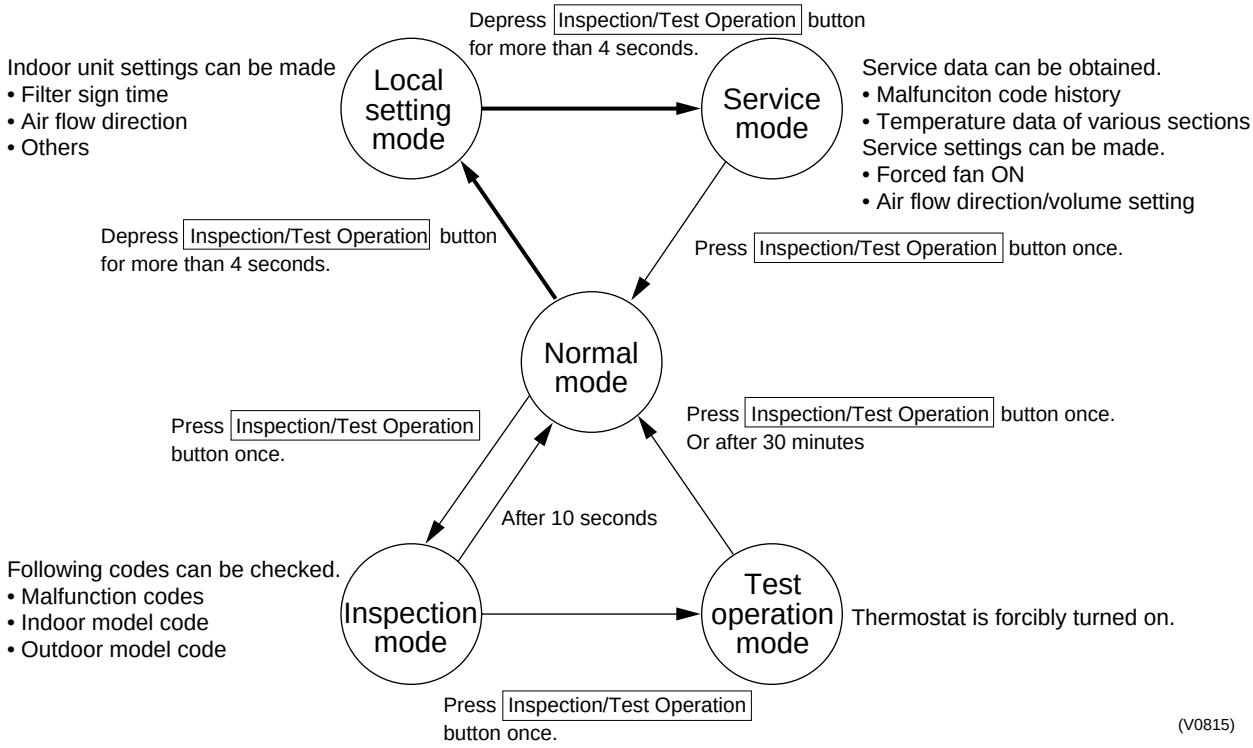
Note: Be sure to disconnect the compressor wiring when conducting the check operation mentioned above.
When the output voltage is approx. 50 V (10 Hz) and the voltage balance between phases U-V, V-W, W-U is within ±5%, the inverter PCB is normal.

Part 5
Troubleshooting

1. Troubleshooting by Remote Controller

1.1 The INSPECTION / TEST Button

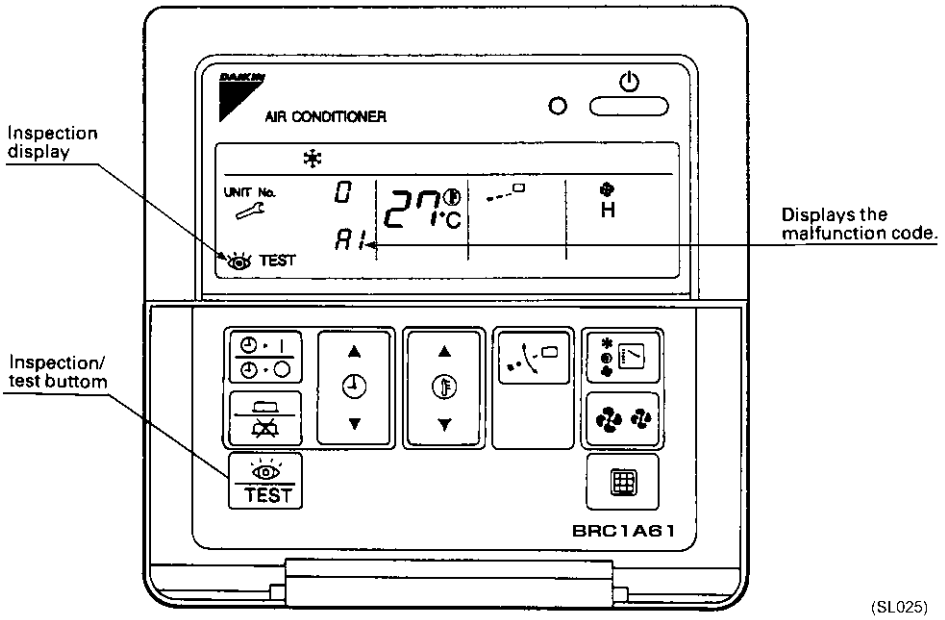
The following modes can be selected by using the [Inspection/Test Operation] button on the remote control.



1.2 Self-diagnosis by Wired Remote Controller

Explanation

If operation stops due to malfunction, the remote controller's operation LED blinks, and malfunction code is displayed. (Even if stop operation is carried out, malfunction contents are displayed when the inspection mode is entered.) The malfunction code enables you to tell what kind of malfunction caused operation to stop. See page 131 for malfunction code and malfunction contents.



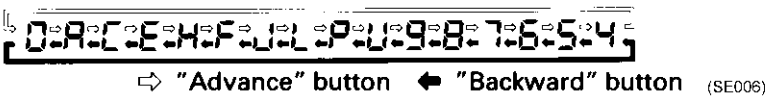
1.3 Self-diagnosis by Wireless Remote Controller

In the Case of BRC7C ~ Type

If equipment stops due to a malfunction, the operation indicating LED on the light reception section flashes.
The malfunction code can be determined by following the procedure described below. (The malfunction code is displayed when an operation error has occurred. In normal condition, the malfunction code of the last problem is displayed.)

1. Press the INSPECTION/TEST button to select “Inspection.”
   The equipment enters the inspection mode. The “Unit” indication lights and the Unit No. display shows flashing “0” indication.
2. Set the Unit No.
   Press the UP or DOWN button and change the Unit No. display until the buzzer (*1) is generated from the indoor unit.
   *1 Number of beeps
   3 short beeps : Conduct all of the following operations.
   1 short beep : Conduct steps 3 and 4.
   Continue the operation in step 4 until a buzzer remains ON. The continuous buzzer indicates that the malfunction code is confirmed.
   Continuous beep : No abnormality.
3. Press the MODE selector button.
   The left “0” (upper digit) indication of the malfunction code flashes.
4. Malfunction code upper digit diagnosis
   Press the UP or DOWN button and change the malfunction code upper digit until the malfunction code matching buzzer (*2) is generated.

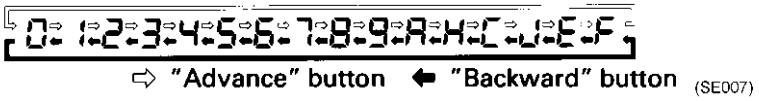
■ The upper digit of the code changes as shown below when the UP and DOWN buttons are pressed.



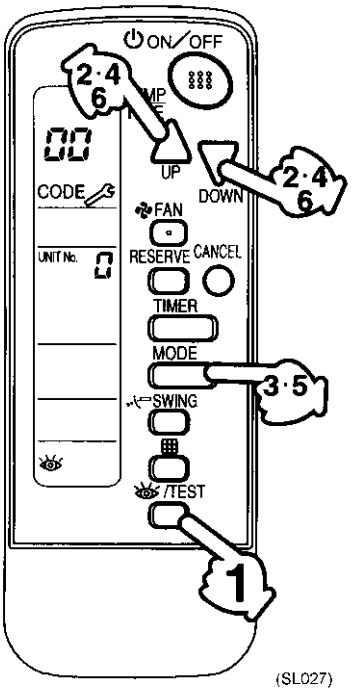
*2 Number of beeps
Continuous beep : Both upper and lower digits matched. (Malfunction code confirmed)
2 short beeps : Upper digit matched.
1 short beep : Lower digit matched.

5. Press the MODE selector button.
   The right “0” (lower digit) indication of the malfunction code flashes.
6. Malfunction code lower digit diagnosis
   Press the UP or DOWN button and change the malfunction code lower digit until the continuous malfunction code matching buzzer (*2) is generated.

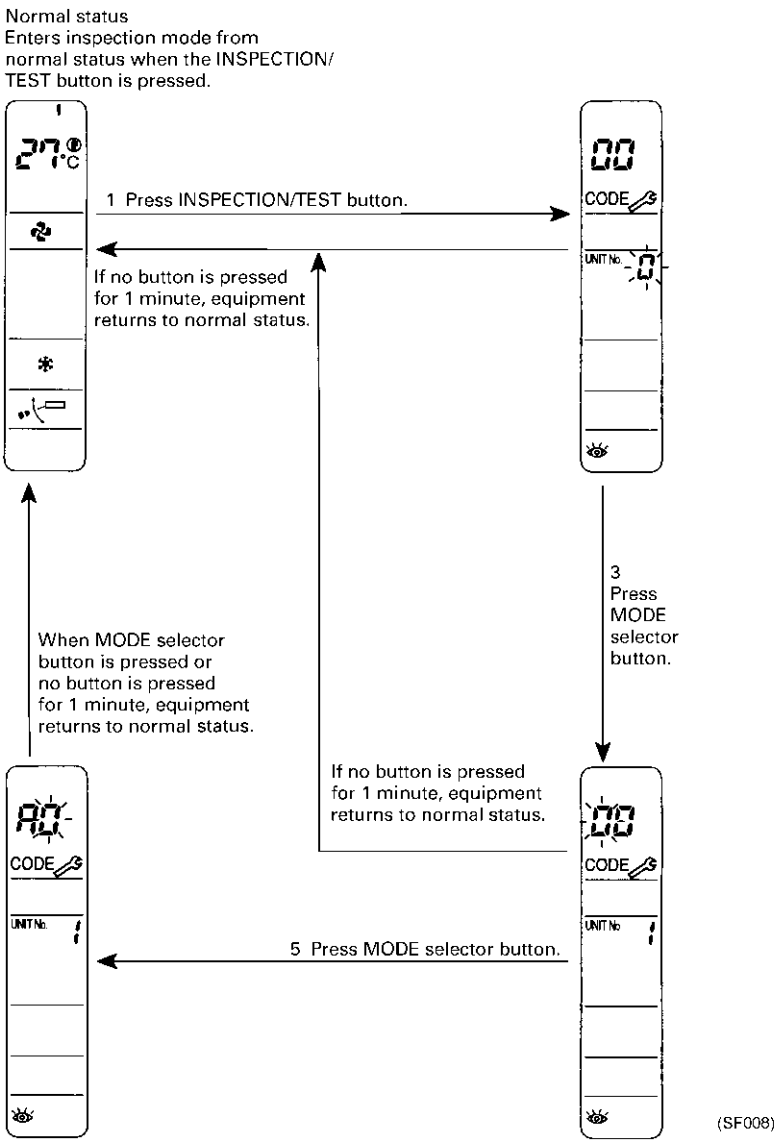
■ The lower digit of the code changes as shown below when the UP and DOWN buttons are pressed.



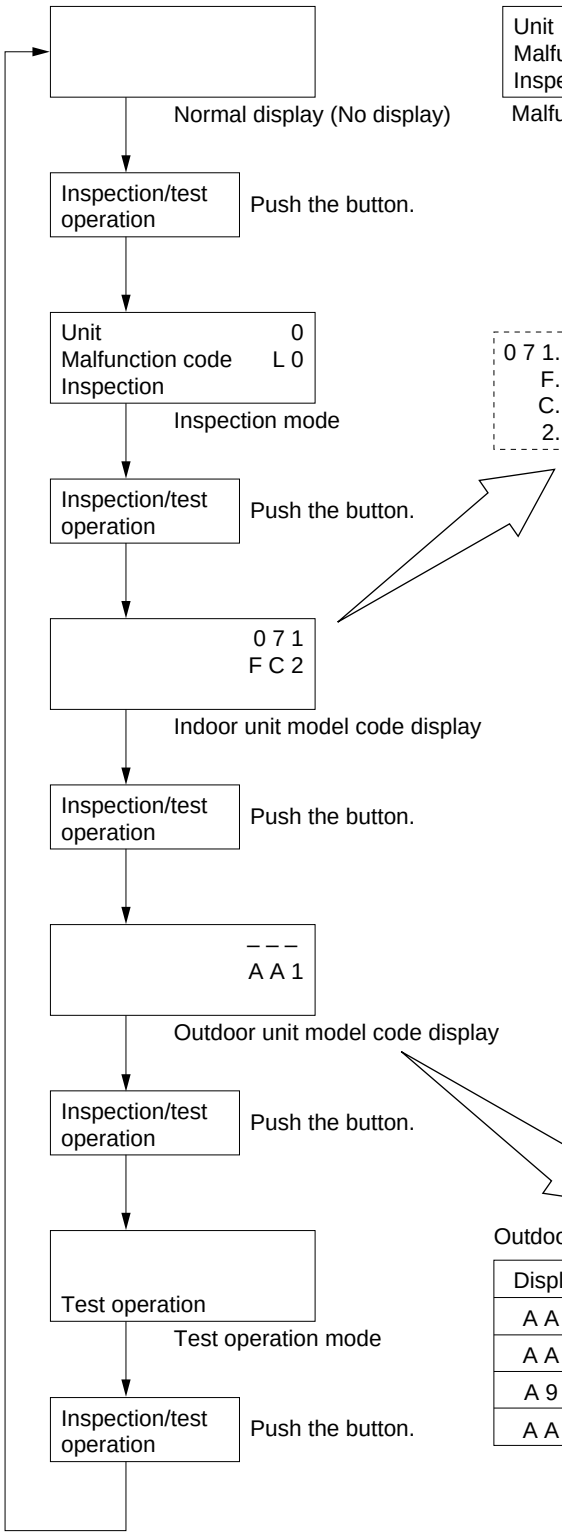
(SE007)



(SL027)


Normal status
Enters inspection mode from
normal status when the INSPECTION/
TEST button is pressed.
27°C
00
CODE
UNIT No.
0
1 Press INSPECTION/TEST button.
If no button is pressed
for 1 minute, equipment
returns to normal status.
3
Press
MODE
selector
button.
When MODE selector
button is pressed or
no button is pressed
for 1 minute, equipment
returns to normal status.
If no button is pressed
for 1 minute, equipment
returns to normal status.
A0
CODE
UNIT No.
1
00
CODE
UNIT No.
1
5 Press MODE selector button.
(SF008)

1.4 Operation of The Remote Controller's Inspection / Test Operation Button



Unit 0
Malfunction code L 0
Inspection

Malfunction code blinks when a malfunction occurs.

0 7 1... Capacity code
F... Indoor unit system code
C... Indoor unit type code
2... Progression code

Example of capacity code display

Example model	Display
FXYCP25K	028
FXYFP63K	071

Indoor unit system code

Display	Product classification	System classification
1	VRV system	(VAV indoor unit)
2	VRV system	Outdoor air intake
F	VRV system	Standard indoor unit

Indoor unit type code

Display	Type	Model
A	Wall mounted	FXYAP
C	Double flow	FXYCP
E	Corner	FXYKP
F	Multi flow	FXF, FXYFP
H	Ceiling suspended	FXYHP
J	Built-in	FXYSP
L	Floor standing	FXYLP
U	Concealed ceiling duct	FXYMP

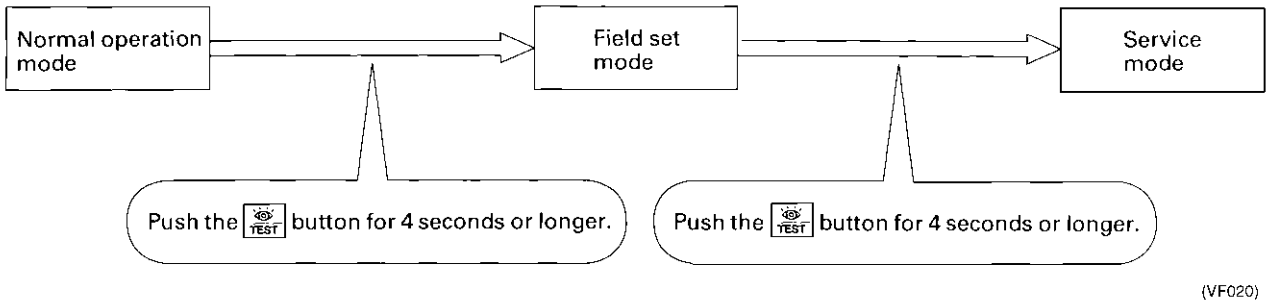
Outdoor model code

Display	Type	Model
A A 1	VRV System Inverter K Series	RSXYP
A A 3	R407C VRV PLUS Series	RXYP
A 9 2	VRV Heat Recovery Series	RSEYP
A A 5	High COP type R407C L Series	RSXYP-L

(V2775)

1.5 Remote Controller Service Mode

How to Enter the Service Mode



Service Mode Operation Method

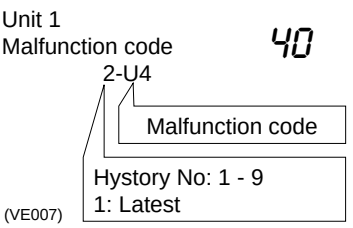
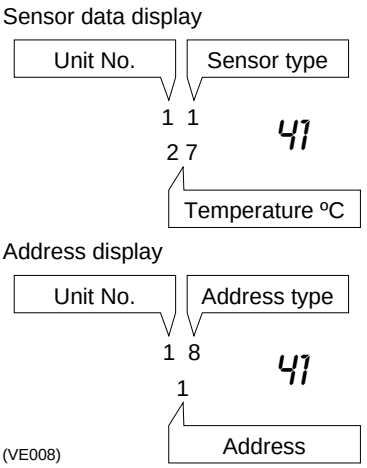
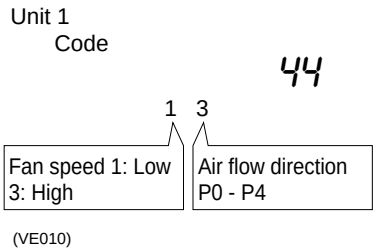
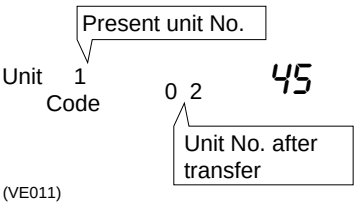
1. Select the mode No.
Set the desired mode No. with the button.
(For wireless remote controller, Mode 43 only can be set.)

2. Select the unit No. (For group control only)
Select the indoor unit No. to be set with the time mode . (For wireless remote controller, button.)

3. Make the settings required for each mode. (Modes 41, 44, 45)
In case of Mode 44, 45, push button to be able to change setting before setting work. (LCD “code” blinks.)
For details, refer to the table in next page.

4. Define the setting contents. (Modes 44, 45)
Define by pushing the timer button.
After defining, LCD “code” changes blinking to ON.

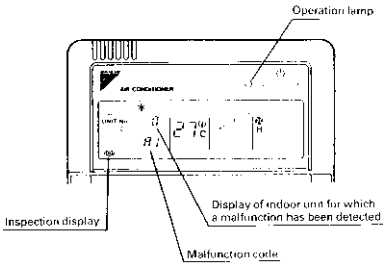
5. Return to the normal operation mode.
Push the button one time.

Mode No	Function	Contents and operation method	Remote controller display example
40	Malfunction hysteresis display	Display malfunction hysteresis. The hystory No. can be changed with the button.	
41	Display of sensor and address data	Display various types of data. Select the data to be displayed with the button. Sensor data 0: Thermostat sensor in remote controller. 1: Suction 2: Liquid pipe 3: Gas pipe Address data 4: Indoor unit address 5: Outdoor unit address 6: BS unit address 7: Zone control address 8: Cool/heat group address 9: Demand / low noise address	
43	Forced fan ON	Manually turn the fan ON by each unit. (When you want to search for the unit No.) By selecting the unit No. with the button, you can turn the fan of each indoor unit on (forced ON) individually.	
44	Individual setting	Set the fan speed and air flow direction by each unit Select the unit No. with the time mode button. Set the fan speed with the button Set the air flow direction with the button.	
45	Unit No. transfer	Transfer unit No. Select the unit No. with the button. Set the unit No. after transfer with the button.	
46 47	This function is not used by VRV System Inverter L Series.		

1.6 Remote Controller Self-Diagnosis Function

The remote controller switches are equipped with a self diagnosis function so that more appropriate maintenance can be carried out. If a malfunction occurs during operation, the operation lamp, malfunction code and display of malfunctioning unit No. let you know the contents and location of the malfunction.

When there is a stop due to malfunction, the contents of the malfunction given below can be diagnosed by a combination of operation lamp, INSPECTION display of the liquid crystal display and display of malfunction code. It also lets you know the unit No. during group control.



(VL050)

	Malfunction code	Operation lamp	Inspection display	Unit No.	Malfunction contents	Page Refered
Indoor Unit	A0	◑	◑	◑	Error of external protection device	135
	A1	◑	◑	◑	PC board defect	136
	A1	○	●	◑	PC board defect	136
	A3	◑	◑	◑	Malfunction of drain level control system (33H)	137
	A6	◑	◑	◑	Fan motor (MF) lock, overload	139
	A7	○	●	◑	Malfunction of swing flap motor (MA)	140
	A9	◑	◑	◑	Malfunction of moving part of electronic expansion valve (20E)	142
	AF	○	●	◑	Drain level about limit	144
	AH	○	●	◑	Malfunction of air filter maintenance	—
	AJ	◑	◑	◑	Malfunction of capacity determination device	145
	C4	◑	◑	◑	Malfunction of thermistor (Th2) for heat exchange (loose connection, disconnection, short circuit, failure)	146
	C5	◑	◑	◑	Malfunction of thermistor (Th3) for gas pipes (loose connection, disconnection, short circuit, failure)	147
	C9	◑	◑	◑	Malfunction of thermistor (Th1) for air inlet (loose connection, disconnection, short circuit, failure)	148
	CJ	○	○	○	Malfunction of thermostat sensor in remote controller	149
Outdoor Unit	E0	◑	◑	◑	Actuation of safety device	150
	E1	◑	◑	◑	PC board defect	151
	E1	○	●	◑	PC board defect	151
	E3	◑	◑	◑	Actuation of high pressure switch	152
	E4	◑	◑	◑	Actuation of low pressure sensor	153
	E5	◑	◑	◑	Compressor motor lock	154
	E7	◑	◑	◑	Malfunction of outdoor unit fan motor	155
	E9	◑	◑	◑	Malfunction of moving part of electronic expansion valve (Y1E~3E)	157
	EC	○	●	◑		—
	EF	◑	◑	◑		—
	F3	◑	◑	◑	Abnormal discharge pipe temperature	159
	F6	◑	◑	◑	Refrigerant overcharged	160
	H7	◑	◑	◑	Abnormal outdoor fan motor signal	161
	H9	◑	◑	◑	Malfunction of thermistor (R1T) for outdoor air (loose connection, disconnection, short circuit, failure)	162
	H9	○	●	◑	Malfunction of thermistor (R1T) for outdoor air (loose connection, disconnection, short circuit, failure)	162
	J2	◑	◑	◑	Current sensor malfunction	163
	J3	◑	◑	◑	Malfunction of discharge pipe thermistor (R3T) (loose connection, disconnection, short circuit, failure)	164
	J3	○	●	◑	Malfunction of discharge pipe thermistor (R3T) (loose connection, disconnection, short circuit, failure)	164
	J5	◑	◑	◑	Malfunction of thermistor (R4T) for suction pipe (loose connection, disconnection, short circuit, failure)	165

	Malfunction code	Operation lamp	Inspection display	Unit No.	Malfunction contents	Page Refered
Outdoor Unit	J6	◑	◑	◑	Malfunction of thermistor (R2T) for heat exchanger	166
	J6	○	●	◑	Malfunction of thermistor (R2T) for heat exchanger (loose connection, disconnection, short circuit, failure)	166
	J7	◑	◑	◑		—
	J9	◑	◑	◑	Malfunction of receiver gas pipe thermistor (R5T)	167
	JA	◑	◑	◑	Malfunction of discharge pipe pressure sensor	168
	JC	◑	◑	◑	Malfunction of suction pipe pressure sensor	169
	L3	◑	◑	◑	Inverter box temperature rise	170
	L4	◑	◑	◑	Malfunction of inverter radiating fin temperature rise	171
	L5	◑	◑	◑	Inverter compressor abnormal	172
	L8	◑	◑	◑	Inverter current abnormal	173
	L9	◑	◑	◑	Inverter start up error	174
	LC	◑	◑	◑	Malfunction of transmission between inverter and control PC board	175
	P1	◑	◑	◑	Inverter over-ripple protection	177
	P3	◑	◑	◑	Malfunction of inverter box thermistor	178
	P4	◑	◑	◑	Malfunction of inverter radiating fin temperature rise sensor	179
System	U0	○	●	◑	Low pressure drop due to refrigerant shortage or electronic expansion valve failure	180
	U1	◑	◑	◑	Reverse phase / open phase	181
	U2	◑	◑	◑	Power supply insufficient or instantaneous failure	182
	U4	◑	◑	◑	Malfunction of transmission between indoor units	183
	U5	◑	◑	◑	Malfunction of transmission between remote controller and indoor unit	185
	U5	●	○	●	Failure of remote controller PC board or setting during control by remote controller	185
	U7	◑	◑	◑	Malfunction of transmission between outdoor units	186
	U7	○	●	○	Malfunction of transmission between outdoor units (cool/heat unified, low noise)	186
	U8	◑	◑	●	Malfunction of transmission between master and slave remote controllers (malfunction of slave remote controller)	187
	U9	◑	◑	◑	Malfunction of transmission between indoor unit and outdoor unit in the same system	188
	UA	◑	◑	◑	Excessive number of indoor units	190
	UC	○	○	○	Address duplication of central remote controller	191
	UE	◑	◑	◑	Malfunction of transmission between central remote controller and indoor unit	192 196 202
	UF	◑	◑	◑	Refrigerant system not set, incompatible wiring / piping	194
	UH	◑	◑	◑	Malfunction of system, refrigerant system address undefined	195

The system operates for malfunction codes indicated in black squares, however, be sure to check and repair.

	Malfunction code	Operation lamp	Inspection display	Unit No.	Malfunction contents	Page Refered
Centralized Control and Schedule Timer	M1	○ or ◑	◑	◑	PC board defect	197 204
	M8	○ or ◑	◑	◑	Malfunction of transmission between optional controllers for centralized control	198 205
	MA	○ or ◑	◑	◑	Improper combination of optional controllers for centralized control	199 206
	MC	○ or ◑	◑	◑	Address duplication, improper setting	201 208
Heat Reclaim Ventilation	64	○	●	◑	Inside air thermistor error	—
	65	○	●	◑	Outside air thermistor error	—
	68	○	●	◑		—
	6A	○	●	◑	Damper system alarm	—
	6A	◑	◑	◑	Damper system + thermistor error	—
	6F	○	●	◑		—
	6H	○	●	◑		—
	94	◑	◑	◑		—

2. Troubleshooting by Remote Controller

2.1 Indoor Unit: Error of External Protection Device

Remote Controller Display

A0

Applicable Models

All indoor unit models

Method of Malfunction Detection

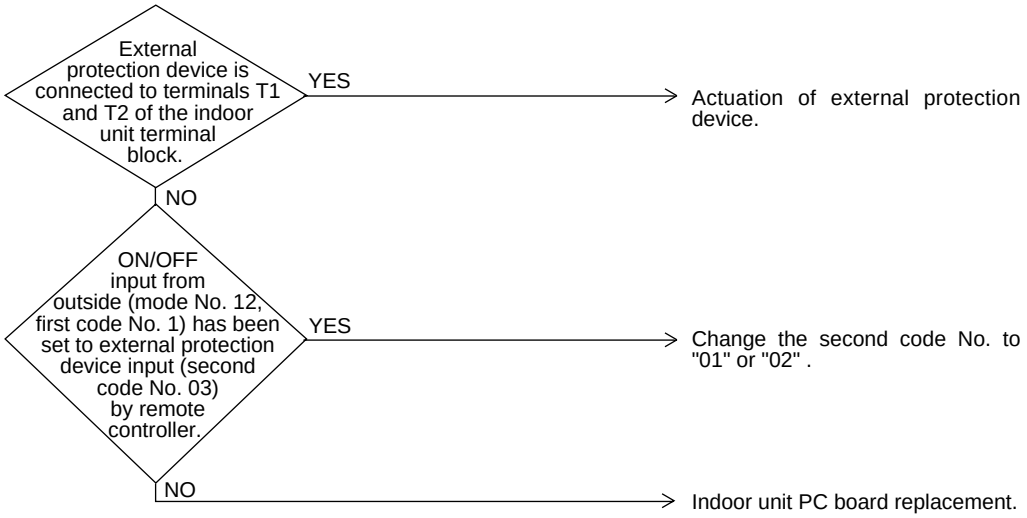
Malfunction Decision Conditions

Supposed Causes

- Actuation of external protection device
- Improper field set
- Defect of indoor unit PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2776)

2.2 Indoor Unit: PC Board Defect

Remote Controller Display

A1

Applicable Models

All indoor unit models

Method of Malfunction Detection

Check data from E²PROM.

Malfunction Decision Conditions

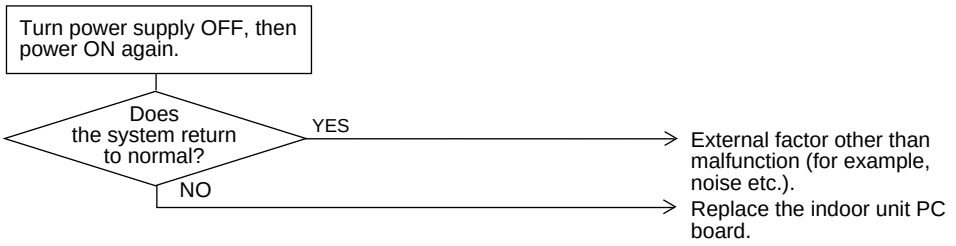
When data could not be correctly received from the E²PROM
E²PROM : Type of nonvolatile memory. Maintains memory contents even when the power supply is turned off.

Supposed Causes

- Defect of indoor unit PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2777)

2.3 Indoor Unit: Malfunction of Drain Level Control System (33H)

Remote Controller Display

A3

Applicable Models

FHYC, FHYB, FAY, FVY

Method of Malfunction Detection

By float switch OFF detection

Malfunction Decision Conditions

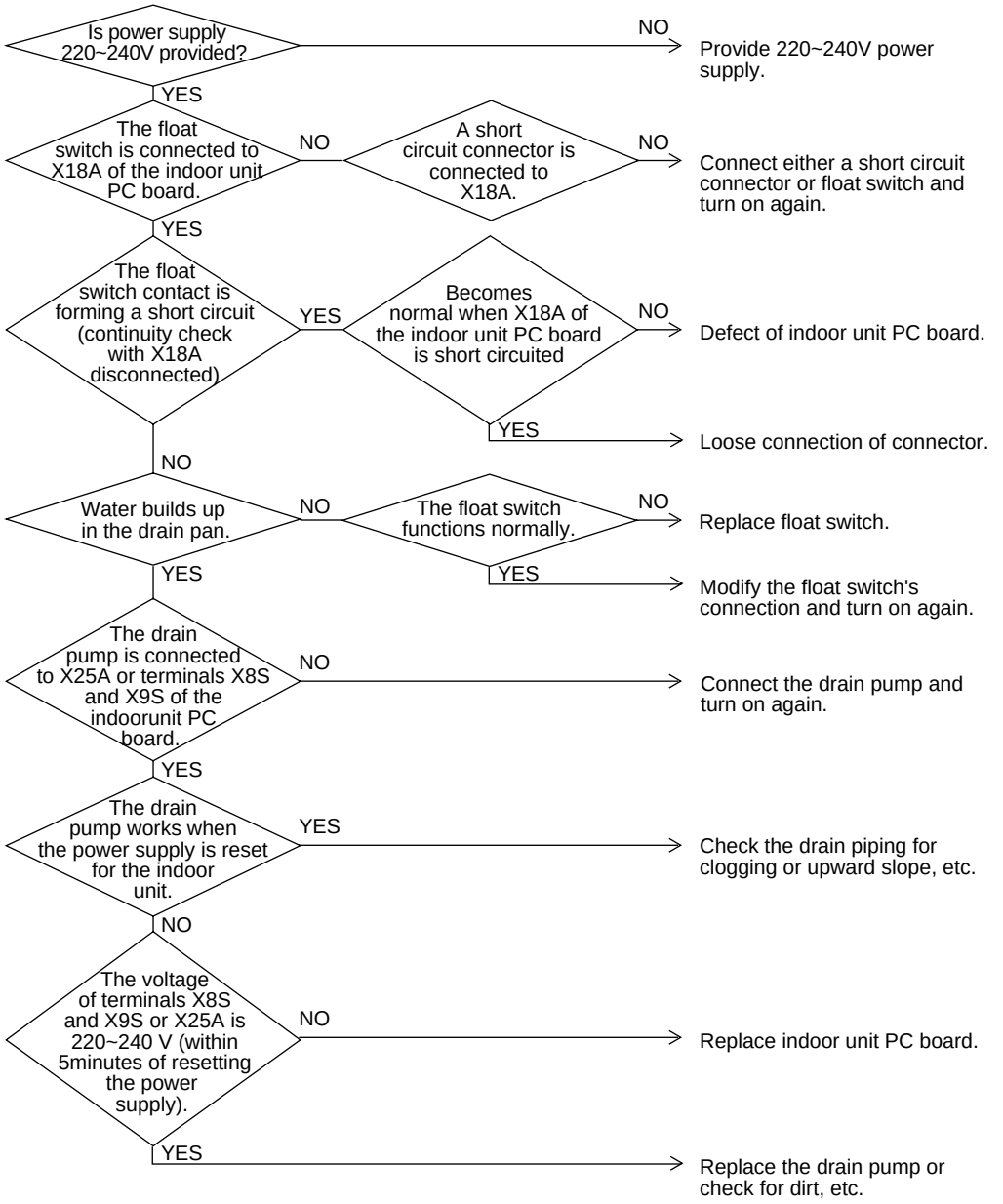
When rise of water level is not a condition and the float switch goes OFF.

Supposed Causes

- 220~240V power supply is not movided
- Defect of float switch or short circuit connector
- Defect of drain pump
- Drain clogging, upward slope, etc.
- Defect of indoor unit PC board
- Loose connection of connector

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2778)

2.4 Indoor Unit: Fan Motor (M1F) Lock, Overload

Remote Controller Display

A6

Applicable Models

FAY

Method of Malfunction Detection

Detection by failure of signal for detecting number of turns to come from the fan motor

Malfunction Decision Conditions

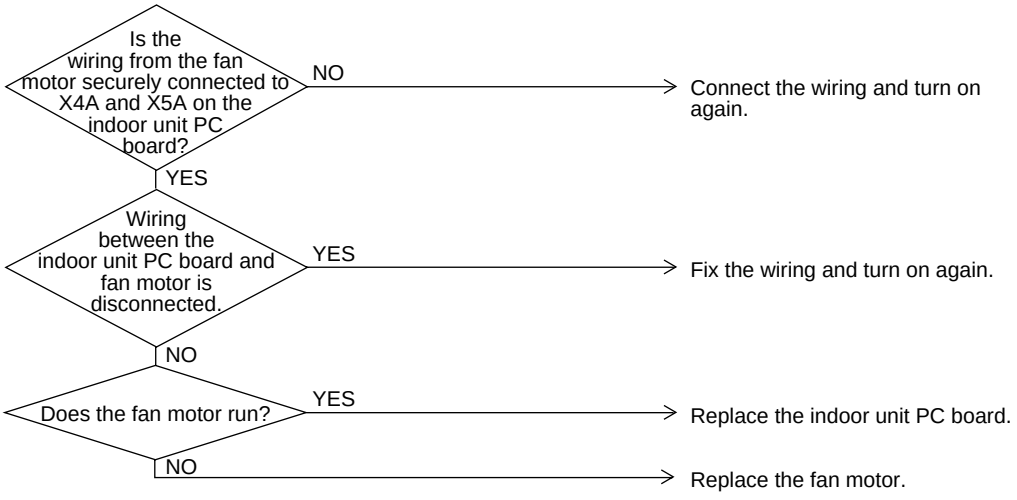
When number of turns can't be detected even when output voltage to the fan is maximum

Supposed Causes

- Fan motor lock
- Disconnected or faulty wiring between fan motor and PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2779)

2.5 Indoor Unit: Malfunction of Swing Flap Motor (MA)

Remote Controller Display

A7

Applicable Models

FHYC, FAY, FVY

Method of Malfunction Detection

Utilizes ON/OFF of the limit switch when the motor turns.

Malfunction Decision Conditions

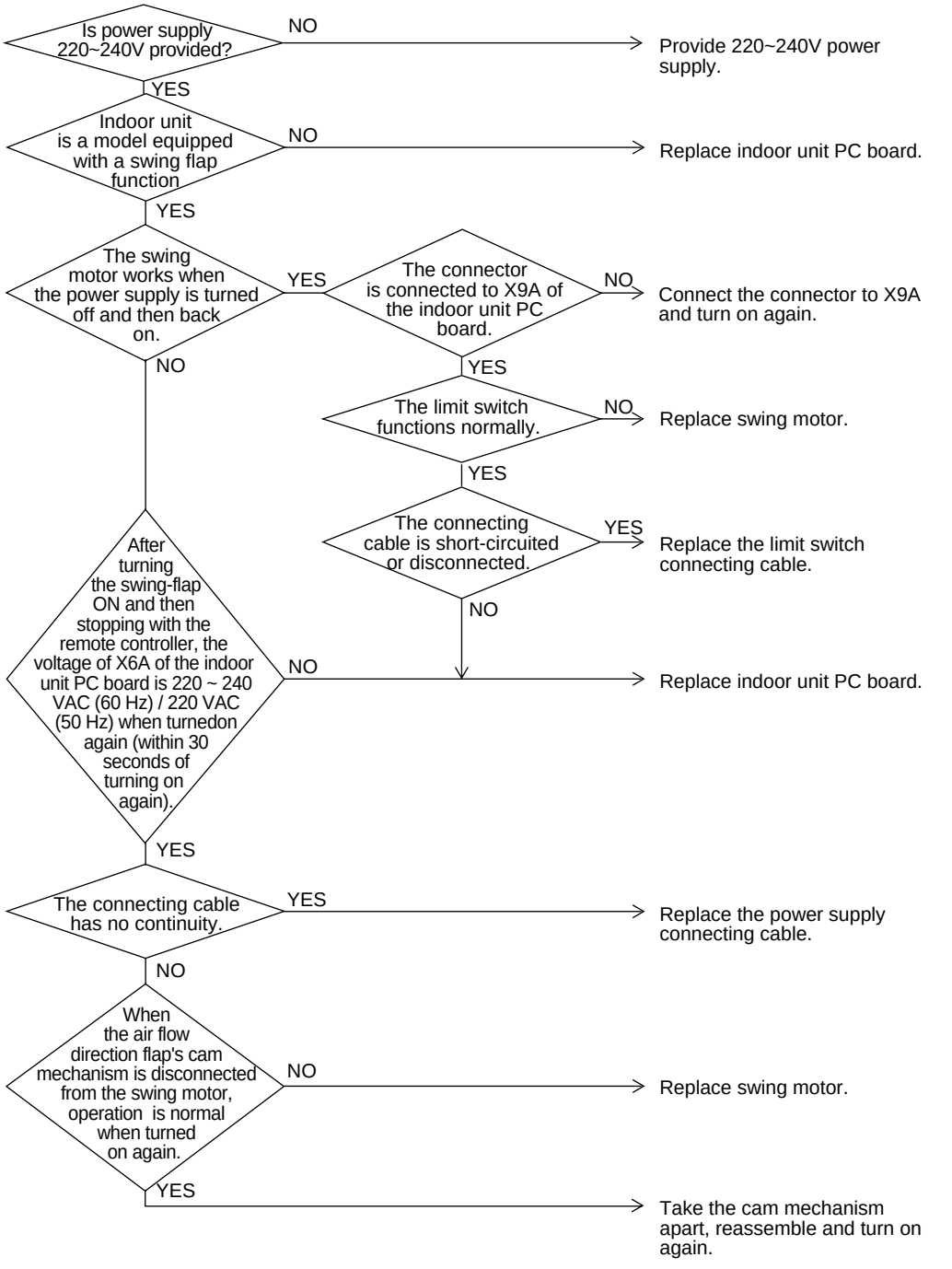
When ON/OFF of the microswitch for positioning cannot be reversed even though the swing flap motor is energized for a specified amount of time (about 30 seconds).

Supposed Causes

- Defect of swing motor
- Defect of connection cable (power supply and limit switch)
- Defect of air flow direction adjusting flap-cam
- Defect of indoor unit PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2780)

2.6 Indoor Unit: Malfunction of Moving Part of Electronic Expansion Valve (20E)

Remote Controller Display

A9

Applicable Models

All indoor unit models

Method of Malfunction Detection

Detection by failure of signal for detecting number of turns to come from the fan motor

Malfunction Decision Conditions

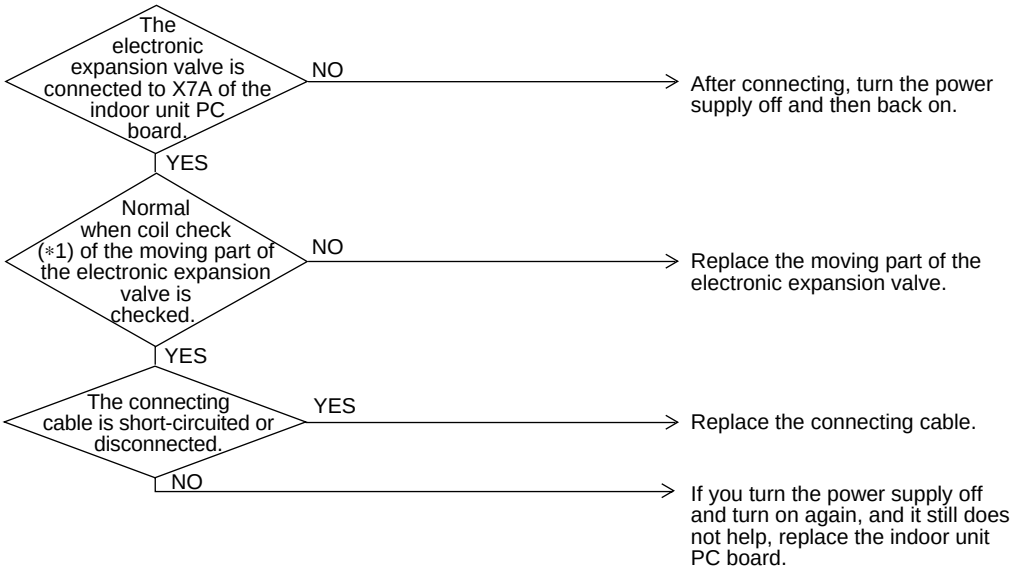
When number of turns can't be detected even when output voltage to the fan is maximum

Supposed Causes

- Malfunction of moving part of electronic expansion valve
- Defect of indoor unit PC board
- Defect of connecting cable

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2781)

∗1: Coil check method for the moving part of the electronic expansion valve
Discount the electronic expansion valve from the PC board and check the continuity between the connector pins.

(Normal)

Pin No.	1. White	2. Yellow	3. Orange	4. Blue	5. Red	6. Brown
1. White		×	○ Approx. 300Ω	×	○ Approx. 150Ω	×
2. Yellow			×	○ Approx. 300Ω	×	○ Approx. 150Ω
3. Orange				×	○ Approx. 150Ω	×
4. Blue					×	○ Approx. 150Ω
5. Red						×
6. Brown						

○: Continuity
×: No continuity

2.7 Indoor Unit: Drain Level above Limit

Remote Controller Display

AF

Applicable Models

FHYC, FHYB, FAY, FHY

Method of Malfunction Detection

Water leakage is detected based on float switch ON/OFF operation while the compressor is in non-operation.

Malfunction Decision Conditions

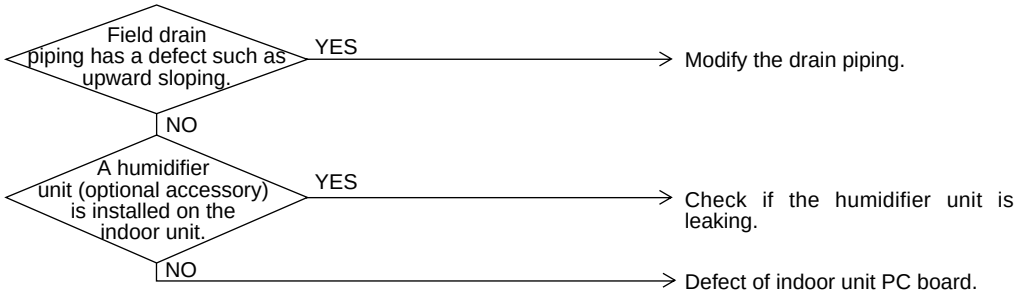
When the float switch changes from ON to OFF while the compressor is in non-operation.

Supposed Causes

- Humidifier unit (optional accessory) leaking
- Defect of drain pipe (upward slope, etc.)
- Defect of indoor unit PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2782)

2.8 Indoor Unit: Malfunction of Capacity Determination Device

Remote controller display

RJ

Applicable Models

All indoor unit models

Method of Malfunction Detection

Capacity is determined according to resistance of the capacity setting adaptor and the memory inside the IC memory on the indoor unit PC board, and whether the value is normal or abnormal is determined.

Malfunction Decision Conditions

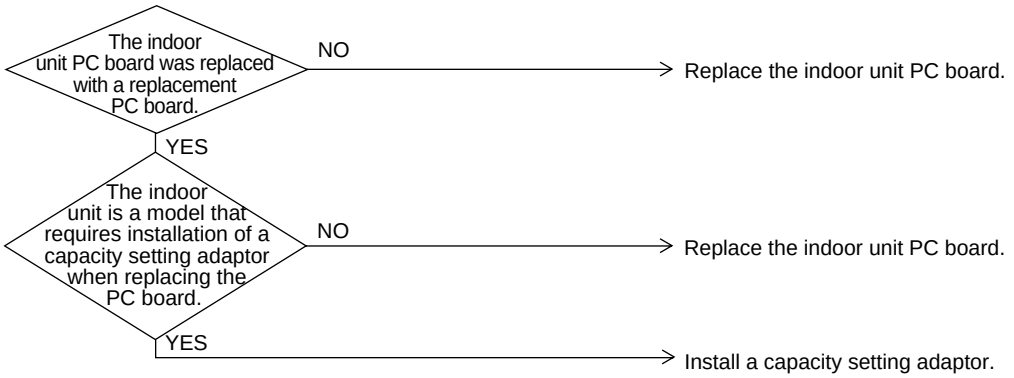
Operation and:
1. When the capacity code is not contained in the PC board's memory, and the capacity setting adaptor is not connected.
2. When a capacity that doesn't exist for that unit is set.

Supposed Causes

- You have forgotten to install the capacity setting adaptor.
- Defect of indoor unit PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2783)

2.9 Indoor Unit: Malfunction of Thermistor (Th2) for Heat Exchanger

Remote Controller Display

C4

Applicable Models

All indoor unit models

Method of Malfunction Detection

Malfunction detection is carried out by temperature detected by heat exchanger thermistor.

Malfunction Decision Conditions

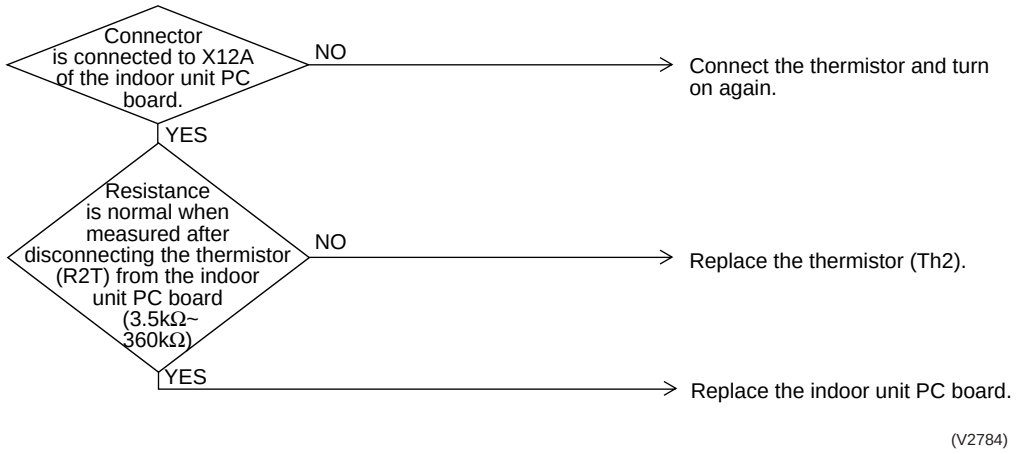
When the heat exchanger thermistor becomes disconnected or shorted while the unit is running.

Supposed Causes

- Defect of thermistor (Th2) for liquid pipe
- Defect of indoor unit PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



∗2: Refer to thermistor resistance / temperature characteristics table on P238.

2.10 Indoor Unit: Malfunction of Thermistor (Th3) for Gas Pipes

Remote Controller Display

C5

Applicable Models

All indoor unit models

Method of Malfunction Detection

Malfunction detection is carried out by temperature detected by gas pipe thermistor.

Malfunction Decision Conditions

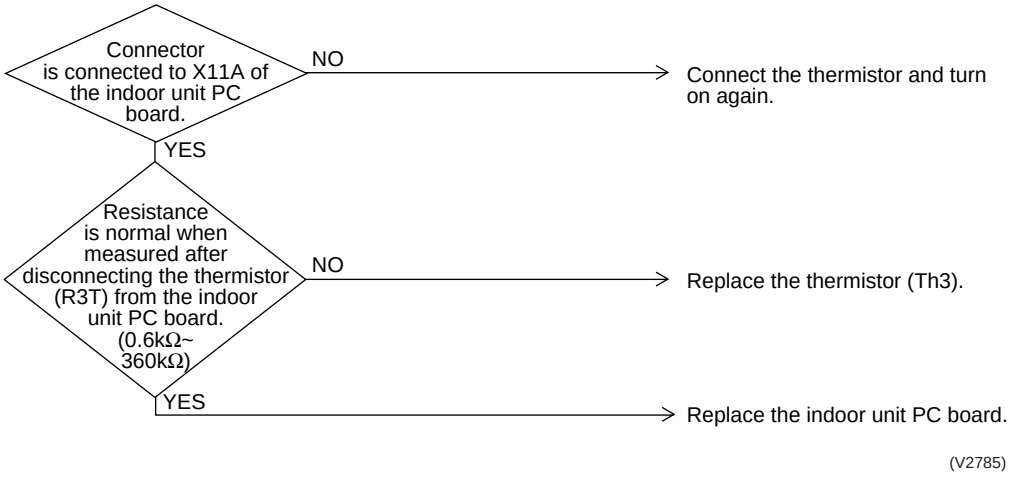
When the gas pipe thermistor becomes disconnected or shorted while the unit is running.

Supposed Causes

- Defect of indoor unit thermistor (Th3) for gas pipe
- Defect of indoor unit PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2785)

∗2: Refer to thermistor resistance / temperature characteristics table on P238.

2.11 Indoor Unit: Malfunction of Thermistor (Th1) for Suction Air

Remote Controller Display

C9

Applicable Models

All indoor unit models

Method of Malfunction Detection

Malfunction detection is carried out by temperature detected by suction air temperature thermistor.

Malfunction Decision Conditions

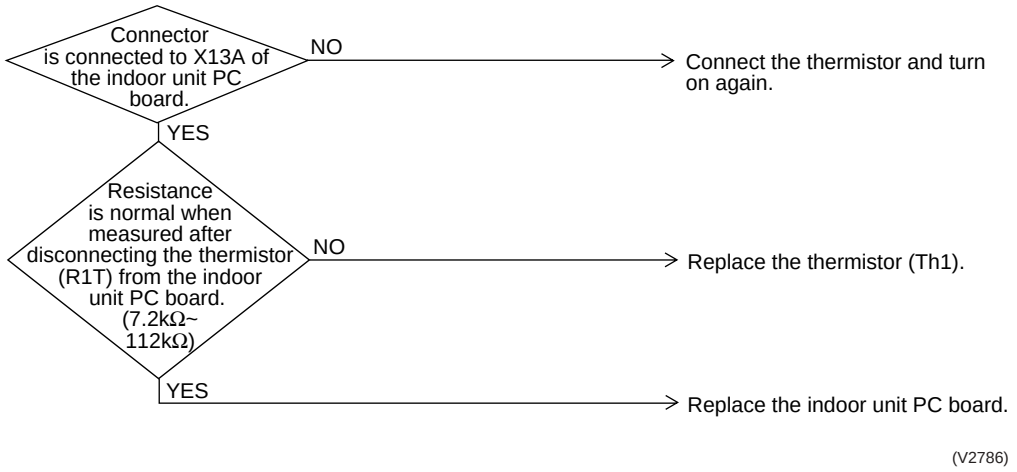
When the suction air temperature thermistor becomes disconnected or shorted while the unit is running.

Supposed Causes

- Defect of indoor unit thermistor (Th1) for air inlet
- Defect of indoor unit PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



∗2: Refer to thermistor resistance / temperature characteristics table on P238.

2.12 Indoor Unit: Malfunction of Thermostat Sensor in Remote Controller

Remote Controller Display

CJ

Applicable Models

All indoor unit models

Method of Malfunction Detection

Malfunction detection is carried out by temperature detected by remote controller air temperature thermistor. (Note1)

Malfunction Decision Conditions

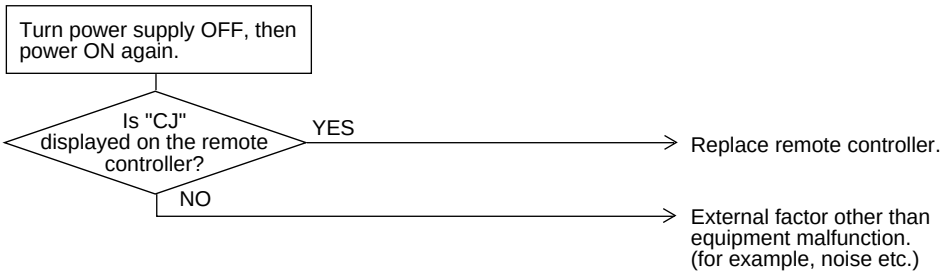
When the remote controller air temperature thermistor becomes disconnected or shorted while the unit is running.

Supposed Causes

- Defect of remote controller thermistor
- Defect of remote controller PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2787)

Note: In case of remote controller thermistor malfunction, unit is still opratable by suction air thermistor on indoor unit.

∗2: Refer to thermistor resistance / temperature characteristics table on P238.

2.13 Outdoor Unit: Actuation of Safety Device

Remote Controller Display

E0

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Actuation of safty device is detected from input circuit of safty devices. (Unified detection of each safty device.)

Malfunction Decision Conditions

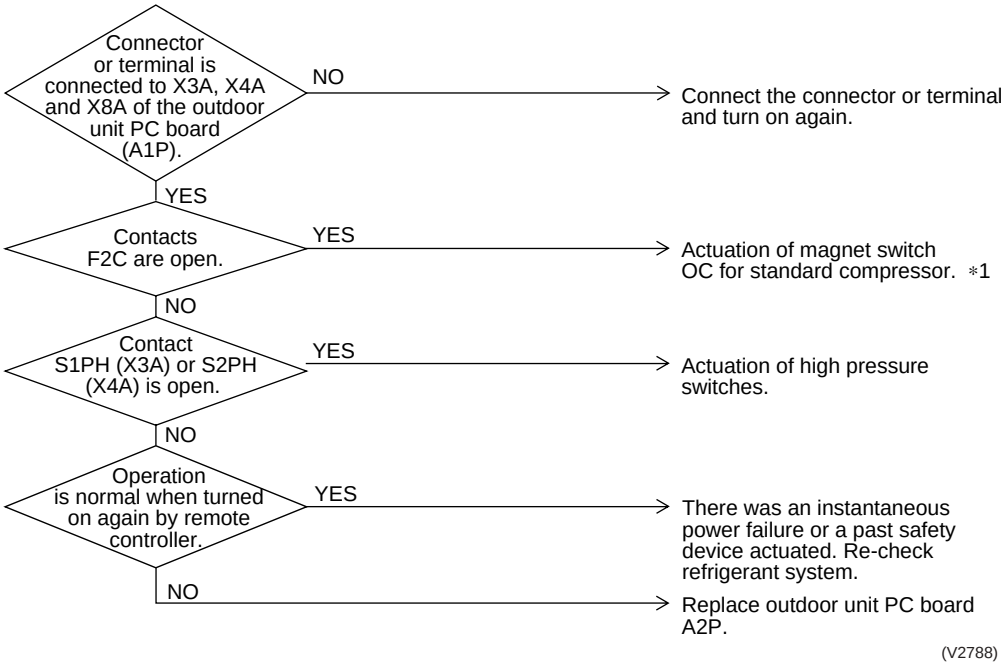
- Overcurrent relay actuation of STD compressor
- Actuation of high pressure switch

Supposed Causes

- Actuation of outdoor unit safety device
- Defect of outdoor unit PC board
- Instantaneous power failure

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



∗1: Actuation of magnet switch OC
Defect of compressor
Power supply insufficient
Defect of magnet switch, etc.

∗2: Actuation of high pressure
Refer “E3” on P.152

2.14 Outdoor Unit: PC Board Defect

Remote Controller Display

E1

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Check data from E²PROM

Malfunction Decision Conditions

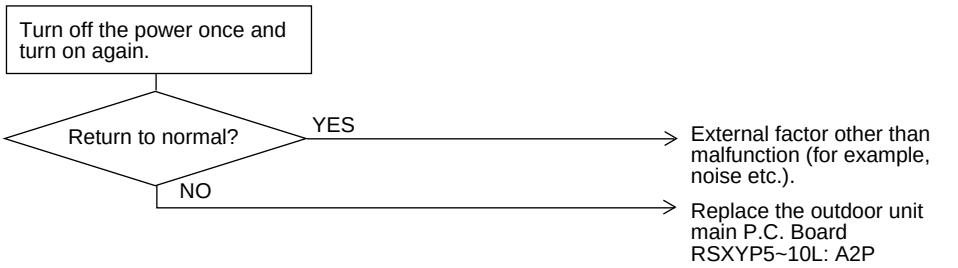
When data could not be correctly received from the E²PROM
E²PROM : Type of nonvolatile memory. Maintains memory contents even when the power supply is turned off.

Supposed Causes

- Defect of outdoor unit PC board (A1P)

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2789)

2.15 Outdoor Unit: Actuation of High Pressure Switch

Remote Controller Display

E3

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Abnormality is detected when the contact of the high pressure protection switch opens.

Malfunction Decision Conditions

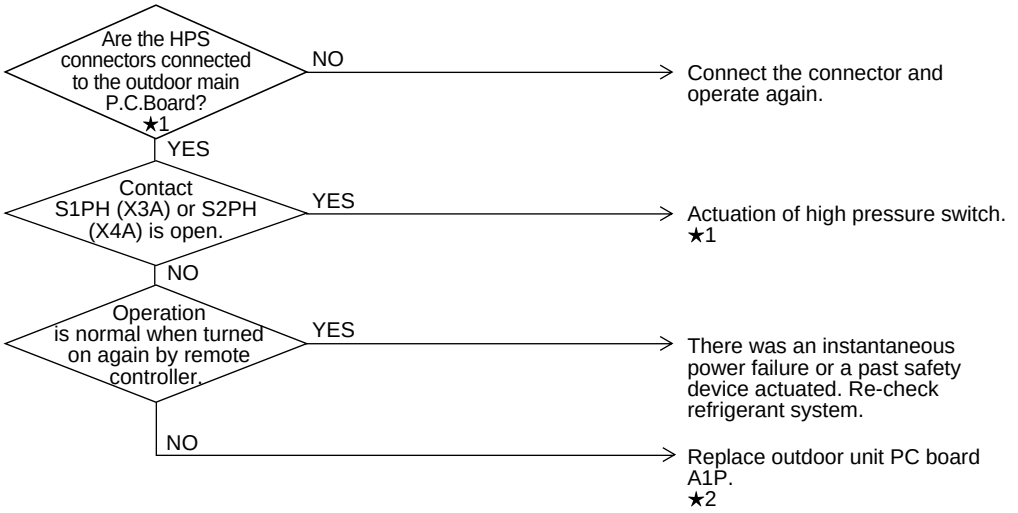
Error is generated when the HPS activation count reaches the number specific to the operation mode.

Supposed Causes

- Actuation of outdoor unit high pressure switch
- Defect of outdoor unit PC board
- Instantaneous power failure

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2790)

★1: Actuation of high pressure switch (HPS)
The outdoor unit PC board's connector is disconnected.
Is the outdoor unit heat exchanger dirty?
Defect of outdoor fan
Is the refrigerant over-charged?

★2: Symbol for main P.C.Board are differ from models.

	RSXYP5L	RSXYP8, 10L
Main P.C.Board	A2P	A2P
HPS Switch	S1PH	S1PH, S2PH
Terminal	X3A	X3A, X4A

2.16 Outdoor Unit: Actuation of Low Pressure Sensor

Remote Controller Display

E4

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Malfunction Decision Conditions

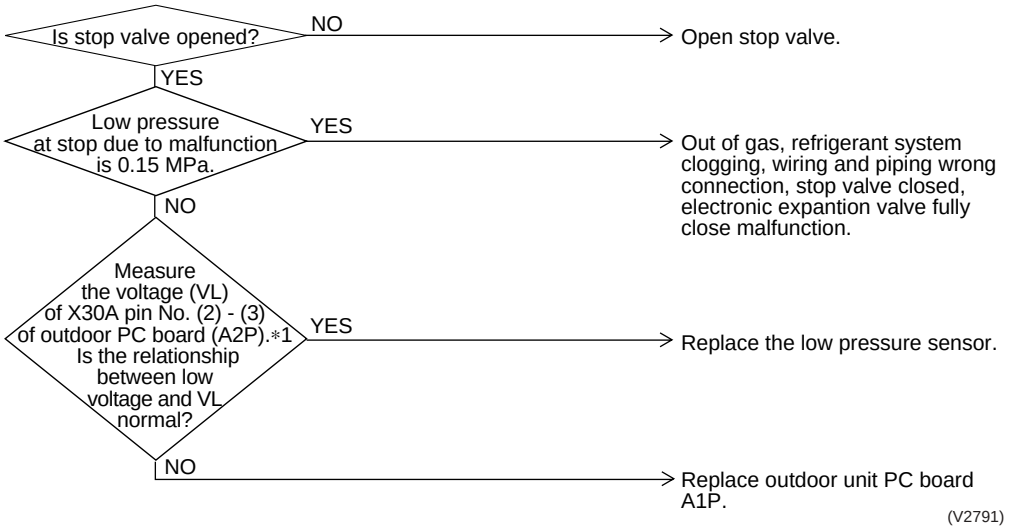
Error is generated when the low pressure is dropped under specific pressure.

Supposed Causes

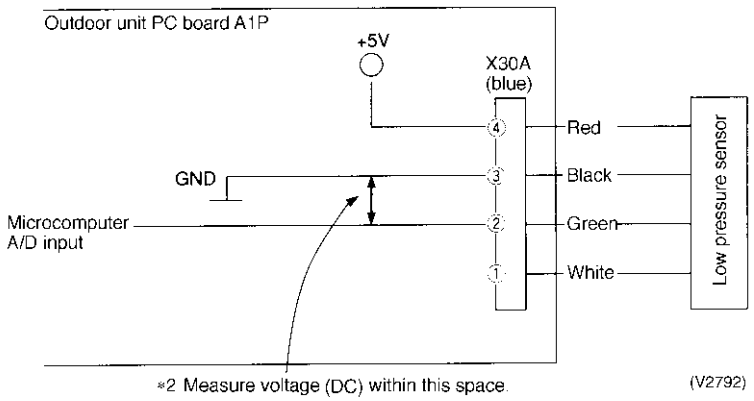
- Abnormal drop of low pressure (Lower than 0.15MPa)
- Defect of low pressure sensor
- Defect of outdoor unit PC board
- Stop valve is not opened.

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



*1: Voltage measurement point



*2: Refer to pressure sensor, pressure / voltage characteristics table on P240.

2.17 Compressor Motor Lock

Remote Controller Display

E5

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Inverter PC board takes the position signal from UVWN line connected between the inverter and compressor, and detects the position signal pattern.

Malfunction Decision Conditions

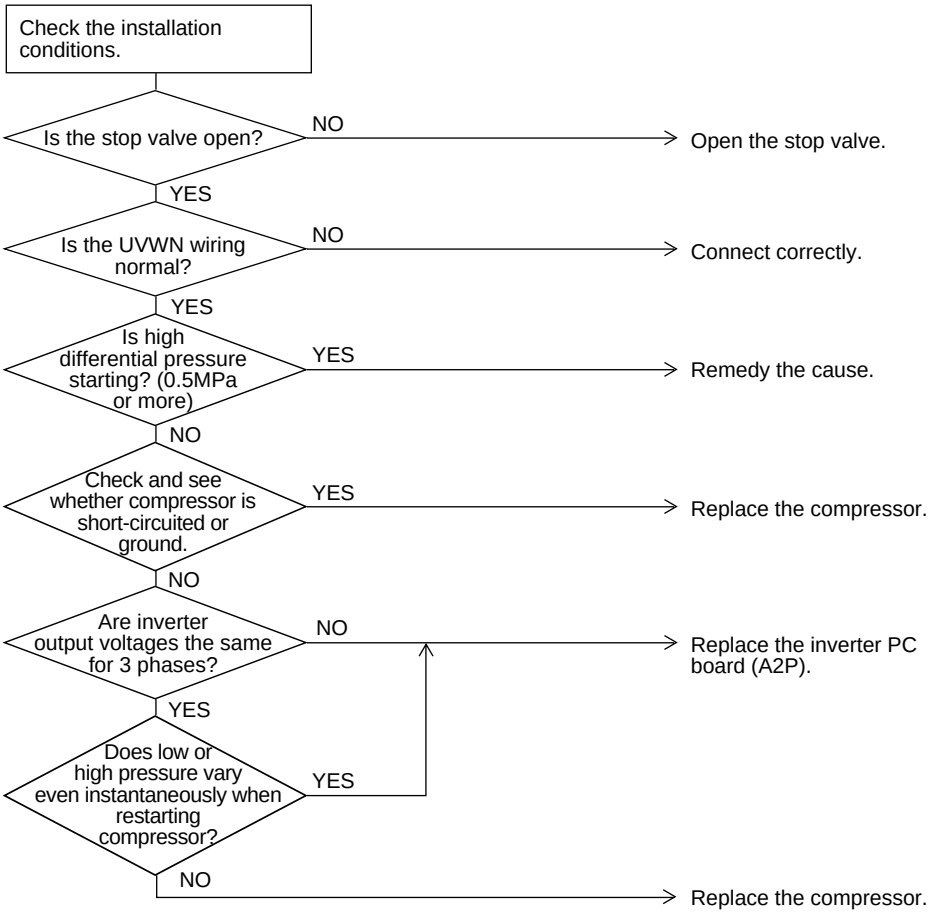
The position signal with 3 times cycle as imposed frequency is detected when compressor motor operates normally, but 2 times cycle when compressor motor locks. When the position signal in 2 times cycle is detected.

Supposed Causes

- Compressor lock
- High differential pressure (0.5MPa or more)
- Incorrect UVWN wiring
- Faulty inverter PC board
- Stop valve is left in closed.

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2793)

2.18 Malfunction of Outdoor Unit Fan Motor

Remote Controller Display

E7

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Malfunction of fan motor system is detected according to the fan speed detected by hall IC when the fan motor runs.

Malfunction Decision Conditions

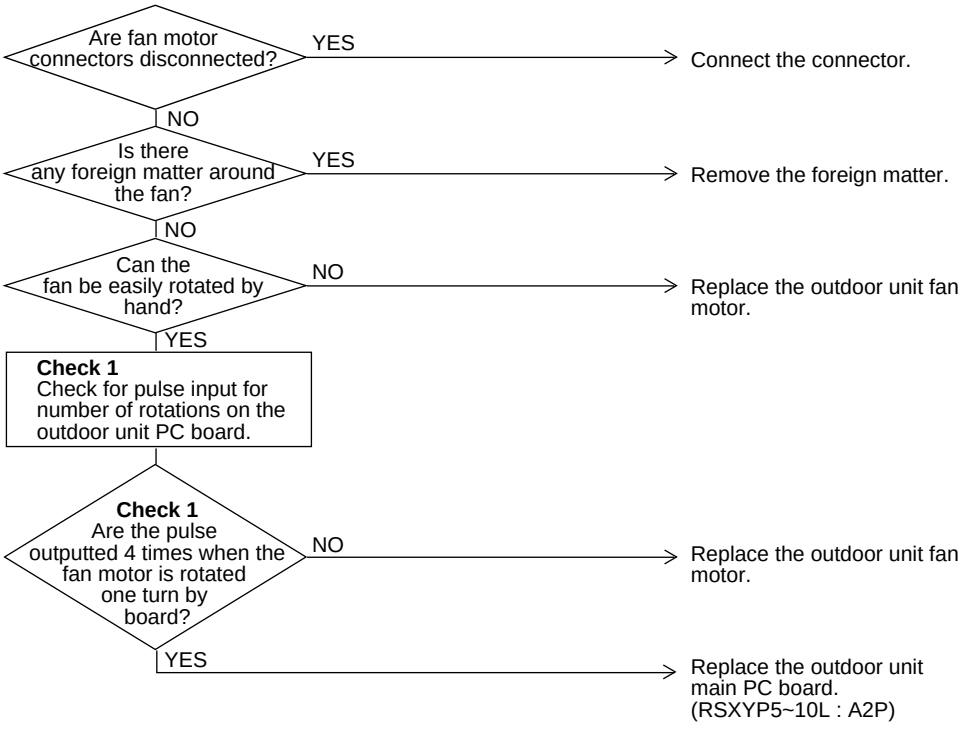
- When the fan runs with speed less than a specified one for 15 seconds or more when the fan motor running conditions are met
- When connector detecting fan speed is disconnected
- When malfunction is generated 4 times, the system shuts down.

Supposed Causes

- Malfunction of fan motor
- The harness connector between fan motor and PC board is left in disconnected, or faulty connector
- Fan does not run due to foreign matters tangled
- Clearing condition: Operate for 5 minutes (normal)

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2794)

Check 1 Outdoor Unit PCB Rotation Pulse Input Check

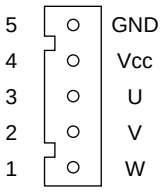
(1) Turn OFF the power switch and disconnect the connector X2A (CN2).

(2) Turn ON the power switch and check the voltage at the following positions:

- Approx. DC15V between the pins No.4 to No.5 of X2A (CN2)

(3) Turn OFF the power switch and operation switch, then connect the connector X2A (CN2).

(4) Are the pulses (0V and 5V) outputted 4 times between the pin No.1-5, No.2-5, No.3-5 of X2A (CN2) when the power is turned ON and the fan motor is rotated one turn by hand?



Judgement	(2)	(4)	
Normal	○	○	
Fan motor malfunction	○	×	∗ Replace fan motor
P.C.Board malfunction	×	—	∗ Replace P.C.Board

(V2894)

2.19 Outdoor Unit: Malfunction of Moving Part of Electronic Expansion Valve (Y1E~3E)

Remote Controller Display

E9

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Check disconnection of connector
Check continuity of expansion valve coil

Malfunction Decision Conditions

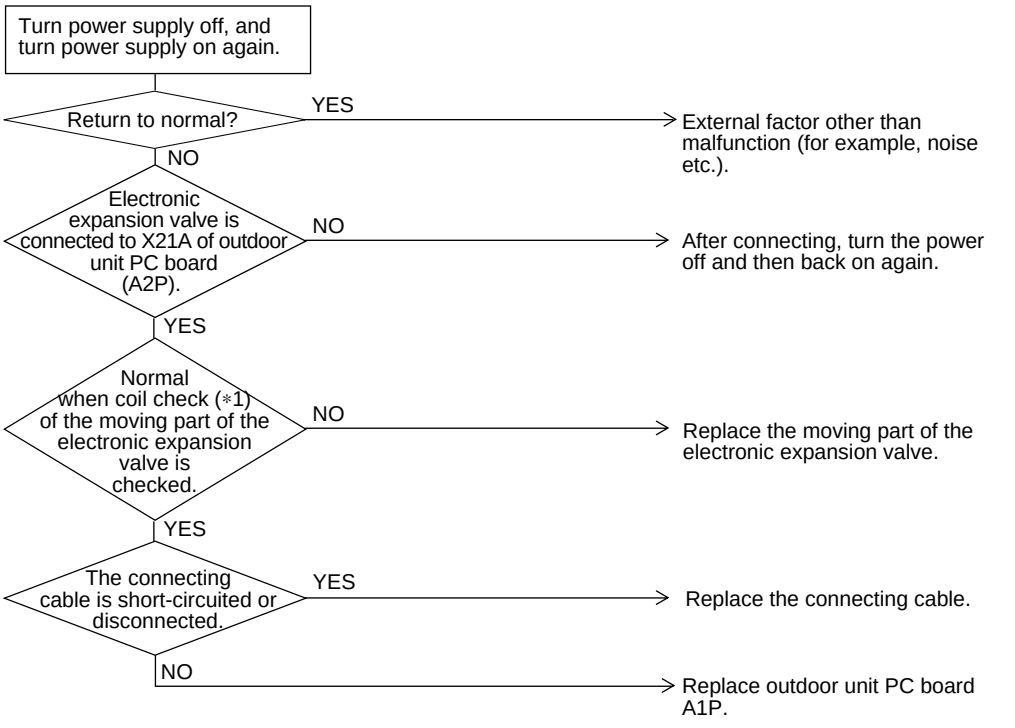
Error is generated under no common power supply when the power is on.

Supposed Causes

- Defect of moving part of electronic expansion valve
- Defect of outdoor unit PC board (A1P)
- Defect of connecting cable

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2795)

∗1 Coil check method for the moving part of the electronic expansion valve
Disconnect the electronic expansion valve from the PC board and check the continuity between the connector pins.

(Normal)

Pin No.	1. White	2. Yellow	3. Orange	4. Blue	5. Red	6. Brown
1. White		×	◎	×	○	×
2. Yellow			×	◎	×	○
3. Orange				×	○	×
4. Blue					×	○
5. Red						×
6. Brown						

◎: Continuity Approx. 300Ω
○: Continuity Approx. 150Ω
×: No continuity

2.20 Outdoor Unit: Abnormal Discharge Pipe Temperature

Remote Controller Display

F3

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Abnormality is detected according to the temperature detected by the discharge pipe temperature sensor.

Malfunction Decision Conditions

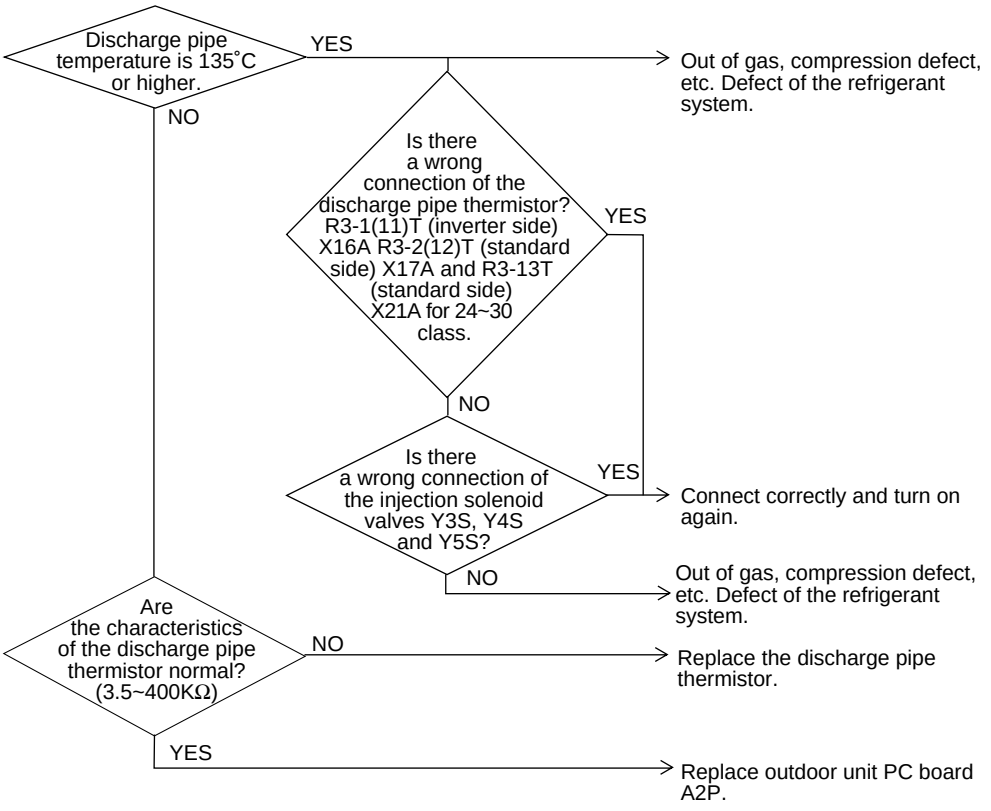
- When the discharge pipe temperature rises to an abnormally high level
- When the discharge pipe temperature rises suddenly

Supposed Causes

- Faulty discharge pipe temperature sensor
- Faulty connection of discharge pipe temperature sensor
- Faulty outdoor unit PCB

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2796)

∗2: Refer to thermistor resistance / temperature characteristics table on P238.

2.21 Refrigerant Overcharged

Remote Controller Display

F6

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Refrigerant overcharge is detected from the receiver gas pipe temperature during test operation.

Malfunction Decision Conditions

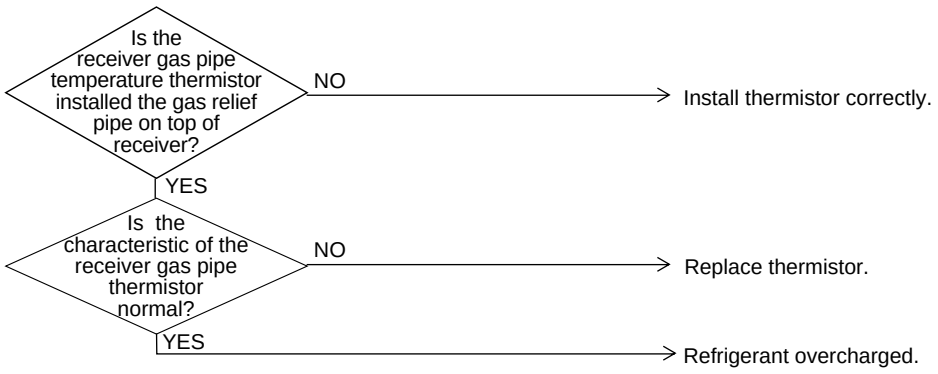
When the receiver gas pipe temperature is lower than evaporating temperature during test operation.

Supposed Causes

- Refrigerant overcharge
- Disconnection of the receiver gas pipe thermistor

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2797)

2.22 Abnormal Outdoor Fan Motor Signal

Remote Controller Display

H7

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Detection of abnormal signal from fan motor.

Malfunction Decision Conditions

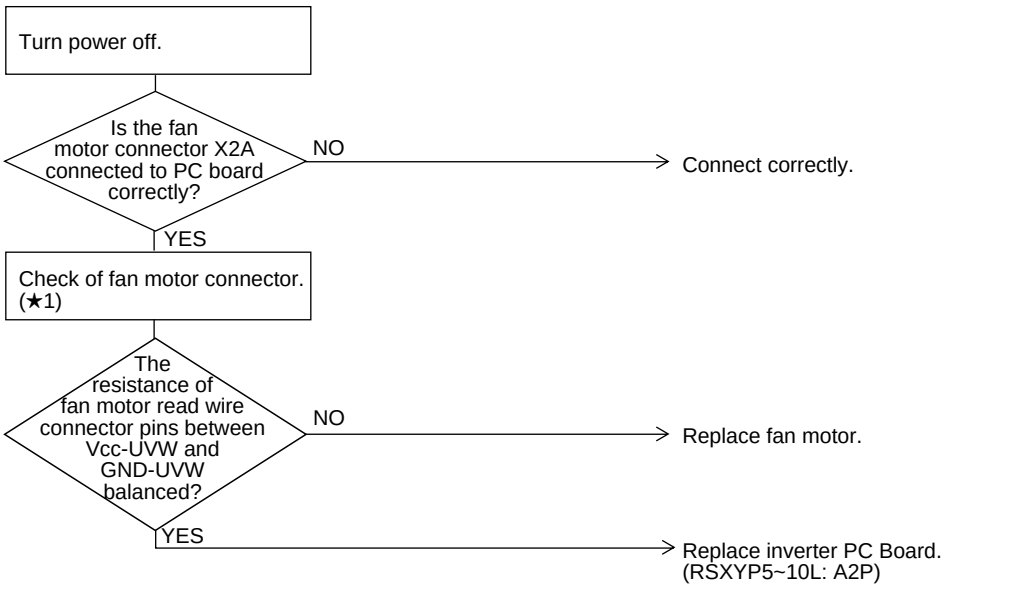
In case of detection of abnormal signal at starting fan motor.

Supposed Causes

- Abnormal fan motor signal (circuit malfunction)
- Broken, short or disconnection connector of fan motor connection cable
- Inverter PC board malfunction

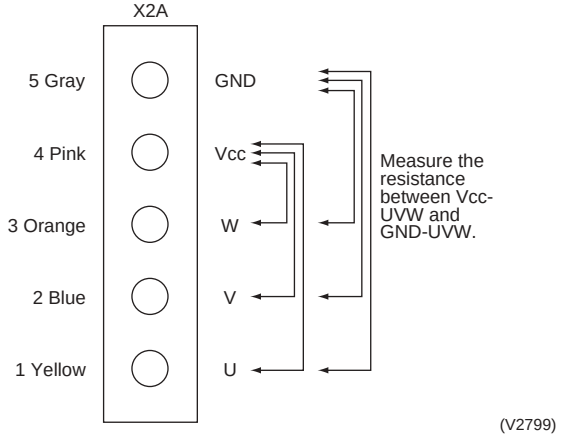
Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2798)

★1: Disconnect connector (X2A) and measure the following resistance.



(V2799)

2.23 Outdoor Unit: Malfunction of Thermistor for Outdoor Air (R1T)

Remote Controller Display

H9

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

The abnormal detection is based on current detected by current sensor.

Malfunction Decision Conditions

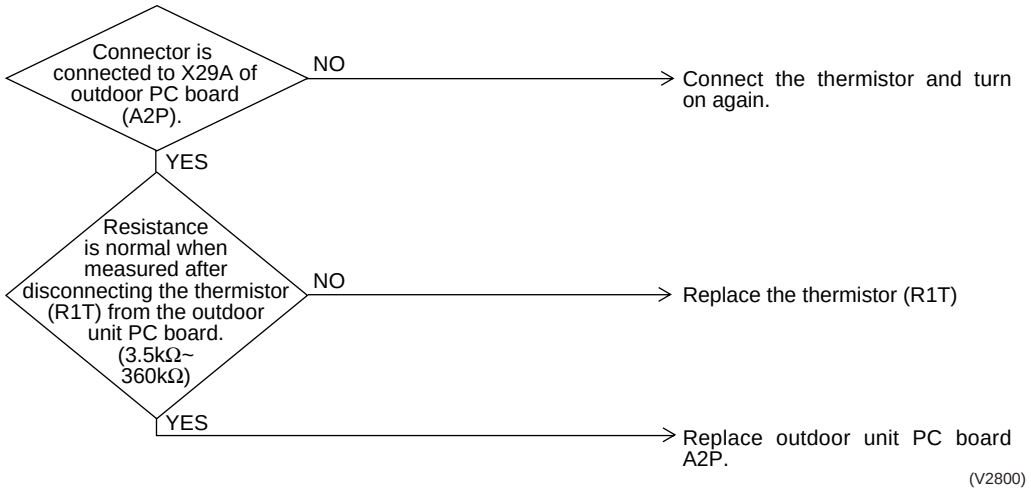
When the outside air temperature sensor has short circuit or open circuit.

Supposed Causes

- Defect of thermistor (R1T) for outdoor air
- Defect of outdoor unit PC board (A2P)

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



The alarm indicator is displayed when the fan only is being used also.

∗2: Refer to thermistor resistance / temperature characteristics table on P238.

2.24 Current Sensor Malfunction

Remote Controller Display

J2

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Malfunction is detected according to the current value detected by current sensor.

Malfunction Decision Conditions

When the current value detected by current sensor becomes 5A or lower, or 40A or more during standard compressor operation.

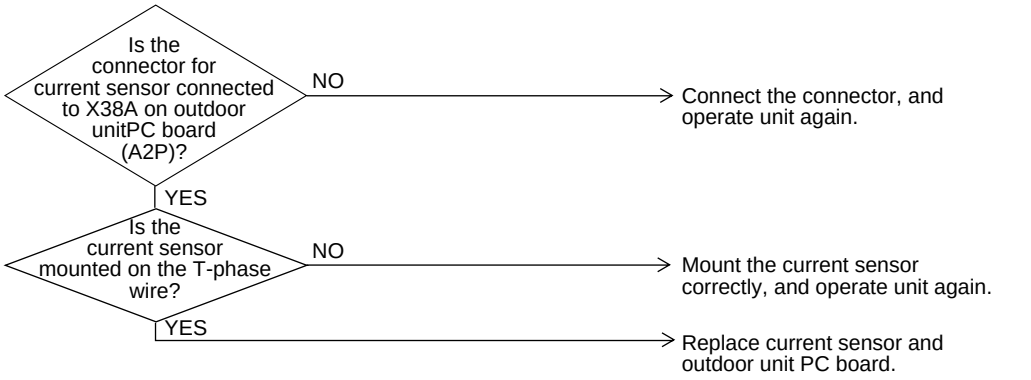
- Malfunction is not decided while the unit operation is continued.
  "J2" will be displayed by pressing the inspection button.

Supposed Causes

- Faulty current sensor
- Faulty outdoor unit PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2801)

2.25 Outdoor Unit: Malfunction of Discharge Pipe Thermistor (R3T)

Remote Controller Display

J3

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Malfunction is detected from the temperature detected by discharge pipe temperature thermistor.

Malfunction Decision Conditions

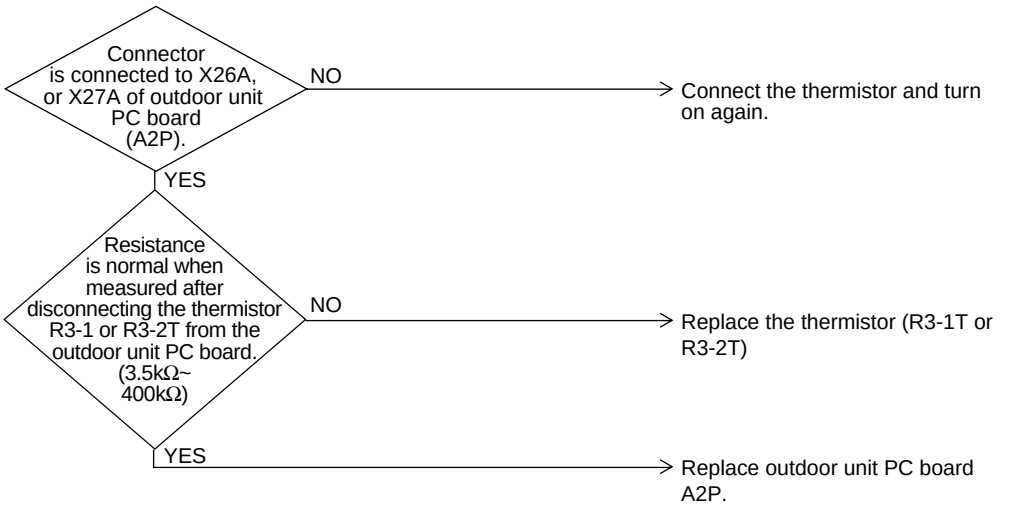
When a short circuit or an open circuit in the discharge pipe temperature thermistor is detected.

Supposed Causes

- Defect of thermistor (R3-1T, R3-2T or R3T) for outdoor unit discharge pipe
- Defect of outdoor unit PC board (A2P)

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2802)

The alarm indicator is displayed when the fan is being used also.

Note: 5 HP class ··· R3T (A2P)
8, 10 HP class ··· R3-1T (A2P), R3-2T (A2P)

2.26 Outdoor Unit: Malfunction of Thermistor (R4T) for Suction Pipe

Remote Controller Display

J5

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Malfunction is detected from the temperature detected by the suction pipe temperature thermistor.

Malfunction Decision Conditions

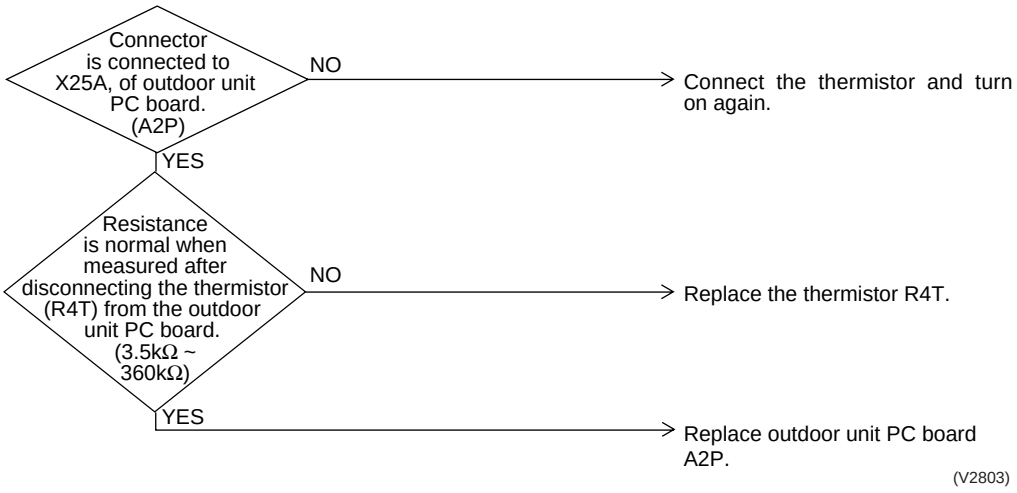
When a short circuit or an open circuit in the suction pipe temperature thermistor is detected.

Supposed Causes

- Defect of thermistor (R4T) for outdoor unit suction pipe
- Defect of outdoor unit PC board (A2P)

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



The alarm indicator is displayed when the fan is being used also.

∗2: Refer to thermistor resistance / temperature characteristics table on P238.

2.27 Outdoor Unit: Malfunction of Thermistor (R2T) for Outdoor Unit Heat Exchanger

Remote Controller Display

J6

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Malfunction is detected from the temperature detected by the heat exchanger thermistor.

Malfunction Decision Conditions

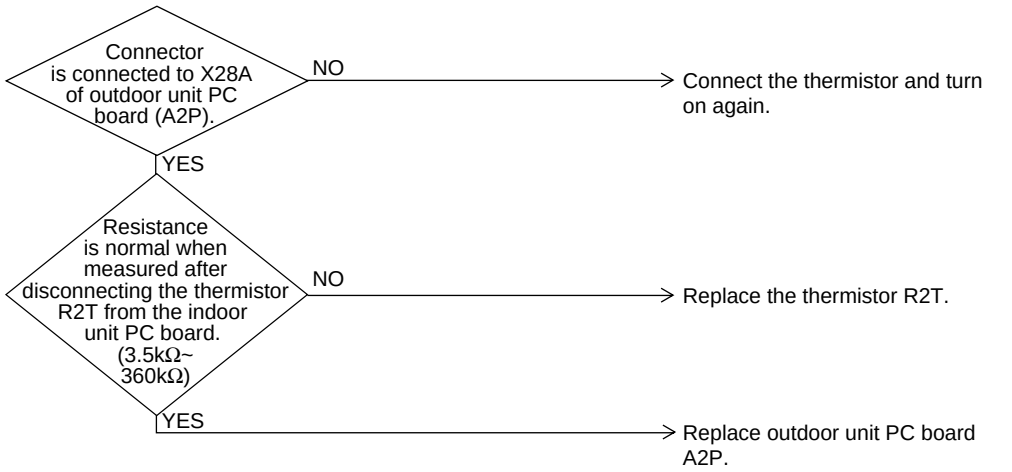
When a short circuit or an open circuit in the heat exchange thermistor is detected.

Supposed Causes

- Defect of thermistor (R2T) for outdoor unit coil
- Defect of outdoor unit PC board (A2P)

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2804)

The alarm indicator is displayed when the fan is being used also.

∗2: Refer to thermistor resistance / temperature characteristics table on P238.

2.28 Malfunction of Receiver Gas Pipe Thermistor (R5T)

Remote Controller Display

J9

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Malfunction is detected according to the temperature detected by receiver gas pipe thermistor.

Malfunction Decision Conditions

When the receiver gas pipe thermistor is short circuited or open.

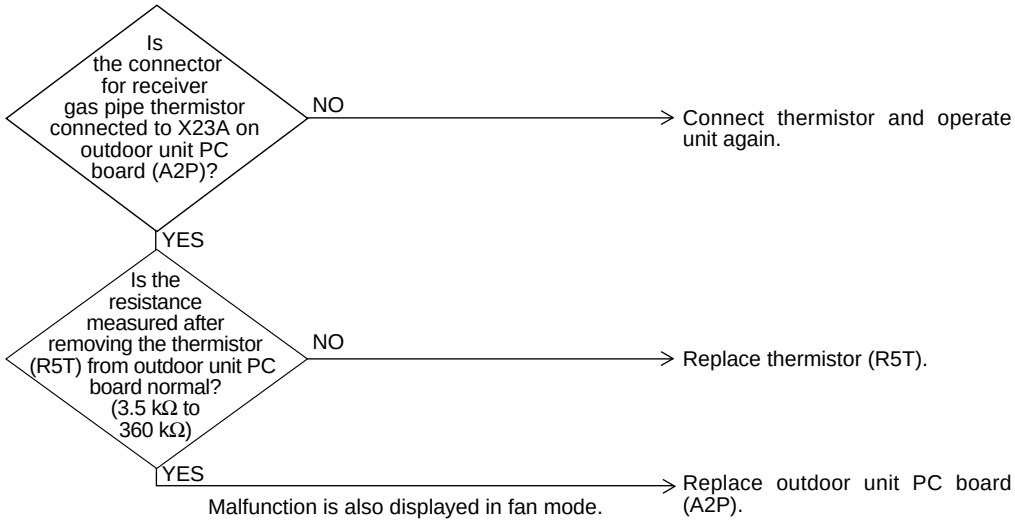
- Malfunction is not decided while the unit operation is continued.
  "J9" will be displayed by pressing the inspection button.

Supposed Causes

- Faulty receiver gas pipe thermistor (R5T)
- Faulty outdoor unit PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2805)

∗2: Refer to thermistor resistance / temperature characteristics table on P238.

2.29 Outdoor Unit: Malfunction of Discharge Pipe Pressure Sensor

Remote Controller Display

JA

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Malfunction is detected from the pressure detected by the high pressure sensor.

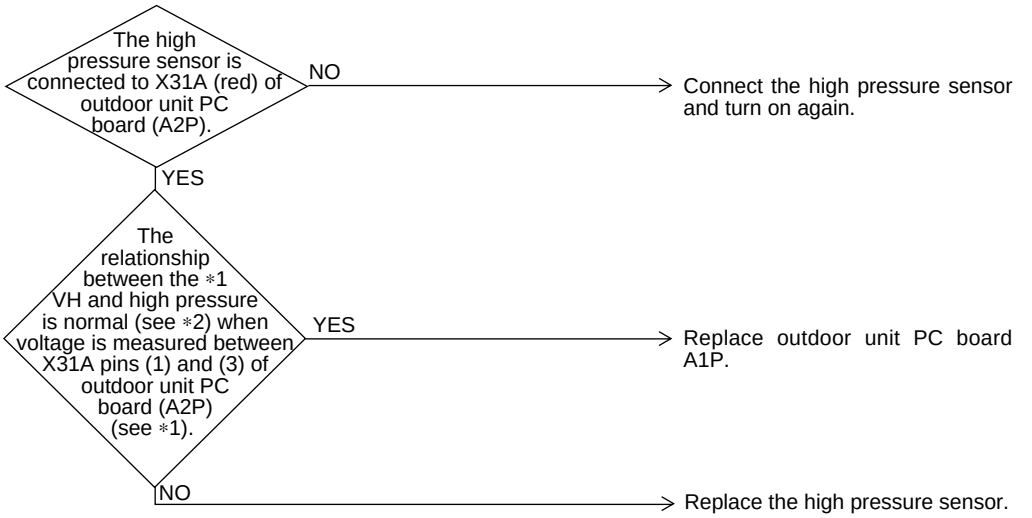
Malfunction Decision Conditions

Supposed Causes

- Defect of high pressure sensor system
- Connection of low pressure sensor with wrong connection.
- Defect of outdoor unit PC board.

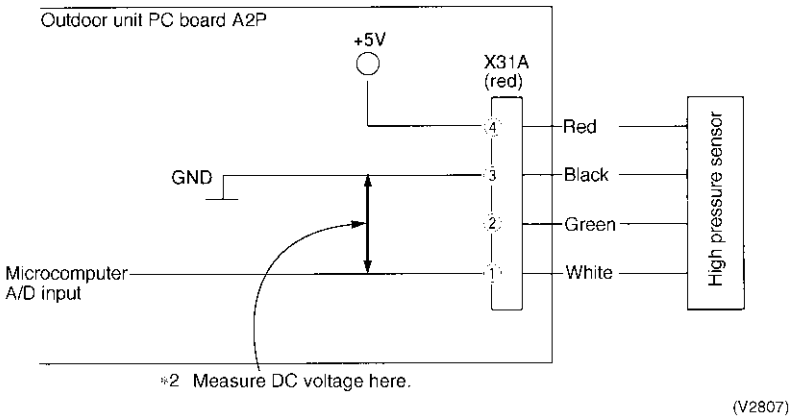
Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2806)

∗1: Voltage measurement point



(V2807)

∗2: Refer to pressure sensor, pressure / voltage characteristics table on P240.

2.30 Outdoor Unit: Malfunction of Suction Pipe Pressure Sensor

Remote Controller Display

JC

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Malfunction is detected from pressure detected by low pressure sensor.

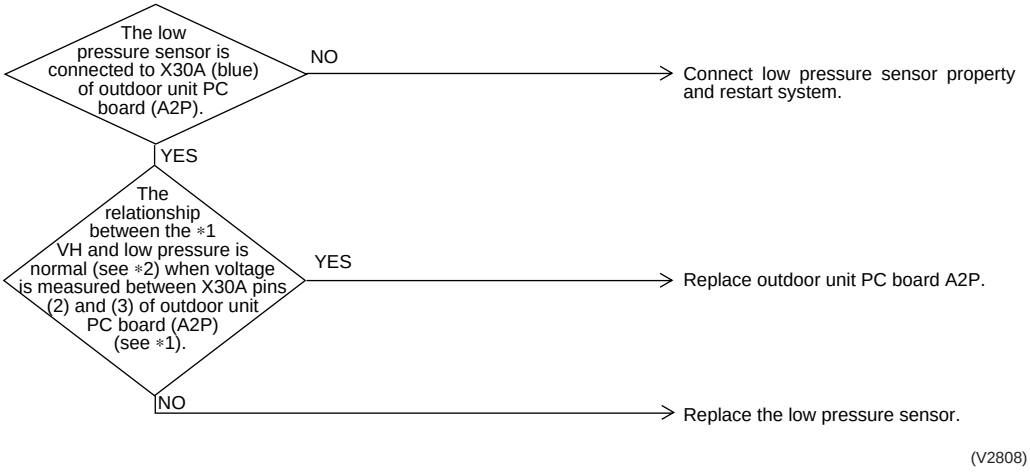
Malfunction Decision Conditions

Supposed Causes

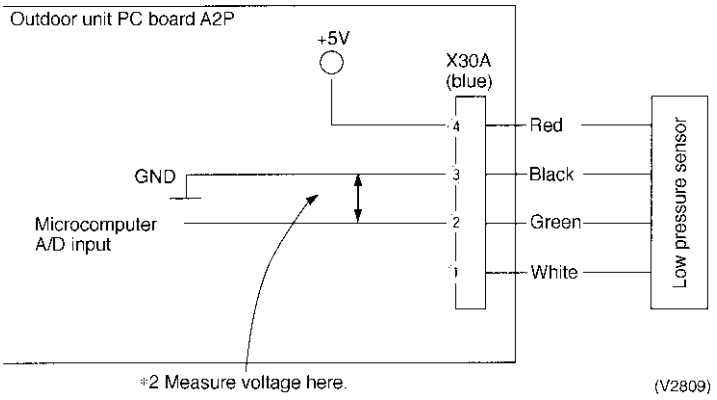
- Defect of low pressure sensor system
- Connection of high pressure sensor with wrong connection.
- Defect of outdoor unit PC board.

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



∗1: Voltage measurement point



∗2: Refer to pressure sensor, pressure/voltage characteristics table on P240.

2.31 Inverter Box Temperature Rise

Remote Controller Display

L3

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Inverter box temperature is detected by the thermistor.

Malfunction Decision Conditions

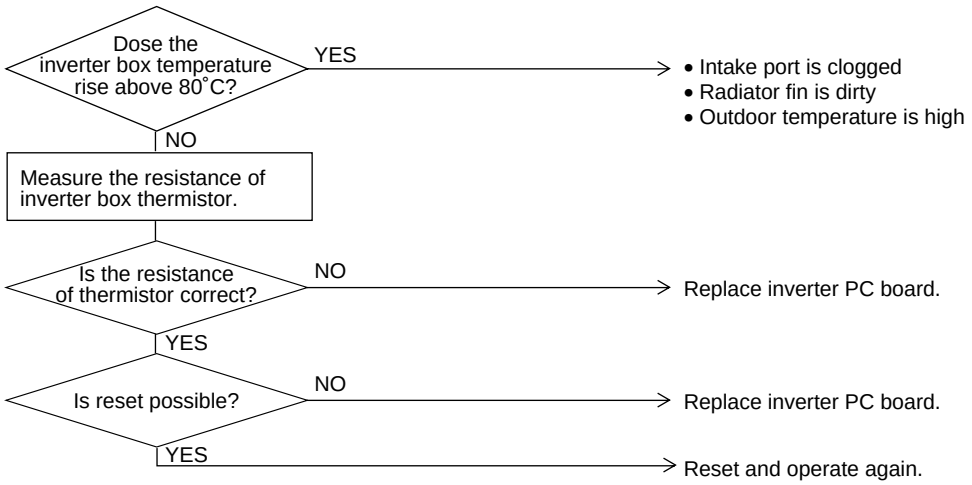
When the temperature of the inverter box increases above 80˚C.

Supposed Causes

- Activation of inverter box thermal switch (activate above 80˚C)
- Faulty inverter box thermistor
- Faulty inverter PCB

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2810)

2.32 Outdoor Unit: Malfunction of Inverter Radiating Fin Temperature Rise

Remote Controller Display

L4

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Fin temperature is detected by the thermistor of the radiation fin.

Malfunction Decision Conditions

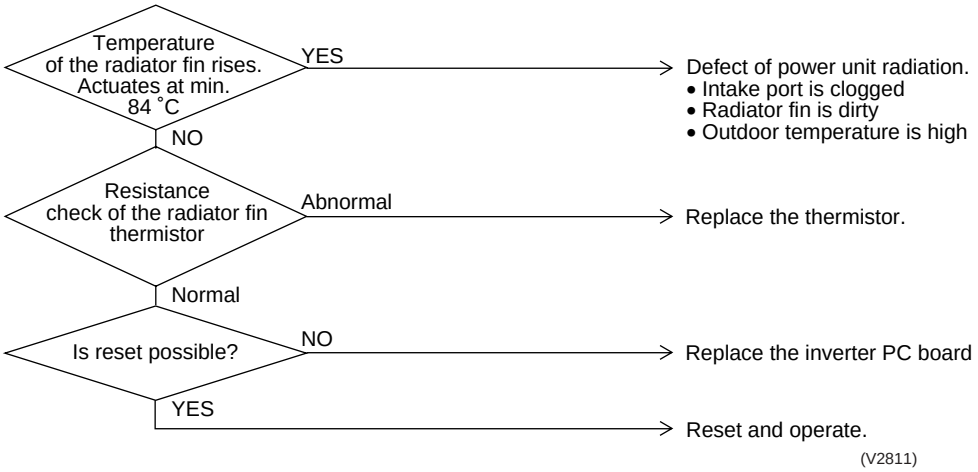
When the temperature of the inverter radiation fin increases above 89˚C.

Supposed Causes

- Actuation of fin thermal (Actuates above 89˚C)
- Defect of inverter PC board
- Defect of fin thermistor

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



∗2: Refer to thermistor resistance / temperature characteristics table on P238.

2.33 Outdoor Unit: Inverter Compressor Abnormal

Remote Controller Display

L5

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Malfunction is detected from current flowing in the power transistor.

Malfunction Decision Conditions

When an excessive current flows in the power transistor.
(Instantaneous overcurrent also causes activation.)

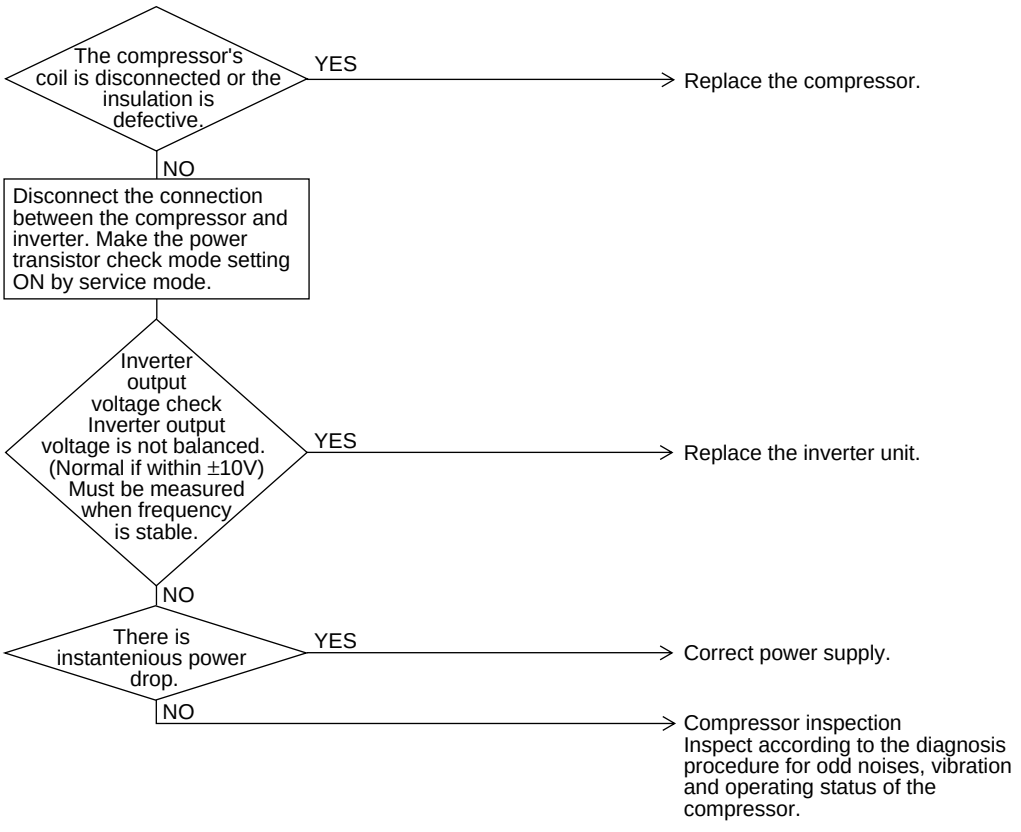
Supposed Causes

- Defect of compressor coil (disconnected, defective insulation)
- Compressor start-up malfunction (mechanical lock)
- Defect of inverter PC board

Troubleshooting

Compressor inspection

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



Higher voltage than actual is displayed when the inverter output voltage is checked by tester.

2.34 Outdoor Unit: Inverter Current Abnormal

Remote Controller Display

L8

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Malfunction is detected by current flowing in the power transistor.

Malfunction Decision Conditions

When overload in the compressor is detected.

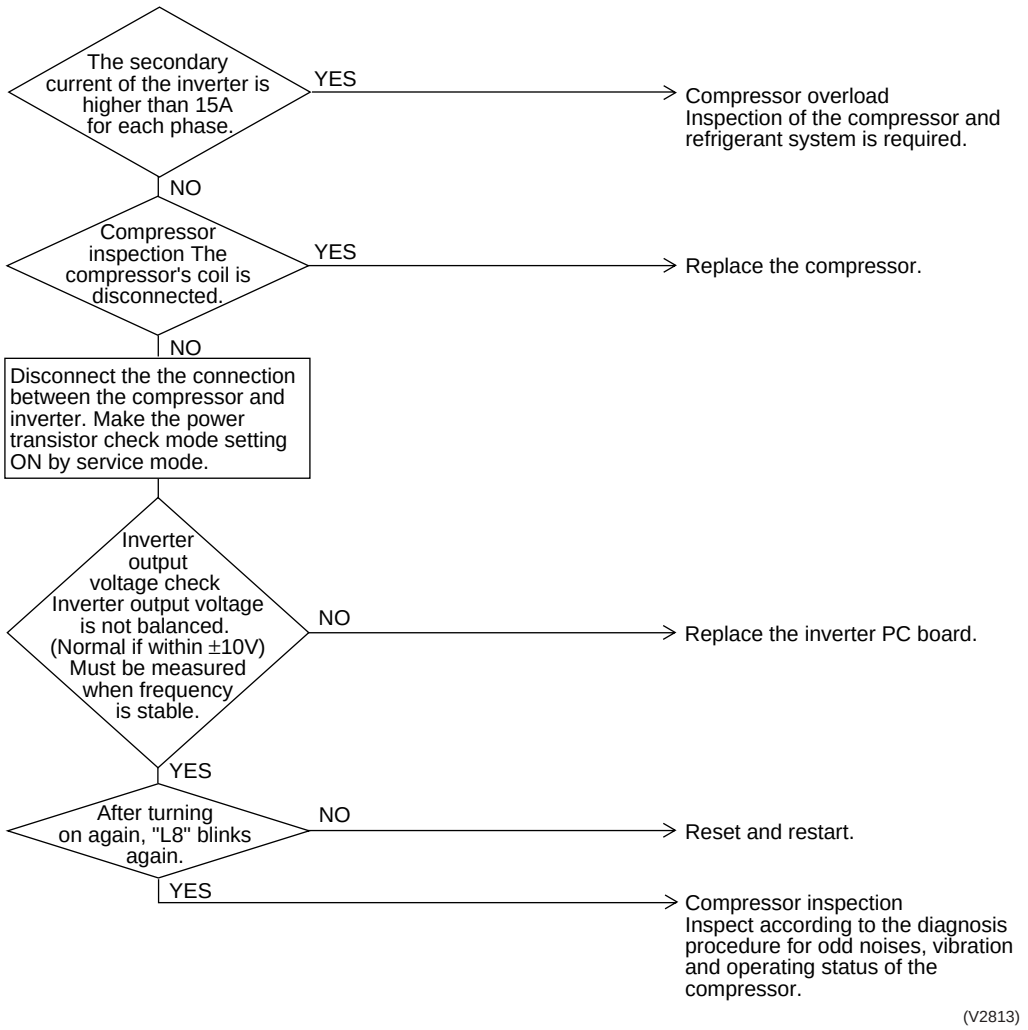
Supposed Causes

- Compressor overload
- Compressor coil disconnected
- Defect of inverter PC board

Troubleshooting

Output current check

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2813)

2.35 Outdoor Unit: Inverter Start up Error

Remote Controller Display

L9

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Malfunction is detected from current flowing in the power transistor.

Malfunction Decision Conditions

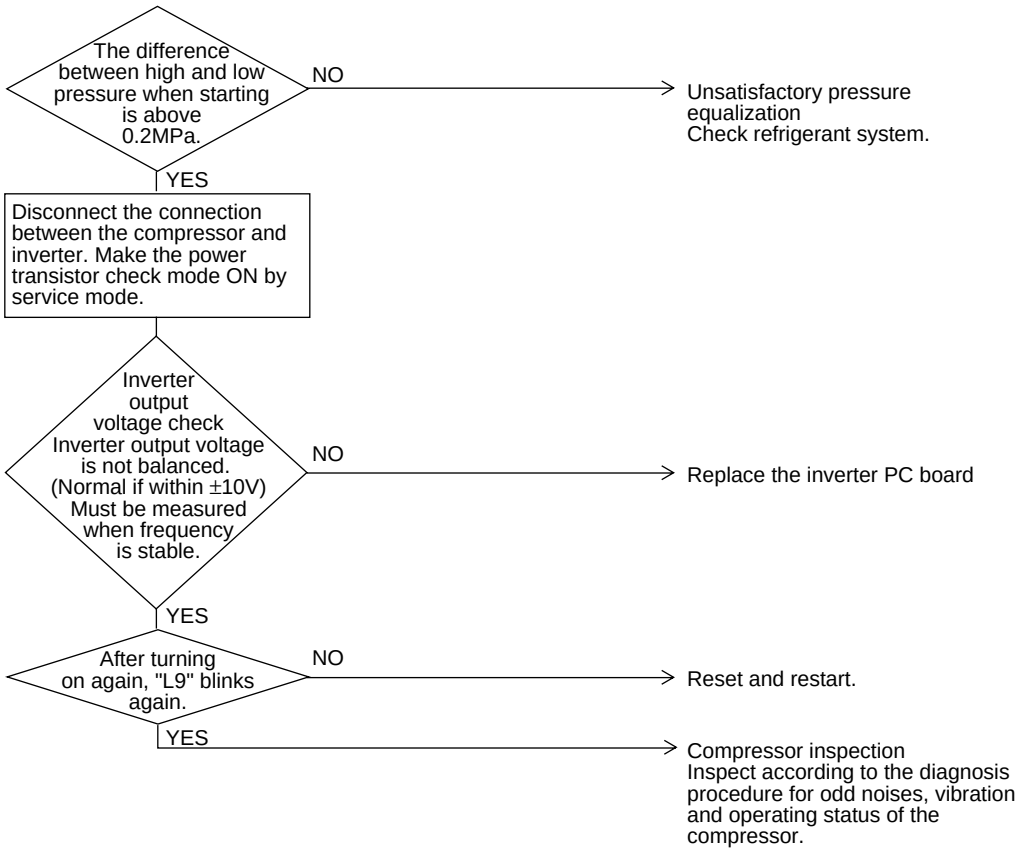
When overload in the compressor is detected during startup

Supposed Causes

- Defect of compressor
- Pressure differential start
- Defect of inverter PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2814)

2.36 Outdoor Unit: Malfunction of Transmission Between Inverter and Control PC Board

Remote Controller Display

LC

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Check the communication state between inverter PC board and control PC board by micro-computer.

Malfunction Decision Conditions

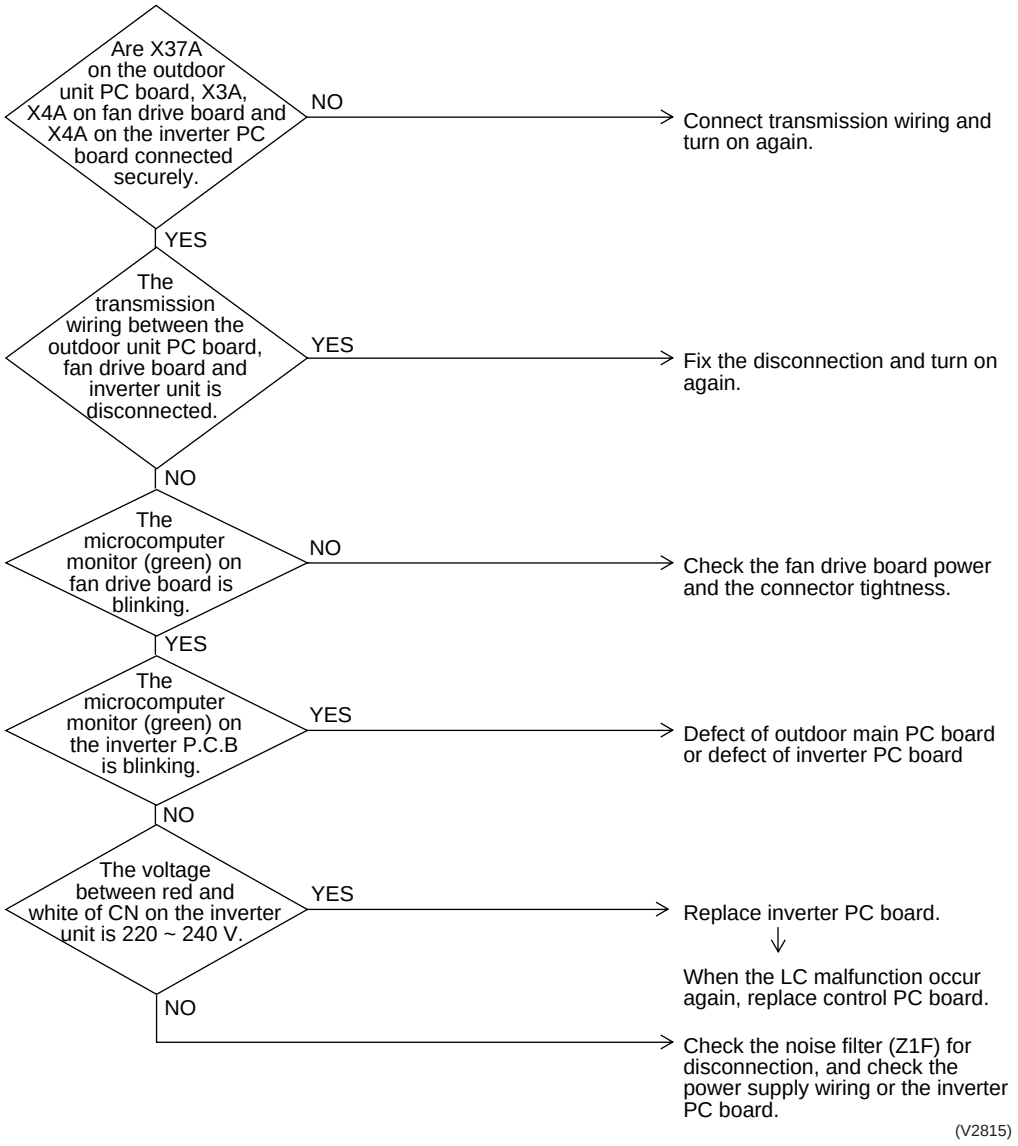
When the correct communication is not conducted in certain period.

Supposed Causes

- Malfunction of connection between the inverter PC board and outdoor control PC board
- Defect of outdoor control PC board (transmission section)
- Defect of inverter PC board
- Defect of noise filter
- External factor (Noise etc.)

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



★Symbol for PC board differ from models.

	RSXYP5L	RSXYP8, 10L
Inverter PC board	A1P	
Fan drive PC board	A3P	A3P, A4P
Main (control) PC board	A2P	

2.37 Outdoor Unit: Inverter Over-Ripple Protection

Remote Controller Display

P1

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Imbalance in supply voltage is detected in PC board.

Malfunction Decision Conditions

When the resistance value of thermistor becomes a value equivalent to open or short circuited status.

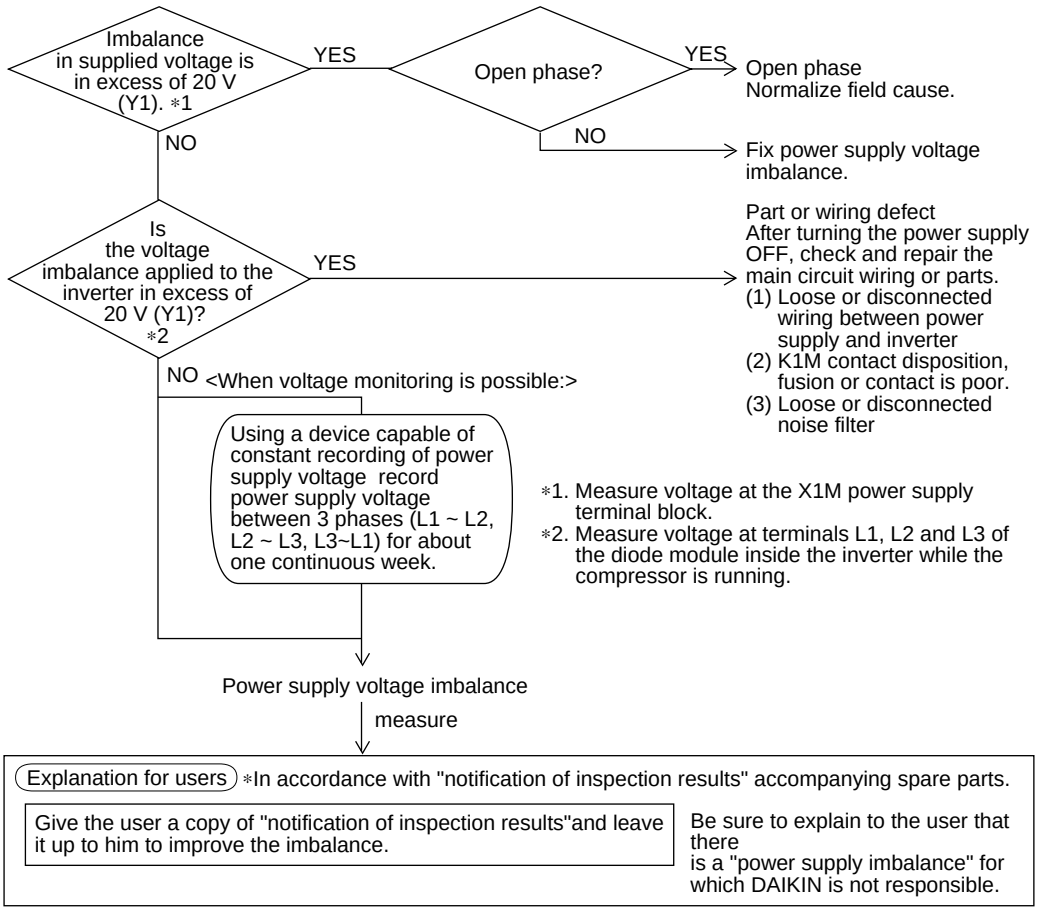
- Malfunction is not decided while the unit operation is continued.
  "P3" will be displayed by pressing the inspection button.

Supposed Causes

- Open phase
- Voltage imbalance between phases
- Defect of main circuit capacitor
- Defect of inverter PC board
- Defect of K1M
- Improper main circuit wiring

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2816)

2.38 Malfunction of Inverter Box Thermistor

Remote Controller Display

P3

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Detection of resistance of inverter box thermistor during unit stopping

Malfunction Decision Conditions

When the resistance value of thermistor becomes a value equivalent to open or short circuited status.

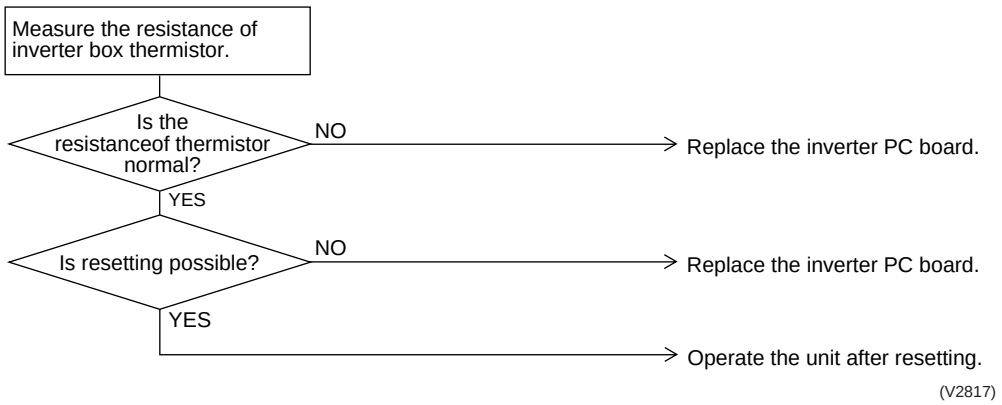
- Malfunction is not decided while the unit operation is continued.
  "P3" will be displayed by pressing the inspection button.

Supposed Causes

- Faulty inverter box thermistor
- Faulty inverter PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2817)

2.39 Outdoor Unit: Malfunction of Inverter Radiating Fin Temperature Rise Sensor

Remote Controller Display

P4

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Resistance of radiation fin thermistor is detected when the compressor is not operating.

Malfunction Decision Conditions

When the resistance value of thermistor becomes a value equivalent to open or short circuited status.

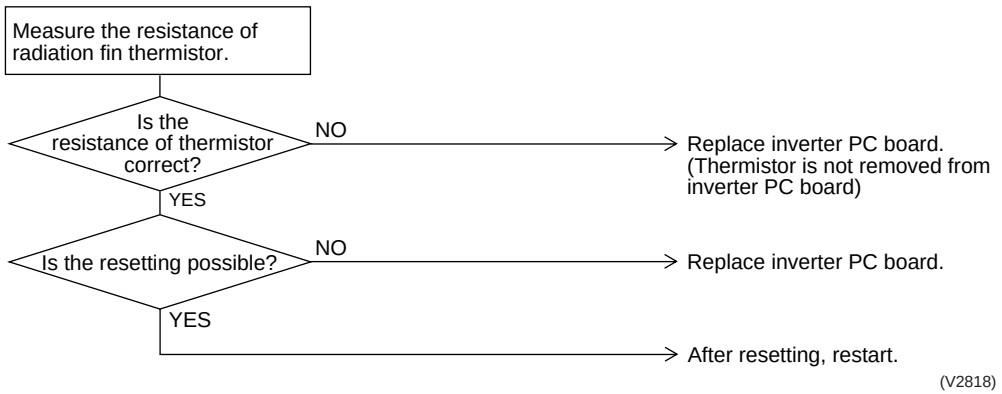
- Malfunction is not decided while the unit operation is continued.
  "P4" will be displayed by pressing the inspection button.

Supposed Causes

- Defect of radiator fin temperature sensor
- Defect of inverter PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



∗2: Refer to thermistor resistance / temperature characteristics table on P238.

2.40 Low Pressure Drop Due to Refrigerant Shortage or Electronic Expansion Valve Failure

Remote Controller Display

U0

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Short of gas malfunction is detected by discharge pipe temperature thermistor.

Malfunction Decision Conditions

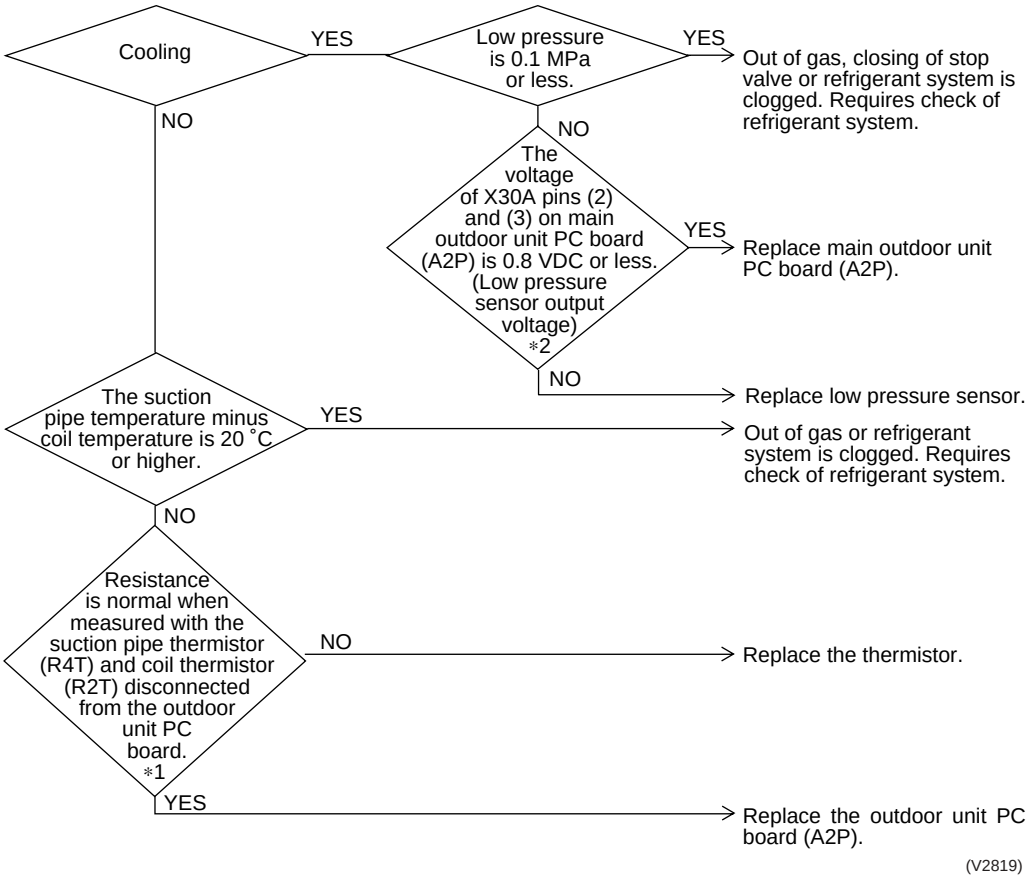
Microcomputer judge and detect if the system is short of refrigerant.
★Malfunction is not decided while the unit operation is continued.

Supposed Causes

- Out of gas or refrigerant system clogging (incorrect piping)
- Defect of pressure sensor
- Defect of outdoor unit PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



∗1: Refer to thermistor resistance / temperature characteristics table on P.238
∗2: Refer to pressure sensor, pressure / voltage characteristics table on P240.

2.41 Reverse Phase, Open Phase

Remote Controller Display

U1

Applicable Models

★3 phase unit only

Method of Malfunction Detection

Detection is based on the voltage in main circuit capacitor for inverter and supply voltage. The phase of each phase are detected by reverse phase detection circuit and right phase or reverse phase are judged.

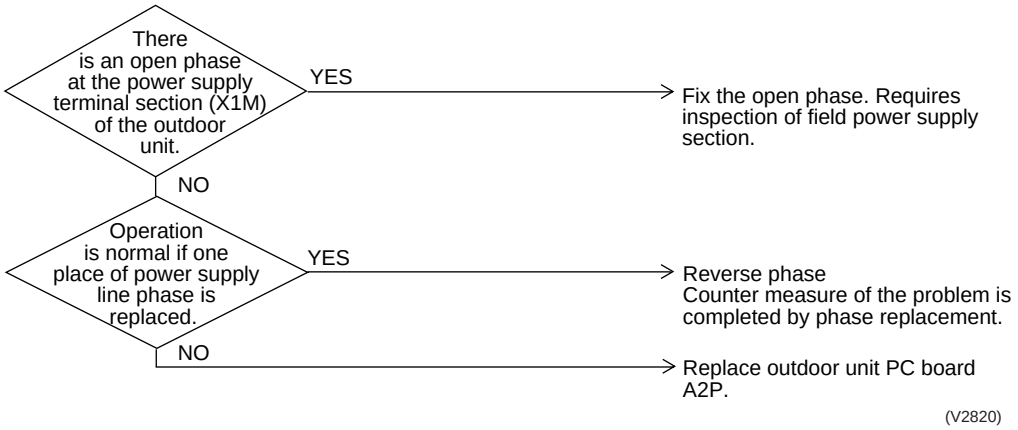
Malfunction Decision Conditions

Supposed Causes

- Power supply reverse phase
- Power supply open phase
- Defect of outdoor PC board A2P

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2820)

2.42 Power Supply Insufficient or Instantaneous Failure

Remote Controller Display

U2

Applicable Models

RSXYP5~10L

Method of Malfunction Detection

Detection of voltage of main circuit capacitor built in the inverter and power supply voltage.

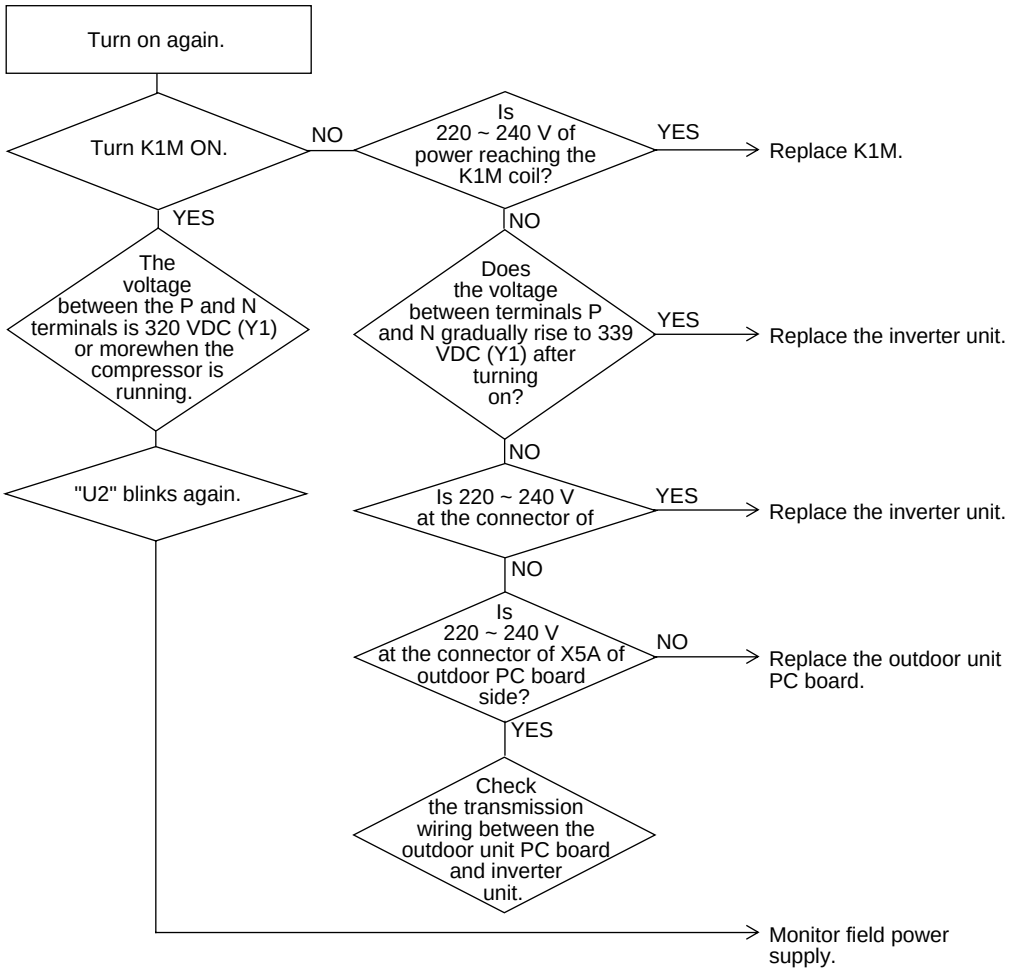
Malfunction Decision Conditions

Supposed Causes

- Power supply insufficient
- Instantaneous failure
- Open phase
- Defect of inverter PC board
- Defect of outdoor control PC board
- Defect of K1M.
- Main circuit wiring defect

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2821)

2.43 Malfunction of Transmission Between Indoor Units

Remote Controller Display

U4

Applicable Models

All model of indoor unit
RSXYP5~10L

Method of Malfunction Detection

Microcomputer checks if transmission between indoor and outdoor units is normal.

Malfunction Decision Conditions

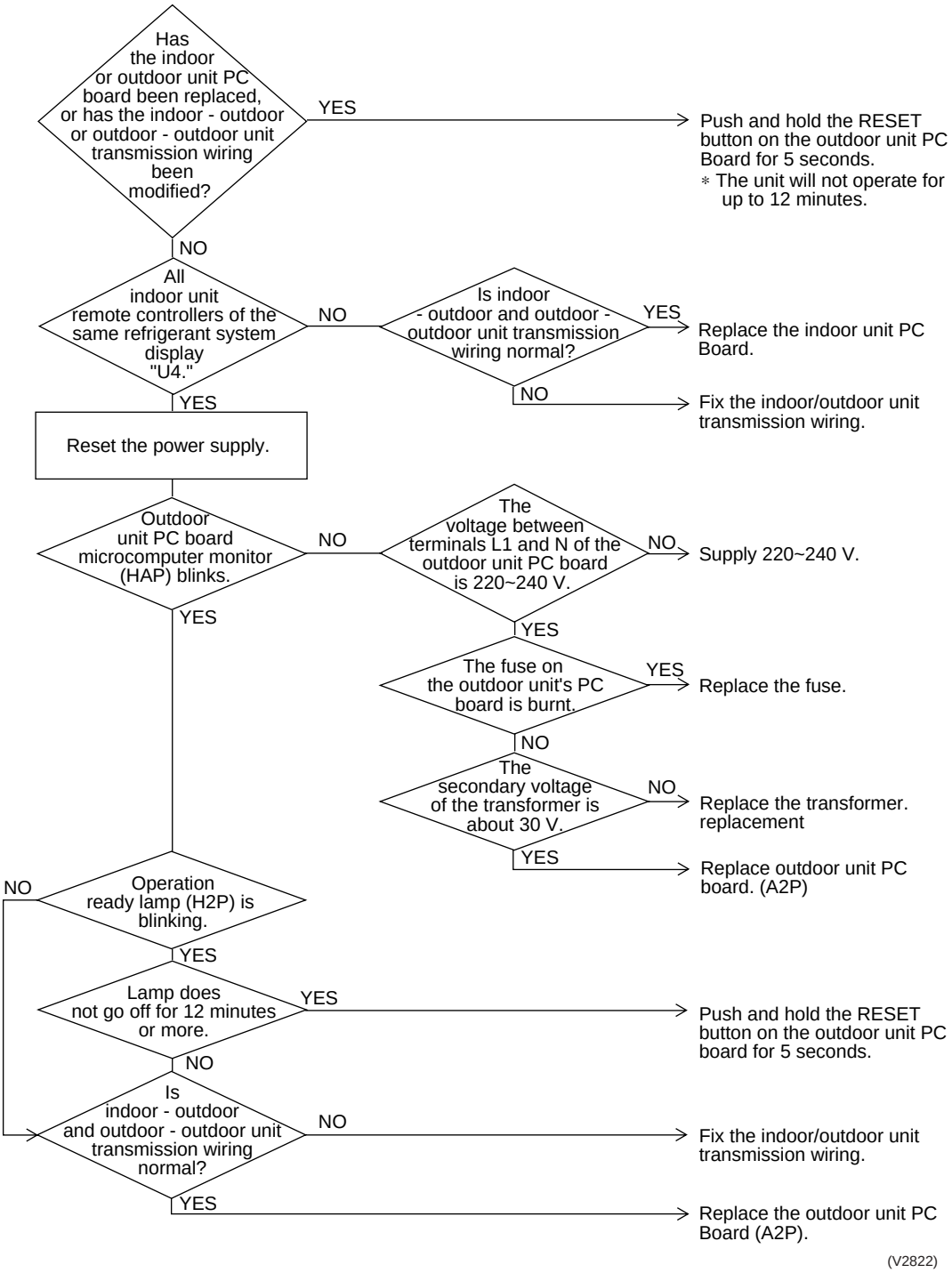
When transmission is not carried out normally for a certain amount of time

Supposed Causes

- Indoor to outdoor,outdoor to outdoor transmission wiring F1, F2 disconnection, short circuit or wrong wiring
- Outdoor unit power supply is OFF
- System address doesn't match
- Defect of indoor unit PC board
- Defect of outdoor unit PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



2.44 Malfunction of Transmission Between Remote Controller and Indoor Unit

Remote Controller Display

U5

Applicable Models

All models of indoor units

Method of Malfunction Detection

In case of controlling with 2-remote controller, check the system using microcomputer is signal transmission between indoor unit and remote controller (main and sub) is normal.

Malfunction Decision Conditions

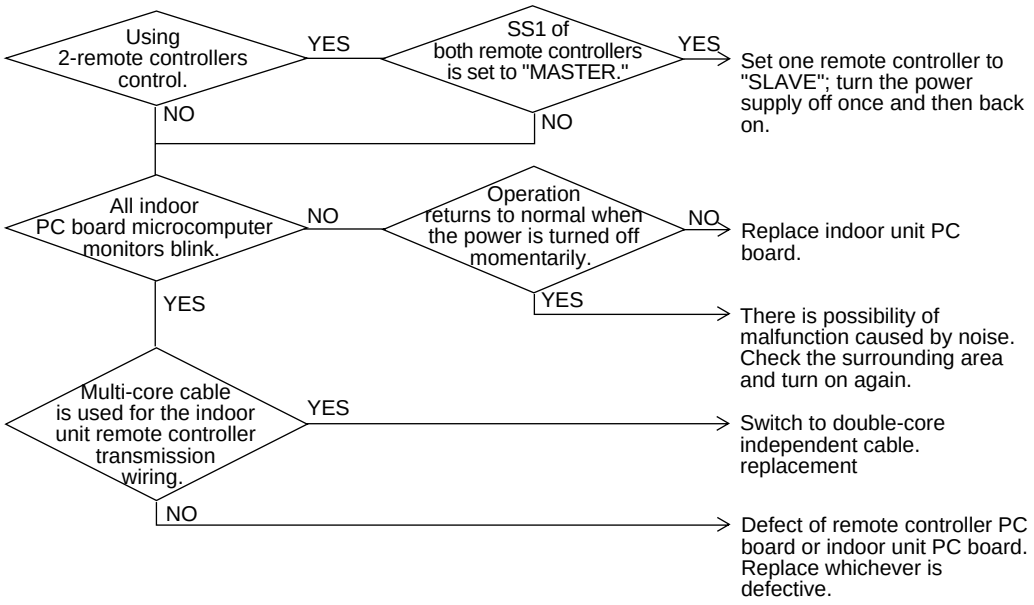
Normal transmission does not continue for specified period.

Supposed Causes

- Malfunction of indoor unit remote controller transmission
- Connection of two main remote controllers (when using 2 remote controllers)
- Defect of indoor unit PC board
- Defect of remote controller PC board
- Malfunction of transmission caused by noise

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2823)

2.45 Malfunction of Transmission Between Outdoor Units

Remote Controller Display

U7

Applicable Models

All models of indoor units

Method of Malfunction Detection

Microcomputer checks if transmission between indoor unit and remote controller is normal.

Malfunction Decision Conditions

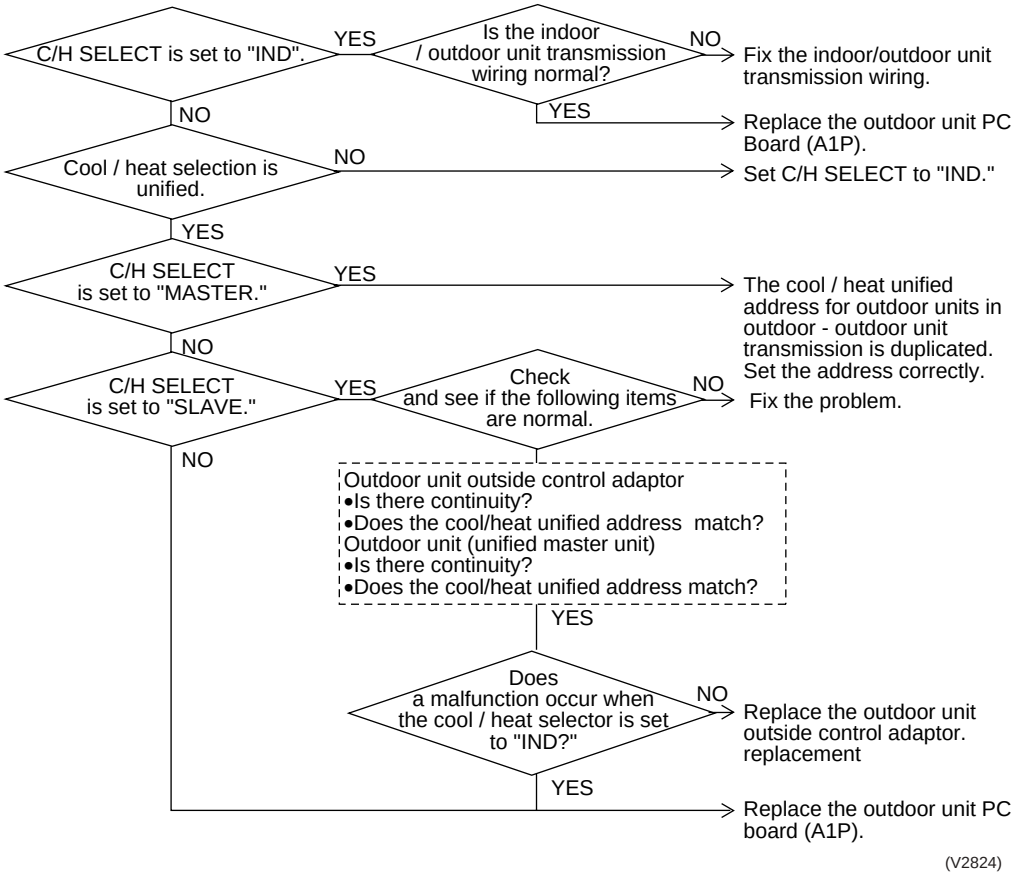
When transmission is not carried out normally for a certain amount of time

Supposed Causes

- Improper connection of transmission wiring between outdoor unit and outdoor unit outside control adaptor
- Improper cool/heat selection
- Improper cool/heat unified address (outdoor unit, external control adaptor for outdoor unit)
- Defect of outdoor unit PC board (A1P)
- Defect of outdoor unit outside control adaptor

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2824)

2.46 Malfunction of Transmission Between Master and Slave Remote Controllers

Remote Controller Display

U8

Applicable Models

All models of indoor units

Method of Malfunction Detection

In case of controlling with 2-remote controller, check the system using microcomputer if signal transmission between indoor unit and remote controller (main and sub) is normal.

Malfunction Decision Conditions

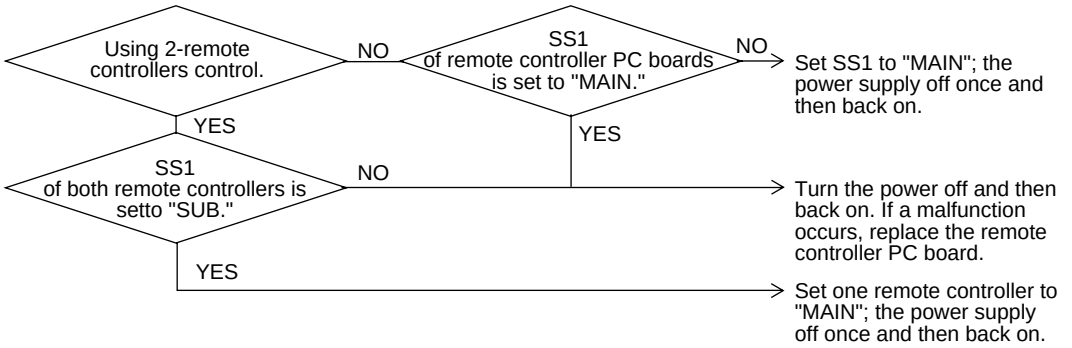
Normal transmission does not continue for specified period.

Supposed Causes

- Malfunction of transmission between main and sub remote controller
- Connection between sub remote controllers
- Defect of remote controller PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2825)

2.47 Malfunction of Transmission Between Indoor and Outdoor Units in the Same System

Remote Controller Display

U9

Applicable Models

All models of indoor units

Method of Malfunction Detection

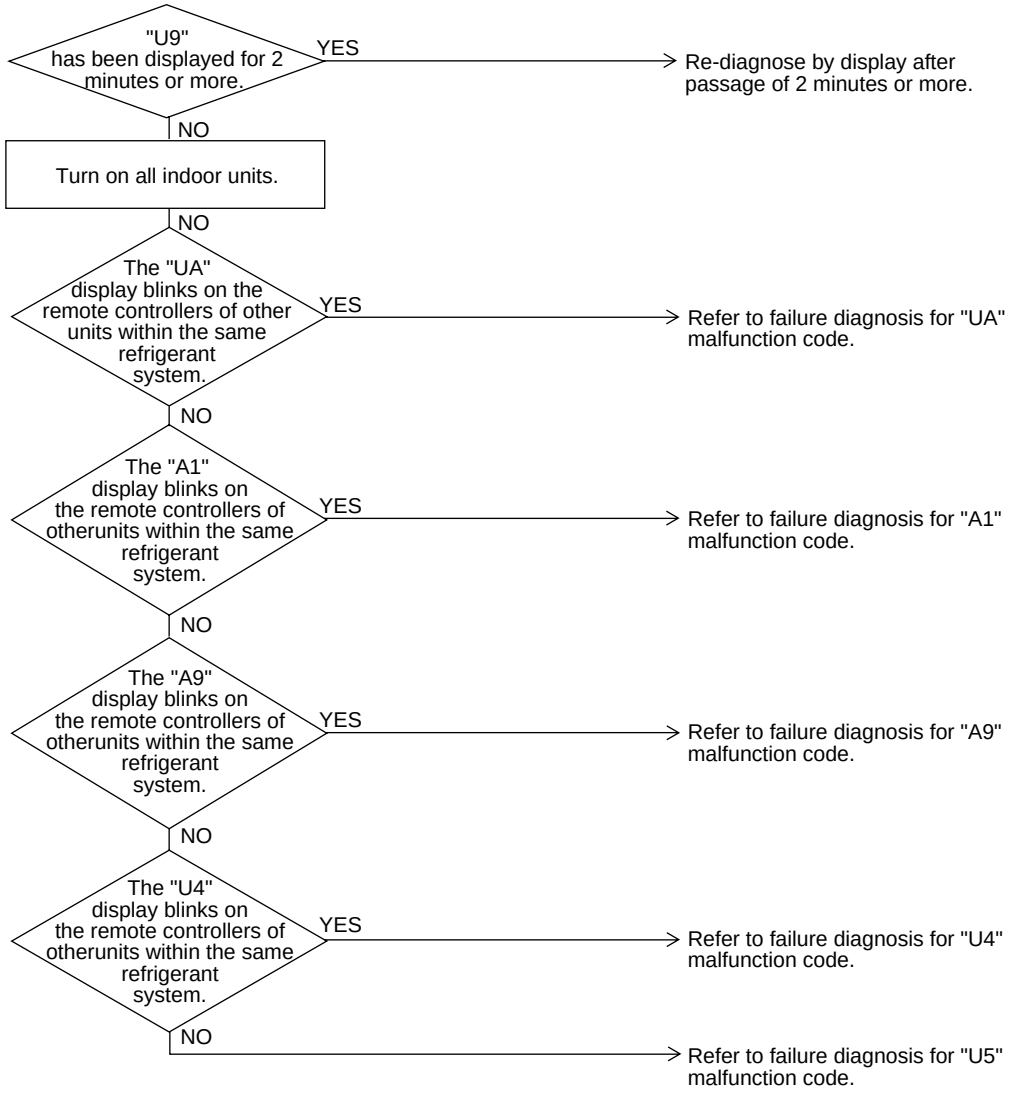
Malfunction Decision Conditions

Supposed Causes

- Malfunction of transmission within or outside of other system
- Malfunction of electronic expansion valve in indoor unit of other system
- Defect of PC board of indoor unit in other system
- Improper connection of transmission wiring between indoor and outdoor unit

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2826)

2.48 Excessive Number of Indoor Units

Remote Controller Display

UA

Applicable Models

All models of indoor unit
RSXYP5~10L

Method of Malfunction Detection

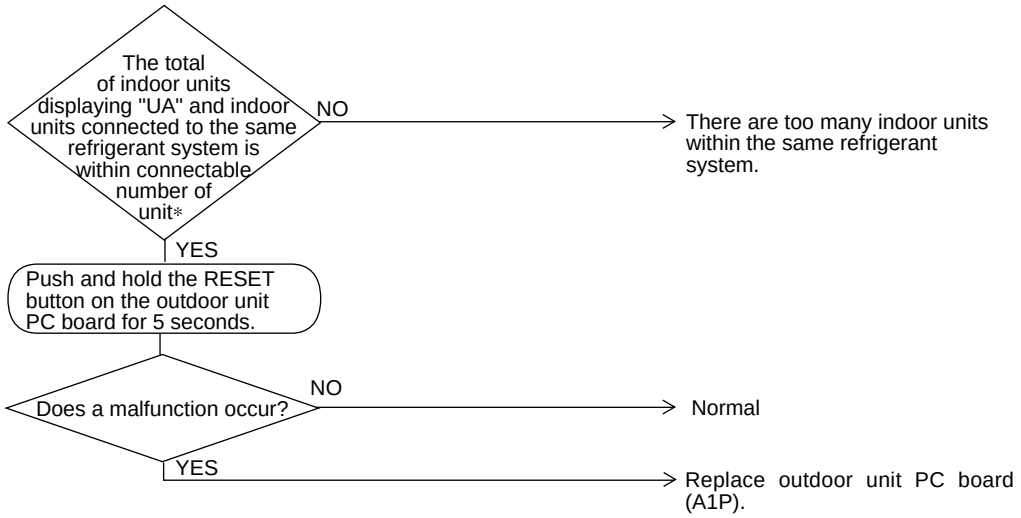
Malfunction Decision Conditions

Supposed Causes

- Excess of connected indoor units
- Defect of outdoor unit PC board (A1P)

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2827)

The number of indoor units that can be connected to a single outdoor unit system depends on the type of outdoor unit.

* RSXYP5L ··· 8 units
  RSXYP8L ··· 13 units
  RSXYP10L ··· 16 units

2.49 Address Duplication of Central Remote Controller

Remote Controller Display

UC

Applicable Models

All models of indoor unit
Centralized controller

Method of Malfunction Detection

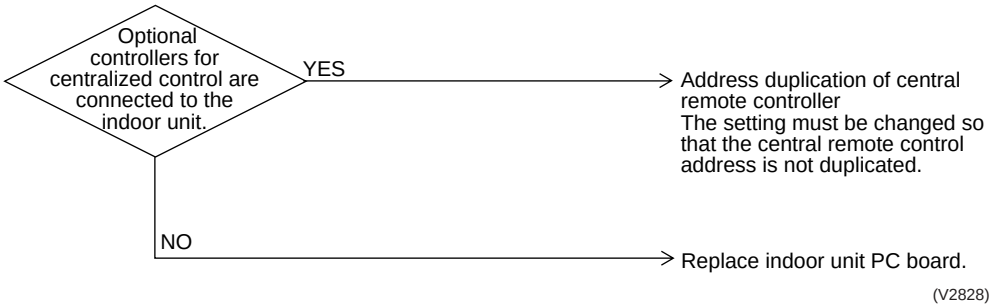
Malfunction Decision Conditions

Supposed Causes

- Address duplication of centralized remote controller
- Defect of indoor unit PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.

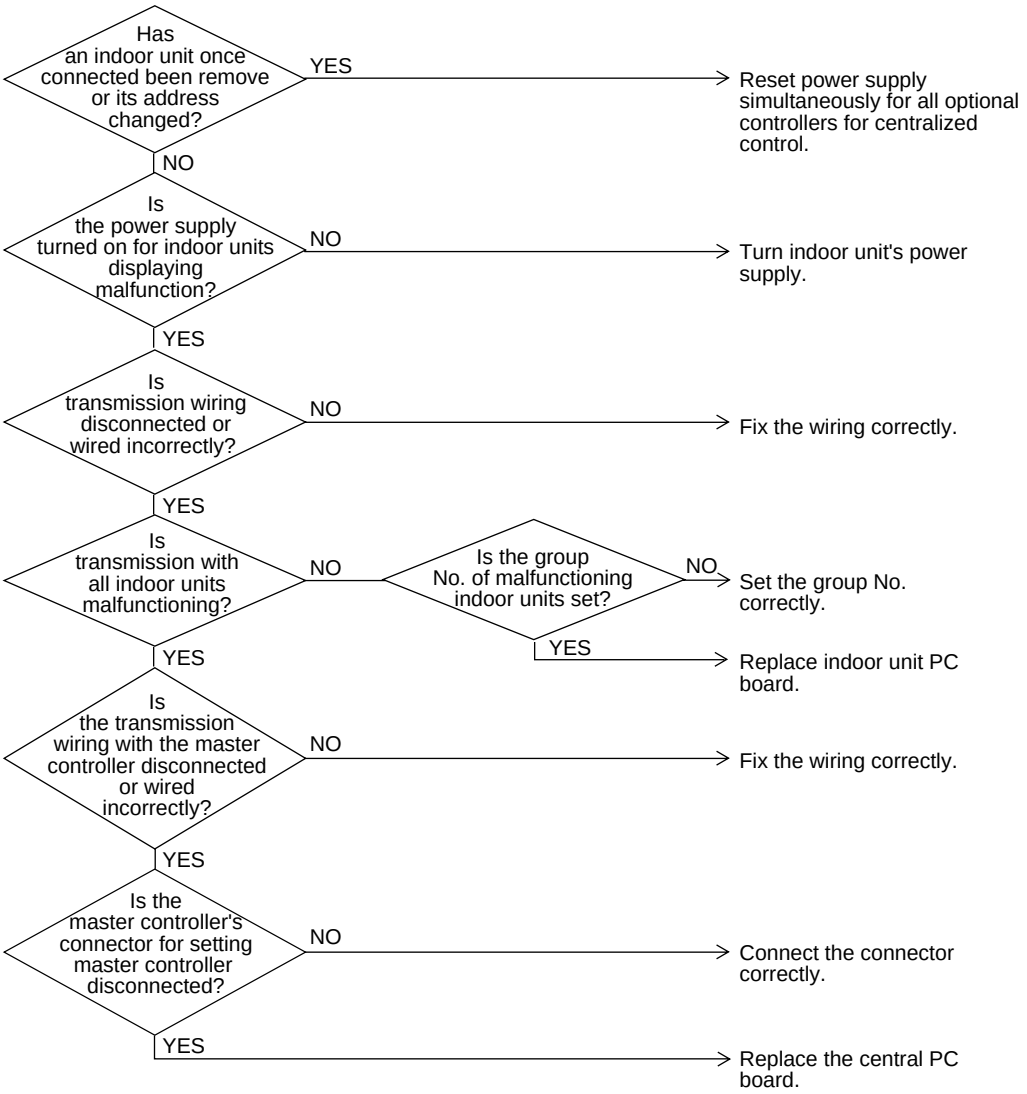


2.50 Malfunction of Transmission Between Central Remote Controller and Indoor Unit

Remote Controller Display	UE
Applicable Models	All models of indoor units Centralized controller
Method of Malfunction Detection	Microcomputer checks if transmission between indoor unit and centralized remote controller is normal.
Malfunction Decision Conditions	When transmission is not carried out normally for a certain amount of time
Supposed Causes	■ Malfunction of transmission between optional controllers for centralized control and indoor unit ■ Connector for setting master controller is disconnected. ■ Failure of PC board for centralized remote controller ■ Defect of indoor unit PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



2.51 Refrigerant System not Set, Incompatible Wiring/Piping

Remote Controller Display

UF

Applicable Models

All models of indoor units
RSXYP5~10L

Method of Malfunction Detection

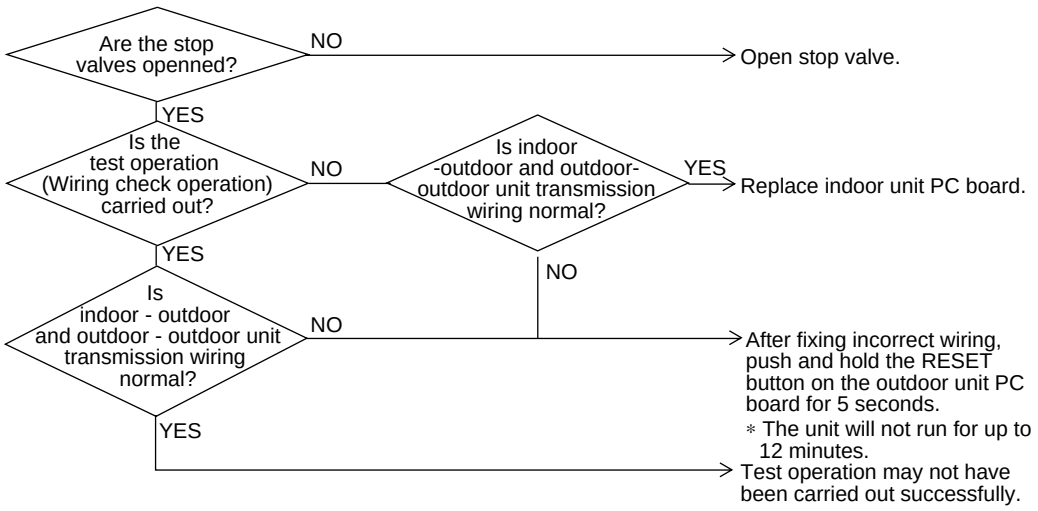
Malfunction Decision Conditions

Supposed Causes

- Improper connection of transmission wiring between outdoor unit and outdoor unit outside control adaptor
- Failure to execute wiring check operation
- Defect of indoor unit PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2830)

Note: Test operation may not be successful if carried out after the outdoor unit has been off for more than 12 hours, or if it is not carried out after running all connected indoor units in the fan mode for at least an hour.

2.52 Malfunction of System, Refrigerant System Address Undefined

Remote Controller Display

UH

Applicable Models

All models of indoor units
RSXYP5~10L

Method of Malfunction Detection

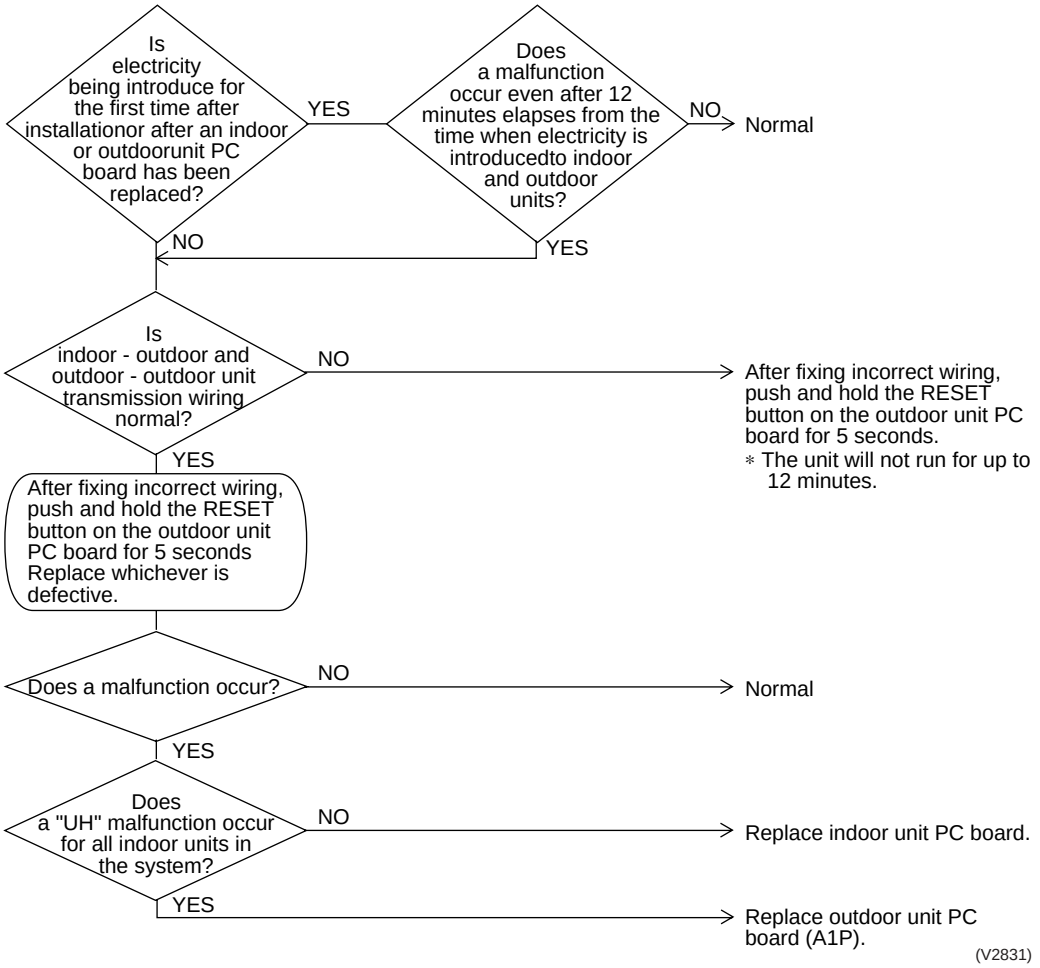
Malfunction Decision Conditions

Supposed Causes

- Improper connection of transmission wiring between outdoor unit and outdoor unit outside control adaptor
- Defect of indoor unit PC board
- Defect of outdoor unit PC board (A1P)

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2831)

3. Troubleshooting (OP: Central Remote Controller)

3.1 Malfunction of Transmission Between Central Remote Controller and Indoor Unit

Remote Controller Display

UE

Applicable Models

All models of indoor units
RSXYP5~10L

Method of Malfunction Detection

Microcomputer checks if transmission between indoor unit and central remote controller is normal.

Malfunction Decision Conditions

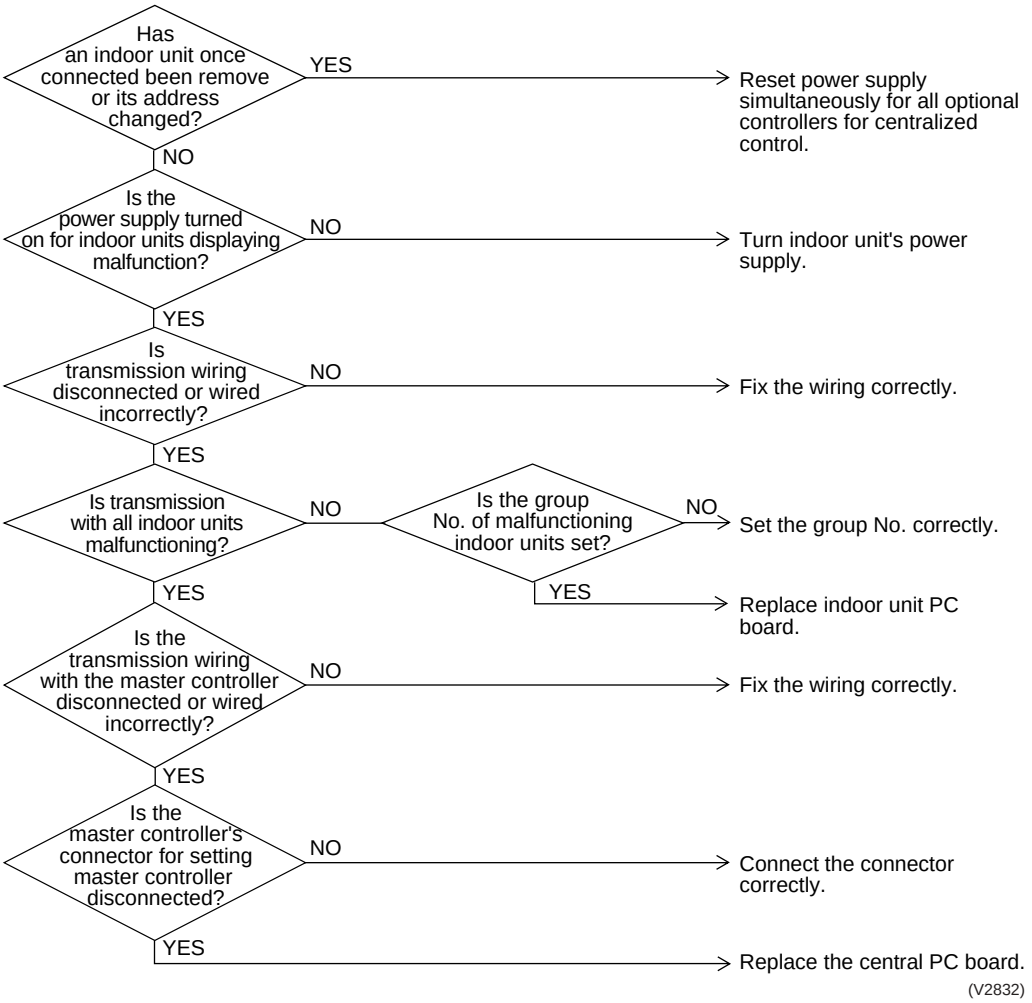
When transmission is not carried out normally for a certain amount of time

Supposed Causes

- Malfunction of transmission between optional controllers for centralized control and indoor unit
- Connector for setting master controller is disconnected.
- Failure of PC board for central remote controller
- Defect of indoor unit PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2832)

3.2 PC Board Defect

Remote Controller Display	
Applicable Models	Centralized remote controller
Method of Malfunction Detection	
Malfunction Decision Conditions	
Supposed Causes	■ Defect of central remote controller PC board
Troubleshooting	Replace the central remote controller PC board.

3.3 Malfunction of Transmission Between Optional Controllers for Centralized Control

Remote Controller Display

M8

Applicable Models

Centralized remote controller

Method of Malfunction Detection

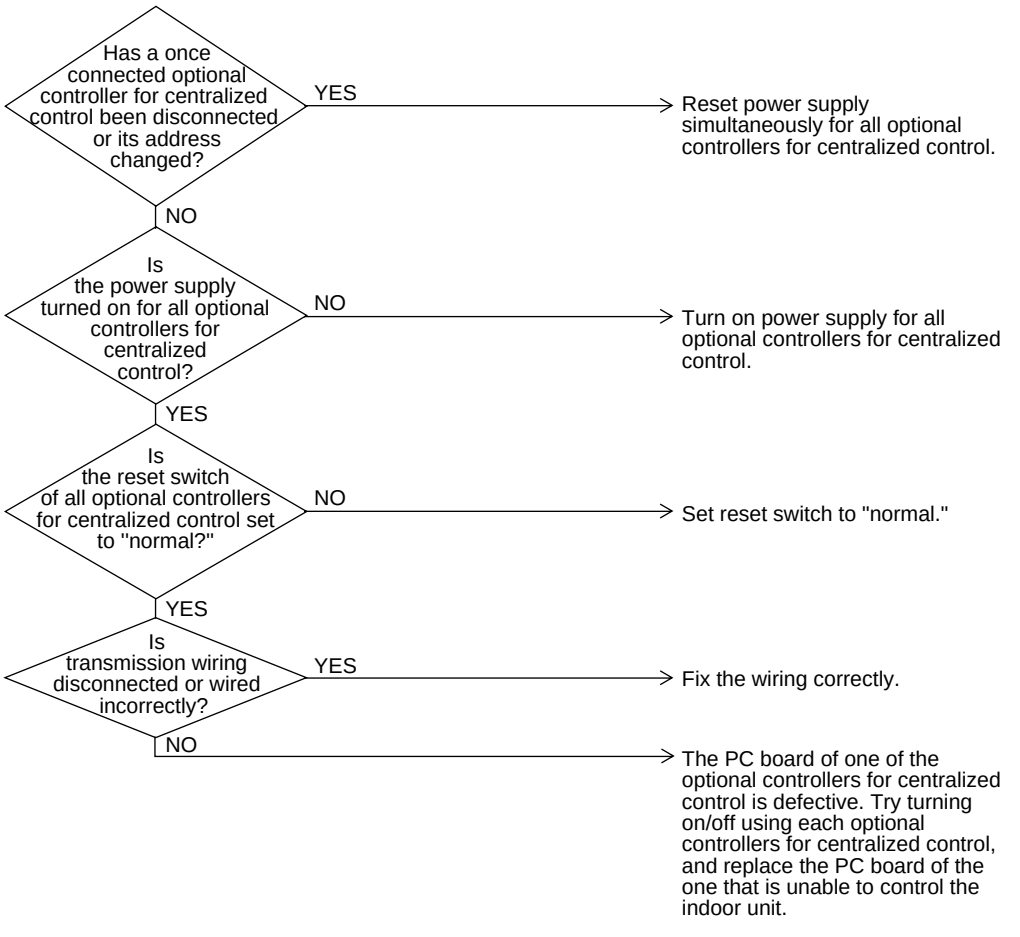
Malfunction Decision Conditions

Supposed Causes

- Malfunction of transmission between optional controllers for centralized control
- Defect of PC board of optional controllers for centralized control

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2833)

3.4 Improper Combination of Optional Controllers for Centralized Control

Remote Controller Display

MA

Applicable Models

Centralized remote controller

Method of Malfunction Detection

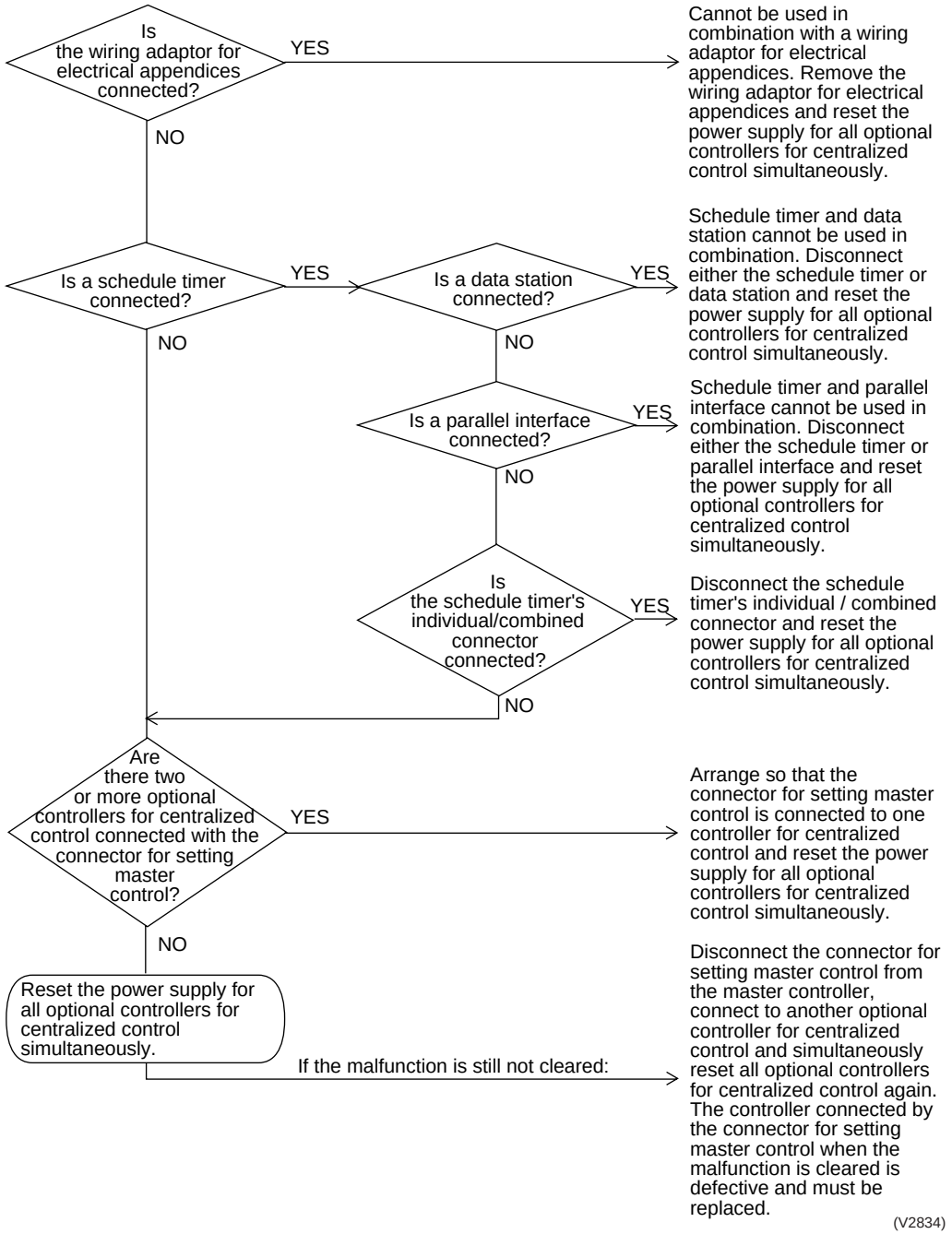
Malfunction Decision Conditions

Supposed Causes

- Improper combination of optional controllers for centralized control
- More than one master controller is connected
- Defect of PC board of optional controller for centralized control

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



3.5 Address Duplication, Improper Setting

Remote Controller Display

MC

Applicable Models

Central remote controller

Method of Malfunction Detection

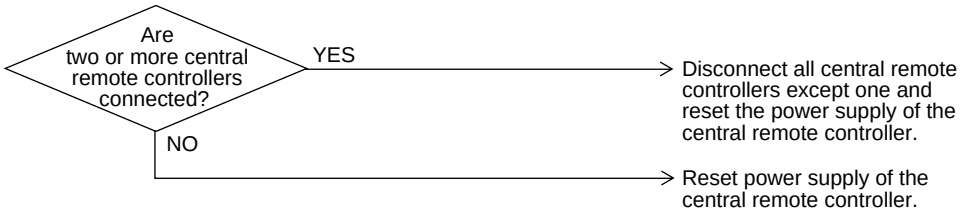
Malfunction Decision Conditions

Supposed Causes

- Address duplication of centralized remote controller

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2835)

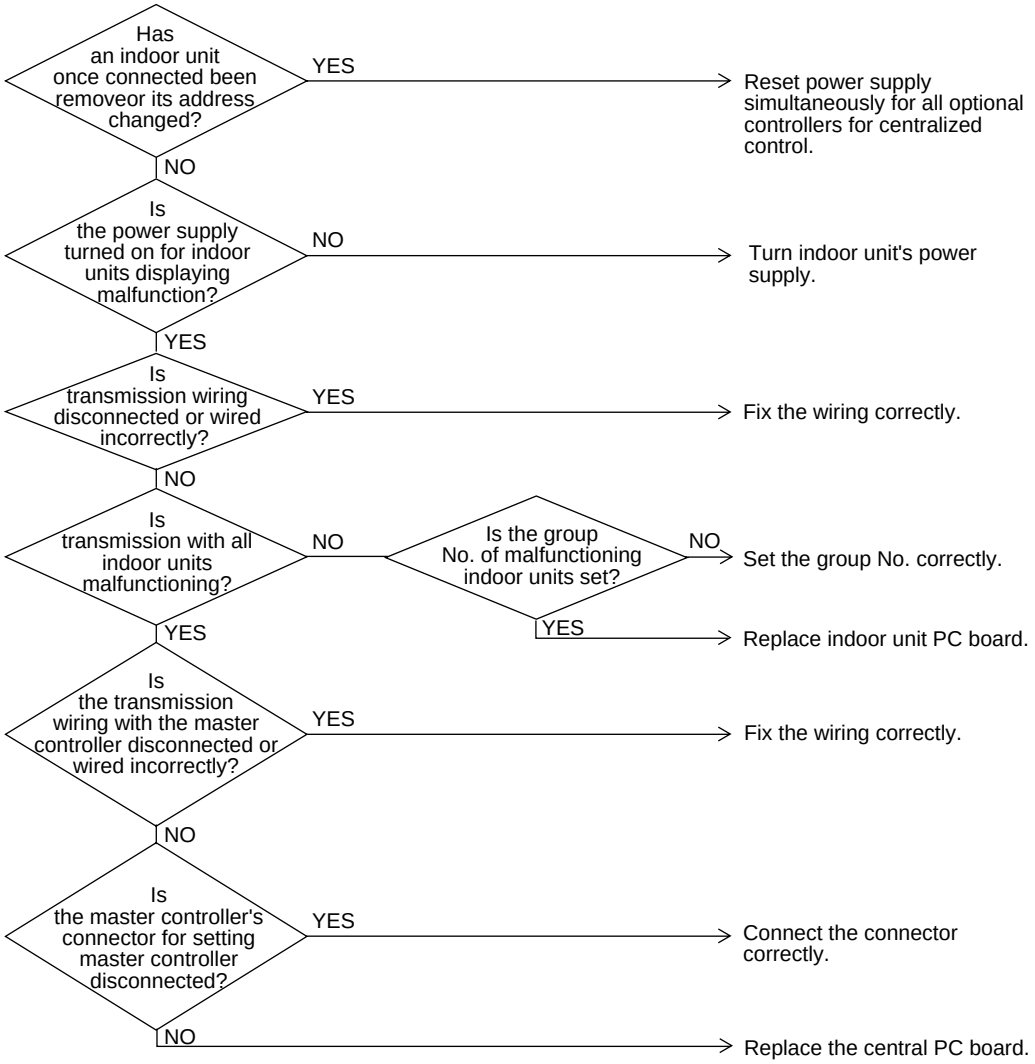
4. Troubleshooting (OP: Schedule Timer)

4.1 Malfunction of Transmission Between Central Remote Controller and Indoor Unit

Remote Controller Display	UE
Applicable Models	Schedule timer
Method of Malfunction Detection	Microcomputer checks if transmission between indoor unit and centralized remote controller is normal.
Malfunction Decision Conditions	When transmission is not carried out normally for a certain amount of time
Supposed Causes	■ Malfunction of transmission between central remote controller and indoor unit ■ Disconnection of connector for setting master controller (or individual/combined switching connector) ■ Defect of schedule timer PC board ■ Defect of indoor unit PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2836)

4.2 PC Board Defect

Remote Controller Display

M1

Applicable Models

Schedule timer

Method of Malfunction Detection

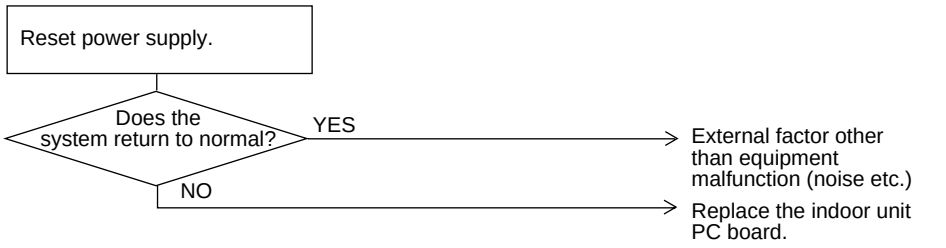
Malfunction Decision Conditions

Supposed Causes

- Defect of schedule timer PC board

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



(V2837)

4.3 Malfunction of Transmission Between Optional Controllers for Centralized Control

Remote Controller Display

M8

Applicable Models

All models of indoor units, schedule timer

Method of Malfunction Detection

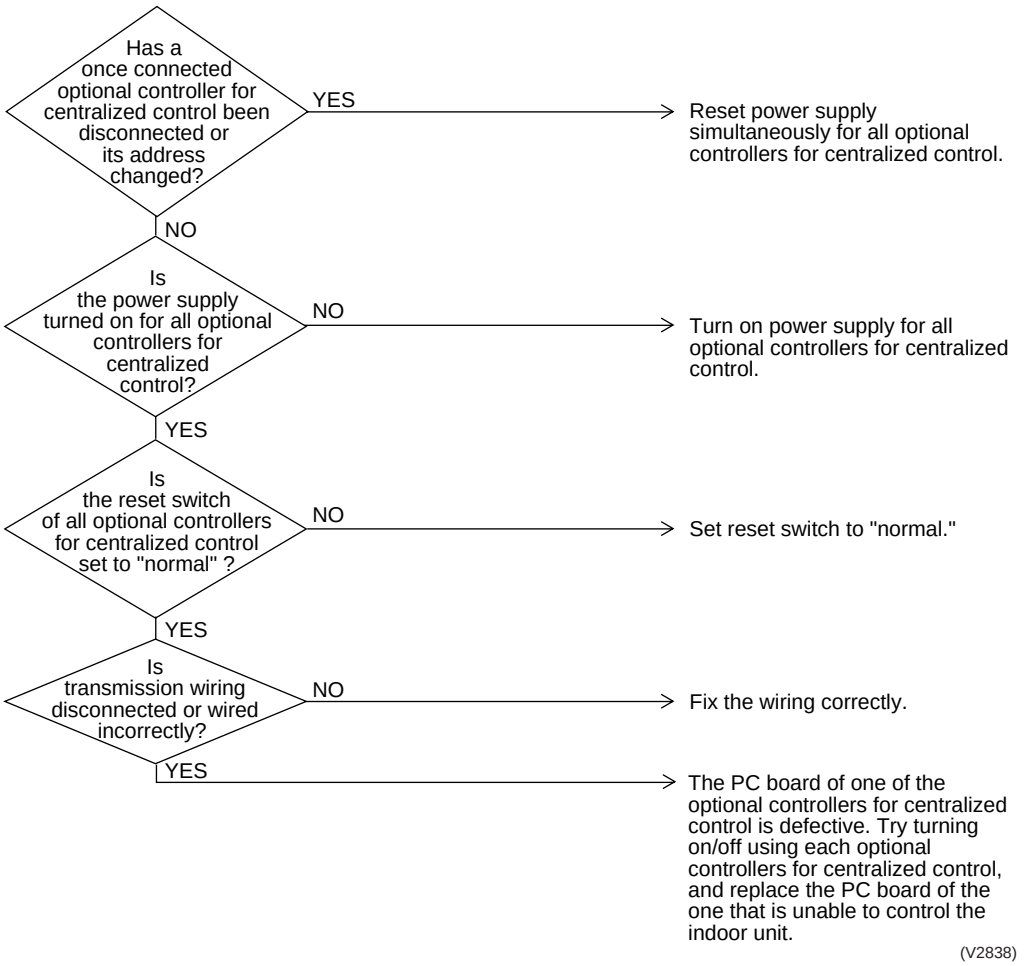
Malfunction Decision Conditions

Supposed Causes

- Malfunction of transmission between optional controllers for centralized control
- Defect of PC board of optional controllers for centralized control

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



4.4 Improper Combination of Optional Controllers for Centralized Control

Remote Controller Display

MA

Applicable Models

All models of indoor units, schedule timer

Method of Malfunction Detection

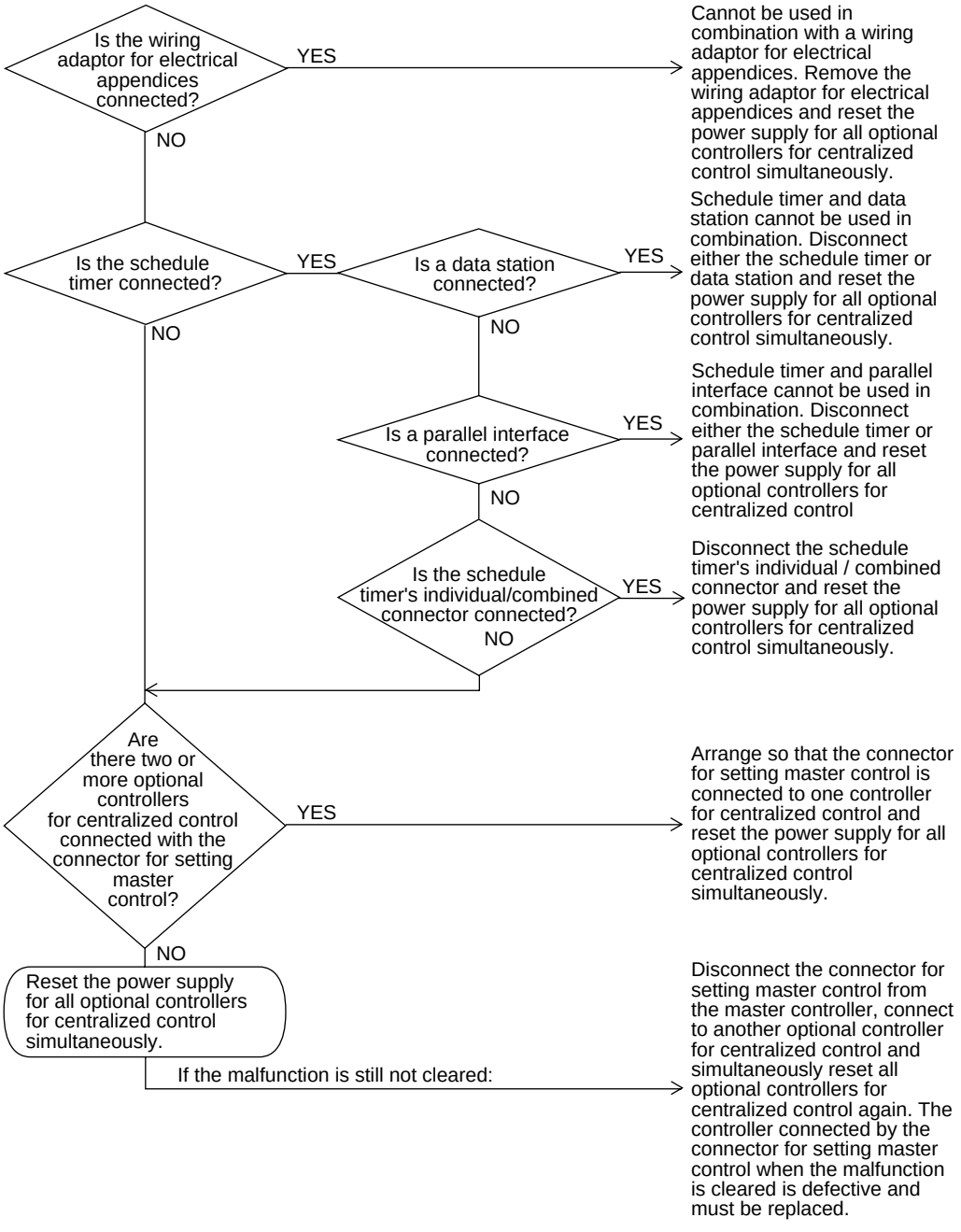
Malfunction Decision Conditions

Supposed Causes

- Improper combination of optional controllers for centralized control
- More than one master controller is connected.
- Defect of PC board of optional controller for centralized control

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



4.5 Address Duplication, Improper Setting

Remote Controller Display

MC

Applicable Models

All models of indoor units,
schedule timer

Method of Malfunction Detection

Malfunction Decision Conditions

Supposed Causes

- Address duplication of optional controller for centralized control

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.

(V2840)

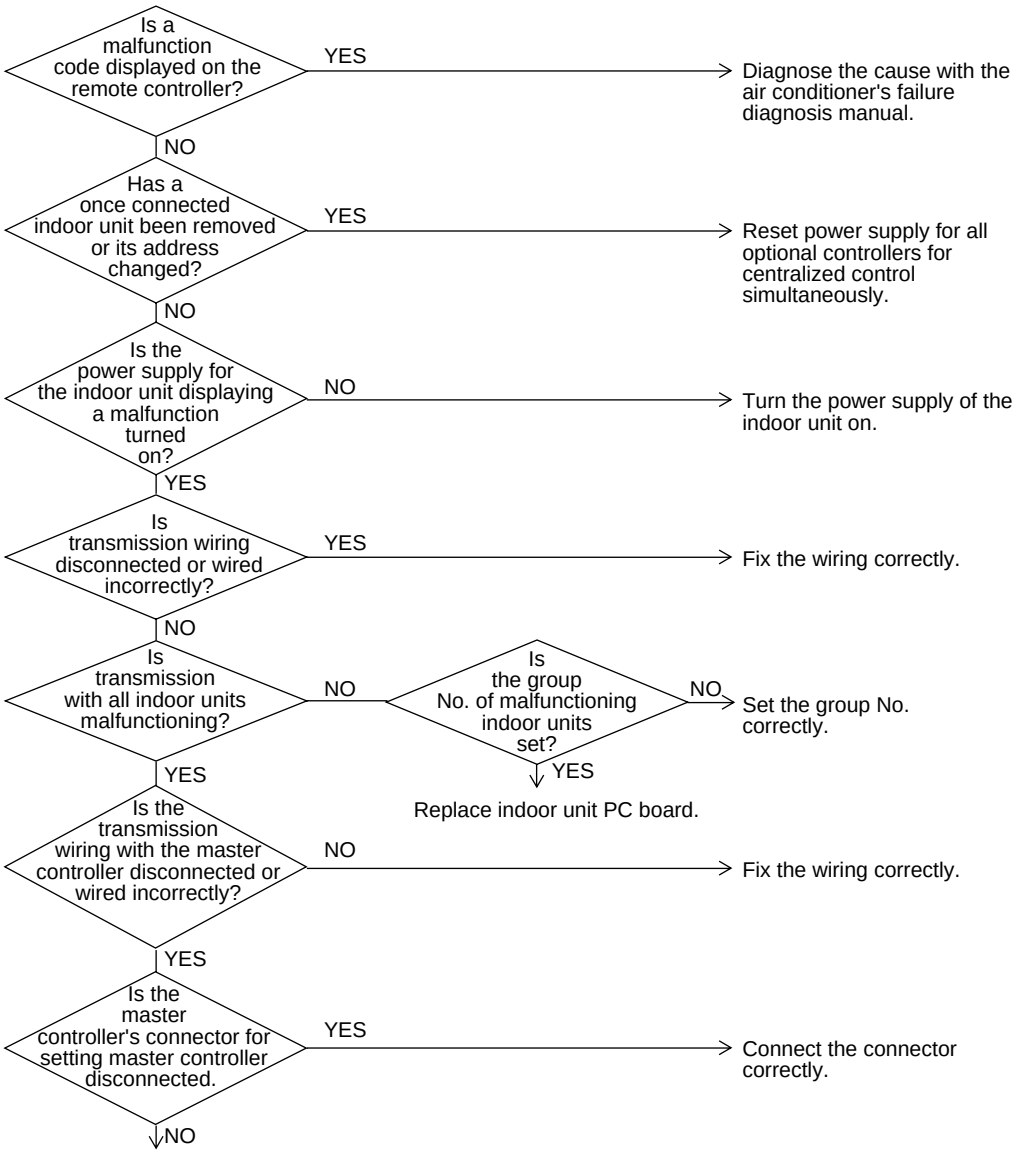
5. Troubleshooting (OP: Unified ON/OFF Controller)

5.1 Operation Lamp Blinks

Remote Controller Display	Operation lamp blinks
Applicable Models	All models of indoor units Unified ON/OFF controller
Method of Malfunction Detection	
Malfunction Decision Conditions	
Suppposed Causes	■ Malfunction of transmission between optional controller and indoor unit ■ Connector for setting master controller is disconnected ■ Defect of unified ON/OFF controller ■ Defect of indoor unit PC board ■ Malfunction of air conditioner

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



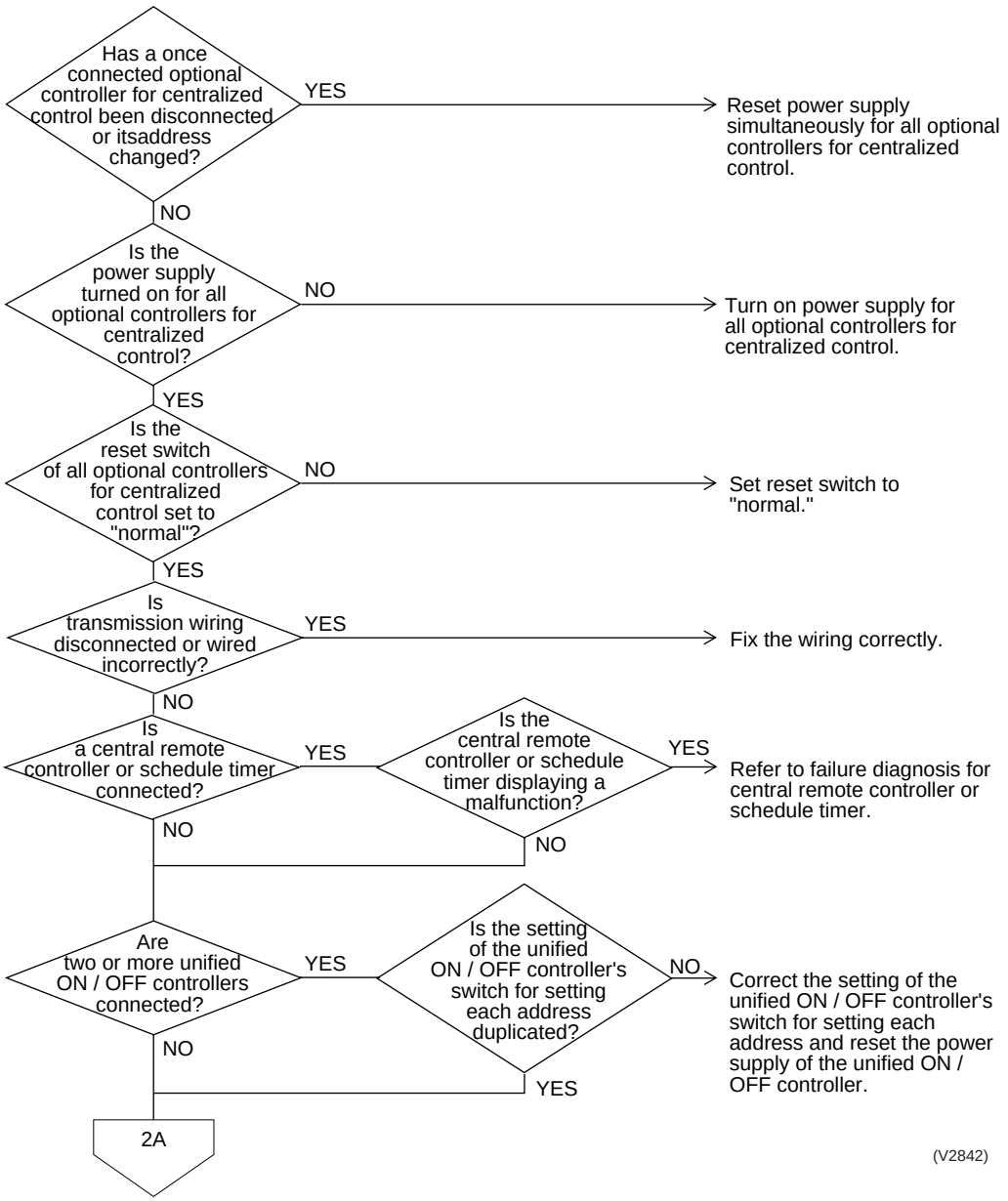
(V2841)

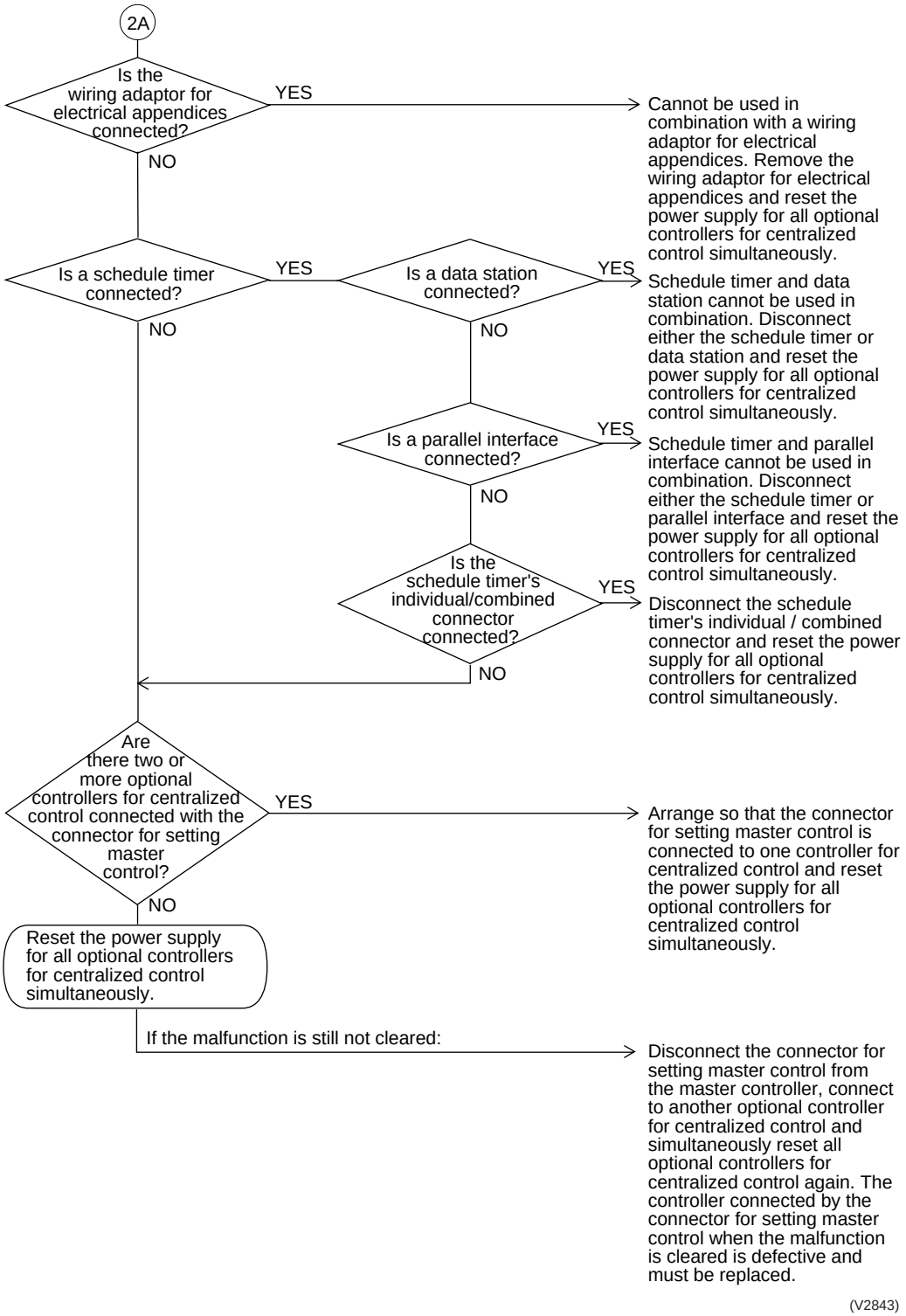
5.2 Display “Under Host Computer Integrate Control” Blinks (Repeats Single Blink)

Remote Controller Display	“under host computer integrated control” (Repeats single blink)
Applicable Models	Unified ON/OFF controller Central controller, Schedule timer
Method of Malfunction Detection	
Malfunction Decision Conditions	
Supposed Causes	■ Address duplication of central remote controller ■ Improper combination of optional controllers for centralized control ■ Connection of more than one master controller ■ Malfunction of transmission between optional controllers for centralized control ■ Defect of PC board of optional controllers for centralized control

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.




2A
Is the wiring adaptor for electrical appendices connected?
YES
Cannot be used in combination with a wiring adaptor for electrical appendices. Remove the wiring adaptor for electrical appendices and reset the power supply for all optional controllers for centralized control simultaneously.
NO
Is a schedule timer connected?
YES
Is a data station connected?
YES
Schedule timer and data station cannot be used in combination. Disconnect either the schedule timer or data station and reset the power supply for all optional controllers for centralized control simultaneously.
NO
NO
Is a parallel interface connected?
YES
Schedule timer and parallel interface cannot be used in combination. Disconnect either the schedule timer or parallel interface and reset the power supply for all optional controllers for centralized control simultaneously.
NO
Is the schedule timer's individual/combined connector connected?
YES
Disconnect the schedule timer's individual / combined connector and reset the power supply for all optional controllers for centralized control simultaneously.
NO
Are there two or more optional controllers for centralized control connected with the connector for setting master control?
YES
Arrange so that the connector for setting master control is connected to one controller for centralized control and reset the power supply for all optional controllers for centralized control simultaneously.
NO
Reset the power supply for all optional controllers for centralized control simultaneously.
If the malfunction is still not cleared:
Disconnect the connector for setting master control from the master controller, connect to another optional controller for centralized control and simultaneously reset all optional controllers for centralized control again. The controller connected by the connector for setting master control when the malfunction is cleared is defective and must be replaced.
(V2843)

5.3 Display “Under Host Computer Integrate Control” Blinks (Repeats Double Blink)

Remote Controller Display

“under host computer integrated control” (Repeats double blink)

Applicable Models

Unified ON/OFF controller

Method of Malfunction Detection

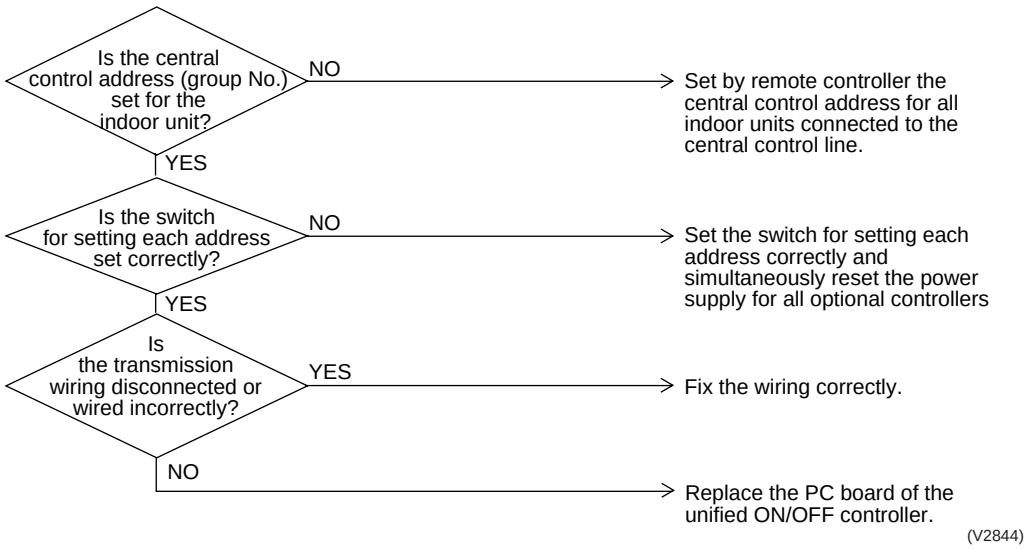
Malfunction Decision Conditions

Supposed Causes

- Central control address (group No.) is not set for indoor unit.
- Improper address setting
- Improper wiring of transmission wiring

Troubleshooting

Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



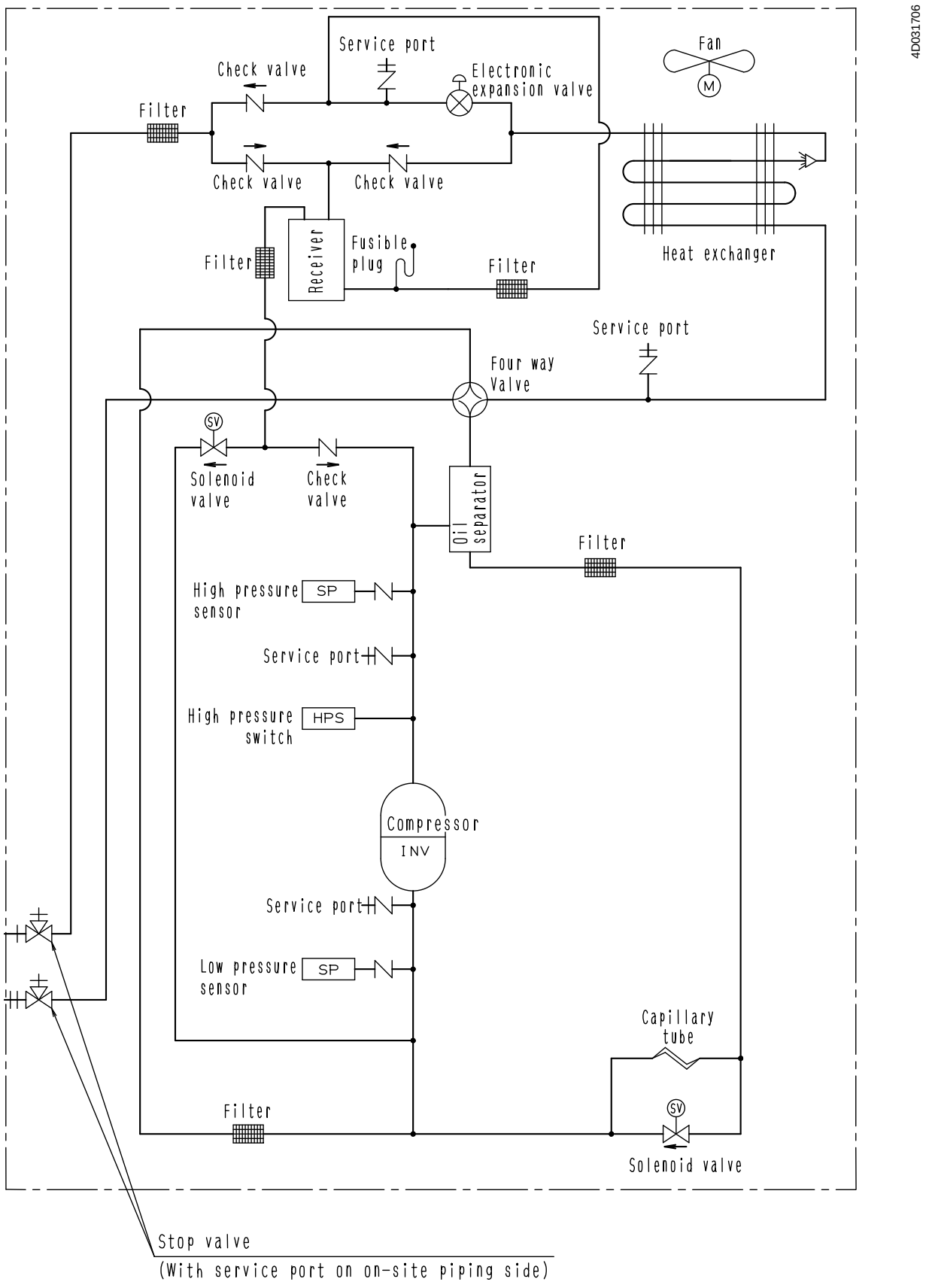
(V2844)

Part 6 Appendix

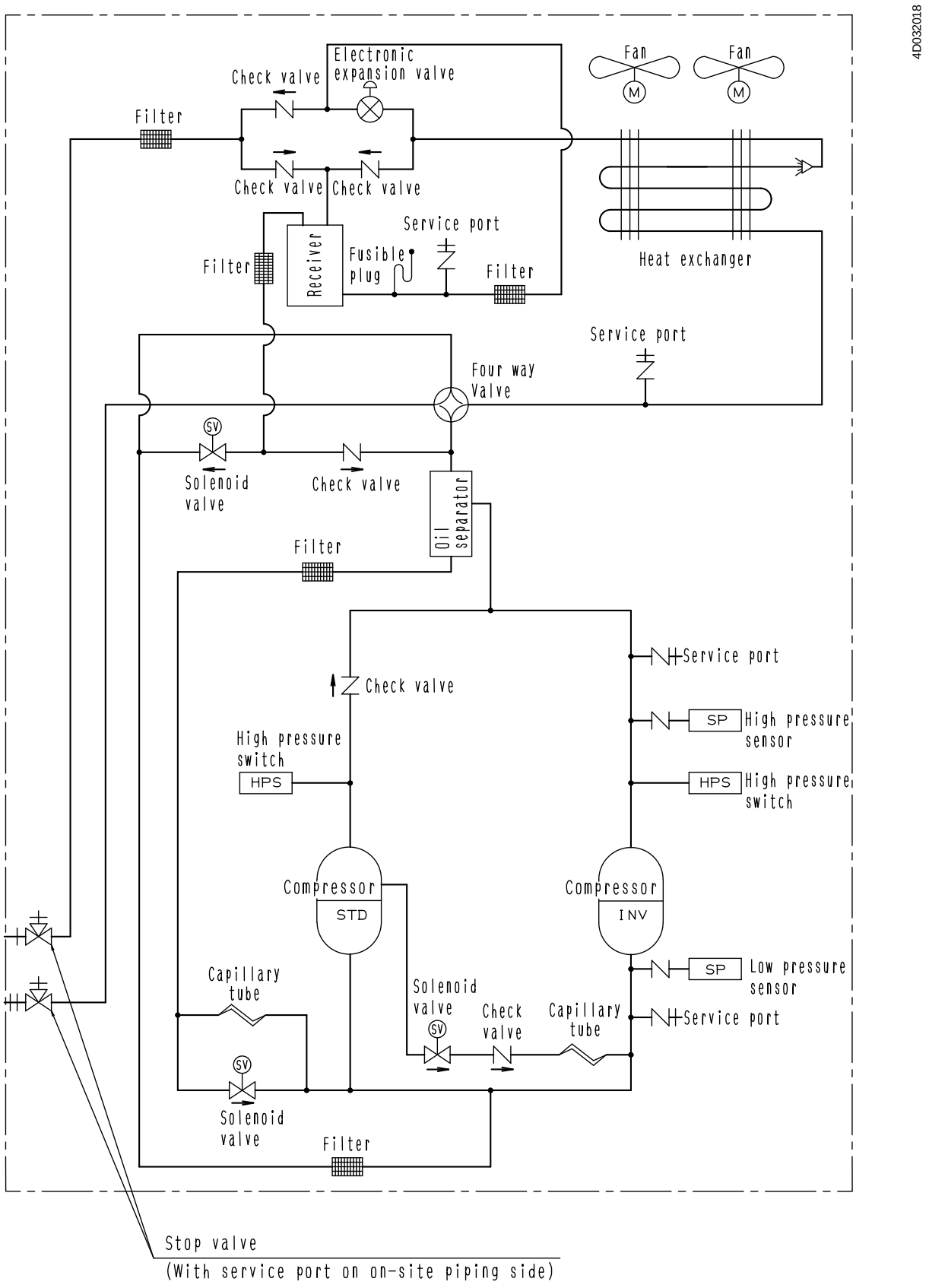
1. Piping Diagrams

1.1 Outdoor Unit

RSXYP5L

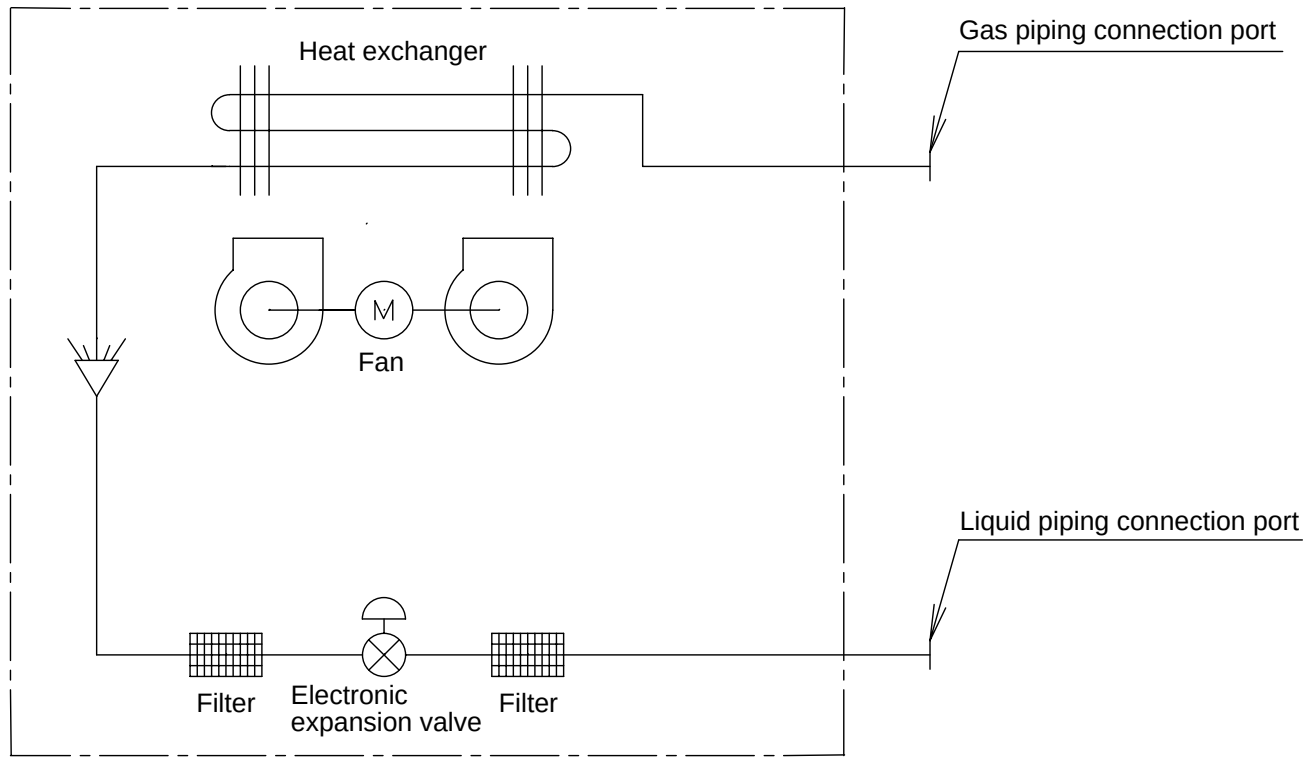


RSXYP8L / RSXYP10L



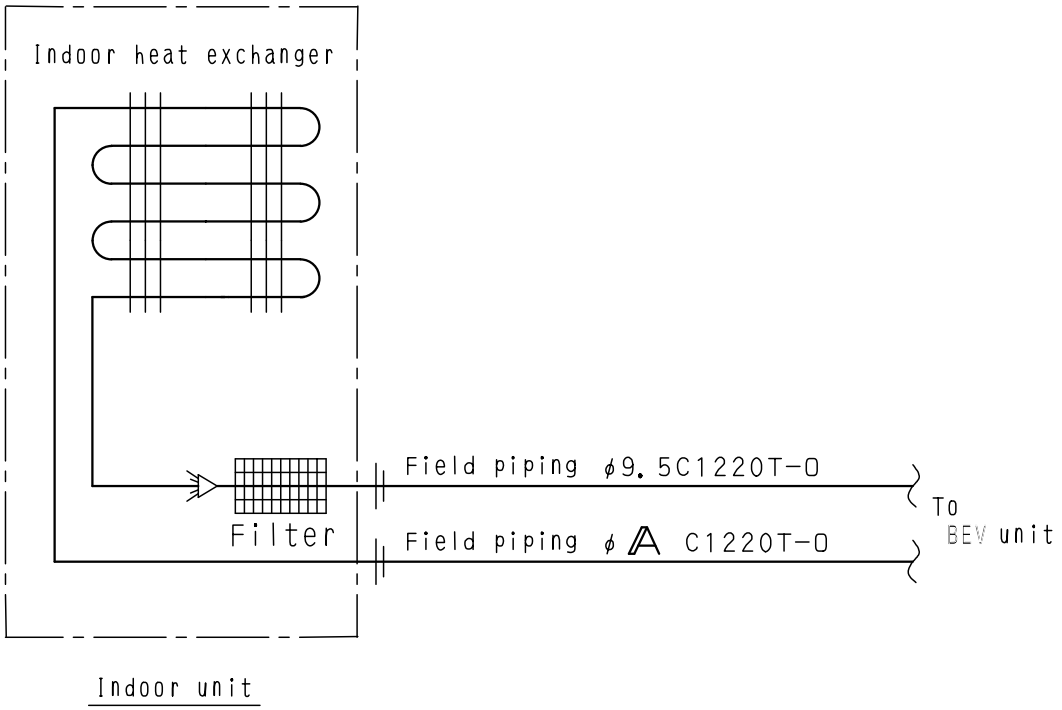
1.2 Indoor Unit

FXF, FXYCP, FXYKP, FXYSP, FXYMP, FXYHP, FXYAP, FXYLP, FXYLMP



DU220-602D

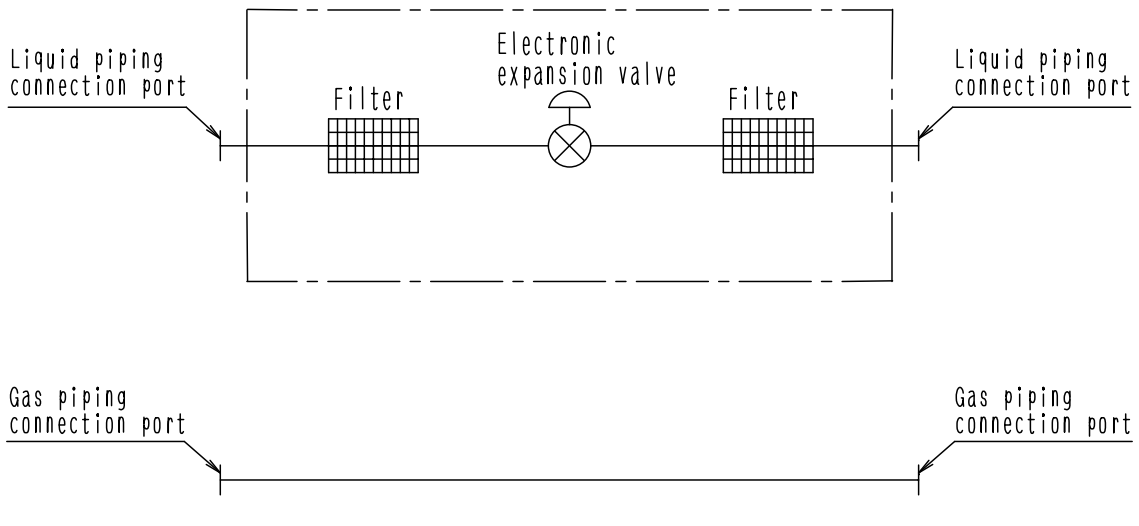
Indoor unit FUYP



MODEL	A
71	15.9
100・125	19.1

4D013899A

Connection Unit BEV

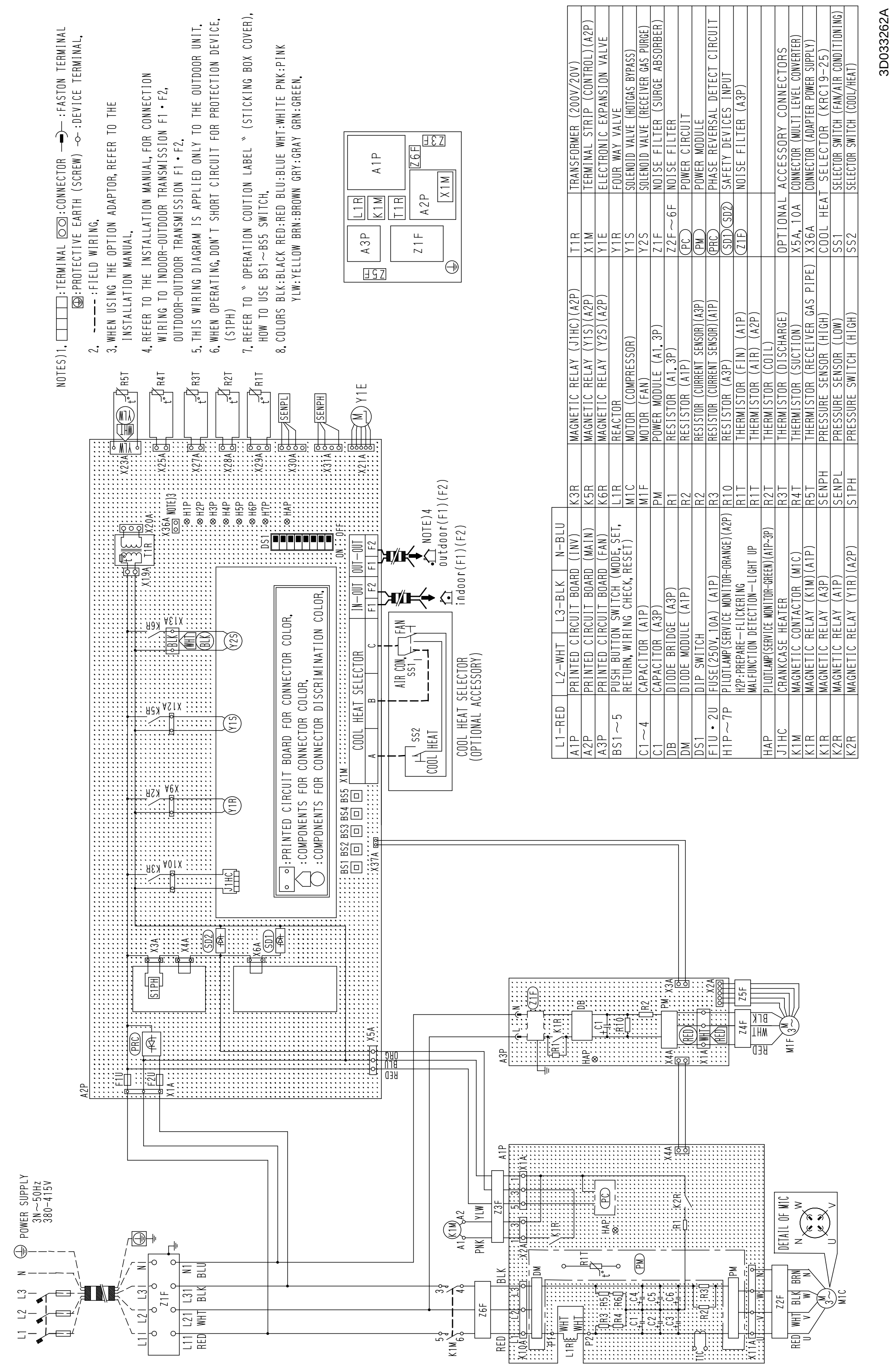


4D034127

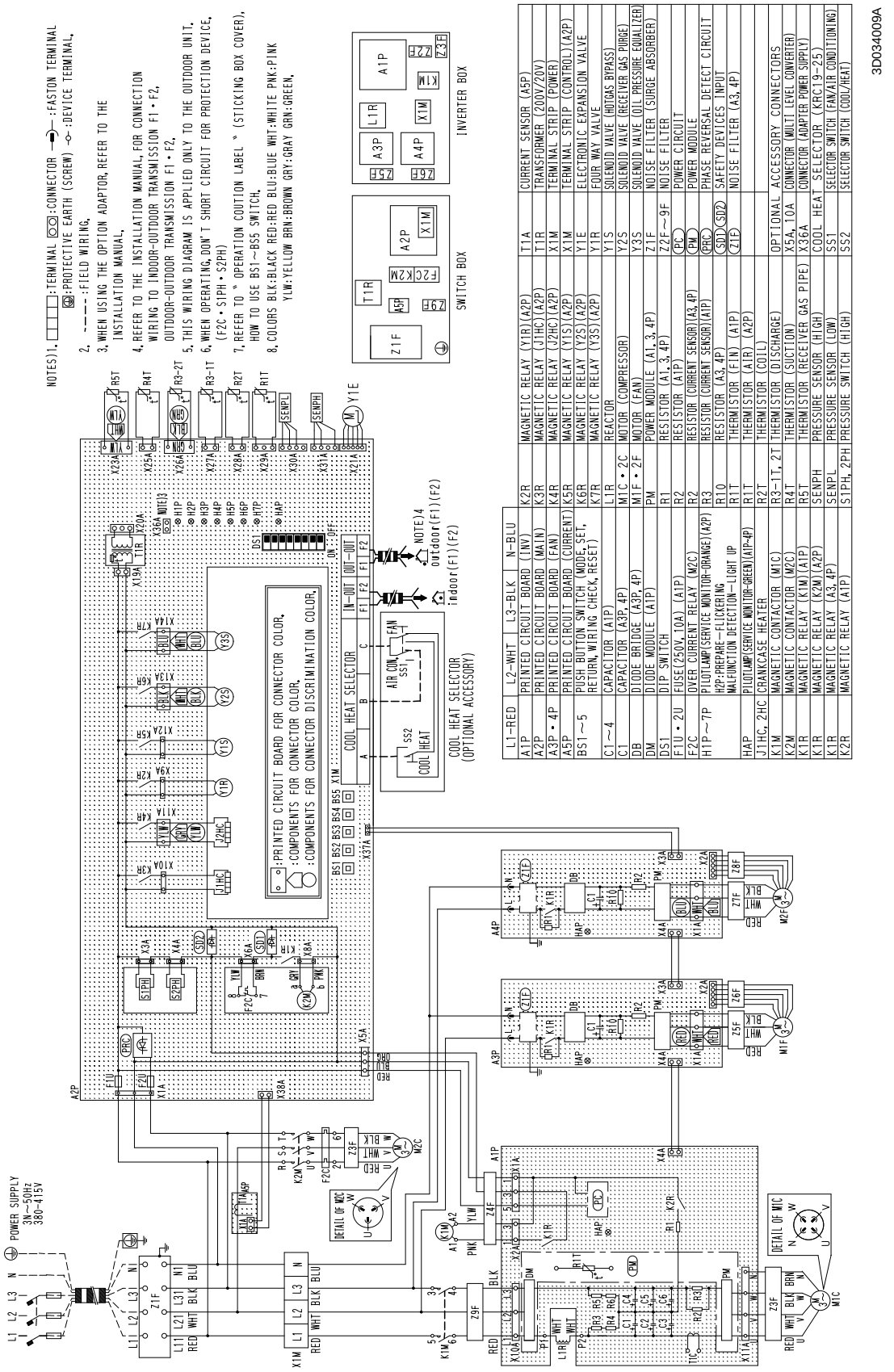
2. Wiring Diagrams for Reference

2.1 Outdoor Unit

RSXYP5LY1 / RSXYP5LYL



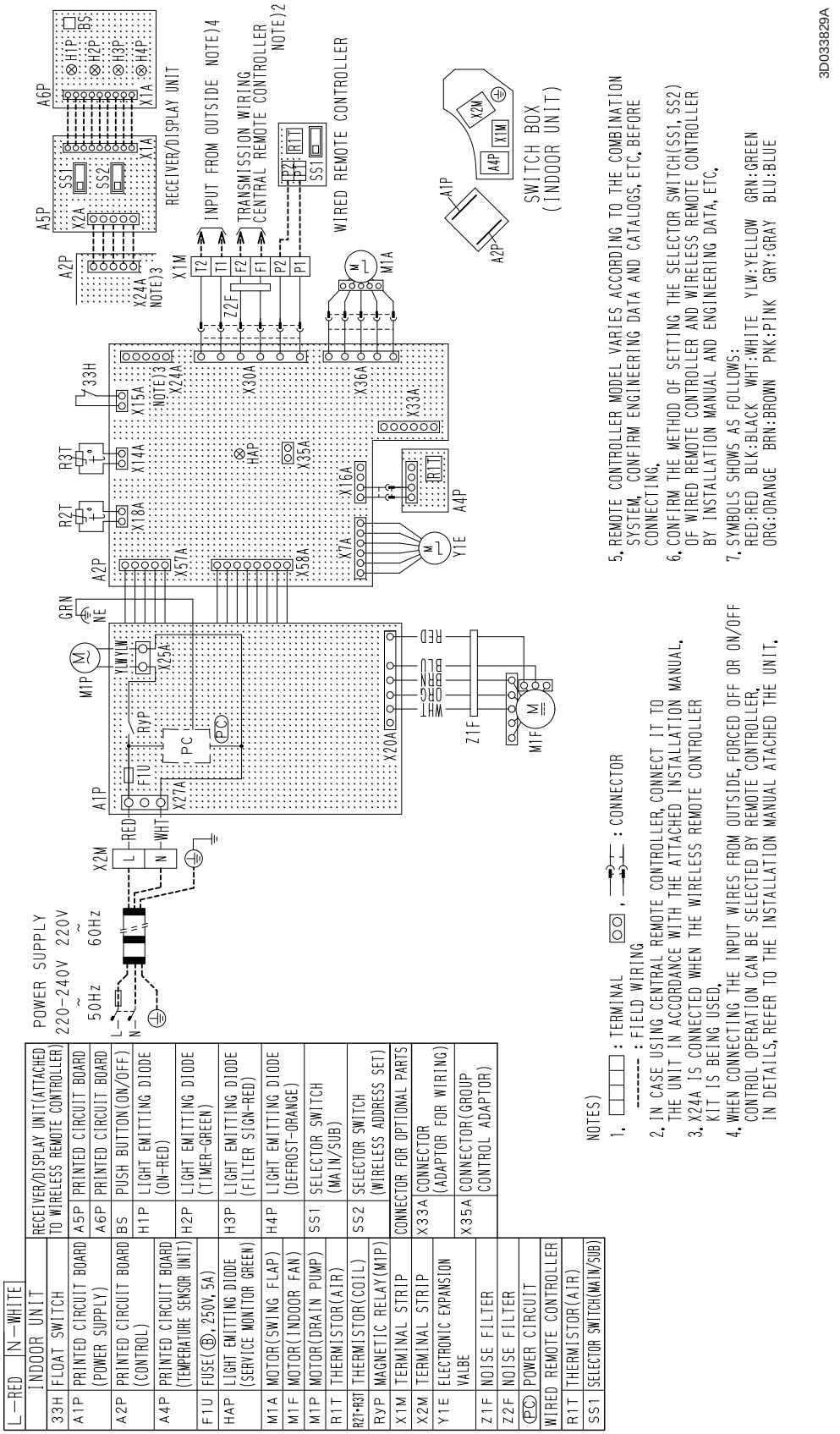
RSXYP8LY1 / RSXYP8LYL / RSXYP10LY1 / RSXYP10LYL



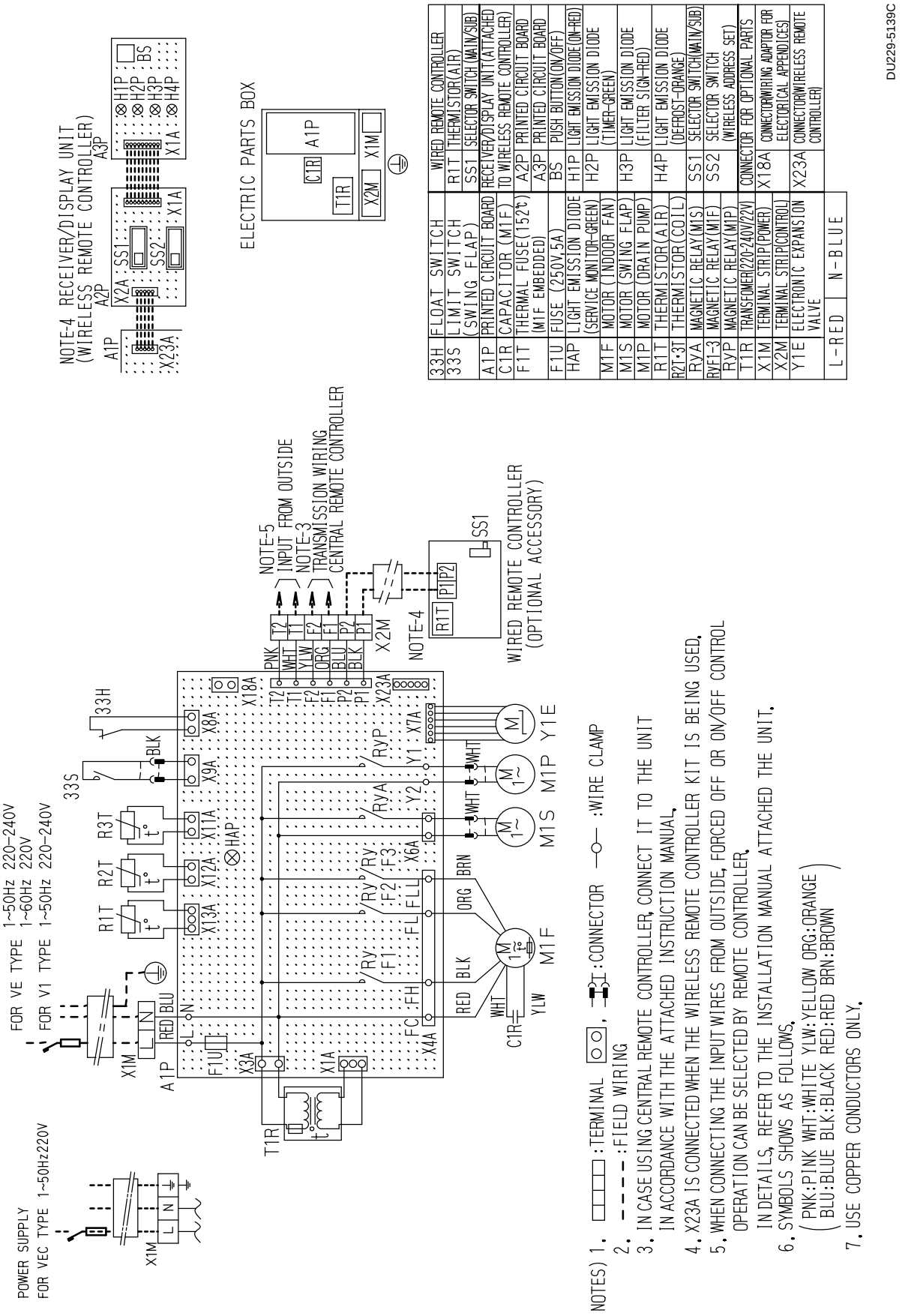
L1-RED	L2-WHT	L3-BLK	N-BLU			
A1P	PRINTED CIRCUIT BOARD (INV)			K2R	MAGNETIC RELAY (Y1R)(A2P)	T1A	CURRENT SENSOR (A5P)
A2P	PRINTED CIRCUIT BOARD (MAIN)			K3R	MAGNETIC RELAY (J1HC)(A2P)	T1R	TRANSFORMER (200V/20V)
A3P・4P	PRINTED CIRCUIT BOARD (FAN)			K4R	MAGNETIC RELAY (J2HC)(A2P)	X1M	TERMINAL STRIP (POWER)
A5P	PRINTED CIRCUIT BOARD (CURRENT)			K5R	MAGNETIC RELAY (Y1S)(A2P)	X1M	TERMINAL STRIP (CONTROL)(A2P)
BS1~5	PUSH BUTTON SWITCH (MODE, SET, RETURN, WIRING CHECK, RESET)			K6R	MAGNETIC RELAY (Y2S)(A2P)	Y1E	ELECTRONIC EXPANSION VALVE
				K7R	MAGNETIC RELAY (Y3S)(A2P)	Y1R	FOUR WAY VALVE
C1~4	CAPACITOR (A1P)			L1R	REACTOR	Y1S	SOLENOID VALVE (HOTGAS BYPASS)
C1	CAPACITOR (A3P, 4P)			M1C・2C	MOTOR (COMPRESSOR)	Y2S	SOLENOID VALVE (RECEIVER GAS PURGE)
DB	DIODE BRIDGE (A3P, 4P)			M1F・2F	MOTOR (FAN)	Y3S	SOLENOID VALVE (OIL PRESSURE EQUALIZER)
DM	DIODE MODULE (A1P)			PM	POWER MODULE (A1, 3, 4P)	Z1F	NOISE FILTER (SURGE ABSORBER)
DS1	DIP SWITCH			R1	RESISTOR (A1, 3, 4P)	Z2F~9F	NOISE FILTER
F1U・2U	FUSE(250V, 10A) (A1P)			R2	RESISTOR (A1P)	CPC	POWER CIRCUIT
F2C	OVER CURRENT RELAY (M2C)			R2	RESISTOR (CURRENT SENSOR)(A3, 4P)	PM	POWER MODULE
H1P~7P	PILOTLAMP(SERVICE MONITOR-ORANGE)(A2P)			R3	RESISTOR (CURRENT SENSOR)(A1P)	PRC	PHASE REVERSAL DETECT CIRCUIT
	H2P:PREPARE-FLICKERING MALFUNCTION DETECTION-LIGHT UP			R10	RESISTOR (A3, 4P)	SD1, SD2	SAFETY DEVICES INPUT
				R1T	THERMISTOR (FIN) (A1P)	Z1P	NOISE FILTER (A3, 4P)
HAP	PILOTLAMP(SERVICE MONITOR-GREEN)(A1P-4P)			R2T	THERMISTOR (A1P)		
J1HC, 2HC	CRANKCASE HEATER			R3-1T, 2T	THERMISTOR (COIL)		
K1M	MAGNETIC CONTACTOR (M1C)			R4T	THERMISTOR (DISCHARGE)		OPTIONAL ACCESSORY CONNECTORS
K2M	MAGNETIC CONTACTOR (M2C)			R5T	THERMISTOR (SUCTION)	X5A, 10A	CONNECTOR (MULTI LEVEL CONVERTER)
K1R	MAGNETIC RELAY (K1M)(A1P)			SENPH	THERMISTOR (RECEIVER GAS PIPE)	X36A	CONNECTOR (ADAPTER POWER SUPPLY)
K1R	MAGNETIC RELAY (K2M)(A2P)			SENPL	PRESSURE SENSOR (HIGH)	COOL HEAT	SELECTOR (KRC19-25)
K1R	MAGNETIC RELAY (A3, 4P)			SS1	PRESSURE SENSOR (LOW)		SELECTOR SWITCH (FAN/AIR CONDITIONING)
K2R	MAGNETIC RELAY (A1P)			S1PH, 2PH	PRESSURE SWITCH (HIGH)	SS2	SELECTOR SWITCH (COOL/HEAT)

2.2 Indoor Unit

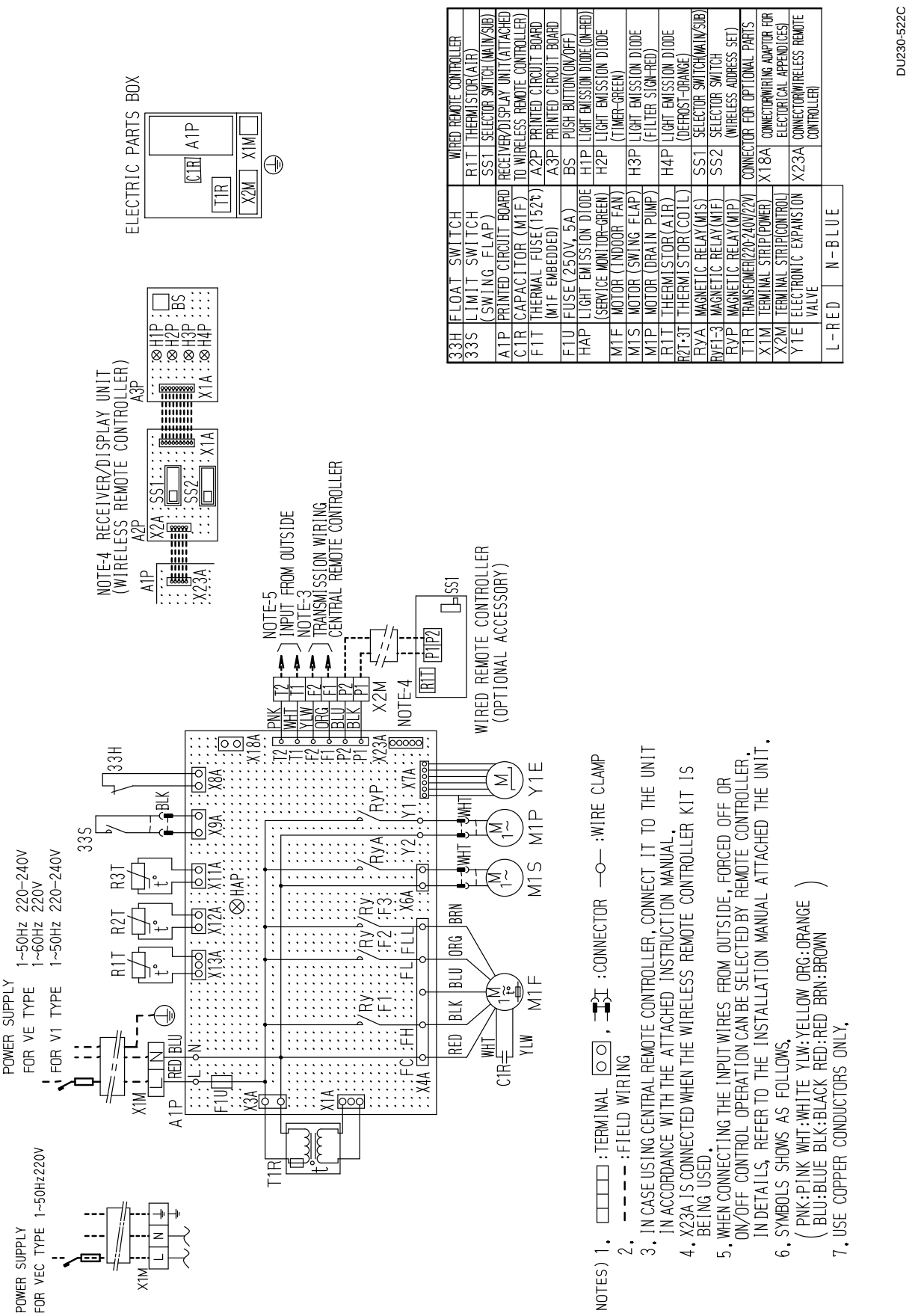
FXF25~125LVE



FXYCP20·25·32·63KV1



FXYCP40·50·80·125KV1

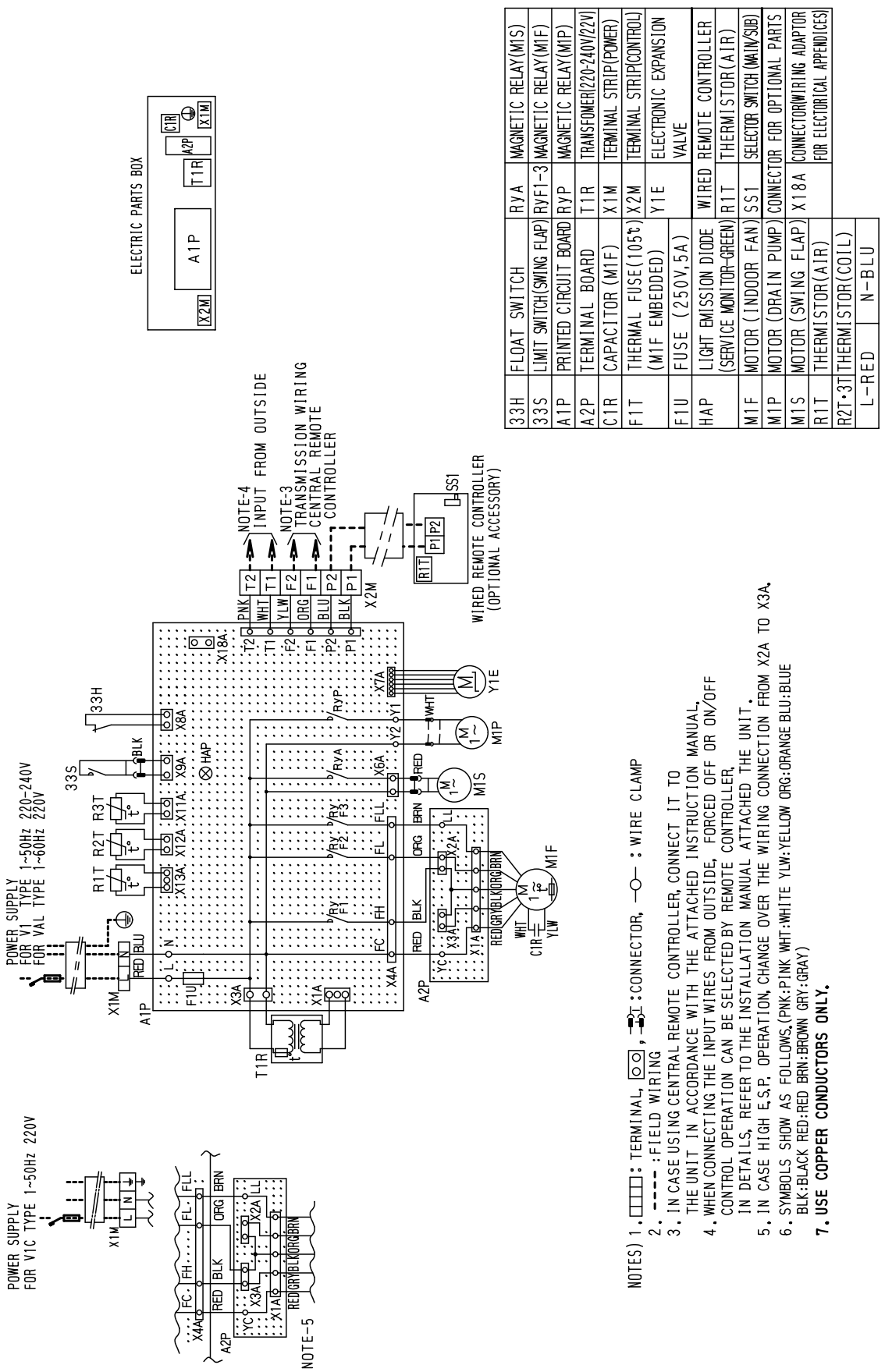


33H	FLOAT SWITCH	WIRED REMOTE CONTROLLER
33S	LIMIT SWITCH (SWING FLAP)	R1T THERMISTOR(AIR)
		SS1 SELECTOR SWITCH (MAIN/SUB)
A1P	PRINTED CIRCUIT BOARD	RECEIVER/DISPLAY UNIT(ATTACHED TO WIRELESS REMOTE CONTROLLER)
C1R	CAPACITOR (M1F)	A2P PRINTED CIRCUIT BOARD
F1T	THERMAL FUSE(152°C) (M1F EMBEDDED)	A3P PRINTED CIRCUIT BOARD
F1U	FUSE(250V, 5A)	BS PUSH BUTTON(ON/OFF)
HAP	LIGHT EMISSION DIODE (SERVICE MONITOR-GREEN)	H1P LIGHT EMISSION DIODE(ON-RED)
		H2P LIGHT EMISSION DIODE (TIMER-GREEN)
M1F	MOTOR (INDOOR FAN)	
M1S	MOTOR (SWING FLAP)	H3P LIGHT EMISSION DIODE (FILTER SIGN-RED)
M1P	MOTOR (DRAIN PUMP)	
R1T	THERMISTOR(AIR)	H4P LIGHT EMISSION DIODE (DEFROST-ORANGE)
R2T·3T	THERMISTOR(COIL)	
RYA	MAGNETIC RELAY(M1S)	SS1 SELECTOR SWITCH(MAIN/SUB)
RYF1-3	MAGNETIC RELAY(M1F)	SS2 SELECTOR SWITCH (WIRELESS ADDRESS SET)
RYP	MAGNETIC RELAY(M1P)	
T1R	TRANSFORMER(220-240V/22V)	CONNECTOR FOR OPTIONAL PARTS
X1M	TERMINAL STRIP(POWER)	X18A CONNECTOR(WIRING ADAPTOR FOR ELECTORICAL APPENDICES)
X2M	TERMINAL STRIP(CONTROL)	
Y1E	ELECTRONIC EXPANSION VALVE	X23A CONNECTOR(WIRELESS REMOTE CONTROLLER)
L-RED	N-BLUE	

NOTES) 1. □□□□ :TERMINAL [○○], —[○○]— :CONNECTOR —○— :WIRE CLAMP
2. - - - - - :FIELD WIRING
3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
4. X23A IS CONNECTED WHEN THE WIRELESS REMOTE CONTROLLER KIT IS BEING USED.
5. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER. IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT.
6. SYMBOLS SHOWS AS FOLLOWS.
(PNK:PINK WHT:WHITE YLW:YELLOW ORG:ORANGE
BLU:BLUE BLK:BLACK RED:RED BRN:BROWN)
7. USE COPPER CONDUCTORS ONLY.

DU230-522C

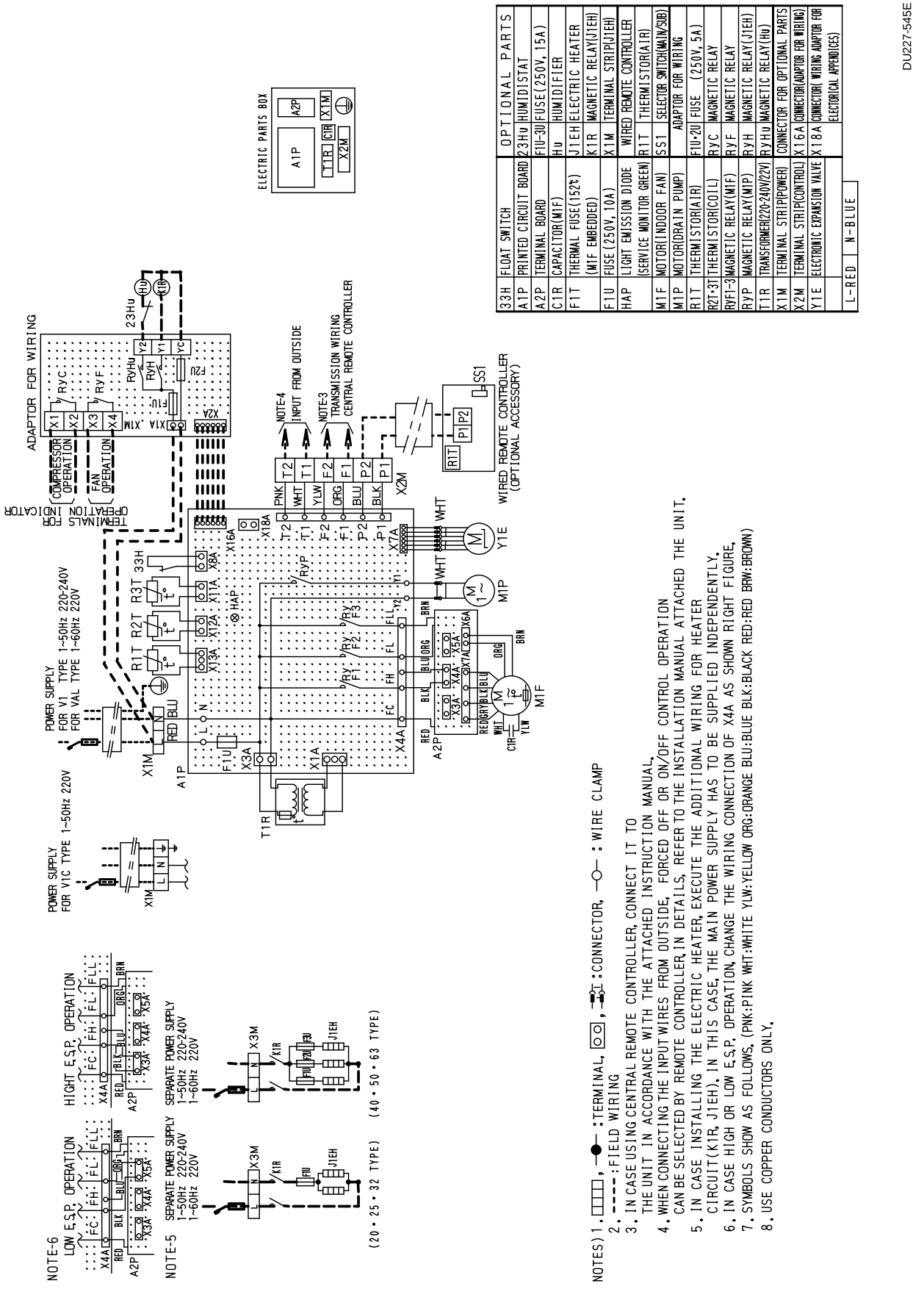
FXYKP25·32·40·63KV1



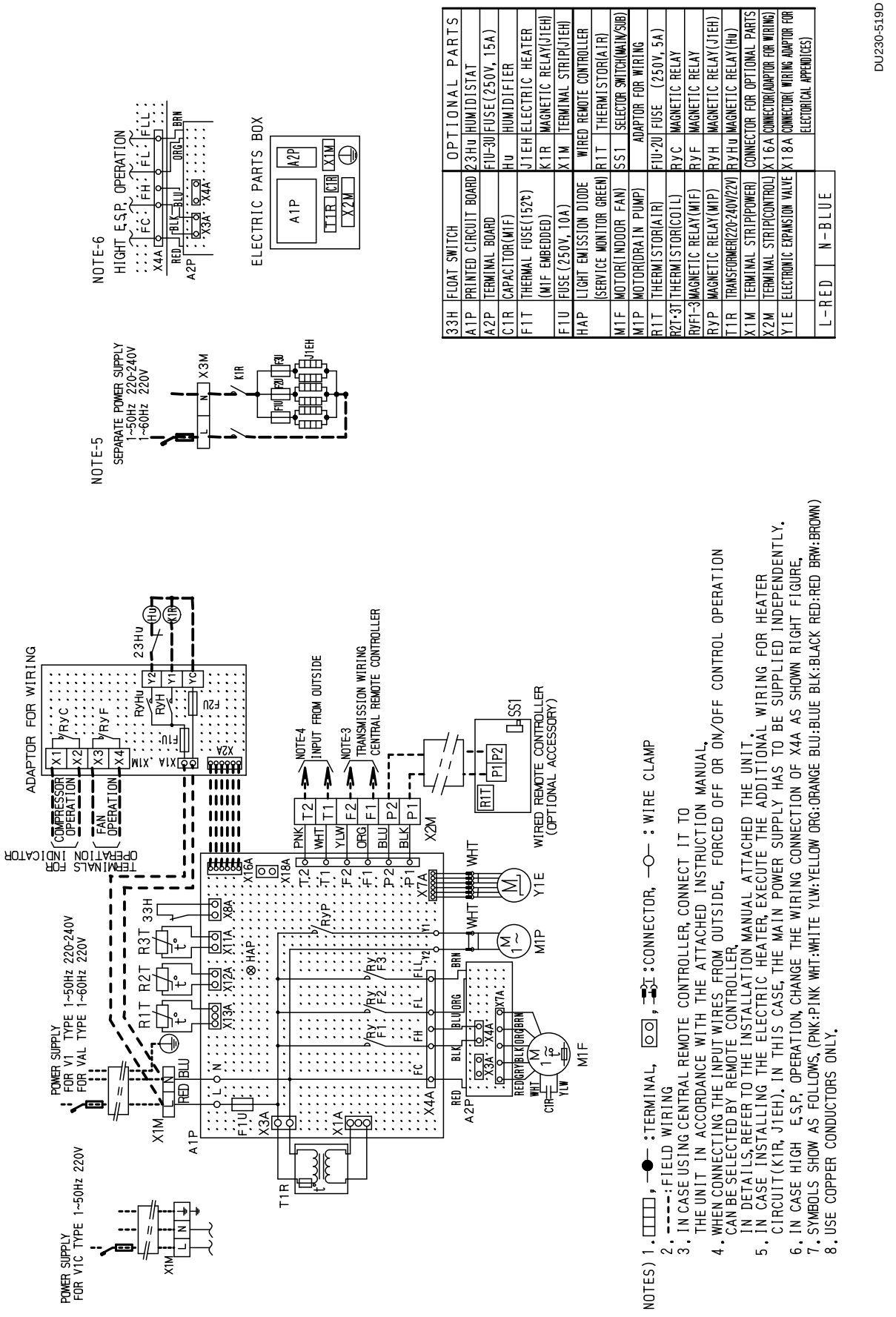
33H	FLOAT SWITCH	RyA	MAGNETIC RELAY(M1S)
33S	LIMIT SWITCH(SWING FLAP)	RyF1-3	MAGNETIC RELAY(M1F)
A1P	PRINTED CIRCUIT BOARD	RyP	MAGNETIC RELAY(M1P)
A2P	TERMINAL BOARD	T1R	TRANSFOMER(220-240V/22V)
C1R	CAPACITOR (M1F)	X1M	TERMINAL STRIP(POWER)
F1T	THERMAL FUSE(105℃) (M1F EMBEDDED)	X2M	TERMINAL STRIP(CONTROL)
		Y1E	ELECTRONIC EXPANSION VALVE
F1U	FUSE (250V,5A)		
HAP	LIGHT EMISSION DIODE (SERVICE MONITOR-GREEN)	WIRED	REMOTE CONTROLLER
		R1T	THERMISTOR(AIR)
M1F	MOTOR (INDOOR FAN)	SS1	SELECTOR SWITCH(MAIN/SUB)
M1P	MOTOR (DRAIN PUMP)	CONNECTOR	FOR OPTIONAL PARTS
M1S	MOTOR (SWING FLAP)	X18A	CONNECTOR(WIRING ADAPTOR
R1T	THERMISTOR(AIR)		FOR ELECTRICAL APPENDICES)
R2T·3T	THERMISTOR(COIL)		
L-RED	N-BLU		

NOTES) 1. □□□: TERMINAL, ⊙⊙, ⊙I : CONNECTOR, —○— : WIRE CLAMP
2. ----- : FIELD WIRING
3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
4. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER. IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT.
5. IN CASE HIGH E.S.P. OPERATION, CHANGE OVER THE WIRING CONNECTION FROM X2A TO X3A.
6. SYMBOLS SHOW AS FOLLOWS, (PNK:PINK WHT:WHITE YLW:YELLOW ORG:ORANGE BLU:BLUE BLK:BLACK RED:RED BRN:BROWN GRY:GRAY)
7. **USE COPPER CONDUCTORS ONLY.**

FXYSP20·25·32·40·50·63KV1



FXYSP80·100·125KV1

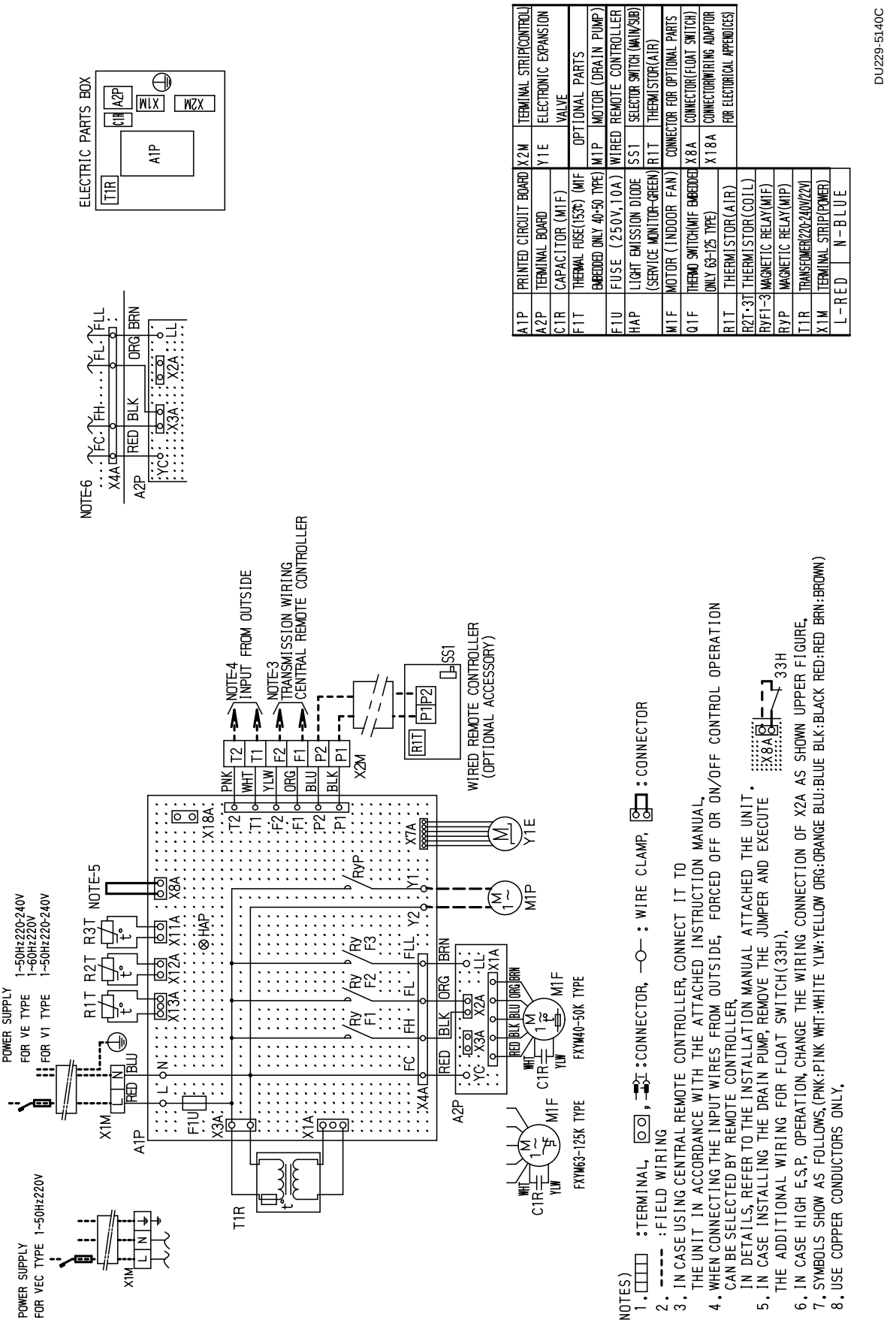


		OPTIONAL PARTS
33H	FLOAT SWITCH	23Hu HUMIDISTAT
A1P	PRINTED CIRCUIT BOARD	F1U-3U FUSE(250V, 15A)
A2P	TERMINAL BOARD	Hu HUMIDIFIER
C1R	CAPACITOR(M1F)	J1EH ELECTRIC HEATER
F1T	THERMAL FUSE(152℃) (M1F EMBEDDED)	K1R MAGNETIC RELAY(J1EH)
F1U	FUSE(250V, 10A)	X1M TERMINAL STRIP(J1EH)
HAP	LIGHT EMISSION DIODE (SERVICE MONITOR GREEN)	WIRED REMOTE CONTROLLER
		R1T THERMISTOR(AIR)
M1F	MOTOR(INDOOR FAN)	SS1 SELECTOR SWITCH(MAIN/SUB)
M1P	MOTOR(DRAIN PUMP)	ADAPTOR FOR WIRING
R1T	THERMISTOR(AIR)	F1U-2U FUSE (250V, 5A)
R2T-3T	THERMISTOR(COIL)	RyC MAGNETIC RELAY
RyF1-3	MAGNETIC RELAY(M1F)	RyF MAGNETIC RELAY
RyP	MAGNETIC RELAY(M1P)	RyH MAGNETIC RELAY(J1EH)
T1R	TRANSFORMER(220-240V/22V)	RyHu MAGNETIC RELAY(Hu)
X1M	TERMINAL STRIP(POWER)	CONNECTOR FOR OPTIONAL PARTS
X2M	TERMINAL STRIP(CONTROL)	X16A CONNECTOR(ADAPTOR FOR WIRING)
Y1E	ELECTRONIC EXPANSION VALVE	X18A CONNECTOR(WIRING ADAPTOR FOR ELECTORICAL APPENDICES)
		L-RED N-BLUE

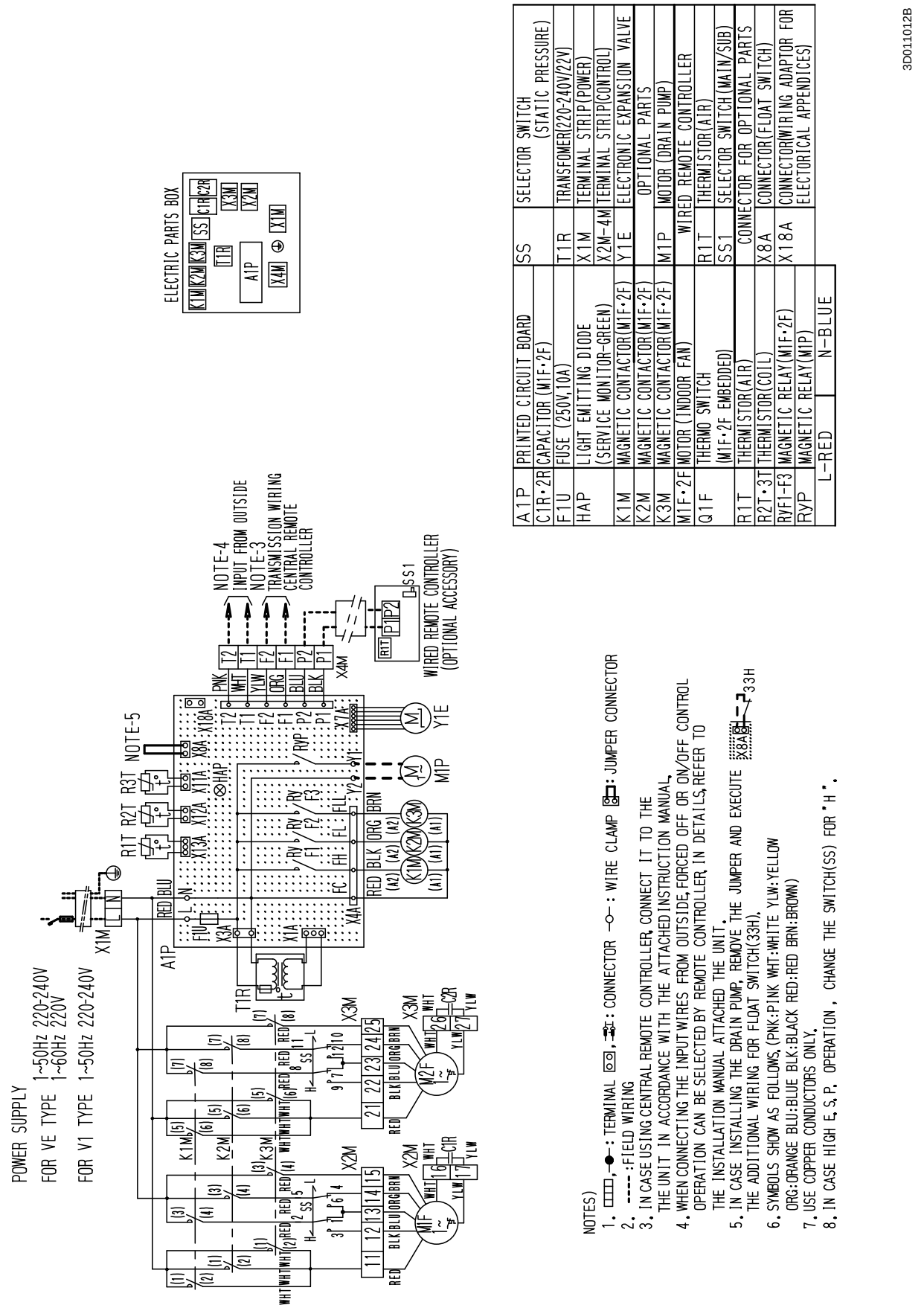
DU230-519D

NOTES) 1. □□□, —●— :TERMINAL, □□, —□— :CONNECTOR, —○— : WIRE CLAMP
2. ----:FIELD WIRING
3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
4. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER. IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT.
5. IN CASE INSTALLING THE ELECTRIC HEATER, EXECUTE THE ADDITIONAL WIRING FOR HEATER CIRCUIT(K1R, J1EH). IN THIS CASE, THE MAIN POWER SUPPLY HAS TO BE SUPPLIED INDEPENDENTLY.
6. IN CASE HIGH E.S.P. OPERATION, CHANGE THE WIRING CONNECTION OF X4A AS SHOWN RIGHT FIGURE.
7. SYMBOLS SHOW AS FOLLOWS, (PNK:PINK WHT:WHITE YLW:YELLOW ORG:ORANGE BLU:BLUE BLK:BLACK RED:RED BRW:BROWN)
8. USE COPPER CONDUCTORS ONLY.

FXYMP40·50·63·80·100·125KV1



FXYMP200·250KV1



A1P	PRINTED CIRCUIT BOARD	SS	SELECTOR SWITCH (STATIC PRESSURE)
C1R·2R	CAPACITOR(M1F·2F)		
F1U	FUSE (250V,10A)	T1R	TRANSFOMER(220-240V/22V)
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)	X1M	TERMINAL STRIP(POWER)
		X2M-4M	TERMINAL STRIP(CONTROL)
K1M	MAGNETIC CONTACTOR(M1F·2F)	Y1E	ELECTRONIC EXPANSION VALVE
K2M	MAGNETIC CONTACTOR(M1F·2F)		OPTIONAL PARTS
K3M	MAGNETIC CONTACTOR(M1F·2F)	M1P	MOTOR(DRAIN PUMP)
M1F·2F	MOTOR(INDOOR FAN)		WIRED REMOTE CONTROLLER
Q1F	THERMO SWITCH (M1F·2F EMBEDDED)	R1T	THERMISTOR(AIR)
		SS1	SELECTOR SWITCH(MAIN/SUB)
R1T	THERMISTOR(AIR)		CONNECTOR FOR OPTIONAL PARTS
R2T·3T	THERMISTOR(COIL)	X8A	CONNECTOR(FLOAT SWITCH)
RVf1-F3	MAGNETIC RELAY(M1F·2F)	X18A	CONNECTOR(WIRING ADAPTOR FOR ELECTORICAL APPENDICES)
RyP	MAGNETIC RELAY(M1P)		
L-RED N-BLUE			

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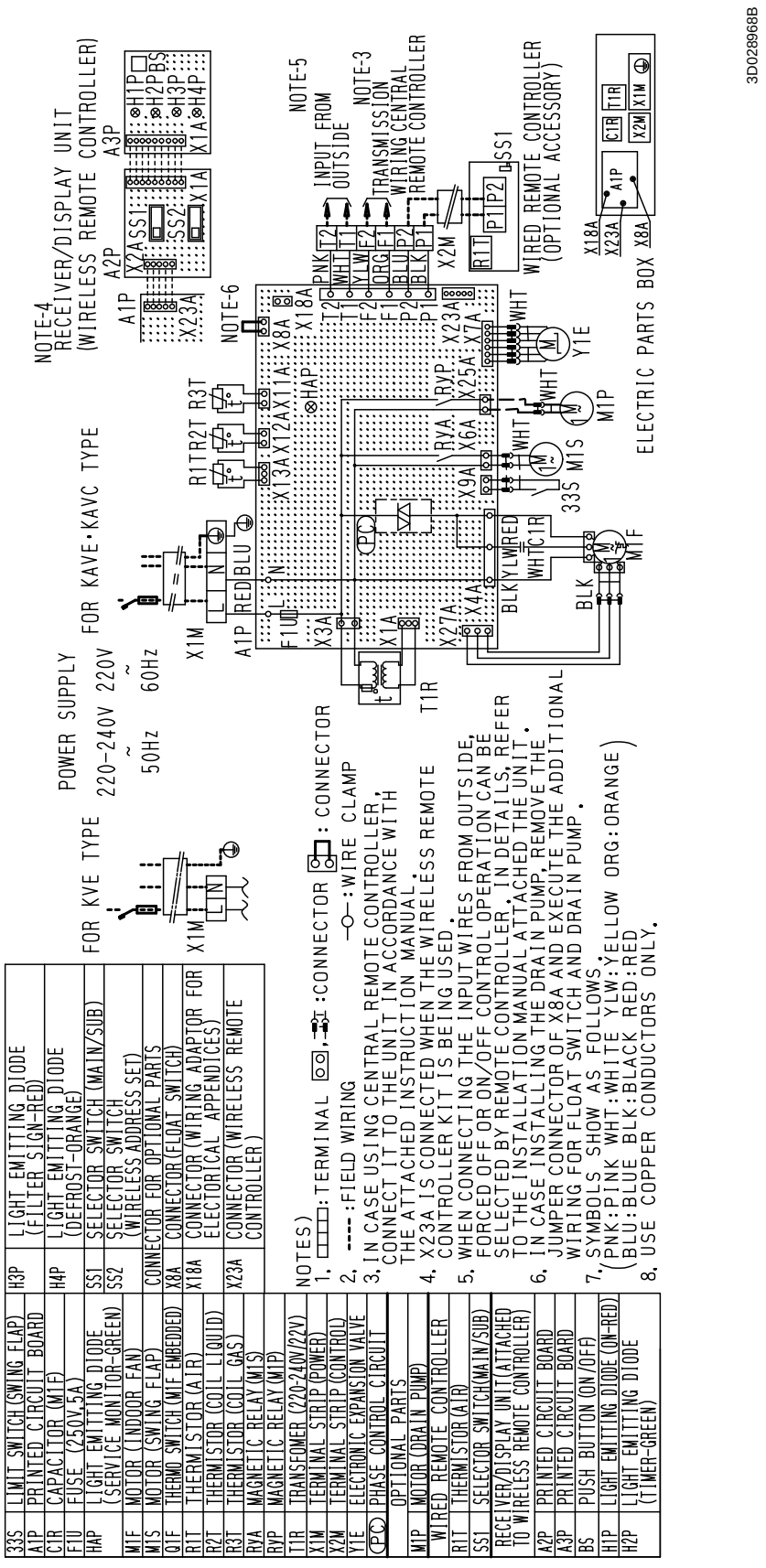
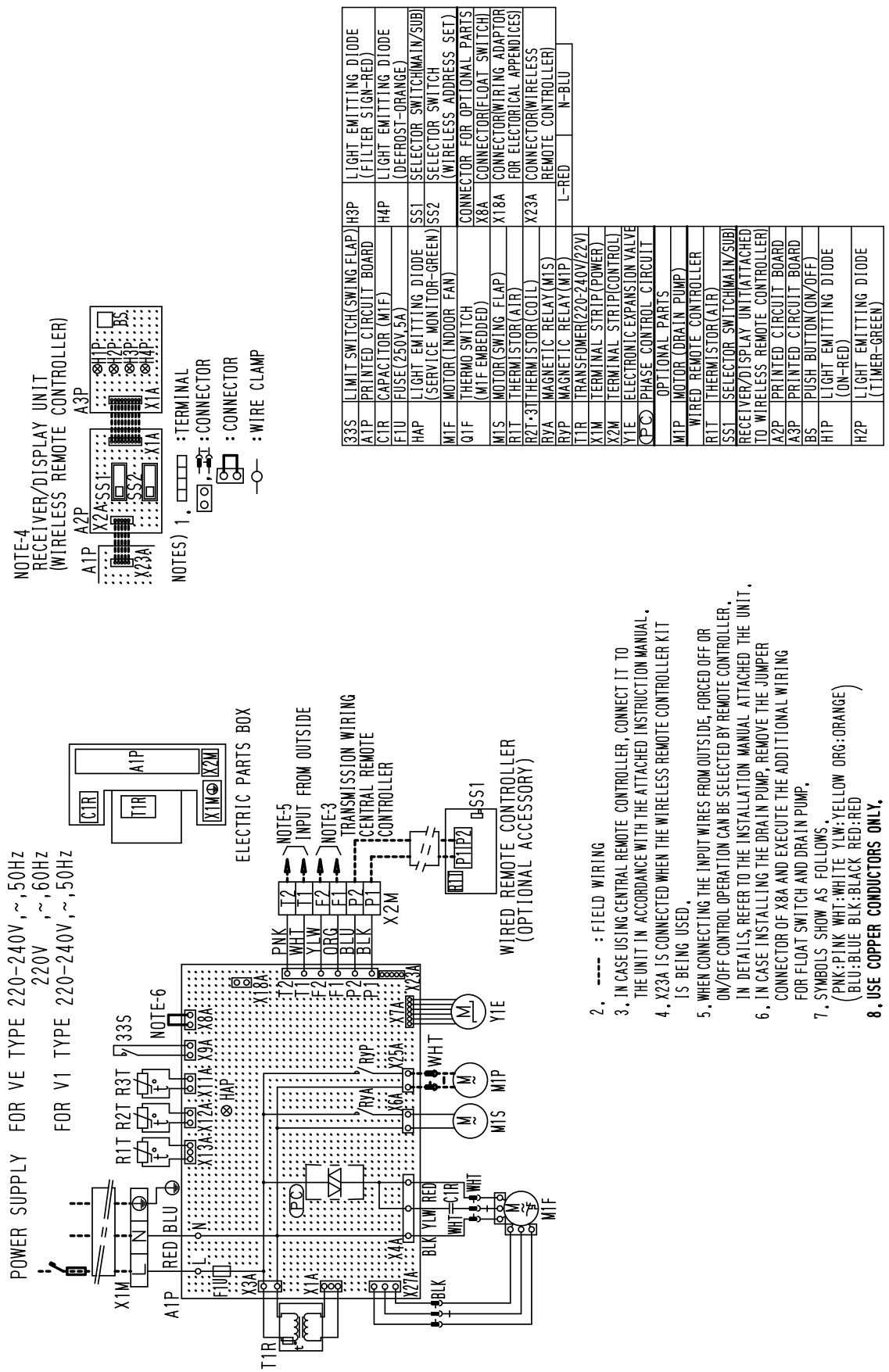
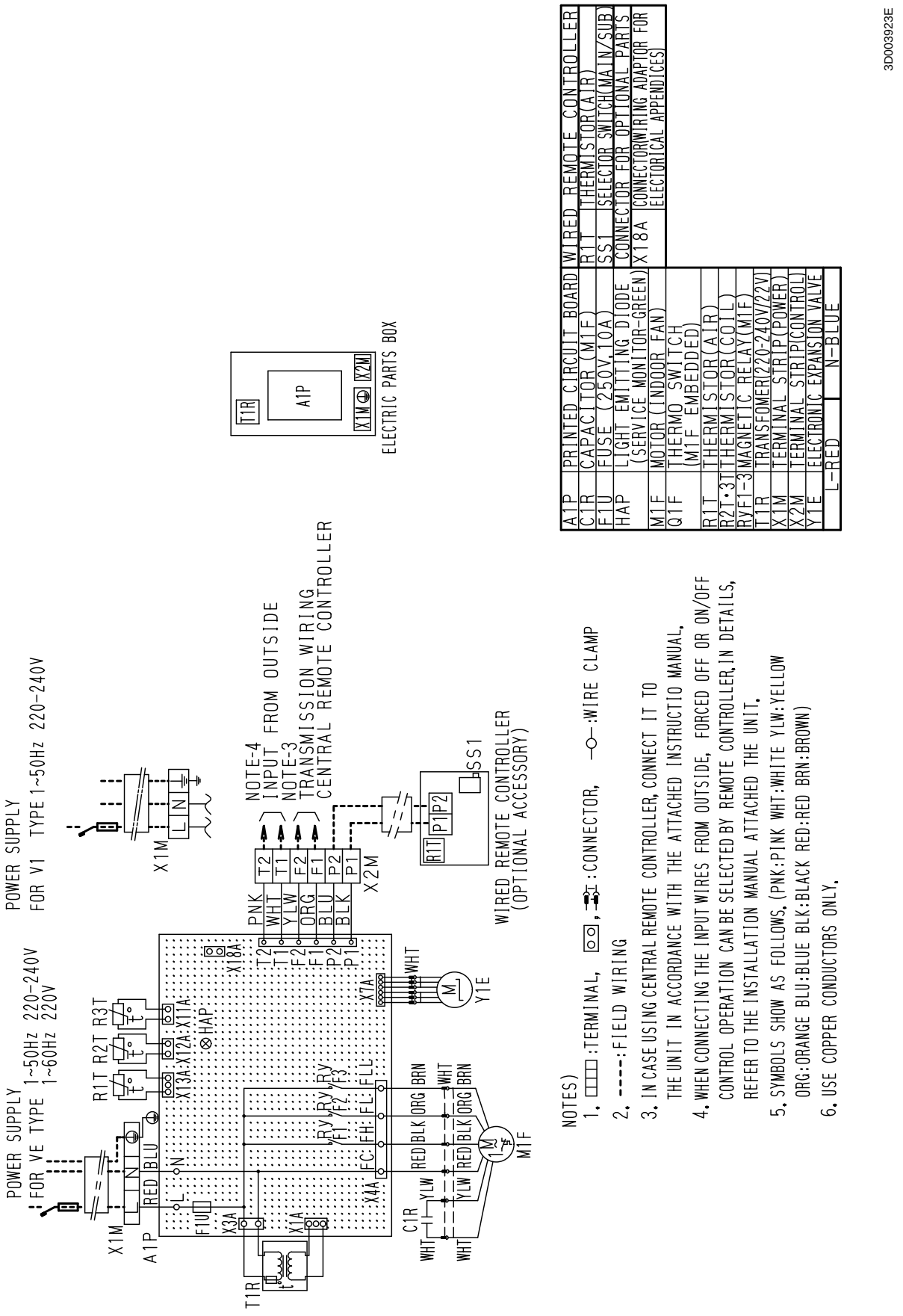
FXYHP32·63·100KVE



FXYAP20·25·32·40·50·63KV1



FXYLP20·25·32·40·50·63KV1
FXYLMP20·25·32·40·50·63KV1



A1P	PRINTED CIRCUIT BOARD	WIRED REMOTE CONTROLLER	
C1R	CAPACITOR (M1F)	R1T	THERMISTOR(AIR)
F1U	FUSE (250V,10A)	SS1	SELECTOR SWITCH(MAIN/SUB)
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)	CONNECTOR FOR OPTIONAL PARTS	
		X18A	CONNECTORWIRING ADAPTOR FOR ELECTORICAL APPENDICES)
M1F	MOTOR (INDOOR FAN)		
Q1F	THERMO SWITCH (M1F EMBEDDED)		
R1T	THERMISTOR(AIR)		
R2T・3T	THERMISTOR(COIL)		
RYF1-3	MAGNETIC RELAY(M1F)		
T1R	TRANSFOMER(220-240V/22V)		
X1M	TERMINAL STRIP(POWER)		
X2M	TERMINAL STRIP(CONTROL)		
Y1E	ELECTRONIC EXPANSION VALVE		
L-RED	N-BLUE		

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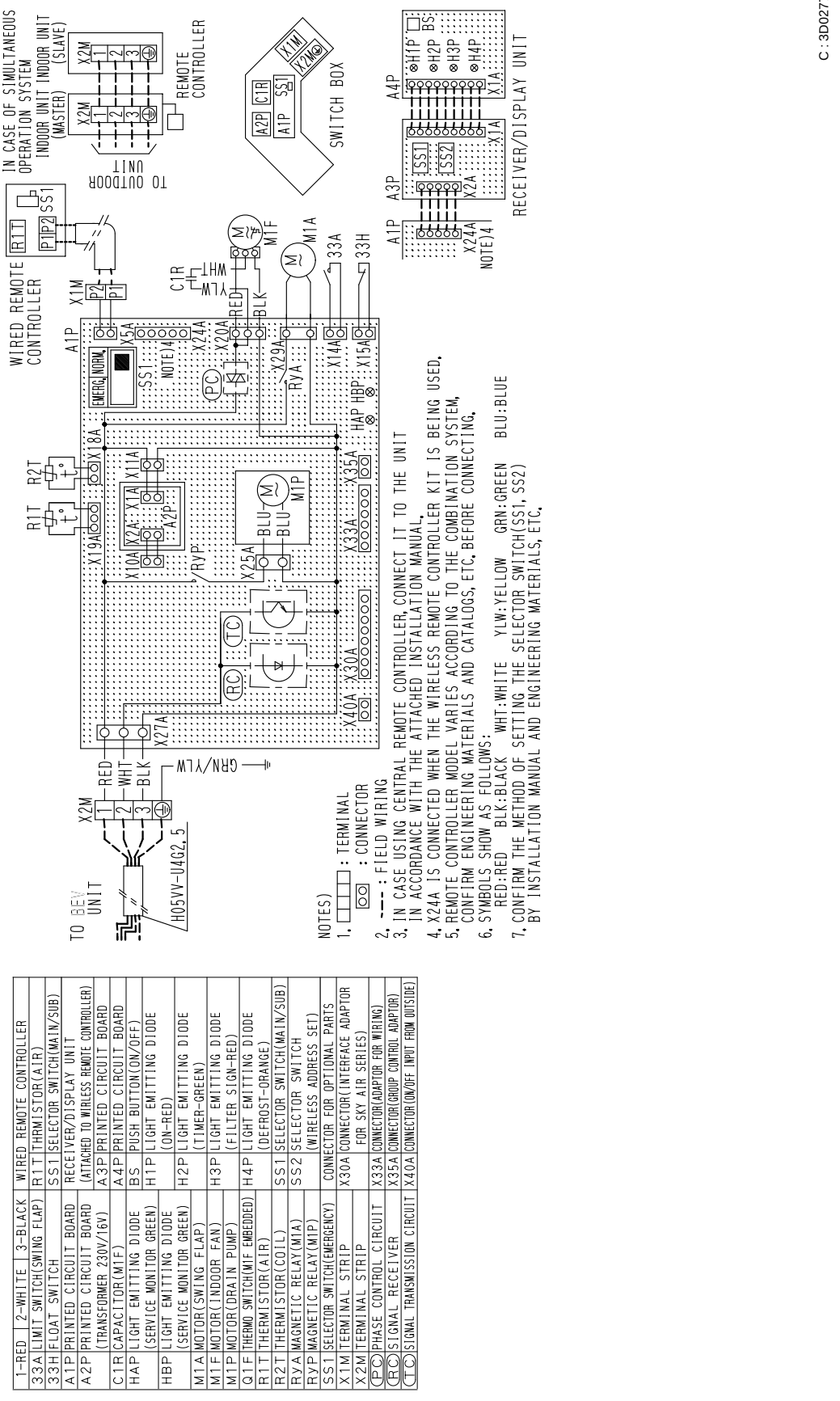
FUYP71BV1 / FUYP100BV1 / FUYP125BV1



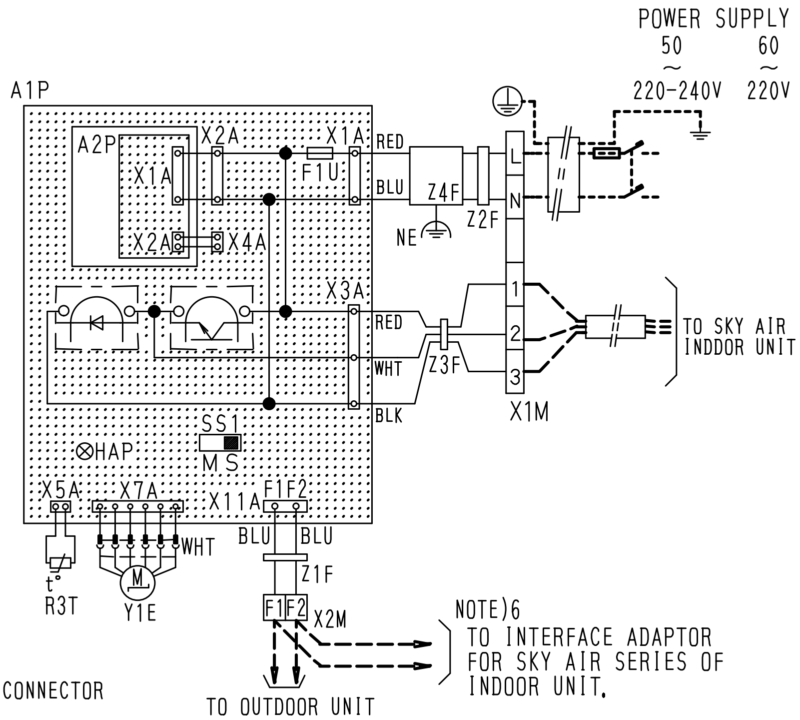
1-RED	2-WHITE	3-BLACK	WIRED REMOTE CONTROLLER
33A			LIMIT SWITCH(SWING FLAP)
33H			FLOAT SWITCH
A1P			PRINTED CIRCUIT BOARD
A2P			PRINTED CIRCUIT BOARD (TRANSFORMER 230V/16V)
C1R			CAPACITOR(M1F)
HAP			LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)
HBP			LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)
M1A			MOTOR(SWING FLAP)
M1F			MOTOR(INDOOR FAN)
M1P			MOTOR(DRAIN PUMP)
Q1F			THERMO SWITCH(M1F EMBEDDED)
R1T			THERMISTOR(AIR)
R2T			THERMISTOR(COIL)
RyA			MAGNETIC RELAY(M1A)
RyP			MAGNETIC RELAY(M1P)
SS1			SELECTOR SWITCH(EMERGENCY)
X1M			TERMINAL STRIP
X2M			TERMINAL STRIP
(PC)			PHASE CONTROL CIRCUIT
(RC)			SIGNAL RECEIVER
(TC)			SIGNAL TRANSMISSION CIRCUIT

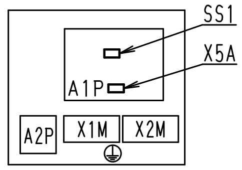
			LIMIT SWITCH(SWING FLAP)
			FLOAT SWITCH
			PRINTED CIRCUIT BOARD
			PRINTED CIRCUIT BOARD (TRANSFORMER 230V/16V)
			CAPACITOR(M1F)
			LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)
			LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)
			MOTOR(SWING FLAP)
			MOTOR(INDOOR FAN)
			MOTOR(DRAIN PUMP)
			THERMO SWITCH(M1F EMBEDDED)
			THERMISTOR(AIR)
			THERMISTOR(COIL)
			MAGNETIC RELAY(M1A)
			MAGNETIC RELAY(M1P)
			SELECTOR SWITCH(EMERGENCY)
			TERMINAL STRIP
			TERMINAL STRIP
			PHASE CONTROL CIRCUIT
			SIGNAL RECEIVER
			SIGNAL TRANSMISSION CIRCUIT

			WIRED REMOTE CONTROLLER
			THERMISTOR(AIR)
			SELECTOR SWITCH(MAIN/SUB)
			RECEIVER/DISPLAY UNIT (ATTACHED TO WIRLESS REMOTE CONTROLLER)
			PRINTED CIRCUIT BOARD
			PRINTED CIRCUIT BOARD
			PUSH BUTTON(ON/OFF)
			LIGHT EMITTING DIODE (ON-RED)
			LIGHT EMITTING DIODE (TIMER-GREEN)
			LIGHT EMITTING DIODE (FILTER SIGN-RED)
			LIGHT EMITTING DIODE (DEFROST-ORANGE)
			SELECTOR SWITCH(MAIN/SUB)
			SELECTOR SWITCH (WIRELESS ADDRESS SET)
			CONNECTOR FOR OPTIONAL PARTS
			CONNECTOR(INTERFACE ADAPTOR FOR SKY AIR SERIES)
			CONNECTOR(ADAPTOR FOR WIRING)
			CONNECTOR(GROUP CONTROL ADAPTOR)
			CONNECTOR(ON/OFF INPUT FROM OUTSIDE)

BEV71KVE / BEV140KVE

SKYAIR CONNECTING UNIT	
A1P	PRINTED CIRCUIT BOARD ASSY
A2P	POWER SUPPLY PRINTED CIRCUIT BOARD ASSY(220-240V/16V)
F1U	FUSE(Ⓑ, 250V, 10A)
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GRREN)
R3T	THERMISTOR(GAS)
SS1	SELECTOR SWITCH(M/S)
X1M	TERMINAL STRIP(POWER)
X2M	TERMINAL STRIP(TRANSMISSION)
Y1E	ELECTRONIC EXPANSION VALVE
Z1F・Z2F Z3F・Z4F	NOISE FILTER
L-RED	N-BLUE





ELECTRIC COMPONENTS BOX

注）1. ▭▭▭ : TERMINAL ⊡⊡, ⊐⊏ :CONNECTOR
2. - - - :FIELD WIRING
3. THIS WIRING DIAGRAM ONLY SHOWS THE SKYAIR INDOOR UNIT CONNECTION UNIT. SEE THE WIRING DIAGRAMS AND INSTALLATION MANUALS FOR THE WIRING AND SETTINGS FOR THE INDOOR , OUTDOOR , AND BS UNITS.
4. SEE THE INDOOR UNIT'S WIRING DIAGRAM WHEN INSTALLING OPTIONAL PARTS FOR THE INDOOR UNIT.
5. ONLY ONE INDOOR UNIT MAY BE CONNECTED TO THE SKYAIR CONNECTING UNIT. SEE THE INDOOR UNIT'S WIRING DIAGRAM FOR WHEN CONNECTING THE REMOTE CONTROL.
6. ALWAYS USE THE SKY AIR CONNECTION ADAPTER FOR THE INDOOR UNIT WHEN USING A CENTRAL CONTROL UNIT. REFER TO THE MANUAL ATTACHED THE UNIT WHEN CONNECTING.
7. SET THE SS1 TO " M " ONLY FOR THE BEV UNIT CONNECTED TO THE INDOOR UNIT WHICH IS TO HAVE HEATING/COOLING SWITCHING CAPABILITY, WHEN CONNECTING THE BS UNIT. THE " M/S " ON THE SS1 STANDS FOR " MAIN/SUB ". THIS IS SET TO "S" WHEN SHIPPED FROM THE FACTORY.
8. CONNECT THE ATTACHED THERMISTOR TO THE R3T.
9. SYMBOLS SHOW AS FOLLOWS. (BLU:BLUE RED:RED WHT:WHITE BLK:BLACK)

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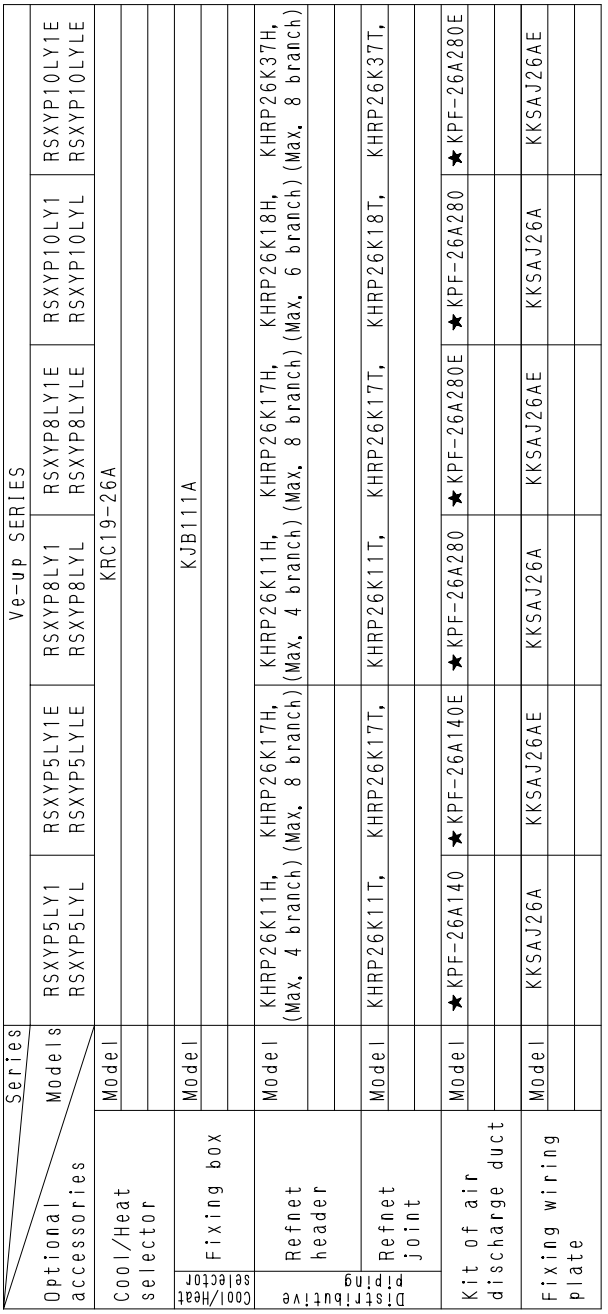
3. Option List for Outdoor Unit



Optional accessories \ Series		Ve-up SERIES					
Models		RSXYP5LY1 RSXYP5LYL	RSXYP5LY1E RSXYP5LYLE	RSXYP8LY1 RSXYP8LYL	RSXYP8LY1E RSXYP8LYLE	RSXYP10LY1 RSXYP10LYL	RSXYP10LY1E RSXYP10LYLE
Cool/Heat selector	Model	KRC19-26A					
Fixing box	Model	KJB111A					
Distributive piping Refnet header	Model	KHRP26K11H, KHRP26K17H, (Max. 4 branch) (Max. 8 branch)		KHRP26K11H, KHRP26K17H, KHRP26K18H, KHRP26K37H, (Max. 4 branch) (Max. 8 branch) (Max. 6 branch) (Max. 8 branch)			
Distributive piping Refnet joint	Model	KHRP26K11T, KHRP26K17T,		KHRP26K11T, KHRP26K17T, KHRP26K18T, KHRP26K37T,			
Kit of air discharge duct	Model	★KPF-26A140	★KPF-26A140E	★KPF-26A280	★KPF-26A280E	★KPF-26A280	★KPF-26A280E
Fixing wiring plate	Model	KKSAJ26A	KKSAJ26AE	KKSAJ26A	KKSAJ26AE	KKSAJ26A	KKSAJ26AE

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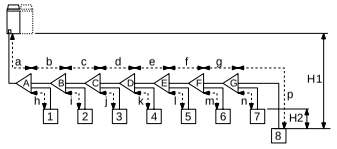
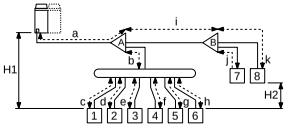
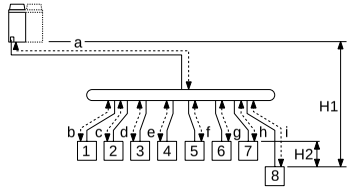
4. Refrigerant Pipe Fitting Work

Example of connection

Use exclusive refrigerant branch kits for R407C.
Connection of 8 indoor units

1 indoor unit
refnet joint
refnet header

		Branch with refnet joint	Branch with refnet joint and refnet header	Branch with refnet header
				
Maximum allowable length between outdoor and indoor units	Actual pipe length	Pipe length between outdoor and indoor units ≤ 120m		
		[Example] unit 8: a+b+c+d+e+f+g+p ≤ 120m	[Example] unit 1: a+b+h ≤ 100m, △: a+i+j ≤ 120m	[Example] unit 8: a+i ≤ 120m
	Equivalent length	Equivalent pipe length between outdoor and indoor units ≤ 140m (Assume equivalent pipe length of refnet joint to be 0.5m and of the refent header to be 1.0m. (for calculation purposes))		
Allowable height between outdoor and indoor units	Difference in height	Difference in height between outdoor and indoor units (H1) ≤ 50m (≤ 40m if outdoor unit is located in a lower position)		
Allowable height between adjacent indoor units		Difference in height between adjacent indoor units (H2) ≤15m		
Allowable length after the branch	Actual pipe length	Pipe length from first refrigerant branch kit (either refnet joint or refnet header) to indoor units ≤ 40m		
		[Example] unit 8: b+c+d+e+f+g+p ≤ 40m	[Example] unit 6: b+h ≤ 40m, unit 7: i+k ≤ 40m	[Example] unit 8: i ≤ 40m

Refrigerant branch kit selection

How to select the refnet joint

- When using a refnet joint at the first branch counted from the outdoor unit side, use KHRP26K17T (RSXYP5L) or KHRP26K37T (RSXYP8/10L). [Example: refnet joint A]
- For refnet joints other than the first branch, select the proper branch kits based on the total capacity index (refer to chapter "Combination") of indoor units installed after the first branch, using the following table.

Total capacity index of indoor units		Branch kit
RSXYP5LJ	<100	KHRP26K11T
	≥100	KHRP26K17T
RSXYP8 / 10LJ	<160	KHRP26K18T
	≥160	KHRP26K37T

How to select the refnet header

- Select the proper branch kit based on the total capacity index (refer to chapter "Combination") of indoor units installed after the header, using the following table.
- Branching is impossible between refnet header and indoor unit.

Total capacity index of indoor units		Branch kit
RSXYP5L	<100	KHRP26K11H (up to 4 branches)
	≥100	KHRP26K17H (up to 8 branches)
RSXYP8 / 10L	<160	KHRP26K18H (up to 6 branches)
	≥160	KHRP26K37H (up to 8 branches)

Example of downstream indoor units

Branch with refnet joint	Branch with refnet joint and refnet header	Branch with refnet header
[Example] in case of refnet joint C; indoor units 3+4+5+6+7+8	[Example] in case of refnet joint B; indoor units 7+8, in case of refnet header; indoor units 1+2+3+4+5+6	[Example] in case of refnet header; indoor units 1+2+3+4+5+6+7+8

Pipe size selection
Pipe size = outer diameter × minimum wall thickness
(unit: mm)

Between the outdoor unit and the uppermost stream refrigerant branch kit

- Match the pipe size to the pipe size of the outdoor unit

Pipe size connected to outdoor unit

	Gas	Liquid
RSXYP5L	ø19.1 × 1.0	ø9.5 × 0.8
RSXYP8L	ø25.4 × 1.2	ø12.7× 0.8
RSXYP10L	ø28.6 × 1.2	ø12.7× 0.8

Between two immediately adjacent refrigerant branch kits

- Select the proper pipe size based on the total capacity index (refer to chapter "Combination") of indoor units connected downstream, using the following table.

Total capacity index	Gas	Liquid
<100	ø15.9 × 1.0	ø9.5 × 0.8
100-160	ø19.1 × 1.0	ø9.5 × 0.8
≥160	ø25.4 × 1.2	ø12.7× 0.8

Between refrigerant branch kit and indoor unit

- Select the proper pipe size based on the total capacity index (refer to chapter "Combination") of indoor units connected downstream, using the following table.
(Pipe size for direct connection to indoor unit must be the same as the connection size of the indoor unit.)

Connection pipe size of indoor unit

Indoor unit capacity index	Gas	Liquid
20 · 25 · 32 · 40	ø12.7 × 0.8	ø6.4 × 0.8
50 · 63 · 80	ø15.9 × 1.0	ø9.5 × 0.8
100 · 125	ø19.1 × 1.0	ø9.5 × 0.8

Additional refrigerant to be charged
Calculation of additional refrigerant to be charged R(kg) is in function of total length of liquid lines L and as follows:

RSXYP5L R= [(Lø9.5)×0.06] + [(Lø6.4)×0.023]
RSXYP8 / 10L R= [(Lø12.7)×0.12] + [(Lø9.5)×0.06] + [(Lø6.4)×0.023]

Note - Round off R to 1 decimal place.
- If R is ≤ 0, keep the unit in operation.

[Example] **RSXYP5L**

a : ø9.5 × 30m	e : ø9.5 × 3m	i : ø6.4 × 5m	m: ø6.4 × 5m
b : ø9.5 × 5m	f : ø9.5 × 2m	j : ø6.4 × 5m	n : ø6.4 × 5m
c : ø9.5 × 5m	g : ø9.5 × 5m	k : ø6.4 × 5m	p : ø6.4 × 5m
d : ø9.5 × 5m	h : ø6.4 × 5m	l : ø6.4 × 5m	

R = [55 × 0.06] + [40 × 0.023] = 4.22 → R = 4.2kg

[Example] **RSXYP8 / 10L**

a : ø12.7 × 30m	d : ø6.4 × 10m	g : ø6.4 × 10m	j : ø9.5 × 10m
b : ø12.7 × 10m	e : ø6.4 × 10m	h : ø6.4 × 20m	k : ø6.4 × 9m
c : ø9.5 × 10m	f : ø6.4 × 10m	i : ø9.5 × 10m	

R = [40 × 0.12] + [30 × 0.06] + [69 × 0.023] = 8.187 → R = 8.2kg

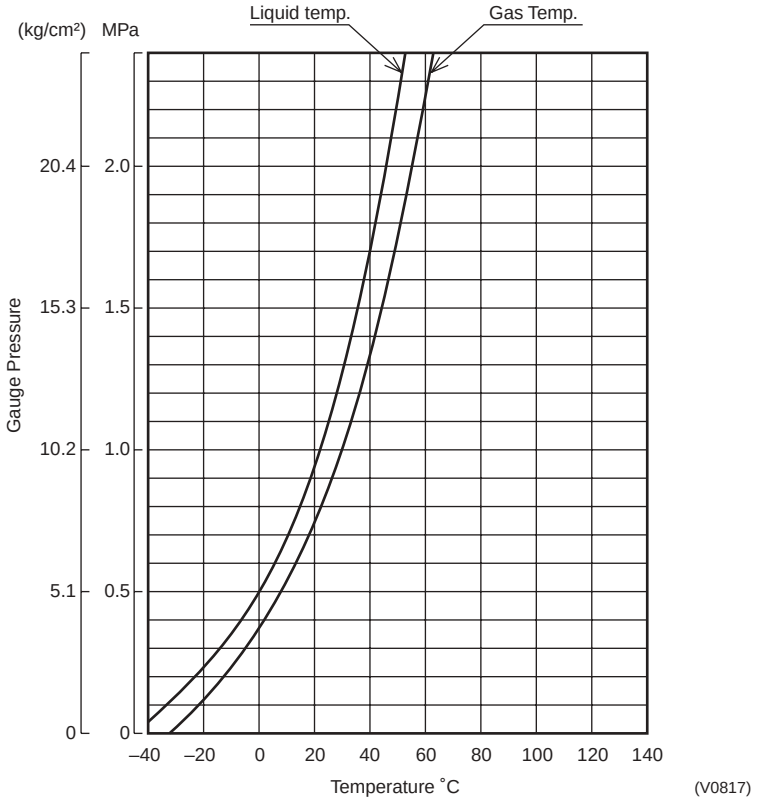
[Example] **RSXYP8 / 10L**

a : ø12.7 × 40m	d : ø6.4 × 10m	g : ø6.4 × 20m
b : ø9.5 × 20m	e : ø6.4 × 20m	h : ø6.4 × 20m
c : ø9.5 × 10m	f : ø6.4 × 23m	i : ø6.4 × 30m

R = [40 × 0.12] + [30 × 0.06] + [123 × 0.023] = 9.429 → R = 9.4kg

5. Characteristics

5.1 R-407C Characteristics



Pressure MPa	Temperature		Pressure MPa	Temperature		Pressure MPa	Temperature	
	Liquid Side ˚C	Gas Side ˚C		Liquid Side ˚C	Gas Side ˚C		Liquid Side ˚C	Gas Side ˚C
0.00	—	–37.0	1.00	21.7	27.5	2.00	46.9	51.9
0.05	—	–28.9	1.05	23.2	29.0	2.05	47.9	52.8
0.10	—	–21.4	1.10	24.7	30.5	2.10	48.9	53.7
0.15	—	–16.3	1.15	26.3	32.0	2.15	49.8	54.6
0.20	—	–11.5	1.20	27.8	33.5	2.20	50.8	55.6
0.25	—	–7.6	1.25	29.3	34.9	2.25	51.8	56.5
0.30	—	–3.7	1.30	30.9	36.4	2.30	52.7	57.4
0.35	—	–0.6	1.35	32.0	37.6	2.35	53.7	58.3
0.40	—	2.5	1.40	33.2	38.7	2.40	54.7	59.2
0.45	–1.1	5.4	1.45	34.4	39.9	2.45	55.6	60.2
0.50	1.4	7.9	1.50	35.6	41.1	2.50	56.6	61.1
0.55	3.9	10.3	1.55	36.8	42.2	2.60	58.4	62.8
0.60	6.4	12.7	1.60	38.1	43.4	2.70	60.0	64.3
0.65	8.7	14.9	1.65	39.3	44.6	2.80	61.6	65.9
0.70	10.6	16.8	1.70	40.5	45.7	2.90	63.2	67.4
0.75	12.6	18.7	1.75	41.7	46.9	3.00	64.9	68.9
0.80	14.5	20.6	1.80	42.9	48.1	3.10	66.5	70.5
0.85	16.5	22.5	1.85	44.1	49.2	3.20	68.1	72.0
0.90	18.4	24.4	1.90	45.0	50.0	3.30	69.8	73.5
0.95	20.2	26.1	1.95	46.0	50.9	3.40	71.4	75.1

5.2 Thermistor Resistance / Temperature Characteristics

Indoor unit	For air suction	R1T
	For liquid pipe	R2T
	For gas pipe	R3T
Outdoor unit	For outdoor air	R1T
	For coil	R2T
	For suction pipe	R4T
	For Receiver gas pipe	R5T

(kΩ)

T˚C	0.0	0.05	T˚C	0.0	0.05
-20	197.81	192.08	30	16.10	15.76
-19	186.53	181.16	31	15.43	15.10
-18	175.97	170.94	32	14.79	14.48
-17	166.07	161.36	33	14.18	13.88
-16	156.80	152.38	34	13.59	13.31
-15	148.10	143.96	35	13.04	12.77
-14	139.94	136.05	36	12.51	12.25
-13	132.28	128.63	37	12.01	11.76
-12	125.09	121.66	38	11.52	11.29
-11	118.34	115.12	39	11.06	10.84
-10	111.99	108.96	40	10.63	10.41
-9	106.03	103.18	41	10.21	10.00
-8	100.41	97.73	42	9.81	9.61
-7	95.14	92.61	43	9.42	9.24
-6	90.17	87.79	44	9.06	8.88
-5	85.49	83.25	45	8.71	8.54
-4	81.08	78.97	46	8.37	8.21
-3	76.93	74.94	47	8.05	7.90
-2	73.01	71.14	48	7.75	7.60
-1	69.32	67.56	49	7.46	7.31
0	65.84	64.17	50	7.18	7.04
1	62.54	60.96	51	6.91	6.78
2	59.43	57.94	52	6.65	6.53
3	56.49	55.08	53	6.41	6.53
4	53.71	52.38	54	6.65	6.53
5	51.09	49.83	55	6.41	6.53
6	48.61	47.42	56	6.18	6.06
7	46.26	45.14	57	5.95	5.84
8	44.05	42.98	58	5.74	5.43
9	41.95	40.94	59	5.14	5.05
10	39.96	39.01	60	4.96	4.87
11	38.08	37.18	61	4.79	4.70
12	36.30	35.45	62	4.62	4.54
13	34.62	33.81	63	4.46	4.38
14	33.02	32.25	64	4.30	4.23
15	31.50	30.77	65	4.16	4.08
16	30.06	29.37	66	4.01	3.94
17	28.70	28.05	67	3.88	3.81
18	27.41	26.78	68	3.75	3.68
19	26.18	25.59	69	3.62	3.56
20	25.01	24.45	70	3.50	3.44
21	23.91	23.37	71	3.38	3.32
22	22.85	22.35	72	3.27	3.21
23	21.85	21.37	73	3.16	3.11
24	20.90	20.45	74	3.06	3.01
25	20.00	19.56	75	2.96	2.91
26	19.14	18.73	76	2.86	2.82
27	18.32	17.93	77	2.77	2.72
28	17.54	17.17	78	2.68	2.64
29	16.80	16.45	79	2.60	2.55
30	16.10	15.76	80	2.51	2.47

Outdoor Unit Thermistors for Discharge Pipe (R3T)

(kΩ))

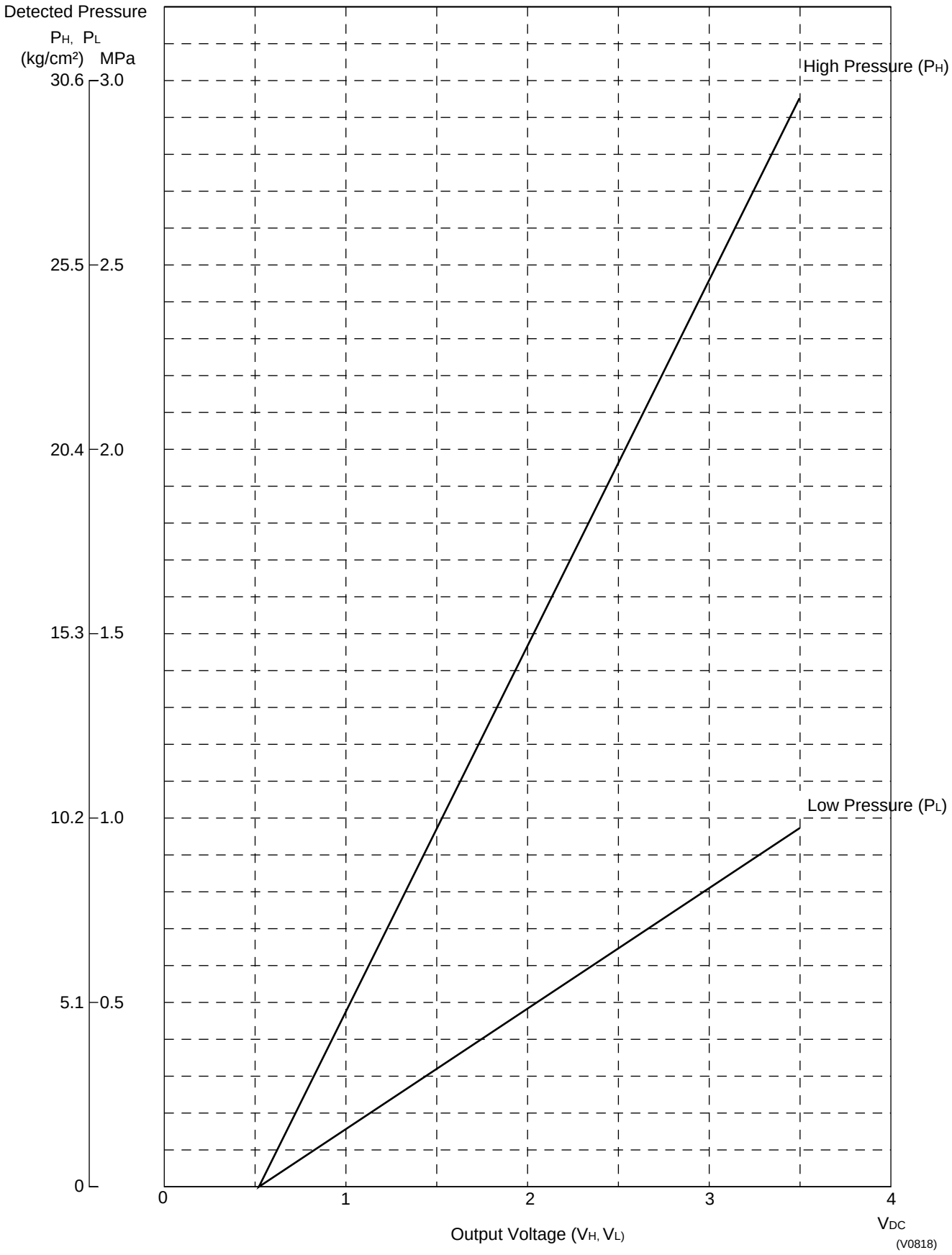
T˚C	0.0	0.5	T˚C	0.0	0.5	T˚C	0.0	0.5
0	640.44	624.65	50	72.32	70.96	100	13.35	13.15
1	609.31	594.43	51	69.64	68.34	101	12.95	12.76
2	579.96	565.78	52	67.06	65.82	102	12.57	12.38
3	552.00	538.63	53	64.60	63.41	103	12.20	12.01
4	525.63	512.97	54	62.24	61.09	104	11.84	11.66
5	500.66	488.67	55	59.97	58.87	105	11.49	11.32
6	477.01	465.65	56	57.80	56.75	106	11.15	10.99
7	454.60	443.84	57	55.72	54.70	107	10.83	10.67
8	433.37	423.17	58	53.72	52.84	108	10.52	10.36
9	413.24	403.57	59	51.98	50.96	109	10.21	10.06
10	394.16	384.98	60	49.96	49.06	110	9.92	9.78
11	376.05	367.35	61	48.19	47.33	111	9.64	9.50
12	358.88	350.62	62	46.49	45.67	112	9.36	9.23
13	342.58	334.74	63	44.86	44.07	113	9.10	8.97
14	327.10	319.66	64	43.30	42.54	114	8.84	8.71
15	312.41	305.33	65	41.79	41.06	115	8.59	8.47
16	298.45	291.73	66	40.35	39.65	116	8.35	8.23
17	285.18	278.80	67	38.96	38.29	117	8.12	8.01
18	272.58	266.51	68	37.63	36.98	118	7.89	7.78
19	260.60	254.72	69	36.34	35.72	119	7.68	7.57
20	249.00	243.61	70	35.11	34.51	120	7.47	7.36
21	238.36	233.14	71	33.92	33.35	121	7.26	7.16
22	228.05	223.08	72	32.78	32.23	122	7.06	6.97
23	218.24	213.51	73	31.69	31.15	123	6.87	6.78
24	208.90	204.39	74	30.63	30.12	124	6.69	6.59
25	200.00	195.71	75	29.61	29.12	125	6.51	6.42
26	191.53	187.44	76	28.64	28.16	126	6.33	6.25
27	183.46	179.57	77	27.69	27.24	127	6.16	6.08
28	175.77	172.06	78	26.79	26.35	128	6.00	5.92
29	168.44	164.90	79	25.91	25.49	129	5.84	5.76
30	161.45	158.08	80	25.07	24.66	130	5.69	5.61
31	154.79	151.57	81	24.26	23.87	131	5.54	5.46
32	148.43	145.37	82	23.48	23.10	132	5.39	5.32
33	142.37	139.44	83	22.73	22.36	133	5.25	5.18
34	136.59	133.79	84	22.01	21.65	134	5.12	5.05
35	131.06	128.39	85	21.31	20.97	135	4.98	4.92
36	125.79	123.24	86	20.63	20.31	136	4.86	4.79
37	120.76	118.32	87	19.98	19.67	137	4.73	4.67
38	115.95	113.62	88	19.36	19.05	138	4.61	4.55
39	111.35	109.13	89	18.75	18.46	139	4.49	4.44
40	106.96	104.84	90	18.17	17.89	140	4.38	4.32
41	102.76	100.73	91	17.61	17.34	141	4.27	4.22
42	98.75	96.81	92	17.07	16.80	142	4.16	4.11
43	94.92	93.06	93	16.54	16.29	143	4.06	4.01
44	91.25	89.47	94	16.04	15.79	144	3.96	3.91
45	87.74	86.04	95	15.55	15.31	145	3.86	3.81
46	84.38	82.75	96	15.08	14.85	146	3.76	3.72
47	81.16	79.61	97	14.62	14.40	147	3.67	3.62
48	78.09	76.60	98	14.18	13.97	148	3.58	3.54
49	75.14	73.71	99	13.76	13.55	149	3.49	3.45
50	72.32	70.96	100	13.35	13.15	150	3.41	3.37

5.3 Pressure Sensor

High Pressure $P_H=(V_H-0.5)\times 0.98$

Low Pressure $P_L=(V_L-0.5)\times \frac{0.98}{3}$

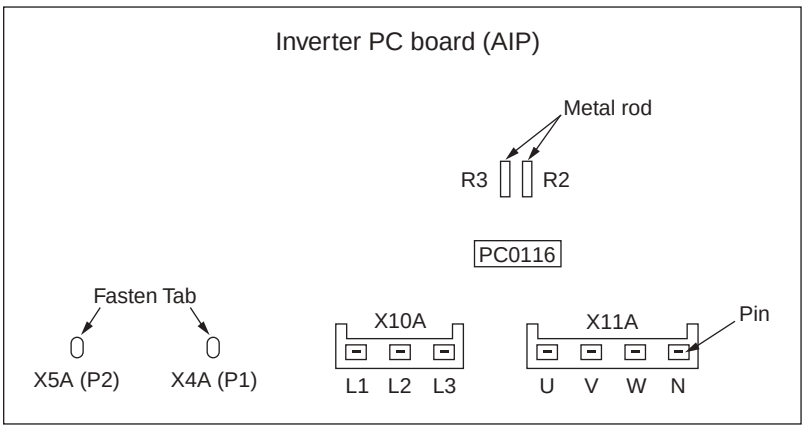
P_H : Detected Pressure [High Side] MPa
P_L : Detected Pressure [Low Side] MPa
V_H : Output Voltage [High Side] V_{DC}
V_L : Output Voltage [Low Side] V_{DC}



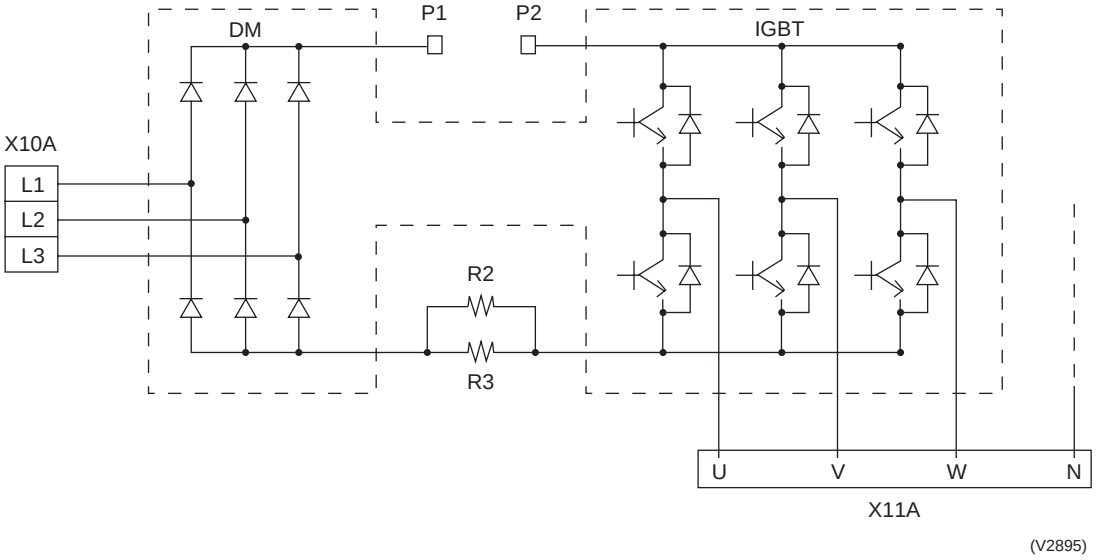
6. Method of Replacing The Inverter's Power Transistors and Diode Modules

6.0.1 Method of Replacing The Inverter's Power Transistors and Diode Modules

Inverter P.C.Board



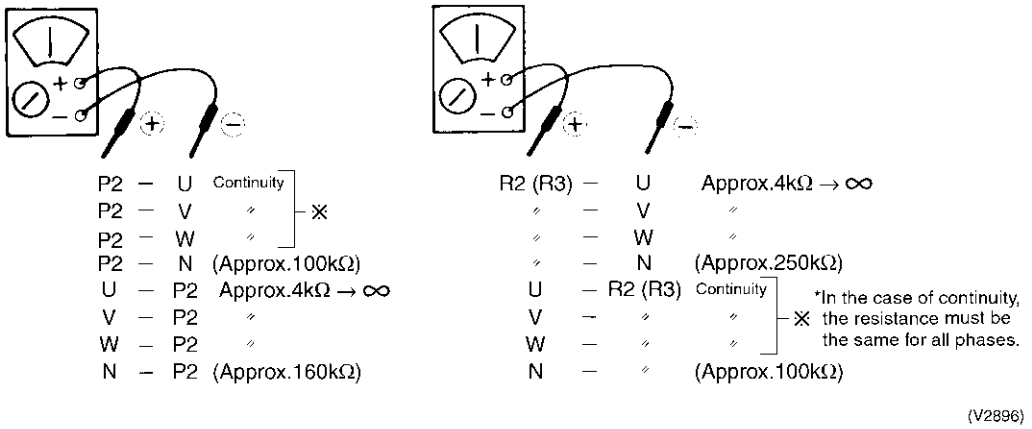
Electronic circuit



[Decision according to continuity check by analog tester]

- Before checking, disconnect the electric wiring connected to the power transistor and diode module.

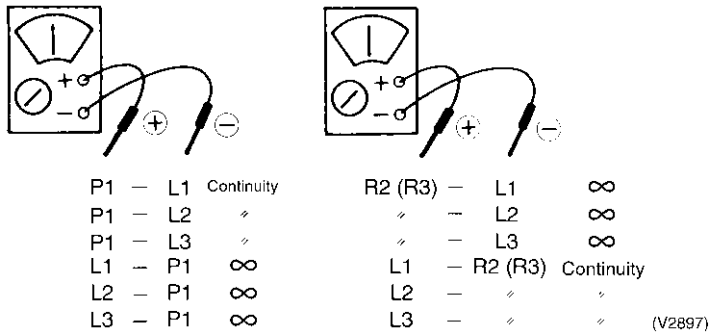
Power Transistor IGBT (On Inverter PC Board)



(Decision)
If other than given above, the power unit is defective and must be replaced.

Note: If using a digital tester, ∞ and continuity may be reversed.

Diode Module



(Decision)
If other than given above, the diode module is defective and must be replaced.

Note: If using a digital tester, ∞ and continuity may be reversed.

7. Precautions in Servicing The Models with New-type Refrigerant

Compared to the conventional refrigerant R-22, the brand-new refrigerant R-407C is higher in pressure. The refrigerant oil is also different in type. With this in mind, note that the piping work procedures as well as the related tools and piping materials are partially different than ever before.

Refrigerant	Conventional type	New type
	R-22 (single)	R-407C (mixed)
Refrigerant oil	Mineral oil (Suniso)	Synthetic oil (ether)
Condensation pressure	1.84MPa	2.01MPa

7.1 Tools Required

Some specific tools are required for servicing the refrigerant line of the new-type refrigerant models. Select the right tools referring to the table below.

Typical tools and materials for piping works and their interchangeability

Name	Work process and application		Interchangeability with conventional tools and materials
Pipe cutter	Refrigerant piping work	Cutting pipes	Interchangeable.
Flaring tool		Flaring pipes	
Refrigerant oil		Applying on flared spots	Specified ether oil, ester oil, alkyl benzene oil or their mixture to be used.
Torque wrench		Connecting flare nut	Interchangeable.
Pipe expander		Expanding pipes at connections	
Pipe bender		Bending pipes	
Nitrogen	Air-tightness test	Inhibiting oxidation in pipes	
Welder		Brazing pipes	
Gauge manifold	Air-tightness test thru refrigerant recharging	Vacuum refrigerant charging and running test	Specific tools required for boosting the pressure and preventing impurities from coming in.
Charging hose			
Vacuum pump	Vacuum drying		Interchangeable. (Adapter to be connected to keep the oil from flowing back to the unit during pump shut-down. Pump with anti-backflow function also available.)
Charging cylinder	Refrigerant recharging		Conventional cylinder not allowed because of different refrigerant properties. (Need to weigh with the scale.)
Refrigerant charging scale			Interchangeable.
Gas leak detector		Gas leak test	Specific detector needed. (R134a-compatible detector allowed.)

7.2 Notes for Work Procedures

Brazing connections

- With the new type of refrigerant, much more care must be paid to keep impurities from coming in. In brazing the pipes, be sure to blow the pipe using nitrogen gas.
- In any other connecting works, much stricter process control is needed to prevent impurities from coming into the pipes. For this purpose, take appropriate measures such as covering the pipes and do the vacuum drying.

Flaring work

- Chamfer (file) the pipe ends as specified. Be very careful not to allow cuttings to come into the pipes.
- To avoid leak, apply a proper amount of refrigerant oil over the inner and outer surfaces of each flared section. As the refrigerant oil, be sure to use synthetic oil (ether oil, ester oil, alkyl benzene oil or their mixture).

Charging refrigerant

- Be sure to charge the new-type refrigerant in liquid phase via the service port of the liquid-side stop valve (outdoor unit). At this time, give vacuum drying with a vacuum pump. Never try the air purging.

Air-tightness test

- Be sure to conduct air-tightness test.

Caution For servicing the models with the new-type refrigerant, strictly follow the above instructions and precautions. Otherwise the system may get in trouble. For details on handling the new-type refrigerant and the related work procedures and tools, refer to the Installation/Test Run Manual published by Daikin.

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Daikin Europe N.V. is approved by LRQA for its Quality Management System in accordance with the ISO9001 standard. ISO9001 pertains to quality assurance regarding design, development, manufacturing as well as to services related to the product.

ISO14001 assures an effective environmental management system in order to help protect human health and the environment from the potential impact of our activities, products and services and to assist in maintaining and improving the quality of the environment.

Daikin units comply with the European regulations that guarantee the safety of the product.

VRV products are not within the scope of the Eurovent certification programme.

Specifications are subject to change without prior notice

DAIKIN EUROPE N.V.
Zandvoordestraat 300
B-8400 Ostend - Belgium
Internet: http://www.daikineurope.com

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