

Service Manual

***VRV* System R-407C PLUS Series**



***VRV* Inverter K Series R-407C PLUS Series**

1. Introduction	V
1.1 Safety Cautions	v
1.2 PREFACE.....	ix
Part 1 General Information R-407C PLUS Series	1
1. Product Outline	2
1.1 Year 2000 Models Using New Refrigerant	2
1.2 Outline of New Series Products.....	3
1.3 Model Configuration and Combination	5
Part 2 Specifications R-407C PLUS Series.....	7
1. Specifications	8
1.1 Outdoor Unit	8
1.2 Indoor Unit.....	12
Part 3 Function R-407C PLUS Series	31
1. Outdoor Unit Refrigerant System Diagram	32
1.1 Outdoor Unit Refrigerant System Diagram.....	32
1.2 Flow of Refrigerant in Each Operating Mode	35
2. List of Safty Device and Function Parts Setting Value.....	39
2.1 Outdoor Unit	39
2.2 Indoor Unit.....	40
3. Outline of Control (Outdoor Unit)	43
3.1 Compressor PI Control	43
3.2 Motorized Valve PI Control.....	44
3.3 Defrost Control	45
3.4 Low Outside Temperature Cooling Control	47
3.5 Compressor Capacity Control	49
3.6 Demand Control	51
3.7 Restart Standby.....	52
3.8 Startup Control	53
3.9 Oil Equalization Operation.....	54
3.10 Oil Return Operation.....	55
3.11 Low Pressure Protection Control.....	58
3.12 High Pressure Protection Control.....	59
3.13 Discharge Pipe Temperature Control.....	61
3.14 Inverter Protection Control.....	63
3.15 Crankcase Heater Control	64
3.16 Gas Shortage Warning	65
3.17 Heating Pump-Down Residual Operation.....	66
3.18 Backup Operation.....	67
3.19 Fan Location and Fan Tap	68

4. Outline of Control (Indoor Unit)	69
4.1 Drain Pump Control	69
4.2 Louver Control for Preventing Ceiling Dirt	71
4.3 Thermostat Sensor in Remote Controller	72
4.4 Freeze Prevention	74

Part 4 Test Operation R-407C PLUS Series.....75

1. Test Operation	76
1.1 Procedure and Outline	76
1.2 Operation When Power is Turned On	78
1.3 Outdoor Unit PC Board Ass'y	79
1.4 Setting Modes	81
1.5 Cool / Heat Mode Selection	88
1.6 Low Noise Operation	93
1.7 Demand Control	94
1.8 Sequential Start	95
1.9 Wiring Check Operation	96
1.10 Additional Refrigerant Charge Operation	97
1.11 Refrigerant Recovery Mode	98
1.12 Indoor Field Setting	99
1.13 Centralized Control Group No. Setting	105
1.14 Contents of Control Modes	107

Part 5 Troubleshooting R-407C PLUS Series109

1. Operation Flowcharts	111
1.1 Indoor Unit Operation Flowchart	111
2. Troubleshooting by Remote Controller	116
2.1 The INSPECTION / TEST Button	116
2.2 Self-diagnosis by Wired Remote Controller	117
2.3 Self-diagnosis by Wireless Remote Controller	118
2.4 Operation of The Remote Controller's Inspection / Test Operation Button	122
2.5 Remote Controller Service Mode	123
2.6 Remote Controller Self-Diagnosis Function	125
3. Troubleshooting	128
3.1 Indoor Unit: Error of External Protection Device	128
3.2 Indoor Unit: PC Board Defect	128
3.3 Indoor Unit: Malfunction of Drain Level Control System (33H)	129
3.4 Indoor Unit: Fan Motor (M1F) Lock, Overload	130
3.5 Indoor Unit: Malfunction of Swing Flap Motor (M1S)	131
3.6 Indoor Unit: Malfunction of Moving Part of Electronic Expansion Valve (Y1E)132	
3.7 Indoor Unit: Drain Level above Limit	133
3.8 Indoor Unit: Malfunction of Capacity Determination Device	134
3.9 Indoor Unit: Malfunction of Thermistor (R2T) for Liquid Pipe	134
3.10 Indoor Unit: Malfunction of Thermistor (R3T) for Gas Pipes	135
3.11 Indoor Unit: Malfunction of Thermistor (R1T) for Air Inlet	135
3.12 Indoor Unit: Malfunction of Thermostat Sensor in Remote Controller	136
3.13 Outdoor Unit: Actuation of Safety Device	136
3.14 Outdoor Unit: PC Board Defect	137

3.15 Outdoor Unit: Actuation of High Pressure Switch.....	137
3.16 Outdoor Unit: Actuation of Low Pressure Sensor.....	138
3.17 Outdoor Unit: Malfunction of Moving Part of Electronic Expansion Valve (Y1E).....	139
3.18 Outdoor Unit: Abnormal Discharge Pipe Temperature.....	140
3.19 Outdoor Unit: Malfunction of Thermistor for Outdoor Air (R1T).....	141
3.20 Outdoor Unit: Malfunction of Discharge Pipe Thermistor (R3T).....	142
3.21 Outdoor Unit: Malfunction of Thermistor (R4T) for Suction Pipe.....	143
3.22 Outdoor Unit: Malfunction of Thermistor (R2T) for Heat Exchanger ...	144
3.23 Outdoor Unit: Malfunction of Discharge Pipe Pressure Sensor.....	145
3.24 Outdoor Unit: Malfunction of Suction Pipe Pressure Sensor.....	146
3.25 Low Pressure Drop Due to Refrigerant Shortage or Electronic Expansion Valve Failure.....	147
3.26 Reverse Phase, Open Phase.....	148
3.27 Malfunction of Transmission Between Indoor Units.....	149
3.28 Malfunction of Transmission Between Remote Controller and Indoor Unit.....	150
3.29 Malfunction of Transmission Between Outdoor Units.....	151
3.30 Malfunction of Transmission Between Master and Slave Remote Controllers.....	152
3.31 Malfunction of Transmission Between Indoor and Outdoor Units in the Same System.....	153
3.32 Excessive Number of Indoor Units.....	154
3.33 Address Duplication of Central Remote Controller.....	155
3.34 Refrigerant System not Set, Incompatible Wiring/Piping.....	155
3.35 Malfunction of System, Refrigerant System Address Undefined.....	156
4. Failure Diagnosis for Inverter System.....	157
4.1 Points of Diagnosis.....	157
4.2 How to Use The Monitor Switch on The Inverter PC Board.....	158
5. Troubleshooting (Inverter).....	159
5.1 Outdoor Unit: Malfunction of Inverter Radiating Fin Temperature Rise.....	159
5.2 Outdoor Unit: Inverter Instantaneous Over-Current.....	160
5.3 Outdoor Unit: Inverter Thermostat Sensor, Compressor Overload.....	161
5.4 Outdoor Unit: Inverter Stall Prevention, Compressor Lock.....	162
5.5 Outdoor Unit: Malfunction of Transmission Between Inverter and Control PC Board.....	163
5.6 Power Supply Insufficient or Instantaneous Failure.....	164
5.7 Outdoor Unit: Inverter Over-Ripple Protection.....	165
5.8 Outdoor Unit: Malfunction of Inverter Radiating Fin Temperature Rise Sensor.....	166
6. Troubleshooting (OP: Central Remote Controller).....	167
6.1 Malfunction of Transmission Between Central Remote Controller and Indoor Unit.....	167
6.2 PC Board Defect.....	168
6.3 Malfunction of Transmission Between Optional Controllers for Centralized Control.....	168
6.4 Improper Combination of Optional Controllers for Centralized Control.....	169
6.5 Address Duplication, Improper Setting.....	170

7. Troubleshooting (OP: Schedule Timer).....	171
7.1 Malfunction of Transmission	
Between Central Remote Controller and Indoor Unit	171
7.2 PC Board Defect.....	172
7.3 Malfunction of Transmission	
Between Optional Controllers for Centralized Control.....	172
7.4 Improper Combination of Optional Controllers	
for Centralized Control.....	173
7.5 Address Duplication, Improper Setting.....	174
8. Troubleshooting (OP: Unified ON/OFF Controller)	175
8.1 Operation Lamp Blinks	175
8.2 Display “Under Host Computer Integrate Control” Blinks	
(Repeats Single Blink)	176
8.3 Display “Under Host Computer Integrate Control” Blinks	
(Repeats Double Blink).....	178

Part 6 Special Service Mode R-407C PLUS Series.....179

1. Backup and Emergency Operation.....	180
1.1 Backup and Emergency Operation.....	180
2. Pump Down Operation	182
2.1 Pump Down Operation	182

Part 7 Appendix R-407C PLUS Series.....183

1. Piping Diagram.....	184
1.1 Outdoor Unit	184
1.2 Indoor Unit.....	186
2. Wiring Diagram	187
2.1 Outdoor Unit	187
2.2 Indoor Unit.....	189
3. Characteristics	201
3.1 R-407C Characteristics	201
3.2 Thermistor Resistance / Temperature Characteristics	202
3.3 Pressure Sensor.....	204
3.4 Method of Replacing The Inverter’s Power Transistors	
and Diode Modules.....	205
4. Precautions in Servicing The Models with New-type Refrigerant	207
4.1 Tools Required	207
4.2 Notes for Work Procedures	208








Index i

Drawings & Flow Charts v








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	
<p>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 shock. 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.</p>	
<p>If the refrigerant gas discharges during the repair work, do not touch the discharging refrigerant gas. The refrigerant gas can cause frostbite.</p>	
<p>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.</p>	
<p>If the refrigerant gas leaks during the repair work, ventilate the area. The refrigerant gas can generate toxic gases when it contacts flames.</p>	
<p>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.</p>	
<p>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.</p>	

 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.	
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.	



 Warning	
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.	

 Caution	
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, lose 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.

1.2 PREFACE

Thank you for your continued patronage of Daikin products.

This is the new service manual for Daikin's Year 2000 R-407C VRV PLUS series. Daikin offers a wide range of models to respond to building and office air conditioning needs. We are confident that customers will be able to find the models that best suit their needs.

This service manual contains information regarding the servicing of the R-407C VRV PLUS series.

The following technical documents are also available from Daikin. Please use these documents together with this manual to conduct efficient servicing.

Design & Installation instruction Si33-003 Nov. 2000

Oct. 2000

After Sales Service Division

Part 1

General Information

R-407C PLUS Series

1. Product Outline	2
1.1 Year 2000 Models Using New Refrigerant	2
1.2 Outline of New Series Products.....	3
1.3 Model Configuration and Combination	5

1. Product Outline

1.1 Year 2000 Models Using New Refrigerant

Outdoor Unit Series

● New model

Series name	Equivalent horsepower (HP)	16	18	20	24	26	28	30
R-407C VRV PLUS series		●	●	●	●	●	●	●

Indoor Unit Series

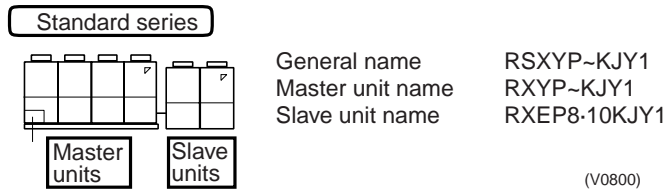
● New model ◎ Model change ○ Continued model

		Type P20	Type P25	Type P32	Type P40	Type P50	Type P63	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		○	○	○	○	○	○	—	—	—	—	—

1.2 Outline of New Series Products

In addition to the use of a new refrigerant (R-407C), the new series products incorporate a function-unit-less structure for significantly improved flexibility and ease of installation.

System outline



- No function unit
All models combine master units and slave units or master units, slave units and Plus units.
- All models use a new refrigerant with low ozone destruction potential and global warming potential to minimize environmental loads (see Feature (1)).
With a value of 1 given to the ozone destruction potential and global warming potential of the R11 refrigerant, smaller values mean less environmental impact.

Feature (1)

- Use of new refrigerant (R-407C) that does not deplete the ozone layer

Refrigerant		Condensing pressure (MPa)	Capacity *1	COP	Ozone destruction potential	Global warming potential
R22	Single-component	1.88	100	100	0.05	0.43
R-407C	Non-azeotropic	2.05	98	90~97	0	0.38

*1 Capacity value based on theoretical refrigerating cycle

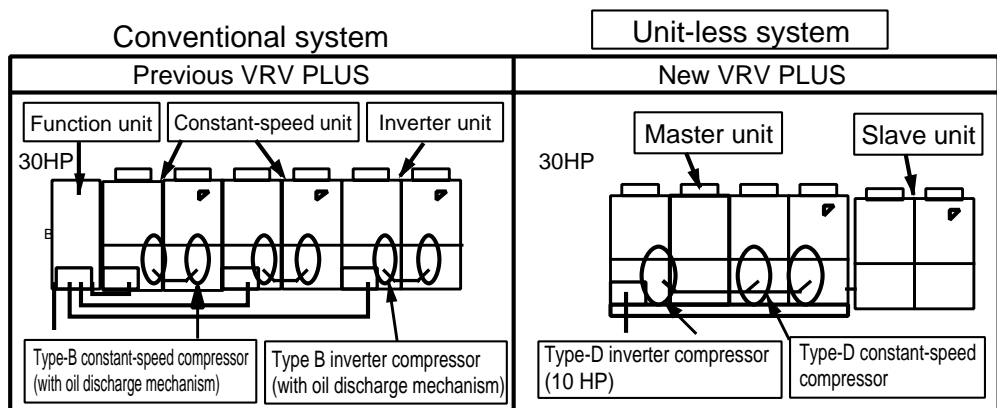
- Reduction of refrigerant charge volume (approx. 75% as compared to R22-refrigerant unit with 20 HP and 5-m pipe)
--- Mainly by elimination of function units, simplification of refrigerant circuits and reduction of internal volume.

< Global warming potential >

Water vapor and carbon gas allow solar rays to pass through, but they hinder the penetration of heat rays from the surface of the earth. Methane, chlorofluorocarbons and dinitrogen monoxide have similar characteristics. When the amounts of these gases in the atmosphere increase, heat that normally escapes through the atmosphere remains near the earth's surface, thus increasing the temperature of air. The degree of the effect to the earth caused by the atmospheric temperature rise due to these gases is numerically expressed by global warming potential (GWP).

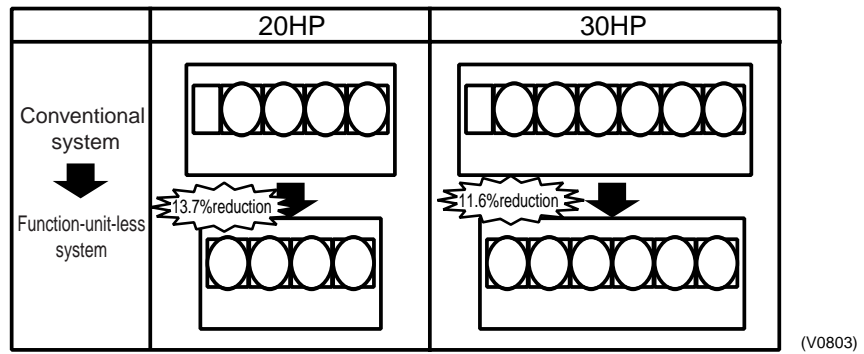
Feature (2)

- Dramatically improved flexibility and ease of field installation by function-unit-less structure
--- Simpler piping work at installation sites
--- Reduced unit installation area



Feature (3)

- Reduction of installation area

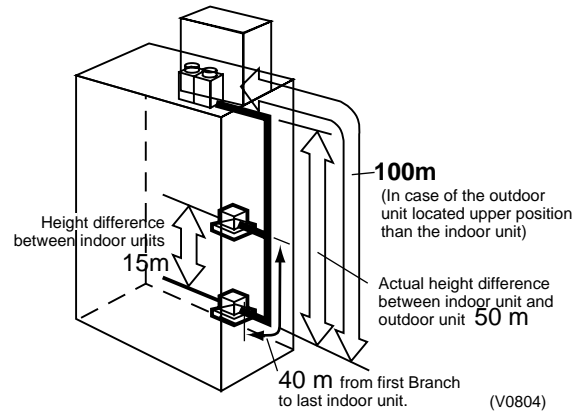


- Simpler piping work at installation sites

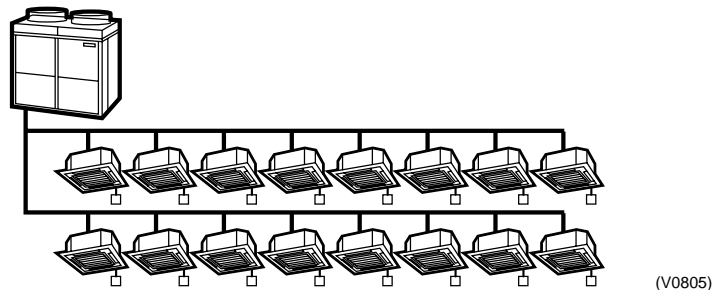
	20HP	30HP
Pipe connecting locations	14 joints → 6 joints	20 joints → 6 joints

Other versatile functions are provided

- Long refrigerant piping : equivalent length of 125, actual length of 100 m and height difference of 50 m.
- Connection of indoor unit of varying capacities and types totaling 130% (max.) of outdoor unit by capacity.
- From first branch to any indoor unit = 40 m.



- Individual control of up to 20 indoor units with one 20HP class outdoor unit



- For VRV PLUS

Outdoor unit name	No. of indoor units connectable
RSXYP16~20K	20 units
RSXYP24~30K	32 units

- **Others**
- High efficiency with power factor of 90% or higher
- Cooling operation with outdoor air temperature as low as -5°C
- Heating operation with outdoor air temperature as low as -15°C
- Simple REFNET piping system
- Super wiring system
- Automatic address setting function
- Built-in wiring error check function
- Equipped with sequential start function
- Nighttime low-noise mode for reduced operating sound (Option pcb DTA104A61/62 is required)

1.3 Model Configuration and Combination

Number of units and capacity of connectable indoor units

Standard series	Equivalent output		16HP	18HP	20HP	24HP
	R-407C VRV PLUS series system model		RSXYP16KJ	RSXYP18KJ	RSXYP20KJ	RSXYP24KJ
	Outdoor unit combination	Main unit	RXYP8KJ	RXYP10KJ	RXYP10KJ	RXYP16KJ
		Sub unit	RXEP8KJ	RXEP8KJ	RXEP10KJ	RXEP8KJ
	Total number of connectable indoor units			Up to 20 units		
Total capacity of connectable indoor units			200~520	225~585	250~650	300~780

Standard series	Equivalent output		26HP	28HP	30HP
	R-407C VRV PLUS series system model		RSXYP26KJ	RSXYP28KJ	RSXYP30KJ
	Outdoor unit combination	Main unit	RXYP16KJ	RXYP20KJ	RXYP20KJ
		Sub unit	RXEP10KJ	RXEP8KJ	RXEP10KJ
	Total number of connectable indoor units			Up to 32 units	
Total capacity of connectable indoor units			325~845	350~910	375~975

Connectable indoor unit

Indoor unit		Model name
Ceiling mounted cassette type	Multi-flow type	FXYFP32KVE·40KVE·50KVE·63KVE·80KVE·100KVE·125KVE
	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		FXYHP32KV1·63KV1·100KV1
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

Indoor unit capacity

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

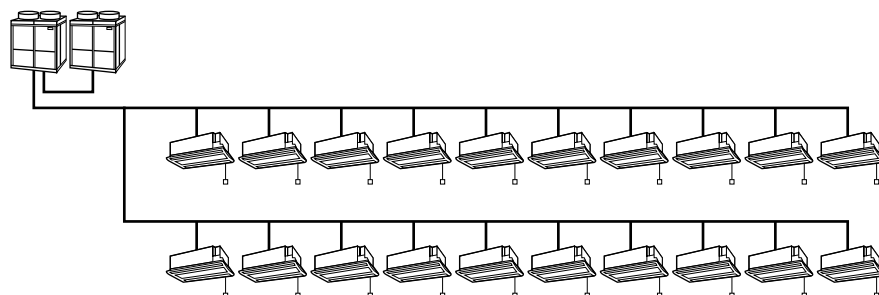
Use the above tables to determine the capacities of indoor units to be connected. Make sure the total capacity of indoor units connected to each outdoor unit is within the specified value (kW).

- 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.

Combination example

- RSXYP20KJ / 20-unit system

Indoor unit / FXYCP25K × 20 units



(V0806)

Part 2

Specifications

R-407C PLUS Series

1. Specifications	8
1.1 Outdoor Unit	8
1.2 Indoor Unit.....	12

1. Specifications

1.1 Outdoor Unit

Model			RSXYP16KJY1	RSXYP18KJY1
Constituent Model (Main Unit + Sub Unit)			RXYP8KJY1+RXEP8KJY1	RXYP10KJY1+RXEP8KJY1
Power Supply			3 phase 50Hz 380-415V	3 phase 50Hz 380-415V
★1 Cooling Capacity	kW		43.8	49.3
★2 Heating Capacity	kW		43.8	49.3
Casing Color			Ivory white (5Y7.5/1)	Ivory white (5Y7.5/1)
Dimensions : (H×W×D)			(1,440×1,280×690)+(1,220×1,280×690)	(1,440×1,280×690)+(1,220×1,280×690)
Heat Exchanger			Cross fin coil	Cross fin coil
Compressor	Model		JT236DAVTYE@2+JT212DATYE@2	JT236DAVTYE@2+JT265DATYE@2
	Type		Hermetically sealed scroll type	Hermetically sealed scroll type
	Piston Displacement	m ³ /h	(43.3+20.4)	(43.3+25.2)
	Number of Revolutions	rpm	(5,510, 2,900)	(5,510, 2,900)
	Motor Output × Number of Units	kW	5.5+5.5	5.5+7.5
Starting Method			Direct on line	Direct on line
Fan	Model		P52H11S	P52H11S
	Type		Propellor fan	Propellor fan
	Motor Output × Number of Units	kW	(0.14+0.23)+(0.14+0.23)	(0.14+0.23)+(0.14+0.23)
	Air Flow Rate	m ³ /min	320	320
Drive			Direct drive	Direct drive
Connecting Pipes	Outdoor Unit	Liquid pipe	φ15.9 C1220T (Flare connection)	φ19.1 C1220T (Flare connection)
		Gas pipe	φ34.9 C1220T (Brazing connection)	φ34.9 C1220T (Brazing connection)
	Main Unit ~ Sub Unit	Liquid pipe	φ12.7 C1220T (Flare-Brazing connection)	φ12.7 C1220T (Flare-Brazing connection)
		Gas pipe	φ28.6 C1220T (Brazing-Brazing connection)	φ28.6 C1220T (Brazing-Brazing connection)
Weight			360+95	365+95
Safety Devices			High pressure switch, fan motor safety thermostat, inverter overload protector, overcurrent relay, fusible plugs	High pressure switch, fan motor safety thermostat, inverter overload protector, overcurrent relay, fusible plugs
Defrost Method			Deicer	Deicer
Capacity Control			23~100	18~100
Refrigerant	Refrigerant Name		R-407C	R-407C
	Charge	kg	15.5	16.6
	Control		Electronic expansion valve	Electronic expansion valve
Refrigerator Oil	Refrigerant Oil		DAPHNE FVC68D	DAPHNE FVC68D
	Charge Volume	L	4.0+4.0	4.0+4.0
Standard Accessories			Accessories pipe (Gas pipe), Connection pipes (Gas pipe), Installation manual, Operation manual, Jumper wire (Low, High voltage), Clamps	Accessories pipe (Gas pipe), Connection pipes (Gas pipe), Installation manual, Operation manual, Jumper wire (Low, High voltage), Clamps

- Notes:**
- ★1 Indoor temp. : 27°C DB or 19°C WB / outdoor temp. : 35°C DB / Equivalent piping length : 5m, level difference : 0m.
 - ★2 Indoor temp. : 20°C DB / outdoor temp. : 7°C DB or 6°C WB / equivalent piping length : 5m, level difference : 0m.

Model			RSXYP20KJY1	RSXYP24KJY1
Constituent Model (Main Unit + Sub Unit)			RXYP10KJY1+RXEP10KJY1	RXYP16KJY1+RXEP8KJY1
Power Supply			3 phase 50Hz 380-415V	3 phase 50Hz 380-415V
★1 Cooling Capacity	kW		54.7	65.7
★2 Heating Capacity	kW		54.7	65.7
Casing Color			Ivory white (5Y7.5/1)	Ivory white (5Y7.5/1)
Dimensions : (H×W×D)			(1,440×1,280×690)+(1,440×1,280×690)	(1,440×2,580×690)+(1,220×1,280×690)
Heat Exchanger			Cross fin coil	Cross fin coil
Compressor	Model		JT236DAVTYE @2+JT265DATYE @2	JT236DAVTYE @2+JT236DATYE @2×2
	Type		Hermetically sealed scroll type	Hermetically sealed scroll type
	Piston Displacement	m ³ /h	(43.3+25.2)	(43.3+22.8+22.8)
	Number of Revolutions	rpm	(5,510, 2,900)	(5,510, 2,900, 2,900)
	Motor Output × Number of Units	kW	5.5+7.5	5.5+5.5+5.5
Starting Method			Direct on line	Direct on line
Fan	Model		P52H11S	P52H11S
	Type		Propellor fan	Propellor fan
	Motor Output × Number of Units	kW	(0.14+0.23)+(0.14+0.23)	(0.14+0.23)×2+(0.14+0.23)
	Air Flow Rate	m ³ /min	340	490
	Drive		Direct drive	Direct drive
Connecting Pipes	Outdoor Unit	Liquid pipe	φ19.1 C1220T (Flare connection)	φ19.1 C1220T (Flare connection)
		Gas pipe	φ34.9 C1220T (Brazing connection)	φ41.3 C1220T (Brazing connection)
	Main Unit ~ Sub Unit	Liquid pipe	φ12.7 C1220T (Flare-Brazing connection)	φ12.7 C1220T (Flare-Brazing connection)
		Gas pipe	φ28.6 C1220T (Brazing-Brazing connection)	φ28.6 C1220T (Brazing-Brazing connection)
Weight		kg	365+105	620+95
Safety Devices			High pressure switch, fan motor safety thermostat, inverter overload protector, overcurrent relay, fusible plugs	High pressure switch, fan motor safety thermostat, inverter overload protector, overcurrent relay, fusible plugs
Defrost Method			Deicer	Deicer
Capacity Control			%	17 ~ 100
Refrigerant	Refrigerant Name		R-407C	R-407C
	Charge	kg	16.6	23.3
	Control		Electronic expansion valve	Electronic expansion valve
Refrigerator Oil	Refrigerant Oil		DAPHNE FVC68D	DAPHNE FVC68D
	Charge Volume	L	4.0+4.0	4.0+4.0+4.0
Standard Accessories			Accessories pipe (Gas pipe), Connection pipes (Gas pipe), Installation manual, Operation manual, Jumper wire (Low, High voltage), Clamps	Accessories pipe (Gas, Liquid pipe), Connection pipes (Gas pipe), Installation manual, Operation manual, Jumper wire (Low, High voltage), Clamps

- Notes:**
- ★1 Indoor temp. : 27°C DB or 19°C WB / outdoor temp. : 35°C DB / Equivalent piping length : 5m, level difference : 0m.
 - ★2 Indoor temp. : 20°C DB / outdoor temp. : 7°C DB or 6°C WB / equivalent piping length : 5m, level difference : 0m.

Model			RSXYP26KJY1	RSXYP28KJY1
Constituent Model (Main Unit + Sub Unit)			RXYP16KJY1+RXEP10KJY1	RXYP20KJY1+RXEP8KJY1
Power Supply			3 phase 50Hz 380-415V	3 phase 50Hz 380-415V
★1 Cooling Capacity	kW		71.2	76.1
★2 Heating Capacity	kW		71.2	76.1
Casing Color			Ivory white (5Y7.5/1)	Ivory white (5Y7.5/1)
Dimensions : (H×W×D)			(1,450×2,580×690)+(1,440×1,280×690)	(1,450×2,580×690)+(1,220×1,280×690)
Heat Exchanger			Cross fin coil	Cross fin coil
Compressor	Model		JT236DAVTYE@2+JT236DATYE@2×2	JT236DAVTYE@2+JT300DATYE@2×2
	Type		Hermetically sealed scroll type	Hermetically sealed scroll type
	Piston Displacement	m³/h	(43.3+22.8+22.8)	(43.3+28.4+28.4)
	Number of Revolutions	rpm	(5,510, 2,900, 2,900)	(5,510, 2,900, 2,900)
	Motor Output × Number of Units	kW	5.5+5.5+5.5	5.5+7.5+7.5
Starting Method			Direct on line	Direct on line
Fan	Model		P52H11S	P52H11S
	Type		Propellor fan	Propellor fan
	Motor Output × Number of Units	kW	(0.14+0.23)×2+(0.14+0.23)	(0.14+0.23)×2+(0.14+0.23)
	Air Flow Rate	m³/min	510	490
	Drive		Direct drive	Direct drive
Connecting Pipes	Outdoor Unit	Liquid pipe	φ22.2 C1220T (Brazing connection)	φ22.2 C1220T (Brazing connection)
		Gas pipe	φ41.3 C1220T (Brazing connection)	φ41.3 C1220T (Brazing connection)
	Main Unit ~ Sub Unit	Liquid pipe	φ12.7 C1220T (Flare-Brazing connection)	φ12.7 C1220T (Flare-Brazing connection)
		Gas pipe	φ28.6 C1220T (Brazing-Brazing connection)	φ28.6 C1220T (Brazing-Brazing connection)
Weight		kg	620+105	630+95
Safety Devices			High pressure switch, fan motor safety thermostat, inverter overload protector, overcurrent relay, fusible plugs	High pressure switch, fan motor safety thermostat, inverter overload protector, overcurrent relay, fusible plugs
Defrost Method			Deicer	Deicer
Capacity Control			%	13 ~ 100
Refrigerant	Refrigerant Name		R-407C	R-407C
	Charge	kg	23.3	25.3
	Control		Electronic expansion valve	Electronic expansion valve
Refrigerator Oil	Refrigerant Oil		DAPHNE FVC68D	DAPHNE FVC68D
	Charge Volume	L	4.0+4.0+4.0	4.0+4.0+4.0
Standard Accessories			Accessories pipe (Gas, Liquid pipe), Connection pipes (Gas pipe), Installation manual, Operation manual, Jumper wire (Low, High voltage), Clamps	Accessories pipe (Gas, Liquid pipe), Connection pipes (Gas pipe), Installation manual, Operation manual, Jumper wire (Low, High voltage), Clamps

- Notes:**
- ★1 Indoor temp. : 27°C DB or 19°C WB / outdoor temp. : 35°C DB / Equivalent piping length : 5m, level difference : 0m.
 - ★2 Indoor temp. : 20°C DB / outdoor temp. : 7°C DB or 6°C WB / equivalent piping length : 5m, level difference : 0m.

Model			RSXP30KJY1
Constituent Model (Main Unit + Sub Unit)			RXYP20KJY1+RXEP10KJY1
Power Supply			3 phase 50Hz 380-415V
★1 Cooling Capacity	kW		82.1
★2 Heating Capacity	kW		82.1
Casing Color			Ivory white (5Y7.5/1)
Dimensions : (H×W×D)		mm	(1,450×2,580×690)+(1,440×1,280×690)
Heat Exchanger			Cross fin coil
Compressor	Model		JT236DAVTYE@2+JT300DATYE@2×2
	Type		Hermetically sealed scroll type
	Piston Displacement	m ³ /h	(43.3+28.4+28.4)
	Number of Revolutions	rpm	(5,510, 2,900, 2,900)
	Motor Output × Number of Units	kW	5.5+7.5+7.5
Starting Method			Direct on line
Fan	Model		P52H11S
	Type		Propellor fan
	Motor Output × Number of Units	kW	(0.14+0.23)×2+(0.14+0.23)
	Air Flow Rate	m ³ /min	510
Drive			Direct drive
Connecting Pipes	Outdoor Unit	Liquid pipe	φ22.2 C1220T (Brazing connection)
		Gas pipe	φ41.3 C1220T (Brazing connection)
	Main Unit ~ Sub Unit	Liquid pipe	φ12.7 C1220T (Flare-Brazing connection)
		Gas pipe	φ28.6 C1220T (Brazing-Brazing connection)
Weight		kg	630+105
Safety Devices			High pressure switch, fan motor safety thermostat, inverter overload protector, overcurrent relay, fusible plugs
Defrost Method			Deicer
Capacity Control		%	11 ~ 100
Refrigerant	Refrigerant Name		R-407C
	Charge	kg	25.3
	Control		Electronic expansion valve
Refrigerator Oil	Refrigerant Oil		DAPHNE FVC68D
	Charge Volume	L	4.0+4.0+4.0
Standard Accessories			Accessories pipe (Gas, Liquid pipe), Connection pipes (Gas pipe), Installation manual, Operation manual, Jumper wire (Low, High voltage), Clamps

- Notes:**
- ★1 Indoor temp. : 27°C DB or 19°C WB / outdoor temp. : 35°C DB / Equivalent piping length : 5m, level difference : 0m.
 - ★2 Indoor temp. : 20°C DB / outdoor temp. : 7°C DB or 6°C WB / equivalent piping length : 5m, level difference : 0m.

1.2 Indoor Unit

4-way blow ceiling mounted cassette

Model			FXYP32KVE	FXYP40KVE	FXYP50KVE	FXYP63KVE
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		3.6	4.5	5.6	7.1
★2 Heating Capacity	kW		4.0	5.0	6.3	8.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (HxWxD)			230x840x840	230x840x840	230x840x840	230x840x840
Coil (Cross Fin Coil)	RowsxStagesxFin Pitch	mm	2x8x1.5	2x8x1.5	2x8x1.5	2x8x1.5
	Face Area	m ²	0.331	0.331	0.331	0.331
Fan	Model		QTS46B14M	QTS46B14M	QTS46B14M	QTS46B14M
	Type		Turbo Fan	Turbo Fan	Turbo Fan	Turbo Fan
	Motor Output × Number of Units	W	45	45	45	45
	Air Flow Rate (H/L)	m ³ /min	13/10	14/10	16/11	18/14
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			Foamed polystyrene/ Foamed polyethylene	Foamed polystyrene/ Foamed polyethylene	Foamed polystyrene/ Foamed polyethylene	Foamed polystyrene/ Foamed polyethylene
Piping Connections	Liquid Pipes		6.4mm (Flare Connection)	6.4mm (Flare Connection)	9.5mm (Flare Connection)	9.5mm (Flare Connection)
	Gas Pipes		12.7mm (Flare Connection)	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)	VP25 (External Dia. 32 Internal Dia. 25)
Weight			24	24	24	24
Safety Devices			Fuse Thermal protector for Fan Motor	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	Electronic Expansion Valve
Decoration Panels	Mode		BYC125KJW1	BYC125KJW1	BYC125KJW1	BYC125KJW1
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
	Dimensions: (HxWxD)	mm	40x950x950	40x950x950	40x950x950	40x950x950
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
Weight			5	5	5	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.	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.
- ★ Daikin Europe model : FXYP-KB7V1
- ★ More detailed information can be found in the Technical Data book covering VRV systems

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

4-way blow ceiling mounted cassette

Model		FXYFP80KVE	FXYFP100KVE	FXYFP125KVE	
Power Supply		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	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	288×840×840	288×840×840	
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×12×1.5	2×12×1.5	
	Face Area	m ²	0.497	0.497	
Fan	Model		QTS46B17M	QTS46B17M	
	Type		Turbo Fan	Turbo Fan	
	Motor Output × Number of Units	W	90	90	
	Air Flow Rate (H/L)	m ³ /min	28/20	28/21	
	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	
Piping Connections	Liquid Pipes		9.5mm (Flare Connection)	9.5mm (Flare Connection)	
	Gas Pipes		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)	
Weight		kg	28	28	
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	Mode		BYC125KJW1	BYC125KJW1	
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	
	Dimensions: (H×W×D)		mm	40×950×950	40×950×950
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	
	Weight		kg	5	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.
- ★ Daikin Europe model : FXYFP-KB7V1
- ★ More detailed information can be found in the Technical Data book covering VRV systems

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

2-way blow ceiling mounted cassette

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	Btu/h	8,500	10,900	13,600	17,000
	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	mm 305×780×600	mm 305×780×600	mm 305×995×600
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm 2×10×1.5	mm 2×10×1.5	mm 2×10×1.5	mm 2×10×1.5
	Face Area	m ² 2×0.100	m ² 2×0.100	m ² 2×0.100	m ² 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	W 15	W 15	W 20
	Air Flow Rate (H/L) Drive	m ³ /min 7/5	m ³ /min 9/6.5	m ³ /min 9/6.5	m ³ /min 12/9
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)	(mm) VP25 (External Dia. 32 Internal Dia. 25)	(mm) VP25 (External Dia. 32 Internal Dia. 25)	(mm) 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	mm 53×1,030×680	mm 53×1,030×680	mm 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.
- ★ Daikin Europe model : FXYCP-K7V1
- ★ More detailed information can be found in the Technical Data book covering VRV systems

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

2-way blow ceiling mounted cassette

Model			FXYP50KV1	FXYP63KV1	FXYP80KV1	FXYP125KV1
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	m ²	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)	m ³ /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
	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.
 - ★ Daikin Europe model : FXYP-K7V1
 - ★ More detailed information can be found in the Technical Data book covering VRV systems

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

Ceiling mounted corner cassette

Model		FXYPK25KV1	FXYPK32KV1	FXYPK40KV1	FXYPK63KV1
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: (HxWxD)		mm 215x1,110x710	mm 215x1,110x710	mm 215x1,110x710	mm 215x1,310x710
Coil (Cross Fin Coil)	RowsxStagesxFin Pitch	mm 2x11x1.75	mm 2x11x1.75	mm 2x11x1.75	mm 3x11x1.75
	Face Area	m ² 0.180	m ² 0.180	m ² 0.180	m ² 0.226
Fan	Model	V1 3D12H1AN1V1	V1 3D12H1AN1V1	V1 3D12H1AP1V1	V1 4D12H1AJ1V1
	Type	Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output x Number of Units	W 15x1	W 15x1	W 20x1	W 45x1
	Air Flow Rate (H/L)	m ³ /min 11/9	m ³ /min 11/9	m ³ /min 13/10	m ³ /min 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)	(mm) VP25 (External Dia. 32 Internal Dia. 25)	(mm) VP25 (External Dia. 32 Internal Dia. 25)	(mm) VP25 (External Dia. 32 Internal Dia. 25)
Weight	kg 31	kg 31	kg 31	kg 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: (HxWxD)	mm 70x1,240x800	mm 70x1,240x800	mm 70x1,240x800	mm 70x1,440x800
	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	kg 8.5	kg 8.5	kg 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.
- ★ More information can be found in the Technical Data book covering VRV systems

Conversion Formulae
kcal/h=kWx860
Btu/h=kWx3414
cfm=m ³ /minx35.3

Concealed ceiling unit

Model		FXYS20KV1	FXYS25KV1	FXYS32KV1
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
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.75	3×14×1.75
	Face Area	m ²	0.088	0.088
Fan	Model	V1	D18H3AA1V1	D18H3AA1V1
		VAL	D18H3AA1	D18H3AA1
	Type	Sirocco Fan		
	Motor Output × Number of Units	W	50×1	50×1
	Air Flow Rate (H/L)	m ³ /min	9/6.5	9/6.5
	★4 External Static Pressure (50/60Hz)	Pa	88-39-20	88-39-20
Drive		Direct Drive		
Temperature Regulator		Microprocessor Thermostat for Cooling and Heating		
Sound Absorbing Thermal Insulation Material		Glass Fiber		
Air Filter		Resin Net (with Mold Resistant)		
Piping Connections	Liquid Pipes	6.4mm (Flare Connection)		
	Gas Pipes	12.7mm (Flare Connection)		
	Drain Pipe	(mm)	VP25 (External Dia. 32 Internal Dia. 25)	VP25 (External Dia. 32 Internal Dia. 25)
Weight		kg		
Safety Devices		Fuse Thermal Protector for Fan Motor		
Refrigerant Control		Electronic Expansion Valve		
Suction Half Panel	Model	BYBS32DJW1		
	Panel Color	White (10Y9/0.5)		
	Dimensions: (H×W×D)	mm	55×650×500	55×650×500
	Weight	kg	3	3
Standard Accessories		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".
- ★ Daikin Europe model : FXYS20-KA7V1
- ★ More information can be found in the Technical Data book covering VRV systems

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

Concealed ceiling unit

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".
- ★ Daikin Europe model : FXYSP-KA7V1
- ★ More information can be found in the Technical Data book covering VRV systems

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

Concealed ceiling unit

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	
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.75	3×14×1.75	
	Face Area	m ²	0.338	0.338	
Fan	Model	V1	3D18H2AH1V1	3D18H2AG1V1	
	Type		Sirocco Fan	Sirocco Fan	
	Motor Output × Number of Units	W	135×1	135×1	225×1
	Air Flow Rate (H/L)	m ³ /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".
- ★ Daikin Europe model : FXYSP-KA7V1
- ★ More information can be found in the Technical Data book covering VRV systems

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

Concealed ceiling unit (Large)

Model		FXYP40KV1	FXYP50KV1	FXYP63KV1	FXYP80KV1
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	mm 390×720×690	mm 390×720×690	mm 390×1,110×690
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm 3×16×2.0	mm 3×16×2.0	mm 3×16×2.0	mm 3×16×2.0
	Face Area	m ² 0.181	m ² 0.181	m ² 0.181	m ² 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	W 100	W 160	W 270
	Air Flow Rate (H/L)	m ³ /min 14/11.5	m ³ /min 14/11.5	m ³ /min 19.5/16	m ³ /min 29/23
	★4 External Static Pressure	Pa 157-118	Pa 157-118	Pa 157/108	Pa 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.
- ★ More information can be found in the Technical Data book covering VRV systems

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

Concealed ceiling unit (Large)

Model		FXYP100KV1	FXYP125KV1	FXYP200KV1	FXYP250KV1	
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	m ²	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)	m ³ /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.
- ★ More information can be found in the Technical Data book covering VRV systems

Conversion Formulae

$$\begin{aligned} \text{kcal/h} &= \text{kW} \times 860 \\ \text{Btu/h} &= \text{kW} \times 3414 \\ \text{cfm} &= \text{m}^3/\text{min} \times 35.3 \end{aligned}$$

Concealed ceiling unit (small)

Model		FXYP20K7V1	FXYP25K7V1
Power Supply		1 phase 50Hz 230V	
★1 Cooling Capacity	kW	2.2	2.8
★2 Heating Capacity	kW	2.5	3.2
Nominal Input Cooling/Heating		W	
Dimensions: (H×W×D)		mm	
Coil (Cross Fin Coil)		mm	
Rows×Stages×Fin Pitch		2×12×1.40	
Face Area	m ²	0.108	
Fan		Model	
		V1	
		Type	
		Sirocco Fan	
Motor Output × Number of Units		W	
		10	
Air Flow Rate (H/L)		m ³ /min	6.7/5.2
Drive		Direct Drive	
Temperature Control		Microprocessor Thermostat for Cooling and Heating	
Sound Absorbing Thermal Insulation Material		-	
Air Filter		Resin Net (with Mold Resistant)	
Piping Connections		Liquid Pipes	
		6.4mm (Flare Connection)	
		Gas Pipes	
		12.7mm (Flare Connection)	
		Drain Pipe	
		VP25 (External Dia. 27.2, Internal Dia. 21.6)	
Weight		kg	17
Material		zinc coated low carbon steel	
Safety Devices		PC Board Fuse	
Refrigerant Control		Electronic Expansion Valve	

- Notes:**
- ★1 Nominal cooling capacities are based on the following conditions:
Indoor temperature : 27°C DB, 19°C WB, Outdoor temperature : 35°C DB
Equivalent ref. piping : 8m (Horizontal)
 - ★2 Nominal heating capacities are based on the following conditions:
Indoor temperature : 20°C DB, Outdoor temperature : 7°C DB, 6°C WB
Equivalent ref. piping : 8m (Horizontal)
 - ★3 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
 - ★ More information can be found in the Technical Data book covering VRV systems

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

Ceiling suspended unit

Model		FXYHP32KV1		FXYHP63KV1		FXYHP100KV1	
Power Supply		1 phase 50Hz 220-240V		1 phase 50Hz 220-240V		1 phase 50Hz 220-240V	
★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 188×1,100×600		mm 188×1,300×600		mm 238×1,300×695	
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm 2×10×1.75		mm 3×10×1.75		mm 3×12×1.75	
	Face Area	m ² 0.181		m ² 0.223		m ² 0.268	
Fan	Model	V1 3D12J1AA1VE		V1 4D12J1AA1VE		V1 3D15J1AA1VE	
	Type	Sirocco Fan		Sirocco Fan		Sirocco Fan	
	Motor Output × Number of Units	W 57		W 57		W 130	
	Air Flow Rate (H/L)	m ³ /min 13/10		m ³ /min 19/15		m ³ /min 27/21	
	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		Flame and Heat Resistant Foamed Polyethylene		Flame and Heat Resistant Foamed Polyethylene		Flame and Heat Resistant Foamed Polyethylene	
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	27		31		38	
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.
- ★ Daikin Europe model : FXYHP-K7V1
- ★ More information can be found in the Technical Data book covering VRV systems

Conversion Formulae

$$\begin{aligned} \text{kcal/h} &= \text{kW} \times 860 \\ \text{Btu/h} &= \text{kW} \times 3414 \\ \text{cfm} &= \text{m}^3/\text{min} \times 35.3 \end{aligned}$$

Wall mounted unit

Model		FXYP20KV1	FXYP25KV1	FXYP32KV1
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.
- ★ More information can be found in the Technical Data book covering VRV systems

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

Wall mounted unit

Model			FXYP40KV1	FXYP50KV1	FXYP63KV1
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.
- ★ More information can be found in the Technical Data book covering VRV systems

Conversion Formulae

$$\begin{aligned} \text{kcal/h} &= \text{kW} \times 860 \\ \text{Btu/h} &= \text{kW} \times 3414 \\ \text{cfm} &= \text{m}^3/\text{min} \times 35.3 \end{aligned}$$

Floor standing unit

Model			FXYLP20KJV1	FXYLP25KJV1	FXYLP32KJV1
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	m ²	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)	m ³ /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.
 - ★ Daikin Europe model : FXYLP-KV1
 - ★ More information can be found in the Technical Data book covering VRV systems

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

Floor standing unit

Model			FXYLP40KJV1	FXYLP50KJV1	FXYLP63KJV1
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	m ²	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)	m ³ /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 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.
- ★ Daikin Europe model : FXYLP-KV1
- ★ More information can be found in the Technical Data book covering VRV systems

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

Concealed floor standing unit

Model			FXYLMP20KJV1	FXYLMP25KJV1	FXYLMP32KJV1
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	m ²	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)	m ³ /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.
 - ★ Daikin Europe model : FXYLMP-KV1
 - ★ More information can be found in the Technical Data book covering VRV systems

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

Concealed floor standing unit

Model			FXYLMP40KJV1	FXYLMP50KJV1	FXYLMP63KJV1
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	m ²	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)	m ³ /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.
 - ★ Daikin Europe model : FXYLMP-KV1
 - ★ More information can be found in the Technical Data book covering VRV systems

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

Part 3

Function

R-407C PLUS Series

1. Outdoor Unit Refrigerant System Diagram	30
1.1 Outdoor Unit Refrigerant System Diagram.....	30
1.2 Flow of Refrigerant in Each Operating Mode	33
2. List of Safty Device and Function Parts Setting Value.....	37
2.1 Outdoor Unit.....	37
2.2 Indoor Unit.....	38
3. Outline of Control (Outdoor Unit)	41
3.1 Compressor PI Control.....	41
3.2 Motorized Valve PI Control.....	42
3.3 Defrost Control	43
3.4 Low Outside Temperature Cooling Control	45
3.5 Compressor Capacity Control	47
3.6 Demand Control	49
3.7 Restart Standby.....	50
3.8 Startup Control	51
3.9 Oil Equalization Operation.....	52
3.10 Oil Return Operation.....	53
3.11 Low Pressure Protection Control.....	56
3.12 High Pressure Protection Control.....	57
3.13 Discharge Pipe Temperature Control.....	59
3.14 Inverter Protection Control.....	61
3.15 Crankcase Heater Control.....	62
3.16 Gas Shortage Warning	63
3.17 Heating Pump-Down Residual Operation.....	64
3.18 Backup Operation.....	65
3.19 Fan Location and Fan Tap	66
4. Outline of Control (Indoor Unit)	67
4.1 Drain Pump Control.....	67
4.2 Louver Control for Preventing Ceiling Dirt.....	69
4.3 Thermostat Sensor in Remote Controller.....	70
4.4 Freeze Prevention	72

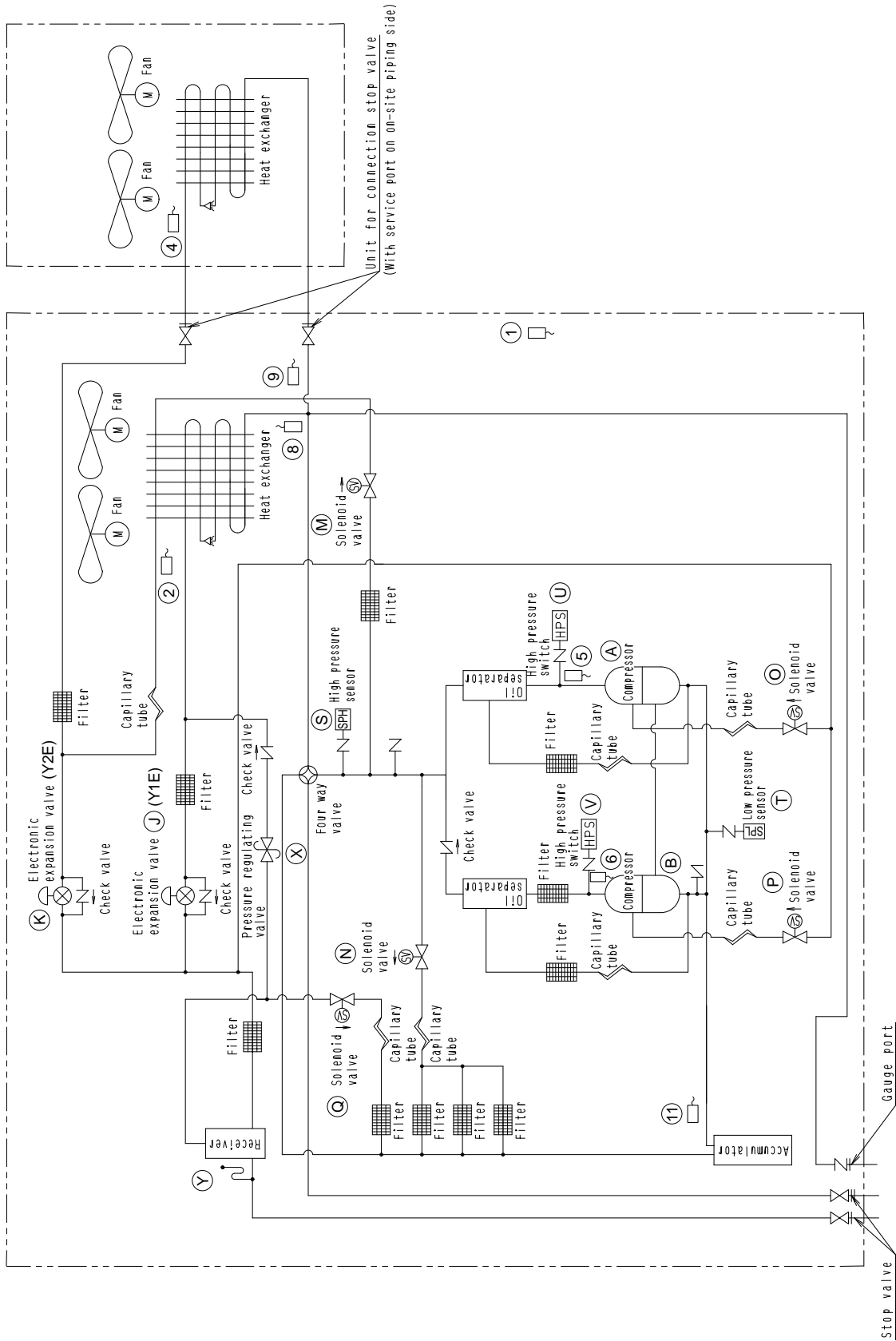
1. Outdoor Unit Refrigerant System Diagram

1.1 Outdoor Unit Refrigerant System Diagram

RSXYP16~30KJY1

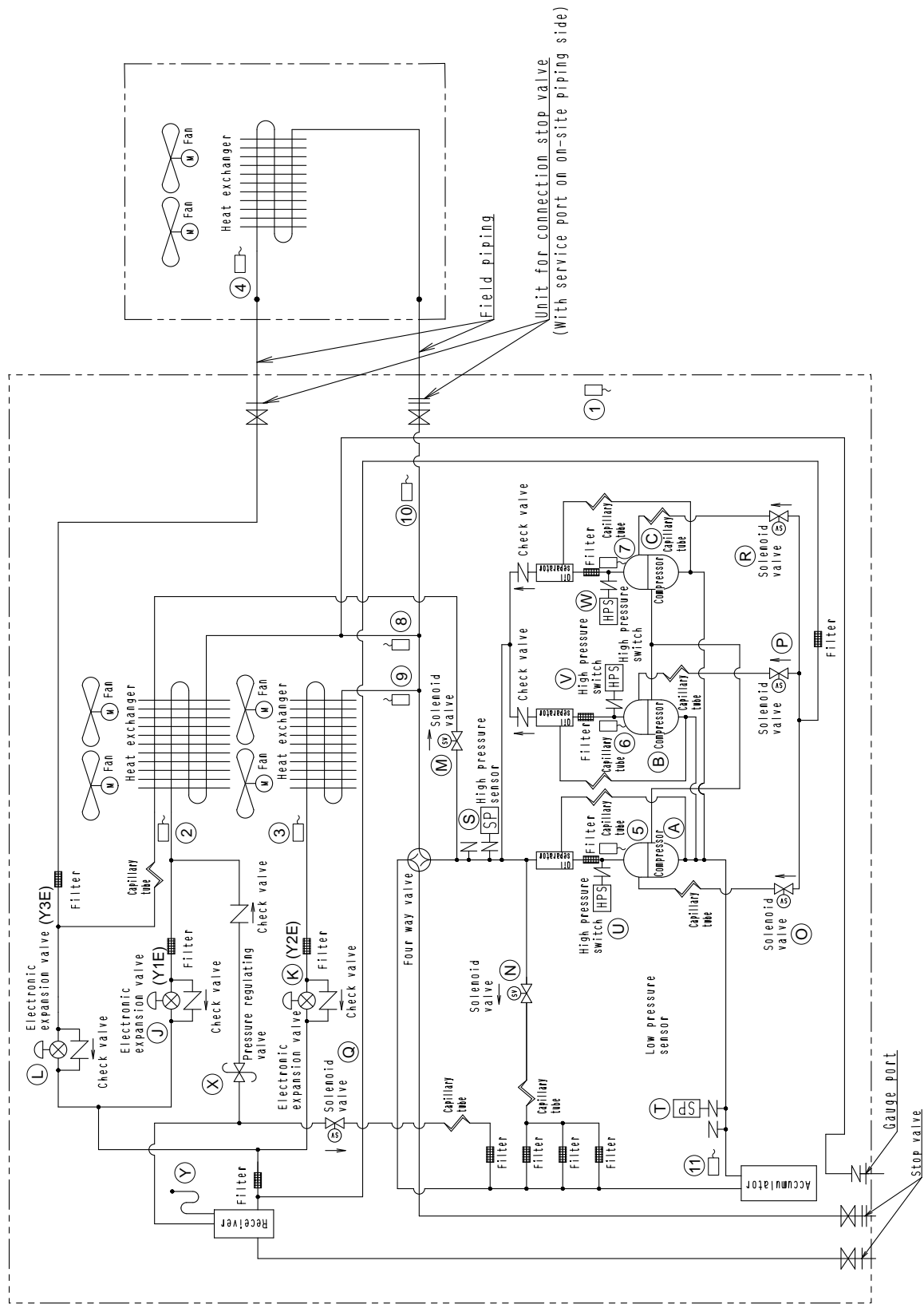
No.	Name	Code	Function	Remarks
A	Inverter compressor	M1C	Combination of a compressor (inverter compressor) capable of operating at 29-79 Hz with inverter drive and compressors (constant-speed compressors) operable only on commercial power supply achieves 45-step control (38 steps in RSXYP16-20).	
B	Constant-speed compressor 1	M2C		(RSXYP24-30 only)
C	Constant-speed compressor 2	M3C		
J	Electronic expansion valve	Y1E	(For master unit heat exchangers) Provides PI control during heating operation to maintain constant superheated degree (SH).	(Master unit's left side exchanger in case of RSXYP24-30KJY1)
K	Electronic expansion valve	Y2E	(For sub unit heat exchangers) Provides PI control during heating operation to maintain constant superheated degree (SH).	(Master unit's right side heat exchanger in case of RSXYP24-30KJY1)
L	Electronic expansion valve	Y3E	(For sub unit's heat exchanger) Provides PI control during heating operation to maintain constant superheated degree (SH).	(RSXYP24-30 only)
M	Solenoid valve	Y1S	(For auxiliary condensers)	
N	Solenoid valve	Y2S	(For hot gas bypass and pressure equalization) Bypasses hot gas during transitional operation such as defrosting operation to prevent sudden decrease of low pressure. Also equalizes pressure to reduce startup load.	
O	Solenoid valve	Y3S	(For inverter unit liquid injection) Provides liquid injection to prevent overheating operation.	
P	Solenoid valve	Y4S	(For constant-speed unit liquid injection) Provides liquid injection to prevent overheating operation.	
Q	Solenoid valve	Y5S	(For receivers)	
R	Solenoid valve	Y6S	(For constant-speed unit liquid injection) Provides liquid injection to prevent overheating operation.	(RSXYP24-30 only)
S	High pressure sensor	SENP	Heating operation: Provides PI control for compressors by detecting high pressure. Cooling operation: Controls compressors to ensure sufficient high pressure when outside temperature is low.	
T	Low pressure sensor	SENP	Cooling operation: Provides PI control for compressors by detecting low pressure. Heating operation: Controls motorized valves to maintain constant evaporator superheated degree.	
U	High pressure switch	S1PH	Opens at set pressure of 3.09 MPa to stop operation.	
V	High pressure switch	S2PH		
W	High pressure switch	S3PH		(RSXYP24-30 only)
X	Pressure regulating valve		Pressure relief valve to protect liquid sealing in receiver piping during transportation or storing. It opens at 2.65 MPa.	
Y	Fusible plug		Plug head melt at 70~75°C around receiver and high pressure and high temperature refrigerant is relieved.	
1	Outside air thermistor	R1T	Detects outside temperature and uses it as a function in determining defrost IN conditions during heating operation.	
2	Heat exchanger thermistor 1	R2-1(11)T	Uses inlet temperature of each heat exchanger as a function (together with outside temperature data) in determining defrost IN conditions during heating operation.	
3	Heat exchanger thermistor 2	R2-12T		(RSXYP24-30 only)
4	Heat exchanger thermistor 3	R2-2T		
5	Discharge pipe thermistor 1	R3-1(11)T	Detects discharge pipe temperature of inverter compressor and use it for compressor discharge pipe temperature protection.	
6	Discharge pipe thermistor 2	R3-2(12)T	Detects discharge pipe temperature of constant-speed compressor 1 and use it for compressor discharge pipe temperature protection.	
7	Discharge pipe thermistor 3	R3-13T	Detects discharge pipe temperature of constant-speed compressor 2 and use it for compressor discharge pipe temperature protection.	(RSXYP24-30 only)
8	Header thermistor 1	R4-1(11)T	Detects outlet temperatures of heat exchangers and uses it in constant superheated degree (SH) control (electronic expansion valve control)	
9	Header thermistor 2	R4-2(12)T		
10	Header thermistor 3	R4-13T		(RSXYP24-30 only)
11	Suction pipe thermistor	R6-1T	Detect accumulator outlet temperature and protect compressor.	

RSXYP16, 18, 20KJY1



3D024909

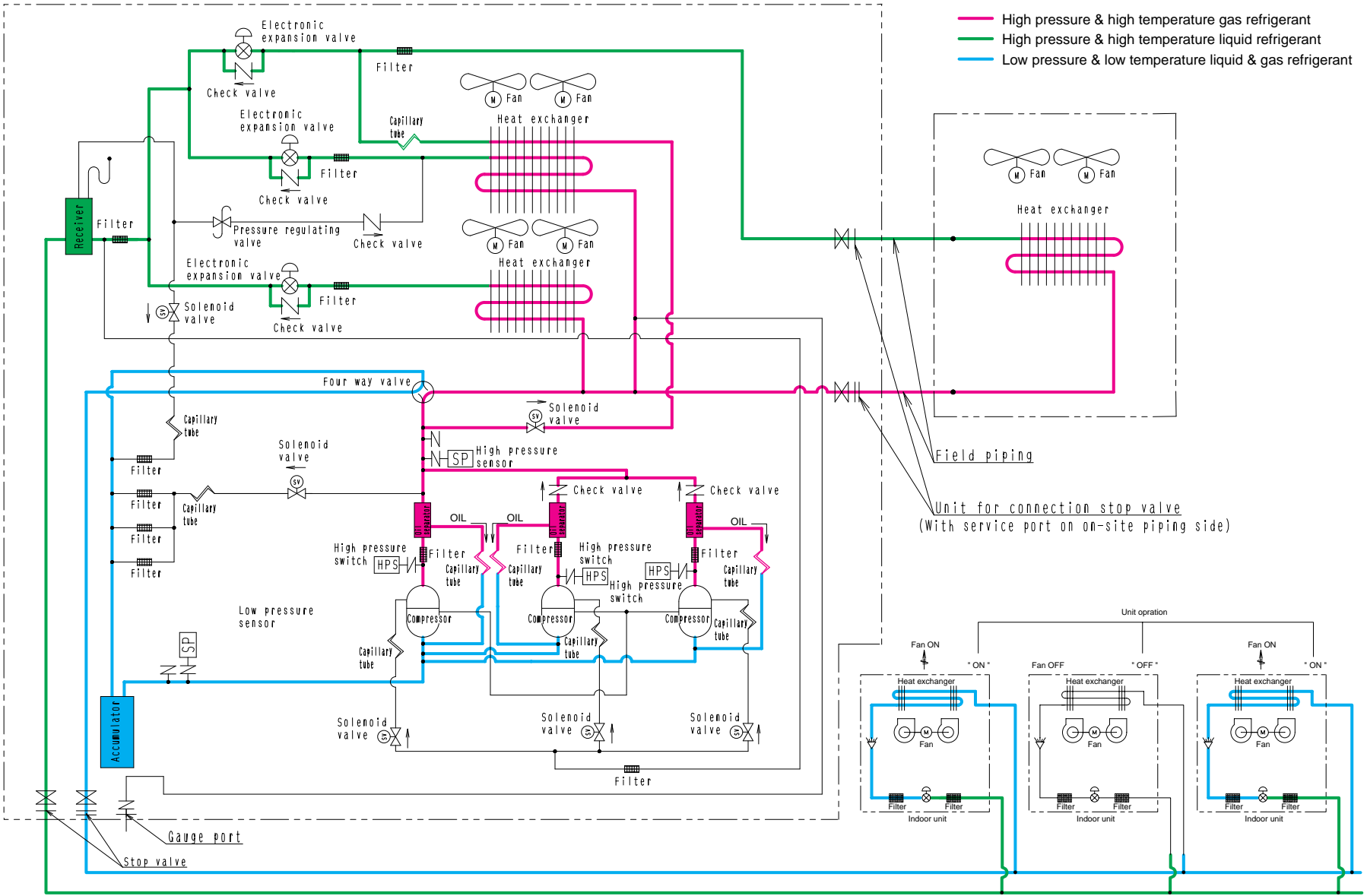
RSXYP24, 26, 28, 30KJY1



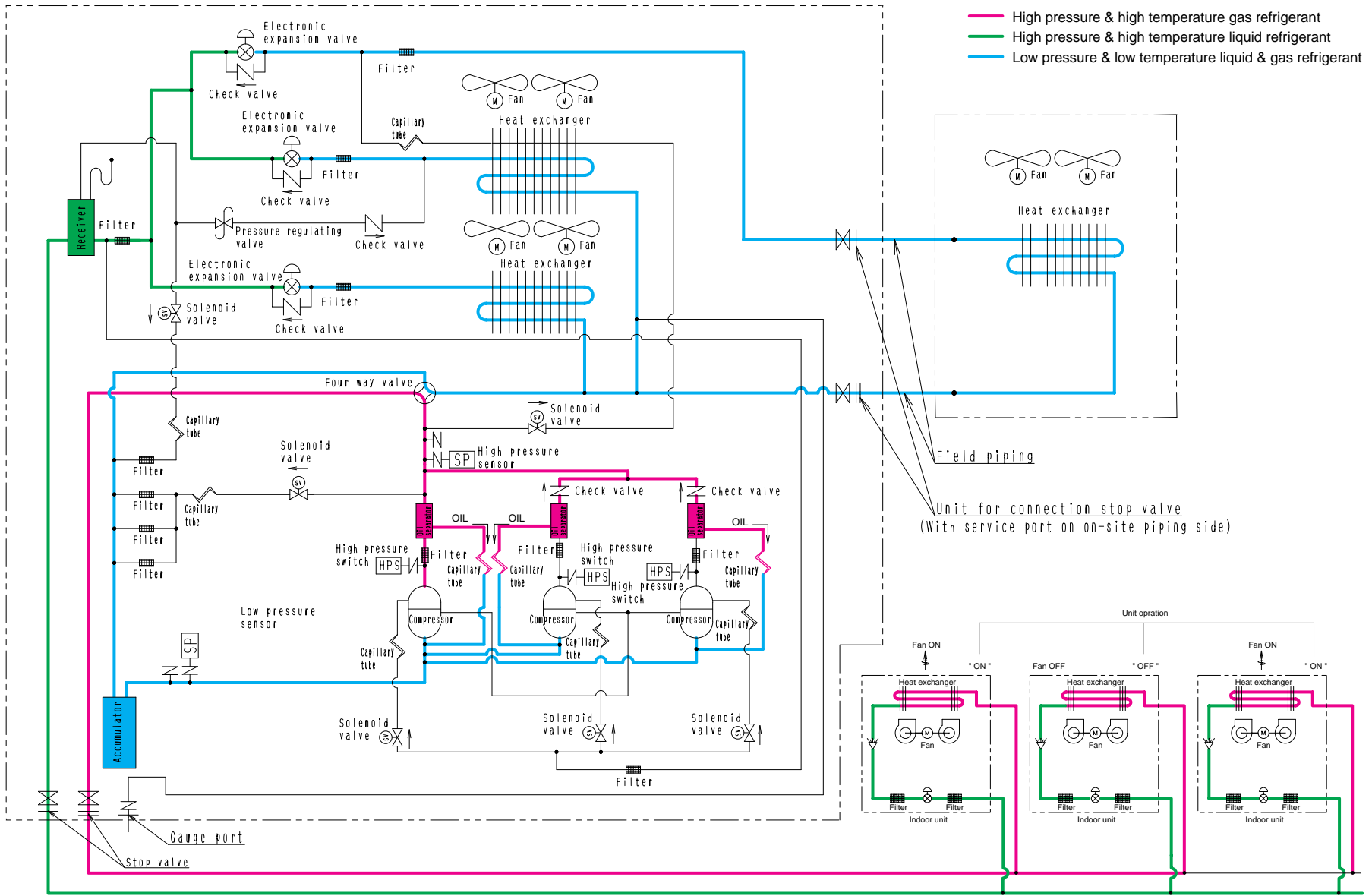
3D024910

1.2 Flow of Refrigerant in Each Operating Mode

1.2.1 Cooling Operation

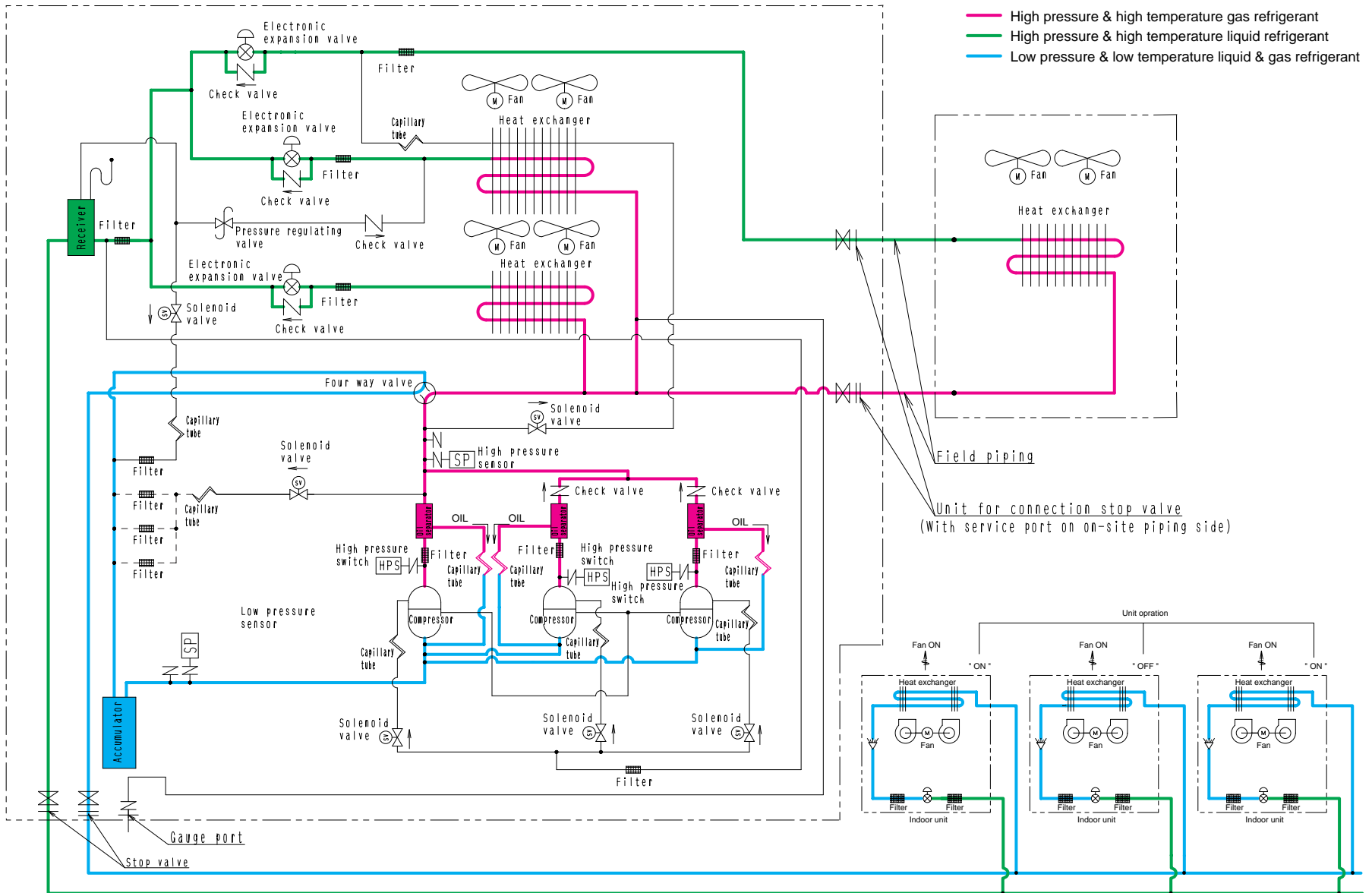


(V0910)



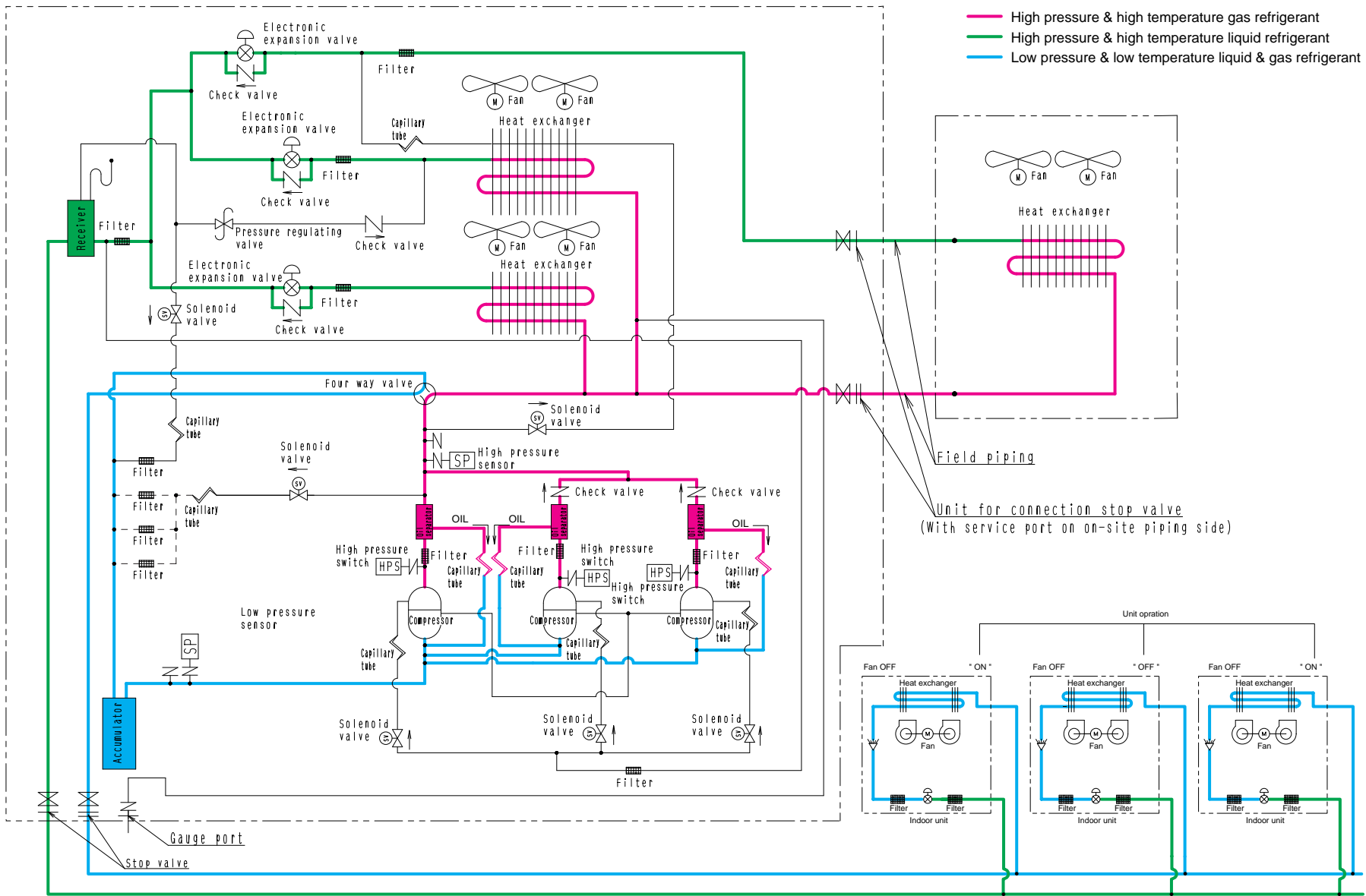
(V0911)

1.2.2 Heating Operation



(V0912)

1.2.3 Oil Return Operation (Cooling)



- High pressure & high temperature gas refrigerant
- High pressure & high temperature liquid refrigerant
- Low pressure & low temperature liquid & gas refrigerant

1.2.4 Oil Return Operation (Heating)

(V0913)

2. List of Safty Device and Function Parts Setting Value

2.1 Outdoor Unit

Item	Name	Symbol	Model						
			RSXYP 16KJY1	RSXYP 18KJY1	RSXYP 20KJY1	RSXYP 24KJY1	RSXYP 26KJY1	RSXYP 28KJY1	RSXYP 30KJY1
Compressor	Inverter Compressor	M1C	JT236DAVTYE@2						
	STD Compressor 1	M2C	JT212DATYE@2		JT265 DATYE @2	JT236DATYE@2		J265 DATYE @2	JT300 DATYE @2
	STD Compressor 2	M3C	—	—	—	JT236DATYE@2		JT265 DATYE @2	JT300 DATYE @2
	Magnetic Relay (Inverter)	K1M	CLK-35J-P6						
	(STD)	K2M	HOE-26F- TRA1B 2	HOE-35F-TRA1B		HOE-26F-TRA1B		HOE-35F-TRA1D	
			18A	20A		18A		22A	
	(STD)	K3M	—	—	—	CLK-50JT-P12			
Crankcase Heater	J1~3HC	50W×2	50W×2	50W×2	50W×3	50W×3	50W×3	50W×3	
Fan Motor	Fan Motor (Setting temperature of temperature switch)	M1F	140W 120±5°C						
		M2F	230W 135±5°C						
		M3F	140W 125±5°C						
		M4F	230W 135±5°C						
		M11F	—	—	—	140W 120±5°C			
		M12F	—	—	—	230W 135±5°C			
		M21F	—	—	—	140W 120±5°C			
		M22F	—	—	—	230W 135±5°C			
Functional Parts	Electronic Expansion Valve	Y1-2E	During cooling operating : 2000pls, Stop : 0pls (Fully closed) During heating operating : PI control, Stop : 0pls (Fully closed)						
		Y3E	—	—	—	During cooling operating : 2000pls, Stop : 0pls (Fully colsed) During cooling operating : PI control, Stop : 0pls (Fully colsed)			
	Solenoid Valve	Y1S	(for Auxilialy condenser) NEV202DXF						
		Y2S	(for Hot gas) NEV603DXF						
		Y3S	(for Injection M1C) NEV202DXF						
		Y4S	(for Injection M2C) NEV202DXF						
		Y5S	(for receiver M2C) NEV202DXF						
4 Way Valve	Y6S	—	—	—	(for Injection M3C) NEV202DXF				
Pressure	Pressure Sensor	SENPH	PS8040A (0~3.33MPa)						
		SENPL	PS8040A (0~0.96MPa)						
	Pressure Switch	S1-2PH	20PS-1016 OFF : 3.09 ⁺⁰ _{-0.1} MPa ON : 2.16±0.1MPa						
		S3PH	—	—	—	20PS-1016 OFF : 3.09 ⁺⁰ _{-0.1} MPa ON : 2.16±0.1MPa			
Pressure Regulating Valve		Open at 2.65MPa							
Thermistors	Thermistor (Ambent temp.)	R1T	3.5~360kΩ (20kΩ at 25°C)						
	Thermistor (Coil)	R2T	3.5~360kΩ (20kΩ at 25°C)						
	Thermistor (Discharge)	R3T	3.5~400kΩ (20kΩ at 25°C)						
	Thermistor (header)	R4T	3.5~360kΩ (20kΩ at 25°C)						
	Thermistor (Suction pipe)	R6T	3.5~360kΩ (20kΩ at 25°C)						
Fuses	Fuse (A1P)	F1U-2U	AC250V, 10A						
	Fuse (A3P)	F1U	AC250V, 10A						
	Fuse (A4P)	F1U	—	—	—	AC250V, 10A			
	Fuse (Z1F)	F1U-2U	AC250V, 5A						
	Fusible Plug		Plug head melt at 70~75°C						

2.2 Indoor Unit

Parts Name		Symbol	Model						Remark
			FXYFP 32KV1(VE)	FXYFP 40KV1(VE)	FXYFP 50KV1(VE)	FXYFP 63KV1(VE)	FXYFP 80KV1(VE)	FXYFP 100KV1(VE)	
Remote Controller	Wired Remote Controller		BRC1A51						Option
	Wireless Remote Controller		BRC7C512W-513W						Option
Motors	Fan Motor	M1F	AC 220~240V 45W 6P			AC 230V 90W 6P			
	Motor for Drain Pump	M1P	AC220-240V (50Hz) AC220V (60Hz) Thermal protector 130°C : OFF 80°C : ON						
	Swing Motor	M1S	MP35HCA[3P007482-1] Stepping Motor DC16V						
Thermistors	Thermistor (Suction Air)	R1T	ST8601-1 φ4 L250 20kΩ (25°C)						
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-4 φ8 L800 20kΩ (25°C)						
	Thermistor (Heat Exchanger)	R2T	ST8602-4 φ6 L800 20kΩ (25°C)						
Others	Float Switch	33H	FS-0211						
	Fuse	F1U	250V 5A φ5.2						
	Thermal Fuse	TFu	109°C 10A						
	Transformer	T1R	TR22M21R8						

Parts Name		Symbol	Model						Remark
			FXYCP 20KV1	FXYCP 25KV1	FXYCP 32KV1	FXYCP 40KV1	FXYCP 50KV1	FXYCP 63KV1	
Remote Controller	Wired Remote Controller		BRC1A51						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		BRC1A51				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		BRC1A52									Option
Motors	Fan Motor	M1F	AC 220~240V 50Hz									
			1φ50W			1φ65W	1φ85W	1φ125W	1φ135W		1φ225W	
	Motor for Drain Pump	M1P	Thermal Fuse 152°C						Thermal protector 135°C : OFF 87°C : ON			
Thermistors	Thermistor (Suction Air)	R1T	AC220-240V (50Hz) Thermal Fuse 169°C									
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8601-4 φ4 L800 20kΩ (25°C)									
	Thermistor (Heat Exchanger)	R2T	ST8605-7 φ8 L1600 20kΩ (25°C)									
Others	Float Switch	33H	ST8602-6 φ6 L1250 20kΩ (25°C)									
	Fuse	F1U	FS-0211									
	Thermal Fuse	TFu	250V 10A φ5.2									
	Transformer	T1R	109°C 10A									
			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		BRC1A52								Option	
Motors	Fan Motor	M1F	AC 220~240V 50Hz									
			1φ100W		1φ160W	1φ270W		1φ430W	1φ380W*2			
	Capacitor for Fan Motor	C1R	Thermal protector 135°C : OFF 87°C : ON									
Thermistors	Thermistor (Suction Air)	R1T	6μ F-400V				10μ F-400V			10μ F-400V	12μ F-400V	
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8601-5 φ4 L1000 20kΩ (25°C)								ST8601-13 φ4 L630	
	Thermistor (Heat Exchanger)	R2T	ST8605-5 φ8 L1000 20kΩ (25°C)								ST8605-5 φ8 L1000	
Others	Fuse	F1U	ST8602-5 φ6 L1000 20kΩ (25°C)				ST8602A-6 φ6 L1250					
	Transformer	T1R	250V 10A φ5.2				250V 10A					
			TR22M21R8				TR22M21R8					

Parts Name		Symbol	Model			Remark
			FXYHP 32KV1	FXYHP 63KV1	FXYHP 100KV1	
Remote Controller	Wired Remote Controller		BRC1A51			Option
	Wireless Controller		BRC7C63W-68W			
Motors	Fan Motor	M1F	AC 220~240V 50Hz			
			1φ57W		1φ130W	
	Capacitor for Fan Motor	C1R	Thermal protector 130°C : OFF 80°C : ON			
Thermistors	Swing Motor	M1S	4μF-400V			6μF-400V
	Thermistor (Suction Air)	R1T	MT8-L[3PA07530-1] AC200~240V			
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8601-11 φ4 L250 20kΩ (25°C)		ST8605-8 φ8 L2000 20kΩ (25°C)	
Others	Thermistor (Heat Exchanger)	R2T	ST8605-7 φ8 L1600 20kΩ (25°C)		ST8602A-7 φ6 L1600 20kΩ (25°C)	ST8602-8 φ6 L2000 20kΩ (25°C)
	Fuse	F1U	250V 5A φ5.2			
	Transformer	T1R	TR22M21R8			

Parts Name		Symbol	Model						Remark
			FXYAP 20KV1	FXYAP 25KV1	FXYAP 32KV1	FXYAP 40KV1	FXYAP 50KV1	FXYAP 63KV1	
Remote Controller	Wired Remote Controller		BRC1A51						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		BRC1A52						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		BRC1A52						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						

3. Outline of Control (Outdoor Unit)

3.1 Compressor PI Control

Controls the compressor to maintain T_e at constant during cooling operation and T_c at constant during heating operation to ensure stable compressor performance.

[Cooling operation]

Controls compressor capacity to adjust T_e to achieve target value (T_eS).

T_e setting

L	M (factory setting)	H
4.5	7.5	10.5

T_e : Low pressure equivalent saturation temperature ($^{\circ}C$)

T_eS : Target T_e value

(Varies depending on T_e setting, operating frequency, etc.)

[Heating operation]

Controls compressor capacity to adjust T_c to achieve target value (T_cS)

T_c setting

L	M (factory setting)	H
45	48	51

T_c : High pressure equivalent saturation temperature ($^{\circ}C$)

T_cS : Target T_c value

(Varies depending on T_c setting, operating frequency, etc.)

3.2 Motorized Valve PI Control

Controls the motorized valves (EV1, EV2, EV3) to maintain the outlet superheated degree (SH) of the outdoor heat exchanger (evaporator) at constant during heating operation.

$$SH = Th6 - Te$$

Te: Low pressure equivalent saturation temperature (°C)

Th6: Accumulator outlet temperature (°C)

Superheated degree target value (SHS)

- Initial value at the start of motorized valve control: SHS = 5 °C
 - When $Th6 - Te < 5$: SHS (new) = SHS (current) + 1
However, when $Th6 - Te < 5$ and $DSHi < 30$: SHS = 7 °C (fixed)
 - When $Th6 - Te > 10$: SHS (new) = SHS (current) - 1
- DSHi: Inverter discharge pipe superheat

3.3 Defrost Control

Activates the defrosting operation to melt frost accumulated on the outdoor heat exchanger during heating operation.

[Defrost start conditions]

When the following conditions are met during heating operation, the defrosting operation is activated.

OR	&	When cumulative compressor operating time from power On or completion of previous defrosting operation exceeds 20 minutes
		When condition $(T_b \leq B \times T_a - A)$ remains for 5 minutes ($-25 \leq T_b \leq -10$) (Value of A based on the following table. When $T_a \geq 7$, $T_a = 7^\circ\text{C}$ is used in calculation)
		When forced defrost setting (local setting) is turned on and $T_b < 12.5^\circ\text{C}$

T_b : Distributor pipe temperature ($^\circ\text{C}$) at heat exchanger outlet (in cooling operation)

T_a : Outside temperature ($^\circ\text{C}$)

Defrost setting	Defrost change setting				B
	L	M	H		
Field set (mode 2) M=factory set	A=12	A=14	A=16	Outside air $T_a > 0^\circ\text{C}$	0.6
				Outside air $T_a \leq 0^\circ\text{C}$	0.8

When the above conditions are met, the following "defrosting operation preparation" operation is conducted for 2 minutes, then the defrosting operation is activated.

1. Outputs "oil return, defrost preparation" signal to indoor units.
2. Turns on the liquid injection solenoid valve (Y3S, Y4S, Y6S) based on T_d or DSH.

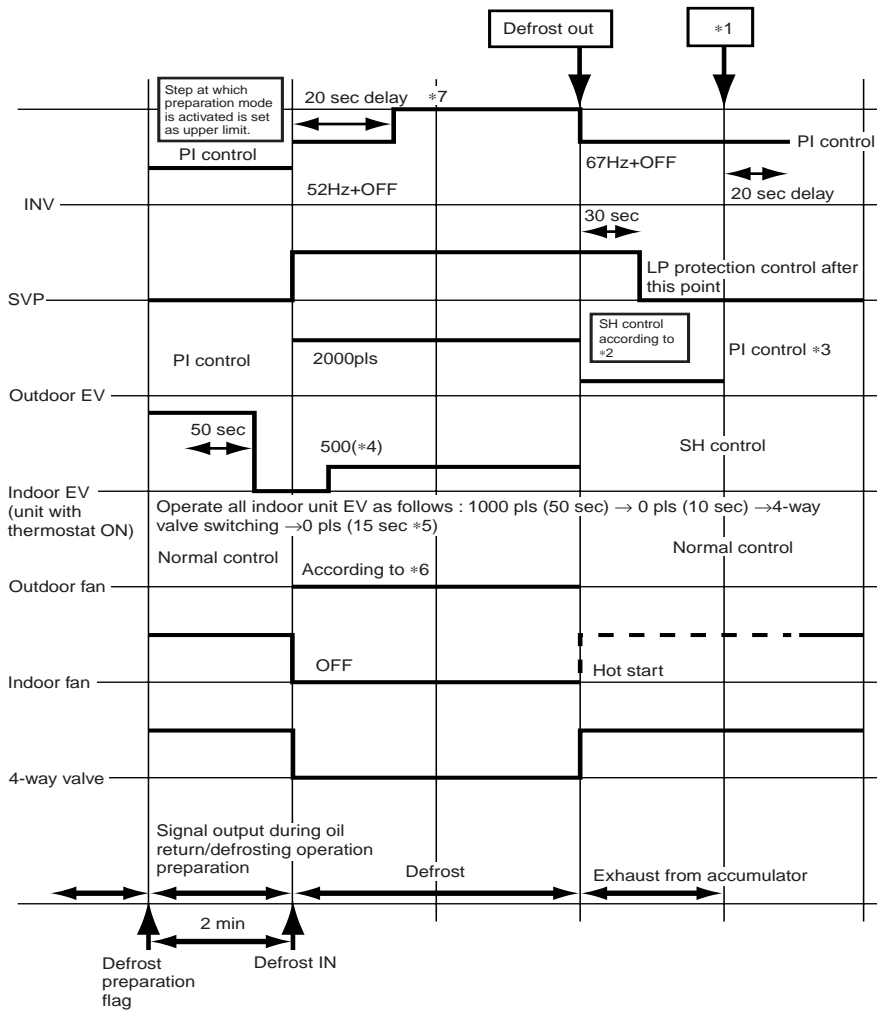
T_d : Discharge pipe temperature

DSH : Discharge super heat temp.

*Liquid injection : Refer to page 61 and 62.

[Defrosting operation]

The defrosting operation provides the following control functions.



*1 Accumulator discharge operation ending conditions

OR

- 1 minute or more after completion of defrosting operation
- DSHi>30
- Th6 - Te>10
- LP<0.1MPa

Elapsed time of 10 minutes

*2 SH control by outdoor unit EV
PI control activated when SHS = 10 (initial opening degree: 200 pls)
In the case of an LP retry, the next PI control is provided at SHS = 5.
When condition *1 is met, the next startup condition is reset to SHS = 10.)

*3 When returning to normal outdoor EV control, the PI control is provided at that opening degree.

*4 Opening degree of indoor unit EV during defrosting operation

- Initial value: 500
- Next indoor unit EV opening degree (200-2000) is determined based on (Th6 - Te < 15) appearing time in previous defrosting operation
- 0 minute → +100
- Less than 3 minutes → +0
- 3 minutes or more → -100

*5 0 pls maintained after elapsed time of 15 seconds until LP < 0.2 MPa

*6 Opens receiver solenoid valve for 60 seconds at 1 minute after the preparation mode is activated. However, the valve is closed when Th6 - Te < 0.

*7
RXYP8KJ 52Hz + ON
RXYP10KJ 71Hz + ON
RXYP16,20KJ 52Hz + ON + ON

(V0807)

[Defrosting operation ending conditions]

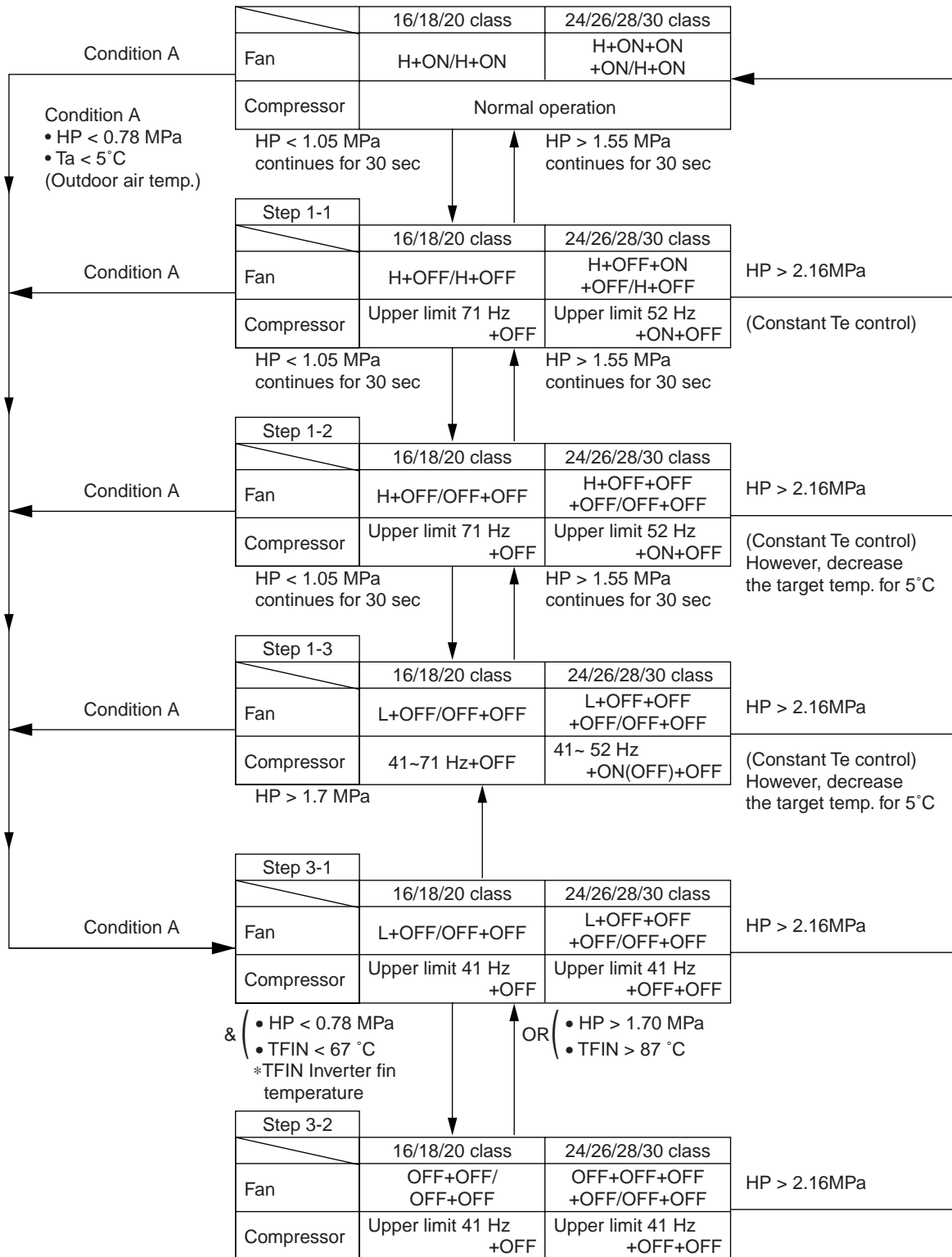
When the following conditions are met, the defrosting operation ends.

OR	When distribution pipe temperatures at all heat exchanger outlets (during cooling operation) are as follows: Tb > 12.5°C
	When defrosting operation is conducted for 10 minutes

However, when the compressor stops during a defrosting operation, if condition (Tb > 12.5°C) is not met at the next compressor startup, the defrosting operation starts and a 10-minute counter is activated when the software startup is completed.

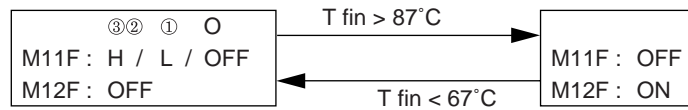
3.4 Low Outside Temperature Cooling Control

Controls the outdoor unit fans and compressors to prevent refrigerant circulation from decreasing due to lowering of high pressure and to maintain high pressure when the outside temperature is low during cooling operation.



(V0819)

- When condition ($T_{h6} - T_e < 5$) remains for 3 continuous minutes in steps higher than step 1-2, EVs of all indoor units in thermostat-OFF status are set to 200 pls. This is canceled when $T_{h6} - T_e > 15$. (for prevention of wet operation in cooling operation when outside temperature is low)
 $T_{h6} - T_e$: Suction pipe temperature – Evaporation temperature
- From 24 HP model or higher, the fan (M12F) on the inverter box side stops if operating at fan tap (3) or lower. Therefore, T_{fin} switches M11F OFF and M12F ON.



(V0820)

- In this control, the compressor load increase based on PI calculation is conducted once every 2 minutes. The load decrease operation is conducted once every 20 minutes.
- * T_{fin} : Inverter fin temperature.

3.5 Compressor Capacity Control

3.5.1 INV Compressor Operating Frequency

The operating frequency changes in the following steps.

■ RSXYP16K-20K

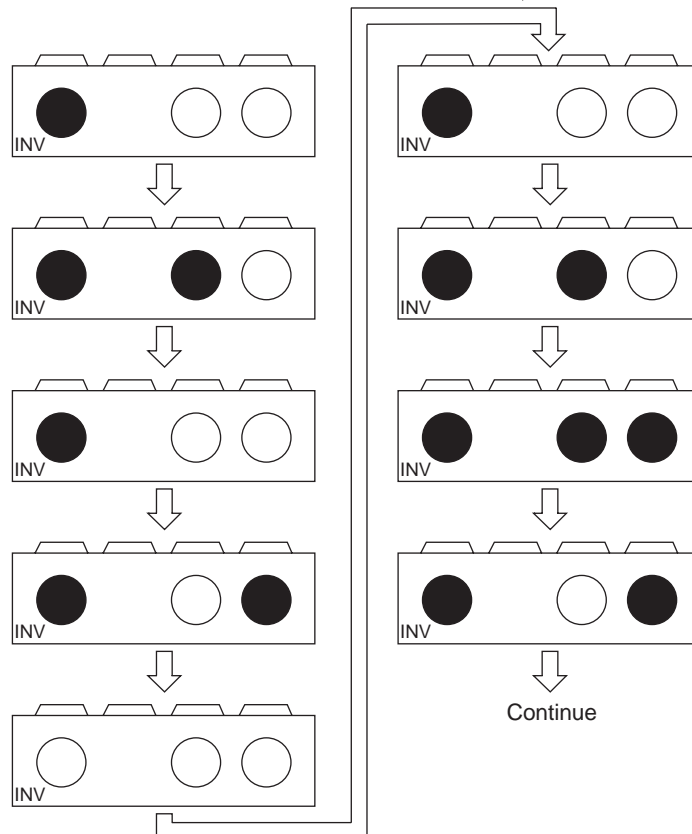
NO.	Frequency	
	INV	STD
1	29Hz	OFF
2	31Hz	OFF
3	33Hz	OFF
4	35Hz	OFF
5	37Hz	OFF
6	39Hz	OFF
7	41Hz	OFF
8	43Hz	OFF
9	46Hz	OFF
10	48Hz	OFF
11	52Hz	OFF
12	55Hz	OFF
13	58Hz	OFF
14	62Hz	OFF
15	64Hz	OFF
16	67Hz	OFF
17	71Hz	OFF
18	75Hz	OFF
19	37Hz	ON
20	41Hz	ON
21	46Hz	ON
22	52Hz	ON
23	58Hz	ON
24	64Hz	ON
25	71Hz	ON
26	79Hz	ON

■ RSXYP24K-30K

NO.	Frequency		
	INV	STD1	STD2
1	29Hz	OFF	OFF
2	31Hz	OFF	OFF
3	33Hz	OFF	OFF
4	35Hz	OFF	OFF
5	37Hz	OFF	OFF
6	39Hz	OFF	OFF
7	41Hz	OFF	OFF
8	43Hz	OFF	OFF
9	46Hz	OFF	OFF
10	48Hz	OFF	OFF
11	52Hz	OFF	OFF
12	55Hz	OFF	OFF
13	58Hz	OFF	OFF
14	62Hz	OFF	OFF
15	64Hz	OFF	OFF
16	67Hz	OFF	OFF
17	71Hz	OFF	OFF
18	75Hz	OFF	OFF
19	37Hz	ON	OFF
20	41Hz	ON	OFF
21	46Hz	ON	OFF
22	52Hz	ON	OFF
23	58Hz	ON	OFF
24	64Hz	ON	OFF
25	71Hz	ON	OFF
26	41Hz	ON	ON
27	52Hz	ON	ON
28	64Hz	ON	ON
29	79Hz	ON	ON

3.5.2 Compressor Sequence Operation

Regarding operation of STD compressors in 3 compressor system, STD1 and STD2 are switched under following condition.



(V0914)

3.5.3 STD Compressor Operation

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

[When STD compressor is turned on]

- When a STD compressor changes from OFF to ON due to the compressor PI control or others, 41 Hz + ON (+ON) is fixed for 30 seconds.
- Regarding the above operation timing, the inverter compressor is set to the above frequency (41 Hz) first, then the STD compressor is started.
(Operation starts when frequency matching signal from inverter is received.)
- The STD compressor does not start for 3 seconds if the STD compressor of another outdoor units starts.

[When STD compressor is turned off]

- The frequency of the inverter compressor changes after the STD compressor stops operation.

3.6 Demand Control

Forcibly reduces the outdoor unit capacity based on an external contact input (demand input) to decrease power consumption. The following three types of demand control are provided.

	Compressor upper-limit frequency	Capacity reduction guideline
Demand control 1	A	Reduces power consumption to approx. 70%
Demand control 2	B	Reduces power consumption to approx. 40%
Demand control 3	All compressors in stop mode	Forced thermostat OFF

Model	Upper-limit frequency (A)		
	INV	STD1	STD2
RSXYP16KJ	46Hz	+ON	—
RSXYP18KJ	52Hz	+ON	—
RSXYP20KJ	52Hz	+ON	—
RSXYP24KJ	71Hz	+ON	+OFF
RSXYP26KJ	71Hz	+ON	+OFF
RSXYP28KJ	71Hz	+ON	+OFF
RSXYP30KJ	71Hz	+ON	+OFF

Model	Upper-limit frequency(B)		
	INV	STD1	STD2
RSXYP16KJ	52Hz	+OFF	—
RSXYP18KJ	62Hz	+OFF	—
RSXYP20KJ	62Hz	+OFF	—
RSXYP24KJ	75Hz	+OFF	+OFF
RSXYP26KJ	75Hz	+OFF	+OFF
RSXYP28KJ	75Hz	+OFF	+OFF
RSXYP30KJ	75Hz	+OFF	+OFF

■ Other protection control functions have precedence over the above operations.

* Optional PCB is required for this control. (DTA104A61, 62)

3.7 Restart Standby

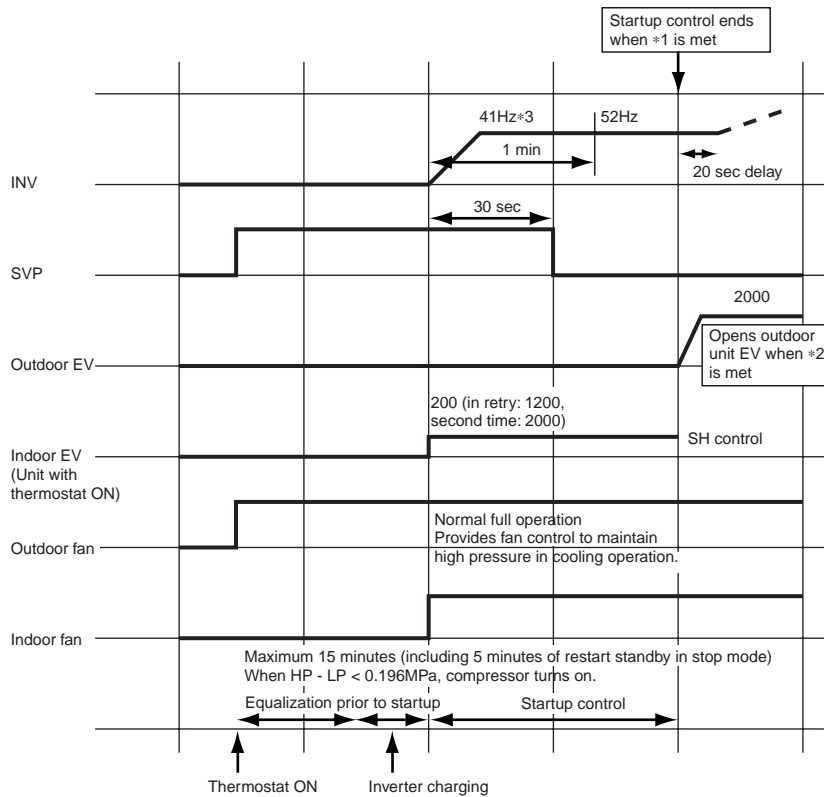
Prevents compressor startup for a certain period of time once compressors stop operating, in order to prevent frequent ON/OFF operations of compressors.

When all compressors (inverter compressor and STD compressors) stop operating, the thermostats remain in forced OFF condition for 5 minutes.

3.8 Startup Control

Fixes the frequency at a low level for a certain period of time during compressor startup to prevent liquid return.

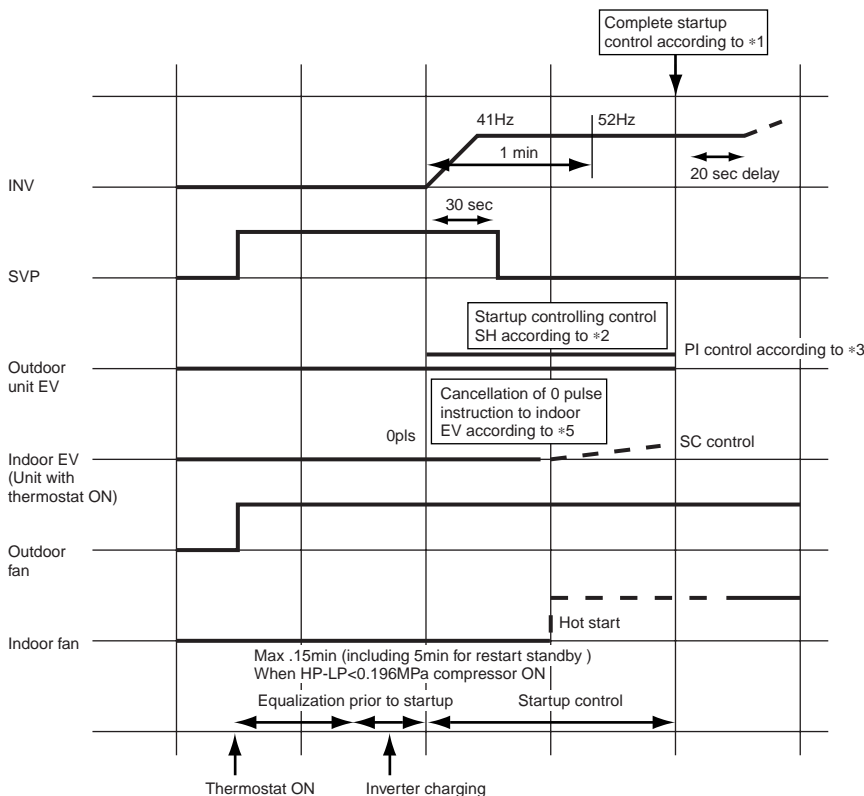
[Startup control in cooling operation]



- *1 Startup control ending conditions
 - OR
 - DSHi>30
 - Th6 - Te>10
 - Elapsed time of 15 minutes
 - LP<0.098MPa
- *2 Outdoor unit EV full-open conditions
 - &
 - OR
 - Tc>Ta+10
 - Elapsed time of 10 minutes
 - Tcg>55deg
 - When condition *1 is met
- *3 Operates at 52 Hz after operating at 41 Hz for 1 minute. (until PI control is activated in *1)

(V0808)

[Startup control in heating mode]



- *1 Startup control ending conditions
 - OR
 - Elapsed time of 1 minute
 - OR
 - DSHi>30
 - Th6 - Te>10
 - LP<0.098MPa
 - Elapsed time of 15 minutes (local setting of 10 minutes) (30 minutes in power ON)
- *2 SH control by outdoor unit EV
PI control activated at SHS=10 (initial opening degree: 200 ppls)
In the case of an LP retry, the next PI control is provided at SHS=5.
When condition *1 is met, the next startup condition is reset to SHS=10.)
- *3 When returning to normal outdoor EV control, the PI control is provided at that opening degree.
- *5 Indoor unit EV 0 ppls instruction cancellation conditions
 - OR
 - HP>1.47MPa
 - When condition *1 is met
- *6 Defrost judgment is not conducted during this control.

(V0809)

3.9 Oil Equalization Operation

Conducts oil equalization operation at certain time intervals to prevent insufficient oil supply due to uneven oil distribution when two or three compressors are connected in parallel.

[For 16~20HP model units]

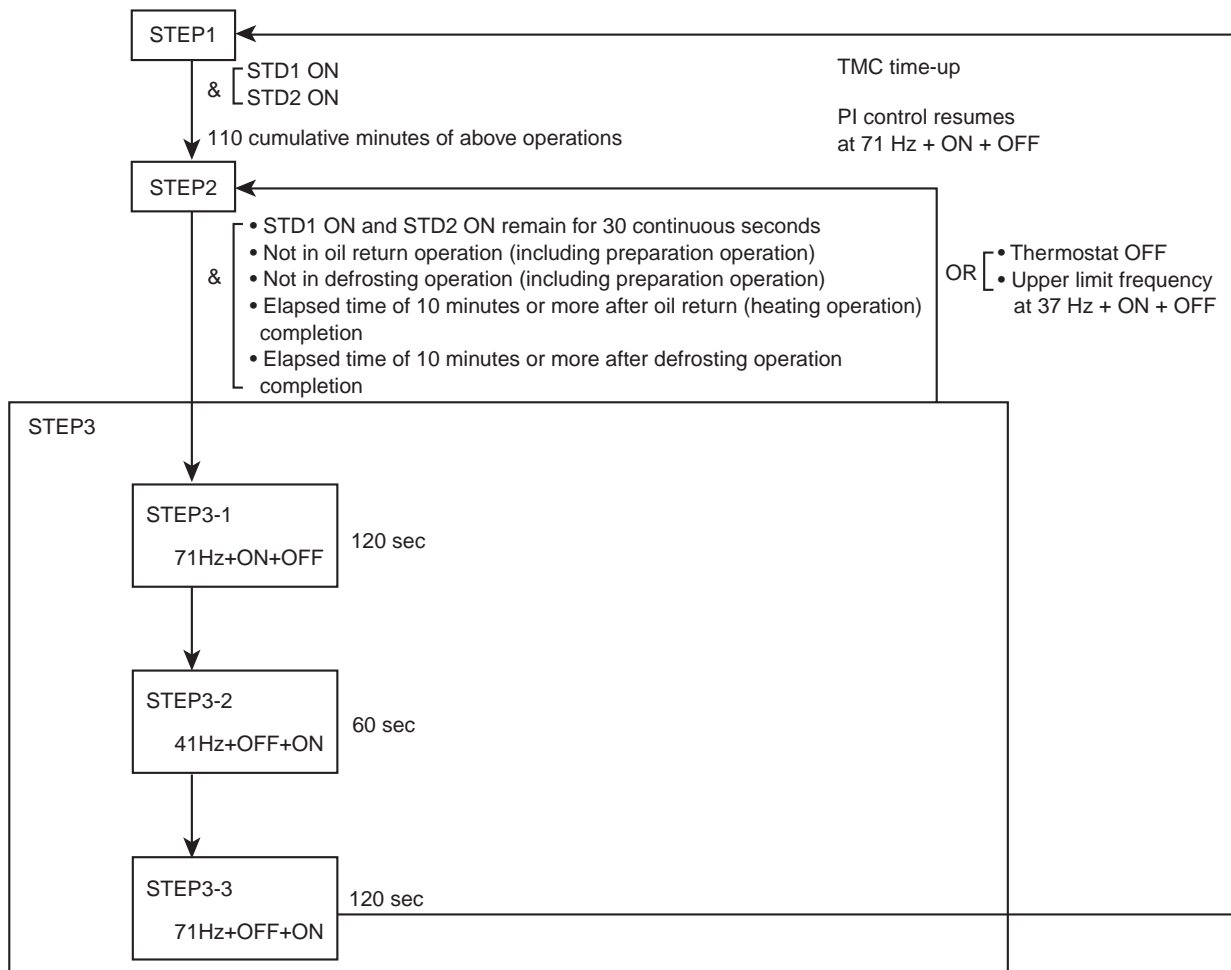
- The following oil equalization operation is conducted after two STD compressors operates for 2 continuous hours.
- Oil equalization operation --- Upper-limit frequency is controlled to the following value.

	2 min	2 min
16~20HP model	62Hz+OFF	37Hz+ON

* The oil equalization operation is not activated during soft start, oil return operation and defrosting operation (including defrosting operation preparation) and for 10 minutes after the completion of defrosting operation and oil return (heating operation).

[For 24~30 class units]

- The oil equalization operation is conducted in the following steps.



(V0821)

3.10 Oil Return Operation

Activates the oil return operation to collect refrigerant oil from the field pipes when the following conditions are met.

[Start conditions]

1. When cumulative compressor operating time from power ON exceeds 2 hours
 2. When cumulative compressor operating time from completion of previous return operation exceeds 8 hours.
However, when the upper-limit frequency is limited to less than "A" Hz during the previous oil return operation, the above time period of 8 hours is changed to 4 hours.
- *1) When defrost control operation for more than 4 minutes with inverter compressor frequency of "A" Hz or higher, oil return time reset to 8 hours.
- 2) When condition 1. or 2. is satisfied during heating operation, the electric heaters of indoor units are turned off 2 minutes prior in order to prepare for the oil return operation.
 - 3) The oil return operation is not activated for 28 minutes after the completion of the previous defrosting operation.

[Oil return operation]

- The compressor operating frequency is set to "B" Hz shown in the following table.

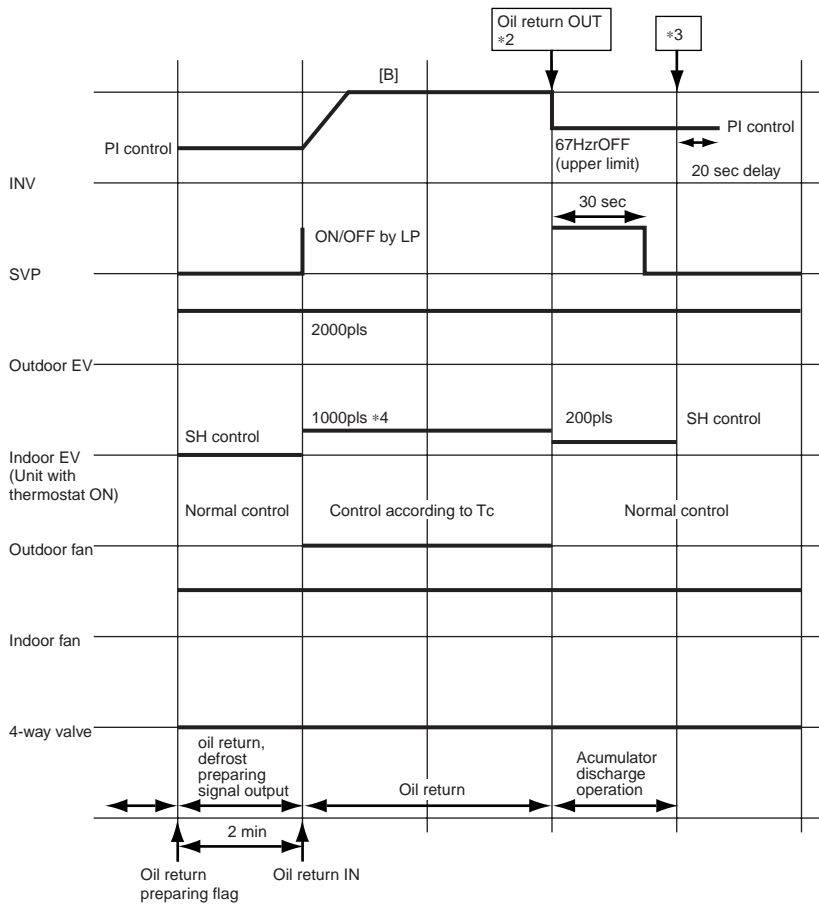
[Ending conditions]

- The oil return operation ends after 1~8 minutes of operation. However, when the compressor stop conditions are met during an oil return operation, the compressor stops after the completion of the oil return operation.
When the compressor stops during an oil return preparation operation, the oil return operation is activated at the next startup.

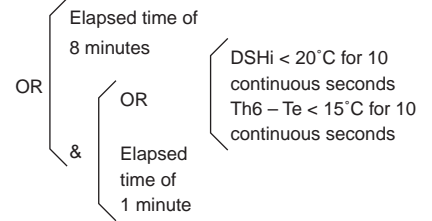
	A			B		
	INV	STD1	STD2	INV	STD1	STD2
RSXYP16KJ	33Hz	ON	—	52Hz	ON	—
RSXYP18KJ	41Hz	ON	—	71Hz	ON	—
RSXYP20KJ	41Hz	ON	—	71Hz	ON	—
RSXYP24KJ	75Hz	ON	OFF	52Hz	ON	ON
RSXYP26-28-30KJ	75Hz	ON	OFF	52Hz	ON	ON

- When the defrost control needs more than 4 minutes above "A" condition, the timer of oil return is reset to 8 hours

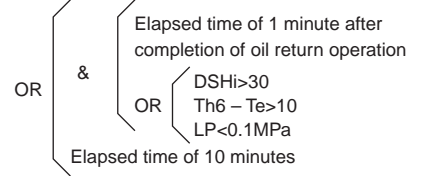
[Oil return control (cooling operation)]



*2 Oil return operation ending conditions



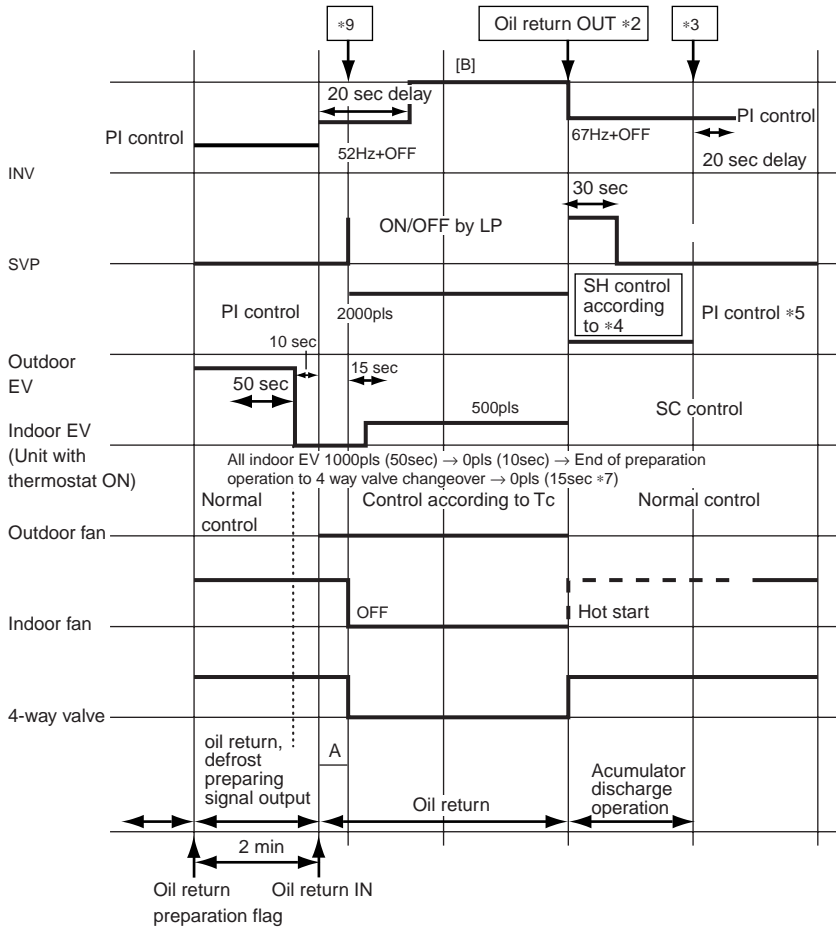
*3 Accumulator discharge operation ending conditions



*4 Oil return signal only is sent from Outdoor unit.

(V0810)

[Oil return control (heating operation)]



*2 Oil return operation ending conditions

OR { Elapsed time of 8 minutes
 & { OR { DSHi < 20°C 10 continuous seconds
 Th6 - Te < 15°C 10 continuous seconds
 Elapsed time of 2 minutes

*3 Accumulator discharge operation ending conditions

OR { Elapsed time of 1 minute after completion of oil return operation
 & { OR { DSHi > 30
 Th6 - Te > 10
 LP < 0.1MPa
 Elapsed time of 10 minutes

*4 LPSH control by outdoor unit EV
 PI control activated when SHS = 10 (initial opening degree: 200 pls)
 In the case of an LP retry, the next PI control is provided at SHS = 5.
 When condition *3 is met, the next startup condition is reset to SHS = 10.)

*5 When returning to normal outdoor EV control, the PI control is provided at that opening degree.

*7 0 pls maintained after elapsed time of 15 seconds until LP < 0.2 MPa

*8 Opens receiver solenoid valve for 60 seconds 1 minute after the preparation mode is activated. However, the valve is closed when Th6 - Te < 0.

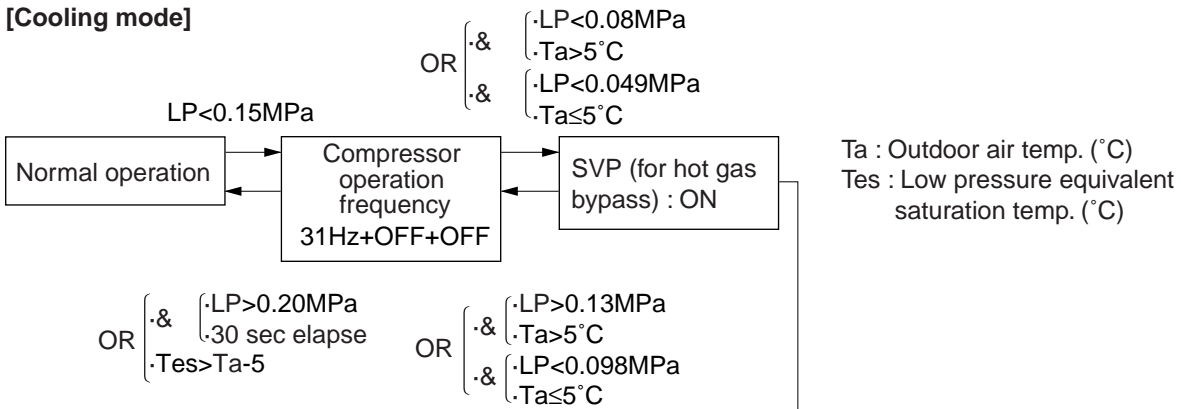
*9 Completion condition for under preparation of heating oil return.

& { 2 min. elapsed
 & { OR { 10 sec. elapsed since preparation end
 HP-LP < 0.5Mpa (V0811)

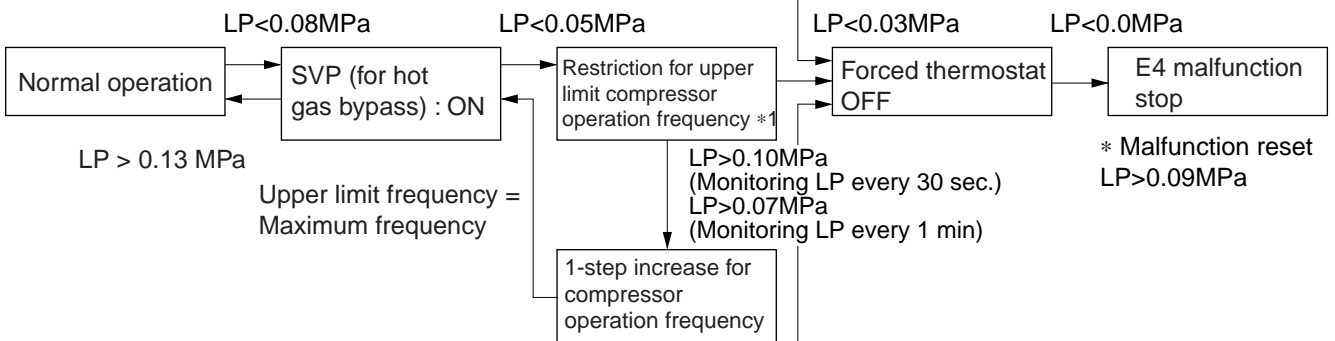
3.11 Low Pressure Protection Control

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

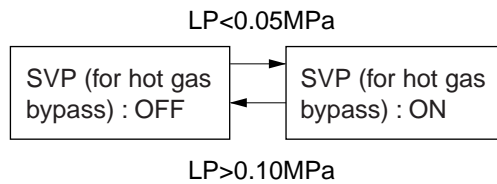
[Cooling mode]



[Heating mode]



[Oil return mode (common for cooling / heating)]

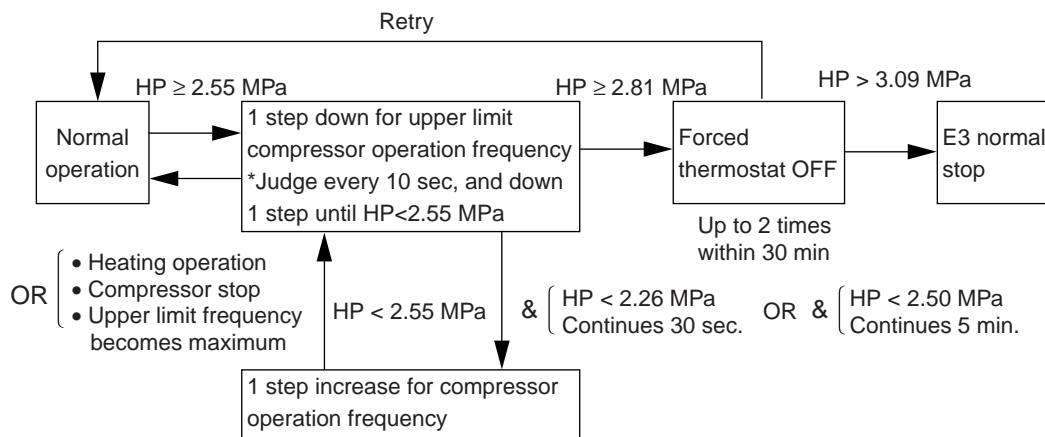


(V0822)

3.12 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 mode]



(V0823)

[Heating mode]

Condition (1)

OR	&	Indoor unit thermostat ON capacity of 8.0 kW (3HP) or less	
		OR	& Ta ≥ 15°C
			& HP ≥ 2.16MPa
		OR	& Ta < 15°C
& HP ≥ 2.25MPa			
HP ≥ 2.37MPa			

Condition (2) (During soft start)

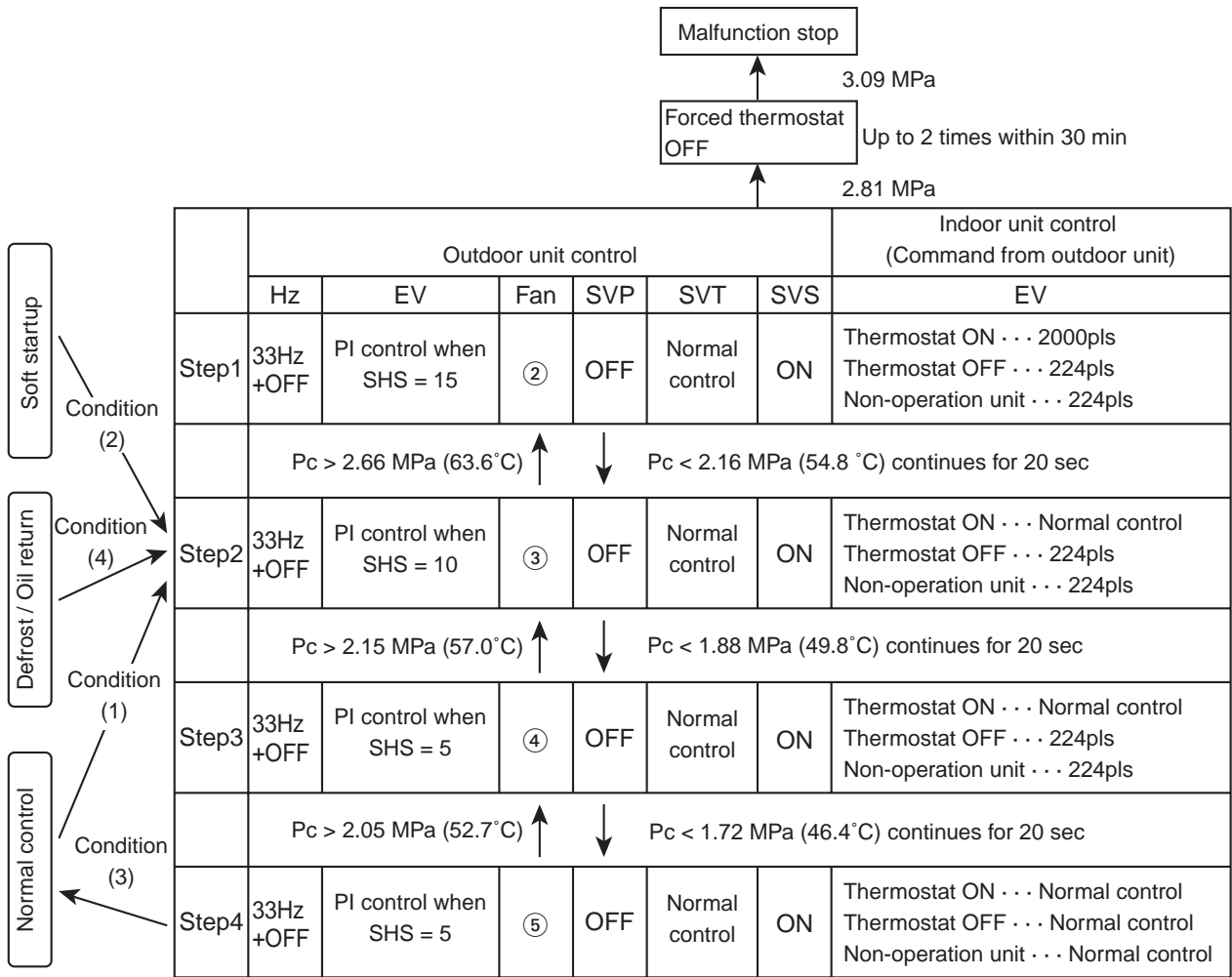
OR	&	Indoor unit thermostat ON capacity of 8.0 kW (3HP) or less	
		OR	Ta ≥ 15°C
			& Ta < 15°C
		& HP ≥ 2.26MPa	
HP ≥ 2.37MPa			

Condition (3)

&	OR	HP < 1.70MPa Continues for 300 sec
	OR	HP < 1.54MPa
		5 min elapsed after compressor startup
		5 min elapsed after defrost completion
		5 min elapsed after oil return completion

Condition (4)

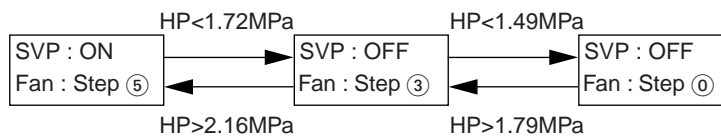
&	HP > 2.37MPa
	5 min elapsed after defrost completion
	5 min elapsed after oil return completion



(V0824)

[Oil return mode (common for cooling / heating)]

Outdoor unit fan and hot gas bypass solenoid valve (SVP) under oil return operation are controlled not to actuate high pressure protection. Also outdoor fan is controlled to protect short refrigerant circulation due to low high pressure during low ambient temperature. (Oil returning is hard at short refrigerant circulation)



(V0825)

3.13 Discharge Pipe Temperature Control

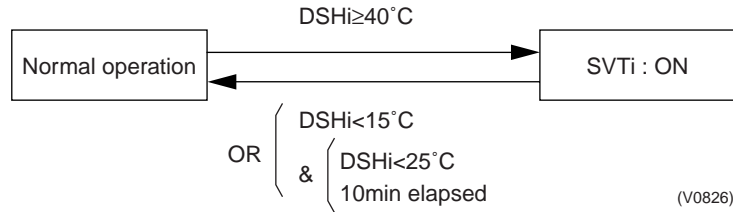
Controls the liquid injection and operating frequency to prevent abnormal increase of discharge pipe temperature and compressor internal temperature.

3.13.1 Liquid Injection Control

Inverter compressor

- Opens SVTi (Y3S) (solenoid valve for inverter compressor liquid injection) for 3 minutes after software startup.

[Cooling]

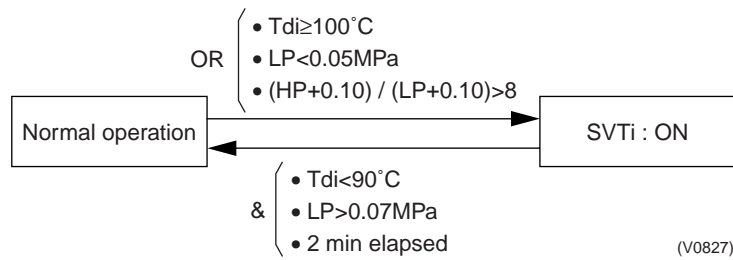


DSHi: Inverter compressor discharge pipe superheated degree

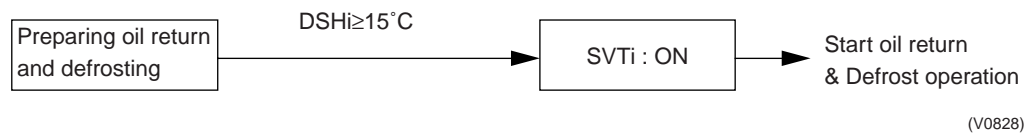
= $T_{di} (Th3-1) - (HP \text{ equivalent saturation temperature})$

T_{di} : Inverter compressor discharge pipe temperature (Th3-1)

[Heating]



[Preparing Oil return and defrosting operation (1 min before operation start)]

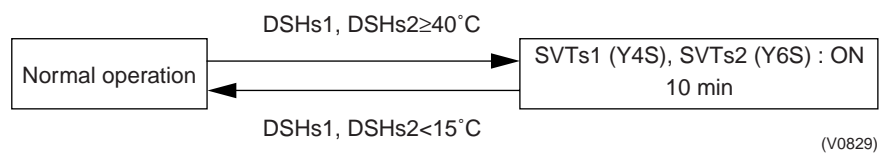


[Oil return operation/defrosting operation]

- SVTi (Y3S) is OFF at any case when inverter compressor stops.

STD compressor

[In cooling operation]

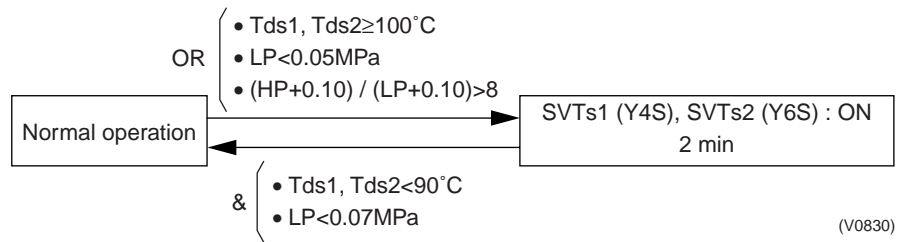


DSHs: STD compressor discharge pipe superheated degree

= $T_{ds1, 2} (Th3-2) - (HP \text{ equivalent saturation temperature})$

$T_{ds1, 2}$: STD compressor discharge pipe temperature (Th3-2)

[In heating operation]



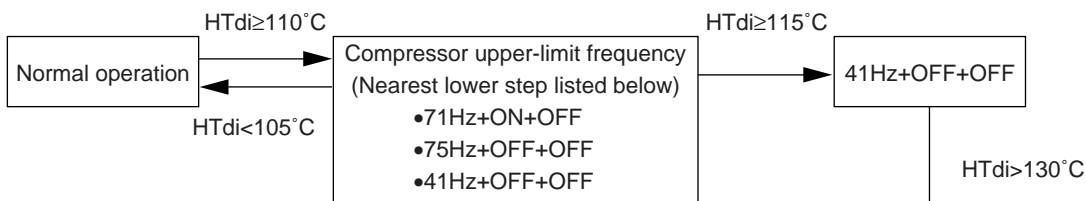
[Defrosting in oil return mode]

SVTs turns ON continuously

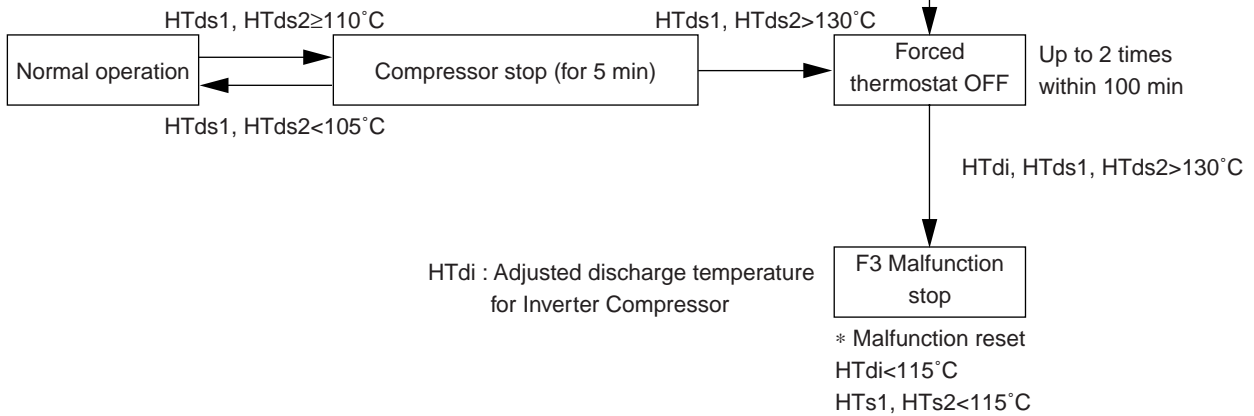
- SVTs is OFF at any case when STD compressor stops.

3.13.2 Operating Frequency Control

[INV Compressor]



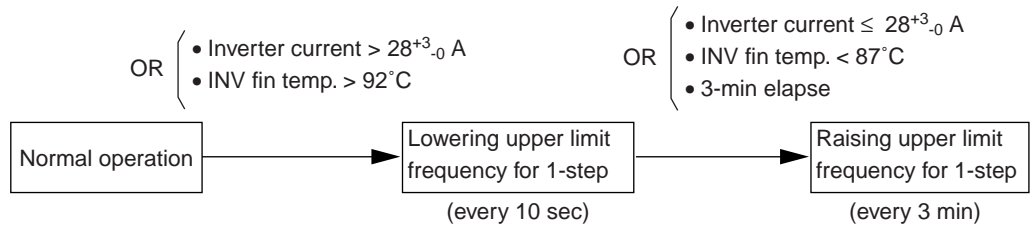
[STD Compressor]



(V0831)

3.14 Inverter Protection Control

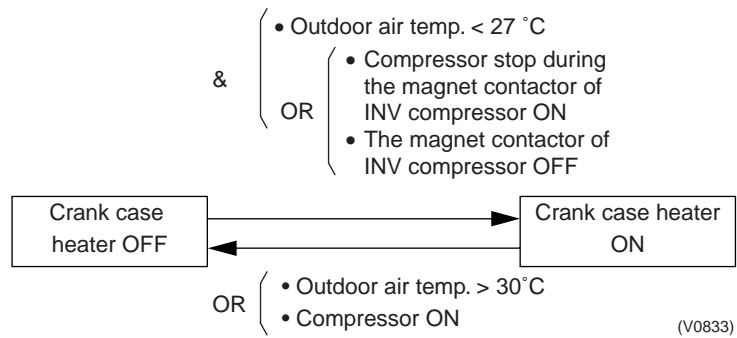
Controls the compressor upper-limit frequency to prevent tripping by inverter overcurrent and fin temperature increase.



(V0832)

3.15 Crankcase Heater Control

Controls the crankcase heater to prevent refrigerant from remaining in the inverter compressor.



i **Note:** STD compressor crankcase heater is controlled previous way. (ON/OFF by magnetic switch)

3.16 Gas Shortage Warning

Generates a warning when an excessive gas shortage occurs. This function generates an alarm only, and does not stop operation.

• In cooling mode

- Lp < 0.10MPa (-21.6°C) 30 continuous minutes → Outputs gas shortage warning [U0].
- Lp ≥ 0.10MPa (-21.6°C) → Cancels gas shortage warning.

• In heating mode

&	SH1 (Evaporator1 outlet superheat degree) > 20°C	Left conditions remain for 60 continuous minutes → Outputs gas shortage warning [U0].
	EV1 = 2000 pls (full open)	
	SH2 (Evaporator2 outlet superheat degree) > 20°C	
	EV2 = 2000 pls (full open)	
	SH3 (Evaporator3 outlet superheat degree) > 20°C	
	EV3 = 2000 pls (full open)	
OR	SH1 (Evaporator1 outlet superheat degree) ≤ 20°C	→ Cancels gas shortage warning.
	EV1 < 2000 pls (full open)	
	SH2 (Evaporator2 outlet superheat degree) ≤ 20°C	
	EV2 < 2000 pls (full open)	
	SH3 (Evaporator3 outlet superheat degree) ≤ 20°C	
	EV3 < 2000 pls (full open)	

3.17 Heating Pump-Down Residual Operation

Conduct an operation during stop mode to discharge refrigerant from the low pressure side, since liquid refrigerant remaining in the accumulator can be sucked into the compressor during startup and dilutes the refrigerating machine oil in the compressor and lowers the lubricating performance.

[Residual operation starting condition]

&	Thermostat ON → OFF	
	OR	DSHi < 20°C
		Th6 – Te < 10°C

DSHi : INV discharge pipe superheat degree

Th6-Te : Suction pipe temp. -Low pressure equivalent saturation temp.

[Description of movement]

	Outdoor unit			Indoor unit
	Compressor	Motorized valve	Solenoid valve for hot gas	Motorized valve
Movement	67Hz+OFF	Initial 2000 pls → PI control when SHS = 10°C	ON (equalization)	500 pls (all indoor unit)

* Receiver gas relief solenoid valve is open and liquid refrigerant is moved to liquid line for 60 seconds after entering pump-down residual operation.

However, this relief solenoid valve closes at Th6-Te < 0.

[Ending condition]

&	DSHi > 90°C
	Th6 – Te < 10°C
	LP < 0.07MPa
	Tc > 48.6°C
	10 min elapse

3.18 Backup Operation

[Purpose]

The following backup operation is activated when the constant-speed compressor protection device operates.

< For 2-compressor system >

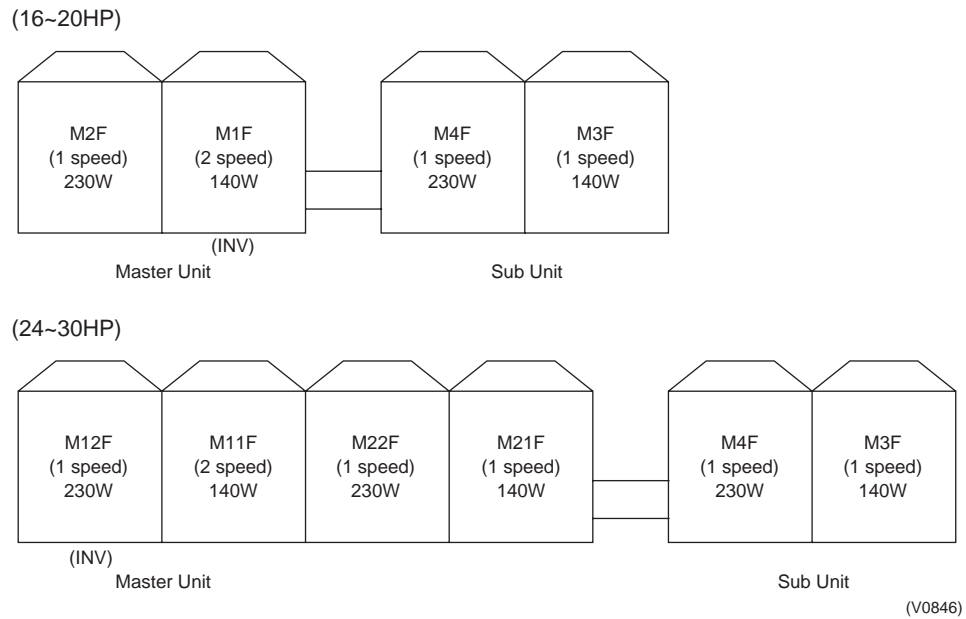
- When the STD compressor OC operates, the operation continues using only the inverter compressor based on all remote control reset. (for 3 hours only)

< For 3-compressor system >

- When the STD compressor OC operates, the operation continues using compressor except last started STD compressor based on remote control reset. (for 3 hours only)
- When OC operates again immediately after a backup operation (within 5 minutes after STD compressor startup), STD1 and STD2 are switched and operation is retried.
- If OC activates again, only the inverter compressor is used for the operation.
(In any case, the backup operation ends after 3 hours.)
- The compressor in which OC is activated is prohibited to operate until power reset is conducted for a restart.

3.19 Fan Location and Fan Tap

3.19.1 Fan Location



3.19.2 Fan Tap Table

tap	16~20HP				24~30HP					
	M1F	M2F	M3F	M4F	M11F	M12F	M21F	M22F	M3F	M4F
⊙	OFF	+OFF	/OFF	+OFF	OFF	+OFF	+OFF	+OFF	/OFF	+OFF
1	L	+OFF	/OFF	+OFF	L	+OFF	+OFF	+OFF	/OFF	+OFF
2	H	+OFF	/OFF	+OFF	H	+OFF	+OFF	+OFF	/OFF	+OFF
3	H	+OFF	+ON	+OFF	H	+OFF	+ON	+OFF	+ON	+OFF
4	H	+ON	+ON	+OFF	H	+ON	+ON	+OFF	+ON	+OFF
5	H	+ON	+ON	+ON	H	+ON	+ON	+ON	+ON	+ON

Tfin > 87°C ↓ ↑ Tfin < 67°C

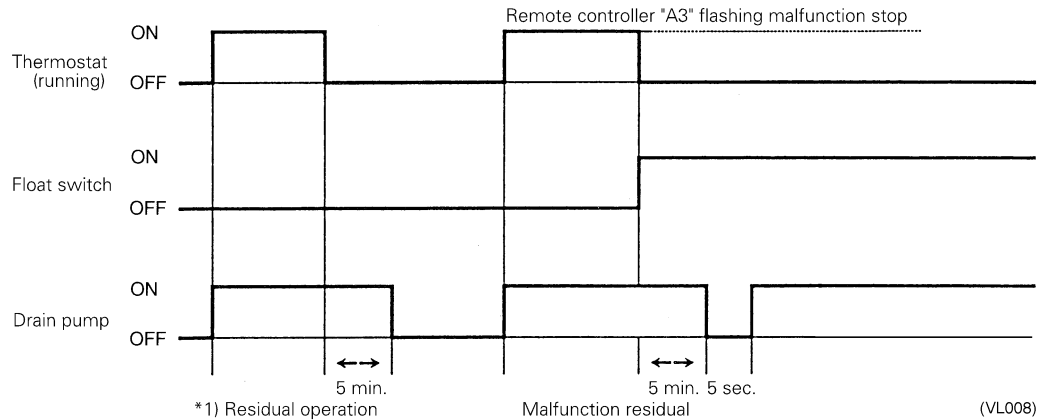
tap	24~30HP					
	M11F	M12F	M21F	M22F	M3F	M4F
⊙'	OFF	+ON	+OFF	+OFF	/OFF	+OFF
1'	OFF	+ON	+OFF	+OFF	/OFF	+OFF
2'	OFF	+ON	+OFF	+OFF	/OFF	+OFF
3'	OFF	+ON	+ON	+OFF	+ON	+OFF
4'	H	+ON	+ON	+OFF	+ON	+OFF
5'	H	+ON	+ON	+ON	+ON	+ON

4. Outline of Control (Indoor Unit)

4.1 Drain Pump Control

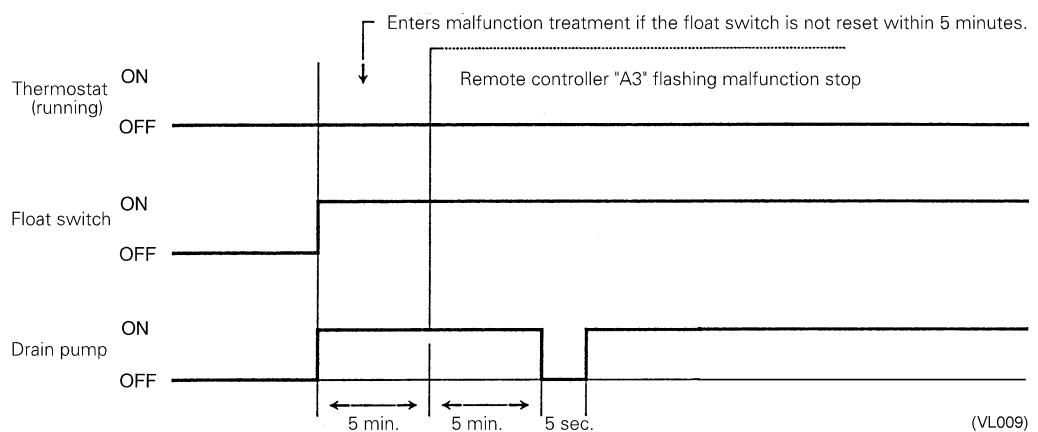
1. The drain pump is controlled by the ON/OFF buttons (4 button (1) - (4) given in the figure below).

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

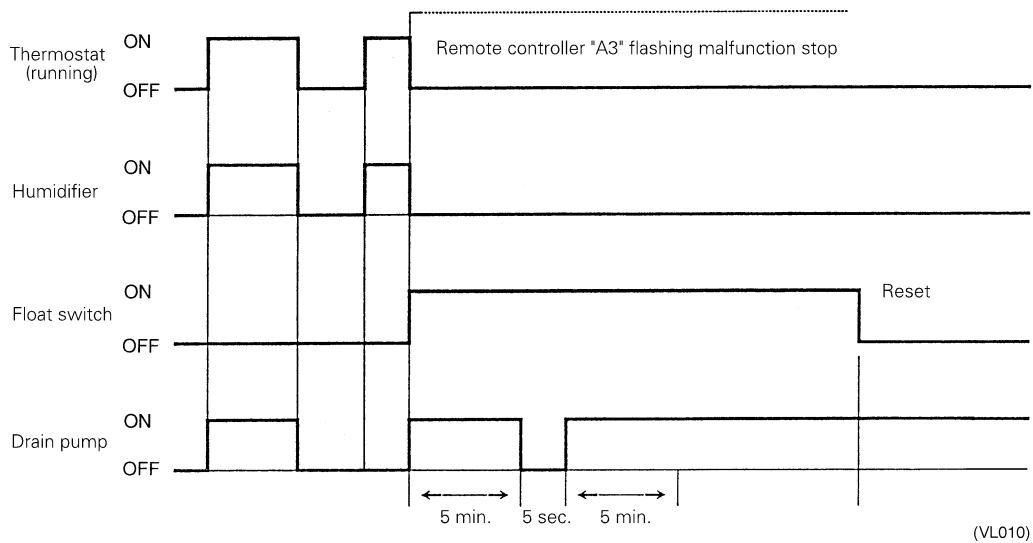


* 1. The objective of residual operation is to completely drain any moisture adhering to the fin of the indoor unit heat exchanger when the thermostat goes off during cooling operation.

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

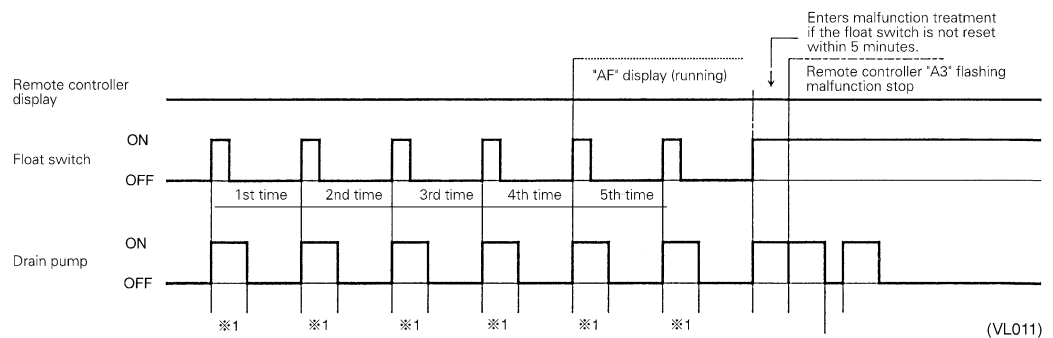


4.1.3 When the Float Switch is Tripped During Heating Operation:



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.

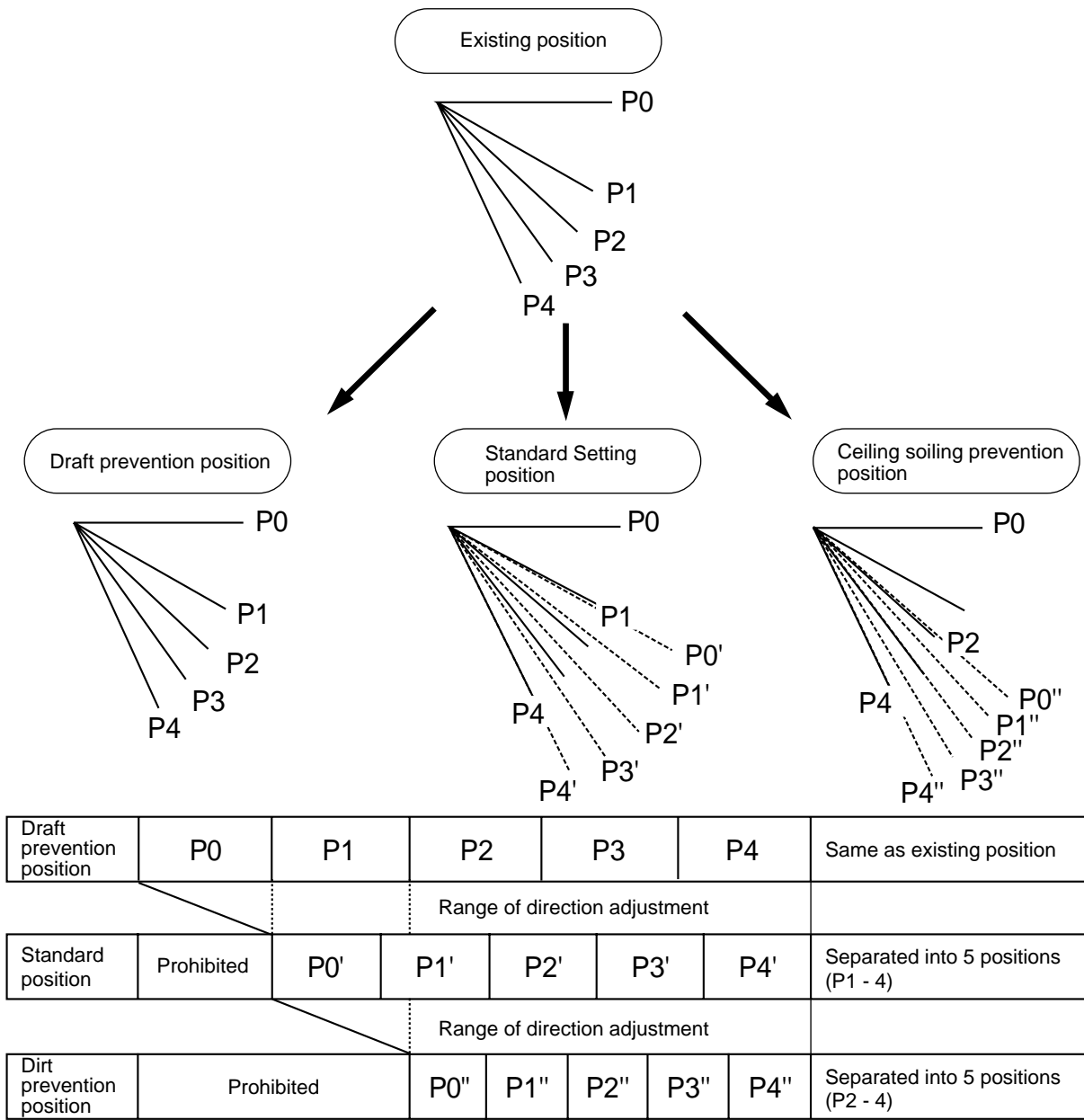
4.1.4 When the Float Switch is Tripped and "AF" is Displayed on the Remote Controller:



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.)



The factory set position is standard position.

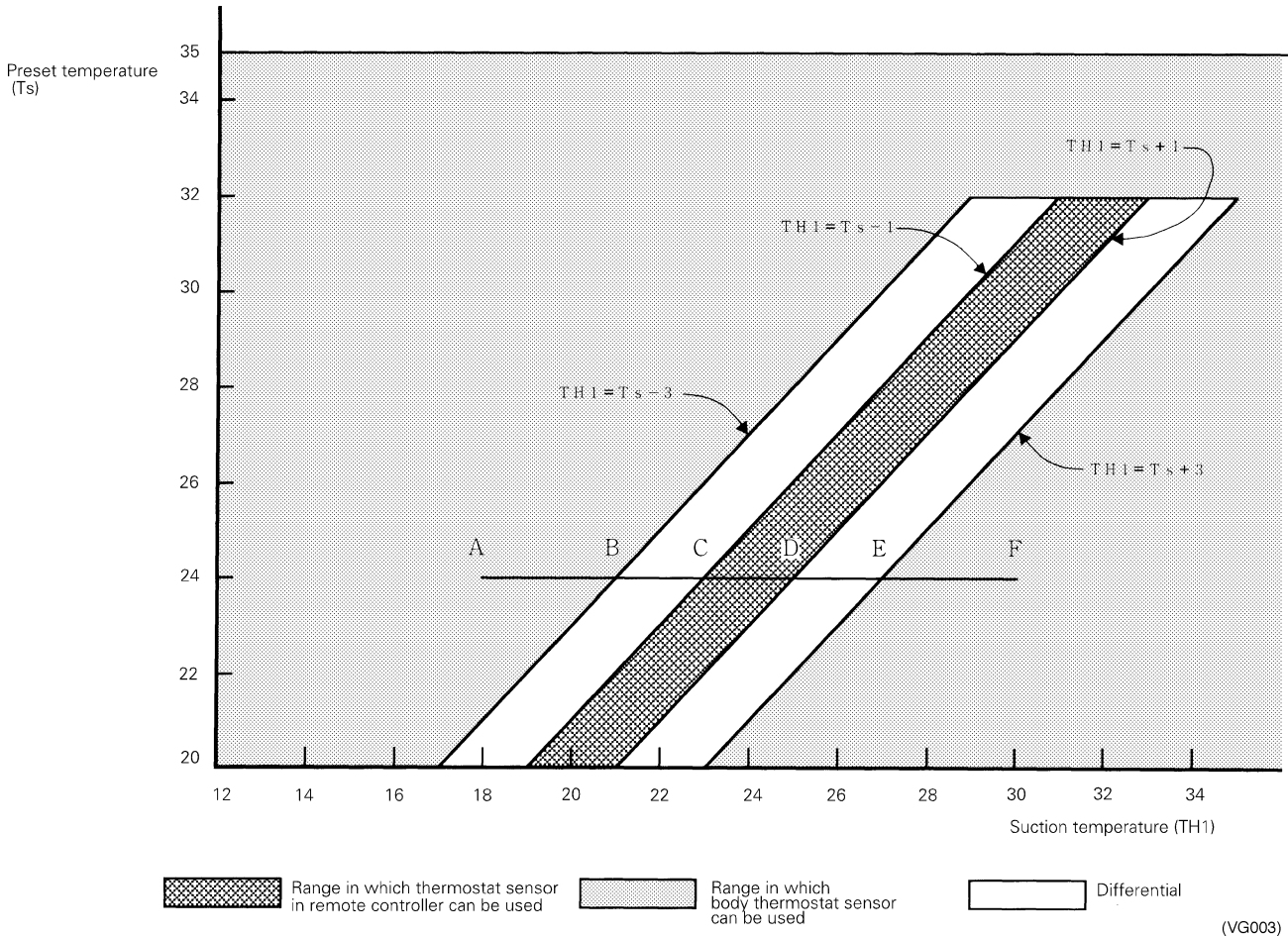
(VL012)

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):

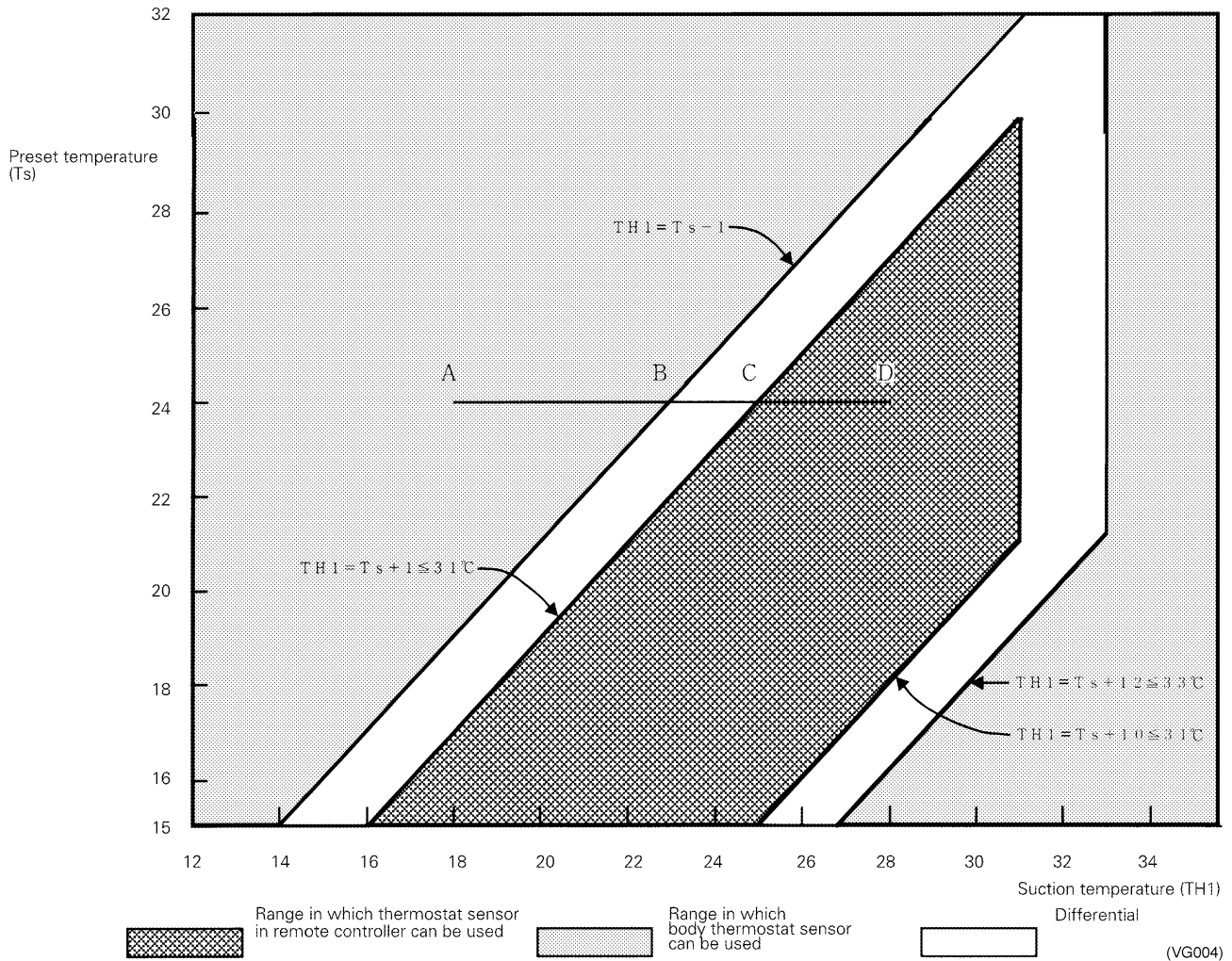
Body thermostat sensor is used for temperatures from 30°C to 25°C (F → D).

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

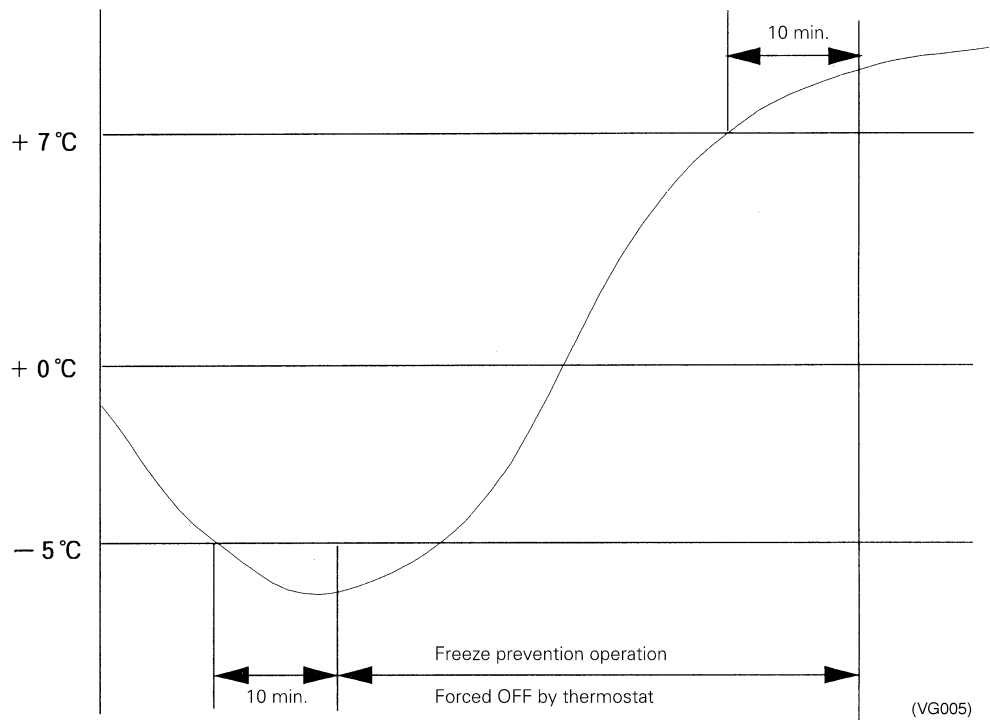
Freeze Prevention by Off Cycle (Indoor Unit)

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 $+7^{\circ}\text{C}$ or more for 10 min. continuously

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



(VG005)

Part 4

Test Operation

R-407C PLUS Series

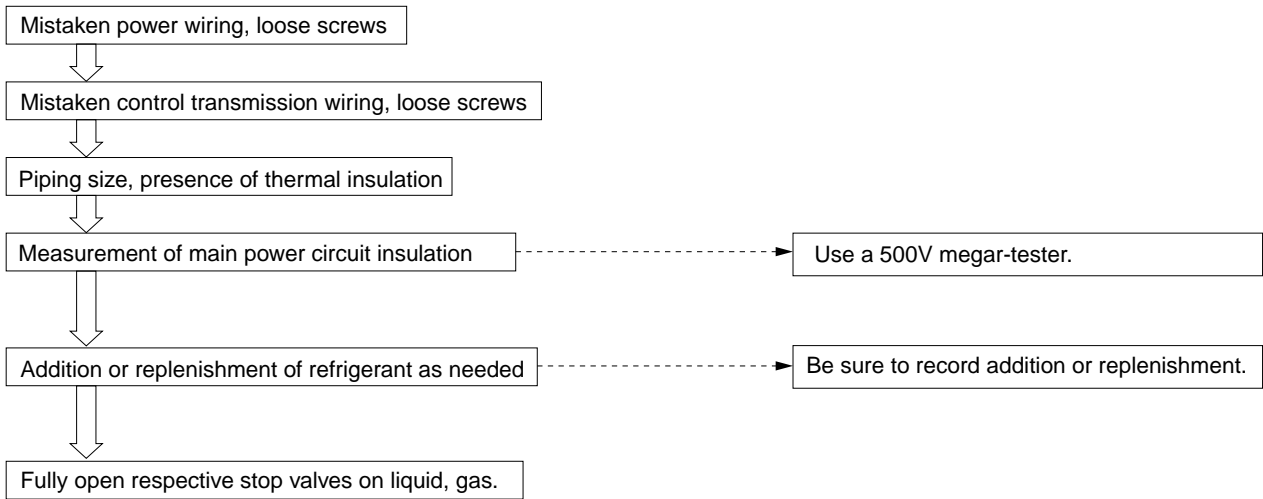
1. Test Operation	74
1.1 Procedure and Outline.....	74
1.2 Operation When Power is Turned On	76
1.3 Outdoor Unit PC Board Ass'y	77
1.4 Setting Modes.....	79
1.5 Cool / Heat Mode Selection.....	86
1.6 Low Noise Operation	91
1.7 Demand Control	92
1.8 Sequential Start.....	93
1.9 Wiring Check Operation	94
1.10 Additional Refrigerant Charge Operation	95
1.11 Refrigerant Recovery Mode.....	96
1.12 Indoor Field Setting	97
1.13 Centralized Control Group No. Setting.....	103
1.14 Contents of Control Modes.....	105

1. Test Operation

1.1 Procedure and Outline

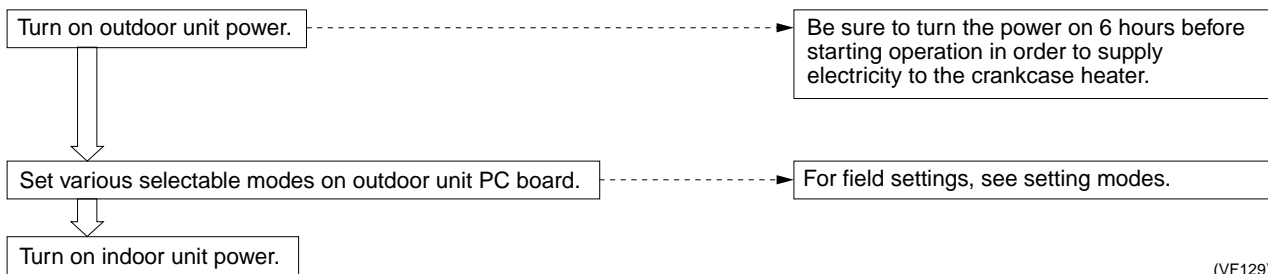
The operation sequence is the most important thing for test operation. Follow the following outline.

1.1.1 Check The Following Before Turning Power On.



(VF128)

1.1.2 Turn Power On.

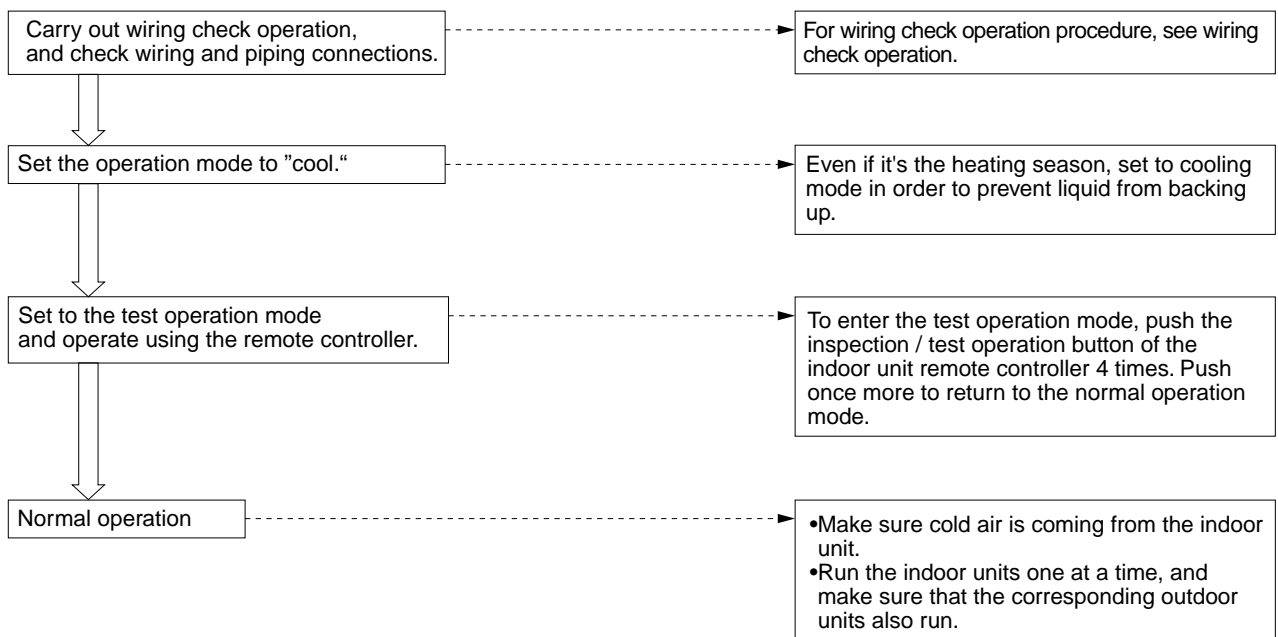


(VF129)



Refer to Setting Modes on P81

1.1.3 Check Operation.



(VF130)



Refer to Wiring Check Operation on P96



Caution

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

(V0847)

1.2 Operation When Power is Turned On

1.2.1 When Turning On Power for First Time

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

- ◆ Outdoor unit ... Warning lamp (H2P) lights
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 (BS5) on the outdoor unit PC board. Operation becomes possible after setting up 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.

- ◆ Outdoor unit ... Warning lamp (H2P) lights
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.)

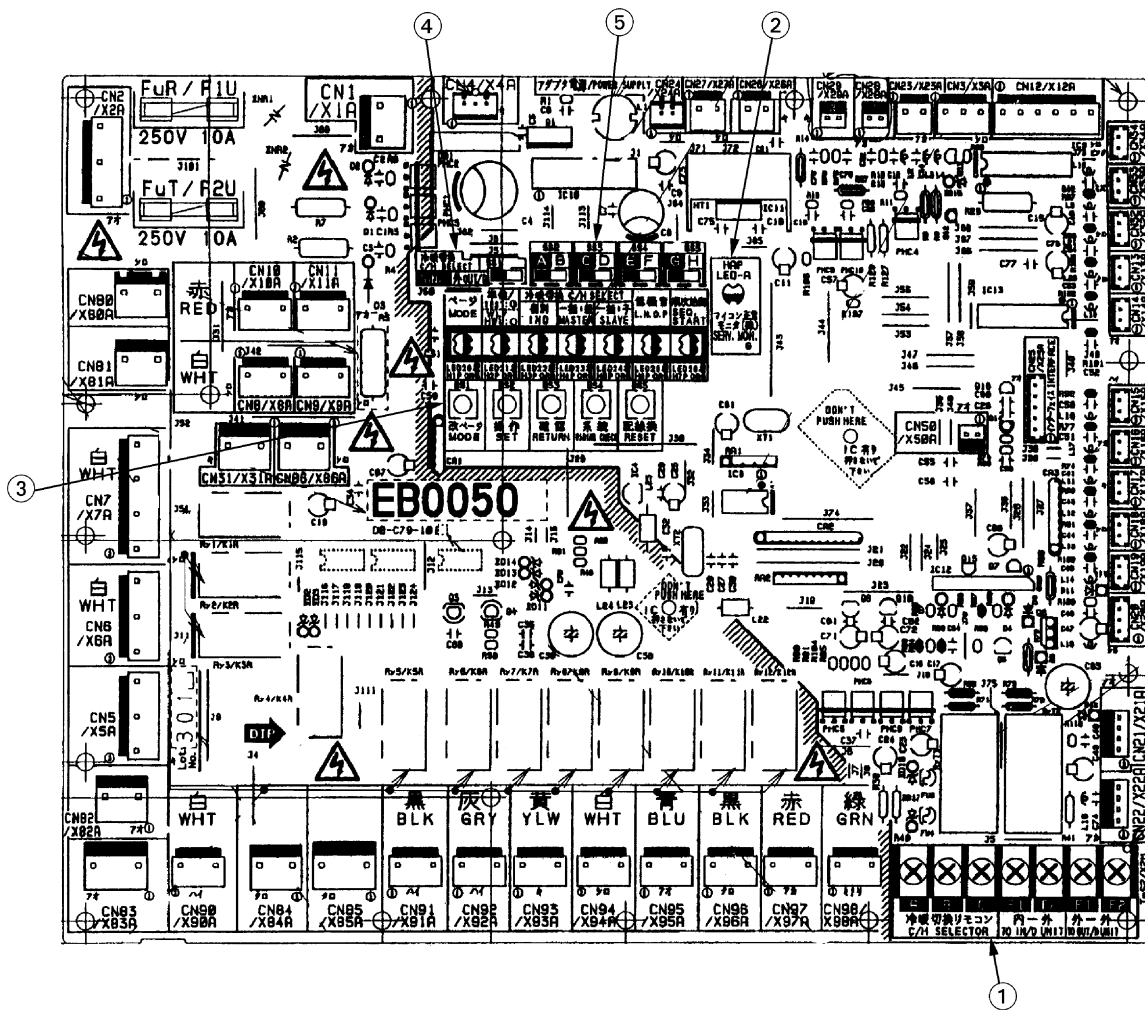
1.2.3 When an Outdoor Unit or Indoor Unit Has Been Added, or Indoor / Outdoor Units PC Board Has Been Changed

Be sure to push and hold the wiring change button for 5 seconds or longer. 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.).

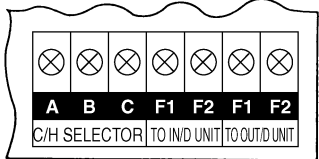

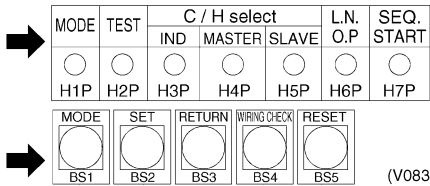
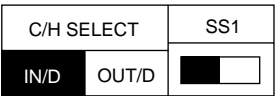
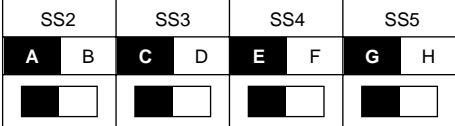
- ◆ Outdoor unit ... Warning lamp (H2P) lights
Test lamp (H2P) goes off
Can also be set during operation described above.
- ◆ Indoor unit ... If ON button is pushed during operation described above, the "UH" or "U4" malfunction indicator blinks. (Returns to normal when automatic setting is complete.)

1.3 Outdoor Unit PC Board Ass'y

Outdoor Unit



(V0834)

1	Transmission terminal Indoor unit, Cool/Heat selector Outdoor - Outdoor	 <p>(V0835)</p>
2	Service monitor LED (Green)	 <p>(V0836)</p>
3	Function setting mode switch and LED	<p>LED</p> <ul style="list-style-type: none"> ○ : ON ◐ : Flash ● : OFF <p>Push Button switch</p>  <p>(V0837)</p>
4	Function of setting between cooling and heating	 <p>(V0838)</p>
5	Outdoor unit Capacity setting switch	<p>Switches for capacity setting when the outdoor unit PC board is replaced to spare parts PC board.</p>  <p>(V0848)</p> <p>Refer table below.</p>

	SS2		SS3		SS4		SS5	
	A	B	C	D	E	F	G	H
RSXYP16KJ		■		■	■			■
RSXYP18KJ		■	■			■		■
RSXYP20KJ		■	■			■		■
RSXYP24KJ	■		■		■		■	
RSXYP26KJ	■		■		■		■	
RSXYP28KJ	■			■		■	■	
RSXYP30KJ	■			■		■	■	

Capacity setting table



Note: Resetting of power supply switch is necessary after capacity setting.

1.4 Setting Modes

There are the following three setting modes.

◆ **Setting mode 1 (H1P off)**

Used to select the cool/heat setting, low-noise run and sequential start.

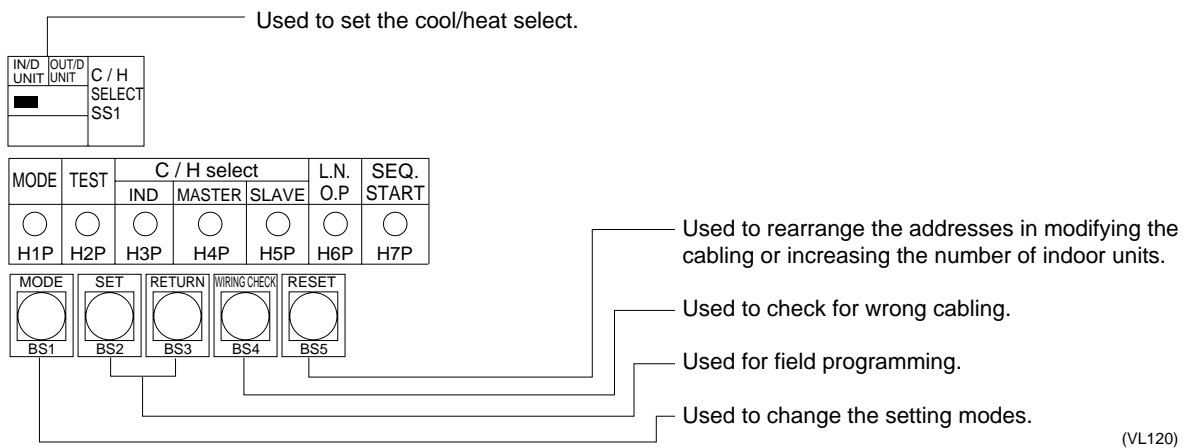
◆ **Setting mode 2 (H1P on)**

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

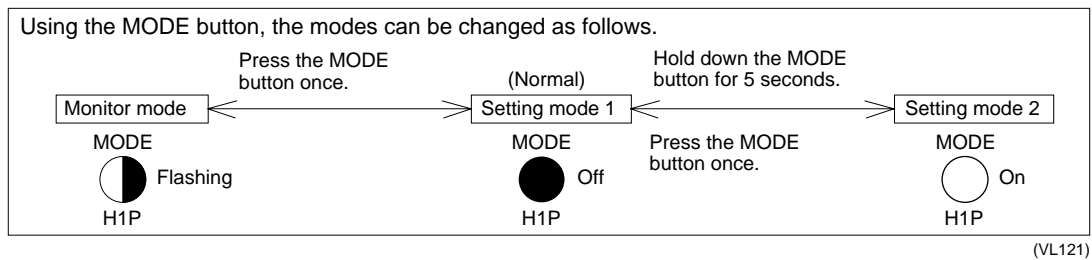
◆ **Monitor mode (H1P flashing)**

Used to check the programs made in the setting mode 2, the number of units being connected, and other entries.

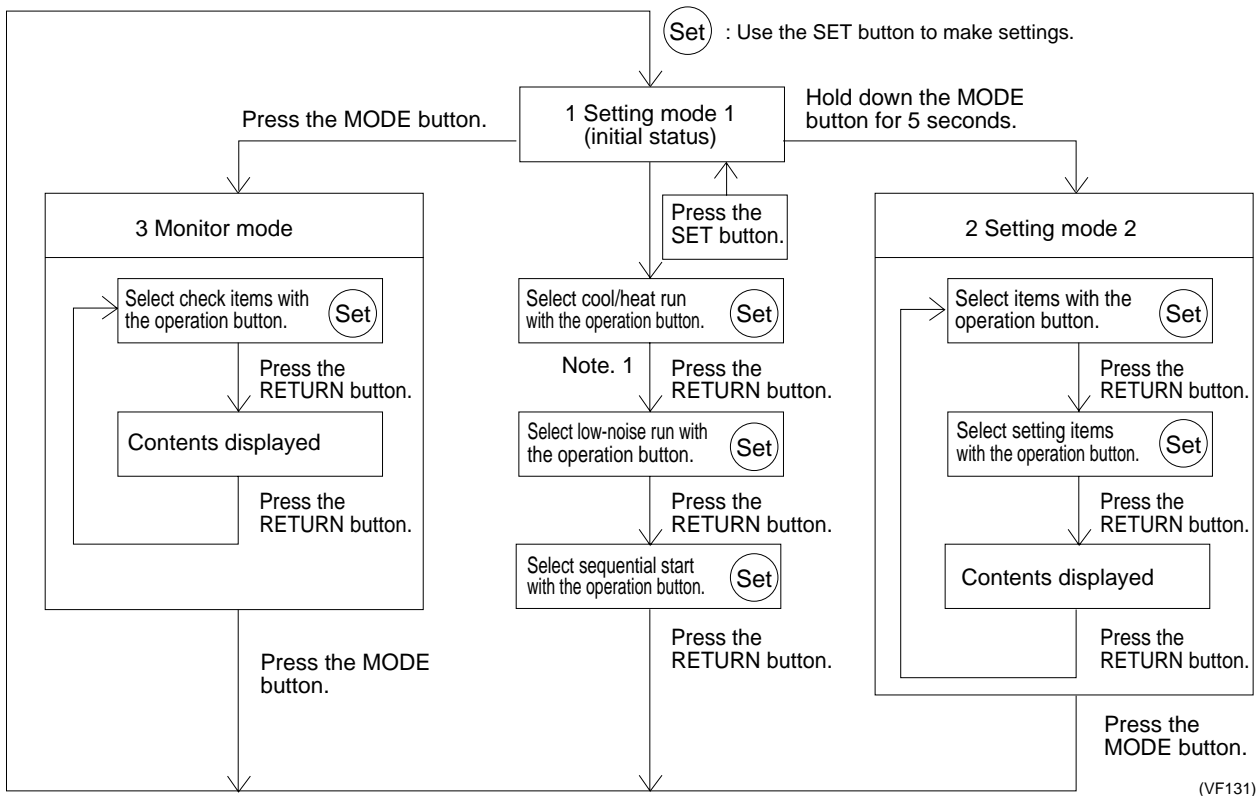
Functions of Pushbutton Switches



Mode Change

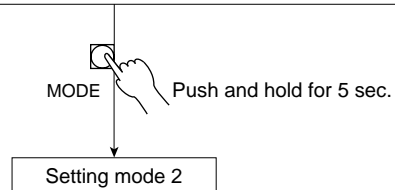
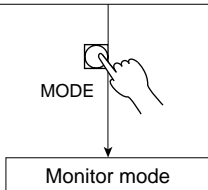
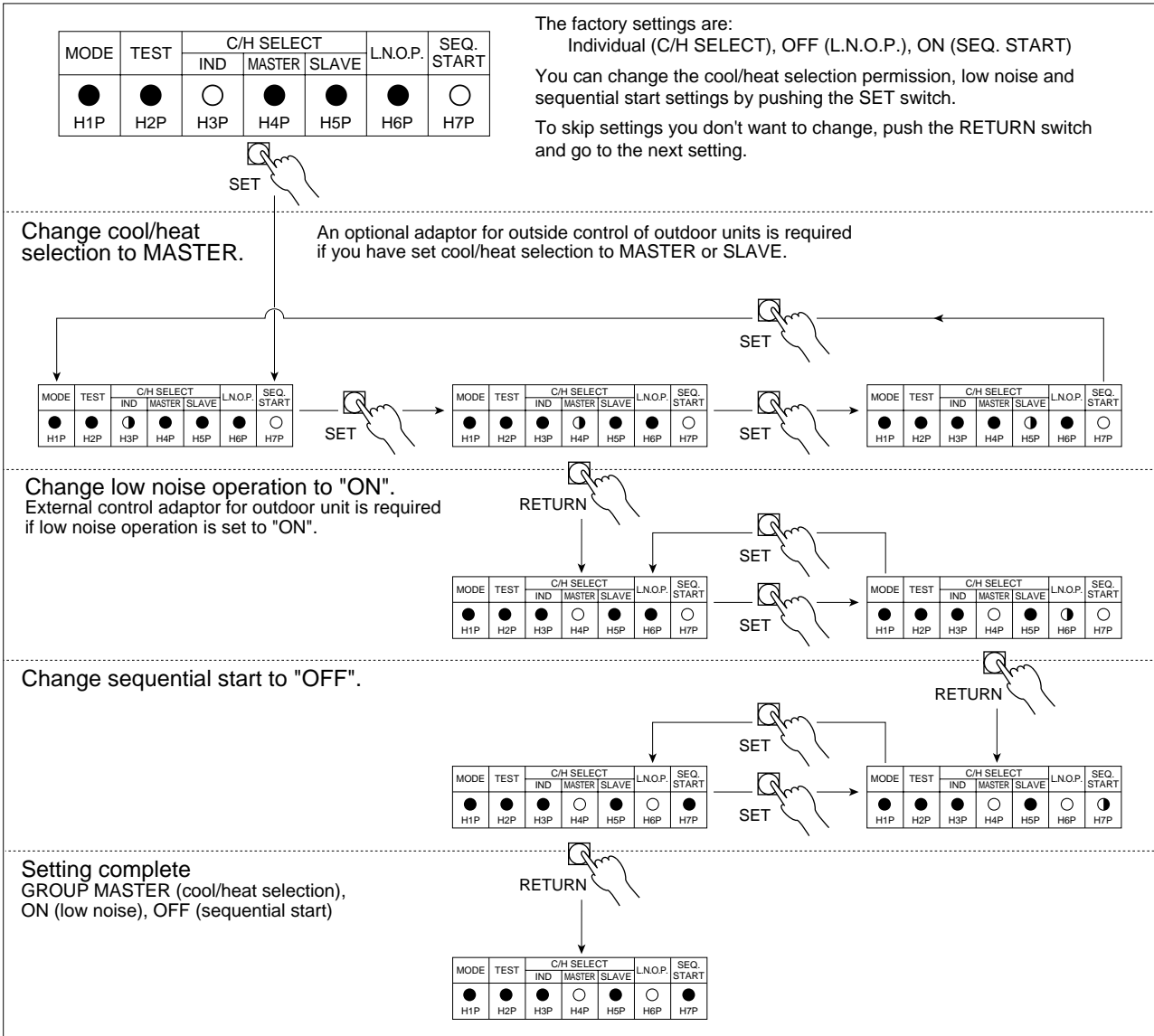
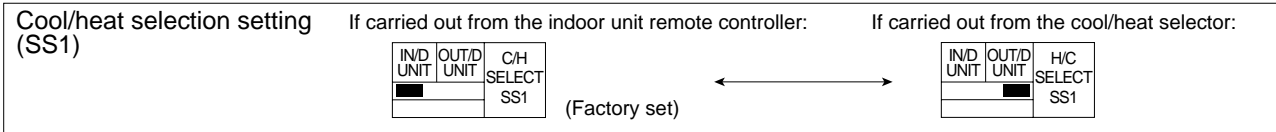


Mode Changing Procedure



- Note:**
1. If you become unsure of how to proceed, push the MODE button (BS1) and return to setting mode 1.
 2. Power reset is not necessary after setting of setting mode 1 (including C/H select SS1) and setting mode 2.

1.4.1 Setting Mode 1



(VF133)



Note: External control adaptor for outdoor unit is required if cool/heat selection set to MASTER or SLAVE, or if low noise operation is set to ON.

1.4.2 Setting Mode 2

To switch from setting mode 1 (normal) to setting mode 2, you must push and hold the next page button (BS1) for 5 seconds. (You cannot enter setting mode 2 while setting mode 1 is set.)

Setting Procedure

1. Push the SET button and match with the setting item (LED display). (All 10 settings)
- ↓
2. Push the RETURN button (BS3) and the present settings flicker (LED display).
- ↓
3. Push the SET button (BS2) and match with each setting (LED flicker display).
- ↓
4. Push the RETURN button (BS3) and enter the settings.
- ↓
5. Push the RETURN button (BS3) and return to the initial status.



Note:

1. If you become unsure of how to proceed, push the MODE button (BS1) and return to setting mode 1.
2. The initial status of setting mode 2 is the status of setting item No. 1 in mode 2.

Setting Items

	Setting item	Description	LED display							LED display							
			H1P	H2P	H3P	H4P	H5P	H6P	H7P	H1P	H2P	H3P	H4P	H5P	H6P	H7P	
1	EMG (Emergency operation 1)	Emergency operation when inverter type outdoor unit malfunctions.	○ ● ● ● ● ● ● ●							Emergency operation (Operates by constant speed outdoor unit only.)	○	●	●	●	●	○	●
										Normal operation	○	●	●	●	●	●	○
2	Cool/heat unified address	Address for cool/heat unified operation	○ ● ● ● ● ● ● ○							Address 0	○	●	●	●	●	●	●
										Binary number 1	○	●	●	●	●	○	●
										2	○	●	●	●	○	●	●
										31	○	●	○	○	○	○	○
3	Low noise / demand address	Address for low noise / demand operation.	○ ● ● ● ● ● ○ ●							Address 0	○	●	●	●	●	●	●
										Binary number 1	○	●	●	●	●	○	●
										31	○	●	○	○	○	○	○
4	Forced fan switch	Indoor unit fan turns while unit is stopped.	○ ● ● ● ● ○ ● ○							Forced fan operation (H tap)	○	●	●	●	○	●	●
										Normal operation	○	●	●	●	●	○	●
5	Indoor unit forced operation	Allows operation of indoor unit from outdoor unit.	○ ● ● ● ● ○ ○ ●							Indoor unit forced operation	○	●	●	●	○	●	●
										Normal operation	○	●	●	●	●	○	●
6	Frequency fix	Fixes compressor frequency. INV : (60Hz+OFF) STD1: (ON+OFF) STD2: (ON+OFF)	○ ● ● ● ● ○ ○ ○							Frequency fix	○	●	●	●	○	●	●
										Normal operation	○	●	●	●	●	○	●
7	TE setting	Low pressure setting for cooling.	○ ● ● ○ ● ● ● ●							High	○	●	●	○	●	●	●
8	TC setting	High pressure setting for heating	○ ● ● ○ ● ● ● ○							Normal (factory set)	○	●	●	●	○	●	●
	Note 1									Low	○	●	●	●	●	○	●
9	Defrost setting	Temperature setting for defrost.	○ ● ● ○ ● ○ ● ●							Quick defrost	○	●	●	○	●	●	●
	Note 1									Normal (factory set)	○	●	●	●	○	●	●
										Slow defrost	○	●	●	●	●	○	●
10	Air NET address	Address for Air NET	○ ● ● ○ ○ ● ○ ○							Address 0	○	●	●	●	●	●	●
										Binary number 1	○	●	●	●	●	○	●
										63	○	○	○	○	○	○	○
11	back up	back up operation standard compressor	○ ● ○ ● ● ○ ○ ○							Normal	○	●	●	●	●	●	●
										Standard compressor 1	○	●	●	●	○	●	●
										Standard compressor 2	○	●	●	●	○	●	●
12	Charge	Refrigerant charge while compressor and indoor unit forced operation	○ ● ○ ● ● ○ ○ ○							refrig. charge OFF	○	●	●	●	○	●	●
										refrig. charge ON	○	●	●	●	○	●	●
13	Recovery	Refrigerant recovery while compressor off and all expansion valve fully open	○ ● ○ ● ○ ○ ● ○							refrig. recovery OFF	○	●	●	○	●	○	●
										refrig. recover ON	○	●	●	●	○	●	●

(V0839)

No	Setting item	Description	LED display H1P H2P H3P H4P H5P H6P H7P	LED display H1P H2P H3P H4P H5P H6P H7P	LED display H1P H2P H3P H4P H5P H6P H7P
1	EMG (Emergency operation 1)	Emergency operation when inverter type outdoor unit malfunctions.	○ ● ● ● ● ● ● ●	Emergency operation Normal operation	○ ● ● ● ● ● ● ●
2	Cool/heat unified address	Address for cool/heat unified operation	○ ● ● ● ● ● ● ●	Address 0 Binary number 1 (6 digits) 2 31	○ ● ● ● ● ● ● ●
3	Low noise / demand address	Address for low noise / demand operation	○ ● ● ● ● ● ● ●	Address 0 Binary number 1 (6 digits) 2 31	○ ● ● ● ● ● ● ●
4	Forced fan switch	Indoor unit fan turns while unit is stopped.	○ ● ● ● ● ● ● ●	Forced fan operation (H tap) Normal operation	○ ● ● ● ● ● ● ●
5	Indoor unit forced operation	Allows operation of indoor unit from outdoor unit	○ ● ● ● ● ● ● ●	Forced fan operation (H tap) Normal operation	○ ● ● ● ● ● ● ●
6	Frequency fix	Fixes compressor frequency. INV : (60Hz + OFF) STD 1 : (ON+OFF) STD 2 : (ON+OFF)	○ ● ● ● ● ● ● ●	Frequency fix Normal operation	○ ● ● ● ● ● ● ●
7	TE setting	Low pressure setting for cooling	○ ● ● ● ● ● ● ●	High Normal (factory set) Low	○ ● ● ● ● ● ● ●
8	TC setting Note 1	High pressure setting for heating	○ ● ● ● ● ● ● ●	Quick defrost Normal (factory set) Slow defrost	○ ● ● ● ● ● ● ●
9	Defrost setting Note 1	Temperature setting for defrost	○ ● ● ● ● ● ● ●	Address 0 Binary number 1 (6 digits) 2 63	○ ● ● ● ● ● ● ●
10	Air Net address	Address for Air Net	○ ● ● ● ● ● ● ●	Normal Standard comp. 1 Standard comp. 2	○ ● ● ● ● ● ● ●
11	Back up	Back up operation standard compressor	○ ● ● ● ● ● ● ●	Refrig. charge OFF Refrig. charge ON	○ ● ● ● ● ● ● ●
12	Charge	Refrigerant charge while compressor and indoor unit forced operation	○ ● ● ● ● ● ● ●	Refrig. recovery OFF Refrig. recovery ON	○ ● ● ● ● ● ● ●
13	Recovery	Refrigerant recovery while compressor off and all expansion valve fully open	○ ● ● ● ● ● ● ●	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid black; padding: 5px;">Initial setting (EMG)</div> <div style="text-align: right;"> RETURN BUTTON SET BUTTON </div> </div>	
Initial setting (EMG)					

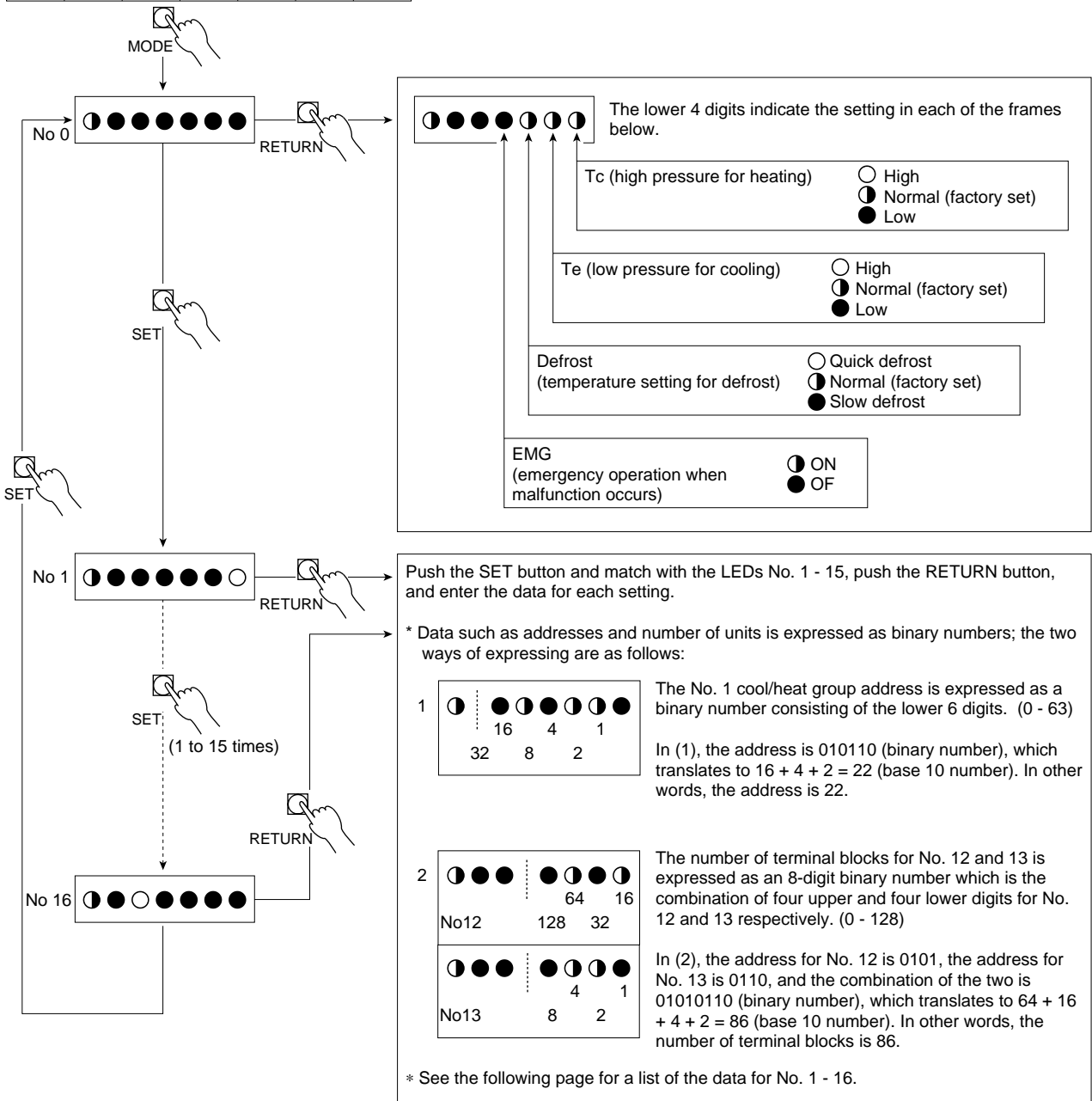
Initial setting (EMG)

(V0840)

1.4.3 Monitor Mode

MODE	TEST	C/H SELECT			L.N.O.P.	SEQ. START
		IND	MASTER	SLAVE		
H1P	H2P	H3P	H4P	H5P	H6P	H7P

To enter the monitor mode, push the MODE button when in setting mode 1.



(VF135)

- After making sure the data is correct, push the RETURN button and return to No. 0, or push the MODE button and return to setting mode 1.

Monitor Mode Data

Mode No.	LED	Data	Display method	Size (binary number)
No 1	○ ● ● ● ● ● ○	Cool/heat group address	0 ~ 31	Lower 6 digits
No 2	○ ● ● ● ● ○ ●	Low noise / demand address	0 ~ 31	Lower 6 digits
No 3	○ ● ● ● ● ○ ○	Not used		
No 4	○ ● ● ● ○ ● ●	Not used	0 ~ 63	Lower 6 digits
No 5	○ ● ● ● ○ ● ○	Number of connected units	0 ~ 63 units	Lower 6 digits
No 6	○ ● ● ● ○ ○ ●	Number of connected BS units	0 ~ 63 units	Lower 6 digits
No 7	○ ● ● ● ○ ○ ○	Number of connected zone units (excluding outdoor and BS units)	0 ~ 63 units	Lower 6 digits
No 8	○ ● ● ○ ● ● ●	Number of outdoor units	0 ~ 63 units	Lower 6 digits
No 9	○ ● ● ○ ● ● ○	Number of BS units	0 ~ 128 units	Lower 4 digits, upper
No 10	○ ● ● ○ ● ○ ●	Number of BS units	0 ~ 128 units	Lower 4 digits, lower
No 11	○ ● ● ○ ● ○ ○	Number of zone units (excluding outdoor and BS units)	0 ~ 63 units	Lower 6 digits
No 12	○ ● ● ○ ○ ● ●	Number of terminal blocks	0 ~ 128 units	Lower 4 digits, upper
No 13	○ ● ● ○ ○ ● ○	Number of terminal blocks	0 ~ 128 units	Lower 4 digits, lower
No 14	○ ● ● ○ ○ ○ ●	Not used		
No 15	○ ● ● ○ ○ ○ ○	Not used		
No 16	○ ● ○ ● ● ● ●	Not used		

1.5 Cool / Heat Mode Selection

The R-407C VRV PLUS Series offers the following four cool/heat mode selections.

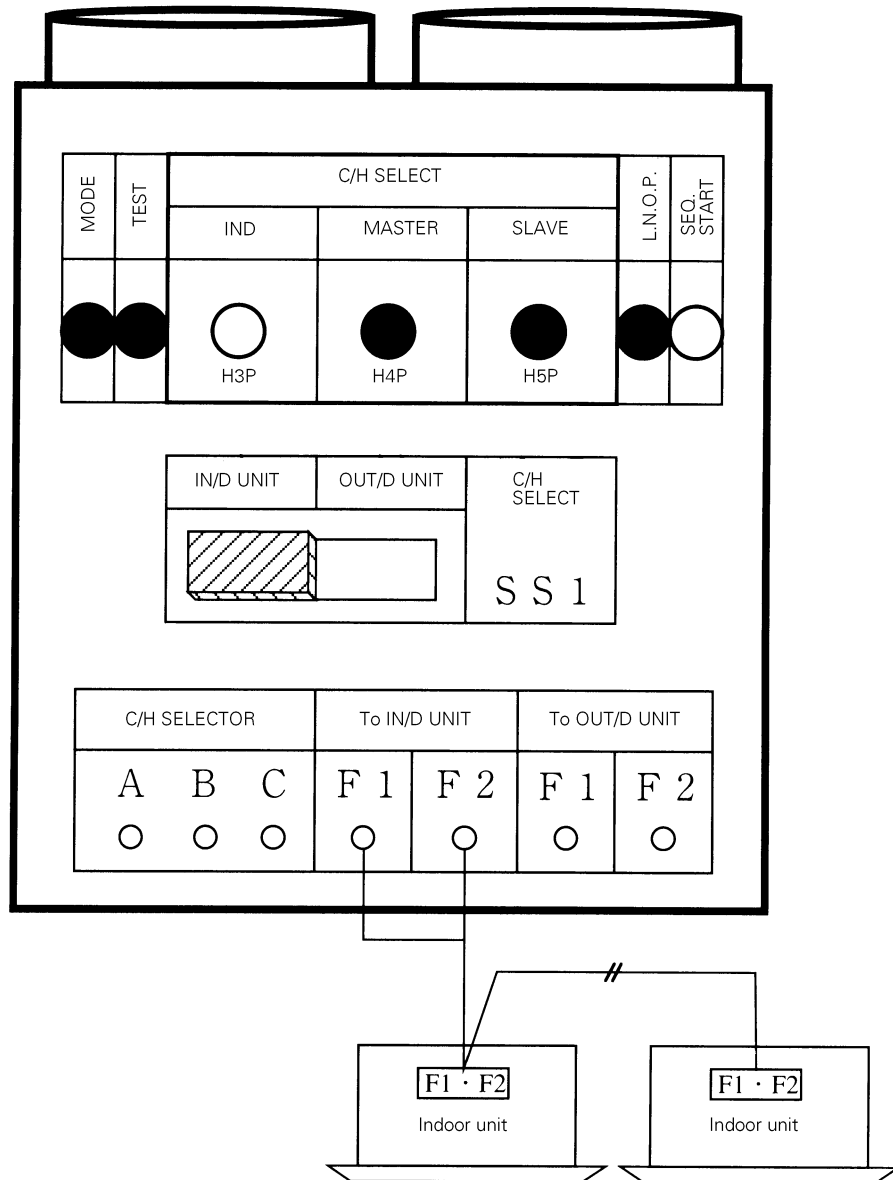
1. Setting of cool/heat by individual outdoor unit system by indoor unit remote controller
2. Setting of cool/heat by individual outdoor unit system by cool/heat selector
3. Setting of cool/heat by outdoor unit system group in accordance with group master outdoor unit by indoor unit remote controller
4. Setting of cool/heat by outdoor unit system group in accordance with group master outdoor unit by cool/heat selector

Each of these setting methods is explained in detail below.

(For 3 and 4 be sure to perform power supply reset after changing settings.)

1.5.1 Setting of Cool / Heat by Individual Outdoor Unit System by Indoor Unit Remote Controller

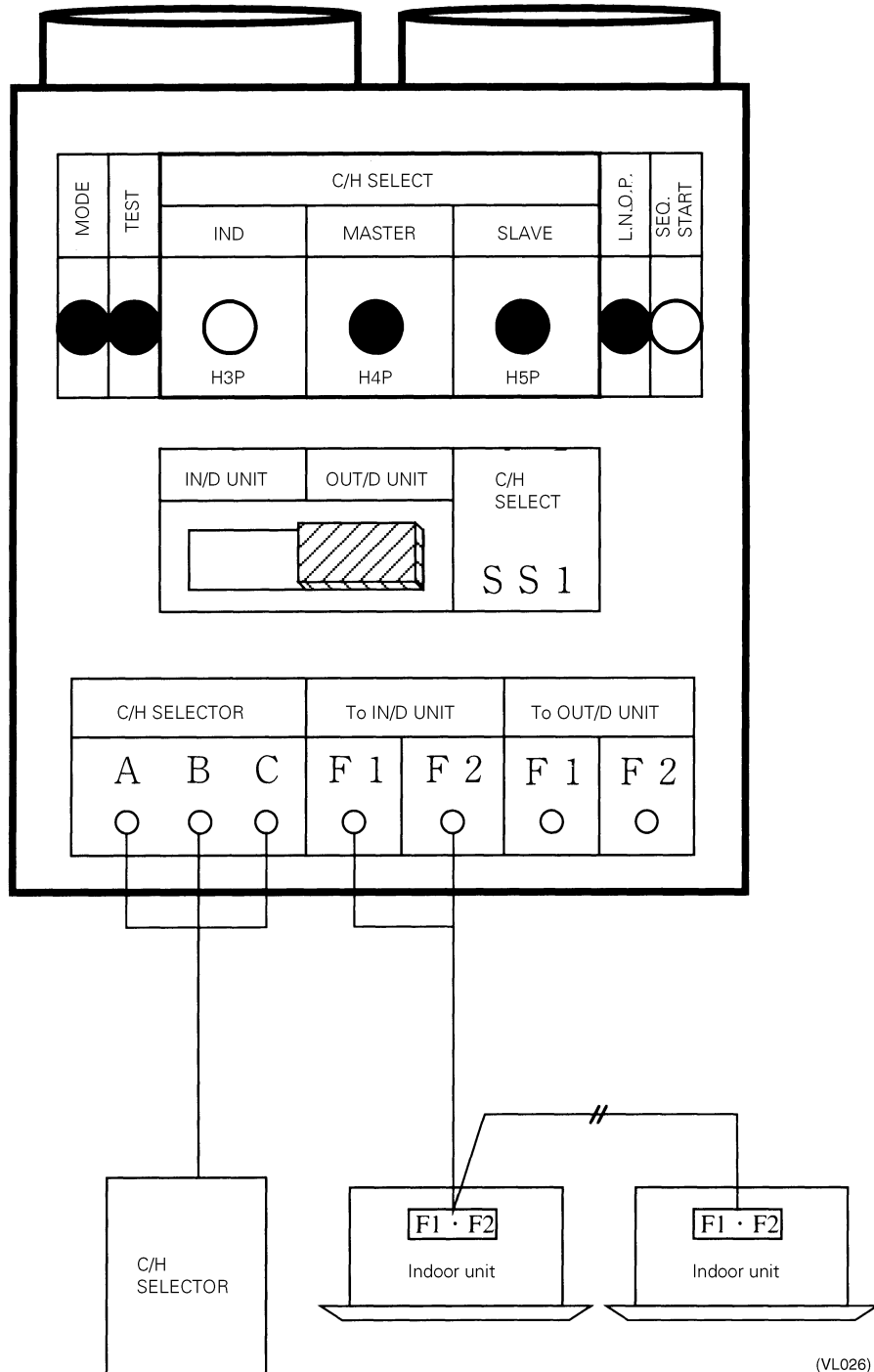
- Doesn't matter whether or not there is outdoor - outdoor unit wiring.
- Set SS1 of the outdoor unit PCB to "IN / D UNIT" (factory set).
- In setting mode 1, set cool/heat selection to "IND" (factory set).



(VL025)

1.5.2 Setting of Cool / Heat by Individual Outdoor Unit System by Cool/Heat Selector

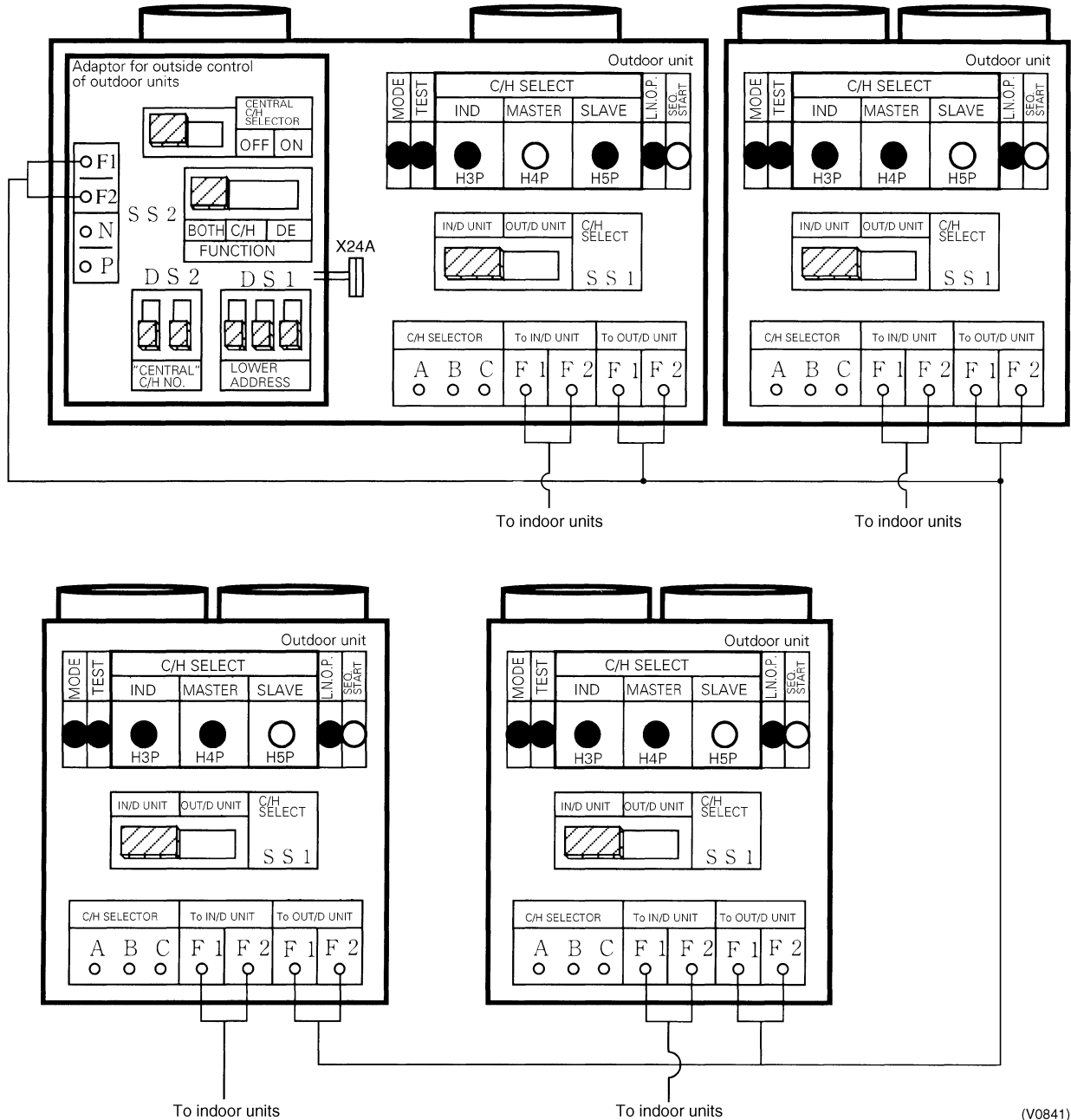
- Doesn't matter whether or not there is outdoor - outdoor unit wiring.
- Set SS1 of the outdoor unit PC board to "OUT / D UNIT."
- In setting mode 1, set cool/heat selection to "IND" (factory set).



(VL026)

1.5.3 Setting of Cool / Heat by Outdoor Unit System Group in Accordance with Group Master Outdoor Unit by Indoor Unit Remote Controller

- Install the External control adaptor for outdoor unit on either the outdoor - outdoor, indoor - outdoor, or indoor - indoor transmission line.
- Set SS1 of the outdoor unit PCB to "IN / D UNIT" (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 SS1 of the External control adaptor for outdoor unit to "BOTH" (factory set) or "C / H." Set SS2 to "OFF" (factory set).



(V0841)

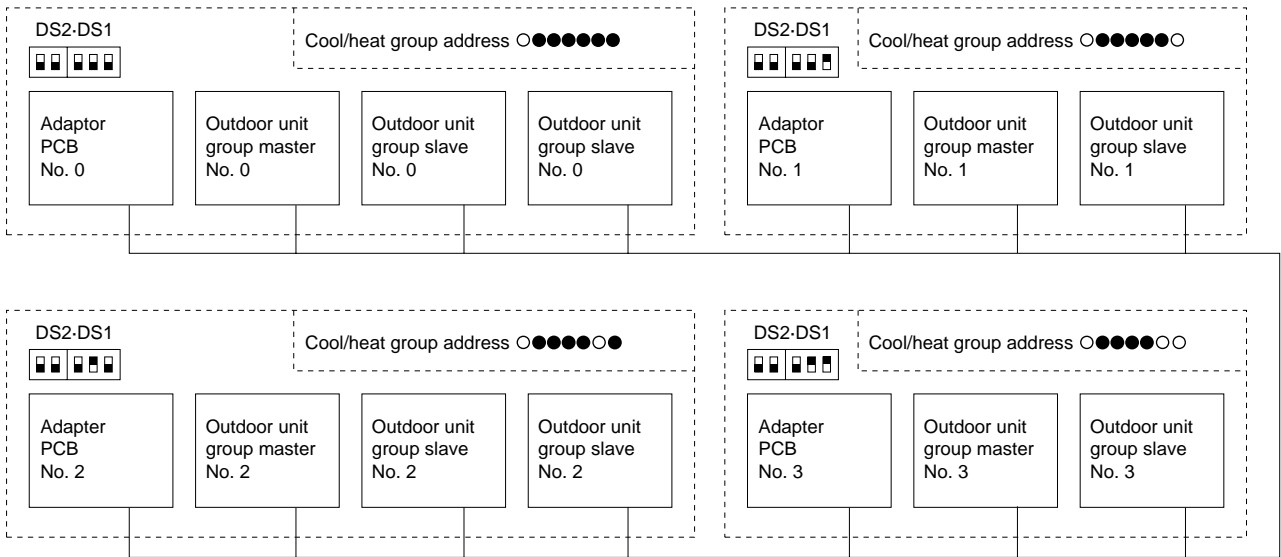
1.5.4 Setting of Cool / Heat by Outdoor Unit System Group in Accordance with Group Master Outdoor Unit by Cool/Heat Selector

- In addition to 1.5.3, change the following:
- Install a cool / heat selector to the group master outdoor unit.
- Set SS1 of the group master outdoor unit's PCB to "OUT / D UNIT."

Supplement

■ Supplement to 1.5.3 and 1.5.4

If using several adaptor PCB and you want to select cool/heat mode for each adaptor PCB, set DS1 / DS2 of the adaptor PCB and the cool/heat group address on the outside unit's PCB to the same setting in setting mode 2.



(VL028)

Setting Method

1.5.3 and 1.5.4 address setting method (combine lower 5 digits as binary number)

Address No.	Outdoor unit PC board LED Set in setting mode 2		PC board adaptor					
			DS2		DS1			
No 0								0
No 1								1
No 2								2
No 3								3
No 4								4
No30								30
No31								31

○ On ● Off

Up (ON) Down (OFF)

(The black part represents the switch.)

(VL029)

1.6 Low Noise Operation

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

Instructions for Demand Control Operation

1. Outdoor unit field setting

- ◆ Setting mode 1: Set low noise operation to "ON."
- ◆ Setting mode 2: Match low noise operation and demand control address with address of outdoor unit external control adaptor.

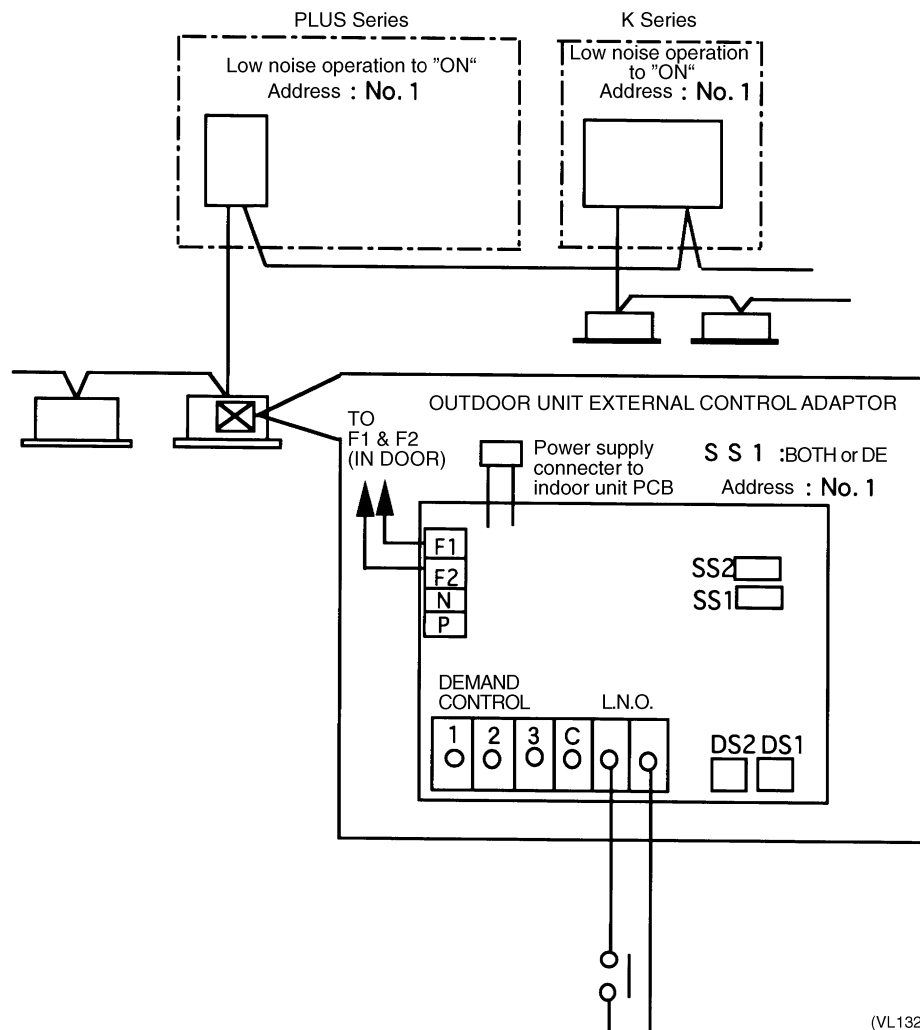
2. Outdoor unit external control adaptor setting

- ◆ Function switch (SS1)
Set to "BOTH" or "DE."

- ◆ Address setting switches (DS1, DS2)
Match with outdoor unit low noise operation and demand control address.

3. Short-circuit the low noise input of outdoor unit external control adaptor for outdoor unit.

Low Noise Control System Example



(VL132)

1.7 Demand Control

By connecting the external contact input to the demand input of the outdoor unit external control adaptor (option), the compressor operating conditions can be controlled for reduced power consumption.

- Demand 1 Approximately 70% level
- Demand 2 Approximately 40% level
- Demand 3 Forced thermostat OFF

Instructions for Demand Control Operation

1. Outdoor unit field setting

- ◆ Setting mode 1: Set low noise operation to "ON."
- ◆ Setting mode 2: Match low noise operation and demand control address with address of outdoor unit external control adaptor.

2. Outdoor unit external control adaptor setting

- ◆ Function switch (SS1)
- Set to "BOTH" or "DE."

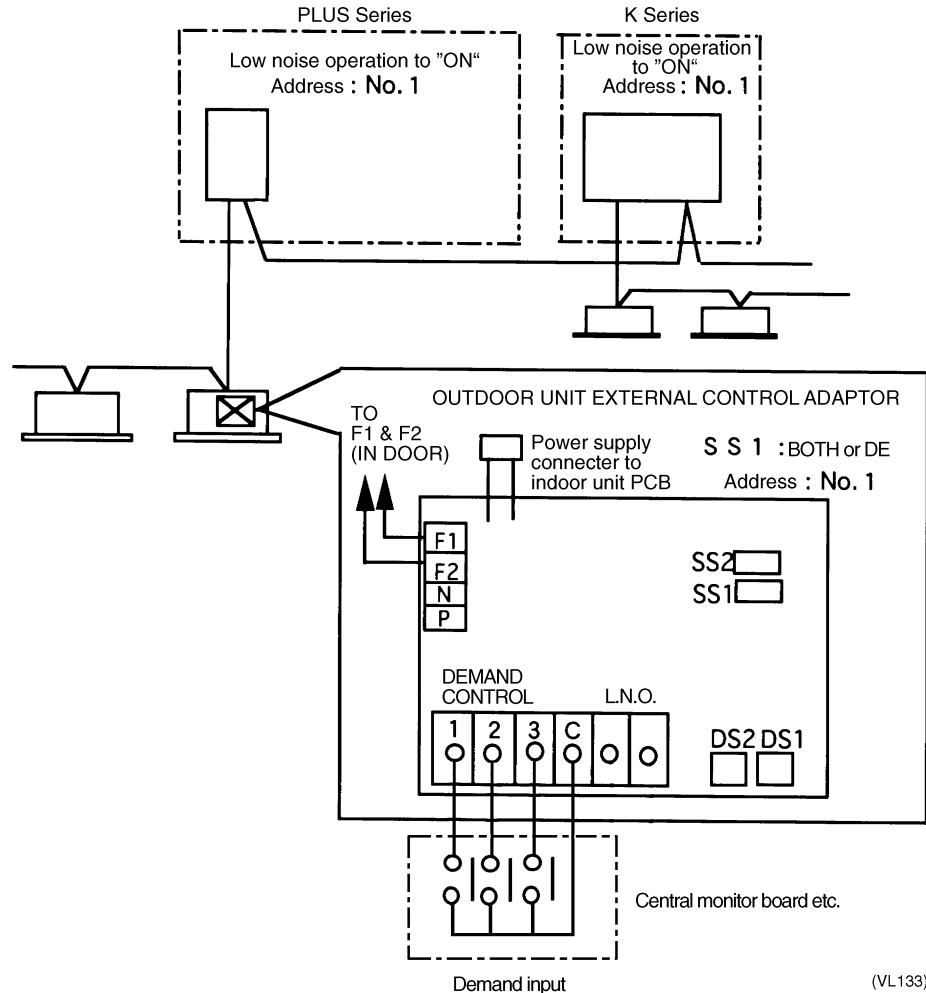
- ◆ Address setting switches (DS1, DS2)

Match with outdoor unit low noise operation and demand control address.

3. Select one from demand input terminals 1 through 3 on the outdoor unit external control adaptor, and short the corresponding terminals.

- Demand 1 Short 1-C.
- Demand 2 Short 2-C.
- Demand 3 Short 3-C.

Demand Control System Example



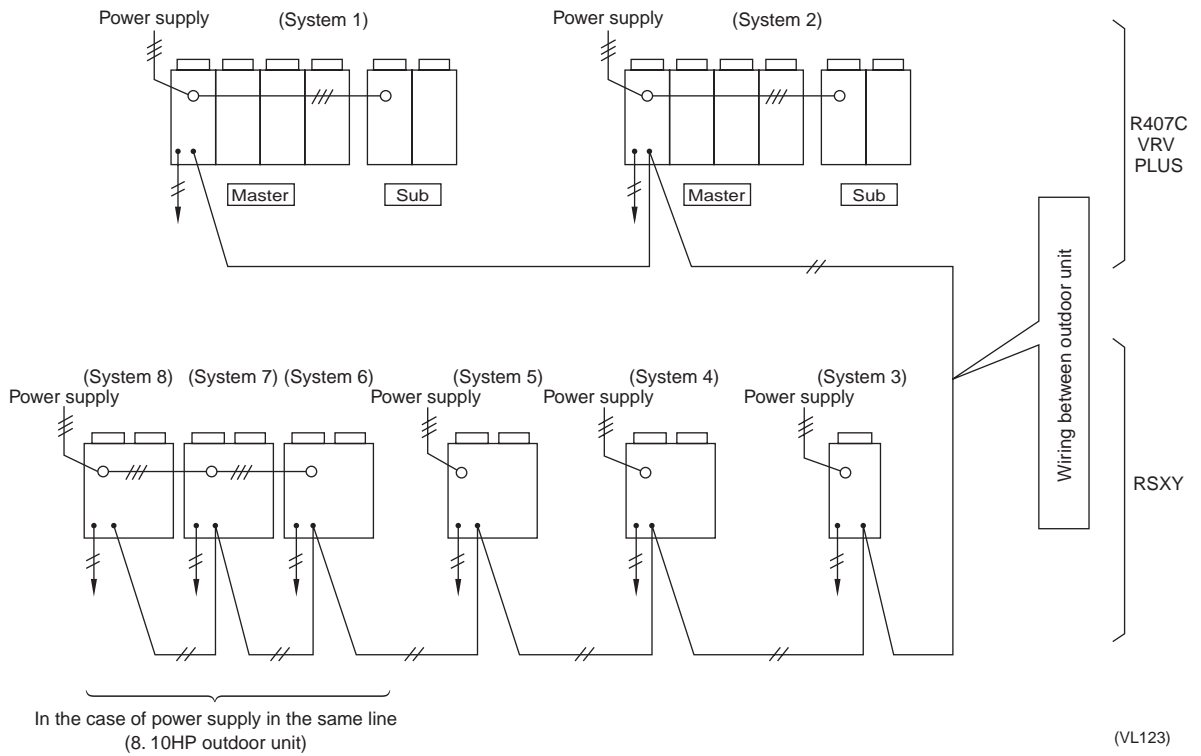
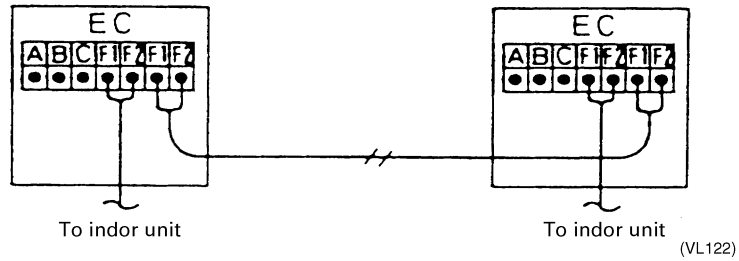
(VL133)

1.8 Sequential Start

- Separates path timing of commercial power supply compressors by 3 seconds each in order to prevent overcurrent when more than 1 compressor are to be started at the same time.
- Improved wiring system enables sequential start of up to 10 outdoor units.

If you want to carry out sequential start, connect outdoor unit - outdoor unit transmission wiring as shown below.

The outdoor unit PC board (EC) is factory set to "sequential start ON."

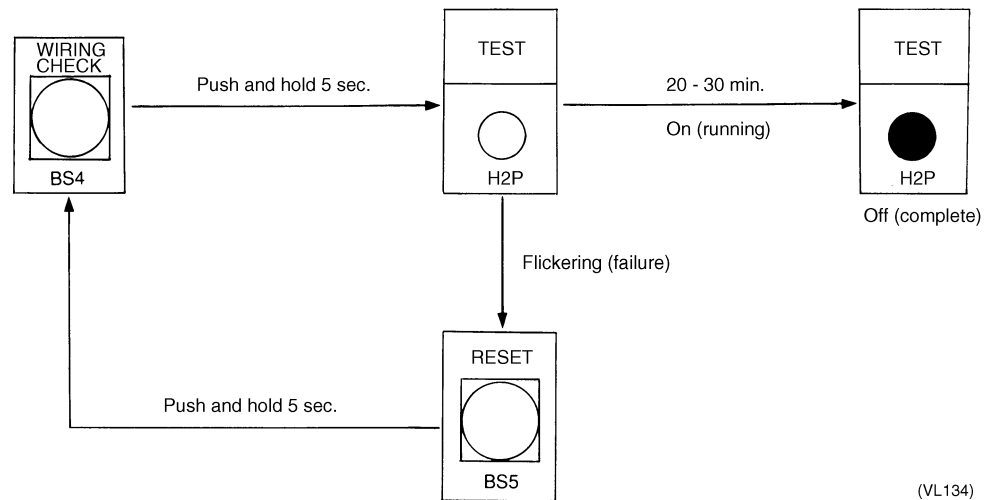


1.9 Wiring Check Operation

If within 12 hours of stopping cooling or heating, be sure to run all indoor units in the system you want to check in the fan mode for about 60 minutes in order to prevent mis-detection.

Operation Method

1. In the monitor mode, check the number of connected indoor units. (See monitor mode.)
2. Push and hold the WIRING CHECK button (BS4) for 5 seconds to perform wiring check operation. While running, TEST (H2P) lights and goes off when finished. If TEST (H2P) flickers (wiring check operation failure), push and hold the RESET button (BS5) for 5 seconds, and then repeat the procedure from the beginning.
3. About 1 minute after you finish running the system, once again check the number of connected indoor units in the monitor mode and make sure the number agrees with the first time you checked. If not, it indicates that there is a wiring mistake. Fix the wiring of the indoor unit whose remote controller displays "UF" when its ON/OFF switch is turned ON.



(VL134)



Note: Other settings are not accepted during wiring check operation.

1.10 Additional Refrigerant Charge Operation

[Work procedure]

1. Conduct ordinary refrigerant charge.
 With the outdoor unit in non-operating condition, charge refrigerant from the liquid-side stop valve service port.
 (Keep the stop valves on both liquid and gas sides closed.)
 - **Conduct the following operation only when the entire amount of refrigerant could not be charged with the compressor in non-operating condition (otherwise equipment damage can result).**
2. Turn on the power switches of the indoor and outdoor units, and fully open the gas-side stop valve.
 (Keep the liquid-side stop valve closed.)
3. Set the service mode.

In service mode 1, press the "MODE" button for 5 seconds to enter service mode 2.	○ ● ● ● ● ● ●	
Press the "SET" button to set the LED indicators to the "additional refrigerant charge operation" indication.	○ ● ○ ● ○ ● ●	
Press the "RETURN" button.	○ ● ● ● ● ● ①	
Press the "SET" button to set the LED indicators as shown at right.	○ ● ● ● ● ① ●	
Press the "RETURN" button to end the setting operation.	○ ● ● ● ● ○ ●	
Press the "RETURN" button again to start operation.	① ① ● ● ● ● ●	
Low pressure level is indicated during operation.	Higher than 3.5k	○ ○ ○ ○ ○ ○ ○
	3.5k or less	○ ○ ● ● ○ ○ ○
	2.5k or less	○ ○ ● ● ● ○ ○
	1.5k or less	○ ○ ● ● ● ● ○
Operation ends (after 30 minutes). (Pressure level immediately before is indicated by flashing LEDs.)	○ ○ ● ● ● ① ① This LED indication shows that the operation stopped with pressure level at [2.5 k or lower].	
Push "Mode" button once to complete additional refrigerant change.	○ ● ● ● ● ○ ●	

4. The refrigerant charge is completed when the specified amount of refrigerant is added. If the refrigerant charge operation is not completed in 30 minutes, make the settings again and restart the operation.
 (When the Confirmation button is pressed during additional refrigerant charge operation, the operation stops.)
5. Disconnect the refrigerant charge hose, then fully open the liquid-side stop valve.

1.11 Refrigerant Recovery Mode

- The electronic expansion valves in the indoor and outdoor units are fixed in the fully open position for refrigerant recovery.

[Work procedure]

1. Stop equipment operation.

2. Set the service mode.

In service mode 1, press the "MODE" button for 5 seconds to enter service mode 2.	○ ● ● ● ● ● ●
Press the "SET" button to set the LED indicators to the "refrigerant recovery mode" indication.	○ ● ○ ● ○ ● ○
Press the "RETURN" button.	○ ● ● ● ● ● ①
Press the "SET" button to set the LED indicators as shown at right.	○ ● ● ● ● ① ●
Press the "RETURN" button to end the setting operation.	○ ● ● ● ● ○ ●

3. Turn off the power switches of the indoor and outdoor units.
(Turn off the power switch of one unit, then turn off the power switch of the other unit within 10 minutes.)

4. Conduct refrigerant recovery.

5.

Press the "RETURN" button again to return to initial status.	○ ● ● ● ● ● ●
--	---------------

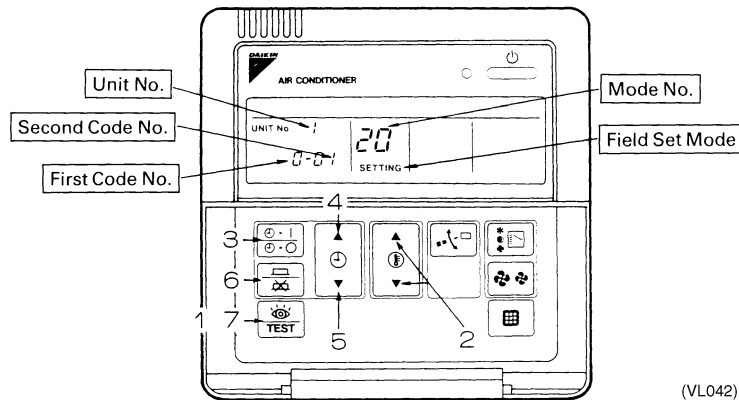
- Cancel the setting in the setting mode or cancel the mode by conducting power reset of the outdoor unit.

1.12 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 or HRV unit's individual functions have been modified.

1.12.1 Wired Remote Controller <BRC1A51>



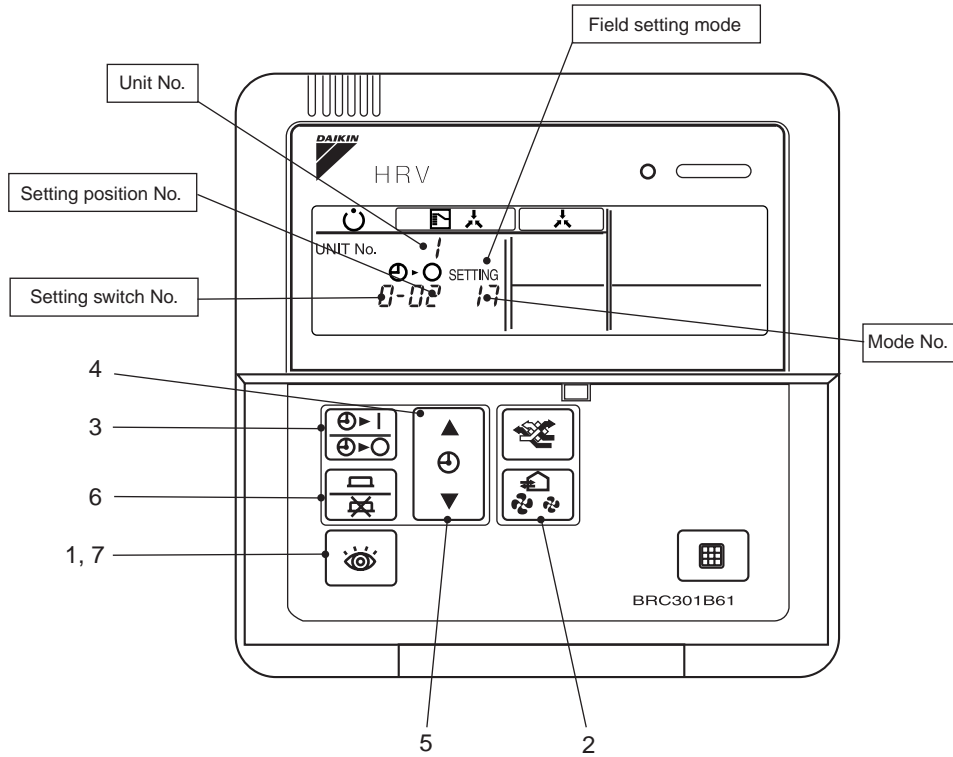
(VL042)

1. When in the normal mode, push the  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  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".

1.12.2 Wired Remote Controller – Heat Reclaim Ventilation <BRC301B61>



(HL039)

Setting procedure

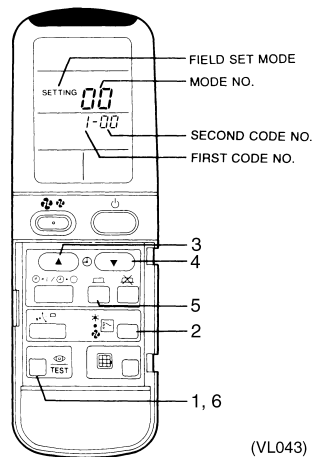
1. In the Normal Mode, press the button for more than 4 seconds to enter the Local Setting mode.
2. Using the (Mode No. UP) and [Ventilation Volume] (Mode No. DOWN) buttons to select a desired Mode No.
3. To set individual Heat Reclaim Ventilation units in group control (select Mode Nos. 27 and 28 (Heat 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."

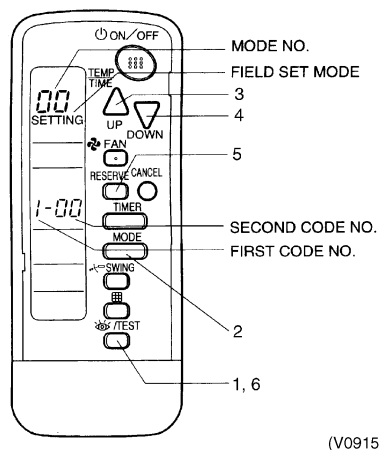
1.12.3 Wireless Remote Controller — Indoor Unit







BRC7A type



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

BRC7C type



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

1.12.4 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 (FXYC only, 01 indicates long life)			Long life filter		Super long life filter		—		Soot 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		External protection device		—	
		2	Thermostat differential changeover (Set when remote sensor is to be used.) FXYCP, FXYFP, FXYHP only			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	4:03	05:4	6:05	7:06	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.) FXYF only			N		H		—		—		
	1	Selection of air flow direction (Set when a blocking pad kit has been installed.) FXYF only			F (4 directions)		T (3 directions)		W (2 directions)		—		
	2	Horizontal air discharge			Equipped		Not equipped		—		—		
	3	Air flow direction adjustment (Set at installation of decoration panel.) FXYK only			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		—		—		
	3	Drain pump humidifier interlock selection			Not equipped		Equipped		—		—		
	4	Sets whether filter sign is to be output by time or by input.			Time addition		Input		—		—		
	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:

- 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.
- The mode numbers inside parentheses cannot be used by wireless remote controllers, so they cannot be set individually. Setting changes also cannot be checked.
- Mode numbers 17 (27) and 19 (29) are HRV functions that can be set from a VRV system remote controller.
- The second code No. is factory set to "01." The field set air flow position setting is however factory set to "02".
- Do not make settings other than those described above. Nothing is displayed for functions the indoor unit is not equipped with.
- "88" may be displayed to indicate the remote controller is resetting when returning to the normal mode.

1.12.5 Field Setting, Service Mode – Heat Reclaim Ventilation (HRV)

1. Field setting
Used for initial setting of heat reclaim ventilation unit.
2. Service mode
Used for confirmation of unit Nos. in the group and reallocation of unit Nos.

List of Field Setting and Service Mode

Heat Reclaim Ventilation (HRV)	Mode No.	Setting switch No.	Setting contents	Setting position					
				01	02	03	04	05	06
17(27)	0	Filter cleaning time setting	Approx. 2500 hr.	Approx. 1250 hr.	No counting	—	—	—	—
	2	Pre-cool/pre-heat On/Off setting	Off	On	—	—	—	—	—
	3	Pre-cool/pre-heat time (min.) setting	30 min.	45 min.	60 min.	—	—	—	—
	4	Fan speed initial setting	Normal	Ultra-High	—	—	—	—	—
	5	Yes / No setting for direct duct Connection with VRV system Setting for cold areas (Fan operation selection for heater thermostat OFF)	No duct (Air flow setting)	With duct (fan off)	—	—	—	—	—
					No duct		With duct		
			Fan off	Fan L	Fan off	Fan L			
	7	Centralized / individual setting	Centralized	Individual	—	—	—	—	—
	8	Centralized zone interlock setting	No	Yes	Priority on Operation	—	—	—	—
	9	Pre-heat time extension setting	0	30 min.	60 min.	90 min.	—	—	—
	18(28)	0	External signal setting JC / J2	Last command	Priority on external input	—	—	—	—
		1	Setting for direct power-on	Off	On	—	—	—	—
		2	Auto restart setting	Off	On	—	—	—	—
4		Indication of ventilation mode / Not indication	Indication	No Indication	—	—	—	—	
			Supply	Exhaust	Supply	Exhaust	—	—	
8		External input terminal function selection (between J1 and JC)	Fresh up	Overall alarm	Overall malfunction	Forced off	Fan forced off	Air flow increase	
	Humidify		Abnormal	Fan on / off	—	—	—		
19(29)	0	Air flow setting	Low	Low	Low	Low	High	High	
	2	Ventilation mode setting	Automatic	Total heat exchange	Normal	—	—	—	
	3	Fresh up operation	OFF	ON	—	—	—	—	
	8	Electric heater setting	No delay	No delay	ON / OFF Delay	ON / OFF Delay	—	—	

**Note:**

1. All the setting can be made by the remote controller for VRV and HRV unit.
The setting of mode No. 19 (29) and 40 can be made only by the remote controller for VRV unit. The mode No. 30 is used for the individual setting such as the calculation of power bill, etc.
2. The mode No. in () is used for making individual setting of each unit.
3. **Group number setting for centralized controller**
 1. Mode no. 00: Group controller
 2. Mode no. 30: Individual controller







* Regarding the setting procedure, refer to the section "Group number setting for centralized control" in the operating manual of either the on / off controller or the central controller.

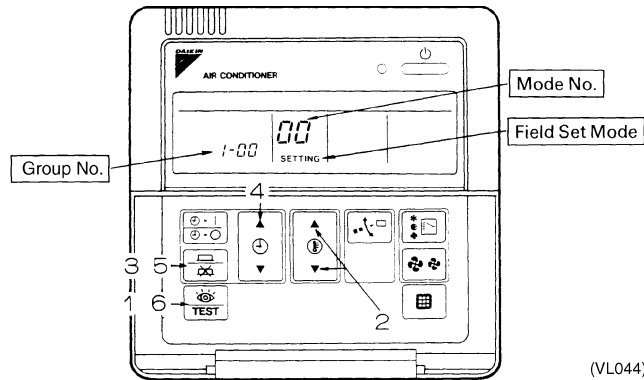
**Caution**

1. The setting positions are set at "01" at the factory.
The ventilation air flow, however, is set at "05" (medium) in the HRV unit. When lower or higher setting is desired, change the setting after installation.

1.13 Centralized Control Group No. Setting

BRC1A51-52



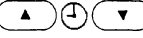


- If carrying out centralized control by central remote controller or unified ON/OFF controller, group No. must be set for each group individually by remote controller.
 - Group No. setting by remote controller for centralized control
1. When in the normal mode, push the  button for 4 seconds or more, 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  button to return to the normal mode.



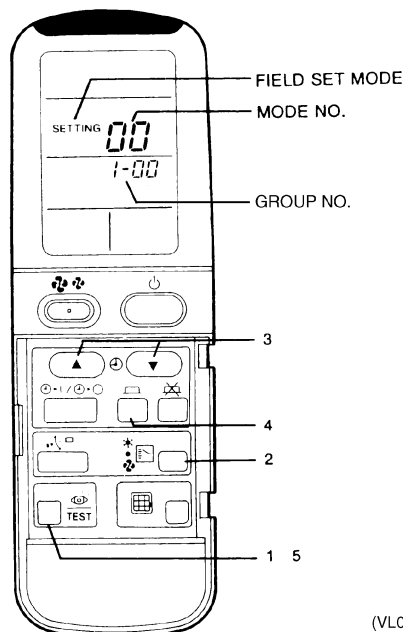
(VL044)

- 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.

BRC7A Type







- Group No. setting by wireless remote controller for centralized control
1. When in the normal mode, push  button for 4 seconds or more, and operation then enters the “field set mode.”
 2. Set mode No. “00” with  button.
 3. Set the group No. for each group with  button (advance/backward).
 4. Enter the selected group numbers by pushing  button.
 5. Push  button and return to the normal mode.

BRC7A Type

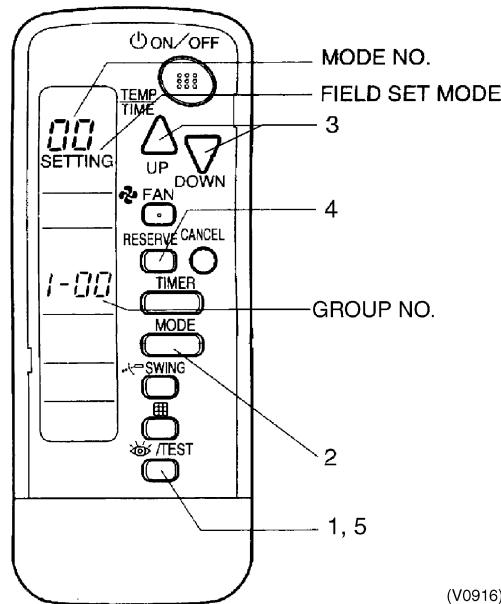


(VL045)

BRC7C Type

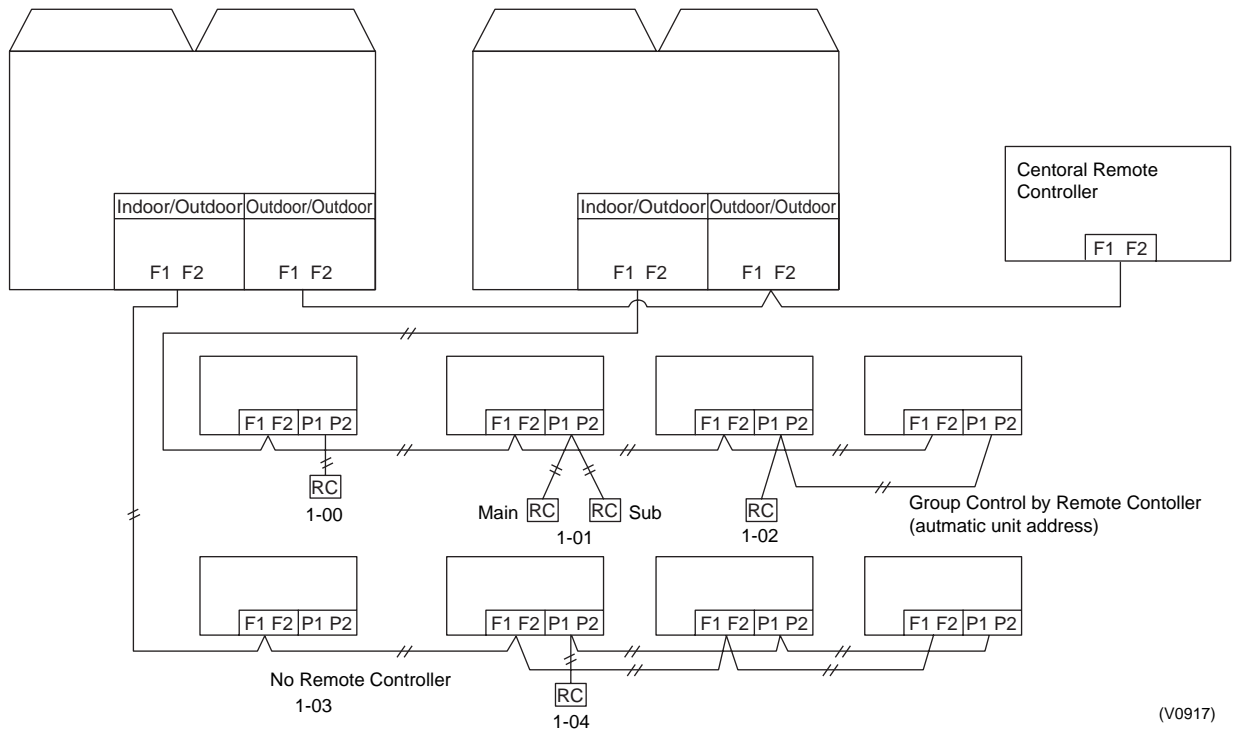
- Group No. setting by wireless remote controller for centralized control
- 1. When in the normal mode, push  button for 4 seconds or more, and operation then enters the "field set mode."
- 2. Set mode No. "00" with  button.
- 3. Set the group No. for each group with   button (advance/backward).
- 4. Enter the selected group numbers by pushing  button.
- 5. Push  button and return to the normal mode.

BRC7C Type



(V0916)

Group No. Setting Example



(V0917)

- 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.

1.14 Contents of Control Modes

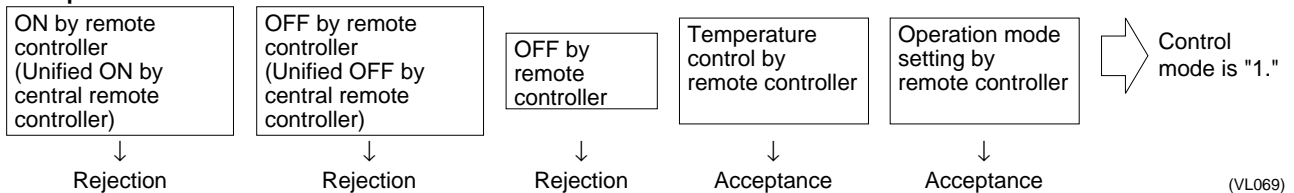
Twenty modes consisting of combinations of the following five operation modes with temperature and operation mode setting by remote controller can be set and displayed by operation modes 0 through 19.

- ◆ 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

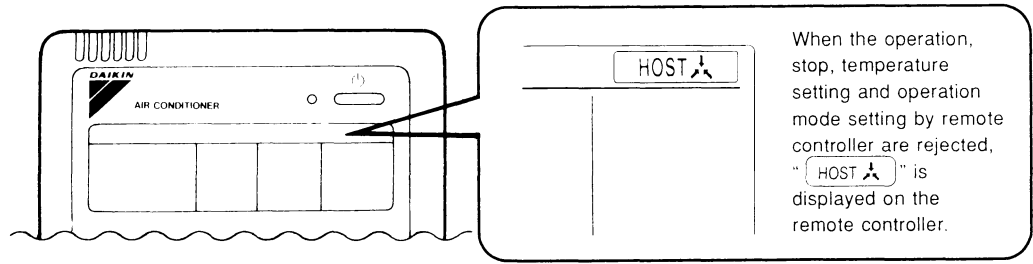


(VL069)

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
OFF control only possible by remote controller	Rejection (Example)	Rejection (Example)	Rejection (Example)	Rejection	Acceptance (Example)	1(Example)
					Rejection	11
Centralized	Acceptance	Acceptance	Acceptance	Rejection	Acceptance	2
					Rejection	12
Individual	Acceptance	Acceptance	Acceptance	Acceptance	Rejection	3
					Rejection	13
Timer operation possible by remote controller	Acceptance (During timer at ON position only)	Acceptance (During timer at ON position only)	Acceptance	Rejection	Acceptance	4
					Rejection	14
Timer operation possible by remote controller	Acceptance (During timer at ON position only)	Acceptance (During timer at ON position only)	Acceptance	Acceptance	Rejection	5
					Rejection	15
Timer operation possible by remote controller	Acceptance (During timer at ON position only)	Acceptance (During timer at ON position only)	Acceptance	Acceptance	Rejection	6
					Rejection	16
Timer operation possible by remote controller	Acceptance (During timer at ON position only)	Acceptance (During timer at ON position only)	Acceptance	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)	Acceptance	Rejection	Acceptance	8
					Rejection	18
Timer operation possible by remote controller	Acceptance (During timer at ON position only)	Acceptance (During timer at ON position only)	Acceptance	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



When the operation, stop, temperature setting and operation mode setting by remote controller are rejected, "HOST" is displayed on the remote controller.

(VL070)

Part 5

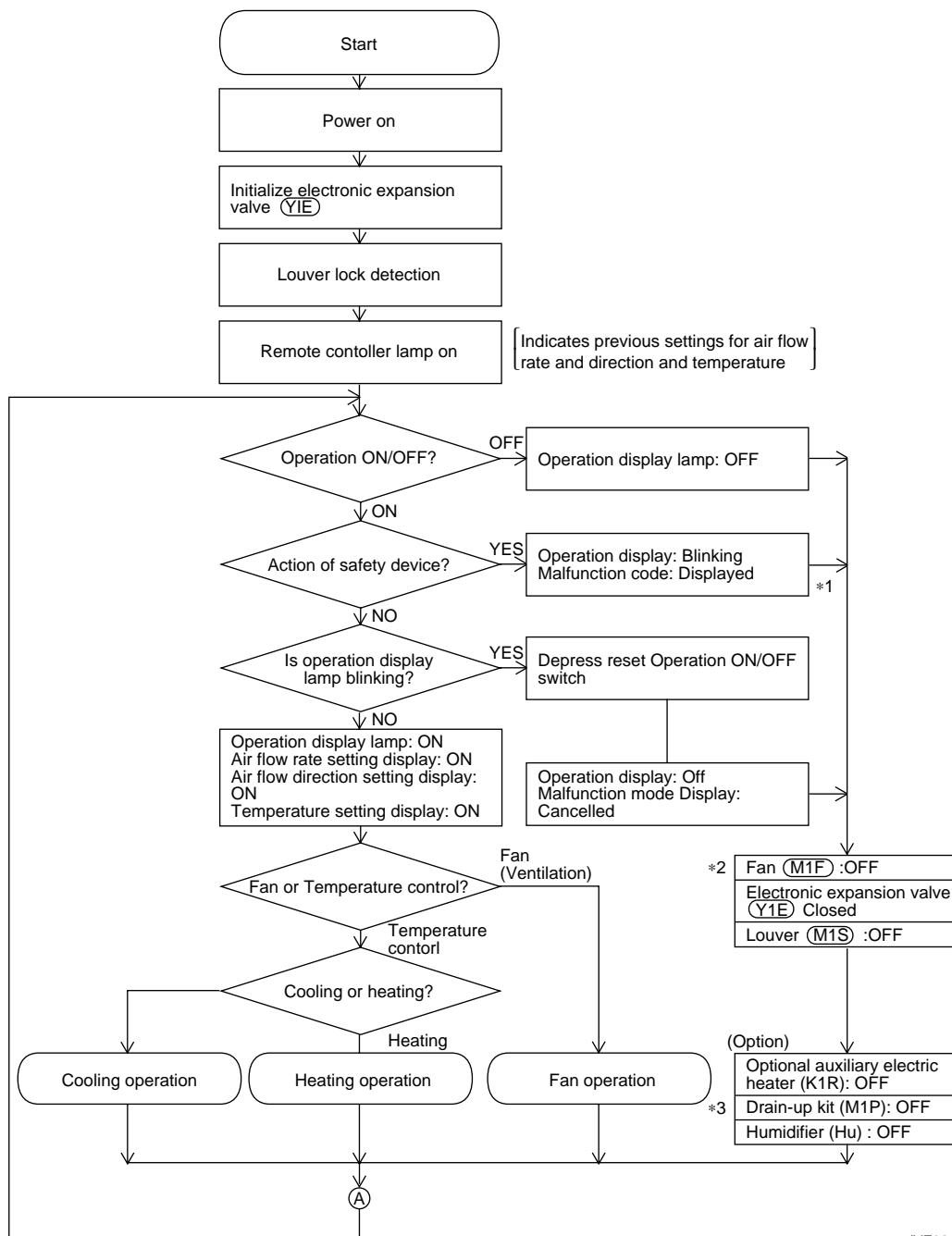
Troubleshooting R-407C PLUS Series

1. Operation Flowcharts	111
1.1 Indoor Unit Operation Flowchart.....	111
2. Troubleshooting by Remote Controller	116
2.1 The INSPECTION / TEST Button.....	116
2.2 Self-diagnosis by Wired Remote Controller.....	117
2.3 Self-diagnosis by Wireless Remote Controller	118
2.4 Operation of The Remote Controller's Inspection / Test Operation Button	122
2.5 Remote Controller Service Mode	123
2.6 Remote Controller Self-Diagnosis Function	125
3. Troubleshooting	128
3.1 Indoor Unit: Error of External Protection Device.....	128
3.2 Indoor Unit: PC Board Defect.....	128
3.3 Indoor Unit: Malfunction of Drain Level Control System (33H).....	129
3.4 Indoor Unit: Fan Motor (M1F) Lock, Overload.....	130
3.5 Indoor Unit: Malfunction of Swing Flap Motor (M1S).....	131
3.6 Indoor Unit: Malfunction of Moving Part of Electronic Expansion Valve (Y1E).....	132
3.7 Indoor Unit: Drain Level above Limit	133
3.8 Indoor Unit: Malfunction of Capacity Determination Device	134
3.9 Indoor Unit: Malfunction of Thermistor (R2T) for Liquid Pipe	134
3.10 Indoor Unit: Malfunction of Thermistor (R3T) for Gas Pipes	135
3.11 Indoor Unit: Malfunction of Thermistor (R1T) for Air Inlet.....	135
3.12 Indoor Unit: Malfunction of Thermostat Sensor in Remote Controller.....	136
3.13 Outdoor Unit: Actuation of Safety Device	136
3.14 Outdoor Unit: PC Board Defect	137
3.15 Outdoor Unit: Actuation of High Pressure Switch.....	137
3.16 Outdoor Unit: Actuation of Low Pressure Sensor.....	138
3.17 Outdoor Unit: Malfunction of Moving Part of Electronic Expansion Valve (Y1E).....	139
3.18 Outdoor Unit: Abnormal Discharge Pipe Temperature.....	140
3.19 Outdoor Unit: Malfunction of Thermistor for Outdoor Air (R1T).....	141
3.20 Outdoor Unit: Malfunction of Discharge Pipe Thermistor (R3T).....	142
3.21 Outdoor Unit: Malfunction of Thermistor (R4T) for Suction Pipe	143
3.22 Outdoor Unit: Malfunction of Thermistor (R2T) for Heat Exchanger ...	144
3.23 Outdoor Unit: Malfunction of Discharge Pipe Pressure Sensor.....	145
3.24 Outdoor Unit: Malfunction of Suction Pipe Pressure Sensor.....	146
3.25 Low Pressure Drop Due to Refrigerant Shortage or Electronic Expansion Valve Failure.....	147
3.26 Reverse Phase, Open Phase	148
3.27 Malfunction of Transmission Between Indoor Units	149

3.28 Malfunction of Transmission	
Between Remote Controller and Indoor Unit.....	150
3.29 Malfunction of Transmission Between Outdoor Units.....	151
3.30 Malfunction of Transmission	
Between Master and Slave Remote Controllers.....	152
3.31 Malfunction of Transmission	
Between Indoor and Outdoor Units in the Same System.....	153
3.32 Excessive Number of Indoor Units	154
3.33 Address Duplication of Central Remote Controller.....	155
3.34 Refrigerant System not Set, Incompatible Wiring/Piping.....	155
3.35 Malfunction of System, Refrigerant System Address Undefined.....	156
4. Failure Diagnosis for Inverter System	157
4.1 Points of Diagnosis.....	157
4.2 How to Use The Monitor Switch on The Inverter PC Board	158
5. Troubleshooting (Inverter)	159
5.1 Outdoor Unit: Malfunction of	
Inverter Radiating Fin Temperature Rise	159
5.2 Outdoor Unit: Inverter Instantaneous Over-Current	160
5.3 Outdoor Unit: Inverter Thermostat Sensor, Compressor Overload	161
5.4 Outdoor Unit: Inverter Stall Prevention, Compressor Lock.....	162
5.5 Outdoor Unit: Malfunction of Transmission	
Between Inverter and Control PC Board	163
5.6 Power Supply Insufficient or Instantaneous Failure	164
5.7 Outdoor Unit: Inverter Over-Ripple Protection.....	165
5.8 Outdoor Unit: Malfunction of	
Inverter Radiating Fin Temperature Rise Sensor	166
6. Troubleshooting (OP: Central Remote Controller)	167
6.1 Malfunction of Transmission	
Between Central Remote Controller and Indoor Unit	167
6.2 PC Board Defect.....	168
6.3 Malfunction of Transmission	
Between Optional Controllers for Centralized Control.....	168
6.4 Improper Combination of Optional Controllers	
for Centralized Control.....	169
6.5 Address Duplication, Improper Setting.....	170
7. Troubleshooting (OP: Schedule Timer).....	171
7.1 Malfunction of Transmission	
Between Central Remote Controller and Indoor Unit	171
7.2 PC Board Defect.....	172
7.3 Malfunction of Transmission	
Between Optional Controllers for Centralized Control.....	172
7.4 Improper Combination of	
Optional Controllers for Centralized Control.....	173
7.5 Address Duplication, Improper Setting.....	174
8. Troubleshooting (OP: Unified ON/OFF Controller)	175
8.1 Operation Lamp Blinks	175
8.2 Display “Under Host Computer Integrate Control” Blinks	
(Repeats Single Blink)	176
8.3 Display “Under Host Computer Integrate Control” Blinks	
(Repeats Double Blink).....	178

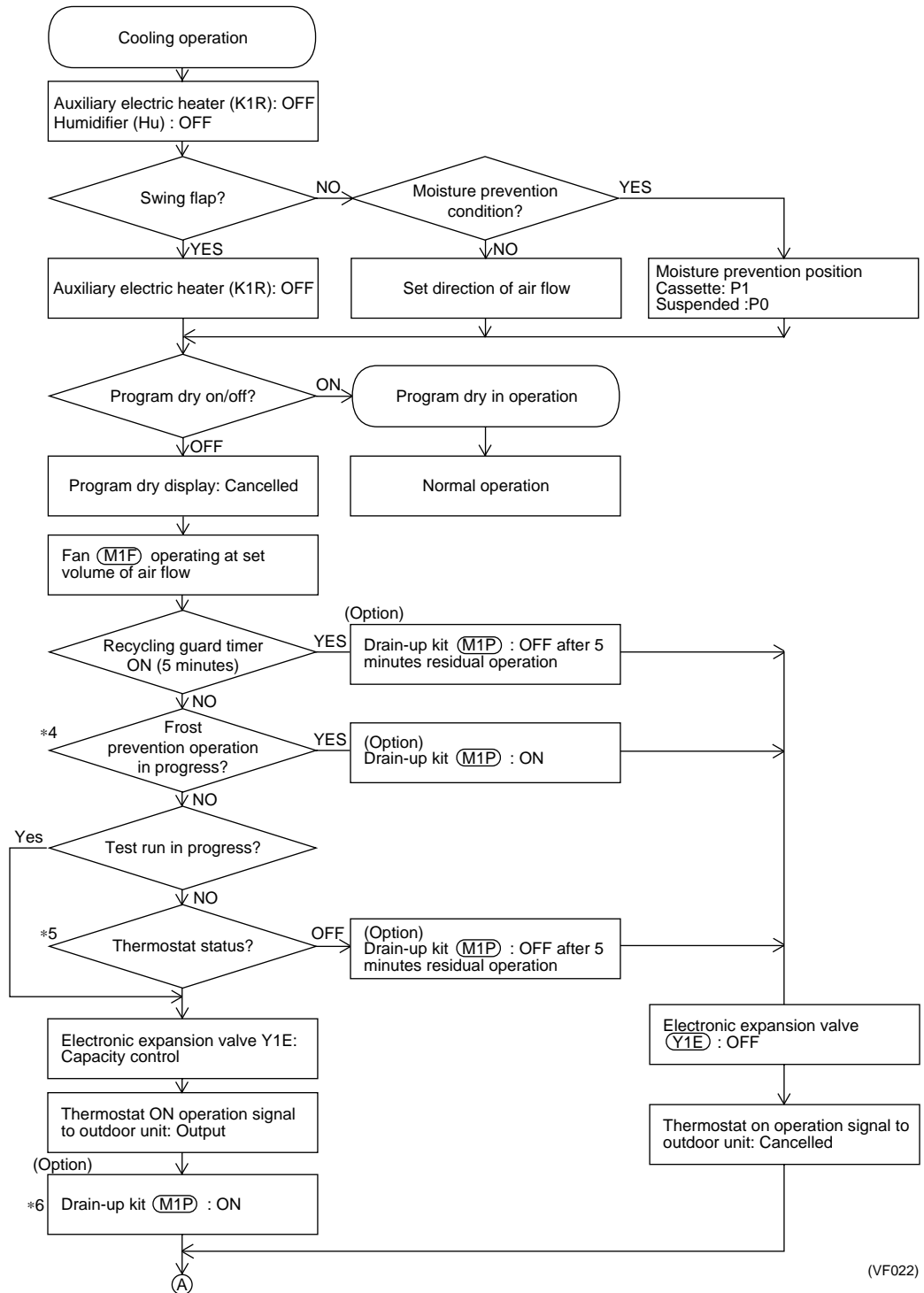
1. Operation Flowcharts

1.1 Indoor Unit Operation Flowchart



(VF021)

- *1 In the event of a malfunction, the malfunction code is displayed in the remote controller's malfunction code display.
- *2 When the auxiliary electric heater is on, the fan stops after one minute residual operation.
- *3 When the drain-up kit is ON, it stops after five minutes residual operation.



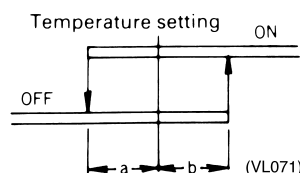
(VF022)

*4 If the evaporator inlet temperature is -5°C or lower for a total of 10 minutes, or is -1°C or lower for a total of 40 minutes, frost prevention operation is initiated. Normal operation resumes when the temperature is +7°C or higher for 10 consecutive minutes.

*5 Thermostat status

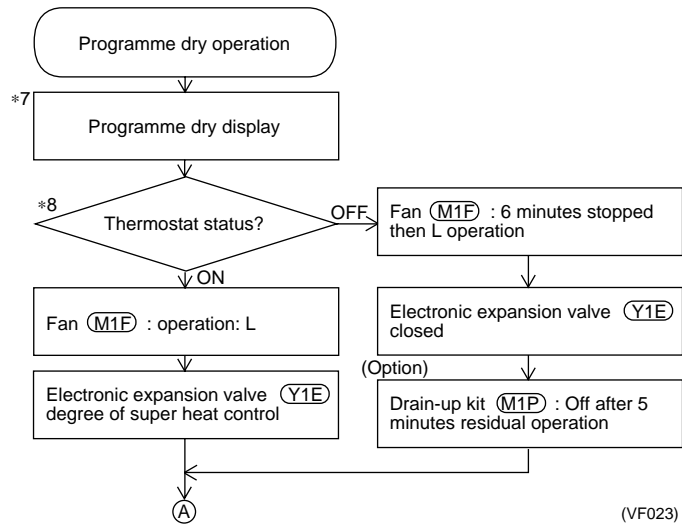
*6 The drain-up kit is standard equipment for models FXYCP, FXYFP, FXYKP and FXYSP.

Preset temperature

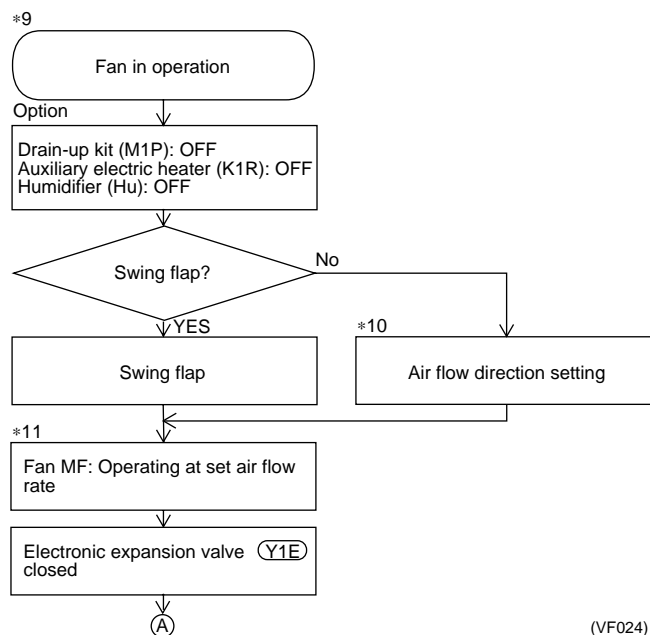
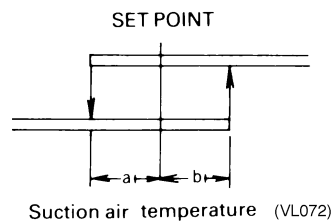


Intake air temperature

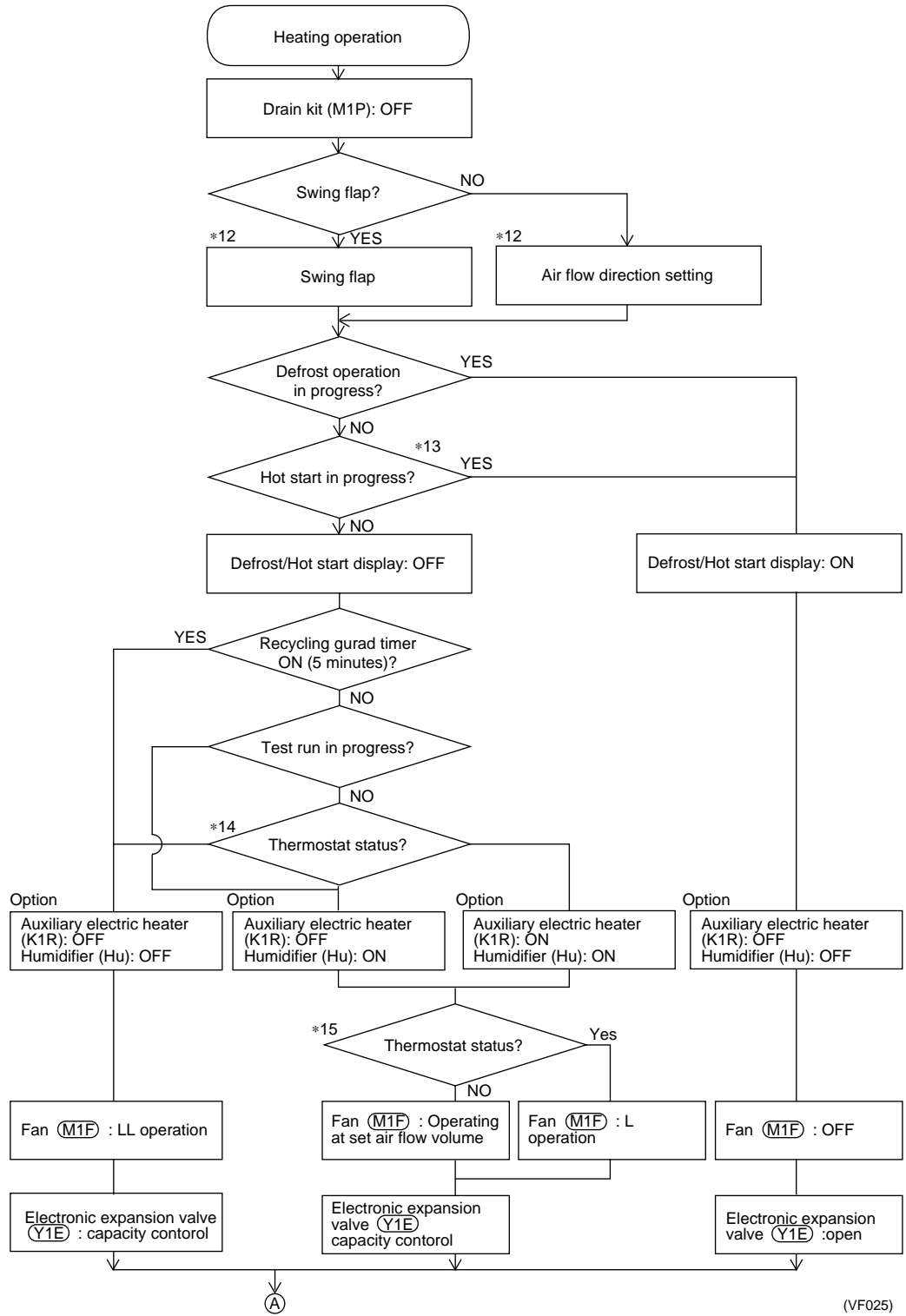
a = b = 1 (a = b = 0.5 possible for FXYCP, FXYFP, FXYHP, FXYKP only.)



- *7 Programme dry display
Does not display preset temperature and air flow settings of the controller.
- *8 Thermostat status
Preset temperature during programme dry operation



- *9 Fan operation
When fan operation has been selected using the remote controller, operation is turned OFF by thermostat when temperature control operation has been selected.
- *10 Air flow direction setting
If fan operation is selected with the remote controller, air discharge is 100% horizontal during heating.
- *11 Fan
If fan operation is selected with the remote controller, LL speed operation is carried out during heating.



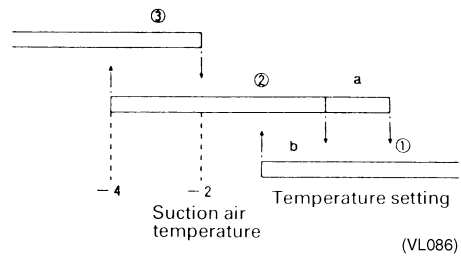
*12 Air flow direction

Air discharge is 100% horizontal when heating operation is turned off by thermostat.

*13 Hot start

Hot start is carried out when operation starts or defrosting is complete, and condenser inlet temperature exceeds 34°C, or 3 minutes elapses, or when Tc > 52°C.

*14. Thermostat status



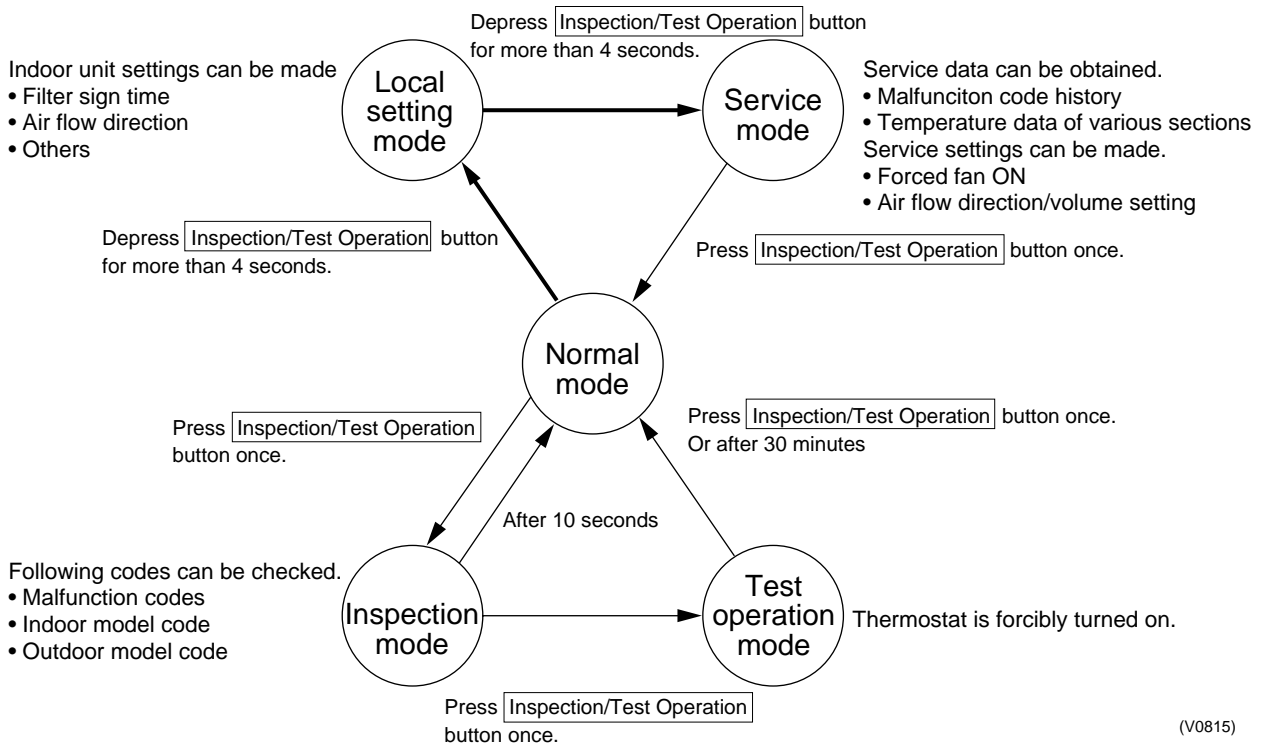
*15 Low discharge air temperature protection

Protection is effected when the preset temperature is 24°C or lower and the opening of the electronic expansion valve is slight.

2. Troubleshooting by Remote Controller

2.1 The INSPECTION / TEST Button

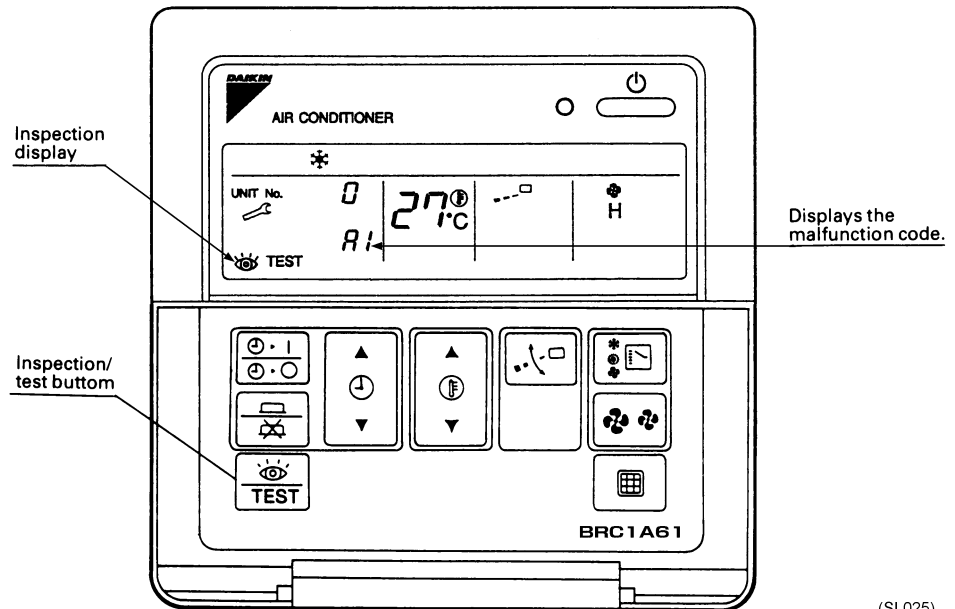
The following modes can be selected by using the [Inspection/Test Operation] button on the remote control.



2.2 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 125 for malfunction code and malfunction contents.



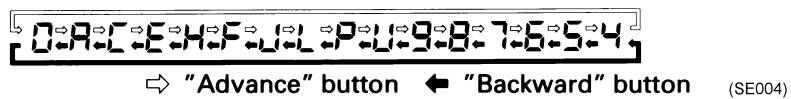
(SL025)

2.3 Self-diagnosis by Wireless Remote Controller

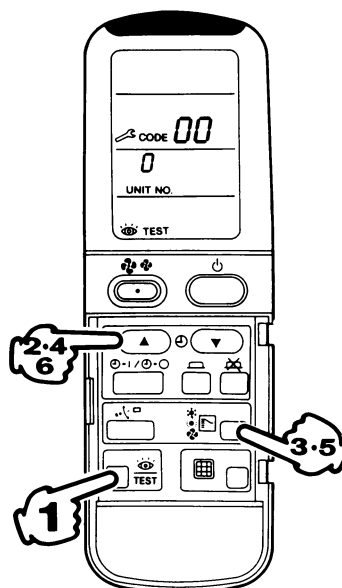
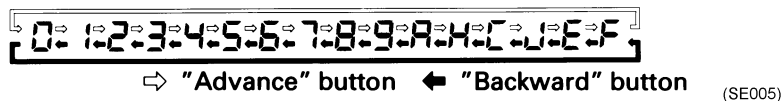
In Case of BRC7A~Type

If operation stops due to malfunction, the light reception section operation LED blinks. The malfunction code can be decided by the following procedure. (If operation stops due to malfunction, you can find out the cause by checking the malfunction code, or you can find out what the most recent malfunction code is during normal operation.)

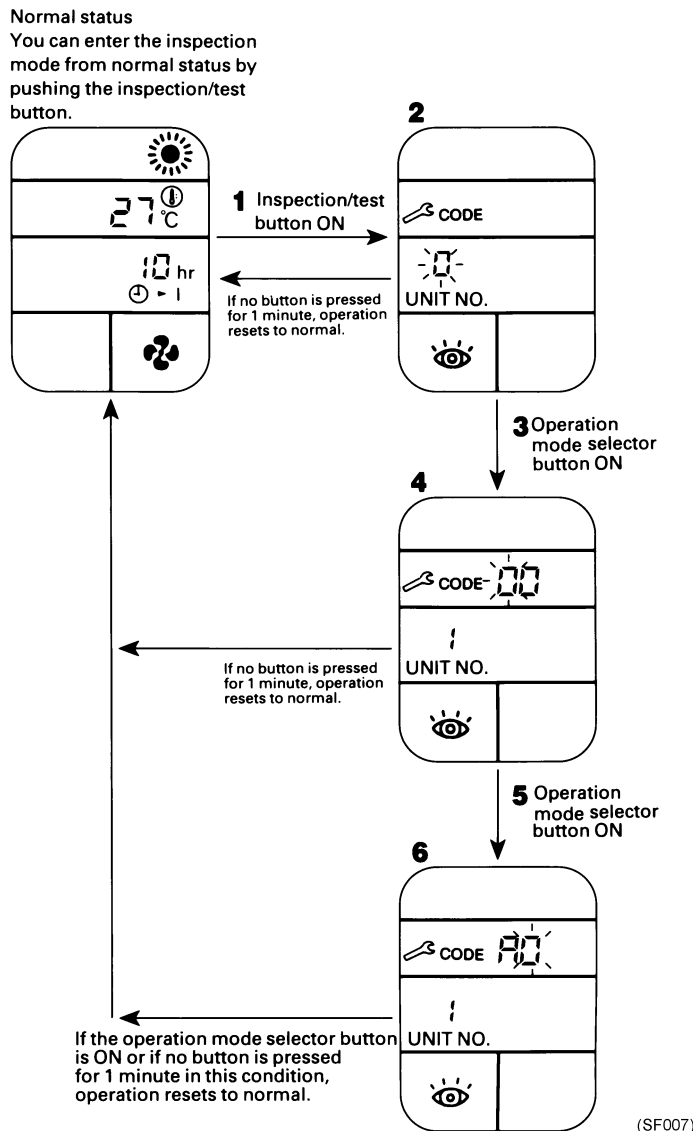
1. Push INSPECTION/TEST, and select "inspection."
Operation then enters the inspection mode. "UNIT" lights and unit No. display "0" blinks.
 2. Unit No. setting
Change the unit No. by pushing the "advance" or "backward" button, and continue pushing until the buzzer (*1) sounds from the indoor unit.
*1 Buzzer sound times
3 times : Carry out all of the following operations.
1 time : Carry out operations 3 and 4. Carry out operation 4 until the buzzer sounds continuously. When the buzzer sounds continuously. The malfunction code is set.
Continuous : There is no malfunction.
- The upper digit of the code changes as shown below by pushing the "advance" or "backward" button.



3. Push the operation mode selector button. The "0" (upper digit) on the left side of the malfunction code blinks.
 4. Malfunction code upper digit diagnosis Push the "advance" or "backward" button until the malfunction code matching buzzer (*2) sounds and select the malfunction code upper digit.
*2 Buzzer sound times
Continuous : Both upper and lower digit agree. (Malfunction code set)
2 times : Upper digit agrees
1 time : Lower digit agrees
 5. Push the operation mode selector button.
The "0" (upper digit) on the right side of the malfunction code blinks.
 6. Malfunction code lower digit diagnosis Push the "advance" or "backward" button until the malfunction code matching buzzer sounds continuously, and select the malfunction code lower digit.
- The lower digit of the code changes as shown below by pushing the "advance" or "backward" button.



(SL026)



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.

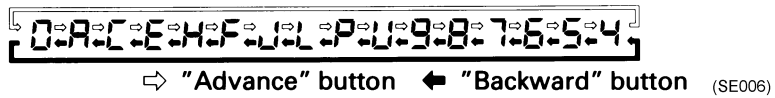
Continue the operation in step 4 until a buzzer remains ON. The continuous buzzer indicates that the malfunction code is confirmed.

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.

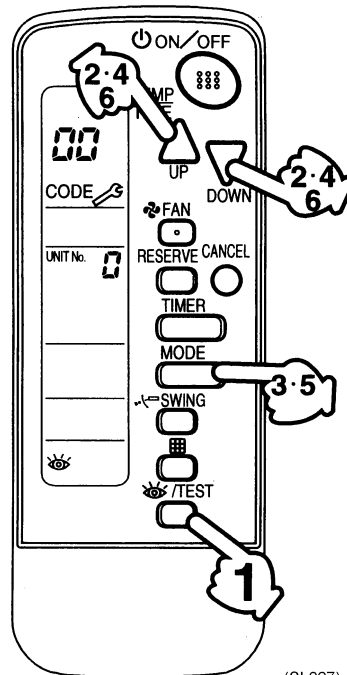
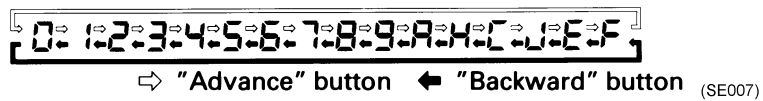
5. Press the MODE selector button.

The right "0" (lower digit) indication of the malfunction code flashes.

6. Malfunction code lower digit diagnosis

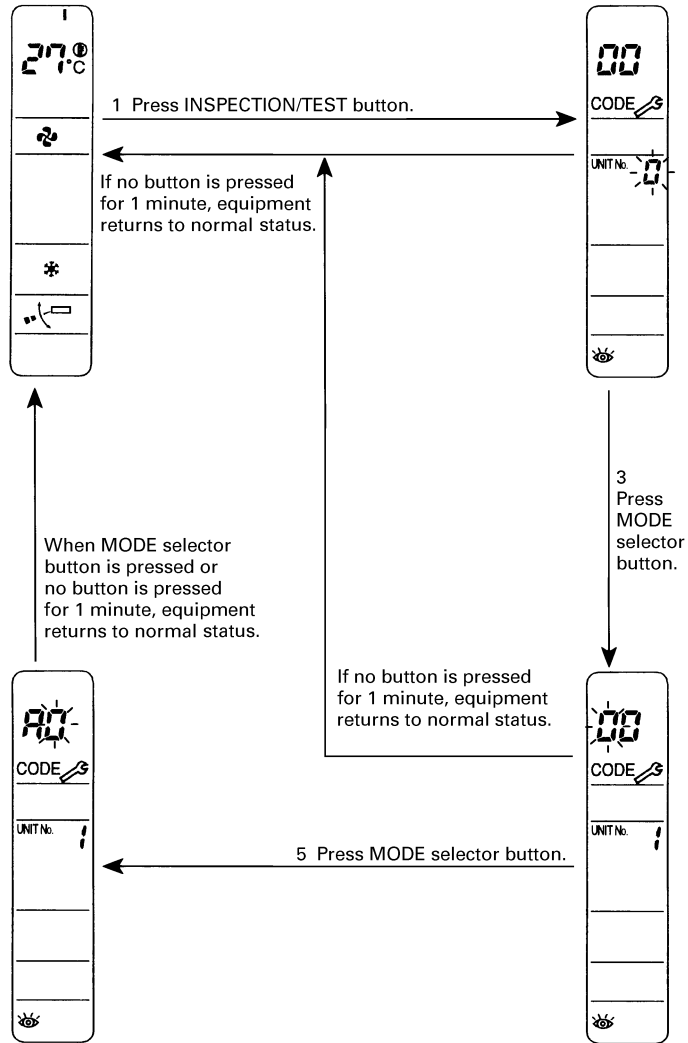
Press the UP or DOWN button and change the malfunction code lower digit until the continuous malfunction code matching buzzer (*2) is generated.

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



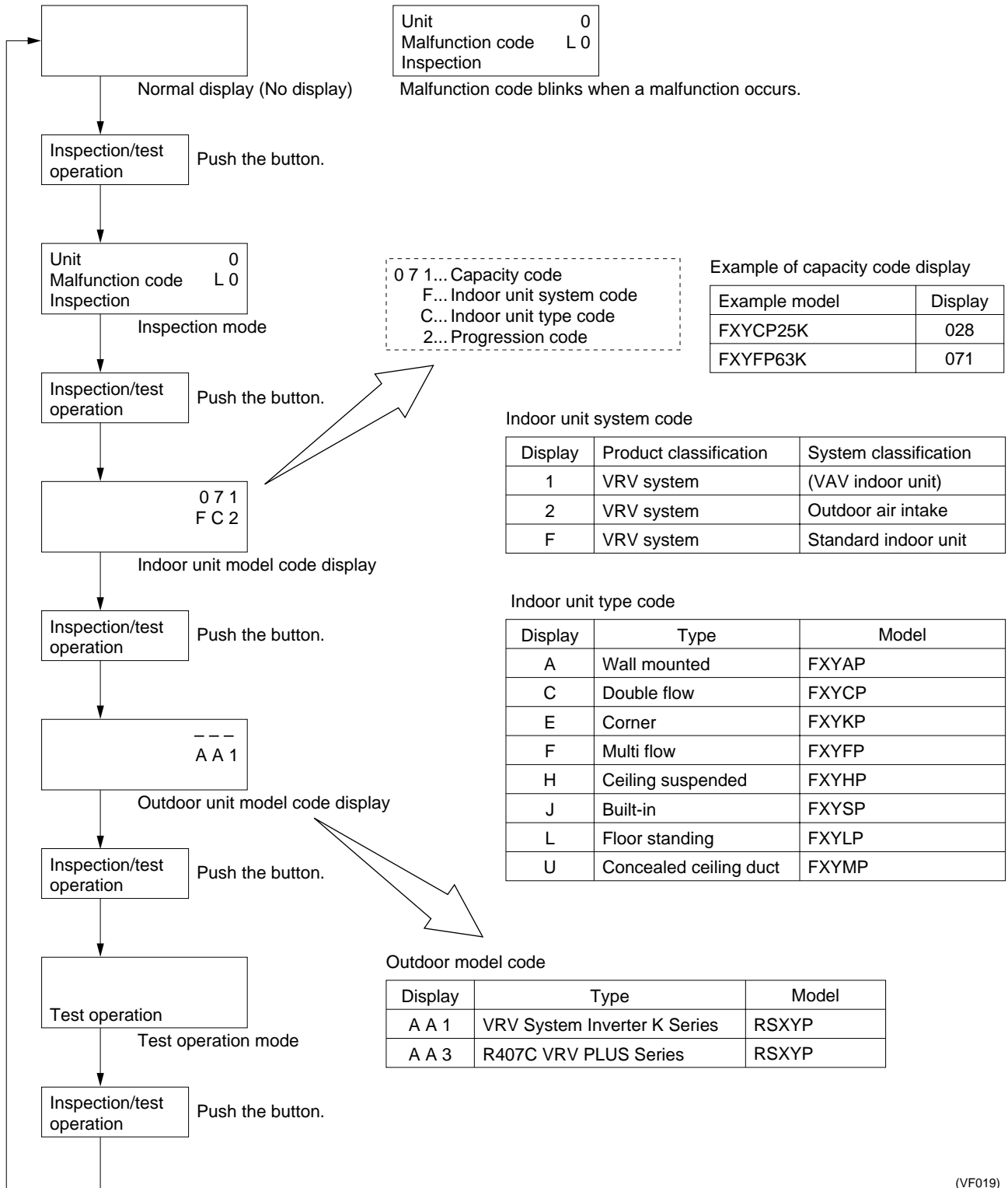
(SL027)

Normal status
Enters inspection mode from normal status when the INSPECTION/TEST button is pressed.



(SF008)

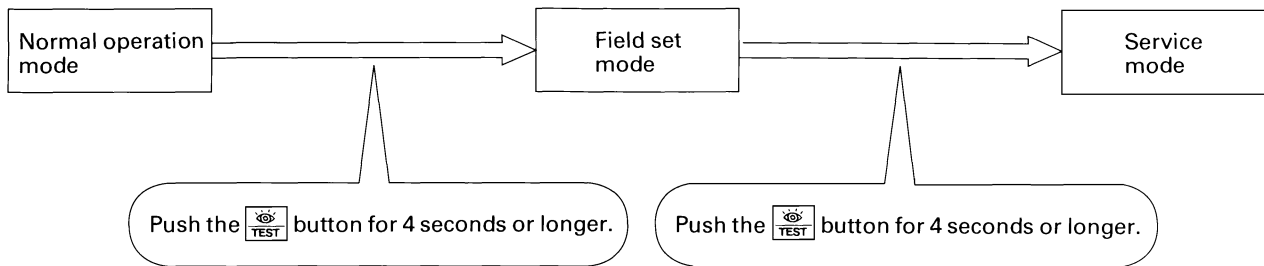
2.4 Operation of The Remote Controller's Inspection / Test Operation Button



(VF019)

2.5 Remote Controller Service Mode


How to Enter the Service Mode




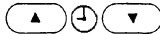
(VF020)

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.

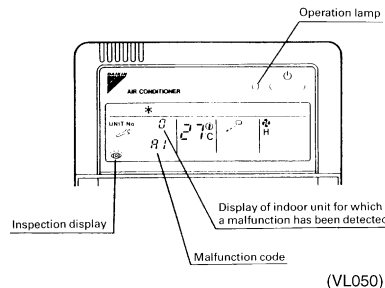
5. Return to the normal operation mode.

Push the  button one time.

Mode No	Function	Contents and operation method	Remote controller display example
40	Malfunction hysteresis display	<p>Display malfunction hysteresis.</p> <p>The hysteresis No. can be changed with the  button.</p>	<p>Unit 1 Malfunction code 40</p> <p>2-U4 Malfunction code</p> <p>Hysteresis No: 1 - 9 1: Latest</p> <p>(VE007)</p>
41	Display of sensor and address data	<p>Display various types of data.</p> <p>Select the data to be displayed with the  button.</p> <p>Sensor data 0: Thermostat sensor in remote controller. 1: Suction 2: Liquid pipe 3: Gas pipe</p> <p>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</p>	<p>Sensor data display</p> <p>Unit No. Sensor type</p> <p>1 1 41</p> <p>2 7 Temperature °C</p> <p>Address display</p> <p>Unit No. Address type</p> <p>1 8 41</p> <p>1 Address</p> <p>(VE008)</p>
43	Forced fan ON	<p>Manually turn the fan ON by each unit. (When you want to search for the unit No.)</p> <p>By selecting the unit No. with the  button, you can turn the fan of each indoor unit on (forced ON) individually.</p>	<p>Unit 1</p> <p>43</p> <p>(VE009)</p>
44	Individual setting	<p>Set the fan speed and air flow direction by each unit</p> <p>Select the unit No. with the time mode  button.</p> <p>Set the fan speed with the  button</p> <p>Set the air flow direction with the  button.</p>	<p>Unit 1 Code 44</p> <p>1 3</p> <p>Fan speed 1: Low 3: High Air flow direction P0 - P4</p> <p>(VE010)</p>
45	Unit No. transfer	<p>Transfer unit No.</p> <p>Select the unit No. with the  button.</p> <p>Set the unit No. after transfer with the  button.</p>	<p>Present unit No.</p> <p>Unit 1 Code 45</p> <p>0 2 Unit No. after transfer</p> <p>(VE011)</p>
46	This function is not used by VRV System Inverter K Series.		
47			

2.6 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.



	Malfunction code	Operation lamp	Inspection display	Unit No.	Malfunction contents	Page Referred
Indoor Unit	A0	●	●	●	Error of external protection device	128
	A1	●	●	●	PC board defect	128
	A1	○	●	●	PC board defect	128
	A3	●	●	●	Malfunction of drain level control system (33H)	129
	A6	●	●	●	Fan motor lock	130
	A7	○	●	●	Malfunction of swing flap motor (M1S)	131
	A9	●	●	●	Malfunction of moving part of electronic expansion valve (Y1E)	132
	AF	○	●	●	Drain level above limit	133
	AH	●	●	●	Malfunction of air filter maintenance	—
	AJ	●	●	●	Malfunction of capacity determination device	134
	C4	●	●	●	Malfunction of thermistor (R2T) for liquid pipe (loose connection, disconnection, short circuit, failure)	134
	C5	●	●	●	Malfunction of thermistor (R3T) for gas pipes (loose connection, disconnection, short circuit, failure)	135
	C9	●	●	●	Malfunction of thermistor (R1T) for air inlet (loose connection, disconnection, short circuit, failure)	135
	CJ	○	○	○	Malfunction of thermostat sensor in remote controller	136
Outdoor Unit	E0	●	●	●	Actuation of safety device	136
	E1	●	●	●	PC board defect	137
	E1	○	●	●	PC board defect	137
	E3	●	●	●	Actuation of high pressure switch	137
	E4	●	●	●	Actuation of low pressure sensor	138
	E9	●	●	●	Malfunction of moving part of electronic expansion valve (Y1E)	139
	F3	●	●	●	Abnormal discharge pipe temperature	140
	H3	○	●	●	High pressure switch failure	—
	H4	●	●	●	Actuation of low pressure switch	—
	H9	●	●	●	Malfunction of thermistor (R1T) for outdoor air (loose connection, disconnection, short circuit, failure)	141
	H9	○	●	●	Malfunction of thermistor (R1T) for outdoor air (loose connection, disconnection, short circuit, failure)	141
	J1	●	●	●	Malfunction of pressure sensor	—
	J3	●	●	●	Malfunction of discharge pipe thermistor (R3T) (loose connection, disconnection, short circuit, failure)	142
	J3	○	●	●	Malfunction of discharge pipe thermistor (R3T) (loose connection, disconnection, short circuit, failure)	142
J5	●	●	●	Malfunction of thermistor (R4T) for suction pipe (loose connection, disconnection, short circuit, failure)	143	

	Malfunction code	Operation lamp	Inspection display	Unit No.	Malfunction contents	Page Referred
Outdoor Unit	J6	●	●	●	Malfunction of thermistor (R2T) for heat exchanger (loose connection, disconnection, short circuit, failure)	144
	J6	○	●	●	Malfunction of thermistor (R2T) for heat exchanger (loose connection, disconnection, short circuit, failure)	144
	JA	●	●	●	Malfunction of discharge pipe pressure sensor	145
	JC	●	●	●	Malfunction of suction pipe pressure sensor	146
	JH	○	●	●	Malfunction of oil temperature sensor	—
	L0	●	●	●	Failure of inverter system	—
	L4	●	●	●	Malfunction of inverter radiating fin temperature rise	159
	L5	●	●	●	Inverter instantaneous over-current	160
	L6	●	●	●	Compressor motor insulation defect, short circuit	—
	L8	●	●	●	Inverter thermostat sensor, Compressor overload	161
	L9	●	●	●	Inverter stall prevention, Compressor lock	162
	LA	●	●	●	Malfunction of power unit	—
LC	●	●	●	Malfunction of transmission between inverter and control PC board	163	
System	P0	●	●	●	Gas depletion (heat build up)	—
	P1	●	●	●	Inverter over-ripple protection	165
	P4	●	●	●	Malfunction of inverter radiating fin temperature sensor	166
	U0	○	●	●	Low pressure drop due to refrigerant shortage or electronic expansion valve failure	147
	U1	●	●	●	Negative phase / open phase	148
	U2	●	●	●	Power supply insufficient or instantaneous failure	164
	U4	●	●	●	Malfunction of transmission between indoor unit	149
	U5	●	●	●	Malfunction of transmission between remote controller and indoor unit	150
	U5	●	○	●	Failure of remote controller PC board or setting during control by remote controller	—
	U7	●	●	●	Malfunction of transmission between indoor units Malfunction of transmission between outdoor units, malfunction of transmission between outdoor unit and ice build-up heat unit	—
	U7	○	●	●	Malfunction of transmission between outdoor units (cool/heat unified, low noise)	151
	U8	●	●	●	Malfunction of transmission between master and slave remote controllers (malfunction of slave remote controller)	152
	U9	●	●	●	Malfunction of transmission between indoor unit and outdoor unit in same system	153
	UA	●	●	●	Excessive number of indoor units	154
	UC	○	○	○	Address duplication of central remote controller	155
	UE	●	●	●	Malfunction of transmission between indoor unit and central remote controller	167
UF	●	●	●	Refrigerant system not set, incompatible wiring / piping	155	
UH	●	●	●	Malfunction of system, refrigerant system address undefined	156	

 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 Referred
Centralized Control and Schedule Timer	UE	●	●	●	Malfunction of transmission between central remote controller and indoor unit	167 171
	M1	○ or ●	●	●	PC board defect	168 172
	M8	○ or ●	●	●	Malfunction of transmission between optional controllers for centralized control	168 172
	MA	○ or ●	●	●	Improper combination of optional controllers for centralized control	169 173
	MC	○ or ●	●	●	Address duplication, improper setting	170 174
Heat Reclaim Ventilation	60	○	●	●	Overall alarm	—
		●	●	●	Overall malfunction	—
	64	○	●	●	Inside air thermistor error	—
	65	○	●	●	Outside air thermistor error	—
	6A	○	●	●	Damper system alarm	—
	6A	●	●	●	Damper system + thermistor error	—
	U5	●	●	●	Data transmission error between LCD remote controller and main unit	—
	U5	●	●	●	LCD remote controller connection error	—
	U8	●	●	●	Data transmission error between master-slave LCD remote controllers	—
	UA	●	●	●	LCD remote controller connection error (no remote controller for air conditioner in air conditioner group)	—
	UC	○	○	○	Overlapping central control address	—
UE	●	●	●	Transmission error between the unit and centralized controller	—	

In case of the malfunction with the shaded error code, the unit still operates. However, be sure to have it inspected and repaired and as soon as possible.



Note: Refer service manual Si71-001 for more detail of heat reclaim ventilation troubleshooting.

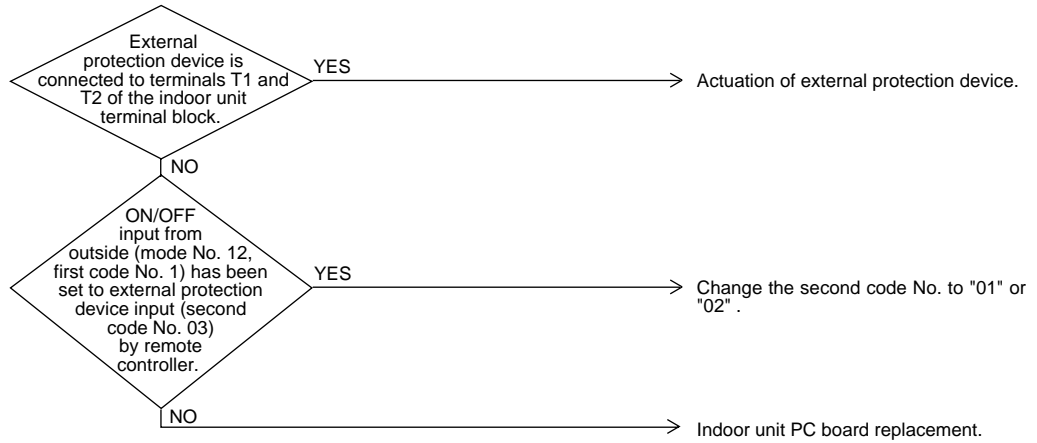
3. Troubleshooting

3.1 Indoor Unit: Error of External Protection Device

Remote Controller Display **R0**

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

Troubleshooting



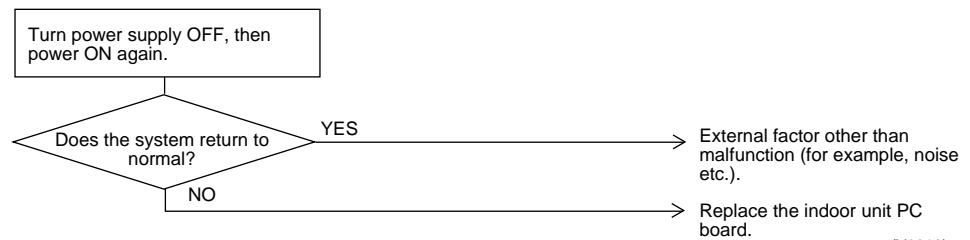
(VF029)

3.2 Indoor Unit: PC Board Defect

Remote Controller Display **R1**

- Supposed Causes
- Defect of indoor unit PC board

Troubleshooting



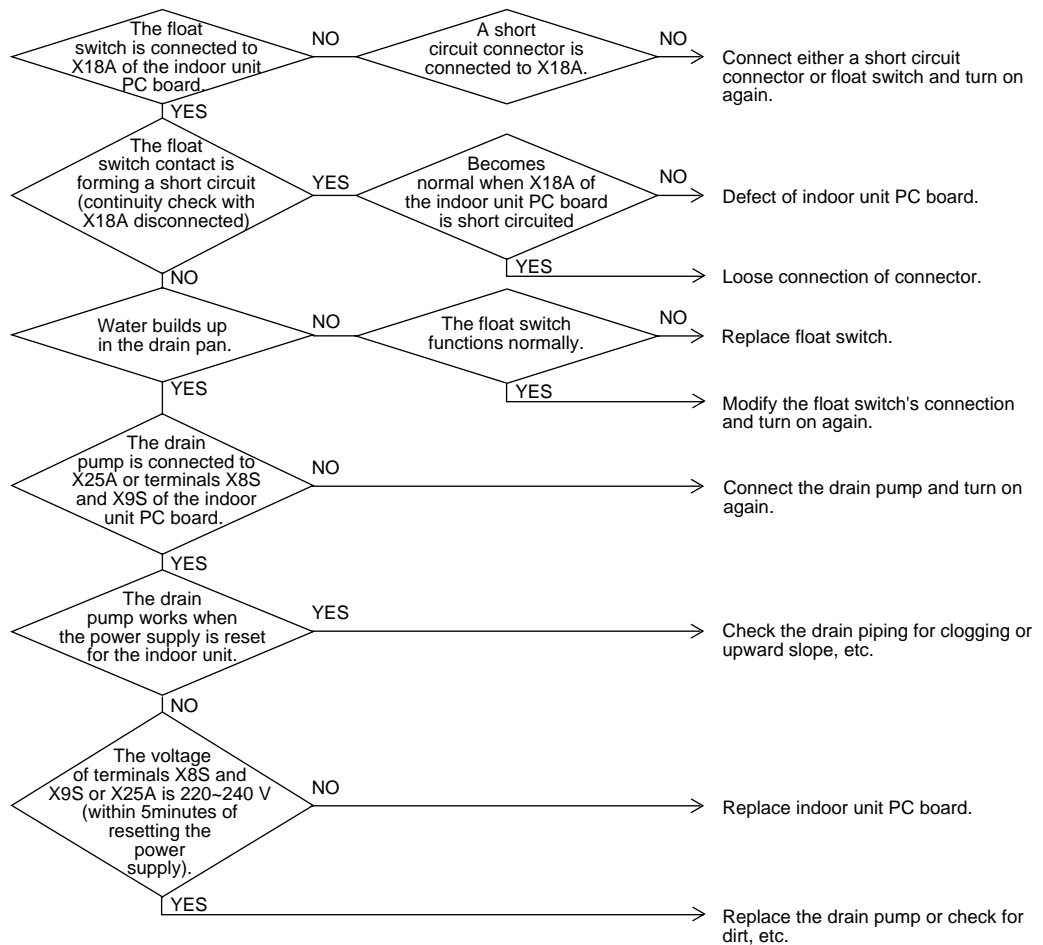
(V0816)

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

Remote Controller **R3**
Display

- Supposed Causes**
- 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



(VF030)

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

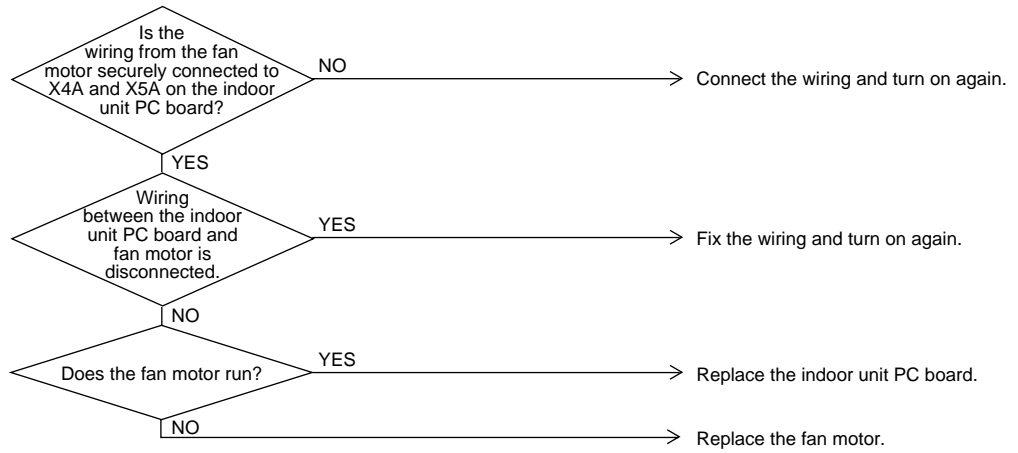
Remote Controller Display



Supposed Causes

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

Troubleshooting



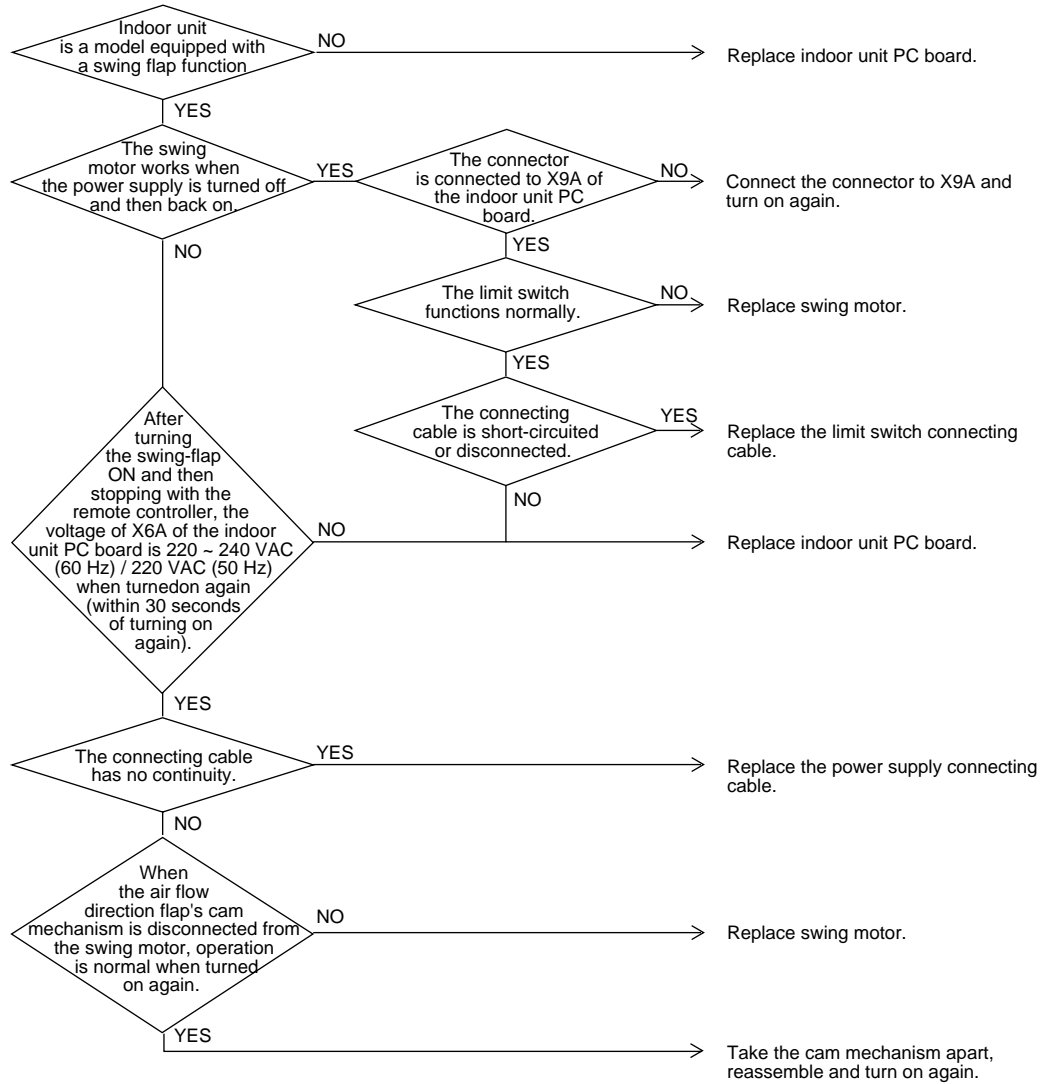
(VF031)

3.5 Indoor Unit: Malfunction of Swing Flap Motor (M1S)

Remote Controller Display **R7**

- 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



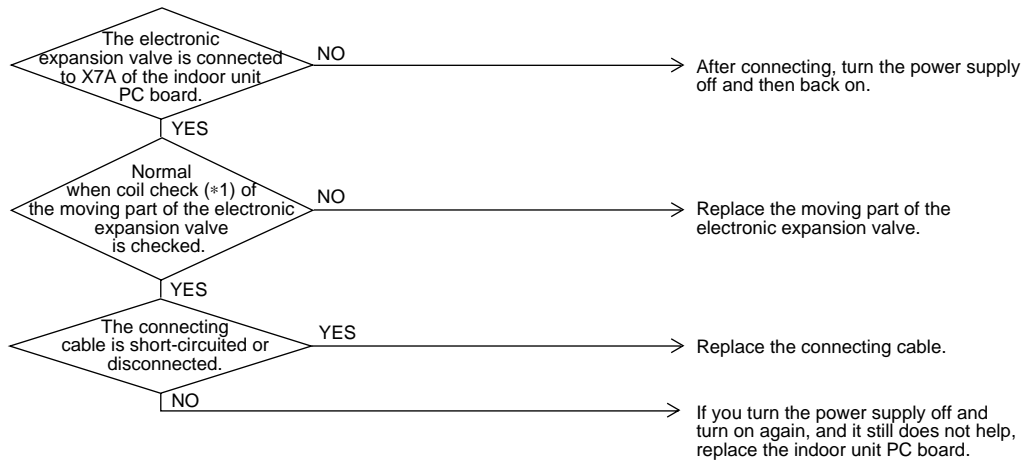
(VF032)

3.6 Indoor Unit: Malfunction of Moving Part of Electronic Expansion Valve (Y1E)

Remote Controller Display **R9**

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

Troubleshooting



(VF033)

*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

3.7 Indoor Unit: Drain Level above Limit

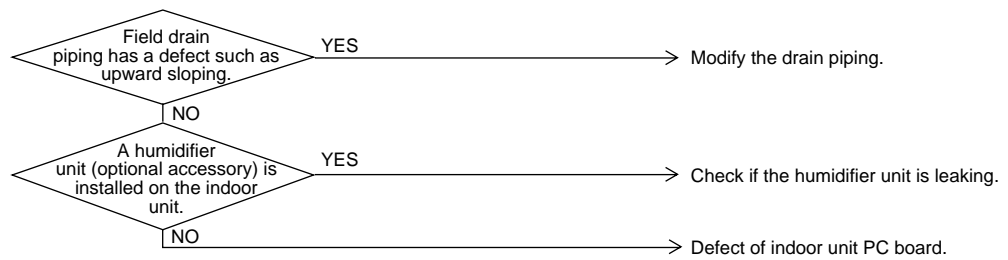
Remote Controller
Display

RF

Supposed Causes

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

Troubleshooting



(VF034)

3.8 Indoor Unit: Malfunction of Capacity Determination Device

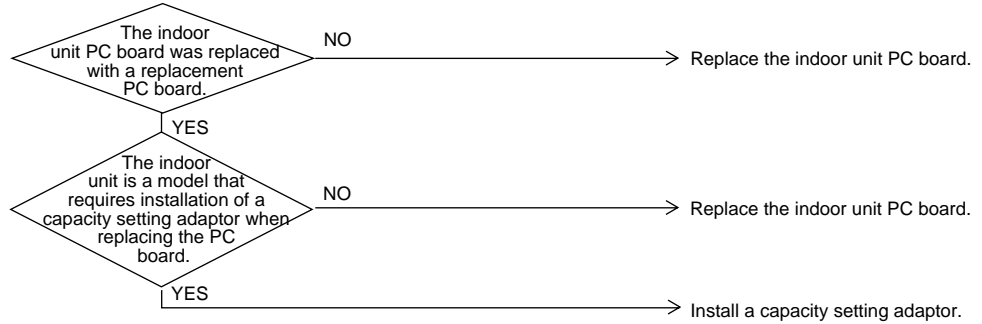
Remote controller display



Supposed Causes

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

Troubleshooting



(VF035)

3.9 Indoor Unit: Malfunction of Thermistor (R2T) for Liquid Pipe

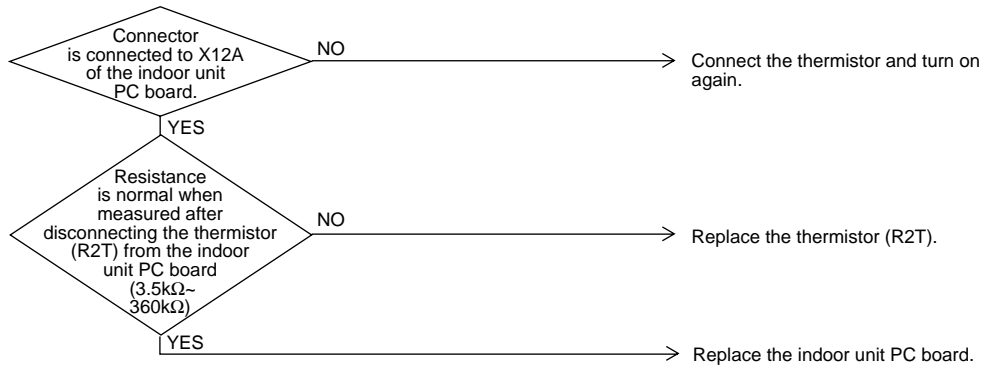
Remote Controller Display



Supposed Causes

- Defect of thermistor (R2T) for liquid pipe
- Defect of indoor unit PC board

Troubleshooting



(VF036)

3.10 Indoor Unit: Malfunction of Thermistor (R3T) for Gas Pipes

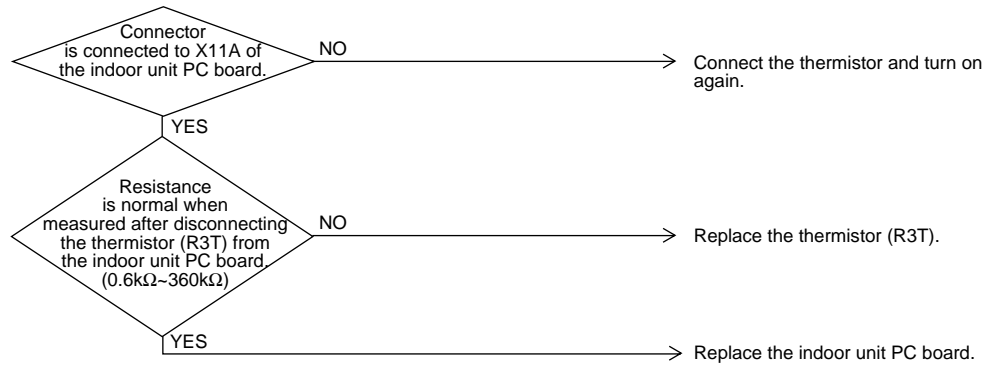
Remote Controller
Display

C5

Supposed Causes

- Defect of indoor unit thermistor (R3T) for gas pipe
- Defect of indoor unit PC board

Troubleshooting



(VF037)

3.11 Indoor Unit: Malfunction of Thermistor (R1T) for Air Inlet

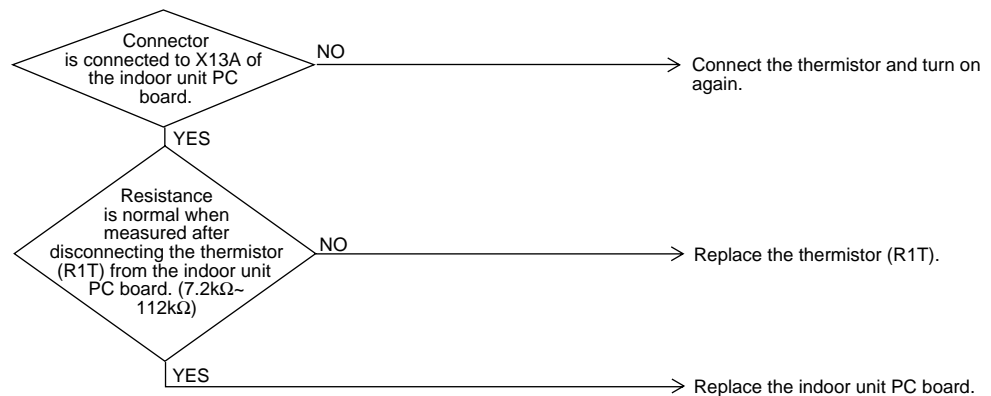
Remote Controller
Display

C9

Supposed Causes

- Defect of indoor unit thermistor (R1T) for air inlet
- Defect of indoor unit PC board

Troubleshooting

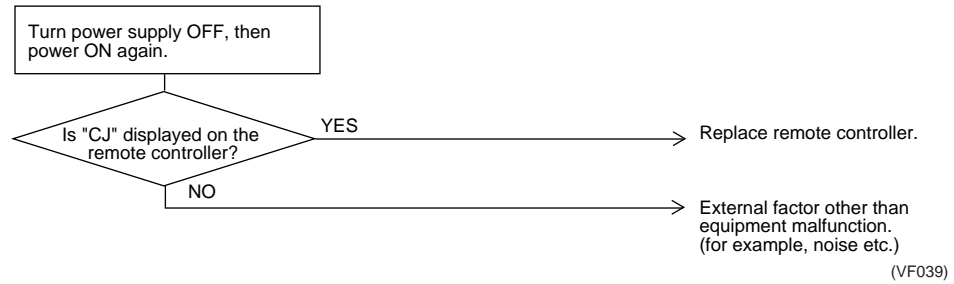


(VF038)

3.12 Indoor Unit: Malfunction of Thermostat Sensor in Remote Controller

Remote Controller Display	<i>CJ</i>
Supposed Causes	<ul style="list-style-type: none"> ■ Defect of remote controller thermistor ■ Defect of remote controller PC board

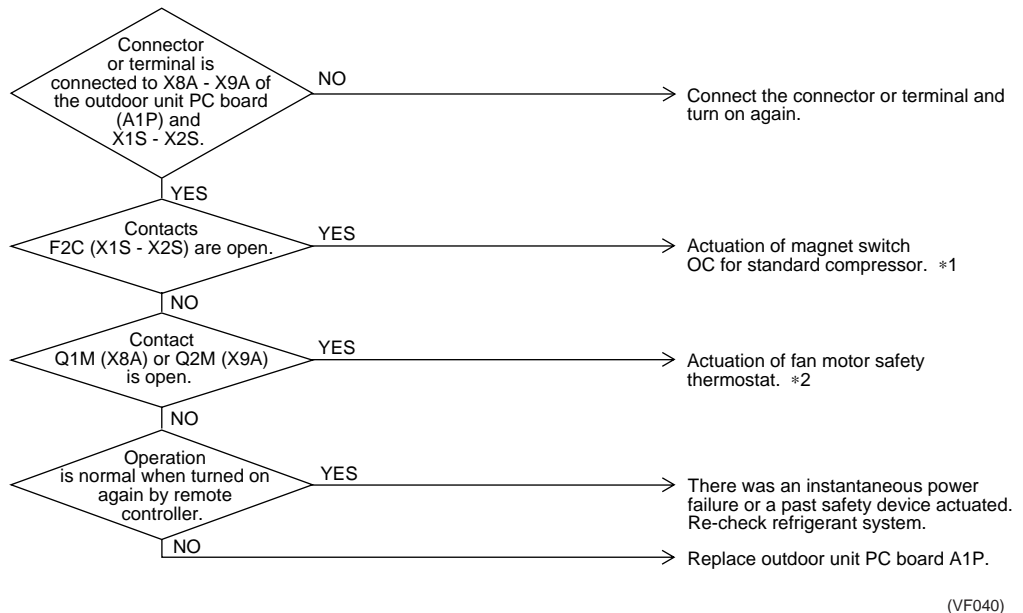
Troubleshooting



3.13 Outdoor Unit: Actuation of Safety Device

Remote Controller Display	<i>EO</i>
Supposed Causes	<ul style="list-style-type: none"> ■ Actuation of outdoor unit safety device ■ Defect of outdoor unit PC board ■ Instantaneous power failure

Troubleshooting



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

*2: Actuation of fan motor safety thermostat
 Defect of fan motor
 Defect of capacitor, etc.

3.14 Outdoor Unit: PC Board Defect

Remote Controller
Display

E1

Supposed Causes

- Defect of outdoor unit PC board (A1P)

Troubleshooting

Replace outdoor unit PC board A1P.

3.15 Outdoor Unit: Actuation of High Pressure Switch

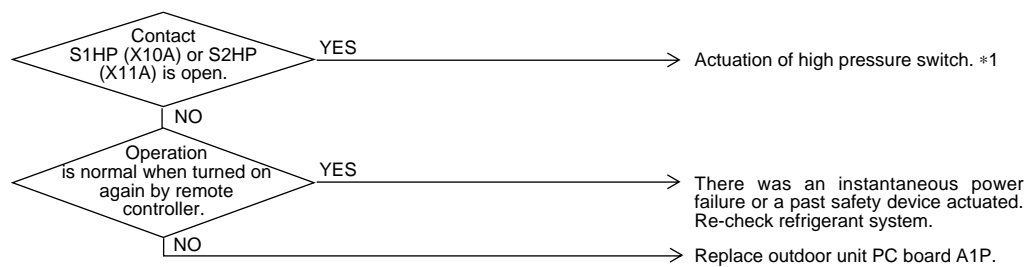
Remote Controller
Display

E3

Supposed Causes

- Actuation of outdoor unit high pressure switch
- Defect of outdoor unit PC board (A1P)
- Instantaneous power failure

Troubleshooting



(VF041)

*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

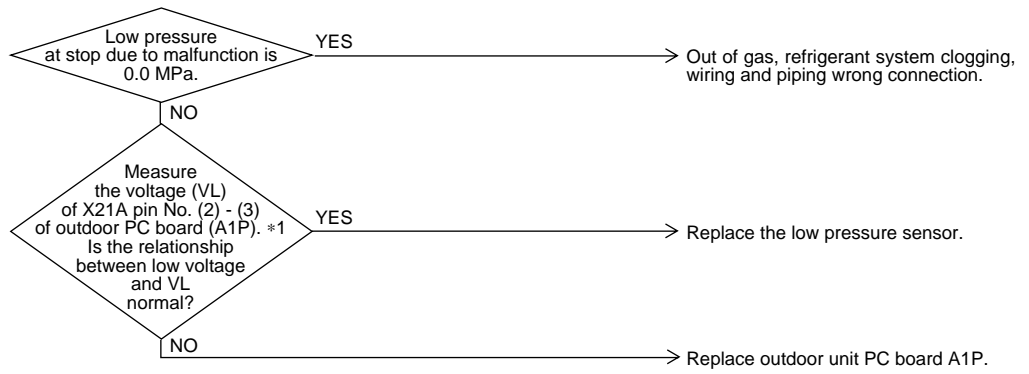
Is the refrigerant over-charged?

3.16 Outdoor Unit: Actuation of Low Pressure Sensor

Remote Controller Display **E4**

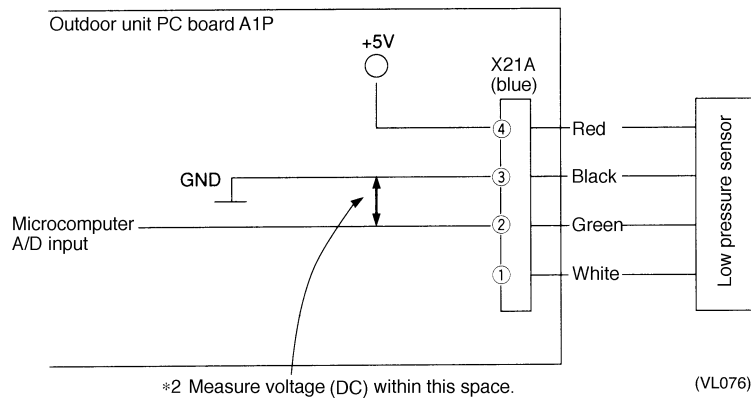
- Supposed Causes**
- Abnormal drop of low pressure (0 kg/cm² [0 MPa])
 - Defect of low pressure sensor
 - Defect of outdoor unit PC board

Troubleshooting



(VF042)

*1: Voltage measurement point



(VL076)



*2: Refer to pressure sensor, pressure / voltage characteristics table on P204.

3.17 Outdoor Unit: Malfunction of Moving Part of Electronic Expansion Valve (Y1E)

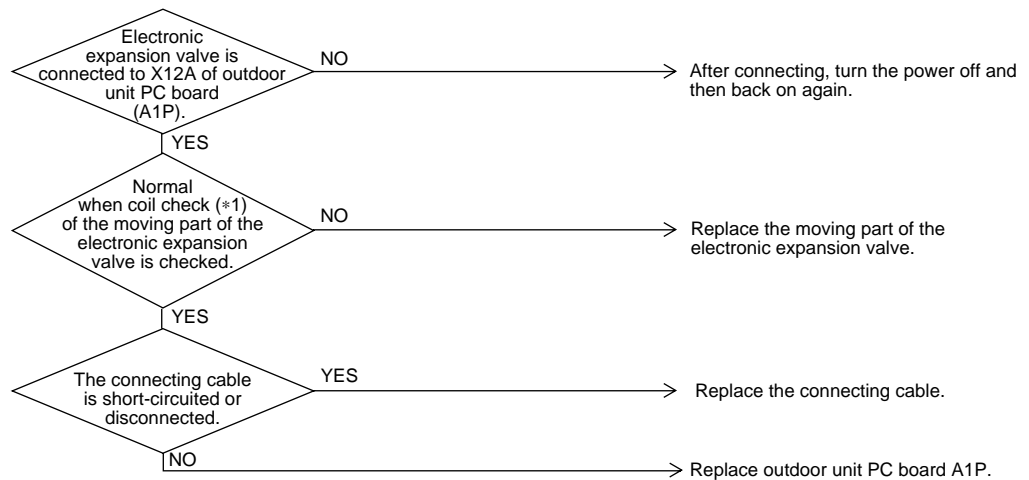
Remote Controller
Display

E9

Supposed Causes

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

Troubleshooting



(VF043)

*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

3.18 Outdoor Unit: Abnormal Discharge Pipe Temperature

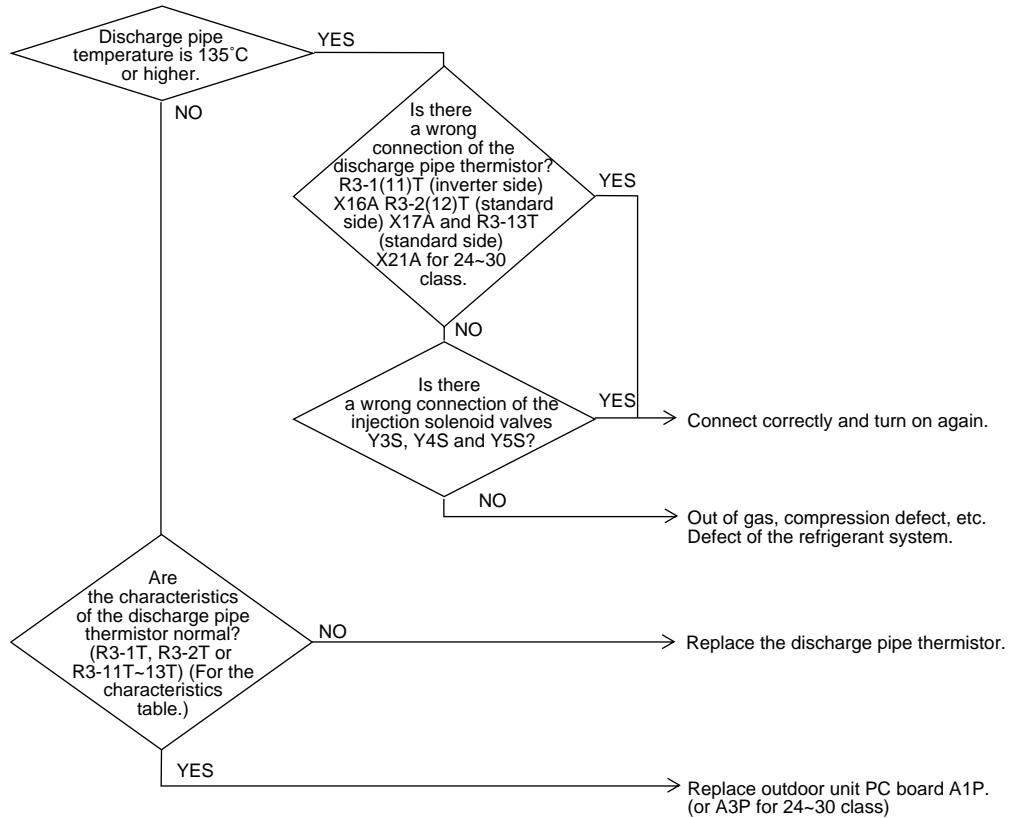
Remote Controller Display

F3

Supposed Causes

- Abnormal discharge pipe temperature
- Defect of discharge pipe thermistor (5K: R3T 8K, 10K: R3-1T, R3-2T)
- Defect of outdoor unit PC board
- Discharge pipe thermistor wrong connection
- Liquid injection solenoid valve wrong connection

Troubleshooting



(VF044)

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

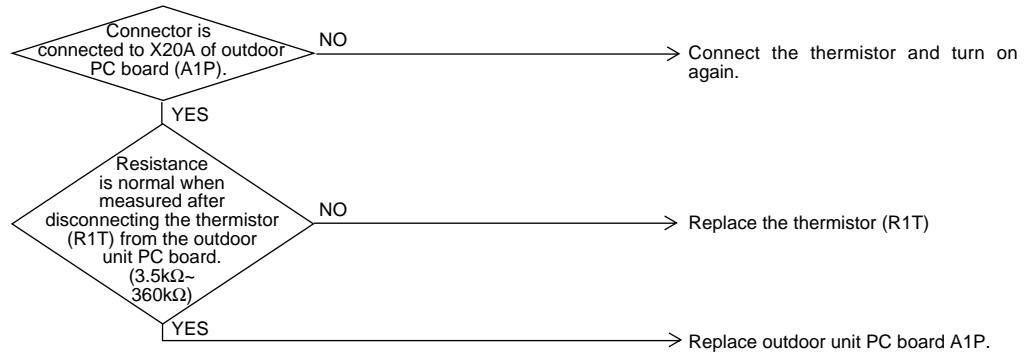
Remote Controller
Display

H9

Supposed Causes

- Defect of thermistor (R1T) for outdoor air
- Defect of outdoor unit PC board (A1P)

Troubleshooting



(VF045)

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

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

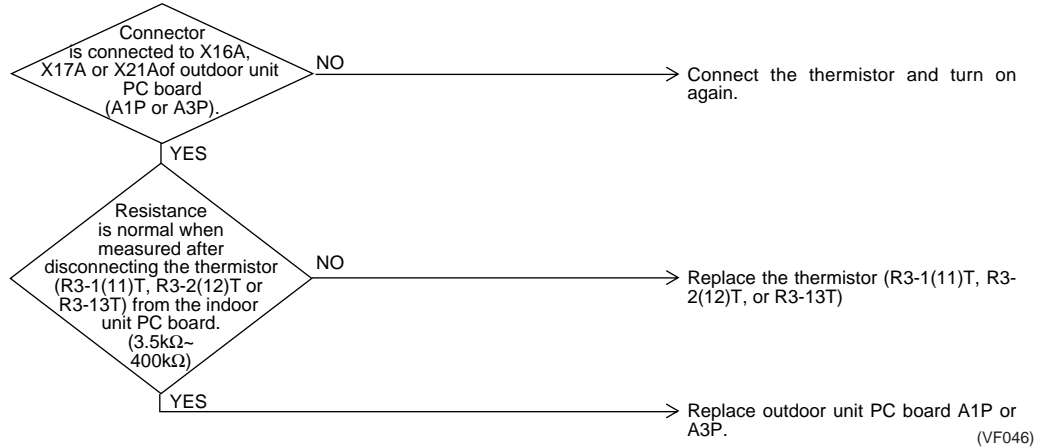
Remote Controller Display



Supposed Causes

- Defect of thermistor (R3-1(11)T, R3-2(12)T or R3-13T) for outdoor unit discharge pipe
- Defect of outdoor unit PC board (A1P)

Troubleshooting



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



Note: 16~20 HP class ... R3-1T, R3-2T (A1P)
 24~30 HP class ... R3-11T, R3-12T (A1P), R3-13T (A3P)

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

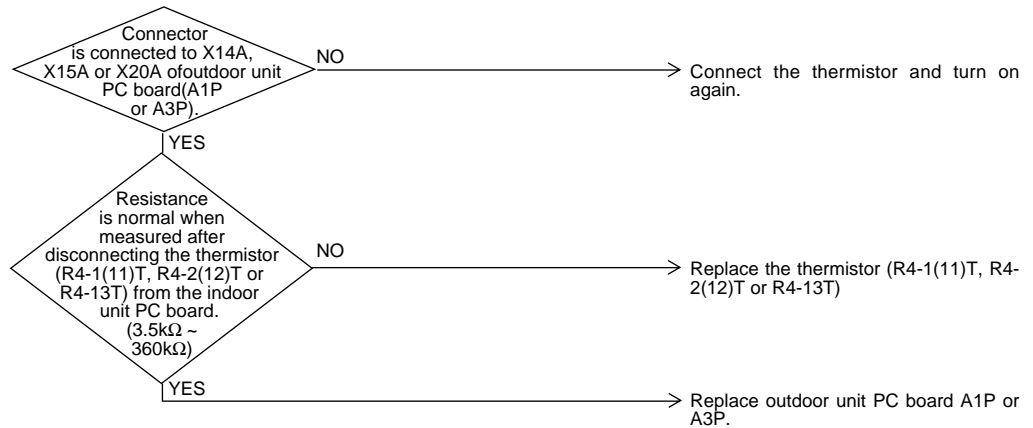
Remote Controller
Display

U5

Supposed Causes

- Defect of thermistor (R4-1(11)T, R4-2(12)T or R4-13T) for outdoor unit suction pipe
- Defect of outdoor unit PC board (A1P)

Troubleshooting



(VF047)

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



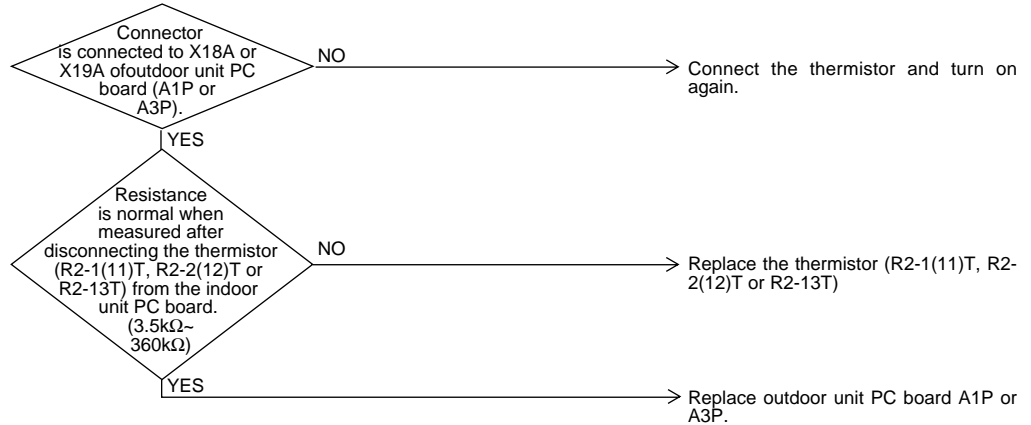
Note: 16~20HP class ... R4-1T, R4-2T (A1P)
24~30HP class ... R4-11T, R4-12T (A1P), R4-13T (A3P)

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

Remote Controller Display 

- Supposed Causes**
- Defect of thermistor (R2-1(11)T, R2-2(12)T or R2-13T) for outdoor unit coil
 - Defect of outdoor unit PC board (A1P)

Troubleshooting



(VF048)

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



Note: 16~20HP class ... R2-1T, R2-2T (A1P)
 24~30HP class ... R2-11T, R2-12T (A1P), R2-13T (A3P)

3.23 Outdoor Unit: Malfunction of Discharge Pipe Pressure Sensor

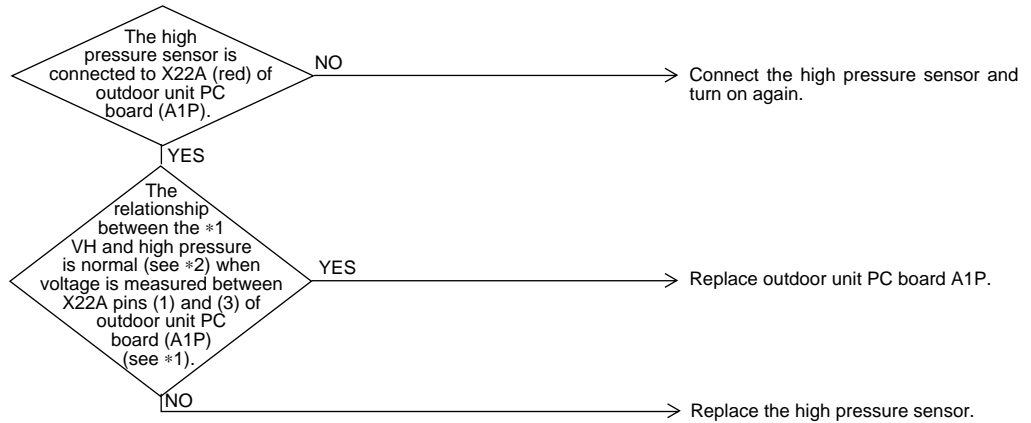
Remote Controller Display



Supposed Causes

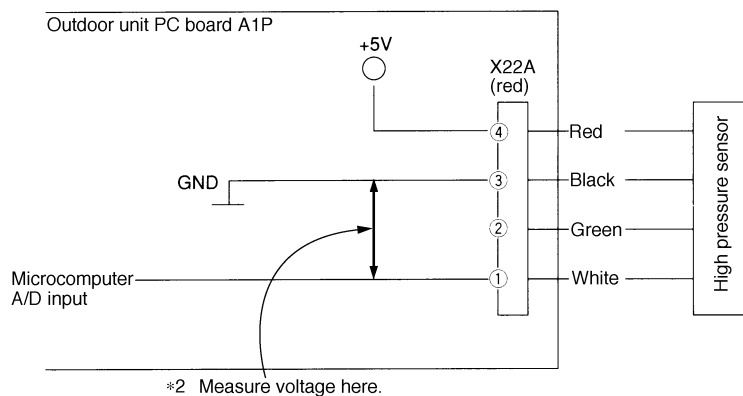
- Defect of high pressure sensor system
- Connection of low pressure sensor with wrong connection.
- Defect of outdoor unit PC board.

Troubleshooting



(VF049)

*1: Voltage measurement point



(VL077)



*2: Refer to pressure sensor, pressure / voltage characteristics table on P204.

3.24 Outdoor Unit: Malfunction of Suction Pipe Pressure Sensor

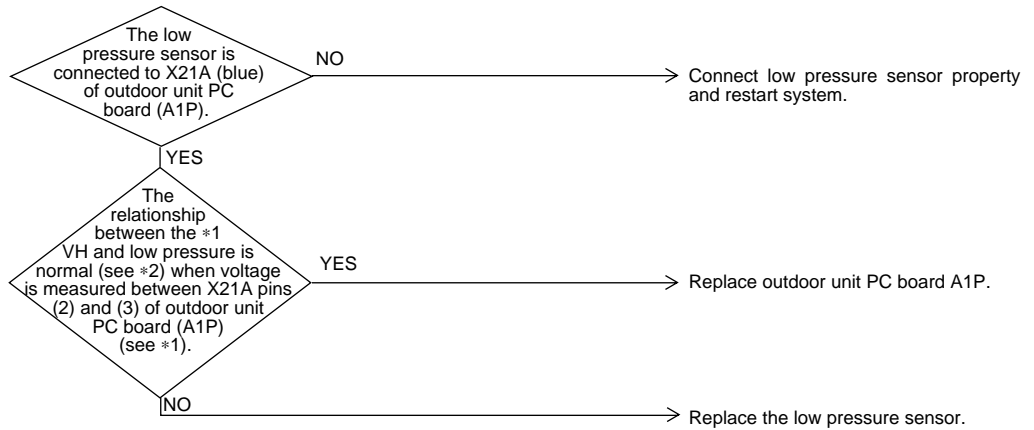
Remote Controller Display



Supposed Causes

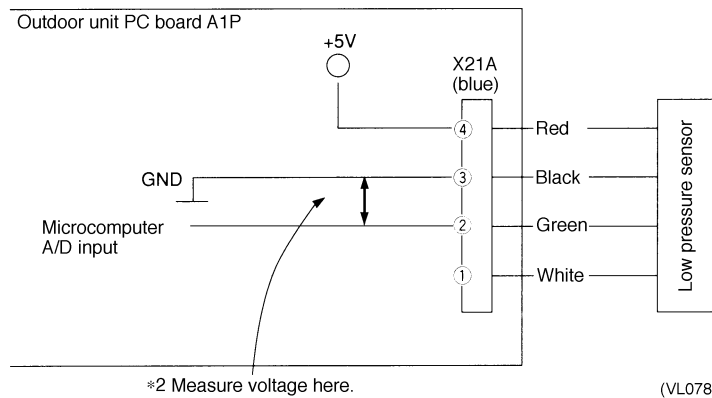
- Defect of low pressure sensor system
- Connection of high pressure sensor with wrong connection.
- Defect of outdoor unit PC board.

Troubleshooting



(VF050)

*1: Voltage measurement point



(VL078)



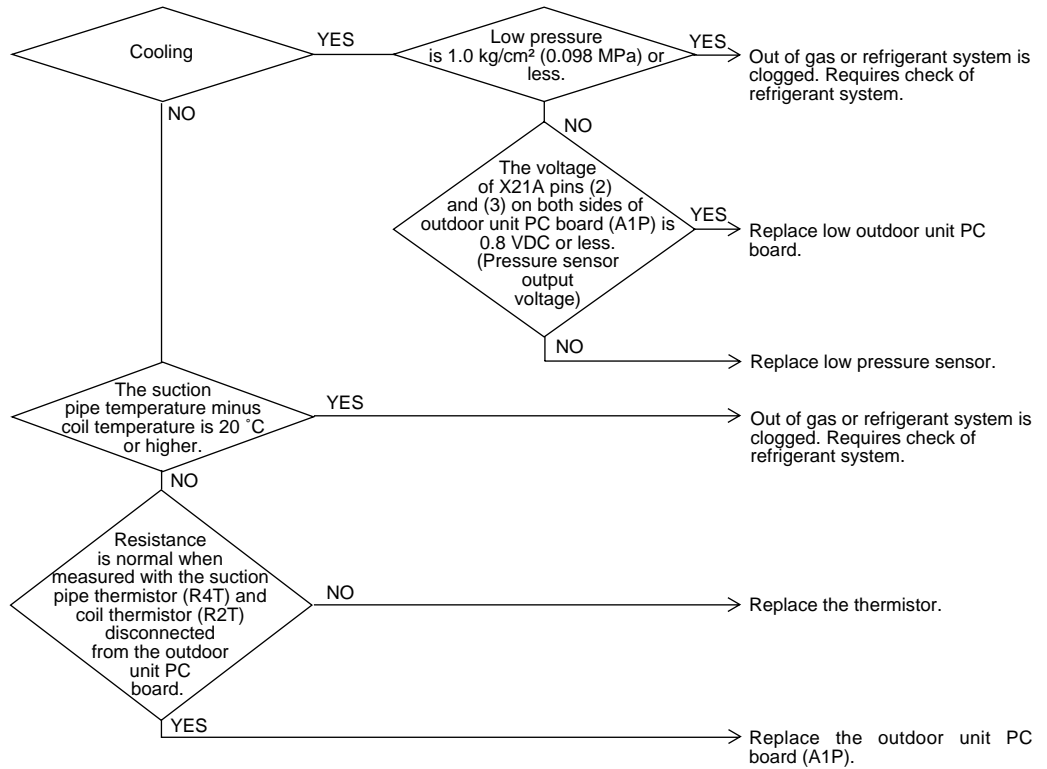
*2: Refer to pressure sensor, pressure/voltage characteristics table on P204.

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

Remote Controller Display **U0**

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

Troubleshooting



(VF052)

3.26 Reverse Phase, Open Phase

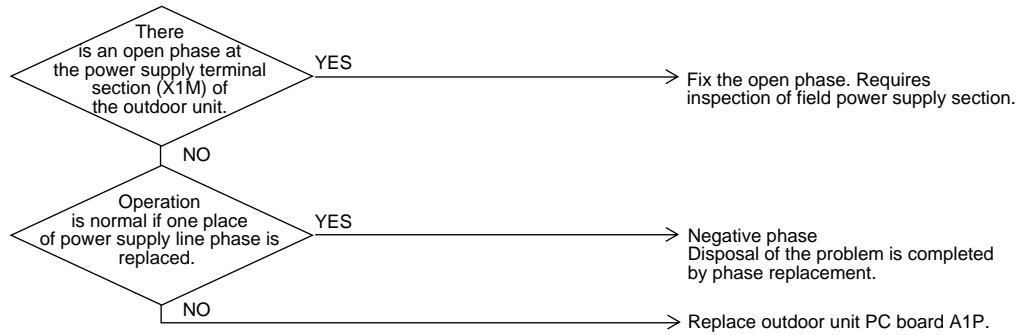
Remote Controller Display

U7

Supposed Causes

- Power supply reverse phase
- Power supply open phase
- Defect of outdoor PC board A1P

Troubleshooting



(VF053)

3.27 Malfunction of Transmission Between Indoor Units

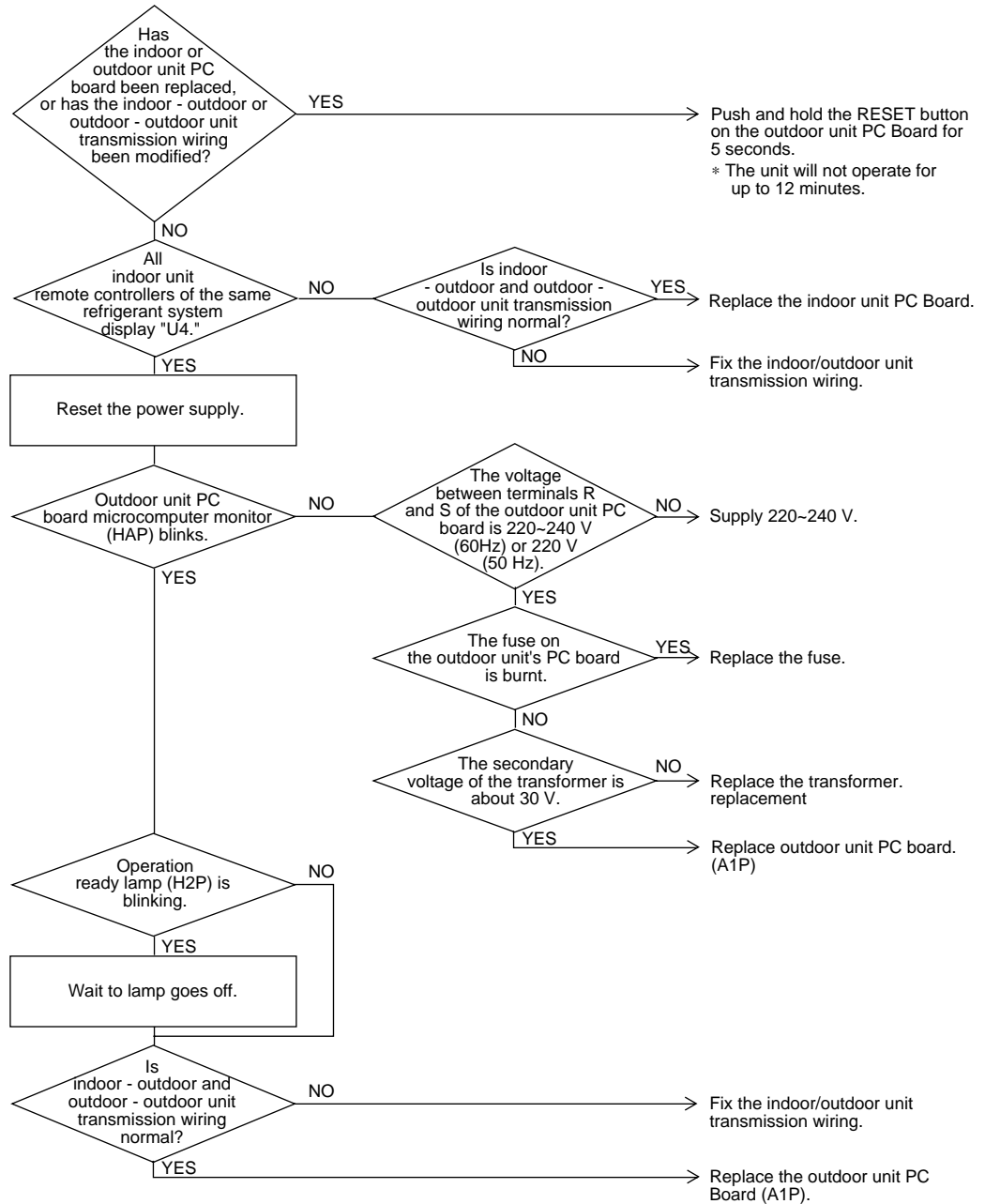
Remote Controller
Display

U4

Supposed Causes

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

Troubleshooting



(VF054)

3.28 Malfunction of Transmission Between Remote Controller and Indoor Unit

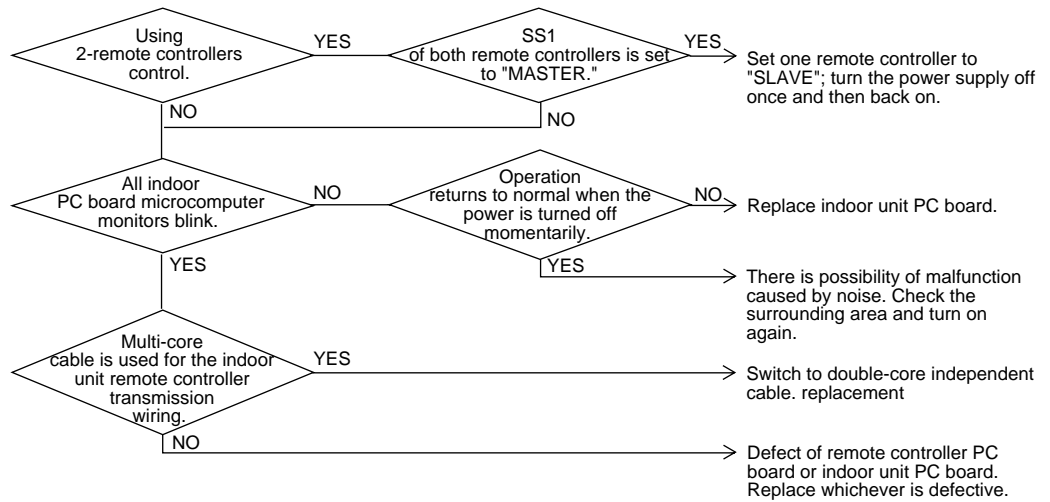
Remote Controller Display

U5

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



(VF055)

3.29 Malfunction of Transmission Between Outdoor Units

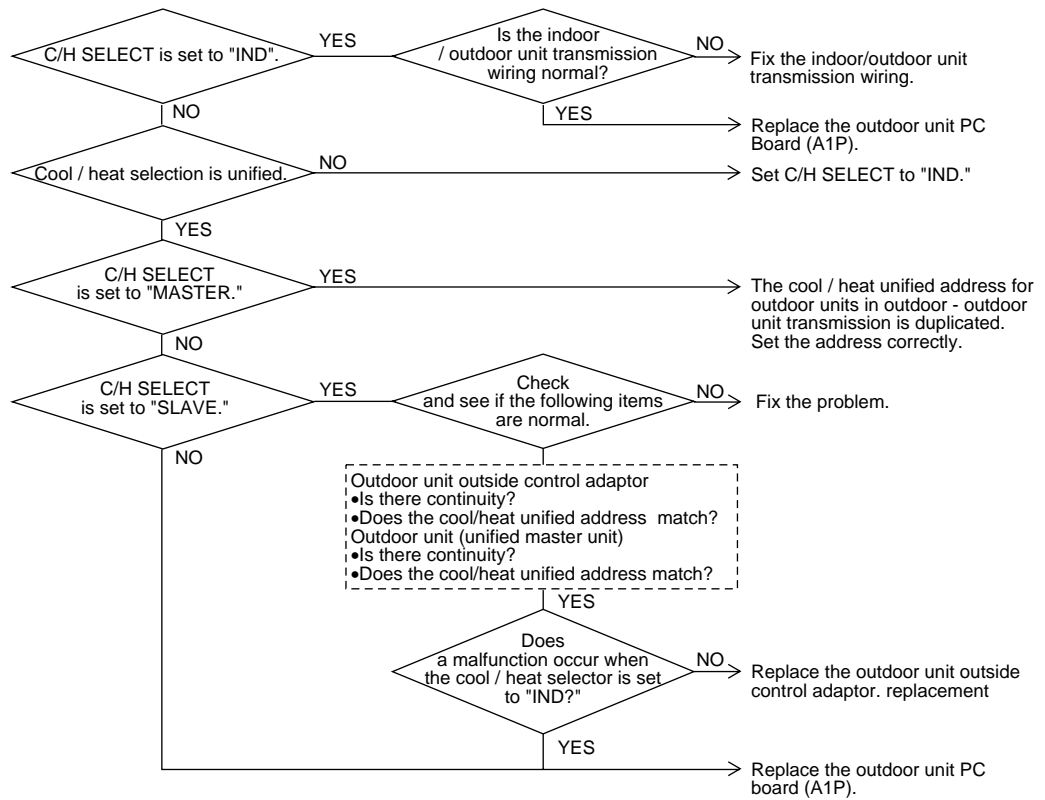
Remote Controller Display

U7

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



(VF056)

3.30 Malfunction of Transmission Between Master and Slave Remote Controllers

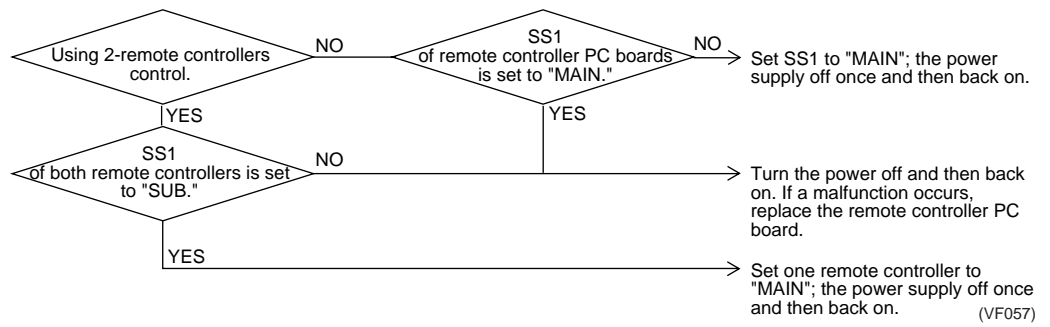
Remote Controller Display

UB

Supposed Causes

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

Troubleshooting



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

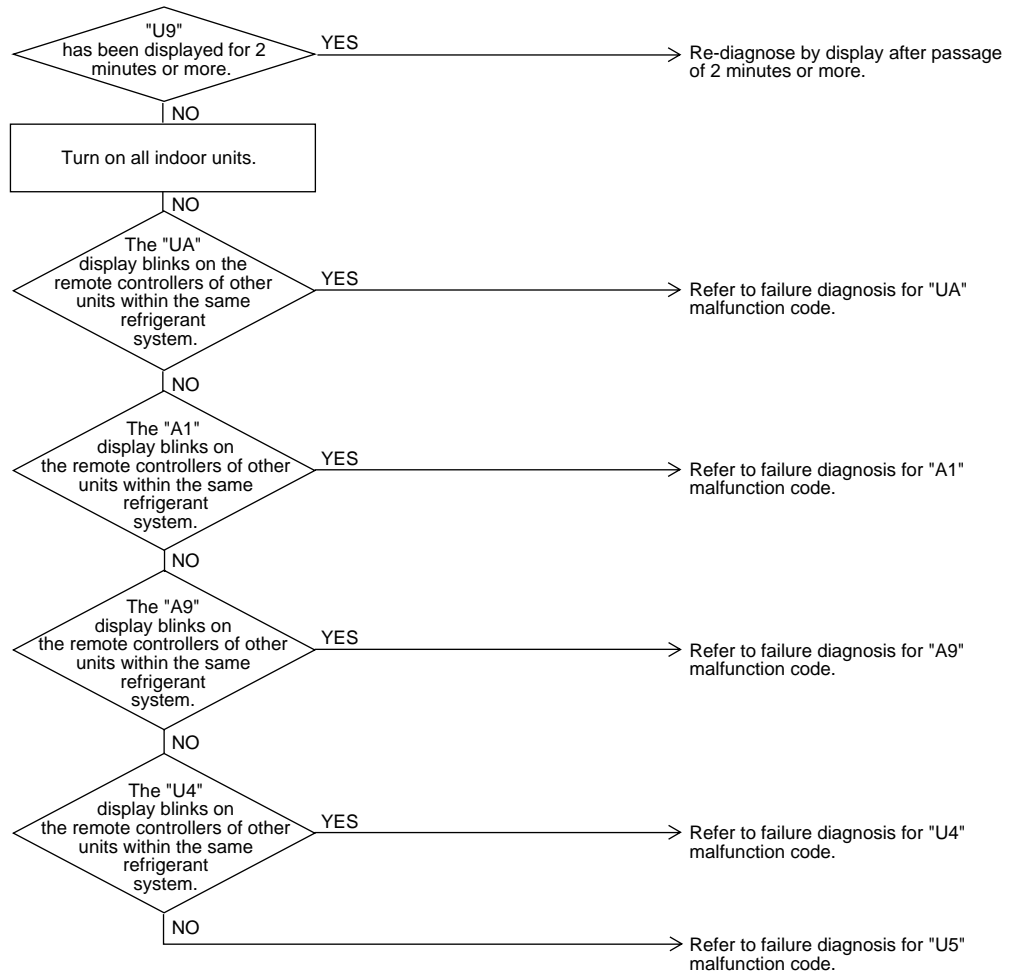
Remote Controller Display

U9

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



(VF058)

3.32 Excessive Number of Indoor Units

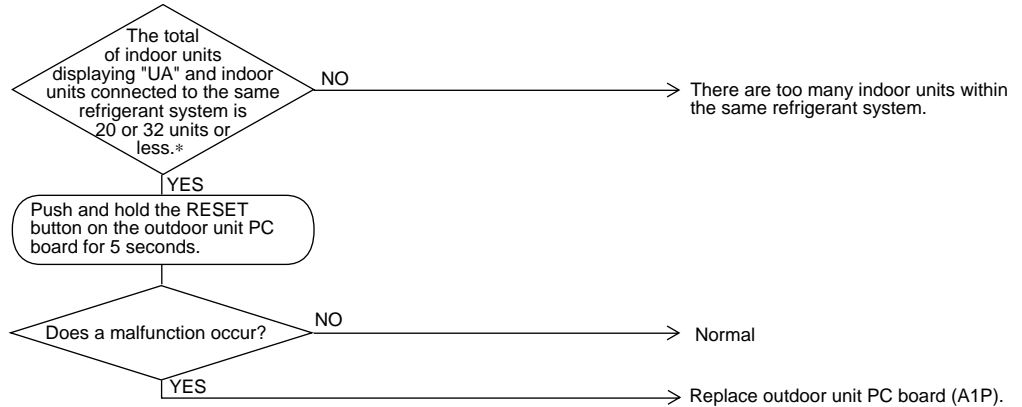
Remote Controller Display

UA

Supposed Causes

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

Troubleshooting



(VF059)

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

- * RSXYP16~20KJY1 ... 20 units
- RSXYP24~30KJY1 ... 32 units

3.33 Address Duplication of Central Remote Controller

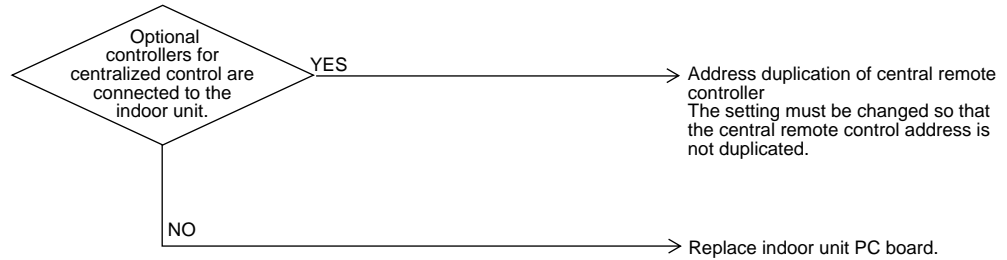
Remote Controller Display

UC

Supposed Causes

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

Troubleshooting



(VF060)

3.34 Refrigerant System not Set, Incompatible Wiring/Piping

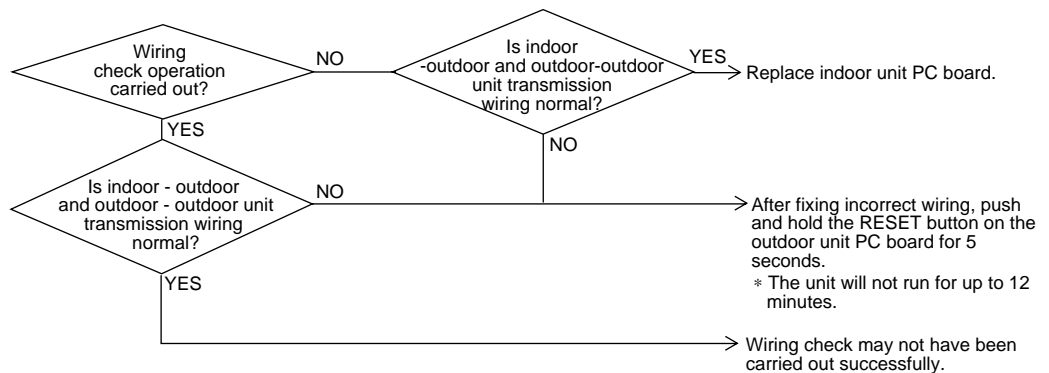
Remote Controller Display

UF

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



(VF061)

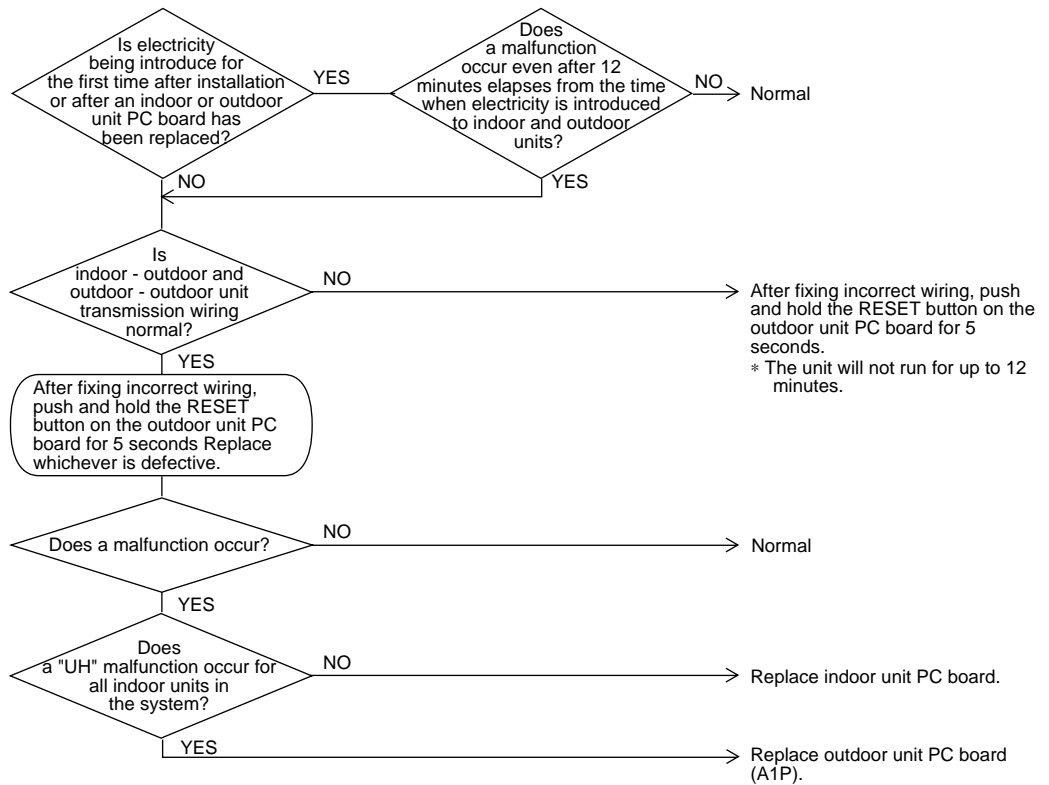
Wiring check may not be successful if carried out after the outdoor unit has been off for more than 12 hours, or if it is not carried out after running all connected indoor units in the fan mode for at least an hour.

3.35 Malfunction of System, Refrigerant System Address Undefined

Remote Controller Display **UH**

- 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



(VF062)

4. Failure Diagnosis for Inverter System

4.1 Points of Diagnosis

The main causes for each malfunction code are given in the table below. (For details refer to the next page and those following.)

⊙ : Failure is probable

○ : Failure is possible

□ : Failure is improbable

— : Failure is impossible

Malfunction code	Contents of malfunction	Location of failure							Point of diagnosis
		Inverter		Compressor	Refrigerant system	Outdoor unit PC board	Other	Field cause	
		PC board power unit	Other						
L4	Radiator fin temperature rise	□	⊙	—	—	—	—	□	Is the intake port of the radiator fin clogged?
L5	Instantaneous over-current	○	—	⊙	□	—	—	—	Inspect the compressor.
L8	Electronic thermostat	□	—	⊙	○	—	—	—	Inspection the compressor and refrigerant system.
L9	Stall prevention	□	—	○	⊙	—	—	—	Inspection the compressor and refrigerant system.
LC	Malfunction of transmission between inverter PC board and outdoor unit PC board	○	⊙	—	—	□	—	—	Inspect the connection between the inverter PC board and outdoor unit PC board. Next, inspect the inverter PC board.
U2	Abnormal current/voltage	○	○	—	—	—	□	⊙	<ul style="list-style-type: none"> • Inspect the fuse on the inverter PC board. • Check the DC voltage.
P1	Over-ripple protection	○	○	—	—	—	—	○	<ul style="list-style-type: none"> • Open phase • Current/voltage imbalance • Defect of main circuit wiring
P4	Defect of radiator fin temperature sensor	○	□	—	—	—	—	—	Inspect the radiator fin thermistor.

4.2 How to Use The Monitor Switch on The Inverter PC Board

The monitor lets you know the contents of the latest stop due to malfunction by LED display on the inverter PC Board. The inverter is equipped with a retry function that retries operation each time stop due to malfunction occurs, and malfunction is therefore not ascertained by merely entering the five minutes standby while retry is attempted the prescribed number of times. If the number of retry times is exceeded within 60 minutes, malfunction is ascertained, and the corresponding malfunction code is displayed on the indoor unit remote controller.

LED	A	1	2	3	4	Malfunction contents	Retry times
	●	●	●	●	●	Normal	
	●	●	●	●	○	Malfunction of fin thermistor	3
	●	○	○	●	●	Sensor malfunction	0
	●	○	●	●	○	Insufficient voltage	3
	●	●	●	○	●	Instantaneous over-current	3
	●	●	○	○	○	Electronic thermistor	3
	●	○	○	○	○	Stall prevention	3
	●	●	○	●	●	Open phase detection	3
	●	●	●	●	●	Malfunction of microcomputer	Unlimited

● : Blink

○ : On

● : Off

5. Troubleshooting (Inverter)

5.1 Outdoor Unit: Malfunction of Inverter Radiating Fin Temperature Rise

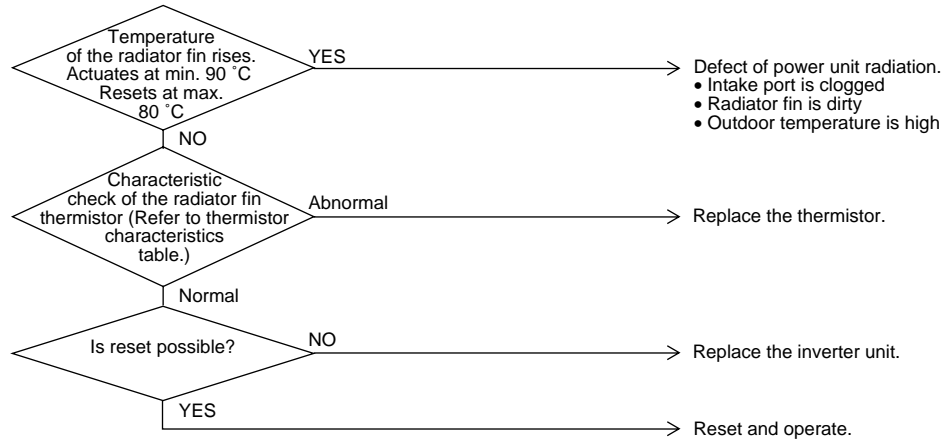
Remote Controller
Display

L4

Supposed Causes

- Actuation of fin thermal (Actuates at min. 90°C and resets at max. 80°C)
- Defect of inverter PC board
- Defect of fin thermistor

Troubleshooting



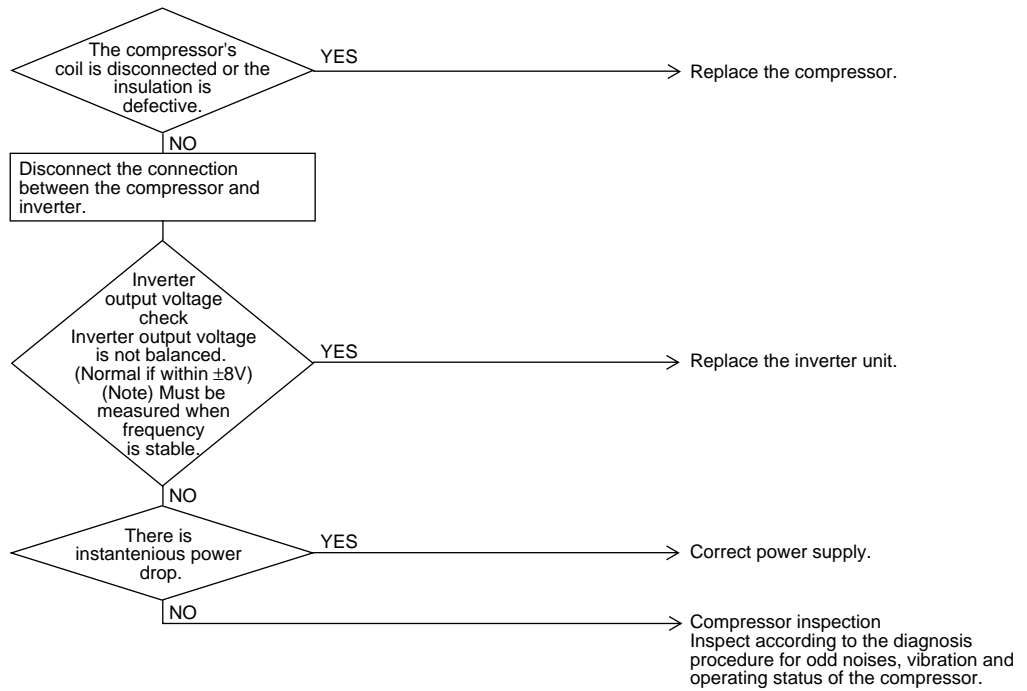
(VF063)

5.2 Outdoor Unit: Inverter Instantaneous Over-Current

Remote Controller Display **L5**

- Supposed Causes**
- Defect of compressor coil (disconnected, defective insulation)
 - Compressor start-up malfunction (mechanical lock)
 - Defect of inverter unit

Troubleshooting Compressor inspection



(VF064)

5.3 Outdoor Unit: Inverter Thermostat Sensor, Compressor Overload

Remote Controller
Display

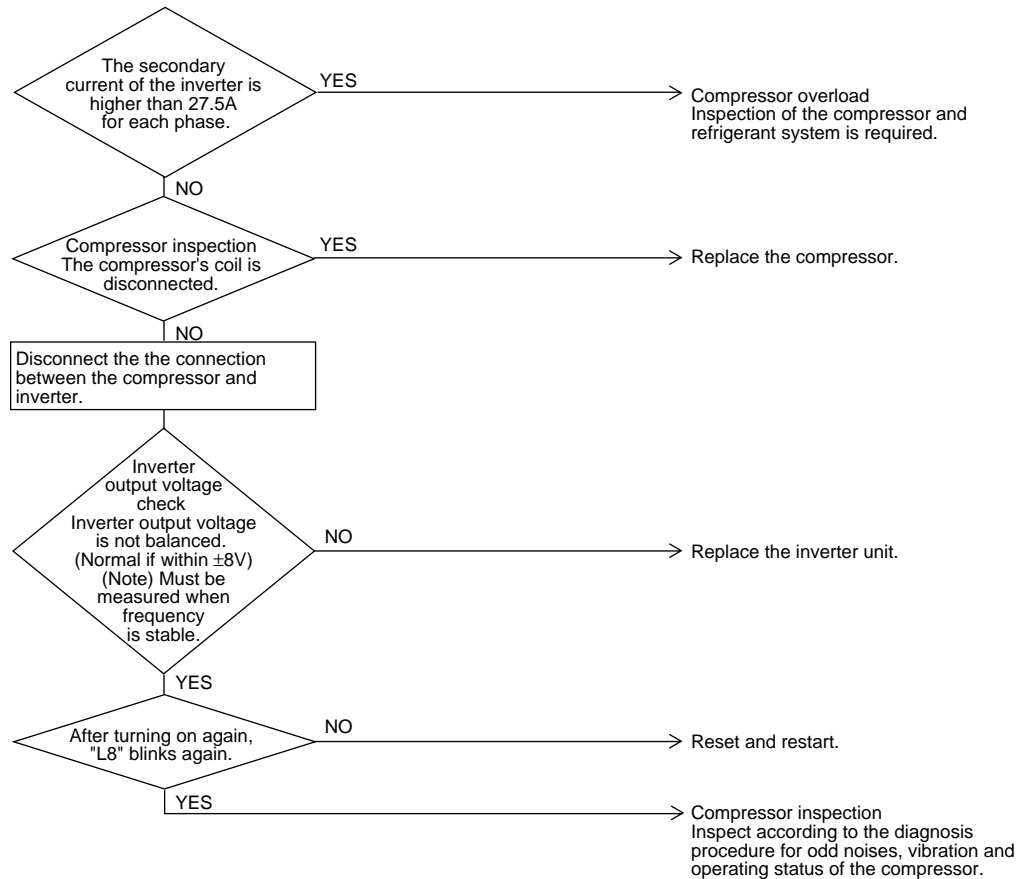
L8

Supposed Causes

- Compressor overload
- Compressor coil disconnected
- Defect of inverter unit

Troubleshooting

Output current check



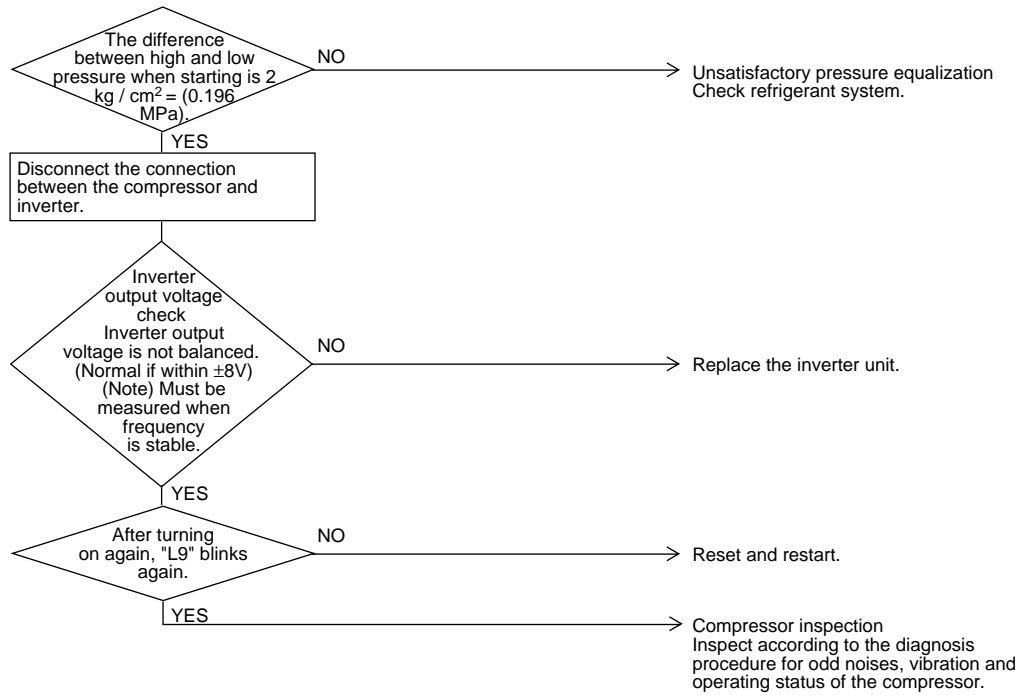
(VF065)

5.4 Outdoor Unit: Inverter Stall Prevention, Compressor Lock

Remote Controller Display **L9**

- Supposed Causes**
- Defect of compressor
 - Pressure differential start
 - Defect of inverter unit

Troubleshooting



(VF066)

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

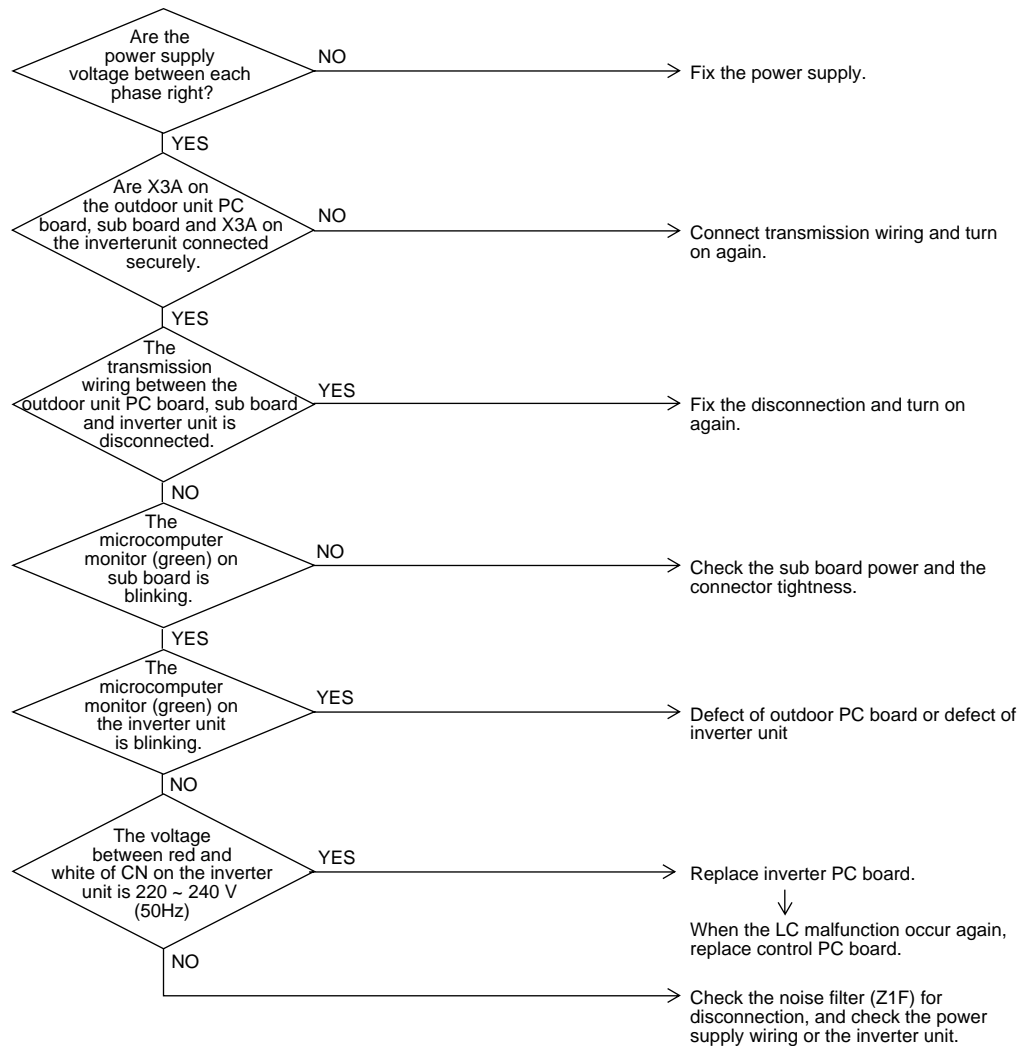
Remote Controller Display

LC

Supposed Causes

- Malfunction of connection between the inverter unit and outdoor unit PC board
- Defect of outdoor unit PC board (transmission section)
- Defect of inverter unit
- Defect of noise filter (NF1)
- Lock of phase on power supply during outdoor unit operation
- External factor (Noise etc.)

Troubleshooting



(VF067)

5.6 Power Supply Insufficient or Instantaneous Failure

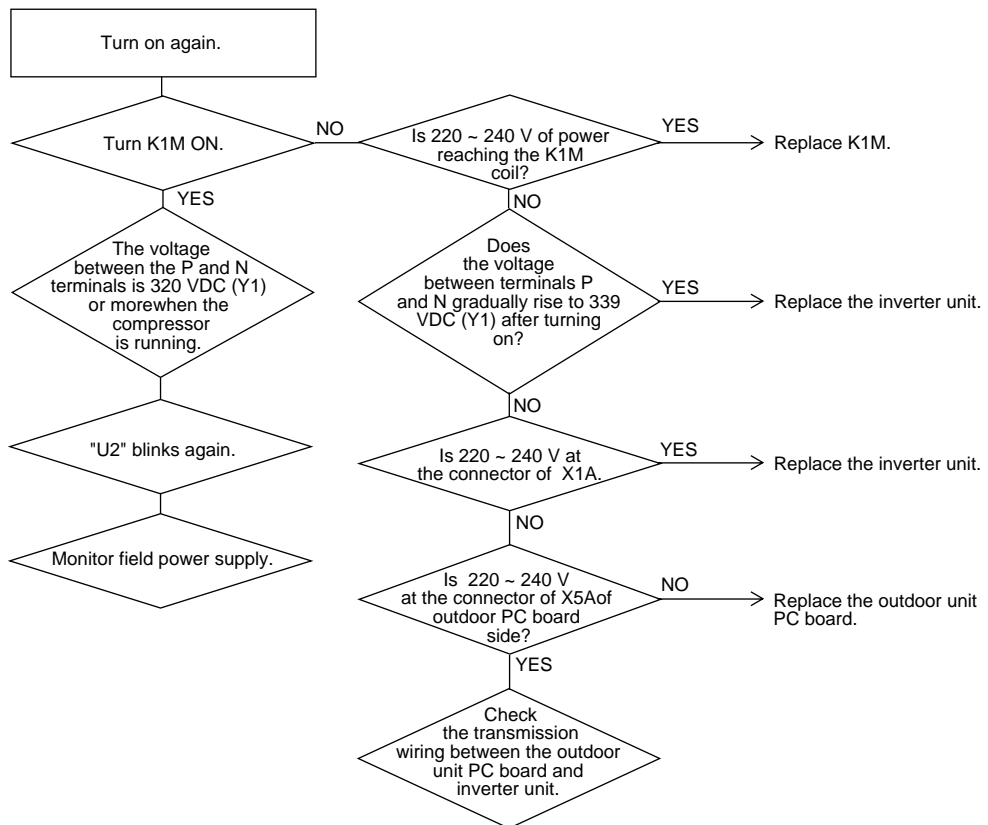
Remote Controller Display

U2

Supposed Causes

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

Troubleshooting



(VF068)

5.7 Outdoor Unit: Inverter Over-Ripple Protection

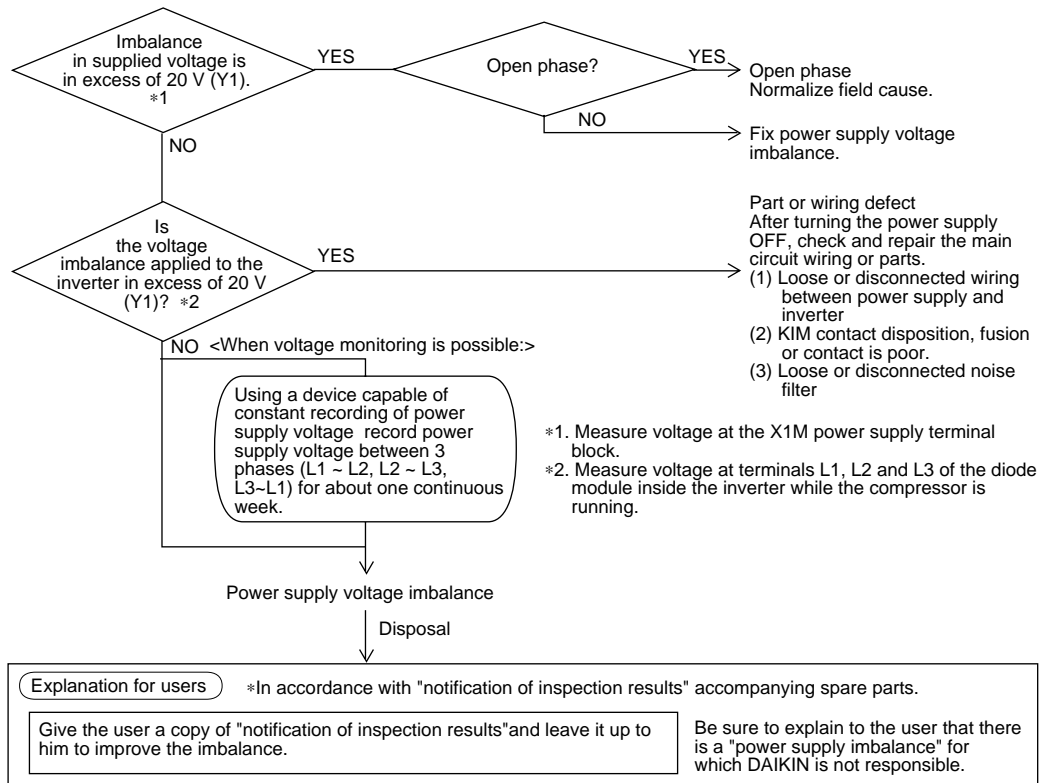
Remote Controller Display

P1

Supposed Causes

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

Troubleshooting



(VF069)

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

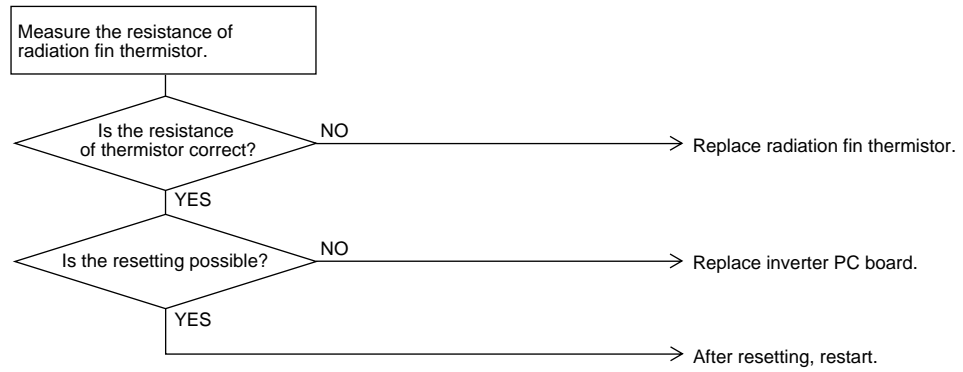
Remote Controller Display

P4

Supposed Causes

- Defect of radiator fin temperature sensor
- Defect of inverter unit

Troubleshooting



(VF070)

6. Troubleshooting (OP: Central Remote Controller)

6.1 Malfunction of Transmission Between Central Remote Controller and Indoor Unit

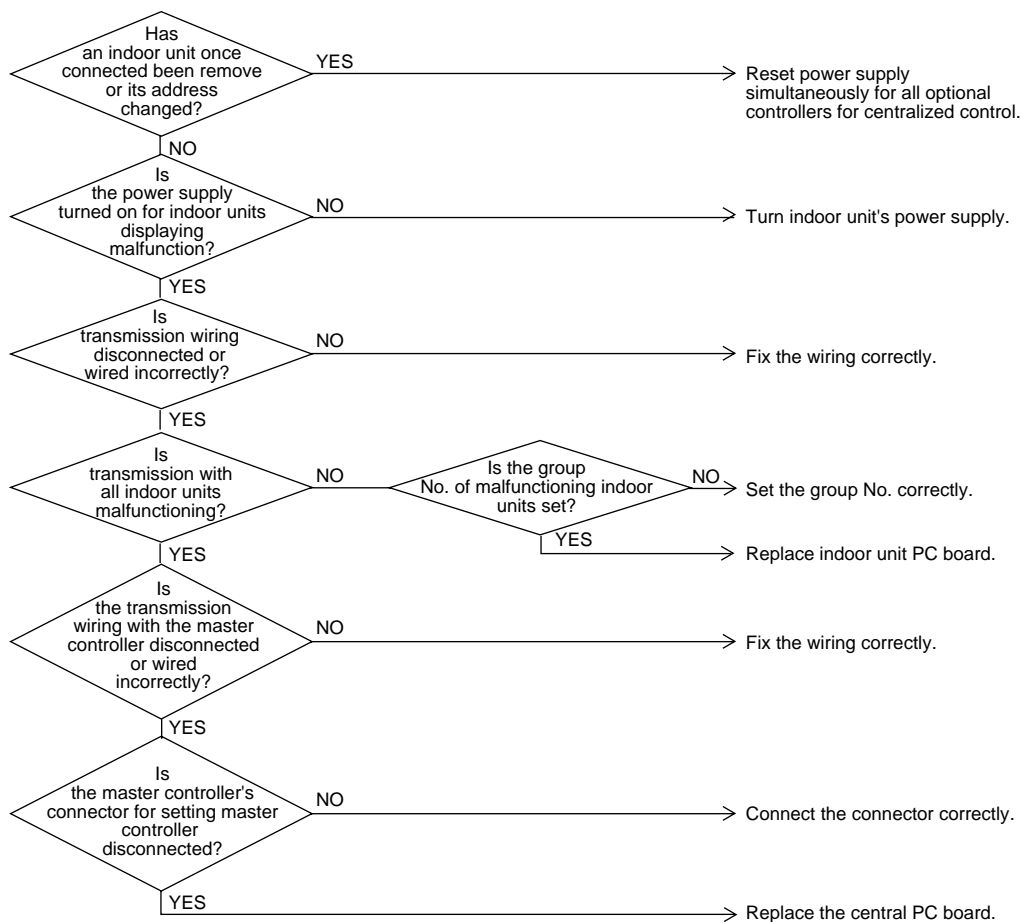
Remote Controller Display

UE

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



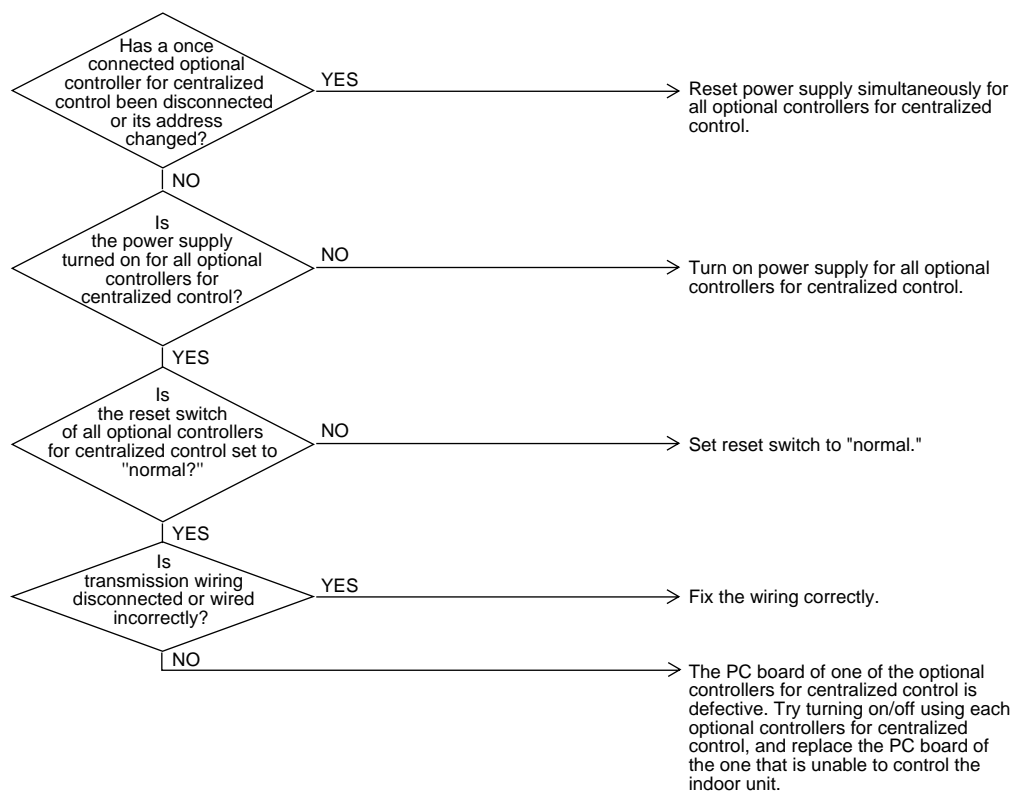
(VF071)

6.2 PC Board Defect

Remote Controller Display	<i>m1</i>
Supposed Causes	<ul style="list-style-type: none"> ■ Defect of central remote controller PC board
Troubleshooting	Replace the central remote controller PC board.

6.3 Malfunction of Transmission Between Optional Controllers for Centralized Control

Remote Controller Display	<i>m8</i>
Supposed Causes	<ul style="list-style-type: none"> ■ Malfunction of transmission between optional controllers for centralized control ■ Defect of PC board of optional controllers for centralized control
Troubleshooting	



(VF072)

6.4 Improper Combination of Optional Controllers for Centralized Control

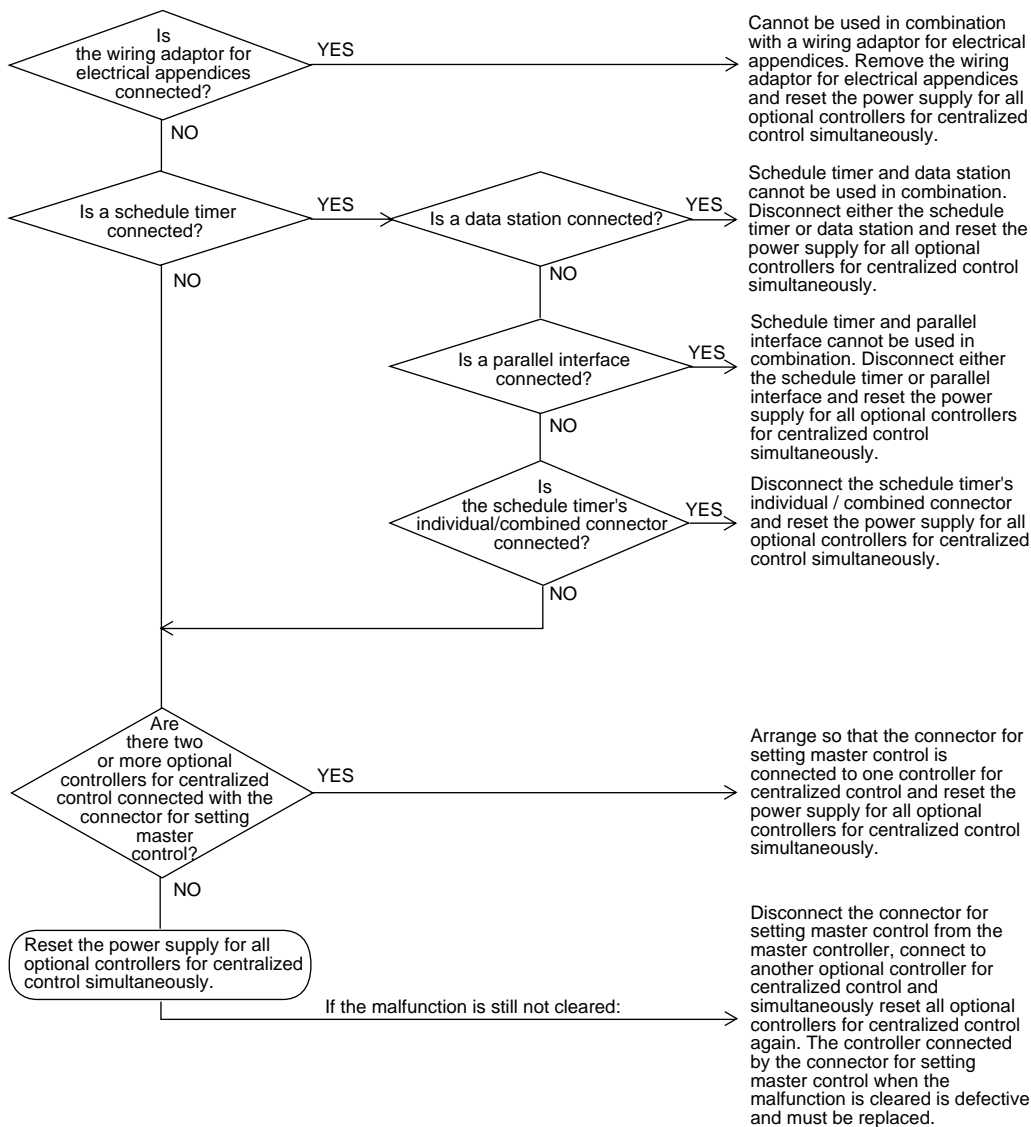
Remote Controller Display



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



(VF073)

6.5 Address Duplication, Improper Setting

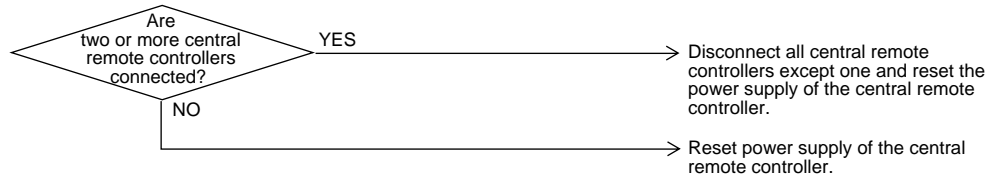
Remote Controller Display



Supposed Causes

- Address duplication of central remote controller

Troubleshooting



(VF074)

7. Troubleshooting (OP: Schedule Timer)

7.1 Malfunction of Transmission Between Central Remote Controller and Indoor Unit

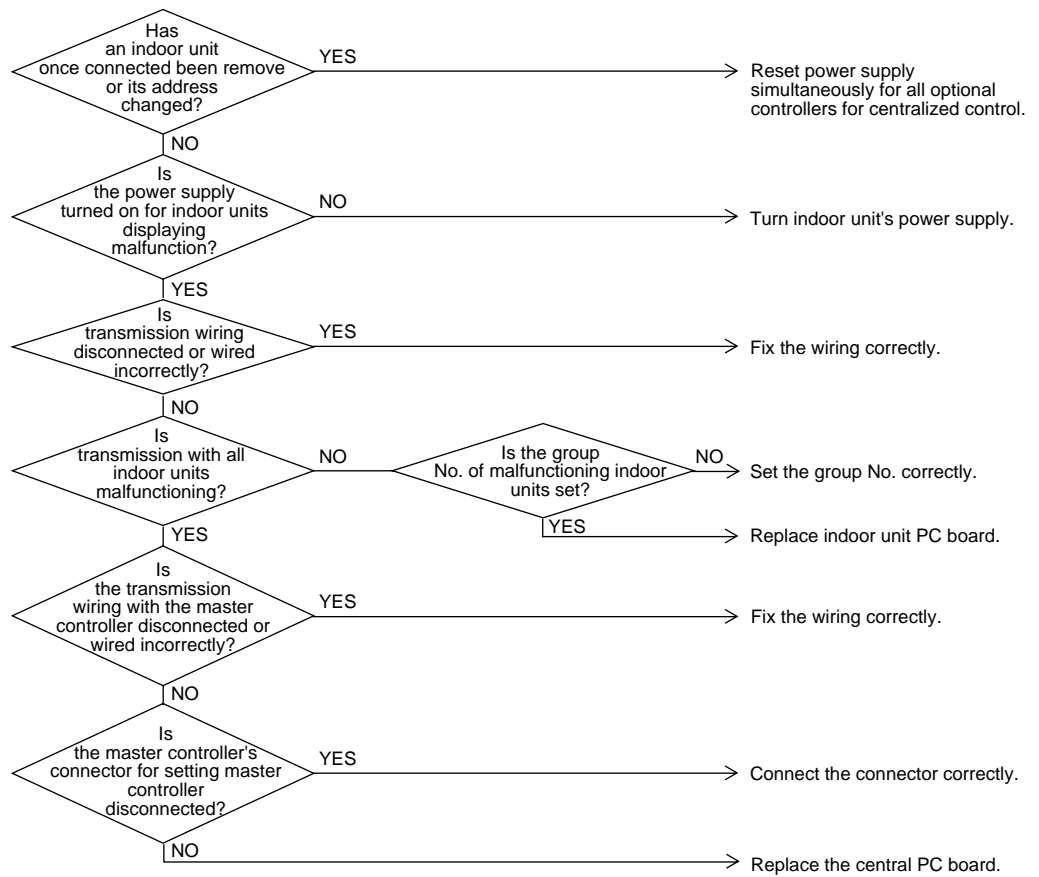
Remote Controller Display

UE

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



(VF075)

7.2 PC Board Defect

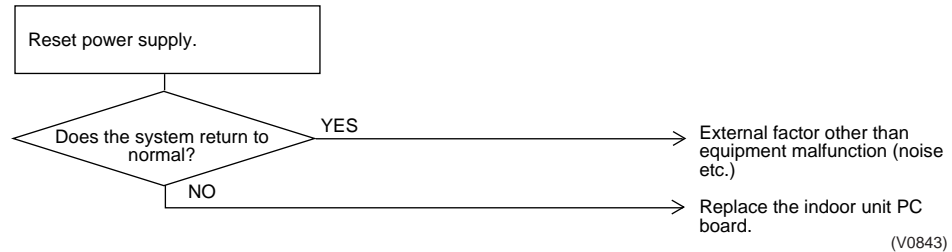
Remote Controller Display



Supposed Causes

- Defect of schedule timer PC board

Troubleshooting



7.3 Malfunction of Transmission Between Optional Controllers for Centralized Control

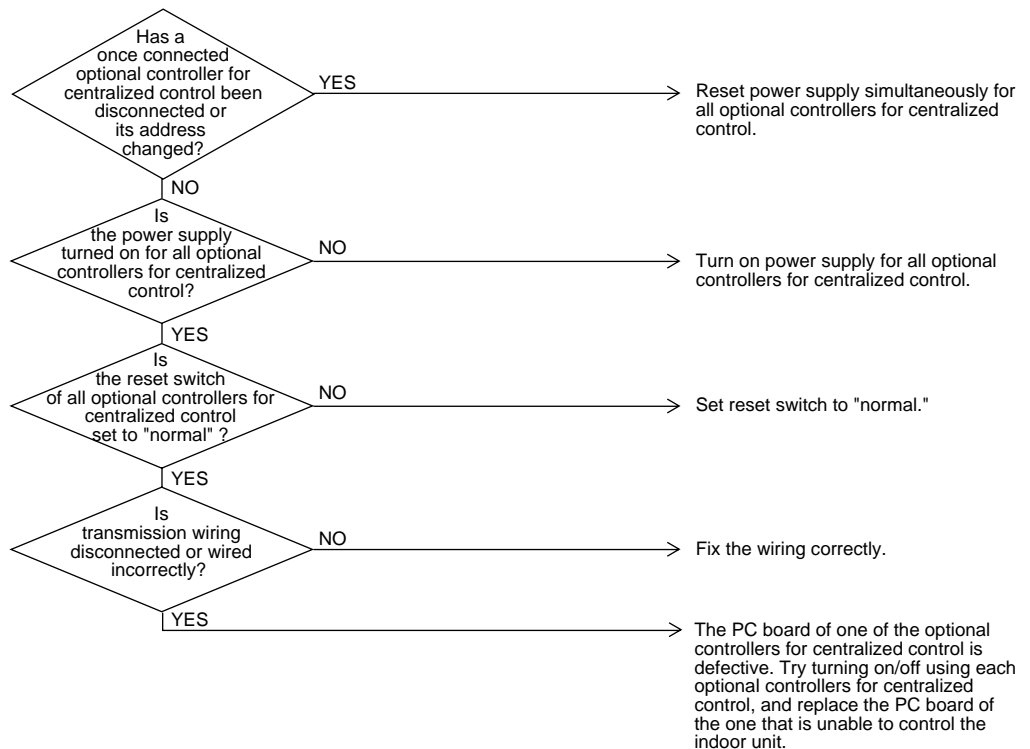
Remote Controller Display



Supposed Causes

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

Troubleshooting



7.4 Improper Combination of Optional Controllers for Centralized Control

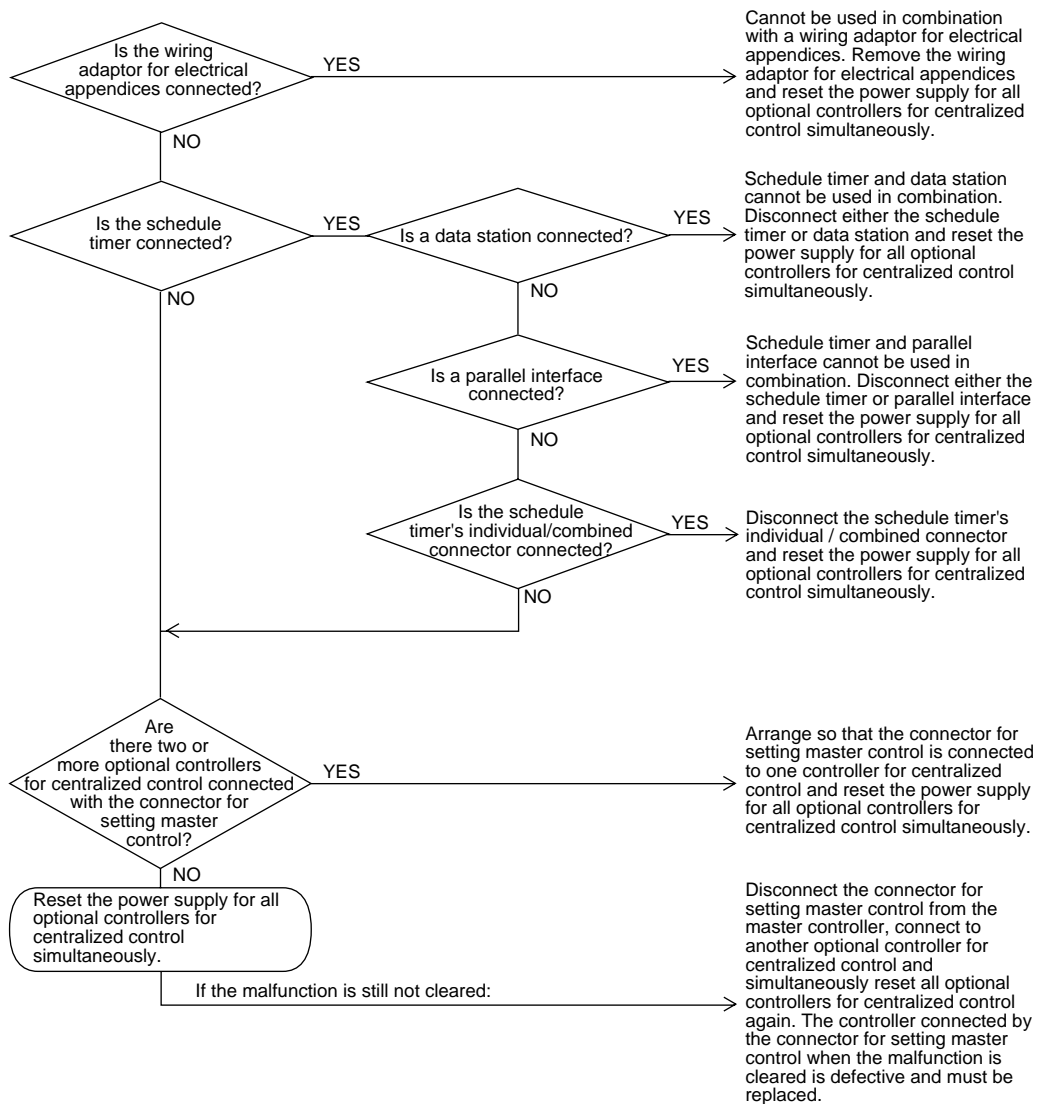
Remote Controller Display



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



(VF077)

7.5 Address Duplication, Improper Setting

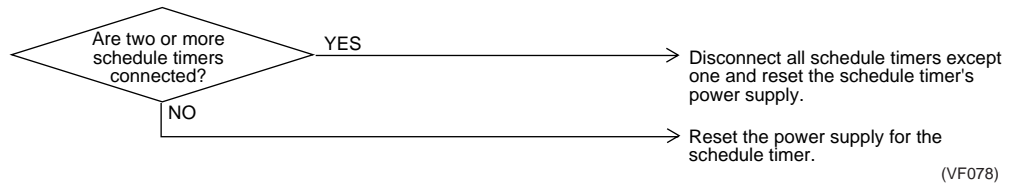
Remote Controller
Display



Supposed Causes

- Address duplication of optional controller for centralized control

Troubleshooting



(VF078)

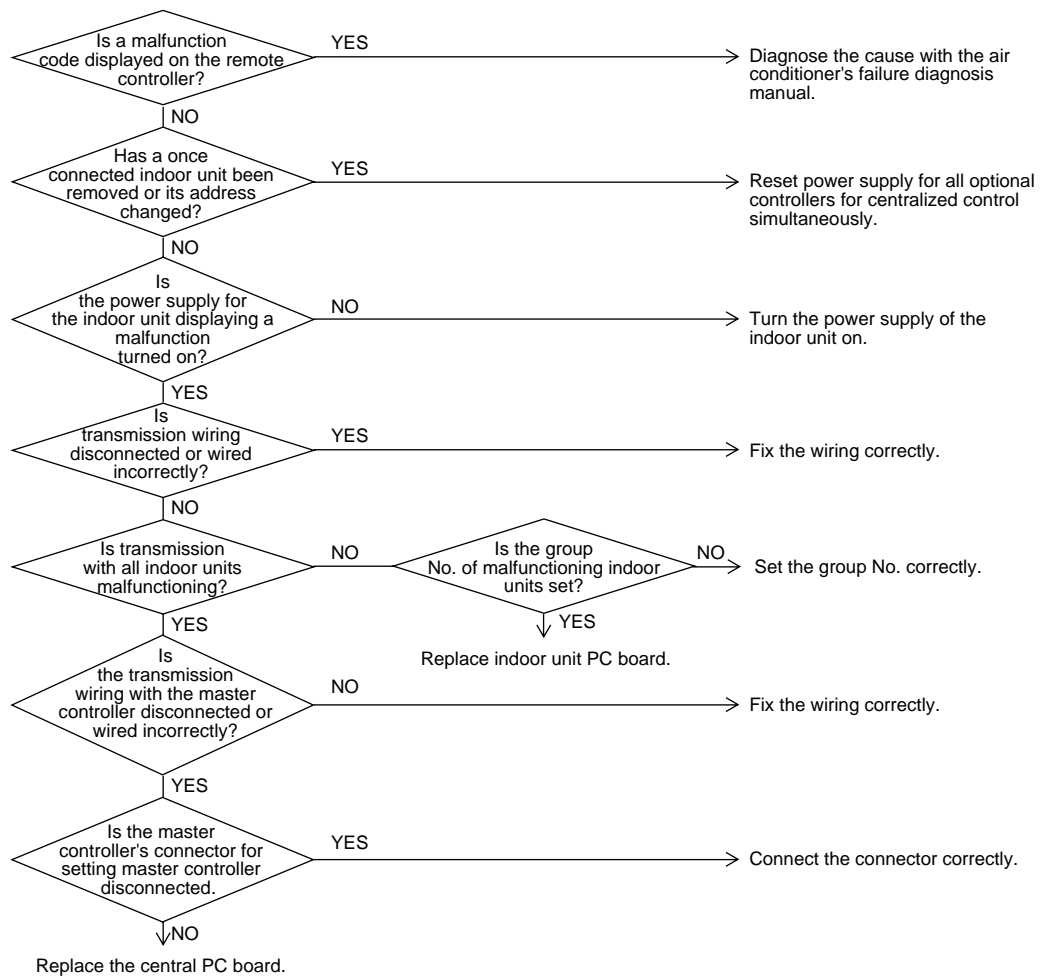
8. Troubleshooting (OP: Unified ON/OFF Controller)

8.1 Operation Lamp Blinks

Remote Controller Display Operation lamp blinks

- Supposed 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



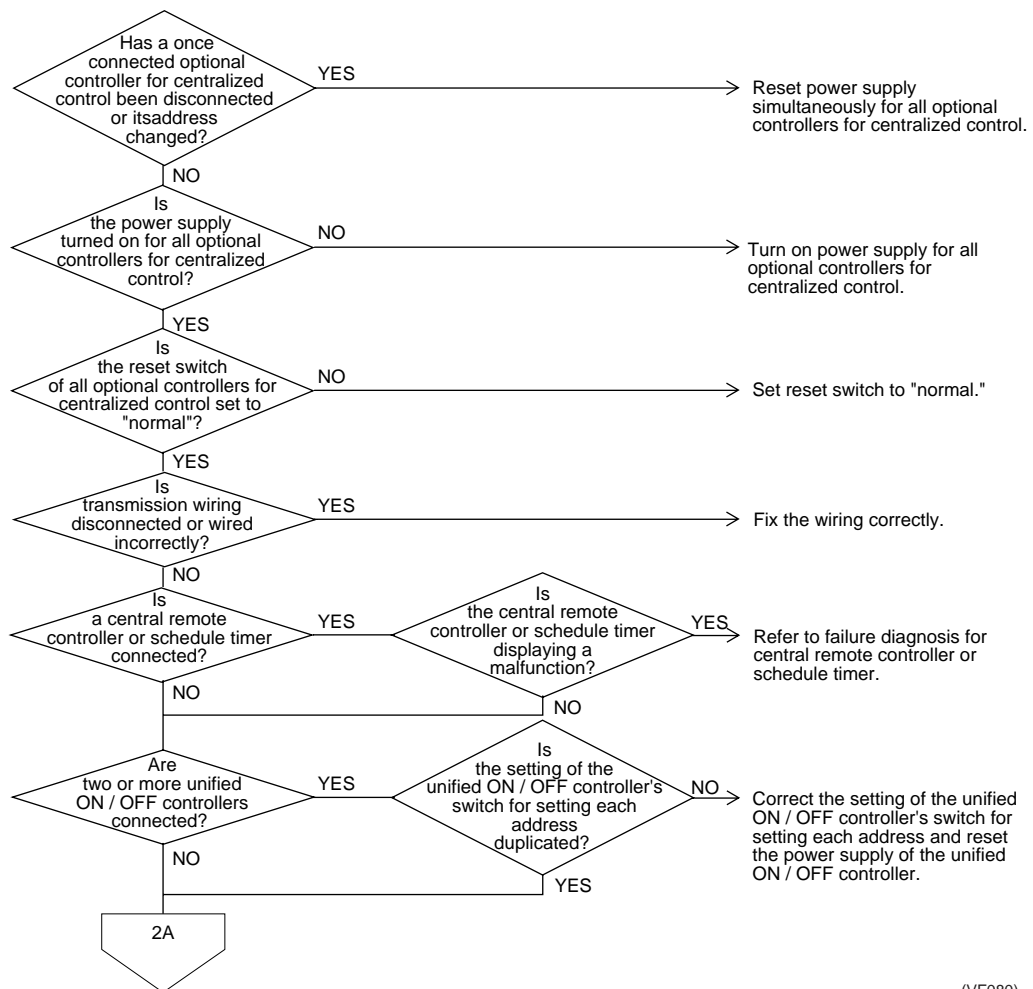
(VF079)

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

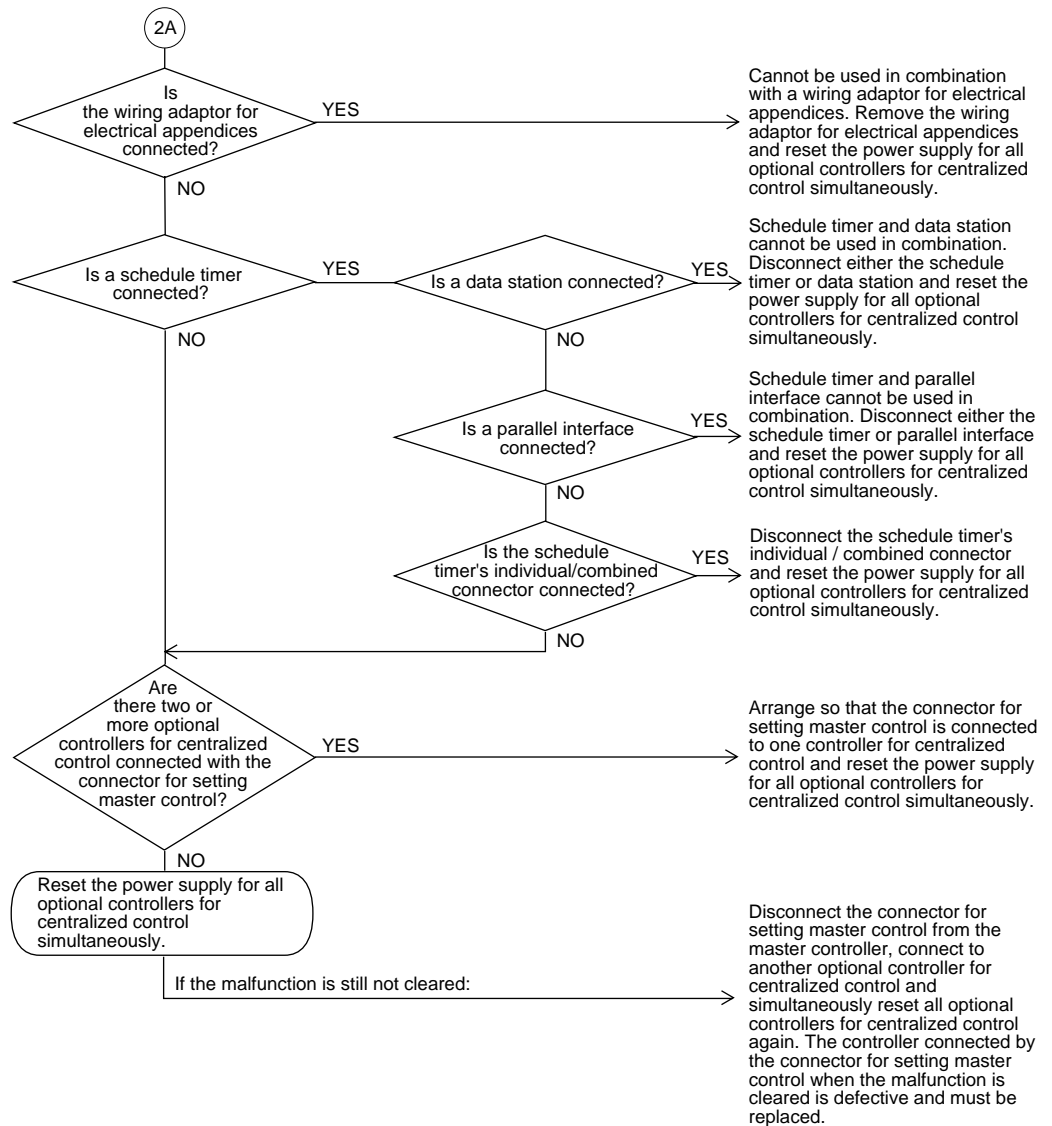
Remote Controller Display “under host computer integrated control” (Repeats single blink)

- 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



(VF080)



(VF081)

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

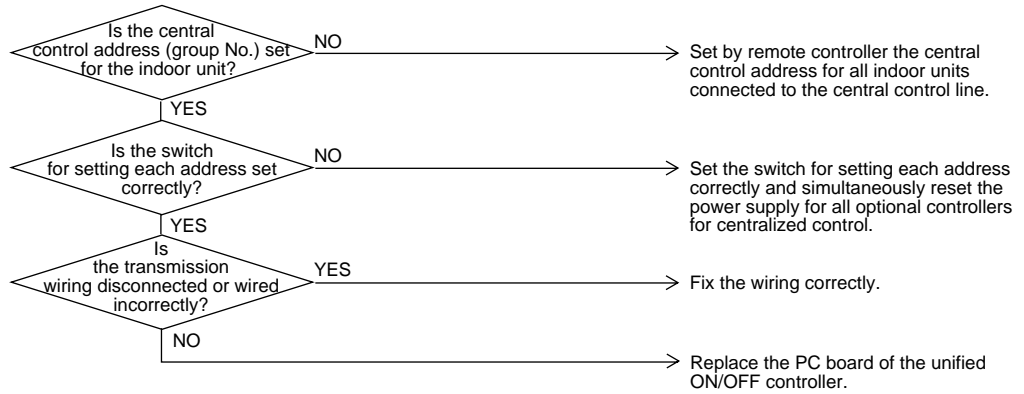
Remote Controller Display

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

Supposed Causes

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

Troubleshooting



(VF082)

Part 6

Special Service Mode

R-407C PLUS Series

1. Backup and Emergency Operation	180
1.1 Backup and Emergency Operation.....	180
2. Pump Down Operation.....	182
2.1 Pump Down Operation	182

1. Backup and Emergency Operation

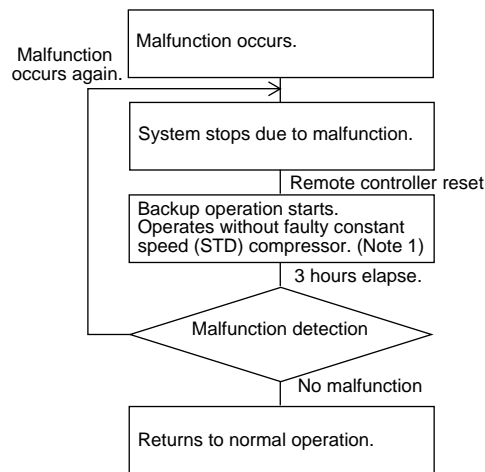
1.1 Backup and Emergency Operation

1.1.1 Backup Operation:

When a constant speed type compressor malfunctions due to OC actuation, if you restart operation by remote controller after the unit stops, you can continue to operate the system without the faulty constant speed type compressor.

The system can run by backup operation for up to 3 hours of total indoor unit operating time. When 3 hours is exceeded and the malfunction still remains, the system once again stops due to malfunction. If the malfunction returns to normal, the system continues to operate as is.

Backup Operation Control Flow



(MF168)

After the system briefly stops due to malfunction in order to call attention to the problem, backup operation is started by remote controller.

For the reason described above, after about 3 hours of backup operation, the system again carries out malfunction detection, and the system once again stops due to malfunction if an error is detected.



Note:

1. < For 2-compressor system >

- When the STD compressor OC operates, the operation continues using only the inverter compressor based on remote control reset. (for 3 hours only)

< For 3-compressor system >

- When OC operates again immediately after a backup operation (within 5 minutes after STD compressor startup), STD1 and STD2 are switched and operation is retried.
- If OC activates again, only the inverter compressor is used for the operation.
- (In any case, the backup operation ends after 3 hours.)
- The compressor in which OC is activated is prohibited to operate until power reset is conducted for a restart.

1.1.2 Emergency Operation:

Set in setting mode 2. Operates the system when an outdoor unit malfunctions.

1. When an inverter type outdoor unit malfunctions

When an inverter type compressor malfunctions, you can continue operation using constant speed type compressors only.

Emergency Operation Method

1. Set to "EMG" in setting mode 2.
and
2. All indoor units connected to this outdoor unit are turned on by thermostat.

Emergency operation stops at the following conditions.

1. Emergency operation mode is reset on outdoor unit PC board.
or
2. One or more indoor units connected to this outdoor unit are turned off by thermostat.

Setting of Emergency Mode

Setting Method	LED Display						
	H1P	H2P	H3P	H4P	H5P	H6P	H7P
Hold down the Mode button for 5 seconds to change to setting Mode 2.	○	●	●	●	●	●	●
Push SET button and select LED display to "Emergency Mode".	○	●	●	●	●	●	●
Push the RETURN button.	○	●	●	●	●	●	①
Push SET button and select LED display as shown right.	○	●	●	●	●	①	●
Push the RETURN button to enter "Emergency Mode". ■ All indoor units must be thermostat ON.	○	●	●	●	●	○	●

2. Pump Down Operation

2.1 Pump Down Operation

Pump down operation is carried out when refrigerant is moved to outdoor unit if the indoor unit is necessary to disconnect or replacing. In this case, outdoor unit operates in the cooling mode and indoor unit's electronic expansion valves open for 30 minutes.

2.1.1 Method

1. Fully shut the liquid side stop valves. (Leave fully open the gas side stop valve)
2. Set to pump down mode in setting mode 2 as per table below and execute pump down operation.
 - Outdoor unit operate for approximately 30 minutes.
3. After unit stopping, shut the stop valve of the gas pipe.

Setting of Pump Down Mode

Setting Method		LED Display						
		H1P	H2P	H3P	H4P	H5P	H6P	H7P
Hold down the Mode button for 5 seconds to change to setting Mode 2.		○	●	●	●	●	●	●
Push SET button and select LED display to "Pump down operation".		○	●	●	○	○	○	●
Push the RETURN button.		○	●	●	●	●	●	◐
Push SET button and select LED display as shown right.		○	●	●	●	●	◐	●
Push the RETURN button twice to start operation.		○	●	●	●	●	○	●
		◐	◐	●	●	●	●	●
During pump down operation, low pressure level is displayed as shown right.	Over 0.343MPa	○	○	○	○	○	○	○
	Below 0.343MPa	○	○	●	●	○	○	○
	Below 0.245MPa	○	○	●	●	●	○	○
	Below 0.147MPa	○	○	●	●	●	●	○
Pump down operation completed		○	○	◐	◐	◐	◐	◐
■ Final pressure level is shown with blinking or H2P is shown ON.		○	○	◐	◐	◐	◐	◐
Push MODE button once to complete this procedure.		○	●	●	●	●	○	●

Part 7

Appendix

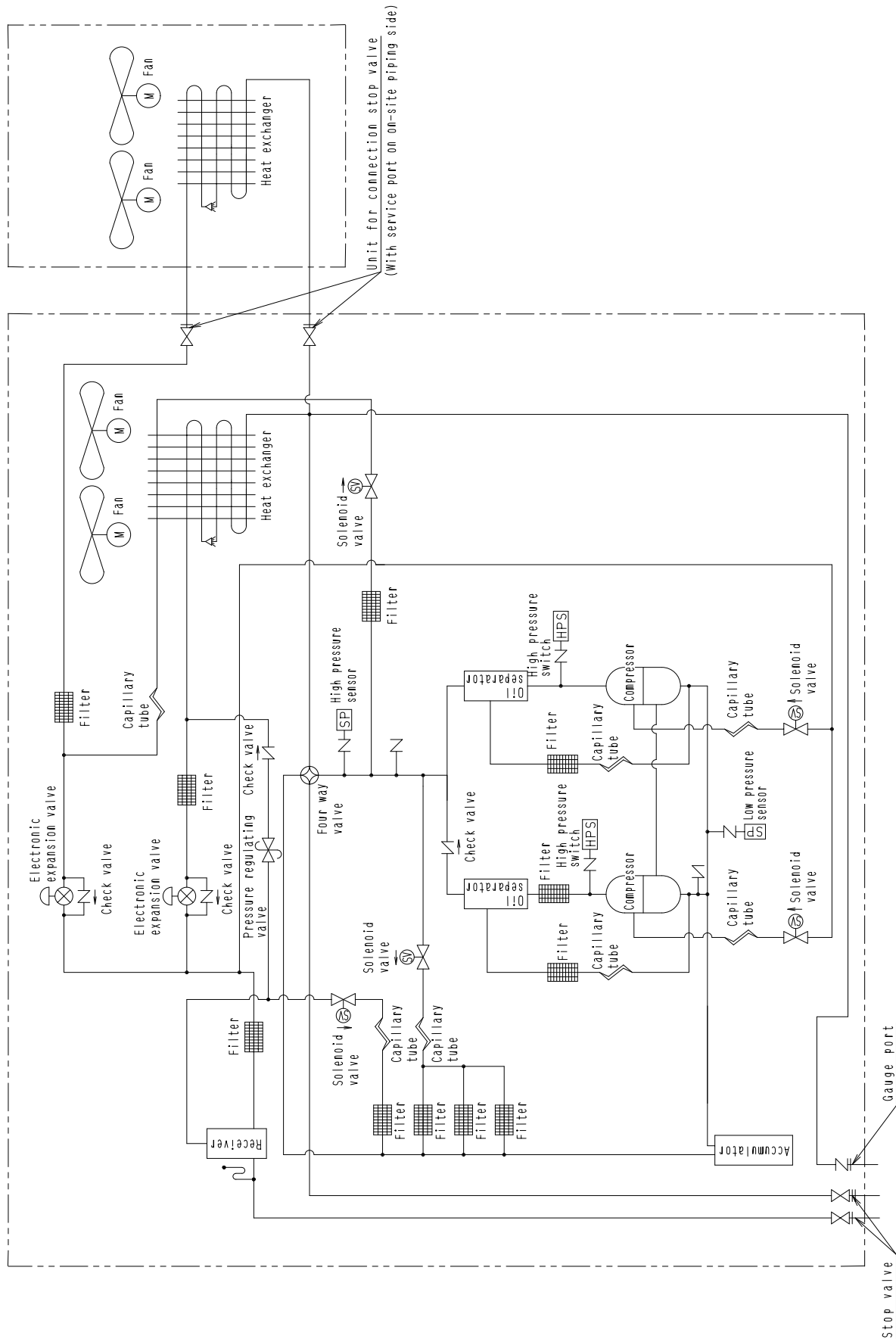
R-407C PLUS Series

1. Piping Diagram.....	184
1.1 Outdoor Unit	184
1.2 Indoor Unit.....	186
2. Wiring Diagram	187
2.1 Outdoor Unit	187
2.2 Indoor Unit.....	189
3. Characteristics	201
3.1 R-407C Characteristics	201
3.2 Thermistor Resistance / Temperature Characteristics	202
3.3 Pressure Sensor.....	204
3.4 Method of Replacing The Inverter's Power Transistors and Diode Modules.....	205
4. Precautions in Servicing The Models with New-type Refrigerant	207
4.1 Tools Required	207
4.2 Notes for Work Procedures	208

1. Piping Diagram

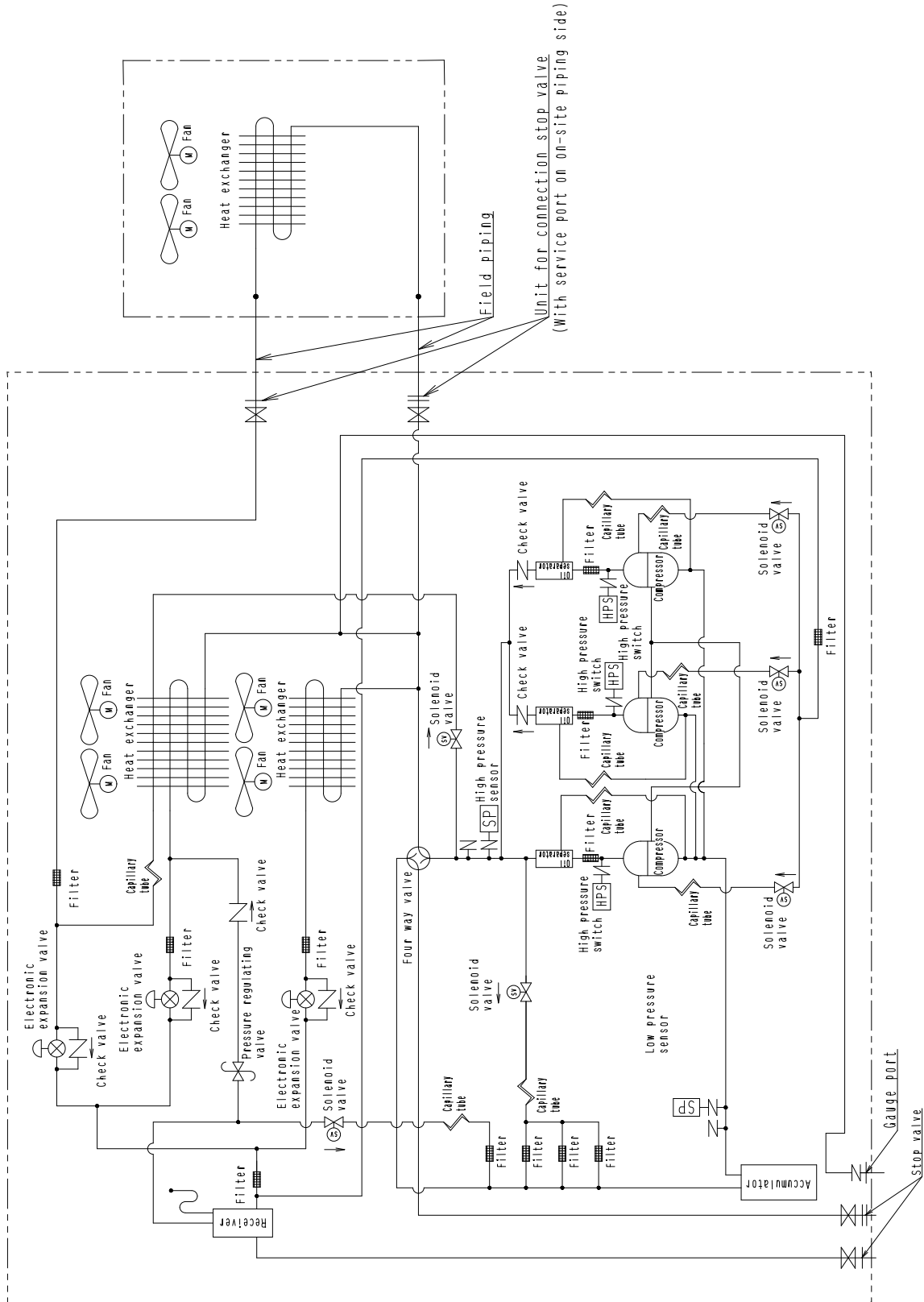
1.1 Outdoor Unit

RSXY16-18-20KJY1



3D024909

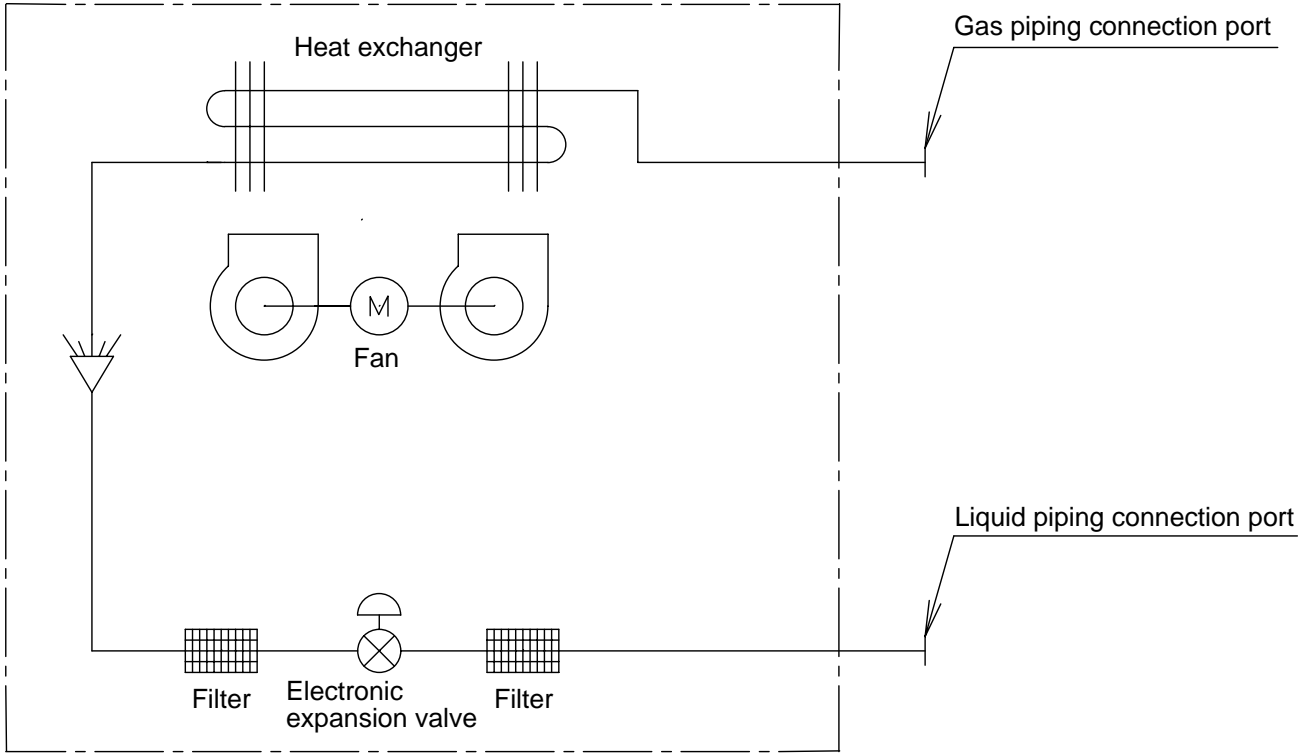
RSXYP24-26-28-30KJY1



3D024910

1.2 Indoor Unit

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

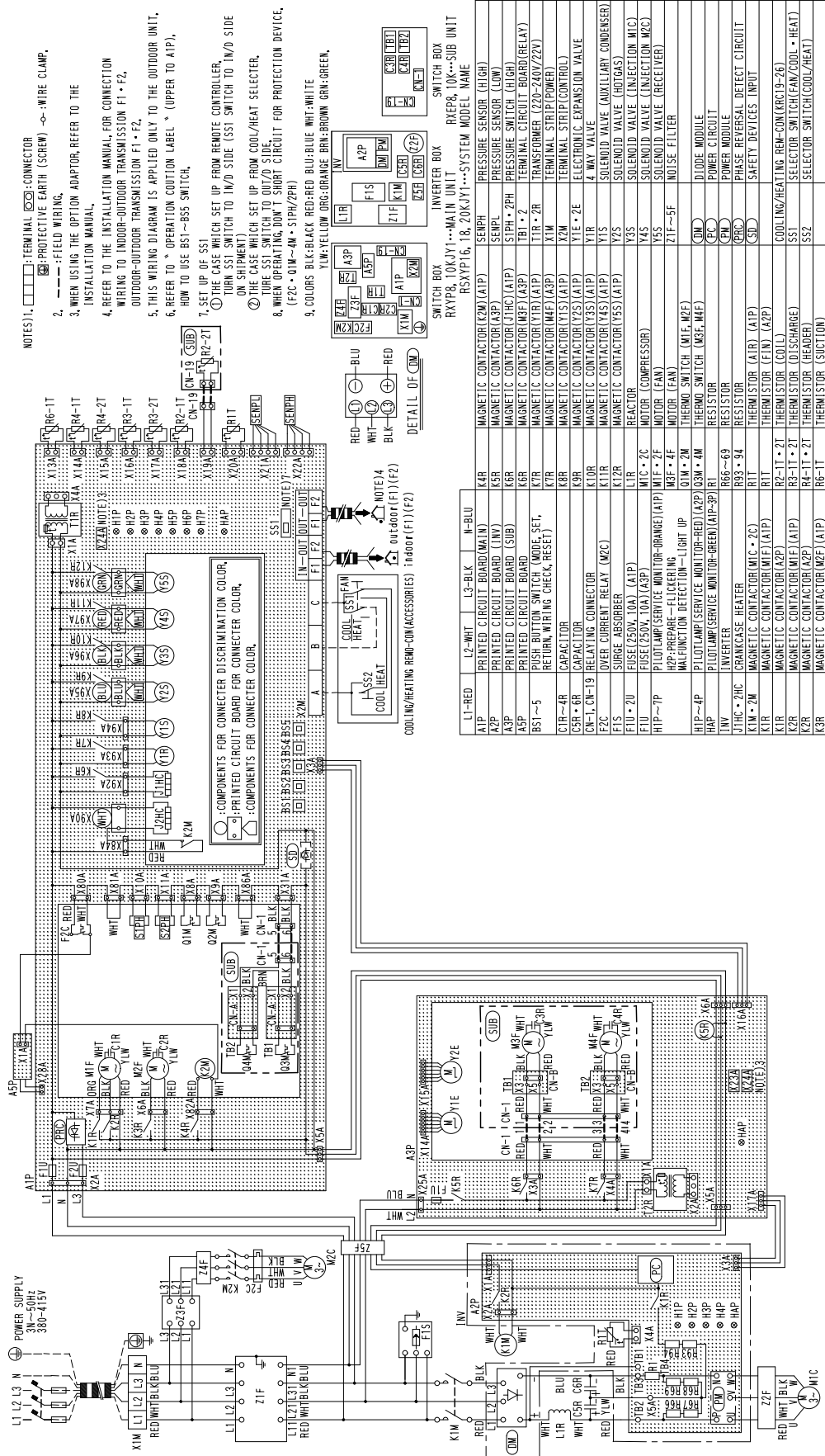


DU220-602D

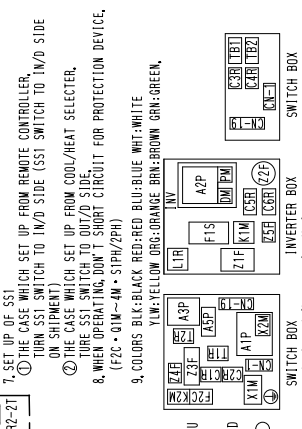
2. Wiring Diagram

2.1 Outdoor Unit

RSXYP16-18-20KJY1



- NOTES) 1. [Symbol] TERMINAL [Symbol] CONNECTOR [Symbol] PROTECTIVE EARTH (SCREW) [Symbol] WIRE CLAMP.
 2. --- FIELD WIRING.
 3. WHEN USING THE OPTION ADAPTOR, REFER TO THE INSTALLATION MANUAL.
 4. REFER TO THE INSTALLATION MANUAL FOR CONNECTION WIRING TO INDOOR-OUTDOOR TRANSMISSION F1 • F2, OUTDOOR-OUTDOOR TRANSMISSION F1 • F2.
 5. THIS WIRING DIAGRAM IS APPLIED ONLY TO THE OUTDOOR UNIT.
 6. REFER TO * OPERATION CONDITION LABEL * (UPPER TO A1P), HOW TO USE B51~B55 SWITCH.
 7. SET UP OF SSI
 ① THE CASE WHICH SET UP FROM REMOTE CONTROLLER, TURN S51 SWITCH TO IN/D SIDE (SSI SWITCH TO IN/D SIDE ON SHIPMENT)
 ② THE CASE WHICH SET UP FROM COOL/HEAT SELECTOR, TURN S51 SWITCH TO OUT/D SIDE
 8. WHEN OPERATING, DON'T SHORT CIRCUIT FOR PROTECTION DEVICE, (F2C • Q1W • 4M • S1PH/2PH)
 9. COLORS: BLK:BLACK RED:RED BLU:BLUE WHI:WHITE YLW:YELLOW ORG:ORANGE BRN:ROWN GRN:GREEN.



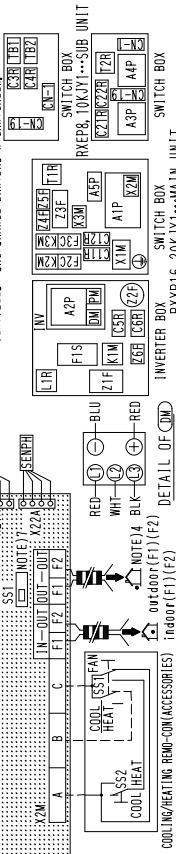
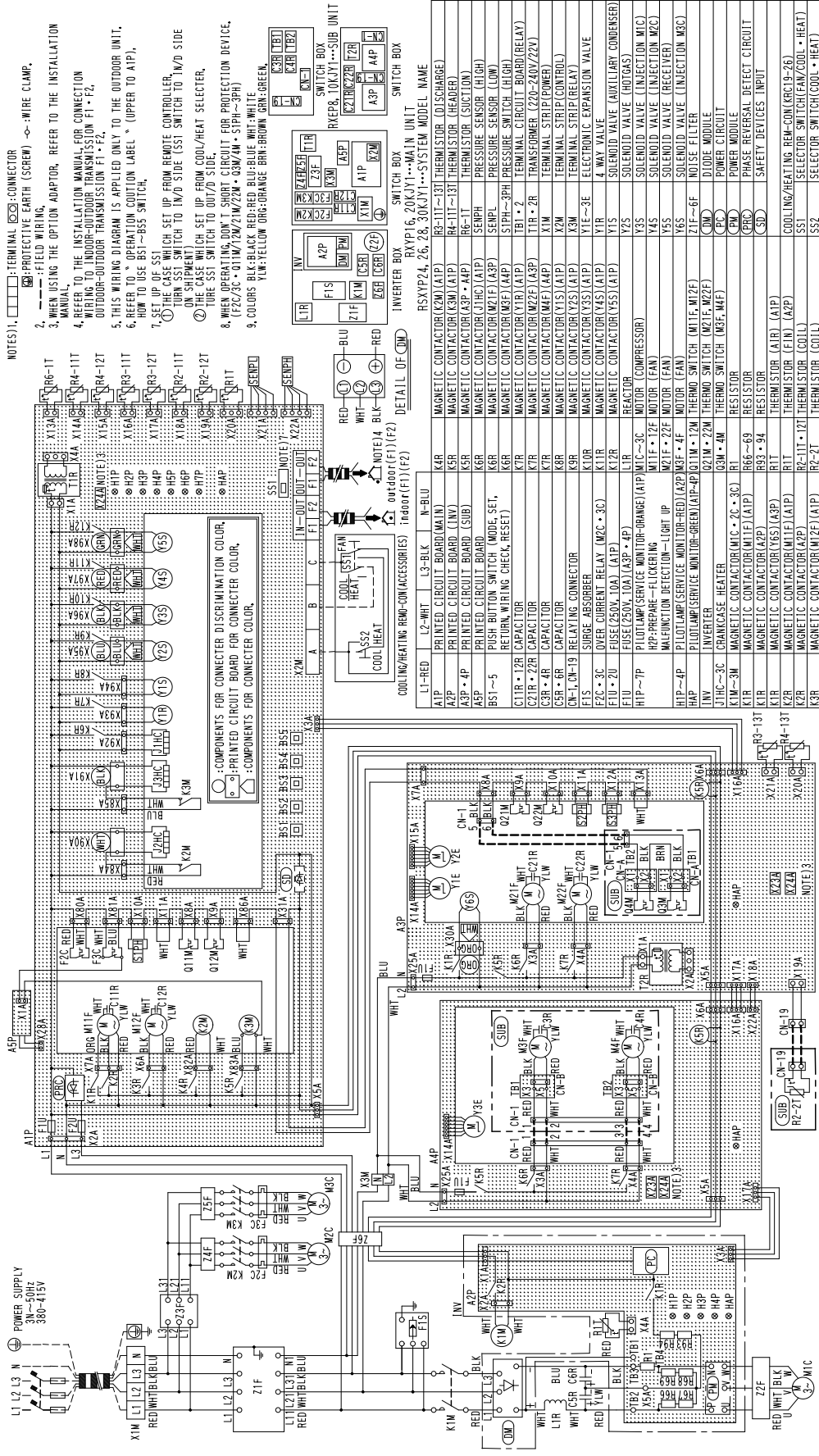
Component	Terminal	Color	Function
L1-RED	L3-BLK	N-BLU	PRINTED CIRCUIT BOARD (MAIN)
A1P	A2P	A3P	MAGNETIC CONTACTOR (COM) (A1P)
A2P	A3P	A4P	MAGNETIC CONTACTOR (NO) (A1P)
A3P	A4P	A5P	MAGNETIC CONTACTOR (NC) (A1P)
A4P	A5P	A6P	MAGNETIC CONTACTOR (A2P)
A5P	A6P	A7P	MAGNETIC CONTACTOR (A3P)
A6P	A7P	A8P	MAGNETIC CONTACTOR (A4P)
A7P	A8P	A9P	MAGNETIC CONTACTOR (A5P)
A8P	A9P	A10P	MAGNETIC CONTACTOR (A6P)
A9P	A10P	A11P	MAGNETIC CONTACTOR (A7P)
A10P	A11P	A12P	MAGNETIC CONTACTOR (A8P)
A11P	A12P	A13P	MAGNETIC CONTACTOR (A9P)
A12P	A13P	A14P	MAGNETIC CONTACTOR (A10P)
A13P	A14P	A15P	MAGNETIC CONTACTOR (A11P)
A14P	A15P	A16P	MAGNETIC CONTACTOR (A12P)
A15P	A16P	A17P	MAGNETIC CONTACTOR (A13P)
A16P	A17P	A18P	MAGNETIC CONTACTOR (A14P)
A17P	A18P	A19P	MAGNETIC CONTACTOR (A15P)
A18P	A19P	A20P	MAGNETIC CONTACTOR (A16P)
A19P	A20P	A21P	MAGNETIC CONTACTOR (A17P)
A20P	A21P	A22P	MAGNETIC CONTACTOR (A18P)
A21P	A22P	A23P	MAGNETIC CONTACTOR (A19P)
A22P	A23P	A24P	MAGNETIC CONTACTOR (A20P)
A23P	A24P	A25P	MAGNETIC CONTACTOR (A21P)
A24P	A25P	A26P	MAGNETIC CONTACTOR (A22P)
A25P	A26P	A27P	MAGNETIC CONTACTOR (A23P)
A26P	A27P	A28P	MAGNETIC CONTACTOR (A24P)
A27P	A28P	A29P	MAGNETIC CONTACTOR (A25P)
A28P	A29P	A30P	MAGNETIC CONTACTOR (A26P)
A29P	A30P	A31P	MAGNETIC CONTACTOR (A27P)
A30P	A31P	A32P	MAGNETIC CONTACTOR (A28P)
A31P	A32P	A33P	MAGNETIC CONTACTOR (A29P)
A32P	A33P	A34P	MAGNETIC CONTACTOR (A30P)
A33P	A34P	A35P	MAGNETIC CONTACTOR (A31P)
A34P	A35P	A36P	MAGNETIC CONTACTOR (A32P)
A35P	A36P	A37P	MAGNETIC CONTACTOR (A33P)
A36P	A37P	A38P	MAGNETIC CONTACTOR (A34P)
A37P	A38P	A39P	MAGNETIC CONTACTOR (A35P)
A38P	A39P	A40P	MAGNETIC CONTACTOR (A36P)
A39P	A40P	A41P	MAGNETIC CONTACTOR (A37P)
A40P	A41P	A42P	MAGNETIC CONTACTOR (A38P)
A41P	A42P	A43P	MAGNETIC CONTACTOR (A39P)
A42P	A43P	A44P	MAGNETIC CONTACTOR (A40P)
A43P	A44P	A45P	MAGNETIC CONTACTOR (A41P)
A44P	A45P	A46P	MAGNETIC CONTACTOR (A42P)
A45P	A46P	A47P	MAGNETIC CONTACTOR (A43P)
A46P	A47P	A48P	MAGNETIC CONTACTOR (A44P)
A47P	A48P	A49P	MAGNETIC CONTACTOR (A45P)
A48P	A49P	A50P	MAGNETIC CONTACTOR (A46P)
A49P	A50P	A51P	MAGNETIC CONTACTOR (A47P)
A50P	A51P	A52P	MAGNETIC CONTACTOR (A48P)
A51P	A52P	A53P	MAGNETIC CONTACTOR (A49P)
A52P	A53P	A54P	MAGNETIC CONTACTOR (A50P)
A53P	A54P	A55P	MAGNETIC CONTACTOR (A51P)
A54P	A55P	A56P	MAGNETIC CONTACTOR (A52P)
A55P	A56P	A57P	MAGNETIC CONTACTOR (A53P)
A56P	A57P	A58P	MAGNETIC CONTACTOR (A54P)
A57P	A58P	A59P	MAGNETIC CONTACTOR (A55P)
A58P	A59P	A60P	MAGNETIC CONTACTOR (A56P)
A59P	A60P	A61P	MAGNETIC CONTACTOR (A57P)
A60P	A61P	A62P	MAGNETIC CONTACTOR (A58P)
A61P	A62P	A63P	MAGNETIC CONTACTOR (A59P)
A62P	A63P	A64P	MAGNETIC CONTACTOR (A60P)
A63P	A64P	A65P	MAGNETIC CONTACTOR (A61P)
A64P	A65P	A66P	MAGNETIC CONTACTOR (A62P)
A65P	A66P	A67P	MAGNETIC CONTACTOR (A63P)
A66P	A67P	A68P	MAGNETIC CONTACTOR (A64P)
A67P	A68P	A69P	MAGNETIC CONTACTOR (A65P)
A68P	A69P	A70P	MAGNETIC CONTACTOR (A66P)
A69P	A70P	A71P	MAGNETIC CONTACTOR (A67P)
A70P	A71P	A72P	MAGNETIC CONTACTOR (A68P)
A71P	A72P	A73P	MAGNETIC CONTACTOR (A69P)
A72P	A73P	A74P	MAGNETIC CONTACTOR (A70P)
A73P	A74P	A75P	MAGNETIC CONTACTOR (A71P)
A74P	A75P	A76P	MAGNETIC CONTACTOR (A72P)
A75P	A76P	A77P	MAGNETIC CONTACTOR (A73P)
A76P	A77P	A78P	MAGNETIC CONTACTOR (A74P)
A77P	A78P	A79P	MAGNETIC CONTACTOR (A75P)
A78P	A79P	A80P	MAGNETIC CONTACTOR (A76P)
A79P	A80P	A81P	MAGNETIC CONTACTOR (A77P)
A80P	A81P	A82P	MAGNETIC CONTACTOR (A78P)
A81P	A82P	A83P	MAGNETIC CONTACTOR (A79P)
A82P	A83P	A84P	MAGNETIC CONTACTOR (A80P)
A83P	A84P	A85P	MAGNETIC CONTACTOR (A81P)
A84P	A85P	A86P	MAGNETIC CONTACTOR (A82P)
A85P	A86P	A87P	MAGNETIC CONTACTOR (A83P)
A86P	A87P	A88P	MAGNETIC CONTACTOR (A84P)
A87P	A88P	A89P	MAGNETIC CONTACTOR (A85P)
A88P	A89P	A90P	MAGNETIC CONTACTOR (A86P)
A89P	A90P	A91P	MAGNETIC CONTACTOR (A87P)
A90P	A91P	A92P	MAGNETIC CONTACTOR (A88P)
A91P	A92P	A93P	MAGNETIC CONTACTOR (A89P)
A92P	A93P	A94P	MAGNETIC CONTACTOR (A90P)
A93P	A94P	A95P	MAGNETIC CONTACTOR (A91P)
A94P	A95P	A96P	MAGNETIC CONTACTOR (A92P)
A95P	A96P	A97P	MAGNETIC CONTACTOR (A93P)
A96P	A97P	A98P	MAGNETIC CONTACTOR (A94P)
A97P	A98P	A99P	MAGNETIC CONTACTOR (A95P)
A98P	A99P	A100P	MAGNETIC CONTACTOR (A96P)

3D024953B

RSXPY24-26-28-30KJY1

- NOTES): 1. [Symbol] TERMINAL CONNECTOR [Symbol] PROTECTIVE EARTH (SCREW) [Symbol] FIELD WIRING, 2. --- USING THE OPTION ADAPTOR, REFER TO THE INSTALLATION MANUAL, 3. REFER TO THE INSTALLATION MANUAL FOR CONNECTION WIRING TO INDOOR-OUTDOOR TRANSMISSION FI • FZ, OUTDOOR-OUTDOOR TRANSMISSION FI • FZ, 4. THIS WIRING DIAGRAM IS APPLIED ONLY TO THE OUTDOOR UNIT, HOW TO USE B51~B55 SWITCH, 5. SET UP OF S51

6. THE CASE WHICH SET UP FROM REMOTE CONTROLLER, TURN S51 SWITCH TO IN/D SIDE (S51 SWITCH TO IN/D SIDE FROM REMOTE CONTROLLER), 7. THE CASE WHICH SET UP FROM COOL/HEAT SELECTOR, TURN S51 SWITCH TO OUT/D SIDE, 8. WHEN OPERATING DOWN T SHORT CIRCUIT FOR PROTECTION DEVICE, (F2C/F2E • 01W/2W/1W/22W • 03W/4W • 51PH~3PH) 9. COLORS: BLK:BLACK RED:RED, BLU:BLUE, WHI:WHITE, YLW:YELLOW, ORG:ORANGE, BRN:BRN, GRN:GRN.

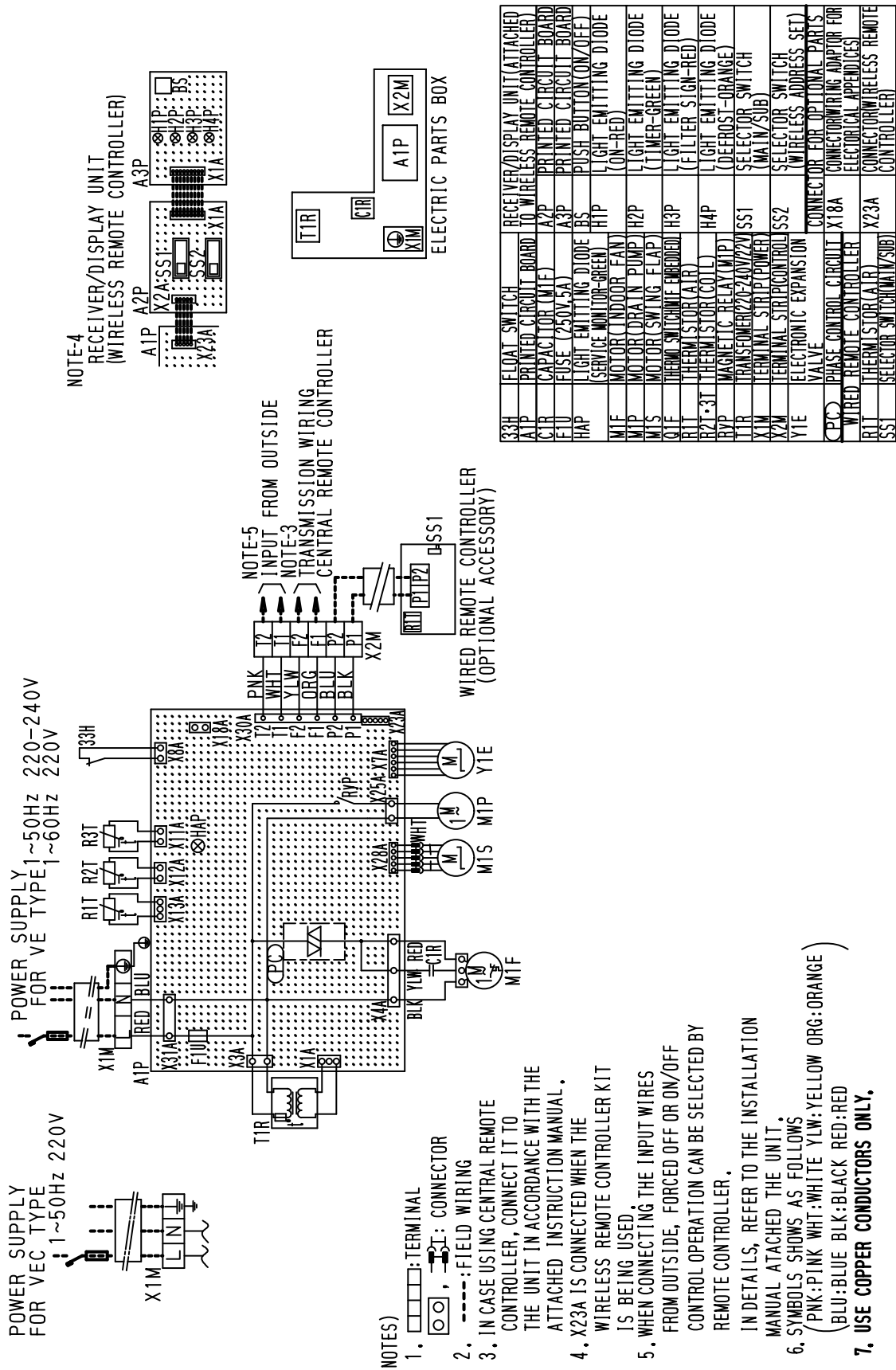


INVERTER BOX	SWITCH BOX	SWITCH BOX	RSXPY24, 26, 28, 30KJY1--SYSTEM MODEL NAME
A1P	MAGNETIC CONTACTOR (K2M) (A1P)	R8-T11~31 THERMISTOR (DISCHARGE)	MAGNETIC CONTACTOR (K2M) (A1P)
A2P	MAGNETIC CONTACTOR (K3M) (A2P)	R4-T11~31 THERMISTOR (HEADER)	MAGNETIC CONTACTOR (K3M) (A2P)
A3P • 4P	MAGNETIC CONTACTOR (A3P • 4P)	R6-T1	MAGNETIC CONTACTOR (A3P • 4P)
A5P	MAGNETIC CONTACTOR (J1HC) (A5P)	SENPL	MAGNETIC CONTACTOR (J1HC) (A5P)
B51~5	PUSH BUTTON SWITCH (MODE SET, RETURN, WIRING CHECK, RESET)	SENPL	PRESSURE SENSOR (HIGH)
C1R • 12R	CAPACITOR	S1PH~3PH	PRESSURE SWITCH (HIGH)
C2R • 2R	CAPACITOR	TB1 • 2	TERMINAL CIRCUIT BOARD (RELAY)
C3R • 4R	CAPACITOR	T1R • 2R	TRANSFORMER (220-240V/22V)
C5R • 6R	CAPACITOR	X1M	TERMINAL STRIP (POWER)
CW-1, CW-19	RELAYING CONNECTOR	X2M	TERMINAL STRIP (CONTROL)
F2C • 3C	OVER CURRENT RELAY (M2C • 3C)	X3M	TERMINAL STRIP (RELAY)
F1U • 2U	FUSE (250V, 10A) (A1P)	Y1E~3E	ELECTRONIC EXPANSION VALVE
F1U • 3U	FUSE (250V, 10A) (A1P)	Y1S	SOLENOID VALVE (AUXILIARY CONDENSER)
H1P~7P	PILOT LAMP/SERVICE MONITOR-ORANGE (A1P) (M1C~3C)	Y3S	SOLENOID VALVE (INJECTION M1C)
H2P	PILOT LAMP/SERVICE MONITOR-RED (A2P) (M3F • 4F)	Y4S	SOLENOID VALVE (INJECTION M2C)
H3P	PILOT LAMP/SERVICE MONITOR-GREEN (A1P) (M1M~12M)	Y5S	SOLENOID VALVE (RECEIVER)
H4P	PILOT LAMP/SERVICE MONITOR-RED (A2P) (M2F • 22F)	Y6S	SOLENOID VALVE (INJECTION M3C)
H5P	PILOT LAMP/SERVICE MONITOR-ORANGE (A1P) (M1M~12M)	Z1F~6F	NOISE FILTER
J1M~3C	CRANKCASE HEATER	CM	DIODE MODULE
K1M~3M	MAGNETIC CONTACTOR (M1C • 2C • 3C)	CM	POWER CIRCUIT
K1R	MAGNETIC CONTACTOR (A1P)	CM	POWER MODULE
K1R	MAGNETIC CONTACTOR (A2P)	CRD	PHASE REVERSAL DEFECT CIRCUIT
K1R	MAGNETIC CONTACTOR (A3S) (A3P)	CSB	SAFETY DEVICES INPUT
K2R	MAGNETIC CONTACTOR (M1F) (A1P)		
K2R	MAGNETIC CONTACTOR (M1F) (A2P)		
K3R	MAGNETIC CONTACTOR (M1F) (A1P)		
K3R	MAGNETIC CONTACTOR (M1F) (A2P)		
K3R	MAGNETIC CONTACTOR (M1F) (A1P)		
K3R	MAGNETIC CONTACTOR (M1F) (A2P)		

3D024954B

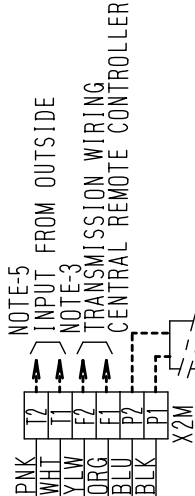
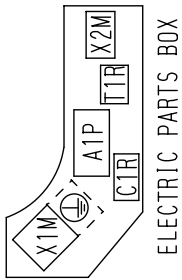
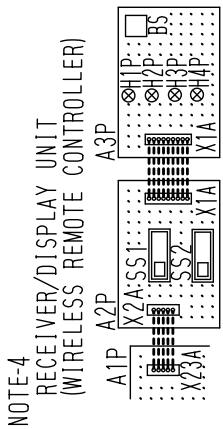
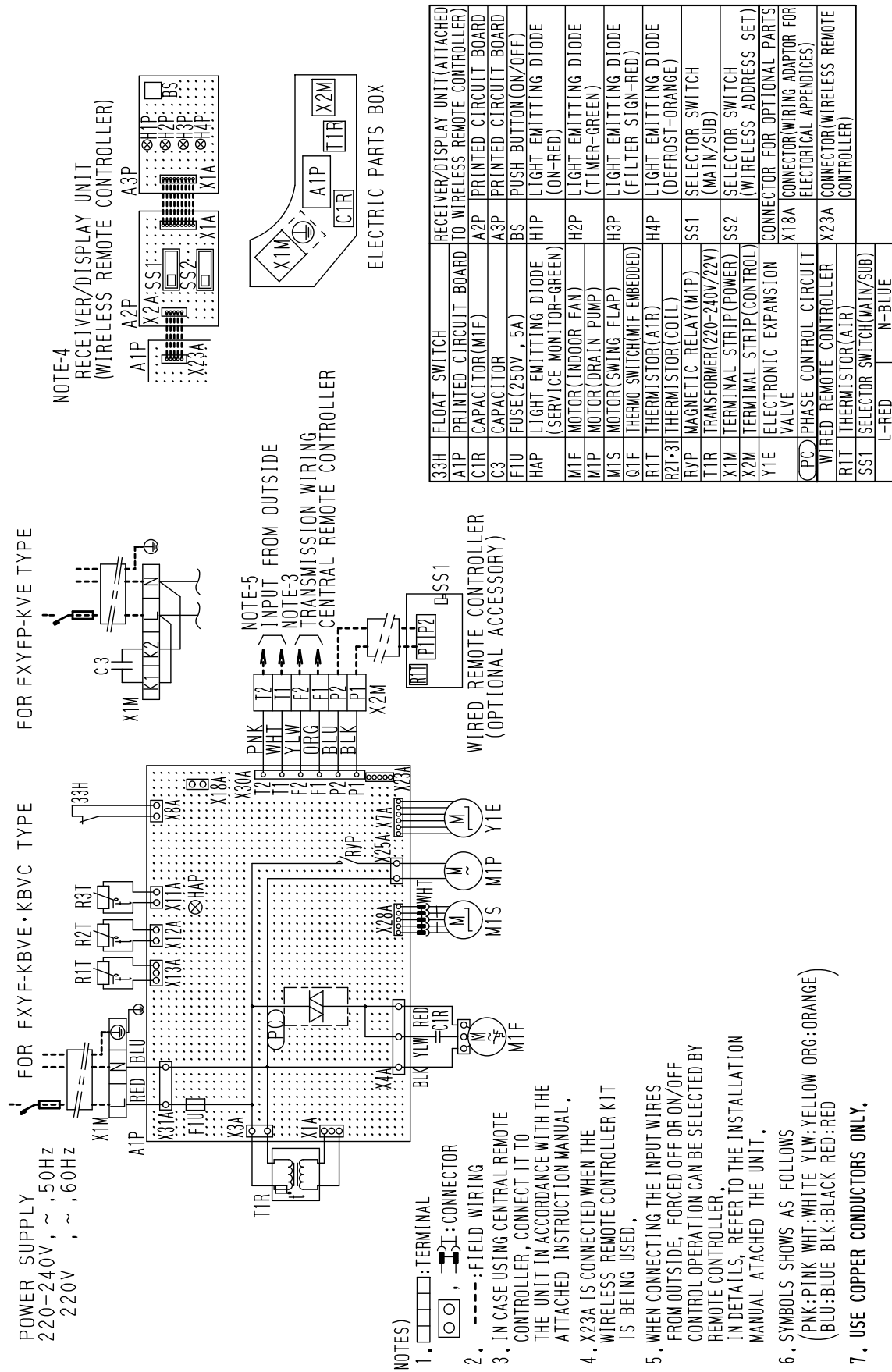
2.2 Indoor Unit

FXYFP32-40-50-63-80-125KV1



3D005759B

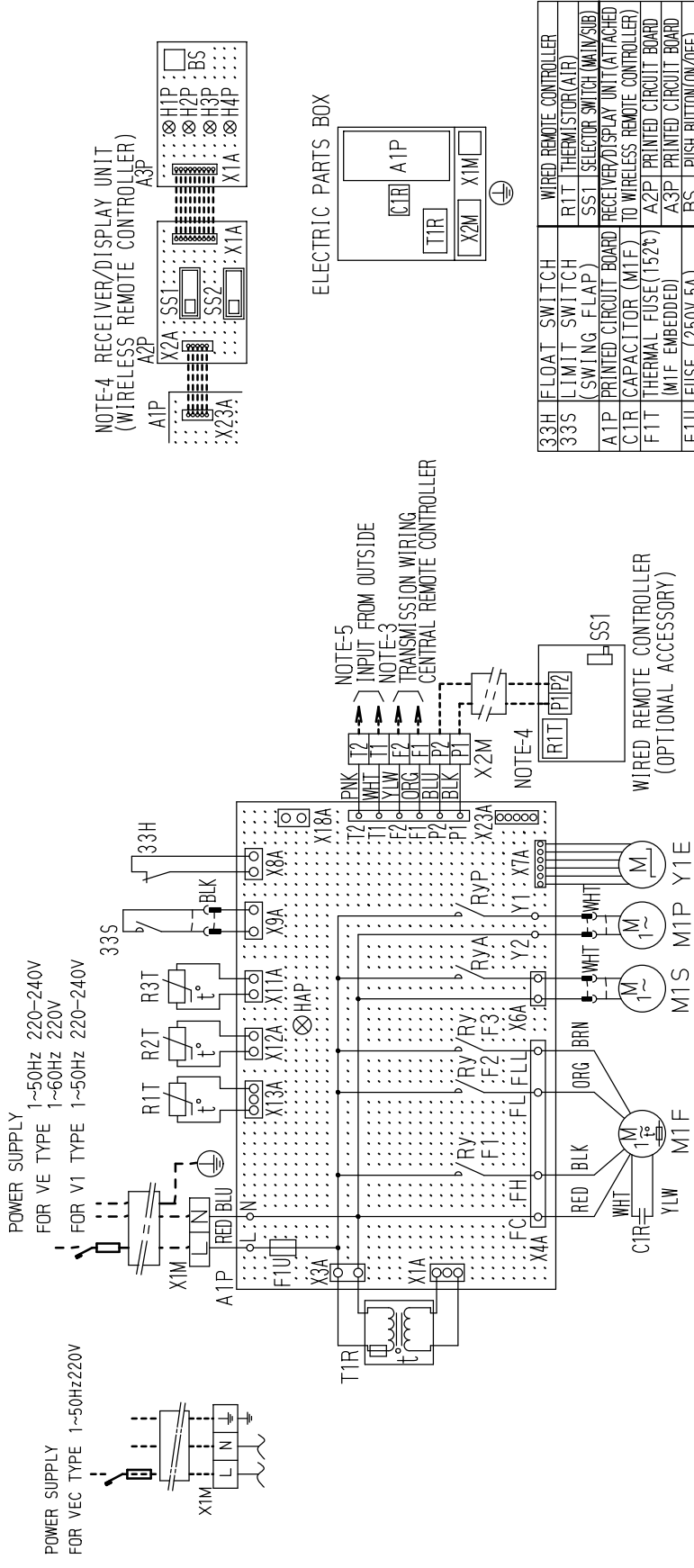
FXYP32-40-50-63-80-100-125KVE



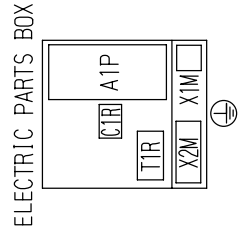
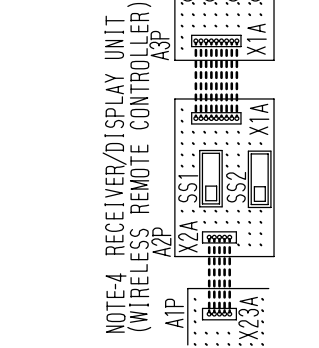
33H	FLOAT SWITCH	RECEIVER/DISPLAY UNIT (ATTACHED TO WIRELESS REMOTE CONTROLLER)
A1P	PRINTED CIRCUIT BOARD	A2P PRINTED CIRCUIT BOARD
C1R	CAPACITOR (M1F)	A3P PRINTED CIRCUIT BOARD
C3	CAPACITOR	BS PUSH BUTTON (ON/OFF)
F1U	FUSE (250V, 5A)	H1P LIGHT EMITTING DIODE (ON-RED)
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)	H2P LIGHT EMITTING DIODE (TIMER-GREEN)
M1F	MOTOR (INDOOR FAN)	H3P LIGHT EMITTING DIODE (FILTER SIGN-RED)
M1P	MOTOR (DRAIN PUMP)	H4P LIGHT EMITTING DIODE (DEFROST-ORANGE)
M1S	MOTOR (SWING FLAP)	SS1 SELECTOR SWITCH (MAIN/SUB)
Q1F	THERMO SWITCH (MIF EMBEDDED)	SS2 SELECTOR SWITCH (WIRELESS ADDRESS SET)
R1T	THERMISTOR (AIR)	CONNECTOR FOR OPTIONAL PARTS
R2T-3T	THERMISTOR (COIL)	X18A CONNECTOR (WIRING ADAPTOR FOR ELECTRICAL APPENDICES)
RYP	MAGNETIC RELAY (M1P)	X23A CONNECTOR (WIRELESS REMOTE CONTROLLER)
T1R	TRANSFORMER (220-240V/22V)	L-RED
X1M	TERMINAL STRIP (POWER)	N-BLUE
X2M	TERMINAL STRIP (CONTROL VALVE)	
Y1E	ELECTRONIC EXPANSION VALVE	
(PC)	PHASE CONTROL CIRCUIT	
W1R	WIRED REMOTE CONTROLLER	
R1T	THERMISTOR (AIR)	
SS1	SELECTOR SWITCH (MAIN/SUB)	

3D020238B

FXYCP20-25-32-63KV1



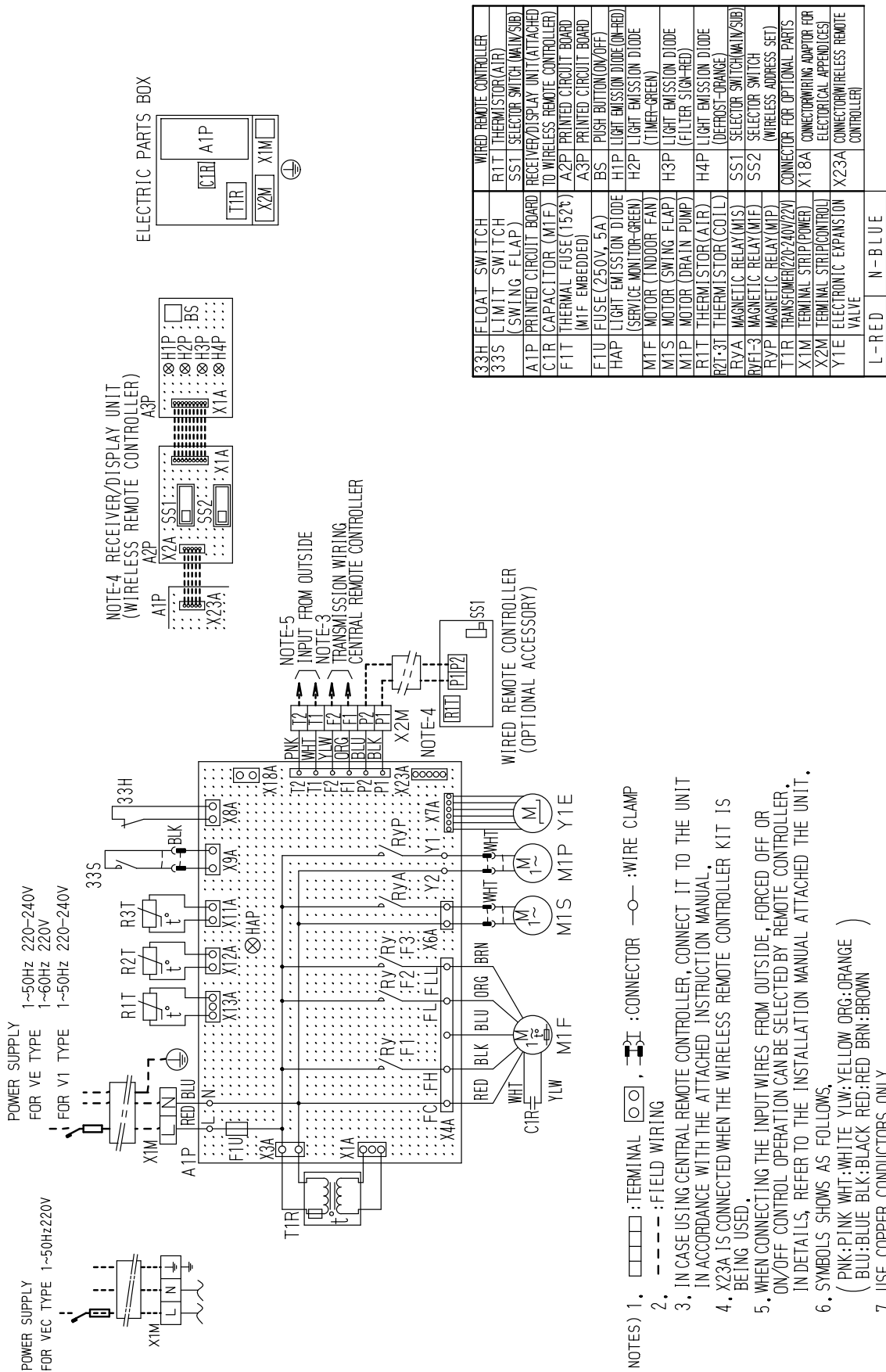
- NOTES) 1. □ □ □ : TERMINAL □ □ □ : CONNECTOR ○ ○ ○ : WIRE CLAMP
 2. - - - : FIELD WIRING
 3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL,
 4. X23A IS CONNECTED WHEN THE WIRELESS REMOTE CONTROLLER KIT IS BEING USED.
 5. WHEN CONNECTING 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,
 (PKW: PINK WHT: WHITE YLW: YELLOW ORG: ORANGE
 BLU: BLUE BLK: BLACK RED: BROWN)
 7. USE COPPER CONDUCTORS ONLY.



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 (M1F EMBEDDED)
F1	THERMAL FUSE (152°C)	A3P PRINTED CIRCUIT BOARD (M1F EMBEDDED)
F1U	FUSE (250V/5A)	BS PUSH BUTTON (ON/OFF)
HAP	LIGHT EMISSION DIODE (SERVICE MONITOR-GREEN)	H1P LIGHT EMISSION DIODE (TIMER-GREEN)
M1F	MOTOR (INDOOR FAN)	H2P LIGHT EMISSION DIODE (FILTER SIGN-RED)
M1S	MOTOR (SWING FLAP)	H3P LIGHT EMISSION DIODE (FILTER SIGN-RED)
M1P	MOTOR (DRAIN PUMP)	H4P LIGHT EMISSION DIODE (DEFROST-ORANGE)
R1T	THERMISTOR (AIR)	R2T-3T THERMISTOR (COLL)
R2T-3T	THERMISTOR (COLL)	RVA MAGNETIC RELAY (M1S)
RVA	MAGNETIC RELAY (M1S)	SS1 SELECTOR SWITCH (MAIN/SUB)
RVE1-3	MAGNETIC RELAY (M1F)	SS2 SELECTOR SWITCH (WIRELESS ADDRESS SET)
RVP	MAGNETIC RELAY (M1P)	CONNECTOR FOR OPTIONAL PARTS
T1R	TRANSFORMER (220V/220V)	X18A CONNECTOR WIRING ADAPTOR FOR ELECTORICAL APPENDICES)
X1M	TERMINAL STRIP (CONTROL)	X23A CONNECTOR WIRELESS REMOTE CONTROLLER)
Y1E	ELECTRONIC EXPANSION VALVE	
L-RED		N-BLUE

DU229-5139C

FXYCP40-50-80-125KV1

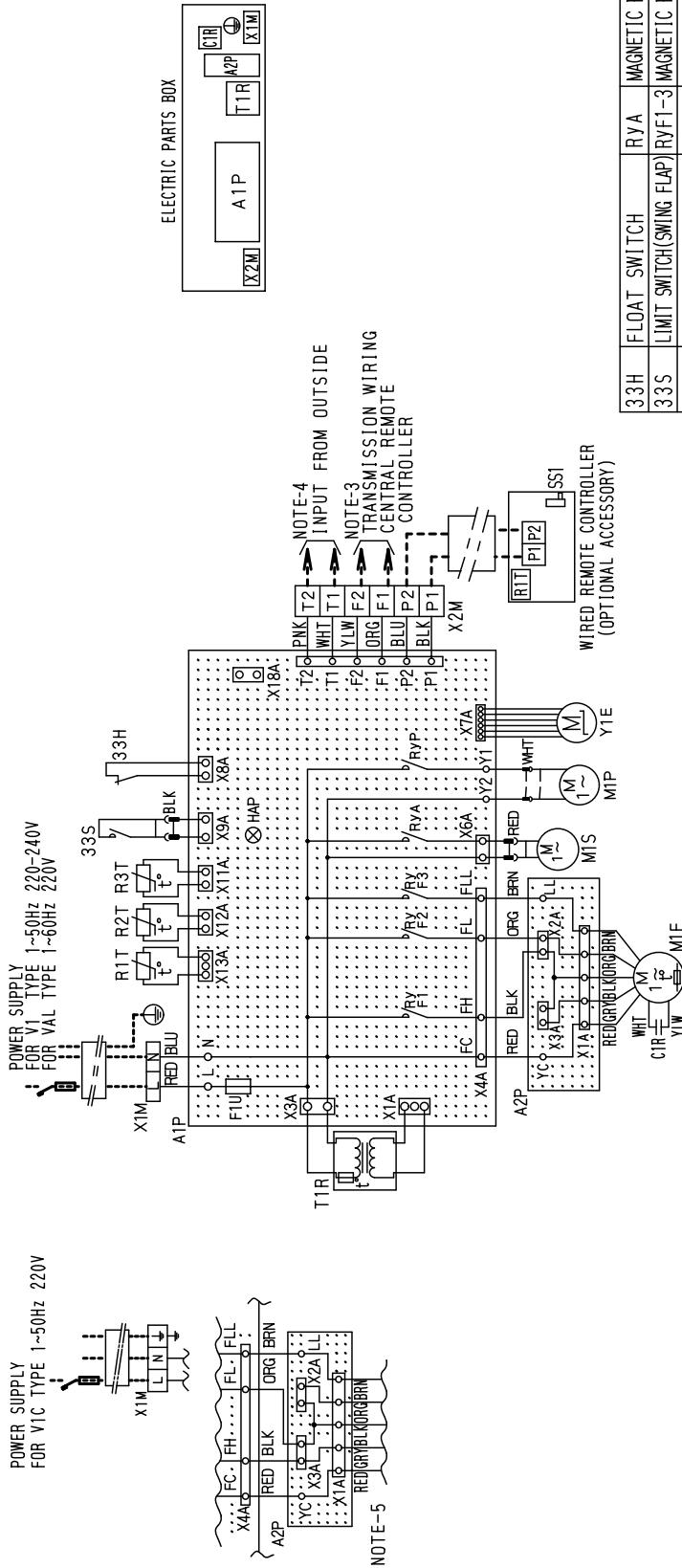


33H	FLOAT SWITCH	WIRED REMOTE CONTROLLER
33S	LIMIT SWITCH (SWING FLAP)	R1T THERMISTOR(AIR)
A1P	PRINTED CIRCUIT BOARD	SS1 SELECTOR SWITCH (MAIN/SUB)
C1R	CAPACITOR (M1F)	RECEIVER/DISPLAY UNIT (ATTACHED TO WIRELESS REMOTE CONTROLLER)
F1T	THERMAL FUSE (152℃) (MTF EMBEDDED)	A2P PRINTED CIRCUIT BOARD
F1U	FUSE (250V, 5A)	A3P PRINTED CIRCUIT BOARD
HAP	LIGHT EMISSION DIODE (SERVICE MONITOR-GREEN)	BS PUSH BUTTON (ON/OFF)
M1F	MOTOR (INDOOR FAN)	H1P LIGHT EMISSION DIODE (ON-RED) (TIMER-GREEN)
M1S	MOTOR (SWING FLAP)	H2P LIGHT EMISSION DIODE (FILTER SIGN-RED)
R1T	THERMISTOR(AIR)	H3P LIGHT EMISSION DIODE (DEFROST-ORANGE)
R2T-3T	THERMISTOR(COIL)	H4P LIGHT EMISSION DIODE (DEFROST-ORANGE)
RVA	MAGNETIC RELAY(M1S)	SS1 SELECTOR SWITCH (MAIN/SUB)
RV1F1-3	MAGNETIC RELAY(M1F)	SS2 SELECTOR SWITCH (WIREFLESS ADDRESS SET)
T1P	MAGNETIC RELAY(M1P)	CONNECTOR FOR OPTIONAL PARTS
X1M	TRANSFORMER(220/240V/22V)	X18A CONNECTING ADAPTOR FOR ELECTRICAL APPENDICES
X2M	TERMINAL STRIP(POWER)	X18A CONNECTOR/WIRELESS REMOTE CONTROLLER
Y1E	ELECTRIC EXPANSION VALVE	X23A CONNECTOR/WIRELESS REMOTE CONTROLLER
L-RED	N-BLUE	

- NOTES) 1. [Symbol] : TERMINAL [Symbol] , [Symbol] : CONNECTOR [Symbol] : WIRE CLAMP
2. [Symbol] : 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 WIREFLESS 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,
(PINK: PINK WHT: WHITE YLW: YELLOW ORG: ORANGE)
(BLU: BLUE BLK: BLACK BRN: BROWN)
7. USE COPPER CONDUCTORS ONLY.

DJ230-522C

FXYPK25-32-40-63KV1

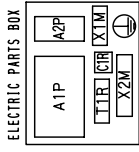
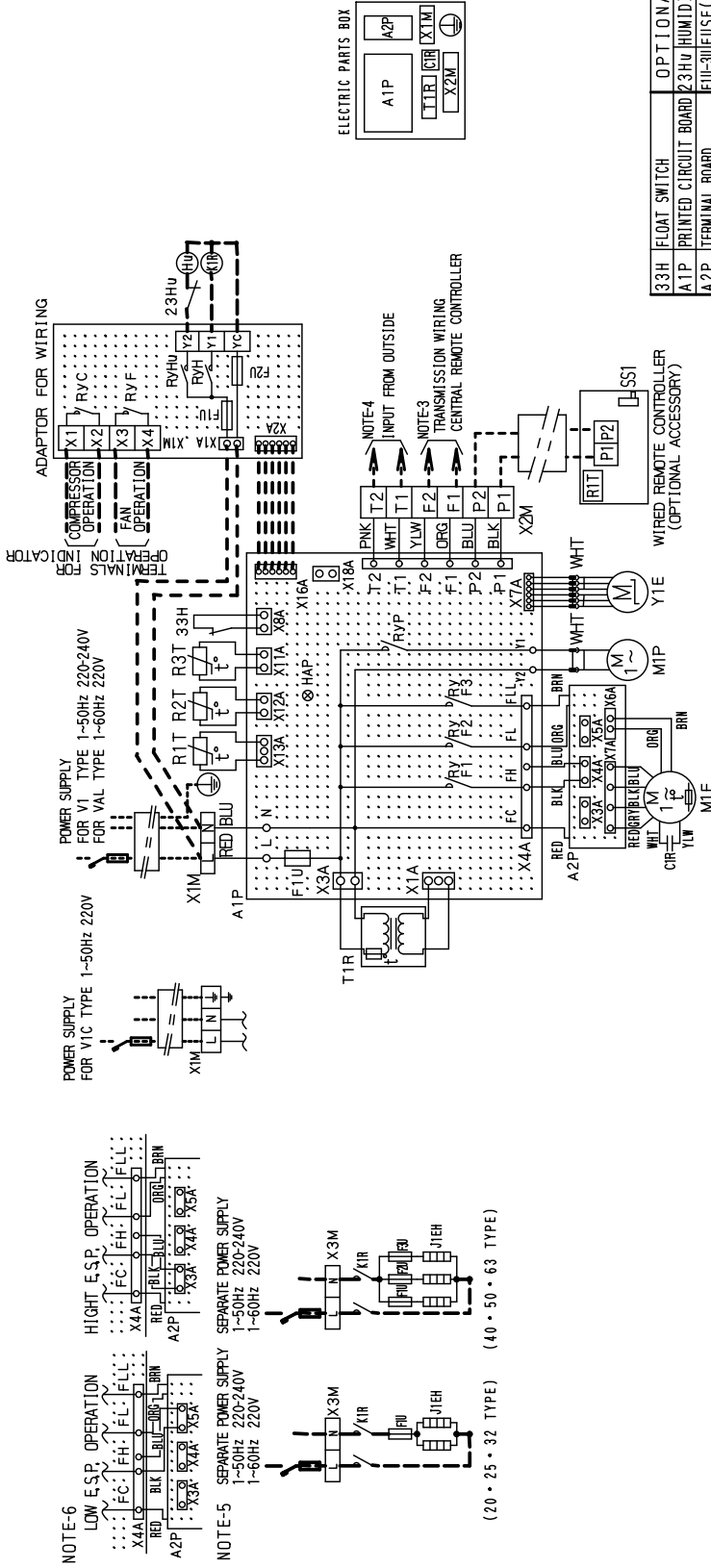


- NOTES) 1. □□□□: TERMINAL, □○□: CONNECTOR, —○—: WIRE CLAMP
 2. - - - - : FIELD WIRING
 3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
 4. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER. IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT.
 5. IN CASE 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.

33H	FLOAT SWITCH	RVA	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	TRANSFORMER(220-240V/22V)
C1R	CAPACITOR (M1F)	X1M	TERMINAL STRIP(POWER)
F1T	THERMAL FUSE(105°C)	X2M	TERMINAL STRIP(CONTROL)
F1U	FUSE (250V,5A)	Y1E	ELECTRONIC EXPANSION VALVE
HAP	LIGHT EMISSION DIODE (SERVICE MONITOR-GREEN)	R1T	WIRED REMOTE CONTROLLER
M1F	MOTOR (INDOOR FAN)	SS1	THERMISTOR(AIR)
M1P	MOTOR (DRAIN PUMP)	CONNECTOR FOR OPTIONAL PARTS	
M1S	MOTOR (SWING FLAP)	X18A	CONNECTOR(WIRING ADAPTOR FOR ELECTRICAL APPENDICES)
R1T	THERMISTOR(AIR)		
R2T-3T	THERMISTOR(COIL)		
L-RED	N-BLU		

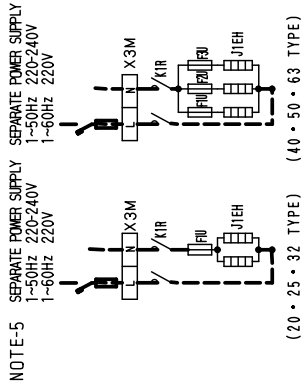
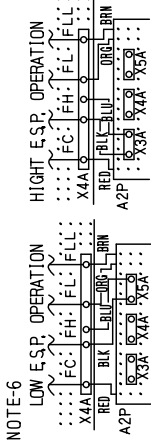
DU227-544C

FXYS20-25-32-40-50-63KV1



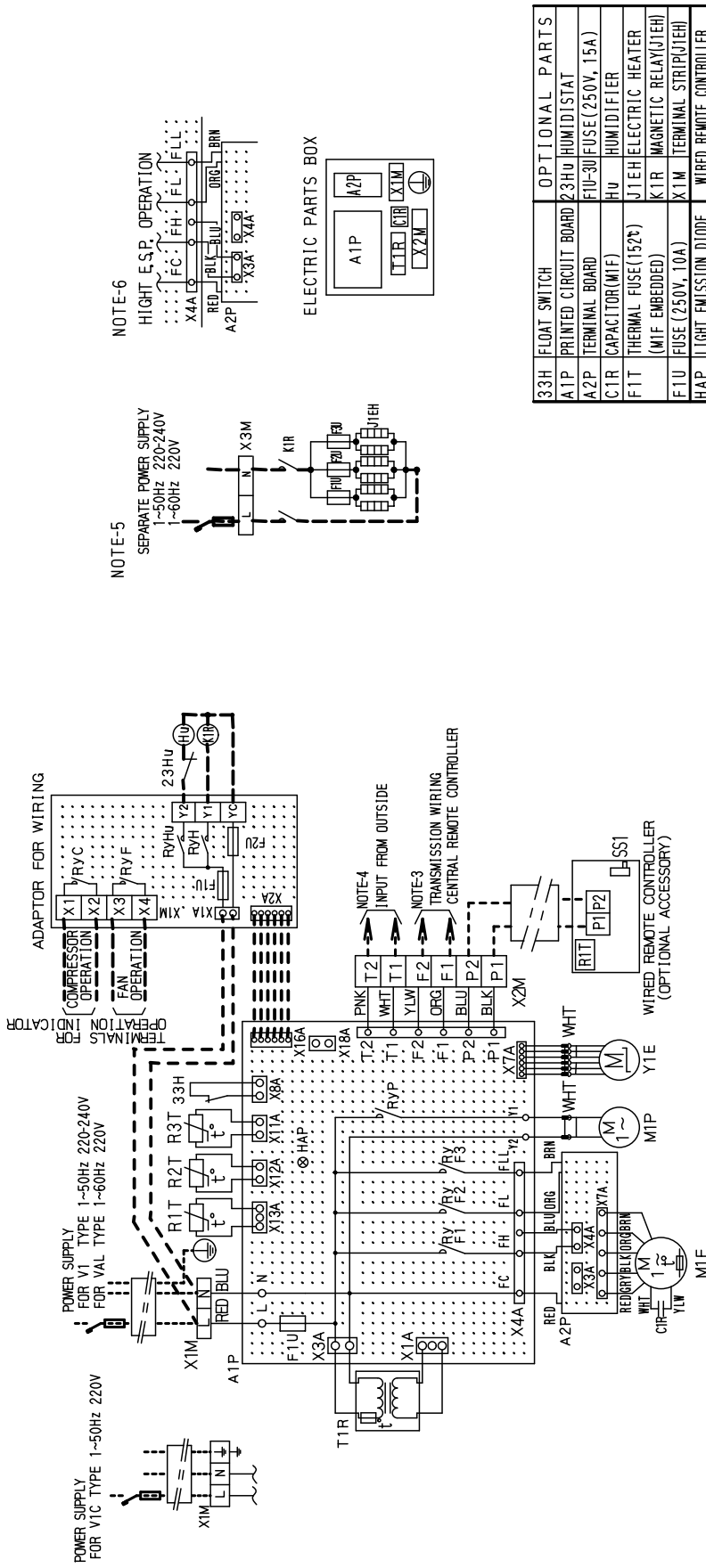
33H	FLOAT SWITCH	OPTIONAL PARTS
A1P	PRINTED CIRCUIT BOARD	Z3HU HUMIDISTAT
A2P	TERMINAL BOARD	FU-3U FUSE (250V, 15A)
C1R	CAPACITOR (MIF)	HU HUMIDIFIER
F1T	THERMAL FUSE (152 \pm)	J1EH ELECTRIC HEATER
F1U	FUSE (250V, 10A)	K1R MAGNETIC RELAY (J1EH)
HAP	LIGHT EMISSION DIODE	X1M TERMINAL STRIP (J1EH)
M1F	MOTOR (INDOOR FAN)	R1T THERMOSTAT (AIR)
M1P	MOTOR (DRAIN PUMP)	S51 SELECTOR SWITCH (M1W/SUB)
R2T-3T	THERMOSTAT (AIR)	ADAPTOR FOR WIRING
RVF1-3	THERMOSTAT (COIL)	FU-2U FUSE (250V, 5A)
RYP	MAGNETIC RELAY (MIP)	FVY MAGNETIC RELAY
T1R	TRANSFORMER (20-240V/2V)	FVH MAGNETIC RELAY (J1EH)
X1M	TERMINAL STRIP (POWER)	CONNECTOR FOR OPTIONAL PARTS
X2M	TERMINAL STRIP (CONTROL)	X16A CONNECTOR (ADAPTOR FOR WIRING)
Y1E	ELECTROMIC EXPANSION VALVE	X18A CONNECTOR (WIRING ADAPTOR FOR ELECTRICAL APPENDICES)
L-RED	N-BLUE	

DU227-545E

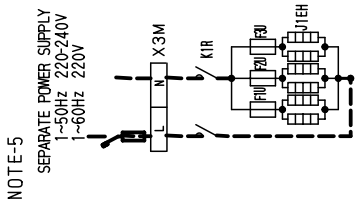
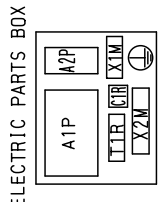


- (20 • 25 • 32 TYPE) (40 • 50 • 63 TYPE)
- NOTES) 1. : TERMINAL, : CONNECTOR, : WIRE CLAMP
 2. : FIELD WIRING
 3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
 4. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF 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 OR LOW 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 BK:BLACK RED:RED BRW:BROWN)
 8. USE COPPER CONDUCTORS ONLY.

FXYS80-100-125KV1



NOTE-6
HIGH E.S.P. OPERATION
FC, FH, FL, FLL, X4A, X4A', X4A'', X4A'''
RED, BLK, BLU, ORG, BRN, A2P, X3A, X4A'

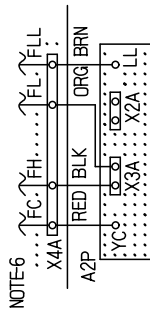
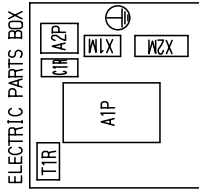
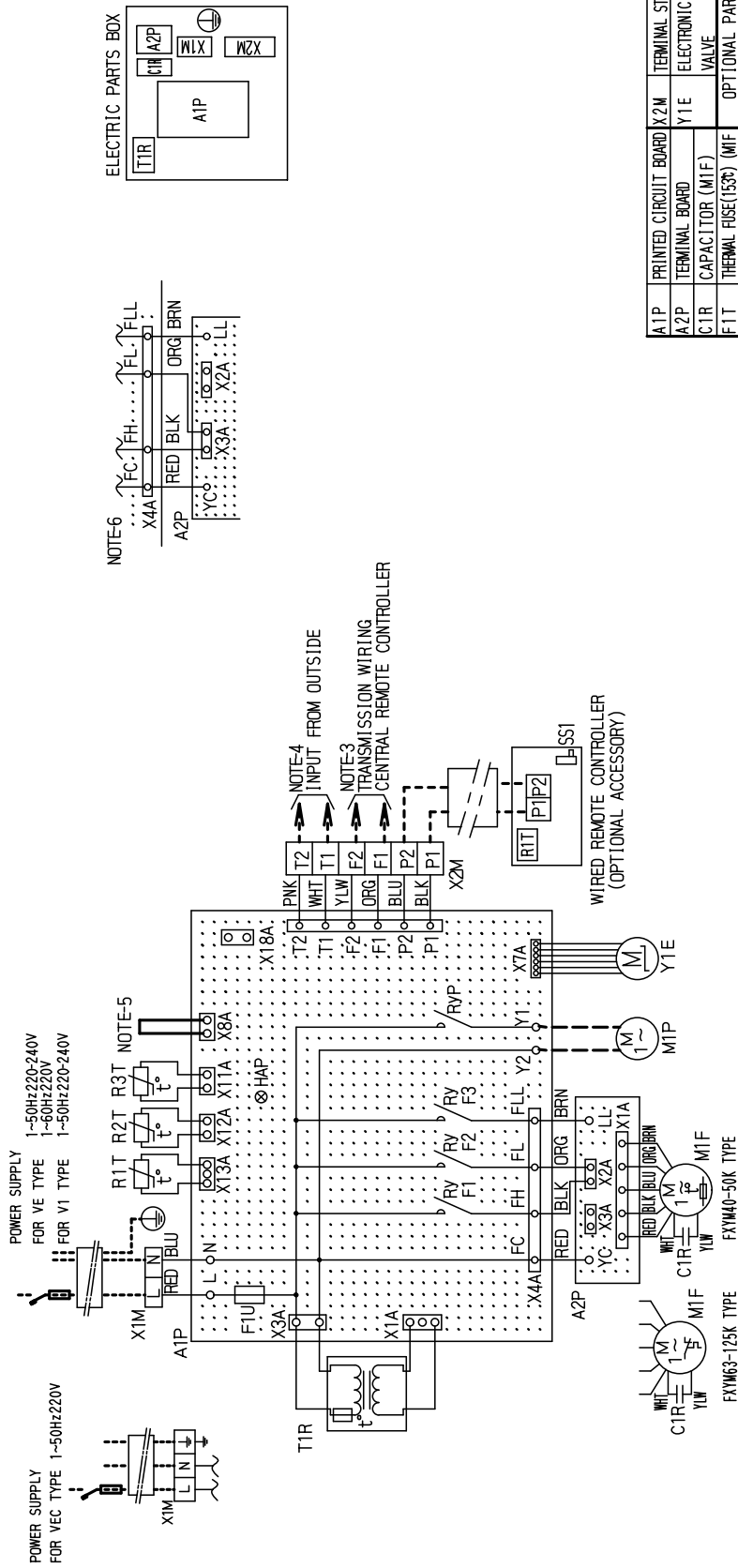


OPTIONAL PARTS	DESCRIPTION
33H	FLOAT SWITCH
A1P	PRINTED CIRCUIT BOARD
A2P	TERMINAL BOARD
C1R	CAPACITOR(MTF)
F1T	THERMAL FUSE(152°)
F1U	FUSE (250V, 10A)
HAP	LIGHT EMISSION DIODE (SERVICE MONITOR GREEN)
M1F	MOTOR(INDOOR FAN)
M1P	MOTOR(DRAIN PUMP)
R1T	THERMISTOR(AIR)
R2T	THERMISTOR(COIL)
R2T-3T	THERMISTOR RELAY
R3T	MAGNETIC RELAY(MIF)
RYP	MAGNETIC RELAY(MP)
T1R	TRANSFORMER(20-240V/220V)
X1M	TERMINAL STRIP(POWER)
X2M	TERMINAL STRIP(CONTROL)
Y1E	ELECTRONIC EXPANSION VALVE
	X18A CONNECTOR WIRING ADAPTOR FOR ELECTRICAL APPENDICES
L-RED	N-BLUE

- NOTES)
1. [Symbol]: TERMINAL, [Symbol]: FIELD WIRING
 2. [Symbol]: WIRE CLAMP
 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.
 5. IN CASE INSTALLING THE ELECTRIC HEATER, EXECUTE THE ADDITIONAL WIRING FOR HEATER IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT.
 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 YLM:YELLOW ORG:ORANGE BLU:BLUE BRW:BLACK RED:RED BRW:BROWN)
 8. USE COPPER CONDUCTORS ONLY.

DU230-519D

FXYP40-50-63-80-100-125KV1

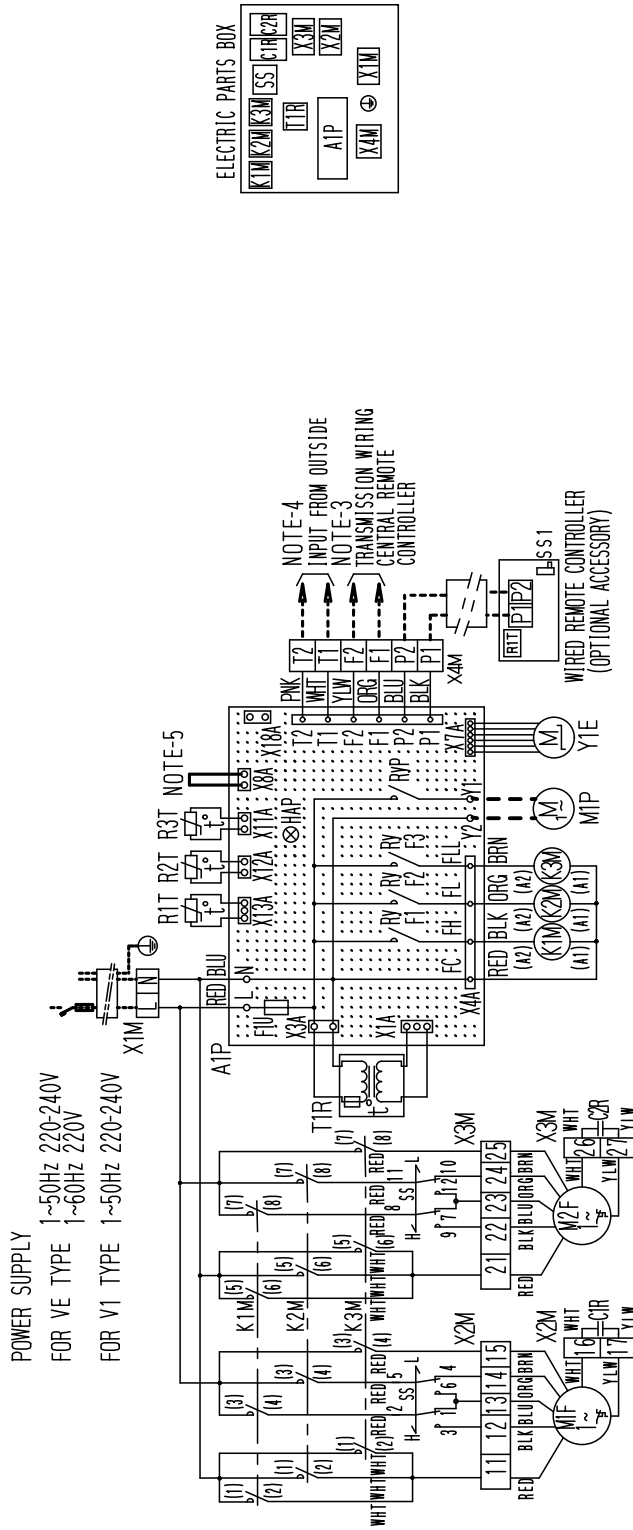


- NOTES)
1. □ : TERMINAL, □ : CONNECTOR, ○ : WIRE CLAMP, □ : CONNECTOR
 2. --- : FIELD WIRING
 3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
 4. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER.
 5. IN CASE INSTALLING THE DRAIN PUMP, REMOVE THE JUMPER AND EXECUTE THE ADDITIONAL WIRING FOR FLOAT SWITCH(33H).
 6. IN CASE HIGH E.S.P. OPERATION, CHANGE THE WIRING CONNECTION OF X2A AS SHOWN UPPER FIGURE.
 7. SYMBOLS SHOW AS FOLLOWS.(PNK:PINK WHI:WHITE YLW:YELLOW ORG:ORANGE BLU:BLUE BLK:BLACK RED:RED BRN:BROWN)
 8. USE COPPER CONDUCTORS ONLY.

A1P	PRINTED CIRCUIT BOARD	X2M	TERMINAL STRIP(CONTROL)
A2P	TERMINAL BOARD	Y1E	ELECTRONIC EXPANSION VALVE
C1R	CAPACITOR (MIF)	M1P	OPTIONAL PARTS
F1T	THERMAL FUSE(153 ^o) (MIF BREADED ONLY 40-50 TYPE)	SS1	WIRED REMOTE CONTROLLER
F1U	FUSE (250V,10A)	R1T	SELECTOR SWITCH (MAIN/SIB)
HAP	LIGHT EMISSION DIODE (SERVICE MONITOR-GREEN)	RIT	THERMISTOR(AIR)
M1F	MOTOR (INDOOR FAN)	X8A	CONNECTOR(FLOAT SWITCH)
Q1F	THERMO SWITCH(MIF BREADED ONLY 63-125 TYPE)	X18A	CONNECTOR(WIRING ADAPTOR FOR ELECTRICAL APPENDICES)
R1T	THERMISTOR(AIR)		
R2T-3T	THERMISTOR(COLL)		
RVF1-3	MAGNETIC RELAY(MIF)		
RYP	MAGNETIC RELAY(MIP)		
T1R	TRANSFORMER(2P/240V/2V)		
X1M	TERMINAL STRIP(POWER)		
L-RED	N-BLUE		

DU229-5140C

FXYP200-250KV1

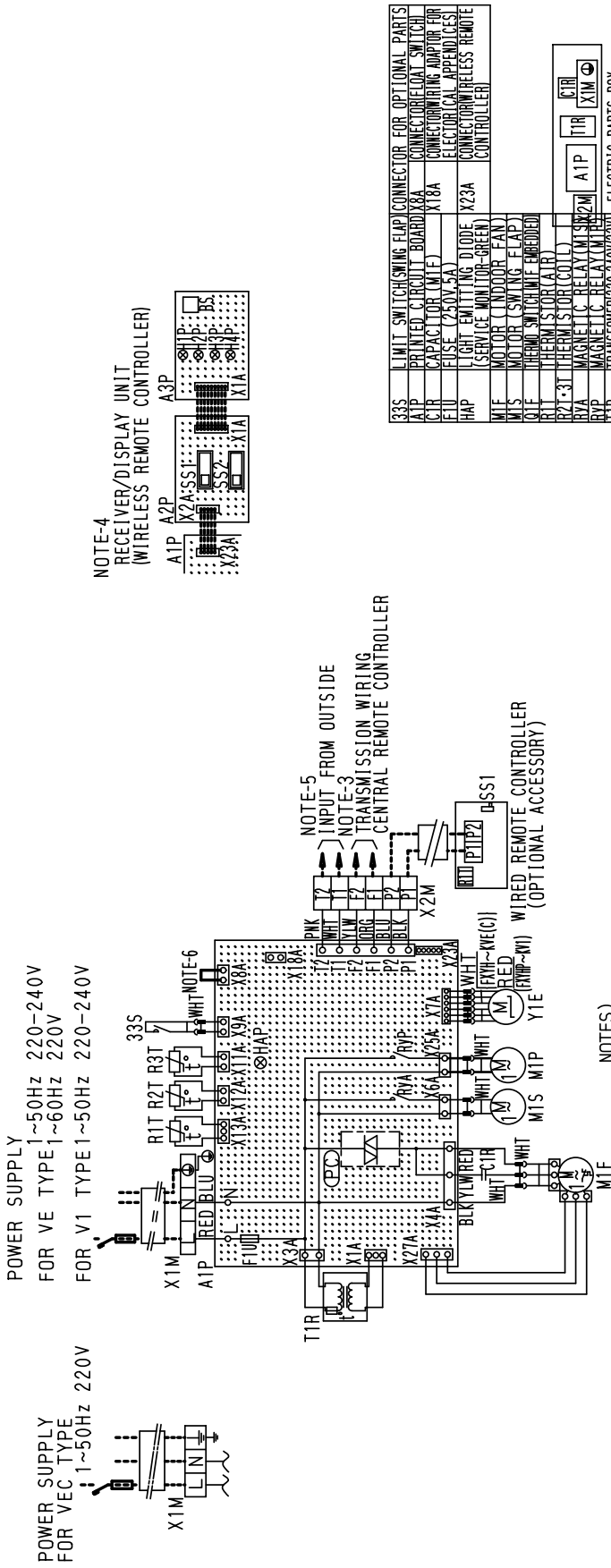


A1P	PRINTED CIRCUIT BOARD	SS	SELECTOR SWITCH (STATIC PRESSURE)
C1R•2R	CAPACITOR (M1F•2F)	T1R	TRANSFORMER(220-240V/22V)
F1U	FUSE (250V,10A)	X1M	TERMINAL STRIP (POWER)
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)	X2M-4M	TERMINAL STRIP(CONTROL)
K1M	MAGNETIC CONTACTOR(M1F•2F)	Y1E	ELECTRONIC EXPANSION 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)
RYF1-F3	MAGNETIC RELAY(M1F•2F)	X18A	CONNECTOR(WIRING ADAPTOR FOR ELECTRICAL APPENDICES)
RYP	MAGNETIC RELAY (M1P)		
L-RED		N-BLUE	

- NOTES)
1. : TERMINAL : WIRE CLAMP : JUMPER CONNECTOR
 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 DRAIN PUMP, REMOVE THE JUMPER AND EXECUTE THE ADDITIONAL WIRING FOR FLOAT SWITCH(33H).
 6. SYMBOLS SHOW AS FOLLOWS, (PNK:PINK WHI:WHITE YLW:YELLOW ORG:ORANGE BLU:BLUE BLK:BLACK RED:RED BRN:BROWN)
 7. USE COPPER CONDUCTORS ONLY.
 8. IN CASE HIGH E, S, P. OPERATION , CHANGE THE SWITCH(SS) FOR "H" .

3D011012B

FXYPHP32-63-100KV1

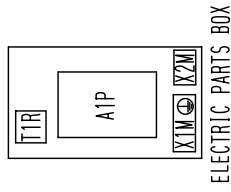
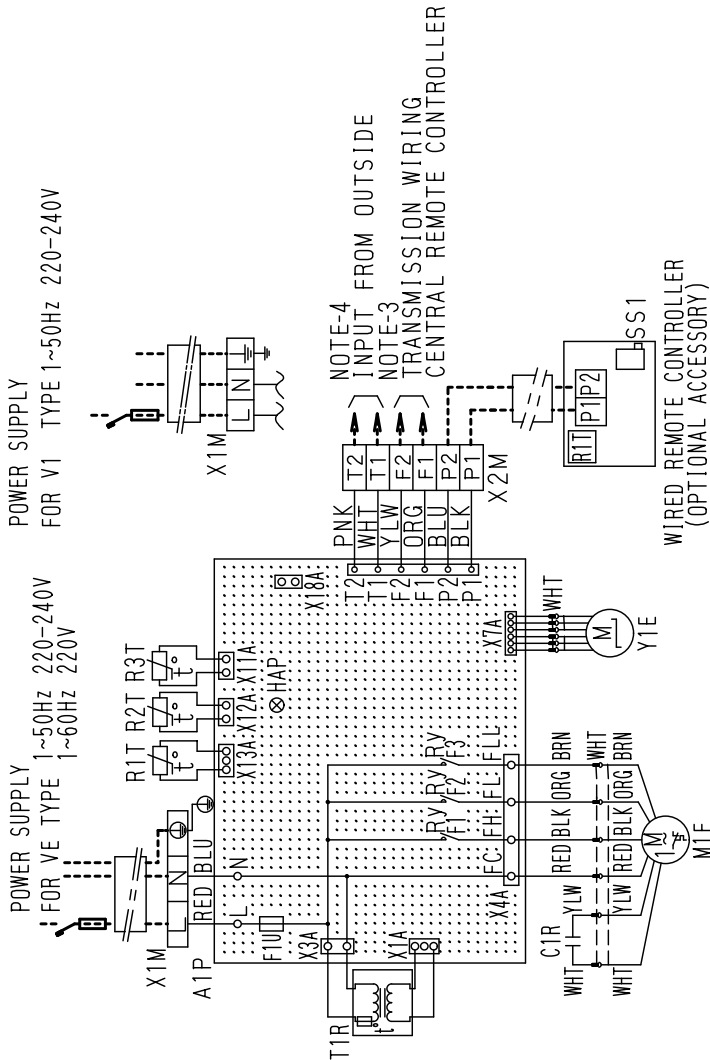


33S	LIMIT SWITCHING FLAP CONNECTOR FOR OPTIONAL PARTS
A1P	PRINTED CIRCUIT BOARD X8A
C1R	CAPACITOR (MTE)
F1U	FUSE (250V 5A)
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)
M1E	MOTOR (INDOOR FAN)
M1S	MOTOR (OUTDOOR FAN)
Q1E	HEAT SWITCH (WIRE EMBEDDED)
R1T	THERMISTOR (CTR)
R2T	THERMISTOR (COLL)
RVA	MAGNETIC RELAY (M1S/M2M)
RVP	MAGNETIC RELAY (M1P/M2M)
TRH	TRANSFORMER (220V/240V/220V)
X1M	TERMINAL STRIP (POWER)
X2M	TERMINAL STRIP (CONTROL)
Y1E	ELECTRONIC EXPANSION VALVE (CPC) PHASE CONTROL CIRCUIT
OPTIONAL PARTS	
MTP	MOTOR (DRAIN PUMP)
W1R	WIRED REMOTE CONTROLLER
R1T	THERMISTOR (CTR)
SS1	SELECTOR SWITCH (MAIN/SUB)
RECEIVER/DISPLAY UNIT (ATTACHED TO WIRELESS REMOTE CONTROLLER)	
A3P	PRINTED CIRCUIT BOARD
A3S	PRINTED CIRCUIT BOARD
BS	PUSH BUTTON (ON/OFF)
H1P	LIGHT EMITTING DIODE (ON-RED)
H2P	LIGHT EMITTING DIODE (OFF-GREEN)
H3P	LIGHT EMITTING DIODE (FILTER SIGN-RED)
H4P	LIGHT EMITTING DIODE (DEFROST-ORANGE)
SS1	SELECTOR SWITCH (MAIN/SUB)
SS2	SELECTOR SWITCH (WIRELESS ADDRESS SET)

- NOTES**
1. : TERMINAL : 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.
 6. IN CASE INSTALLING THE DRAIN PUMP, REMOVE THE JUMPER CONNECTOR OF X8A AND EXECUTE THE ADDITIONAL WIRING FOR FLOAT SWITCH AND DRAIN PUMP.
 7. SYMBOLS SHOW AS FOLLOWS.
(PNK:PINK WHT:WHITE YLW:YELLOW ORG:ORANGE)
(BLU:BLUE BLK:BLACK RED:RED)
 8. USE COPPER CONDUCTORS ONLY.

DU228-531C

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



NOTES)

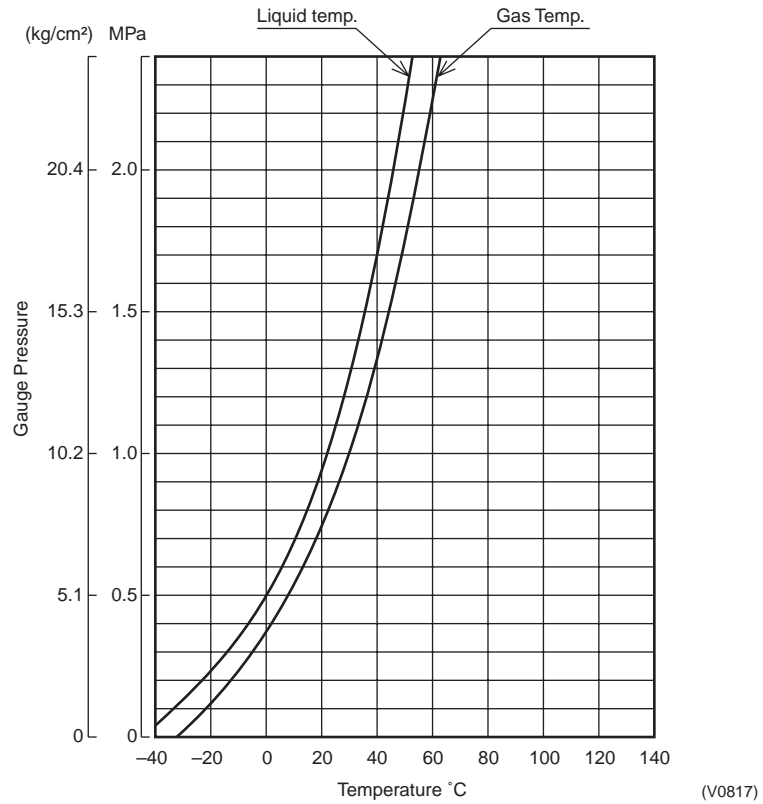
1. □□□□: TERMINAL, □□□□: CONNECTOR, -○-: WIRE CLAMP
2. - - - - -: FIELD WIRING
3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
4. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED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

A1P	PRINTED CIRCUIT BOARD	WIRED	REMOTE CONTROLLER
C1R	CAPACITOR (MIF)	R1T	THERMISTOR(AIR)
F1U	FUSE (250V,10A)	SS1	SELECTOR SWITCH(MAIN/SUB)
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)	X18A	CONNECTOR(WIRING ADAPTOR FOR ELECTRICAL APPENDICES)
MIF	MOTOR (INDOOR FAN)	Q1F	THERMO SWITCH (MIF EMBEDDED)
R1T	THERMISTOR(AIR)	R2T-3T	THERMISTOR(COIL)
RVE1-3	MAGNETIC RELAY (MIF)	T1R	TRANSFORMER(220-240V/22V)
X1M	TERMINAL STRIP(POWER)	X2M	TERMINAL STRIP(CONTROL)
Y1E	ELECTRONIC EXPANSION VALVE	L-RED	N-BLUE

3D0003923E

3. Characteristics

3.1 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

3.2 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 oil	R5T
	For header	R6T

			(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

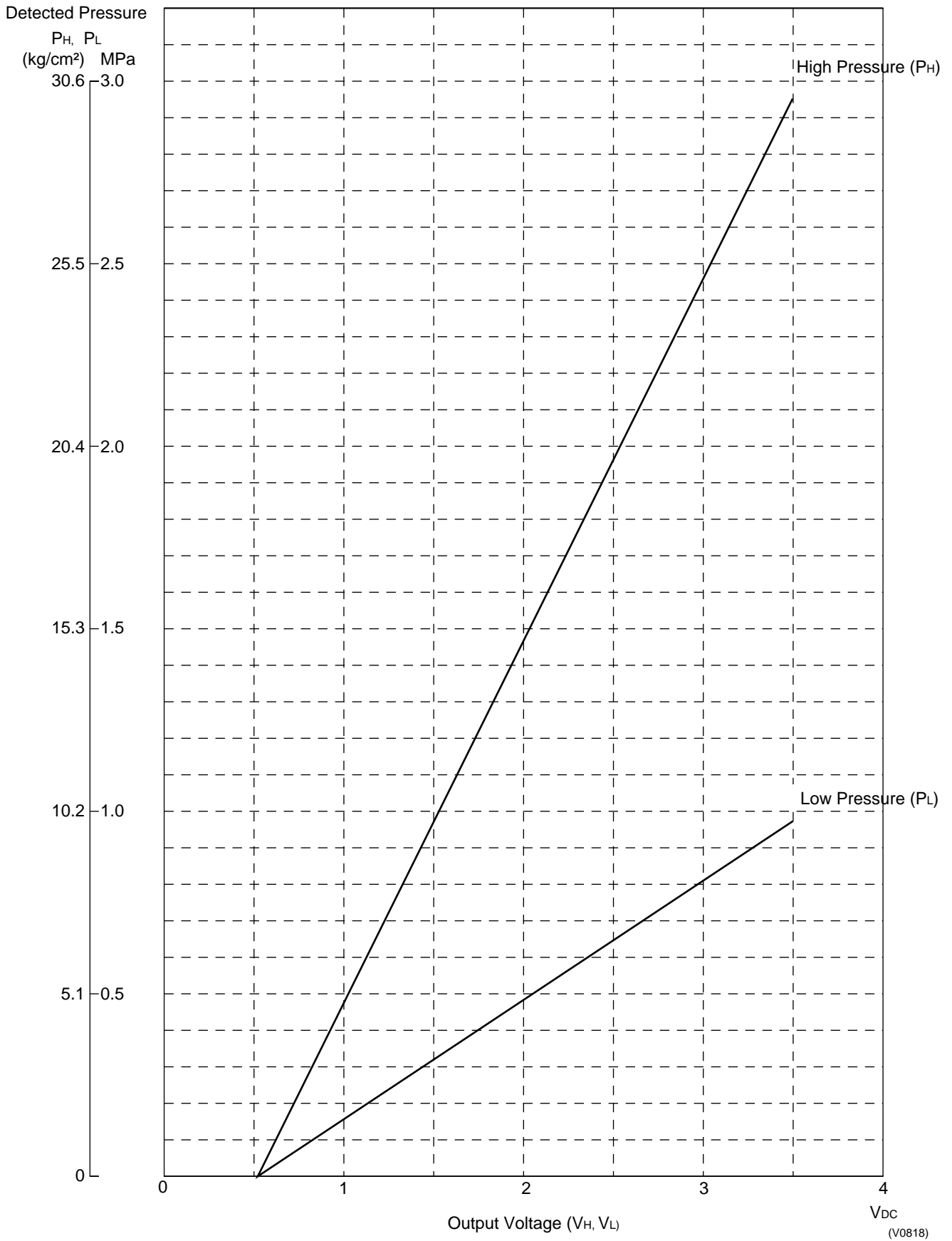
**Outdoor Unit
Thermistors for
Discharge Pipe
(R3T)**

						(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

3.3 Pressure Sensor

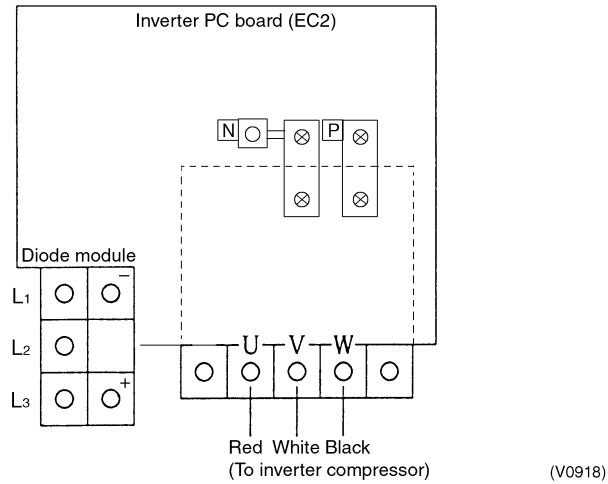
High Pressure $P_H = (V_H - 0.5) \times 0.98$
 Low Pressure $P_L = (V_L - 0.5) \times \frac{0.98}{3}$

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}



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

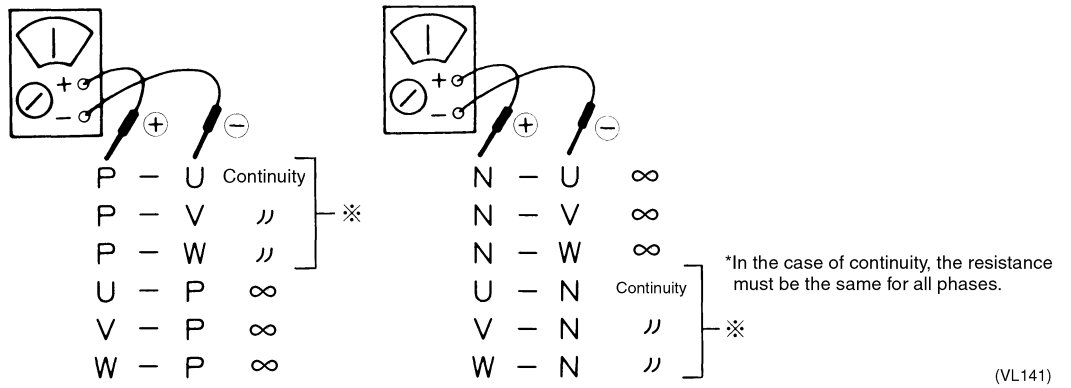
3.4.1 Method of Replacing The Inverter's Power Transistors and Diode Modules



[Decision according to continuity check by analog tester]

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

Power Transistor (On Inverter PC Board)



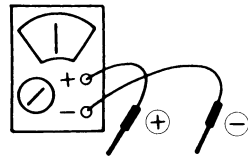
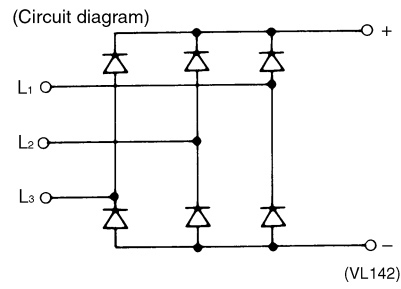
(Decision)

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

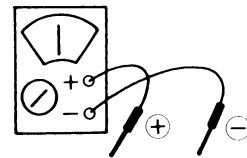


Note: If using a digital tester, ∞ and continuity may be reversed.

Diode Module



+	-	L ₁	Continuity
+	-	L ₂	∞
+	-	L ₃	∞
L ₁	-	+	∞
L ₂	-	+	∞
L ₃	-	+	∞



-	-	L ₁	∞
-	-	L ₂	∞
-	-	L ₃	∞
L ₁	-	-	Continuity
L ₂	-	-	∞
L ₃	-	-	∞

(VL143)

(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.

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

Compared to the conventional refrigerant R22, 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
	R22 (single)	R-407C (mixed)
Refrigerant oil	Mineral oil (Suniso)	Synthetic oil (ether)
Condensation pressure	1.84MPa	2.01MPa

4.1 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	Specific tools required for boosting the pressure and preventing impurities from coming in.
Welder	Brazing pipes			
Gauge manifold	Air-tightness test thru refrigerant recharging	Vacuum refrigerant charging and running test		
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.)	

4.2 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.

Index

- A**
- A0 128
 - A1 128
 - A3 129
 - A6 130
 - A7 131
 - A9 132
 - Abnormal Discharge Pipe Temperature 140
 - Actuation of High Pressure Switch 137
 - Actuation of Low Pressure Sensor 138
 - Actuation of Safety Device 136
 - Additional Refrigerant Charge Operation 97
 - Address Duplication
 - of Central Remote Controller 155
 - Address Duplication, Improper Setting 170, 174
 - AF 133
 - Air flow setting 103
 - AJ 134
 - Auto restart setting 103
- B**
- Backup and Emergency Operation 180
 - Backup Operation 67, 180
- C**
- C4 134
 - C5 135
 - C9 135
 - Centralized / individual setting 103
 - Centralized Control Group No. Setting 105
 - Centralized zone interlock setting 103
 - Characteristics 201
 - CJ 136
 - Compressor Capacity Control 49
 - Compressor PI Control 43
 - Compressor Sequence Operation 50
 - Contents of Control Modes 107
 - Cool / Heat Mode Selection 88
 - Crankcase Heater Control 64
- D**
- Defrost Control 45
 - Demand Control 51, 94
 - Discharge Pipe Temperature Control 61
 - Display "Under Host Computer Integrate Control"
 - Blinks (Repeats Double Blink) 178
 - Display "Under Host Computer Integrate Control"
 - Blinks (Repeats Single Blink) 176
 - Drain Level above Limit 133
 - Drain Pump Control 69
- E**
- E0 136
 - E1 137
 - E3 137
 - E4 138
 - E9 139
 - Electric heater setting 103
 - Emergency Operation 181
 - Error of External Protection Device 128
 - Excessive Number of Indoor Units 154
 - External input terminal function selection
 - (between J1 and JC) 103
 - External signal setting JC / J2 103
- F**
- F3 140
 - Failure Diagnosis for Inverter System 157
 - Fan Location 68
 - Fan Motor (M1F) Lock, Overload 130
 - Fan speed initial setting 103
 - Fan Tap Table 68
 - Field Setting, Service Mode 103
 - Filter cleaning time setting 103
 - Flow of Refrigerant in Each Operating Mode 35
 - Freeze Prevention 74
 - Fresh up air supply / exhaust setting 103
 - Fresh up operation 103
- G**
- Gas Shortage Warning 65
- H**
- H9 141
 - Heating Pump-Down Residual Operation 66
 - High Pressure Protection Control 59
- I**
- Improper Combination of Optional Controllers
 - for Centralized Control 169, 173
 - Indication of ventilation mode / Not indication 103
 - Indoor Field Setting 99
 - Indoor Unit Operation Flowchart 111
 - INV Compressor Operating Frequency 49
 - Inverter Instantaneous Over-Current 160
 - Inverter Over-Ripple Protection 165
 - Inverter Protection Control 63
 - Inverter Stall Prevention, Compressor Lock 162
 - Inverter Thermostat Sensor,
 - Compressor Overload 161
- J**
- J3 142
 - J5 143
 - J6 144
 - JA 145
 - JC 146

K			
KRP50-2 output switching selection (between 1 and 3)	103		
L			
L4	159		
L5	160		
L8	161		
L9	162		
LC	163		
Liquid Injection Control	61		
List of Safety Device and Function Parts Setting Value			
Indoor Unit	40		
Outdoor Unit	39		
Louver Control for Preventing Ceiling Dirt	71		
Low Noise Operation	93		
Low Outside Temperature Cooling Control	47		
Low Pressure Drop Due to Refrigerant Shortage or Electronic Expansion Valve Failure	147		
Low Pressure Protection Control	58		
M			
M1	168, 172		
M8	168, 172		
MA	169, 173		
Malfunction of Capacity Determination Device	134		
Malfunction of Discharge Pipe Pressure Sensor ..	145		
Malfunction of Discharge Pipe Thermistor (R3T)	142		
Malfunction of Drain Level Control System (33H)	129		
Malfunction of Inverter Radiating Fin Temperature Rise	159		
Malfunction of Inverter Radiating Fin Temperature Rise Sensor	166		
Malfunction of Moving Part of Electronic Expansion Valve (Y1E)	132, 139		
Malfunction of Suction Pipe Pressure Sensor	146		
Malfunction of Swing Flap Motor (M1S)	131		
Malfunction of System, Refrigerant System Address Undefined	156		
Malfunction of Thermistor (R1T) for Air Inlet	135		
Malfunction of Thermistor (R2T) for Heat Exchanger	144		
Malfunction of Thermistor (R2T) for Liquid Pipe ..	134		
Malfunction of Thermistor (R3T) for Gas Pipes	135		
Malfunction of Thermistor (R4T) for Suction Pipe	143		
Malfunction of Thermistor for Outdoor Air (R1T) ..	141		
Malfunction of Thermostat Sensor in Remote Controller	136		
Malfunction of Transmission Between Central Remote Controller and Indoor Unit	167, 171		
Malfunction of Transmission Between Indoor and Outdoor Units in the Same System	153		
Malfunction of Transmission Between Indoor Units	149		
Malfunction of Transmission Between Inverter and Control PC Board	163		
Malfunction of Transmission Between Master and Slave Remote Controllers	152		
Malfunction of Transmission Between Optional Controllers for Centralized Control	168, 172		
Malfunction of Transmission Between Outdoor Units	151		
Malfunction of Transmission Between Remote Controller and Indoor Unit	150		
MC	170, 174		
Method of Replacing The Inverter's Power Transistors and Diode Modules	205		
Monitor Mode	86		
Motorized Valve PI Control	44		
O			
Oil Equalization Operation	54		
Oil Return Operation	55		
Operating Frequency Control	62		
Operation Flowcharts	111		
Operation Lamp Blinks	175		
Operation of The Remote Controller's Inspection / Test Operation Button	122		
Operation When Power is Turned On	78		
Outdoor Unit PC Board Ass'y	79		
Outdoor Unit Refrigerant System Diagram	32		
P			
P1	165		
P4	166		
PC Board Defect	128, 137, 168, 172		
Power Supply Insufficient or Instantaneous Failure	164		
Precautions in Servicing The Models with New-type Refrigerant	207		
Pre-cool/pre-heat On/Off setting	103		
Pre-cool/pre-heat time (min.) setting	103		
Pre-heat time extension setting	103		
Pressure Sensor	204		
Pump Down Operation	182		
R			
Refrigerant Recovery Mode	98		
Refrigerant System not Set, Incompatible Wiring/Piping	155		
Remote Controller Self-Diagnosis Function	125		
Remote Controller Service Mode	123		
Restart Standby	52		
Reverse Phase, Open Phase	148		
S			
Self-diagnosis by Wired Remote Controller	117		
Self-diagnosis by Wireless Remote Controller			
BRC7A~ Type	118		
BRC7C ~ Type	119		
Sequential Start	95		
Setting Contents and Code No.	102		
Setting for cold areas (Fan operaiton selection for heater thermostat OFF)	103		
Setting for direct power-on	103		
Setting Items	84		
Setting Mode 1	83		
Setting Mode 2	84		
Setting Modes	81		

Setting switch No.	103
Specifications	
Indoor Unit	12
Outdoor Unit	8
Startup Control	53
STD Compressor Operation	50

T

Test Operation	76
The INSPECTION / TEST Button	116
Thermistor Resistance	
/ Temperature Characteristics	202
Thermostat Sensor in Remote Controller	72

U

U0	147
U1	148
U2	164
U4	149
U5	150
U7	151
U8	152
U9	153
UA	154
UC	155
UE	167, 171
UF	155
UH	156

V

Ventilation mode setting	103
--------------------------------	-----

W

Wiring Check Operation	96
------------------------------	----

Y

Yes / No setting for direct duct Connection	
with VRV system	103

Drawings & Flow Charts

A	
Abnormal Discharge Pipe Temperature	140
Actuation of High Pressure Switch	137
Actuation of Low Pressure Sensor	138
Actuation of Safety Device	136
Address Duplication	
of Central Remote Controller	155
Address Duplication, Improper Setting	170, 174
B	
Backup and Emergency Operation	180
BRC7A~ Type	118
BRC7C ~ Type	119
C	
Central Remote Controller	
(DCS302A51 / DCS302B61)	
How to Select Operation Mode	107
Centralized Control Group No. Setting	
BRC1A51-52	105
BRC7A Type	105
BRC7C Type	106
Group No. Setting Example	106
Check Operation.	77
Check The Following Before Turning Power On.	76
Combination example	5
Compressor Sequence Operation	50
Cool / Heat Mode Selection	
Setting Method	92
Setting of Cool / Heat by Individual Outdoor Unit	
System by Cool/Heat Selector	89
Setting of Cool / Heat	
by Individual Outdoor Unit System	
by Indoor Unit Remote Controller	88
Setting of Cool / Heat by Outdoor Unit System	
Group in Accordance with Group Master	
Outdoor Unit by Indoor Unit Remote	
Controller	90
Supplement	91
Crankcase Heater Control	64
D	
Defrosting operation	46
Demand Control System Example	94
Diode Module	206
Display "Under Host Computer Integrate Control"	
Blinks (Repeats Double Blink)	178
Display "Under Host Computer Integrate Control"	
Blinks (Repeats Single Blink)	176
Display of sensor and address data	124
Drain Level above Limit	133
Drain Pump Control	
When the Float Switch is Tripped and "AF" is	
Displayed on the Remote Controller	70
When the Float Switch is Tripped	
During Cooling OFF by Thermostat ...	69
When the Float Switch is Tripped	
During Heating Operation	70
When the Float Switch is Tripped While	
the Cooling Thermostat is ON	69
E	
Error of External Protection Device	128
Excessive Number of Indoor Units	154
F	
Fan Location	68
Fan Motor (M1F) Lock, Overload	130
Flow of Refrigerant in Each Operating Mode	
Cooling Operation	35
Heating Operation	36
Oil Return Operation (Cooling)	37
Oil Return Operation (Heating)	38
Forced fan ON	124
Freeze Prevention	74
Function of setting between cooling and heating ...	80
Function setting mode switch and LED	80
H	
High Pressure Protection Control	
Cooling mode	59
Heating mode	59
Oil return mode	
(common for cooling / heating)	60
How to Enter the Service Mode	123
I	
Improper Combination of Optional Controllers	
for Centralized Control	169, 173
Individual setting	124
Indoor Field Setting	
Wired Remote Controller	99
Wired Remote Controller – Heat Reclaim	
Ventilation	100
Wireless Remote Controller	101
Indoor Unit Operation Flowchart	111
Inverter Instantaneous Over-Current	160
Inverter Over-Ripple Protection	165
Inverter Protection Control	63
Inverter Stall Prevention, Compressor Lock	162
Inverter Thermostat Sensor,	
Compressor Overload	161
L	
Liquid Injection Control	
Cooling	61
Heating	61
In cooling operation	61
In heating operation	62

Preparing Oil return and defrosting operation (1 min before operation start)	61	Oil return control (heating operation)	57
Louver Control for Preventing Ceiling Dirt	71	Operating Frequency Control	62
Low Noise Control System Example	93	Operation Lamp Blinks	175
Low Noise Operation	93	Operation of The Remote Controller's Inspection / Test Operation Button	122
Low Outside Temperature Cooling Control	47	Outdoor unit Capacity setting switch	80
Low Pressure Drop Due to Refrigerant Shortage or Electronic Expansion Valve Failure	147	Outdoor Unit PC Board Ass'y	79
Low Pressure Protection Control	58	Outdoor Unit Refrigerant System Diagram RSXYP16, 18, 20KJY1	33
M		RSXYP24, 26, 28, 30KJY1	34
Malfunction hysteresis display	124	Outline of New Series Products	
Malfunction of Capacity Determination Device	134	Feature (2)	3
Malfunction of Discharge Pipe Pressure Sensor	145	Feature (3)	4
Malfunction of Discharge Pipe Thermistor (R3T)	142	Individual control of up to 20 indoor units with one 20HP class outdoor unit	4
Malfunction of Drain Level Control System (33H)	129	Long refrigerant piping	4
Malfunction of Inverter Radiating Fin Temperature Rise	159	System outline	3
Malfunction of Inverter Radiating Fin Temperature Rise Sensor	166	P	
Malfunction of Moving Part of Electronic Expansion Valve (Y1E) ...	132, 139	PC Board Defect	128, 172
Malfunction of Suction Pipe Pressure Sensor	146	Piping Diagram	
Malfunction of Swing Flap Motor (M1S)	131	FXYFP, FXYCP, FXYKP, FXYSP, FXYMP, FXYHP, FXYAP, FXYLP, FXYLMP	186
Malfunction of System, Refrigerant System Address Undefined	156	RSXYP16-18-20KJY1	184
Malfunction of Thermistor (R1T) for Air Inlet	135	RSXYP24-26-28-30KJY1	185
Malfunction of Thermistor (R2T) for Heat Exchanger	144	Power Supply Insufficient or Instantaneous Failure	164
Malfunction of Thermistor (R2T) for Liquid Pipe ..	134	Power Transistor (On Inverter PC Board)	205
Malfunction of Thermistor (R3T) for Gas Pipes ...	135	Pressure Sensor	204
Malfunction of Thermistor (R4T) for Suction Pipe	143	R	
Malfunction of Thermistor for Outdoor Air (R1T) ...	141	R-407C Characteristics	201
Malfunction of Thermostat Sensor in Remote Controller	136	Refrigerant System not Set, Incompatible Wiring/Piping	155
Malfunction of Transmission Between Central Remote Controller and Indoor Unit	167, 171	Remote Controller Self-Diagnosis Function	125
Malfunction of Transmission Between Indoor and Outdoor Units in the Same System	153	Reverse Phase, Open Phase	148
Malfunction of Transmission Between Indoor Units	149	S	
Malfunction of Transmission Between Inverter and Control PC Board	163	Self-diagnosis by Wired Remote Controller	117
Malfunction of Transmission Between Master and Slave Remote Controllers	152	Sequential Start	95
Malfunction of Transmission Between Optional Controllers for Centralized Control	168, 172	Service monitor LED (Green)	80
Malfunction of Transmission Between Outdoor Units	151	Setting Items	84
Malfunction of Transmission Between Remote Controller and Indoor Unit	150	Setting Mode 1	83
Method of Replacing The Inverter's Power Transistors and Diode Modules	205	Setting Modes	
Monitor Mode	86	Functions of Pushbutton Switches	81
O		Mode Change	81
Oil Equalization Operation	54	Mode Changing Procedure	82
Oil return control (cooling operation)	56	Startup control in cooling operation	53
		Startup control in heating mode	53
		T	
		Tfin switches M11F OFF and M12F ON	48
		The INSPECTION / TEST Button	116
		Thermostat Sensor in Remote Controller	
		Cooling	72
		Heating	73
		Transmission terminal	80
		Turn Power On.	76

U

Unit No. transfer124

W

Wiring Check Operation96

Wiring Diagram

FXYP20-25-32-40-50-63KV1199

FXYCP20-25-32-63KV1191

FXYCP40-50-80-125KV1192

FXYFP32-40-50-63-80-100-125KVE190

FXYFP32-40-50-63-80-125KV1189

FXYHP32-63-100KV1198

FXYKP25-32-40-63KV1193

FXYLMP20-25-32-40-50-63KV1200

FXYLP20-25-32-40-50-63KV1200

FXYMP200-250KV1197

FXYMP40-50-63-80-100-125KV1196

FXYSP20-25-32-40-50-63KV1194

FXYSP80-100-125KV1195

RSXYP16-18-20KJY1187

RSXYP24-26-28-30KJY1188



ISO 14001 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 Europe NV 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.



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

SIE00-07 / 02-2001

DAIKIN PRODUCTS ARE DISTRIBUTED BY:

Printed in Belgium by Vanmelle

Specifications subject to change without notice.

DAIKIN EUROPE NV

Zandvoordestraat 300
B-8400 Oostende
Belgium

DAIKIN INDUSTRIES, LTD.

Head Office:
Umeda Center Bldg., 4-12
Nakazaki-Nishi
2-chome, Kita-ku, Osaka
530 Japan