DAIKIN

SiME34 - 811

Service Manual

VRV III®

RXYQ8-36PTLK(E), PYNK(E)
RXYQ8-36P7Y1K, P7YLK
R-410A Heat Pump 50Hz/60Hz
For High Outdoor Temperature Use
(Not complying with CE regulation)





VRV III R-410A Heat Pump 50Hz/60Hz

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1. Introduction

1.1 Safety Cautions

Cautions and Warnings

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

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

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

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

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

1.1.1 Caution in Repair

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

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

1.1.2 Cautions Regarding Products after Repair

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

Warning	
Be sure to use the specified cable to connect between the indoor and outdoor units. Make the connections securely and route the cable properly so that there is no force pulling the cable at the connection terminals. Improper connections can cause excessive heat generation or fire.	
When connecting the cable between the indoor and outdoor units, make sure that the terminal cover does not lift off or dismount because of the cable. If the cover is not mounted properly, the terminal connection section can cause an electrical shock, excessive heat generation or fire.	
Do not damage or modify the power cable. Damaged or modified power cable can cause an electrical shock or fire. Placing heavy items on the power cable, and heating or pulling the power cable can damage the cable.	
Do not mix air or gas other than the specified refrigerant (R-410A) in the refrigerant system. If air enters the refrigerating system, an excessively high pressure results, causing equipment damage and injury.	
If the refrigerant gas leaks, be sure to locate the leak and repair it before charging the refrigerant. After charging refrigerant, make sure that there is no refrigerant leak. If the leak cannot be located and the repair work must be stopped, be sure to perform pump-down and close the service valve, to prevent the refrigerant gas from leaking into the room. The refrigerant gas itself is harmless, but it can generate toxic gases when it contacts flames, such as fan and other heaters, stoves and ranges.	
When replacing the coin battery in the remote controller, be sure to disposed of the old battery to prevent children from swallowing it. If a child swallows the coin battery, see a doctor immediately.	

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

1.1.3 Inspection after Repair

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

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

1.1.4 Using Icons

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

1.1.5 Using Icons List

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

1.2 PREFACE

Thank you for your continued patronage of Daikin products.

This is the new service manual for Daikin's Year 2008 VRVIII series Heat Pump System. 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 VRVIII series R-410A Heat Pump 50Hz/60Hz for High Outdoor Temperature Use. Non CE compliant!

November, 2008

After Sales Service Division

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1. Model Names of Indoor/Outdoor Units

Indoor Units

Type		Model Name											Power Supply
Ceiling Mounted Cassette Type (Round Flow)	FXFQ	—	25P	32P	40P	50P	63P	80P	100P	125P	—	—	VE
Ceiling Mounted Cassette Type (Double Flow)	FXCQ	20M	25M	32M	40M	50M	63M	80M	—	125M	—	—	
Ceiling Mounted Cassette Corner Type	FXKQ	—	25MA	32MA	40MA	—	63MA	—	—	—	—	—	
Slim Ceiling Mounted Duct Type	FXDQ-PBVE	20PB	25PB	32PB	—	—	—	—	—	—	—	—	
	FXDQ-PBVET	20PB	25PB	32PB	—	—	—	—	—	—	—	—	
	FXDQ-NBVE	—	—	—	40NB	50NB	63NB	—	—	—	—	—	
	FXDQ-NBVET	—	—	—	40NB	50NB	63NB	—	—	—	—	—	
Ceiling Mounted Built-In Type	FXSQ	20M	25M	32M	40M	50M	63M	80M	100M	125M	—	—	
Ceiling Mounted Duct Type (Middle and high static pressure)	FXMQ	20P	25P	32P	40P	50P	63P	80P	100P	125P	—	—	
Ceiling Mounted Duct Type	FXMQ	—	—	—	—	—	—	—	—	—	200MA	250MA	
Ceiling Suspended Type	FXHQ	—	—	32MA	—	—	63MA	—	100MA	—	—	—	
Wall Mounted Type	FXAQ	20MA	25MA	32MA	40MA	50MA	63MA	—	—	—	—	—	
Floor Standing Type	FXLQ	20MA	25MA	32MA	40MA	50MA	63MA	—	—	—	—	—	
Concealed Floor Standing Type	FXNQ	20MA	25MA	32MA	40MA	50MA	63MA	—	—	—	—	—	
Outdoor Air Processing Unit	FXMQ-MF	—	—	—	—	—	—	—	—	125MF	200MF	250MF	V1
Ceiling Suspended Cassette Type	FXUQ	—	—	—	—	—	—	71MA	100MA	125MA	—	—	
Connection Unit	BEVQ-MA	—	—	—	—	—	—	71MA	100MA	125MA	—	—	VE

Note: FXDQ has following 2 Series, as show below.
FXDQ-PB, NBVET: without Drain Pump
FXDQ-PB, NBVE: with Drain Pump
BEV unit is required for each indoor unit.
MA: RoHS Directive models; Specifications, Dimensions and other functions are not changed compared with M type.

Outdoor Units

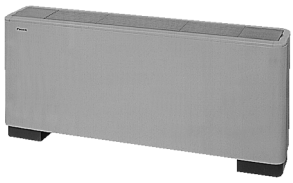
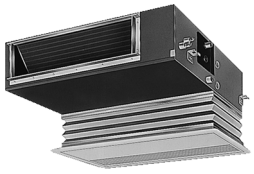
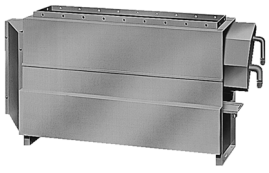
Series		Model Name									Power Supply
Heat Pump	RXYQ	8P	10P	12P	16P	18P	20P	22P	24P	26P	7Y1K 7YLK TLK(E) YNK(E)
		28P	30P	32P	34P	36P					

Power Supply VE: 1ϕ, 220~240V, 50Hz, 1ϕ, 220V, 60Hz
V1 : 1ϕ, 220~240V, 50Hz
Y1 : 3ϕ, 380~415V, 50Hz
YL : 3ϕ, 380V, 60Hz
TL : 3ϕ, 220V, 60Hz
YN: 3ϕ, 460V, 60Hz

E: The unit with anti corrosion treatment

2. External Appearance

2.1 Indoor Units

Ceiling Mounted Cassette Type (Round Flow) FXFQ25P FXFQ32P FXFQ40P FXFQ50P FXFQ63P FXFQ80P FXFQ100P FXFQ125P 	Ceiling Mounted Duct Type FXMQ200MA FXMQ250MA 
Ceiling Mounted Cassette Type (Double Flow) FXCQ20M FXCQ25M FXCQ32M FXCQ40M FXCQ50M FXCQ63M FXCQ80M FXCQ125M 	Ceiling Suspended Type FXHQ32MA FXHQ63MA FXHQ100MA 
Ceiling Mounted Cassette Corner Type FXKQ25MA FXKQ32MA FXKQ40MA FXKQ63MA 	Wall Mounted Type FXAQ20MA FXAQ25MA FXAQ32MA FXAQ40MA FXAQ50MA FXAQ63MA 
Slim Ceiling Mounted Duct Type FXDQ20PB FXDQ40NB FXDQ25PB FXDQ50NB FXDQ32PB FXDQ63NB with Drain Pump (VE) without Drain Pump (VET) 	Floor Standing Type FXLQ20MA FXLQ25MA FXLQ32MA FXLQ40MA FXLQ50MA FXLQ63MA 
Ceiling Mounted Built-In Type FXSQ20M FXSQ25M FXSQ32M FXSQ40M FXSQ50M FXSQ63M FXSQ80M FXSQ100M FXSQ125M 	Concealed Floor Standing Type FXNQ20MA FXNQ25MA FXNQ32MA FXNQ40MA FXNQ50MA FXNQ63MA 
Ceiling Mounted Duct Type (Middle and high static pressure) FXMQ20P FXMQ25P FXMQ32P FXMQ40P FXMQ50P FXMQ63P FXMQ80P FXMQ100P FXMQ125P 	Ceiling Suspended Cassette Type FXUQ71MA + BEVQ71MA FXUQ100MA + BEVQ100MA FXUQ125MA + BEVQ125MA Connection Unit 

2.2 Outdoor Units

RXYQ8P	RXYQ10P, 12P
	
RXYQ16P	**RXYQ18P, 20P**
	
RXYQ22P,24P	**RXYQ26P**
	
RXYQ28P, 30P	**RXYQ32P, 34P, 36P**
	

3. Combination of Outdoor Units

System Capacity	Number of units	Module			Outdoor Unit Multi Connection Piping Kit (Option)
		8	10	12	
8HP	1	●	—	—	–
10HP	1	—	●	—	
12HP	1	—	—	●	
16HP	2	●●	—	—	PY1K, PYLK : BHFQ22P1007 PTLK, PYNK : BHFP22P100
18HP	2	●	●	—	
20HP	2	●	—	●	
22HP	2	—	●	●	
24HP	2	—	—	●●	
26HP	3	●●	●	—	PY1K, PYLK : BHFQ22P1517 PTLK, PYNK : BHFP22P151
28HP	3	●	●●	—	
30HP	3	●	●	●	
32HP	3	—	●●	●	
34HP	3	—	●	●●	
36HP	3	—	—	●●●	

★Note: For multiple connection of 16HP system or more, an optional Daikin Outdoor Unit Multi Connection Piping Kit is required.

4. Capacity Range

Outdoor Units

HP	Model name	Combination	Outdoor unit multi connection piping kit (Option)*	Total capacity index of connectable indoor units	Maximum number of connectable indoor units
8 HP	RXYQ8P	RXYQ8P	–	100 to 260	13
10 HP	RXYQ10P	RXYQ10P	–	125 to 325	16
12 HP	RXYQ12P	RXYQ12P	–	150 to 390	19
16 HP	RXYQ16P	RXYQ8P x 2	PY1K, PYLK : BHFQ22P1007 PTLK, PYNK : BHFP22P100	200 to 520	26
18 HP	RXYQ18P	RXYQ8P + RXYQ10P		225 to 585	29
20 HP	RXYQ20P	RXYQ8P + RXYQ12P		250 to 650	32
22 HP	RXYQ22P	RXYQ10P + RXYQ12P		275 to 715	35
24 HP	RXYQ24P	RXYQ12P x 2		300 to 780	39
26 HP	RXYQ26P	RXYQ8P x 2 + RXYQ10P	PY1K, PYLK : BHFQ22P1517 PTLK, PYNK : BHFP22P151	325 to 845	42
28 HP	RXYQ28P	RXYQ8P + RXYQ10P x 2		350 to 910	45
30 HP	RXYQ30P	RXYQ8P + RXYQ10P + RXYQ12P		375 to 975	48
32 HP	RXYQ32P	RXYQ10P x 2 + RXYQ12P		400 to 1,040	52
34 HP	RXYQ34P	RXYQ10P+ RXYQ12P x 2		425 to 1,105	55
36 HP	RXYQ36P	RXYQ12P x 3		450 to 1,170	58

* Note: For multiple connection of 16HP systems and above, a separately sold Daikin outdoor unit multi connection piping kit is required.
Not allowed to mix connection (ex. Y1K + YLK, Y1K + TLK·····)

Connectable Indoor Unit

Type		Model Name											Power Supply
Ceiling Mounted Cassette Type (Multi Flow)	FXFQ	—	25P	32P	40P	50P	63P	80P	100P	125P	—	—	VE
Ceiling Mounted Cassette Type (Double Flow)	FXCQ	20M	25M	32M	40M	50M	63M	80M	—	125M	—	—	
Ceiling Mounted Cassette Corner Type	FXKQ	—	25MA	32MA	40MA	—	63MA	—	—	—	—	—	
Slim Ceiling Mounted Duct Type	FXDQ-PBVE	20PB	25PB	32PB	—	—	—	—	—	—	—	—	
	FXDQ-PBVET	20PB	25PB	32PB	—	—	—	—	—	—	—	—	
	FXDQ-NBVE	—	—	—	40NB	50NB	63NB	—	—	—	—	—	
	FXDQ-NBVET	—	—	—	40NB	50NB	63NB	—	—	—	—	—	
Ceiling Mounted Built-In Type	FXSQ	20M	25M	32M	40M	50M	63M	80M	100M	125M	—	—	
Ceiling Mounted Duct Type (Middle and high static pressure)	FXMQ	20P	25P	32P	40P	50P	63P	80P	100P	125P	—	—	
Ceiling Mounted Duct Type	FXMQ	—	—	—	—	—	—	—	—	—	200MA	250MA	
Ceiling Suspended Type	FXHQ	—	—	32MA	—	—	63MA	—	100MA	—	—	—	
Wall Mounted Type	FXAQ	20MA	25MA	32MA	40MA	50MA	63MA	—	—	—	—	—	
Floor Standing Type	FXLQ	20MA	25MA	32MA	40MA	50MA	63MA	—	—	—	—	—	
Concealed Floor Standing Type	FXNQ	20MA	25MA	32MA	40MA	50MA	63MA	—	—	—	—	—	
Outdoor Air Processing Unit	FXMQ-MF	—	—	—	—	—	—	—	—	125MF	200MF	250MF	V1
Ceiling Suspended Cassette Type	FXUQ	—	—	—	—	—	—	71MA	100MA	125MA	—	—	
Connection Unit	BEVQ-MA	—	—	—	—	—	—	71MA	100MA	125MA	—	—	VE

Note: FXDQ has following 2 Series, as show below.
FXDQ-PB, NBVET: without Drain Pump
FXDQ-PB, NBVE : with Drain Pump
BEV unit is required for each indoor unit.

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	2.2 kW	2.8 kW	3.5 kW	4.5 kW	5.6 kW	7.0 kW	9.0 kW	11.2 kW	14.0 kW	22.4 kW	28.0 kW
Equivalent output	0.8HP	1HP	1.25HP	1.6HP	2.0HP	2.5HP	3.2HP	4HP	5HP	8HP	10HP

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

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

Part 2
Specifications

1. Specifications 10
1.1 Outdoor Units 10
1.2 Indoor Units 34

1. Specifications

1.1 Outdoor Units

1.1.1 50Hz 380~415V

INDEPENDENT UNIT	RXYQ8P7Y1K	RXYQ10P7Y1K	RXYQ12P7Y1K	RXYQ16P7Y1K	RXYQ18P7Y1K	RXYQ20P7Y1K	RXYQ22P7Y1K
Outdoor Unit	RXYQ8P7Y1K	RXYQ10P7Y1K	RXYQ12P7Y1K	RXYQ8P7Y1K	RXYQ8P7Y1K	RXYQ8P7Y1K	RXYQ10P7Y1K
				RXYQ8P7Y1K	RXYQ10P7Y1K	RXYQ12P7Y1K	RXYQ12P7Y1K

TECHNICAL SPECIFICATIONS				RXYQ8P7Y1K	RXYQ10P7Y1K	RXYQ12P7Y1K	RXYQ16P7Y1K	RXYQ18P7Y1K	RXYQ20P7Y1K	RXYQ22P7Y1K
Capacity	Cooling (outdoor temp.: 35°CDB)	kW		22.4	28.0	33.5	44.8	50.4	55.9	61.5
		TR		6.4	8.0	9.5	12.7	14.3	15.9	17.5
		Btu/h		76,432.0	95,540.0	114,306.7	152,863.9	171,971.9	190,738.7	209,846.7
		Kcal/h		19,260.5	24,075.7	28,804.8	38,521.1	43,336.2	48,065.3	52,880.5
	Cooling (outdoor temp.: 46°CDB)	kW		17.7	24.1	27.2	35.4	41.8	44.9	51.3
		TR		5.0	6.9	7.7	10.1	11.9	12.8	14.6
		Btu/h		60,349.9	82,232.6	92,810.3	120,789.8	142,627.5	153,205.2	175,042.9
		Kcal/h		15,219.3	20,722.3	23,387.8	30,438.5	35,941.5	38,607.1	44,110.1
	Heating	kW		25.0	31.5	37.5	50.0	56.5	62.5	69.0
		TR		7.1	9.0	10.7	14.2	16.1	17.8	19.6
		Btu/h		85,303.5	107,482.5	127,955.3	170,607.1	192,786.0	213,258.9	235,437.8
		Kcal/h		21,496.1	27,085.1	32,244.2	42,992.3	48,581.3	53,740.3	59,329.3
COP	Cooling (outdoor temp.: 35°CDB)			4.27	3.75	3.75	4.27	3.97	3.94	3.75
	Cooling (outdoor temp.: 46°CDB)			3.16	2.70	2.74	3.16	2.88	2.89	2.72
	Heating			4.36	4.39	4.14	4.36	4.37	4.22	4.25
Capacity range			HP	8	10	12	16	18	20	22
Power input (nominal) (50Hz)	Cooling (outdoor temp.: 35°CDB)		kW	5.24	7.46	8.93	10.5	12.7	14.2	16.4
	Cooling (outdoor temp.: 46°CDB)		kW	5.60	8.93	9.93	11.2	14.5	15.5	18.9
	Heating		kW	5.74	7.18	9.06	11.5	12.9	14.8	16.2
Max n° of indoor units to be connected				13	16	19	26	29	32	35
Indoor index connection	Minimum			100	125	150	160	180	200	220
	Maximum			260	325	390	416	468	520	572
Casing	Colour			Daikin White						
	Material			Painted galvanised steel						
Dimensions	Packing	Height	mm	1,865	1,865	1,865				
		Width	mm	1,055	1,365	1,365				
		Depth	mm	860	860	860				
	Unit	Height	mm	1,680	1,680	1,680				
		Width	mm	930	1,240	1,240				
		Depth	mm	765	765	765				
Weight	Unit		kg	187	280	281				
	Packed Unit		kg	217	316	312				
Packing	Material			Carton						
	Weight		kg	4.22	4.72	4.72				
	Material			Wood						
	Weight		kg	20.85	20.85	20.85				
	Material			Plastic						
	Weight		kg	0.265	0.265	0.265				
Heat Exchanger	Dimensions	Length	mm	1,778	2,088	2,088	1,778 + 1,778	1,778 + 2,088	1,778 + 2,088	2,088 + 2,088
		Nr of Rows		54	54	54	54 + 54	54 + 54	54 + 54	54 + 54
		Fin Pitch	mm	2	2	2	2	2	2	2
		Nr of Passes		18	21	21	18 + 18	18 + 21	18 + 21	21 + 21
		Face Area	m²	2.112	2.481	2.481	2.112 + 2.112	2.112 + 2.481	2.112 + 2.481	2.481 + 2.481
		Nr of Stages		2	2	2	2 + 2	2 + 2	2 + 2	2 + 2
	Tube type			Hi-XSS (8)						
	Fin	Fin type		Non-symmetric waffle louvre						
		Treatment		Hydrophilic and anti corrosion resistant						
Fan	Type			Propeller						
	Quantity			1	2	2	1 + 1	1 + 2	1 + 2	2 + 2
Air Flow Rate (nominal at 230V)	Cooling	m³/min		171	239	239	171 + 171	171 + 239	171 + 239	239 + 239
	Heating	m³/min		171	239	239	171 + 171	171 + 239	171 + 239	239 + 239

TECHNICAL SPECIFICATIONS				RXYQ8P7Y1K	RXYQ10P7Y1K	RXYQ12P7Y1K	RXYQ16P7Y1K	RXYQ18P7Y1K	RXYQ20P7Y1K	RXYQ22P7Y1K
Fan	External static pressure		Pa	78 Pa in high static pressure						
	Discharge direction			Vertical						
	Motor	Quantity		1	2	2	1 + 1	1 + 2	1 + 2	2 + 2
		Model		Brushless DC						
		Output motor	W	750	2×750	2×750	750 + 750	750 + 2×750	750 + 2×750	2×750 + 2×750
Compressor	Quantity			1	2	2	1 + 1	1 + 1	1 + 1	1 + 1
	Motor	Quantity		1	1	1	1 + 1	1 + 1	1 + 1	1 + 1
		Model		Inverter						
		Type		Hermetically sealed scroll compressor						
		Speed	rpm	7,980	6,300	6,300	7,980 + 7,980	7,980 + 6,300	7,980 + 6,300	6,300 + 6,300
		Motor Output	kW	3.8	1.2	2.8	3,8 + 3,8	3,8 + 1,2	3,8 + 2,8	1,2 + 2,8
		Crankcase Heater	W	33	33	33	33	33	33	33
		Quantity			1	1		1	1	2
		Model			ON - OFF			ON - OFF		
		Type			Hermetically sealed scroll compressor			Hermetically sealed scroll compressor		
		Speed	rpm		2,900	2,900		2,900	2,900	2,900
		Motor Output	kW		4.5	4.5		4.5	4.5	4.5
		Crankcase Heater	W		33	33		33	33	33
Operation Range	Cooling	Min	°CDB	-5.0						
		Max	°CDB	50.0						
	Heating	Min	°CWB	-20.0						
		Max	°CWB	15.5						
Sound level	Cooling (outdoor temp.: 46°CDB)	Sound Pressure (Nominal)	dBA	60.0	65.0	65.0				
Refrigerant	Name			R-410A						
	Charge		kg	7.7	9.7	10.0	7.7 + 7.7	7.7 + 9.7	7.7 + 10.0	9.7 + 10.0
	Control			Expansion valve (electronic type)						
	Nr of Circuits			1						
Maximum total refrigerant charge in the system			kg				Less than 100 (calculated charge less than 95)			
Refrigerant Oil	Name			Synthetic (ether) oil						
	Charged Volume		l	2.6	4.3	4.8	2.6 + 2.6	2.6 + 4.3	2.6 + 4.8	4.3 + 4.8
Piping connections	Liquid (OD)	Type		Braze connection						
		Diameter (OD)	mm	9.52	12.7	12.7	12.7	15.9	15.9	15.9
	Gas	Type		Braze connection						
		Diameter (OD)	mm	19.1	22.2	28.6	28.6	28.6	28.6	28.6
	Heat Insulation			Both liquid and gas pipes						
	Max total length		m	1,000	1,000	1,000	~ 1,000	~ 1,000	~ 1,000	~ 1,000
Defrost Method				Reversed cycle						
Defrost Control				Sensor for outdoor heat exchanger temperature						
Capacity Control Method				Inverter controlled						
Capacity Control				~ 100						
Safety devices				HPS						
				Fan motor driver overload protector						
				Over current relay						
				Inverter overload protector						
				PC board fuse						
Standard Accessories	Standard Accessories			Installation manual						
	Quantity			1						
	Standard Accessories			Operation manual						
	Quantity			1						
	Standard Accessories			Connection pipes						
	Quantity			4						

TECHNICAL SPECIFICATIONS	RXYQ8P7Y1K	RXYQ10P7Y1K	RXYQ12P7Y1K	RXYQ16P7Y1K	RXYQ18P7Y1K	RXYQ20P7Y1K	RXYQ22P7Y1K
Notes	Nominal cooling capacities are based on : indoor temperature : 27°CDB, 19°CWB, outdoor temperature : 35°CDB, equivalent refrigerant piping : 7.5m, level difference : 0m.						
	Nominal cooling capacities are based on : indoor: 27° CDB, 19° CWB, Outdoor : 46° CDB, refrigerant piping length : 7.5m, level difference : 0m						
	Nominal heating capacities are based on : indoor temperature : 20°CDB, outdoor temperature : 7°CDB, 6°CWB, equivalent refrigerant piping : 7.5m, level difference : 0m						
	Sound pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to sound level drawings.			Sound level of a multi system is determined by the individual outdoor unit and installation condition			
	Sound values are measured in a semi-anechoic room.			The refrigerant charge of the system must be less than 100 kg. This means that in case the calculated refrigerant charge is equal to or more than 95 kg, you must divide your multiple outdoor system into smaller independent systems, each containing less than 95 kg refrigerant charge. For factory charge, refer to the namplate of the unit.			
	1kW = 859.84522786 kcal/h; 1kW = 3,412.14163313 BTU/h; 1kW = 0.28434514 TR						

INDEPENDENT UNIT	RXYQ24P7Y1K	RXYQ26P7Y1K	RXYQ28P7Y1K	RXYQ30P7Y1K	RXYQ32P7Y1K	RXYQ34P7Y1K	RXYQ36P7Y1K
Outdoor Unit	RXYQ12P7Y1K	RXYQ8P7Y1K	RXYQ8P7Y1K	RXYQ8P7Y1K	RXYQ10P7Y1K	RXYQ10P7Y1K	RXYQ12P7Y1K
	RXYQ12P7Y1K	RXYQ8P7Y1K	RXYQ10P7Y1K	RXYQ10P7Y1K	RXYQ10P7Y1K	RXYQ12P7Y1K	RXYQ12P7Y1K
		RXYQ10P7Y1K	RXYQ10P7Y1K	RXYQ12P7Y1K	RXYQ12P7Y1K	RXYQ12P7Y1K	RXYQ12P7Y1K

TECHNICAL SPECIFICATIONS				RXYQ24P7Y1K	RXYQ26P7Y1K	RXYQ28P7Y1K	RXYQ30P7Y1K	RXYQ32P7Y1K	RXYQ34P7Y1K	RXYQ36P7Y1K
Capacity	Cooling (outdoor temp.: 35°CDB)	kW		67.0	72.8	78.4	83.9	89.5	95.0	100.5
		TR		19.1	20.7	22.3	23.9	25.4	27.0	28.6
		Btu/h		228,613.5	248,403.9	267,511.9	286,278.7	305,386.7	324,153.5	342,920.2
		Kcal/h		57,609.6	62,596.7	67,411.9	72,141.0	76,956.1	81,685.3	86,414.4
	Cooling (outdoor temp.: 46°CDB)	kW		54.4	59.5	65.9	69.0	75.4	78.5	81.6
		TR		15.5	16.9	18.7	19.6	21.4	22.3	23.2
		Btu/h		185,620.5	203,022.4	224,860.1	235,437.8	257,275.5	267,853.1	278,430.8
		Kcal/h		46,775.6	51,160.8	56,663.8	59,329.3	64,832.3	67,497.9	70,163.4
	Heating	kW		75.0	81.5	88.0	94.0	100.5	106.5	112.5
		TR		21.3	23.2	25.0	26.7	28.6	30.3	32.0
		Btu/h		255,910.6	278,089.5	300,268.5	320,741.3	342,920.2	363,393.1	383,865.9
		Kcal/h		64,488.4	70,077.4	75,666.4	80,825.5	86,414.4	91,573.5	96,732.6
COP	Cooling (outdoor temp.: 35°CDB)			3.75	4.06	3.89	3.88	3.75	3.75	3.75
	Cooling (outdoor temp.: 46°CDB)			2.74	3.32	3.27	3.19	3.16	3.10	3.05
	Heating			4.14	4.37	4.38	4.28	4.29	4.21	4.14
Capacity range			HP	24	26	28	30	32	34	36
Power input (nominal) (50Hz)	Cooling (outdoor temp.: 35°CDB)		kW	17.9	17.9	20.2	21.6	23.9	25.3	26.8
	Cooling (outdoor temp.: 46°CDB)		kW	19.9	20.1	23.5	24.5	27.8	28.8	29.8
	Heating		kW	18.1	18.7	20.1	22.0	23.4	25.3	27.2
Max n° of indoor units to be connected				39	42	45	48	52	55	58
Indoor index connection	Minimum			240	260	280	300	320	340	360
	Maximum			624	676	728	780	832	884	936
Casing	Colour			Daikin White						
	Material			Painted galvanised steel						
Heat Exchanger	Dimensions	Length	mm	2,088 + 2,088	1,778 + 1,778 + 2,088	1,778 + 2,088 + 2,088	1,778 + 2,088 + 2,088	2,088 + 2,088 + 2,088	2,088 + 2,088 + 2,088	2,088 + 2,088 + 2,088
		Nr of Rows		54 + 54	54 + 54 + 54	54 + 54 + 54	54 + 54 + 54	54 + 54 + 54	54 + 54 + 54	54 + 54 + 54
		Fin Pitch	mm	2	2	2	2	2	2	2
		Nr of Passes		21 + 21	18 + 18 + 21	18 + 21 + 21	18 + 21 + 21	21 + 21 + 21	21 + 21 + 21	21 + 21 + 21
		Face Area	m^2	2.481 + 2.481	2.112 + 2.112 + 2.481	2.112 + 2.481 + 2.481	2.112 + 2.481 + 2.481	2.481 + 2.481 + 2.481	2.481 + 2.481 + 2.481	2.481 + 2.481 + 2.481
		Nr of Stages		2 + 2	2 + 2 + 2	2 + 2 + 2	2 + 2 + 2	2 + 2 + 2	2 + 2 + 2	2 + 2 + 2
	Tube type			Hi-XSS (8)						
	Fin	Fin type		Non-symmetric waffle louvre						
		Treatment		Hydrophilic and anti corrosion resistant						
Fan	Type			Propeller						
	Quantity			2 + 2	1 + 1 + 2	1 + 2 + 2	1 + 2 + 2	2 + 2 + 2	2 + 2 + 2	2 + 2 + 2
Air Flow Rate (nominal at 230V)	Cooling	m^3/min		239 + 239	171 + 171 + 239	171 + 239 + 239	171 + 239 + 239	239 + 239 + 239	239 + 239 + 239	239 + 239 + 239
	Heating	m^3/min		239 + 239	171 + 171 + 239	171 + 239 + 239	171 + 239 + 239	239 + 239 + 239	239 + 239 + 239	239 + 239 + 239
Fan	External static pressure		Pa	78 Pa in high static pressure						
	Discharge direction			Vertical						
	Motor	Quantity		2 + 2	1 + 1 + 2	1 + 2 + 2	1 + 2 + 2	2 + 2 + 2	2 + 2 + 2	2 + 2 + 2
		Model		Brushless DC						
		Output motor	W	2×750 + 2×750	750 + 750 + 2×750	750 + 2×750 + 2×750	750 + 2×750 + 2×750	2×750 + 2×750 + 2×750	2×750 + 2×750 + 2×750	2×750 + 2×750 + 2×750

TECHNICAL SPECIFICATIONS				RXYQ24P7Y1K	RXYQ26P7Y1K	RXYQ28P7Y1K	RXYQ30P7Y1K	RXYQ32P7Y1K	RXYQ34P7Y1K	RXYQ36P7Y1K
Compressor	Quantity			1 + 1	1 + 1 + 2	1 + 2 + 2	1 + 2 + 2	2 + 2 + 2	2 + 2 + 2	2 + 2 + 2
	Motor	Quantity		1 + 1	1 + 1 + 1	1 + 1 + 1	1 + 1 + 1	1 + 1 + 1	1 + 1 + 1	1 + 1 + 1
		Model		Inverter						
		Type		Hermetically sealed scroll compressor						
		Speed	rpm	6,300 + 6,300	7,980 + 7,980 + 6,300	7,980 + 6,300 + 6,300	7,980 + 6,300 + 6,300	6,300 + 6,300 + 6,300	6,300 + 6,300 + 6,300	6,300 + 6,300 + 6,300
		Motor Output	kW	2,8 + 2,8	3.8 + 3.8 + 1.2	3.8 + 1.2 + 1.2	3.8 + 1.2 + 2.8	1.2 + 1.2 + 2.8	1.2 + 2.8 + 2.8	2.8 + 2.8 + 2.8
		Crankcase Heater	W	33	33	33	33	33	33	33
		Quantity		2	1	2	2	3	3	3
		Model		ON - OFF						
		Type		Hermetically sealed scroll compressor						
		Speed	rpm	2,900						
		Motor Output	kW	4.5						
		Crankcase Heater	W	33						
Operation Range	Cooling	Min	°CDB	-5.0						
		Max	°CDB	50.0						
	Heating	Min	°CWB	-20.0						
		Max	°CWB	15.5						
Refrigerant	Name			R-410A						
	Charge		kg	10.0 + 10.0	7.7 + 7.7 + 9.7	7.7 + 9.7 + 9.7	7.7 + 9.7 + 10.0	9.7 + 9.7 + 10.0	9.7 + 10.0 + 10.0	10.0 + 10.0 + 10.0
	Control			Expansion valve (electronic type)						
	Nr of Circuits			1						
Maximum total refrigerant charge in the system			kg	Less than 100 (calculated charge less than 95)						
Refrigerant Oil	Name			Synthetic (ether) oil						
	Charged Volume		l	4.8 + 4.8	2.6 + 2.6 + 4.3	2.6 + 4.3 + 4.3	2.6 + 4.3 + 4.8	4.3 + 4.3 + 4.8	4.3 + 4.8 + 4.8	4.8 + 4.8 + 4.8
Piping connections	Liquid (OD)	Type		Braze connection						
		Diameter (OD)	mm	15.9	19.1	19.1	19.1	19.1	19.1	19.1
	Gas	Type		Braze connection						
		Diameter (OD)	mm	34.9	34.9	34.9	34.9	34.9	34.9	41.3
	Heat Insulation			Both liquid and gas pipes						
	Max total length		m	~ 1,000	~ 1,000	~ 1,000	~ 1,000	~ 1,000	~ 1,000	~ 1,000
Defrost Method				Reversed cycle						
Defrost Control				Sensor for outdoor heat exchanger temperature						
Capacity Control Method				Inverter controlled						
Capacity Control				~ 100						
Safety devices				HPS						
				Fan motor driver overload protector						
				Over current relay						
				Inverter overload protector						
				PC board fuse						
Standard Accessories	Standard Accessories			Installation manual						
	Quantity			1						
	Standard Accessories			Operation manual						
	Quantity			1						
	Standard Accessories			Connection pipes						
	Quantity			4						

TECHNICAL SPECIFICATIONS	RXYQ24P7Y1K	RXYQ26P7Y1K	RXYQ28P7Y1K	RXYQ30P7Y1K	RXYQ32P7Y1K	RXYQ34P7Y1K	RXYQ36P7Y1K
Notes	Nominal cooling capacities are based on : indoor temperature : 27°CDB, 19°CWB, outdoor temperature : 35°CDB, equivalent refrigerant piping : 7.5m, level difference : 0m.						
	Nominal cooling capacities are based on : indoor : 27°CDB, 19°CWB, Outdoor : 46°CDB, refrigerant piping length : 7.5m, level difference: 0m						
	Nominal heating capacities are based on : indoor temperature : 20°CDB, outdoor temperature : 7°CDB, 6°CWB, equivalent refrigerant piping : 7.5m, level difference : 0m						
	Sound level of a multi system is determined by the individual outdoor unit and installation condition						
	The refrigerant charge of the system must be less than 100 kg. This means that in case the calculated refrigerant charge is equal to or more than 95 kg, you must divide your multiple outdoor system into smaller independent systems, each containing less than 95 kg refrigerant charge. For factory charge, refer to the nameplate of the unit.						
	1kW = 859.84522786 kcal/h; 1kW = 3,412.14163313 BTU/h; 1kW = 0.28434514 TR						

ELECTRICAL SPECIFICATIONS (50Hz)				RXYQ8P7Y1K	RXYQ10P7Y1K	RXYQ12P7Y1K	RXYQ16P7Y1K	RXYQ18P7Y1K	RXYQ20P7Y1K	RXYQ22P7Y1K
Power Supply	Name			Y1						
	Phase			3N~						
	Frequency		Hz	50						
	Voltage		V	380-415						
Current	Nominal running current (RLA)	Cooling	A	9.9	18.5	19.1	19.7	28.3	28.9	37.5
		Heating	A	8.2	10.0	12.9	16.4	18.2	21.1	22.8
	Starting current (MSC)		A		74.0	75.0		78	79	88
	Minimum circuit amps (MCA)		A	19.0	23.1	23.1	37.9	42.0	42.0	46.1
	Maximum fuse amps (MFA)		A	25	30	30	45	50	50	60
	Full load amps (FLA)		A	1.2	1.4	1.4	2.4	2.6	2.6	2.8
Voltage range	Minimum		V	342						
	Maximum		V	456.5						
Wiring connections	For Power Supply	Quantity		5						
		Remark		Earth wire included						
	For connection with indoor	Quantity		2						
		Remark		F1 - F2						
Power Supply Intake				Both indoor and outdoor unit						
Notes				MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker)						
				MSC means the maximum current during start up of the compressor						
				Maximum allowable voltage range variation between phases is 2%						
				RLA is based on the following conditions : Indoor : 27°CDB, 19°CWB, Outdoor : 46°CDB						
				Select wire size based on MCA						
				Voltage range : units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits						

ELECTRICAL SPECIFICATIONS (50Hz)				RXYQ24P7Y1K	RXYQ26P7Y1K	RXYQ28P7Y1K	RXYQ30P7Y1K	RXYQ32P7Y1K	RXYQ34P7Y1K	RXYQ36P7Y1K
Power Supply	Name			Y1						
	Phase			3N~						
	Frequency		Hz	50						
	Voltage		V	380-415						
Current	Nominal running current (RLA)	Cooling	A	38.1	38.2	46.8	47.4	56.0	56.6	57.2
		Heating	A	25.8	26.4	28.1	31.0	32.8	35.7	38.6
	Starting current (MSC)		A	88	82	91	91	92	101	101
	Minimum circuit amps (MCA)		A	46.1	61.0	65.1	65.1	69.2	69.2	69.2
	Maximum fuse amps (MFA)		A	60	70	80	80	80	80	80
	Full load amps (FLA)		A	2.8	3.8	4.0	4.0	4.2	4.2	4.2
Voltage range	Minimum		V	342						
	Maximum		V	456.5						
Wiring connections	For Power Supply	Quantity		5						
		Remark		Earth wire included						
	For connection with indoor	Quantity		2						
		Remark		F1 - F2						
Power Supply Intake				Both indoor and outdoor unit						
Notes				MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker)						
				MSC means the maximum current during start up of the compressor						
				Maximum allowable voltage range variation between phases is 2%						
				RLA is based on the following conditions : Indoor : 27°CDB, 19°CWB, Outdoor : 46°CDB						
				Select wire size based on MCA						
				Voltage range : units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits						

1.1.2 60Hz 380V

INDEPENDENT UNIT	RXYQ8P7YLK	RXYQ10P7YLK	RXYQ12P7YLK	RXYQ16P7YLK	RXYQ18P7YLK	RXYQ20P7YLK	RXYQ22P7YLK
Outdoor Unit	RXYQ8P7YLK	RXYQ10P7YLK	RXYQ12P7YLK	RXYQ8P7YLK	RXYQ8P7YLK	RXYQ8P7YLK	RXYQ10P7YLK
				RXYQ8P7YLK	RXYQ10P7YLK	RXYQ12P7YLK	RXYQ12P7YLK

TECHNICAL SPECIFICATIONS				RXYQ8P7YLK	RXYQ10P7YLK	RXYQ12P7YLK	RXYQ16P7YLK	RXYQ18P7YLK	RXYQ20P7YLK	RXYQ22P7YLK
Capacity	Cooling (outdoor temp.: 35°CDB)	kW		22.4	28.0	33.5	44.8	50.4	55.9	61.5
		TR		6.4	8.0	9.5	12.7	14.3	15.9	17.5
		Btu/h		76,432.0	95,540.0	114,306.7	152,863.9	171,971.9	190,738.7	209,846.7
		Kcal/h		19,260.5	24,075.7	28,804.8	38,521.1	43,336.2	48,065.3	52,880.5
	Cooling (outdoor temp.: 46°CDB)	kW		17.7	24.1	27.2	35.4	41.8	44.9	51.3
		TR		5.0	6.9	7.7	10.1	11.9	12.8	14.6
		Btu/h		60,349.9	82,232.6	92,810.3	120,789.8	142,627.5	153,205.2	175,042.9
		Kcal/h		15,219.3	20,722.3	23,387.8	30,438.5	35,941.5	38,607.1	44,110.1
	Heating	kW		25.0	31.5	37.5	50.0	56.5	62.5	69.0
		TR		7.1	9.0	10.7	14.2	16.1	17.8	19.6
		Btu/h		85,303.5	107,482.5	127,955.3	170,607.1	192,786.0	213,258.9	235,437.8
		Kcal/h		21,496.1	27,085.1	32,244.2	42,992.3	48,581.3	53,740.3	59,329.3
COP	Cooling (outdoor temp.: 35°CDB)			4.27	3.75	3.75	4.27	3.97	3.94	3.75
	Cooling (outdoor temp.: 46°CDB)			3.16	2.70	2.74	3.16	2.88	2.89	2.72
	Heating			4.36	4.39	4.14	4.36	4.37	4.22	4.25
Capacity range			HP	8	10	12	16	18	20	22
Power input (nominal) (60Hz)	Cooling (outdoor temp.: 35°CDB)		kW	5.24	7.46	8.93	10.5	12.7	14.2	16.4
	Cooling (outdoor temp.: 46°CDB)		kW	5.60	8.93	9.93	11.2	14.5	15.5	18.9
	Heating		kW	5.74	7.18	9.06	11.5	12.9	14.8	16.2
Max n° of indoor units to be connected				13	16	19	26	29	32	35
Indoor index connection	Minimum			100	125	150	160	180	200	220
	Maximum			260	325	390	416	468	520	572
Casing	Colour			Daikin White						
	Material			Painted galvanised steel						
Dimensions	Packing	Height	mm	1,865	1,865	1,865				
		Width	mm	1,055	1,365	1,365				
		Depth	mm	860	860	860				
	Unit	Height	mm	1,680	1,680	1,680				
		Width	mm	930	1,240	1,240				
		Depth	mm	765	765	765				
Weight	Unit		kg	187	280	281				
	Packed Unit		kg	217	316	312				
Packing	Material			Carton						
	Weight		kg	4.22	4.72	4.72				
	Material			Wood						
	Weight		kg	20.85	20.85	20.85				
	Material			Plastic						
	Weight		kg	0.265	0.265	0.265				
Heat Exchanger	Dimensions	Length	mm	1,778	2,088	2,088	1,778 +1,778	1,778 + 2,088	1,778 + 2,088	2,088 + 2,088
		Nr of Rows		54	54	54	54 + 54	54 + 54	54 + 54	54 + 54
		Fin Pitch	mm	2	2	2	2	2	2	2
		Nr of Passes		18	21	21	18 + 18	18 + 21	18 + 21	21 + 21
		Face Area	m²	2.112	2.481	2.481	2.112 + 2.112	2.112 + 2.481	2.112 + 2.481	2.481 + 2.481
		Nr of Stages		2	2	2	2 + 2	2 + 2	2 + 2	2 + 2
	Tube type			Hi-XSS (8)						
	Fin	Fin type		Non-symmetric waffle louvre						
		Treatment		Hydrophilic and anti corrosion resistant						
Fan	Type			Propeller						
	Quantity			1	2	2	1 + 1	1 + 2	1 + 2	2 + 2
Air Flow Rate (nominal at 230V)	Cooling	m³/min		171	239	239	171 + 171	171 + 239	171 + 239	239 + 239
	Heating	m³/min		171	239	239	171 + 171	171 + 239	171 + 239	239 + 239

TECHNICAL SPECIFICATIONS				RXYQ8P7YLK	RXYQ10P7YLK	RXYQ12P7YLK	RXYQ16P7YLK	RXYQ18P7YLK	RXYQ20P7YLK	RXYQ22P7YLK
Fan	External static pressure		Pa	78 Pa in high static pressure						
	Discharge direction			Vertical						
	Motor	Quantity		1	2	2	1 + 1	1 + 2	1 + 2	2 + 2
		Model		Brushless DC						
		Output motor	W	750	2×750	2×750	750 + 750	750 + 2×750	750 + 2×750	2×750 + 2×750
Compressor	Quantity			1	2	2	1 + 1	1 + 1	1 + 1	1 + 1
	Motor	Quantity		1	1	1	1 + 1	1 + 1	1 + 1	1 + 1
		Model		Inverter						
		Type		Hermetically sealed scroll compressor						
		Speed	rpm	7,980	6,300	6,300	7,980 +7,980	7,980 + 6,300	7,980 + 6,300	6,300 + 6,300
		Motor Output	kW	3.8	1.2	2.8	3.8 + 3.8	3.8 + 1.2	3.8 + 2.8	1.2 + 2.8
		Crankcase Heater	W	33	33	33	33	33	33	33
		Quantity			1	1		1	1	2
		Model			ON - OFF			ON - OFF		
		Type			Hermetically sealed scroll compressor			Hermetically sealed scroll compressor		
		Speed	rpm		2,900	2,900		2,900	2,900	2,900
		Motor Output	kW		4.5	4.5		4.5	4.5	4.5
		Crankcase Heater	W		33	33		33	33	33
Operation Range	Cooling	Min	°CDB	-5.0						
		Max	°CDB	50.0						
	Heating	Min	°CWB	-20.0						
		Max	°CWB	15.5						
Sound level	Cooling (outdoor temp.: 46°CDB)	Sound Pressure (Nominal)	dBA	60.0	65.0	65.0				
Refrigerant	Name			R-410A						
	Charge		kg	7.7	9.7	10.0	7.7 + 7.7	7.7 + 9.7	7.7 + 10.0	9.7 + 10.0
	Control			Expansion valve (electronic type)						
	Nr of Circuits			1	1	1	1	1	1	1
Maximum total refrigerant charge in the system			kg				Less than 100 (calculated charge less than 95)			
Refrigerant Oil	Name			Synthetic (ether) oil						
	Charged Volume		l	2.6	4.3	4.8	2.6 + 2.6	2.6 + 4.3	2.6 + 4.8	4.3 + 4.8
Piping connections	Liquid (OD)	Type		Braze connection						
		Diameter (OD)	mm	9.52	12.7	12.7	12.7	15.9	15.9	15.9
	Gas	Type		Braze connection						
		Diameter (OD)	mm	19.1	22.2	28.6	28.6	28.6	28.6	28.6
	Heat Insulation			Both liquid and gas pipes						
	Max total length		m	1,000	1,000	1,000	~ 1,000	~ 1,000	~ 1,000	~ 1,000
Defrost Method				Reversed cycle						
Defrost Control				Sensor for outdoor heat exchanger temperature						
Capacity Control Method				Inverter controlled						
Capacity Control				~ 100						
Safety devices				HPS						
				Fan motor driver overload protector						
				Over current relay						
				Inverter overload protector						
				PC board fuse						
Standard Accessories	Standard Accessories			Installation manual						
	Quantity			1						
	Standard Accessories			Operation manual						
	Quantity			1						
	Standard Accessories			Connection pipes						
	Quantity			4						

TECHNICAL SPECIFICATIONS	RXYQ8P7YLK	RXYQ10P7YLK	RXYQ12P7YLK	RXYQ16P7YLK	RXYQ18P7YLK	RXYQ20P7YLK	RXYQ22P7YLK
Notes	Nominal cooling capacities are based on : indoor temperature : 27°CDB, 19°CWB, outdoor temperature : 35°CDB, equivalent refrigerant piping : 7.5m, level difference : 0m.						
	Nominal cooling capacities are based on : indoor : 27°CDB, 19°CWB, Outdoor : 46°CDB, refrigerant piping length : 7.5m, level difference : 0m						
	Nominal heating capacities are based on : indoor temperature : 20°CDB, outdoor temperature : 7°CDB, 6°CWB, equivalent refrigerant piping : 7.5m, level difference : 0m						
	Sound pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to sound level drawings.			Sound level of a multi system is determined by the individual outdoor unit and installation condition			
	Sound values are measured in a semi-anechoic room.			The refrigerant charge of the system must be less than 100 kg. This means that in case the calculated refrigerant charge is equal to or more than 95 kg, you must divide your multiple outdoor system into smaller independent systems, each containing less than 95 kg refrigerant charge. For factory charge, refer to the namplate of the unit.			
	1kW = 859.84522786 kcal/h; 1kW = 3,412.14163313 BTU/h; 1kW = 0.28434514 TR						

INDEPENDENT UNIT	RXYQ24P7YLK	RXYQ26P7YLK	RXYQ28P7YLK	RXYQ30P7YLK	RXYQ32P7YLK	RXYQ34P7YLK	RXYQ36P7YLK
Outdoor Unit	RXYQ12P7YLK	RXYQ8P7YLK	RXYQ8P7YLK	RXYQ8P7YLK	RXYQ10P7YLK	RXYQ10P7YLK	RXYQ12P7YLK
	RXYQ12P7YLK	RXYQ8P7YLK	RXYQ10P7YLK	RXYQ10P7YLK	RXYQ10P7YLK	RXYQ12P7YLK	RXYQ12P7YLK
		RXYQ10P7YLK	RXYQ10P7YLK	RXYQ12P7YLK	RXYQ12P7YLK	RXYQ12P7YLK	RXYQ12P7YLK

TECHNICAL SPECIFICATIONS				RXYQ24P7YLK	RXYQ26P7YLK	RXYQ28P7YLK	RXYQ30P7YLK	RXYQ32P7YLK	RXYQ34P7YLK	RXYQ36P7YLK
Capacity	Cooling (outdoor temp.: 35°CDB)	kW		67.0	72.8	78.4	83.9	89.5	95.0	100.5
		TR		19.1	20.7	22.3	23.9	25.4	27.0	28.6
		Btu/h		228,613.5	248,403.9	267,511.9	286,278.7	305,386.7	324,153.5	342,920.2
		Kcal/h		57,609.6	62,596.7	67,411.9	72,141.0	76,956.1	81,685.3	86,414.4
	Cooling (outdoor temp.: 46°CDB)	kW		54.4	59.5	65.9	69.0	75.4	78.5	81.6
		TR		15.5	16.9	18.7	19.6	21.4	22.3	23.2
		Btu/h		185,620.5	203,022.4	224,860.1	235,437.8	257,275.5	267,853.1	278,430.8
		Kcal/h		46,775.6	51,160.8	56,663.8	59,329.3	64,832.3	67,497.9	70,163.4
	Heating	kW		75.0	81.5	88.0	94.0	100.5	106.5	112.5
		TR		21.3	23.2	25.0	26.7	28.6	30.3	32.0
		Btu/h		255,910.6	278,089.5	300,268.5	320,741.3	342,920.2	363,393.1	383,865.9
		Kcal/h		64,488.4	70,077.4	75,666.4	80,825.5	86,414.4	91,573.5	96,732.6
COP	Cooling (outdoor temp.: 35°CDB)			3.75	4.06	3.89	3.88	3.75	3.75	3.75
	Cooling (outdoor temp.: 46°CDB)			2.74	3.32	3.27	3.19	3.16	3.10	3.05
	Heating			4.14	4.37	4.38	4.28	4.29	4.21	4.14
Capacity range			HP	24	26	28	30	32	34	36
Power input (nominal) (60Hz)	Cooling (outdoor temp.: 35°CDB)		kW	17.9	17.9	20.2	21.6	23.9	25.3	26.8
	Cooling (outdoor temp.: 46°CDB)		kW	19.9	20.1	23.5	24.5	27.8	28.8	29.8
	Heating		kW	18.1	18.7	20.1	22.0	23.4	25.3	27.2
Max n° of indoor units to be connected				39	42	45	48	52	55	58
Indoor index connection	Minimum			240	260	280	300	320	340	360
	Maximum			624	676	728	780	832	884	936
Casing	Colour			Daikin White						
	Material			Painted galvanised steel						
Heat Exchanger	Dimensions	Length	mm	2,088 + 2,088	1,778 + 1,778 + 2,088	1,778 + 2,088 + 2,088	1,778 + 2,088 + 2,088	2,088 + 2,088 + 2,088	2,088 + 2,088 + 2,088	2,088 + 2,088 + 2,088
		Nr of Rows		54 + 54	54 + 54 + 54	54 + 54 + 54	54 + 54 + 54	54 + 54 + 54	54 + 54 + 54	54 + 54 + 54
		Fin Pitch	mm	2	2	2	2	2	2	2
		Nr of Passes		21 + 21	18 + 18 + 21	18 + 21 + 21	18 + 21 + 21	21 + 21 + 21	21 + 21 + 21	21 + 21 + 21
		Face Area	m^2	2.481 + 2.481	2.112 + 2.112 + 2.481	2.112 + 2.481 + 2.481	2.112 + 2.481 + 2.481	2.481 + 2.481 + 2.481	2.481 + 2.481 + 2.481	2.481 + 2.481 + 2.481
		Nr of Stages		2 + 2	2 + 2 + 2	2 + 2 + 2	2 + 2 + 2	2 + 2 + 2	2 + 2 + 2	2 + 2 + 2
	Tube type			Hi-XSS (8)						
	Fin	Fin type		Non-symmetric waffle louvre						
		Treatment		Hydrophilic and anti corrosion resistant						
Fan	Type			Propeller						
	Quantity			2 + 2	1 + 1 + 2	1 + 2 + 2	1 + 2 + 2	2 + 2 + 2	2 + 2 + 2	2 + 2 + 2
Air Flow Rate (nominal at 230V)	Cooling	m^3/min		239 + 239	171 + 171 + 239	171 + 239 + 239	171 + 239 + 239	239 + 239 + 239	239 + 239 + 239	239 + 239 + 239
	Heating	m^3/min		239 + 239	171 + 171 + 239	171 + 239 + 239	171 + 239 + 239	239 + 239 + 239	239 + 239 + 239	239 + 239 + 239
Fan	External static pressure		Pa	78 Pa in high static pressure						
	Discharge direction			Vertical						
	Motor	Quantity		2 + 2	1 + 1 + 2	1 + 2 + 2	1 + 2 + 2	2 + 2 + 2	2 + 2 + 2	2 + 2 + 2
		Model		Brushless DC						
		Output motor	W	2×750 + 2×750	750 + 750 + 2×750	750 + 2×750+ 2×750	750 + 2×750+ 2×750	2×750 + 2×750 + 2×750	2×750 + 2×750 + 2×750	2×750 + 2×750 + 2×750

TECHNICAL SPECIFICATIONS				RXYQ24P7YLK	RXYQ26P7YLK	RXYQ28P7YLK	RXYQ30P7YLK	RXYQ32P7YLK	RXYQ34P7YLK	RXYQ36P7YLK
Compressor	Quantity			1 + 1	1 + 1 + 2	1 + 2 + 2	1 + 2 + 2	2 + 2 + 2	2 + 2 + 2	2 + 2 + 2
	Motor	Quantity		1 + 1	1 + 1 + 1	1 + 1 + 1	1 + 1 + 1	1 + 1 + 1	1 + 1 + 1	1 + 1 + 1
		Model		Inverter						
		Type		Hermetically sealed scroll compressor						
		Speed	rpm	6,300 + 6,300	7,980 + 7,980 + 6,300	7,980 + 6,300 + 6,300	7,980 + 6,300 + 6,300	6,300 + 6,300 + 6,300	6,300 + 6,300 + 6,300	6,300 + 6,300 + 6,300
		Motor Output	kW	2.8 + 2.8	3.8 + 3.8 + 1.2	3.8 + 1.2 + 1.2	3.8 + 1.2 + 2.8	1.2 + 1.2 + 2.8	1.2 + 2.8 + 2.8	2.8 + 2.8 + 2.8
		Crankcase Heater	W	33	33	33	33	33	33	33
		Quantity		2	1	2	2	3	3	3
		Model		ON - OFF						
		Type		Hermetically sealed scroll compressor						
		Speed	rpm	2,900						
		Motor Output	kW	4.5						
		Crankcase Heater	W	33						
Operation Range	Cooling	Min	°CDB	-5.0						
		Max	°CDB	50.0						
	Heating	Min	°CWB	-20.0						
		Max	°CWB	15.5						
Refrigerant	Name			R-410A						
	Charge		kg	10.0 + 10.0	7.7 + 7.7 + 9.7	7.7 + 9.7 + 9.7	7.7 + 9.7 + 10.0	9.7 + 9.7 + 10.0	9.7 + 10.0 + 10.0	10.0 + 10.0 + 10.0
	Control			Expansion valve (electronic type)						
	Nr of Circuits			1						
Maximum total refrigerant charge in the system			kg	Less than 100 (calculated charge less than 95)						
Refrigerant Oil	Name			Synthetic (ether) oil						
	Charged Volume		l	4.8 + 4.8	2.6 + 2.6 + 4.3	2.6 + 4.3 + 4.3	2.6 + 4.3 + 4.8	4.3 + 4.3 + 4.8	4.3 + 4.8 + 4.8	4.8 + 4.8 + 4.8
Piping connections	Liquid (OD)	Type		Braze connection						
		Diameter (OD)	mm	15.9	19.1	19.1	19.1	19.1	19.1	19.1
	Gas	Type		Braze connection						
		Diameter (OD)	mm	34.9	34.9	34.9	34.9	34.9	34.9	41.3
	Heat Insulation			Both liquid and gas pipes						
	Max total length		m	~ 1,000	~1,000	~1,000	~1,000	~1,000	~1,000	~1,000
Defrost Method				Reversed cycle						
Defrost Control				Sensor for outdoor heat exchanger temperature						
Capacity Control Method				Inverter controlled						
Capacity Control				~ 100						
Safety devices				HPS						
				Fan motor driver overload protector						
				Over current relay						
				Inverter overload protector						
				PC board fuse						
Standard Accessories	Standard Accessories			Installation manual						
	Quantity			1						
	Standard Accessories			Operation manual						
	Quantity			1						
	Standard Accessories			Connection pipes						
	Quantity			4						

TECHNICAL SPECIFICATIONS	RXYQ24P7YLK	RXYQ26P7YLK	RXYQ28P7YLK	RXYQ30P7YLK	RXYQ32P7YLK	RXYQ34P7YLK	RXYQ36P7YLK
Notes	Nominal cooling capacities are based on : indoor temperature : 27°CDB, 19°CWB, outdoor temperature : 35°CDB, equivalent refrigerant piping : 7.5m, level difference : 0m.						
	Nominal cooling capacities are based on: indoor : 27°CDB, 19°CWB, Outdoor : 46°CDB, refrigerant piping length : 7.5m, level difference : 0m						
	Nominal heating capacities are based on : indoor temperature : 20°CDB, outdoor temperature : 7°CDB, 6°CWB, equivalent refrigerant piping : 7.5m, level difference : 0m						
	Sound level of a multi system is determined by the individual outdoor unit and installation condition						
	The refrigerant charge of the system must be less than 100 kg. This means that in case the calculated refrigerant charge is equal to or more than 95 kg, you must divide your multiple outdoor system into smaller independent systems, each containing less than 95 kg refrigerant charge. For factory charge, refer to the nameplate of the unit.						
	1kW = 859.84522786 kcal/h; 1kW = 3,412.14163313 BTU/h; 1kW = 0.28434514 TR						

ELECTRICAL SPECIFICATIONS (60Hz)				RXYQ8P7YLK	RXYQ10P7YLK	RXYQ12P7YLK	RXYQ16P7YLK	RXYQ18P7YLK	RXYQ20P7YLK	RXYQ22P7YLK
Power Supply	Name			YL						
	Phase			3N~						
	Frequency		Hz	60						
	Voltage		V	380V						
Current	Nominal running current (RLA)	Cooling	A	10.4	20.6	21.0	20.7	31.0	31.3	41.6
		Heating	A	8.6	11.1	14.4	17.3	19.7	23.0	25.4
	Starting current (MSC)		A		78.0	79.0		82	83	92
	Minimum circuit amps (MCA)		A	19.0	24.1	24.1	37.9	43.1	43.1	48.2
	Maximum fuse amps (MFA)		A	25	30	30	45	50	50	60
	Full load amps (FLA)		A	1.2	1.4	1.4	2.4	2.6	2.6	2.8
Voltage range	Minimum		V	342						
	Maximum		V	418						
Wiring connections	For Power Supply	Quantity		5						
		Remark		Earth wire include						
	For connection with indoor	Quantity		2						
		Remark		F1 - F2						
Power Supply Intake				Both indoor and outdoor unit						
Notes				MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker)						
				MSC means the maximum current during start up of the compressor						
				Maximum allowable voltage range variation between phases is 2%						
				RLA is based on the following conditions : Indoor : 27°CDB, 19°CWB, Outdoor : 46°CDB						
				Select wire size based on MCA						
				Voltage range : units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits						

ELECTRICAL SPECIFICATIONS (60Hz)				RXYQ24P7YLK	RXYQ26P7YLK	RXYQ28P7YLK	RXYQ30P7YLK	RXYQ32P7YLK	RXYQ34P7YLK	RXYQ36P7YLK
Power Supply	Name			YL						
	Phase			3N~						
	Frequency		Hz	60						
	Voltage		V	380V						
Current	Nominal running current (RLA)	Cooling	A	41.9	41.3	51.6	51.9	62.2	62.5	62.9
		Heating	A	28.7	28.4	30.8	34.1	36.5	39.8	43.1
	Starting current (MSC)		A	93	86	95	96	96	106	107
	Minimum circuit amps (MCA)		A	48.2	62.0	67.1	67.1	72.3	72.3	72.3
	Maximum fuse amps (MFA)		A	60	70	80	80	80	80	80
	Full load amps (FLA)		A	2.8	3.8	4.0	4.0	4.2	4.2	4.2
Voltage range	Minimum		V	342						
	Maximum		V	418						
Wiring connections	For Power Supply	Quantity		5						
		Remark		Earth wire include						
	For connection with indoor	Quantity		2						
		Remark		F1 - F2						
Power Supply Intake				Both indoor and outdoor unit						
Notes				MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker)						
				MSC means the maximum current during start up of the compressor						
				Maximum allowable voltage range variation between phases is 2%						
				RLA is based on the following conditions : Indoor : 27°CDB, 19°CWB, Outdoor : 46°CDB						
				Select wire size based on MCA						
				Voltage range : units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits						

1.1.3 60Hz 220V

Model Name			RXYQ8PTLK(E)	RXYQ10PTLK(E)	RXYQ12PTLK(E)
★1 / ★2 Cooling Capacity		RT	6.4 / 5.0	8.0 / 6.8	9.6 / 7.7
		Btu / h	76,800 / 60,400	96,200 / 82,200	115,000 / 92,800
		kcal / h	19,400 / 15,200	24,300 / 20,700	29,000 / 23,400
		kW	22.5 / 17.7	28.2 / 24.1	33.7 / 27.2
★3 / ★4 Cooling Capacity		RT	6.4 / 5.0	8.0 / 6.8	9.5 / 7.7
		Btu / h	76,400 / 60,400	95,500 / 82,200	114,000 / 92,800
		kcal / h	19,300 / 15,200	24,100 / 20,700	28,800 / 23,400
		kW	22.4 / 17.7	28.0 / 24.1	33.5 / 27.2
★5 Heating Capacity		RT	7.1	8.9	10.7
		Btu / h	85,300	107,000	128,000
		kcal / h	21,500	27,100	32,300
		kW	25.0	31.5	37.5
Casing Color		Without (E)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)
		With (E)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)
Dimensions: (H×W×D)		mm	1680×930×765	1680×1240×765	1680×1240×765
Heat Exchanger			Cross Fin Coil	Cross Fin Coil	Cross Fin Coil
Comp.	Type		Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type
	Piston Displacement	m^3/h	16.90	13.34+12.52	13.34+12.52
	Number of Revolutions	r.p.m	7980	6300, 3450	6300, 3450
	Motor Output×Number of Units	kW	3.8×1	(1.2+4.5)×1	(2.5+4.5)×1
	Starting Method		Soft Start	Soft Start	Soft Start
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output	kW	0.75×1	0.75×2	0.75×2
	Airflow Rate	m^3/min	195	262	262
	Drive		Direct Drive	Direct Drive	Direct Drive
Connecting Pipes	Liquid Pipe	mm	ϕ9.5 (Brazing Connection)	ϕ9.5 (Brazing Connection)	ϕ12.7 (Brazing Connection)
	Gas Pipe	mm	ϕ19.1 (Brazing Connection)	ϕ22.2 (Brazing Connection)	ϕ28.6 (Brazing Connection)
Product Mass (Machine Weight)		kg	195	285	285
★6 Sound Level		dBA	60	65	65
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector
Defrost Method			Deicer	Deicer	Deicer
Capacity Control		%	20~100	13~100	13~100
Refrigerant	Refrigerant Name		R-410A	R-410A	R-410A
	Charge	kg	7.3	9.2	9.5
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerator Oil			Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps
Drawing No.			C: 4D061968	C: 4D061969	C: 4D061970

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB.
★2 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 46°CDB.
★3 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB.
★4 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 46°CDB.
★5 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB.
★6 Sound level : Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.5m. The Sound level of "Combination Unit" is a supposed value. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
7 The units with anti-corrosion treatment will be available as standard. Please specify the suffix "E" as RXYQ8PTLKE.

Conversion Formulae
RT=kW×0.284 Btu/h=kW×3412 kcal/h=kW×860 cfm=m^3/min×35.3

The Reference Number
C~: Partly corrected drawings.
J~: Original drawing is Japanese
V~: Printing Convenience

Model Name (Combination Unit)			RXYQ16PTLK(E)	RXYQ18PTLK(E)	RXYQ20PTLK(E)
Model Name (Independent Unit)			RXYQ8PTLK(E)+RXYQ8PTLK(E)	RXYQ8PTLK(E)+RXYQ10PTLK(E)	RXYQ8PTLK(E)+RXYQ12PTLK(E)
★1 / ★2 Cooling Capacity		RT	12.8 / 10.1	14.4 / 11.9	16.0 / 12.8
		Btu / h	154,000 / 121,000	173,000 / 143,000	192,000 / 153,000
		kcal / h	38,700 / 30,400	43,600 / 35,900	48,300 / 38,600
		kW	45.0 / 35.4	50.7 / 41.8	56.2 / 44.9
★3 / ★4 Cooling Capacity		RT	12.7 / 10.1	14.3 / 11.9	15.9 / 12.3
		Btu / h	153,000 / 121,000	172,000 / 143,000	191,000 / 153,000
		kcal / h	38,500 / 30,400	43,300 / 35,900	48,100 / 38,600
		kW	44.8 / 35.4	50.4 / 41.8	55.9 / 44.9
★5 Heating Capacity		RT	14.2	16.0	17.8
		Btu / h	171,000	193,000	213,000
		kcal / h	43,000	48,600	53,800
		kW	50.0	56.5	62.5
Casing Color		Without (E)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)
		With (E)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)
Dimensions: (H×W×D)		mm	(1680×930×765)+(1680×930×765)	(1680×930×765)+(1680×1240×765)	(1680×930×765)+(1680×1240×765)
Heat Exchanger			Cross Fin Coil	Cross Fin Coil	Cross Fin Coil
Comp.	Type		Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type
	Piston Displacement	m^3/h	16.90+16.90	16.90+(13.34+12.52)	16.90+(13.34+12.52)
	Number of Revolutions	r.p.m	7980+7980	7980+(6300, 3450)	7980+(6300, 3450)
	Motor Output×Number of Units	kW	3.8×2	3.8+(1.2+4.5)	3.8+(2.5+4.5)
	Starting Method		Soft Start	Soft Start	Soft Start
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output	kW	(0.75×1)+(0.75×1)	(0.75×1)+(0.75×2)	(0.75×1)+(0.75×2)
	Airflow Rate	m^3/min	195+195	195+262	195+262
	Drive		Direct Drive	Direct Drive	Direct Drive
Connecting Pipes	Liquid Pipe	mm	ϕ12.7 (Brazing Connection)	ϕ15.9 (Brazing Connection)	ϕ15.9 (Brazing Connection)
	Gas Pipe	mm	ϕ28.6 (Brazing Connection)	ϕ28.6 (Brazing Connection)	ϕ28.6 (Brazing Connection)
Product Mass (Machine Weight)		kg	195+195	195+285	195+285
★6 Sound Level		dBA	63	66	66
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector
Defrost Method			Deicer	Deicer	Deicer
Capacity Control		%	10~100	8~100	8~100
Refrigerant	Refrigerant Name		R-410A	R-410A	R-410A
	Charge	kg	14.6	16.5	16.8
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerator Oil			Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps
Drawing No.			C: 4D061968	C: 4D061968, 4D061969	C: 4D061968, 4D061970

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB.
★2 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 46°CDB.
★3 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB.
★4 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 46°CDB.
★5 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB.
★6 Sound level : Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.5m. The Sound level of "Combination Unit" is a supposed value. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
7 The units with anti-corrosion treatment will be available as standard. Please specify the suffix "E" as RXYQ8PTLKE.

Conversion Formulae
RT=kW×0.284 Btu/h=kW×3412 kcal/h=kW×860 cfm=m^3/min×35.3

Model Name (Combination Unit)			RXYQ22PTLK(E)	RXYQ24PTLK(E)	RXYQ26PTLK(E)
Model Name (Independent Unit)			RXYQ10PTLK(E)+RXYQ12PTLK(E)	RXYQ12PTLK(E)+RXYQ12PTLK(E)	RXYQ8PTLK(E)+RXYQ8PTLK(E)+ RXYQ10PTLK(E)
★1 / ★2 Cooling Capacity		RT	17.6 / 14.6	19.1 / 15.4	20.8 / 16.9
		Btu / h	211,000 / 175,000	230,000 / 186,000	250,000 / 203,000
		kcal / h	53,200 / 44,100	58,000 / 46,800	63,000 / 51,200
		kW	61.9 / 51.3	67.4 / 54.4	73.2 / 59.5
★3 / ★4 Cooling Capacity		RT	17.5 / 14.6	19.0 / 15.4	20.7 / 16.9
		Btu / h	210,000 / 175,000	229,000 / 186,000	248,000 / 203,000
		kcal / h	52,900 / 44,100	57,600 / 46,800	62,600 / 51,200
		kW	61.5 / 51.3	67.0 / 54.4	72.8 / 59.5
★5 Heating Capacity		RT	19.6	21.3	23.1
		Btu / h	235,000	256,000	278,000
		kcal / h	59,300	64,500	70,100
		kW	69.0	75.0	81.5
Casing Color		Without (E)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)
		With (E)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)
Dimensions: (H×W×D)		mm	(1680×1240×765)+(1680×1240×765)	(1680×1240×765)+(1680×1240×765)	(1680×930×765)+(1680×930×765)+ (1680×1240×765)
Heat Exchanger			Cross Fin Coil	Cross Fin Coil	Cross Fin Coil
Comp.	Type		Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type
	Piston Displacement	m^3/h	(13.34+12.52)×2	(13.34+12.52)×2	(16.90×2)+(13.34+12.52)
	Number of Revolutions	r.p.m	(6300, 3450)×2	(6300, 3450)×2	(7980×2)+(6300, 3450)
	Motor Output×Number of Units	kW	(1.2+4.5)+(2.5+4.5)	(2.5+4.5)×2	(3.8×1)×2+(1.2+4.5)×1
	Starting Method		Soft Start	Soft Start	Soft Start
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output	kW	(0.75×2)+(0.75×2)	(0.75×2)+(0.75×2)	(0.75×1)+(0.75×1)+(0.75×2)
	Airflow Rate	m^3/min	262+262	262+262	195+195+262
	Drive		Direct Drive	Direct Drive	Direct Drive
Connecting Pipes	Liquid Pipe	mm	(Brazing Connection)	ϕ15.9 (Brazing Connection)	ϕ19.1 (Brazing Connection)
	Gas Pipe	mm	(Brazing Connection)	ϕ34.9 (Brazing Connection)	ϕ34.9 (Brazing Connection)
Product Mass (Machine Weight)		kg	285+285	285+285	195+195+285
★6 Sound Level		dBA	68	68	67
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector
Defrost Method			Deicer	Deicer	Deicer
Capacity Control		%	6~100	6~100	6~100
Refrigerant	Refrigerant Name		R-410A	R-410A	R-410A
	Charge	kg	18.7	19	23.8
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerator Oil			Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps
Drawing No.			C: 4D061969, 4D061970	C: 4D061970	C: 4D061968, 4D061969

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB.
★2 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 46°CDB.
★3 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB.
★4 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 46°CDB.
★5 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB.
★6 Sound level : Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.5m. The Sound level of "Combination Unit" is a supposed value. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
7 The units with anti-corrosion treatment will be available as standard. Please specify the suffix "E" as RXYQ8PTLKE.

Conversion Formulae
RT=kW×0.284 Btu/h=kW×3412 kcal/h=kW×860 cfm=m^3/min×35.3

Model Name (Combination Unit)			RXYQ28PTLK(E)	RXYQ30PTLK(E)	RXYQ32PTLK(E)
Model Name (Independent Unit)			RXYQ8PTLK(E)+RXYQ10PTLK(E)+ RXYQ10PTLK(E)	RXYQ8PTLK(E)+RXYQ10PTLK(E)+ RXYQ12PTLK(E)	RXYQ10PTLK(E)+RXYQ10PTLK(E)+ RXYQ12PTLK(E)
★1 / ★2 Cooling Capacity		RT	22.4 / 18.7	24.0 / 19.6	25.6 / 21.4
		Btu / h	269,000 / 225,000	288,000 / 235,000	307,000 / 257,000
		kcal / h	67,900 / 56,700	72,600 / 59,300	77,500 / 64,800
		kW	78.9 / 65.9	84.4 / 69.0	90.1 / 75.4
★3 / ★4 Cooling Capacity		RT	22.3 / 18.7	23.8 / 19.6	25.4 / 21.4
		Btu / h	268,000 / 225,000	286,000 / 235,000	305,000 / 257,000
		kcal / h	67,400 / 56,700	72,200 / 59,300	77,000 / 64,800
		kW	78.4 / 65.9	83.9 / 69.0	89.5 / 75.4
★5 Heating Capacity		RT	25.0	26.7	28.5
		Btu / h	300,000	321,000	343,000
		kcal / h	75,700	80,800	86,400
		kW	88.0	94.0	100.5
Casing Color		Without (E)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)
		With (E)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)
Dimensions: (H×W×D)		mm	(1680×930×765)+(1680×1240×765)+ (1680×1240×765)	(1680×930×765)+(1680×1240×765)+ (1680×1240×765)	(1680×1240×765)+(1680×1240×765)+ (1680×1240×765)
Heat Exchanger			Cross Fin Coil	Cross Fin Coil	Cross Fin Coil
Comp.	Type		Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type
	Piston Displacement	m^3/h	16.90+(13.34+12.52)×2	16.90+(13.34+12.52)×2	(13.34+12.52)×3
	Number of Revolutions	r.p.m	7980+(6300, 3450)×2	7980+(6300, 3450)×2	(6300, 3450)×3
	Motor Output×Number of Units	kW	(3.8×1)+(1.2+4.5)×2	(3.8×1)+(1.2+4.5)+(2.5+4.5)	(1.2+4.5)×2+(2.5+4.5)×1
	Starting Method		Soft Start	Soft Start	Soft Start
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output	kW	(0.75×1)+(0.75×2)+(0.75×2)	(0.75×1)+(0.75×2)+(0.75×2)	(0.75×2)×3
	Airflow Rate	m^3/min	195+262+262	195+262+262	262+262+262
	Drive		Direct Drive	Direct Drive	Direct Drive
Connecting Pipes	Liquid Pipe	mm	ϕ19.1 (Brazing Connection)	ϕ19.1 (Brazing Connection)	(Brazing Connection)
	Gas Pipe	mm	ϕ34.9 (Brazing Connection)	ϕ34.9 (Brazing Connection)	(Brazing Connection)
Product Mass (Machine Weight)		kg	195+285+285	195+285+285	285+285+285
★6 Sound Level		dBA	69	69	70
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector
Defrost Method			Deicer	Deicer	Deicer
Capacity Control		%	5~100	5~100	4~100
Refrigerant	Refrigerant Name		R-410A	R-410A	R-410A
	Charge	kg	25.7	26.0	27.9
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerator Oil			Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps
Drawing No.			C: 4D061968, 4D061969	C: 4D061968, 4D061969, 4D061970	C: 4D061969, 4D061970

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB.
★2 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 46°CDB.
★3 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB.
★4 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 46°CDB.
★5 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB.
★6 Sound level : Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.5m. The Sound level of "Combination Unit" is a supposed value. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
7 The units with anti-corrosion treatment will be available as standard. Please specify the suffix "E" as RXYQ8PTLKE.

Conversion Formulae
RT=kW×0.284 Btu/h=kW×3412 kcal/h=kW×860 cfm=m^3/min×35.3

Model Name (Combination Unit)			RXYQ34PTLK(E)	RXYQ36PTLK(E)
Model Name (Independent Unit)			RXYQ10PTLK(E)+RXYQ12PTLK(E)+RXYQ12PTLK(E)	RXYQ12PTLK(E)+RXYQ12PTLK(E)+RXYQ12PTLK(E)
★1 / ★2 Cooling Capacity		RT	27.2 / 22.3	28.7 / 23.2
		Btu / h	326,000 / 268,000	345,000 / 278,000
		kcal / h	82,200 / 67,500	86,900 / 70,200
		kW	95.6 / 78.5	101.1 / 81.6
★3 / ★4 Cooling Capacity		RT	27.0 / 22.3	28.5 / 23.2
		Btu / h	324,000 / 268,000	343,000 / 278,000
		kcal / h	81,700 / 67,500	86,400 / 70,200
		kW	95.0 / 78.5	100.5 / 81.6
★5 Heating Capacity		RT	30.2	32.0
		Btu / h	363,000	384,000
		kcal / h	91,600	96,800
		kW	106.5	112.5
Casing Color		Without (E)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)
		With (E)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)
Dimensions: (H×W×D)		mm	(1680×1240×765)+(1680×1240×765)+(1680×1240×765)	(1680×1240×765)+(1680×1240×765)+(1680×1240×765)
Heat Exchanger			Cross Fin Coil	Cross Fin Coil
Comp.	Type		Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type
	Piston Displacement	m^3/h	(13.34+12.52)×3	(13.34+12.52)×3
	Number of Revolutions	r.p.m	(6300, 3450)×3	(6300, 3450)×3
	Motor Output×Number of Units	kW	(1.2+4.5)×1+(2.5+4.5)×2	(2.5+4.5)×3
	Starting Method		Soft Start	Soft Start
Fan	Type		Propeller Fan	Propeller Fan
	Motor Output	kW	(0.75×2)×3	(0.75×2)×3
	Airflow Rate	m^3/min	262+262+262	262+262+262
	Drive		Direct Drive	Direct Drive
Connecting Pipes	Liquid Pipe	mm	(Brazing Connection)	ϕ19.1 (Brazing Connection)
	Gas Pipe	mm	(Brazing Connection)	(Brazing Connection)
Product Mass (Machine Weight)		kg	285+285+285	285+285+285
★6 Sound Level		dBA	70	70
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector
Defrost Method			Deicer	Deicer
Capacity Control		%	4~100	4~100
Refrigerant	Refrigerant Name		R-410A	R-410A
	Charge	kg	28.2	28.5
	Control		Electronic Expansion Valve	Electronic Expansion Valve
Refrigerator Oil			Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps
Drawing No.			C: 4D061969, 4D061970	C: 4D061970

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB.
★2 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 46°CDB.
★3 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB.
★4 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 46°CDB.
★5 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB.
★6 Sound level : Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.5m. The Sound level of "Combination Unit" is a supposed value. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
7 The units with anti-corrosion treatment will be available as standard. Please specify the suffix "E" as RXYQ8PTLKE.

Conversion Formulae
RT=kW×0.284 Btu/h=kW×3412 kcal/h=kW×860 cfm=m^3/min×35.3

1.1.4 60Hz 460V

Model Name			RXYQ8PYNK(E)	RXYQ10PYNK(E)	RXYQ12PYNK(E)
★1 / ★2 Cooling Capacity		RT	6.4 / 5.0	8.0 / 6.8	9.6 / 7.7
		Btu / h	76,800 / 60,400	96,200 / 82,200	115,000 / 92,800
		kcal / h	19,400 / 15,200	24,300 / 20,700	29,000 / 23,400
		kW	22.5 / 17.7	28.2 / 24.1	33.7 / 27.2
★3 / ★4 Cooling Capacity		RT	6.4 / 5.0	8.0 / 6.8	9.5 / 7.7
		Btu / h	76,400 / 60,400	95,500 / 82,200	114,000 / 92,800
		kcal / h	19,300 / 15,200	24,100 / 20,700	28,800 / 23,400
		kW	22.4 / 17.7	28.0 / 24.1	33.5 / 27.2
★5 Heating Capacity		RT	7.1	8.9	10.7
		Btu / h	85,300	107,000	128,000
		kcal / h	21,500	27,100	32,300
		kW	25.0	31.5	37.5
Casing Color		Without (E)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)
		With (E)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)
Dimensions: (H×W×D)		mm	1680×930×765	1680×1240×765	1680×1240×765
Heat Exchanger			Cross Fin Coil	Cross Fin Coil	Cross Fin Coil
Comp.	Type		Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type
	Piston Displacement	m^3/h	16.90	13.34+12.52	13.34+12.52
	Number of Revolutions	r.p.m	7980	6300, 3450	6300, 3450
	Motor Output×Number of Units	kW	3.8×1	(1.2+4.5)×1	(2.5+4.5)×1
	Starting Method		Soft Start	Soft Start	Soft Start
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output	kW	0.75×1	0.75×2	0.75×2
	Airflow Rate	m^3/min	195	262	262
	Drive		Direct Drive	Direct Drive	Direct Drive
Connecting Pipes	Liquid Pipe	mm	ϕ9.5 (Brazing Connection)	ϕ9.5 (Brazing Connection)	ϕ12.7 (Brazing Connection)
	Gas Pipe	mm	ϕ19.1 (Brazing Connection)	ϕ22.2 (Brazing Connection)	ϕ28.6 (Brazing Connection)
Product Mass (Machine Weight)		kg	206	296	296
★6 Sound Level		dBA	60	65	65
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload ProtectorOver Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload ProtectorOver Current Relay, Inverter Overload Protector
Defrost Method			Deicer	Deicer	Deicer
Capacity Control		%	20~100	13~100	13~100
Refrigerant	Refrigerant Name		R-410A	R-410A	R-410A
	Charge	kg	7.3	9.2	9.5
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerator Oil			Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps
Drawing No.			C: 4D061971	C: 4D061972	C: 4D061973

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB.
★2 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 46°CDB.
★3 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB.
★4 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 46°CDB.
★5 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB.
★6 Sound level : Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.5m. The Sound level of "Combination Unit" is a supposed value. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
7 The units with anti-corrosion treatment will be available as standard. Please specify the suffix "E" as RXYQ8PYNKE.

Conversion Formulae
RT=kW×0.284 Btu/h=kW×3412 kcal/h=kW×860 cfm=m^3/min×35.3

The Reference Number
C~: Partly corrected drawings.
J~: Original drawing is Japanese
V~: Printing Convenience

Model Name (Combination Unit)			RXYQ16PYNK(E)	RXYQ18PYNK(E)	RXYQ20PYNK(E)
Model Name (Independent Unit)			RXYQ8PYNK(E)+RXYQ8PYNK(E)	RXYQ8PYNK(E)+RXYQ10PYNK(E)	RXYQ8PYNK(E)+RXYQ12PYNK(E)
★1 / ★2 Cooling Capacity		RT	12.8 / 10.1	14.4 / 11.9	16.0 / 12.8
		Btu / h	154,000 / 121,000	173,000 / 143,000	192,000 / 153,000
		kcal / h	38,700 / 30,400	43,600 / 35,900	48,300 / 38,600
		kW	45.0 / 35.4	50.7 / 41.8	56.2 / 44.9
★3 / ★4 Cooling Capacity		RT	12.7 / 10.1	14.3 / 11.9	15.9 / 12.3
		Btu / h	153,000 / 121,000	172,000 / 143,000	191,000 / 153,000
		kcal / h	38,500 / 30,400	43,300 / 35,900	48,100 / 38,600
		kW	44.8 / 35.4	50.4 / 41.8	55.9 / 44.9
★5 Heating Capacity		RT	14.2	16.0	17.8
		Btu / h	171,000	193,000	213,000
		kcal / h	43,000	48,600	53,800
		kW	50.0	56.5	62.5
Casing Color		Without (E)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)
		With (E)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)
Dimensions: (H×W×D)		mm	(1680×930×765)+(1680×930×765)	(1680×930×765)+(1680×1240×765)	(1680×930×765)+(1680×1240×765)
Heat Exchanger			Cross Fin Coil	Cross Fin Coil	Cross Fin Coil
Comp.	Type		Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type
	Piston Displacement	m^3/h	16.90+16.90	16.90+(13.34+12.52)	16.90+(13.34+12.52)
	Number of Revolutions	r.p.m	7980+7980	7980+(6300, 3450)	7980+(6300, 3450)
	Motor Output×Number of Units	kW	3.8×2	3.8+(1.2+4.5)	3.8+(2.5+4.5)
	Starting Method		Soft Start	Soft Start	Soft Start
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output	kW	(0.75×1)+(0.75×1)	(0.75×1)+(0.75×2)	(0.75×1)+(0.75×2)
	Airflow Rate	m^3/min	195+195	195+262	195+262
	Drive		Direct Drive	Direct Drive	Direct Drive
Connecting Pipes	Liquid Pipe	mm	ϕ12.7 (Brazing Connection)	ϕ15.9 (Brazing Connection)	ϕ15.9 (Brazing Connection)
	Gas Pipe	mm	ϕ28.6 (Brazing Connection)	ϕ28.6 (Brazing Connection)	ϕ28.6 (Brazing Connection)
Product Mass (Machine Weight)		kg	206+206	206+296	206+296
★6 Sound Level		dBA	63	66	66
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector
Defrost Method			Deicer	Deicer	Deicer
Capacity Control		%	10~100	8~100	8~100
Refrigerant	Refrigerant Name		R-410A	R-410A	R-410A
	Charge	kg	14.6	16.5	16.8
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerator Oil			Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps
Drawing No.			C: 4D061971	C: 4D061971, 4D061972	C: 4D061971, 4D061973

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB.
★2 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 46°CDB.
★3 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB.
★4 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 46°CDB.
★5 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB.
★6 Sound level : Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.5m. The Sound level of "Combination Unit" is a supposed value. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
7 The units with anti-corrosion treatment will be available as standard. Please specify the suffix "E" as RXYQ8PYNKE.

Conversion Formulae
RT=kW×0.284 Btu/h=kW×3412 kcal/h=kW×860 cfm=m^3/min×35.3

Model Name (Combination Unit)			RXYQ22PYNK(E)	RXYQ24PYNK(E)	RXYQ26PYNK(E)
Model Name (Independent Unit)			RXYQ10PYNK(E)+RXYQ12PYNK(E)	RXYQ12PYNK(E)+RXYQ12PYNK(E)	RXYQ8PYNK(E)+RXYQ8PYNK(E)+ RXYQ10PYNK(E)
★1 / ★2 Cooling Capacity		RT	17.6 / 14.6	19.1 / 15.4	20.8 / 16.9
		Btu / h	211,000 / 175,000	230,000 / 186,000	250,000 / 203,000
		kcal / h	53,200 / 44,100	58,000 / 46,800	63,000 / 51,200
		kW	61.9 / 51.3	67.4 / 54.4	73.2 / 59.5
★3 / ★4 Cooling Capacity		RT	17.5 / 14.6	19.0 / 15.4	20.7 / 16.9
		Btu / h	210,000 / 175,000	229,000 / 186,000	248,000 / 203,000
		kcal / h	52,900 / 44,100	57,600 / 46,800	62,600 / 51,200
		kW	61.5 / 51.3	67.0 / 54.4	72.8 / 59.5
★5 Heating Capacity		RT	19.6	21.3	23.1
		Btu / h	235,000	256,000	278,000
		kcal / h	59,300	64,500	70,100
		kW	69.0	75.0	81.5
Casing Color		Without (E)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)
		With (E)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)
Dimensions: (H×W×D)		mm	(1680×1240×765)+(1680×1240×765)	(1680×1240×765)+(1680×1240×765)	(1680×930×765)+(1680×930×765)+ (1680×1240×765)
Heat Exchanger			Cross Fin Coil	Cross Fin Coil	Cross Fin Coil
Comp.	Type		Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type
	Piston Displacement	m^3/h	(13.34+12.52)×2	(13.34+12.52)×2	(16.90×2)+(13.34+12.52)
	Number of Revolutions	r.p.m	(6300, 3450)×2	(6300, 3450)×2	(7980×2)+(6300, 3450)
	Motor Output×Number of Units	kW	(1.2+4.5)+(2.5+4.5)	(2.5+4.5)×2	(3.8×1)×2+(1.2+4.5)×1
	Starting Method		Soft Start	Soft Start	Soft Start
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output	kW	(0.75×2)+(0.75×2)	(0.75×2)+(0.75×2)	(0.75×1)+(0.75×1)+(0.75×2)
	Airflow Rate	m^3/min	262+262	262+262	195+195+262
	Drive		Direct Drive	Direct Drive	Direct Drive
Connecting Pipes	Liquid Pipe	mm	ϕ15.9 (Brazing Connection)	ϕ15.9 ((Brazing Connection)	ϕ19.1 (Brazing Connection)
	Gas Pipe	mm	ϕ34.9 (Brazing Connection)	ϕ34.9 (Brazing Connection)	ϕ34.9 (Brazing Connection)
Product Mass (Machine Weight)		kg	296+296	296+296	206+206+296
★6 Sound Level		dBA	68	68	67
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector
Defrost Method			Deicer	Deicer	Deicer
Capacity Control		%	6~100	6~100	6~100
Refrigerant	Refrigerant Name		R-410A	R-410A	R-410A
	Charge	kg	18.7	19	23.8
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerator Oil			Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps
Drawing No.			C: 4D061972, 4D061973	C: 4D061973	C: 4D061971, 4D061972

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB.
★2 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 46°CDB.
★3 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB.
★4 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 46°CDB.
★5 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB.
★6 Sound level : Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.5m. The Sound level of "Combination Unit" is a supposed value. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
7 The units with anti-corrosion treatment will be available as standard. Please specify the suffix "E" as RXYQ8PYNKE.

Conversion Formulae
RT=kW×0.284 Btu/h=kW×3412 kcal/h=kW×860 cfm=m^3/min×35.3

Model Name (Combination Unit)			RXYQ28PYNK(E)	RXYQ30PYNK(E)	RXYQ32PYNK(E)
Model Name (Independent Unit)			RXYQ8PYNK(E)+RXYQ10PYNK(E)+ RXYQ10PYNK(E)	RXYQ8PYNK(E)+RXYQ10PYNK(E)+ RXYQ12PYNK(E)	RXYQ10PYNK(E)+RXYQ10PYNK(E)+ RXYQ12PYNK(E)
★1 / ★2 Cooling Capacity		RT	22.4 / 18.7	24.0 / 19.6	25.6 / 21.4
		Btu / h	269,000 / 225,000	288,000 / 235,000	307,000 / 257,000
		kcal / h	67,900 / 56,700	72,600 / 59,300	77,500 / 64,800
		kW	78.9 / 65.9	84.4 / 69.0	90.1 / 75.4
★3 / ★4 Cooling Capacity		RT	22.3 / 18.7	23.8 / 19.6	25.4 / 21.4
		Btu / h	268,000 / 225,000	286,000 / 235,000	305,000 / 257,000
		kcal / h	67,400 / 56,700	72,200 / 59,300	77,000 / 64,800
		kW	78.4 / 65.9	83.9 / 69.0	89.5 / 75.4
★5 Heating Capacity		RT	25.0	26.7	28.5
		Btu / h	300,000	321,000	343,000
		kcal / h	75,700	80,800	86,400
		kW	88.0	94.0	100.5
Casing Color		Without (E)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)
		With (E)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)
Dimensions: (H×W×D)		mm	(1680×930×765)+(1680×1240×765)+ (1680×1240×765)	(1680×930×765)+(1680×1240×765)+ (1680×1240×765)	(1680×1240×765)+(1680×1240×765)+ (1680×1240×765)
Heat Exchanger			Cross Fin Coil	Cross Fin Coil	Cross Fin Coil
Comp.	Type		Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type
	Piston Displacement	m^3/h	16.90+(13.34+12.52)×2	16.90+(13.34+12.52)×2	(13.34+12.52)×3
	Number of Revolutions	r.p.m	7980+(6300, 3450)×2	7980+(6300, 3450)×2	(6300, 3450)×3
	Motor Output×Number of Units	kW	(3.8×1)+(1.2+4.5)×2	(3.8×1)+(1.2+4.5)+(2.5+4.5)	(1.2+4.5)×2+(2.5+4.5)×1
	Starting Method		Soft Start	Soft Start	Soft Start
Fan	Type		Propeller Fan	Propeller Fan	Propeller Fan
	Motor Output	kW	(0.75×1)+(0.75×2)+(0.75×2)	(0.75×1)+(0.75×2)+(0.75×2)	(0.75×2)×3
	Airflow Rate	m^3/min	195+262+262	195+262+262	262+262+262
	Drive		Direct Drive	Direct Drive	Direct Drive
Connecting Pipes	Liquid Pipe	mm	ϕ19.1 (Brazing Connection)	ϕ19.1 (Brazing Connection)	(Brazing Connection)
	Gas Pipe	mm	ϕ34.9 (Brazing Connection)	ϕ34.9 (Brazing Connection)	(Brazing Connection)
Product Mass (Machine Weight)		kg	206+296+296	206+296+296	296+296+296
★6 Sound Level		dBA	69	69	70
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector
Defrost Method			Deicer	Deicer	Deicer
Capacity Control		%	5~100	5~100	4~100
Refrigerant	Refrigerant Name		R-410A	R-410A	R-410A
	Charge	kg	25.7	26.0	27.9
	Control		Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerator Oil			Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps
Drawing No.			C: 4D061971, 4D061972	C: 4D061971, 4D061972, 4D061973	C: 4D061972, 4D061973

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB.
★2 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 46°CDB.
★3 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB.
★4 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 46°CDB.
★5 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB.
★6 Sound level : Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.5m. The Sound level of "Combination Unit" is a supposed value. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
7 The units with anti-corrosion treatment will be available as standard. Please specify the suffix "E" as RXYQ8PYNKE.

Conversion Formulae
RT=kW×0.284 Btu/h=kW×3412 kcal/h=kW×860 cfm=m^3/min×35.3

Model Name (Combination Unit)			RXYQ34PYNK(E)	RXYQ36PYNK(E)
Model Name (Independent Unit)			RXYQ10PYNK(E)+RXYQ12PYNK(E)+RXYQ12PYNK(E)	RXYQ12PYNK(E)+RXYQ12PYNK(E)+RXYQ12PYNK(E)
★1 / ★2 Cooling Capacity		RT	27.2 / 22.3	28.7 / 23.2
		Btu / h	326,000 / 268,000	345,000 / 278,000
		kcal / h	82,200 / 67,500	86,900 / 70,200
		kW	95.6 / 78.5	101.1 / 81.6
★3 / ★4 Cooling Capacity		RT	27.0 / 22.3	28.5 / 23.2
		Btu / h	324,000 / 268,000	343,000 / 278,000
		kcal / h	81,700 / 67,500	86,400 / 70,200
		kW	95.0 / 78.5	100.5 / 81.6
★5 Heating Capacity		RT	30.2	32.0
		Btu / h	363,000	384,000
		kcal / h	91,600	96,800
		kW	106.5	112.5
Casing Color		Without (E)	Ivory White (5Y7.5 / 1)	Ivory White (5Y7.5 / 1)
		With (E)	Light Camel (2.5Y6.5 / 1.5)	Light Camel (2.5Y6.5 / 1.5)
Dimensions: (H×W×D)		mm	(1680×1240×765)+(1680×1240×765)+(1680×1240×765)	(1680×1240×765)+(1680×1240×765)+(1680×1240×765)
Heat Exchanger			Cross Fin Coil	Cross Fin Coil
Comp.	Type		Hermetically Sealed Scroll Type	Hermetically Sealed Scroll Type
	Piston Displacement	m^3/h	(13.34+12.52)×3	(13.34+12.52)×3
	Number of Revolutions	r.p.m	(6300, 3450)×3	(6300, 3450)×3
	Motor Output×Number of Units	kW	(1.2+4.5)×1+(2.5+4.5)×2	(2.5+4.5)×3
	Starting Method		Soft Start	Soft Start
Fan	Type		Propeller Fan	Propeller Fan
	Motor Output	kW	(0.75×2)×3	(0.75×2)×3
	Airflow Rate	m^3/min	262+262+262	262+262+262
	Drive		Direct Drive	Direct Drive
Connecting Pipes	Liquid Pipe	mm	(Brazing Connection)	(Brazing Connection)
	Gas Pipe	mm	(Brazing Connection)	(Brazing Connection)
Product Mass (Machine Weight)		kg	296+296+296	296+296+296
★6 Sound Level		dBA	70	70
Safety Devices			High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector	High Pressure Switch, Fan Driver Overload Protector, Over Current Relay, Inverter Overload Protector
Defrost Method			Deicer	Deicer
Capacity Control		%	4~100	4~100
Refrigerant	Refrigerant Name		R-410A	R-410A
	Charge	kg	28.2	28.5
	Control		Electronic Expansion Valve	Electronic Expansion Valve
Refrigerator Oil			Refer to the Nameplate of Compressor	Refer to the Nameplate of Compressor
Standard Accessories			Installation Manual, Operation Manual, Connection Pipes, Clamps	Installation Manual, Operation Manual, Connection Pipes, Clamps
Drawing No.			C: 4D061972, 4D061973	C: 4D061973

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB.
★2 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 46°CDB.
★3 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB.
★4 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 46°CDB.
★5 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB.
★6 Sound level : Anechoic chamber conversion value, measured at a point 1 m in front of the unit at a height of 1.5m. The Sound level of "Combination Unit" is a supposed value. During actual operation, these values are normally somewhat higher as a result of ambient conditions.
7 The units with anti-corrosion treatment will be available as standard. Please specify the suffix "E" as RXYQ8PYNKE.

Conversion Formulae
RT=kW×0.284 Btu/h=kW×3412 kcal/h=kW×860 cfm=m^3/min×35.3

1.2 Indoor Units

Ceiling Mounted Cassette (Round Flow) Type

Model			FXFQ25PVE	FXFQ32PVE	FXFQ40PVE	FXFQ50PVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	2,500	3,200	4,000	5,000
		Btu/h	9,900	12,600	16,000	19,800
		kW	2.9	3.7	4.7	5.8
★2 Cooling Capacity (19.0°CWB)		kW	2.8	3.6	4.5	5.6
★3 Heating Capacity		kcal/h	2,800	3,400	4,300	5,400
		Btu/h	10,900	13,600	17,100	21,500
		kW	3.2	4.0	5.0	6.3
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	246×840×840	246×840×840	246×840×840	246×840×840
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×6×1.2	2×6×1.2	2×6×1.2	2×6×1.2
	Face Area	m²	0.267	0.267	0.267	0.267
Fan	Model		QTS48C15M	QTS48C15M	QTS48C15M	QTS48C15M
	Type		Turbo Fan	Turbo Fan	Turbo Fan	Turbo Fan
	Motor Output × Number of Units	W	56×1	56×1	56×1	56×1
	Airflow Rate (HH/H/L)	m³/min	13/11.5/10	13/11.5/10	15/13/11	16/13.5/11
		cfm	459/406/353	459/406/353	530/459/388	565/477/388
	Drive		Direct Drive	Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Polyurethane Form	Polyurethane Form	Polyurethane Form	Polyurethane Form
Piping Connections	Liquid Pipes	mm	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)
	Gas Pipes	mm	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ12.7 (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)
Mass (Weight)		kg	19.5	19.5	19.5	19.5
★5 Sound Level (HH/H/L) (220-240V)		dBA	30/28.5/27	30/28.5/27	31/29/27	32/29.5/27
Safety Devices			Fuse	Fuse	Fuse	Fuse
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Connectable Outdoor Unit			R-410A VRV P Series	R-410A VRV P Series	R-410A VRV P Series	R-410A VRV P Series
Decoration Panels (Option)	Model		BYCP125K-W1	BYCP125K-W1	BYCP125K-W1	BYCP125K-W1
	Panel Color		Fresh White	Fresh White	Fresh White	Fresh White
	Dimensions: (H×W×D)	mm	50×950×950	50×950×950	50×950×950	50×950×950
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
	Weight	kg	5.5	5.5	5.5	5.5
Standard Accessories			Operation Manual. Installation Manual. Paper Pattern for Installation. Drain Hose. Clamp Metal. Washer Fixing Plate. Sealing Pads. Clamps. Screws. Washer for Hanging Bracket. Insulation for Fitting. Installation Guide.	Operation Manual. Installation Manual. Paper Pattern for Installation. Drain Hose. Clamp Metal. Washer Fixing Plate. Sealing Pads. Clamps. Screws. Washer for Hanging Bracket. Insulation for Fitting. Installation Guide.	Operation Manual. Installation Manual. Paper Pattern for Installation. Drain Hose. Clamp Metal. Washer Fixing Plate. Sealing Pads. Clamps. Screws. Washer for Hanging Bracket. Insulation for Fitting. Installation Guide.	Operation Manual. Installation Manual. Paper Pattern for Installation. Drain Hose. Clamp Metal. Washer Fixing Plate. Sealing Pads. Clamps. Screws. Washer for Hanging Bracket. Insulation for Fitting. Installation Guide.
Drawing No.			C : 3D060255			

Note:

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

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

★3 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB / Equivalent piping length : 7.5 m, level difference : 0 m.

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

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

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m³/min×35.3

Ceiling Mounted Cassette (Round Flow) Type

Model			FXFQ63PVE	FXFQ80PVE	FXFQ100PVE	FXFQ125PVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	6,300	8,000	10,000	12,500
		Btu/h	24,900	31,700	39,600	49,500
		kW	7.3	9.3	11.6	14.5
★2 Cooling Capacity (19.0°CWB)		kW	7.1	9.0	11.2	14.0
★3 Heating Capacity		kcal/h	6,900	8,600	10,800	13,800
		Btu/h	27,300	34,100	42,700	54,600
		kW	8.0	10.0	12.5	16.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	246×840×840	246×840×840	288×840×840	288×840×840
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×10×1.2	2×10×1.2	2×12×1.2	2×12×1.2
	Face Area	m²	0.446	0.446	0.535	0.535
Fan	Model		QTS48C15M	QTS48C15M	QTS48C15M	QTS48C15M
	Type		Turbo Fan	Turbo Fan	Turbo Fan	Turbo Fan
	Motor Output × Number of Units	W	56×1	56×1	120×1	120×1
	Airflow Rate (HH/H/L)	m³/min	19/16.5/13.5	21/18/15	32/26/20	33/28/22.5
		cfm	671/583/477	742/636/530	1,130/918/706	1,165/989/794
	Drive		Direct Drive	Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Polyurethane Form	Polyurethane Form	Polyurethane Form	Polyurethane Form
Piping Connections	Liquid Pipes	mm	ϕ9.5 (Flare Connection)	ϕ9.5 (Flare Connection)	ϕ9.5 (Flare Connection)	ϕ9.5 (Flare Connection)
	Gas Pipes	mm	ϕ15.9 (Flare Connection)	ϕ15.9 (Flare Connection)	ϕ15.9 (Flare Connection)	ϕ15.9 (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)
Mass (Weight)		kg	22	22	25	25
★5 Sound Level (HH/H/L) (220-240V)		dBA	34/31/28	36/33.5/31	43/37.5/32	44/39/34
Safety Devices			Fuse	Fuse	Fuse	Fuse
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Connectable Outdoor Unit			R-410A VRV P Series	R-410A VRV P Series	R-410A VRV P Series	R-410A VRV P Series
Decoration Panels (Option)	Model		BYCP125K-W1	BYCP125K-W1	BYCP125K-W1	BYCP125K-W1
	Panel Color		Fresh White	Fresh White	Fresh White	Fresh White
	Dimensions: (H×W×D)	mm	50×950×950	50×950×950	50×950×950	50×950×950
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
	Weight	kg	5.5	5.5	5.5	5.5
Standard Accessories			Operation Manual. Installation Manual. Paper Pattern for Installation. Drain Hose. Clamp Metal. Washer Fixing Plate. Sealing Pads. Clamps. Screws. Washer for Hanging Bracket. Insulation for Fitting. Installation Guide.	Operation Manual. Installation Manual. Paper Pattern for Installation. Drain Hose. Clamp Metal. Washer Fixing Plate. Sealing Pads. Clamps. Screws. Washer for Hanging Bracket. Insulation for Fitting. Installation Guide.	Operation Manual. Installation Manual. Paper Pattern for Installation. Drain Hose. Clamp Metal. Washer Fixing Plate. Sealing Pads. Clamps. Screws. Washer for Hanging Bracket. Insulation for Fitting. Installation Guide.	Operation Manual. Installation Manual. Paper Pattern for Installation. Drain Hose. Clamp Metal. Washer Fixing Plate. Sealing Pads. Clamps. Screws. Washer for Hanging Bracket. Insulation for Fitting. Installation Guide.
Drawing No.			C : 3D060255			

Note:

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

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

★3 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB / Equivalent piping length : 7.5 m, level difference : 0 m.

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

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

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m³/min×35.3

Ceiling Mounted Cassette Duct Type (Double Flow)

Model			FXCQ20MVE	FXCQ25MVE	FXCQ32MVE	FXCQ40MVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	2,000	2,500	3,200	4,000
		Btu/h	7,800	9,900	12,600	16,000
		kW	2.3	2.9	3.7	4.7
★2 Cooling Capacity (19.0°CWB)		kW	2.2	2.8	3.6	4.5
★3 Heating Capacity		kcal/h	2,200	2,800	3,400	4,300
		Btu/h	8,500	10,900	13,600	17,100
		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	305×775×600	305×775×600	305×775×600	305×990×600
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×10×1.5	2×10×1.5	2×10×1.5	2×10×1.5
	Face Area	m²	2×0.100	2×0.100	2×0.100	2×0.145
Fan	Model		D17K2AA1	D17K2AB1	D17K2AB1	2D17K1AA1
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	10×1	15×1	15×1	20×1
	Airflow Rate (H/L)	m³/min	7/5	9/6.5	9/6.5	12/9
		cfm	247/177	318/230	318/230	424/318
	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	mm	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)
	Gas Pipes	mm	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ12.7 (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)
Machine Weight (Mass)		kg	26	26	26	31
★5 Sound Level (H/L) (220V)		dBA	32/27	34/28	34/28	34/29
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
Connectable outdoor unit			R-410A P Series	R-410A P Series	R-410A P Series	R-410A P Series
Decoration Panels (Option)	Model		BYBC32G-W1	BYBC32G-W1	BYBC32G-W1	BYBC50G-W1
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
	Dimensions: (H×W×D)	mm	53×1,030×680	53×1,030×680	53×1,030×680	53×1,245×680
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
	Weight	kg	8	8	8	8.5
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Washer for Hanging Brackets, Clamp Metal, Drain Hose, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Washer for Hanging Brackets, Clamp Metal, Drain Hose, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Washer for Hanging Brackets, Clamp Metal, Drain Hose, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Washer for Hanging Brackets, Clamp Metal, Drain Hose, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.
Drawing No.			3D039413			

Notes:

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

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

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

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

★5 Anechoic chamber conversion value, measured under JISB8616 conditions. During actual operation, these values are normally somewhat higher as a result of ambient conditions.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m³/min×35.3

Ceiling Mounted Cassette Type (Double Flow)

Model			FXCQ50MVE	FXCQ63MVE	FXCQ80MVE	FXCQ125MVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	5,000	6,300	8,000	12,500
		Btu/h	19,800	24,900	31,700	49,500
		kW	5.8	7.3	9.3	14.5
★2 Cooling Capacity (19.0°CWB)		kW	5.6	7.1	9.0	14.0
★3 Heating Capacity		kcal/h	5,400	6,900	8,600	13,800
		Btu/h	21,500	27,300	34,100	54,600
		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	305×990×600	305×1,175×600	305×1,665×600	305×1,665×600
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×10×1.5	2×10×1.5	2×10×1.5	2×10×1.5
	Face Area	m²	2×0.145	2×0.184	2×0.287	2×0.287
Fan	Model		2D17K1AA1	2D17K2AA1VE	3D17K2AA1	3D17K2AB1
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	20×1	30×1	50×1	85×1
	Airflow Rate (H/L)	m³/min	12/9	16.5/13	26/21	33/25
		cfm	424/318	582/459	918/741	1,165/883
	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	mm	ϕ6.4 (Flare Connection)	ϕ9.5 (Flare Connection)	ϕ9.5 (Flare Connection)	ϕ9.5 (Flare Connection)
	Gas Pipes	mm	ϕ12.7 (Flare Connection)	ϕ15.9 (Flare Connection)	ϕ15.9 (Flare Connection)	ϕ15.9 (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)
Machine Weight (Mass)		kg	32	35	47	48
★5 Sound Level (H/L)		dBA	34/29	37/32	39/34	44/38
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
Connectable outdoor unit			R-410A P Series	R-410A P Series	R-410A P Series	R-410A P Series
Decoration Panels (Option)	Model		BYBC50G-W1	BYBC63G-W1	BYBC125G-W1	BYBC125G-W1
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
	Dimensions: (H×W×D)	mm	53×1,245×680	53×1,430×680	53×1,920×680	53×1,920×680
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
	Weight	kg	8.5	9.5	12	12
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Washer for Hanging Brackets, Clamp Metal, Drain Hose, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Washer for Hanging Brackets, Clamp Metal, Drain Hose, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Washer for Hanging Brackets, Clamp Metal, Drain Hose, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Washer for Hanging Brackets, Clamp Metal, Drain Hose, Insulation for Fitting, Washer Fixing Plates, Sealing Pads, Clamps, Screws, Washers.
Drawing No.			3D039413			

Notes:

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

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

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

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

★5 Anechoic chamber conversion value, measured under JISB8616 conditions. During actual operation, these values are normally somewhat higher as a result of ambient conditions.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m³/min×35.3

Ceiling Mounted Cassette Corner Type

Model			FXKQ25MAVE	FXKQ32MAVE	FXKQ40MAVE	FXKQ63MAVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	2,500	3,200	4,000	6,300
		Btu/h	9,900	12,600	16,000	24,900
		kW	2.9	3.7	4.7	7.3
★2 Cooling Capacity (19.0°CWB)		kW	2.8	3.6	4.5	7.1
★3 Heating Capacity		kcal/h	2,800	3,400	4,300	6,900
		Btu/h	10,900	13,600	17,100	27,300
		kW	3.2	4.0	5.0	8.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	215×1,110×710	215×1,110×710	215×1,110×710	215×1,310×710
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×11×1.75	2×11×1.75	2×11×1.75	3×11×1.75
	Face Area	m²	0.180	0.180	0.180	0.226
Fan	Model		3D12H1AN1V1	3D12H1AN1V1	3D12H1AP1V1	4D12H1AJ1V1
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	15×1	15×1	20×1	45×1
	Airflow Rate (H/L)	m³/min	11/9	11/9	13/10	18/15
		cfm	388/318	388/318	459/353	635/530
	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	mm	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ9.5 (Flare Connection)
	Gas Pipes	mm	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ15.9 (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)
Machine Weight (Mass)		kg	31	31	31	34
★5 Sound Level (H/L) (220V)		dBA	38/33	38/33	40/34	42/37
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
Connectable Outdoor Units			R-410A P Series	R-410A P Series	R-410A P Series	R-410A P Series
Decoration Panels (Option)	Model		BYK45FJW1	BYK45FJW1	BYK45FJW1	BYK71FJW1
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
	Dimensions: (H×W×D)	mm	70×1,240×800	70×1,240×800	70×1,240×800	70×1,440×800
	Air Filter		Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
	Weight	kg	8.5	8.5	8.5	9.5
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Positioning Jig for Installation, Insulation for Hanger Bracket, Air Outlet Blocking Pad.	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, Air Outlet Blocking Pad.	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, Air Outlet Blocking Pad.	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, Air Outlet Blocking Pad.
Drawing No.			3D038813A			

Notes:

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m³/min×35.3

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

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

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

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

★5 Anechoic chamber conversion value, measured at a point 1m in front of the unit and 1m downward. During actual operation, these values are normally somewhat higher as a result of ambient conditions.

Slim Ceiling Mounted Duct Type (VE: with Drain Pump, VET: without Drain Pump)

Model			FXDQ20PBVE FXDQ20PBVET	FXDQ25PBVE FXDQ25PBVET	FXDQ32PBVE FXDQ32PBVET
★1 Cooling Capacity (19.5°CWB)		kcal/h	2,000	2,500	3,200
		Btu/h	7,800	9,900	12,600
		kW	2.3	2.9	3.7
★2 Cooling Capacity (19.0°CWB)		kW	2.2	2.8	3.6
★3 Heating Capacity		kcal/h	2,200	2,800	3,400
		Btu/h	8,500	10,900	13,600
		kW	2.5	3.2	4.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	200×700×620	200×700×620	200×700×620
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×12×1.5	2×12×1.5	3×12×1.5
	Face Area	m²	0.126	0.126	0.126
Fan	Model		—	—	—
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	62×1	62×1	62×1
	Airflow Rate (HH/H/L)	m³/min	8.0/7.2/6.4	8.0/7.2/6.4	8.0/7.2/6.4
	★5 External Static Pressure	Pa	30-10	30-10	30-10
	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 Polyethylene	Foamed Polyethylene	Foamed Polyethylene
Air Filter			Removal / Washable / Mildew Proof	Removal / Washable / Mildew Proof	Removal / Washable / Mildew Proof
Piping Connections	Liquid Pipes	mm	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)
	Gas Pipes	mm	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)
	Drain Pipe	mm	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)
Machine Weight (Mass)		kg	23	23	23
★6 Sound Pressure Level (HH/H/L)		dBA	33/31/29	33/31/29	33/31/29
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, Drain Hose, Sealing Pads, Clamps, Washers, Insulation for Fitting, Clamp Metal, Washer Fixing Plate, Screws for Duct Flanges, Air Filter, (Product Quality Certificate ★7)	Operation Manual, Installation Manual, Drain Hose, Sealing Pads, Clamps, Washers, Insulation for Fitting, Clamp Metal, Washer Fixing Plate, Screws for Duct Flanges, Air Filter, (Product Quality Certificate ★7)	Operation Manual, Installation Manual, Drain Hose, Sealing Pads, Clamps, Washers, Insulation for Fitting, Clamp Metal, Washer Fixing Plate, Screws for Duct Flanges, Air Filter, (Product Quality Certificate ★7)
Drawing No.			3D060921A		

Note:

★1 Indoor temp.: 27°CDB, 19.5°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★2 Indoor temp.: 27°CDB, 19.0°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★3 Indoor temp.: 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m.
4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
★5 External static pressure is changeable to set by the remote controller. This pressure means “High static pressure - Standard static pressure”. (Factory setting is 10 Pa.)
★6 The operation sound levels are the conversion values in anechoic chamber. In practice, the sound tend to be larger than the specified values due to ambient noise or reflections.
When the place of suction is changed to the bottom suction, the sound level will increase by approx. 5dBA.
★7 FXDQ20 / 25 / 32PBVE only.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m³/min×35.3

Slim Ceiling Mounted Duct Type (VE: with Drain Pump, VET: without Drain Pump)

Model			FXDQ40NBVE FXDQ40NBVET	FXDQ50NBVE FXDQ50NBVET	FXDQ63NBVE FXDQ63NBVET
★1 Cooling Capacity (19.5°CWB)		kcal/h	4,000	5,000	6,300
		Btu/h	16,000	19,800	24,900
		kW	4.7	5.8	7.3
★2 Cooling Capacity (19.0°CWB)		kW	4.5	5.6	7.1
★3 Heating Capacity		kcal/h	4,300	5,400	6,900
		Btu/h	17,100	21,500	27,300
		kW	5.0	6.3	8.0
Casing Color			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	200×900×620	200×900×620	200×1100×620
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×12×1.5	3×12×1.5	3×12×1.5
	Face Area	m^2	0.176	0.176	0.227
Fan	Model		—	—	—
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	62×1	130×1	130×1
	Airflow Rate (HH/H/L)	m^3/min	10.5/9.5/8.5	12.5/11.0/10.0	16.5/14.5/13.0
	★5 External Static Pressure	Pa	44-15	44-15	44-15
	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 Polyethylene	Foamed Polyethylene	Foamed Polyethylene
Air Filter			Removal / Washable / Mildew Proof	Removal / Washable / Mildew Proof	Removal / Washable / Mildew Proof
Piping Connections	Liquid Pipes	mm	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ9.5 (Flare Connection)
	Gas Pipes	mm	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ15.9 (Flare Connection)
	Drain Pipe	mm	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)
Machine Weight (Mass)		kg	27	28	31
★6 Sound Pressure Level (HH/H/L)		dBA	34/32/30	35/33/31	36/34/32
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, Drain Hose, Sealing Pads, Clamps, Washers, Insulation for Fitting, Clamp Metal, Washer Fixing Plate, Screws for Duct Flanges, Air Filter, (Product Quality Certificate ★7)	Operation Manual, Installation Manual, Drain Hose, Sealing Pads, Clamps, Washers, Insulation for Fitting, Clamp Metal, Washer Fixing Plate, Screws for Duct Flanges, Air Filter, (Product Quality Certificate ★7)	Operation Manual, Installation Manual, Drain Hose, Sealing Pads, Clamps, Washers, Insulation for Fitting, Clamp Metal, Washer Fixing Plate, Screws for Duct Flanges, Air Filter, (Product Quality Certificate ★7)
Drawing No.			3D060921A		

Note:

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m^3/min×35.3

★1 Indoor temp.: 27°CDB, 19.5°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★2 Indoor temp.: 27°CDB, 19.0°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★3 Indoor temp.: 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m.
4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
★5 External static pressure is changeable to set by the remote controller. This pressure means “High static pressure - Standard static pressure”. (Factory setting is 15 Pa.)
★6 The operation sound levels are the conversion values in anechoic chamber. In practice, the sound tend to be larger than the specified values due to ambient noise or reflections.
When the place of suction is changed to the bottom suction, the sound level will increase by approx. 5dBA.
★7 FXDQ40 / 50 / 63NBVE only.

Ceiling Mounted Built-in Type

Model			FXSQ20MVE	FXSQ25MVE	FXSQ32MVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	2,000	2,500	3,200
		Btu/h	7,800	9,900	12,600
		kW	2.3	2.9	3.7
★2 Cooling Capacity (19.0°CWB)		kW	2.2	2.8	3.6
★3 Heating Capacity		kcal/h	2,200	2,800	3,400
		Btu/h	8,500	10,900	13,600
		kW	2.5	3.2	4.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	300×550×800	300×550×800	300×550×800
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.75	3×14×1.75	3×14×1.75
	Face Area	m²	0.088	0.088	0.088
Fan	Model		D18H3A	D18H3A	D18H3A
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	50×1	50×1	50×1
	Airflow Rate (H/L)	m³/min	9/6.5	9/6.5	9.5/7
	★4 External static pressure	Pa	88-39-20	88-39-20	64-39-15
	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	mm	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)
	Gas Pipes	mm	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ12.7 (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)
Machine Weight (Mass)		kg	30	30	30
★6 Sound Level (H/L) (220V)		dBA	37/32	37/32	38/32
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
Connectable outdoor unit			R-410A P Series	R-410A P Series	R-410A P Series
Decoration Panel (Option)	Model		BYBS32DJW1	BYBS32DJW1	BYBS32DJW1
	Panel Color		White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
	Dimensions: (H×W×D)	mm	55×650×500	55×650×500	55×650×500
	Weight	kg	3	3	3
Standard Accessories			Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers.
Drawing No.			3D039431		

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★3 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m. (Heat pump only)
★4 External static pressure is changeable to change over the connectors inside electrical box, this pressure means “High static pressure-Standard -Low static pressure”.
5 Capacities are net, including a deduction for cooling (an additional for heating) for indoor fan motor heat.
★6 Anechoic chamber conversion value, measured at a point 1.5m downward from the unit center. These values are normally somewhat higher during actual operation as a result of ambient conditions.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m³/min×35.3

Ceiling Mounted Built-in Type

Model			FXSQ40MVE	FXSQ50MVE	FXSQ63MVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	4,000	5,000	6,300
		Btu/h	16,000	19,800	24,900
		kW	4.7	5.8	7.3
★2 Cooling Capacity (19.0°CWB)		kW	4.5	5.6	7.1
★3 Heating Capacity		kcal/h	4,300	5,400	6,900
		Btu/h	17,100	21,500	27,300
		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	m²	0.132	0.132	0.221
Fan	Model		D18H2A	D18H2A	2D18H2A
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	65×1	85×1	125×1
	Airflow Rate (H/L)	m³/min	11.5/9	15/11	21/15.5
	★4 External static pressure	Pa	88-49-20	88-59-29	88-49-20
	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	mm	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ9.5 (Flare Connection)
	Gas Pipes	mm	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ15.9 (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)
Machine Weight (Mass)		kg	30	31	41
★6 Sound Level (H/L)		dBA	38/32	41/36	42/35
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
Connectable outdoor unit			R-410A P Series	R-410A P Series	R-410A P Series
Decoration Panel (Option)	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.
Drawing No.			3D039431		

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★3 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m. (Heat pump only)
★4 External static pressure is changeable to change over the connectors inside electrical box, this pressure means “High static pressure-Standard -Low static pressure”.
5 Capacities are net, including a deduction for cooling (an additional for heating) for indoor fan motor heat.
★6 Anechoic chamber conversion value, measured at a point 1.5m downward from the unit center. These values are normally somewhat higher during actual operation as a result of ambient conditions.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m³/min×35.3

Ceiling Mounted Built-in Type

Model			FXSQ80MVE	FXSQ100MVE	FXSQ125MVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	8,000	10,000	12,500
		Btu/h	31,700	39,600	49,500
		kW	9.3	11.6	14.5
★2 Cooling Capacity (19.0°CWB)		kW	9.0	11.2	14.0
★3 Heating Capacity		kcal/h	8,600	10,800	13,800
		Btu/h	34,100	42,700	54,600
		kW	10.0	12.5	16.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	300×1,400×800	300×1,400×800	300×1,400×800
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.75	3×14×1.75	3×14×1.75
	Face Area	m^2	0.338	0.338	0.338
Fan	Model		3D18H2A	3D18H2A	3D18H2A
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	225×1	225×1	225×1
	Airflow Rate (H/L)	m^3/min	27/21.5	28/22	38/28
	★4 External static pressure	Pa	113-82	107-75	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	mm	ϕ9.5 (Flare Connection)	ϕ9.5 (Flare Connection)	ϕ9.5 (Flare Connection)
	Gas Pipes	mm	ϕ15.9 (Flare Connection)	ϕ15.9 (Flare Connection)	ϕ15.9 (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)
Machine Weight (Mass)		kg	51	51	52
★6 Sound Level (H/L)		dBA	43/37	43/37	46/41
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
Connectable outdoor unit			R-410A P Series	R-410A P Series	R-410A P Series
Decoration Panel (Option)	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.
Drawing No.			3D039431		

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★3 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m. (Heat pump only)
★4 External static pressure is changeable to change over the connectors inside electrical box, this pressure means “High static pressure-Standard”.
5 Capacities are net, including a deduction for cooling (an additional for heating) for indoor fan motor heat.
★6 Anechoic chamber conversion value, measured at a point 1.5m downward from the unit center. These values are normally somewhat higher during actual operation as a result of ambient conditions.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m^3/min×35.3

Ceiling Mounted Duct Type

Model			FXMQ20PVE	FXMQ25PVE	FXMQ32PVE	FXMQ40PVE	FXMQ50PVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	2,000	2,500	3,200	4,000	5,000
		Btu/h	7,800	9,900	12,600	16,000	19,800
		kW	2.3	2.9	3.7	4.7	5.8
★2 Cooling Capacity (19.0°CWB)		kW	2.2	2.8	3.6	4.5	5.6
★3 Heating Capacity		kcal/h	2,200	2,800	3,400	4,300	5,400
		Btu/h	8,500	10,900	13,600	17,100	21,500
		kW	2.5	3.2	4.0	5.0	6.3
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	300×550×700	300×550×700	300×550×700	300×700×700	300×1,000×700
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×16×1.75	3×16×1.75	3×16×1.75	3×16×1.75	3×16×1.75
	Face Area	m²	0.098	0.098	0.098	0.148	0.249
Fan	Model		—	—	—	—	—
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	90×1	90×1	90×1	140×1	350×1
	Airflow Rate (HH/H/L)	m³/min	9/7.5/6.5	9/7.5/6.5	9.5/8/7	16/13/11	18/16.5/15
		cfm	318/265/230	318/265/230	335/282/247	565/459/388	635/582/530
	External Static Pressure	Pa	Standard 50 (100-30 ∗4)	Standard 50 (100-30 ∗4)	Standard 50 (100-30 ∗4)	Standard 100 (160-30 ★4)	Standard 100 (200-50 ★4)
	Drive		Direct 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	Microprocessor Thermostat for Cooling and Heating
Air Filter			∗5	∗5	∗5	★5	★5
Piping Connections	Liquid Pipes	mm	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)
	Gas Pipes	mm	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ12.7 (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)	VP25 (External Dia. 32 Internal Dia. 25)
Mass (Weight)		kg	25	25	25	28	36
★7 Sound Level (HH/H/L)	dBA	220V	33/31/29	33/31/29	34/32/30	39/37/35	41/39/37
		240V	33/31/29	33/31/29	34/32/30	39/37/35	41/39/37
Safety Devices			Fuse. Fan Driver Overload Protector.	Fuse. Fan Driver Overload Protector.	Fuse. Fan Driver Overload Protector.	Fuse. Fan Driver Overload Protector.	Fuse. Fan Driver Overload Protector.
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Connectable Outdoor Unit			R-410A P(A) Series	R-410A P(A) Series	R-410A P(A) Series	R-410A P Series	R-410A P Series
Standard Accessories			Operation Manual. Installation Manual. Drain Hose. Clamp Metal. Insulation for Fitting. Sealing Pads. Clamps. Washers. Screws. Air Discharge Flange. Air Suction Flange.	Operation Manual. Installation Manual. Drain Hose. Clamp Metal. Insulation for Fitting. Sealing Pads. Clamps. Washers. Screws. Air Discharge Flange. Air Suction Flange.	Operation Manual. Installation Manual. Drain Hose. Clamp Metal. Insulation for Fitting. Sealing Pads. Clamps. Washers. Screws. Air Discharge Flange. Air Suction Flange.	Operation Manual. Installation Manual. Drain Hose. Clamp Metal. Insulation for Fitting. Sealing Pads. Clamps. Washers. Screws. Air Discharge Flange. Air Suction Flange.	Operation Manual. Installation Manual. Drain Hose. Clamp Metal. Insulation for Fitting. Sealing Pads. Clamps. Washers. Screws. Air Discharge Flange. Air Suction Flange.
Drawing No.			C : 3D060388A				

Note:

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

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

★3 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB / Equivalent piping length : 7.5 m, level difference : 0 m.

★4 External static pressure is changeable in 13 or 14 stages within the ( ) range by remote controller.

★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.

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

★7 Anechoic chamber conversion value, measured at a point 1.5 m downward from the unit centre. During actual operation, these values are normally somewhat higher as a result of ambient conditions.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m³/min×35.3

Ceiling Mounted Duct Type

Model			FXMQ63PVE	FXMQ80PVE	FXMQ100PVE	FXMQ125PVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	6,300	8,000	10,000	12,500
		Btu/h	24,900	31,700	39,600	49,500
		kW	7.3	9.3	11.6	14.5
★2 Cooling Capacity (19.0°CWB)		kW	7.1	9.0	11.2	14.0
★3 Heating Capacity		kcal/h	6,900	8,600	10,800	13,800
		Btu/h	27,300	34,100	42,700	54,600
		kW	8.0	10.0	12.5	16.0
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	300×1,000×700	300×1,000×700	300×1,400×700	300×1,400×700
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×16×1.75	3×16×1.75	3×16×1.75	3×16×1.75
	Face Area	m²	0.249	0.249	0.383	0.383
Fan	Model		—	—	—	—
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	350×1	350×1	350×1	350×1
	Airflow Rate (HH/H/L)	m³/min	19.5/17.5/16	25/22.5/20	32/27/23	39/33/28
		cfm	688/618/565	883/794/706	1,130/953/812	1,377/1,165/988
	External Static Pressure	Pa	Standard 100 (200-50 ★4)	Standard 100 (200-50 ★4)	Standard 100 (200-50 ★4)	Standard 100 (200-50 ★4)
	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
Air Filter			★5	★5	★5	★5
Piping Connections	Liquid Pipes	mm	ϕ9.5 (Flare Connection)	ϕ9.5 (Flare Connection)	ϕ9.5 (Flare Connection)	ϕ9.5 (Flare Connection)
	Gas Pipes	mm	ϕ15.9 (Flare Connection)	ϕ15.9 (Flare Connection)	ϕ15.9 (Flare Connection)	ϕ15.9 (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)
Mass (Weight)		kg	36	36	46	46
★7 Sound Level (HH/H/L)	dBA	220V	42/40/38	43/41/39	43/41/39	44/42/40
		240V	42/40/38	43/41/39	43/41/39	44/42/40
Safety Devices			Fuse. Fan Driver Overload Protector.	Fuse. Fan Driver Overload Protector.	Fuse. Fan Driver Overload Protector.	Fuse. Fan Driver Overload Protector.
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Connectable Outdoor Unit			R-410A P Series	R-410A P Series	R-410A P Series	R-410A P Series
Standard Accessories			Operation Manual. Installation Manual. Drain Hose. Clamp Metal. Insulation for Fitting. Sealing Pads. Clamps. Washers. Screws. Air Discharge Flange. Air Suction Flange.	Operation Manual. Installation Manual. Drain Hose. Clamp Metal. Insulation for Fitting. Sealing Pads. Clamps. Washers. Screws. Air Discharge Flange. Air Suction Flange.	Operation Manual. Installation Manual. Drain Hose. Clamp Metal. Insulation for Fitting. Sealing Pads. Clamps. Washers. Screws. Air Discharge Flange. Air Suction Flange.	Operation Manual. Installation Manual. Drain Hose. Clamp Metal. Insulation for Fitting. Sealing Pads. Clamps. Washers. Screws. Air Discharge Flange. Air Suction Flange.
Drawing No.			C : 3D060388A			

Note:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5 m, level difference : 0 m.
★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp. : 35°CDB / Equivalent piping length : 7.5 m, level difference : 0 m.
★3 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB / Equivalent piping length : 7.5 m, level difference : 0 m.
★4 External static pressure is changeable in 13 or 14 stages within the ( ) range by remote controller.
★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.
6 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
★7 Anechoic chamber conversion value, measured at a point 1.5 m downward from the unit centre. During actual operation, these values are normally somewhat higher as a result of ambient conditions.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m³/min×35.3

Ceiling Mounted Duct Type

Model			FXMQ200MAVE	FXMQ250MAVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	19,800	24,800
		Btu/h	78,500	98,300
		kW	23.0	28.8
★2 Cooling Capacity (19.0°CWB)		kW	22.4	28.0
★3 Heating Capacity		kcal/h	21,500	27,100
		Btu/h	85,300	107,500
		kW	25.0	31.5
Casing			Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	470×1,380×1,100	470×1,380×1,100
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×26×2.0	3×26×2.0
	Face Area	m²	0.68	0.68
Fan	Model		D13/4G2DA1×2	D13/4G2DA1×2
	Type		Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	380×2	380×2
	Airflow Rate (H/L)	m³/min	58/50	72/62
		cfm	2,047/1,765	2,542/2,189
	External Static Pressure 50Hz/60Hz	Pa	221/270-132 ★4	270/191-147 ★4
	Drive		Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Fiber	Glass Fiber
Air Filter			★5	★5
Piping Connections	Liquid Pipes	mm	ϕ9.5 (Flare Connection)	ϕ9.5 (Flare Connection)
	Gas Pipes	mm	ϕ19.1(Brazing Connection)	ϕ22.2 (Brazing Connection)
	Drain Pipe	mm	PS1B	PS1B
Machine Weight (Mass)		kg	137	137
★7 Sound Level (H/L) (220V)		dBA	48/45	48/45
Safety Devices			Fuse. Thermal Protector for Fan Motor.	Fuse. Thermal Protector for Fan Motor.
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve
Connectable Outdoor Unit			R-410A P Series	R-410A P Series
Standard Accessories			Operation Manual. Installation Manual. Sealing Pads. Connection Pipes. Screws. Clamps.	Operation Manual. Installation Manual. Sealing Pads. Connection Pipes. Screws. Clamps.
Drawing No.			C : 3D038814A	

Note:

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m³/min×35.3

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

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

★3 Indoor temp. : 20°CDB / outdoor temp. : 7°CDB, 6°CWB / Equivalent piping length : 7.5 m, level difference : 0 m.

★4 External static pressure is changeable to change over the connectors inside electrical box, this pressure means "High static pressure-Standard".

★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.

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

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

Ceiling Suspended Type

Model			FXHQ32MAVE	FXHQ63MAVE	FXHQ100MAVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	3,200	6,300	10,000
		Btu/h	12,600	24,900	39,600
		kW	3.7	7.3	11.6
★2 Cooling Capacity (19.0°CWB)		kW	3.6	7.1	11.2
★3 Heating Capacity		kcal/h	3,400	6,900	10,800
		Btu/h	13,600	27,300	42,700
		kW	4.0	8.0	12.5
Casing Color			White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
Dimensions: (H×W×D)		mm	195×960×680	195×1,160×680	195×1,400×680
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×12×1.75	3×12×1.75	3×12×1.75
	Face Area	m^2	0.182	0.233	0.293
Fan	Model		3D12K1AA1	4D12K1AA1	3D12K2AA1
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	62×1	62×1	130×1
	Airflow Rate (H/L)	m^3/min	12/10	17.5/14	25/19.5
		cfm	424/353	618/494	883/688
	Drive		Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Glass Wool	Glass Wool	Glass Wool
Air Filter			Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)	Resin Net (with Mold Resistant)
Piping Connections	Liquid Pipes	mm	ϕ6.4 (Flare Connection)	ϕ9.5 (Flare Connection)	ϕ9.5 (Flare Connection)
	Gas Pipes	mm	ϕ12.7 (Flare Connection)	ϕ15.9 (Flare Connection)	ϕ15.9 (Flare Connection)
	Drain Pipe	mm	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)	VP20 (External Dia. 26 Internal Dia. 20)
Machine Weight (Mass)		kg	24	28	33
★5 Sound Level (H/L)		dBA	36/31	39/34	45/37
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
Connectable outdoor unit			R-410A P Series	R-410A P Series	R-410A P Series
Standard Accessories			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.	Operation Manual, Installation Manual, Paper Pattern for Installation, Drain Hose, Clamp Metal, Insulation for Fitting, Clamps, Washers.
Drawing No.			3D038815A		

Notes:

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m^3/min×35.3

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

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

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

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

★5 Anechoic chamber conversion value, measured under JISB8616 conditions. During actual operation, these values are normally somewhat higher as a result of ambient conditions.

Wall Mounted Type

Model			FXAQ20MAVE	FXAQ25MAVE	FXAQ32MAVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	2,000	2,500	3,200
		Btu/h	7,800	9,900	12,600
		kW	2.3	2.9	3.7
★2 Cooling Capacity (19.0°CWB)		kW	2.2	2.8	3.6
★3 Heating Capacity		kcal/h	2,200	2,800	3,400
		Btu/h	8,500	10,900	13,600
		kW	2.5	3.2	4.0
Casing Color			White (3.0Y8.5/10.5)	White (3.0Y8.5/10.5)	White (3.0Y8.5/10.5)
Dimensions: (H×W×D)		mm	290×795×230	290×795×230	290×795×230
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×14×1.4	2×14×1.4	2×14×1.4
	Face Area	m^2	0.161	0.161	0.161
Fan	Model		QCL9661M	QCL9661M	QCL9661M
	Type		Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
	Motor Output × Number of Units	W	40×1	40×1	40×1
	Airflow Rate (H/L)	m^3/min	7.5/4.5	8/5	9/5.5
		cfm	265/159	282/177	318/194
	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	mm	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)
	Gas Pipes	mm	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)
	Drain Pipe	mm	VP13 (External Dia. 18 Internal Dia. 13)	VP13 (External Dia. 18 Internal Dia. 13)	VP13 (External Dia. 18 Internal Dia. 13)
Machine Weight (Mass)		kg	11	11	11
★5 Sound Level (H/L)		dBA	35/29	36/29	37/29
Safety Devices			Fuse	Fuse	Fuse
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Connectable outdoor unit			R-410A P Series	R-410A P Series	R-410A P Series
Standard Accessories			Operation Manual, Installation Manual, Installation Panel, Paper Pattern for Installation, Insulation Tape, Clamps, screws.	Operation Manual, Installation Manual, Installation Panel, Paper Pattern for Installation, Insulation Tape, Clamps, screws.	Operation Manual, Installation Manual, Installation Panel, Paper Pattern for Installation, Insulation Tape, Clamps, screws.
Drawing No.			3D039370B		

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp.: 35°CDB / Equivalent piping length:7.5m, level difference: 0m.
★3 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m. (Heat pump only)
4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
★5 Anechoic chamber conversion value, measured under JISB8616 conditions. During actual operation, these values are normally somewhat higher as a result of ambient conditions.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m^3/min×35.3

Wall Mounted Type

Model			FXAQ40MAVE	FXAQ50MAVE	FXAQ63MAVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	4,000	5,000	6,300
		Btu/h	16,000	19,800	24,900
		kW	4.7	5.8	7.3
★2 Cooling Capacity (19.0°CWB)		kW	4.5	5.6	7.1
★3 Heating Capacity		kcal/h	4,300	5,400	6,900
		Btu/h	17,100	21,500	27,300
		kW	5.0	6.3	8.0
Casing Color			White (3.0Y8.5/10.5)	White (3.0Y8.5/10.5)	White (3.0Y8.5/10.5)
Dimensions: (H×W×D)		mm	290×1,050×230	290×1,050×230	290×1,050×230
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	2×14×1.4	2×14×1.4	2×14×1.4
	Face Area	m^2	0.213	0.213	0.213
Fan	Model		QCL9686M	QCL9686M	QCL9686M
	Type		Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
	Motor Output × Number of Units	W	43×1	43×1	43×1
	Airflow Rate (H/L)	m^3/min	12/9	15/12	19/14
		cfm	424/318	530/424	671/494
	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	mm	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ9.5 (Flare Connection)
	Gas Pipes	mm	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ15.9 (Flare Connection)
	Drain Pipe	mm	VP13 (External Dia. 18 Internal Dia. 13)	VP13 (External Dia. 18 Internal Dia. 13)	VP13 (External Dia. 18 Internal Dia. 13)
Machine Weight (Mass)		kg	14	14	14
★5 Sound Level (H/L)		dBA	39/34	42/36	46/39
Safety Devices			Fuse	Fuse	Fuse
Refrigerant Control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Connectable outdoor unit			R-410A P Series	R-410A P Series	R-410A P Series
Standard Accessories			Operation Manual, Installation Manual, Installation Panel, Paper Pattern for Installation, Insulation Tape, Clamps, screws.	Operation Manual, Installation Manual, Installation Panel, Paper Pattern for Installation, Insulation Tape, Clamps, screws.	Operation Manual, Installation Manual, Installation Panel, Paper Pattern for Installation, Insulation Tape, Clamps, screws.
Drawing No.			3D039370B		

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp; 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp; 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★3 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m. (Heat pump only)
4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
★5 Anechoic chamber conversion value, measured under JISB8616 conditions. During actual operation, these values are normally somewhat higher as a result of ambient conditions.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m^3/min×35.3

Floor Standing Type

Model			FXLQ20MAVE	FXLQ25MAVE	FXLQ32MAVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	2,000	2,500	3,200
		Btu/h	7,800	9,900	12,600
		kW	2.3	2.9	3.7
★2 Cooling Capacity (19.0°CWB)		kW	2.2	2.8	3.6
★3 Heating Capacity		kcal/h	2,200	2,800	3,400
		Btu/h	8,500	10,900	13,600
		kW	2.5	3.2	4.0
Casing Color			Ivory White (5Y7.5/1)	Ivory White (5Y7.5/1)	Ivory White (5Y7.5/1)
Dimensions: (H×W×D)		mm	600×1,000×222	600×1,000×222	600×1,140×222
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.5	3×14×1.5	3×14×1.5
	Face Area	m²	0.159	0.159	0.200
Fan	Model		D14B20	D14B20	2D14B13
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	15×1	15×1	25×1
	Airflow Rate (H/L)	m³/min	7/6	7/6	8/6
		cfm	247/212	247/212	282/212
	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	mm	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)
	Gas Pipes	mm	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)
	Drain Pipe	mm	ϕ21 O.D (Vinyl Chloride)	ϕ21 O.D (Vinyl Chloride)	ϕ21 O.D (Vinyl Chloride)
Machine Weight (Mass)		kg	25	25	30
★5 Sound Level (H/L)		dBA	35/32	35/32	35/32
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
Connectable Outdoor Unit			R-410A P Series	R-410A P Series	R-410A P Series
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.
Drawing No.			3D038816A		

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★3 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m. (Heat pump only)
4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
★5 Anechoic chamber conversion value, measured at a point 1.5 m in front of the unit at a height of 1.5 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m³/min×35.3

Floor Standing Type

Model			FXLQ40MAVE	FXLQ50MAVE	FXLQ63MAVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	4,000	5,000	6,300
		Btu/h	16,000	19,800	24,900
		kW	4.7	5.8	7.3
★2 Cooling Capacity (19.0°CWB)		kW	4.5	5.6	7.1
★3 Heating Capacity		kcal/h	4,300	5,400	6,900
		Btu/h	17,100	21,500	27,300
		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
	Airflow Rate (H/L)	m^3/min	11/8.5	14/11	16/12
		cfm	388/300	494/388	565/424
	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	mm	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ9.5 (Flare Connection)
	Gas Pipes	mm	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ15.9 (Flare Connection)
	Drain Pipe	mm	ϕ21 O.D (Vinyl Chloride)	ϕ21 O.D (Vinyl Chloride)	ϕ21 O.D (Vinyl Chloride)
Machine Weight (Mass)		kg	30	36	36
★5 Sound Level (H/L)		dBA	38/33	39/34	40/35
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
Connectable Outdoor Unit			R-410A P Series	R-410A P Series	R-410A P Series
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.
Drawing No.			3D038816A		

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★3 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m. (Heat pump only)
4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
★5 Anechoic chamber conversion value, measured at a point 1.5 m in front of the unit at a height of 1.5 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m^3/min×35.3

Concealed Floor Standing Type

Model			FXNQ20MAVE	FXNQ25MAVE	FXNQ32MAVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	2,000	2,500	3,200
		Btu/h	7,800	9,900	12,600
		kW	2.3	2.9	3.7
★2 Cooling Capacity (19.0°CWB)		kW	2.2	2.8	3.6
★3 Heating Capacity		kcal/h	2,200	2,800	3,400
		Btu/h	8,500	10,900	13,600
		kW	2.5	3.2	4.0
Casing Color			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	610×930×220	610×930×220	610×1,070×220
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×14×1.5	3×14×1.5	3×14×1.5
	Face Area	m²	0.159	0.159	0.200
Fan	Model		D14B20	D14B20	2D14B13
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	15×1	15×1	25×1
	Airflow Rate (H/L)	m³/min	7/6	7/6	8/6
		cfm	247/212	247/212	282/212
	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	mm	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)
	Gas Pipes	mm	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)
	Drain Pipe	mm	ϕ21 O.D (Vinyl Chloride)	ϕ21 O.D (Vinyl Chloride)	ϕ21 O.D (Vinyl Chloride)
Machine Weight (Mass)		kg	19	19	23
★5 Sound Level (H/L)		dBA	35/32	35/32	35/32
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
Connectable Outdoor Unit			R-410A P Series	R-410A P Series	R-410A P Series
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.
Drawing No.			3D038817A		

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★3 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m. (Heat pump only)
4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
★5 Anechoic chamber conversion value, measured at a point 1.5 m in front of the unit at a height of 1.5 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m³/min×35.3

Concealed Floor Standing Type

Model			FXNQ40MAVE	FXNQ50MAVE	FXNQ63MAVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	4,000	5,000	6,300
		Btu/h	16,000	19,800	24,900
		kW	4.7	5.8	7.3
★2 Cooling Capacity (19.0°CWB)		kW	4.5	5.6	7.1
★3 Heating Capacity		kcal/h	4,300	5,400	6,900
		Btu/h	17,100	21,500	27,300
		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
	Airflow Rate (H/L)	m^3/min	11/8.5	14/11	16/12
		cfm	388/300	494/388	565/424
	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	mm	ϕ6.4 (Flare Connection)	ϕ6.4 (Flare Connection)	ϕ9.5 (Flare Connection)
	Gas Pipes	mm	ϕ12.7 (Flare Connection)	ϕ12.7 (Flare Connection)	ϕ15.9 (Flare Connection)
	Drain Pipe	mm	ϕ21 O.D (Vinyl Chloride)	ϕ21 O.D (Vinyl Chloride)	ϕ21 O.D (Vinyl Chloride)
Machine Weight (Mass)		kg	23	27	27
★5 Sound Level (H/L)		dBA	38/33	39/34	40/35
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
Connectable Outdoor Unit			R-410A P Series	R-410A P Series	R-410A P Series
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.
Drawing No.			3D038817A		

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★3 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m. (Heat pump only)
4 Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.
★5 Anechoic chamber conversion value, measured at a point 1.5 m in front of the unit at a height of 1.5 m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m^3/min×35.3

Ceiling Suspended Cassette Type

Model	Indoor Unit		FXUQ71MAV1	FXUQ100MAV1	FXUQ125MAV1
	Connection Unit		BEVQ71MAVE	BEVQ100MAVE	BEVQ125MAVE
★1 Cooling Capacity (19.5°CWB)		kcal/h	7,100	10,000	12,500
		Btu/h	28,300	39,600	49,500
		kW	8.3	11.6	14.5
★2 Cooling Capacity (19.0°CWB)		kW	8.0	11.2	14.0
★3 Heating Capacity		kcal/h	7,700	10,800	12,000
		Btu/h	30,700	42,700	47,800
		kW	9.0	12.5	14.0
Casing Color			White (10Y9/0.5)	White (10Y9/0.5)	White (10Y9/0.5)
Dimensions: (H×W×D)		mm	165×895×895	230×895×895	230×895×895
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×6×1.5	3×8×1.5	3×8×1.5
	Face Area	m²	0.265	0.353	0.353
Fan	Model		QTS48A10M	QTS50B15M	QTS50B15M
	Type		Turbo Fan	Turbo Fan	Turbo Fan
	Motor Output × Number of Units	W	45×1	90×1	90×1
	Air Flow Rate (H/L)	m³/min	19/14	29/21	32/23
		cfm	671/494	1,024/741	1,130/812
	Drive		Direct Drive	Direct Drive	Direct Drive
Temperature Control			Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating	Microprocessor Thermostat for Cooling and Heating
Sound Absorbing Thermal Insulation Material			Heat Resistant Foamed Polyethylene, Regular Foamed Polyethylene	Heat Resistant Foamed Polyethylene, Regular Foamed Polyethylene	Heat Resistant Foamed Polyethylene, Regular Foamed Polyethylene
Piping Connections	Liquid Pipes	mm	ϕ9.5 (Flare Connection)	ϕ9.5 (Flare Connection)	ϕ9.5 (Flare Connection)
	Gas Pipes	mm	ϕ15.9 (Flare Connection)	ϕ15.9 (Flare Connection)	ϕ15.9 (Flare Connection)
	Drain Pipe	mm	I.Dϕ20×O.Dϕ26	I.Dϕ20×O.Dϕ26	I.Dϕ20×O.Dϕ26
Machine Weight (Mass)		kg	25	31	31
★5 Sound Level (H/L)		dBA	40/35	43/38	44/39
Safety Devices			Thermal Protector for Fan Motor	Thermal Protector for Fan Motor	Thermal Protector for Fan Motor
Standard Accessories			Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Holding Plate.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Holding Plate.	Operation Manual, Installation Manual, Drain Hose, Clamp Metal, Insulation for Fitting, Sealing Pads, Clamps, Screws, Washers, Holding Plate.
Drawing No.			C:4D045395A		

Notes:

★1 Indoor temp. : 27°CDB, 19.5°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★2 Indoor temp. : 27°CDB, 19.0°CWB / outdoor temp.: 35°CDB / Equivalent piping length: 7.5m, level difference: 0m.
★3 Indoor temp. : 20°CDB / outdoor temp.: 7°CDB, 6°CWB / Equivalent piping length: 7.5m, level difference: 0m. (Heat pump only)
4 Capacities are net, including a deduction for cooling (an additional for heating) for indoor fan motor heat.
★5 Anechoic chamber conversion value, measured at a point 1.5m downward from the unit center. These values are normally somewhat higher during actual operation as a result of ambient conditions.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m³/min×35.3

BEV Units

Model			BEVQ71MAVE	BEVQ100MAVE	BEVQ125MAVE
Power Supply			1 Phase 50Hz 220~240V	1 Phase 50Hz 220~240V	1 Phase 50Hz 220~240V
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	100×350×225	100×350×225	100×350×225
Sound Absorbing Thermal Insulation Material			Flame and Heat Resistant Foamed Polyethylene	Flame and Heat Resistant Foamed Polyethylene	Flame and Heat Resistant Foamed Polyethylene
Piping Connection	Indoor Unit	Liquid Pipes	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)
	Outdoor Unit	Liquid Pipes	9.5mm (Flare Connection)	9.5mm (Flare Connection)	9.5mm (Flare Connection)
		Suction Gas Pipes	15.9mm (Flare Connection)	15.9mm (Flare Connection)	15.9mm (Flare Connection)
Machine Weight (Mass)		kg	3.0	3.0	3.5
Standard Accessories			Installation manual, Gas piping connections, Insulation for fitting, Sealing material, Clamps	Installation manual, Gas piping connections, Insulation for fitting, Sealing material, Clamps	Installation manual, Gas piping connections, Insulation for fitting, Sealing material, Clamps
Drawing No.			4D045387A	4D045387A	4D045388A

Outdoor Air Processing Unit

Model			FXMQ125MFV1	FXMQ200MFV1	FXMQ250MFV1
★1 Cooling Capacity		kcal/h	12,000	19,300	24,100
		Btu/h	47,800	76,400	95,500
		kW	14.0	22.4	28.0
★1 Heating Capacity		kcal/h	7,700	12,000	15,000
		Btu/h	30,400	47,400	59,400
		kW	8.9	13.9	17.4
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions: (H×W×D)		mm	470×744×1,100	470×1,380×1,100	470×1,380×1,100
Coil (Cross Fin Coil)	Rows×Stages×Fin Pitch	mm	3×26×2.0	3×26×2.0	3×26×2.0
	Face Area	m²	0.28	0.65	0.65
Fan	Model		D13/4G2DA1	D13/4G2DA1	D13/4G2DA1
	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output × Number of Units	W	380×1	380×1	380×1
	Air Flow Rate (H/L)	m³/min	18	28	35
		cfm	635	988	1,236
	External Static Pressure ★4	Pa	185	225	205
	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			★2	★2	★2
Piping Connections	Liquid Pipes		9.5mm (Flare Connection)	9.5mm (Flare Connection)	9.5mm (Flare Connection)
	Gas Pipes		15.9mm (Flare Connection)	19.1mm (Brazing Connection)	22.2mm (Brazing Connection)
	Drain Pipe	(mm)	PS1B (female thread)	PS1B (female thread)	PS1B (female thread)
Machine Weight (Mass)		kg	86	123	123
Sound Level (220V) ★3,★4		dBA	42	47	47
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, Sealing Pads, Screws, Clamps.	Operation Manual, Installation Manual, Sealing Pads, Connection Pipes, Screws, Clamps.	Operation Manual, Installation Manual, Sealing Pads, Connection Pipes, Screws, Clamps.
Connectable Outdoor Units ★5,★6			RXYQ8~54PAY1(K)	RXYQ8~54PAY1(K)	RXYQ10~54PAY1(K)
Drawing No.			C:3D046147A	C:3D046147A	C:3D046147A

Notes:

★1. Specifications are based on the following conditions:
- Cooling: Outdoor temp. of 33°CDB, 28°CWB (68% RH). and discharge temp. of 18°CDB
- Heating: Outdoor temp. of 0°CDB, -2.9°CWB (50% RH). and discharge temp. of 25°CDB
- Equivalent reference piping length: 7.5m (0m Horizontal)
- At 220V

★2. Air intake filter is not supplied, so be sure to install the optional long-life filter or high-efficiency filter. Please mount it in the duct system of the suction side. Select its colorimetric method (gravity method) 50% or more.

★3. Anechoic chamber conversion value, measured at a point 1.5m downward from the unit center. These values (measured at 220V) are normally somewhat higher during actual operation as a result of ambient conditions.

★4. Valves measured at 220 V.

★5. Within the range that the total capacity of indoor units is 50 to 100%, it is possible to connect to the outdoor unit.

★6. It is not possible to connect to the 5 HP outdoor unit. Not available for Heat Recovery type and VRV II-S series.
- This equipment cannot be incorporated into the refrigerant piping system or remote group control of the VRV II system.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3412 cfm=m³/min×35.3

Part 3
Refrigerant Circuit

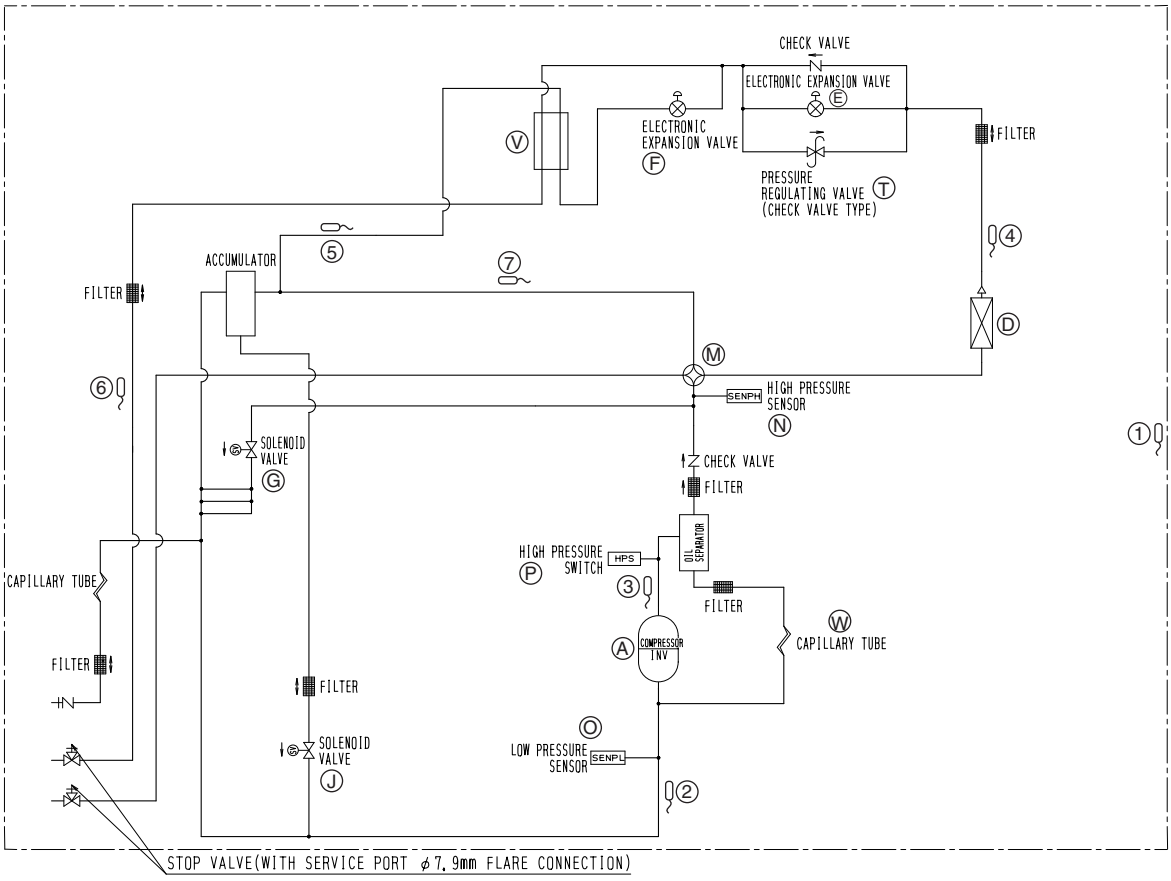
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1. Refrigerant Circuit

1.1 RXYQ8P

No. in refrigerant system diagram	Symbol	Name	Major Function
A	M1C	Inverter compressor (INV)	Inverter compressor is operated on frequencies between 52Hz and 266Hz by using the inverter, while Standard compressor is operated with commercial power supply only. The number of operating steps is as follows when Inverter compressor is operated in combination with Standard compressor. RXYQ8P : 24 steps
D	M1F	Inverter fan	Since the system is of air heat exchanging type, the fan is operated at 9-step rotation speed by using the inverter.
E	Y1E	Electronic expansion valve (Main: EV1)	While in heating operation, PI control is applied to keep the outlet superheated degree of air heat exchanger constant.
F	Y2E	Electronic expansion valve (Subcool: EV2)	PI control is applied to keep the outlet superheated degree of subcooling heat exchanger constant.
G	Y1S	Solenoid valve (Hot gas: SVP)	Used to prevent the low pressure from transient falling.
J	Y2S	Solenoid valve (Oil return: SVO)	Used to return oil from the accumulator to the compressor.
M	Y3S	4-way valve	Used to switch the operation mode between cooling and heating.
N	S1NPH	High pressure sensor	Used to detect high pressure.
O	S1NPL	Low pressure sensor	Used to detect low pressure.
P	S1PH	HP pressure switch (For INV compressor)	In order to prevent the increase of high pressure when a malfunction occurs, this switch is activated at high pressure of 4.0 MPa or more to stop the compressor operation.
T	—	Pressure regulating valve (Liquid pipe)	This valve opens at a pressure of 4.0 MPa for prevention of pressure increase, thus resulting in no damage of functional parts due to the increase of pressure in transportation or storage.
V	—	Subcooling heat exchanger	Used to subcool liquid refrigerant from the electronic expansion valve (cooling) or indoor units (heating).
W	—	Capillary tube	Used to return the refrigerating oil separated through the oil separator to the INV compressor.
1	R1T	Thermistor (Outdoor air: Ta)	Used to detect outdoor temperature, correct discharge pipe temperature, and others.
2	R2T	Thermistor (Suction pipe: Ts)	Used to detect suction pipe temperature.
3	R3T	Thermistor (INV discharge pipe: Tdi)	Used to detect discharge pipe temperature, make the temperature protection control of compressor, and others.
4	R4T	Thermistor (Heat exchanger deicer: Tb)	Used to detect liquid pipe temperature of air heat exchanger, determine defrosting operation, and others.
5	R5T	Thermistor (Subcooling heat exchanger gas pipe: Tsh)	Used to detect gas pipe temperature on the evaporation side of subcooling heat exchanger, keep the superheated degree at the outlet of subcooling heat exchanger constant, and others.
6	R6T	Thermistor (Receiver outlet liquid pipe: Tl)	Used to detect receiver outlet liquid pipe temperature.
7	R7T	Thermistor (Accumulator inlet)	Used to detect gas pipe temperature at the accumulator inlet. Keep the suction superheated degree constant in heating operation, and others.

RXYQ8P

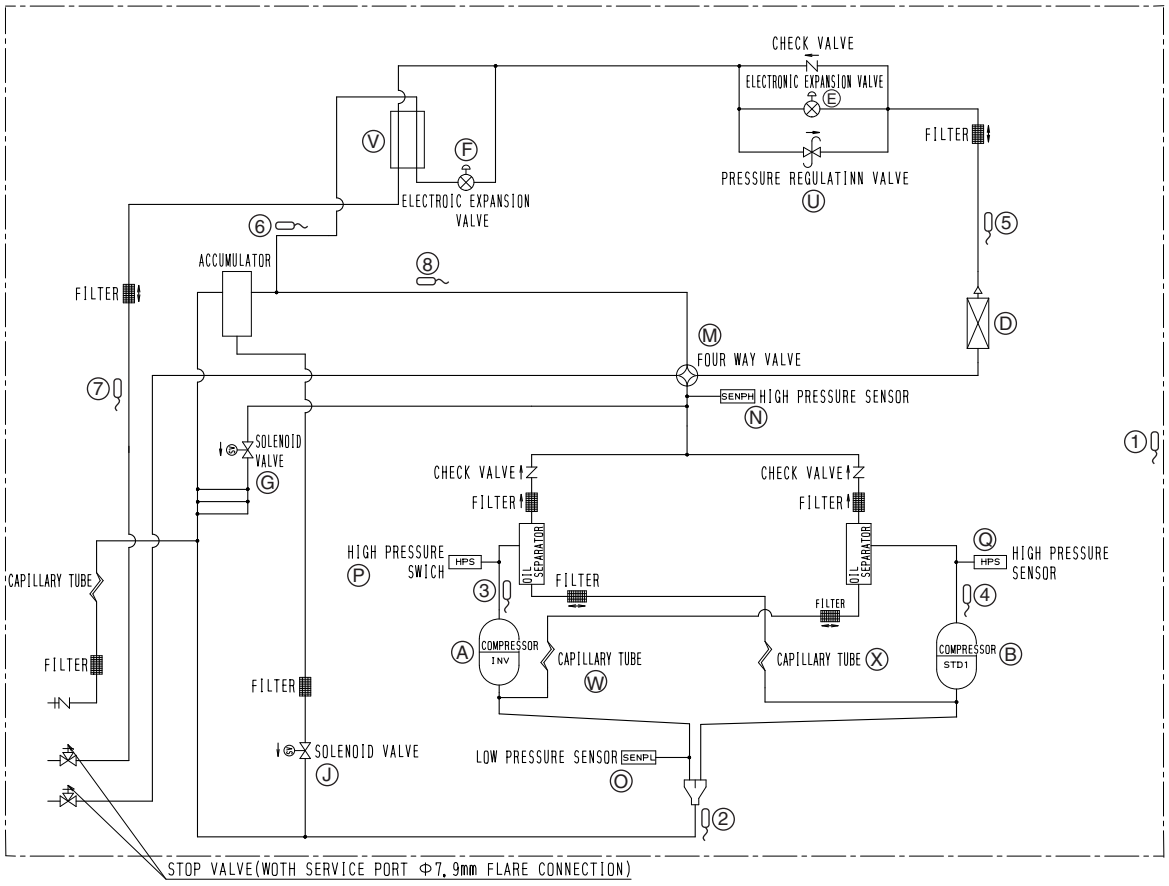


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1.2 RXYQ10P, 12P

No. in refrigerant system diagram	Symbol	Name	Major Function
A	M1C	Inverter compressor (INV)	Inverter compressor is operated on frequencies between 52Hz and 210Hz by using the inverter, while Standard compressor is operated with commercial power supply only. The number of operating steps is as follows when Inverter compressor is operated in combination with Standard compressor. RXYQ10, 12P : 37 steps
B	M2C	Standard compressor 1 (STD1)	
D	M1F	Inverter fan	Since the system is of air heat exchanging type, the fan is operated at 9-step rotation speed by using the inverter.
E	Y1E	Electronic expansion valve (Main: EV1)	While in heating operation, PI control is applied to keep the outlet superheated degree of air heat exchanger constant.
F	Y2E	Electronic expansion valve (Subcool: EV3)	PI control is applied to keep the outlet superheated degree of subcooling heat exchanger constant.
G	Y1S	Solenoid valve (Hot gas: SVP)	Used to prevent the low pressure from transient falling.
J	Y2S	Solenoid valve (Oil return: SVO)	Used to return oil from the accumulator to the compressor.
M	Y3S	4-way valve	Used to switch the operation mode between cooling and heating.
N	S1NPH	High pressure sensor	Used to detect high pressure.
O	S1NPL	Low pressure sensor	Used to detect low pressure.
P	S1PH	HP pressure switch (For INV compressor)	In order to prevent the increase of high pressure when a malfunction occurs, this switch is activated at high pressure of 4.0 MPa or more to stop the compressor operation.
Q	S2PH	HP pressure switch (For STD compressor 1)	
U	—	Pressure regulating valve (Liquid pipe)	This valve opens at a pressure of 4.0 MPa for prevention of pressure increase, thus resulting in no damage of functional parts due to the increase of pressure in transportation or storage.
V	—	Subcooling heat exchanger	Used to subcool liquid refrigerant from the electronic expansion valve (cooling) or indoor units (heating).
W	—	Capillary tube	Used to return the refrigerating oil separated through the oil separator to the INV compressor.
X	—	Capillary tube	Used to return the refrigerating oil separated through the oil separator to the STD1 compressor.
1	R1T	Thermistor (Outdoor air: Ta)	Used to detect outdoor temperature, correct discharge pipe temperature, and others.
2	R2T	Thermistor (Suction pipe: Ts)	Used to detect suction pipe temperature.
3	R31T	Thermistor (INV discharge pipe: Tdi)	Used to detect discharge pipe temperature, make the temperature protection control of compressor, and others.
4	R32T	Thermistor (STD1 discharge pipe: Tds1)	
5	R4T	Thermistor (Heat exchanger deicer: Tb)	Used to detect liquid pipe temperature of air heat exchanger, determine defrosting operation, and others.
6	R5T	Thermistor (Subcooling heat exchanger gas pipe: Tsh)	Used to detect gas pipe temperature on the evaporation side of subcooling heat exchanger, keep the superheated degree at the outlet of subcooling heat exchanger constant, and others.
7	R6T	Thermistor (Liquid pipe: Tl)	Used to detect liquid pipe temperature.
8	R7T	Thermistor (Accumulator inlet)	Used to detect gas pipe temperature at the accumulator inlet. Keep the suction superheated degree constant in heating operation, and others.

RXYQ10P, 12P

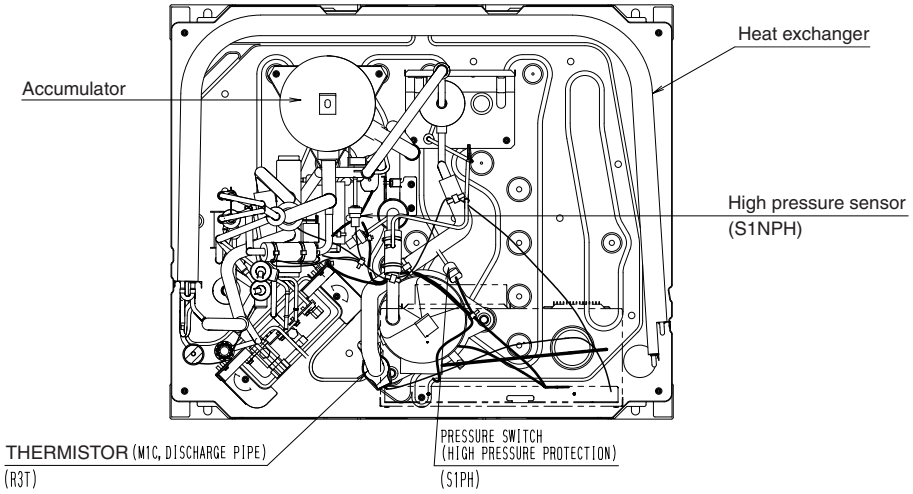


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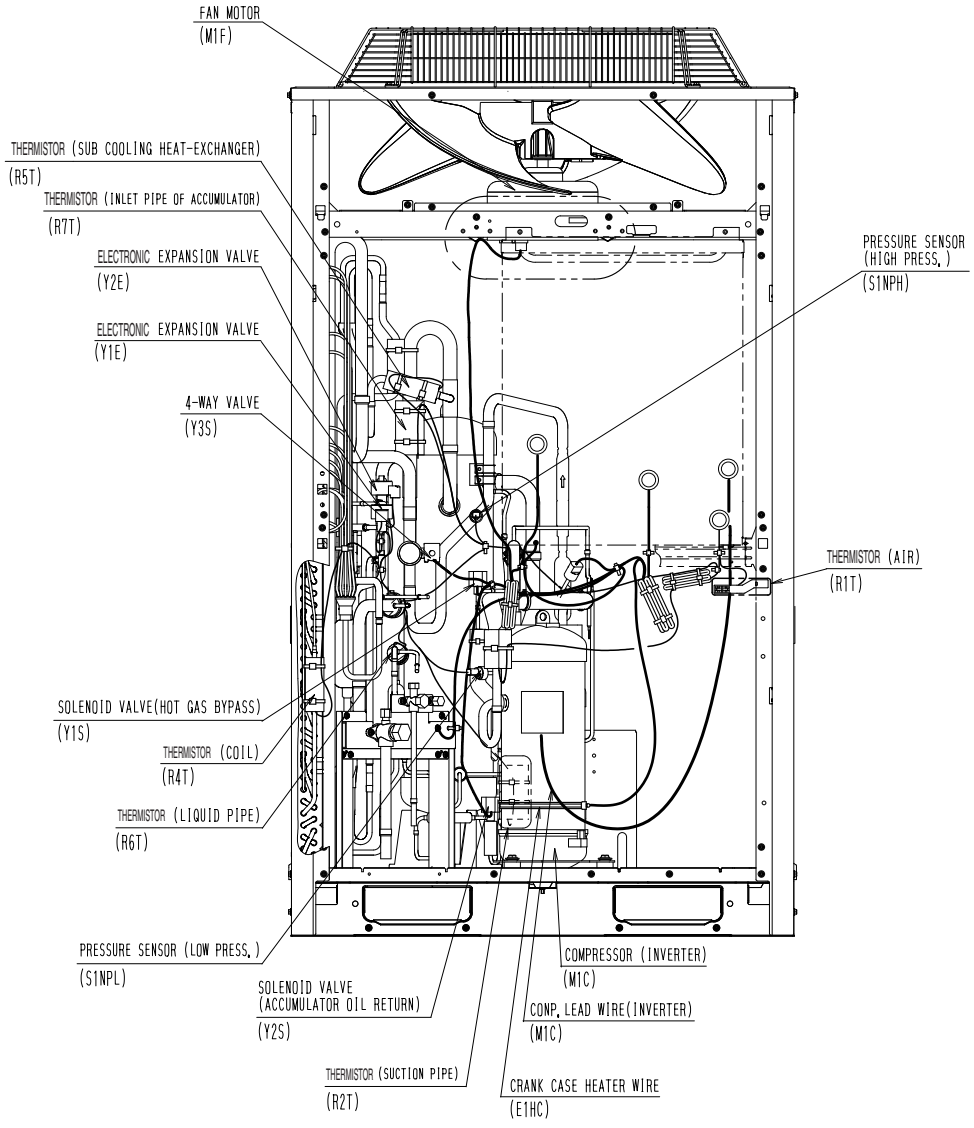
2. Functional Parts Layout

2.1 RXYQ8P

Plan

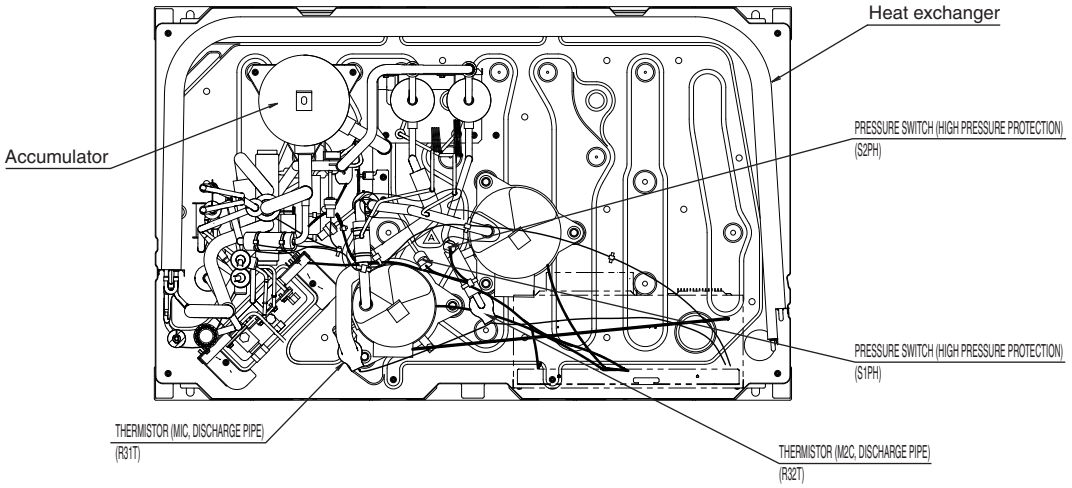


Front View

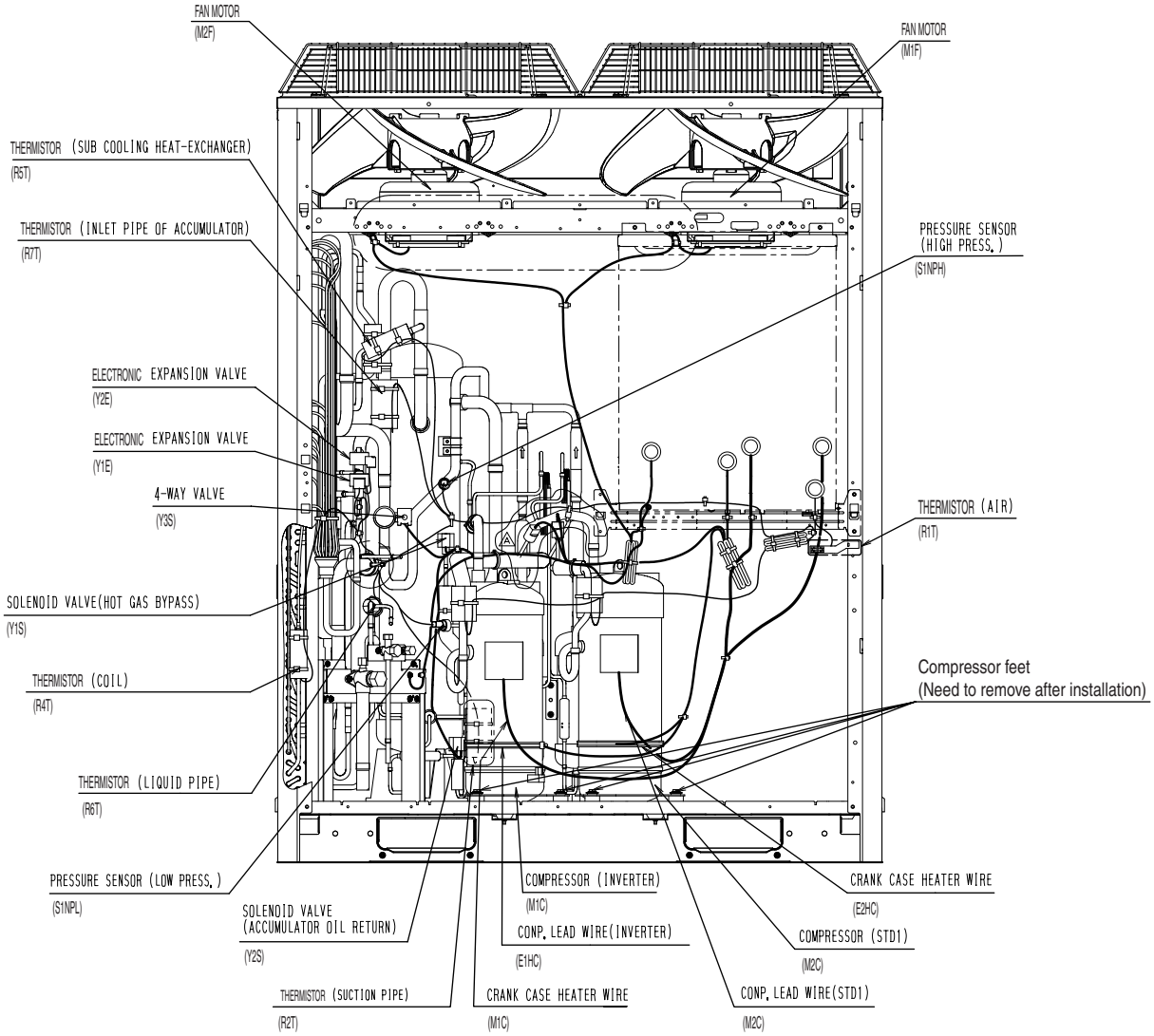


2.2 RXYQ10P, 12P

Plan

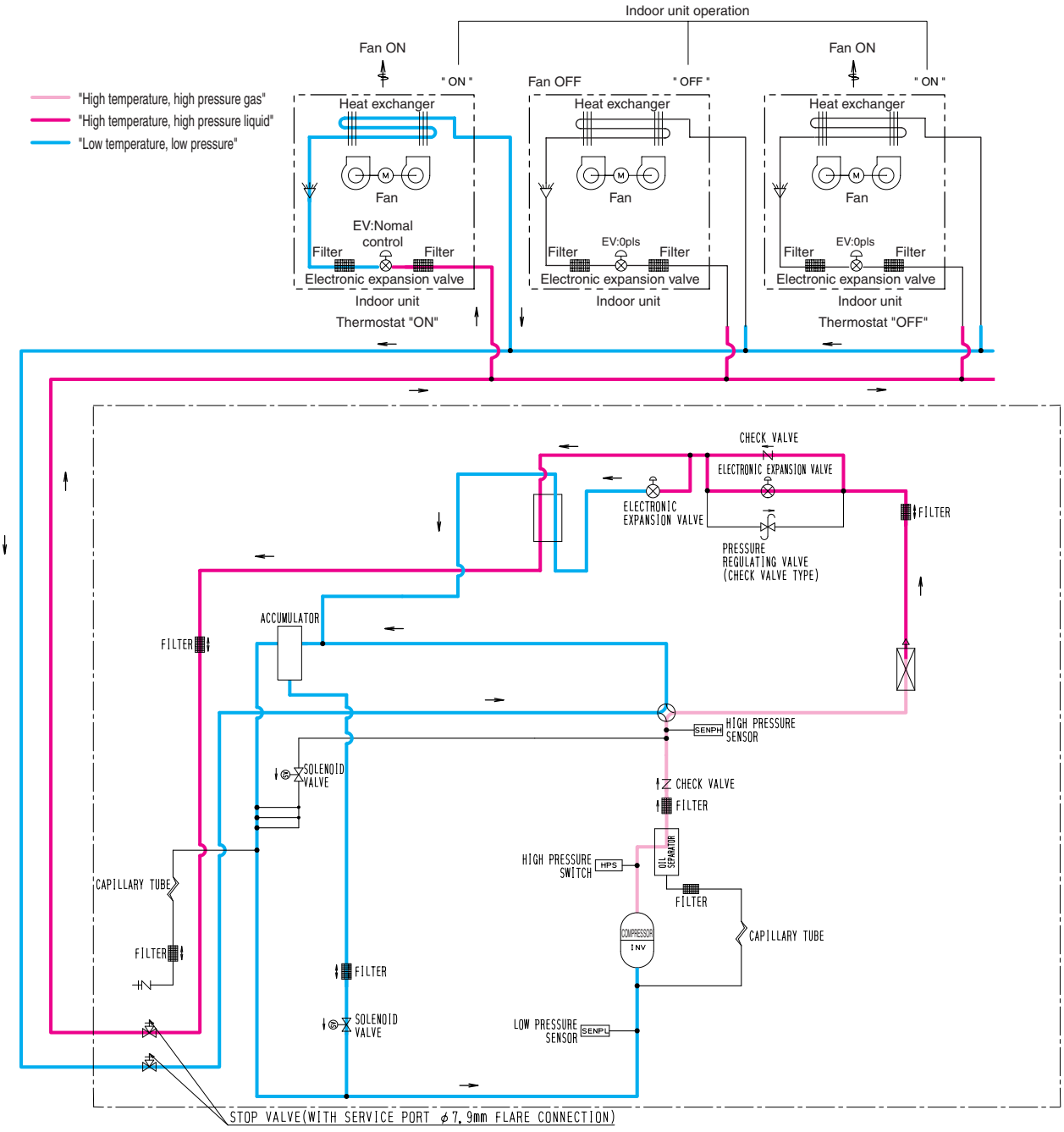


Front View

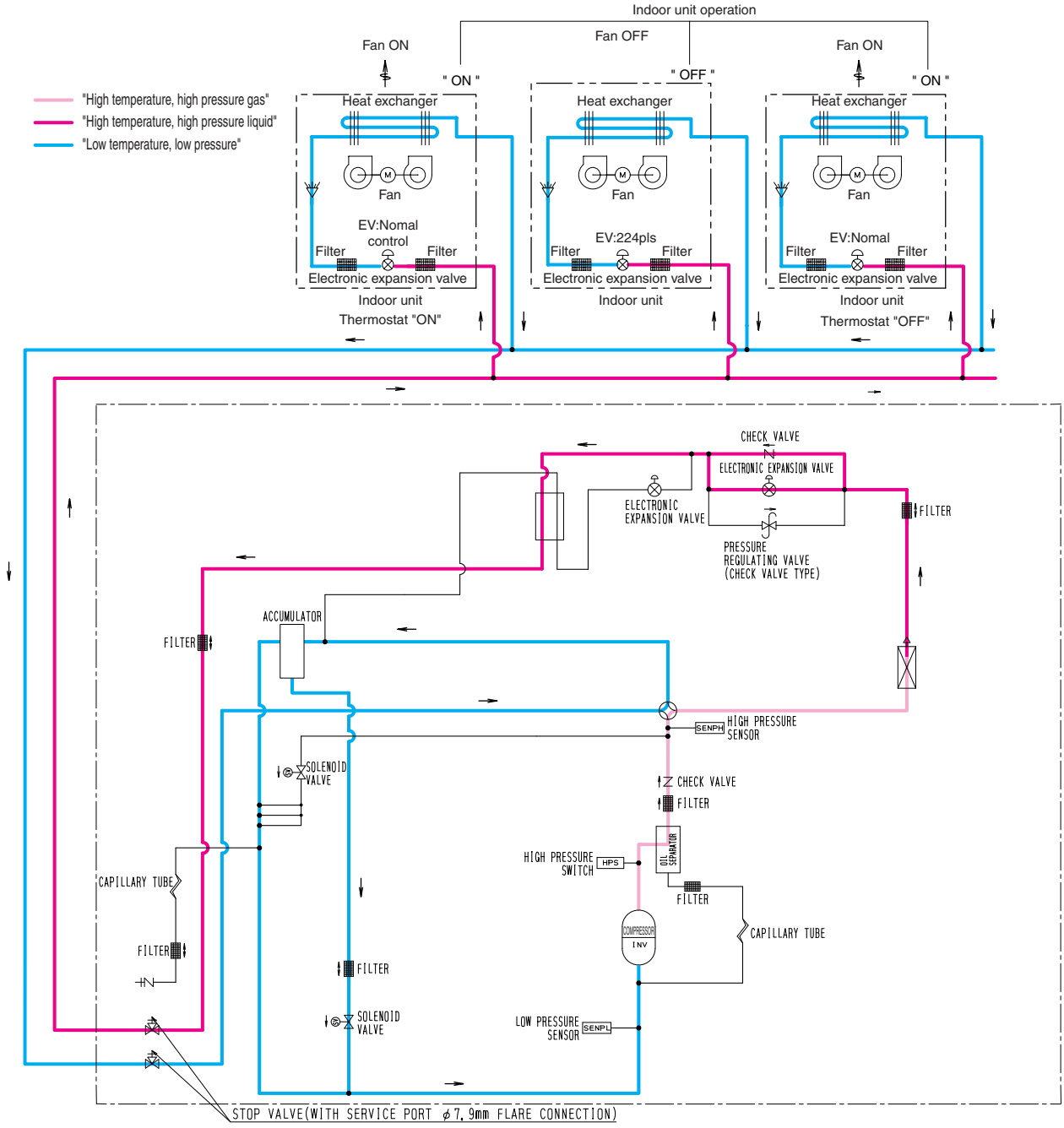


3. Refrigerant Flow for Each Operation Mode

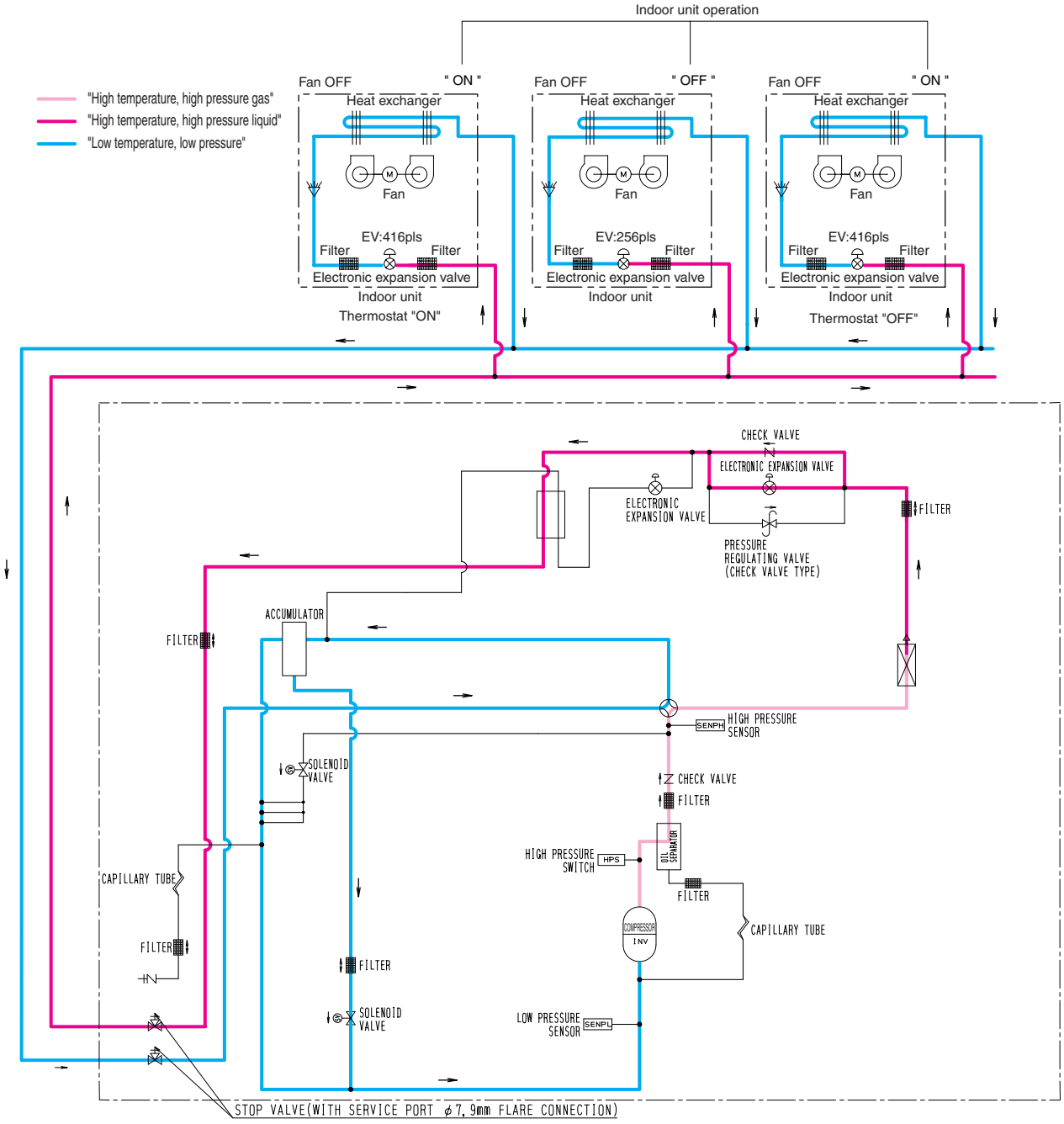
RXYQ8P
Cooling Operation



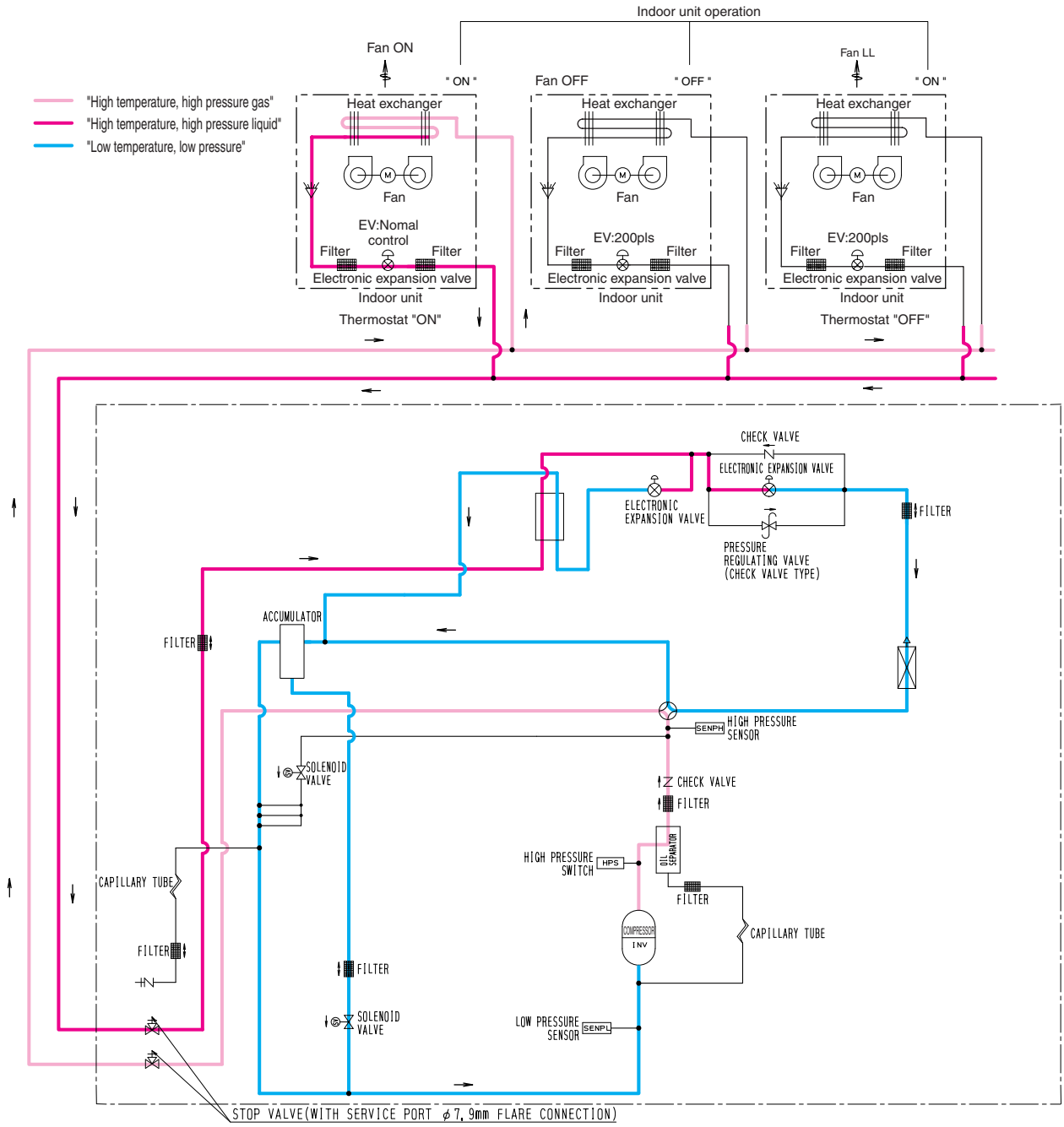
Cooling Oil Return Operation



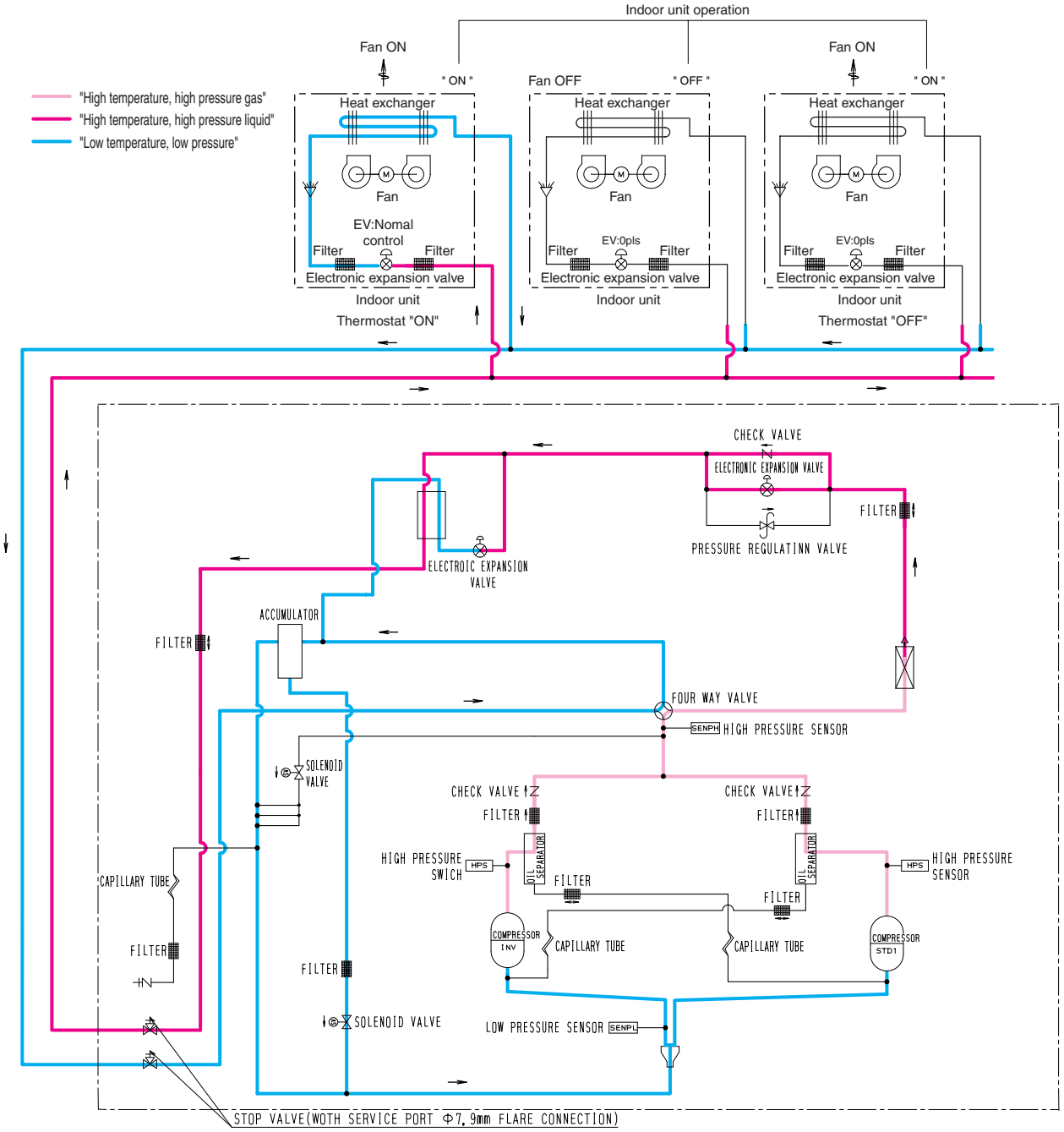
Heating Oil Return & Defrost Operation



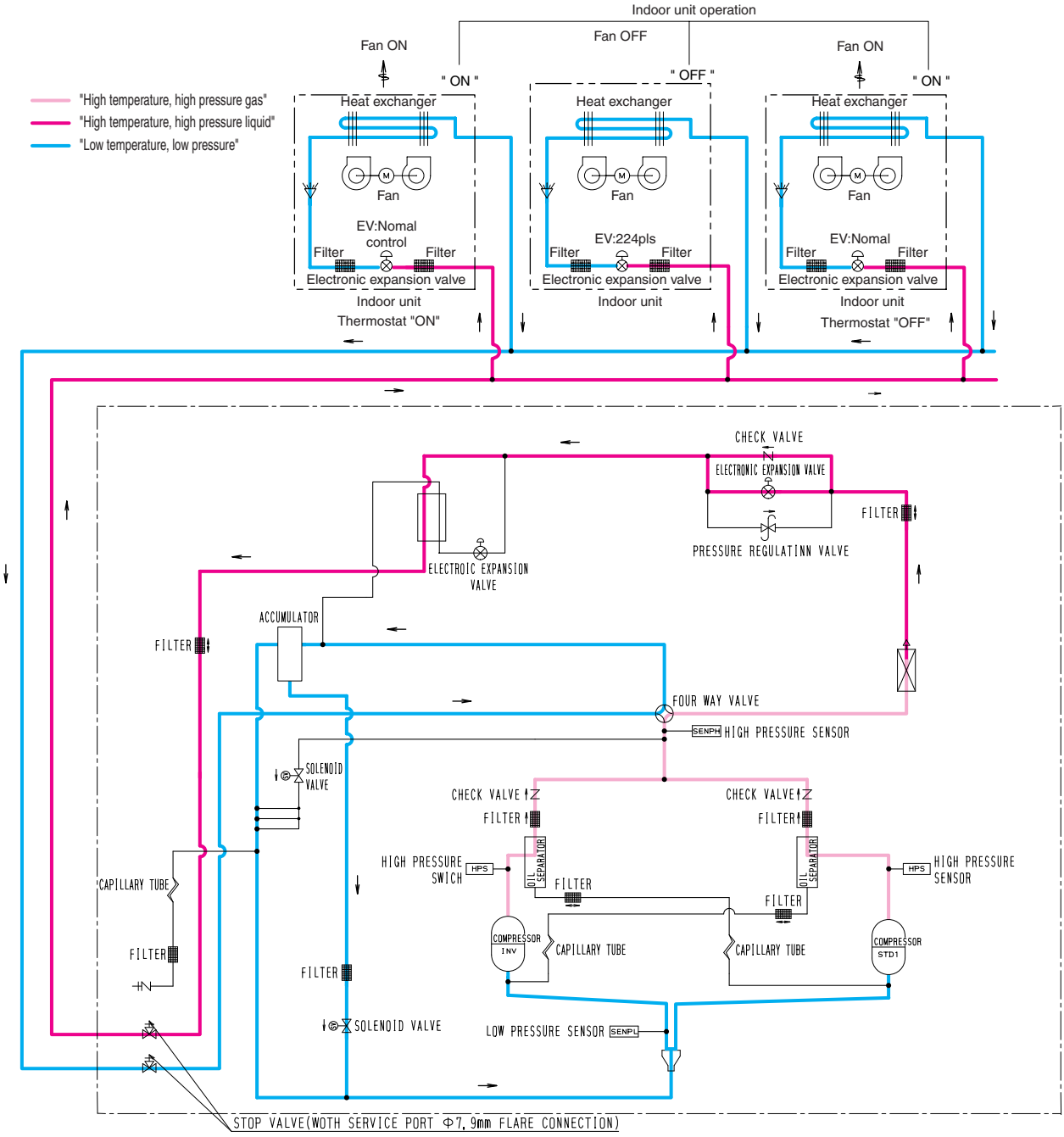
Heating Operation



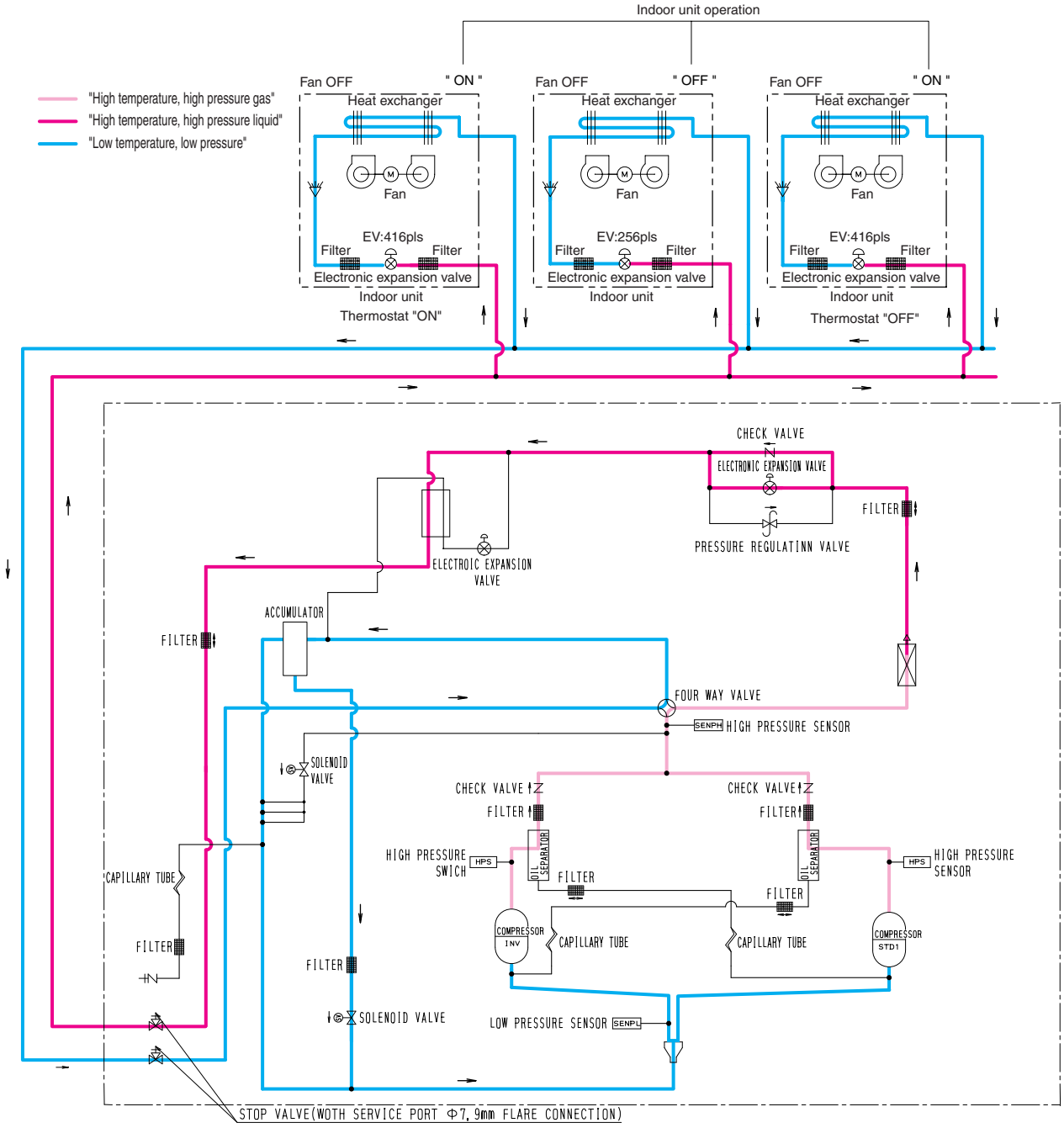
RXYQ10P, 12P
Cooling Operation



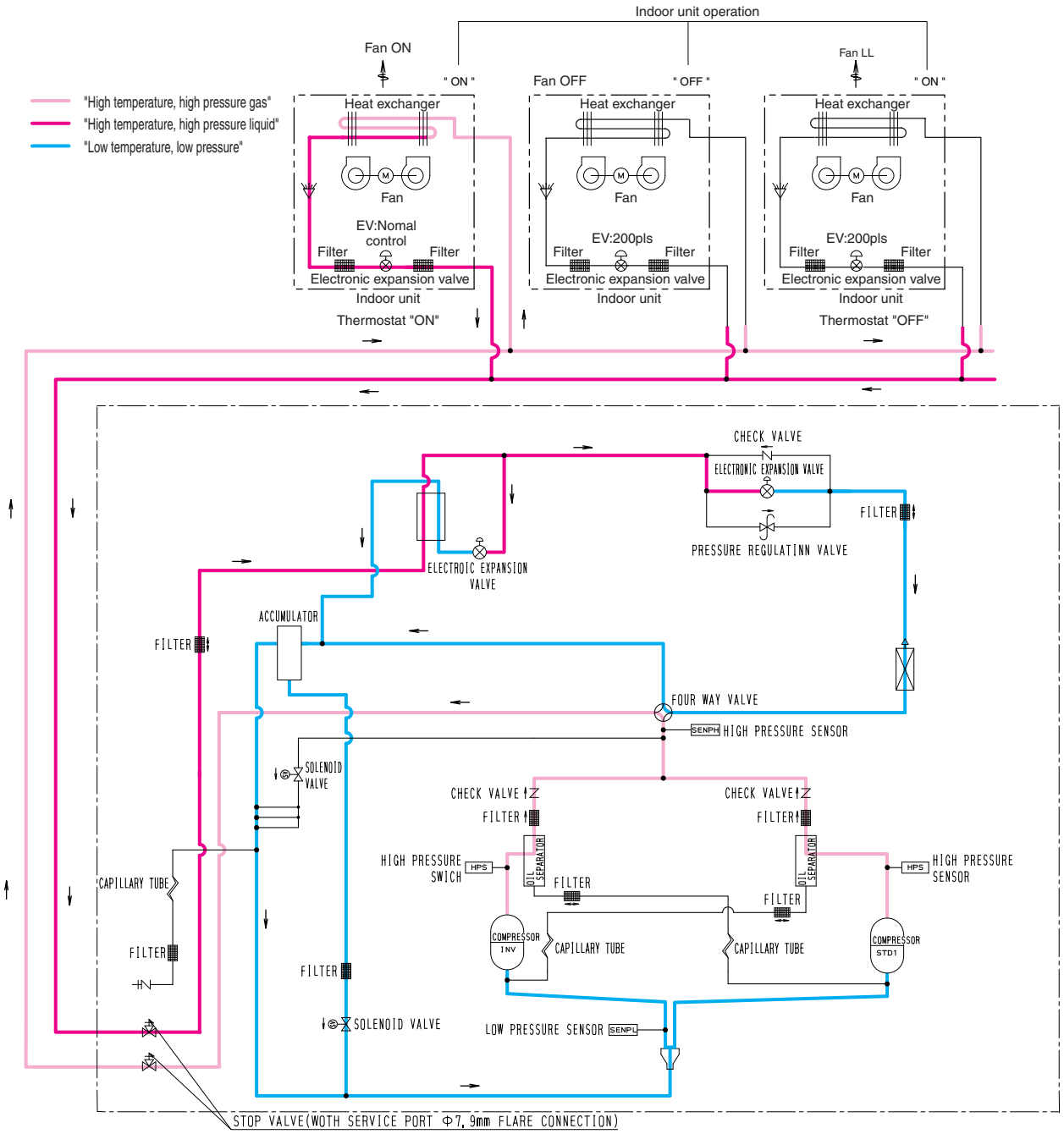
Cooling Oil Return Operation



Heating Oil Return & Defrost Operation



Heating Operation



Part 4
Function

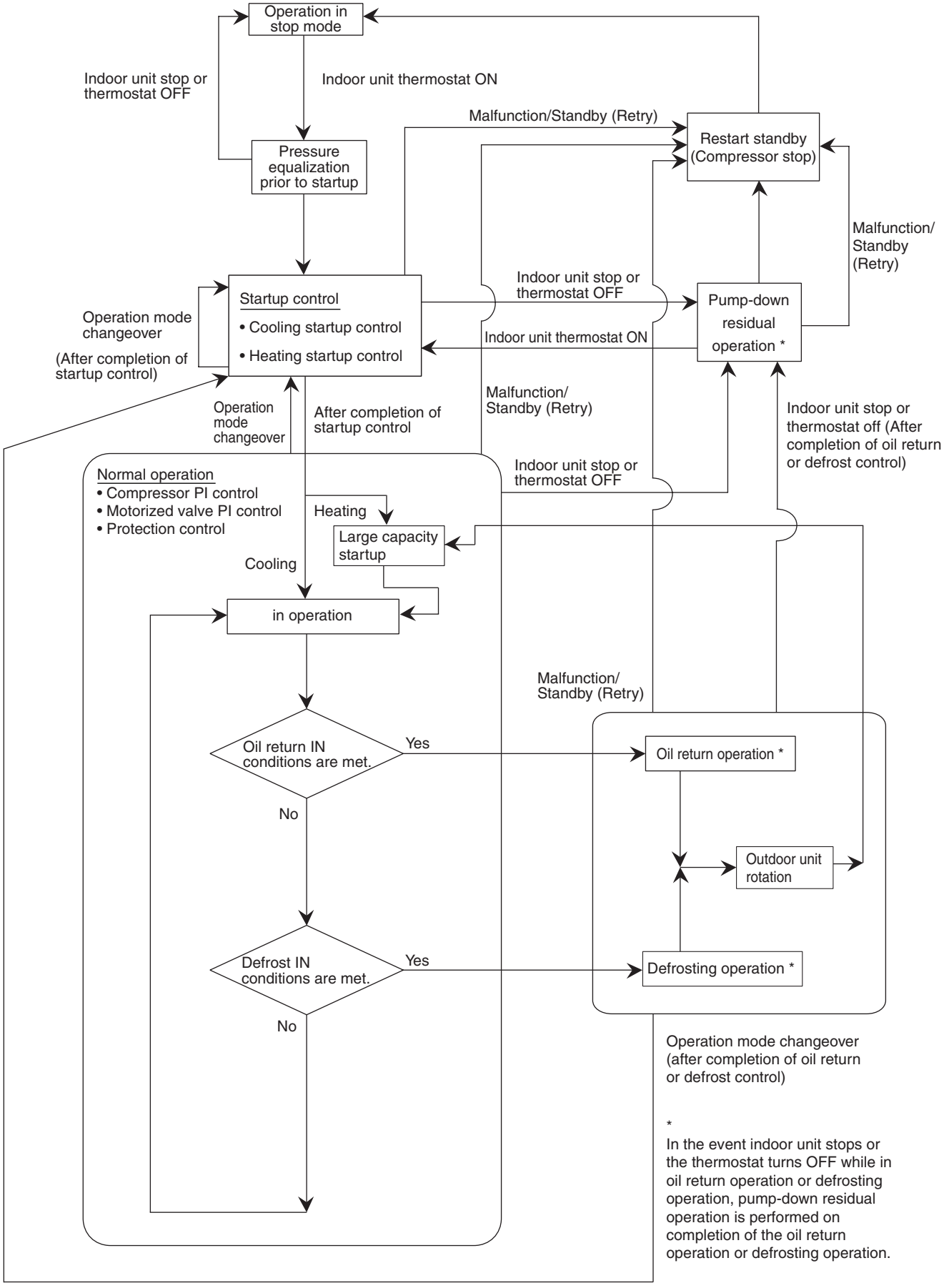
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1. Function General

1.1 Symbol

Symbol	Electric symbol	Description or function
20S1	Y3S	Four way valve (Energize during heating)
DSH	–	Discharge pipe superheated degree
DSHi	–	Discharge pipe superheat of inverter compressor
DSHs	–	Discharge pipe superheat of standard compressor
EV	–	Opening of electronic expansion valve
EV1	Y1E	Electronic expansion valve for main heat exchanger
EV2	Y2E	Electronic expansion valve for sub-coolig heat exchanger
HTDi	–	Value of INV compressor discharge pipe temperature (R31T) compensated with outdoor air temperature
HTDs	–	Value of STD compressor discharge pipe temperature (R32T, R33T) compensated with outdoor air temperature
Pc	S1NPH	Value detected by high pressure sensor
Pe	S1NPL	Value detected by low pressure sensor
SH	–	Evaporator outlet superheat
SHS	–	Target evaporator outlet superheat
SVO	Y2S	Solenoid valve for oil return
SVP	Y1S	Solenoid valve for hot gas bypass
SVT	Y4S	Solenoid valve for injection
Ta	R1T (A1P)	Outdoor air temperature
Tb	R4T	Heat exchanger outlet temperature at cooling
Ts2	R2T	Suction pipe temperature detected with the suction pipe thermistor (R2T)
Tsh	R5T (–)	Temperature detected with the subcooling heat exchanger outlet thermistor (R5T)
Tc	–	High pressure equivalent saturation temperature
TcS	–	Target temperature of Tc
Te	–	Low pressure equivalent saturation temperature
TeS	–	Target temperature of Te
Tfin	R1T	Inverter fin temperature
Tl	R6T	Liquid pipe temperature detected with the liquid pipe thermistor (R6T)
Tp	–	Calculated value of compressor port temperature
Ts1	R7T	Suction pipe temperature detected with the accumulator inlet thermistor

1.2 Operation Mode



2. Basic Control

2.1 Normal Operation

2.1.1 List of Functions in Normal Operation

Part Name	Symbol	(Electric Symbol)	Function of Functional Part	
			Normal Cooling	Normal Heating
Compressor	—	(M1C, M2C)	PI control, High pressure protection, Low pressure protection, Td protection, INV protection,	PI control, High pressure protection, Low pressure protection, Td protection, INV protection,
Outdoor unit fan		(M1F)	Cooling fan control	Step 7 or 8
Four way valve	20S1	(Y1R)	OFF	ON
Main motorized valve	EV1	(Y1E)	480 pls	PI control
Subcool heat exchanger electronic expansion valve	EV2	(Y2E)	PI control	PI control
Hot gas bypass valve	SVP	(Y1S)	OFF	Energized when the system is set to low pressure control mode
Accumulator oil return valve	SV0	(Y2S)	ON	ON

Indoor unit actuator		Normal cooling	Normal heating
Fan	Thermostat ON unit	Remote controller setting	Remote controller setting
	Stopping unit	OFF	OFF
	Thermostat OFF unit	Remote controller setting	LL
Electronic expansion valve	Thermostat ON unit	Normal opening ∗1	Normal opening ∗2
	Stopping unit	0 pls	200 pls
	Thermostat OFF unit	0 pls	200 pls

∗1. PI control : Evaporator outlet superheated degree (SH) constant.

∗2. PI control : Condenser outlet subcooled degree (SC) constant.

∗1 and 2 : Refer “6.6 Electronic expansion valve control” on page 112.

2.2 Compressor PI Control

Compressor PI Control

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

[Cooling operation]

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

Te set value (Make this setting while in Setting mode 2.)

Te setting

L	M (Normal) (factory setting)	H
3	6	9

Te : Low pressure equivalent saturation temperature (°C)

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

*On multi-outdoor-unit systems, this control is made according to values of the first-priority unit, which is detected with the pressure sensor.

[Heating operation]

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

Te set value (Make this setting while in Setting mode 2.)

Tc setting

L	M (Normal) (factory setting)	H
43	46	49

Tc : High pressure equivalent saturation temperature (°C)

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

*On multi-outdoor-unit systems, this control is made according to values of the first-priority unit, which is detected with the pressure sensor.

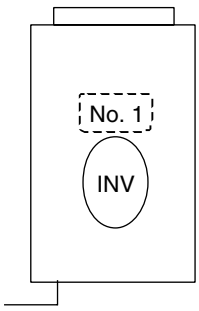
■ Operating Priority and Rotation of Compressors (For multi standard connection system)

Each compressor operates in the following order of priority.
In the case of multi-outdoor-unit system, each compressor operates in any of Pattern 1 through Pattern 3 according to the rotation of outdoor units.

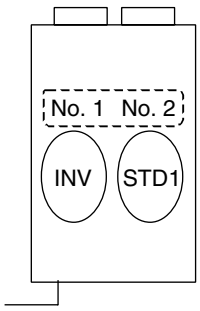
INV: Inverter compressor
STD1: Standard compressor 1

Pattern 1 Pattern 2 Pattern 3

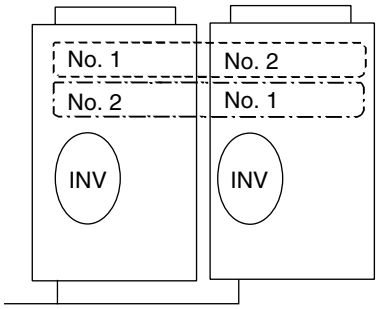
RXYQ8P



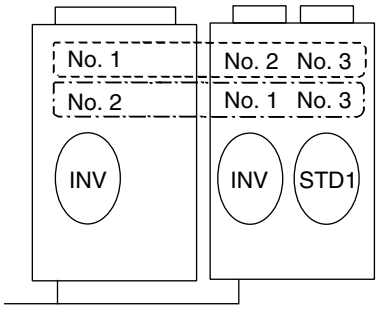
RXYQ10P, 12P



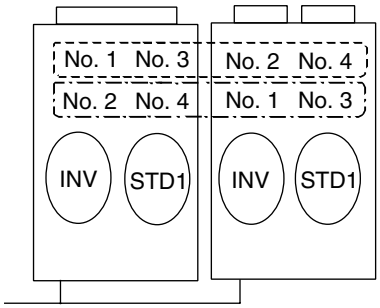
RXYQ16P



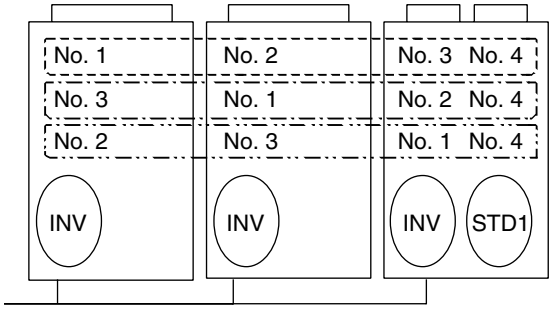
RXYQ18P, 20P



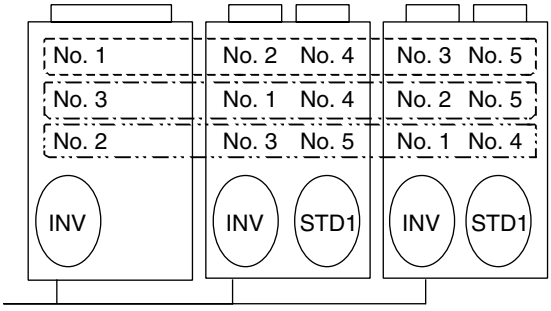
RXYQ22P, 24P



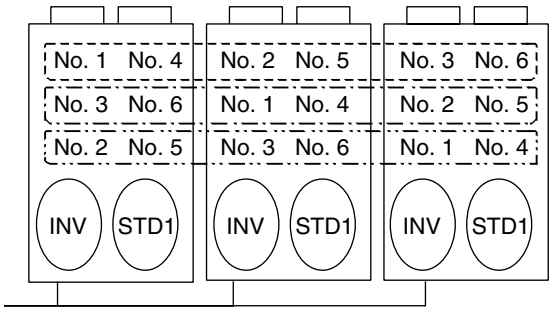
RXYQ26P



RXYQ28P, 30P



RXYQ32P, 34P, 36P



*

- In the case of combination of 3 outdoor units, the above diagram shows master unit, slave unit 1, and slave unit 2 from left to right.
- Compressors may operate in any pattern other than those mentioned above according to the operating status.

■ Compressor Step Control (Multi outdoor unit connection is available on the standard connection system)
Compressor operations vary with the following steps according to information in "2.2 Compressor PI Control". Furthermore, the operating priority of compressors is subject to information in "■ Operating Priority and Rotation of Compressors".

50Hz / 60Hz

Stand-alone installation

RXYQ8P7Y1K
RXYQ8PYNK, PTLK, P7YLK

STEP No.	INV
1	52 Hz
2	56 Hz
3	62 Hz
4	68 Hz
5	74 Hz
6	80 Hz
7	88 Hz
8	96 Hz
9	104 Hz
10	110 Hz
11	116 Hz
12	124 Hz
13	132 Hz
14	144 Hz
15	158 Hz
16	166 Hz
17	176 Hz
18	188 Hz
19	202 Hz
20	210 Hz
21	218 Hz
22	232 Hz
23	248 Hz
24	266 Hz

RXYQ10P7Y1K, 12P7Y1K
RXYQ10/12PYNK, PTLK, P7YLK

STEP No.	INV	STD1
1	52 Hz	OFF
2	56 Hz	OFF
3	62 Hz	OFF
4	68 Hz	OFF
5	74 Hz	OFF
6	80 Hz	OFF
7	88 Hz	OFF
8	96 Hz	OFF
9	104 Hz	OFF
10	110 Hz	OFF
11	116 Hz	OFF
12	124 Hz	OFF
13	132 Hz	OFF
14	144 Hz	OFF
15	158 Hz	OFF
16	166 Hz	OFF
17	176 Hz	OFF
18	188 Hz	OFF
19	202 Hz	OFF
20	210 Hz	OFF
21	52 Hz	ON
22	62 Hz	ON
23	68 Hz	ON
24	74 Hz	ON
25	80 Hz	ON
26	88 Hz	ON
27	96 Hz	ON
28	104 Hz	ON
29	116 Hz	ON
30	124 Hz	ON
31	132 Hz	ON
32	144 Hz	ON
33	158 Hz	ON
34	176 Hz	ON
35	188 Hz	ON
36	202 Hz	ON
37	210 Hz	ON

Notes:
1. INV : Inverter compressor
   STD1 : Standard compressor 1
2. Depending on the operating conditions of compressors, the compressors may run in patterns other than those aforementioned.

Two-unit multi system

RXYQ16P7Y1K (8+8HP)
RXYQ16PYNK, PTLK, P7YLK (8+8HP)

(To increase Step No.)

STEP No.	Master unit INV	Slave unit INV
1	52 Hz	52 Hz
2	56 Hz	56 Hz
3	62 Hz	62 Hz
4	66 Hz	66 Hz
5	74 Hz	74 Hz
6	80 Hz	80 Hz
7	88 Hz	88 Hz
8	96 Hz	96 Hz
9	104 Hz	104 Hz
10	110 Hz	110 Hz
11	116 Hz	116 Hz
12	124 Hz	124 Hz
13	132 Hz	132 Hz
14	144 Hz	144 Hz
15	158 Hz	158 Hz
16	166 Hz	166 Hz
17	176 Hz	176 Hz
18	188 Hz	188 Hz
19	202 Hz	202 Hz
20	210 Hz	210 Hz
21	218 Hz	218 Hz
22	232 Hz	232 Hz
23	248 Hz	248 Hz
24	266 Hz	266 Hz

(To decrease Step No.)

STEP No.	Master unit INV	Slave unit INV
1	52 Hz	OFF
2	56 Hz	OFF
3	62 Hz	OFF
4	68 Hz	OFF
5	74 Hz	OFF
6	80 Hz	OFF
7	88 Hz	OFF
8	96 Hz	OFF
9	104 Hz	OFF
10	52 Hz	52 Hz
11	56 Hz	56 Hz
12	62 Hz	62 Hz
13	66 Hz	66 Hz
14	70 Hz	70 Hz
15	74 Hz	74 Hz
16	80 Hz	80 Hz
17	88 Hz	88 Hz
18	92 Hz	96 Hz
19	96 Hz	96 Hz
20	104 Hz	104 Hz
21	110 Hz	110 Hz
22	116 Hz	116 Hz
23	124 Hz	124 Hz
24	132 Hz	132 Hz
25	144 Hz	144 Hz
26	158 Hz	158 Hz
27	176 Hz	176 Hz
28	188 Hz	188 Hz
29	202 Hz	202 Hz
30	210 Hz	210 Hz
31	218 Hz	218 Hz
32	232 Hz	232 Hz
33	248 Hz	248 Hz
34	266 Hz	266 Hz

represents the range in which “Hz” is not stepped up.

RXYQ18P7Y1K (8+10HP)
RXYQ18PYNK, PTLK, P7YLK (8+10HP)

(To increase Step No.)

STEP No.	Master unit INV	Slave unit INV	STD
1	52 Hz	52 Hz	OFF
2	56 Hz	56 Hz	OFF
3	62 Hz	62 Hz	OFF
4	66 Hz	66 Hz	OFF
5	74 Hz	74 Hz	OFF
6	80 Hz	80 Hz	OFF
7	88 Hz	88 Hz	OFF
8	96 Hz	96 Hz	OFF
9	104 Hz	104 Hz	OFF
10	110 Hz	110 Hz	OFF
11	116 Hz	116 Hz	OFF
12	124 Hz	124 Hz	OFF
13	132 Hz	132 Hz	OFF
14	144 Hz	144 Hz	OFF
15	158 Hz	158 Hz	OFF
16	166 Hz	166 Hz	OFF
17	176 Hz	176 Hz	OFF
18	80 Hz	80 Hz	ON
19	88 Hz	88 Hz	ON
20	96 Hz	96 Hz	ON
21	104 Hz	104 Hz	ON
22	116 Hz	116 Hz	ON
23	124 Hz	124 Hz	ON
24	132 Hz	132 Hz	ON
25	144 Hz	144 Hz	ON
26	158 Hz	158 Hz	ON
27	176 Hz	176 Hz	ON
28	188 Hz	188 Hz	ON
29	202 Hz	202 Hz	ON
30	210 Hz	210 Hz	ON
31	218 Hz	210 Hz	ON
32	232 Hz	210 Hz	ON
33	248 Hz	210 Hz	ON
34	266 Hz	210 Hz	ON

(To decrease Step No.)

STEP No.	Master unit INV	Slave unit INV	STD
1	52 Hz	OFF	OFF
2	56 Hz	OFF	OFF
3	62 Hz	OFF	OFF
4	68 Hz	OFF	OFF
5	74 Hz	OFF	OFF
6	80 Hz	OFF	OFF
7	88 Hz	OFF	OFF
8	96 Hz	OFF	OFF
9	104 Hz	OFF	OFF
10	52 Hz	52 Hz	OFF
11	56 Hz	56 Hz	OFF
12	62 Hz	62 Hz	OFF
13	66 Hz	66 Hz	OFF
14	70 Hz	70 Hz	OFF
15	74 Hz	74 Hz	OFF
16	80 Hz	80 Hz	OFF
17	88 Hz	88 Hz	OFF
18	92 Hz	96 Hz	OFF
19	96 Hz	96 Hz	OFF
20	104 Hz	104 Hz	OFF
21	110 Hz	110 Hz	OFF
22	116 Hz	116 Hz	OFF
23	124 Hz	124 Hz	OFF
24	132 Hz	132 Hz	OFF
25	52 Hz	52 Hz	ON
26	62 Hz	62 Hz	ON
27	68 Hz	68 Hz	ON
28	74 Hz	74 Hz	ON
29	80 Hz	80 Hz	ON
30	88 Hz	88 Hz	ON
31	96 Hz	96 Hz	ON
32	104 Hz	104 Hz	ON
33	116 Hz	116 Hz	ON
34	124 Hz	124 Hz	ON
35	132 Hz	132 Hz	ON
36	144 Hz	144 Hz	ON
37	158 Hz	158 Hz	ON
38	176 Hz	176 Hz	ON
39	188 Hz	188 Hz	ON
40	202 Hz	202 Hz	ON
41	210 Hz	210 Hz	ON
42	218 Hz	210 Hz	ON
43	232 Hz	210 Hz	ON
44	248 Hz	210 Hz	ON
45	266 Hz	210 Hz	ON

Notes:

1. INV : Inverter compressor
   STD : Standard compressor
   Figures after ON represent the number of STD compressors in operation.
2. “Master unit”, and “slave unit” in this section are the names for control, and they will be transferred according to the priority of rotation system.
3. Depending on the operating conditions of compressors, the compressors may run in patterns other than those aforementioned.

represents the range in which “Hz” is not stepped up.

RXYQ20P7Y1K (8+12HP)
RXYQ20PYNK, PTLK, P7YLK (8+12HP)

(To increase Step No.)

STEP No.	Master unit INV	Slave unit INV	STD
1	52 Hz	52 Hz	OFF
2	56 Hz	56 Hz	OFF
3	62 Hz	62 Hz	OFF
4	66 Hz	66 Hz	OFF
5	74 Hz	74 Hz	OFF
6	80 Hz	80 Hz	OFF
7	88 Hz	88 Hz	OFF
8	96 Hz	96 Hz	OFF
9	104 Hz	104 Hz	OFF
10	110 Hz	110 Hz	OFF
11	116 Hz	116 Hz	OFF
12	124 Hz	124 Hz	OFF
13	132 Hz	132 Hz	OFF
14	144 Hz	144 Hz	OFF
15	158 Hz	158 Hz	OFF
17	166 Hz	166 Hz	OFF
18	176 Hz	176 Hz	OFF
19	80 Hz	80 Hz	ON
20	88 Hz	88 Hz	ON
21	96 Hz	96 Hz	ON
22	104 Hz	104 Hz	ON
23	116 Hz	116 Hz	ON
24	124 Hz	124 Hz	ON
25	132 Hz	132 Hz	ON
26	144 Hz	144 Hz	ON
27	158 Hz	158 Hz	ON
28	176 Hz	176 Hz	ON
29	188 Hz	188 Hz	ON
30	202 Hz	202 Hz	ON
31	210 Hz	210 Hz	ON
32	218 Hz	210 Hz	ON
33	232 Hz	210 Hz	ON
34	248 Hz	210 Hz	ON
35	266 Hz	210 Hz	ON

(To decrease Step No.)

STEP No.	Master unit INV	Slave unit INV	STD
1	52 Hz	OFF	OFF
2	56 Hz	OFF	OFF
3	62 Hz	OFF	OFF
4	68 Hz	OFF	OFF
5	74 Hz	OFF	OFF
6	80 Hz	OFF	OFF
7	88 Hz	OFF	OFF
8	96 Hz	OFF	OFF
9	104 Hz	OFF	OFF
10	52 Hz	52 Hz	OFF
11	56 Hz	56 Hz	OFF
12	62 Hz	62 Hz	OFF
13	66 Hz	66 Hz	OFF
14	70 Hz	70 Hz	OFF
15	74 Hz	74 Hz	OFF
16	80 Hz	80 Hz	OFF
17	88 Hz	88 Hz	OFF
18	92 Hz	96 Hz	OFF
19	96 Hz	96 Hz	OFF
20	104 Hz	104 Hz	OFF
21	110 Hz	110 Hz	OFF
22	116 Hz	116 Hz	OFF
23	124 Hz	124 Hz	OFF
24	132 Hz	132 Hz	OFF
25	52 Hz	52 Hz	ON
26	62 Hz	62 Hz	ON
27	68 Hz	68 Hz	ON
28	74 Hz	74 Hz	ON
29	80 Hz	80 Hz	ON
30	88 Hz	88 Hz	ON
31	96 Hz	96 Hz	ON
32	104 Hz	104 Hz	ON
33	116 Hz	116 Hz	ON
34	124 Hz	124 Hz	ON
35	132 Hz	132 Hz	ON
36	144 Hz	144 Hz	ON
37	158 Hz	158 Hz	ON
38	176 Hz	176 Hz	ON
39	188 Hz	188 Hz	ON
40	202 Hz	202 Hz	ON
41	210 Hz	210 Hz	ON
42	218 Hz	210 Hz	ON
43	232 Hz	210 Hz	ON
44	248 Hz	210 Hz	ON
45	266 Hz	210 Hz	ON

RXYQ22P7Y1K (10+12HP)
RXYQ22PYNK, PTLK, P7YLK (10+12HP)

(To increase Step No.)

STEP No.	Master unit INV	Slave unit INV	STD
1	52 Hz	52 Hz	OFF
2	56 Hz	56 Hz	OFF
3	62 Hz	62 Hz	OFF
4	66 Hz	66 Hz	OFF
5	70 Hz	70 Hz	OFF
6	74 Hz	74 Hz	OFF
7	80 Hz	80 Hz	OFF
8	88 Hz	88 Hz	OFF
9	96 Hz	96 Hz	OFF
10	104 Hz	104 Hz	OFF
11	110 Hz	110 Hz	OFF
12	116 Hz	116 Hz	OFF
13	124 Hz	124 Hz	OFF
14	132 Hz	132 Hz	OFF
15	144 Hz	144 Hz	OFF
16	158 Hz	158 Hz	OFF
17	166 Hz	166 Hz	OFF
18	176 Hz	176 Hz	OFF
19	80 Hz	80 Hz	ON 1
20	88 Hz	88 Hz	ON 1
21	96 Hz	96 Hz	ON 1
22	104 Hz	104 Hz	ON 1
23	116 Hz	116 Hz	ON 1
24	124 Hz	124 Hz	ON 1
25	132 Hz	132 Hz	ON 1
26	88 Hz	88 Hz	ON 2
27	96 Hz	96 Hz	ON 2
28	104 Hz	104 Hz	ON 2
29	124 Hz	124 Hz	ON 2
30	144 Hz	144 Hz	ON 2
31	158 Hz	158 Hz	ON 2
32	166 Hz	166 Hz	ON 2
33	176 Hz	176 Hz	ON 2
34	188 Hz	188 Hz	ON 2
35	202 Hz	202 Hz	ON 2
36	210 Hz	210 Hz	ON 2

(To decrease Step No.)

STEP No.	Master unit INV	Slave unit INV	STD
1	52 Hz	OFF	OFF
2	56 Hz	OFF	OFF
3	62 Hz	OFF	OFF
4	68 Hz	OFF	OFF
5	74 Hz	OFF	OFF
6	80 Hz	OFF	OFF
7	88 Hz	OFF	OFF
8	96 Hz	OFF	OFF
9	104 Hz	OFF	OFF
10	52 Hz	52 Hz	OFF
11	56 Hz	56 Hz	OFF
12	62 Hz	62 Hz	OFF
13	66 Hz	66 Hz	OFF
14	70 Hz	70 Hz	OFF
15	74 Hz	74 Hz	OFF
16	80 Hz	80 Hz	OFF
17	88 Hz	88 Hz	OFF
18	92 Hz	92 Hz	OFF
19	96 Hz	96 Hz	OFF
20	104 Hz	104 Hz	OFF
21	110 Hz	110 Hz	OFF
22	116 Hz	116 Hz	OFF
23	124 Hz	124 Hz	OFF
24	132 Hz	132 Hz	OFF
25	52 Hz	52 Hz	ON 1
26	62 Hz	62 Hz	ON 1
27	68 Hz	68 Hz	ON 1
28	74 Hz	74 Hz	ON 1
29	80 Hz	80 Hz	ON 1
30	88 Hz	88 Hz	ON 1
31	96 Hz	96 Hz	ON 1
32	104 Hz	104 Hz	ON 1
33	52 Hz	52 Hz	ON 2
34	62 Hz	62 Hz	ON 2
35	74 Hz	74 Hz	ON 2
36	88 Hz	88 Hz	ON 2
37	96 Hz	96 Hz	ON 2
38	104 Hz	104 Hz	ON 2
39	124 Hz	124 Hz	ON 2
40	144 Hz	144 Hz	ON 2
41	158 Hz	158 Hz	ON 2
42	166 Hz	166 Hz	ON 2
43	176 Hz	176 Hz	ON 2
44	188 Hz	188 Hz	ON 2
45	202 Hz	202 Hz	ON 2
46	210 Hz	210 Hz	ON 2

Notes:

1. INV : Inverter compressor
   STD : Standard compressor
   Figures after ON represent the number of STD compressors in operation.
2. “Master unit”, and “slave unit” in this section are the names for control, and they will be transferred according to the priority of rotation system.
3. Depending on the operating conditions of compressors, the compressors may run in patterns other than those aforementioned.

represents the range in which “Hz” is not stepped up.

RXYQ24P7Y1K
RXYQ24PYNK, PTLK, P7YLK (12+12HP)

(To increase Step No.)

STEP No.	Master unit INV	Slave unit INV	STD
1	52 Hz	52 Hz	OFF
2	56 Hz	56 Hz	OFF
3	62 Hz	62 Hz	OFF
4	66 Hz	66 Hz	OFF
5	70 Hz	70 Hz	OFF
6	74 Hz	74 Hz	OFF
7	80 Hz	80 Hz	OFF
8	88 Hz	88 Hz	OFF
9	96 Hz	96 Hz	OFF
10	104 Hz	104 Hz	OFF
11	110 Hz	110 Hz	OFF
12	116 Hz	116 Hz	OFF
13	124 Hz	124 Hz	OFF
14	132 Hz	132 Hz	OFF
15	144 Hz	144 Hz	OFF
16	158 Hz	158 Hz	OFF
17	166 Hz	166 Hz	OFF
18	176 Hz	176 Hz	OFF
19	80 Hz	80 Hz	ON 1
20	88 Hz	88 Hz	ON 1
21	96 Hz	96 Hz	ON 1
22	104 Hz	104 Hz	ON 1
23	116 Hz	116 Hz	ON 1
24	124 Hz	124 Hz	ON 1
25	132 Hz	132 Hz	ON 1
26	88 Hz	88 Hz	ON 2
27	96 Hz	96 Hz	ON 2
28	104 Hz	104 Hz	ON 2
29	124 Hz	124 Hz	ON 2
30	144 Hz	144 Hz	ON 2
31	158 Hz	158 Hz	ON 2
32	166 Hz	166 Hz	ON 2
33	176 Hz	176 Hz	ON 2
34	188 Hz	188 Hz	ON 2
35	202 Hz	202 Hz	ON 2
36	210 Hz	210 Hz	ON 2

(To decrease Step No.)

STEP No.	Master unit INV	Slave unit INV	STD
1	52 Hz	OFF	OFF
2	56 Hz	OFF	OFF
3	62 Hz	OFF	OFF
4	68 Hz	OFF	OFF
5	74 Hz	OFF	OFF
6	80 Hz	OFF	OFF
7	88 Hz	OFF	OFF
8	96 Hz	OFF	OFF
9	104 Hz	OFF	OFF
10	52 Hz	52 Hz	OFF
11	56 Hz	56 Hz	OFF
12	62 Hz	62 Hz	OFF
13	66 Hz	66 Hz	OFF
14	70 Hz	70 Hz	OFF
15	74 Hz	74 Hz	OFF
16	80 Hz	80 Hz	OFF
17	88 Hz	88 Hz	OFF
18	92 Hz	92 Hz	OFF
19	96 Hz	96 Hz	OFF
20	104 Hz	104 Hz	OFF
21	110 Hz	110 Hz	OFF
22	116 Hz	116 Hz	OFF
23	124 Hz	124 Hz	OFF
24	132 Hz	132 Hz	OFF
25	52 Hz	52 Hz	ON 1
26	62 Hz	62 Hz	ON 1
27	68 Hz	68 Hz	ON 1
28	74 Hz	74 Hz	ON 1
29	80 Hz	80 Hz	ON 1
30	88 Hz	88 Hz	ON 1
31	96 Hz	96 Hz	ON 1
32	104 Hz	104 Hz	ON 1
33	52 Hz	52 Hz	ON 2
34	62 Hz	62 Hz	ON 2
35	74 Hz	74 Hz	ON 2
36	88 Hz	88 Hz	ON 2
37	96 Hz	96 Hz	ON 2
38	104 Hz	104 Hz	ON 2
39	124 Hz	124 Hz	ON 2
40	144 Hz	144 Hz	ON 2
41	158 Hz	158 Hz	ON 2
42	166 Hz	166 Hz	ON 2
43	176 Hz	176 Hz	ON 2
44	188 Hz	188 Hz	ON 2
45	202 Hz	202 Hz	ON 2
46	210 Hz	210 Hz	ON 2

RXYQ26P7Y1K
RXYQ26PYNK, PTLK, P7YLK (8+8+10HP)

(To increase Step No.)

STEP No.	Master unit INV	Slave unit1 INV	Slave unit2 INV	STD
1	52 Hz	52 Hz	52 Hz	OFF
2	56 Hz	56 Hz	56 Hz	OFF
3	62 Hz	62 Hz	62 Hz	OFF
4	66 Hz	66 Hz	66 Hz	OFF
5	68 Hz	68 Hz	68 Hz	OFF
6	70 Hz	70 Hz	70 Hz	OFF
7	74 Hz	74 Hz	74 Hz	OFF
8	80 Hz	80 Hz	80 Hz	OFF
9	88 Hz	88 Hz	88 Hz	OFF
10	96 Hz	96 Hz	96 Hz	OFF
11	104 Hz	104 Hz	104 Hz	OFF
12	110 Hz	110 Hz	110 Hz	OFF
13	116 Hz	116 Hz	116 Hz	OFF
14	124 Hz	124 Hz	124 Hz	OFF
15	80 Hz	80 Hz	80 Hz	ON 1
16	88 Hz	88 Hz	88 Hz	ON 1
17	96 Hz	96 Hz	96 Hz	ON 1
18	104 Hz	104 Hz	104 Hz	ON 1
19	116 Hz	116 Hz	116 Hz	ON 1
20	124 Hz	124 Hz	124 Hz	ON 1
21	132 Hz	132 Hz	132 Hz	ON 1
22	144 Hz	144 Hz	144 Hz	ON 1
23	158 Hz	158 Hz	158 Hz	ON 1
24	166 Hz	166 Hz	166 Hz	ON 1
25	176 Hz	176 Hz	176 Hz	ON 1
26	188 Hz	188 Hz	188 Hz	ON 1
27	202 Hz	202 Hz	202 Hz	ON 1
28	210 Hz	210 Hz	210 Hz	ON 1
29	218 Hz	218 Hz	210 Hz	ON 1
30	232 Hz	232 Hz	210 Hz	ON 1
31	248 Hz	248 Hz	210 Hz	ON 1
32	266 Hz	266 Hz	210 Hz	ON 1

(To decrease Step No.)

STEP No.	Master unit INV	Slave unit1 INV	Slave unit2 INV	STD
1	52 Hz	OFF	OFF	OFF
2	56 Hz	OFF	OFF	OFF
3	62 Hz	OFF	OFF	OFF
4	68 Hz	OFF	OFF	OFF
5	74 Hz	OFF	OFF	OFF
6	80 Hz	OFF	OFF	OFF
7	88 Hz	OFF	OFF	OFF
8	96 Hz	OFF	OFF	OFF
9	104 Hz	OFF	OFF	OFF
10	52 Hz	52 Hz	OFF	OFF
11	56 Hz	56 Hz	OFF	OFF
12	62 Hz	62 Hz	OFF	OFF
13	66 Hz	66 Hz	OFF	OFF
14	70 Hz	70 Hz	OFF	OFF
15	74 Hz	74 Hz	OFF	OFF
16	52 Hz	52 Hz	52 Hz	OFF
17	56 Hz	56 Hz	56 Hz	OFF
18	62 Hz	62 Hz	62 Hz	OFF
19	66 Hz	66 Hz	66 Hz	OFF
20	68 Hz	68 Hz	68 Hz	OFF
21	70 Hz	70 Hz	70 Hz	OFF
22	74 Hz	74 Hz	74 Hz	OFF
23	80 Hz	80 Hz	80 Hz	OFF
24	88 Hz	88 Hz	88 Hz	OFF
25	96 Hz	96 Hz	96 Hz	OFF
26	52 Hz	52 Hz	52 Hz	ON 1
27	62 Hz	62 Hz	62 Hz	ON 1
28	68 Hz	68 Hz	68 Hz	ON 1
29	74 Hz	74 Hz	74 Hz	ON 1
30	80 Hz	80 Hz	80 Hz	ON 1
31	88 Hz	88 Hz	88 Hz	ON 1
32	96 Hz	96 Hz	96 Hz	ON 1
33	104 Hz	104 Hz	104 Hz	ON 1
34	116 Hz	116 Hz	116 Hz	ON 1
35	124 Hz	124 Hz	124 Hz	ON 1
36	144 Hz	144 Hz	144 Hz	ON 1
37	158 Hz	158 Hz	158 Hz	ON 1
38	166 Hz	166 Hz	166 Hz	ON 1
39	176 Hz	176 Hz	176 Hz	ON 1
40	188 Hz	188 Hz	188 Hz	ON 1
41	202 Hz	202 Hz	202 Hz	ON 1
42	210 Hz	210 Hz	210 Hz	ON 1
43	218 Hz	218 Hz	210 Hz	ON 1
44	232 Hz	232 Hz	210 Hz	ON 1
45	248 Hz	248 Hz	210 Hz	ON 1
46	266 Hz	266 Hz	210 Hz	ON 1

Notes:

1. INV : Inverter compressor
   STD : Standard compressor
   Figures after ON represent the number of STD compressors in operation.
2. “Master unit”, and “slave unit” in this section are the names for control, and they will be transferred according to the priority of rotation system.
3. Depending on the operating conditions of compressors, the compressors may run in patterns other than those aforementioned.

represents the range in which “Hz” is not stepped up.

RXYQ28P7Y1K (8+10+10HP), 30P7Y1K (8+10+12HP)
RXYQ28PYNK, PTLK, P7YLK (8+10+10HP)
RXYQ30PYNK, PTLK, P7YLK (8+10+12HP)

(To increase Step No.)

STEP No.	Master unit INV	Slave unit1 INV	Slave unit2 INV	STD
1	52 Hz	52 Hz	52 Hz	OFF
2	56 Hz	56 Hz	56 Hz	OFF
3	62 Hz	62 Hz	62 Hz	OFF
4	66 Hz	66 Hz	66 Hz	OFF
5	68 Hz	68 Hz	68 Hz	OFF
6	70 Hz	70 Hz	70 Hz	OFF
7	74 Hz	74 Hz	74 Hz	OFF
8	80 Hz	80 Hz	80 Hz	OFF
9	88 Hz	88 Hz	88 Hz	OFF
10	96 Hz	96 Hz	96 Hz	OFF
11	104 Hz	104 Hz	104 Hz	OFF
12	110 Hz	110 Hz	110 Hz	OFF
13	116 Hz	116 Hz	116 Hz	OFF
14	124 Hz	124 Hz	124 Hz	OFF
15	80 Hz	80 Hz	80 Hz	ON 1
16	88 Hz	88 Hz	88 Hz	ON 1
17	96 Hz	96 Hz	96 Hz	ON 1
18	104 Hz	104 Hz	104 Hz	ON 1
19	116 Hz	116 Hz	116 Hz	ON 1
20	124 Hz	124 Hz	124 Hz	ON 1
21	132 Hz	132 Hz	132 Hz	ON 1
22	88 Hz	88 Hz	88 Hz	ON 2
23	96 Hz	96 Hz	96 Hz	ON 2
24	104 Hz	104 Hz	104 Hz	ON 2
25	124 Hz	124 Hz	124 Hz	ON 2
26	144 Hz	144 Hz	144 Hz	ON 2
27	158 Hz	158 Hz	158 Hz	ON 2
28	166 Hz	166 Hz	166 Hz	ON 2
29	176 Hz	176 Hz	176 Hz	ON 2
30	188 Hz	188 Hz	188 Hz	ON 2
31	202 Hz	202 Hz	202 Hz	ON 2
32	210 Hz	210 Hz	210 Hz	ON 2
33	218 Hz	210 Hz	210 Hz	ON 2
34	232 Hz	210 Hz	210 Hz	ON 2
35	248 Hz	210 Hz	210 Hz	ON 2
36	266 Hz	210 Hz	210 Hz	ON 2

(To decrease Step No.)

STEP No.	Master unit INV	Slave unit1 INV	Slave unit2 INV	STD
1	52 Hz	OFF	OFF	OFF
2	56 Hz	OFF	OFF	OFF
3	62 Hz	OFF	OFF	OFF
4	68 Hz	OFF	OFF	OFF
5	74 Hz	OFF	OFF	OFF
6	80 Hz	OFF	OFF	OFF
7	88 Hz	OFF	OFF	OFF
8	96 Hz	OFF	OFF	OFF
9	104 Hz	OFF	OFF	OFF
10	52 Hz	52 Hz	OFF	OFF
11	56 Hz	56 Hz	OFF	OFF
12	62 Hz	62 Hz	OFF	OFF
13	66 Hz	66 Hz	OFF	OFF
14	70 Hz	70 Hz	OFF	OFF
15	74 Hz	74 Hz	OFF	OFF
16	52 Hz	52 Hz	52 Hz	OFF
17	56 Hz	56 Hz	56 Hz	OFF
18	62 Hz	62 Hz	62 Hz	OFF
19	66 Hz	66 Hz	66 Hz	OFF
20	68 Hz	68 Hz	68 Hz	OFF
21	70 Hz	70 Hz	70 Hz	OFF
22	74 Hz	74 Hz	74 Hz	OFF
23	80 Hz	80 Hz	80 Hz	OFF
24	88 Hz	88 Hz	88 Hz	OFF
25	96 Hz	96 Hz	96 Hz	OFF
26	52 Hz	52 Hz	52 Hz	ON 1
27	62 Hz	62 Hz	62 Hz	ON 1
28	68 Hz	68 Hz	68 Hz	ON 1
29	74 Hz	74 Hz	74 Hz	ON 1
30	80 Hz	80 Hz	80 Hz	ON 1
31	88 Hz	88 Hz	88 Hz	ON 1
32	96 Hz	96 Hz	96 Hz	ON 1
33	104 Hz	104 Hz	104 Hz	ON 1
34	52 Hz	52 Hz	52 Hz	ON 2
35	62 Hz	62 Hz	62 Hz	ON 2
36	74 Hz	74 Hz	74 Hz	ON 2
37	88 Hz	88 Hz	88 Hz	ON 2
38	96 Hz	96 Hz	96 Hz	ON 2
39	104 Hz	104 Hz	104 Hz	ON 2
40	116 Hz	116 Hz	116 Hz	ON 2
41	124 Hz	124 Hz	124 Hz	ON 2
42	144 Hz	144 Hz	144 Hz	ON 2
43	158 Hz	158 Hz	158 Hz	ON 2
44	166 Hz	166 Hz	166 Hz	ON 2
45	176 Hz	176 Hz	176 Hz	ON 2
46	188 Hz	188 Hz	188 Hz	ON 2
47	202 Hz	202 Hz	202 Hz	ON 2
48	210 Hz	210 Hz	210 Hz	ON 2
49	218 Hz	210 Hz	210 Hz	ON 2
50	232 Hz	210 Hz	210 Hz	ON 2
51	248 Hz	210 Hz	210 Hz	ON 2
52	266 Hz	210 Hz	210 Hz	ON 2

RXYQ32P7Y1K (10+10+12HP)
RXYQ34P7Y1K (10+12+12HP)
RXYQ36P7Y1K (12+12+12HP)
RXYQ32PYNK, PTLK, P7YLK (10+10+12HP)
RXYQ34PYNK, PTLK, P7YLK (10+12+12HP)
RXYQ36PYNK, PTLK, P7YLK (12+12+12HP)

(To increase Step No.)

STEP No.	Master unit INV	Slave unit1 INV	Slave unit2 INV	STD
1	52 Hz	52 Hz	52 Hz	OFF
2	56 Hz	56 Hz	56 Hz	OFF
3	62 Hz	62 Hz	62 Hz	OFF
4	66 Hz	66 Hz	66 Hz	OFF
5	68 Hz	68 Hz	68 Hz	OFF
6	70 Hz	70 Hz	70 Hz	OFF
7	74 Hz	74 Hz	74 Hz	OFF
8	80 Hz	80 Hz	80 Hz	OFF
9	88 Hz	88 Hz	88 Hz	OFF
10	96 Hz	96 Hz	96 Hz	OFF
11	104 Hz	104 Hz	104 Hz	OFF
12	110 Hz	110 Hz	110 Hz	OFF
13	116 Hz	116 Hz	116 Hz	OFF
14	124 Hz	124 Hz	124 Hz	OFF
15	80 Hz	80 Hz	80 Hz	ON 1
16	88 Hz	88 Hz	88 Hz	ON 1
17	96 Hz	96 Hz	96 Hz	ON 1
18	104 Hz	104 Hz	104 Hz	ON 1
19	116 Hz	116 Hz	116 Hz	ON 1
20	124 Hz	124 Hz	124 Hz	ON 1
21	132 Hz	132 Hz	132 Hz	ON 1
22	88 Hz	88 Hz	88 Hz	ON 2
23	96 Hz	96 Hz	96 Hz	ON 2
24	104 Hz	104 Hz	104 Hz	ON 2
25	124 Hz	124 Hz	124 Hz	ON 2
26	144 Hz	144 Hz	144 Hz	ON 2
27	92 Hz	92 Hz	92 Hz	ON 3
28	104 Hz	104 Hz	104 Hz	ON 3
29	116 Hz	116 Hz	116 Hz	ON 3
30	124 Hz	124 Hz	124 Hz	ON 3
31	144 Hz	144 Hz	144 Hz	ON 3
32	158 Hz	158 Hz	158 Hz	ON 3
33	166 Hz	166 Hz	166 Hz	ON 3
34	176 Hz	176 Hz	176 Hz	ON 3
35	188 Hz	188 Hz	188 Hz	ON 3
36	202 Hz	202 Hz	202 Hz	ON 3
37	210 Hz	210 Hz	210 Hz	ON 3

(To decrease Step No.)

STEP No.	Master unit INV	Slave unit1 INV	Slave unit2 INV	STD
1	52 Hz	OFF	OFF	OFF
2	56 Hz	OFF	OFF	OFF
3	62 Hz	OFF	OFF	OFF
4	68 Hz	OFF	OFF	OFF
5	74 Hz	OFF	OFF	OFF
6	80 Hz	OFF	OFF	OFF
7	88 Hz	OFF	OFF	OFF
8	96 Hz	OFF	OFF	OFF
9	104 Hz	OFF	OFF	OFF
10	52 Hz	52 Hz	OFF	OFF
11	56 Hz	56 Hz	OFF	OFF
12	62 Hz	62 Hz	OFF	OFF
13	66 Hz	66 Hz	OFF	OFF
14	70 Hz	70 Hz	OFF	OFF
15	74 Hz	74 Hz	OFF	OFF
16	52 Hz	52 Hz	52 Hz	OFF
17	56 Hz	56 Hz	56 Hz	OFF
18	62 Hz	62 Hz	62 Hz	OFF
19	66 Hz	66 Hz	66 Hz	OFF
20	68 Hz	68 Hz	68 Hz	OFF
21	70 Hz	70 Hz	70 Hz	OFF
22	74 Hz	74 Hz	74 Hz	OFF
23	80 Hz	80 Hz	80 Hz	OFF
24	88 Hz	88 Hz	88 Hz	OFF
25	96 Hz	96 Hz	96 Hz	OFF
26	52 Hz	52 Hz	52 Hz	ON 1
27	62 Hz	62 Hz	62 Hz	ON 1
28	68 Hz	68 Hz	68 Hz	ON 1
29	74 Hz	74 Hz	74 Hz	ON 1
30	80 Hz	80 Hz	80 Hz	ON 1
31	88 Hz	88 Hz	88 Hz	ON 1
32	96 Hz	96 Hz	96 Hz	ON 1
33	104 Hz	104 Hz	104 Hz	ON 1
34	52 Hz	52 Hz	52 Hz	ON 2
35	62 Hz	62 Hz	62 Hz	ON 2
36	74 Hz	74 Hz	74 Hz	ON 2
37	88 Hz	88 Hz	88 Hz	ON 2
38	96 Hz	96 Hz	96 Hz	ON 2
39	52 Hz	52 Hz	52 Hz	ON 3
40	62 Hz	62 Hz	62 Hz	ON 3
41	74 Hz	74 Hz	74 Hz	ON 3
42	92 Hz	92 Hz	92 Hz	ON 3
43	104 Hz	104 Hz	104 Hz	ON 3
44	116 Hz	116 Hz	116 Hz	ON 3
45	124 Hz	124 Hz	124 Hz	ON 3
46	144 Hz	144 Hz	144 Hz	ON 3
47	158 Hz	158 Hz	158 Hz	ON 3
48	166 Hz	166 Hz	166 Hz	ON 3
49	176 Hz	176 Hz	176 Hz	ON 3
50	188 Hz	188 Hz	188 Hz	ON 3
51	202 Hz	202 Hz	202 Hz	ON 3
52	210 Hz	210 Hz	210 Hz	ON 3

Notes:

1. INV : Inverter compressor
   STD : Standard compressor
   Figures after ON represent the number of STD compressors in operation.
2. “Master unit”, and “slave unit” in this section are the names for control, and they will be transferred according to the priority of rotation system.
3. Depending on the operating conditions of compressors, the compressors may run in patterns other than those aforementioned.

2.3 Electronic Expansion Valve PI Control

Main Motorized Valve EV1 Control

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

SH = Ts1 - Te

SH : Evaporator outlet superheated degree (°C)

Ts1: Suction pipe temperature detected by thermistor R6T (R7T) (°C)

Te : Low pressure equivalent saturation temperature (°C)

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

Subcooling Motorized Valve EV2 Control

Makes PI control of the motorized valve (Y2E) to keep the superheated degree of the outlet gas pipe on the evaporator side for the full use of the subcooling heat exchanger.

SH = Tsh -Te

SH : Outlet superheated degree of evaporator (°C)

Tsh : Suction pipe temperature detected with the thermistor R5T (°C)

Te : Low pressure equivalent saturation temperature (°C)

2.4 Step Control of Outdoor Unit Fans

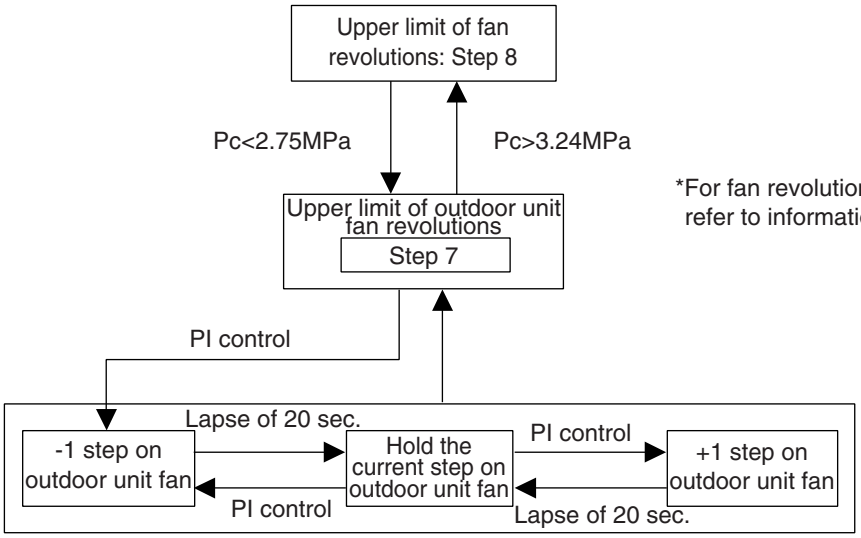
Used to control the revolutions of outdoor unit fans in the steps listed in table below, according to condition changes.

STEP No.	Fan revolutions (rpm)		
	RXYQ8P	RXYQ10P, 12P	
		FAN1	FAN2
0	0	0	0
1	350	230	0
2	370	380	0
3	400	290	260
4	450	375	345
5	540	570	540
6	670	720	690
7	760	1091	1061
8	Cooling: 870 Heating: 780	1235	1205

* Figures listed above are all those controlled while in standard mode, which vary when the system is set to high static pressure or capacity precedence mode.

2.5 Outdoor Unit Fan Control in Cooling Operation

While in cooling operation, if the outdoor temperature is low, this mode provides high-pressure control using the outdoor unit fan to retain appropriate liquid pressure, thus ensuring refrigerant circulation rate to be supplied to indoor units.



*For fan revolutions in each step, refer to information on page 84.

3. Special Control

3.1 Startup Control

This control is used to equalize the pressure in the front and back of the compressor prior to the startup of the compressor, thus reducing startup loads. Furthermore, the inverter is turned ON to charge the capacitor.
In addition, to avoid stresses to the compressor due to oil return or else after the startup, the following control is made and the position of the four way valve is also determined. To position the four way valve, the master and slave units simultaneously start up.

3.1.1 Startup Control in Cooling Operation

Thermostat ON

	Pressure equalization control prior to startup	Startup control	
		STEP1	STEP2
Compressor	0 Hz	52 Hz + OFF + OFF	124 Hz + OFF + OFF +2 steps/20 sec. (until Pc - Pe>0.39MPa is achieved)
Outdoor unit fan	STEP4	Ta<20°C: OFF Ta≥20°C: STEP4	+1 step/15 sec. (when Pc>2.16MPa) -1 step/15 sec. (when Pc<1.77MPa)
Four way valve (20S1)	Holds	OFF	OFF
Main motorized valve (EV1)	0 pls	480 pls	480 pls
Subcooling motorized valve (EV2)	0 pls	0 pls	0 pls
Hot gas bypass valve (SVP)	OFF	OFF	OFF
Accumulator oil return valve (SVO)	OFF	OFF	OFF
Ending conditions	A lapse of one minute	A lapse of 10 sec.	OR • A lapse of 130 sec. • Pc - Pe>0.39MPa

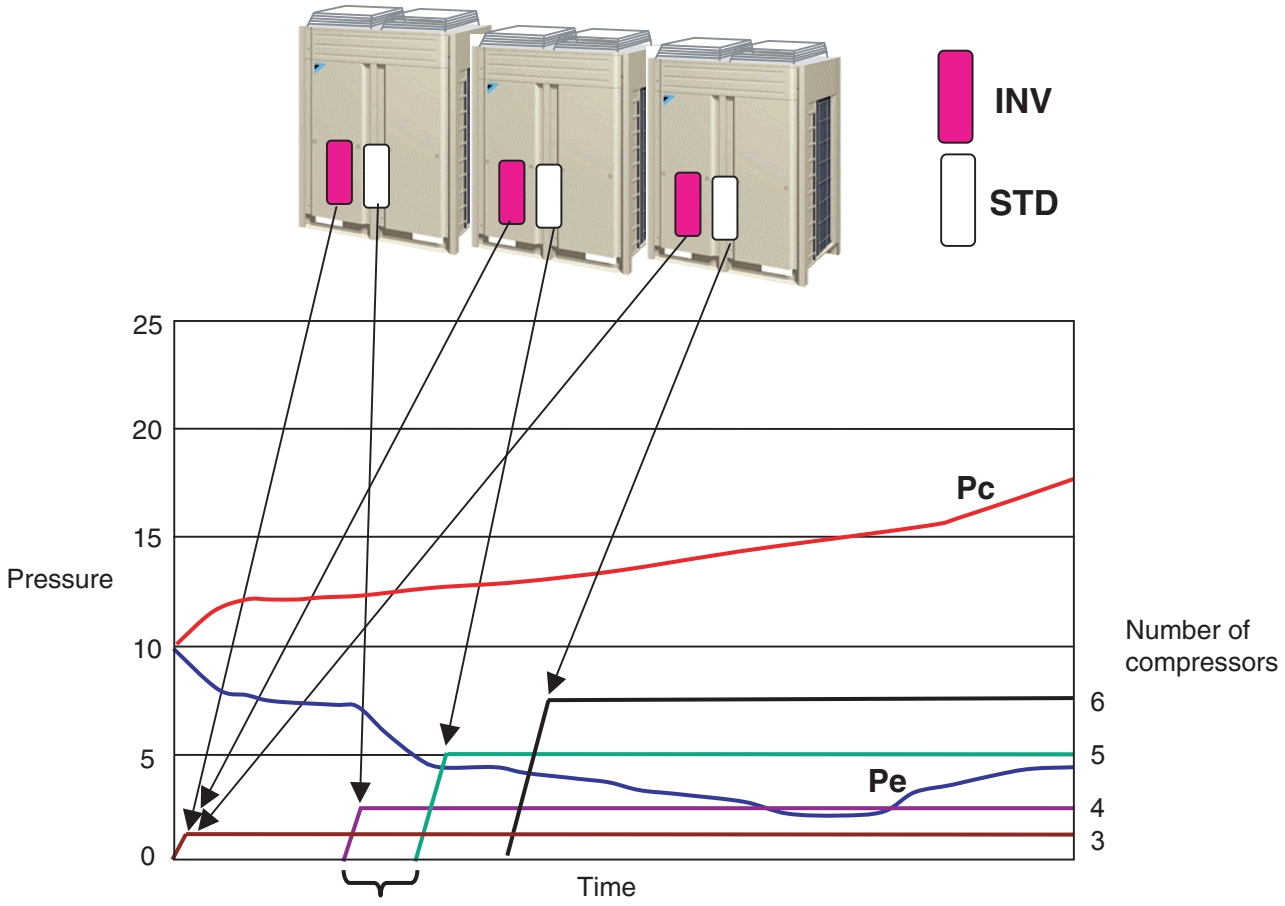
3.1.2 Startup Control in Heating Operation

Thermostat ON

	Pressure equalization control prior to startup	Startup control	
		STEP1	STEP2
Compressor	0 Hz	52 Hz + OFF + OFF	124 Hz + OFF + OFF +2 steps/20 sec. (until Pc - Pe>0.39MPa is achieved)
Outdoor unit fan	STEP4	STEP8	STEP8
Four way valve	Holds	ON	ON
Main motorized valve (EV1)	0 pls	0 pls	0 pls
Subcooling motorized valve (EV2)	0 pls	0 pls	0 pls
Hot gas bypass valve (SVP)	OFF	OFF	OFF
Accumulator oil return valve (SVO)	OFF	OFF	OFF
Ending conditions	A lapse of one minute	A lapse of 10 sec.	OR • A lapse of 130 sec. • Pc>2.70MPa • Pc-Pe>0.39MPa

3.2 Large Capacity Start Up Control (Heating)

For startup, oil return operation, or setup after defrosting, start up multiple compressors at a high speed according to the conditions of indoor units with thermostat ON, thus maximizing the equipment capacity.



Start up STD compressors at intervals of 15 seconds.

3.3 Oil Return Operation

In order to prevent the compressor from running out of oil, the oil return operation is conducted to recover oil flown out from the compressor to the system side.

3.3.1 Oil Return Operation in Cooling Operation

[Start conditions]

Referring to the set conditions for the following items, start the oil return operation in cooling.

- Cumulative oil feed rate
- Timer setting (Make this setting so as to start the oil return operation when the initial cumulative operating time reaches two hours after power supply is turned ON and then every eight hours.)

Furthermore, the cumulative oil feed rate is computed from Tc, Te, and compressor loads.

Outdoor unit actuator	Oil return preparation operation	Oil return operation	Post-oil-return operation
Compressor	Take the current step as the upper limit.	52 Hz + ON + ON (→ Low pressure constant control) ↓ Maintain number of compressors in oil return preparation operation ON	Same as the “oil return operation” mode.
Outdoor unit fan	Fan control (Normal cooling)	Fan control (Normal cooling)	Fan control (Normal cooling)
Four way valve	OFF	OFF	OFF
Main motorized valve (EV1)	480 pls	480 pls	480 pls
Subcooling motorized valve (EV2)	SH control	0 pls	0 pls
Hot gas bypass valve (SVP)	OFF	OFF	OFF
Ending conditions	20 sec.	or • 3 min. • Ts - Te<5°C	or • 3 min. • Pe<0.6MPa • HTdi>110°C

∗ In the case of multi-outdoor-unit system,
Master unit: Performs the operations listed in the table above.
Slave units: Operating units perform the operations listed in the table above.
Non-operating units perform the operations listed in the table above from the oil return operation.
(Non-operating unit stops during “oil return preparation operation”.)

Indoor unit actuator		Cooling oil return operation
Fan	Thermostat ON unit	Remote controller setting
	Stopping unit	OFF
	Thermostat OFF unit	Remote controller setting
Electronic expansion valve	Thermostat ON unit	Normal opening
	Stopping unit	224 pls
	Thermostat OFF unit	Normal opening with forced thermostat ON

3.3.2 Oil Return Operation in Heating Operation

Outdoor Unit Actuator	Oil return preparation operation	Oil return operation	Post-oil-return operation
Compressor	Upper limit control	176 Hz + ON + ON	124 Hz + OFF + OFF 2-steps increase/20sec. till Pc - Pe>0.4 MPa
Outdoor unit fan	STEP7 or STEP8	OFF	STEP8
Four way valve	ON	OFF	ON
Main motorized valve (EV1)	SH control → 480 pls	480 pls	55 pls
Subcooling motorized valve (EV2)	SH control	0 pls	0 pls
Hot gas bypass valve (SVP)	OFF	OFF	OFF
Ending conditions	170 sec.	or • 4 min. • Ts - Te<5°C	or • 10 sec. • Pc - Pe>0.4MPa

* In the case of multi-outdoor-unit system,
  Master unit: Performs the operations listed in the table above.
  Slave units: Operating units perform the operations listed in the table above.
  Non-operating units perform the operations listed in the table above from the oil return operation.
  (Non-operating unit stops during “oil return preparation operation”.)

Indoor unit actuator		Heating oil return operation
Fan	Thermostat ON unit	OFF
	Stopping unit	OFF
	Thermostat OFF unit	OFF
Electronic expansion valve	Thermostat ON unit	Oil return EV opening degree
	Stopping unit	256 pls
	Thermostat OFF unit	Oil return EV opening degree

3.4 Defrosting Operation

To defrost the outdoor unit heat exchanger while in Evaporator, the defrost operation is conducted to recover the heating capacity.

[Start conditions]

Referring to the set conditions for the following items, start the defrosting operation.

- Heat transfer coefficient of the outdoor unit heat exchanger
- Heat exchange temperature (Tb)
- Timer (Set to two hours at minimum.)

Furthermore, the heat transfer coefficient of the outdoor unit Evaporator is computed from Tc, Te, and compressor loads.

Outdoor unit actuator	Defrost preparation operation	Defrost operation	Post Defrost operation
Compressor	Upper limit control	176 Hz + ON + ON	124 Hz + OFF + OFF 2-steps increase/20sec. till Pc - Pe>0.4 MPa
Outdoor unit fan	STEP7 or STEP8	OFF	STEP8
Four way valve	ON	OFF	ON
Main motorized valve (EV1)	SH control → 480 pls	480 pls	55 pls
Subcooling motorized valve (EV2)	0 pls	0 pls	0 pls
Hot gas bypass valve (SVP)	OFF	OFF	OFF
Ending conditions	170 sec.	or • 10 min. • Tb>11°C	or • 10 sec. • Pc - Pe>0.4MPa

* In the case of multi-outdoor-unit system,
  Master unit: Performs the operations listed in the table above.
  Slave units: Operating units perform the operations listed in the table above.
  Non-operating units perform the operations listed in the table above from the Defrost operation.
  (Non-operating unit stops during “Defrost preparation operation”.)

Indoor unit actuator		During defrost
Fan	Thermostat ON unit	OFF
	Stopping unit	OFF
	Thermostat OFF unit	OFF
Electronic expansion valve	Thermostat ON unit	Defrost EV opening degree
	Stopping unit	256 pls
	Thermostat OFF unit	Defrost EV opening degree

3.5 Pump-down Residual Operation

3.5.1 Pump-down Residual Operation in Cooling Operation

If the liquid refrigerant stays in the Evaporator at the startup of a compressor, this liquid refrigerant enters the compressor, thus resulting in diluted oil in the compressor and then degraded lubrication performance. Consequently, in order to recover the refrigerant in the Evaporator while the compressor stops, the pump-down residual operation is conducted.

Actuator	Master unit operation	Slave unit operation
Compressor	124 Hz + OFF + OFF	OFF
Outdoor unit fan	Fan control	OFF
Four way valve	OFF	OFF
Main motorized valve (EV1)	480 pls	0 pls
Subcooling motorized valve (EV2)	0 pls	0 pls
Hot gas bypass valve (SVP)	OFF	OFF
Ending conditions	or • 5 min. • Master Unit Pe<0.49 MPa • Master Unit Td>110°C • Master Unit Pc>2.94 MPa	

3.5.2 Pump-down Residual Operation in Heating Operation

Actuator	Master unit operation	Slave unit operation
Compressor	124 Hz + OFF + OFF	OFF
Outdoor unit fan	STEP7	STEP4
Four way valve	ON	ON
Main motorized valve (EV1)	0 pls	0 pls
Subcooling motorized valve (EV2)	0 pls	0 pls
Hot gas bypass valve (SVP)	OFF	OFF
Ending conditions	or • 3 min. • Master Unit Pe<0.25 MPa • Master Unit Td>110°C • Master Unit Pc>2.94 MPa	

3.6 Standby

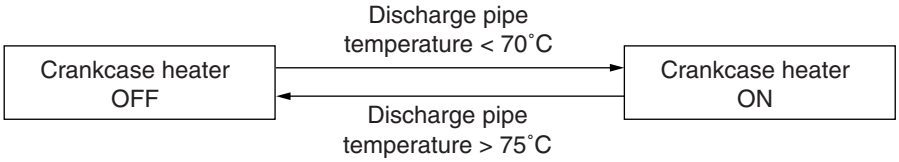
3.6.1 Restart Standby

Used to forcedly stop the compressor for a period of 3 minutes, in order to prevent the frequent ON/OFF of the compressor and equalize the pressure within the refrigerant system.

Actuator	Operation
Compressor	OFF
Outdoor unit fan	Ta>30°C: STEP4 Ta≤30°C: OFF
Four way valve	Holds
Main motorized valve (EV1)	0 pls
Subcooling motorized (EV2)	0 pls
Hot gas bypass valve (SVP)	OFF
Ending conditions	2 min.

3.6.2 Crankcase Heater Control

In order to prevent the refrigerant from melting in the compressor oil in the stopped mode, this mode is used to control the crankcase heater.



3.7 Stopping Operation

3.7.1 When System is in Stop Mode (Normal operation stop)

This mode is used to define actuator operations when the system stops.

Actuator	Operation
Compressor	OFF
Outdoor unit fan	OFF
Four way valve	Holds
Main motorized valve (EV1)	0 pls
Subcooling motorized valve (EV2)	0 pls
Hot gas bypass valve (SVP)	OFF
Accumulator oil return valve (SVO)	OFF
Ending conditions	Indoor unit thermostat is turned ON.

3.7.2 Stop due to Malfunction

In order to protect compressors, if any of the following items has an abnormal value, the system will make "stop with thermostat OFF" and the malfunction will be determined according to the number of retry times.

Item	Judgment Criteria	Malfunction Code
1. Abnormal low pressure level	0.07MPa	E4
2. Abnormal high pressure level	4.0MPa	E3
3. Abnormal discharge pipe temperature level	135°C	F3
4. Abnormal power supply voltage	Reverse-phase power supply	U1
5. Abnormal inverter current level	16.1A: 260 sec.	L8
6. Abnormal radiator fin temperature level	93°C	L4

3.7.3 Stopping Operation of Slave Units During Master Unit is in Operation with Multi-Outdoor-Unit System

While the master unit is in operation, this mode is used to set the refrigerant flow rate to a required level using a slave unit in the stopped mode.
In cooling operation: Same as that of normal operation stop.

In heating operation: The system operates with following mode.

Actuator	Operation
Compressor	OFF
Outdoor unit fan	OFF
Four way valve	ON
Main motorized valve (EV1)	0 pls
Subcooling motorized valve (EV2)	0 pls
Hot gas bypass valve (SVP)	OFF
Accumulator oil return valve (SVO)	OFF
Ending conditions	Slave units are required to operate.

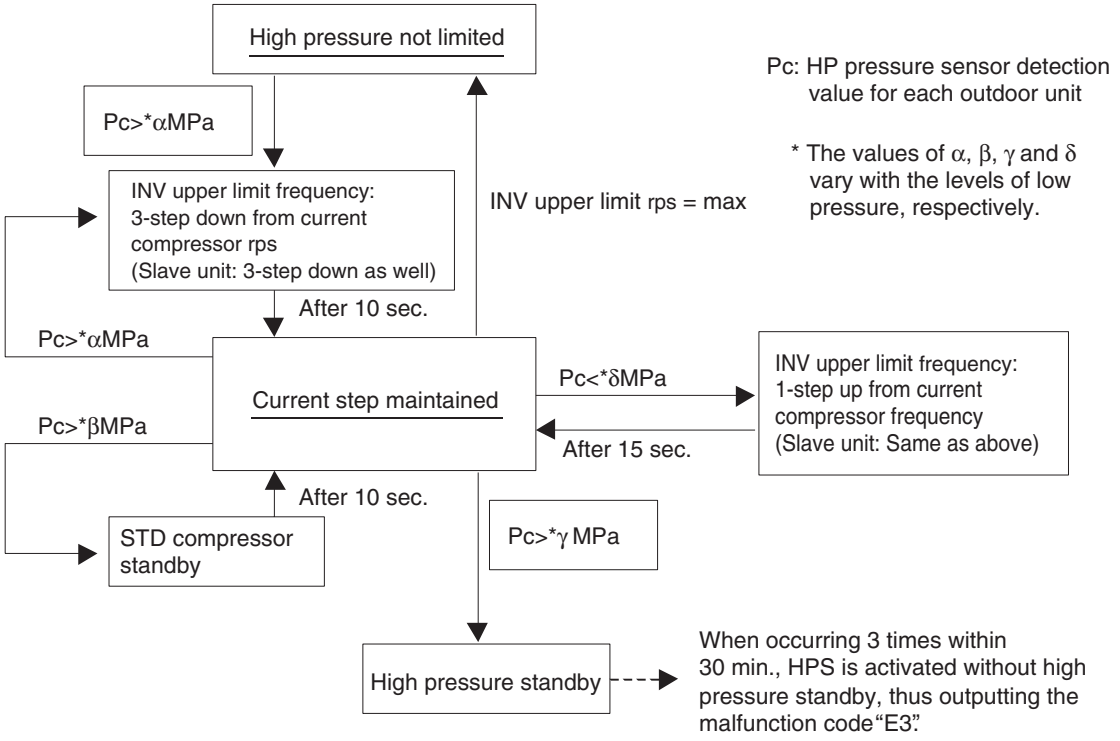
4. Protection Control

4.1 High Pressure Protection Control

This high pressure protection control is used to prevent the activation of protection devices due to abnormal increase of high pressure and to protect compressors against the transient increase of high pressure.

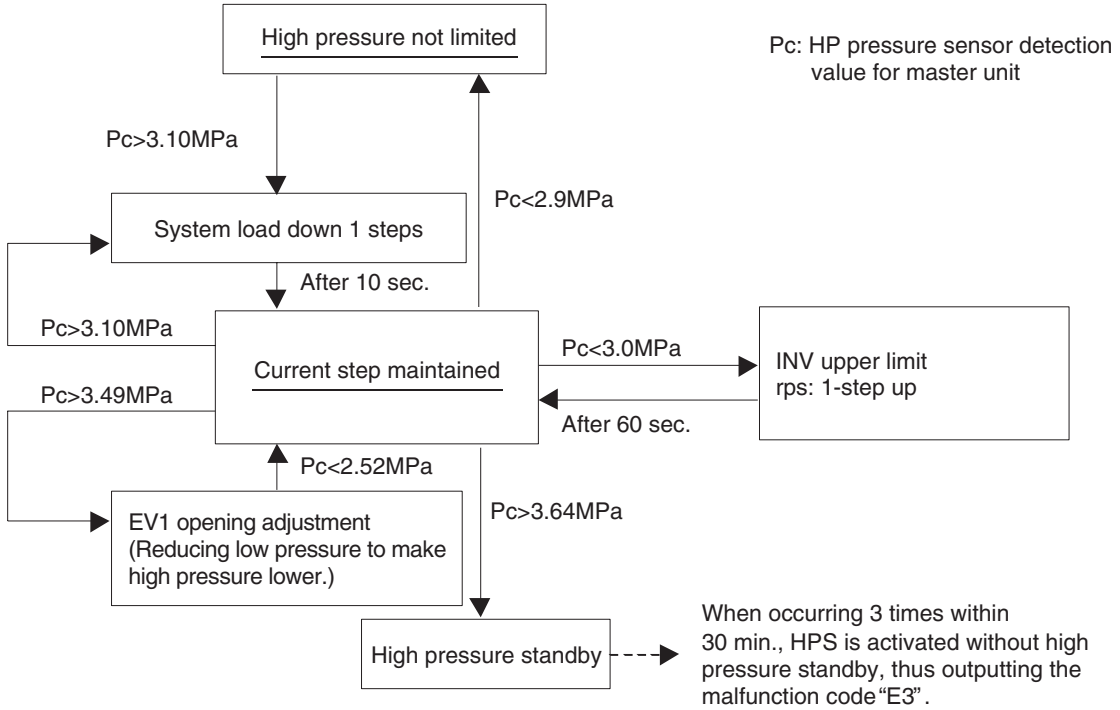
[In cooling operation]

★ In the case of multi-outdoor-unit system, each outdoor unit performs this control individually in the following sequence.



[In heating operation]

★ In the case of multi-outdoor-unit system, the entire system performs this control in the following sequence.

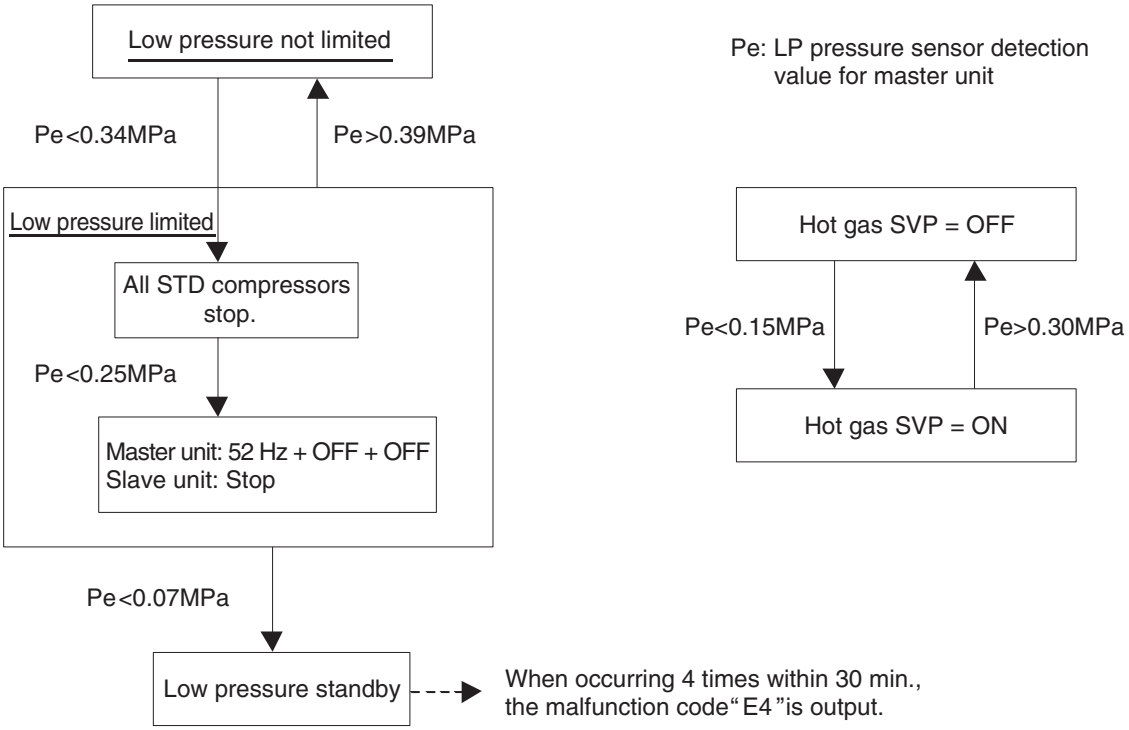


4.2 Low Pressure Protection Control

This low pressure protection control is used to protect compressors against the transient decrease of low pressure.

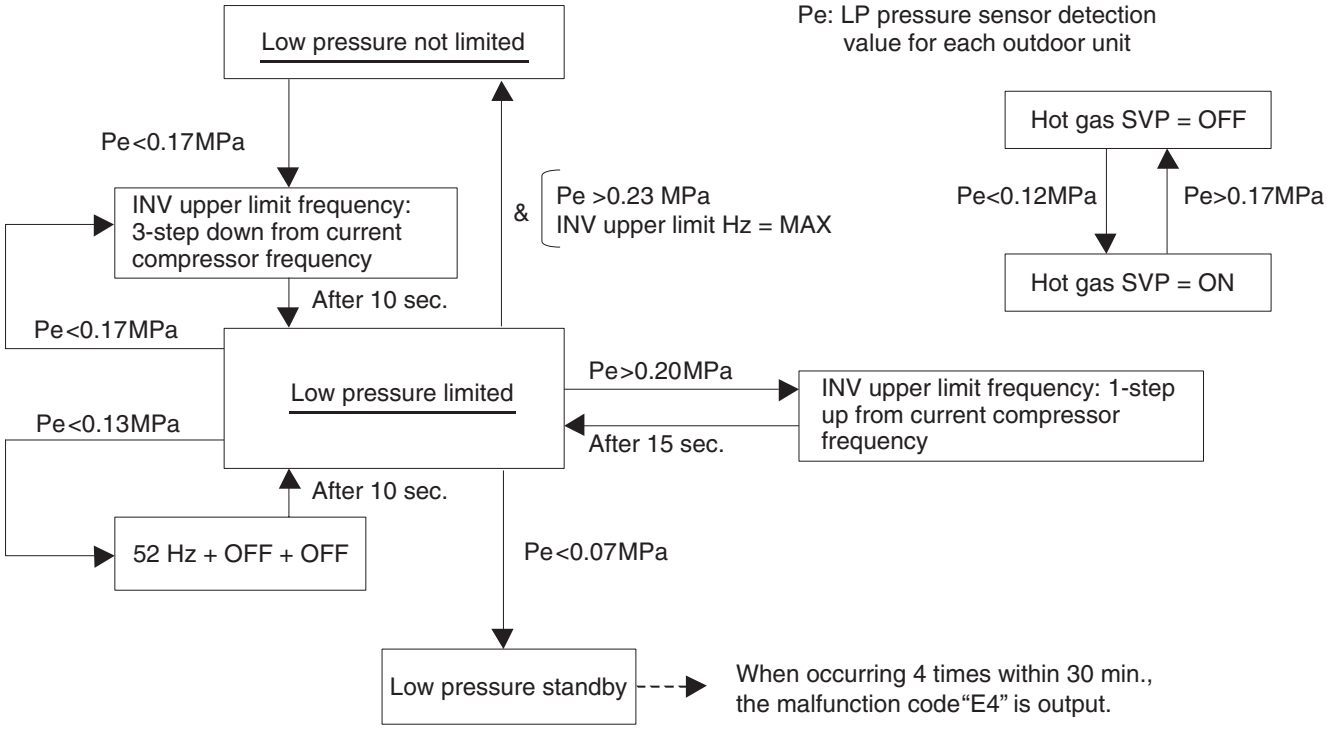
[In cooling operation]

★ In the case of multi-outdoor-unit system, the entire system performs this control in the following sequence.



[In heating operation]

★ In the case of multi-outdoor-unit system, each outdoor unit performs this control individually in the following sequence.

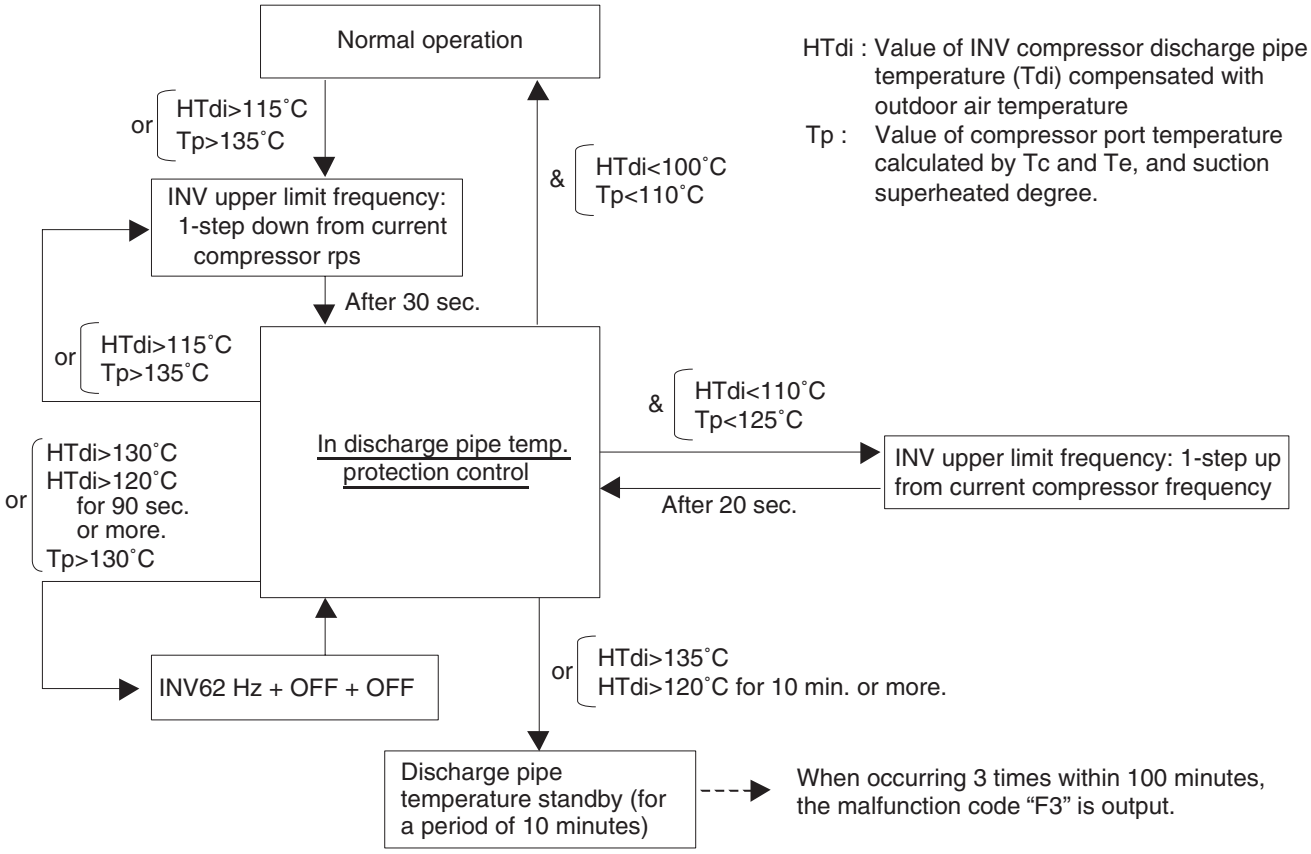


4.3 Discharge Pipe Protection Control

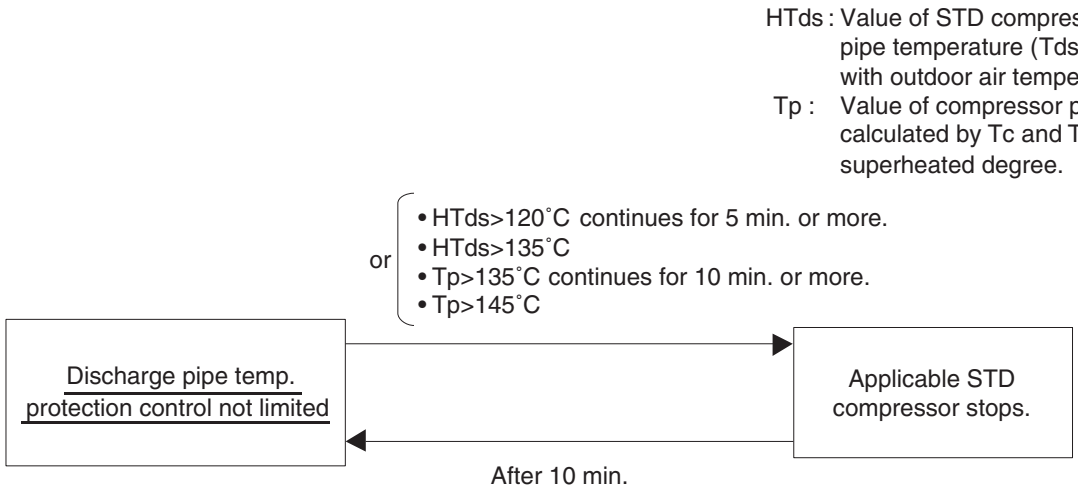
This discharge pipe protection control is used to protect the compressor internal temperature against a malfunction or transient increase of discharge pipe temperature.

★ Each compressor performs the discharge pipe temperature protection control individually in the following sequence.

[INV compressor]



[STD compressor]

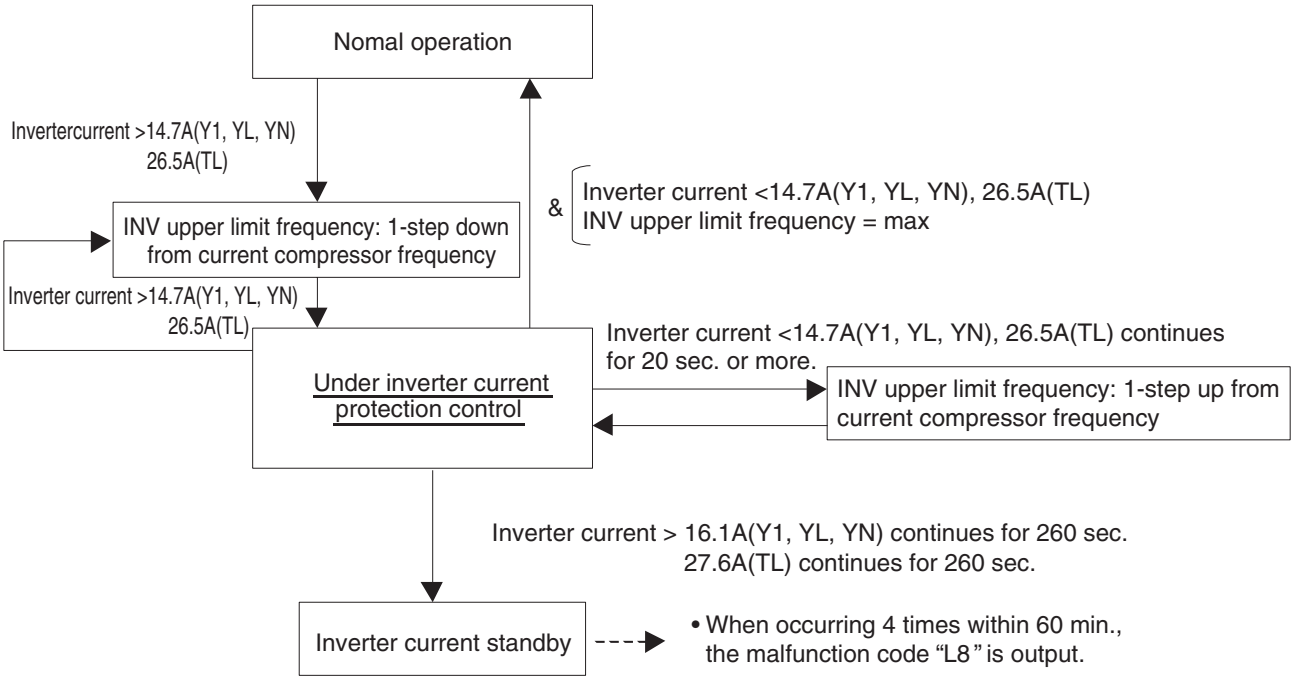


4.4 Inverter Protection Control

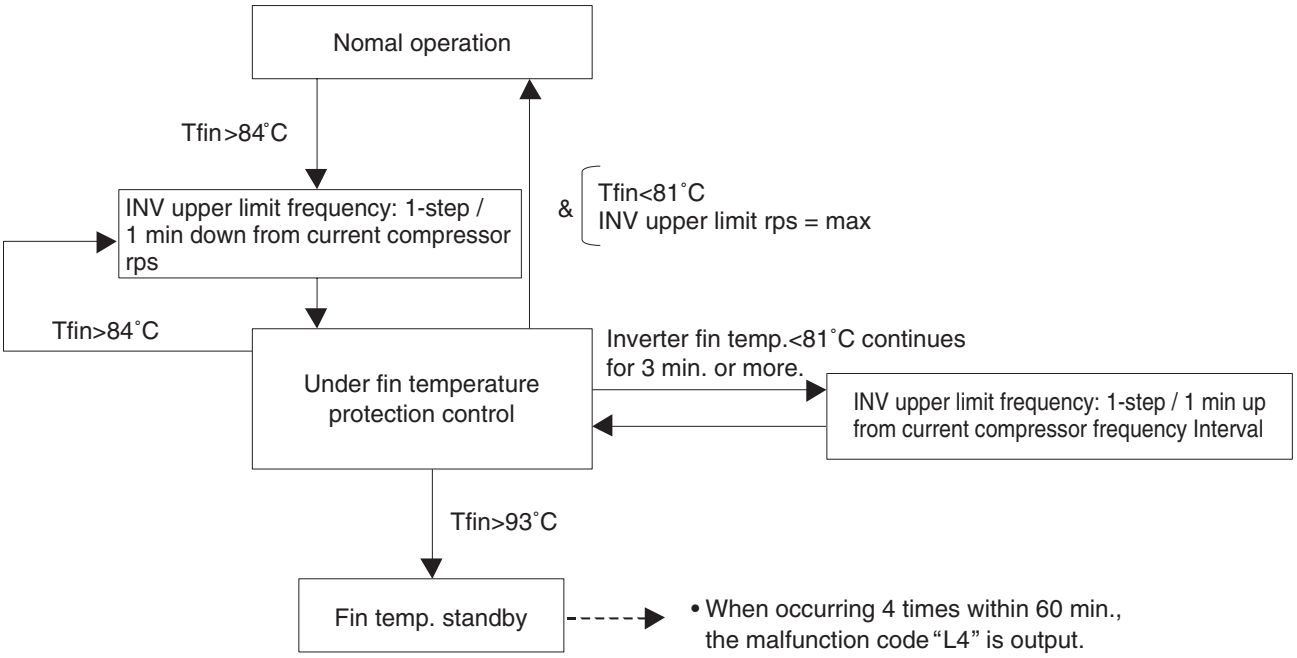
Inverter current protection control and inverter fin temperature control are performed to prevent tripping due to a malfunction, or transient inverter overcurrent, and fin temperature increase.

★ In the case of multi-outdoor-unit system, each INV compressor performs these controls in the following sequence.

[Inverter overcurrent protection control]

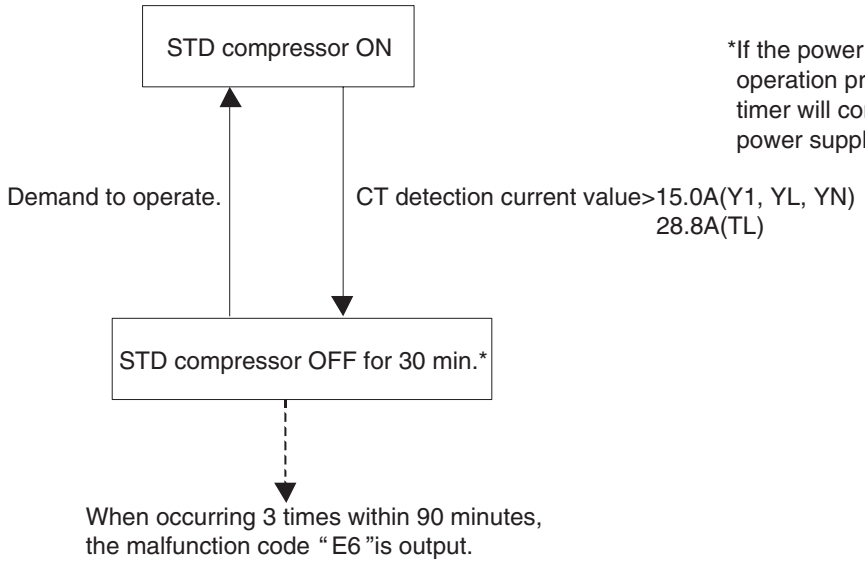


[Inverter fin temperature control]



4.5 STD Compressor Overload Protection

This control is used to prevent abnormal heating due to overcurrent to the compressor resulting from failures of STD compressor such as locking.



5. Other Control

5.1 Outdoor Unit Rotation

In the case of multi-outdoor-unit system, this outdoor unit rotation is used to prevent the compressor from burning out due to unbalanced oil level between outdoor units.

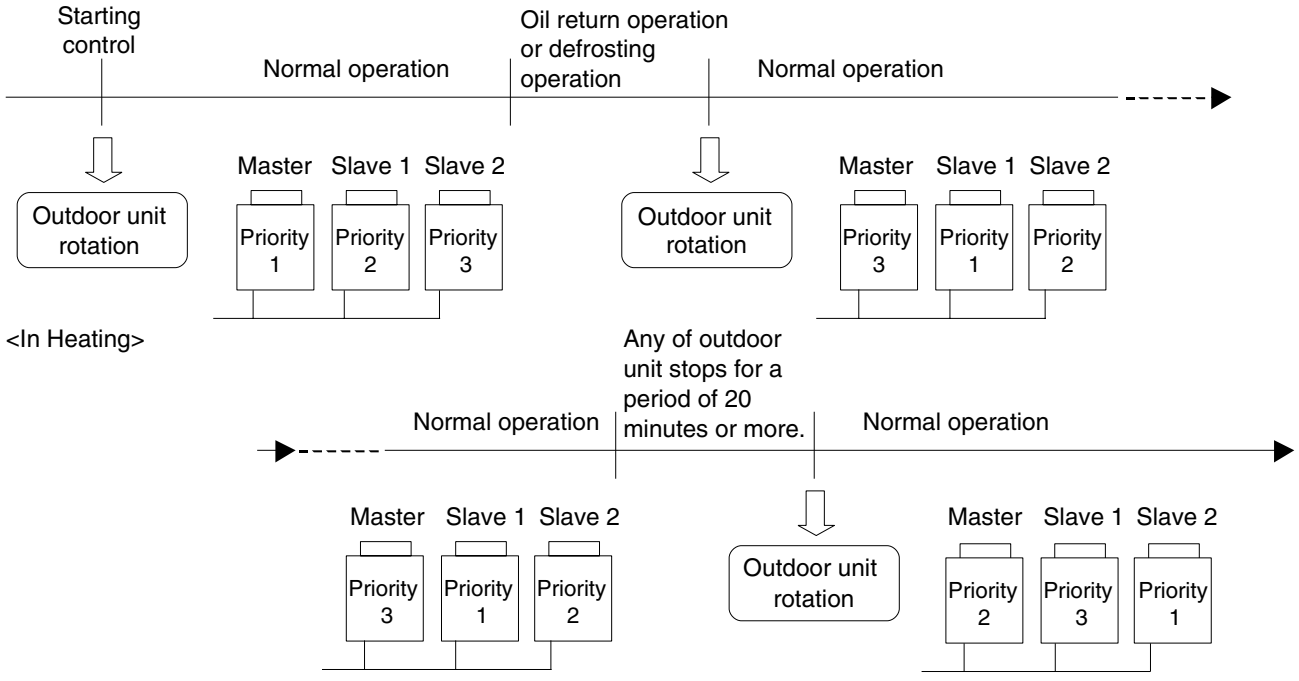
[Details of outdoor unit rotation]

In the case of multi-outdoor-unit system, each outdoor unit is given an operating priority for the control.
Outdoor unit rotation makes it possible to change the operating priority of outdoor units.
Thus, the system becomes free of compressors that stop over an extended period of time at the time of partial loading, preventing unbalanced oil level.

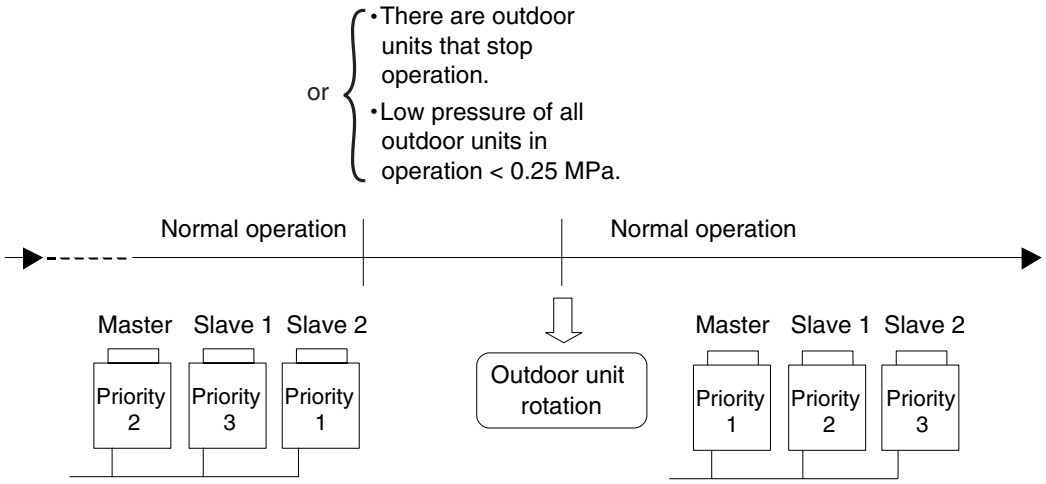
[Timing of outdoor unit rotation]

or
- After oil return operation
- After defrosting operation
- At the beginning of the starting control
- When any of outdoor unit stops for a period of 20 minutes or more (in heating)
- There are outdoor units that stop operation (in cooling).
- Low pressure of all outdoor units in operation is less than 0.25 MPa (in cooling).

Example) The following diagram shows outdoor unit rotation in combination of 3 outdoor units.
(in heating) (in cooling)



<In Cooling>



* "Master unit", "slave unit 1" and "slave unit 2" in this section are the names for installation. They are determined in installation work, and not changed thereafter. (These names are different from "master unit" and "slave unit" for control.)
The outdoor unit connected the control wires (F1 and F2) for the indoor unit should be designated as main unit.
Consequently, The LED display on the main PC board for "master unit", "slave unit 1" and "slave unit 2" do not change. (Refer to the page 103.)

5.2 Emergency Operation

If the compressor cannot operate, this control inhibits any applicable compressor or outdoor unit from operating to perform emergency operation only with the operative compressor or outdoor unit.

Caution

In order to disable the compressor operation due to a failure or else, be sure to do so in emergency operation mode.
NEVER attempt to disconnect power supply wires from magnetic contactors or else. (Doing so will operate compressors in combination that disables oil equalization between the compressors, thus resulting in malfunctions of other normal compressors.)

5.2.1 Restrictions for Emergency Operation

- In the case of system with 1 outdoor unit installed, only when thermostats of indoor units having a capacity of 50% or more of the outdoor unit capacity turn ON, the emergency operation is functional. (If the total capacity of indoor units with thermostat ON is small, the outdoor unit cannot operate.)
- If the emergency operation is set while the outdoor unit is in operation, the outdoor unit stops once after pump-down residual operation (a maximum of 5 minutes elapsed).

5.2.2 In the Case of 1-Outdoor-Unit System (RXYQ8P to 12P)

[Set the system to operation prohibition mode by compressor]

- In order to set an INV compressor to operation prohibition mode, set No. 42 of Setting mode 2 to "EMERGENCY OPERATION".

(Procedure)

	LED display (○:ON ●:OFF ◑:Blink) H1P — — — — H7P	
(1) Press and hold the MODE button (BS1) for a period of 5 seconds or more.	○●●●●●	
(2) Press the SET button (BS2) 42 times.	○○●○●○●	
(3) Press the RETURN button (BS3) once.	○●●●●◑	(Factory set)
(4) Press the SET button (BS2) once.	○●●●◑●	
(5) Press the RETURN button (BS3) twice.	○●●●●●	
(6) Press the MODE button (BS1) once.	●●○●●●	

- In order to set STD1 compressors to operation prohibition mode, set No. 19 of Setting mode 2 to "STD1 OPERATION PROHIBITION". (RXYQ10P to 12P)

(Procedure)

	LED display (○:ON ●:OFF ◑:Blink) H1P — — — — H7P	
(1) Press and hold the MODE button (BS1) for a period of 5 seconds or more.	○●●●●●	
(2) Press the SET button (BS2) 19 times.	○●○●●○○	
(3) Press the RETURN button (BS3) once.	○●●●●●	(Factory set)
(4) Press the SET button (BS2) once.	○●●●●◑	
(5) Press the RETURN button (BS3) twice.	○●●●●●	
(6) Press the MODE button (BS1) once.	●●○●●●	

- For RXYQ10P and 12P, if the INV compressor is set to operation prohibition mode, only a single STD compressor will operate for the convenience of oil equalization.
- For RXYQ10P and 12P, only the STD1 compressor cannot be put into operation prohibition mode for the convenience of oil equalization.
- For the system with a single outdoor unit (RXYQ8P to 12P), automatic backup operation is not functional.

5.2.3 In the Case of Multi-Outdoor-Unit System (RXYQ16P to 36P)

[Automatic backup operation]

With multi-outdoor-unit system, if a certain outdoor unit system malfunctions (i.e., the system stops and indoor unit remote controller displays the malfunction), by resetting the system with the indoor unit remote controller, the applicable outdoor unit is inhibited from operating for 8 hours, thus making it possible to perform emergency operation automatically.
However, in the event any of the following malfunctions occurs, automatic backup operation can be performed.

Malfunctions under which automatic backup operation can be performed:

- E3, E4, E5, E7
- F3
- H7, H9
- J2, J3, J5, J6, J7, J9, JA, JC
- L4, L5, L8, L9, LC
- U2, UJ

Note : In order to forcedly clear the automatic backup operation, reset the power supply with the outdoor unit in the stopped state.

[Emergency operation with settings in service mode]

∗ “Inhibition of operation” is set with each outdoor unit.

Make the following settings with the master unit. (Setting with the slave unit becomes disabled.)

∗ Discriminate the operating status of the master unit / slave units through the following LED display.

	LED display (○:ON ●:OFF ◑:Blink) H1P — — — — H7P H8P	
Master:	●●○●●●●	○
Slave 1:	●●●●●●●	◑
Slave 2:	●●●●●●●	●
	(Factory set)	

• In order to set the master unit to operation prohibition mode, set No. 38 of Setting mode 2 to "MASTER OPERATION PROHIBITION".

(Procedure)
(1) Press and hold the MODE button (BS1) for a period of 5 seconds or more.
(2) Press the SET button (BS2) 38 times.
(3) Press the RETURN button (BS3) once.
(4) Press the SET button (BS2) once.
(5) Press the RETURN button (BS3) twice.
(6) Press the MODE button (BS1) once.

LED display (○:ON ●:OFF ◑:Blink) H1P — — — — H7P	
○●●●●●●	
○○●●○○●	
○●●●●●◑	(Factory set)
○●●●●◑●	
○●●●●●●	
●●○●●●●	

• In order to set the slave unit 1 to operation prohibition mode, set No. 39 of Setting mode 2 to "SLAVE 1 OPERATION PROHIBITION".

(Procedure)
(1) Press and hold the MODE button (BS1) for a period of 5 seconds or more.
(2) Press the SET button (BS2) 39 times.
(3) Press the RETURN button (BS3) once.
(4) Press the SET button (BS2) once.
(5) Press the RETURN button (BS3) twice.
(6) Press the MODE button (BS1) once.

LED display (○:ON ●:OFF ◑:Blink) H1P — — — — H7P	
○●●●●●●	
○○●●○○○	
○●●●●●◑	(Factory set)
○●●●●◑●	
○●●●●●●	
●●○●●●●	

∗
• In the case of multi-outdoor-unit system, “Inhibition of operation” is not set with each compressor individually.
• In the case of multi-outdoor-unit system, when the above “Inhibition of operation” is set, outdoor unit rotation is not functional.

[Cancel of Emergency Operation]

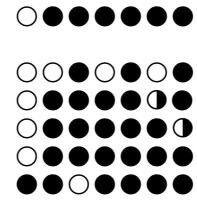
To cancel the emergency operation, conduct the following setting. (Return to Factory setting.)

<RXYQ8P to 12P>

- Cancel to set an INV compressor from operation prohibition mode, set No. 42 of Setting mode 2 to "Normal operation".

(Procedure)
(1) Press and hold the MODE button (BS1) for a period of 5 seconds or more.
(2) Press the SET button (BS2) 42 times.
(3) Press the RETURN button (BS3) once.
(4) Press the SET button (BS2) once.
(5) Press the RETURN button (BS3) twice.
(6) Press the MODE button (BS1) once.

LED display (○:ON ●:OFF ◑:Blink)
H1P — — — — H7P

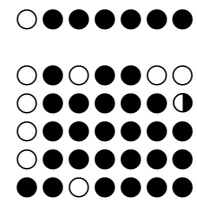


(Factory set)

- Cancel to set STD1 compressors from operation prohibition mode, set No. 19 of Setting mode 2 to "OFF". (RXYQ10P to 12P)

(Procedure)
(1) Press and hold the MODE button (BS1) for a period of 5 seconds or more.
(2) Press the SET button (BS2) 19 times.
(3) Press the RETURN button (BS3) once.
(4) Press the SET button (BS2) twice.
(5) Press the RETURN button (BS3) twice.
(6) Press the MODE button (BS1) once.

LED display (○:ON ●:OFF ◑:Blink)
H1P — — — — H7P



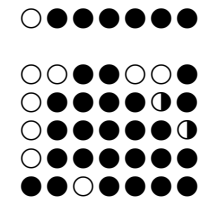
(Factory set)

<RXYQ16P to 36P>

- Cancel to set the master unit from operation prohibition mode, set No. 38 of Setting mode 2 to "OFF".

(Procedure)
(1) Press and hold the MODE button (BS1) for a period of 5 seconds or more.
(2) Press the SET button (BS2) 38 times.
(3) Press the RETURN button (BS3) once.
(4) Press the SET button (BS2) once.
(5) Press the RETURN button (BS3) twice.
(6) Press the MODE button (BS1) once.

LED display (○:ON ●:OFF ◑:Blink)
H1P — — — — H7P

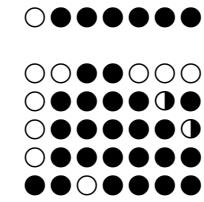


(Factory set)

- Cancel to set the slave unit 1 from operation prohibition mode, set No. 39 of Setting mode 2 to "OFF".

(Procedure)
(1) Press and hold the MODE button (BS1) for a period of 5 seconds or more.
(2) Press the SET button (BS2) 39 times.
(3) Press the RETURN button (BS3) once.
(4) Press the SET button (BS2) once.
(5) Press the RETURN button (BS3) twice.
(6) Press the MODE button (BS1) once.

LED display (○:ON ●:OFF ◑:Blink)
H1P — — — — H7P



(Factory set)

5.3 Demand Operation

In order to save the power consumption, the capacity of outdoor unit is saved with control forcibly by using “Demand 1 Setting” or “Demand 2 Setting”.
To operate the unit with this mode, additional setting of “Continuous Demand Setting” or external input by external control adaptor is required.

Set item	Condition	Content
Demand 1	Mode 1	The compressor operates at approx. 60% or less of rating.
	Mode 2	The compressor operates at approx. 70% or less of rating.
	Mode 3	The compressor operates at approx. 80% or less of rating.
Demand 2	—	The compressor operates at approx. 40% or less of rating.

5.4 Heating Operation Prohibition

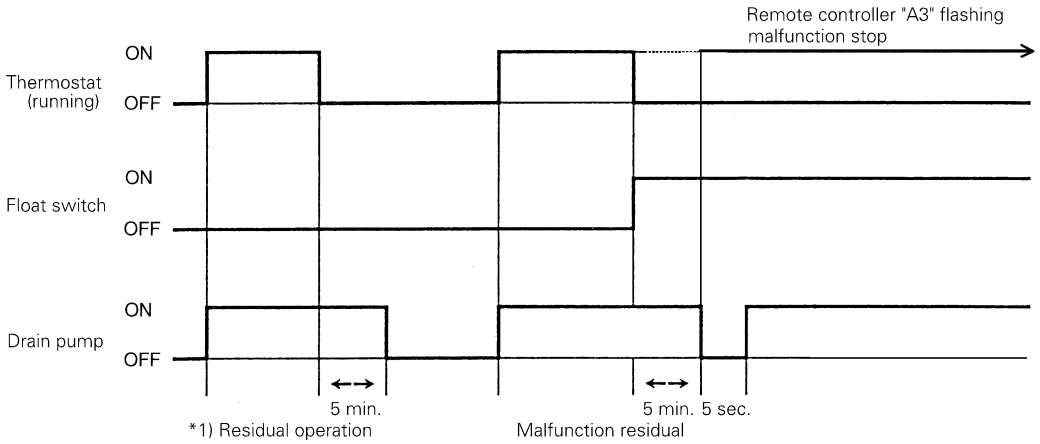
Heating operation is prohibited above 24°C ambient temperature.

6. Outline of Control (Indoor Unit)

6.1 Drain Pump Control

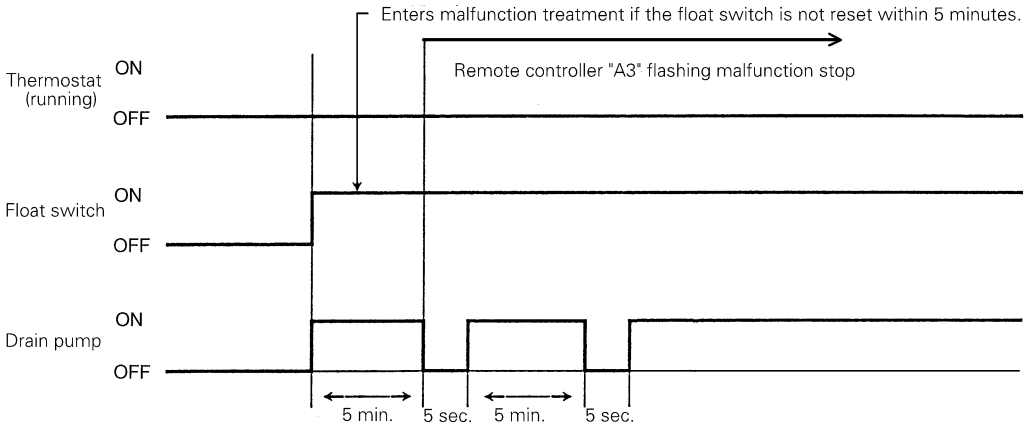
1. The drain pump is controlled by the ON/OFF buttons (4 button (1) - (4) given in the figure below).

6.1.1 When the Float Switch is Tripped while the Cooling Thermostat is ON:

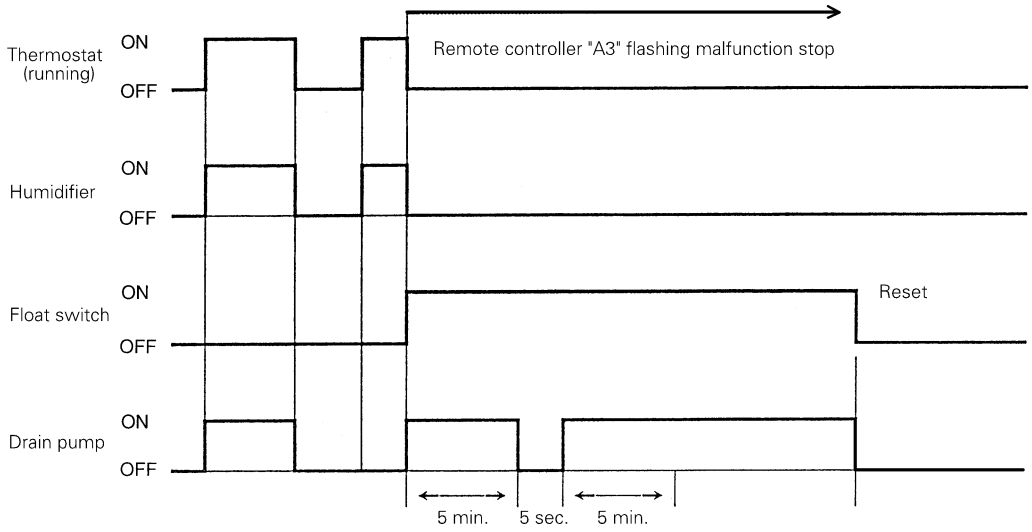


* 1. The objective of residual operation is to completely drain any moisture adhering to the fin of the indoor unit heat exchanger when the thermostat goes off during cooling operation.

6.1.2 When the Float Switch is Tripped while the Cooling Thermostat is OFF:

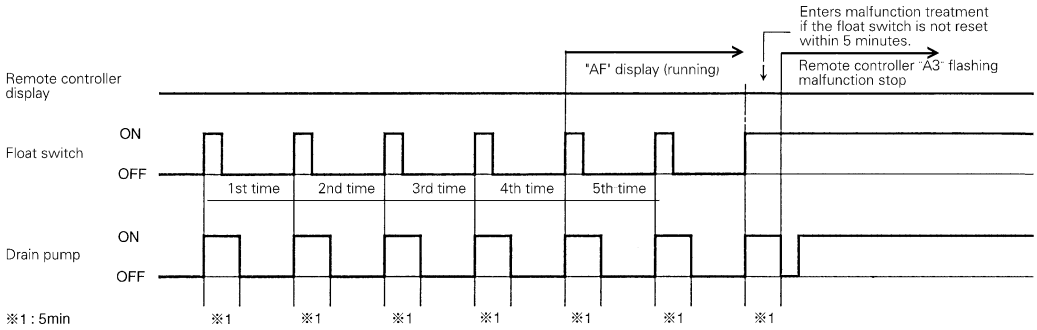


6.1.3 When the Float Switch is Tripped During Heating Operation:



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.

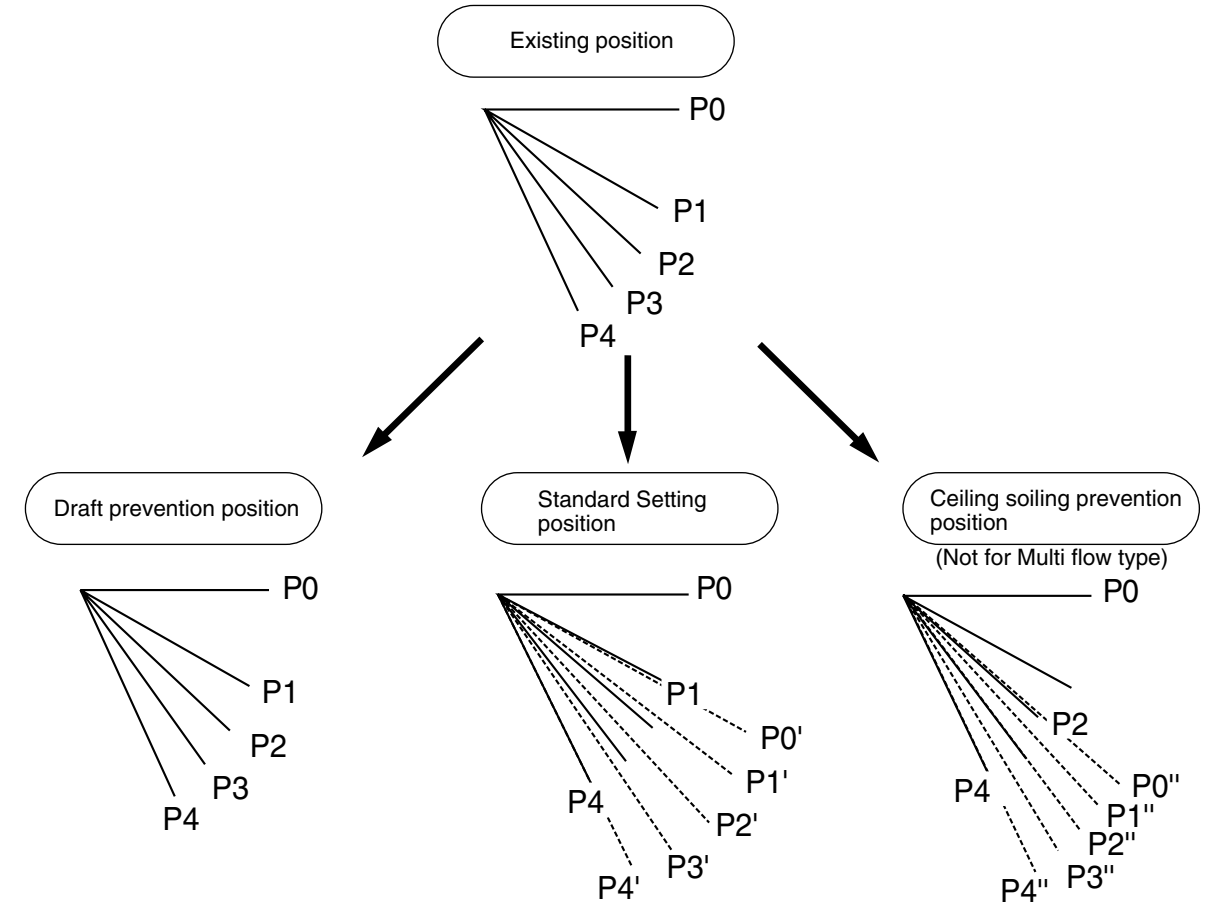
6.1.4 When the Float Switch is Tripped and “AF” is Displayed on the Remote Controller:



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.

6.2 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, multi-flow and corner types.)



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

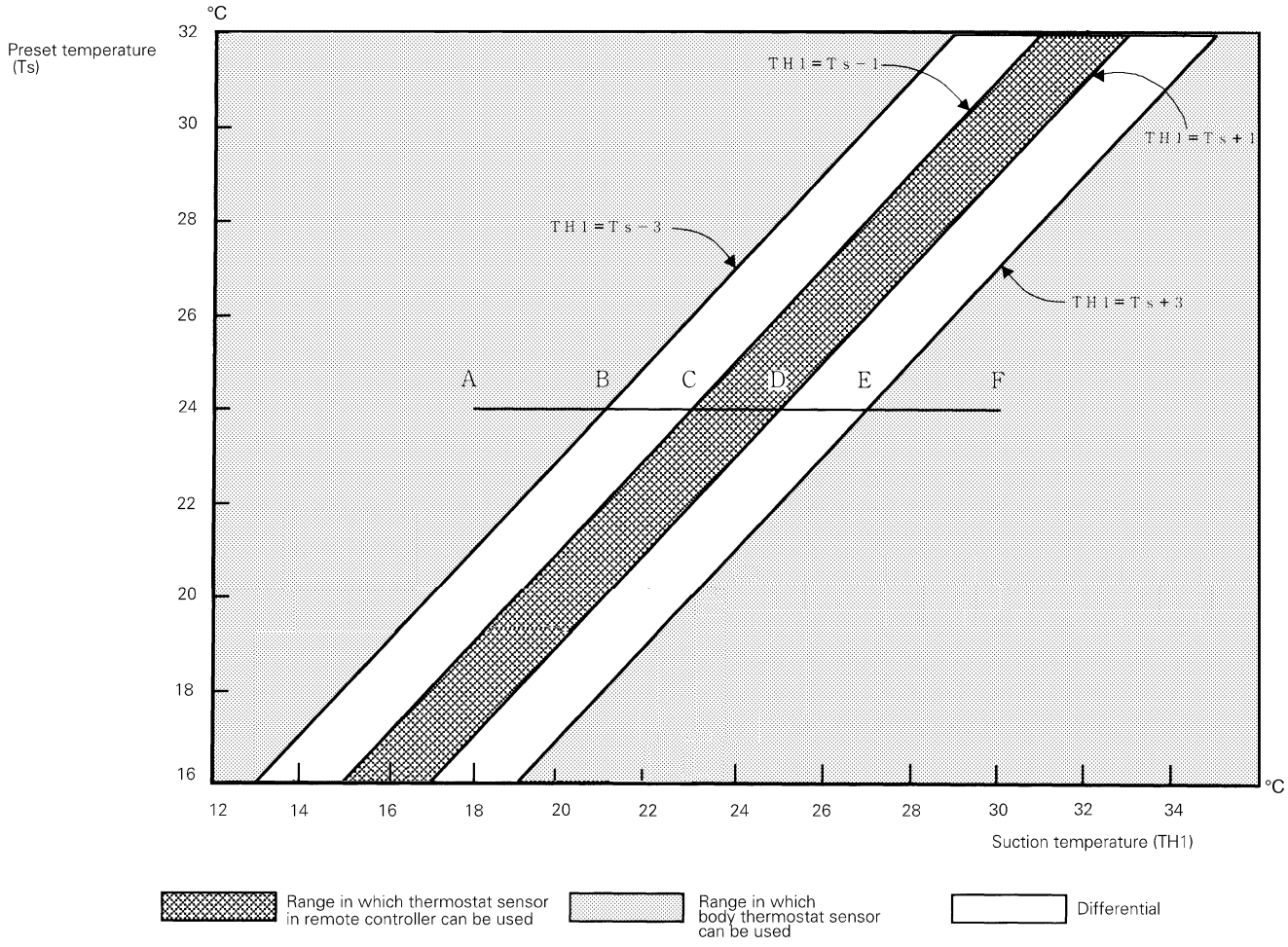
The factory set position is standard position.

6.3 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):

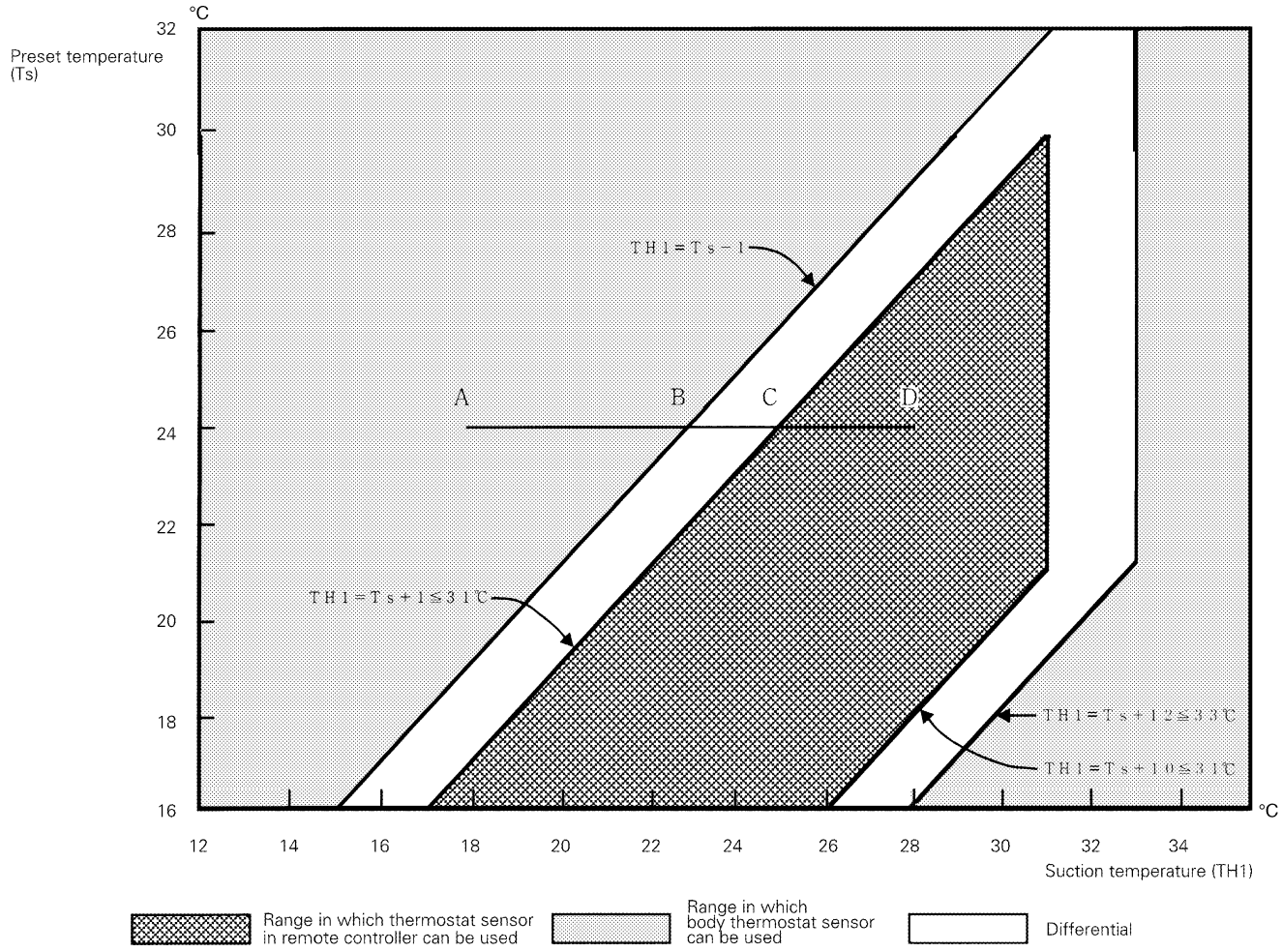
Body thermostat sensor is used for temperatures from 30°C to 25°C (F → D).

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.



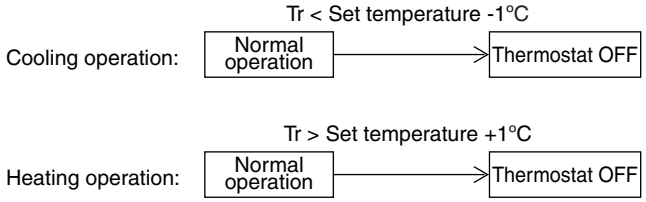
■ **Ex: When heating Assuming the preset temperature in the figure above is 24°C, and the suction temperature has changed from 18°C to 28°C (A → D):**

(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 → D).

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).

6.4 Thermostat Control while in Normal Operation

VRV multi systems are set at factory to thermostat control mode using the remote controller. While in normal thermostat differential control mode (i.e., factory set mode), the thermostat turns OFF when the system reaches a temperature of -1°C from the set temperature while in cooling operation or of +1°C from that while in heating operation.

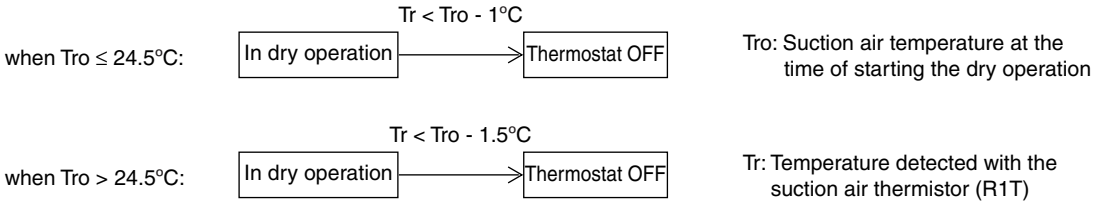


While in a single remote controller group control, the body thermostat is only used fro this control.
Furthermore, while in heating operation, cassette-mounted indoor units conduct the thermostat control by a value compensated by -2°C for the value detected with the body thermostat. (Through field settings, the thermostat differential setting can be changed from 1°C to 0.5°C. For details on the changing procedure, refer to information on page onward.)

6.5 Thermostat Control in Dry Operation

While in dry operation, the thermostat control is conducted according to a suction temperature at the time of starting the dry operation.

Assuming that the suction air temperature at the time of starting the dry operation is Tro and the suction air temperature in operation is Tr,



Furthermore, while in dry operation mode, fans operate at L flow rate, stops for a period of six minutes while the thermostat is OFF, and then return to operation at L flow rate. (This control is used to prevent a rise in indoor humidity while in thermostat OFF mode.)

6.6 Electronic Expansion Valve Control

• Electronic expansion Valve Control

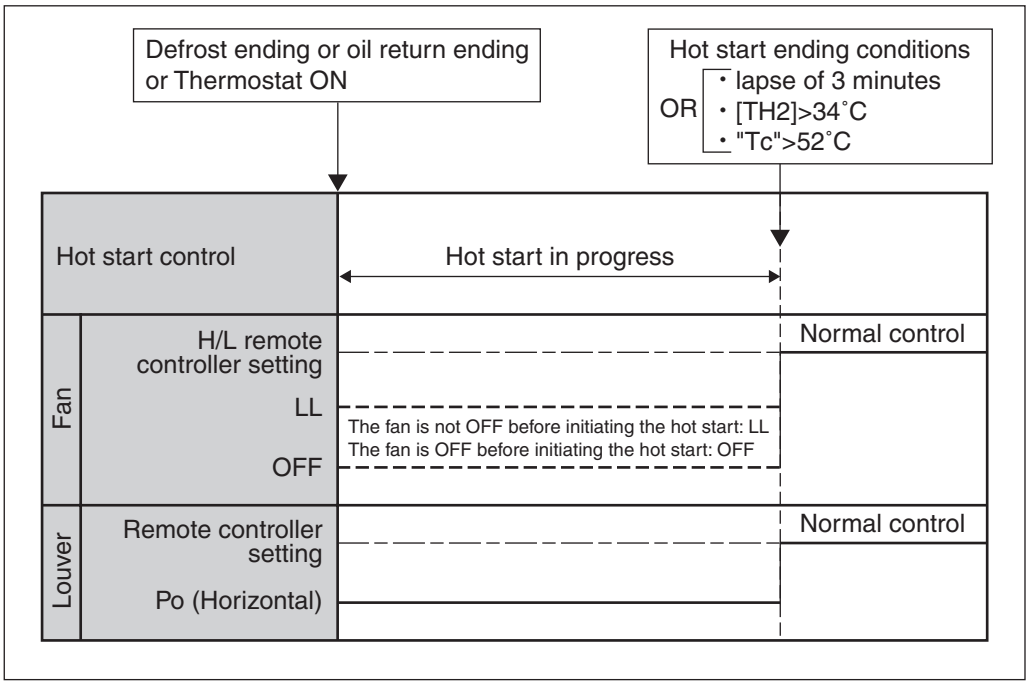
In cooling, to maximize the capacity of indoor unit heat exchanger (evaporator), operate the electronic expansion valve under PI control so that the evaporator outlet superheated degree (SH) will become constant.
In heating, to maximize the capacity of indoor unit heat exchanger (condenser), operate the electronic expansion valve under PI control so that the evaporator outlet superheated degree (Condenser outlet subcooled degree) will become constant.

Cooling $SH=TH_2-TH_1$	SH : Evaporator outlet superheated degree
(Heating $SC=TC-TH_1$)	TH_1: Temperature (°C) detected with the liquid thermistor
	TH_2: Temperature (°C) detected with the gas thermistor
	SC : Condenser outlet subcooled degree
	TC : High pressure equivalent saturated temperature

Furthermore, the default value of the optimal evaporator outlet superheated degree (condenser outlet subcooled degree) is 5 deg. However, this default value varies with the operating performance.

6.7 Hot Start Control (In Heating Operation Only)

At startup with thermostat ON or after the completion of defrosting in heating operation, the indoor unit fan is controlled to prevent cold air from blasting out and ensure startup capacity.
[Detail of operation]
When either the **start condition 1** or the **start condition 2** is established, the operations shown below will be conducted.



TH_2: Temperature (°C) detected with the gas thermistor
TC : High pressure equivalent saturated temperature

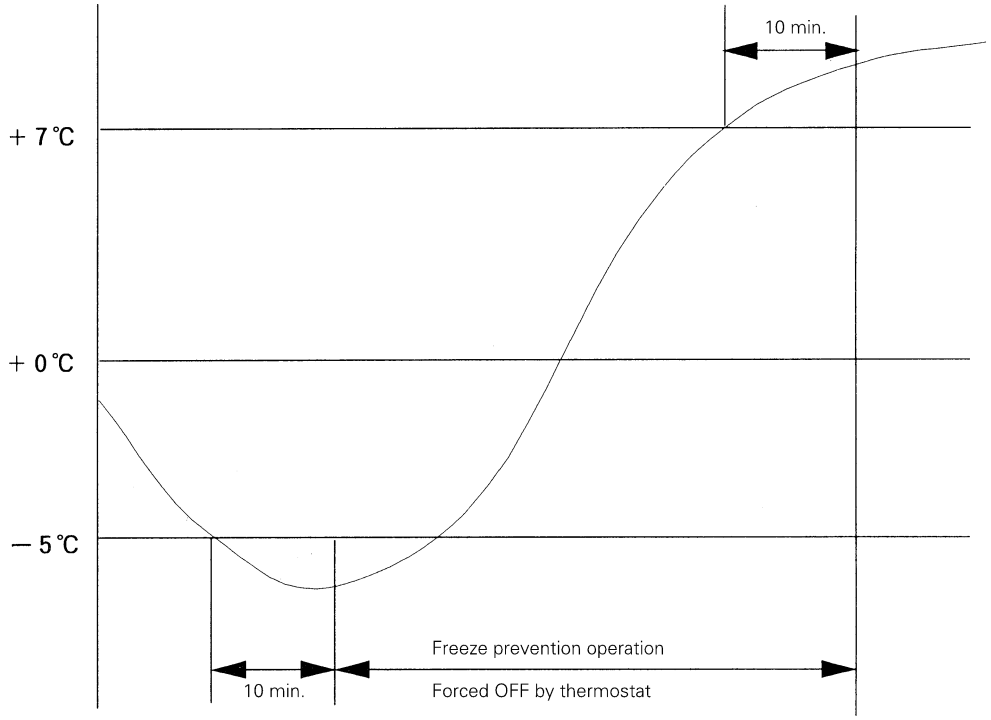
6.8 Freeze Prevention

Freeze Prevention by Off Cycle (Indoor Unit)

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

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

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

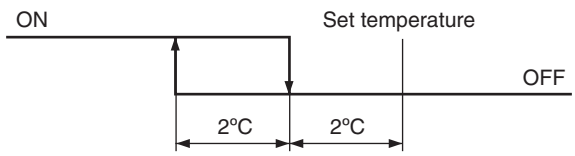


6.9 Heater Control

The heater control is conducted in the following manner.

[Normal control]

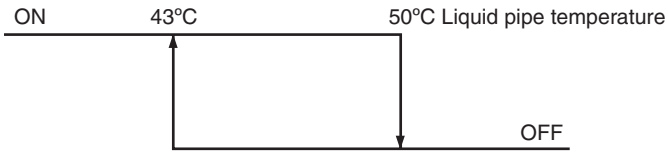
While in heating operation, the heater control (ON/OFF) is conducted as shown on the right.



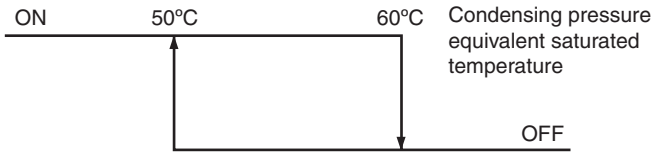
[Overload control]

When the system is overloaded in heating operation, the heater will be turned OFF in the following two manners.

(1) The heater control (ON/OFF) is conducted through the liquid pipe temperature (R2T) of the indoor unit.



(2) The heater control (ON/OFF) is conducted by converting the heater temperature into the condensing pressure equivalent saturated temperature (Tc) according to the temperature detection through the high pressure sensor (SINPH) of the outdoor unit.



[Fan residual operation]
While the heater turns OFF, in order to prevent the activation of the thermal protector, the fan conducts residual operation for a given period of time after the heater turns OFF. (This operation is conducted regardless of with or without heater equipped.)

Residual operation time = 100 seconds on ceiling suspended type or 60 seconds on other types

6.10 List of Swing Flap Operations

Swing flaps operate as shown in table below.

			Fan	Flap		
				FXFQ	FXCQ FXHQ FXKQ	FXAQ
Heating	Hot start from defrosting operation	Swing	OFF	Horizontal	Horizontal	Horizontal
		Wind direction set	OFF	Horizontal	Horizontal	Horizontal
	Defrosting operation	Swing	OFF	Horizontal	Horizontal	Horizontal
		Wind direction set	OFF	Horizontal	Horizontal	Horizontal
	Thermostat OFF	Swing	LL	Horizontal	Horizontal	Horizontal
		Wind direction set	LL	Horizontal	Horizontal	Horizontal
	Hot start from thermostat OFF mode (for prevention of cold air)	Swing	LL	Horizontal	Horizontal	Horizontal
		Wind direction set	LL	Horizontal	Horizontal	Horizontal
	Stop	Swing	OFF	Horizontal	Horizontal	Totally closed
		Wind direction set	OFF	Horizontal	Horizontal	Totally closed
Cooling	Thermostat ON in dry operation using micro computer	Swing	L*1	Swing	Swing	Swing
		Wind direction set	L*1	Set	Set	Set
	Thermostat OFF in dry operation using micro computer	Swing	OFF or L	Swing	Swing	Swing
		Wind direction set		Horizontal or Set	Set	Set
	Thermostat OFF in cooling	Swing	Set	Swing	Swing	Swing
		Wind direction set	Set	Set	Set	Set
	Stop	Swing	OFF	Horizontal	Horizontal	Totally closed
		Wind direction set	OFF	Horizontal	Horizontal	Totally closed
	Micro computer control (including cooling operation)	Swing	L	Swing	Swing	Swing
		Wind direction set	L	Set	Set	Set

*1. L or LL only on FXFQ models

6.11 Control of Outdoor Air Processing Unit (Unique Control for Outdoor Air Processing Unit)

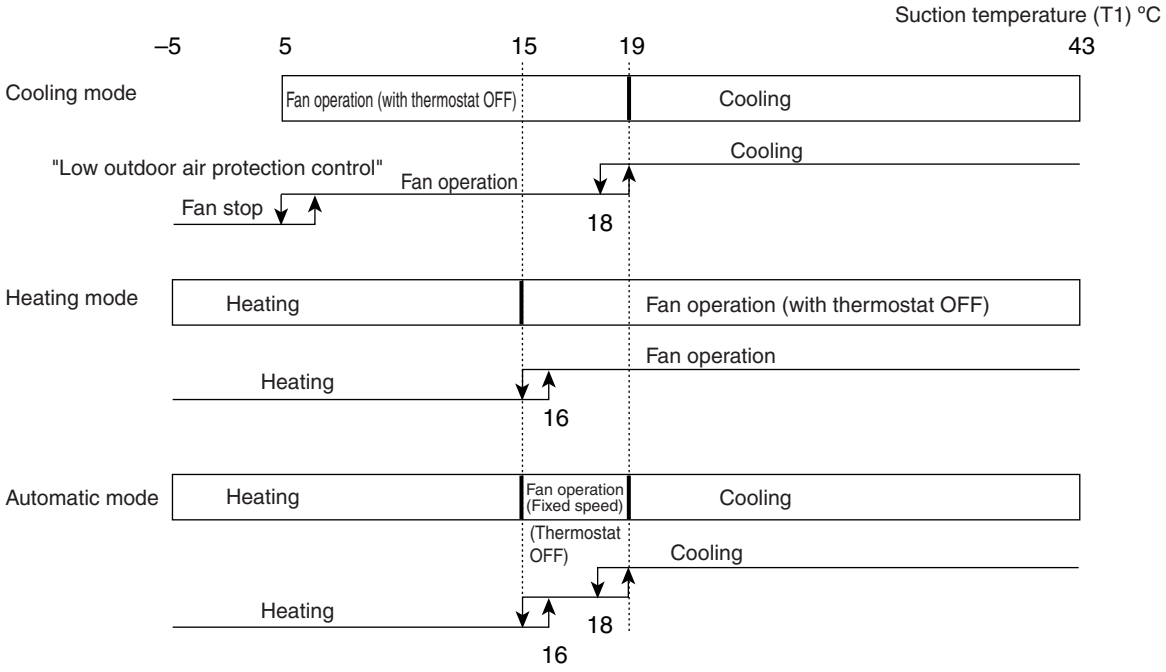
6.11.1 Selection of Operation Mode (by suction air thermostat)

Objective

To select cooling, heating, or fan operation mode according to the suction air (outdoor air) temperature.

Details

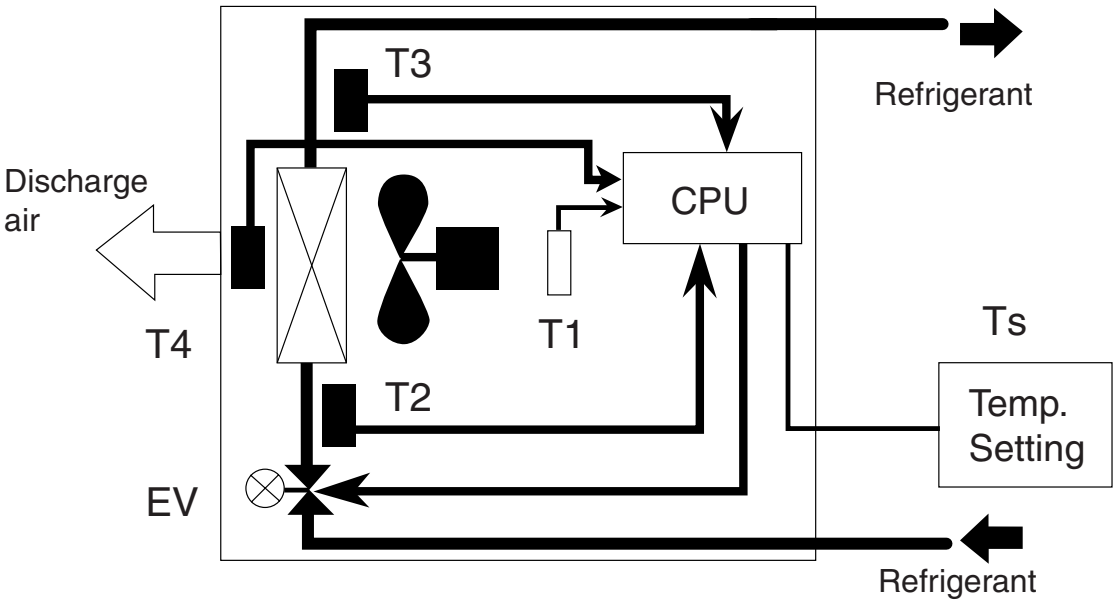
[Outdoor air processing unit]



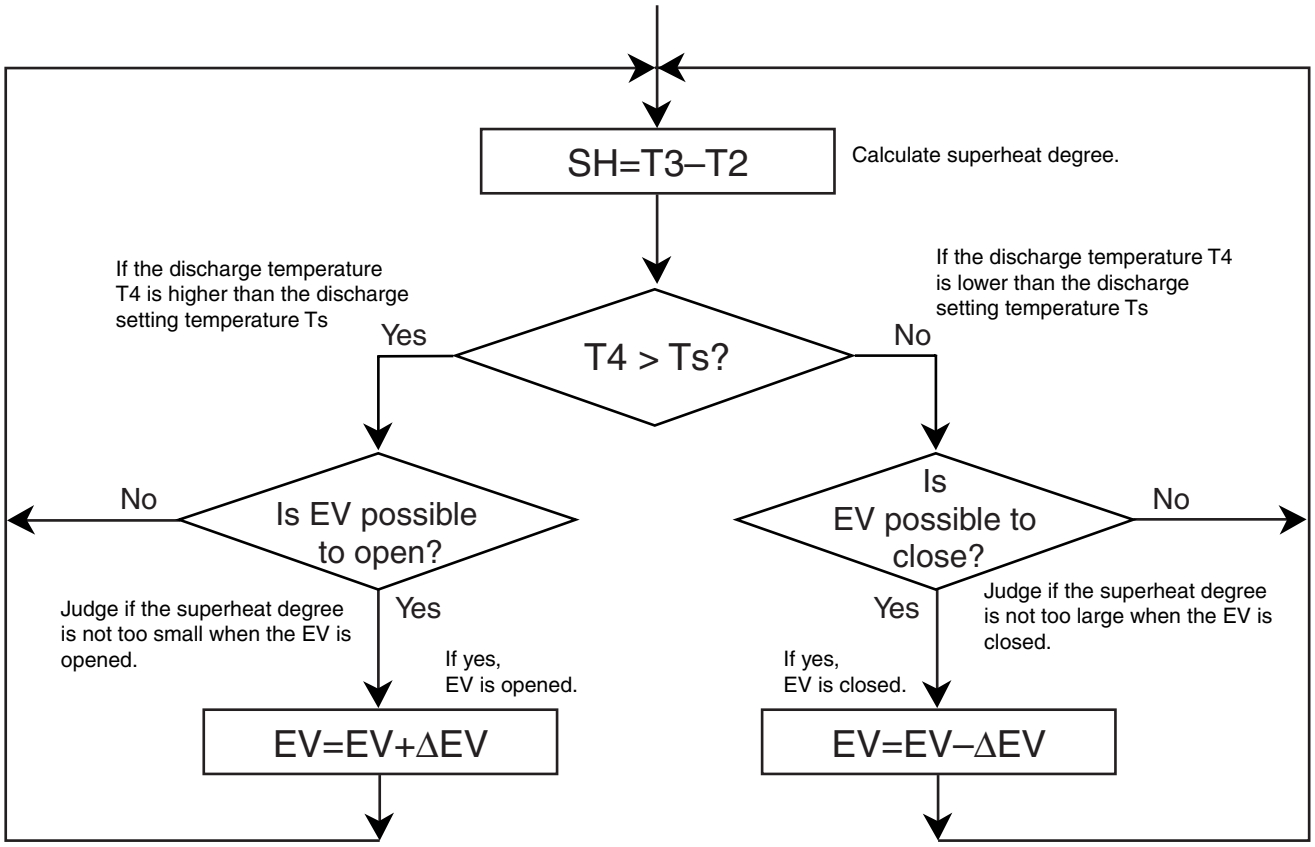
6.11.2 Discharge Air Temperature Control

Used to control the EV (electronic expansion valve) opening and thermostat ON/OFF so as to keep the discharge air temperature at the set temperature.

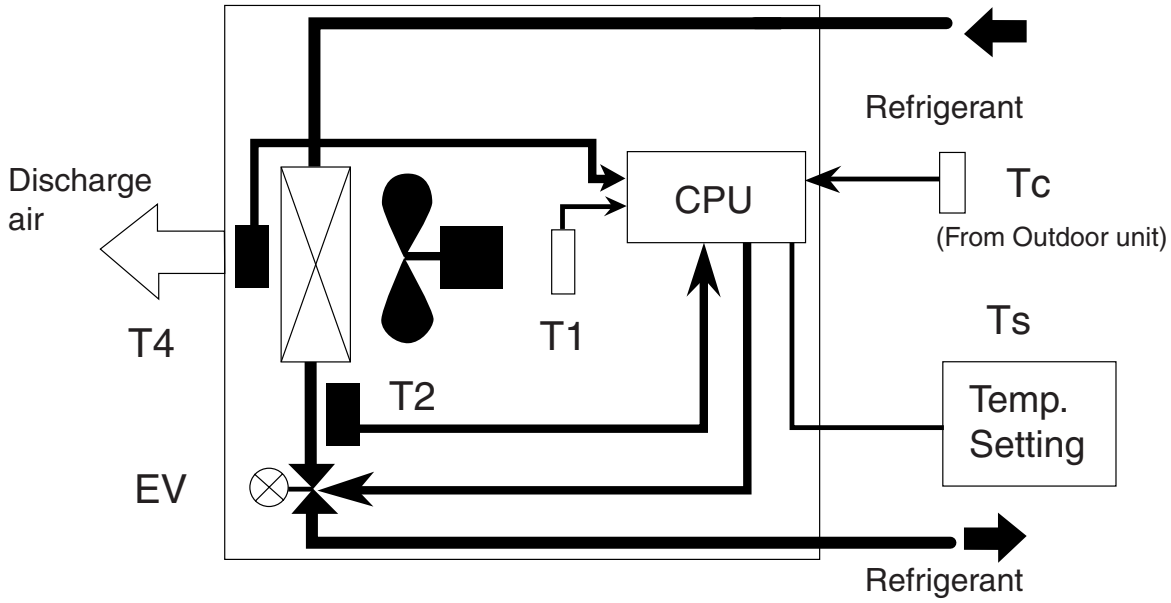
(1) Cooling operations



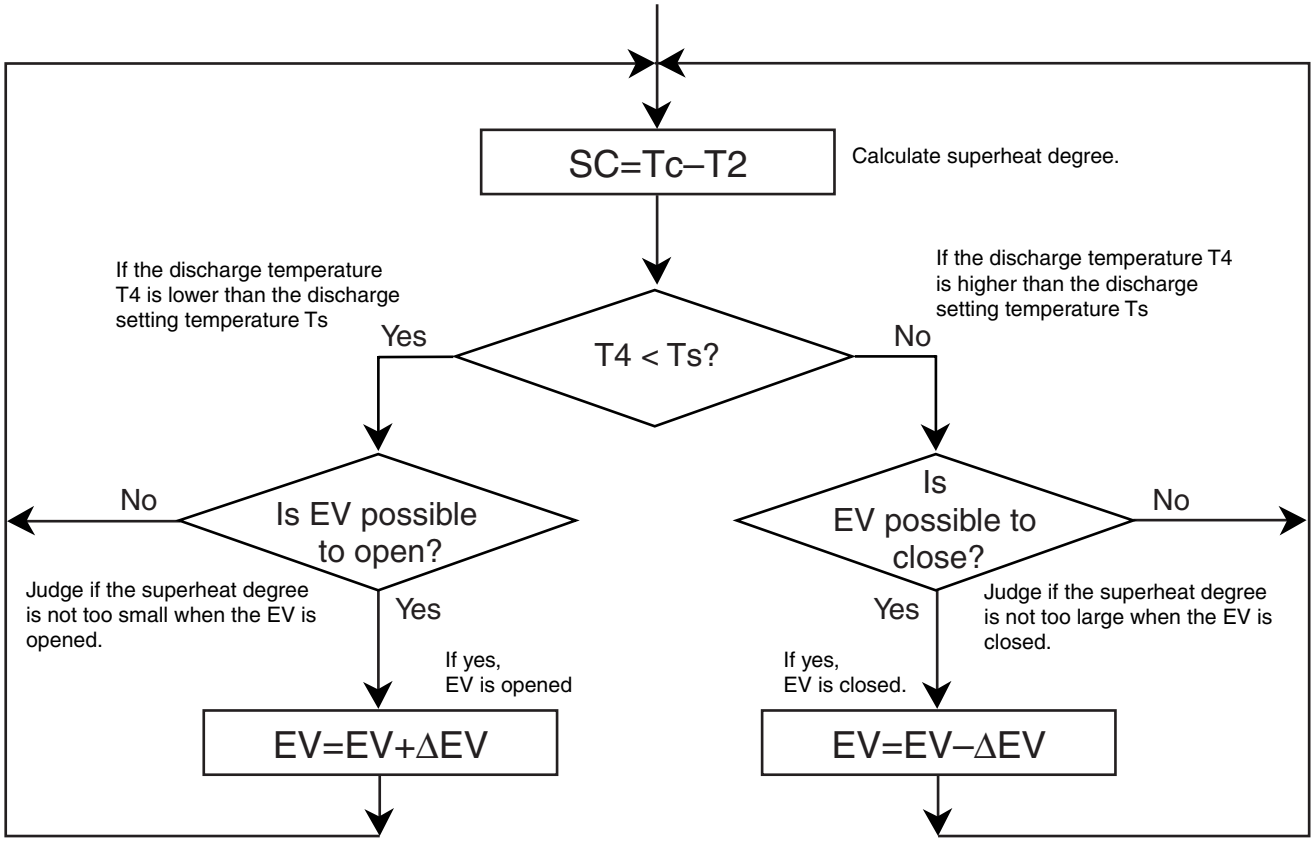
T1: Temperature detected by suction air thermistor Th1
T2: Temperature detected by liquid pipe temp. thermistor Th2
T3: Temperature detected by gas pipe temp. thermistor Th3
T4: Temperature detected by discharge air thermistor Th4
EV: Electronic expansion valve opening



(2) Heating operations



T1: Temperature detected by suction air thermistor Th1
T2: Temperature detected by liquid pipe temp. thermistor Th2
T3: Temperature detected by gas pipe temp. thermistor Th3
T4: Temperature detected by discharge air thermistor Th4
Tc : Outdoor unit condensing temperature
EV: Electronic expansion valve opening



(3) Thermostat OFF by discharge air temperature

<Cooling>
Target discharge air temp. Ts – Discharge air temp. T4
>5 degree continue for 5 minutes.
→Thermostat stops for 1 minute. →Thermostat ON

<Heating>
& { Discharge air temp. T4 – Target discharge air temp. Ts >5 degree } continue for 5 minutes
{ EV opening is low limit }

→Thermostat stops for 1 minute. →Thermostat ON

6.11.3 Low Outdoor Air Temperature Protection Control

Objective

In cooling (or fan operation) or heating, if outdoor air is low in temperature, stop the fan forcibly.

Details

[Cooling and fan operation]
Turn OFF the fan for a period of 60 minutes at a suction temperature of 5°C or lower.
In order to monitor the outdoor air temperature, however, turn ON the fan for a period of one minute and turn OFF the fan again at a temperature of 5°C or lower after the said timer completes the operative period.
Reset the 60-minute timer when the fan stops running.

[Heating]
Turn OFF the fan for a period of 60 minutes at a suction temperature of –5°C or lower.
In order to monitor the outdoor air temperature, however, turn ON the fan for a period of one minute and turn OFF the fan again at a temperature of –5°C or lower after the said timer completes the operative period.
Reset the 60-minute timer when the fan stops running.
* The thermostat will not turn ON in one minute due to the temperature while the fan stops.

- This control shall be disabled at test run both in cooling and heating. (The test run shall be conducted first.)

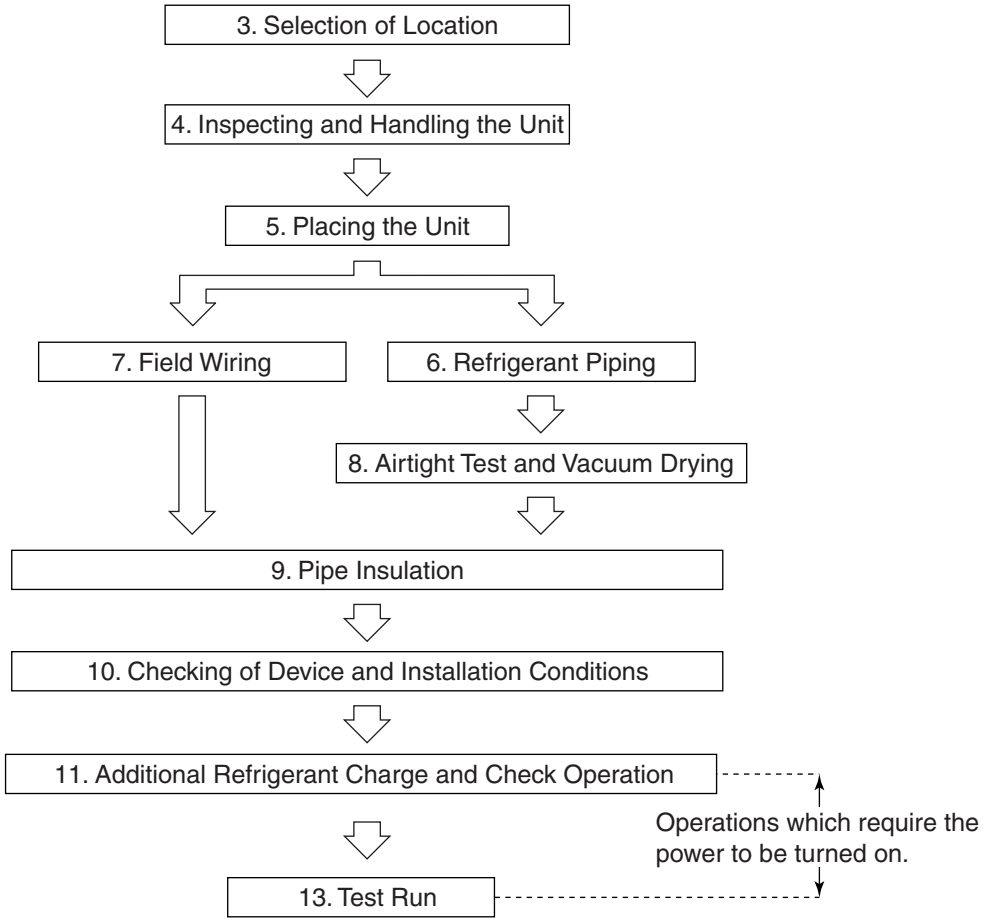
Part 5
Test Operation

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1. Test Operation

1.1 Installation Process

Below figure shows the installation process. Install in the order of the steps shown.



1.2 Procedure and Outline RXYQ8~36PTLK(E), PYNK(E)

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

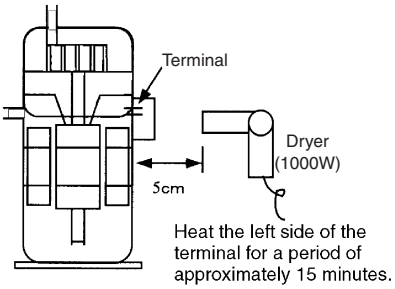
1.2.1 Check Work Prior to Turn Power Supply On

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

⇩

○ Is the wiring performed as specified?
○ Is the designated wire used?
○ Is the wiring screw of wiring not loose?
○ Is the grounding work completed?
○ Is the insulation of the main power supply circuit deteriorated?
Use a 500V megger tester to measure the insulation. (*1)
- Do not use a megger tester for other circuits than 200V (or 240V) circuit.

*1:Measure to be taken against decreased insulation resistance in the compressor
If the compressor is left to stand for an extended period of time after the refrigerant charge with the stop valve open and the power supply OFF, the refrigerant may be mixed in the compressor, thus decreasing the insulation resistance.
Heat the compressor as shown on the right and then recheck the insulation.



Check on refrigerant piping / insulation materials

⇩

○ Is the pipe size proper?
○ Is the pipe insulation material installed securely?
Liquid and gas pipes need to be insulated. (Otherwise causes water leak.)

Check airtight test and vacuum drying.

⇩

○ Have the airtight test and the vacuum drying been conducted according to the procedure in the Installation Manual?

Check on amount of refrigerant charge

⇩

○ Is a proper quantity of refrigerant refilled?
The following two methods are available for refilling of the refrigerant.
(1) Use the automatic refrigerant refilling function.
(2) Calculate a refrigerant refilling quantity.

Check the stop valves for conditions.

○ Check to be sure the stop valves are under the following conditions.

Liquid-side stop valve	Gas-side stop valve
Open	Open

1.2.2 Turn Power On

Turn outdoor unit and indoor unit power on.

⇩

Check the LED display of the outdoor unit PC board.

⇩

Make field settings with outdoor unit PC board.

⇩

Conduct check operations.

⇩

Check for normal operation.

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

○ Check to be sure the transmission is normal.
The transmission is normal if the LEDs display conditions as shown in table below.

LED display ○ ON ● OFF ◑ Blinking

LED display (Default status before delivery)		Micro-computer operation monitor	MODE	TEST	COOL / HEAT select			Low noise	Demand	Multi
					IND	MASTER	SLAVE			
		HAP	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H8P
One outdoor unit installed		◑	●	●	○	●	●	●	●	●
When multiple outdoor unit installed (*)	Master	◑	●	●	○	●	●	●	●	○
	Slave 1	◑	●	●	●	●	●	●	●	◑
	Slave 2	◑	●	●	●	●	●	●	●	●

(*) The master unit is the outdoor unit to which the transmission wiring for the indoor units is conncted.
The other outdoor units are slave units.

○ Make field settings if needed.
(For the setting procedure, refer to information in "3.2. Field Setting from Outdoor Unit" on page 181 onward.)
For the outdoor-multi system, make field settings with the master unit.
(Field settings made with the slave unit will be all invalid.)

The check operations shown below will be automatically initiated.
- Check for erroneous wirings
- Check for failure to open stop valves
- Check for excessive refrigerant refilling
- Automatic judgment of piping length

○ Before starting the normal operation after the completion of check operations, make sure indoor and outdoor units normally operate.

1.2.3 Air Tight Test and Vacuum Drying

Note:

- Always use nitrogen gas for the airtightness test.
- Absolutely do not open the shutoff valve until the main power circuit insulation measurement has been completed. (measuring after the shutoff valve is opened will cause the insulation value to drop.)

1.2.3.1 Preparations

<Needed tools>

Gauge manifold Charge hose valve	• To prevent entry of any impurities and insure sufficient pressure resistance, always use the special tools dedicated for R-410A. • Use charge hose that have pushing stick for connecting to service port of shutoff valves or refrigerant charge port.
Vacuum pump	• The vacuum pump for vacuum drying should be able to lower the pressure to –100.7kPa (5 Torr –755mm Hg). • Take care the pump oil never flow backward into the refrigerant pipe during the pump stops.

<The system for air tight test and vacuum drying>

- Referring to figure 28, connect an nitrogen tank, refrigerant tank, and a vacuum pump to the outdoor unit.
- The shutoff valve and valve A~C in figure 28 should be open or closed as shown in the table below.

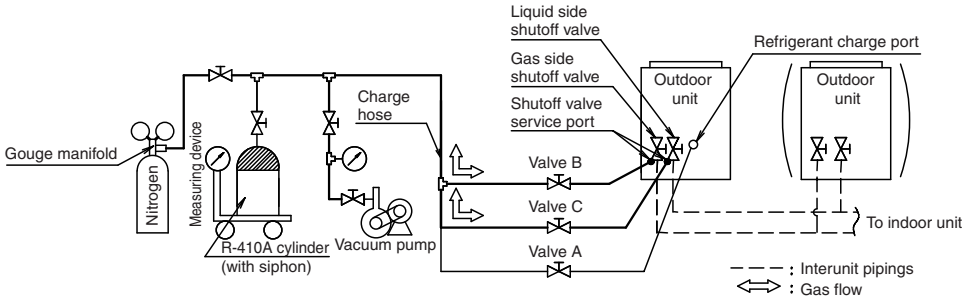
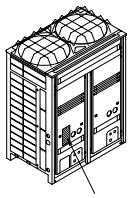


fig. 28

State of valve A, B and C and shutoff valves	Valve			shutoff valve	
	A	B	C	Liquid side	Gas side
Air tight test, Vacuum drying (Close valve A and shutoff valves certainly. Otherwise the refrigerant in the unit are released.)	Close	Open	Open	Close	Close

Note:

- The airtightness test and vacuum drying should be done using the liquid side and gas side shutoff valve service ports.
  See the [R-410A] Label attached to the front plate of the outdoor unit for details on the location of the service port (see figure at right).
- See **[Shutoff valve operation procedure]** for details on handling the shutoff valve. (Refer to page 125)
- The refrigerant charge port is connected to unit pipe.
  When shipped, the unit contains refrigerant, so use caution when attaching the charge hose.



[R-410A] Label

1.2.3.2 Air Tight Test and Vacuum Drying Method

After finished piping work, carry out air tight test and vacuum drying.

<Air tight test>

Pressurize the liquid and gas pipes to 4.0MPa (40bar) (do not pressurize more than 4.0MPa (40bar)). If the pressure does not drop within 24 hours, the system passes the test.
If there is a pressure drop, check for leaks, make repairs, and perform the airtight test again.

<Vacuum drying>

Evacuate the system from the liquid and gas pipes by using a vacuum pump for more than 2 hours and bring the system to –100.7kPa or less. After keeping the system under that condition for more than 1 hour, check if the vacuum gauge rises or not. If it rises, the system may either contain moisture inside or have leaks.

Note:

- **If moisture might enter the piping, follow below.**
  (I.e., if doing work during the rainy season, if the actual work takes long enough that condensation may form on the inside of the pipes, if rain might enter the pipes during work, etc.)

1. After performing the vacuum drying for two hours, pressurize to 0.05 MPa (i.e., vacuum breakdown) with nitrogen gas, then depressurize down to –100.7 kPa for an hour using the vacuum pump (vacuum drying).
2. If the pressure does not reach –100.7 kPa even after depressurizing for at least two hours, repeat the vacuum breakdown - vacuum drying process.

After vacuum drying, maintain the vacuum for an hour and make sure the pressure does not rise by monitoring with a vacuum gauge.

1.2.4 Additional Refrigerant Charge and Check Operation

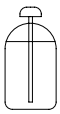
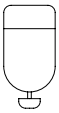
The outdoor unit is charged with refrigerant when shipped from the factory, but depending on the size and length of the piping when installed, it may require additional charging.
For charging the additional refrigerant, follow the procedure in this chapter.
And then carry out the check operation.

Note: Total amount of refrigerant should be 100 kg or less

1.2.4.1 Before Working

[About the refrigerant cylinder]

Check whether the cylinder has a siphon pipe before charging and place the cylinder so that the refrigerant is charged in liquid form. (See the figure below.)

With siphon pipe
 Stand the cylinder upright and charge. (The siphon pipe goes all the way inside, so the cylinder does not need be put upside-down charge in liquid form.)
Other tanks
 Stand the cylinder upside-down and charge.

Caution

- Always use the proper refrigerant (R-410A). If charged with the refrigerant containing an improper material, it may cause an explosion or accident.
- R-410A is a mixed refrigerant, so charging it as a gas will cause the refrigerant composition to change, which may prevent normal operation.

[Shutoff Valve Operation Procedure]

When operating the shutoff valve, follow the procedure instructed below.

Note:

- Do not open the shutoff valve until “1.2.1 Check work prior to turn power supply on” in page 121 are completed. If the shutoff valve is left open without turning on the power, it may cause refrigerant to buildup in the compressor, leading insulation degradation.
- Be sure to use the correct tools.
- The shutoff valve is not a back-seat type. If forced it to open, it might break the valve body.
- When using a service port, use the charge hose.
- After tightening the cap, make sure no refrigerant gas is leaking.

[Tightening torque]

The sizes of the shutoff valves on each model and the tightening torque for each size are listed in the table below.

<Size of Shutoff Valve>

	8HP type	10HP type	12HP type
Liquid side shutoff valve	ϕ 9.5 The 12HP type corresponds to the 12.7-diameter onsite piping using the included piping.		
Gas side shutoff valve	ϕ 19.1	ϕ 25.4 The 10HP type corresponds to the 22.2-diameter onsite piping using the accessory pipe. The 12HP type corresponds to the 28.6-diameter onsite piping using the accessory pipe.	

<Tightening torque>

Shutoff valve size	Tightening torque N·m (Turn clockwise to close)			
	Shaft (valve body)		Cap (valve lid)	Service port
ϕ 9.5	5.4 - 6.6	Hexagonal wrench 4 mm	13.5 - 16.5	11.5 - 13.9
ϕ 12.7	8.1 - 9.9		18.0 - 22.0	
ϕ 15.9	13.5 - 16.5	Hexagonal wrench 6 mm	22.5 - 27.5	
ϕ 19.1	27.0 - 33.0	Hexagonal wrench 8 mm		
ϕ 25.4				

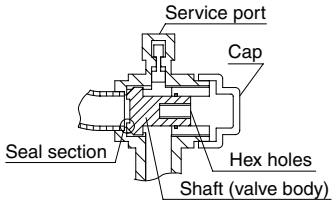


fig 35

[To open]

1. Remove the cap and turn the shaft counterclockwise with the hexagon wrench (JISB4648).
2. Turn it until the shaft stops.
3. Make sure to tighten the cap securely.
   (For the tightening torque, refer to the item <Tightening Torque>.)

[To close]

1. Remove the cap and turn the shaft clockwise with the hexagon wrench (JISB4648).
2. Securely tighten the valve until the shaft contacts the main body seal.
3. Make sure to tighten the cap securely.
   (For the tightening torque, refer to the item <Tightening Torque>.)

[How to Check How Many Units are Connected]

It is possible to find out how many indoor or outdoor unit in the system are turned on by operating the push button on the PC board (A1P) of outdoor unit (In case of multi system master unit).

Follow the procedure below to check how many indoor or outdoor units are turned on.

(LED display: ● ...OFF ○ ...ON ◑ ...Blinking ＊ ...Uncertain)		LED display H1P	H2P	H3P	H4P	H5P	H6P	H7P
1. Press the MODE button (BS1) once, and set the MONITOR MODE (H1P: Blinking).		◑	●	●	●	●	●	●
2. Press the SET button (BS2) the number of times until the LED display matches that at right.	For checking the number of outdoor units: eight times	◑	●	●	○	●	●	●
	For checking the number of indoor units: five times	◑	●	●	●	○	●	○
3. Press the RETURN button (BS3) and read the number of units from the display of H2P through H7P. [Reading Method] The display of H2P through H7P should be read as a binary number, with ◑ standing for “1” and ● standing for “0”.		◑	＊	＊	＊	＊	＊	＊
Ex: For the LED display at right, this would be “0 1 0 1 1 0”, which would mean 22 units are connected. 32 × **0** + 16 × **1** + 8 × **0** + 4 × **1** + 2 × **1** + 1 × **0** = 22 units Note: “000000” indicates 64 units.		◑	●	◑	◑	◑	◑	●
4. Press the MODE button (BS1) once. This returns to **Setting Mode 1** (default).		●	●	○	●	●	●	●

Note:

Press the “MODE button” (BS1) if you get confused while operating.
This returns to **Setting Mode 1** (default).

1.2.4.2 Procedure of Adding Refrigerant Charging and Check Operation

Warning **Electric Shock Warning**

- Make sure to close the EL. COMPO. BOX lid before turning on the power when performing the refrigerant charging operation.
- Perform the setting on the PC board (A1P) of the outdoor unit and check the LED display after the power is on via the inspection door which is in the EL. COMPO. BOX lid.
- Use an insulated rod to operate the push buttons via the EL. COMPO. BOX's inspection door.
  There is a risk of electric shock if you touch any live parts, since this operation must be performed with the power on.

Caution

- Make sure to use the protect tool (protective groves and goggles) when charging the refrigerant.
- Due to a danger of liquid hammer, the refrigerant must not be charged over the allowable maximum amount when charging the refrigerant.
- Do not perform the refrigerant charging operation under working for the indoor unit.
- When opening the front panel, make sure to take caution to the fan rotation during the working.
  After the outdoor unit stops operating, the fan may keep rotation for a while.

Additional charge of refrigerant and the check operation must be carried out at or below 43°CDB of outside temperature.

Note:

- If operation is performed within 12 minutes after the indoor and outdoor units are turned on, H2P will be lit on and the compressor will not operate.
- In order to ensure uniform refrigerant distribution, it may take up to around 10 minutes for the compressor to start up after the unit starting operating. This is not a malfunction.

<About refrigerant charging>

- The refrigerant charge port is connected to the piping inside the unit.
  When the unit is shipped from the factory, the unit's internal piping is already charged with refrigerant, so be careful when connecting the charge hose.
- After adding the refrigerant, make sure to close the lid of the refrigerant charging port.
  The tightening torque for the lid is 11.5 to 13.9 Nm.
- See [Shutoff valve operation procedure] in 1.2.4.1 for details on how to handle shutoff valves.
- When done or when pausing the refrigerant charging operation, close the valve of the refrigerant tank immediately. If the tank is left with the valve open, the amount of refrigerant which is properly charged may be off the point. More refrigerant may be charged by any remaining pressure after the machine is stopped.

<About check operation>

- Make sure to perform the check operation after installation. Otherwise, the malfunction code "U3" will be displayed and normal operation cannot be performed.
  And the failure of "Check of miswiring" may also cause abnormal operation. Performance may drop due to the failure of "Judgment of piping length".
- Check operation must be performed for each refrigerant piping system.
  Checking is impossible if plural systems are being done at once.
- The individual problems of indoor units can not be checked.
  About these problems check by test run after the check operation is completed. (See page 137)
- The check operation cannot be performed in recovery or other service modes.

1. Make sure the following works are complete in accordance with the installation manual.
   - Piping work
   - Wiring work
   - Air tight test
   - Vacuum drying
   - Installation work for indoor unit
2. Calculate the "additional charging amount" using "How to calculate the additional refrigerant to be charged" in "6 Example of connection" on Part7. Appendix in page 379.

3. Open the valve C (See the figure 31. The valve A,B and the liquid pipe, suction gas pipe shutoff valves must be left closed), and charge the refrigerant of the “additional charging amount” from the liquid side shutout valve service port.

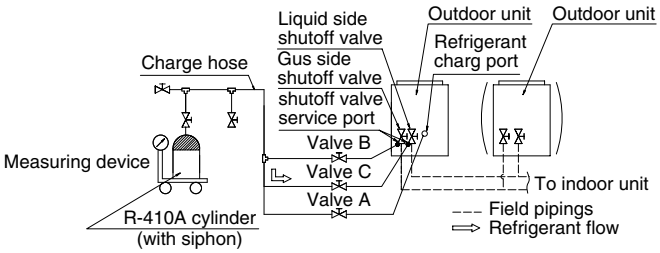


fig 31

4. If the “additional charging amount” was charged fully, close the valve C and go to step 6.
   If the “additional charging amount” was not charged fully, close the valve C and go to step 5.
5. Perform the refrigerant charging following [Automatic refrigerant charging operation procedure] as shown below. And charge the remaining refrigerant of the “additional charging amount”.

Note:

- For performing the automatic refrigerant charging operation, the push button on the PC-bord (A1) of outdoor unit are used. (See figure 33.)
  And the refrigerant are charged from the refrigerant charge port via the valve A. (See figure 32.) For operating the push button and opening or closing the valves, follow the procedure.

- During Automatic refrigerant charging operation, the system will select charging mode (cooling mode or heating mode) by the temperature condition as follows.

Outdoor temp. : 0˚C DB ~ 43˚C DB
Indoor temp. : 10˚C DB ~ 32˚C DB ➡ Cooling mode
Less than above range ➡ Heating mode

When charging in cooling mode, the system will stop operation when the required amount of refrigerant is charged.
During charging in heating mode, a person must manually close valve A and stop operation. Beforehand, check the remaining refrigerant that is needed to charge based on the “additional charging amount” in step 2 and the charged amount in step 3.

- The refrigerant will be charged about 30kg in one hour at outdoor temp. 30°C DB (about 12kg at outdoor temp. 0°C DB).
- During Automatic refrigerant charging operation, you can stop the operation forcedly by pushing MODE button (BS1).

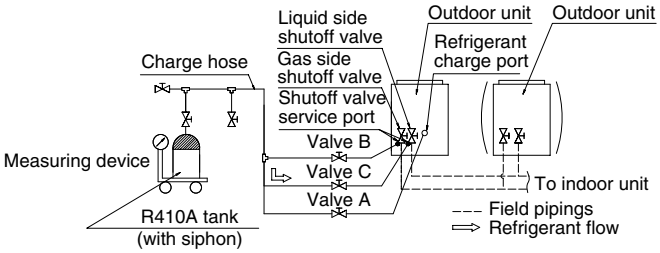


fig 32

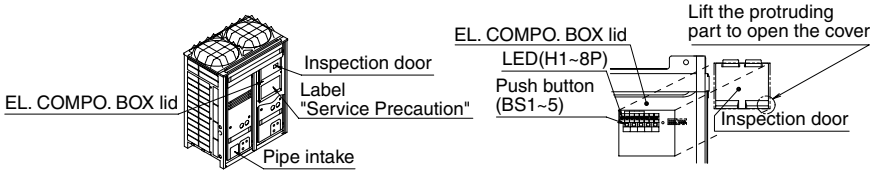


fig 33

[Automatic Refrigerant Charging Operation Procedure]

Note:

The marks of LED mean as follows.

● : OFF ○ : ON ◑ : Blinking * : OFF, ON or Brinking

(1) Open the liquid pipe, suction gas pipe shutoff valves. (The valve A~C must be closed. See figure 32.)

(2) • Close the EL. COMPO. BOX (1) lid and all front panel except on the EL. COMPO. BOX (1) side. (*1) And turn the power to the outdoor unit and all connected indoor units. (*2)
• After H2P stop blinking (about 12 minutes after turning on the power), check H2P is OFF. If H2P is ON, check the malfunction code in the remote controller of indoor unit and correct the malfunction in accordance with [Remote controller display malfunction code] in chapter 1.2.4.2.

(3) Check the LED. And push the MODE button (BS1) once if the LED displays is not as below.

H1P	H2P	H3P	H4P	H5P	H6P	H7P
●	●	○	●	●	●	●

(4) Push the TEST button (BS4) once. (The LED displays will change as below.)

H1P	H2P	H3P	H4P	H5P	H6P	H7P
○	○	○	○	○	○	○

(5) Hold the TEST button (BS4) down for 5 seconds or more.
(The LED displays will change as below and fan of outdoor unit will start rotation.)

H1P	H2P	H3P	H4P	H5P	H6P	H7P
●	◑	●	●	●	*	*

(6) When the compressor start working and the LED displays change any state in below (*3), go to “In case of cooling mode” or “In case of heating mode” in accordance with the LED displays.

H1P	H2P	H3P	H4P	H5P	H6P	H7P	
◑	◑	◑	●	○	●	○	➡ Go to “In case of cooling mode”
◑	◑	●	●	○	●	○	➡ Go to “In case of heating mode”

— In case of cooling mode —

(7) Push the TEST button (BS4) once within 5 minutes after procedure (5) (*4) and close the all front panels (*5).
After that, open the valve A immediately (See figure 32) (*6) and watch the remote controller display of indoor unit.

(8) If the remote controller display shows “PE” code (*7), ready to close the valve A.
And go to procedure (9).
If the remote controller display shows other code, close the valve A immediately and refer to [Remote controller cooling mode malfunction code]

⚠ **Beware the fan running when open the front panel.**
The fan may continue rotation after the system stop the operation.

(9) When the compressor stop working (the fan may continue rotation.), close the valve A immediately (*8).
And check the LED displays are as below and the remote controller display shows “P9” code.

H1P	H2P	H3P	H4P	H5P	H6P	H7P
○	◑	◑	○	○	○	○

After checking, push the MODE button (BS1) once and the charging is complete.

— In case of cooling mode —

(7) Push the TEST button (BS4) once within 5 minutes after procedure (5) (*4) and close the all front panels.
After that, open the valve A immediately (See figure 32) (*6) and check the charged amount by measuring device.
During operation, if the remote controller display shows “P2” or “P8” code, close the valve A immediately and refer to [Remote controller heating mode malfunction code].

Beware the fan running when open the front panel.
The fan may continue rotation after the system stop the operation.

(8) When the required amount of refrigerant is charged, close the valve A (See figure 32) (*8) and push the RETURN button (BS3) once. And then go to procedure (9).
(9) Push the MODE button (BS1) once, and the charging is complete.

Notes (*1)~(*8)

(*1) Lead the refrigerant charge hose etc from the pipe intake.
All front panels must be closed at the procedure (7).
(*2) • If you perform the refrigerant charging operation within the refrigerant system that have the power off unit, the operation cannot finish properly.
Check the number of outdoor and indoor units that is powered.
For checking, see [How to check how many units are connected] in chapter 1.2.4.1.
• To energize the crankcase heater, make sure to turn on for 6 hours before starting operation.
(*3) It takes about 2~10 minutes for getting stability of refrigerant state.
If the additional refrigerant is little and operation is started before getting stability, the system can not judge the charging amount precisely and it cause over charge.
(*4) If the TEST button (BS4) is not pushed within 5 minutes, “P2” code will displayed in the remote controller. In this case, refer [Remote controller cooling (or heating) mode malfunction code].
(*5)If the front panel is opened during the operation, the system cannot operate properly.
(*6) If you leave the system without connecting the refrigerant tank or opening the valve A for 30 minutes or more, the system stop operation and “P2” code are displayed in remote controller.
In this case, refer [Remote controller cooling (or heating) mode malfunction code].
(*7) Depending on the situation of operation such as the charging amount is little, the “PE” code may not be displayed and the “P9” code may be displayed.
(*8) Always close the valve A and take the tank off.
The refrigerant charge port of this unit have electric expansion valve and the valve are closed when charging is finished. However, the valve will opened when after operation (Check operation, normal operation, etc.). If you leave the tank connected, the refrigerant will charged and it cause over charge.

[Remote controller cooling mode malfunction code]

Code	The work contents	
PE	Charging is almost finished. Ready to close the valve A.	
PA PH	The refrigerant tank is empty. Close the valve A and replace empty tank to the new tank. After changing the tank, open the valve A again. ⚠ **Beware the fan running. The outdoor unit does not stop operation.**	
P8	Close the valve A immediately, and restart the operation from procedure (3).	
P2	Operation is interrupted. Close the valve A immediately and check the below items. • Check if suction gas pipe or liquid pipe shutoff valve is opened. • Check the refrigerant tank is connected and the valve A was opened. • Check if the air inlet and outlet of the indoor unit are not closed by an obstruction.	After correcting the abnormality, restart the operation from procedure (3).
*	Operation is stopped abnormally. Close the valve A immediately. Confirm the malfunction code and correct the abnormality following the [Remote controller displays malfunction code] in chapter 1.2.4.2.	
P9	Charging is finished. Close the valve A and take the refrigerant tank off.	

[Remote controller heating mode malfunction code]

Code	The work contents
P8	Close the valve A immediately and push the TEST button (BS4) once. And restart from procedure (7) of “In case of heating mode”.
P2	Operation is interrupted. Close the valve A immediately and check the below items. • Check if suction gas pipe or liquid pipe shutoff valve is opened. • Check the refrigerant tank is connected and the valve A was opened. • Check if the air inlet and outlet of the indoor unit are not closed by an obstruction.

Automatic refrigerant charging operation must be carried out at or below 43°CDB of outside temperature.

If the outside temperature exceeds 43°CDB, follow the directions below to charge additional refrigerant.

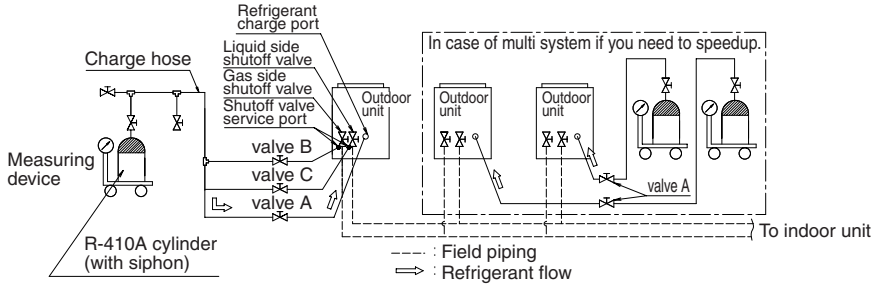


fig 34

[Refrigerant Charging Operation Procedure]

(1) Open the liquid and gas side shutoff valves (The valve A~C must be closed. The valve A~C means the valves in the figure 34.)

[Display of normal system]

LED display (Default status of shipped)		SERV. MONI-TOR	MODE	TEST/ HWL	C/H SELECTOR			L.N.O.P	DEMA-ND	MULTI
					IND	MASTER	SLAVE			
		HAP	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H8P
Single system		◑	●	●	○	●	●	●	●	●
Multi system (*)	Master unit	◑	●	●	○	●	●	●	●	○
	Sub unit 1	◑	●	●	●	●	●	●	●	◑
	Sub unit 2	◑	●	●	●	●	●	●	●	●

LED display: ●...OFF, ○...ON, ◑...Blinking

(*)How to distinguish the master unit, sub unit 1, and sub unit 2 in the multi system.

Method 1: By the H8P (MULTI) LED display

○ (ON): Master unit	◑ (Blinking): Sub unit 1	● (OFF): Sub unit 2

Method 2: By the transmission wiring to indoor unit

Transmission wiring is connected: Master unit
Transmission wiring is not connected: Sub unit 1 or Sub unit 2

(2) If necessary, set the field setting by using the dip switch on the outdoor unit PC board(A1P). (For how to set, see “1.2.5.1 Onsite Settings with the Power Off”)

(3) • Close the EL. COMPO. BOX lid and all front panel except on the side of the EL. COMPO. BOX (*1) and turn the power to the outdoor unit and all connected indoor units. (*2)
• After H2P stop blinking (about 12 minutes after turning on the power), check LED displays as shown in the table [Display of normal system] and the system is normal state.
If H2P is blinking, check the malfunction code in the remote controller, and correct the malfunction in accordance with [Remote controller display malfunction code] in page 134.

(*1) Lead the refrigerant charge hose etc from the pipe intake. All front panels must be closed at the procedure (9).

(*2) • If you perform the refrigerant charging operation within the refrigerant system that have the power off unit, the operation cannot finish properly.
For confirming the number of the outdoor and indoor units with the power on, see [How to check how many units are connected] in chapter 1.2.4.1. In case of a multi system, turn on the power to all outdoor units in the refrigerant system.
• To energize the crankcase heater, make sure to turn on for 6 hours before starting operation.

(4) Start the additional refrigerant charge operation.
(About the system settings for additional refrigerant charge operation, refer to the [Service Precaution] label attached on the EL. COMPO. BOX lid in the outdoor unit.)
Open valve A immediately after starting the compressor.

(5) Close the valve A if the “additional charging amount” of refrigerant was charged, and push the RETURN button (BS3) once.

(6) Record the charging amount on the accessory “REQUEST FOR THE INDICATION” label and attach it to the back side of the front panel.

6. After completing the additional refrigerant charging perform the check operation following below

NOTE:
- For check operation, the following work will be performed.
  - Check of shutoff valve opening
  - Check of miswiring
  - Judgment of piping length
  - Check of refrigerant overcharge
- It takes about 40 minutes to complete the check operation.

[Check Operation Procedure]

(1) Make the onsite setting as needed using the dip switches on the outdoor unit PC board (A1P) with the power off (See "1.2.5.1 Onsite Settings with the Power Off")

(2) Close the EL. COMPO. BOX lid and all front panels except as the side of the EL. COMPO. BOX and turn on the power to the outdoor unit and all connected indoor units.
(Be sure to turn the power on at least 6 hours before operation in order to have power running to the crank case heater.)

(3) Check the LED display on the outdoor unit PC board (A1P) is as shown in the table below and transmission is normal.

LED display (Default status of shipped)		SERV. MONI-TOR	MODE	TEST/ HWL	C/H SELECTOR			L.N.O.P	DEMA-ND	MULTI
					IND	MASTER	SLAVE			
		HAP	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H8P
Single system		◑	●	●	○	●	●	●	●	●
Multi system (*)	Master unit	◑	●	●	○	●	●	●	●	○
	Sub unit 1	◑	●	●	●	●	●	●	●	◑
	Sub unit 2	◑	●	●	●	●	●	●	●	●

LED display: ●...OFF, ○...ON, ◑...Blinking

(*)How to distinguish the master unit, sub unit 1, and sub unit 2 in the multi system.

Method 1: By the H8P (MULTI) LED display

○ (ON): Master unit	◑ (Blinking): Sub unit 1	● (OFF): Sub unit 2

Method 2: By the transmission wiring to indoor unit

Transmission wiring is connected: Master unit
Transmission wiring is not connected: Sub unit 1 or Sub unit 2

(4) Make the onsite settings as needed using the push button (BS1-BS5) on the outdoor unit PC board (A1P) with the power on. (See "1.2.5.2 Onsite Settings with the Power On")

(5) Perform the check operation following the Check Operation Method of the [Service Precautions] label on the EL. COMPO. BOX lid. The system operation for about 40 minutes and automatically stops the check operation.
If the malfunction code is not displayed in the remote controller after the system stop, check operation is completed. Normal operation will be possible after 5 minutes. If the malfunction code is displayed in the remote controller, correct the malfunction following [Remote controller displays malfunction code] and perform the check operation again.

[Remote controller displays malfunction code]

Malfunction code	Installation error	Remedial action
E3, E4 F3, F6 UF	The shutoff valve of the outdoor unit is left closed.	Open the shutoff valve.
U1	The phases of the power to the outdoor unit is reversed.	Exchange two of the three phases (L1, L2, L3) to make a proper connection.
U1 U4 LC	No power is supplied to an outdoor or indoor unit (including phase interruption).	Make sure the power source wire is properly connected to the outdoor unit and revise if necessary.
UF	There is conflict on the connection of transmission wiring in the system.	Check if the refrigerant piping line and the transmission wiring are consistent with each other.
E3 F6 UF	Refrigerant overcharge.	Recalculate the additional amount refrigerant from the piping length and correct the refrigerant charge level by recovering any excessive refrigerant with a refrigerant recovery machine.
E4 F3	Insufficient refrigerant.	• Check if the additional refrigerant charge has been finished correctly. • Recalculate the additional amount refrigerant from the piping length and add the adequate amount.
U7, U4 UF, UH	If the outdoor unit terminal is connected when there is one outdoor unit installed.	Remove the line from the outdoor multi terminals (Q1 and Q2).

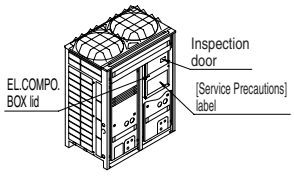
If any malfunction codes other than the above are displayed, check the service manual for how to respond.

1.2.5 Onsite Settings

NOTE:
In the case of a multi system, all onsite settings should be made on the master unit. Settings made on sub units are invalid.
The outdoor unit to which the indoor unit transmission wire are connected is the master unit, and all other units are sub units.

1.2.5.1 Onsite Settings with the Power Off

If the COOL/HEAT selector was connected to the outdoor unit, set the dip switch (DS1) on the outdoor unit PC board (A1P) to "ON" (it is set to "OFF" when shipped from the factory).
For the position of the dip switch (DS1), see the "Service Precautions" label (see at right) which is attached to the EL. COMPO. BOX lid.



Warning **Electric Shock Warning**

Never perform with the power on.
There is a serious risk of electric shock if any live part is touched.

1.2.5.2 Onsite Settings with the Power On

Use the push button switches (BS1 through BS5) on the outdoor unit PC board (A1P) to make the necessary onsite settings.
See the "Service Precautions" label on the EL. CONPO. BOX lid for details on the positions and operating method of the push button switches and on the onsite setting.
Make sure to record the setting on the accessory "REQUEST FOR THE INDICATION" label.

Warning **Electric Shock Warning**

Use an insulated rod to operate the push buttons via the inspection door of EL. COMPO. BOX lid.
There is a risk of electric shock if you touch any live parts, since this operation must be performed with the power on.

1.2.6 Test Run

1.2.6.1 Before Test Run

- Make sure the following works are completed in accordance with the installation manual.
  - ■Piping work
  - ■Wiring work
  - ■Air tight test
  - ■Vacuum drying
  - ■Additional refrigerant charge
- Check that all work for the indoor unit are finished and there are no danger to operate.

1.2.6.2 Test Run

After check operation is completed, operate the unit normally and check the following.

(1) Make sure the indoor and outdoor units are operating normally.

(2) Operate each indoor unit one by one and make sure the corresponding outdoor unit is also operating.

(3) Check to see if cold (or hot) air is coming out from the indoor unit.

(4) Push the fan direction and strength buttons on the remote controller to see if they operate properly.

NOTE:

- Heating is not possible if the outdoor temperature is 24°C or higher. Refer to the Operation manual.
- If a knocking sound can be heard in the liquid compression of the compressor, stop the unit immediately and then energize the crank case heater for a sufficient length of time before restarting the operation.
- Once stopping, the compressor will not restart in about 5 minutes even if the On/Off button of the remote controller is pushed.
- When the system operation is stopped by the remote controller, the outdoor units may continue operating for further 5 minutes at maximum.
- The outdoor unit fan may rotate at low speeds if the Night-time low noise setting or the External low noise level setting is made, but this is not a malfunction.

1.2.6.3 Checks after Test Run

Perform the following checks after the test run is complete.

- Record the contents of field setting.
  →Record them on the accessory “REQUEST FOR THE INDICATION” label.
  And attach the label on the back side of the front panel.
- Record the installation date.
  →Record the installation date on the accessory “REQUEST FOR THE INDICATION” label in accordance with the IEC60335-2-40.
  And attach the label on the back side of the front panel.

NOTE:
After the test run, when handing the unit over to the customer, make sure the EL.COMPO.BOX lid, the inspection door, and the unit casing are all attached.

1.3 Procedure and Outline RXYQ8~36P7Y1K, P7YLK

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

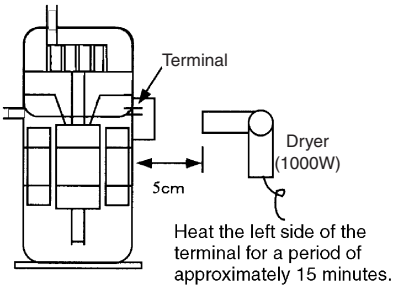
1.3.1 Check Work Prior to Turn Power Supply On

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

⇩

○ Is the wiring performed as specified?
○ Is the designated wire used?
○ Is the wiring screw of wiring not loose?
○ Is the grounding work completed?
○ Is the insulation of the main power supply circuit deteriorated?
Use a 500V megger tester to measure the insulation. (*1)
- Do not use a megger tester for other circuits than 200V (or 240V) circuit.

*1:Measure to be taken against decreased insulation resistance in the compressor
If the compressor is left to stand for an extended period of time after the refrigerant charge with the stop valve open and the power supply OFF, the refrigerant may be mixed in the compressor, thus decreasing the insulation resistance.
Heat the compressor as shown on the right and then recheck the insulation.



Check on refrigerant piping / insulation materials

⇩

○ Is the pipe size proper?
○ Is the pipe insulation material installed securely?
Liquid and gas pipes need to be insulated. (Otherwise causes water leak.)

Check airtight test and vacuum drying.

⇩

○ Have the airtight test and the vacuum drying been conducted according to the procedure in the Installation Manual?

Check on amount of refrigerant charge

⇩

○ Is a proper quantity of refrigerant refilled?
The following two methods are available for refilling of the refrigerant.
(1) Use the automatic refrigerant refilling function.
(2) Calculate a refrigerant refilling quantity.

Check the stop valves for conditions.

○ Check to be sure the stop valves are under the following conditions.

Liquid-side stop valve	Gas-side stop valve
Open	Open

1.3.2 Turn Power On

Turn outdoor unit and indoor unit power on.



Check the LED display of the outdoor unit PC board.



Make field settings with outdoor unit PC board.



Conduct check operations.



Check for normal operation.

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

○ Check to be sure the transmission is normal.
The transmission is normal if the LEDs display conditions as shown in table below.

LED display (Default status before delivery)		Micro-computer operation monitor	MODE	Ready /Error	Cooling/Heating changeover			Low noise	Demand	Multi
					Individual	Bulk (master)	Bulk (slave)			
		HAP	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H8P
Single outdoor unit system		◑	●	●	○	●	●	●	●	●
Multiple outdoor unit system	Master unit(a)	◑	●	●	○	●	●	●	●	○
	Slave unit 1(a)	◑	●	●	●	●	●	●	●	◑
	Slave unit 2(a)	◑	●	●	●	●	●	●	●	●

(a) The state of the H8P (multi) LED in a multi-system shows wich unit is the master unit (○), slave 1 unit (◑) or slave 2 unit (●).
Only the master unit is connected to the indoor units with interunit wiring.

○ Make field settings if needed.
(For the setting procedure, refer to information in "3.2. Field Setting from Outdoor Unit" on page 181 onward.)
For the outdoor-multi system, make field settings with the master unit.
(Field settings made with the slave unit will be all invalid.)

The check operations shown below will be automatically initiated.
- Check for erroneous wirings
- Check for failure to open stop valves
- Check for excessive refrigerant refilling
- Automatic judgment of piping length

○ Before starting the normal operation after the completion of check operations, make sure indoor and outdoor units normally operate.

1.3.3 Leak Test and Vacuum Drying

The units were checked for leaks by the manufacturer.
After connecting the field piping, perform the following inspections.

1.3.3.1 Preparations

Referring to figure 28, connect a nitrogen tank, a cooling tank, and a vacuum pump to the outdoor unit and perform the airtightness test and the vacuum drying. The stop valve and valves A and B in figure 28 should be open and closed as shown in the table below when performing the airtightness test and vacuum drying.

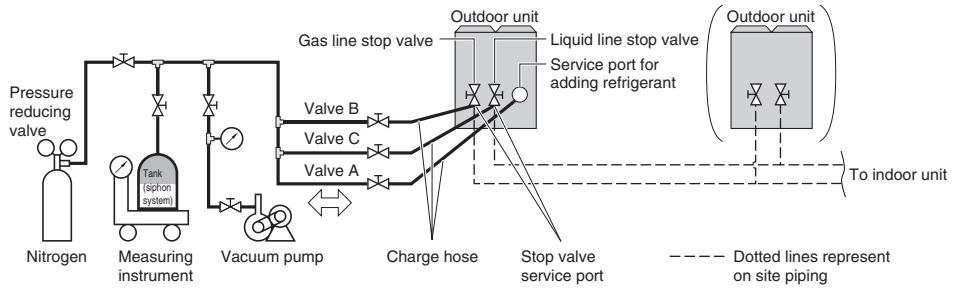
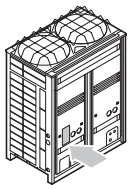


fig. 28

State of the valves A and B and the stop valve	Valve			Stop valve	
	A	B	C	Liquid side	Gas side
Performing the airtightness test and vacuum drying (Valve A must always be shut. Otherwise the refrigerant in the unit will pour out.)	Close	Open	Open	Close	Close

1.3.3.2 Airtightness test and vacuum drying

Note: Make sure to perform airtightness test and vacuum drying using the service ports of the stop valves of the liquid side and of the gas side. (For the service port location, refer to the "Caution" label attached on the front panel of the outdoor unit.)



- See "1.3.5.2. Stop valve operation procedure" on page 142 for details on handling the stop valve.
- To prevent entry of any contamination and to prevent insufficient pressure resistance, always use the special tools dedicated for working with R-410A refrigerant.

- Airtightness test:

Note: Make sure to use nitrogen gas.

Pressurize the liquid and gas pipes to 4.0 MPa (40 bar) (do not pressurize more than 4.0 MPa (40 bar)). If the pressure does not drop within 24 hours, the system passes the test. If the pressure drops, check where the nitrogen leaks from.

- Vacuum drying: Use a vacuum pump which can evacuate to -100.7 kPa (5 Torr, -755 mm Hg)

1. Evacuate the system from the liquid and gas pipes by using a vacuum pump for more than 2 hours and bring the system to -100.7 kPa. After keeping the system under that condition for more than 1 hour, check if the vacuum gauge rises or not. If it rises, the system may either contain moisture inside or have leaks.
2. Following should be executed if there is a possibility of moisture remaining inside the pipe (if piping work is carried out during the raining season or over a long period of time, rainwater may enter the pipe during work).
   After evacuating the system for 2 hours, pressurize the system to 0.05 MPa (vacuum break) with nitrogen gas and evacuate the system again using the vacuum pump for 1 hour to -100.7 kPa (vacuum drying). If the system can not be evacuated to -100.7 kPa within 2 hours, repeat the operation of vacuum break and vacuum drying.
   Then, after leaving the system in vacuum for 1 hour, confirm that the vacuum gauge does not rise.

1.3.4 Pipe Insulation

After finishing the leak test and vacuum drying, the piping must be insulated. Take into account the following points:

- Make sure to insulate the connection piping and refrigerant branch kits entirely.
- Be sure to insulate liquid and gas piping (for all units).
- Use heat resistant polyethylene foam which can withstand a temperature of 70°C for liquid side piping and polyethylene foam which can withstand a temperature of 120°C for gas side piping.
- Reinforce the insulation on the refrigerant piping according to the installation environment.

Ambient temperature	Humidity	Minimum thickness
≤30°C	75% to 80% RH	15 mm
>30°C	≥80 RH	20 mm

Condensation might form on the surface of the insulation.

- If there is a possibility that condensation on the stop valve might drip down into the indoor unit through gaps in the insulation and piping because the outdoor unit is located higher than the indoor unit this must be prevented by sealing up the connections. See figure 12.

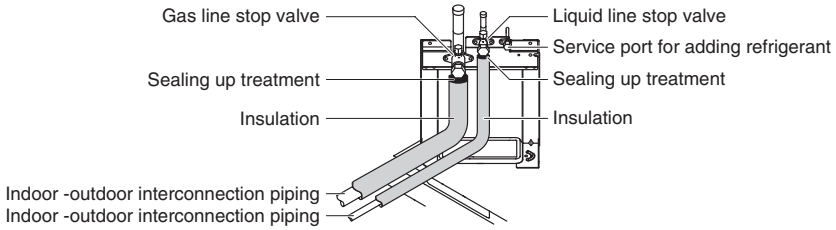


fig. 12

Be sure to insulate local pipes, as touching them can cause burns.

1.3.5 Charging Refrigerant

The outdoor unit is factory charged, but depending on the length of the piping when installed, the outdoor unit may require additional charging.
For charging the additional refrigerant follow the procedure as described in this chapter.

Refrigerant can not be charged until all field wiring and field piping has been completed.
Refrigerant may only be charged after performing the leak test and the vacuum drying.

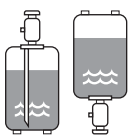
The refrigerant charge of the system must be less than 100 kg. This means that in case the calculated refrigerant charge is equal to or more than 95 kg you must divide your multiple outdoor system into smaller independent systems, each containing less than 95 kg refrigerant charge.
For factory charge, refer to the unit name plate.

1.3.5.1 Precautions when Adding R-410A

Be sure to charge the specified amount of refrigerant in liquid state to the liquid pipe.
Since this refrigerant is a mixed refrigerant, adding it in gas form may cause the refrigerant composition to change, preventing normal operation.

- Before charging, check whether the refrigerant cylinder is equipped with a siphon tube or not.

Charge the liquid refrigerant with the cylinder in upright position.



Charge the liquid refrigerant with the cylinder in up-side-down position.

- Be sure to use tools exclusively for R-410A to ensure required pressure resistance and to prevent foreign materials from mixing into the system.

Charging with an unsuitable substance may cause explosions and accidents, so always make sure that the appropriate refrigerant (R-410A) is charged.
Refrigerant containers must be opened slowly.

1.3.5.2 Stop Valve Operation Procedure

- Do not open the stop valve until all piping and electrical steps are completed. If the stop valve is left open without turning on the power, it may cause refrigerant to build up in the compressor, leading to insulation degradation.
- Always use a charge hose for service port connection.
- After tightening the cap, check that no refrigerant leaks are present.

Size of stop valve

The sizes of the stop valves connected to the system are as listed in the table below.

Type	8	10	12
Liquid line stop valve	ϕ9.5(a)		
Gas line stop valve	ϕ19.1	ϕ25.4(b)	

(a) The model RXYQ12 supports field piping of ϕ12.7 on the accessory pipe supplied with the unit.

(b) The model RXYQ10 supports field piping of ϕ22.2 on the accessory pipe supplied with the unit.
The model RXYQ12 supports field piping of ϕ28.6 on the accessory pipe supplied with the unit.

Opening stop valve (See figure 14)

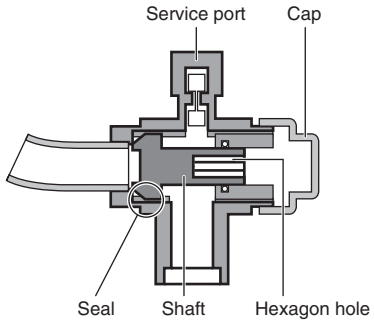


fig. 14

1. Remove the cap and turn the valve counterclockwise with the hexagon wrench.
2. Turn it until the shaft stops.

Do not apply excessive force to the stop valve. Doing so may break the valve body, as the valve is not a backseat type. Always use the special tool.

3. Make sure to tighten the cap securely. Refer to the table below

Stop valve size	Tightening torque N•m (Turn clockwise to close)			
	Shaft		Cap (valve lid)	Service port
	Valve body	Hexagonal wrench		
ϕ9.5	5.4~6.6	4 mm	13.5~16.5	11.5~13.9
ϕ12.7	8.1~9.9		18.0~22.0	
ϕ15.9	13.5~16.5	6 mm	23.0~27.0	
ϕ19.1	27.0~33.0	8 mm	22.5~27.5	
ϕ25.4				

Closing stop valve (See figure 14)

1. Remove the cap and turn the valve clockwise with the hexagon wrench.
2. Securely tighten the valve until the shaft contacts the main body seal.
3. Make sure to tighten the cap securely.
   For the tightening torque, refer to the table above.

1.3.5.3 How to Check how many Units are Connected

It is possible to find out how many indoor units are active and connected by operating the push-button switch on the printed circuit board (A1P) of the working outdoor unit. In a multiple outdoor unit system, you can find out how many outdoor units are connected to the system by using the same procedure.
Make sure that all the indoor units connected to the outdoor unit are active.
Follow the 5-step procedure as explained below.

- The LEDs on the A1P shows the operating status of the outdoor unit and the number of indoor units that are active.

  ● OFF ○ ON ◑ Blinking

- The number of units that are active can be read from the LED display in the "Monitor Mode" procedure below.
  Example: in the following procedure there are 22 units active:

Note: Wherever during this procedure, press the **BS1 MODE** button if something becomes unclear. You will return to setting mode 1 (H1P= ● "OFF").

1 Setting mode 1 (default system status)

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
Default status (normal)	●	●	○	●	●	●	●

Press the **BS1 MODE** button to switch from setting mode 1 to monitor mode.

2 Monitor mode

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
Default status display	◑	●	●	●	●	●	●

To check the number of indoor units, press the **BS2 SET** button 5 times.
To check the number of outdoor units, press the **BS2 SET** button 8 times.

3 Monitor mode

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
Selection status of how many connected indoor units to display.	◑	●	●	●	○	●	○

OR

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
Selection status of how many connected outdoor units to display.	◑	●	●	○	●	●	●

Pressing the **BS3 RETURN** button causes the LED display to show the data on the number of indoor units that are connected or how many outdoor units that are connected in a multiple outdoor unit system.

4 Monitor mode

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
Displaying the number of connected indoor units	◑	●	◑	●	◑	◑	●
		32	16	8	4	2	1

Calculate the number of connected indoor units by adding the values of all (H2P~H7P) blinking (◑) LEDs together.
In this example: 16+4+2=**22** units

Press the **BS1 MODE** button to return to step 1, setting mode 1 (H1P= ● "OFF").

1.3.5.4 Additional Refrigerant Charge

There are two ways to charge refrigerant. Use the selected method following the described procedure below.

- Adding refrigerant using leak detection function.
  Refer to **"1 Adding refrigerant using leak detection function (for RXYQ_Y1K units only)"** on page 144
- Adding refrigerant without using leak detection function.
  Refer to **"2 Adding refrigerant without using leak detection function"** on page 148

Adding refrigerant using the automatic refrigerant charging function is recommended.
If refrigerant is added manually, without using the automatic refrigerant charging function, the refrigerant leak detection function can not be used.

Follow the procedures below.

- When charging a system, charging over the permissible quantity can cause liquid hammer.
- Always use protective gloves and protect your eyes when charging refrigerant.
- When the refrigerant charging procedure is done or when pausing, close the valve of the refrigerant tank immediately. If the tank is left with the valve open, the amount of refrigerant which is properly charged may get off point. More refrigerant may be charged by any remaining pressure after the unit has stopped.

Electric shock warning

- Close the electric box lid before turning on the main power.
- Perform the settings on the circuit board (A1P) of the outdoor unit and check the LED display after the power is on via the service lid which is in the lid of the electric box.
  Operate switches with an insulated stick (such as a ball-point pen) to avoid touching the life parts.
  Make sure to re-attach the inspection cover into the switch box cover after the job is finished.



- If the power of some units is turned off, the charging procedure can not be finished properly.
- In case of a multiple outdoor system, turn on the power of all outdoor units.
- Make sure to turn ON the power 6 hours before starting the operation. This is necessary to warm the crankcase by the electric heater.
- If operation is performed within 12 minutes after the indoor and outdoor units are turned on, the H2P-LED will be lit and the compressor will not operate.

Note:

- See "1.3.5.2. Stop valve operation procedure" on page 142 for details on how to handle stop valves.
- The refrigerant charging port is connected to the piping inside the unit.
  The unit's internal piping is already factory charged with refrigerant, so be careful when connecting the charge hose.
- After adding the refrigerant, do not forget to close the lid of the refrigerant charging port.
  The tightening torque for the lid is 11.5 to 13.9 N•m.
- In order to ensure uniform refrigerant distribution, it may take the compressor ±10 minutes to start up after the unit has started operation. This is not a malfunction.
- Make sure to perform the check operation after installation. Otherwise the malfunction code "U3" will be displayed and normal operation can not be performed.
  Failing to perform a check for wrong wiring could result in a abnormal operation.
  Performance may drop due to a wrong judgement of piping length.

1. Adding refrigerant using leak detection function (for RXYQ_Y1K units only)

The automatic refrigerant charging has limits as described below.
At out of limit, the system can not operate the automatic refrigerant charging.

Outdoor temperature	: 0°C DB~43°C DB
Indoor temperature	: 10°C DB~32°C DB
Total indoor unit capacity	: ≥80%

To speed up the process of charging refrigerant for large systems, it is recommended to first manually charge a portion of the refrigerant first before performing automatic charging.

1. Calculate how much refrigerant to be added using the formula explained in the chapter "How to calculate the additional refrigerant to be charged" on page 380, 382.
2. The amount of pre-charging is 10 kg less than the calculated amount.
3. Open valve C (valves A and B and the stop valves must be left closed) and charge the refrigerant in liquid form via the liquid side stop valve service port.
   (See figure 29)

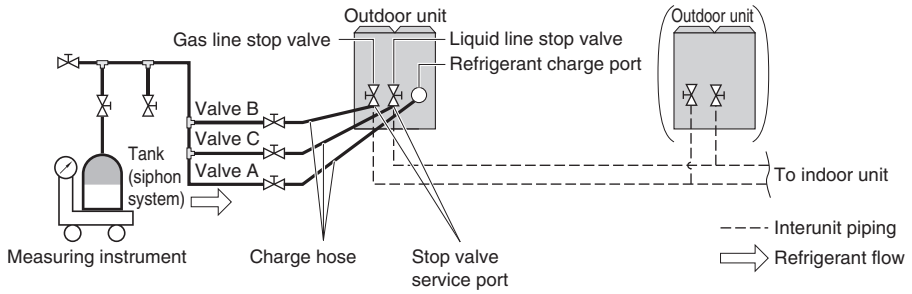


fig. 29

4. If the calculated amount of pre-charging is reached, close valve C.

⚠ At least the unit should be charged with its original amount of refrigerant (refer to the nameplate on the unit), before starting the automatic charging.

5. After pre-charging, perform the refrigerant charge operation as shown below and charge the remaining refrigerant of the additional charging amount through valve A. (See figure 30)

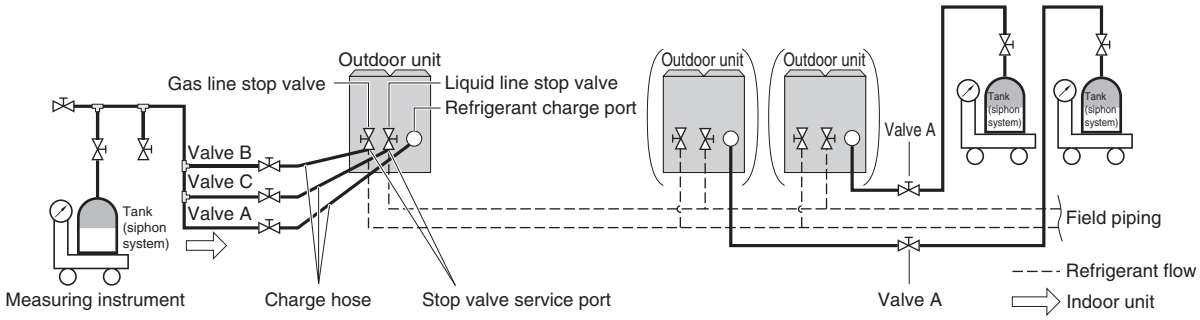


fig. 30

Note: For a multi outdoor unit system, it is not required to connect all charge ports to a refrigerant tank.
The refrigerant will be charged with ±22 kg in 1 hour time at an outdoor temperature of 30°C DB or with ±6 kg at an outdoor temperature of 0°C DB.
If you need to speed up in case of a multiple outdoor system, connect the refrigerant tanks to each outdoor unit as shown in figure 30.

1. Start of automatic charging refrigerant

- Open the liquid and gas side stop valves and the service port stop valve. (Valves A, B and C must be closed.)
- Close all front panels except the electric box front panel and turn the power ON.
- Make sure all indoor units are connected, refer to "1.3.5.3. How to check how many units are connected" on page 143.
- If the H2P LED is not flashing (in 12 minutes time after turning on the power), make sure it is displayed as shown in the "3 Normal system display" on page 151.
  If the H2P LED is flashing, check the malfunction code on the remote controller "4 Remote controller malfunction code display" on page 151.

2. Press the **BS1 MODE** button once if the LEDs combination is not as in the figure below.

H1P	H2P	H3P	H4P	H5P	H6P	H7P
●	●	○	●	●	●	●

3. Press the **BS4 TEST** button once.

H1P	H2P	H3P	H4P	H5P	H6P	H7P
○	○	○	○	○	○	○

4. Hold the **BS4 TEST** button down for 5 seconds or more.
5. **Charging mode judgement**
   For automatic charging, the charging must be done in cooling mode.
   However, if the indoor temperature is 10°C DB or lower, in some cases the unit will first charge in heating mode to increase the indoor temperature.
   The unit will automatically select the cooling mode or heating mode for charging.



During charging in heating mode, a person must manually close valve A before complete charging is finished. The required amount is the the calculated amount (see "6. Example of connection" on page 379) minus 10 kg, therefore, the weight must be monitored constantly.

Continue with the automatic charging in cooling mode OR in heating mode.

- **Charging in heating mode**

6. Start up
   Wait while the unit is preparing for charging in heating mode.

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
Pressure control (for the first minute)	●	◑	●	●	●	●	○
Start up control (for the next 2 minutes)	◑	◑	●	●	●	○	●
Waiting for stable heating conditions (for the next ±15 minutes (according to the system))	◑	◑	●	●	●	○	○

7. Ready

H1P	H2P	H3P	H4P	H5P	H6P	H7P
◑	◑	●	●	○	●	○

   Press the **BS4 TEST** button once within 5 minutes.
   If the **BS4 TEST** button is not pushed within 5 minutes, P2 will be displayed on the remote controller. Refer to "4 Remote controller malfunction code display" on page 151.
8. Operation
   When the following LED display is shown, open valve A and close the front panel. If the front panel is left open, the system can not operate properly during the refrigerant charging.

H1P	H2P	H3P	H4P	H5P	H6P	H7P
○	◑	*	*	*	*	*

   * = The state of this LED is not important.



When a malfunction occurs, check the display of the remote controller and refer to "4 Remote controller malfunction code display" on page 151.

9. Complete
   If the calculated amount of refrigerant minus 10 kg is reached, close valve A and press the **BS3 RETURN** button once.

H1P	H2P	H3P	H4P	H5P	H6P	H7P
◑	◑	◑	○	○	○	○

   As long as the **BS3 RETURN** button is not pressed, the system will remain in heating mode. This can be required to increase the indoor temperature.

10. Press the **BS4 TEST** button to perform the temperature range check
Out of range:

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
Out of outdoor temperture range	○	◑	◑	◑	○	●	●
Out of indoor temperture range	○	◑	◑	◑	●	○	●

In these cases, press the BS1 MODE button once and follow the procedure as "5 Final adjustment of the amount of refrigerant" on page 152.
In range:
The unit will restart from the charging mode judgement onwards and the cooling mode will be selected. However, if in the mean time the temperature has become out of range, heating mode will be selected again, this is required to increase the indoor temperature.

■ **Charging in cooling mode**

6. Start up
Wait while the unit is preparing for charging in cooling mode.

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
Pressure control (for the first minute)	●	◑	●	●	●	●	○
Start up control (for the next 2 minutes)	●	◑	●	●	●	○	●
Waiting for stable heating conditions (for the next ±15 minutes (according to the system))	●	◑	●	●	●	○	○

7. Ready

H1P	H2P	H3P	H4P	H5P	H6P	H7P
◑	◑	◑	●	○	●	○

Press the **BS4 TEST** button once within 5 minutes.
If the **BS4 TEST** button is not pushed within 5 minutes, P2 will be displayed on the remote controller. Refer to "4 Remote controller malfunction code display" on page 151.

8. Operation
When the following LED display is shown, open valve A and close the front panel. If the front panel is left open, the system can not operate properly during the refrigerant charging.

H1P	H2P	H3P	H4P	H5P	H6P	H7P
○	◑	*	*	*	*	*

* = The state of this LED is not important.



When a malfunction occurs, check the display of the remote controller and refer to "4 Remote controller malfunction code display" on page 151.

9. Complete
If the display on the remote controller shows a flashing PE code, charging is almost finished. When the unit stops operating, close valve A immediately and check the LEDs and check if the P9 code is displayed on the remote controller. When the charging amount is little, the PE code may not be displayed, but instead the P9 code will be displayed immediately.

H1P	H2P	H3P	H4P	H5P	H6P	H7P
○	◑	◑	○	○	○	○

If it is not as shown above, correct the malfunction (as indicated in the display of the remote controller) and restart the complete charging procedure.

10. Press the **BS4 TEST** button to perform the temperature range check
Out of range:

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
Out of outdoor temperture range	○	◑	◑	◑	○	●	●
Out of indoor temperture range	○	◑	◑	◑	●	○	●

In these cases, press the **BS1 MODE** button once and follow the procedure as described in "5 Final adjustment of the amount of refrigerant" on page 152.
In range:
The state of the LEDs will show:

H1P	H2P	H3P	H4P	H5P	H6P	H7P
○	◑	◑	○	○	○	○

Press the **BS1 MOD**E button once. The procedure is completed.
Record the amount that was added on the "Request for indication of additional refrigerant charging and leak detection amount" label provided with the unit and attach it on the switch box cover.
Perform the procedure as described in "1.3.5.5. Inputting of additional refrigerant charge" on page 153.

2. Adding refrigerant without using leak detection function

■ **Charge with the outdoor unit at standstill**

1. Calculate how much refrigerant to be added using the formula explained in the chapter "How to calculate the additional refrigerant to be charged" on page 380, 382.
2. Open valve C (valves A and B and the stop valves must be left closed) and charge the required amount of refrigerant through the liquid side stop valve service port.
   - ■ When the required amount of refrigerant is fully charged, close valve C. Record the amount of refrigerant that was added on the "Request for indication of additional refrigerant charging and leak detection amount" label provided with the unit and attach it on the back side of the front panel. Perform the test procedure as described in "In case refrigerant was added without using the leak detection function (precharging, charging in heating mode)" on page 160.
   - ■ When the additional charging is not complete, perform the procedure explained in the chapter "Charge with operating outdoor unit" on page 148.

■ **Charge with operating outdoor unit**

Charge the refrigerant through valve A.

1. Start of charging refrigerant manually

- Open the liquid and gas side stop valves and the service port stop valve. (Valves A, B and C must be closed.)
- Close all front panels except the electric box front panel and turn the power ON.
- Make sure all indoor units are connected, refer to "1.3.5.3. How to check how many units are connected" on page 143.
- If the H2P LED is not flashing (in 12 minutes time after turning on the power), make sure it is displayed as shown below.
  If the H2P LED is flashing, check the malfunction code on the remote controller "4 Remote controller malfunction code display" on page 151.

2. Press the **BS1 MODE** button once if the LEDs combination is not as in the figure below.

H1P	H2P	H3P	H4P	H5P	H6P	H7P
●	●	○	●	●	●	●

3. Press the **BS4 TEST** button once.

H1P	H2P	H3P	H4P	H5P	H6P	H7P
○	○	○	○	○	○	○

4. Hold the **BS4 TEST** button down for 5 seconds or more.

5. Charging mode judgement

If the indoor temperature is 10°C DB or lower, charging in cooling mode is not possible in some cases. The unit will automatically select the cooling mode or heating mode for charging.

When charging in cooling mode, the unit will stop operating when the required amount of refrigerant is charged.
During charging in heating mode, a person must manually close valve A when complete charging is finished. Calculate how much refrigerant to be added using the formula explained in the chapter "How to calculate the additional refrigerant to be charged" on page 380, 382.

Continue with the manually charging in cooling mode OR in heating mode.

■ **Charging in heating mode**

6. Start up
   Wait while the unit is preparing for charging in heating mode.

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
Pressure control (for the first minute)	●	◑	●	●	●	●	○
Start up control (for the next 2 minutes)	◑	◑	●	●	●	○	●
Waiting for stable heating conditions (for the next ±15 minutes (according to the system))	◑	◑	●	●	●	○	○

7. Ready

H1P	H2P	H3P	H4P	H5P	H6P	H7P
◑	◑	●	●	○	●	○

   Press the **BS4 TEST** button once within 5 minutes.
   If the **BS4 TEST** button is not pushed within 5 minutes, P2 will be displayed on the remote controller. Refer to "4 Remote controller malfunction code display" on page 151.
8. Operation
   When the following LED display is shown, open valve A and close the front panel. If the front panel is left open, the system can not operate properly during the refrigerant charging.

H1P	H2P	H3P	H4P	H5P	H6P	H7P
○	◑	*	*	*	*	*

* = The state of this LED is not important.

When a malfunction occurs, check the display of the remote controller and refer to "4 Remote controller malfunction code display" on page 151.

9. Complete
   If the calculated amount of refrigerant minus 10 kg is reached, close valve A and press the **BS3 RETURN** button once.

H1P	H2P	H3P	H4P	H5P	H6P	H7P
◑	◑	◑	○	○	○	○

10. Press the **BS1 MODE** button once and the charging is complete.
    Record the amount that was added on the additional refrigerant charge label provided with the unit and attach it on the back side of the front panel.
    Perform the test procedure as described in "In case refrigerant was added without using the leak detection function (precharging, charging in heating mode)" on page 160.

■ **Charging in cooling mode**

6. Start up
   Wait while the unit is preparing for charging in cooling mode.

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
Pressure control (for the first minute)	●	◑	●	●	●	●	○
Start up control (for the next 2 minutes)	●	◑	●	●	●	○	●
Waiting for stable heating conditions (for the next ±15 minutes (according to the system))	●	◑	●	●	●	○	○

7. Ready

H1P	H2P	H3P	H4P	H5P	H6P	H7P
◑	◑	◑	●	○	●	○

   Press the **BS4 TEST** button once within 5 minutes.
   If the **BS4 TEST** button is not pushed within 5 minutes, P2 will be displayed on the remote controller. Refer to "4 Remote controller malfunction code display" on page 151.
8. Operation
   When the following LED display is shown, open valve A and close the front panel. If the front panel is left open, the system can not operate properly during the refrigerant charging.

H1P	H2P	H3P	H4P	H5P	H6P	H7P
○	◑	*	*	*	*	*

   * = The state of this LED is not important.



When a malfunction occurs, check the display of the remote controller and refer to "4 Remote controller malfunction code display" on page 151.

9. Complete
   If the display on the remote controller shows a flashing PE code, charging is almost finished. When the unit stops operating, close valve A immediately and check the LEDs and check if the P9 code is displayed on the remote controller.

H1P	H2P	H3P	H4P	H5P	H6P	H7P
○	◑	◑	○	○	○	○

   If it is not as shown above, correct the malfunction (as indicated in the display of the remote controller) and restart the complete charging procedure. When the charging amount is little, the PE code may not be displayed, but instead the P9 code will be displayed immediately.
10. Press the **BS1 MODE** button once and the charging is complete.
    Record the amount that was added on the additional refrigerant charge label provided with the unit and attach it on the back side of the front panel.
    Perform the test procedure as described in "In case refrigerant was added without using the leak detection function (charging in cooling mode)" on page 159.

3. Normal system display

LED display (Default status before delivery)		Microcomputer operation monitor	Mode	Ready/ Error	Cooling / Heating changeover			Low noise	Demand	Multi
					Individual	Bulk (master)	Bulk (slave)			
		HAP	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H8P
Single outdoor unit system		◑	●	●	○	●	●	●	●	●
Multiple outdoor unit system	Master unit(a)	◑	●	●	○	●	●	●	●	○
	Slave unit 1(a)	◑	●	●	●	●	●	●	●	◑
	Slave unit 2(a)	◑	●	●	●	●	●	●	●	●

(a) The state of the H8P (multi) LED in a multi-system shows which unit is the master unit (○), slave 1 unit (◑) or slave 2 unit (●).
Only the master unit is connected to the indoor units with interunit wiring.

4. Remote controller malfunction code display

Remote controller heating mode malfunction codes

Error code		
P8 recharge operation	Close valve A immediately and press the TEST OPERATION button once. The operation will restart from the charging mode judgement onwards.	
P2 charge hold	Close valve A immediately. Check following items: - Check if the gas side stop valve is opened correctly - Check if the valve of the refrigerant cylinder is opened - Check if the air inlet and outlet of the indoor unit are not obstructed	After correcting the abnormality, restart the automatic charging procedure again.

Remote controller cooling mode malfunction codes

Error code		
PA, PH, PC replace cylinder	Close valve A and replace the empty cylinder. When renewed, open valve A (the outdoor unit will not stop operating). The code on the display shows the unit where a cylinder is to be renewed: PA = master unit, PH = slave unit 1, PC = slave unit 2, flashing PA, PH and PC = all units After replacing the cylinder, open valve A again and continue the work.	
P8 recharge operation	Close valve A immediately. Restart the automatic charging procedure again.	
P2 charge hold	Close valve A immediately. Check following items: - Check if the gas side stop valve is opened correctly - Check if the valve of the refrigerant cylinder is opened - Check if the air inlet and outlet of the indoor unit are not obstructed - Check if the indoor temperature is not lower than 20°CDB	After correcting the abnormality, restart the automatic charging procedure again.
* abnormal stop	Close valve A immediately. Confirm the malfunction code by the remote controller and correct the abnormality by following the "Correcting after abnormal completion of the test operation" on page 161.	

5. Final adjustment of the amount of refrigerant

- When the unit displays an out of temperature range, the automatic charging of refrigerant can not be completed.
  - **Out of outdoor temperature range**

H1P	H2P	H3P	H4P	H5P	H6P	H7P
○	◑	◑	◑	○	●	●

    Complete the charging of refrigerant on another time when the outdoor temperature is warmer than 0°C DB and colder than 43°C DB.
  - **Out of indoor temperature range**

H1P	H2P	H3P	H4P	H5P	H6P	H7P
○	◑	◑	◑	●	○	●

    Complete the charging of refrigerant on another time when the indoor temperature is warmer than 10°C DB and colder than 32°C DB.

  In this case, perform a test operation (as explained in the chapter "1.3.6.4. Test operation" on page 159) and the unit will work properly. (The malfunction code U3 will be displayed on the indoor unit.)
  However, the refrigerant leak detection function can not be used before completing the refrigerant charging operation and the judgement of the initial amount of refrigerant by performing the test operation again.
- When the temperature has come in range (outdoor = 0~43°C, indoor = 10~32°C), perform the overcharging judgement procedure for completion of the refrigerant charging operation.

Overcharging judgement procedure

1. Close all the front panels except the electric box front panel and the lid on the side of the electric box.
2. Turn on the power to the outdoor unit and all the connected indoor units.
3. Press the **BS1 MODE** button once and set the setting model H1P = OFF.
4. Press and hold the **BS4 TEST** button down for 5 seconds.
   The system will start operating.
5. Close all the front panels.
   After operating for 40 minutes, the operation will stop automatically.
6. After the system has stopped operating, check the display on the remote controller.
7. If E3, F6 or UF is displayed on the remote controller as a result of the overcharge judging operation, recover 20% of the charged amount of refrigerant and perform the overcharge judgement procedure again.

- When there is no more overcharging of refrigerant detected, restart the automatic refrigerant charging from "1. Start of automatic charging refrigerant" as explained on page 145 again.

1.3.5.5 Inputting of Additional Refrigerant Charge (Only for Automatic Charging)

After the automatic charging in cooling mode is finished, the additional refrigerant change needs to be registered on the outdoor unit.

1. Press and hold the **BS1 MODE** button down for 5 seconds or more, the H1P_LED is ON (○).
2. Press the **BS2 SET** button untill following LED status is shown.

H1P	H2P	H3P	H4P	H5P	H6P	H7P
○	●	●	○	○	○	●

3. Press the **BS3 RETURN** button once to confirm.
4. Enter the additional refrigerant charge according to the table below. Press the **BS2 SET** button to change to LED status.

Setting	R1 (kg)	H1P	H2P	H3P	H4P	H5P	H6P	H7P
0	Default	○	●	●	●	●	●	●
1	~5	○	●	●	●	●	●	○
2	~10	○	●	●	●	●	○	●
3	~15	○	●	●	●	●	○	○
4	~20	○	●	●	●	○	●	●
5	~25	○	●	●	●	○	●	○
6	~30	○	●	●	●	○	○	●
7	~35	○	●	●	●	○	○	○
8	~40	○	●	●	○	●	●	●
9	~45	○	●	●	○	●	●	○
10	~50	○	●	●	○	●	○	●
11	~55	○	●	●	○	●	○	○
12	~60	○	●	●	○	○	●	●
13	~56	○	●	●	○	○	●	○
14	~70	○	●	●	○	○	○	●
15	~75	○	●	●	○	○	○	○
16	~80	○	●	○	●	●	●	●
17	~85	○	●	○	●	●	●	○

R1 = additional refrigerant charge (kg)

5. Press the **BS3 RETURN** button once to confirm.
   If the incorrect volume is registered, the accuracy of the leak detection function will decrease.

Note: In case of mistake, start this procedure all over again from step 1.

6. Perform the test procedure as described in "In case refrigerant was added by using the leak detection function" on page 159.

1.3.5.6 Checks after Adding Refrigerant

- Are the stop valves for both liquid and gas open?
- Is the amount of refrigerant, that has been added, recorded on the "Request for indication of additional refrigerant charging and leak detection amount" label?

Make sure to open the stop valves after charging the refrigerant.
Operating with the stop valves closed will damage the compressor.

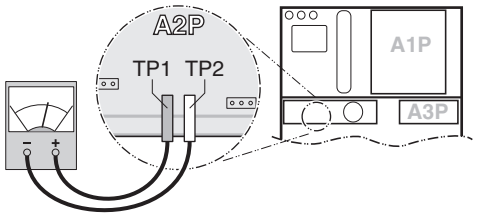
1.3.6 Before Operation

1.3.6.1 ⚠ Service precautions

⚠ **WARNING: ELECTRIC SHOCK** ⚠

Caution when performing service to inverter equipment

1. Do not open the electric box cover for 10 minutes after the power supply is turned off.
2. Measure the voltage between terminals on the terminal block for power supply with a tester and confirm that the power supply is shut off.
   In addition, measure the points, as shown in the figure below, with a tester and confirm that the voltage of the capacitor in the main circuit is less than 50 V DC.



3. To prevent damaging the PC-board, touch a noncoated metal part to eliminate static electricity before pulling out or plugging in connectors.
4. The performing of the service to the inverter equipment must be started after the junction connectors X1A, X2A, X3A, X4A (X3A and X4A are for 14~18 unit type only) for the fan motors in the outdoor unit are been pulled out. Be carefull not to touch the live parts.
   (If a fan rotates due to strong wind, it may store electricity in the capacitor or in the main circuit and cause electric shock.)
5. After the service is finished, plug the junction connecter back in. Otherwise the error code E7 will be displayed on the remote controller and normal operation will not be performed.

For details refer to the wiring diagram labeled on the back of the electric box cover.

Pay attention to the fan. It is dangerous to inspect the unit while the fan is running. Be sure to turn off the main switch and to remove the fuses from the control circuit located in the outdoor unit.

Note: **Play it safe!**
For protection of the PCB, touch the switch box casing by hand in order to eliminate static electricity from your body before performing service.

1.3.6.2 Checks before Initial Start-up

Note: Remark that during the first running period of the unit, required power input may be higher than stated on the nameplate of the unit. This phenomenon originates from the compressor that needs elapse of a 50 hours run in period before reaching smooth operation and stable power consumption.

⚠
- Make sure that the circuit breaker on the power supply panel of the installation is switched off.
- Attach the power wire securely.
- Introducing power with a missing N-phase or with a mistaken N-phase will break the equipment.

After the installation, check the following before switching on the circuit breaker:

1. The position of the switches that require an initial setting
   Make sure that switches are set according to your application needs before turning the power supply on.

2. Power supply wiring and transmission wiring
   Use a designated power supply and transmission wiring and make sure that it has been carried out according to the instructions described in this manual, according to the wiring diagrams and according to local and national regulations.
3. Pipe sizes and pipe insulation
   Make sure that correct pipe sizes are installed and that the insulation work is properly executed.
4. Air tight test and vacuum drying
   Make sure the air tight test and vacuum drying were completed.
5. Additional refrigerant charge
   The amount of refrigerant to be added to the unit should be written on the included "Added Refrigerant" plate and attached to the rear side of the front cover.
6. Insulation test of the main power circuit
   Using a megatester for 500 V, check that the insulation resistance of 2 MΩ or more is attained by applying a voltage of 500 V DC between power terminals and earth. Never use the megatester for the transmission wiring.
7. Installation date and field setting
   Be sure to keep record of the installation date on the sticker on the rear of the upper front panel according to EN60335-2-40. and keep record of the contents of the field setting.

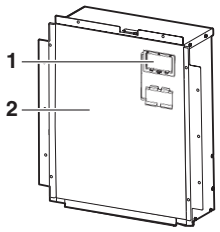
1.3.6.3 Field Setting

If required, carry out field settings according to the following instructions. Refer to the service manual for more details.

Opening the switch box and handling the switches

When carrying out field settings, remove the inspection cover (1).
Operate the switches with an insulated stick (such as a ball-point pen) to avoid touching live parts.

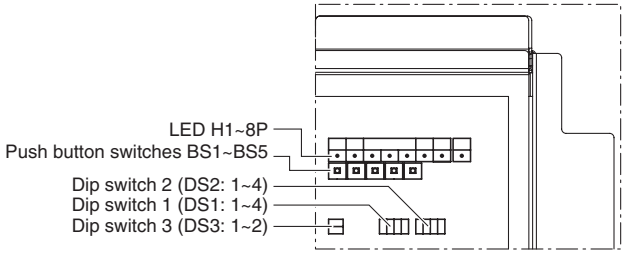




Make sure to re-attach the inspection cover (1) into the switch box cover (2) after the job is finished.

Note: Make sure that all outside panels, except for the panel on the electric box, are closed while working.
Close the lid of the electric box firmly before turning on the power.

Location of the dip switches, LEDs and buttons



LED state

Throughout the manual the state of the LEDs is indicated as follows:

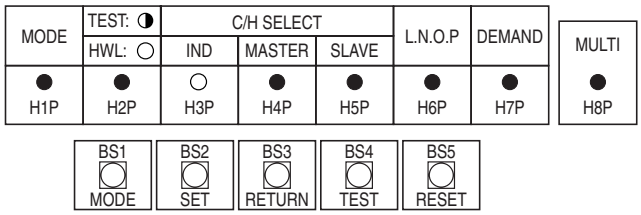
- ● OFF
- ○ ON
- ◑ Blinking

Setting the dip switches (only in case of a heat pump unit)

	What to set with dip switch DS1
1	COOL/HEAT selector (refer to "Field line connection: transmission wiring and cool/heat selection" on page 193) (**OFF** = not installed = factory setting)
2~4	NOT USED DO NOT CHANGE THE FACTORY SETTING.
	What to set with dip switch DS2
1~4	NOT USED DO NOT CHANGE THE FACTORY SETTING.
	What to set with dip switch DS3
1+2	NOT USED DO NOT CHANGE THE FACTORY SETTING.

Setting the push button switch (BS1~5)

Function of the push button switch which is located on the outdoor unit PCB (A1P):



BS1 MODE	For changing the set mode
BS2 SET	For field setting
BS3 RETURN	For field setting
BS4 TEST	For test operation
BS5 RESET	For resetting the address when the wiring is changed or when an additional indoor unit is installed

The figure shows state of the LED indications when the unit is shipped from the factory.

Check operation procedure

1. Turn the power on for the outdoor unit and the indoor unit.
   Be sure to turn the power on at least 6 hours before operation in order to have power running to the crank case heater.
2. Make sure that transmission is normal by checking the LED display on the outdoor unit circuit board (A1P). (If transmission is normal, each LED will be displayed as shown below.)

LED display (Default status before delivery)		Microcomputer operation monitor	Mode	Ready/ Error	Cooling/Heating changeover			Low noise	Demand	Multi
					Individual	Bulk (master)	Bulk (slave)			
		HAP	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H8P
Single outdoor unit system		◑	●	●	○	●	●	●	●	●
Multiple outdoor unit system	Master unit(a)	◑	●	●	○	●	●	●	●	○
	Slave unit 1(a)	◑	●	●	●	●	●	●	●	◑
	Slave unit 2(a)	◑	●	●	●	●	●	●	●	●

(a) The state of the H8P (multi) LED in a multi-system shows which unit is the master unit (○), slave 1 unit (◑) or slave 2 unit (●).
Only the master unit is connected to the indoor units with interunit wiring.

Setting the mode

The set mode can be changed with the **BS1 MODE** button according to the following procedure:

- **For setting mode 1:** Press the **BS1 MODE** button once, the H1P LED is off ●.
- **For setting mode 2:** Press the **BS1 MODE** button for 5 seconds, the H1P LED is on ○.

If the H1P LED is blinking ◑ and the **BS1 MODE** button is pushed once, the setting mode will change to setting mode 1.

Note: If you get confused in the middle of the setting process, push the **BS1 MODE** button. Then it returns to setting mode 1 (H1P LED is off).

Setting mode 1

(not in case of cooling only unit)
The H1P LED is off (COOL/HEAT selection setting).

Setting procedure

1. Push the **BS2 SET** button and adjust the LED indication to either one of the possible settings as shown below in the field marked :
   1. In case of COOL/HEAT setting by each individual outdoor unit circuit.
   2. In case of COOL/HEAT setting by the master unit when outdoor units are connected in multiple system-combination(a).
   3. In case of COOL/HEAT setting by the slave unit when outdoor units connected in multiple system-combination(a).

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
1	●	●	◑	●	●	●	●
2	●	●	●	◑	●	●	●
3	●	●	●	●	◑	●	●

(a) It is necessary to use the optional external control adaptor for outdoor unit (DTA104A61/62). See the instruction delivered with the adaptor.

2. Push the **BS3 RETURN** button and the setting is defined.

Setting mode 2

The H1P LED is on.

Setting procedure

1. Push the **BS2 SET** button according to the required function (A~H). The LED indication that matches the required function is shown below in the field marked :
   Possible functions
   - **A** additional refrigerant charging operation.
   - **B** refrigerant recovery operation/vacuuming operation.
   - **C** setting of high static pressure.
   - **D** automatic low noise operation setting at nighttime.
   - **E** low noise operation level setting **(L.N.O.P)** via the external control adaptor.
   - **F** power consumption limitation setting **(DEMAND)** via the external control adaptor.
   - **G** enabling function of the low noise operation level setting **(L.N.O.P)** and/or power consumption limitation setting **(DEMAND)** via the external control adaptor (DTA104A61/62).
   - **H** check operation (without initial refrigerant decision)

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
A	○	●	○	●	○	●	●
B	○	●	○	●	○	●	○
C	○	●	○	●	●	○	●
D	○	●	○	●	○	○	●
E	○	●	○	○	●	●	○
F	○	●	○	○	○	○	●
G	○	●	●	○	○	●	●
H	○	●	●	●	●	○	○

2. When the **BS3 RETURN** button is pushed, the current setting is defined.
3. Push the **BS2 SET** button according to the required setting possibility as shown below in the field marked .

3.1 Possible settings for function A, B, C, G and H are (ON) or (OFF).

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
ON	○	●	●	●	●	◑	●
OFF(a)	○	●	●	●	●	●	◑

(a) This setting = factory setting

3.2 Possible settings for function D
The noise of level 3 < level 2 < level 1 (◢1).

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
OFF(a)	○	●	●	●	●	●	●
◢1	○	●	●	●	●	●	◑
◢2	○	●	●	●	●	◑	●
◢3	○	●	●	●	●	◑	◑

(a) This setting = factory setting

3.3 Possible settings for function E and F
For function E **(L.N.O.P)** only: the noise of level 3 < level 2 < level 1 (◢1).
For function F **(DEMAND)** only: the power consumption of level 1< level 2 < level 3 (◢3).

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
◢1	○	●	●	●	●	●	◑
◢2 (a)	○	●	●	●	●	◑	●
◢3	○	●	●	●	◑	●	●

(a) This setting = factory setting

4. Push the **BS3 RETURN** button and the setting is defined.
5. When the **BS3 RETURN** button is pushed again, the operation starts according to the setting.

Refer to the service manual for more details and for other settings.

Confirmation of the set mode

The following items can be confirmed by setting mode 1 (H1P LED is off)
Check the LED indication in the field marked .

1. Indication of the present operation state
   - ●, normal
   - ○, abnormal
   - ◑, under preparation or under test operation

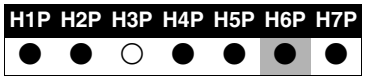
H1P	H2P	H3P	H4P	H5P	H6P	H7P
●	●	○	●	●	●	●

2. Indication of COOL/HEAT selection setting
   1. When set to COOL/HEAT change-over by each individual outdoor unit circuit (= factory setting).
   2. Indication on master unit when COOL/HEAT change-over is carried out by outdoor system connected in multiple system combination.
   3. Indication on slave unit when COOL/HEAT change-over is carried out by outdoor system connected in multiple system-combination.

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
1(a)	●	●	○	●	●	●	●
2	●	●	●	○	●	●	●
3	●	●	●	●	○	●	●

(a) This setting = factory setting

3. Indication of low noise operation state **L.N.O.P**
   - ● standard operation (= factory setting)
   - ○ **L.N.O.P** operation



4. Indication of power consumption limitation setting **DEMAND**
   - ● standard operation (= factory setting)
   - ○ **DEMAND** operation



1.3.6.4 Test Operation

Do not insert fingers, rods or other objects into the air inlet or outlet. When the fan is rotating at high speed, it will cause injury.

Do not perform the test operation while working on the indoor units.
When performing the test operation, not only the outdoor unit, but the connected indoor unit will operate as well.
Working on a indoor unit while performing a test operation is dangerous.

In case refrigerant was added by using the leak detection function

- In the check operation, the following checks and judgements will be performed:
  - Check of the stop valve opening
  - Check for wrong wiring
  - Judgement of piping length
  - Judgement of initial refrigerant state
- It takes ±3 hours (if the outdoor temperature is low, it takes ±4 hours) to complete the check operation.
- The system can not perform the judgement of initial refrigerant state in the following cases:
  - The outdoor temperature is out of range (<0°C DB or >43°C DB)
  - The indoor temperature is out of range (<10°C DB or >32°C DB)
  - A forced OFF during the test operation

  In this case, after performing the check operation, normal operation is possible although the abnormality code U3 is displayed on the indoor remote controller and the refrigerant leakage detection function can not be used.
  Perform the check operation again and complete the judgement of initial refrigerant state.

Perform the test operation as described in the paragraph "Test operation procedure" on page 159.

In case refrigerant was added without using the leak detection function (charging in cooling mode)

- In the check operation, the following checks and judgement will be performed:
  - Check of the stop valve opening
  - Check for wrong wiring
  - Judgement of piping length
- It takes ±30 minutes to complete the check operation.

Check operation procedure

1. Close the electric box lid and all front panels except the one on the side of the electric box.
2. Turn on the power to the outdoor unit and all connected indoor units. Be sure to turn the power ON at least 6 hours before operation in order to have power running to the crank case heater.
3. Make the field setting as needed using the push buttons on the PCB (A1P) of the outdoor unit. Refer to "1.3.6.3. Field setting" on page 155.
4. Set the check operation (without initial refrigerant decision) following setting mode 2 in the field setting and perform the check operation.
   The system operates for ±30 minutes and automatically stops the check operation.
   - If no malfunction code is displayed on the remote controller after the system has stopped, check if the operation is completed. Normal operation will be possible after 5 minutes.
   - If a malfunction code is displayed on the remote controller, correct the malfunction and perform the check operation again as described in "Correcting after abnormal completion of the test operation" on page 161.

In case refrigerant was added without using the leak detection function (pre-charging, charging in heating mode)

- In the check operation, the following checks and judgement will be performed:
  - Check of the stop valve opening
  - Check for wrong wiring
  - Check of refrigerant overcharge
  - Judgement of piping length
- It takes ±40 minutes to complete the check operation.

Perform the test operation as described in the paragraph "Test operation procedure" on page 160.

Test operation procedure

1. Close all front panels except the front panel of the electric box.
2. Turn ON the power to all outdoor units and the connected indoor units.
   Be sure to turn on the power 6 hours before operation in order to have power running to the crank case heater and to protect the compressor.
3. Make the field setting as described in the paragraph "1.3.6.3. Field setting" on page 155.
4. Press the **BS1 MODE** button once, and set to the SETTING MODE (H1P LED = OFF).
5. Press and hold the **BS4 TEST** button down for 5 seconds or more. The unit will start the test operation.
   - The test operation is automatically carried out in cooling mode, the H2P LED will light up and the messages "Test operation" and "Under centralized control" will display on the remote controller.
   - It may take 10 minutes to bring the state of the refrigerant uniform before the compressor starts.
   - During the test operation, the refrigerant running sound or the magnetic sound of a solenoid valve may become loud and the LED display may change, but these are not malfunctions.
   - During the test operation, it is not possible to stop the unit operation from a remote controller. To abort the operation, press the **BS3 RETURN** button. The unit will stop after ±30 seconds.
6. Close the front panel in order to let it not be the cause of misjudgement.
7. Check the test operation results by the LED display on the outdoor unit.

	H1P	H2P	H3P	H4P	H5P	H6P	H7P
Normal completion	●	●	○	●	●	●	●
Abnormal completion	●	○	○	●	●	●	●

8. When the test operation is fully completed, normal operation will be possible after 5 minutes. Otherwise, refer to "Correcting after abnormal completion of the test operation" on page 161 to take actions for correcting the abnormality.

Correcting after abnormal completion of the test operation

The test operation is only completed if there is no malfunction code displayed on the remote controller. In case of a displayed malfunction code, perform the following actions to correct the abnormality:

- Confirm the malfunction code on the remote controller

Installation error	Error code	Remedial action
The stop valve of an outdoor unit is left closed.	E3 E4 F3 UF F6	Check referring to the table in "1.3.5.4. Additional refrigerant charge" on page 144.
The phases of the power to the outdoor units are reversed.	U1	Exchange two of the three phases (L1, L2, L3) to make a positive phase connection.
No power is supplied to an outdoor or indoor unit (including phase interruption).	U1 U4 LC	Check if the power wiring for the outdoor units are connected correctly. (If the power wire is not connected to L2 phase, no malfunction display will appear and the compressor will not work.)
Incorrect interconnections between units	UF	Check if the refrigerant line piping and the unit wiring are consistent with each other.
Refrigerant overcharge	E3 F6 UF	Recalculate the required amount of refrigerant from the piping length and correct the refrigerant charge level by recovering any excessive refrigerant with a refrigerant recovery machine.
The wiring is connected to the Q1/Q2 (Out Multi)	U7 UF U4 UH	Remove the wiring from the Q1/Q2 (Out Multi).
Insufficient refrigerant	E4 F3	Check if the additional refrigerant charge has been finished correctly. Recalculate the required amount of refrigerant from the piping length and add an adequate amount of refrigerant.

- After correcting the abnormality, press the **BS3 RETURN** button and reset the malfunction code.
- Carry out the test operation again and confirm that the abnormality is properly corrected.

1.3.7 Service Mode Operation

Vacuuming method

At the first installation, this vacuuming is not required. It is required only for repair purposes.

1. When the unit is at standstill and under the setting mode 2, set the required function B (refrigerant recovery operation/vacuuming operation) to **ON** (ON).
   - After this is set, do not reset the setting mode 2 until the vacuuming is finished.
   - The H1P LED is on and the remote controller indicates **TEST** (test operation) and ⚓ (external control) and the operation will be prohibited.
2. Evacuate the system with a vacuum pump.
3. Press the **BS1 MODE** button and reset the setting mode 2.

Refrigerant recovery operation method

by a refrigerant reclaimer

1. When the unit is at standstill and under the setting mode 2, set the required function B (refrigerant recovery operation/vacuuming operation) to **ON** (ON).
   - The indoor unit and the outdoor unit expansion valves will fully open and some solenoid valves will be turned on.
   - The H1P LED is on and the remote controller indicates **TEST** (test operation) and ⚓ (external control) and the operation will be prohibited.
2. Cut off the power supply to the indoor units and the outdoor unit with the circuit breaker.
   After the power supply to one side is cut off, cut off the power supply to the other side within 10 minutes.
   Otherwise, the communication between the indoor and outdoor unit may become abnormal and the expansion valves will be completely closed again.
3. Recover the refrigerant by a refrigerant reclaimer. For details, see the operation manual delivered with the refrigerant reclaimer.

1.4 Operation when Power is Turned On

1.4.1 When Turning On Power First Time

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

Status

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

1.4.2 When Turning On Power the Second Time and Subsequent

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

Status

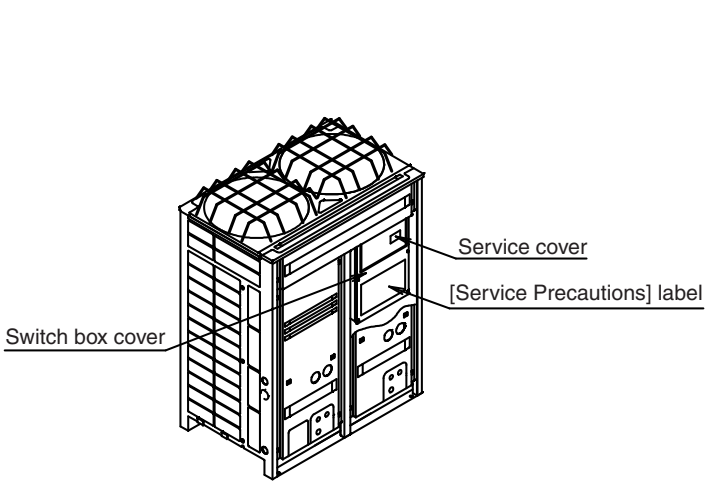
Outdoor unit	Test lamp H2P .... Blinks Can also be set during operation described above.
Indoor unit	If ON button is pushed during operation described above, the operation lamp lights but the compressor does not operate. (Returns to normal when automatic setting is complete.)

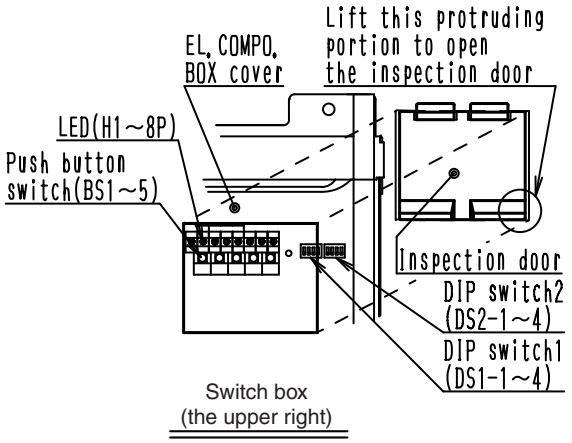
1.4.3 When an Indoor Unit or Outdoor Unit has been Added, or Indoor or Outdoor Unit PC Board has been Changed

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

Status

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

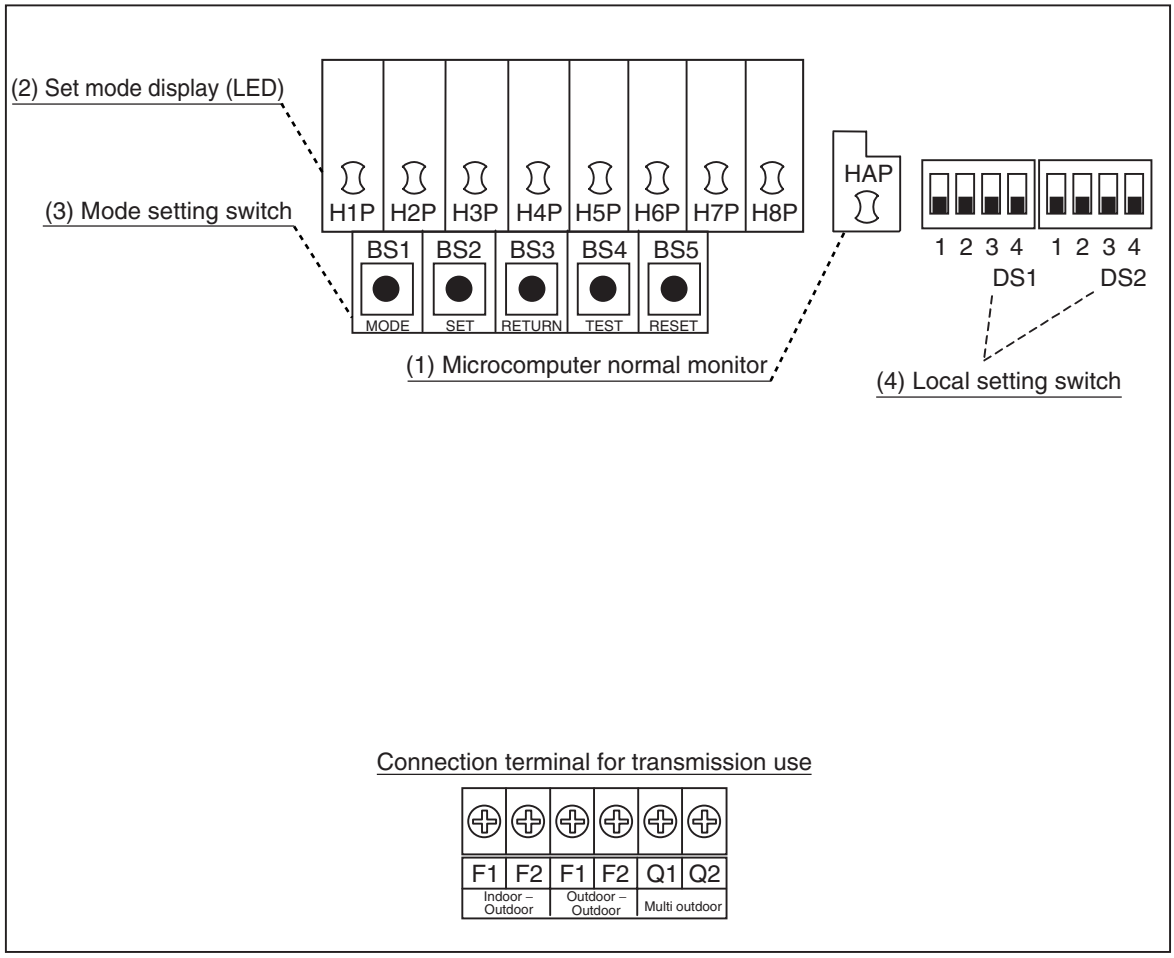




Caution When the 400 volt power supply is applyed to "N" phase by mistake, replace Inverter PC board (A2P) and control transformer (T1R, T2R) in switch box together.

2. Outdoor Unit PC Board Layout

Outdoor unit PC board



(1) Microcomputer normal monitor
This monitor blinks while in normal operation, and turns on or off when a malfunction occurs.

(2) Set mode display (LED)
LEDs display mode according to the setting.

(3) Mode setting switch
Used to change mode.

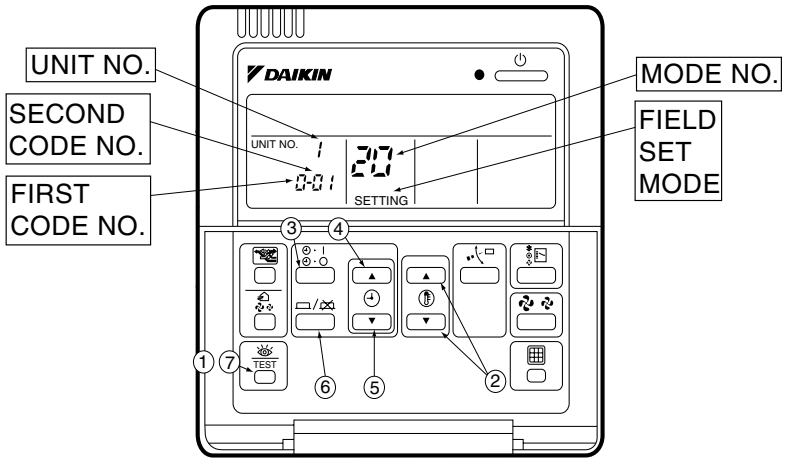
(4) Local setting switch
Used to make field settings.

3. Field Setting

3.1 Field Setting from Remote Controller

Individual function of indoor unit can be changed from the remote controller. At the time of installation or after service inspection / repair, make the local setting in accordance with the following description.
Wrong setting may cause malfunction.
(When optional accessory is mounted on the indoor unit, setting for the indoor unit may be required to change. Refer to information in the option handbook.)

3.1.1 Wired Remote Controller <BRC1C61, 62>

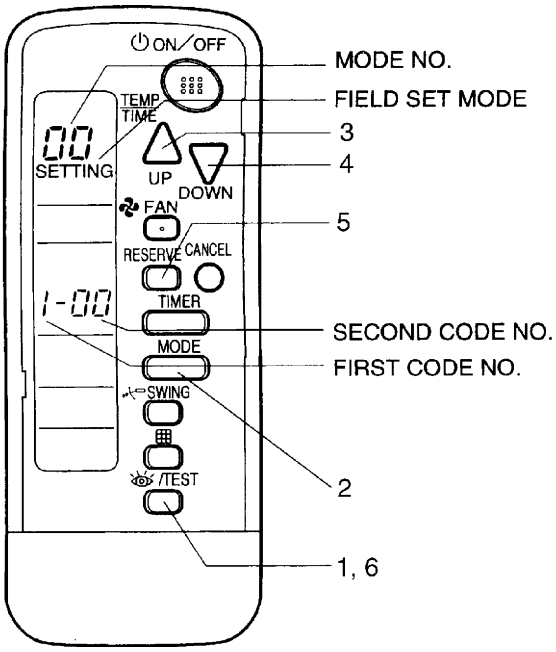


1. When in the normal mode, press the " TEST " button for a minimum of four seconds, and the FIELD SET MODE is entered.
2. Select the desired MODE NO. with the " " button (②).
3. During group control, when setting by each indoor unit (mode No. 20, 22 and 23 have been selected), push the " " button (③) and select the INDOOR UNIT NO to be set. (This operation is unnecessary when setting by group.)
4. Push the " " upper button (④) and select FIRST CODE NO.
5. Push the " " lower button (⑤) and select the SECOND CODE NO.
6. Push the " " button (⑥) once and the present settings are SET.
7. Push the " TEST " button (⑦) to return to the NORMAL MODE.

(Example)
If during group setting and the time to clean air filter is set to FILTER CONTAMINATION, HEAVY, SET MODE NO. to "10" FIRST CODE NO. to "0", and SECOND CODE NO. to "02".

3.1.2 Wireless Remote Controller - Indoor Unit

BRC7C type
BRC7E type
BRC4C type

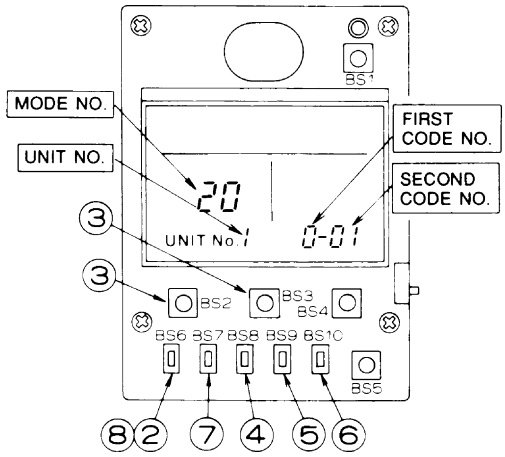


1. When in the normal mode, push the " /TEST " button for 4 seconds or more, and operation then enters the "field set mode."
2. Select the desired "mode No." with the " MODE " button.
3. Pushing the " UP " button, select the first code No.
4. Pushing the " DOWN " button, select the second code No.
5.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

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

3.1.3 Simplified Remote Controller

BRC2A51
BRC2C51



1. Remove the upper part of remote controller.
2. When in the normal mode, press the [BS6] BUTTON (②) (field set), and the FIELD SET MODE is entered.
3. Select the desired MODE No. with the [BS2] BUTTON (③) (temperature setting ▲) and the [BS3] BUTTON (③) (temperature setting ▼).
4. During group control, when setting by each indoor unit (mode No. 20, 22, and 23 have been selected), push the [BS8] (④) BUTTON (unit No.) and select the INDOOR UNIT NO. to be set. (This operation is unnecessary when setting by group.)
5. Push the [BS9] BUTTON (⑤) (set A) and select FIRST CODE NO.
6. Push the [BS10] BUTTON (⑥) (set B) and select SECOND CODE NO.
7. Push the [BS7] BUTTON (⑦) (set/cancel) once and the present settings are SET.
8. Push the [BS6] BUTTON (⑧) (field set) to return to the NORMAL MODE.
9. (Example) If during group setting and the time to clean air filter is set to FILTER CONTAMINATION - HEAVY, SET MODE NO. to “10”, FIRST CODE NO. to “0”, and SECOND CODE NO. to “02”.

3.1.4 Setting Contents and Code No. – VRV Indoor unit

	Mode No. Note 2	Setting Switch No.	Setting Contents		Second Code No.(Note 3) 01		02		03		04		Details No.
VRV system indoor unit settings	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.	—		—		(1)
				Long life filter		Approx. 2,500 hrs.		Approx. 1,250 hrs.					
				Standard filter		Approx. 200 hrs.		Approx. 100 hrs.					
		1	Long life filter type		Long life filter		Super long life filter		—		—		(2)
		2	Thermostat sensor in remote controller		Use		No use		—		—		(3)
		3	Display time to clean air filter calculation (Set when filter sign is not to be displayed.)		Display		No display		—		—		(4)
	11 (21)	7	Airflow adjustment		OFF		Completion of airflow adjustment		Start of airflow adjustment		—		(5)
	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		(6)
		1	ON/OFF input from outside (Set when ON/OFF is to be controlled from outside.)		Forced OFF		ON/OFF control		External protection device input		—		(7)
		2	Thermostat differential changeover (Set when remote sensor is to be used.)		1°C		0.5°C		—		—		(8)
		3	OFF by thermostat fan speed		LL		Set fan speed		—		—		(9)
		4	Automatic mode differential (automatic temperature differential setting for VRV system heat recovery series cool/heat)		01:0	02:1	03:2	04:3	05:4	06:5	07:6	08:7	(10)
		5	Power failure automatic reset		Not equipped		Equipped		—		—		(11)
		6	Airflow When Cooling Thermostat is OFF		LL airflow		Preset airflow		—		—		(12)
	13 (23)	0	High air outlet velocity (Set when installed in place with ceiling higher than 2.7 m.)		N		H		S		—		(13)
		1	Selection of airflow direction (Set when a blocking pad kit has been installed.)		F (4 directions)		T (3 directions)		W (2 directions)		—		(14)
		3	Airflow direction adjustment (Set at installation of decoration panel.)		Equipped		Not equipped		—		—		(15)
		4	Field set airflow position setting		Draft prevention		Standard		Ceiling Soiling prevention		—		(16)
		5	Setting of the Static Pressure Selection		Standard		High static pressure		—		—		(17)
		6	External Static Pressure Settings		01:30	02:50	03:60	04:70	05:80	06:90	07:100	08:110	(18)
					09:120	10:130	11:140	12:150	13:160	14:180	15:200	*7	
	15 (25)	1	Thermostat OFF excess humidity		Not equipped		Equipped		—		—		(19)
		2	Direct duct connection (when the indoor unit and heat reclaim ventilation unit are connected by duct directly.) ∗Note 6		Not equipped		Equipped		—		—		(20)
		3	Drain pump humidifier interlock selection		Not equipped		Equipped		—		—		(21)
		5	Field set selection for individual ventilation setting by remote controller		Not equipped		Equipped		—		—		(22)

Notes :

1. Settings are made simultaneously for the entire group, however, if you select the mode No. inside parentheses, you can also set by each individual unit. Setting changes however cannot be checked except in the individual mode for those in parentheses.
2. The mode numbers inside parentheses cannot be used by wireless remote controllers, so they cannot be set individually. Setting changes also cannot be checked.
3. Marked ▭ are factory set.
4. Do not make settings other than those described above. Nothing is displayed for functions the indoor unit is not equipped with.
5. “88” may be displayed to indicate the remote controller is resetting when returning to the normal mode.
6. If the setting mode to “Equipped”, heat reclaim ventilation fan conducts the fan residual operation by linking to indoor unit.
7. • The FXMQ50·63·80·100·125PVE cannot be set to 30Pa.
   • The FXMQ40PVE cannot be set to 180 or 200Pa.

3.1.5 Applicable Range of Field Setting

	Ceiling mounted cassette type			Slim Ceiling mounted duct type	Ceiling mounted built-in type	Ceiling Mounted duct type (Middle and high static pressure)	Ceiling mounted duct type	Ceiling suspended type	Wall mounted type	Floor standing type	Concealed Floor standing type	New Ceiling suspended cassette type	Outdoor air processing unit	Details No.
	Round flow	Double flow	Corner type											
	FXFQ	FXCQ	FXKQ	FXDQ	FXSQ	FXMQ-P	FXMQ-MA	FXHQ	FXAQ	FXLQ	FXNQ	FXUQ	FXMQ-MF	
Filter sign	○	○	○	○	○	○	○	○	○	○	○	○	○	(1)
Ultra long life filter sign	○	○	—	—	—	—	—	—	—	—	—	—	—	(2)
Remote controller thermostat sensor	○	○	○	○	○	○	○	○	○	○	○	○	—	(3)
Set fan speed when thermostat OFF	○	○	○	○	○	○	○	○	○	○	○	○	—	(9) (12)
Airflow auto adjustment	—	—	—	—	—	○	—	—	—	—	—	—	—	(5)
Airflow adjustment Ceiling height	○	—	—	—	—	—	—	○	—	—	—	○	—	(13)
Airflow direction	○	—	—	—	—	—	—	—	—	—	—	○	—	(14)
Airflow direction adjustment (Down flow operation)	—	—	○	—	—	—	—	—	—	—	—	—	—	(15)
Airflow direction adjustment range	○	○	○	—	—	—	—	—	—	—	—	—	—	(16)
Field set fan speed selection	○	—	—	○∗1	—	○∗1	—	○	—	—	—	—	—	(17) (18)
Discharge air temp. (Cooling)	—	—	—	—	—	—	—	—	—	—	—	—	○	3.1.7∗2
Discharge air temp. (Heating)	—	—	—	—	—	—	—	—	—	—	—	—	○	3.1.7∗2

∗1 Static pressure selection

∗2 Refer to 3.1.7 Outdoor Air Processing Unit-Field Setting (Remote Controller) on P.176.

3.1.6 Detailed Explanation of Setting Modes

(1) Filter Sign Setting

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

Set Time

Filter Specs. / Setting	Standard	Long Life	Ultra Long Life Filter
Contamination Light	200 hrs.	2,500 hrs.	10,000 hrs.
Contamination Heavy	100 hrs.	1,250 hrs.	5,000 hrs.

(2) Ultra-Long-Life Filter Sign Setting

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

Setting Table

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

(3) Selection of Thermistor

Select the thermistor to control room temperature.

Mode No.	First Code No.	Second Code No.	Thermistor that controls room temperature
10 (20)	2	01	Indoor air thermistor for remote controller and suction air thermistor for indoor unit
		02	Suction air thermistor for indoor unit
		03	Thermistor for remote controller

The factory setting for the Second Code No. is "01" and room temperature is controlled by the indoor unit suction air thermistor and remote controller thermistor.
When the Second Code No. is set to "02", room temperature is controlled by the suction air thermistor.
When the Second Code No. is set to "03", room temperature is controlled by the remote controller thermistor.

(4) "Filter Cleaning" Displayed or Not Displayed

Whether or not to display "Filter Cleaning" after operation of certain duration can be selected.

Mode No.	First Code No.	Second Code No.	"Filter Cleaning" display
10 (20)	3	01	Display
		02	No display

(5) Airflow Adjustment (AUTO)

External Static Pressure Settings

Make settings in either method (a) or method (b) as explained below.

(a) Use the airflow auto adjustment function to make settings.
Airflow auto adjustment: The volume of blow-off air is automatically adjusted to the rated quantity.

(b) Select External Static Pressure with Remote Controller Check that 01 (OFF) is set for the “SECOND CODE NO.” in “MODE NO. 21” for airflow adjustment on an indoor unit basis in Table 4. The “SECOND CODE NO.” is set to 01 (OFF) at factory set. Change the “SECOND CODE NO.” as shown in Table according to the external static pressure of the duct to be connected.

Mode No.	First Code No.	Second Code No.	Airflow adjustment
11 (21)	7	01	OFF
		02	Completion of airflow adjustment
		03	Start of airflow adjustment

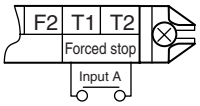
(6) Optional Output Switching

Using this setting, "operation output signal" and "abnormal output signal" can be provided. Output signal is output between terminals K1 and K2 of "customized wiring adaptor," an optional accessory.

Mode No.	First Code No.	Second Code No.	Remarks
12 (22)	0	01	Indoor unit thermostat ON/OFF signal is provided.
		03	Output linked with "Start/Stop" of remote controller is provided.
		04	In case of "Malfunction Display" appears on the remote controller, output is provided.

(7) External ON/OFF Input

This input is used for "ON / OFF operation" and "Protection device input" from the outside. The input is performed from the T1-T1 terminal of the operation terminal block (X1A) in the electric component box.



Setting Table

Mode No.	Setting Switch No.	Setting Position No.	Operation by input of the signal A
12 (22)	1	01	ON: Forced stop (prohibition of using the remote controller) OFF: Permission of using the remote controller
		02	OFF → ON: Permission of operation ON → OFF: Stop
		03	ON: Operation OFF: The system stops, then the applicable unit indicates "A0". The other indoor units indicate "U9".

(8) Thermostat Switching

Differential value during thermostat ON/OFF control can be changed. (For details, refer to "6.4 Thermostat Control while in Normal Operation" on page 111.)

Mode No.	First Code No.	Second Code No.	Differential value
12(22)	2	01	1ºC
		02	0.5ºC

(9) Airflow Setting when Heating Thermostat is OFF

This setting is used to set airflow when heating thermostat is OFF.

* When thermostat OFF airflow volume up mode is used, careful consideration is required before deciding installation location. During heating operation, this setting takes precedence over "(7) Fan Stop When Thermostat is OFF."

Mode No.	First Code No.	Second Code No.	Contents
12 (22)	3	01	LL airflow
		02	Preset airflow

(10) Setting of Operation Mode to "AUTO"

This setting makes it possible to change differential values for mode selection while in automatic operation mode.

Mode No.	Setting switch No.	Setting position No.							
		01	02	03	04	05	06	07	08
12 (22)	4	0°C	1°C	2°C	3°C	4°C	5°C	6°C	7°C

The automatic operation mode setting is made by the use of the "Operation Mode Selector" button.

(11) Auto Restart after Power Failure Reset

For the air conditioners with no setting for the function (same as factory setting), the units will be left in the stop condition when the power supply is reset automatically after power failure reset or the main power supply is turned on again after once turned off. However, for the air conditioners with the setting, the units may start automatically after power failure reset or the main power supply turned on again (return to the same operation condition as that of before power failure).

For the above reasons, when the unit is set enabling to utilize “Auto restart function after power failure reset”, utmost care should be paid for the occurrence of the following situation.

⚠ Caution

1. The air conditioner starts operation suddenly after power failure reset or the main power supply turned on again. Consequently, the user might be surprised (with question for the reason why).

2. In the service work, for example, turning off the main power switch during the unit is in operation, and turning on the switch again after the work is completed start the unit operation (the fan rotates).

(12) Airflow when Cooling Thermostat is OFF

This is used to set air flow to "LL airflow" when cooling thermostat is OFF.

Mode No.	First Code No.	Second Code No.	Contents
12 (22)	6	01	LL airflow
		02	Preset airflow

(13) Setting of Normal Airflow

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

■ **In the Case of FXAQ**

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

■ **In the Case of FXHQ**

Mode No.	First code No.	Second code No.	Ceiling height (m)
13(23)	0	01	2.7 or less
		02	2.7-3.5

■ **In the Case of FXFQ25~80 (All round outlet)**

Mode No.	First code No.	Second code No.	Setting	Ceiling height (m)
13 (23)	0	01	Standard • All round outlet	≤2.7
		02	High Ceiling (1)	2.7-3
		03	Higher Ceiling (2)	3-3.5

■ **In the Case of FXFQ100~125 (All round outlet)**

Mode No.	First code No.	Second code No.	Setting	Ceiling height (m)
13 (23)	0	01	Standard • All round outlet	≤3.2
		02	High Ceiling (1)	3.2-3.6
		03	Higher Ceiling (2)	3.6-4.2

■ **In the Case of FXFQ25~80 (*2 4-Way, 3-Way, 2-Way Outlets)**

Mode No.	First code No.	Second code No.	Setting	Ceiling height		
				4-way Outlets	3-way Outlets	2-way Outlets
13 (23)	0	01	Standard (N)	Lower than 3.1 m	Lower than 3.0 m	Lower than 3.5 m
		02	High Ceiling (H)	Lower than 3.4 m	Lower than 3.3 m	Lower than 3.8 m
		03	Higher Ceiling (S)	Lower than 4.0 m	Lower than 3.5 m	—

■ **In the Case of FXFQ100~125 (*2 4-Way, 3-Way, 2-Way Outlets)**

Mode No.	First code No.	Second code No.	Setting	Ceiling height		
				4-way Outlets	3-way Outlets	2-way Outlets
13 (23)	0	01	Standard (N)	Lower than 3.4 m	Lower than 3.6 m	Lower than 4.2 m
		02	High Ceiling (H)	Lower than 3.9 m	Lower than 4.0 m	Lower than 4.2 m
		03	Higher Ceiling (S)	Lower than 4.5 m	Lower than 4.2 m	—

*1 "Mode No." setting is done in a batch for the group. To make or confirm settings for an individual unit, set the internal mode number in parentheses.

*2 The figure of the ceiling height is for the all round outlet. For the settings for four-direction (part of corner closed off), three-direction and two-direction outlets, see the installation manual and technical guide supplied with the separately sold closure material kit.

■ **In the Case of FXUQ71~125MA**

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

(14) Airflow Direction Setting

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

Setting Table

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

(15) Operation of Downward Flow Flap: Yes/No

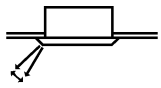
Only the model FXKQ has the function.
When only the front-flow is used, sets yes/no of the swing flap operation of down-flow.

Setting Table

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

(16) Setting of Airflow Direction Adjustment Range

Make the following airflow direction setting according to the respective purpose.



(S2537)

Setting Table

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

* Some indoor unit models are not equipped with draft prevention (upward) function.

(17) Setting of the Static Pressure Selection

■ **In the Case of FXDQ20~32PB, FXDQ40~63NB**

Model No.	First Code No.	Second Code No.	External static pressure
13 (23)	5	01	Standard (10Pa)
		02	High static pressure (30Pa)

(18) External Static Pressure Settings (for FXMQ-P model)

MODE NO.	FIRST CODE NO.	SECOND CODE NO.	External Static Pressure
13 (23)	06	01	30Pa (*1)
		02	50Pa
		03	60Pa
		04	70Pa
		05	80Pa
		06	90Pa
		07	100Pa
		08	110Pa
		09	120Pa
		10	130Pa
		11	140Pa
		12	150Pa
		13	160Pa
		14	180Pa (*2)
		15	200Pa (*2)

The “SECOND CODE NO.” is set to 07 (an external static pressure of 100 Pa) at factory set.

*1 The FXMQ50 · 63 · 80 · 100 · 125PVE cannot be set to 30 Pa.

*2 The FXMQ40PVE cannot be set to 180 or 200 Pa.

(19) Humidification when Heating Thermostat is OFF

Setting to "Humidification Setting" turns ON the humidifier if suction temperature is 20ºC or above and turns OFF the humidifier if suction temperature is 18ºC or below when the heating thermostat is OFF.

Mode No.	First Code No.	Second Code No.	Setting
15 (25)	1	01	—
		02	Setting of humidifier

(20) Setting of Direct Duct Connection

This is used when "fresh air intake kit equipped with fan" is connected. The indoor fan carries out residual operation for one minute after the thermostat is stopped. (For the purpose of preventing dust on the air filter from falling off.)

Mode No.	First Code No.	Second Code No.	Contents
15 (25)	2	01	Without direct duct connection
		02	With direct duct connection equipped with fan

(21) Interlocked Operation between Humidifier and Drain Pump

This is used to interlock the humidifier with the drain pump. When water is drained out of the unit, this setting is unnecessary.

Mode No.	First Code No.	Second Code No.	Contents
15 (25)	3	01	Individual operation of humidifier
		02	Interlocked operation between humidifier and drain pump

(22) Individual Setting of Ventilation

This is set to perform individual operation of heat reclaim ventilation using the remote controller/ central unit when heat reclaim ventilation is built in.
(Switch only when heat reclaim ventilation is built in.)

Mode No.	First Code No.	Second Code No.	Contents
15 (25)	5	01	—
		02	Individual operation of ventilation

3.1.7 Outdoor Air Processing Unit-Field Setting (Remote Controller)

Mode No.	Setting SW No.	Setting contents	Setting position No.														
			01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
10 (20)	0	Stain of filter	**2500hr**	1250hr	—	—	—	—	—	—	—	—	—	—	—	—	—
	3	Filtering time cumulation	**Display**	No display	—	—	—	—	—	—	—	—	—	—	—	—	—
12 (22)	1	External ON/OFF input	**Forced stop**	ON-OFF control	—	—	—	—	—	—	—	—	—	—	—	—	—
	5	Power failure automatic reset	Not equipped	**Equipped**	—	—	—	—	—	—	—	—	—	—	—	—	—
14 (24)	3	Discharge temperature (cooling)	13°C	14	15	16	17	**18**	19	20	21	22	23	24	25	25	25
	4	Discharge temperature (heating)	18°C	19	20	21	22	23	24	**25**	26	27	28	29	30	30	30

Note) Bold face in ☐ indicates the default setting.

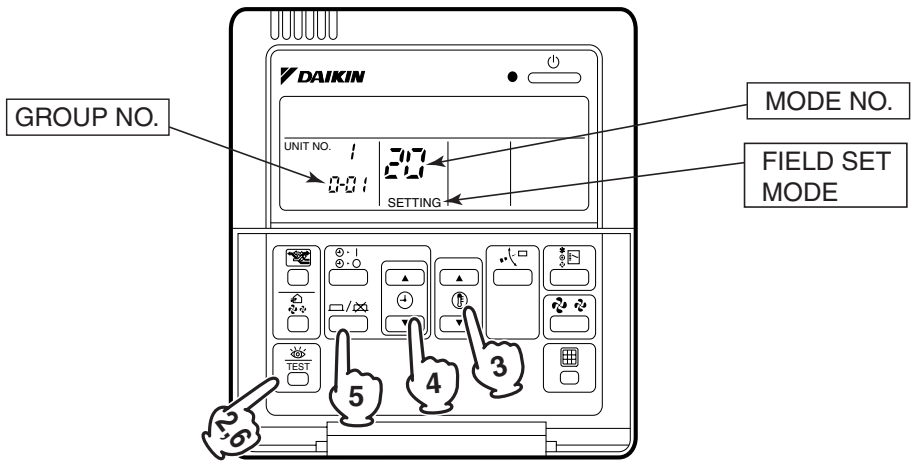
3.1.8 Centralized Control Group No. Setting

BRC1C Type

In order to conduct the central remote control using the central remote controller and the unified ON/OFF controller, Group No. settings should be made by group using the operating remote controller.

Make Group No. settings for central remote control using the operating remote controller.

1. Turn ON the power of the indoor unit and unified ON/OFF controller. (Unless the power is ON, no setting can be made.)
   Check that the installation and electrical wiring are correct before turning the power supply ON.
   When the power supply is turned ON, all LCD appear once and the unit may not accept the operation for about one minute with the display of " HOST " flashing (an interval of ON, ON, and OFF).
2. While in normal mode, press and hold the " TEST " switch for a period of four seconds or more to set the system to "Field Setting Mode".
3. Select the MODE No. "20" with the " ▲▼ " button.
4. Use the " ▲▼ " button to select the group No. for each group.
   (Group numbers increase in the order of 1-00, 1-01, ... 1-15, 2-00, ... 4-15.)
5. Press " ▭/⏱ " to set the selected group No.
6. Press " TEST " to return to the NORMAL MODE.



Note:

- For wireless remote controller, see the following.
- For setting group No. of HRV and wiring adaptor for other air conditioners, etc., refer to the instruction manual attached.

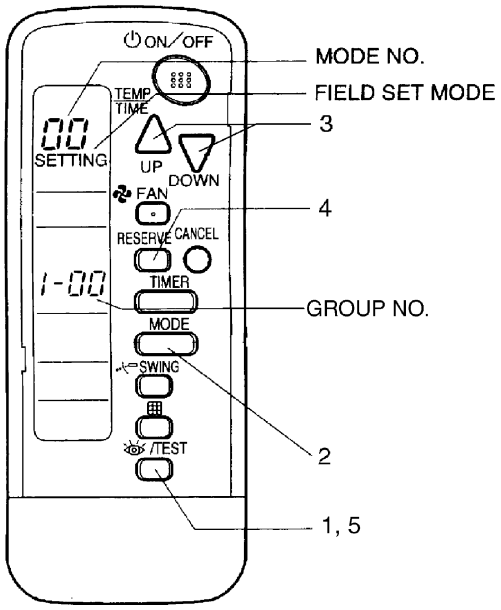
NOTICE

Enter the group No. and installation place of the indoor unit into the attached installation table. Be sure to keep the installation table with the operation manual for maintenance.

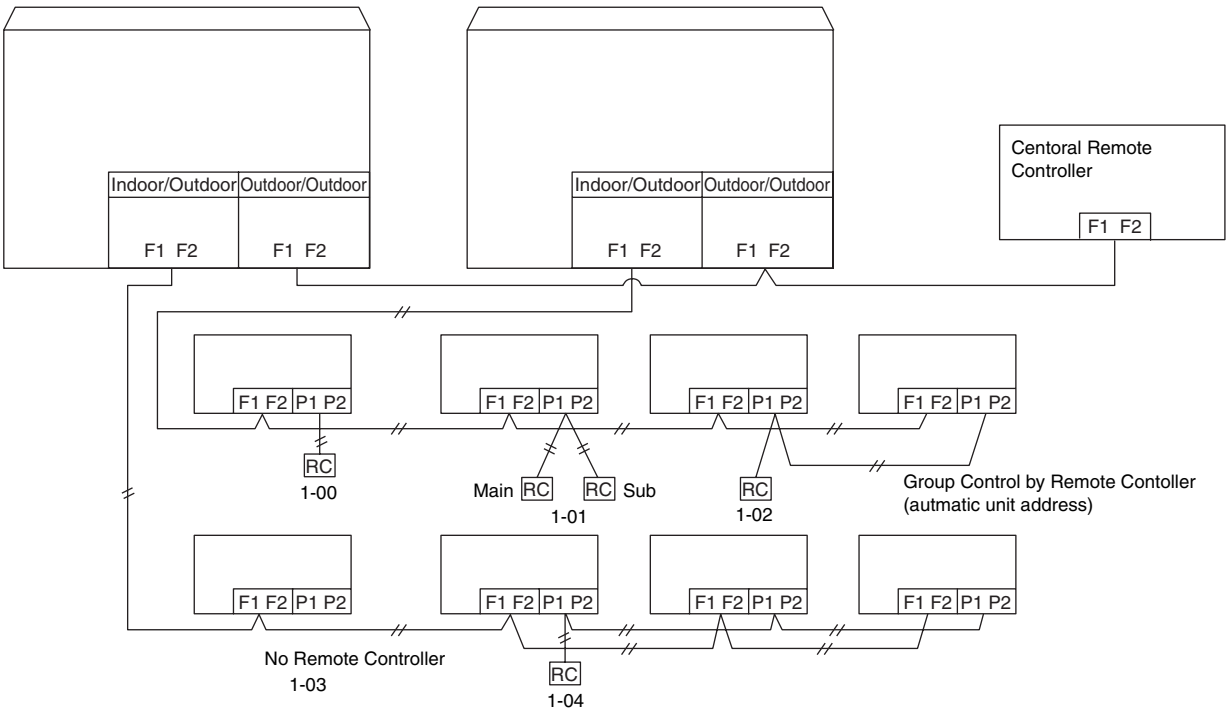
BRC7C Type
BRC7E Type
BRC4C Type

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

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



Group No. Setting Example



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.

3.1.9 Setting of Operation Control Mode from Remote Controller (Local Setting)

The operation control mode is compatible with a variety of controls and operations by limiting the functions of the operation remote controller. Furthermore, operations such as remote controller ON/OFF can be limited in accordance with the combination conditions. (Refer to information in the next page.)
Central remote controller is normally available for operations. (Except when centralized monitor is connected)

3.1.10 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.

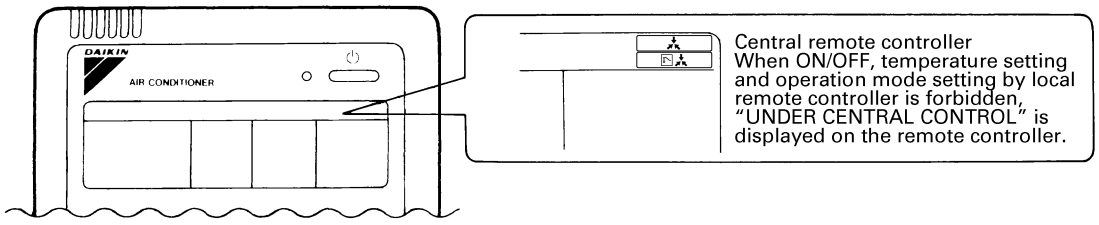
Example

ON by remote controller (Unified ON by central remote controller)	OFF by remote controller (Unified OFF by central remote controller)	OFF by remote controller	Temperature control by remote controller	Operation mode setting by remote controller	
↓	↓	↓	↓	↓	Control mode is "1."
Rejection	Rejection	Rejection	Acceptance	Acceptance	

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

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

∗1. Factory setting



3.2 Field Setting from Outdoor Unit

3.2.1 Field Setting from Outdoor Unit

■ **List of Field Setting Items**

This following section indicates the list of field setting items. For the lists of dip switch contents, Setting mode 1, and Setting mode 2, refer to information in tables shown on the following page onward.

For setting items of (*1), refer to detailed information provided on page 193 onward.

Setting item			Content and objective of setting	Overview of setting procedure
Function setting	1	Setting of COOL/ HEAT selection (*1)	■ COOL/HEAT selection methods are possible to select from the following (1) Control by each outdoor unit using the indoor unit remote controller (2) Control by each outdoor unit using the COOL/HEAT selection remote controller (3) Batch control by outdoor unit group using the indoor unit remote controller (4) Batch control by outdoor unit group using the COOL/HEAT selection remote controller	■ In order to use the COOL/HEAT selection remote controller, set the DS1-1 on the outdoor unit PC board to OUT. ■ For outdoor unit group control, set the system to "BATCH MASTER" or "SLAVE" while in "Setting mode 1". Then, make setting of COOL/HEAT batch address.
	2	Setting of low noise operation (*1)	A. Use external input to step down the upper limit of the fan (factory set to Step 8), providing low noise level. (1) Mode 1: Step 6 or lower (2) Mode 2: Step 5 or lower (3) Mode 3: Step 4 or lower	■ Use the "External control adaptor for outdoor unit". Set to "External control adaptor for outdoor unit" with No. 12 of "Setting mode 2" and select the mode with No. 25. If necessary, set the "Capacity priority setting" to ON with No. 29.
			B. The low noise operation aforementioned is enabled in nighttime automatic low noise operation mode. Start time: Possible to select in the range of 20:00 to 24:00 hours. End time: Possible to select in the range of 06:00 to 08:00 hours. (Use the said time as a guide since the start time and the end time are estimated according to outdoor temperatures.)	■ Make this setting while in "Setting mode 2". Select a mode with No. 22 of "Setting mode 2". Select the start time with No. 26 and the end time with No. 27. If necessary, set the "Capacity priority setting" to ON with No. 29.
	3	Setting of demand operation (*1)	■ Used to place limits on the compressor operating frequency to control the upper limit of power consumption. (1) Mode 1 of Demand 1: 60% or less of rating (2) Mode 2 of Demand 1: 70% or less of rating (3) Mode 3 of Demand 1: 80% or less of rating (4) Demand 2: 40% or less of rating	■ For setting with the use of "external control adaptor": Set the system to "External control adaptor for outdoor unit" with No. 12 of Setting mode 2" and select the mode with No. 30. ■ For setting only in "Setting mode 2": Set the system to Normal demand mode with No. 32 of "Setting mode 2" and select the mode with No. 30.
	4	Setting of AirNet address	■ Used to make address setting with AirNet connected.	■ Set the AirNet to an intended address using binary numbers with No. 13 of "Setting mode 2".
	5	Setting of hot water heater	■ Make this setting to conduct heating operation using the hot water heater.	■ Set No. 16 of "Setting mode 2" to ON.
	6	Setting of high static pressure	■ Make this setting to operate a system with diffuser duct while in high static pressure mode. (Use this setting mode when shields are installed on upper floors or balconies.) * In order to mount the diffuser duct, remove the cover from the outdoor unit fan.	■ Set No. 18 of "Setting mode 2" to ON.

Setting item			Content and objective of setting	Overview of setting procedure
Service setting	1	Indoor unit fan forced H operation	■ Used to operate the indoor unit in the stopped state in forced H operation mode.	■ Set No. 5 of "Setting mode 2" to indoor unit forced fan H.
	2	Indoor unit forced operation	■ Used to operate the indoor unit in forced operation mode.	■ Set No. 6 of "Setting mode 2" to indoor unit forced operation mode.
	3	Change of targeted evaporating temperature (in cooling)	■ In cooling operation, used to change the targeted evaporating temperature for compressor capacity control.	■ Select high side or low side with No. 8 of "Setting mode 2".
	4	Change of targeted condensing temperature (in heating)	■ In heating operation, used to change the targeted condensing temperature for compressor capacity control.	■ Select high side or low side with No. 9 of "Setting mode 2".
	5	Setting of defrost selection	■ Used to change a temperature at which the defrost operation is initiated, thus making the initiation easy or hard.	■ Select fast side or slow side with No. 10 of "Setting mode 2".
	6	Setting of sequential startup	■ Used to start units not in sequence but simultaneously.	■ Set No. 11 of "Setting mode 2" to NONE.
	7	Emergency operation	■ If the compressor has a failure, used to prohibit the operation of compressor(s) concerned or outdoor unit(s) concerned and to conduct emergency operation of the system only with operable compressor(s) or outdoor unit(s).	■ Make this setting while in "Setting mode 2". For system with a single outdoor unit: Set with No. 19 or 42. For system with multiple outdoor units: Set with No. 38, 39, or 40.
	8	Additional refrigerant charging	■ If a necessary amount of refrigerant cannot be charged due to the stop of outdoor unit, operate the outdoor unit and then refill refrigerant.	■ Set No. 20 of "Setting mode 2" to ON and then charge refrigerant.
	9	Refrigerant recovery mode (*1)	■ Used to recover refrigerant on site. With operations of indoor and outdoor units prohibited, fully open the expansion valve of the indoor and outdoor units.	■ Set No. 21 of "Setting mode 2" to ON.
	10	Vacuuming mode (*1)	■ Used to conduct vacuuming on site. Fully open the expansion valves of the indoor and outdoor units, and energize part of solenoid valves. Use a vacuum pump to conduct vacuuming.	■ Set No. 21 of "Setting mode 2" to ON.
	11	ENECUT test operation	■ Used to forcedly turn ON the ENECUT. (Be noted this mode is not functional with the indoor unit remote controller turned ON.)	■ Set No. 24 of "Setting mode 2" to ON.
	12	Power transistor check mode	■ Used for the troubleshooting of DC compressors. Inverter waveform output makes it possible to judge whether a malfunction results from the compressor or the PC board.	■ Set No. 28 of "Setting mode 2" to ON.
	13	Setting of model with spare PC board	■ In order to replace the PC board by a spare one, be sure to make model setting.	■ For this setting, set the DS2-2, -3, and-4 switches on the PC board to the model concerned.

■ **Setting by dip switches**

Using dip switches on the PC board enables field setting shown below. However, make no changes of factory settings except for DS1-1.

Dipswitch		Setting item	Description
No.	Setting		
DS1-1	ON	Cool / Heat select	Used to set cool / heat select by Cool/Heat selector equipped with outdoor unit.
	OFF (Factory set)		
DS1-2 ~DS1-4	ON	Not used	Do not change the factory settings.
	OFF (Factory set)		
DS2-1 ~4	ON	Not used	Do not change the factory settings.
	OFF (Factory set)		

Setting at replacement by spare PC board

Caution

DIP switch Setting after changing the main PC board(A1P) to spare parts PC board

After the replacement by the spare PC board, be sure to make settings shown below.
When you change the main PC board(A1P) to spare parts PC board, please carry out the following setting.

Initial conditions of dip switches



DIP Switch Detail

DS No.	Item	Contents	
DS1-1	Cool/Heat change over setting	ON	COOL/HEAT setting is made with the use of a Cool/Heat selector mounted to the outdoor unit.
		OFF (Factory setting of spare PC board)	COOL/HEAT setting is not made with the use of a Cool/Heat selector mounted to the outdoor unit.
DS1-2	Power supply specification	ON	200V class (220V)
		OFF (Factory setting of spare PC board)	400V class (380V)
DS1-3	Cooling only/Heat-pump setting	ON	Cooling only setting
		OFF (Factory setting of spare PC board)	Heat pump setting
DS1-4	Unit allocation setting	ON	Make the following settings according to allocation of unit. (All models are set to OFF at factory.)
DS2-1		OFF (Factory setting of spare PC board)	

	Domestic Japan	Overseas General	Europe	High Ambient
DS1-4	OFF	OFF	ON	ON
DS2-1	OFF	ON	OFF	ON

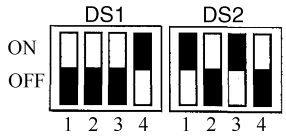
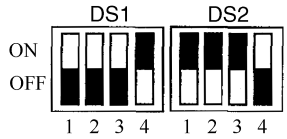
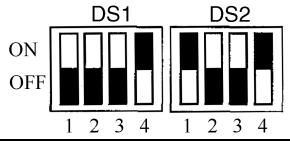
DS No.	Item	Contents
DS2-2	Model setting	Make the following settings according to models of outdoor units. (All models are set to OFF at factory.)
DS2-3		
DS2-4		

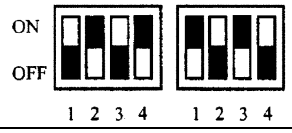
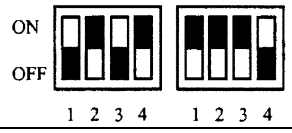
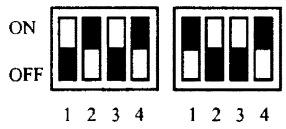
	RXYQ8P	RXYQ10P	RXYQ12P
DS2-2	OFF	ON	OFF
DS2-3	ON	ON	OFF
DS2-4	OFF	OFF	ON

* If the DS1-1~1-4, DS2-2~2-4 setting has not been carried out, error code “UA” are displayed and unit can not be operated.

Refer “DS1-1~4, DS2-1~4 setting detail” on next page.

"Detail of DS1-1~4, DS2-1~4 setting" (for Overseas general)

Unit	Setting method (■ represents the position of switches)	
HEAT PUMP(8HP) RXYQ8PYNK, RXYQ8P7Y1K RXYQ8P7YLK		Set DS1-4, DS2-1 and DS2-3 to ON.
HEAT PUMP(10HP) RXYQ10PYNK, RXYQ10P7Y1K RXYQ10P7YLK		Set DS1-4, DS2-1, DS2-2 and DS2-3 to ON.
HEAT PUMP(12HP) RXYQ12PYNK, RXYQ12P7Y1K RXYQ12P7YLK		Set DS1-4, DS2-1 and DS2-4 to ON.

Unit	Setting method (■ represents the position of switches)	
RXYQ8PTLK		Set DS1-2, DS1-4, DS2-1 and DS2-3 to ON.
RXYQ10PTLK		Set DS1-2, DS1-4, DS2-1, DS2-2 and DS2-3 to ON.
RXYQ12PTLK		Set DS1-2, DS1-4, DS2-1 and DS2-4 to ON.

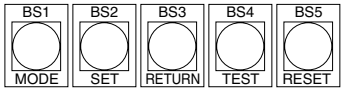
■ **Setting by push button switches**

The following settings are made by pushbutton switches on PC board.
In case of multi-outdoor unit system, various items should be set with the master unit.
(Setting with the slave unit is disabled.)
The master unit and slave unit can be discriminated with the LED display as shown below.

LED display

		MODE H1P	TEST H2P	COOL/HEAT select			Low noise H6P	Demand H7P	Multi; H8P
				IND H3P	MASTER H4P	SLAVE H5P			
Single-outdoor-unit system		●	●	○	●	●	●	●	●
Outdoor-multi system	Master	●	●	○	●	●	●	●	○
	Slave 1	●	●	●	●	●	●	●	◑
	Slave 2	●	●	●	●	●	●	●	●

(Factory setting)



There are the following three setting modes.

① **Setting mode 1 (H1P off)**

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

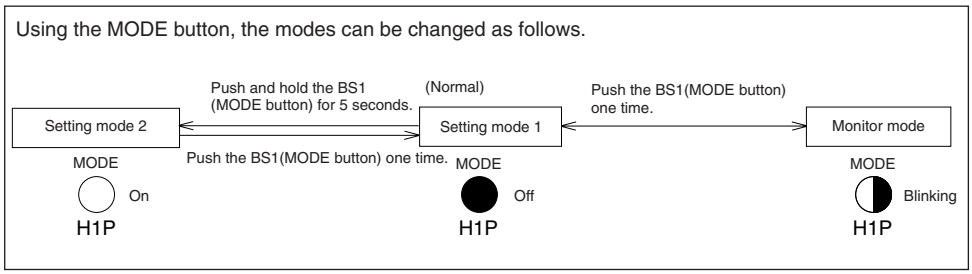
② **Setting mode 2 (H1P on)**

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

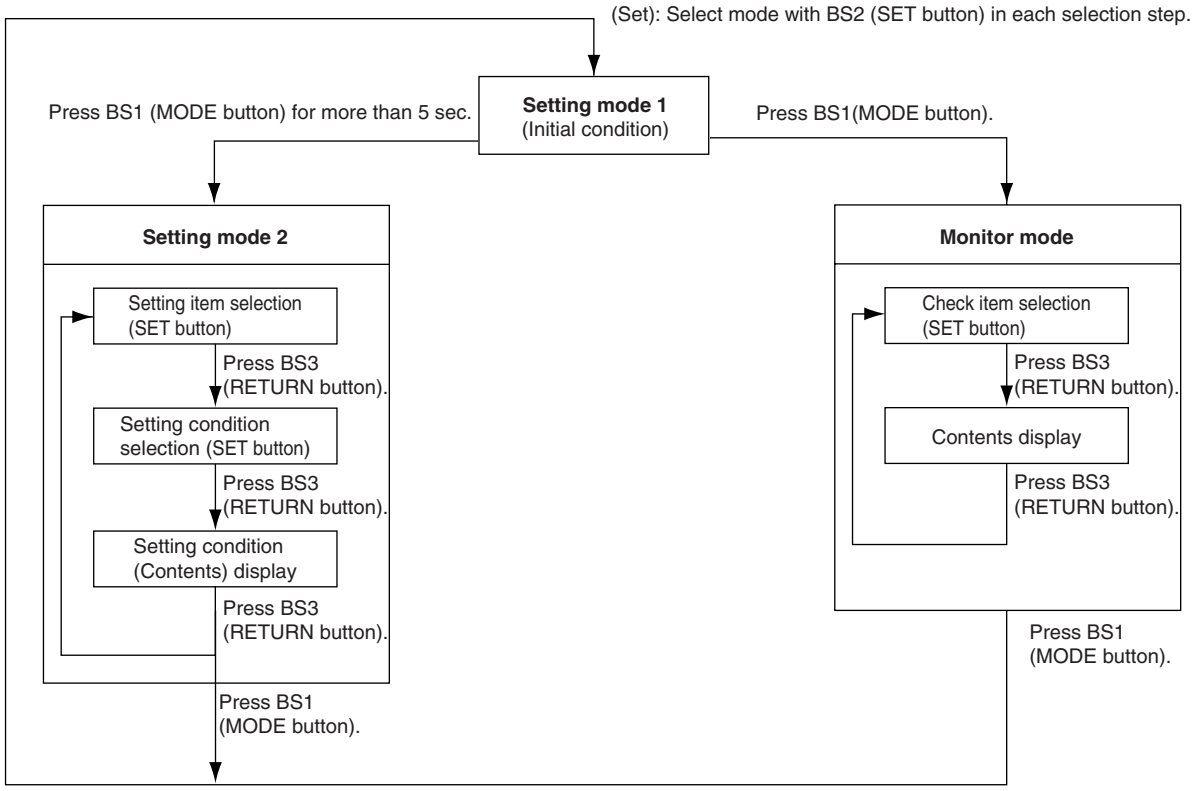
③ **Monitor mode (H1P blinks)**

Used to check the program made in Setting mode 2.

■ **Mode changing procedure 1**



■ **Mode changing procedure 2**



a. “Setting mode 1”

This mode is used to set and check the following items.

1. Set items ····· In order to make COOL/HEAT selection in a batch of outdoor unit group, change the setting.
   - COOL/HEAT selection (IND) ····· Used to select COOL or HEAT by individual outdoor unit (factory set).
   - COOL/HEAT selection (MASTER) ····· Used to select COOL or HEAT by outdoor unit group with the master unit.
   - COOL/HEAT selection (SLAVE) ····· Used to select COOL or HEAT by outdoor unit group with the slave unit.
2. Check items ····· The following items can be checked.
   (1) Current operating conditions (Normal / Abnormal / In check operation)
   (2) Setting conditions of COOL/HEAT selection (Individual / Batch master / Batch slave)
   (3) Low noise operating conditions (In normal operation / In low noise operation)
   (4) Demand operating conditions (In normal operation / In demand operation)

Procedure for changing COOL/HEAT selection setting

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

Push the SET (BS2) button to set the blinking of LED to any of conditions shown on the right.

Push the RETURN (BS3) button to determine the setting.

Pushing the RETURN (BS3) button will return the system to the initial condition of "Setting mode 1".

○ ON
● OFF
◑ Blink

Setting (displaying) item	MODE H1P	TEST H2P	COOL/HEAT select			Low noise H6P	Demand H7P
			IND H3P	MASTER H4P	SLAVE H5P		
For selection by individual outdoor unit (factory set)	●	●	◑	●	●	●	●
For selection in a batch of outdoor unit group with master unit	●	●	●	◑	●	●	●
For selection in a batch of outdoor unit group with slave unit	●	●	●	●	◑	●	●

Procedure for checking check items

The system is normally set to "Setting mode 1".
Should the system be set to any mode other than that, push the MODE (BS1) button to set the system to "Setting mode 1".

Check the system for each condition through LED displays. (Refer to information in table on the right.)

Pushing the RETURN (BS3) button will bring the system to the initial state of "Setting mode 1".

MODE H1P	TEST H2P	COOL/HEAT select			Low noise H6P	Demand H7P
		IND H3P	MASTER H4P	SLAVE H5P		
●	●	○	●	●	●	●

Current operating conditions
- ● Normal ○ Abnormal
- ◑ In preparation or in check operation

Setting of COO/HEAT selection
- ○ ● ● By individual outdoor unit
- ● ○ ● In a batch of outdoor unit group with master unit
- ● ● ○ In a batch of outdoor unit group with slave unit

Low noise operating conditions
- ● In normal operation
- ○ In low noise operation

Demand operating conditions
- ● In normal operation
- ○ In demand operation

b. “Setting mode 2”

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

<Selection of setting items>

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

<Selection of setting conditions>

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

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

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

No.	Setting item	Description
0	Digital pressure gauge kit display	Used to make setting of contents to display on the digital pressure gauges (e.g. pressure sensors and temperature sensors)
1	Cool/heat unified address	Sets address for cool/heat unified operation.
2	Low noise/demand address	Address for low noise/demand operation
3	Test operation settings	Used to conduct test operation without making changes to the PC board and replacing the refrigerant, after the completion of maintenance.
5	Indoor unit forced fan H	Allows forced operation of indoor unit fan while unit is stopped. (H tap)
6	Indoor unit forced operation	Allows forced operation of indoor unit.
8	Te setting	Target evaporation temperature for cooling
9	Tc setting	Target condensation temperature for heating
10	Defrost changeover setting	Changes the temperature condition for defrost and sets to quick defrost or slow defrost.
11	Sequential operation setting	Sets sequential operation (Factory set to ON)
12	External low noise setting / Demand setting	Reception of external low noise or demand signal
13	AIRNET address	Set address for AIRNET.
16	Setting of hot water	Make this setting to conduct heating operation with hot water heater.
18	High static pressure setting	Make this setting in the case of operating in high static pressure mode with diffuser duct mounted. (In order to mount the diffuser duct, remove the cover from the outdoor unit fan.)
19	Emergency operation (STD compressor operation prohibited)	Used to operate system only with inverter compressor when STD compressor malfunctions. This is a temporary operation extremely impairing comfortable environment. Therefore, prompt replacement of the compressor is required. (This operation, however, is not set with RXYQ8P.)
20	Additional refrigerant charge operation setting	Carries out additional refrigerant charge operation.
21	Refrigerant recovery/ vacuuming mode setting	Sets to refrigerant recovery or vacuuming mode.
22	Night-time low noise setting	Sets automatic nighttime low noise operation in a simple way. The operating time is based on “Starting set” and “Ending set”.
24	ENECUT test operation	Used to forcedly turn ON the ENECUT. (Be noted that the ENECUT is only functional with outdoor unit in the stopped state - Japanese domestic model only.)
25	Setting of external low noise level	Sets low noise level when the low noise signal is input from outside.
26	Night-time low noise operation start setting	Sets starting time of nighttime low noise operation. (Night-time low noise setting is also required.)
27	Night-time low noise operation end setting	Sets ending time of nighttime low noise operation. (Night-time low noise setting is also required.)
28	Power transistor check mode ∗Check after disconnection of compressor wires	Used for trouble diagnosis of DC compressor. Since the waveform of inverter is output without wiring to the compressor, it is convenient to probe whether the trouble comes from the compressor or PC board.
29	Capacity precedence setting	If the capacity control is required, the low noise control is automatically released by this setting during carrying out low noise operation and nighttime low noise operation.
30	Demand setting 1	Changes target value of power consumption when demand control 1 is input.
32	Normal demand setting	Normally enables demand control 1 without external input. (Effective to prevent a problem that circuit breaker of small capacity is shut down due to large load.)

No.	Setting item	Description
35	Setting of difference in elevation for the outdoor unit	Make the setting when the outdoor unit is installed 40 m or more below the indoor unit.
38	Emergency operation (Setting for the master unit operation prohibition in multi-outdoor-unit system)	Used to temporarily prohibit the applicable outdoor unit from operating should there be any faulty part in multi-outdoor-unit system. Since the comfortable environment is extremely impaired, prompt replacement of the part is required.
39	Emergency operation (Setting for the slave unit 1 operation prohibition in multi-outdoor-unit system)	
40	Emergency operation (Setting for the slave unit 2 operation prohibition in multi-outdoor-unit system)	
42	Emergency operation (prohibition of INV compressor operation)	If the INV compressor has a failure, used to run the system only with STD compressor(s). This is a temporary running of the system until the compressor is replaced, thus making comfort extremely worse. Therefore, it is recommended to replace the compressor as soon as possible. (Be noted this setting is not available on model RXYQ8P.)

No.	Setting item display								Setting condition display			
	Setting item	MODE H1P	TEST H2P	C/H selection IND H3P	C/H selection Master H4P	C/H selection Slave H5P	Low noise H6P	Demand H7P				✻ Factory set
0	Digital pressure gauge kit display	○	●	●	●	●	●	●	Address Binary number (4 digits)	0 1 ~ 15	○ ● ● ● ● ● ● ○ ● ● ● ● ● ○ ○ ● ● ○ ○ ○ ○	✻
1	Cool / Heat Unified address	○	●	●	●	●	●	○	Address Binary number (6 digits)	0 1 ~ 31	○ ● ● ● ● ● ● ○ ● ● ● ● ● ○ ○ ● ○ ○ ○ ○ ○	✻
2	Low noise/demand address	○	●	●	●	●	○	●	Address Binary number (6 digits)	0 1 ~ 31	○ ● ● ● ● ● ● ○ ● ● ● ● ● ○ ○ ● ○ ○ ○ ○ ○	✻
3	Test operation	○	●	●	●	●	○	○	Test operation: OFF Test operation: ON		○ ● ● ● ● ● ○ ○ ● ● ● ● ○ ●	✻
5	Indoor forced fan H	○	●	●	●	○	●	○	Normal operation Indoor forced fan H		○ ● ● ● ● ● ○ ○ ● ● ● ● ○ ●	✻
6	Indoor forced operation	○	●	●	●	○	○	●	Normal operation Indoor forced operation		○ ● ● ● ● ● ○ ○ ● ● ● ● ○ ●	✻
8	Te setting	○	●	●	○	●	●	●	Low (Level L) Normal (Level M) High① (Level H) High② High③ High④ High⑤		○ ● ● ● ● ● ○ ○ ● ● ● ● ○ ● ✻ ○ ● ● ● ● ○ ○ ○ ● ● ● ○ ● ● ○ ● ● ● ○ ● ○ ○ ● ● ● ○ ○ ● ○ ● ● ● ○ ○ ○	
9	Tc setting	○	●	●	○	●	●	○	Low Normal (factory setting) High		○ ● ● ● ● ● ○ ○ ● ● ● ● ○ ● ✻ ○ ● ● ● ○ ● ●	
10	Defrost changeover setting	○	●	●	○	●	○	●	Slow defrost Normal (factory setting) Quick defrost		○ ● ● ● ● ● ○ ○ ● ● ● ● ○ ● ✻ ○ ● ● ● ○ ● ●	
11	Sequential operation setting	○	●	●	○	●	○	○	OFF ON		○ ● ● ● ● ● ○ ○ ● ● ● ● ○ ● ✻	
12	External low noise/ demand setting	○	●	●	○	○	●	●	External low noise/demand: NO External low noise/demand: YES		○ ● ● ● ● ● ○ ✻ ○ ● ● ● ● ○ ●	
13	Airnet address	○	●	●	○	○	●	○	Address Binary number (6 digits)	0 1 ~ 63	○ ● ● ● ● ● ● ○ ● ● ● ● ● ○ ○ ○ ○ ○ ○ ○ ○	✻
16	Setting of hot water heater	○	●	○	●	●	●	●	OFF ON		○ ● ● ● ● ● ○ ○ ● ● ● ● ○ ●	✻
18	High static pressure setting	○	●	○	●	●	○	●	High static pressure setting: OFF High static pressure setting: ON		○ ● ● ● ● ● ○ ○ ● ● ● ● ○ ●	✻
19	Emergency operation (STD compressor is inhibited to operate.)	○	●	○	●	●	○	○	OFF STD 1, 2 operation: Inhibited STD 2 operation: Inhibited		○ ● ● ● ● ● ● ○ ● ● ● ● ● ○ ○ ● ● ● ● ○ ●	✻
20	Additional refrigerant charging operation setting	○	●	○	●	○	●	●	Refrigerant charging: OFF Refrigerant charging: ON		○ ● ● ● ● ● ○ ○ ● ● ● ● ○ ●	✻
21	Refrigerant recovery/vacuuming mode setting	○	●	○	●	○	●	○	Refrigerant recovery / vacuuming: OFF Refrigerant recovery / vacuuming: ON		○ ● ● ● ● ● ○ ○ ● ● ● ● ○ ●	✻

No.	Setting item display: Setting item	MODE H1P	TEST H2P	C/H selection: IND H3P	C/H selection: Master H4P	C/H selection: Slave H5P	Low noise H6P	Demand H7P	Setting condition display (✻ Factory set)	
22	Night-time low noise setting	○	●	○	●	○	○	●	OFF	○ ● ● ● ● ● ● ✻
									Level 1 (outdoor fan with 6 step or lower)	○ ● ● ● ● ● ○
									Level 2 (outdoor fan with 5 step or lower)	○ ● ● ● ● ○ ●
									Level 3 (outdoor fan with 4 step or lower)	○ ● ● ● ● ○ ○
24	ENECUT test operation (Domestic Japan only)	○	●	○	○	●	●	●	ENECUT output OFF	○ ● ● ● ● ● ○ ✻
									ENECUT output forced ON	○ ● ● ● ● ○ ●
25	Low noise setting	○	●	○	○	●	●	○	Level 1 (outdoor fan with 6 step or lower)	○ ● ● ● ● ● ○
									Level 2 (outdoor fan with 5 step or lower)	○ ● ● ● ● ○ ● ✻
									Level 3 (outdoor fan with 4 step or lower)	○ ● ● ● ○ ● ●
26	Night-time low noise operation start setting	○	●	○	○	●	○	●	About 20:00	○ ● ● ● ● ● ○
									About 22:00 (factory setting)	○ ● ● ● ● ○ ● ✻
									About 24:00	○ ● ● ● ○ ● ●
27	Night-time low noise operation end setting	○	●	○	○	●	○	○	About 6:00	○ ● ● ● ● ● ○
									About 7:00	○ ● ● ● ● ○ ●
									About 8:00 (factory setting)	○ ● ● ● ○ ● ● ✻
28	Power transistor check mode	○	●	○	○	○	●	●	OFF	○ ● ● ● ● ● ○ ✻
									ON	○ ● ● ● ● ○ ●
29	Capacity precedence setting	○	●	○	○	○	●	○	OFF	○ ● ● ● ● ● ○ ✻
									ON	○ ● ● ● ● ○ ●
30	Demand setting 1	○	●	○	○	○	○	●	60 % demand	○ ● ● ● ● ● ○
									70 % demand	○ ● ● ● ● ○ ● ✻
									80 % demand	○ ● ● ● ○ ● ●
32	Normal demand setting	○	○	●	●	●	●	●	OFF	○ ● ● ● ● ● ○ ✻
									ON	○ ● ● ● ● ○ ●
35	Setting of difference in elevation for the outdoor unit	○	○	●	●	●	○	○	Normal	○ ● ● ● ● ● ●
									65 m or less	○ ● ● ● ○ ○ ●
									90 m or less	○ ● ● ● ○ ○ ○
38	Emergency operation (Master unit with multi-outdoor-unit system is inhibited to operate.)	○	○	●	●	○	○	●	OFF	○ ● ● ● ● ● ○ ✻
									Master unit operation: Inhibited	○ ● ● ● ● ○ ●
39	Emergency operation (Slave unit 1 with multi-outdoor-unit system is inhibited to operate.)	○	○	●	●	○	○	○	OFF	○ ● ● ● ● ● ○ ✻
									Slave unit 1 operation: Inhibited	○ ● ● ● ● ○ ●
40	Emergency operation (Slave unit 2 with multi-outdoor-unit system is inhibited to operate.)	○	○	●	○	●	●	●	OFF	○ ● ● ● ● ● ○ ✻
									Slave unit 2 operation: Inhibited	○ ● ● ● ● ○ ●
42	Emergency operation (prohibition of INV compressor operation)	○	○	●	○	●	○	●	Normal operation	○ ● ● ● ● ● ○ ✻
									Emergency operation (prohibition of INV compressor operation)	○ ● ● ● ● ○ ●

c. Monitor mode

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

<Selection of setting item>

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

<Confirmation on setting contents>

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

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

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

No.	Setting item	LED display							Data display
		H1P	H2P	H3P	H4P	H5P	H6P	H7P	
0	Various settings	◑	●	●	●	●	●	●	Lower 4 digits
1	C/H unified address	◑	●	●	●	●	●	○	Lower 6 digits
2	Low noise/demand address	◑	●	●	●	●	○	●	
3	Not used	◑	●	●	●	●	○	○	
4	Airnet address	◑	●	●	●	○	●	●	
5	Number of connected indoor units *1	◑	●	●	●	○	●	○	
6	Number of connected BS units *2	◑	●	●	●	○	○	●	
7	Number of connected zone units (Fixed to "0")	◑	●	●	●	○	○	○	
8	Number of outdoor units *3	◑	●	●	○	●	●	●	
9	Number of BS units *4	◑	●	●	○	●	●	○	Lower 4 digits: upper
10	Number of BS units *4	◑	●	●	○	●	○	●	Lower 4 digits: lower
11	Number of zone units	◑	●	●	○	●	○	○	Lower 6 digits
12	Number of terminal units *5	◑	●	●	○	○	●	●	Lower 4 digits: upper
13	Number of terminal units *5	◑	●	●	○	○	●	○	Lower 4 digits: lower
14	Contents of malfunction (the latest)	◑	●	●	○	○	○	●	Malfunction code table
15	Contents of malfunction (1 cycle before)	◑	●	●	○	○	○	○	Refer page 224.
16	Contents of malfunction (2 cycle before)	◑	●	○	●	●	●	●	
20	Contents of retry (the latest)	◑	●	○	●	○	●	●	
21	Contents of retry (1 cycle before)	◑	●	○	●	○	●	○	
22	Contents of retry (2 cycle before)	◑	●	○	●	○	○	●	
25	Number of multi connection outdoor units	◑	●	○	○	●	●	○	Lower 6 digits

The numbers in the "No." column represent the number of times to press the SET (BS2) button.

*1: Number of connected indoor units
Used to make setting of the number of indoor units connected to an outdoor unit.

*2: Number of connected BS units
Used to make setting of the number of BS units connected to an outdoor unit.

*3: Number of outdoor units
Used to make setting of the number of outdoor units connected to DIII-NET that is one of the communication lines.

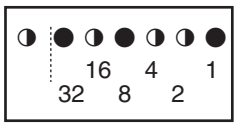
*4: Number of BS units
Used to make setting of the number of BS units connected to DIII-NET that is one of the communication lines.

*5: Number of terminal units
Used to make setting of the number of indoor units connected to DIII-NET that is one of the communication lines.
(Only available for VRV indoor units)

Setting item 0 Display contents of "Number of units for various settings"

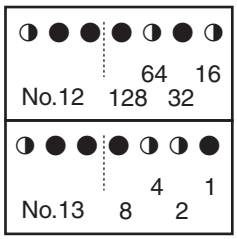
EMG operation / backup operation setting	ON	◑	●	●	○	●	●	●
	OFF	◑	●	●	●	●	●	●
Defrost select setting	Short	◑	●	●	●	○	●	●
	Medium	◑	●	●	●	◑	●	●
	Long	◑	●	●	●	●	●	●
Te setting	L	◑	●	●	●	●	●	●
	M	◑	●	●	●	●	◑	●
	H ①~⑤	◑	●	●	●	●	○	●
Tc setting	L	◑	●	●	●	●	●	●
	M	◑	●	●	●	●	●	◑
	H	◑	●	●	●	●	●	○

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



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

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



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

★ See the preceding page for a list of data, etc. for No. 0 - 25.

3.2.2 Cool / Heat Mode Switching

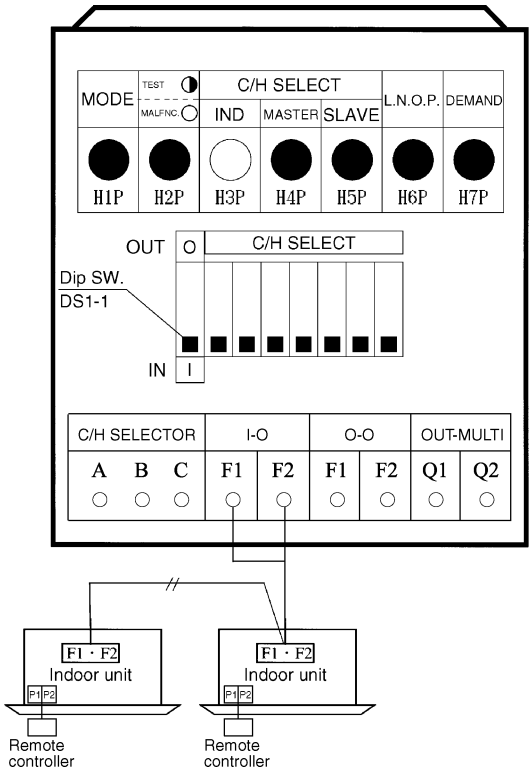
There are the following 4 cool/heat switching modes.

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

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① Set Cool / Heat Separately for Each Outdoor Unit System by Indoor Unit Remote Controller

- ◆ It does not matter whether or not there is outdoor - outdoor unit wiring.
- ◆ Set outdoor unit PC board DS1-1 to IN (factory set).
- ◆ Set cool/heat switching to IND (individual) for "Setting mode 1" (factory set).
- ◆ Set the master unit (= indoor unit having the right to select the cooling/heating operation mode).



<Set the master unit (= indoor unit having the right to select the cooling/heating operation mode).>

In the case of wired remote controllers

- After the check operation, **"CHANGEOVER UNDER CONTROL"** is flashing in all connected remote controllers.
- Select an indoor unit to be used as the master unit in accordance with the request from the customer. (It is recommended to select an indoor unit which will be used most often as the master unit.)
- Press the operation mode selector button in the remote controller of the indoor unit selected as the master unit.
- In that remote controller, **"CHANGEOVER UNDER CONTROL"** disappears. That remote controller will control changeover of the cooling/heating operation mode.
- In other remote controllers, **"CHANGEOVER UNDER CONTROL"** lights.

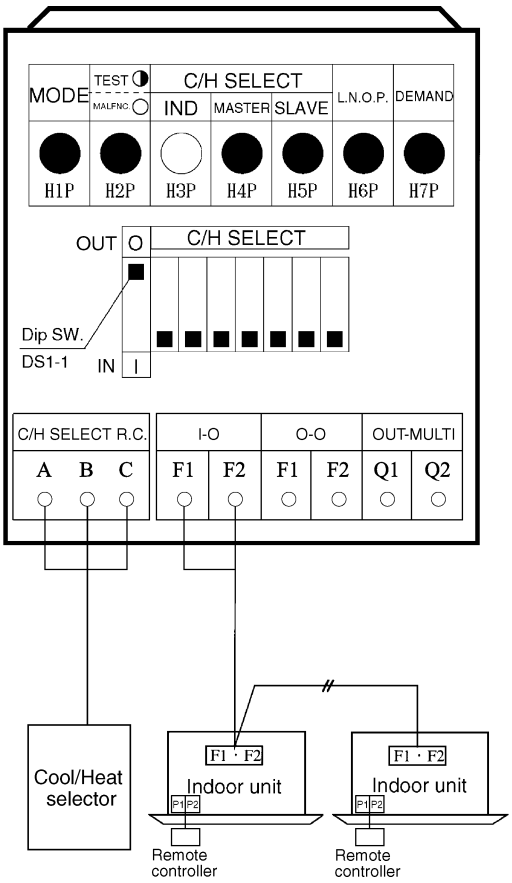
For the details, refer to the installation manual supplied together with the indoor unit.

In the case of wireless remote controllers

- After the check operation, the timer lamp is flashing in all connected indoor units.
- Select an indoor unit to be used as the master unit in accordance with the request from the customer. (It is recommended to select an indoor unit which will be used most often as the master unit.)
- Press the operation selector mode button in the remote controller of the indoor unit selected as the master unit. A "peep" sound is emitted, and the timer lamp turns off in all indoor units.
- That indoor unit will control changeover of the cooling/ heating operation mode.

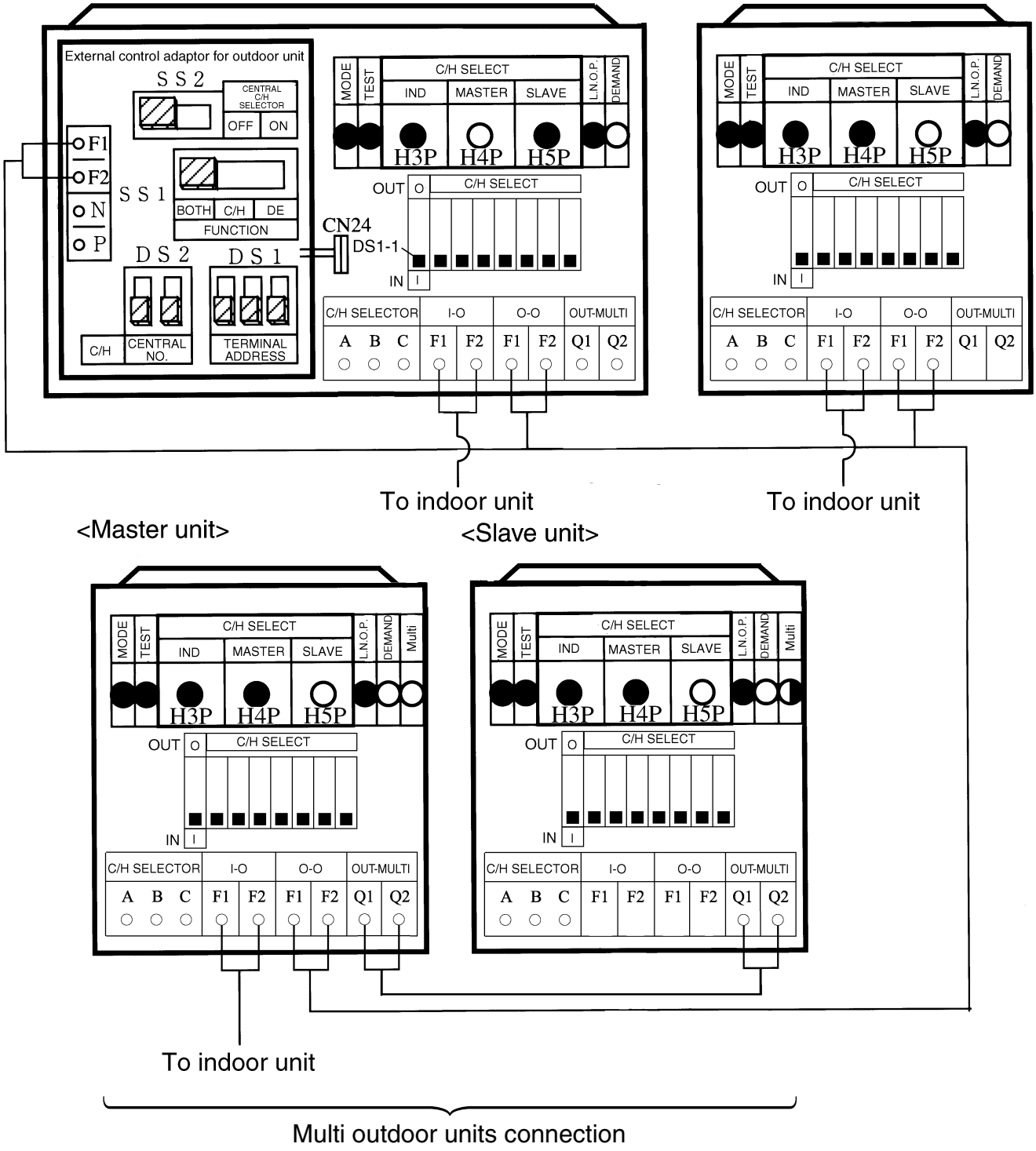
② **Set Cool / Heat Separately for Each Outdoor Unit System by Cool / Heat Selector**

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



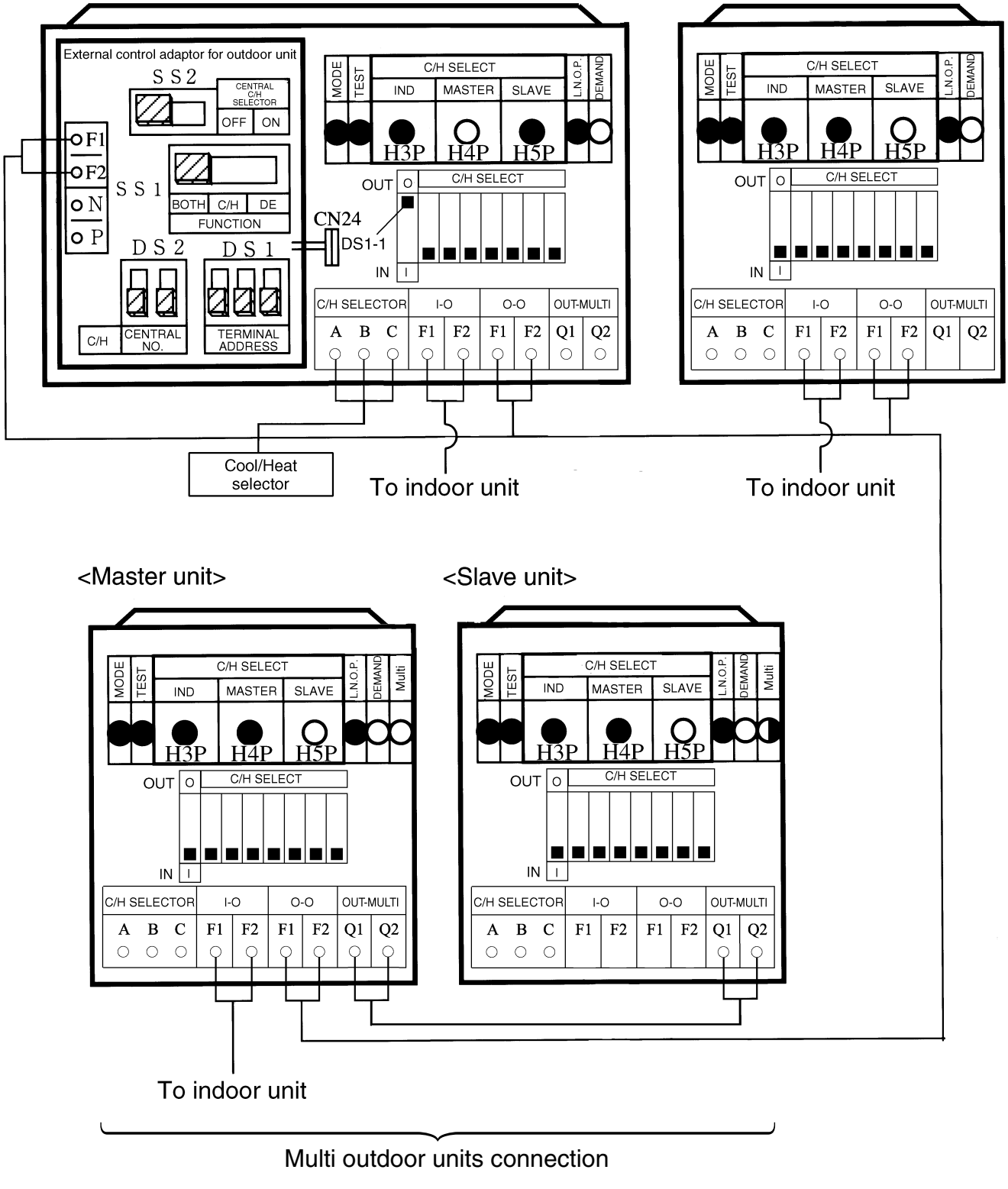
③ Set Cool / Heat for More Than One Outdoor Unit System Simultaneously in Accordance with Unified Master Outdoor Unit by Indoor Unit Remote Controller

- ◆ Install the external control adaptor for outdoor unit on either the outdoor-outdoor, indoor-outdoor transmission line.
- ◆ Set outdoor unit PC board DS1-1 to IN (factory set).
- ◆ In setting mode 1, set the outdoor unit you want to give cool/heat selection permission to as the group master, and set the other outdoor units as group slave units.
- ◆ Set the outdoor unit external control adaptor SS1 to BOTH (factory set) or C/H, and SS2 to OFF (factory set).



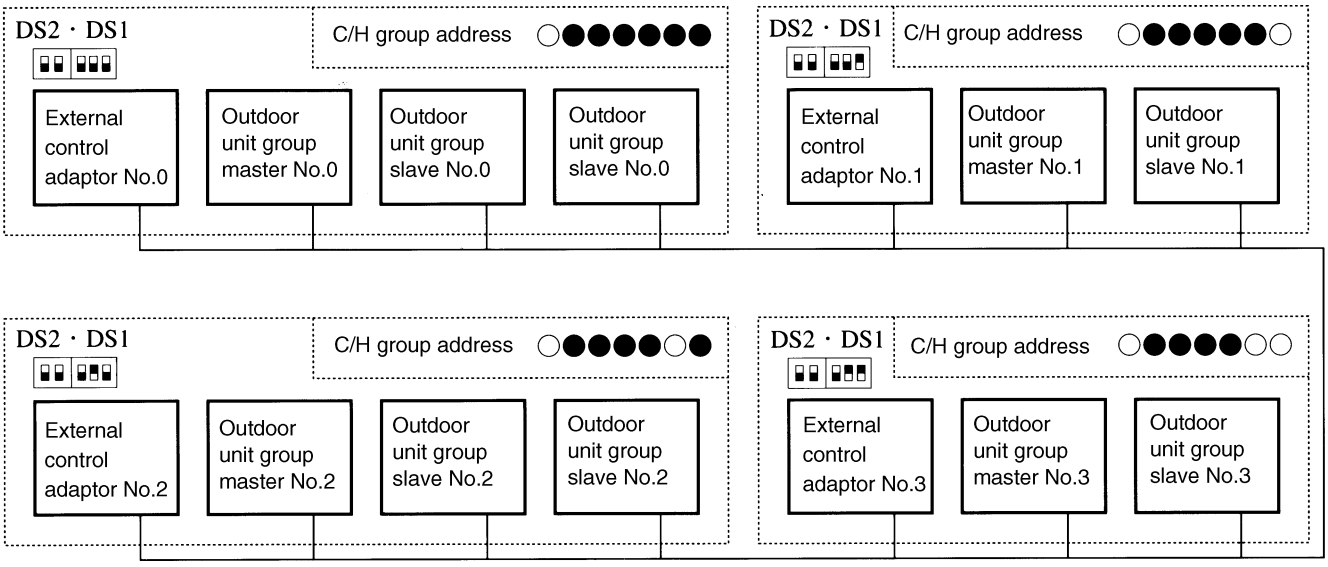
④ **Set Cool / Heat for More Than One Outdoor Unit System Simultaneously in Accordance with Unified Master Outdoor Unit by Cool / Heat Selector**

- ◆ Install the external control adaptor for outdoor unit on either the outdoor-outdoor, indoor-outdoor transmission line.
- ◆ Mount the COOL/HEAT selector to the master outdoor unit for the unified control.
- ◆ Set the DS1-1 on the PC board of master outdoor unit to OUT.
- ◆ In setting mode 1, set the outdoor unit you want to give cool/heat selection permission to as the group master, and set the other outdoor units as group slave units.
- ◆ Set the outdoor unit external control adaptor SS1 to BOTH (factory set) or C/H, and SS2 to OFF (factory set).



Supplementation on ③ and ④.

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



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

Address No.	Outdoor unit PC board LED Set with setting mode 2	External control adaptor for outdoor unit DS2 DS1
No.0	○ ● ● ● ● ● 0	0
No.1	○ ● ● ● ● ○ 1	1
No.2	○ ● ● ● ○ ● 2	2
No.3	○ ● ● ● ○ ○ 3	3
No.4	○ ● ● ● ○ ● ● 4	4
≀	≀	≀
No.30	○ ● ○ ○ ○ ○ ● 30	30
No.31	○ ● ○ ○ ○ ○ ○ 31	31

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

(The shaded part shows knob)

3.2.3 Setting of Low Noise Operation and Demand Operation

Setting of Low Noise Operation

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

Setting	Content
Mode 1	Set the outdoor unit fan to Step 6 or lower.
Mode 2	Set the outdoor unit fan to Step 5 or lower.
Mode 3	Set the outdoor unit fan to Step 4 or lower.

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

1. While in "Setting mode 2", set the setting condition for set item No. 12 (Setting of external low noise/demand operation) to "YES".
2. If necessary, while in "Setting mode 2", select the setting condition (i.e., "Mode 1", "Mode 2", or "Mode 3") for set item No. 25 (Setting of external low noise level).
3. If necessary, while in "Setting mode 2", set the setting condition for the set item No. 29 (Setting of capacity precedence) to "ON".
   (If the condition is set to "ON", when the air-conditioning load reaches a high level, the low noise operation command will be ignored to put the system into normal operation mode.)

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

1. While in "Setting mode 2", select the setting condition (i.e., "Mode 1", "Mode 2", or "Mode 3") for set item No. 22 (Setting of nighttime low noise level).
2. If necessary, while in "Setting mode 2", select the setting condition (i.e., "20:00", "22:00", or "24:00") for set item No. 26 (Setting of start time of nighttime low noise operation).
   (Use the start time as a guide since it is estimated according to outdoor temperatures.)
3. If necessary, while in "Setting mode 2", select the setting condition (i.e., "06:00", "07:00", or "08:00") for set item No. 27 (Setting of end time of nighttime low noise operation).
   (Use the end time as a guide since it is estimated according to outdoor temperatures.)
4. If necessary, while in "Setting mode 2", set the setting condition for set item No. 29 (Setting of capacity precedence) to "ON".
   (If the condition is set to "ON", when the air-conditioning load reaches a high level, the system will be put into normal operation mode even during nighttime.)

Image of operation in the case of A

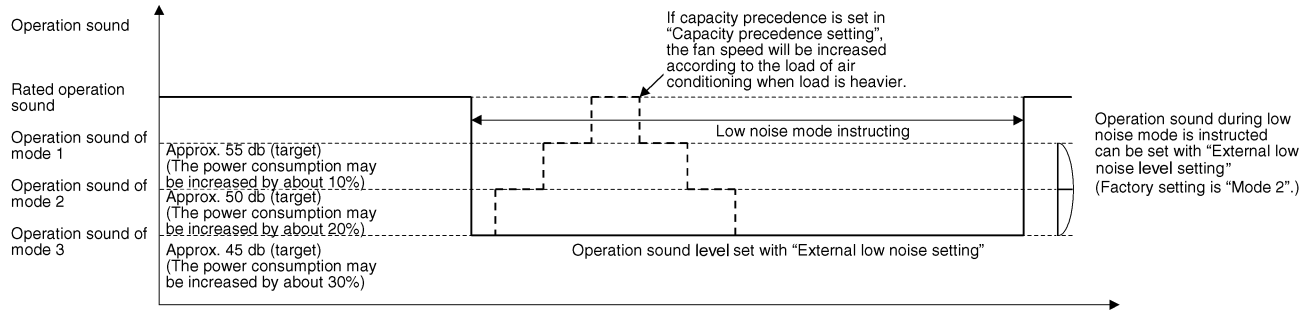


Image of operation in the case of B

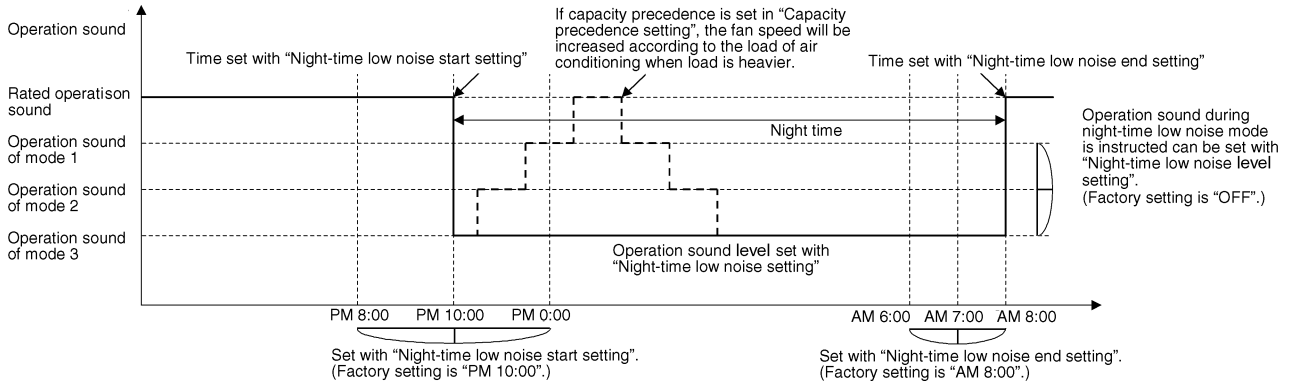
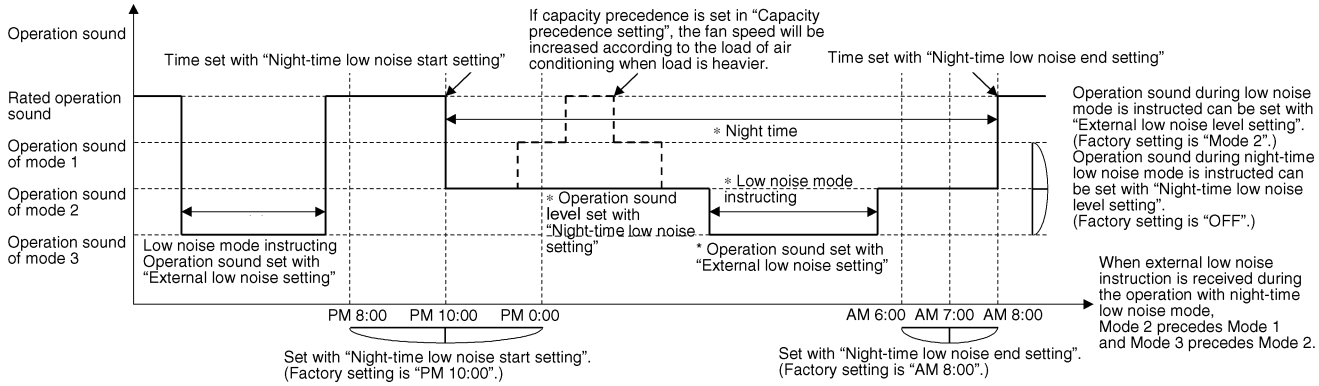


Image of operation in the case of A and B



Setting of Demand Operation

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

Set item	Condition	Content
Demand 1	Mode 1	The compressor operates at approx. 60% or less of rating.
	Mode 2	The compressor operates at approx. 70% or less of rating.
	Mode 3	The compressor operates at approx. 80% or less of rating.
Demand 2	—	The compressor operates at approx. 40% or less of rating.

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

1. While in "Setting mode 2", set the setting condition for set item No. 12 (Setting of external low noise/demand operation) to "YES".
2. If necessary, while in "Setting mode 2", select the set item No. 30 (Setting of Demand 1 level) and then set the setting condition to targeted mode.

B. When the normal demand operation is carried out. (Use of the external control adaptor for outdoor unit is not required.)

1. While in "Setting mode 2", make setting of the set item No. 32 (Setting of constant demand) to "ON".
2. While in "Setting mode 2", select the set item No. 30 (Setting of Demand 1 level) and then set the setting condition to targeted mode.

Image of operation in the case of A

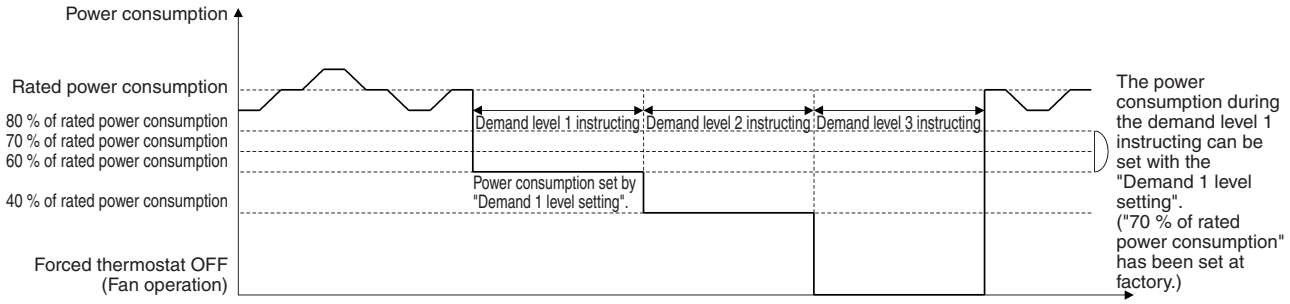


Image of operation in the case of B

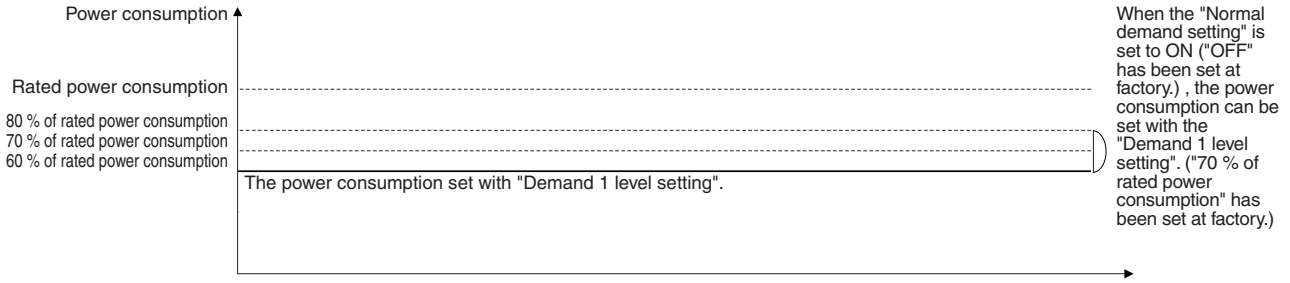
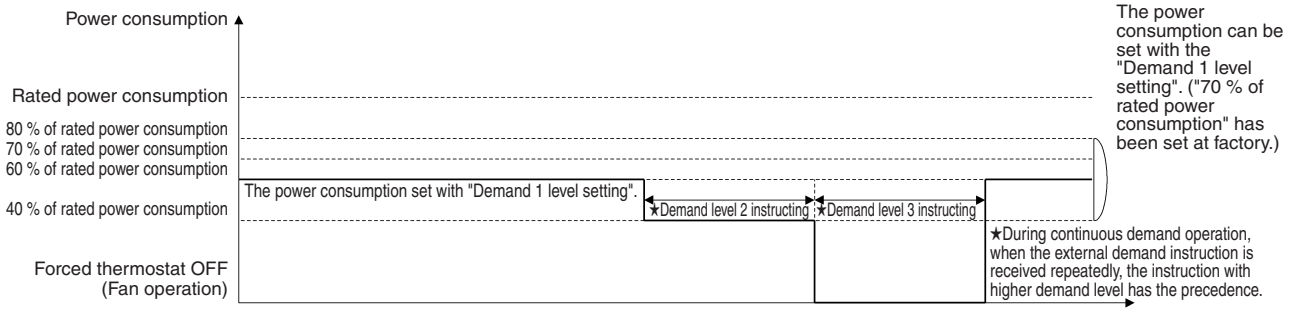


Image of operation in the case of A and B



Detailed Setting Procedure of Low Noise Operation and Demand Control

1. Setting mode 1 (H1P off)

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

2. Setting mode 2 (H1P on)

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

○: ON ●: OFF ◑: Blink

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

Setting mode indication section Setting No. indication section Set contents indication section

3.2.4 Setting of Refrigerant Recovery Mode

When carrying out the refrigerant collection on site, fully open the respective expansion valve of indoor and outdoor units.
All indoor and outdoor unit's operation are prohibited.

[Operation procedure]

① In **setting mode 2** with units in stop mode, set "Refrigerant Recovery / Vacuuming mode" to ON. The respective expansion valve of indoor and outdoor units are fully opened. (H2P turns to display "TEST OPERATION" (blinks), "TEST OPERATION" and "UNDER CENTRALIZED CONTROL" are displayed on the remote controller, and the all indoor / outdoor unit operation is prohibited.
After setting, do not cancel "Setting Mode 2" until completion of refrigerant recovery operation.

② Collect the refrigerant using a refrigerant recovery unit. (See the instruction attached to the refrigerant recovery unit for more detal.)

③ Press Mode button "BS1" once and reset "Setting Mode 2".

3.2.5 Setting of Vacuuming Mode

In order to perform vacuuming operation at site, fully open the expansion valves of indoor and outdoor units and turn on some solenoid valves.

[Operating procedure]

① With **Setting Mode 2** while the unit stops, set “Refrigerant recovery / Vacuuming mode” to ON. The expansion valves of indoor and outdoor units fully open and some of solenoid valves open.
(H2P blinks to indicate the test operation, and the remote controller displays "Test Operation" and "Under centralized control", thus prohibiting operation.)
After setting, do not cancel “Setting Mode 2” until completion of Vacuuming operation.

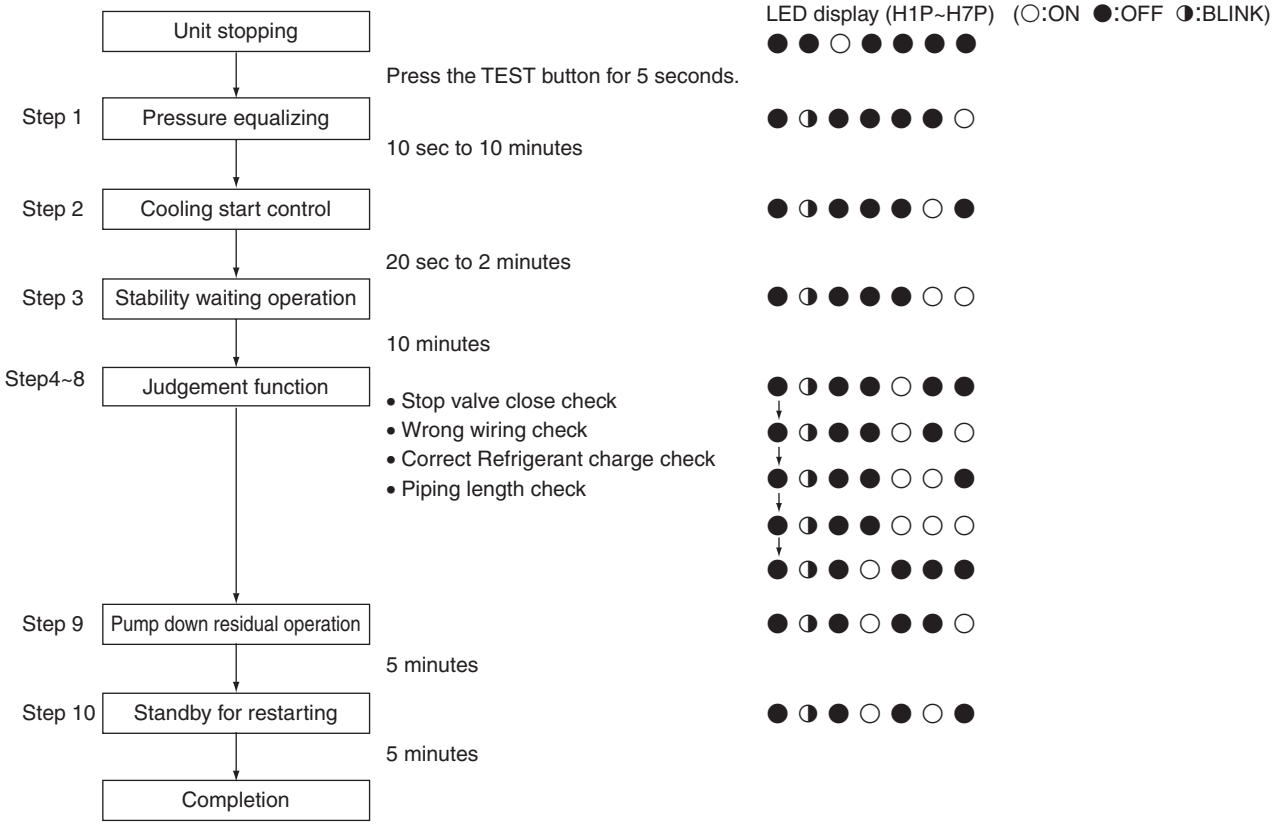
② Use the vacuum pump to perform vacuuming operation.

③ Press Mode button “BS1” once and reset “Setting Mode 2”.

3.2.6 Check Operation Detail

CHECK OPERATION FUNCTION

(Press the MODE button BS1 once and set to SETTING MODE 1 (H1P: OFF))



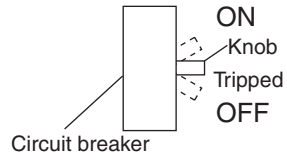
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1. Symptom-based Troubleshooting

	Symptom		Supposed Cause	Countermeasure
1	The system does not start operation at all.		Blowout of fuse(s)	Turn Off the power supply and then replace the fuse(s).
			Cutout of breaker(s)	• If the knob of any breaker is in its OFF position, turn ON the power supply. • If the knob of any circuit breaker is in its tripped position, do not turn ON the power supply. 
			Power failure	After the power failure is reset, restart the system.
2	The system starts operation but makes an immediate stop.		Blocked air inlet or outlet of indoor or outdoor unit	Remove obstacle(s).
			Clogged air filter(s)	Clean the air filter(s).
3	The system does not cool or heat air well.		Blocked air inlet or outlet of indoor or outdoor unit	Remove obstacle(s).
			Clogged air filter(s)	Clean the air filter(s).
			Enclosed outdoor unit(s)	Remove the enclosure.
			Improper set temperature	Set the temperature to a proper degree.
			Airflow rate set to "LOW"	Set it to a proper airflow rate.
			Improper direction of air diffusion	Set it to a proper direction.
			Open window(s) or door(s)	Shut it tightly.
		[In cooling]	Direct sunlight received	Hang curtains or shades on windows.
		[In cooling]	Too many persons staying in a room	
		[In cooling]	Too many heat sources (e.g. OA equipment) located in a room	
4	The system does not operate.	The system stops and immediately restarts operation.	If the OPERATION lamp on the remote controller turns ON, the system will be normal. These symptoms indicate that the system is controlled so as not to put unreasonable loads on the system.	Normal operation. The system will automatically start operation after a lapse of five minutes.
		Pressing the TEMP ADJUST button immediately resets the system.		
		The remote controller displays "UNDER CENTRALIZED CONTROL", which blinks for a period of several seconds when the OPERATION button is depressed.	The system is controlled with centralized controller. Blinking display indicates that the system cannot be operated using the remote controller.	Operate the system using the COOL/HEAT centralized remote controller.
		The system stops immediately after turning ON the power supply.	The system is in preparation mode of micro computer operation.	Wait for a period of approximately one minute.
5	The system makes intermittent stops.	The remote controller displays malfunction codes "U4" and "U5", and the system stops but restarts after a lapse of several minutes.	The system stops due to an interruption in communication between units caused by electrical noises coming from equipment other than air conditioners.	Remove causes of electrical noises. If these causes are removed, the system will automatically restart operation.
6	COOL-HEAT selection is disabled.	The remote controller displays "UNDER CENTRALIZED CONTROL".	This remote controller has no option to select cooling operation.	Use a remote controller with option to select cooling operation.
		The remote controller displays "UNDER CENTRALIZED CONTROL", and the COOL-HEAT selection remote controller is provided.	COOL-HEAT selection is made using the COOL-HEAT selection remote controller.	Use the COOL-HEAT selection remote controller to select cool or heat.

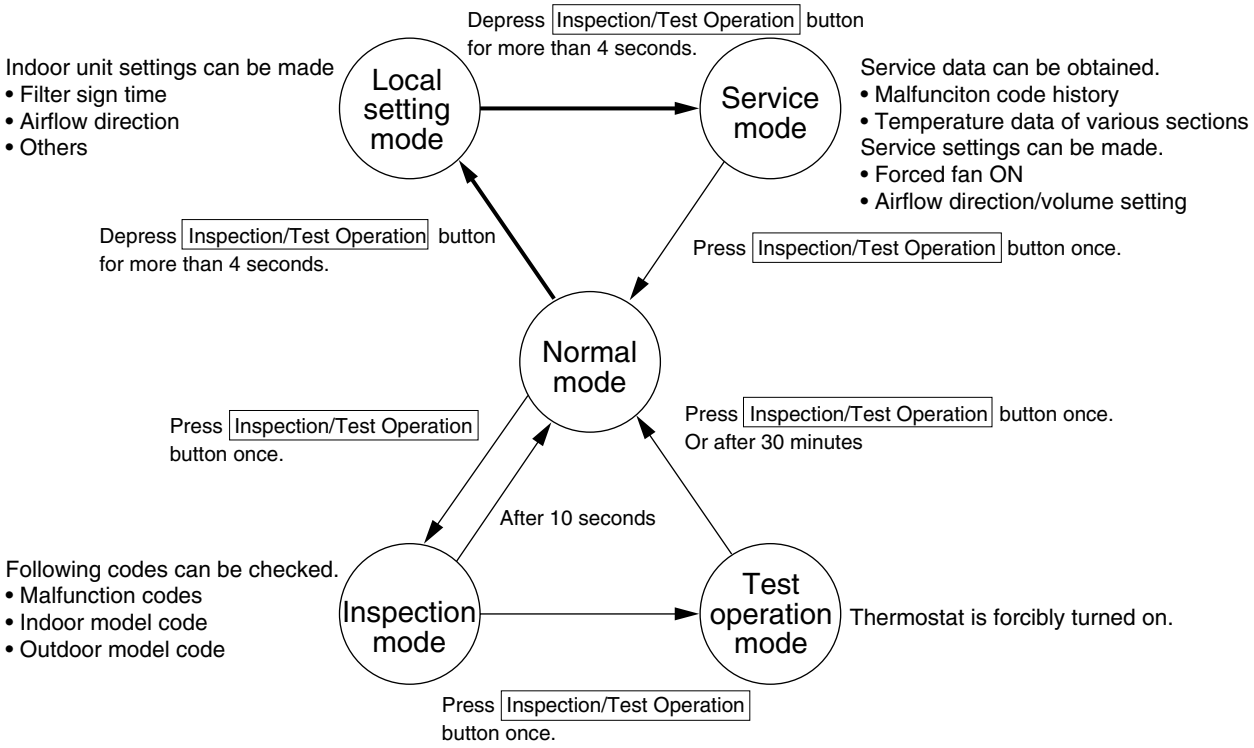
	Symptom		Supposed Cause	Countermeasure
7	The system conducts fan operation but not cooling or heating operation.	This symptom occurs immediately after turning ON the power supply.	The system is in preparation mode of operation.	Wait for a period of approximately 10 minutes.
8	The airflow rate is not reproduced according to the setting.	Even pressing the AIRFLOW RATE SET button makes no changes in the airflow rate.	In heating operation, when the room temperature reaches the set degree, the outdoor unit will stop while the indoor unit is brought to fan LL operation so that no one gets cold air. Furthermore, if fan operation mode is selected when other indoor unit is in heating operation, the system will be brought to fan LL operation. (The fan LL operation is also enabled while in oil return mode in cooling operation.)	Normal operation.
9	The airflow direction is not reproduced according to the setting.	The airflow direction is not corresponding to that displayed on the remote controller. The flap does not swing.	Automatic control	Normal operation.
10	A white mist comes out from the system.	<Indoor unit> In cooling operation, the ambient humidity is high. (This indoor unit is installed in a place with much oil or dust.)	Uneven temperature distribution due to heavy stain of the inside of the indoor unit	Clean the inside of the indoor unit.
		<Indoor unit> Immediately after cooling operation stopping, the ambient temperature and humidity are low.	Hot gas (refrigerant) flown in the indoor unit results to be vapor from the unit.	Normal operation.
		<Indoor and outdoor units> After the completion of defrosting operation, the system is switched to heating operation.	Defrosted moisture turns to be vapor and comes out from the units.	Normal operation.
11	The system produces sounds.	<Indoor unit> Immediately after turning ON the power supply, indoor unit produces "ringing" sounds.	These are operating sounds of the electronic expansion valve of the indoor unit.	Normal operation. This sound becomes low after a lapse of approximately one minute.
		<Indoor and outdoor units> "Hissing" sounds are continuously produced while in cooling or defrosting operation.	These sounds are produced from gas (refrigerant) flowing respectively through the indoor and outdoor units.	Normal operation.
		<Indoor and outdoor units> "Hissing" sounds are produced immediately after the startup or stop of the system, or the startup or stop of defrosting operation.	These sounds are produced when the gas (refrigerant) stops or changes flowing.	Normal operation.
		<Indoor unit> Faint sounds are continuously produced while in cooling operation or after stopping the operation.	These sounds are produced from the drain discharge device in operation.	Normal operation.
		<Indoor unit> "Creaking" sounds are produced while in heating operation or after stopping the operation.	These sounds are produced from resin parts expanding and contracting with temperature changes.	Normal operation.
		<Indoor unit> Sounds like "trickling" or the like are produced from indoor units in the stopped state.	On VRV systems, these sounds are produced when other indoor units in operation. The reason is that the system runs in order to prevent oil or refrigerant from dwelling.	Normal operation.
		<Outdoor unit> Pitch of operating sounds changes.	The reason is that the compressor changes the operating frequency.	Normal operation.

	Symptom		Supposed Cause	Countermeasure
12	Dust comes out from the system.	Dust comes out from the system when it restarts after the stop for an extended period of time.	Dust, which has deposited on the inside of indoor unit, is blown out from the system.	Normal operation.
13	Odors come out from the system.	In operation	Odors of room, cigarettes or else adsorbed to the inside of indoor unit are blown out.	The inside of the indoor unit should be cleaned.
14	Outdoor unit fan does not rotate.	In operation	The reason is that fan revolutions are controlled to put the operation to the optimum state.	Normal operation.
15	LCD display "88" appears on the remote controller.	Immediately after turning ON the power supply	The reason is that the system is checking to be sure the remote controller is normal.	Normal operation. This code is displayed for a period of approximately one minute at maximum.
16	The outdoor unit compressor or the outdoor unit fan does not stop.	After stopping operation	It stops in order to prevent oil or refrigerant from dwelling.	Normal operation. It stops after a lapse of approximately 5 to 10 minutes.
17	The outdoor gets hot.	While stopping operation	The reason is that the compressor is warmed up to provide smooth startup of the system.	Normal operation.
18	Hot air comes out from the system even though it stops.	Hot air is felt while the system stops.	On VRV systems, small quantity of refrigerant is fed to indoor units in the stopped state when other indoor units are in operation.	Normal operation.
19	The system does not cool air well.	The system is in dry operation.	The reason is that the dry operation serves not to reduce the room temperature where possible.	Change the system to cooling operation.

2. Troubleshooting by Remote Controller

2.1 The INSPECTION / TEST Button

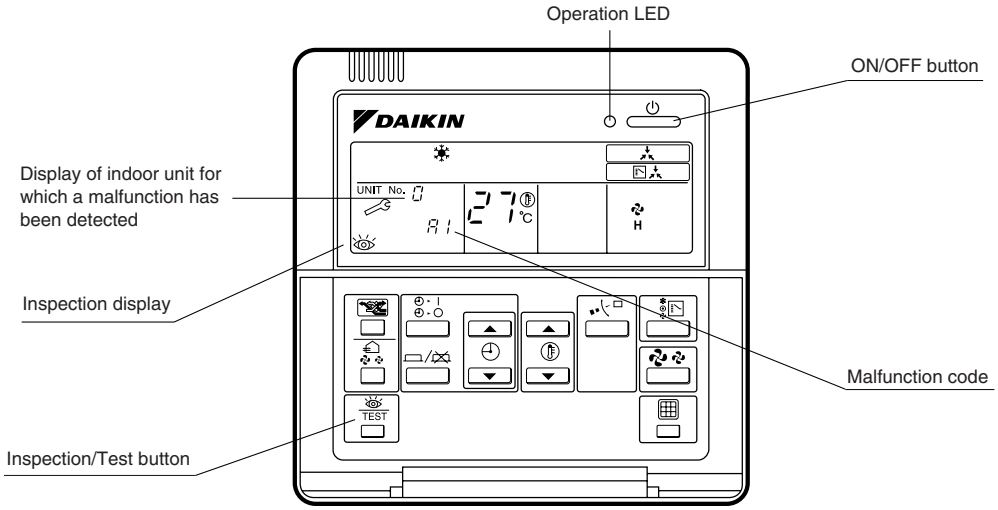
The following modes can be selected by using the [Inspection/Test Operation] button on the remote control.



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 222 for malfunction code and malfunction contents.



Note:

1. Pressing the INSPECTION/TEST button will blink the check indication.
2. While in check mode, pressing and holding the ON/OFF button for a period of five seconds or more will clear the failure history indication shown above. In this case, on the codes display, the malfunction code will blink twice and then change to "00" (=Normal), the Unit No. will change to "0", and the operation mode will automatically switch from check mode to normal mode (displaying the set temperature).

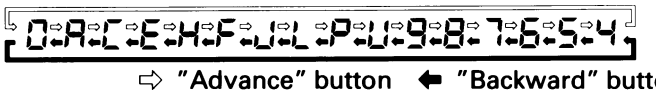
2.3 Self-diagnosis by Wireless Remote Controller

In the Case of BRC7C Type BRC7E Type BRC4C 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.

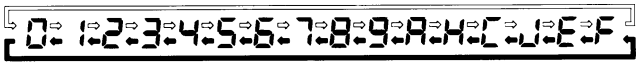
■ The upper digit of the code changes as shown below when the UP and DOWN buttons are pressed.

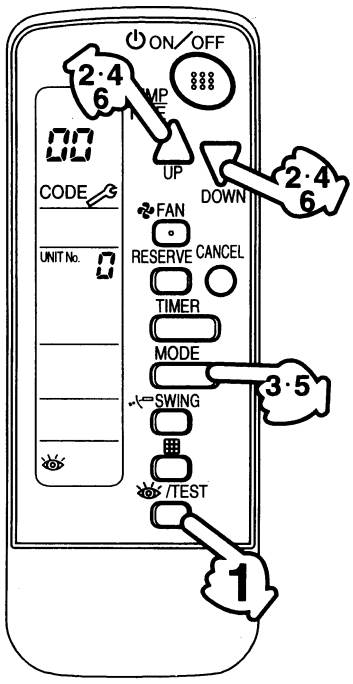


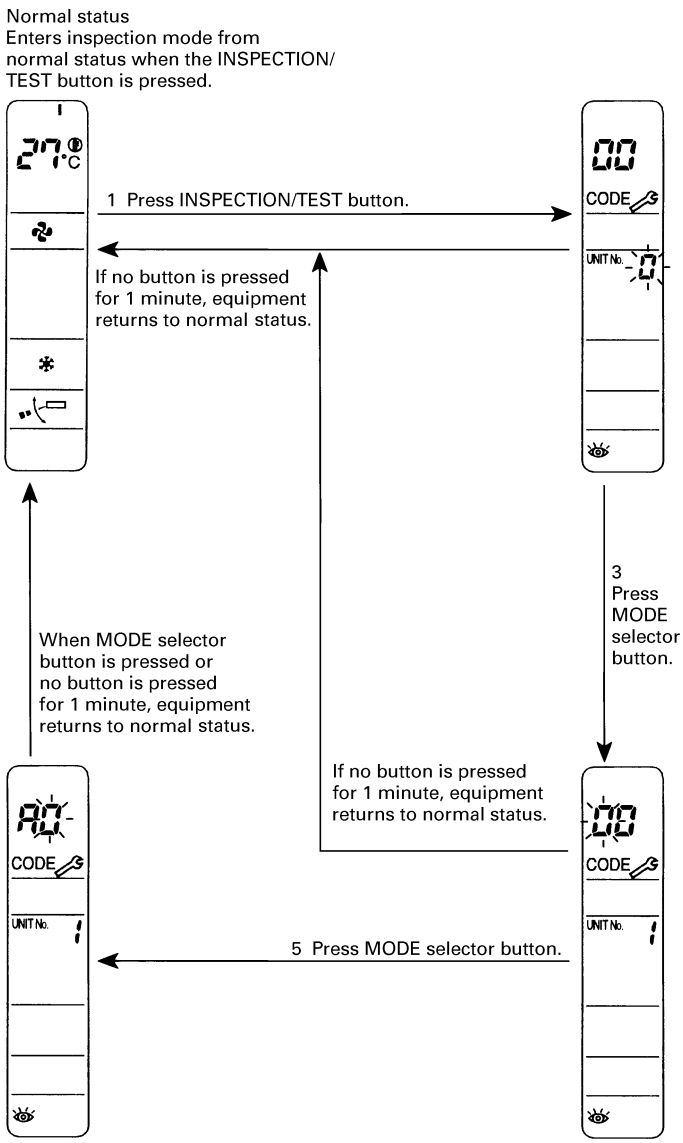
*2 Number of beeps
Continuous beep : Both upper and lower digits matched. (Malfunction code confirmed)
2 short beeps : Upper digit matched.
1 short beep : Lower digit matched.

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.

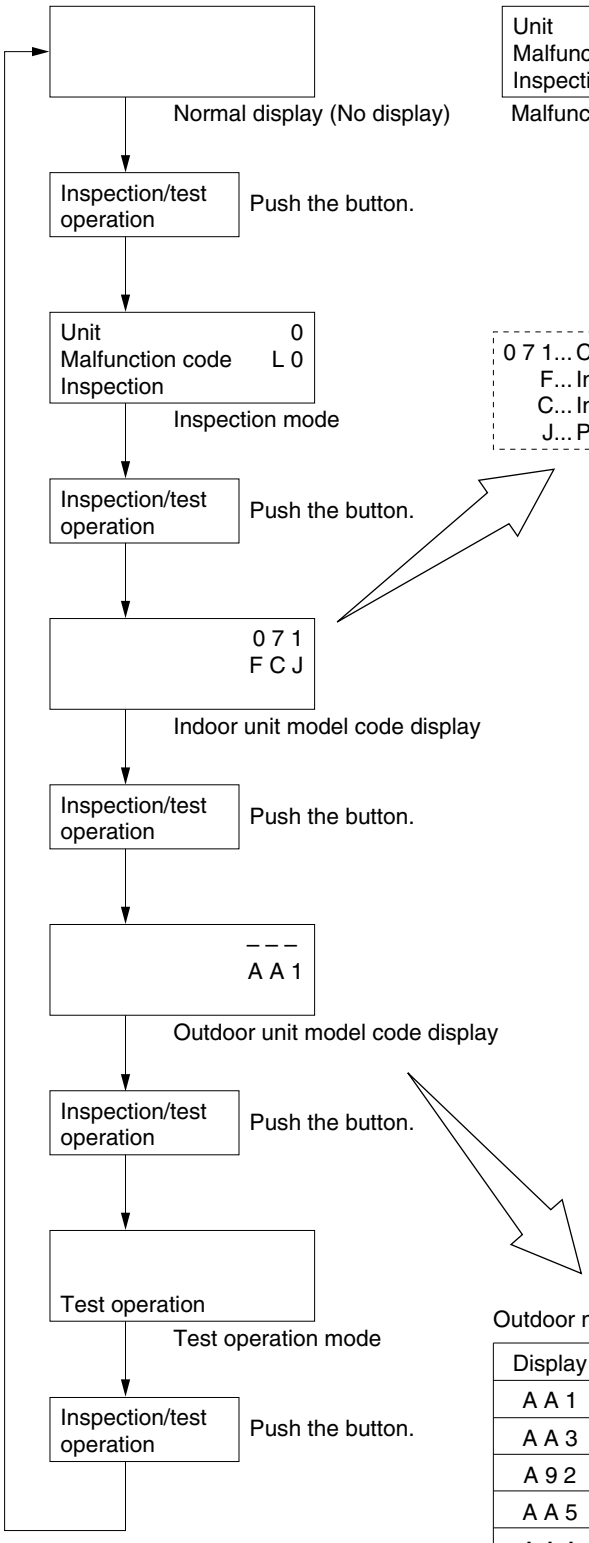
■ The lower digit of the code changes as shown below when the UP and DOWN buttons are pressed.






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

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



Unit 0
Malfunction code L 0
Inspection

Malfunction code blinks when a malfunction occurs.

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

Example of capacity code display

Example model	Display
FXCQ25	028
FXFQ63	071

Indoor unit system code

Display	Product classification	System classification
1	VRV system	(VAV indoor unit)
2	VRV system	Outdoor air processing unit
F	VRV system	Standard indoor unit
H	VRV system	New ceilling suspended cassette

Indoor unit type code

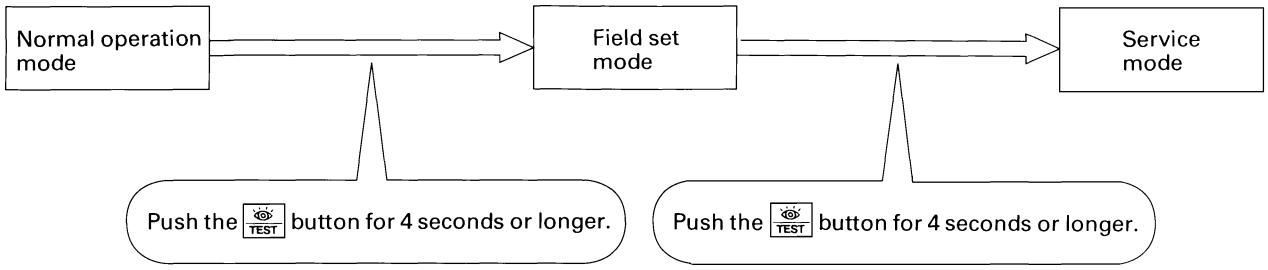
Display	Type	Model
A	Wall mounted	FXAQ
C	Double flow	FXCQ
E	Corner	FXKQ
F	Round flow	FXFQ
H	Ceiling suspended	FXHQ
J	Built-in	FXSQ
L	Floor standing	FXLQ
U	Ceiling mounted duct	FXMQ
L	Concealed floor standing type	FXNQ
6	Multi flow 600×600	FXZQ
3	Slim Ceilling mounted duct	FXDQ
5	New ceilling suspended cassette	FXUQ

Outdoor model code

Display	Type	Model
A A 1	VRV System Inverter K Series	RSXYP
A A 3	R-407C VRV PLUS Series	RXYP
A 9 2	VRV Heat Recovery Series	RSEYP
A A 5	High COP type R-407C L Series	RSXYP-L
A A A	VRV II	RXYQ-M
A A C	VRV II M/C	RXYQ-MA
A A E	VRV III	RXYQ-P

2.5 Remote Controller Service Mode

How to Enter the Service Mode



Service Mode Operation Method

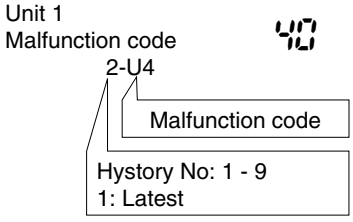
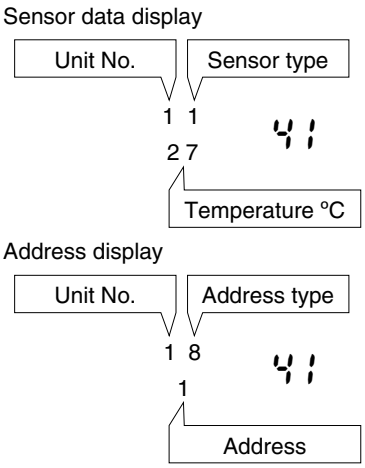
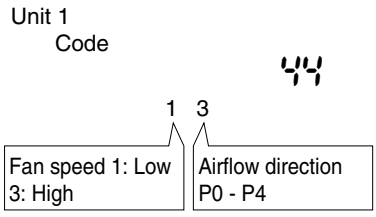
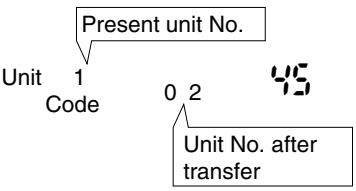
1. Select the mode No.
Set the desired mode No. with the button.
(For wireless remote controller, Mode 43 only can be set.)

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

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

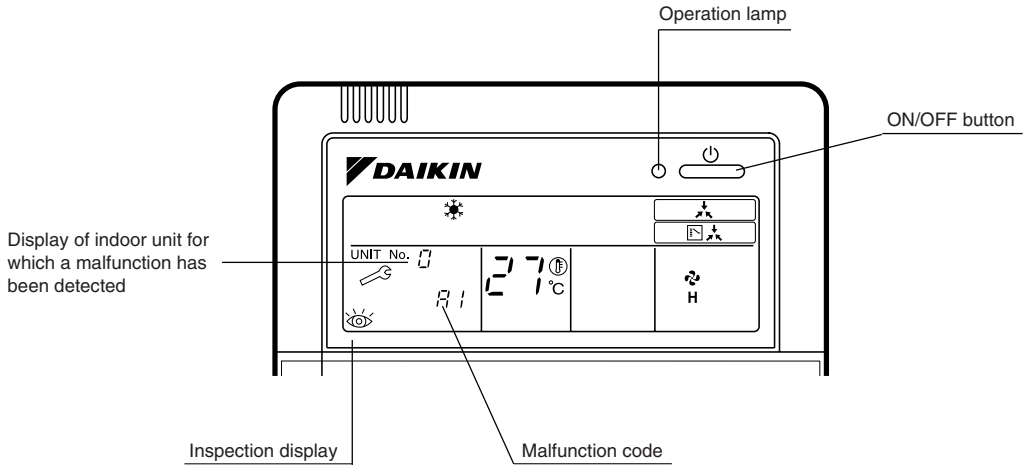
4. Define the setting contents. (Modes 44, 45)
Define by pushing the timer button.
After defining, LCD “code” changes blinking to ON.

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

Mode No	Function	Contents and operation method	Remote controller display example
40	Malfunction hysteresis display	Display malfunction hysteresis. The history No. can be changed with the button.	
41	Display of sensor and address data	Display various types of data. Select the data to be displayed with the button. Sensor data 0: Thermostat sensor in remote controller. 1: Suction 2: Liquid pipe 3: Gas pipe Address data 4: Indoor unit address 5: Outdoor unit address 6: BS unit address 7: Zone control address 8: Cool/heat group address 9: Demand / low noise address	
43	Forced fan ON	Manually turn the fan ON by each unit. (When you want to search for the unit No.) By selecting the unit No. with the button, you can turn the fan of each indoor unit on (forced ON) individually.	
44	Individual setting	Set the fan speed and airflow direction by each unit Select the unit No. with the time mode button. Set the fan speed with the button. Set the airflow direction with the button.	
45	Unit No. transfer	Transfer unit No. Select the unit No. with the button. Set the unit No. after transfer with the button.	
46 47	This function is not used by VRV III R-410A Heat Pump 60Hz.		

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.



○: ON ●: OFF ◑: Blink

	Malfunction code	Operation lamp	Malfunction contents	Page Referred
Indoor Unit	A0	◑	Error of external protection device	228
	A1	◑	PC board defect, E^2 PROM defect	229
	A3	◑	Malfunction of drain level control system (S1L)	230
	A6	◑	Fan motor (M1F) lock, overload	232 233
	A7	○	Malfunction of swing flap motor (M1S)	236
	A8	◑	Abnormal power supply voltage	238
	A9	◑	Malfunction of moving part of electronic expansion valve (Y1E)	239
	AF	○	Drain level above limit	241
	AH	○	Malfunction of air filter maintenance	—
	AJ	◑	Malfunction of capacity Determination Device	242
	C1	◑	Failure of transmission (between indoor unit PC board and fan PC board)	243
	C4	◑	Malfunction of thermistor (R2T) for heat exchange (loose connection, disconnection, short circuit, failure)	245
	C5	◑	Malfunction of thermistor (R3T) for gas pipes (loose connection, disconnection, short circuit, failure)	246
	C6	◑	Failure of combination (between indoor unit PC board and fan PC board)	247
	C9	◑	Malfunction of thermistor (R1T) for suction air (loose connection, disconnection, short circuit, failure)	248
	CC	○	Malfunction of humidity sensor system	249
	CJ	○	Malfunction of thermostat sensor in remote controller	250
Outdoor Unit	E1	◑	PC board defect	251
	E2	◑	Detection of earth leakage by leak detection PC board ass'y	252
	E3	◑	Actuation of high pressure switch	254
	E4	◑	Actuation of low pressure sensor	256
	E5	◑	Inverter compressor motor lock	258
	E6	◑	STD compressor motor overcurrent/lock	260
	E7	◑	Malfunction of outdoor unit fan motor	261
	E9	◑	Malfunction of moving part of electronic expansion valve (Y1E, Y2E)	264
	F3	◑	Abnormal discharge pipe temperature	266
	F6	◑	Refrigerant overcharged	267
	H7	◑	Abnormal outdoor fan motor signal	268
	H9	◑	Malfunction of thermistor (R1T) for outdoor air (loose connection, disconnection, short circuit, failure)	269
	J2	◑	Current sensor malfunction	270
	J3	◑	Malfunction of discharge pipe thermistor (R3, R31~33T) (loose connection, disconnection, short circuit, failure)	271
	J5	◑	Malfunction of thermistor (R2T,R7T) for suction pipe (loose connection, disconnection, short circuit, failure)	272
	J6	◑	Malfunction of thermistor (R4T) for outdoor unit heat exchanger (loose connection, disconnection, short circuit, failure)	273
	J7	◑	Malfunction of liquid pipe thermistor (R6T)	274
	J9	◑	Malfunction of subcooling heat exchanger gas pipe thermistor (R5T)	275
	JA	◑	Malfunction of high pressure sensor	276
	JC	◑	Malfunction of low pressure sensor	277
	L0	◑	Inverter system error	—
	L4	◑	Malfunction of inverter radiating fin temperature rise	278
	L5	◑	Inverter compressor abnormal	280
	L8	◑	Inverter current abnormal	282

○: ON ●: OFF ◑: Blink

	Malfunction code	Operation lamp	Malfunction contents	Page Referred
Outdoor Unit	L9	◑	Inverter start up error	284
	LA	◑	Malfunction of power unit	—
	LC	◑	Malfunction of transmission between inverter and control PC board	286
	P1	◑	Inverter over-ripple protection	289
	P4	◑	Malfunction of inverter radiating fin temperature rise sensor	290
	PJ	◑	Faulty field setting after replacing main PC board or faulty combination of PC board	292
System	U0	○	Low pressure drop due to refrigerant shortage or electronic expansion valve failure	293
	U1	◑	Reverse phase / open phase	294
	U2	◑	Power supply insufficient or instantaneous failure	295
	U3	◑	Check operation not executed	298
	U4	◑	Malfunction of transmission between indoor units	299
	U5	◑	Malfunction of transmission between remote controller and indoor unit	301
	U5	●	Failure of remote controller PC board or setting during control by remote controller	301
	U7	◑	Malfunction of transmission between outdoor units	302
	U8	◑	Malfunction of transmission between main and sub remote controllers (malfunction of sub remote controller)	304
	U9	◑	Malfunction of transmission between indoor and outdoor units in the same system	305
	UA	◑	Improper combination of indoor and outdoor units, indoor units and remote controller	306
	UC	○	Address duplication of centralized controller	308
	UE	◑	Malfunction of transmission between centralized controller and indoor unit	309
	UF	◑	System is not set yet	312
	UH	◑	Malfunction of system, refrigerant system address undefined	313
Central Remote Controller and Schedule Timer	M1	○ or ●	PC board defect	315
	M8	○ or ●	Malfunction of transmission between optional controllers for centralized control	316
	MA	○ or ●	Improper combination of optional controllers for centralized control	318
	MC	○ or ●	Address duplication, improper setting	320
Heat Reclaim Ventilation	64	○	Indoor unit's air thermistor error	—
	65	○	Outside air thermistor error	—
	6A	○	Damper system alarm	—
	6A	◑	Damper system + thermistor error	—
	6F	○	Malfunction of simple remote controller	—
	6H	○	Malfunction of door switch or connector	—
	94	◑	Internal transmission error	—

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

Malfunction code indication by outdoor unit PC board

<Monitor mode>

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

* Refer to P.191 for Monitor mode.

<Selection of setting item>

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

* Refer to P.191 for Monitor mode.

<Confirmation of malfunction 1>

Push the RETURN (BS3) button once to display "First digit" of malfunction code.

<Confirmation of malfunction 2>

Push the SET (BS2) button once to display "Second digit" of malfunction code.

Detail description on next page.

<Confirmation of malfunction 3>

Push the SET (BS2) button once to display "malfunction location".

<Confirmation of malfunction 4>

Push the SET (BS2) button once to display "master or slave 1 or slave 2" and "malfunction location".

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

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

Contents of malfunction		Malfunction code
PC board malfunction	PC board malfunction	E1
	Faulty PC board	
Leak detection PC board	Indicate electric leakage detected by the leak detection PC board	E2
Abnormal discharge pressure	HPS activated	E3
Abnormal suction pressure	Abnormal Pe	E4
Compressor lock	Detection of INV compressor lock	E5
Activation of OC	Detection of STD1 compressor lock	E6
	Detection of STD2 compressor lock	
Over load, over current, abnormal lock of outdoor unit fan motor	Instantaneous over current of DC fan 1 motor	E7
	Detection of DC fan 1 motor lock	
	Instantaneous over current of DC fan 2 motor	
	Detection of DC fan 2 motor lock	
Malfunction of electronic expansion valve	EV1	E9
	EV2	
	EV3	
Abnormal position signal of outdoor unit fan motor	Abnormal position signal of DC fan 1 motor	H7
	Abnormal position signal of DC fan 2 motor	
Faulty sensor of outdoor air temperature	Faulty Ta sensor (short)	H9
	Faulty Ta sensor (open)	
Abnormal discharge pipe temperature	Abnormal Td	F3
Abnormal heat exchanger temperature	Refrigerant over charge	F6
Faulty current sensor	Faulty CT1 sensor	J2
	Faulty CT2 sensor	
Faulty sensor of discharge pipe temperature	Faulty Tdi sensor (short)	J3
	Faulty Tds1 sensor (short)	
	Faulty Tds2 sensor (short)	
	Faulty Tdi sensor (open)	
	Faulty Tds1 sensor (open)	
	Faulty Tds2 sensor (open)	
Faulty sensor of suction pipe temperature	Faulty Ts1 sensor (short)	J5
	Faulty Ts1 sensor (open)	
	Faulty Ts2 sensor (short)	
	Faulty Ts2 sensor (open)	
Faulty sensor of heat exchanger temperature	Faulty Tb sensor (short)	J6
	Faulty Tb sensor (open)	
Malfunction of the liquid pipe temperature sensor	Faulty Tl sensor (short)	J7
	Faulty Tl sensor (open)	
Faulty sensor of subcool heat exchanger temperature	Faulty Tsh sensor (short)	J9
	Faulty Tsh sensor (open)	
Faulty sensor of discharge pressure	Faulty Pc sensor (short)	JA
	Faulty Pc sensor (open)	
Faulty sensor of suction pressure	Faulty Pe sensor (short)	JC
	Faulty Pe sensor (open)	
Instantaneous power failure	∗NO display on remote controller (Judge during compressor operation)	(L2)
Inverter radiation fin temperature rising	Over heating of inverter radiation fin temperature	L4
DC output over current	Inverter instantaneous over current	L5
	IGBT malfunction	L5
Electronic thermal	Electronic thermal switch 1	L8
	Electronic thermal switch 2	
	Out-of-step	
	Speed down after startup	
	Lightening detection	
Stall prevention (Limit time)	Stall prevention (Current increasing)	L9
	Stall prevention (Faulty start up)	
	Abnormal wave form in startup	
	Out-of-step	
Transmission error between inverter and outdoor unit	Inverter transmission error	LC

○: ON ●: OFF ◑:Blink

Malfunction code	Confirmation of malfunction 1							Confirmation of malfunction 2							Confirmation of malfunction 3							Confirmation of malfunction 4						
	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H1P	H2P	H3P	H4P	H5P	H6P	H7P
E1	◑			●	●	◑	◑	◑			●	●	●	◑	◑			●	●	●	●	◑			●	●	◑	◑
								◑			●	●	●	◑	◑			●	●	●	●	◑			●	◑	◑	◑
E2								◑			●	●	◑	●	◑			●	●	●	●	◑			●	●		
E3								◑			●	●	◑	◑	◑			●	●	●	●	◑			●	●		
E4								◑			●	◑	●	●	◑			●	●	●	●	◑			●	●		
E5								◑			●	◑	●	◑	◑			●	●	●	●	◑			●	●		
E6								◑			●	◑	◑	●	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	●	◑			●	◑		
E7								◑			●	◑	◑	◑	◑			●	●	●	●	◑			●	●		∗1
															◑			●	●	●	●	◑			●	◑		
															◑			●	●	●	◑	◑			●	●		
															◑			●	●	●	◑	◑			●	◑		
E9								◑			◑	●	●	◑	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	●	◑			●	◑		
															◑			●	●	●	●	◑			◑	●		
H7	◑			●	◑	●	●	◑			●	◑	◑	◑	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	◑	◑			●	●		
H9								◑			◑	●	●	◑	◑			●	●	●	●	◑			●	●		∗1
															◑			●	●	●	◑	◑			●	●		
F3	◑			●	◑	●	◑	◑			●	●	◑	◑	◑			●	●	●	●	◑			●	●		∗1
F6								◑			●	◑	◑	●	◑			●	●	●	●	◑			●	●	◑	◑
J2	◑			●	◑	◑	●	◑			●	●	◑	●	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	●	◑			●	◑		
J3								◑			●	●	◑	◑	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	●	◑			●	◑		
															◑			●	●	●	●	◑			◑	●		
															◑			●	●	●	◑	◑			●	●		
															◑			●	●	●	◑	◑			●	◑		
															◑			●	●	●	◑	◑			◑	●		
J5								◑			●	◑	●	◑	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	◑	◑			●	●		
															◑			●	●	●	●	◑			●	◑		∗1
															◑			●	●	●	◑	◑			●	◑		
J6								◑			●	◑	◑	●	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	◑	◑			●	●		
J7								◑			●	◑	◑	◑	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	◑	◑			●	●		
J9								◑			◑	●	●	◑	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	◑	◑			●	●		
JA								◑			◑	●	◑	●	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	◑	◑			●	●		
JC								◑			◑	◑	●	●	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	◑	◑			●	●		
(L2)	◑			●	◑	◑	◑	◑			●	●	◑	●	◑			●	●	●	●	◑			●	●		
L4								◑			●	◑	●	●	◑			●	●	●	●	◑			●	●		
L5								◑			●	◑	●	◑	◑			●	●	●	●	◑			●	●		
L5															◑			●	●	●	●	◑			●	◑		
L8								◑			◑	●	●	●	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	●	◑			●	◑		∗1
															◑			●	●	●	●	◑			◑	●		
															◑			●	●	●	◑	◑			●	●		
L9								◑			◑	●	●	◑	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	●	◑			●	◑		
															◑			●	●	●	●	◑			◑	●		
LC								◑			◑	◑	●	●	◑			●	●	●	●	◑			●	◑		

Display of contents of malfunction (first digit)

Display of contents of malfunction (second digit)

Display 1 of malfunction in detail

Display 2 of malfunction in detail

∗1		
●	●	Master
●	◑	Slave1
◑	●	Slave2
◑	◑	System

<Monitor mode>

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

* Refer to P.191 for Monitor mode.

<Selection of setting item>

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

* Refer to P.191 for Monitor mode.

<Confirmation of malfunction 1>

Push the RETURN (BS3) button once to display "First digit" of malfunction code.

<Confirmation of malfunction 2>

Push the SET (BS2) button once to display "Second digit" of malfunction code.

Detail description on next page.

<Confirmation of malfunction 3>

Push the SET (BS2) button once to display "malfunction location".

<Confirmation of malfunction 4>

Push the SET (BS2) button once to display "master or slave 1 or slave 2" and "malfunction location".

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

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

Contents of malfunction		Malfunction code
Open phase/Power supply imbalance	Imbalance of inverter power supply voltage	P1
Faulty temperature sensor inside switch box	Faulty thermistor of inverter box	P3
Faulty temperature sensor of inverter radiation fin	Faulty thermistor of inverter fin	P4
Incorrect combination of Inverter and fan driver	Incorrect combination of inverter	PJ
	Incorrect combination of fan driver 1	
	Incorrect combination of fan driver 2	
Gas shortage	Gas shortage alarm	U0
Reverse phase	Reverse phase error	U1
Abnormal power supply voltage	Insufficient Inverter voltage	U2
	Inverter open phase (phase T)	
	Charging error of capacitor in inverter main circuit	
No implementation of test-run		U3
Transmission error between indoor and outdoor unit	I/O transmission error	U4
	I/O transmission error	
Transmission error between outdoor units, transmission error between thermal storage units, duplication of IC address	Sequential startup ADP alarm	U7
	Sequential startup ADP malfunction	U7
	Malfunction of transmission between multi units (Multi 1)	
	Malfunction of transmission between multi units (Multi 2)	
	Abnormal multi horsepower setting	
	Abnormal multi address setting	
	Excessive multi connections	
	Multi system malfunction	
Transmission error of other system	Indoor unit system abnormal in other system or other indoor unit system abnormal in own system	U9
Erroneous field setting	System transmission malfunction	UA
	Over connection malfunction of indoor units	
	Malfunction of field setting	
	Refrigerant abnormal	
	Multi-ID abnormal	
	Alarm of TSS field setting	UA
	Alarm of CT address setting	
Faulty system malfunction	Wiring error (Auto-address error)	UH
Transmission error in accessory devices	Malfunction of multi-level connection	UJ
	Alarm of multi-level connection	UJ
Conflict in wiring and piping, no setting for system	Conflict in wiring and piping	UF

○: ON ●: OFF ◑:Blink

Malfunction code	Confirmation of malfunction 1							Confirmation of malfunction 2							Confirmation of malfunction 3							Confirmation of malfunction 4						
	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H1P	H2P	H3P	H4P	H5P	H6P	H7P	H1P	H2P	H3P	H4P	H5P	H6P	H7P
P1	◑			◑	●	●	●	◑			●	●	●	◑	◑			●	●	●	●	◑			●	●		
P3								◑			●	●	◑	◑	◑			●	●	●	●	◑			●	●		
P4								◑			●	◑	●	●	◑			●	●	●	●	◑			●	●	＊1	
PJ								◑			◑	◑	●	◑	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	●	◑			●	◑		
															◑			●	●	●	●	◑			◑	●		
U0	◑			◑	●	●	◑	◑			●	●	●	●	◑			●	●	●	●	◑			●	●	◑	◑
U1								◑			●	●	●	◑	◑			●	●	●	●	◑			●	●		
U2								◑			●	●	◑	●	◑			●	●	●	●	◑			●	●		
															◑			●	●	●	●	◑			●	◑		
U3								◑			●	●	◑	◑	◑			●	●	●	●	◑			●	●	◑	◑
															◑			●	●	●	●	◑			●	◑	◑	◑
U4								◑			●	◑	●	●	◑			●	●	●	●	◑			●	●	◑	◑
															◑			●	●	●	●	◑			●	◑	◑	◑
U7								◑			●	◑	◑	◑	◑			●	●	●	●	◑			●	◑	◑	◑
U7															◑			●	●	●	●	◑			●	●	◑	◑
															◑			●	●	●	●	◑			◑	●	◑	◑
															◑			●	●	●	●	◑			◑	◑	◑	◑
															◑			●	●	●	◑	◑			●	●	◑	◑
															◑			●	●	●	◑	◑			●	◑	◑	◑
															◑			●	●	●	◑	◑			◑	●	◑	◑
															◑			●	●	●	◑	◑			◑	◑	◑	◑
U9								◑			◑	●	●	◑	◑			●	●	●	●	◑			●	●	◑	◑
UA								◑			◑	●	◑	●	◑			●	●	●	●	◑			●	●	◑	◑
															◑			●	●	●	●	◑			●	◑	◑	◑
															◑			●	●	●	●	◑			◑	●	◑	◑
															◑			●	●	●	◑	◑			●	●	◑	◑
															◑			●	●	●	◑	◑			●	◑	◑	◑
UA															◑			●	●	●	◑	◑			◑	●	◑	◑
															◑			●	●	●	◑	◑			◑	◑	◑	◑
UH								◑			◑	●	◑	◑	◑			●	●	●	●	◑			●	●	◑	◑
UJ								◑			◑	◑	●	◑	◑			●	●	●	●	◑			●	●	＊1	
UJ															◑			●	●	●	●	◑			●	◑		
UF								◑			◑	◑	◑	◑	◑			●	●	●	●	◑			●	●	◑	◑

Display of contents of malfunction (first digit)

Display of contents of malfunction (second digit)

Display 1 of malfunction in detail

Display 2 of malfunction in detail

＊1		
●	●	Master
●	◑	Slave1
◑	●	Slave2
◑	◑	System

3. Troubleshooting by Indication on the Remote Controller

3.1 "A0" Indoor Unit: Error of External Protection Device

Remote Controller Display

A0

Applicable Models

All indoor unit models

Method of Malfunction Detection

Detect open or short circuit between external input terminals in indoor unit.

Malfunction Decision Conditions

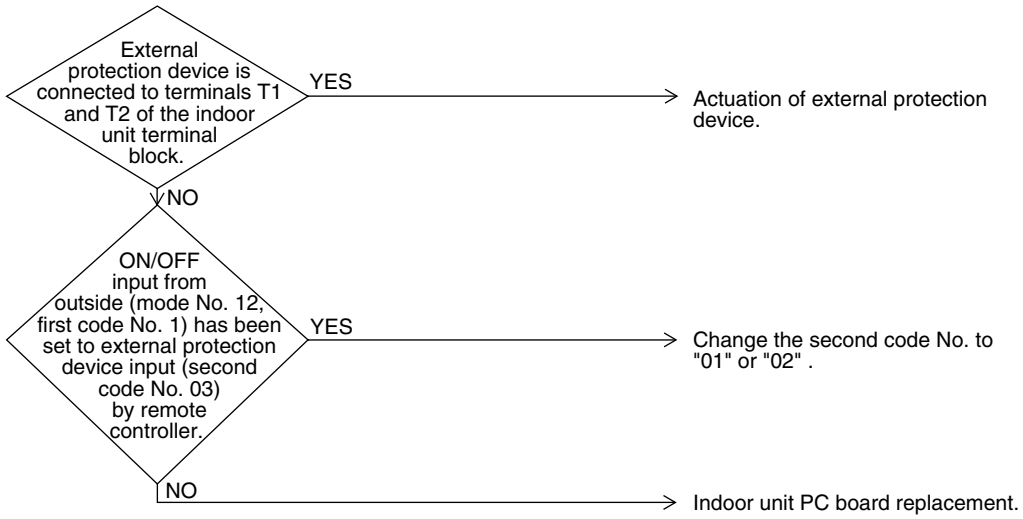
When an open circuit occurs between external input terminals with the remote controller set to "external ON/OFF terminal".

Supposed Causes

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

Troubleshooting

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



3.2 "A1" Indoor Unit: PC Board Defect

Remote Controller Display

A1

Applicable Models

All indoor unit models

Method of Malfunction Detection

Check data from E²PROM.

Malfunction Decision Conditions

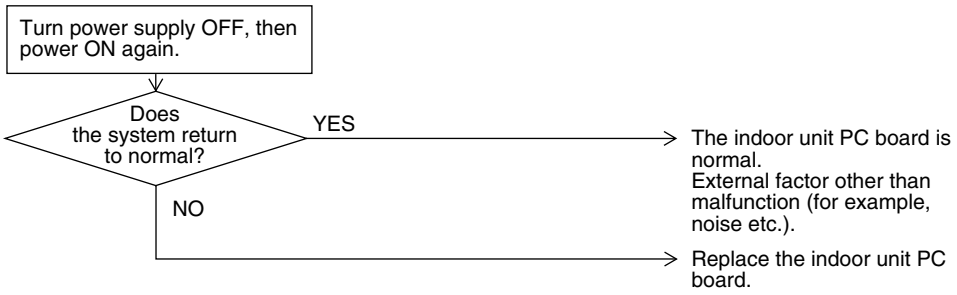
When data could not be correctly received from the E²PROM
E²PROM : Type of nonvolatile memory. Maintains memory contents even when the power supply is turned off.

Supposed Causes

- Defect of indoor unit PC board

Troubleshooting

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

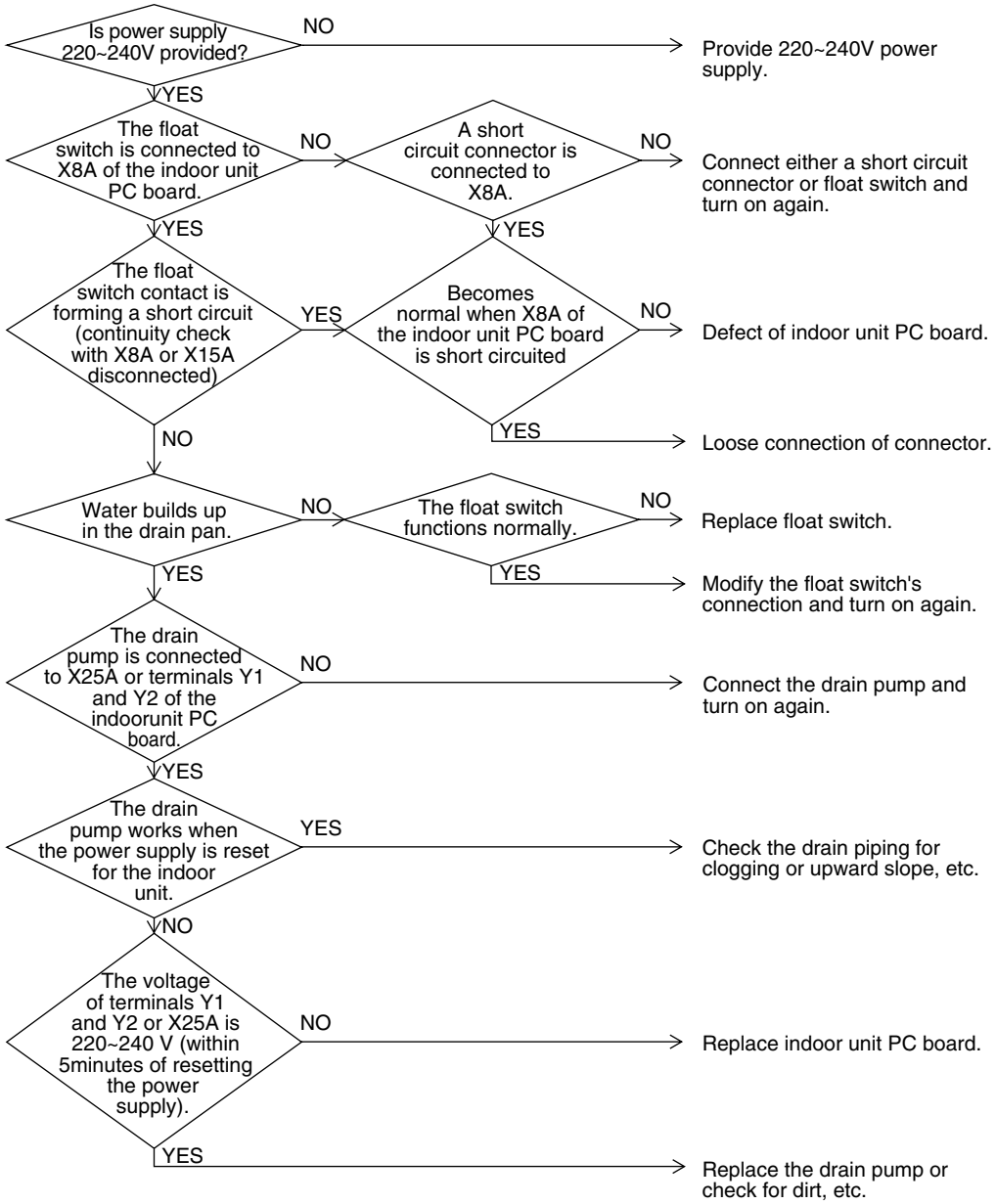


3.3 "A3" Indoor Unit: Malfunction of Drain Level Control System (S1L)

Remote Controller Display	A3
Applicable Models	FXCQ, FXFQ, FXSQ, FXKQ, FXDQ, FXMQ, FXHQ (Option), FXMQ200,250M (Option), FXAQ (Option)
Method of Malfunction Detection	By float switch OFF detection
Malfunction Decision Conditions	When rise of water level is not a condition and the float switch goes OFF.
Supposed Causes	■ 220~240V power supply is not provided ■ Defect of float switch or short circuit connector ■ Defect of drain pump ■ Drain clogging, upward slope, etc. ■ Defect of indoor unit PC board ■ Loose connection of connector

Troubleshooting

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



3.4 "A6" Indoor Unit: Fan Motor (M1F) Lock, Overload

Remote Controller Display

A6

Applicable Models

All indoor units (except FXMQ40~125P)

Method of Malfunction Detection

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

Malfunction Decision Conditions

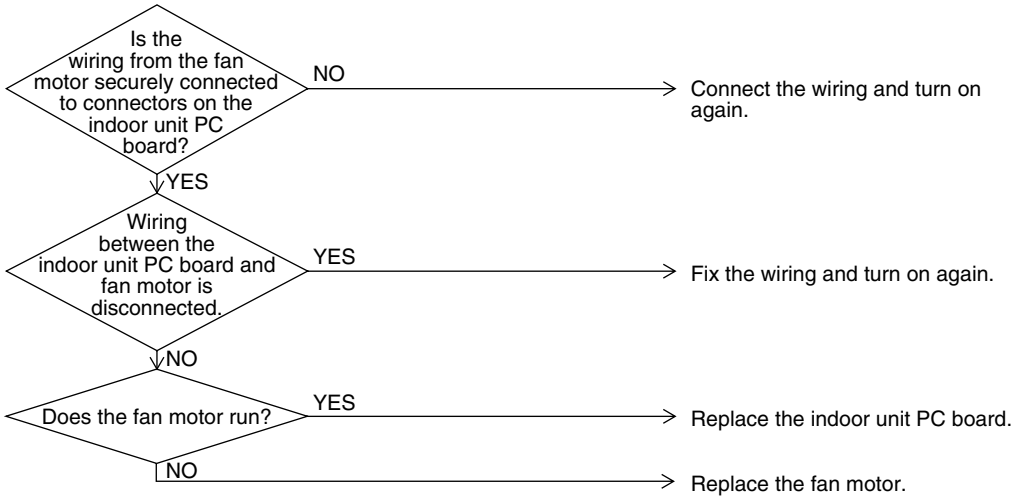
When number of turns can't be detected even when output voltage to the fan is maximum

Supposed Causes

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

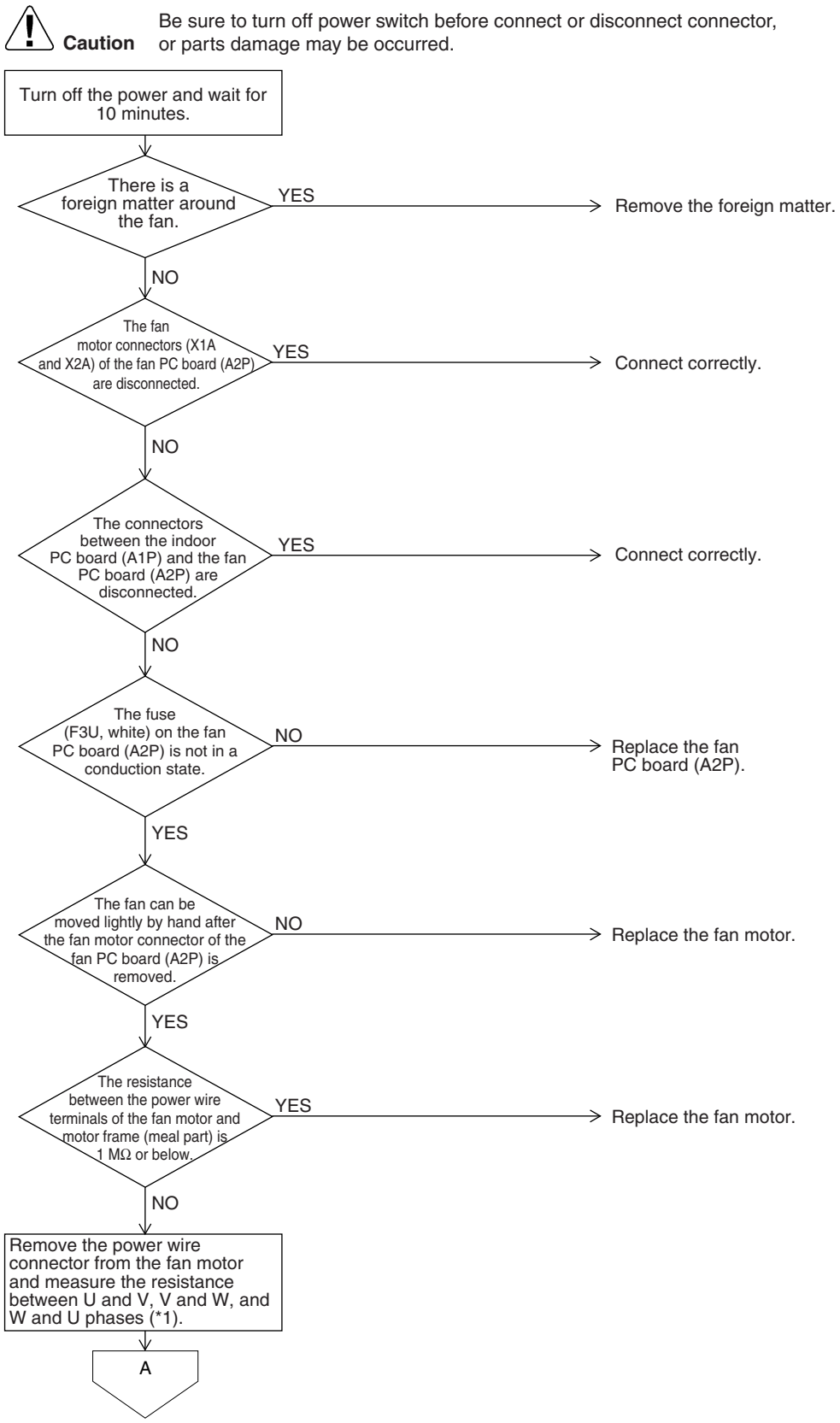
Troubleshooting

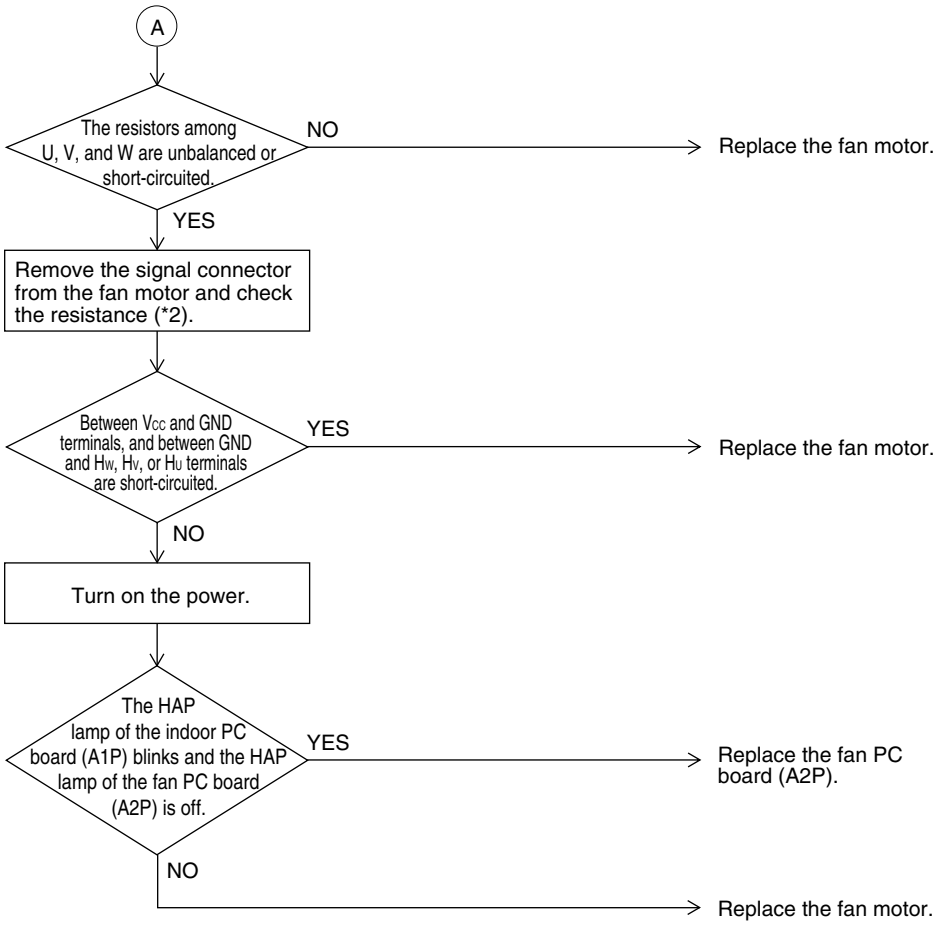
Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



Remote Controller Display	
Applicable Models	FXMQ40~125P
Method of Malfunction Detection	Detection from the current flow on the fan PC board. Detection from the RPM of the fan motor in operation. Detection from the position signal of the fan motor. Detection from the current flow on the fan PC board when the fan motor starting operation.
Malfunction Decision Conditions	■ An overcurrent flows. ■ The RPM is less than a certain level for 6 seconds. ■ A position error in the fan rotor continues for 5 seconds or more. ■ An overcurrent flows.
Supposed Causes	■ The clogging of a foreign matter. ■ The disconnection of the fan motor connectors (X1A and X2A). ■ The disconnection of the connectors between the indoor PC board (A1P) and fan PC board (A2P). ■ A failure in fan PC board (A2P). ■ A failure in the fan motor.

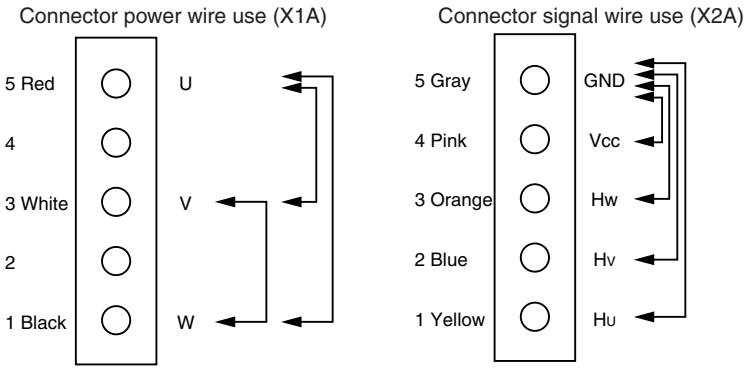
Troubleshooting





*1. Measurement of power wire connector.
Remove the X1A connector from the fan PC board (A2P) and measure the resistance between the U and V, V and W, and W and U phases of the motor connector (with five conductors) and check that each phase are balanced (within a permissible dispersion range of ±20%).

*2. Measurement of signal wire connector.
Remove the X2A connector and measure the resistance between GND and Vcc, Hw, Hv, or Hu terminals of the motor connector (with five conductors).

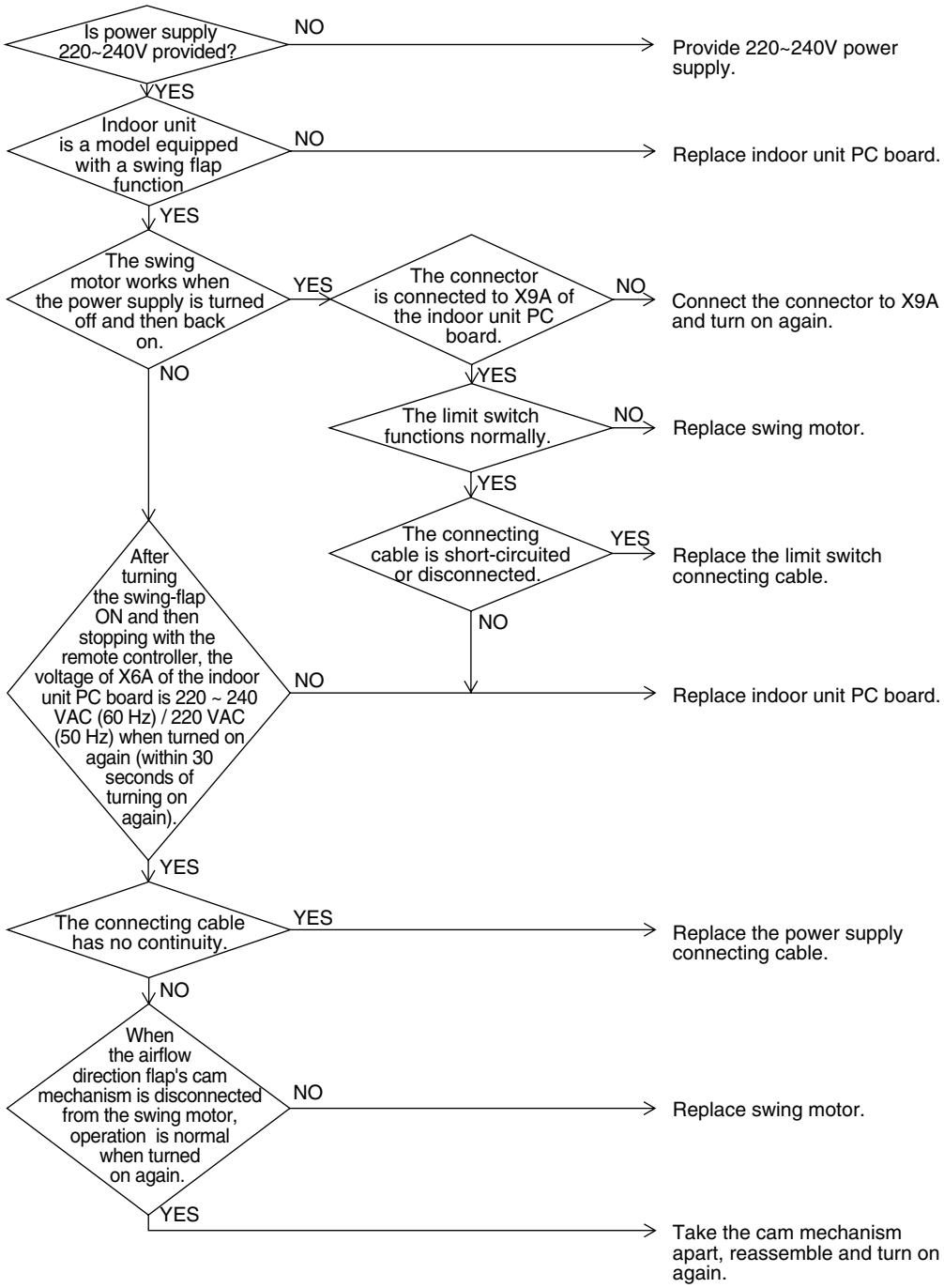


3.5 "A7" Indoor Unit: Malfunction of Swing Flap Motor (M1S)

Remote Controller Display	A7
Applicable Models	FXCQ, FXHQ, FXKQ
Method of Malfunction Detection	Utilizes ON/OFF of the limit switch when the motor turns.
Malfunction Decision Conditions	When ON/OFF of the microswitch for positioning cannot be reversed even though the swing flap motor is energized for a specified amount of time (about 30 seconds).
Supposed Causes	■ Defect of swing motor ■ Defect of connection cable (power supply and limit switch) ■ Defect of airflow direction adjusting flap-cam ■ Defect of indoor unit PC board

Troubleshooting

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



3.6 "A8" Indoor Unit: Abnormal Power Supply Voltage

Remote Controller Display

A8

Applicable Models

FXMQ40~125P

Method of Malfunction Detection

Detect malfunction checking the input voltage of fan motor.

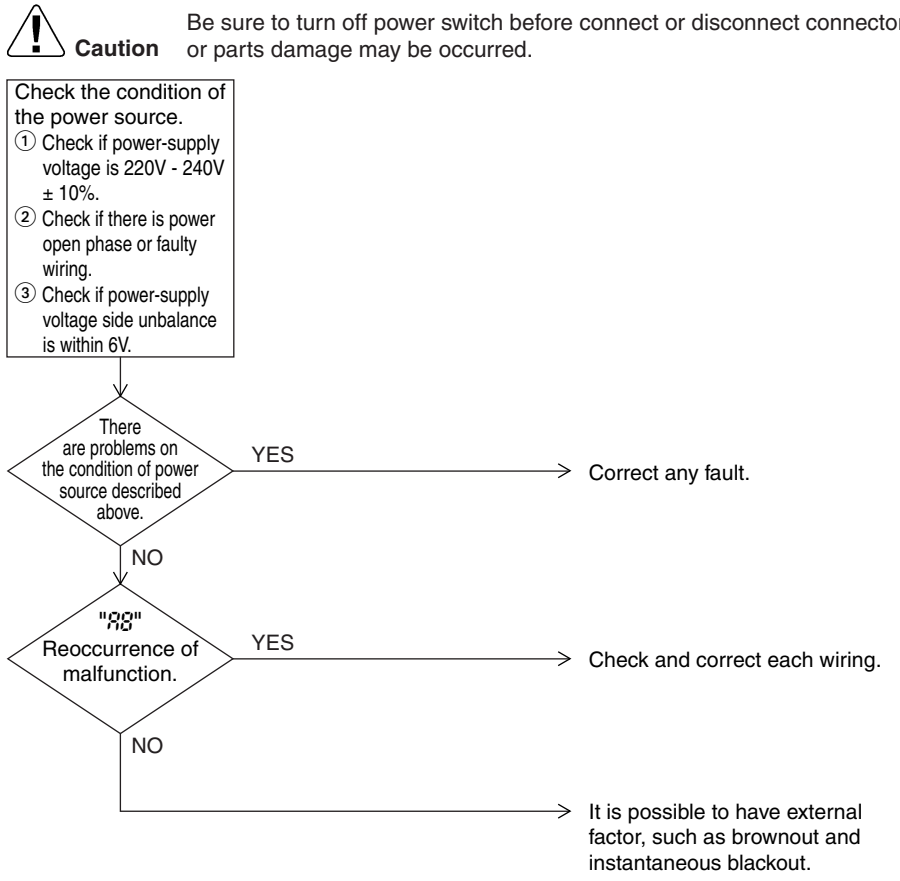
Malfunction Decision Conditions

When the input voltage of fan motor is 150V and below, or 386V and above.

Supposed Causes

The possible causes are:
- Power-supply voltage malfunction.
- Connection defect on signal line.
- Wiring defect.
- Instantaneous blackout, others.

Troubleshooting



3.7 "A9" Indoor Unit: Malfunction of Moving Part of Electronic Expansion Valve (Y1E)

Remote Controller Display

A9

Applicable Models

All indoor unit models

Method of Malfunction Detection

Use a microcomputer to check the electronic expansion valve for coil conditions.

Malfunction Decision Conditions

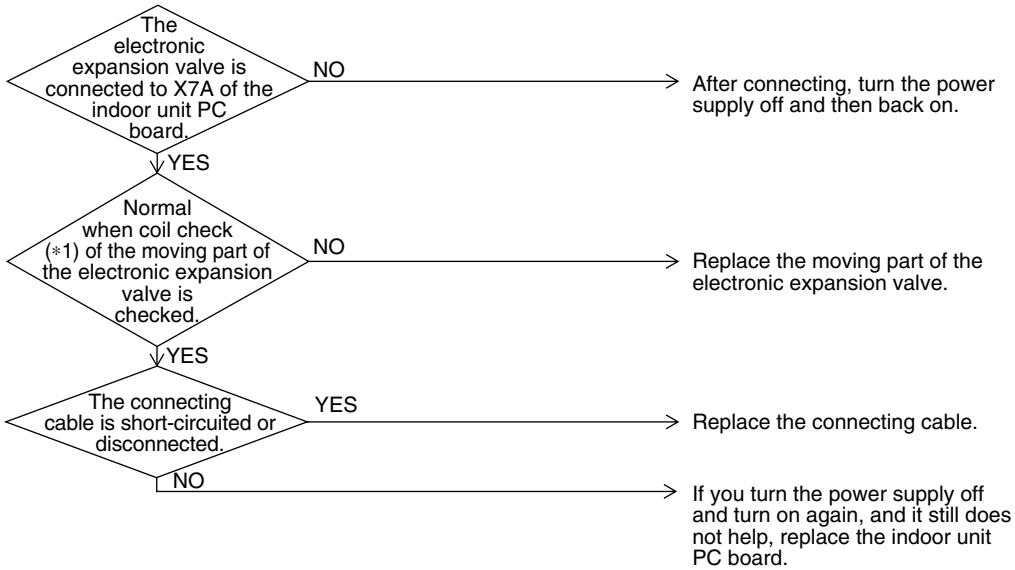
When the pin input of the electronic expansion valve is not normal while in the initialization of the microcomputer.

Supposed Causes

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

Troubleshooting

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



∗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		×	○ 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

3.8 "AF" Indoor Unit: Drain Level above Limit

Remote Controller Display

AF

Applicable Models

FXCQ, FXFQ, FXSQ, FXKQ, FXMQ, FXDQ

Method of Malfunction Detection

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

Malfunction Decision Conditions

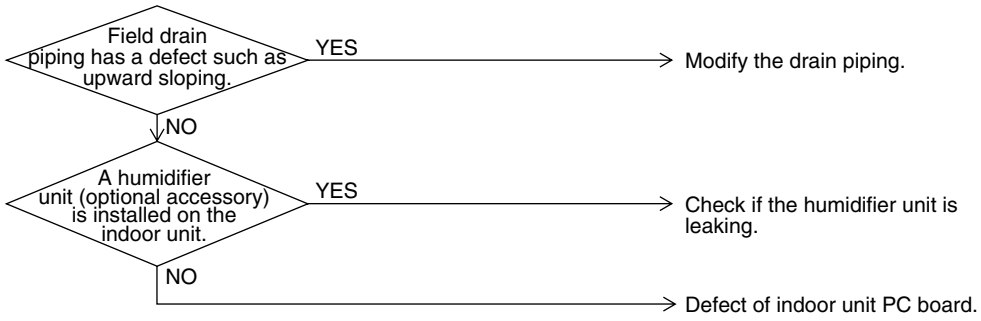
When the float switch changes from ON to OFF while the compressor is in non-operation.

Supposed Causes

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

Troubleshooting

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



3.9 "A1" Indoor Unit: Malfunction of Capacity Determination Device

Remote controller display

A1

Applicable Models

All indoor unit models

Method of Malfunction Detection

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

Malfunction Decision Conditions

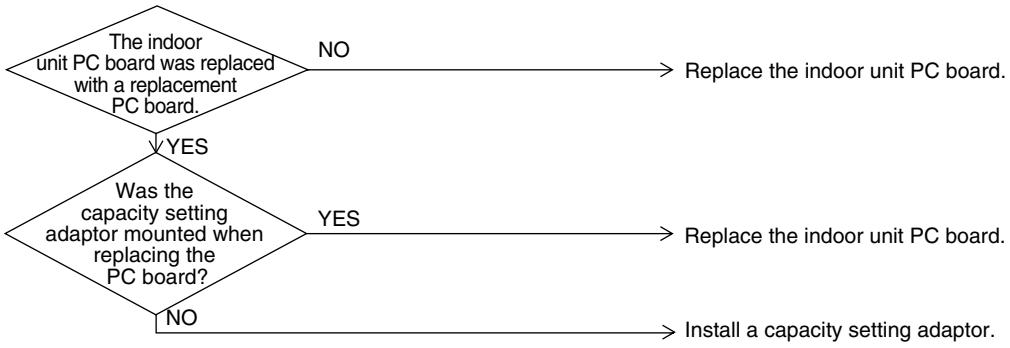
Operation and:
When the capacity code is not contained in the PC board's memory, and the capacity setting adaptor is not connected.

Supposed Causes

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

Troubleshooting

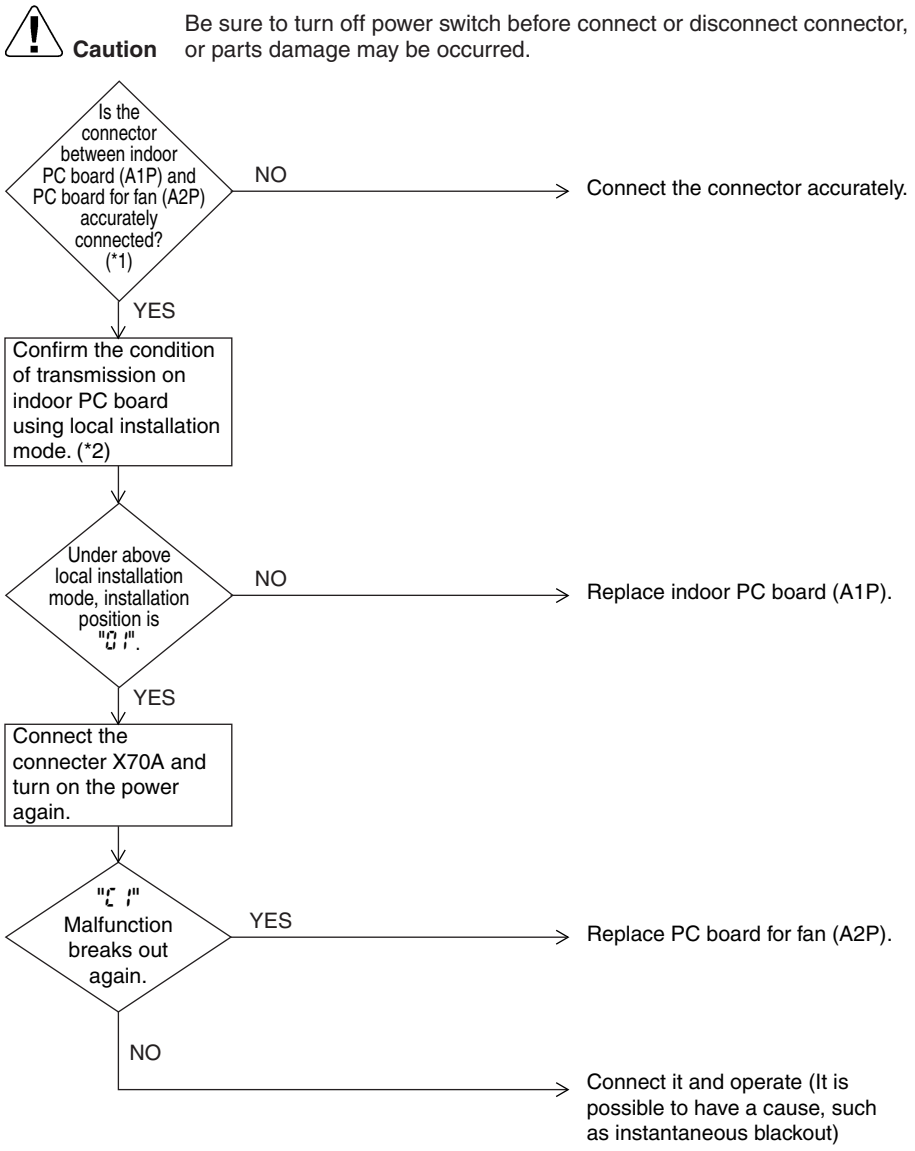
Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



3.10 "E 1" Indoor Unit: Failure of Transmission (Between Indoor unit PC Board and Fan PC Board)

Remote Controller Display	E 1
Applicable Models	FXMQ40~125P
Method of Malfunction Detection	Check the condition of transmission between indoor PC board (A1P) and PC board for fan (A2P) using computer.
Malfunction Decision Conditions	When normal transmission is not conducted for certain duration.
Supposed Causes	■ Connection defect of the connecter between indoor PC board (A1P) and PC board for fan (A2P). ■ Malfunction of indoor PC board (A1P). ■ Malfunction of PC board for fan (A2P). ■ External factor, such as instantaneous blackout.

Troubleshooting



∗1. Pull out and insert the connecter once and check it is absolutely connected.

∗2. Method to check transmission part of indoor PC board.

① Turn off the power and remove the connecter X70A of indoor PC board (A1P).

② Short-circuit X70A.

③ After turning on the power, check below numbers under local setting remote control. (Confirmation: Setting position NO. at the condition of setting switch No. 21 on mode No. 41)

↓

Determination
- 01: Normal
- Other than 01: Transmission defect on indoor PC board

★ After confirmation, turn off the power, take off the short-circuit and connect X70A back to original condition.

3.11 "C4" Indoor Unit: Malfunction of Thermistor (R2T) for Heat Exchanger

Remote Controller Display

C4

Applicable Models

All indoor unit models

Method of Malfunction Detection

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

Malfunction Decision Conditions

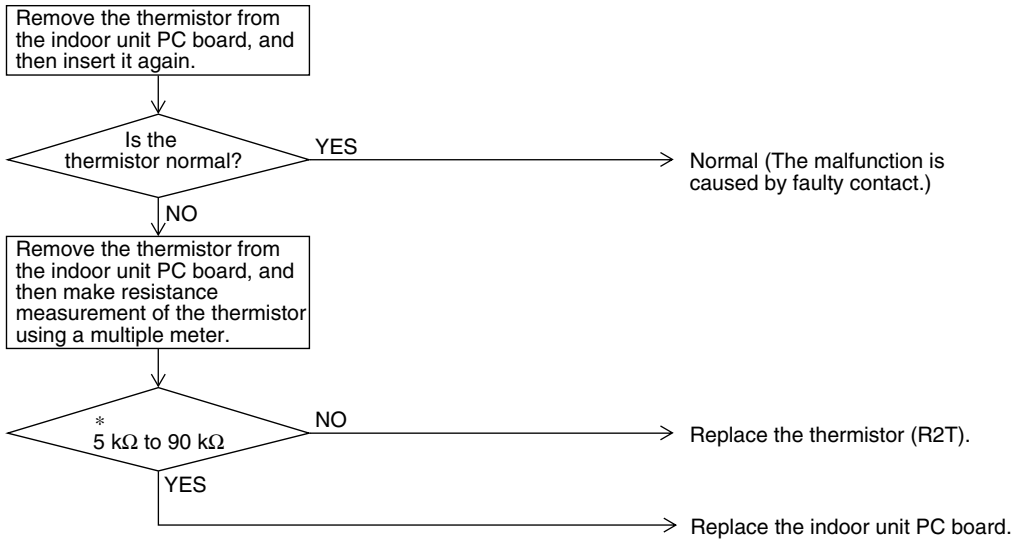
When the heat exchanger thermistor becomes disconnected or shorted while the unit is running.

Supposed Causes

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

Troubleshooting

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



∗ Refer to "Thermistor Resistance / Temperature Characteristics" table on P.383.

3.12 "C5" Indoor Unit: Malfunction of Thermistor (R3T) for Gas Pipes

Remote Controller Display

C5

Applicable Models

All indoor unit models

Method of Malfunction Detection

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

Malfunction Decision Conditions

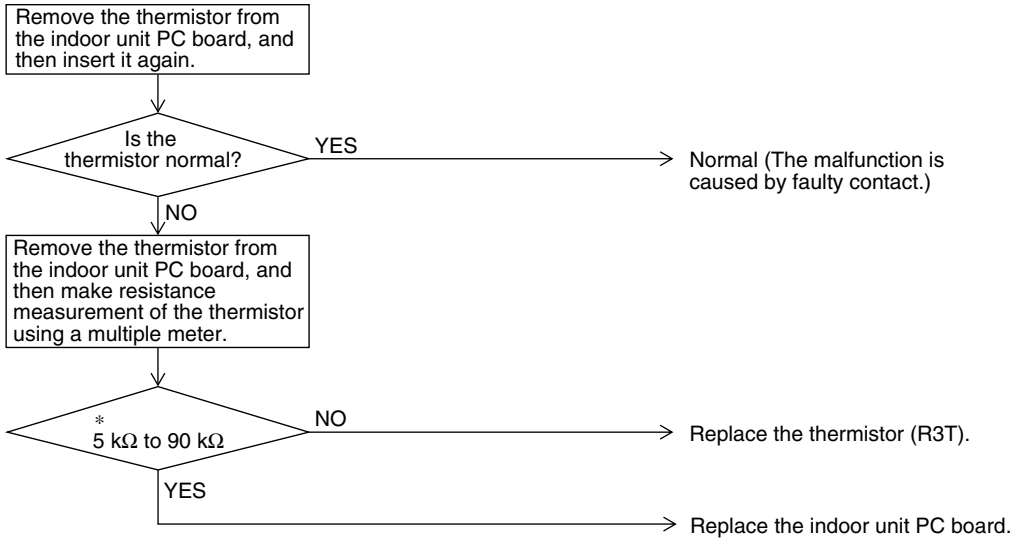
When the gas pipe thermistor becomes disconnected or shorted while the unit is running.

Supposed Causes

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

Troubleshooting

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



∗ Refer to "Thermistor Resistance / Temperature Characteristics" table on P.383.

3.13 "C6" Indoor Unit: Failure of Combination (Between Indoor unit PC Board and Fan PC Board)

Remote Controller Display

C6

Applicable Models

FXMQ40~125P

Method of Malfunction Detection

Conduct open line detection with PC board for fan (A2P) using indoor PC board (A1P).

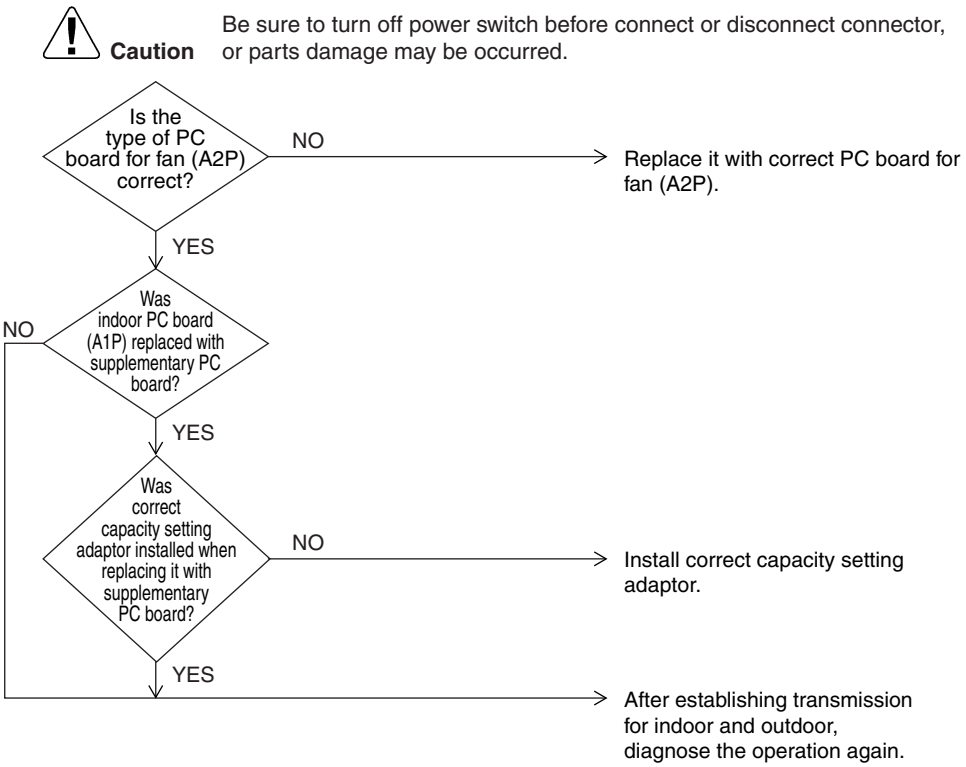
Malfunction Decision Conditions

When the communication data of PC board for fan (A2P) is determined as incorrect.

Supposed Causes

The possible causes are:
- Malfunction of PC board for fan (A2P).
- Connection defect of capacity setting adaptor.
- Setting mistake on site.

Troubleshooting



3.14 "C9" Indoor Unit: Malfunction of Thermistor (R1T) for Suction Air

Remote Controller Display

C9

Applicable Models

All indoor unit models

Method of Malfunction Detection

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

Malfunction Decision Conditions

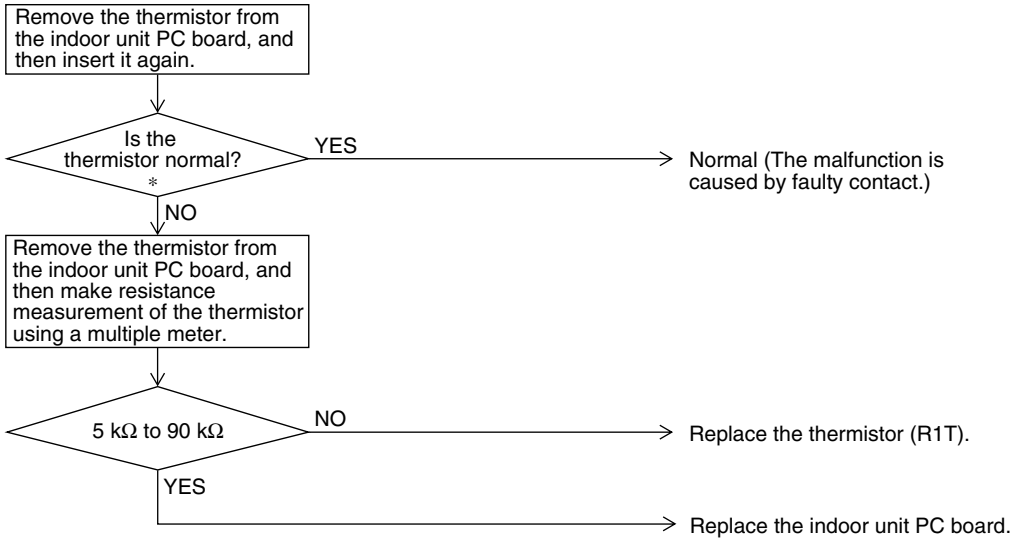
When the suction air temperature thermistor becomes disconnected or shorted while the unit is running.

Supposed Causes

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

Troubleshooting

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



∗ Refer to "Thermistor Resistance / Temperature Characteristics" table on P.383.

3.15 "CC" Indoor Unit: Malfunction of Humidity Sensor System

Remote Controller Display

CC

Applicable Models

FXFQ

Method of Malfunction Detection

Even if a malfunction occurs, operation still continues.
Malfunction is detected according to the moisture (output voltage) detected by the moisture sensor.

Malfunction Decision Conditions

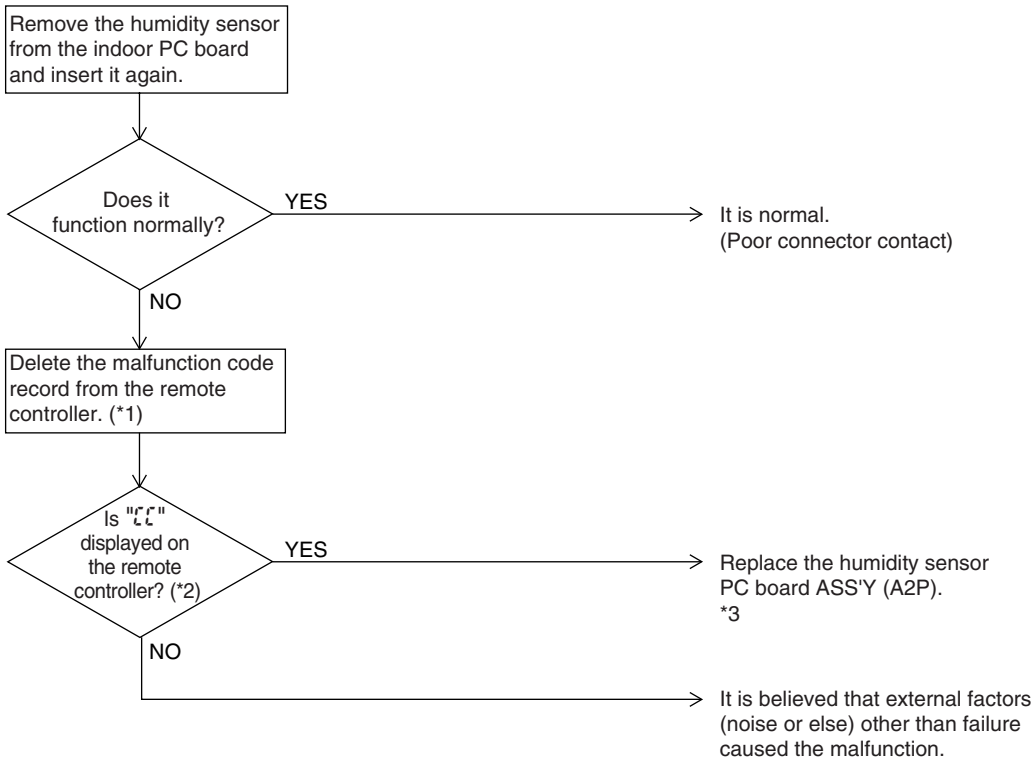
When the moisture sensor is disconnected or short-circuited

Supposed Causes

- Faulty sensor
- Disconnection

Troubleshooting

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



*1: To delete the record, the ON/OFF button of the remote controller must be pushed and held for 5 seconds in the check mode.
*2: To display the code, the Inspection/Test Operation button of the remote controller must be pushed and held in the normal mode.
*3: If "CC" is displayed even after replacing the humidity sensor PC board ASS'Y (A2P) and taking the steps *1 and 2, replace the indoor PC board ASS'Y (A1P).

3.16 "C4" Indoor Unit: Malfunction of Thermostat Sensor in Remote Controller

Remote Controller Display

C4

Applicable Models

All indoor unit models

Method of Malfunction Detection

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

Malfunction Decision Conditions

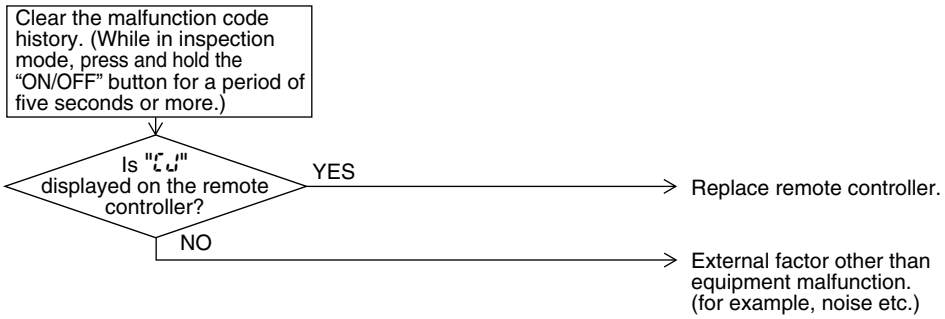
When the remote controller air temperature thermistor becomes disconnected or shorted while the unit is running.

Supposed Causes

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

Troubleshooting

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



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

∗ Refer to "Thermistor Resistance / Temperature Characteristics" table on P.383.

3.17 "E 1" Outdoor Unit: PC Board Defect

Remote Controller Display

E 1

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

Check data from E²PROM

Malfunction Decision Conditions

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

Supposed Causes

- Defect of outdoor unit PC board (A1P)

Troubleshooting

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

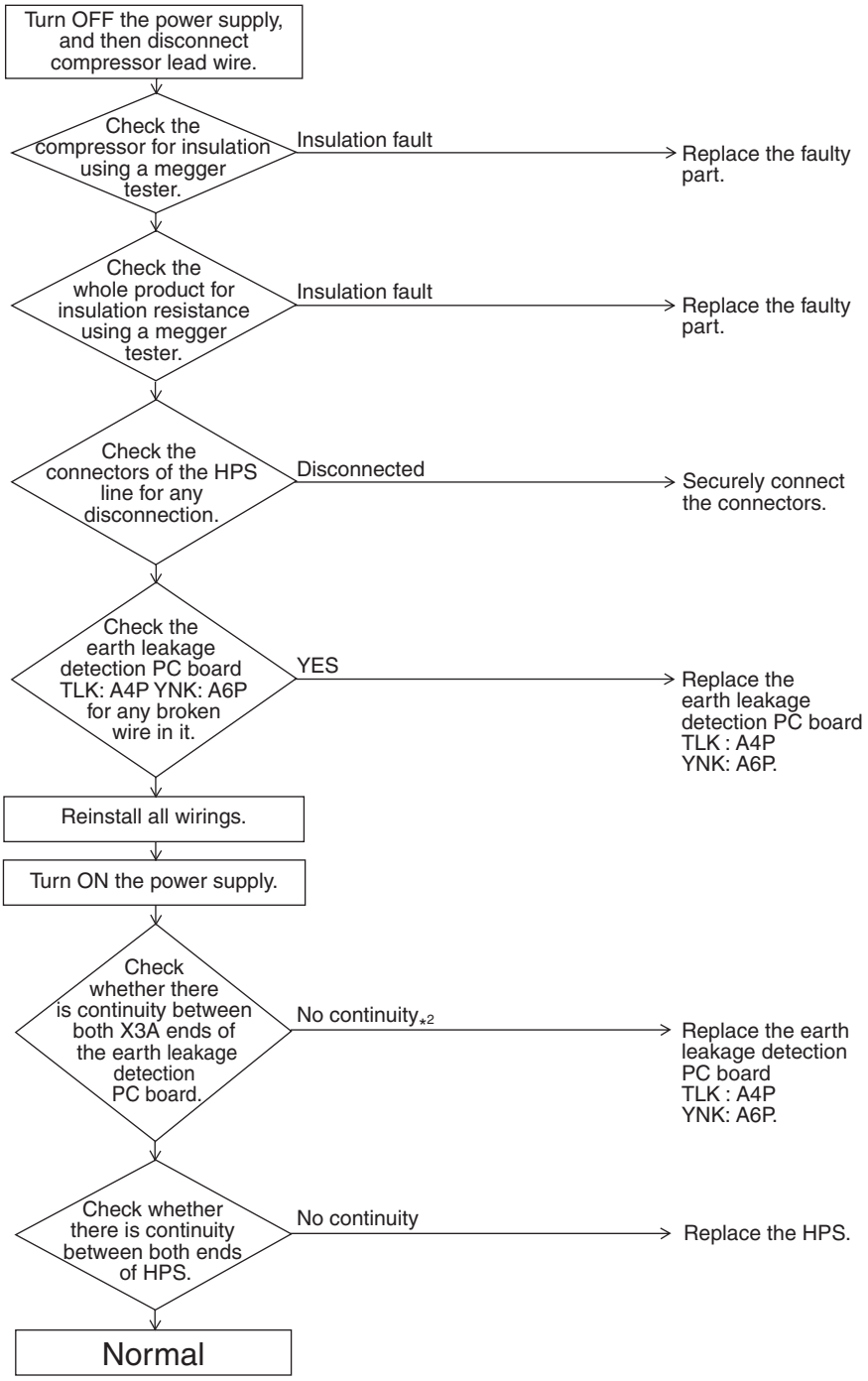


3.18 "E2" Outdoor Unit: Detection of Earth Leakage by Leak Detection PC Board Ass'y

Remote Controller Display	E2
Applicable Models	RXYQ8P~36P
Method of Malfunction Detection	Failure is to be detected by using leak detection PC board ass'y.
Malfunction Decision Conditions	Leakage is detected under the conditions outside of the scope of HPS operation.
Supposed Causes	■ Defect of compressor

Troubleshooting

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



It is supposed that ground leakage occurs due to temporary liquid back or accumulation of refrigerant.
This phenomenon can occur when power fails while in operation or is cut off for an extended period of time.

*1: It is normal that there is no continuity between both ends of X3A when the power supply turns OFF and for a period of 9 seconds at maximum after the power supply turns ON.

3.19 "E3" Outdoor Unit: Actuation of High Pressure Switch

Remote Controller Display	E3
Applicable Models	RXYQ8P~36P
Method of Malfunction Detection	Abnormality is detected when the contact of the high pressure protection switch opens.
Malfunction Decision Conditions	Error is generated when the HPS activation count reaches the number specific to the operation mode. (Reference) Operating pressure of high pressure switch Operating pressure: 4.0MPa Reset pressure: 2.85MPa
Supposed Causes	■ Actuation of outdoor unit high pressure switch ■ Defect of High pressure switch ■ Defect of outdoor unit PC board ■ Instantaneous power failure ■ Faulty high pressure sensor

Troubleshooting

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

Check for the points shown below.
① Is the stop valve open?
② Is the HPS connector properly connected to the main PC board? (A1P: X2A, X3A)
③ Does the high pressure switch have continuity?
④ Is the connector properly connected to the PC board A4P or A6P?

↓

Are the three points above OK? — NO → Rectify defective points, if any.

↓ YES

· Mount a pressure gauge on the high-pressure service port.
· Connect the Service Checker.
· Reset the operation using the remote controller, and then restart the operation.

↓

Does the stop due to malfunction (E3) recur? — YES → Is the HPS operating value normal (i.e., 4.0MPa)? — NO → Replace the HPS.

NO ↓ (from first diamond) / YES ↓ (from second diamond)

Are the characteristics of the high pressure sensor normal? (See *1.) — NO → Replace the high pressure sensor.

↓ YES

Service Checker
Connect the service checker to compare the “high pressure” value and the actual measurement value by pressure sensor (Refer to ∗1) by using the service checker.

↓

Check if the “high pressure” value and the actual measurement value by pressure sensor are the same. — NO → Replace main PC board (A1P).

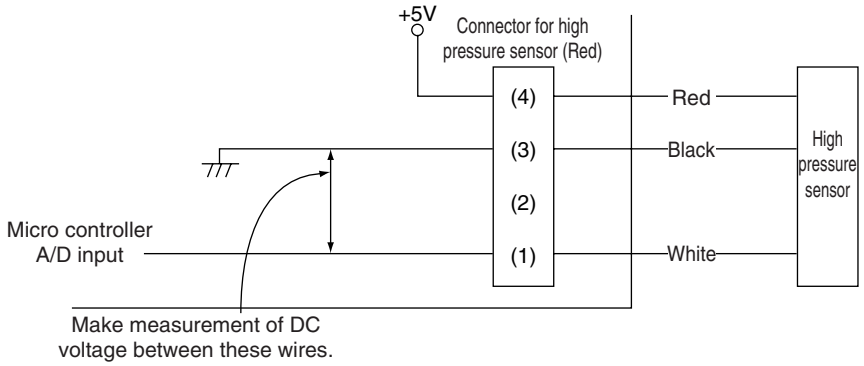
↓ YES

· The high pressure sensor is normal, and the pressure detected with the PC board is also normal.
· The high pressure has really become high.

⇩

CHECK 3 Referring to information on page 330, remove the causes by which the high pressure has become high.

*1: Make a comparison between the voltage of the pressure sensor and that read by the pressure gauge.
(As to the voltage of the pressure sensor, make measurement of voltage at the connector, and then convert it to pressure according to information on page 385.)
*2: Make measurement of voltage of the pressure sensor.

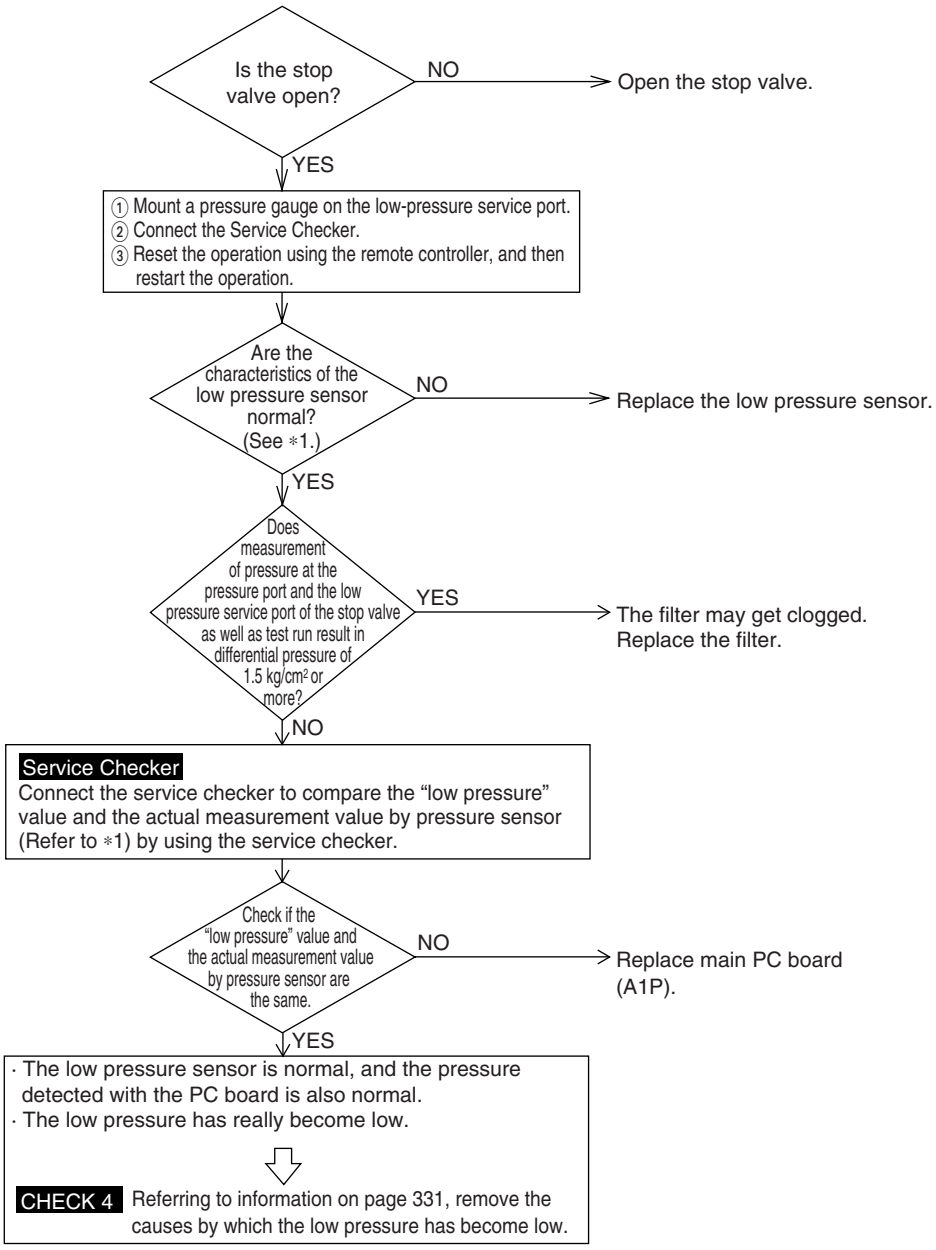


3.20 "E4" Outdoor Unit: Actuation of Low Pressure Sensor

Remote Controller Display	E4
Applicable Models	RXYQ8P~36P
Method of Malfunction Detection	Abnormality is detected by the pressure value with the low pressure sensor.
Malfunction Decision Conditions	Error is generated when the low pressure is dropped under specific pressure. Operating pressure:0.07MPa
Supposed Causes	■ Abnormal drop of low pressure (Lower than 0.07MPa) ■ Defect of low pressure sensor ■ Defect of outdoor unit PC board ■ Stop valve is not opened. ■ Clogged filter

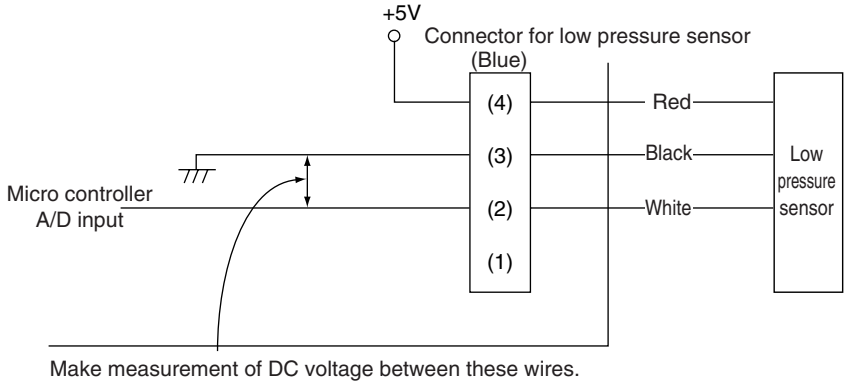
Troubleshooting

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



∗1: Make a comparison between the voltage of the pressure sensor and that read by the pressure gauge.
(As to the voltage of the pressure sensor, make measurement of voltage at the connector, and then convert it to pressure according to information on page 385.)

∗2: Make measurement of voltage of the pressure sensor.

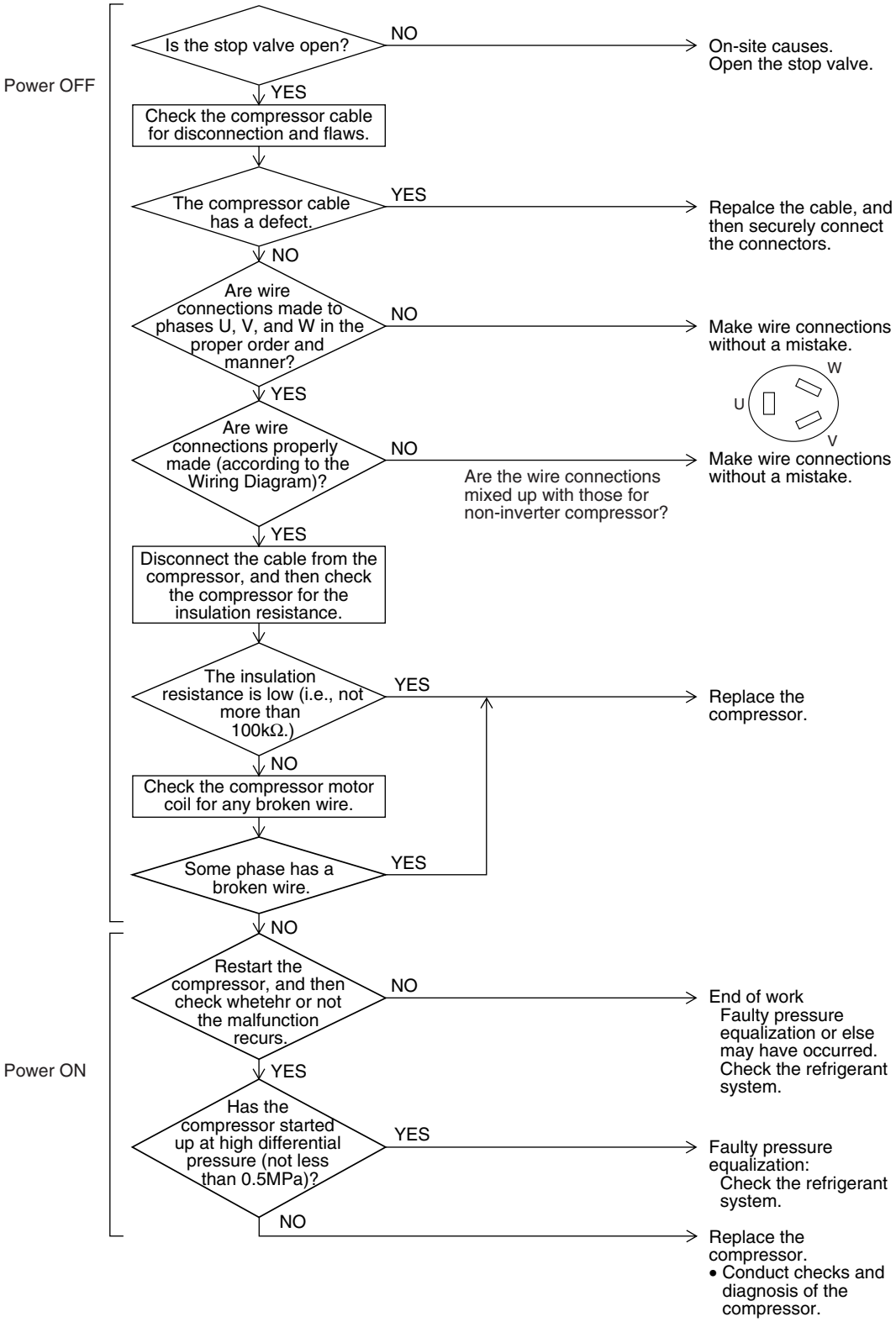


3.21 "E5" Outdoor Unit: Inverter Compressor Motor Lock

Remote Controller Display	E5
Applicable Models	RXYQ8P~36P
Method of Malfunction Detection	Inverter PC board takes the position signal from UVW line connected between the inverter and compressor, and the malfunction is detected when any abnormality is observed in the phase-current waveform.
Malfunction Decision Conditions	This malfunction will be output when the inverter compressor motor does not start up even in forced startup mode.
Supposed Causes	■ Inverter compressor lock ■ High differential pressure (0.5MPa or more) ■ Incorrect UVW wiring ■ Faulty inverter PC board ■ Stop valve is left in closed.

Troubleshooting

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



3.22 "E6" Outdoor Unit: STD Compressor Motor Overcurrent/ Lock

Remote Controller Display

E6

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

Detects the overcurrent with current sensor (CT).

Malfunction Decision Conditions

Malfunction is decided when the detected current value exceeds the below mentioned value for 2 seconds.

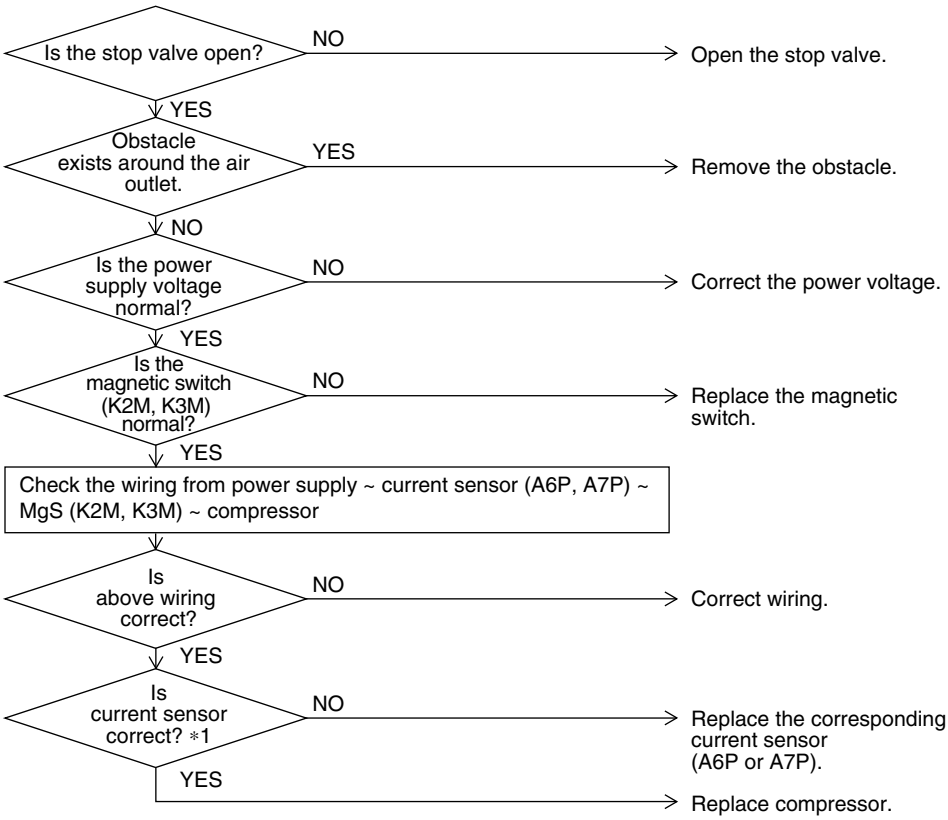
- 400 V class unit : 15.0 A (Y1, YL, YN)
- 200 V class unit : 28.8 A (TL)

Supposed Causes

- Closed stop value
- Obstacles at the air outlet
- Improper power voltage
- Faulty magnetic switch
- Faulty compressor
- Faulty current sensor (A6P, A7P)

Troubleshooting

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



Note: *1 Abnormal case

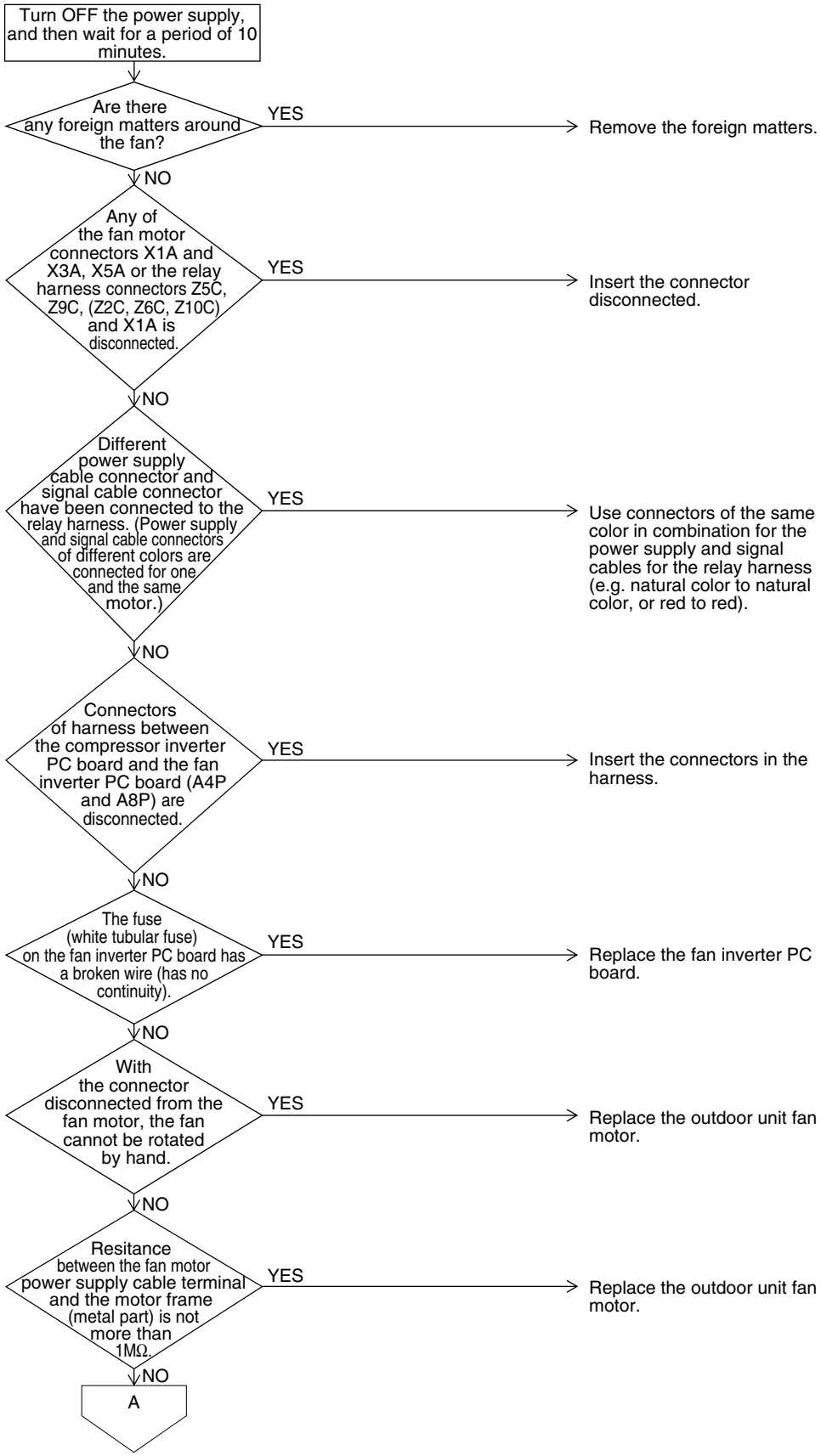
- The current sensor value is 0 during STD compressor operation.
- The current sensor value is more than 15.0A during STD compressor stop.

3.23 "E7" Outdoor Unit: Malfunction of Outdoor Unit Fan Motor

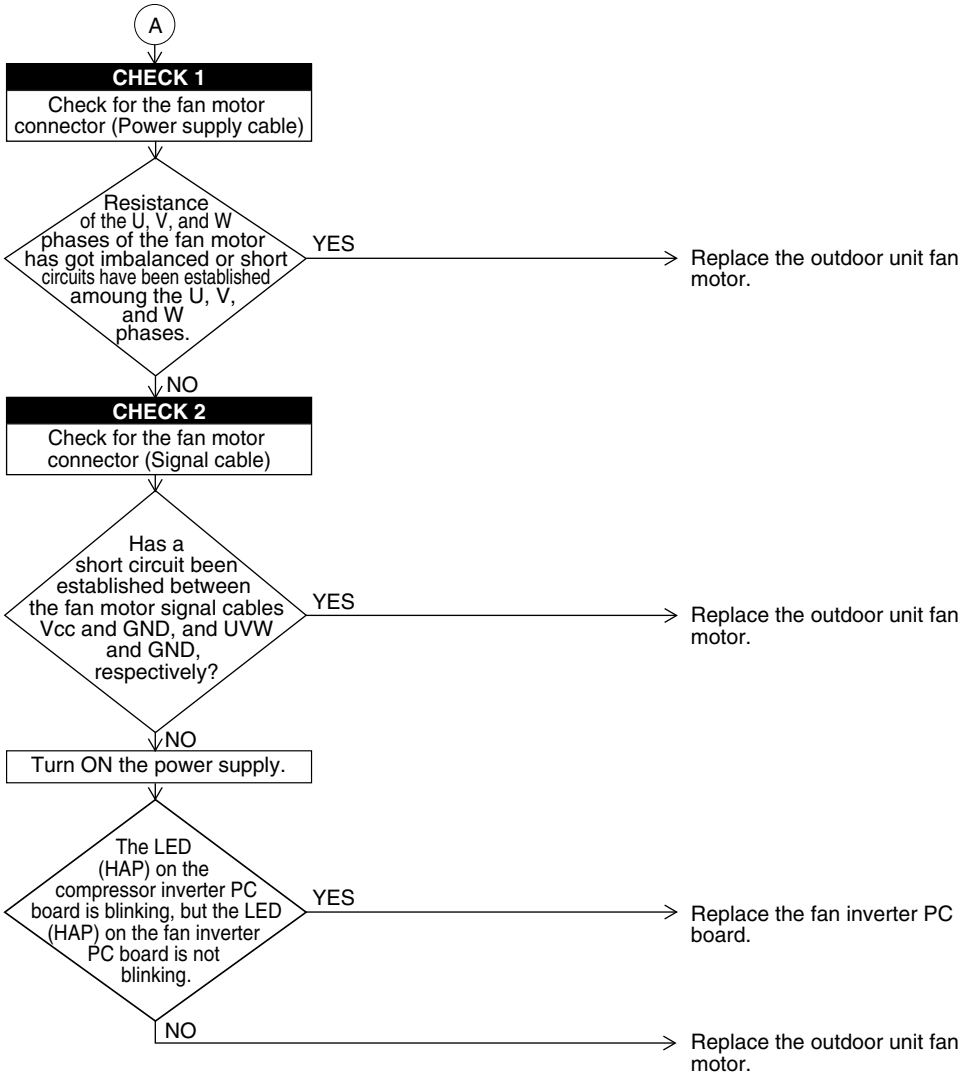
Remote Controller Display	E7
Applicable Models	RXYQ8P~36P
Method of Malfunction Detection	Malfunction of fan motor system is detected according to the fan speed detected by hall IC when the fan motor runs.
Malfunction Decision Conditions	■ When the fan runs with speed less than a specified one for 6 seconds or more when the fan motor running conditions are met ■ When connector detecting fan speed is disconnected ■ When malfunction is generated 4 times, the system shuts down.
Supposed Causes	■ Malfunction of fan motor ■ The harness connector between fan motor and PC board is left in disconnected, or faulty connector ■ Fan does not run due to foreign matters tangled ■ Clearing condition: Operate for 5 minutes (normal)

Troubleshooting

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



Troubleshooting



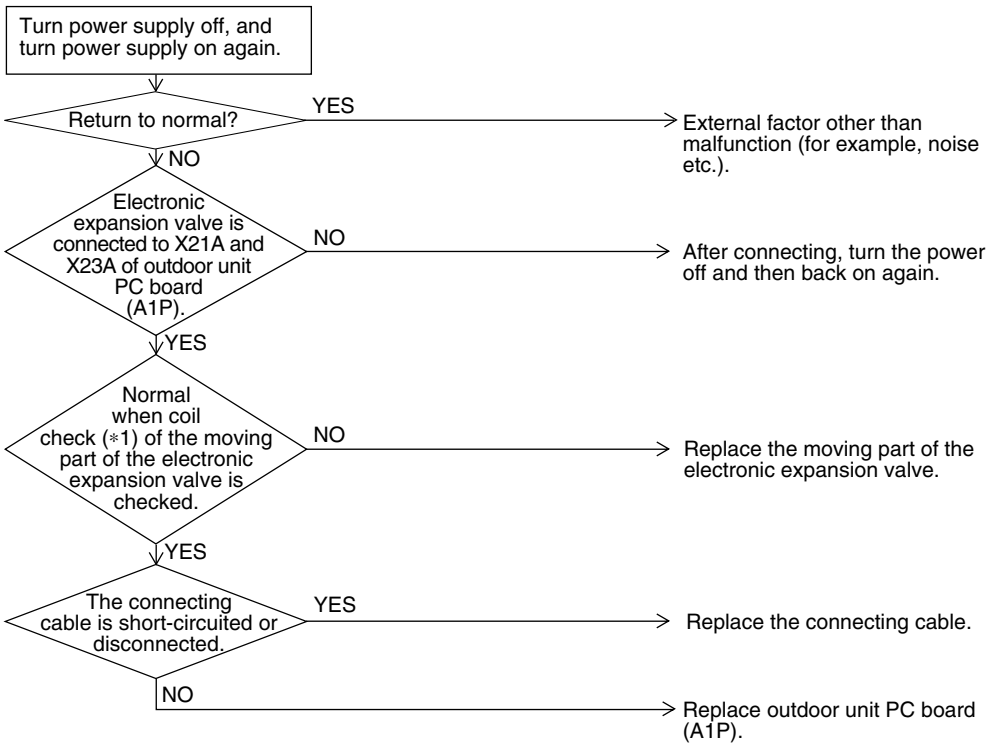
Note: Refer to CHECK 1 and CHECK 2 on P.329.

3.24 "E9" Outdoor Unit: Malfunction of Moving Part of Electronic Expansion Valve (Y1E, Y2E)

Remote Controller Display	E9
Applicable Models	RXYQ8P~36P
Method of Malfunction Detection	Check disconnection of connector Check continuity of expansion valve coil
Malfunction Decision Conditions	Error is generated under no common power supply when the power is on.
Supposed Causes	■ Defect of moving part of electronic expansion valve ■ Defect of outdoor unit PC board (A1P) ■ Defect of connecting cable

Troubleshooting

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



*Make measurement of resistance between the connector pins, and then make sure the resistance falls in the range of 40 to 50Ω.



Measuring points
1 - 6
2 - 6
3 - 6
4 - 6

3.25 "F3" Outdoor Unit: Abnormal Discharge Pipe Temperature

Remote Controller Display

F3

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

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

Malfunction Decision Conditions

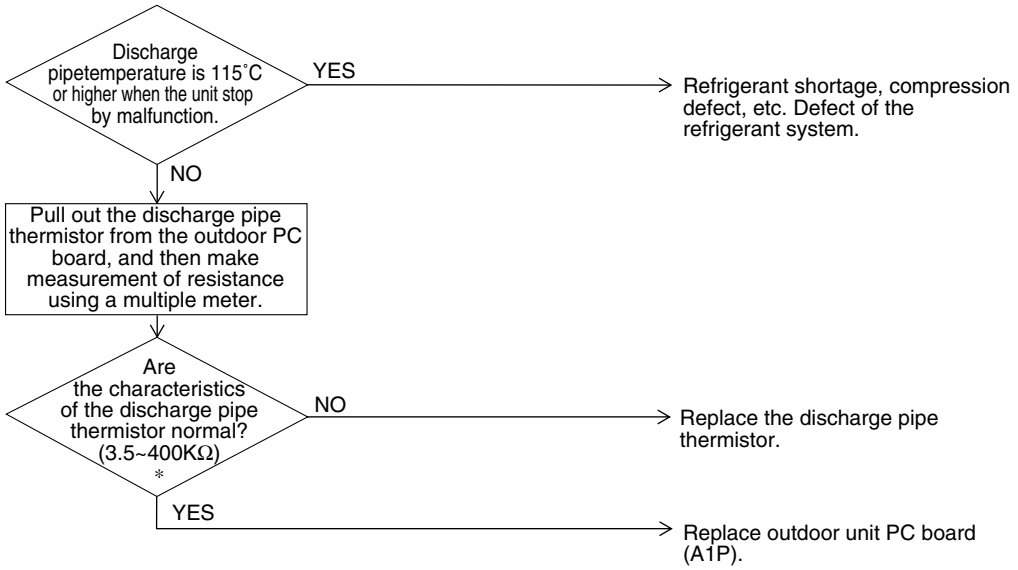
When the discharge pipe temperature rises to an abnormally high level
When the discharge pipe temperature rises suddenly

Supposed Causes

- Faulty discharge pipe temperature sensor
- Faulty connection of discharge pipe temperature sensor
- Faulty outdoor unit PC board

Troubleshooting

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



∗ Refer to "Thermistor Resistance / Temperature Characteristics" table on P.384.

3.26 "F6" Outdoor Unit: Refrigerant Overcharged

Remote Controller Display

F6

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

Excessive charging of refrigerant is detected by using the outside air temperature, heat exchanging deicer temperature and liquid pipe temperature during a check run.

Malfunction Decision Conditions

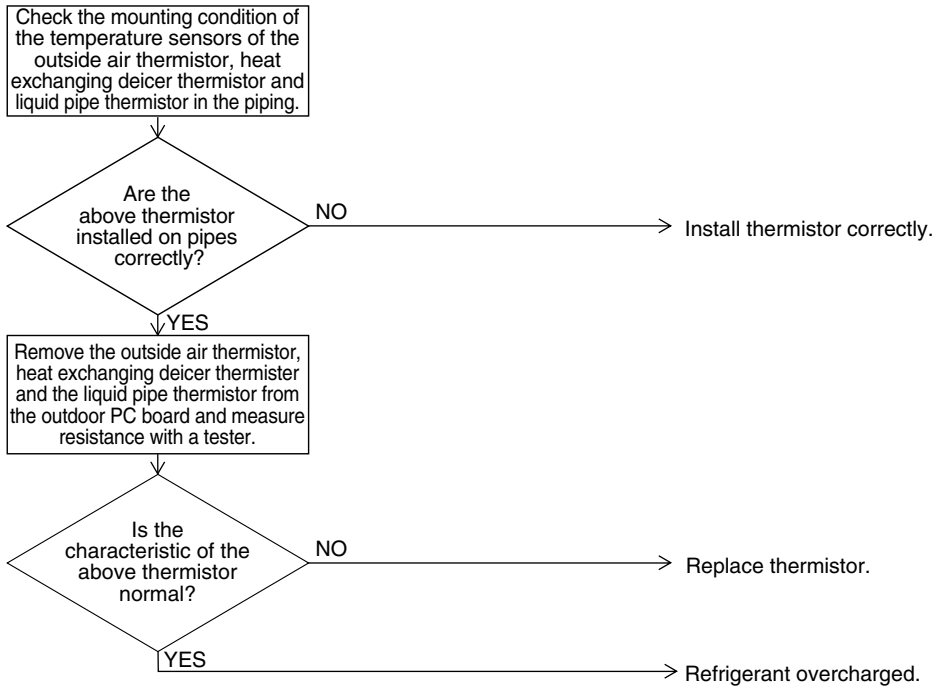
When the amount of refrigerant, which is calculated by using the outside air temperature, heat exchanging deicer temperature and liquid pipe temperature during a check run, exceeds the standard.

Supposed Causes

- Refrigerant overcharge
- Misalignment of the outside air thermistor
- Misalignment of the heat exchanging deicer thermistor
- Misalignment of the liquid pipe thermistor

Troubleshooting

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



∗ Refer to "Thermistor Resistance / Temperature Characteristics" table on P.383.

3.27 "H7" Outdoor Unit: Abnormal Outdoor Fan Motor Signal

Remote Controller Display

H7

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

Detection of abnormal signal from fan motor.

Malfunction Decision Conditions

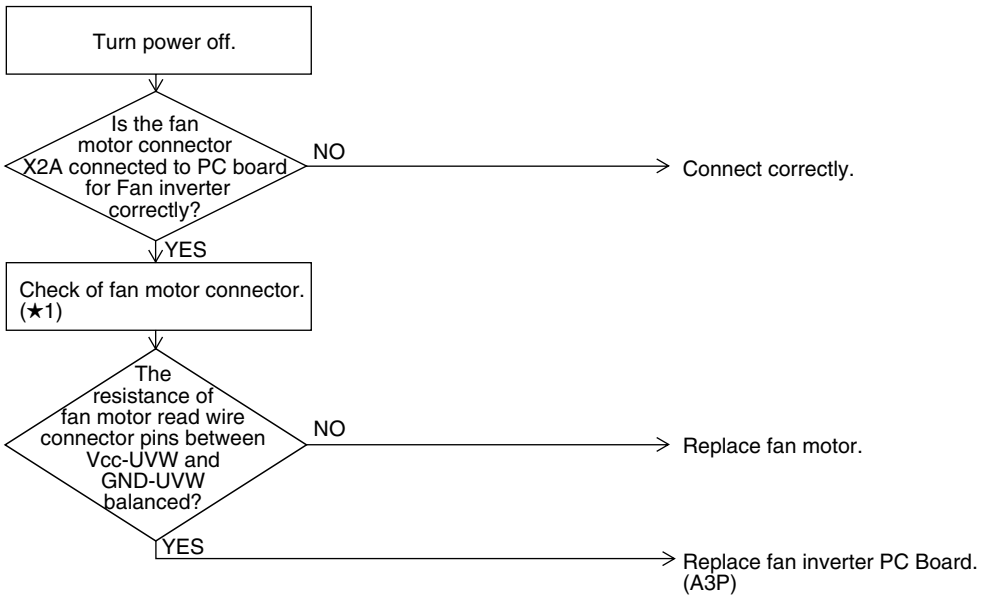
In case of detection of abnormal signal at starting fan motor.

Supposed Causes

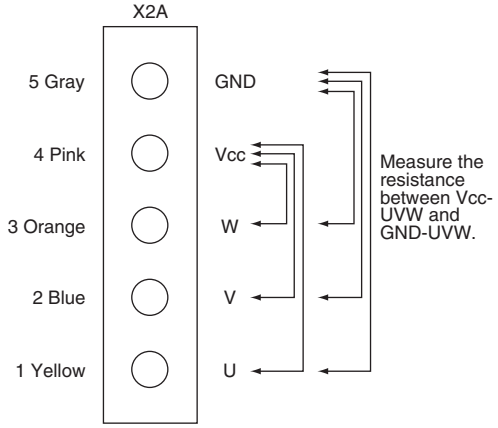
- Abnormal fan motor signal (circuit malfunction)
- Broken, short or disconnection connector of fan motor connection cable
- Fan Inverter PC board malfunction

Troubleshooting

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



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



3.28 "H9" Outdoor Unit: Malfunction of Thermistor (R1T) for Outdoor Air

Remote Controller Display

H9

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

Malfunction is detected from the temperature detected by the outdoor air thermistor.

Malfunction Decision Conditions

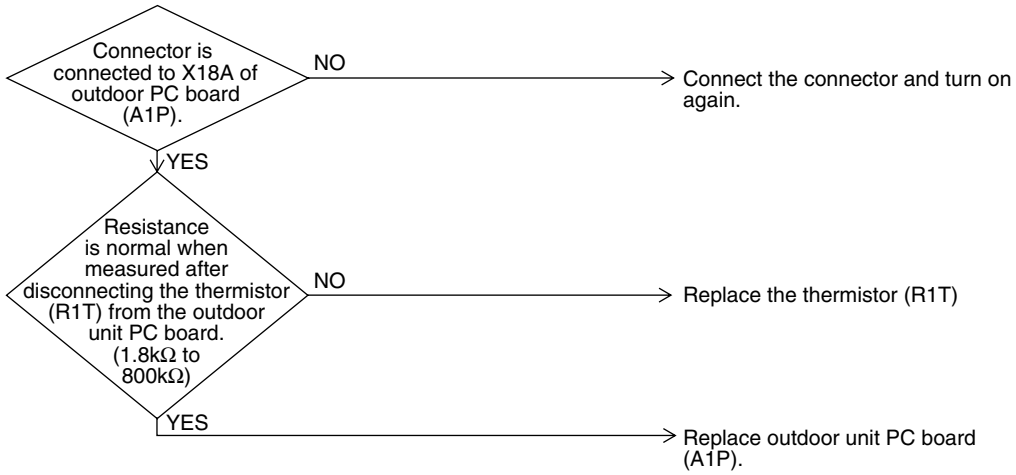
When the outside air temperature thermistor has short circuit or open circuit.

Supposed Causes

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

Troubleshooting

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



∗ Refer to "Thermistor Resistance / Temperature Characteristics" table on P.383.

3.29 "U2" Outdoor Unit: Current Sensor Malfunction

Remote Controller Display

U2

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

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

Malfunction Decision Conditions

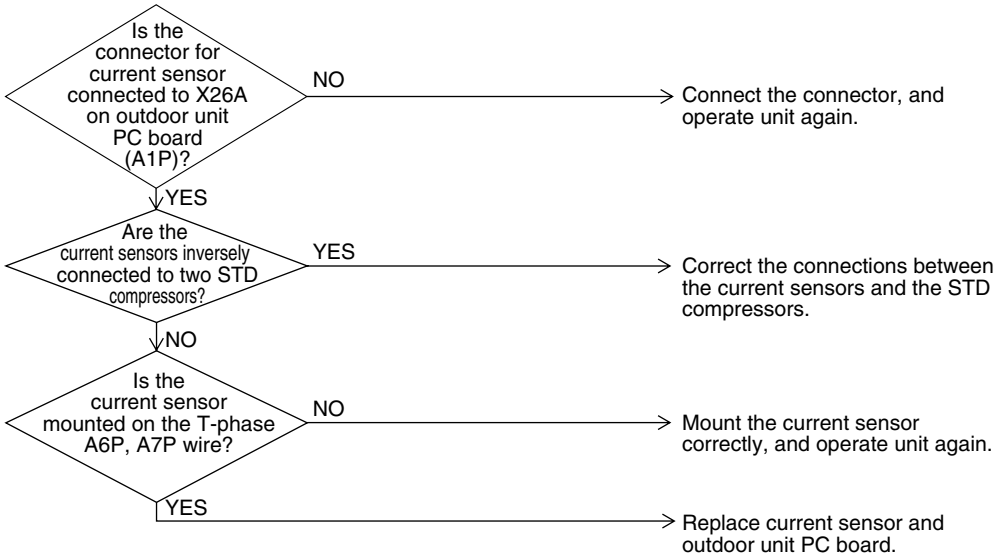
When the current value detected by current sensor becomes 5A or lower, or 40A or more during standard compressor operation.

Supposed Causes

- Faulty current sensor (A6P, A7P)
- Faulty outdoor unit PC board

Troubleshooting

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



3.30 "U3" Outdoor Unit: Malfunction of Discharge Pipe Thermistor (R3, R31~32T)

Remote Controller Display

U3

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

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

Malfunction Decision Conditions

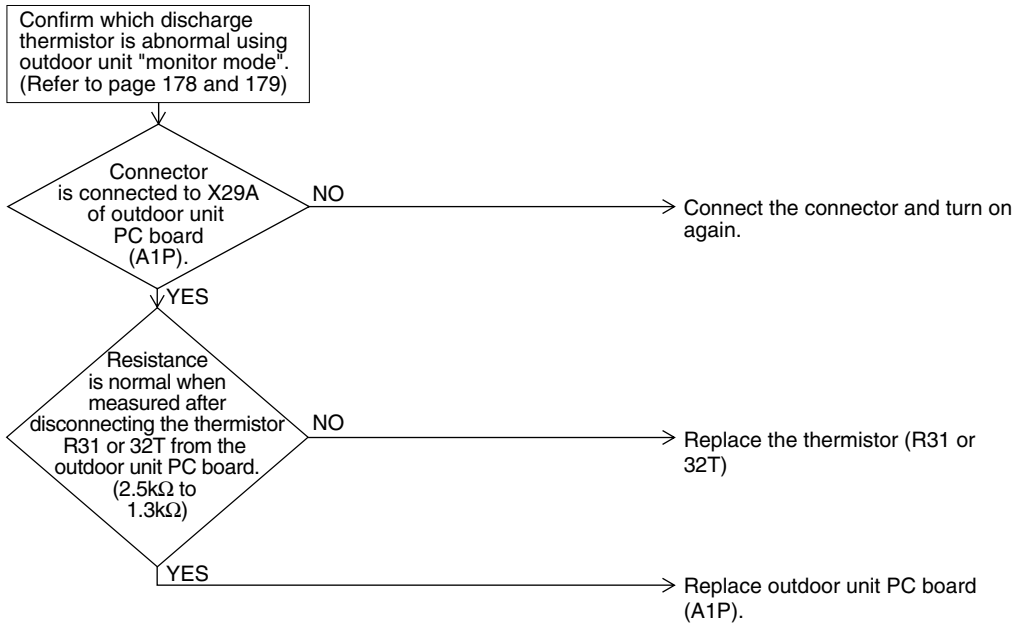
When a short circuit or an open circuit in the discharge pipe temperature thermistor is detected.

Supposed Causes

- Defect of thermistor (R31T or R32T) for outdoor unit discharge pipe
- Defect of outdoor unit PC board (A1P)
- Defect of thermistor connection

Troubleshooting

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



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

Note: 8~12 HP class ··· R31T, R32T

* Refer to "Thermistor Resistance / Temperature Characteristics" table on P.384.

3.31 "U5" Outdoor Unit: Malfunction of Thermistor (R2T, R7T) for Suction Pipe

Remote Controller Display

U5

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

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

Malfunction Decision Conditions

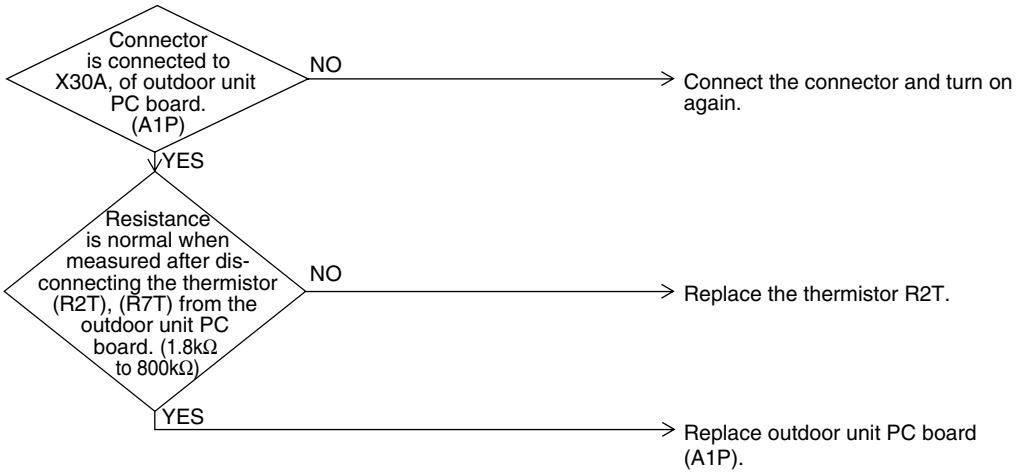
When a short circuit or an open circuit in the suction pipe temperature thermistor is detected.

Supposed Causes

- Defect of thermistor (R2T), (R7T) for outdoor unit suction pipe
- Defect of outdoor unit PC board (A1P)
- Defect of thermistor connection

Troubleshooting

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



∗ Refer to "Thermistor Resistance / Temperature Characteristics" table on P.383.

3.32 "J6" Outdoor Unit: Malfunction of Thermistor (R4T) for Outdoor Unit Heat Exchanger

Remote Controller Display

J6

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

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

Malfunction Decision Conditions

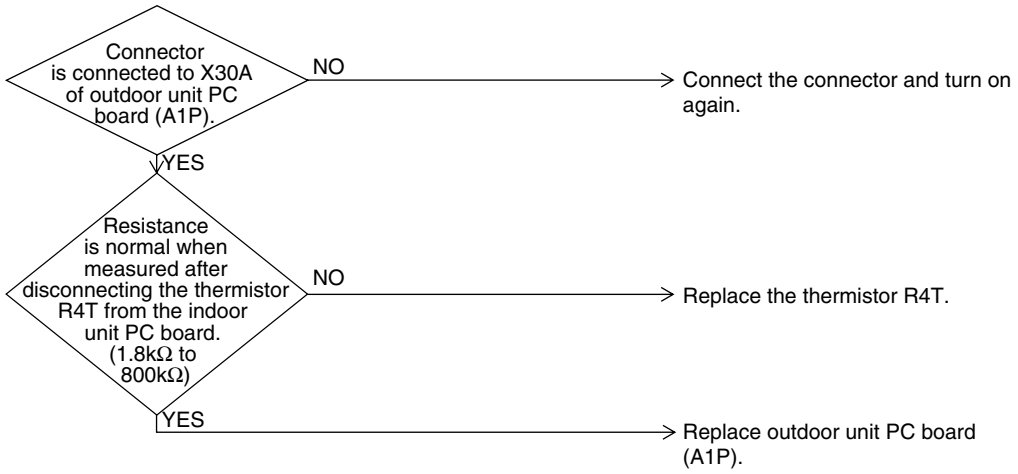
When a short circuit or an open circuit in the heat exchange thermistor is detected.

Supposed Causes

- Defect of thermistor (R4T) for outdoor unit coil
- Defect of outdoor unit PC board (A1P)
- Defect of thermistor connection

Troubleshooting

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



∗ Refer to "Thermistor Resistance / Temperature Characteristics" table on P.383.

3.33 "J7" Outdoor Unit: Malfunction of Liquid Pipe Thermistor (R6T)

Remote Controller Display

J7

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

Malfunction is detected according to the temperature detected by liquid pipe thermistor.

Malfunction Decision Conditions

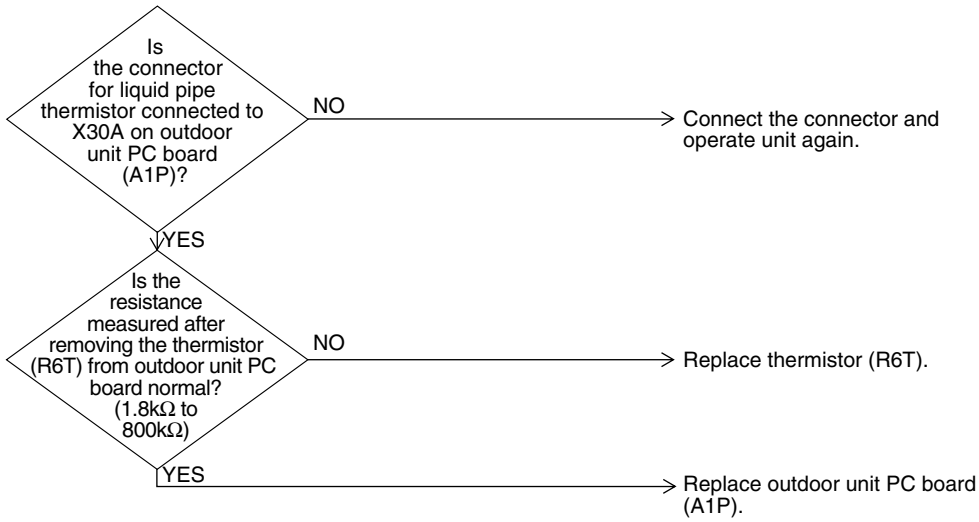
When the liquid pipe thermistor is short circuited or open.

Supposed Causes

- Faulty liquid pipe thermistor (R6T)
- Faulty outdoor unit PC board
- Defect of thermistor connection

Troubleshooting

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



* Refer to "Thermistor Resistance / Temperature Characteristics" table on P.383.

3.34 "J9" Outdoor Unit: Malfunction of Subcooling Heat Exchanger Gas Pipe Thermistor (R5T)

Remote Controller Display

J9

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

Malfunction is detected according to the temperature detected by subcooling heat exchanger gas pipe thermistor.

Malfunction Decision Conditions

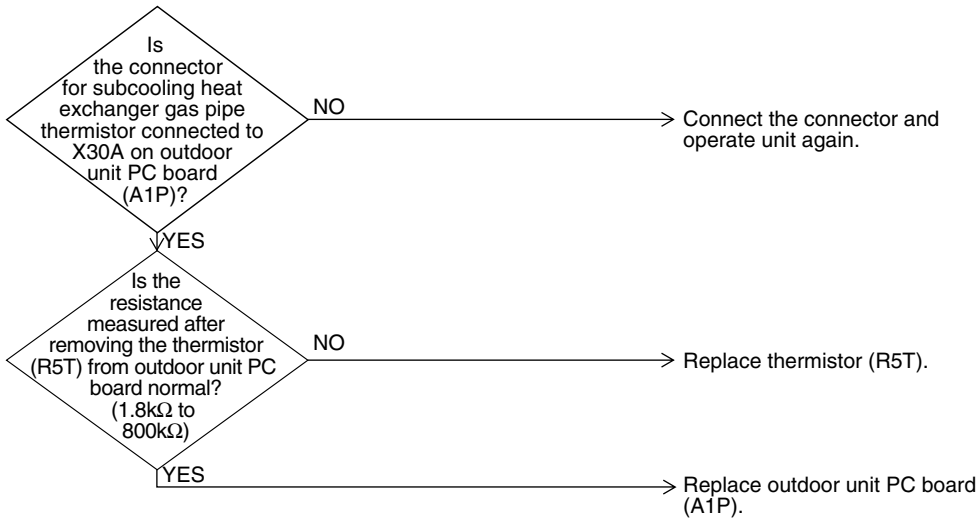
When the subcooling heat exchanger gas pipe thermistor is short circuited or open.

Supposed Causes

- Faulty subcooling heat exchanger gas pipe thermistor (R5T)
- Faulty outdoor unit PC board

Troubleshooting

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



∗ Refer to "Thermistor Resistance / Temperature Characteristics" table on P.383.

3.35 "UA" Outdoor Unit: Malfunction of High Pressure Sensor

Remote Controller Display

UA

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

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

Malfunction Decision Conditions

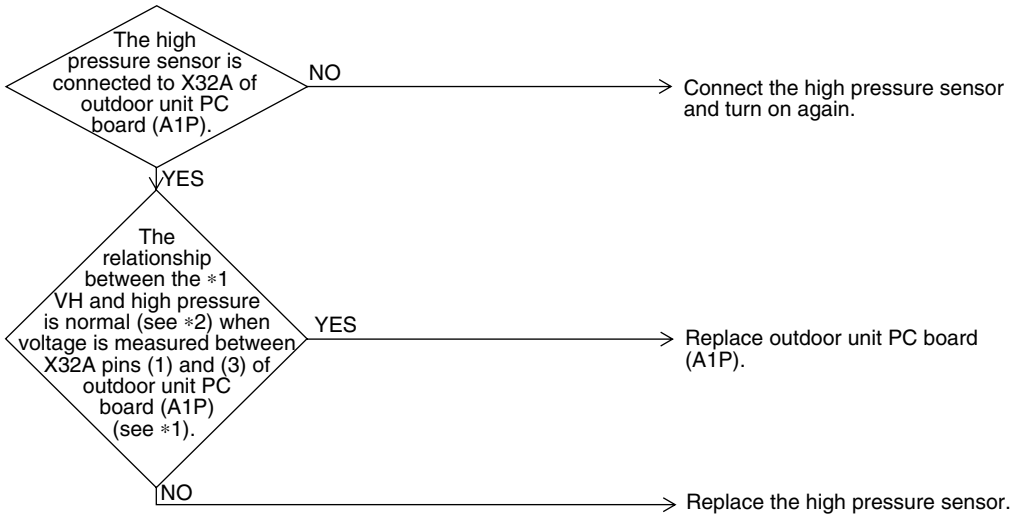
When the high pressure sensor is short circuit or open circuit.

Supposed Causes

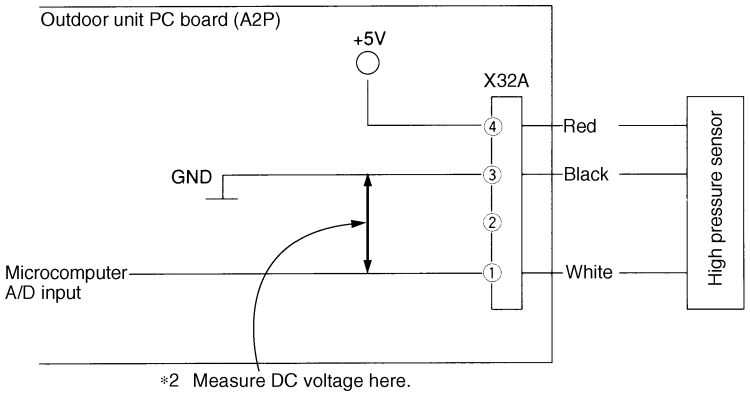
- Defect of high pressure sensor system
- Connection of low pressure sensor with wrong connection.
- Defect of outdoor unit PC board.

Troubleshooting

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



∗1: Voltage measurement point



∗2: Refer to "Pressure Sensor, Pressure / Voltage Characteristics" table on P.385.

3.36 "UE" Outdoor Unit: Malfunction of Low Pressure Sensor

Remote Controller Display

UE

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

Malfunction is detected from pressure detected by low pressure sensor.

Malfunction Decision Conditions

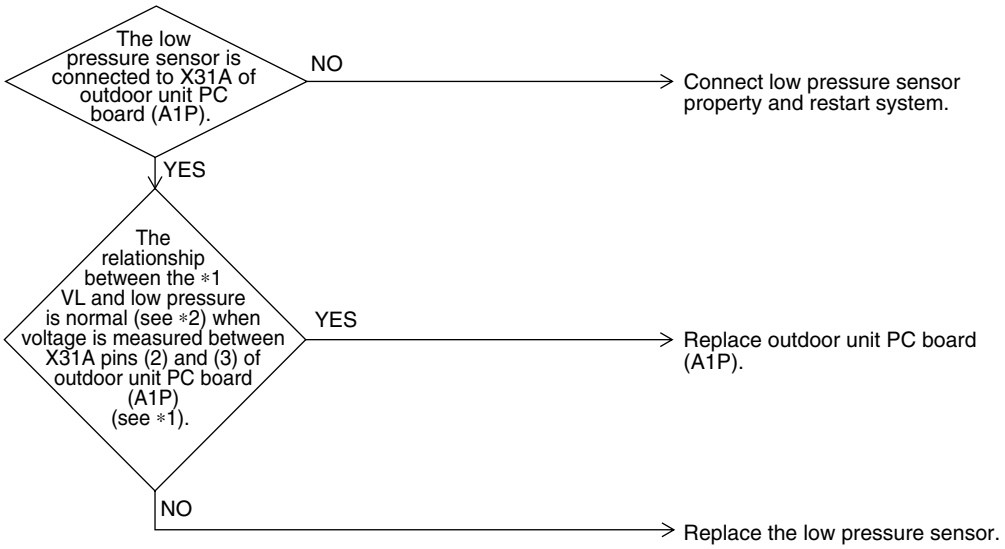
When the low pressure sensor is short circuit or open circuit.

Supposed Causes

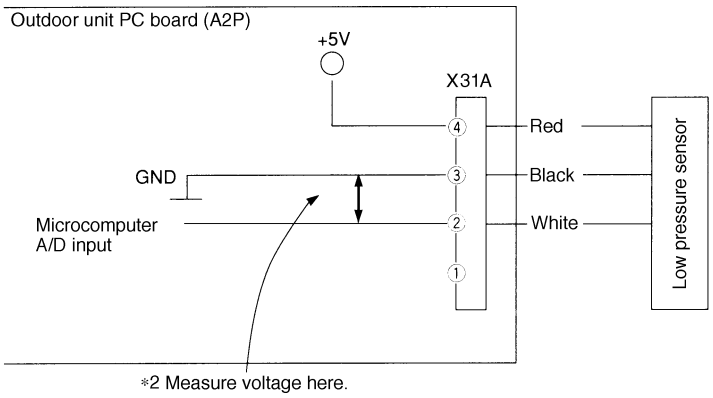
- Defect of low pressure sensor system
- Connection of high pressure sensor with wrong connection.
- Defect of outdoor unit PC board.

Troubleshooting

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



∗1: Voltage measurement point



∗2: Refer to "Pressure Sensor, Pressure / Voltage Characteristics" table on P.385.

3.37 "L4" Outdoor Unit: Malfunction of Inverter Radiating Fin Temperature Rise

Remote Controller Display

L4

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

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

Malfunction Decision Conditions

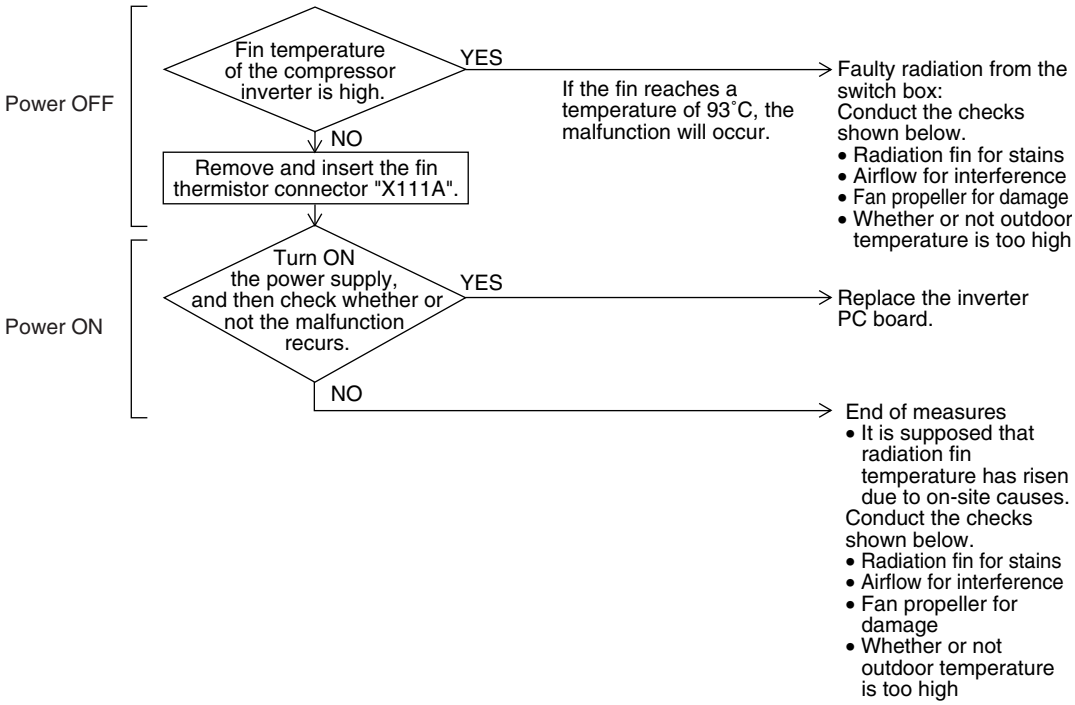
When the temperature of the inverter radiation fin increases above 93°C.

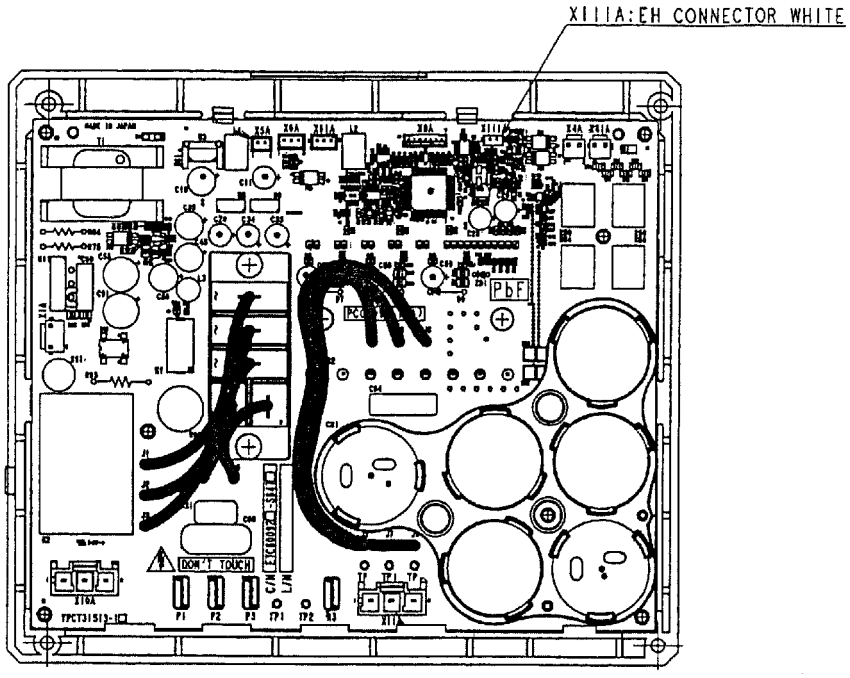
Supposed Causes

- Actuation of fin thermal (Actuates above 93°C)
- Defect of inverter PC board
- Defect of fin thermistor

Troubleshooting

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





Inverter PC board for compressor

∗ Refer to “Thermistor Resistance / Temperature Characteristics” table on P.383.

3.38 "L5" Outdoor Unit: Inverter Compressor Abnormal

Remote Controller Display

L5

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

Malfunction is detected from current flowing in the power transistor.

Malfunction Decision Conditions

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

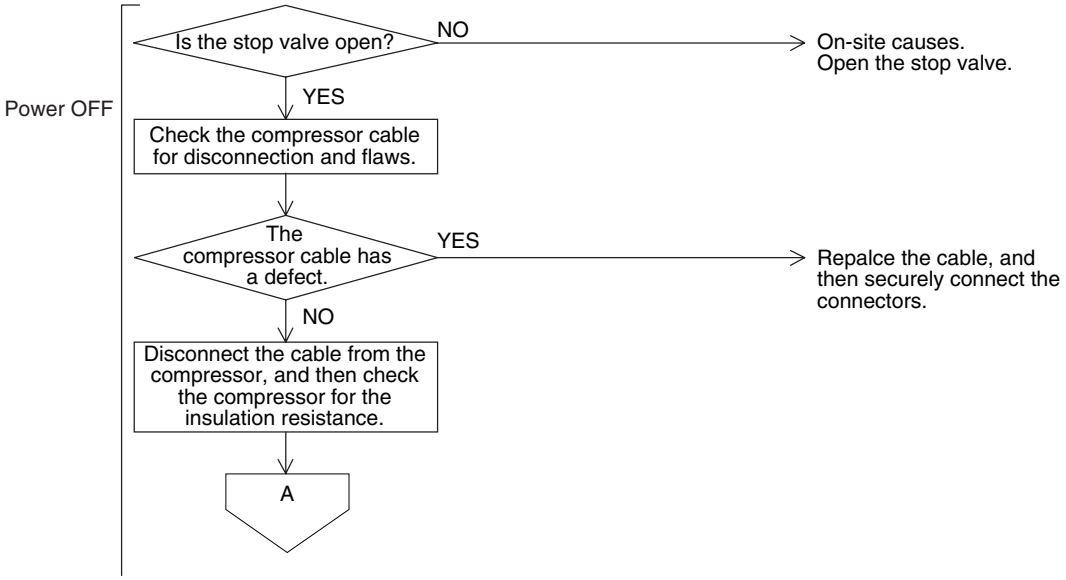
Supposed Causes

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

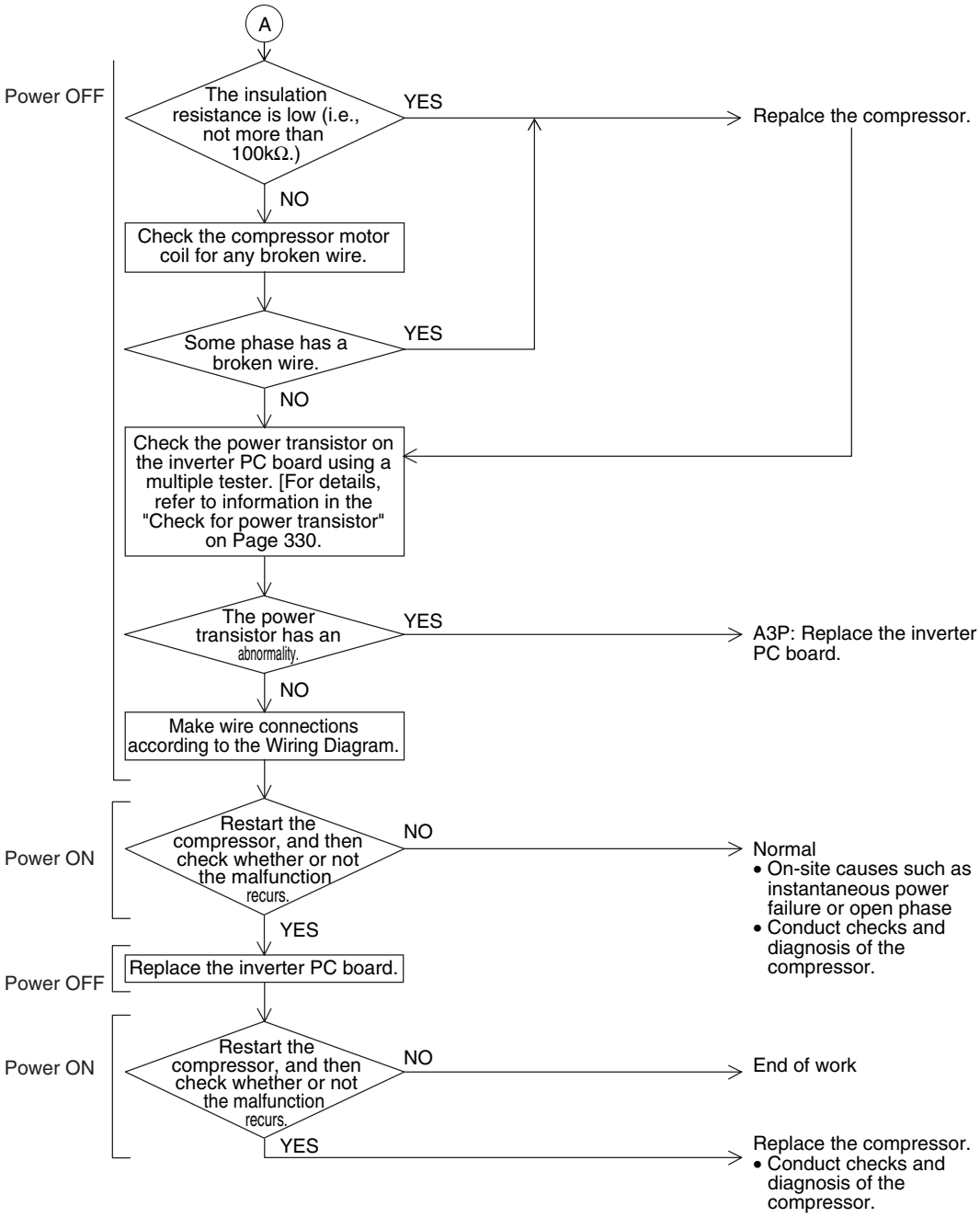
Troubleshooting

Compressor inspection

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



Troubleshooting



3.39 "L8" Outdoor Unit: Inverter Current Abnormal

Remote Controller Display

L8

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

Malfunction is detected by current flowing in the power transistor.

Malfunction Decision Conditions

When overload in the compressor is detected. (Inverter secondary current 16.1A (YN) and 27.6A (TL))

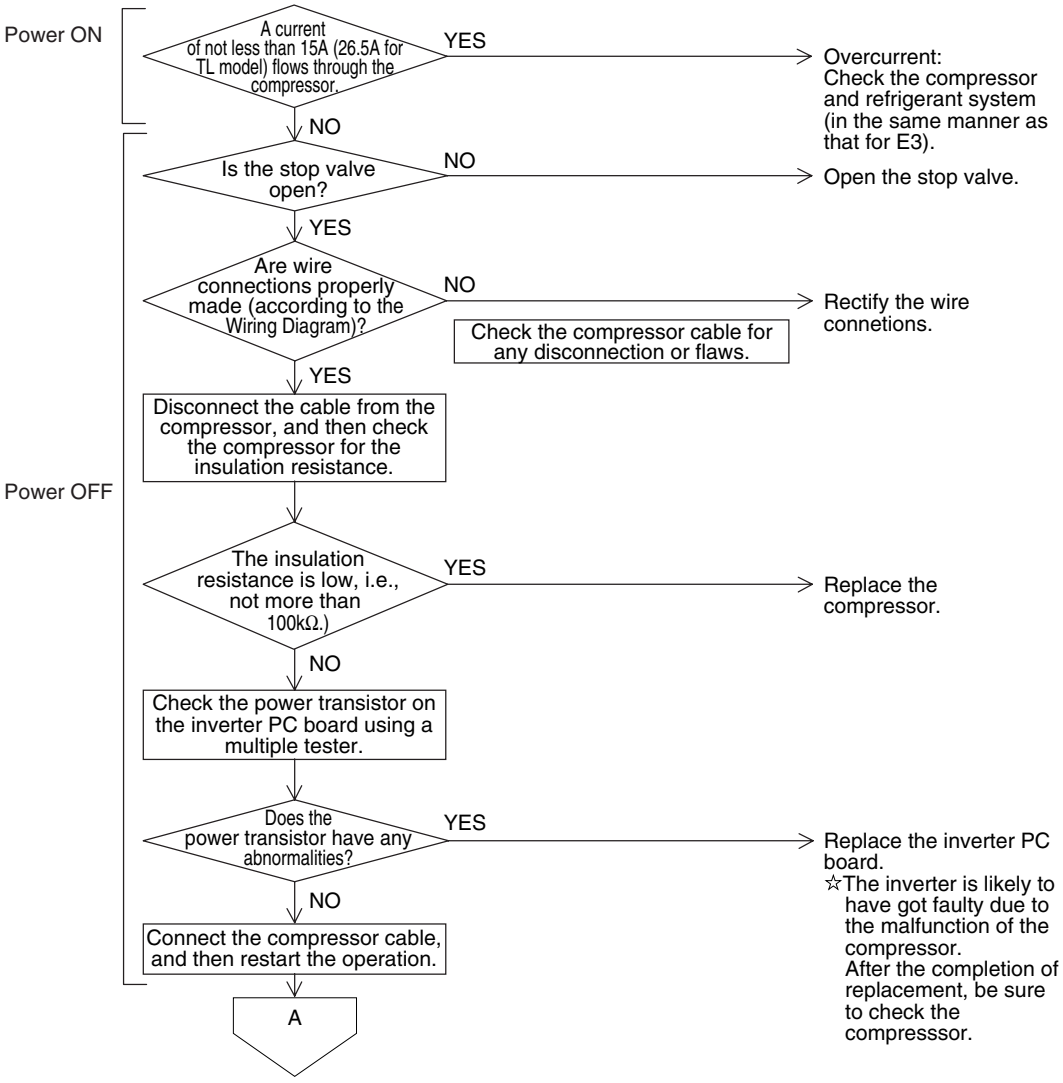
Supposed Causes

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

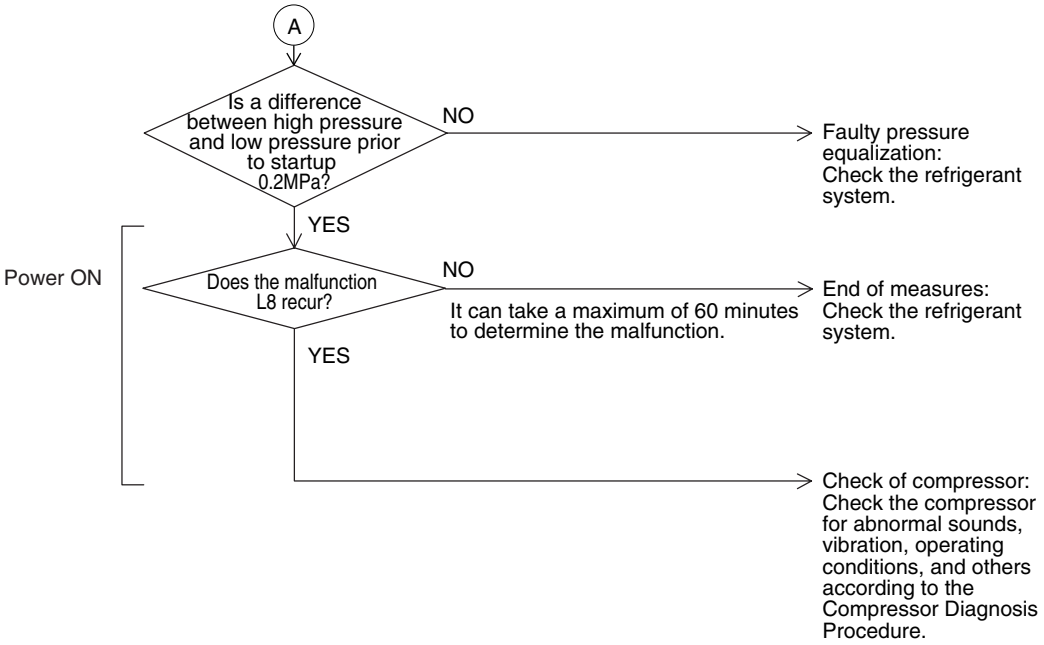
Troubleshooting

Output current check

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



Troubleshooting



3.40 "L9" Outdoor Unit: Inverter Start up Error

Remote Controller Display

L9

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

This malfunction code will be output if overcurrent occurs at the time of startup.

Malfunction Decision Conditions

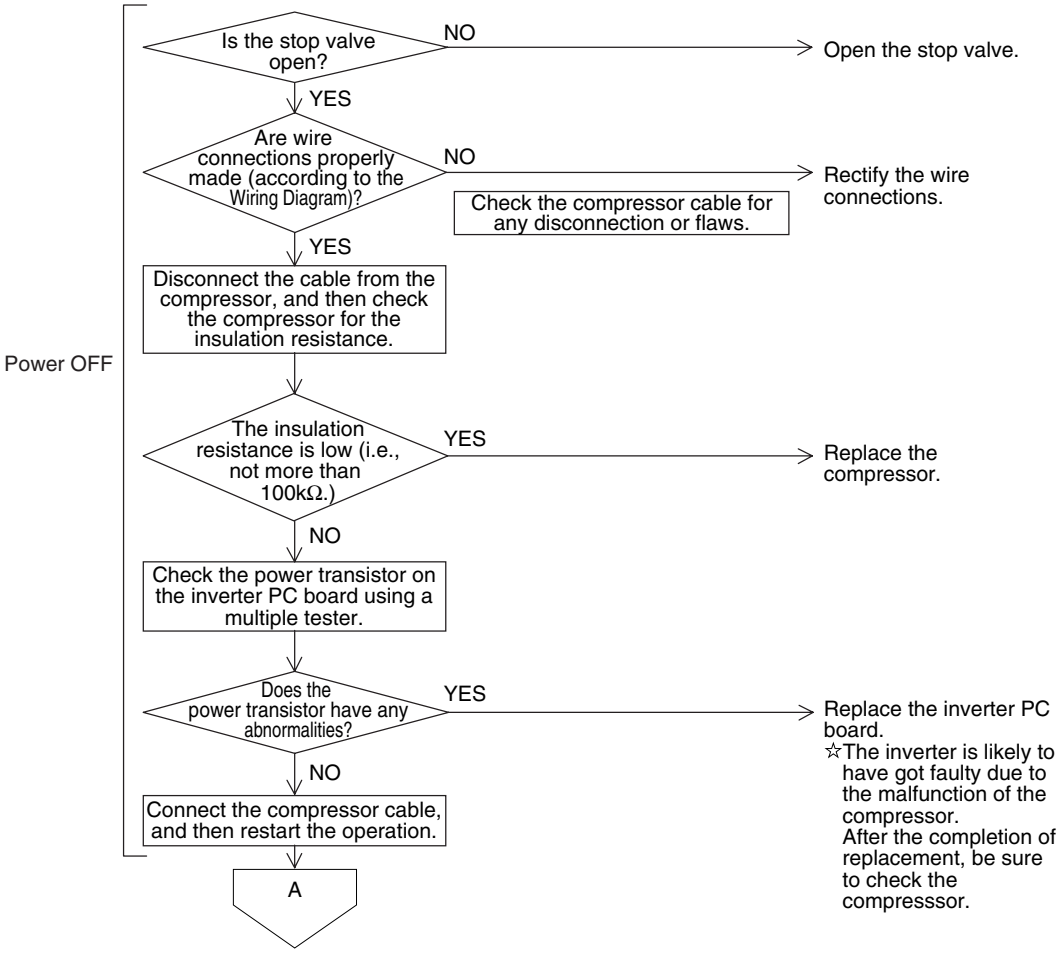
When the startup control is failed.
When an overcurrent is passed to the inverter due to the malfunction of a compressor or electrical system.

Supposed Causes

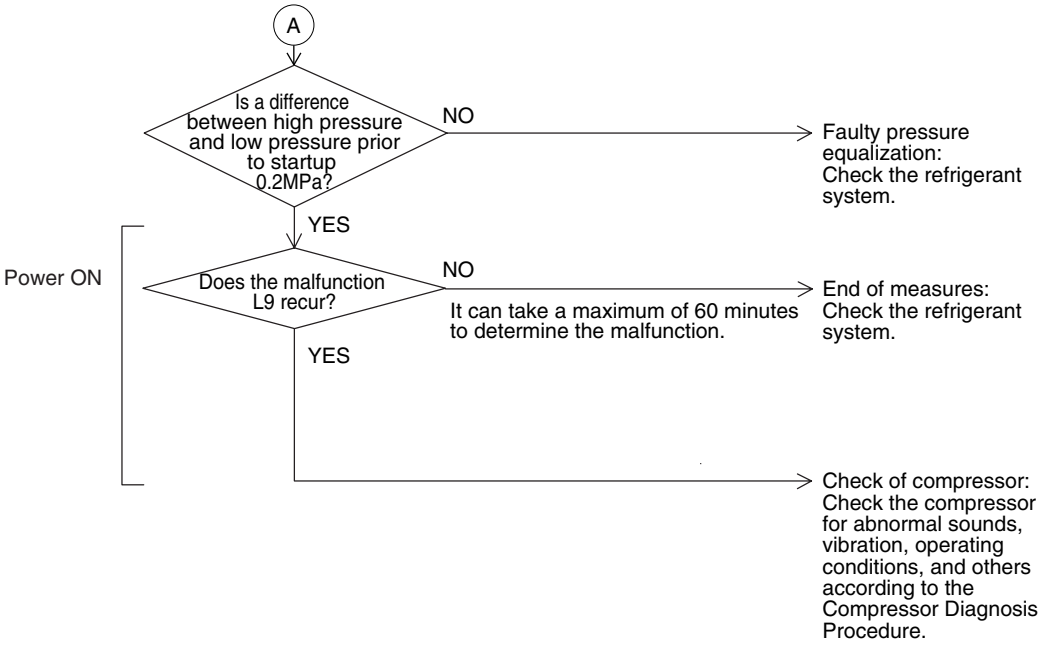
- Defect of compressor
- Pressure differential start
- Defect of inverter PC board
- Failure to open the stop valve
- Faulty compressor connection

Troubleshooting

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



Troubleshooting



3.41 "LC" Outdoor Unit: Malfunction of Transmission Between Inverter and Control PC Board

Remote Controller Display	LC
Applicable Models	RXYQ8P~36P
Method of Malfunction Detection	Check the communication state between inverter PC board and control PC board by micro-computer.
Malfunction Decision Conditions	When the correct communication is not conducted in certain period.
Supposed Causes	■ Malfunction of connection between the inverter PC board and outdoor control PC board ■ Defect of outdoor control PC board (transmission section) ■ Defect of inverter PC board ■ Defect of noise filter ■ Faulty fan inverter ■ Incorrect type of fan inverter ■ Faulty compressor ■ Faulty fan motor

Troubleshooting

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

Power ON

Are the fan transmission wire connectors (X3A: Black, X4A: Yellow) wrongly connected?
- NO → Connect the connectors to the corresponding color (black or yellow).
- YES ↓

Check whether or not the power supply voltage between L2 and N falls in the range of 220 to 240VAC?
- NO → On-site cause. Correct the wiring.
- YES ↓

Power OFF

Is the type (PC No.) of the fan inverter correct?
- NO → Mount the correct type of fan inverter.
- YES ↓

	FAN1	FAN2
RXYQ8P	PC0511-1	-
RXYQ10P	PC0511-1	-
RXYQ12P	PC0511-3	PC0511-4

	FAN1	FAN2
RXYQ8PTL	PC0615-2	-
RXYQ10PTL	PC0615-2	-
RXYQ12PTL	PC0615-1	PC0715-1
RXYQ16PTL	PC0615-1	PC0715-1
RXYQ18PTL	PC0615-2	PC0715-2

Disconnect the cable from the compressor, and then check the compressor for the insulation resistance.

The insulation resistance is low (i.e., not more than 100kΩ.)
- YES → Replace the compressor.
- NO ↓

Disconnect the cable from the fan, and then check the fan motor for the insulation resistance.

The insulation resistance is low (i.e., not more than 1MΩ.)
- YES → Replace the fan motor. Replace the fan driver PC board.
- NO ↓

Check for connector connections: Remove and insert the connectors shown below.

RXYQ-PA
[Fan 1]
- A1P X28A ⇔ X6A A3P
- A1P X20A ⇔ X4A A3P
- A3P X61A ⇔ X402A A2P
- A3P X1A ⇔ X403A A2P
- A3P X5A ⇔ X5A A4P
- A3P X41A ⇔ X3A A4P
- A4P X4A Short connector

[Fan 2]
- A4P X51A ⇔ X5A A8P
- A4P X4A ⇔ X3A A8P
- A8P X4A Short connector

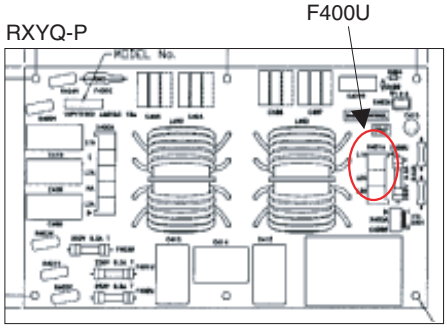
Note) X3A: black
X4A: yellow

RXYQ-PTL
[Fan 1] : A2P
[Fan 2] : A5P

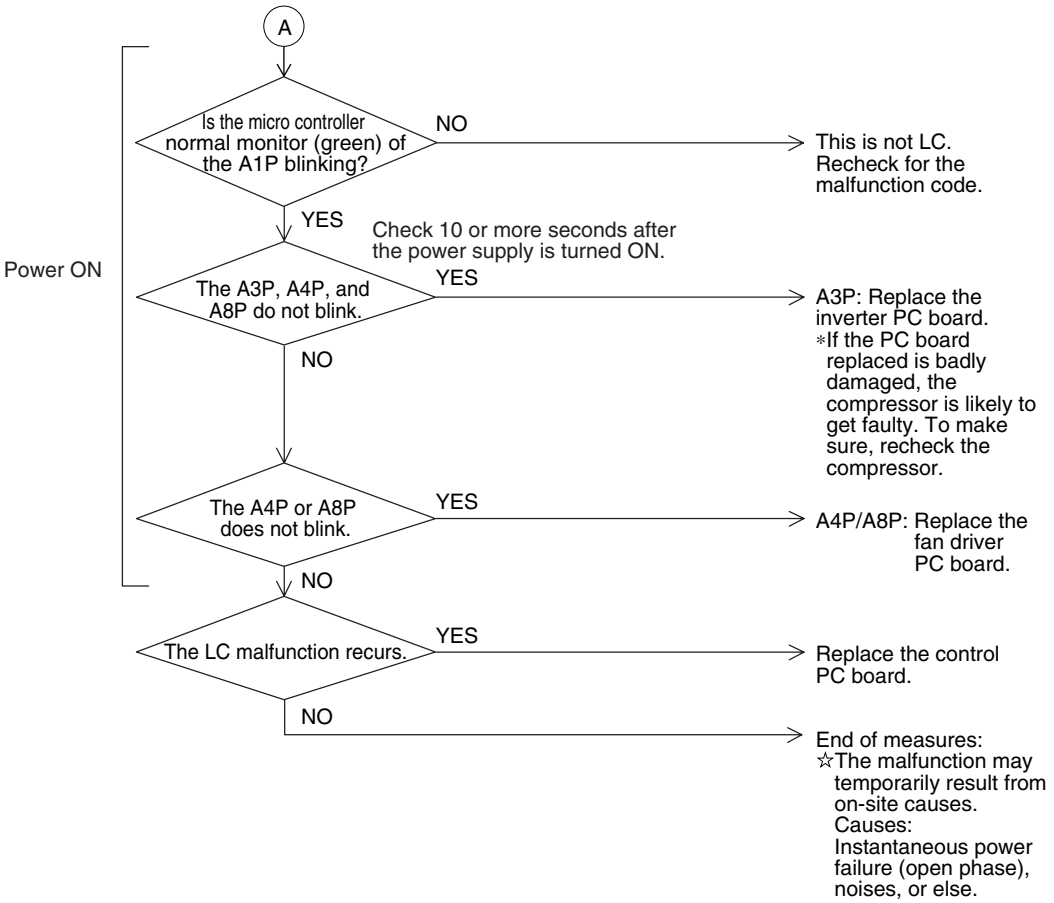
F400U of the A2P has been molten.
- YES → Replace the noise filter of the A2P.
- NO ↓

A

RXYQ-P



Troubleshooting



3.42 "P1" Outdoor Unit: Inverter Over-Ripple Protection

Remote Controller Display

P1

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

Imbalance in supply voltage is detected in PC board.
Imbalance in the power supply voltage causes increased ripple of voltage of the main circuit capacitor in the inverter. Consequently, the increased ripple is detected.

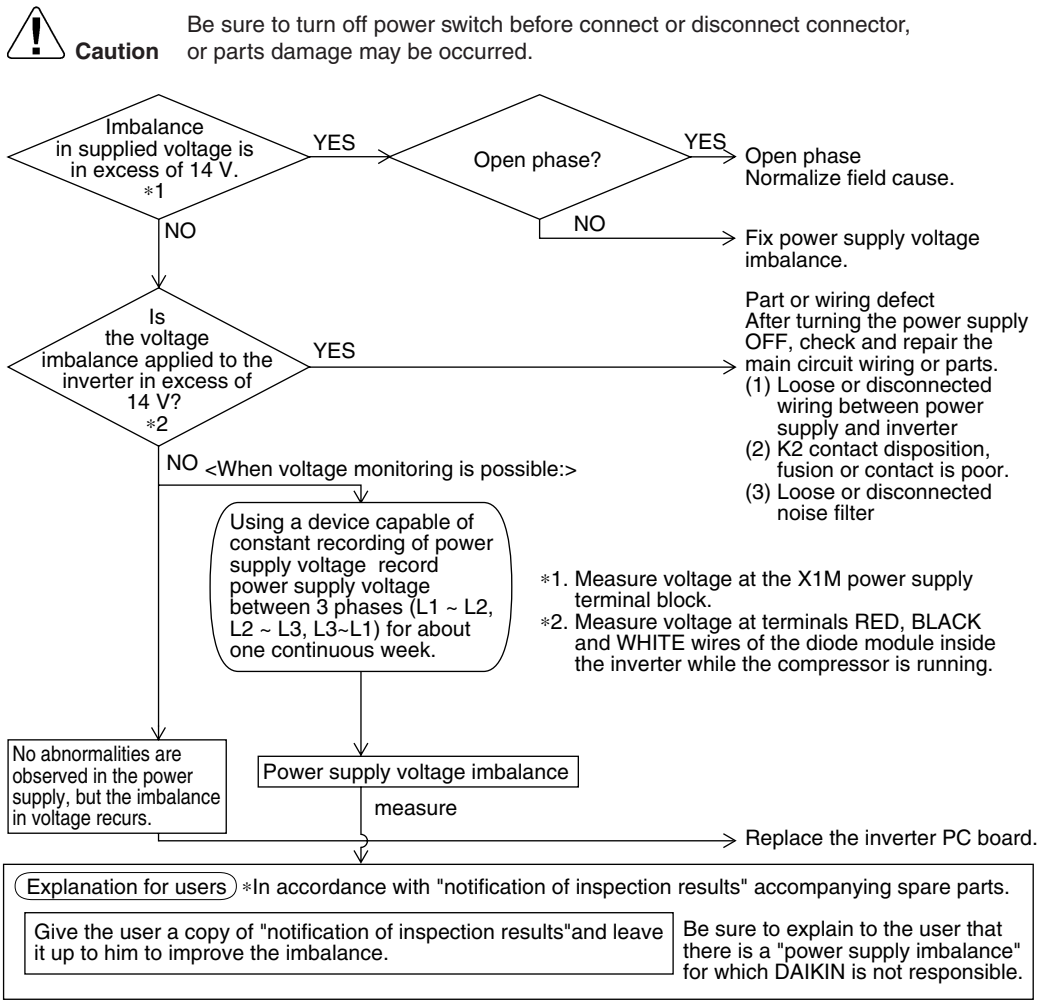
Malfunction Decision Conditions

When the resistance value of thermistor becomes a value equivalent to open or short circuited status.
★ Malfunction is not decided while the unit operation is continued.
"P1" will be displayed by pressing the inspection button.
When the amplitude of the ripple exceeding a certain value is detected for consecutive 4 minutes.

Supposed Causes

- Open phase
- Voltage imbalance between phases
- Defect of main circuit capacitor
- Defect of inverter PC board
- Defect of K2 relay in inverter PC board
- Improper main circuit wiring

Troubleshooting



3.43 "P4" Outdoor Unit: Malfunction of Inverter Radiating Fin Temperature Rise Sensor

Remote Controller Display

P4

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

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

Malfunction Decision Conditions

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

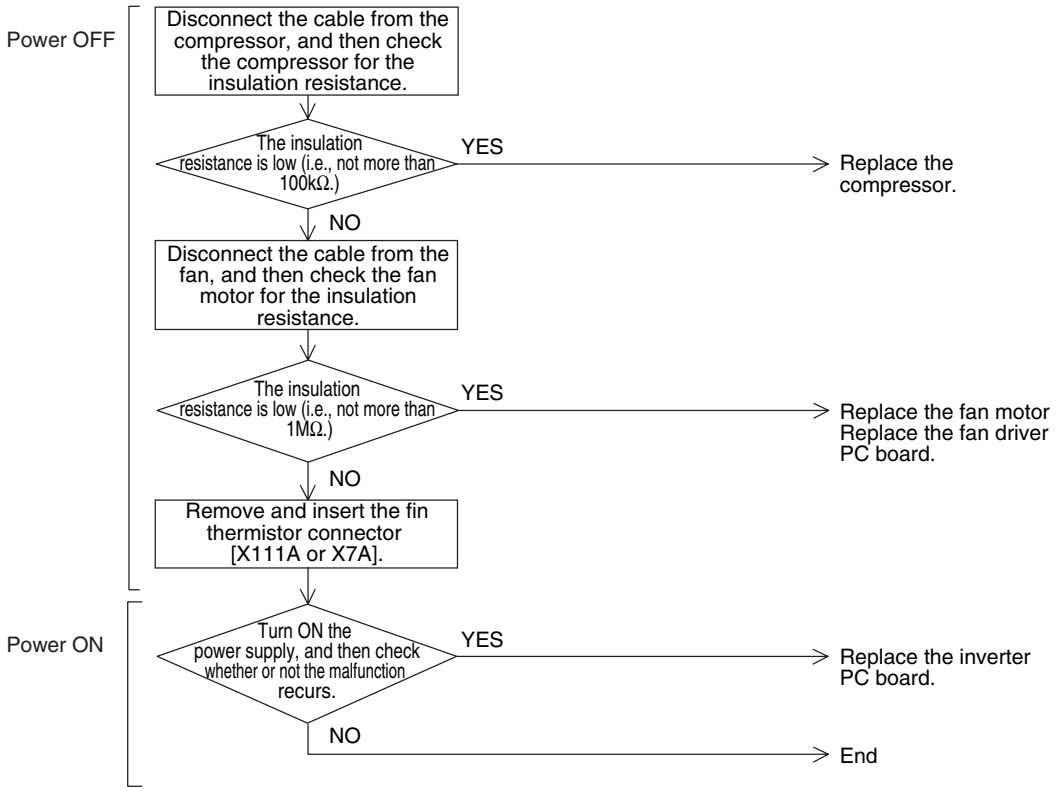
★ Malfunction is not decided while the unit operation is continued.
"P4" will be displayed by pressing the inspection button.

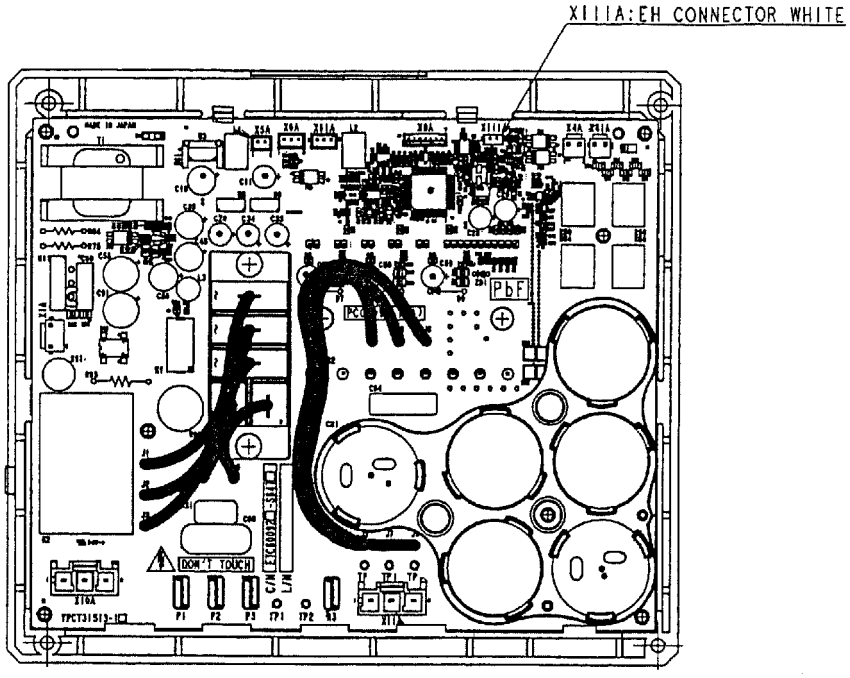
Supposed Causes

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

Troubleshooting

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





Inverter PC board for compressor

∗ Refer to “Thermistor Resistance / Temperature Characteristics” table on P.383.

3.44 "P1" Outdoor Unit: Faulty Field Setting after Replacing Main PC Board or Faulty Combination of PC Board

Remote Controller Display

P1

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

The faulty (or no) field setting after replacing PC board or faulty PC board combination is detected through communications with the inverter.

Malfunction Decision Conditions

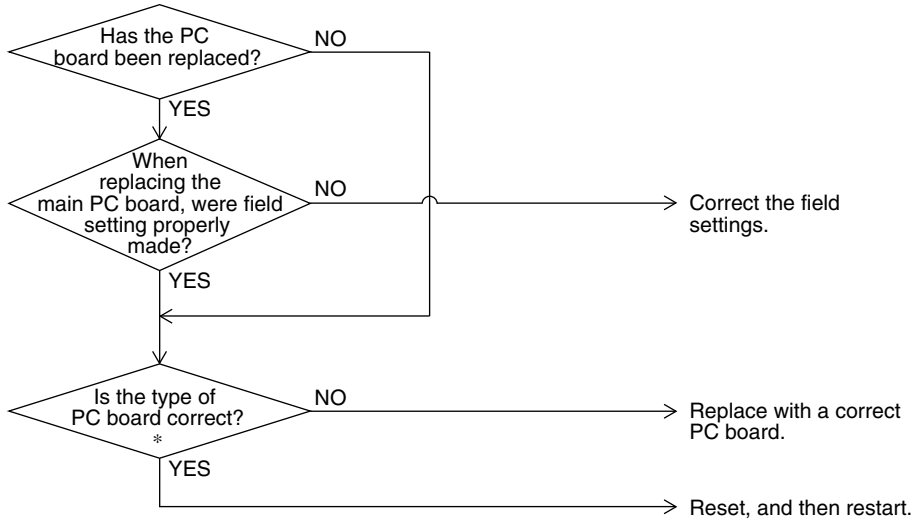
Whether or not the field setting or the type of the PC board is correct through the communication date is judged.

Supposed Causes

- Faulty (or no) field setting after replacing main PC board
- Mismatching of type of PC board

Troubleshooting

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



*Note) Type of PC board mismatching includes;
Main PC board
Inverter PC board (for compressor)
Fan driver PC board

3.45 "UD" Outdoor Unit: Low Pressure Drop Due to Refrigerant Shortage or Electronic Expansion Valve Failure

Remote Controller Display

UD

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

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

Malfunction Decision Conditions

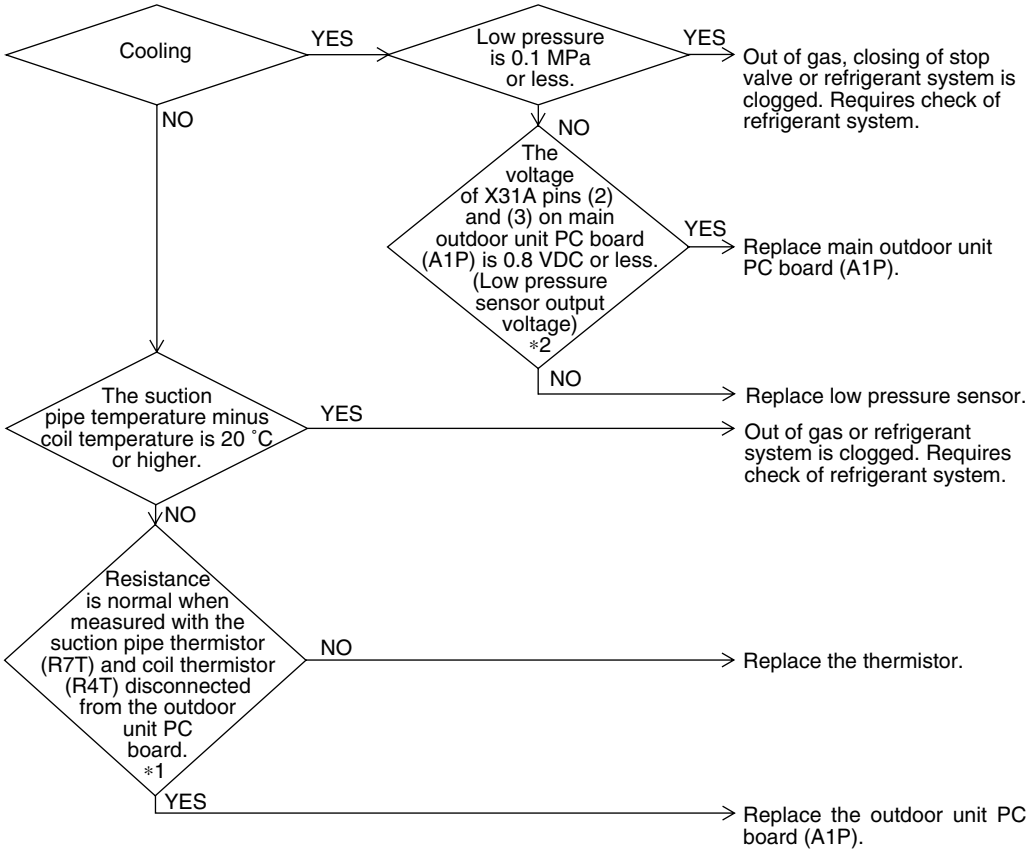
Microcomputer judge and detect if the system is short of refrigerant.
★Malfunction is not decided while the unit operation is continued.

Supposed Causes

- Out of gas or refrigerant system clogging (incorrect piping)
- Defect of pressure sensor
- Defect of outdoor unit PC board (A1P)
- Defect of thermistor R7T or R4T

Troubleshooting

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



*1: Refer to "Thermistor Resistance / Temperature Characteristics" table on P.383.
*2: Refer to "Pressure Sensor, Pressure / Voltage Characteristics" table on P.385.

3.46 "U1" Reverse Phase, Open Phase

Remote Controller Display

U1

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

The phase of each phase are detected by reverse phase detection circuit and right phase or reverse phase are judged.

Malfunction Decision Conditions

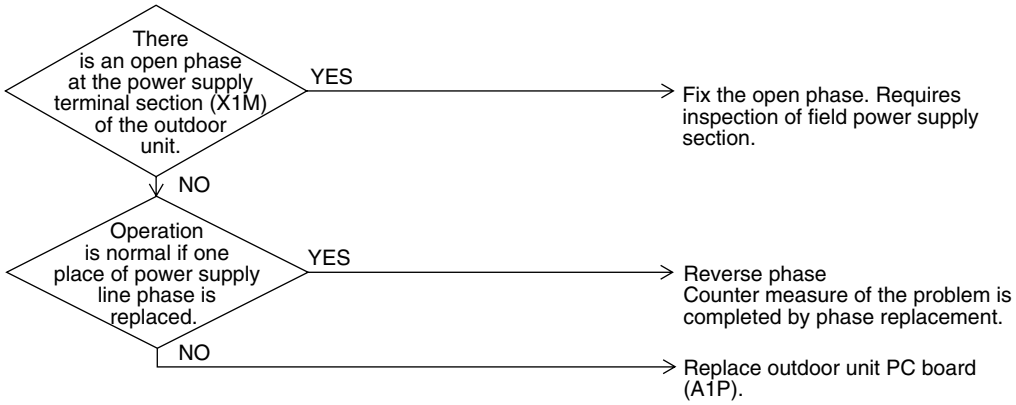
When a significant phase difference is made between phases.

Supposed Causes

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

Troubleshooting

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



3.47 "U2" Outdoor Unit: Power Supply Insufficient or Instantaneous Failure

Remote Controller Display

U2

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

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

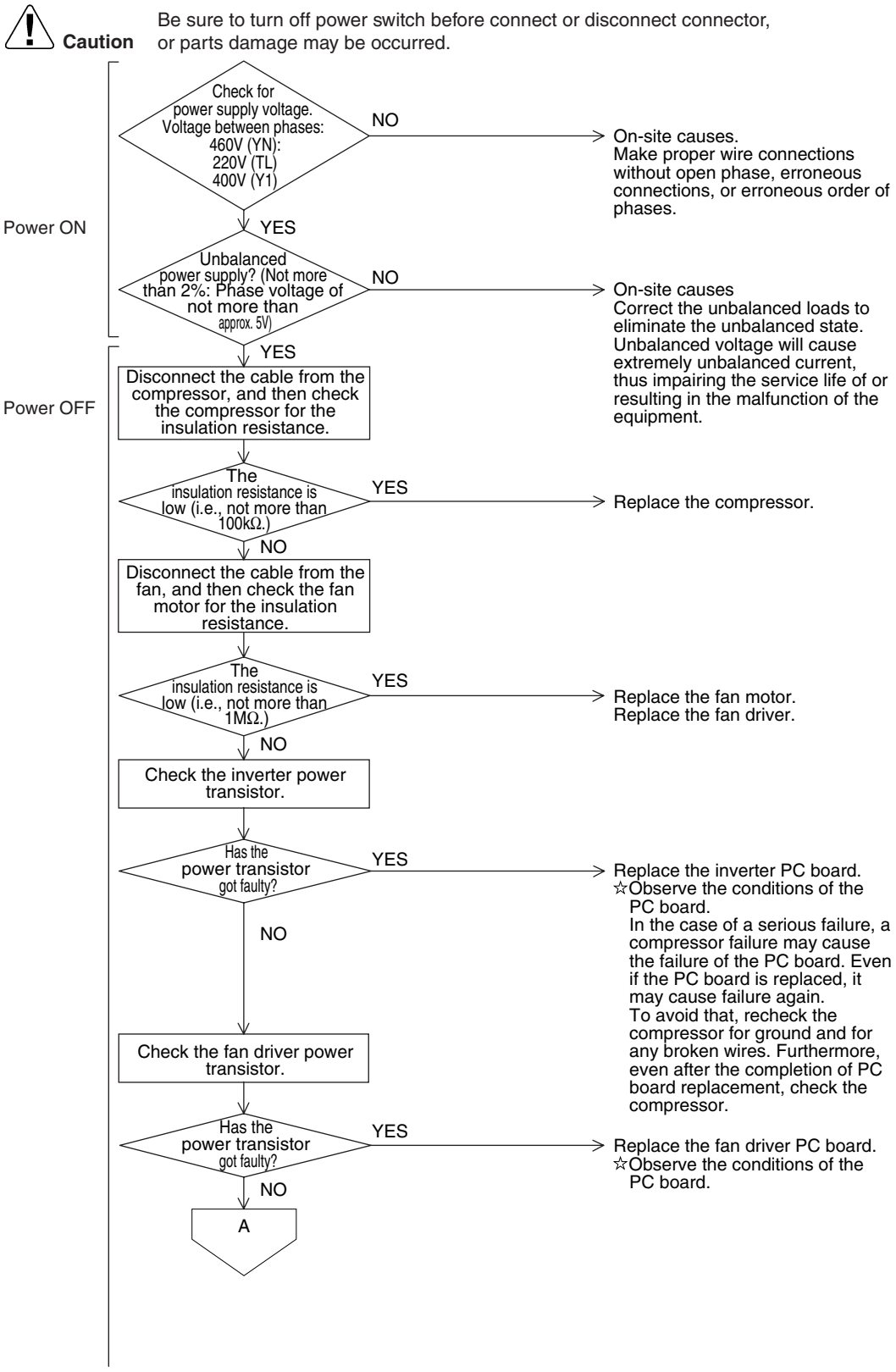
Malfunction Decision Conditions

When the voltage aforementioned is not less than 780V or not more than 320V, or when the current-limiting voltage does not reach 200V or more or exceeds 740V.

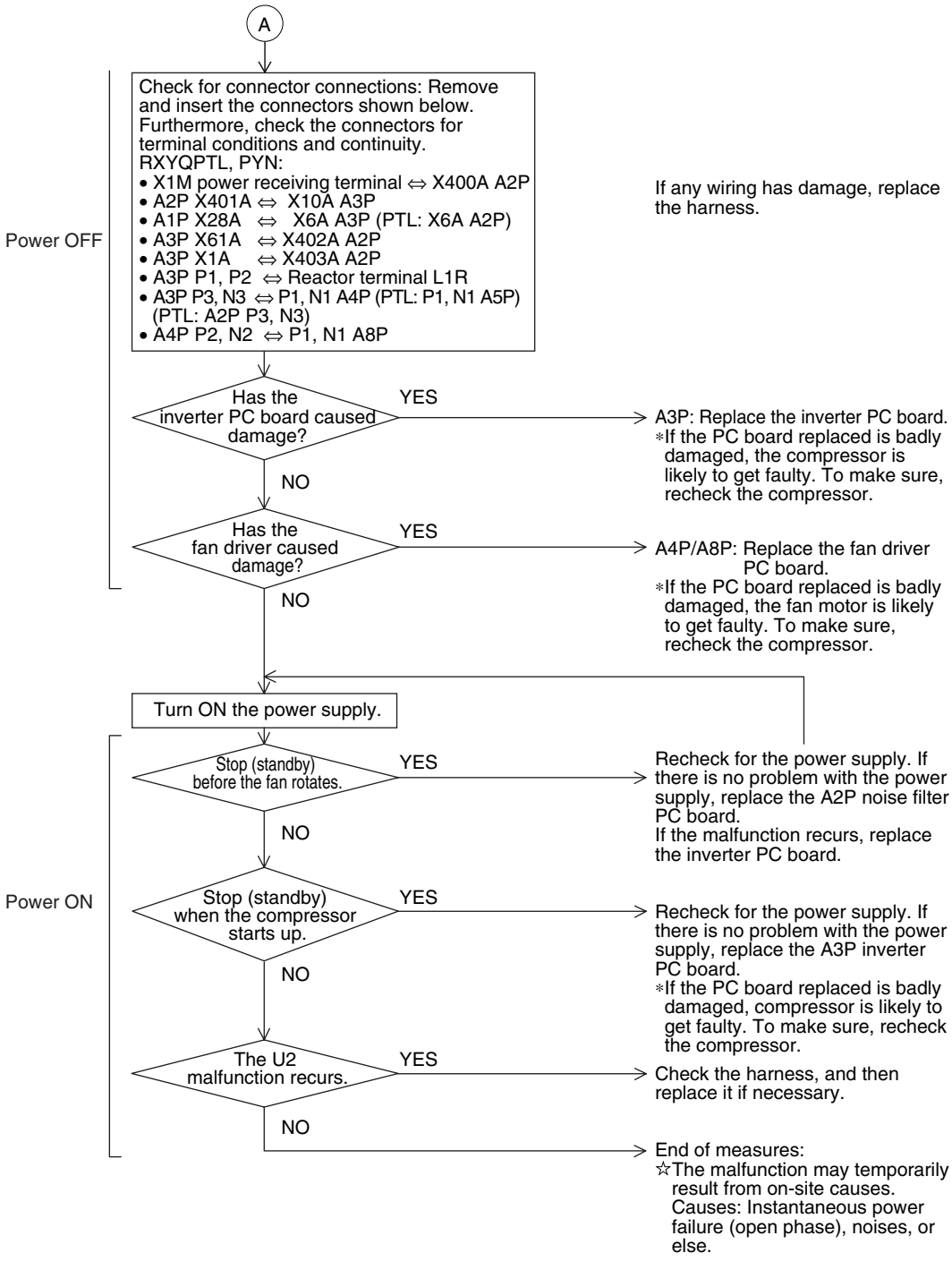
Supposed Causes

- Power supply insufficient
- Instantaneous power failure
- Open phase
- Defect of inverter PC board
- Defect of outdoor control PC board
- Main circuit wiring defect
- Faulty compressor
- Faulty fan motor
- Faulty connection of signal cable

Troubleshooting



Troubleshooting



3.48 "U3" Outdoor Unit: Check Operation not Executed

Remote Controller Display

U3

Applicable Models

RXYQ8P~36P

Method of Malfunction Detection

Check operation is executed or not

Malfunction Decision Conditions

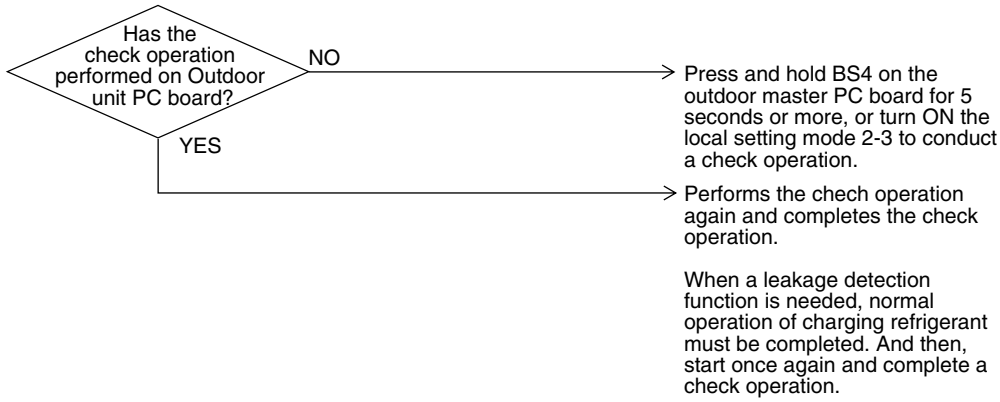
Malfunction is decided when the unit starts operation without check operation.

Supposed Causes

- Check operation is not executed.

Troubleshooting

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

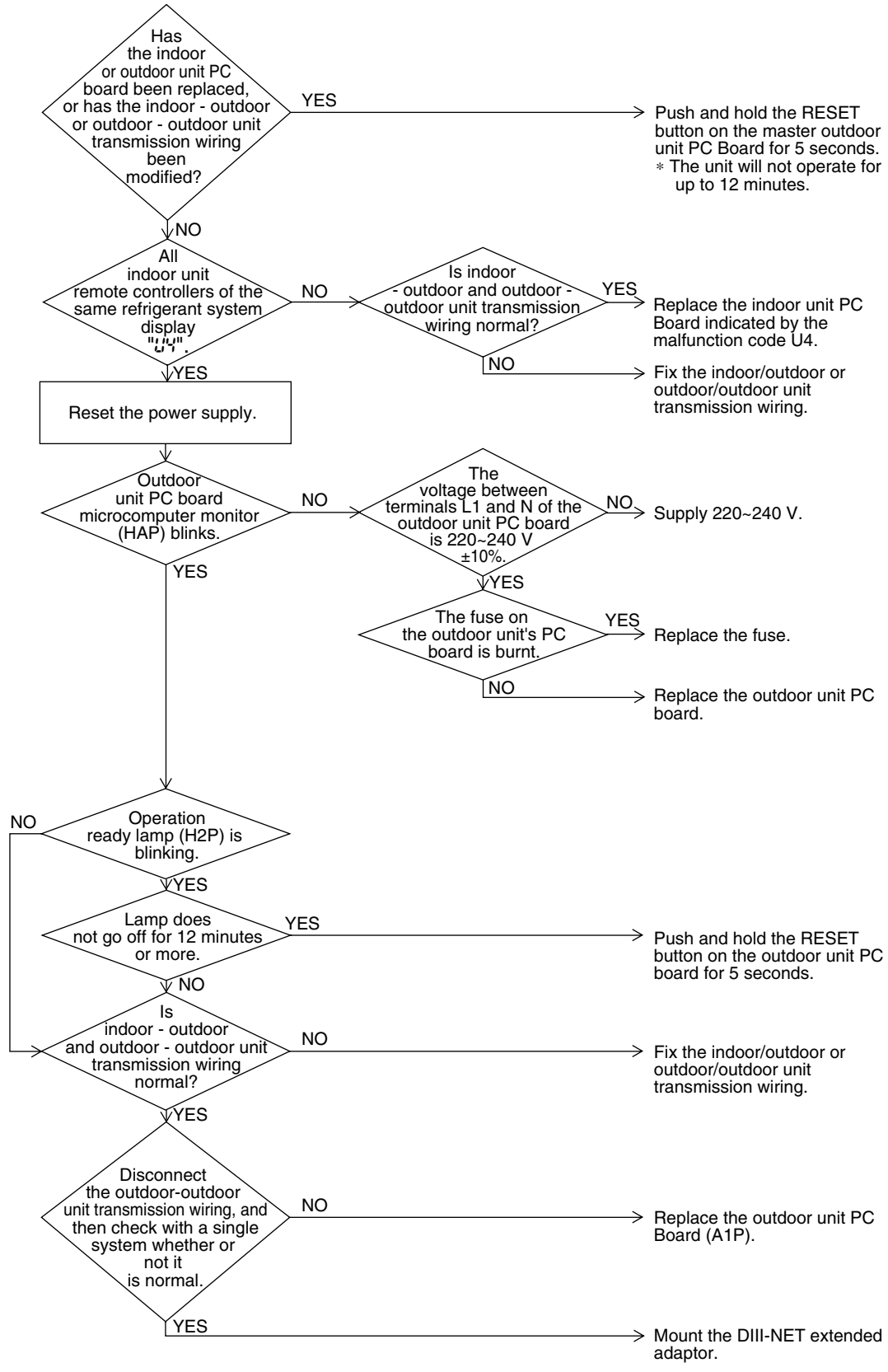


3.49 "U4" Malfunction of Transmission Between Indoor Units

Remote Controller Display	U4
Applicable Models	All model of indoor unit RXYQ8P~36P
Method of Malfunction Detection	Microcomputer checks if transmission between indoor and outdoor units is normal.
Malfunction Decision Conditions	When transmission is not carried out normally for a certain amount of time
Supposed Causes	■ Indoor to outdoor, outdoor to outdoor transmission wiring F1, F2 disconnection, short circuit or wrong wiring ■ Outdoor unit power supply is OFF ■ System address doesn't match ■ Defect of indoor unit PC board ■ Defect of outdoor unit PC board

Troubleshooting

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



3.50 "U5" Indoor Unit: Malfunction of Transmission Between Remote Controller and Indoor Unit

Remote Controller Display

U5

Applicable Models

All models of indoor units

Method of Malfunction Detection

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

Malfunction Decision Conditions

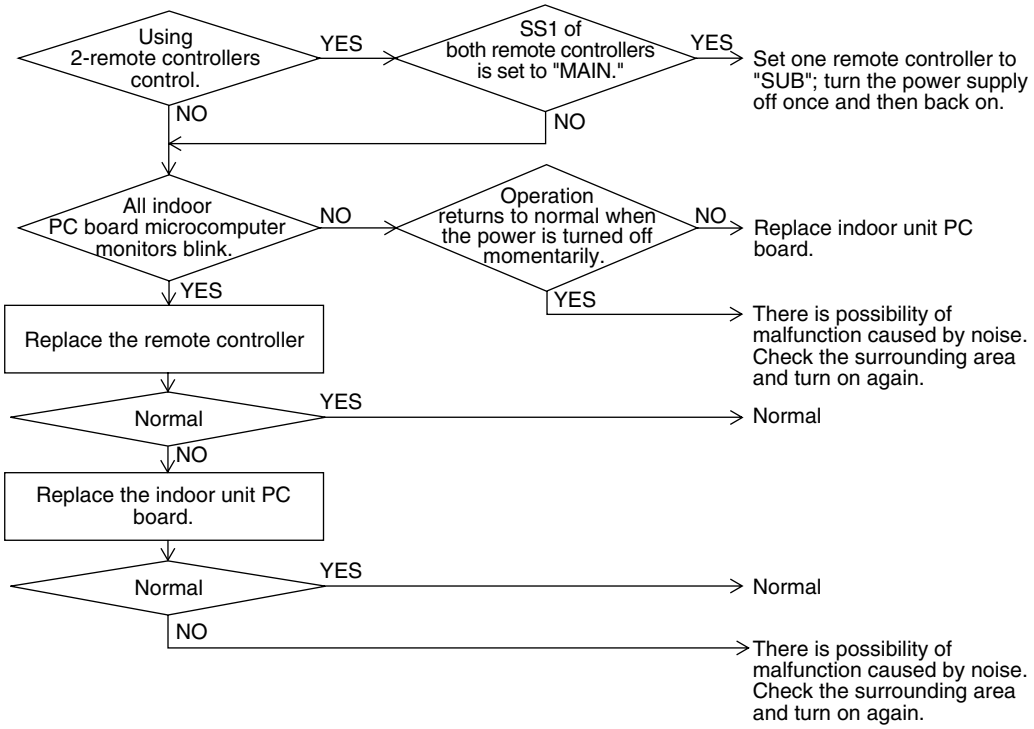
Normal transmission does not continue for specified period.

Supposed Causes

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

Troubleshooting

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

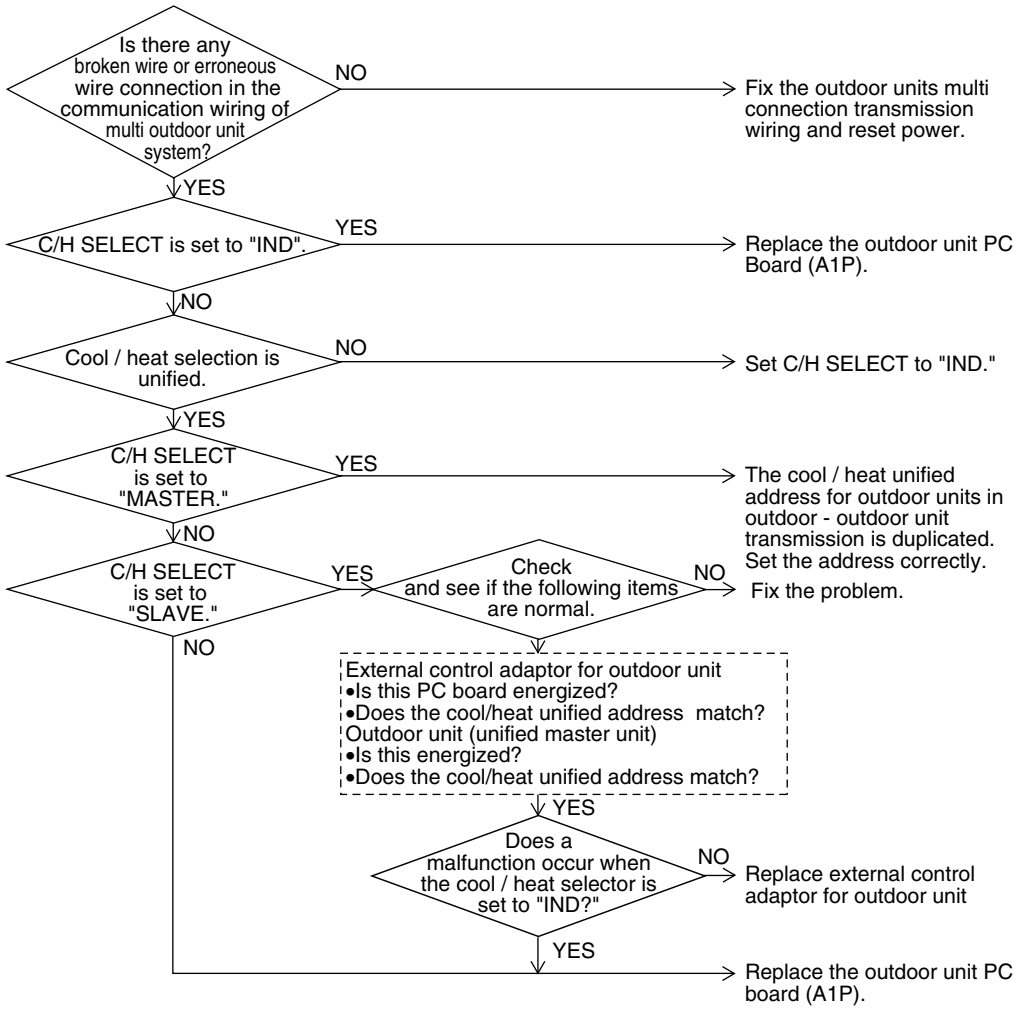


3.51 "U7" Indoor Unit: Malfunction of Transmission Between Outdoor Units

Remote Controller Display	U7
Applicable Models	All models of indoor units
Method of Malfunction Detection	Microcomputer checks if transmission between outdoor units.
Malfunction Decision Conditions	When transmission is not carried out normally for a certain amount of time
Supposed Causes	■ Improper connection of transmission wiring between outdoor unit and external control adaptor for outdoor unit ■ Improper connection of transmission wiring between outdoor units. ■ 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 external control adaptor for outdoor unit

Troubleshooting

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



3.52 "U8" Indoor Unit: Malfunction of Transmission Between Main and Sub Remote Controllers

Remote Controller Display

U8

Applicable Models

All models of indoor units

Method of Malfunction Detection

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

Malfunction Decision Conditions

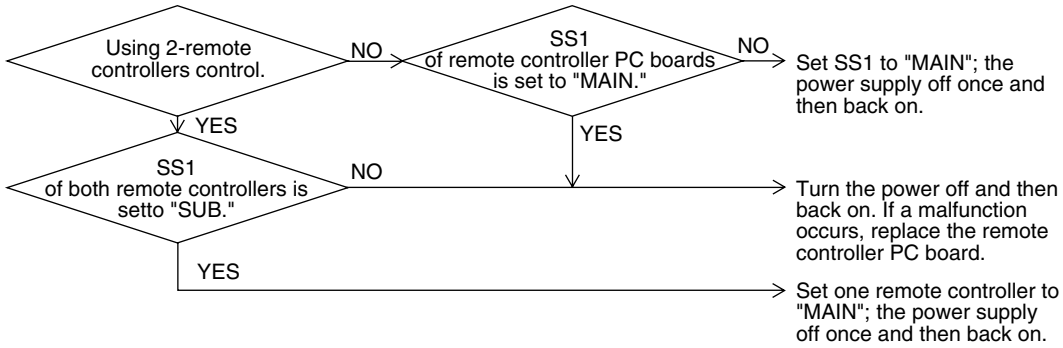
Normal transmission does not continue for specified period.

Supposed Causes

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

Troubleshooting

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



3.53 "U9" Indoor Unit: Malfunction of Transmission Between Indoor and Outdoor Units in the Same System

Remote Controller Display

U9

Applicable Models

All models of indoor units

Method of Malfunction Detection

Detect the malfunction signal of any other indoor unit within the system concerned.

Malfunction Decision Conditions

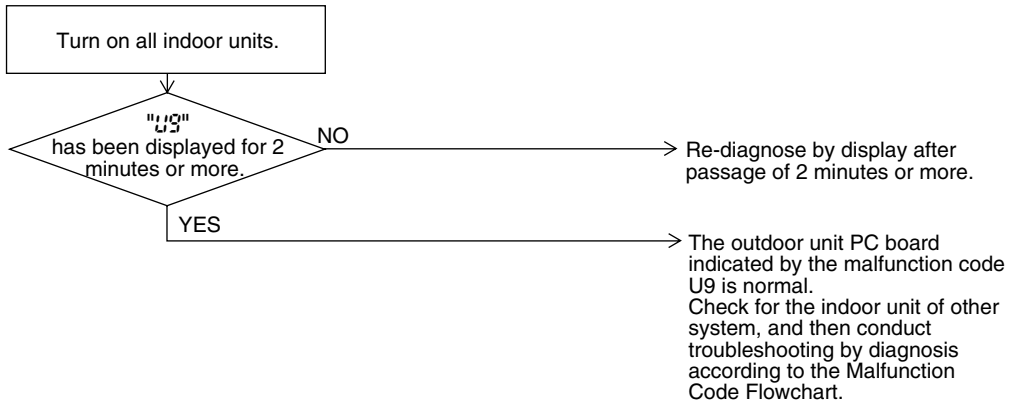
When the malfunction decision is made on any other indoor unit within the system concerned.

Supposed Causes

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

Troubleshooting

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

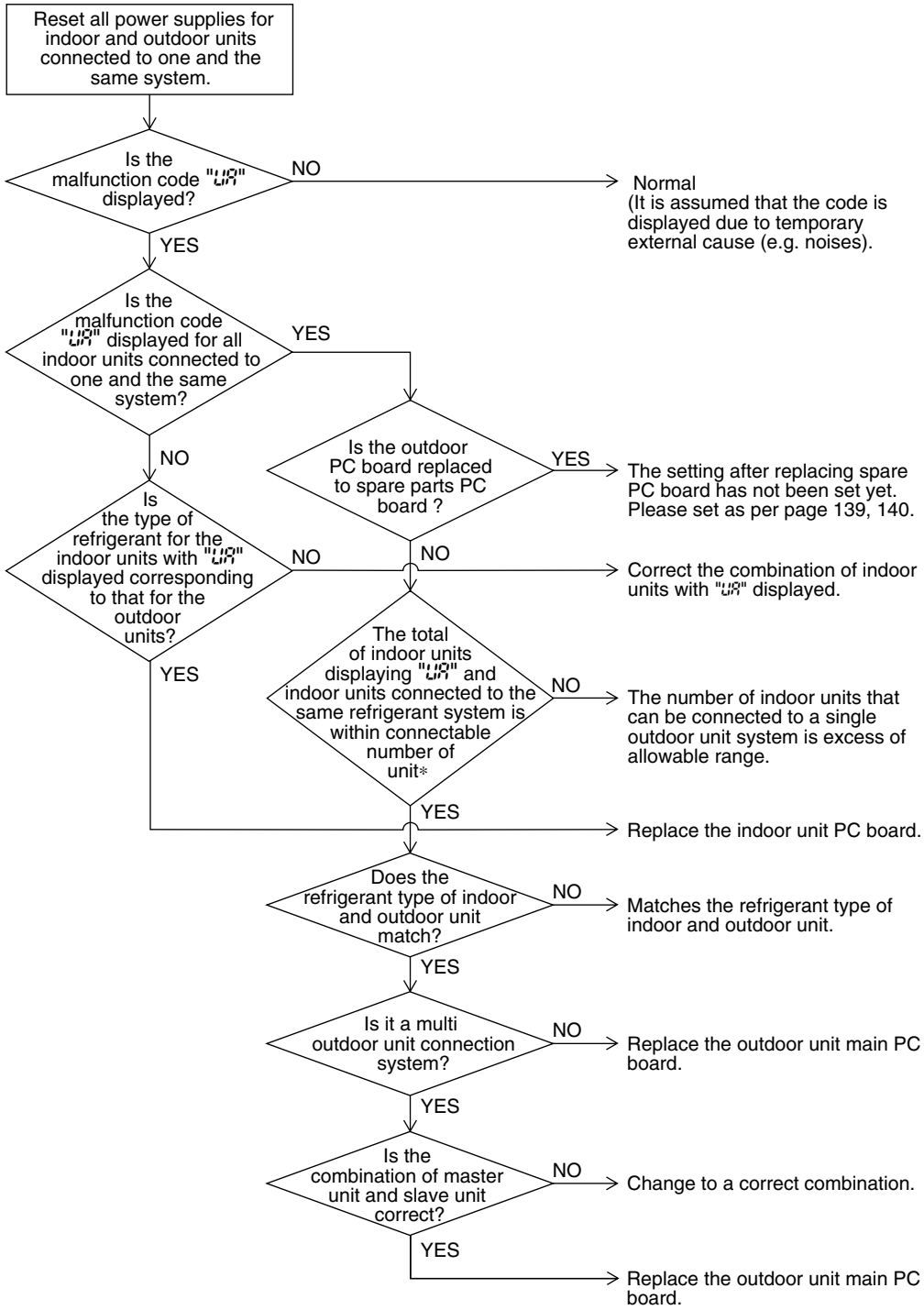


3.54 "UA" Improper Combination of Indoor and Outdoor Units, Indoor Units and Remote Controller

Remote Controller Display	UA
Applicable Models	All models of indoor unit RXYQ8P~36P
Method of Malfunction Detection	A difference occurs in data by the type of refrigerant between indoor and outdoor units. The number of indoor units is out of the allowable range.
Malfunction Decision Conditions	The malfunction decision is made as soon as either of the abnormalities aforementioned is detected.
Supposed Causes	■ Excess of connected indoor units ■ Defect of outdoor unit PC board (A1P) ■ Mismatching of the refrigerant type of indoor and outdoor unit. ■ Setting of outdoor PC board was not conducted after replacing to spare parts PC board.

Troubleshooting

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



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

3.55 "UE" Address Duplication of Centralized Controller

Remote Controller Display

UE

Applicable Models

All models of indoor unit
Centralized controller

Method of Malfunction Detection

The principal indoor unit detects the same address as that of its own on any other indoor unit.

Malfunction Decision Conditions

The malfunction decision is made as soon as the abnormality aforementioned is detected.

Supposed Causes

- Address duplication of centralized controller

Troubleshooting

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

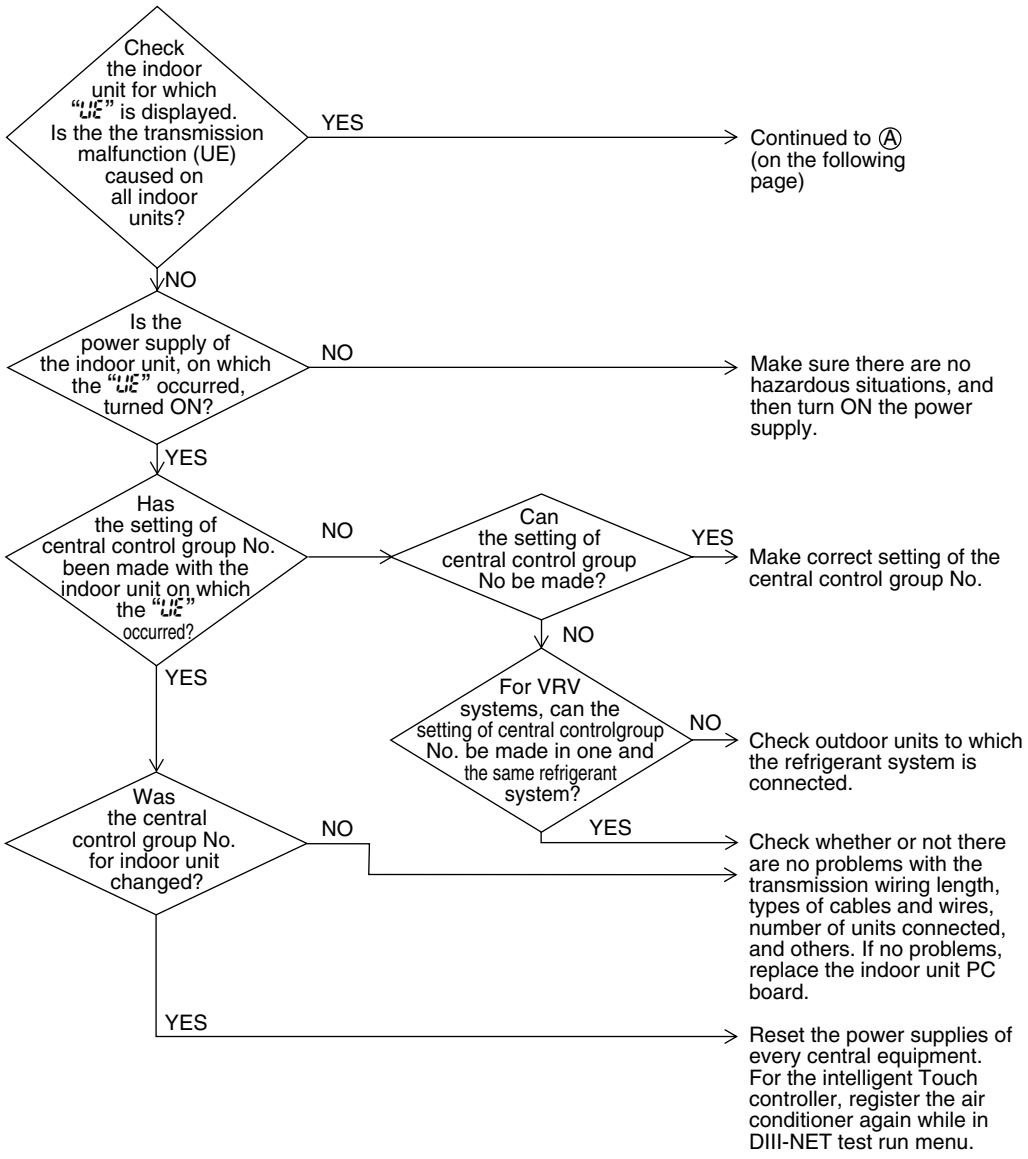
The centralized address is duplicated. → Make setting change so that the centralized address will not be duplicated.

3.56 "UE" Malfunction of Transmission Between Centralized Controller and Indoor Unit

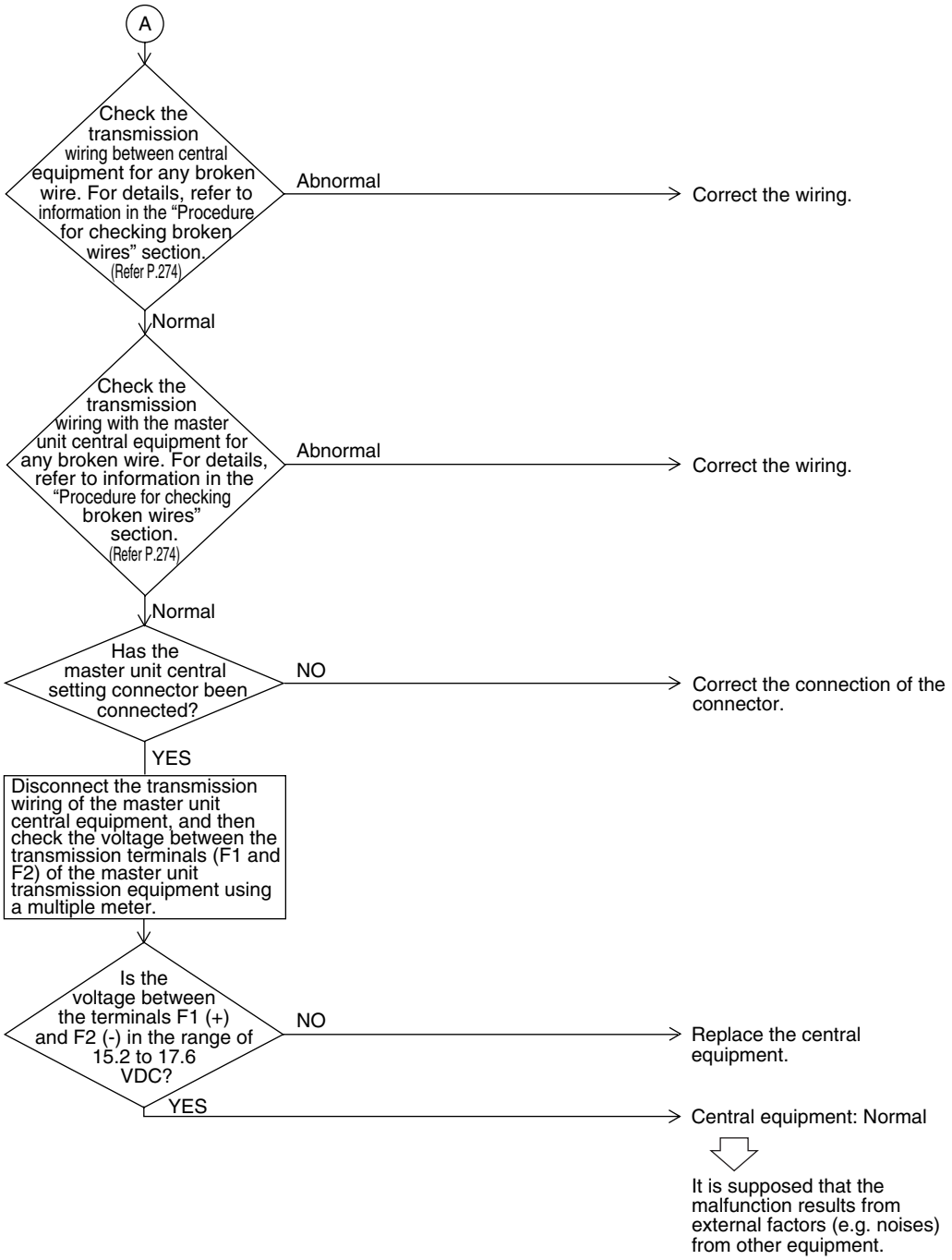
Remote Controller Display	UE
Applicable Models	All models of indoor units Intelligent Touch Controller Centralized controller Schedule timer
Method of Malfunction Detection	Microcomputer checks if transmission between indoor unit and centralized controller is normal.
Malfunction Decision Conditions	When transmission is not carried out normally for a certain amount of time
Supposed Causes	■ Malfunction of transmission between optional controllers for centralized control and indoor unit ■ Connector for setting master controller is disconnected. (or disconnection of connector for independent / combined use changeover switch.) ■ Failure of PC board for central remote controller ■ Defect of indoor unit PC board

Troubleshooting

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



Troubleshooting



3.57 "UF" System is not Set yet

Remote Controller Display

UF

Applicable Models

All models of indoor units
RXYQ8P~36P

Method of Malfunction Detection

On check operation, the number of indoor units in terms of transmission is not corresponding to that of indoor units that have made changes in temperature.

Malfunction Decision Conditions

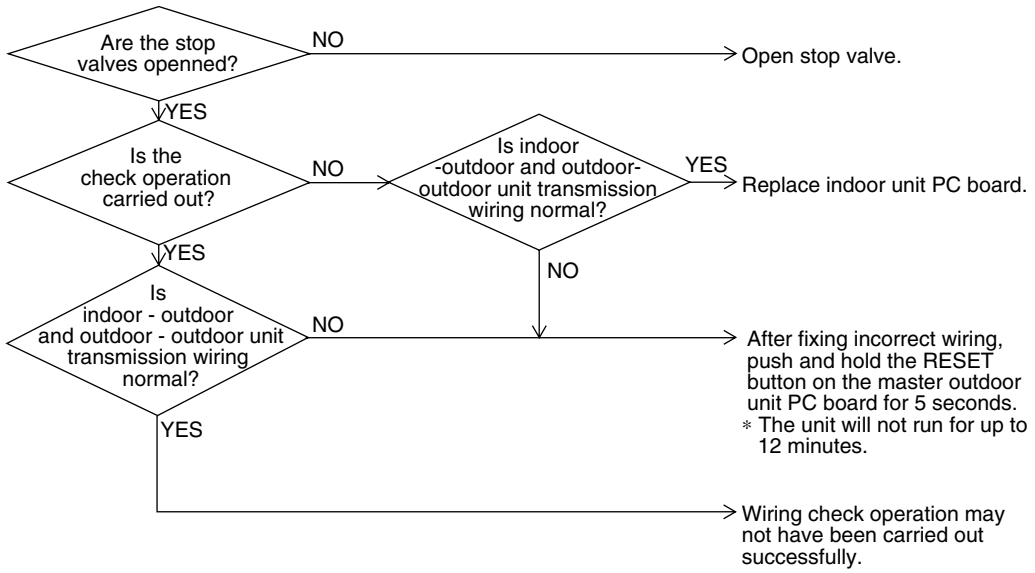
The malfunction is determined as soon as the abnormality aforementioned is detected through checking the system for any erroneous connection of units on the check operation.

Supposed Causes

- Improper connection of transmission wiring between indoor-outdoor units and outdoor-outdoor units
- Failure to execute check operation
- Defect of indoor unit PC board
- Stop valve is left in closed

Troubleshooting

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



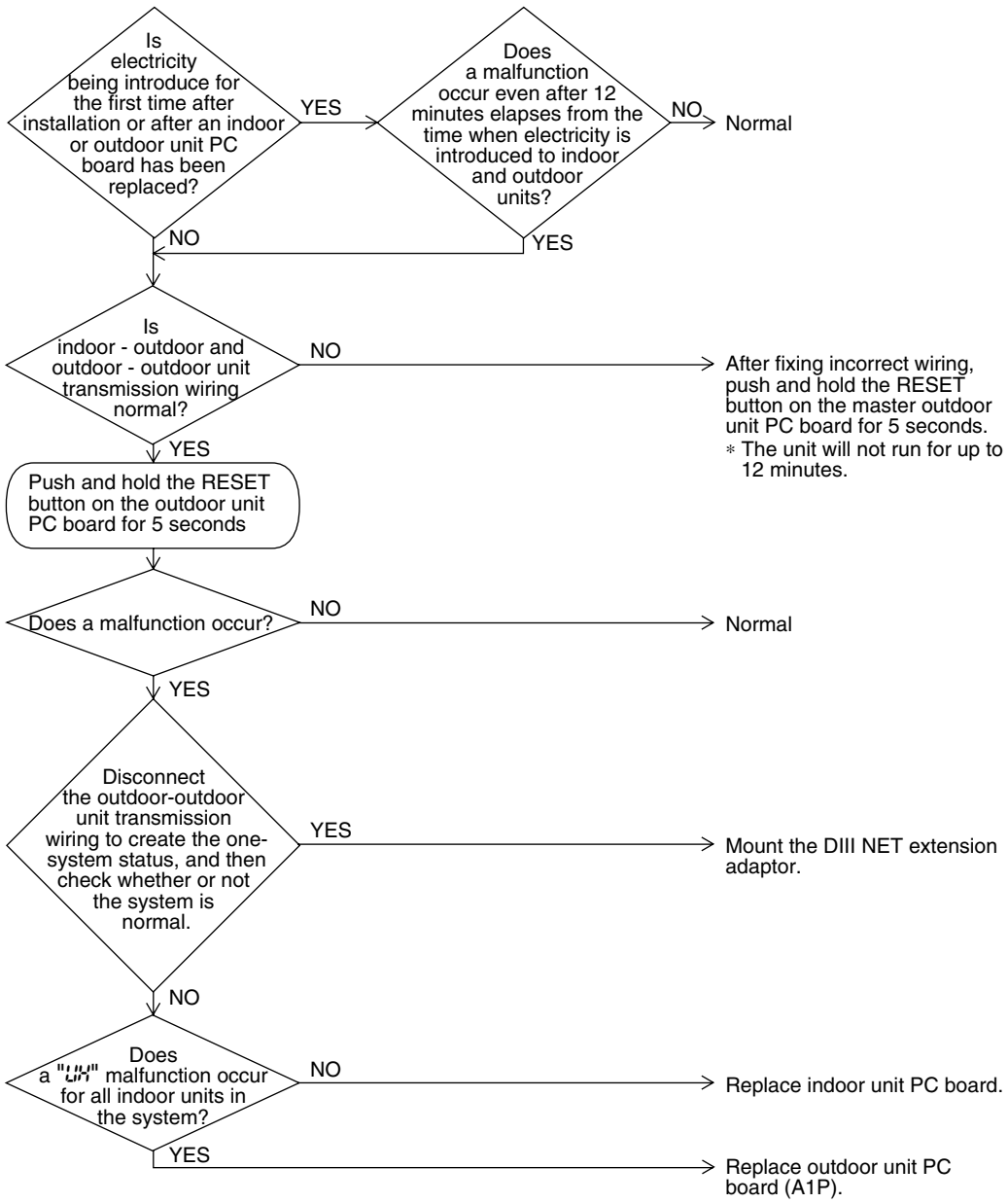
Note: Wiring check operation may not be successful if carried out after the outdoor unit has been off for more than 12 hours, or if it is not carried out after running all connected indoor units in the fan mode for at least an hour.

3.58 "UH" Malfunction of System, Refrigerant System Address Undefined

Remote Controller Display	UH
Applicable Models	All models of indoor units RXYQ8P~36P
Method of Malfunction Detection	Detect an indoor unit with no address setting.
Malfunction Decision Conditions	The malfunction decision is made as soon as the abnormality aforementioned is detected.
Supposed Causes	■ Improper connection of transmission wiring between indoor-outdoor units and outdoor-outdoor units ■ Defect of indoor unit PC board ■ Defect of outdoor unit PC board (A1P)

Troubleshooting

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



4. Troubleshooting (OP: Central Remote Controller)

4.1 "M1" PC Board Defect

Remote Controller Display

M1

Applicable Models

Central remote controller
Schedule timer

Method of Malfunction Detection

Detect an abnormality in the DIII-NET polarity circuit.

Malfunction Decision Conditions

When + polarity and - polarity are detected at the same time.

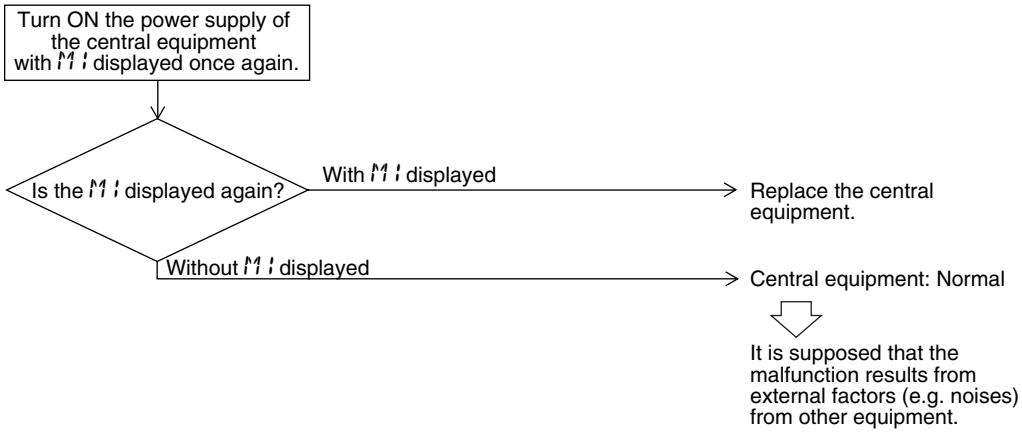
Supposed Causes

- Defect of central remote controller PC board
- Defect of Schedule timer PC board

Troubleshooting

Replace the central remote controller.

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

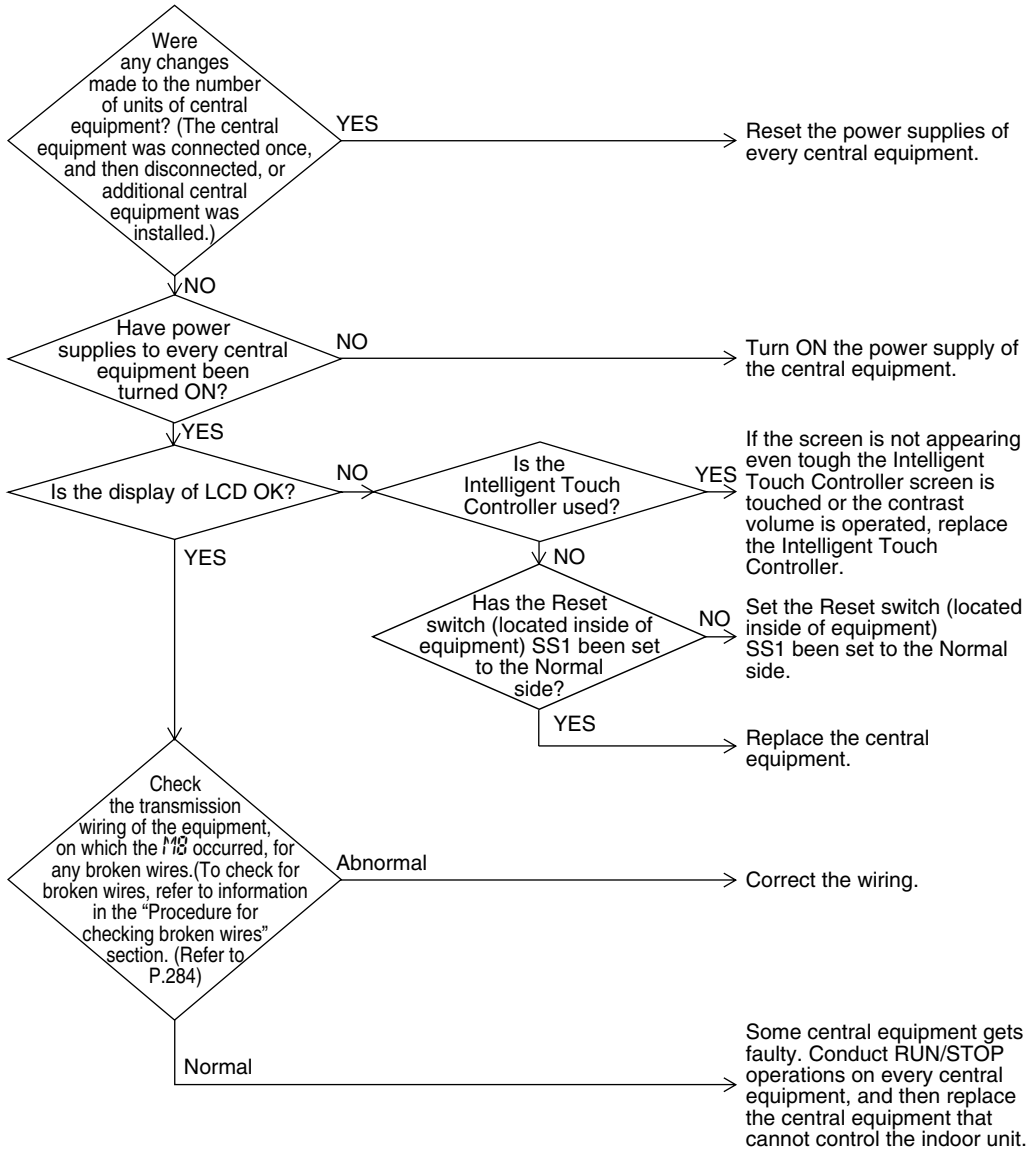


4.2 "M8" Malfunction of Transmission Between Optional Controllers for Centralized Control

Remote Controller Display	M8
Applicable Models	Central remote controller Intelligent Touch Controller Schedule timer
Method of Malfunction Detection	Detect the malfunction according to DIII-NET transmission data. (The system will be automatically reset.)
Malfunction Decision Conditions	When no master controller is present at the time of the startup of slave controller. When the centralized controller, which was connected once, shows no response.
Supposed Causes	■ Malfunction of transmission between optional controllers for centralized control ■ Defect of PC board of optional controllers for centralized control

Troubleshooting

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

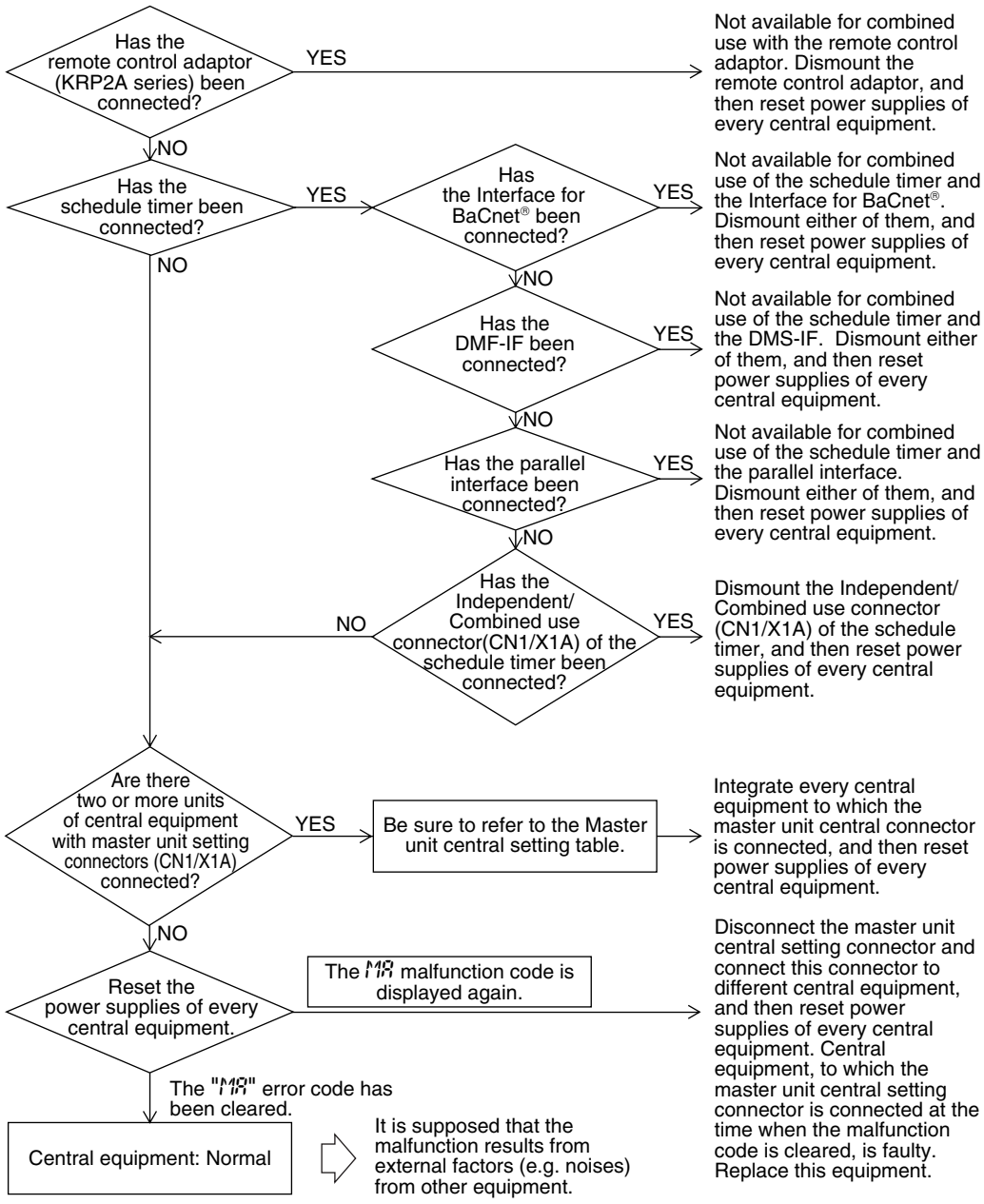


4.3 "MA" Improper Combination of Optional Controllers for Centralized Control

Remote Controller Display	MA
Applicable Models	Central remote controller Intelligent touch controller Schedule timer
Method of Malfunction Detection	Detect the malfunction according to DIII-NET transmission data.
Malfunction Decision Conditions	When the schedule timer is set to individual use mode, other central component is present. When multiple master controller are present. When the remote control adaptor is present.
Supposed Causes	■ Improper combination of optional controllers for centralized control ■ More than one master controller is connected ■ Defect of PC board of optional controller for centralized control

Troubleshooting

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



4.4 "MC" Address Duplication, Improper Setting

Remote Controller Display

MC

Applicable Models

Central remote controller Intelligent Touch Controller
Schedule timer

Method of Malfunction Detection

Detect the malfunction according to DIII-NET transmission data.

Malfunction Decision Conditions

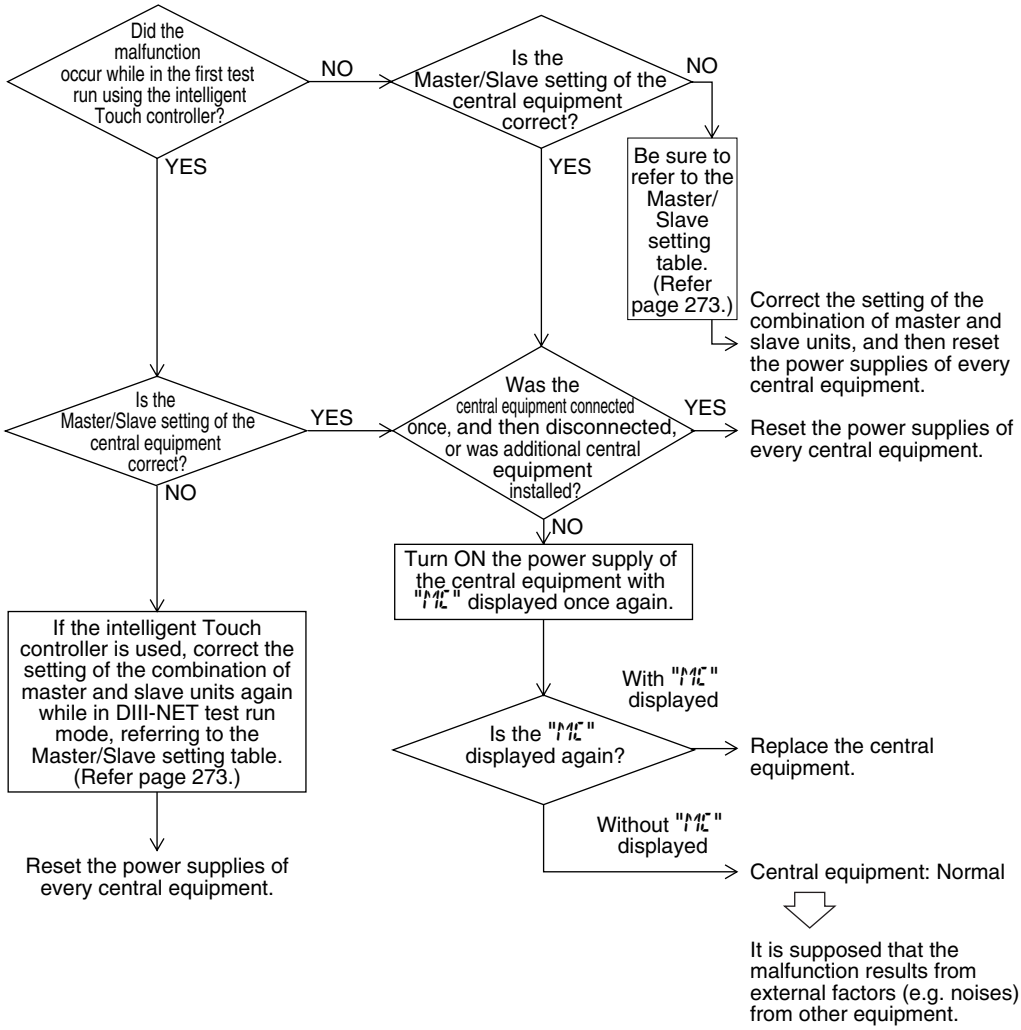
- Two or more units of central remote controllers and Intelligent Touch Controllers are connected, and all of them are set to master unit central setting or slave unit central setting.
- Two units of schedule timers are connected.

Supposed Causes

- Address duplication of centralized controller

Troubleshooting

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



Master-Slave Unit Setting Table

Combination of Intelligent Touch Controller and Central Remote Controller



∗ Pattern	#1		#2		#3		#4	
	1-00~4-15	Master/ Slave	5-00~8-15	Master/ Slave	1-00~4-15	Master/ Slave	5-00~8-15	Master/ Slave
①	CRC	Master	CRC	Master	CRC	Slave	CRC	Slave
②	CRC	Master	—	—	CRC	Slave	—	—
③	Intelligent Touch controller	Master	—	—	Intelligent Touch controller	Slave	—	—
④	CRC	Master	—	—	Intelligent Touch controller	Slave	—	—
⑤	Intelligent Touch controller	Master	—	—	CRC	Slave	—	—
⑥	CRC	Master	—	—	—	—	—	—
⑦	Intelligent Touch controller	Master	—	—	—	—	—	—

CRC: Central remote controller <DCS302C1>
Intelligent Touch controller: <DCS601C51>
∗The patterns marked with "∗" have nothing to do with those described in the list of Setting of master unit central setting connector.

Master Unit Central Connector Setting Table

The master unit central setting connector (CN1/X1A) is mounted at the factory.

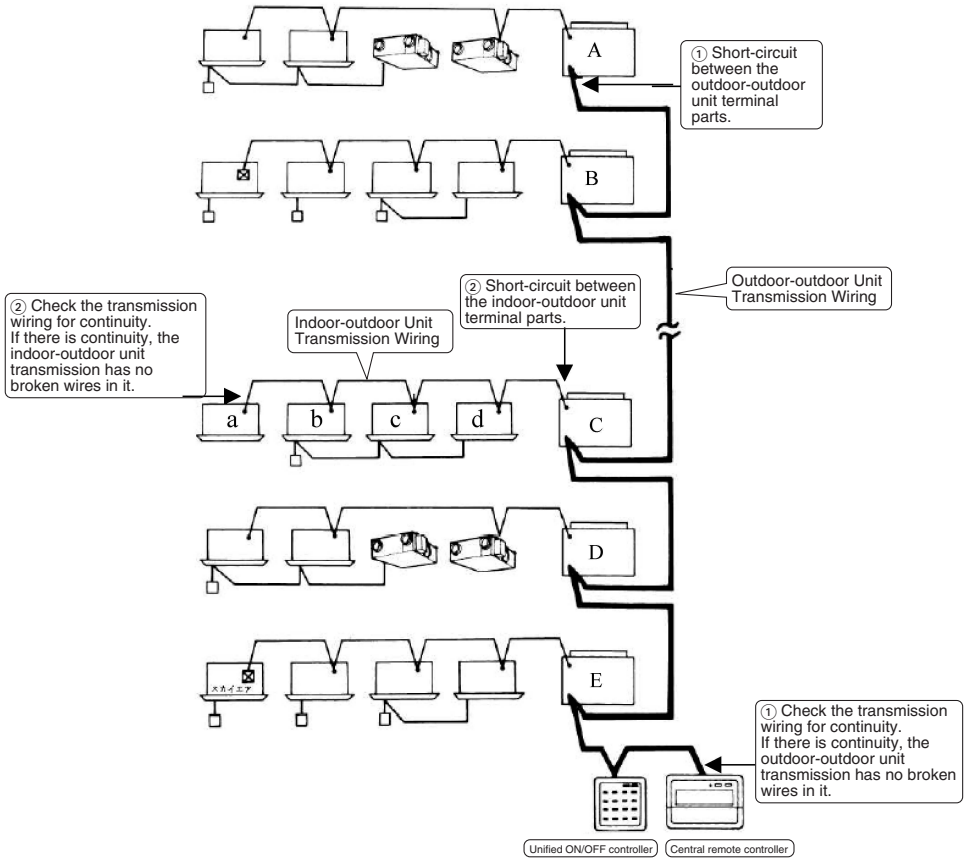
- To independently use a single unit of the intelligent Touch controller or a single unit of the central remote controller, do not dismount the master unit central setting connector (i.e., use the connector with the factory setting unchanged).
- To independently use the schedule timer, insert an independent-use setting connector. No independent-use setting connector has been mounted at the factory. Insert the connector, which is attached to the casing of the main unit, in the PC board (CN1/X1A). (Independent-use connector=Master unit central setting connector)
- To use two or more central equipment in combination, make settings according to the table shown below.

<table>
<tr><th rowspan="2">Pattern</th><th colspan="4">Central equipment connection pattern</th><th colspan="4">Setting of master unit central setting connector(*2)</th></tr>
<tr><th>Intelligent Touch controller</th><th>Central remote controller</th><th>Unified ON/OFF controller</th><th>Schedule timer</th><th>Intelligent Touch controller</th><th>Central remote controller</th><th>Unified ON/OFF controller</th><th>Schedule timer</th></tr>
<tr><td>①</td><td>1 to 2 units</td><td></td><td></td><td>× (*1)</td><td>Only a single unit: "Provided", Others: "Not provided"</td><td></td><td></td><td></td></tr>
<tr><td>②</td><td rowspan="2">1 unit</td><td rowspan="2">1 unit</td><td></td><td>× (*1)</td><td rowspan="2">Provided</td><td rowspan="2">Not provided</td><td></td><td></td></tr>
<tr><td>③</td><td rowspan="3">1 to 8 units</td><td>× (*1)</td><td rowspan="3">All "Not provided"</td><td></td></tr>
<tr><td>④</td><td>1 to 2 units</td><td></td><td>× (*1)</td><td>Only a single unit: "Provided", Others: "Not provided"</td><td></td><td></td></tr>
<tr><td>⑤</td><td></td><td rowspan="4">1 to 4 units</td><td></td><td></td><td></td><td rowspan="4">Only a single unit: "Provided", Others: "Not provided"</td><td></td><td></td></tr>
<tr><td>⑥</td><td></td><td rowspan="2">1 to 16 units</td><td>1 unit</td><td></td><td rowspan="3">All "Not provided"</td><td>Not provided</td></tr>
<tr><td>⑦</td><td></td><td></td><td></td><td></td></tr>
<tr><td>⑧</td><td></td><td></td><td>1 unit</td><td></td><td>Not provided</td></tr>
<tr><td>⑨</td><td></td><td></td><td rowspan="2">1 to 16 units</td><td></td><td></td><td></td><td rowspan="2">Only a single unit: "Provided", Others: "Not provided"</td><td></td></tr>
<tr><td>⑩</td><td></td><td></td><td>1 unit</td><td></td><td></td><td>Not provided</td></tr>
<tr><td>⑪</td><td></td><td></td><td></td><td>1 unit</td><td></td><td></td><td></td><td>Provided</td></tr>
</table>

(*1) The intelligent Touch controller and the schedule timer are not available for combined use.
(*2) The intelligent Touch controller, central remote controller, and the unified ON/OFF controller have been set to "Provided with the master unit central setting connector" at the factory. The schedule timer has been set to "Not provided with the master unit central setting connector" at the factory, which is attached to the casing of the main unit.

Procedures for Detecting Broken Wires in Transmission Wiring for Control

1. Procedure for checking outdoor-outdoor unit transmission wiring for broken wires
   On the system shown below, turn OFF the power supply to all equipment, short-circuit between the outdoor-outdoor unit terminal parts F1 and F2 in the "Outdoor Unit A" that is farthest from the central remote controller, and then conduct continuity checks between the transmission wiring terminal blocks F1 and F2 of the central remote controller using a multiple meter. If there is continuity between the said terminal blocks, the outdoor-outdoor unit transmission wiring has no broken wires in it.
   If there is no continuity, the transmission wiring may have broken wires. With the outdoor-outdoor unit terminal parts of the "Outdoor Unit A" short-circuited, conduct continuity checks between the transmission wiring terminal blocks F1 and F2 of the unified ON/OFF controller. If there is no continuity as well, conduct continuity checks between the outdoor-outdoor unit terminal parts of the "Outdoor Unit E", between the outdoor-outdoor unit terminal parts of the "Outdoor Unit D", between the outdoor-outdoor unit terminal parts of the "Outdoor Unit C", … in the order described, thus identifying the place with continuity.
   If the place with continuity can be identified, there may be broken wires in places before the said place with continuity.
2. Procedure for checking indoor-outdoor unit transmission wiring for broken wires (for checking the indoor-outdoor unit transmission wiring of the "Outdoor Unit C" for broken wires)
   Turn OFF the power supply to all equipment, short-circuit between the indoor-outdoor unit terminal parts F1 and F2 in the "Outdoor Unit C, and then conduct continuity checks between the transmission wirings F1 and F2 of the "Indoor Unit a" that is farthest from the "Outdoor Unit C" using a multiple meter. If there is continuity between the said transmission wirings, the indoor-outdoor unit transmission wiring has no broken wires in it.
   If there is no continuity, the transmission wiring may have broken wires. With the indoor-outdoor unit terminal parts of the "Outdoor Unit C" short-circuited, identify the place with continuity in the transmission wiring of the "Indoor Unit b", transmission wiring of the "Indoor Unit c", and transmission wiring of the "Indoor Unit d" in the order described.
   If the place with continuity can be identified, there may be broken wires in places before the said place with continuity.



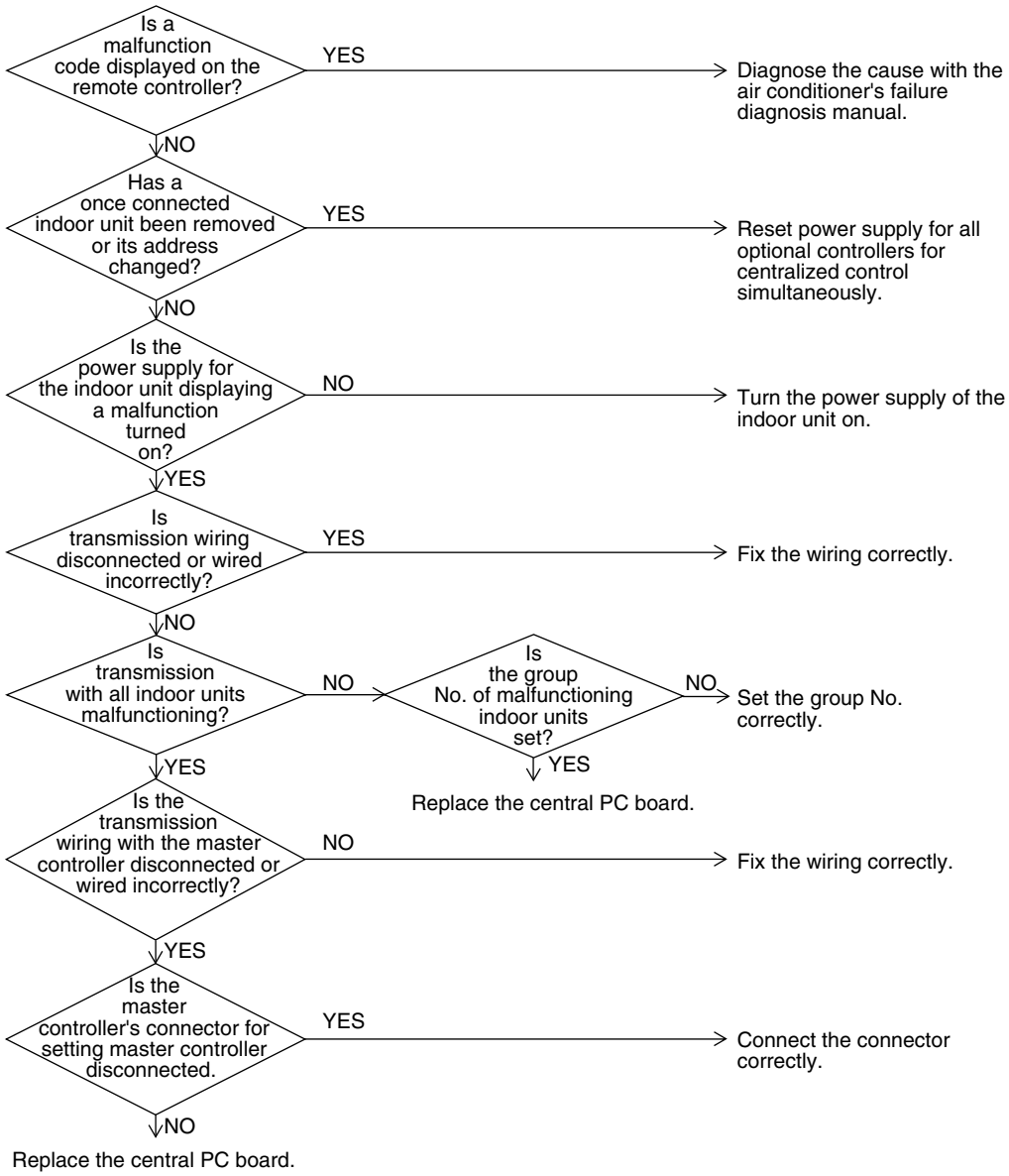
5. Troubleshooting (OP: Unified ON/OFF Controller)

5.1 Operation Lamp Blinks

Remote Controller Display	Operation lamp blinks
Applicable Models	All model of indoor units Unified ON/OFF controller
Method of Malfunction Detection	Detect the malfunction according to DIII-NET transmission data.
Malfunction Decision Conditions	
Supposed Causes	■ Malfunction of transmission between optional central controller and indoor unit ■ Connector for setting master controller is disconnected ■ Defect of unified ON/OFF controller PC board ■ Defect of indoor unit PC board ■ Malfunction of air conditioner

Troubleshooting

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

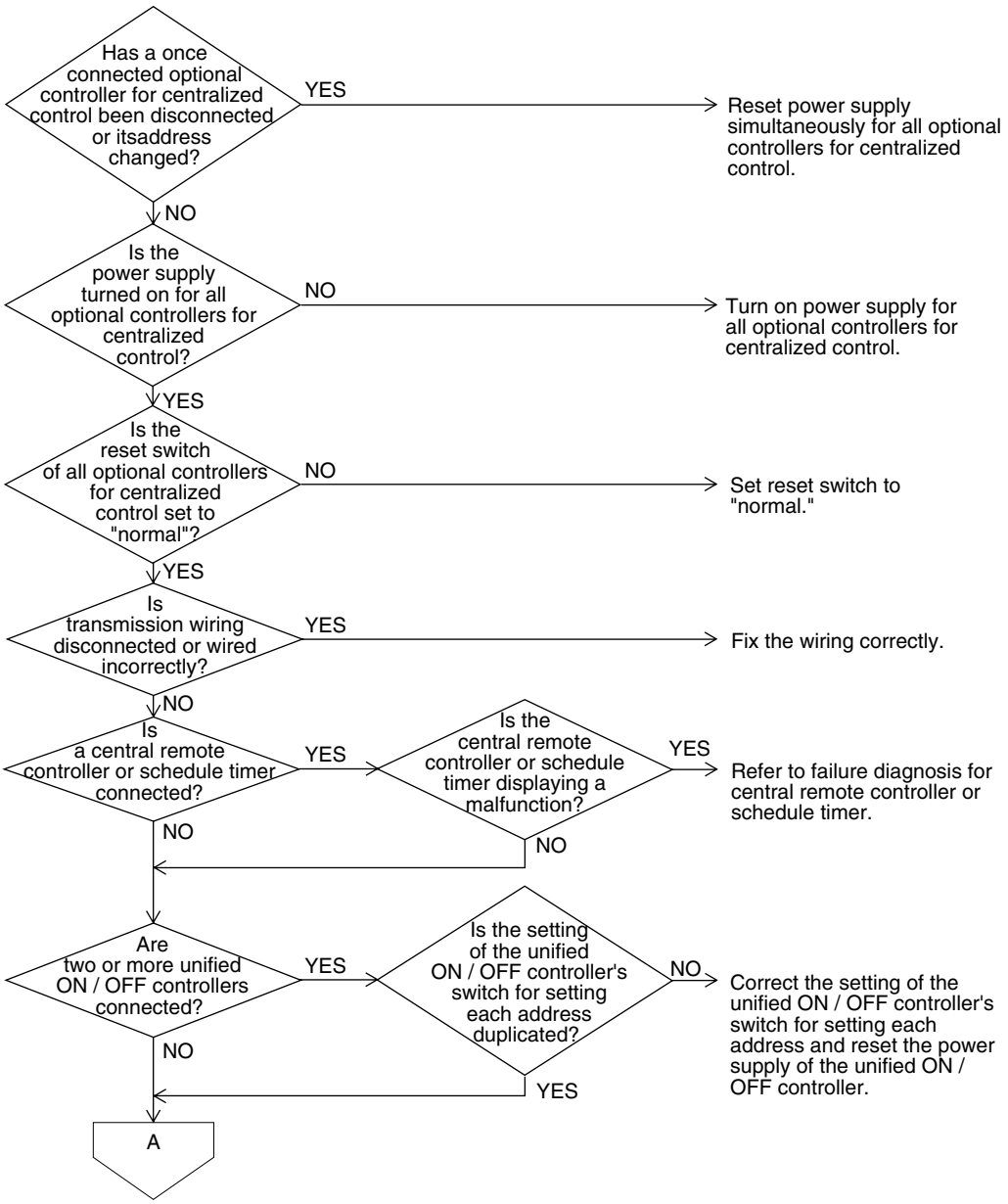


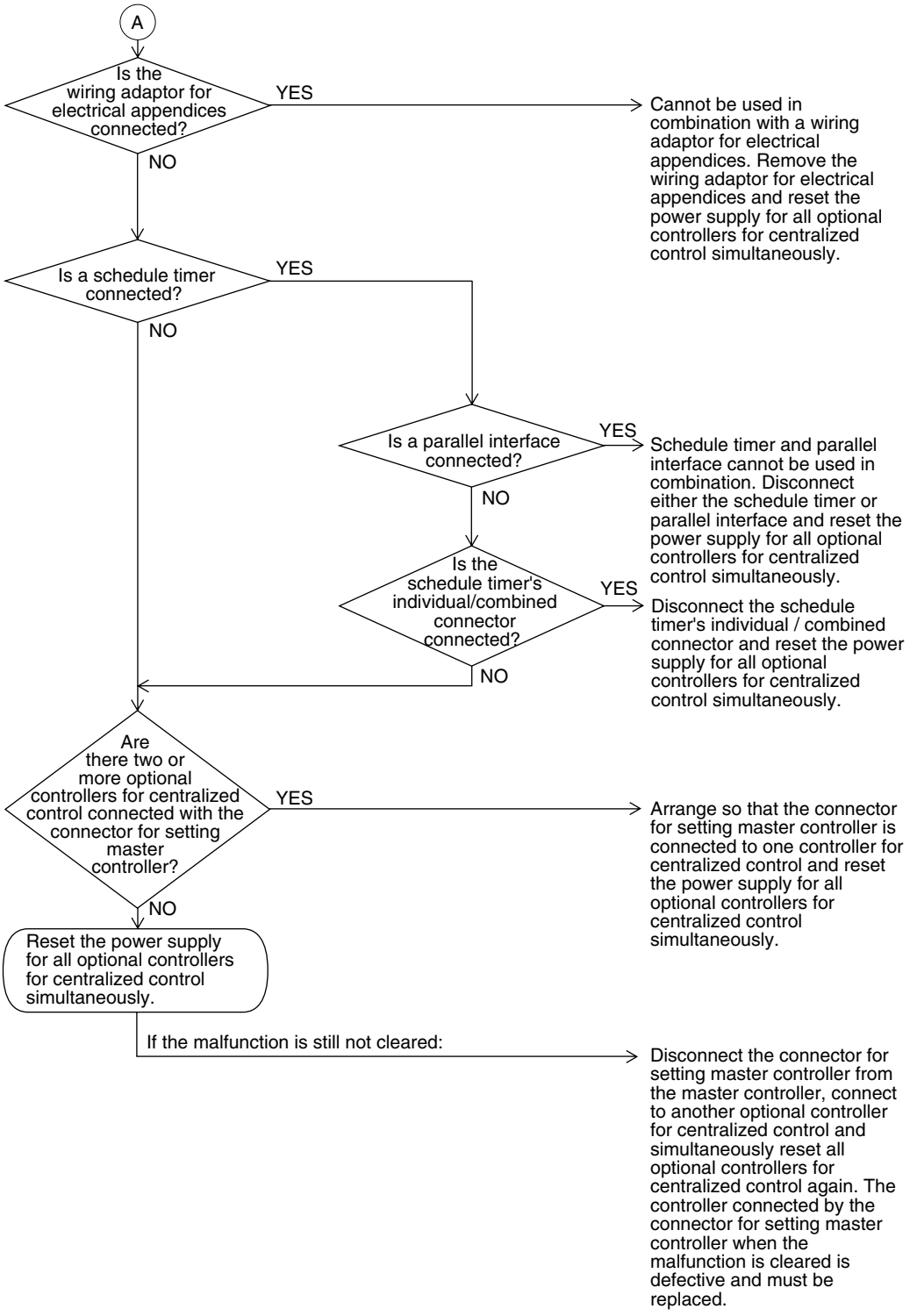
5.2 Display “Under Centralized Control” Blinks (Repeats Single Blink)

Remote Controller Display	“under centralized control” (Repeats single blink)
Applicable Models	Unified ON/OFF controller Central remote controller, Schedule timer
Method of Malfunction Detection	Detect the malfunction according to DIII-NET transmission data.
Malfunction Decision Conditions	When the centralized controller, which was connected once, shows no response. The control ranges are overlapped. When multiple master central controller are present. When the schedule timer is set to individual use mode, other central controller is present. When the wiring adaptor for electrical appendices is present.
Supposed Causes	■ Address duplication of optional controllers for centralized control ■ Improper combination of optional controllers for centralized control ■ Connection of more than one master controller ■ Malfunction of transmission between optional controllers for centralized control ■ Defect of PC board of optional controllers for centralized control

Troubleshooting

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




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

5.3 Display “Under Centralized Control” Blinks (Repeats Double Blink)

Remote Controller Display

“under centralized control” (Repeats double blink)

Applicable Models

Unified ON/OFF controller

Method of Malfunction Detection

Detect the malfunction according to DIII-NET transmission data.

Malfunction Decision Conditions

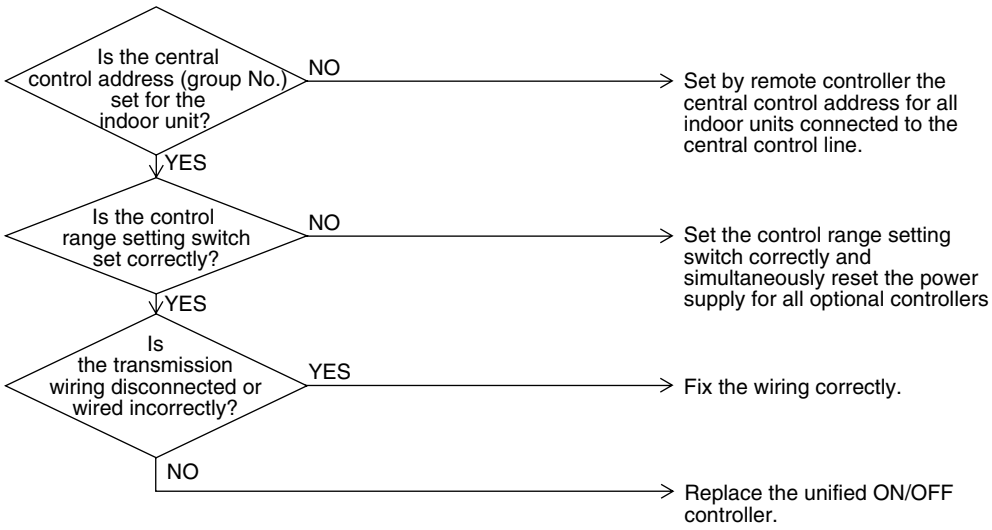
When no central control addresses are set to indoor units.
When no indoor units are connected within the control range.

Supposed Causes

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

Troubleshooting

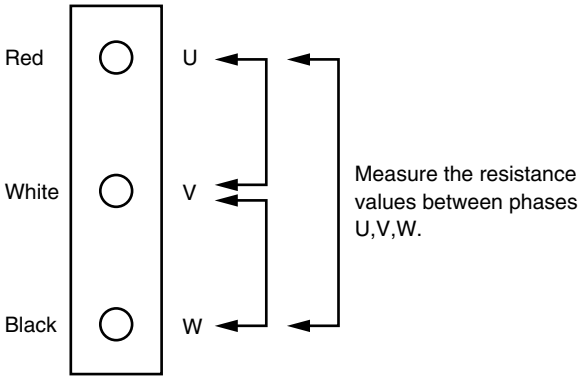
Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.



CHECK 1

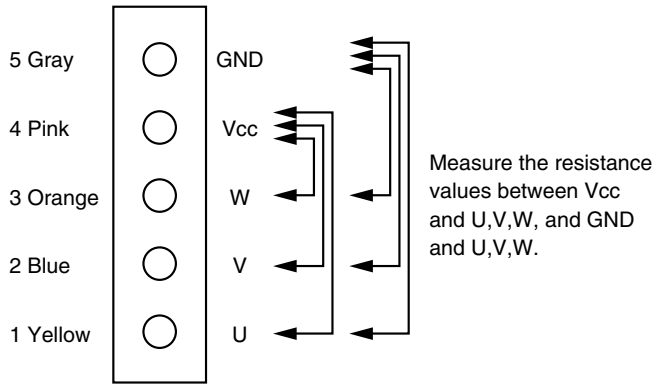
Check on connector of fan motor (Power supply cable)

(1) Turn off the power supply.
Measure the resistance between phases of U,V,W at the motor side connectors (three-core wire) to check that the values are balanced and there is no short circuiting, while connector or relay connector is disconnected.



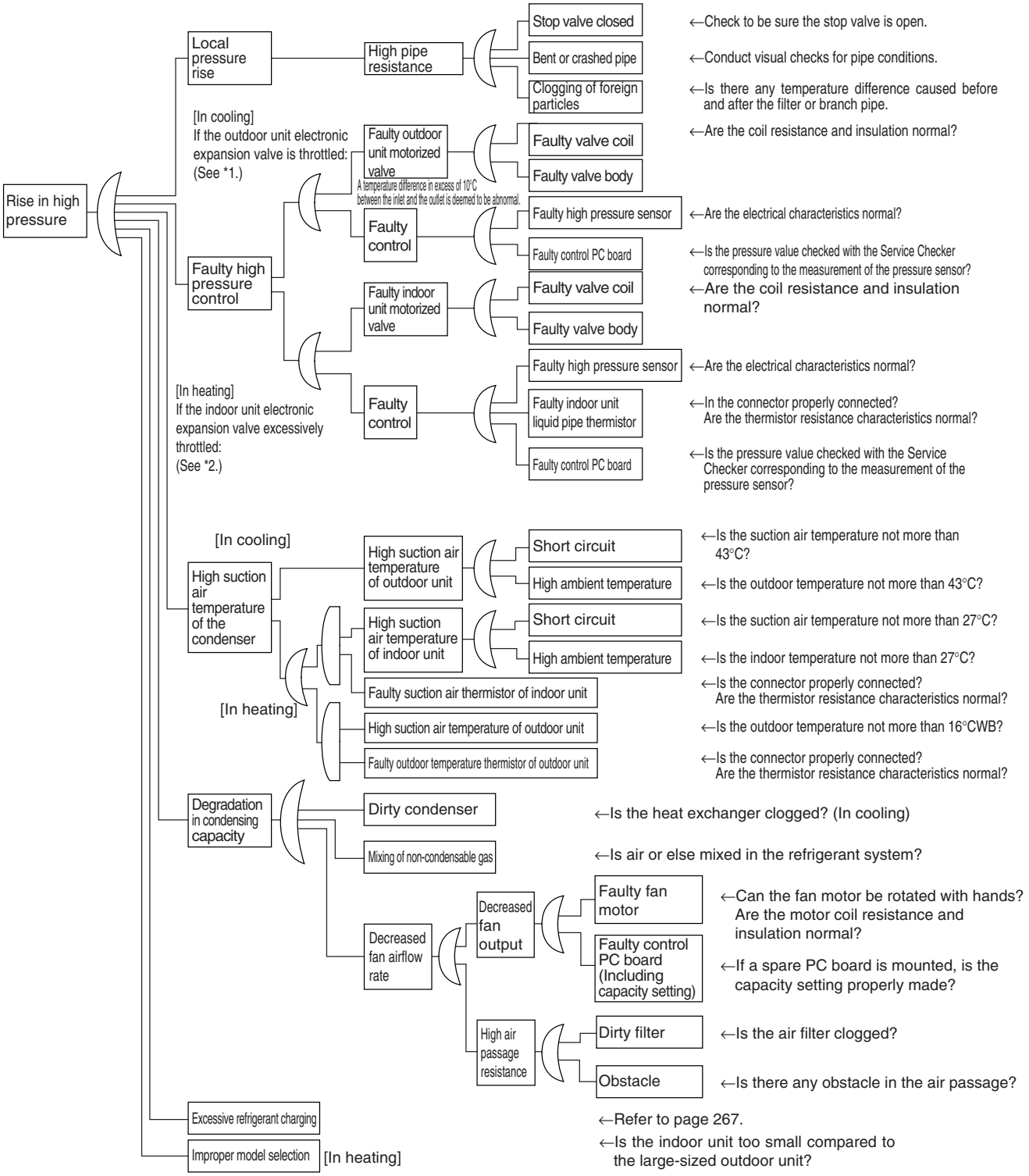
CHECK 2

(1) Turn off the power supply.
(2) Measure the resistance between Vcc and each phase of U,V,W, and GND and each phase at the motor side connectors (five-core wire) to check that the values are balanced within the range of ± 20 %, while connector or relay connector is disconnected.
Furthermore, to use a multiple meter for measurement, connect the probe of negative pole to Vcc and that of positive pole to GND.



CHECK 3 Check for causes of rise in high pressure

Referring to the Fault Tree Analysis (FTA) shown below, probe the faulty points.

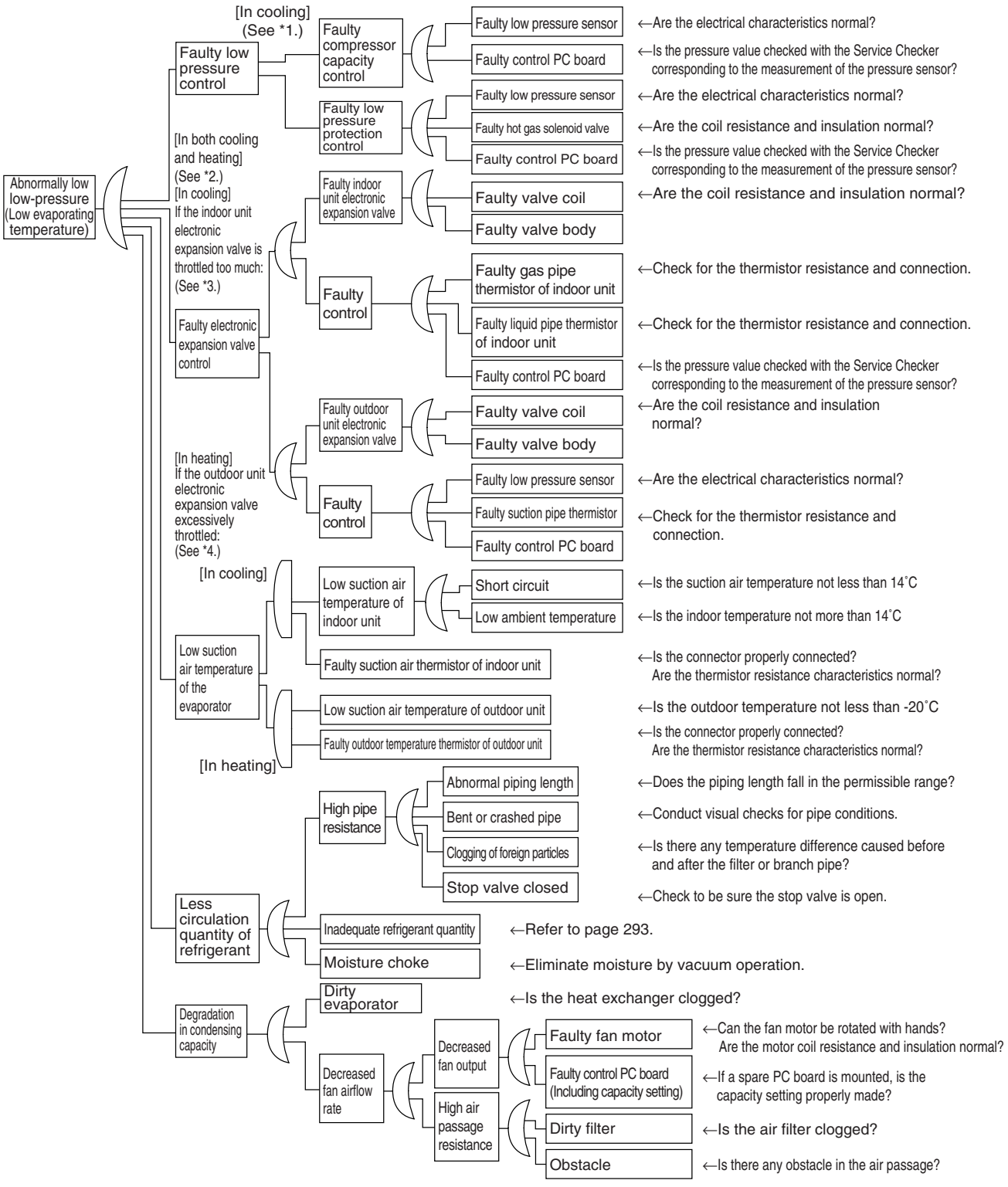


*1: In cooling, it is normal if the outdoor unit electronic expansion valve (EV1) is fully open.
*2: In heating, the indoor unit electronic expansion valve is used for “subcooled degree control”.
(For details, refer to “Electronic Expansion Valve Control” on page 111.)

SDK04009

CHECK 4 Check for causes of drop in low pressure

Referring to the Fault Tree Analysis (FTA) shown below, probe the faulty points.



*1: For details of the compressor capacity control while in cooling, refer to "Compressor PI Control" on page 77.
*2: The "low pressure protection control" includes low pressure protection control and hot gas bypass control. For details, refer to page 96.
*3: In cooling, the indoor unit electronic expansion valve is used for "superheated degree control". (For details, refer to page 111.)
*4: In heating, the outdoor unit electronic expansion valve (EV1) is used for "superheated degree control of outdoor unit heat exchanger". (For details, refer to page 84.)

SDK04009

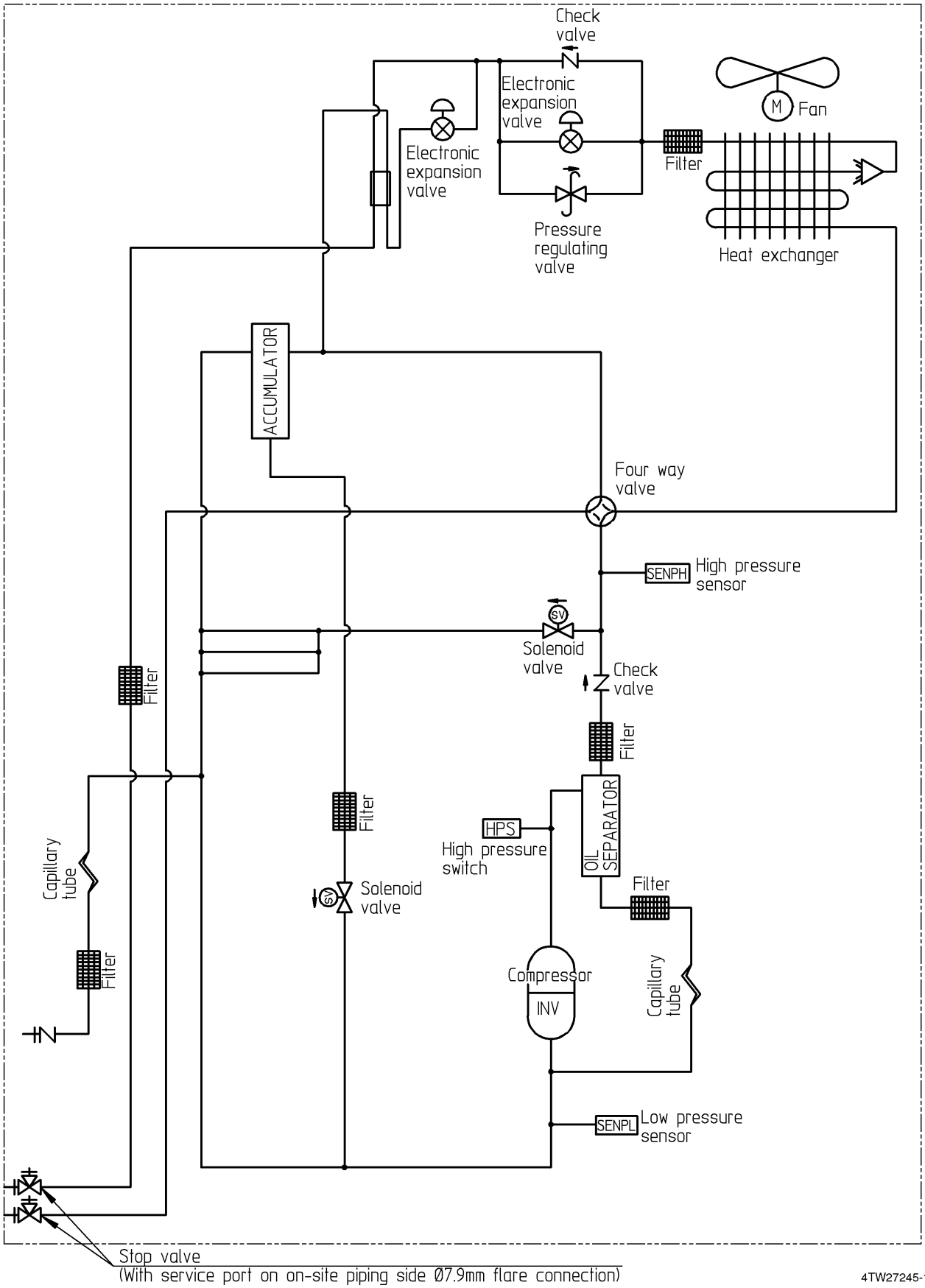
Part 7
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   9.1 Method of Checking the Inverter's Power Transistors and Diode Modules 386

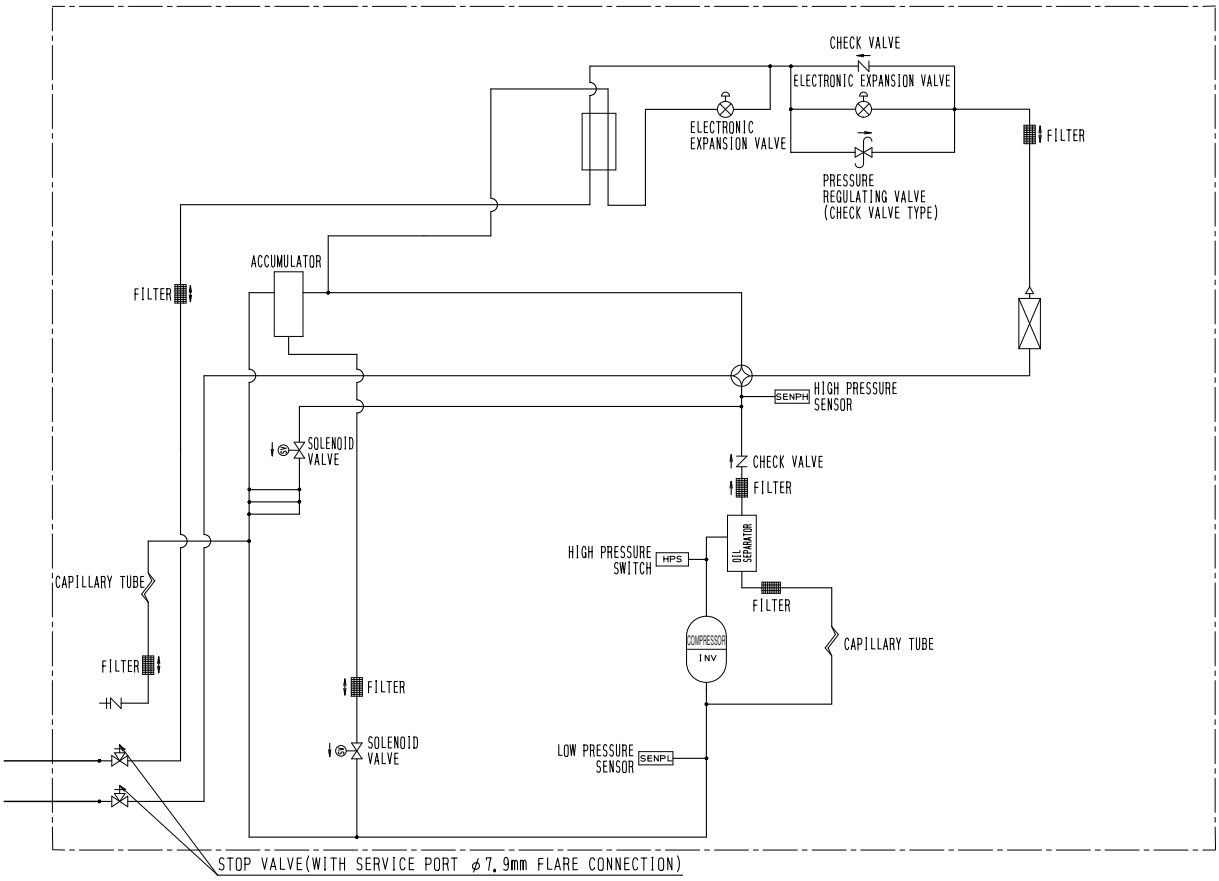
1. Piping Diagrams

1.1 Outdoor Unit

RXYQ8P7Y1K
RXYQ8P7YLK

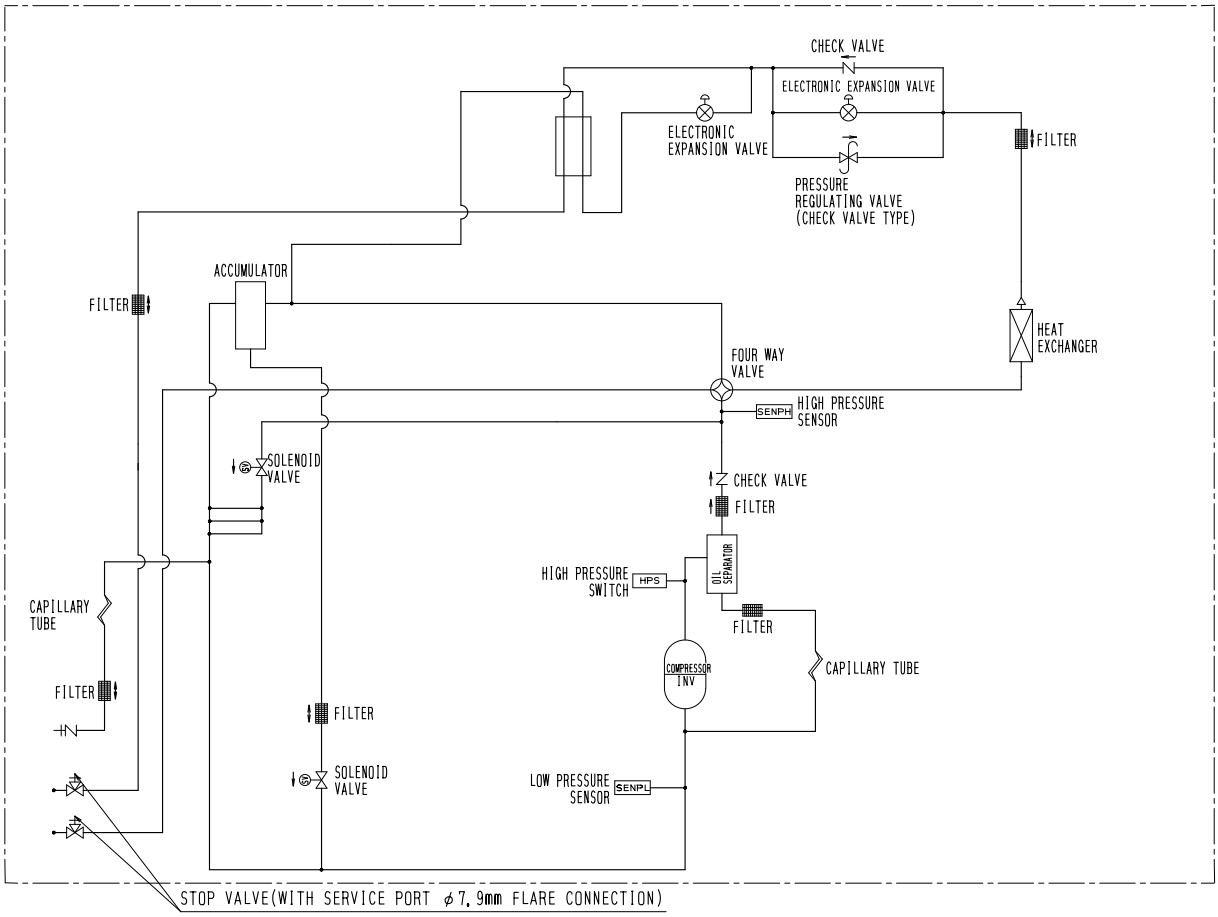


RXYQ8PYNK



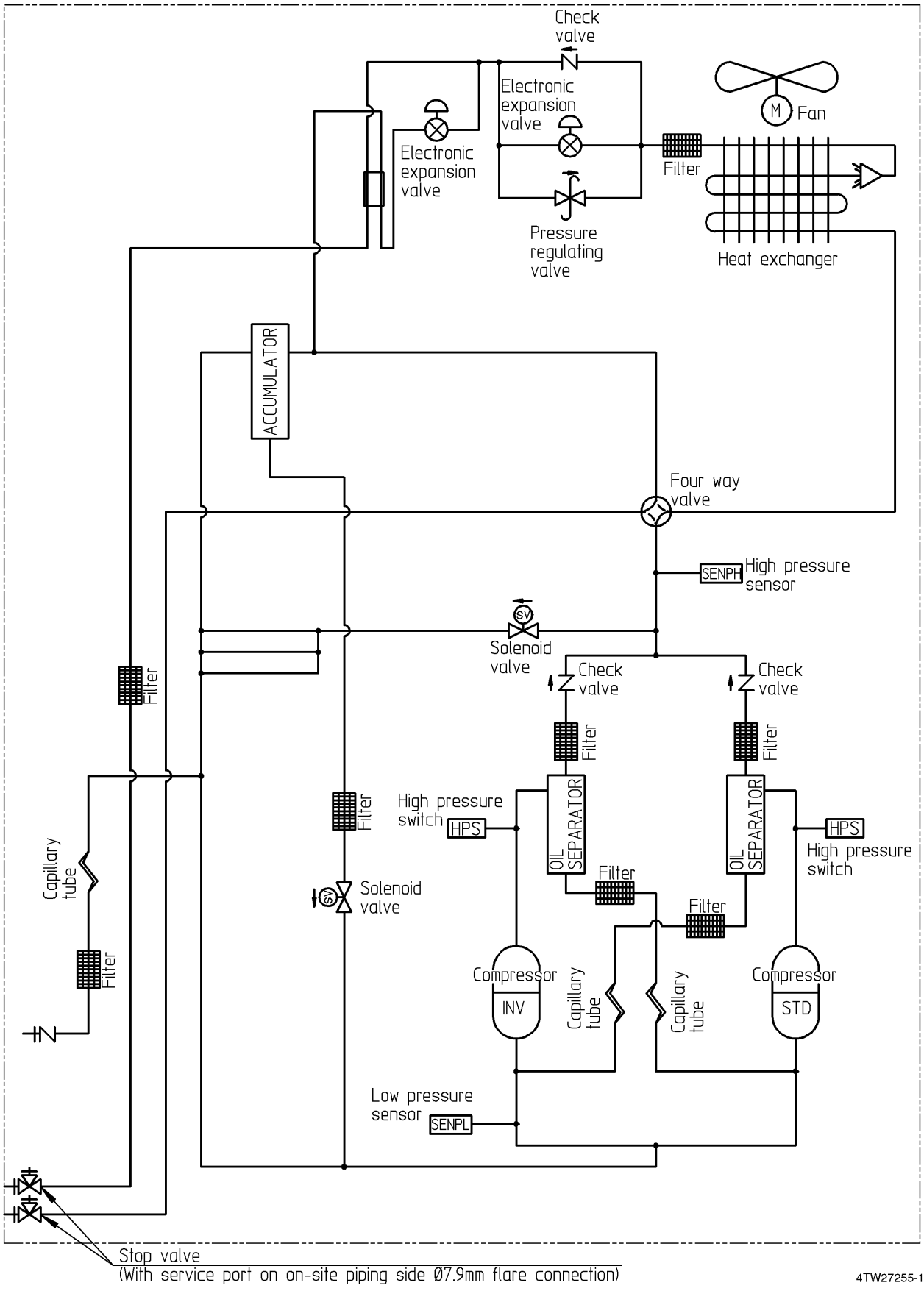
3D050783C

RXYQ8PTLK

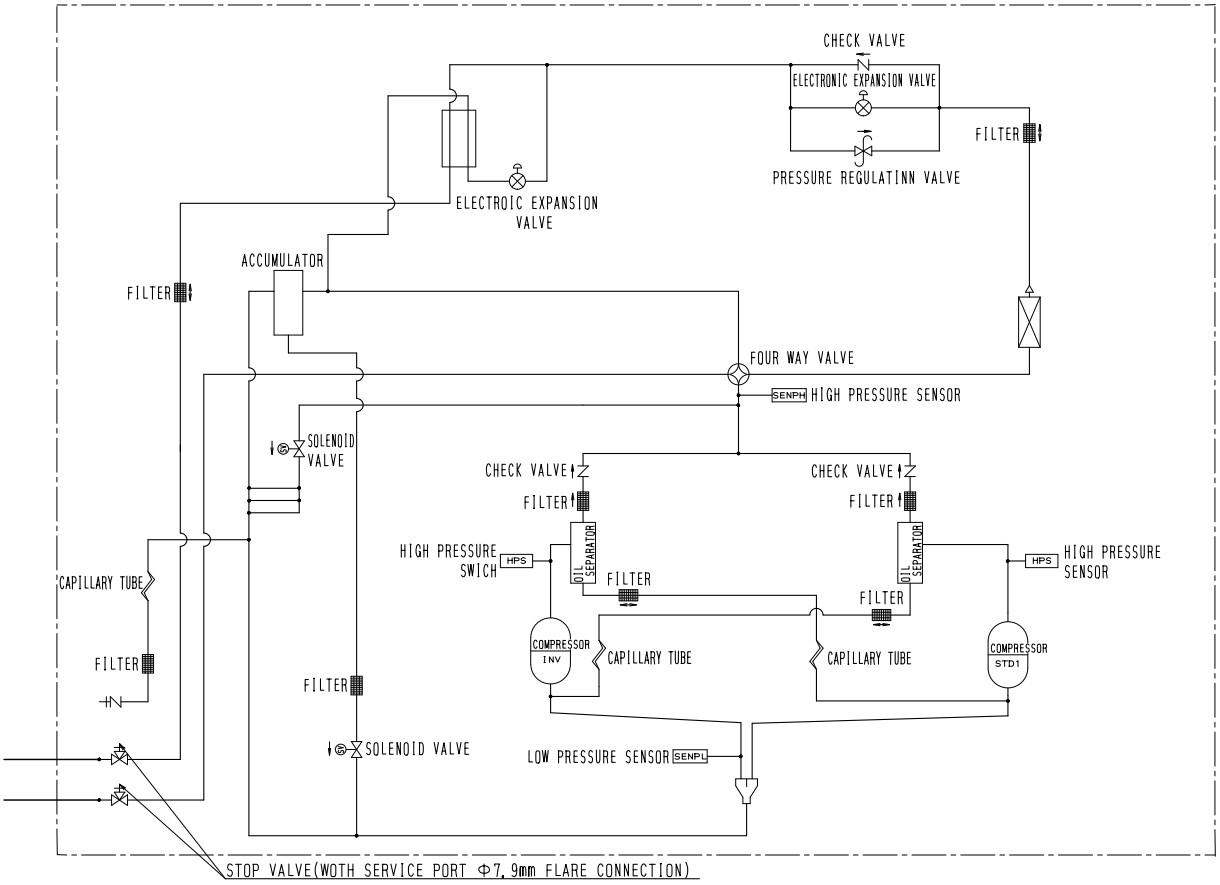


3D055765D

RXYQ10P7 / 12P7Y1K
RXYQ10P7 / 12P7YLK

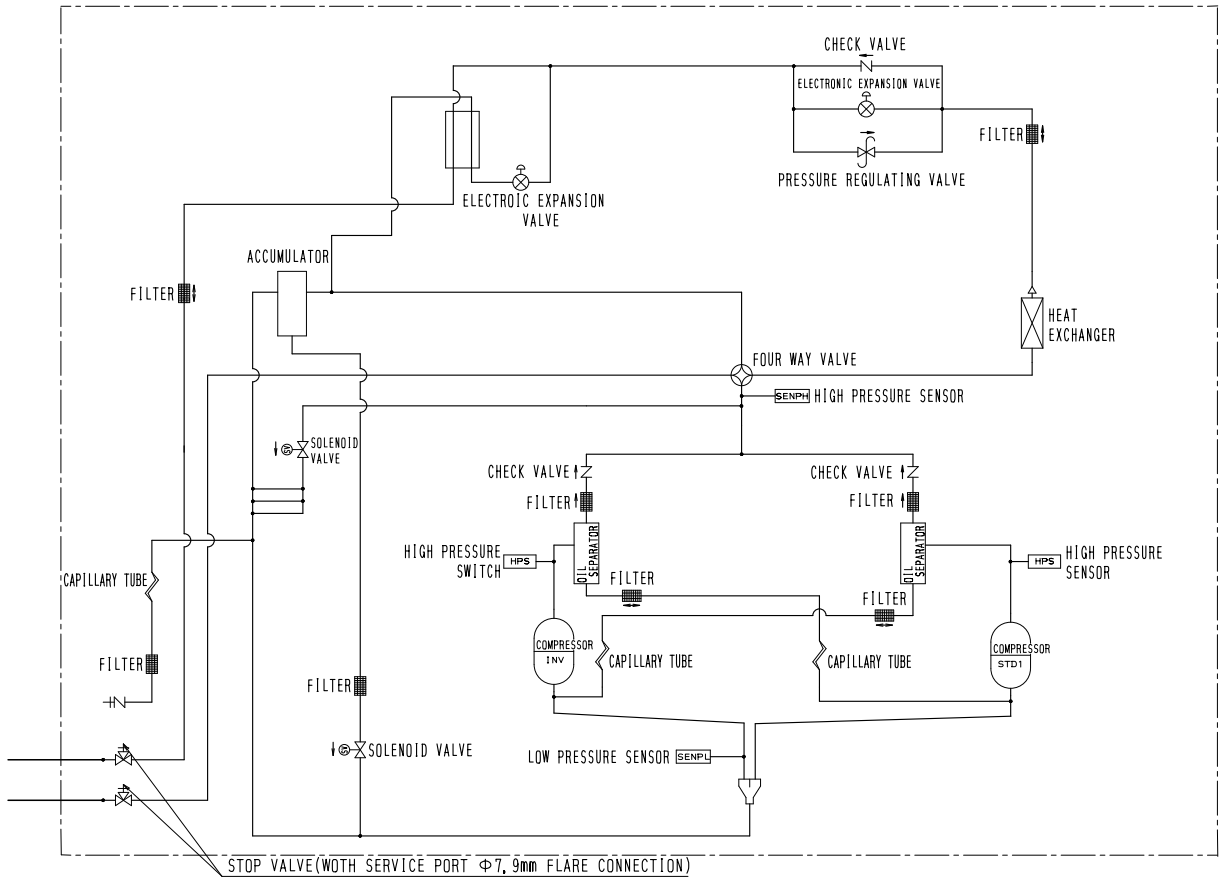


RXYQ10P / 12PYNK



3D050784C

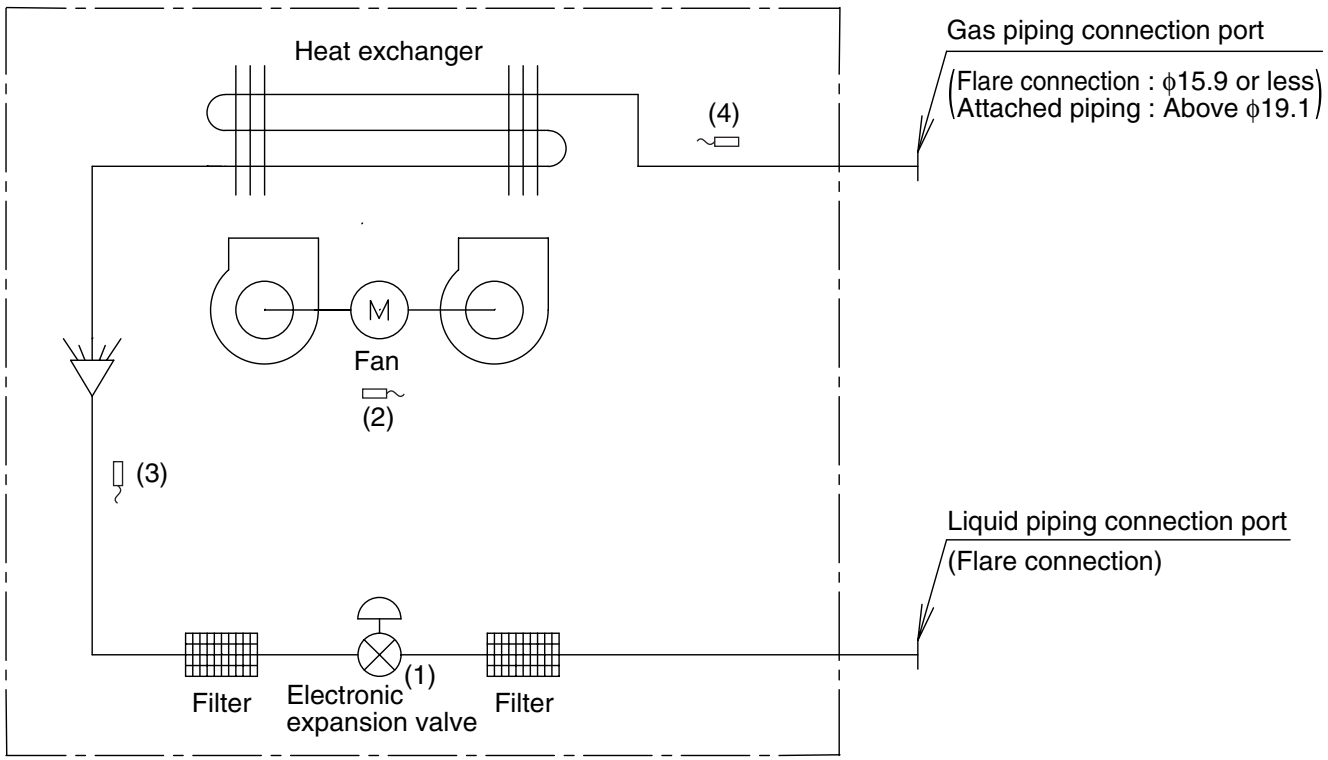
RXYQ10P / 12PTLK



3D055766E

1.2 Indoor Unit

FXCQ, FXFQ, FXKQ, FXSQ, FXMQ, FXHQ, FXAQ, FXLQ, FXNQ



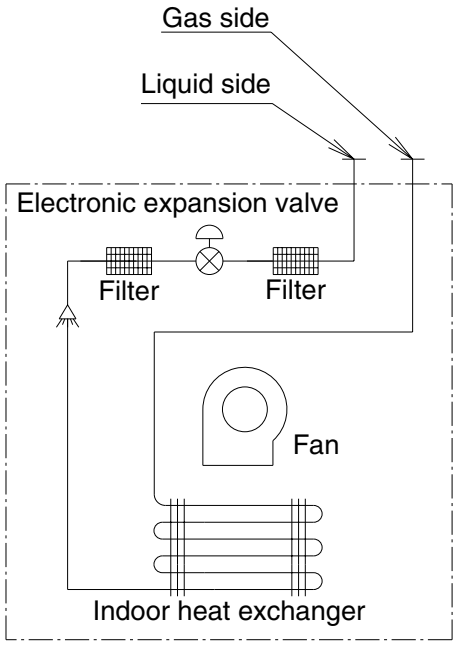
DU220-602J

Code	Name	Code	Main function
(1)	Electronic expansion valve	Y1E	Used for gas superheated degree control while in cooling operation or subcooled degree control while in heating operation.
(2)	Suction air temperature thermistor	R1T	Used for thermostat control.
(3)	Liquid pipe	R2T	Used for gas superheated degree control while in cooling operation or subcooled degree control while in heating operation.
(4)	Gas pipe	R3T	Used for gas superheated degree control while in cooling operation.

(mm)

Capacity	GAS	Liquid
20 / 25 / 32 / 40 / 50M(A)	ϕ12.7	ϕ6.4
63 / 80 / 100 / 125M(A)	ϕ15.9	ϕ9.5
200M(A)	ϕ19.1	ϕ9.5
250M(A)	ϕ22.2	ϕ9.5

FXDQ



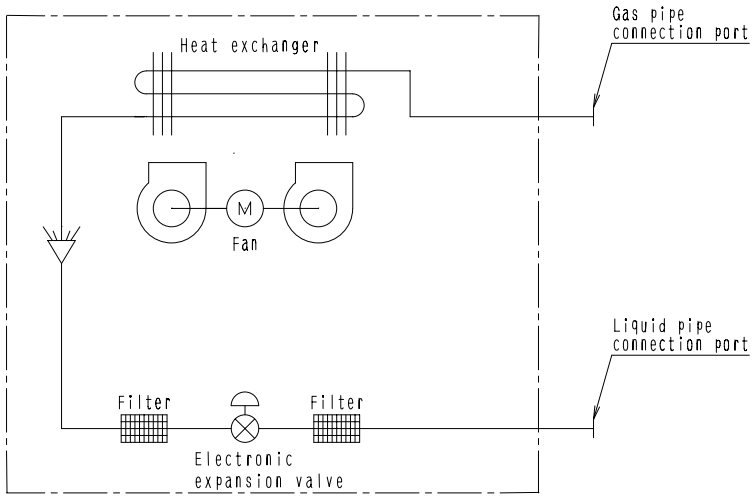
4D060927

■ **Refrigerant pipe connection port diameters**

(mm)

Model	Gas	Liquid
FXDQ20PB / 25PB / 32PB / 40NB / 50NBVE(T)	ϕ12.7	ϕ6.4
FXDQ63NBVE(T)	ϕ15.9	ϕ9.5

FXMQ40P / 50P / 63P / 80P / 100P / 125PVE



4D034245C

■ **Refrigerant pipe connection port diameters**

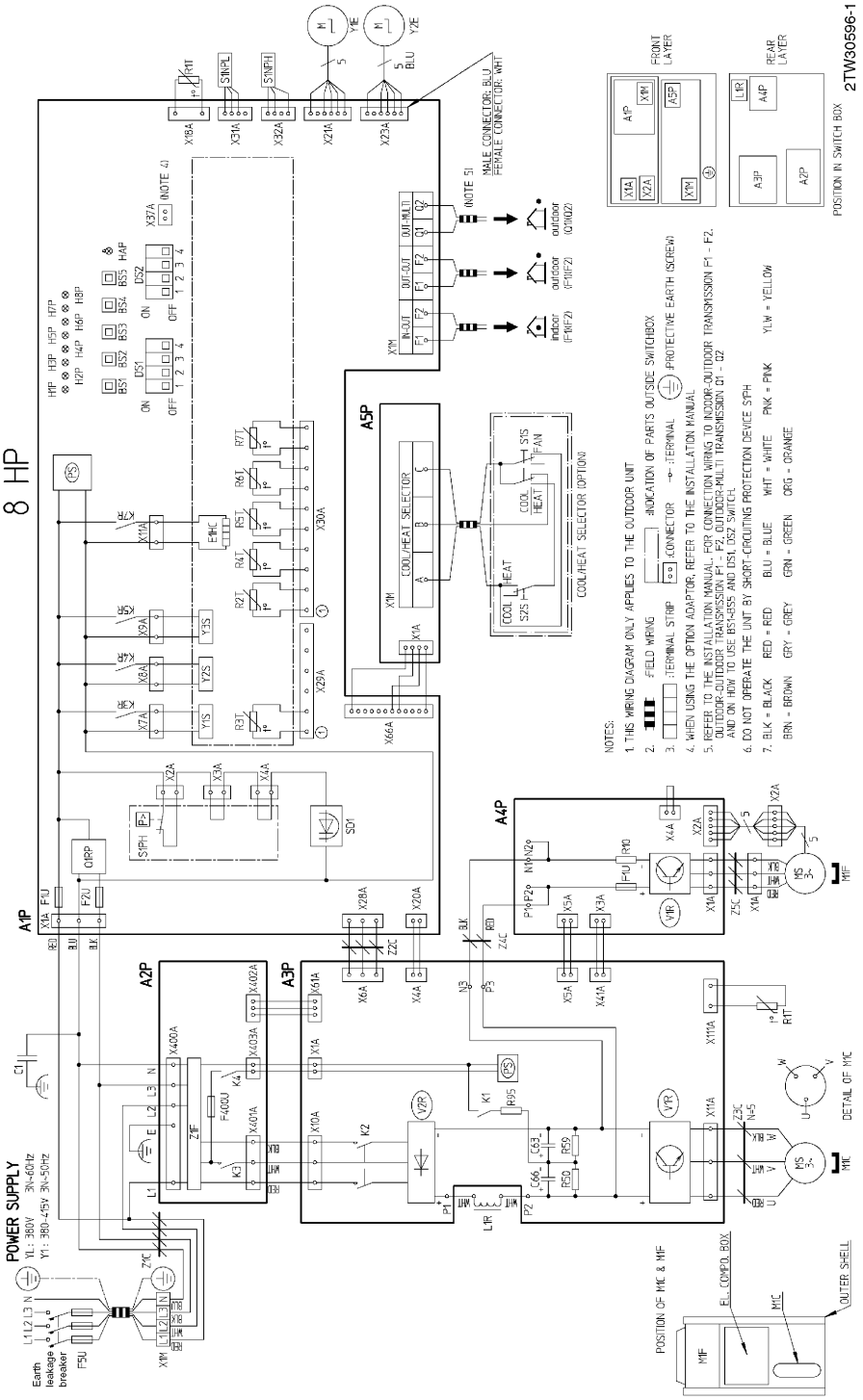
(mm)

Model	Gas	Liquid
FXMQ40P / 50PVE	ϕ12.7	ϕ6.4
FXMQ63P / 80P / 100P / 125PVE	ϕ15.9	ϕ9.5

2. Wiring Diagrams for Reference

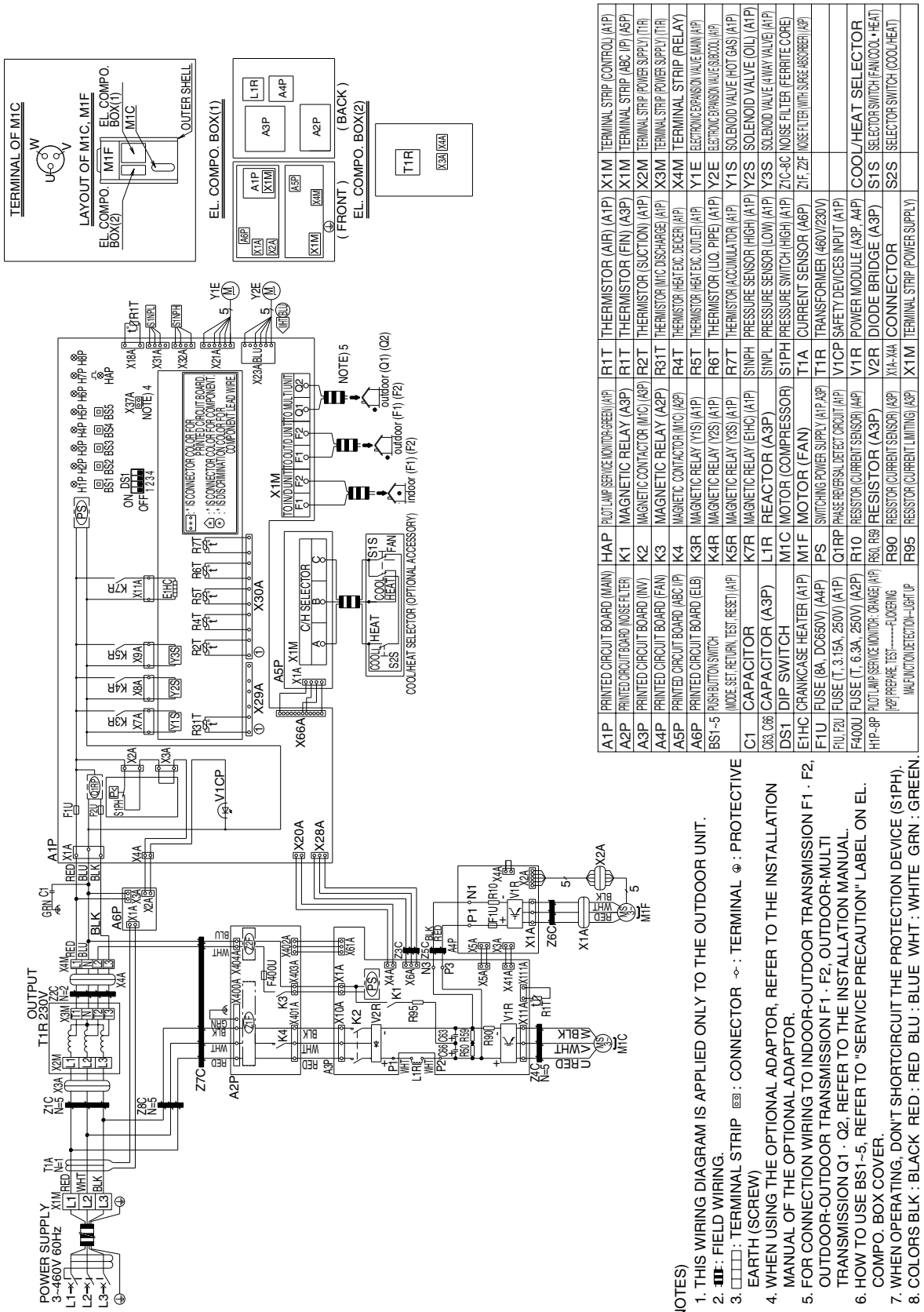
2.1 Outdoor Unit

RXYQ8P7Y1K
RXYQ8P7YLK



A1P~A3P	PRINTED CIRCUIT BOARD	
	A1P: MAIN	A4P: FAN
	A2P: NOISE FILTER	A5P: ABC UP
	A3P: INVERTER	
BS1~BS5	PUSH BUTTON SWITCH	
	MODE, SET, RETURN, TEST, RESET)	
C1	CAPACITOR	
C63,C66	CAPACITOR	
DS1, DS2	DIP SWITCH	
E1HC	CRANKCASE HEATER	
F1U	FUSE (250V, 8A Ⓑ) (A1P)	
F1U, F2U	FUSE (250V, 3.15A Ⓣ) (A1P)	
F3U	FIELD FUSE	
F4U000	FUSE (250V, 6.3A Ⓣ) (A2P)	
H1P~H8P	PILOT LAMP (SERVICE MONITOR - ORANGE)	
	(H2P) PREPARE TEST ---------- FLICKERING	
	MALFUNCTION DETECTION ---- LIGHT UP	
H4P	PILOT LAMP (SERVICE MONITOR - GREEN)	
K1, K3	MAGNETIC RELAY	
K2, K4	MAGNETIC CONTACTOR (MC)	
K3R	K3R: Y1S	
K3R~K7R	K4R: Y2S	K7R: E1HC
L1R	REACTOR	
M1C	MOTOR (COMPRESSOR)	
M1F	MOTOR (FAN)	
PS	SWITCHING POWER SUPPLY (A1P, A3P)	
Q1RP	PHASE REVERSAL DETECT CIRCUIT	
Q1D	EARTH LEAKAGE BREAKER	
R1T	RESISTOR (CURRENT SENSOR) (A4P)	
R5U, R5V	RESISTOR	
R1R5	RESISTOR (CURRENT LIMITING)	
	THERMISTOR	
R1T~R4T	R1T: AIR (A4P)	R4T: HEAT EXCH. DE-ICER
	R2T: FIN (A3P)	R5T: HEAT EXCH. OUTLET
	R3T: SUCTION	R6T: LIQUID PIPE
	R3T: M1C DISCHARGE	R7T: ACCUMULATOR
S1NPH	PRESSURE SENSOR (HIGH)	
S1NPL	PRESSURE SENSOR (LOW)	
S1PH	PRESSURE SWITCH (HIGH)	
SD1	SAFETY DEVICES (PU)	
V1R	POWER MODULE (A3P, A4P)	
V2R	DIODE BRIDGE (A3P)	
X1A, X2A	CONNECTOR (MF1)	
X1M	TERMINAL STRIP (POWER SUPPLY)	
X2M	TERMINAL STRIP (CONTROL) (A1P)	
X3M	TERMINAL STRIP (A5P)	
Y1E	ELECTRONIC EXPANSION VALVE (MAIN)	
Y2E	ELECTRONIC EXPANSION VALVE (SUBCOOL)	
	SOLENOID VALVE	
Y1S~Y3S	Y1S: HOT GAS	Y3S: 4 WAY VALVE
	Y2S: OIL RETURN	
Z1C~5C	NOISE FILTER (FERRITE CORE)	
Z1F	NOISE FILTER (WITH SURGE ABSORBER)	
	COOL/HEAT SELECTOR	
S1S	SELECTOR SWITCH (FAN / COOL + HEAT)	
S2S	SELECTOR SWITCH (COOL + HEAT)	

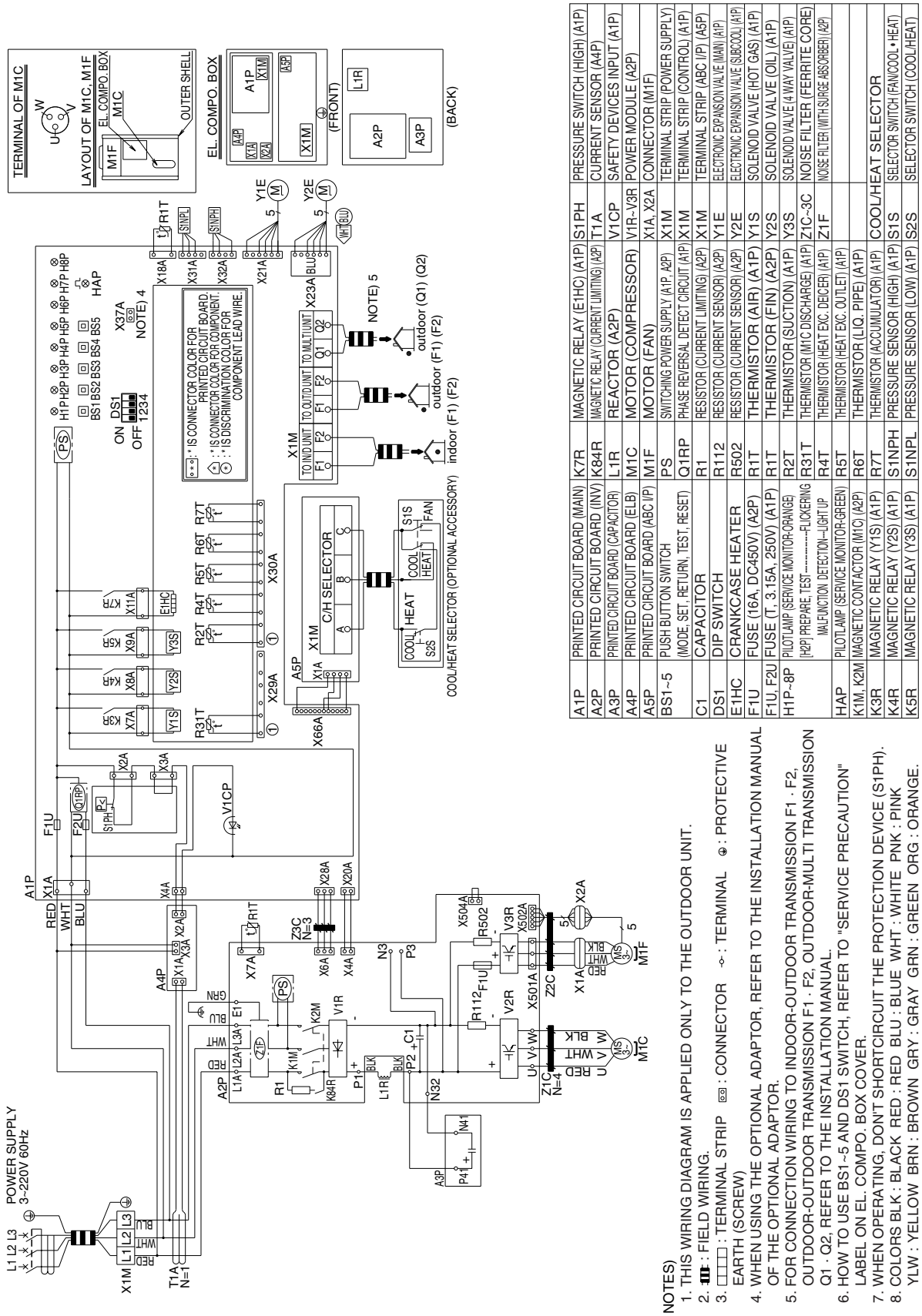
RXYQ8PYNK



A1P	PRINTED CIRCUIT BOARD (MAIN)	HAP	PILOT LAMP (SERVICE MONITOR-GREEN) (A1P)	R1T	THERMISTOR (AIR) (A1P)	X1M	TERMINAL STRIP (CONTROL) (A1P)
A2P	PRINTED CIRCUIT BOARD (NOISE FILTER)	K1	MAGNETIC RELAY (A3P)	R1T	THERMISTOR (FIN) (A3P)	X1M	TERMINAL STRIP (ABC I/P) (A5P)
A3P	PRINTED CIRCUIT BOARD (INV)	K2	MAGNETIC CONTACTOR (M1C) (A3P)	R2T	THERMISTOR (SUCTION) (A1P)	X2M	TERMINAL STRIP (POWER SUPPLY) (T1R)
A4P	PRINTED CIRCUIT BOARD (FAN)	K3	MAGNETIC RELAY (A2P)	R31T	THERMISTOR (M1C DISCHARGE) (A1P)	X3M	TERMINAL STRIP (POWER SUPPLY) (T1R)
A5P	PRINTED CIRCUIT BOARD (ABC I/P)	K4	MAGNETIC CONTACTOR (M1C) (A2P)	R4T	THERMISTOR (HEAT EXC. DECER) (A1P)	X4M	TERMINAL STRIP (RELAY)
A6P	PRINTED CIRCUIT BOARD (ELB)	K3R	MAGNETIC RELAY (Y1S) (A1P)	R5T	THERMISTOR (HEAT EXC. OUTLET) (A1P)	Y1E	ELECTRONIC EXPANSION VALVE (MAIN) (A1P)
BS1~5	PUSH BUTTON SWITCH (MODE, SET, RETURN, TEST, RESET) (A1P)	K4R	MAGNETIC RELAY (Y2S) (A1P)	R6T	THERMISTOR (LIQ. PIPE) (A1P)	Y2E	ELECTRONIC EXPANSION VALVE (SUBCOOL) (A1P)
		K5R	MAGNETIC RELAY (Y3S) (A1P)	R7T	THERMISTOR (ACCUMULATOR) (A1P)	Y1S	SOLENOID VALVE (HOT GAS) (A1P)
C1	CAPACITOR	K7R	MAGNETIC RELAY (E1HC) (A1P)	S1NPH	PRESSURE SENSOR (HIGH) (A1P)	Y2S	SOLENOID VALVE (OIL) (A1P)
C63, C66	CAPACITOR (A3P)	L1R	REACTOR (A3P)	S1NPL	PRESSURE SENSOR (LOW) (A1P)	Y3S	SOLENOID VALVE (4 WAY VALVE) (A1P)
DS1	DIP SWITCH	M1C	MOTOR (COMPRESSOR)	S1PH	PRESSURE SWITCH (HIGH) (A1P)	Z1C~8C	NOISE FILTER (FERRITE CORE)
E1HC	CRANKCASE HEATER (A1P)	M1F	MOTOR (FAN)	T1A	CURRENT SENSOR (A6P)	Z1F, Z2F	NOISE FILTER (WITH SURGE ABSORBER) (A3P)
F1U	FUSE (8A, DC650V) (A4P)	PS	SWITCHING POWER SUPPLY (A1P, A3P)	T1R	TRANSFORMER (460V/230V)		
F1U, F2U	FUSE (T, 3.15A, 250V) (A1P)	Q1RP	PHASE REVERSAL DETECT CIRCUIT (A1P)	V1CP	SAFETY DEVICES INPUT (A1P)		
F400U	FUSE (T, 6.3A, 250V) (A2P)	R10	RESISTOR (CURRENT SENSOR) (A4P)	V1R	POWER MODULE (A3P, A4P)	COOL/HEAT SELECTOR	
H1P~8P	PILOT LAMP (SERVICE MONITOR: ORANGE) (A1P)	R60, R59	RESISTOR (CURRENT SENSOR) (A3P)	V2R	DIODE BRIDGE (A3P)	S1S	SELECTOR SWITCH (FAN/COOL+HEAT)
	(H2P) PREPARE TEST ------ FLICKERING MALFUNCTION DETECTION ---LIGHT UP	R90	RESISTOR (CURRENT SENSOR) (A3P)	X1A~X4A	CONNECTOR	S2S	SELECTOR SWITCH (COOL/HEAT)
		R95	RESISTOR (CURRENT LIMITING) (A3P)	X1M	TERMINAL STRIP (POWER SUPPLY)		

NOTES)
1. THIS WIRING DIAGRAM IS APPLIED ONLY TO THE OUTDOOR UNIT.
2. ■■■: FIELD WIRING.
3. □□□□: TERMINAL STRIP ⊠⊠: CONNECTOR ⊖: TERMINAL ⏚: PROTECTIVE EARTH (SCREW)
4. WHEN USING THE OPTIONAL ADAPTOR, REFER TO THE INSTALLATION MANUAL OF THE OPTIONAL ADAPTOR.
5. FOR CONNECTION WIRING TO INDOOR-OUTDOOR TRANSMISSION F1 · F2, OUTDOOR-OUTDOOR TRANSMISSION F1 · F2, OUTDOOR-MULTI TRANSMISSION Q1 · Q2, REFER TO THE INSTALLATION MANUAL.
6. HOW TO USE BS1~5, REFER TO "SERVICE PRECAUTION" LABEL ON EL. COMPO. BOX COVER.
7. WHEN OPERATING, DON'T SHORTCIRCUIT THE PROTECTION DEVICE (S1PH).
8. COLORS BLK : BLACK RED : RED BLU : BLUE WHT : WHITE GRN : GREEN.

RXYQ8PTLK

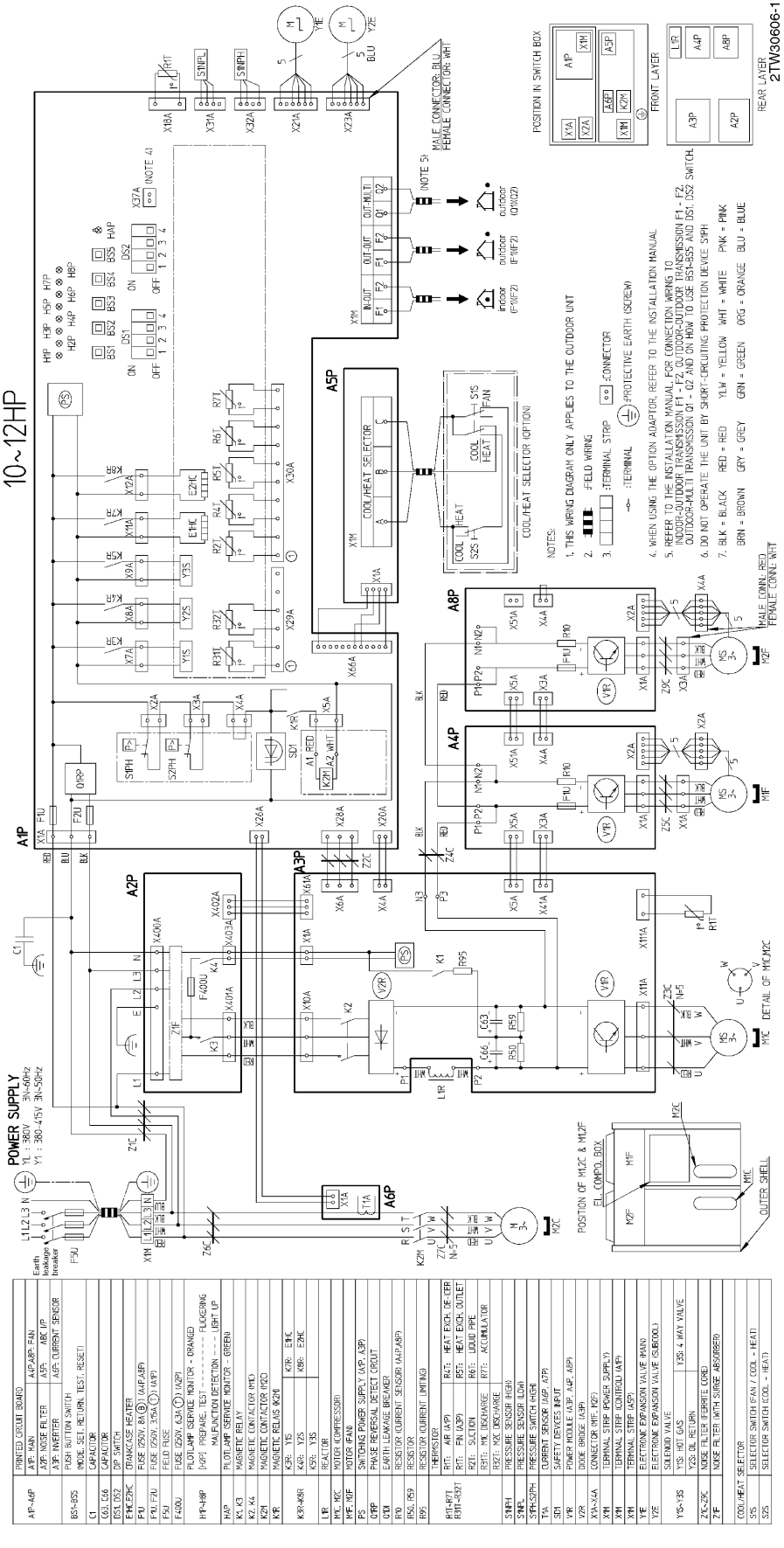


A1P	PRINTED CIRCUIT BOARD (MAIN)	K7R	MAGNETIC RELAY (E1HC) (A1P)	S1PH	PRESSURE SWITCH (HIGH) (A1P)
A2P	PRINTED CIRCUIT BOARD (INV)	K84R	MAGNETIC RELAY (CURRENT LIMITING) (A2P)	T1A	CURRENT SENSOR (A4P)
A3P	PRINTED CIRCUIT BOARD (CAPACITOR)	L1R	REACTOR (A2P)	V1CP	SAFETY DEVICES INPUT (A1P)
A4P	PRINTED CIRCUIT BOARD (ELB)	M1C	MOTOR (COMPRESSOR)	V1R~V3R	POWER MODULE (A2P)
A5P	PRINTED CIRCUIT BOARD (ABC I/P)	M1F	MOTOR (FAN)	X1A, X2A	CONNECTOR (M1F)
BS1~5	PUSH BUTTON SWITCH (MODE, SET, RETURN, TEST, RESET)	PS	SWITCHING POWER SUPPLY (A1P, A2P)	X1M	TERMINAL STRIP (POWER SUPPLY)
		Q1RP	PHASE REVERSAL DETECT CIRCUIT (A1P)	X1M	TERMINAL STRIP (CONTROL) (A1P)
C1	CAPACITOR	R1	RESISTOR (CURRENT LIMITING) (A2P)	X1M	TERMINAL STRIP (ABC I/P) (A5P)
DS1	DIP SWITCH	R112	RESISTOR (CURRENT SENSOR) (A2P)	Y1E	ELECTRONIC EXPANSION VALVE (MAIN) (A1P)
E1HC	CRANKCASE HEATER	R502	RESISTOR (CURRENT SENSOR) (A2P)	Y2E	ELECTRONIC EXPANSION VALVE (SUBCOOL) (A1P)
F1U	FUSE (16A, DC450V) (A2P)	R1T	THERMISTOR (AIR) (A1P)	Y1S	SOLENOID VALVE (HOT GAS) (A1P)
F1U, F2U	FUSE (T, 3.15A, 250V) (A1P)	R1T	THERMISTOR (FIN) (A2P)	Y2S	SOLENOID VALVE (OIL) (A1P)
H1P~8P	PILOT LAMP (SERVICE MONITOR-ORANGE) (H2P) PREPARE, TEST ..... FLICKERING MALFUNCTION DETECTION ... LIGHT UP	R2T	THERMISTOR (SUCTION) (A1P)	Y3S	SOLENOID VALVE (4 WAY VALVE) (A1P)
		R31T	THERMISTOR (M1C DISCHARGE) (A1P)	Z1C~3C	NOISE FILTER (FERRITE CORE)
		R4T	THERMISTOR (HEAT EXC. DEICER) (A1P)	Z1F	NOISE FILTER (WITH SURGE ABSORBER) (A2P)
HAP	PILOT LAMP (SERVICE MONITOR-GREEN)	R5T	THERMISTOR (HEAT EXC. OUTLET) (A1P)		
K1M, K2M	MAGNETIC CONTACTOR (M1C) (A2P)	R6T	THERMISTOR (LIQ. PIPE) (A1P)		
K3R	MAGNETIC RELAY (Y1S) (A1P)	R7T	THERMISTOR (ACCUMULATOR) (A1P)	COOL/HEAT SELECTOR	
K4R	MAGNETIC RELAY (Y2S) (A1P)	S1NPH	PRESSURE SENSOR (HIGH) (A1P)	S1S	SELECTOR SWITCH (FAN/COOL•HEAT)
K5R	MAGNETIC RELAY (Y3S) (A1P)	S1NPL	PRESSURE SENSOR (LOW) (A1P)	S2S	SELECTOR SWITCH (COOL/HEAT)

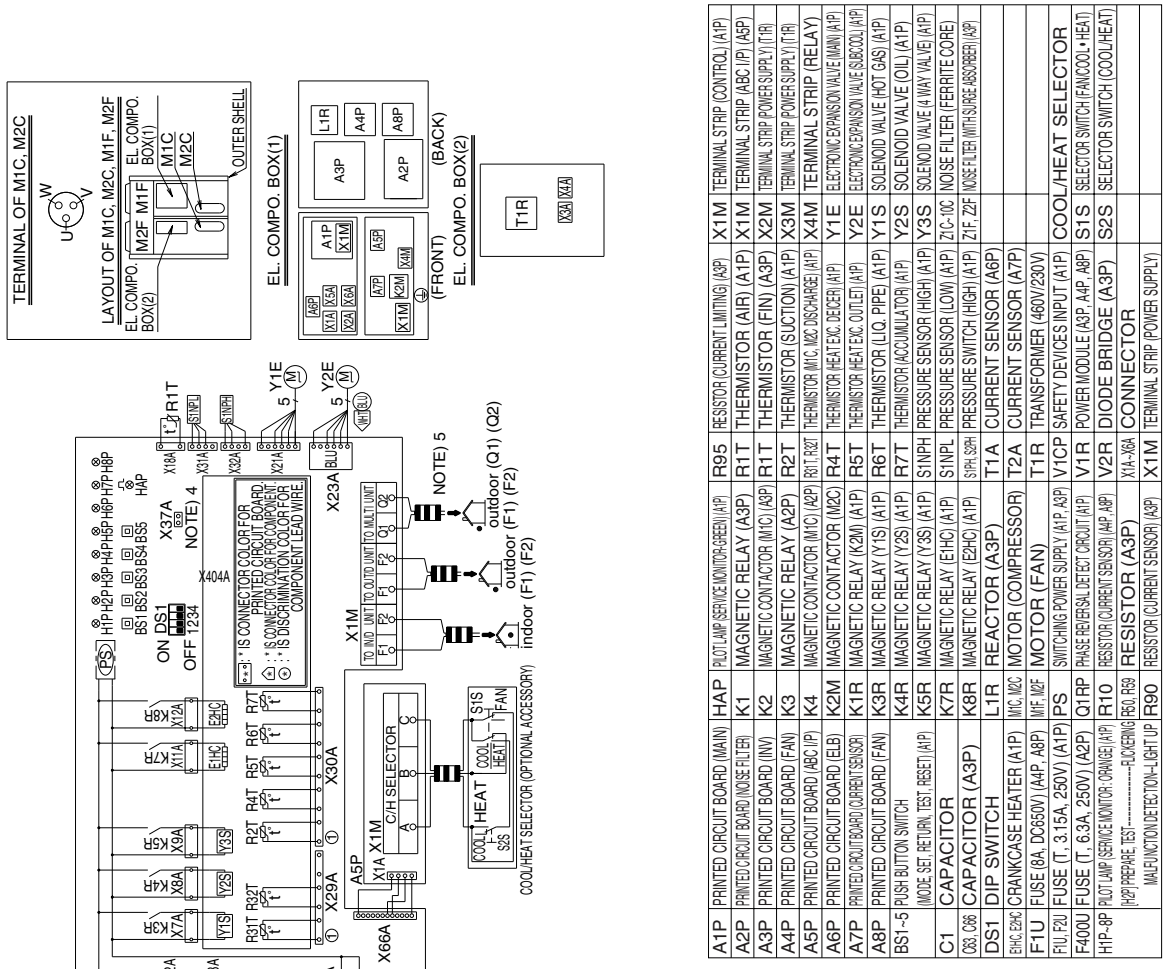
3D061727A

NOTES)
1. THIS WIRING DIAGRAM IS APPLIED ONLY TO THE OUTDOOR UNIT.
2. : FIELD WIRING.
3. : TERMINAL STRIP : CONNECTOR : TERMINAL : PROTECTIVE EARTH (SCREW)
4. WHEN USING THE OPTIONAL ADAPTOR, REFER TO THE INSTALLATION MANUAL OF THE OPTIONAL ADAPTOR.
5. FOR CONNECTION WIRING TO INDOOR-OUTDOOR TRANSMISSION F1 · F2, OUTDOOR-OUTDOOR TRANSMISSION F1 · F2, OUTDOOR-MULTI TRANSMISSION Q1 · Q2, REFER TO THE INSTALLATION MANUAL.
6. HOW TO USE BS1~5 AND DS1 SWITCH, REFER TO "SERVICE PRECAUTION" LABEL ON EL. COMPO. BOX COVER.
7. WHEN OPERATING, DON'T SHORT CIRCUIT THE PROTECTION DEVICE (S1PH).
8. COLORS BLK : BLACK RED : RED BLU : BLUE WHT : WHITE PNK : PINK YLW : YELLOW BRN : BROWN GRY : GRAY GRN : GREEN ORG : ORANGE.

RXYQ10P7 / 12P7Y1K
RXYQ10P7 / 12P7YLK



RXYQ10PYNK
RXYQ12PYNK

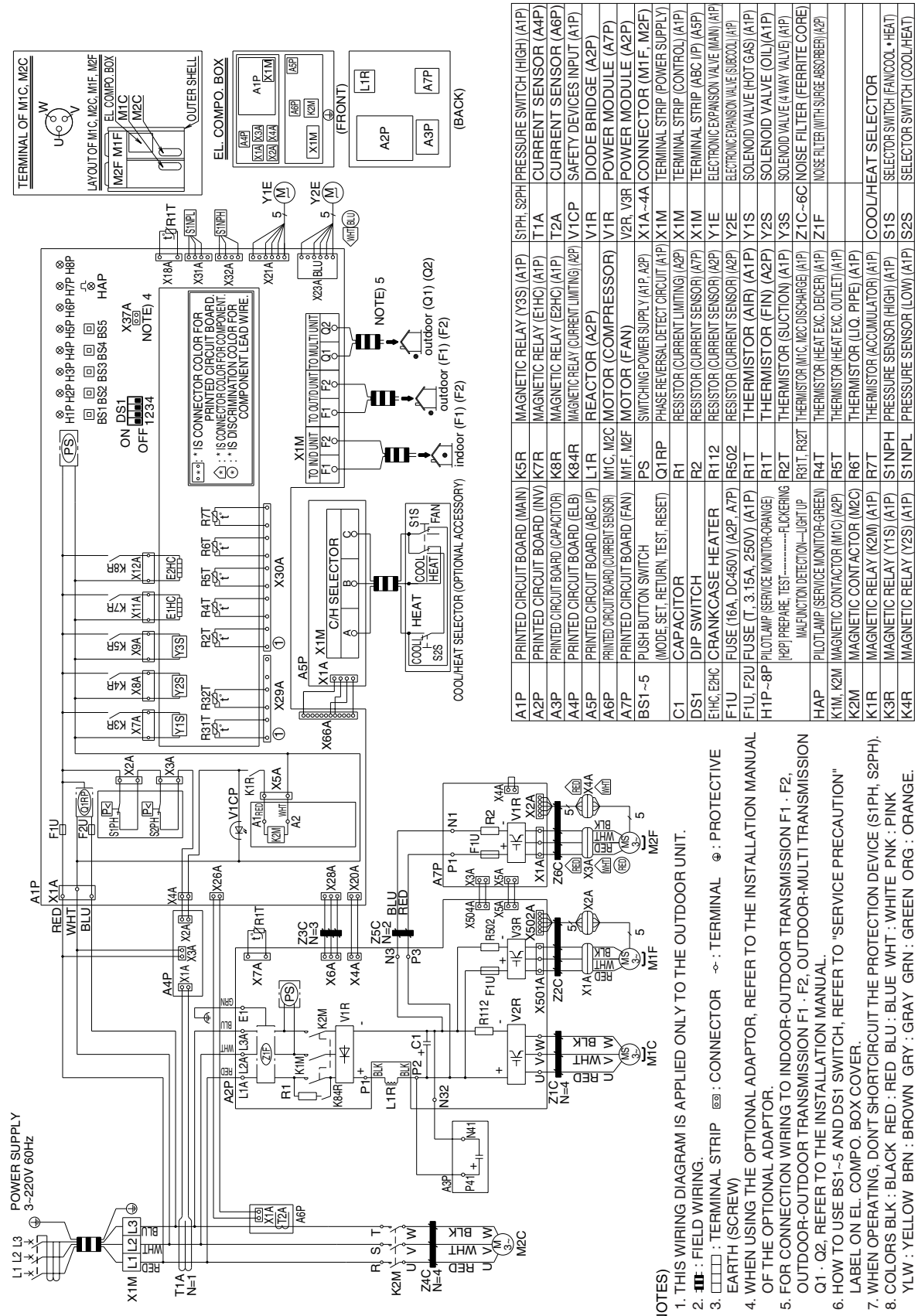


A1P	PRINTED CIRCUIT BOARD (MAIN)	HAP	PILOT LAMP (SERVICE MONITOR-GREEN) (A1P)	R95	RESISTOR (CURRENT LIMITING) (A3P)	X1M	TERMINAL STRIP (CONTROL) (A1P)
A2P	PRINTED CIRCUIT BOARD (NOISE FILTER)	K1	MAGNETIC RELAY (A3P)	R1T	THERMISTOR (AIR) (A1P)	X1M	TERMINAL STRIP (ABC I/P) (A5P)
A3P	PRINTED CIRCUIT BOARD (INV)	K2	MAGNETIC CONTACTOR (M1C) (A3P)	R1T	THERMISTOR (FIN) (A3P)	X2M	TERMINAL STRIP POWER SUPPLY (T1R)
A4P	PRINTED CIRCUIT BOARD (FAN)	K3	MAGNETIC RELAY (A2P)	R2T	THERMISTOR (SUCTION) (A1P)	X3M	TERMINAL STRIP POWER SUPPLY (T1R)
A5P	PRINTED CIRCUIT BOARD (ABC I/P)	K4	MAGNETIC CONTACTOR (M1C) (A2P)	R31T, R32T	THERMISTOR (M1C, M2C DISCHARGE) (A1P)	X4M	TERMINAL STRIP (RELAY)
A6P	PRINTED CIRCUIT BOARD (ELB)	K2M	MAGNETIC CONTACTOR (M2C)	R4T	THERMISTOR (HEAT EXC. DEICER) (A1P)	Y1E	ELECTRONIC EXPANSION VALVE (MAIN) (A1P)
A7P	PRINTED CIRCUIT BOARD (CURRENT SENSOR)	K1R	MAGNETIC RELAY (K2M) (A1P)	R5T	THERMISTOR (HEAT EXC. OUTLET) (A1P)	Y2E	ELECTRONIC EXPANSION VALVE (SUBCOOL) (A1P)
A8P	PRINTED CIRCUIT BOARD (FAN)	K3R	MAGNETIC RELAY (Y1S) (A1P)	R6T	THERMISTOR (LIQ. PIPE) (A1P)	Y1S	SOLENOID VALVE (HOT GAS) (A1P)
BS1~5	PUSH BUTTON SWITCH (MODE, SET, RETURN, TEST, RESET) (A1P)	K4R	MAGNETIC RELAY (Y2S) (A1P)	R7T	THERMISTOR (ACCUMULATOR) (A1P)	Y2S	SOLENOID VALVE (OIL) (A1P)
		K5R	MAGNETIC RELAY (Y3S) (A1P)	S1NPH	PRESSURE SENSOR (HIGH) (A1P)	Y3S	SOLENOID VALVE (4 WAY VALVE) (A1P)
C1	CAPACITOR	K7R	MAGNETIC RELAY (E1HC) (A1P)	S1NPL	PRESSURE SENSOR (LOW) (A1P)	Z1C~10C	NOISE FILTER (FERRITE CORE)
C93, C96	CAPACITOR (A3P)	K8R	MAGNETIC RELAY (E2HC) (A1P)	S1PH, S2PH	PRESSURE SWITCH (HIGH) (A1P)	Z1F, Z2F	NOISE FILTER WITH SURGE ABSORBER) (A3P)
DS1	DIP SWITCH	L1R	REACTOR (A3P)	T1A	CURRENT SENSOR (A6P)		
E1HC, E2HC	CRANKCASE HEATER (A1P)	M1C, M2C	MOTOR (COMPRESSOR)	T2A	CURRENT SENSOR (A7P)		
F1U	FUSE (8A, DC650V) (A4P, A8P)	M1F, M2F	MOTOR (FAN)	T1R	TRANSFORMER (460V/230V)		
F1U, F2U	FUSE (T, 3.15A, 250V) (A1P)	PS	SWITCHING POWER SUPPLY (A1P, A3P)	V1CP	SAFETY DEVICES INPUT (A1P)	COOL/HEAT SELECTOR	
F400U	FUSE (T, 6.3A, 250V) (A2P)	Q1RP	PHASE REVERSAL DETECT CIRCUIT (A1P)	V1R	POWER MODULE (A3P, A4P, A8P)	S1S	SELECTOR SWITCH (FAN/COOL+HEAT)
H1P~8P	PILOT LAMP (SERVICE MONITOR - ORANGE) (A1P)	R10	RESISTOR (CURRENT SENSOR) (A4P, A8P)	V2R	DIODE BRIDGE (A3P)	S2S	SELECTOR SWITCH (COOL/HEAT)
	H2P PREPARE TEST ---------- FLICKERING	R60, R59	RESISTOR (A3P)		CONNECTOR		
	MALFUNCTION DETECTION→LIGHT UP	R90	RESISTOR (CURRENT SENSOR) (A3P)	X1M	TERMINAL STRIP (POWER SUPPLY)		

3D061730

NOTES)
1. THIS WIRING DIAGRAM IS APPLIED ONLY TO THE OUTDOOR UNIT.
2. ▮▮ : FIELD WIRING.
3. □□□□ : TERMINAL STRIP ⊡⊡ : CONNECTOR ⏚ : TERMINAL ⊕ : PROTECTIVE EARTH (SCREW)
4. WHEN USING THE OPTIONAL ADAPTOR, REFER TO THE INSTALLATION MANUAL OF THE OPTIONAL ADAPTOR.
5. FOR CONNECTION WIRING TO INDOOR-OUTDOOR TRANSMISSION F1 · F2, OUTDOOR-OUTDOOR TRANSMISSION F1 · F2, OUTDOOR-MULTI TRANSMISSION Q1 · Q2, REFER TO THE INSTALLATION MANUAL.
6. HOW TO USE BS1~5, REFER TO "SERVICE PRECAUTION" LABEL ON EL. COMPO. BOX COVER.
7. WHEN OPERATING, DON'T SHORTCIRCUIT THE PROTECTION DEVICE (S1PH, S2PH).
8. COLORS BLK: BLACK RED : RED BLU : BLUE WHT : WHITE GRN : GREEN.

RXYQ10PTLK
RXYQ12PTLK



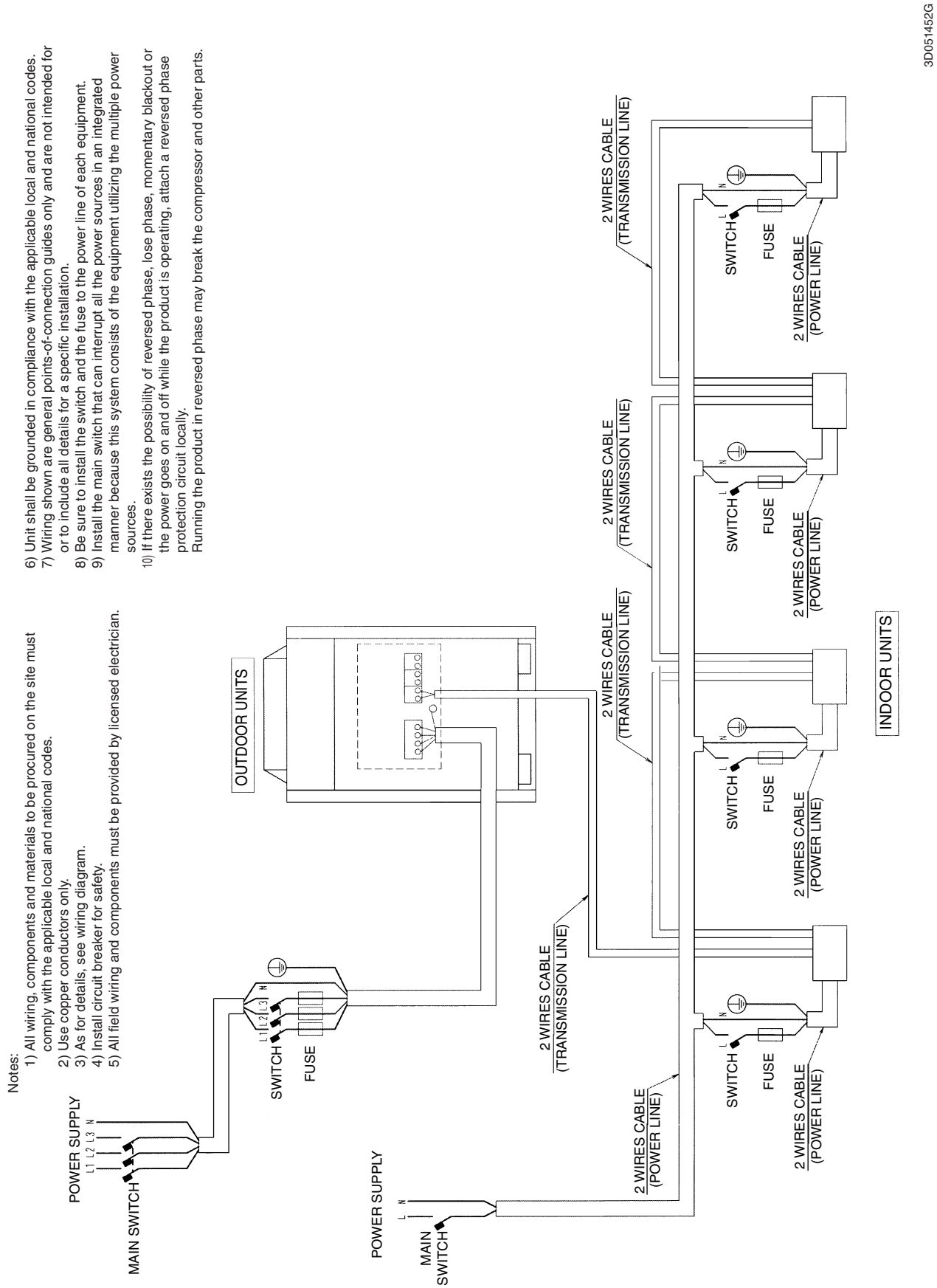
A1P	PRINTED CIRCUIT BOARD (MAIN)	K5R	MAGNETIC RELAY (Y3S) (A1P)	S1PH, S2PH	PRESSURE SWITCH (HIGH) (A1P)
A2P	PRINTED CIRCUIT BOARD (INV)	K7R	MAGNETIC RELAY (E1HC) (A1P)	T1A	CURRENT SENSOR (A4P)
A3P	PRINTED CIRCUIT BOARD (CAPACITOR)	K8R	MAGNETIC RELAY (E2HC) (A1P)	T2A	CURRENT SENSOR (A6P)
A4P	PRINTED CIRCUIT BOARD (ELB)	K84R	MAGNETIC RELAY (CURRENT LIMITING) (A2P)	V1CP	SAFETY DEVICES INPUT (A1P)
A5P	PRINTED CIRCUIT BOARD (ABC I/P)	L1R	REACTOR (A2P)	V1R	DIODE BRIDGE (A2P)
A6P	PRINTED CIRCUIT BOARD (CURRENT SENSOR)	M1C, M2C	MOTOR (COMPRESSOR)	V1R	POWER MODULE (A7P)
A7P	PRINTED CIRCUIT BOARD (FAN)	M1F, M2F	MOTOR (FAN)	V2R, V3R	POWER MODULE (A2P)
BS1~5	PUSH BUTTON SWITCH (MODE, SET, RETURN, TEST, RESET)	PS	SWITCHING POWER SUPPLY (A1P, A2P)	X1A~4A	CONNECTOR (M1F, M2F)
		Q1RP	PHASE REVERSAL DETECT CIRCUIT (A1P)	X1M	TERMINAL STRIP (POWER SUPPLY)
C1	CAPACITOR	R1	RESISTOR (CURRENT LIMITING) (A2P)	X1M	TERMINAL STRIP (CONTROL) (A1P)
DS1	DIP SWITCH	R2	RESISTOR (CURRENT SENSOR) (A7P)	X1M	TERMINAL STRIP (ABC I/P) (A5P)
E1HC, E2HC	CRANKCASE HEATER	R112	RESISTOR (CURRENT SENSOR) (A2P)	Y1E	ELECTRONIC EXPANSION VALVE (MAIN) (A1P)
F1U	FUSE (16A, DC450V) (A2P, A7P)	R502	RESISTOR (CURRENT SENSOR) (A2P)	Y2E	ELECTRONIC EXPANSION VALVE (SUBCOOL) (A1P)
F1U, F2U	FUSE (T, 3.15A, 250V) (A1P)	R1T	THERMISTOR (AIR) (A1P)	Y1S	SOLENOID VALVE (HOT GAS) (A1P)
H1P~8P	PILOT LAMP (SERVICE MONITOR-ORANGE)	R1T	THERMISTOR (FIN) (A2P)	Y2S	SOLENOID VALVE (OIL) (A1P)
	(H2P) PREPARE, TEST----------FLICKERING	R2T	THERMISTOR (SUCTION) (A1P)	Y3S	SOLENOID VALVE (4 WAY VALVE) (A1P)
	MALFUNCTION DETECTION----LIGHT UP	R31T, R32T	THERMISTOR (M1C, M2C DISCHARGE) (A1P)	Z1C~6C	NOISE FILTER (FERRITE CORE)
HAP	PILOT LAMP (SERVICE MONITOR-GREEN)	R4T	THERMISTOR (HEAT EXC. DEICER) (A1P)	Z1F	NOISE FILTER (WITH SURGE ABSORBER) (A2P)
K1M, K2M	MAGNETIC CONTACTOR (M1C) (A2P)	R5T	THERMISTOR (HEAT EXC. OUTLET) (A1P)		
K2M	MAGNETIC CONTACTOR (M2C)	R6T	THERMISTOR (LIQ. PIPE) (A1P)		
K1R	MAGNETIC RELAY (K2M) (A1P)	R7T	THERMISTOR (ACCUMULATOR) (A1P)	COOL/HEAT SELECTOR	
K3R	MAGNETIC RELAY (Y1S) (A1P)	S1NPH	PRESSURE SENSOR (HIGH) (A1P)	S1S	SELECTOR SWITCH (FAN/COOL • HEAT)
K4R	MAGNETIC RELAY (Y2S) (A1P)	S1NPL	PRESSURE SENSOR (LOW) (A1P)	S2S	SELECTOR SWITCH (COOL/HEAT)

3D061716

NOTES)
1. THIS WIRING DIAGRAM IS APPLIED ONLY TO THE OUTDOOR UNIT.
2. : FIELD WIRING.
3. : TERMINAL STRIP : CONNECTOR : TERMINAL : PROTECTIVE EARTH (SCREW)
4. WHEN USING THE OPTIONAL ADAPTOR, REFER TO THE INSTALLATION MANUAL OF THE OPTIONAL ADAPTOR.
5. FOR CONNECTION WIRING TO INDOOR-OUTDOOR TRANSMISSION F1 · F2, OUTDOOR-OUTDOOR TRANSMISSION F1 · F2, OUTDOOR-MULTI TRANSMISSION Q1 · Q2, REFER TO THE INSTALLATION MANUAL.
6. HOW TO USE BS1~5 AND DS1 SWITCH, REFER TO "SERVICE PRECAUTION" LABEL ON EL. COMPO. BOX COVER.
7. WHEN OPERATING, DON'T SHORT CIRCUIT THE PROTECTION DEVICE (S1PH, S2PH).
8. COLORS BLK : BLACK RED : RED BLU : BLUE WHT : WHITE PNK : PINK YLW : YELLOW BRN : BROWN GRY : GRAY GRN : GREEN ORG : ORANGE.

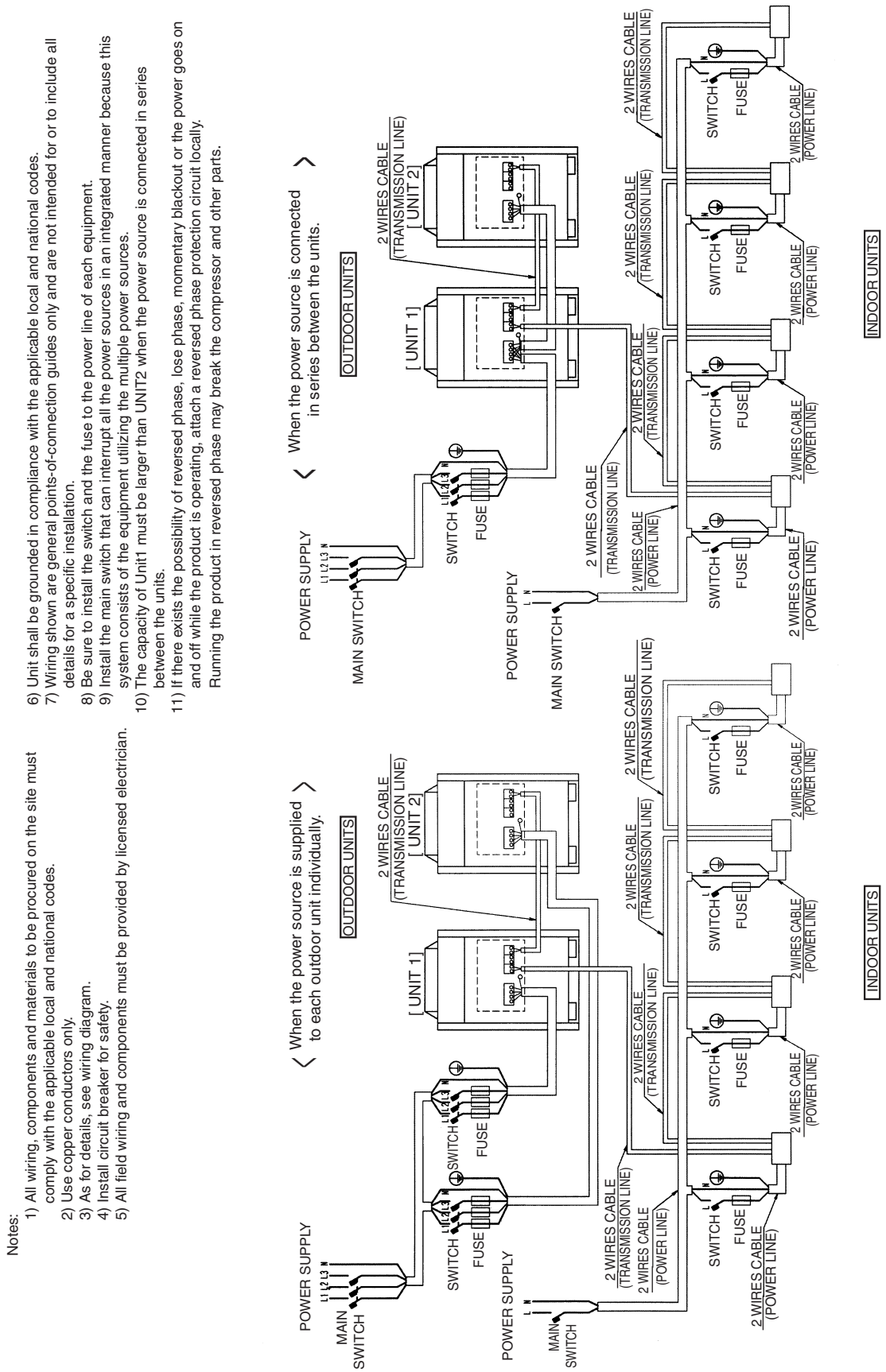
2.2 Field Wiring

RXYQ8P7 / 10P7 / 12P7 / 14P7 / 16P7 / 18P7Y1K
RXYQ8P7 / 10P7 / 12P7 / 14P7 / 16P7 / 18P7YLK

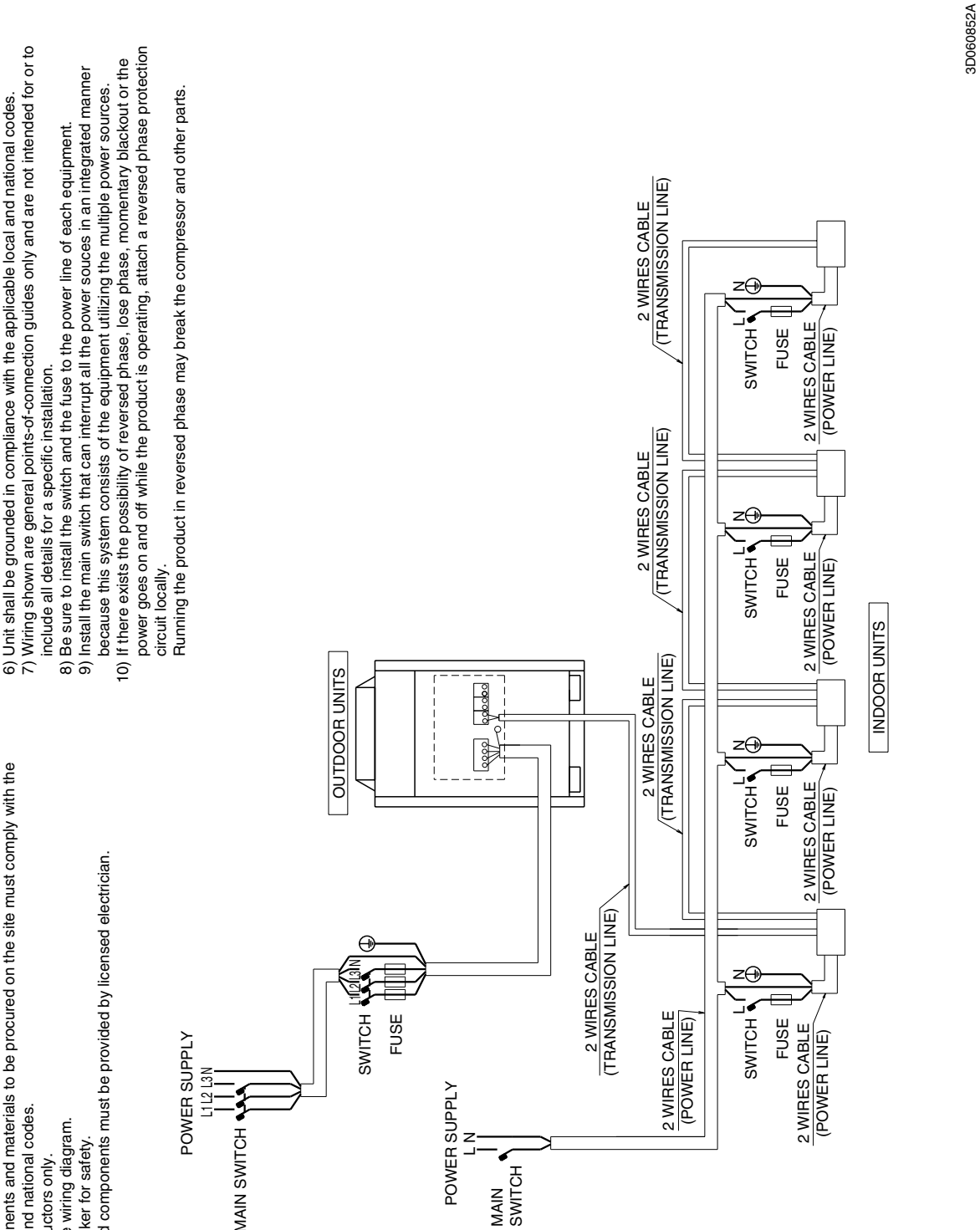


RXYQ20P7 / 22P7 / 24P7 / 26P7 / 28P7 / 30P7 / 32P7 / 34P7 / 36P7Y1K
RXYQ20P7 / 22P7 / 24P7 / 26P7 / 28P7 / 30P7 / 32P7 / 34P7 / 36P7YLK

Notes:
1) All wiring, components and materials to be procured on the site must comply with the applicable local and national codes.
2) Use copper conductors only.
3) As for details, see wiring diagram.
4) Install circuit breaker for safety.
5) All field wiring and components must be provided by licensed electrician.
6) Unit shall be grounded in compliance with the applicable local and national codes.
7) Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.
8) Be sure to install the switch and the fuse to the power line of each equipment.
9) Install the main switch that can interrupt all the power sources in an integrated manner because this system consists of the equipment utilizing the multiple power sources.
10) The capacity of Unit1 must be larger than UNIT2 when the power source is connected in series between the units.
11) If there exists the possibility of reversed phase, lose phase, momentary blackout or the power goes on and off while the product is operating, attach a reversed phase protection circuit locally. Running the product in reversed phase may break the compressor and other parts.



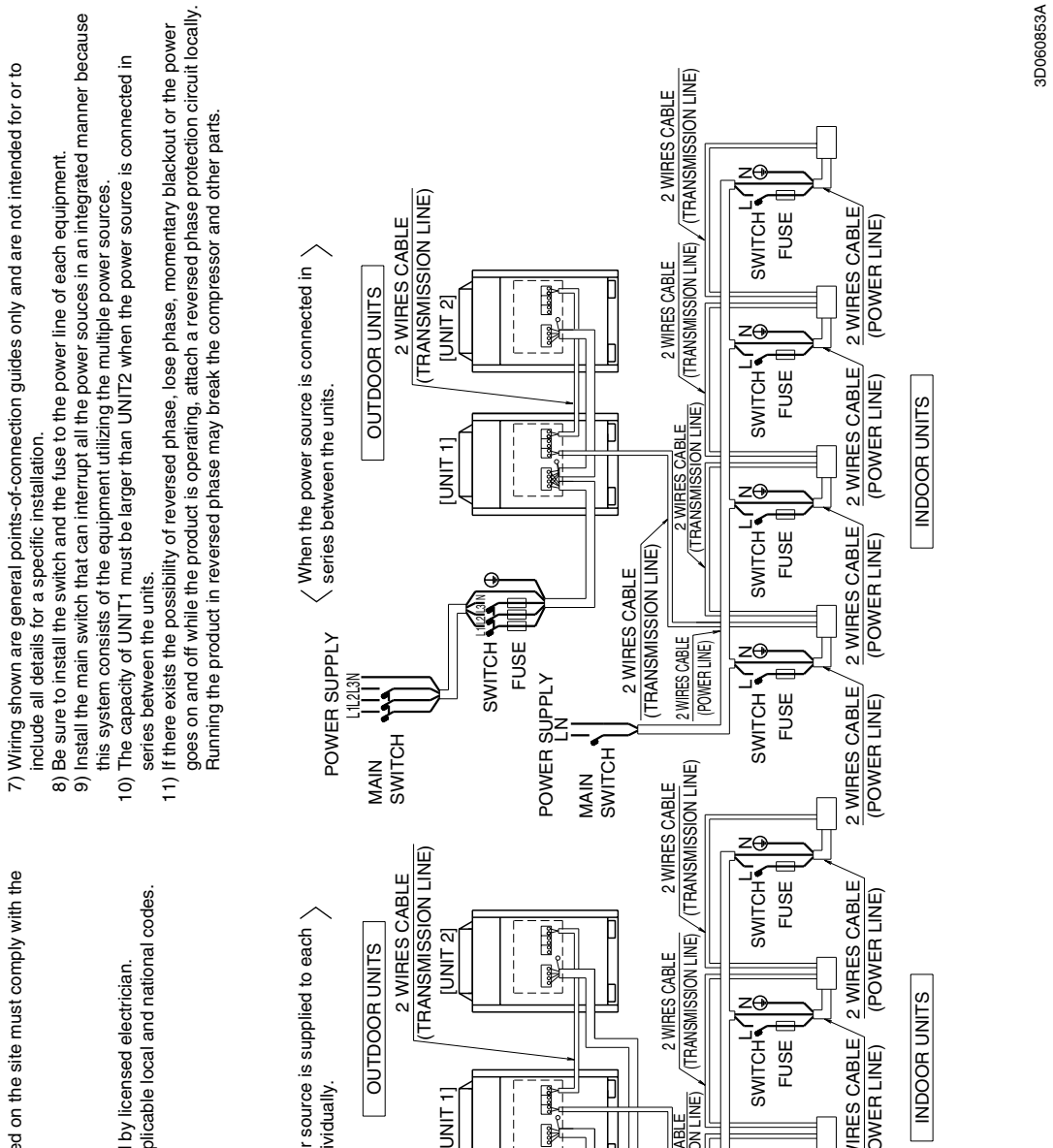
RXYQ8P / 10P / 12PTLK
RXYQ8P / 10P / 12PYNK



Notes 1) All wiring, components and materials to be procured on the site must comply with the applicable local and national codes.
2) Use copper conductors only.
3) As for details, see wiring diagram.
4) Install circuit breaker for safety.
5) All field wiring and components must be provided by licensed electrician.
6) Unit shall be grounded in compliance with the applicable local and national codes.
7) Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.
8) Be sure to install the switch and the fuse to the power line of each equipment.
9) Install the main switch that can interrupt all the power souces in an integrated manner because this system consists of the equipment utilizing the multiple power sources.
10) If there exists the possibility of reversed phase, lose phase, momentary blackout or the power goes on and off while the product is operating, attach a reversed phase protection circuit locally.
Running the product in reversed phase may break the compressor and other parts.

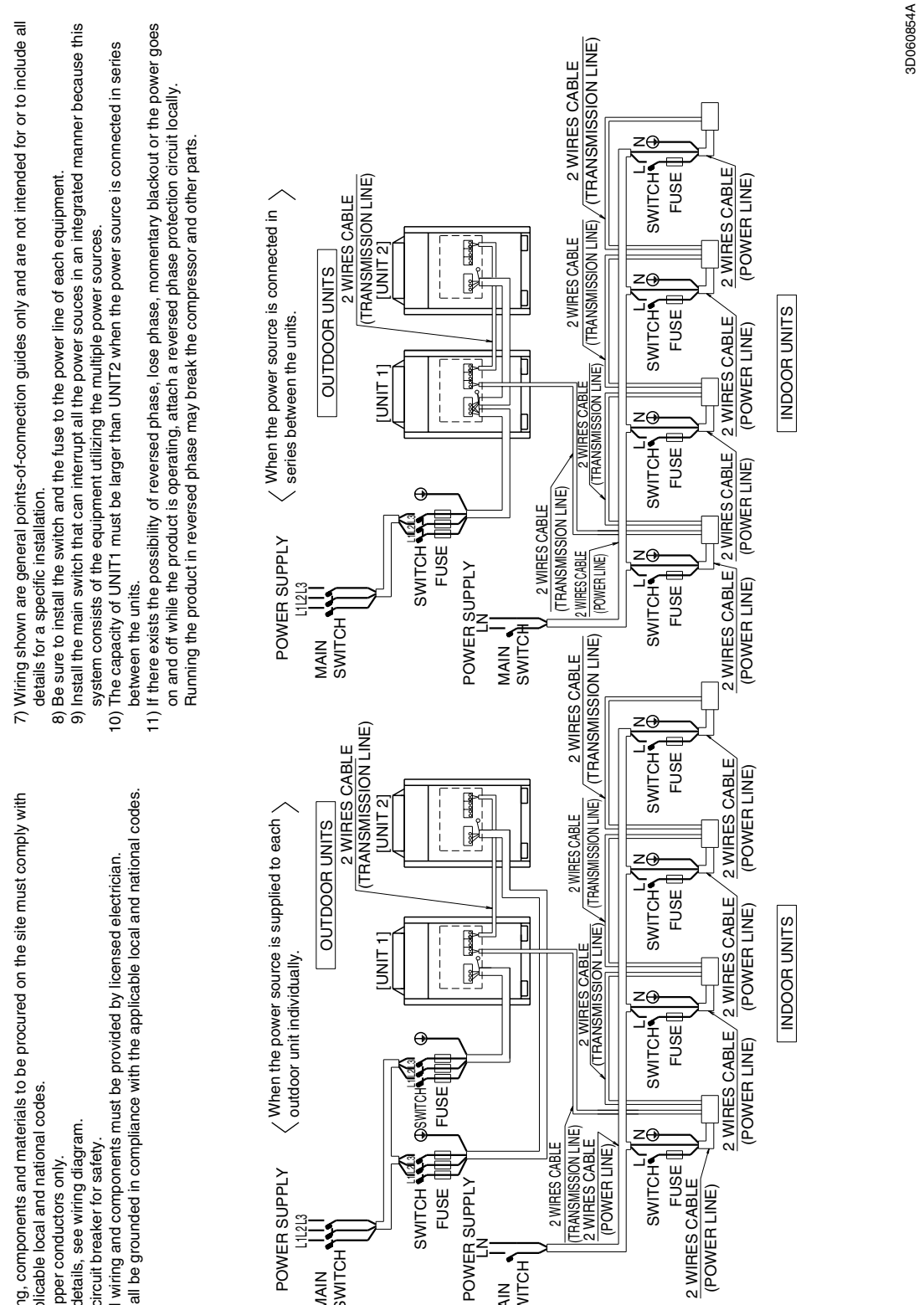
RXYQ16P / 18P / 20P / 22P / 24PTLK
RXYQ16P / 18P / 20P / 22P / 24PYNK

Notes 1) All wiring, components and materials to be procured on the site must comply with the applicable local and national codes.
2) Use copper conductors only.
3) As for details, see wiring diagram.
4) Install circuit breaker for safety.
5) All field wiring and components must be provided by licensed electrician.
6) Unit shall be grounded in compliance with the applicable local and national codes.
7) Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.
8) Be sure to install the switch and the fuse to the power line of each equipment.
9) Install the main switch that can interrupt all the power souces in an integrated manner because this system consists of the equipment utilizing the multiple power sources.
10) The capacity of UNIT1 must be larger than UNIT2 when the power source is connected in series between the units.
11) If there exists the possibility of reversed phase, lose phase, momentary blackout or the power goes on and off while the product is operating, attach a reversed phase protection circuit locally. Running the product in reversed phase may break the compressor and other parts.



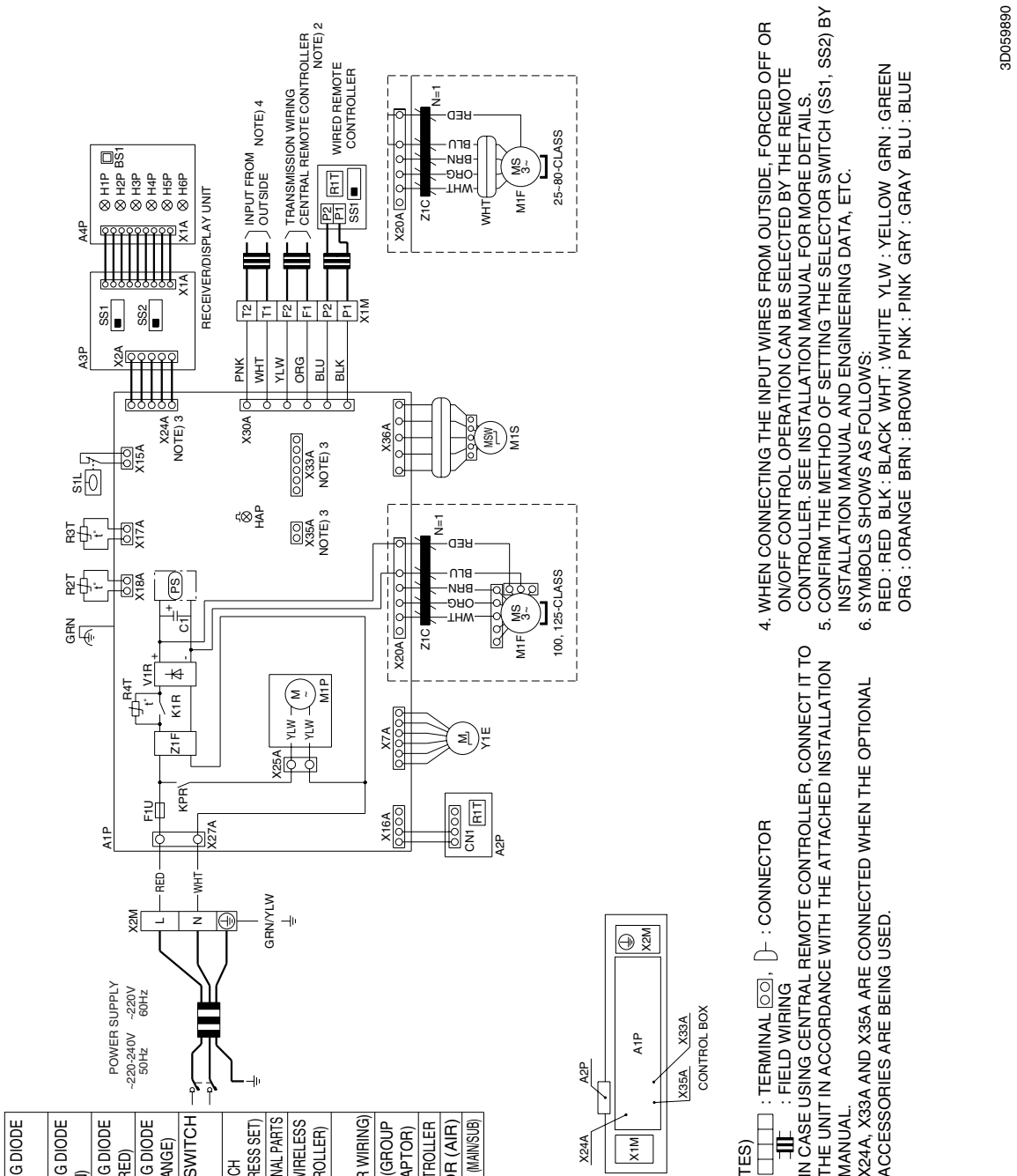
RXYQ26P / 28P / 30P / 32P / 34P / 36PTLK
RXYQ26P / 28P / 30P / 32P / 34P / 36PYNK

Notes 1) All wiring, components and materials to be procured on the site must comply with the applicable local and national codes.
2) Use copper conductors only.
3) As for details, see wiring diagram.
4) Install circuit breaker for safety.
5) All field wiring and components must be provided by licensed electrician.
6) Unit shall be grounded in compliance with the applicable local and national codes.
7) Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.
8) Be sure to install the switch and the fuse to the power line of each equipment.
9) Install the main switch that can interrupt all the power souces in an integrated manner because this system consists of the equipment utilizing the multiple power sources.
10) The capacity of UNIT1 must be larger than UNIT2 when the power source is connected in series between the units.
11) If there exists the possibility of reversed phase, lose phase, momentary blackout or the power goes on and off while the product is operating, attach a reversed phase protection circuit locally. Running the product in reversed phase may break the compressor and other parts.



2.3 Indoor Unit

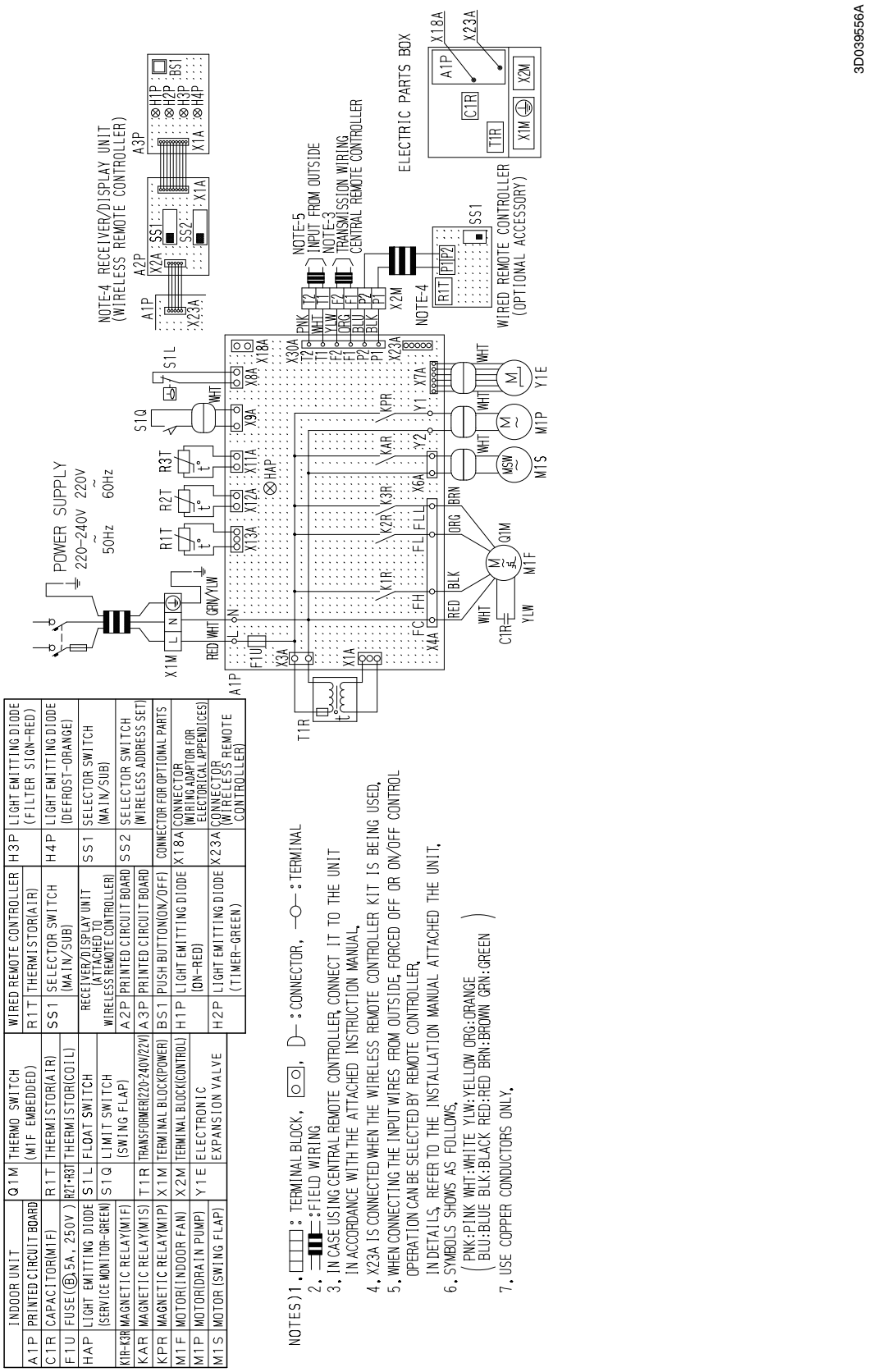
FXFQ25P / 32P / 40P / 50P / 63P / 80P / 100P / 125PVE



NOTES)
1. □□□□ : TERMINAL □□, ⊃- : CONNECTOR
   ═══ : FIELD WIRING
2. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTALLATION MANUAL.
3. X24A, X33A AND X35A ARE CONNECTED WHEN THE OPTIONAL ACCESSORIES ARE BEING USED.
4. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY THE REMOTE CONTROLLER. SEE INSTALLATION MANUAL FOR MORE DETAILS.
5. CONFIRM THE METHOD OF SETTING THE SELECTOR SWITCH (SS1, SS2) BY INSTALLATION MANUAL AND ENGINEERING DATA, ETC.
6. SYMBOLS SHOWS AS FOLLOWS:
   RED : RED BLK : BLACK WHT : WHITE YLW : YELLOW GRN : GREEN
   ORG : ORANGE BRN : BROWN PNK : PINK GRY : GRAY BLU : BLUE

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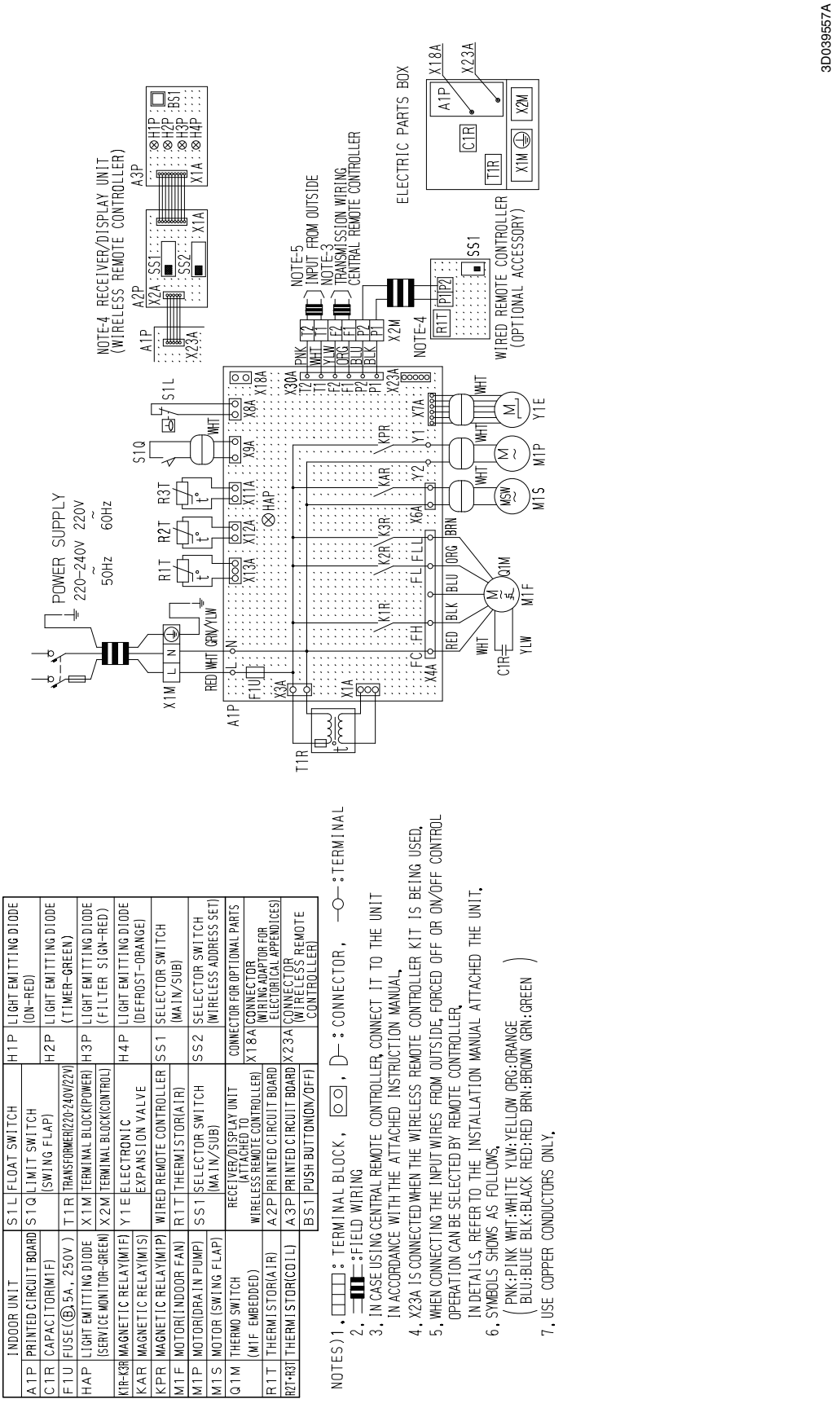
FXCQ20M / 25M / 32M / 63MVE



INDOOR UNIT		Q1M	THERMO SWITCH (M1F EMBEDDED)	WIRED REMOTE CONTROLLER		H3P	LIGHT EMITTING DIODE (FILTER SIGN-RED)
A1P	PRINTED CIRCUIT BOARD			R1T	THERMISTOR(AIR)		
C1R	CAPACITOR(M1F)	R1T	THERMISTOR(AIR)	S S1	SELECTOR SWITCH (MAIN/SUB)	H4P	LIGHT EMITTING DIODE (DEFROST-ORANGE)
F1U	FUSE(Ⓑ5A, 250V)	R2T•R3T	THERMISTOR(COIL)				
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)	S1L	FLOAT SWITCH		RECEIVER/DISPLAY UNIT (ATTACHED TO WIRELESS REMOTE CONTROLLER)	S S1	SELECTOR SWITCH (MAIN/SUB)
		S1Q	LIMIT SWITCH (SWING FLAP)				
K1R-K3R	MAGNETIC RELAY(M1F)			A2P	PRINTED CIRCUIT BOARD	S S2	SELECTOR SWITCH (WIRELESS ADDRESS SET)
KAR	MAGNETIC RELAY(M1S)	T1R	TRANSFORMER(220-240V/220V)	A3P	PRINTED CIRCUIT BOARD		
KPR	MAGNETIC RELAY(M1P)	X1M	TERMINAL BLOCK(POWER)	BS1	PUSH BUTTON(ON/OFF)		CONNECTOR FOR OPTIONAL PARTS
M1F	MOTOR(INDOOR FAN)	X2M	TERMINAL BLOCK(CONTROL)	H1P	LIGHT EMITTING DIODE (ON-RED)	X18A	CONNECTOR (WIRING ADAPTOR FOR ELECTORICAL APPENDICES)
M1P	MOTOR(DRAIN PUMP)	Y1E	ELECTRONIC EXPANSION VALVE	H2P	LIGHT EMITTING DIODE (TIMER-GREEN)	X23A	CONNECTOR (WIRELESS REMOTE CONTROLLER)
M1S	MOTOR(SWING FLAP)						

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

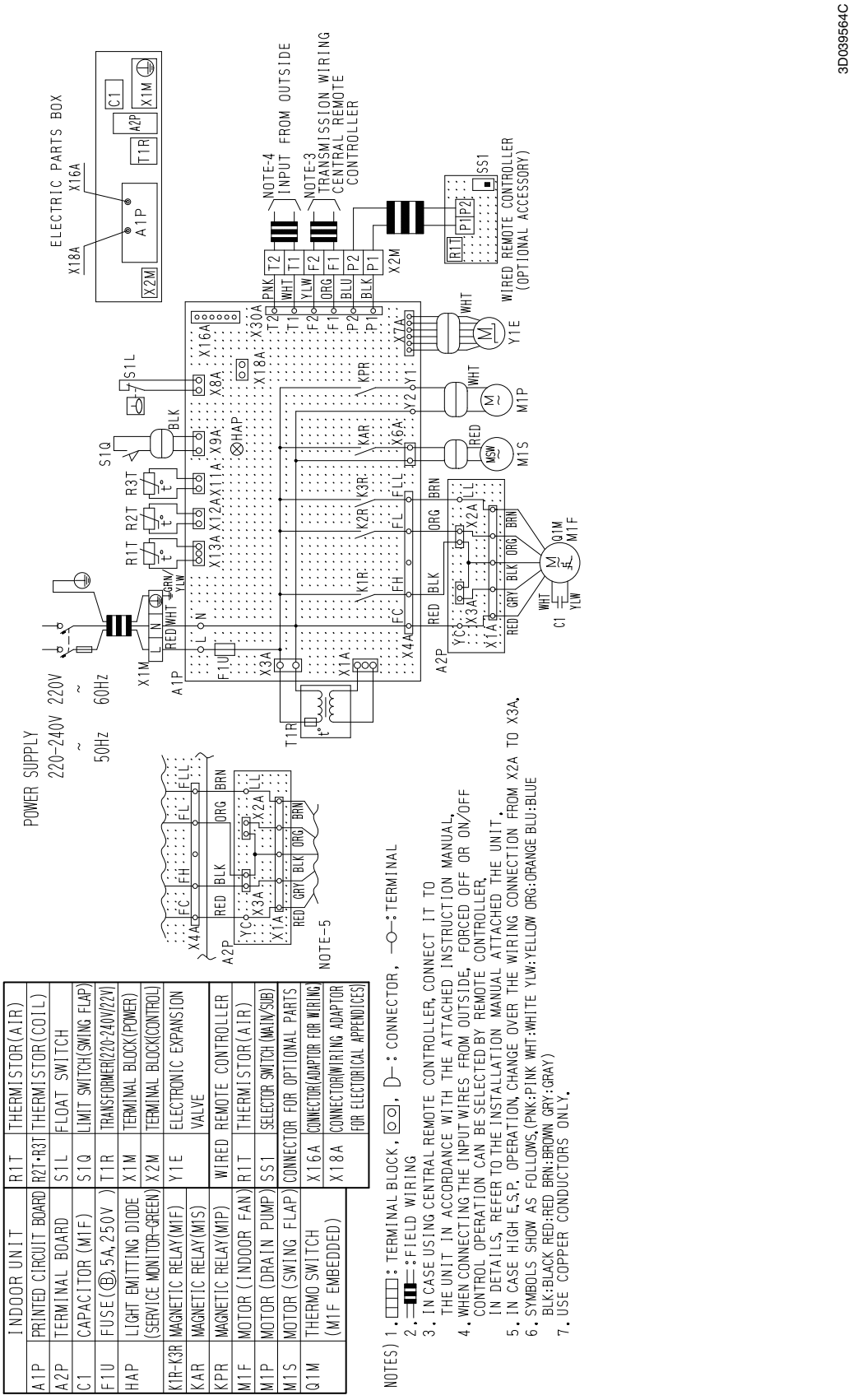
FXCQ40M / 50M / 80M/ 125MVE



	INDOOR UNIT		S1L	FLOAT SWITCH		H1P	LIGHT EMITTING DIODE (ON-RED)
A1P	PRINTED CIRCUIT BOARD		S1Q	LIMIT SWITCH (SWING FLAP)		H2P	LIGHT EMITTING DIODE (TIMER-GREEN)
C1R	CAPACITOR(M1F)		T1R	TRANSFORMER(220-240V/22V)			
F1U	FUSE(Ⓑ5A, 250V)		X1M	TERMINAL BLOCK(POWER)		H3P	LIGHT EMITTING DIODE (FILTER SIGN-RED)
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)		X2M	TERMINAL BLOCK(CONTROL)			
K1R·K3R	MAGNETIC RELAY(M1F)		Y1E	ELECTRONIC EXPANSION VALVE		H4P	LIGHT EMITTING DIODE (DEFROST-ORANGE)
KAR	MAGNETIC RELAY(M1S)						
KPR	MAGNETIC RELAY(M1P)			WIRED REMOTE CONTROLLER		SS1	SELECTOR SWITCH (MAIN/SUB)
M1F	MOTOR(INDOOR FAN)		R1T	THERMISTOR(AIR)		SS2	SELECTOR SWITCH (WIRELESS ADDRESS SET)
M1P	MOTOR(DRAIN PUMP)		SS1	SELECTOR SWITCH (MAIN/SUB)			
M1S	MOTOR (SWING FLAP)						
Q1M	THERMO SWITCH (M1F EMBEDDED)			RECEIVER/DISPLAY UNIT (ATTACHED TO WIRELESS REMOTE CONTROLLER)			CONNECTOR FOR OPTIONAL PARTS
R1T	THERMISTOR(AIR)		A2P	PRINTED CIRCUIT BOARD		X18A	CONNECTOR (WIRING ADAPTOR FOR ELECTORICAL APPENDICES)
R2T·R3T	THERMISTOR(COIL)		A3P	PRINTED CIRCUIT BOARD		X23A	CONNECTOR (WIRELESS REMOTE CONTROLLER)
			BS1	PUSH BUTTON(ON/OFF)			

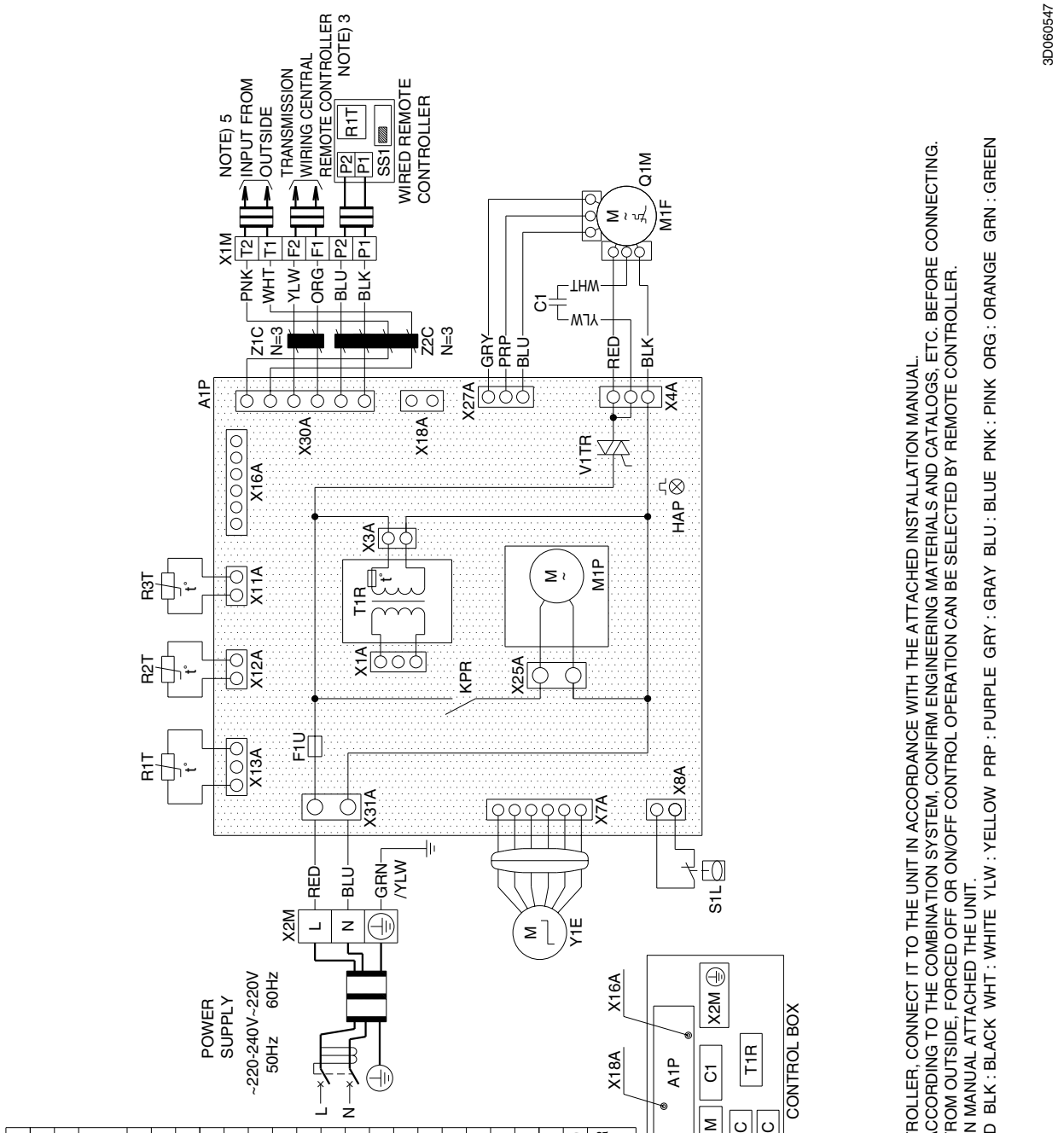
NOTES) 1. □□□□: TERMINAL BLOCK, ⊏○⊐, ⊐○⊏: CONNECTOR, —○—: TERMINAL
2. ——: FIELD WIRING
3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
4. X23A IS CONNECTED WHEN THE WIRELESS REMOTE CONTROLLER KIT IS BEING USED.
5. WHEN CONNECTING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

FXKQ25MA / 32MA / 40MA / 63MAVE

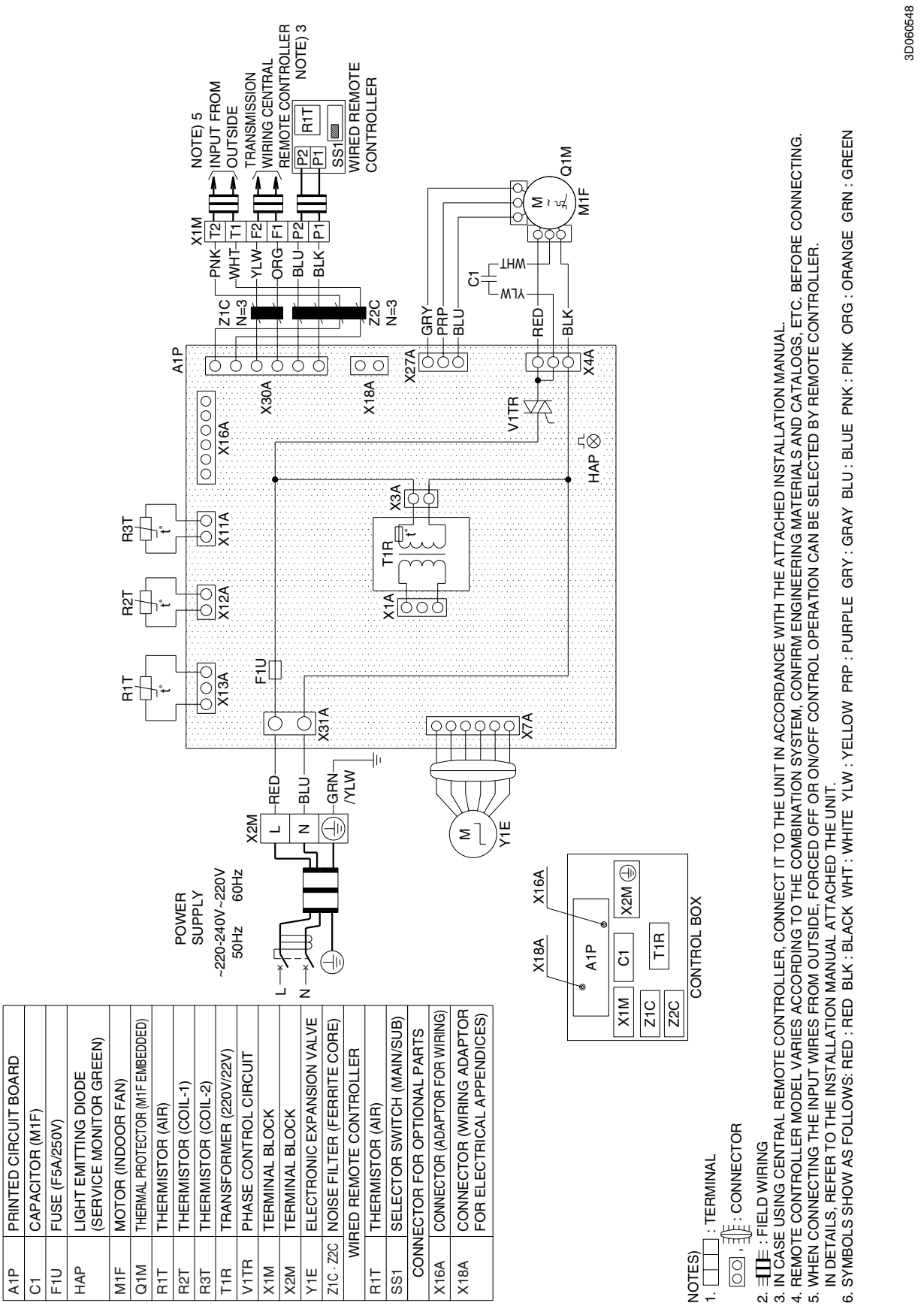


INDOOR UNIT		R1T	THERMISTOR(AIR)
A1P	PRINTED CIRCUIT BOARD	R2T-R3T	THERMISTOR(COIL)
A2P	TERMINAL BOARD	S1L	FLOAT SWITCH
C1	CAPACITOR (M1F)	S1Q	LIMIT SWITCH(SWING FLAP)
F1U	FUSE(Ⓑ,5A,250V)	T1R	TRANSFORMER(220-240V/22V)
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)	X1M	TERMINAL BLOCK(POWER)
		X2M	TERMINAL BLOCK(CONTROL)
K1R-K3R	MAGNETIC RELAY(M1F)	Y1E	ELECTRONIC EXPANSION VALVE
KAR	MAGNETIC RELAY(M1S)		
KPR	MAGNETIC RELAY(M1P)	WIRED	REMOTE CONTROLLER
M1F	MOTOR (INDOOR FAN)	R1T	THERMISTOR(AIR)
M1P	MOTOR (DRAIN PUMP)	SS1	SELECTOR SWITCH (MAIN/SUB)
M1S	MOTOR (SWING FLAP)	CONNECTOR FOR OPTIONAL PARTS	
Q1M	THERMO SWITCH (M1F EMBEDDED)	X16A	CONNECTOR(ADAPTOR FOR WIRING)
		X18A	CONNECTOR(WIRING ADAPTOR FOR ELECTORICAL APPENDICES)

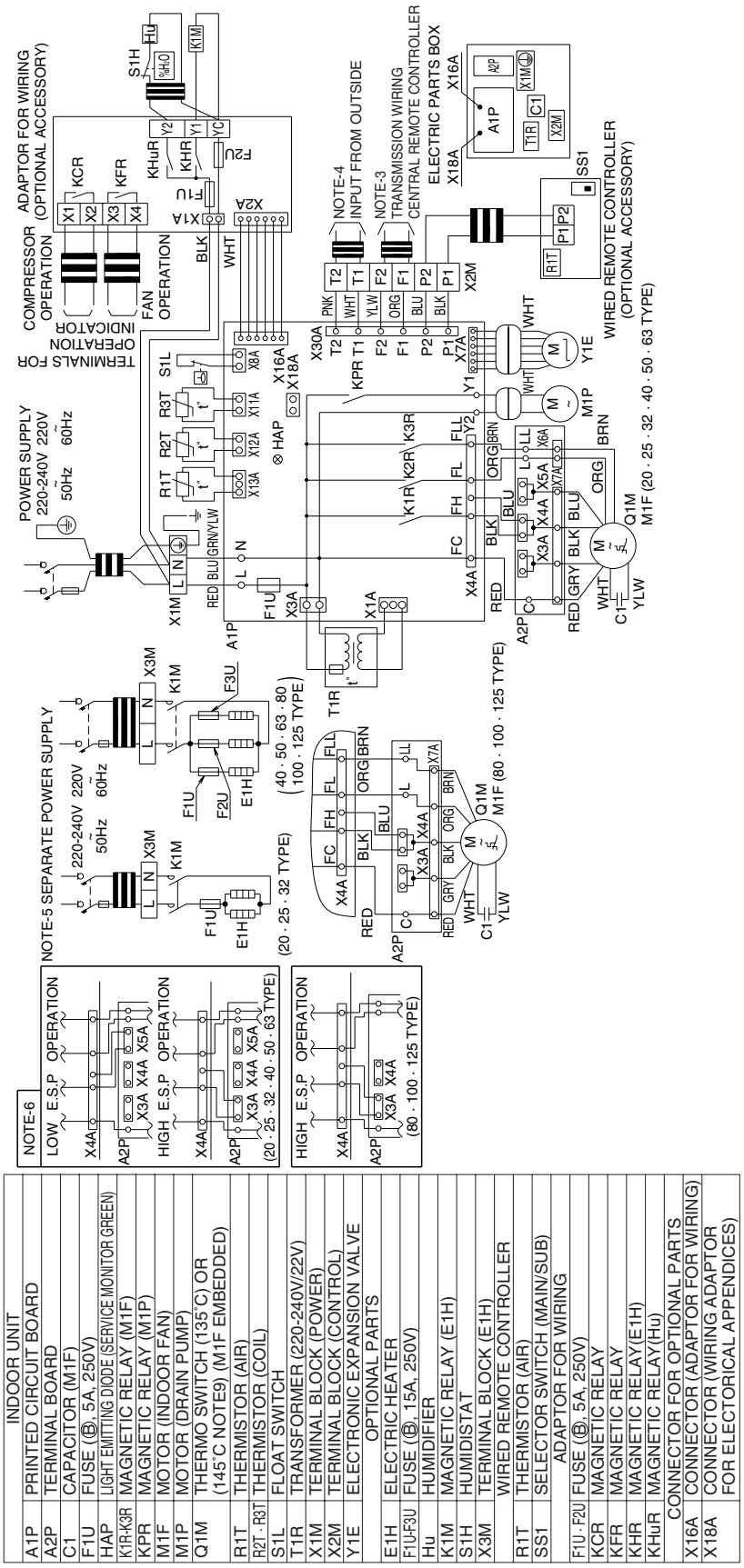
FXDQ20PB / 25PB / 32PB
FXDQ40NB / 50NB / 63NBVE (with Drain Pump)



FXDQ20PB / 25PB / 32PB
FXDQ40NB / 50NB / 63NBVET (without Drain Pump)

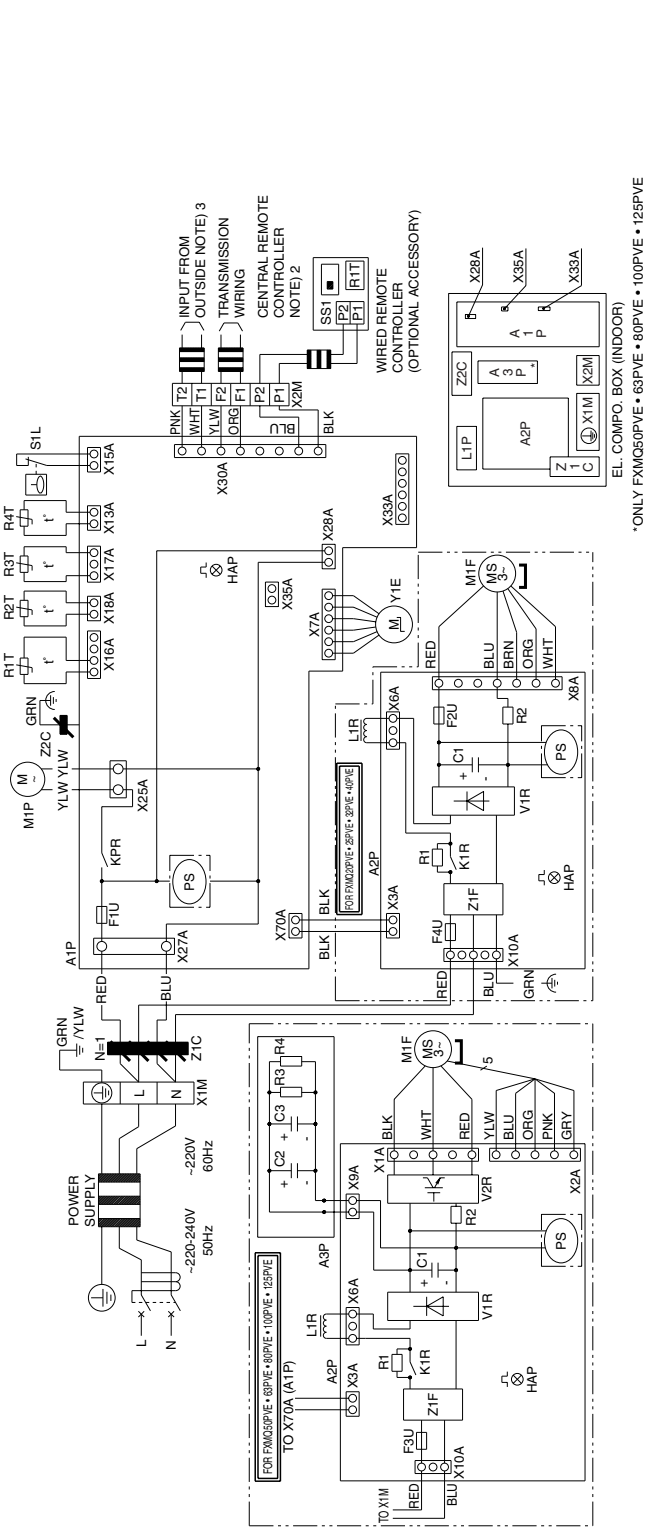


FXSQ20M / 25M / 32M / 40M / 50M / 63M / 80M / 100M / 125MVE



NOTES)
1. □□□ : TERMINAL BLOCK, ⊡⊡ , ⊃– : CONNECTOR, –○– : TERMINAL
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. FDRCED 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 (K1M, E1H). IN THIS CASE, THE MAIN POWER SUPPLY HAS TO BE SUPPLIED INDEPENDENTLY.
6. IN CASE HIGH OR LOW E.S.P. OPERATION, CHANGE OVER THE WIRING CONNECTION FROM X4A (OF A2P) TO X3A OR X5A.
7. SYMBOLS SHOW AS FOLLOWS. (PNK : PINK WHT : WHITE YLW : YELLOW GRY : GRAY ORG : ORANGE BLU : BLUE BLK : BLACK RED : RED BRN : BROWN GRN : GREEN)
8. USE COPPER CONDUCTORS ONLY.
9. ONLY 80. 100. 125 TYPE.

FXMQ40P / 50P / 63P / 80P / 100P / 125PVE

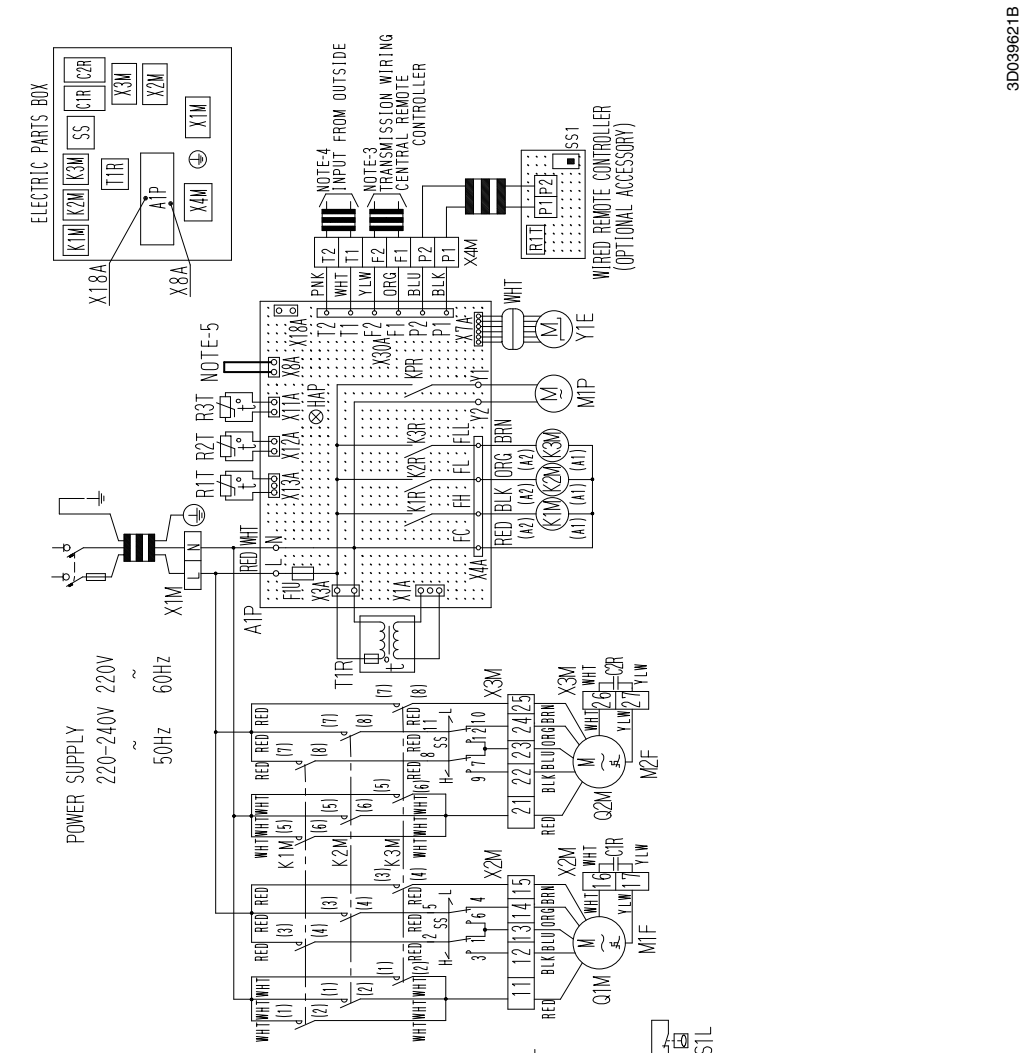


NOTES) 1. ▭ : TERMINAL ▭ : CONNECTOR ⫤⫤ : FIELD WIRING
2. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTALLATION MANUAL.
3. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER. IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT.
4. COLORS BLK : BLACK RED : RED BLU : BLUE WHT : WHITE
PNK : PINK YLW : YELLOW BRN : BROWN GRY : GRAY GRN : GREEN
ORG : ORANGE.

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INDOOR UNIT		PS	SWITCHING POWER SUPPLY (A1P, A2P)	Y1E	ELECTRONIC EXPANSION VALVE
A1P	PRINTED CIRCUIT BOARD	R1	RESISTOR (CURRENT LIMITING)	Z1C, Z2C	NOISE FILTER (FERRITE CORE)
A2P	PRINTED CIRCUIT BOARD (FAN)	R2	CURRENT SENSING DEVICE	Z1F	NOISE FILTER CONNECTOR OPTIONAL ACCESSORY
A3P	PRINTED CIRCUIT BOARD (CAPACITOR)	R3, R4	RESISTOR (ELECTRIC DISCHARGE)	X28A	CONNECTOR (POWER SUPPLY FOR WIRING)
C1, C2, C3	CAPACITOR				
F1U	FUSE (T, 3.15A, 250V)	R1T	THERMISTOR (SUCTION AIR)	X33A	CONNECTOR (FOR WIRING)
F2U	FUSE (T, 5A, 250V)	R2T	THERMISTOR (LIQUID)		
F3U	FUSE (T, 6.3A, 250V)	R3T	THERMISTOR (GAS)	X35A	CONNECTOR (ADAPTOR) WIRED REMOTE CONTROLLER
F4U	FUSE (T, 6.3A, 250V)	R4T	THERMISTOR (DISCHARGE AIR)		
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN) (A1P, A2P)	S1L	FLOAT SWITCH	R1T	THERMISTOR (AIR)
		V1R	DIODE BRIDGE	SS1	SELECTOR SWITCH (MAIN/SUB)
KPR	MAGNETIC RELAY	V2R	POWER MODULE		
K1R	MAGNETIC RELAY	X1M	TERMINAL STRIP (POWER SUPPLY)		
L1R	REACTOR				
M1F	MOTOR (FAN)	X2M	TERMINAL STRIP (CONTROL)		
M1P	MOTOR (DRAIN PUMP)				

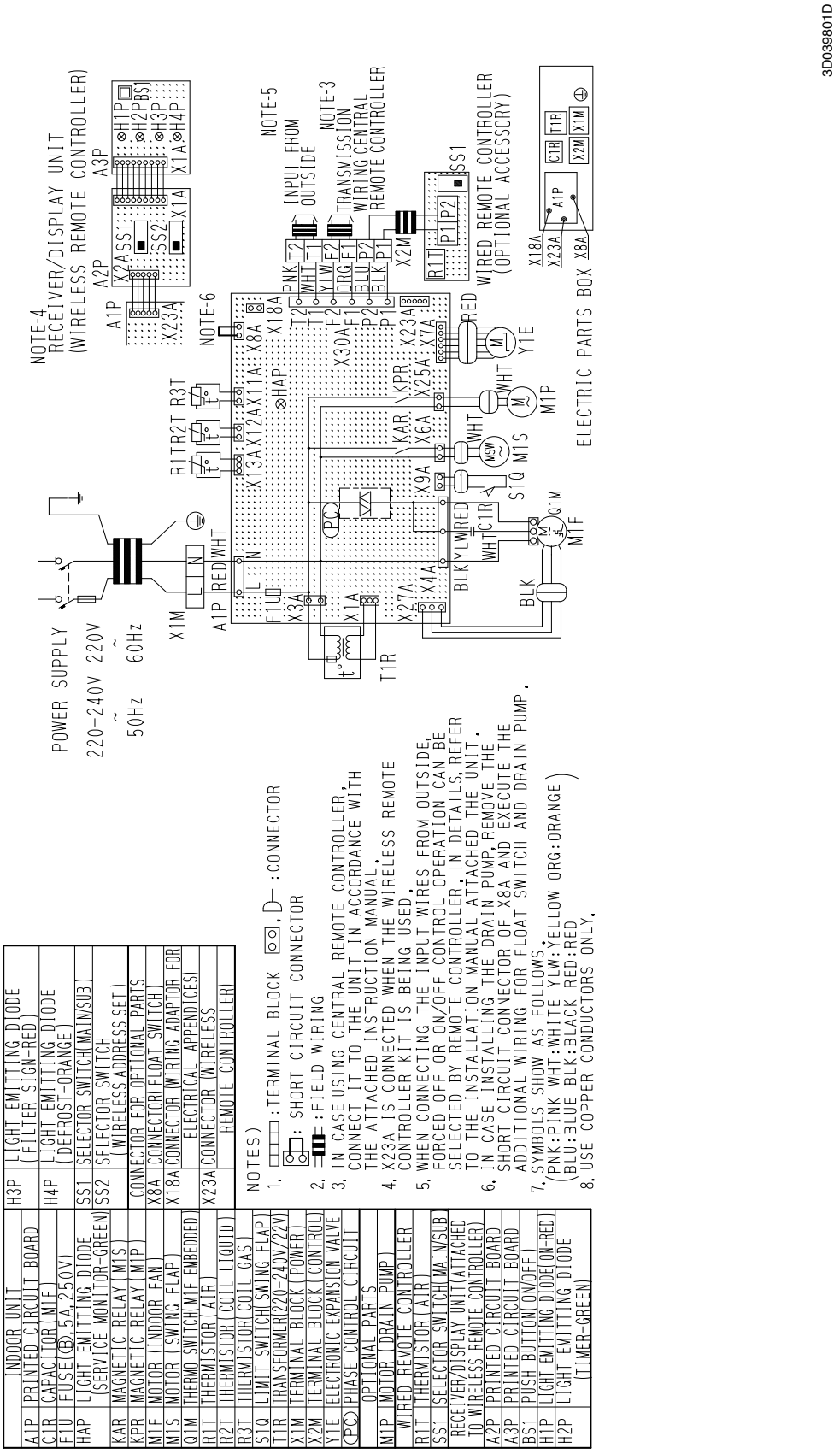
FXMQ200MA / 250MAVE



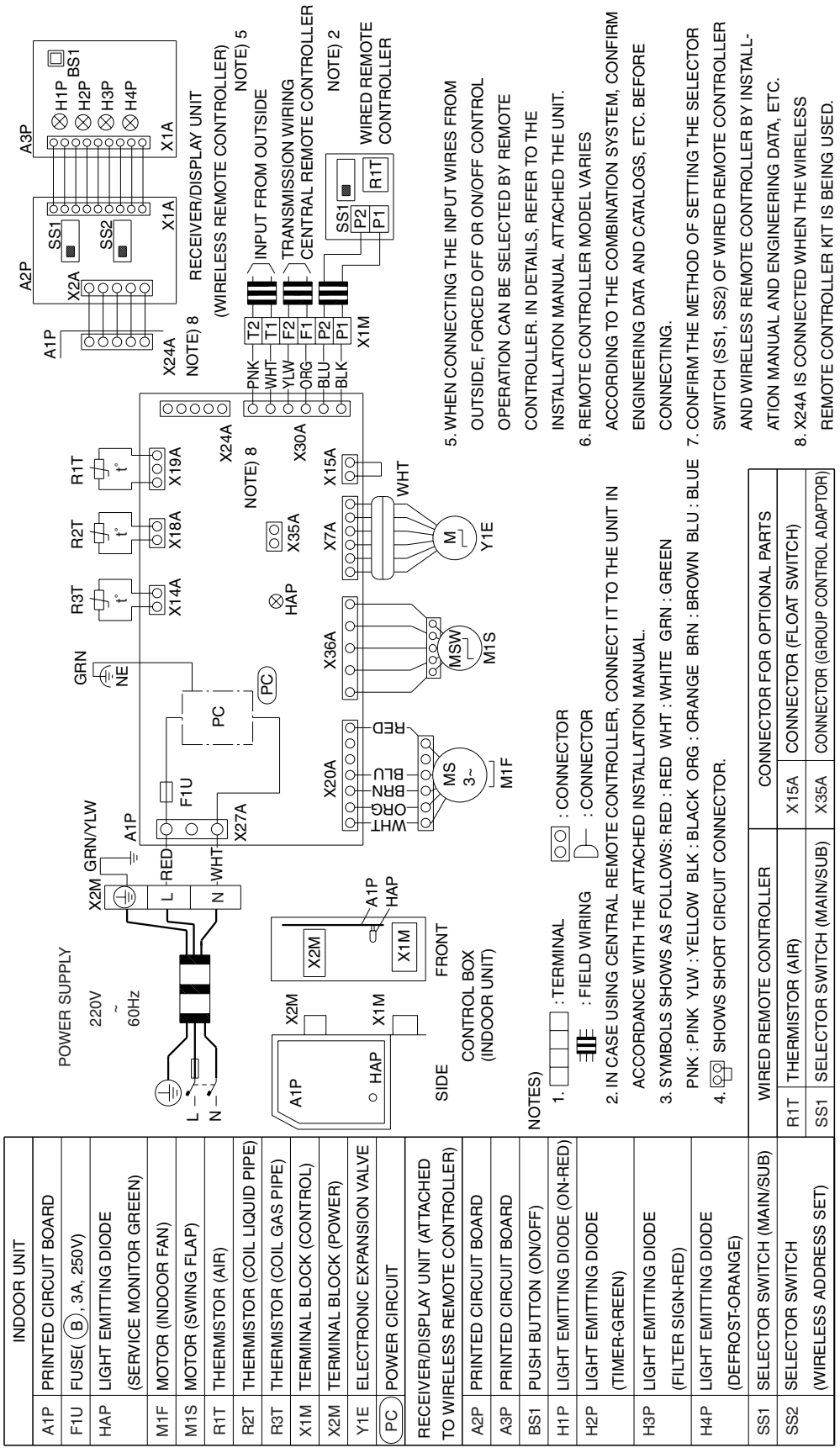
INDOOR UNIT		R1T	THERMISTOR(AIR)
A1P	PRINTED CIRCUIT BOARD	R2T・R3T	THERMISTOR(COIL)
C1R・C2R	CAPACITOR(M1F・2F)	SS	SELECTOR SWITCH (STATIC PRESSURE)
F1U	FUSE(Ⓑ,5A, 250V)	T1R	TRANSFORMER(220-240V/22V)
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR-GREEN)	X1M	TERMINAL BLOCK(POWER)
K1M	MAGNETIC CONTACTOR(M1F・2F)	X2M~X3M	TERMINAL BLOCK
K2M	MAGNETIC CONTACTOR(M1F・2F)	X4M	TERMINAL BLOCK(CONTROL)
K3M	MAGNETIC CONTACTOR(M1F・2F)	Y1E	ELECTRONIC EXPANSION VALVE
K1R~K3R	MAGNETIC RELAY(M1F・2F)		OPTIONAL PARTS
KPR	MAGNETIC RELAY(M1P)	M1P	MOTOR(DRAIN PUMP)
M1F・M2F	MOTOR(INDOOR FAN)		WIRED REMOTE CONTROLLER
Q1M・Q2M	THERMO SWITCH (M1F・2F EMBEDDED)	R1T	THERMISTOR(AIR)
		SS1	SELECTOR SWITCH(MAIN/SUB)
			CONNECTOR FOR OPTIONAL PARTS
		X8A	CONNECTOR(FLOAT SWITCH)
		X18A	CONNECTOR(WIRING ADAPTOR FOR ELECTORICAL APPENDICES)

NOTES)
1. □□□ : TERMINAL BLOCK
   ⊙, ⊃ : CONNECTOR
   ⊙⊏⊐⊙ : SHORT CIRCUIT CONNECTOR
   —○— : TERMINAL
2. ═══ : FIELD WIRING
3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE 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 SHORT CIRCUIT CONNECTOR OF X8A AND EXECUTE THE ADDITIONAL WIRING FOR FLOAT SWITCH AND DRAIN PUMP.
6. SYMBOLS SHOW AS FOLLOWS, (PNK:PINK WHT: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".

FXHQ32MA / 63MA / 100MAVE



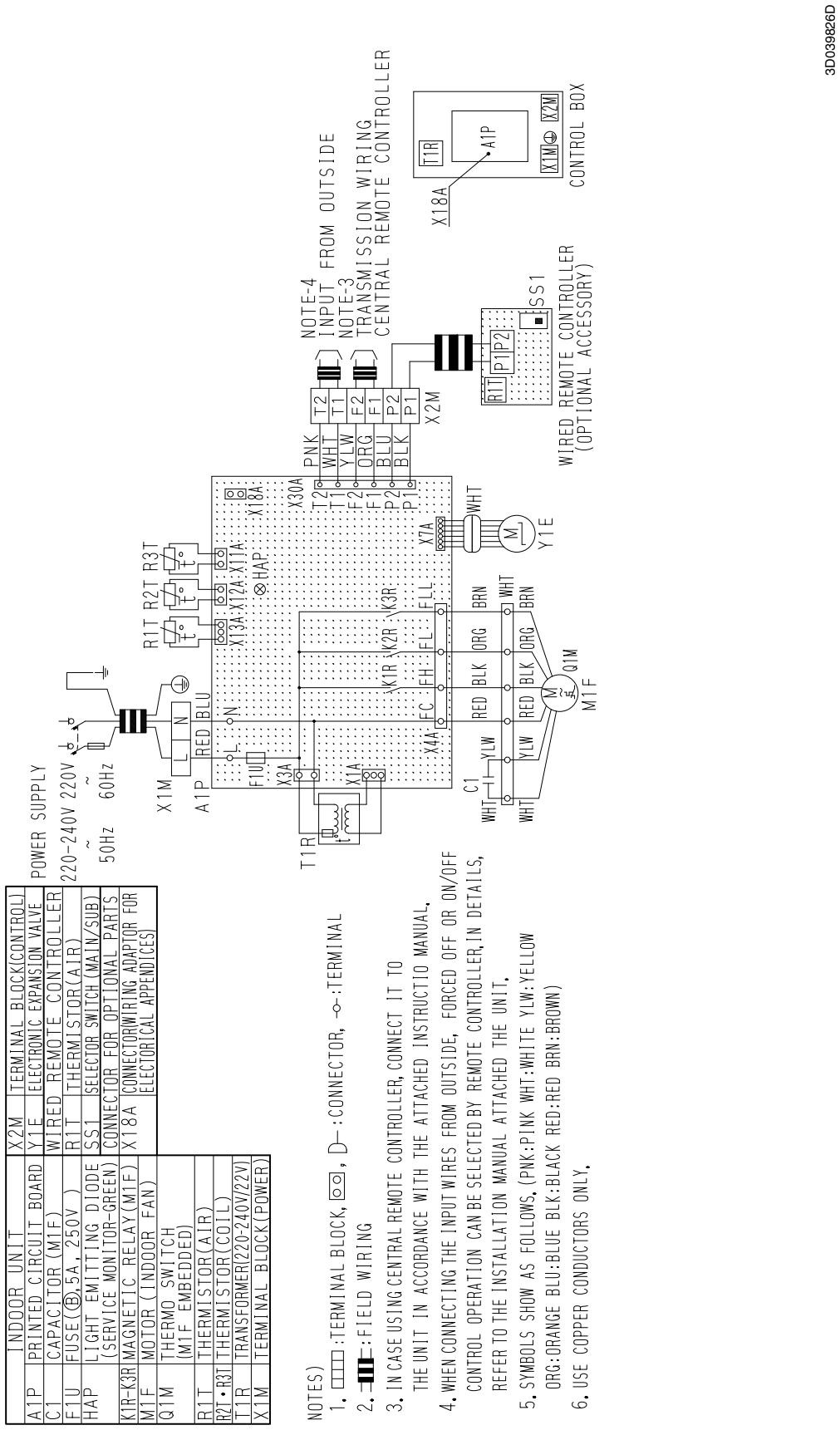
FXAQ20MA / 25MA / 32MAVE / 40MA / 50MA / 63MAVE



INDOOR UNIT					
A1P	PRINTED CIRCUIT BOARD				
F1U	FUSE(Ⓑ, 3A, 250V)				
HAP	LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)				
M1F	MOTOR (INDOOR FAN)				
M1S	MOTOR (SWING FLAP)				
R1T	THERMISTOR (AIR)				
R2T	THERMISTOR (COIL LIQUID PIPE)				
R3T	THERMISTOR (COIL GAS PIPE)				
X1M	TERMINAL BLOCK (CONTROL)				
X2M	TERMINAL BLOCK (POWER)				
Y1E	ELECTRONIC EXPANSION VALVE				
(PC)	POWER CIRCUIT				
	RECEIVER/DISPLAY UNIT (ATTACHED TO WIRELESS REMOTE CONTROLLER)				
A2P	PRINTED CIRCUIT BOARD				
A3P	PRINTED CIRCUIT BOARD				
BS1	PUSH BUTTON (ON/OFF)				
H1P	LIGHT EMITTING DIODE (ON-RED)				
H2P	LIGHT EMITTING DIODE (TIMER-GREEN)				
H3P	LIGHT EMITTING DIODE (FILTER SIGN-RED)				
H4P	LIGHT EMITTING DIODE (DEFROST-ORANGE)				
SS1	SELECTOR SWITCH (MAIN/SUB)		WIRED REMOTE CONTROLLER		CONNECTOR FOR OPTIONAL PARTS
SS2	SELECTOR SWITCH (WIRELESS ADDRESS SET)	R1T	THERMISTOR (AIR)	X15A	CONNECTOR (FLOAT SWITCH)
		SS1	SELECTOR SWITCH (MAIN/SUB)	X35A	CONNECTOR (GROUP CONTROL ADAPTOR)

FXLQ20MA / 25MA / 32MA / 40MA / 50MA / 63MAVE
FXNQ20MA / 25MA / 32MA / 40MA / 50MA / 63MAVE

3D039826D



3. List of Electrical and Functional Parts

3.1 Outdoor Unit

3.1.1 RXYQ8P7Y1K, P7YLK, PYNK, PTLK

Item	Name		Symbol	Model	Remark
				RXYQ8P7Y1K, P7YLK, PYNK	
Compressor	Inverter	Type	M1C	P7Y1K, P7YLK : JT1GCVDKYR@TA PYNK : JT1GCVDKYR@SB	
		OC protection device		14.7A	
	STD 1	Type	M2C	—	
		OC protection device			
	STD 2	Type	M3C	—	
		OC protection device			
Fan motor		OC protection device	M1F	3A	
Item	Name		Symbol	Model	
				RXYQ8PTLK	
Compressor	Inverter	Type	M1C	JT100GCVDK@SB	
		OC protection device		26.5A	
	STD 1	Type	M2C	—	
		OC protection device			
	STD 2	Type	M3C	—	
		OC protection device			
Fan motor		OC protection device	M1F	5.5A	
Electronic expansion valve (Main)			Y1E	Fully closed: 0pls Fully open: 480pls	
Electronic expansion valve (Subcool)			Y2E	Fully closed: 0pls Fully open: 480pls	
Pressure protection	High pressure switch	For M1C	S1PH	OFF: $4.0^{+0}_{-0.12}$ MPa ON: 3.0±0.15MPa	
		For M2C	S2PH	—	
		For M3C	S3PH	—	
	Low pressure sensor		SLNPL	OFF: 0.07MPa	
Temperature protection	Discharge gas temperature protection (Discharge pipe thermistor)		R3T	OFF: 135°C	
	Inverter fin temperature protection (Radiator fin thermistor)		R1T	OFF: 93°C	
Others	Fuse	For main PC board	A1P	250V, 15A	
			A2P	250V, 3A (PTL : 250V, 15A)	
		For Noise filter PC board	F1U	250V AC 6.3A Class B (No fuse for TL model)	
Earth leakage protection PC Board	Power Supply Rating		8PYNK: A6P 8PTLK: A4P	Single Phase	
				200~240V 50/60Hz	
	Operating Conditions	Surrounding temperature		-20~70°C	
	Operating Characteristic	Operation current		75mA±25%	
		Operating time		50ms MAX.	

Note: The recovery from Overvoltage and Undervoltage is automatically performed when the voltage becomes normal.

3.1.2 RXYQ10 / 12P7Y1K, P7YLK, PYNK, PTLK

Item	Name		Symbol	Model		Remark
				RXYQ10P7Y1K, P7YLK, PYNK	RXYQ12P7Y1K, P7YLK, PYNK	
Compressor	Inverter	Type	M1C	P7Y1K, P7YLK : JT1GCVDKYR@TA PYNK : JT1GCVDKYR@SB		
		OC protection device		14.7A		
	STD 1	Type	M2C	JT170G-KYH@T		
		OC protection device		15.0A		
	STD 2	Type	M3C	—		
		OC protection device				
Fan motor		OC protection device	M1F	3A		
			M2F	—	3A	
Item	Name		Symbol	Model		
				RXYQ10PTLK	RXYQ12PTLK	
Compressor	Inverter	Type	M1C	JT100GCVDK@SB		
		OC protection device		26.5A		
	STD 1	Type	M2C	JT170G-K		
		OC protection device		28.8A		
	STD 2	Type	M3C	—		
		OC protection device				
Fan motor		OC protection device	M1F	5.5A		
			M2F	—	5.5A	
Electronic expansion valve (Main)			Y1E	Fully closed: 0pls Fully open: 480pls		
Electronic expansion valve (Subcool)			Y2E	Fully closed: 0pls Fully open: 480pls		
Pressure protection	High pressure switch	For M1C	S1PH	OFF: $4.0^{+0}_{-0.12}$ MPa ON: 3.0±0.15MPa		
		For M2C	S2PH	OFF: $4.0^{+0}_{-0.12}$ MPa ON: 3.0±0.15MPa		
		For M3C	S3PH	—		
	Low pressure sensor		SLNPL	OFF: 0.07MPa		
Temperature protection	Discharge gas temperature protection (Discharge pipe thermistor)		R3T	OFF: 135°C		
	Inverter fin temperature protection (Radiator fin thermistor)		R1T	OFF: 93°C		
Others	Fuse	For main PC board	A1P	250V, 15A		
			A2P	250V, 3A (PTL : 250V, 15A)		
		For Noise filter PC board	F1U	250V AC 6.3A Class B (No fuse for TL model)		
Earth leakage protection PC Board	Power Supply Rating		P7Y1K, P7YLK, PYNK: A6P PTLK: A4P	Single Phase		
				200~240V 50/60Hz		
	Operating Conditions	Surrounding temperature		-20~70°C		
	Operating Characteristic	Operation current		75mA±25%		
		Operating time		50ms MAX.		

Note: The recovery from Overvoltage and Undervoltage is automatically performed when the voltage becomes normal.

3.2 Indoor Side

3.2.1 Indoor Unit

Parts Name		Symbol	Model								Remark
			FXFQ 25PVE	FXFQ 32PVE	FXFQ 40PVE	FXFQ 50PVE	FXFQ 63PVE	FXFQ 80PVE	FXFQ 100PVE	FXFQ 125PVE	
Remote Controller	Wired Remote Controller		BRC1C62								Option
	Wireless Remote Controller		BRC7F634F								
Motors	Fan Motor	M1F	DC280V 56W 8P						DC 320V 120W 8P		
	Drain Pump	M1P	AC220-240V (50Hz) AC220V (60Hz) PLD-12230DM Thermal Fuse 145°C								
	Swing Motor	M1S	MP35HCA[3P080801-1] Stepping Motor DC12V								
Thermistors	Thermistor (Suction Air)	R1T	In PC board A2P or wired remote controller								
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-14 ϕ8 L1000 20kΩ (25°C)								
	Thermistor (Heat Exchanger)	R2T	ST8602A-15 ϕ6 L1000 20kΩ (25°C)								
Others	Float Switch	S1L	FS-0211B								
	Fuse	F1U	250V 5A ϕ5.2								
	Thermal Fuse	TFu	—								
	Transformer	T1R	—								

Parts Name		Symbol	Model								Remark
			FXCQ 20MVE	FXCQ 25MVE	FXCQ 32MVE	FXCQ 40MVE	FXCQ 50MVE	FXCQ 63MVE	FXCQ 80MVE	FXCQ 125MVE	
Remote Controller	Wired Remote Controller		BRC1C62								Option
	Wireless Remote Controller		BRC7C62								
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			
	Drain Pump	M1P	AC220-240V (50Hz) AC220V (60Hz) PLD-12230DM Thermal Fuse 145°C								
	Swing Motor	M1S	MT8-L[3PA07509-1] AC200~240V								
Thermistors	Thermistor (Suction Air)	R1T	ST8601-6 ϕ4 L1250 20kΩ (25°C)								
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-6 ϕ8 L1250 20kΩ (25°C)								
	Thermistor (Heat Exchanger)	R2T	ST8602A-5 ϕ6 L1000 20kΩ (25°C)								
Others	Float Switch	S1L	FS-0211B								
	Fuse	F1U	250V 5A ϕ5.2								
	Transformer	T1R	TR22H21R8								

Parts Name		Symbol	Model				Remark
			FXKQ 25MAVE	FXKQ 32MAVE	FXKQ 40MAVE	FXKQ 63MAVE	
Remote Controller	Wired Remote Controller		BRC1C62				Option
	Wireless Remote Controller		BRC4C61				
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		
	Drain Pump	M1P	AC 220-240V (50Hz) PLD-12200DM Thermal Fuse 145°C				
	Swing Motor	M1S	MP35HCA [3P080801-1] 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	S1L	FS-0211B				
	Fuse	F1U	250V 5A φ5.2				
	Transformer	T1R	TR22H21R8				

Parts Name		Symbol	Model						Remark
			FXDQ 20PBVE(T)	FXDQ 25PBVE(T)	FXDQ 32PBVE(T)	FXDQ 40NBVE(T)	FXDQ 50NBVE(T)	FXDQ 63NBVE(T)	
Remote Controller	Wired Remote Controller		BRC1C62						Option
	Wireless Remote Controller		BRC4C65						
Motors	Fan Motor	M1F	AC 220~240V 50Hz						
			1φ62W				1φ130W		
			Thermal protector 130°C: OFF, 83°C: ON						
	Drain Pump	M1P	AC220-240V (50Hz) PLD-12230DM Thermal Fuse 145°C						*
Thermistors	Thermistor (Suction Air)	R1T	ST8601-1 φ4 L=250 20kΩ (25°C)						
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-4 φ8 L=800 20kΩ (25°C)						
	Thermistor (Heat Exchanger)	R2T	ST8602A-4 φ6 L=800 20kΩ (25°C)						
Others	Float Switch	S1L	FS-0211E						*
	Fuse	F1U	250V 5A φ5.2						
	Transformer	T1R	TR22H21R8						

*only for FXDQ40~63NBVE, FXDQ20~32PBVE (with Drain Pump Type)

Parts Name		Symbol	Model									Remark
			FXSQ 20MVE	FXSQ 25MVE	FXSQ 32MVE	FXSQ 40MVE	FXSQ 50MVE	FXSQ 63MVE	FXSQ 80MVE	FXSQ 100MVE	FXSQ 125MVE	
Remote Controller	Wired Remote Controller		BRC1C62									Option
	Wireless Remote Controller		BRC4C62									
Motors	Fan Motor	M1F	AC 220~240V 50Hz									
			1φ50W			1φ65W	1φ85W	1φ125W	1φ225W			
			Thermal Fuse 152°C						Thermal protector 135°C : OFF 87°C : ON			
	Drain Pump	M1P	AC220-240V (50Hz) PLD-12230DM Thermal Fuse 145°C									
Thermistors	Thermistor (Suction Air)	R1T	ST8601-4 φ4 L800 20kΩ (25°C)									
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-7 φ8 L1600 20kΩ (25°C)									
	Thermistor (Heat Exchanger)	R2T	ST8602A-6 φ6 L1250 20kΩ (25°C)									
Others	Float Switch	S1L	FS-0211B									
	Fuse	F1U	250V 5A φ5.2									
	Transformer	T1R	TR22H21R8									

Parts Name		Symbol	Model						Remark
			FXMQ 40PVE	FXMQ 50PVE	FXMQ 63PVE	FXMQ 80PVE	FXMQ 100PVE	FXMQ 125PVE	
Remote Controller	Wired Remote Controller		BRC1C62						
	Wireless Remote Controller		BRC4C65						
Motors	Fan Motor	M1F	DC280V 140W 8P				DC373V 350W 8P		
	Drain Pump	M1P	AC220-240V (50/60Hz) PLD-12230DM Thermal protector 145°C						
Thermistors	Thermistor (Suction Air)	R1T	ST8601-3 φ L630 20kΩ (25°C)						
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-14 φ8 L1000 20kΩ (25°C)						
	Thermistor (for Heat Exchanger)	R2T	ST8602A-6 φ8 L1250 20kΩ (25°C)						
Others	Float Switch	S1L	FS-0211B						
	Fuse (A1P)	F1U	250V 3.15A						
	Fuse (A2P, A3P)	F3U· F4U	250V 6.3A						
	Fuse (A2P)	F2U	250V 5A	—					

Parts Name		Symbol	Model		Remark
			FXMQ200MAVE	FXMQ250MAVE	
Remote Controller	Wired Remote Controller		BRC1C62		Option
	Wireless Remote Controller		BRC4C62		
Motors	Fan Motor	M1F	AC 220~240V 50Hz		
			1φ380W×2		
	Capacitor for Fan Motor	C1R	10μ F 400V	12μ F 400V	
Thermistors	Thermistor (Suction Air)	R1T	ST8601A-13 φ4 L630		
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605A-5 φ8 L1000		
	Thermistor (Heat Exchanger)	R2T	ST8602A-6 φ6 L1250		
Others	Float switch	S1L	FS-0211		
	Fuse	F1U	250V 5A φ5.2		
	Transformer	T1R	TR22H21R8		

Parts Name		Symbol	Model			Remark
			FXHQ 32MAVE	FXHQ 63MAVE	FXHQ 100MAVE	
Remote Controller	Wired Remote Controller		BRC1C62			Option
	Wireless Controller		BRC7E63W			
Motors	Fan Motor	M1F	AC 220~240V/220V 50Hz/60Hz			
			1φ63W		1φ130W	
			Thermal protector 130°C : OFF 80°C : ON			
	Capacitor for Fan Motor	C1R	3.0μF-400V		9.0μF-400V	
	Swing Motor	M1S	MT8-L[3P058751-1] AC200~240V			
Thermistors	Thermistor (Suction Air)	R1T	ST8601A-1 φ4 L250 20kΩ (25°C)			
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-6 φ8 L = 1250 20kΩ (25°C)		ST8605-6 φ8 L = 1250 20kΩ (25°C)	
	Thermistor (Heat Exchanger)	R2T	ST8602A-6 φ6 L = 1250 20kΩ (25°C)		ST8602A-6 φ6 L = 1250 20kΩ (25°C)	
Others	Fuse	F1U	250V 5A φ5.2			
	Transformer	T1R	TR22H21R8			

Parts Name		Symbol	Model						Remark
			FXAQ 20MAVE	FXAQ 25MAVE	FXAQ 32MAVE	FXAQ 40MAVE	FXAQ 50MAVE	FXAQ 63MAVE	
Remote Controller	Wired Remote Controller		BRC1C62						Option
	Wireless Remote Controller		BRC7E618						
Motors	Fan Motor	M1F	AC 220~240V 50Hz						
			1φ40W			1φ43W			
			Thermal protector 130°C : OFF 80°C : ON						
	Swing Motor	M1S	MP24 [3SB40333-1] AC200~240V			MSFBC20C21 [3SB40550-1] AC200~240V			
Thermistors	Thermistor (Suction Air)	R1T	ST8601-2 φ4 L400 20kΩ (25°C)						
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-2 φ8 L400 20kΩ (25°C)						
	Thermistor (for Heat Exchanger)	R2T	ST8602-2 φ6 L400 20kΩ (25°C)						
Others	Float Switch	S1L	OPTION						
	Fuse	F1U	250V 5A φ5.2						

Parts Name		Symbol	Model						Remark
			FXLQ 20MAVE	FXLQ 25MAVE	FXLQ 32MAVE	FXLQ 40MAVE	FXLQ 50MAVE	FXLQ 63MAVE	
Remote Controller	Wired Remote Controller		BRC1C62						Option
	Wireless Remote Controller		BRC4C62						
Motors	Fan Motor	M1F	AC 220~240V 50Hz						
			1φ15W		1φ25W		1φ35W		
			Thermal protector 135°C : OFF 120°C : ON						
	Capacitor for Fan Motor	C1R	1.0μF-400V		0.5μF-400V	1.0μF-400V	1.5μF-400V	2.0μF-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	ST8602A-9 φ6 L2500 20kΩ (25°C)						
Others	Fuse	F1U	AC250V 5A						
	Transformer	T1R	TR22H21R8						

Parts Name		Symbol	Model						Remark
			FXNQ 20MAVE	FXNQ 25MAVE	FXNQ 32MAVE	FXNQ 40MAVE	FXNQ 50MAVE	FXNQ 63MAVE	
Remote Controller	Wired Remote Controller		BRC1C62						Option
	Wireless Remote Controller		BRC4C62						
Motors	Fan Motor	M1F	AC 220~240V 50Hz						
			1φ15W		1φ25W		1φ35W		
			Thermal protector 135°C : OFF 120°C : ON						
	Capacitor for Fan Motor	C1R	1.0μF-400V		0.5μF-400V	1.0μF-400V	1.5μF-400V	2.0μF-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	ST8602A-9 φ6 L2500 20kΩ (25°C)						
Others	Fuse	F1U	AC250V 5A						
	Transformer	T1R	TR22H21R8						

Parts Name		Symbol	Model			Remark
			FXUQ71MAV1	FXUQ100MAV1	FXUQ125MAV1	
Remote Controller	Wired Remote Controller		BRC1C62			Option
	Wireless Remote Controller		BRC7C528W			
Motors	Fan Motor	M1F	AC 220~240V 50Hz			
			1φ45W	1φ90W		
			Thermal protector 130°C	Thermal protector 130°C : OFF 83°C : ON		
	Drain Pump	M1P	AC220-240V (50Hz) AC220V (60Hz) PJV-1426			
	Swing Motor	M1S	MT8-L[3PA07572-1] AC200~240V			
Thermistors	Thermistor (Suction Air)	R1T	ST8601-1 φ4 L=250 20kΩ (25°C)			
	Thermistor (Heat Exchanger)	R2T	ST8602A-4 φ6 L=800 20kΩ (25°C)			
Others	Float Switch	S1L	FS-0211B			

Parts Name		Symbol	Model			Remark
			FXMQ125MFV1	FXMQ200MFV1	FXMQ250MFV1	
Remote Controller	Wired Remote Controller		BRC1C62			Option
	Wireless Remote Controller		—			
Motors	Fan Motor	M1F	AC200~240V 50Hz			
			1φ380W			
			Thermal protector 135°C : OFF 87°C : ON			
	Capacitor for Fan Motor	C1R	10μF 400V×2	10μF 400V	16μF 400V	
Solenoid valve	Solenoid valve (Hot gas)	Y1S	Body: VPV-603D Coil: NEV-MOAJ532C1 AC220-240V			
Thermistors	Thermistor (Suction Air)	R1T	ST8601-13 φ4 L=630 20kΩ (25°C)			
	Thermistor (for Heat Exchanger High Temp.)	R3T	ST8605-6 φ8 L=1250 20kΩ (25°C)			
	Thermistor (Heat Exchanger)	R2T	ST8602A-2 φ6 L=1250 20kΩ (25°C)			
	Thermistor (for discharge air)	R4T	ST8605-8 L=2000 20kΩ (25°C)			
Others	Float switch	S1L	Option			
	Fuse	F1U	250V 5A φ5.2			
	Transformer	T1R	TR22H21R8			

4. Option List

4.1 Option List of Controllers

Operation Control System Optional Accessories

No.	Item \ Type		FXFQ-P	FXCQ-M	FXKQ-MA	FXDQ-NB FXDQ-PB	FXSQ-M	FXMQ-MA	FXMQ-P	FXHQ-MA	FXAQ-MA	FXLQ-MA FXNQ-MA
1	Remote controller	Wireless	BRC7F634F	BRC7C62	BRC4C61	BRC4C65	BRC4C62		BRC4C65	BRC7E63W	BRC7E618	BRC4C62
		Wired	BRC1C62									
2	Wired remote controller with weekly schedule timer		BRC1D61									
3	Simplified remote controller		—			Note 8 BRC2C51	Note 8 BRC2C51			—		Note 8 BRC2C51
4	Remote controller for hotel use		—			BRC3A61	BRC3A61			—		BRC3A61
5	Adaptor for wiring		★KRP1C63	★KRP1B61	KRP1B61	★KRP1B56	KRP1B61		★KRP1C64	KRP1C3	—	KRP1B61
6-1	Wiring adaptor for electrical appendices (1)		★KRP2A62	★KRP2A61	KRP2A61	★KRP2A53	KRP2A61		★KRP2A61	★KRP2A62	★KRP2A61	KRP2A61
6-2	Wiring adaptor for electrical appendices (2)		★KRP4AA53	★KRP4A51	KRP4A51	★KRP4A54	KRP4A51		★KRP4AA51	★KRP4A52	★KRP4A51	KRP4A51
7	Remote sensor		KRCS01-4B	KRCS01-1	KRCS01-1				KRCS01-4B	KRCS01-1		
8	Installation box for adaptor PC board		Note 2, 3 KRP1H98	Note 2, 3 KRP1B96	—	Note 4, 6 KRP1B101	Note 5 KRP4A91	—	Note 2, 3 KRP4A96	Note 3 KRP1C93	Note 2, 3 KRP4A93	—
9	Central remote controller		DCS302CA61									
9-1	Electrical box with earth terminal (3 blocks)		KJB311AA									
10	Unified on/off controller		DCS301BA61									
10-1	Electrical box with earth terminal (2 blocks)		KJB212AA									
10-2	Noise filter (for electromagnetic interface use only)		KEK26-1A									
11	Schedule timer		DST301BA61									
12	External control adaptor for outdoor unit (Must be installed on indoor units)		★ DTA104A62	★ DTA104A61	DTA104A61	★ DTA104A53	DTA104A61		★ DTA104A61	★ DTA104A62	★ DTA104A61	DTA104A61
13	Interface adaptor for SkyAir-series		—	—	—	—	—		—	—	—	—

Note:

1. Installation box (No.8) is necessary for each adaptor marked ★.
2. Up to 2 adaptors can be fixed for each installation box.
3. Only one installation box can be installed for each indoor unit.
4. Up to 2 installation boxes can be installed for each indoor unit.
5. Installation box (No. 8) is necessary for second adaptor.
6. Installation box (No. 8) is necessary for each adaptor.
7. This adaptor is required when connecting with optional controller for centralized control.
8. BRC2A51 is also available.

Various PC Boards

No.	Part name	Model No.	Function
1	Adaptor for wiring	KRP1B56 KRP1B57 KRP1B59 KRP1B61 KRP1C3	■ PC board when equipped with auxiliary electric heater in the indoor unit.
2	DIII-NET Expander Adaptor	DTA109A51	■ Up to 1024 units can be centrally controlled in 64 different groups. ■ Wiring restrictions (max. length: 1000m, total wiring length: 2000m, max. number of branches: 16) apply to each adaptor.

System Configuration

No.	Item		Model No.	Function
1	Residential central remote controller		Note *2 DCS303A51	■ Up to 16 groups of indoor units (128 units) can be easily controlled using the large LCD panel. ON/OFF, temperature settings and scheduling can be controlled individually for indoor units.
2	Central remote controller		DCS302CA61	■ Up to 64 groups of indoor units(128 units) can be connected, and ON/OFF, temperature setting and monitoring can be accomplished individually or simultaneously. Connectable up to 2 controllers in one system.
2-1	Electrical box with earth terminal (3 blocks)		KJB311AA	
3	Unified ON/OFF controller		DCS301BA61	■ Up to 16 groups of indoor units(128 units) can be turned, ON/OFF individually or simultaneously, and operation and malfunction can be displayed. Can be used in combination with up to 8 controllers.
3-1	Electrical box with earth terminal (2 blocks)		KJB212AA	
3-2	Noise filter (for electromagnetic interface use only)		KEK26-1A	
4	Schedule timer		DST301BA61	■ Programmed time weekly schedule can be controlled by unified control for up to 64 groups of indoor units (128 units). Can turn units ON/OFF twice per day.
5	Interface adaptor for SkyAir-series	For SkyAir, FD(Y)M-FA, FDY-KA FDYB-KA, FVY(P)J-A	*DTA102A52	■ Adaptors required to connect products other than those of the VRV System to the high-speed DIII-NET communication system adopted for the VRV System. * To use any of the above optional controllers, an appropriate adaptor must be installed on the product unit to be controlled.
6	Central control adaptor kit	For UAT(Y)-K(A),FD-K	*DTA107A55	
7	Wiring adaptor for other air-conditioner		*DTA103A51	■ Up to 1024 units can be centrally controlled in 64 different groups. ■ Wiring restrictions (max. length : 1,000m, total wiring length : 2,000m, max. number of branches : 16) apply to each adaptor.
8	DIII-NET Expander Adaptor		DTA109A51	
8-1	Mounting plate		KRP4A92	■ Fixing plate for DTA109A51

Note:

1. Installation box for * adaptor must be obtained locally.
2. For residential use only. Cannot be used with other centralized control equipment.

Building Management System

No.	Part name					Model No.	Function
1	intelligent Touch Controller	Basic	Hardware	intelligent Touch Controller		DCS601C51	■ Air-Conditioning management system that can be controlled by a compact all-in-one unit.
1-1		Option	Hardware	DIII-NET plus adaptor		DCS601A52	■ Additional 64 groups (10 outdoor units) is possible.
1-2			Software	P.P.D.		DCS002C51	■ P. P. D.: Power Proportional Distribution function
1-3				Web		DCS004A51	■ Monitors and controls the air conditioning system using the Internet and a Web browser application on a PC.
1-4	Electrical box with earth terminal (4 blocks)					KJB411A	■ Wall embedded switch box.
2	intelligent Manager III	Basic	Hardware	Number of units to be connected	128 units	DAM602B52	■ Air conditioner management system that can be controlled by personal computers.
					256 units	DAM602B51	
					512 units	DAM602B51x2	
					768 units	DAM602B51x3	
					1024 units	DAM602B51x4	
2-1		Option	Software		P.P.D.	DAM002A51	■ Power Proportional Distribution function
2-2					Web	DAM004A51	■ Monitors and controls the air conditioning system using the Internet and a Web browser application on a PC.
2-3					Eco	DAM003A51	■ ECO (Energy saving functions.)
2-4	Optional DIII Ai unit					DAM101A51	■ External temperature sensor for intelligent Manager III.
2-5	Di unit					DEC101A51	■ 8 pairs based on a pair of On/Off input and abnormality input.
2-6	Dio unit					DEC102A51	■ 4 pairs based on a pair of On/Off input and abnormality input.
3	Communication line	*1 Interface for use in BACnet®				DMS502B51	■ Interface unit to allow communications between VRV and BMS. Operation and monitoring of air-conditioning systems through BACnet® communication.
3-1		Optional DIII board				DAM411B51	■ Expansion kit, installed on DMS502B51, to provide 2 more DIII-NET communication ports. Not usable independently.
3-2		Optional Di board				DAM412B51	■ Expansion kit, installed on DMS502B51, to provide 16 more wattmeter pulse input points. Not usable independently.
4		*2 Interface for use in LONWORKS®				DMS504B51	■ Interface unit to allow communications between VRV and BMS. Operation and monitoring of air-conditioning systems through LONWORKS® communication.
5	Contact/analog signal	Parallel interface ┌ Basic unit				DPF201A51	■ Enables ON/OFF command, operation and display of malfunction; can be used in combination with up to 4 units.
6		├ Temperature measurement units				DPF201A52	■ Enables temperature measurement output for 4 groups; 0-5VDC.
7		└ Temperature setting units				DPF201A53	■ Enables temperature setting input for 16 groups; 0-5VDC.
8		Unification adaptor for computerized control				* DCS302A52	■ Interface between the central monitoring board and central control units.

Note:

*1. BACnet® is a registered trademark of American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).
*2. LONWORKS® is a registered trade mark of Echelon Corporation.
*3. Installation box for * adaptor must be procured on site.

4.2 Option Lists (Outdoor Unit)

RXYQ8 ~ 36P7Y1K

	Outdoor unit combination				
	RXYQ8P7Y1K	**RXYQ10P7Y1K**	**RXYQ12P7Y1K**	**RXYQ16-24P7Y1K**	**RXYQ26-36P7Y1K**
Cool/heat selector	KRC19-26A				
Fixing box	KJB111A				
Refnet header	KHRQ22M29H				
	—	—	KHRQ22M64H		
	—	—	—	KHRQ22M75H	
Refnet joint	KHRQ22M20T				
	KHRQ22M29T9				
	—	—	KHRQ22M64T		
	—	—	—	KHRQ22M75T	
Outdoor unit multi piping connection kit for H/P	—	—	—	BHFQ22P1007	—
	—	—	—	—	BHFQ22P1517
Central drain pan kit	KWC26B280	KWC26B450		See note 6	
Digital pressure gauge kit	BHGP26A1			See note 2	
Increase height difference between indoor & outdoor to 90m (see note 4)	EKLD90P12			See note 3	

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RXYQ8 ~ 36P7YLK

	Outdoor unit combination				
	RXYQ8P7YLK	**RXYQ10P7YLK**	**RXYQ12P7YLK**	**RXYQ16-24P7YLK**	**RXYQ26-36P7YLK**
Cool/heat selector	KRC19-26A				
Fixing box	KJB111A				
Refnet header	KHRQ22M29H				
	—	—	KHRQ22M64H		
	—	—	—	KHRQ22M75H	
Refnet joint	KHRQ22M20T				
	KHRQ22M29T9				
	—	—	KHRQ22M64T		
	—	—	—	KHRQ22M75T	
Outdoor unit multi piping connection kit for H/P	—	—	—	BHFQ22P1007	—
	—	—	—	—	BHFQ22P1517
Central drain pan kit	KWC26B280	KWC26B450		See note 6	
Digital pressure gauge kit	BHGP26A1			See note 2	
Increase height difference between indoor & outdoor to 90m (see note 4)	EKLD90P12			See note 3	

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Note:

1. One option per unit is required.
2. Only 1 option per installation is needed.
3. One option per module is required.
4. Option should be designed in such a way, that the option can be installed inside the outdoor unit.
5. All options are kits.
6. Central drain pan kit shall be combined based on the outdoor multi connection table.

RXYQ8P ~ 12PYNK, PTLK

Optional accessories		RXYQ8PTLK RXYQ8PYNK	RXYQ8PTLKE RXYQ8PYNKE	RXYQ10PTLK RXYQ10PYNK	RXYQ10PTLKE RXYQ10PYNKE	RXYQ12PTLK RXYQ12PYNK	RXYQ12PTLKE RXYQ12PYNKE
Cool/Heat Selector		KRC19-26A					
Fixing box		KJB111A					
Distributive Piping	Refnet header	KHRP26M22H (Max.4 branch) KHRP26M33H (Max.8 branch)				KHRP26M22H (Max.4 branch) KHRP26M33H (Max.8 branch) KHRP26M72H (Max.8 branch)	
	Refnet joint	KHRP26A22T, KHRP26A33T					
Pipe size reducer							
Outdoor unit multi connection piping kit							
Central drain pan kit		KWC26C280	★KWC26C280E	KWC26C450	★KWC26C450E	KWC26C450	★KWC26C450E

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RXYQ16P ~ 24PYNK, PTLK

Optional accessories		RXYQ16PTLK RXYQ16PYNK	RXYQ16PTLKE RXYQ16PYNKE	RXYQ18PTLK RXYQ18PYNK RXYQ20PTLK RXYQ20PYNK	RXYQ18PTLKE RXYQ18PYNKE RXYQ20PTLKE RXYQ20PYNKE	RXYQ22PTLK RXYQ22PYNK	RXYQ22PTLKE RXYQ22PYNKE	RXYQ24PTLK RXYQ24PYNK	RXYQ24PTLKE RXYQ24PYNKE
Cool/Heat Selector		KRC19-26A							
Fixing box		KJB111A							
Distributive Piping	Refnet header	KHRP26M22H (Max.4 branch), KHRP26M33H (Max.8 branch) KHRP26M72H (Max.8 branch)						KHRP26M22H (Max.4 branch), KHRP26M33H (Max.8 branch) KHRP26M72H (Max.8 branch), KHRP26M73H (Max.8 branch)	
	Refnet joint	KHRP26A22T, KHRP26A33T, KHRP26A72T						KHRP26A22T, KHRP26A33T, KHRP26A72T, KHRP26A73T	
Pipe size reducer								KHRP26M73TP, KHRP26M73HP	
Outdoor unit multi connection piping kit		BHFP22P100							
Central drain pan kit		KWC26C280×2	★KWC26C280E×2	KWC26C280 KWC26C450	★KWC26C280E ★KWC26C450E	KWC26C450×2	★KWC26C450E×2	KWC26C450×2	★KWC26C450E×2

C : 3D061986

RXYQ26P ~ 36PYNK, PTLK

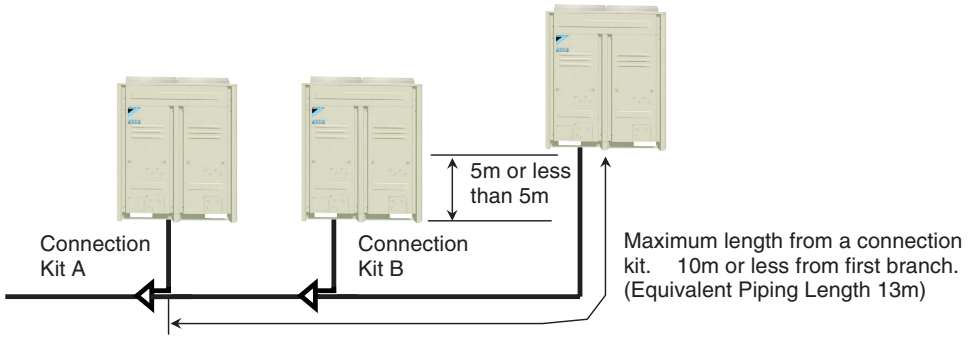
Optional accessories		RXYQ26PTLK RXYQ26PYNK	RXYQ26PTLKE RXYQ26PYNKE	RXYQ28PTLK RXYQ28PYNK RXYQ30PTLK RXYQ30PYNK	RXYQ28PTLKE RXYQ28PYNKE RXYQ30PTLKE RXYQ30PYNKE	RXYQ32PTLK RXYQ32PYNK RXYQ34PTLK RXYQ34PYNK RXYQ36PTLK RXYQ36PYNK	RXYQ32PTLKE RXYQ32PYNKE RXYQ34PTLKE RXYQ34PYNKE RXYQ36PTLKE RXYQ36PYNKE
Cool/Heat Selector		KRC19-26A					
Fixing box		KJB111A					
Distributive Piping	Refnet header	KHRP26M22H (Max.4 branch), KHRP26M33H (Max.8 branch) KHRP26M72H (Max.8 branch), KHRP26M73H (Max.8 branch)					
	Refnet joint	KHRP26A22T, KHRP26A33T, KHRP26A72T, KHRP26A73T					
Pipe size reducer		KHRP26M73TP, KHRP26M73HP					
Outdoor unit multi connection piping kit		BHFP22P151					
Central drain pan kit		KWC26C280×2 KWC26C450	★KWC26C280E×2 ★KWC26C450E	KWC26C280 KWC26C450×2	★KWC26C280E ★KWC26C450E×2	KWC26C450×3	★KWC26C450E×3

C : 3D061986

Note)★: Order products

5. Piping Installation Point

5.1 Piping Installation Point



Since there is a possibility that oil may be collected on a stop machine side, install piping between outdoor units to go to level or go up to an outdoor unit, and to make a slope.

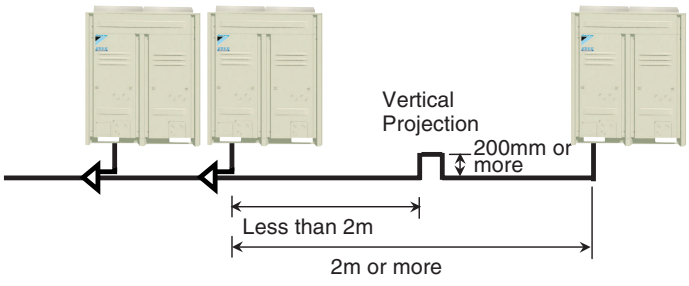
The projection part between multi connection piping kits

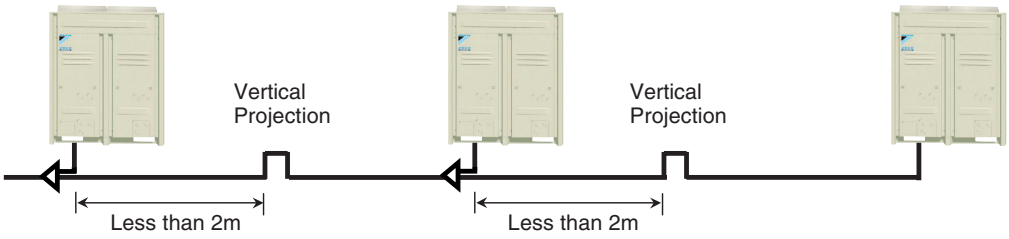
When the piping length between the multi connection kits or between multi connection kit and outdoor unit is 2m or more, prepare a vertical projection part (200mm or more as shown below) only on the gas pipe line location less than 2m from multi connection kit.

In the case of 2m or less



In the case of 2m or more



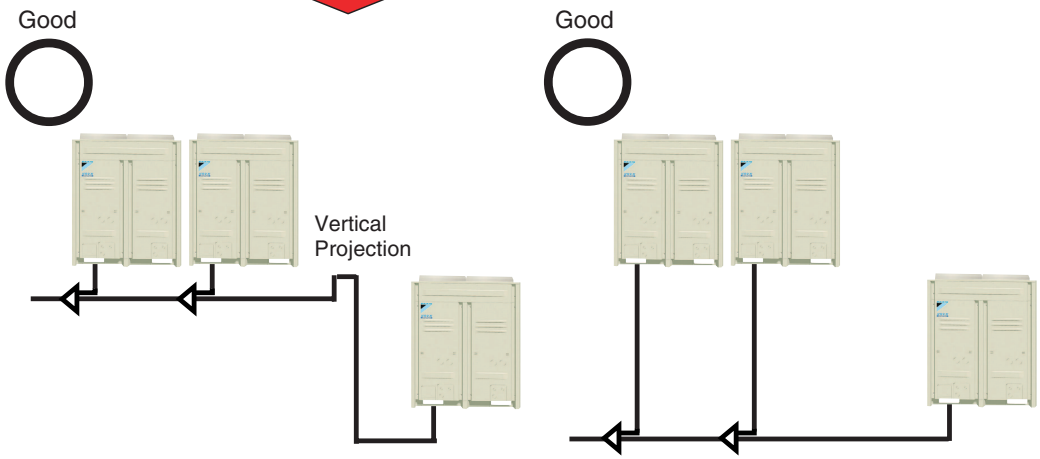


5.2 The Example of a Wrong Pattern





The example of installation on which oil is not collected.



Max.allowable Piping Length	Outdoor Unit - Multi Connection Piping Kit	Actual piping length 10m or less, equivalent length 13m or less
	Multi Connection Piping Kit - Indoor Unit	Actual piping length 165m or less, equivalent length 190m or less, the total extension 1000m or less
	REFNET Joint - Indoor Unit	Actual piping length 40m or less (Refer to Note 1 of page 379, 380 and Note 2 of page 381, 382 in case of up to 90m)
Allowable Level Difference	Outdoor Unit - Outdoor Unit	5m or less
	Outdoor Unit - Indoor Unit	50m or less ★90m or less
	Indoor Unit - Indoor Unit	15m or less

Note)★: Available on request if the outdoor unit is above.

6. Example of Connection (R-410A Type)

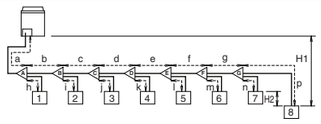
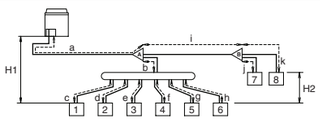
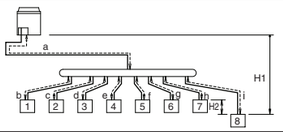
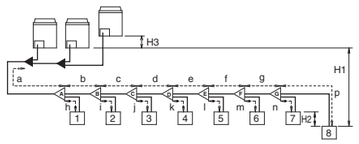
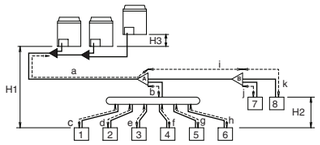
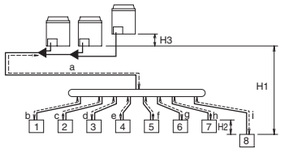
RXYQ8~36P7Y1K, P7YLK

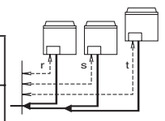
Example of connection
(Connection of 8 indoor units Heat pump system)

⚠
- Use the outdoor unit multi connection piping kit that is sold separately as an option (BHFQ22P1007+1517) for the multi installation of outdoor units. Selection method is as shown in the right table.
- Do not use the outdoor unit multi connection piping kit (BHFQ22M909+1359) that are sold separately as an option of the M-type series and do not use T-joints.

1 indoor unit
A refnet joint
refnet header
◀ outdoor multi connection piping kit

Install the joint part (◀ part in the figure) of the outdoor unit multi connection piping kit horizontally with attention to the installation restrictions described in "connecting the refrigerant piping".
(*) If the system capacity is RXYQ16 or more, re-read to the first outdoor branch as seen from the indoor unit.

			Branch with refnet joint	Branch with refnet joint and refnet header	Branch with refnet header
		One outdoor unit installed (RXYQ8~12)			
		Outdoor units installed in a multiple outdoor unit system (RXYQ16~36)			
Maximum allowable length	Between outdoor and indoor units	Actual pipe length	Pipe length between outdoor(*) and indoor units ≤165 m		
			[Example] unit 8: a+b+c+d+e+f+g+p≤165 m	[Example] unit 6: a+b+h≤165 m, unit 8: a+i+k≤165 m	[Example] unit 8: a+i≤165 m
		Equivalent length	Equivalent pipe length between outdoor(*) and indoor units ≤190 m (Assume equivalent pipe length of refnet joint to be 0.5 m and of the refnet header to be 1.0 m. (for calculation purposes))		
		Total extension length	Total piping length from outdoor unit* to all indoor units ≤1000 m		
	Between outdoor branch and outdoor unit (Only for RXYQ16 or more)	Actual pipe length	Piping length from outdoor branch to outdoor unit ≤10 m. Approximate length: max. 13 m		
Allowable height	Between outdoor and indoor units	Difference in height	Difference in height between outdoor and indoor units (H1)≤50 m (≤40 m if outdoor unit is located in a lower position).		
	Between indoor and indoor units	Difference in height	Difference in height between adjacent indoor units (H2)≤15 m		
	Between outdoor and outdoor units	Difference in height	Difference in height between outdoor unit (main) and outdoor unit (sub) (H3)≤5 m		
Allowable length after the branch		Actual pipe length	Pipe length from first refrigerant branch kit (either refnet joint or refnet header) to indoor unit ≤40 m (See note 1 on next page)		
			[Example] unit 8: b+c+d+e+f+g+p≤40 m	[Example] unit 6: b+h≤40 m, unit 8: i+k≤40 m	[Example] unit 8: i≤40 m



r≤10 m (Approximate length: max. 13 m)
s≤10 m (Approximate length: max: 13 m)
t≤10 m (Approximate length: max: 13 m)

Refrigerant branch kit selection

Refrigerant branch kits can only be used with R-410A.

How to select the refnet joint
- When using refnet joints at the first branch counted from the outdoor unit side. Choose from the following table in accordance with the capacity of the outdoor unit.

Outdoor unit capacity type	Refrigerant branch kit name
RXYQ8	KHRQ22M20T
RXYQ8+10	KHRQ22M29T9
RXYQ12 + RXYQ16~22	KHRQ22M64T
RXYQ24~36	KHRQ22M75T

- For refnet joints other than the first branch, select the proper branch kit model based on the total capacity index.

Indoor capacity type	Refrigerant branch kit name
<200	KHRQ22M20T
200≤x<290	KHRQ22M29T9
290≤x<640	KHRQ22M64T
≥640	KHRQ22M75T

How to select the refnet header
- Choose from the following table in accordance with the total capacity of all the indoor units connected below the refnet header.
- Note: 250 type cannot be connected below the refnet header.

Indoor capacity type	Refrigerant branch kit name
<290	KHRQ22M29H (Max. 8 branch)
290≤x<640	KHRQ22M64H (Max. 8 branch)(a)
≥640	KHRQ22M75H (Max. 8 branch)

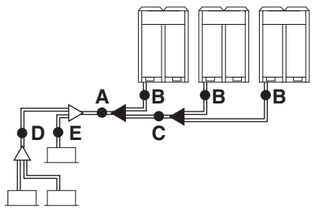
(a) See note 2 on next page

How to choose an outdoor multi connection piping kit (needed if the outdoor unit capacity type is RXYQ16 or more.)
- Choose from the following table in accordance with the number of outdoor units.

Number of outdoor units	Branch kit name
2	BHFQ22P1007
3	BHFQ22P1517

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

Pipe size selection
For an outdoor unit multi installation (RXYQ20~36), select the pipe size in accordance with the following figure.



A,B,C. Piping between outdoor unit and refrigerant branch kit
- Choose from the following table in accordance with the outdoor unit total capacity type, connected downstream.

Outdoor unit connection piping size

Outdoor unit capacity type	Piping size (outer diameter) (mm)	
	Gas pipe	Liquid pipe
RXYQ8	ϕ19.1	ϕ9.5
RXYQ10	ϕ22.2	
RXYQ12+16	ϕ28.6	ϕ12.7
RXYQ18~22		ϕ15.9
RXYQ24	ϕ34.9	
RXYQ26~34		ϕ19.1
RXYQ36	ϕ41.3	

D. Piping between refrigerant branch kits
- Choose from the following table in accordance with the total capacity of all the indoor units connected below this.
- Do not let the connection piping exceed the refrigerant piping size chosen by general system model name.

Indoor or outdoor unit total capacity	Piping size (outer diameter) (mm)	
	Gas pipe	Liquid pipe
<150	ϕ15.9	ϕ9.5
150≤x<200	ϕ19.1	
200≤x<290	ϕ22.2	
290≤x<420	ϕ28.6	ϕ12.7
420≤x<640		ϕ15.9
640≤x<920	ϕ34.9	ϕ19.1
≥920	ϕ41.3	

E. Piping between refrigerant branch kit and indoor unit
- Pipe size for direct connection to indoor unit must be the same as the connection size of indoor unit.

Indoor capacity type	Piping size (outer diameter) (mm)	
	Gas pipe	Liquid pipe
20~50	ϕ12.7	ϕ6.4
63~125	ϕ15.9	ϕ9.5
200	ϕ19.1	
250	ϕ22.2	

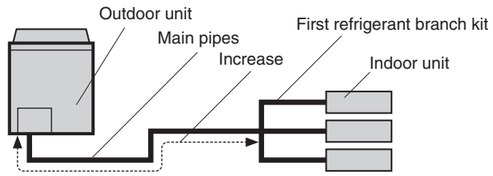
When the equivalent pipe length between outdoor and indoor units is 90 m or more, the size of the main pipes (both gas side and liquid side) must be increased.
Depending on the length of the piping, the capacity may drop, but even in such a case it is possible to increase the size of the main pipes.

	Gas side
RXYQ8	ϕ19.1 → ϕ22.2
RXYQ10	ϕ22.2 → ϕ25.4(a)
RXYQ12	ϕ28.6 —
RXYQ16~22	ϕ28.6 → ϕ31.8(a)
RXYQ24	ϕ34.9 —
RXYQ26~34	ϕ34.9 → ϕ38.1(a)
RXYQ36	ϕ41.3 —

— Increase is not allowed

	Liquid side
RXYQ8+10	ϕ9.5 → ϕ12.7
RXYQ12+16	ϕ12.7 → ϕ15.9
RXYQ18~24	ϕ15.9 → ϕ19.1
RXYQ26~36	ϕ19.1 → ϕ22.2

— Increase is not allowed



(a) If not available, increase is not allowed

How to calculate the additional refrigerant to be charged
Additional refrigerant to be charged R (kg)
R should be rounded off in units of 0.1 kg

The refrigerant charge of the system must be less than 100 kg. This means that in case the calculated refrigerant charge is equal to or more than 95 kg you must divide your multiple outdoor system into smaller independent systems, each containing less than 95 kg refrigerant charge.
For factory charge, refer to the unit name plate.

$$R = [(X_1 \times \phi\mathbf{22.2}) \times 0.37] + [(X_2 \times \phi\mathbf{19.1}) \times 0.26] + [(X_3 \times \phi\mathbf{15.9}) \times 0.18] + [(X_4 \times \phi\mathbf{12.7}) \times 0.12] + [(X_5 \times \phi\mathbf{9.5}) \times 0.059] + [(X_6 \times \phi\mathbf{6.4}) \times 0.022] + \mathbf{A} + \mathbf{B}$$

		8~12	16~26	28~32	34+36	
A		0.5	1.0	1.5	1.5	kg
B	**Y** ≤ 100%	0	0	0	0	kg
	100% < **Y** ≤ 120%	0.5	0.5	0.5	0.5	kg
	120% < **Y** ≤ 130%	0.5	0.5	0.5	1.0	kg

$\mathbf{X}_{1...6}$ = Total length (m) of liquid piping size at ϕ**a**
A = Refrigerant weight for heat pump system according to table
B = Refrigerant weight for exceeding connection capacity of indoor unit according to table
Y = Indoor connection capacity

Example for refrigerant branch using refnet joint and refnet header for RXYQ34P ((1x 16) + (1x 18))
If the outdoor unit is RXYQ34P and the piping lengths are as below

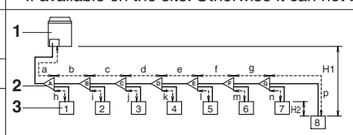
a : ϕ19.1x30 m	d : ϕ9.5x10 m	g : ϕ6.4x10 m	j : ϕ6.4x10 m
b : ϕ15.9x10 m	e : ϕ9.5x10 m	h : ϕ6.4x20 m	k : ϕ6.4x9 m
c : ϕ9.5x10 m	f : ϕ9.5x10 m	i : ϕ12.7x10 m	

R = [30x0.26]+[10x0.18]+[10x0.12]+[40x0.059]+[49x0.022]**+1.5+0.5** = 16.238
R = 16.2 kg
↑ **A** ↑ **B**

A = Outdoor system: RXYQ34
B = Total capacity of indoor system: 116%

Note 1

Allowable length after the first refrigerant branch kit to indoor units is 40 m or less, however it can be extended up to 90 m if all the following conditions are fulfilled.

Required conditions	Example drawings	
It is necessary to increase the pipe size of the liquid and the gas pipe if the pipe length between the first and the final branch kit is over 40 m (reducers must be procured on site). If the increased pipe size is larger than the pipe size of the main pipe, then the pipe size of the main pipe needs to be increased as well.	indoor unit **8**: b+c+d+e+f+g+p≤90 m increase the pipe size of b, c, d, e, f, g	Increase the pipe size as follows ϕ9.5 → ϕ12.7 ϕ15.9 → ϕ19.1 ϕ22.2 → ϕ25.4* ϕ12.7 → ϕ15.9 ϕ19.1 → ϕ22.2 ϕ28.6 → ϕ31.8* ϕ34.9 → ϕ38.1* * If available on the site. Otherwise it can not be increased.
For calculation of total extension length, the actual length of above pipes must be doubled. (except main pipe and the pipes that not increase the pipe size)	a+b*2+c*2+d*2+e*2+f*2+g*2 +h+i+j+k+l+m+n+p≤1000 m	
Indoor unit to the nearest branch kit ≤40 m	h, i, j..... p≤40 m	**1** Outdoor unit **2** Refnet joints (a~g) **3** Indoor units (1~8)
The difference between the distance of the outdoor unit to the farthest indoor unit and the distance of the outdoor unit to the nearest indoor unit ≤40 m	The farthest indoor unit **8** The nearest indoor unit **1** (a+b+c+d+e+f+g+p) - (a+h)≤40 m	

Note 2

If the pipe size above the refnet header is ϕ34.9 or more ,
KHRQ22M75H is required.

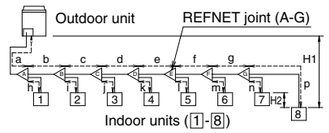
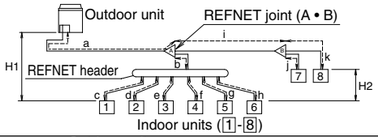
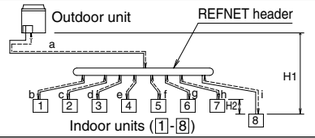
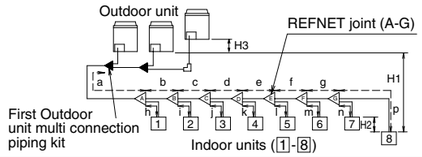
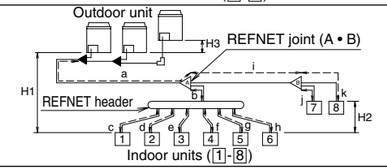
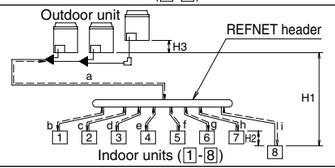
RXYQ8~36PTLK, PYNK

Example of connection

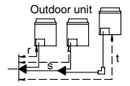
(Connection of 8 indoor units)

(∗1) " ◄ " indicate the Outdoor unit multi connection piping kit

(∗2) In case of multi outdoor system, re-read to the first Outdoor unit multi connection piping kit as seen from the indoor unit.

		Example refrigerant branch using REFNET joint	Example refrigerant branch using REFNET joint and REFNET header	Example refrigerant branch using REFNET header
Single outdoor system				
Multi outdoor system				

Maximum allowable length	Between outdoor (∗2) and indoor units	Actual pipe length	Pipe length between outdoor (∗2) and indoor units ≤ 165m		
			Example unit 8 : a + b + c + d + e + f + g + p ≤ 165m	Example unit 6 : a + b + h ≤ 165m, unit 8 : a + i + k ≤ 165m	Example unit 8 : a + i ≤ 165m
		Equivalent length	Equivalent pipe length between outdoor (∗2) and indoor units ≤ 190m (assume equivalent pipe length of REFNET joint to be 0.5m, that of REFNET header to be 1m, calculation purposes) (See Note 1 - Next page)		
		Total extension length	Total pipe length from outdoor unit (∗2) to all indoor units ≤ 1000m		
	Between outdoor unit and Outdoor unit multi connection piping kit (Only for multi system)	Actual pipe length Equivalent length	Pipe length between outdoor unit and Outdoor unit multi connection piping kit ≤ 10m, Equivalent length between outdoor unit and Outdoor unit multi connection piping kit ≤ 13m		
Allowable height length	Between outdoor and indoor units	Difference in height	Difference in height between outdoor and indoor units (H1) ≤ 50m (≤ 40m if the outdoor unit is below)		
	Between indoor and indoor units	Difference in height	Difference in height between indoor units (H2) ≤ 15m		
	Between outdoor and outdoor units	Difference in height	Difference in height between outdoor unit (H3) ≤ 5m		
Allowable length after the branch		Actual pipe length	Pipe length from first refrigerant branch kit (either REFNET joint or REFNET header) to indoor unit ≤ 40m (See Note 2 - Next page)		
			Example unit 8 : b + c + d + e + f + g + p ≤ 40m	Example unit 6 : b + h ≤ 40m, unit 8 :i + k ≤ 40m	Example unit 8 : i ≤ 40m



r ≤ 10m (Equivalent length: ≤ 13m)
s ≤ 10m (Equivalent length: ≤ 13m)
t ≤ 10m (Equivalent length: ≤ 13m)

Refrigerant branch kit selection

Refrigerant branch kits can only be used with R-410A.

⚠ • When multi outdoor system are installed, be sure to use the special separately sold Outdoor unit multi connection piping kit.
The table at right shows how to select the proper kit.

How to select the REFNET joint

• When using REFNET joint at the first branch counted from the outdoor unit side.
Choose from the following table in accordance with the outdoor unit capacity type.
(Example: REFNET joint A)

Outdoor unit capacity type	Refrigerant branch kit name
8HP type	KHRP26A33T / KHRQ22M20T, KHRQ22M29T9
10HP type	KHRP26A33T / KHRQ22M29T9
12~22HP type	KHRP26A72T / KHRQ22M64T
24HP type~	KHRP26A73T + KHRP26M73TP / KHRQ22M75T

• Choose the REFNET joints other than that for the first branch from the following table in accordance with the total capacity index of all the indoor units connected below the REFNET joint.

Indoor unit total capacity index	Refrigerant branch kit name
< 200	KHRP26A22T / KHRQ22M20T
200 ≤ x< 290	KHRP26A33T / KHRQ22M29T9
290 ≤ x< 640	KHRP26A72T / KHRQ22M64T
640 ≤	KHRP26A73T + KHRP26M73TP / KHRQ22M75T

Indoor unit total capacity index	Refrigerant branch kit name
< 200	KHRP26M22H (Max. 4 branch) / KHRQ22M29H (Max. 8 branch)
200 ≤ x< 290	KHRP26M33H (Max. 8 branch) / KHRQ22M29H (Max. 8 branch)
290 ≤ x< 640	KHRP26M72H (Max. 8 branch) / KHRQ22M64H (Max. 8 branch) (See Note 3 - Next page)
640 ≤	KHRP26M73H (Max. 8 branch) + KHRP26M73HP / KHRQ22M75H (Max. 8 branch)

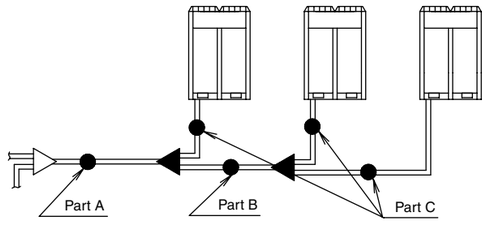
Number of outdoor units	Connection piping kit name
2 units	BHFP22P100 / BHFQ22P1007
3 units	BHFP22P151 / BHFQ22P1517

Example for indoor units connected downstream	Example REFNET joint C: indoor units 3+4+5+6+7+8	Example REFNET joint B: indoor units 7+8 Example REFNET header: indoor units 1+2+3+4+5+6	Example REFNET header: indoor units 1+2+3+4+5+6+7+8

Pipe size selection

⚠ **Caution**
The thickness of the pipes in the table shows the requirements of Japanese High Pressure Gas Control low. (As of Jan. 2003)
The thickness and material shall be selected in accordance with local code.

For the multi outdoor unit system, select in accordance with the following figure.



Temper grade and wall thickness for pipes.
(Temper grade, O type and 1/2H type indicate the material types specified in JIS H 3300.)
(Unit:mm)

Copper tube O.D.	Copper tube W.T. (Minimum requirement)	Temper grade
ϕ6.4	0.80	O type
ϕ9.5	0.80	
ϕ12.7	0.80	
ϕ15.9	0.99	
ϕ19.1	0.80	1/2H type
ϕ22.2	0.80	
ϕ25.4	0.88	
ϕ28.6	0.99	
ϕ31.8	1.10	
ϕ34.9	1.21	
ϕ38.1	1.32	
ϕ41.3	1.43	

Piping between Outdoor unit and first refrigerant branch kit.
Piping between first Outdoor unit multi connection piping kit and first refrigerant branch kit. (Part A)
• Choose from the following table in accordance with the outdoor unit capacity type.
Piping between Outdoor unit multi connection piping kits. (Part B)
Piping between outdoor unit and Outdoor unit multi connection piping kit. (Part C)
• Choose from the following table in accordance with the total capacity type of all the outdoor units connected above Outdoor unit multi connection piping kit.
(Unit:mm)

Outdoor unit capacity type	Piping size (O.D.)	
	Gas pipe	Liquid pipe
8HP type	ϕ19.1	ϕ9.5
10HP type	ϕ22.2	
12~16HP type	ϕ28.6	ϕ12.7
18~22HP type		ϕ15.9
24HP type	ϕ34.9	
26~34HP type		ϕ19.1
36HP type	ϕ41.3	

(See Note 1 - Next page)

Piping between refrigerant branch kits
• Choose from the following table in accordance with the total capacity index of all the indoor units connected below this.
• Do not let the connection piping exceed the main refrigerant piping size. (Unit:mm)

Indoor unit total capacity index	Piping size (O.D.)	
	Gas pipe	Liquid pipe
< 150	ϕ15.9	ϕ9.5
150 ≤ x< 200	ϕ19.1	
200 ≤ x< 290	ϕ22.2	
290 ≤ x< 420	ϕ28.6	ϕ12.7
420 ≤ x< 640		ϕ15.9
640 ≤ x< 920	ϕ34.9	ϕ19.1
920 ≤	ϕ41.3	

Piping between refrigerant branch kit and indoor unit
• Match to the size of the connection piping on the indoor unit. (Unit:mm)

Indoor unit capacity type	Piping size (O.D.)	
	Gas pipe	Liquid pipe
20 · 25 · 32 · 40 · 50 type	ϕ12.7	ϕ6.4
63 · 80 · 100 · 125 type	ϕ15.9	ϕ9.5
200 type	ϕ19.1	
250 type	ϕ22.2	

How to calculate the additional refrigerant to be charged

Additional refrigerant to be charged : R (kg)
(R should be rounded off in units of 0.1 kg.)

$$R = \left(\begin{array}{l} \left(\text{Total length(m) of liquid piping size at } \phi 22.2\right) \times 0.37 + \left(\text{Total length(m) of liquid piping size at } \phi 19.1\right) \times 0.26 \\ + \left(\text{Total length(m) of liquid piping size at } \phi 15.9\right) \times 0.18 + \left(\text{Total length(m) of liquid piping size at } \phi 12.7\right) \times 0.12 \\ + \left(\text{Total length(m) of liquid piping size at } \phi 9.5\right) \times 0.059 + \left(\text{Total length(m) of liquid piping size at } \phi 6.4\right) \times 0.022 \end{array} \right) + \begin{array}{|c|}\hline \text{REFRIGERANT AMOUNT FOR HEAT PUMP SYSTEM} \\ \hline \text{TABLE A} \\ \hline \end{array} + \begin{array}{|c|}\hline \text{REFRIGERANT AMOUNT FOR EXCEEDING CONNECTION CAPACITY OF INDOOR UNIT} \\ \hline \text{TABLE B} \\ \hline \end{array}$$

TABLE A

MODEL NAME	THE AMOUNT OF REFRIGERANT
RXYQ8~12P	0.5kg
RXYQ16~26P	1.0kg
RXYQ28~36P	1.5kg

TABLE B

INDOOR CONNECTION CAPACITY [X]	MODEL NAME [RXYQ ~ P]		
	8P~16P	18P~32P	34P~36P
X ≤ 100%	0kg		
100% < X ≤ 120%	0.5kg		
120% < X ≤ 130%	0.5kg		1.0kg

Example for refrigerant branch using REFNET joint and REFNET header for the systems and each pipe length as shown below.

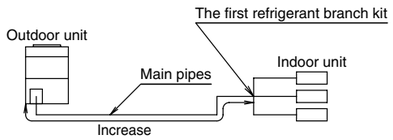
Outdoor system : RXYQ34P~
Total capacity of indoor unit : 116%

a : φ19.1 × 30m	d : φ9.5 × 10m	g : φ6.4 × 10m	j : φ6.4 × 10m
b : φ15.9 × 10m	e : φ9.5 × 10m	h : φ6.4 × 20m	k : φ6.4 × 9m
c : φ9.5 × 10m	f : φ9.5 × 10m	i : φ12.7 × 10m	

R = (30 × 0.26 + 10 × 0.18 + 10 × 0.12 + 40 × 0.059 + 49 × 0.022) + 1.5 + 0.5
(a: 30 × 0.26; b: 10 × 0.18; i: 10 × 0.12; c+d+e+f: 40 × 0.059; g+h+i+j+k: 49 × 0.022; RXYQ34P~: 1.5; 116%: 0.5)
= 16.238 ⟹ 16.2kg
Round off units of 0.1 kg.

*Note 1

When the equivalent pipe length between outdoor and indoor units is 90m or more, the size of main pipes (both gas-side and liquid-side) must be increased.
Depending on the length of the piping, the capacity may drop, but even in such case it is able to increase the size of main pipes.



■ Diameter of above case

Model	Gas	Liquid
RXYQ8 Type	φ22.2	φ12.7
RXYQ10 Type	φ25.4*	φ12.7
RXYQ12 Type	Not Increased	φ15.9
RXYQ16 Type	φ31.8*	φ15.9
RXYQ18 Type	φ31.8*	φ19.1

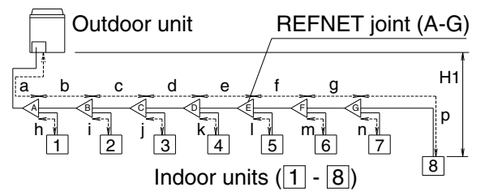
Model	Gas	Liquid
RXYQ20 Type	φ31.8*	φ19.1
RXYQ22 Type	φ31.8*	φ19.1
RXYQ24 Type	Not Increased	φ19.1
RXYQ26 Type	φ38.1*	φ22.2
RXYQ28 Type	φ38.1*	φ22.2
RXYQ30 Type	φ38.1*	φ22.2
RXYQ32 Type	φ38.1*	φ22.2

Model	Gas	Liquid
RXYQ34 Type	φ38.1*	φ22.2
RXYQ36 Type	Not Increased	φ22.2

*If available on the site, use this size.
Otherwise, it can not be increased.

*Note 2

Allowable length after the first refrigerant branch kit to indoor units is 40 m or less, however it can be extended up to **90** m if all the following conditions are satisfied. (In case of " **Branch with REFNET joint** ")

Required Conditions	Example Drawings	
1.It is necessary to increase the pipe size between the first branch kit and the final branch kit. (Reducers must be procured on site) However, the pipes that are same pipe size with main pipe must not be increased.	8 b+c+d+e+f+g+p≤ 90 m increase the pipe size of b, c, d, e, f, g	Increase the pipe size as follows φ 9.5 → φ12.7 φ15.9 → φ19.1 φ22.2 → φ25.4* φ34.9 → φ38.1* φ12.7 → φ15.9 φ19.1 → φ22.2 φ28.6 → φ31.8*
2.For calculation of Total extension length, the actual length of above pipes must be doubled. (except main pipe and the pipes that are not increased)	a+b×2+c×2+d×2+e×2+f×2+g×2 +h+i+j+k+l+m+n+p≤ 1000 m	
3.Indoor unit to the nearest branch kit ≤ 40 m	h, i, j..... p ≤ 40 m	
4.The difference between [Outdoor unit to the farthest indoor unit] and [Outdoor unit to the nearest indoor unit] ≤ 40 m	The farthest indoor unit 8 The nearest indoor unit 1 (a+b+c+d+e+f+g+p)-(a+h)≤ 40 m	

*If available on the site, use this size.
Otherwise it can not be increased.

*Note 3

If the pipe size above the REFNET header is φ34.9 or more, KHRP26M73HP is required.

7. Thermistor Resistance / Temperature Characteristics

Indoor unit	For air suction	R1T
	For liquid pipe	R2T
	For gas pipe	R3T

Outdoor unit	For outdoor air	R1T
	For coil	R2T
	For suction pipe	R4T
	For Receiver gas pipe	R5T
	For Receiver outlet liquid pipe	R6T

Outdoor unit for fin thermistor R1T

(kΩ)

T°C	0.0
-10	-
-8	-
-6	88.0
-4	79.1
-2	71.1
0	64.1
2	57.8
4	52.3
6	47.3
8	42.9
10	38.9
12	35.3
14	32.1
16	29.2
18	26.6
20	24.3
22	22.2
24	20.3
26	18.5
28	17.0
30	15.6
32	14.2
34	13.1
36	12.0
38	11.1
40	10.3
42	9.5
44	8.8
46	8.2
48	7.6
50	7.0
52	6.7
54	6.0
56	5.5
58	5.2
60	4.79
62	4.46
64	4.15
66	3.87
68	3.61
70	3.37
72	3.15
74	2.94
76	2.75
78	2.51
80	2.41
82	2.26
84	2.12
86	1.99
88	1.87
90	1.76
92	1.65
94	1.55
96	1.46
98	1.38

T°C	0.0	0.5
-20	197.81	192.08
-19	186.53	181.16
-18	175.97	170.94
-17	166.07	161.36
-16	156.80	152.38
-15	148.10	143.96
-14	139.94	136.05
-13	132.28	128.63
-12	125.09	121.66
-11	118.34	115.12
-10	111.99	108.96
-9	106.03	103.18
-8	100.41	97.73
-7	95.14	92.61
-6	90.17	87.79
-5	85.49	83.25
-4	81.08	78.97
-3	76.93	74.94
-2	73.01	71.14
-1	69.32	67.56
0	65.84	64.17
1	62.54	60.96
2	59.43	57.94
3	56.49	55.08
4	53.71	52.38
5	51.09	49.83
6	48.61	47.42
7	46.26	45.14
8	44.05	42.98
9	41.95	40.94
10	39.96	39.01
11	38.08	37.18
12	36.30	35.45
13	34.62	33.81
14	33.02	32.25
15	31.50	30.77
16	30.06	29.37
17	28.70	28.05
18	27.41	26.78
19	26.18	25.59
20	25.01	24.45
21	23.91	23.37
22	22.85	22.35
23	21.85	21.37
24	20.90	20.45
25	20.00	19.56
26	19.14	18.73
27	18.32	17.93
28	17.54	17.17
29	16.80	16.45
30	16.10	15.76

T°C	0.0	0.5
30	16.10	15.76
31	15.43	15.10
32	14.79	14.48
33	14.18	13.88
34	13.59	13.31
35	13.04	12.77
36	12.51	12.25
37	12.01	11.76
38	11.52	11.29
39	11.06	10.84
40	10.63	10.41
41	10.21	10.00
42	9.81	9.61
43	9.42	9.24
44	9.06	8.88
45	8.71	8.54
46	8.37	8.21
47	8.05	7.90
48	7.75	7.60
49	7.46	7.31
50	7.18	7.04
51	6.91	6.78
52	6.65	6.53
53	6.41	6.53
54	6.65	6.53
55	6.41	6.53
56	6.18	6.06
57	5.95	5.84
58	5.74	5.43
59	5.14	5.05
60	4.96	4.87
61	4.79	4.70
62	4.62	4.54
63	4.46	4.38
64	4.30	4.23
65	4.16	4.08
66	4.01	3.94
67	3.88	3.81
68	3.75	3.68
69	3.62	3.56
70	3.50	3.44
71	3.38	3.32
72	3.27	3.21
73	3.16	3.11
74	3.06	3.01
75	2.96	2.91
76	2.86	2.82
77	2.77	2.72
78	2.68	2.64
79	2.60	2.55
80	2.51	2.47

Outdoor Unit Thermistors for Discharge Pipe (R3T, R31~33T)

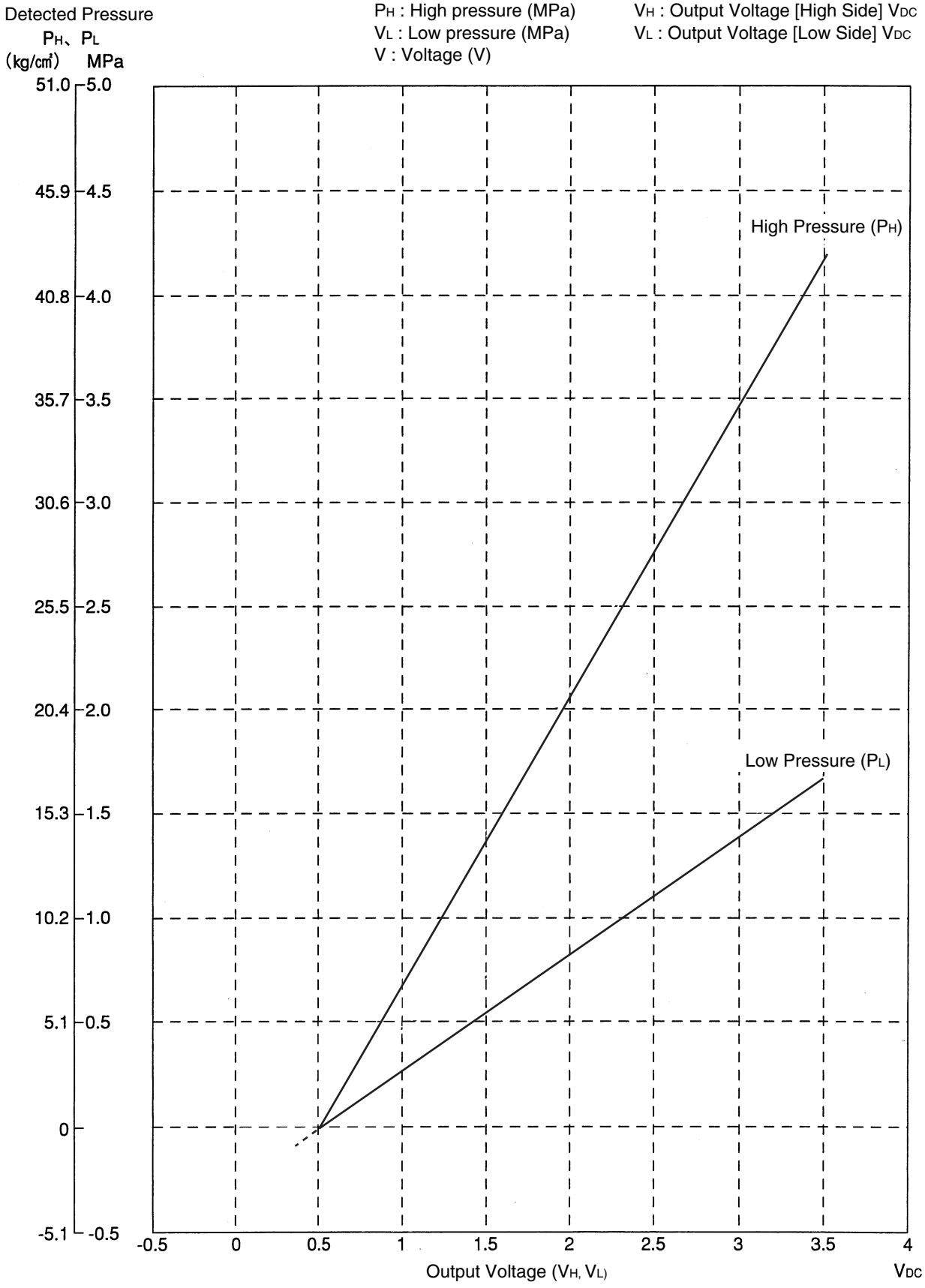
(kΩ)

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

8. Pressure Sensor

P_H = 1.38V-0.69
P_L = 0.57V-0.28
P_H : High pressure (MPa)
V_L : Low pressure (MPa)
V : Voltage (V)

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}



9. Method of Checking the Inverter's Power Transistors and Diode Modules

9.1 Method of Checking the Inverter's Power Transistors and Diode Modules

Checking failures in power semiconductors mounted on inverter PC board

Check the power semiconductors mounted on the inverter PC board by the use of a multiple tester.

<Items to be prepared>

- Multiple tester : Prepare the analog type of multiple tester.
  For the digital type of multiple tester, those with diode check function are available for the checking.

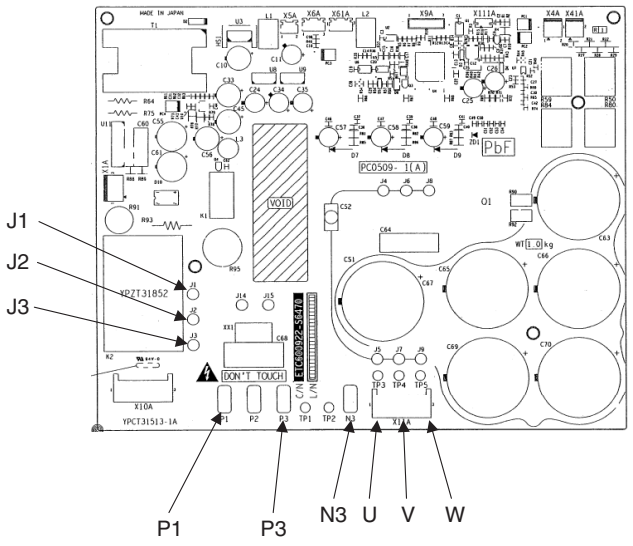
<Test points>

- Turn OFF the power supply. Then, after a lapse of 10 minutes or more, make measurement of resistance.

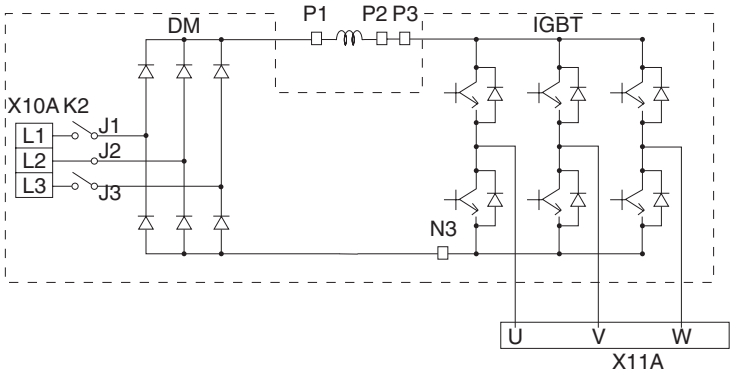
<Preparation>

- To make measurement, disconnect all connectors and terminals.

Inverter PC board



Electronic circuit



- According to the checking aforementioned, it is probed that the malfunction results from the faulty inverter.The following section describes supposed causes of the faulty inverter.
- Faulty compressor (ground leakage)
- Faulty fan motor (ground leakage)
- Entry of conductive foreign particles
- Abnormal voltage (e.g. over voltage, surge (thunder), or unbalanced voltage)

In order to replace the faulty inverter, be sure to check for the points aforementioned.

1. Power module checking

When using the analog type of multiple tester, make measurement in resistance measurement mode in the x1kΩ range.

No.	Measuring point		Criterion	Remark
	+	-		
1	P3	U	2 to 15kΩ	
2	P3	V		
3	P3	W		
4	U	P3	Not less than 15kΩ (including)	It may take time to determine the resistance due to capacitor charge or else.
5	V	P3		
6	W	P3		
7	N3	U		
8	N3	V		
9	N3	W		
10	U	N3	2 to 15kΩ	
11	V	N3		
12	W	N3		

When using the digital type of multiple tester, make measurement in diode check mode (→⊢).

No.	Measuring point		Criterion	Remark
	+	-		
1	P3	U	Not less than 1.2V (including)	It may take time to determine the voltage due to capacitor charge or else.
2	P3	V		
3	P3	W		
4	U	P3	0.3 to 0.7V	
5	V	P3		
6	W	P3		
7	N3	U		
8	N3	V		
9	N3	W		
10	U	N3	Not less than 1.2V (including)	It may take time to determine the voltage due to capacitor charge or else.
11	V	N3		
12	W	N3		

2. Diode module checking

When using the analog type of multiple tester, make measurement in resistance measurement mode in the x1kΩ range.

No.	Measuring point		Criterion	Remark
	+	-		
1	P1	J1	2 to 15kΩ	
2	P1	J2		
3	P1	J3		
4	J1	P1	Not less than 15kΩ (including)	It may take time to determine the resistance due to capacitor charge or else.
5	J2	P1		
6	J3	P1		
7	N3	J1		
8	N3	J2		
9	N3	J3		
10	J1	N3	2 to 15kΩ	
11	J2	N3		
12	J3	N3		

When using the digital type of multiple tester, make measurement in diode check mode (→⊢).

No.	Measuring point		Criterion	Remark
	+	-		
1	P1	J1	Not less than 1.2V (including)	It may take time to determine the voltage due to capacitor charge or else.
2	P1	J2		
3	P1	J3		
4	J1	P1	0.3 to 0.7V	
5	J2	P1		
6	J3	P1		
7	N3	J1		
8	N3	J2		
9	N3	J3		
10	J1	N3	Not less than 1.2V (including)	It may take time to determine the voltage due to capacitor charge or else.
11	J2	N3		
12	J3	N3		

Part 8
Precautions for New Refrigerant (R-410A)

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1. Precautions for New Refrigerant (R-410A)

1.1 Outline

1.1.1 About Refrigerant R-410A

■ Characteristics of new refrigerant, R-410A

1. Performance
   Almost the same performance as R-22 and R-407C
2. Pressure
   Working pressure is approx. 1.4 times more than R-22 and R-407C.
3. Refrigerant composition
   Few problems in composition control, since it is a Quasi-azeotropic mixture refrigerant.

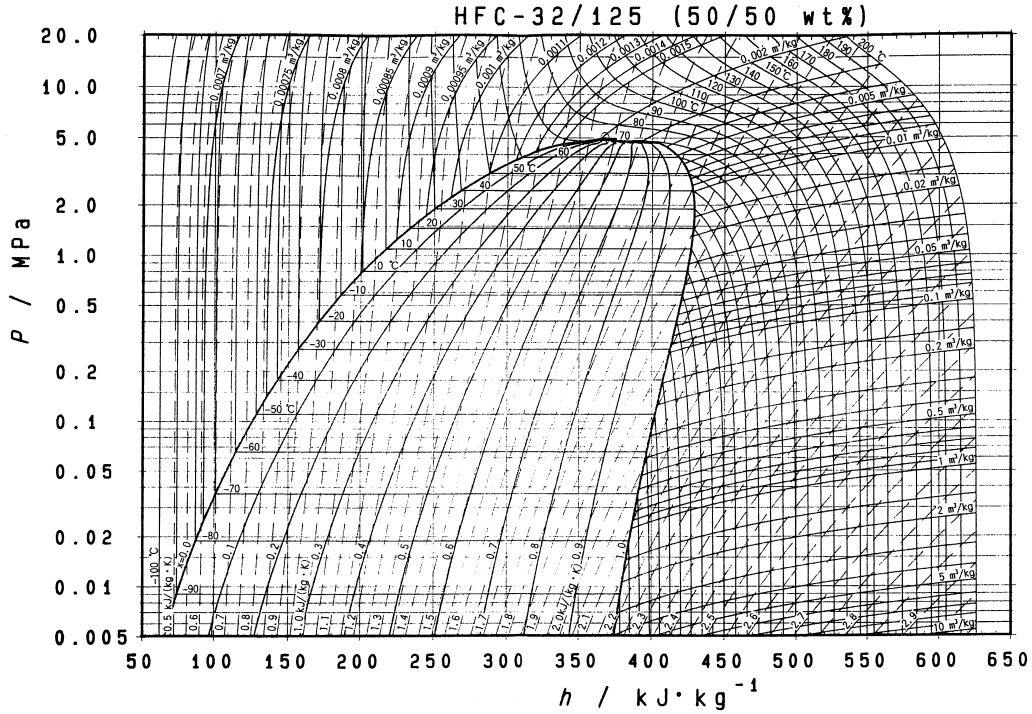
	HFC units (Units using new refrigerants)		HCFC units
Refrigerant name	R-407C	R-410A	R-22
Composing substances	Non-azeotropic mixture of HFC32, HFC125 and HFC134a (*1)	Quasi-azeotropic mixture of HFC32 and JFC125 (*1)	Single-component refrigerant
Design pressure	3.2 MPa (gauge pressure) = 32.6 kgf/cm^2	4.0 MPa (gauge pressure) = 40.8 kgf/cm^2	2.75MPa (gauge pressure) = 28.0 kgf/cm^2
Refrigerant oil	Synthetic oil (Ether)		Mineral oil (Suniso)
Ozone destruction factor (ODP)	0	0	0.05
Combustibility	None	None	None
Toxicity	None	None	None

★1. Non-azeotropic mixture refrigerant: mixture of two or more refrigerants having different boiling points.

★2. Quasi-azeotropic mixture refrigerant: mixture of two or more refrigerants having similar boiling points.

★3. The design pressure is different at each product. Please refer to the installation manual for each product.

(Reference) 1 MPa ≒ 10.19716 kgf / cm^2



Pressure-Enthalpy curves of HFC-32/125 (50/50wt%)

■ Thermodynamic characteristic of R-410A

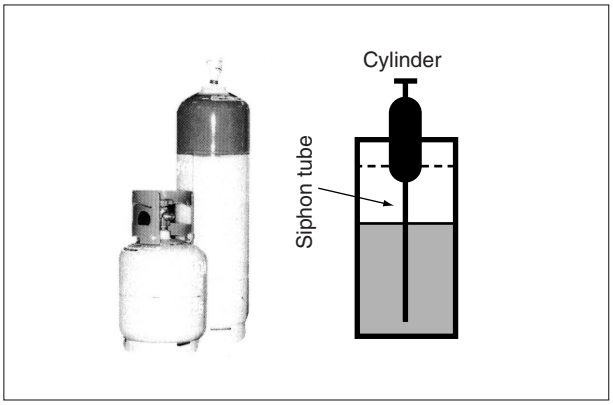
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Temperature (℃)	Steam pressure (kPa)		Density (kg/m³)		Specific heat at constant pressure (kJ/kgK)		Specific enthalpy (kJ/kg)		Specific entropy (kJ/KgK)	
	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor
-70	36.13	36.11	1410.7	1.582	1.372	0.695	100.8	390.6	0.649	2.074
-68	40.83	40.80	1404.7	1.774	1.374	0.700	103.6	391.8	0.663	2.066
-66	46.02	45.98	1398.6	1.984	1.375	0.705	106.3	393.0	0.676	2.058
-64	51.73	51.68	1392.5	2.213	1.377	0.710	109.1	394.1	0.689	2.051
-62	58.00	57.94	1386.4	2.463	1.378	0.715	111.9	395.3	0.702	2.044
-60	64.87	64.80	1380.2	2.734	1.379	0.720	114.6	396.4	0.715	2.037
-58	72.38	72.29	1374.0	3.030	1.380	0.726	117.4	397.6	0.728	2.030
-56	80.57	80.46	1367.8	3.350	1.382	0.732	120.1	398.7	0.741	2.023
-54	89.49	89.36	1361.6	3.696	1.384	0.737	122.9	399.8	0.754	2.017
-52	99.18	99.03	1355.3	4.071	1.386	0.744	125.7	400.9	0.766	2.010
-51.58	101.32	101.17	1354.0	4.153	1.386	0.745	126.3	401.1	0.769	2.009
-50	109.69	109.51	1349.0	4.474	1.388	0.750	128.5	402.0	0.779	2.004
-48	121.07	120.85	1342.7	4.909	1.391	0.756	131.2	403.1	0.791	1.998
-46	133.36	133.11	1336.3	5.377	1.394	0.763	134.0	404.1	0.803	1.992
-44	146.61	146.32	1330.0	5.880	1.397	0.770	136.8	405.2	0.816	1.987
-42	160.89	160.55	1323.5	6.419	1.401	0.777	139.6	406.2	0.828	1.981
-40	176.24	175.85	1317.0	6.996	1.405	0.785	142.4	407.3	0.840	1.976
-38	192.71	192.27	1310.5	7.614	1.409	0.792	145.3	408.3	0.852	1.970
-36	210.37	209.86	1304.0	8.275	1.414	0.800	148.1	409.3	0.864	1.965
-34	229.26	228.69	1297.3	8.980	1.419	0.809	150.9	410.2	0.875	1.960
-32	249.46	248.81	1290.6	9.732	1.424	0.817	153.8	411.2	0.887	1.955
-30	271.01	270.28	1283.9	10.53	1.430	0.826	156.6	412.1	0.899	1.950
-28	293.99	293.16	1277.1	11.39	1.436	0.835	159.5	413.1	0.911	1.946
-26	318.44	317.52	1270.2	12.29	1.442	0.844	162.4	414.0	0.922	1.941
-24	344.44	343.41	1263.3	13.26	1.448	0.854	165.3	414.9	0.934	1.936
-22	372.05	370.90	1256.3	14.28	1.455	0.864	168.2	415.7	0.945	1.932
-20	401.34	400.06	1249.2	15.37	1.461	0.875	171.1	416.6	0.957	1.927
-18	432.36	430.95	1242.0	16.52	1.468	0.886	174.1	417.4	0.968	1.923
-16	465.20	463.64	1234.8	17.74	1.476	0.897	177.0	418.2	0.980	1.919
-14	499.91	498.20	1227.5	19.04	1.483	0.909	180.0	419.0	0.991	1.914
-12	536.58	534.69	1220.0	20.41	1.491	0.921	182.9	419.8	1.003	1.910
-10	575.26	573.20	1212.5	21.86	1.499	0.933	185.9	420.5	1.014	1.906
-8	616.03	613.78	1204.9	23.39	1.507	0.947	189.0	421.2	1.025	1.902
-6	658.97	656.52	1197.2	25.01	1.516	0.960	192.0	421.9	1.036	1.898
-4	704.15	701.49	1189.4	26.72	1.524	0.975	195.0	422.6	1.048	1.894
-2	751.64	748.76	1181.4	28.53	1.533	0.990	198.1	423.2	1.059	1.890
0	801.52	798.41	1173.4	30.44	1.543	1.005	201.2	423.8	1.070	1.886
2	853.87	850.52	1165.3	32.46	1.552	1.022	204.3	424.4	1.081	1.882
4	908.77	905.16	1157.0	34.59	1.563	1.039	207.4	424.9	1.092	1.878
6	966.29	962.42	1148.6	36.83	1.573	1.057	210.5	425.5	1.103	1.874
8	1026.5	1022.4	1140.0	39.21	1.584	1.076	213.7	425.9	1.114	1.870
10	1089.5	1085.1	1131.3	41.71	1.596	1.096	216.8	426.4	1.125	1.866
12	1155.4	1150.7	1122.5	44.35	1.608	1.117	220.0	426.8	1.136	1.862
14	1224.3	1219.2	1113.5	47.14	1.621	1.139	223.2	427.2	1.147	1.859
16	1296.2	1290.8	1104.4	50.09	1.635	1.163	226.5	427.5	1.158	1.855
18	1371.2	1365.5	1095.1	53.20	1.650	1.188	229.7	427.8	1.169	1.851
20	1449.4	1443.4	1085.6	56.48	1.666	1.215	233.0	428.1	1.180	1.847
22	1530.9	1524.6	1075.9	59.96	1.683	1.243	236.4	428.3	1.191	1.843
24	1615.8	1609.2	1066.0	63.63	1.701	1.273	239.7	428.4	1.202	1.839
26	1704.2	1697.2	1055.9	67.51	1.721	1.306	243.1	428.6	1.214	1.834
28	1796.2	1788.9	1045.5	71.62	1.743	1.341	246.5	428.6	1.225	1.830
30	1891.9	1884.2	1034.9	75.97	1.767	1.379	249.9	428.6	1.236	1.826
32	1991.3	1983.2	1024.1	80.58	1.793	1.420	253.4	428.6	1.247	1.822
34	2094.5	2086.2	1012.9	85.48	1.822	1.465	256.9	428.4	1.258	1.817
36	2201.7	2193.1	1001.4	90.68	1.855	1.514	260.5	428.3	1.269	1.813
38	2313.0	2304.0	989.5	96.22	1.891	1.569	264.1	428.0	1.281	1.808
40	2428.4	2419.2	977.3	102.1	1.932	1.629	267.8	427.7	1.292	1.803
42	2548.1	2538.6	964.6	108.4	1.979	1.696	271.5	427.2	1.303	1.798
44	2672.2	2662.4	951.4	115.2	2.033	1.771	275.3	426.7	1.315	1.793
46	2800.7	2790.7	937.7	122.4	2.095	1.857	279.2	426.1	1.327	1.788
48	2933.7	2923.6	923.3	130.2	2.168	1.955	283.2	425.4	1.339	1.782
50	3071.5	3061.2	908.2	138.6	2.256	2.069	287.3	424.5	1.351	1.776
52	3214.0	3203.6	892.2	147.7	2.362	2.203	291.5	423.5	1.363	1.770
54	3361.4	3351.0	875.1	157.6	2.493	2.363	295.8	422.4	1.376	1.764
56	3513.8	3503.5	856.8	168.4	2.661	2.557	300.3	421.0	1.389	1.757
58	3671.3	3661.2	836.9	180.4	2.883	2.799	305.0	419.4	1.403	1.749
60	3834.1	3824.2	814.9	193.7	3.191	3.106	310.0	417.6	1.417	1.741
62	4002.1	3992.7	790.1	208.6	3.650	3.511	315.3	415.5	1.433	1.732
64	4175.7	4166.8	761.0	225.6	4.415	4.064	321.2	413.0	1.450	1.722

1.2 Refrigerant Cylinders

■ Cylinder specifications

- The cylinder is painted refrigerant color (pink).
- The cylinder valve is equipped with a siphon tube.



Refrigerant can be charged in liquid state with cylinder in upright position.

Caution: Do not lay cylinder on its side during charging, since it cause refrigerant in gas state to enter the system.

■ Handling of cylinders

(1) Laws and regulations

R-410A is liquefied gas, and the High-Pressure Gas Safety Law must be observed in handling them. Before using, refer to the High-Pressure Gas Safety Law.

The Law stipulates standards and regulations that must be followed to prevent accidents with high-pressure gases. Be sure to follow the regulations.

(2) Handing of vessels

Since R-410A is high-pressure gas, it is contained in high-pressure vessels.

Although those vessels are durable and strong, careless handling can cause damage that can lead to unexpected accidents. Do not drop vessels, let them fall, apply impact or roll them on the ground.

(3) Storage

Although R-410A is not flammable, it must be stored in a well-ventilated, cool, and dark place in the same way as any other high-pressure gases.

It should also be noted that high-pressure vessels are equipped with safety devices that releases gas when the ambient temperature reaches more than a certain level (fusible plug melts) and when the pressure exceeds a certain level (spring-type safety valve operates).

1.3 Service Tools

R-410A is used under higher working pressure, compared to previous refrigerants (R-22,R-407C). Furthermore, the refrigerating machine oil has been changed from Suniso oil to Ether oil, and if oil mixing is occurred, sludge results in the refrigerants and causes other problems. Therefore, gauge manifolds and charge hoses that are used with a previous refrigerant (R-22,R-407C) can not be used for products that use new refrigerants.
Be sure to use dedicated tools and devices.

■ Tool compatibility

Tool	Compatibility			Reasons for change
	HFC		HCFC	
	R-410A	R-407C	R-22	
Gauge manifold Charge hose	×			• Do not use the same tools for R-22 and R-410A. • Thread specification differs for R-410A and R-407C.
Charging cylinder	×		○	• Weighting instrument used for HFCs.
Gas detector	○		×	• The same tool can be used for HFCs.
Vacuum pump (pump with reverse flow preventive function)	○			• To use existing pump for HFCs, vacuum pump adaptor must be installed.
Weighting instrument	○			
Charge mouthpiece	×			• Seal material is different between R-22 and HFCs. • Thread specification is different between R-410A and others.
Flaring tool (Clutch type)	○			• For R-410A, flare gauge is necessary.
Torque wrench	○			• Torque-up for 1/2 and 5/8
Pipe cutter	○			
Pipe expander	○			
Pipe bender	○			
Pipe assembling oil	×			• Due to refrigerating machine oil change. (No Suniso oil can be used.)
Refrigerant recovery device	Check your recovery device.			
Refrigerant piping	See the chart below.			• Only ϕ19.1 is changed to 1/2H material while the previous material is "O".

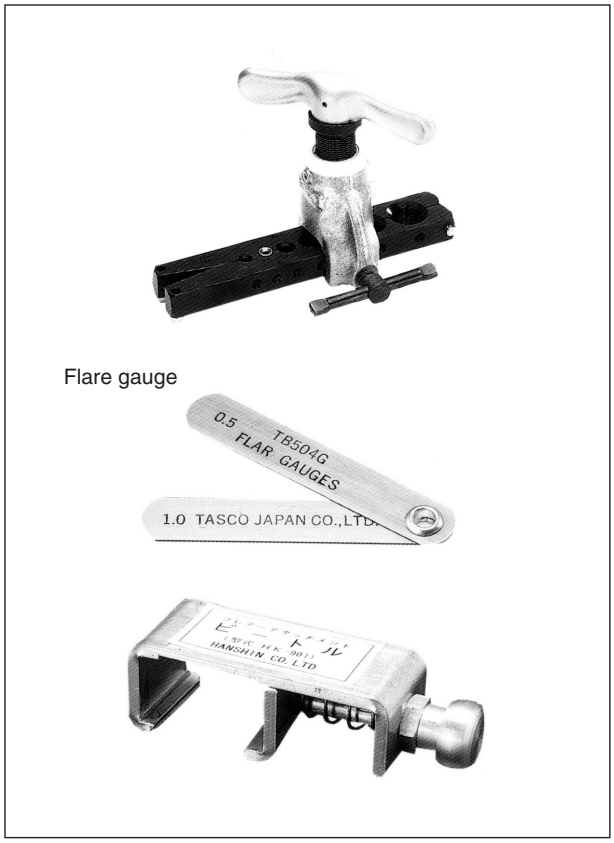
As for the charge mouthpiece and packing, 1/2UNF20 is necessary for mouthpiece size of charge hose.

■ Copper tube material and thickness

Pipe size	Ve-up		Ve-upII	
	R-407C		R-410A	
	Material	Thickness t (mm)	Material	Thickness t (mm)
ϕ6.4	O	0.8	O	0.8
ϕ9.5	O	0.8	O	0.8
ϕ12.7	O	0.8	O	0.8
ϕ15.9	O	1.0	O	1.0
ϕ19.1	O	1.0	1/2H	1.0
ϕ22.2	1/2H	1.0	1/2H	1.0
ϕ25.4	1/2H	1.0	1/2H	1.0
ϕ28.6	1/2H	1.0	1/2H	1.0
ϕ31.8	1/2H	1.2	1/2H	1.1
ϕ38.1	1/2H	1.4	1/2H	1.4
ϕ44.5	1/2H	1.6	1/2H	1.6

* O: Soft (Annealed)
H: Hard (Drawn)

1. Flaring tool



■ Specifications

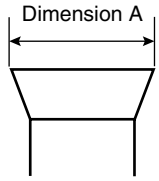
• Dimension A

Unit:mm

Nominal size	Tube O.D.	$A^{+0}_{-0.4}$	
	Do	Class-2 (R-410A)	Class-1 (Conventional)
1/4	6.35	9.1	9.0
3/8	9.52	13.2	13.0
1/2	12.70	16.6	16.2
5/8	15.88	19.7	19.4
3/4	19.05	24.0	23.3

■ Differences

• Change of dimension A



For class-1: R-407C
For class-2: R-410A

Conventional flaring tools can be used when the work process is changed.
(change of work process)
Previously, a pipe extension margin of 0 to 0.5mm was provided for flaring. For R-410A air conditioners, perform pipe flaring with a pipe extension margin of 1.0 to 1.5mm.
(For clutch type only)
Conventional tool with pipe extension margin adjustment can be used.

2. Torque wrench



■ Specifications

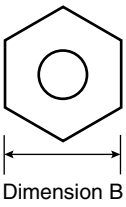
• Dimension B Unit:mm

Nominal size	Class-1	Class-2	Previous
1/2	24	26	24
5/8	27	29	27

No change in tightening torque
No change in pipes of other sizes

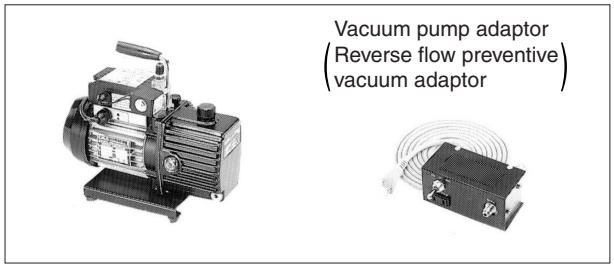
■ Differences

• Change of dimension B
Only 1/2", 5/8" are extended



For class-1: R-407C
For class-2: R-410A

3. Vacuum pump with check valve



■ Specifications

• Discharge speed
50 l/min (50Hz)
60 l/min (60Hz)

• Suction port UNF7/16-20(1/4 Flare)
UNF1/2-20(5/16 Flare) with adaptor

● Maximum degree of vacuum
Select a vacuum pump which is able to keep the vacuum degree of the system in excess of –100.7 kPa (5 torr – 755 mmHg).

■ Differences

• Equipped with function to prevent reverse oil flow

• Previous vacuum pump can be used by installing adaptor.

4. Leak tester



■ Specifications
- Hydrogen detecting type, etc.
- Applicable refrigerants
  R-410A, R-407C, R-404A, R-507A, R-134a, etc.

■ Differences
- Previous testers detected chlorine. Since HFCs do not contain chlorine, new tester detects hydrogen.

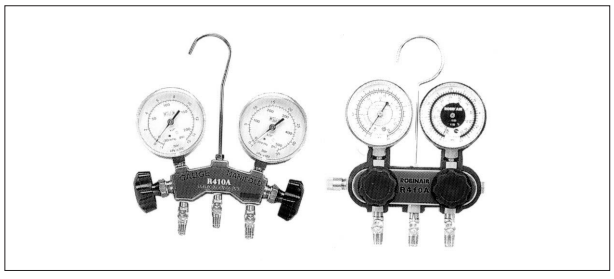
5. Refrigerant oil (Air compal)



■ Specifications
- Contains synthetic oil, therefore it can be used for piping work of every refrigerant cycle.
- Offers high rust resistance and stability over long period of time.

■ Differences
- Can be used for R-410A and R-22 units.

6. Gauge manifold for R-410A



■ Specifications
- High pressure gauge
  - 0.1 to 5.3 MPa (-76 cmHg to 53 kg/cm^2)
- Low pressure gauge
  - 0.1 to 3.8 MPa (-76 cmHg to 38 kg/cm^2)
- 1/4" → 5/16" (2min → 2.5min)
- No oil is used in pressure test of gauges.
  → For prevention of contamination

- Temperature scale indicates the relationship between pressure and temperature in gas saturated state.

■ Differences
- Change in pressure
- Change in service port diameter

7. Charge hose for R-410A

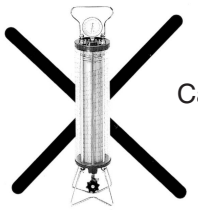


(Hose with ball valve)

■ Specifications
- Working pressure 5.08 MPa (51.8 kg/cm^2)
- Rupture pressure 25.4 MPa (259 kg/cm^2)
- Available with and without hand-operate valve that prevents refrigerant from outflow.

■ Differences
- Pressure proof hose
- Change in service port diameter
- Use of nylon coated material for HFC resistance

8. Charging cylinder



Can not be used

■ Specifications
- Use weigher for refrigerant charge listed below to charge directly from refrigerant cylinder.

■ Differences
- The cylinder can not be used for mixed refrigerant since mixing ratio is changed during charging.

  When R-410A is charged in liquid state using charging cylinder, foaming phenomenon is generated inside charging cylinder.

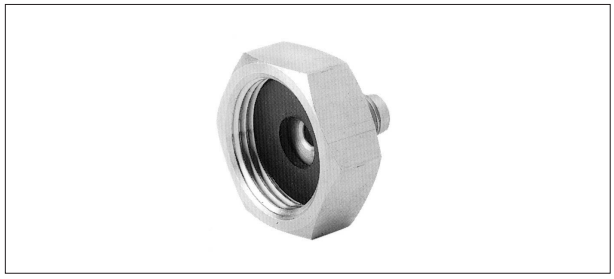
9. Weigher for refrigerant charge



■ Specifications
- High accuracy
  TA101A (for 10-kg cylinder) = ± 2g
  TA101B (for 20-kg cylinder) = ± 5g
- Equipped with pressure-resistant sight glass to check liquid refrigerant charging.
- A manifold with separate ports for HFCs and previous refrigerants is equipped as standard accessories.

■ Differences
- Measurement is based on weight to prevent change of mixing ratio during charging.

10. Charge mouthpiece



■ Specifications
- For R-410A, 1/4"→ 5/16" (2min → 2.5min)
- Material is changed from CR to H-NBR.

■ Differences
- Change of thread specification on hose connection side (For the R-410A use)
- Change of sealer material for the HFCs use.

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- Use only those parts and accessories supplied or specified by Daikin. Ask a qualified installer or contractor to install those parts and accessories. Use of unauthorised parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

If you have any enquiries, please contact your local importer, distributor and/or retailer.

Cautions on product corrosion

1. Air conditioners should not be installed in areas where corrosive gases, such as acid gas or alkaline gas, are produced.
2. If the outdoor unit is to be installed close to the sea shore, direct exposure to the sea breeze should be avoided. If you need to install the outdoor unit close to the sea shore, contact your local distributor.

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JQA-1452

About ISO 9001

ISO 9001 is a plant certification system defined by the International Organization for Standardization (ISO) relating to quality assurance. ISO 9001 certification covers quality assurance aspects related to the "design, development, manufacture, installation, and supplementary service" of products manufactured at the plant.

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About ISO 14001

ISO 14001 is the standard defined by the International Organization for Standardization (ISO) relating to environmental management systems. Our group has been acknowledged by an internationally accredited compliance organisation as having an appropriate programme of environmental protection procedures and activities to meet the requirements of ISO 14001.

Dealer

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