### Air Flow Direction Setting

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

**Setting Table**

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

### Setting of Air Flow Direction Adjustment

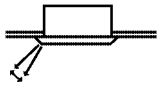
Only the model FXKQ has the function.
When only the front-flow is used, sets yes/no of the swing flap operation of down-flow.

**Setting Table**

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

### Setting of Air Flow Direction Adjustment Range

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



(S2537)

**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) |

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

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

### Setting of the static pressure selection (for FXDQ model)

| Model No. | First Code No. | Second Code No. | External static pressure |
|---|---|---|---|
| 13 (23) | 5 | 01 | Standard (15Pa) |
| | | 02 | High static pressure (44Pa) |

### 4.4.1.7 Outdoor Air Processing Unit-Field Setting (Remote Control)

| 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.

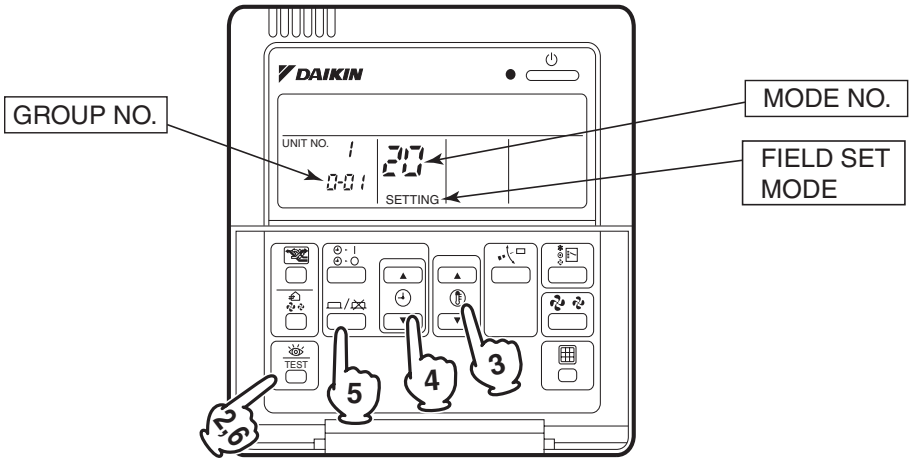
### 4.4.1.8 Centralized Control Group No. Setting

**BRC1A Type**

In order to conduct the central remote control using the central remote control and the unified ON/OFF controller, Group No. settings should be made by group using the operating remote control.

Make Group No. settings for central remote control using the operating remote control.

1. While in normal mode, press and hold the “ ”switch for a period of four seconds or more to set the system to “Field Setting Mode”.
2. Select the MODE No. “*00*” with the “ ” button.
3. 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.)
4. Press “ ” to set the selected group No.
5. Press “ ” to return to the NORMAL MODE.




**Note:**

- For infrared remote control, see the following.
- For setting group No. of HRV and wiring adapter for other air conditioners, etc., refer to the instruction manual attached.

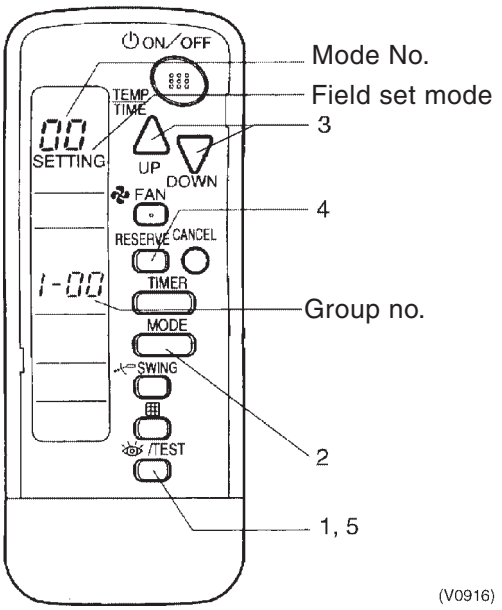
**NOTICE**

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.

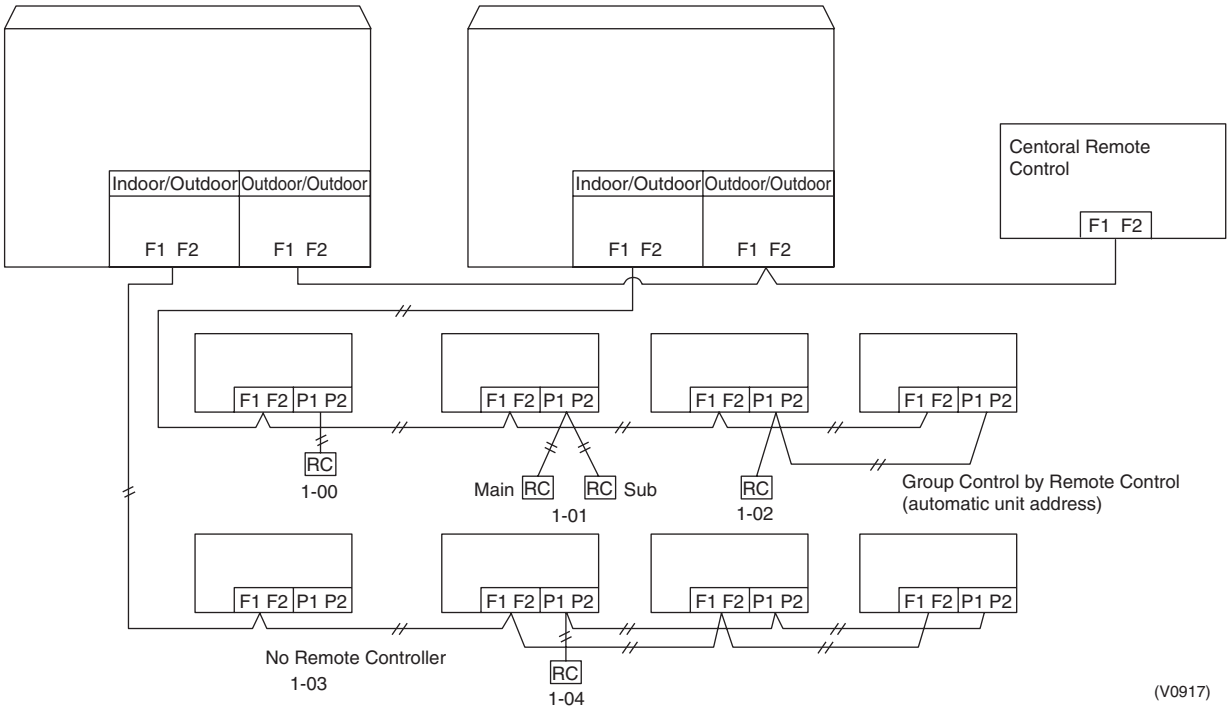
**BRC7C Type**
**BRC7E Type**
**BRC4C Type**

■ Group No. setting by infrared remote control 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.

#### 4.4.1.9 Setting of Operation Control Mode from Remote Control (Local Setting)

The operation control mode is compatible with a variety of controls and operations by limiting the functions of the operation remote control. Furthermore, operations such as remote control ON/OFF can be limited in accordance with the combination conditions. (Refer to information in the table below.)

Central remote control is normally available for operations. (Except when centralized monitor is connected)

#### 4.4.1.10 Contents of Control Modes

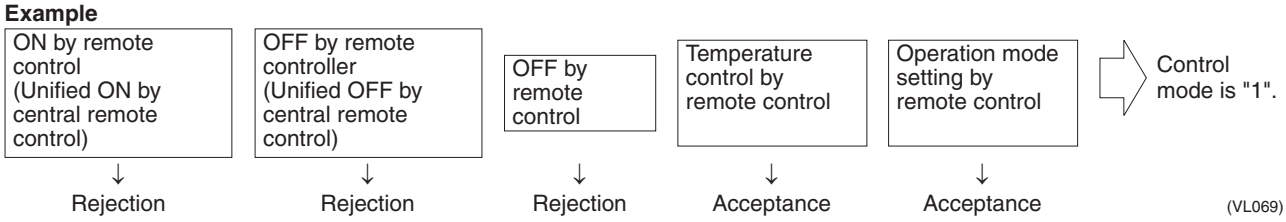
Twenty modes consisting of combinations of the following five operation modes with temperature and operation mode setting by remote control can be set and displayed by operation modes 0 through 19.

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

**How to Select Operation Mode**

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

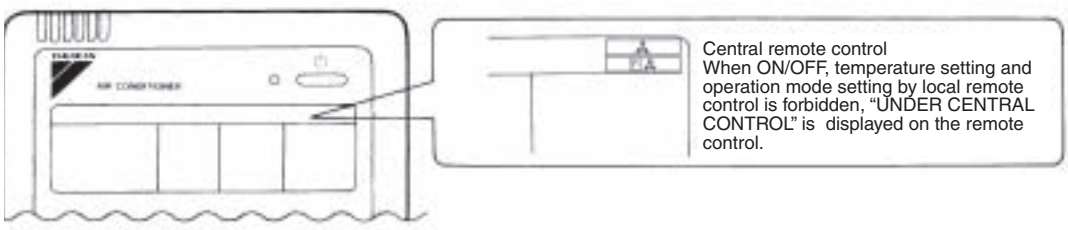
**Example**




| Control mode | Control by remote control | | | | | Control mode |
|---|---|---|---|---|---|---|
| | Operation | | OFF | Temperature control | Operation mode setting | |
| | Unified operation, individual operation by central remote control, or operation controlled by timer | Unified OFF, individual stop by central remote control, or timer stop | | | | |
| ON/OFF control impossible by remote control | 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 control | | | 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 control | 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 control” if not using a remote control. Operation by timer is impossible in this case.

∗1. Factory setting



# 4.4.2 Field Setting from Outdoor Unit

### 4.4.2.1 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 111 onward.

| Setting item | | | Content and objective of setting | Overview of setting procedure |
|---|---|---|---|---|
| Function setting | 1 | Setting of COOL/HEAT selection (*1)<br>*Heat Pump model only | ■ COOL/HEAT selection methods are selectable from the following<br>(1) Control by each outdoor unit using the indoor unit remote control<br>(2) Control by each outdoor unit using the COOL/HEAT selection remote control<br>(3) Batch control by outdoor unit group using the indoor unit remote control<br>(4) Batch control by outdoor unit group using the COOL/HEAT selection remote control | ■ In order to use the COOL/HEAT selection remote control, set the DS1-1 on the outdoor unit PC board to OUT.<br>■ 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.<br>(1) Mode 1: Step 6 or lower<br>(2) Mode 2: Step 5 or lower<br>(3) Mode 3: Step 4 or lower | ■ Use the "External control adapter for outdoor unit".<br>Set to "External control adapter for outdoor unit" with No. 12 of "Setting mode 2" and select the mode with No. 25.<br>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.<br>Start time: Selectable in the range of 20:00 to 24:00 hours.<br>End time: Selectable in the range of 06:00 to 08:00 hours.<br>(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".<br>Select a mode with No. 22 of "Setting mode 2".<br>Select the start time with No. 26 and the end time with No. 27.<br>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.<br>(1) Mode 1 of Demand 1: 60% or less of rating<br>(2) Mode 2 of Demand 1: 70% or less of rating<br>(3) Mode 3 of Demand 1: 80% or less of rating<br>(4) Demand 2: 40% or less of rating | ■ For setting with the use of "external control adapter":<br>Set the system to "External control adapter for outdoor unit" with No. 12 of Setting mode 2" and select the mode with No. 30.<br>■ For setting only in "Setting mode 2":<br>Set the system to Constant 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.)<br>* 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 *Heat Pump model only | ■ 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 (*1) | ■ 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 control 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. |

For setting items of (*1), refer to detailed information provided on page 112 onward.

■ **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. • Heat Pump model only |
| | 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) | | |

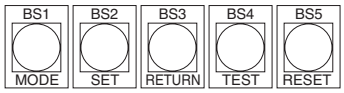
■ **Setting by pushbutton switches**

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)



(V2760)

There are the following three setting modes.

① **Setting mode 1 (H1P off)**

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

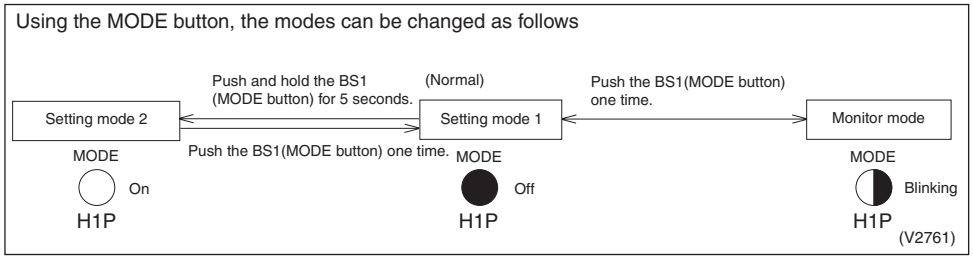
② **Setting mode 2 (H1P on)**

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

③ **Monitor mode (H1P blinks)**

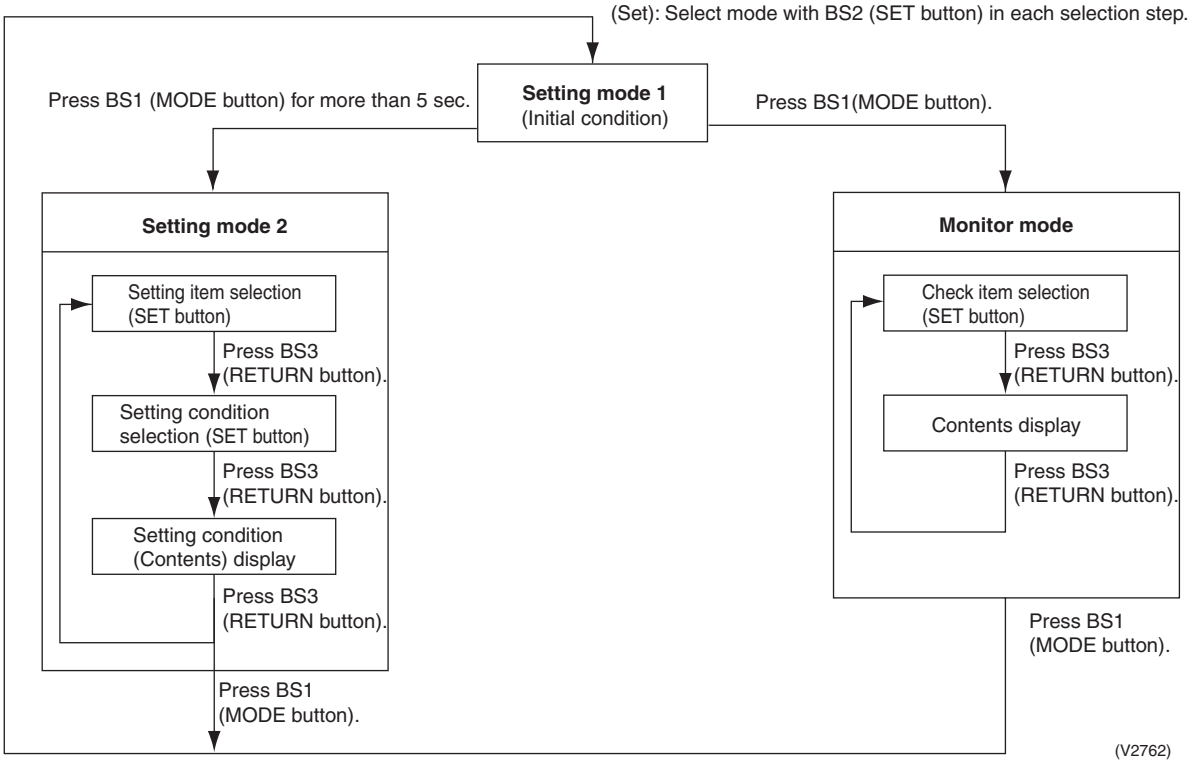
Used to check the program made in Setting mode 2.

■ **Mode changing procedure 1**



(V2761)

■ **Mode changing procedure 2**



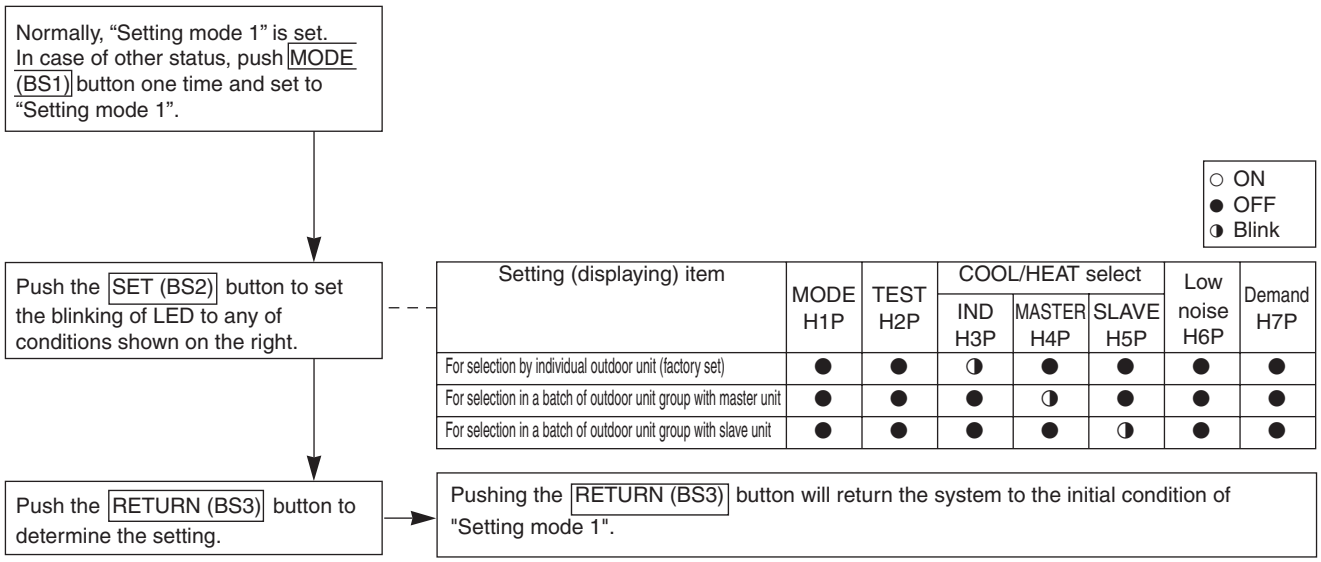
(V2762)

### a. “Setting mode 1”

This mode is used to set and check the following items.

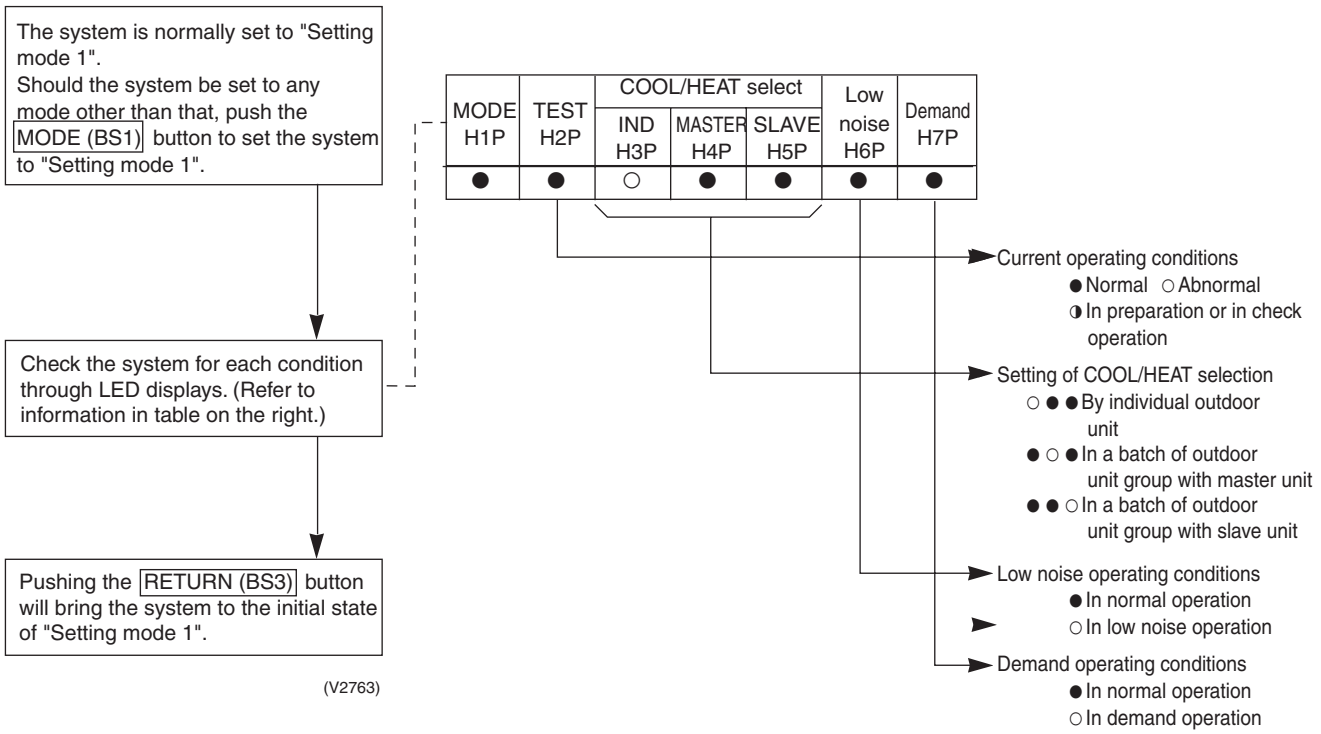
1. Set items ····· In order to make COOL/HEAT selection in a batch of outdoor unit group, change the setting.
   - COOL/HEAT selection (IND) ····· Used to select COOL or HEAT by individual outdoor unit (factory set).
   - COOL/HEAT selection (MASTER) ····· Used to select COOL or HEAT by outdoor unit 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**



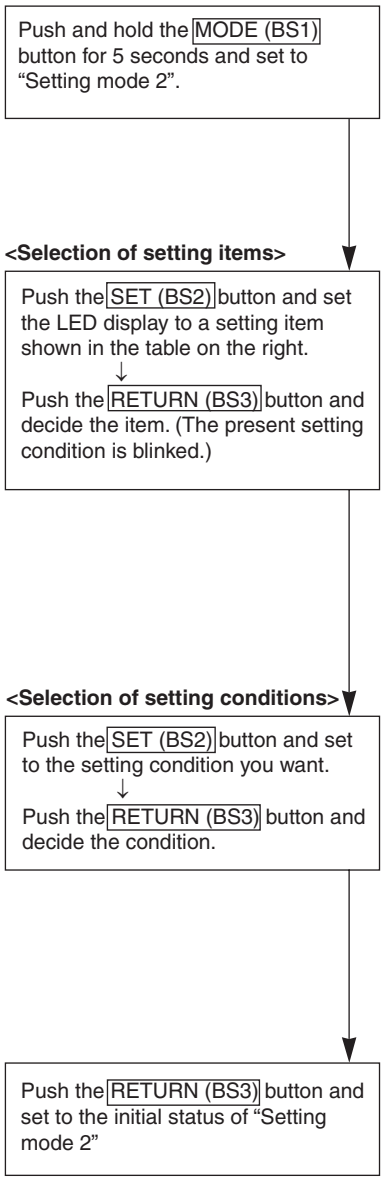

| Setting (displaying) item | MODE H1P | TEST H2P | COOL/HEAT select IND H3P | COOL/HEAT select MASTER H4P | COOL/HEAT select SLAVE H5P | Low noise H6P | Demand H7P |
|---|---|---|---|---|---|---|---|
| For selection by individual outdoor unit (factory set) | ● | ● | ◑ | ● | ● | ● | ● |
| For selection 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**




| MODE H1P | TEST H2P | COOL/HEAT select IND H3P | COOL/HEAT select MASTER H4P | COOL/HEAT select SLAVE H5P | Low noise H6P | Demand H7P |
|---|---|---|---|---|---|---|
| ● | ● | ○ | ● | ● | ● | ● |

## b. “Setting mode 2”




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

(V2764)

| 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 PCB 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<br>(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.<br>(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.<br>(This operation, however, is not set with RXYQ5, 8P.) |
| 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.<br>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<br>∗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. |

| No. | Setting item | Description |
|---|---|---|
| 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.) |
| 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.<br>(Be noted this setting is not available on model RXYQ5, 8PY1.) |

| 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<br>Binary number<br>(4 digits) | 0 ○ ● ● ● ● ● ●<br>1 ○ ● ● ● ● ● ○<br>~<br>15 ○ ● ● ○ ○ ○ ○ | |
| 1 | Cool / Heat Unified address | ○ | ● | ● | ● | ● | ● | ○ | Address<br>Binary number<br>(6 digits) | 0 ○ ● ● ● ● ● ●<br>1 ○ ● ● ● ● ● ○<br>~<br>31 ○ ● ○ ○ ○ ○ ○ | ✻ |
| 2 | Low noise/demand address | ○ | ● | ● | ● | ● | ○ | ● | Address<br>Binary number<br>(6 digits) | 0 ○ ● ● ● ● ● ●<br>1 ○ ● ● ● ● ● ○<br>~<br>31 ○ ● ○ ○ ○ ○ ○ | ✻ |
| 3 | Test operation | ○ | ● | ● | ● | ● | ○ | ○ | Test operation: ON<br>Test operation: OFF | ○ ● ● ● ● ● ○<br>○ ● ● ● ● ○ ● | ✻ |
| 5 | Indoor forced fan H | ○ | ● | ● | ● | ○ | ● | ○ | Normal operation<br>Indoor forced fan H | ○ ● ● ● ● ● ○<br>○ ● ● ● ● ○ ● | ✻ |
| 6 | Indoor forced operation | ○ | ● | ● | ● | ○ | ○ | ● | Normal operation<br>Indoor forced operation | ○ ● ● ● ● ● ○<br>○ ● ● ● ● ○ ● | ✻ |
| 8 | Te setting | ○ | ● | ● | ○ | ● | ● | ● | High<br>Normal (factory setting)<br>Low | ○ ● ● ● ○ ● ●<br>○ ● ● ● ● ○ ●<br>○ ● ● ● ● ● ○ | ✻ |
| 9 | Tc setting | ○ | ● | ● | ○ | ● | ● | ○ | High<br>Normal (factory setting)<br>Low | ○ ● ● ● ○ ● ●<br>○ ● ● ● ● ○ ●<br>○ ● ● ● ● ● ○ | ✻ |
| 10 | Defrost changeover setting | ○ | ● | ● | ○ | ● | ○ | ● | Quick defrost<br>Normal (factory setting)<br>Slow defrost | ○ ● ● ● ○ ● ●<br>○ ● ● ● ● ○ ●<br>○ ● ● ● ● ● ○ | ✻ |
| 11 | Sequential operation setting | ○ | ● | ● | ○ | ● | ○ | ○ | OFF<br>ON | ○ ● ● ● ● ● ○<br>○ ● ● ● ● ○ ● | ✻ |
| 12 | External low noise/ demand setting | ○ | ● | ● | ○ | ○ | ● | ● | External low noise/demand: NO<br>External low noise/demand: YES | ○ ● ● ● ● ● ○<br>○ ● ● ● ● ○ ● | ✻ |
| 13 | Airnet address | ○ | ● | ● | ○ | ○ | ● | ○ | Address<br>Binary number<br>(6 digits) | 0 ○ ● ● ● ● ● ●<br>1 ○ ● ● ● ● ● ○<br>~<br>63 ○ ○ ○ ○ ○ ○ ○ | ✻ |
| 16 | Setting of hot water heater | ○ | ● | ○ | ● | ● | ● | ● | OFF<br>ON | ○ ● ● ● ● ● ○<br>○ ● ● ● ● ○ ● | ✻ |
| 18 | High static pressure setting | ○ | ● | ○ | ● | ● | ○ | ● | High static pressure setting: OFF<br>High static pressure setting: ON | ○ ● ● ● ● ● ○<br>○ ● ● ● ● ○ ● | ✻ |
| 19 | Emergency operation (STD compressor is inhibited to operate.) | ○ | ● | ○ | ● | ● | ○ | ○ | OFF<br>STD 1, 2 operation: Inhibited<br>STD 2 operation: Inhibited | ○ ● ● ● ● ● ●<br>○ ● ● ● ● ● ○<br>○ ● ● ● ● ○ ● | ✻ |
| 20 | Additional refrigerant charging operation setting | ○ | ● | ○ | ● | ○ | ● | ● | Refrigerant charging: OFF<br>Refrigerant charging: ON | ○ ● ● ● ● ● ○<br>○ ● ● ● ● ○ ● | ✻ |
| 21 | Refrigerant recovery/vacuuming mode setting | ○ | ● | ○ | ● | ○ | ● | ○ | Refrigerant recovery / vacuuming: OFF<br>Refrigerant recovery / vacuuming: ON | ○ ● ● ● ● ● ○<br>○ ● ● ● ● ○ ● | ✻ |

| No. | Setting item display | | | | | | | | Setting condition display |
|---|---|---|---|---|---|---|---|---|---|
| | Setting item | MODE H1P | TEST H2P | C/H selection | | | Low noise H6P | Demand H7P | ✻ Factory set |
| | | | | IND H3P | Master H4P | Slave H5P | | | |
| 22 | Night-time low noise setting | ○ | ● | ○ | ● | ○ | ○ | ● | OFF ○●●●●●● ✻<br>Level 1 (outdoor fan with 6 step or ○●●●●●○<br>Level 2 (outdoor fan with 5 step or ○●●●●○●<br>Level 3 (outdoor fan with 4 step or ○●●●●○○ |
| 24 | ENECUT test operation (Domestic Japan only) | ○ | ● | ○ | ○ | ● | ● | ● | ENECUT output OFF ○●●●●●○ ✻<br>ENECUT output forced ON ○●●●●○● |
| 25 | Low noise setting | ○ | ● | ○ | ○ | ● | ● | ○ | Level 1 (outdoor fan with 6 step or lower) ○●●●●●○<br>Level 2 (outdoor fan with 5 step or lower) ○●●●●○● ✻<br>Level 3 (outdoor fan with 4 step or lower) ○●●●○●● |
| 26 | Night-time low noise operation start setting | ○ | ● | ○ | ○ | ● | ○ | ● | About 20:00 ○●●●●●○<br>About 22:00 (factory setting) ○●●●●○● ✻<br>About 24:00 ○●●●○●● |
| 27 | Night-time low noise operation end setting | ○ | ● | ○ | ○ | ● | ○ | ○ | About 6:00 ○●●●●●○<br>About 7:00 ○●●●●○●<br>About 8:00 (factory setting) ○●●●○●● ✻ |
| 28 | Power transistor check mode | ○ | ● | ○ | ○ | ○ | ● | ● | OFF ○●●●●●○ ✻<br>ON ○●●●●○● |
| 29 | Capacity precedence setting | ○ | ● | ○ | ○ | ○ | ● | ○ | OFF ○●●●●●○ ✻<br>ON ○●●●●○● |
| 30 | Demand setting 1 | ○ | ● | ○ | ○ | ○ | ○ | ● | 60 % demand ○●●●●●○<br>70 % demand ○●●●●○● ✻<br>80 % demand ○●●●○●● |
| 32 | Normal demand setting | ○ | ○ | ● | ● | ● | ● | ● | OFF ○●●●●●○ ✻<br>ON ○●●●●○● |
| 35 | Setting of difference in elevation for the outdoor unit | ○ | ○ | ● | ● | ● | ○ | ○ | Normal ○●●●●●●<br>65 m or less ○●●●○○●<br>90 m or less ○●●●○○○ |
| 38 | Emergency operation (Master unit with multi-outdoor-unit system is inhibited to operate.) | ○ | ○ | ● | ● | ○ | ○ | ● | OFF ○●●●●●○ ✻<br>Master unit operation: Inhibited ○●●●●○● |
| 39 | Emergency operation (Slave unit 1 with multi-outdoor-unit system is inhibited to operate.) | ○ | ○ | ● | ● | ○ | ○ | ○ | OFF ○●●●●●○ ✻<br>Slave unit 1 operation: Inhibited ○●●●●○● |
| 40 | Emergency operation (Slave unit 2 with multi-outdoor-unit system is inhibited to operate.) | ○ | ○ | ● | ○ | ● | ● | ● | OFF ○●●●●●○ ✻<br>Slave unit 2 operation: Inhibited ○●●●●○● |
| 42 | Emergency operation (prohibition of INV compressor operation) | ○ | ○ | ● | ○ | ● | ○ | ● | Normal operation ○●●●●●○ ✻<br>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”.

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| 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 | ◑ | ● | ● | ● | ○ | ● | ○ | |
| 6 | Number of connected BS units | ◑ | ● | ● | ● | ○ | ○ | ● | |
| 7 | Number of connected zone units (excluding outdoor and BS unit) | ◑ | ● | ● | ● | ○ | ○ | ○ | |
| 8 | Number of outdoor units | ◑ | ● | ● | ○ | ● | ● | ● | |
| 9 | Number of connected BS units | ◑ | ● | ● | ○ | ● | ● | ○ | Lower 4 digits: upper |
| 10 | Number of connected BS units | ◑ | ● | ● | ○ | ● | ○ | ● | Lower 4 digits: lower |
| 11 | Number of zone units (excluding outdoor and BS unit) | ◑ | ● | ● | ○ | ● | ○ | ○ | Lower 6 digits |
| 12 | Number of terminal blocks | ◑ | ● | ● | ○ | ○ | ● | ● | Lower 4 digits: upper |
| 13 | Number of terminal blocks | ◑ | ● | ● | ○ | ○ | ● | ○ | Lower 4 digits: lower |
| 14 | Contents of malfunction (the latest) | ◑ | ● | ● | ○ | ○ | ○ | ● | Malfunction code table |
| 15 | Contents of malfunction (1 cycle before) | ◑ | ● | ● | ○ | ○ | ○ | ○ | |
| 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 |

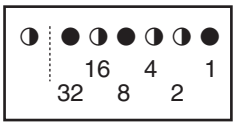
The numbers in the "No." column represent the number of times to press the SET (BS2) button.

**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 | H | ◑ | ● | ● | ● | ● | ○ | ● |
| | M | ◑ | ● | ● | ● | ● | ◑ | ● |
| | L | ◑ | ● | ● | ● | ● | ● | ● |
| Tc setting | H | ◑ | ● | ● | ● | ● | ● | ○ |
| | M | ◑ | ● | ● | ● | ● | ● | ◑ |
| | L | ◑ | ● | ● | ● | ● | ● | ● |

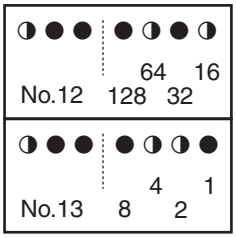
Push the SET button and match with the LEDs No. 1 - 15, push the RETURN button, and confirm the data for each setting.

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




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

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




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

★ See the preceding page for a list of data, etc. for No. 0 - 22.

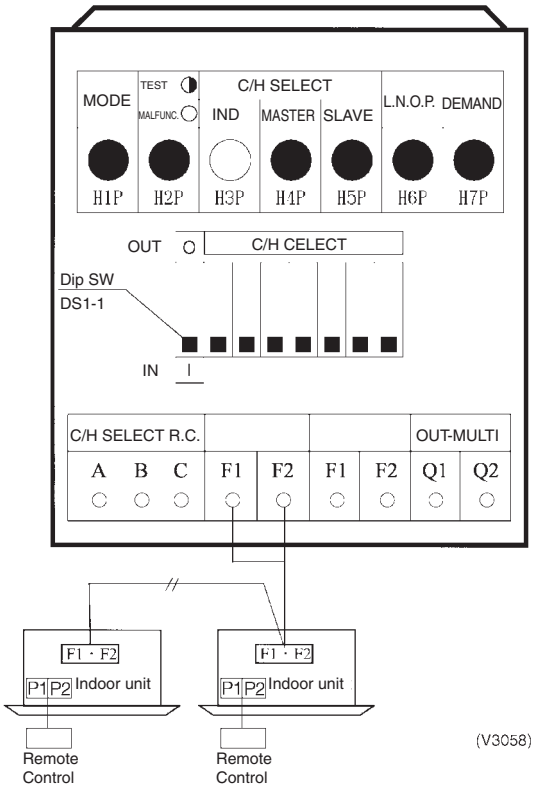
### 4.4.2.2 Cool / Heat Mode Switching (∗Heat Pump model only)

There are the following 4 cool/heat switching modes.

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

**① Set Cool / Heat Separately for Each Outdoor Unit System by Indoor Unit Remote Control**

- ◆ 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 controls**

- After the check operation, **"CHANGEOVER UNDER CONTROL"** is flashing in all connected remote controls.
- 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 control of the indoor unit selected as the master unit.
- In that remote control, **"CHANGEOVER UNDER CONTROL"** disappears. That remote control will control changeover of the cooling/heating operation mode.
- In other remote controls, **"CHANGEOVER UNDER CONTROL"** lights.

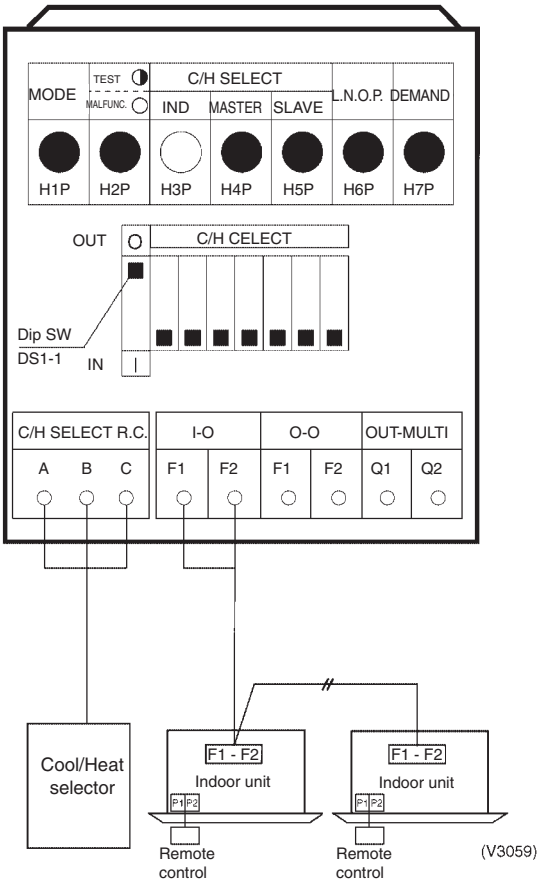
**For the details, refer to the installation manual supplied together with the indoor unit.**

**In the case of infrared remote controls**

- 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 control 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.

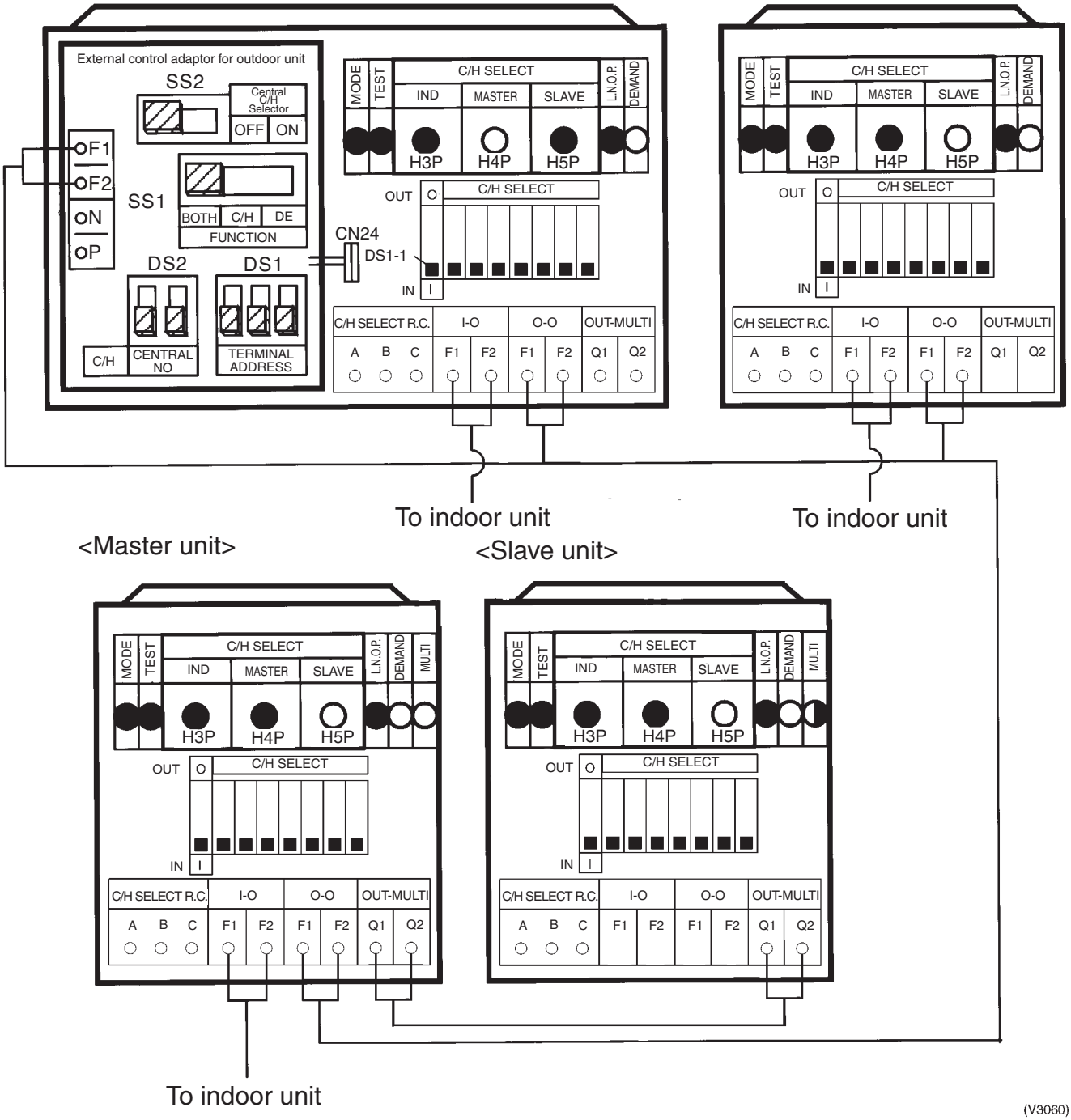
**② Set Cool / Heat Separately for Each Outdoor Unit System by Cool / Heat Switching remote control**

- ◆ 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 Control**

- Install the external control adapter 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 adapter SS1 to BOTH (factory set) or C/H, and SS2 to OFF (factory set).

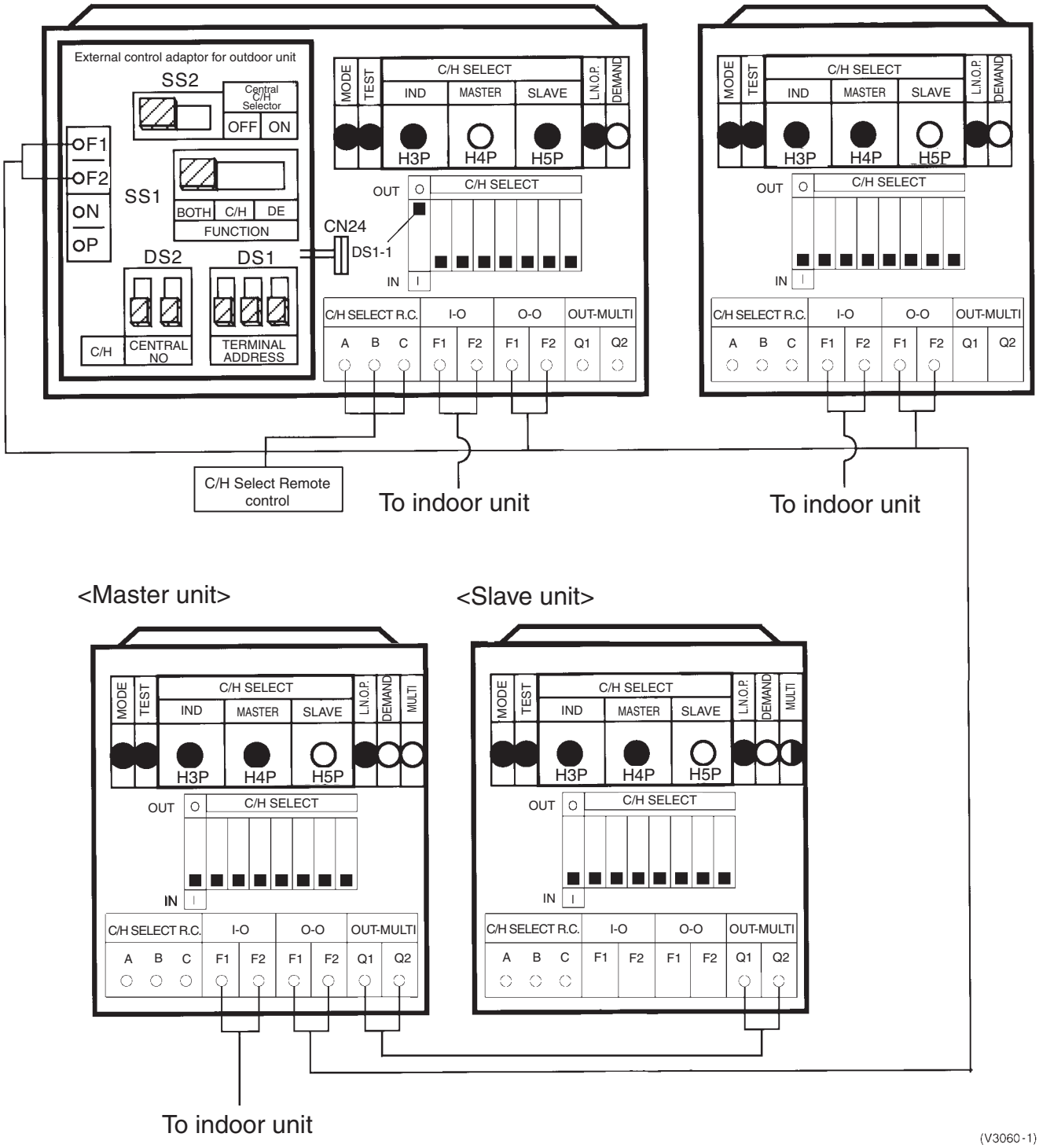



(V3060)

Multi outdoor units connection

**④ Set Cool / Heat for More Than One Outdoor Unit System Simultaneously in Accordance with Unified Master Outdoor Unit by Cool / Heat Switching Remote Control**

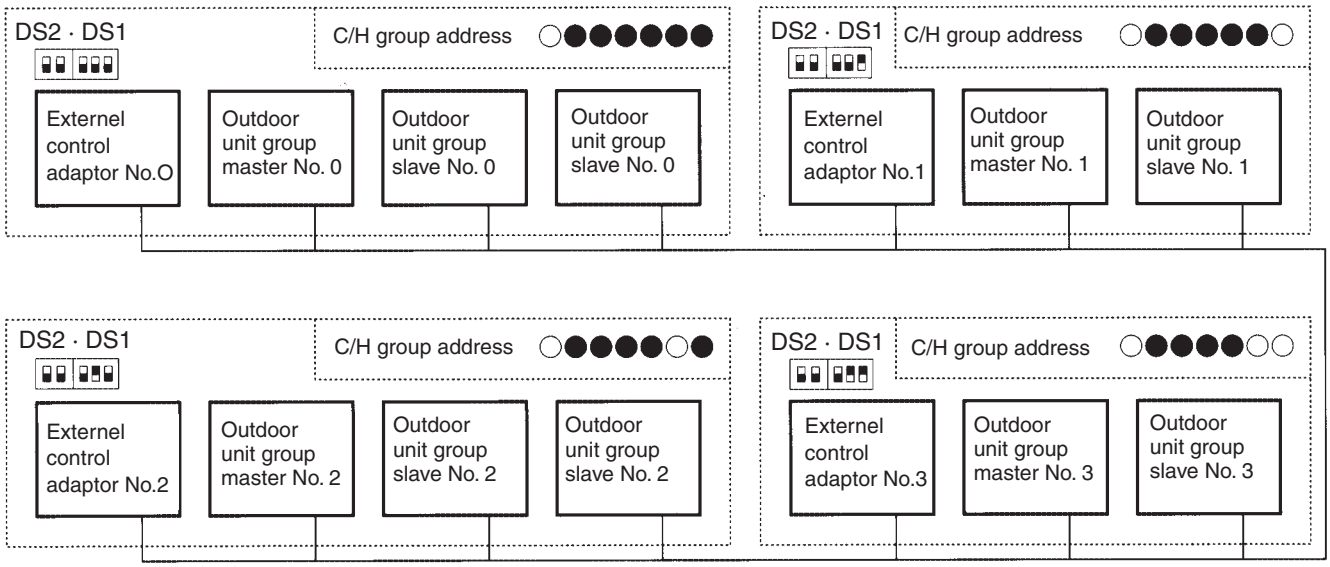
- Install the external control adapter for outdoor unit on either the outdoor-outdoor, indoor-outdoor transmission line.
- Mount the COOL/HEAT selection remote control to the master outdoor unit for the unified control.
- Set the DS1-1 on the PC board of master outdoor unit to OUT.
- In setting mode 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 adapter SS1 to BOTH (factory set) or C/H, and SS2 to OFF (factory set).




Multi outdoor units connection

**Supplementation on ③ and ④.**

When switching cool/heat for each adapter PC board with the use of more than one adapter PC board, set the address of the external control adapter 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)

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### 4.4.2.3 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 adapter (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. |

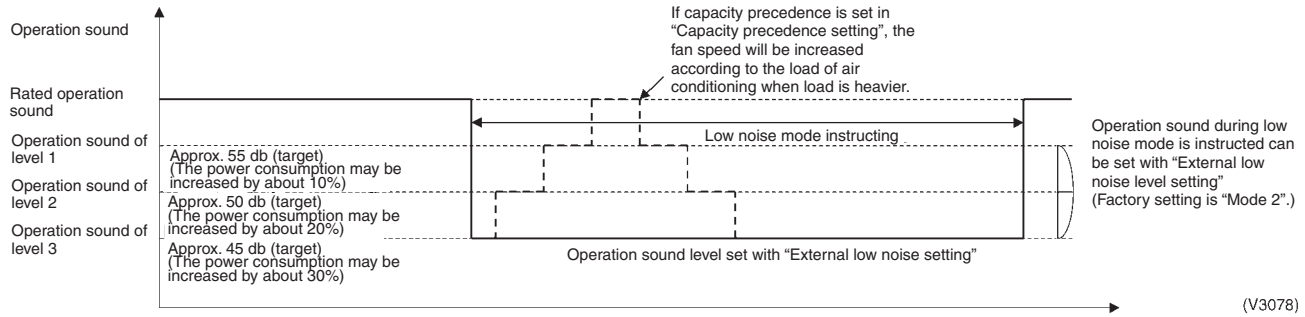
**A. When the low noise operation is carried out by external instructions (with the use of the external control adapter for outdoor unit)**

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 adapter for outdoor unit is not required)**

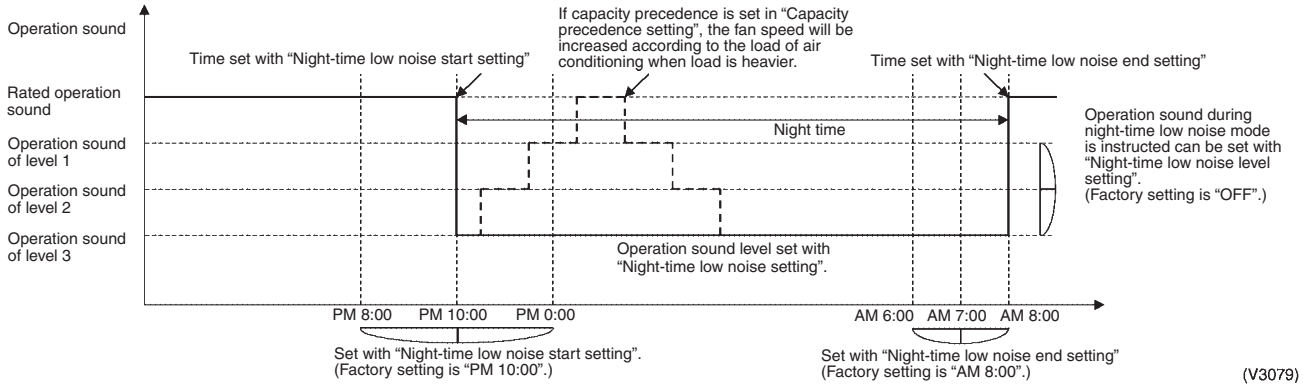
1. While in "Setting mode 2", select the setting condition (i.e., "Mode 1", "Mode 2", or "Mode 3") for set item No. 22 (Setting of nighttime low noise level).
2. If necessary, while in "Setting mode 2", select the setting condition (i.e., "20:00", "22:00", or "24:00") for set item No. 26 (Setting of 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

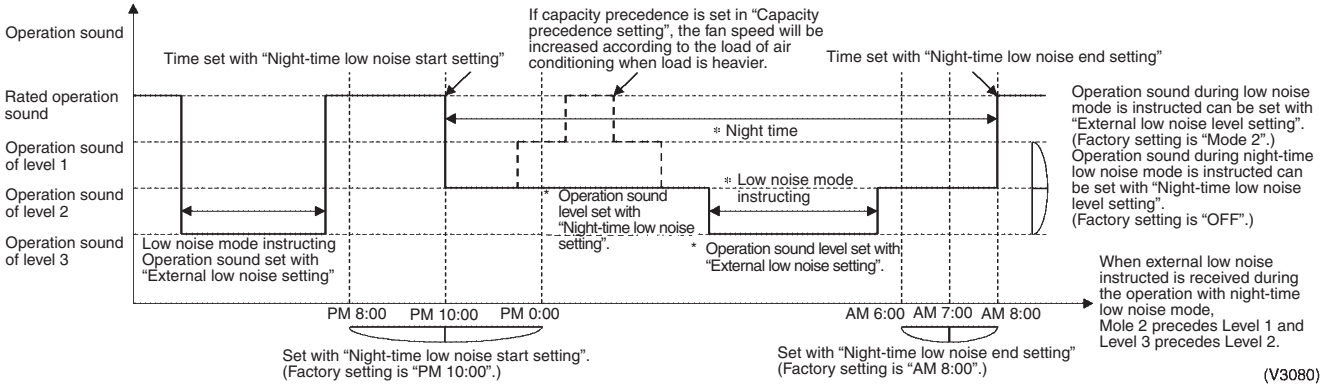



Note1: Above values are reference only (measured in silent room)
Note2: Above values are for 1 module only.

## 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 adapter (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. |

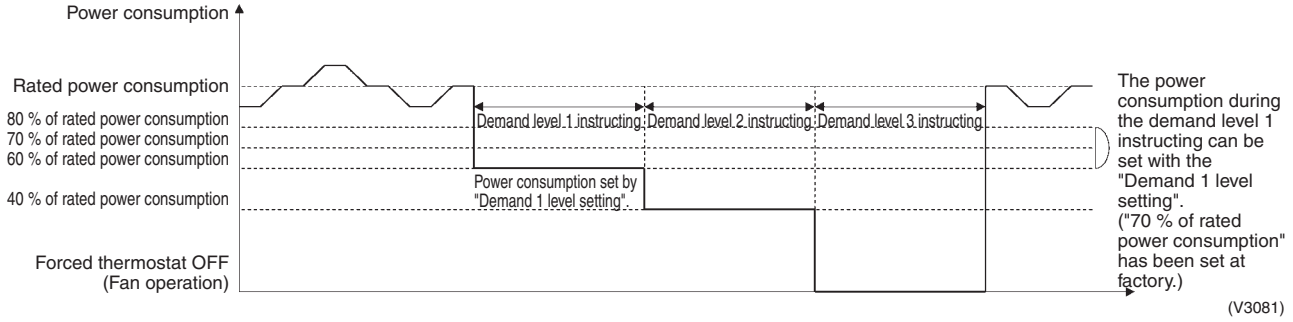
**A. When the demand operation is carried out by external instructions (with the use of the external control adapter for outdoor unit).**

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.

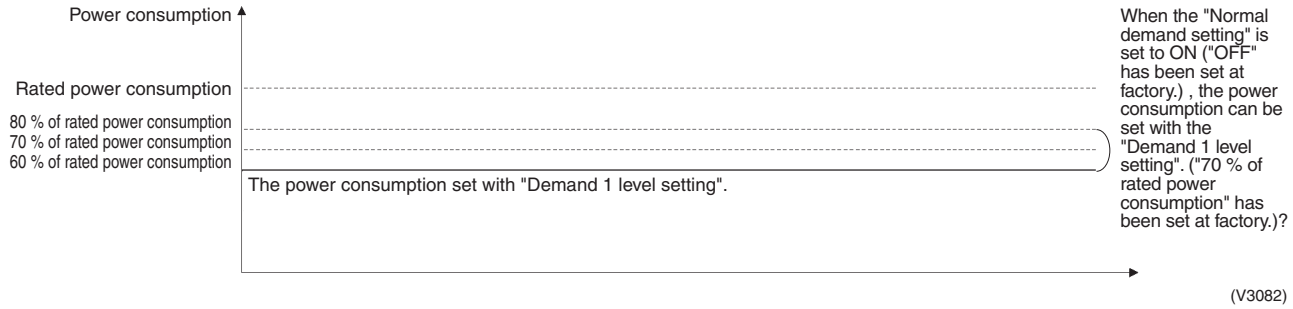
**B. When the Normal demand operation is carried out. (Use of the external control adapter for outdoor unit is not required.)**

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.

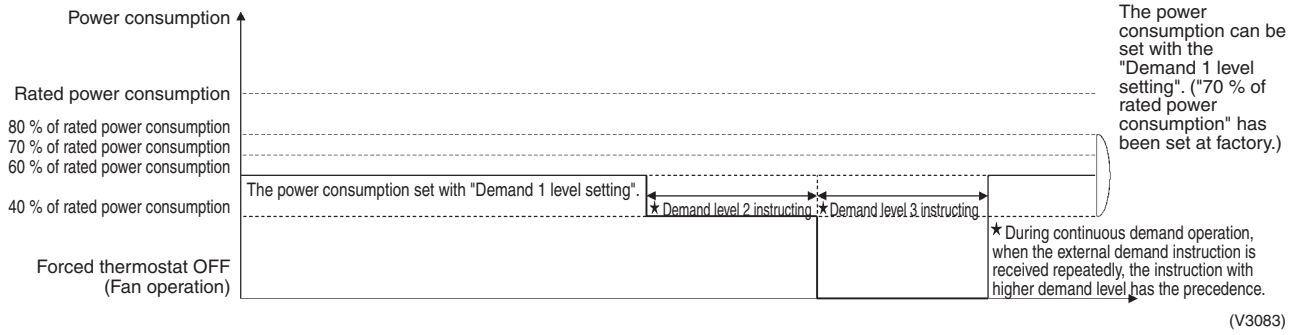
### Image of operation in the case of A




### 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 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 set) | ○ | ● | ● | ● | ● | ● | ◑ |
| | | | | | | | | | | | | | | | | 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

#### 4.4.2.4 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 control, 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".

#### 4.4.2.5 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.

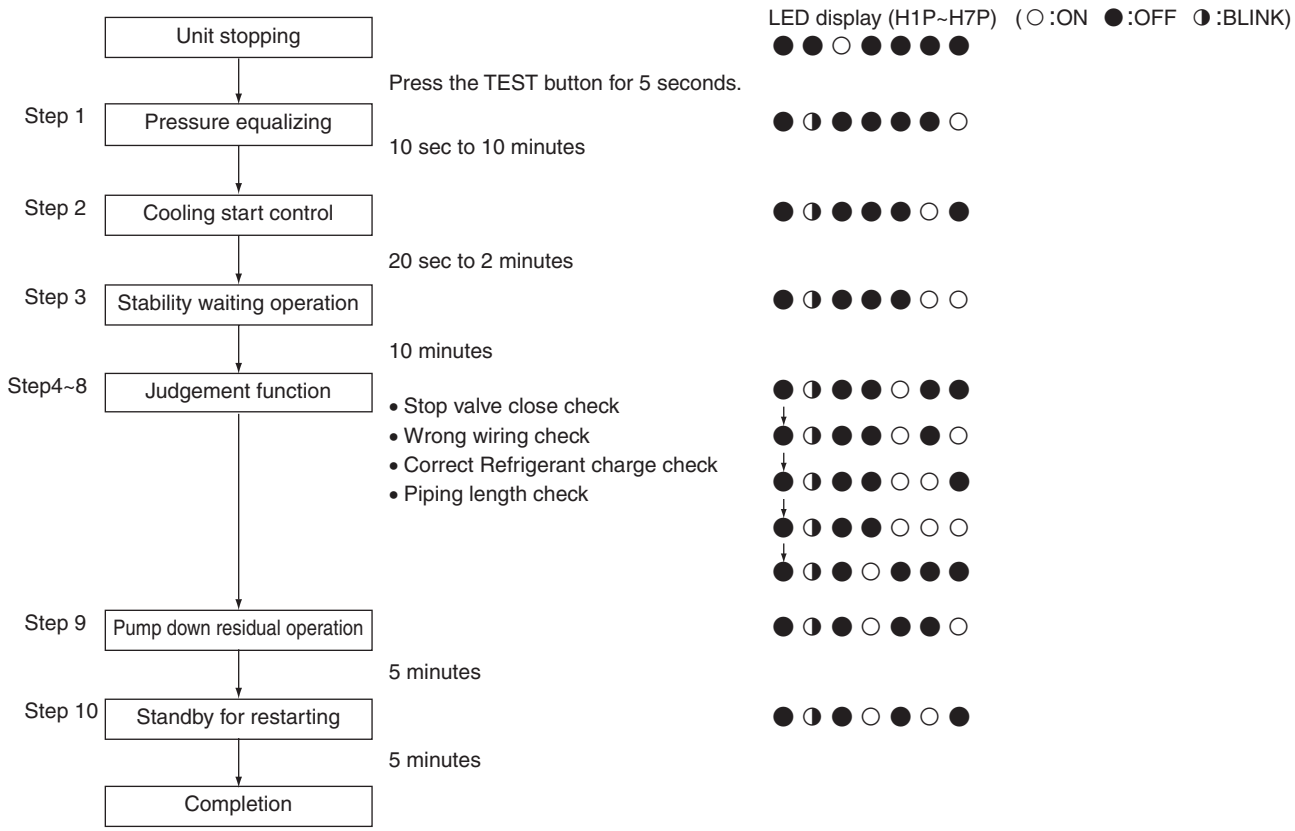
**[Operating procedure]**

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 control 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".

### 4.4.2.6 Check Operation Detail.

CHECK OPERATION FUNCTION

(Press the MODE button BS1 once and set to SETTING MODE 1 (H1P: OFF))



# 5. Caution for Refrigerant Leaks

## 5.1 Caution for Refrigerant Leaks

### 5.1.1 Introduction

**Points to note in connection with refrigerant leaks**

**The installer and system specialist shall secure safety against leakage according to local regulations or standards. The following standards may be applicable if local regulations are not available.**

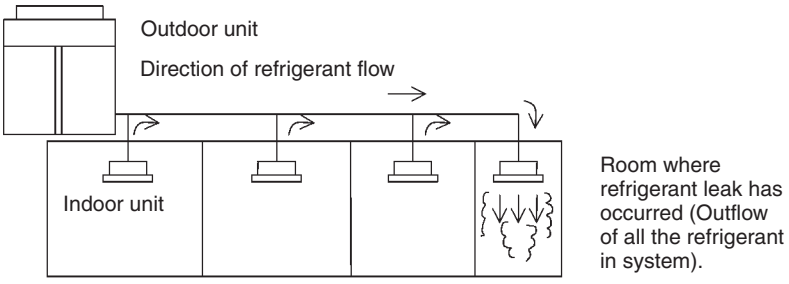
### 5.1.2 Maximum Concentration Level

The maximum charge of refrigerant and the calculation of the maximum concentration of refrigerant is directly related to the humanly occupied space in to which it could leak.

The unit of measurement of the concentration is kg/m³ (the weight in kg of the refrigerant gas in 1m³ volume of the occupied space).

Compliance to the local applicable regulations and standards for the maximum allowable concentration level is required.

In Australia the maximum allowed concentration level of refrigerant to a humanly space is limited to 0.35 kg/m³ for R-407C, and 0.44 kg/m³ for R-410A.

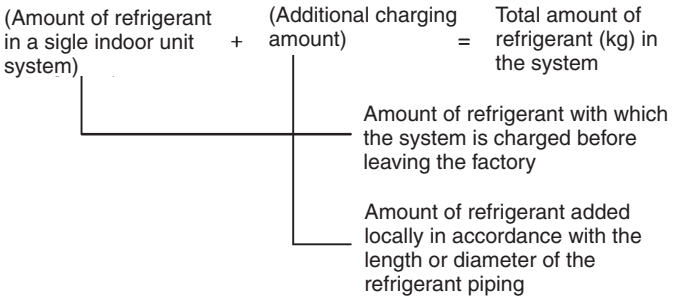



**Pay special attention to the place, such as a basement, etc., where refrigerant can stay, since refrigerant is heavier than air.**

### 5.1.3 Procedure for Checking Dangerous Concentration

Check the Dangerous concentration in accordance with steps (1)-(4) below and take whatever action is necessary.

**Step1:** **Calculate the amount of refrigerant (kg) charged to each system separately.**

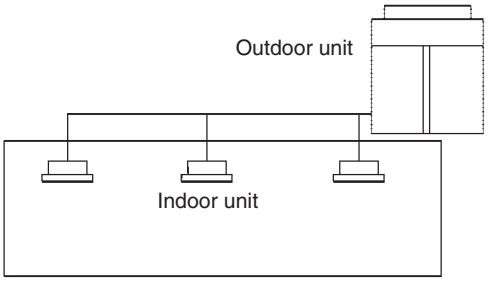



**Notes:** Where a single refrigerant facility is divided into 2 entirely independent refrigerant systems then use the amount of refrigerant with which each separate system is charged.

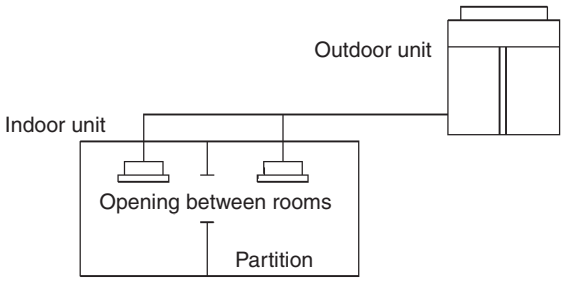
**Step 2:** **Calculate the smallest room volume (m³)**

In a case like the following calculate the volume of (a), (b) as a single room or as the smallest room.

**A.** Where there are no smaller room divisions.

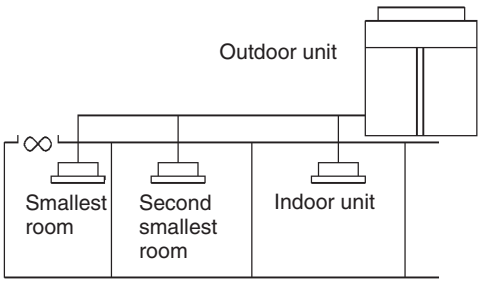



**B.** Where there is a room division but there is an opening between the rooms sufficiently large to permit a free flow of air back and forth.




(Where there is an opening without a door or where there are openings above and below the door which are each equivalent in size to 0.15% or more of the floor area.)

**C.** Where there is a gas leak detection alarm device linked to a mechanical ventilator in the smallest room then the next smallest room will become the measurement target.




**Step 3:** **Calculate the refrigerant density using the results of the calculations in Step (1) and (2) above.**

$$\frac{\text{Total volume of refrigerant in the refrigerant system}}{\text{Size (m}^3\text{) of the smallest room in which there is an indoor unit installed}} <= \text{Dangerous concentration (kg/m}^3\text{)}$$

in the case of: R-407C = 0.35kg/m³, R-410A = 0.44kg/m³

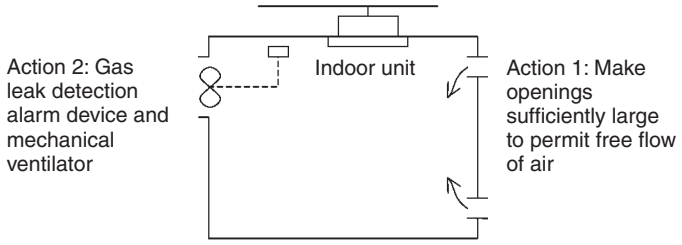
If the result of the above calculation exceeds the dangerous concentration level then make similar calculations for the second then third smallest room and so on until the result falls short of the concentration level.

**Step 4:** **Dealing with situations where the result exceeds the dangerous concentration level.**

Where the installation of a facility results in a concentration in excess of the dangerous concentration level then it may be necessary to revise the system design to dome extent or else take one of the following courses of action.

Action 1: Making openings which will allow the air to flow freely into the room.Make openings above and below the door which are each equivalent in size to 0.15% or more of the floor area or make a doorless opening.

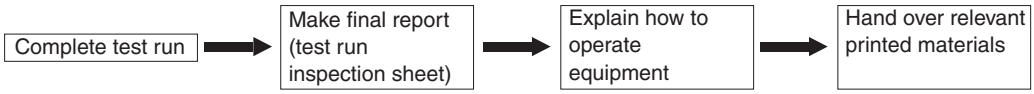
Action 2: Fit a mechanical ventilator linked to a gas leak detection alarm device.




**Notes:** This precaution shows the requirement of EN.
The precaution should be followed in accordance of local code.

# 6. Hand Over to Customer

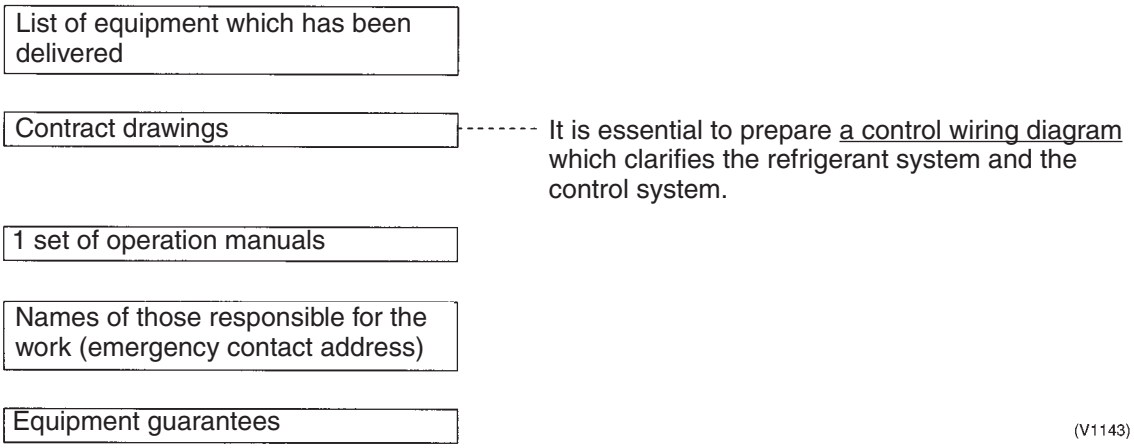
## 6.1 Operational Steps




(V1050)

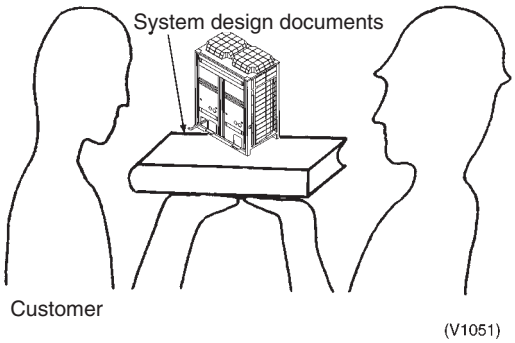
**Important Points**

a) The measurements taken during the test run should be recorded and kept on a test run inspection sheet.
b) Do not forget to record the **length of the refrigerant piping** and the **refrigerant additional charging volume** on the plate on the back of the outdoor unit external notice board, as this information will be required for servicing the system.
c) Explain to the customer how to operate the equipment and let him try it.
d) Assemble all the relevant diagrams and other printed matter which is required to operate the system and hand it all over to the customer (on the spot) and tell him to keep it.




(V1143)

e) Make the service contact address clear.




(V1051)

# 7. Appendix

## 7.1 Operating Noise of Indoor Units

### 7.1.1 Difference between Catalogue Data and Actual Noise

Operating noise differs depending on the place of measurement (room) because of the various degrees with which the room reverberates the sound. To determine the amount of reverberation under uniform conditions, the unit has been measured in a dead room with results having been compiled in the below table. The actual sound produced in unit operation can be determined from Table 1.

Sound pressure rise due to room reverberation (Higher than catalogue data)

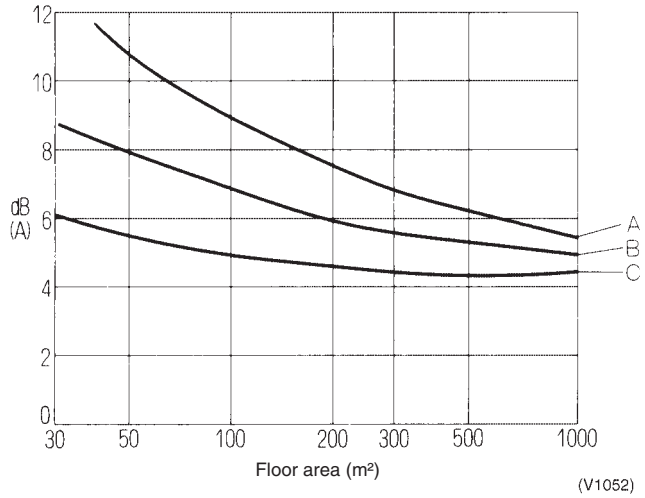



Table 1

| | | A | B | C |
|---|---|---|---|---|
| Room Interior Detection | Floor | Mortar | Linoleum tile | Carpet |
| | Walls | Mortar | Plaster | Fiberglass + Saroncross finish |
| | Ceiling | Mortar | mineral wool tile | Fiberglass + Saroncross finish |
| Average Absorbed Sound (Room with Approx. 50 m² Floor Area) | | 0.05 | 0.12 | 0.25 |
| | | Typical office | | |
| Estimated value to be added to catalogue value | | 11~12 | 8~8.5 | 5~6 |

**Classifications of indoor unit environments (reference data)**

Table 2

| Classification | Environment | Example | Faint Noises (NOTE 2) | Recommended Operating Noise on Site |
|---|---|---|---|---|
| 1 | Non-active places requiring silence | Reception rooms, libraries, sitting rooms, hospitals (examining rooms) (NOTE 1) | ~35 | ~40 |
| 2 | Sedate business activities that do not disturb people even over time | Quiet offices, classrooms, small conference rooms, lobbies | ~40 | ~45 |
| 3 | Somewhat quiet settings that permit soft-spoken conversation, typical activities | Small offices, large conferences rooms, quiet stores, restaurants | ~45 | ~50 |
| 4 | Somewhat loud settings that permit regular conversation, brisk activity | Large offices, typical stores, cafeterias | ~50 | ~55 |
| 5 | Loud places that permit conversation in a loud voice, highly active place with many people | Loud large-side offices, large cafeterias, loud stores | ~55 | ~60 |
| 6 | Rather loud settings | Factories, gymnasiums, recreational places like pachinko parlors | ~60 | ~65 |

**Notes:**
1. Excluding bedrooms
2. Reference values of faint noises in the place of usage

## 7.1.2 Faint Noises and Correcting Operating Noise with Respect to Faint Noises

Faint noises are defined as peripheral sounds existing while the unit is not running, which are picked up when measuring operating noise. If these faint noises are 10 dB or more than the noise produced by the unit, the measured value can be taken as the operating noise of the unit. But, the difference must be corrected if less than 10 dB, because of the effect these noises have on the actual measured value. Also, when the sound meter remains unchanged even while the unit is stopped, we can determine the operational noise to be at least 10 dB less than the faint noises, but we cannot pinpoint the operating noise exactly.
For example, if the faint noises are some 65 dB and the noise produced by the unit in operation is 70 dB, the indicated difference comes to 5 dB. Using Table 3, we recommend you correct the operating noise by about 2 dB to 68 dB.

Table 3 Correcting the effect of faint noises

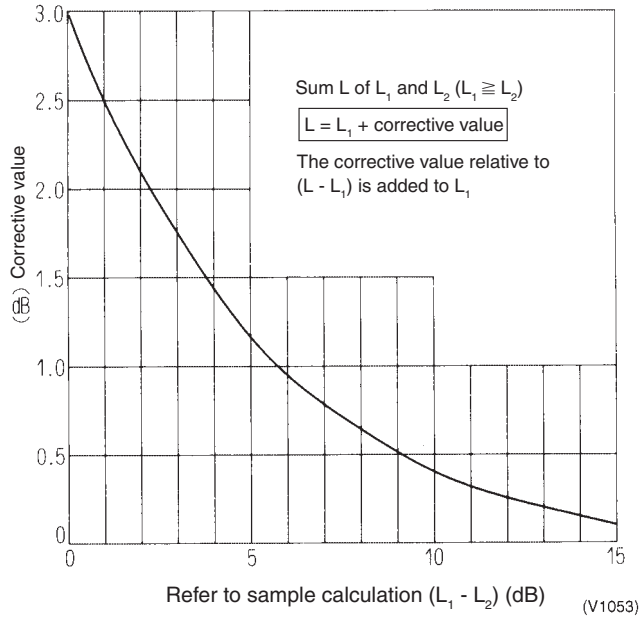
Unit: dB

| Difference between when noise is produced and when not | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Corrective Value | –6.9 | –4.4 | –3.0 | –2.3 | –1.7 | –1.25 | –0.95 | –0.75 | –0.60 | –0.45 |

## 7.1.3 Calculating Operating Noise

When two or more units are running at the same time, the amount of operating noise they produce rises. The total amount of noise produced can be obtained ahead of time with Chart 4.

Chart 4



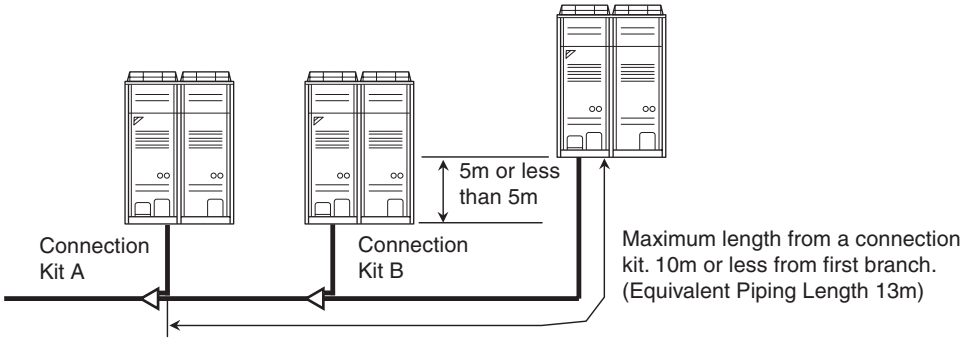

**Sample calculation 1**
$L_1$ and $L_2$ are given as compounded sounds of 50 and 49 dB respectively. Since $L_1 – L_2 = 50 – 49 = 1$, the corrective value is 2.5, therefore 50 + 2.5 = 52.5 dB.

**Sample calculation 2**
When sounds of 40 dB, 38 dB, 37 dB and 40 dB are placed in order of magnitude, we obtain the following:

40 dB, 40 dB, 38 dB, 37 dB

To start, the difference between 40 dB and 40 dB is 0, therefore we take a corrective value of 3dB and obtain 40 + 3 = 43 dB. The compounded sound of 43 dB and 38 dB has a 5.0 dB difference, thus a corrective value of 1.2 dB, which gives us 44.2 dB from 43 + 1.2. In the same manner, the corrective value for 44.2 dB and 37 dB is approximately 0.7 dB, or in other words, 44.2 + 0.7 = 44.9 dB.

# 7.2 Piping Installation Point



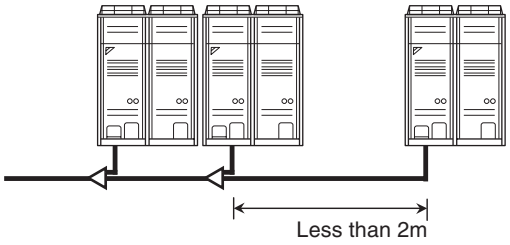

Since there is a possibility that oil may be collected on a stop machine side, install piping between outdoor units to go to level or go up to an outdoor unit, and to make a slope.

(V3036)

The projection part between multi connection piping kits

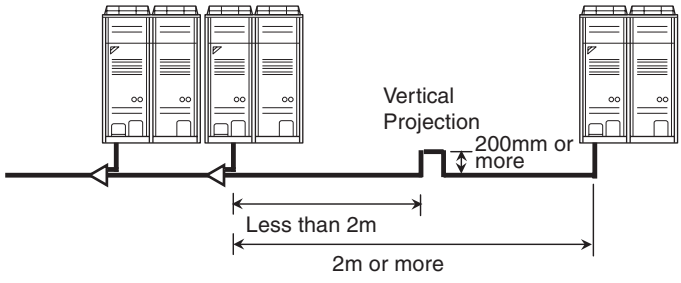
When the piping length between the multi connection kits or between multi connection kit and outdoor unit is 2m or more, prepare a vertical projection part (200mm or more as shown below) only on the gas pipe line location less than 2m from multi connection kit.

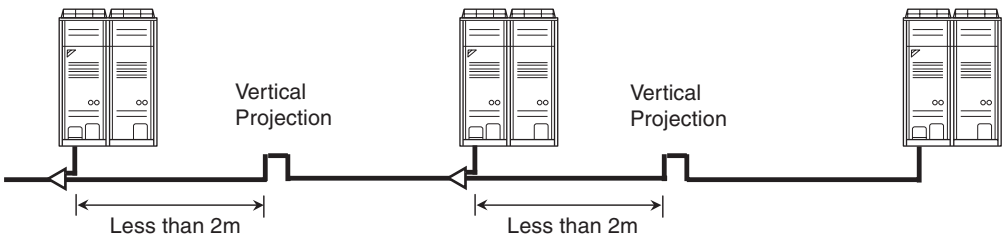
In the case of 2m or less




(V3037)

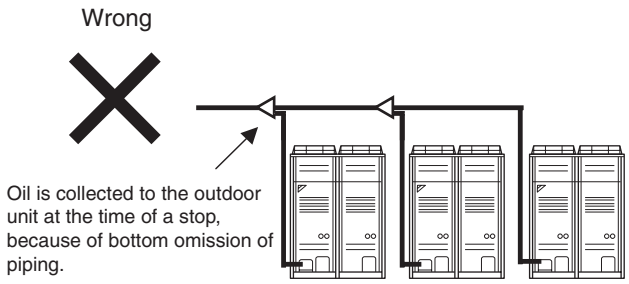
In the case of 2m or more



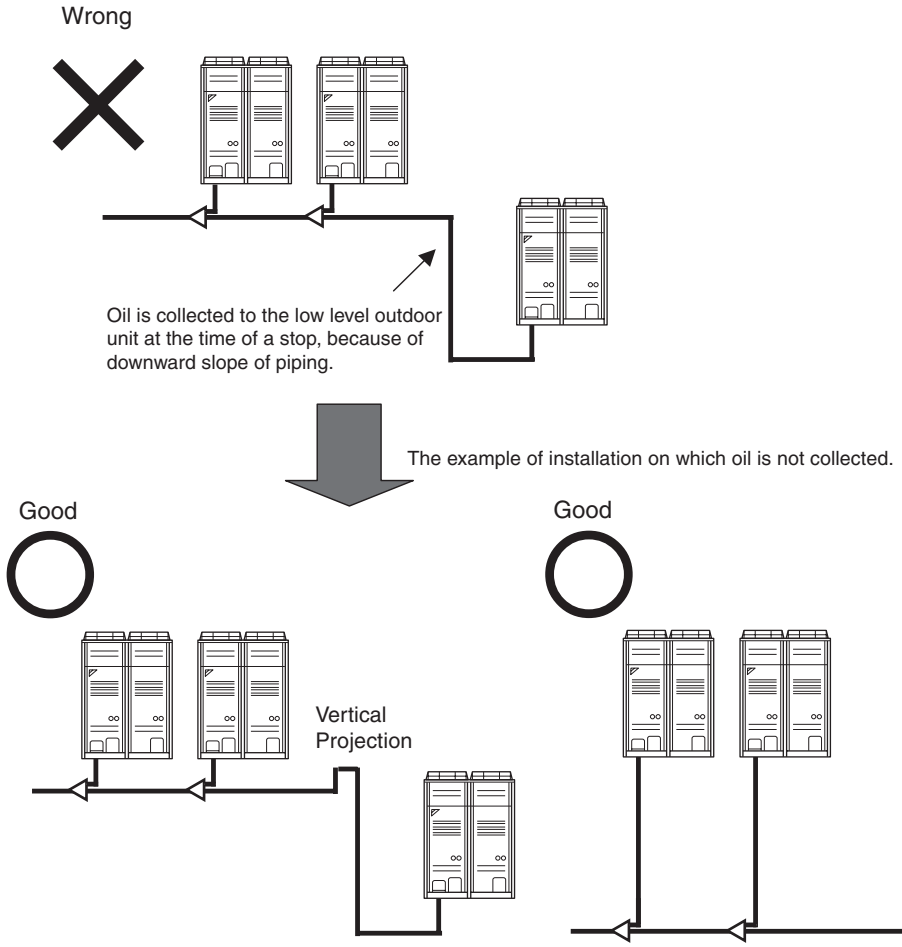




(V3038)

## <The Example of A Wrong Pattern>




(V3039)




(V3040)

| | | |
|---|---|---|
| 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<br>(Refer to Page 285, 286 Note 2 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<br>(when an outdoor unit is lower than indoor units: 40m or less in case of RX(Y)Q5P) |
| | Indoor Unit - Indoor Unit | 15m or less |

**Note:** ★ Available on request if the outdoor unit is above.

# 7.3 Example of Connection (R-410A type)

Example of connection

(Connection of 8 indoor units)

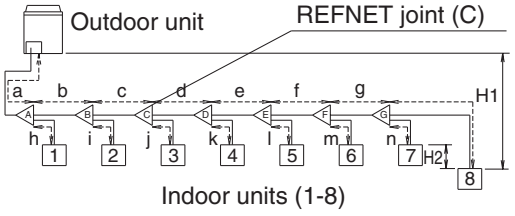
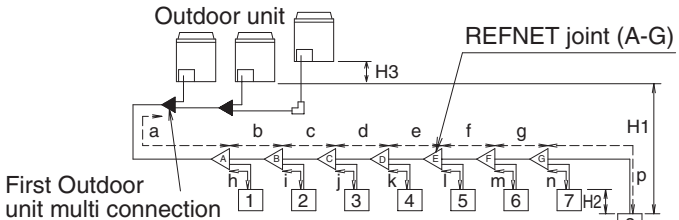
(∗1) " ◀ " indicate the Outdoor unit multi connection piping kit

(∗2) In case of multi outdoor system, re-read to the first Outdoor unit multi connection piping kit as seen from the indoor unit.

## 7.3.1 Branch with Refnet Joint

**Heat Pump 50Hz/60Hz, Cooling Only 50Hz (RX(Y)Q5~54P, 50PH)**

(Connection of 8 indoor units Heat pump system)

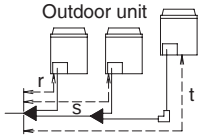
| | Example refrigerant branch using REFNET joint |
|---|---|
| Single outdoor system (RX(Y)Q5 ~ 18P) |  |
| Multi outdoor system (RX(Y)Q20P ~ RX(Y)Q16PH ~) |  |

*2 In case of multi outdoor system, re-read to the first Outdoor unit multi connection piping kit as seen from the indoor unit.

**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
- Equivalent length
  Equivalent pipe length between outdoor (*2) and indoor units ≤ 190m *(See Note 1)
  (assume equivalent pipe length of refnet joint to be 0.5m, that of refnet header to be 1m, calculation purposes)
- Total extension length
  Total piping length from outdoor unit (*2) to all indoor units ≤ 1000m




r ≤ 10m (Equivalent length: ≤ 13m)
s ≤ 10m (Equivalent length: ≤ 13m)
t ≤ 10m (Equivalent length: ≤ 13m)

Between outdoor unit and Outdoor unit multi connection piping kit (Only for multi system)

- Actual pipe length
  Pipe length between outdoor unit and Outdoor unit multi connection piping kit ≤10m
- Equivalent length
  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
  ( ≤ 90m if the outdoor unit is below)

Between indoor and indoor units

- Difference in height
  Difference in height between adjacent 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**

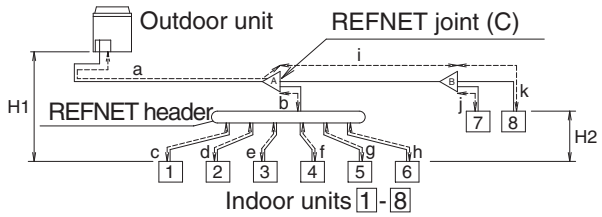
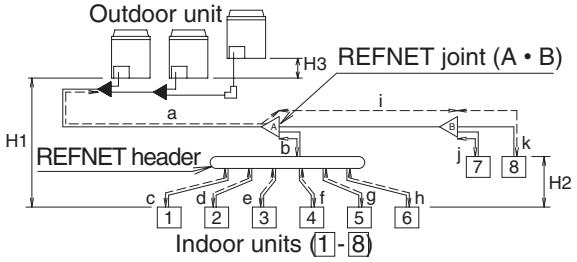
- Actual pipe length
  Pipe length from first refrigerant branch kit (either refnet joint or refnet header) to indoor unit ≤ 40m *(See Note 2)
  Example unit 8: b + c + d + e + f + g + p ≤ 40m *(See Note 2)

Refer Note 1 and Note 2 on page 143, 144.

## 7.3.2 Branch with Refnet Joint and Refnet Header

**Heat Pump 50Hz/60Hz, Cooling Only 50Hz (RX(Y)Q5~54P, 50PH)**

(Connection of 8 indoor units Heat pump system)

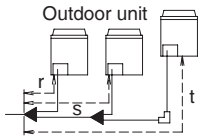
| | Example refrigerant branch using REFNET joint and REFNET header |
|---|---|
| Single outdoor system (RX(Y)Q5 ~ 18P) |  |
| Multi outdoor system (RX(Y)Q20P ~ RX(Y)Q16PH ~) |  |

*2 In case of multi outdoor system, re-read to the first Outdoor unit multi connection piping kit as seen from the indoor unit.

**Maximum allowable length**

Between outdoor (*2) and indoor units

- Actual pipe length
  Pipe length between outdoor (*2) and indoor units ≤ 165m
  Example unit 6: a + b + h ≤ 165m, unit 8: a + i + k ≤ 165m
- Equivalent length
  Equivalent pipe length between outdoor (*2) and indoor units ≤ 190m *(See Note 1)
  (assume equivalent pipe length of refnet joint to be 0.5m, that of refnet header to be 1m, calculation purposes)
- Total extension length
  Total piping length from outdoor unit (*2) to all indoor units ≤ 1000m




r ≤ 10m (Equivalent length: ≤ 13m)
s ≤ 10m (Equivalent length: ≤ 13m)
t ≤ 10m (Equivalent length: ≤ 13m)

Between outdoor unit and Outdoor unit multi connection piping kit (Only for multi system)

- Actual pipe length
  Pipe length between outdoor unit and Outdoor unit multi connection piping kit ≤10m
- Equivalent length
  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
  ( ≤ 90m if the outdoor unit is below)

Between indoor and indoor units

- Difference in height
  Difference in height between adjacent 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**

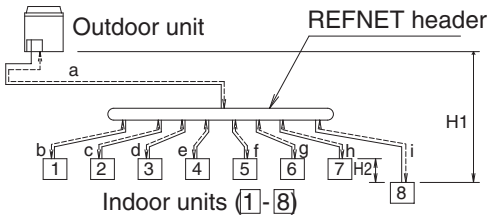
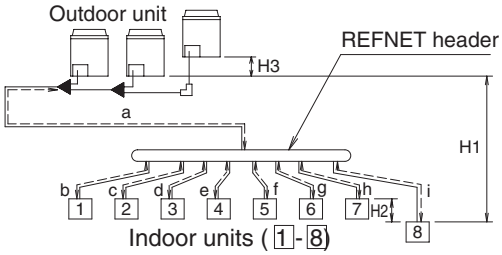
- Actual pipe length
  Pipe length from first refrigerant branch kit (either refnet joint or refnet header) to indoor unit ≤ 40m *(See Note 2)
  Example unit 6: b + h ≤ 40m, unit 8: i + k ≤ 40m *(See Note 2)

Refer Note 1 and Note 2 on page 143, 144.

## 7.3.3 Branch with Refnet Header

**Heat Pump 50Hz/60Hz, Cooling Only 50Hz (RX(Y)Q5~54P, 50PH)**

(Connection of 8 indoor units Heat pump system)

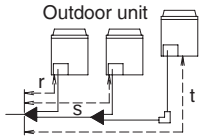
| | Example refrigerant branch using REFNET header |
|---|---|
| Single outdoor system (RX(Y)Q5 ~ 18P) |  |
| Multi outdoor system (RX(Y)Q20P ~ RX(Y)Q16PH ~) |  |

*2 In case of multi outdoor system, re-read to the first Outdoor unit multi connection piping kit as seen from the indoor unit.

**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 + i ≤ 165m
- Equivalent length
  Equivalent pipe length between outdoor (*2) and indoor units ≤ 190m *(See Note 1)
  (assume equivalent pipe length of refnet joint to be 0.5m, that of refnet header to be 1m, calculation purposes)
- Total extension length
  Total piping 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
  Pipe length between outdoor unit and Outdoor unit multi connection piping kit ≤10m
- Equivalent length
  Equivalent length between outdoor unit and Outdoor unit multi connection piping kit ≤ 13m

r ≤ 10m (Equivalent length: ≤ 13m)
s ≤ 10m (Equivalent length: ≤ 13m)
t ≤ 10m (Equivalent length: ≤ 13m)

**Allowable height length**

Between outdoor and indoor units

- Difference in height
  Difference in height between outdoor and indoor units (H1) ≤ 50m
  ( ≤ 90m if the outdoor unit is below)

Between indoor and indoor units

- Difference in height
  Difference in height between adjacent 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)
  Example unit 8: i ≤ 40m

Refer Note 1 and Note 2 on page 143, 144.

# 7.4 Refrigerant Branch Kit Selection

Refrigerant branch kits can only be used with R-410A.

## 7.4.1 How to Select the Refnet Joint

**Heat Pump 50Hz/60Hz, Cooling Only 50Hz (RX(Y)Q5~54P, 50PH)**

- 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)

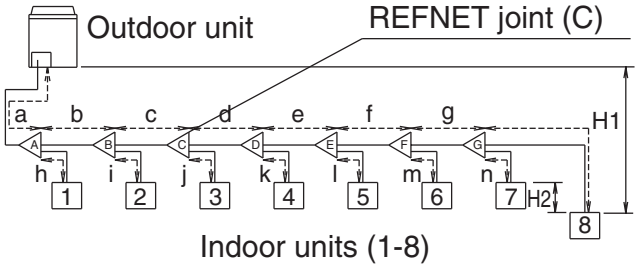
| Outdoor unit capacity type | Refrigerant branch kit name |
|---|---|
| 5HP type | KHRP26A22T |
| 8, 10HP type | KHRP26A33T |
| 12~22HP type | KHRP26A72T |
| 12~22HP type~ | KHRP26A73T + KHRP26M73TP |

- 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.

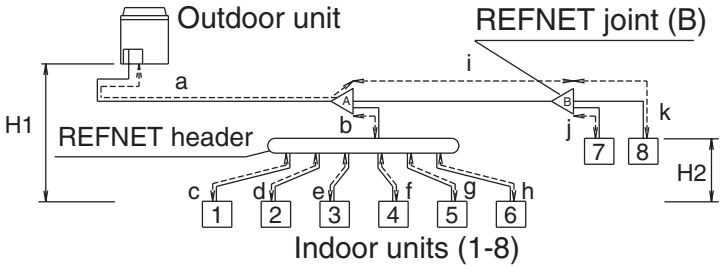
| Indoor unit total capacity index | Refrigerant branch kit name |
|---|---|
| < 200 | KHRP26A22T |
| 200 ≤ x< 290 | KHRP26A33T |
| 290 ≤x< 640 | KHRP26A72T |
| 640 ≤ | KHRP26A73T + KHRP26M73TP |

*Example of downstream indoor units

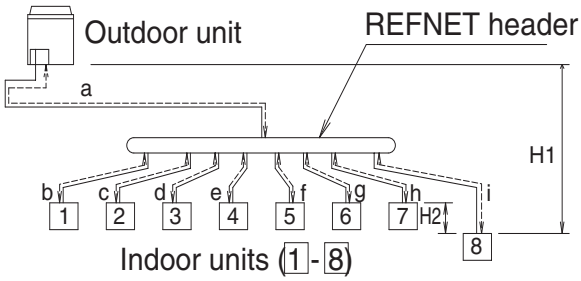
1. example in case of refnet joint C; indoor units 3 + 4 + 5 + 6 + 7 + 8,




2. example in case of refnet joint B indoor units 7 + 8
   example in case of refnet joint header; indoor units 1 + 2 + 3 + 4 + 5 + 6




3. example in the case of refnet header; indoor units 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8



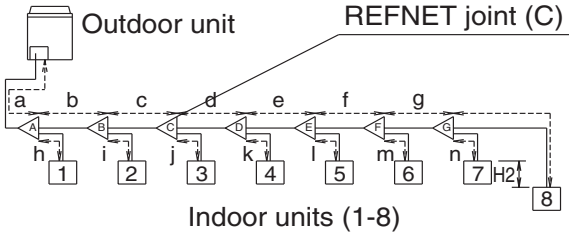
## 7.4.2 How to Select the Refnet Header (Heat Pump/Cooling Only RX(Y)Q5~54P, 50PH)

- Choose from the following table in accordance with the total capacity of all the indoor units connected below the REFENT header.
- Note: 250 type cannot be connected below the REFENT header.

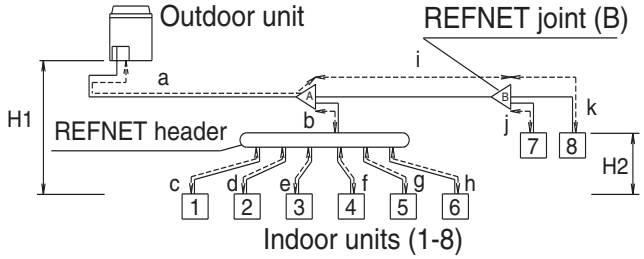
| Indoor unit total capacity index | Refrigerant branch kit name |
|---|---|
| < 200 | KHRP26M22H (Max. 4 branch) |
| 200 ≤ x< 290 | KHRP26M33H (Max. 8 branch) |
| 290 ≤ x< 640 | KHRP26M72H (Max. 8 branch) (See Note 3 - Next page) |
| 640 ≤ | KHRP26M73H (Max. 8 branch) + KHRP26M73HP |

*Example of downstream indoor units

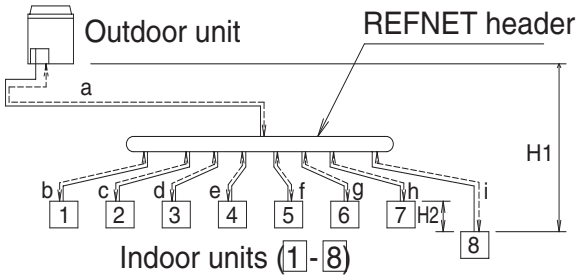
1. example in case of refnet joint C; indoor units 3 + 4 + 5 + 6 + 7 + 8




2. example in case of refnet joint B indoor units 7 + 8,
   example in case of refnet header ; indoor units 1 + 2 + 3 + 4 + 5 + 6




3. example in the case of refnet header; indoor units 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8



## 7.4.3 How to Select the Outdoor Unit Multi Connection Piping Kit (This is Required when the System is Multi Outdoor Unit System.)

**Heat Pump 50Hz/60Hz, Cooling Only 50Hz**

- Choose from the following table in accordance with the number of outdoor units.

| Number of outdoor units | Connection piping kit name |
|---|---|
| 2 units | BHFP22P100 |
| 3 units | BHFP22P151 |

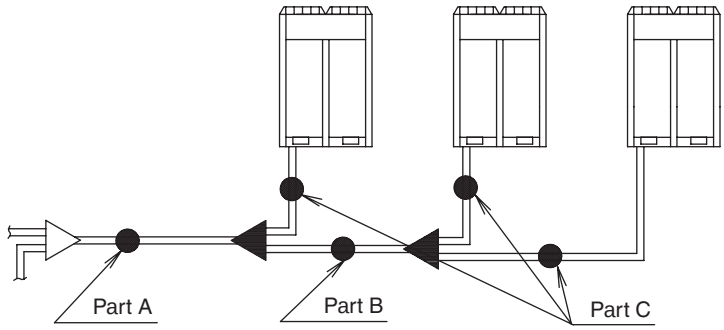
# 7.5 Pipe Size Selection

## 7.5.1 Heat Pump 50Hz/60Hz, Cooling Only 50Hz (RX(Y)Q5~54P, 50PH)

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.




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)

<table>
<tr><th rowspan="2">Outdoor unit capacity type</th><th colspan="2">Piping size (O.D.)</th></tr>
<tr><th>Gas pipe</th><th>Liquid pipe</th></tr>
<tr><td>5HP type</td><td>ϕ15.9</td><td rowspan="3">ϕ9.5</td></tr>
<tr><td>8HP type</td><td>ϕ19.1</td></tr>
<tr><td>10HP type</td><td>ϕ22.2</td></tr>
<tr><td>12~16HP type</td><td rowspan="2">ϕ28.6</td><td>ϕ12.7</td></tr>
<tr><td>18~22HP type</td><td rowspan="2">ϕ15.9</td></tr>
<tr><td>24HP type</td><td rowspan="2">ϕ34.9</td></tr>
<tr><td>26~34HP type</td><td rowspan="2">ϕ19.1</td></tr>
<tr><td>36~54HP type</td><td>ϕ41.3</td></tr>
</table>

(See 7.7 Note 1)
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)

| Temper grade | O Type | | | | 1/2H Type | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Copper tube O.D | ϕ6.4 | ϕ9.5 | ϕ12.7 | ϕ15.9 | ϕ19.1 | ϕ22.2 | ϕ25.4 | ϕ28.6 | ϕ31.8 | ϕ34.9 | ϕ38.1 | ϕ41.3 |
| Copper tube W.T (Minimum requirement) | 0.80 | 0.80 | 0.80 | 0.99 | 0.80 | 0.80 | 0.88 | 0.99 | 1.10 | 1.21 | 1.32 | 1.43 |

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 | |

# 7.6 How to Calculate the Additional Refrigerant to be Charged

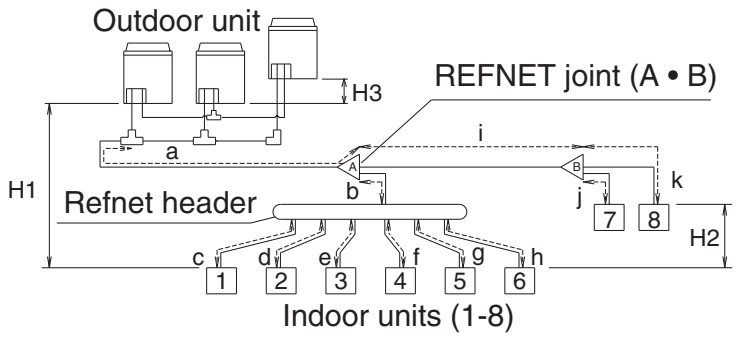
## 7.6.1 Heat Pump 50Hz/60Hz, Cooling Only 50Hz (RX(Y)Q5~54P, 50PH)

Additional refrigerant to be charged R (Kg)
R should be rounded off in units of 0.1Kg.

**Note:** If a negative result is gotten for R from the formula below, no refrigerant needs to be added.

$$R = [\text{Total length (m) of liquid piping size at ø22.2}] \times 0.37 + [\text{Total length (m) of liquid piping size at ø19.1}] \times 0.26 + [\text{Total length (m) of liquid piping size at ø15.9}] \times 0.18 + [\text{Total length (m) of liquid piping size at ø12.7}] \times 0.12 + [\text{Total length (m) of liquid piping size at ø9.5}] \times 0.059 + [\text{Total length (m) of liquid piping size at ø6.4}] \times 0.022$$

*Example for refrigerant branch using refnet joint and refnet header for RX(Y)Q34P




If the outdoor unit is RX(Y)Q34 type and the piping lengths are as at right

| | | | |
|---|---|---|---|
| a: ϕ19.1 × 30m | d: ϕ 9.5 × 10m | g: ϕ 6.4 × 10m | j : ϕ6.4 × 10m |
| b: ϕ15.9 × 10m | e: ϕ 9.5 × 10m | h: ϕ 6.4 × 20m | k: ϕ6.4 × 9m |
| c: ϕ 9.5 × 10m | f : ϕ 9.5 × 10m | i : ϕ12.7 × 10m | |

R= 30×0.26 + 10×0.18 + 10×0.12 + 40×0.059 + 49×0.022 = 14.238

| a | b | j | c+d+e+f | g+h+j+k | ⇩ |
|---|---|---|---|---|---|
| | | | | | 14.2 |

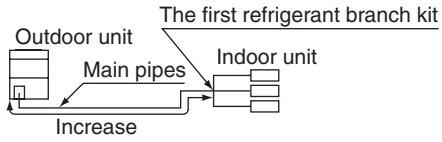
**Note:** The amount of refrigerant to be added to the unit should be written on the included “Added Refrigerant” plate and attached to the rear side of the front cover.
(Refer page 145)

# 7.7 Size of Main Gas and Liquid Pipes and Allowable Length

## 7.7.1 Heat Pump 50Hz/60Hz, Cooling Only 50Hz (RX(Y)Q5~54P, 50PH)

### ∗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 |
|---|---|---|
| RX(Y)Q5 Type | ϕ19.1 | Not Increased |
| RX(Y)Q8 Type | ϕ22.2 | ϕ12.7 |
| RX(Y)Q10 Type | ϕ25.4* | ϕ12.7 |
| RX(Y)Q12 Type | Not Increased | ϕ15.9 |
| RX(Y)Q14 Type | Not Increased | ϕ15.9 |
| RX(Y)Q16 Type | ϕ31.8* | ϕ15.9 |
| RX(Y)Q18 Type | ϕ31.8* | ϕ19.1 |

| Model | Gas | Liquid |
|---|---|---|
| RX(Y)Q20 Type | ϕ31.8* | ϕ19.1 |
| RX(Y)Q22 Type | ϕ31.8* | ϕ19.1 |
| RX(Y)Q24 Type | Not Increased | ϕ19.1 |
| RX(Y)Q26 Type | ϕ38.1* | ϕ22.2 |
| RX(Y)Q28 Type | ϕ38.1* | ϕ22.2 |
| RX(Y)Q30 Type | ϕ38.1* | ϕ22.2 |
| RX(Y)Q32 Type | ϕ38.1* | ϕ22.2 |

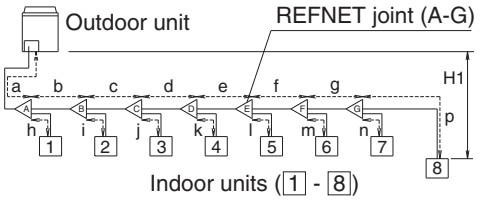
| Model | Gas | Liquid |
|---|---|---|
| RX(Y)Q34 Type | ϕ38.1* | ϕ22.2 |
| RX(Y)Q36 Type | Not Increased | ϕ22.2 |
| RX(Y)Q38 Type | Not Increased | ϕ22.2 |
| RX(Y)Q40 Type | Not Increased | ϕ22.2 |
| RX(Y)Q42 Type | Not Increased | ϕ22.2 |
| RX(Y)Q44 Type | Not Increased | ϕ22.2 |
| RX(Y)Q46 Type | Not Increased | ϕ22.2 |

| Model | Gas | Liquid |
|---|---|---|
| RX(Y)Q48 Type | Not Increased | ϕ22.2 |
| RX(Y)Q50 Type | Not Increased | ϕ22.2 |
| RX(Y)Q52 Type | Not Increased | ϕ22.2 |
| RX(Y)Q54 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)<br>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<br>increase the pipe size of b, c, d, e, f, g | Increase the pipe size as follows<br>ϕ 9.5 → ϕ12.7 ϕ15.9 → ϕ19.1 ϕ22.2 → ϕ25.4* ϕ34.9 → ϕ38.1*<br>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<br>+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]<br>The nearest indoor unit [1]<br>(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.

# 7.8 Record of Field Setting and Additional Refrigerant Charge

Fill the following record and put it on the back side of electrical board.

**Request for indication of setting contents, additional refrigerant charging amount and installation date**

After filling out the below, please put it on the back side of an ex-board.

1. Record for setting contents
   for the setting contents of Ⓓ ~ Ⓗ
   in the setting mode 2,
   mark ○ in the right table.

| | |
|---|---|
| Ⓓ Night - Time low noise setting | OFF • Level 1 • Level 2 • level 3 |
| Ⓔ External low noise level setting | Level 1 • Level 2 • level 3 |
| Ⓕ Demand level setting | Level 1 • Level 2 • level 3 |
| Ⓖ External low noise demand setting | OFF • ON |
| Ⓗ High static pressure setting | OFF • ON |

2. Record for additional refrigerant charging amount
   make sure to record the additional refrigerant charging amount.
   (If do not use automatic refrigerant charging,
   calculated and charge the additional refrigerant charging amount following as shown on the below.)

| Additional charging amount | = | Refrigerant amount for field piping | | | |
|---|---|---|---|---|---|
| | | Liquid pipe size (mm) | Refrigerant amount per 1m (kg/m) | Length of liquid pipe (m) | Total |
| kg | | ø 22.2 | 0.37 | X | = |
| | | ø 19.1 | 0.26 | X | = |
| | | ø 15.9 | 0.18 | X | = |
| | | ø 12.7 | 0.12 | X | = |
| | | ø 9.5 | 0.059 | X | = |
| | | ø 6.4 | 0.022 | X | = |

(Round off to one desimal place.)

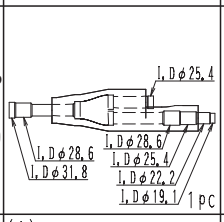
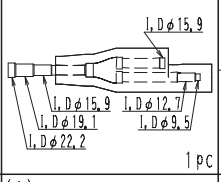
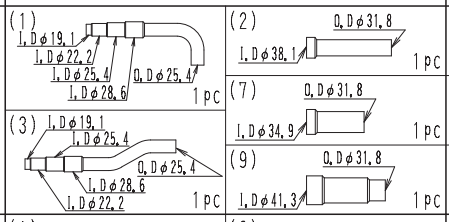
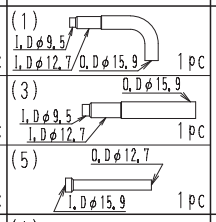
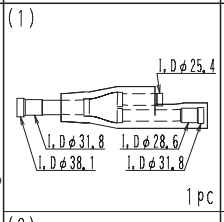
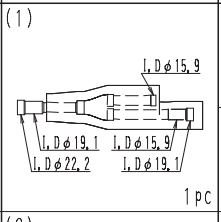
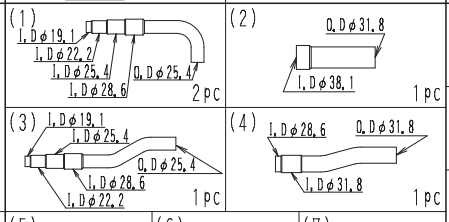
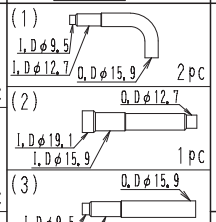
3. Record of installation date DA • MO • YR

3P176431

# 7.9 Outdoor Unit Multi Connection Piping Kit

## 7.9.1 BHFP22P100 · 151

Component parts ■ This kit contains the following parts. **<Do not throw away any of the accessories until installation is complete>**

| Kit name | Shape | | | | | |
|---|---|---|---|---|---|---|
| | Gas-side joint | Liquid-side joint | Gas-side reducer | Liquid-side reducer | insulating tube for gas pipe | insulating tube for liquid pipe |
| BHFP 22 P100 |  |  |  |  |  <br>Big 1 pc |  <br>Small 1 pc |
| BHFP 22 P151 |  |  |  |  |  <br>Big 2 pc |  <br>Small 2 pc |

Caution • Please be sure to read this manual before installation and follow the instruction carefully when performing installation work.
• See the outdoor unit's installation manual for outdoor unit installation.
• Installation of interconnecting piping between the outdoor units, REFNET joint or REFNET header will be needed separately

### Selection Procedure

| Number of outdoor units connected | 2 units | 3 units |
|---|---|---|
| Outdoor unit Multi Connection Piping Kit | BHFP22P100 | BHFP22P151 |

- 2 or 3 outdoor units can be connected.
- There are restrictions on the combination and the installation order of outdoor units, so please refer to "the Engineering Data of VRV III" and "the installation manual" (attached sheet of outdoor unit) for details.

### Field supply parts

■ The following parts are needed to connect this kit and are not included

| Field supply parts | | |
|---|---|---|
| Name | Q'ty | Selection Procedure |
| Insulation for piping<br>Connection piping | 1set | See the "Connecting Pipe Sizes and location of cutting the joint" for details on the necessary size. |
| Elbow | 1pc | Prepare a gas pipe diameter for the upper outdoor unit as listed in "Connecting Pipe Sieze and location of cutting the joint." |
| Tape | 1set | For insulation materials |

Caution

- Quantity and selection procedure of elbow only applies to a front or bottom connection.
- For a lower front connection the quantity and selection procedure are different, so please refer to the instructions for a lower front connection.
- A joint for the same diameter pipes is needed only for a bottom connection. See the instructions for the bottom connection, for details on quantity and specifications.
- The min. thickness of the pipes in this manual shows the requirements of Japanese High Pressure Gas Control low. (As of Jan. 2003)
- And the temper grade (O,1/2H) shows the material type of JIS h 3300. The tickness and material shall be selected in accordance with local for the design pressure 4.0MPa (40bar).

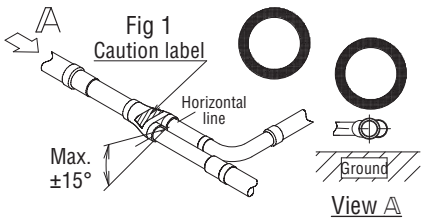
(Unit : mm)

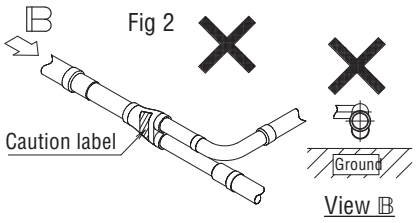
| Temper grade | O Type | | | | 1/2H Type | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Copper tube O.D. | Ø 6.4 | Ø 9.5 | Ø 12.7 | Ø 15.9 | Ø 19.1 | Ø22.2 | Ø 25.4 | Ø 28.6 | Ø 31.8 | Ø 34.9 | Ø 38.1 | Ø 41.3 |
| Copper tube W.T. (Minimum requirement | Ø 0.80 | Ø 0.80 | Ø 0.80 | Ø 0.99 | Ø 0.80 | Ø 0.80 | Ø 0.88 | Ø 0.99 | Ø 1.10 | Ø 1.21 | Ø 1.31 | Ø 1.43 |

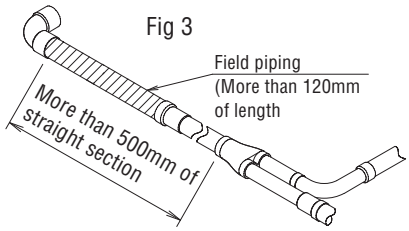
⚠ To the piping installer — When istalling this kit, please apply the following restrictions

## Restrictions on Installing Multi Connection Piping Kit

- Install the joint horizontally so that the caution label attached to joint comes to the top. Do not tilt the joint more than ±15°. (See Fig. 1). In addition, do not install the joint vertically. (See Fig. 2)
- Make sure the piping up to the joint is straight for more than 500mm. Do not bend the field piping within this range. If a straight field piping more than 120mm is connected, more than 500mm of straight section can be ensured. (See Fig. 3)
- Improper installation may lead to malfunction os the outdoor unit.

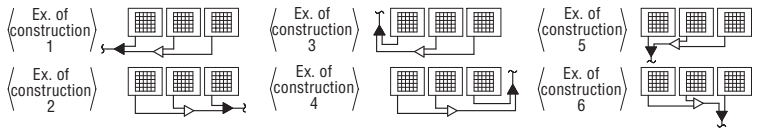


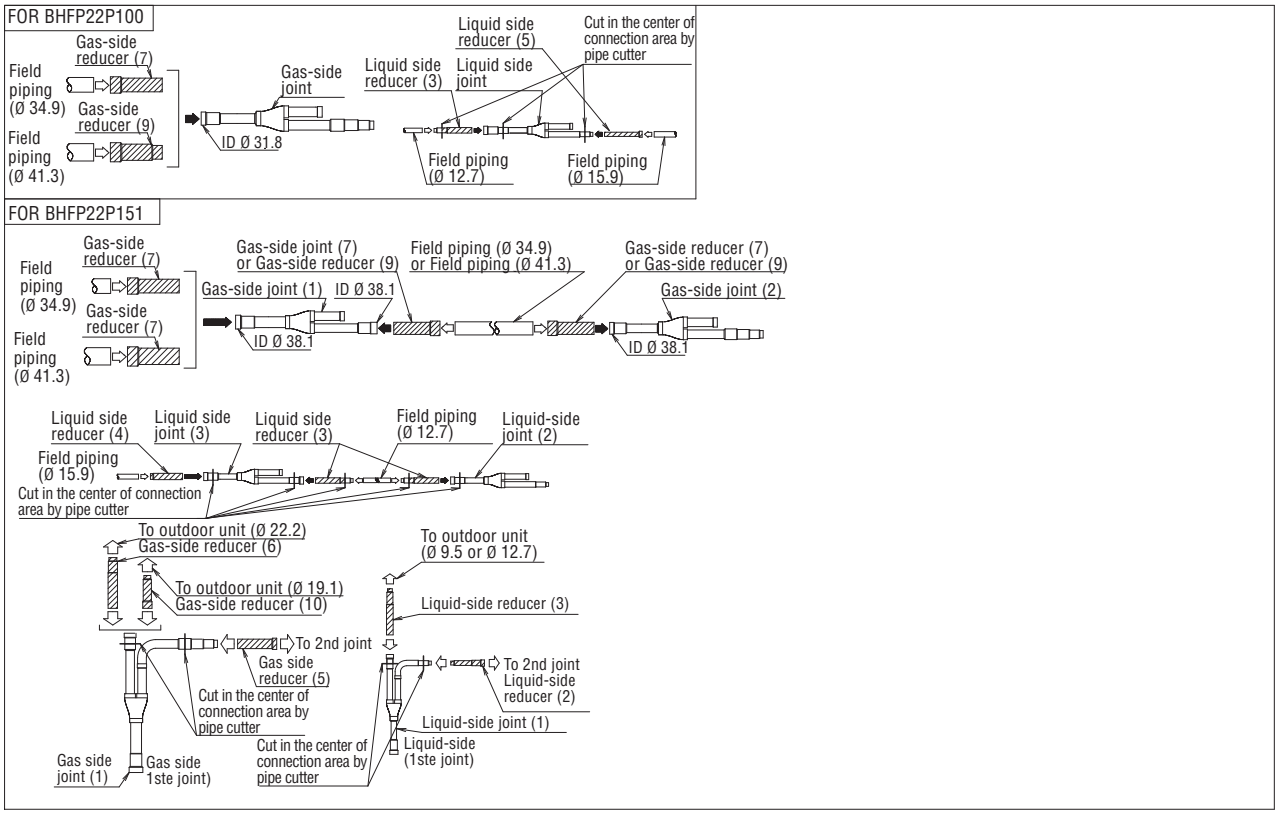




## Installation examples

- The figure at the lower shows a typical front connection. Make sure to follow the installation restrictions and carry out installation taking the field requirements into consideration.
- This manual explains the front connection <Ex. of construction 1>.
- For 3-unit installation on Ex. of construction 5 and 6, in some cases the reducers (5), (6) or (10) for gas piping and the reducers (2) and (3) for liquid piping may be used on the 1ste joint (section shown with ◀ ). See the figure at the right for details of connection.
- When the size of the Gas-side pipe between the Gas-side joint (1) and Gas-side joint (2) on the 3-units system or the size of the main pipe is Ø 41.3 or Ø 34.9. Gas-side reducer (7), (8) and (9) will be used. See the figure at the right for details of connection.
- When the size of the Liquid-side pipe between the Liquid-side joint (1) and Liquid-side joint (2) on the 3-units system is Ø 12.7. Liquid-side reducer (3) will be used. And when the side of main pipe is Ø 15.9. Liquid-side reducer (4) will be used. See the figure at the right for details of connection.



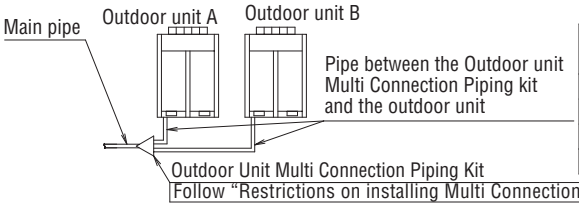



# BHFP22P100 Installation Instructions

**Caution** There are some restrictions on the interconnecting piping between the outdoor units. See the installation attached to the outdoor units and make sure to carry out proper piping. If the piping restrictions are not observed, it may result in malfunction of the unit.

## Connecting pipe sizes and location of cutting the joint

Select cutting point of a joint or a reducer which is suitable for the size of the interconnecting pipes determined according to the table below and cut it with a pipe cutter.




(units: mm)

| Outdoor unit capacity type | Pipe size (O.D. x min. thickness [temper grade] | |
|---|---|---|
| | Gas pipe | Liquid pipe |
| 8HP | φ19.1×0.80[1/2H] | φ 9.5×0.80[O] |
| 10HP | φ22.2×0.80[1/2H] | |
| 12~16HP | φ28.6×0.99[1/2H] | φ12.7×0.80[O] |
| 18HP | | φ15.9×0.99[O] |

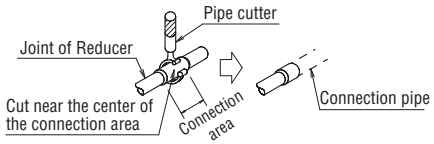
• Select the pipe size according to the total capacity of outdoor unit.

| Outdoor unit total capacity type | Pipe size (O.D. x min. thickness [temper grade] | |
|---|---|---|
| | Gas pipe | Liquid pipe |
| 16HP | φ28.6×0.99[1/2H] | φ12.7×0.80[O] |
| 18~22HP | | φ15.9×0.99[O] |
| 24HP | φ34.9×1.21[1/2H] | |
| 26~34HP | | φ19.1×0.80[1/2H] |
| 36HP | φ41.3×1.43[1/2H] | |

• When upsizing the main pipe, use the gas side reducer (2)
• If the pipe size of ø19.1 or larger is used, the 0 material may be insufficient to withstand the specified pressure. Therfore, make sure to use the 1/2H material with thickness of 1.0mm or more. When using the O material for the pipe size of ø19.1, a thickness of 1.2 or more is required. In this case, the connection must be brazed.

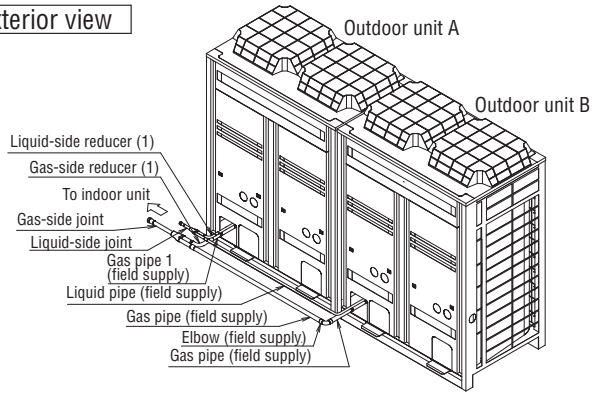
## Cutting procedure

• Use pipe cutter for cutting



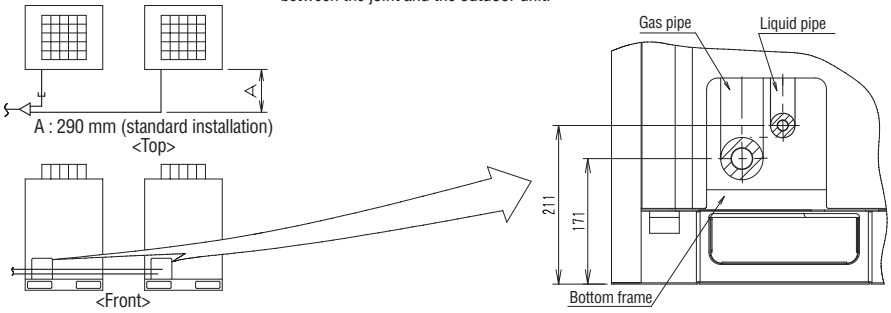

## ❶ Installation examples — Procedure for Front Connection

### 1-1 Exterior view




### 1-2 Finished dimensions

• For installations where the A dimensions exceed 290mm, extend the field supply interconnecting pipe between the joint and the outdoor unit.



## ❷ Connection of gas and liquid pipes

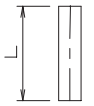
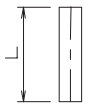
### 2-1 Cutting the field supply gas pipes

• Cut the pipes according to Table 1.

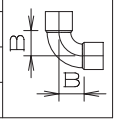
**Caution** • This table shows the case when the A dimensions shown in 1-2 Finished dimensions is 290 mm. If the A dimensions exceed 290 mm, see Table 1 and adjust the dimensions of the gas pipe 1 and 2.

• The L dimensions of the gas pipe 2 in Table 1 show those when the field supply elbows have B dimension in Table 2. If the B dimension is not same with Table 2, see Table 1 and 2, and adjust them accordingly.

■ Table 1

| Model type | Gas pipe 1 (field supply) L (mm) | | Gas pipe 2 (field supply) L (mm) | |
|---|---|---|---|---|
| 8HP | 75 |  | 287 |  |
| 10HP | 81 | | 257 | |
| 12~18HP | 125 | | 223 | |

■ Table 2

| Model type | Elbow (field supply) B (mm) | |
|---|---|---|
| 8HP | 17 |  |
| 10HP | 23 | |
| 12~18HP | 29 | |

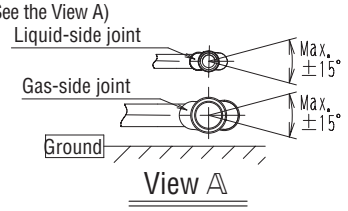
### 2-2 Connection of pipes

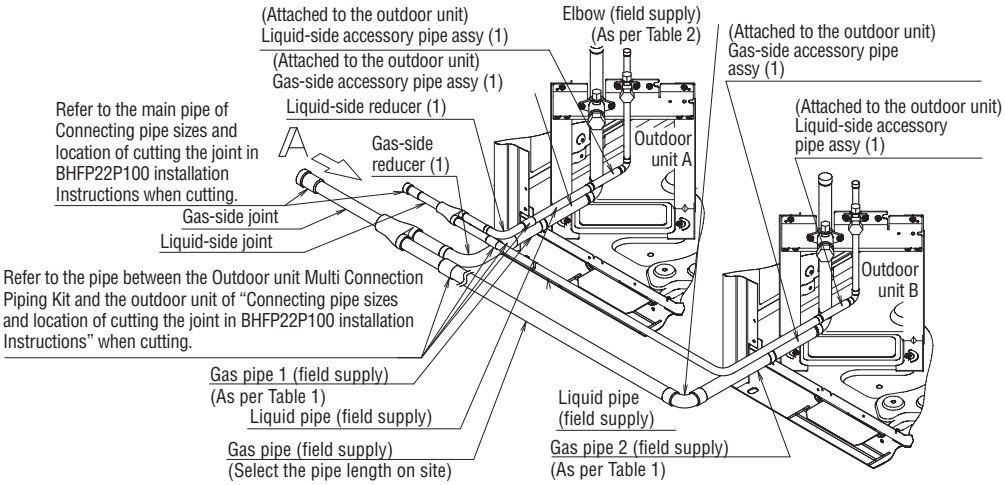
• Connect the gas and liquid pipes as shown in the figure at the right. (When connecting the pipes, first connect the gas-side joint and the gas-side reducer (1), the liquid-side joint and the gas-side reducer (1)

• See 1-2 Finished dimensions for the location (height) of the joint.

• See the caution section in the installation manual attached to the outdoor unit for brazing pipes and connecting pipes with flare nuts.

• Install the joint in such a way that the attached face of the caution label becomes horizontal (See the View A)



## ❸ The work after the kit is connected

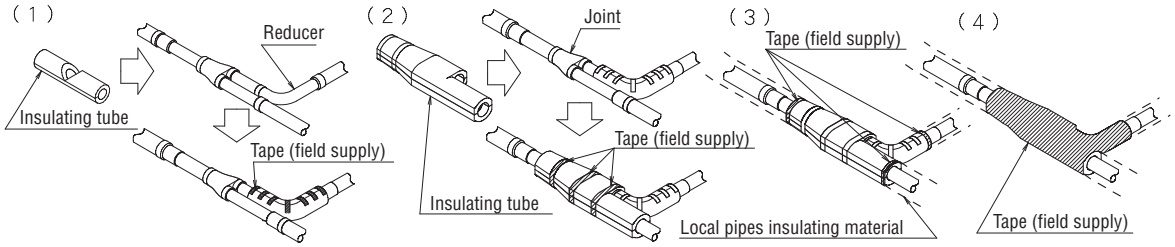
Connection of piping between the outdoor unit and the indoor unit

Air tight test

} Follow the instructions in the installation manual included with the outdoor unit, when performing installation work.

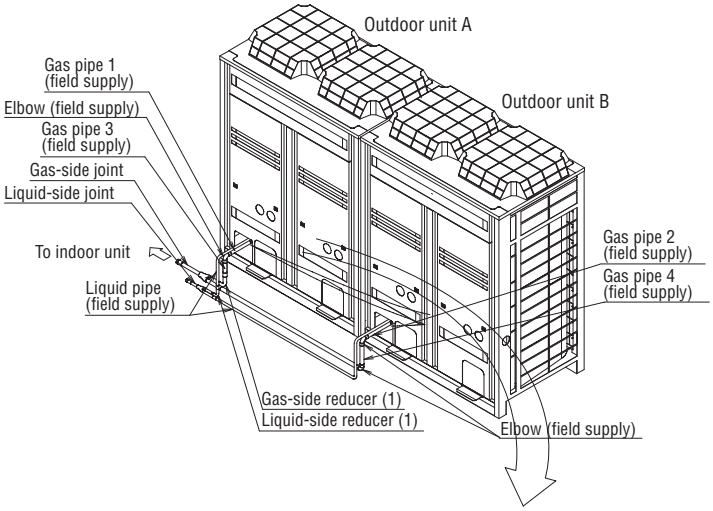
### Insulation of joints

(1) Fit the insulation to the reducer and temporarily keep it in place with tape.
(2) Fit the insulation to the joint and temporarily keep it in place with tape without leaving a gap between the insulation mating faces. (See the figure at the right.)
(3) Seal the seam between the insulation and the field supply piping insulation with the field supply tape.
(4) Wrap the tape arround the insulation attached to the joint without leaving a gap.
(▨section shown in the figure at the right)



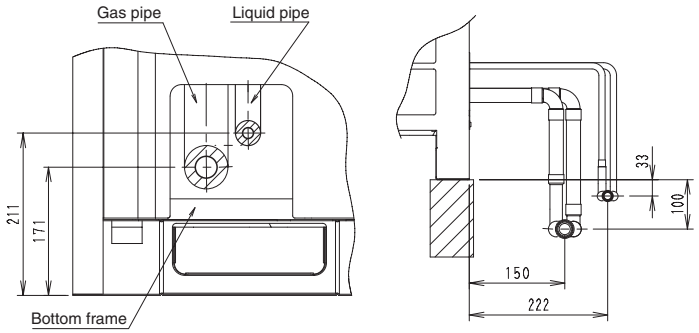
## ❶ Installation examples Prodecure for Lower Front Connection

### 1-1 Exterior view




### 1-2 Finished dimensions

- A standard installation has the following dimensions
- When the dimensions exceed the standard installation, extend the pipes between the outdoor unit and the joint (field supply)



## ❷ Connection of gas and liquid pipes

### 2-1 Cutting the field supply gas pipe 1 to 4

- Cut the pipes according to Table 3

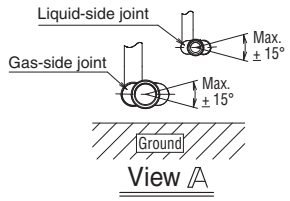
CAUTION • The L dimension of the gas pipe 1 to 4 in Table 3 show those when the field supply elbows have B dimension in Table 2 shown in Procedure for Front Connection, 2 Connection of gas and liquid pipes.
If the B dimensions are not same with Table 2, see Table 2 and 3, and adjust them accordingly.

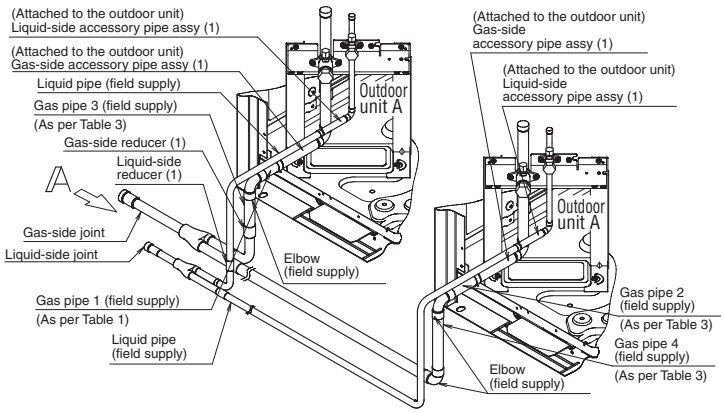
■ Table 3

| Model type | Gas pipe 1 (field supply) | | Gas pipe 2 (field supply) | | Gas pipe 3 (field supply) | | Gas pipe 4 (field supply) | |
|---|---|---|---|---|---|---|---|---|
| | L(mm | | L(mm) | | l(mm) | | L(mm) | |
| 8HP | 130 | | 165 | | 59 | | 237 | |
| 10HP | 100 | | 135 | | 83 | | 225 | |
| 12~18 HP | 66 | | 101 | | 149 | | 213 | |

### 2-2 Connection of pipes

- Connect the gas and liquid pipes as shown in the figure at the right.
  (When connecting the pipes, first connect the gas-side joint and the gas-side reducer(1), the liquid-side joint and the liquid-side reducer (1)
- See the caution section in the installation manual attached to the outdoor unit for brazing pipes and connecting pipes with flare nuts.
- Install the joint in such a way that the attached face of the caution label becomes horizontal (See the View A).



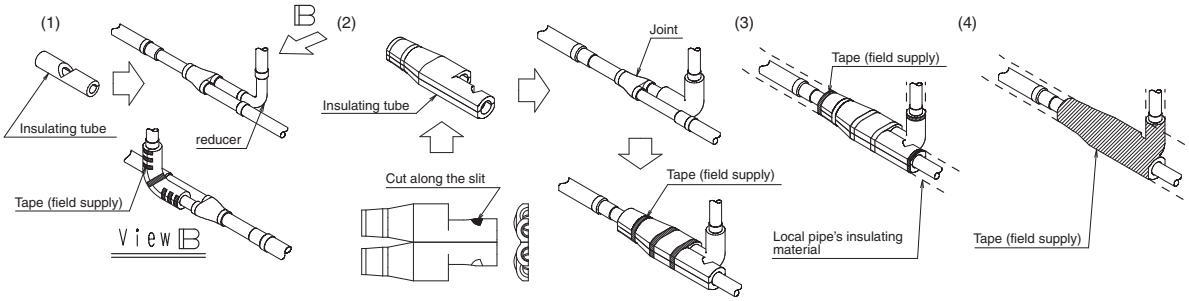

## ❸ The work after the kit is connected

Connection of piping between the outdoor unit and the indoor unit
Air tight test

} Follow the instructions in the installation manual included with the outdoor unit, when performing installation work.

### Insulation of joints

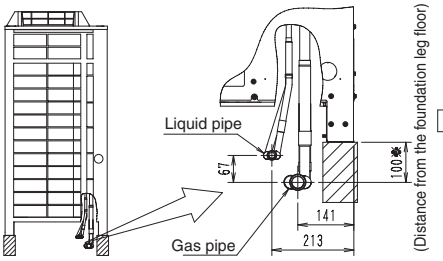
(1) Fit the insulation to the reducer and temporarily keep it in place with tape.
(2) Cut insulating tube along the slit. (See the figure at the right.)
Fit the insulation to the joint and temporarily keep it in place with tape without leaving a gap between the insulation mating faces.
(3) Seal the seam between the insulation and the field supply piping insulation with the field supply tape.
(4) Wrap the tape around the insulation attached to the joint without leaving a gap.
(▨ section shown in the figure at the right.)



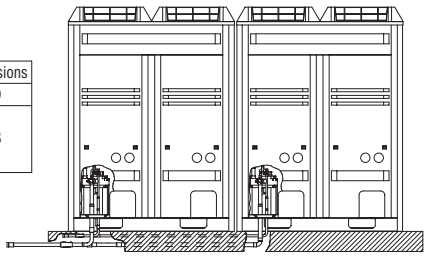
## ❶ Installation examples Procedure for Bottom Connection

**⚠CAUTION** This installation is only possible if there is enough space to perform brazing and racking underneath the outdoor unit. If a centralized drain pan kit and/or vibration proof base are used, the dimensions marked with "※" in the figure below will vary, so see the table below and determine the length of the field pipes

### 1-1 Exterior view




| Seperately-sold item also used | ※dimensions |
|---|---|
| Central drain pan kit | 139 |
| Vibration absorption stand | 233 |
| Vibration absorption stand + central drain pan kit | |



## ❷ Connection of gas and liquid pipes

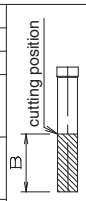
### 2-1 Cutting the field supply gas pipe 1 and 2 and the Gas-side accessory pipe (3) attached to the outdoor unit

• Cut the pipes according to Table 4 or 5.

CAUTION • The "L" dimension of the gas pipe 1 in Table 4 and the gas pipe 2 in Table 5 are identical to the "B" dimensions in table 2, those of "field supply elbows" shown in the procedure of front connection, which are equivalent to "straight size joint" without stopper. If the "B" dimensions are not identical to table 2 or "straight size joint" is with stopper, adjust them as table 2,4 and 5 show

■ Table 4 (For Outdoor unit A Side)

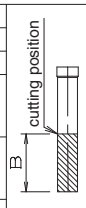
| Model type | Gas-side accessory pipe (3) B (mm) ※ dimensions | | | Gas-pipe 1 (field supply) L (mm) ※ dimensions | | |
|---|---|---|---|---|---|---|
| | For 100 | For 139 | For 233 | For 100 | For 139 | For 233 |
| 8HP | 102 | 63 | 48 | unnecesary | | 79 |
| 10HP | 72 | 33 | 25 | | | 86 |
| 12HP ~ 18HP | 0 (no cutting) | 53 | 0 (no cutting) | | 92 | 133 |





■ Table 5 (For outdoor unit B Side)

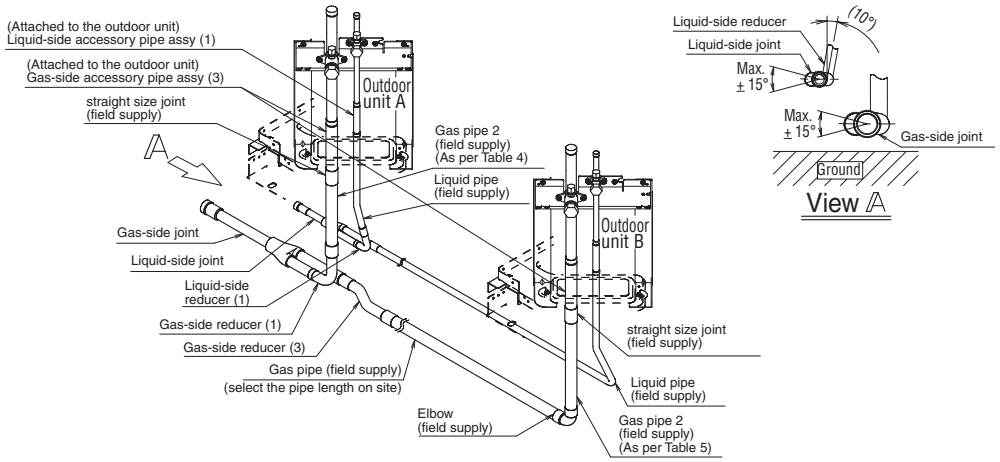
| Model type | Gas-side accessory pipe (3) B (mm) dimensions | | | Gas-pipe 2 (field supply) L (mm) ※ dimensions | | |
|---|---|---|---|---|---|---|
| | For 100 | For 139 | For 233 | For 100 | For 139 | For 233 |
| 8HP | 0 (no cutting) | 0 (no cutting) | 0 (no cutting) | 76 | 115 | 209 |
| 10HP | 18 | 0 (no cutting) | 0 (no cutting) | 88 | 109 | 203 |
| 12HP ~ 18HP | 32 | 0 (no cutting) | 0 (no cutting) | 96 | 103 | 197 |




## 2-2 Connection of pipes

- Remove the knockout plate on the bottom frame. (See the installation manual attached to the outdoor unit)
- Connect the gas and liquid pipe as shown in the figure below. (When connecting the pipes, first connect the gas-side joint and the gas-side reducer (1), the liquid-side joint and the liquid-side reducer (1)).
- See the caution section in the installation manual attached to the outdoor unit for brazing pipes and connecting pipes with flare nuts.
- Install the joint in such a way that the attached face of the caution label becomes horizontal. (See the view A)
- Connect the liquid side reducer (1) tilting approx. 10° and bend the field supplied liquid pipe up to the stop valve as shown in the figure below. (See the view A)

CAUTION • If the liquid side reducer is connected vertically without bending the liquid pipes, the insulation will not fit.




## ❸ The work after the kit is connected

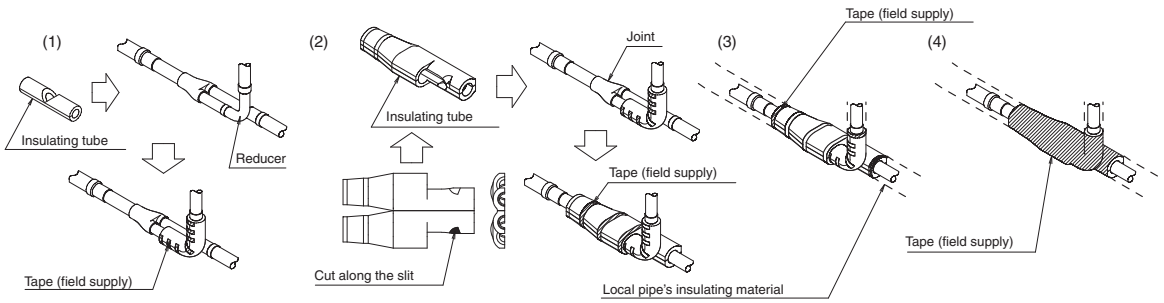
Connection of piping between the outdoor unit and the indoor unit

Air tight test

} Follow the instructions in the installation manual included with the outdoor unit, when performing installation work.

### Insulation of joints

(1) Fit the insulation to the reducer and temporarily keep it in place with tape.
(2) Cut insulating tube along the slit. (See the figure at the right.)
Fit the insulation to the joint and temporarily keep it in place with tape without leaving a gap between the insulation mating faces.
(3) Seal the seam between the insulation and the field supply piping insulation with the field supply tape.
(4) Wrap the tape around the insulation attached to the joint without leaving a gap.
(▨ section shown in the figure at the right.)

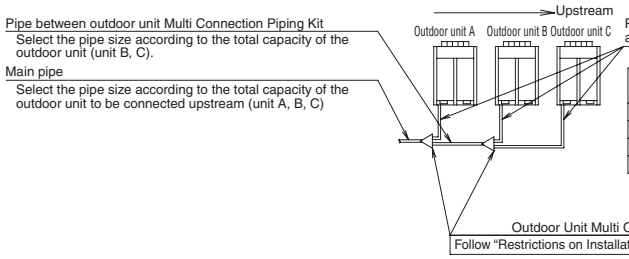


## BHFP22P151 Installation Instructions

**CAUTION** There are some restrictions on the interconnecting piping between the outdoor units. See the installation manual attached to the outdoor units and make sure to carry out proper piping. If the piping restrictions are not observed, it may result in malfunction of the unit.

### Connecting Pipe Sizes and location of cutting the joint

Select cutting point of a joint or a reducer which is suitable for the size of the interconnecting pipes determined according to the table below and cut it with a pipe cutter.




(units:mm)

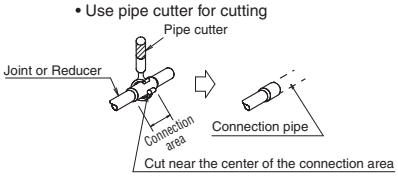
| Outdoor unit capacity type | Pipe size (O.D. x min. thickness [temper grade] | |
|---|---|---|
| | Gas pipe | Liquid pipe |
| 8HP | Ø19.1x0.80[1/2H] | Ø 9.5x0.80[0] |
| 10 HP | Ø22.2x0.80[1/2H] | |
| 12~16HP | Ø28.6x0.99[1/2H] | Ø12.7x0.80[0] |
| 18HP | | Ø15.9x0.99[0] |

(units:mm)

| Outdoor unit total capacity (unit A, B,C) or the total capacity of the outdoor unit to be connected upstream (unit B, C) | Pipe size (O.D. x min. thickness [temper grade] | |
|---|---|---|
| | Gas pipe | Liquid pipe |
| 16HP | Ø28.6x0.99[1/2H] | Ø 12.7x0.80[0] |
| 18~22HP | | Ø15.9x0.99[0] |
| 24HP | Ø34.9x1.21[1/2H] | |
| 26~34HP | | Ø19.1x0.80[1/2H] |
| 36HP | Ø41.3x1.43[1/2H] | |

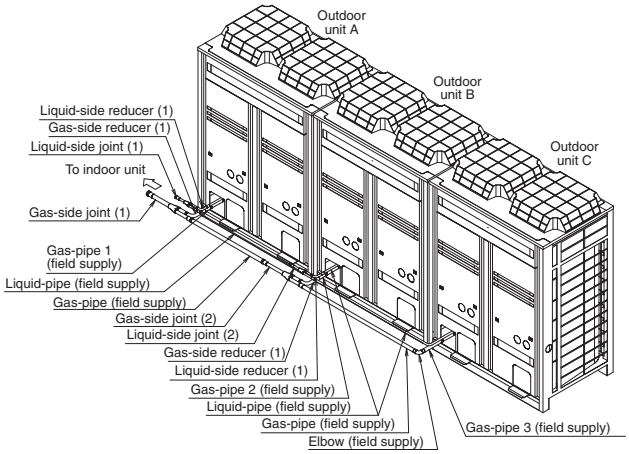
### Cutting procedure

• Use pipe cutter for cutting



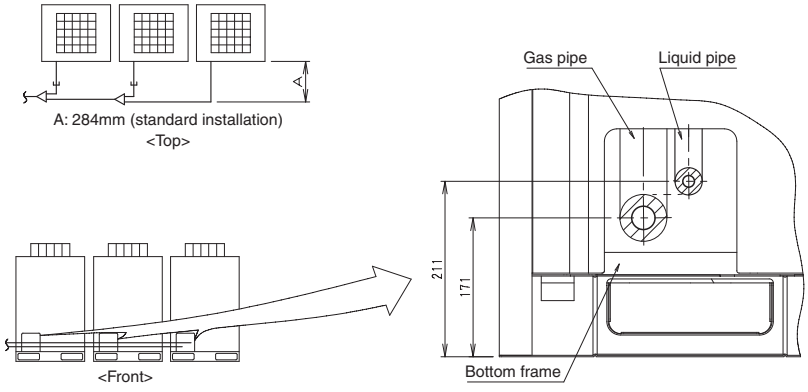

## 1 Installation examples — Procedure for Front Connection

### 1-1 Exterior view




### 1-2 Finished dimensions

• For installations where the A dimensions exceed 284 mm, extend the field supply interconnecting pipe between the joint and the outdoor unit.



## ❷ Connection of gas and liquid pipes

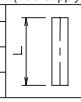
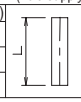
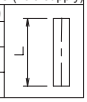
### 2-1 Cutting the field supply gas pipes

• Cut the pipes according to Table 6.

CAUTION • This table shows the case when the A dimensions shown in "1-2 Finished dimensions" is 284mm. If the A dimensions exceed 284mm, see Table 6 and adjust the dimensions of the gas pipe 1 and 2 and 3.

• The L dimensions of the gas pipe 3 in Table 6 show those when the field supply elbows have B dimension in Table 2 shown in BHFP22P151 Installation instruction, 2 connection of gas and liquid pipes.
If the B dimensions are not the same with Table 2, see Table 2 and 6, and adjust them accordingly

■ Table 6

| Model type | Gas pipe 1 (field supply) L(mm | | Gas pipe 2 (field supply) L(mm) | | Gas pipe 3 (field supply) L(mm) | |
|---|---|---|---|---|---|---|
| 8HP | 51 |  | 69 |  | 282 |  |
| 10HP | 57 | | 75 | | 252 | |
| 12~18 HP | 101 | | 119 | | 218 | |

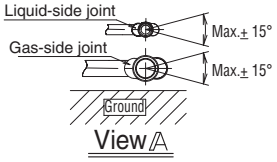
### 2-2 Connection of pipes

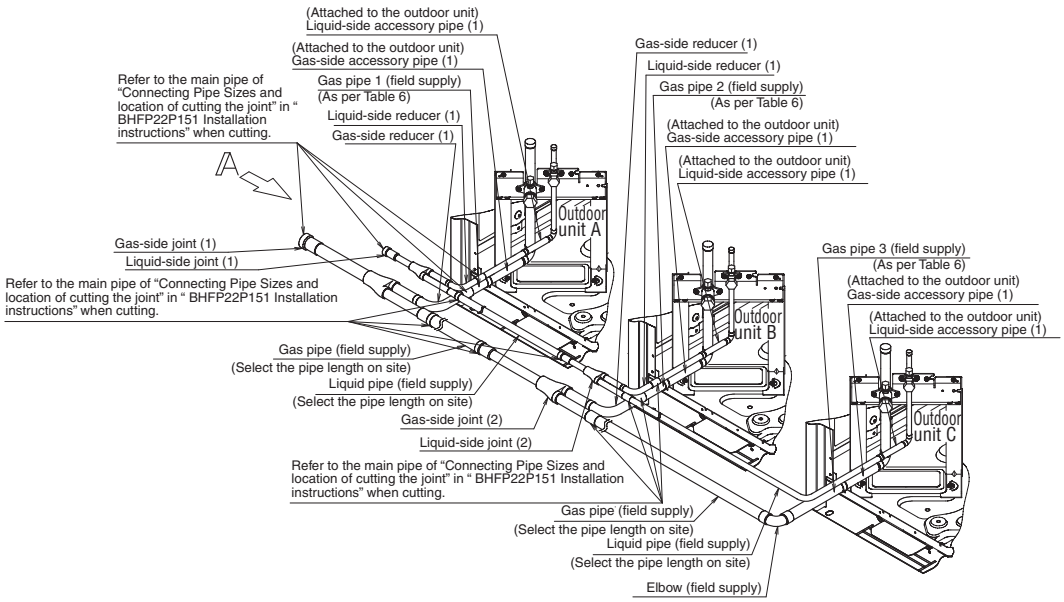
• Connect the gas and liquid pipes as shown in the figure at the right.
When connecting the pipes, first connect the gas-side joint and the gas-side reducer(1), the liquid-side joint and the liquid-side reducer (1)

• See "1-2 Finished dimensions" for the location (height) of the joint.

• See the caution section in the installation manual attached to the outdoor unit for brazing pipes and connecting pipes with flare nuts.

• Install the joint in such a way that the attached face of the caution label becomes horizontal (See the View A).




## ❸ The work after the kit is connected

Connection of piping between the outdoor unit and the indoor unit

Air tight test

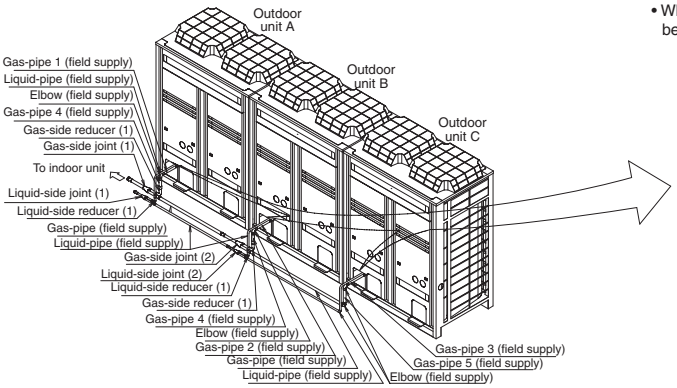
Insulation of joints

Follow the instructions in the installation manual included with the outdoor unit, when performing installation work.

• See "The work after the kit is connected" for a front connection in "BHFP22P151 Installation Instructions."

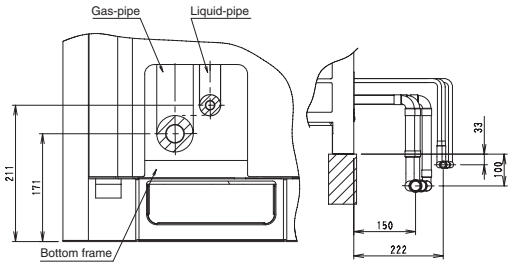
## ❶ Installation examples Procedure for Front Connection

### 1-1 Exterior view




### 1-2 Finished dimensions

- A standard installation has the following dimensions.
- When the dimensions exceed the standard installation, extend the pipes between the outdoor unit and the joint. (field supply)




## ❷ Connection of gas and liquid pipes

### 2-1 Cutting the field supply gas pipes

- Cut the pipes according to Table 7.

CAUTION
- The L dimensions of the gas pipe 1 to 5 in Table 7 show those when the field supply elbows have B dimension in Table 2 shown in BHFP22P100 Installation instruction, 2 connection of gas and liquid pipes and the field supply joint for the same diameter pipes are without stopper.
  If the B dimensions are not the same with Table 2 or the joint for the same diameter pipes have stopper, see Table 2 and 7, and adjust them accordingly.

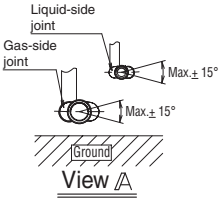
■ Table 7

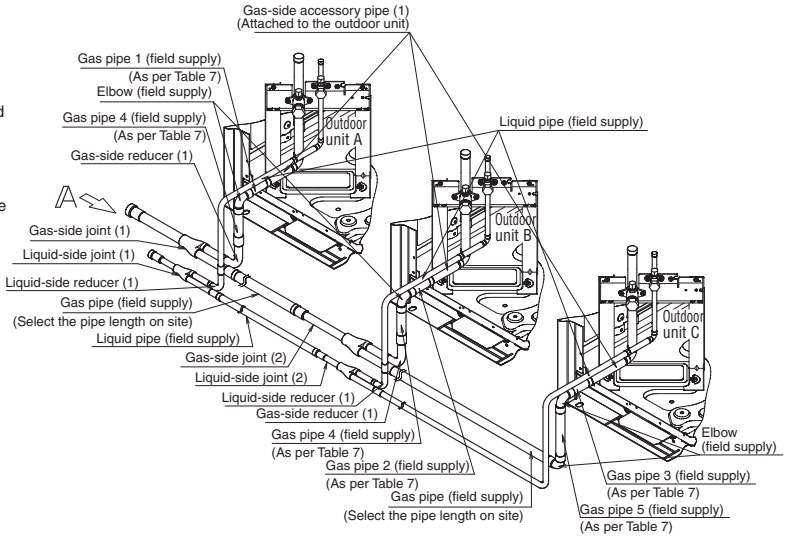
| Model type | Gas pipe 1 (field supply) L(mm | | Gas pipe 2 (field supply) L(mm) | | Gas pipe 3 (field supply) L(mm) | |
|---|---|---|---|---|---|---|
| 8HP | 130 | | 147 | | 182 | |
| 10HP | 100 | | 117 | | 152 | |
| 12~18 HP | 66 | | 83 | | 118 | |

| Model type | Gas pipe 4 (field supply) L(mm | | Gas pipe 5 (field supply) L(mm) | |
|---|---|---|---|---|
| 8HP | 59 | | 237 | |
| 10HP | 83 | | 225 | |
| 12~18 HP | 149 | | 213 | |

### 2-2 Connection of pipes

- Connect the gas and liquid pipes as shown in the figure at the left.
  (When connecting the pipes, first connect the gas-side joint and the gas-side reducer(1), the liquid-side joint and the liquid-side reducer (1).)
- See the caution section in the installation manual attached to the outdoor unit for brazing pipes and connecting pipes with flare nuts.
- Install the joint in such a way that the attached face of the caution label becomes horizontal (See the View A).



### ❸ The work after the kit is connected

- Connection of piping between the outdoor unit and the indoor unit
- Air tight test

} Follow the instructions in the installation manual included with the outdoor unit, when performing installation work.

- Insulation of joints

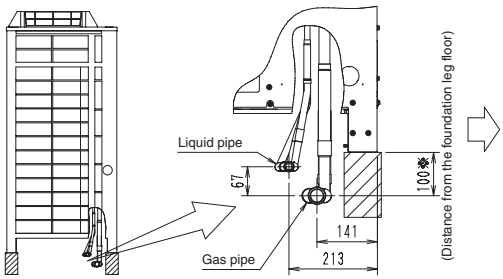
• See “The work after the kit is connected” for a lower front connection in “BHFP22P100 Installation Instructions.”

## 1 Installation examples Procedure for Bottom Connection

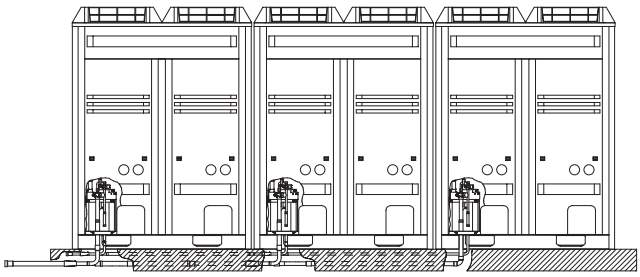
**CAUTION**

This installation is only possible if there is enough space to perform brazing and racking underneath the outdoor unit. If a centralized drain pan kit and/or vibration proof base are used, the dimensions marked with "✽" in the figure below will vary, so see the table below and determine the length of the field pipes.

### 1-1 Exterior view




| Separately-sold item also used | ✽dimensions |
|---|---|
| Central drain pan kit | 139 |
| Vibration absorption stand | 233 |
| Vibration absorption stand + central drain pan kit | |



## ❷ Connection of gas and liquid pipes

### 2-1 Cutting the field supply gas pipe 1 and 2 and the Gas-side accessory pipe (3) attached to the outdoor unit

• Cut the pipes according to Table 8 or 9.

CAUTION • The "L" dimension of the gas pipe 1 in Table 8 and the gas pipe 2 in Table 9 are identical to the "B" dimensions in table 2, those of "field supply elbows" shown in the procedure of front connection, which are equivalent to "straight size joint" without stopper. If the "B" dimensions are not identical to table 2 or "straight size joint" is with stopper, adjust them as table 2,8 and 9 show.

■ Table 8 (For outdoor unit A, B Side)

| Model type | Gas-side accessory pipe (3) B (mm) dimensions | | | Gas-pipe 1 (field supply) L (mm) ※dimensions | | |
|---|---|---|---|---|---|---|
| | For 100 | For 139 | For 233 | For 100 | For 139 | For 233 |
| 8HP | 102 | 63 | 48 | unnecesary | | 79 |
| 10HP | 72 | 33 | 25 | | | 86 |
| 12HP ~ 18HP | 0 (no cutting) | 53 | 0 (no cutting) | | 92 | 133 |

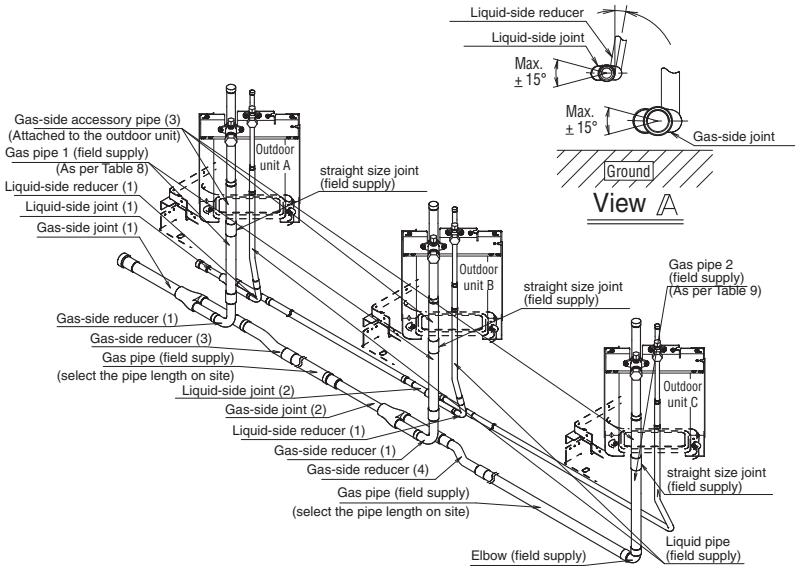
■ Table 9 (For outdoor unit C Side)

| Model type | Gas-side accessory pipe (3) B (mm) ※dimensions | | | Gas-pipe 2 (field supply) L (mm) ※dimensions | | |
|---|---|---|---|---|---|---|
| | For 100 | For 139 | For 233 | For 100 | For 139 | For 233 |
| 8HP | 0 (no cutting) | 0 (no cutting) | 0 (no cutting) | 76 | 115 | 209 |
| 10HP | 18 | 0 (no cutting) | 0 (no cutting) | 88 | 109 | 203 |
| 12HP ~ 18HP | 32 | 0 (no cutting) | 0 (no cutting) | 96 | 103 | 197 |

### 2-2 Connection of pipes

• Remove the knockout plate on the bottom frame. (See the installation manual attached to the outdoor unit)
• Connect the gas and liquid pipe as shown in the figure below. (When connecting the pipes, first connect the gas-side joint and the gas-side reducer (1), the liquid-side joint and the liquid-side reducer (1)).
• See the caution section in the installation manual attached to the outdoor unit for brazing pipes and connecting pipes with flare nuts.
• Install the joint in such a way that the attached face of the caution label becomes horizontal. (See the view A)
• Connect the liquid side reducer (1) tilting approx. 10° and bend the field supplied liquid pipe up to the stop valve as shown in the figure below. (See the view A)

CAUTION • If the liquid side reducer is connected vertically without bending the liquid pipes, the insulation will not fit.




## ❸ The work after the kit is connected

Connection of piping between the outdoor unit and the indoor unit
Air tight test
Insulation of joints

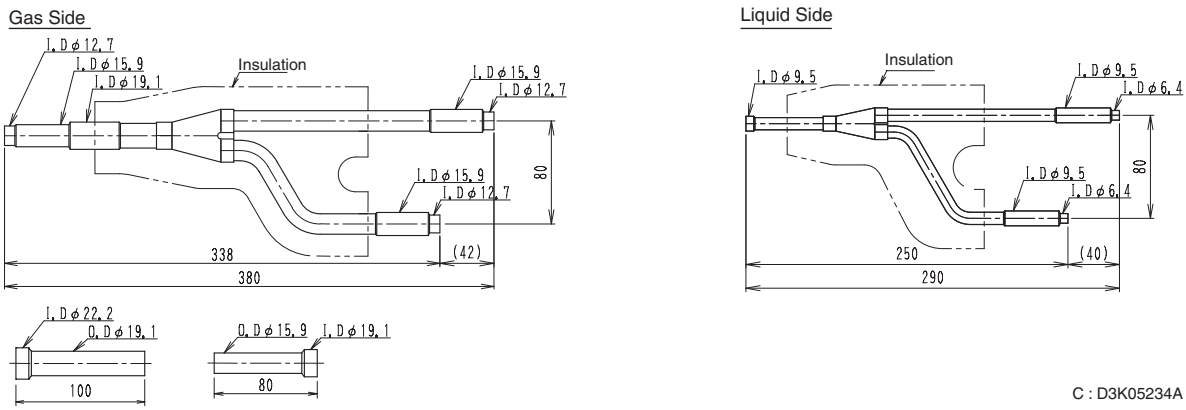
Follow the instructions in the installation manual included with the outdoor unit, when performing installation work.

• See "The work after the kit is connected" for a front connection in "BHFP22P100 Installation Instructions."

# 7.10 REFNET Joint and Header

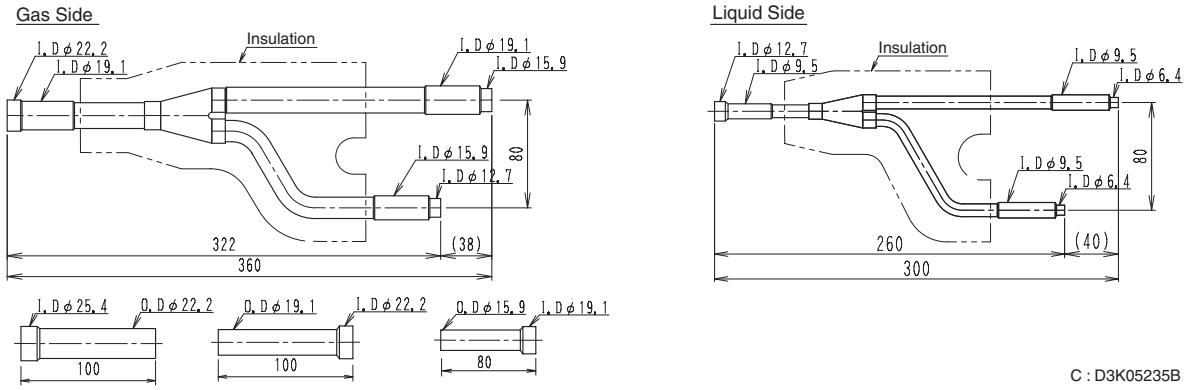
## 7.10.1 REFNET Joint (Branch Kit)

### KHRP26A22T



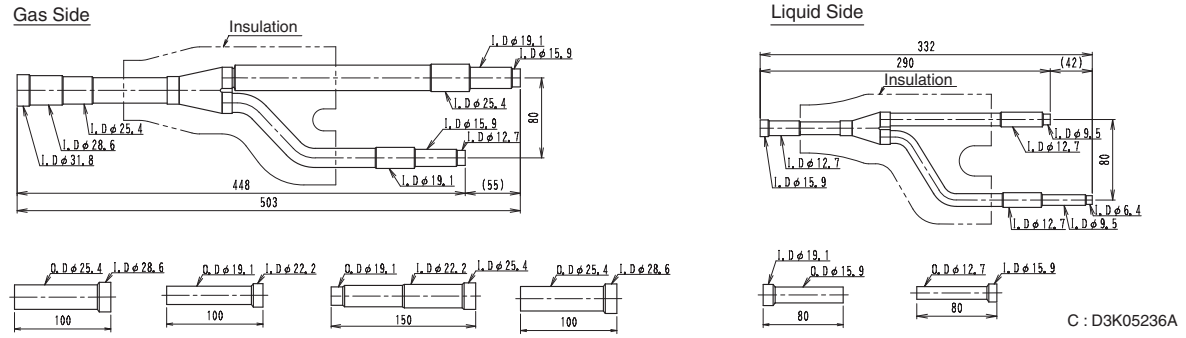

C : D3K05234A

### KHRP26A33T



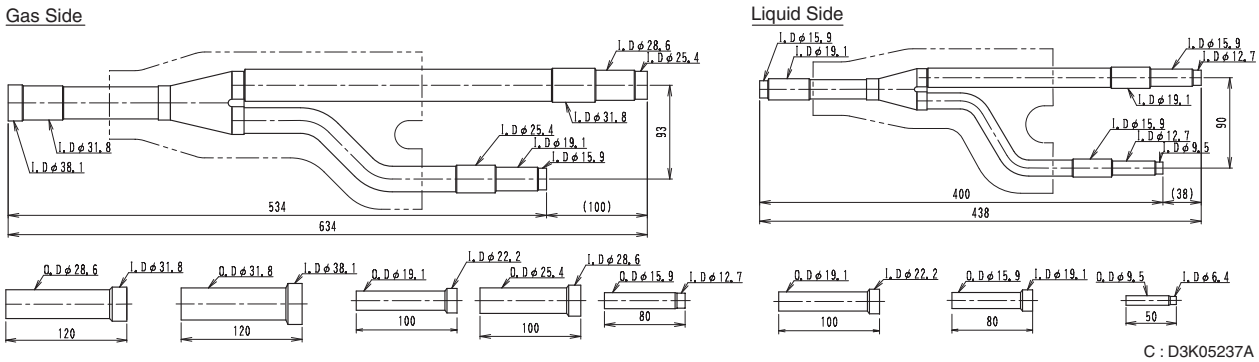

C : D3K05235B

### KHRP26A72T




C : D3K05236A

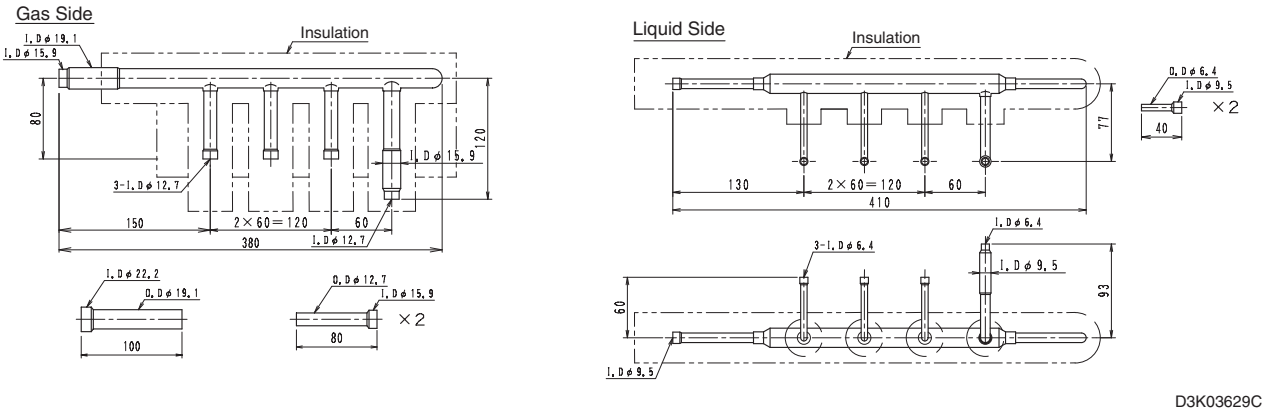
### KHRP26A73T



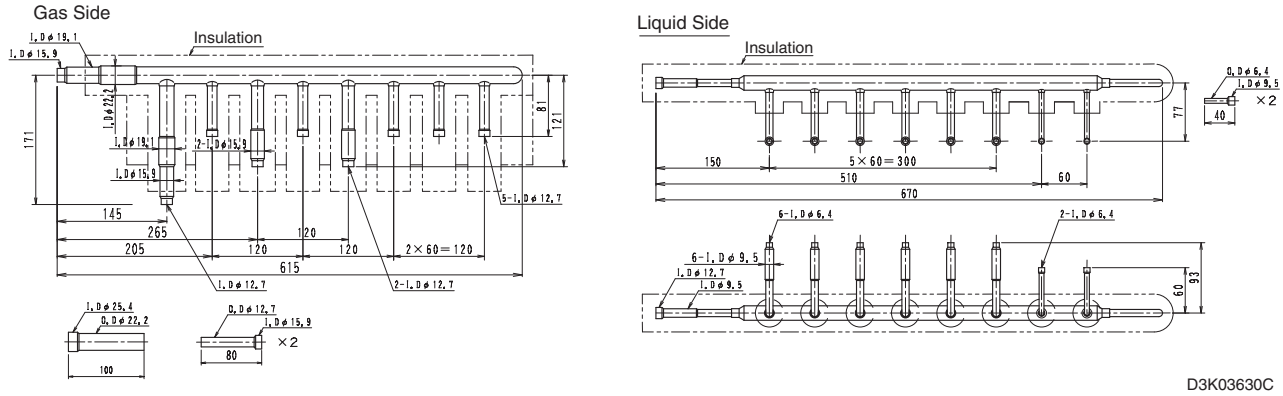

C : D3K05237A

# 7.10.2 REFNET Header (Branch Kit)

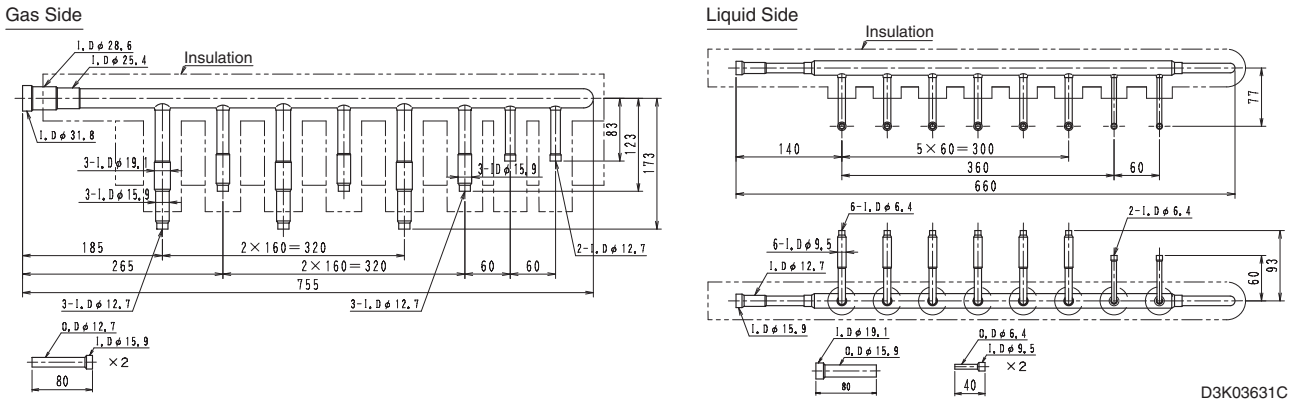
### KHRP26M22H



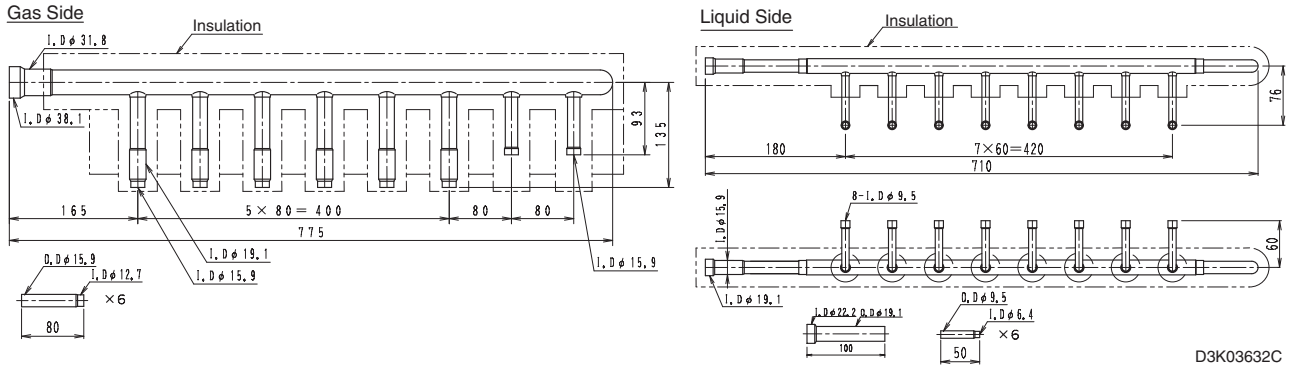

### KHRP26M33H




### KHRP26M72H




### KHRP26M73H

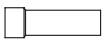
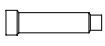


# 7.10.3 Reducer

### 7.10.4.1 Pipe size reducer (For R-410A)

**KHRP26M73TP • 73HP**
**KHRP25M72TP • 73TP • 72HP**

■ This includes the following parts.

| | | pipe size reducer① | pipe size reducer② | pipe size reducer③ | pipe size reducer④ | pipe size reducer⑤ |
|---|---|---|---|---|---|---|
| SHAPE | |  |  |  |  |  |
| Quantity | KHRP26M73TP | 1pc. | 1pc. | 2pc. | — | — |
| | KHRP26M73HP | 1pc. | — | 1pc. | — | — |
| | KHRP25M72TP | — | — | — | 1pc. | 1pc. |
| | KHRP25M72HP | — | — | — | — | 1pc. |
| | KHRP25M73TP | 1pc. | 1pc. | 3pc. | 1pc. | — |

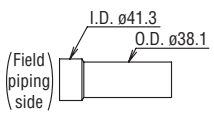
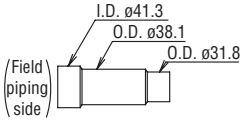
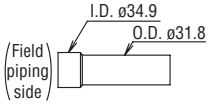
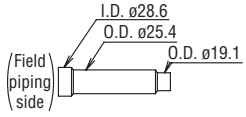
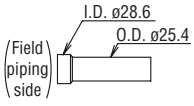
■ This kit is the reducer of the branch piping kit (refnet joint • header).
Check the proper model of the branch piping kit.

| Kit name | Branch piping kit |
|---|---|
| KHRP26M73TP | KHRP26M73T (gas side) |
| KHRP26M73HP | KHRP26M73H (gas side) • KHRP25M73H (suction gas side) |
| KHRP25M72TP | KHRP25M72T (discharge gas side) |
| KHRP25M72HP | KHRP25M72T (discharge gas side) |
| KHRP25M73TP | KHRP25M73T (suction, discharge side) |

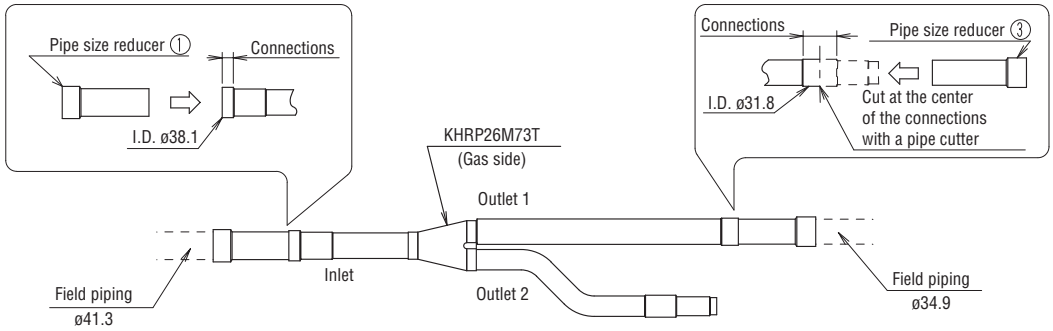
## Installation procedure

Refer to the installation manual of the branch piping kit.

■ Joint size are as follows

| pipe size reducer① | pipe size reducer② | pipe size reducer③ |
|---|---|---|
|  |  |  |
| **pipe size reducer④** | **pipe size reducer⑤** | |
|  |  | |

(1) Select the field piping size according to the installation manual of the outdoor unit.
(2) Connect the PIPE SIZE REDUCER suitable for the field piping size to the branch piping kit.
ex.) Connect the reducers to the branch piping kit. KHRP26M73T.
• For inlet piping size is Ø 41.3 and outlet 1 piping size is Ø 34.9

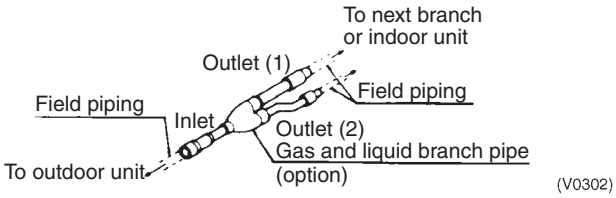



3P113129A

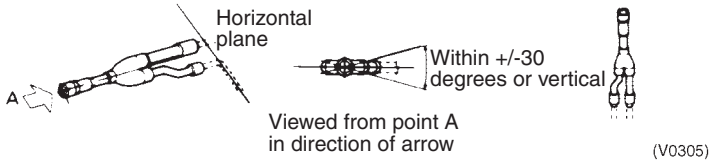
# 7.10.4 REFNET Joints and Headers

## 7.10.4.1 REFNET Joints

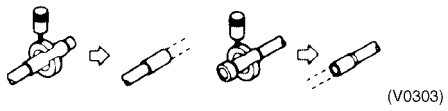
For gas and liquid branch pipes



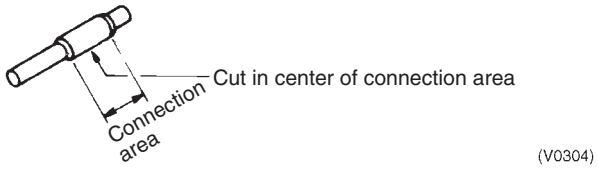

- Make sure that all branch pipes are fitted such that they branch either horizontally or vertically.



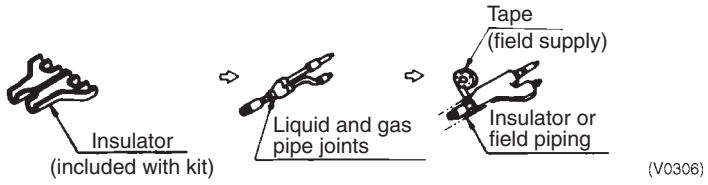

- When the size of the selected field piping is different from that of branch pipe then the connecting section should be cut with a pipe cutter as shown in the figure below.



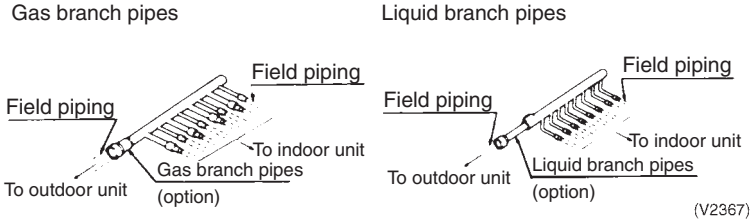

- When you are cutting an inlet or outlet pipe with a pipe cutter make sure that you make the cut in the center of the connection area.



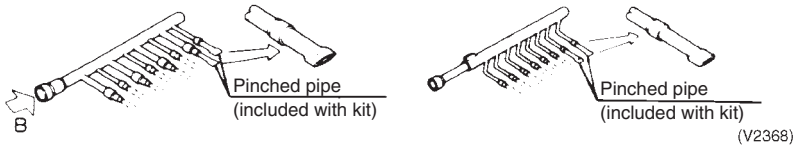

- Branch pipes must be insulated in accordance with the handbook which comes with each kit.



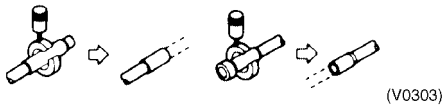

## 7.10.4.2 REFNET Header



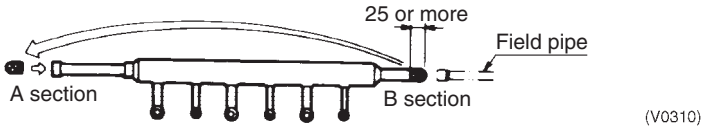
- When the number of indoor units to be connected to the branch pipes is less than the number of branch pipes available for connection then cap pipes should be fitted to the surplus branches.



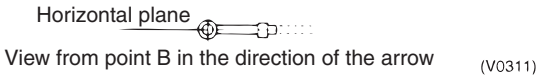

- When the size of the selected field piping is different from that of branch pipe then the connecting section should be cut with a pipe cutter as shown in the figure below.




- When field piping is connected to the B section of the inlet/outlet pipe on the outdoor unit side of the liquid pipe header.
- Cut the B section with a pipe cutter as shown below and connect it to the A section.
- Connect the flared section of the field pipe to the B section.

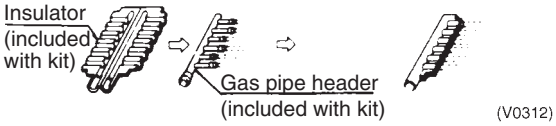



- Fit the branch pipe so that the branch lies in a horizontal plane.

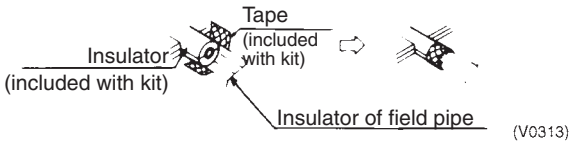



- The branch pipe must be insulated in accordance with the instruction manual which comes with each kit.

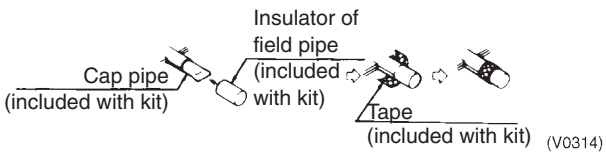
1. Use the insulator included in the kit to insulate the header.




2. Joints between insulators included in the kit and those already applied to the field piping should be sealed with the tape which is also included in each kit.




3. Any cap pipes should also be insulated using the insulator provided with each kit and then taped as described above.



# 7.11 VRV Inspection Sheet

Inspection date:

Delivery date:

Transfer date:

| Owner | | System name | |
|---|---|---|---|

Outdoor units

| | Installation location | Model | Unit No. |
|---|---|---|---|
| Outdoor unit system name | | | |
| Outdoor unit 1 | | | |
| Outdoor unit 2 | | | |
| Outdoor unit 3 | | | |

Indoor units

| No. | Installation location | Model | Unit No. | Group No. | No. | Installation location | Model | Unit No. | Group No. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | 21 | | | | |
| 2 | | | | | 22 | | | | |
| 3 | | | | | 23 | | | | |
| 4 | | | | | 24 | | | | |
| 5 | | | | | 25 | | | | |
| 6 | | | | | 26 | | | | |
| 7 | | | | | 27 | | | | |
| 8 | | | | | 28 | | | | |
| 9 | | | | | 29 | | | | |
| 10 | | | | | 30 | | | | |
| 11 | | | | | 31 | | | | |
| 12 | | | | | 32 | | | | |
| 13 | | | | | 33 | | | | |
| 14 | | | | | 34 | | | | |
| 15 | | | | | 35 | | | | |
| 16 | | | | | 36 | | | | |
| 17 | | | | | 37 | | | | |
| 18 | | | | | 38 | | | | |
| 19 | | | | | 39 | | | | |
| 20 | | | | | 40 | | | | |

Field settings

| C/H SELECT (setting mode 1) | | | C/H SELECT setting (DS1-1) | | | Low noise operation | | | Sequential start | |
|---|---|---|---|---|---|---|---|---|---|---|
| IND | MASTER | SLAVE | ON | | OFF | ON | | OFF | ON | OFF |
| Tc | | | Te | | | Defrost SETTING | | | Refrigerant addition/replenishment | |
| H | M | L | H | M | L | H | M | L | kg | |
| | | | | | | | | | | |

Company name Inspector

(V1091)

Before turning on the power

System name _____

| | Inspection item | Inspection method | Standard (guideline) | Measurement values | | | | Decision |
|---|---|---|---|---|---|---|---|---|
| | Breaker capacity | Visual inspection | Specified capacity | G NG | | | | |
| Outdoor unit 1 | Refrigerant piping system | Gas detector | No leaks | G NG | | | | |
| | Heat exchanger | Visual inspection | No clogging or damage | G NG | | | | |
| | Terminal connection section | Screwdriver, etc. | No looseness | G NG | | | | |
| | Fan motor electrical insulation | 500-V megatester | 1 MΩ or more | MΩ | | | | |
| | Compressor electrical insulation | 500-V megatester | 1 MΩ or more | INV MΩ | STD1 MΩ | STD2 MΩ | | |
| | Installation | Visual inspection | Short circuit, etc. | G NG | | | | |
| Outdoor unit 2 | Refrigerant piping system | Gas detector | No leaks | G NG | | | | |
| | Heat exchanger | Visual inspection | No clogging or damage | G NG | | | | |
| | Terminal connection section | Screwdriver, etc. | No looseness | G NG | | | | |
| | Fan motor electrical insulation | 500-V megatester | 1 MΩ or more | MΩ | | | | |
| | Compressor electrical insulation | 500-V megatester | 1 MΩ or more | | | | | |
| | Installation | Visual inspection | Short circuit, etc. | G NG | | | | |
| Outdoor unit 3 | Refrigerant piping system | Gas detector | No leaks | G NG | | | | |
| | Heat exchanger | Visual inspection | No clogging or damage | G NG | | | | |
| | Terminal connection section | Screwdriver, etc. | No looseness | G NG | | | | |
| | Fan motor electrical insulation | 500-V megatester | 1 MΩ or more | MΩ | | | | |
| | Compressor electrical insulation | 500-V megatester | 1 MΩ or more | | | | | |
| | Installation | Visual inspection | Short circuit, etc. | G NG | | | | |
| Indoor unit | Refrigerant system | Gas detector | No leaks | Room 1 G NG | Room 2 G NG | Room 3 G NG | Room 4 G NG | |
| | | | | Room 5 G NG | Room 6 G NG | Room 7 G NG | Room 8 G NG | |
| | | | | Room 9 G NG | Room 10 G NG | Room 11 G NG | Room 12 G NG | |
| | | | | Room 13 G NG | Room 14 G NG | Room 15 G NG | Room 16 G NG | |
| | | | | Room 17 G NG | Room 18 G NG | Room 19 G NG | Room 20 G NG | |
| | | | | Room 21 G NG | Room 22 G NG | Room 23 G NG | Room 24 G NG | |
| | | | | Room 25 G NG | Room 26 G NG | Room 27 G NG | Room 28 G NG | |
| | | | | Room 29 G NG | Room 30 G NG | Room 31 G NG | Room 32 G NG | |
| | | | | Room 33 G NG | Room 34 G NG | Room 35 G NG | Room 36 G NG | |
| | | | | Room 37 G NG | Room 38 G NG | Room 39 G NG | Room 40 G NG | |
| | Air filter | Visual inspection | No clogging or damage | Room 1 G NG | Room 2 G NG | Room 3 G NG | Room 4 G NG | |
| | | | | Room 5 G NG | Room 6 G NG | Room 7 G NG | Room 8 G NG | |
| | | | | Room 9 G NG | Room 10 G NG | Room 11 G NG | Room 12 G NG | |
| | | | | Room 13 G NG | Room 14 G NG | Room 15 G NG | Room 16 G NG | |
| | | | | Room 17 G NG | Room 18 G NG | Room 19 G NG | Room 20 G NG | |
| | | | | Room 21 G NG | Room 22 G NG | Room 23 G NG | Room 24 G NG | |
| | | | | Room 25 G NG | Room 26 G NG | Room 27 G NG | Room 28 G NG | |
| | | | | Room 29 G NG | Room 30 G NG | Room 31 G NG | Room 32 G NG | |
| | | | | Room 33 G NG | Room 34 G NG | Room 35 G NG | Room 36 G NG | |
| | | | | Room 37 G NG | Room 38 G NG | Room 39 G NG | Room 40 G NG | |
| | Heat exchanger | Visual inspection | No clogging or damage | Room 1 G NG | Room 2 G NG | Room 3 G NG | Room 4 G NG | |
| | | | | Room 5 G NG | Room 6 G NG | Room 7 G NG | Room 8 G NG | |
| | | | | Room 9 G NG | Room 10 G NG | Room 11 G NG | Room 12 G NG | |
| | | | | Room 13 G NG | Room 14 G NG | Room 15 G NG | Room 16 G NG | |
| | | | | Room 17 G NG | Room 18 G NG | Room 19 G NG | Room 20 G NG | |
| | | | | Room 21 G NG | Room 22 G NG | Room 23 G NG | Room 24 G NG | |
| | | | | Room 25 G NG | Room 26 G NG | Room 27 G NG | Room 28 G NG | |
| | | | | Room 29 G NG | Room 30 G NG | Room 31 G NG | Room 32 G NG | |
| | | | | Room 33 G NG | Room 34 G NG | Room 35 G NG | Room 36 G NG | |
| | | | | Room 37 G NG | Room 38 G NG | Room 39 G NG | Room 40 G NG | |

| | Inspection item | Inspection method | Standard (guideline) | Measurement values | | | | Decision |
|---|---|---|---|---|---|---|---|---|
| Indoor unit | Fan motor electrical insulation | 500-V megatester | 1 MΩ or more | Room 1 G NG | Room 2 G NG | Room 3 G NG | Room 4 G NG | |
| | | | | Room 5 G NG | Room 6 G NG | Room 7 G NG | Room 8 G NG | |
| | | | | Room 9 G NG | Room 10 G NG | Room 11 G NG | Room 12 G NG | |
| | | | | Room 13 G NG | Room 14 G NG | Room 15 G NG | Room 16 G NG | |
| | | | | Room 17 G NG | Room 18 G NG | Room 19 G NG | Room 20 G NG | |
| | | | | Room 21 G NG | Room 22 G NG | Room 23 G NG | Room 24 G NG | |
| | | | | Room 25 G NG | Room 26 G NG | Room 27 G NG | Room 28 G NG | |
| | | | | Room 29 G NG | Room 30 G NG | Room 31 G NG | Room 32 G NG | |
| | | | | Room 33 G NG | Room 34 G NG | Room 35 G NG | Room 36 G NG | |
| | | | | Room 37 G NG | Room 38 G NG | Room 39 G NG | Room 40 G NG | |
| | Auxiliary heater electrical insulation | 500-V megatester | 1 MΩ or more | Room 1 G NG | Room 2 G NG | Room 3 G NG | Room 4 G NG | |
| | | | | Room 5 G NG | Room 6 G NG | Room 7 G NG | Room 8 G NG | |
| | | | | Room 9 G NG | Room 10 G NG | Room 11 G NG | Room 12 G NG | |
| | | | | Room 13 G NG | Room 14 G NG | Room 15 G NG | Room 16 G NG | |
| | | | | Room 17 G NG | Room 18 G NG | Room 19 G NG | Room 20 G NG | |
| | | | | Room 21 G NG | Room 22 G NG | Room 23 G NG | Room 24 G NG | |
| | | | | Room 25 G NG | Room 26 G NG | Room 27 G NG | Room 28 G NG | |
| | | | | Room 29 G NG | Room 30 G NG | Room 31 G NG | Room 32 G NG | |
| | | | | Room 33 G NG | Room 34 G NG | Room 35 G NG | Room 36 G NG | |
| | | | | Room 37 G NG | Room 38 G NG | Room 39 G NG | Room 40 G NG | |
| | Installation | Visual inspection | Short circuit, etc. | Room 1 G NG | Room 2 G NG | Room 3 G NG | Room 4 G NG | |
| | | | | Room 5 G NG | Room 6 G NG | Room 7 G NG | Room 8 G NG | |
| | | | | Room 9 G NG | Room 10 G NG | Room 11 G NG | Room 12 G NG | |
| | | | | Room 13 G NG | Room 14 G NG | Room 15 G NG | Room 16 G NG | |
| | | | | Room 17 G NG | Room 18 G NG | Room 19 G NG | Room 20 G NG | |
| | | | | Room 21 G NG | Room 22 G NG | Room 23 G NG | Room 24 G NG | |
| | | | | Room 25 G NG | Room 26 G NG | Room 27 G NG | Room 28 G NG | |
| | | | | Room 29 G NG | Room 30 G NG | Room 31 G NG | Room 32 G NG | |
| | | | | Room 33 G NG | Room 34 G NG | Room 35 G NG | Room 36 G NG | |
| | | | | Room 37 G NG | Room 38 G NG | Room 39 G NG | Room 40 G NG | |

(V1092)

During operation

System name

| | Inspection item | Inspection method | Standard (guideline) | Measurement values | | | Decision |
|---|---|---|---|---|---|---|---|
| Outdoor unit 1 | Main power supply voltage | Tester | Rated voltage ±10% | R-S V | S-T V | R-T V | |
| | Operation circuit voltage | Tester | Rated voltage ±10% | V | | | |
| | Fan rotation direction | Visual inspection | Forward rotation | G NG | | | |
| | Fan noise/vibration | Listening | No noise or vibration | | | | |
| | Fan operation current | Clamp meter | | RED A WHITE A BLACK A | | | |
| | Suction air temperature | Thermometer | Temperature differential 9~11deg. when cooling, 2~3.5deg. when heating | °C | | | |
| | Discharge air temperature | Thermometer | | °C | | | |
| | Compressor discharge pressure | Pressure gauge | | MPa | | | |
| | Compressor suction pressure | Pressure gauge | | MPa | | | |
| | Compressor operating current | Clamp meter | Phase differential within 1A | INV U( )A, V( )A, W( )A | | | |
| | | | | STD1 R( )A, S( )A, T( )A | | | |
| | | | | STD2 R( )A, S( )A, T( )A | | | |
| | Compressor operating frequency | Clamp meter | | INV Hz | | | |
| | Suction pipe temperature | Thermometer | 3~15°C | INV °C | STD1 °C | STD2 °C | |
| | Discharge pipe temperature | Thermometer | 85~105°C | INV °C | STD1 °C | STD2 °C | |
| | Clank case heater | Touch | Warm | INV G·NG | STD1 G·NG | STD2 G·NG | |
| Outdoor unit 2 | Main power supply voltage | Tester | Rated voltage ±10% | R-S V | R-S V | R-S V | |
| | Operation circuit voltage | Tester | Rated voltage ±10% | V | | | |
| | Fan rotation direction | Visual inspection | Forward rotation | G NG | | | |
| | Fan noise/vibration | Listening | No noise or vibration | | | | |
| | Fan operation current | Clamp meter | | RED A WHITE A BLACK A | | | |
| | Suction air temperature | Thermometer | Temperature differential 9~11deg. when cooling, 2~3.5deg. when heating | °C | | | |
| | Discharge air temperature | Thermometer | | °C | | | |
| | Compressor discharge pressure | Pressure gauge | | MPa | | | |
| | Compressor suction pressure | Pressure gauge | | MPa | | | |
| | Compressor operating current | Clamp meter | Phase differential within 1A | INV U( )A, V( )A, W( )A | | | |
| | | | | STD1 R( )A, S( )A, T( )A | | | |
| | | | | STD2 R( )A, S( )A, T( )A | | | |
| | Compressor operating frequency | Clamp meter | | INV Hz | | | |
| | Suction pipe temperature | Thermometer | 3~15°C | INV °C | STD1 °C | STD2 °C | |
| | Discharge pipe temperature | Thermometer | 85~105°C | INV °C | STD1 °C | STD2 °C | |
| | Clank case heater | Touch | Warm | INV G·NG | STD1 G·NG | STD2 G·NG | |
| Outdoor unit 3 | Main power supply voltage | Tester | Rated voltage ±10% | R-S V | R-S V | R-S V | |
| | Operation circuit voltage | Tester | Rated voltage ±10% | V | | | |
| | Fan rotation direction | Visual inspection | Forward rotation | G NG | | | |
| | Fan noise/vibration | Listening | No noise or vibration | | | | |
| | Fan operation current | Clamp meter | | RED A WHITE A BLACK A | | | |
| | Suction air temperature | Thermometer | Temperature differential 9~11deg. when cooling, 2~3.5deg. when heating | °C | | | |
| | Discharge air temperature | Thermometer | | °C | | | |
| | Compressor discharge pressure | Pressure gauge | | MPa | | | |
| | Compressor suction pressure | Pressure gauge | | MPa | | | |
| | Compressor operating current | Clamp meter | Phase differential within 1A | INV U( )A, V( )A, W( )A | | | |
| | | | | STD1 R( )A, S( )A, T( )A | | | |
| | | | | STD2 R( )A, S( )A, T( )A | | | |
| | Compressor operating frequency | Clamp meter | | INV Hz | | | |
| | Suction pipe temperature | Thermometer | 3~15°C | INV °C | STD1 °C | STD2 °C | |
| | Discharge pipe temperature | Thermometer | 85~105°C | INV °C | STD1 °C | STD2 °C | |
| | Clank case heater | Touch | Warm | NV G·NG | STD1 G·NG | STD2 G·NG | |

(V1093)

During operation

System name

| | Inspection item | Inspection method | Standard (guideline) | Measurement values | | | | Decision |
|---|---|---|---|---|---|---|---|---|
| Indoor unit | Powerly supply voltage | Tester | Rated voltage ±10% | Room 1 V | Room 2 V | Room 3 V | Room 4 V | |
| | | | | Room 5 V | Room 6 V | Room 7 V | Room 8 V | |
| | | | | Room 9 V | Room10 V | Room11 V | Room12 V | |
| | | | | Room13 V | Room14 V | Room15 V | Room16 V | |
| | | | | Room17 V | Room18 V | Room19 V | Room20 V | |
| | | | | Room21 V | Room22 V | Room23 V | Room24 V | |
| | | | | Room25 V | Room26 V | Room27 V | Room28 V | |
| | | | | Room29 V | Room30 V | Room31 V | Room32 V | |
| | | | | Room33 V | Room34 V | Room35 V | Room36 V | |
| | | | | Room37 V | Room38 V | Room39 V | Room40 V | |
| | Suction air temperature | Thermometer | Thermometer differential 9~13 °C when cooling, 15~20 °C when heating | Room 1 °C | Room 2 °C | Room 3 °C | Room 4 °C | |
| | | | | Room 5 °C | Room 6 °C | Room 7 °C | Room 8 °C | |
| | | | | Room 9 °C | Room10 °C | Room11 °C | Room12 °C | |
| | | | | Room13 °C | Room14 °C | Room15 °C | Room16 °C | |
| | | | | Room17 °C | Room18 °C | Room19 °C | Room20 °C | |
| | | | | Room21 °C | Room22 °C | Room23 °C | Room24 °C | |
| | | | | Room25 °C | Room26 °C | Room27 °C | Room28 °C | |
| | | | | Room29 °C | Room30 °C | Room31 °C | Room32 °C | |
| | | | | Room33 °C | Room34 °C | Room35 °C | Room36 °C | |
| | | | | Room37 °C | Room38 °C | Room39 °C | Room40 °C | |
| | Discharge air temperature | | | Room 1 °C | Room 2 °C | Room 3 °C | Room 4 °C | |
| | | | | Room 5 °C | Room 6 °C | Room 7 °C | Room 8 °C | |
| | | | | Room 9 °C | Room10 °C | Room11 °C | Room12 °C | |
| | | | | Room13 °C | Room14 °C | Room15 °C | Room16 °C | |
| | | | | Room17 °C | Room18 °C | Room19 °C | Room20 °C | |
| | | | | Room21 °C | Room22 °C | Room23 °C | Room24 °C | |
| | | | | Room25 °C | Room26 °C | Room27 °C | Room28 °C | |
| | | | | Room29 °C | Room30 °C | Room31 °C | Room32 °C | |
| | | | | Room33 °C | Room34 °C | Room35 °C | Room36 °C | |
| | | | | Room37 °C | Room38 °C | Room39 °C | Room40 °C | |
| | Fan rotation direction | Visual inspection | Forward rotation | Room 1 G NG | Room 2 G NG | Room 3 G NG | Room 4 G NG | |
| | | | | Room 5 G NG | Room 6 G NG | Room 7 G NG | Room 8 G NG | |
| | | | | Room 9 G NG | Room 10 G NG | Room 11 G NG | Room 12 G NG | |
| | | | | Room 13 G NG | Room 14 G NG | Room 15 G NG | Room 16 G NG | |
| | | | | Room 17 G NG | Room 18 G NG | Room 19 G NG | Room 20 G NG | |
| | | | | Room 21 G NG | Room 22 G NG | Room 23 G NG | Room 24 G NG | |
| | | | | Room 25 G NG | Room 26 G NG | Room 27 G NG | Room 28 G NG | |
| | | | | Room 29 G NG | Room 30 G NG | Room 31 G NG | Room 32 G NG | |
| | | | | Room 33 G NG | Room 34 G NG | Room 35 G NG | Room 36 G NG | |
| | | | | Room 37 G NG | Room 38 G NG | Room 39 G NG | Room 40 G NG | |
| | Fan noise/ vibration | Listening | No noise or vibration | Room 1 G NG | Room 2 G NG | Room 3 G NG | Room 4 G NG | |
| | | | | Room 5 G NG | Room 6 G NG | Room 7 G NG | Room 8 G NG | |
| | | | | Room 9 G NG | Room 10 G NG | Room 11 G NG | Room 12 G NG | |
| | | | | Room 13 G NG | Room 14 G NG | Room 15 G NG | Room 16 G NG | |
| | | | | Room 17 G NG | Room 18 G NG | Room 19 G NG | Room 20 G NG | |
| | | | | Room 21 G NG | Room 22 G NG | Room 23 G NG | Room 24 G NG | |
| | | | | Room 25 G NG | Room 26 G NG | Room 27 G NG | Room 28 G NG | |
| | | | | Room 29 G NG | Room 30 G NG | Room 31 G NG | Room 32 G NG | |
| | | | | Room 33 G NG | Room 34 G NG | Room 35 G NG | Room 36 G NG | |
| | | | | Room 37 G NG | Room 38 G NG | Room 39 G NG | Room 40 G NG | |
| | Fan operating current | Clamp meter | | Room 1 A | Room 2 A | Room 3 A | Room 4 A | |
| | | | | Room 5 A | Room 6 A | Room 7 A | Room 8 A | |
| | | | | Room 9 A | Room10 A | Room11 A | Room12 A | |
| | | | | Room13 A | Room14 A | Room15 A | Room16 A | |
| | | | | Room17 A | Room18 A | Room19 A | Room20 A | |
| | | | | Room21 A | Room22 A | Room23 A | Room24 A | |
| | | | | Room25 A | Room26 A | Room27 A | Room28 A | |
| | | | | Room29 A | Room30 A | Room31 A | Room32 A | |
| | | | | Room33 A | Room34 A | Room35 A | Room36 A | |
| | | | | Room37 A | Room38 A | Room39 A | Room40 A | |

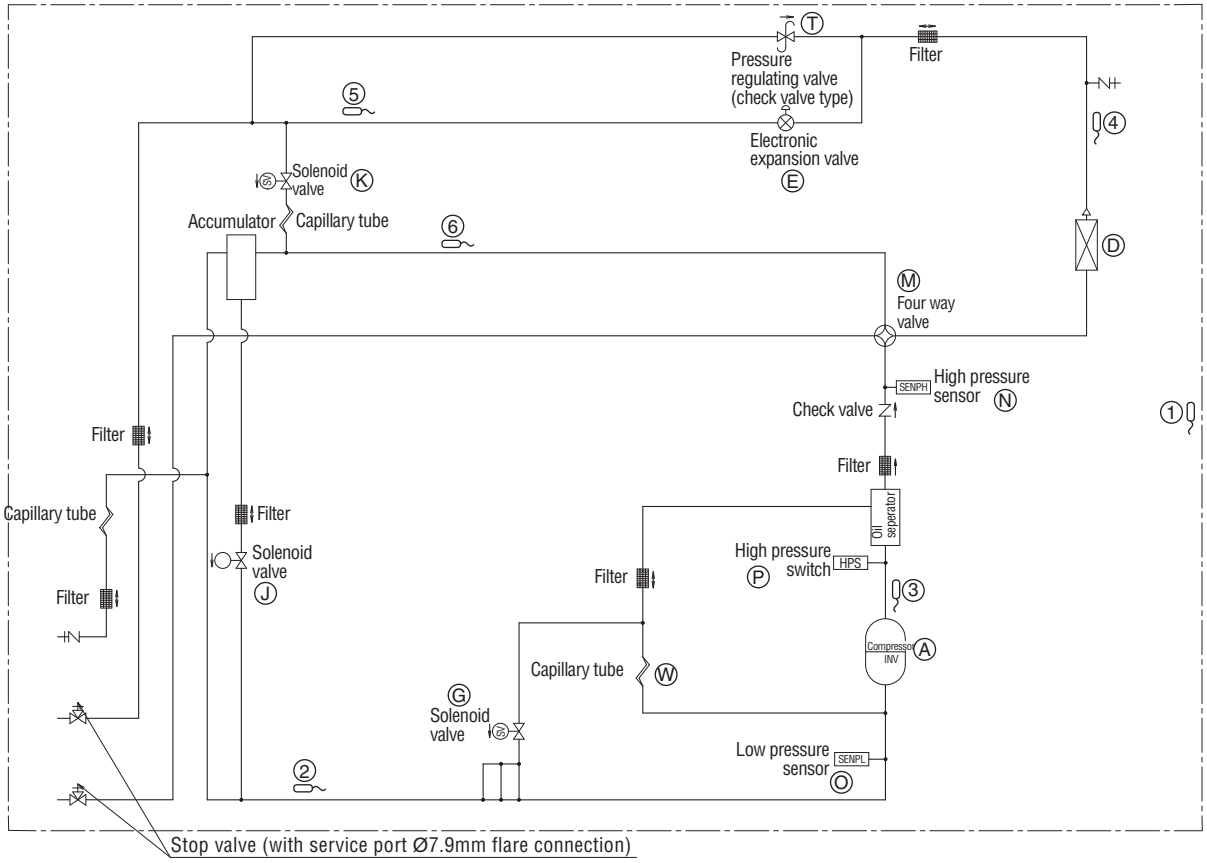
(V1094)

# 7.12 Piping System Diagrams

## 7.12.1 Outdoor Unit

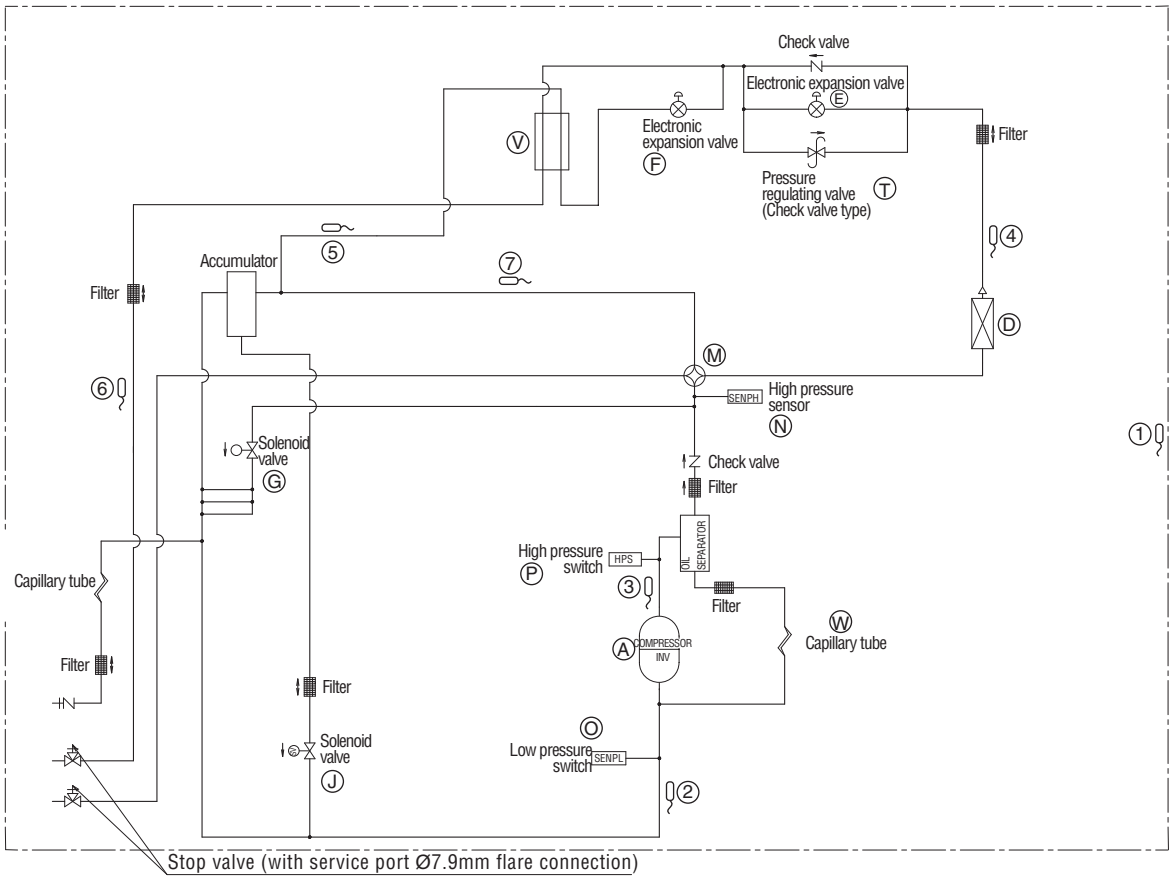
### 7.12.1.1 Heat Pump/Cooling Only 50Hz

**RXYQ5PY1**
**RXQ5PY1**



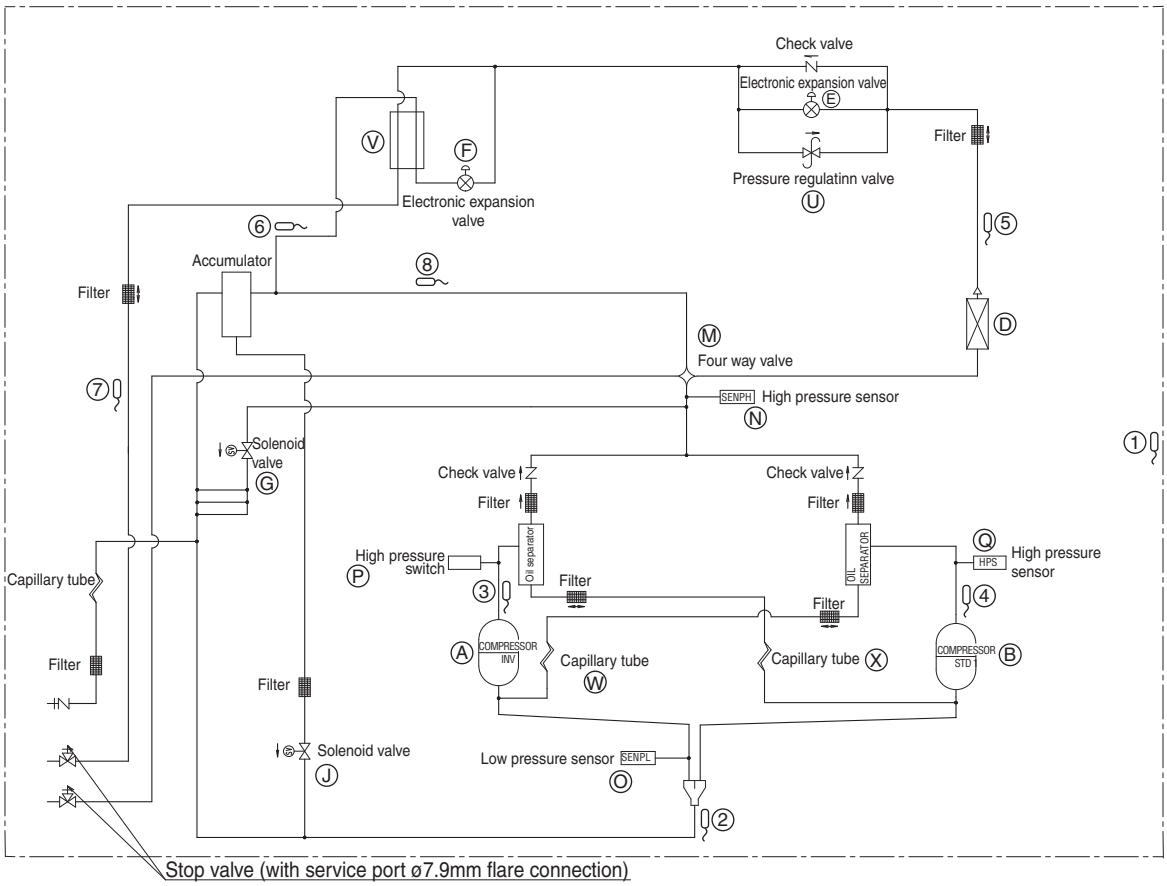

3D050782

**RXYQ8PY1**
**RXQ8PY1**



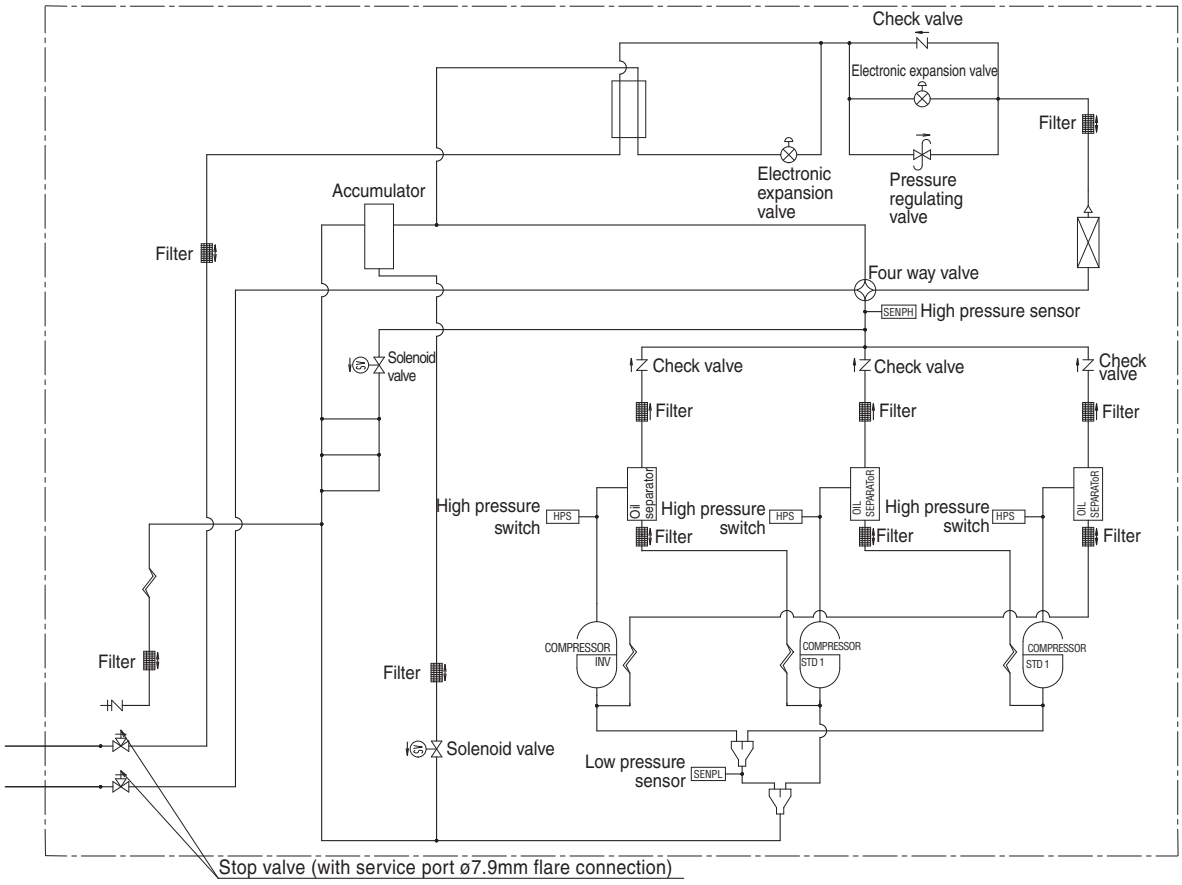

3D050783

**RXYQ10PY1, RXYQ12PY1**
**RXQ10PY1, RXQ12PY1**




3D050784

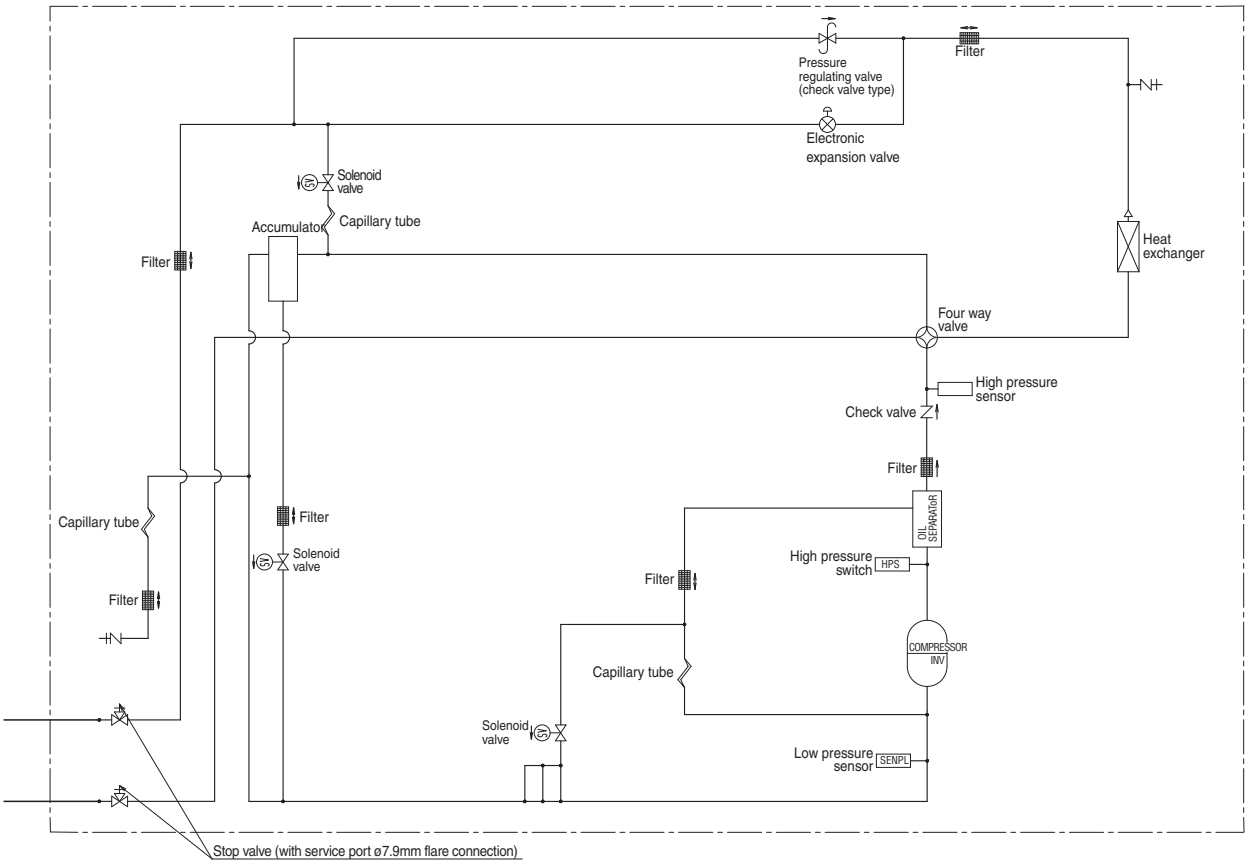
**RXYQ14PY1, RXYQ16PY1, RXYQ18PY1**
**RXQ14PY1, RXQ16PY1, RXQ18PY1**




3D050785A

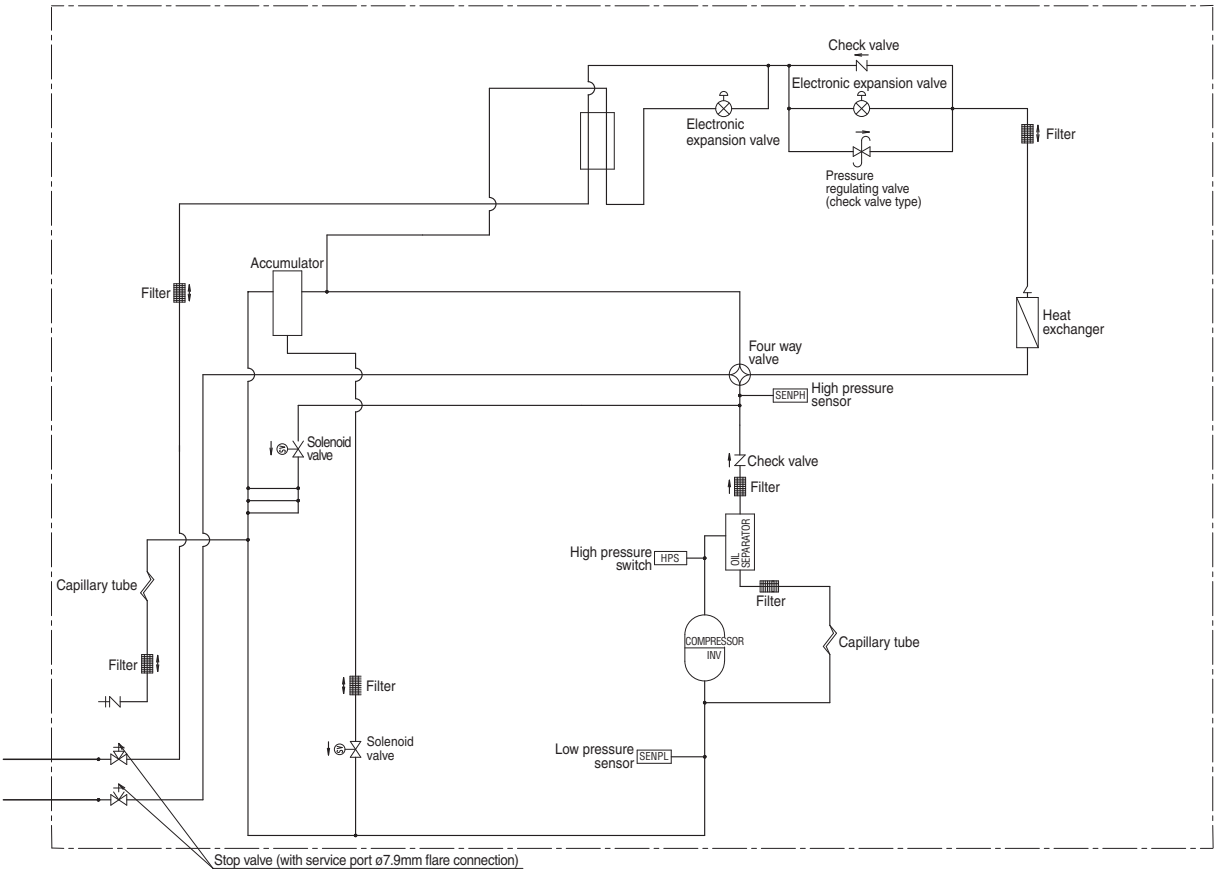
### 7.12.1.2 Heat Pump 60Hz

## RXYQ5PYL



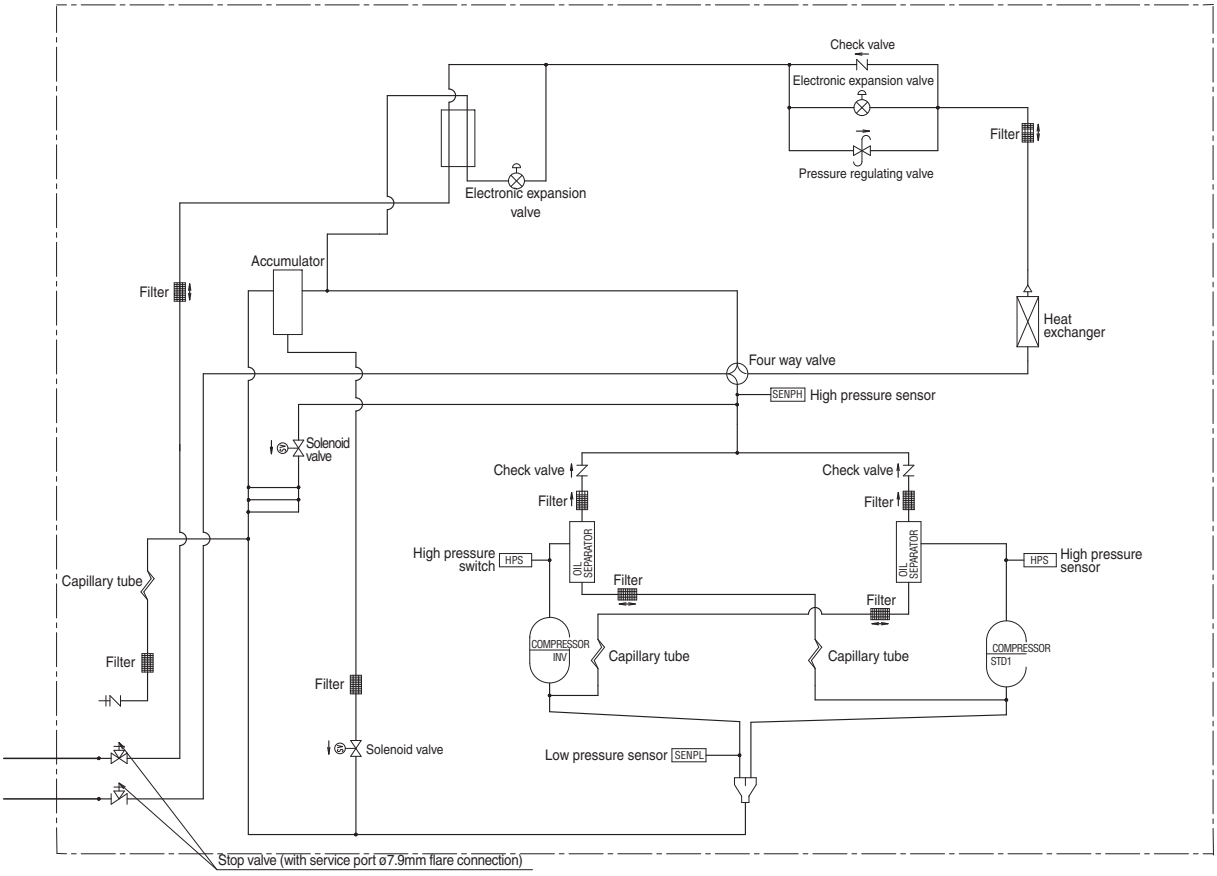

3D055764A

## RXYQ8PYL



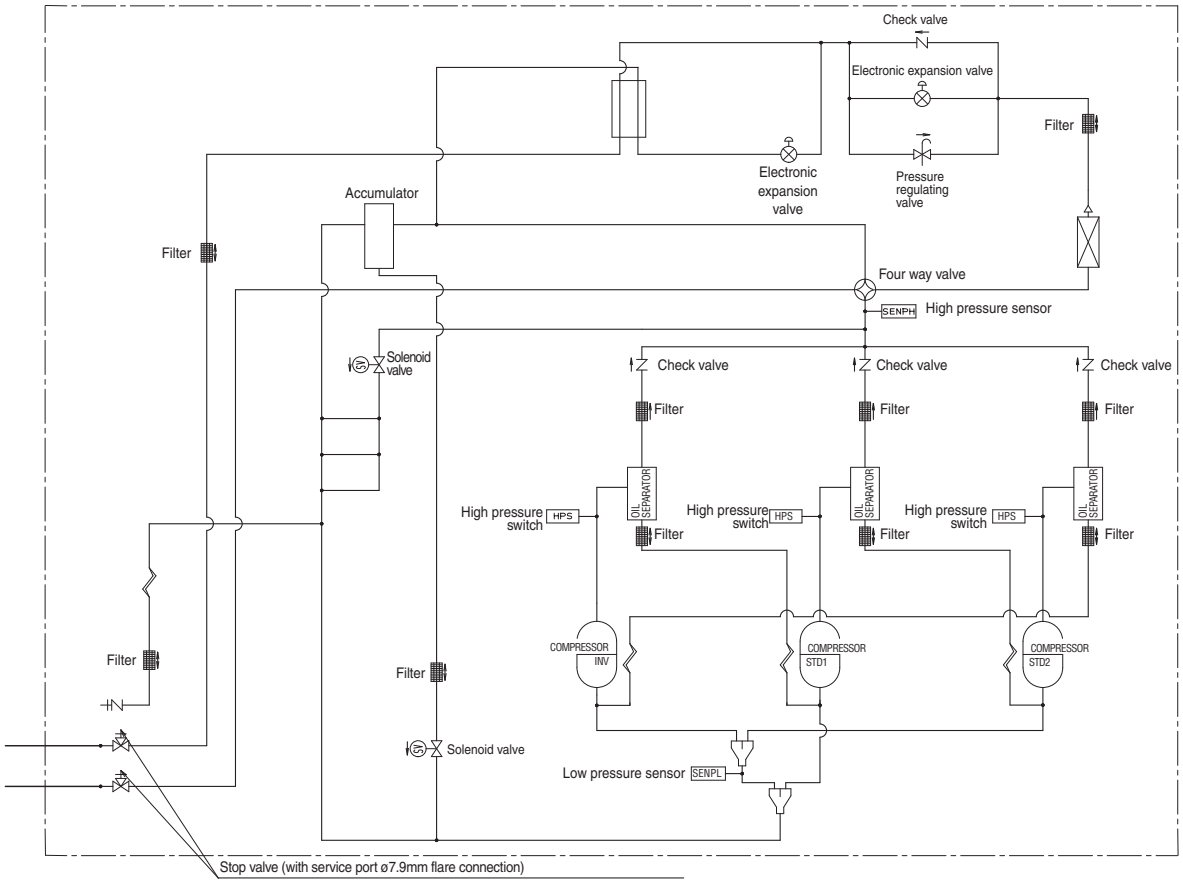

3D055765A

## RXYQ10PYL, RXYQ12PYL




3D055766B

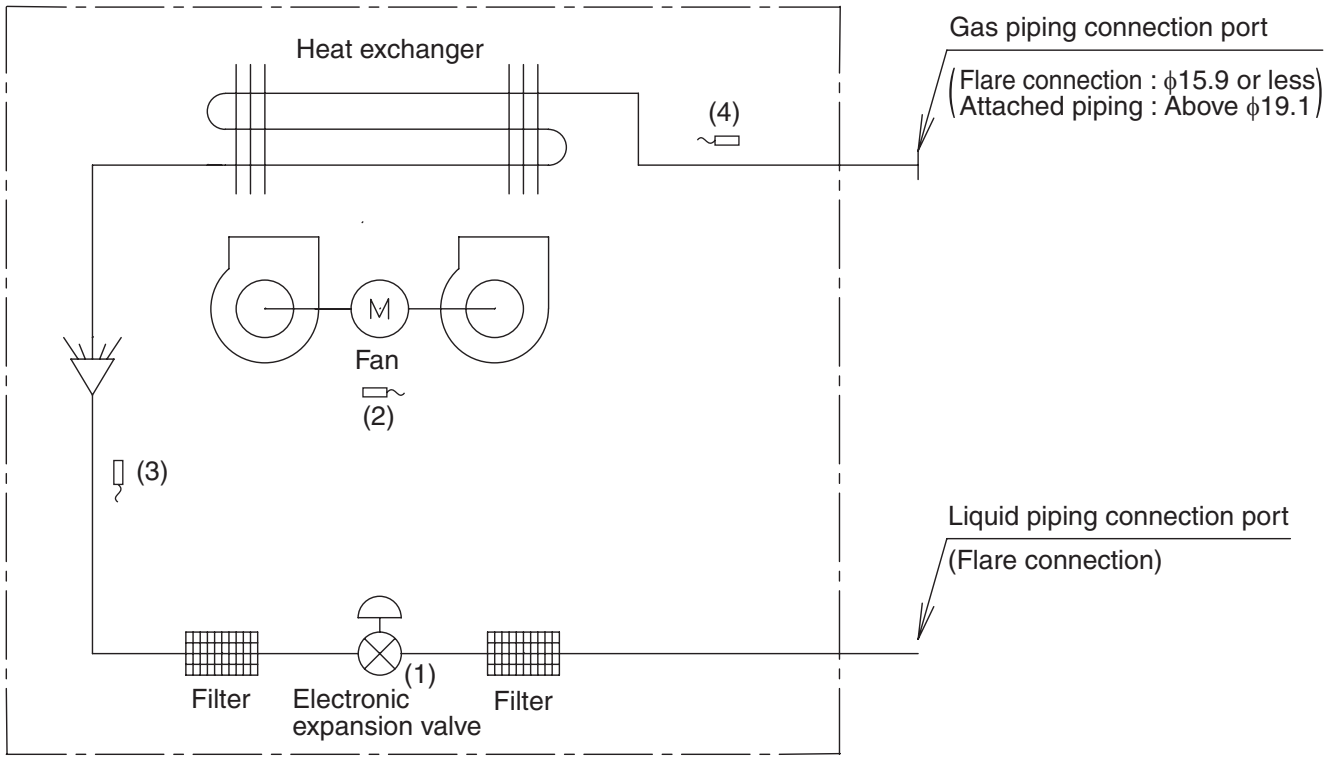
## RXYQ14PYL, RXYQ16PYL, RXYQ18PYL




3D050785A

## 7.12.2 Indoor Unit

**FXCQ, FXFQ, FXKQ, FXSQ, FXMQ, FXHQ, FXAQ, FXLQ, FXNQ**



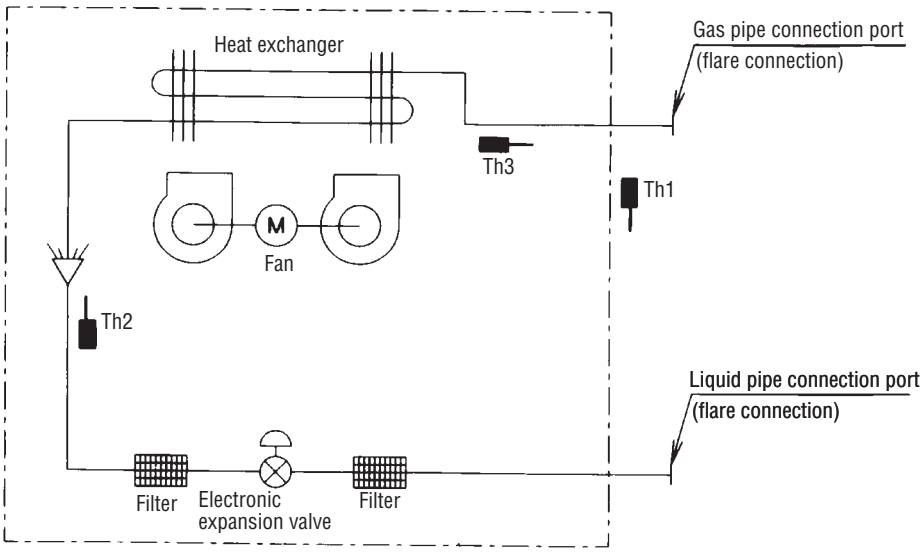

4D040157

| Code | Name | Code | Main function | Code |
|---|---|---|---|---|
| (1) | Electronic expansion valve | Y1E | Used for gas superheated degree control while in cooling operation or subcooled degree control while in heating operation. | (1) |
| (2) | Suction air temperature thermistor | R1T | Used for thermostat control. | (2) |
| (3) | Liquid pipe | R2T | Used for gas superheated degree control while in cooling operation or subcooled degree control while in heating operation. | (3) |
| (4) | Gas pipe | R3T | Used for gas superheated degree control while in cooling operation. | (4) |

(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 |

## FXZQ




Th1: Thermistor for suction air temp.
Th2: Thermistor for liquid air temp.
Th3: Thermistor for gas line temp.

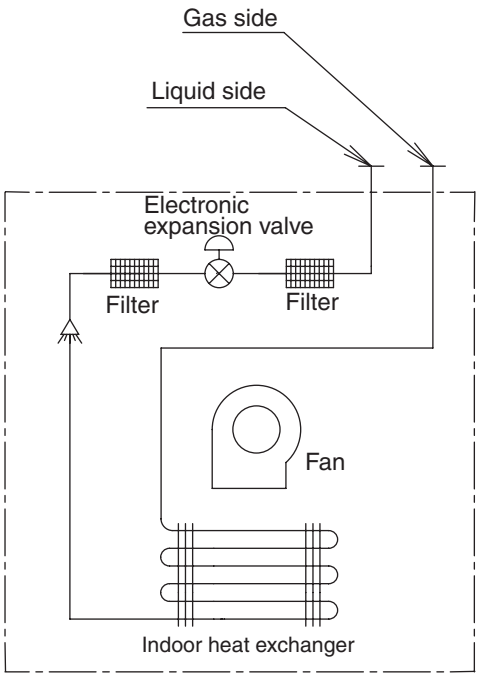
4D040157

### ■ Refrigerant pipe connection port diameters

(mm)

| Model | Gas | Liquid |
|---|---|---|
| FXZQ20M / 25M / 32M / 40M / 50M | ϕ12.7 | ϕ6.4 |

## FXDQ



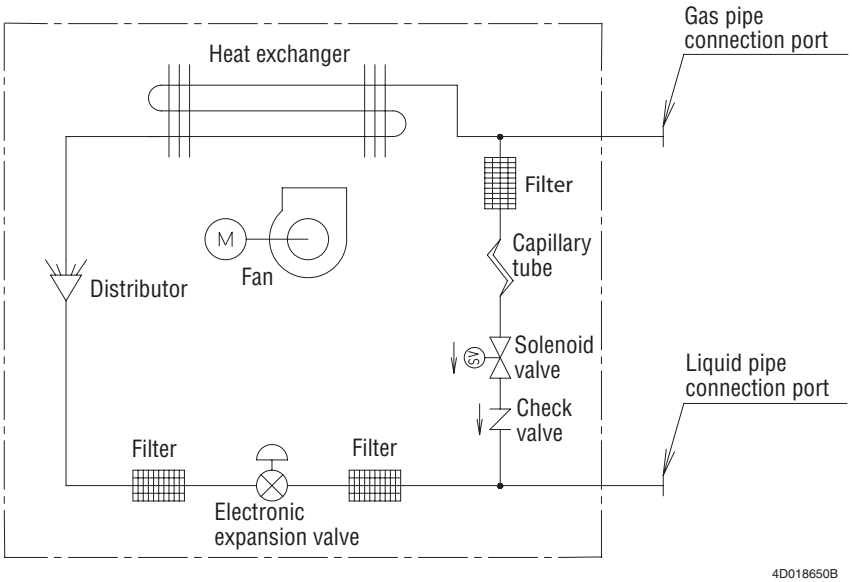

4D043864J

■ **Refrigerant pipe connection port diameters**

(mm)

| Model | Gas | Liquid |
|---|---|---|
| FXDQ20N(A), P / 25N(A), P / 32N(A), P / 40N(A) / 50N(A)VE(T) | ϕ12.7 | ϕ6.4 |
| FXDQ63N(A)VE(T) | ϕ15.9 | ϕ9.5 |

## FXMQ125MF / 200MF / 250MFV1




4D018650B

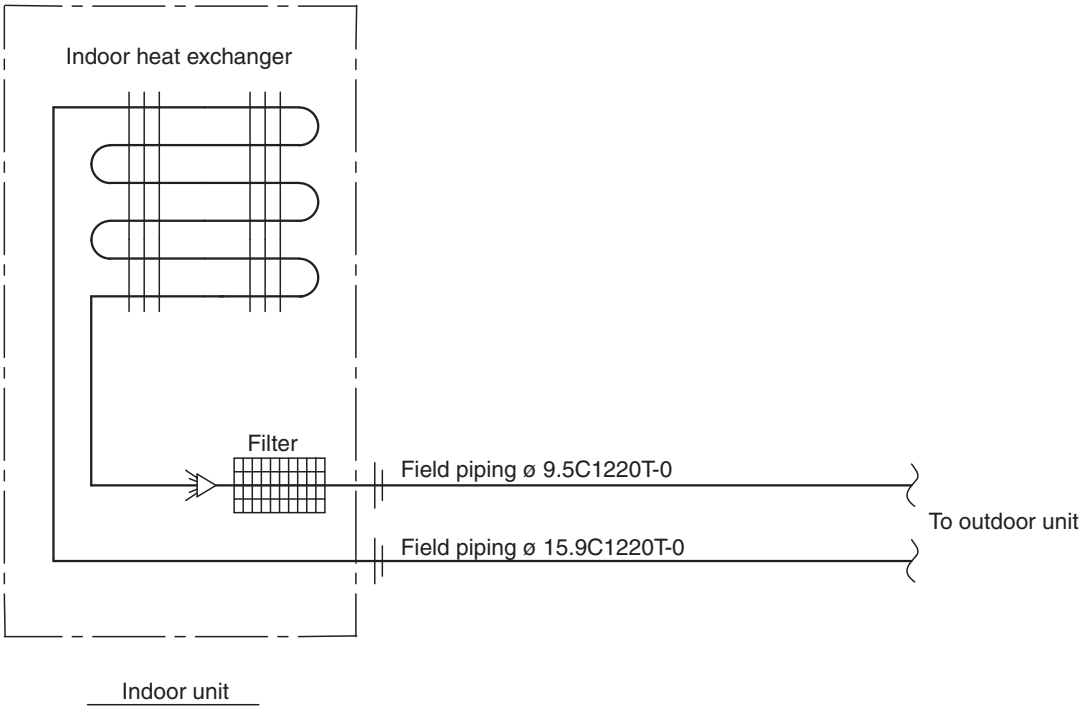
■ **Refrigerant pipe connection port diameters**

(mm)

| Model | Gas | Liquid |
|---|---|---|
| FXMQ125MFV1 | ϕ15.9 | ϕ9.5 |
| FXMQ200MFV1 | ϕ19.1 | ϕ9.5 |
| FXMQ250MFV1 | ϕ22.2 | ϕ9.5 |

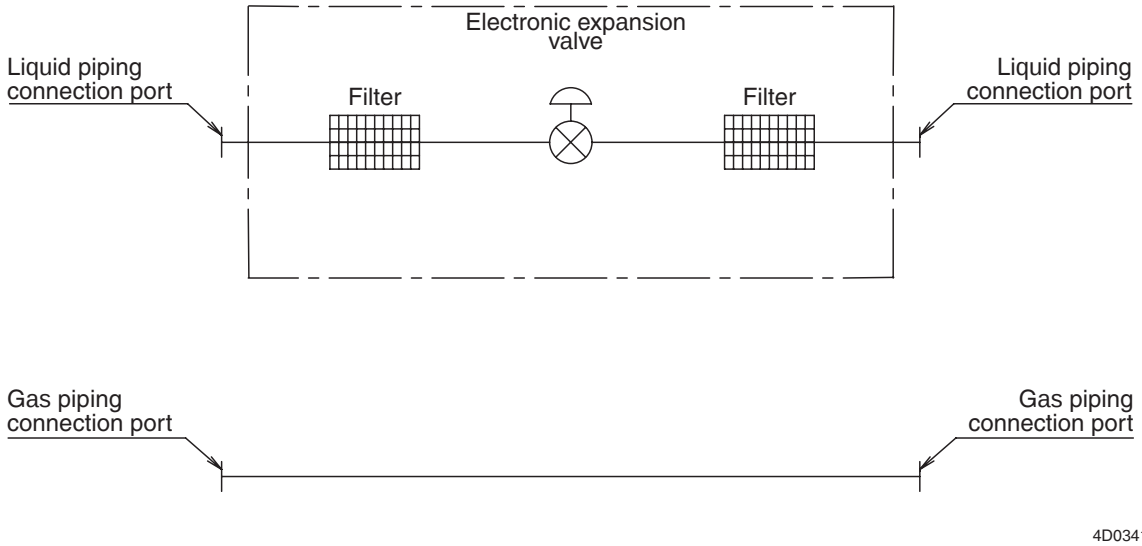
## FXUQ + BEVQ

### Indoor unit




4D037995G

### Connection Unit

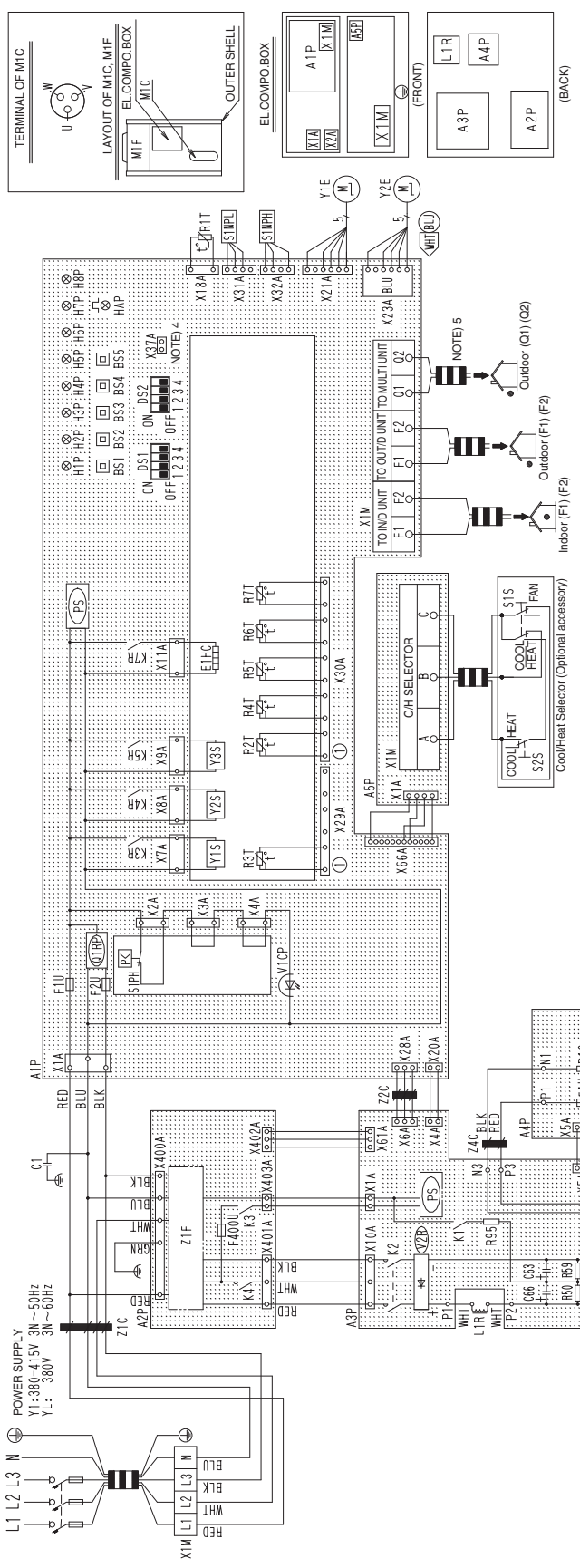



4D034127B

# 7.13 Wiring Diagrams (Heat Pump 50Hz/60Hz, Cooling Only 50Hz)

## 7.13.1 Heat Pump 50Hz/60Hz Outdoor Unit

**RXYQ5PY1, RXYQ5PYL**

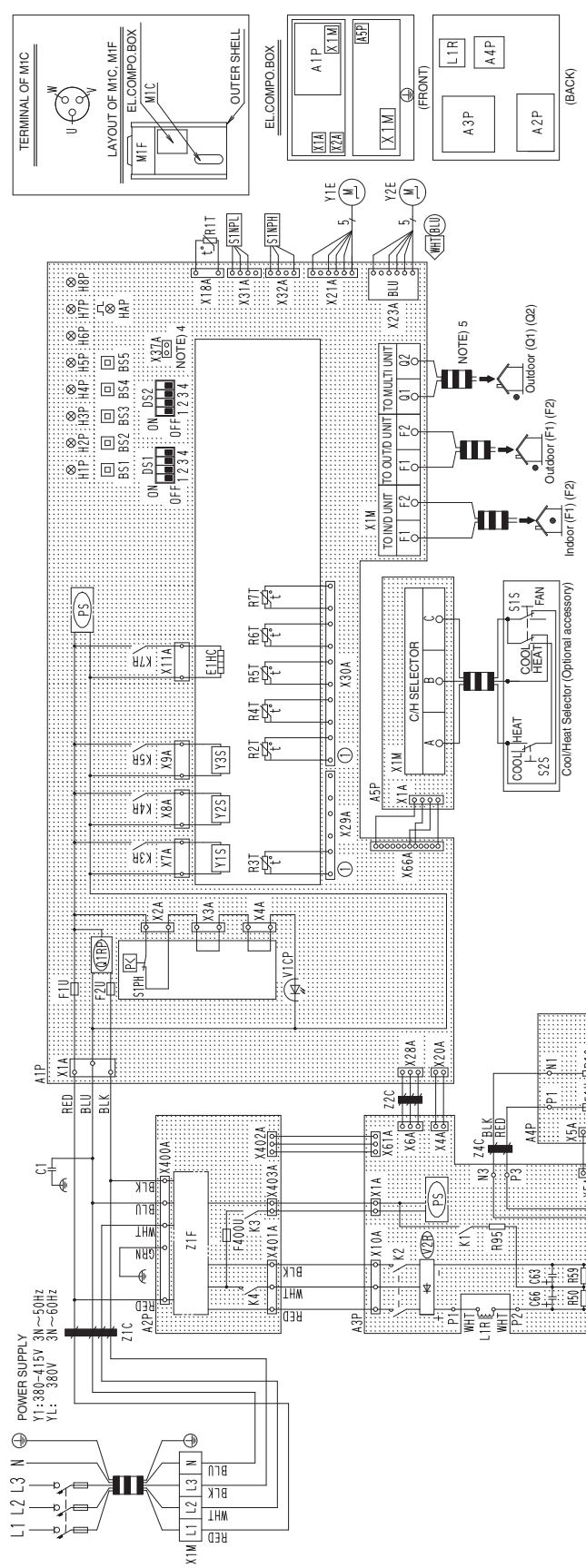



| L1-RED | L2-BLK | L3-WHT | N-BLU |
|---|---|---|---|
| A1P | Printed circuit board (Main) | | |
| A2P | Printed circuit board (Noise filter) | | |
| A3P | Printed circuit board (INV) | | |
| A4P | Printed circuit board (FAN) | | |
| A5P | Printed circuit board (ABC I/P) | | |
| BS1~5 | Push button switch (Mode, set, return, test, reset) | | |
| C1 | Capacitor | | |
| C63,C66 | Capacitor | | |
| DS1,DS2 | DIP switch | | |
| E1HC | Crankcase heater | | |
| F1U | Fuse (8A, DC650V) (A4P) | | |
| F1U,F2U | Fuse (T, 3.15A, 250V) (A1P) | | |
| F400U | Fuse (T, 6.3A, 250V) (A2P) | | |
| H1P~8P | Pilotlamp (Service monitor-orange) | | |
| | [H2P] Prepare, test ----------Flickering | | |
| | Malfunction detection---------Light up | | |
| HAP | Pilotlamp (Service monitor-green) | | |
| K1,K3 | Magnetic relay | | |
| K2,K4 | Magnetic contactor (M1C) | | |
| K3R | Magnetic relay (Y1S) | | |
| K4R | Magnetic relay (Y2S) | | |
| K5R | Magnetic relay (Y3S) | | |
| K7R | Magnetic relay (E1HC) | | |
| K11R | Magnetic relay (Y4S) | | |
| L1R | Reactor | | |
| M1C | Motor (Compressor) | | |
| M1F | Motor (Fan) | | |
| PS | Switching power supply (A1P,A3P) | | |
| Q1RP | Phase reversal detect circuit | | |
| R10 | Resistor (Current sensor) (A4P) | | |
| R50, R59 | Resistor | | |
| R95 | Resistor (Current limiting) | | |
| R1T | Thermistor (Air) (A1P) | | |
| R1T | Thermistor (Fin) (A3P) | | |
| R1T | Thermistor (Suction) | | |
| R2T | Thermistor (M1C discharge) | | |
| R3T | Thermistor (Heat exc. deicer) | | |
| R4T | Thermistor (Heat exc. outlet) | | |
| R5T | Thermistor (Liq. pipe) | | |
| R6T | Pressure sensor (high) | | |
| S1NPH | Pressure sensor (low) | | |
| S1NPL | Pressure switch (high) | | |
| S1PH | Safety devices input | | |
| V1CP | Power module (A3P, A4P) | | |
| V1R | Diode bridge (A3P) | | |
| V2R | Connector (M1F) | | |
| X1A, X2A | Terminal strip (Power supply) | | |
| X1M | Terminal strip (Control) (A1P) | | |
| X1M | Terminal strip (ABC I/P) (A5P) | | |
| Y1E | Electronic expansion valve (Main) | | |
| Y2E | Electronic expansion valve (Subcool) | | |
| Y1S | Solenoid valve (Hot gas) | | |
| Y2S | Solenoid valve (Oil) | | |
| Y3S | Solenoid valve (4 way valve) | | |
| 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) | | |

3D050454J

**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 adapter, refer to the installation manual of the optional adapter.
5. For connection wiring to indoor-outdoor transmission F1 • F2, outdoor-outdoor transmission F1 • F2, refer to the installation manual.
6. How to use BS1~5 and DS1~3 switch, 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, PNK:Pink, YLW: Yellow, BRN: brown, GRY: gray, GRN: green, ORG: Orange.

## RXYQ8PY1, RXYQ8PYL

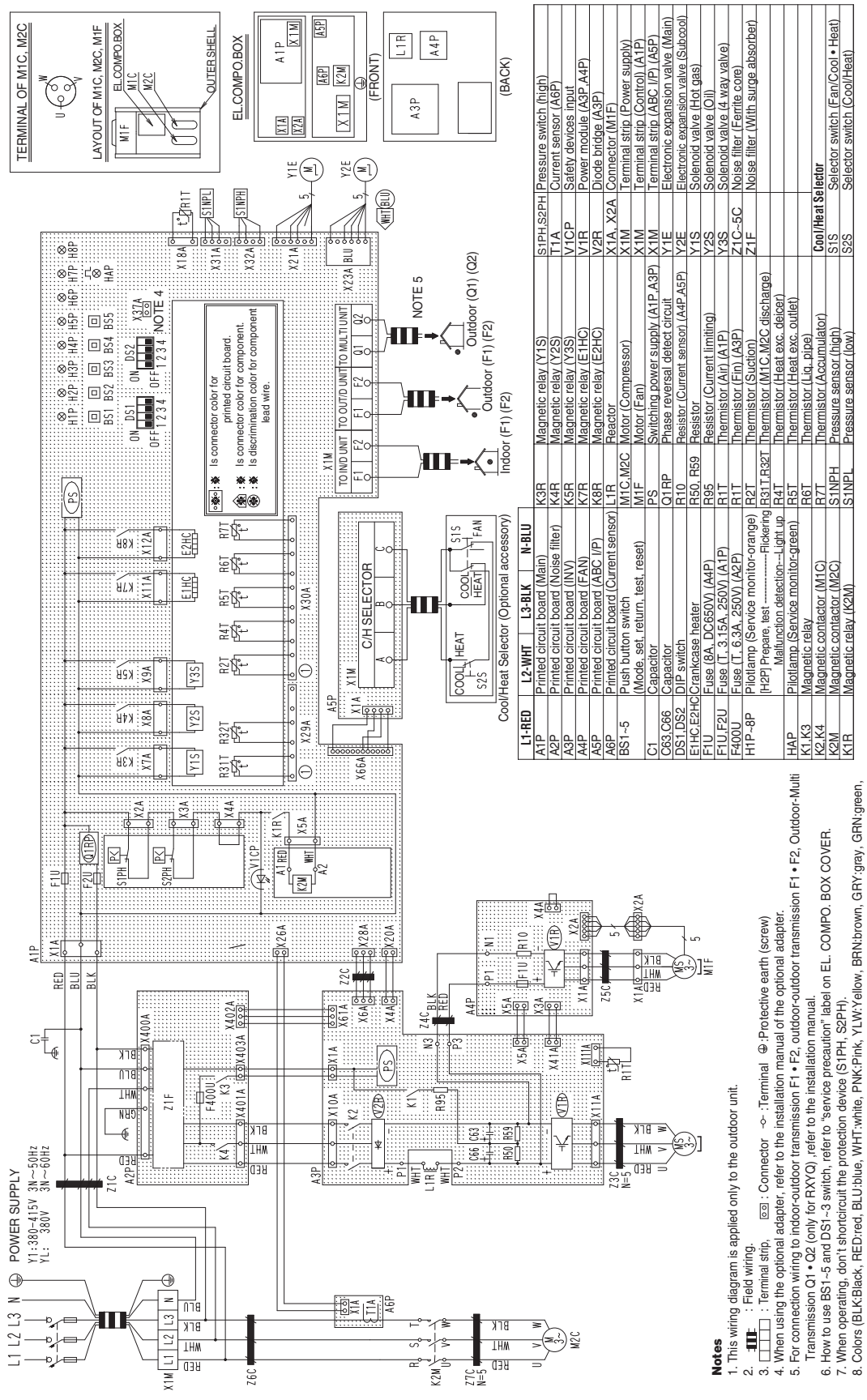



| L1-RED | L2-BLK | L3-WHT | N-BLU | | | |
|---|---|---|---|---|---|---|
| A1P | Printed circuit board (Main) | K4R | Magnetic relay (Y2S) | S1PH | Pressure switch (high) | |
| A2P | Printed circuit board (Noise filter) | K5R | Magnetic relay (Y3S) | V1CP | Safety devices input | |
| A3P | Printed circuit board (INV) | K7R | Magnetic relay (E1HC) | V1R | Power module (A3P, A4P) | |
| A4P | Printed circuit board (FAN) | K11R | Magnetic relay (Y4S) | V2R | Diode bridge (A3P) | |
| A5P | Printed circuit board (ABC I/P) | L1R | Reactor | X1A, X2A | Connector (M1F) | |
| BS1~5 | Push button switch (Mode, set, return, test, reset) | M1C | Motor (Compressor) | X1M | Terminal strip (Power supply) | |
| | | M1F | Motor (Fan) | X1M | Terminal strip (Control) (A1P) | |
| C1 | Capacitor | PS | Switching power supply (A1P, A3P) | X1M | Terminal strip (ABC I/P) (A5P) | |
| C63,C66 | Capacitor | Q1RP | Phase reversal detect circuit | Y1E | Electronic expansion valve (Main) | |
| DS1,DS2 | DIP switch | R10 | Resistor (Current sensor) (A4P) | Y2E | Electronic expansion valve (Subcool) | |
| E1HC | Crankcase heater | R50, R59 | Resistor | Y1S | Solenoid valve (Hot gas) | |
| F1U | Fuse (8A, DC650V) (A4P) | R95 | Resistor (Current limiting) | Y2S | Solenoid valve (Oil) | |
| F1U,F2U | Fuse (T, 3.15A, 250V) (A1P) | R1T | Thermistor (Air) (A1P) | Y3S | Solenoid valve (4 way valve) | |
| F400U | Fuse (T, 6.3A, 250V) (A2P) | R1T | Thermistor (Fin) (A3P) | Z1C~5C | | |
| H1P~8P | Pilotlamp (Service monitor-orange) | R2T | Thermistor (Suction) | Z1F | Noise filter (Ferrite core) | |
| | [H2P] Prepare_test ----------Flickering | R3T | Thermistor (M1C discharge) | | Noise filter (With surge absorber) | |
| | Malfunction detection--------Light up | R4T | Thermistor (Heat exc. defcer) | | | |
| HAP | Pilotlamp (Service monitor-green) | R5T | Thermistor (Heat exc. outlet) | | | |
| K1,K3 | Magnetic relay | R6T | Thermistor (Liq. pipe) | | Cool/Heat Selector | |
| K2,K4 | Magnetic contactor (M1C) | S1NPH | Pressure sensor (high) | S1S | Selector switch (Fan/Cool • Heat) | |
| K3R | Magnetic relay (Y1S) | S1NPL | Pressure sensor (low) | S2S | Selector switch (Cool/Heat) | |

**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 adapter, refer to the installation manual of the optional adapter.
5. For connection wiring to indoor-outdoor transmission F1 • F2, outdoor-outdoor transmission F1 • F2, refer to the installation manual.
6. How to use BS1~5 and DS1~3 switch, 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, PNK:Pink, YLW: Yellow, BRN: brown, GRY: gray, GRN: green, ORG: 0range.

3D050454J

## RXYQ10PY1, RXYQ10PYL

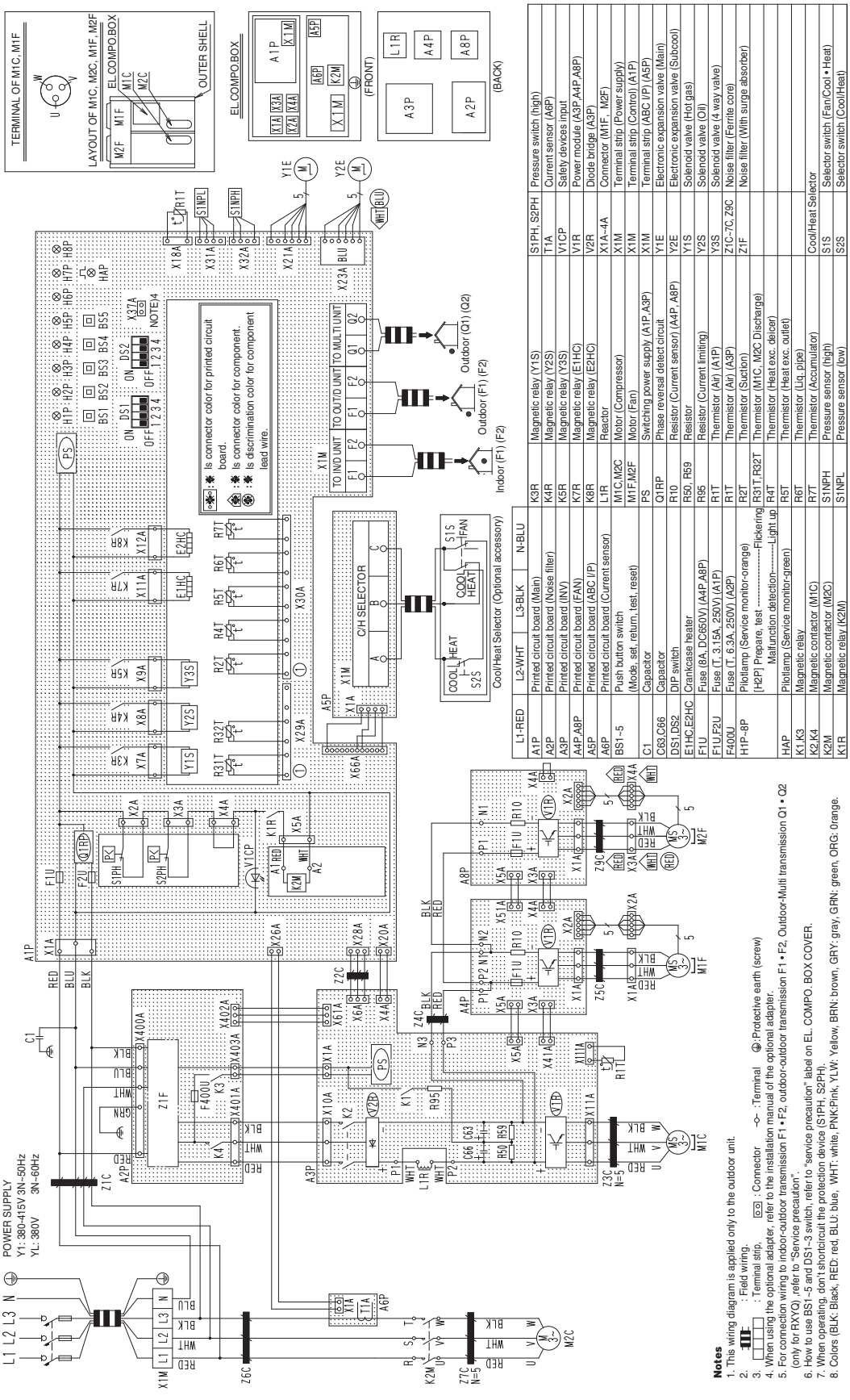



| L1-RED | L2-WHT | L3-BLK | N-BLU | | |
|---|---|---|---|---|---|
| A1P | Printed circuit board (Main) | K3R | Magnetic relay (Y1S) | S1PH,S2PH | Pressure switch (high) |
| A2P | Printed circuit board (Noise filter) | K4R | Magnetic relay (Y2S) | T1A | Current sensor (A6P) |
| A3P | Printed circuit board (INV) | K5R | Magnetic relay (Y3S) | V1CP | Safety devices input |
| A4P | Printed circuit board (FAN) | K7R | Magnetic relay (E1HC) | V1R | Power module (A3P,A4P) |
| A5P | Printed circuit board (ABC I/P) | K8R | Magnetic relay (E2HC) | V2R | Diode bridge (A3P) |
| A6P | Printed circuit board (Current sensor) | L1R | Reactor | X1A, X2A | Connector (M1F) |
| BS1~5 | Push button switch (Mode, set, return, test, reset) | M1C,M2C | Motor (Compressor) | X1M | Terminal strip (Power supply) |
| | | M1F | Motor (Fan) | X1M | Terminal strip (Control) (A1P) |
| C1 | Capacitor | PS | Switching power supply (A1P,A3P) | X1M | Terminal strip (ABC I/P) (A5P) |
| C63,C66 | Capacitor | Q1RP | Phase reversal detect circuit | Y1E | Electronic expansion valve (Main) |
| DS1,DS2 | DIP switch | R10 | Resistor (Current sensor) (A4P,A5P) | Y2E | Electronic expansion valve (Subcool) |
| E1HC,E2HC | Crankcase heater | R50, R59 | Resistor | Y1S | Solenoid valve (Hot gas) |
| F1U | Fuse (8A, DC650V) (A4P) | R95 | Resistor (Current limiting) | Y2S | Solenoid valve (Oil) |
| F1U,F2U | Fuse (T, 3.15A, 250V) (A1P) | R1T | Thermistor (Air) (A1P) | Y3S | Solenoid valve (4 way valve) |
| F400U | Fuse (T, 6.3A, 250V) (A2P) | R1T | Thermistor (Fin) (A3P) | Z1C~5C | Noise filter (Ferrite core) |
| H1P~8P | Pilotlamp (Service monitor-orange) [H2P] Prepare, test ---------- Flickering Malfunction detection ---Light up | R2T | Thermistor (Suction) | Z1F | Noise filter (With surge absorber) |
| | | R31T,R32T | Thermistor (M1C,M2C discharge) | | |
| | | R4T | Thermistor (Heat exc. deicer) | | |
| HAP | Pilotlamp (Service monitor-green) | R5T | Thermistor (Heat exc. outlet) | | |
| K1,K3 | Magnetic relay | R6T | Thermistor (Liq. pipe) | | |
| K2,K4 | Magnetic contactor (M1C) | R7T | Thermistor (Accumulator) | **Cool/Heat Selector** | |
| K2M | Magnetic contactor (M2C) | S1NPH | Pressure sensor (high) | S1S | Selector switch (Fan/Cool • Heat) |
| K1R | Magnetic relay (K2M) | S1NPL | Pressure sensor (low) | S2S | Selector switch (Cool/Heat) |

**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 adapter, refer to the installation manual of the optional adapter.
5. For connection wiring to indoor-outdoor transmission F1 • F2, outdoor-outdoor transmission F1 • F2, Outdoor-Multi Transmission Q1 • Q2 (only for RXYQ), refer to the installation manual.
6. How to use BS1~5 and DS1~3 switch, 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, PNK:Pink, YLW:Yellow, BRN:brown, GRY:gray, GRN:green, ORG:0range.

## RXYQ12PY1, RXYQ12PYL

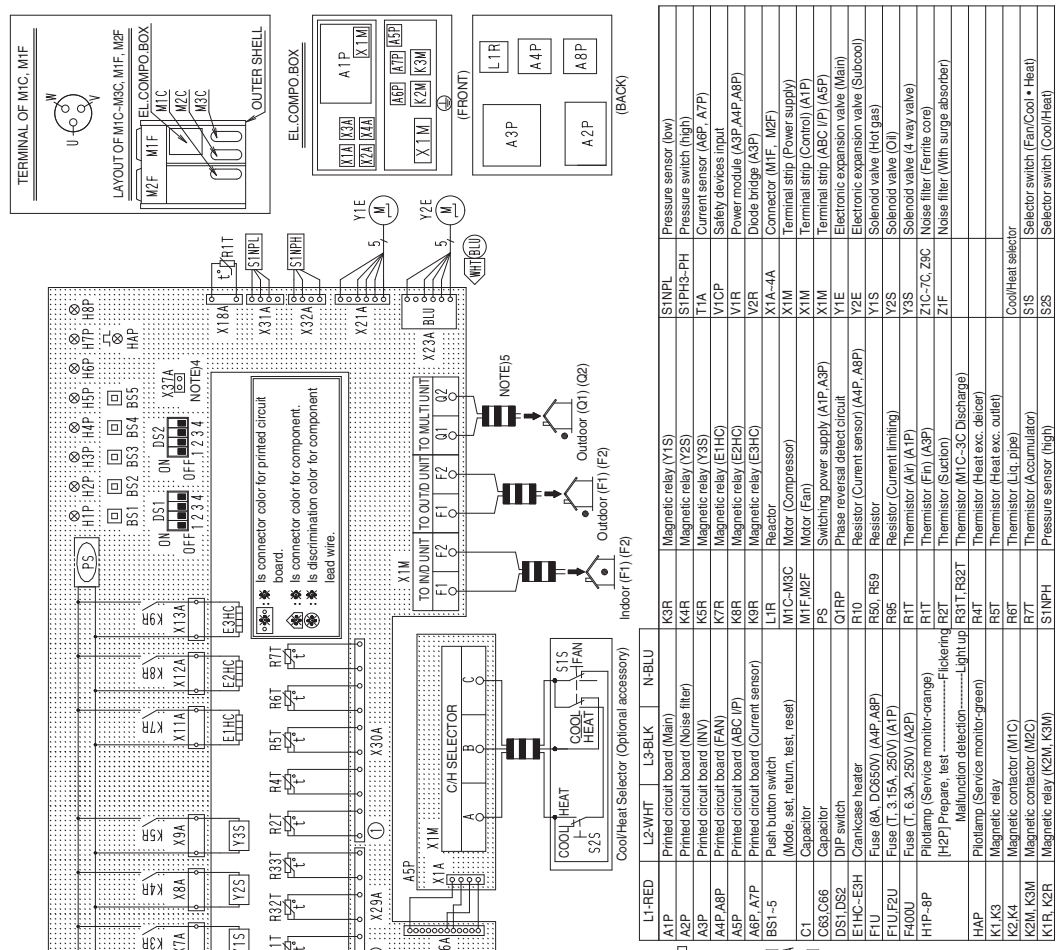



| L1-RED | L2-WHT | L3-BLK | N-BLU | | | |
|---|---|---|---|---|---|---|
| A1P | Printed circuit board (Main) | K3R | Magnetic relay (Y1S) | S1PH, S2PH | Pressure switch (high) | |
| A2P | Printed circuit board (Noise filter) | K4R | Magnetic relay (Y2S) | T1A | Current sensor (A6P) | |
| A3P | Printed circuit board (INV) | K5R | Magnetic relay (Y3S) | V1CP | Safety devices input | |
| A4P,A8P | Printed circuit board (FAN) | K7R | Magnetic relay (E1HC) | V1R | Power module (A3P,A4P,A8P) | |
| A5P | Printed circuit board (ABC I/P) | K8R | Magnetic relay (E2HC) | V2R | Diode bridge (A3P) | |
| A6P | Printed circuit board (Current sensor) | L1R | Reactor | X1A-4A | Connector (M1F, M2F) | |
| BS1~5 | Push button switch (Mode, set, return, test, reset) | M1C,M2C | Motor (Compressor) | X1M | Terminal strip (Power supply) | |
| | | M1F,M2F | Motor (Fan) | X1M | Terminal strip (Control) (A1P) | |
| C1 | Capacitor | PS | Switching power supply (A1P,A3P) | X1M | Terminal strip (ABC I/P) (A5P) | |
| C63,C66 | Capacitor | Q1RP | Phase reversal detect circuit | Y1E | Electronic expansion valve (Main) | |
| DS1,DS2 | DIP switch | R10 | Resistor (Current sensor) (A4P, A8P) | Y2E | Electronic expansion valve (Subcool) | |
| E1HC,E2HC | Crankcase heater | R50, R59 | Resistor | Y1S | Solenoid valve (Hot gas) | |
| F1U | Fuse (8A, DC650V) (A4P,A8P) | R95 | Resistor (Current limiting) | Y2S | Solenoid valve (Oil) | |
| F1U,F2U | Fuse (T, 3.15A, 250V) (A1P) | R1T | Thermistor (Air) (A1P) | Y3S | Solenoid valve (4 way valve) | |
| F400U | Fuse (T, 6.3A, 250V) (A2P) | R1T | Thermistor (Air) (A3P) | Z1C~7C, Z9C | Noise filter (Ferrite core) | |
| H1P~8P | Pilotlamp (Service monitor-orange) (H2P) Prepare, test ----------Flickering<br>Malfunction detection----------Light up | R2T | Thermistor (Suction) | Z1F | Noise filter (With surge absorber) | |
| | | R31T,R32T | Thermistor (M1C, M2C Discharge) | | | |
| HAP | Pilotlamp (Service monitor-green) | R4T | Thermistor (Heat exc. deicer) | | | |
| K1,K3 | Magnetic relay | R5T | Thermistor (Heat exc. outlet) | | | |
| K2,K4 | Magnetic contactor (M1C) | R6T | Thermistor (Ldg. pipe) | | | |
| K2M | Magnetic contactor (M2C) | R7T | Thermistor (Accumulator) | Cool/Heat Selector | | |
| K1R | Magnetic relay (K2M) | S1NPH | Pressure sensor (high) | S1S | Selector switch (Fan/Cool • Heat) | |
| | | S1NPL | Pressure sensor (low) | S2S | Selector switch (Cool/Heat) | |

**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 adapter, refer to the installation manual of the optional adapter.
5. For connection wiring to indoor-outdoor transmission F1 • F2, outdoor-outdoor transmission Q1 • Q2 (only for RXYQ), refer to "Service precaution".
6. How to use BS1~5 and DS1~3 switch, 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, PNK:Pink, YLW: Yellow, BRN: brown, GRY: gray, GRN: green, ORG: Orange.

3D051890G

## RXYQ14PY1, RXYQ16PY1, RXYQ18PY1
## RXYQ14PYL, RXYQ16PYL, RXYQ18PYL



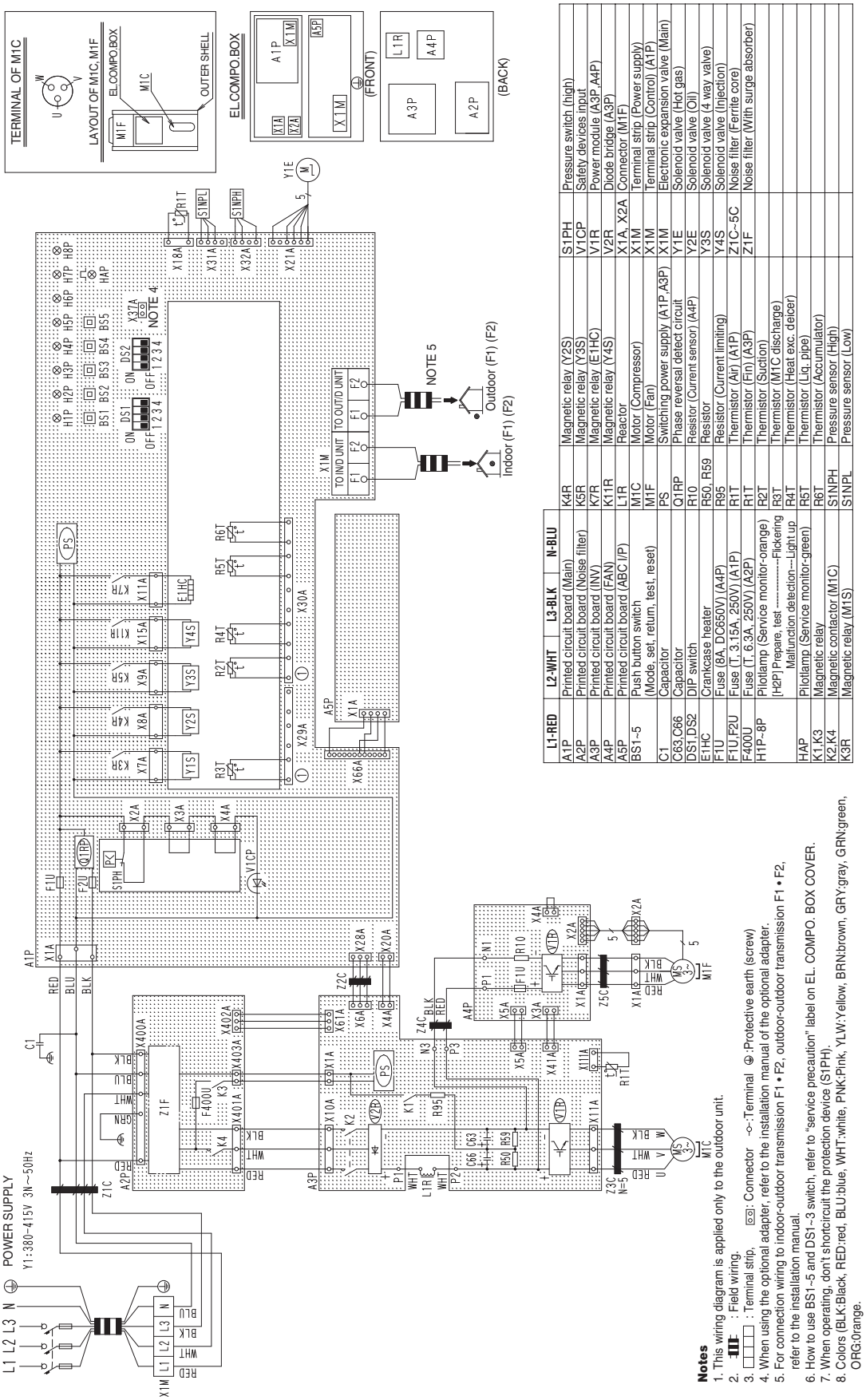

| L1-RED | L2-WHT | L3-BLK | N-BLU | | | | |
|---|---|---|---|---|---|---|---|
| A1P | Printed circuit board (Main) | | | K3R | Magnetic relay (Y1S) | S1NPL | Pressure sensor (low) |
| A2P | Printed circuit board (Noise filter) | | | K4R | Magnetic relay (Y2S) | S1PH3-PH | Pressure switch (high) |
| A3P | Printed circuit board (INV) | | | K5R | Magnetic relay (Y3S) | T1A | Current sensor (A6P, A7P) |
| A4P,A8P | Printed circuit board (FAN) | | | K7R | Magnetic relay (E1HC) | V1CP | Safety devices input |
| A5P | Printed circuit board (ABC I/P) | | | K8R | Magnetic relay (E2HC) | V1R | Power module (A3P,A4P,A8P) |
| A6P, A7P | Printed circuit board (Current sensor) | | | K9R | Magnetic relay (E3HC) | V2R | Diode bridge (A3P) |
| BS1~5 | Push button switch (Mode, set, return, test, reset) | | | L1R | Reactor | X1A~4A | Connector (M1F, M2F) |
| C1 | Capacitor | | | M1C~M3C | Motor (Compressor) | X1M | Terminal strip (Power supply) |
| C63,C66 | Capacitor | | | M1F,M2F | Motor (Fan) | X1M | Terminal strip (Control) (A1P) |
| DS1,DS2 | DIP switch | | | PS | Switching power supply (A1P,A3P) | X1M | Terminal strip (ABC I/P) (A5P) |
| E1HC~E3H | Crankcase heater | | | Q1RP | Phase reversal detect circuit | Y1E | Electronic expansion valve (Main) |
| F1U | Fuse (8A, DC650V) (A4P,A8P) | | | R10 | Resistor (Current sensor) (A4P, A8P) | Y2E | Electronic expansion valve (Subcool) |
| F1U,F2U | Fuse (T, 3.15A, 250V) (A1P) | | | R50, R59 | Resistor | Y1S | Solenoid valve (Hot gas) |
| F2U | Fuse (T, 6.3A, 250V) (A2P) | | | R95 | Resistor (Current limiting) | Y2S | Solenoid valve (Oil) |
| F400U | Fuse (T, 6.3A, 250V) (A2P) | | | R1T | Thermistor (Air) (A1P) | Y3S | Solenoid valve (4 way valve) |
| H1P~8P | Pilotlamp (Service monitor-orange) | | | R1T | Thermistor (Fin) (A3P) | Z1C~7C, Z9C | Noise filter (Ferrite core) |
| | [H2P] Prepare, test ----------Flickering | | | R2T | Thermistor (Suction) | Z1F | Noise filter (With surge absorber) |
| | Malfunction detection----------Light up | | | R31T,R32T | Thermistor (M1C~3C Discharge) | | |
| HAP | Pilotlamp (Service monitor-green) | | | R4T | Thermistor (Heat exc. deicer) | | |
| K1,K3 | Magnetic relay | | | R5T | Thermistor (Heat exc. outlet) | | |
| K2,K4 | Magnetic contactor (M1C) | | | R6T | Thermistor (Liq. pipe) | Cool/Heat selector | |
| K2M, K3M | Magnetic contactor (M2C) | | | R7T | Thermistor (Accumulator) | S1S | Selector switch (Fan/Cool • Heat) |
| K1R, K2R | Magnetic relay (K2M, K3M) | | | S1NPH | Pressure sensor (high) | S2S | Selector switch (Cool/Heat) |

**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 adapter, refer to the installation manual of the optional adapter.
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 DS1~3 switch, refer to "service precaution" label on EL. COMPO. BOX COVER.
7. When operating, don't shortcircuit the protection device (S1PH~S3PH).
8. Colors (BLK: Black, RED: red, BLU: blue, WHT: white, PNK:Pink, YLW: Yellow, BRN: brown, GRY: gray, GRN: green, ORG: Orange.

3D050456H

# 7.13.2 Cooling Only Outdoor Unit

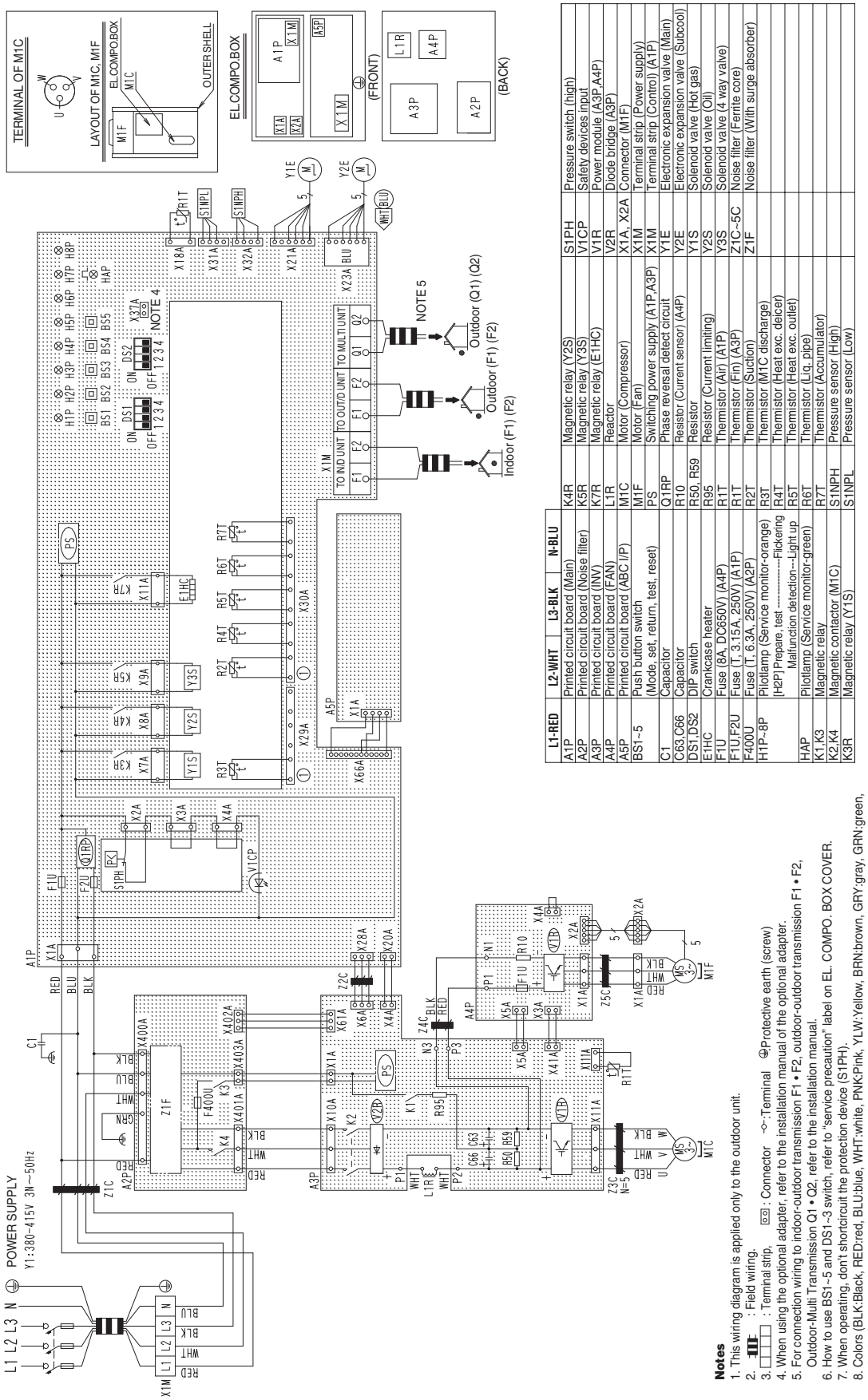
## RXQ5PY1




| L1-RED | L2-WHT | L3-BLK | N-BLU | | | |
|---|---|---|---|---|---|---|
| A1P | Printed circuit board (Main) | | | K4R | Magnetic relay (Y2S) | S1PH | Pressure switch (high) |
| A2P | Printed circuit board (Noise filter) | | | K5R | Magnetic relay (Y3S) | V1CP | Safety devices input |
| A3P | Printed circuit board (INV) | | | K7R | Magnetic relay (E1HC) | V1R | Power module (A3P, A4P) |
| A4P | Printed circuit board (FAN) | | | K11R | Magnetic relay (Y4S) | V2R | Diode bridge (A3P) |
| A5P | Printed circuit board (ABC I/P) | | | L1R | Reactor | X1A, X2A | Connector (M1F) |
| BS1~5 | Push button switch (Mode, set, return, test, reset) | | | M1C | Motor (Compressor) | X1M | Terminal strip (Power supply) |
| | | | | M1F | Motor (Fan) | X1M | Terminal strip (Control) (A1P) |
| C1 | Capacitor | | | PS | Switching power supply (A1P,A3P) | X1M | Electronic expansion valve (Main) |
| C63,C66 | Capacitor | | | Q1RP | Phase reversal defect circuit | Y1E | Solenoid valve (Hot gas) |
| DS1,DS2 | DIP switch | | | R10 | Resistor (Current sensor) (A4P) | Y2E | Solenoid valve (Oil) |
| E1HC | Crankcase heater | | | R50, R59 | Resistor | Y3S | Solenoid valve (4 way valve) |
| F1U | Fuse (8A, DC650V) (A4P) | | | R95 | Resistor (Current limiting) | Y4S | Solenoid valve (Injection) |
| F1U,F2U | Fuse (T, 3.15A, 250V) (A1P) | | | R1T | Thermistor (Air) (A1P) | Z1C~5C | Noise filter (Ferrite core) |
| F400U | Fuse (T, 6.3A, 250V) (A2P) | | | R1T | Thermistor (Fin) (A3P) | Z1F | Noise filter (With surge absorber) |
| H1P~8P | Pilotlamp (Service monitor-orange) [H2P] Prepare, test ----------Flickering Malfunction detection---Light up | | | R2T | Thermistor (Suction) | | |
| | | | | R3T | Thermistor (M1C discharge) | | |
| | | | | R4T | Thermistor (Heat exc. deicer) | | |
| HAP | Pilotlamp (Service monitor-green) | | | R5T | Thermistor (Liq. pipe) | | |
| K1,K3 | Magnetic relay | | | R6T | Thermistor (Accumulator) | | |
| K2,K4 | Magnetic contactor (M1C) | | | S1NPH | Pressure sensor (High) | | |
| K3R | Magnetic relay (M1S) | | | S1NPL | Pressure sensor (Low) | | |

**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 adapter, refer to the installation manual of the optional adapter.
5. For connection wiring to indoor-outdoor transmission F1 • F2, outdoor-outdoor transmission F1 • F2, refer to the installation manual.
6. How to use BS1~5 and DS1~3 switch, 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, PNK:Pink, YLW:Yellow, BRN:brown, GRY:gray, GRN:green, ORG:Orange.

## RXQ8PY1



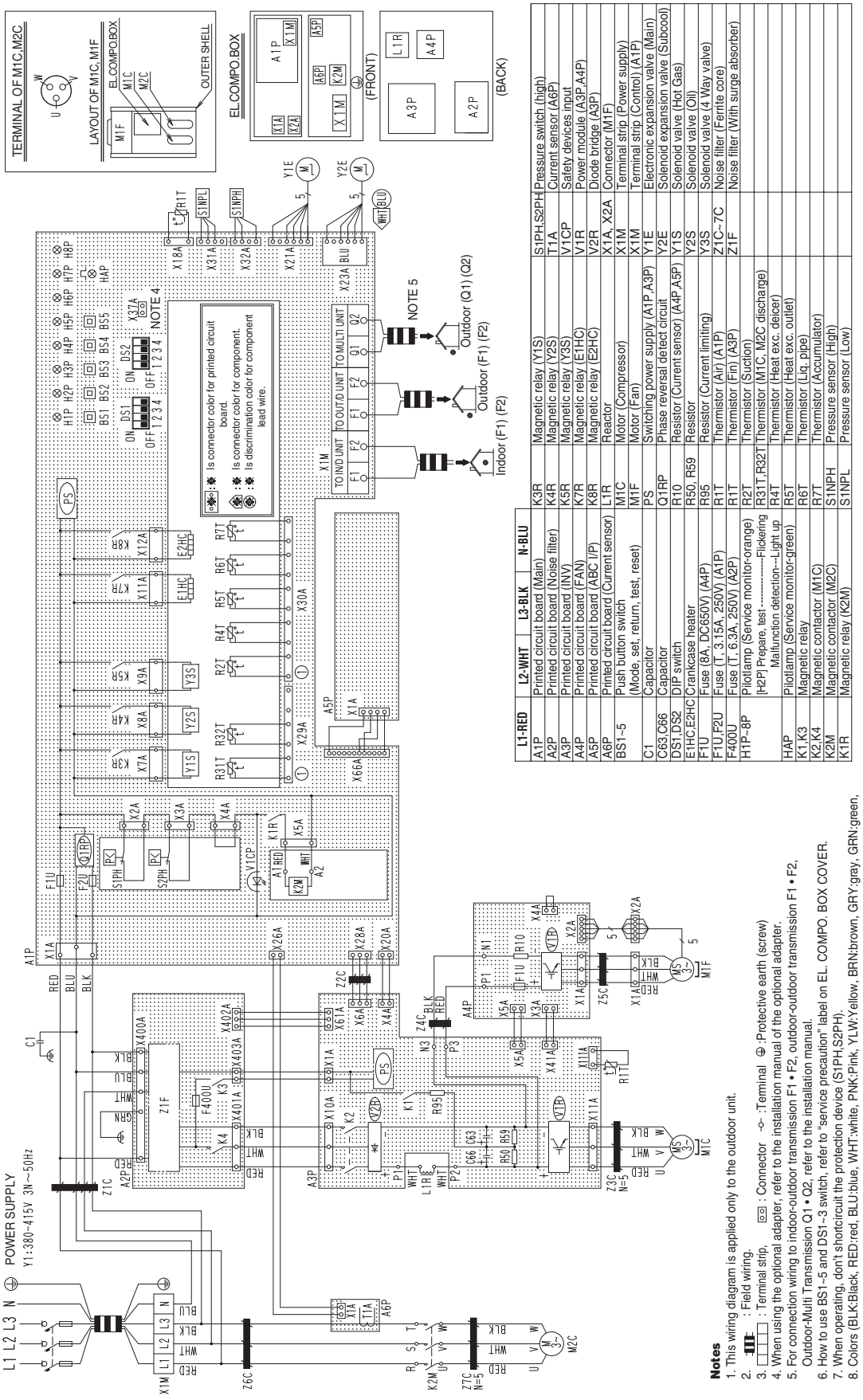

| L1-RED | L2-WHT | L3-BLK | N-BLU | | |
|---|---|---|---|---|---|
| A1P | Printed circuit board (Main) | K4R | Magnetic relay (Y2S) | S1PH | Pressure switch (high) |
| A2P | Printed circuit board (Noise filter) | K5R | Magnetic relay (Y3S) | V1CP | Safety devices input |
| A3P | Printed circuit board (INV) | K7R | Magnetic relay (E1HC) | V1R | Power module (A3P,A4P) |
| A4P | Printed circuit board (FAN) | L1R | Reactor | V2R | Diode bridge (A3P) |
| A5P | Printed circuit board (ABC I/P) | M1C | Motor (Compressor) | X1A, X2A | Connector (M1F) |
| BS1~5 | Push button switch (Mode, set, return, test, reset) | M1F | Motor (Fan) | X1M | Terminal strip (Power supply) |
| | | PS | Switching power supply (A1P,A3P) | X1M | Terminal strip (Control) (A1P) |
| C1 | Capacitor | Q1RP | Phase reversal detect circuit | Y1E | Electronic expansion valve (Main) |
| C63,C66 | Capacitor | R10 | Resistor (Current sensor) (A4P) | Y2E | Electronic expansion valve (Subcool) |
| DS1,DS2 | DIP switch | R50, R59 | Resistor | Y1S | Solenoid valve (Hot gas) |
| E1HC | Crankcase heater | R95 | Resistor (Current limiting) | Y2S | Solenoid valve (Oil) |
| F1U | Fuse (8A, DC650V) (A4P) | R1T | Thermistor (Air) (A1P) | Y3S | Solenoid valve (4 way valve) |
| F1U,F2U | Fuse (T, 3.15A, 250V) (A1P) | R1T | Thermistor (Fin) (A3P) | Z1C~5C | Noise filter (Ferrite core) |
| F400U | Fuse (T, 6.3A, 250V) (A2P) | R2T | Thermistor (Suction) | Z1F | Noise filter (With surge absorber) |
| H1P~8P | Pilotlamp (Service monitor-orange) [H2P] Prepare, test ----------Flickering Malfunction detection---Light up | R3T | Thermistor (M1C discharge) | | |
| | | R4T | Thermistor (Heat exc. deicer) | | |
| | | R5T | Thermistor (Heat exc. outlet) | | |
| HAP | Pilotlamp (Service monitor-green) | R6T | Thermistor (Liq. pipe) | | |
| K1,K3 | Magnetic relay | R7T | Thermistor (Accumulator) | | |
| K2,K4 | Magnetic contactor (M1C) | S1NPH | Pressure sensor (High) | | |
| K3R | Magnetic relay (Y1S) | S1NPL | Pressure sensor (Low) | | |

3D055258A

**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 adapter, refer to the installation manual of the optional adapter.
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 DS1~3 switch, 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, PNK:Pink, YLW:Yellow, BRN:brown, GRY:gray, GRN:green, ORG:Orange.

## RXQ10PY1

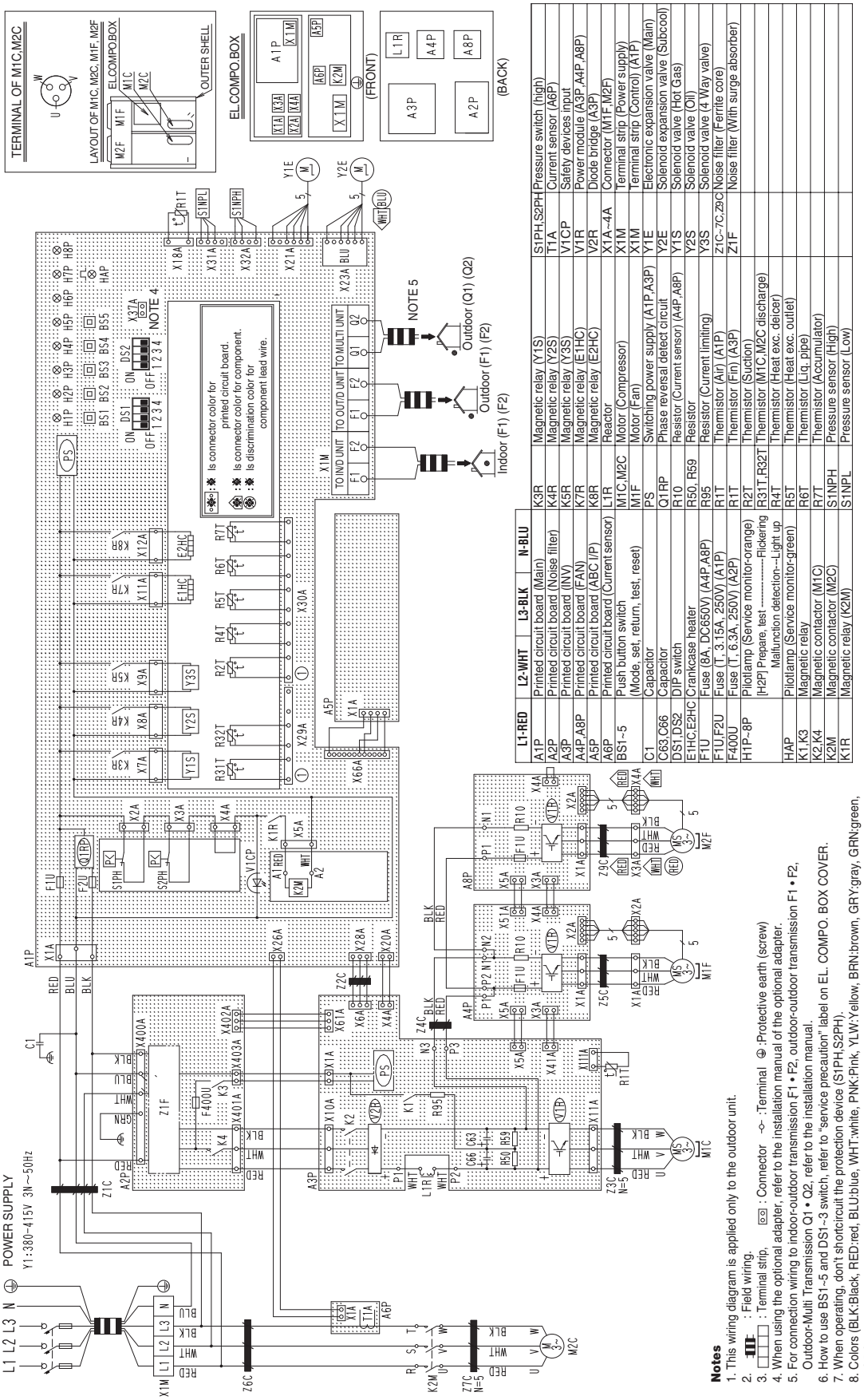



| L1-RED | L2-WHT | L3-BLK | N-BLU | | |
|---|---|---|---|---|---|
| A1P | Printed circuit board (Main) | K3R | Magnetic relay (Y1S) | S1PH,S2PH | Pressure switch (high) |
| A2P | Printed circuit board (Noise filter) | K4R | Magnetic relay (Y2S) | T1A | Current sensor (A6P) |
| A3P | Printed circuit board (INV) | K5R | Magnetic relay (Y3S) | V1CP | Safety devices input |
| A4P | Printed circuit board (FAN) | K7R | Magnetic relay (E1HC) | V1R | Power module (A3P,A4P) |
| A5P | Printed circuit board (ABC I/P) | K8R | Magnetic relay (E2HC) | V2R | Diode bridge (A3P) |
| A6P | Printed circuit board (Current sensor) | L1R | Reactor | X1A, X2A | Connector (M1F) |
| BS1~5 | Push button switch (Mode, set, return, test, reset) | M1C | Motor (Compressor) | X1M | Terminal strip (Power supply) |
| | | M1F | Motor (Fan) | X1M | Terminal strip (Control) (A1P) |
| C1 | Capacitor | PS | Switching power supply (A1P,A3P) | Y1E | Electronic expansion valve (Main) |
| C63,C66 | Capacitor | Q1RP | Phase reversal detect circuit | Y2E | Solenoid expansion valve (Subcool) |
| DS1,DS2 | DIP switch | R10 | Resistor (Current sensor) (A4P,A5P) | Y1S | Solenoid valve (Hot Gas) |
| E1HC,E2HC | Crankcase heater | R50, R59 | Resistor | Y2S | Solenoid valve (Oil) |
| F1U | Fuse (8A, DC650V) (A4P) | R95 | Resistor (Current limiting) | Y3S | Solenoid valve (4 Way valve) |
| F1U,F2U | Fuse (T 3.15A, 250V) (A1P) | R1T | Thermistor (Air) (A1P) | Z1C~7C | Noise filter (Ferrite core) |
| F400U | Fuse (T 6.3A, 250V) (A2P) | R1T | Thermistor (Fin) (A3P) | Z1F | Noise filter (With surge absorber) |
| H1P~8P | Pilotlamp (Service monitor-orange) | R2T | Thermistor (Suction) | | |
| | [H2P] Prepare, test----------Flickering<br>Malfunction detection---Light up | R31T, R32T | Thermistor (M1C, M2C discharge) | | |
| | | R4T | Thermistor (Heat exc. deicer) | | |
| HAP | Pilotlamp (Service monitor-green) | R5T | Thermistor (Heat exc. outlet) | | |
| K1,K3 | Magnetic relay | R6T | Thermistor (Liq. pipe) | | |
| K2,K4 | Magnetic contactor (M1C) | R7T | Thermistor (Accumulator) | | |
| K2M | Magnetic contactor (M2C) | S1NPH | Pressure sensor (High) | | |
| K1R | Magnetic relay (K2M) | S1NPL | Pressure sensor (Low) | | |

**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 adapter, refer to the installation manual of the optional adapter.
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 DS1~3 switch, 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, PNK:Pink, YLW:Yellow, BRN:brown, GRY:gray, GRN:green, ORG:Orange.

## RXQ12PY1



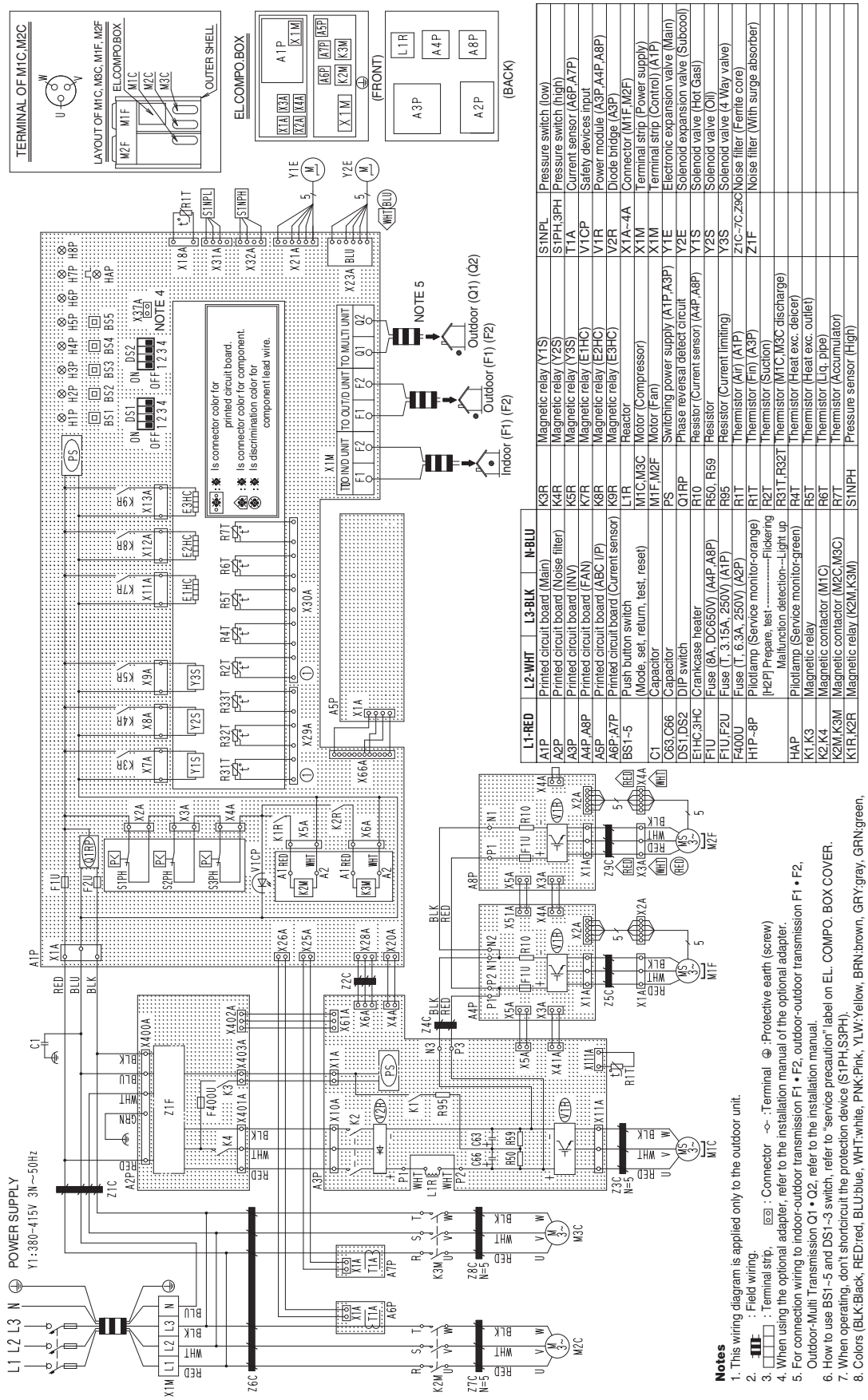

| L1-RED | L2-WHT | L3-BLK | N-BLU | | |
|---|---|---|---|---|---|
| A1P | Printed circuit board (Main) | K3R | Magnetic relay (Y1S) | S1PH,S2PH | Pressure switch (high) |
| A2P | Printed circuit board (Noise filter) | K4R | Magnetic relay (Y2S) | T1A | Current sensor (A6P) |
| A3P | Printed circuit board (INV) | K5R | Magnetic relay (Y3S) | V1CP | Safety devices input |
| A4P,A8P | Printed circuit board (FAN) | K7R | Magnetic relay (E1HC) | V1R | Power module (A3P,A4P,A8P) |
| A5P | Printed circuit board (ABC I/P) | K8R | Magnetic relay (E2HC) | V2R | Diode bridge (A3P) |
| A6P | Printed circuit board (Current sensor) | L1R | Reactor | X1A~4A | Connector (M1F,M2F) |
| BS1~5 | Push button switch (Mode, set, return, test, reset) | M1C,M2C | Motor (Compressor) | X1M | Terminal strip (Power supply) |
| | | M1F | Motor (Fan) | X1M | Terminal strip (Control) (A1P) |
| C1 | Capacitor | PS | Switching power supply (A1P,A3P) | Y1E | Electronic expansion valve (Main) |
| C63,C66 | Capacitor | Q1RP | Phase reversal detect circuit | Y2E | Solenoid expansion valve (Subcool) |
| DS1,DS2 | DIP switch | R10 | Resistor (Current sensor) (A4P,A8P) | Y1S | Solenoid valve (Hot Gas) |
| E1HC,E2HC | Crankcase heater | R50, R59 | Resistor | Y2S | Solenoid valve (Oil) |
| F1U | Fuse (8A, DC650V) (A4P,A8P) | R95 | Resistor (Current limiting) | Y3S | Solenoid valve (4 Way valve) |
| F1U,F2U | Fuse (T, 3.15A, 250V) (A1P) | R1T | Thermistor (Air) (A1P) | Z1C~7C,Z9C | Noise filter (Ferrite core) |
| F400U | Fuse (T, 6.3A, 250V) (A2P) | R1T | Thermistor (Fin) (A3P) | Z1F | Noise filter (With surge absorber) |
| H1P~8P | Pilotlamp (Service monitor-orange) [H2P] Prepare, test ---------- Flickering Malfunction detection ---Light up | R2T | Thermistor (Suction) | | |
| | | R31T,R32T | Thermistor (M1C,M2C discharge) | | |
| HAP | Pilotlamp (Service monitor-green) | R4T | Thermistor (Heat exc. deicer) | | |
| K1,K3 | Magnetic relay | R5T | Thermistor (Heat exc. outlet) | | |
| K2,K4 | Magnetic contactor (M1C) | R6T | Thermistor (Liq. pipe) | | |
| K2M | Magnetic contactor (M2C) | R7T | Thermistor (Accumulator) | | |
| K1R | Magnetic relay (K2M) | S1NPH | Pressure sensor (High) | | |
| | | S1NPL | Pressure sensor (Low) | | |

3D055260A

**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 adapter, refer to the installation manual of the optional adapter.
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 DS1~3 switch, 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, PNK:Pink, YLW:Yellow, BRN:brown, GRY:gray, GRN:green, ORG:Orange.

## RXQ14PY1, RXQ16PY1, RXQ18PY1




| L1-RED | L2-WHT | L3-BLK | N-BLU | | |
|---|---|---|---|---|---|
| A1P | Printed circuit board (Main) | K3R | Magnetic relay (Y1S) | S1NPL | Pressure switch (low) |
| A2P | Printed circuit board (Noise filter) | K4R | Magnetic relay (Y2S) | S1PH,3PH | Pressure switch (high) |
| A3P | Printed circuit board (INV) | K5R | Magnetic relay (Y3S) | T1A | Current sensor (A6P,A7P) |
| A4P,A8P | Printed circuit board (FAN) | K7R | Magnetic relay (E1HC) | V1CP | Safety devices input |
| A5P | Printed circuit board (ABC I/P) | K8R | Magnetic relay (E2HC) | V1R | Power module (A3P,A4P,A8P) |
| A6P,A7P | Printed circuit board (Current sensor) | K9R | Magnetic relay (E3HC) | V2R | Diode bridge (A3P) |
| BS1~5 | Push button switch (Mode, set, return, test, reset) | L1R | Reactor | X1A~4A | Connector (M1F,M2F) |
| C1 | Capacitor | M1C,M3C | Motor (Compressor) | X1M | Terminal strip (Power supply) |
| C63,C66 | Capacitor | M1F,M2F | Motor (Fan) | X1M | Terminal strip (Control) (A1P) |
| DS1,DS2 | DIP switch | PS | Switching power supply (A1P,A3P) | Y1E | Electronic expansion valve (Main) |
| E1HC,3HC | Crankcase heater | Q1RP | Phase reversal detect circuit | Y2E | Solenoid expansion valve (Subcool) |
| F1U | Fuse (8A, DC650V) (A4P,A8P) | R10 | Resistor (Current sensor) (A4P,A8P) | Y1S | Solenoid valve (Hot Gas) |
| F1U,F2U | Fuse (T, 3.15A, 250V) (A1P) | R50, R59 | Resistor | Y2S | Solenoid valve (Oil) |
| F400U | Fuse (T, 6.3A, 250V) (A2P) | R95 | Resistor (Current limiting) | Y3S | Solenoid valve (4 Way valve) |
| H1P~8P | Pilotlamp (Service monitor-orange) [H2P] Prepare, test ----------Flickering Malfunction detection---Light up | R1T | Thermistor (Air) (A1P) | Z1C~7C,Z9C | Noise filter (Ferrite core) |
| | | R1T | Thermistor (Fin) (A3P) | Z1F | Noise filter (With surge absorber) |
| | | R2T | Thermistor (Suction) | | |
| HAP | Pilotlamp (Service monitor-green) | R3T,R32T | Thermistor (M1C,M3C discharge) | | |
| K1,K3 | Magnetic relay | R4T | Thermistor (Heat exc. deicer) | | |
| K2,K4 | Magnetic contactor (M1C) | R5T | Thermistor (Heat exc. outlet) | | |
| K2M,K3M | Magnetic contactor (M2C,M3C) | R6T | Thermistor (Liq. pipe) | | |
| K1R,K2R | Magnetic relay (K2M,K3M) | R7T | Thermistor (Accumulator) | | |
| | | S1NPH | Pressure sensor (High) | | |

**Notes**

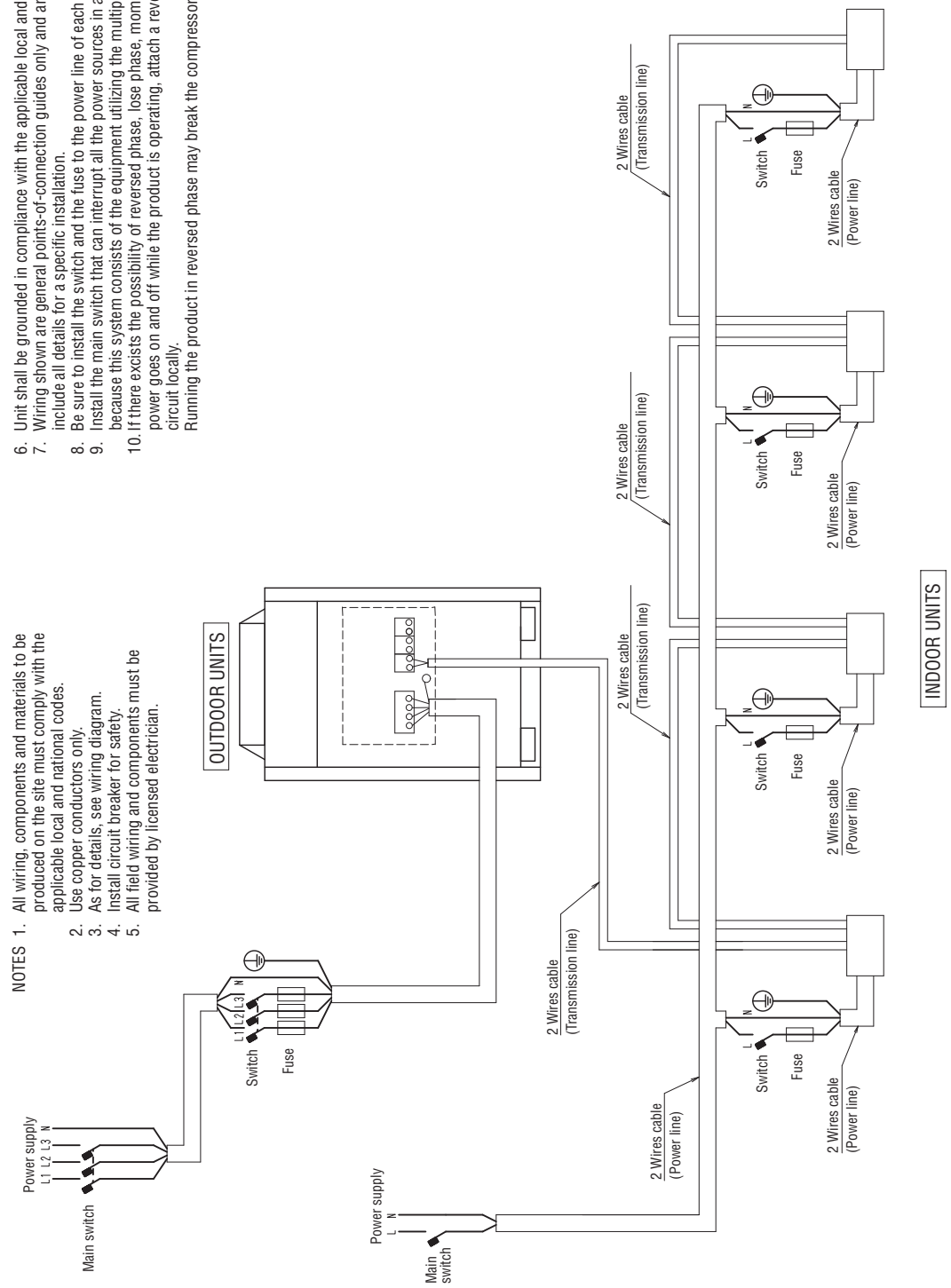
1. This wiring diagram is applied only to the outdoor unit.
2. : Field wiring.
3. : Terminal strip, : Connector -o- :Terminal : Protective earth (screw)
4. When using the optional adapter, refer to the installation manual of the optional adapter.
5. For connection wiring to indoor-outdoor transmission F1 • F2, outdoor-outdoor transmission F1 • F2, Outdoor-Multi Transmission Q1 • Q2, refer to the installation manual.
6. How to use BS1~5 and DS1~3 switch, refer to "service precaution" label on EL. COMPO. BOX COVER.
7. When operating, don't shortcircuit the protection device (S1PH,S3PH).
8. Colors (BLK:Black, RED:red, BLU:blue, WHT:white, PNK:Pink, YLW:Yellow, BRN:brown, GRY:gray, GRN:green, ORG:Orange.

# 7.13.3 Field Wiring Heat Pump, Cooling Only (50Hz/60Hz)

**RX(Y)Q5P, 8P, 10P, 12P, 14P, 16P, 18PY1**
**RXYQ5P, 8P, 10P, 12P, 14P, 16P, 18PYL**

3D051452D

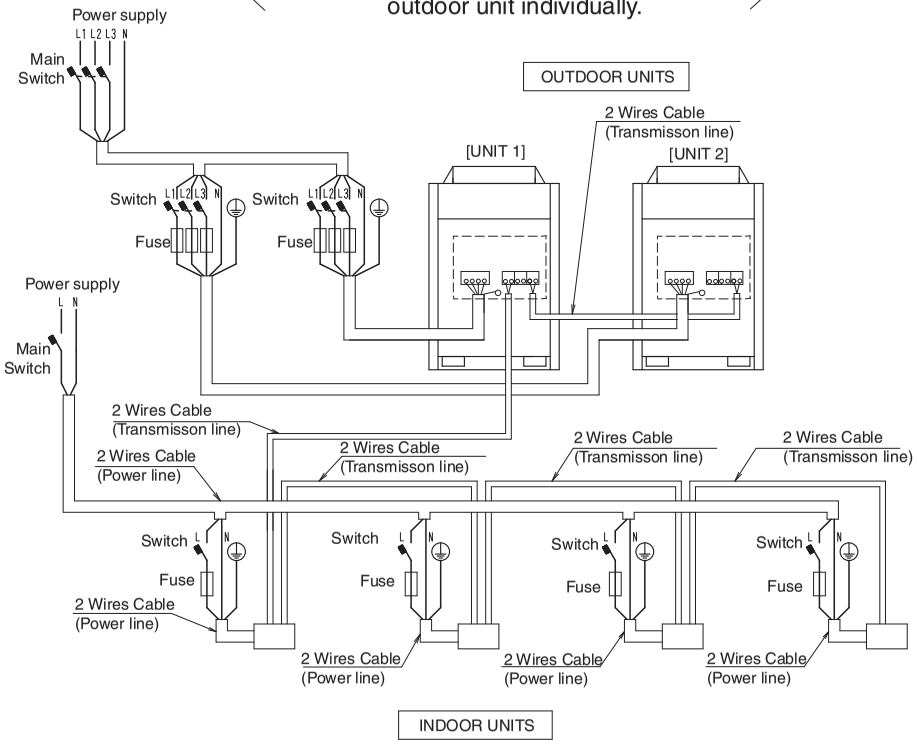
NOTES
1. All wiring, components and materials to be produced on the site must comply with the applicable local and national codes.
2. Use copper conductors only.
3. As for details, see wiring diagram.
4. Install circuit breaker for safety.
5. All field wiring and components must be provided by licensed 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. If there excists 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.



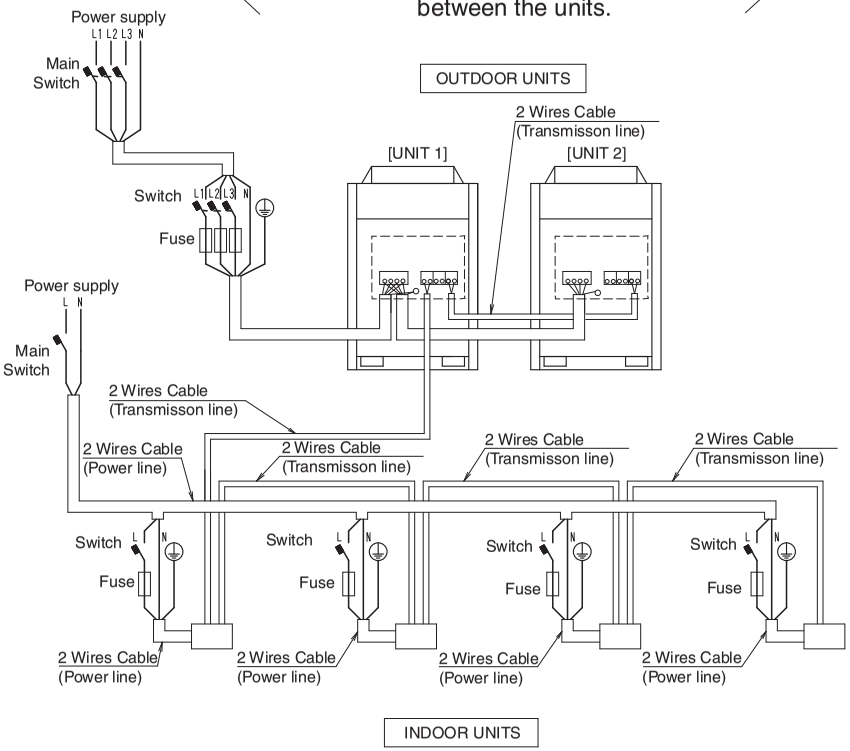
**Notes**

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 are not intended for or to include all details for or to 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 UNIT 1 must be larger than UNIT 2 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.

When the power source is supplied to each outdoor unit individually.




When the source is connected in series between the units.




3D052261B

## RX(Y)Q38P, 40P, 42P, 44P, 46P, 48P, 50P, 52P, 54PY1
## RXYQ238P, 40P, 42P, 44P, 46P, 48P, 50P, 52P, 54PYL

**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 are not intended for or to include all details for or to 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.