



WALL MOUNTED TYPE AND FLOOR / CEILING UNIVERSAL TYPE AIR CONDITIONER

TECHNICAL MANUAL

CONTENTS

1.	FEATURES	2
1.1	APPLICATION MODEL	2
1.2	FEATURES OF EACH MODEL	4
1.3	PRINTED WIRING BOARD SETTINGS	16
2.	SPECIFICATIONS	18
2.1	COMPACT SII, MII & LI SERIES (RSW-7A, 7R, 9A, 9R, 12A, 12R, 14A, 14R, 17A, 17R)	18
2.2	WALL MOUNTED LARGE RSW-SERIES (RSW-20A, 20R, 24A, 24R, 30A, 30R)	20
2.3	UNIVERSAL RYT-SERIES (RYT-14A, 14R, 18A, 18R, 24A, 24R)	23
3.	OUTLINE AND DIMENSIONS	26
3.1	MODELS : RSW-7A, 7R	26
3.2	MODELS : RSW-9A, 9R, 12A, 12R	27
3.3	MODELS : RSW-14A, 14R	28
3.4	MODELS : RSW-17A, 17R	29
3.5	MODELS : RSW-20A, 20R, 24A, 24R, 30A, 30R	30
3.6	MODELS : RSW-14A, 14R, 18A, 18R, 24A, 24R	32
4.	DATA	34
4.1	PERFORMANCE CURVE	34
4.2	TEMPERATURE RANGE	44
4.3	REFRIGERANT CHARGING	45
4.4	AIR VELOCITY DISTRIBUTION	48
4.5	NOISE LEVEL MEASUREMENT	60
5.	DIAGRAMS	65
5.1	REFRIGERANT SYSTEM DIAGRAM	65
5.2	CIRCUIT DIAGRAM	79
5.3	CONTROLLER CIRCUIT DIAGRAM EZ NUMBER LIST	98
5.4	CONTROLLER PCB CIRCUIT DIAGRAM	102
5.5	REMOTE CONTROLLER CIRCUIT DIAGRAM	113
6.	INSTALLATION INSTRUCTIONS	123
6.1	SPLIT TYPE ROOM AIR CONDITIONER (RSW-20A, 24A)	123
6.2	FLOOR CONSOLE / UNDERCEILING DUAL TYPE (RYT-18, 18R, 24, 24R)	138

1. FEATURES

1.1 APPLICATION MODEL

1.1.1 COMPACT SII, MII & LI SERIES FOR 7,000 TO 17,000 BTU/h

CLASSIFICATION		INDOOR UNIT	OUTDOOR UNIT
7,000 BTU/h SII-SERIES	Cooling	RSW-77 RSW-7A	ROW-77 ROW-7A
	Reverse cycle (Cool & Heat)	RSW-77R RSW-7RA	ROW-77R ROW-7RA
9,000 BTU/h MII-SERIES	Cooling	RSW-97 RSW-97C RSW-9C RSW-9CH RSA-9AA RSW-9SC RSW-9S	ROW-97 ROW-97C ROW-9C ROW-9CH ROA-9AA ROW-9SC ROW-9S
	Reverse cycle (Cool & Heat)	RSW-97R RSW-97RC RSW-9RC RSW-9RCH RSA-9RA	ROW-97R ROW-97RC ROW-9RC ROW-9RCH ROA-9RA
10,000 BTU/h MII-SERIES	Cooling	*RS-10FAC *RS-10FA	RO-10FAC RO-10FA
	Reverse cycle (Cool & Heat)	*RS-10UAC *RS-10UA	RO-10UAC RO-10UA
12,000 BTU/h LII-SERIES	Cooling	RSW-127 RSW-127C RSW-12C *RS-12FA *RS-12FAC RSW-12CH RSW-12SC RSW-12S RSA-12AA	ROW-127 ROW-127C ROW-12C *RO-12FA *RO-12FAC ROW-12CH ROW-12SC ROW-12S ROA-12AA
	Reverse cycle (Cool & Heat)	RSW-127R RSW-127RC RSW-12RC *RS-12UA *RS-12UAC RSW-12RCH RSW-12RA	ROW-127R ROW-127RC ROW-12RC RO-12UA RO-12UAC ROW-12RCH ROA-12RA
14,000 BTU/h LI-SERIES	Cooling	RSW-147 RSW-14A	ROW-14AA ROW-146
	Reverse cycle (Cool & Heat)	RSW-147R RSW-14RA	ROW-14RA ROW-146R
17,000 BTU/h LI-SERIES	Cooling	RSW-177 RSW-17AB RSW-17AC	ROW-17A ROW-17AB ROW-17AC
	Reverse cycle (Cool & Heat)	RSW-177R RSW-17RB	ROW-17RA ROW-17RB

* New refrigerant adopted.

1.1.2 WALL MOUNTED LARGE RSW-SERIES FOR 20,000 TO 30,000 BTU/h

CLASSIFICATION		INDOOR UNIT		OUTDOOR UNIT
		Wireless (Handy)	Wireless (Handy/ Wall fixing universal)	
20,000 BTU/h	Cooling	RSW-207	RSW-20A RSW-20AB RSW-20AC RSW-20AD	ROW-207 ROW-20A ROW-20AB ROW-20AD
	Reverse cycle (Cool & Heat)	RSW-207R	RSW-20RA RSW-20RB RSW-20RC	ROW-207R ROW-20RA ROW-20RC ROW-20RB
24,000 BTU/h	Cooling	RSW-247	RSW-24A RSW-24AB RSW-24AC	ROW-247 ROW-24A ROW-24AB
	Reverse cycle (Cool & Heat)	RSW-247R	RSW-24RA RSW-24RC RSW-24RD	ROW-247R ROW-24RA ROW-24RC ROW-24RD
30,000 BTU/h	Cooling	RSW-307	RSW-30A	ROW-30A
	Reverse cycle (Cool & Heat)	RSW-307R	RSW-30RA	ROW-30RA

1.1.3 FLOOR/CEILING UNIVERSAL TYPE RYT-SERIES FOR 14,000 TO 24,000 BTU/h

CLASSIFICATION		INDOOR UNIT		OUTDOOR UNIT
		Wireless (Handy)	Wireless (Handy/ Wall fixing universal)	
14,000 BTU/h	Cooling	RYT-147	RYT-14	RO-147 ROY-14AA
	Reverse cycle (Cool & Heat)	RYT-147R	RYT-14R	RO-147R ROY-14RA
18,000 BTU/h	Cooling	RYT-187	RYT-18 RYT-18AC	RO-187 RO-18 RO-18AC
	Reverse cycle (Cool & Heat)	RYT-187R	RYT-18R	RO-187R RO-18R RO-18RA
24,000 BTU/h	Cooling	RYT-257	RYT-24 RYT-24AB	ROW-247 ROW-24A ROW-24AB
	Reverse cycle (Cool & Heat)	RYT-257R	RYT-24R	ROW-24RB ROW-124RE

1.2 FEATURES OF EACH MODEL

No.	ITEM	COMPACT SII-type		COMPACT MII-type		Wall mounted RSW-20~30,000 BTU/h -type				FLOOR/CEILING RYT-14~24,000 BTU/h -type			
		Cooling only	Reverse cycle	Cooling only	Reverse cycle	Cooling only	Reverse cycle	Cooling only	Reverse cycle	Cooling only	Reverse cycle	Cooling only	Reverse cycle
1	Wireless remote control unit • Handy type	○	○	○	○	○	○	—	—	○	○	—	—
	Wireless remote control unit • Wall fixing type	—	—	—	—	—	—	○	○	—	—	○	○
2	Automatic operation	○	○	○	○	○	—	○	—	○	—	○	—
	Auto changeover operation	—	—	—	—	—	○	—	○	—	○	—	○
3	Heating operation (reverse cycle)	—	○	—	○	—	○	—	○	—	○	—	○
4	Cooling operation	○	○	○	○	○	○	○	○	○	○	○	○
5	Dry operation	○	○	○	○	○	○	○	○	○	○	○	○
6	Fan operation	○	○	○	○	○	○	○	○	○	○	○	○
7	Auto fan speed	○	○	○	○	○	○	○	○	○	○	○	○
8	Nice morning timer (ON timer)	○	○	○	○	○	○	○	○	○	○	○	○
9	OFF timer	○	○	○	○	○	○	○	○	○	○	○	○
10	Sleep timer	○	○	○	○	○	○	○	○	○	○	○	○
11	Program timer	○	○	○	○	○	○	○	○	○	○	○	○
12	Energy save operation	—	—	—	—	—	—	○	○	—	—	○	○
13	Vertical air direction adjustment	○	○	○	○	○	○	○	○	○	○	○	○
14	Horizontal air direction adjustment	—	—	—	—	○	○	○	○	○	○	○	○
15	Vertical air flow swing operation	○	○	○	○	○	○	○	○	○	○	○	○
16	Horizontal air flow swing operation	—	—	—	—	○	○	○	○	○	○	○	○
17	Super vane	—	—	—	—	○	○	○	○	○	○	○	○
18	Linked power diffuser	—	—	—	—	○	○	○	○	—	—	—	—
19	Automatic shut flaps	○	○	○	○	○	○	○	○	○	○	○	○
20	Cooling operation even at low outdoor temperature (0°C)	—	—	—	—	—*1	○*2	—*1	○*2	—	○*2	—	○*2
21	Mold prevention filter	○	○	○	○	○	○	○	○	○	○	○	○
22	Air purifying filter (optional)	(○)	(○)	(○)	(○)	(○)	(○)	(○)	(○)	—	—	—	—
23	Auto-restart	○	○	○	○	○	○	○	○	○	○	○	○
24	Quiet	○	○	○	○	—	—	—	—	—	—	—	—
25	Others												

NOTE:

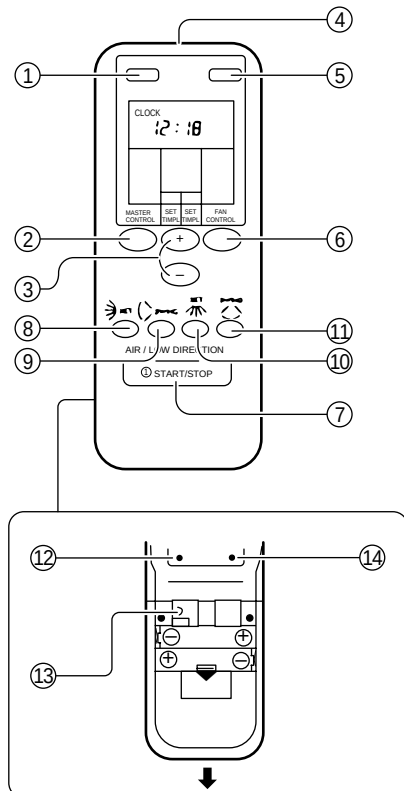
* 1 Models RSW-307, 30A have a No. 20 function.

* 2 Models RYT-14R, RSW-**S, RSW-**RS, RYT-25S and RYT-25RS have no No. 20 function.

1.2.1 WIRELESS REMOTE CONTROL UNIT (Handy type)

- ① SLEEP button
- ② MASTER CONTROL button
- ③ SET TEMP./SET TIME buttons (⊕/⊖)
- ④ Signal Transmitter
- ⑤ TIMER button
- ⑥ FAN CONTROL button
- ⑦ START/STOP button
- ⑧ AIRFLOW DIRECTION
VERTICAL SET Button
- ⑨ AIRFLOW DIRECTION
VERTICAL SWING Button
- ⑩ AIRFLOW DIRECTION
HORIZONTAL SET Button
- ⑪ AIRFLOW DIRECTION
HORIZONTAL SWING Button

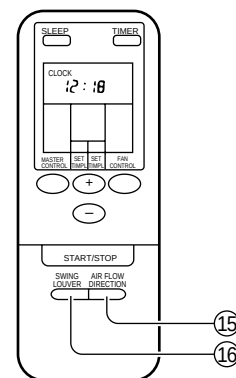
- Wireless type



Rear Side

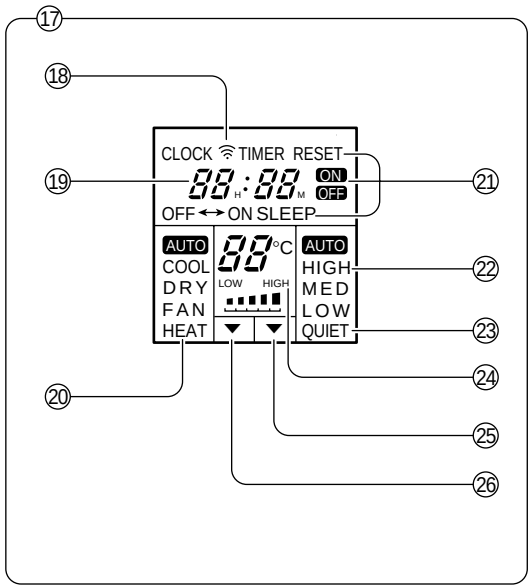
- ⑫ TIME ADJUST button
- ⑬ ACL button
(located inside battery compartment)
- ⑭ TEST RUN button
 - This button is used when installing the air conditioner, and should not be used under normal conditions, as it will cause the air conditioner's thermostat function to operate incorrectly.
 - If this button is pressed during normal operation, the unit will switch to test operation mode, and the Indoor Unit's OPERATION Indicator Lamp and TIMER Indicator Lamp will begin to flash simultaneously.
 - To stop the test operation mode, either press the TEST RUN button once again, or press the START/STOP button to stop the air conditioner.

- Compact type SII, MII only



- ⑮ AIRFLOW DIRECTION
VERTICAL SET Button
- ⑯ AIRFLOW DIRECTION
VERTICAL SWING Button

Remote Control Unit Display



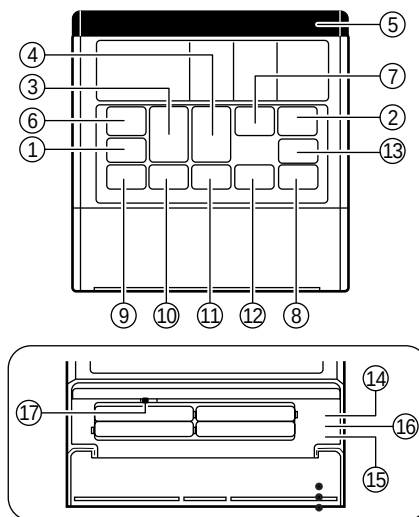
- ①7 Remote Control Unit Display
- ①8 Transmit Indicator
- ①9 Clock Display
- ②0 Operating Mode Display
- ②1 Timer Mode Display
- ②2 Fan Speed Display
- ②3 Temperature Set Display
- ②4 Timer Set Indicator
- ②5 Temperature Set Indicator
- ②6 Compact type SII, MII only

1.2.2 WIRELESS REMOTE CONTROL UNIT (Wall fixing type)

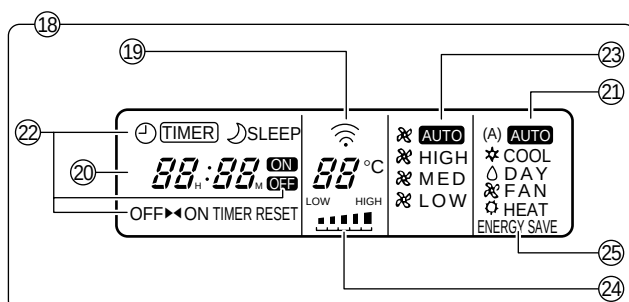
- ① SLEEP button
- ② MASTER CONTROL button
- ③ SET TIME buttons (▲ / ▼)
- ④ SET TEMP. buttons (▲ / ▼)
- ⑤ Signal Transmitter
- ⑥ TIMER button
- ⑦ FAN CONTROL button
- ⑧ START/STOP button
- ⑨ AIRFLOW DIRECTION VERTICAL SET Button
- ⑩ AIRFLOW DIRECTION VERTICAL SWING Button
- ⑪ AIRFLOW DIRECTION HORIZONTAL SET Button
- ⑫ AIRFLOW DIRECTION HORIZONTAL SWING Button
- ⑬ ENERGY SAVE Button

Inside of battery cover

- ⑭ TIME ADJUST button
- ⑮ ACL button
(located inside battery compartment)
- ⑯ TEST RUN button
 - This button is used when installing the air conditioner, and should not be used under normal conditions, as it will cause the air conditioner's thermostat function to operate incorrectly.
 - If this button is pressed during normal operation, the unit will switch to test operation mode, and the Indoor Unit's OPERATION Indicator Lamp and TIMER Indicator Lamp will begin to flash simultaneously.
 - To stop the test operation mode, either press the TEST RUN button once again, or press the START/STOP button to stop the air conditioner.
- ⑰ CODE CHANGE Switch
 - Switching the remote controller code.
 - Use remote controller code A (on the leftmost side) to operate the unit using the remote controller.
 - When it is necessary to switch the remote controller code. contact a service technician since the PCB remote controller code of the indoor unit must also be switched.

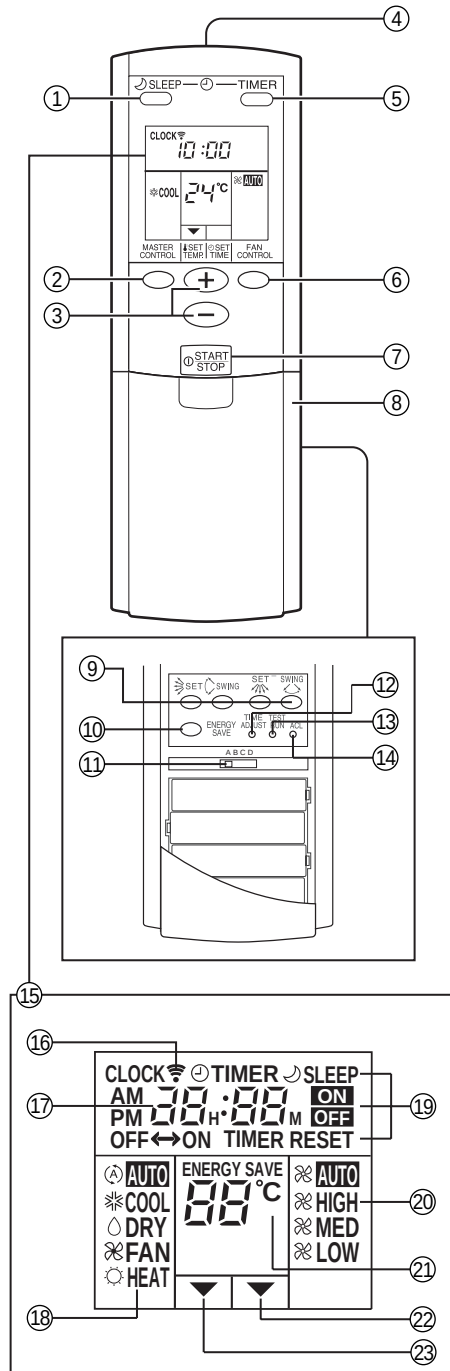


Remote Control Unit Display



- ⑱ Remote Controller Display
- ⑲ Transmit Indicator
- ⑳ Clock Display
- ㉑ Operating Mode Display
- ㉒ Timer Mode Display
- ㉓ Fan Speed Display
- ㉔ Temperature Set Display
- ㉕ Energy Save Display

1.2.3 WIRELESS REMOTE CONTROL UNIT



- ① SLEEP button
- ② MASTER CONTROL button
- ③ SET TEMP./SET TIME buttons (+/-)
- ④ Signal Transmitter
- ⑤ TIMER button
- ⑥ FAN CONTROL button
- ⑦ START/STOP button
- ⑧ Battery compartment lid

Inside of the battery compartment lid

- ⑨ AIRFLOW DIRECTION button
- ⑩ ENERGY SAVE button
- ⑪ CODE CHANGE (Slide Switch)
Switching the remote control unit code.
(Max. 4 units)
- ⑫ TIME ADJUST button
- ⑬ TEST RUN button
 - This button is used when installing the air conditioner, and should not be used under normal conditions, as it will cause the air conditioner's thermostat function to operate incorrectly.
 - If this button is pressed during normal operation, the unit will switch to test operation mode, and the Indoor Unit's OPERATION Indicator Lamp and TIMER Indicator Lamp will begin to flash simultaneously.
 - To stop the test operation mode, either press the TEST RUN button once again, or press the START/STOP button to stop the air conditioner.
- ⑭ ACL button

- ⑮ Remote Control Unit Display
- ⑯ Transmit Indicator
- ⑰ Clock Display
- ⑱ Operating Mode Display
- ⑲ Timer Mode Display
- ⑳ Fan Speed Display
- ㉑ Temperature Set Display
- ㉒ Timer Set Indicator
- ㉓ Temperature Set Indicator

1.2.4 AUTOMATIC OPERATION

COOLING MODEL : This applies to the COMPACT type SII and MII.

- Depending on the room temperature at the time operation begins, the operating mode will be switched automatically as shown in the accompanying table.
Also, depending on the operating mode, the room temperature setting will cause the "standard" temperature to be set as shown. The operating mode and standard thermostat settings are selected automatically when operation begins.
- When automatic operation is initiated, the fan will run at very low speed for about one minute while the unit detects and selects the proper operating mode.
- Once the operating mode has been set, the mode will not change even if the room temperature changes.
- If the START/STOP button is pressed to recommence operation within two hours after stopping automatic operation, the unit will begin operating from the same mode as before.

Actual Room Temperature		Operating Mode		Thermostat Setting (standard setting)
30°C or above	⇒	Cooling	⇒	27°C
27°C to 30°C	⇒	Cooling	⇒	26°C
25°C to 27°C	⇒	Dry	⇒	24°C
23°C to 25°C	⇒	Dry	⇒	22°C
Below 23°C	⇒	Dry	⇒	20°C

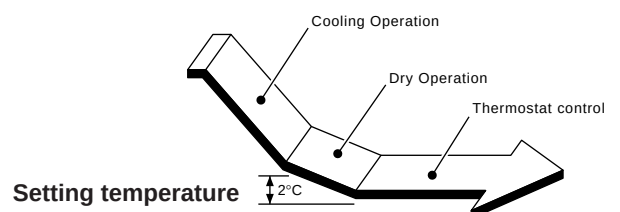
HEAT & COOL MODEL (Reverse cycle)

- Depending on the room temperature at the time operation begins, the operating mode will be switched automatically as shown in the accompanying table.
Also, depending on the operating mode, the room temperature setting will cause the "standard" temperature to be set as shown.
The operating mode and standard thermostat settings are selected automatically when operation begins.
- When automatic operation is initiated, the fan will run at very low speed for about one minute while the unit detects and selects the proper operating mode.
- Once the operating mode has been set, the mode will not change even if the room temperature changes. However, during the monitor operation mode, if the room temperature changes to below 22°C, the mode will automatically switch to Heat, and when it rises above 24°C the mode will automatically switch to Dry.
- When in the monitor mode, the fan will operate very slowly.
- If the START/STOP button is pressed to recommence operation within two hours after stopping automatic operation, the unit will begin operating from the same mode as before.

Actual Room Temperature		Operating Mode		Thermostat Setting (standard setting)
30°C or above	⇒	Cooling	⇒	27°C
27°C to 30°C	⇒	Cooling	⇒	26°C
25°C to 27°C	⇒	Dry	⇒	24°C
22°C to 25°C	⇒	Monitor		
Below 22°C	⇒	Heating	⇒	23°C

COOLING MODEL : This does not apply to the COMPACT type SII, MII.

- When the room temperature is 2°C higher than the set temperature, the mode will switch between Cooling and Drying.
- During Drying mode operation, FAN setting is switched to LOW gentle cooling effect, and the room fan may stop rotating temporarily.
- If the mode automatically selected by the unit is not what you wish, select one of the mode operation (COOL, DRY, FAN).



1.2.5 AUTO CHANGEOVER OPERATION

HEAT & COOL MODEL (Reverse cycle)

- When AUTO CHANGEOVER operation is selected, the air conditioner selects the appropriate operation mode (Cooling or Heating) in response to your room's temperature.
- When AUTO CHANGEOVER operation first selected, the fan will operate at very low speed for about one minute, during which time the unit detects the room conditions and selects the proper operating mode.
- When the air conditioner has adjusted your room's temperature to near the thermostat setting, it will begin monitor operation. In the monitor operation mode, the fan will operate at low speed. If the room temperature subsequently changes, the air conditioner will once again select the appropriate operation (Heating, Cooling) to adjust the temperature to the value set in the thermostat. (The monitor operation range is $\pm 2^{\circ}\text{C}$ relative to the thermostat setting.)
- If the mode automatically selected by the unit is not what you wish, select one of the mode operation (HEAT, COOL, DRY, FAN).

1.2.6 HEATING OPERATION (REVERSE CYCLE)

- Use to warm your room.
- When Heating mode is selected, the air conditioner will operate at very low fan speed for about 3 to 5 minutes, after which it will switch to the selected fan setting. This period of time is provided to allow the indoor unit to warm up before begin full operation.
- When the room temperature is very low, frost may form on the outside unit, and its performance may be reduced. In order to remove such frost, the unit will automatically enter the defrost cycle from time to time. During Automatic Defrosting operation, the OPERATION indicator lamp (red) will flash, and the heat operation will be interrupted.

1.2.7 COOLING OPERATION

- Use to cool your room.

1.2.8 DRY OPERATION

- Use for gently cooling while dehumidifying your room.
- You cannot heat the room during Dry mode.
- During Dry mode, the unit will operate at low speed; in order to adjust room humidity, the indoor unit's fan may stop from time to time. Also, the fan may operate at very low speed when detecting room humidity.
- Then fan speed cannot be changed manually when Dry mode has been selected.

During Heating mode :

Set the thermostat to a temperature setting that is higher than the current room temperature. The Heating mode will not operate if the thermostat is set lower than the actual room temperature.

During Cooling/Dry mode :

Set the thermostat to a temperature setting that is lower than the current room temperature. The Cooling and Dry modes will not operate if the thermostat is set higher than the actual room temperature (in Cooling mode, the fan alone will operate).

During Fan mode :

You can not use the unit to heat and cool your room.

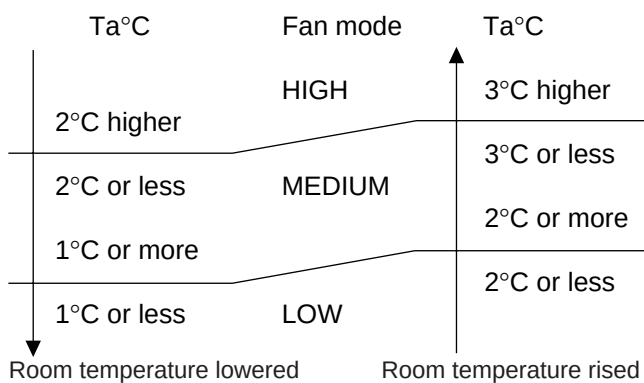
1.3.9 FAN OPERATION

- Use to circulate the air throughout your room.

1.2.10 AUTO FAN SPEED

- When the FAN CONTROL switch is set to the AUTO position, the optimum fan speed will be selected automatically in accordance with room temperature and other conditions.
- During the dry mode, fan speed is set automatically and cannot be changed.
- The breeze is :

Cooling operation



(Room temperature and set temperature difference = $T_a^{\circ}\text{C}$)

Heating operation

$T_p^{\circ}\text{C}$	Fan mode
47°C or more	HIGH
41°C to 47°C	MEDIUM
41°C or less	LOW

(Indoor heat exchanger temperature = $T_p^{\circ}\text{C}$)

1.2.11 NICE MORNING TIMER (ON TIMER)

When the ON timer is used, the air conditioner not only starts at the set time, but also automatically starts before the set time according to the difference between the room temperature and the set temperature so the room becomes the desired temperature at the set time. The time can be set in 5-minute steps.

	Room temperature and set temperature difference	Operation start time
Cooling	Over 10 °C 5 °C — 0 °C Under 5 °C	Started 20 minutes before set time Started 15 minutes before set time Started 10 minutes before set time
Heating	Over 20 °C 15 °C — 0 °C 10 °C — 5 °C Under 10 °C	Started 45 minutes before set time Started 30 minutes before set time Started 15 minutes before set time Started 10 minutes before set time

1.2.11 OFF TIMER

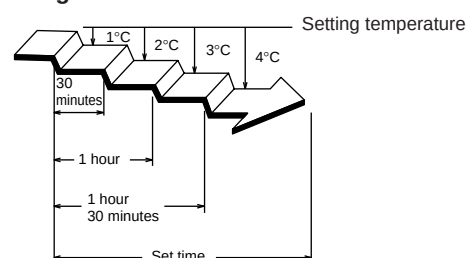
When the timer reaches the set time, the air conditioner will be turned off.

1.2.12 SLEEP TIMER OPERATION

During Heating operation [HEAT & COOL MODEL (Reverse cycle) only] :

When the SLEEP timer is set, the thermostat setting is automatically lowered 1°C every thirty minutes. When the thermostat has been lowered a total of 4°C, the thermostat setting at that time is maintained until the set time has elapsed, at which time the air conditioner automatically turns off.

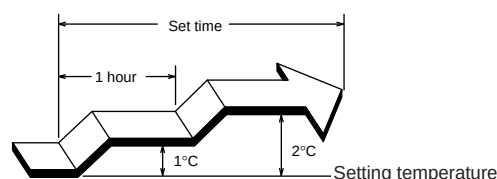
SLEEP timer setting



During Cooling/Dry operation :

When the SLEEP timer is set, the thermostat setting is auto-matically raised 1°C every sixty minutes. When the thermostat has been raised a total of 2°C, the thermostat setting at that time is maintained until the set time has elapsed, at which time the air conditioner automatically turns off.

SLEEP timer setting



1.2.13 PROGRAM TIMER

Combines the OFF timer and the ON timer for one cycle. (OFF $\Rightarrow$ ON or ON $\Rightarrow$ CFF)

Starts operation from the OFF timer or the ON timer, Whichever is closer to the current time.

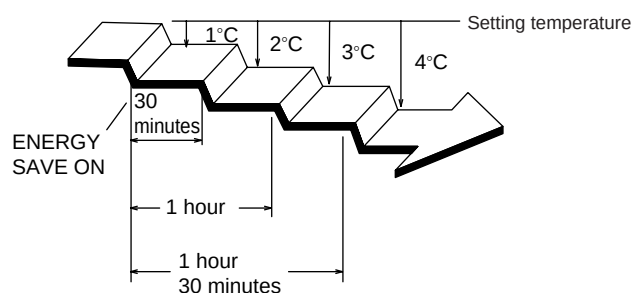
1.2.14 ENERGY SAVE OPERATION

Wireless type (Wall fixing type) only

During Heating operation [HEAT & COOL MODEL (Reverse cycle) only] :

The thermostat temperature setting decreases by 1°C as soon as the ENERGY SAVE button is pressed, and then decreases by another 1°C every thirty minutes. Afterwards, energy consumption is saved by continuing to heat at a thermostat temperature of 4°C less than that set.

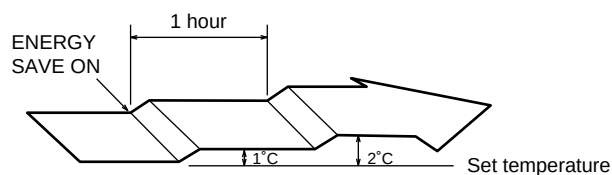
ENERGY SAVE setting



During Cooling/Dry operation :

The thermostat temperature setting increases by 1°C as soon as the ENERGY SAVE button is pressed, and then increases by another 1°C after one hour has passed. Afterwards, energy consumption is saved by continuing to cool or dry at a thermostat temperature of 2°C more than that set.

ENERGY SAVE setting



1.2.15 VERTICAL AIR DIRECTION ADJUSTMENT

Each time the button is pressed, the air direction range will change as follows :

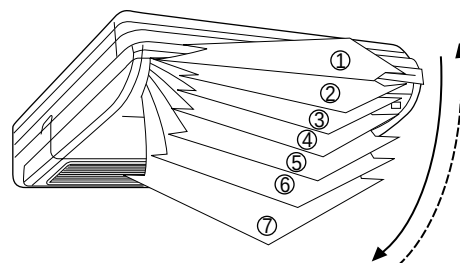


Types of Airflow Direction Setting :

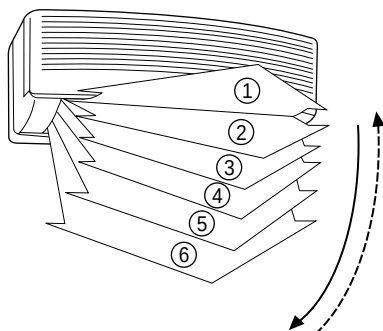
①,②,③,④ : During Cooling/Dry Modes

⑤,⑥,⑦ : During Heating mode

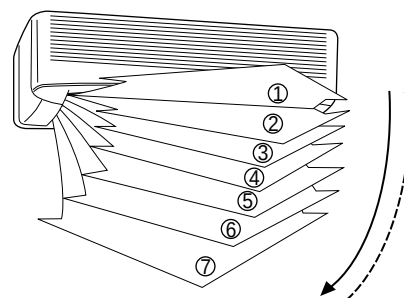
The Remote Control Unit's display does not change.



UNIVERSAL TYPE



COMPACT SII TYPE

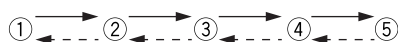


WALL MOUNTED TYPE

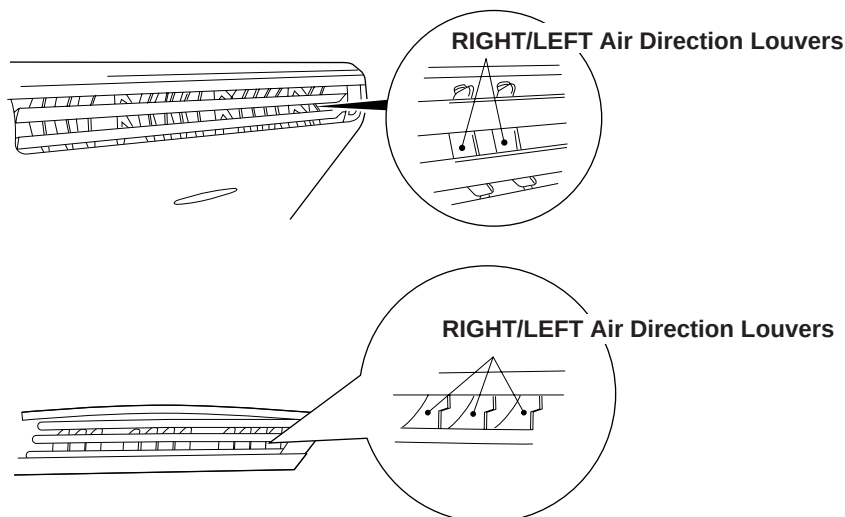
- Use the air direction adjustments within the ranges shown above.
- The vertical airflow direction is set automatically as shown, in accordance with the type of operation selected.
 - During Cooling/Dry mode : Horizontal flow ①
 - During Heating mode : Downward flow ⑦
- During AUTO mode operation, for the first minute after beginning operation, airflow will be horizontal ①; the air direction cannot be adjusted during this period.

1.2.16 HORIZONTAL AIR DIRECTION ADJUSTMENT

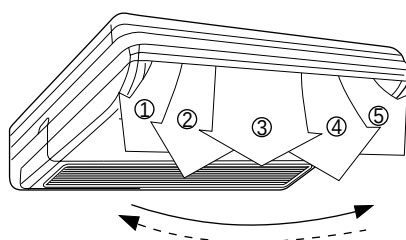
Each time the button is pressed, the air direction range will change as follows:



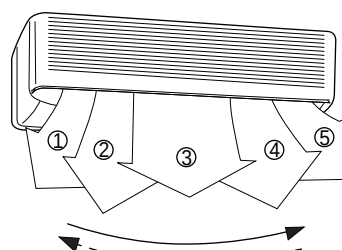
The Remote Controller's display does not change.



- Use the air direction adjustments within the ranges shown above.



UNIVERSAL TYPE



WALL MOUNTED TYPE

1.2.17 VERTICAL AIRFLOW SWING OPERATION

- The range of swing is relative to the currently set airflow direction.

Airflow direction set	Range of swing		
	SII Series	MII Series	RSW & RYT Series
①	① to ②	① to ③	① to ③
②	① to ③	① to ④	① to ④
③	② to ③	② to ⑤	② to ⑤
④	④ to ⑤	③ to ⑥	③ to ⑥
⑤	④ to ⑥	④ to ⑦	④ to ⑦
⑥	⑤ to ⑥	⑤ to ⑦	⑤ to ⑦
⑦	—	⑥ to ⑦	① to ⑦ (All range)

- If the swing range is not as desired, use the Remote Control Unit's AIRFLOW DIRECTION VERTICAL SET button to change the range of swing.
- The SWING Operation may stop temporarily when the air conditioner's fan is not operating, or when operating at very low speeds.
- During use of the Cooling and Dry modes, do not set the Air UP/DOWN Direction Flaps, in the Heating range (⑤ to ⑦) for long periods of time, since water vapor may condense near the outlet louvers and drops of water may drip from the air conditioner.

1.2.18 HORIZONTAL AIRFLOW SWING OPERATION

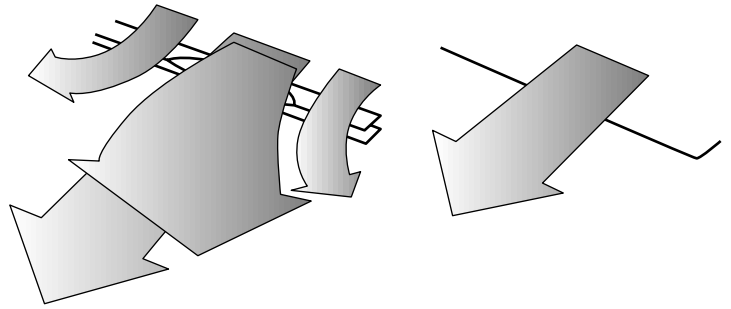
- The range of swing is relative to the currently set airflow direction.

Airflow direction set	Range of swing
①	① to ⑤ (All range)
②	① to ③
③	② to ④
④	③ to ⑤
⑤	① to ⑤ (All range)

- If the swing range is not as desired, use the Remote Control Unit's AIRFLOW DIRECTION HORIZONTAL SET button to change the range of swing.
- The SWING Operation may stop temporarily when the air conditioner's fan is not operating, or when operating at very low speeds.

1.2.19 SUPER VANE

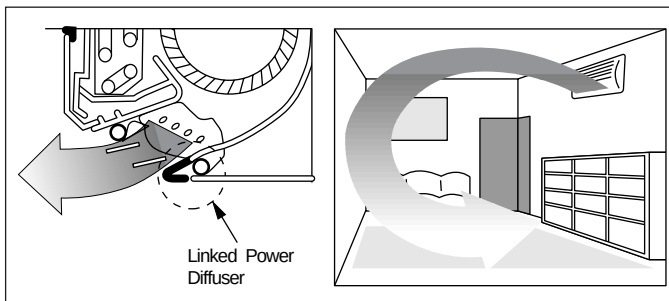
Our newly developed "Super Vane" configuration boosts airflow by sending cool air quickly to every corner of the room.



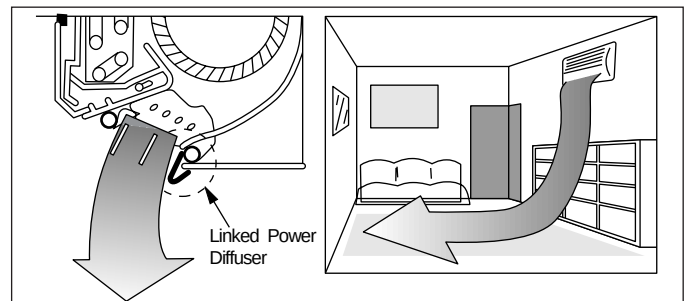
1.2.20 LINKED POWER DIFFUSER

By means of our new design of "Power Diffuser" the floor level heating efficiency is considerably improved. By movement of the up/down direction panels in conjunction with the power diffuser greater comfort can be obtained.

• Horizontal Cooling Airflow



• Vertical Heating Airflow



1.2.21 AUTOMATIC SHUT FLAPS

- The upper and lower flaps shut automatically so that dust or foreign matter does not enter the inside of the unit, while the unit halts.
- The unit looks simple on the outside, as the blow-out section of the air shuts.

1.2.22 COOLING OPERATION EVEN AT A LOW OUTDOOR TEMPERATURE

Cooling operation is possible down to 0°C.

1.2.23 MOLD PREVENTION FILTER

The air filter are specially treated with a mold inhibiting compound.
This stops mold and mildew from forming inside the indoor unit.

1.2.24 AIR PURIFYING FILTER (OPTIONAL)

The electrostatic filter removes dust and minute particles to purify the air in a room.
This is perfect for smokers and for people with allergies during pollen season.

1.2.25 AUTO RESTART

Auto restart function makes the unit to restart automatically in the same operating mode as before after recovery from stoppage due to a temporary power failure.

1.2.26 QUIET

The large-diameter cross fan can send a larger volume of air while turning more slowly than before. Through the air suction from the top, smooth airflow and center mount structure, ultimate quietness has been realized while maintaining the ample air volume and speed.

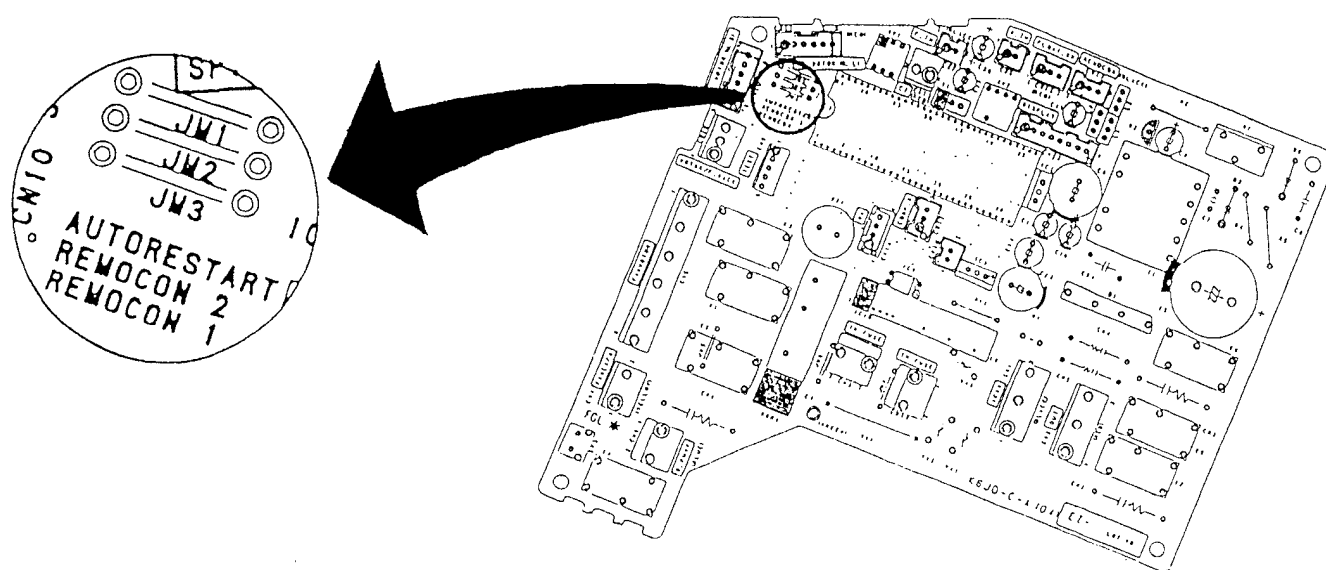
1.3 PRINTED WIRING BOARD SETTINGS

<APPLICATION MODEL>

AS*20A, 20R, 24A, 24R, 30A, 30R

AB*14A, 14R, 18A, 18R, 24A, 24R

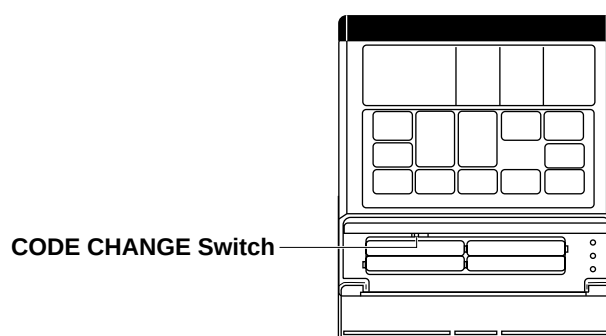
1.3.1 AUTO-RESTART & REMOTE CONTROLLER CODE



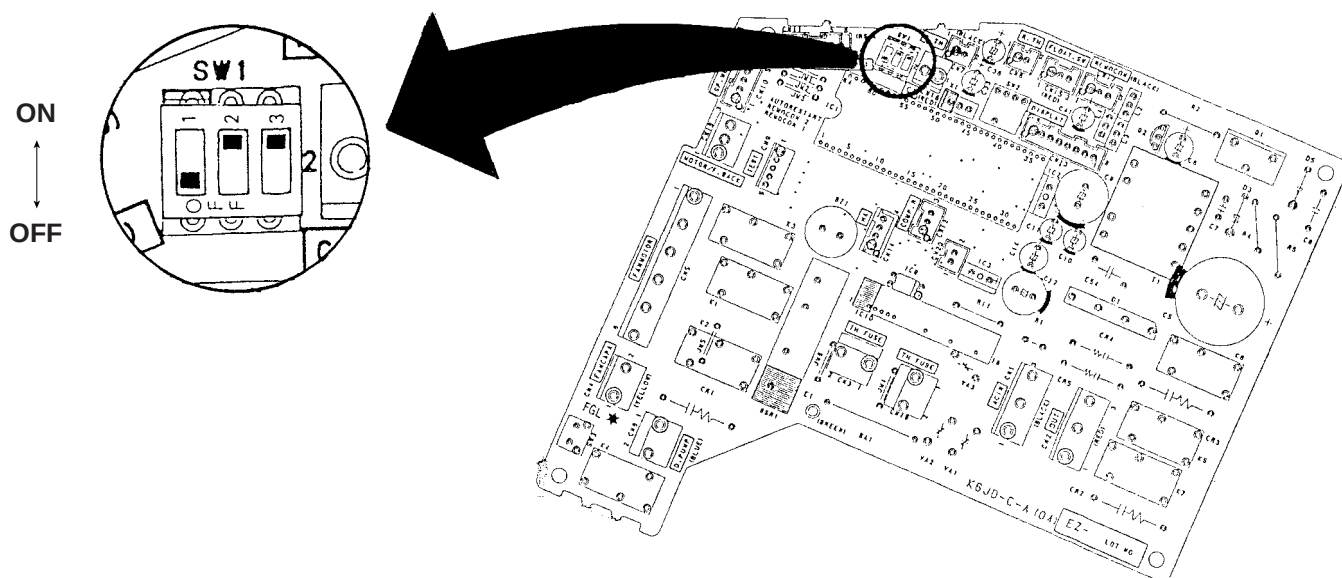
	JM1
Auto - Restart Enable (default)	Disconnect
Auto - Restart Disable	Connect

☆	JM2	JM3
Remote - Controller Code-A (default)	Connect	Connect
Remote - Controller Code-B	Disconnect	Connect
Remote - Controller Code-C	Connect	Disconnect
Remote - Controller Code-D	Disconnect	Disconnect

- ☆ Confirm the remote controller's "CODE CHANGE Switch" selection and printed wiring board setting.
- If these are not confirmed, the remote controller cannot be operated for the air conditioner.



1.3.2 COMPENSATION (HEATING CORRECTION COEFFICIENT)



Compensation	DIP2	DIP3	Application (RYT model only)
-2°C	ON	OFF	
±0°C	OFF	ON	for floor console
+2°C	OFF	OFF	
+4°C(default)	ON	ON	for under ceiling

- ☆ The function of DIP1 does not work on RSW and RYT models.
Turn the DIP1 off anytime.

2. SPECIFICATIONS

2.1 COMPACT SII, MII & LI SERIES

2.1.1 RSW-7 / ROW-7, RSW-7R / ROW-7R

MODEL				WALL MOUNTED TYPE		COMPACT TYPE SII-CHASSIS (7,000 BTU/h)	
				Indoor unit	Outdoor unit	RSW-7	ROW-7R
Power Source			[V]			220 - 240	220 - 240
Phase-Cycles			ϕ -[Hz]			1 ϕ - 50	1 ϕ - 50
Capacity	Cooling		[kW]			1.95 - 1.95	2.05 - 2.05
	Cooling		[BTU/h]			6,700 - 6,700	7,000 - 7,000
	Heating		[kW]			—	2.30 - 2.30
	Heating		[BTU/h]			—	7,900 - 7,900
Electrical Data	Ampacity	Cooling	[A]			2.8 - 2.9	3.3 - 3.3
		Heating	[A]			—	3.1 - 3.1
	Input watts	Cooling	[kW]			0.590 - 0.635	0.70 - 0.73
		Heating	[kW]			—	0.65 - 0.69
	Starting current		[A]			19	19
EER	Cooling		[kW/kW]			3.31 - 3.07	2.93 - 2.81
	Heating		[kW/kW]			—	3.54 - 3.33
Moisture Removal		[ℓ /hr]	(Pints/hr)			0.7 (1.5)	0.8 (1.8)
Air Circulation (Fan)	Indoor	Hi	[m³/h]			340	350
			[C.F.M.]			200	205
		Med	[m³/h]			315	320
			[C.F.M.]			185	190
		Low	[m³/h]			290	290
			[C.F.M.]			170	170
	Outdoor		[m³/h]			1,330 - 1,400	1,330 - 1,400
Operation Sound (Cool/Heat)	Indoor	Hi	[dB]			37.0 / —	37.0 / 39.0
		Med	[dB]			35.0 / —	35.0 / 37.0
		Low	[dB]			33.0 / —	33.0 / 34.0
	Outdoor		[dB]			42 - 43 / —	43 - 44 / 45 - 46
Compressor	Type					Rotary	Rotary
	Capacity		[kW]			1.93	2.29
	Output watts		[W]			600	700
Dimensions (H X W X D)	Net	Indoor	[mm]			248 X 808 X 163	248 X 808 X 163
		Outdoor	[mm]			535 X 650 X 250	535 X 650 X 250
	Gross	Indoor	[mm]			248 X 852 X 302	248 X 852 X 302
		Outdoor	[mm]			590 X 725 X 330	590 X 725 X 330
Weight	Net	Indoor	[kg]			7.5	7.5
		Outdoor	[kg]			24	25
	Gross	Indoor	[kg]			10.0	10.0
		Outdoor	[kg]			27	28
Pipe Size CD	Liquid	Indoor	[mm]			6.35	6.35
	Gross	Outdoor	[mm]			9.52	9.52
Connection Method						Flare	
Color						White	

※ Permissible range of outdoor temperature — Cooling : 18°C~43°C
 — Heating : -5°C~21°C

2.1.2 RSW-9, 9R,12, 12R, 14, 14R, 17, 17R / ROW-9, 9R, 12, 12R, 14, 14R, 17, 17R

MODEL				WALL MOUNTED TYPE COMPACT TYPE MII - CHASSIS (9,000/17,000 BTU/h)										
				Indoor unit	Outdoor unit	RSW-9	RSW-9R	RSW-12	RSW-12R	RSW-14	RSW-14R	RSW-177	RSW-177R	RSW-17AB
Power Source	[V]			220 - 240	220 - 240	220 - 240	220 - 240	220 - 240	220 - 240	220 - 240	220 - 240	220 - 240	220 - 240	
Phase-Cycles	ϕ - [Hz]			1ϕ - 50	1ϕ - 50	1ϕ - 50	1ϕ - 50	1ϕ - 50	1ϕ - 50	1ϕ - 50	1ϕ - 50	1ϕ - 50	1ϕ - 50	
Capacity	Cooling	[kW]		2.70 - 2.75	2.70 - 2.75	3.45 - 3.50	3.45 - 3.50	3.85 - 4.00	3.85 - 4.00	4.50 - 4.60	4.40 - 4.50	4.75 - 4.90	4.70 - 4.80	
	Cooling	[BTU/h]		92,00 - 9,400	9,200 - 9,400	11,800 - 12,000	11,800 - 12,000	13,100 - 13,700	13,100 - 13,700	15,400 - 15,700	15,000 - 15,400	16,200 - 16,700	16,000 - 16,400	
	Heating	[kW]		—	3.30 - 3.35	—	4.00 - 4.10	—	4.65 - 4.80	—	5.00 - 5.15	—	5.00 - 5.15	
	Heating	[BTU/h]		—	11,300 - 11,400	—	13,600 - 14,000	—	15,900 - 16,400	—	17,100 - 17,600	—	17,100 - 17,600	
Electrical Data	Ampacity	Cooling	[A]	4.6 - 4.7	4.6 - 4.5	6.0 - 6.0	5.8 - 5.9	7.6 - 7.8	7.6 - 7.8	9.9 - 10.3	10.1 - 10.5	9.5 - 10.1	9.5 - 10.0	
		Heating	[A]	—	4.2 - 4.1	—	5.7 - 5.9	—	7.8 - 8.2	—	10.5 - 10.9	—	9.9 - 10.5	
	Input watts	Cooling	[A]	0.97 - 1.03	0.98 - 1.03	1.255 - 1.315	1.22 - 1.27	1.62 - 1.72	—	2.00 - 2.10	2.02 - 2.10	1.98 - 2.15	1.98 - 2.15	
		Heating	[A]	—	0.89 - 0.94	—	1.19 - 1.27	—	1.65 - 1.75	—	2.08 - 2.19	—	2.10 - 2.25	
	Starting Current			[A]	21	21	35	35	41	41	55	55	56	56
EER	Cooling	[kW/kW]		2.78 - 2.67	2.76 - 2.67	2.75 - 2.66	2.83 - 2.76	2.38 - 2.33	2.33 - 2.29	2.40 - 2.28	2.37 - 2.23	2.40 - 2.28	2.37 - 2.23	
	Heating	[kW/kW]		—	3.71 - 3.56	—	3.36 - 3.23	—	2.72 - 2.62	—	2.38 - 2.29	—	2.38 - 2.29	
Moisture Removal	[ℓ /hr] (Pints/hr)			1.3 (2.9)	1.3 (2.9)	1.8 (4.0)	1.8 (4.0)	1.6 (3.4)	1.6 (3.4)	2.1 (4.4)	2.1 (4.4)	2.1 (4.4)	2.1 (4.4)	
Air Circulation (Cool/Heat)	Indoor	Hi	[m³/h]	430 - 465	Note : See the list shown below.	475 - 500	Note : See the list shown below.	Note : See the list shown below.			Note : See the list shown below.			
			[C.F.M.]	253 - 274		280 - 294								
		Med	[m³/h]	365 - 415		420 - 460								
			[C.F.M.]	215 - 244		247 - 271								
		Low	[m³/h]	320 - 375		370 - 415								
			[C.F.M.]	188 - 221		218 - 244								
	Outdoor			[m³/h]	1,520 - 1,630	1,555 - 1,670	1,555 - 1,670	1,365 - 1,475	1,600 - 1,600	1,600 - 1,600	2,590 - 2,590	2,590 - 2,590	2,590 - 2,590	2,590 - 2,590
	Operation Sound (Cool/Heat)	Indoor	Hi	[db]	38 - 39	39 - 39 / 39 - 39	39 - 40	40 - 40 / 39 - 39	40	40 - 40	41 - 41	42 - 42	41 - 41	42 - 42
Med			[db]	36 - 37	37 - 37 / 36 - 36	37 - 38	39 - 39 / 36 - 36	39 - 39	39 - 39	39 - 39	40 - 40	39 - 39	40 - 40	
Low			[db]	34 - 35	36 - 36 / 31 - 31	35 - 37	37 - 37 / 31 - 31	37 - 37	37 - 37	37.5 - 37.5	38 - 38 / 37 - 37	37.5 - 37.5	38 - 38 / 37 - 37	
Outdoor			[db]	43 - 44	44 - 45 / 45 - 46	44 - 45	45 - 46 / 46 - 47	50 - 50	51 - 51 / 53 - 53	55 - 55	54.5 - 54.5 / 55.5 - 55.5	54.5 - 54.5	54.5 - 54.5 / 55.5 - 55.5	
Compressor	Type			Rotary	Rotary	Rotary	Rotary	Rotary	Rotary	Recipro	Recipro	Rotary	Rotary	
	Capacity			[kW]	3.005 / 3.035	3.045 / 3.070	3.895 / 3.942	3.895 / 3.942	4.766 / 4.803	4.766 / 4.803	5.946 /	5.946 /	6.245 / 6.280	6.245 / 6.280
	Output watts			[W]	850	950	1,100	1,100	1,320	1,320	1,650	1,650	1,700	1,700
Dimensions (H X W X D)	Net	Indoor	[mm]	260 X 815 X 168	260 X 815 X 168	260 X 815 X 168	260 X 815 X 168	285 X 900 X 172	285 X 900 X 172	285 X 900 X 172	285 X 900 X 172	285 X 900 X 172	285 X 900 X 172	
		Outdoor	[mm]	535 X 695 X 250	535 X 695 X 250	535 X 695 X 250	535 X 665 X 250	530 X 750 X 250	530 X 750 X 250	643 X 840 X 336	643 X 840 X 336	643 X 840 X 338	643 X 840 X 338	
	Gross	Indoor	[mm]	248 X 866 X 302	248 X 866 X 302	248 X 866 X 302	248 X 866 X 302	254 X 951 X 363	254 X 951 X 363	254 X 951 X 363	254 X 951 X 363	254 X 951 X 363	254 X 951 X 363	
		Outdoor	[mm]	600 X 785 X 320	605 X 785 X 320	600 X 785 X 320	600 X 785 X 320	609 X 882 X 339	609 X 882 X 339	750 X 959 X 429	750 X 959 X 429	750 X 959 X 429	750 X 959 X 429	
Weight	Net	Indoor	[kg]	8	8	8	8	10	10	10	10	10	10	
		Outdoor	[kg]	27	30	30	34	37	36	66	68	55	59	
	Gross	Indoor	[kg]	10	10	10	10	13	13	13	13	13	13	
		Outdoor	[kg]	30	33	33	37	39	40	74	76	63	67	
Pipe Size CD	Liquid	Indoor	[mm]	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	
	Gross	Outdoor	[mm]	9.52	9.52	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	
Connection Method				Flare										
Color				White										

※ Permissible range of outdoor temperature ——— Cooling : 18°C~43°C (RSW-9, RSW-9R, RSW-12, RSW-12R, RSW-14, RSW-14R, RSW-17AB, RSW-17RB), 18°~52°C (RSW-177, RSW-177R)

————— Heating : -5°C~21°C

Air Circulation (Cool/Heat)	Models			RSW-9R		RSW-12R		RSW-14		RSW-17	
	Fan Guard			With	Without	With	Without	With	Without	With	Without
	Indoor	Hi	[m³/h]	480 - 480 / 495 - 495	495 - 495 / 495 - 495	495 - 495 / 495 - 495	510 - 510 / 510 - 510	540 - 540	560 - 560	540 - 540	560 - 560
			[C.F.M.]	282 - 282 / 291 - 291	291 - 291 / 291 - 291	291 - 291 / 291 - 291	300 - 300 / 300 - 300	318 - 318	330 - 330	318 - 318	330 - 330
		Med	[m³/h]	445 - 445 / 430 - 430	460 - 460 / 440 - 440	465 - 465 / 430 - 430	475 - 475 / 440 - 440	500 - 500	520 - 520	500 - 500	520 - 520
			[C.F.M.]	262 - 262 / 253 - 253	271 - 271 / 259 - 259	274 - 274 / 253 - 253	280 - 280 / 259 - 259	294 - 294	306 - 306	294 - 294	306 - 306
		Low	[m³/h]	420 - 420 / 375 - 375	425 - 425 / 380 - 380	435 - 435 / 375 - 375	450 - 450 / 380 - 380	460 - 460	480 - 480	470 - 470	480 - 480
			[C.F.M.]	247 - 247 / 221 - 221	250 - 250 / 224 - 224	256 - 256 / 221 - 221	265 - 265 / 224 - 224	270 - 270	282 - 282	277 - 277	282 - 282

2.2 WALL MOUNTED LARGE RSW-SERIES

2.2.1 RSW-20, 20R, 24, 24R, 30, 30R

MODEL				WALL MOUNTED TYPE (WIRELESS)							
				Indoor unit	RSW-20	RSW-20R	RSW-24	RSW-24R	RSW-30	RSW-30R	
				Outdoor unit	ROW-20	ROW-20R	ROW-24	ROW-24R	ROW-30	ROW-30R	
Capacity	Cooling	kW		5.55 - 5.70	5.55 - 5.70	6.75 - 6.85	6.70 - 6.80	8.05 - 8.20	7.80 - 8.00		
		BTU/h		19,000 - 19,500	19,000 - 19,500	23,000 - 23,400	22,900 - 23,200	27,500 - 28,000	26,600 - 27,300		
	Heating	kW		—	5.65 - 5.80	—	7.60 - 7.70	—	8.55 - 8.80		
		BTU/h		—	19,300 - 19,800	—	26,000 - 26,300	—	29,200 - 30,000		
Power source				1 - 50Hz / 220-240V							
Total input watts	Cooling	kW		2.10 - 2.20	2.10 - 2.20	2.52 - 2.64	2.57 - 2.67	2.84 - 2.96	2.84 - 2.96		
	Heating			—	1.80 - 1.90	—	2.41 - 2.50	—	2.80 - 2.90		
Total ampacity	Cooling	A		9.9 - 9.3	9.9 - 9.3	12.0 - 12.4	12.2 - 12.6	14.3 - 14.8	14.3 - 14.8		
	Heating			—	8.5 - 8.0	—	11.5 - 12.0	—	14.0 - 14.4		
EER	Cooling	kW/kW		2.64 - 2.59	2.64 - 2.59	2.68 - 2.59	2.61 - 2.55	2.83 - 2.77	2.75 - 2.70		
	Heating			—	3.14 - 3.05	—	3.15 - 3.08	—	3.05 - 3.03		
Starting current		A		50	50	61	61	82	82		
Indoor unit	Fan speed	Hi	r.p.m.	1,060 - 1,110	1,060 - 1,110	1,220 - 1,290	1,220 - 1,290	1,280 - 1,340	1,280 - 1,340		
		Med		890 - 970	890 - 970	1,050 - 1,130	1,050 - 1,130	1,120 - 1,200	1,120 - 1,200		
		Low		740 - 810	740 - 810	890 - 970	890 - 970	970 - 1,050	970 - 1,050		
	Air circulation	Hi	m³/h	820 - 860	820 - 860	940 - 1,000	940 - 1,000	1,000 - 1,060	1,000 - 1,060		
		Med		690 - 740	690 - 740	810 - 870	810 - 870	860 - 930	860 - 930		
		Low		570 - 620	570 - 620	690 - 740	690 - 740	730 - 810	730 - 810		
	Noise level (Sound pressure)	Hi	dB(A)	41 - 42	41 - 42	45 - 46	45 - 46	47 - 48	47 - 48		
		Med		37 - 38	37 - 38	41 - 42	41 - 42	44 - 45	44 - 45		
		Low		33 - 34	33 - 34	37 - 38	37 - 38	39 - 40	39 - 40		
	Heat exchanger	Type		Plate fin coil							
		Face area	m²	0.274	0.274	0.274	0.274	0.274	0.274		
		Fin	inch	17	17	17	17	17	17		
	Fan type x Q'ty				Cross flow fan x 2						
	Fan motor output		W		32	20	32	27	32	32	
	Operation control				Remote control						
	Dimensions	H	mm(inch)	320 (12 - 5/8)							
		W		1,250 (49 - 3/16)							
		D		195 (7 - 11/16)							
	Weight		Net/Gross	kg	18 / 26						
Outdoor unit	Fan speed	Hi	r.p.m.	690 - 735	690 - 735	690 - 735	690 - 735	30 - 790	730 - 790		
		Low		—	250 - 280	—	250 - 280	410 - 450	410 - 450		
	Air circulation	Hi	m³/h	2,430 - 2,590	2,430 - 2,590	2,430 - 2,590	2,430 - 2,590	5,500 - 5,900	5,500 - 5,900		
	Noise level		dB(A)	55 - 56	55 - 56	55 - 56	55 - 56	57 - 58	57 - 58		
	Heat exchanger	Type		Plate fin coil							
		Face area	m²	0.563	0.549	0.549	0.549	1.112	1.112		
		Fin	inch	17	14	14	14	17	17		
	Fan type x Q'ty				Propeller x 1				Propeller x 2		
	Fan motor output		W		60	60	60	60	63 x 2	63 x 2	
	Compressor type				Hermetic (Recipro)						
		Motor output		W		1,500		2,000		2,700	
		Protection			Internal protector (OCR), High pressure relief valve						
	Dimensions	H	mm(inch)	643 (25 - 5/16)			643 (25 - 5/16)		900 (35 - 7/16)		
		W		840 (33 - 1/16)			840 (33 - 1/16)		900 (35 - 7/16)		
		D		336 (13 - 1/4)			336 (13 - 1/4)		350 (13 - 25/32)		
	Weight		Net/Gross	kg	66 / 74	68 / 76	67 / 75	68 / 76	94 / 108	96 / 110	
Refrige-rant circuit	Operation mode			Cooling	Cooling ; Heating	Cooling	Cooling ; Heating	Cooling	Cooling ; Heating		
	Disch. pressure	kg/cm²G		19.7 - 19.5	19.9-19.7 ; 17.0-16.9	20.1 - 19.8	20.1-19.8 ; 20.3-20.3	17.6-17.5	17.6-17.5 ; 19.0-19.0		
	Suct. pressure			5.0 - 5.0	5.2-5.2 ; 4.2-4.2	4.7 - 4.7	4.8-4.8 ; 3.8-3.8	4.7 - 4.7	4.7 - 4.7 ; 4.3-4.3		
	Discharge temp.	°C		87 - 89	95-97 ; 82-85	91 - 94	98-101 ; 90-95	90 - 92	90 - 92 ; 89 - 90		
	Condensing temp.			51.5 - 51	51.5-51 ; 45-51	51.5 - 51	51.5-51 ; 50-50	46.5 - 46.5	46.5-46.5 ; 48 - 48		
	Suction temp.			6 — 6	7—7 ; 1—1	4 — 4	9—11 ; -2—-2	7 — 8	7 — 8 ; -2 — -2		
	Refr. pipe length	m	5								
	Disch. air temp.	°C	13.5 - 13.5	13.5-13.5 ; 40 - 40	12.5 - 12.5	12.5-12.5 ; 43 - 43	12 - 12	12 - 12 ; 44 - 44			
Condition	Indoor entering air temp.	Cool	DB/WB	27°C / 19°C							
		Heat		20°C / 15°C							
	Outdoor entering air temp.	Cool	DB/WB	35°C / 24°C							
		Heat		7°C / 6°C							
Piping	Refrigerant charge		kg(oz)	1.24 (43.7)	1.80 (63.5)	1.95 (68.8)	2.07 (73.0)	1.80 (63.5)	1.70 (60.0)		
	Pipe size (O.D.)	Liquid	mm(inch)	9.52 (3/8)							
		Gas		15.88 (5/8)							
	Connection method				Flare						
	Between	Height	m	8			8		15	15	
Pipe length		20			20		35	25			

2.2.2 RSW-20AB, 20AD, 20RB, 24AB, 24RD

(Nontropicalized models)

MODEL				WALL MOUNTED TYPE (WIRELESS)											
				Indoor unit		RSW-20AB, AD	RSW-20RB		RSW-24AB		RSW-24RD				
				Outdoor unit		ROW-20AB, AD	ROW-20RB	ROW-24AB	ROW-24RD						
Capacity	Cooling	kW		5.80 - 5.90		5.55 - 5.70		6.75 - 6.85		6.70 - 6.80					
		BTU/h		19,800 - 20,100		19,000 - 19,500		23,000 - 23,400		22,900 - 23,200					
	Heating	kW		—		5.90 - 6.10		—		7.70 - 7.80					
		BTU/h		—		20,100 - 20,800		—		26,300 - 26,600					
Power source				1 ϕ - 50Hz / 220-240V											
Total input watts	Cooling	kW		2.11 - 2.27		2.05 - 2.15		2.66 - 2.81		2.55 - 2.60					
	Heating			—		1.85 - 1.97		—		2.46 - 2.55					
Total ampacity	Cooling	A		10.3 - 11.0		9.7 - 9.7		12.6 - 12.8		11.7 - 10.9					
	Heating			—		8.8 - 9.0		—		11.4 - 10.8					
EER	Cooling	kW/kW		2.75 - 2.60		2.71 - 2.65		2.54 - 2.44		2.63 - 2.62					
	Heating			—		3.19 - 3.10		—		3.13 - 3.06					
Starting current		A		50		50		56		56					
Indoor unit	Fan speed	Hi	r.p.m.	1,110 - 1,160		1,110 - 1,160		1,220 - 1,290		1,220 - 1,290					
		Med		920 - 1,000		920 - 1,000		1,050 - 1,130		1,050 - 1,130					
		Low		790 - 850		790 - 850		860 - 930		860 - 930					
	Air circulation	Hi	m³/h	820 - 860		820 - 860		940 - 1,000		940 - 1,000					
		Med		690 - 740		690 - 740		810 - 870		810 - 870					
		Low		570 - 620		570 - 620		690 - 740		690 - 740					
	Noise level (Sound pressure)	Hi	dB(A)	41 - 42		41 - 42		45 - 46		45 - 46					
		Med		37 - 38		37 - 38		41 - 42		41 - 42					
		Low		33 - 34		33 - 34		37 - 38		37 - 38					
	Heat exch-anger	Type		Plate fin coil											
		Face area	m²	0.274		0.274		0.274		0.274					
		Fin	inch	17		17		17		17					
	Fan type x Q'ty				Cross flow fan x 2										
	Fan motor output		W		20		20		27		27				
	Operation control				Remote control										
	Dimensions	H	mm(inch)	320 (12 - 5/8)											
		W		1,250 (49 - 3/16)											
		D		195 (7 - 11/16)											
	Weight	Net/Gross	kg		18 / 25										
Outdoor unit	Fan speed	Hi	r.p.m.	690 - 735		690 - 735		690 - 735		690 - 735					
		Low		—		250 - 280		—		250 - 280					
	Air circulation	Hi	m³/h	2,430 - 2,590		2,430 - 2,590		2,430 - 2,590		2,430 - 2,590					
	Noise level		dB(A)	54 - 55		55 - 56		55 - 56		55 - 56					
	Heat exch-anger	Type		Plate fin coil											
		Face area	m²	0.563		0.549		0.549		0.549					
		Fin	inch	17		14		14		14					
	Fan type x Q'ty				Propeller x 1										
	Fan motor output		W		60		60		60		60				
	Compressor type				Hermetic (Rotary)										
	Dimensions	Motor output		W	1,665		1,500		2,200		2,000				
		Protection		Internal protector (OCR)											
		H	mm(inch)	643 (25 - 5/16)											
				W	840 (33 - 1/16)										
					D	336 (13 - 1/4)									
Weight		Net/Gross	kg		59 / 67		68 / 76		68 / 76		69 / 77				
Refrige-rant circuit	Operation mode			Cooling		Cooling		Heating		Cooling		Heating			
	Disch. pressure		kg/cm²G	21.1 - 21.1		21 - 21		17.8 - 18.8		21 - 21		20 - 20		19 - 19	
	Suct. pressure			5.2 - 5.2		5 - 5.05		3.45 - 3.55		4.6 - 4.6		4.6 - 4.6		3.7 - 3.8	
	Discharge temp.		°C	95 - 98		93 - 96		76 - 81		96 - 99		95 - 97		71 - 72	
	Condensing temp.			53 - 53		52 - 52		46 - 46		49 - 49		51 - 51		49 - 49	
	Suction temp.		9.4 — 10		6.2 — 7.7		-4 — -3.7		6 — 8		5 — 8		-2 — -1.5		
	Refr. pipe length		m	5											
	Disch. air temp.		°C	12.4 - 11.7		12.4 - 12.8		40 - 40		12.5 - 12.5		12.5 - 12.5		43 - 43	
Condition	Indoor entering air temp.	Cool	DB/WB	27°C / 19°C											
		Heat		20°C / 15°C											
	Outdoor entering air temp.	Cool	DB/WB	35°C / 24°C											
		Heat		7°C / 6°C											
Piping	Refrigerant charge		kg(oz)	1.5 (52.9)		1.95 (68.8)		1.87 (65.9)		2.12 (74.8)					
	Pipe size (O.D.)	Liquid	mm(inch)	9.52 (3/8)											
		Gas		15.88 (5/8)											
	Connection method				Flare										
	Between	Height	m	8											
Pipe length		20													

2.2.3 RSW-20S, 20RS, 24S, 24RS, 30S, 30RS

MODEL		WALL MOUNTED TYPE (WIRELESS)										
		Indoor unit	RSW-20S	RSW-20RS	RSW-24S	RSW-24RS	RSW-30S	RSW-30RS				
		Outdoor unit	ROW-20S	ROW-20RS	ROW-24S	ROW-24RS	ROW-30S	ROW-30RS				
Capacity	Cooling	W(SSA)	4,500	4,500	5,700	5,700	6,700	6,700				
		BTU/h	19,500	19,500	24,000	24,000	30,000	30,000				
	Heating	W	—	5,300	—	7,100	—	9,000				
BTU/h		—	19,800	—	24,200	—	30,800					
Power source			1 ϕ - 60Hz / 220V									
Total input watts	Cooling	W	2,400	2,400	3,030	3,100	3,650	3,650				
	Heating		—	2,000	—	2,550	—	3,150				
Total ampacity	Cooling	A	11.1	11.1	13.9	14.3	17.0	17.0				
	Heating		—	9.2	—	12.0	—	15.0				
EER	Cooling	W/W	1.88	1.88	1.88	1.84	1.84	1.84				
	Heating		—	2.65	—	2.78	—	2.86				
Starting current		A	53	53	66	66	67	67				
Indoor unit	Fan speed	Hi	r.p.m.	1,095	1,095	1,275	1,275	1,300	1,300			
		Med		950	950	1,120	1,120	1,150	1,150			
		Low		790	790	945	945	990	990			
	Air circulation	Hi	m³/h	860	860	1,000	1,000	1,060	1,060			
		Med		740	740	870	870	900	900			
		Low		620	620	740	740	780	780			
	Noise level (Sound pressure)	Hi	dB(A)	42	42	46	46	48	48			
		Med		38	38	42	42	45	45			
		Low		34	34	38	38	40	40			
	Heat exchanger	Type		Plate fin coil								
		Face area	m²	0.274								
			Fin	inch								
			17									
	Fan type x Q'ty			Cross flow fan x 2								
	Fan motor output		W	20	20	27	27	32	32			
Operation control			Remote control									
Dimensions	H	mm(inch)	320 (12 - 5/8)									
	W		1,250 (49 - 3/16)									
	D		195 (7 - 11/16)									
Weight	Net/Gross	kg	18 / 16									
Outdoor unit	Fan speed	Hi	r.p.m.	735	735	735	735	620	620			
		Low		—	—	—	—	—	—			
	Air circulation		Hi	m³/h	2,590	2,590	2,590	5,000	5,000			
	Noise level		dB(A)	56	56	56	56	57	58			
	Heat exchanger	Type		Plate fin coil								
		Face area	m²	0.563	0.549	0.549	0.549	1.112	1.112			
			Fin	inch	17	14	14	17	17			
	Fan type x Q'ty			Propeller x 1								
	Fan motor output		W	60	60	60	60	63 x 2	63 x 2			
	Compressor type			Hermetic (Recipro)								
			Motor output	W	1,500	1,900	1,900	3,000	3,000			
			Protection									
	Dimensions	H	mm(inch)	643 (25 - 5/16)								
		W		840 (33 - 1/16)								
		D		336 (13 - 1/4)								
Weight	Net/Gross	kg	66 / 74	68 / 76	67 / 75	68 / 76	94 / 108	96 / 110				
Refrige-rant circuit	Operation mode		Cooling	Cooling	Heating	Cooling	Cooling	Heating	Cooling	Heating		
	Disch. pressure		kg/cm²G	25.1	24.9	17.4	25.2	25.4	19.6	23.0	23.2	19.8
	Suct. pressure		kg/cm²G	5.3	5.4	4.3	5.3	5.4	3.8	4.9	4.8	3.7
	Discharge temp.		°C	88	96	78	97	108	81	88	99	90
	Condensing temp.			61	60.5	45.5	61.5	62.5	49.5	57	58	50
	Suction temp.		7	7	-2	7	7	-2	5	4	-3	
	Refr. pipe length		m	5								
	Disch. air temp.		°C	14.5	14.5	40	14	14	42	13.5	13.5	44
Condition	Indoor entering air temp.	Cool	DB/WB	29°C / 19°C								
		Heat		20°C / (15)°C								
	Outdoor entering air temp.	Cool	DB/WB	46°C / 24°C								
		Heat		7°C / 16°C								
Piping	Refrigerant charge		kg(oz)	1.29 (45.5)	1.69 (59.6)	1.75 (61.7)	2.07 (73.0)	1.80 (63.5)	1.80 (63.5)	1.80 (63.5)		
	Pipe size (O.D.)	Liquid	mm(inch)	9.52 (3/8)								
		Gas		15.88 (5/8)								
	Connection method			Flare								
Between		Height	m	8	8			15	15			
		Pipe length		20	20			30	25			

2.3 UNIVERSAL RYT-SERIES

2.3.1 RYT-14, 14R, 18, 18R, 24, 24R

MODEL				FLOOR / CEILING UNIVERSAL TYPE											
				Indoor unit	RYT-14	RYT-14R	RYT-18	RYT-18R	RYT-24	RYT-24R					
				Outdoor unit	ROY-14	ROY-14R	RO-18	RO-18R	ROW-24	ROW-24R					
Capacity	Cooling	kW		4.00 - 4.10	3.95 - 4.05	5.30 - 5.40	5.20 - 5.30	6.55 - 6.65	6.50 - 6.60						
		BTU/h		13,700 - 14,000	13,500 - 13,800	18,100 - 18,400	17,800 - 18,100	22,400 - 22,700	22,200 - 22,500						
	Heating	kW		—	4.90 - 5.00	—	5.50 - 5.60	—	7.60 - 7.70						
		BTU/h		—	16,700 - 17,100	—	18,800 - 19,100	—	25,900 - 26,300						
Power source				1 ~ 220-240V 50Hz											
Total input watts	Cooling	kW		1.67 - 1.80	1.62 - 1.76	2.15 - 2.20	2.15 - 2.20	2.58 - 2.68	2.60 - 2.70						
	Heating			—	1.61 - 1.73	—	2.00 - 2.10	—	2.49 - 2.59						
Total ampacity	Cooling	A		7.9 - 8.3	7.6 - 8.0	9.9 - 9.4	9.9 - 9.4	12.2 - 12.7	12.5 - 13.0						
	Heating			—	7.6 - 8.0	—	9.2 - 8.9	—	12.0 - 12.5						
EER	Cooling	kW/kW		2.39 - 2.28	2.44 - 2.30	2.47 - 2.45	2.42 - 2.41	2.54 - 2.48	2.50 - 2.44						
	Heating			—	3.04 - 2.89	—	2.75 - 2.67	—	3.05 - 2.97						
Starting current		A		33		50		61							
Indoor unit	Fan speed	Hi	r.p.m.	790 - 850		950 - 1,030		1,120 - 1,180							
		Med		700 - 760		820 - 890		980 - 1,040							
		Low		620 - 670		700 - 770		840 - 900							
	Air circulation	Hi	m³/h	580 - 640		720 - 800		830 - 900							
		Med		500 - 560		610 - 680		710 - 780							
		Low		430 - 480		500 - 560		590 - 660							
	Noise level (Sound pressure)	Hi	dB(A)	40.0 - 41.0		46.0 - 47.0		48.0 - 49.0							
		Med		37.0 - 38.0		41.5 - 42.5		44.0 - 45.0							
		Low		34.0 - 35.0		37.0 - 38.0		40.0 - 41.0							
	Heat exchanger			Plate fin coil											
	Fan type x Q'ty			Sirocco fan x 2											
	Fan motor output		kW	0.016		0.030		0.040							
	Operation control			Remote control											
	Dimensions	H	mm	199											
		W		990											
D		655													
Weight	Net/Gross	kg	28 / 37		28 / 37		30 / 39								
Outdoor unit	Fan speed	Hi	r.p.m.	750		735		735							
		Low		—		280		—		280					
	Air circulation		m³/h	1,600		2,590		2,590							
	Noise level		Hi	dB(A)		49.0		56.0		56.0					
	Heat exchanger			Plate fin coil											
	Fan type x Q'ty			Propeller x 1											
	Fan motor output		kW	0.022		0.060		0.060							
	Compressor type			Hermetic (rotary)				Hermetic (recipro)							
		Motor output		kW	1,400		1,500		1,875						
		Protection			Internal protector (OCR)		Internal protector (OCR), High pressure relief valve								
	Dimensions	H	mm	530		643		643							
		W		750		840		840							
		D		250		336		336							
Weight	Net/Gross	kg	37 / 39		38 / 40		66 / 74		68 / 76						
Refrigerant circuit	Discharge pressure		kg/cm²	Cooling	Cooling	Heating	Cooling	Cooling	Heating	Cooling	Cooling	Heating			
	Suction pressure			19.5	19.5	19.8	19.0	19.0	20.0	20.0	20.1	20.7			
	Discharge temp.		°C	5.1	5.1	4.3	4.9	4.9	4.2	4.8	4.9	4.0			
	Suction temp.			92	89	95	92	97	84	91	98	87			
	Refr. pipe length		m	10	10	1	7	8	1	4	6	1			
	Disch. air temp.		°C	5											
Condition	Indoor air temp.	Cool	DB/WB	27.0°C / 19.0°C											
		Heat		20.0°C / (15.0)°C											
	Outdoor air temp.	Cool	DB/WB	35.0°C / 24.0°C											
		Heat		7.0°C / 6.0°C											
Piping	Refrigerant charge		kg	1.000		1.050		1.140		1.690		1.950		2.070	
	Pipe size (O.D.)	Liquid	mm	6.35		6.35		9.35		9.53		9.53		9.53	
		Gas		12.7		12.7		15.88		15.88		15.88		15.88	
	Connection method			Flare											
	Height difference		m	8											
	Pipe length			20											

2.3.2 RYT-18, 18R, 24, 24R

(Nontropicalized models)

MODEL				FLOOR / CEILING UNIVERSAL TYPE								
				Indoor unit	RYT-18AC		RYT-18R		RYT-24AB		RYT-24R	
				Outdoor unit	RO-18AC		RO-18R		ROW-24AB		ROW-24R	
Capacity	Cooling	kW		5.3 - 5.4		5.2 - 5.3		6.55 - 6.75		6.7 - 6.8		
		BTU/h		18,100 - 18,400		17,700 - 18,100		22,400 - 23,000		22,900 - 23,200		
	Heating	kW		—		5.7 - 5.8		—		7.6 - 7.7		
		BTU/h		—		19,500 - 19,800		—		25,900 - 26,300		
Power source				1ϕ 50Hz / 220-240V								
Total input watts	Cooling	kW		2.05 - 2.15		2.05 - 2.15		2.67 - 2.78		2.55 - 2.65		
	Heating			—		1.90 - 2.00		—		2.44 - 2.54		
Total ampacity	Cooling	A		10.2 - 10.4		9.5 - 9.5		13.2 - 13.4		11.6 - 11.1		
	Heating			—		9.0 - 9.1		—		11.2 - 10.6		
EER	Cooling	kW/kW		2.59 - 2.51		2.54 - 2.47		2.45 - 2.42		2.63 - 2.57		
	Heating			—		3.60 - 2.90		—		3.11 - 3.03		
Starting current		A		50				56				
Indoor unit	Fan speed	Hi	r.p.m.	950 - 1,030				1,120 - 1,180				
		Med		820 - 890				980 - 1,040				
		Low		700 - 770				840 - 900				
	Air circulation	Hi	m³/h	720 - 800				830 - 900				
		Med		610 - 680				710 - 780				
		Low		500 - 560				590 - 660				
	Noise level (Sound pressure)	Hi	dB(A)	46.0 - 47.0				48.0 - 49.0				
		Med		41.5 - 42.5				44.0 - 45.0				
		Low		37.0 - 38.0				40.0 - 41.0				
	Heat exchanger			Plate fin coil								
	Fan type x Q'ty			Sirocco fan x 2								
	Fan motor output		kW	0.030				0.040				
	Operation control				Remote control							
	Dimensions	H	mm	199								
		W		990								
		D		655								
Weight	Net/Gross	kg	28 / 37				30 / 39					
Outdoor unit	Fan speed	Hi	r.p.m.	735				735				
		Low		—				280				
	Air circulation		m³/h	2,590				2,590				
	Noise level		Hi	56.0				56.0				
	Heat exchanger			Plate fin coil								
	Fan type x Q'ty			Propeller x 1								
	Fan motor output		kW	0.060				0.060				
	Compressor type				Hermetic (Rotary)							
	Motor output		kW	1,665		1,500		2,200		2,000		
	Protection				Internal protector (OCR)							
	Dimensions	H	mm	643				643				
		W		840				840				
		D		336				336				
	Weight	Net/Gross	kg	59 / 67		68 / 76		60 / 68		69 / 77		
Refrige-rant circuit	Operation model		kg/cm²	Cooling		Cooling	Heating	Cooling		Cooling	Heating	
	Discharge pressure			21		21	20	21.5		21	19	
	Suction pressure			4.5		4.9	3.5	4.8		4.7	3.8	
	Discharge temp.		°C	81		93	86	90		94	70	
	Suction temp.			3.5		6.9	-3	5.5		8	-2	
	Refr. pipe length		m	5								
Disch. air temp.		°C	11.5		12	43.5	12		12	44		
Condition	Indoor air temp.	Cool	DB/WB	27.0°C / 19.0°C								
		Heat		20.0°C / (15.0)°C								
	Ourdoor air temp.	Cool	DB/WB	35.0°C / 24.0°C								
		Heat		7.0°C / 6.0°C								
Piping	Refrigerant charge		kg	1.5		1.95		1.87		2.070		
	Pipe size (O.D.)	Liquid	mm	9.53		9.53		9.53		9.53		
		Gas		15.88		15.88		15.88		15.88		
	Connection method			Flare								
	Height difference		m	8				8				
	Pipe length			20				20				

2.3.3 RY-25S, RY-25RS

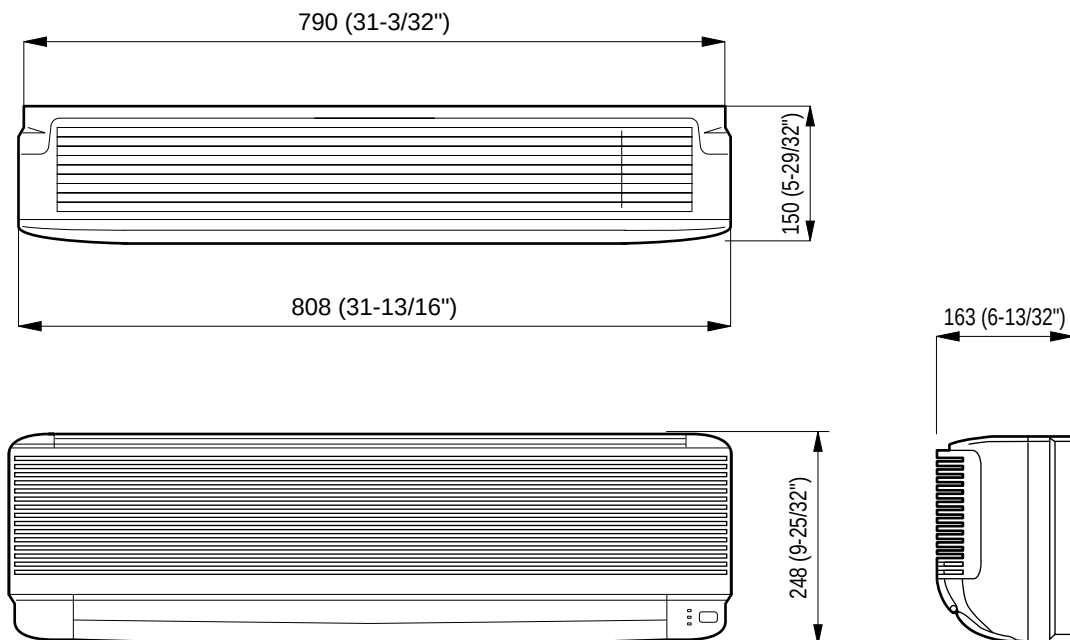
MODEL				FLOOR / CEILING UNIVERSAL TYPE						
				Indoor unit		RY-25S		RY-25RS		
				Outdoor unit		ROW-24S		ROW-24RS		
Capacity	Cooling	W		5,300		5,300				
	Heating			—		7,100				
Power source				1 ~ 220V 60Hz						
Total input watts	Cooling	W		3,100		3,100				
	Heating			—		2,650				
Total ampacity	Cooling	A		14.6		14.6				
	Heating			—		12.5				
EER	Cooling	W/W		1.71		1.71				
	Heating			—		2.68				
Starting current		A		66						
Indoor unit	Fan speed	Hi	r.p.m.	1,150						
		Med		990						
		Low		870						
	Air circulation	Hi	m³/h	900						
		Med		780						
		Low		660						
	Noise level (Sound pressure)	Hi	dB(A)	49.0						
		Med		45.0						
		Low		41.0						
	Heat exchanger		Plate fin coil							
	Fan type x Q'ty		Sirocco fan x 2							
	Fan motor output		kW		0.040					
	Operation control		Remote control							
	Dimensions	H	mm	199						
		W		990						
		D		655						
Weight	Net/Gross	kg		30 / 39						
Outdoor unit	Fan speed		r.p.m.		735					
	Air circulation		m³/h		2,590					
	Noise level	Hi	dB(A)		56.0					
	Heat exchanger		Plate fin coil							
	Fan type x Q'ty		Propeller x 1							
	Fan motor output		kW		0.060					
	Compressor type		Hermetic (Recipro)							
	Motor output	kW	1,900							
			Internal protector (OCR), High pressure relief valve							
	Dimensions	H	mm	643						
		W		840						
		D		336						
	Weight	Net/Gross	kg		67 / 75		68 / 76			
	Refrigerant circuit	Disch. pressure		kg/cm²		Cooling		Cooling		Heating
24.5		24.9				19.7				
Suct. pressure		°C		4.9		4.9		4.0		
Discharge temp.				91		102		77		
Suction temp.				8		7		1		
Refr. pipe length		m		5						
Disch. air temp.		°C		13		13		45		
Condition	Indoor air temp.	Cool	DB/WB	29.0°C / 19.0°C						
		Heat		21.0°C / (15.5)°C						
	Ourdoor air temp.	Cool	DB/WB	46.0°C / 24.0°C						
		Heat		7.0°C / 6.0°C						
Piping	Refrigerant charge		kg		1.750		2.070			
	Pipe size (O.D.)	Liquid	mm	9.53						
		Gas		15.88						
	Connection method			Flare						
	Height difference			15						
	Pipe length			20						

3. OUTLINE AND DIMENSIONS

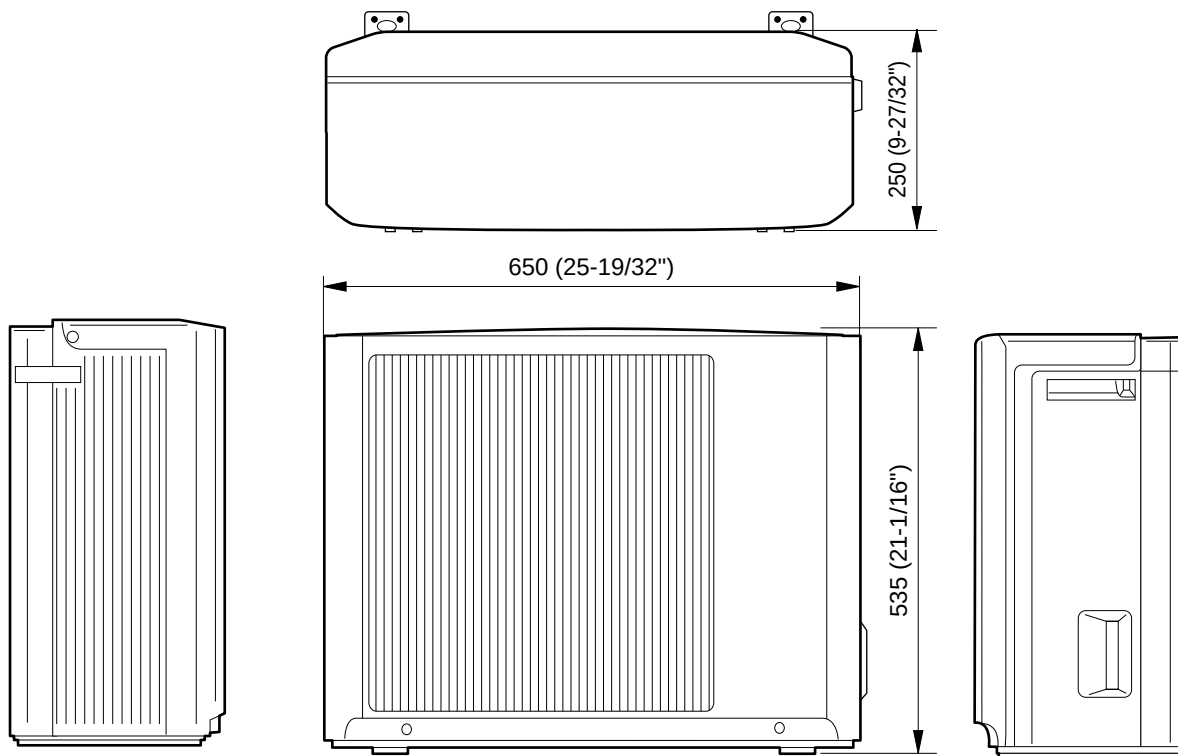
3.1 MODELS : RSW-7, 7R

3.1.1 INDOOR UNIT

Unit : mm (inch)



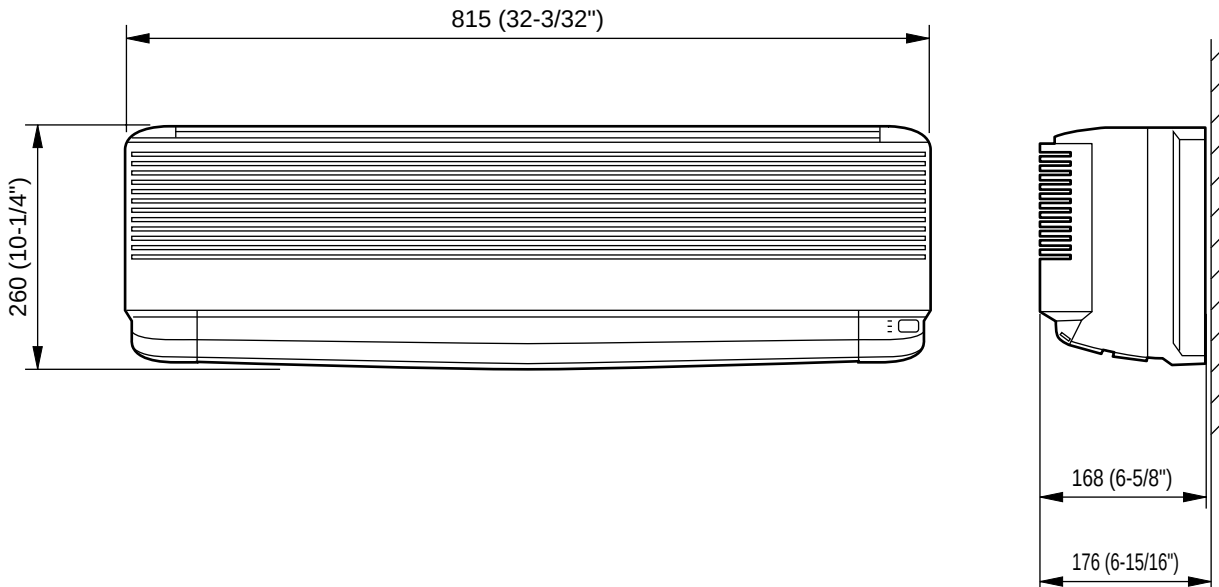
3.1.2 OUTDOOR UNIT



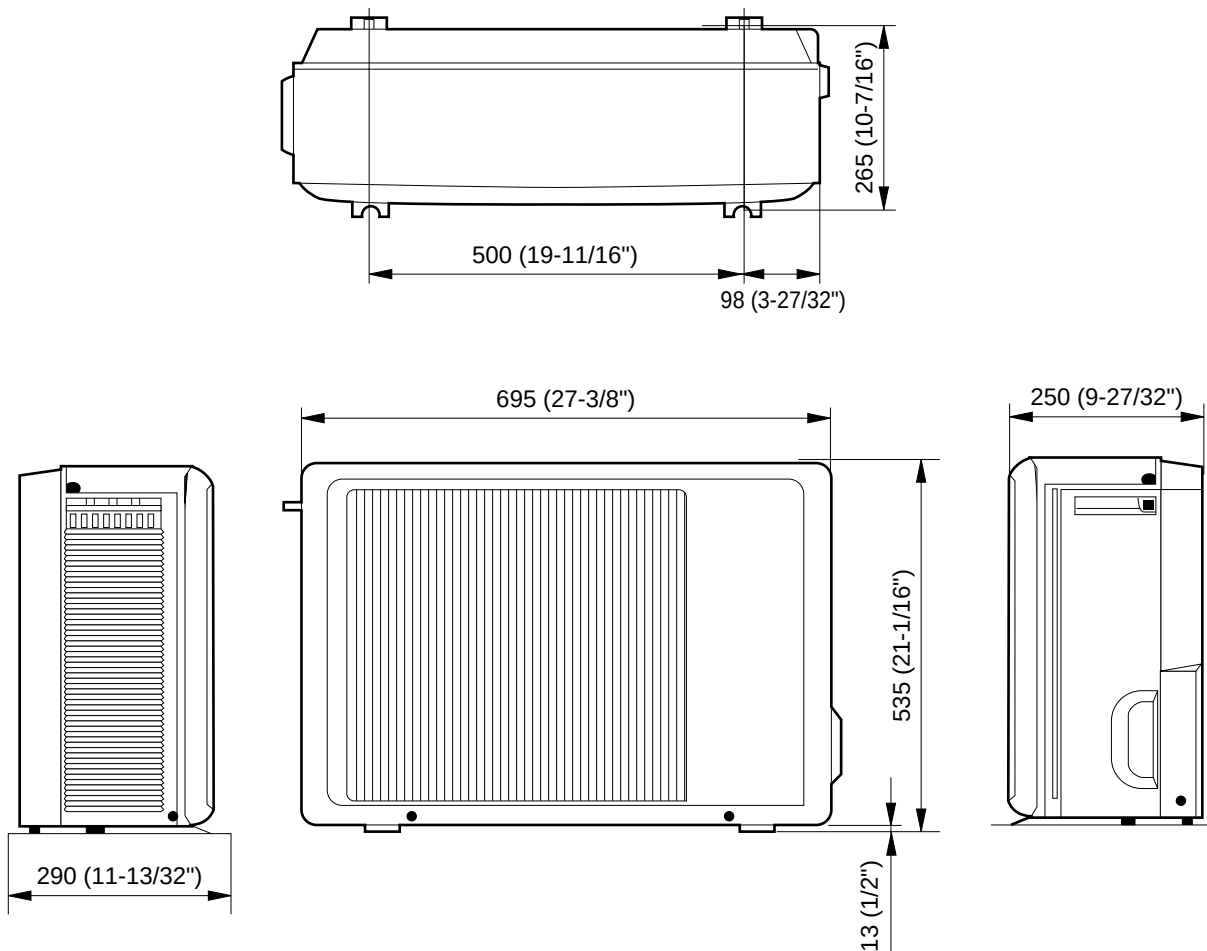
3.2 MODELS : RSW-9, 9R, 12, 12R

3.2.1 INDOOR UNIT

Unit : mm (inch)



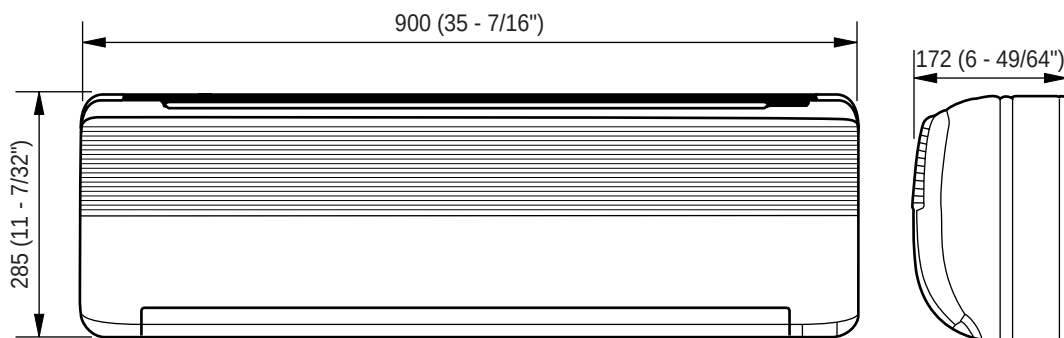
3.2.2 OUTDOOR UNIT



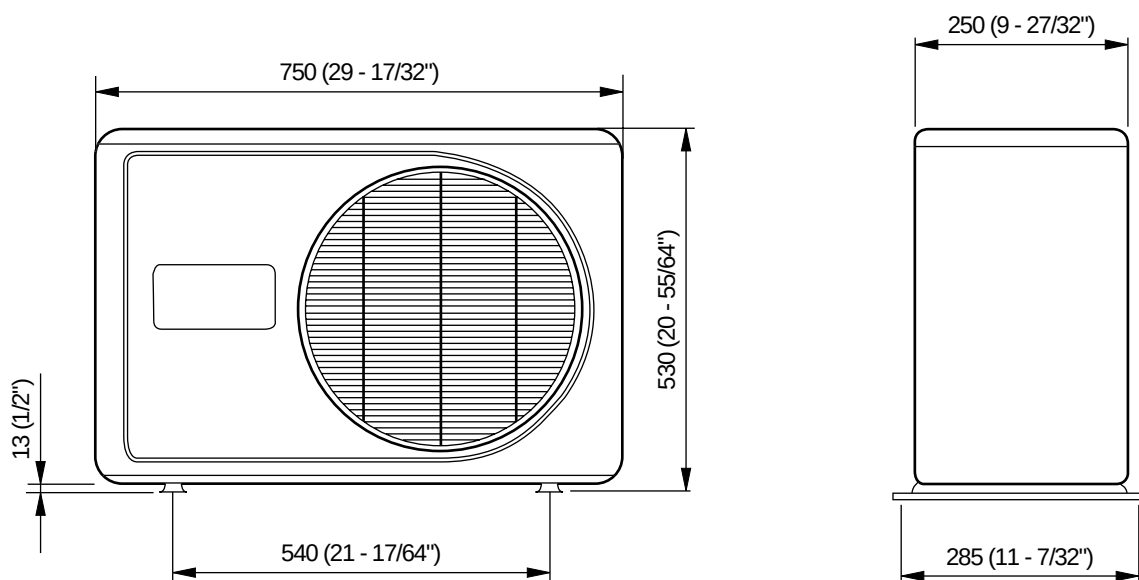
3.3 MODELS : RSW-14, 14R

3.3.1 INDOOR UNIT

Unit : mm (inch)



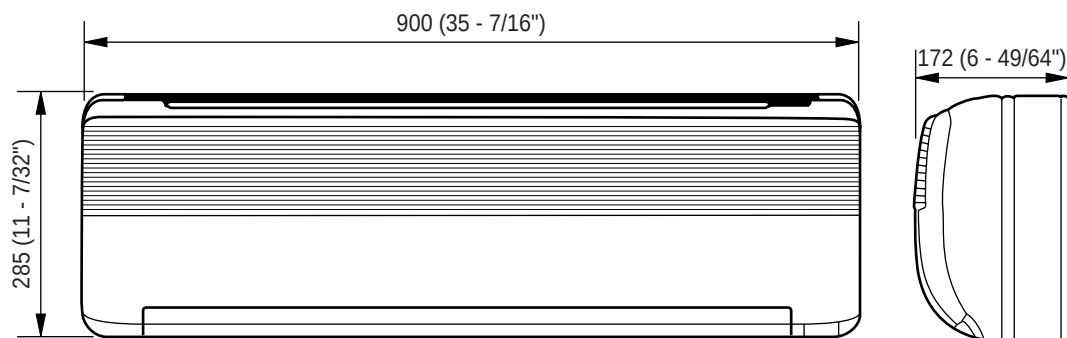
3.3.2 OUTDOOR UNIT



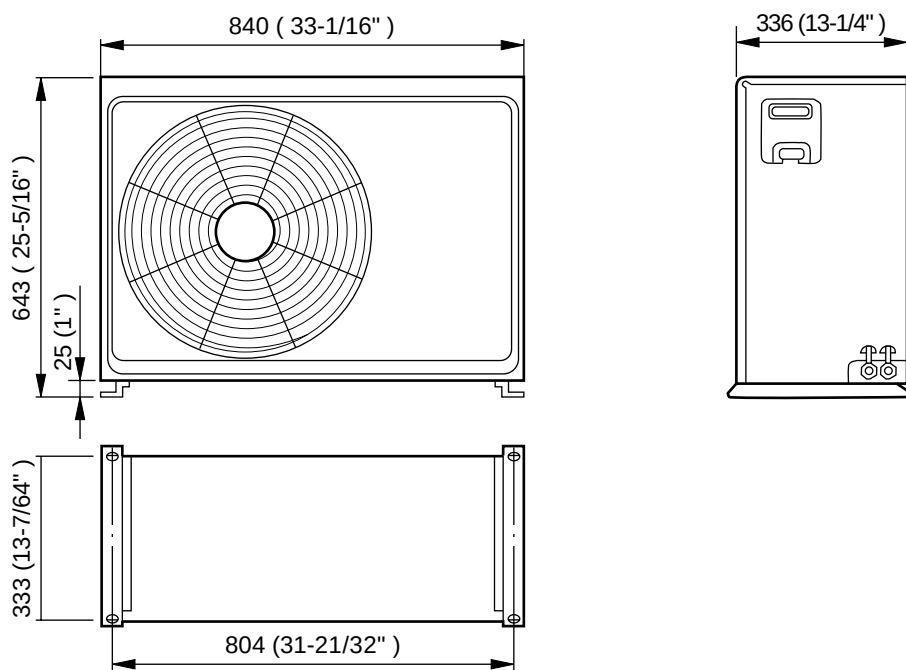
3.4 MODELS : RSW-17, 17R

3.4.1 INDOOR UNIT

Unit : mm (inch)



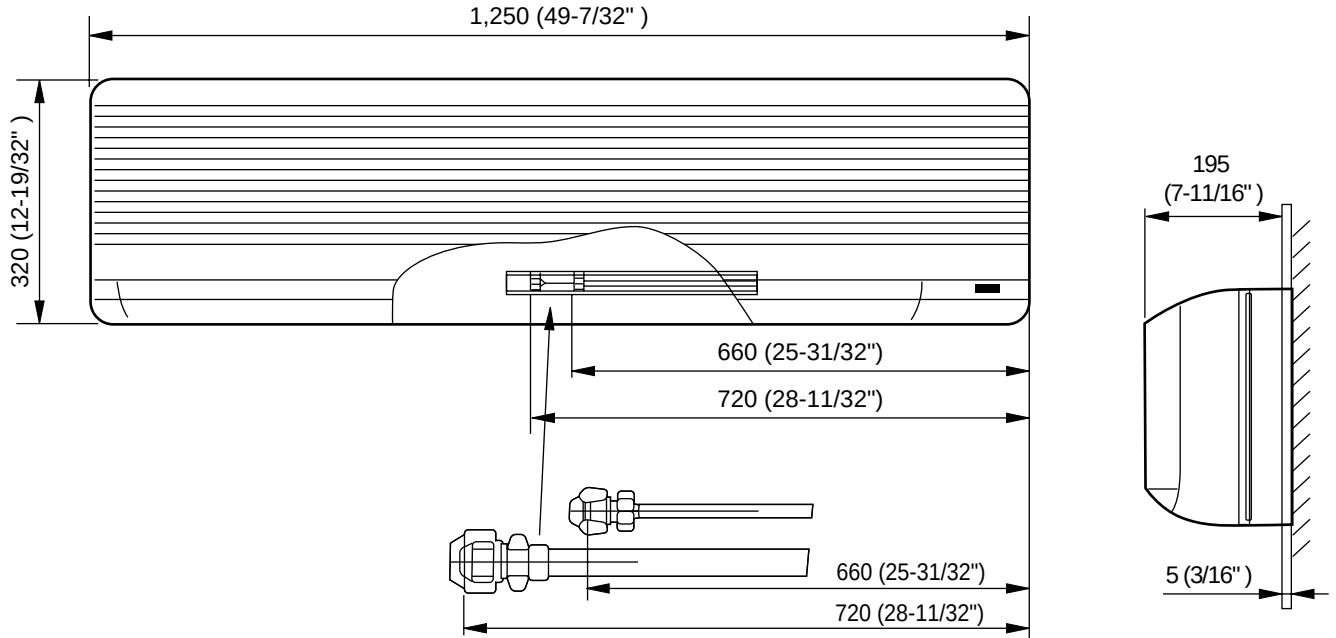
3.4.2 OUTDOOR UNIT



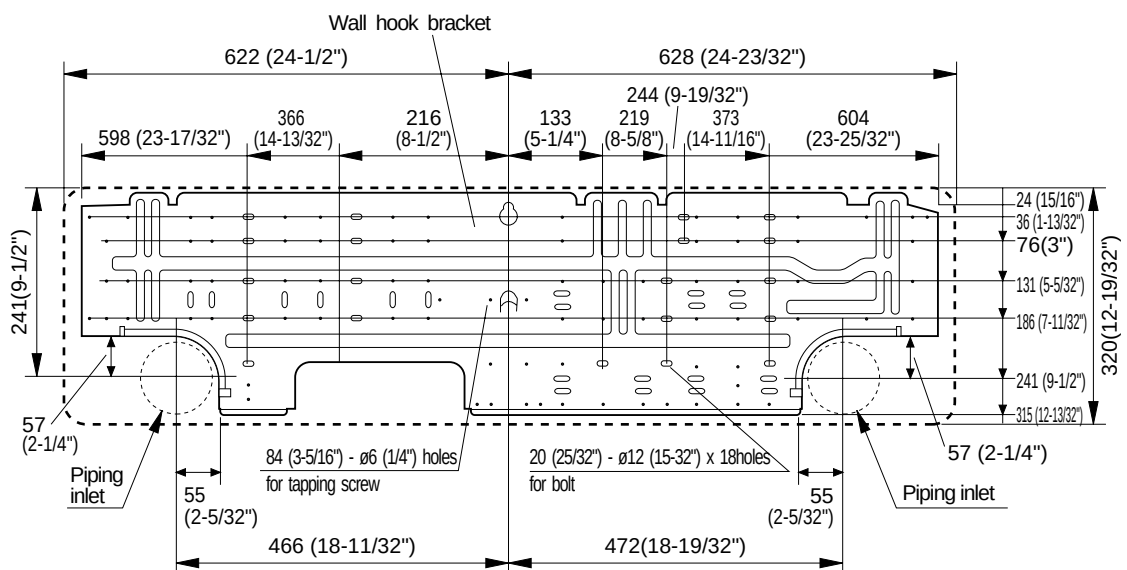
3.5 MODELS : RSW- 20, 20R, 24, 24R, 30, 30R

3.5.1 INDOOR UNIT

Unit : mm (inch)



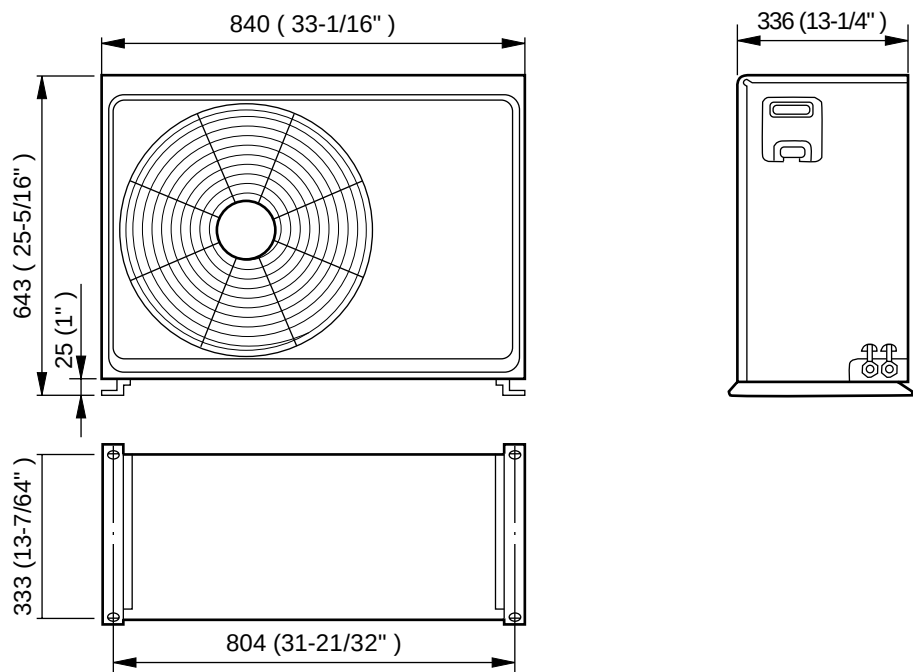
Connecting pipe	Gas	φ15.88 (5/8")
	Liquid	φ9.52 (3/8")
Drain pipe	φ 16 (5/8")	



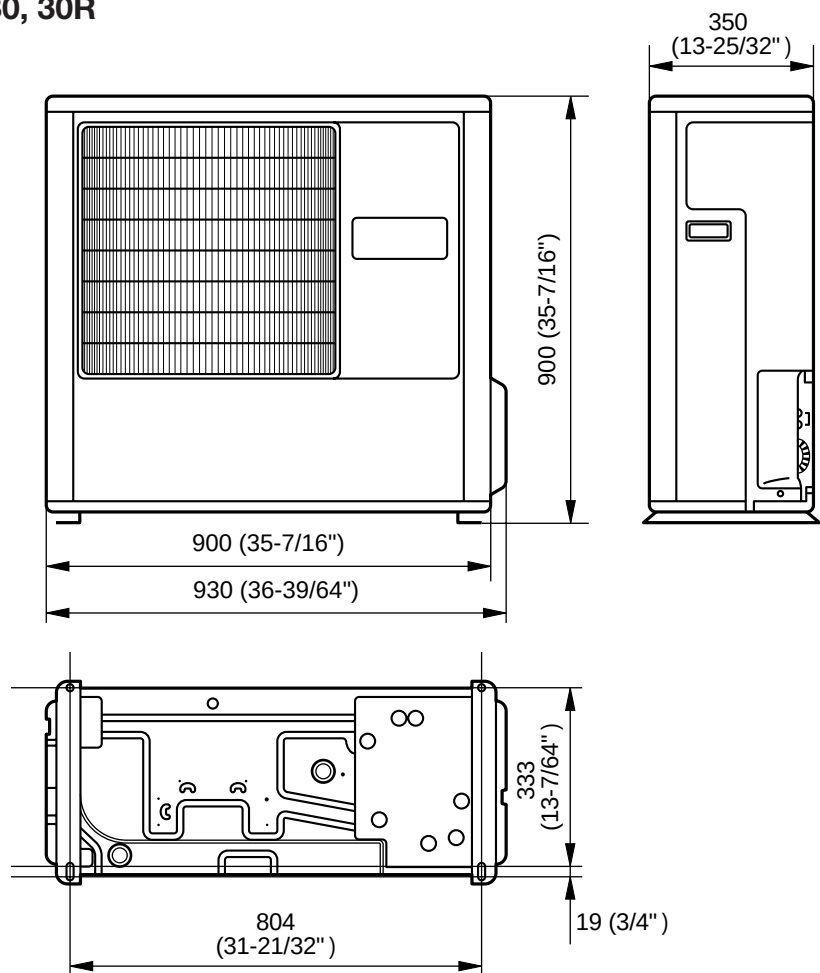
3.5.2 OUTDOOR UNIT

Unit : mm (inch)

Models : ROW-20, 20R, 24A , 24R



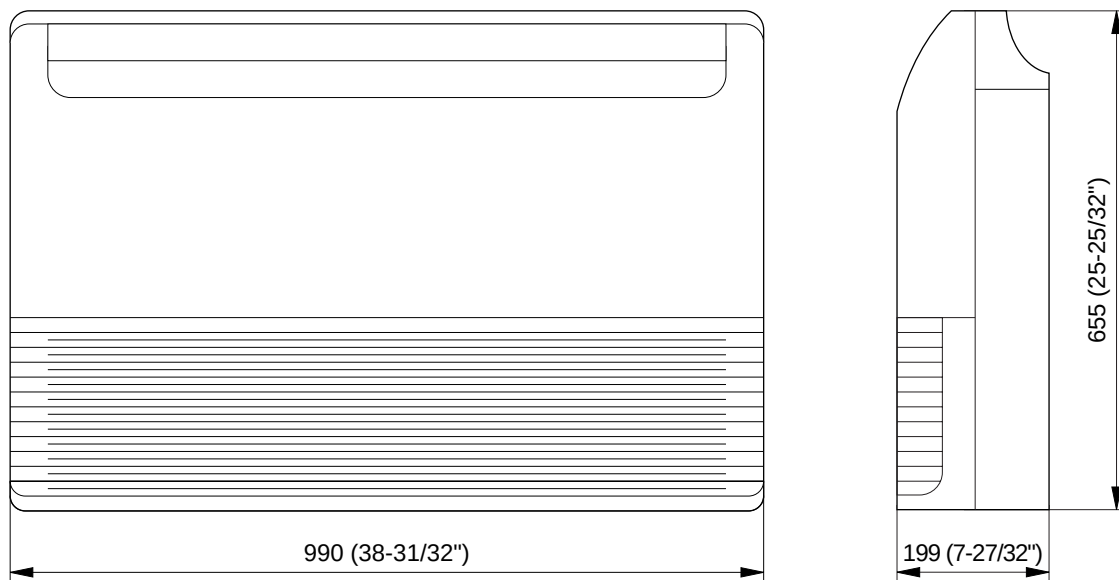
Models : ROW-30, 30R



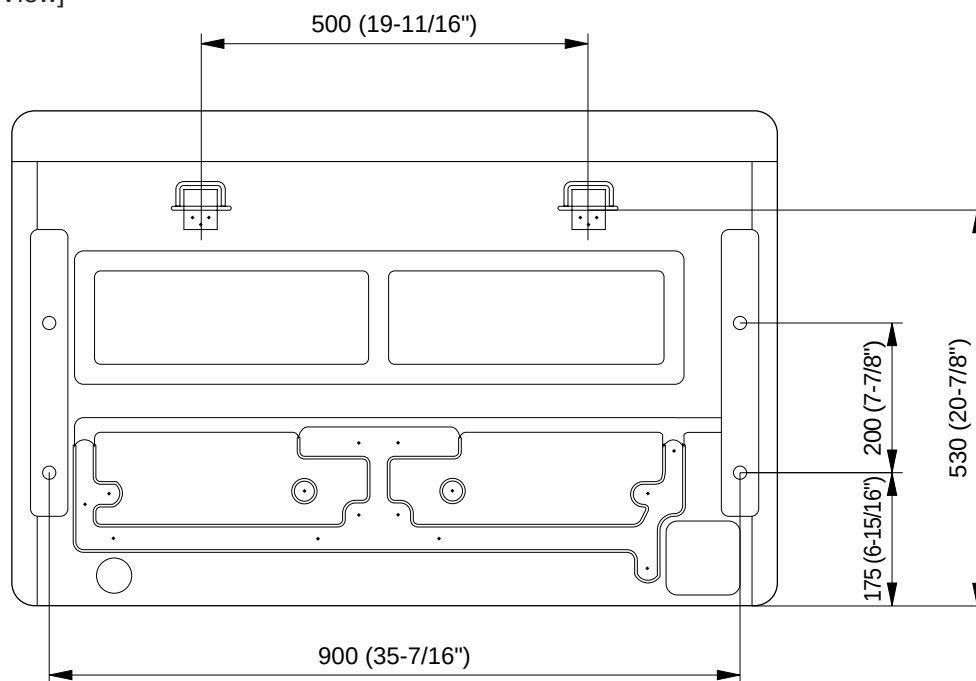
3.6 MODELS : RYT-14, 14R, 18, 18R, 24, 24R

3.6.1 INDOOR UNIT

Unit : mm (inch)



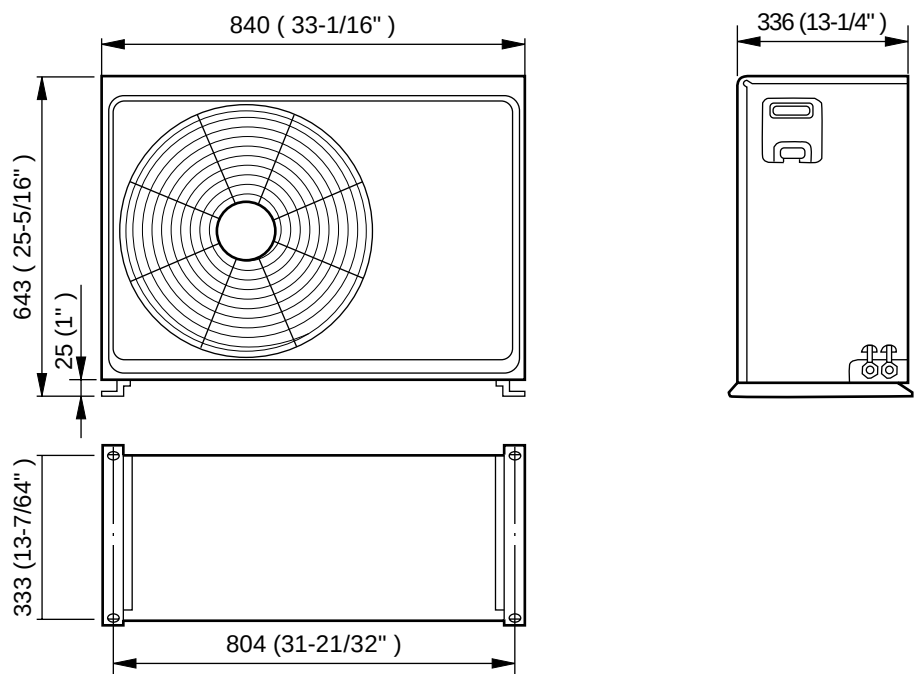
[Rear View]



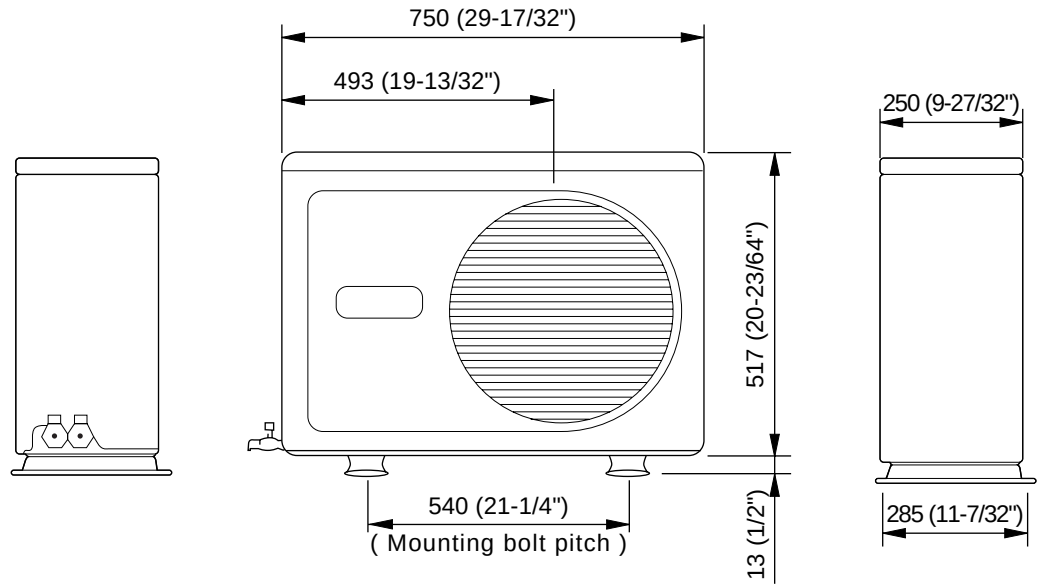
3.6.2 OUTDOOR UNIT

Unit : mm (inch)

Models : RO-18, 18R, ROW-24, 24R



Models : ROY-14, 14R

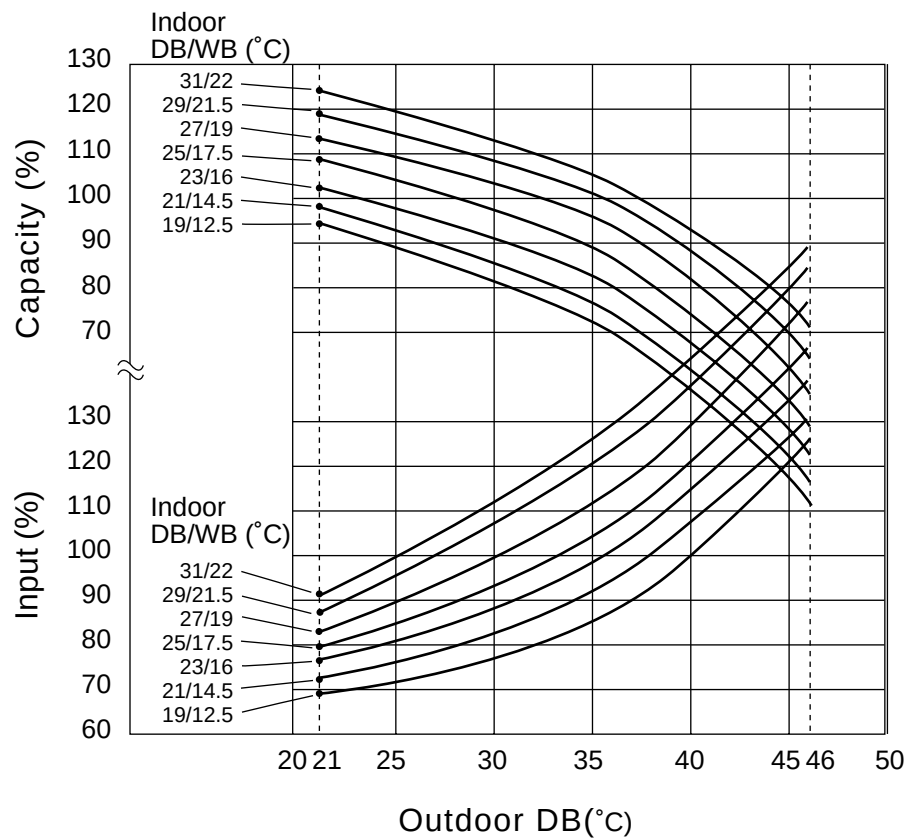


4. DATA

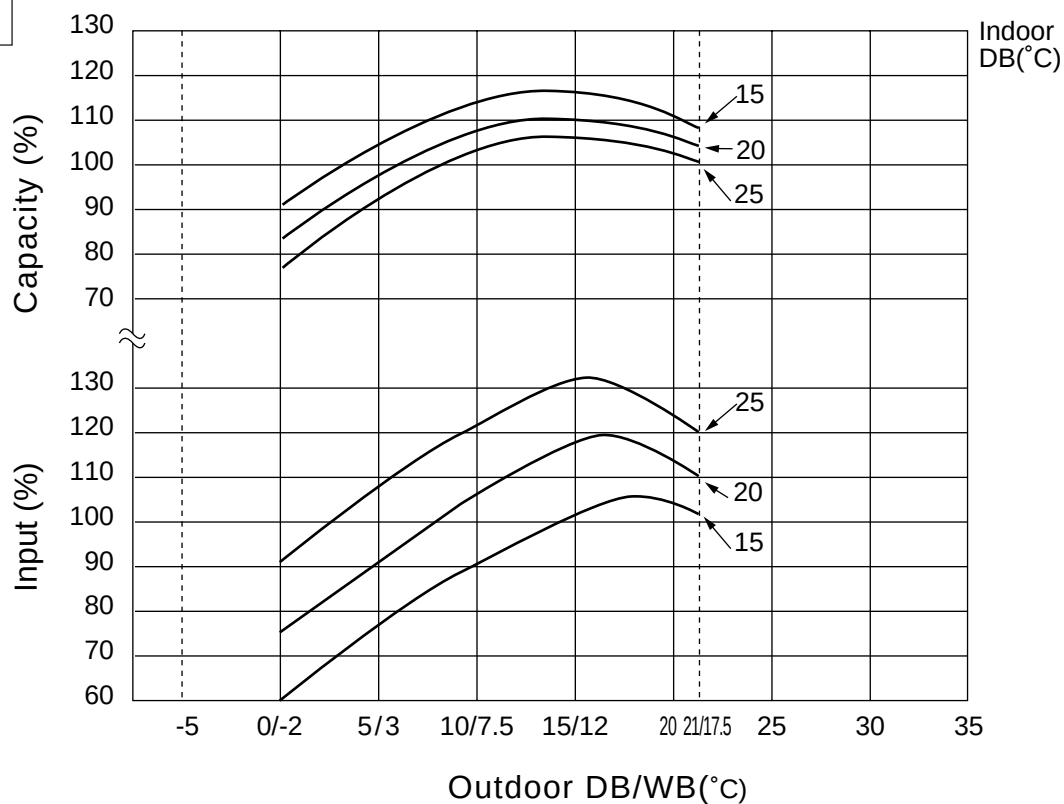
4.1 PERFORMANCE CURVE

4.1.1 MODEL : COMPACT SII, MII & LI (RSW-14, 14R) SERIES

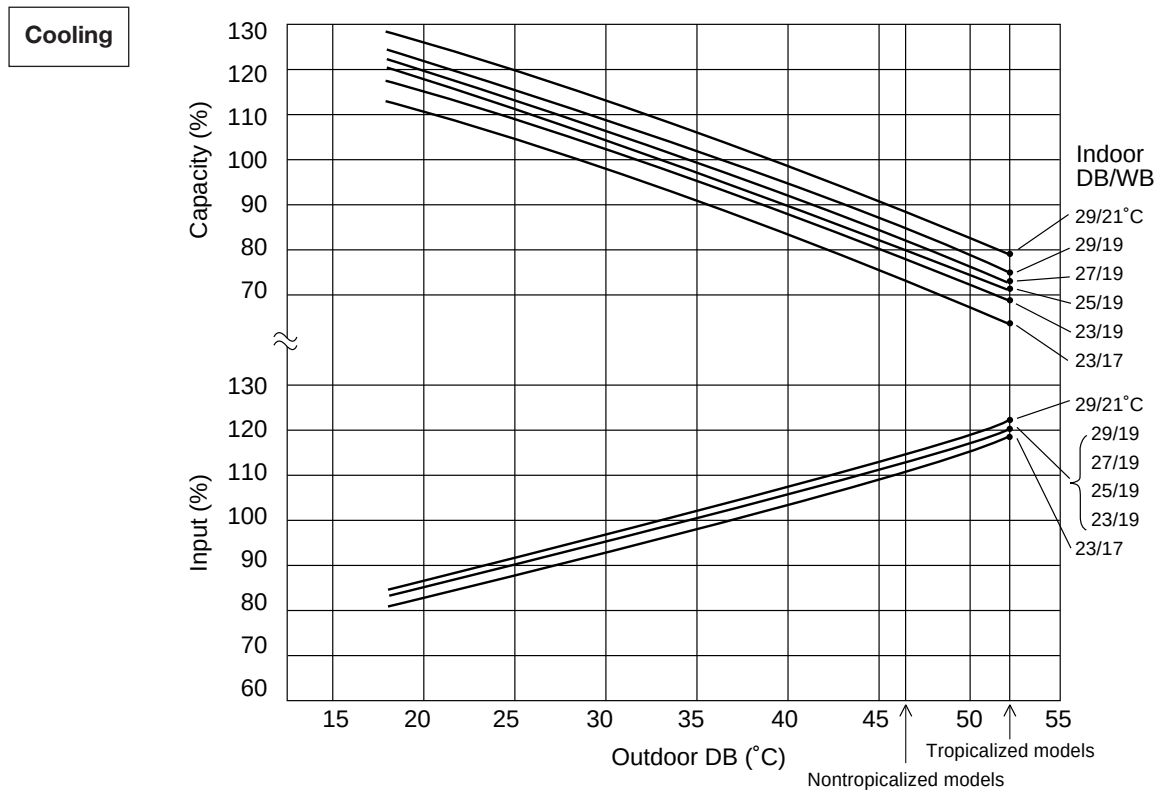
Cooling



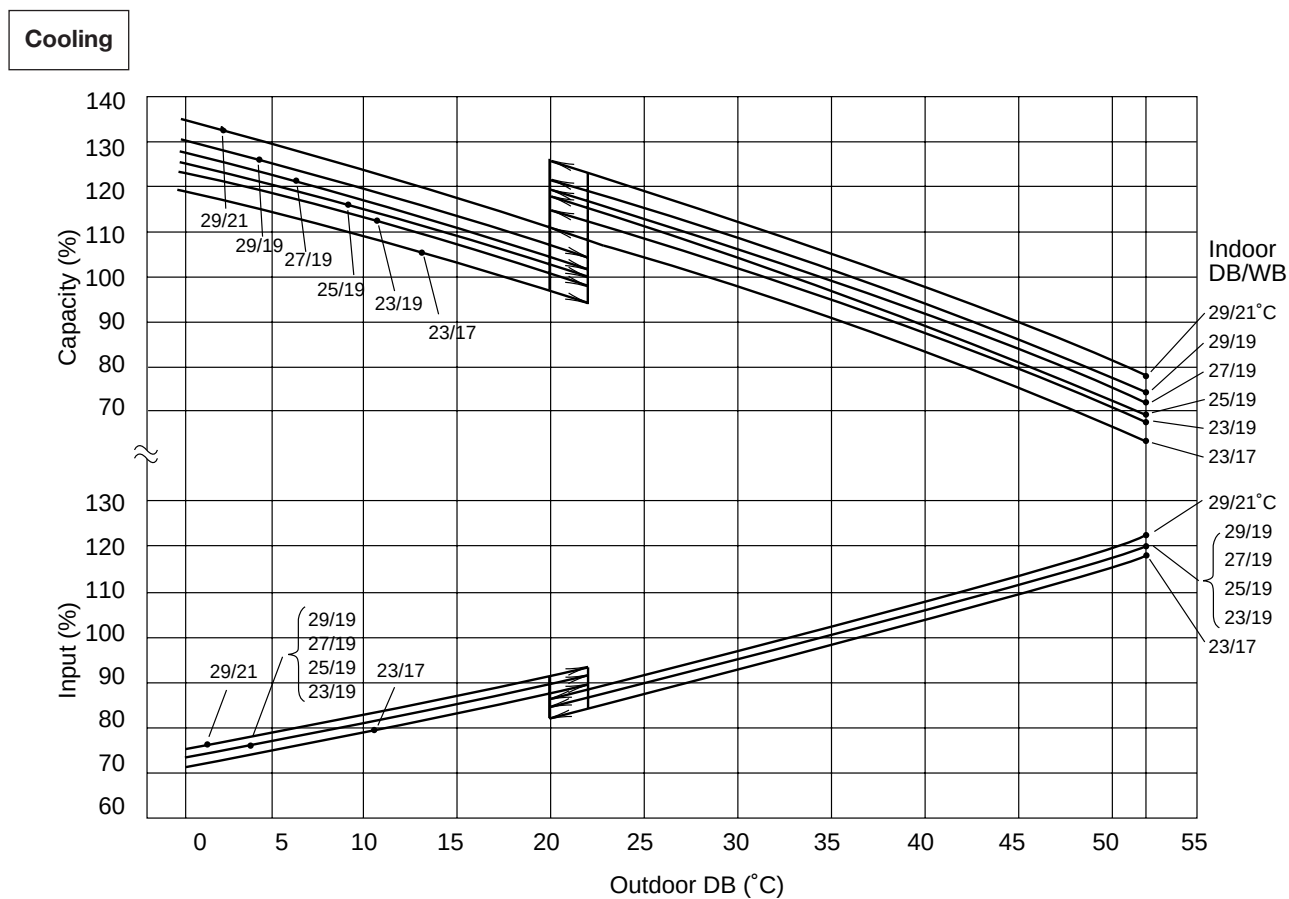
Heating



4.1.2 RSW-17, 20, 24 (50Hz models)

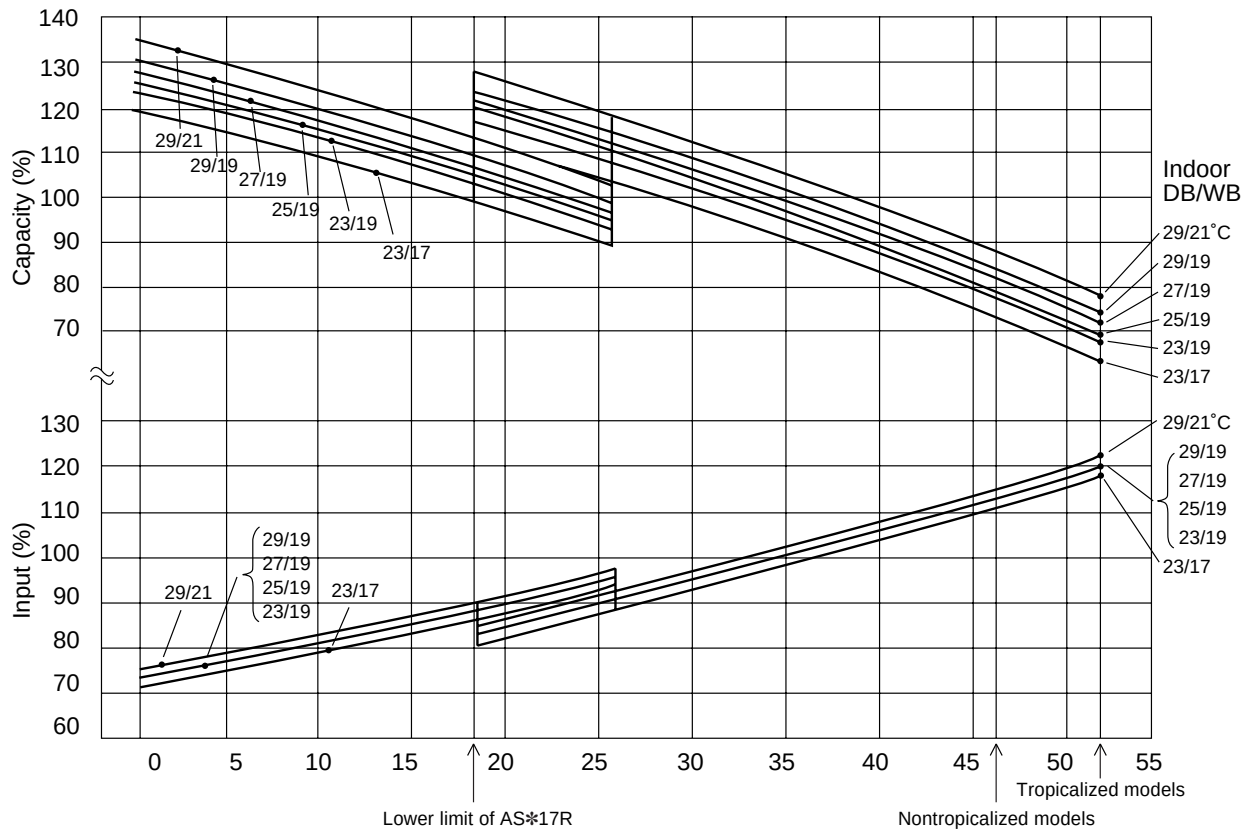


4.1.3 RSW-30 (50Hz models)

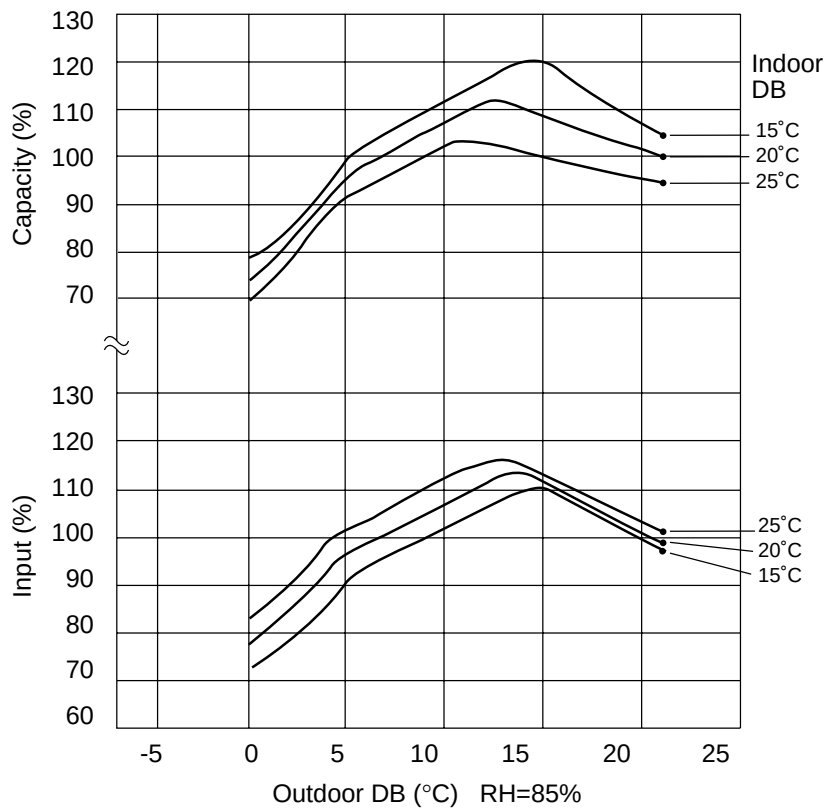


4.1.4 RSW-17R, 20R, 24R, 30R (50Hz models)

Cooling

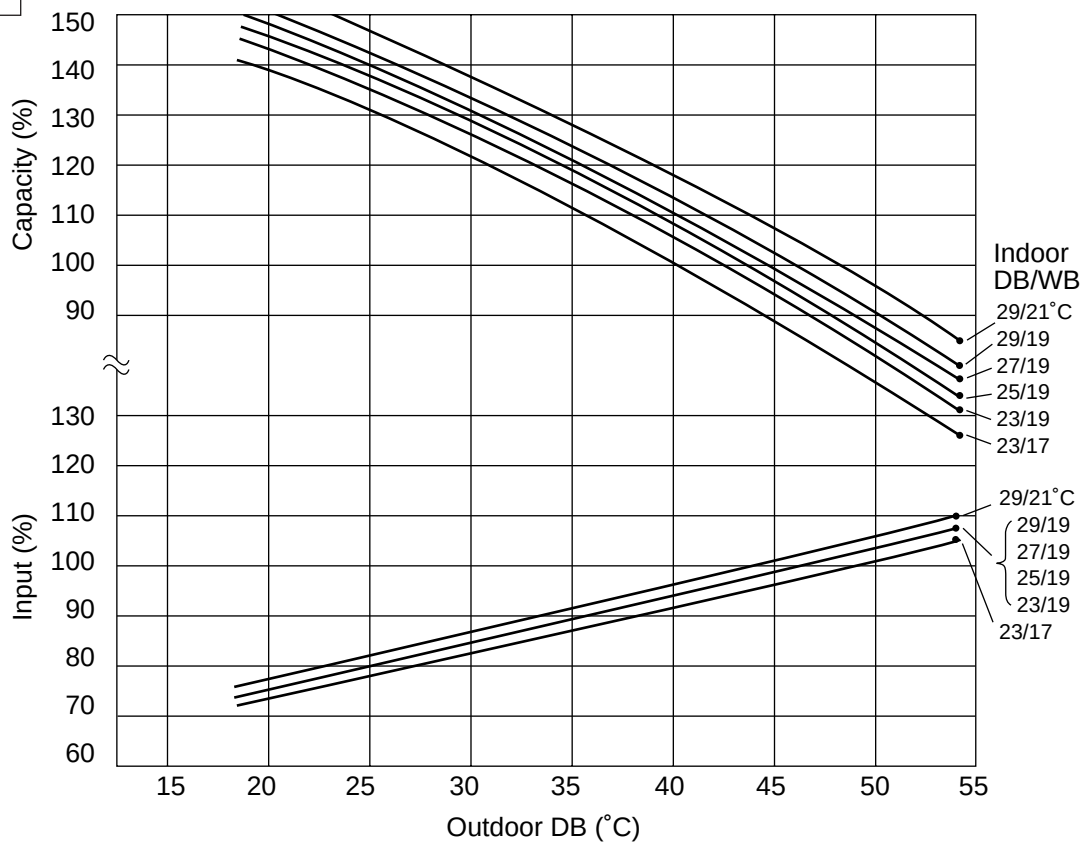


Heating

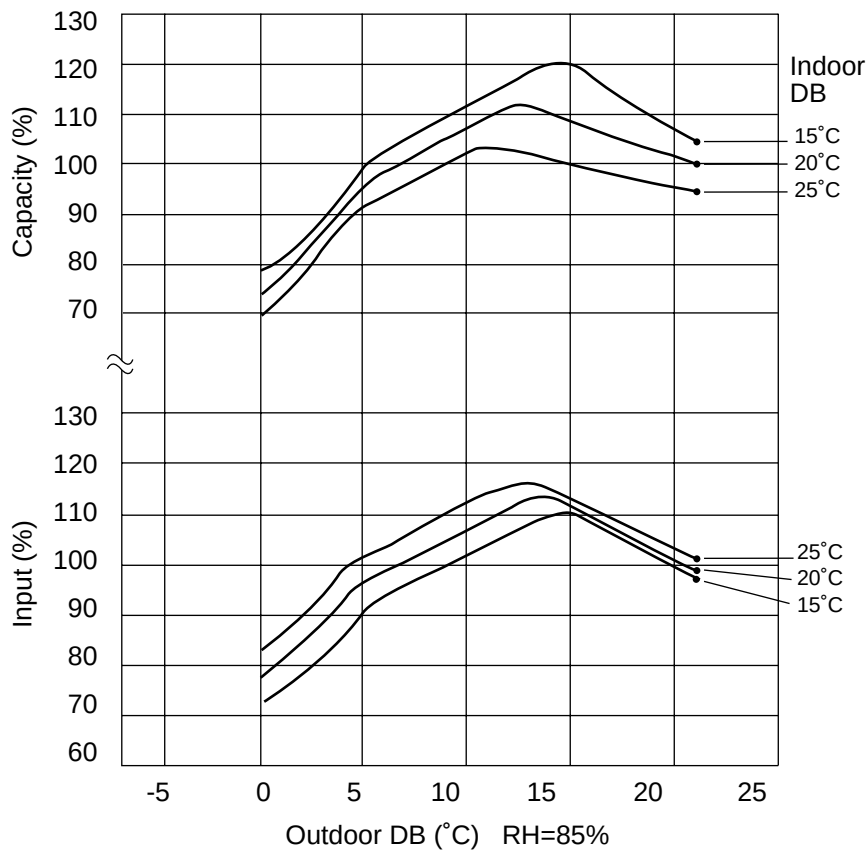


4.1.5 RSW-20RS, 24RS, 30RS (60Hz models)

Cooling

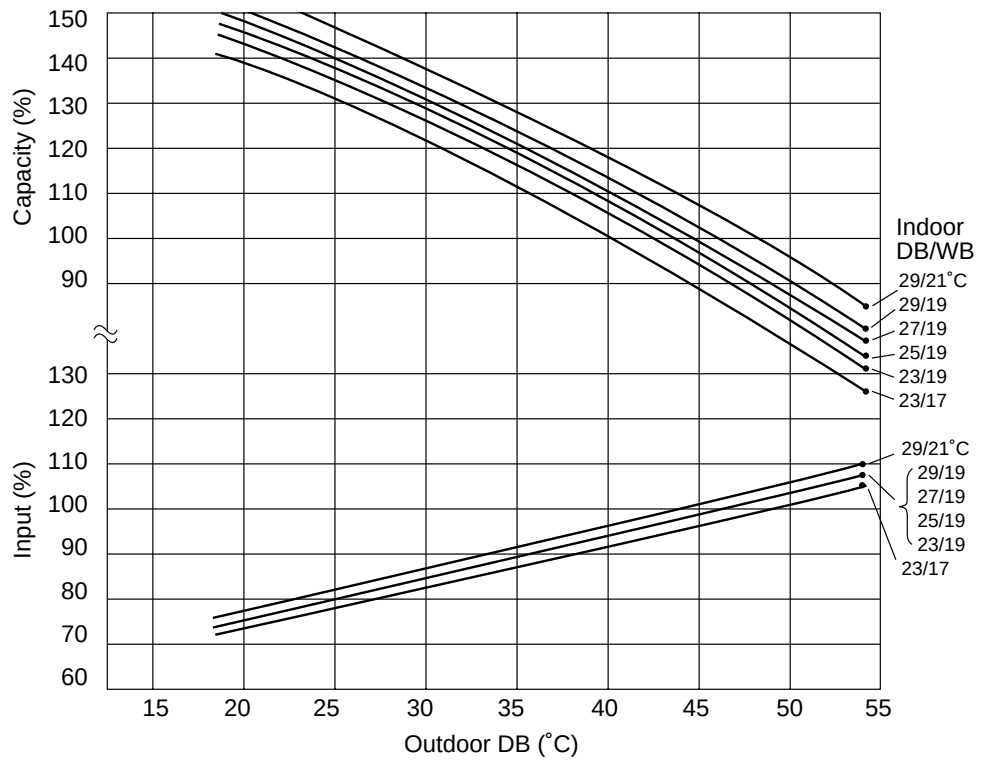


Heating



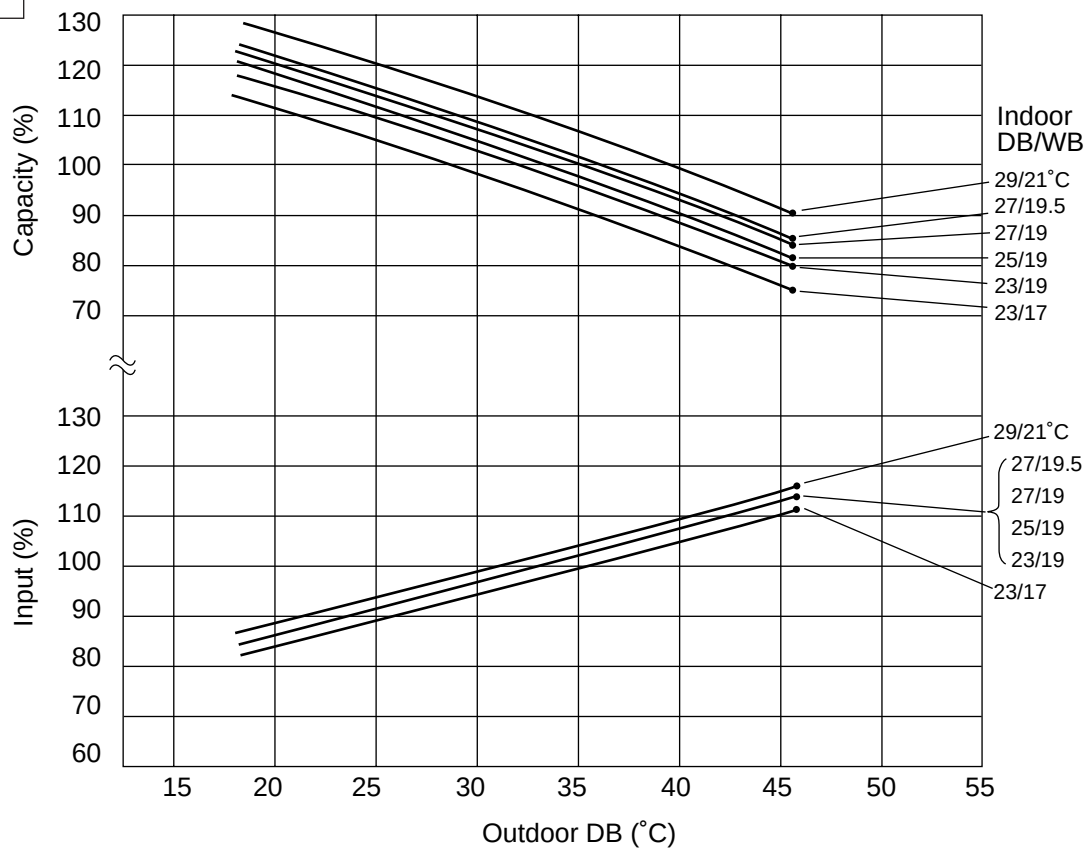
4.1.6 RSW-20S, 24S, 30S (60Hz models)

Cooling

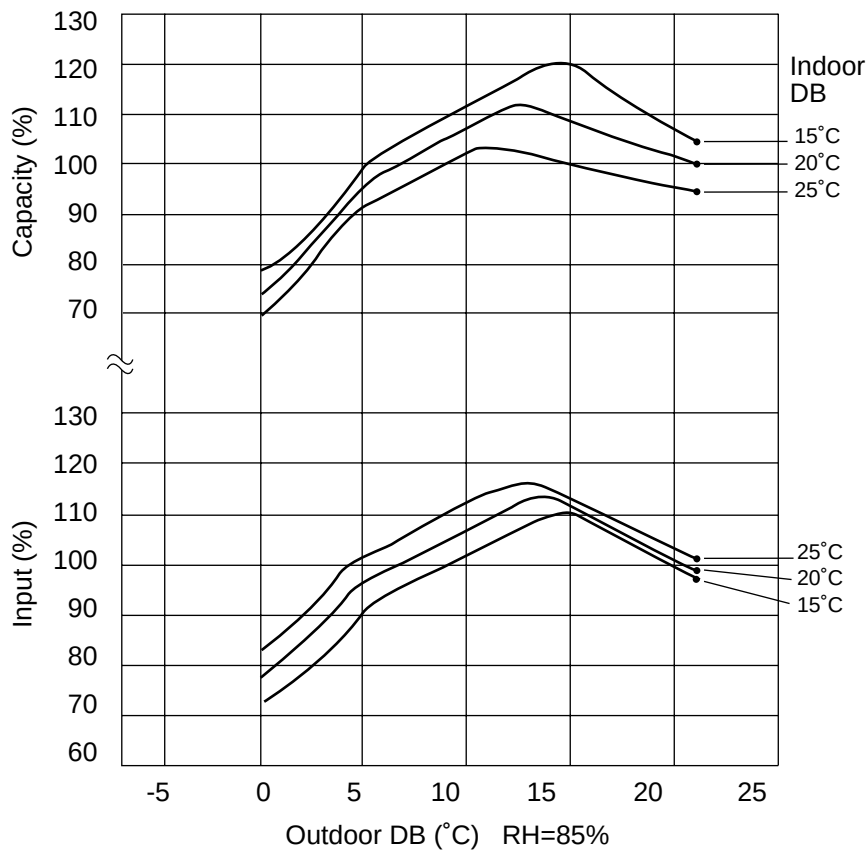


4.1.8 RYT-14R (50Hz models)

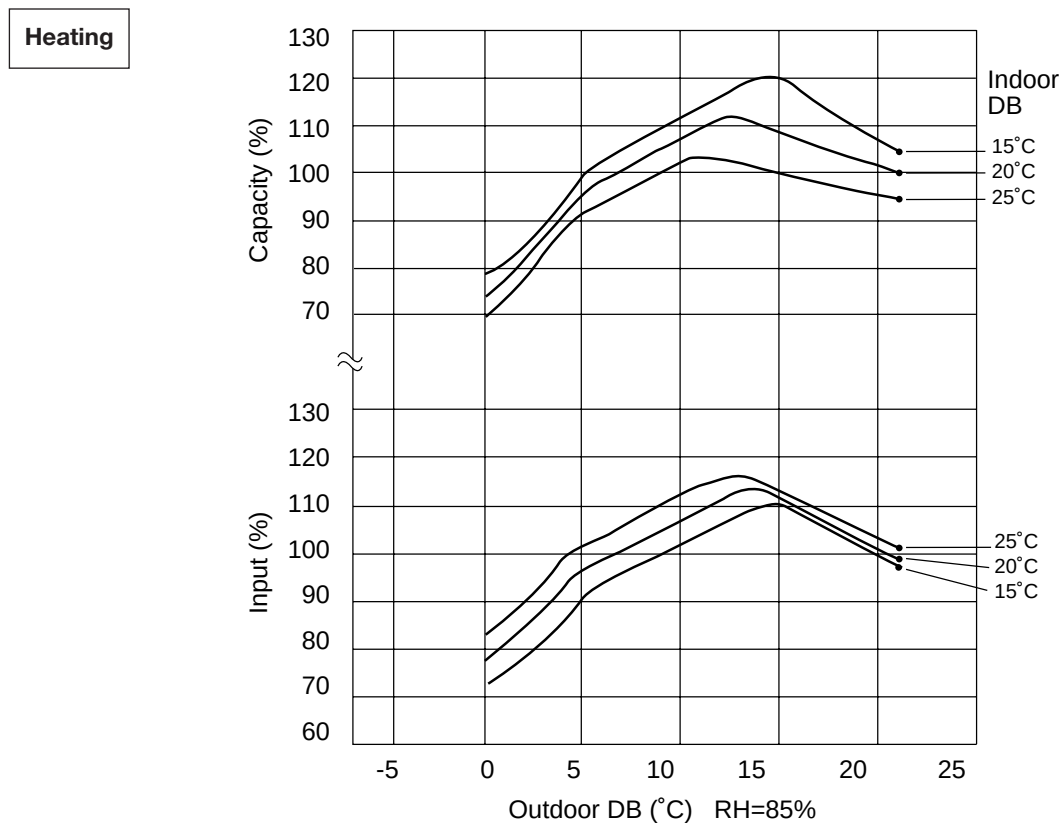
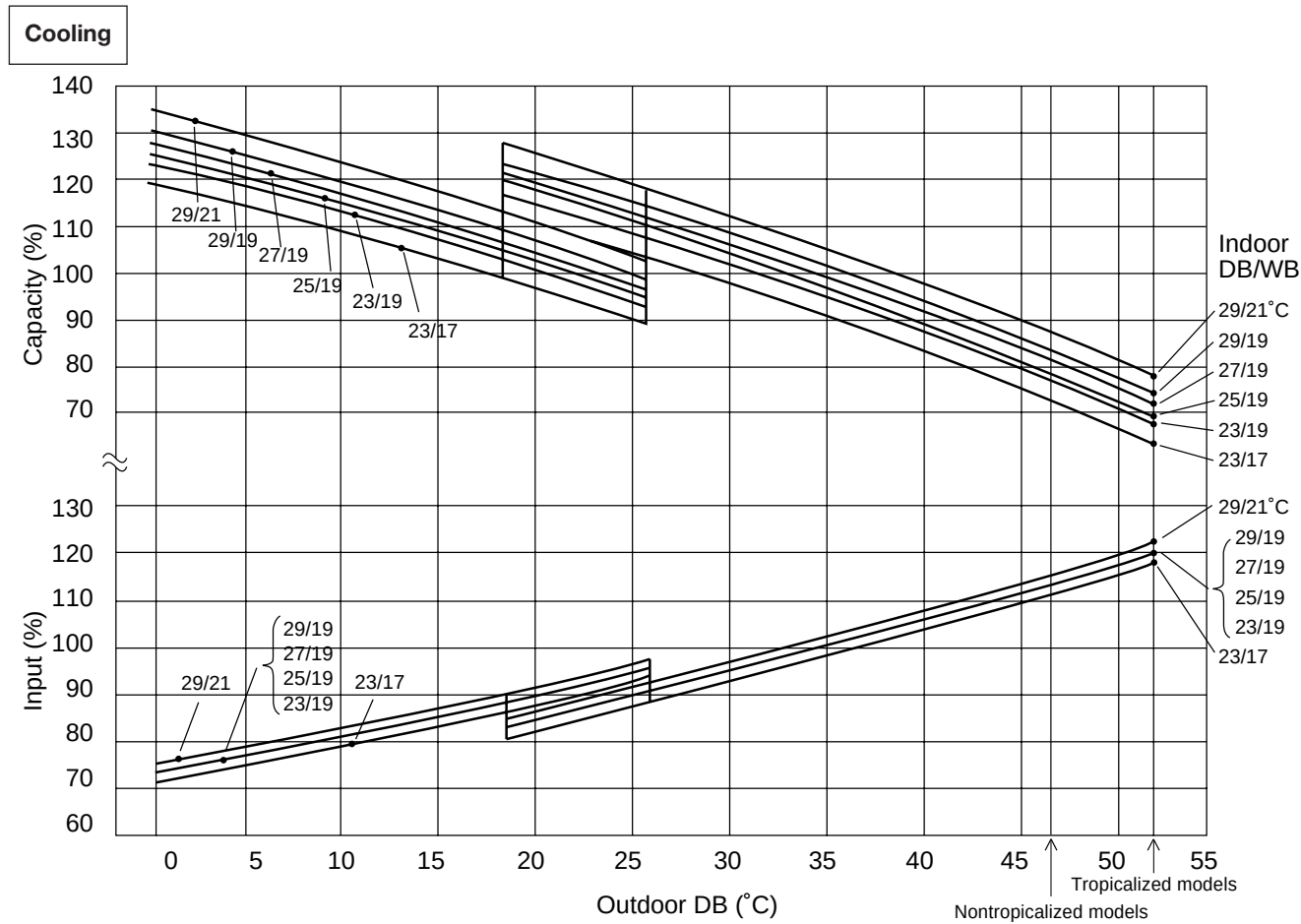
Cooling



Heating

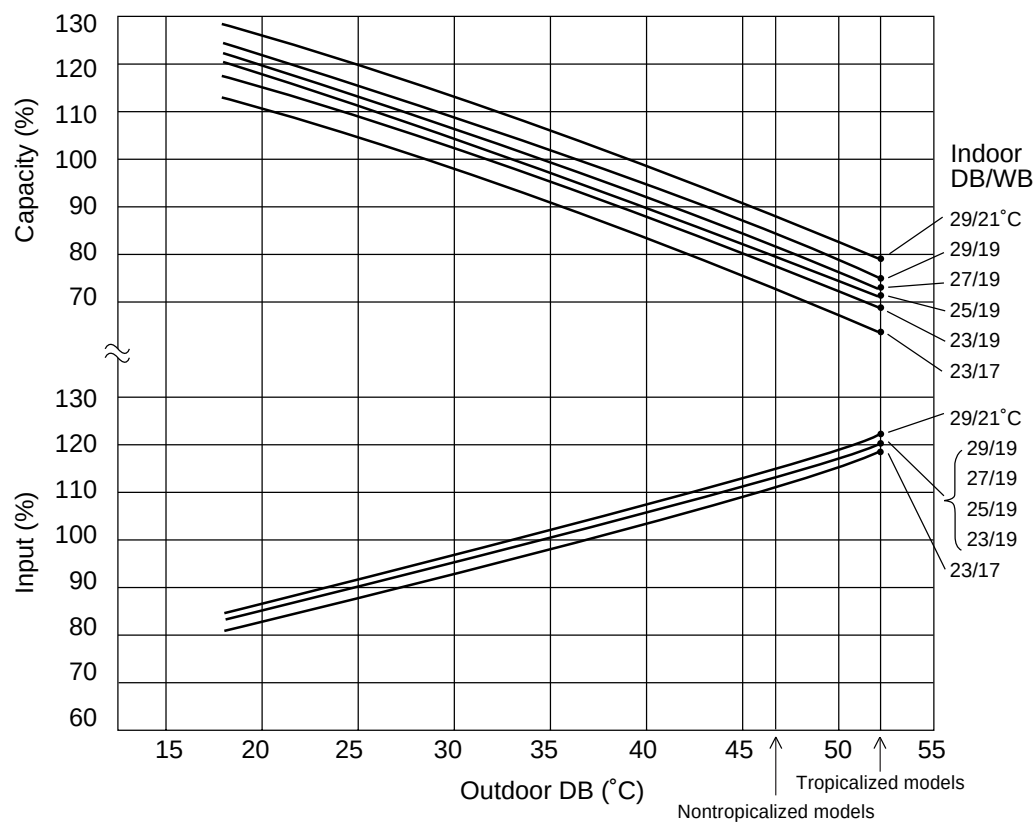


4.1.9 RYT-18R, 24R (50Hz models)



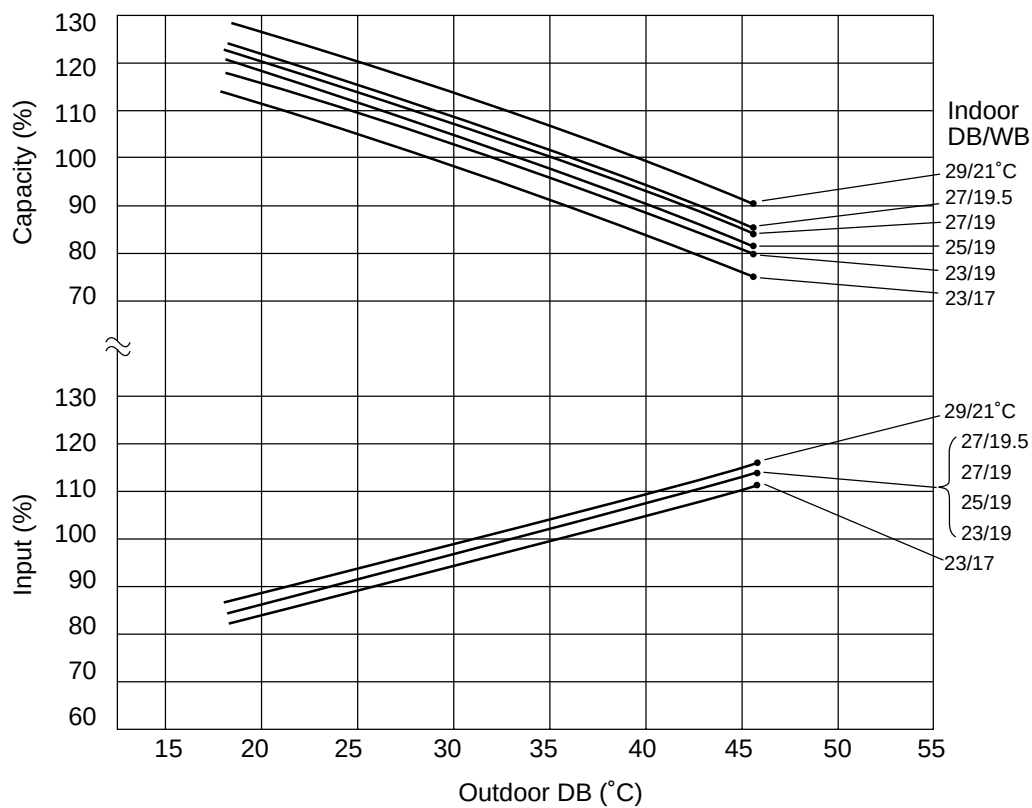
4.1.10 RYT-18, 24 (50Hz models)

Cooling



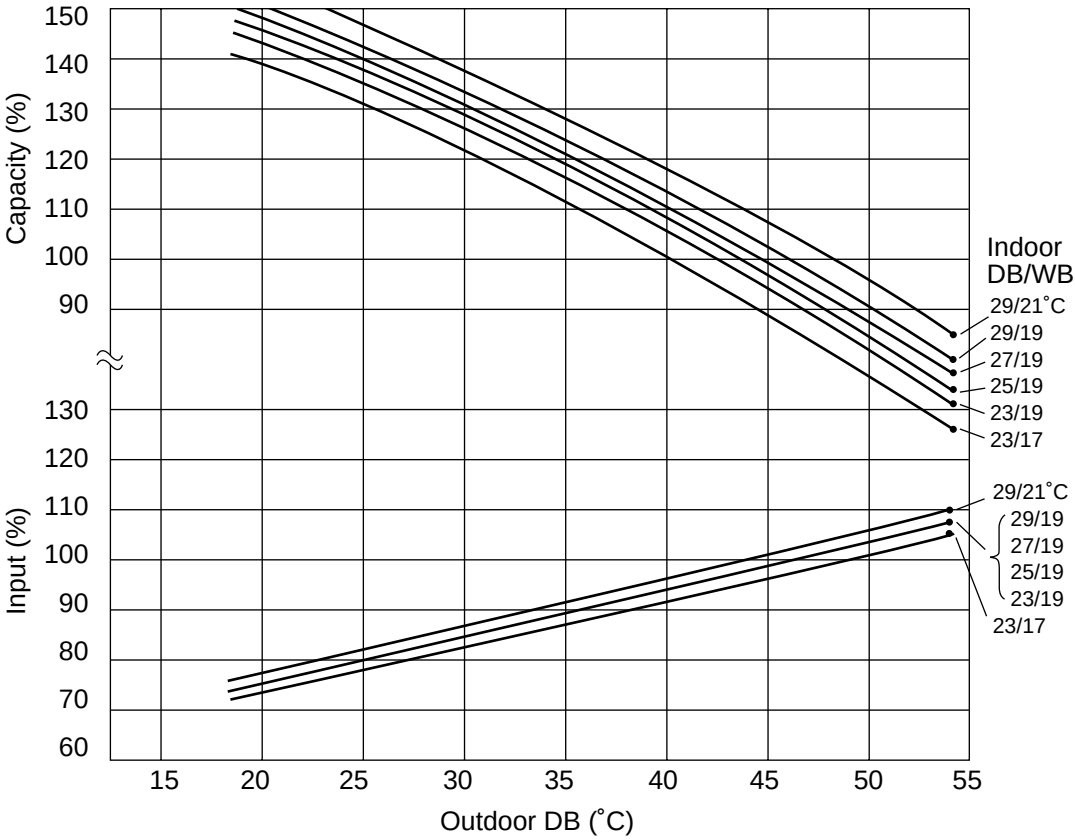
4.1.11 RYT-14 (50Hz models)

Cooling



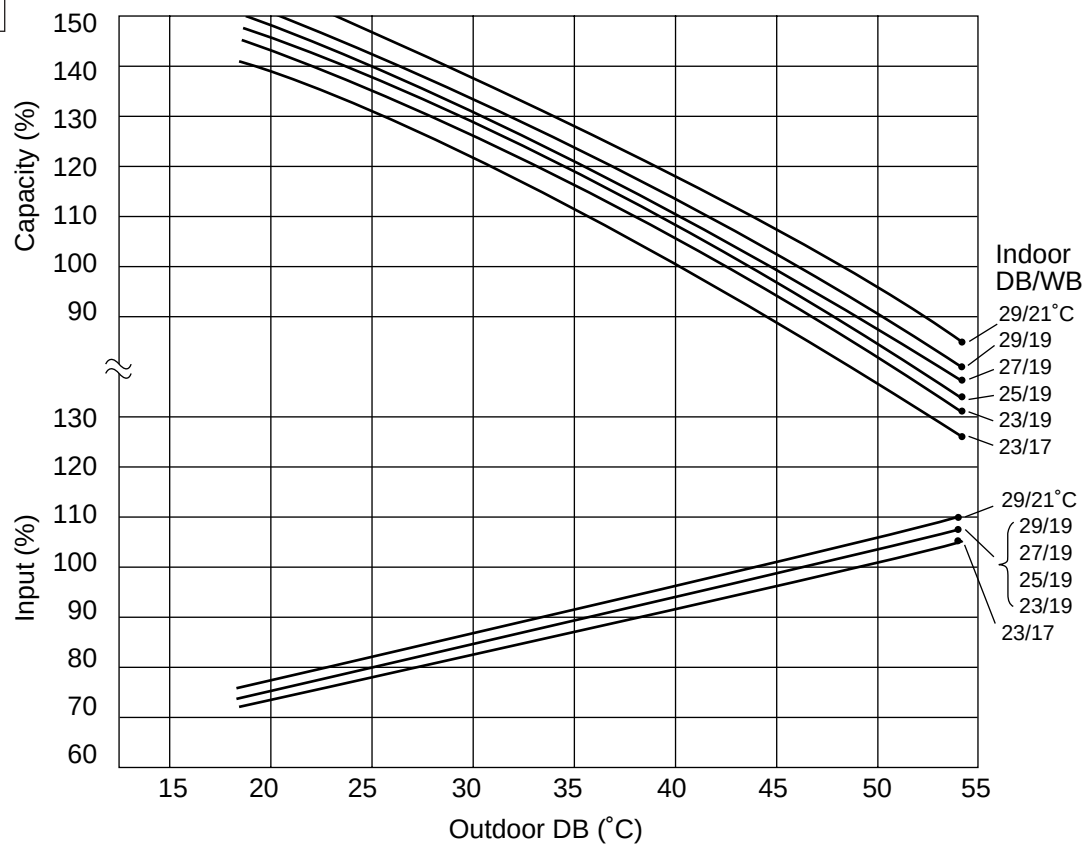
4.1.12 RY-25S (60Hz models)

Cooling

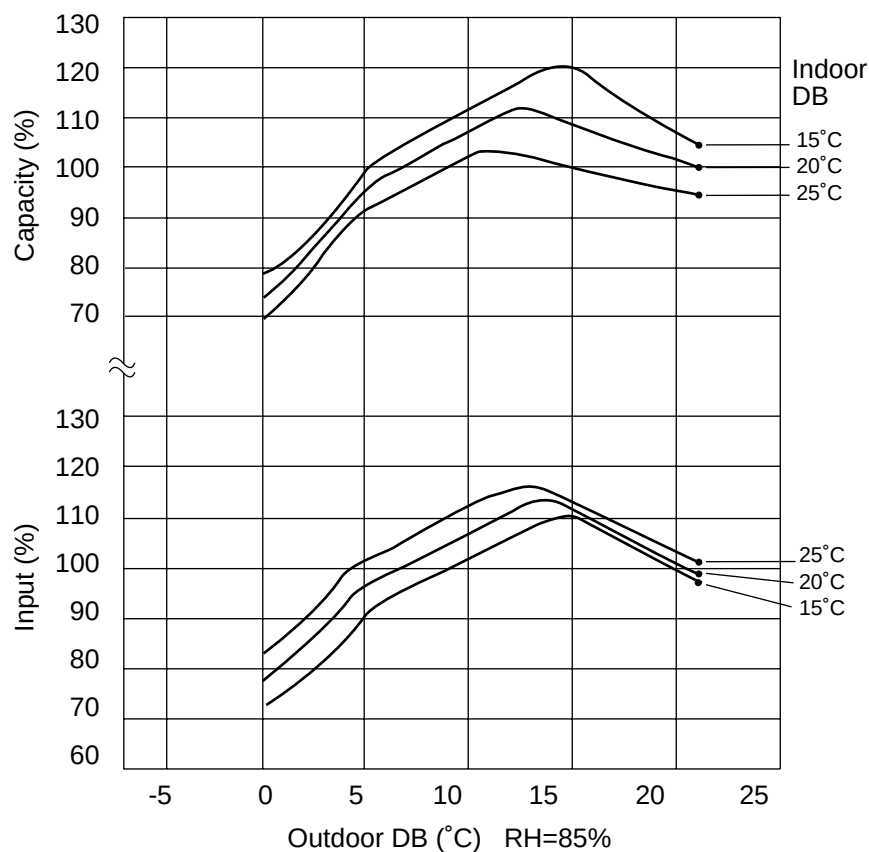


4.1.13 RY-25RS (60Hz models)

Cooling



Heating



4.2 TEMPERATURE RANGE

MODELS		TEMPERATURE RANGE	
		INDOOR UNIT	OUTDOOR UNIT
RSW-7 RSW-9 RSW-12	COOL ----- DRY	Approx. 18°C to 32°C	Approx. 18°C to 43°C
RSW-7R RSW-9R RSW-12R	COOL ----- DRY	Approx. 18°C to 32°C Approx. 18°C to 30°C	Approx. 18°C to 43°C Approx. -5°C to 21°C
RSW-14	COOL	Approx. 18°C to 32°C	Approx. 18°C to 46°C
RSW-17	COOL	Approx. 18°C to 32°C	Approx. 18°C to 52°C Tropicalized model Approx. 18°C to 46°C Nontropicalized model
RSW-14R RSW-17R	COOL ----- HEAT	Approx. 18°C to 32°C Approx. 16°C to 30°C	Approx. 18°C to 46°C Approx. 0°C to 21°C
RSW-20 RSW-24	COOL ----- HEAT	Approx. 18°C to 32°C	Approx. 18°C to 52°C Tropicalized model Approx. 18°C to 46°C Nontropicalized model
RSW-30	COOL ----- DRY	Approx. 18°C to 32°C	Approx. 18°C to 52°C
RSW-20R RSW-24R	COOL ----- DRY ----- HEAT	Approx. 18°C to 32°C Approx. 30°C or less	Approx. 0°C to 52°C Tropicalized model Approx. 0°C to 46°C Nontropicalized model Approx. -5°C to 21°C
RSW-30R	COOL ----- DRY ----- HEAT	Approx. 18°C to 32°C Approx. 30°C or less	Approx. 0°C to 52°C Approx. 0°C to 21°C
RYT-14	COOL ----- DRY	Approx. 18°C to 32°C	Approx. 21°C to 43°C
RYT-18 RYT-24	COOL ----- DRY	Approx. 18°C to 32°C	Approx. 21°C to 52°C Tropicalized model Approx. 0°C to 46°C Nontropicalized model
RYT-14R	COOL ----- DRY ----- HEAT	Approx. 18°C to 32°C Approx. 16°C to 30°C	Approx. 0°C to 52°C Approx. 0°C to 21°C
RYT-18R RYT-24R	COOL ----- DRY ----- HEAT	Approx. 18°C to 32°C Approx. 16°C to 30°C	Approx. 0°C to 52°C Tropicalized model Approx. 0°C to 46°C Nontropicalized model Approx. 0°C to 21°C

Note: Outdoor Unit	Standard model	-----	21 to 43°C (Cooling)
			0 to 21°C (Heating)
	Tropicalized model	-----	21 to 52°C (Cooling)
	Nontropicalized model	-----	21 to 46°C (Cooling)
	Tropicalized model with low ambient cooling operation	-----	0 to 52°C (Cooling)

4.3 REFRIGERANT CHARGING

4.3.1 COMPACT SII & MII SERIES

Models \ Pipe length		16ft (5m)	23ft (7m)	33ft (10m)	Additional refrigerant g/m
ADDITIONAL REFRIGERANT	RSW-7, 7R RSW-9, 9R RSW-12, 12R	None	32g	80g	16g

Note: When the piping is longer than 5m, additional charging is necessary.

LI SERIES

RSW-14, 14R

Models \ Pipe length		16ft (5m)	23ft (7m)	33ft (10m)	Additional refrigerant g/m
ADDITIONAL REFRIGERANT	RSW-14 RSW-14R	None	40g	100g	20g

RSW-17, 17R

Models \ Pipe length		16ft (5m)	23ft (7m)	33ft (10m)	49ft (15m)	66ft (20m)	Additional refrigerant g/m
ADDITIONAL REFRIGERANT	RSW-17 / ROW-17A RSW-17R / ROW-17RA	None	30g	75g	150g	225g	15g
	RSW-17 / ROW-17AB, ROW-17AC RSW-17R / ROW-17RB	None	20g	50g	100g	150g	10g

4.3.2 WALL MOUNTED LARGE RSW-SERIES

Pipe length Models		16ft (5m)	33ft (10m)	49ft (15m)	66ft (20m)	82ft (25m)	98ft (30m)	Additional refrigerant g/m(oz/ft)
FULL CHARGE AMOUNT	RSW-20/ ROW-20A	1,320g (46.6 oz)	1,380g (48.7 oz)	1,440g (50.8 oz)	1,500g (52.9 oz)			12g (0.13 oz)
	RSW-20S/ ROW-20S	1,350g (47.6 oz)	1,410g (49.7 oz)	1,470g (51.9 oz)	1,530g (53.9 oz)			12g (0.13 oz)
	RSW-20R/ ROW-20RA	1,900g (67.0 oz)	2,150g (75.8 oz)	2,400g (84.7 oz)	2,650g (93.5 oz)			50g (0.53 oz)
	RSW-20RS/ ROW-20RS	1,690g (59.6 oz)	1,930g (68.1 oz)	2,170g (70.5 oz)	2,410g (85.0 oz)			48g (0.51 oz)
	RSW-24/ ROW-24A	2,000g (70.5 oz)	2,060g (72.7 oz)	2,120g (74.8 oz)	2,180g (76.9 oz)			12g (0.13 oz)
	RSW-24S/ ROW-24S	1,750g (61.7 oz)	1,810g (63.8 oz)	1,870g (66.0 oz)	1,930g (68.1 oz)			12g (0.13 oz)
	RSW-24R/ ROW-24RA	2,070g (73.0 oz)	2,320g (81.8 oz)	2,570g (90.7 oz)	2,820g (99.5 oz)			50g (0.53 oz)
	RSW-24RS/ ROW-24RS	2,070g (73.0 oz)	2,240g (79.0 oz)	2,140g (85.0 oz)	2,580g (91.0 oz)			34g (0.36 oz)
	RSW-30A/ ROW-30A	1,800g (63.5 oz)	1,885g (66.5 oz)	1,970g (69.5 oz)	2,055g (72.5 oz)	2,140g (75.5 oz)	2,225g (78.5 oz)	17g (0.18 oz)
	RSW-30S/ ROW-30S	1,800g (63.5 oz)	1,885g (66.5 oz)	1,970g (69.5 oz)	2,055g (72.5 oz)	2,140g (75.5 oz)	2,225g (78.5 oz)	17g (0.18 oz)
	RSW-30R/ ROW-30RA	1,700g (60.0 oz)	1,950g (66.5 oz)	2,200g (69.5 oz)	2,450g (72.5 oz)	2,700g (75.5 oz)		50g (0.53 oz)
	RSW-30RS/ ROW-30RS	1,800g (63.5 oz)	2,100g (74.1 oz)	2,400g (84.7 oz)	2,700g (95.2 oz)	3,000g (106.0 oz)		60g (0.64 oz)
	RSW-20AB/ ROW-20AB	1,500g (52.9 oz)	1,580g (55.7 oz)	1,660g (58.6 oz)	1,740g (61.4 oz)			16g (0.17 oz)
	RSW-20RB/ ROW-20RB	1,950g (68.8 oz)	2,100g (74.1 oz)	2,250g (79.4 oz)	2,400g (84.7 oz)			30g (0.32 oz)
	RSW-24AB/ ROW-24AB	1,870g (66.0 oz)	1,950g (68.8 oz)	2,030g (71.6 oz)	2,110g (74.4 oz)			16g (0.17 oz)
	RSW-24RD/ ROW-24RD	2,120g (74.8 oz)	2,270g (80.1 oz)	2,420g (85.4 oz)	2,570g (90.7 oz)			30g (0.32 oz)

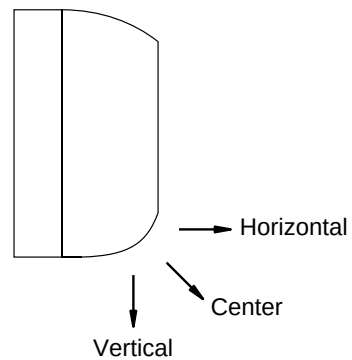
4.3.3 FLOOR / CEILING UNIVERSAL RYT-SERIES

Pipe length Models		16ft (5m)	33ft (10m)	49ft (15m)	66ft (20m)	Additional refrigerant g/m (oz/ft)
FULL CHARGE AMOUNT	RYT-14/ RO-147	1,000g (35.2 oz)	1,150g (40.5 oz)			30g (0.32 oz)
	RYT-14R/ RO-147R	1,050g (36.9 oz)	1,200g (42.2 oz)			30g (0.32 oz)
	RYT-18/ RO-18	1,140g (40.1 oz)	1,200g (42.2 oz)	1,260g (44.4 oz)	1,320g (46.5 oz)	12g (0.13 oz)
	RYT-18R/ RO-18R	1,790g (63.1 oz)	2,040g (72.0 oz)	2,290g (80.8 oz)	2,540g (89.6 oz)	50g (0.53 oz)
	RYT-24/ ROW-24A	2,000g (70.5 oz)	2,060g (72.7 oz)	2,120g (74.8 oz)	2,180g (76.9 oz)	12g (0.13 oz)
	RYT-24R/ ROW-24RB	2,070g (72.9 oz)	2,320g (81.7 oz)	2,570g (90.5 oz)	2,820g (99.3 oz)	50g (0.53 oz)
	RY-25S/ ROW-24S	1,750g (61.6 oz)	1,810g (63.7 oz)	1,870g (65.8 oz)	1,930g (67.9 oz)	12g (0.13 oz)
	RY-25RS/ ROW-24RS	2,070g (72.9 oz)	2,320g (81.7 oz)	2,570g (90.5 oz)	2,820g (99.3 oz)	50g (0.53 oz)
	RYT-14/ ROY-14AA	1,090g (38.4 oz)	1,240g (43.7 oz)			30g (0.32 oz)
	RYT-14R/ ROY-14RA	1,100g (38.8 oz)	1,250g (44.1 oz)			30g (0.32 oz)
	RYT-18/ RO-18AC	1,500g (52.9 oz)	1,580g (55.7 oz)	1,660g (58.6 oz)	1,740g (61.4 oz)	16g (0.17 oz)
	RYT-18R/ RO-18RA	1,950g (68.8 oz)	2,160g (76.2 oz)	2,370g (83.5 oz)	2,580g (91.0 oz)	42g (0.49 oz)
	RYT-24AB/ ROW-24AB	1,870g (66.0 oz)	1,950g (68.8 oz)	2,030g (71.6 oz)	2,110g (74.4 oz)	16g (0.17 oz)
	RYT-24R/ ROW-24RE	2,320g (81.8 oz)	2,470g (87.1 oz)	2,620g (92.4 oz)	2,770g (97.7 oz)	30g (0.32 oz)

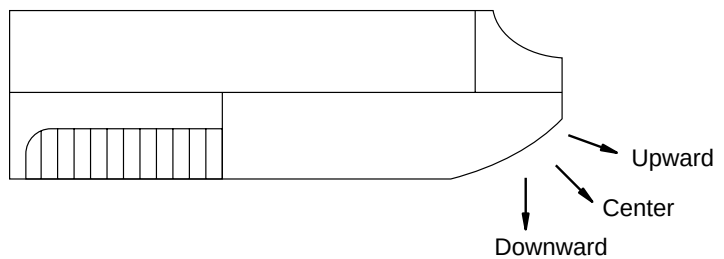
4.4 AIR VELOCITY DISTRIBUTION

4.4.1 AIR DISCHARGE ANGLE

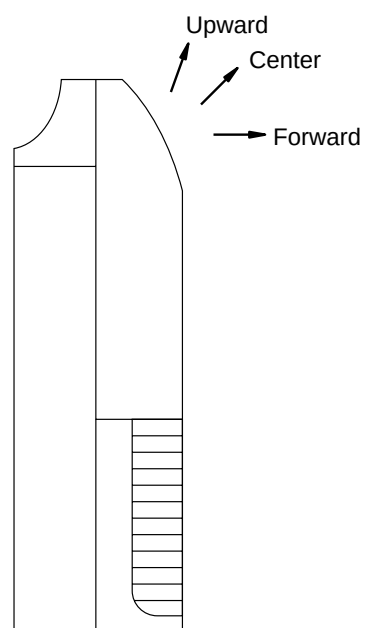
- RSW : WALL MOUNTED



- RYT : UNDER CEILING



- RYT : FLOOR CONSOLE



4.4.2 COMPACT SII SERIES MODELS : RSW-7, 7R

Note :
 Fan speed : Hi
 Operation : FAN
 Voltage : 240V

Fig. 4.4.2-1
 TOP VIEW
 FLOW CONTROL PANEL : Horiz.
 LOUVER : Center

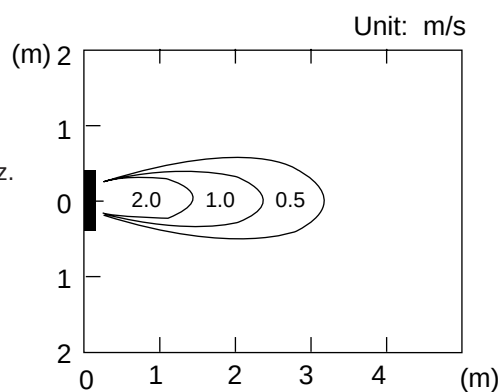


Fig. 4.4.2-2
 TOP VIEW
 FLOW CONTROL PANEL : Horiz.
 LOUVER : Right & Left

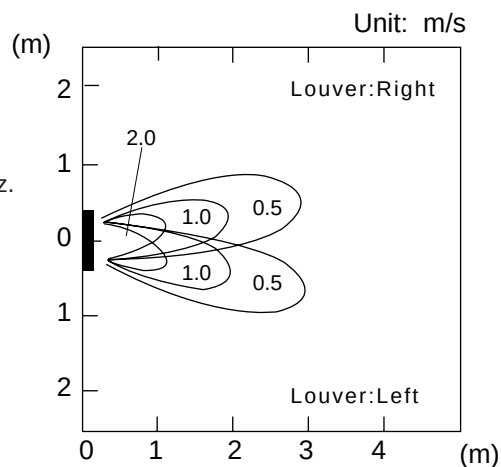


Fig. 4.4.2-3
 SIDE VIEW
 FLOW CONTROL PANEL : Horiz.
 LOUVER : Center

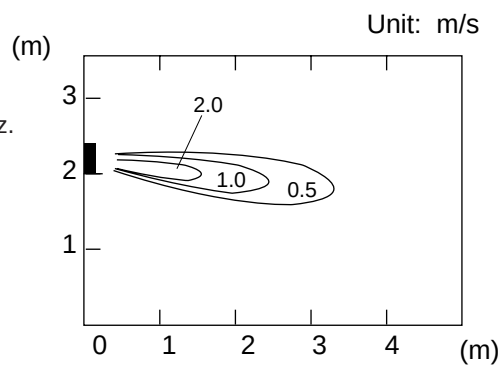
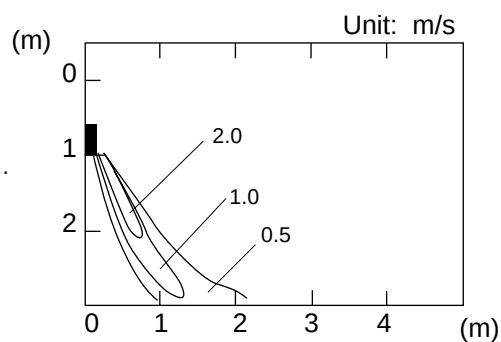


Fig. 4.4.2-4
 SIDE VIEW
 FLOW CONTROL PANEL : Vert .
 LOUVER : Center



4.4.3 MII & LI SERIES MODELS : RSW-9, 9R, 12, 12R, 14, 14R, 17, 17R

Note :
Fan speed : Hi
Operation : FAN
Voltage : 240V

Fig. 4.4.3-1
TOP VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Center

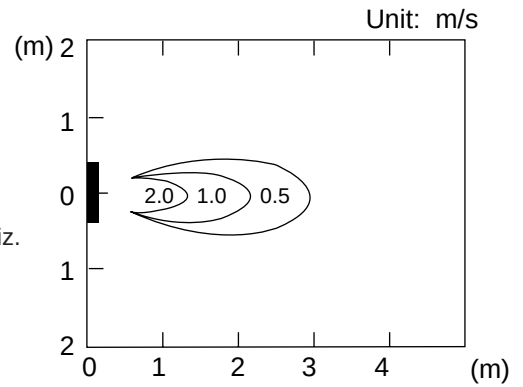


Fig. 4.4.3-2
TOP VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Right & Left

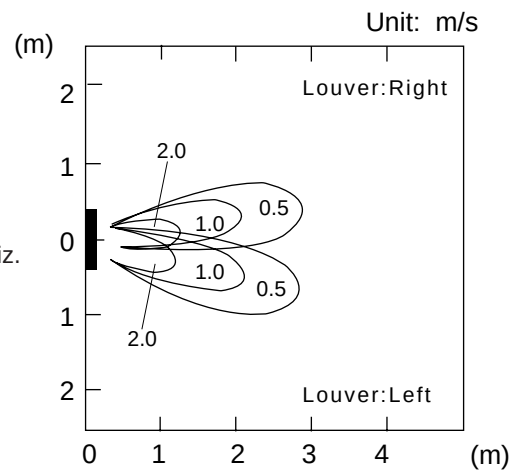


Fig. 4.4.3-3
TOP VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Center

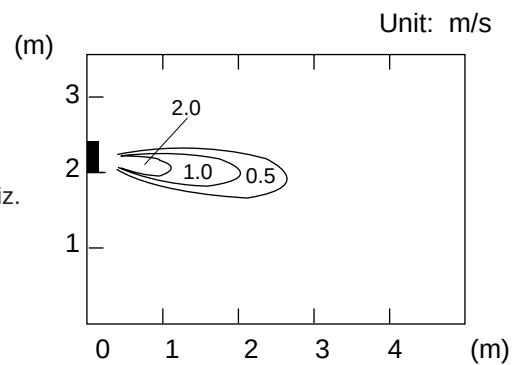
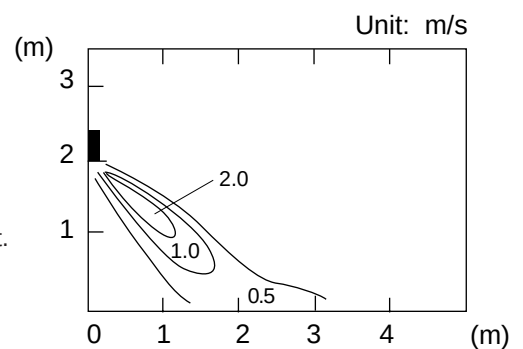


Fig. 4.4.3-4
TOP VIEW
FLOW CONTROL PANEL : Vert.
LOUVER : Center



4.4.4 AIR VELOCITY DISTRIBUTION MODELS : RSW-20, 20R

Condition
Fan speed : High
Operation mode : Fan
Voltage : 240V
220V
(60Hz model)

Fig. 4.4.4-1

TOP VIEW

FLOW CONTROL PANEL : Horiz.

LOUVER : Center

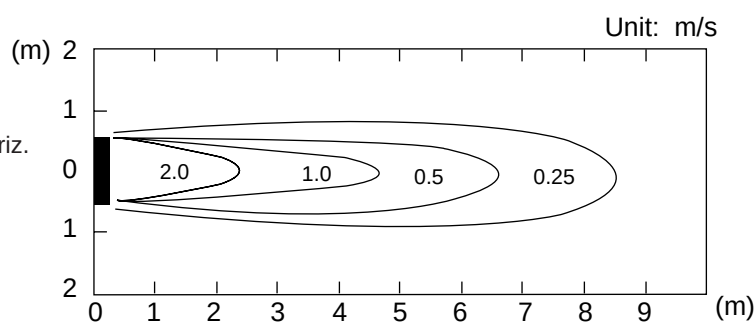


Fig. 4.4.4-2

TOP VIEW

FLOW CONTROL PANEL : Horiz.

LOUVER : Right & Left

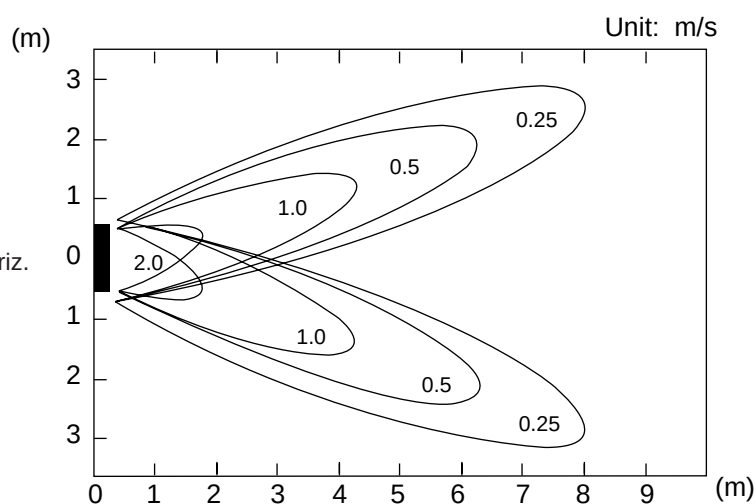


Fig. 4.4.4-3

SIDE VIEW

FLONT CONTROL PANEL : Horiz.

LOUVER : Center

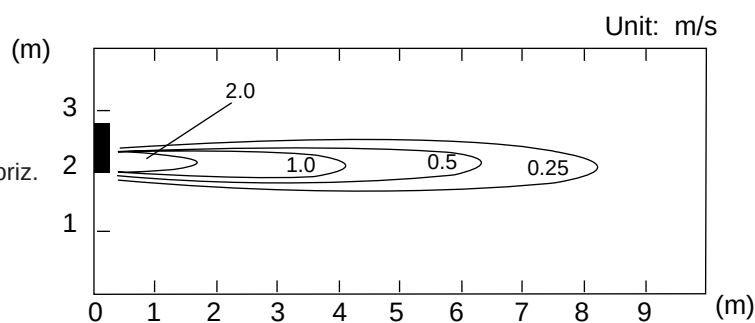
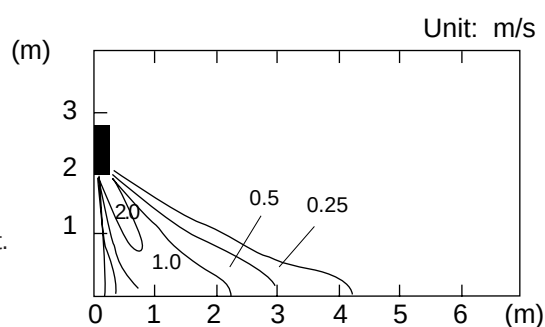


Fig. 4.4.4-4

SIDE VIEW

FLOW CONTROL PANEL : Vert.

LOUVER : Center



4.4.5 AIR VELOCITY DISTRIBUTION MODELS : RSW-24, 24R

Condition
 Fan speed : High
 Operation mode : Fan
 Voltage : 240V
 220V
 (60Hz model)

Fig. 4.4.5-1
 TOP VIEW
 FLOW CONTROL PANEL : Horiz.
 LOUVER : Center

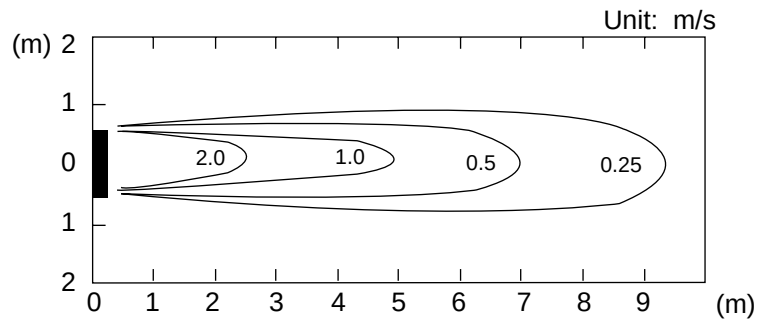


Fig. 4.4.5-2
 TOP VIEW
 FLOW CONTROL PANEL : Horiz.
 LOUVER : Right & Left

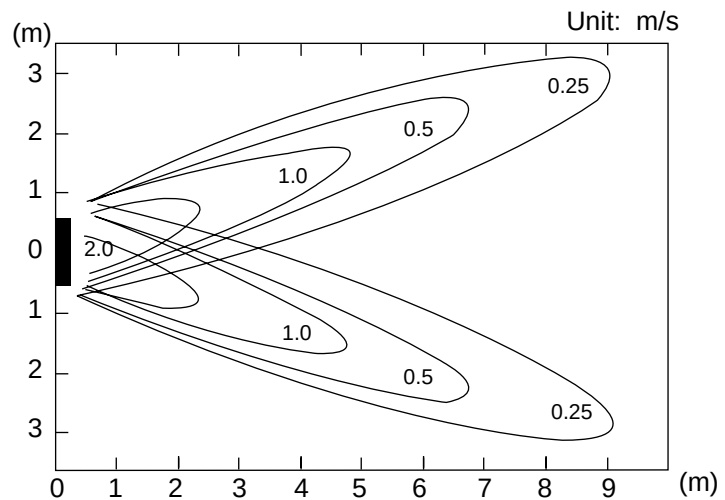


Fig. 4.4.5-3
 SIDE VIEW
 FLOW CONTROL PANEL : Horiz.
 LOUVER : Center

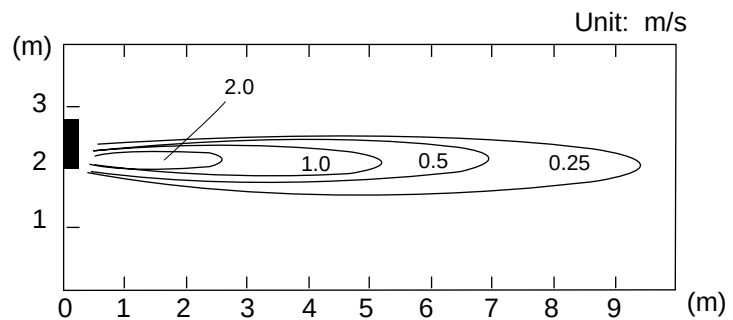
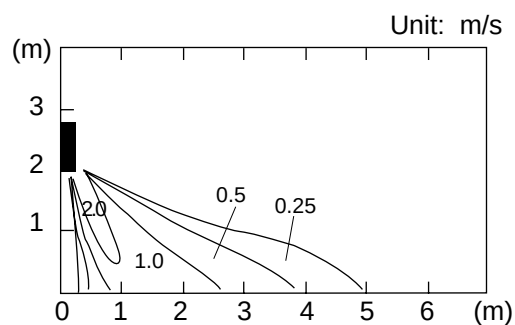


Fig. 4.4.5-4
 SIDE VIEW
 FLOW CONTROL PANEL : Vert.
 LOUVER : Center



4.4.6 AIR VELOCITY DISTRIBUTION MODELS : RSW-30, 30R

Condition
 Fan speed : High
 Operation mode : Fan
 Voltage : 240V
 220V
 (60Hz model)

Fig. 4.4.6-1
 TOP VIEW
 FLOW CONTROL PANEL : Horiz.
 LOUVER : Center

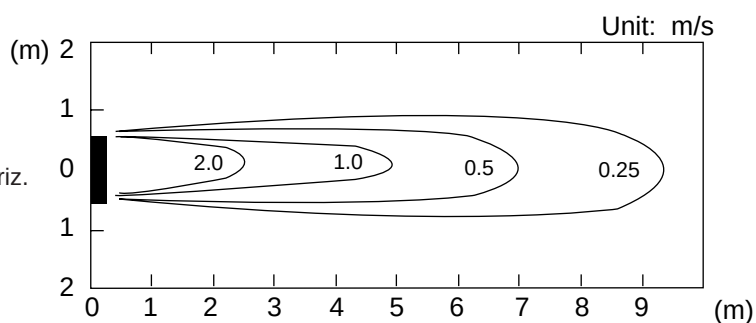


Fig. 4.4.6-2
 TOP VIEW
 FLOW CONTROL PANEL : Horiz.
 LOUVER : Right & Left

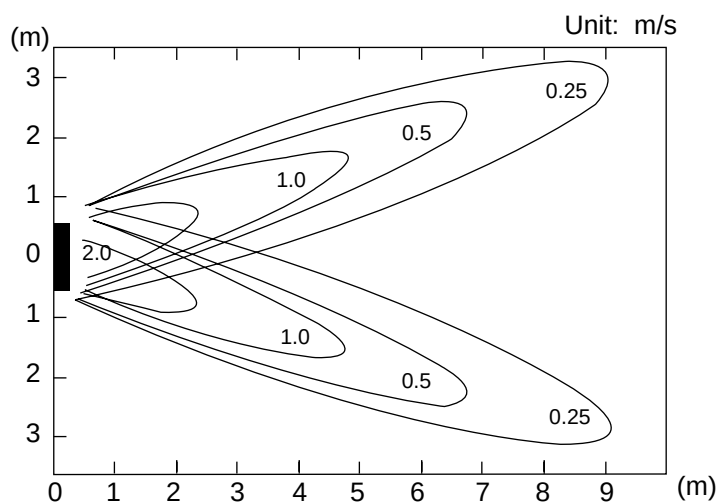


Fig. 4.4.6-3
 SIDE VIEW
 FLOW CONTROL PANEL : Horiz.
 LOUVER : Center

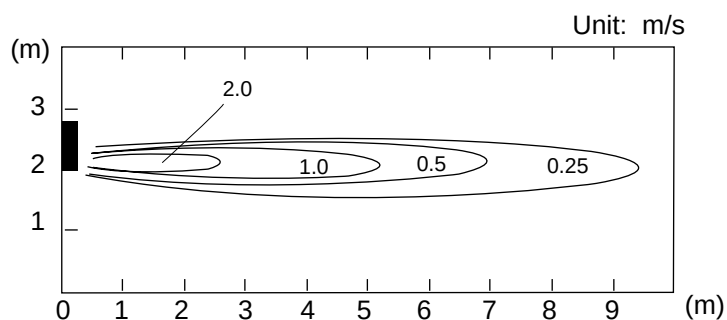
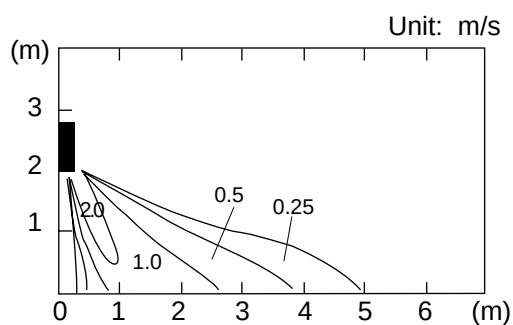


Fig. 4.4.6-4
 SIDE VIEW
 FLOW CONTROL PANEL : Vert.
 LOUVER : Center



4.4.7 AIR VELOCITY DISTRIBUTION

MODEL : RYT-14 (FLOOR CONSOLE)

Fig. 4.4.7-1
TOP VIEW
VERTICAL : Forward
HORIZONTAL : Center

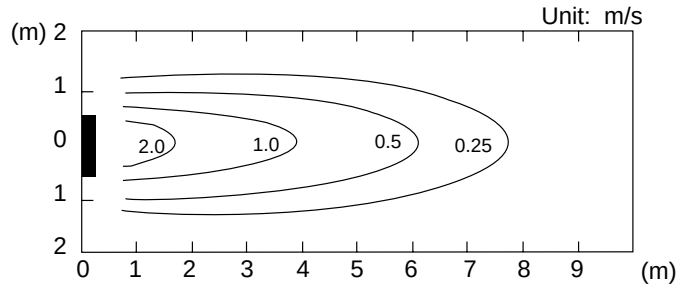
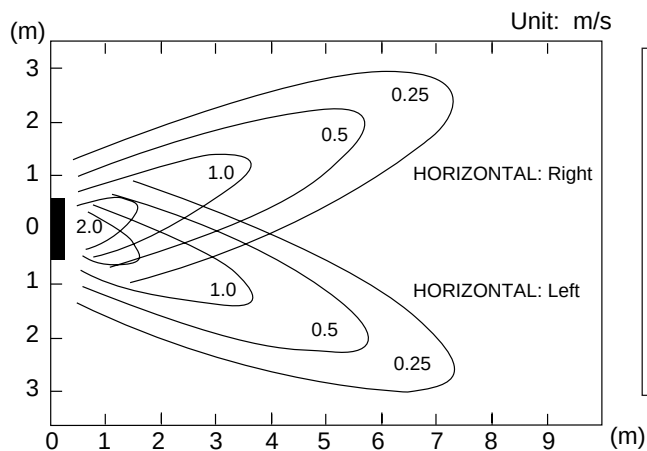


Fig. 4.4.7-2
TOP VIEW
VERTICAL : Forward
HORIZONTAL : Right & Left



Note :
The location of
vertical louvers is
shown on page 49.

Condition
Fan speed : High
Operation mode : Fan
Voltage : 240V

Fig. 4.4.7-3
TOP VIEW
VERTICAL : Forward
HORIZONTAL : Center

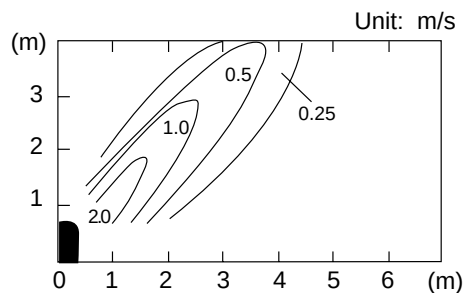
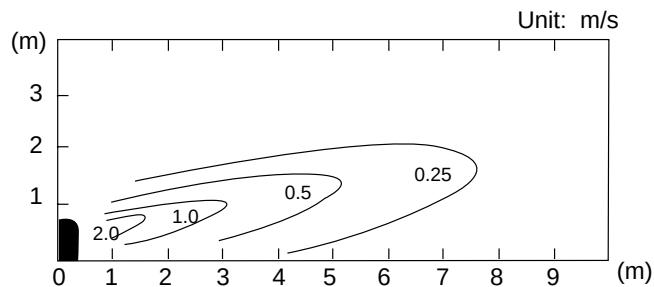


Fig. 4.4.7-4
SIDE VIEW
VERTICAL : Center
HORIZONTAL : Center

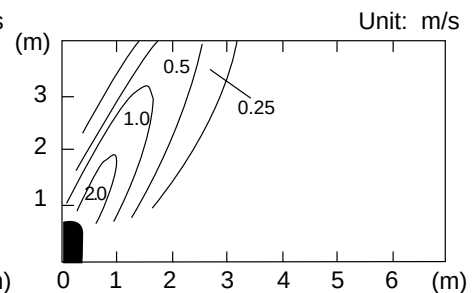


Fig. 4.4.7-5
SIDE VIEW
VERTICAL : Upward
HORIZONTAL : Center

4.4.8 AIR VELOCITY DISTRIBUTION

MODEL : RYT-14 (UNDER CEILING)

Fig. 4.4.8-1

TOP VIEW

VERTICAL : Upward

HORIZONTAL : Center

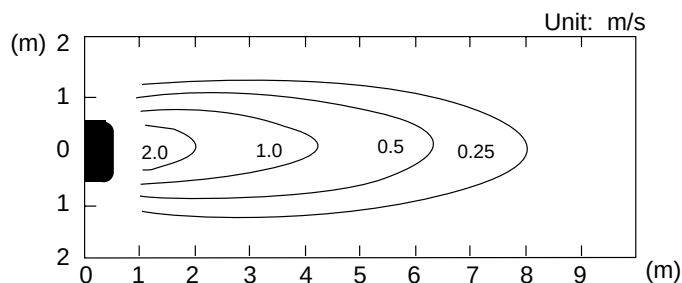
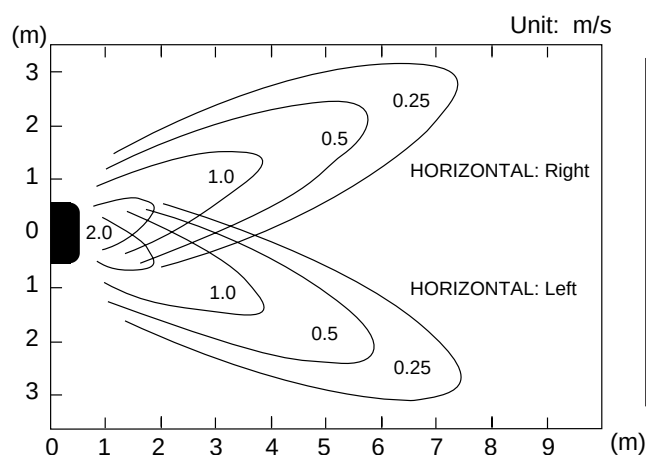


Fig. 4.4.8-2

TOP VIEW

VERTICAL : Upward

HORIZONTAL : Right & Left



Note :

The location of vertical louvers is shown on page 49.

Condition

Fan speed : High

Operation mode : Fan

Voltage : 240V

Fig. 4.4.8-3

SIDE VIEW

VERTICAL : Upward

HORIZONTAL : Center

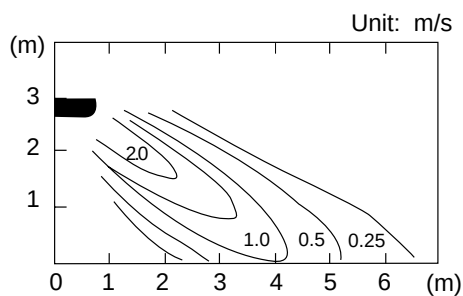
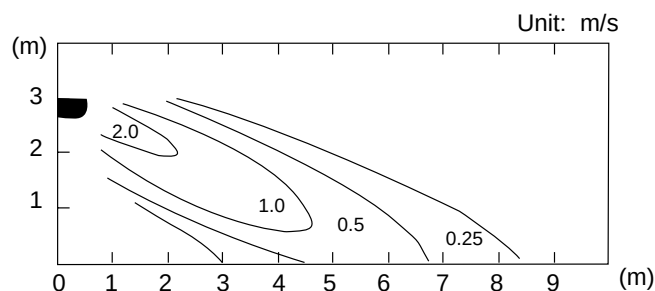


Fig. 4.4.8-4

SIDE VIEW

VERTICAL : Center

HORIZONTAL : Center

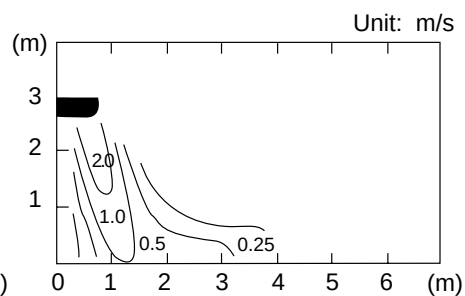


Fig. 4.4.8-5

SIDE VIEW

VERTICAL : Downward

HORIZONTAL : Center

4.4.9 AIR VELOCITY DISTRIBUTION

MODEL : RYT-18 (FLOOR CONSOLE)

Fig. 4.4.9-1
TOP VIEW
VERTICAL : Forward
HORIZONTAL : Center

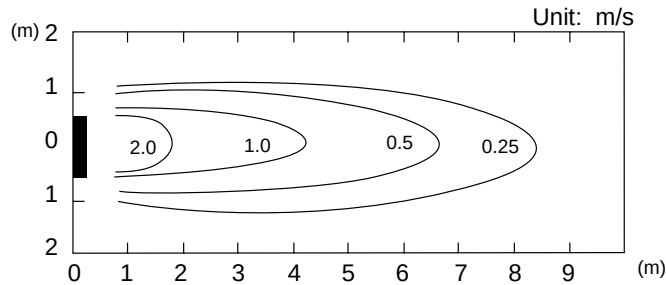
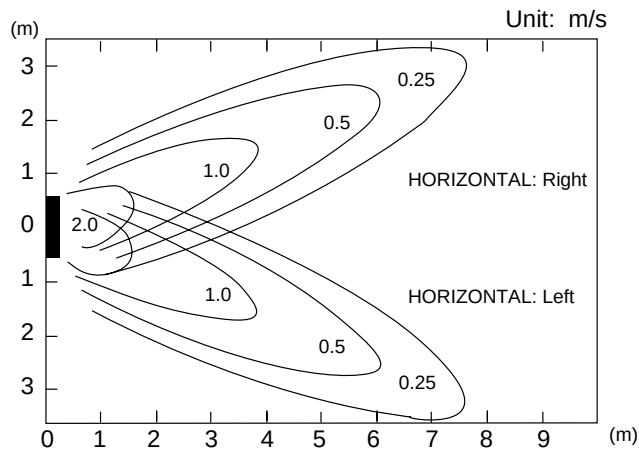


Fig. 4.4.9-2
TOP VIEW
VERTICAL : Forward
HORIZONTAL : Right & Left



Note :
The location of
vertical louvers is
shown on page 49.

Condition
Fan speed : High
Operation mode : Fan
Voltage : 240V

Fig. 4.4.9-3
SIDE VIEW
VERTICAL : Forward
HORIZONTAL : Center

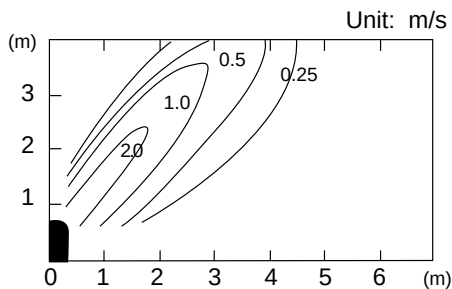
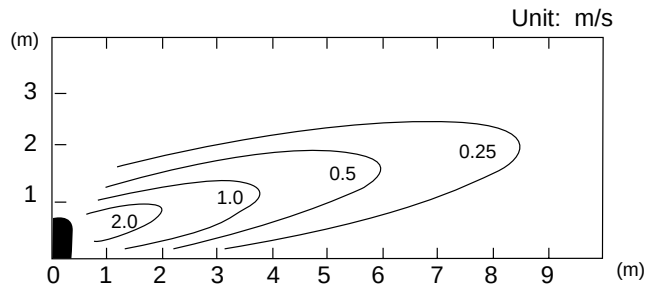


Fig. 4.4.9-4
SIDE VIEW
VERTICAL : Center
HORIZONTAL : Center

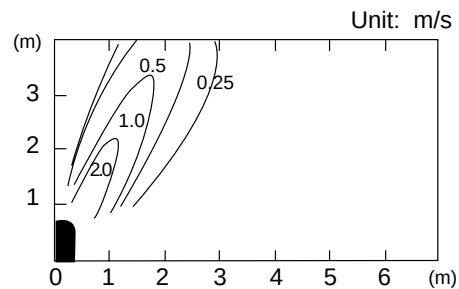


Fig. 4.4.9-5
SIDE VIEW
VERTICAL : Upward
HORIZONTAL : Center

4.4.10 AIR VELOCITY DISTRIBUTION

MODEL : RYT-18 (UNDER CEILING)

Fig. 4.4.10-1
TOP VIEW
VERTICAL : Upward
HORIZONTAL : Center

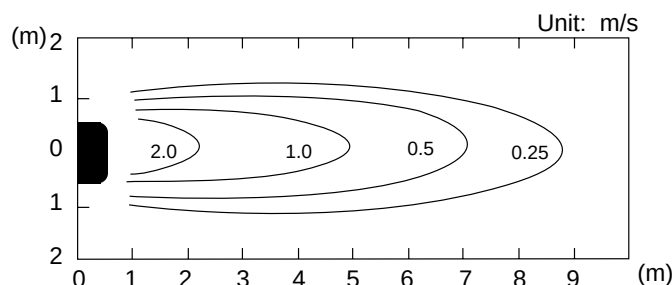
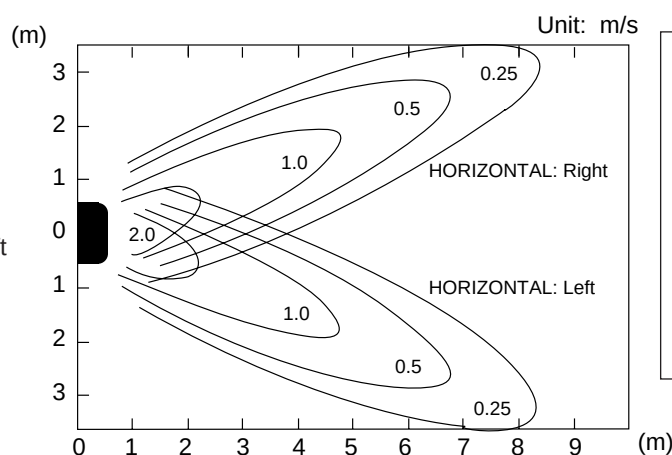


Fig. 4.4.10-2
TOP VIEW
VERTICAL : Upward
HORIZONTAL : Right & Left



Note :
The location of
vertical louvers is
shown on page 49.

Condition
Fan speed : High
Operation mode : Fan
Voltage : 240V

Fig. 4.4.10-3
SIDE VIEW
VERTICAL : Forward
HORIZONTAL : Center

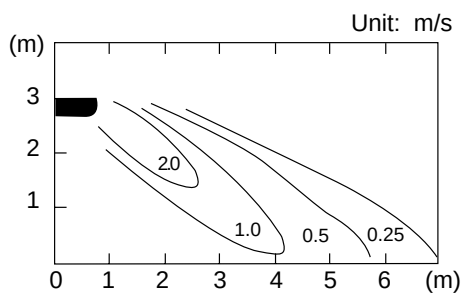
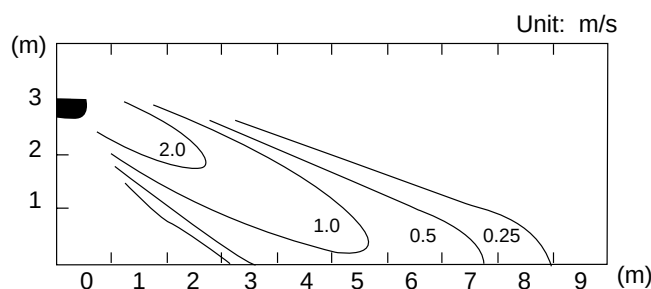


Fig. 4.4.10-4
SIDE VIEW
VERTICAL : Center
HORIZONTAL : Center

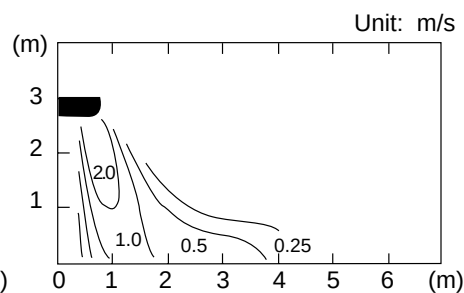


Fig. 4.4.10-5
SIDE VIEW
VERTICAL : Downward
HORIZONTAL : Center

4.4.11 AIR VELOCITY DISTRIBUTION

MODEL : RYT-24, RY-25 (FLOOR CONSOLE)

Fig. 4.4.11-1
TOP VIEW
VERTICAL : Forward
HORIZONTAL : Center

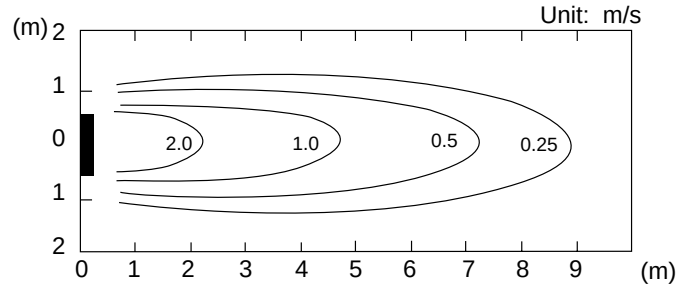
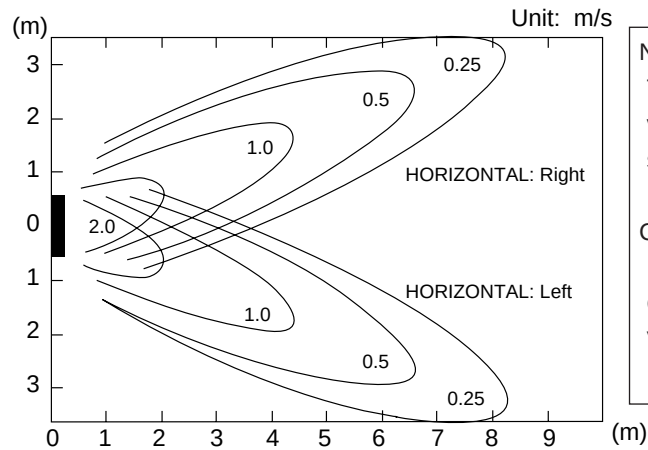


Fig. 4.4.11-2
TOP VIEW
VERTICAL : Forward
HORIZONTAL : Right & Left



Note :
The location of
vertical louvers is
shown on page 49.

Condition
Fan speed : High
Operation mode : Fan
Voltage : 240V (50Hz)
220V (60Hz)

Fig. 4.4.11-3
SIDE VIEW
VERTICAL : Forward
HORIZONTAL : Center

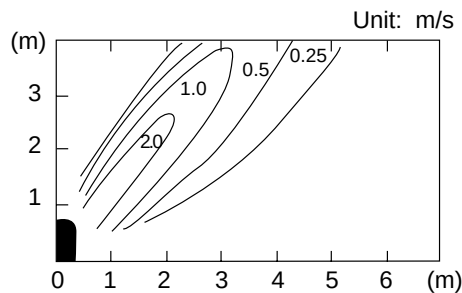
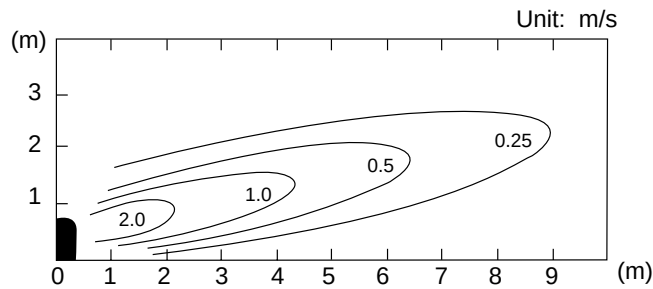


Fig. 4.4.11-4
SIDE VIEW
VERTICAL : Center
HORIZONTAL : Center

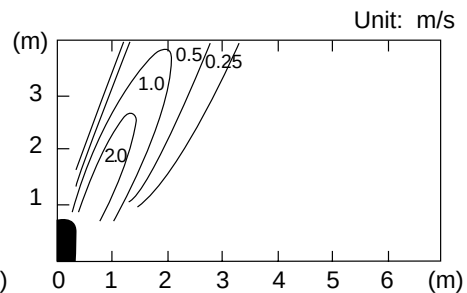


Fig. 4.4.11-5
SIDE VIEW
VERTICAL : Upward
HORIZONTAL : Center

4.4.12 AIR VELOCITY DISTRIBUTION

MODEL : RYT-24, RY-25 (UNDER CEILING)

Fig. 4.4.12-1
TOP VIEW
VERTICAL : Upward
HORIZONTAL : Center

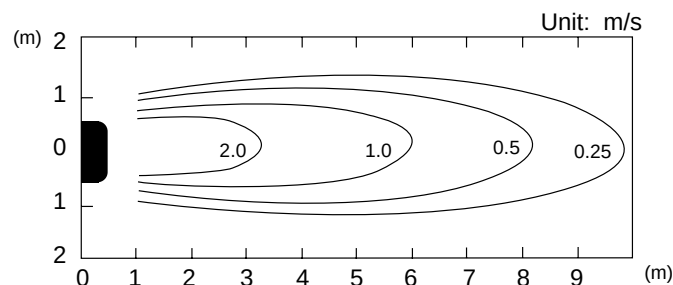
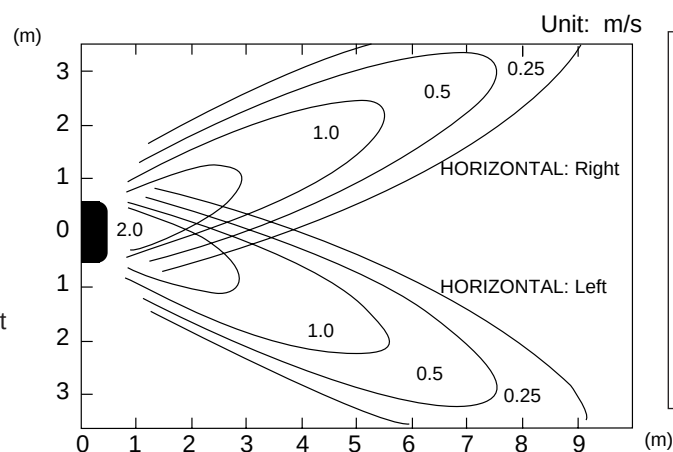


Fig. 4.4.12-2
TOP VIEW
VERTICAL : Upward
HORIZONTAL : Right & Left



Note :
The location of
vertical louvers is
shown on page 49.

Condition
Fan speed : High
Operation mode : Fan
Voltage : 240V (50Hz)
220V (60Hz)

Fig. 4.4.12-3
SIDE VIEW
VERTICAL : Upward
HORIZONTAL : Center

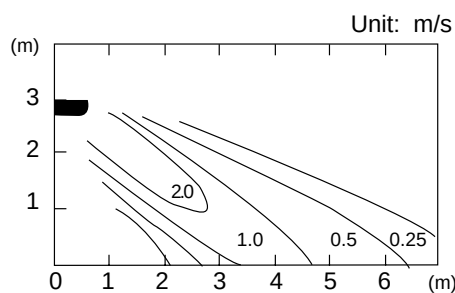
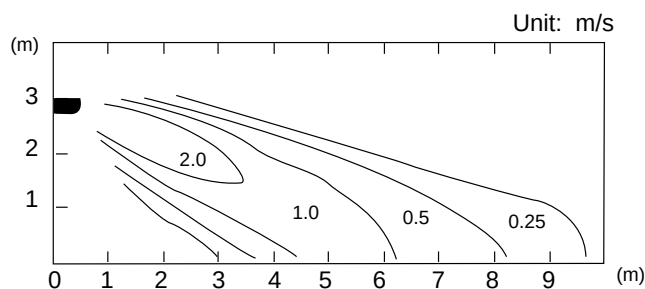


Fig. 4.4.12-4
SIDE VIEW
VERTICAL : Center
HORIZONTAL : Center

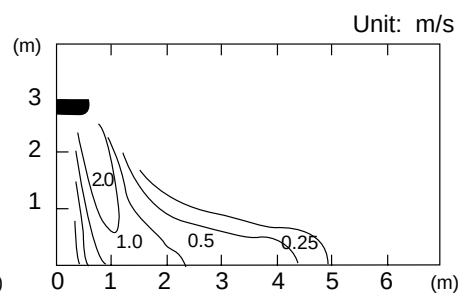


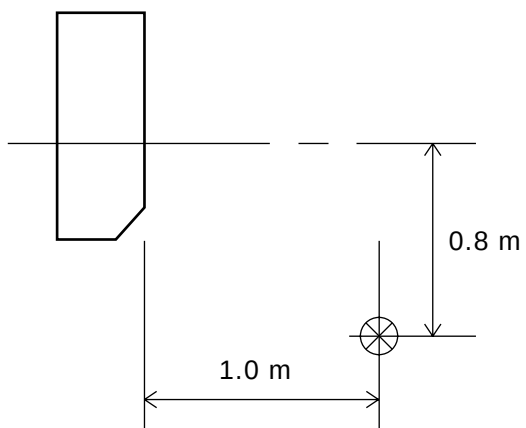
Fig. 4.4.12-5
SIDE VIEW
VERTICAL : Downward
HORIZONTAL : Center

4.5 NOISE LEVEL MEASUREMENT

4.5.1 NOISE LEVEL CHECK POINTS

WALL MOUNTED TYPE

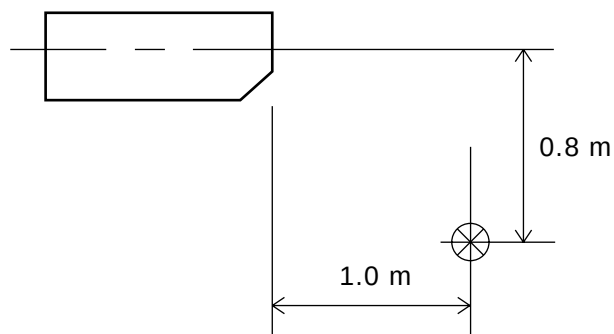
(1) INDOOR UNIT



UNIVERSAL TYPE

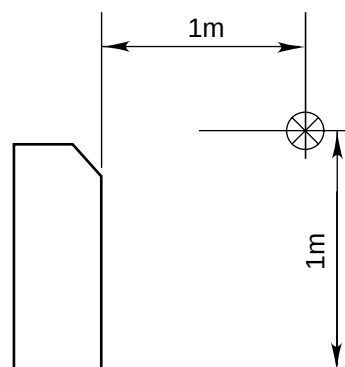
(1) INDOOR UNIT

UNDER CEILING TYPE

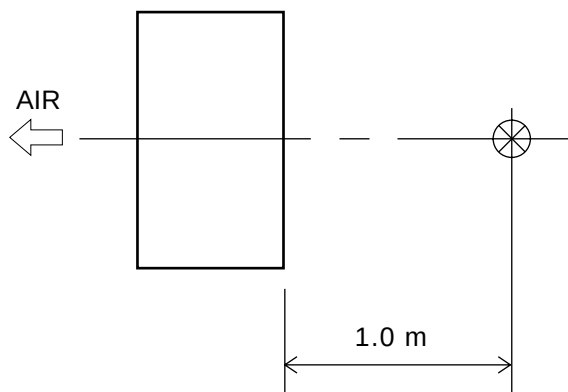


(1) INDOOR UNIT

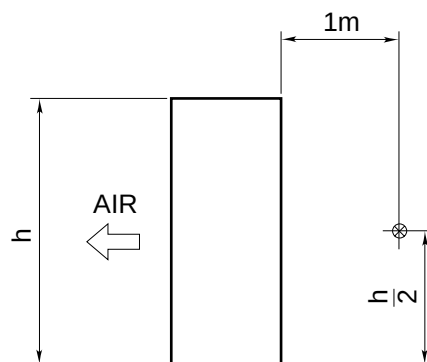
FLOOR CONSOLE TYPE



(2) OUTDOOR UNIT



(2) OUTDOOR UNIT



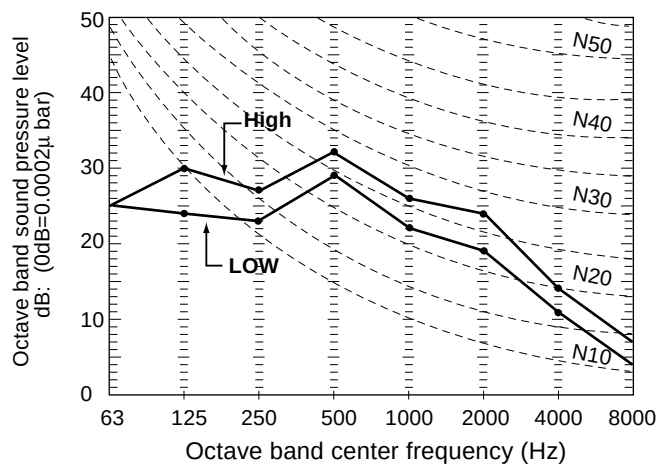
4.5.2 NOISE LEVEL CURVE COMPACT SII SERIES

MODELS : RSW-7, 7R

INDOOR UNIT

Mode : Cool

240V / 50Hz

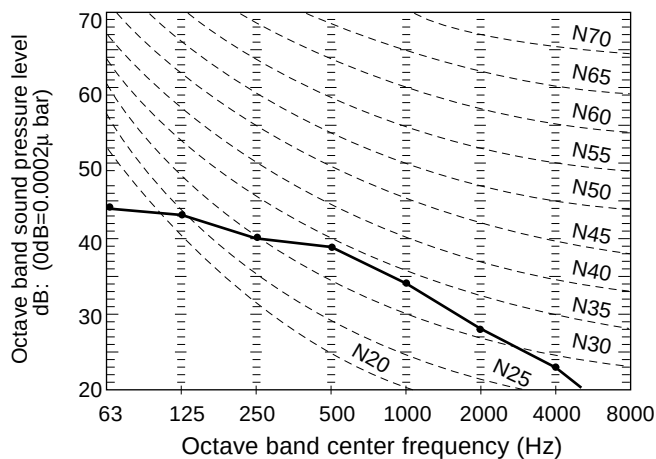


OUTDOOR UNIT

Mode : Cool

240V / 50Hz

Model : ROW-7

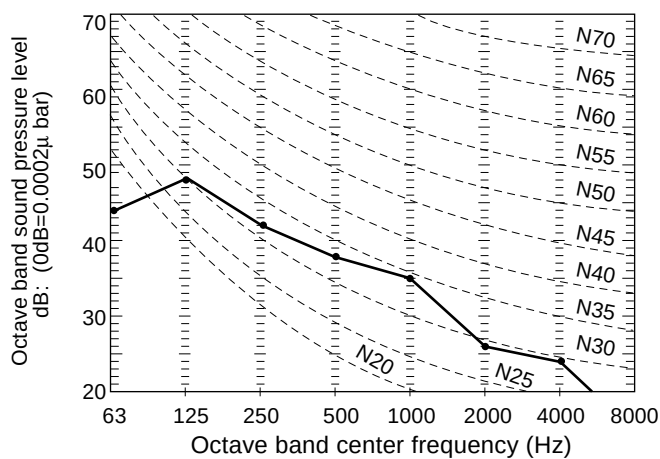


OUTDOOR UNIT

Mode : Cool

240V / 50Hz

Model : ROW-7R

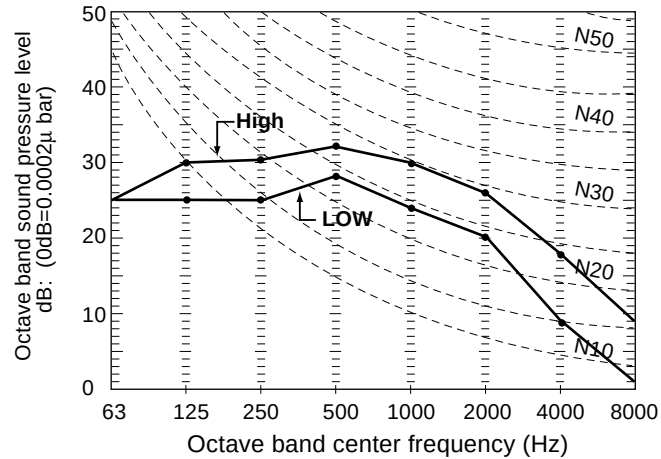


4.5.3 NOISE LEVEL CURVE COMPACT MII & LI SERIES MODELS : RSW-9, 9R, 12, 12R, 14, 14R, 17, 17R

INDOOR UNIT

Mode : Cool

240V / 50Hz



OUTDOOR UNIT

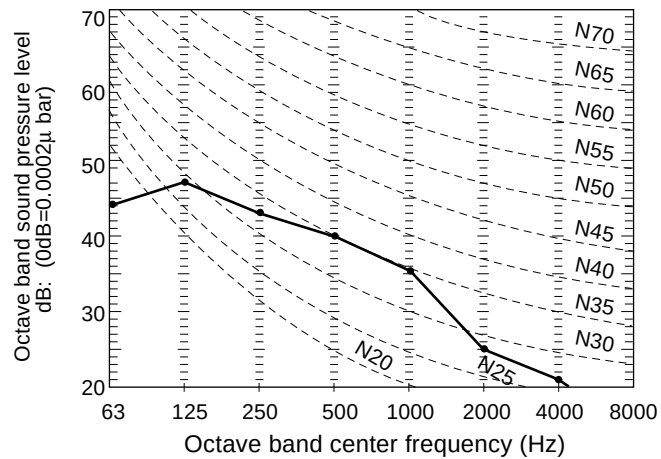
Mode : Cool

240V / 50Hz

Models : ROW-9

ROW-12

ROW-14



OUTDOOR UNIT

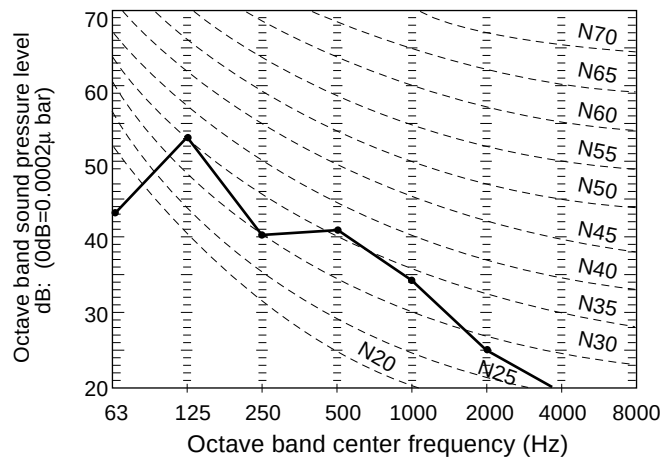
Mode : Cool

240V / 50Hz

Models : ROW-9R

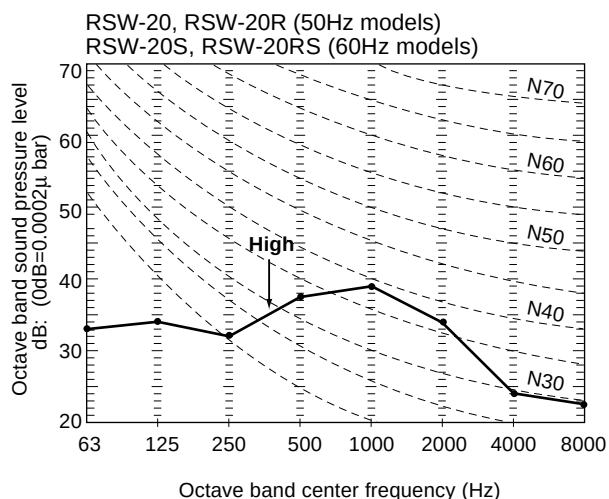
ROW-12R

ROW-14R

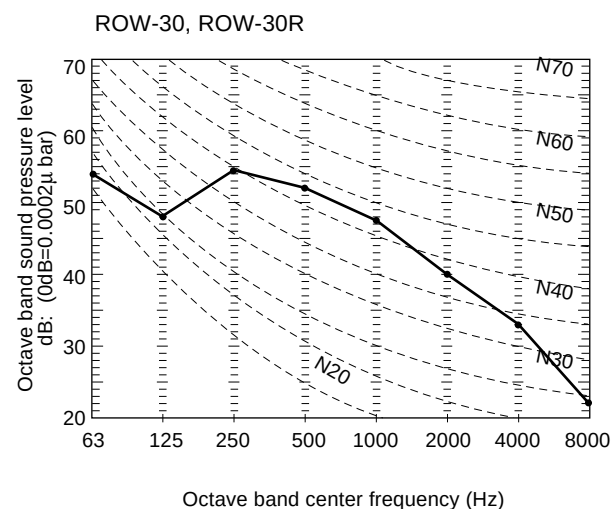
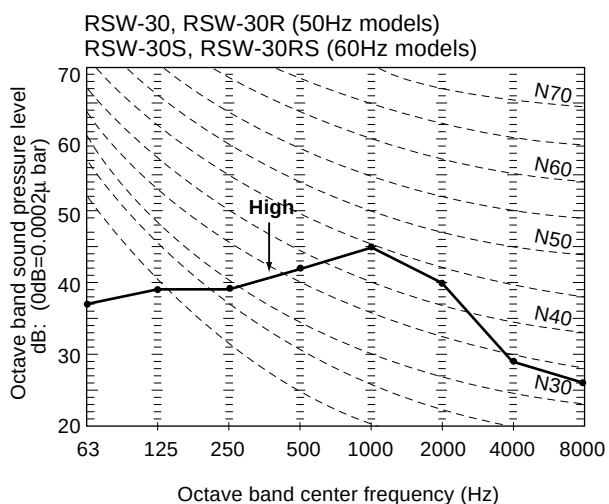
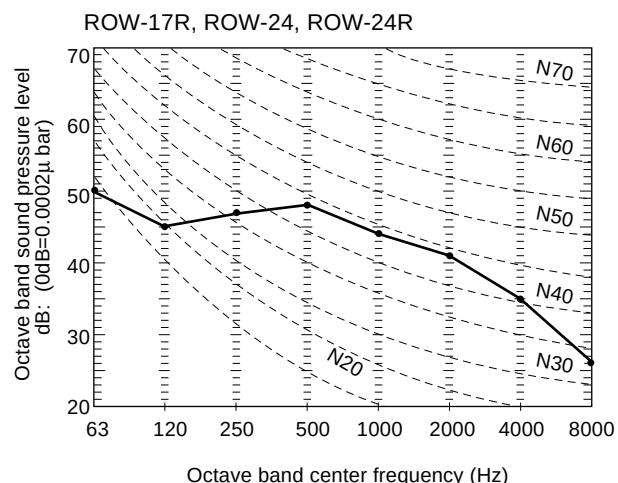
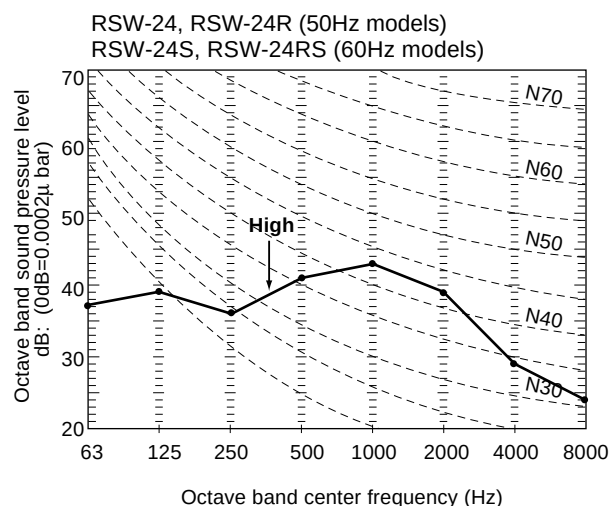
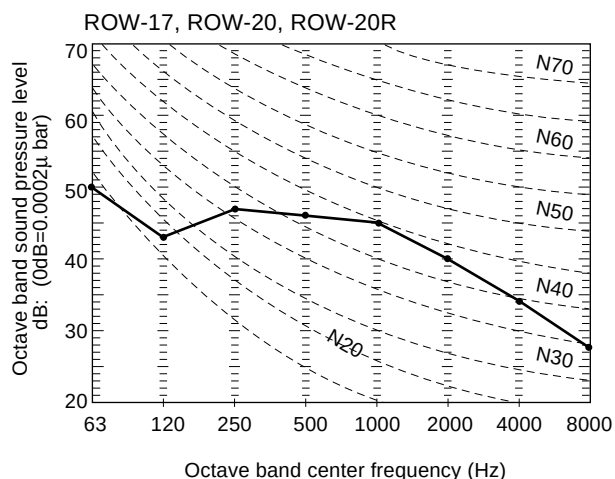


4.5.4 NOISE LEVEL CURVE WALL MOUNTED LARGE TYPE

■ INDOOR UNIT SIDE

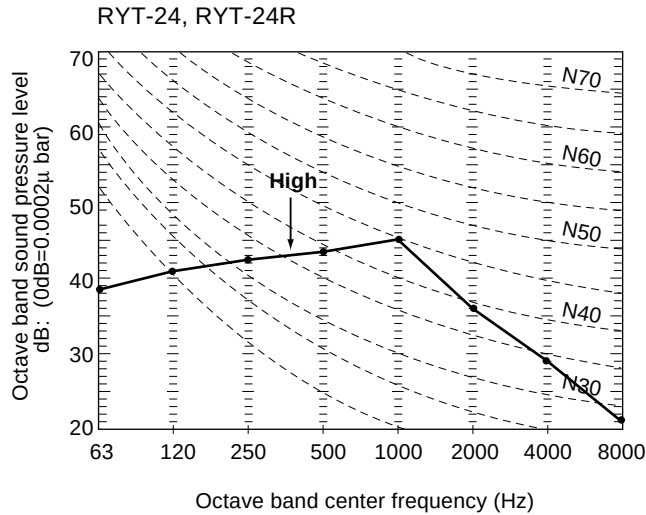


■ OUTDOOR UNIT SIDE

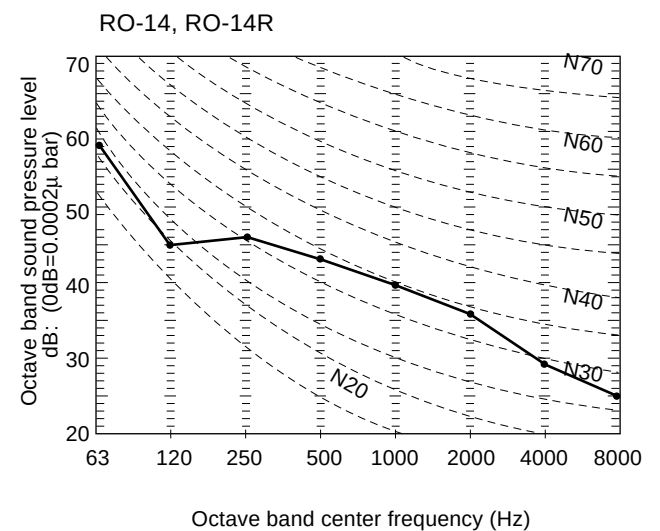
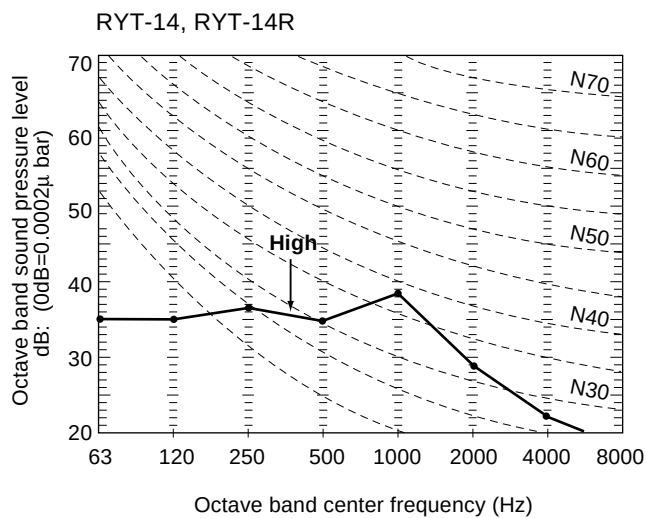
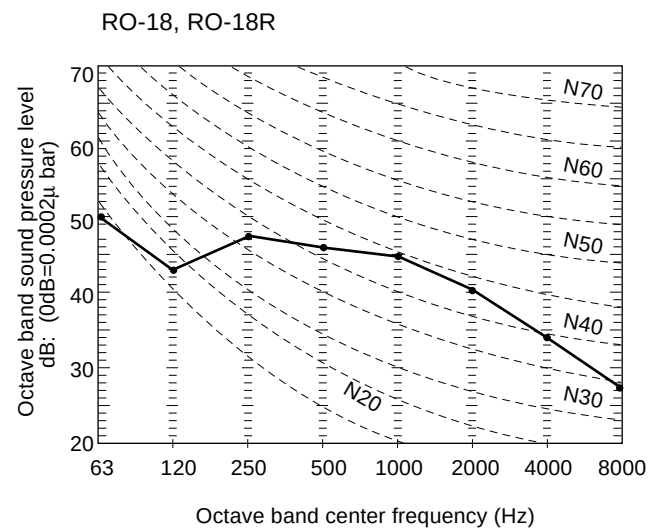
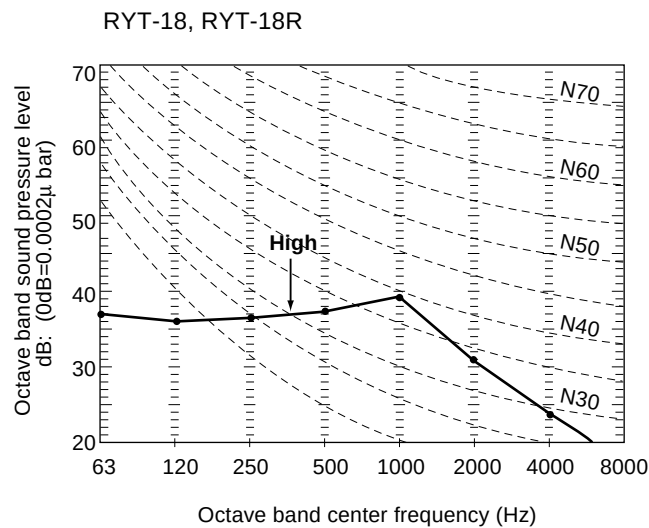
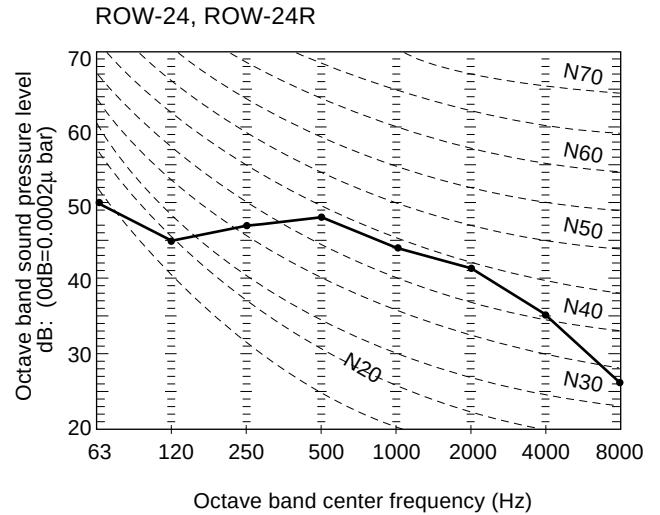


4.5.5 NOISE LEVEL CURVE FLOOR / CEILING UNIVERSAL TYPE

■ INDOOR UNIT SIDE



■ OUTDOOR UNIT SIDE

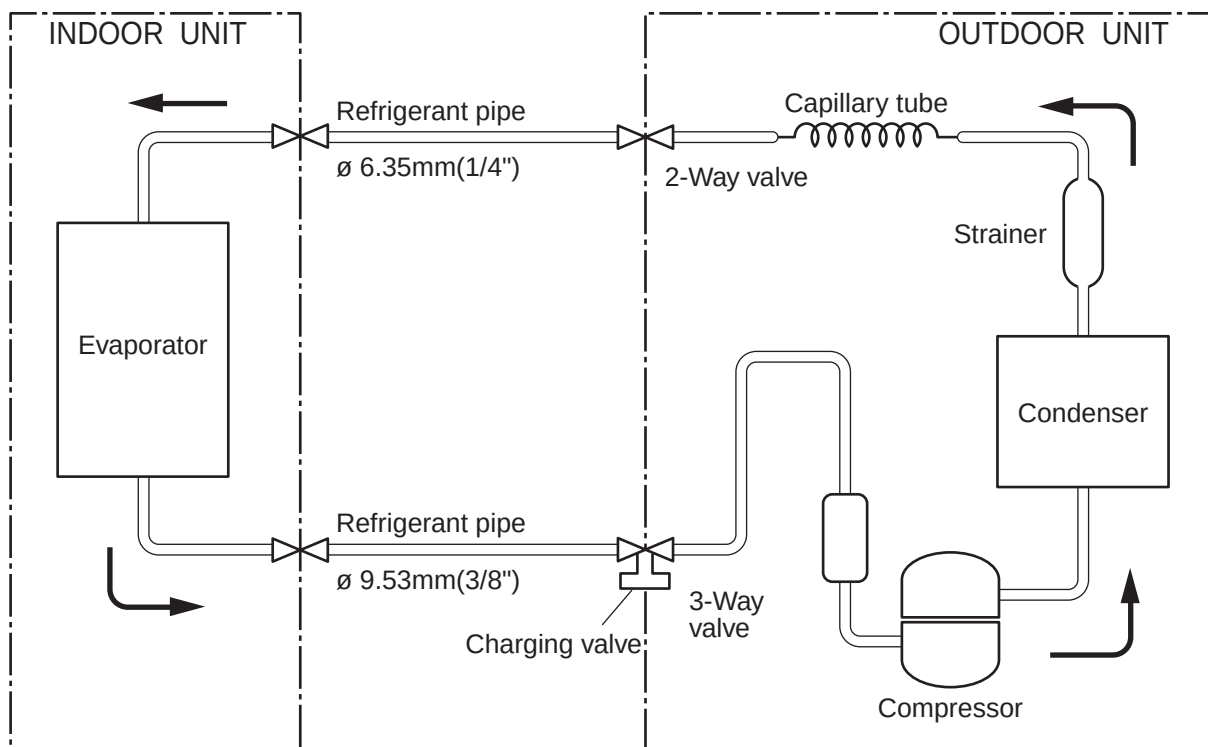


5. DIAGRAMS

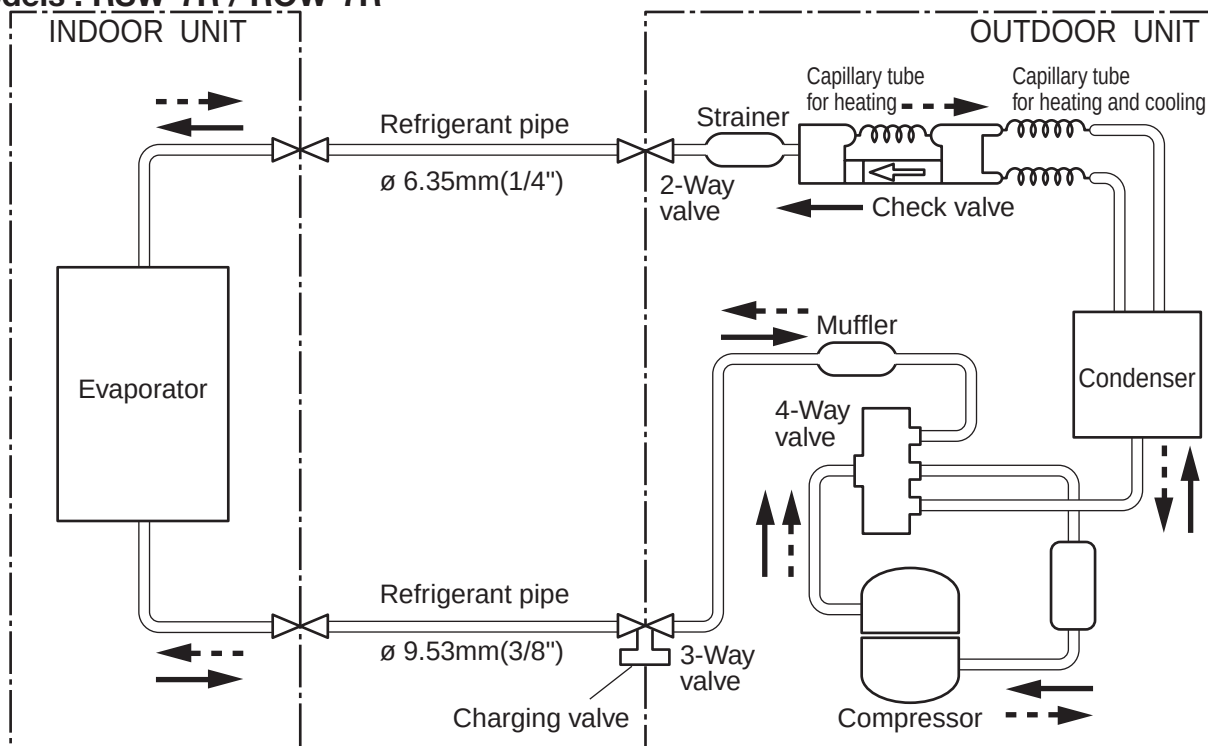
5.1 REFRIGERANT SYSTEM DIAGRAM

5.1.1 COMPACT SII SERIES

Models : RSW-7 / ROW-7



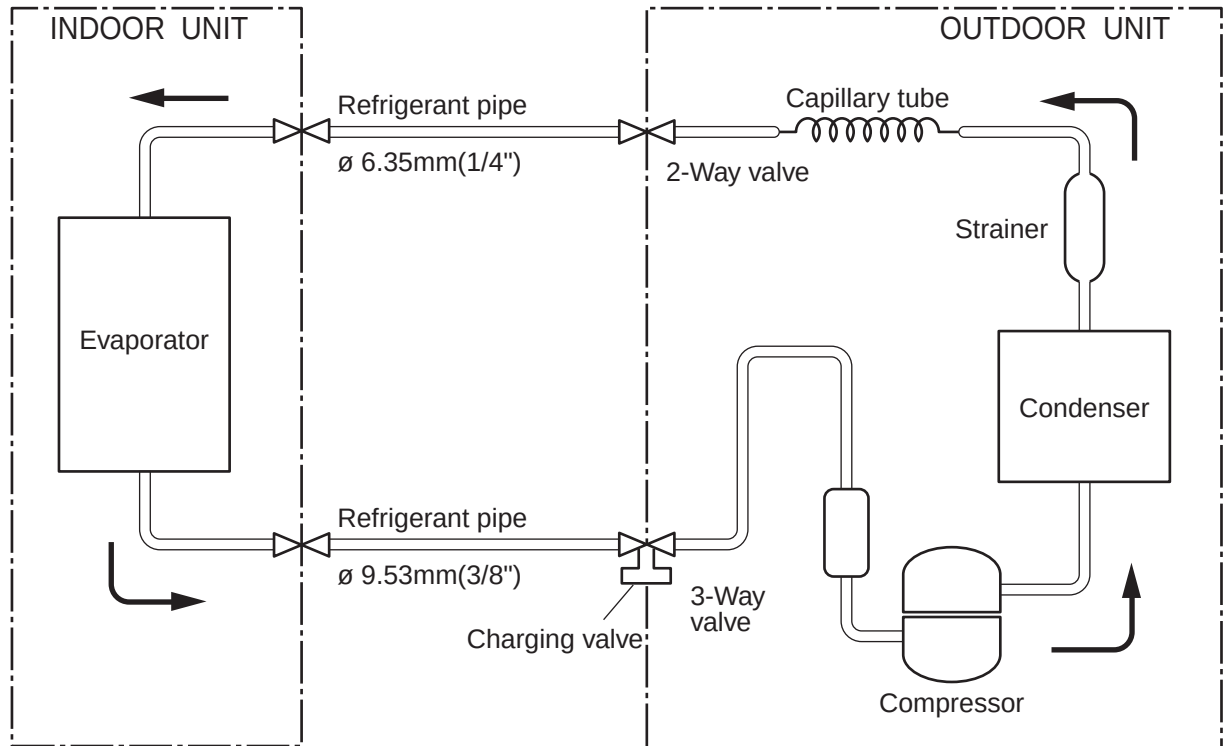
Models : RSW-7R / ROW-7R



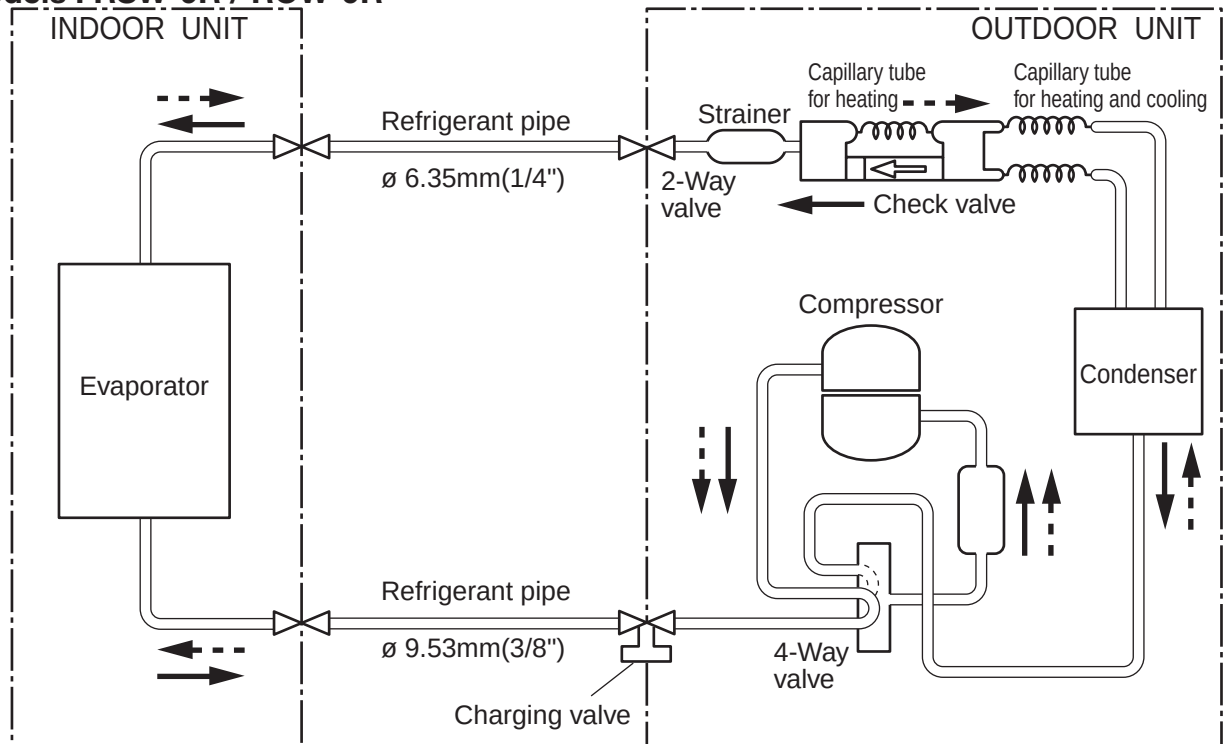
→ Cooling
- - - - - Heating
⋈ : Flare coupling

5.1.2 COMPACT MII SERIES

Models : RSW-9 / ROW-9

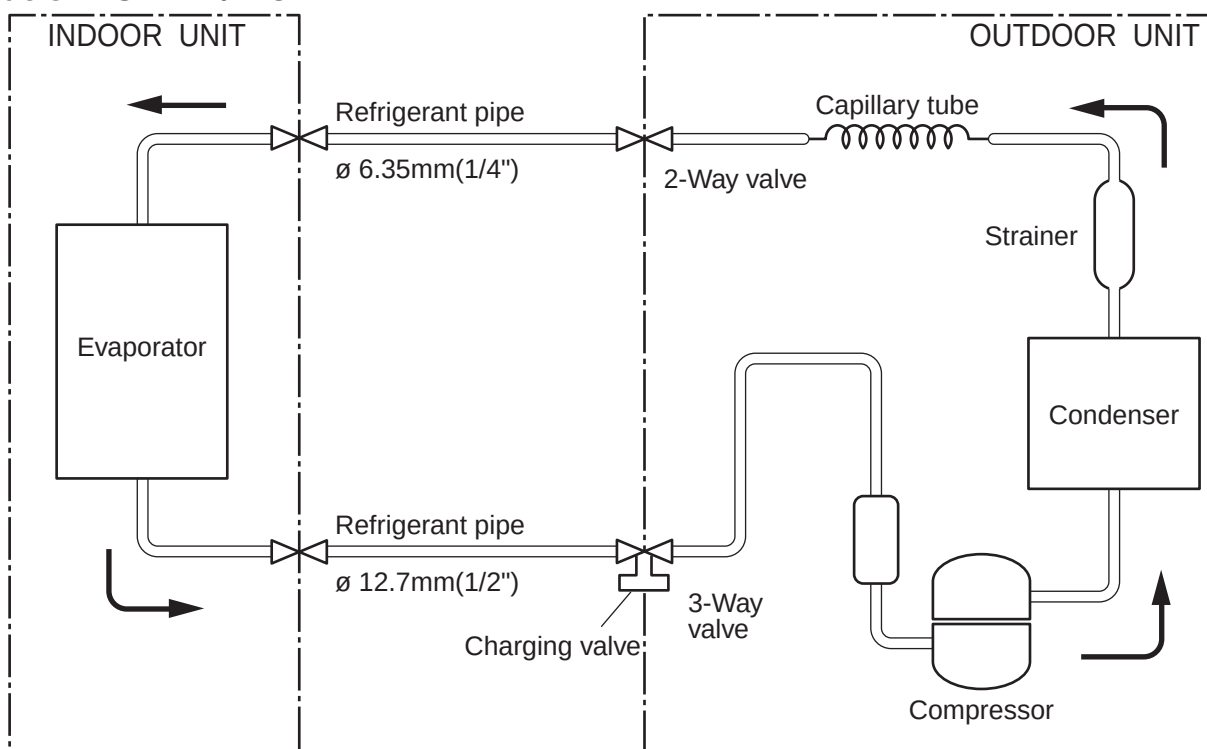


Models : RSW-9R / ROW-9R

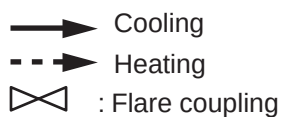
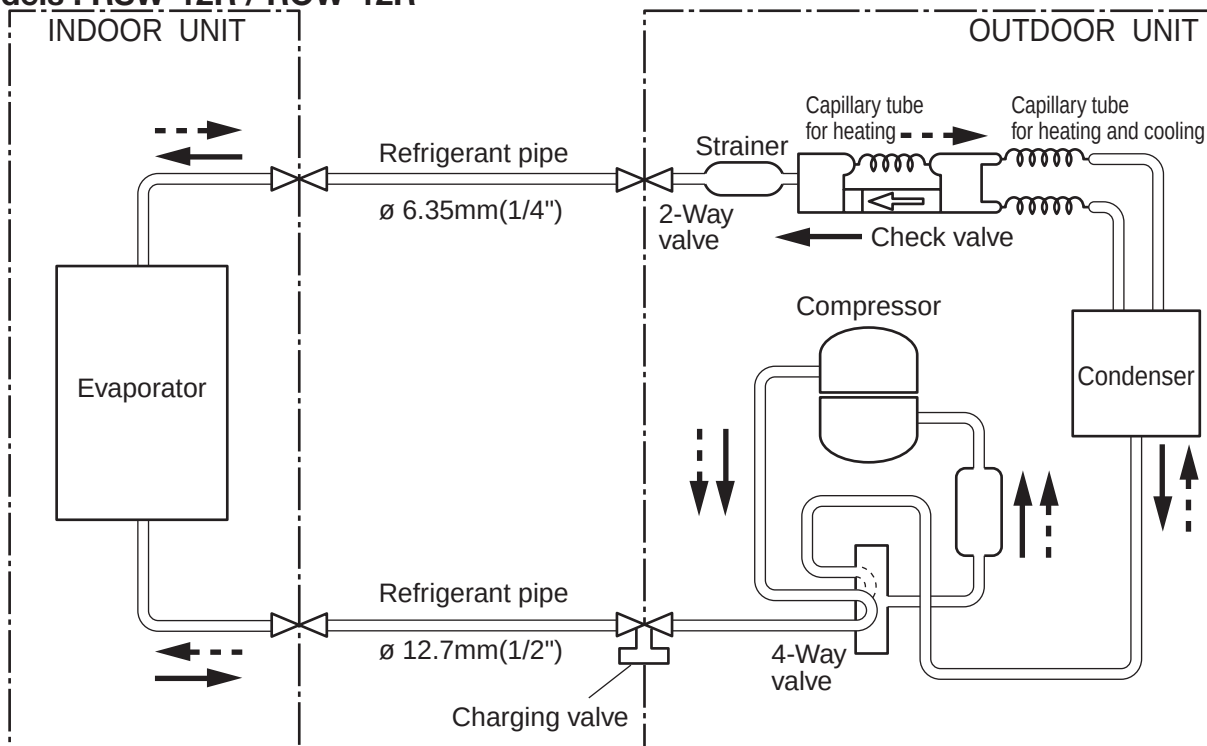


→ Cooling
 - - - - - Heating
 ∇ : Flare coupling

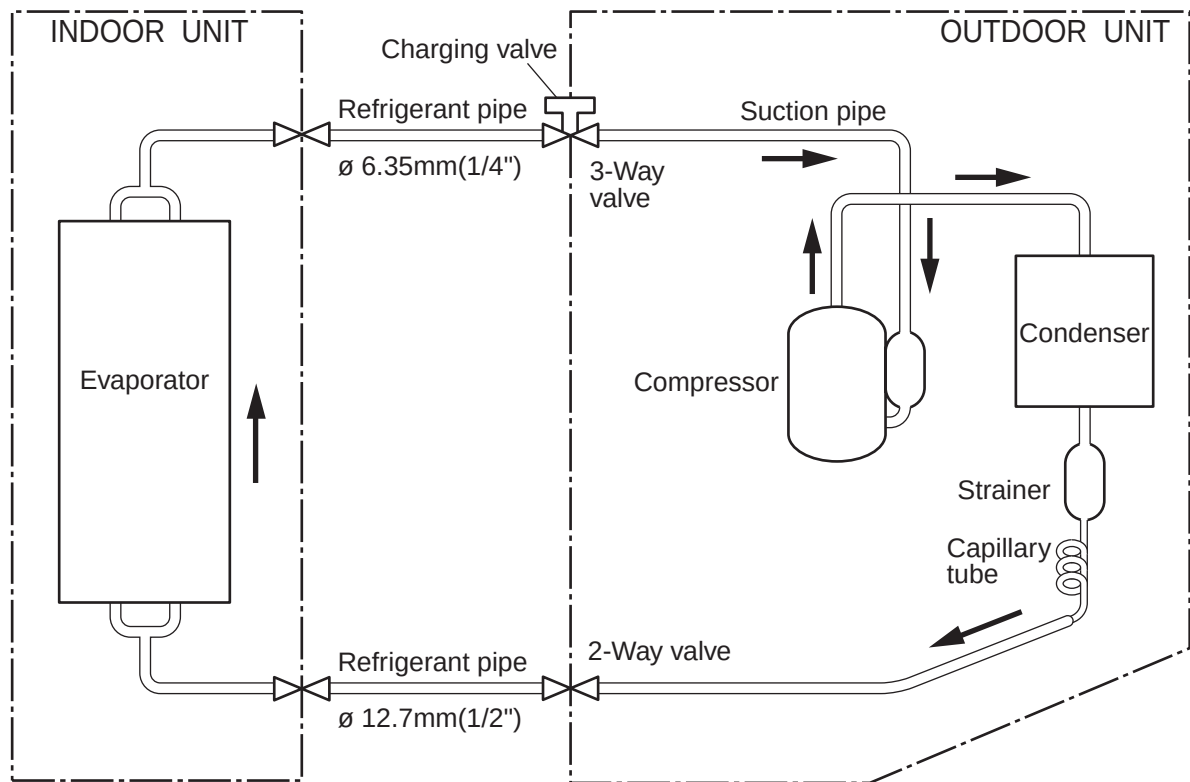
Models : RSW-12 / ROW-12



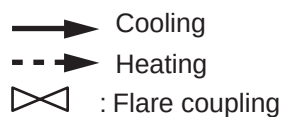
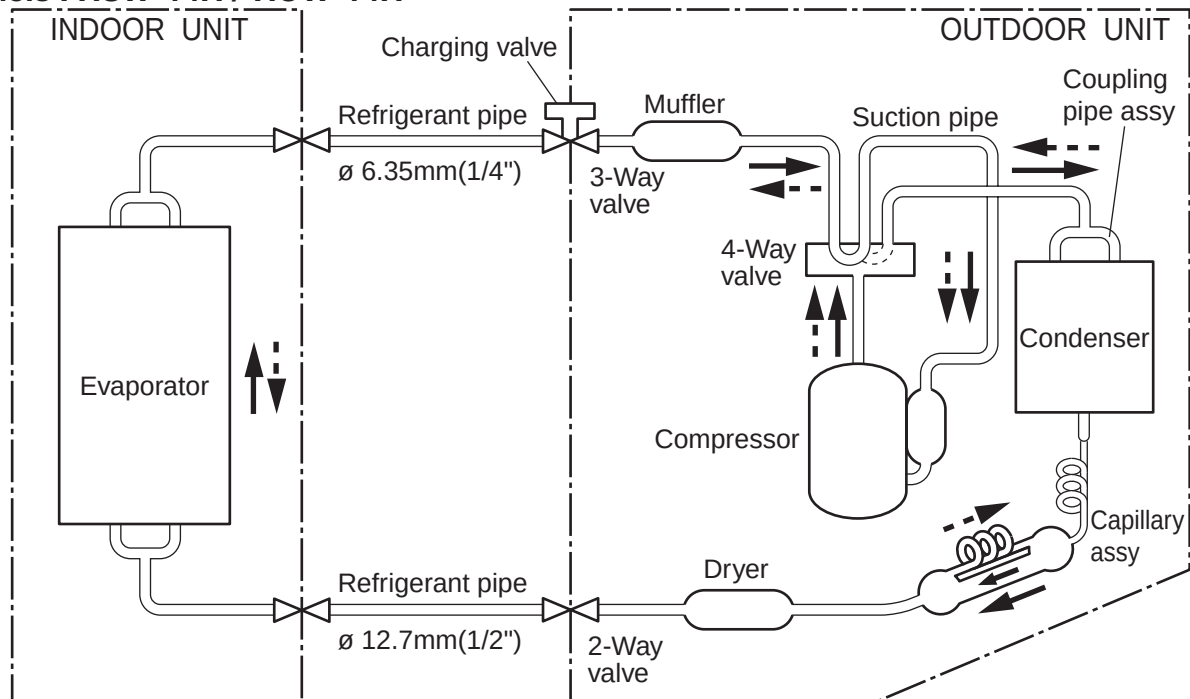
Models : RSW-12R / ROW-12R



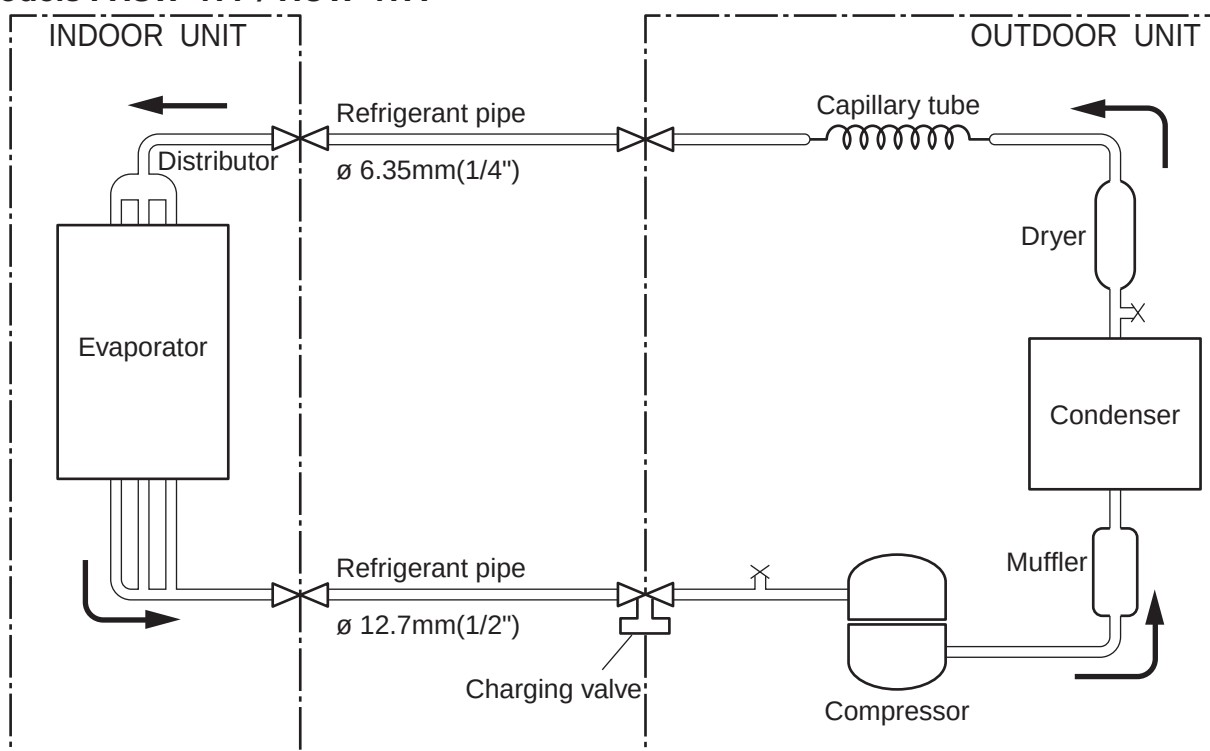
Models : RSW-14 / ROW-14



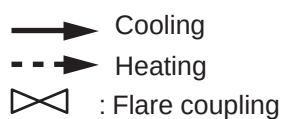
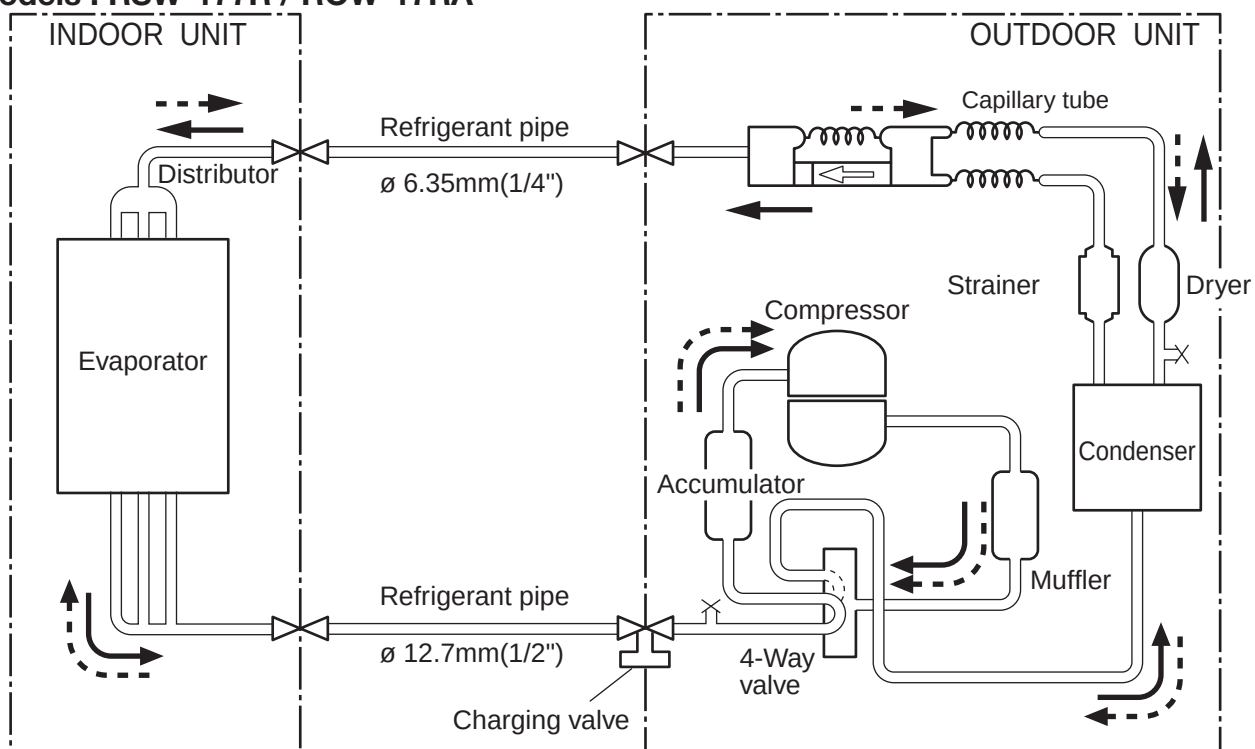
Models : RSW-14R / ROW-14R



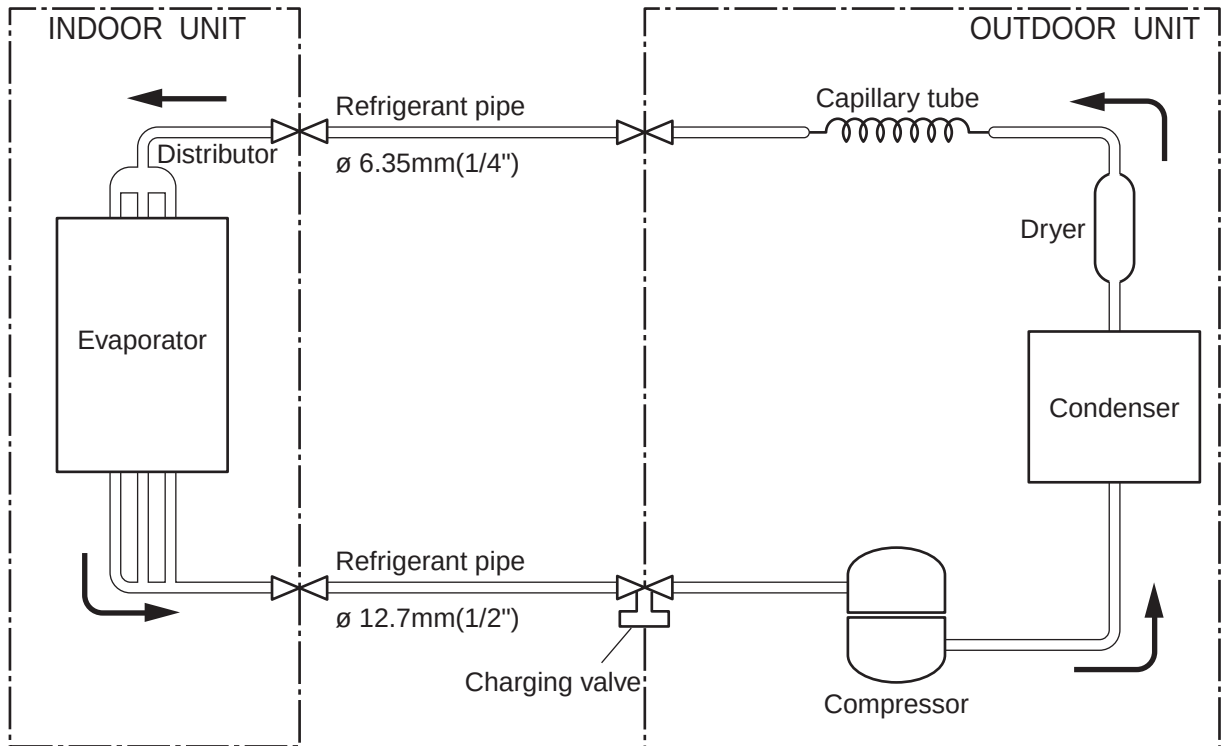
Models : RSW-177 / ROW-17A



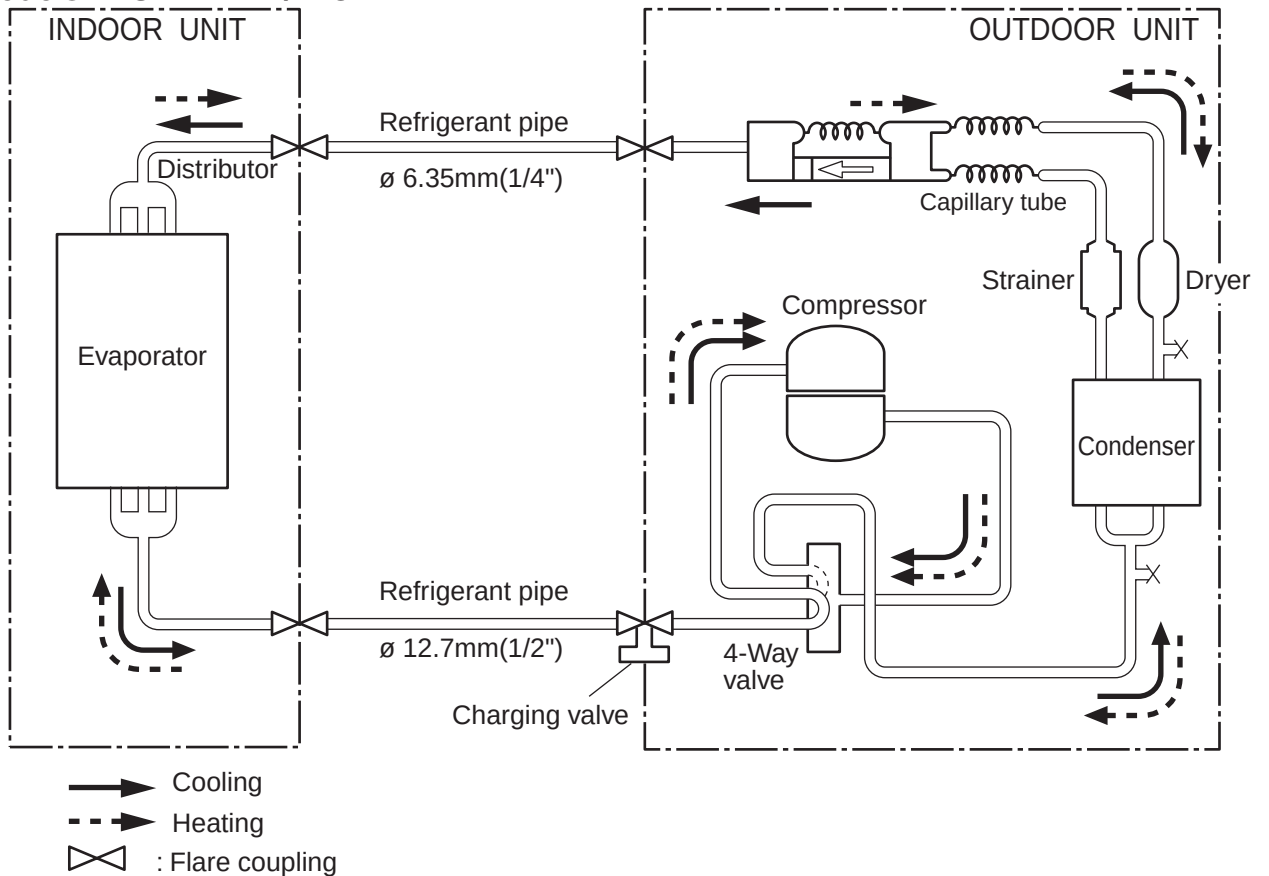
Models : RSW-177R / ROW-17RA



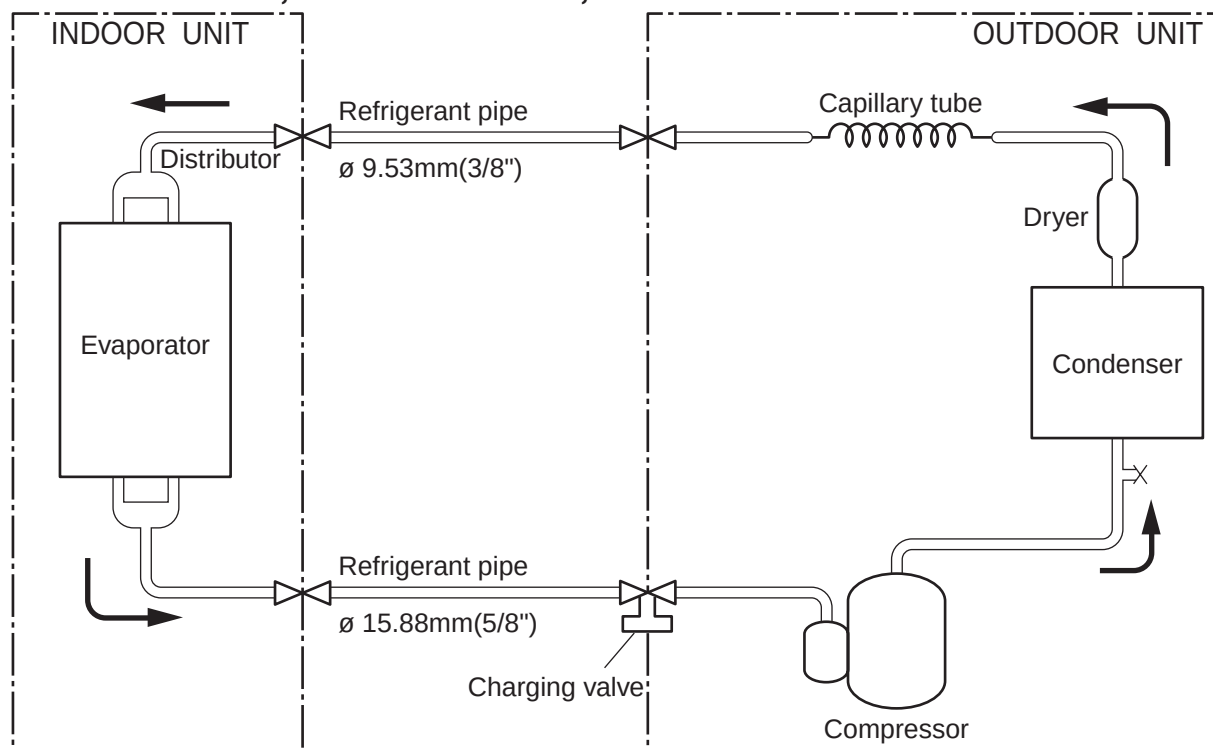
Models : RSW-17AB / ROW-17AB



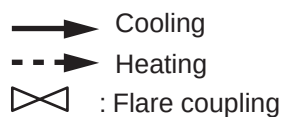
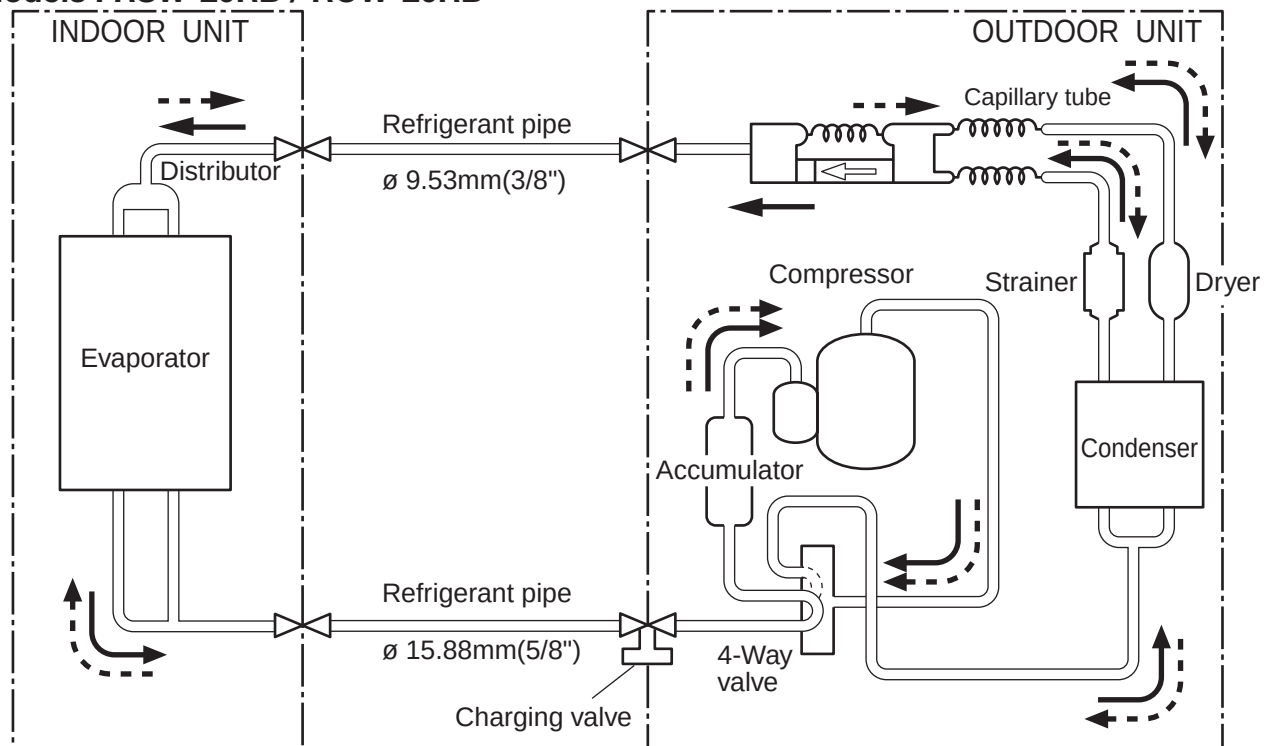
Models : RSW-17RB / ROW-17RB



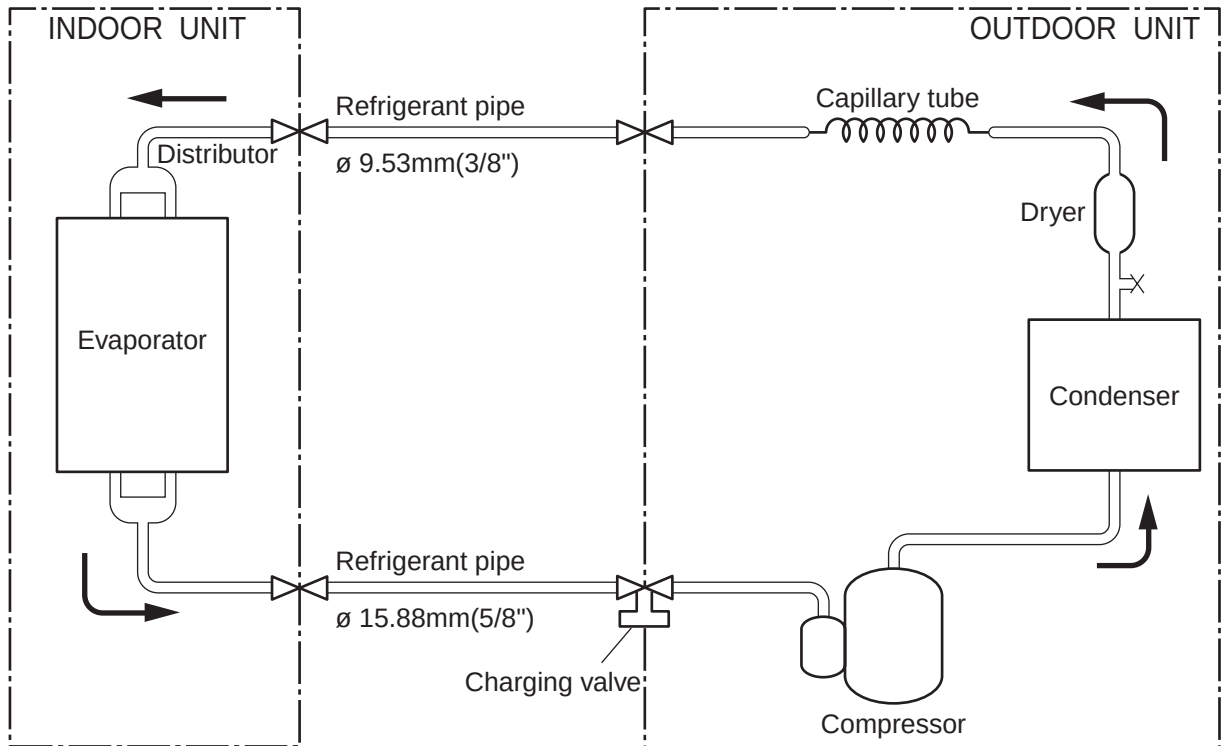
Models : RSW-20AB, 20AD / ROW-20AB, 20AD



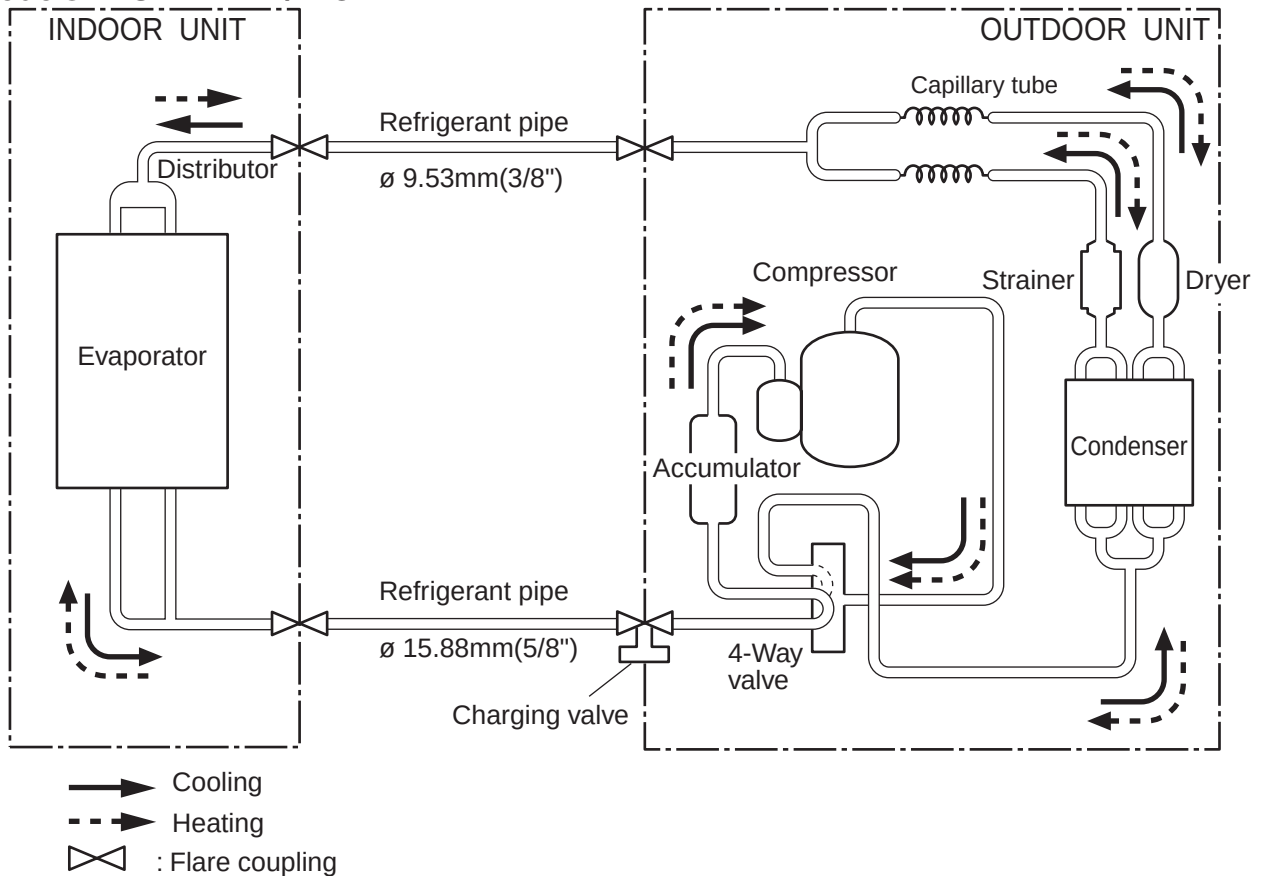
Models : RSW-20RB / ROW-20RB



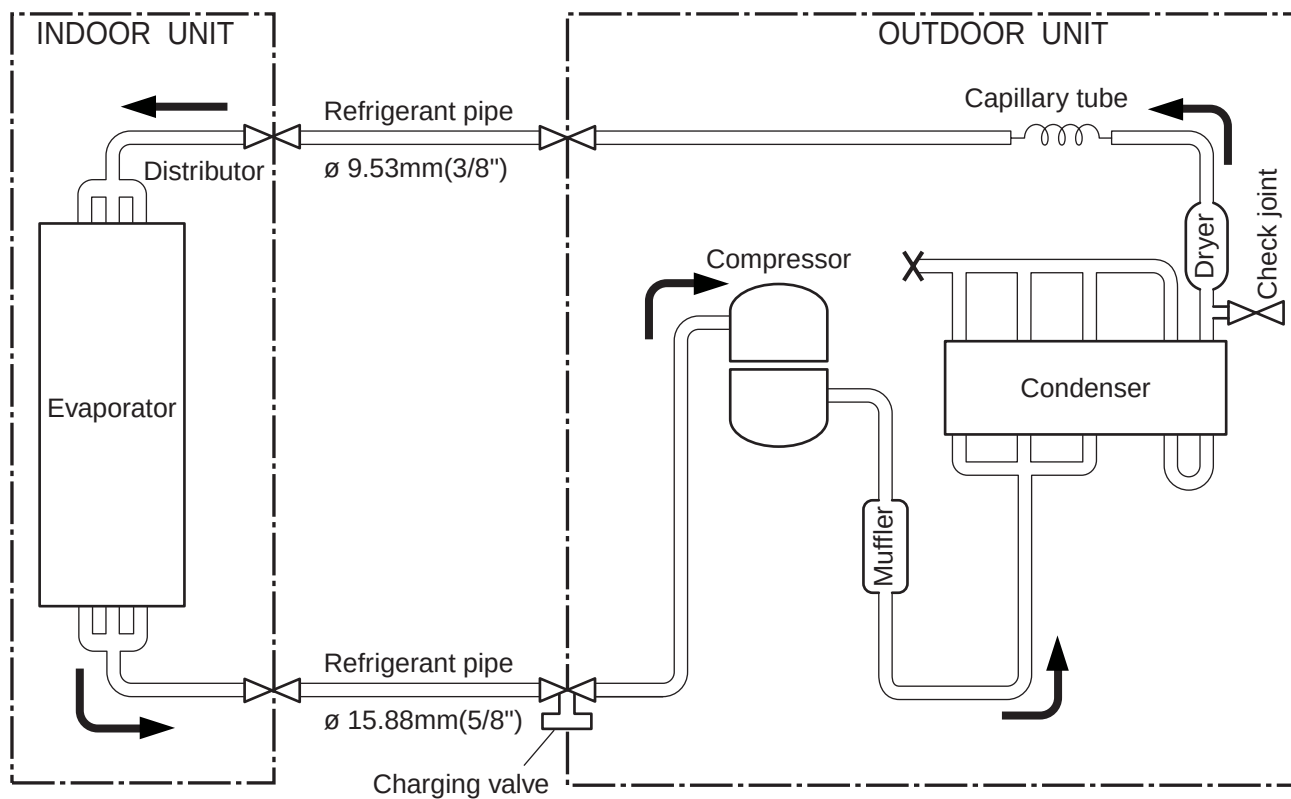
Models : RSW-24AB / ROW-24AB



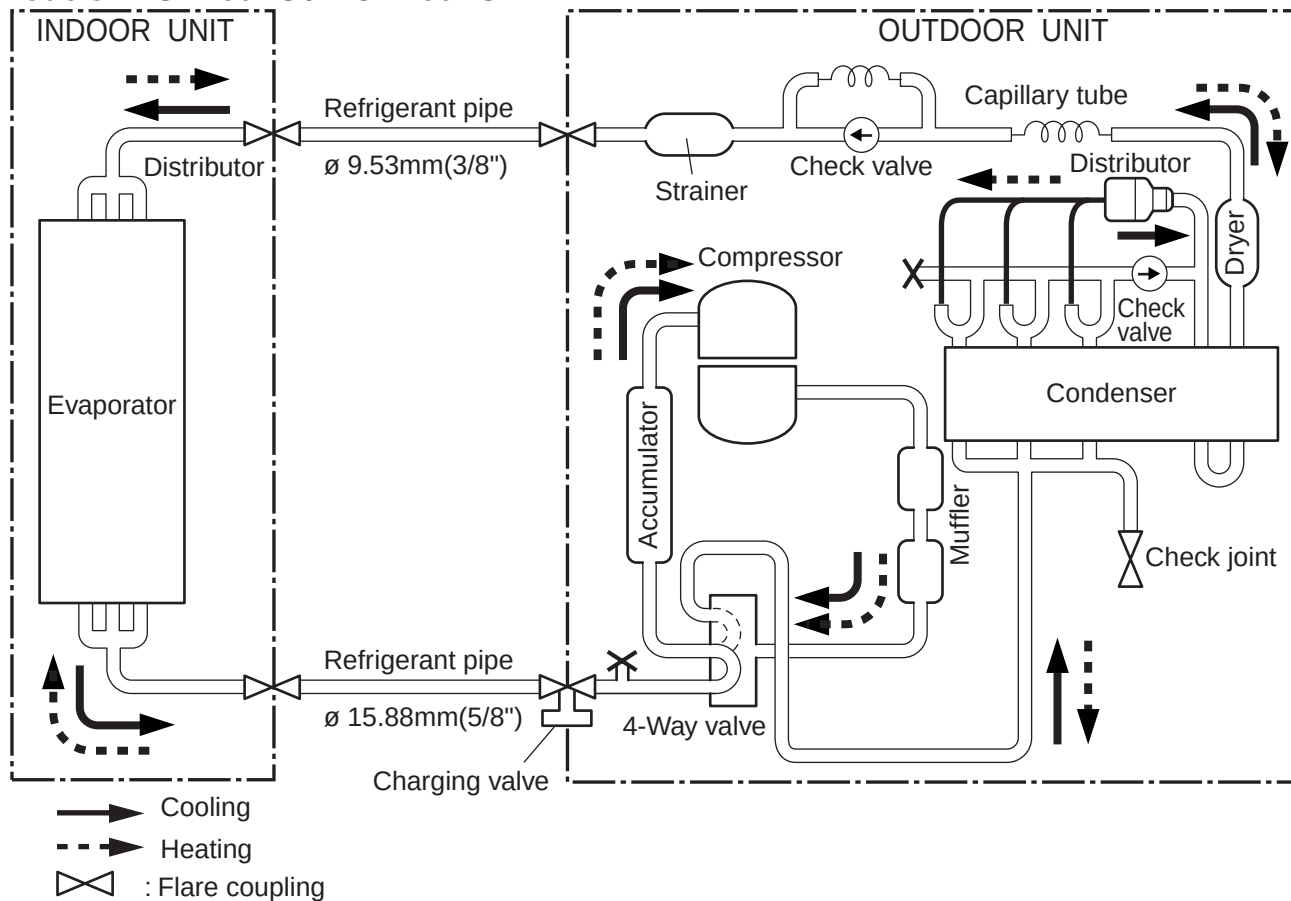
Models : RSW-24RD / ROW-24RD



Models : RSW-30S / ROW-30S

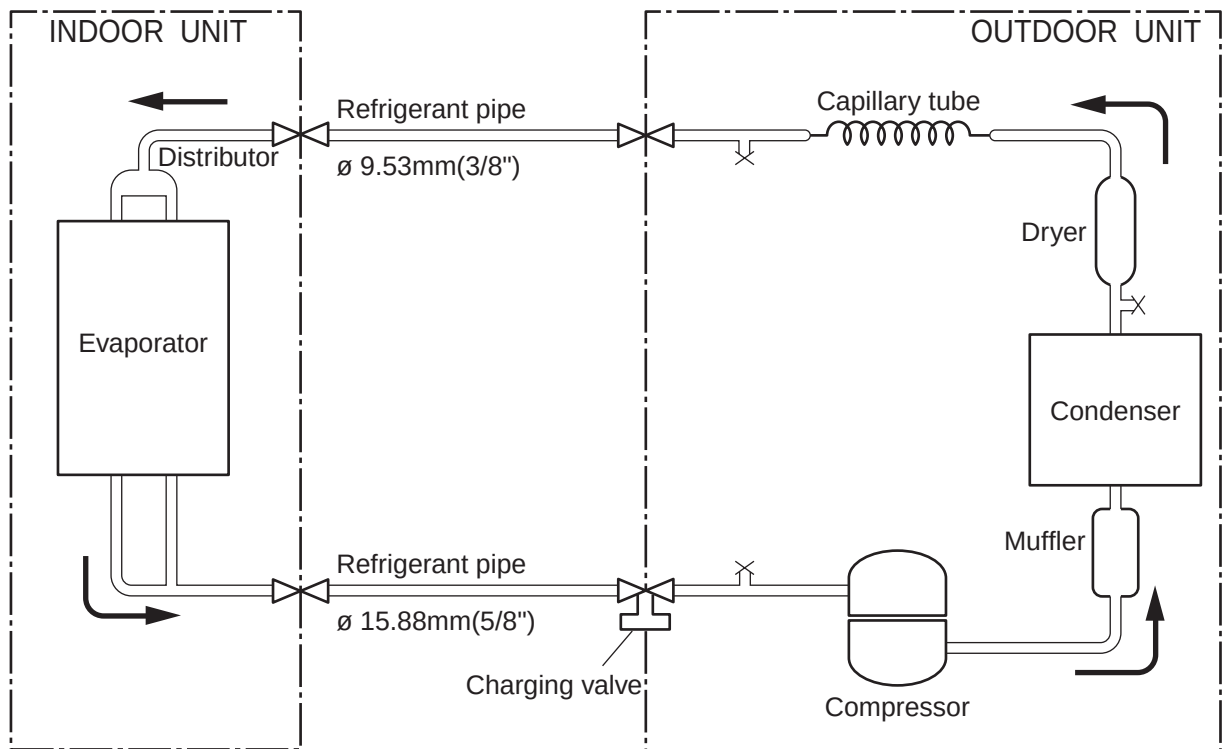


Models : RSW-30RS / ROW-30RS

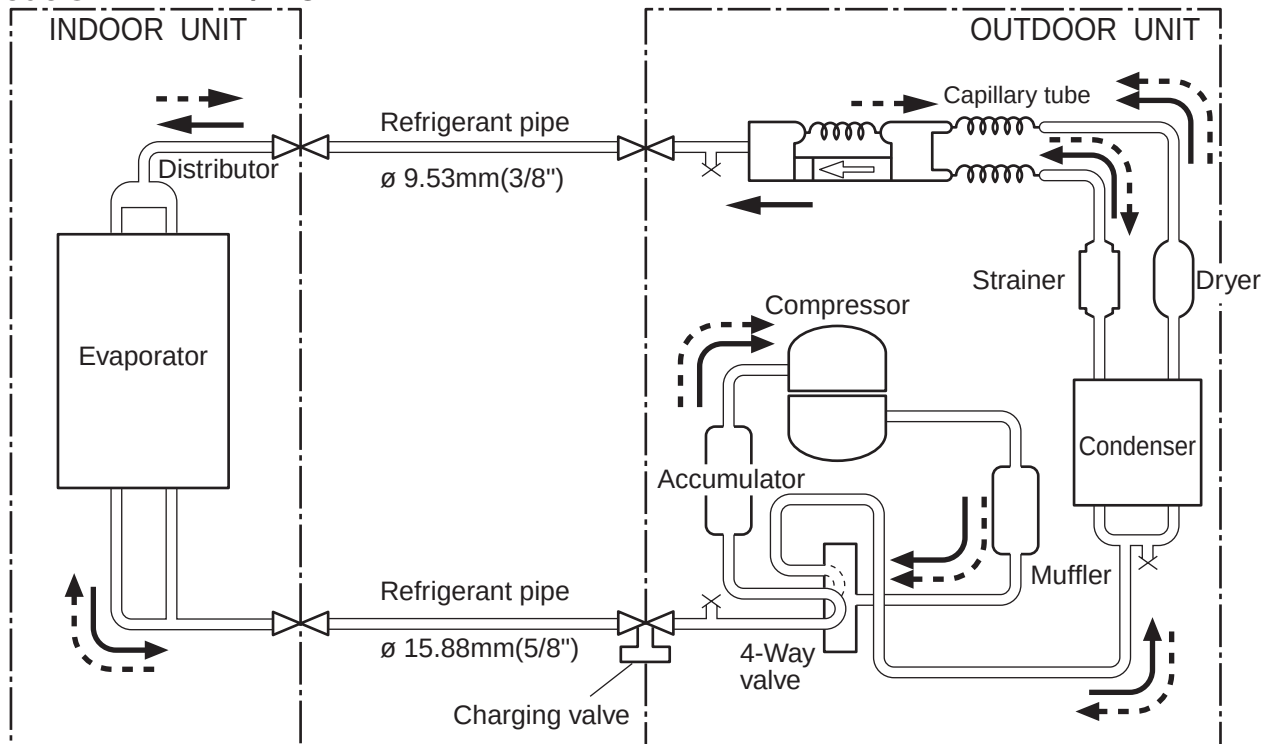


5.1.4 FLOOR / CEILING UNIVERSAL TYPE

Models : RYT-24 / ROW-24

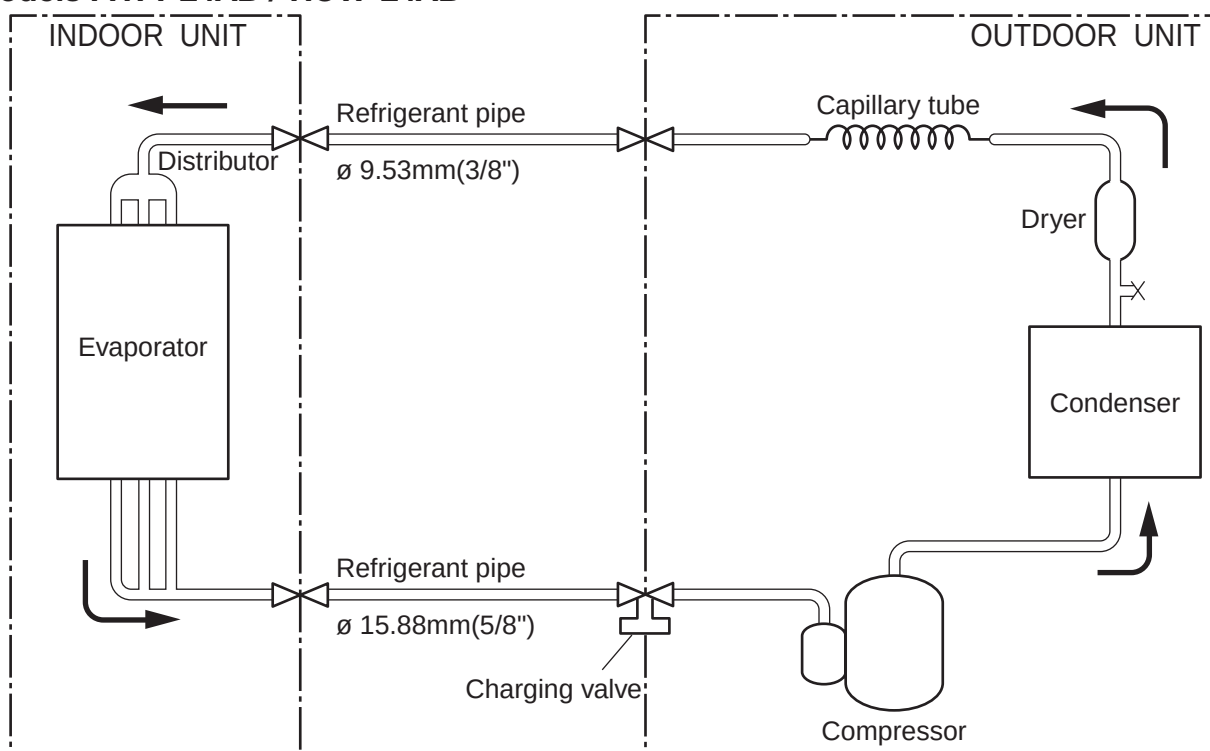


Models : RYT-24R / ROW-24R

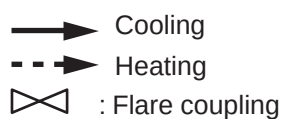
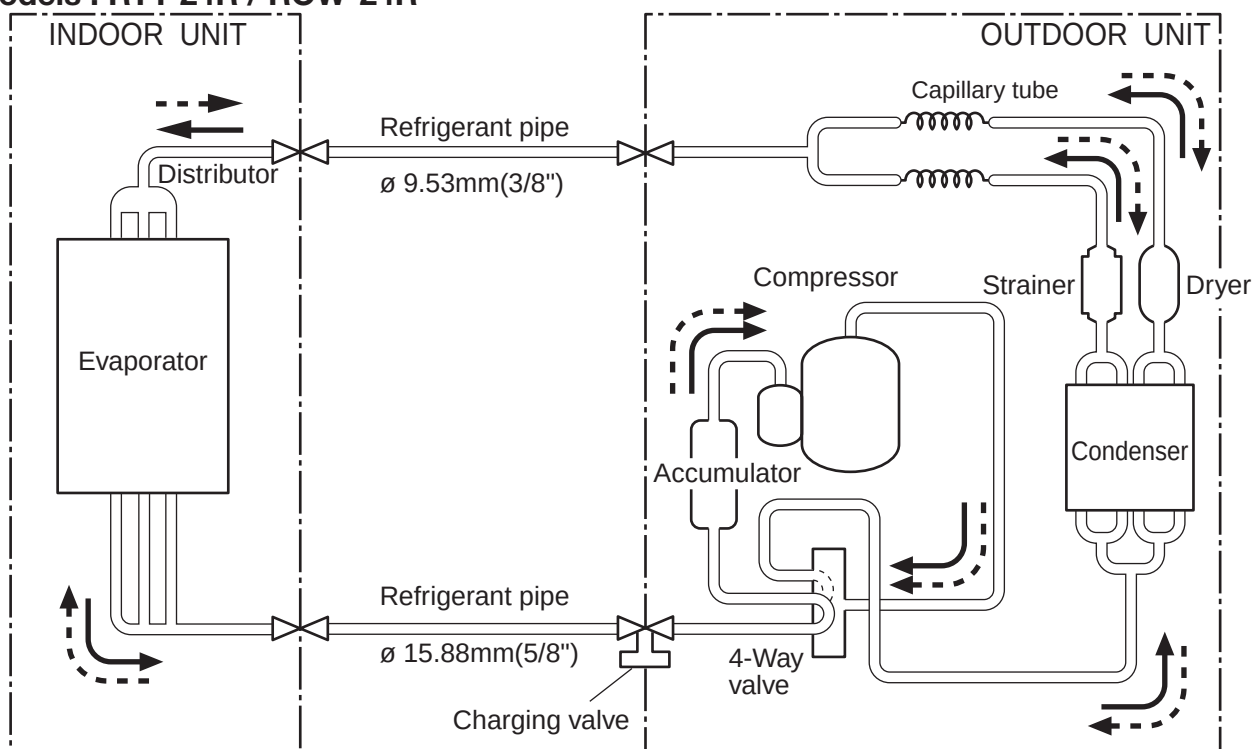


—————> Cooling
 - - - - -> Heating
 X : Flare coupling

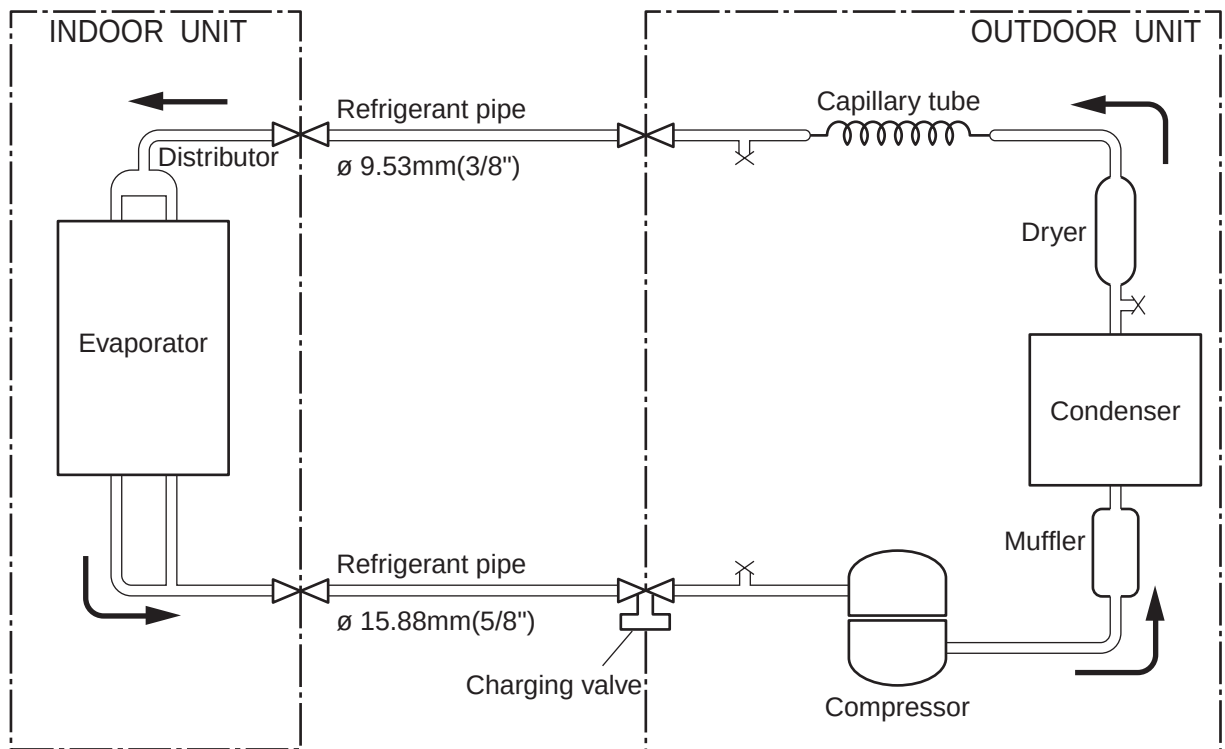
Models : RYT-24AB / ROW-24AB



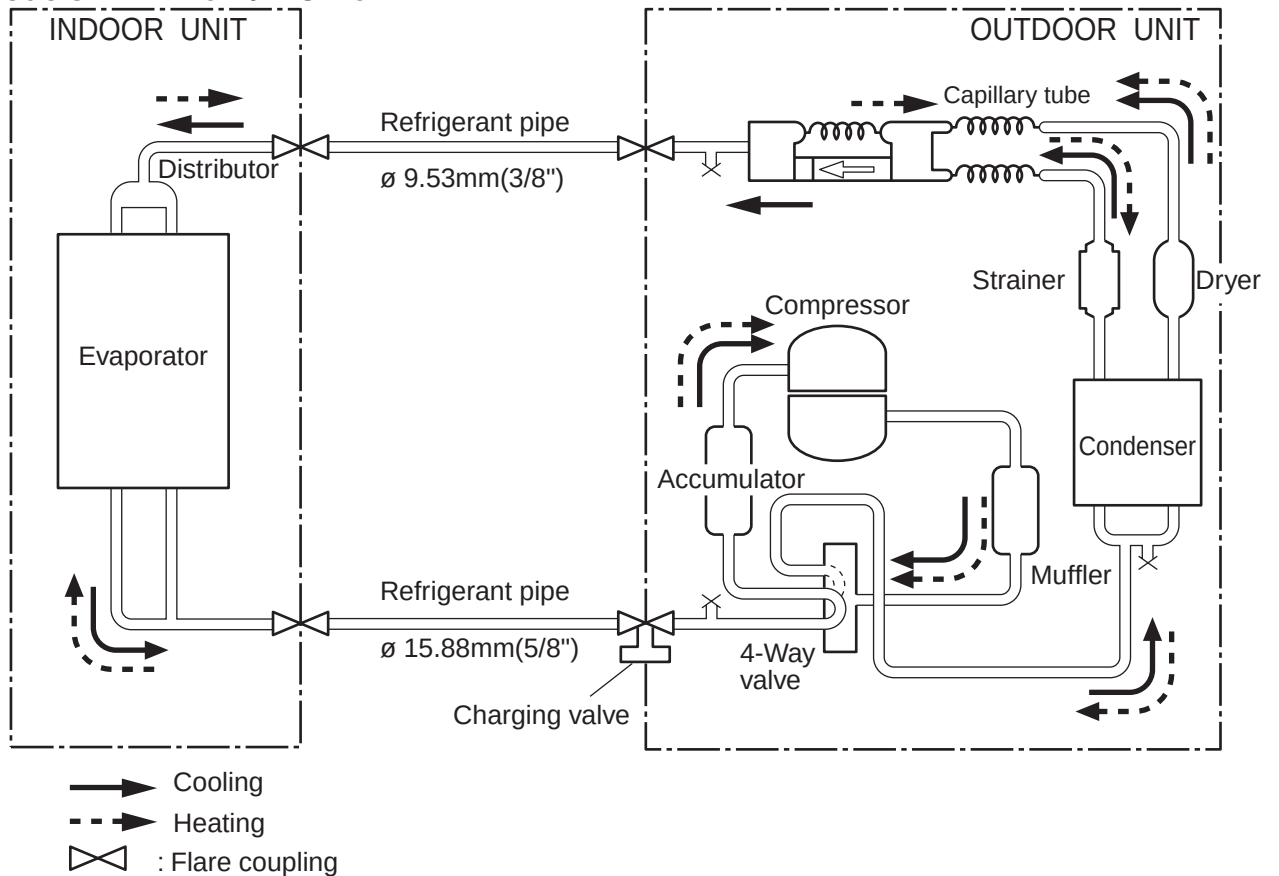
Models : RYT-24R / ROW-24R



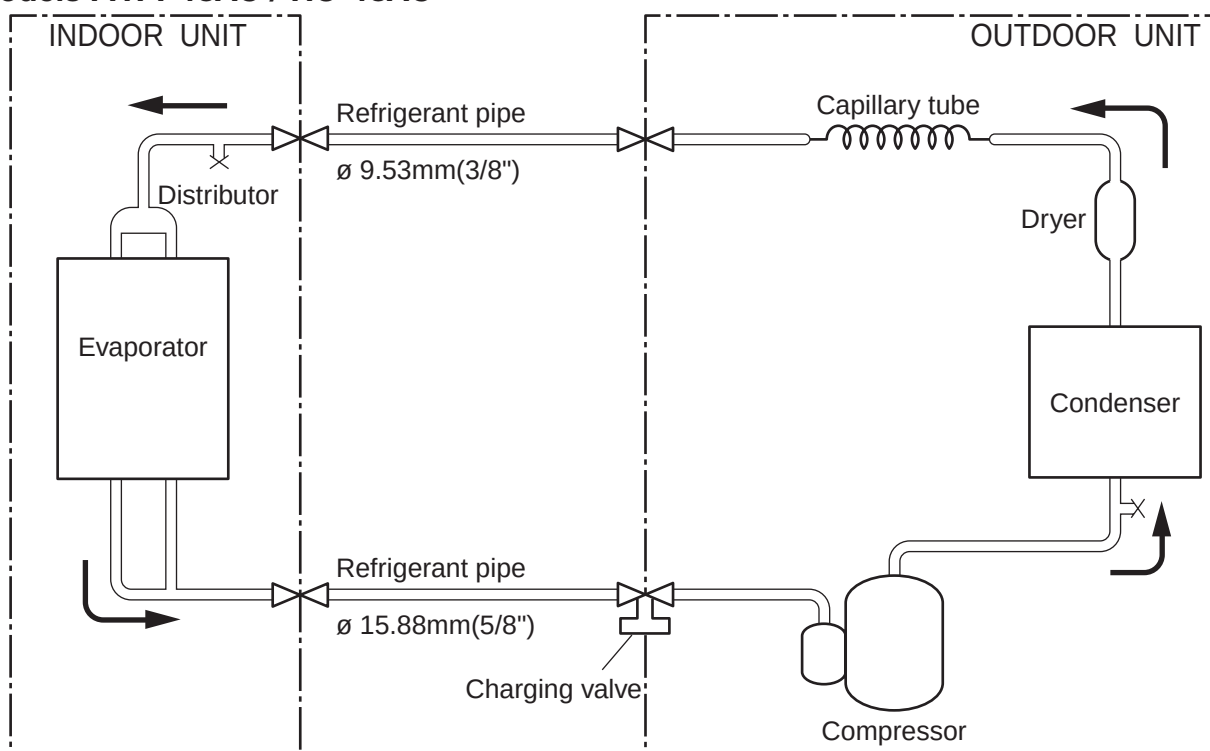
Models : RYT-18 / RO-18



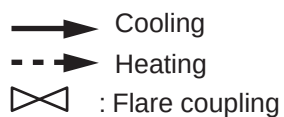
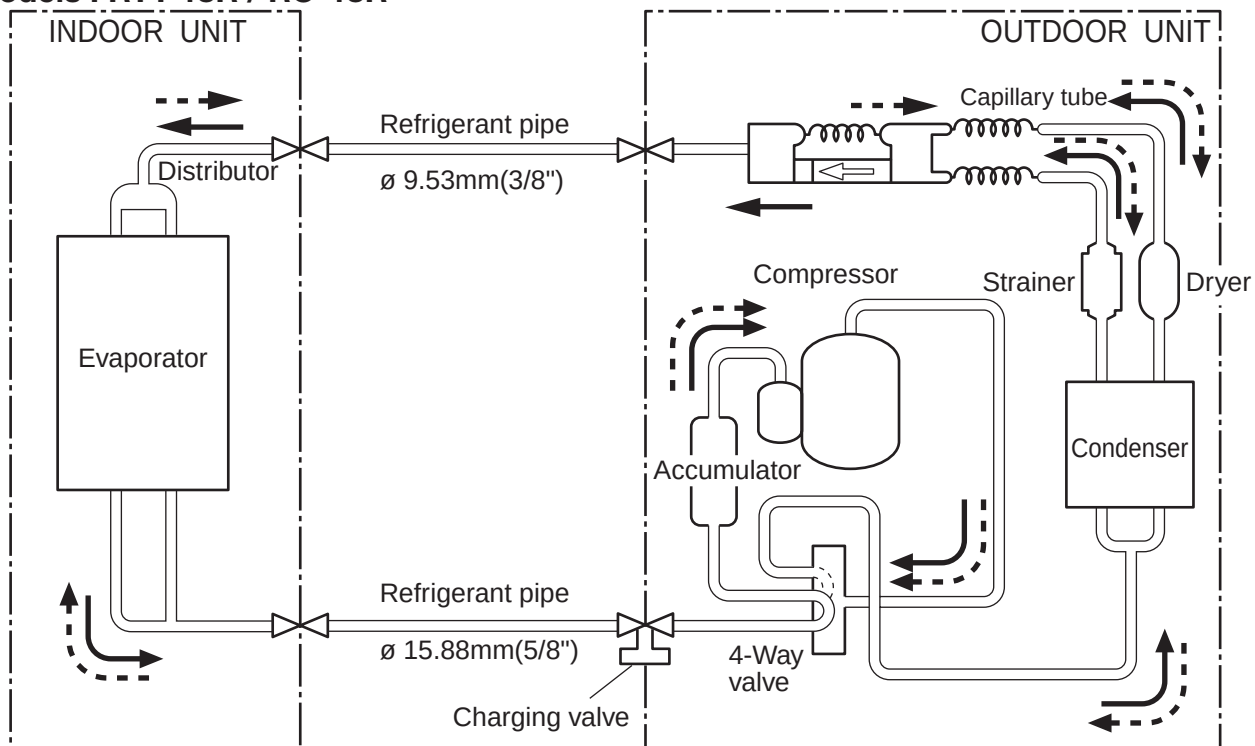
Models : RYT-18R / RO-18R



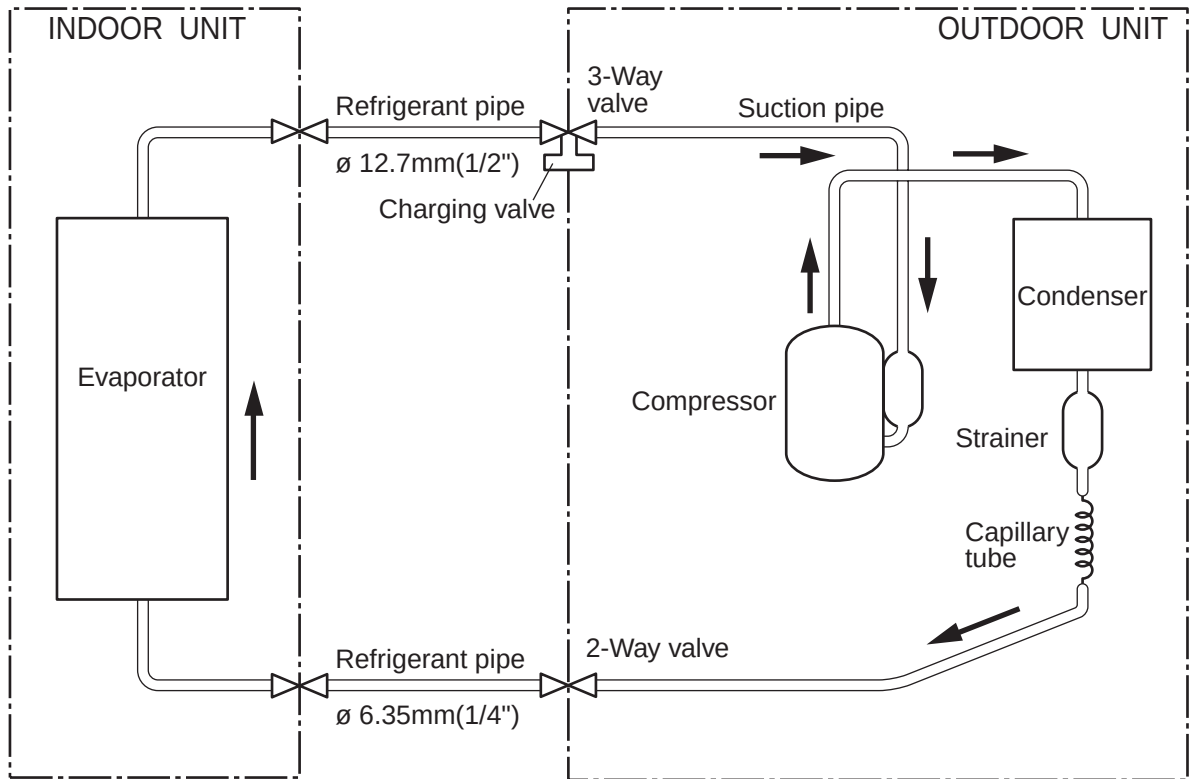
Models : RYT-18AC / RO-18AC



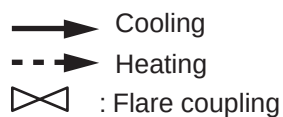
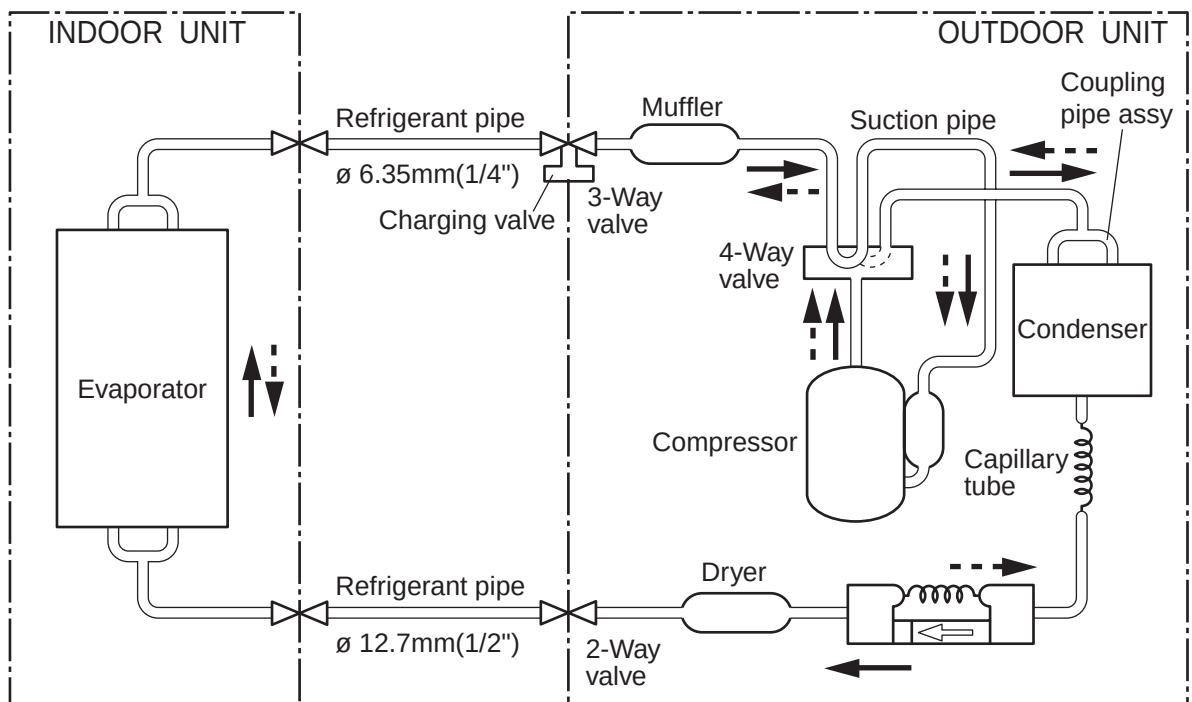
Models : RYT-18R / RO-18R



Models : RYT-14 / RO-14



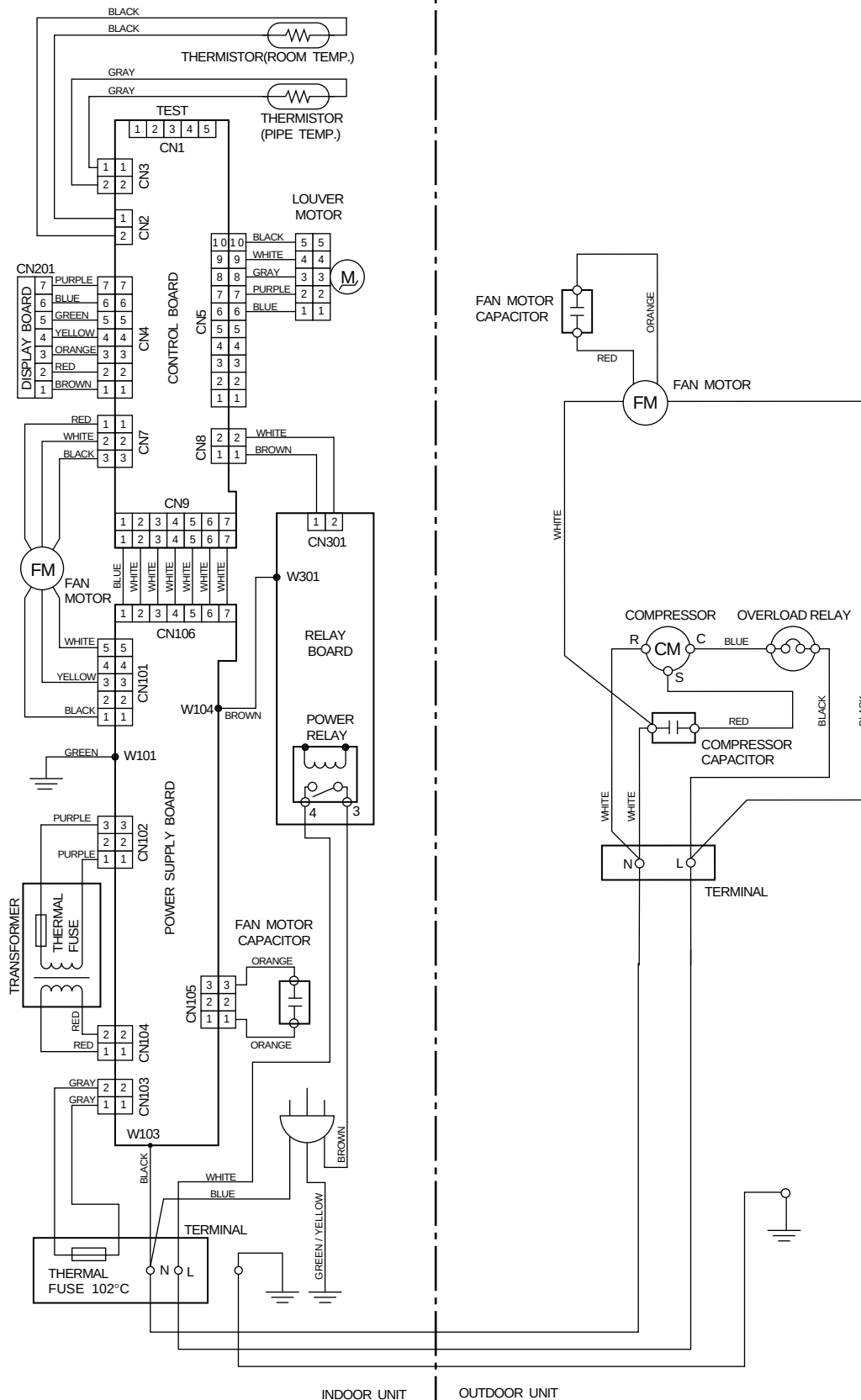
Models : RYT-14R / RO-14R



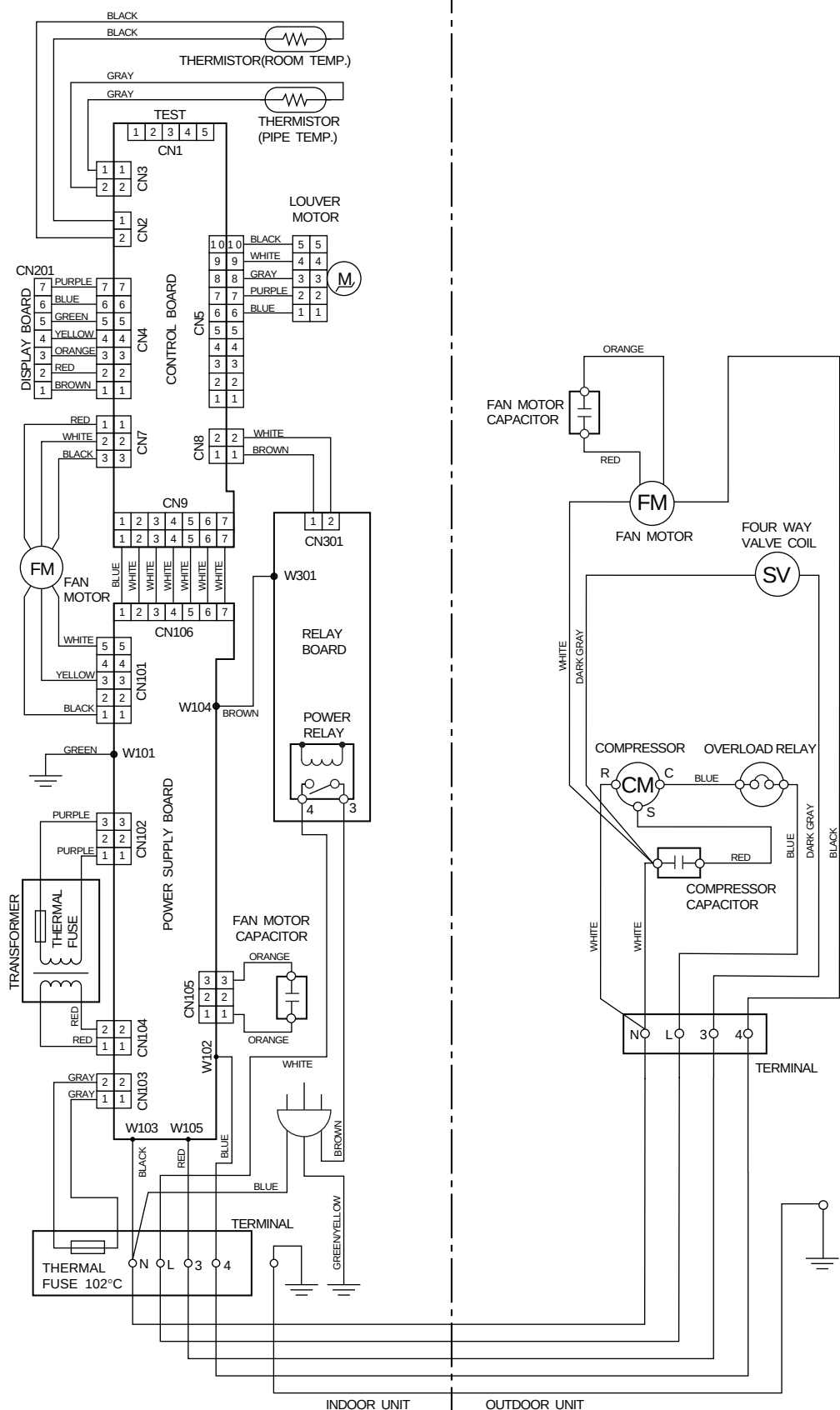
5.2 CIRCUIT DIAGRAM

5.2.1 COMPACT SII SERIES

Models : RSW-7 / ROW-7

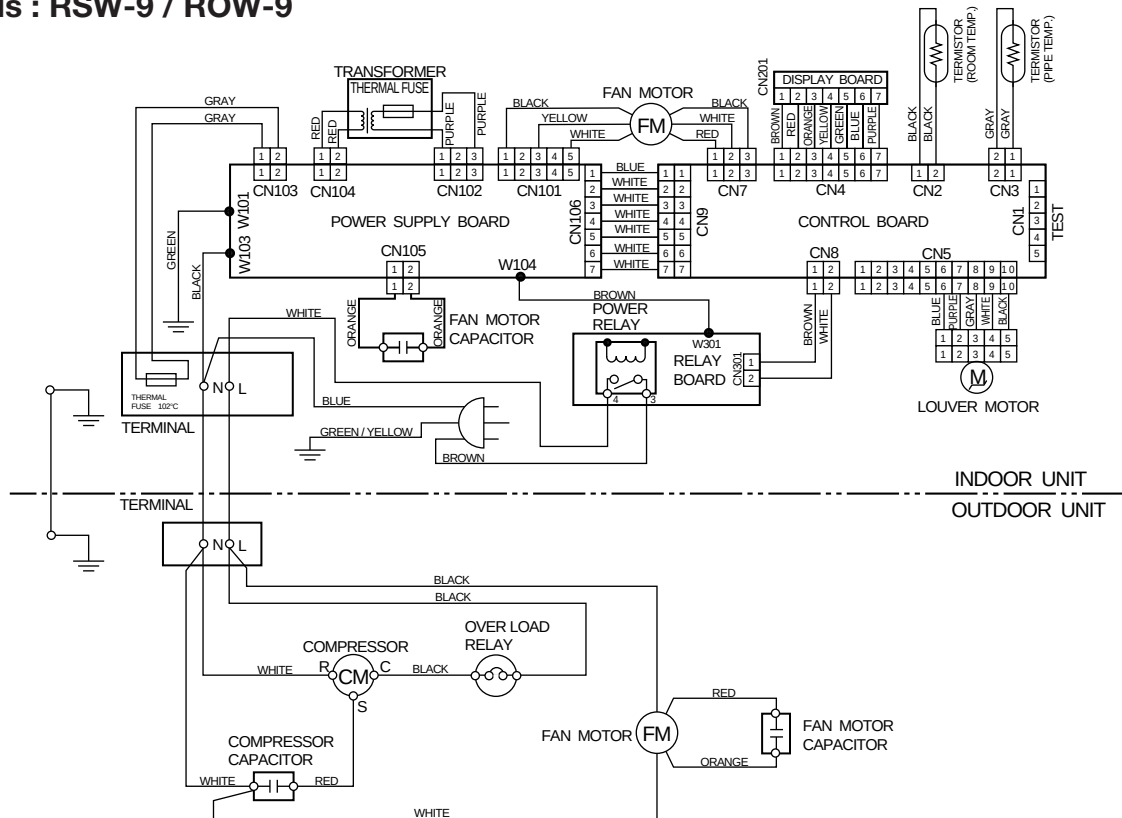


Models : RSW-7R / ROW-7R

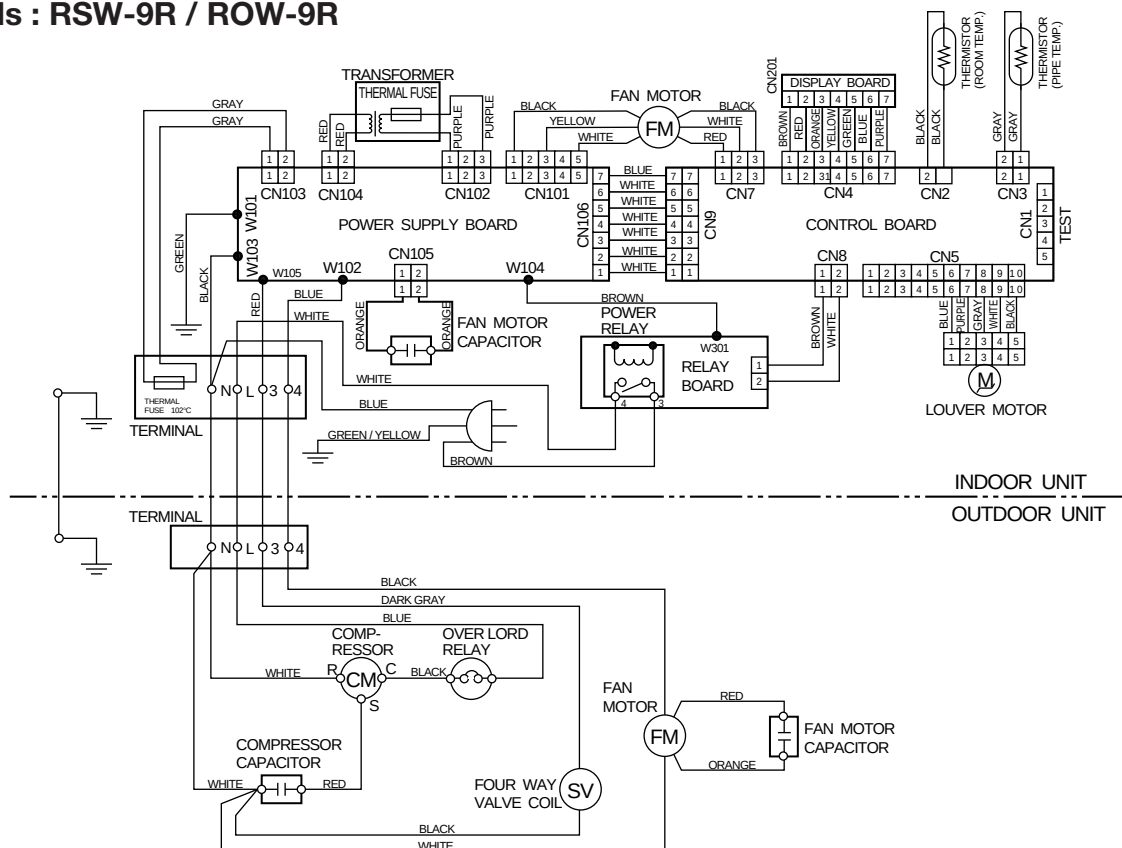


5.2.2 COMPACT MII SERIES

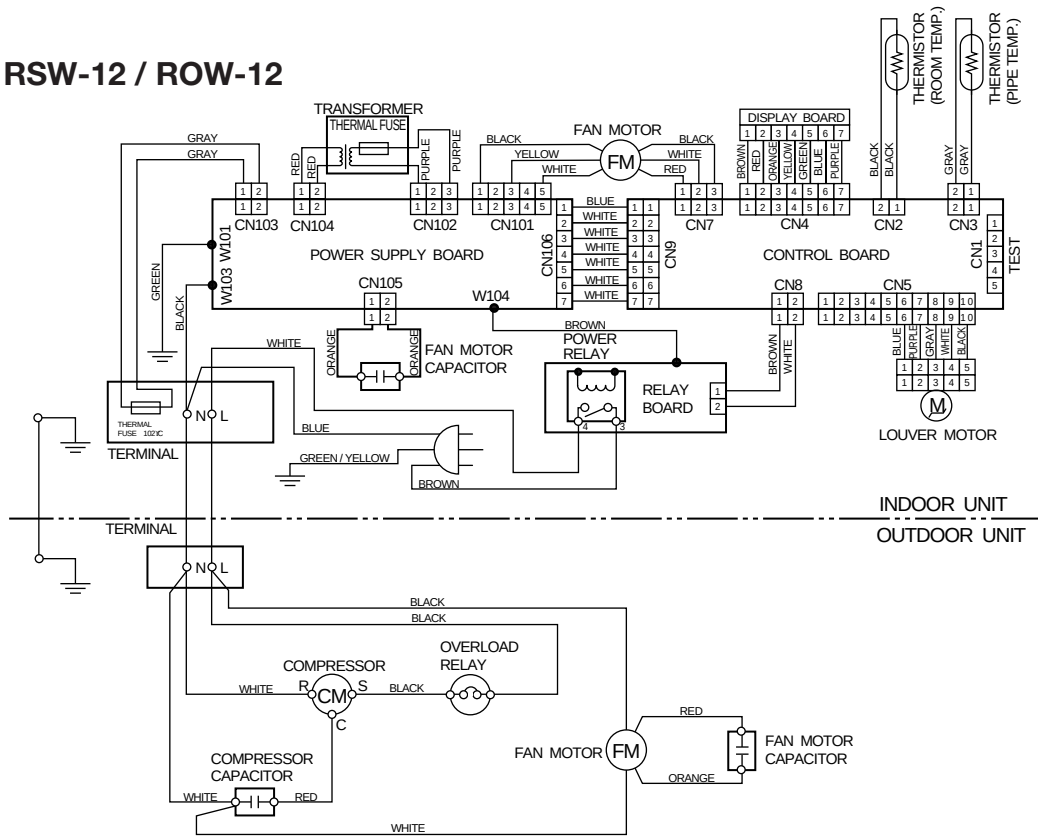
Models : RSW-9 / ROW-9



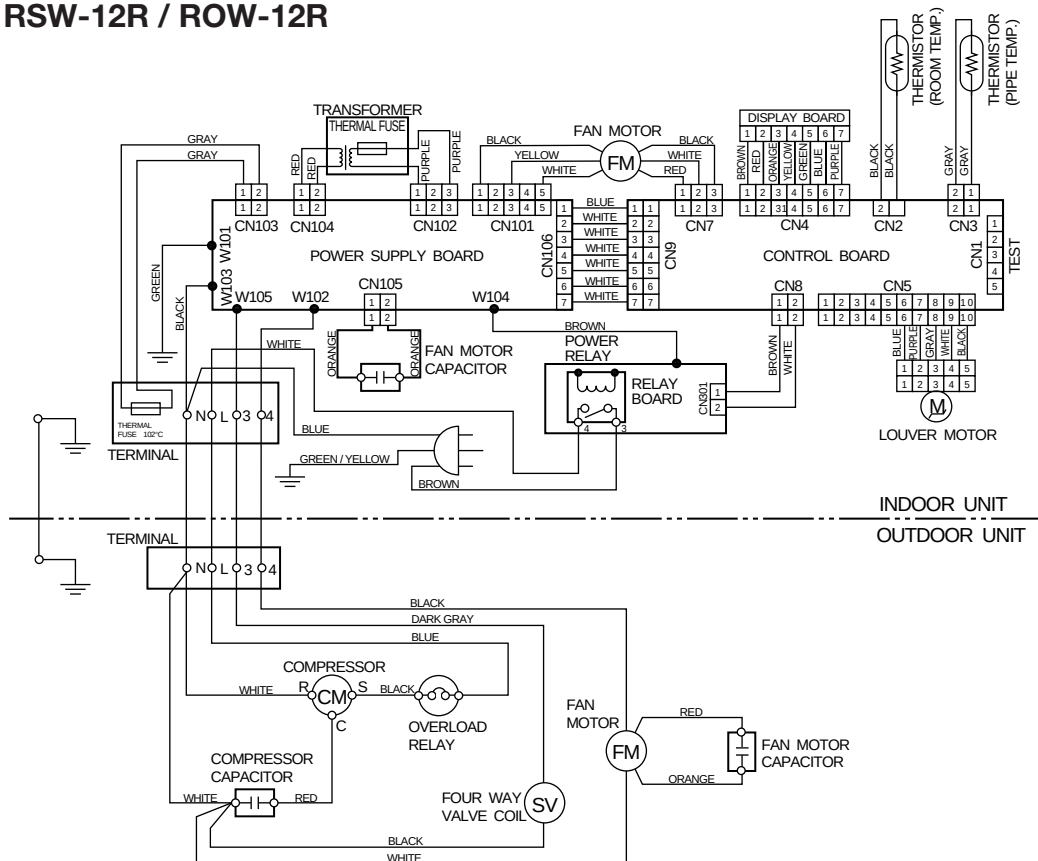
Models : RSW-9R / ROW-9R



Models : RSW-12 / ROW-12

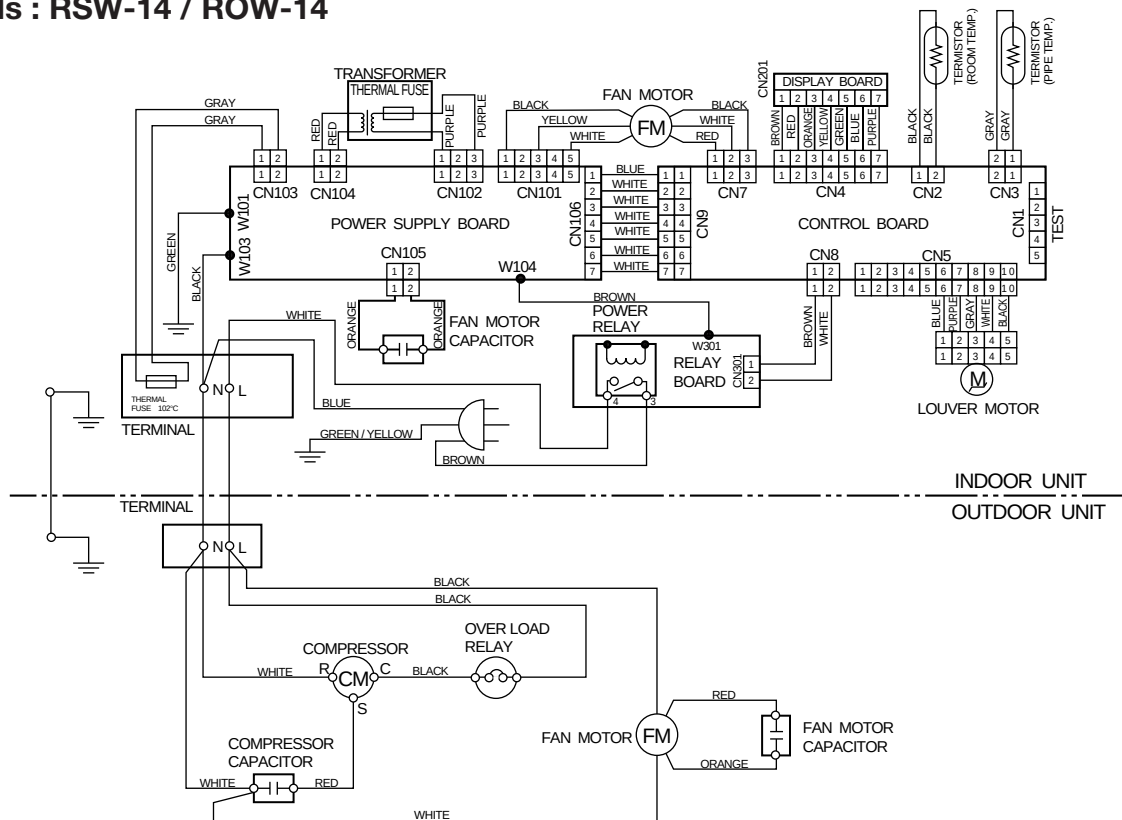


Models : RSW-12R / ROW-12R

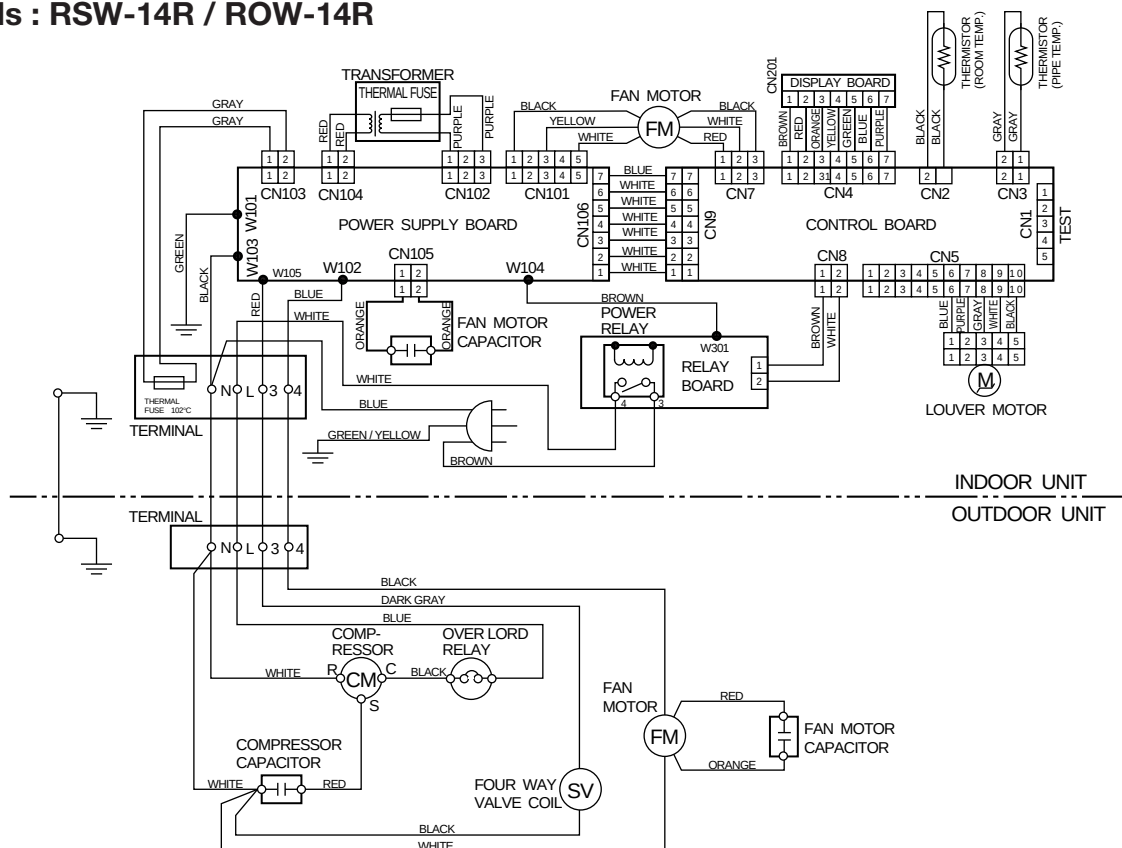


5.2.3 COMPACT LI SERIES

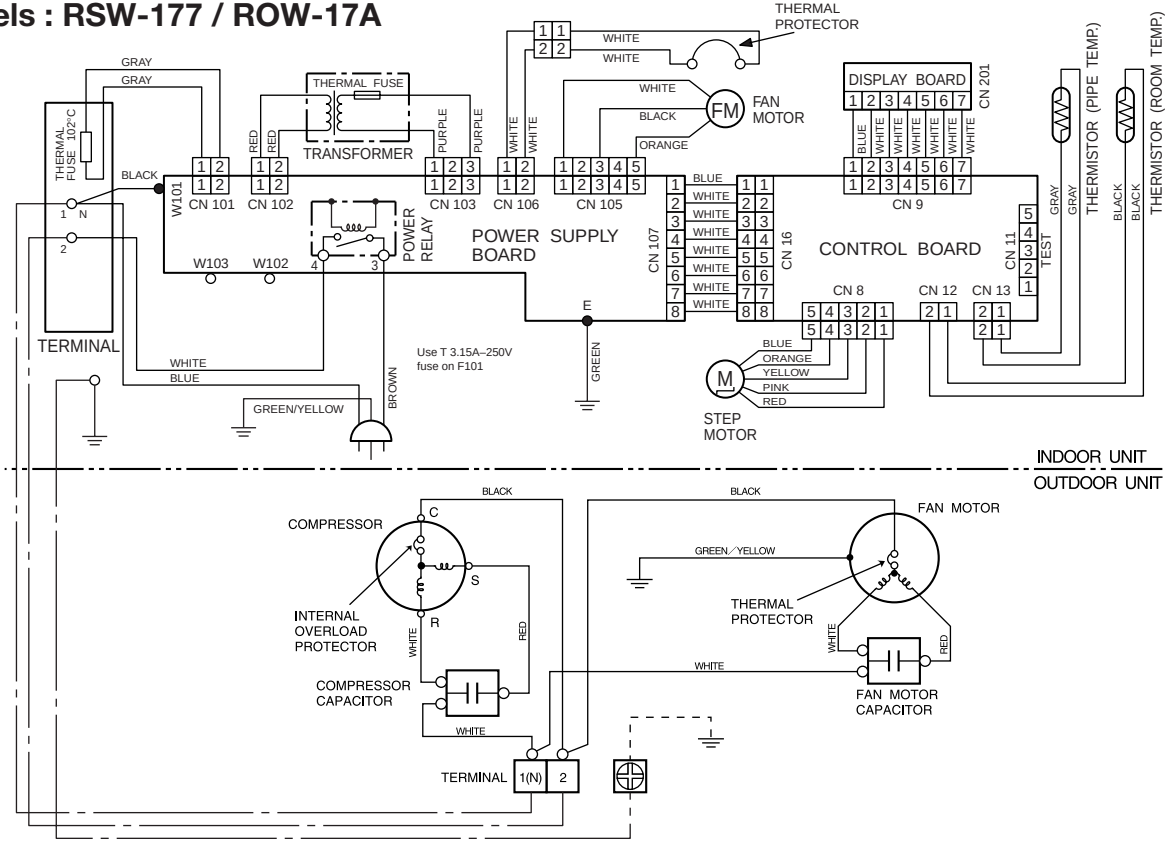
Models : RSW-14 / ROW-14



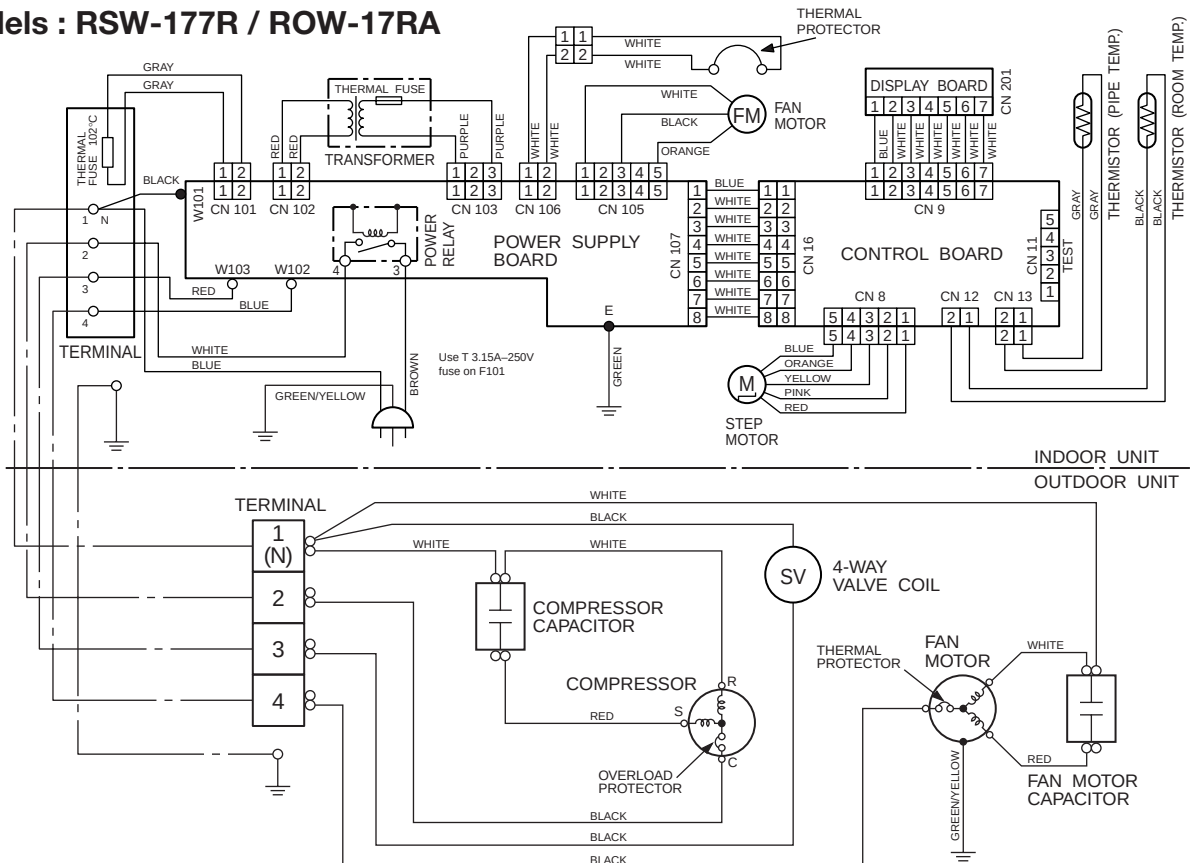
Models : RSW-14R / ROW-14R



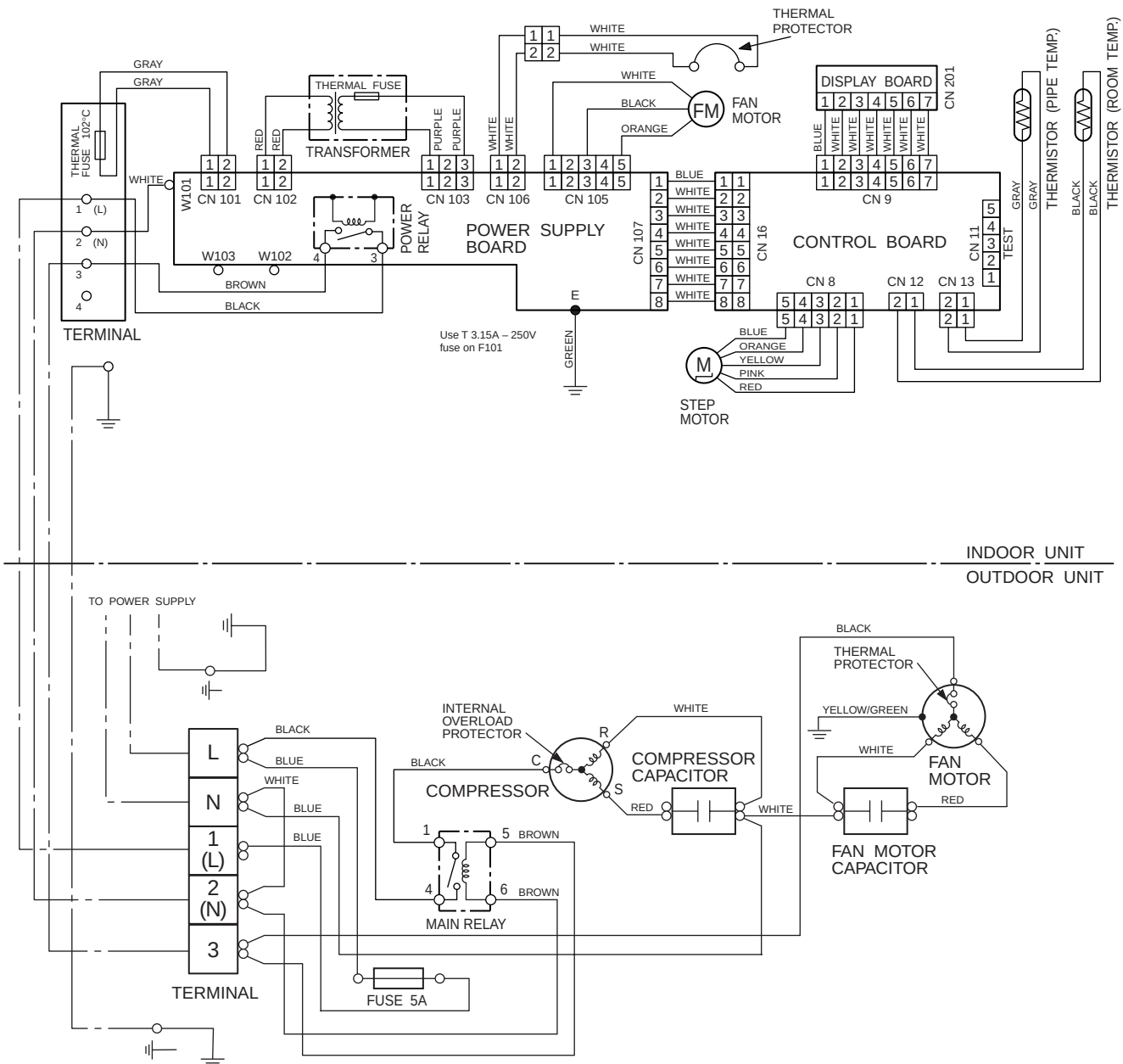
Models : RSW-177 / ROW-17A



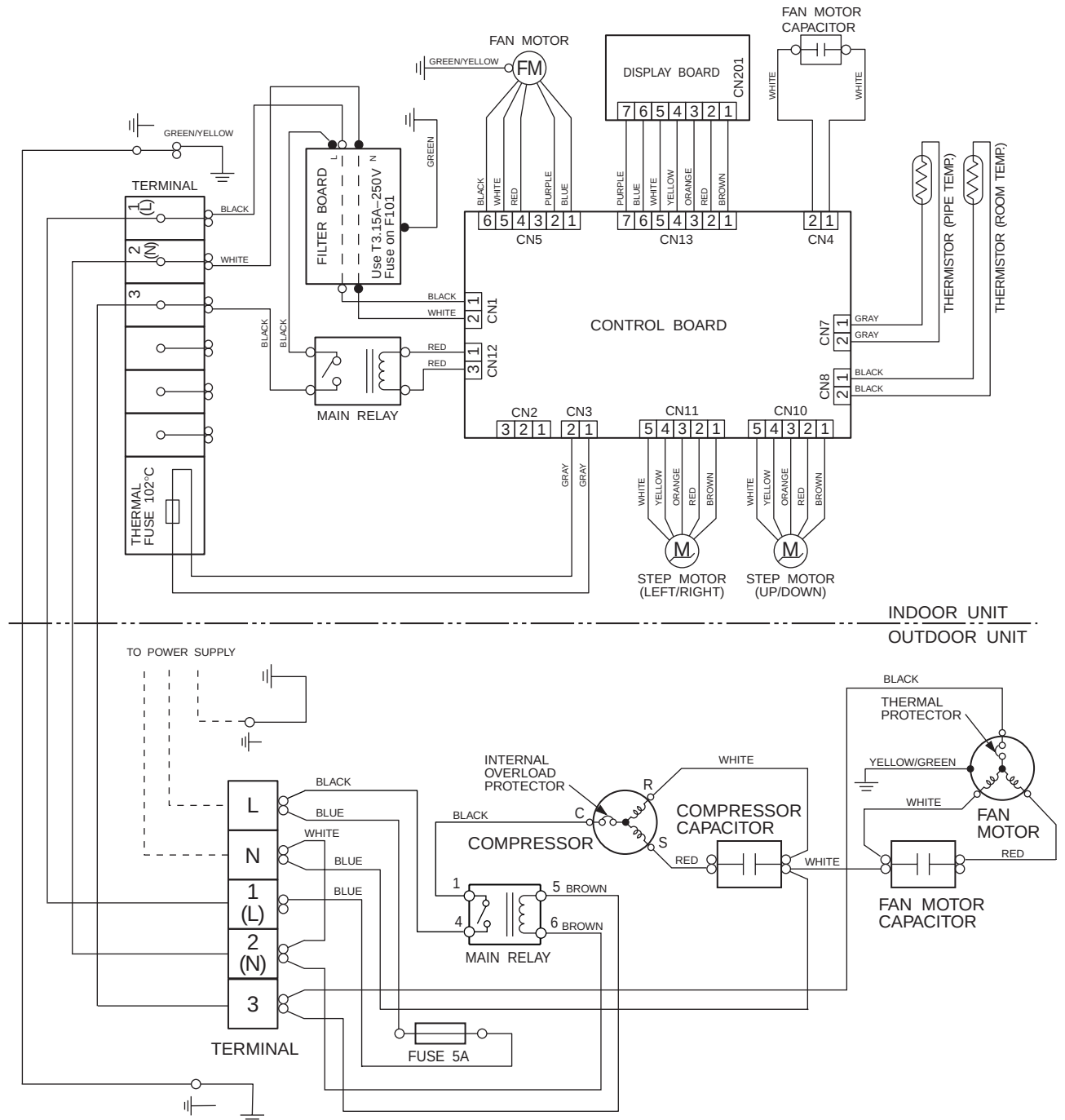
Models : RSW-177R / ROW-17RA



Models : RSW-17AB / ROW-17AB

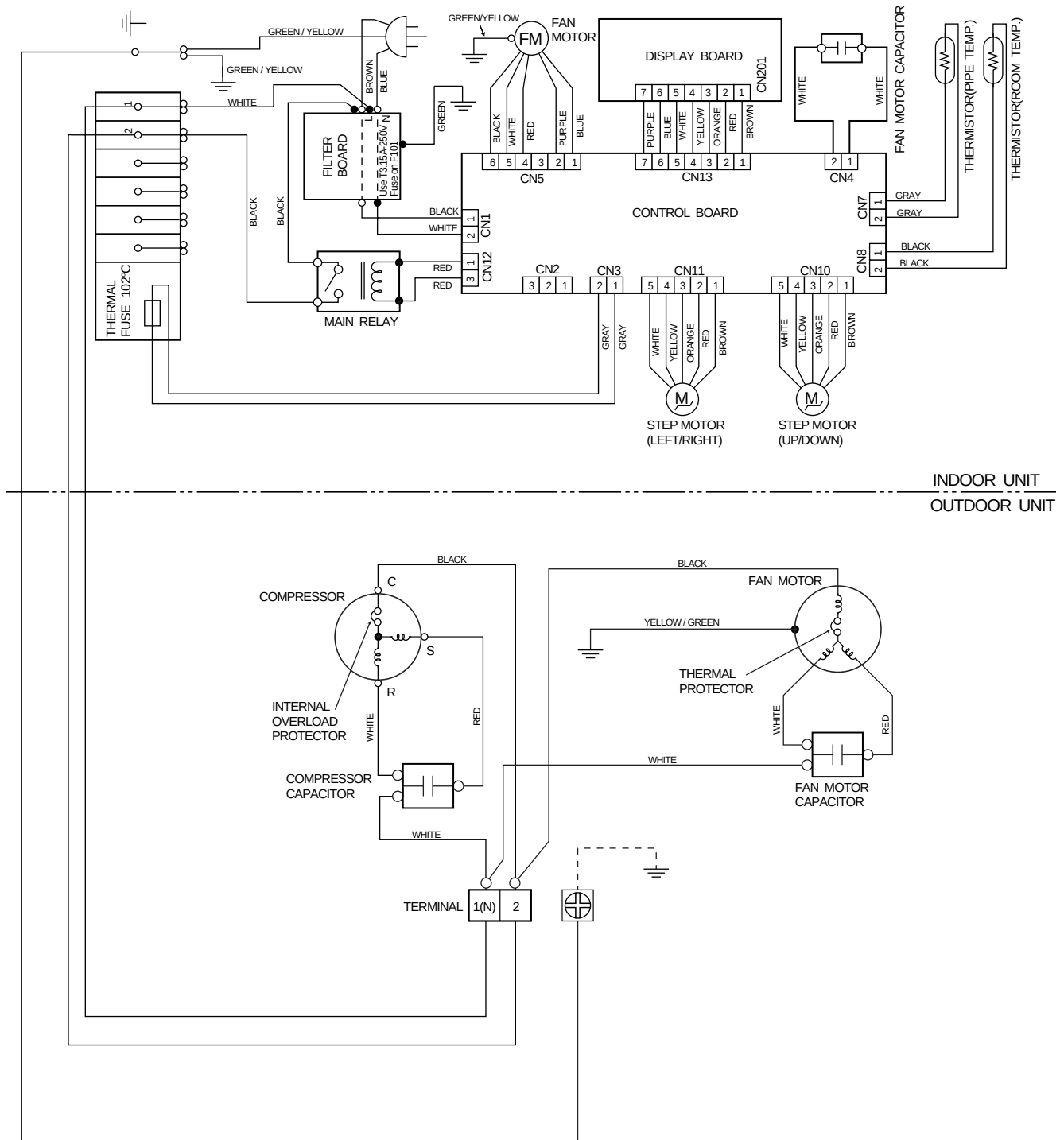


**Models : RSW-20A / ROW-20AN
RSW-24A / ROW-24AN**

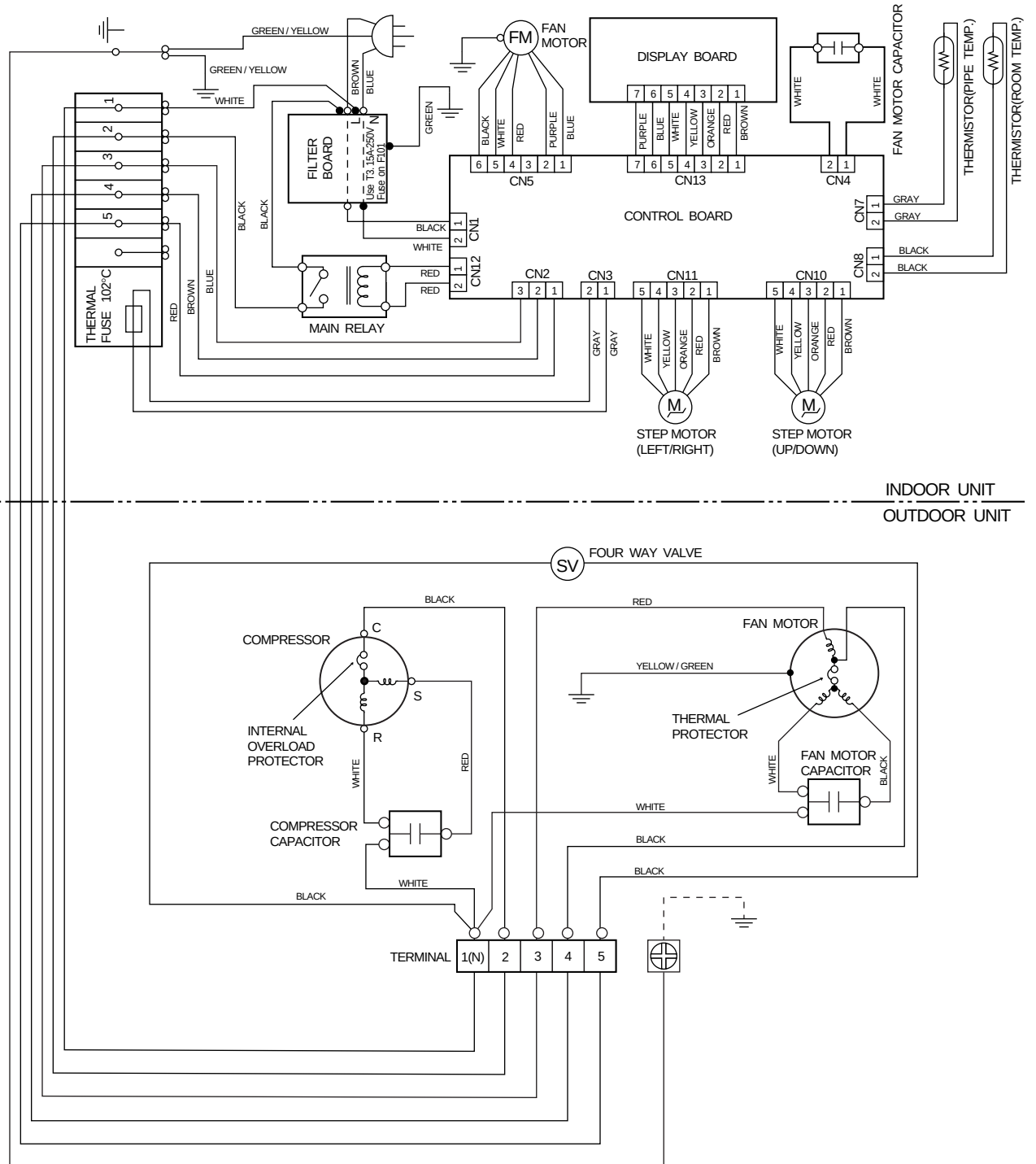


5.2.4 WALL MOUNTED LARGE TYPE

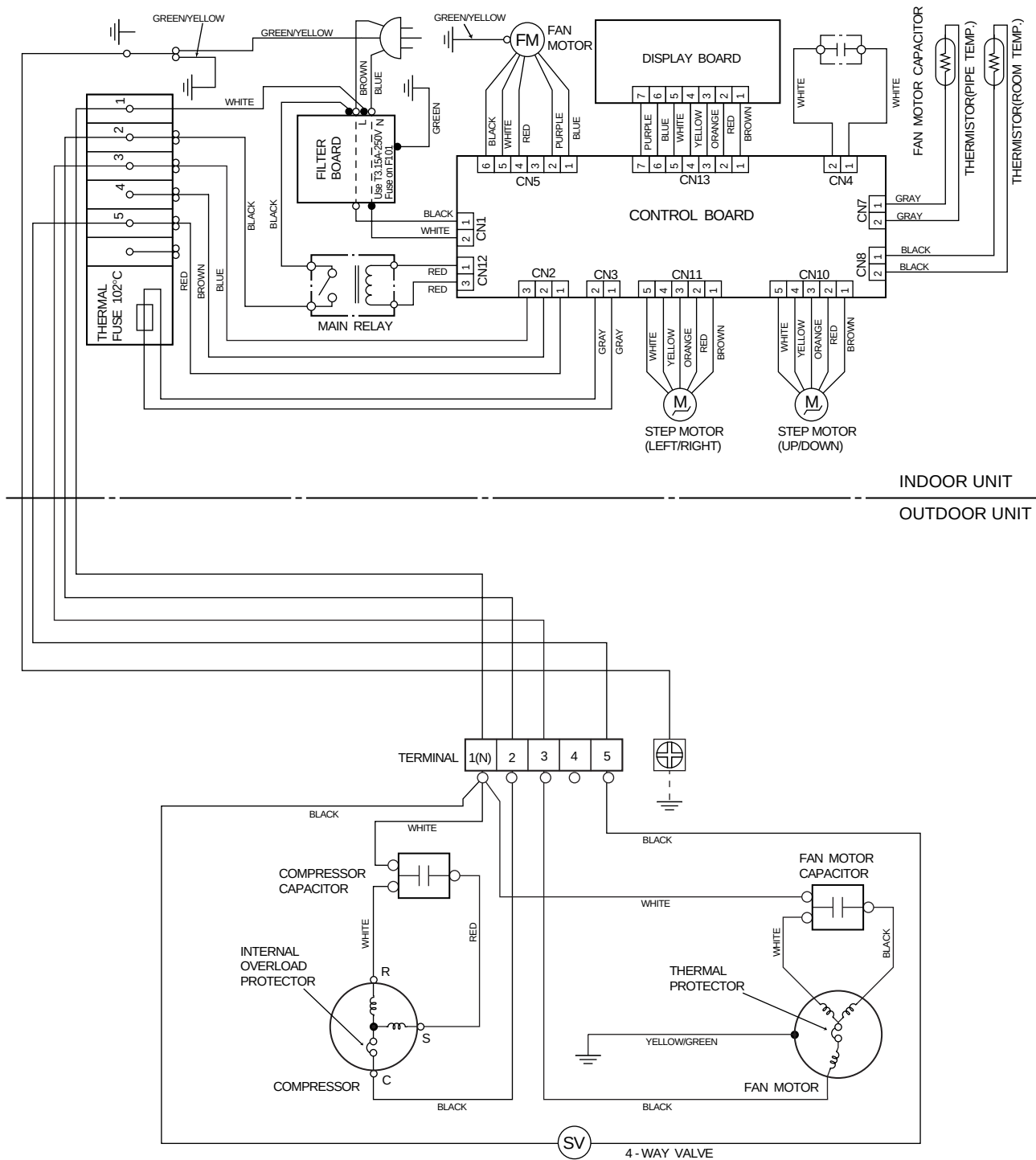
Models : RSW-20 / ROW-20
RSW-24 / ROW-24



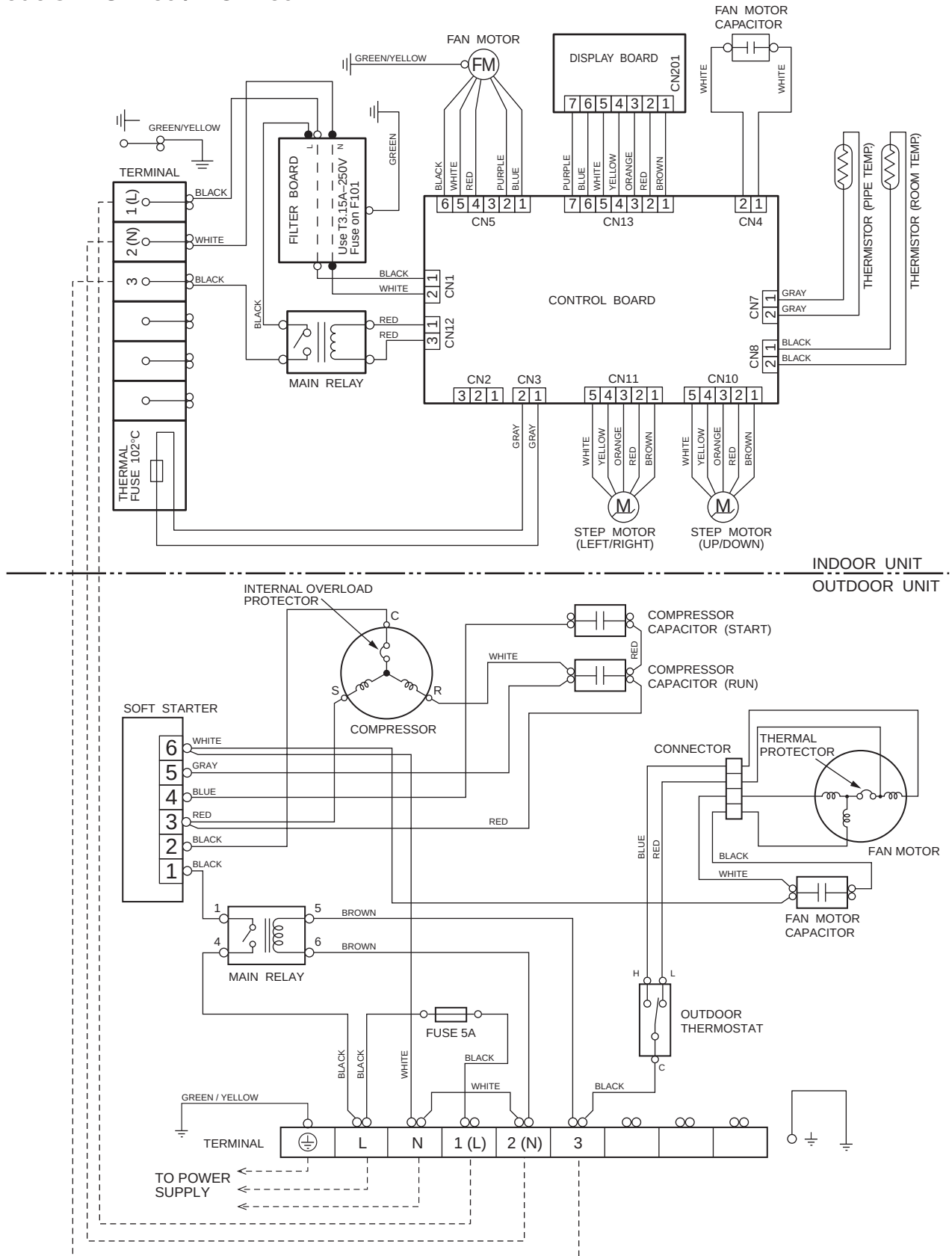
**Models : RSW-20R / ROW-20R
RSW-24R / ROW-24R**



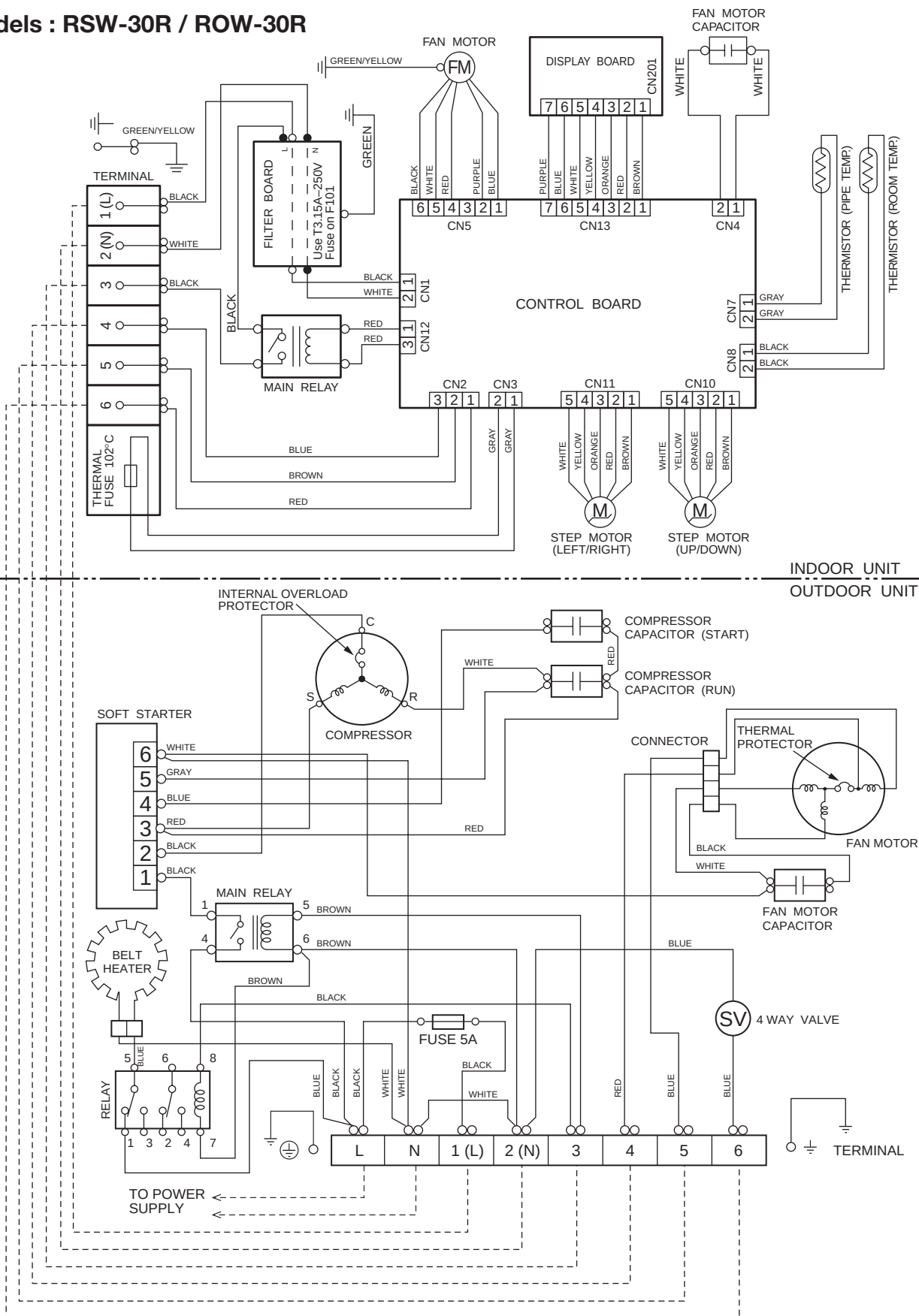
**Models : RSW-20RS / ROW-20RS
RSW-24RS / ROW-24RS**



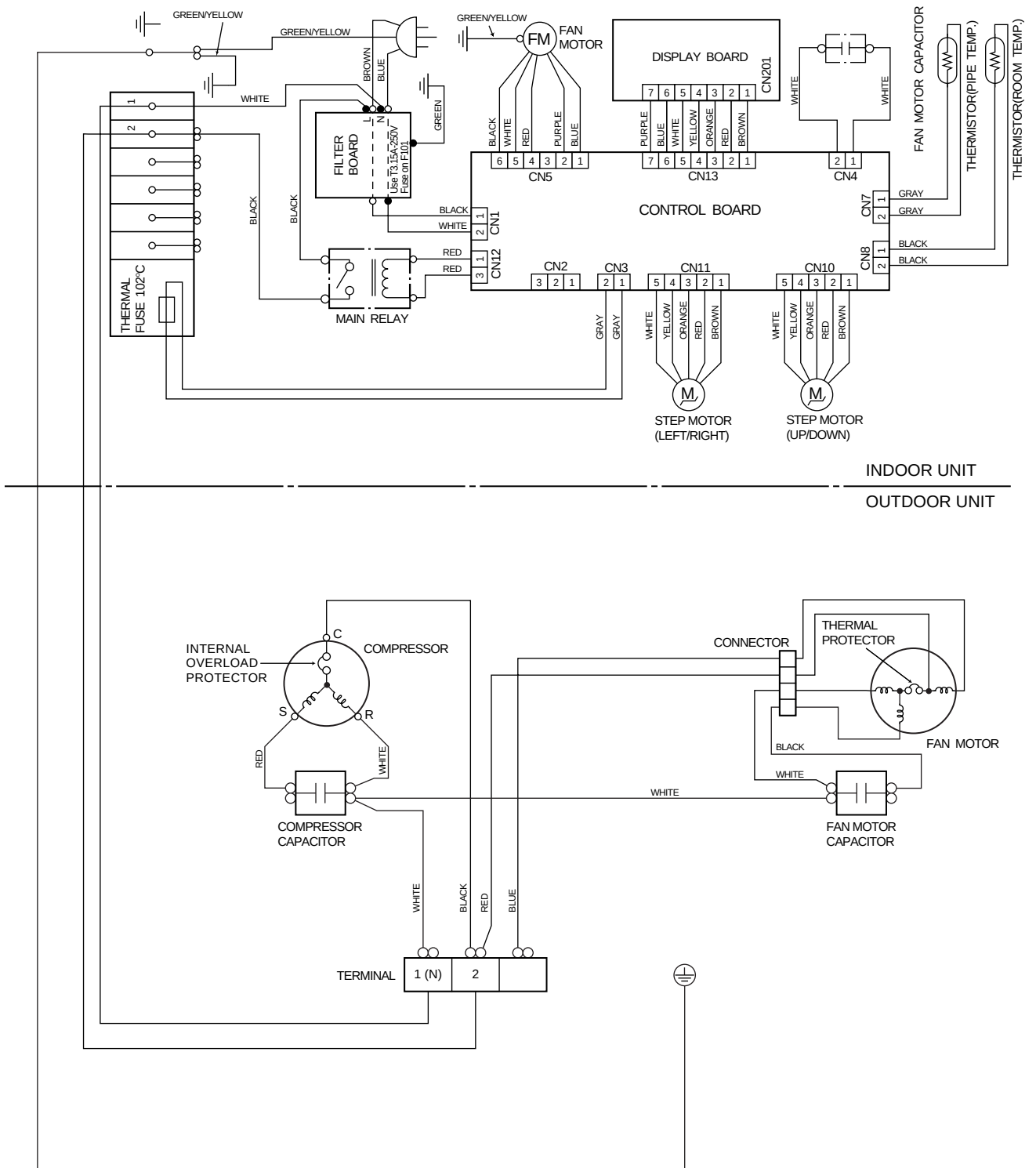
Models : RSW-30 / ROW-30



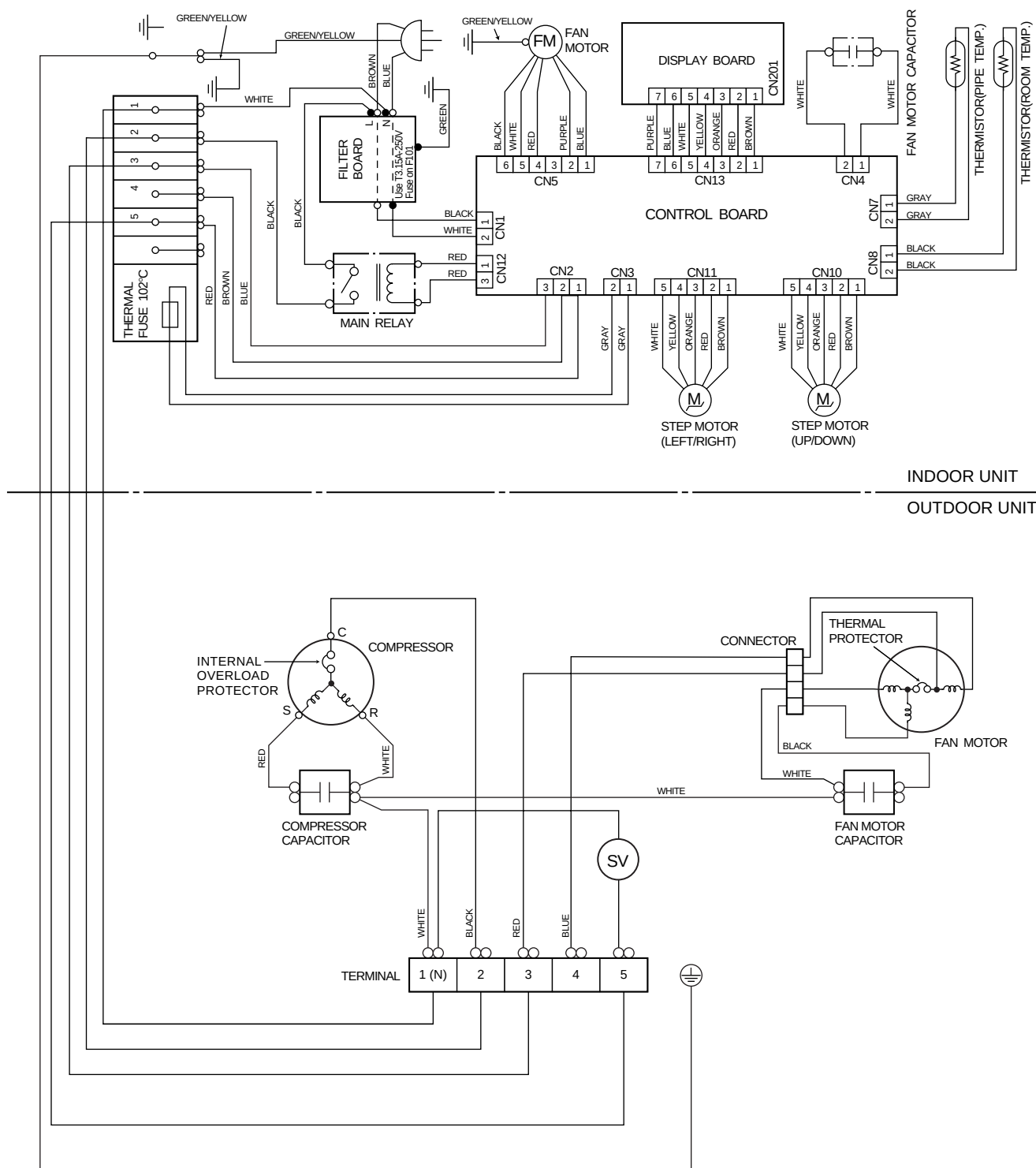
Models : RSW-30R / ROW-30R



Models : RSW-30S / ROW-30S

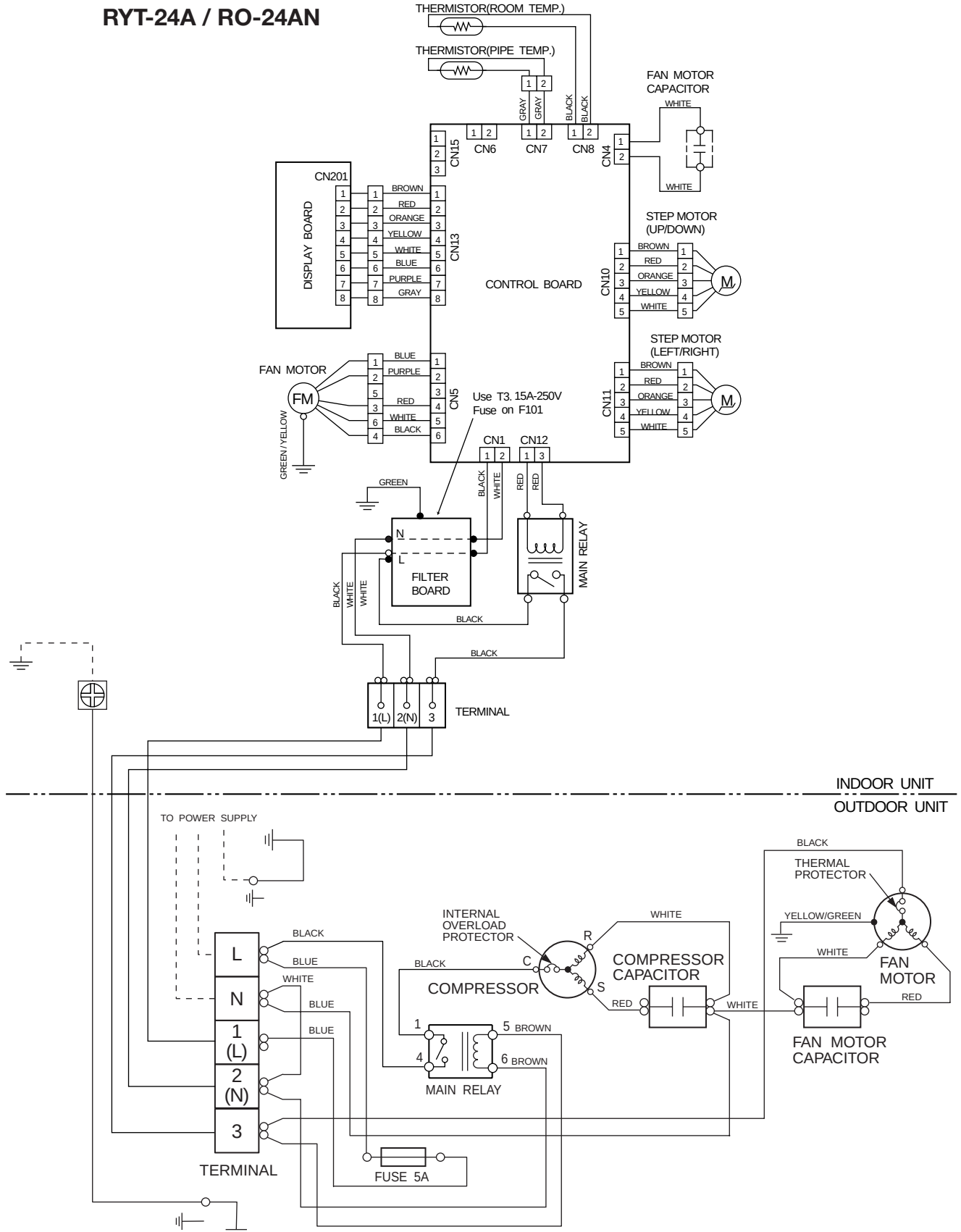


Models : RSW-30RS / ROW-30RS

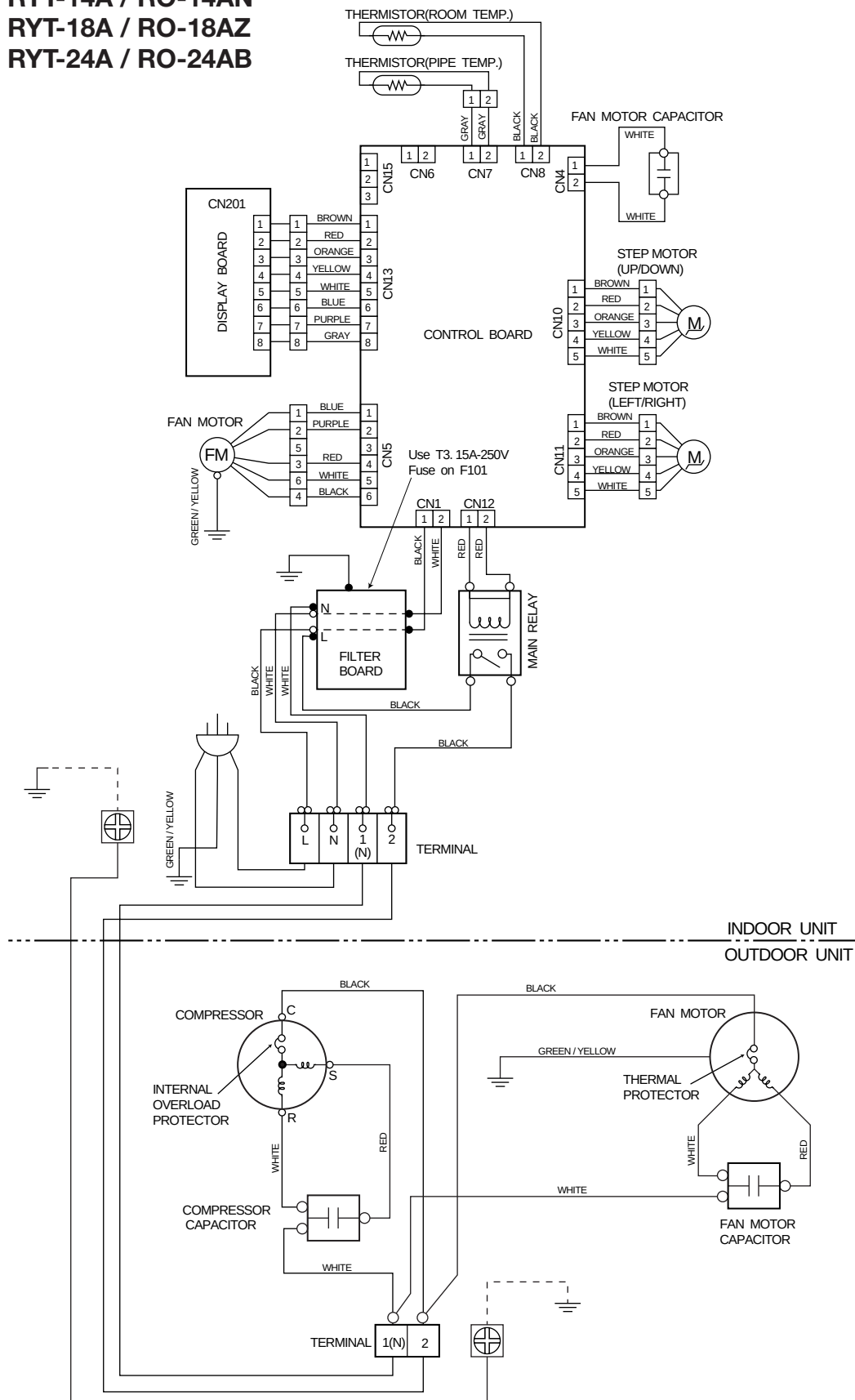


5.2.5 FLOOR / CEILING UNIVERSAL TYPE

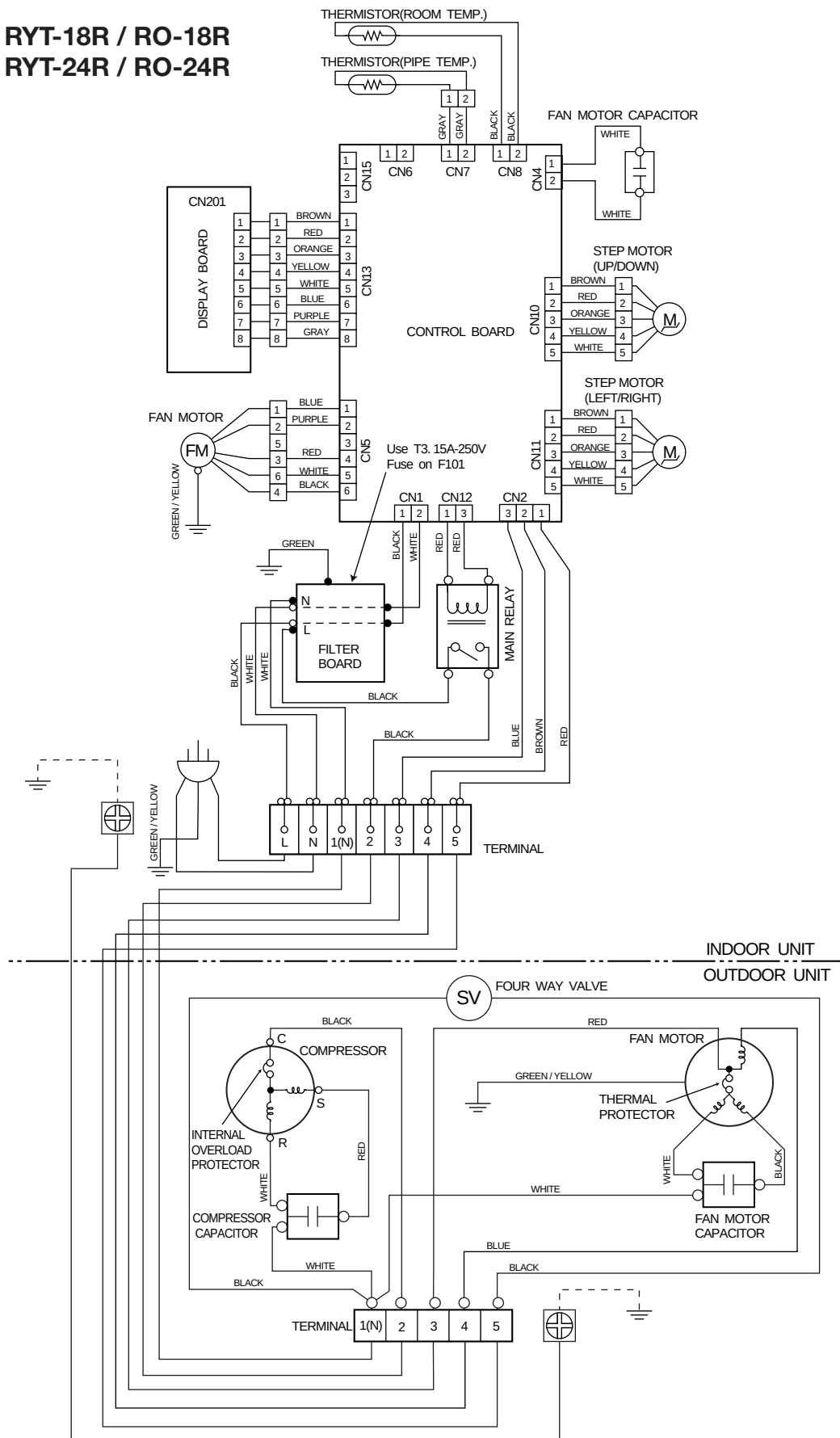
Models : RYT-18A / RO-18AN
RYT-24A / RO-24AN



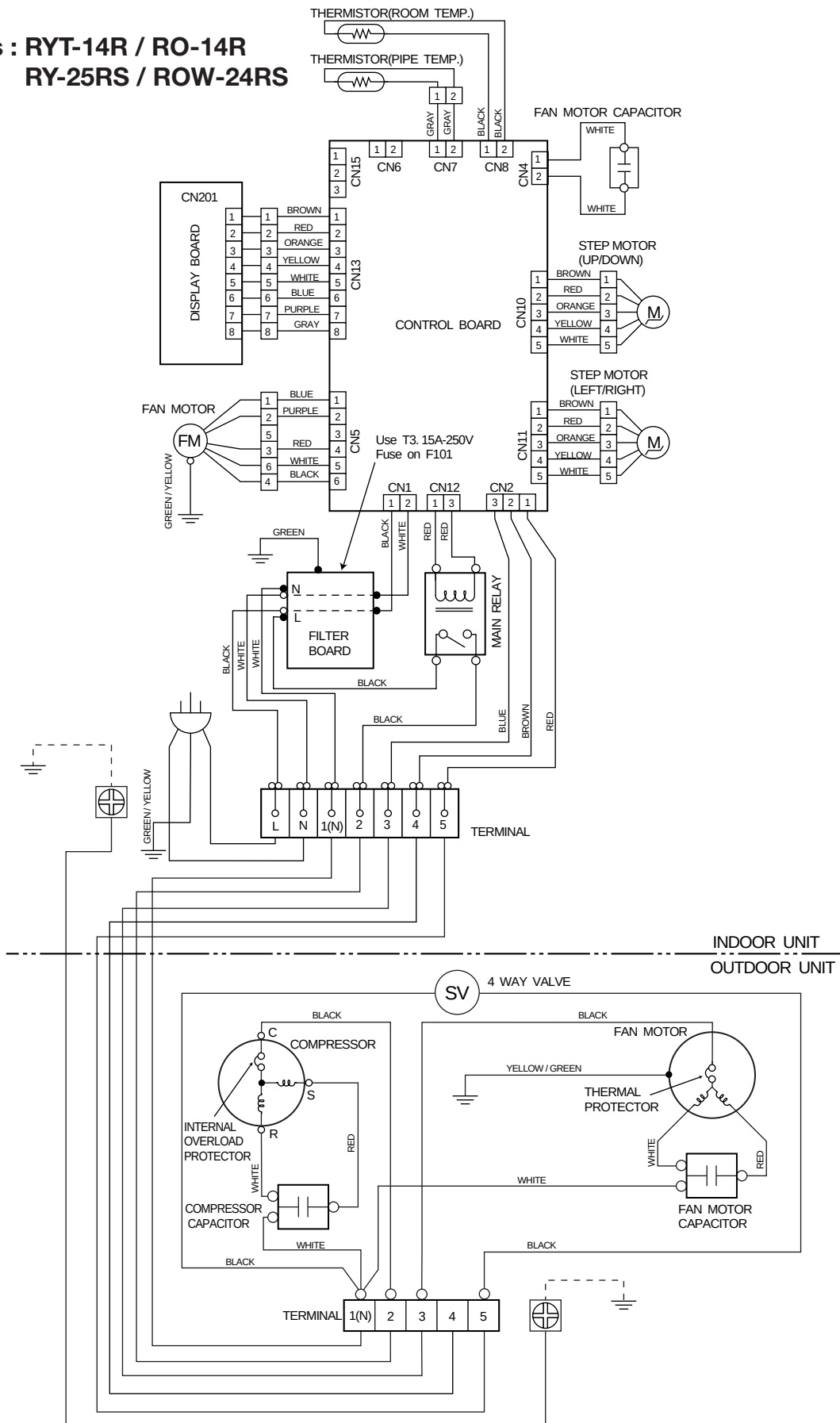
Models : RYT-14A / RO-14AN
 RYT-18A / RO-18AZ
 RYT-24A / RO-24AB



**Models : RYT-18R / RO-18R
RYT-24R / RO-24R**



**Models : RYT-14R / RO-14R
RY-25RS / ROW-24RS**



5.3 CONTROLLER CIRCUIT DIAGRAM EZ NUMBER LIST

MODEL	CONTROL BOX ASSY EZ-No.	P. C. BOARD ASSY EZ-No.
COMPACT SII TYPE RSW- SERIES		
RSW-77 RSW-7A	095TWSE 096KWSE	095TWSE-C 097UWSE-C
RSW-77R RSW-7RA	095MHSE 098GHSE	095MHSE-C 098HHSE-C

MODEL	CONTROL BOX ASSY EZ-No.	P. C. BOARD ASSY EZ-No.
COMPACT MII TYPE RSW- SERIES		
RSW-97 RSW-97C	09502WSE	097SWSE-C
RSW-9C	096NWSE	
RSW-127 RSW-127C	09505WSE	097TWSE-C
RSW-12C	096PWSE	
RSW-97R RSW-97RC	0950HHSE	0980FHSE-C
RSW-9RC	096MHSE	000THSE-C
RSW-127R RSW-127RC	0950LHSE	099AHSE-C
RSW-12RC	096NHSE	000LHSE-C

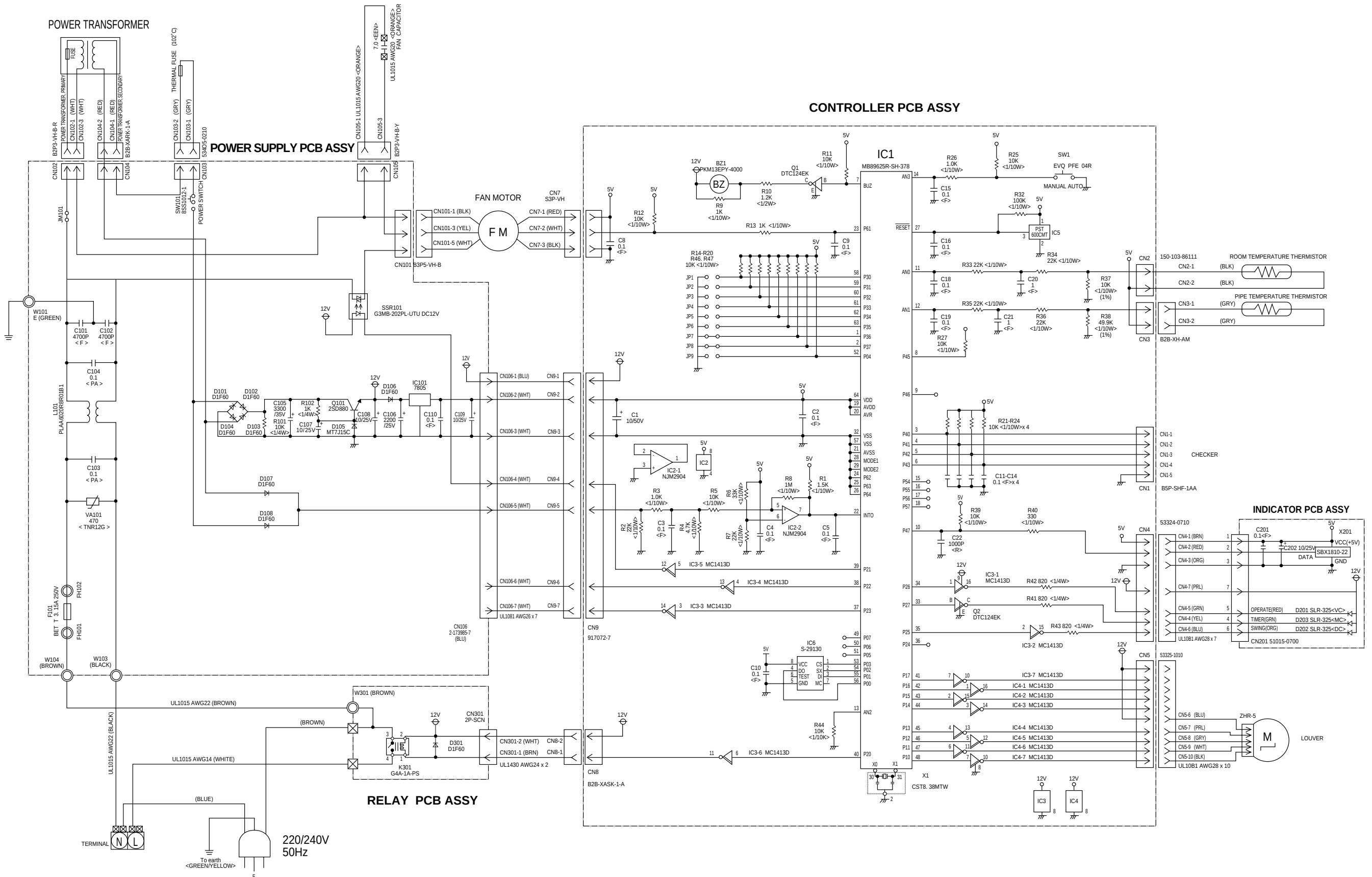
MODEL	CONTROL BOX ASSY EZ-No.	P. C. BOARD ASSY EZ-No.
LI TYPE RSW- SERIES		
RSW-147	096EWSE	095GWSE-C
RSW-14A	0982WSE	09707WSE-C
RSW-147R	096AHSE	095RHSE-C
RSW-14RA	0981HSE	0981HSE-C
RSW-17S	0981WSE	09707WSE-C
RSW-177	096BWSE	095GWSE-C
RSW-17AB RSW-17AC	099PWSE	
RSW-177R RSW-17RB	0966HSE	0960HSE-C
RSW-17RS	09802HSE	09802HSE-C

MODEL	CONTROL BOX ASSY EZ-No.	P. C. BOARD ASSY EZ-No.	SOFTWARE EZ-No.
RSW-SERIES			
RSW-207/RSW-247 RSW-20A/RSW-24A RSW-20AC/RSW-24AC	096JWSE	0968WSE-F	0968WSE-C
RSW-20AB/RSW-24AB RSW-20AD	096HWSE		
RSW-307 RSW-30A	096HWSE		
RSW-307S RSW-30S	096LWSE		
RSW-207S RSW-247S RSW-20S RSW-24S RSW-20SA RSW-24SA	096SWSE		
RSW-207R RSW-20RA RSW-20RC RSW-20RB	096UHSE	096RHSE-F	096RHSE-C
RSW-247R RSW-24RA RSW-24RC RSW-24RD	096FHSE	0961HSE-F	0961HSE-C
RSW-307R RSW-30RA	096EHSE		
RSW-207RS RSW-20RSA	096SHSE	096SHSE-F	096SHSE-C
RSW-307RS RSW-30RS	096LHSE	096PHSE-F	096PHSE-C
RSW-247RS RSW-24RS RSW-24RSA	096PHSE		

MODEL	CONTROL BOX ASSY EZ-No.	P. C. BOARD ASSY EZ-No.	SOFTWARE EZ-No.
RYT-SERIES			
RYT-14	0989WSE	0985WSE-F	096VWSE-C
RYT-147	0975WSE		
RYT-187	0972WSE		
RYT-18	0987WSE		
RYT-18AC	0993WSE		
RYT-257	0970WSE		
RYT-24	0986WSE		
RYT-24AB	0992WSE		
RY-25S	0973WSE		
RYT-14R	0986HSE	0986HSE-F	0975HSE-C
RYT-147R	0975HSE		
RYT-18R / RYT-18RB	0988HSE	0985HSE-F	0964HSE-C
RYT-187R	0972HSE		
RYT-24R / RYT-24RE	0987HSE		
RYT-257R	0970HSE		
RY-25RS	0974HSE	0974HSE-F	0974HSE-C

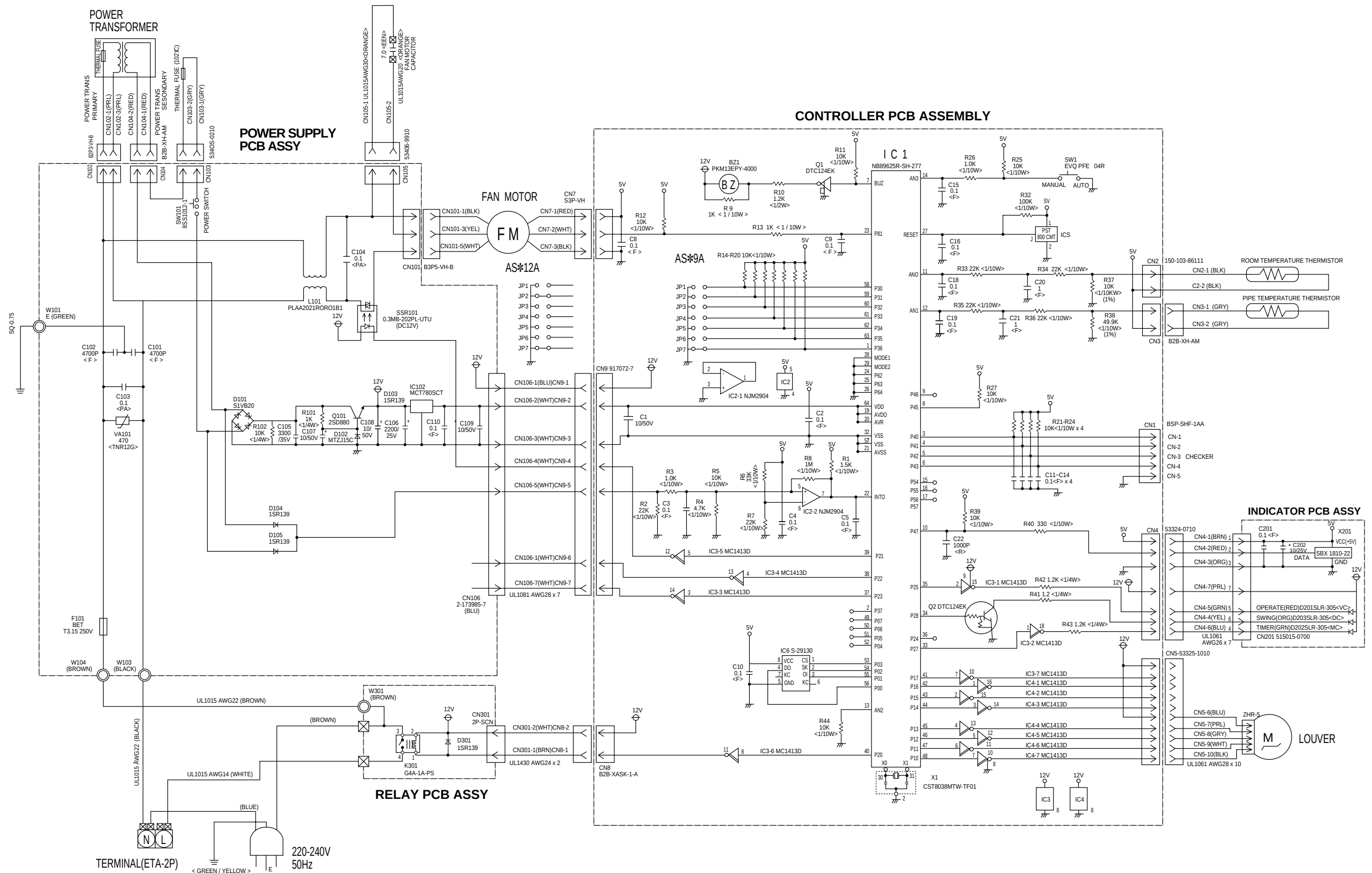
5.4.1 COMPACT SII SERIES

Model : RSW-7

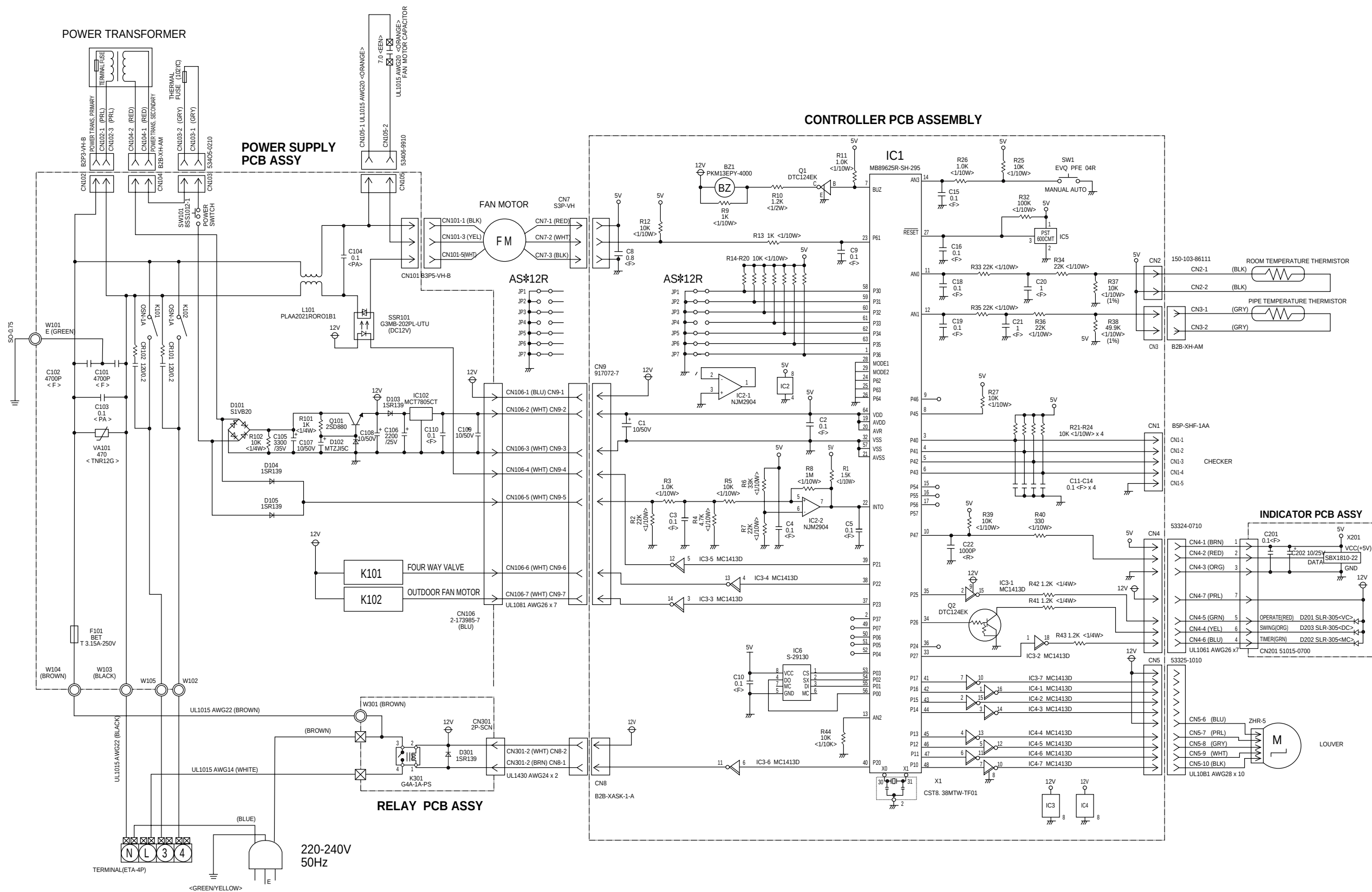


5.4.2 COMPACT MII SERIES

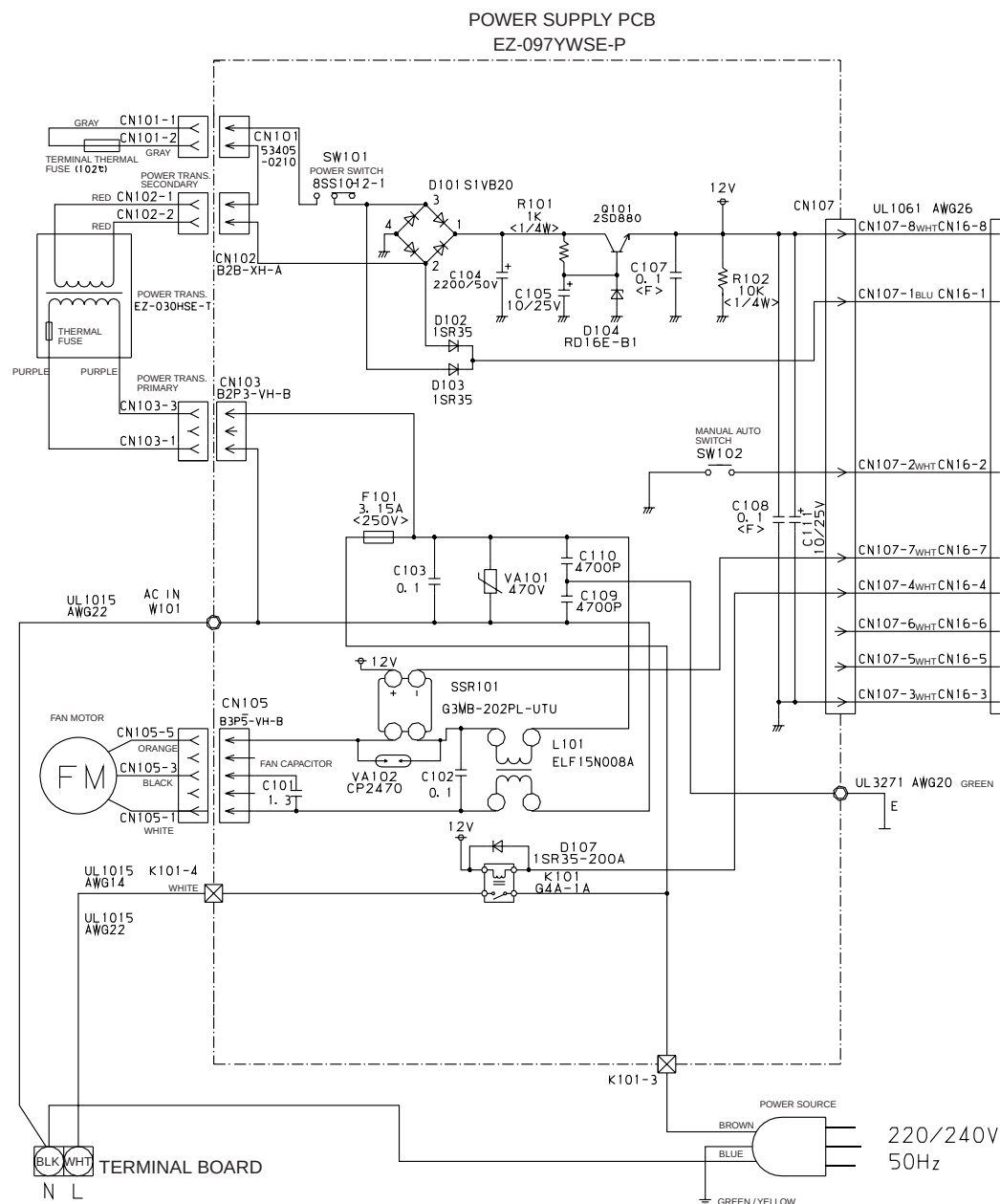
Models : RSW-9, 12



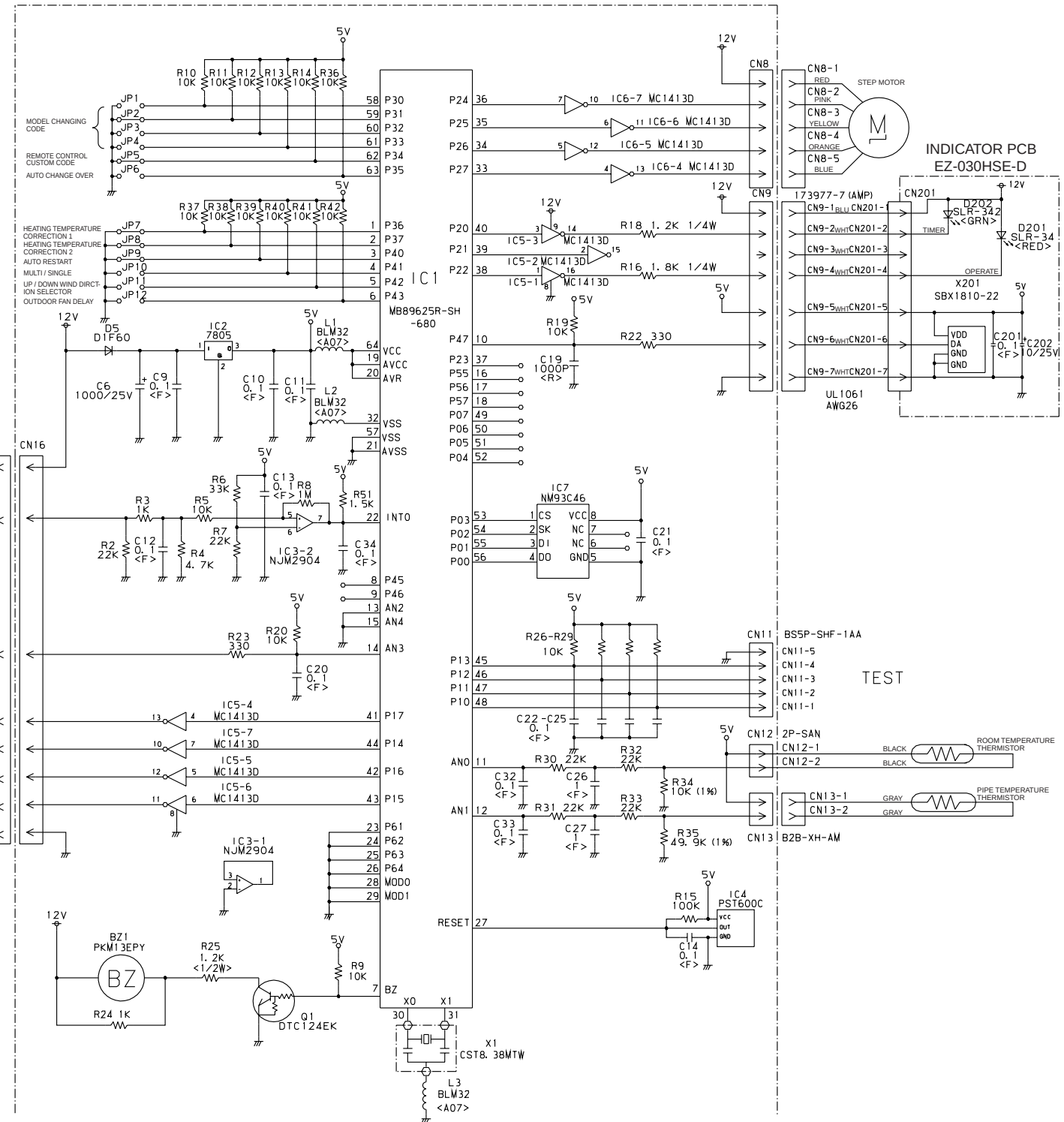
Models : RSW-9R, 12R



Models : RSW-14, 17

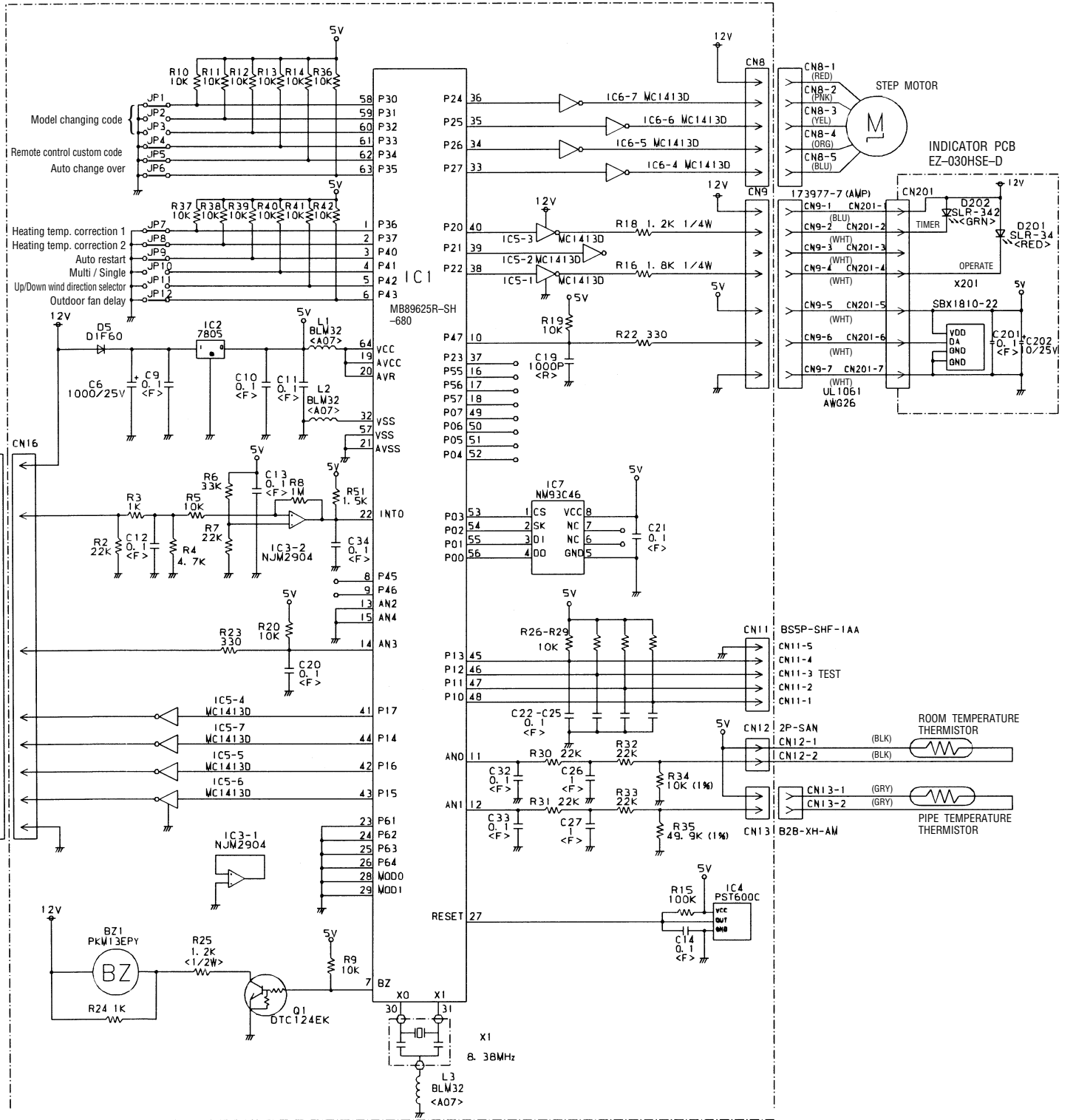
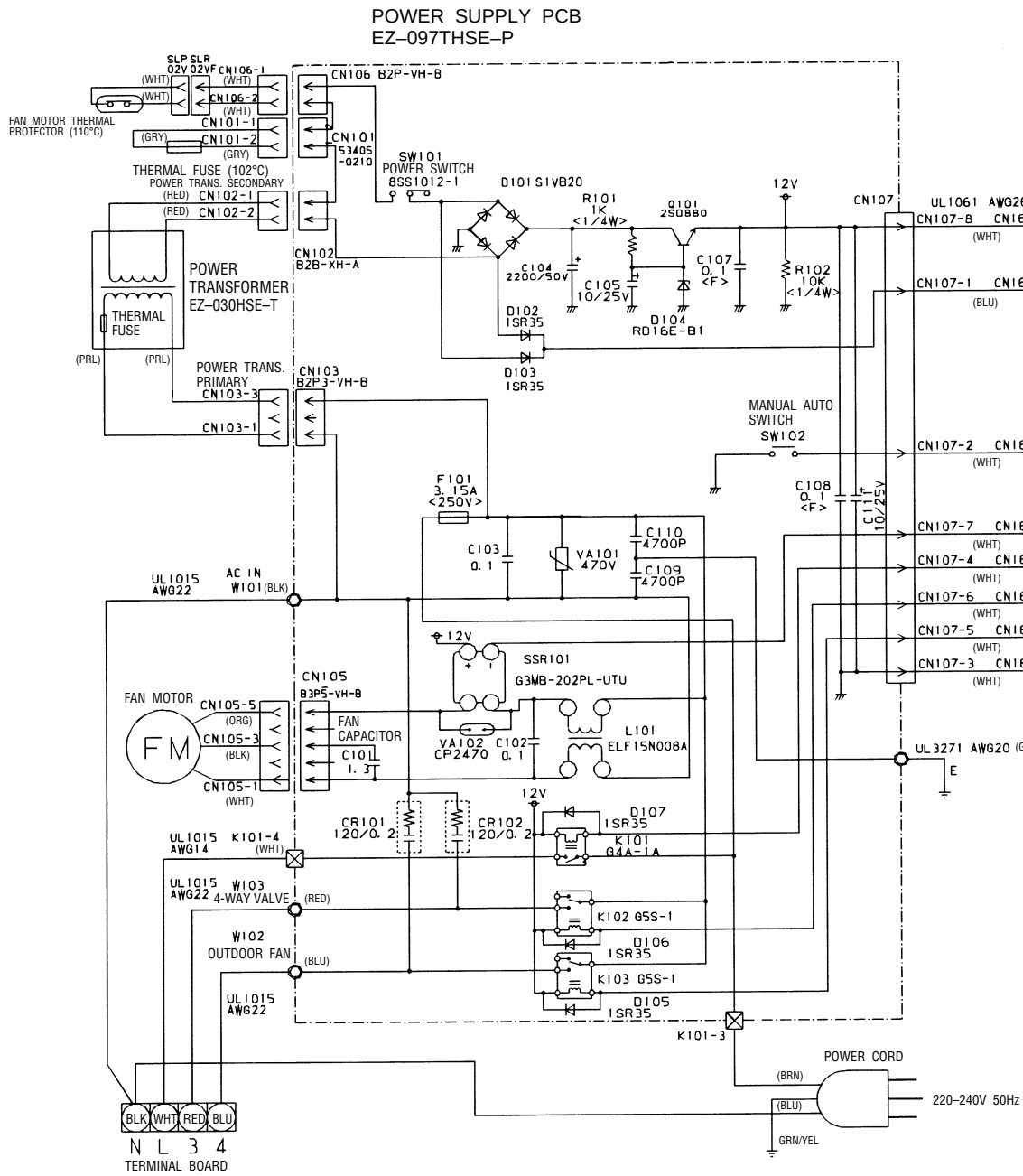


CONTROLLER PCB ASSEMBLY (MAIN PCB)
EZ-095GWSE-C (GM-6805)



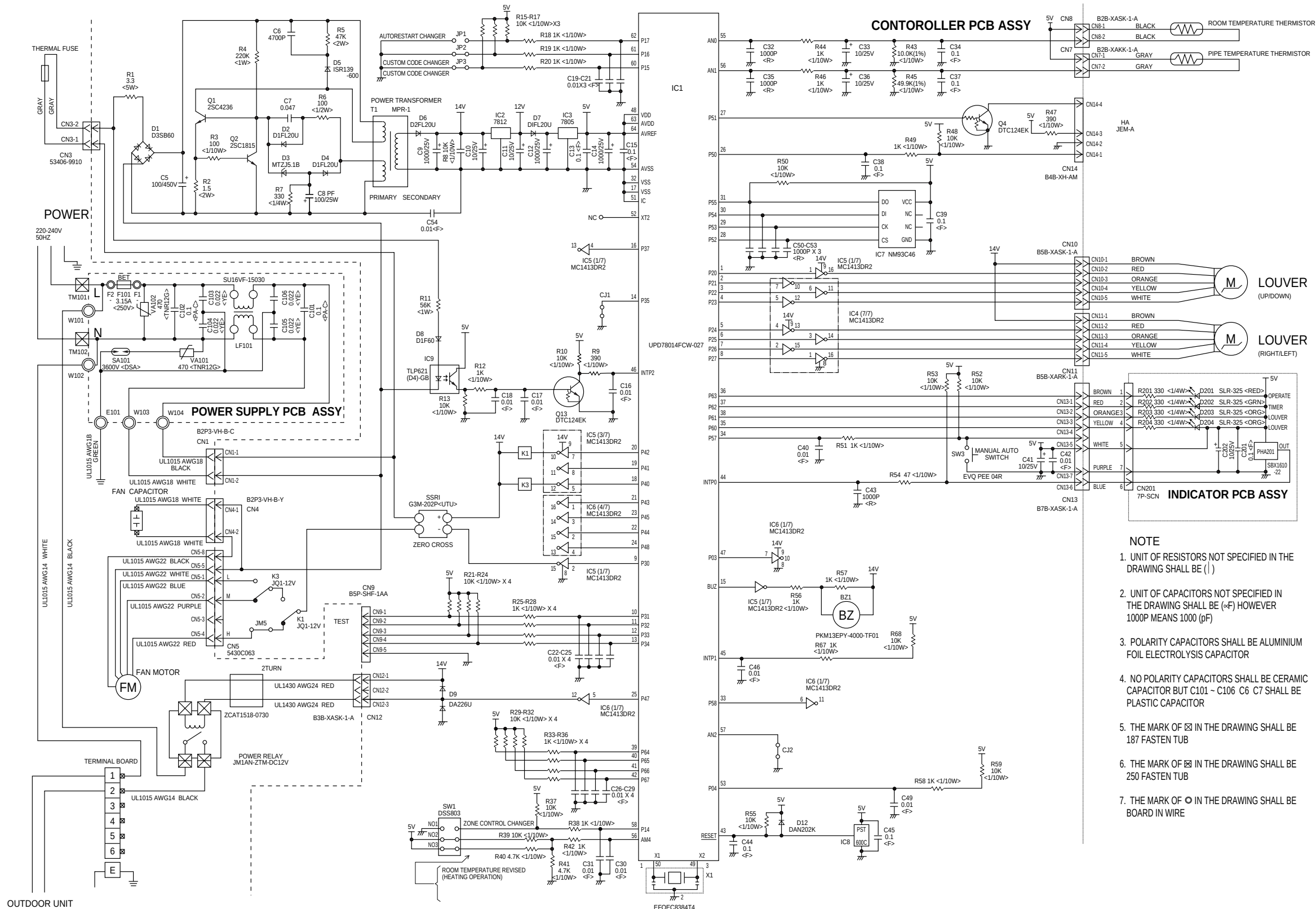
Models : RSW-14R, 17R

CONTROLLER PCB ASSEMBLY (MAIN PCB)
EZ-0960HSE-C (GM-6844)



5.4.3 WALL MOUNTED LARGE TYPE

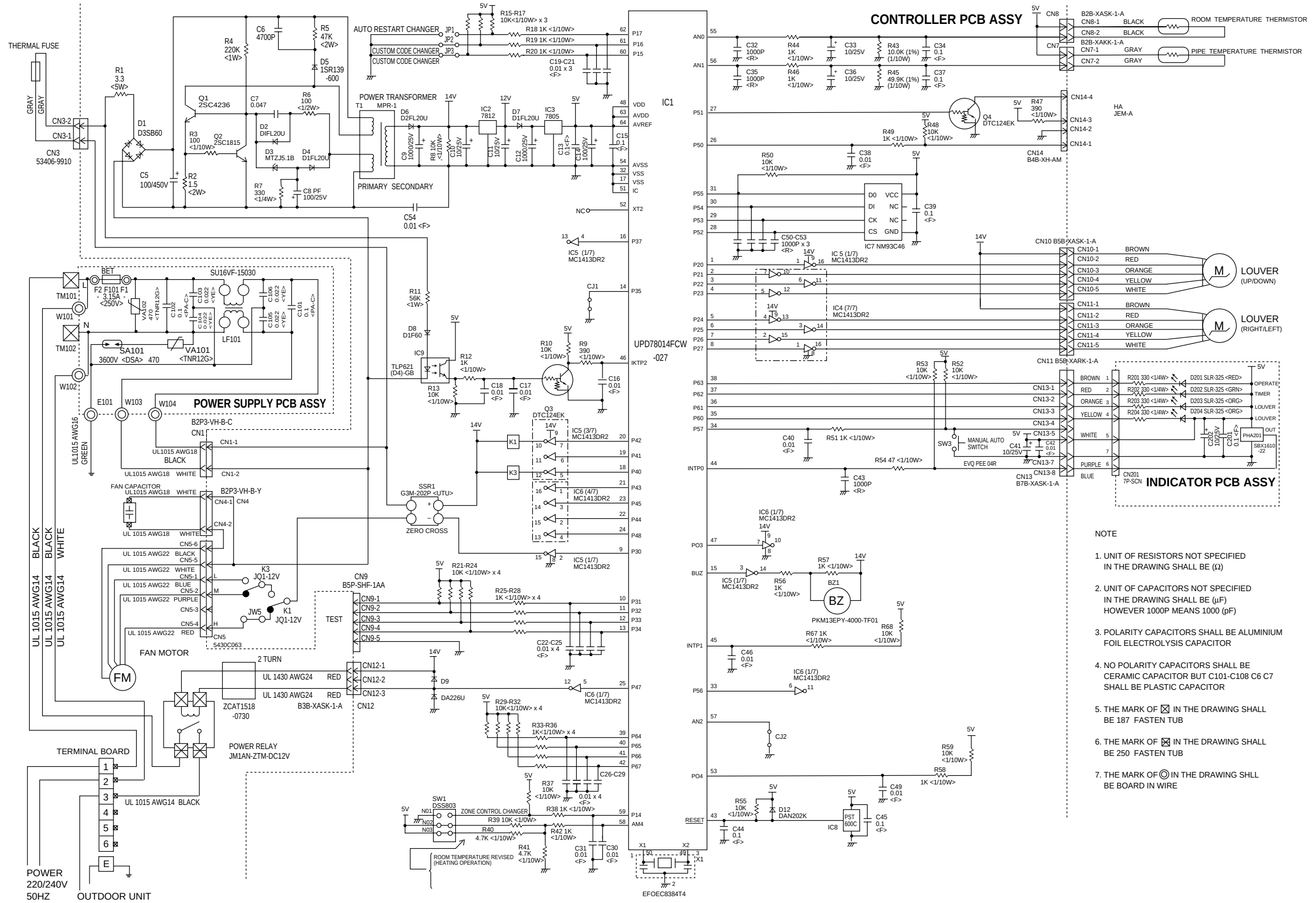
Models : RSW-20, 24, 30S



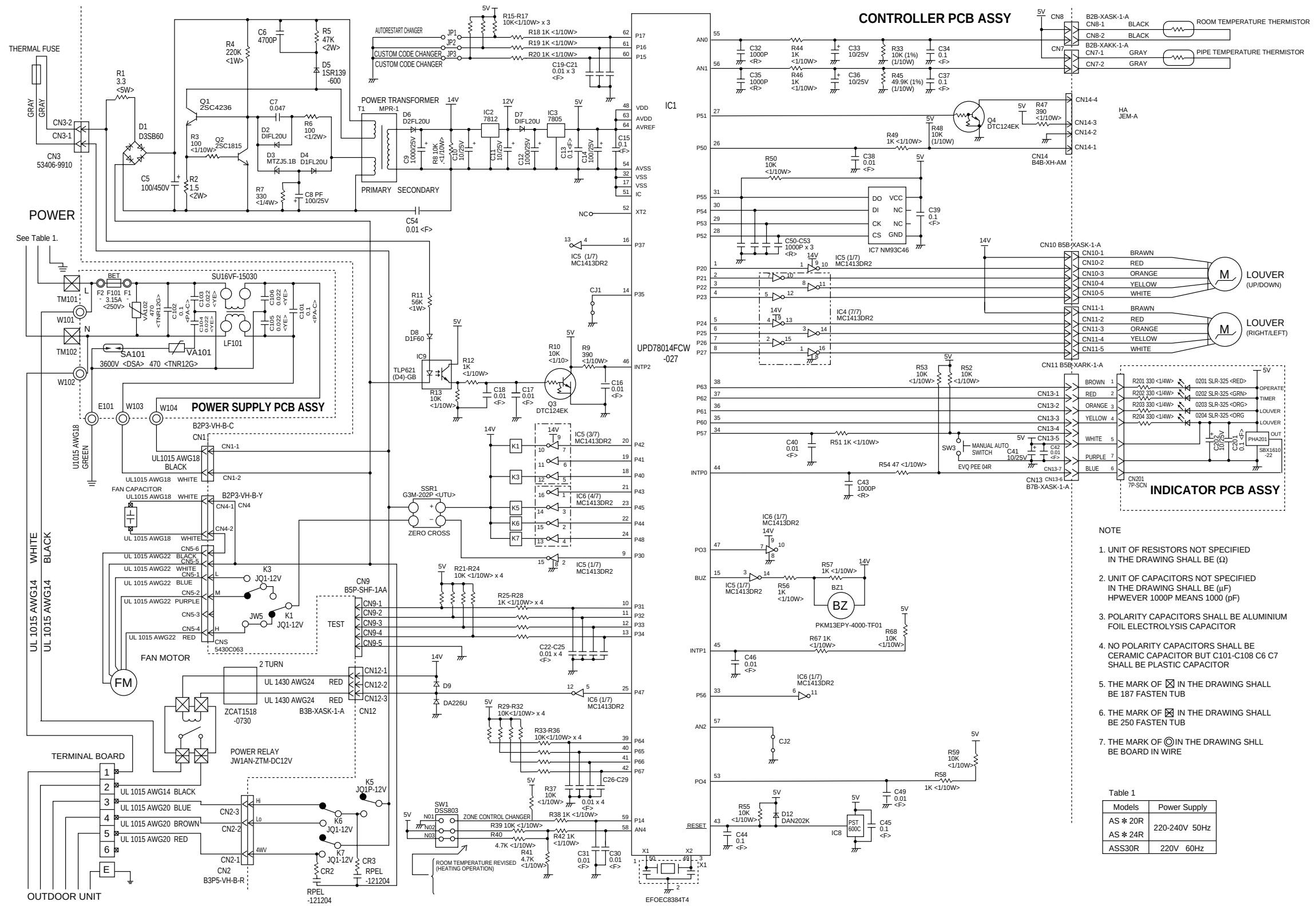
NOTE

1. UNIT OF RESISTORS NOT SPECIFIED IN THE DRAWING SHALL BE ()
2. UNIT OF CAPACITORS NOT SPECIFIED IN THE DRAWING SHALL BE (F) HOWEVER 1000P MEANS 1000 (pF)
3. POLARITY CAPACITORS SHALL BE ALUMINIUM FOIL ELECTROLYSIS CAPACITOR
4. NO POLARITY CAPACITORS SHALL BE CERAMIC CAPACITOR BUT C101 ~ C106 C6 C7 SHALL BE PLASTIC CAPACITOR
5. THE MARK OF ⓧ IN THE DRAWING SHALL BE 187 FASTEN TUB
6. THE MARK OF ⓧ IN THE DRAWING SHALL BE 250 FASTEN TUB
7. THE MARK OF ○ IN THE DRAWING SHALL BE BOARD IN WIRE

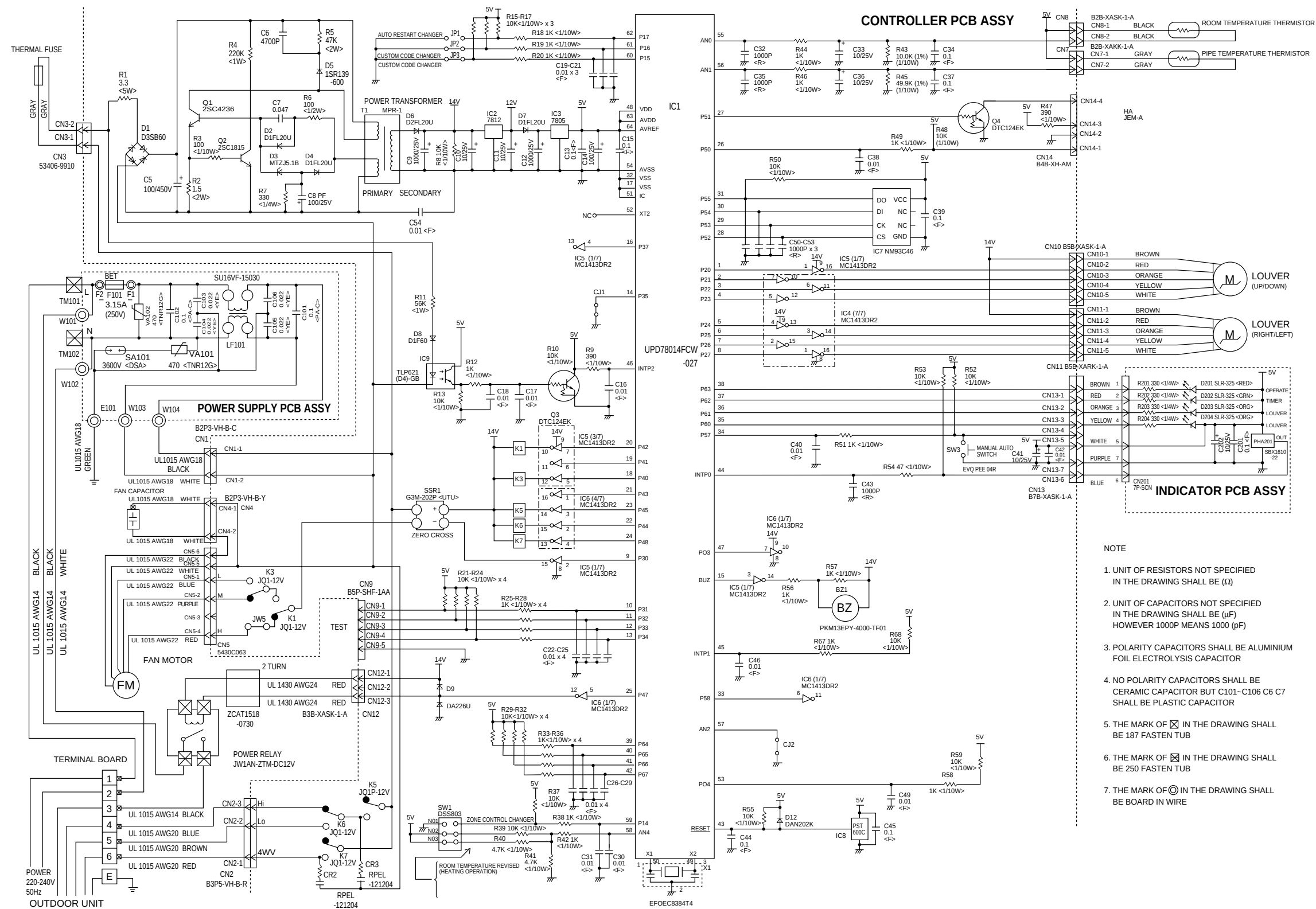
Model : RSW-30



Models : RSW-20R, 24R, 30RS



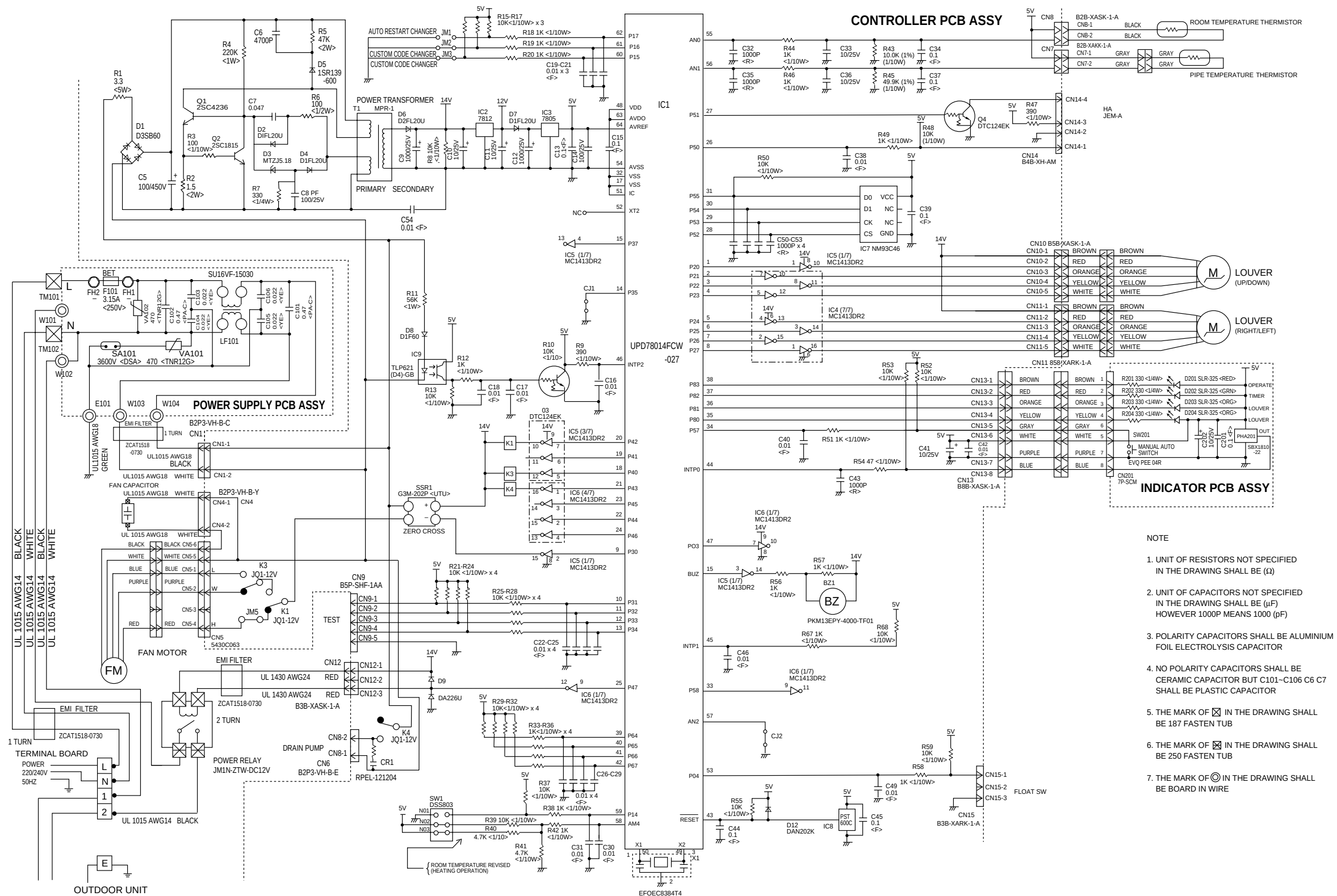
Model : RSW-30R



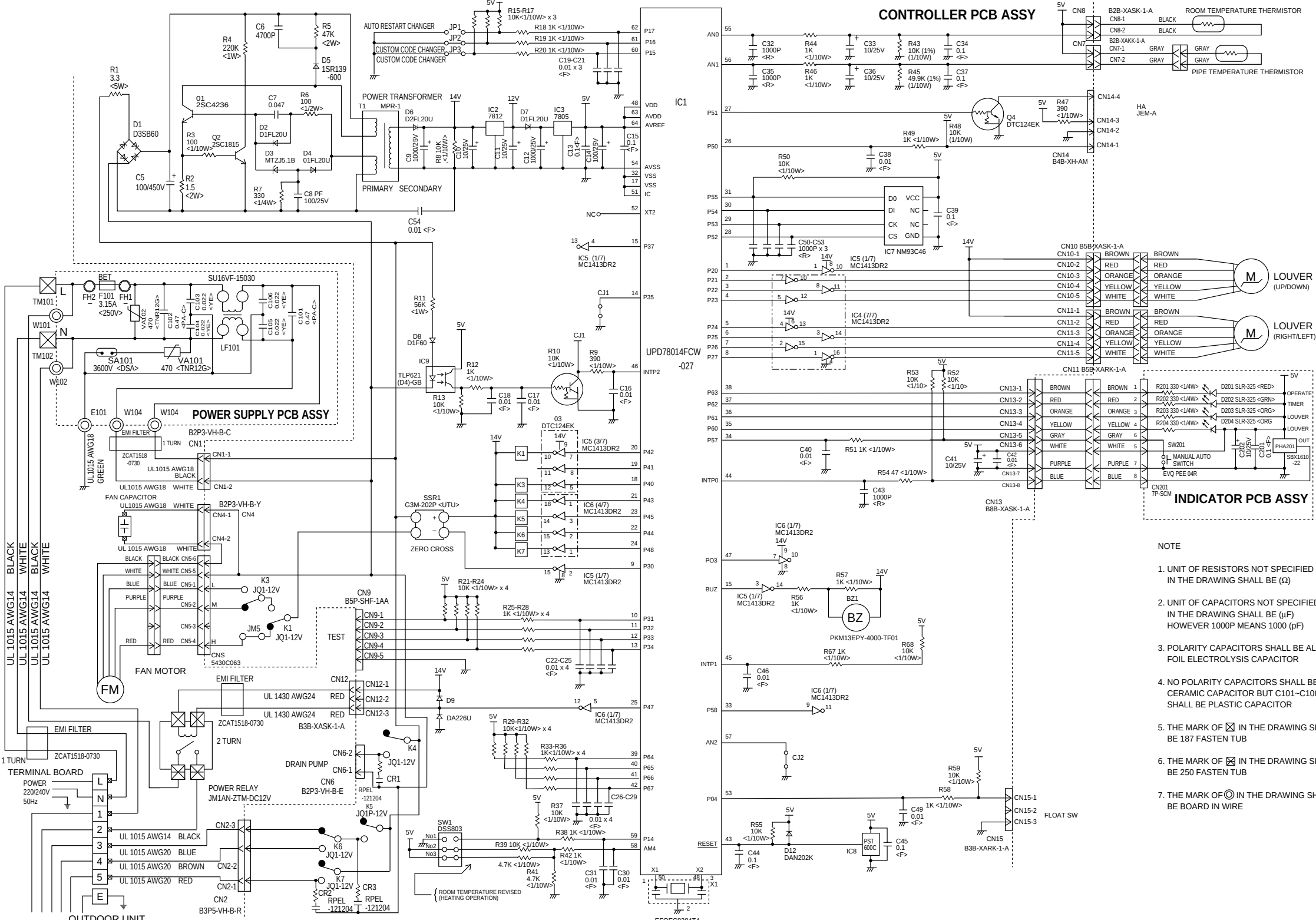
- NOTE
1. UNIT OF RESISTORS NOT SPECIFIED IN THE DRAWING SHALL BE (Ω)
 2. UNIT OF CAPACITORS NOT SPECIFIED IN THE DRAWING SHALL BE (μF) HOWEVER 1000P MEANS 1000 (pF)
 3. POLARITY CAPACITORS SHALL BE ALUMINIUM FOIL ELECTROLYSIS CAPACITOR
 4. NO POLARITY CAPACITORS SHALL BE CERAMIC CAPACITOR BUT C101-C106 C6 C7 SHALL BE PLASTIC CAPACITOR
 5. THE MARK OF ☒ IN THE DRAWING SHALL BE 187 FASTEN TUB
 6. THE MARK OF ☒ IN THE DRAWING SHALL BE 250 FASTEN TUB
 7. THE MARK OF ⊙ IN THE DRAWING SHALL BE BOARD IN WIRE

5.4.4 FLOOR / CEILING UNIVERSAL TYPE

Models : RYT-14, 18, 24



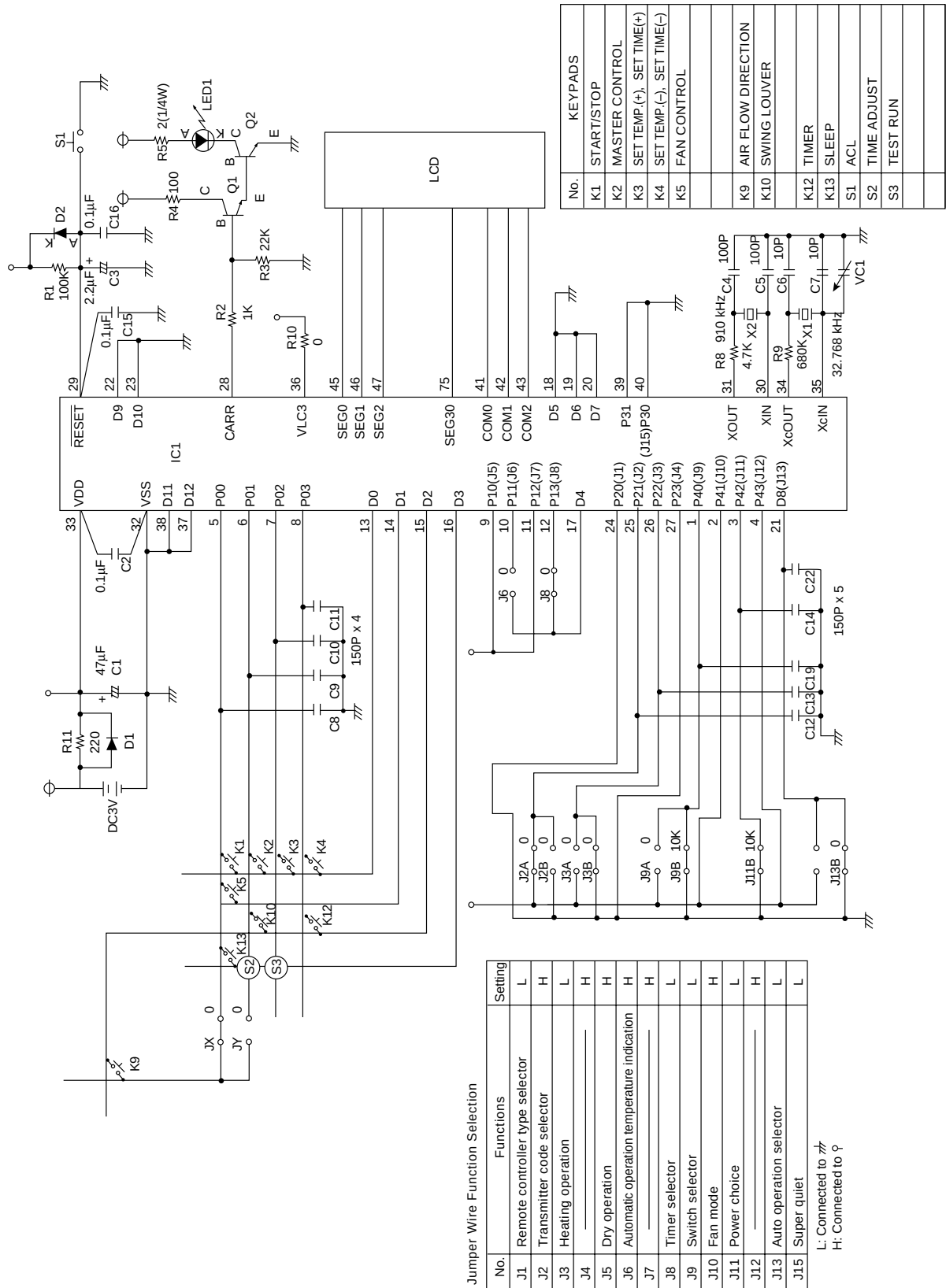
Models : RYT-14A, 18A, 24R



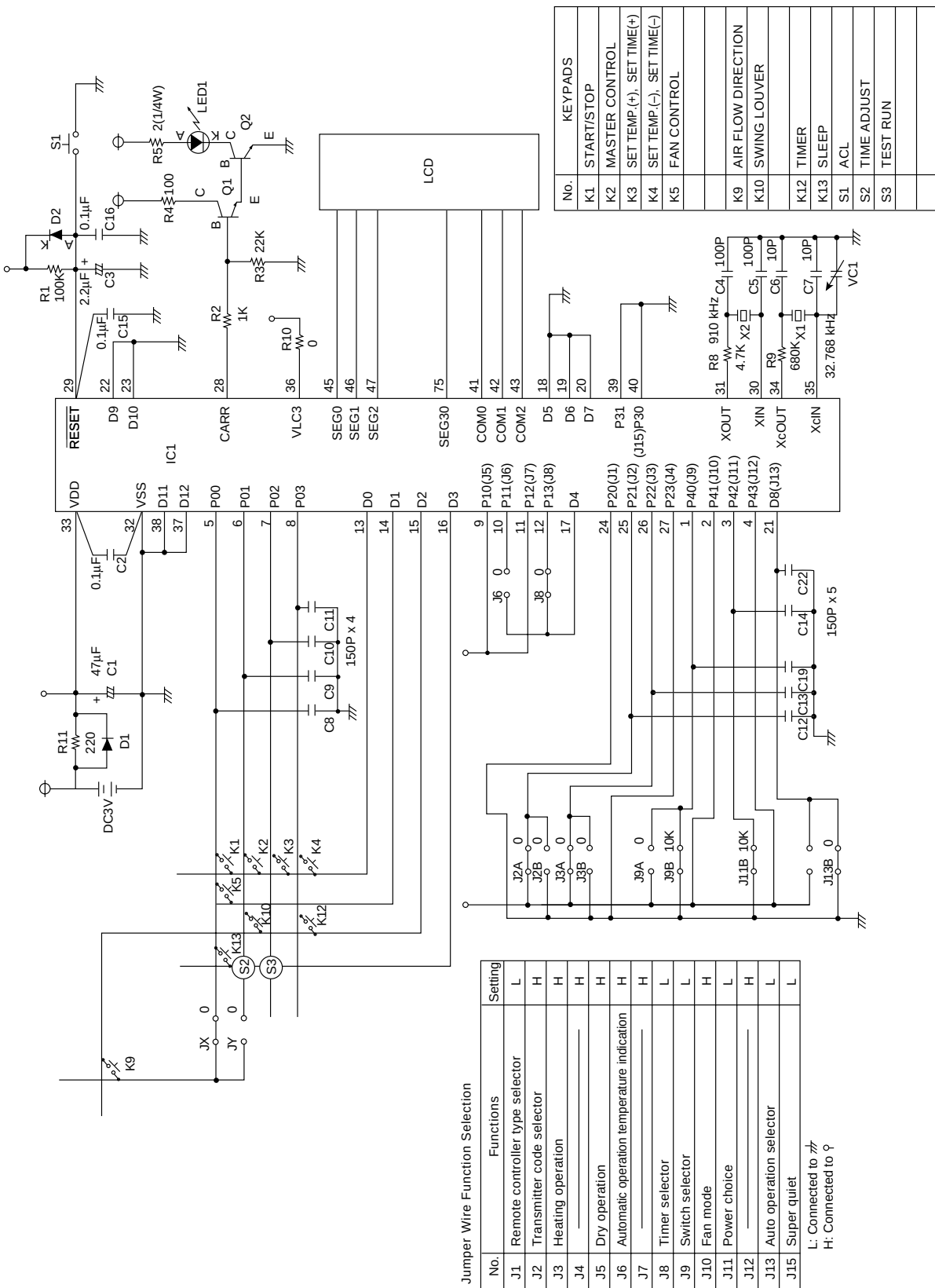
5.5 REMOTE CONTROL UNIT CIRCUIT DIAGRAM

5.5.1 COMPACT SII SERIES

Model : RSW-7

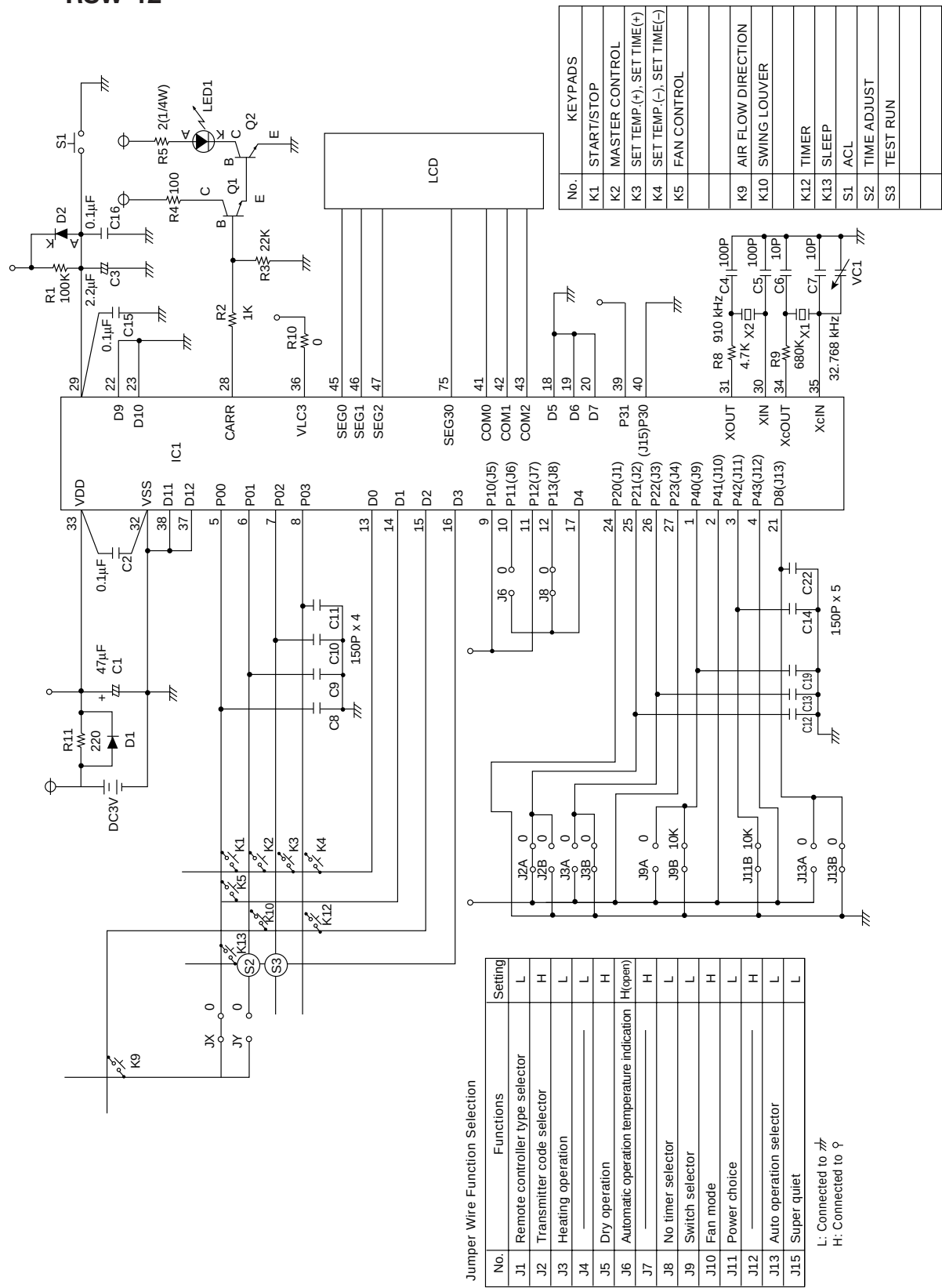


Model : RSW-7R

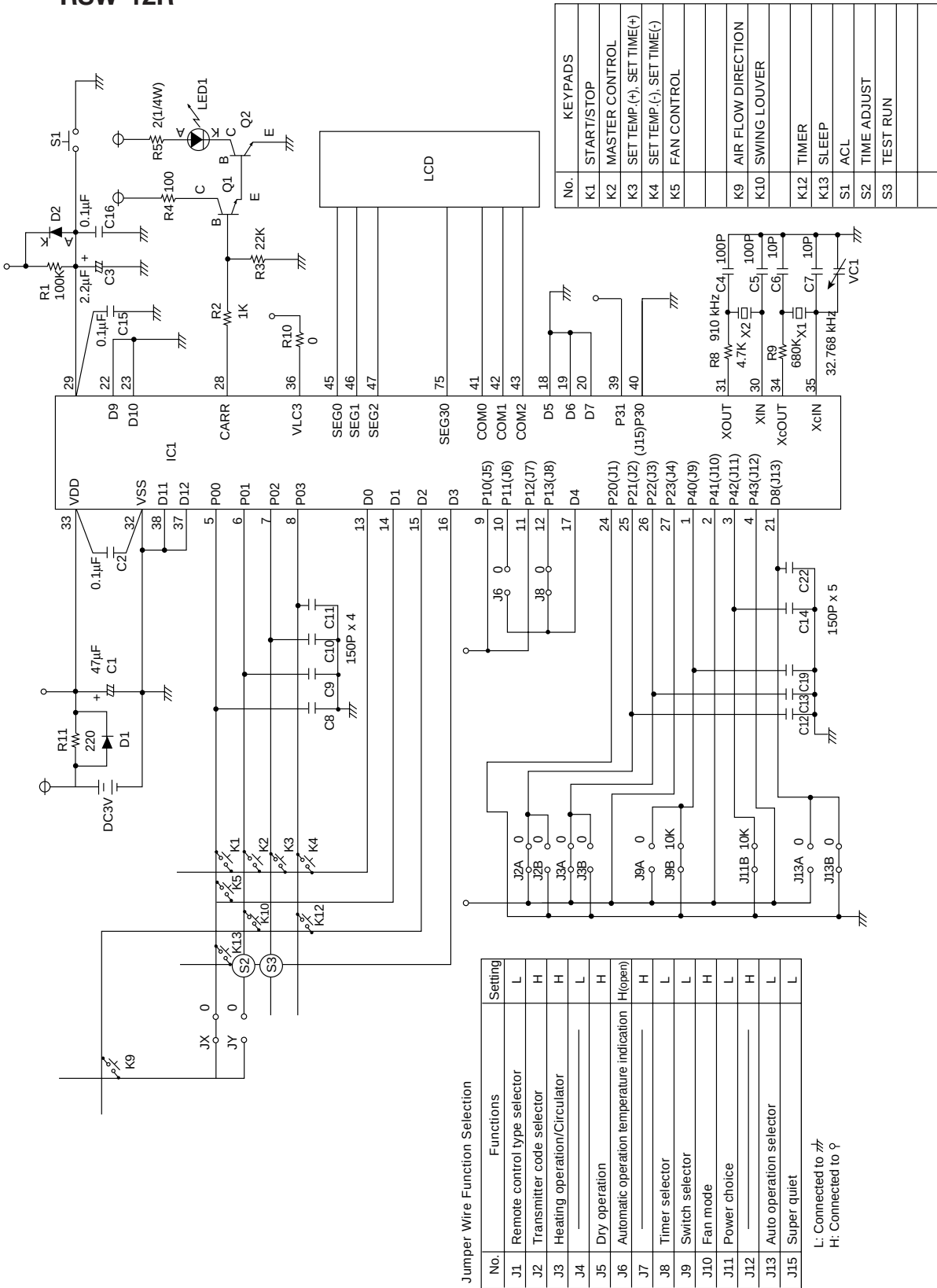


5.5.2 COMPACT MII SERIES

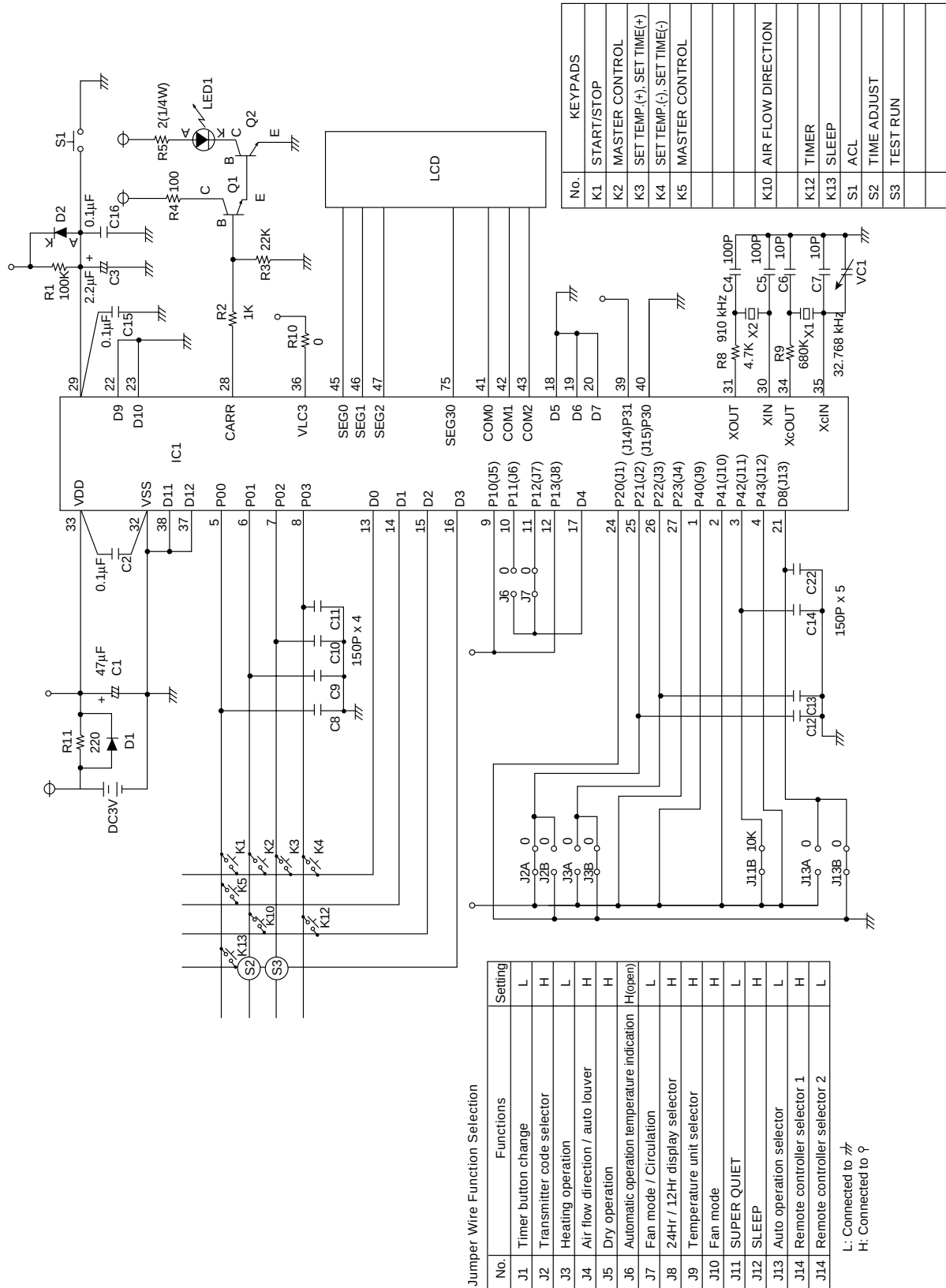
Models : RSW-9
RSW-12



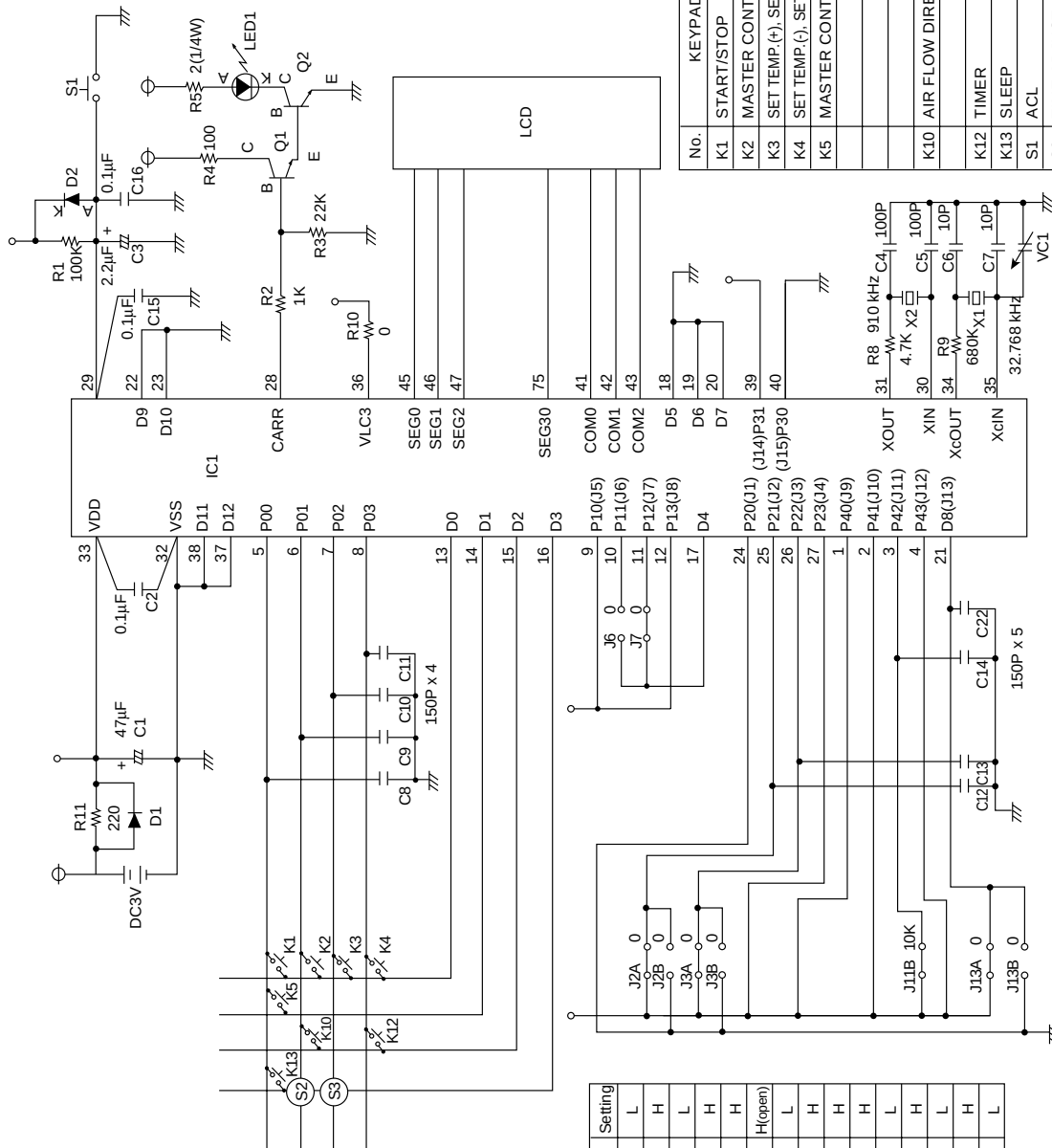
**Models : RSW-9R
RSW-12R**



**Models : RSW-14
RSW-17**



**Models : RSW-14R
RSW-17R**



No.	Functions	Setting
J1	Timer button change	L
J2	Transmitter code selector	H
J3	Heating operation	L
J4	Air flow direction / auto louver	H
J5	Dry operation	H
J6	Automatic operation temperature indication	H(open)
J7	Fan mode / Circulation	L
J8	24Hr / 12Hr display selector	H
J9	Temperature unit selector	H
J10	Fan mode	H
J11	SUPER QUIET	L
J12	SLEEP	H
J13	Auto operation selector	L
J14	Remote controller selector 1	H
J14	Remote controller selector 2	L

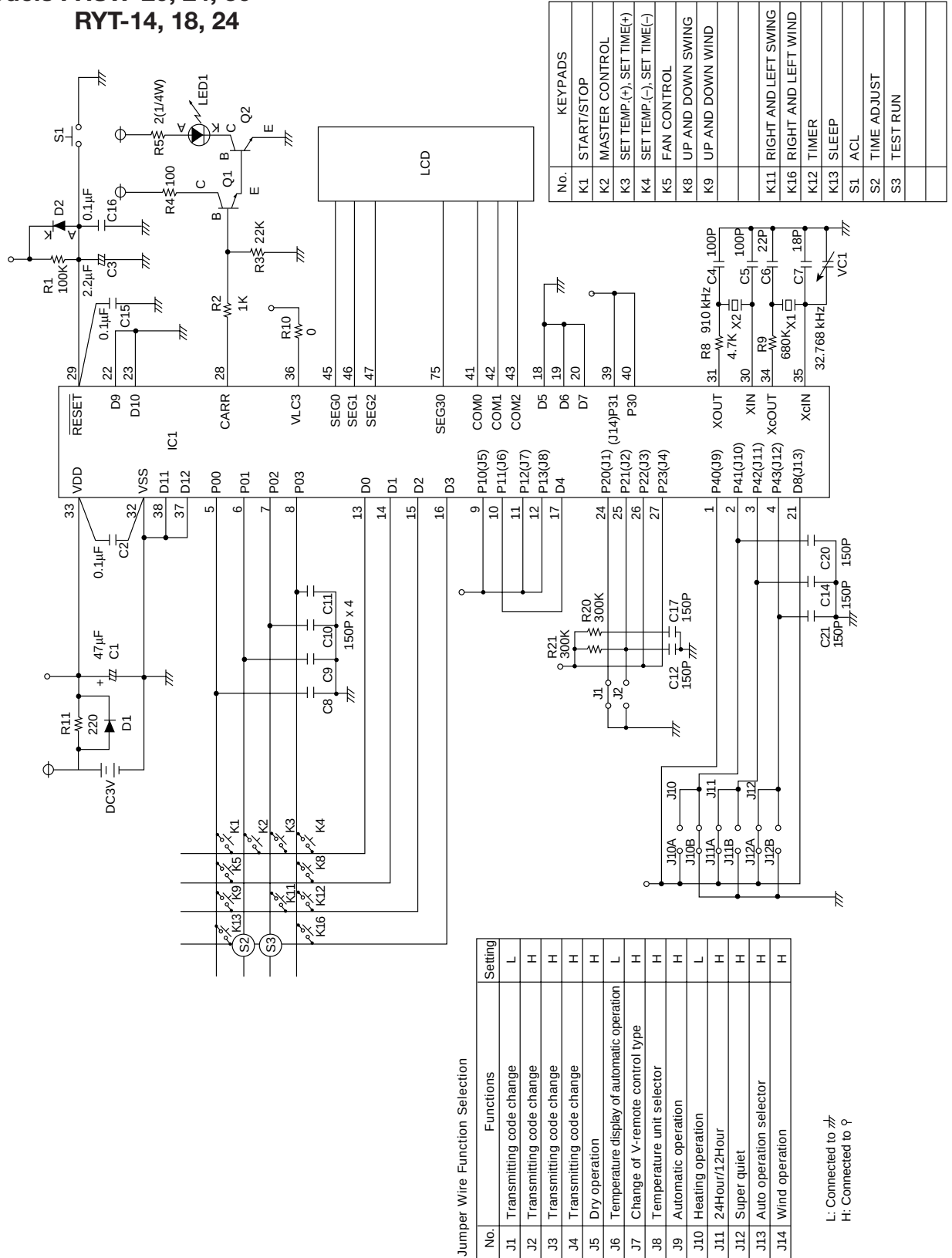
No.	KEYPADS				
K1	START/STOP				
K2	MASTER CONTROL				
K3	SET TEMP(+), SET TIME(+)				
K4	SET TEMP(-), SET TIME(-)				
K5	MASTER CONTROL				
K10	AIR FLOW DIRECTION				
K12	TIMER				
K13	SLEEP				
S1	ACL				
S2	TIME ADJUST				
S3	TEST RUN				

L: Connected to $\nVdash$
H: Connected to $\wp$

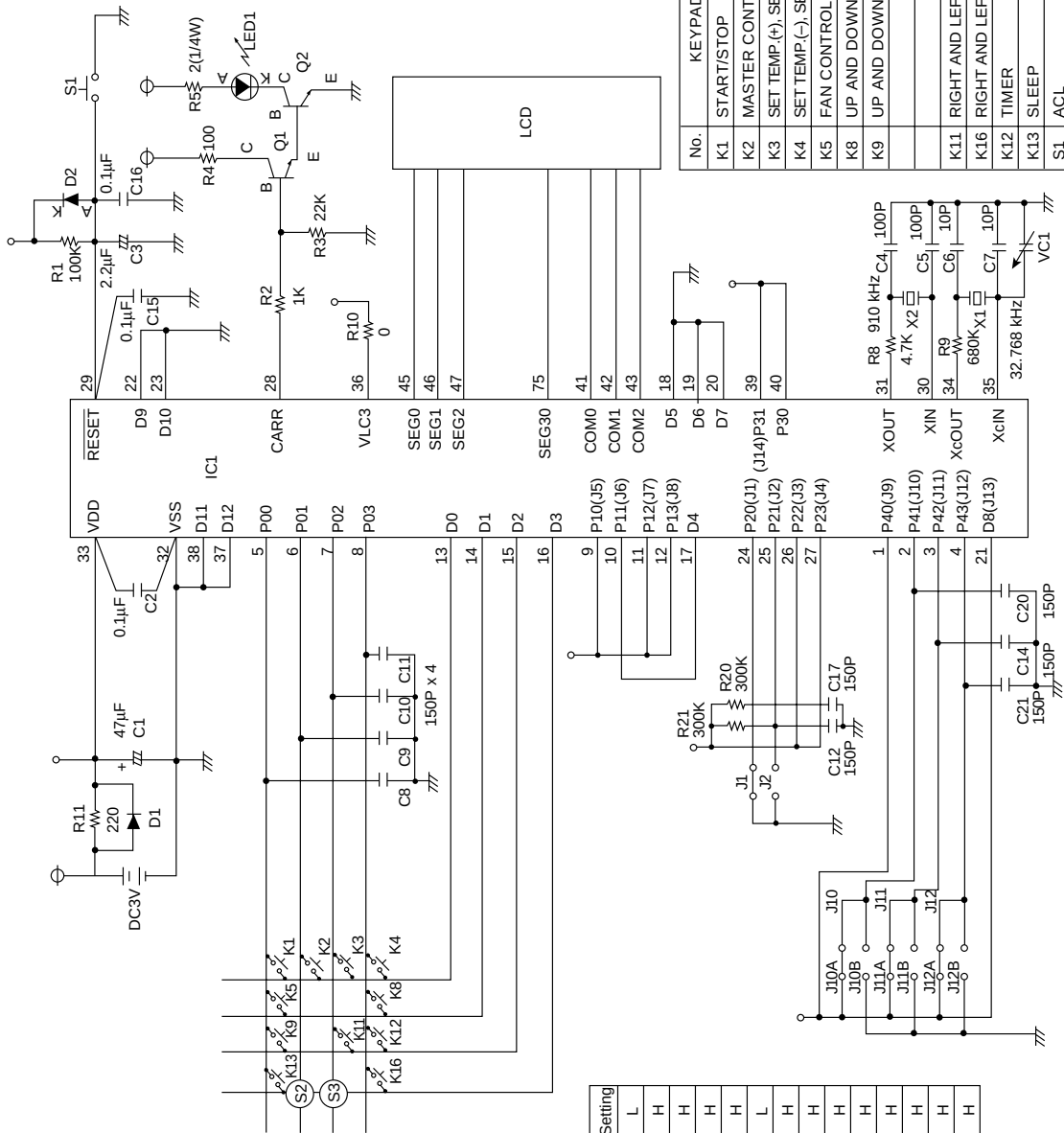
5.5.4 WALL MOUNTED LARGE TYPE AND FLOOR/CEILING UNIVERSAL TYPE

REMOTE CONTROL UNIT CIRCUIT DIAGRAM (HANDY TYPE)

Models : RSW-20, 24, 30
RYT-14, 18, 24



Models : RSW-20R, 24R, 30R
RYT-14R, 18R, 24R



Jumper Wire Function Selection

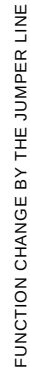
No.	Functions	Setting
J1	Transmitting code change	L
J2	Transmitting code change	H
J3	Transmitting code change	H
J4	Transmitting code change	H
J5	Dry operation	H
J6	Temperature display of automatic operation	L
J7	Change of V-remote control type	H
J8	Temperature unit selector	H
J9	Automatic operation	H
J10	Heating operation	H
J11	24Hour/12Hour	H
J12	Super quiet	H
J13	Auto operation selector	H
J14	Wind operation	H

L: Connected to ♀
H: Connected to ♂

No.	KEYPADS
K1	START/STOP
K2	MASTER CONTROL
K3	SET TEMP.(+), SET TIME(+)
K4	SET TEMP.(-), SET TIME(-)
K5	FAN CONTROL
K8	UP AND DOWN SWING
K9	UP AND DOWN WIND
K11	RIGHT AND LEFT SWING
K16	RIGHT AND LEFT WIND
K12	TIMER
K13	SLEEP
S1	ACL
S2	TIME ADJUST
S3	TEST RUN

**Models : RSW-20, 24, 30
RYT-14, 18, 24**

No.	KEY FUNCTION
S1	ACL
S2	TIMER ADJUST
S3	TEST RUN
S4	START / STOP
S5	MASTER CONTROL
S6	SET TIME(+)
S7	SET TIME(-)
S8	FAN CONTROL
S9	TIME(-)
S10	SET TEMP(-)
S11	UP AND DOWN SWING
S12	UP AND DOWN WIND
S13	ENERGY SAVE
S14	RIGHT AND LEFT SWING
S15	TIMER
S16	SLEEP
S17	RIGHT AND LEFT WIND

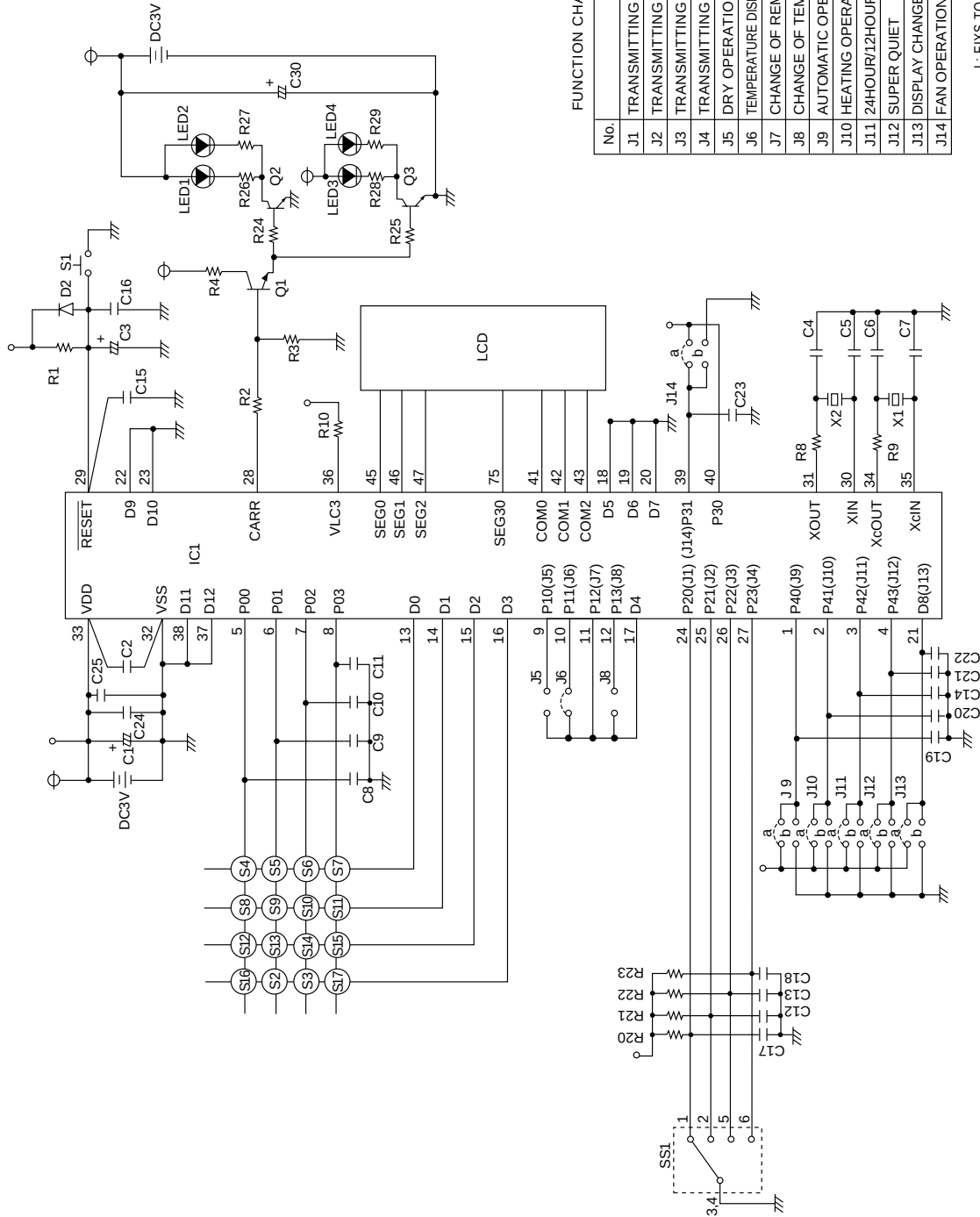


L: FIXS TO LOW LEVEL $\nrightarrow$
H: FIXS TO HIGH LEVEL $\rightarrow$

Models : RSW-20R, 24R, 30R
RYT-14R, 18R, 24R

KEY NO. KEY FUNCTION
CORRESPONDENCE TABLE

No.	KEY FUNCTION
S1	ACL
S2	TIMER ADJUST
S3	TEST RUN
S4	START / STOP
S5	MASTER CONTROL
S6	SET TEMP(+)
S7	SET TEMP(-)
S8	FAN CONTROL
S9	SET TIME(+)
S10	SET TIME(-)
S11	UP AND DOWN SWING
S12	UP AND DOWN WIND
S13	ENERGY SAVE
S14	RIGHT AND LEFT SWING
S15	TIMER
S16	SLEEP
S17	RIGHT AND LEFT WIND



FUNCTION CHANGE BY THE JUMPER LINE

No.	Functions	Setting
J1	TRANSMITTING CODE CHANGE	L
J2	TRANSMITTING CODE CHANGE	H
J3	TRANSMITTING CODE CHANGE	H
J4	TRANSMITTING CODE CHANGE	H
J5	DRY OPERATION	H
J6	TEMPERATURE DISPLAY OF AUTOMATIC OPERATION	L
J7	CHANGE OF REMOTE CONTROL TYPE	L
J8	CHANGE OF TEMPERATURE UNIT	H
J9	AUTOMATIC OPERATION	H
J10	HEATING OPERATION	H
J11	24HOUR/12HOUR	H
J12	SUPER QUIET	H
J13	DISPLAY CHANGE OF AUTOMATIC OPERATION	H
J14	FAN OPERATION	H

L: FIXES TO LOW LEVEL
H: FIXES TO HIGH LEVEL

6. INSTALLATION INSTRUCTIONS

6.1 SPLIT TYPE ROOM AIR CONDITIONER

SPLIT TYPE AIR CONDITIONER

INSTALLATION MANUAL

Models : RSW-20AD, RSW-24AB, RSW-20AB

For authorized service personnel only.

WARNING

- (1) For the room air conditioner to operate satisfactorily, install it as outlined in this installation manual.
- (2) Connect the indoor unit and outdoor unit with the room air conditioner piping and cords available standards parts. This installation manual describes the correct connections using the installation set available from our standard parts.
- (3) Installation work must be performed in accordance with national wiring standards by authorized personnel only.
- (4) Never cut the power cord, lengthen or shorten the cord, or change the plug.
- (5) Also, do not use an extension cord.
- (6) Plug in the power cord plug firmly. If the receptacle is loose, repair it before using the room air conditioner.
- (7) Do not turn on the power until all installation work is complete.

- Be careful not to scratch the room air conditioner when handling it.
- After installation, explain correct operation to the customer, using the operating manual.
- Let the customer keep this installation manual because it is used when the room air conditioner is serviced or moved.

SELECTING THE MOUNTING POSITION

WARNING

Install at a place that can withstand the weight of the indoor and outdoor units and install positively so that the units will not topple or fall.

CAUTION

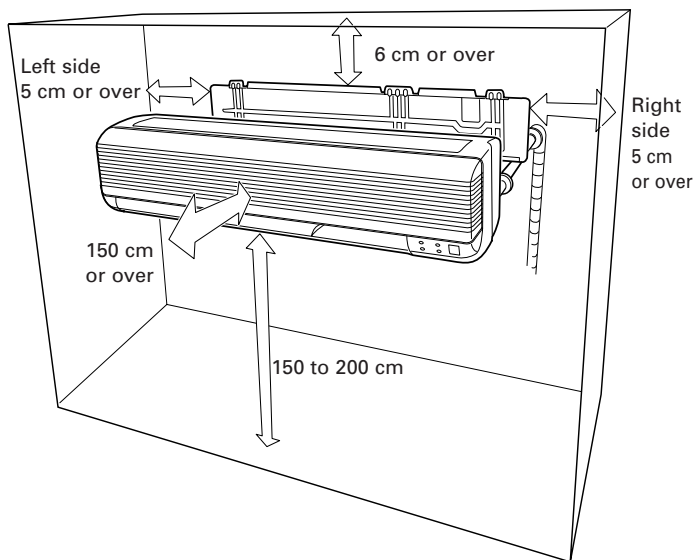
- (1) Do not install where there is the danger of combustible gas leakage.
- (2) Do not install near heat sources.
- (3) If children under 10 years old may approach the unit, take preventive measures so that they cannot reach the unit.

Decide the mounting position with the customer as follows:

1. INDOOR UNIT

- (1) Install the indoor unit level on a strong wall which is not subject to vibration.
- (2) The inlet and outlet ports should not be obstructed : the air should be able to blow all over the room.
- (3) Install the unit near an electric outlet or special branch circuit.
- (4) Do not install the unit where it will be exposed to direct sunlight.
- (5) Install the unit where connection to the outdoor unit is easy.
- (6) Install the unit where the drain pipe can be easily installed.
- (7) Take servicing, etc. into consideration and leave the spaces shown in Fig. 1. Also install the unit where the filter can be removed.

Fig. 1



2. OUTDOOR UNIT

- (1) If possible, do not install the unit where it will be exposed to direct sunlight. (If necessary, install a blind that does not interfere with the air flow.)
 - (2) Do not install the unit where a strong wind blows or where it is very dusty.
 - (3) Do not install the unit where people pass.
 - (4) Take your neighbors into consideration so that they are not disturbed by air blowing into their windows or by noise.
 - (5) Provide the space shown in Fig. 2 so that the air flow is not blocked.
- Also for efficient operation, leave open three of the four directions front, rear, and both sides.

Fig. 2

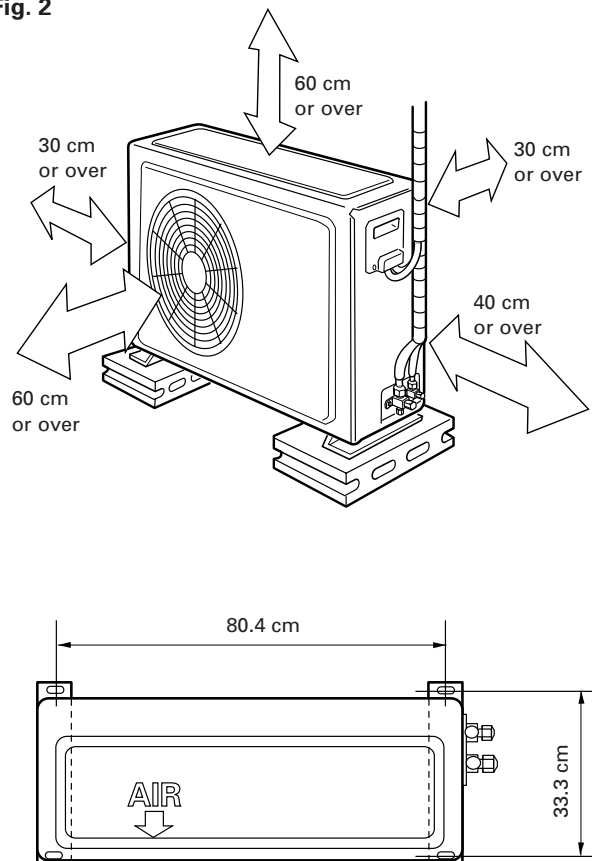
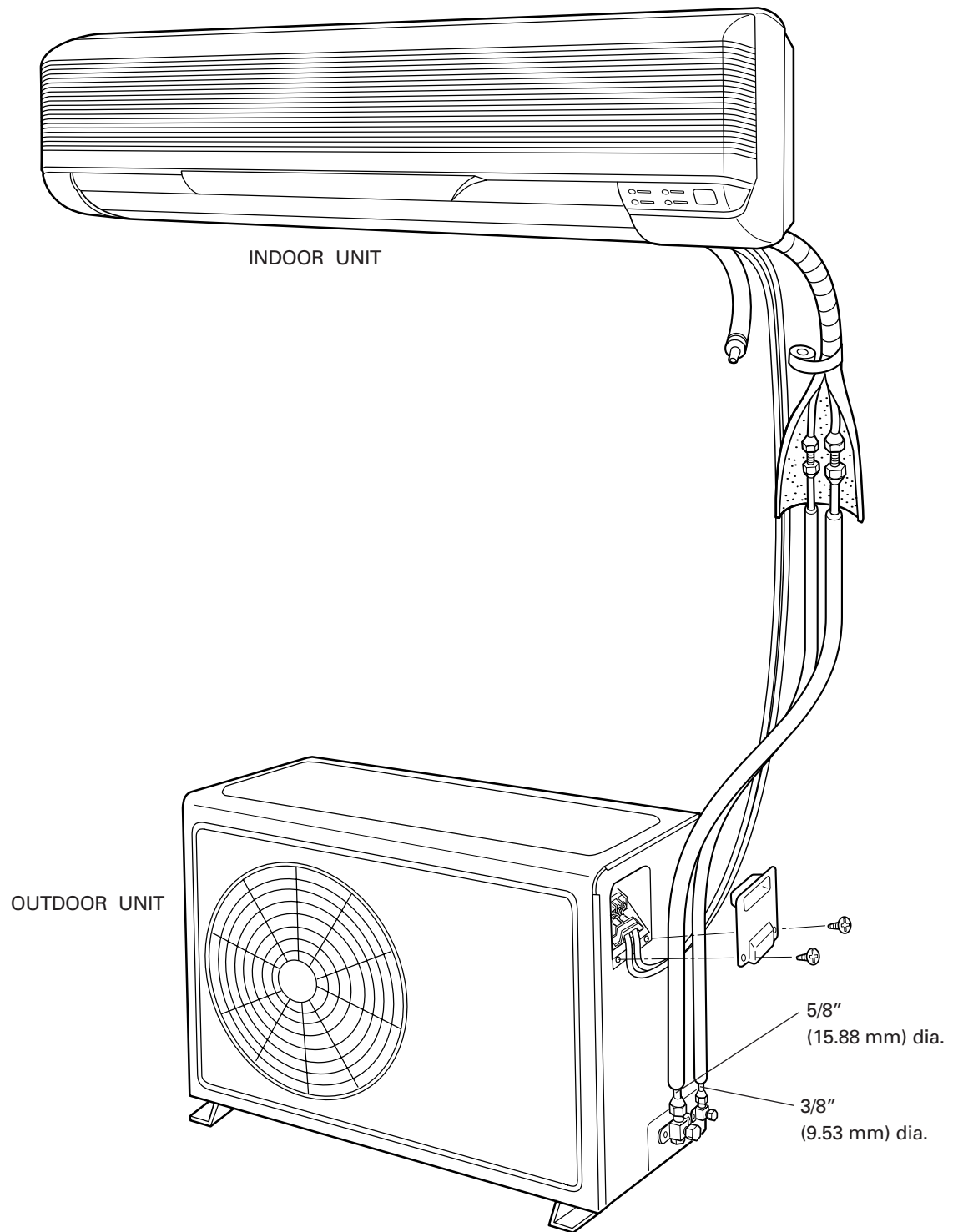


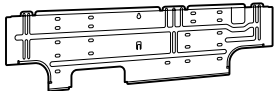
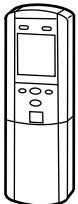
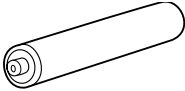
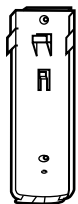
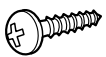
Fig. 3



STANDARD ACCESSORIES

The following installation accessories are supplied. Use them as required.

INDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Use
Wall hook bracket 	1	For indoor unit installation
Remote control unit 	1	Use for air conditioner operation
Battery (penlight) 	4	For remote control unit
Remote control unit holder 	1	Use as remote control unit holder
Tapping screw (big) (ø4 x 20) 	12	For wall hook bracket installation
Tapping screw (small) (ø3 x 12) 	2	For remote control unit holder installation

OUTDOOR UNIT ACCESSORIES

Hexagon wrench 	1	For air purge
Drain pipe 	1	For outdoor unit drain piping work (Heat & Cool model (Reverse cycle) only)
Flexible tube 	1	
Drain cap 	2	

ELECTRICAL REQUIREMENT

- Electric wire size and fuse capacity:

Table 1

Power cord (mm ²)	MAX	3.5
	MIN	3.0
Connection cord (mm ²)	MAX	1.5
	MIN	1.0
Fuse capacity (A)		30

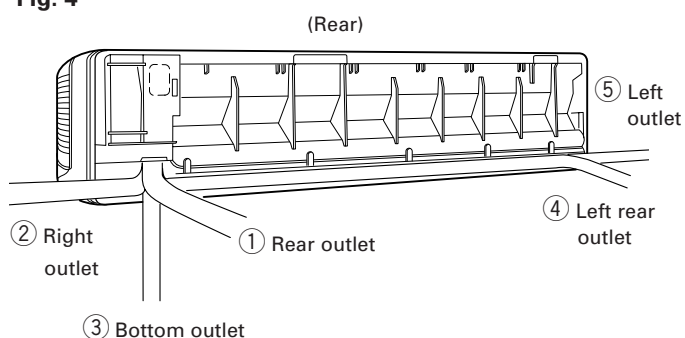
- Always use H07RN-F or equivalent as the connection cord.
- Install the disconnect device with a contact gap of at least 3 mm nearby the units. (Both indoor unit and outdoor unit)

INSTALLATION PROCEDURE

1. INDOOR UNIT INSTALLATION

The piping can be connected in the five directions indicated by ①, ②, ③, ④, and ⑤ in Fig. 4. When the piping is connected in direction ② or ⑤, cut along the piping groove in the side of the under cover with a hacksaw. When connecting the piping in direction ③, cut a notch in the thin wall at the front bottom of the under cover.

Fig. 4



1. INSTALLING THE WALL HOOK BRACKET

Removing the wall hook bracket

Remove the wall hook bracket in the following order:

- ① Remove one side of under cover B by pulling it forward (arrow direction in Fig. 5).
- ② Remove the other side of under cover B by pulling it forward (arrow direction in Fig. 5).
- ③ Remove the tapping screw installed to under cover A. (Fig. 6)
- ④ While pulling the right side of under cover A forward (releasing the inside stopper), slide under cover A to the left and unhook the two inside hooks. (Fig. 6)
- ⑤ Next, remove under cover A by pulling the left side forward (arrow direction in Fig. 6).
- ⑥ Remove the four tapping screws holding the wall hook bracket. (Fig. 7)

Fig. 5

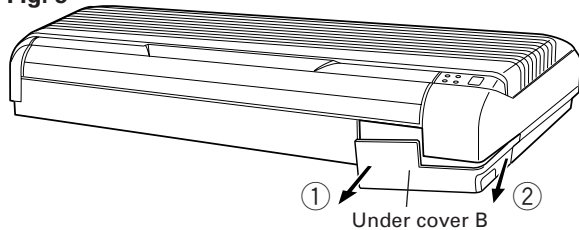


Fig. 6

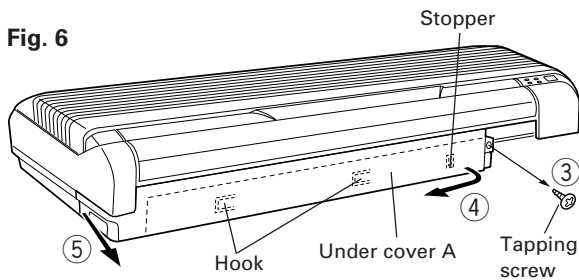
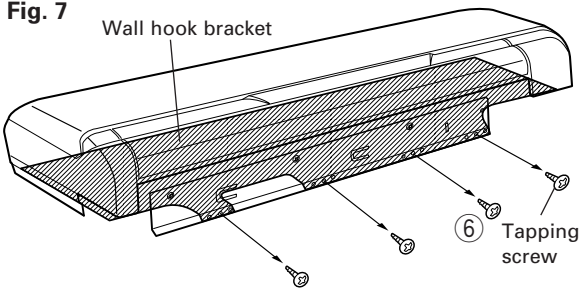


Fig. 7



- (1) Install the wall hook bracket so that it is correctly positioned horizontally and vertically. If the wall hook bracket is tilted, water will drip to the floor.
- (2) As the weight of the indoor unit is 37 to 44 lbs (17 to 20 kg), it should be installed after properly examining the place where it is intended to be installed. If the place is not strong enough, a plank or girder should be used to make the place sufficiently strong so that the wall can support the weight.

[Installation directly to a wall]

Before fastening the wall hook bracket to the wall with the screws, level it by tapping the hook at the center of bracket to the wall with the handle of a screwdriver.

- Fasten the wall hook bracket to the wall with 6 or more screws and anchor bolts through the holes near the outer edge of the bracket.
 - Do not install the wall hook bracket at only one place or at an angle. For a concrete wall, embed anchor bolts (10 mm dia.) into the wall at the wall hook bracket holes (12 x 18 mm dia.). Allow the anchor bolts to stick out at least 18 mm from the wall. (Fig. 8)
- Install the unit to the anchor bolts with nuts through the wall hook bracket. Use 2 bolts for concrete wall and 4 bolts for blister concrete wall.
- Finally tighten the bolts and wood screws after confirming, using the level indicator, that the clamp is horizontal.

⚠ CAUTION

Install the wall hook bracket horizontally and perpendicularly. If the wall hook bracket is tilted, water will drip to the floor.

Fig. 8

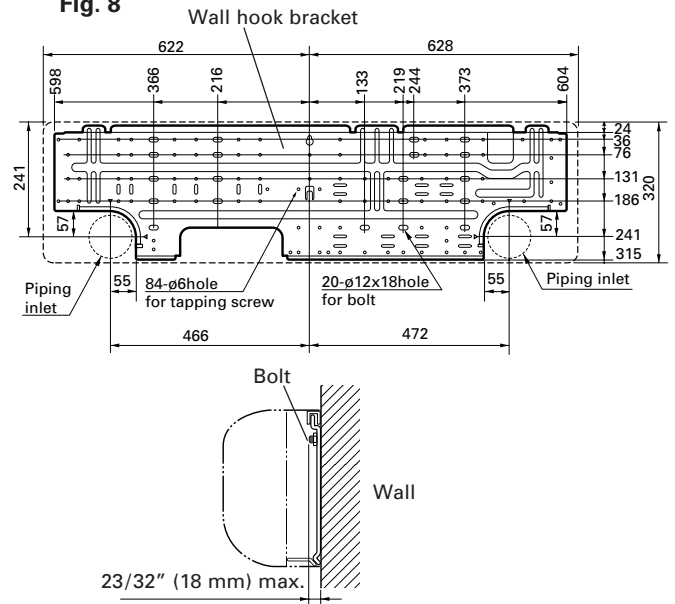
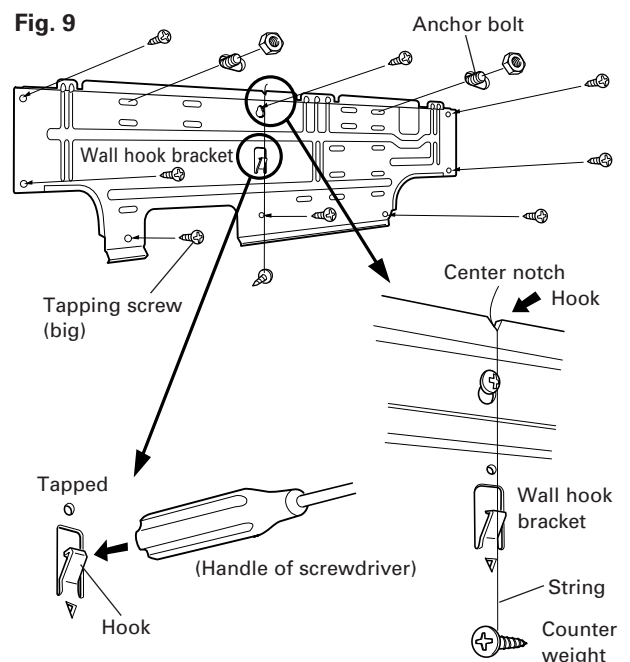


Fig. 9



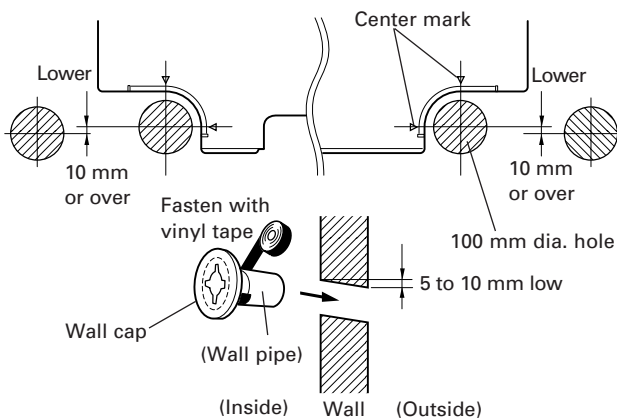
2. CUTTING THE HOLE IN THE WALL FOR THE CONNECTING PIPING

⚠ WARNING

If the wall pipe is not used, the cord interconnecting the indoor and outdoor units may touch metal and cause electric leakage.

- (1) Cut a 100 mm diameter hole in the wall at the position shown in Fig. 10.
- (2) When cutting the wall hole at the inside of the installation frame, cut the hole to a point of intersection of center marks.
When cutting the wall hole at the outside of the installation frame, cut the hole at least 10 mm below less.
- (3) Cut the hole so that the outside end is lower (5 to 10 mm) than the inside end.
- (4) Always align the center of the wall hole. If misaligned, water leakage will occur.
- (5) Cut the wall pipe to match the wall thickness, stick it into the wall cap, fasten the cap with vinyl tape, and stick the pipe through the hole. (The connection pipe is supplied in the installation set.) (Fig. 10)

Fig. 10



- (6) For ⑤ left piping and ② right piping, cut the hole a little lower so that drain water will flow freely. (Fig. 10)

3. FORMING THE DRAIN HOSE AND PIPE

⚠ CAUTION

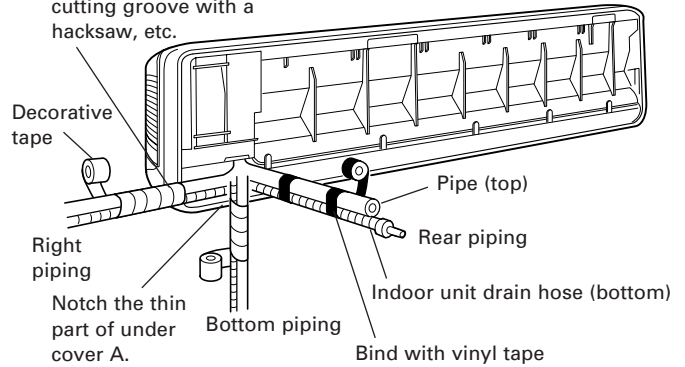
- (1) **Do not remove the flare nut from the indoor unit pipe until immediately before connecting the connection pipe.**
- (2) **To prevent breaking of the pipe, avoid sharp bends. Bend the pipe with a radius of curvature of 100 mm or over.**
- (3) **If the pipe is bent repeatedly at the same place, it will break.**

[① Rear piping, ② Right piping, ③ Bottom piping]

- Install the indoor unit piping in the direction of the wall hole and bind the drain hose and pipe together with vinyl tape. (Fig. 11)
- Install the piping so that the drain hose is at the bottom.

Fig. 11

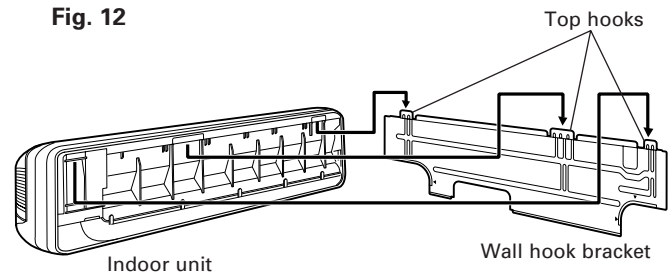
Cut off the piping outlet cutting groove with a hacksaw, etc.



- Perform “② INDOOR UNIT WIRING” before performing this piping.
- Wrap the pipes of the indoor unit that are visible from the outside with decorative tape.

- After passing the indoor piping and drain hose through the wall hole, hang the indoor unit on the hooks at the top of the wall hook bracket.

Fig. 12



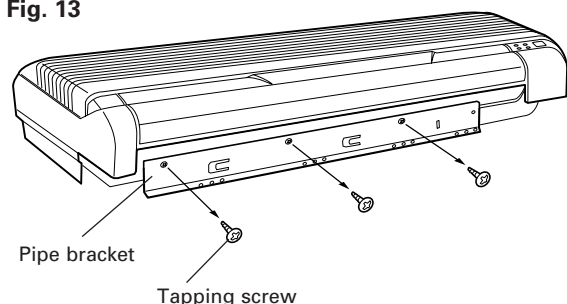
[For ④ Left rear piping, ⑤ Left piping]

- Left piping and left rear piping can be easily installed by removing the pipe bracket.

Removing the pipe bracket

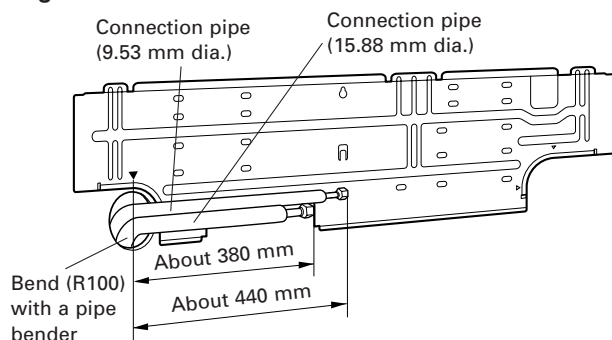
Remove the three tapping screws holding the pipe bracket as shown below.

Fig. 13



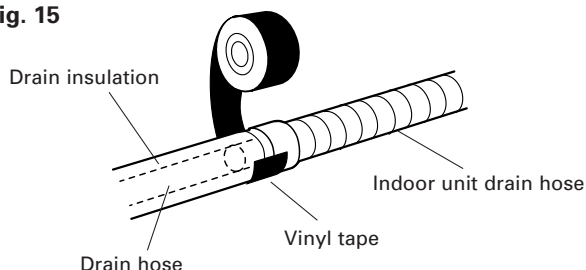
- For left piping and left rear piping, preset the end of the pipe to the dimensions shown in Fig. 14 from the mark on the wall hook bracket and form the connection pipe.
- Bend the connection piping at a bend radius of at least 100 mm and position it no more than 50 mm from the wall.

Fig. 14



- When extending the drain hose at the indoor unit, install the accessory drain insulation.

Fig. 15

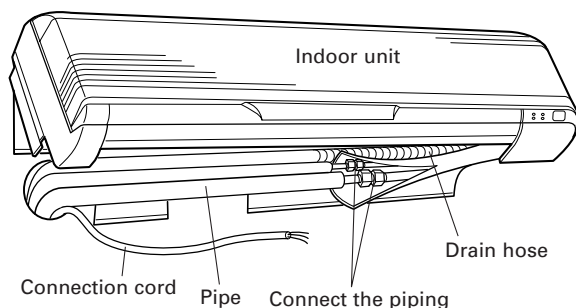


- Place the indoor unit drain hose behind the piping.

[Installing the indoor unit]

- Piping work can be made easier by laying out, shaping, and temporarily fastening the connection pipe, drain hose, and connection cord as shown in Fig. 16 beforehand.

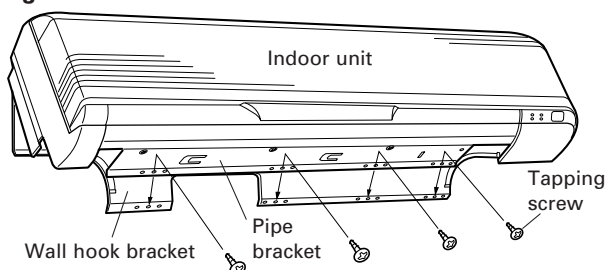
Fig. 16 (Left piping)



4. INSTALLING THE INDOOR UNIT

After connecting the piping, fasten the bottom of the indoor unit and the wall hook bracket with the tapping screws.

Fig. 17



2. INDOOR UNIT WIRING

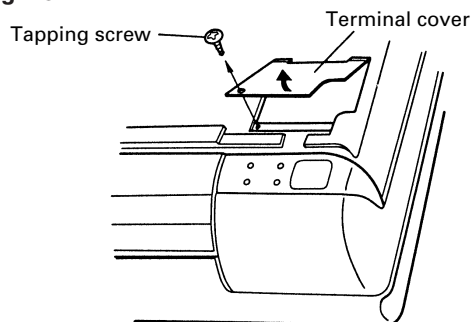
⚠ CAUTION

- (1) Match the terminal block numbers and connection cord colors with those of the outdoor unit. Erroneous wiring may cause burning of the electric parts.
- (2) Connect the connection cords firmly to the terminal block. Imperfect installation may cause a fire.
- (3) Always fasten the outside covering of the connection cord with the cord clamp. (If the insulator is chafed, electric leakage may occur.)
- (4) Always connect the ground wire.

- (1) Remove the intake grille.
- (2) Remove the terminal cover. (Fig. 18)

Removing the terminal cover

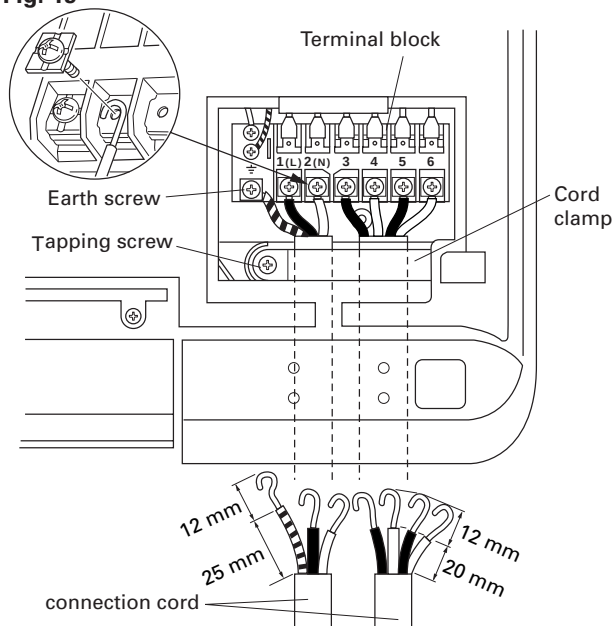
Fig. 18



[Heat & Cool model (Reverse cycle)]

- (3) Remove the cord clamp.
- (4) Process the end of the connection cords to the dimensions shown in Fig. 19.
- (5) Connect the end of the connection cord fully into the terminal block.

Fig. 19

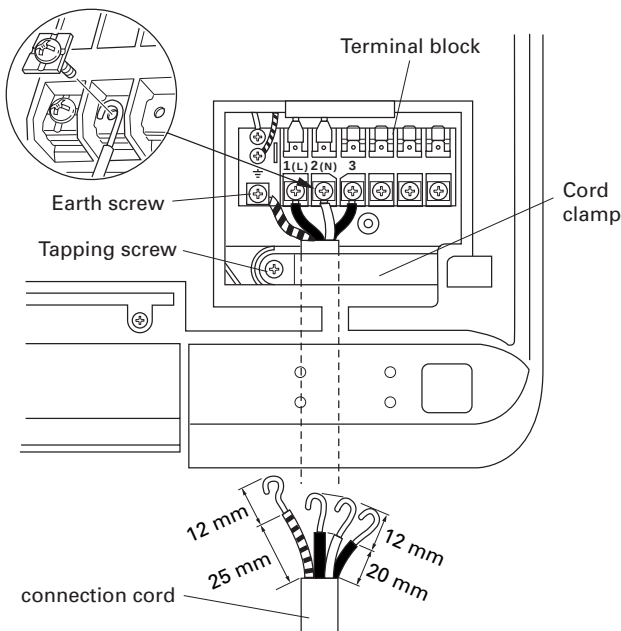


- (6) Fasten the connection cord with a cord clamp.
- (7) Fasten the terminal cover with the screw.

[Cooling model]

- (3) Remove the cord clamp.
- (4) Process the end of the connection cords to the dimensions shown in Fig. 20.
- (5) Connect the end of the connection cord fully into the terminal block.

Fig. 20



- (6) Fasten the connection cord with a cord clamp.
- (7) Fasten the terminal cover with the screw.

3. OUTDOOR UNIT INSTALLATION

⚠ WARNING

- (1) Install the unit where it will not be tilted by more than 5°.
- (2) When installing the outdoor unit where it may be exposed to strong wind, fasten it securely.

- Set the unit on a strong stand, such as one made of concrete blocks to minimize shock and vibration.
- Do not set the unit directly on the ground because it will cause trouble.

4. CONNECTING THE PIPING

⚠ CAUTION

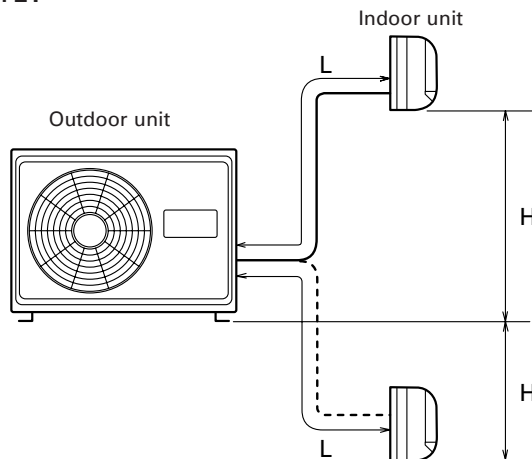
The maximum lengths of this product are shown in table 2. If the units are further apart than this, correct operation can not be guaranteed.

1. LIMITATION OF REFRIGERANT PIPING LENGTH

Table 2

Max length (L)	20 m (66 ft)
Max height difference (H)	8 m (20 ft)

Fig. 21



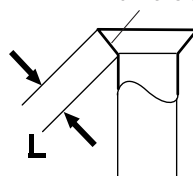
2. FLARING

- (1) Cut the connection pipe to the necessary length with a pipe cutter.
- (2) Hold the pipe downward so that cuttings will not enter the pipe and remove the burrs.
- (3) Insert the flare nut onto the pipe and flare the pipe with a flaring tool.

Fig. 22

Check if [L] is flared uniformly and is not cracked or scratched.

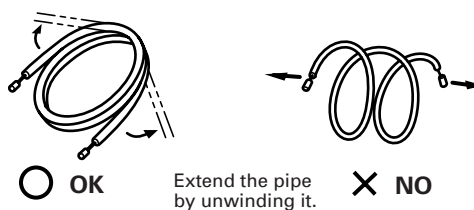
L dimension Thin pipe 1.8 to 2.0 mm (9.52 mm dia.)
Thick pipe 2.2 to 2.4 mm (15.88 mm dia.)



3. BENDING PIPES

The pipes are shaped by your hands. Be careful not to collapse them.

Fig. 23



Do not bend the pipes in an angle more than 90°.

When pipes are repeatedly bent or stretched, the material will harden, making it difficult to bend or stretch them any more. Do not bend or stretch the pipes more than three times.

4. CONNECTION

- (1) Install the outdoor unit wall cap (supplied with the optional installation set or procured at the site) to the wall pipe.
- (2) Connect the outdoor unit and indoor unit piping.
- (3) After matching the center of the flare surface and tightening the nut hand tight, tighten the nut to the specified tightening torque with a torque wrench. (Tighten the flare nut of the outdoor unit 3-way valve after air purging.)

Fig. 24

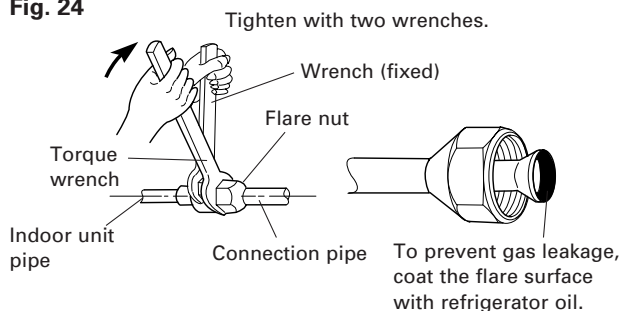


Table 3 Flare nut tightening torque

Flare nut	Tightening torque
9.52 mm dia.	30.4 to 34.3 N•m (310 to 350 kgf•cm)
15.88 mm dia.	73.6 to 78.5 N•m (750 to 800 kgf•cm)

Do not remove the cap from the connection pipe before connecting the pipe.

5. AIR PURGE

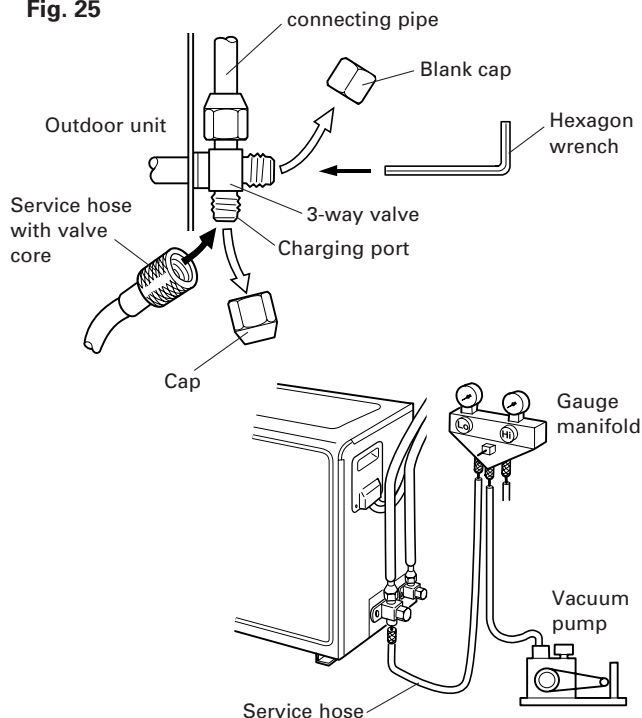
⚠ CAUTION

- (1) When moving and installing the room air conditioner, do not mix gas other than the specified refrigerant (R22) inside the refrigerant cycle.
- (2) Charging of additional refrigerant (R22) according to the piping length is unnecessary.

1. VACUUM

- (1) Remove the cap, and connect the gauge manifold and the vacuum pump to the charging valve by the service hoses.
- (2) Vacuum the indoor unit and the connecting pipes until the pressure in them lowers to below 1.5 mmHg.
- (3) Disconnect the service hoses and fit the cap to the charging valve (Tightening torque : 70 to 90 kgf • cm).
- (4) Remove the blank caps, and fully open the spindles of the 2-way and 3-way valves with a hexagon wrench (Torque : 2-way valve: 70 to 90 kgf • cm, 3-way valve: 100 to 120 kgf • cm).
- (5) Tighten the blank caps of the 2-way valve and 3-way valve to the specified torque (200 to 250 kgf • cm).

Fig. 25



2. ADDITIONAL CHARGE

Refrigerant suitable for a piping length of 5 m is charged in the outdoor unit at the factory.

When the piping is longer than 5 m, additional charging is necessary. For the additional amount, see the table below.

Table 4

Pipe length		16 ft (5 m)	33 ft (10 m)	49 ft (15 m)	66 ft (20 m)
Additional refrigerant	Cooling model	None	2.8 oz (80 g)	5.6 oz (160 g)	8.5 oz (240 g)

Between 5 m and 20 m, when using a connection pipe other than that in the table, charge additional refrigerant with 0.56 oz (16 g) / 3.3 ft (1 m) (Cooling model) as the criteria.

6. GAS LEAKAGE INSPECTION

⚠ CAUTION

After connecting the piping, check the joints for gas leakage with gas leak detector.

7. OUTDOOR UNIT WIRING

⚠ WARNING

- (1) Before starting work, check that power is not being supplied to indoor unit and the outdoor unit.
- (2) Match the terminal block numbers and connection cord colors with those of the indoor unit side. Erroneous wiring may cause burning of the electric parts.
- (3) Connect the connection cords firmly to the terminal block. Imperfect installation may cause a fire.
- (4) Always fasten the outside covering of the connection cord with cord clamps. (If the insulator is clamped, electric leakage may occur.)
- (5) Always connect the ground wire.

⚠ CAUTION

- (1) The power cord is not supplied with the outdoor unit. Use 2.5 mm² to 3.5 mm² H07RN-F or equivalent as the connection cord.
- (2) Use VW-1, 12 mm diameter, 0.5 to 1.0 mm thick, PVC tube as the insulation tube.

- (1) Remove the outdoor unit terminal cover.
- (2) Process the end of the connection cords to the dimensions shown in Fig. 27 and bend the end of each cord as shown in Fig. 26.
- (3) Connect the end of the connection cord fully into the terminal block and fasten with the screws.
- (4) Fasten the sheath with a cord clamp.
- (5) Install the terminal cover.

Fig. 26 Stripped length

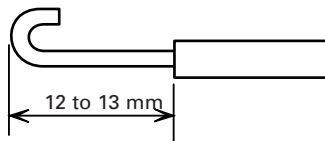
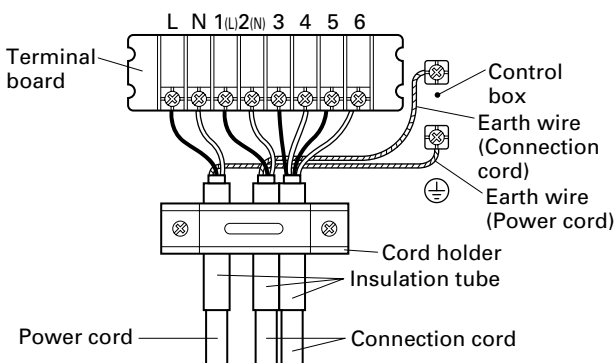
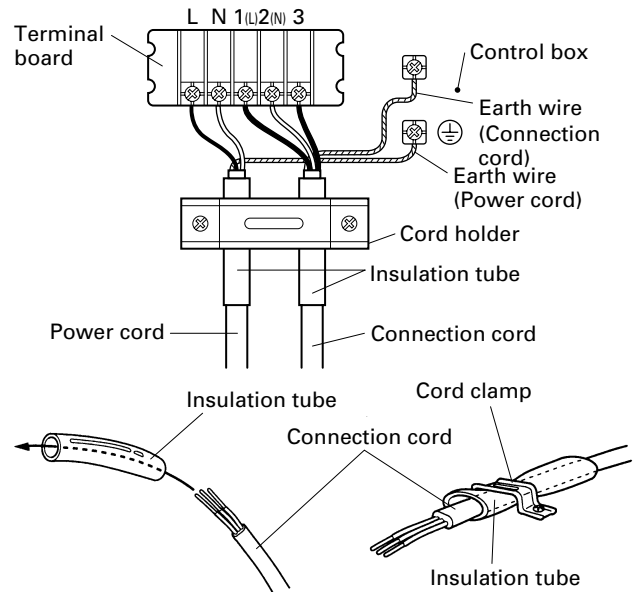


Fig. 27

Heat & Cool model (Reverse cycle)



Cooling model

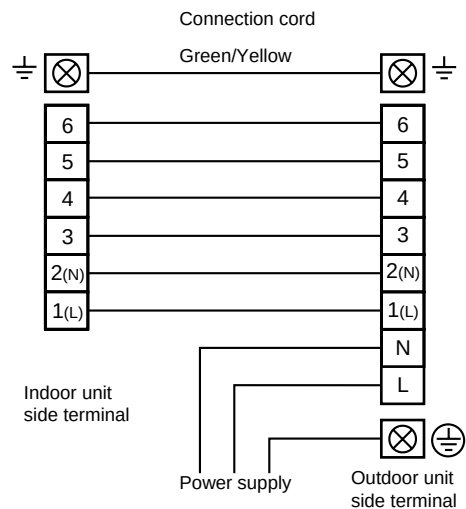


After passing the connection cord through the insulation tube, fasten it with the cord clamp

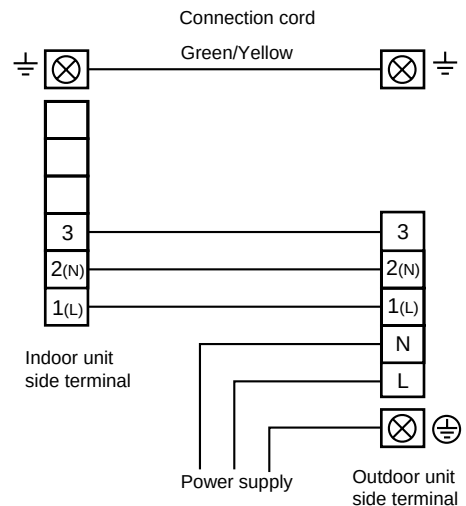
1. CONNECTION DIAGRAM

Fig. 28

Heat & Cool model (Reverse cycle)



Cooling model

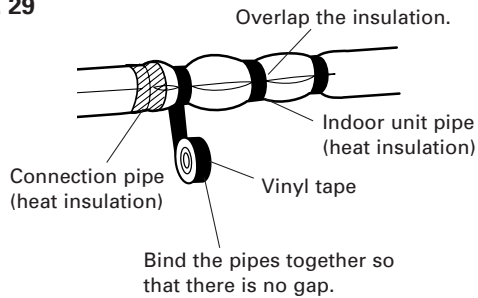


8. FINISHING

(1) Insulate between pipes.

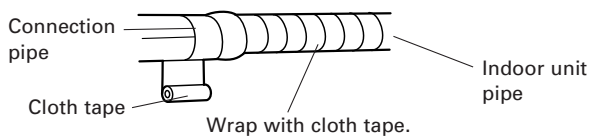
- For rear, right, and bottom piping, overlap the connection pipe heat insulation and indoor unit pipe heat insulation and bind them with vinyl tape so that there is no gap.
- For left and left rear piping, butt the connection pipe heat insulation and indoor unit pipe heat insulation together and bind them with and vinyl tape so that there is no gap.

Fig. 29



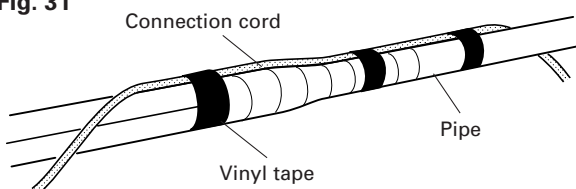
- For left and left rear piping, wrap the area which accommodates the rear piping housing section with cloth tape.

Fig. 30



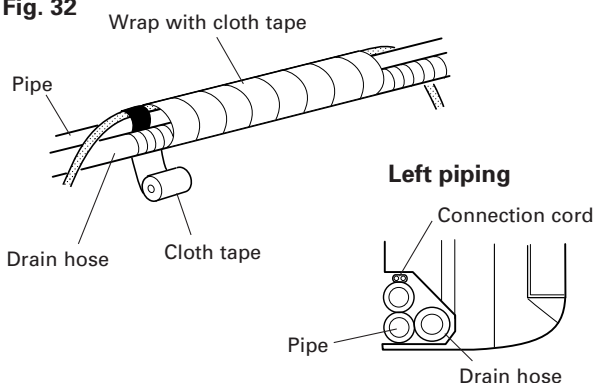
- For left and left rear piping, bind the connection cord to the top of the pipe with vinyl tape.

Fig. 31



- For left and left rear piping, bundle the piping and drain hose together by wrapping them with cloth tape over the range within which they fit into the rear piping housing section.

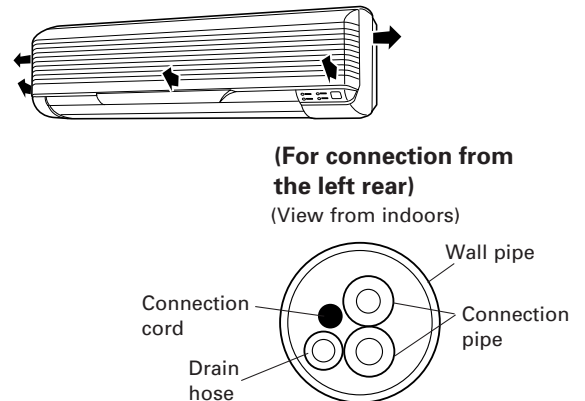
Fig. 32



Check that:

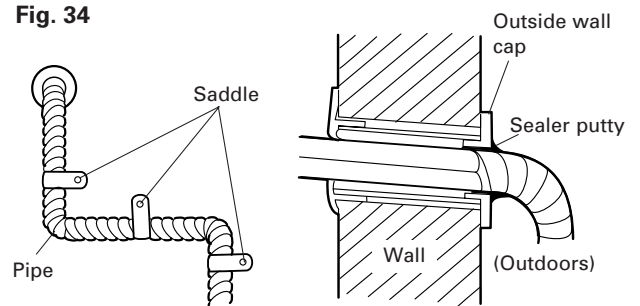
- The top and bottom hooks are hooked firmly and the indoor unit does not move to the front and rear or left and right.
- The indoor unit is accurately positioned horizontally and vertically.
- When connected from the left rear, the drain hose is at the bottom left of the wall pipe.

Fig. 33



- (2) Temporarily fasten the connection cord along the connection pipe with vinyl tape. (Wrap to about 1/3 the width of the tape from the bottom of the pipe so that water does not enter.)
- (3) Fasten the connection pipe to the outside wall with a saddle, etc.
- (4) Fill the gap between the outside wall pipe hole and the pipe with sealer so that rain water and wind cannot blow in.

Fig. 34

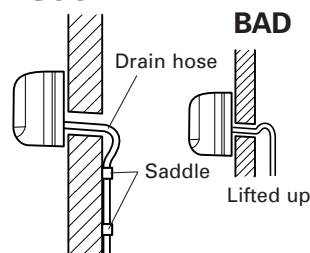


- (5) Fasten the drain hose to the outside wall, etc.

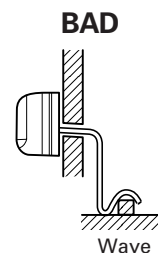
Fig. 34

Check the following :

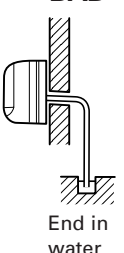
GOOD



BAD



BAD

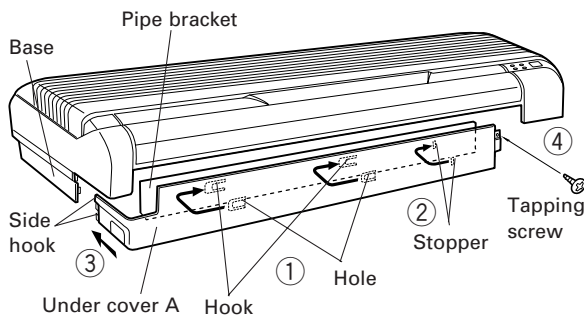


Installing the under covers

(1) Installing under cover A (Fig. 36)

- ① Hook the two pipe bracket hooks to the two holes in the back of under cover A.
- ② While pulling the left side of under cover A forward about 1 cm (at this time, hole hook ① so that it does not come unhooked), slide under cover A to the right and hook the hook.
- ③ Push the left side of under cover A in the arrow direction and hook the two side hooks to the base.
- ④ Install under cover A to the pipe bracket with the tapping screw.

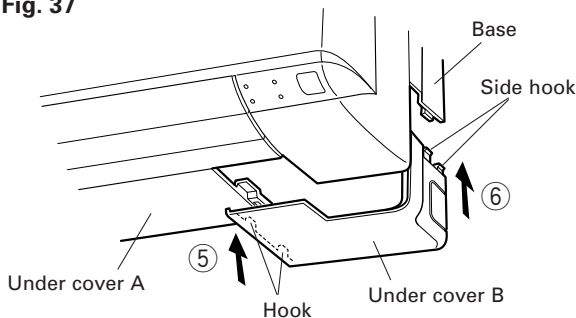
Fig. 36



(2) Installing under cover B (Fig. 37)

- ⑤ Push the left side of under cover B in the arrow direction and hook the two hooks to under cover A.
- ⑥ Push the right side of under cover B in the arrow direction and hook the two side hooks to the base.

Fig. 37



9. POWER

⚠ WARNING

- (1) The rated voltage of this product is 220-240 V A.C. 50 Hz.
- (2) Before turning on the verify that the voltage is within the 198 V to 264 V range.
- (3) Always use a special branch circuit and install a special receptacle to supply power to the room air conditioner.
- (4) Use a circuit breaker and receptacle matched to the capacity of the room air conditioner. (Install in accordance with standard)
- (5) The circuit breaker is installed in the permanent wiring. Always use a circuit that can trip all the poles of the wiring and has an isolation distance of at least 3 mm between the contacts of each pole.
- (6) Perform wiring work in accordance with standards so that the room air conditioner can be operated safely and positively.
- (7) Install a leakage circuit breaker in accordance with the related laws and regulations and electric company standards.

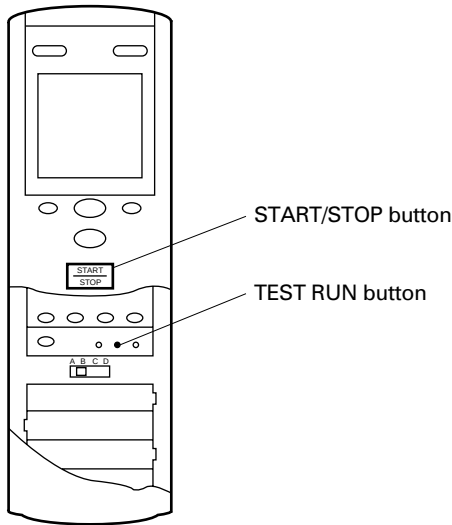
⚠ CAUTION

- (1) The power source capacity must be the sum of the room air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contracted capacity.
- (2) When the voltage is low and the air conditioner is difficult to start, contact the power company the voltage raised.

10. TEST RUNNING

- Press the remote control unit test run button while the air conditioner is running.
- At the end of test running, press the remote control unit start/stop button. (Fig. 38)

Fig. 38



Operation can be checked by lighting and flashing of the display section OPERATION and TIMER lamps. Perform judgement in accordance with the following.

- Test running

When the air conditioner is run by pressing the remote control unit test run button, the OPERATION and TIMER lamps flash slowly at the same time.

- Error

The OPERATION and TIMER lamps operate as follows (Table 5) according to the error contents.

Table 5

Error display	Error contents
OPERATION LAMP TIMER LAMP	Room temperature thermistor abnormal temperature detected
OPERATION LAMP TIMER LAMP	Piping thermistor abnormal temperature detected

CHECK ITEMS

(1) INDOOR UNIT

- (1) Is operation of each button on the remote control unit normal?
- (2) Does each lamp light normally?
- (3) Do not air flow direction louvers operate normally?
- (4) Is the drain normal?
- (5) Is there any abnormal noise and vibration during operation?

(2) OUTDOOR UNIT

- (1) Is there any abnormal noise and vibration during operation?
 - (2) Will noise, wind, or drain water from the unit disturb the neighbors?
 - (3) Is there any gas leakage?
- Do not operate the air conditioner in the test running state for a long time.
 - For the operation method, refer to the operating manual and perform operation check.

11. CUSTOMER GUIDANCE

Explain the following to the customer in accordance with the operating manual:

- (1) Starting and stopping method, operation switching, temperature adjustment, timer, air flow switching, and other remote control unit operations.
- (2) Air filter removal and cleaning, and how to use the air louvers.
- (3) Give the operating and installation manuals to the customer.

12. FRONT PANEL REMOVAL

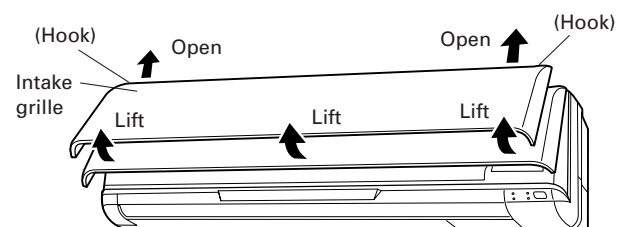
CAUTION

Install the front panel and intake grille securely. If installation is imperfect, the front panel or intake grille may fall off and cause injury.

1. INTAKE GRILLE REMOVAL

- (1) Open the intake grille.
- (2) Open the intake grille and lift the intake grille upward until the hook at the top of the intake grille is unhooked.

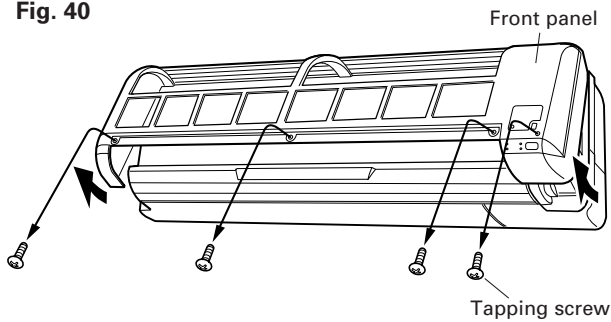
Fig. 39



2. FRONT PANEL REMOVAL

- (1) Remove the four tapping screws.
- (2) Remove the front panel by lifting the bottom of the front panel upward.

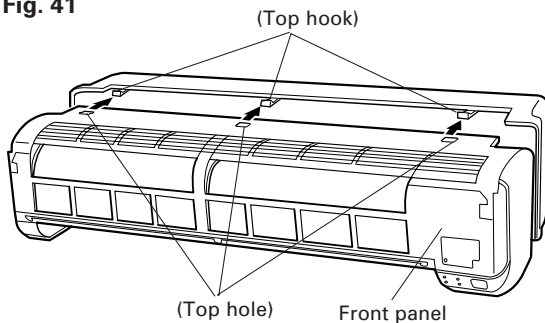
Fig. 40



3. FRONT PANEL INSTALLATION

- (1) Hook the top hole of the front panel to the hook of the base.
- (2) Fasten the front panel with the screw.

Fig. 41

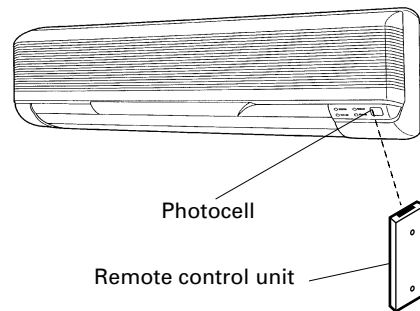


Be sure that the top hole of the front panel is hooked securely to the hook of the base.

1. REMOTE CONTROL UNIT HOLDER INSTALLATION

- Install the remote control unit so that the front is facing the photocell.(Fig. 42)

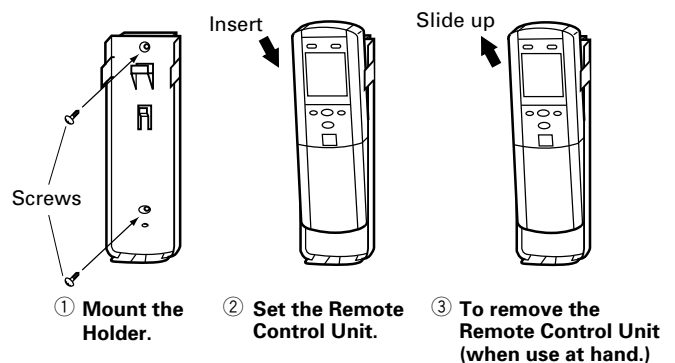
Fig. 42



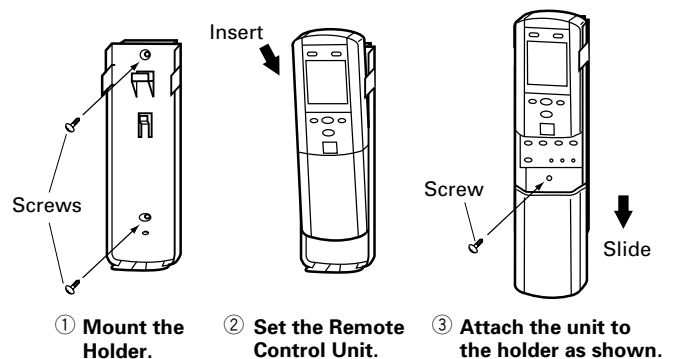
- Install the remote control unit with a distance of 7 m between the remote control unit and the photocell as the criteria. However, when installing the remote control unit, check that it operates positively.
- Install the remote control unit holder to a wall, pillar, etc. with the tapping screw (Fig. 43).

Fig. 43

For use as Handy Type



For use as Wall Fixing Type



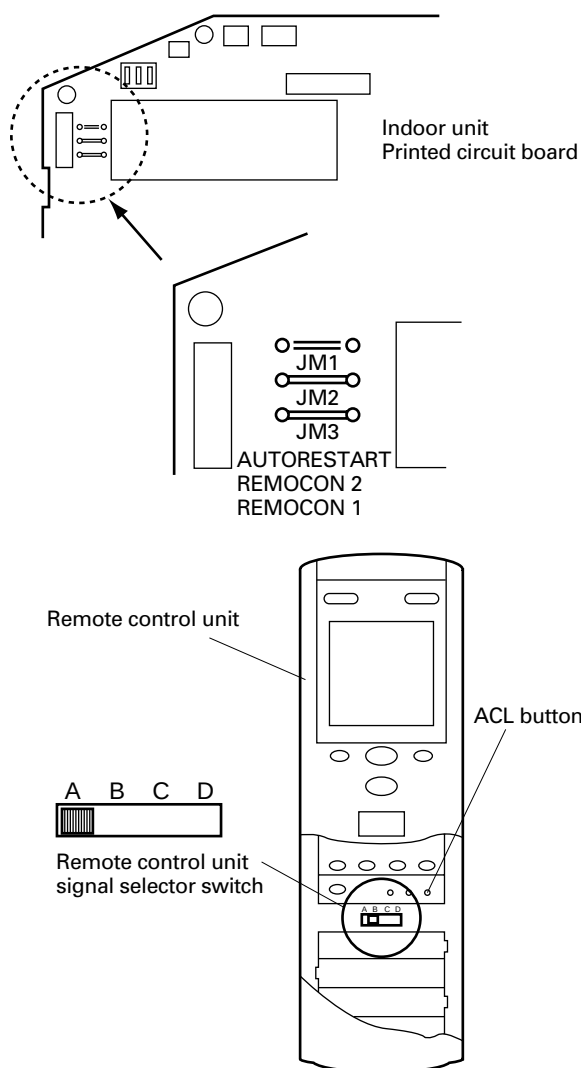
13. REMOTE CONTROL UNIT INSTALLATION

CAUTION

- (1) Check that the indoor unit correctly receives the signal from the remote control unit, then install the remote control unit holder.
- (2) Select the remote control unit holder selection site by paying careful attention to the following: Avoid places in direct sunlight. Select a place that will not be affected by the heat from a stove, etc.

2. REMOTE CONTROL UNIT CODE SWITCHING

Fig. 44



Confirm the remote control unit signal selector switch selection and the printed circuit board setting.

If these are not set to the same setting, the remote control unit cannot be used to operate for the air conditioner.

Table 6

Jumper wire		Remote control unit signal selector switch
JM 2	JM 3	
Connect	Connect	A (Primary setting)
Connect	Disconnect	B
Disconnect	Connect	C
Disconnect	Disconnect	D

After setting the remote control unit signal selector switch, press the ACL button.

6.2 FLOOR CONSOLE/UNDER CEILING DUAL TYPE

SPLIT TYPE AIR CONDITIONER

INSTALLATION MANUAL

Models : RYT-18, RYT-18R, RYT-24, RYT-24R

For authorized service personnel only.

WARNING

- | | |
|-----|---|
| (1) | For the room air conditioner to operate satisfactorily, install it as outlined in this installation manual. |
| (2) | Connect the indoor unit and outdoor unit with the room air conditioner piping and cords available standards parts. This installation manual describes the correct connections using the installation set available from our standard parts. |
| (3) | Installation work must be performed in accordance with national wiring standards by authorized personnel only. |
| (4) | Never cut the power cord, lengthen or shorten the cord, or change the plug. |
| (5) | Also, do not use an extension cord. |
| (6) | Plug in the power cord plug firmly. If the receptacle is loose, repair it before using the room air conditioner. |
| (7) | Do not turn on the power until all installation work is complete. |

- Be careful not to scratch the room air conditioner when handling it.
- After installation, explain correct operation to the customer, using the operating manual.
- Let the customer keep this installation manual because it is used when the room air conditioner is serviced or moved.

SELECTING THE MOUNTING POSITION

⚠ WARNING

Install at a place that can withstand the weight of the indoor and outdoor units and install positively so that the units will not topple or fall.

⚠ CAUTION

- (1) Do not install where there is the danger of com-bustible gas leakage.
- (2) Do not install near heat sources.
- (3) If children under 10 years old may approach the unit, take preventive measures so that they cannot reach the unit.

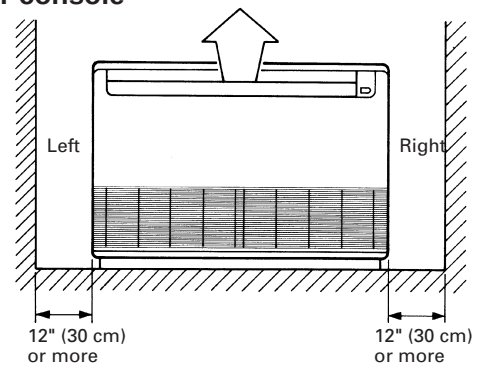
Decide the mounting position with the customer as follows:

1. INDOOR UNIT

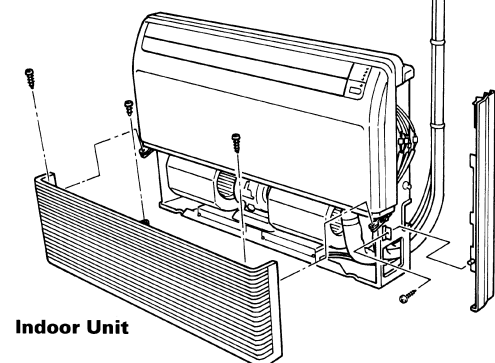
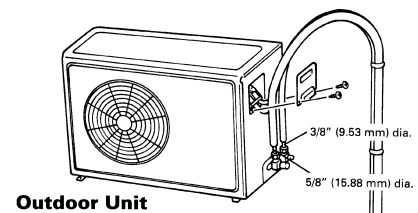
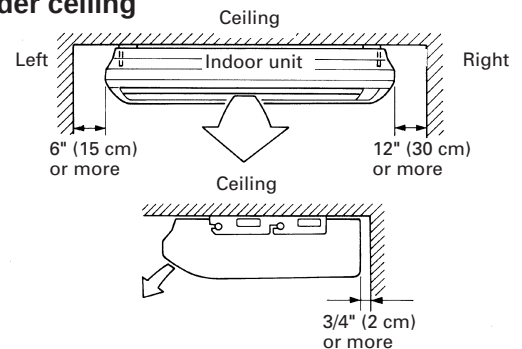
- (1) Install the indoor unit level on a strong wall, floor, ceiling which is not subject to vibration.
- (2) The inlet and outlet ports should not be obstructed : the air should be able to blow all over the room.
- (3) Install the unit near an electric outlet or special branch circuit.
- (4) Do not install the unit where it will be exposed to direct sunlight.
- (5) Install the unit where connection to the outdoor unit is easy.
- (6) Install the unit where the drain pipe can be easily installed.
- (7) Take servicing, etc. into consideration and leave the spaces shown in Fig.1. Also install the unit where the filter can be removed.

Fig. 1

• Floor console



• Under ceiling



STANDARD PARTS

The following installation parts are furnished.
Use them as required.

INDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application
Cover plate (left)	1	
Cover plate (right)	1	
Tapping screw (ø4 x 10)	2	
Installation template	1	
Bracket (left)	1	
Bracket (right)	1	For suspending the indoor unit from ceiling
Anchor bolt (M12)	4	
Spring washer	4	
Special nut	4	
Wall bracket	2	For suspending the indoor unit on the wall.
Tapping screw (ø4 x 20)	6	For fixing the wall bracket.
Coupler heat insulator (large)	1	For indoor side pipe joint (Large pipe)
Coupler heat insulator (small)	1	For indoor side pipe joint (Small pipe)
Nylon fastener	1	For fixing the drain hose
Drain hose	1	
Insulation (drain hose)	1	Adhesive type 70 × 230
VT wire	1	For fixing the drain hose L 280 mm
Remote control unit	1	Use for air conditioner operation
Battery (penlight)	4	For remote control unit
Remote control unit holder	1	For mounting the remote control unit
Tapping screw (ø3 x 12)	3	For remote control unit holder installation

OUTDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application
Hexagon wrench	1	For air purge
Pipe (drain)	1	For outdoor unit drain piping work (Heat & Cool model only)
Flexible tube	1	For outdoor unit drain piping work (Heat & Cool model only)
Cap (drain)	2	For outdoor unit drain piping work (Heat & Cool model only)

OPTIONAL PARTS FOR INDOOR UNIT

Name and Shape	Part No.	Application
Joint pipe-A	9302812021	For indoor side pipe joint

CONNECTION PIPE REQUIREMENT

Table 1

Diameter		Maximum length	Maximum height (between indoor and outdoor)
Small	Large		
9.53 mm (3/8 in)	15.88 mm (5/8 in)	20 m (66 ft)	8 m (26 ft)

- Use 0.7 mm to 1.2 mm thick pipe.
- Use pipe with water-resistant heat insulation.
- Use pipe that can withstand a pressure of 3,040 kPa.

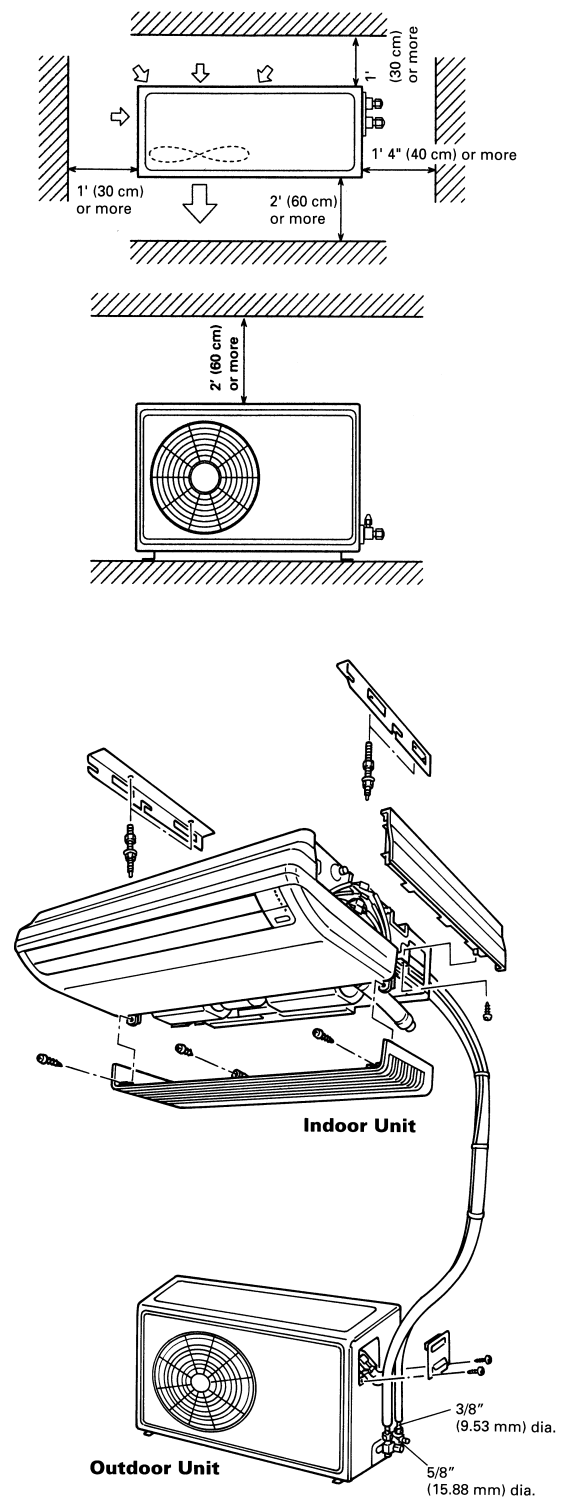
2. OUTDOOR UNIT

WARNING

- (1) Install the unit where it will not be tilted by more than 5°
- (2) When installing the outdoor unit where it may be exposed to strong wind, fasten it securely.

- (1) If possible, do not install the unit where it will be exposed to direct sunlight. (If necessary, install a blind that does not interfere with the air flow.)
- (2) Install the outdoor unit in a place where it will be free from being dirty or getting wet by rain as much as possible.
- (3) Install the unit when connection to the indoor unit is easy.
- (4) During heating operation, drain water flows from the outdoor unit. Therefore, install the outdoor unit in a place where the drain water flow will not be obstructed. (Reverse cycle model only)
- (5) Do not place animals and plants in the path of the warm air.
- (6) Take the air conditioner weight into account and select a place where noise and vibration are small.
- (7) Select a place so that the warm air and noise from the air conditioner do not disturb neighbors.
- (8) Provide the space shown in Fig. 2 so that the air flow is not blocked. Also for efficient operation, leave open three of the four directions front, rear, and both sides.

Fig. 2



INSTALLATION PROCEDURE

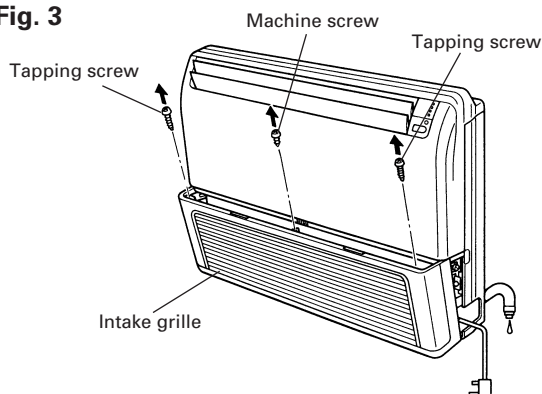
Install the air conditioner as follows:

1. PREPARING INDOOR UNIT INSTALLATION

REMOVE THE INTAKE GRILLE

Open the intake grille and remove the three screws (Fig. 3).

Fig. 3



Remark : The main unit can be wired before the indoor unit is installed. Select the most appropriate installation order.

2. INDOOR UNIT INSTALLATION

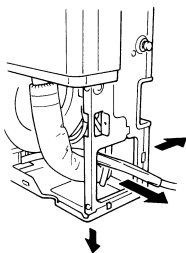
A. FLOOR CONSOLE TYPE

1. DRILLING FOR PIPING

Select piping and drain directions (Fig. 4).

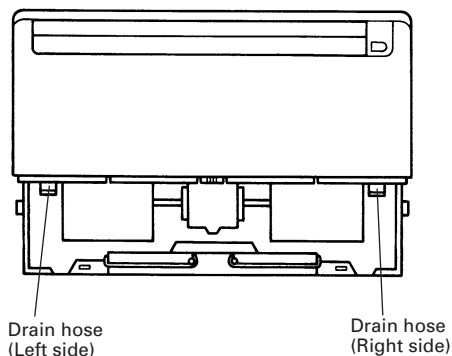
The piping and drain can be made in three directions as shown below.

Fig. 4



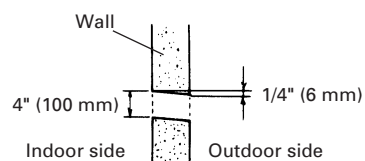
The drain hose can be connected to either the left or right side (Fig. 5).

Fig. 5



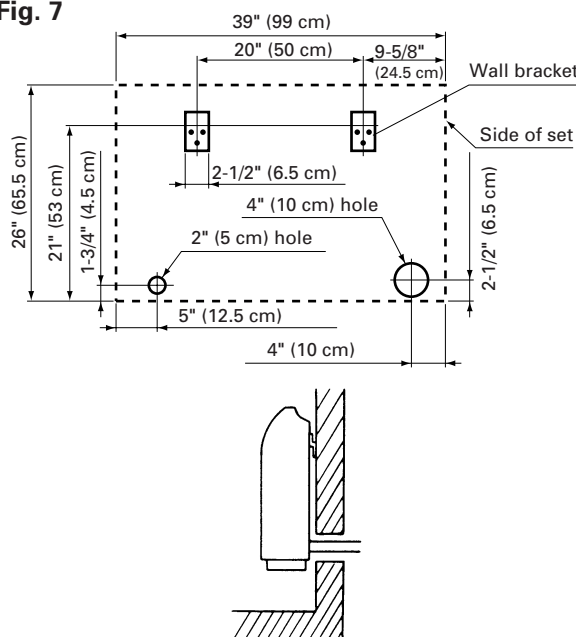
When the directions are selected, drill a 4" (10 cm) dia. hole on the wall so that the hole is tilted downward toward the outdoor for smooth water flow. When the pipe is led out from the rear, make a hole in Fig. 6, at the position shown.

Fig. 6



When installing set to wall install the accessory wall bracket at the position shown in Fig. 7, and mount the set to it.

Fig. 7



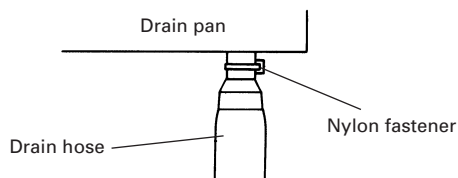
2. INSTALLING DRAIN HOSE

INSTALL THE DRAIN HOSE

Select whether the drain hose will be connected to the left or right side (Fig. 5).

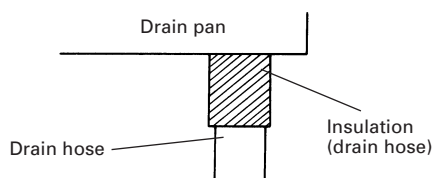
Insert the drain hose into the drain pan, then secure the drain hose with a nylon fastener (Fig. 8).

Fig. 8



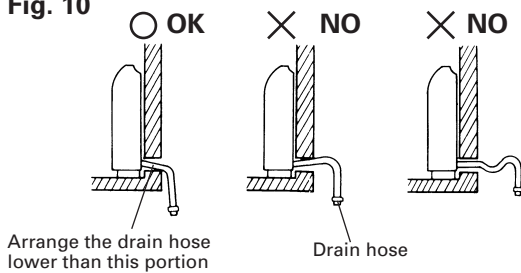
Wrap the insulation (drain hose) around the drain hose connection (Fig. 9).

Fig. 9



Be sure to arrange the drain hose so that it is leveled lower than the drain hose connecting port of the indoor unit.

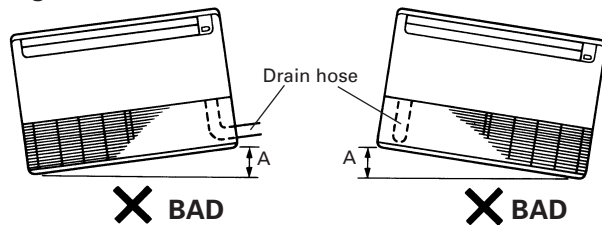
Fig. 10



CAUTION

Do not install the unit so that the drain hose side is too high. Height A should be less than 5 mm (Fig. 11).

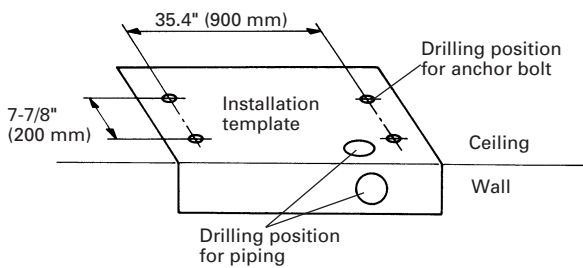
Fig. 11



B. UNDER CEILING TYPE

Using the installation template, drill holes for piping and anchor bolts (for holes) (Fig. 12).

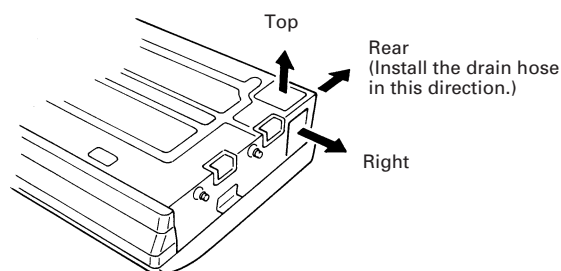
Fig.12



1. DRILLING FOR PIPING

Select piping and drain directions (Fig. 13).

Fig.13

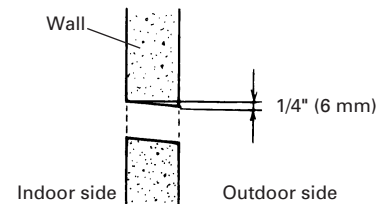


CAUTION

Install the drain hose at the rear; it should not be installed on the top or right side.

When the directions are selected, drill 3-1/8" (80 mm) and 2" (50 mm) or 6" (150 mm) dia. hole on the wall so that the hole is tilted downward toward the outdoor for smooth water flow.

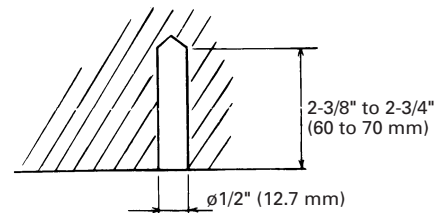
Fig.14



2. DRILLING HOLES FOR ANCHOR BOLTS AND INSTALLING THE ANCHOR BOLTS

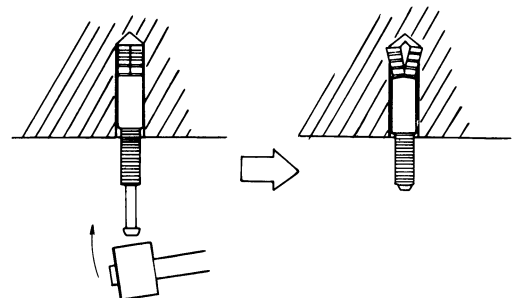
With a concrete drill, drill four 1/2" (12.7 mm) dia. holes (Fig. 15).

Fig.15



Insert the anchor bolts into the drilled holes, and drive the pins completely into the anchor bolts with a hammer (Fig. 16).

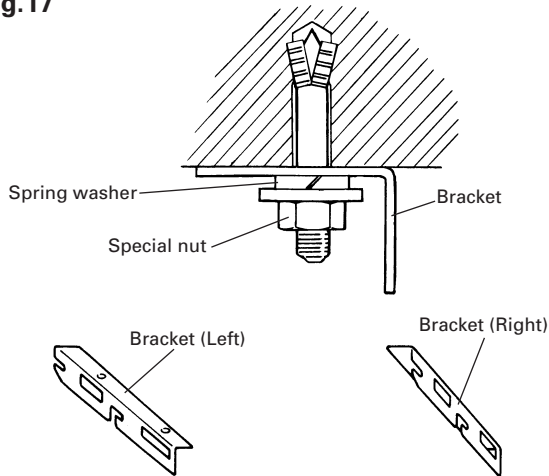
Fig.16



3. INSTALLING BRACKETS

Install the brackets with nuts, washers and spring washers (Fig. 17).

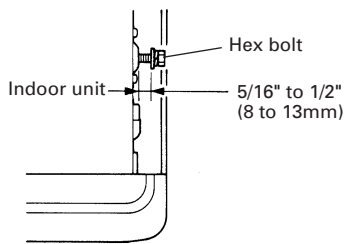
Fig.17



4. INSTALLING INDOOR UNIT

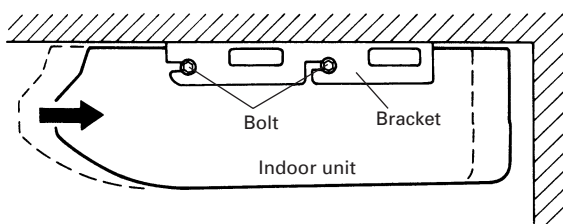
Reset the hex bolts as shown in Fig. 18.

Fig.18



Apply the indoor unit to the brackets (Fig. 19).

Fig.19



Now, securely tighten the hex bolts in both sides.

5. INSTALL THE DRAIN HOSE

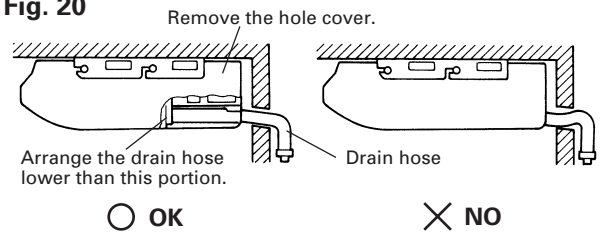
Select whether the drain hose will be connected to the left or right side (Fig. 5).

Insert the drain hose into the drain pan, then secure the drain hose with a nylon fastener (Fig. 8).

Wrap the insulation (drain hose) around the drain hose connection (Fig. 9).

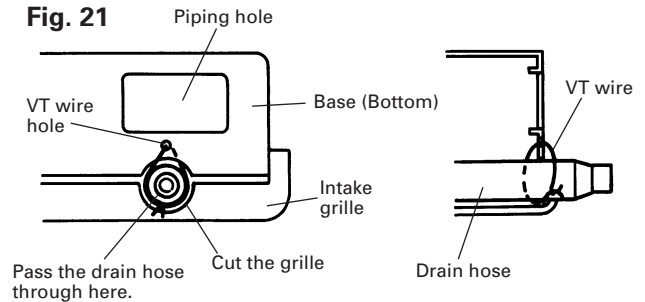
Be sure to arrange the drain hose so that it is leveled lower than the drain hose connecting port of the indoor unit (Fig. 20).

Fig. 20



When drain hose is arranged backward. Secure the drain hose with the VT wire (Fig.21).

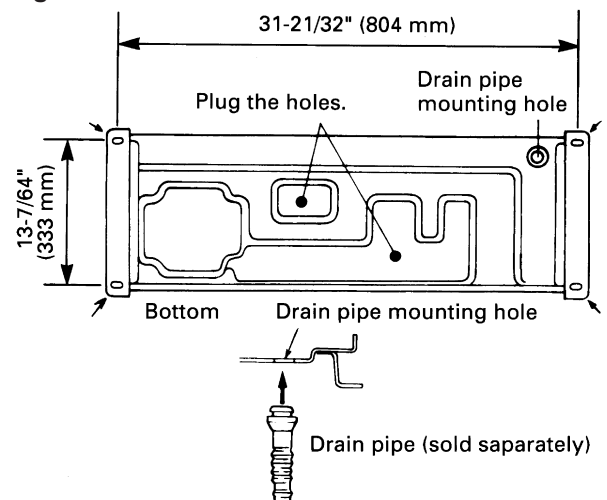
Fig. 21



3. OUTDOOR UNIT INSTALLATION

- When the outdoor unit will be exposed to strong wind, fasten it with bolts at the places indicated by the arrows. (Fig. 22)
- Since the drain water flows out of the outdoor unit during heating operation, install the drain pipe sold separately and connect it to an commercial 16 mm hose. (Heat & Cool model only)
- When installing the drain pipe, plug all the holes (• holes at two places) other than the drain pipe mounting hole in the bottom of the outdoor unit with putty so there is no water leakage. (Fig. 22) (Heat & Cool model only)

Fig. 22



4. CONNECTING THE PIPING

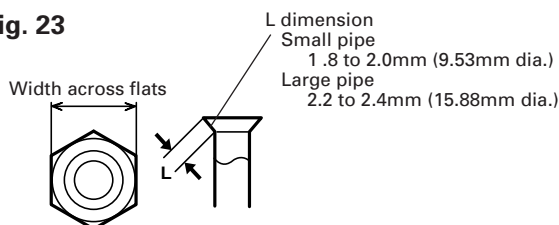
1. FLARE PROCESSING

- (1) Cut the connection pipe with pipe cutters so that the pipe is not deformed.
- (2) Holding the pipe downwards so that cuttings cannot enter the pipe, remove the burrs.
- (3) Remove the flare nut from the indoor unit pipe and outdoor unit and assemble as shown in (Table 1) and insert the flare nut onto the pipe, and flare with a flaring tool.
- (4) Check if the flared part "L" (Fig. 23) is spread uniformly and that there are no cracks.

Table 2

Pipe	Flare nut
Small pipe	Small (width across flats 22 mm)
Large pipe	Large (width across flats 24 mm)

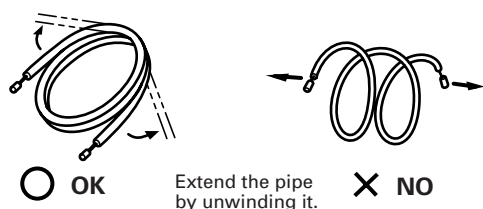
Fig. 23



2. BENDING PIPES

The pipes are shaped by your hands. Be careful not to collapse them.

Fig. 24

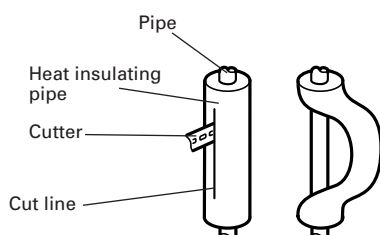


Do not bend the pipes in an angle more than 90°.

When pipes are repeatedly bent or stretched, the material will harden, making it difficult to bend or stretch them any more. Do not bend or stretch the pipes more than three times.

When bending the pipe, do not bend it as is. The pipe will be collapsed. In this case, cut the heat insulating pipe with a sharp cutter as shown in Fig. 25, and bend it after exposing the pipe. After bending the pipe as you want, be sure to put the heat insulating pipe back on the pipe, and secure it with tape.

Fig. 25



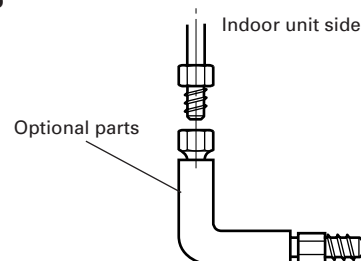
3. CONNECTION PIPES

(1) Indoor unit side

Centering the pipe against port on the indoor unit, turn the flare nut with your hand (Fig. 26).

Be sure that the small pipe is completely installed before connecting the large pipe.

Fig. 26



CAUTION

Be sure to apply the pipe against the port on the indoor unit correctly. If the centering is improper, the flare nut cannot be tightened smoothly. If the flare nut is forced to turn, the threads will be damaged.

When the flare nut is tightened properly by your hand, use a torque wrench to finally tighten it.

Fig. 27

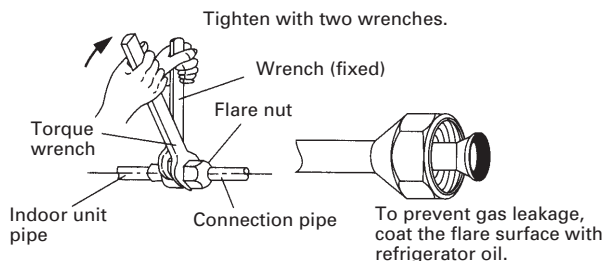


Table 3 : Flare nut tightening torque

Flare nut	Tightening torque
Small pipe 9.52 mm dia.	30.4 to 34.3 N · m (310 to 350 kgf · cm)
Large pipe 15.88 mm dia.	73.6 to 78.5 N · m (750 to 800 kgf · cm)

Do not remove the cap from the connection pipe before connecting the pipe.

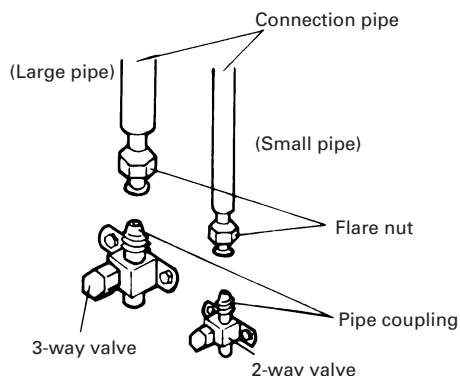
CAUTION

Be sure to connect the large pipe after connecting the small pipe completely.

(2) Outdoor unit side

Tighten the flare nut of the connection pipe at the outdoor unit valve connector. The tightening method is the same as that as at the indoor side.

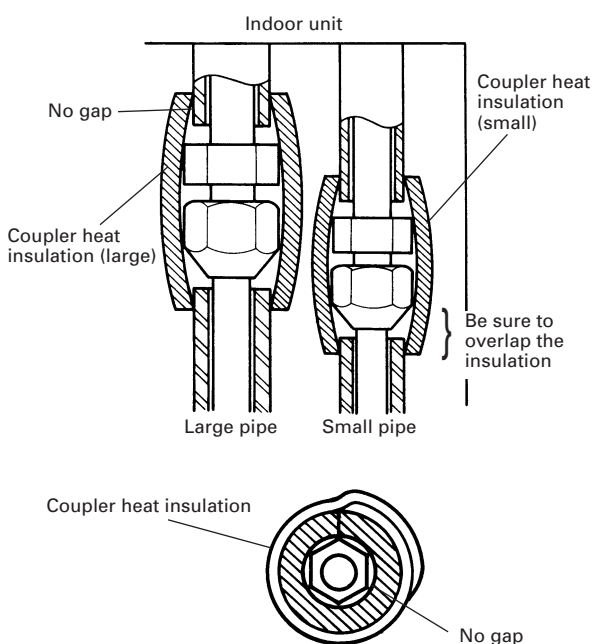
Fig. 28



5. HEAT INSULATION ON THE PIPE JOINTS (INDOOR SIDE ONLY)

Put coupler heat insulation on the joints (indoor side only) (Fig. 29).

Fig.29

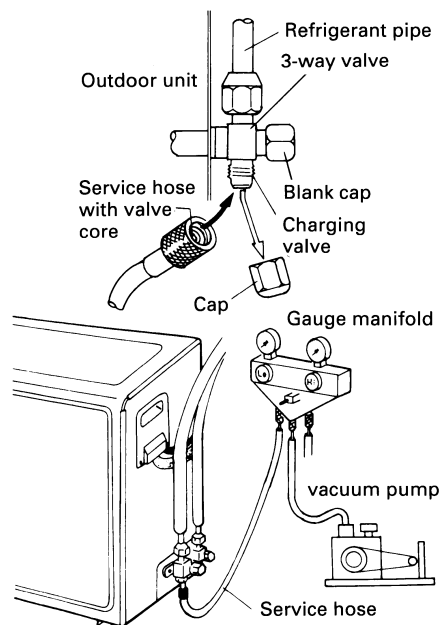


5. AIR PURGE

1. AIR PURGE

- (1) Remove the cap, and connect the gauge manifold and the vacuum pump to the charging valve by the service hoses.
- (2) Vacuum the indoor unit and the connecting pipes until the pressure in them lowers to below 1.5 mmHg.

- (3) Disconnect the service hoses and fit the cap to the charging valve (Tightening torque : 70 to 90 kgf • cm).
- (4) Remove the blank caps, and fully open the spindles of the 2-way and 3-way valves with a hexagon wrench (Torque : 2-way valve: 70 to 90 kgf • cm, 3-way valve: 100 to 120 kgf • cm).
- (5) Tighten the blank caps of the 2-way valve and 3-way valve to the specified torque (200 to 250 kgf • cm).



2. ADDITIONAL CHARGE

Refrigerant suitable for a piping length of 5 m is charged in the outdoor unit at the factory.

When the piping is longer than 5 m, additional charging is necessary.

For the additional amount, see the table below.

Table 4

Pipe length		16 ft (5 m)	33 ft (10 m)	49 ft (15 m)	66 ft (20 m)
Additional refrigerant	Reverse model	None	8.8 oz (250 g)	17.6 oz (500 g)	26.5 oz (750 g)
	Cooling model	None	2.1 oz (60 g)	4.2 oz (120 g)	6.3 oz (180 g)

Between 5 m and 20 m, when using a connection pipe other than that in the table, charge additional refrigerant with

- Reverse model 1.76 oz (50 g)/3.3 ft (1 m)
- Cooling model 0.42 oz (12 g)/3.3 ft (1 m)

as the criteria.

4. GAS LEAKAGE INSPECTION

⚠ CAUTION

After connecting the piping, check the joints for gas leakage with gas leak detector.

7. HOW TO CONNECT WIRING TO THE TERMINALS

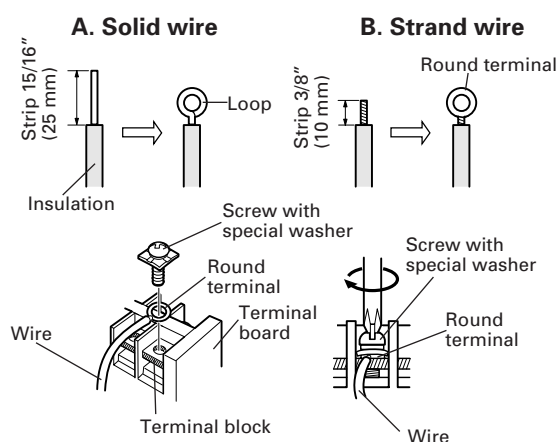
A. For solid core wiring (or F-cable)

- (1) Cut the wire and with a wire cutter or wire-cutting pliers, then strip the insulation to about 15/16" (25 mm) to expose the solid wire.
- (2) Using a screwdriver, remove the terminal screw(s) on the terminal board.
- (3) Using pliers, bend the solid wire to form a loop suitable for the terminal screw.
- (4) Shape the loop wire properly, place it on the terminal board and tighten securely with the terminal screw using a screwdriver.

B. For strand wiring

- (1) Cut the wire and with a wire cutter or wire-cutting pliers, then strip the insulation to about 3/8" (10 mm) of expose the strand wiring.
- (2) Using a screwdriver, remove the terminal screw(s) on the terminal board.
- (3) Using a round terminal fastener or pliers, securely clamp a round terminal to each stripped wire end.
- (4) Position the round terminal wire, and replace and tighten the terminal screw using a screwdriver.

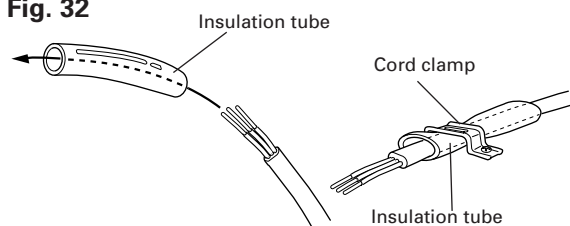
Fig. 31



HOW TO FIXED CONNECTION CORD AND POWER CABLE AT THE CORD CLAMP

After passing the connection cord and power cable through the insulation tube, fasten it with the cord clamp.

Fig. 32



Use VW-1, 0.5 to 1.0 mm thick, PVC tube as the insulation tube.

8. ELECTRICAL REQUIREMENT

Electric wire size and fuse capacity:

Table 5

		18,000 BTU/h class	24,000 BTU/h class
Connection cord (mm ²)	MAX	3.5	3.5
	MIN	2.5	2.5
Fuse capacity (A)		20	30

Always use H07RNF or equivalent as the connection cord

9. ELECTRICAL WIRING

⚠ WARNING

- (1) Match the terminal block numbers and connection cord colors with those of the outdoor unit. Erroneous wiring may cause burning of the electric parts.
- (2) Connect the connection cords firmly to the terminal block. Imperfect installation may cause a fire.
- (3) Always fasten the outside covering of the connection cord with the cord clamp. (If the insulator is chafed, electric leakage may occur.)
- (4) Always connect the ground wire.

1. INDOOR UNIT SIDE

- (1) Remove the electric component box.

Fig. 33

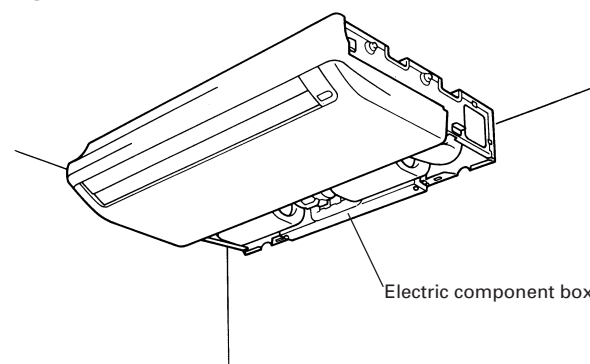
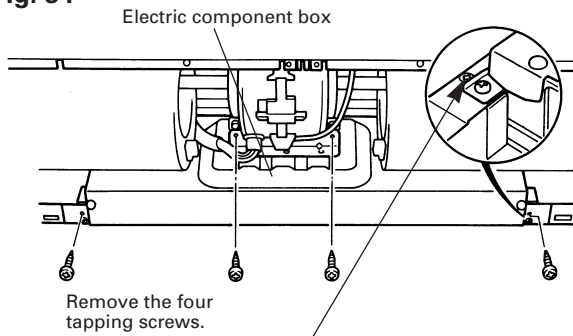


Fig. 34

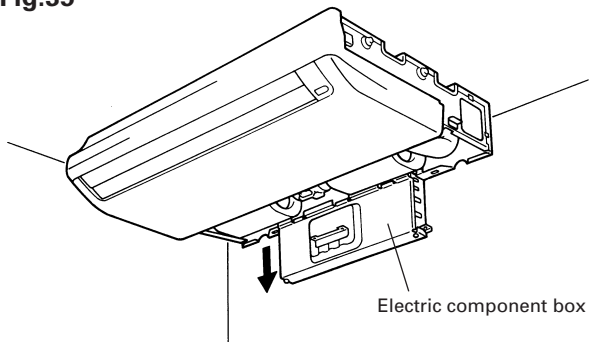


CAUTION

Do not remove the screws. If the stays are removed, the electric component box will fall.

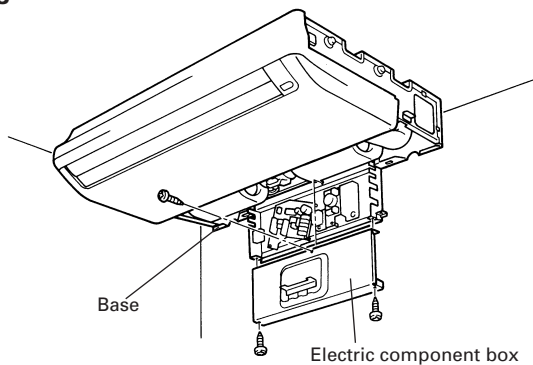
(2) Pull out the electric component box.

Fig.35



(3) Remove the electric component box cover.

Fig.36



Remove the three tapping screws.

CAUTION

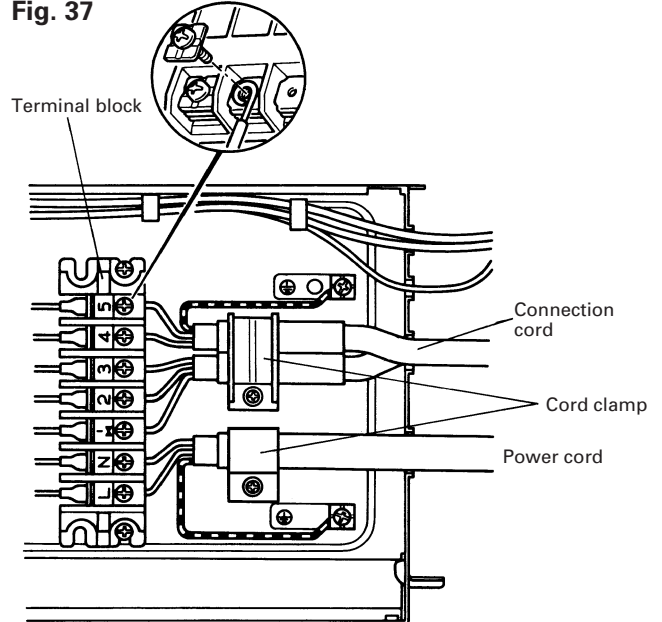
Be careful not to pinch the lead wires between the electric component box and base.

(4) Wiring

[Heat & Cool model (Reverse cycle)]

- 1) Remove the cord clamp.
- 2) Process the end of the connection cords to the dimensions shown in Fig. 37.
- 3) Connect the end of the connection cord fully into the terminal block.

Fig. 37

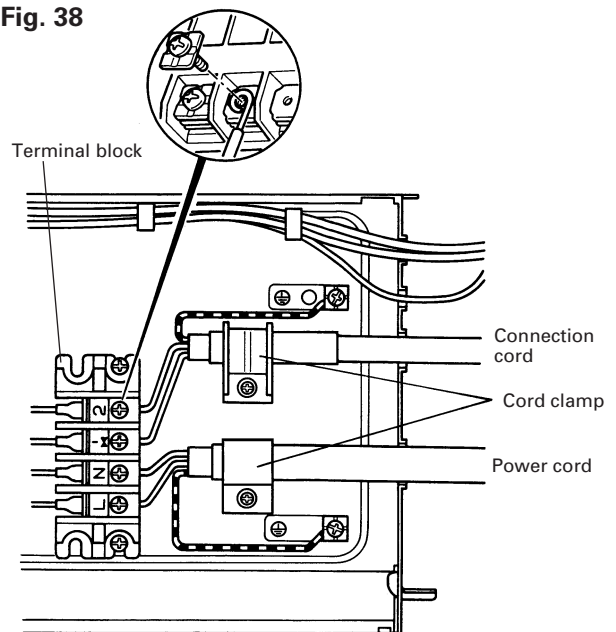


- 4) Fasten the connection cord with a cord clamp.
- 5) Fasten the end of the connection cord with the screw.

[Cooling model]

- 1) Remove the cord clamp.
- 2) Process the end of the connection cords to the dimensions shown in Fig. 38.
- 3) Connect the end of the connection cord fully into the terminal block.

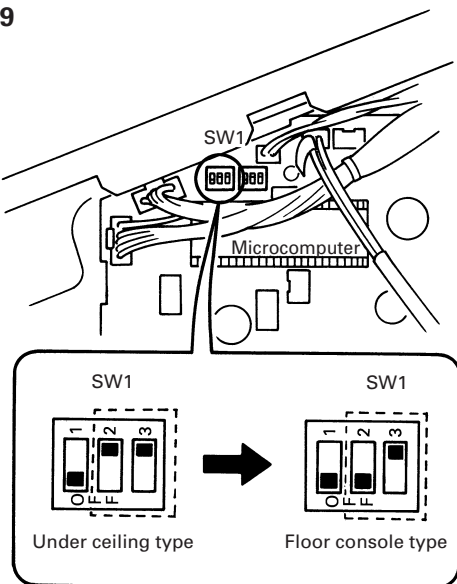
Fig. 38



- 4) Fasten the connection cord with a cord clamp.
- 5) Fasten the end of the connection cord with the screw.

- (5) Floor console/Under ceiling select switch
- 1) The electrical circuits for this were set for use as a ceiling type at the factory.
 - 2) The following changes must be made to the settings if the unit is to be used as a floor type.
 - 3) Changing the settings for the electrical circuits. Switch 1 (SW1) on the printed circuit board inside the electric component box must be set as follows.

Fig. 39



2. OUTDOOR UNIT SIDE

Fig. 40

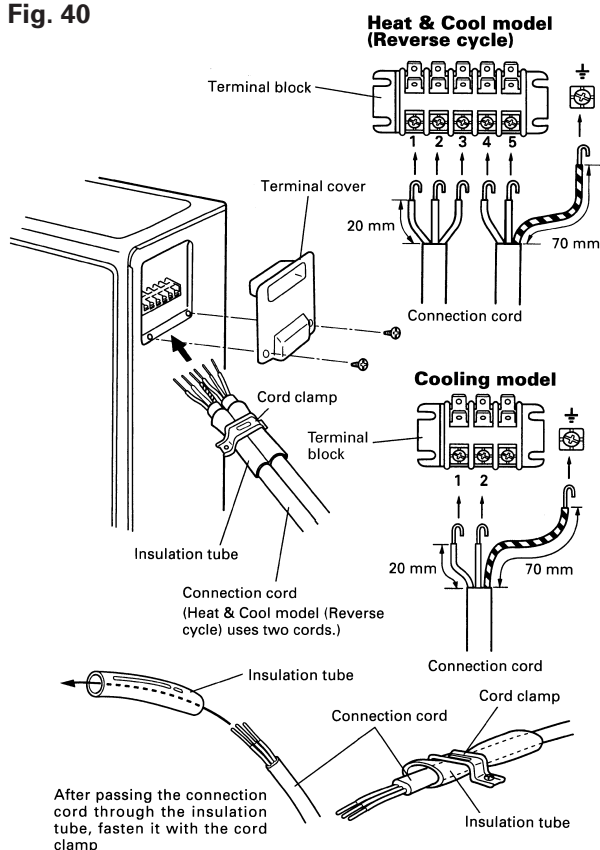
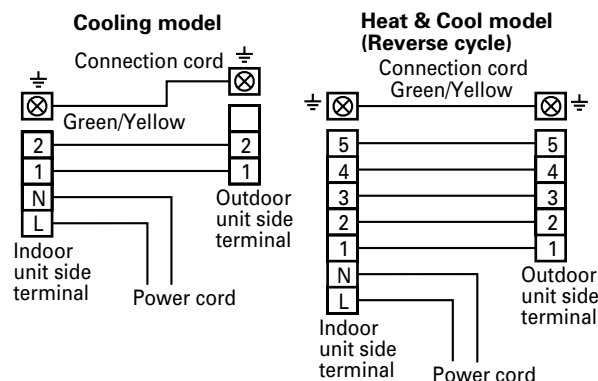


Fig. 41



10. POWER

⚠ WARNING

- (1) The rated voltage of this product is 220-240V A.C. 50Hz.
- (2) Before turning on the verify that the voltage is within the 198V to 264V range.
- (3) Always use a special branch circuit and install a special receptacle to supply power to the room air conditioner.
- (4) Use a circuit breaker and receptacle matched to the capacity of the room air conditioner.
- (5) The circuit breaker is installed in the permanent wiring. Always use a circuit that can trip all the poles of the wiring and has an isolation distance of at least 3mm between the contacts of each pole.
- (6) Perform wiring work in accordance with standards so that the room air conditioner can be operated safely and positively.
- (7) Install a leakage circuit breaker in accordance with the related laws and regulations and electric company standards.

⚠ CAUTION

- (1) The power source capacity must be the sum of the room air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contracted capacity.
- (2) When the voltage is low and the air conditioner is difficult to start, contact the power company the voltage raised.

11. REMOTE CONTROL UNIT INSTALLATION

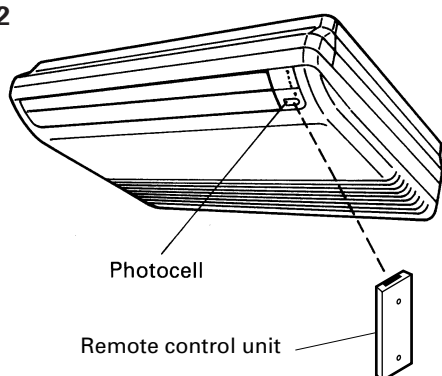
CAUTION

- (1) Check that the indoor unit correctly receives the signal from the remote control unit, then install the remote control unit holder.
- (2) Select the remote control unit holder selection site by paying careful attention to the following:
Avoid places in direct sunlight.
Select a place that will not be affected by the heat from a stove, etc.

1. REMOTE CONTROL UNIT HOLDER INSTALLATION

Install the remote control unit so that the front is facing the photocell. (Fig. 42)

Fig. 42



Install the remote control unit with a distance of 7 m between the remote control unit and the photocell as the criteria. However, when installing the remote control unit, check that it operates positively.

Install the remote control unit holder to a wall, pillar, etc. with the tapping screw (Fig. 43).

Fig. 43

For use as Handy Type

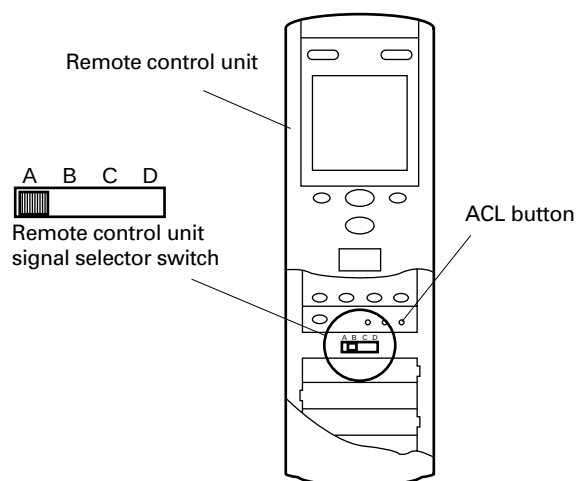
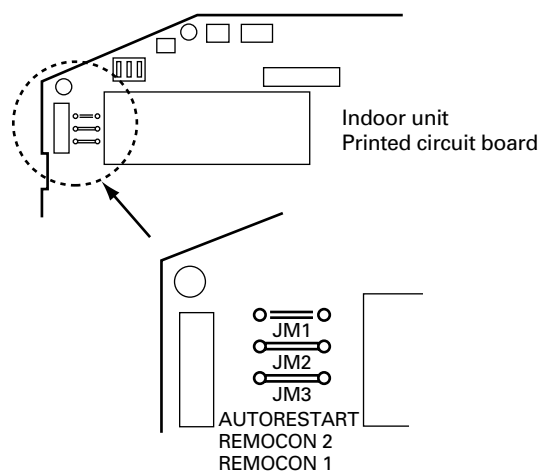
1. Mount the Holder. (Screws)
2. Set the Remote Control Unit. (Insert)
3. To remove the Remote Control Unit (when use at hand.) (Slide up)

For use as Wall Fixing Type

1. Mount the Holder. (Screws)
2. Set the Remote Control Unit. (Insert)
3. Attach the unit to the holder as shown. (Screw, Slide)

2. REMOTE CONTROL UNIT CODE SWITCHING

Fig. 42



Confirm the remote control unit signal selector switch selection and printed circuit board setting.

If these are not confirmed, the remote control unit cannot be operated for the air conditioner.

Table 6

Jumper wire		Remote control unit signal selector switch
JM 2	JM 3	
Connect	Connect	A (Primary setting)
Connect	Disconnect	B
Disconnect	Connect	C
Disconnect	Disconnect	D

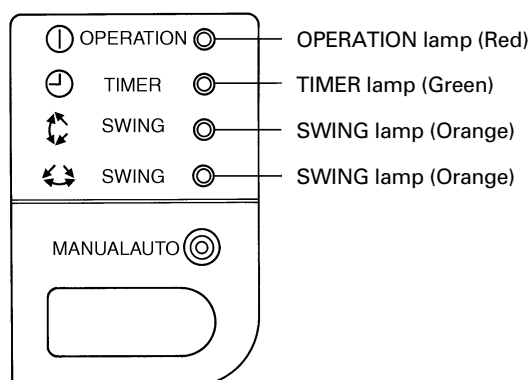
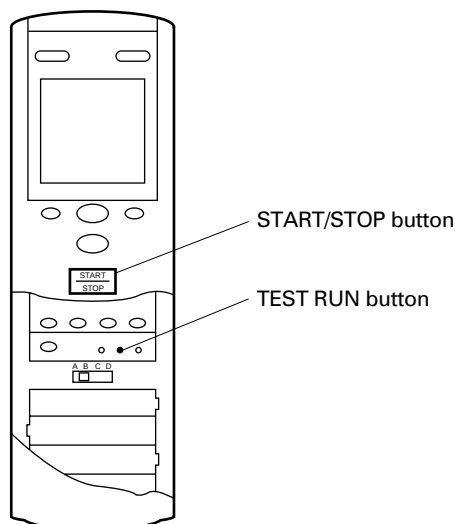
After setting the remote control unit signal selector switch, press the ACL button.

12. TEST RUNNING

Press the remote control unit test run button while the air conditioner is running.

At the end of test running, press the remote control unit start-stop button. (Fig. 45)

Fig. 45



Operation can be checked by lighting and flashing of the display section OPERATION and TIMER lamps. Perform judgment in accordance with the following.

Test running

When the air conditioner is run by pressing the remote control unit test run button, the OPERATION and TIMER lamps flash slowly at the same time.

Error

The OPERATION and TIMER lamps operate as follows (Table 7) according to the error contents.

Table 7

Error display	Error contents
OPERATION LAMP: Two quick flashes repeated (ON 0.5 sec, OFF 5 sec) TIMER LAMP: 0.1 sec ON/OFF repeated (ON 0.1 sec, OFF 0.1 sec)	Room temperature thermistor abnormal temperature detected
OPERATION LAMP: Three quick flashes repeated (ON 0.5 sec, OFF 5 sec) TIMER LAMP: 0.1 sec ON/OFF repeated (ON 0.1 sec, OFF 0.1 sec)	Piping thermistor abnormal temperature detected

CHECK ITEMS

1. INDOOR UNIT

- (1) Is operation of each button on the remote control unit normal?
- (2) Does each lamp light normally?
- (3) Do not air flow direction louvers operate normally?
- (4) Is the drain normal?
- (5) Is there any abnormal noise and vibration during operation?

2. OUTDOOR UNIT

- (1) Is there any abnormal noise and vibration during operation?
- (2) Will noise, wind, or drain water from the unit disturb the neighbors?
- (3) Is there any gas leakage?

Do not operate the air conditioner in the test running state for a long time.

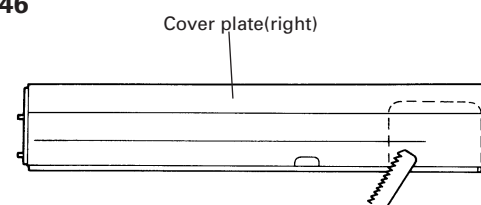
For the operation method, refer to the operating manual and perform operation check.

13. MOUNT THE COVER PLATE AND THE INTAKE GRILLE

1. MOUNT THE COVER PLATE (RIGHT)

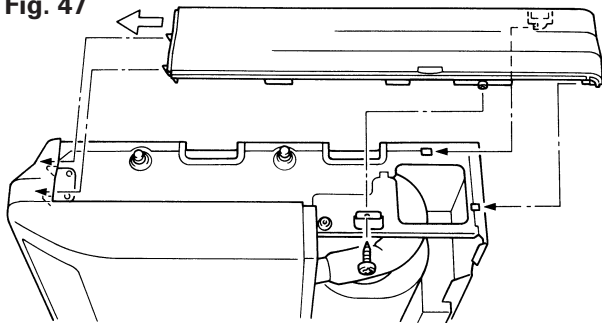
- (1) Cut a pipe exit hole in the right plate. This is only when the pipe exits from the right side. (This operation is not required when the protrusion is on the top or rear.)

Fig. 46



- (2) Join the cover plates (right) and mount with screws (Fig. 47).

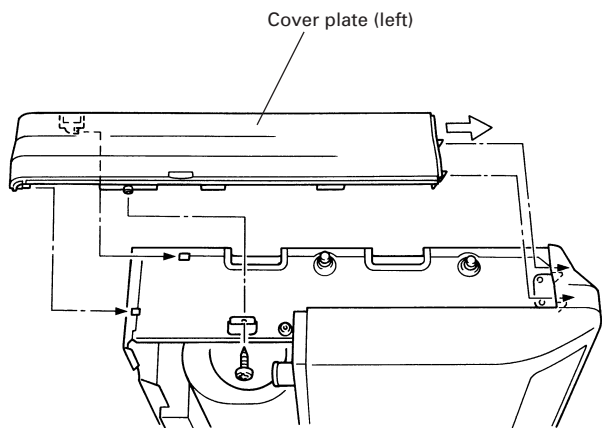
Fig. 47



2. MOUNT THE COVER PLATE (LEFT)

- (1) Join the cover plates (left) and mount with screws.

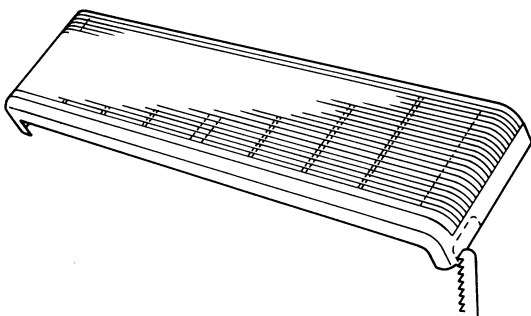
Fig. 48



3. MOUNT THE INTAKE GRILLE

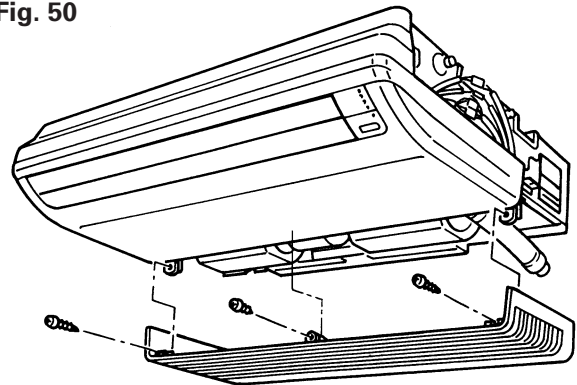
- (1) Cut the right side of the intake grille. This is only when the pipe exits from the right side (Fig. 49).

Fig. 49



- (2) Insert the hinges on the bottom of the intake grille into the holes in the base assembly. Then mount the arms to the three areas on the top of the intake grille (Fig. 50).

Fig. 50



11. CUSTOMER GUIDANCE

Explain the following to the customer in accordance with the operating manual :

- (1) Starting and stopping method, operation switching, temperature adjustment, timer, air flow switching, and other remote controller operations.
- (2) Air filter removal and cleaning, and how to use the air louvers.
- (3) Give the operating and installation manuals to the customer.



MANUFACTURER :

Fuji Denki Sosei Co., Ltd.

Tokyo, Japan