Refrigerant
R407C

BIG MULTI

Multi Air Conditioning System for Buildings

HEAT PUMP & COOLING ONLY TYPE

SERVICE MANUAL

FUJITSU GENERAL LIMITED

CONTENTS

1. TEST RUN

1-1 TEST RUN METHOD..... 01-01
1-1-1 PROCEDURE..... 01-01
1-1-2 TEST RUN FROM REMOTE CONTROLLER..... 01-02
1-1-3 TEST RUN CONTROL..... 01-02

2. FUNCTION OF PRINTED CIRCUIT BOARD

2-1 ELECTRIC CONTROL BLOCK DIAGRAM..... 02-01
2-2 PCB LAYOUTS..... 02-02
2-2-1 INTDOOR UNIT..... 02-02
2-2-2 OUTDOOR UNIT..... 02-03
2-2-3 REMOTE CONTROLLER..... 02-04
2-3 ELECTRIC CONTROL FUNCTION TABLE..... 02-05
2-3-1 INDOOR UNIT..... 02-05
2-3-2 OUTDOOR UNIT..... 02-06
2-4 FUNCTION AND SETTING OF EACH SWITCH..... 02-07
2-4-1 INDOOR UNIT..... 02-07
2-4-2 OUTDOOR UNIT..... 02-08
2-4-3 REMOTE CONTROLLER..... 02-09

3. OUTDOOR UNIT OPERATION CONTROL

3-1 OUTDOOR FAN SPEED CONTROL FUNCTION OPERATION..... 03-01
3-2 ELECTRONIC EXPANSION VALVE CONTROL..... 03-01
3-3 4-WAY VALVE DELAY SWITCHING FUNCTION (REVERSE CYCLE)..... 03-01
3-4 BASE HEATER FUNCTION (OPTION)..... 03-02
3-5 DE-ICING OPERATION..... 03-02
3-6 BELT HEATER..... 03-02
3-7 DEFROSTING (REVERSE CYCLE)..... 03-02
3-7-1 DEFROSTING OPERATION..... 03-02
3-7-2 DEFROSTING FLOW-CHART..... 03-03
3-8 PROTECTION FUNCTION..... 03-04
3-8-1 COMPRESSOR PROTECTION FUNCTION..... 03-04
3-8-2 PRESSURE SWITCH PROTECTION..... 03-04
3-8-3 DISCHARGE TEMPERATURE PROTECTION..... 03-04

CONTENTS

4. INDOOR UNIT OPERATION CONTROL

4-1 FAN CONTROL 04-01
4-1-1 FAN SPEED SETTING 04-01
4-1-2 "AUTO" POSITION 04-01
4-2 MASTER CONTROL 04-02
4-2-1 "AUTO" POSITION 04-02
4-2-2 "COOL" POSITION 04-04
4-2-3 "HEAT" POSITION 04-05
4-2-4 "FAN" POSITION 04-05
4-3 LOUVER CONTROL 04-06
4-3-1 ADJUSTING THE DIRECTION OF AIR CIRCULATION 04-06
4-3-2 SWING OPERATION 04-07
4-4 DRAIN PUMP OPERATION 04-09
4-5 FUNCTION 04-09
4-5-1 AUTO RE-START 04-09
4-5-2 INDOOR HEAT EXCHANGER DE-ICING FUNCTION 04-09
4-5-3 SET TEMPERATURE COMPENSATION THE OPERATION START 04-09
4-5-4 COLD AIR DISCHARGE PREVENTION FUNCTION 04-10
4-5-5 ENERGY SAVE FUNCTION 04-10
4-6 TIMER CONTROL 04-11
4-6-1 ON / OFF TIMER 04-11
4-6-2 WEEKLY TIMER 04-11
4-7 SETTING THE ROOM TEMPERATURE DETECTION LOCATION 04-12

5. TROUBLE SHOOTING

5-1 INDOOR UNIT 05-01
5-2 OUTDOOR UNIT 05-02
5-3 REMOTE CONTROL UNIT 05-03
5-4 WORKING INSPECTION 05-04
5-5 SYMPTOMS AND CHECK ITEMS 05-04
5-6 NORMAL OPERATION DISPLAY 05-05

6. INSTALLATION

6-1 PRECAUTIONS FOR INSTALLATION 06-01
6-2 ADDITIONAL CHARGE CALCULATION 06-06
6-3 ELECTRICAL WIRING SETTING 06-07
6-3-1 SIMULTANEOUS OPERATION 06-07
6-3-2 INDIVIDUAL OPERATION 06-08
6-4 ADDRESS SETTING 06-09
6-5 PUMP DOWN METHOD 06-10

CONTENTS

7. REFRIGERANT CAUTION

7-1 WHAT IS CFC / HCFC / ? 07-01
7-2 CHARACTERISTICS OF R22 AND R407C 07-01
7-3 DIFFERENCE FROM CONVENTIONAL MODEL (R22) AND PRECAUTIONS 07-02
7-4 TOOLS 07-03
7-5 PRECAUTIONS FOR INSTALLATION 07-04
7-6 PRECAUTIONS FOR DERVICING 07-04

8. APPENDING DATA

8-1 REFRIGERANT PIPE DIAGRAM 08-01
8-1-1 SIMULTANEOUS OPERATION 08-01
8-1-2 INDIVIDUAL OPERATION 08-02
8-2 CHARACTERISTICS OF SENSORS 08-03
8-3 WIRING DIAGRAM 08-04
8-3-1 OUTDOOR UNIT 08-04
8-3-2 INDOOR UNIT 08-08
8-4 PCB CIRCUIT DIAGRAM 08-14
8-4-1 OUTDOOR UNIT 08-14
8-4-2 INDOOR UNIT 08-16
8-5 MODEL DESIGNATION 08-22

9. DISASSEMBLY ILLUSTRATION & PARTS LIST

9-1 OUTDOOR UNIT 09-01
9-2 INDOOR UNIT 09-11

1. TEST RUN

1. TEST RUN

1-1 TEST RUN METHOD

1-1-1 PROCEDURE

Turn Power On

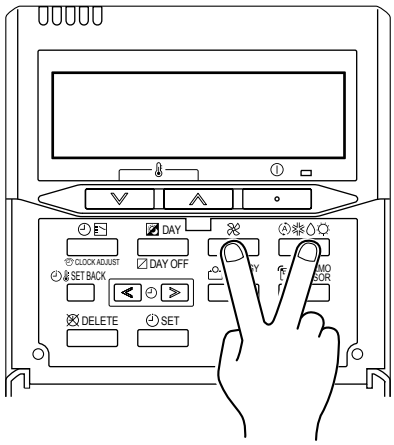
Procedure	Check item		check field
1. Turn power on	Outdoor unit	Supply power to the crankcase heater for 12 hours prior to the start of operation if the outdoor temperature is lower than 21°C	
		There are not instrument anomalies.	
	Indoor unit	There are not instrument anomalies.	
		Blinking Operation indicator and Timer indicator alternately.	
		The middle of the screen displays time.(Wired Remote Controller)	

Operation Check

Procedure	Check item		check field
1. Operate all of the indoor units	Abnormal noise and abnormal vibration	There are no abnormal noise or abnormal vibration.	
	Water drain	Check the indoor units for water leaks. Drain the water without accumulating.	
	Check intake and exhaust air temperatures	Intake - exhaust air temperature differential is 10°C and over (Cooling), 15°C and over. (Heating).	
2. Operate the outdoor unit	Compressor operation	The compressor operates. (Check by noise of operation.) Run the indoor units one at a time, and make sure that the corresponding outdoor units also run.	
	Fan rotation	Check the operation in each fan mode.	
	Abnormal noise and abnormal vibration	There are no abnormal noise or abnormal vibration.	
	Check high pressure and low pressure	Cooling : low pressure 0.3 - 0.5 Mpa (approx.) Heating : high pressure 1.6 - 2.2 Mpa (approx.)	
	Check discharge pipe temperature	Below 125°C	
	Check suction pipe temperature		
	Check heat exchanger temperature		
3. Remote controller	Operate the remote controller	Operation by remote control can be performed by each remote controller.	

1-1-2 TEST RUN FROM REMOTE CONTROLLER

UTB -YUB / GUB



Standard wired remote controller

Stop the indoor unit. Push the FAN CONTROL button and MASTER CONTROL button simultaneously for more than two seconds. The air conditioner will start to conduct a test run and "01" will display on the remote controller display.
However, the SET TEMP./DAY setting button does not have function, but all other buttons, displays, and protection functions will operate.

- Perform the test operation for 60 minutes.
- To stop test run, push the START/STOP button of the standard wired remote controller.
- For the operation method, refer to the operating manual and perform operation check.
- Check that there are no abnormal sounds or vibration sounds during test run operation.

1-1-3 TEST RUN CONTROL

When the test run signal is transmitted from standard wired controller.

(1) The test run operation starts all of the indoor unit connected remote controller and the compressor and fan is controlled to a maximum flow, regardless of the temperature condition.

(2) De-frosting and frost prevention operation has priority over item(1).

(3) After 60 minutes passes, the test run stops.

Test running initialization is shown below.

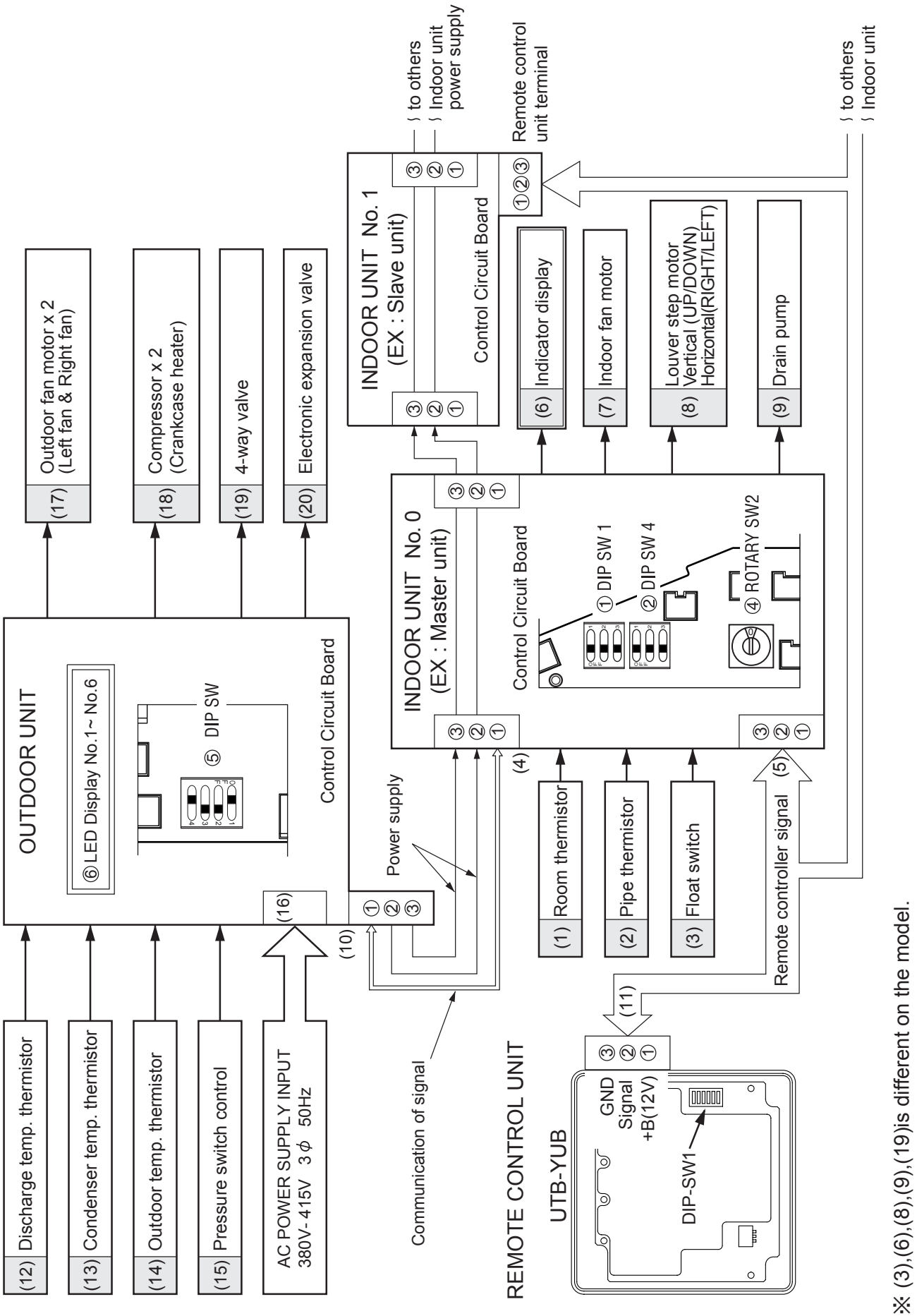
Operating Mode	Cooling	Heating
Fan speed	Hi	Hi
Room Temperature Indication	18	30
Vertical Air Direction Panel	Position ①	Position ④
Horizontal Air Direction Panel	Position ③	Position ③
Swing	OFF	OFF

※ Please refer to '4-3 LOUVER CONTROL' in this manual and find the definition for air direction panel position.

2. FUNCTION OF PRINTED CIRCUIT BOARD

2. FUNCTION OF PRINTED CIRCUIT BOARD

2-1 ELECTRIC CONTROL BLOCK DIAGRAM

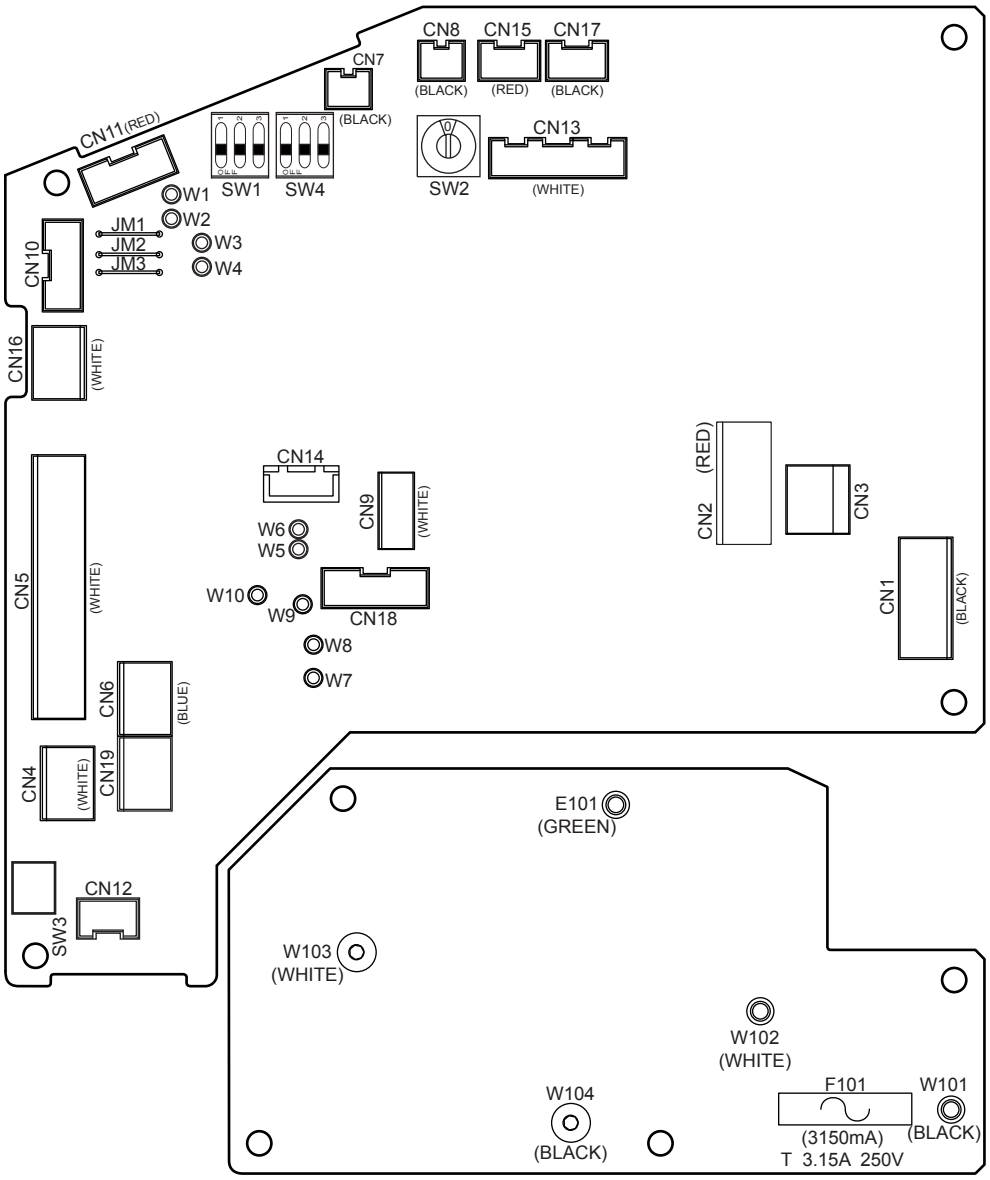


※ (3),(6),(8),(9),(19)is different on the model.

2-2 PCB LAYOUTS

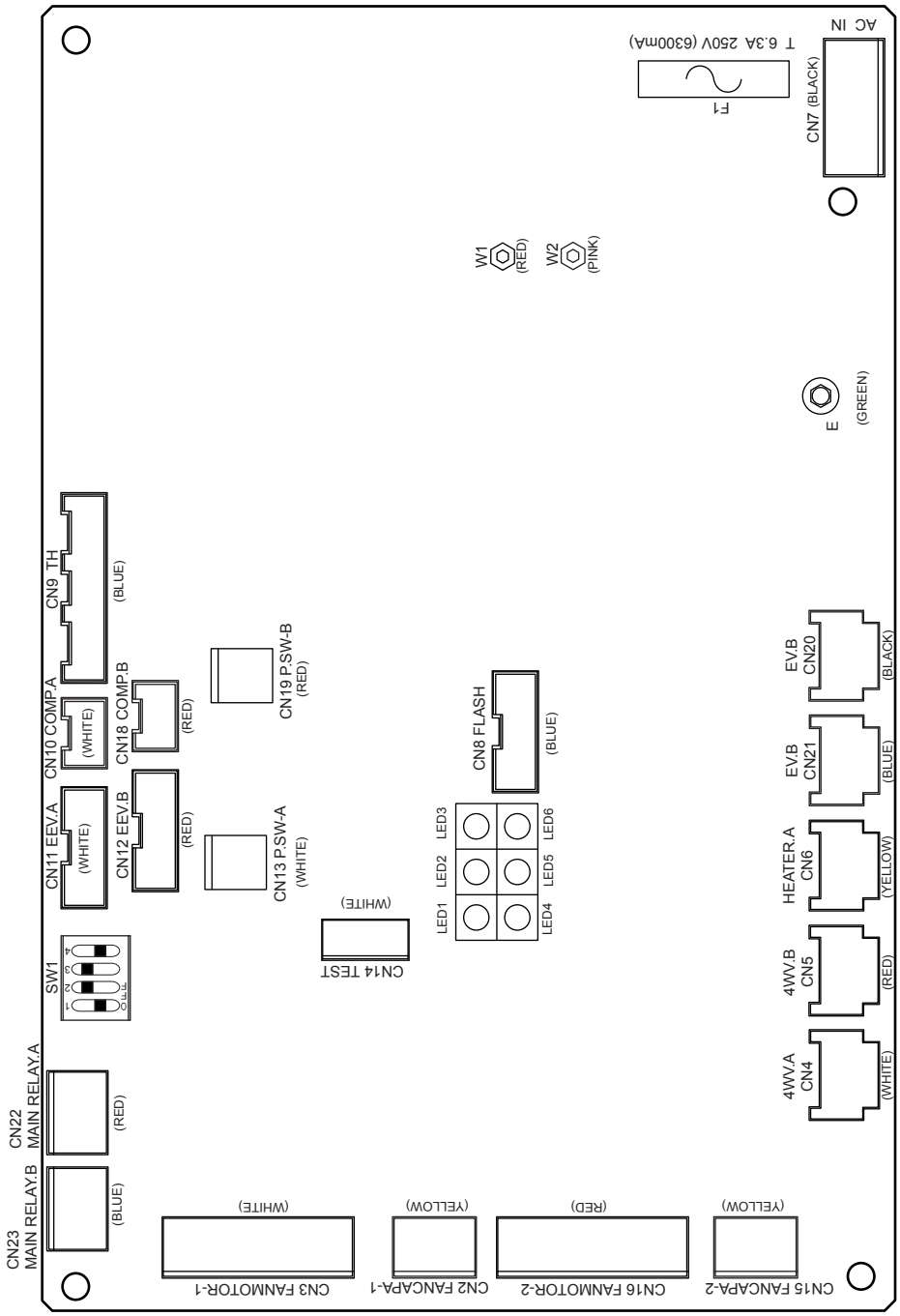
2-2-1 INDOOR UNIT

Indoor unit			
DIP SW	SW 1	1	Ceiling height setting
		2	Room temp correct coefficient of heating 1
		3	Room temp correct coefficient of heating 2
	SW 4	1	Auto restart validity / invalidity
		2	Indoor unit fan speed switch 1
		3	Indoor unit fan speed switch 2
Rotary SW	SW 2		Select No. of indoor unit
Jumper wire	JM 1		Forbidden
	JM 2		Room temp correct coefficient of cooling
	JM 3		De-icing prevent temp



2-2-2 OUTDOOR UNIT

Outdoor unit			
DIP SW	SW 1	1	Forced defrost
		2	Defrost temperature selected
		3	Pump down
		4	Outdoor fan-low sound



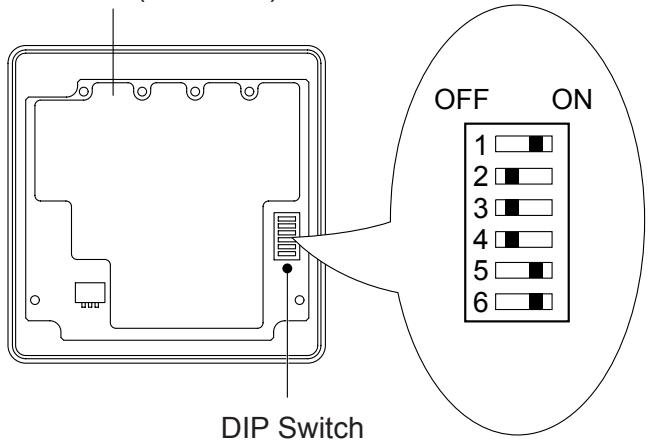
2-2-3 REMOTE CONTROLLER

Remote controller		
DIP SW	1	Dual remote controller setting
	2	
	3	Group control setting
	4	Model setting
	5	Auto changeover setting
	6	Memory backup setting

■ SWITCH POSITION

• Wired remote controller

Front case (back side)



2-3 ELECTRIC CONTROL FUNCTION TABLE

2-3-1 INDOOR UNIT

INDOOR UNIT TYPE					Ceiling	Universal Floor / Ceiling	Cassette (compact)	Cassette	Duct (Standard Static Pressure)
MODEL CODE ◎ : Simultaneous ● : Individual				45	◎ ●			◎ ●	◎ ●
				36	◎			◎	◎
				30	◎ ●			◎ ●	◎ ●
				25				◎ ●	◎ ●
				24		◎ ●			
				18		◎ ●	◎ ●		
INPUT	(1)	Room Thermistor (Sensor)			○	○	○	○	○
	(2)	Pipe Thermistor (Sensor)			○	○	○	○	○
	(3)	Float Switch Control			○	×	○	○	×
	Thermal Fuse (Within Terminal board)				×	×	×	○	×
	①DIP SW1		No. 1	High Ceiling mode	×	×	×	○	×
			No. 2 No. 3	Compensation Heating 1 Compensation Heating 2	○	○	○	○	○
	②DIP SW4		No. 1	Auto restart	○	○	○	○	○
			No. 2 No. 3	Indoor Fan Table 1 Indoor Fan Table 2	○	×	×	○	×
	③ Jumper		JM 1 JM 2 JM 3	Remote controller type Compensation Cooling De-icing Prevent temp.	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○
	④ Rotary SW			Select No. of indoor unit	○	○	○	○	○
	(4)	Signal Transmitter-Receiver Signal (Outdoor unit ⟶ Indoor unit)			○	○	○	○	○
	(5)	Remote controller signal (Remote control ⟵ Indoor unit)			○	○	○	○	○
OUTPUT	(6)	Indicator Display LED	• Operation • Timer • Swing (UP/DOWN) • Swing (RIGHT/LEFT)		○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ×	× × × ×	× × × ×
	(7)	Indoor Fan Motor Speed	• High • Med • Low		○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○
	(8)	Louver Motor	Vertical (UP/DOWN) Horizontal (RIGHT/LEFT)		○ ○	○ ○	○ ×	○ ×	× ×
	(9)	Drain Pump			○	×	○	○	×
	(10)	Signal Transmitter-Forward Signal (Indoor unit ⟶ Outdoor unit)			○	○	○	○	○
	(11)	Remote controller signal (Indoor unit ⟵ Remote Control)			○	○	○	○	○

2-3-2 OUTDOOR UNIT

OUTDOOR UNIT TYPE					Simultaneous Type		Individual Type	
					Cooling only	Heat pump	Cooling only	Heat pump
MODEL CODE		90			○		—	
		90 (45 x 2)			—		○	
INPUT	(12)	Discharge Temp. Thermistor A			○		○	
		Discharge Temp. Thermistor B			×		○	
	(13)	Condensor Temp. Thermistor A			○		○	
		Condensor Temp. Thermistor B			×		○	
	(14)	Outdoor Temp. Thermistor			○		○	
	(15)	Pressure Switch A			○		○	
		Pressure Switch B			×		○	
	⑤ DIP SW	No.1	Defrost temp. Selected		×	○	×	○
		No.2	Forced Defrost		×	○	×	○
		No.3	Pump down		○	○	○	○
		No.4	Outdoor Fan-low sound		○	○	○	○
	(10)	Serial Transmitter-Forward Signal A (Indoor unit ⟶ Outdoor unit)			○		○	
		Serial Transmitter-Forward Signal B (Indoor unit ⟶ Outdoor unit)			×		○	
OUTPUT	(17)	Outdoor Fan Motor Speed	Fan motor 1	High	○		○	
				Low	○		○	
			Fan motor 2	High	○		○	
				Low	○		○	
	(18)	Compressor A			○		○	
		Compressor B			○		○	
	(19)	4-Way Valve A			×	○	×	○
		4-Way Valve B			×		×	○
	(20)	Electronic Expansion Valve A			○		○	
		Electronic Expansion Valve B			×		○	
	LED Display No. 1 ~ No. 6				○		○	
	(4)	Remote Transmitter-Receiver Signal A (Indoor unit ⟶ Outdoor unit)			○		○	
		Remote Transmitter-Receiver Signal B (Indoor unit ⟶ Outdoor unit)			×		○	

2-4 FUNCTION AND SETTING OF EACH SWITCH

2-4-1 INDOOR UNIT

■ DIP SWITCH SETTING

1. SW1 setting

1-1 Ceiling height setting

CEILING HEIGHT SETTING (CASSETTE TYPE) (◆ ▪ ▪ ▪Factory setting)

	SW1-1	Ceiling height mode
◆	OFF	Standard
	ON	High ceiling

This function is validity only large cassette type

1-2 Room temperature correct coefficient of heating

Decide the heating temperature correct coefficient value for room temperature thermistor.
The overall temperature increases when a larger coefficient value is used.

HEATING TEMPERATURE CORRECTION (◆ ▪ ▪ ▪Factory setting)

	SW1-2	SW1-3	Coefficient value
	OFF	OFF	+ 2 deg
	ON	OFF	- 2 deg
	OFF	ON	0 deg
◆	ON	ON	+ 4 deg

2. SW4 setting

2-1 Auto restart validity / invalidity

Control the auto restart function by turning this switch ON/OFF.

AUTO RESTART SETTING (◆ ▪ ▪ ▪Factory setting)

	SW4-1	Auto restart
◆	OFF	Invalidity
	ON	Validity

* Please set it in the same way when remote control is a group control.

2-2 Indoor unit fan speed switch

This switch can select fan speed corresponding to each model.

Large ceiling type

	AB30	AB36	AB45
SW4-2	OFF	ON	OFF
SW4-3	OFF	OFF	ON

Large cassette type

	AU25	AU30	AU36	AU45
SW4-2	ON	OFF	ON	OFF
SW4-3	ON	ON	OFF	OFF

■ JUMPER WIRE SETTING

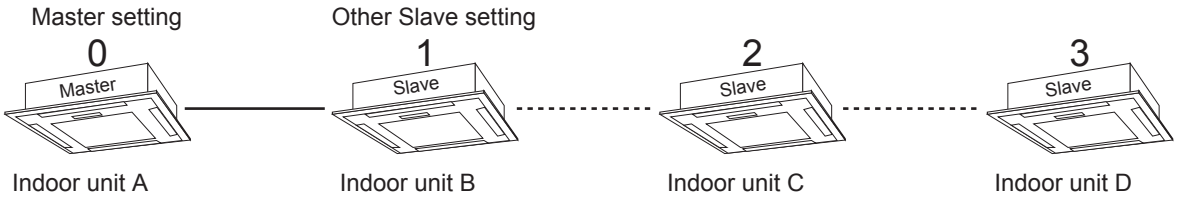
(◆ ▪ ▪ ▪Factory setting)

JP	Function	Connect	Disconnect
JM1	Forbidden	◆Type with sensor	—
JM2	Room temperature correct coefficient of cooling	◆0°C	+2°C
JM3	indoor heat exchange icing, the de-icing operation temperature.	◆Set-up 2°C - Reset 6°C	Set-up 4°C - Reset 8°C

■ ROTARY SW SETTING

SW2 Setting

- Sets the unit number of the indoor unit to MASTER or SLAVE.



2-4-2 OUTDOOR UNIT

■ DIP SWITCH SETTING

SW1 setting

1. Forced defrost
   This function first melts the outdoor heat exchange ice and inspects the pressure and temperature when servicing and maintaining the outdoor unit at heating operation.

(◆ ▪ ▪ ▪Factory setting)

	SW1-1	Forced defrost
◆	OFF	—
	ON	Defrost start

2. Defrost temperature selected
   The Defrost start operation temperature can be changed according to the outside air temperature region environment.

(◆ ▪ ▪ ▪Factory setting)

	SW1-2	Defrost temperature selected
	OFF	-10°C
◆	ON	-7°C

3. Pump down (pressure SW mode)
This function disables the pressure switch when operation is stopped by low pressure switch and pump down is not longer possible.

(◆ - - -Factory setting)

	SW1-3	Pump down
	OFF	Operate
◆	ON	Release

4. Outdoor fan-low sound
Set the outdoor fan noise value [2dB (A)] to the low-noise mode. (See page 03-01 "OUTDOOR FAN SPEED CONTROL FUNCTION OPERATION".)

(◆ - - -Factory setting)

	SW1-4	Outdoor fan-low sound
◆	OFF	Standard
	ON	Fan-low sound

2-4-3 REMOTE CONTROLLER

■ DIP SWITCH SETTING

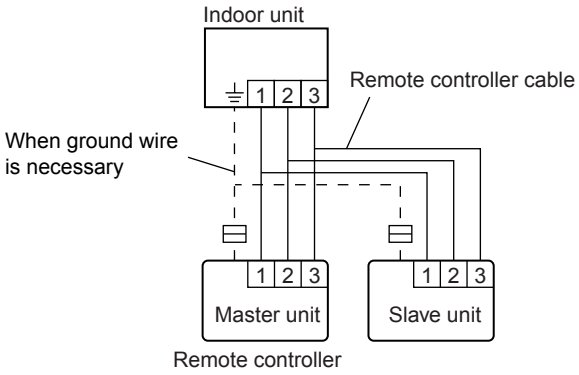
SW1 setting

1-1 Dual remote controller setting

Set the remote controller DIP switch No.1 and 2 according to the following table.

(◆ - - -Factory setting)

	Number of remote controller	Master unit		Slave unit	
		SW1-1	SW1-2	SW1-1	SW1-2
◆	1 (Normal)	ON	OFF	—	—
	2 (Dual)	OFF	OFF	ON	ON

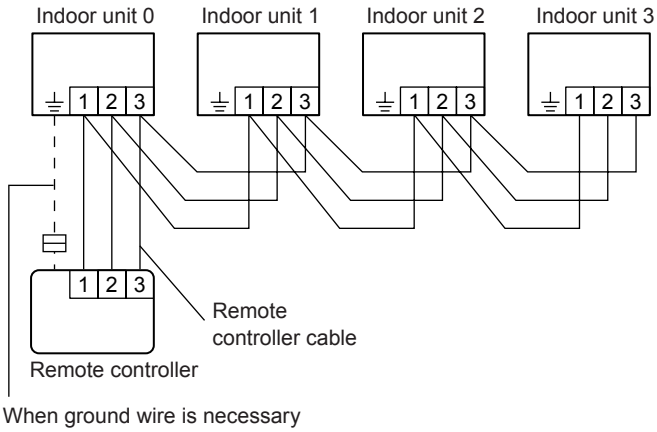


1-2 Group control setting

Number of indoor unit connection (One/Multiple)
This is switched according to the number of connected indoor units.

(◆ - - -Factory setting)

	SW1-3	Number of indoor unit
◆	OFF	One unit connection
	ON	Multiple unit connection



1-3 Model setting

The system type of the outdoor unit can be selected by setting up DIP switch No.4 as follows.

(◆ - - -Factory setting)

	SW1-4	Model
◆	OFF	Heat Pump model or Heat Recovery model
	ON	Cooling only model

1-4 Auto changeover setting

Selecting auto changeover validity / invalidity.

(◆ ▪ ▪ ▪Factory setting)

	SW1-5	Auto changeover
◆	OFF	Invalidity
	ON	Validity

1-5 Memory backup setting

Set to ON to use batteries for thr memory backup.
If batteries are not used, all of the settings stored in memory will be deleted if there is a power failure.

(◆ ▪ ▪ ▪Factory setting)

	SW1-6	Memory backup
◆	OFF	Invalidity
	ON	Validity

3. OUTDOOR UNIT OPERATION CONTROL

3. OUTDOOR UNIT OPERATION CONTROL

3-1 OUTDOOR FAN SPEED CONTROL FUNCTION OPERATION

- The Outdoor Fan speed operates in the following mode, depending on the outside temperature condition.
- Outdoor Fan speed switching has a ±1 ℃ differential relative to the following temperature setting table.

■ Simultaneous type : Cooling operation

OUTDOOR DIP SW 1- 4	OFF		ON	
Outdoor Fan motor	Right	Left	Right	Left
T > 25 ℃	Hi	Hi	Hi	STOP
25 ℃ ≧ T > 10 ℃	Lo	Lo	Lo	Lo
10 ℃ ≧ T	Lo	STOP	Lo	STOP

T ℃ : Outdoor Temperature thermistor

■ Simultaneous type : Heating operation

OUTDOOR DIP SW 1- 4	OFF		ON	
Outdoor Fan motor	Right	Left	Right	Left
T > 16 ℃	Intermittent operation			
16 ℃ ≧ T > 11 ℃	Lo	STOP	Lo	STOP
11 ℃ ≧ T > 9 ℃	Lo	Lo	Lo	Lo
9 ℃ ≧ T	Hi	Hi	Hi	STOP

Intermittent operation:
The outdoor fan repeatedly operates at the following timing:

Time	Right	Left
2 min.	STOP	STOP
10 sec.	Lo	Lo

■ Individual type : Cooling and heating operations Common mode

OUTDOOR DIP SW 1- 4	OFF		ON	
Outdoor Fan motor	Right	Left	Right	Left
T > 26 ℃	Hi	Hi	Hi	STOP
26 ℃ ≧ T > 10 ℃	Lo	Lo	Lo	Lo
10 ℃ ≧ T	Hi	Hi	Hi	STOP

3-2 ELECTRONIC EXPANSION VALVE CONTROL

Control process of electronic expansion valve and each thermistor detection temperature

To control the quantity of super heat constant, the electronic expansion valve is controlled by the difference between thermistor detection temperature of outdoor temperature and discharge thermistor detection temperature.

3-3 4-WAY VALVE DELAY SWITCHING FUNCTION(REVERSE CYCLE)

When heat operation is stopped, 4-way valve is stopped 2 min. 35 sec later.

3-4 BASE HEATER FUNCTION(OPTION)

- When the outdoor temperature is minus, turn ON to warm the outdoor unit drain pan and positively discharge the drain water when the outdoor temperature thermistor is 2 ℃ or lower and the operating mode is HEAT.

CN6 OUT-PUT	MAXIMUM HEATER OUTPUT 100W

(CN6 FOR OUTDOOR UNIT PRINTED CIRCUIT BOARD)

3-5 DE-ICING OPERATION

- To prevent outdoor heat exchanger icing at heating operation heating overload, after the compressor and outdoor fan have been operated for two hours, the compressor is stopped for 3 minutes and the outdoor fan is de-iced at Hi.

3-6 BELT HEATER

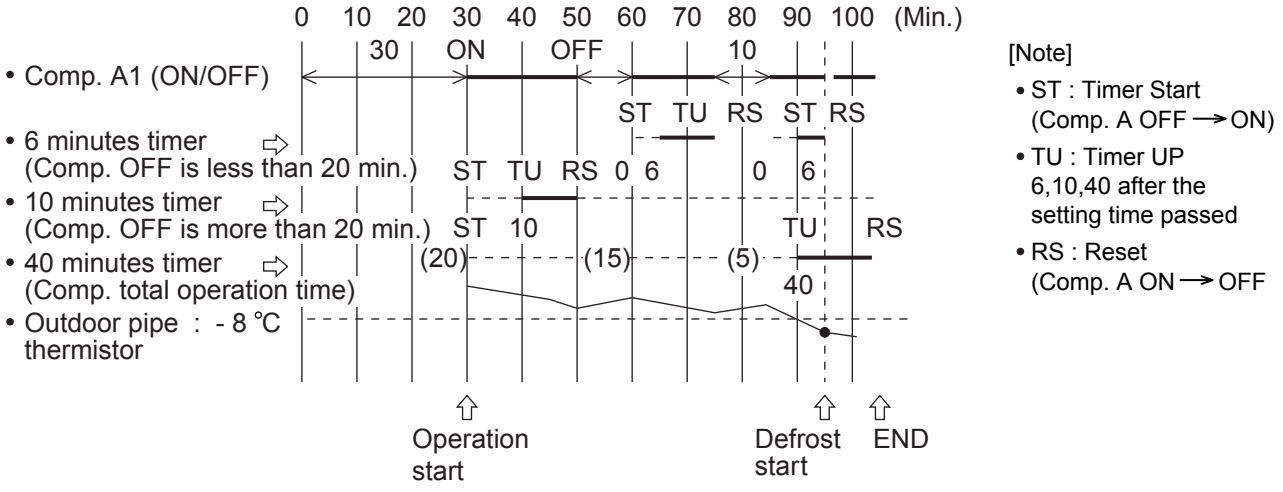
Belt heater is installed around the compressor.
When the outdoor temperature is less than 21℃, oil is fallen in the compressor and the refrigerant is melted into oil and oil may be diluted, then the bearing metal etc. of the compressor motor is easy to damage when starting the compressor.
To prevent the above, the crank case heater is installed. The heater operates under the compressor halt.

3-7 DEFROSTING(REVERSE CYCLE)

3-7-1 DEFROSTING OPERATION

1. **Defrosting operation**
   When the outdoor piping thermistor detection temperature is -7 ℃ (DIP SW : ON) or less (-12 ℃ or less for 10 minutes after switching from one room operation to two rooms operation, and -7 ℃ after 10 minutes and in one room operation) after timer of 6 minutes timer or 10 minutes timer, besides 40 minutes timer are up, defrosting starts.

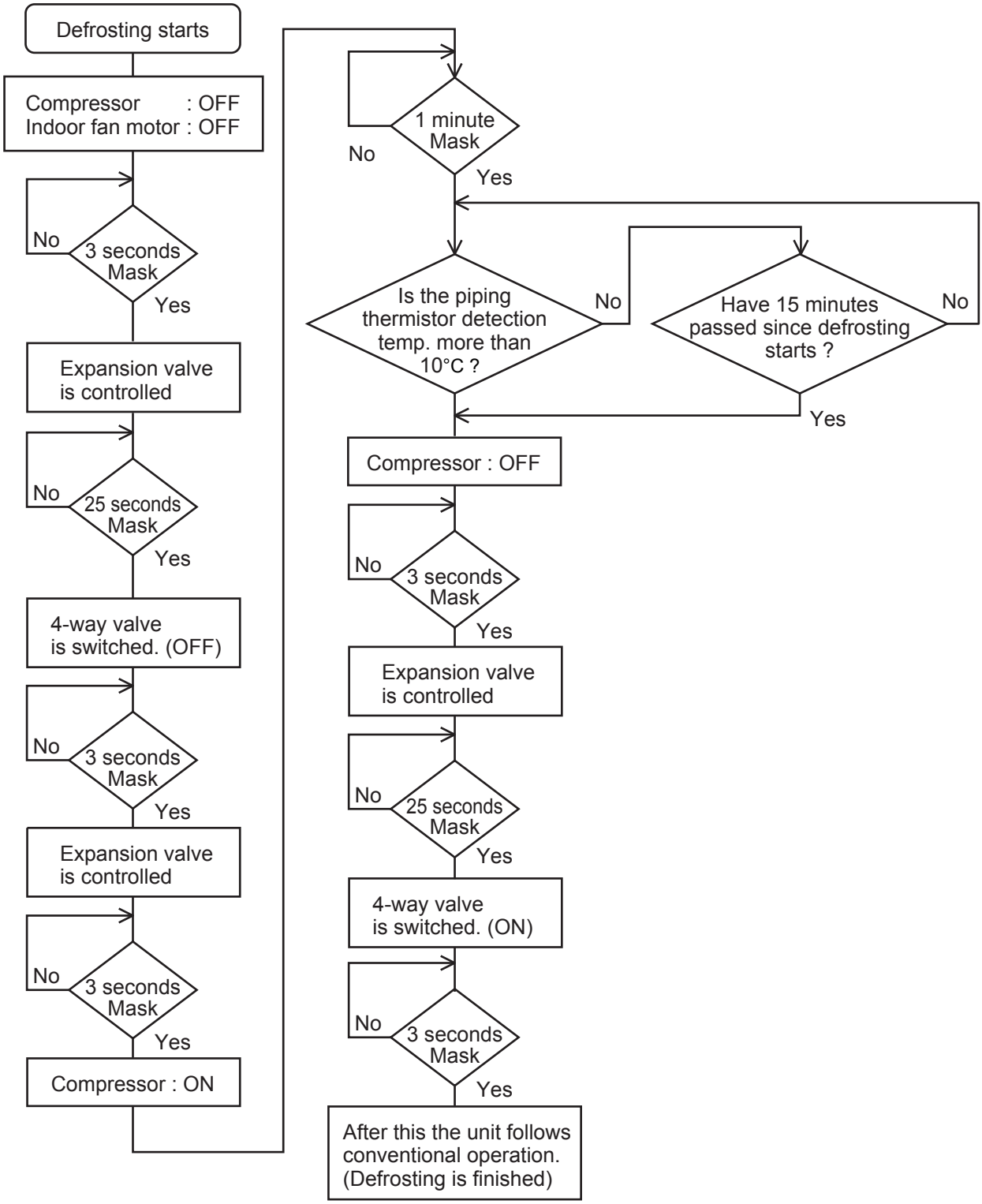
Defrosting start condition



[Note]
- ST : Timer Start (Comp. A OFF → ON)
- TU : Timer UP 6,10,40 after the setting time passed
- RS : Reset (Comp. A ON → OFF

3-7-2 DEFROSTING FLOW-CHART

2. Defrosting flow-chart



3. DEFROSTING FINISH

Defrosting is performed after the compressor is turned on and one minute mask is finished. It will be completed when the outdoor piping thermistor temperature is 10°C or more or time of 15 minutes timer is up.

3-8 PROTECTION FUNCTION

3-8-1 COMPRESSOR PROTECTION FUNCTION

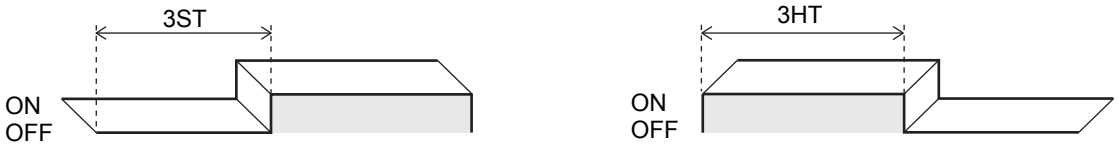
1. THREE MINUTES DELAY FUNCTION (3ST)

The outdoor unit does not operate for three minutes after the power switch is turned on. (Compressor protection, breaker off prevention, etc.)

2. THREE MINUTES CONTINUOUS FUNCTION (3HT)

The unit continues to run for three minutes after the compressor starts.

Compressor ON/OFF control



Note:

When test operation is performed during continuous heating operation, it takes some time until air blows out from the indoor unit because "Three minutes delay" and "Cold air discharge prevention" have priority over TEST operation.

3-8-2 PRESSURE SWITCH PROTECTION

- To prevent the refrigerant liquid from returning to the compressor during cooling operation, the following operations are performed.

Pressure SW	ON	OFF
Pressure value (kgf/cm^2)	Up to 2	3 or more
Function operation	Compressor stop	Normal operation (Reset)

3-8-3 DISCHARGE TEMPERATURE PROTECTION

- The following operations are performed for compressor body heating protection

Discharge temperature	125 ℃	95 ℃
Function operation	Compressor stop	Normal operation (Reset)

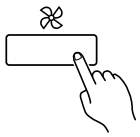
4. INDOOR UNIT OPERATION CONTROL

4. INDOOR UNIT OPERATION CONTROL

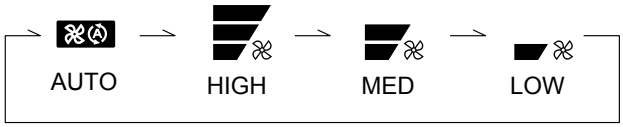
4-1 FAN CONTROL

4-1-1 FAN SPEED SETTING

Fan speed setting



Press the FAN CONTROL button to set the fan speed.

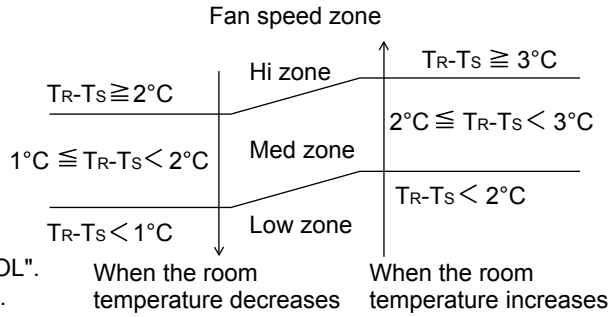


4-1-2 "AUTO" POSITION

1. COOLING OPERATION

The fan speed is determined automatically in accordance with the condition "(T_R(corrected room temperature) - T_S (corrected set temperature)" as shown on the right.
However, the fan speed zone is determined in the manner as the room temperature increases for the following cases.

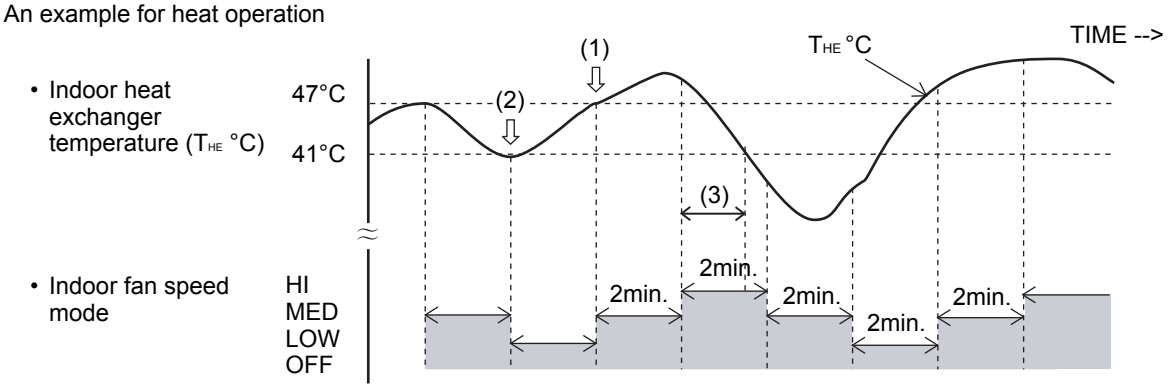
(1) When the T_S is changed.
(2) When the operation mode is changed from other mode to "COOL".
(3) When the fan control is changed from other position to "AUTO".



2. HEATING OPERATION

(1) When the indoor heat exchanger temperature reaches 47°C or more, the fan speed switches to the next higher position. ("LOW" → "MED", "MED" → "HIGH").
(2) When the indoor heat exchanger temperature drops below 41°C while the refrigerant circulation of the indoor unit is ON, the fan speed switches to the next lower position ("HIGH"→"MED", "MED"→"LOW").
(3) After switching the fan speed, it does not switch again within 2 minutes.
(4) When "FAN CONTROL" is switched from a set fan speed to "AUTO" after the cold air prevention is released , the fan of indoor unit will start at "MED" speed for T_{HE} ≧ 41°C or at "LOW" speed for T_{HE} < 41°C.

An example for heat operation



4. FAN OPERATION

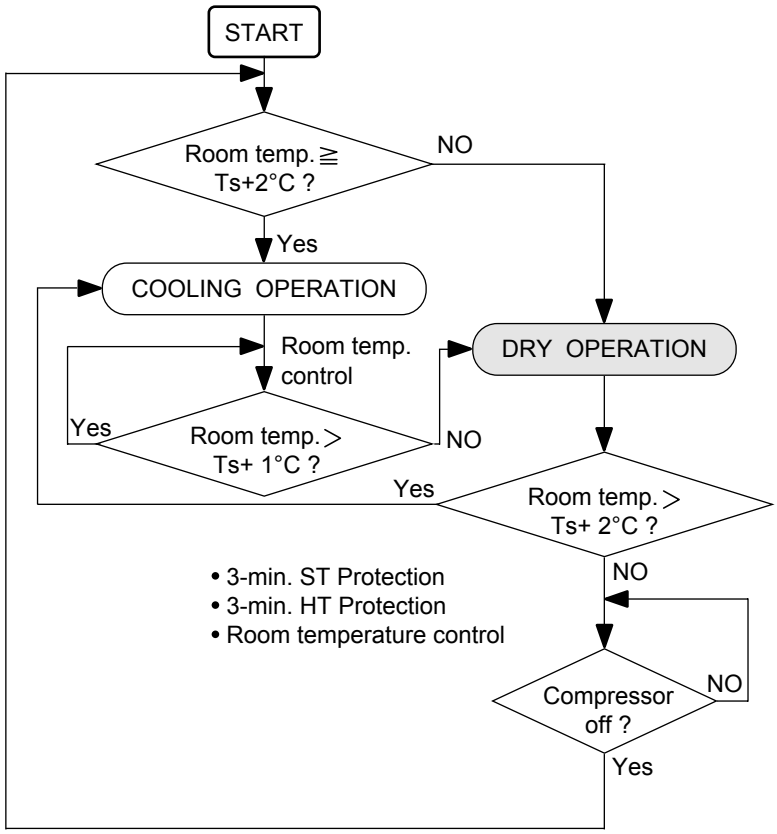
The indoor fan rotates continuously at "Lo" speed.

4-2 MASTER CONTROL

4-2-1 "AUTO" POSITION

A: COOLING & DRY operation (COOLING ONLY MODEL)

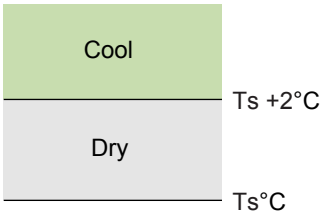
Operation flow chart



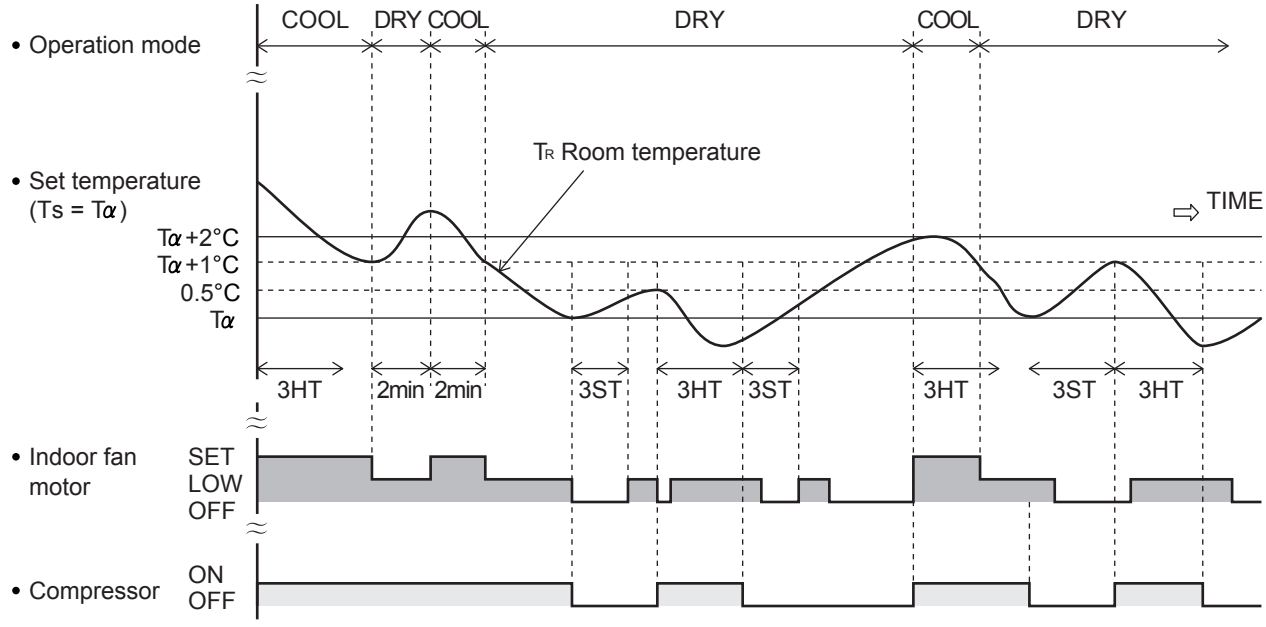
(1) When starting yhe operation at "AUTO" or when switched to "AUTO" from other modes, if the room temperature is higher than the set temperature +2°C (Room temp. ≧ Set temp. (Ts) +2°C), "COOL"mode is set automatically and an air conditioner operates until the room temperature reaches the condition "Room temp.≦Set temp. (Ts) +1°C".

(2) When the room temperature is less than the set temperature (Ts) +2°C at the start of operation or changing into "AUTO", or after the room temperature reaches the condition "Room temp.＜Set temp. (Ts)+2°C", the unit is changed into the "DRY" mode.

"Room Temp.≦Set Temp. (Ts) +2°C



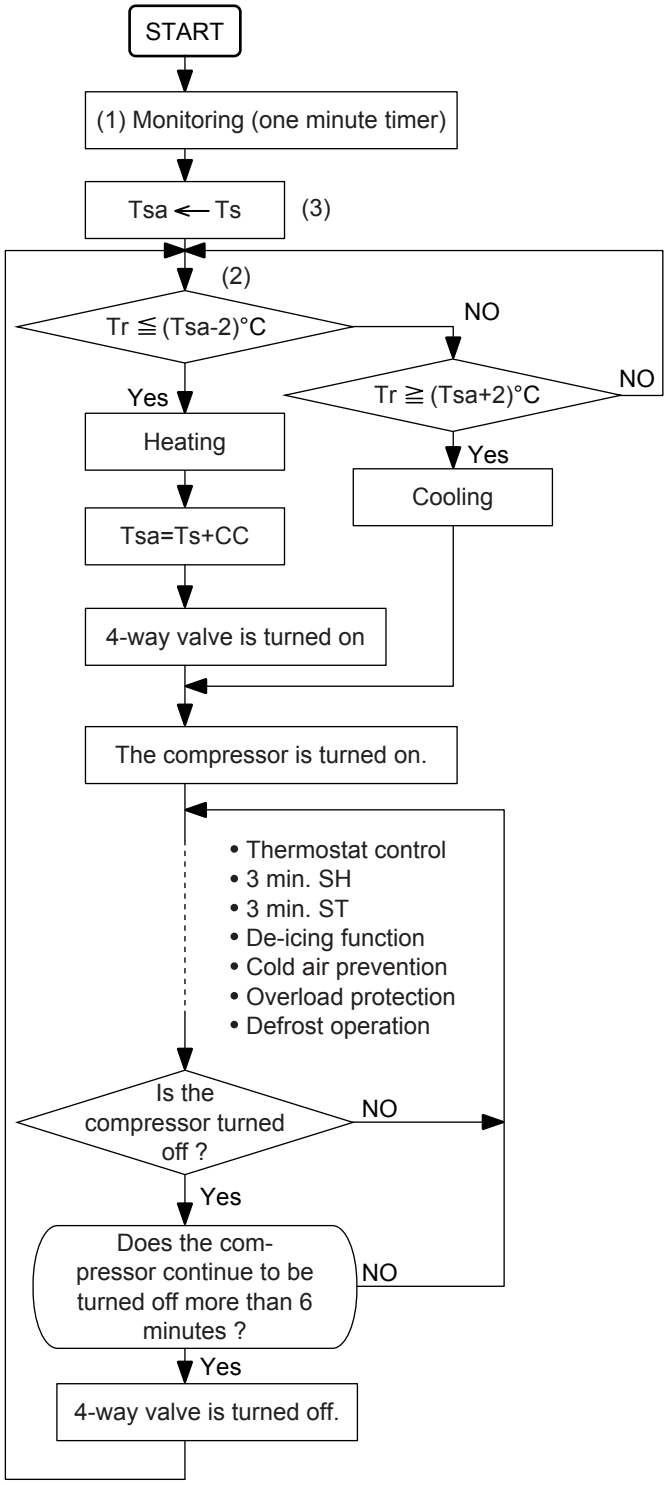
Cooling or Dry temperature control operation time chart



B: AUTO CHANGEOVER operation [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.

Auto changeover flow chart



(1) Monitoring (Room temperature detection)

The monitoring is that the indoor fan motor rotates intermittently (0.5 sec ON at Low / 2.0 sec OFF) for 60 seconds to detect the room temperature (Tr) after the unit starts with the MASTER CONTROL of AUTO.
In case that the 3-min delay function actuates or is actuating the monitoring continues until the 3-min delay function is expired and furthermore 30 seconds elapses.

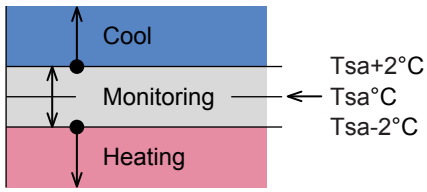
During the monitoring :

- Indoor fan motor : S-Lo
- Outdoor fan motor Hi : OFF
- Outdoor fan motor Lo : OFF
- 4-way valve
- Conpressor : OFF

(2) Auto operation

The cooling operation starts when the monitoring is expired and then the detected room temperature (Tr) is given in the formula [Tr (Tsa+2)°C].
The heating operation starts when the monitoring is expired and then the detected room temperature (Tr) is given in the formula [Tr (Tsa-2)°C].
The monitoring continues when the detected room temperature (Tr) is given un the following formula.
[(Tsa-2)°C <Tr <(Tsa+2)°C]
The cooling or heating operation is performed in accordance with the microcomputer functions such as thermostat control, 3-min delay function, etc.
When the compressor continues to be in the OFF state for 6 minutes by the thermostat control in either of the cooling or heating, it is switched to the monitoring.

Room temperature (T_R) control zone

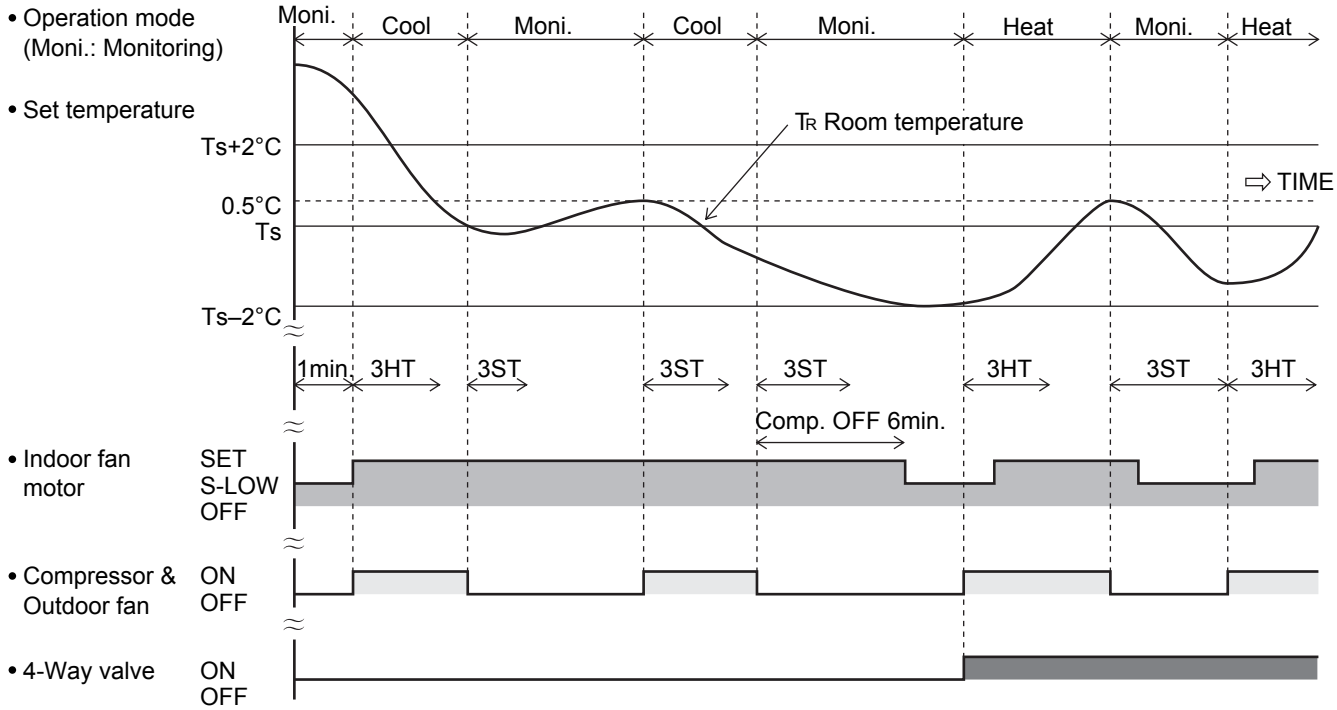


(3) Tsa : Set temperature in AUTO operation

During cooling operation or after switching to monitoring from cooling operation, Tsa is identical to the temperature (Ts) selected out of the THERMOSTAT.

- During heating operation or after switching to monitoring from heating operation, “Tsa” is a value which the heating correction coefficient (CC) is added to the temperature (Ts) select out of the THERMOSTAT.
  (Tsa=Ts+CC)
  [Heating correction coefficient (CC) : See page 02-07]
- When the set temperature of the THERMOSTAT (Ts) is changed, the last temperature has priority over the former set temperature.
- Even though the set temperature is changed to switch from cooling to heating or from heating to cooling, such a switching is carried out after the compressor continues to be in the OFF state for 6 minutes by the thermostat control.

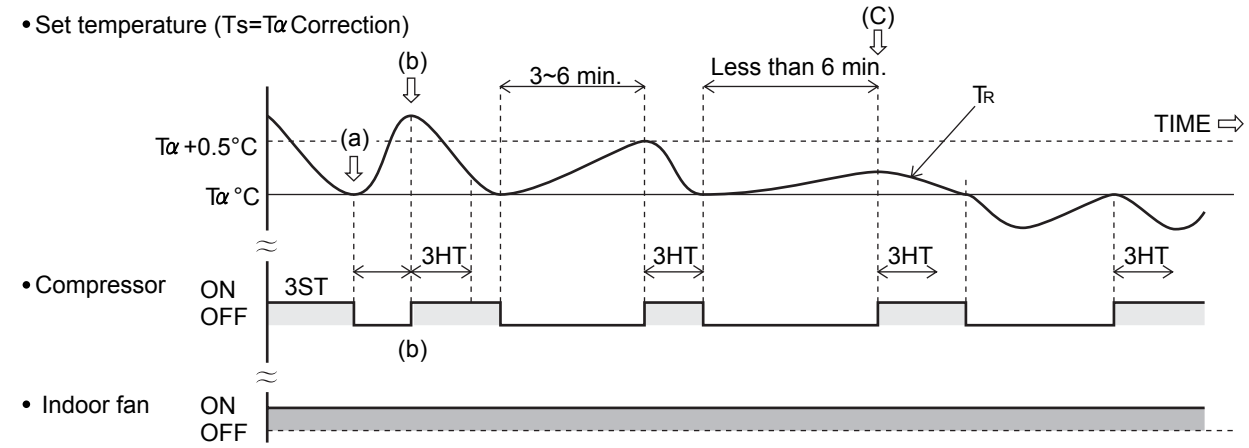
An example for AUTO CHANGEOVER TEMPERATURE CONTROL time chart



4-2-2 "COOL" POSITION

1. When using the cooling mode, set the temperature to a value lower than the current room temperature.
2. If it is set higher than the current room temperature the unit will not enter the cooling mode and only the fan will operate.

An example for COOLING TEMPERATURE CONTROL time chart (Manual setting)

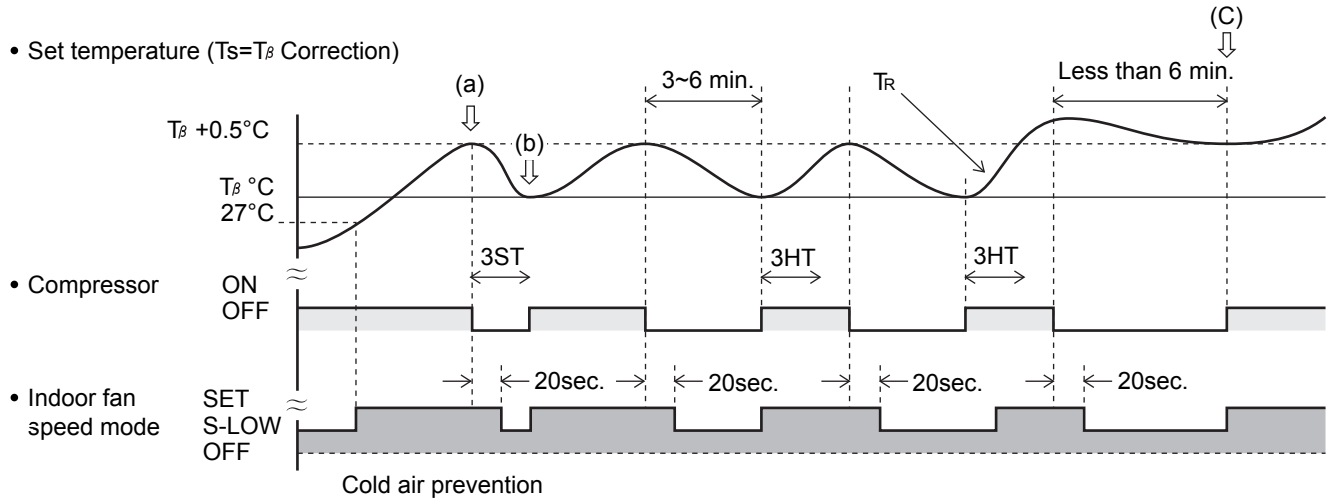


(a) Compressor turned OFF : $T_R < T\alpha$
(b) Compressor turned ON : $T_R \geqq T\alpha + 0.5°C$ (In case of 3 to 6 minutes)
(c) Compressor turned ON : $T_R \leqq T\alpha$ (In case that the compressor stops more than 6 minutes)

4-2-3 "HEAT" POSITION

1. Set the temperature higher than the current room temperature. If it is set to a lower temperature, heating will not start.
2. For about 3 ~ 5 minutes after the start of heating, the fan will operate very slowly, and then switch to the selected fan setting. This period allows the indoor unit's heat exchanger to warm-up before emitting warm air.
3. During defrosting, the OPERATION indicator lamp flashes 3 sec. ON and 1 sec. OFF, and the heating operation is temporarily interrupted.

An example for HEATING TEMPERATURE CONTROL time chart (Manual setting)



(a) Compressor OFF : $T_R \geqq T_\beta + 0.5°C$
(b) Compressor ON : $T_R < T_\beta$
(c) Compressor ON : $T_R < T_\beta + 0.5°C$ (When the compressor stops after less than 6min.)

4-2-4 "FAN" POSITION

1. In this position, the fan operates alone to circulate air. The room temperature will not be changed.
2. Operates at the air flow set in the FAN CONTROL mode.
3. When only the "FAN" mode is being used, setting to "AUTO" is equivalent to set it at "MED".

4-3 LOUVER CONTROL

4-3-1 ADJUSTING THE DIRECTION OF AIR CIRCULATION

Instructions relating to heating (∗) are applicable only to "HEAT PUMP MODEL".

Begin air conditioner operation before performing this procedure.

Vertical Air Direction Adjustment

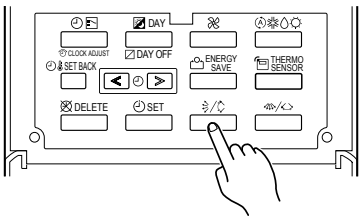
This instructions are applicable to "CEILING SUSPENSION TYPE", "FLOOR CONSOLE/UNDER CEILING DUAL TYPE" and "CASSETTE TYPE".

Press the VERTICAL AIR FLOW DIRECTION SET button.

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

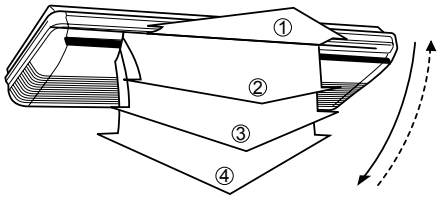
① → ② → ③ → ④

The remote controller's display does not change.

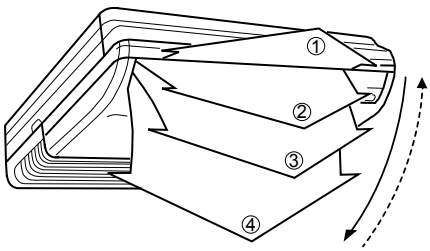


Example : When set to vertical air direction.

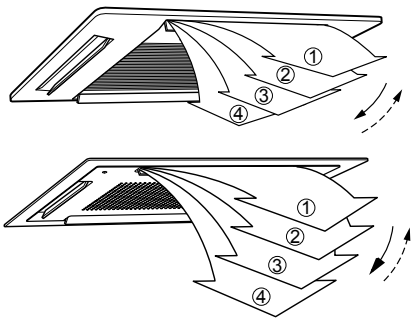
■ CEILING SUSPENSION TYPE



■ FLOOR CONSOLE/UNDER CEILING DUAL TYPE



■ CASSETTE TYPE



⚠ DANGER!

Never place fingers or foreign objects inside the outlet ports could cause personal injury.

- Always use the remote controller's AIR FLOW DIRECTION button to adjust the UP/DOWN air direction flaps or RIGHT/LEFT air direction louvers. Attempting to move them manually could result in improper operation; in this case, stop operation and restart. The flaps should begin to operate properly again.
- During use of the Cooling mode, do not set the UP/DOWN air direction flaps in the ④ position for long periods of time, since water vapor may condense near the outlet port and drops of water may drip from the air conditioner.
- When used in a room with infants, children, elderly or sick persons, the air direction and room temperature should be considered carefully when making settings.

- 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 mode : Horizontal flow ①
  ∗ During Heating mode : Downward flow ④
- 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.

Horizontal Air Direction Adjustment

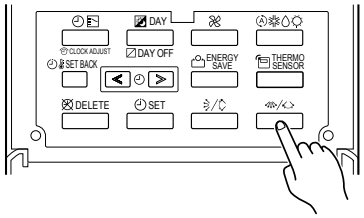
This instructions are applicable to "CEILING SUSPENSION TYPE" and "FLOOR CONSOLE/UNDER CEILING DUAL TYPE"

Press the HORIZONTAL AIR FLOW DIRECTION SET button.

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

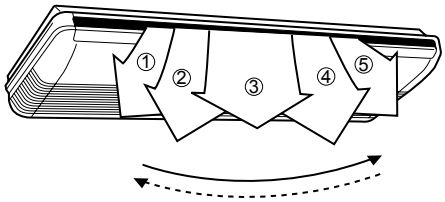
① ⟶ ② ⟶ ③ ⟶ ④ ⟶ ⑤

The remote controller's display does not change.

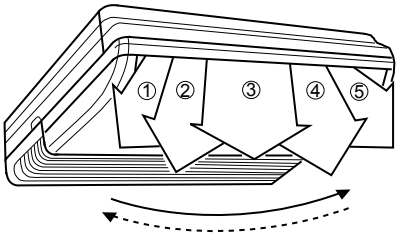


Example : When set to horizontal air direction.

■ **CEILING SUSPENSION TYPE**



■ **FLOOR CONSOLE/UNDER CEILING DUAL TYPE**



4-3-2 SWING OPERATION

Instructions relating to "the indoor unit's indicator lamp" (⁎⁎) are applicable to "CEILING SUSPENSION TYPE" and "FLOOR CONSOLE/UNDER CEILING DUAL TYPE".

Begin air conditioner operation before performing this procedure.

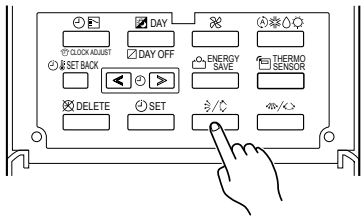
To select Vertical airflow SWING Operation

This instructions are applicable to "CEILING SUSPENSION TYPE", "FLOOR CONSOLE/UNDER CEILING DUAL TYPE" and "CASSETTE TYPE".

Press the VERTICAL SWING button.

The remote controller's VERTICAL SWING lamp (orange) **and indoor unit's SWING indicator lamp (VERTICAL SWING) (orange) will light up.

In this mode, the UP/DOWN air direction flaps will swing automatically to direct the air flow both up and down.



Example : When set to vertical swing.

To stop Vertical airflow SWING Operation

Press the VERTICAL SWING button onse again.

The remote controller's VERTICAL SWING lamp **and indoor unit's SWING indicator lamp (VERTICAL SWING) will go out.

Airflow direction will return to the setting before swing was begun.

Instructions relating to "the indoor unit's indicator lamp" (**) are applicable to "CEILING SUSPENSION TYPE" and "FLOOR CONSOLE/UNDER CEILING DUAL TYPE".

About Vertical Airflow SWING Operation

- The range of swing is relative to the currently set airflow direction.
- If the swing range is not as desired, use the remote controller's VERTICAL AIR FLOW DIRECTION 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 mode, do not set the air UP/ DOWN direction flap, in the ④ position for long periods of time, since water vapor may condense near the outlet port and drops of the water may drip from the air conditioner.

Air flow direction set	Range of swing
①	① to ③
②	② to ④
③	② to ④
④	① to ④ (All range)

Air direction range (See page 04-06)

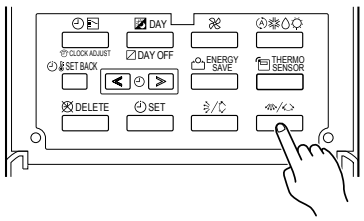
To select Horizontal Airflow SWING Operation

This instructions are applicable to "CEILING SUSPENSION TYPE" and "FLOOR CONSOLE/UNDER CEILING DUAL TYPE".

Press the HORIZONTAL SWING button.

The remote controller's HORIZONTAL SWING lamp (orange)**and indoor unit's SWING indicator lamp (HORIZONTAL SWING) (orange) will light up.

In this mode, the RIGHT/LEFT air direction louvers will swing automatically to direct the airflow both right and left.



Example : When set to horizontal swing.

To stop Horizontal airflow SWING Operation

Press the HORIZONTAL SWING button once again.

The remote controller's HORIZONTAL SWING lamp **and indoor unit's SWING indicator lamp (HORIZONTAL SWING) will go out.

Airflow direction will return to the setting before swing was begun.

About Horizontal Airflow Swing Operation

- The range of swing is relative to the currently set airflow direction.
- If the swing range is not as desired, use the remote controller's HORIZONTAL AIR FLOW DIRECTION 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 speed.

Air flow 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)

Air direction range (See page 04-07)

4-4 DRAIN PUMP OPERATION

1. When a compressor starts, the drain pump starts simultaneously.
2. The drain pump operates continuously for 3 minutes after the compressor is turned off.
3. When the compressor stops by the "Indoor heat exchanger de-icing function", the drain pump is turned off in 1 hour after the compressor stops.
4. When the water level in the drain pan rises up and then the float switch functions:
   ① Microcomputer stops the compressor and indoor and outdoor fan motor operation.
   ② Drain pump operates continuously for 3 minutes after the float switch is turned off.
   (Almost condensing water may be drained)
5. When the float switch turns ON continuously for 3 min., "FAILURE INDICATION" operates.
6. When the float switch turns OFF within 3 min., the unit starts cooling operation.

4-5 FUNCTION

4-5-1 AUTO RE-START

1. The air conditioner restarts with the previous setting operation.
2. At the restarting of air conditioner, "THREE MINUTE DELAY FUNCTION" operates.
3. At the restarting of air conditioner for heating operation, "COLD AIR DISCHARGE PREVENTION FUNCTION" operates.
4. When the power of the timer is interrupted during operation and resets later, the timer display lamp flashes on and off (turned on 3 sec. / off 1 sec.).

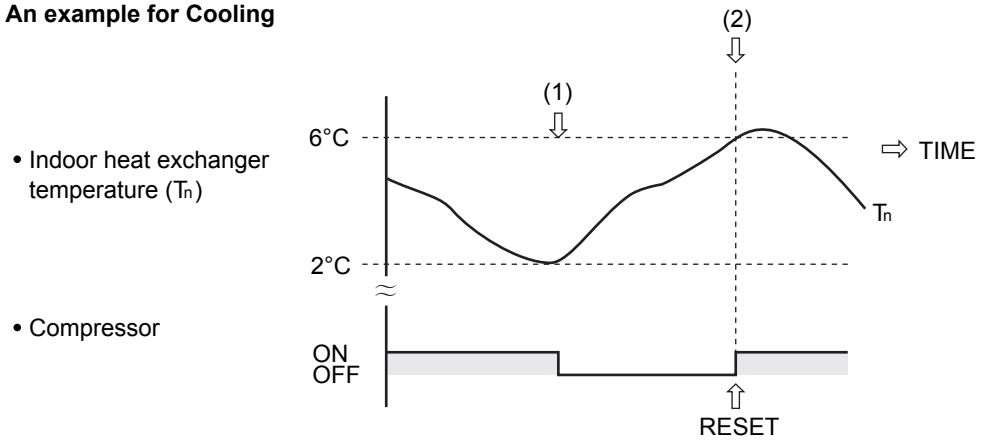
4-5-2 INDOOR HEAT EXCHANGER DE-ICING FUNCTION (COOLING OPERATION)

(1) When the temperature of the heat exchanger at the indoor side drops below 2°C during cooling operation, operation of the compressor stops.

(2) After that, when the temperature of the indoor heat exchanger rises above 6°C, compressor starts. (Reset)

Note :
The de-icing setting temperature can be selected at JP3 on the control PCB.

An example for Cooling



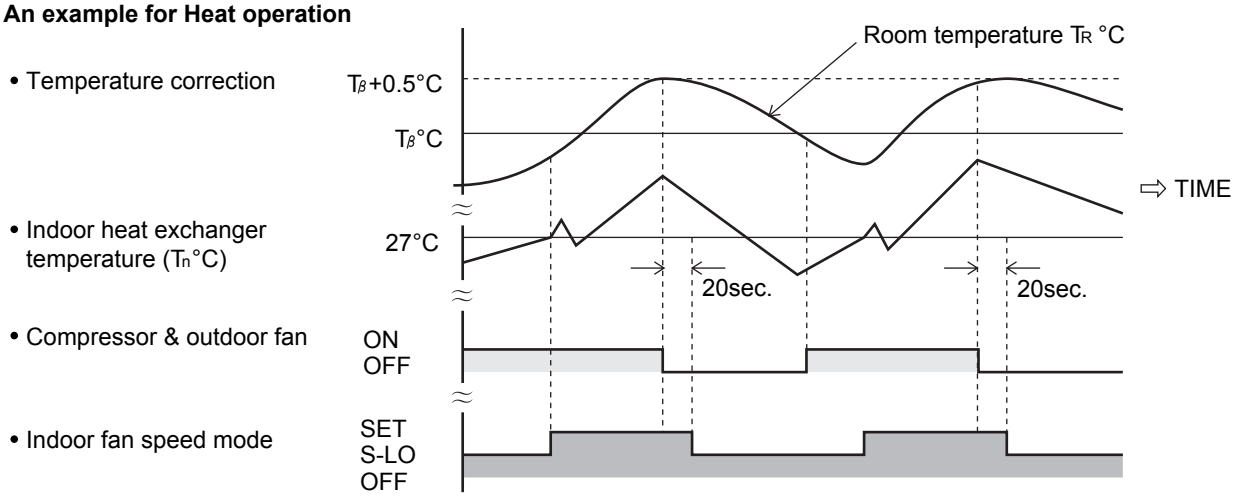
4-5-3 SET TEMPERATURE COMPENSATION THE OPERATION START

At the start of the operation and when MASTER CONTROL is switched to heating and cooling, the set temperature are compensated by +2°C for heating operation for 60 minutes and by -1°C for cooling operation for 40 minutes.

4-5-4 COLD AIR DISCHARGE PREVENTION FUNCTION (REVERSE CYCLE)

1. When the heating operation starts, the indoor unit fan operates intermittently in the S-LO* (Super-Low) mode. After the temperature of the indoor heat exchanger rises above 27°C, operation enters to the specified flow mode.
2. When the compressor is stopped by the thermostat, the indoor fan starts the intermittent operation in 20 seconds as described above.
3. While the compressor is stopped, the indoor unit fan operates in the S-LO mode.

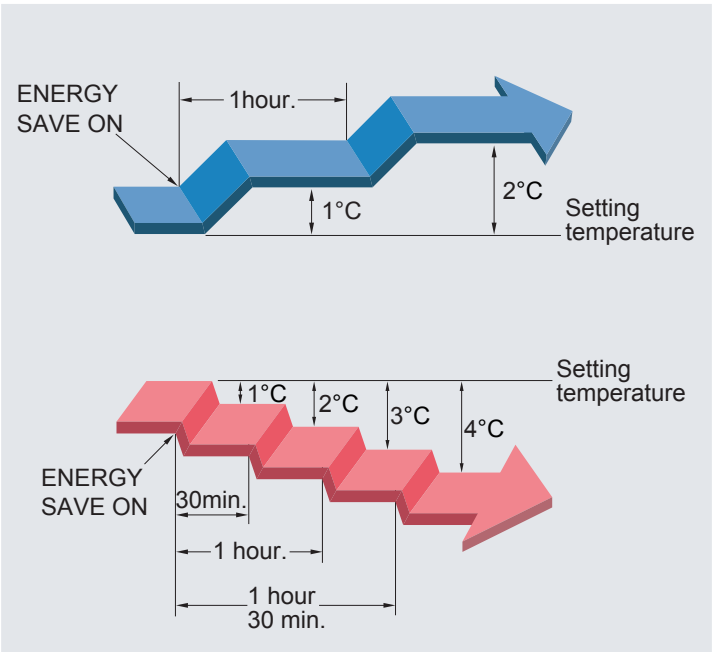
An example for Heat operation



* Temperature correction T_β=T_s (Indoor setting temperature) + T_a (+4)°C

4-5-5 ENERGY SAVE FUNCTION (SINGLE LARGE CASSETTE TYPE ONLY)

1. **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 1°C after one hour passed.
   Afterwards, energy consumption is saved by continuing to cool or dry at a thermostat temperature of 2°C more than set.
2. **During heating operation [REVERSE CYCLE]:**
   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.



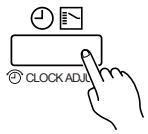
4-6 TIMER CONTROL

4-6-1 ON / OFF TIMER

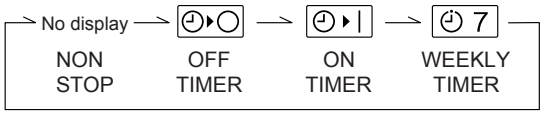
Instructions related to heating are applicable to "HEAT PUMP MODELS".
The timer function may not be available because of initial setting.

To set the ON / OFF timer

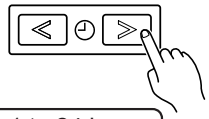
1



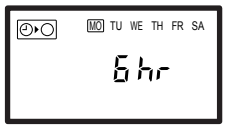
Press the TIMER MODE button to select the ON TIMER or OFF TIMER.



2



From 1 to 24 hours



ex.OFF timer set for 6 hours

Press the SET TIME buttons to set time.
After the time is set, the timer will start automatically.
The amount of time until the OFF timer operates that is displayed on the timerdisplay decreasesas time passes.

To cancel the timer mode

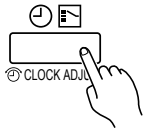
- Press the DELETE button to cansel the timer mode.
- The timer mode can also be canceled by changing the timer mode using the TIMER MODE botton.

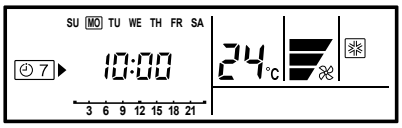
4-6-2 WEEKLY TIMER

Instructions related to heating are applicable to "HEAT PUMP MODELS".
The timer function may not be available because of initial setting.

To set the WEEKLY timer

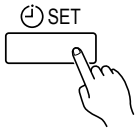
1





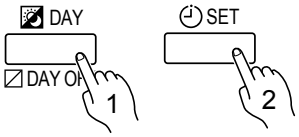
Press the TIMER MODE button to select the weekly timer.

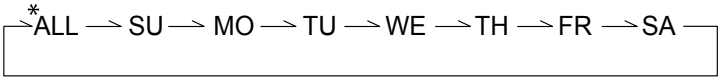
2

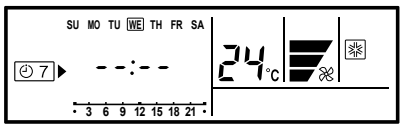


Press the SET button for 2 seconds or more.

3 **Day of the week setting**

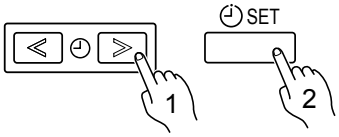


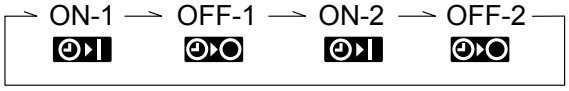




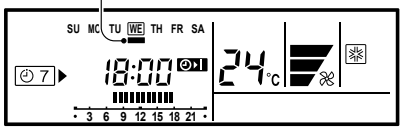
Press the DAY button to select the day of the week, and then press the SET button to confirm the setting.
* For ALL, all of the days can be set together when a ☐ appears around each day.

4 **Time setting**





When the operating time is set, the ■ mark appears.



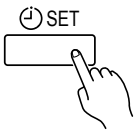
ex. The timer is set for 7:00-18:00.

Press the SET TIME buttons to set the ON time in 30-minute increments, then press the SET button to proceed to the OFF time setting. Set the OFF time in the same way. If necessary, set the second weekly timer settings in the same way.

5

Repeat steps **3** and **4** to set the weekly timer for another day of the week.

6



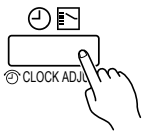
Press the SET button for 2 seconds or more to complete the weekly timer settings.

To delete the operating time

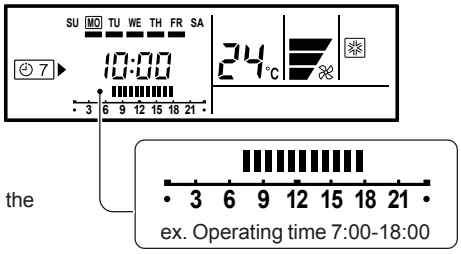
If the DELETE button is pressed during steps **3** or **4**, the operating time for the selected day will be deleted.
If all the days are selected, the operating times for all of the days will be deleted.

To start/cancel the WEEKLY timer operation

To start



When the weekly timer is selected, the timer starts automatically.



The operating time for the current day is displayed.

To cancel

- Press the DELETE button to cancel the timer mode.
- The timer mode can also be canceled by changing the timer mode using the TIMER MODE button.

NOTES

(1) PRECAUTIONS DURING WEEKLY TIMER SET UP
Setup is not possible in the following cases, so amend the time.
- Be sure to set the ON time first, then the OFF time. If either the ON time or the OFF time is not set correctly, the timer will not operate properly.
- The WEEKLY 2 settings cannot be set earlier than the WEEKLY 1 settings.
- The WEEKLY 1 and WEEKLY 2 time spans cannot overlap.

(2) The earliest OFF time you can set is 30 minutes after the ON time.
(3) The OFF time can be carried over to the next day.
(4) Even if the timer operation is set, the timer indicator lamp of the indoor unit does not light up. (The timer indicator lamp is used for wireless remote controllers only.)

To set the DAY OFF (for a holiday)

1 SET

During the weekly timer , press the SET button for 2 seconds or more to set the day.

2 DAY

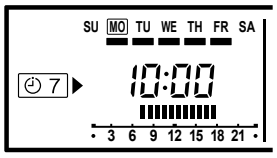
Select the day to set the DAY OFF.

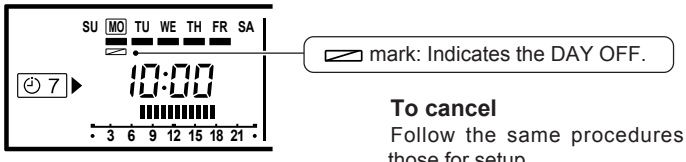
3 DAY

Press the DAY(DAY OFF) button for 2 seconds or more to set the DAY OFF.

4 SET

Press the SET button for 2 seconds or more to complete the DAY OFF setting.



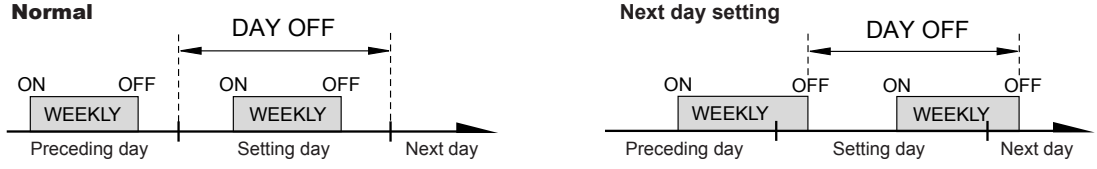


ex. The DAY OFF is set for Monday.

To cancel
Follow the same procedures as those for setup.

NOTES

(1) The DAY OFF setting is only available for days for which weekly settings already exist.
(2) If the operating time carries over to the next day (during a next day setting), the effective DAY OFF range will be set as shown below.



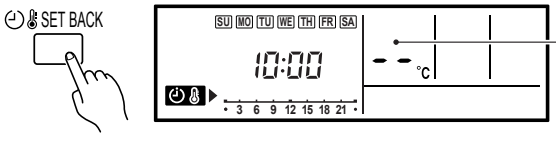
(3) The DAY OFF setting can only be set one time. The DAY OFF setting is cancelled automatically after the set day has passed.

3. TEMPERATURE SET BACK TIMER

Instructions related to heating are applicable to "HEAT PUMP MODELS".
The timer function may not be available because of initial setting.

To set the temperature SET BACK timer

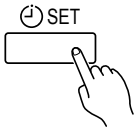
1



If there is no existing SET BACK temperature setting, "- -" will be displayed for the tempreature.

Press the SET BACK button to change to the SET BACK confirmation display.
The SET BACK operating time and the set temperature will be displayed.

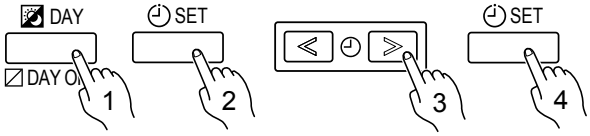
2

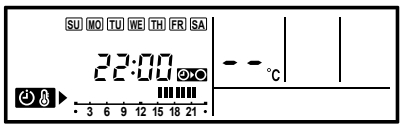


Press the SET button for 2 seconds or more.

3

Day setting **Operating time setting**



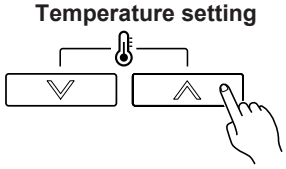


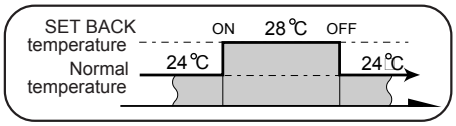
ex. When setting all days together

Follow steps **3** and **4** in "To set the WEEKLY timer " (the previous page). The DELETE button is also used as described in the procedures for the weekly timer.

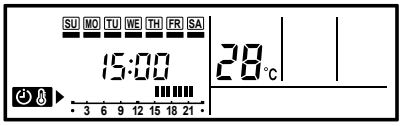
4

Temperature setting



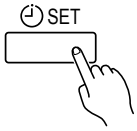


Press the SET TEMPERATURE button to set the temperature (from 10 ℃ to 30 ℃).



ex. Operating time 15:00 - 22:00

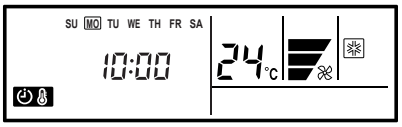
5



Repeat steps **3** and **4**.
Press the SET button for 2 seconds or more to complete the temperature SET BACK timer settings.

To start/ cancel the temperature SET BACK timer operation

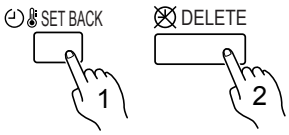
To start



ex. Display during SET BACK timer operation
(The operating time will not be displayed.)

Press the SET BACK button. The SET BACK confirmation display appears for 5 seconds, and then the timer starts automatically.

To cancel



Press the SET BACK button, and then press the DELETE button while the SET BACK confirmation display is displayed. Even if the SET BACK button is pressed again, the SET BACK timer will be cancelled.

NOTES

(1) The SET BACK timer only changes the set temperature, it cannot be used to start or stop air conditioner operation.
(2) The SET BACK timer can be set to operate up to two times per day but only one temperature setting can be used.
(3) The SET BACK timer can be used together with the ON, OFF , and weekly timer functions.
(4) During the COOL/DRY mode, the air conditioner will operate at a minimum of 18℃ even if the SET BACK temperature is set to 17℃ or lower.
(5) The SET BACK operating time is displayed only in the SET BACK confirmation display. (Refer to step 1 for the SET BACK confirmation display.)
(6) Room temperatures as low as 10, 12, and 14℃ cannot be set depending on the model.

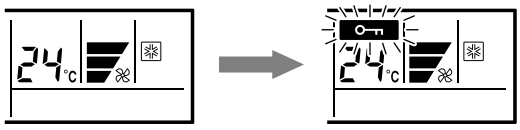
4-7 SETTING THE ROOM TEMPERATURE DETECTION LOCATION

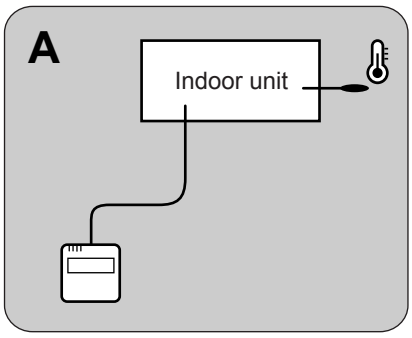
The detection location of the room temperature can be selected from the following three examples. Choose the detection location that is best for the installation location.
For S-series air conditioners and Network convertor (UTR-YSS ∗), the following functions cannot be used.

A. Indoor unit setting (factory setting)

The room temperature is detected by the indoor unit temperature sensor.

(1) When the THERMO SENSOR button is pressed, the lock display flashes because the function is locked at the factory.



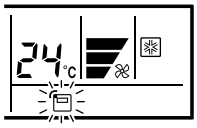


B. Remote controller setting

The room temperature is detected by the remote controller temperature sensor.

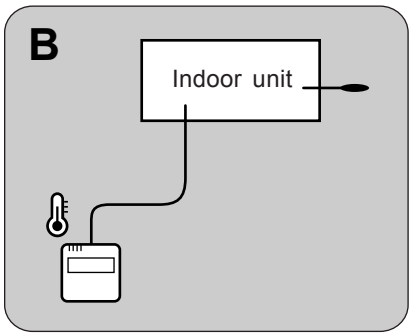
(1) Press the THERMO SENSOR button for 5 seconds or more to unlock the function. The thermo sensor display flashes and then disappears when the function is unlocked.

(2) Press the THERMO SENSOR button.
The thermo sensor display appears.



(3) Press the THERMO SENSOR button again for 5 seconds or more to lock the function. The thermo sensor display flashes and then remains on when the function is locked.

(4) Make sure that the function is locked.

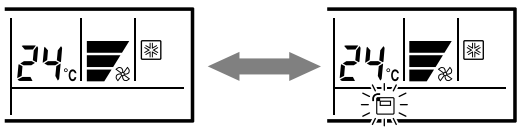


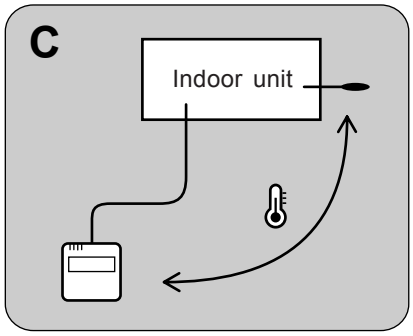
C. Indoor unit/remote controller setting (room temperature sensor selection)

The temperature sensor of the indoor unit or the remote controller can be used to detect the room temperature.

(1) Press the THERMO SENSOR button for 5 seconds or more to unlock the function. The thermo sensor display flashes and then disappears when the function is unlocked.

(2) Press the THERMO SENSOR button to select the temperature sensor of the indoor unit or the remote controller.





NOTES

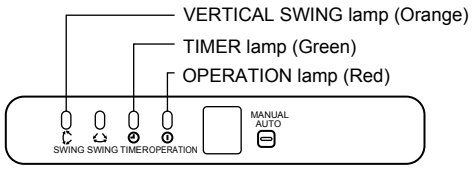
If the function to change the temperature sensor is used as shown in examples A and B (other than example C), be sure to lock the detection location. If the function is locked, the lock display will flash when the THERMO SENSOR button is pressed.

5. TROUBLE SHOOTING

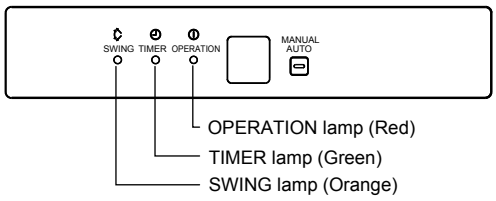
5. TROUBLESHOOTING

5-1 INDOOR UNIT

Operation can be checked by lighting and flashing of the display section OPERATION, TIMER and VERTICAL SWING lamps.(For Ceiling type , Compact cassette type)
Perform judgment in accordance with the following.



Ceiling type (AB * A 30/ 36/ 45 TATA)



Compact cassette type (AUXA18TATA)

- Test running

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

- Error

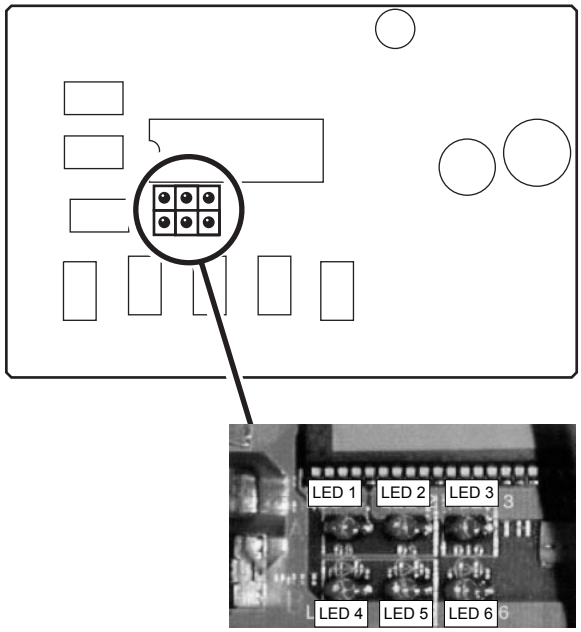
The OPERATION, TIMER and VERTICAL SWING lamps operate as shown in Table 5.1 according to the error contents.

Table 5.1

Error display			Error contents
OPERATION lamp	TIMER lamp	VERTICAL SWING lamp	
Blinks	Blinks	Goes off	Model information abnormal (permanent type)
Pulses 4 times	Blinks	Goes off	Drain abnormal (permanent type)
Pulses 6 times	Blinks	Goes off	Indoor fan abnormal
Pulses 2 times	Blinks	Goes off	Room air temperature thermistor open circuited
		Blinks	Room air temperature thermistor shortcircuited
Pulses 3 times	Blinks	Goes off	Piping thermistor open circuited
		Blinks	Piping thermistor shortcircuited
Pulses 5 times	Blinks	Goes off	Serial communications abnormal
Blinks	Pulses 2 times	Goes off	Reverse phase wire connection abnormal
Blinks	Pulses 3 times	Goes off	Outdoor heat exchange thermistor open circuited
		Blinks	Outdoor heat exchange thermistor shortcircuited
Blinks	Pulses 6 times	Goes off	Low pressure abnormal
Blinks	Pulses 5 times	Goes off	Outdoor discharge thermistor open circuited
		Blinks	Outdoor discharge thermistor shortcircuited
Blinks	Pulses 7 times	Goes off	Discharge temperature abnormal
Blinks	Pulses 4 times	Goes off	Outdoor air temperature thermistor open circuited
		Blinks	Outdoor air temperature thermistor shortcircuited

5-2 OUTDOOR UNIT

OUTDOOR P.C.B. BOARD LAYOUTS



LED	DESCRIPTION OF FAILURE	LED DISPLAY
LED 1	Compressor A operation	Lighted continuously
	Pressure switch A faulty (when turning on)	0.1 sec./0.1 sec. flashing
LED 2	4-way valve A operation	Lighted continuously
	Serial signal A faulty	0.5 sec./0.5 sec. flashing once
	Pressure A faulty	0.5 sec./0.5 sec. flashing 2 times
	Discharge temperature A abnormal	0.5 sec./0.5 sec. flashing 3 times
	Unit A operation mode error	0.5 sec./0.5 sec. flashing 4 times
LED 3	Solenoid controlled valve A operation	Lighted continuously
	Discharge temperature thermistor A faulty	0.5 sec./0.5 sec. flashing 2 times
	Discharge temperature thermistor B faulty	0.5 sec./0.5 sec. flashing 3 times
	Heat exchanger thermistor A faulty	0.5 sec./0.5 sec. flashing 4 times
	Heat exchanger thermistor B faulty	0.5 sec./0.5 sec. flashing 5 times
	Outside temperature thermistor faulty	0.5 sec./0.5 sec. flashing 6 times
LED 4	Compressor B operation	Lighted continuously
	Pressure switch B faulty (When turning on)	0.1 sec./0.1 sec. flashing
LED 5	4-way valve B operation	Lighted continuously
	Serial signal B faulty	0.5 sec./0.5 sec. flashing once
	Pressure B faulty	0.5 sec./0.5 sec. flashing 2 times
	Discharge temperature B faulty	0.5 sec./0.5 sec. flashing 3 times
	Unit B operation mode error	0.5 sec./0.5 sec. flashing 4 times
LED 6	Solenoid controlled valve B operation	Lighted continuously
	Negative-phase prevention faulty	0.5 sec./0.5 sec. flashing once
	EEPROM access faulty	0.5 sec./0.5 sec. flashing 7 times
	EEPROM ERASE faulty	0.1 sec./0.1 sec. flashing
ALL LEDs	Incorrect model No. error	0.1 sec./0.1 sec. flashing

5-3 REMOTE CONTROL UNIT

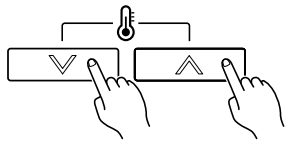
When the error indication "E:EE" is displayed, inspection of the air conditioning system is necessary. Please consult authoilzed servise personnel.

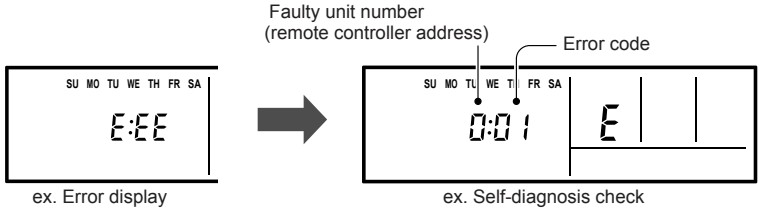
Run [Self-Diagnosis] if [E:EE] flashes on the clock display of the remote controller.

■ SELF-DIAGNOSIS

(1) Stop the air conditioner operation.

(2)





ex. Error display　　ex. Self-diagnosis check

Press the SET TEMPERATURE buttons ∧ / ∨ simultaneously for 5 seconds or more to start the self-diagnosis.

(3) Press the SET TEMPERATURE buttons simultaneously for 5 seconds or more to stop the self-diagnosis.

Error code	Error contents
E:00	Communication error (indoor unit ⇄ remote controller)
E:01	Communication error (indoor unit ⇄ outdoor unit)
E:02	Room temperature sensor open
E:03	Room temperature sensor shortcircuited
E:04	Indoor heat exchanger temperature sensor open
E:05	Indoor heat exchanger temperature sensor shortcircuited
E:06	Outdoor heat exchanger temperature sensor open
E:07	Outdoor heat exchanger temperature sensor shortcircuited
E:08	Power source connection error
E:09	Float switch operated
E:0A	Outdoor temperature sensor open
E:0b	Outdoor temperature sensor shortcircuited
E:0C	Discharge pipe temperature sensor open
E:0d	Discharge pipe temperature sensor shortcircuited
E:0E	Outdoor low pressure abnormal
E:0F	Discharge pipe temperature abnormal
E:11	Model abnormal
E:12	Indoor fan abnormal
E:13	Outdoor signal abnormal
E:14	Outdoor EEPROM abnormal

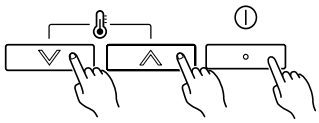
■ HOW TO DISPLAY ERROR CODE HISTORY

ERROR CODE HISTORY DISPLAY

Up to 16 memorized error codes may be displayed for the indoor unit connected to the remote controller.

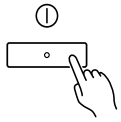
(1) Stop the air conditioner operation.

(2)

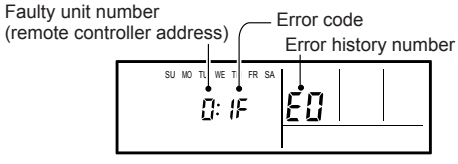


Press the set temperature buttons ∧ / ∨ and start/stop button simultaneously for 3 seconds or more.

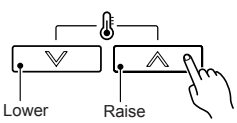
(3)



Press the start/stop button.



(4)



00 ↔ 01 ↔ 02 ↔ 03 ↔ 04 ↔ 05 ↔ 06 ↔ 07
15 ↔ 14 ↔ 13 ↔ 12 ↔ 11 ↔ 10 ↔ 09 ↔ 08

Press the SET TEMPERATURE button to select the error history number.

(5) Press the SET TEMPERATURE buttons simultaneously for 3 seconds or more to stop the display.

5-4 WORKING INSPECTION (Ex. In cooling operation)

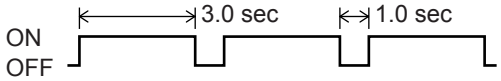
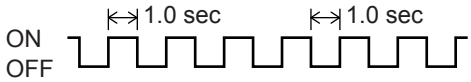
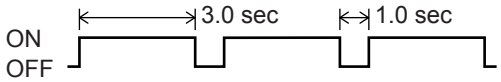
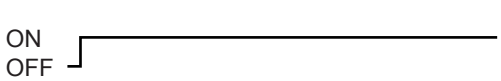
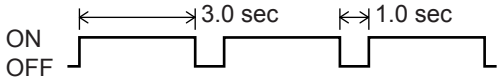
Symptom	Possible causes	Remedy
(1) Indoor unit evaporator is covered with frost. a: Frost near inlet. b: Frost all over.	Gas leakage Clogged filter Low ambient temperature (less than 20 ˚C)	Check the leaking part, and charge gas. Clean the filter. Check the ambient temperature.
(2) Compressor operates, but does not cool.	Dirty condenser	Clean.
(3) Water does not come out of drain hose.	When the compressor operates normally, the gas leaks.	Charge gas and replace the parts.
(4) Compressor return pipe (low pressure) is not cold.	Gas leakage	Charge gas. Replace the parts.
(5) Compressor outlet pipe (high pressure) is not hot.	Gas leakage	Charge gas.
(6) Compressor operates, but does not cool. a: Indoor unit evaporator is cold. b: Outdoor unit condenser is hot, but it does not cool.	Overload operation Dirty condenser	Eliminate overload. Clean.
(7) Indoor unit air outlet temperature is low, but it does not cool.	Clogged filter The cooled air is shortcircuited. Overload operation	Clean. Isolate the problem and correct. Eliminate the overload.

Note: Display lamps light on the front panel of the indoor unit.

5-5 SYMPTOMS AND CHECK ITEMS

Symptom	Possible causes	Check points
No operation	Power supply circuit section	• Microcomputer input signal • DC output voltage • Switching transformer • Remote control signal receiver unit • Remote control unit
Erroneous operation	Reset section	• Reset circuit
Auto louver control faulty	Auto louver control section	• Auto louver control circuit
Display faulty	Indicator PC board LED display control section	• Display LED • Microcomputer output signal
Remote control input faulty	Remote control unit Signal receiving section	• Remote control unit • Microcomputer input / output signal
Temperature control faulty	Room temperature thermistor Indoor pipe temperature thermistor A/D converter input section	• Room temperature thermistor • Indoor pipe temperature thermistor • Microcomputer input signal
Indoor fan motor control faulty	Indoor fan motor control output section	• Fan motor control circuit • Remote control unit
Indoor unit to outdoor unit control faulty	Output to the indoor unit	• Output circuit to the indoor unit

5-6 NORMAL OPERATION DISPLAY

OPERATION FACTOR	INDICATOR LAMP	FLASH / TIME (SEC)
① Test run	Operation lamp (red)	
	Timer lamp (green)	
② Power failure *1 Auto-restart enable (DIP SW 4-1 : ON)	Timer lamp (green)	
*2 Auto-restart disable (DIP SW 4-1 : OFF)	Operation lamp (red)	
	Timer lamp (green)	
③ Defrost operation *3 (Heating operation)	Operation lamp (red)	
④ Opposite operation mode *4	Operation lamp (red)	
	Timer lamp (green)	

Note: Display lamps light on the front panel of the indoor unit.

*1: The power is failed during timer operation, then the timer lamp flashes on and off when the power returns.

*2: The power is failed during operation, then both lamps flash on and off when the power returns.

*3: While the indoor fan motor stops, the operation lamp flashes on and off.

*4: At the heat pump type, indoor unit operation will be differrent from outdoor unit operation mode. The timer lamp indicate as above.

6. INSTALLATION

6. INSTALLATION

6-1 PRECAUTIONS FOR INSTALLATION

1. Preparing pipes

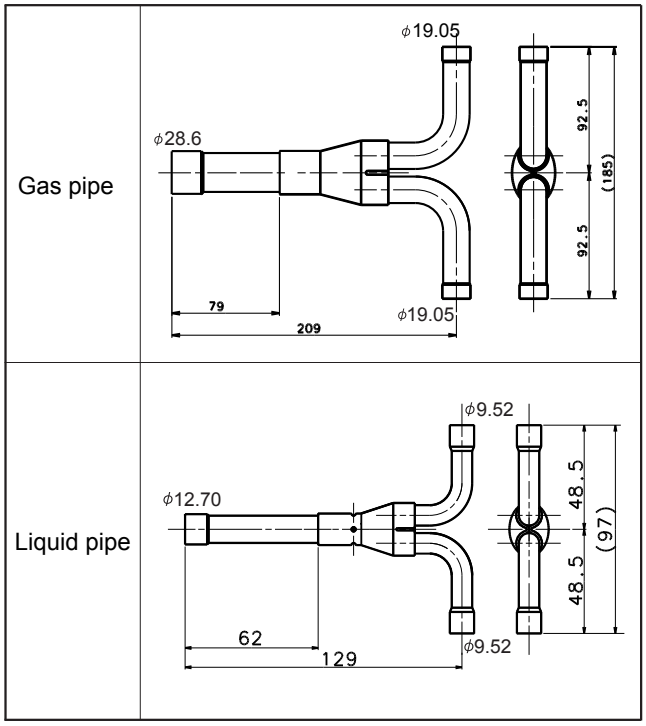
(1) Use the designated size (diameter & thickness) of refrigerant pipes.
(2) Those pipes purchased locally may contain dust inside. Please blow out the dust by dried inert gas when using.
(3) Be careful to avoid the dust or water falling into the pipe when performing piping process and piping installation.
(4) When processing the pipe, make the number of bending portion as few as possible, and the bending radius as large as possible.
(5) Use the optionally available standard branch kit.
(6) If the diameter of the required pipe is different from the branch unit, either cut it out or use the reducer.
(7) Keep the permissible length of every piping limitation to prevent a defect or cooling/heating failure.
(8) When replacing the unit, never use piping which has been used for previous installations.
Only use the new piping.

PIPE DIAMETER, RECOMMENDED MATERIAL AND WALL THICKNESS

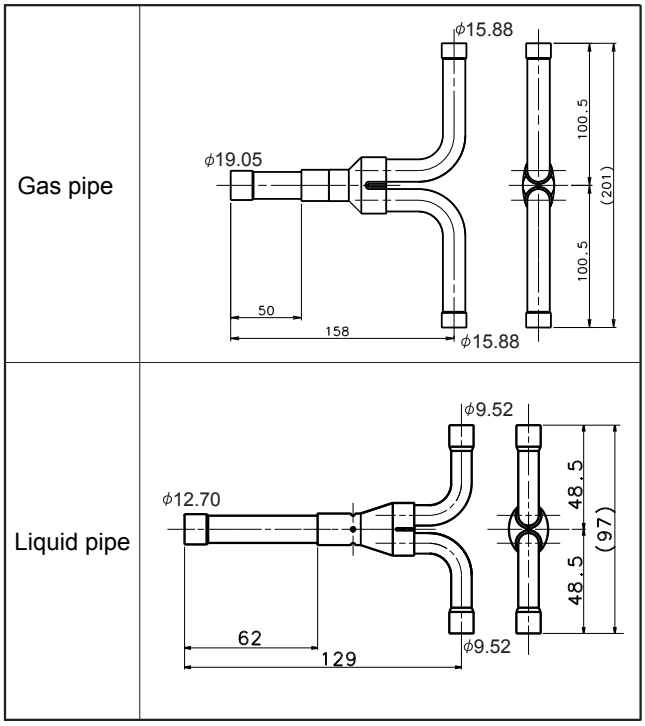
Nominal diameter (in)	1/4"	3/8"	1/2"	5/8"	3/4"	1 1/8"
Outside diameter (mm)	6.35	9.52	12.70	15.88	19.05	28.58
Material	COPPER JIS H3300 C1220T-O or equivalent 1)					COPPER JIS H3300 C1220T-H or 1/2H or equivalent 2)
Wall thickness 3) (mm)	0.8	0.8	0.8	1.0	1.0	1.0

1) Allowable tensile stress ≧ 33 (N/mm^2); 2) Allowable tensile stress ≧ 61 (N/mm^2); 3) Design pressure 3.0MPa.

■ Standard Accessory Parts For Simultaneous Operation Accessory Of Outdoor Unit.



■ UTR - BP901 Separation Tube



Joint pipe		
ϕ9.52←ϕ12.70	ϕ19.05←ϕ15.88	ϕ15.88←ϕ19.05

2. Flare connection

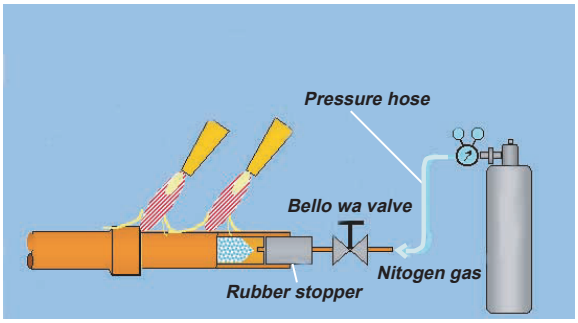
(1) Confirm that there are not scratches or waster, etc., on the flare and union surface.
(2) When using lubrication oil on the inside and outside of flare, always use small amount and must the same lubrication oil as used in the refrigerant circuit. Use of different oil will cause the lubrication oil to deteriorate and a compressor failure. Also too much oil may introduce water inside refrigerant circuit because the synthetic oil is highly hygroscopic.

Flare nut tightening torque

Nominal diameter (inch)	Tightening Torque
1/4	14.0 to 18.0 N·m
3/8	33.0 to 42.0 N·m
1/2	50.0 to 62.0 N·m
5/8	63.0 to 77.0 N·m
3/4	80.0 to 98.0 N·m

3. Brazing work

Brazing work must be carried out while blowing dry nitrogen gas through the pipes, so that an oxidized layer does not form on the inner surface of the pipes.



Example) Inside state of welded pipe section

Nitrogen Gas is used	Nitrogen Gas is used but not sufficient (Oxygen gas still exists inside the pipe)	Nitrogen Gas is not used

4. Connecting branches

(1) Connecting the branch liquid pipe.

1) Braze each part (connection pipe, indoor capillary tube, and branch liquid pipe) as shown in Fig. 1.
2) Wrap the two BR sheets around the indoor capillary tube as shown in Fig. 2.
3) Cover the indoor capillary tube and the branch liquid pipe with insulation (Fig. 3) and affix the insulation with tape.
4) Secure the insulation using the binders (Fig. 4).
   • The branch liquid pipe, the joint pipe, and the insulation are available as optional parts.

Fig. 1

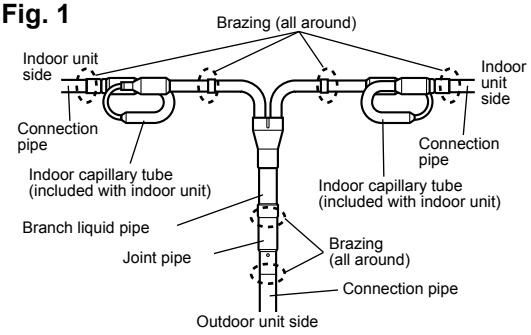


Fig. 2

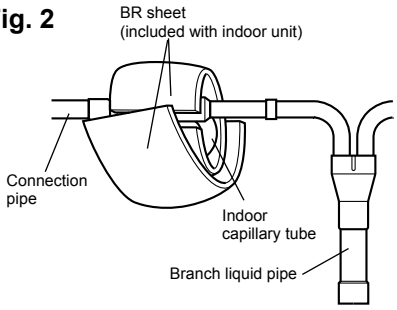


Fig. 3

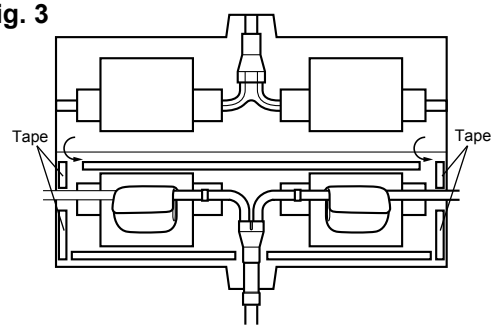
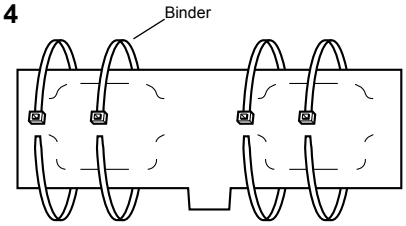


Fig. 4



(2) Connecting the branch gas pipe. (The capillary tube is not included in 45 types.)

1) Braze the branch gas pipe to the connecting pipe (Fig. 5).
2) Cover the branch gas pipe with insulation (Fig. 6) and affix the insulation with tape.
3) Secure the insulation using the binders (Fig. 7).
   • The branch gas pipe and the insulation are available as optional parts.

Fig. 5

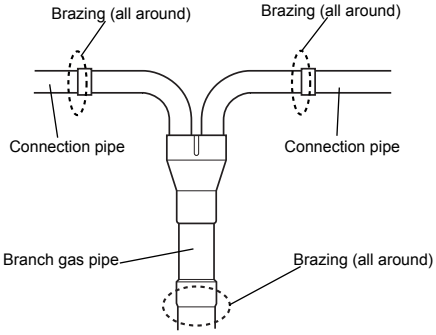


Fig. 6

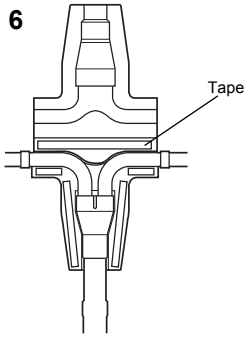
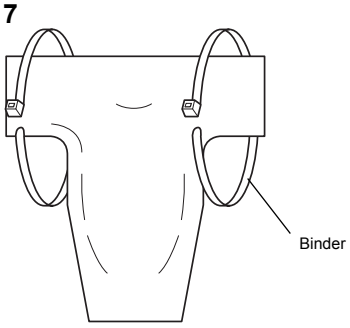


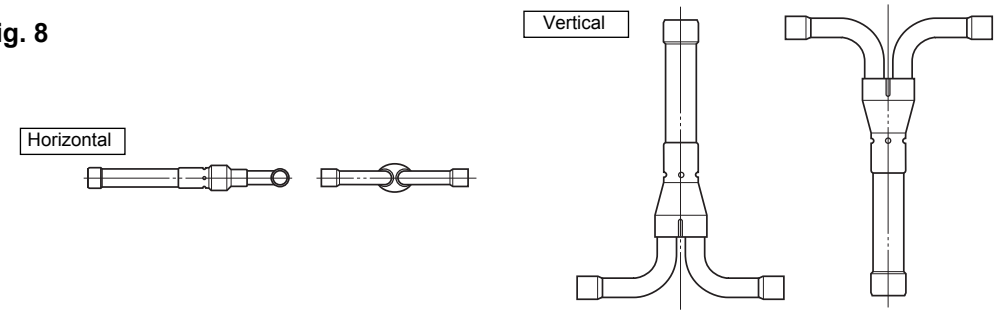
Fig. 7



(3) Installation angle

Be sure that the branch liquid pipe and the branch gas pipe are installed so that they are either exactly horizontal or vertical. (Fig. 8)

Fig. 8



5. Tightness test

(1) After completing all piping connection, always carry out an air tight test to check and confirm that there is no gas leakage.
Charge the piping with nitrogen to within the sealing test pressure (2.94 MPa). After 24 hours, check that the pressure has not fallen. Make sure to add the pressure to both gas pipe and liquid pipe.
Perform the leak test on all flared and brazed parts.

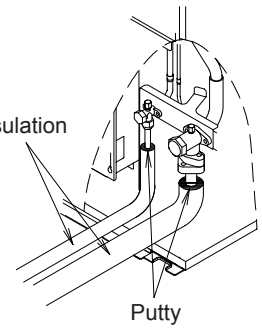
Note: When the ambient temperature changes 5 deg. , the test pressure changes 0.05MPa.

(2) After tightness test, always apply insulation at pipe connections.
If these pipes are not insulated, water will drip from them.

(3) Refer to the items shown below when selecting the thickness of the insulation. When the refrigerant piping is installed in a location with more than 70 to 80% humidity. use a thickness of 15 mm or more. If it exceeds 80%, use a thickness of 20 mm or more.Consation could form on the surface of the pipes if insulation with a thckness than shown above is used.
Use an insulation with a heat conveyance ratio of 0.04W/m·k or less.
* The standard insulation thickness for each pipe diameter is provided in DESIGN & TECHNICAL DATA.

(4) If the outdoor unit is installed in a location that is higher than that of the indoor unit, water that has condensed on the valve could flow to the indoor unit. Use putty or similar material to provide a barrier for this water.(Fig.9)

Fig. 9



6. Vacuum process

(1) Do not purge the air with refrigerant but use a vacuum pump to remove air from the indoor units and connection pipes!
(2) Remove the cap, and connect the gauge manifold and the vacuum pump to the charging valve by the service hoses.
(3) Vacuum the indoor unit and the connecting pipes until the pressure gauge indicates -76 cmHg.
(4) When -76 cmHg is reached, operate the vacuum pump for at least 1 hour.
(5) If necessary, add the refrigerant for the appropriate amount after the vacuum process is completed (Refer to next item "ADDITIONAL CHARGE").
(6) Disconnect the service hoses and fit the cap to the charging valve.
(7) Remove the blank caps.
(8) Open the 3-way valve with a hexagon wrench. (Fig.10)
Use a M4 hex-head wrench on the valve (ϕ9.52, ϕ12.7).
Use a M8 hex-head wrench on the gas valve.
(9) Tighten the cap of the two or four valves to specified torque.
* If the spindle and handle are not fully open, performance will degrade and an abnormal sound will be generated.

Fig. 10

* Close the valves before removing the joint pipe.

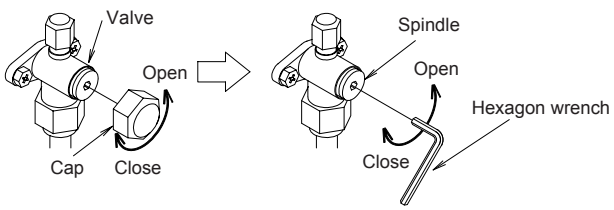
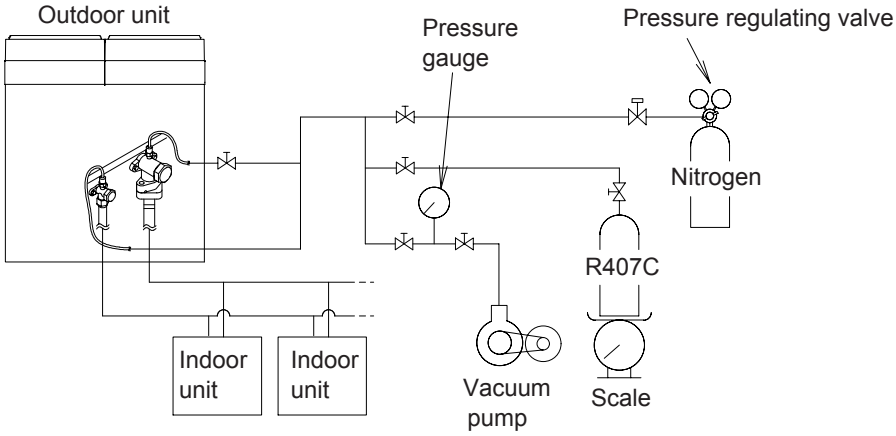


Table 1

Pipe	Spindle	Cap
Liquid valve	60 to 80 kgf·cm (6.0 to 8.0 N·m)	250 to 300 kgf·cm (49 to 53.9 N·m)
Gas valve	250 to 300 kgf·cm (25.4 to 29.4 N·m)	580 to 630 kgf·cm (58 to 63 N·m)

Connecting system



7. Additional charge

(1) Be careful, don't charge with wrong refrigerant!
(2) When moving and installing the air conditioner, do not mix gas other than the specified refrigerant inside the refrigerant circuit.
(3) When charging the refrigerant, always use an electronic balance for refrigerant charging. (to measure the refrigerant by weight)
(4) Always charge from the liquid phase side whose composition is stable.
(5) Add the refrigerant for the appropriate amount.
(For the calculation method, please refer to 6-2"ADDITIONAL CHARGE CALCULATION")
(6) Either larger or smaller refrigerant charge amount leads to the cause of trouble.
(7) For after service purpose, the added refrigerant charge amount and the calculation shall be indicated on the service label sticked on the cover of control box.

6-2 ADDITIONAL CHARGE CALCULATION

1. Enclosed amount in outdoor unit

Outdoor unit model		Enclosed amount (kg)
Simultaneous operation	AJ ∗ A90TATB	6.0
	AJ ∗ A90EATB	
Individual operation	AJ ∗ A90TATA	3.1 x 2
	AJ ∗ A90EATA	

2. The amount of additional charge

- Up to apipe length of 30m, charging with additional refrigerant is not necessary.
- If the pipe length exceeds 30m, it is necessary to charge with an additional refrigerant by the following amounts.

Simultaneous operation type

Total pipe length	30m (99ft)	40m (132ft)	50m (164ft)	g/m (oz/ft)
Additional refrigerant (R407C)	None	1,000g (35oz)	2,000g (70oz)	100g/m (3.5oz/3.3ft)

Individual operation type

Total pipe length	30m (99ft)	40m (132ft)	50m (164ft)	g/m (oz/ft)
Additional refrigerant (R407C)	None	400g (14oz)	800g (28oz)	40g/m (1.4oz/3.3ft)

Please do an additional refrigerant with each unit for "Individual operation type"

2. Example

When the outdoor unit model is Individual operation type and unit A pipe lengths are 39m and unit B pipe lengths are 46m.

Additional charge : Unit A = 30m(chargeless) + 9m x 40g/m = 360g

Unit B = 40m(400g) + 6m x 40g/m = 400g + 240g = 640g

6-3 ELECTRICAL WIRING SETTING

6-3-1 SIMULTANEOUS OPERATION

Fig. 11

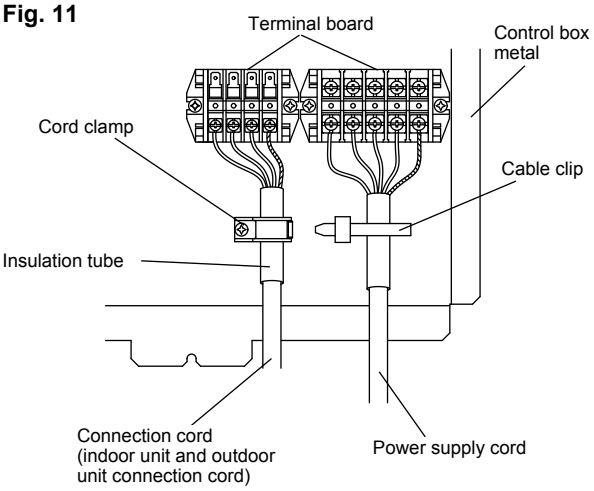
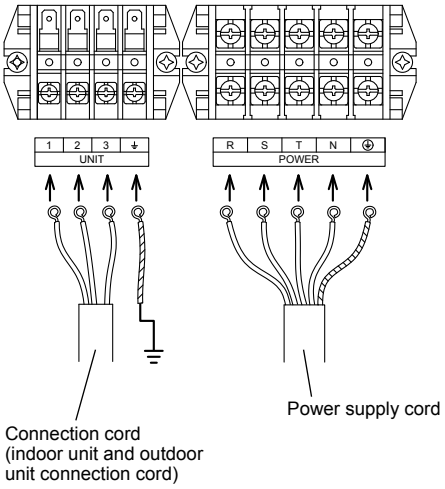
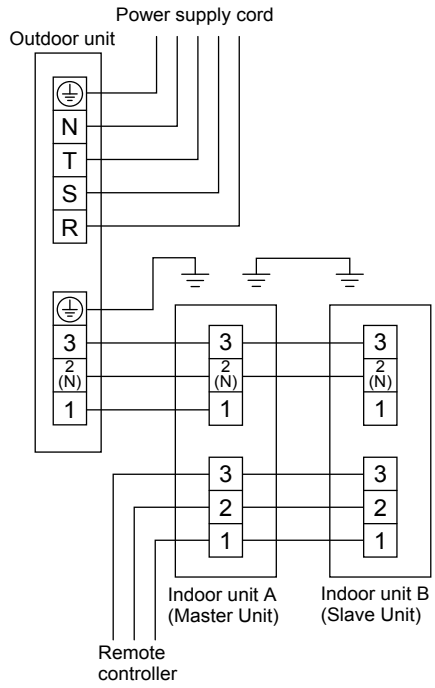


Fig. 12



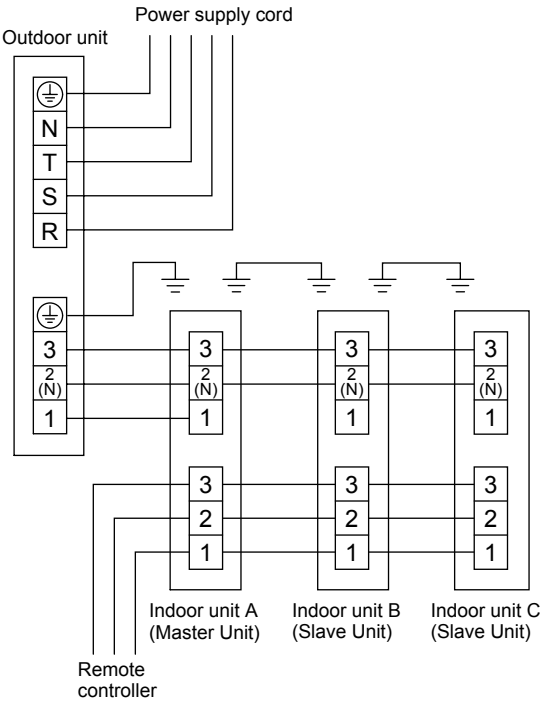
1. Two Connections

Fig. 13



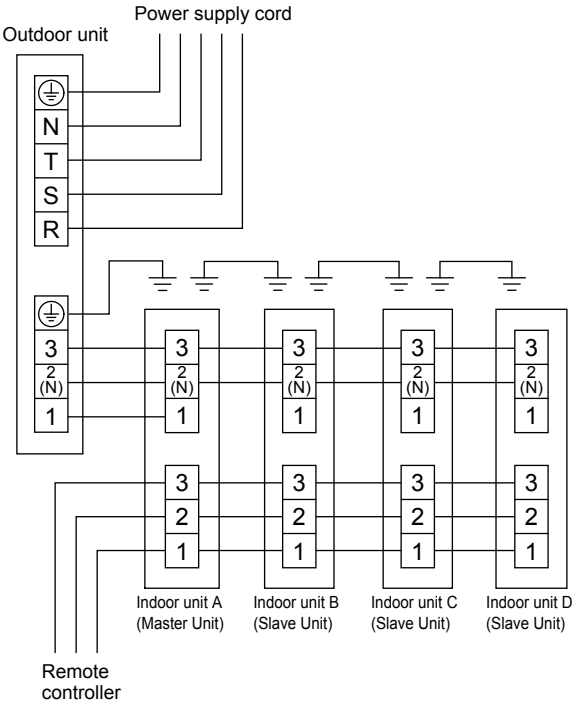
2. Three Connections

Fig. 14



3. Four Connections

Fig. 15



6-3-2 INDIVIDUAL OPERATION

Fig. 16

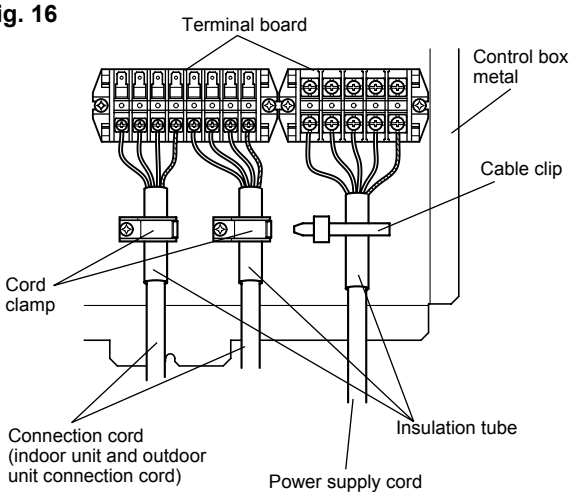
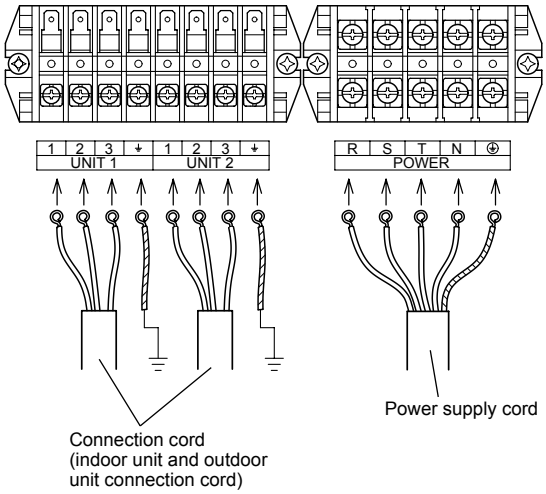
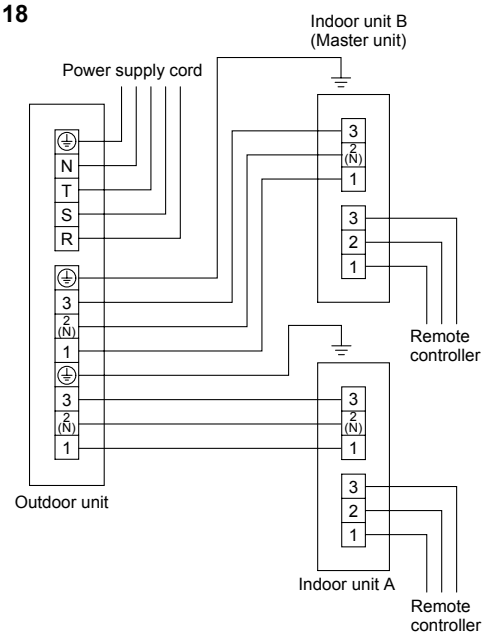


Fig. 17



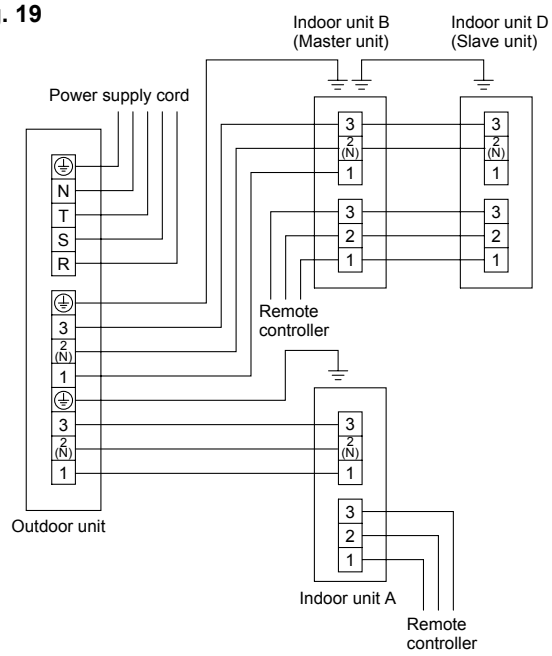
1. One + One Connections

Fig. 18



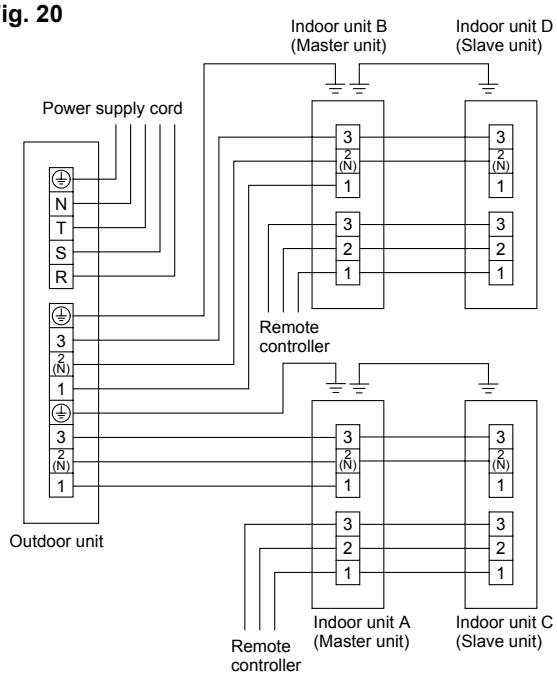
2. One + Two Connections

Fig. 19

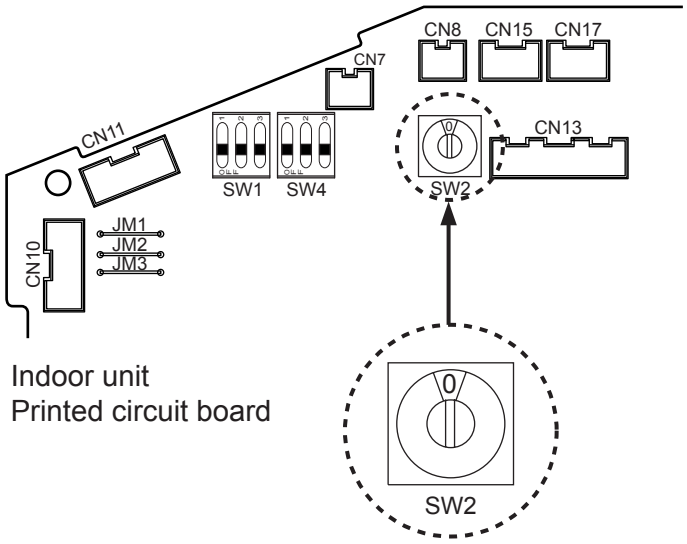


3. Two + Two Connections

Fig. 20

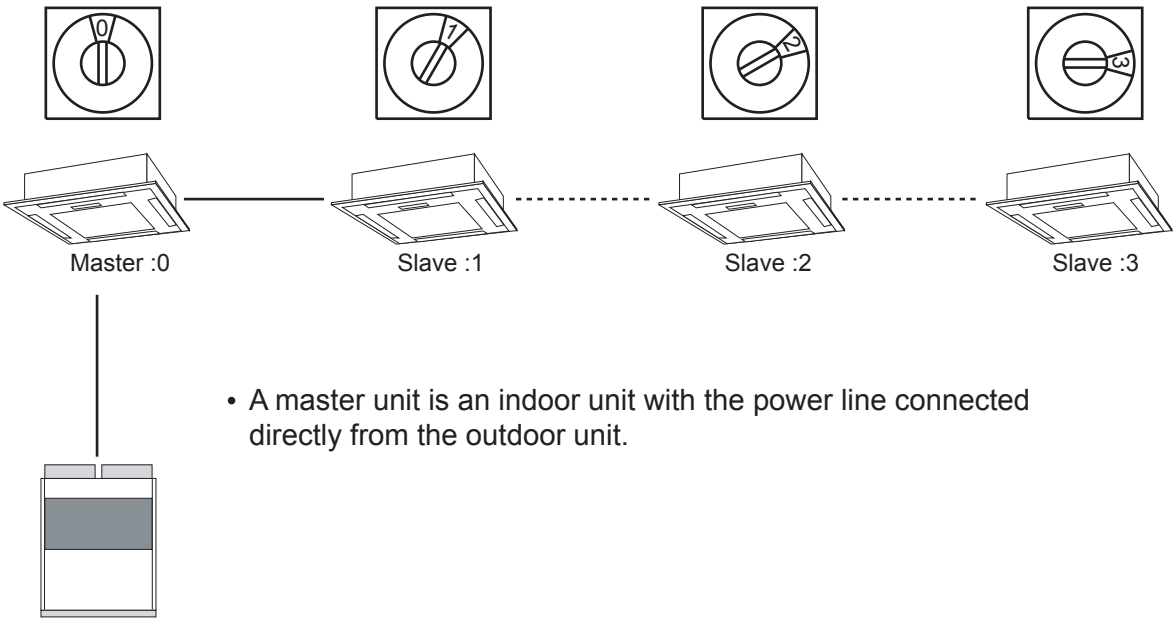


6-4 ADDRESS SETTING



- For the master unit, set SW2 on " 0 ". For a slave unit, set SW2 on" 1 ~ 3".

EXAMPLE



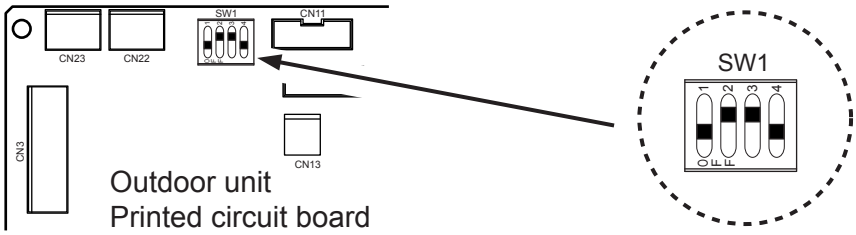
- A master unit is an indoor unit with the power line connected directly from the outdoor unit.

6-5 PUMP DOWN METHOD

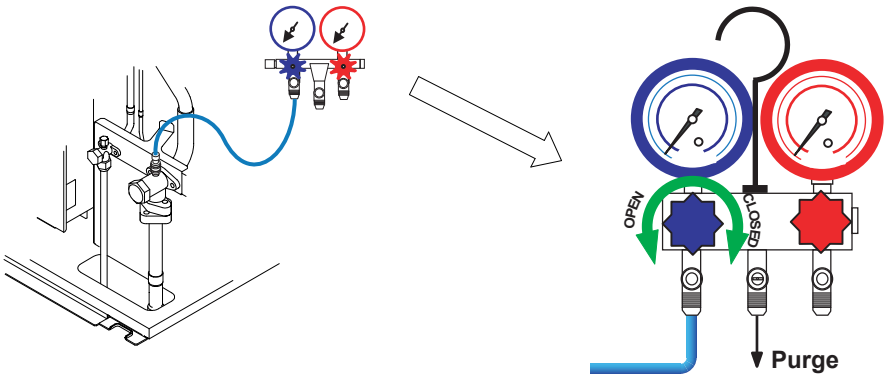
Recover the refrigerant to the outdoor unit referring to the following procedure to prevent the refrigerant being discharged into the atmosphere when relocating the air conditioner or servicing.

1. Stop the operation of the air conditioner.

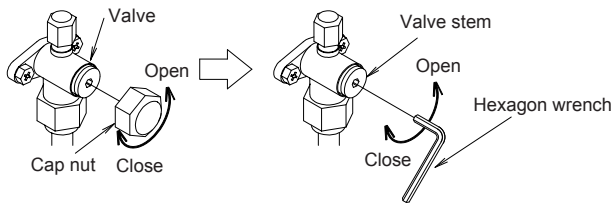
2. DIP SWITCH SETTING
   Select DIP SW 1-3 in the outdoor unit PC board from OFF to ON.



3. The charge hose of the gauge manifold is connected to the valve core of the gas valve, the gas valve is opened a little, and the air purge in the charge hose is performed.



4. After the cap nut of the liquid valve is opened, the valve stem is completely closed.



5. Operate on cooling mode or on cooling test run.
   If it is winter, try test mode and operate in forced cooling mode.
   (Refer to 01-02 "TEST RUN FROM REMOTE CONTROLLER".)

6. When the indicator of the pressure gauge becomes 0.05 ~0Mpa, the gas valve is completely closed.

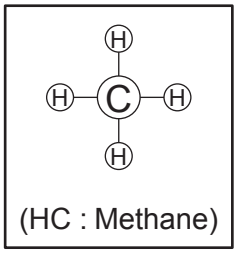
7. Stop the operation mode of the air conditioner.
   The cap nut of the 3-way valve is closed.

※ Pump down of each unit for "Individual operation type".

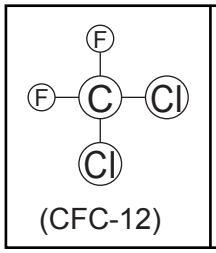
7. REFRIGERANT CAUTION

7. IN USE OF THE NEW REFRIGERANT R407C

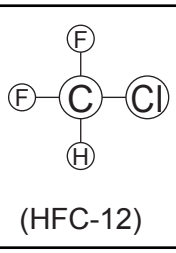
7-1 What is CFC/HCFC/HFC ?



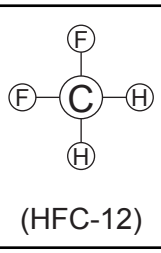
(HC : Methane)



(CFC-12)



(HFC-12)



(HFC-12)

CFC : Chloro-Fluoro-Carbon
= high ODP(ozone depletion potential) chemical compound containing chlorine (ODP: 0.6 - 1.0)

HCFC : Hydro-Chloro-Fluoro-Carbon (R22)
= low ODP chemical compound containing chlorine and hydrogen (ODP:1/10 - 1150 of CFC)

HFC : Hydro-Fluoro-Carbon (R407C)
= zero ODP new chemical compound in which is not containing chlorine (ODP: 0)

7-2 CHARACTERISTICS OF R22 AND R407C

HANDLING

- As in the case of R22, the specific gravity of its vapor is larger than that of air and should it leak in an air-tught room it may stay at a low level and case oxygen starvation accident.
- It may also, should it come in direct contact with fire, cause a poisonous gas to occur, so be sure to handle it only in a well ventilated area.

SELECTION OF REFRIGERANT

- As there is no appropriate mono-constituent refrigerant to replace R22 which has been used for conventional air conditioners, the mixed refrigerant of HFC series was developed.

R407C

- Merits
  As working pressure is nearly equal to R22 (about 1.1 times), pressure resistance design is easy.
  — Discharge compressor
  Max. 30.0 bar for reciprocating compressor
  Max. 28.5 bar for rotary compressor

- Demerits
  Composition control is necessary for charging refrigerant as it is zeotropic refrigerant.
  — When leaked, it will become composition of more R134a constituent with high boiling point.
  Also, charging refrigerant must be done from the liquid phase side.
  Review of control system is required as there is temperature glide.
  → R407C is used for large air conditioners.
  Pressure resistance design is easy and safe.

	R22	R407C
Composition (wt%)	R22 (100)	R32/R125/R134a (23/25/52)
Boiling point (°C)	-40.8	-43.6
Ozone depletion potential ODP	0.055	0
Global warming potential GWP	1,700	1,530
Inflammability	Nonflammable (A1)	Nonflammable (A1/A1)
Toxicity	less	less
Azeotropic or Zeotropic	—	Zeotropic
Features	—	Necessary to handle carefully because of zeotropic. Working pressure is nearly equal to that of R22 (about I .1 times).

7-3 DIFFERENCE FROM CONVENTIONAL MODEL(R22) AND PRECAUTIONS

OIL

- Use new synthetic oils such as ester because HFC series refrigerant has less solubility with mineral oils conventionally used for R22.
- As these new synthetic oils are easily influenced by moisture and dusts, they must be treated morecarefully than the conventional lubricating oils.

CAUTION
For installation/servicing, take more precautions than before to avoid moisture and dusts. Also, for storing parts, same precautions must be taken.

COMPRESSOR

- Use better grade of material for sliding parts for securing good lubrication of sliding part as HFC refrigerant does not contain chloride.
- Review insulating materials
- Increase pressure resistance strength

CAUTION
Check if the compressor is suitable for the refrigerant (model) when replacing.
Complete welding within 15 minutes after opening the cap when replacing.

HEAT EXCHANGER

- Review the water,contaminants controlling level
- Use thinner tube to increase pressure Increase capacity for resistance strength (only outdoor unit) improving performance.

CAUTION
During storage, due care must be taken so that foreign matters such as dust and water do not enter.

4-WAY VALVE

- Review materials

CAUTION
Check if the valve is suitable for the refrigerant (model) when replacing.

CHECK VALVE

- Review materials
- Change shape of pipe ends to increase pressure resistance strength

CAUTION
Check if the valve is suitable for the refrigerant (model) when replacing.

2, 3-WAY VALVE

- Review material O-ring, valve core seal for securing suitability with oil.

CAUTION
Check if the valve is suitable for the refrigerant (model) when replacing.

BALL VALVE

- Review material O-ring, valve core seal for securing suitability with oil.

CAUTION
Check if the valve is suitable for the refrigerant (model) when replacing.

DRYER

- Change desiccant (XH-6 → XH-10) Volume of desiccant is increased.

CAUTION
Complete welding within one hour after the package of dryer is opened.

PRESSURE SWITCH

- Adopt for some models for better reliability.

CAUTION
Check if the valve is suitable for the refrigerant (model) when replacing.

OTHER PIPING

- Review the water, contaminants controlling level.
- Review thickness of pipes.

CAUTION
During storage, due care must be taken so that foreign matters such as dust and water do not enter.

7-4 TOOLS

Gauge manifold . . . . . **(Fig.4-1)**
Pressure gauge changed.

Charge hose . . . . . **(Fig.4-2)**
Changed to HFC resistant material.

Charging cylinder . . . . . **(Fig.4-3)**
Gauge changed

Electronic balance for refrigerant charging . . . . . **(Fig.4-4)**
Electronic balance is recommended as in the case of R410A.

Vacuum pump with adapter to prevent reverse flow . . . . . **(Fig.4-5)**
Conventional pump can be used.

Vacuum holder . . . . . **(Fig.4-6)**
Conventional pump can be used if adapter for preventing vacuum pump oil from flowing back is used.

Gas leakage tester . . . . . **(Fig.4-7)**
Exclusive for HFC

Refrigerant cleaner . . . . . **(Fig.4-8)**
Brown paint as designated by the ARI, USA

Flare tool . . . . . **(Fig.4-9)**
Conventional tool can be used.

Torque wrench . . . . . **(Fig.4-10)**
Conventional wrench can be used.

Refrigerant recovering equipment (Collector) . . . . . **(Fig.4-11)**
The type which can be used for any refrigerant is available

Nitrogen cylinder . . . . . **(Fig.4-12)**
This prevents an oxide film from forming in the pipe silver-alloy brazing work by turning the air out of the pipe and preventing the inside combustion.

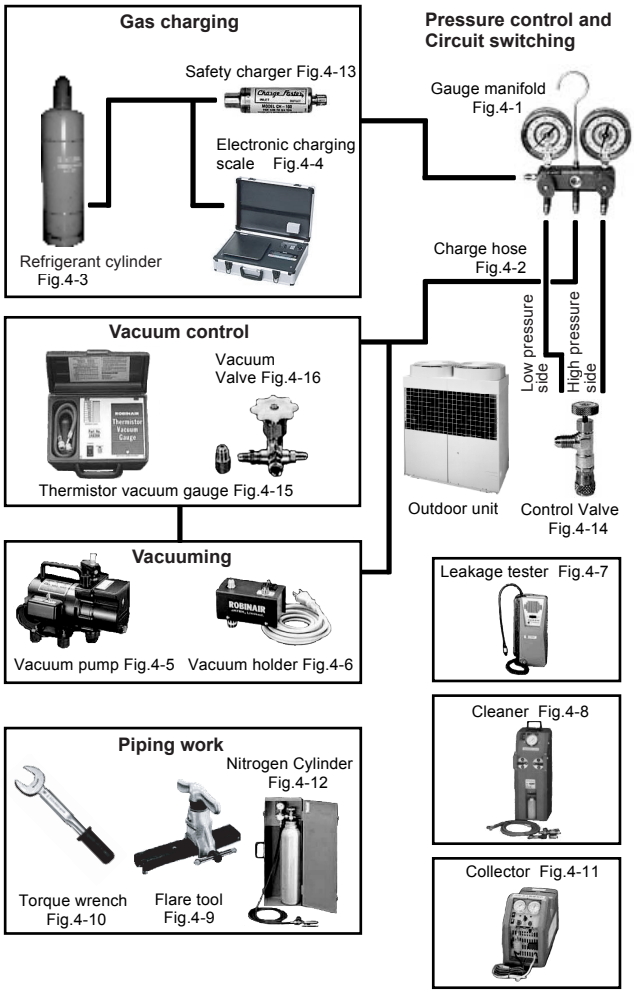
Safety charger . . . . . **(Fig.4-13)**
It is always compulsory to change the liquid, because R407C is a mixed refrigerant and there is some fear that a mixing ratio changes. In order to avoid the refrigerant from returning to the compressor in a liquid state, the refrigerant can be charged instead of giving a load to the compressor with a safety charger.

Control valve . . . . . **(Fig.4-14)**
The control valve prevents the refrigerant from spouting when it is removed, as the charging hose side and the service port side are possible to open and close at the same time.

Thermistor vacuum guage . . . . . **(Fig.4-15)**
To remove moisture from the refrigerating cycle completely, it is necessary to perform appropriate vacuum drying. For that reason, vacuum conditions can be confirmed certainly.

Vacuum valve . . . . . **(Fig.4-16)**
This valve builts in a check valve, and it is easily possible to vacuum a refrigerating cycle or check for degree of vacuum with it.

TOOLS AND EQUIPMENT (R407C)



7-5 PRECAUTIONS FOR INSTALLATION

COPPER PIPES

(1) It is necessary to choose adequate materials.
If new synthetic oil is mixed with residual oil(ex : mineral type) ,they may deteriorate, and block the capillary tubes, or cause the compressor to fail.
So it is desirable that the amount of residual oil in connection pipes is less than 40 mg/10 m.
Thickness of copper pipes is shown below.

Nominal diameter (inch)	Outer diameter (mm)	Thickness (mm)
1/4	ϕ6.35	0.8
3/8	ϕ9.52	0.8
1/2	ϕ12.70	0.8
5/8	ϕ15.88	1.0
3/4	ϕ19.05	1.0
7/8	ϕ22.22	1.0
1	ϕ25.40	1.0
1-1/8	ϕ28.58	1.0

(2) Control contaminants
Since new synthetic oil is easily influenced by contaminants (water, residual oil, etc.), it must be handled with care more than the conventional lubricating oil.

(3) Refrigerant charge
When charging refrigerant, take into account the slight change in the composition of the gas and liquid phases, and always charge from the liquid phase side whose composition is stable.

(4) Correct refrigerant charge
As there are air conditioner models using different refrigerant such as R22, R407C, make sure to check and not to use wrong refrigerant when installing and servicing.

(5) Air purge
Always use a vacuum pump to purge the air.
In the case of Fujitsu General's new refrigerant model, refrigerant for purging the air is not charged in the outdoor unit at the factory.

7-6 PRECAUTIONS FOR SERVICING

1. Countermeasure when the refrigerant leaks

As R407C is zeotropic refrigerant, the composition of the remaining refrigerant changes when the refrigerant leaks.
Therefore, recharging refrigerant cannot be done.
Recover the remaining refrigerant and charge the specified amount of new refrigerant.

2. Never use the existing refrigerant piping

The existing piping used for R22 cannot be used for the cycle of HFC series refrigerant as the conventional mineral oils are adhering to the piping.
Due to the deteriorated mineral oils, compressor may be damaged.
Therefore, basically use a brand new piping.
However,in case of the existing piping buried in the wall and replacement with new piping is difficult, wash the piping fully with detergent.

3. Replacement of refrigeration cycle parts

As refrigeration cycle parts are basically different from conventional parts, be sure to use the parts suitable for the refrigerant when replacing.
For R407C, the materials are being reviewed.

4. Charging wrong refrigerant

As there are air conditioner models using different refrigerant such as R22, R407C, make sure to check and not to use wrong refrigerant when installing and servicing.

5. Storage of parts

When storing parts, make such treatment as packing the parts in bags so as to avoid dusts, water, etc.

6. Replacing parts

When replacing parts, be sure to check if the parts are suitable for the refrigerant(model).
For most refrigeration cycle parts which have same appearance, the inside material is changed.
When changing compressor, complete brazing within 15 minutes after opening the cap. After opening the cap, the moist air enters the compressor, and oil absorbs the moisture causing sludge. When changing dryer, complete brazing within one hour after the package of dryer is opened.
The desiccant starts to absorb the water content as soon as the package of dryer is opened.
If it absorbs too much water content when replacing, it cannot absorb fully the water content in the refrigerating cycle.

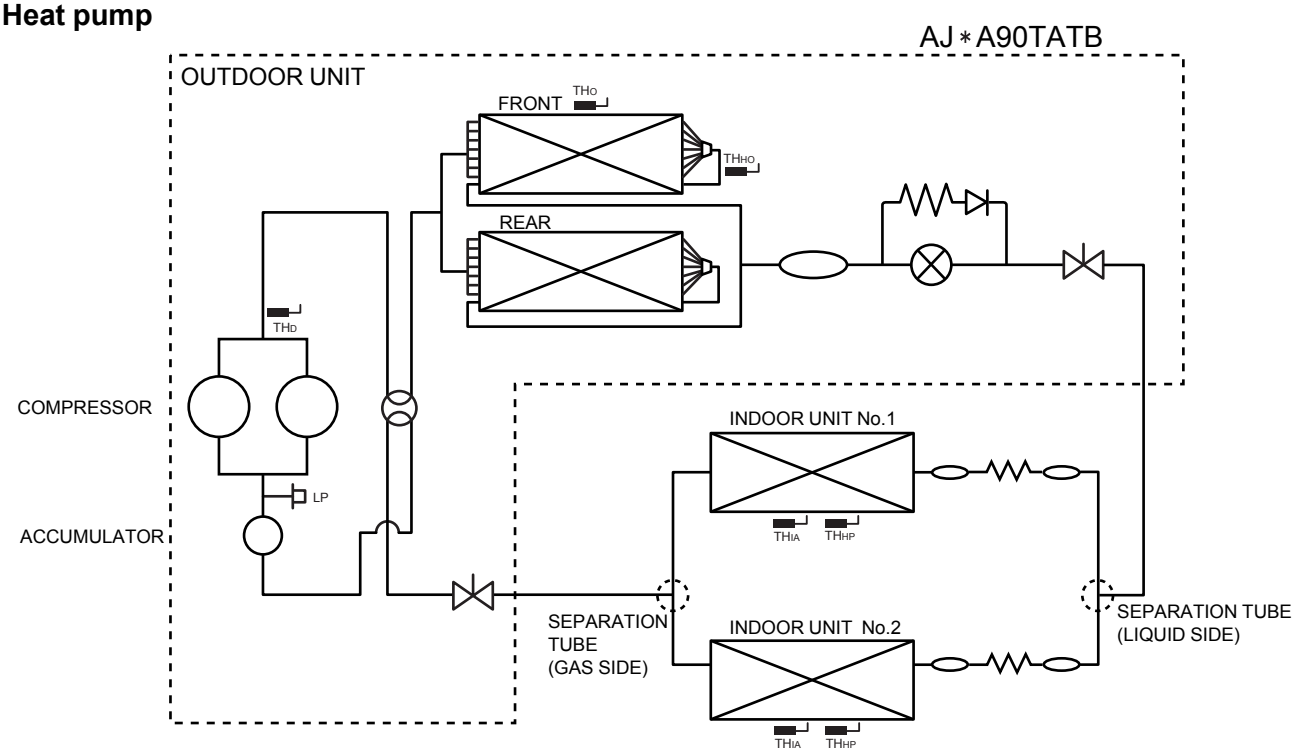
8.APPENDING DATA(UNIT)

8. APPENDING DATA

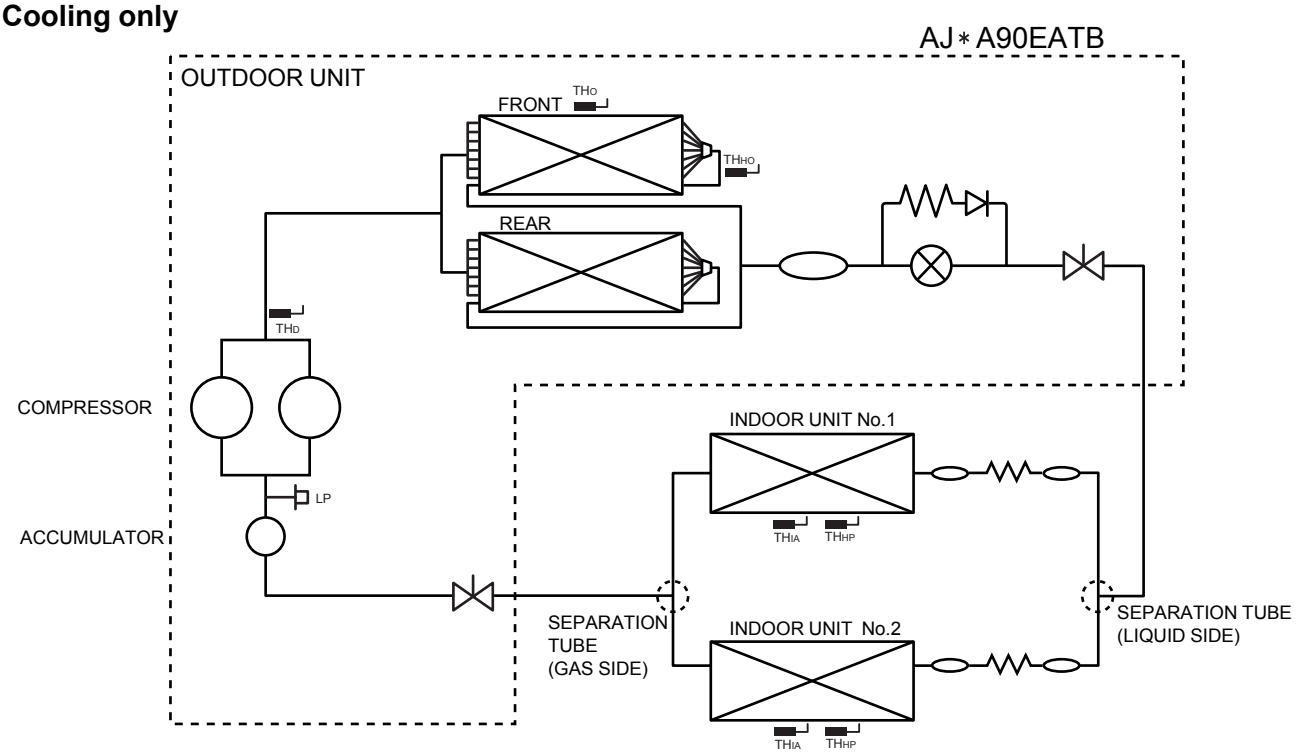
8-1 REFRIGERANT PIPE SYSTEM DIAGRAM

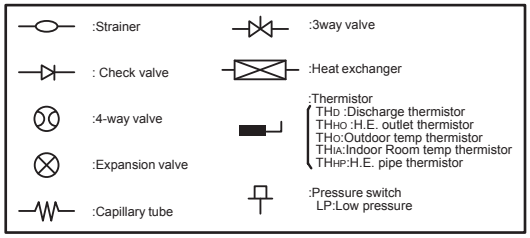
8-1-1 SIMULTANEOUS OPERATION

1. Heat pump



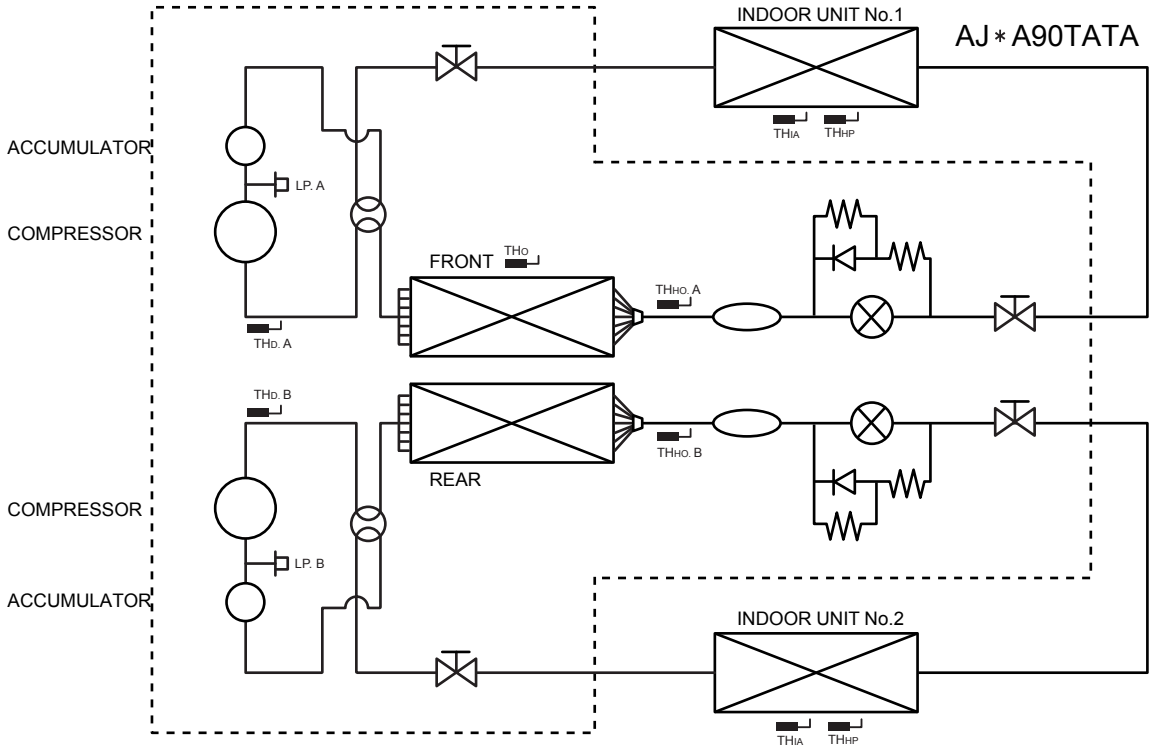
2. Cooling only



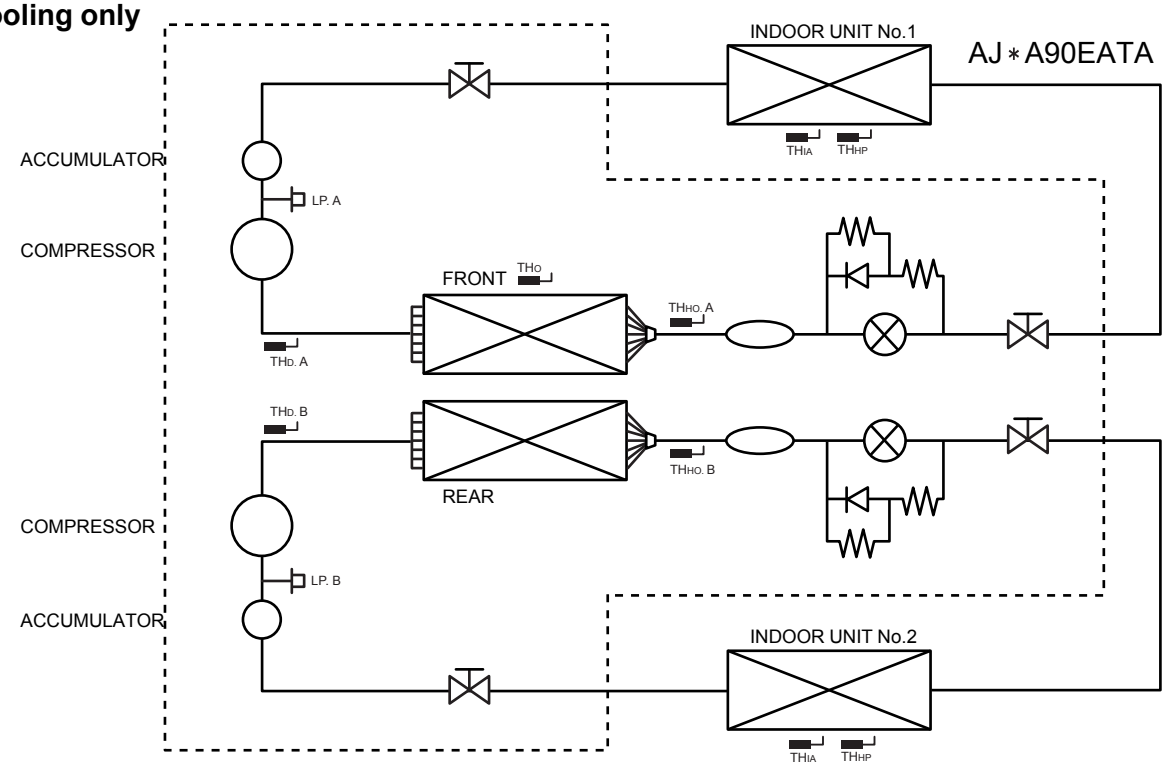


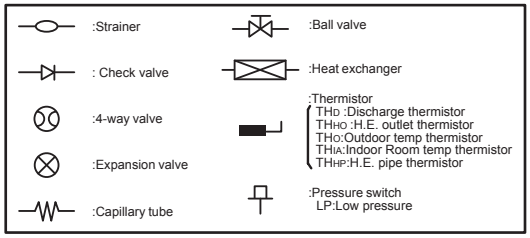
8-1-2 INDIVIDUAL OPERATION

1. Heat pump



2. Cooling only





8-2 CHARACTERISTICS OF SENSORS

(1) Thermistor resistance values<Indoor unit side>

1. Room temperature thermistor

Room temperature (°C)	3	5	8	10	15	20	25	29	31	33	36	40	44
Resistance value (kΩ)	28.7	25.9	22.3	20.1	15.8	12.5	10.0	8.4	7.7	7.0	6.2	5.3	4.5

2. Indoor unit pipe temperature thermistor

Pipe temperature (°C)	0	2	6	10	14	18	22	26	30	34	38	44	50	56	60
Resistance value (kΩ)	176.0	157.8	127.3	103.3	84.4	69.3	57.2	47.5	39.6	33.2	27.9	21.7	17.0	13.5	11.6

(2) Thermistor resistance values <Outdoor unit side>

1. Outdoor heat exchanger temperature thermistor

Heat exchanger temperature (°C)	-8	-4	0	5	8	10	15	20	25	29	33	36	40
Resistance value (kΩ)	24.4	19.7	16.0	12.5	10.8	9.8	7.8	6.2	5.0	4.2	3.6	3.2	2.7

2. Discharge pipe temperature thermistor

Pipe temperature (°C)	10	15	20	25	30	35	40	50	60	70	80	90	100
Resistance value (kΩ)	646	503	395	313	250	201	163	109	74.4	52.1	37.2	27.1	20.0

3. Outdoor temperature thermistor

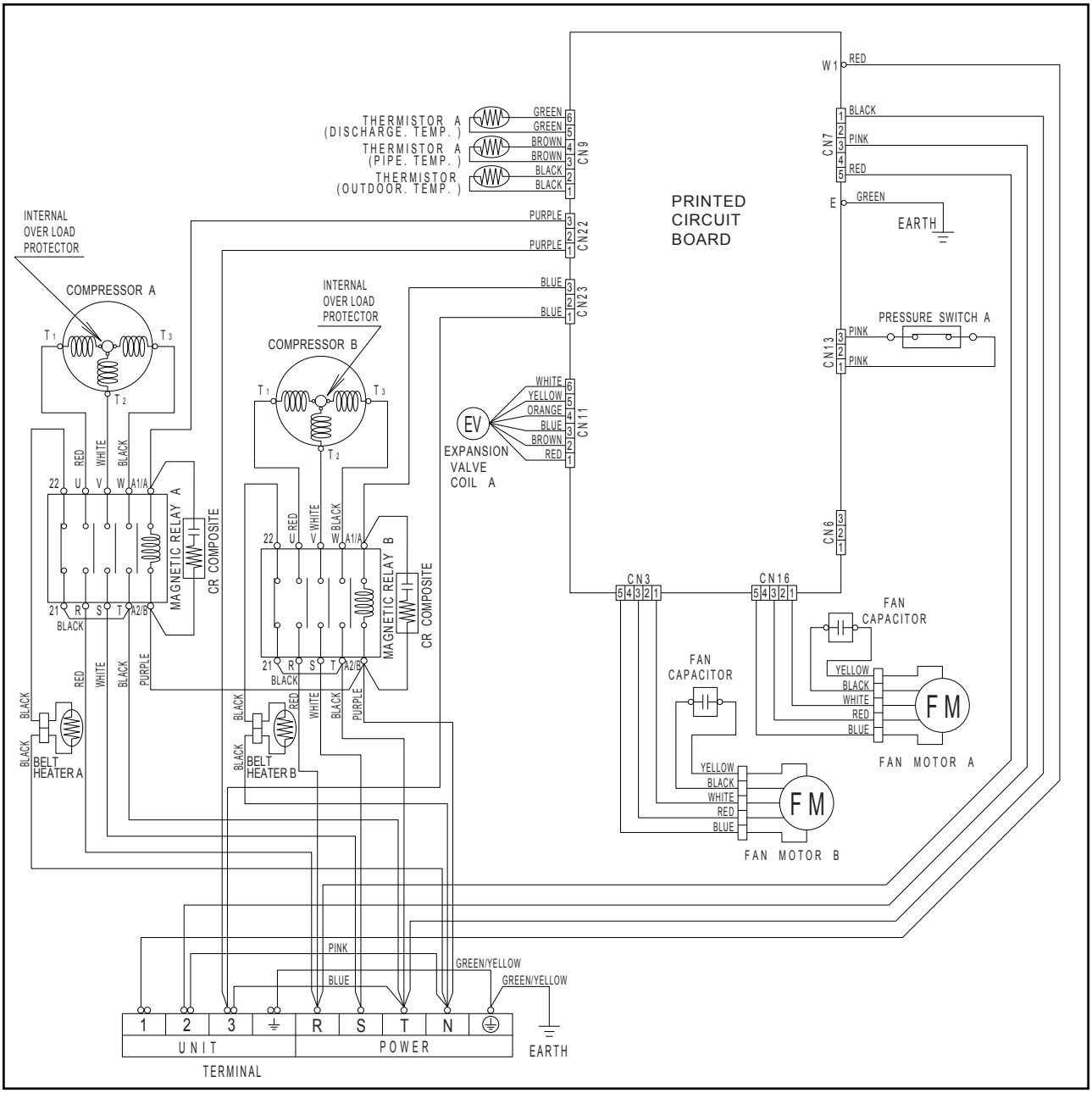
Outdoor temperature (°C)	3	5	8	10	15	20	25	29	31	33	36	40	44
Resistance value (kΩ)	28.7	25.9	22.3	20.1	15.8	12.5	10.0	8.4	7.7	7.0	6.2	5.3	4.5

8-3 WIRING DIAGRAM

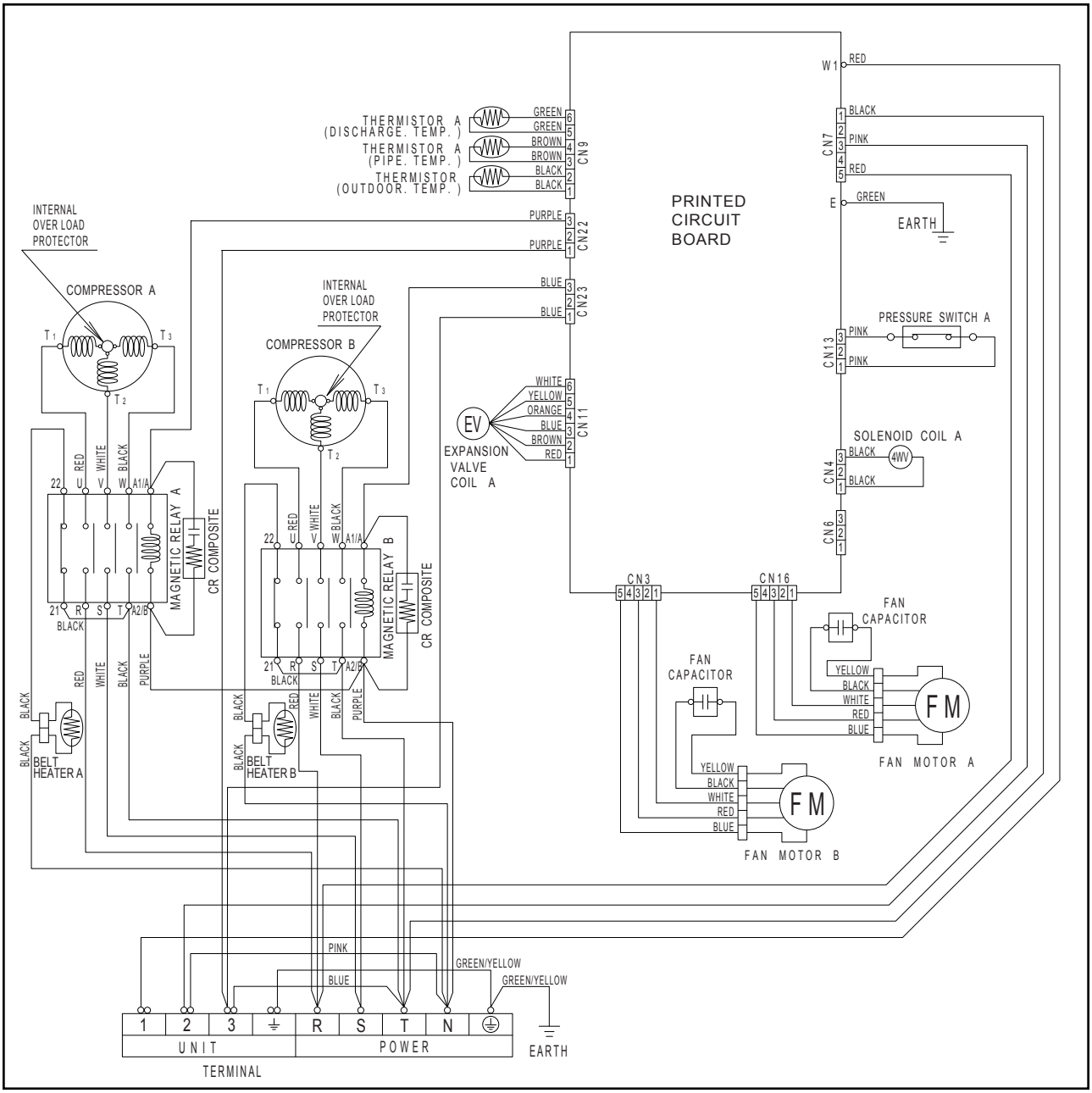
8-3-1 OUTDOOR UNIT

■ SIMULTANEOUS OPERATION

MODEL : AJ＊A90EATB (COOLING ONLY TYPE)

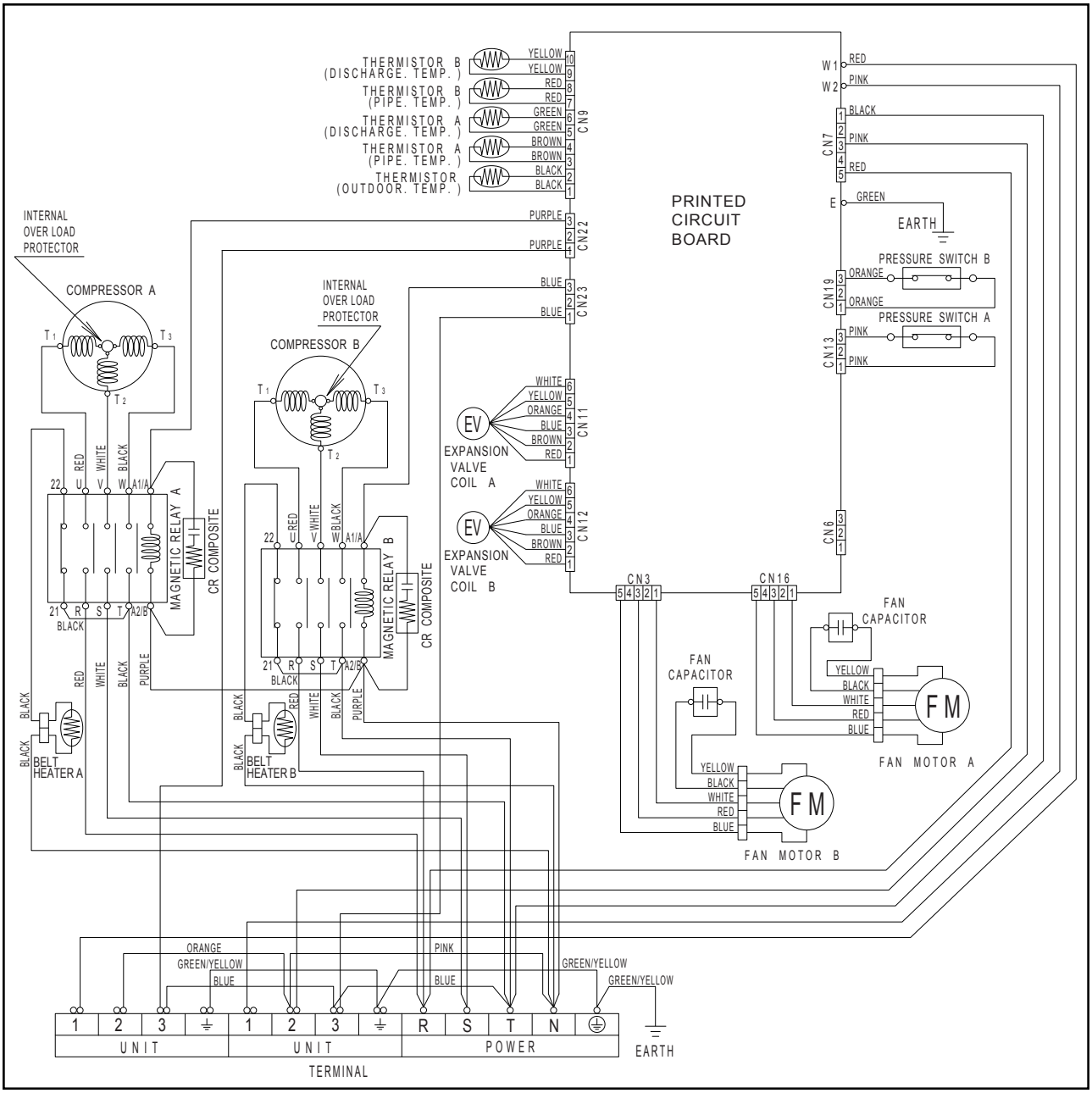


MODEL : AJ＊A90TATB (HEAT PUMP TYPE)

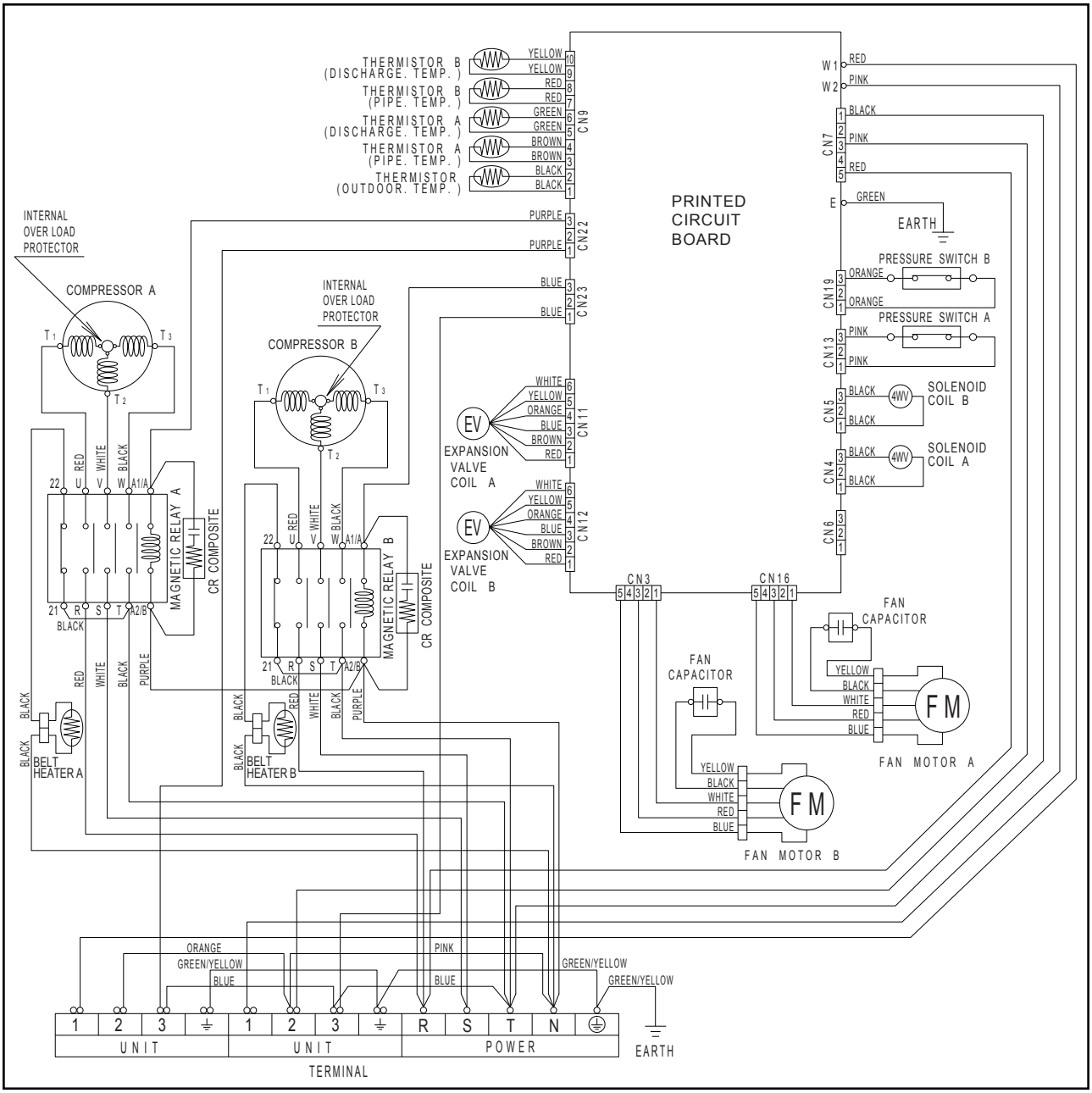


■ INDIVISUAL OPERATION

MODEL : AJ∗A90EATA (COOLING ONLY TYPE)

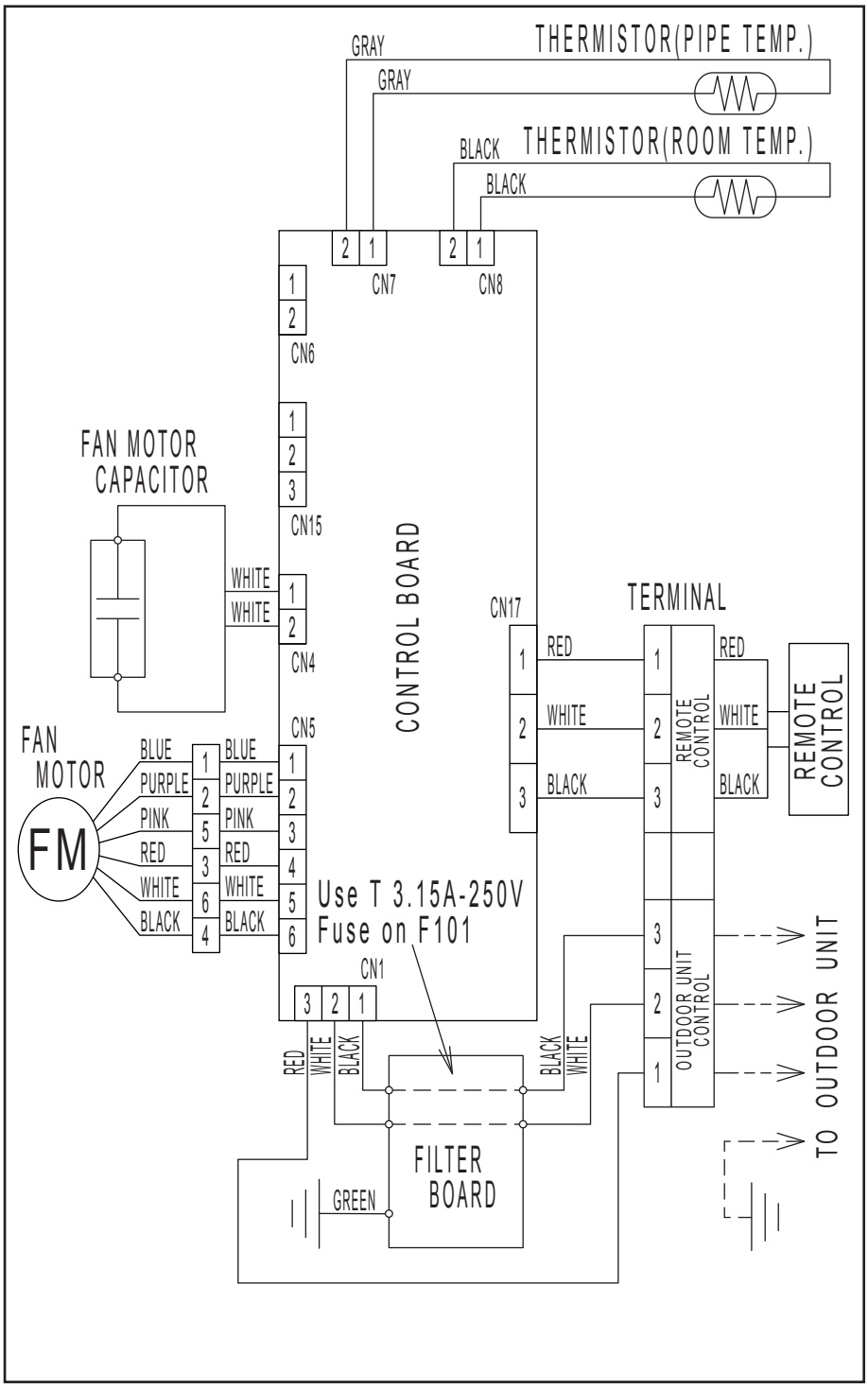


MODEL : AJ＊A90TATA (HEAT PUMP TYPE)

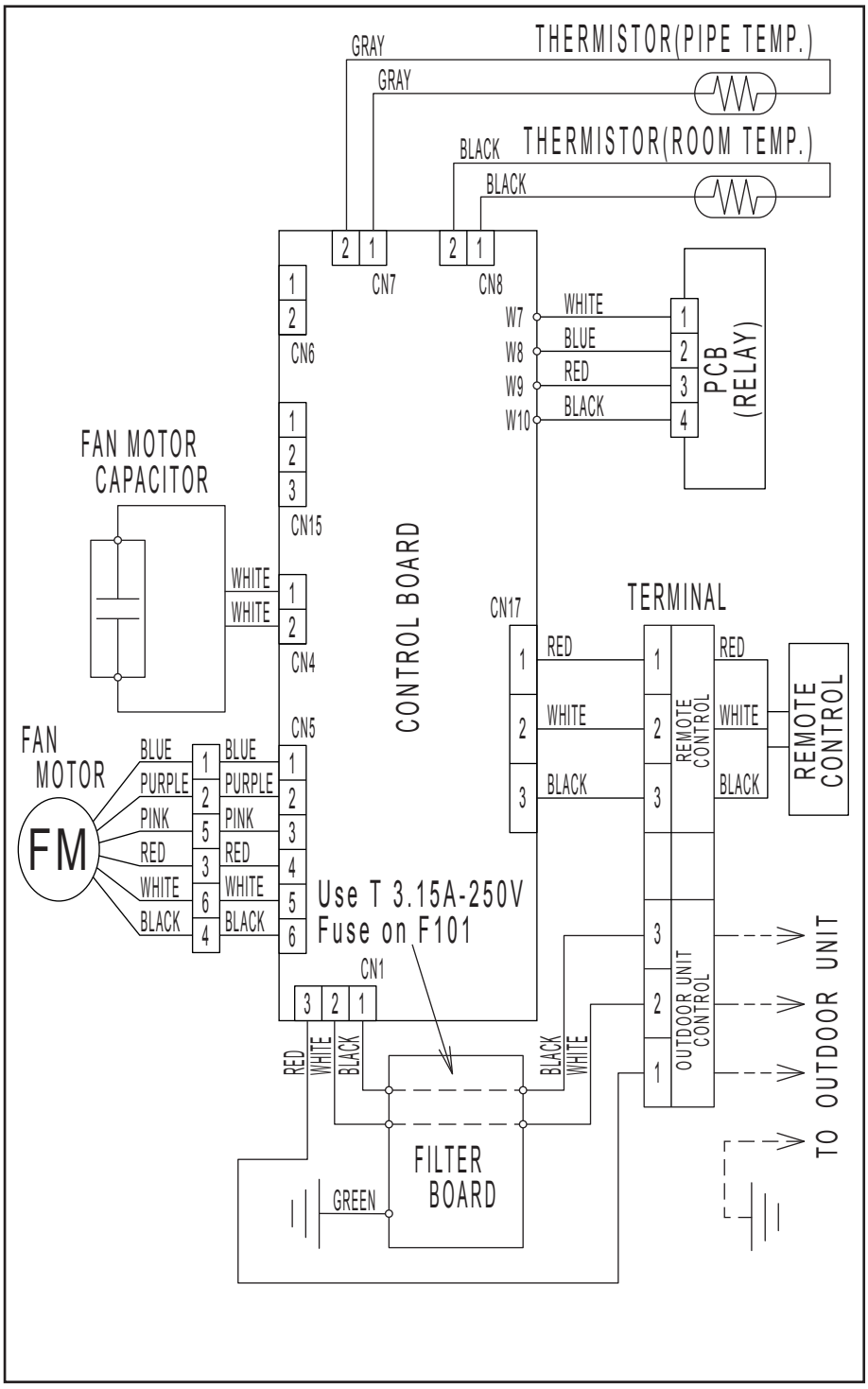


8-3-2 INDOOR UNIT

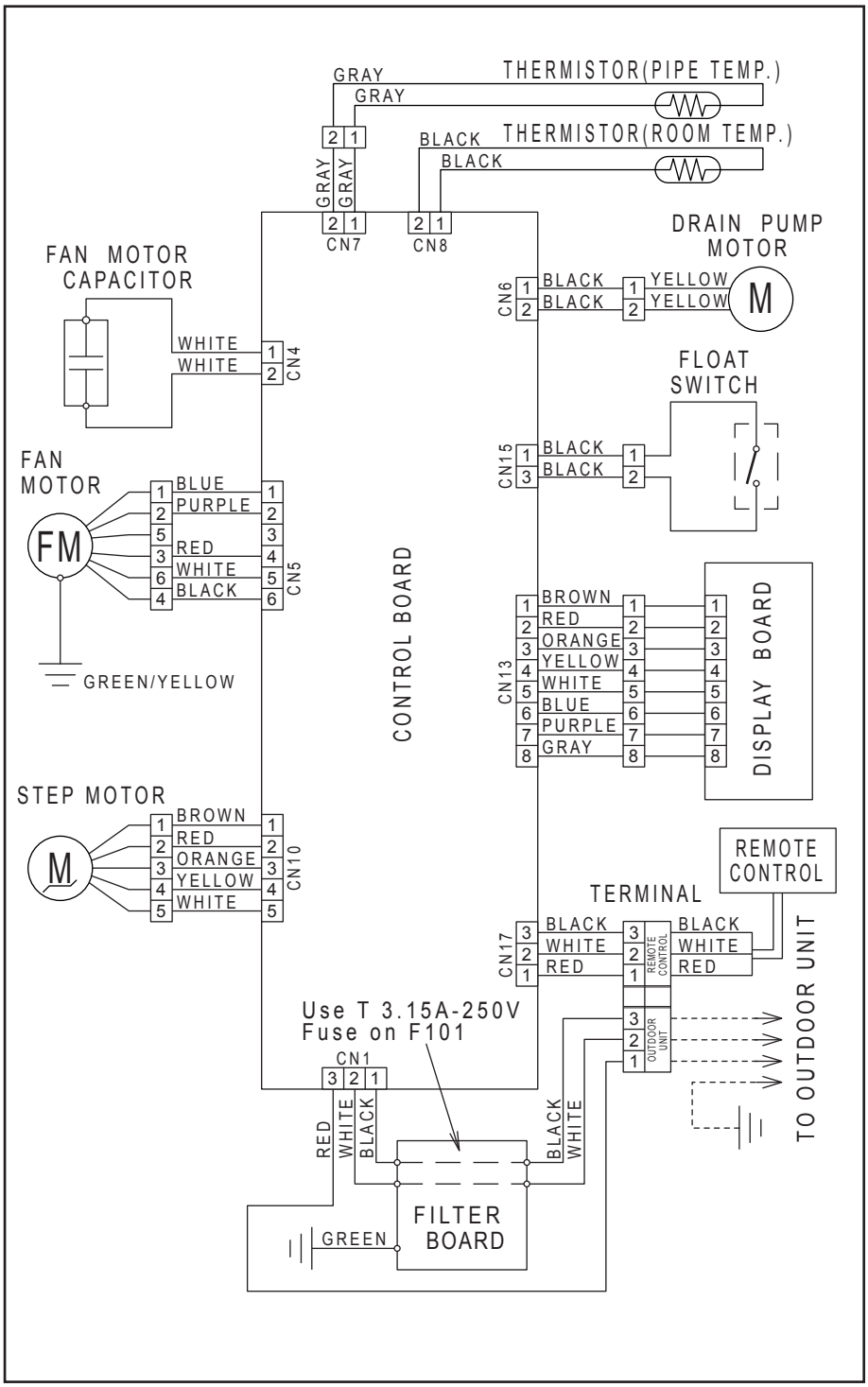
MODEL : ARXA25TATA



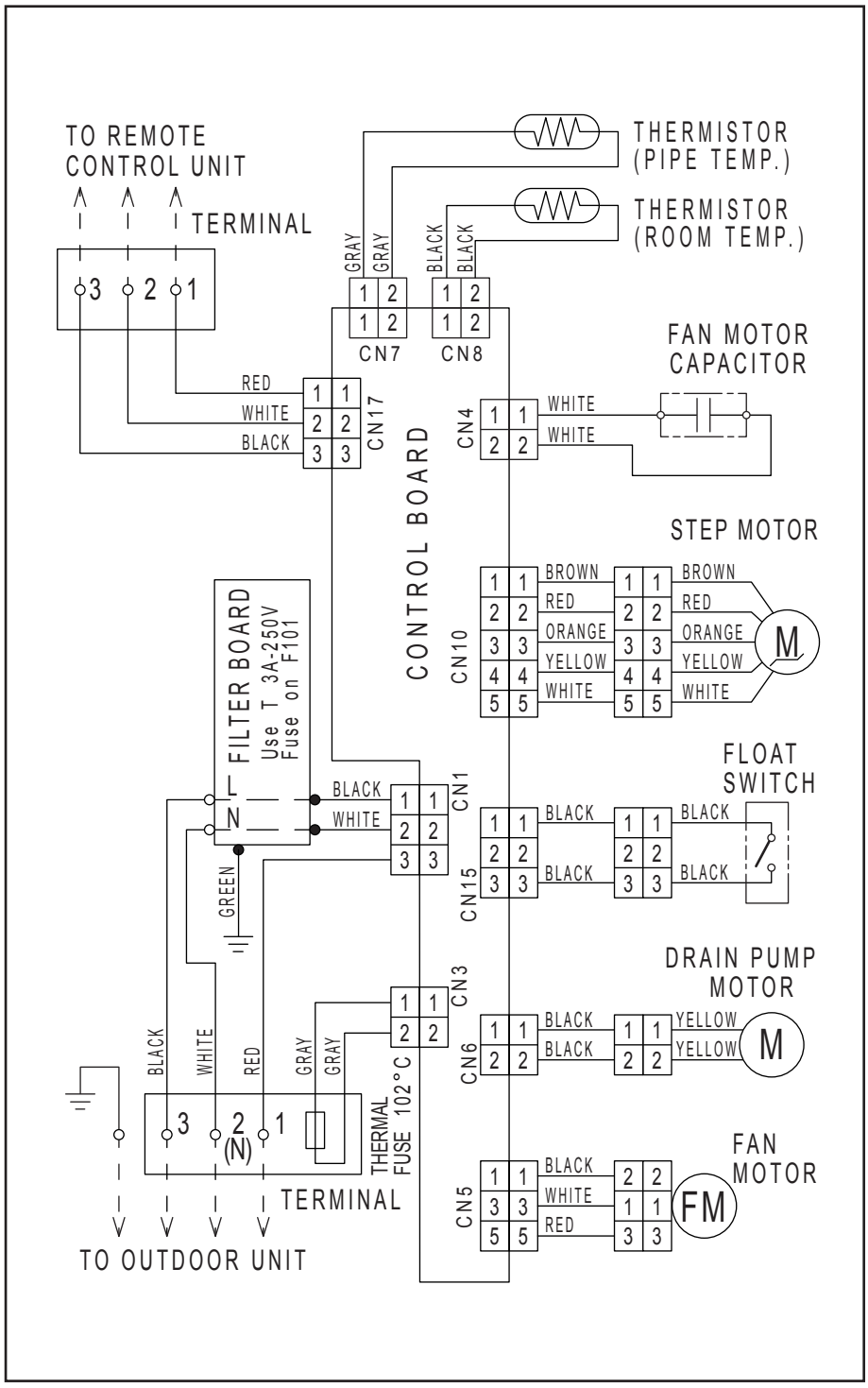
MODEL : ARXA30TATA
ARXA36TATA
ARXA45TATA



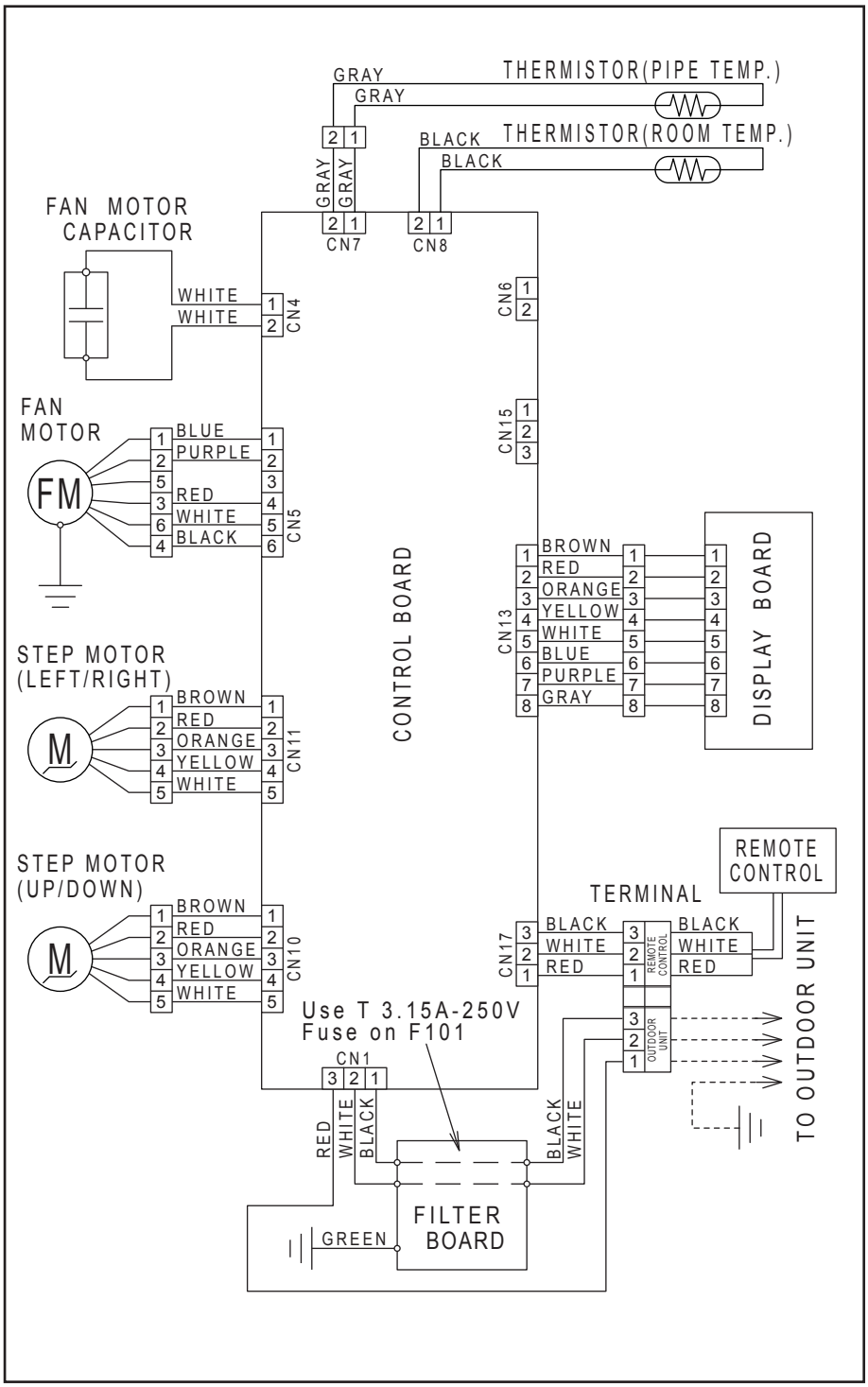
MODEL : AUXA18TATA



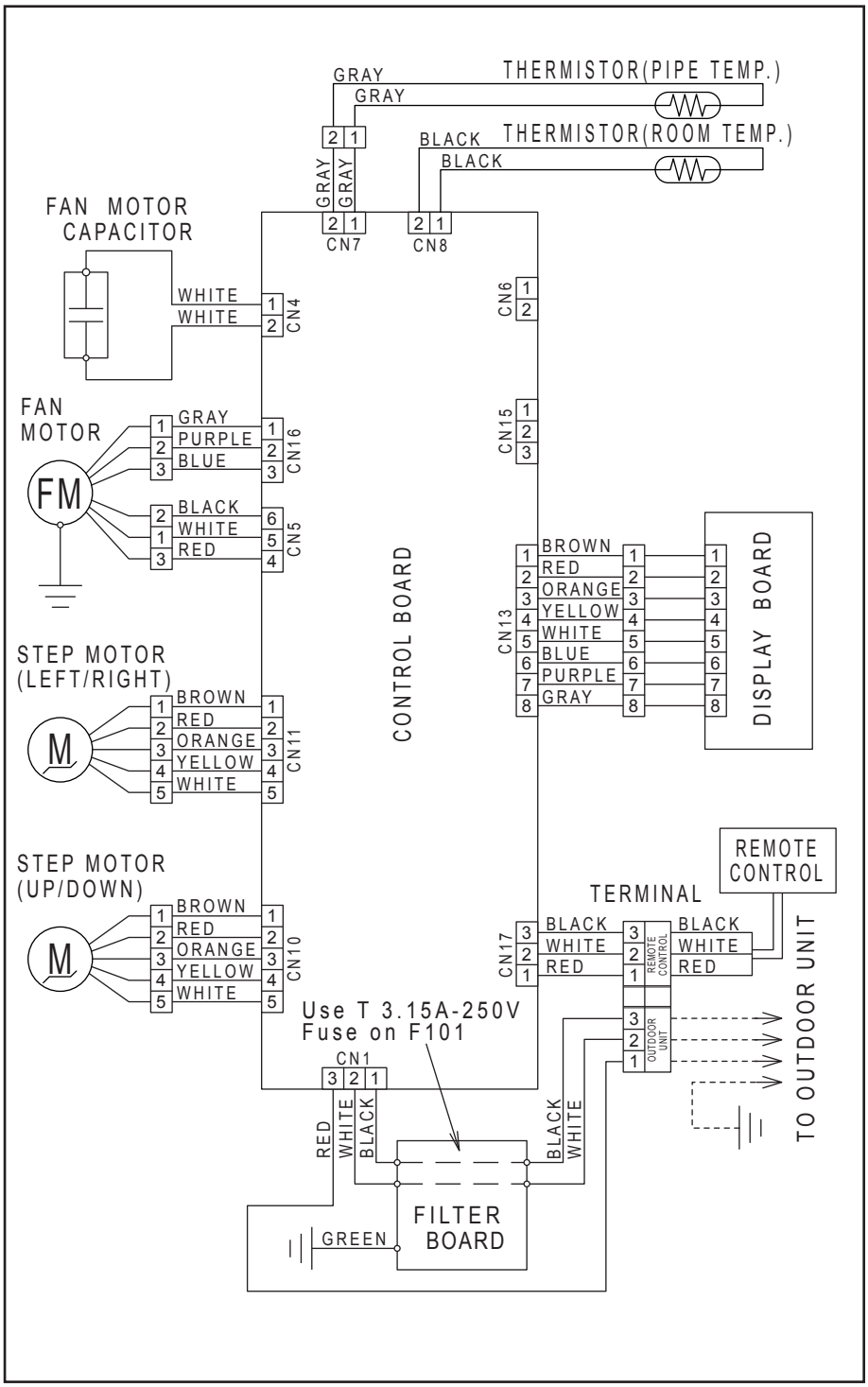
MODEL : AU＊A25TATA, AU＊A30TATA
AU＊A36TATA, AU＊A45TATA



MODEL : AB＊A18TATA
AB＊A24TATA



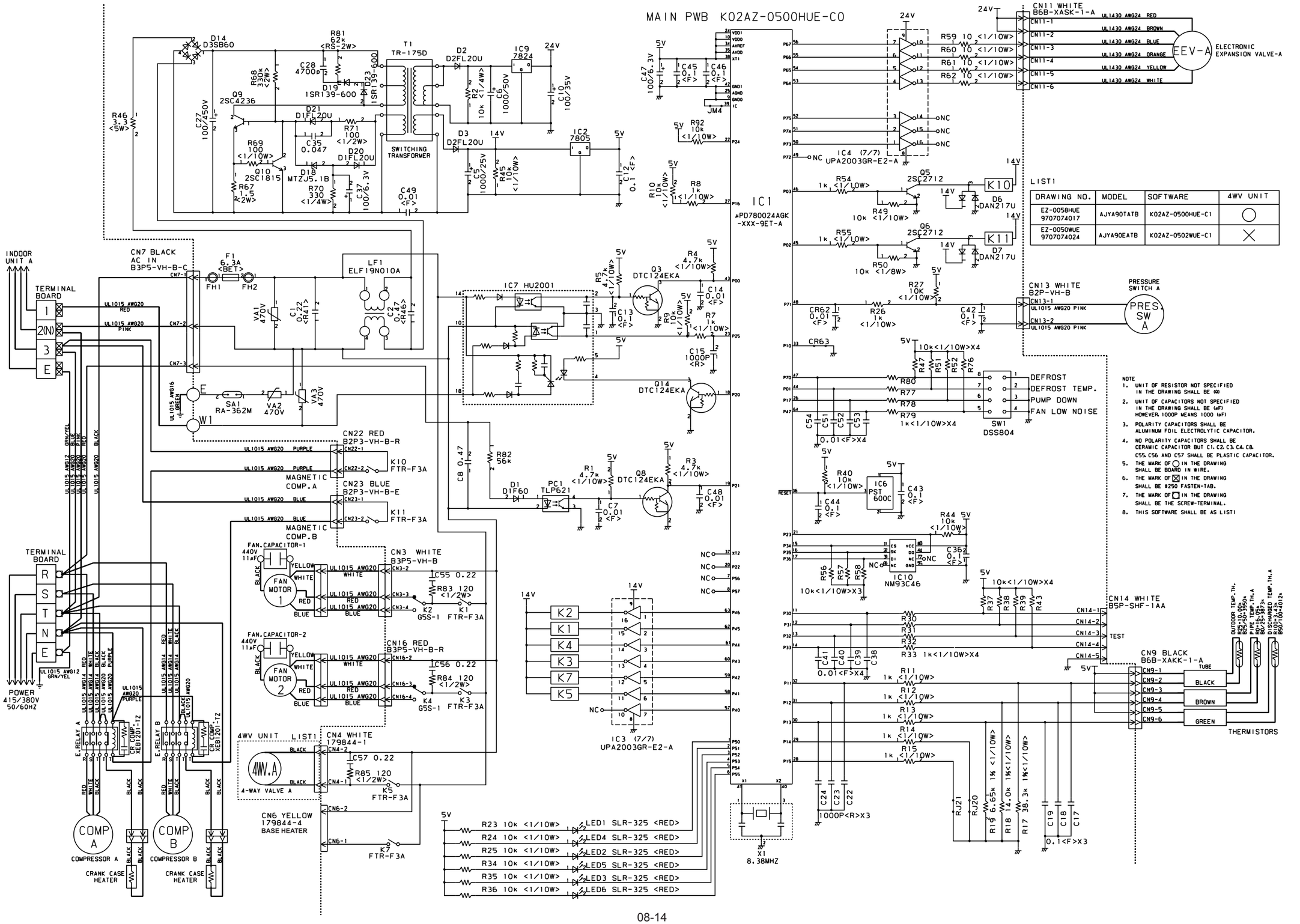
MODEL : AB＊A30TATA
AB＊A36TATA
AB＊A45TATA



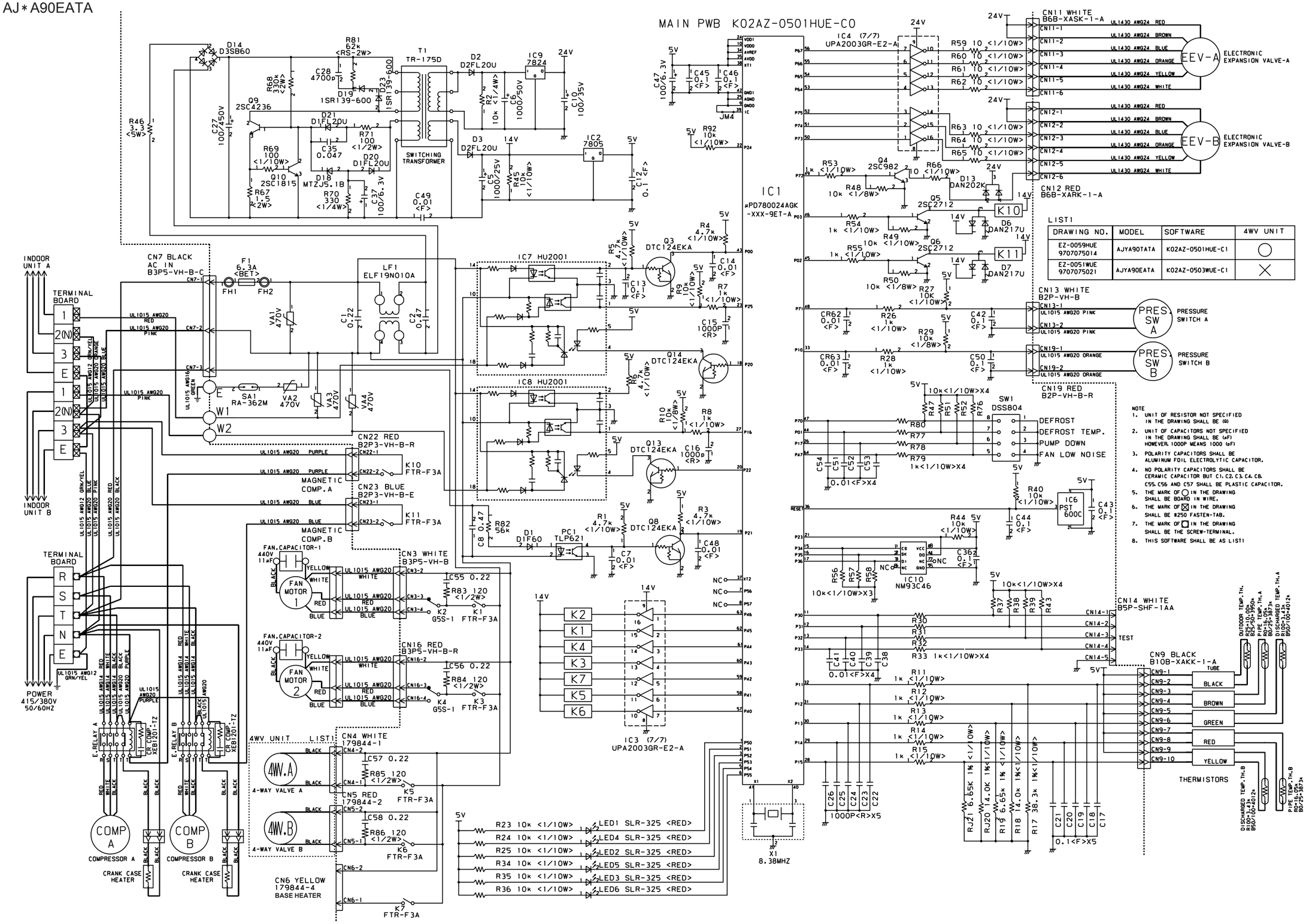
8-4 PCB CIRCUIT DIAGRAM

8-4-1 OUTDOOR UNIT

MODEL : AJ＊A90TATB
AJ＊A90EATB

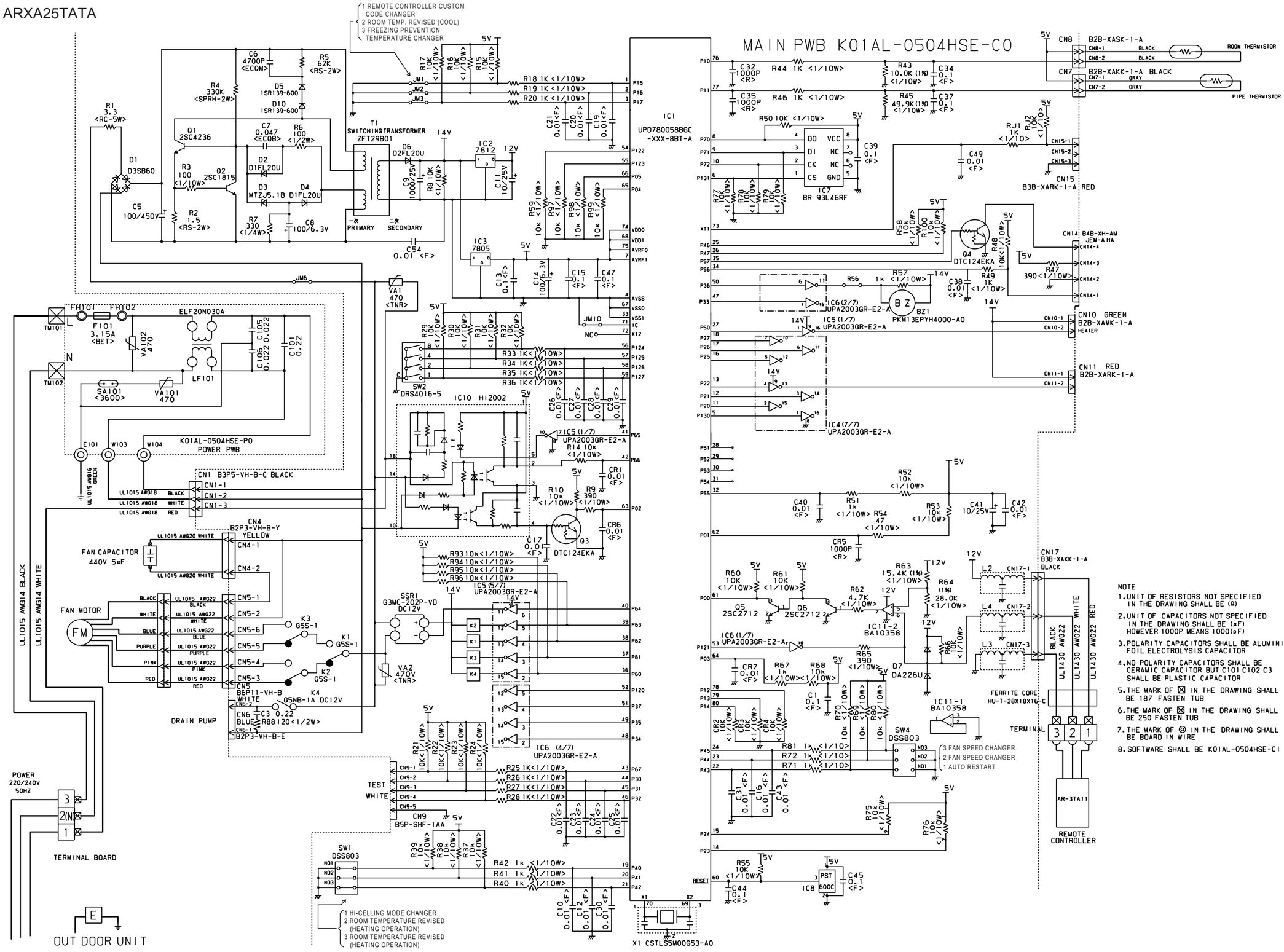


MODEL : AJ*A90TATA
AJ*A90EATA

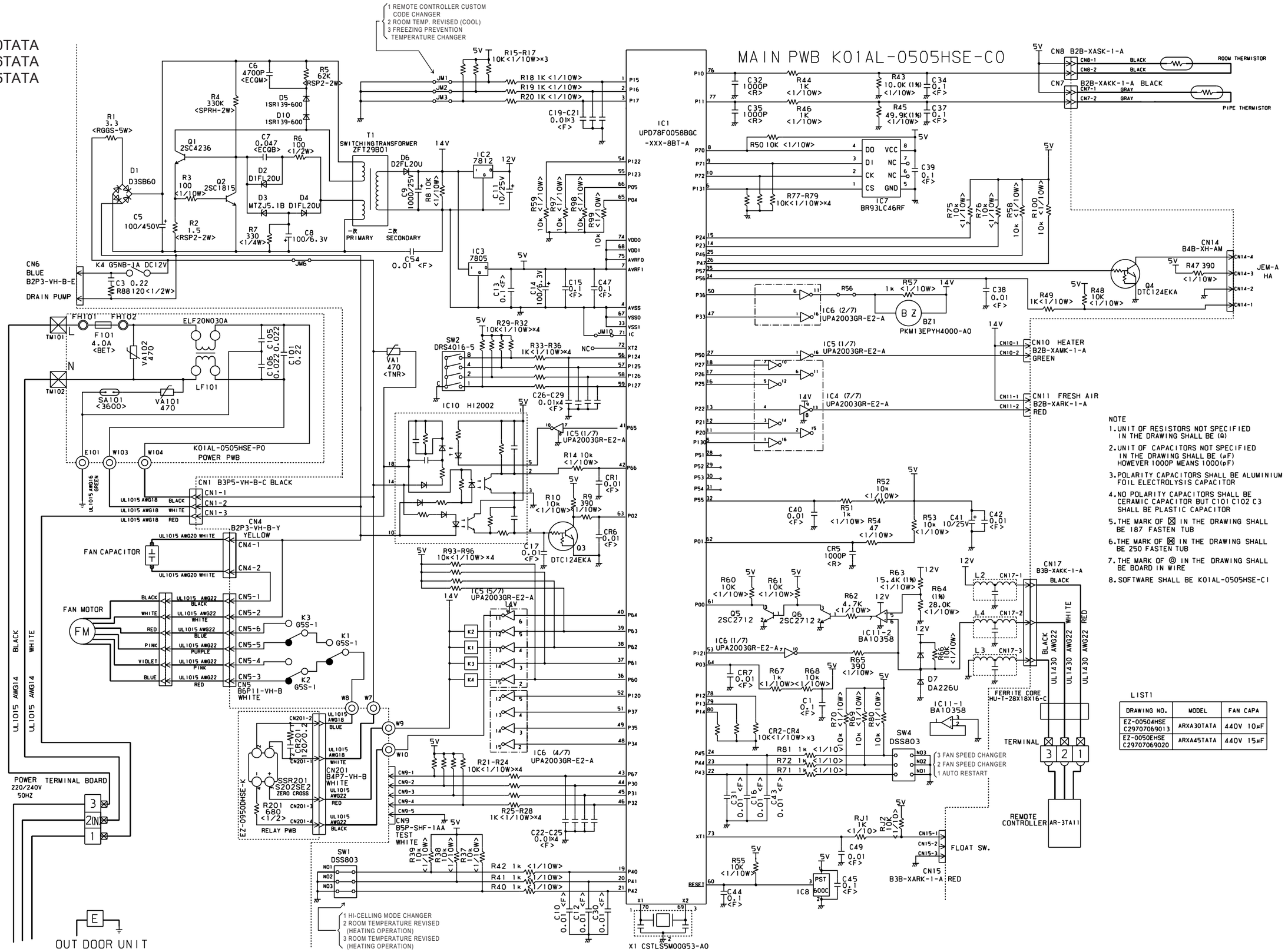


8-4-2 INDOOR UNIT

MODEL : ARXA25TATA



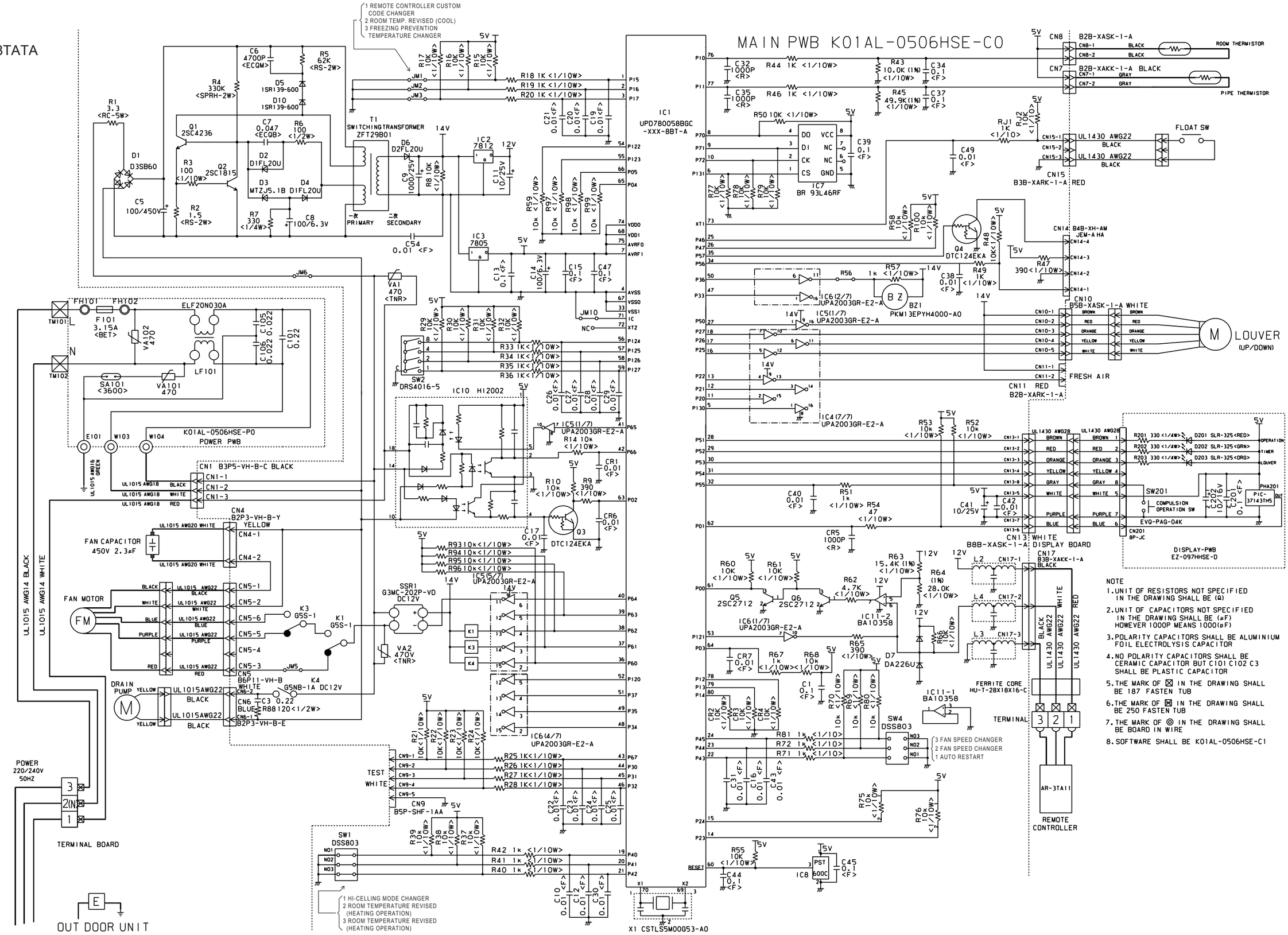
MODEL : ARXA30TATA
ARXA36TATA
ARXA45TATA



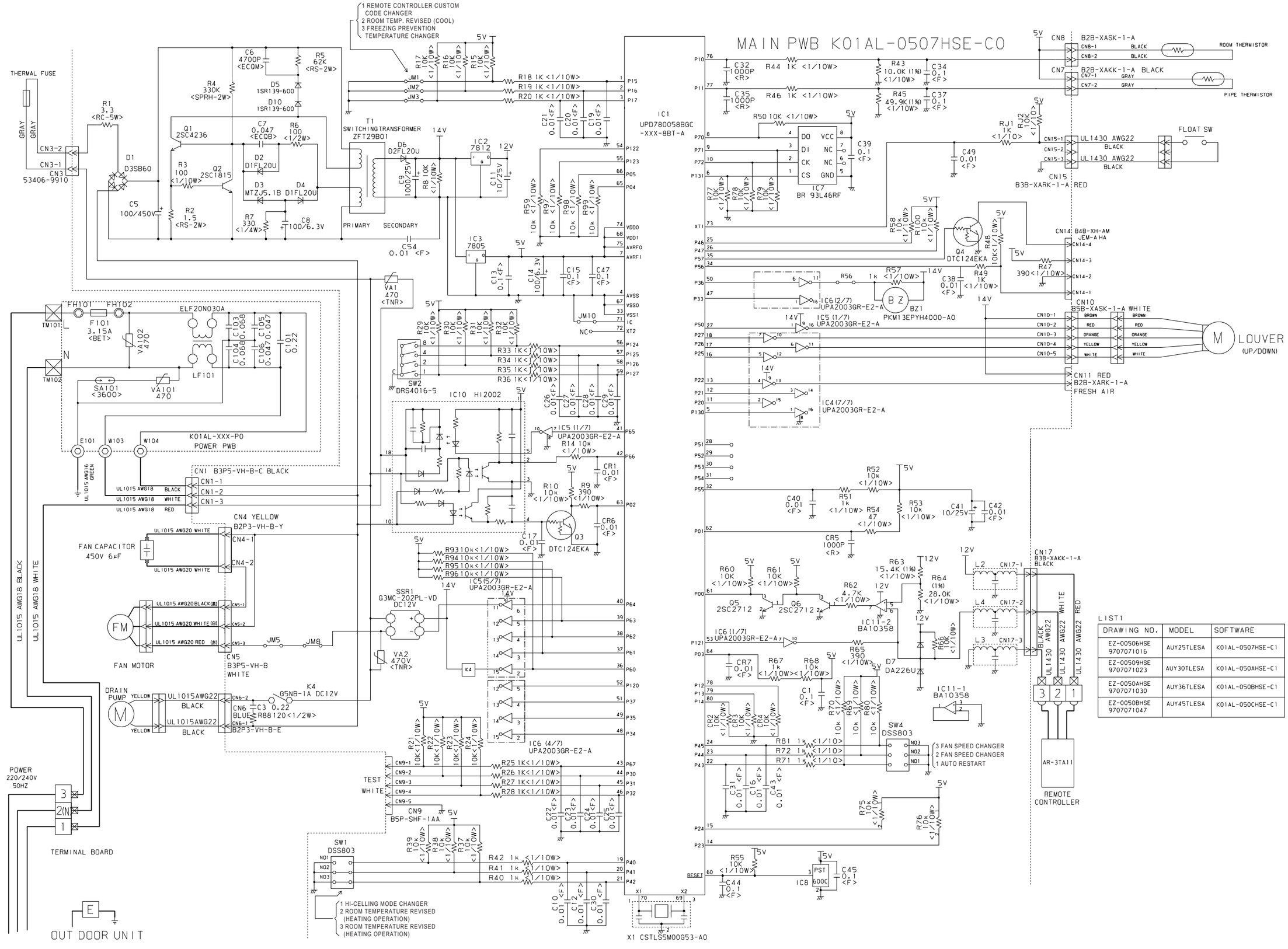
LIST1

DRAWING NO.	MODEL	FAN CAPA
EZ-00504HSE C29707069013	ARXA30TATA	440V 10μF
EZ-0050EHSE C29707069020	ARXA45TATA	440V 15μF

MODEL : AUXA18TATA



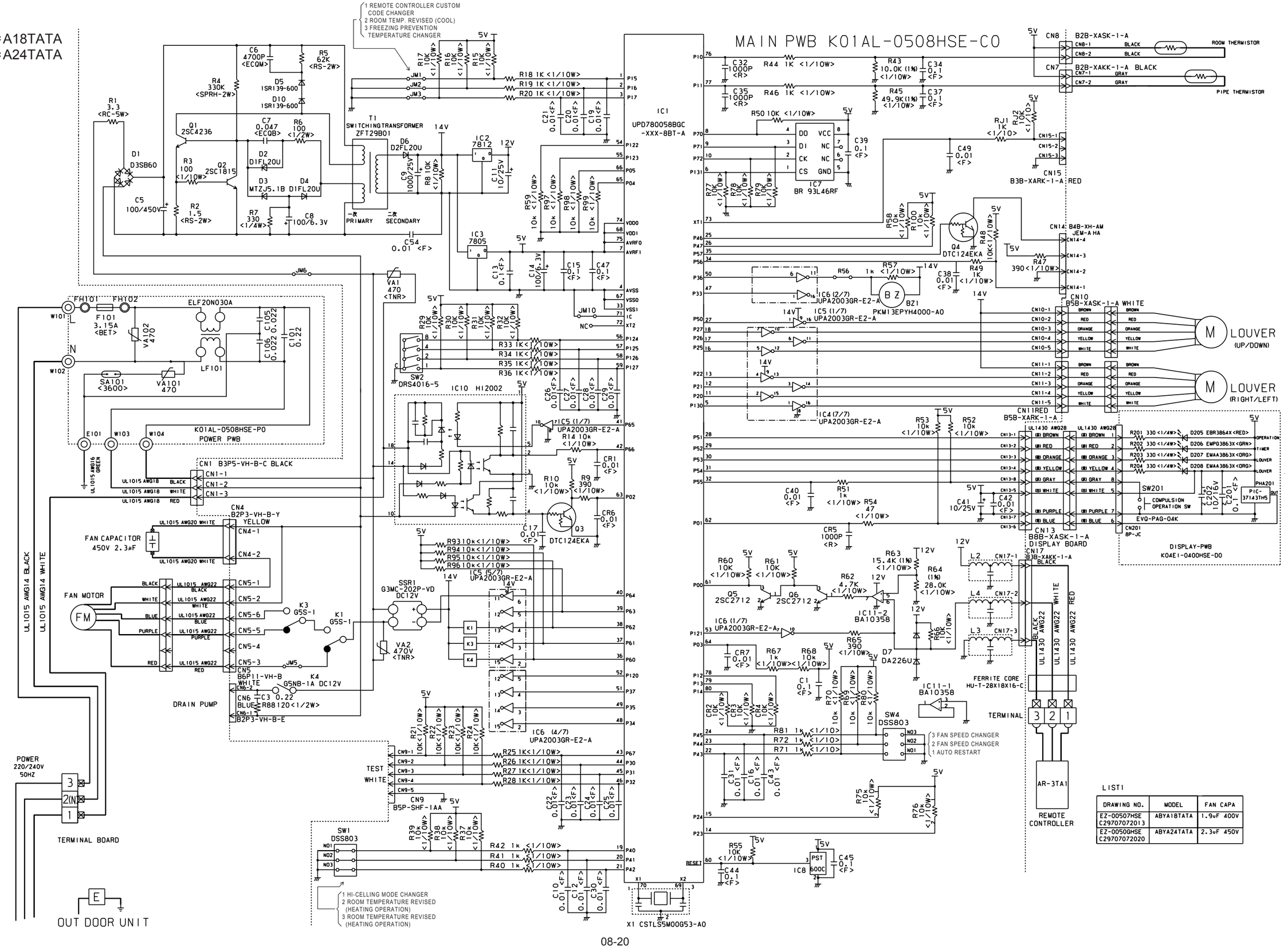
MODEL : AU*A25TATA
AU*A30TATA
AU*A36TATA
AU*A45TATA



LIST1

DRAWING NO.	MODEL	SOFTWARE
EZ-00506HSE 9707071016	AUY25TLESA	K01AL-0507HSE-C1
EZ-00509HSE 9707071023	AUY30TLESA	K01AL-050AHSE-C1
EZ-0050AHSE 9707071030	AUY36TLESA	K01AL-050BHSE-C1
EZ-0050BHSE 9707071047	AUY45TLESA	K01AL-050CHSE-C1

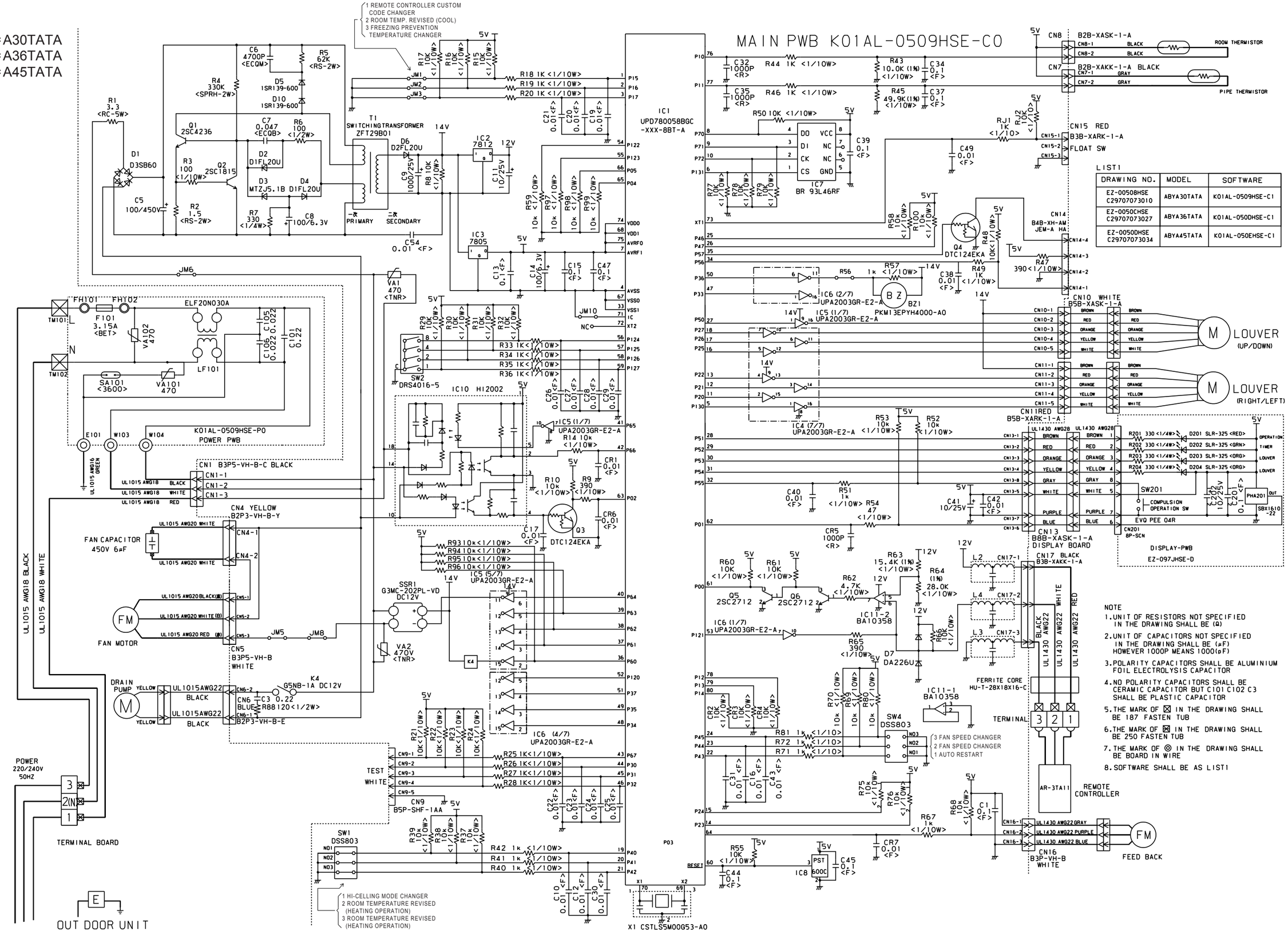
MODEL : AB*A18TATA
AB*A24TATA



LIST1

DRAWING NO.	MODEL	FAN CAPA
EZ-00507HSE C29707072013	ABYA18TATA	1.9uF 400V
EZ-00508HSE C29707072020	ABYA24TATA	2.3uF 450V

MODEL : AB*A30TATA
AB*A36TATA
AB*A45TATA



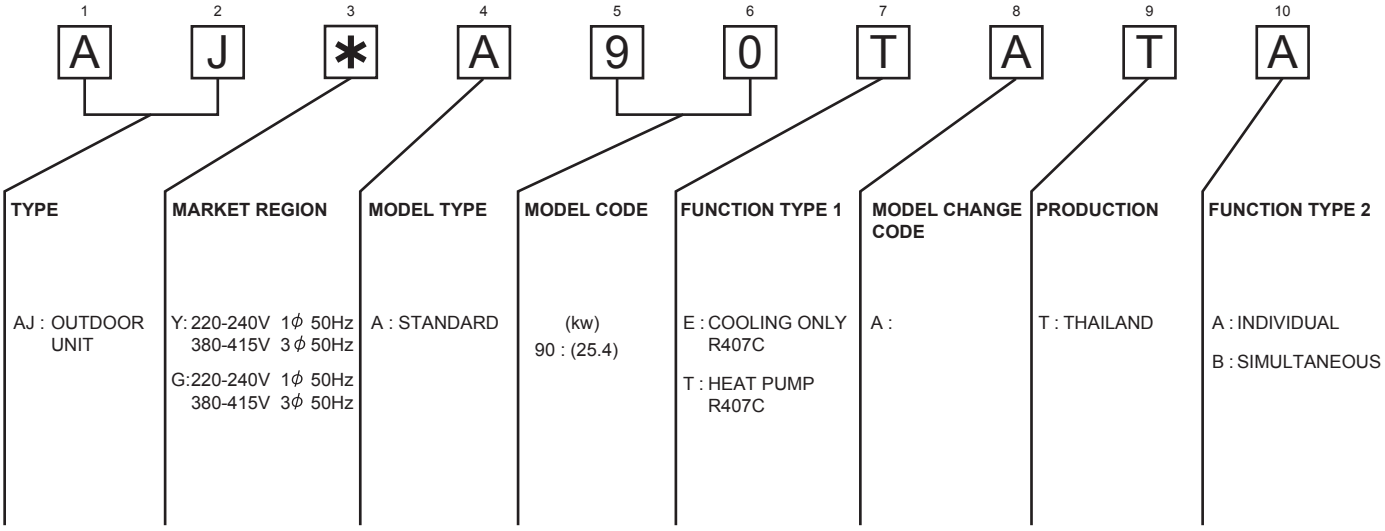
LIST1

DRAWING NO.	MODEL	SOFTWARE
EZ-00508HSE C29707073010	ABYA30TATA	K01AL-0509HSE-C1
EZ-0050CHSE C29707073027	ABYA36TATA	K01AL-050DHSE-C1
EZ-0050DHSE C29707073034	ABYA45TATA	K01AL-050EHSE-C1

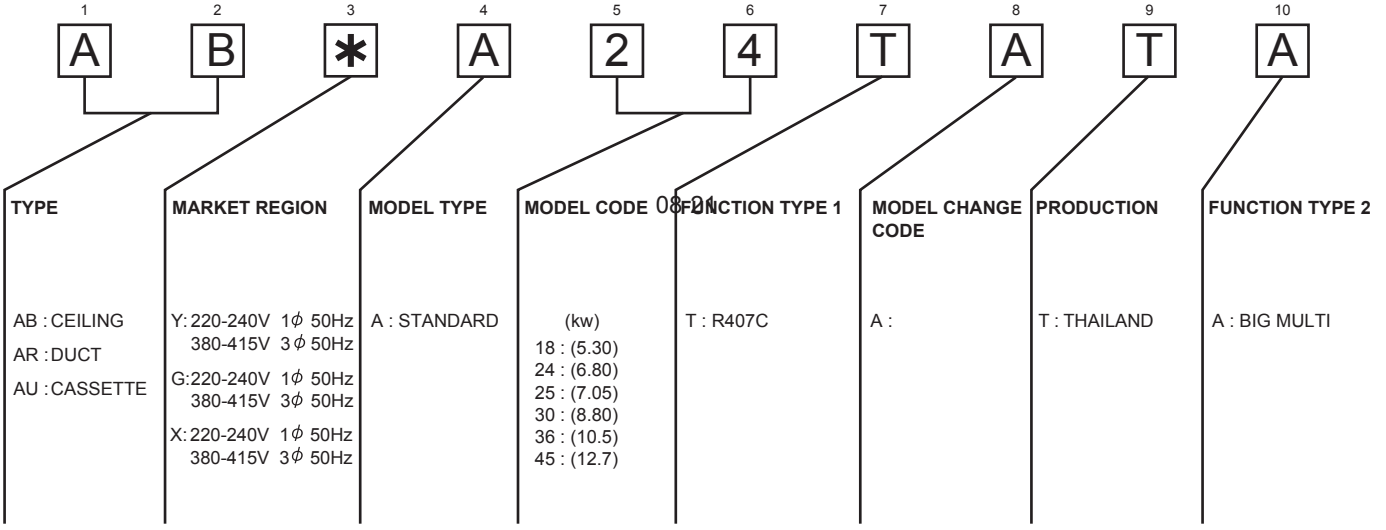
NOTE
1. UNIT OF RESISTORS NOT SPECIFIED IN THE DRAWING SHALL BE (Ω)
2. UNIT OF CAPACITORS NOT SPECIFIED IN THE DRAWING SHALL BE (μF) HOWEVER 1000P MEANS 1000(pF)
3. POLARITY CAPACITORS SHALL BE ALUMINIUM FOIL ELECTROLYSIS CAPACITOR
4. NO POLARITY CAPACITORS SHALL BE CERAMIC CAPACITOR BUT C101 C102 C3 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
8. SOFTWARE SHALL BE AS LIST1

8-5 MODEL DESIGNATION

■ OUTDOOR UNIT



■ INDOOR UNIT



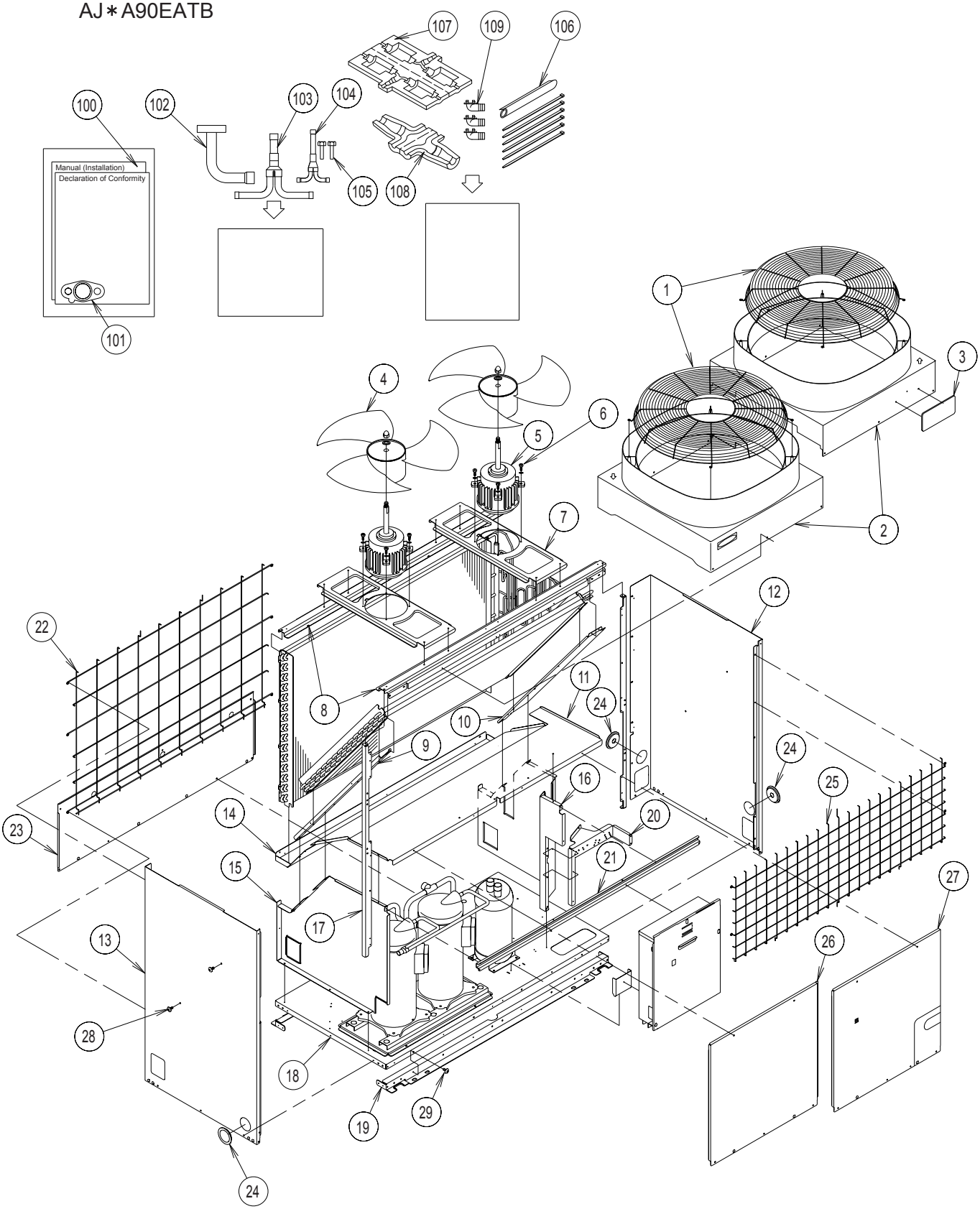
9.DISASSEMBLY ILLUSTRATION & PARTS LIST

9. DISASSEMBLY ILLUSTRATION & PARTS LIST

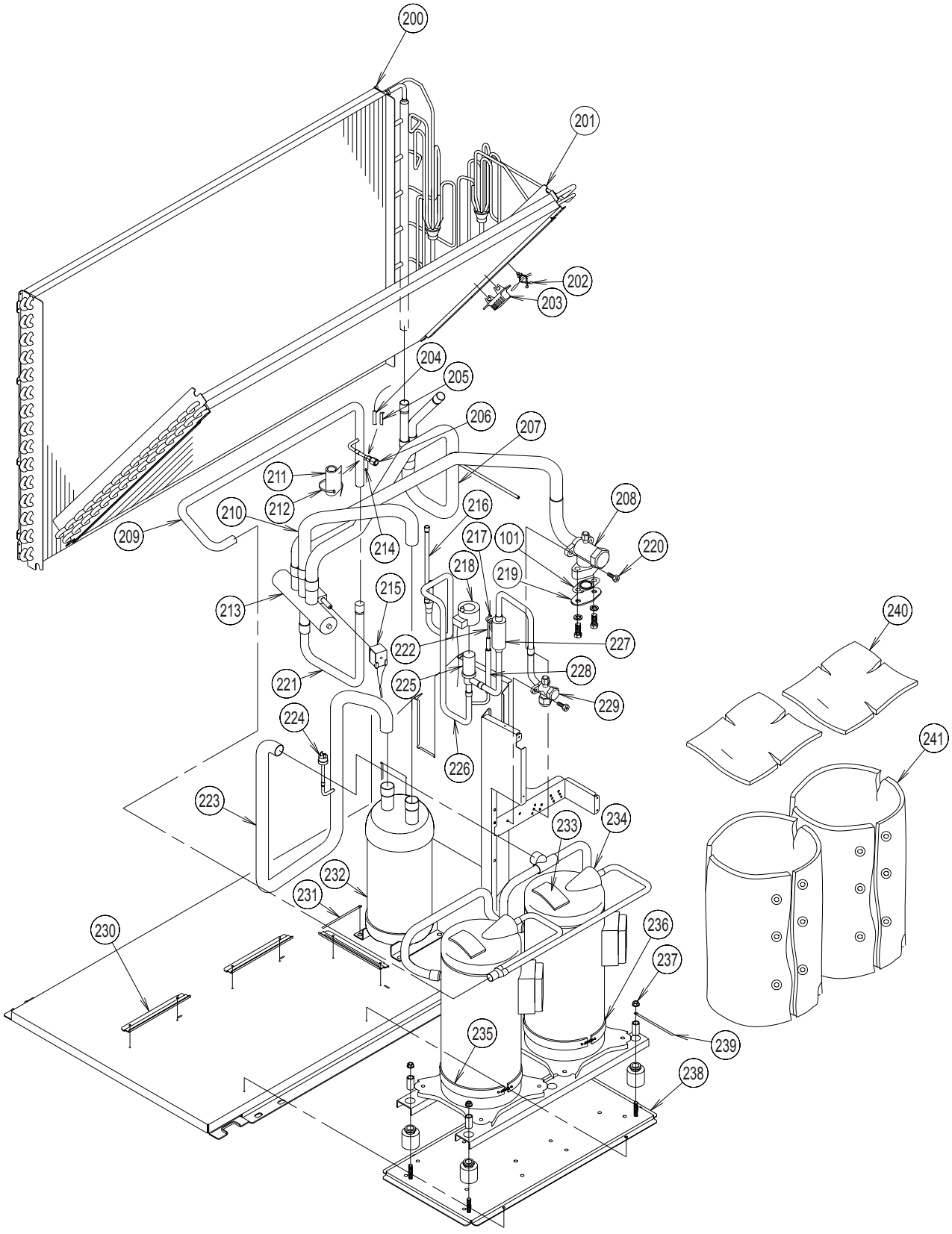
9-1 OUTDOOR UNIT

9-1-1 SIMULTANEOUS OPERATION

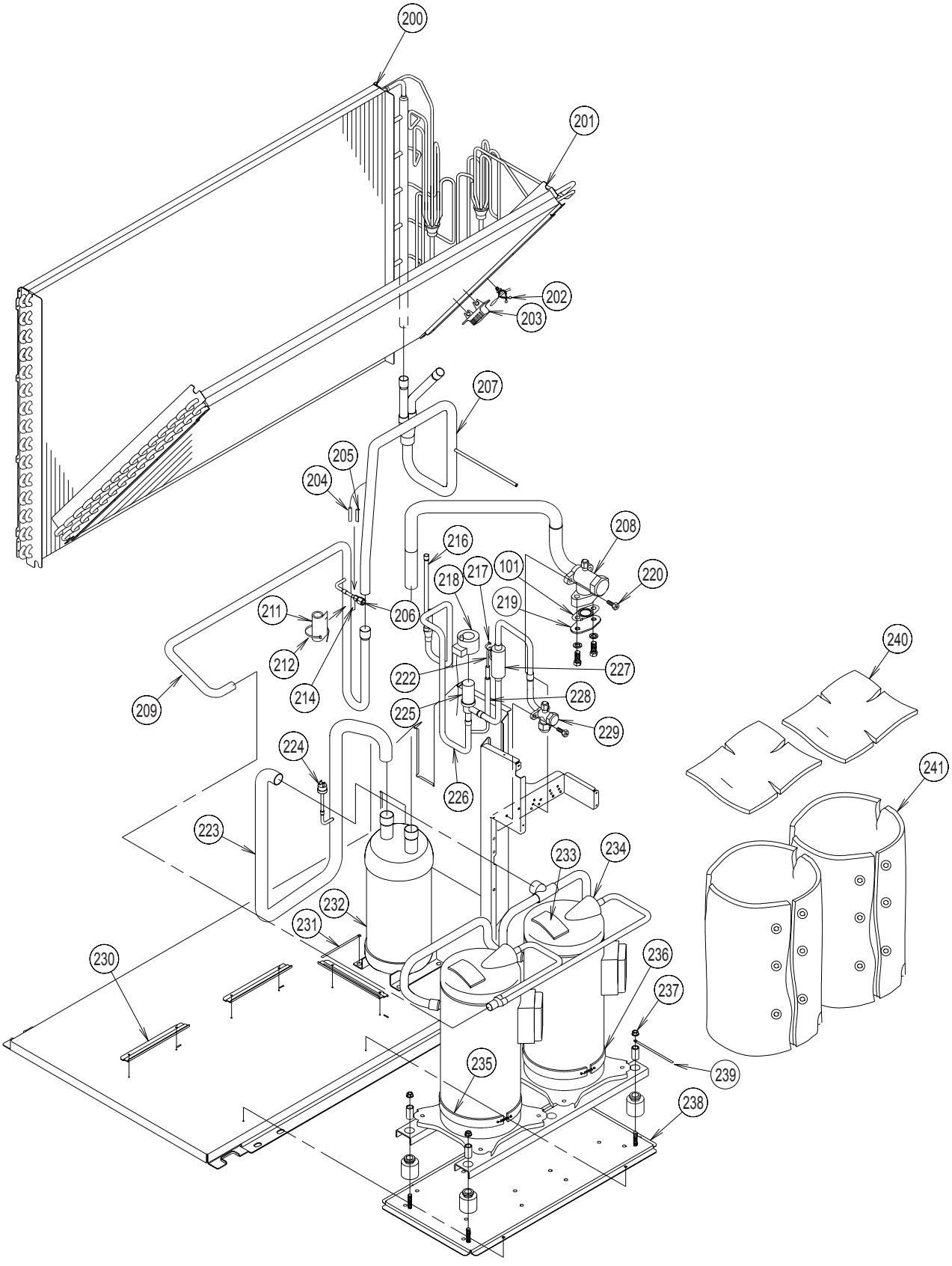
MODEL : AJ＊A90TATB
AJ＊A90EATB



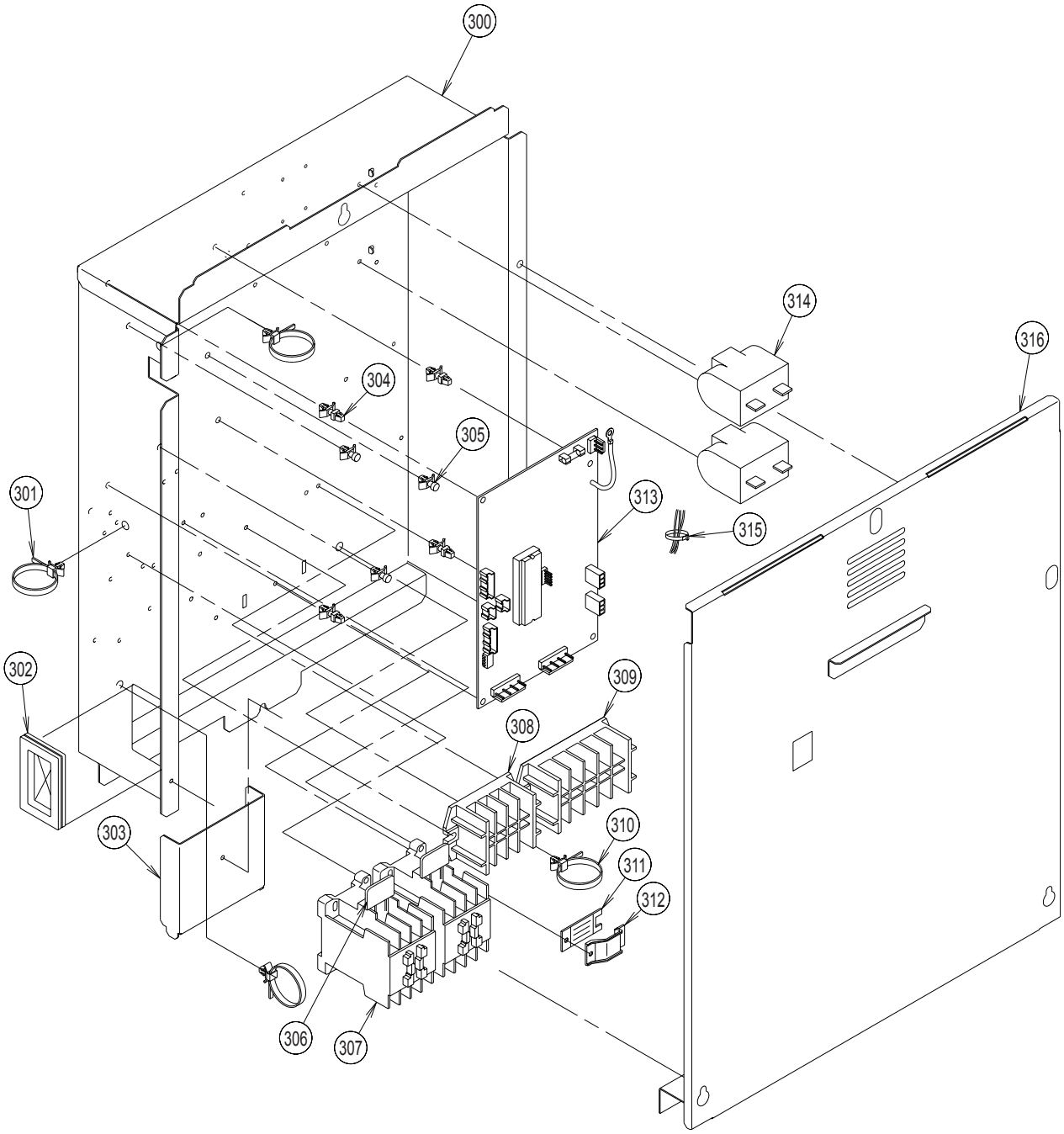
MODEL : AJ＊A90TATB



MODEL : AJ＊A90EATB



MODEL : AJ＊A90TATB
AJ＊A90EATB



PARTS LIST

OUTDOOR UNIT

Ref No.	Description	Parts No.		Q'ty	Ref No.	Description	Parts No.		Q'ty
		AJ＊A90TATB	AJ＊A90EATB				AJ＊A90TATB	AJ＊A90EATB	
1	FAN COVER	9366142010	9366142010		215	SOLENOID COIL	9703342011	-	
2	BELL,MOUTH	9361721005	9361721005		216	CONDENSING PIPE-M	9374740017	9374740017	
3	EMBLEM-REAR	9371388014	9371388014		217	CLAMP SKB-100	313361275805	313361275805	
4	PROPELLER FAN	9361726000	9361726000		218	COIL(EXPANSION VALVE	9361930001	9361930001	
5	FAN MOTOR ASSY-OUTER	9601698012	9601698012		219	VALVE PLATE	9363063004	9363063004	
6	CUPSCREW J636	9385089037	9385089037		220	BOLT HEX. SOCKET	0700145148	0700145148	
7	BRACKET PANEL(MOTOR)	9361703001	9361703001		221	DISCHARGE PIPE-B	9361882003	-	
8	BRACKET(MOTOR)	9361701007	9361701007		222	CAPILLARY TUBE	9363057003	9363057003	
9	BRACKET(CONDENSER)-L	9361698000	9361698000		223	SUCTION PIPE-A ASSY	9361877009	9361877009	
10	BRACKET(CONDENSER)-R	9361699007	9361699007		224	PRESSURE SWITCH	9703269004	9703269004	
11	SEPARATE WALL-UPPER	9361693005	9361693005		225	EXPANSION VALVE	9361929005	9361929005	
12	SIDE PANEL-R,PAINTED	9361706026	9361706026		226	CHECK VALVE ASSY	9363058000	9363058000	
13	SIDE PANEL-L,PAINTED	9361705029	9361705029		227	STRAINER	9361931008	9361931008	
14	DRAIN PAN	9361700000	9361700000		228	CHECK VALVE	9353020000	9353020000	
15	SEPARATE WALL-L	9361695009	9361695009		229	3-WAY VALVE ASSY(GAS)	9374762019	9374762019	
16	SEPARATE WALL-R	9361696006	9361696006		230	BRACKET(COMPRESSOR)	9361694002	9361694002	
17	REINFORCEMENT(SIDE PANEL)	9361704008	9361704008		231	WIRE CLAMP METAL	313483219905	313483219905	
18	BASE ASSY	9372336021	9372336021		232	ACCUMULATOR	9371828015	9371828015	
19	BASE FOOT,	9361688025	9361688025		233	NOISE INSULATION-D	313712304109	313712304109	
20	BRACKET(VALVE)A	9374929016	9374929016		234	COMPRESSOR,ASSY	9367378005	9367378005	
21	REINFORCEMENT(SEPARATE WALL)	9361697003	9361697003		235	BELT HEATER-A	9361140042	9361140042	
22	CONDENSER GUARD	9366143017	9366143017		236	BELT HEATER-B	9361140059	9361140059	
23	REAR PANEL,PAINTED	9361712027	9361712027		237	SPECIAL NUT M8	313252257701	313252257701	
24	BUSHING	9361725003	9361725003		238	BRACKET PANEL(COMP.)	9361691018	9361691018	
25	FRONT PROTECTION NET	9366144014	9366144014		239	WIRE CLAMP METAL	313584219902	313584219902	
26	FRONT PANEL-L	9361709027	9361709027		240	COMPRESSOR COVER-B	9361936003	9361936003	
27	FRONT PANEL-R	9361710047	9361710047		241	COMPRESSOR COVER-A	9361935006	9361935006	
28	SCREW, PAINTED	9302348001	9302348001		300	CONTROL BOX	9361713000	9361713000	
29	SCREW, PAINTED	9305648009	9305648009		301	CLAMP NO.1763	313816345304	313816345304	
101	GASKET	9363272000	9363272000		302	RUBBER BUSHING	313005066051	313005066051	
200	CONDENSER B ASSY	9370621013	9370621013		303	BRACKET(CONTROL BOX)	9361727007	9361727007	
201	CONDENSER A ASSY	9370620016	9370620016		304	LOCKING SPACER	0600035020	0600035020	
202	CLAMP NO.1219	313361271706	313361271706		305	LOCKING SPACER	0600118051	0600118051	
203	BRACKET(THERMISTOR)	313557406106	313557406106		306	NETWORK (C-R)	9700987017	9700987017	
204	THERMISTOR ASSEMBLY	9900125011	9900125011		307	MAGNETIC RELAY	9900227012	9900227012	
205	THERMO. SPRING-A	313728262708	313728262708		308	TERMINAL 4P	9363276015	9363276015	
206	CHECK JOINT ASSY	9363886009	9363886009		309	TERMINAL 5P	9363275018	9363275018	
207	JOINT PIPE ASSY	9361886001	9362922005		310	CLAMP(CABLE) NO.1259	313739340109	313739340109	
208	3-WAY VALVE ASSY(LIQUID)	9373989028	9373989028		311	CORD CLAMP-B	9356858006	9356858006	
209	DISCHARGE PIPE A	9367217007	9367219001		312	CORD CLAMP	9356857009	9356857009	
210	SUCTION PIPE-B	9361894006	-		313	CONTROLLER PCB ASSY	9704764263	9704764287	
211	PIPE COVER	9363470000	9363470000		314	CAPACITOR(FAN MOTOR)	9703306037	9703306037	
212	CLAMP SKB-3M	312300787605	312300787605		315	CLAMP SKB-150	313035356905	313035356905	
213	4-WAY VALVE	9703270000	-		316	CONTROL BOX COVER	9361716001	9361716001	
214	THERM. HOLDER PIPE	313714262805	313714262805						

ACCESSORIES

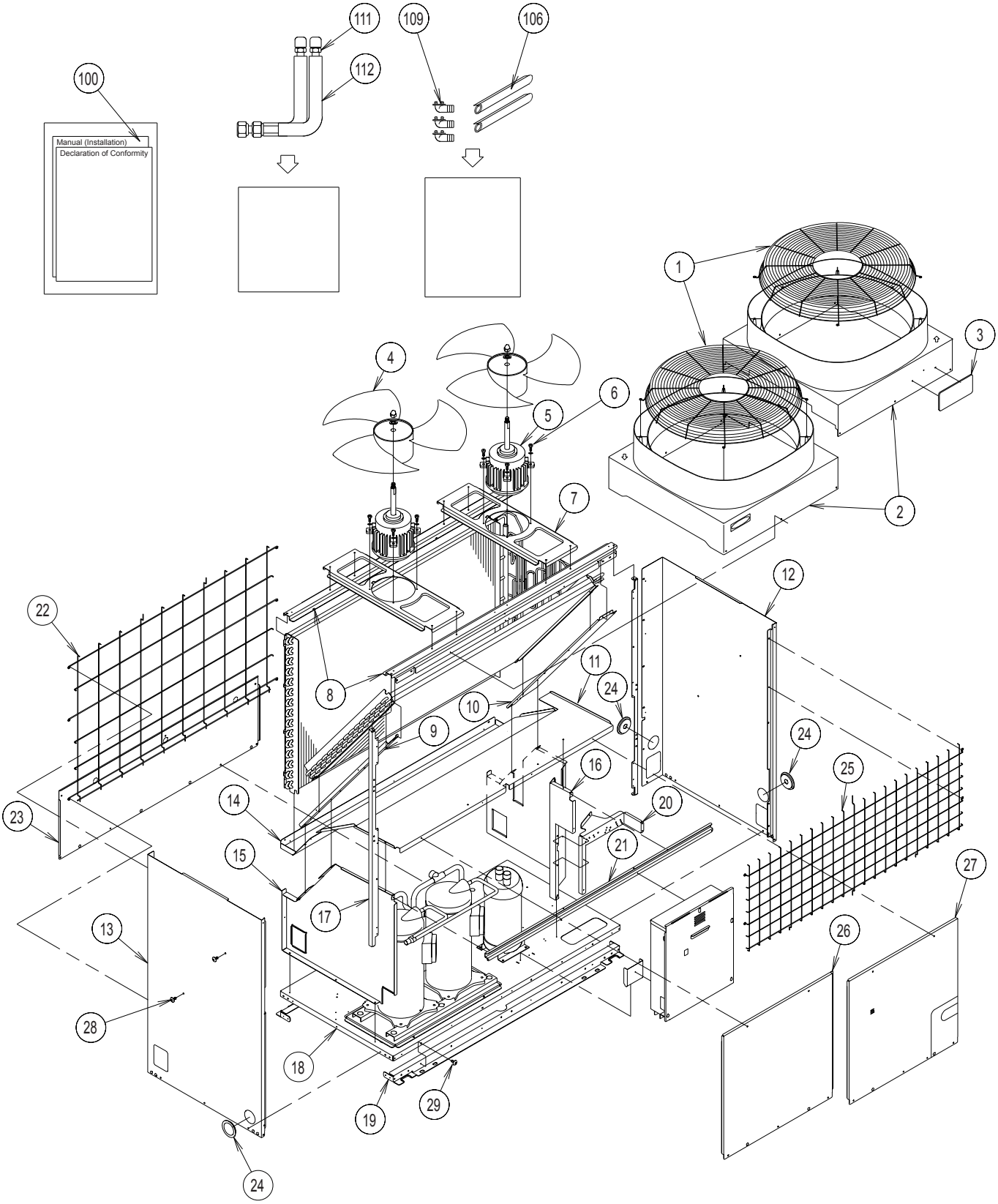
100	INSTALLATION MANUAL	9363769029	9363769029	
101	GASKET	9363272000	9363272000	
102	FLANGE ASSY	9374706013	9374706013	
103	BRANCH GAS PIPE	9362047005	9362047005	
104	BRANCH LIQUID PIPE	9362046008	9362046008	
105	BOLT	0700145100	0700145100	
106	INSULATION(PIPE)-C	9363828009	9363828009	
107	INS(BRANCH LIQUID PIPE)	9363206005	9363206005	
108	INS(BRANCH GAS PIPE)	9363204001	9363204001	
109	DRAIN PIPE	9301102000	9301102000	

PCB INTERNAL PARTS

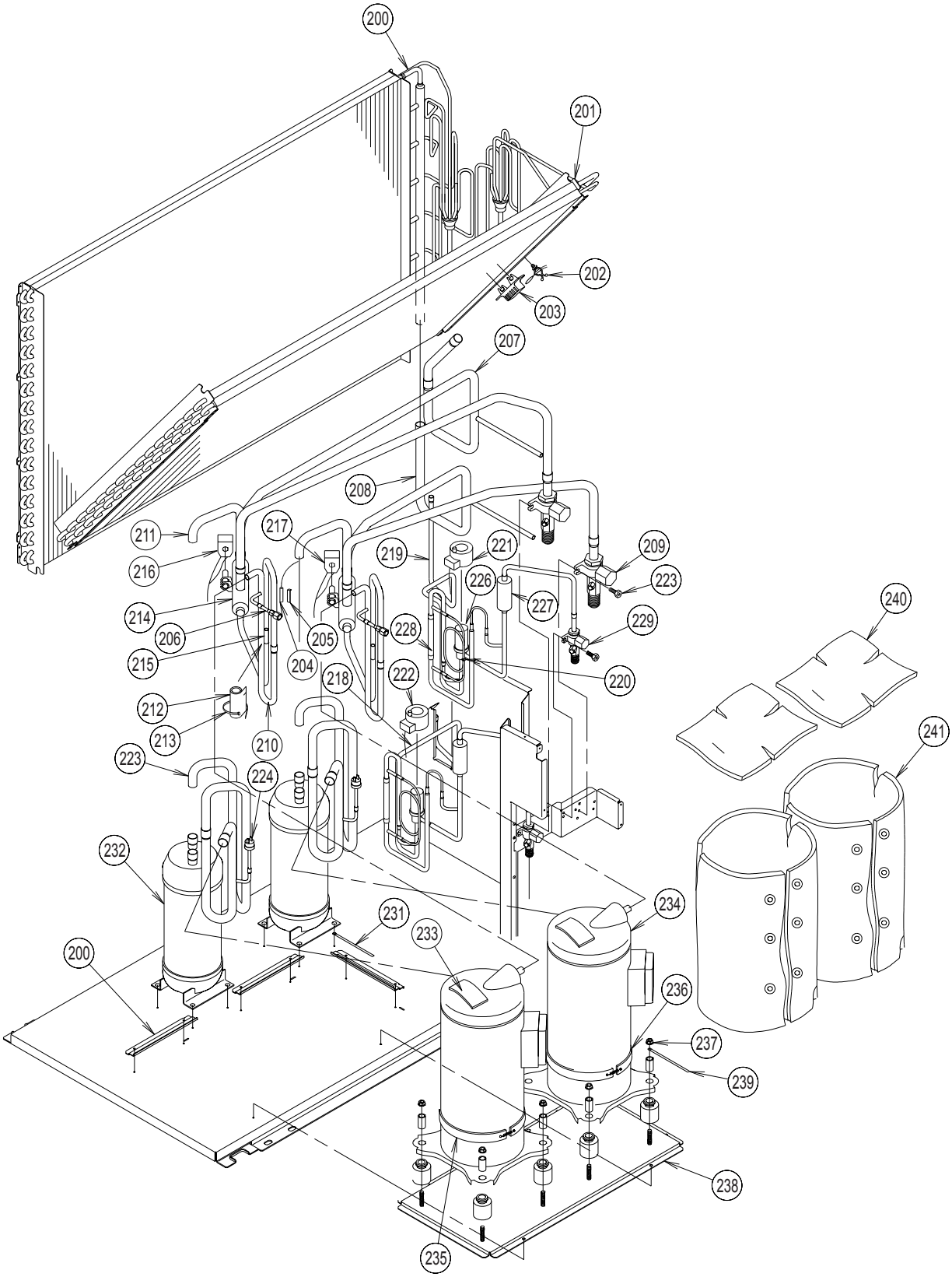
FH1-FH2	FUSE HOLDER PFC5000-0502	0500158072	
F1	FUSE BET 6.3A-250V	0600222574	
K1,K3,K5,K7,K10,K11	RELAY FTR-F3AA012E	9703887017	
K2,K4	RELAY G5SB-14	9900200015	

9-1-2 INDIVIDUAL OPERATION

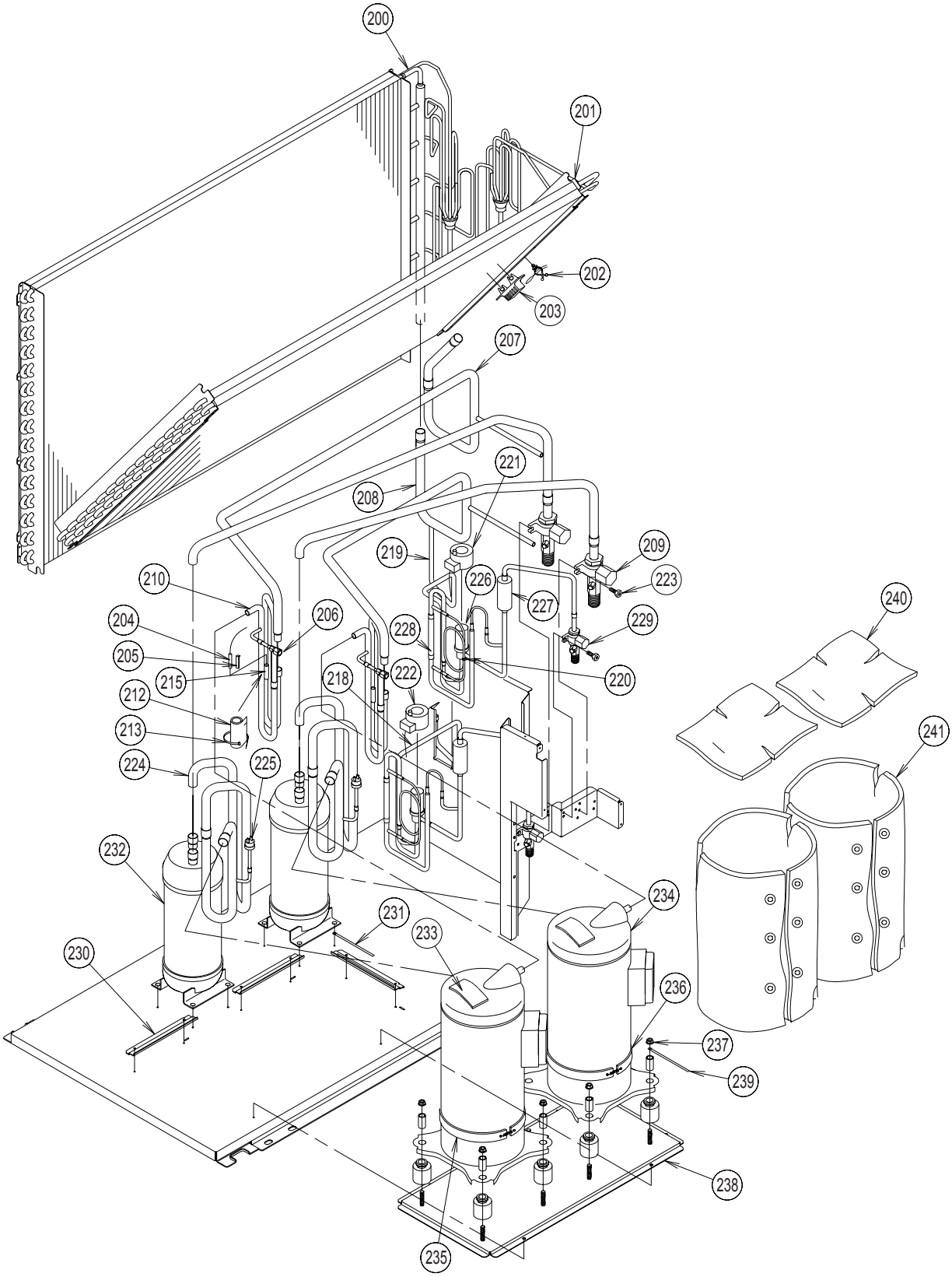
MODEL : AJ＊A90TATA
AJ＊A90EATA



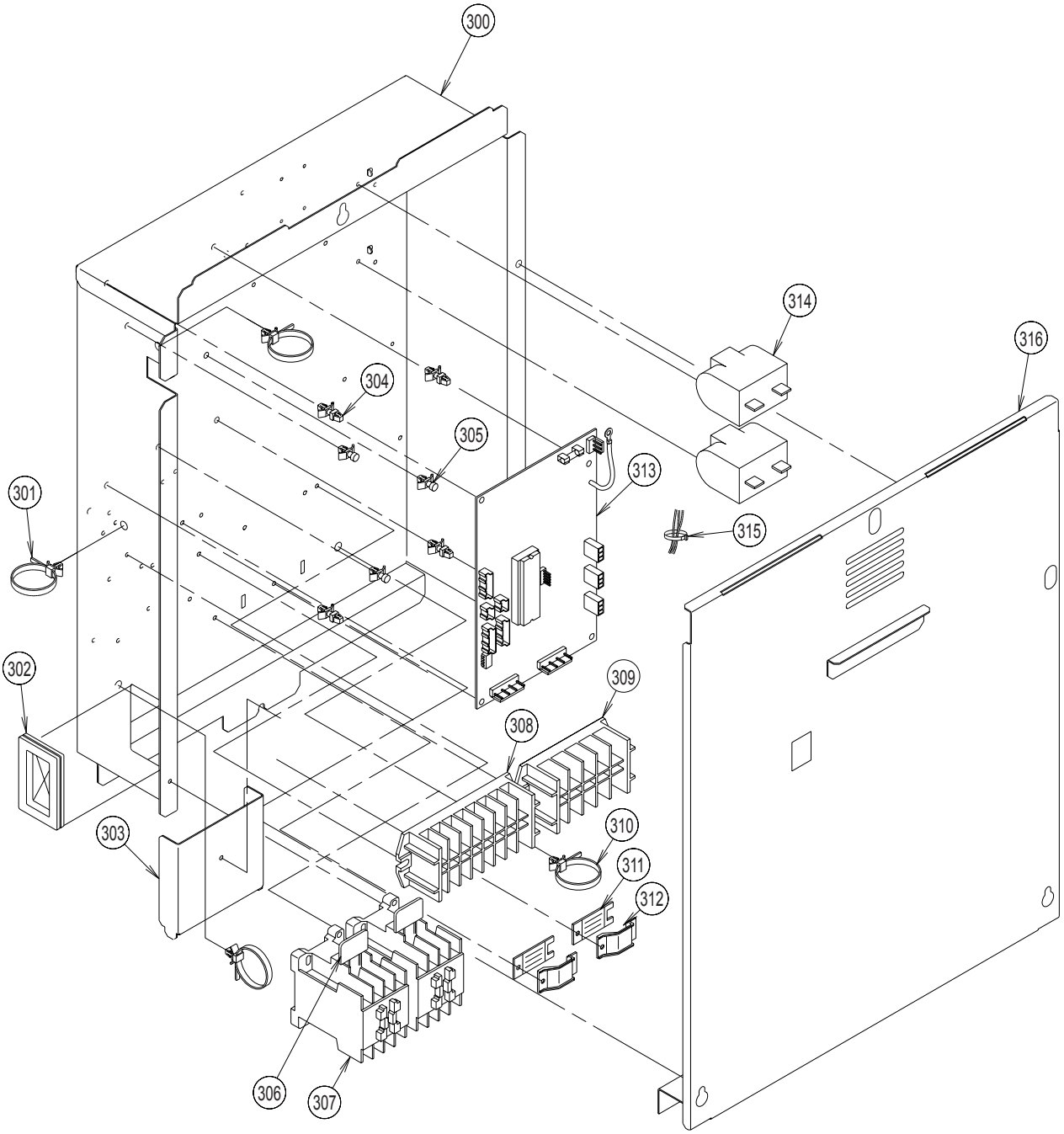
MODEL : AJ＊A90TATA



MODEL : AJ＊A90EATA



MODEL : AJ＊A90TATA
AJ＊A90EATA



PARTS LIST

OUTDOOR UNIT

Ref No.	Description	Parts No.		Q'ty	Ref No.	Description	Parts No.		Q'ty
		AJ＊A90TATA	AJ＊A90EATA				AJ＊A90TATA	AJ＊A90EATA	
1	FAN COVER	9366142010	9366142010		216	SOLENOID, SQ -492	9970034015	-	
2	BELL,MOUTH	9361721005	9361721005		217	SOLENOID, SQ -491	9970034022	-	
3	EMBLEM-REAR	9371388014	9371388014		218	CONDENSING PIPE -M	9374741021	9374741021	
4	PROPELLER FAN	9361726000	9361726000		219	CONDENSING PIPE -N	9374741038	9374741038	
5	FAN MOTOR ASSY-OUTER	9601698012	9601698012		220	CLAMP SKB -100	313361275805	313361275805	
6	CUPSCREW J636	9385089037	9385089037		221	EXPANSION VALVE COIL	9363291001	9363291001	
7	BRACKET PANEL(MOTOR)	9361703001	9361703001		222	EXPANSION VALVE COIL	9363290004	9363290004	
8	BRACKET(MOTOR)	9361701007	9361701007		223	BOLT, HEX. SOCKET	0700145148	0700145148	
9	BRACKET(CONDENSER)-L	9361698000	9361698000		224	SUCTION PIPE -A ASSY	9361944008	9361944008	
10	BRACKET(CONDENSER)-R	9361699007	9361699007		225	PRESSURE SWITCH	9703269004	9703269004	
11	SEPARATE WALL-UPPER	9361693005	9361693005		226	EXPANSION VALVE	9363294002	9363294002	
12	SIDE PANEL-R,PAINTED	9361706026	9361706026		227	STRAINER	9363293005	9363293005	
13	SIDE PANEL-L,PAINTED	9361705029	9361705029		228	CHECK VALVE	9353020000	9353020000	
14	DRAIN PAN	9361700000	9361700000		229	BALL VALVE A ASSY	9372478011	9372478011	
15	SEPARATE WALL-L	9361695009	9361695009		230	BRACKET(COMPRESSOR)	9361694002	9361694002	
16	SEPARATE WALL-R	9361696006	9361696006		231	WIRE CLAMP METAL	313483219905	313483219905	
17	REINFORCEMENT(SIDE PANEL)	9361704008	9361704008		232	ACCUMULATOR	9371812014	9371812014	
18	BASE ASSY	9372336021	9372336021		233	NOISE INSULATION-D	313712304109	313712304109	
19	BASE FOOT,	9361688025	9361688025		234	COMPRESSOR,ASSY	9367376001	9367376001	
20	BRACKET(VALVE)-B	9361707009	9361707009		235	BELT HEATER-A	9361140042	9361140042	
21	REINFORCEMENT(SEPARATE WALL)	9361697003	9361697003		236	BELT HEATER-B	9361140059	9361140059	
22	CONDENSER GUARD	9366143017	9366143017		237	SPECIAL NUT M8	313252257701	313252257701	
23	REAR PANEL,PAINTED	9361712027	9361712027		238	BRACKET PANEL(COMP.)	9361691025	9361691025	
24	BUSHING	9361725003	9361725003		239	WIRE CLAMP METAL	313584219902	313584219902	
25	FRONT PROTECTION NET	9366144014	9366144014		240	COMPRESSOR COVER-B	9361936003	9361936003	
26	FRONT PANEL-L	9361709027	9361709027		241	COMPRESSOR COVER-A	9361935006	9361935006	
27	FRONT PANEL-R	9361710047	9361710047		300	CONTROL BOX	9361713000	9361713000	
28	SCREW, PAINTED	9302348001	9302348001		301	CLAMP NO.1763	313816345304	313816345304	
29	SCREW, PAINTED	9305648009	9305648009		302	RUBBER BUSHING	313005066051	313005066051	
200	CONDENSER B ASSY	9370621013	9370621013		303	BRACKET(CONTROL BOX)	9361727007	9361727007	
201	CONDENSER A ASSY	9370620016	9370620016		304	LOCKING SPACER	0600035020	0600035020	
202	CLAMP NO.1219	313361271706	313361271706		305	LOCKING SPACER	0600118051	0600118051	
203	BRACKET(THERMISTOR)	313557406106	313557406106		306	NETWORK (C-R)	9700987017	9700987017	
204	THERMISTOR ASSEMBLY	9900124014	9900124014		307	MAGNETIC RELAY	9900227012	9900227012	
205	THERMO. SPRING-A	313728262708	313728262708		308	TERMINAL 8P	9363276022	9363276022	
206	CHECK JOINT ASSY	9363886009	9363886009		309	TERMINAL 5P	9363275018	9363275018	
207	JOINT PIPE -A ASSY	9361948006	9362991001		310	CLAMP(CABLE) NO.1259	313739340109	313739340109	
208	JOINT PIPE -B ASSY	9361969001	9362993005		311	CORD CLAMP-B	9356858006	9356858006	
209	BALL VALVE B ASSY	9372478035	9372478035		312	CORD CLAMP	9356857009	9356857009	
210	DISCHARGE PIPE ASSY	9372169018	9372169025		313	CONTROLLER PCB ASSY	9704764270	9704764294	
211	SUCTION PIPE -B	9361967007	-		314	CAPACITOR(FAN MOTOR)	9703306037	9703306037	
212	PIPE COVER	9363470000	9363470000		315	CLAMP SKB-150	313035356905	313035356905	
213	CLAMP SKB -3M	312300787605	312300787605		316	CONTROL BOX COVER	9361716001	9361716001	
214	4 -WAY VALVE	9970035012	-						
215	THERM. HOLDER PIPE	313714262805	313714262805						

ACCESSORIES

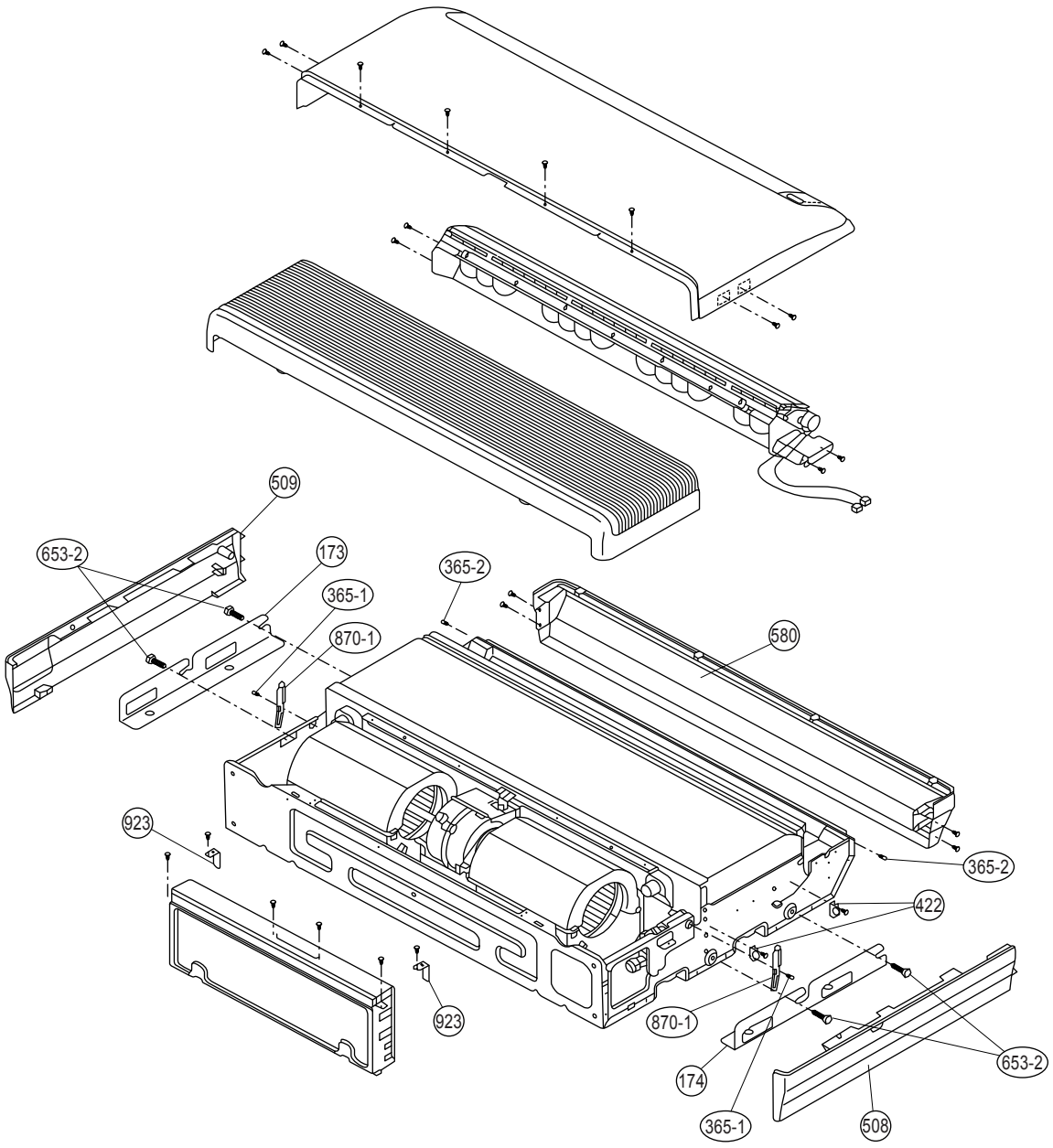
100	INSTALLATION MANUAL	9363815023	9363815023	
106	INSULATION(PIPE) -C	313005074759	313005074759	
109	DRAIN PIPE	9301102000	9301102000	
111	HALF UNION -B	9352768002	9352768002	
112	AUXILIARY PIPE ASSY	9363891003	9363891003	

PCB INTERNAL PARTS

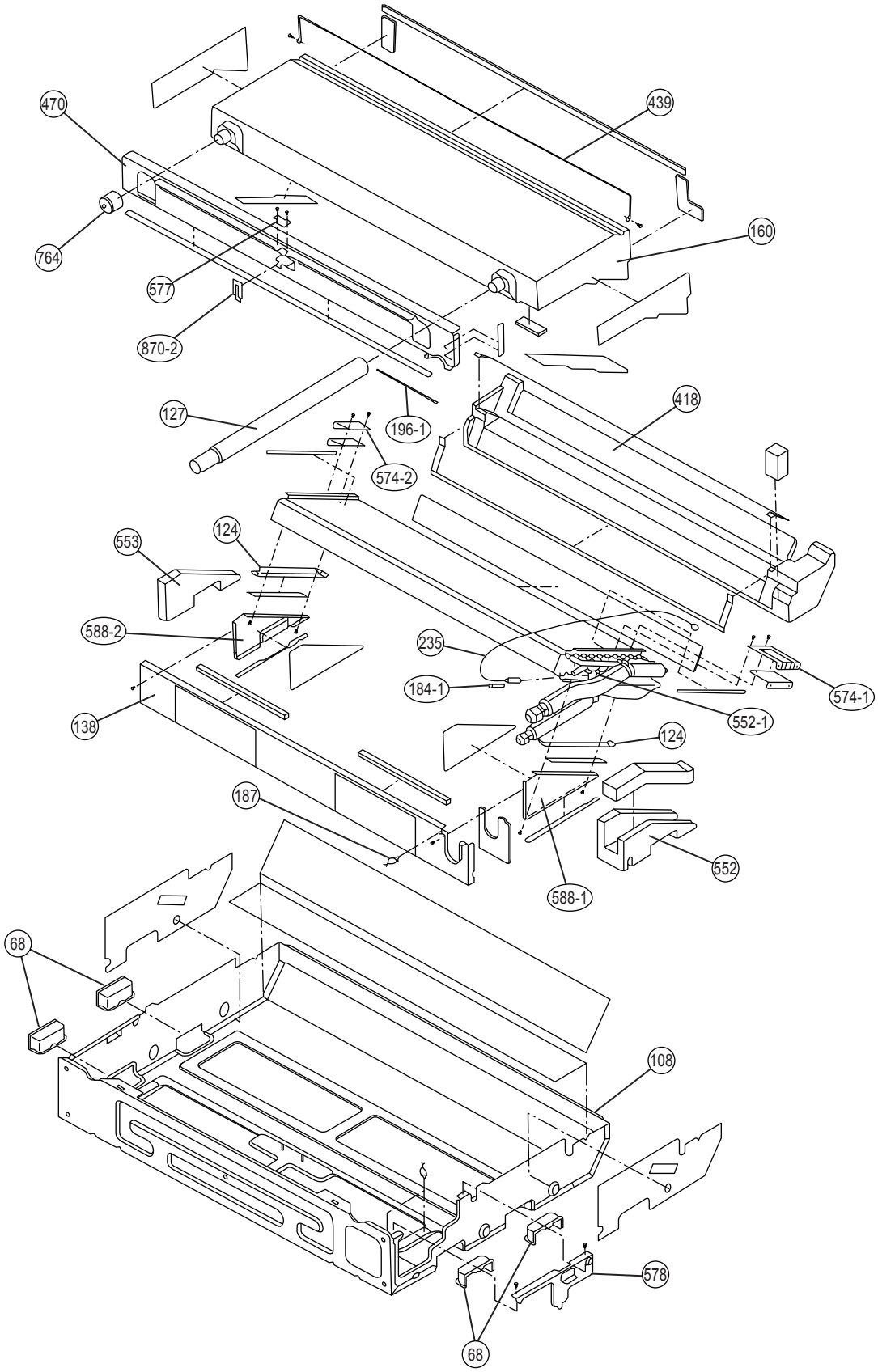
FH1-FH2	FUSE HOLDER PFC5000-0502	0500158072	
F1	FUSE BET 6.3A-250V	0600222574	
K1,K3,K5,K6,K7,K10,K11	RELAY FTR-F3AA012E	9703887017	
K2,K4	RELAY G5SB-14	9900200015	

9-2 INDOOR UNIT

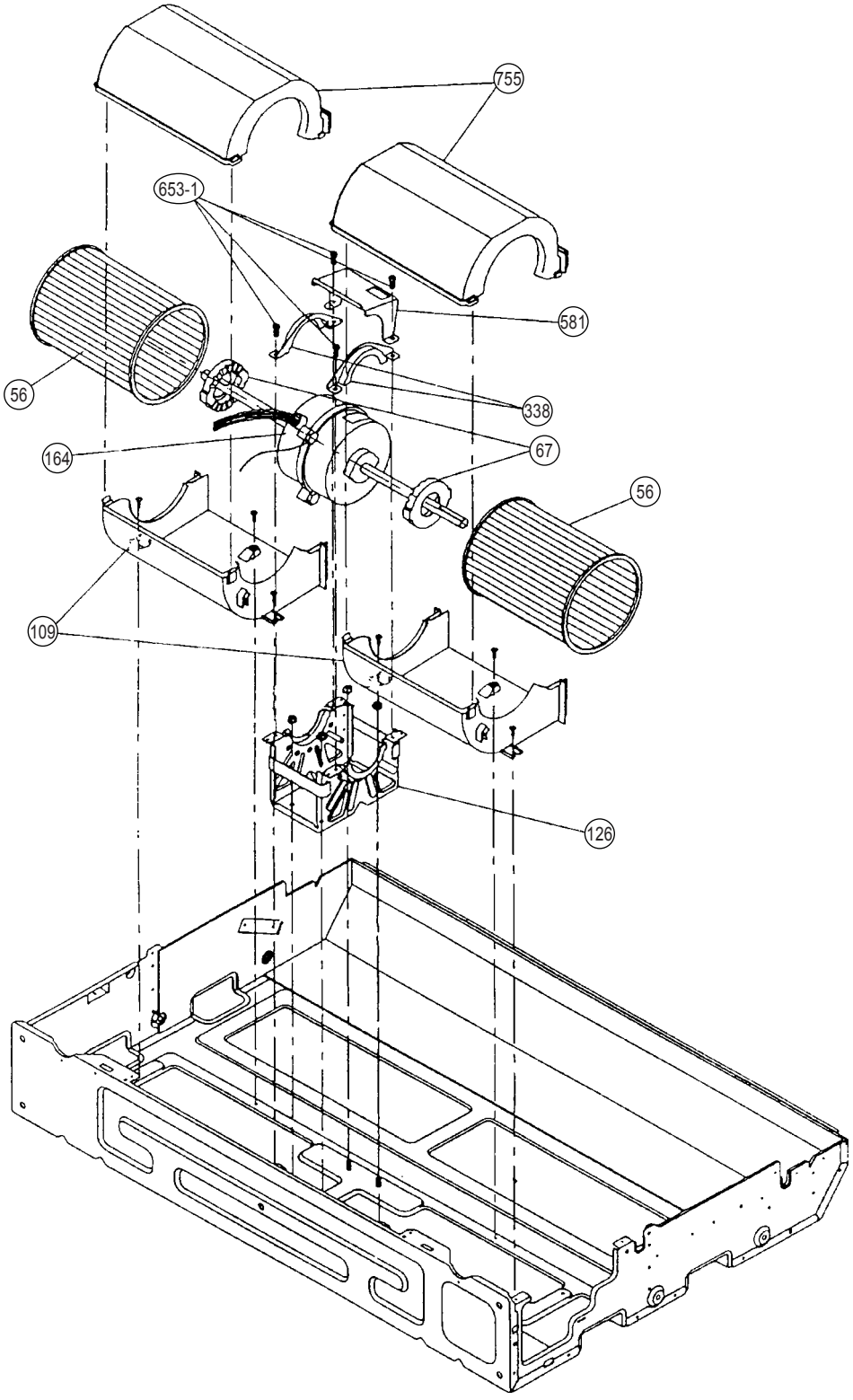
Models : AB∗A18TATA
AB∗A24TATA



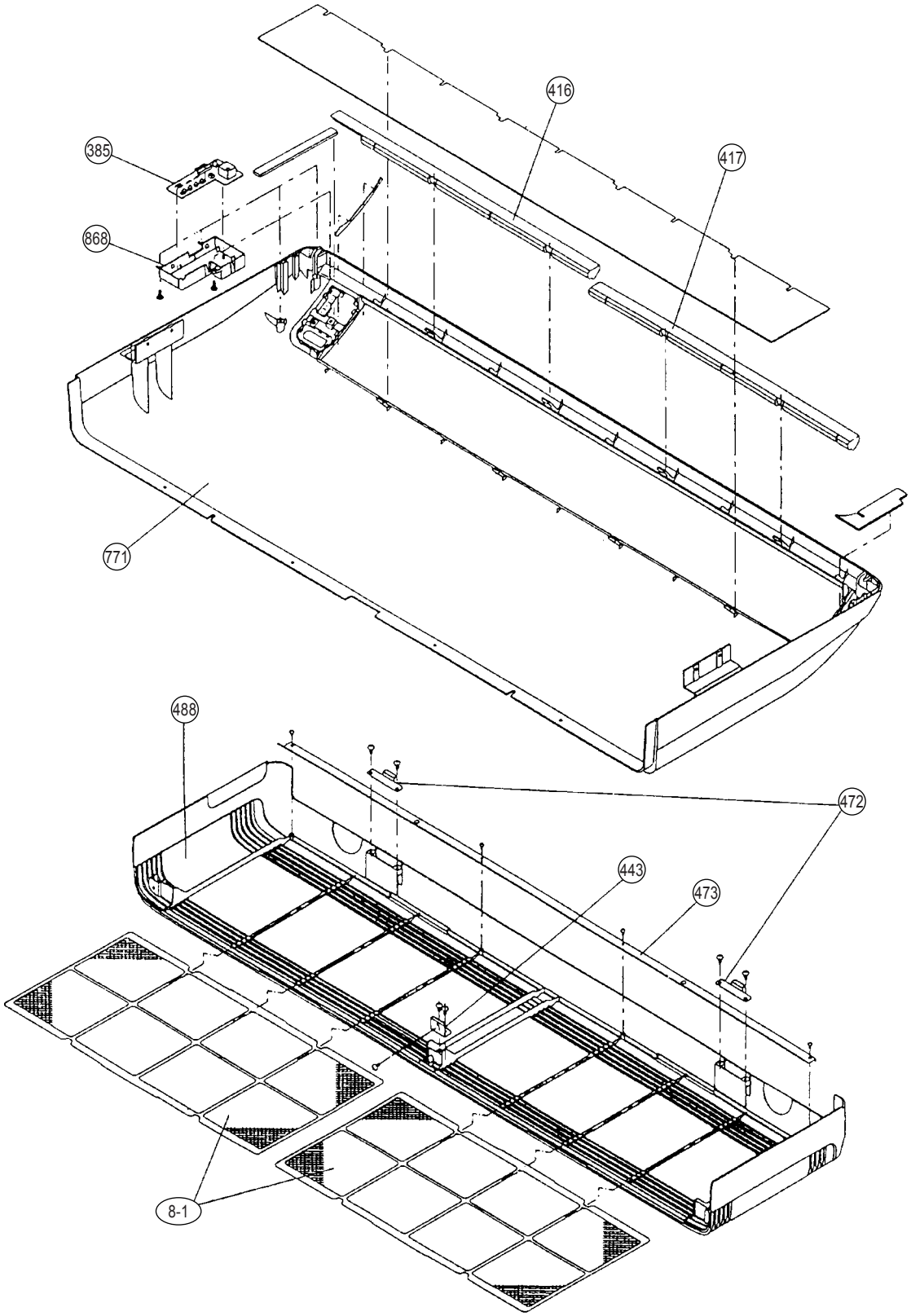
Models : AB∗A18TATA
AB∗A24TATA



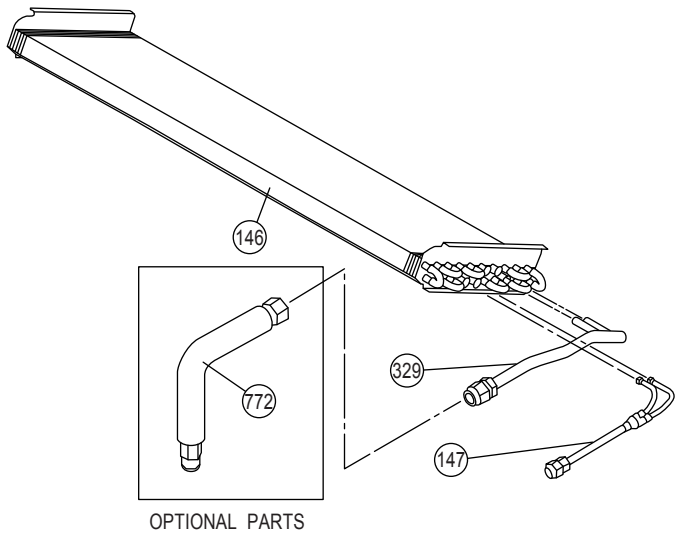
Models : AB∗A18TATA
AB∗A24TATA

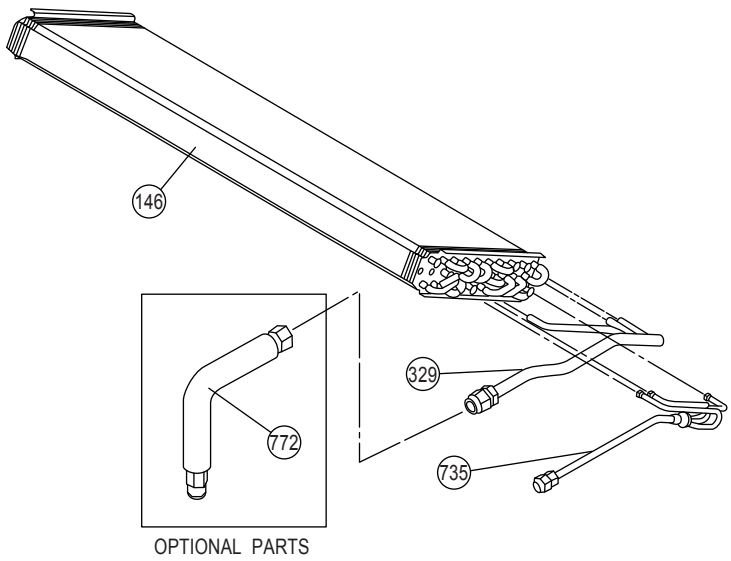


Models : AB＊A18TATA
AB＊A24TATA

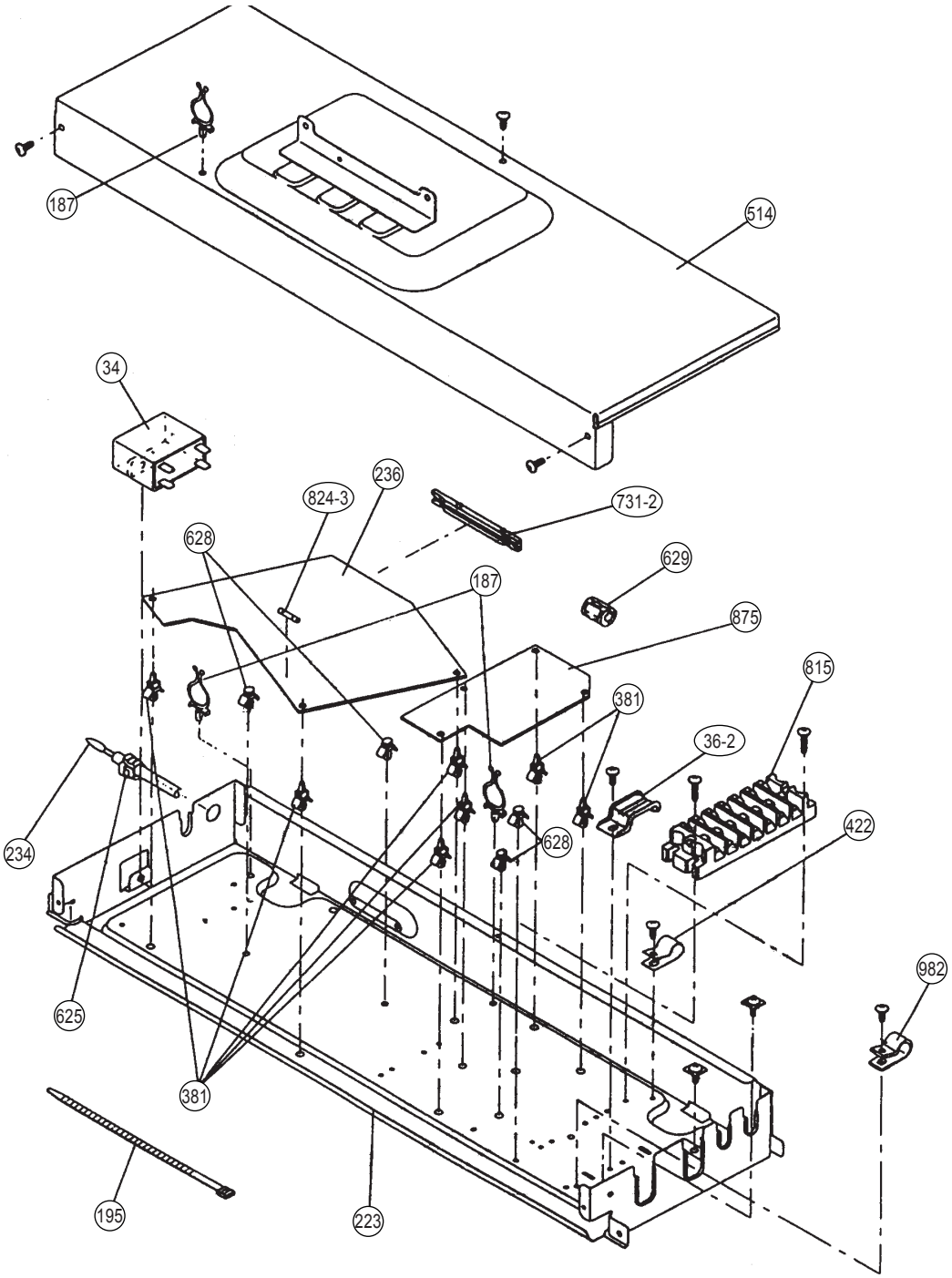


Models : AB＊A18TATA
AB＊A24TATA

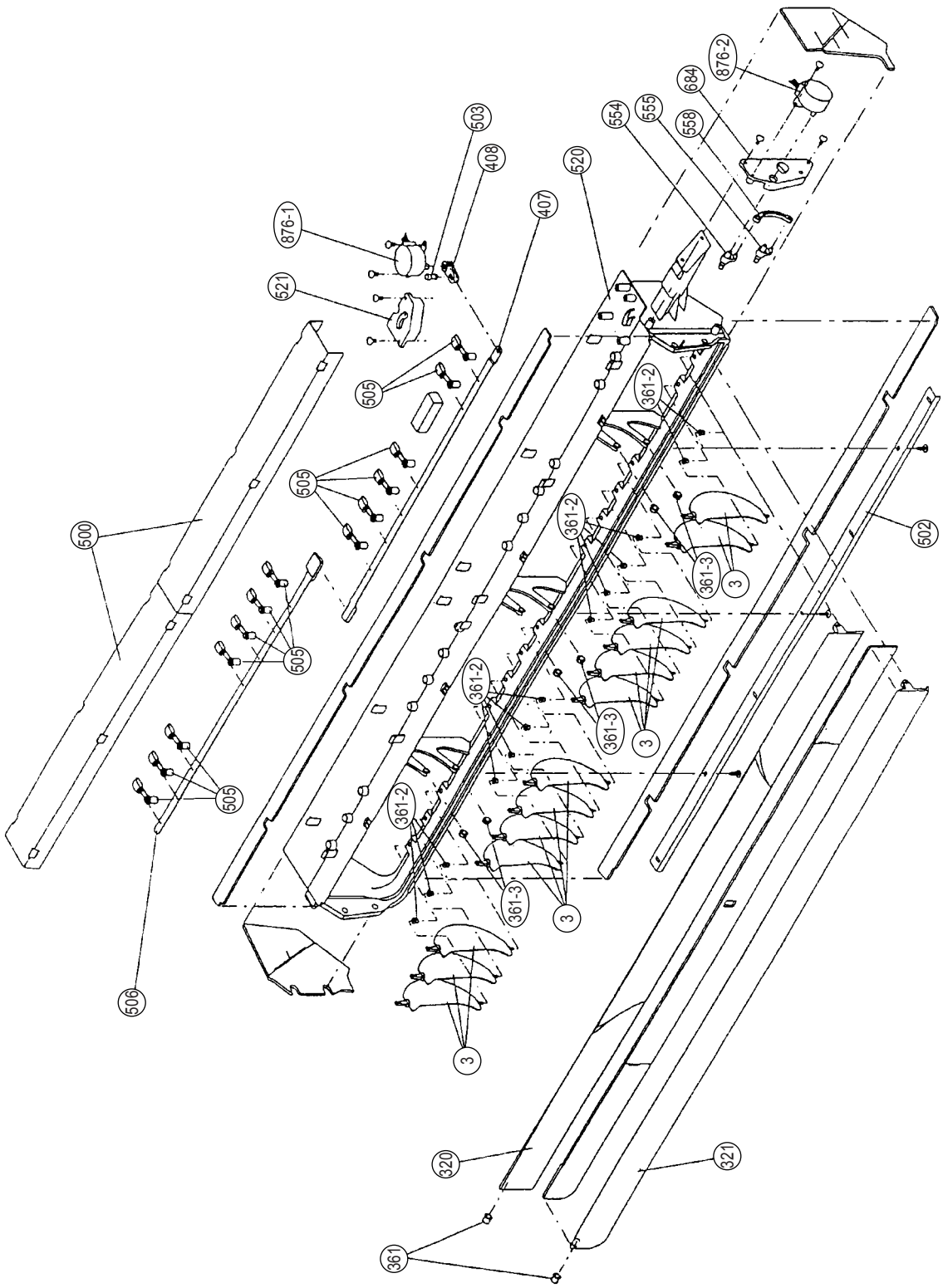




Models : AB＊A18TATA
AB＊A24TATA



Models : AB∗A18TATA
AB∗A24TATA



PARTS LIST

Models : AB∗A18TATA
AB∗A24TATA

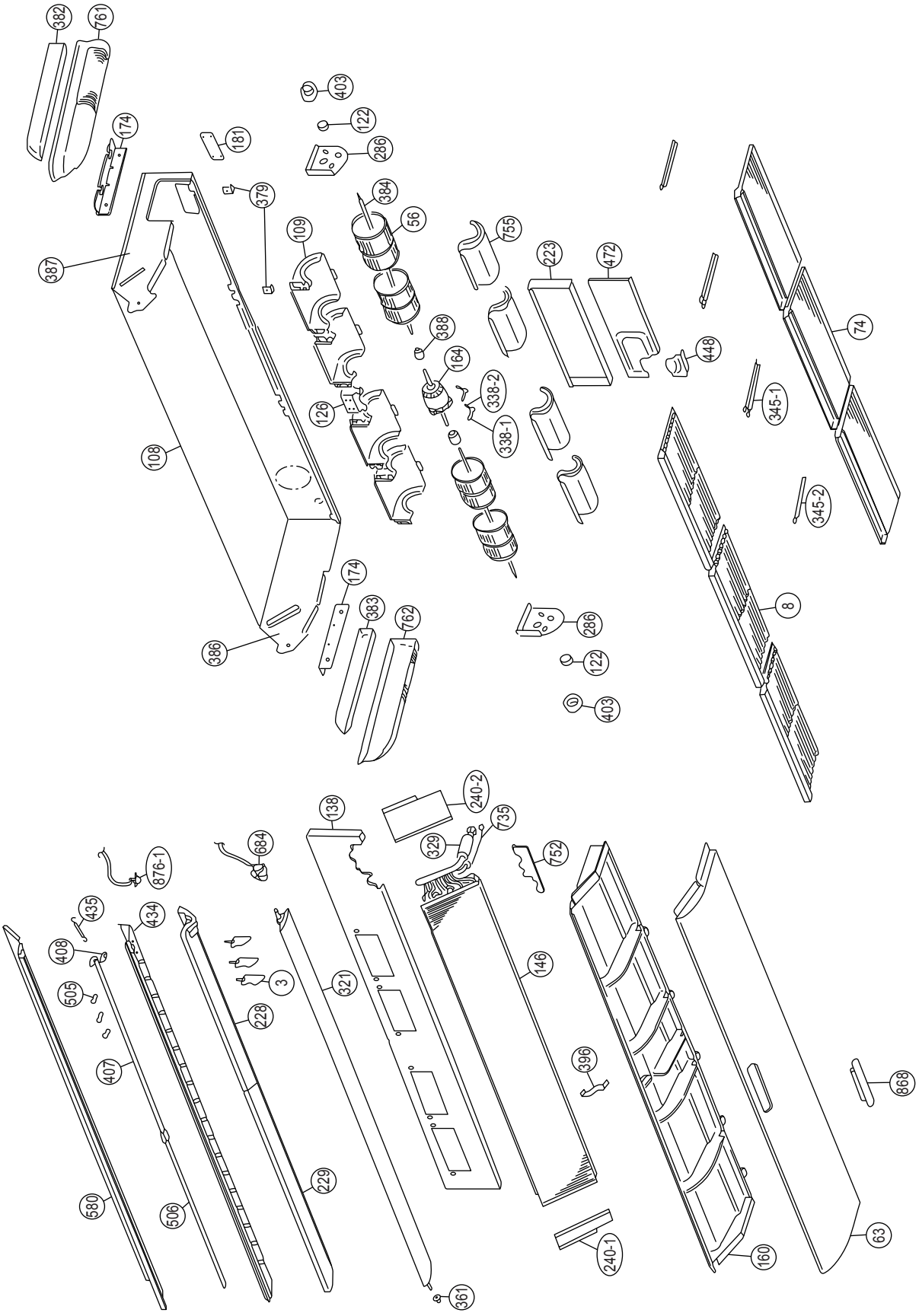
When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

INDOOR UNIT

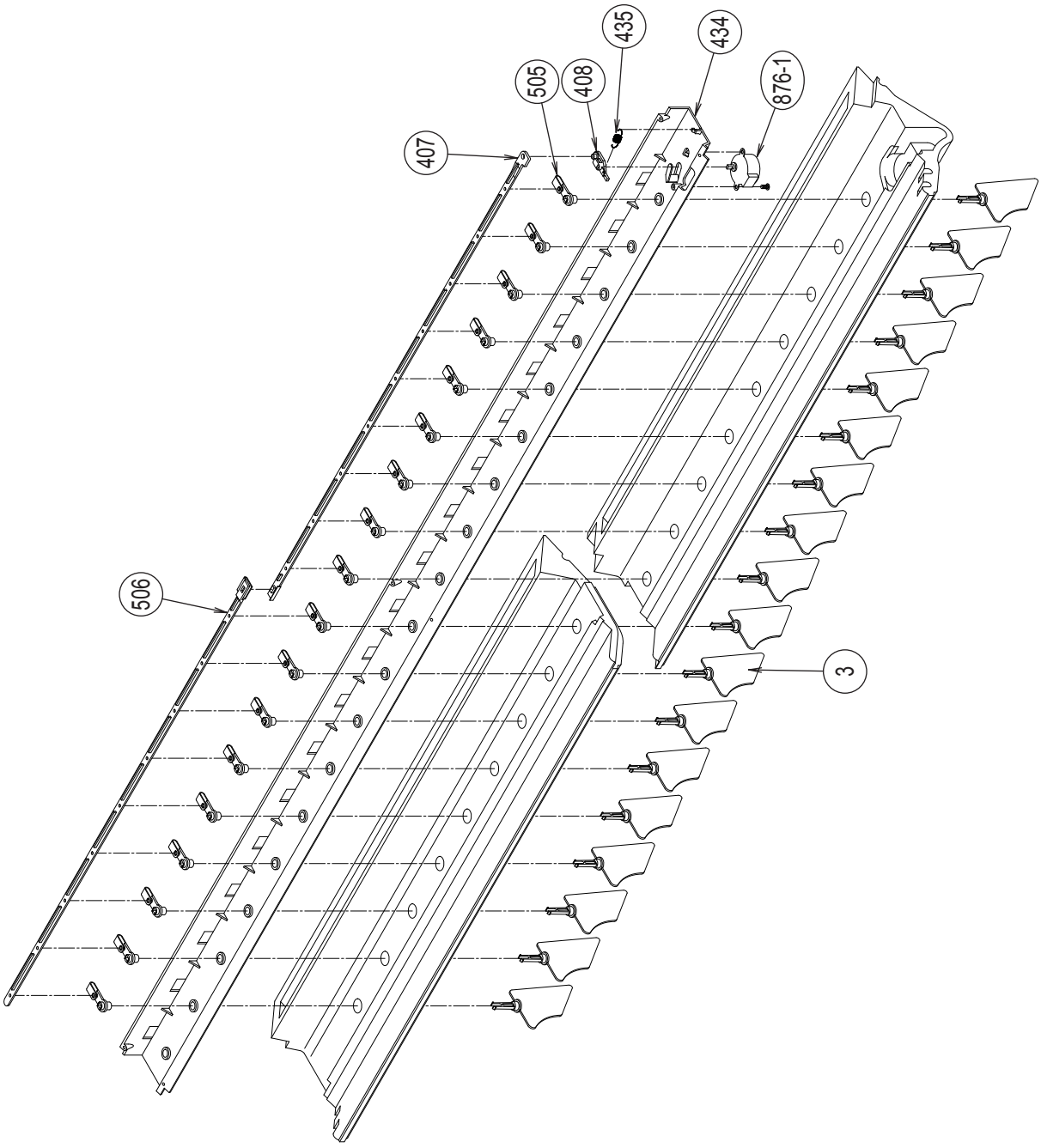
Ref. No.	Description	Part No.		Q'ty	Ref. No.	Description	Part No.		Q'ty
		AB∗A18TATA	AB∗A24TATA				AB∗A18TATA	AB∗A24TATA	
3	Louver	9358561010	9358561010		473	Filter Bracket	9358607008	9358607008	
8-1	Air Filter	9358567012	9358567012		488	Grille-G	9358533017	9358533017	
34	Capacitor (Fan Motor)	313810068203	9703306044		500	Protect Cover	9358564004	9358564004	
36-2	Cord Holder Metal	9356362008	9356362008		502	Support Stay	9358599006	9358599006	
56	Sirocco Fan Assy	9358621004	9358621004		503	Louver Shaft	9358557006	9358557006	
67	Rubber (Vibration-proof)	313659068604	313659068604		505	Louver Stopper	9358555002	9358555002	
68	Cap, Plastic	9358563007	9358563007		506	Louver Rod	9358559000	9358559000	
108	Base Assy	9359061014	9359061014		508	Cosmetic Panel-R	9358535011	9358535011	
109	Casing, Plastic	9358543009	9358543009		509	Cosmetic Panel-L	9358536018	9358536018	
124	Dew Proof Plate	9359196006	9359196006		514	Control Box Cover	9359097006	9359097006	
126	Motor Fixing Table Assy	9358591000	9358591000		520	Flap Base	9358537015	9358537015	
127	Drain Hose Assy	9359242000	9359242000		521	Louver Link Cover	9358558003	9358558003	
138	Separate Wall-A	9358584002	9358584002		552	Insulation (Eva.)-R	9358575000	9358575000	
146	Evaporator Assy	9359310013	9358870013		553	Insulation (Eva.)-L	9358857007	9358857007	
147	Inlet Pipe (Eva.) Assy, Welded	9359263005	------		554	Flap Link-Upper (Step Motor-V)	9358551004	9358551004	
160	Drain Pan Assy	9358568002	9358568002		555	Flap Link-Lower (Step Motor-V)	9358552001	9358552001	
164	Fan Motor Assy-IN	9600778029	9600778043		558	Motor Rod-A (Step Motor-V)	9358550007	9358550007	
173	Hanger Bracket-L	9358596005	9358596005		574-1	Evaporator Fixture-R (Bracket)	9358589007	9358589007	
174	Hanger Bracket-R	9358595008	9358595008		574-2	Evaporator Fixture-L (Bracket)	9358590003	9358590003	
184-1	Thermo. Spring-A	313728262708	313728262708		577	Catch TL-119	9359096009	9359096009	
187	Clamp No.1219	313361271706	313361271706		578	Base Bracket	9358586006	9358586006	
195	Clamp SKB-100	313361275805	313361275805			(Reinforcement Metal)			
196-1	Clamp SKB-3M	312300787605	312300787605		580	Top Cover	9358534014	9358534014	
223	Control Box	9358600016	9358600016		581	Protector Metal (F. Motor)	9359282006	9359282006	
234	Thermistor Assy-Room	9703299087	9703299087		588-1	Evaporator Bracket-R	9358587003	9358587003	
235	Thermistor Assy-Pipe	9701102068	9701102068		588-2	Evaporator Bracket-L	9358588000	9358588000	
236	Controllre PCB Assy	9705914124	9705914124		625	Cord Bushing KR-51	9359240006	9359240006	
320	Flap (Upper)-O	9358540015	9358540015		628	Locking Spacer-B	313005446558	313005446558	
321	Flap (Lower)	9358541012	9358541012		629	EMI Filter	0400056133	0400056133	
329	Coupling Pipe Assy	9359267003	9358819005		652-1	Thermistor Holder Pipe	313806262805	313806262805	
338	Motor Fixture	9358594001	9358594001		653-1	Bolt (Fan Motor Fixing)	0700156014	0700156014	
361	Bushing	9357942001	9357942001		653-2	Bolt	0700190018	0700190018	
361-2	Bushing-B, Plastic	9358554005	9358554005		684	Motor Base	9358562000	9358562000	
361-3	Bushing-C, Plastic	9358553008	9358553008		731-2	Holder (Guide Rail)	0600241018	0600241018	
365-1	Special Screw	9359092001	9359092001		735	Distributor Assy	------	9358814000	
365-2	Special Screw	9359091004	9359091004		755	Casing Cover	9358544006	9358544006	
381	Locking Spacer, KGLS-4S	313209391506	313209391506		764	Drain Cap	9358746004	9358746004	
385	Indicator PCB Assy	9701873012	9701873012		771	Panel Assy "FUJI"	9359076032	9359076032	
	EZ-0964HSE-D				815	Terminal-7P	9703403026	9703403026	
407	Motor Rod	9358560006	9358560006		824-3	Fuse BET 3.15A-250V	0600222512	0600222512	
408	Louver Link	9358556009	9358556009		868	PCB Holder	9358547007	9358547007	
416	Insulation (Panel)-A	9358574003	9358574003		870-1	Arm	9358565001	9358565001	
417	Insulation (Panel)-B	9358914007	9358914007		870-2	Center Arm	9359280002	9359280002	
418	Insulation (Flap Base)	9358572009	9358572009		875	Filter PCB Assy	9704561305	9704561305	
422	Clamp NK-10N	9359183006	9359183006		876-1	Step Motor-H	9359106012	9359106012	
439	Drain Pan Wire	9358598009	9358598009		876-2	Step Motor-V	9359105015	9359105015	
443	Arm Bracket	9359281009	9359281009		923	Control Box Bracket	9358717004	9358717004	
470	Separate Wall-B	9358585009	9358585009		982	Cord Clamp	9357886008	9357886008	
472	Grille Support	9358602003	9358602003						

Optional Parts For Indoor Unit			
Ref. No.	Description	Part No.	Q'ty
772	Joint Pipe - A	9302812021	

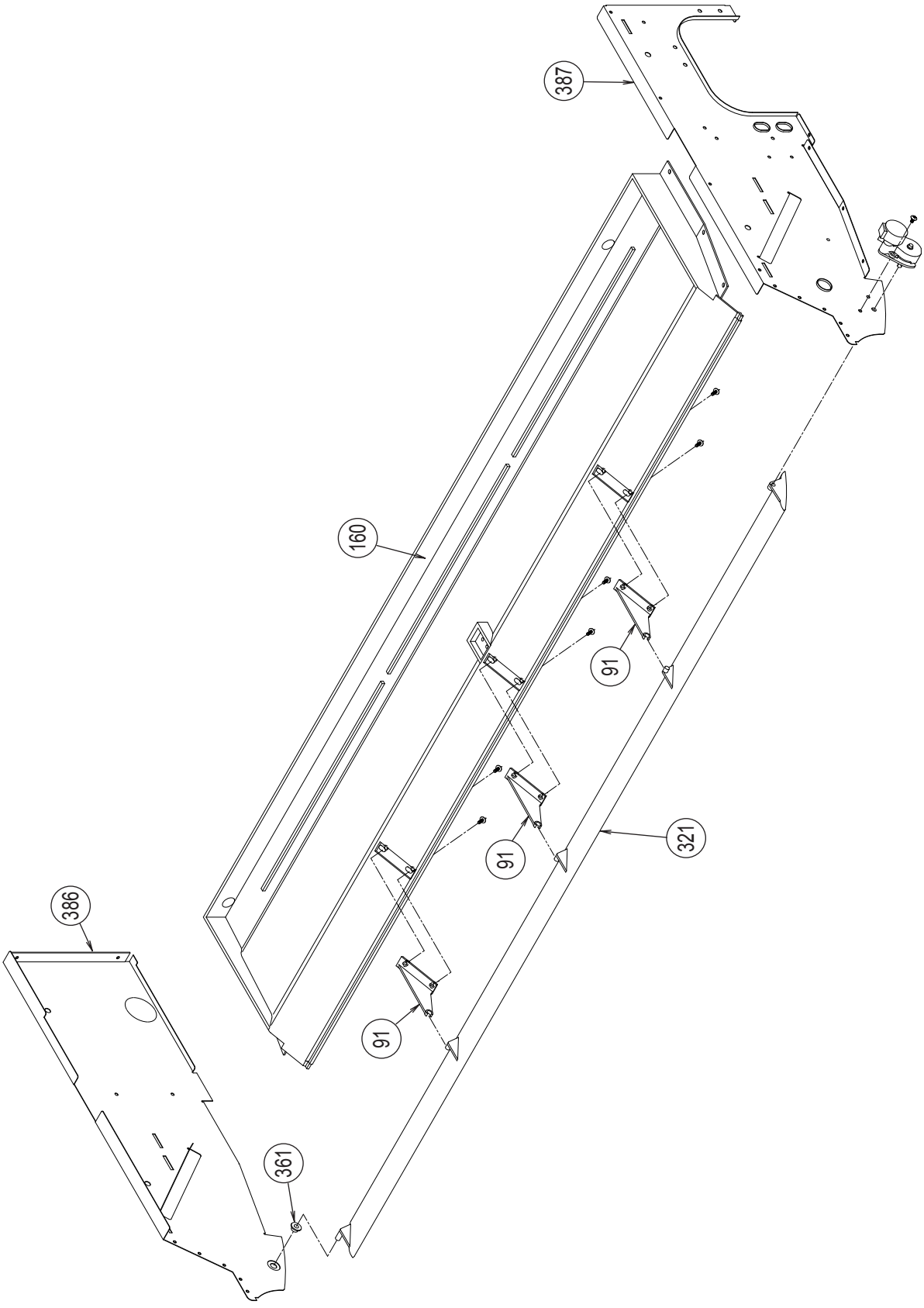
Models : AB＊A30TATA
AB＊A36TATA
AB＊A45TATA



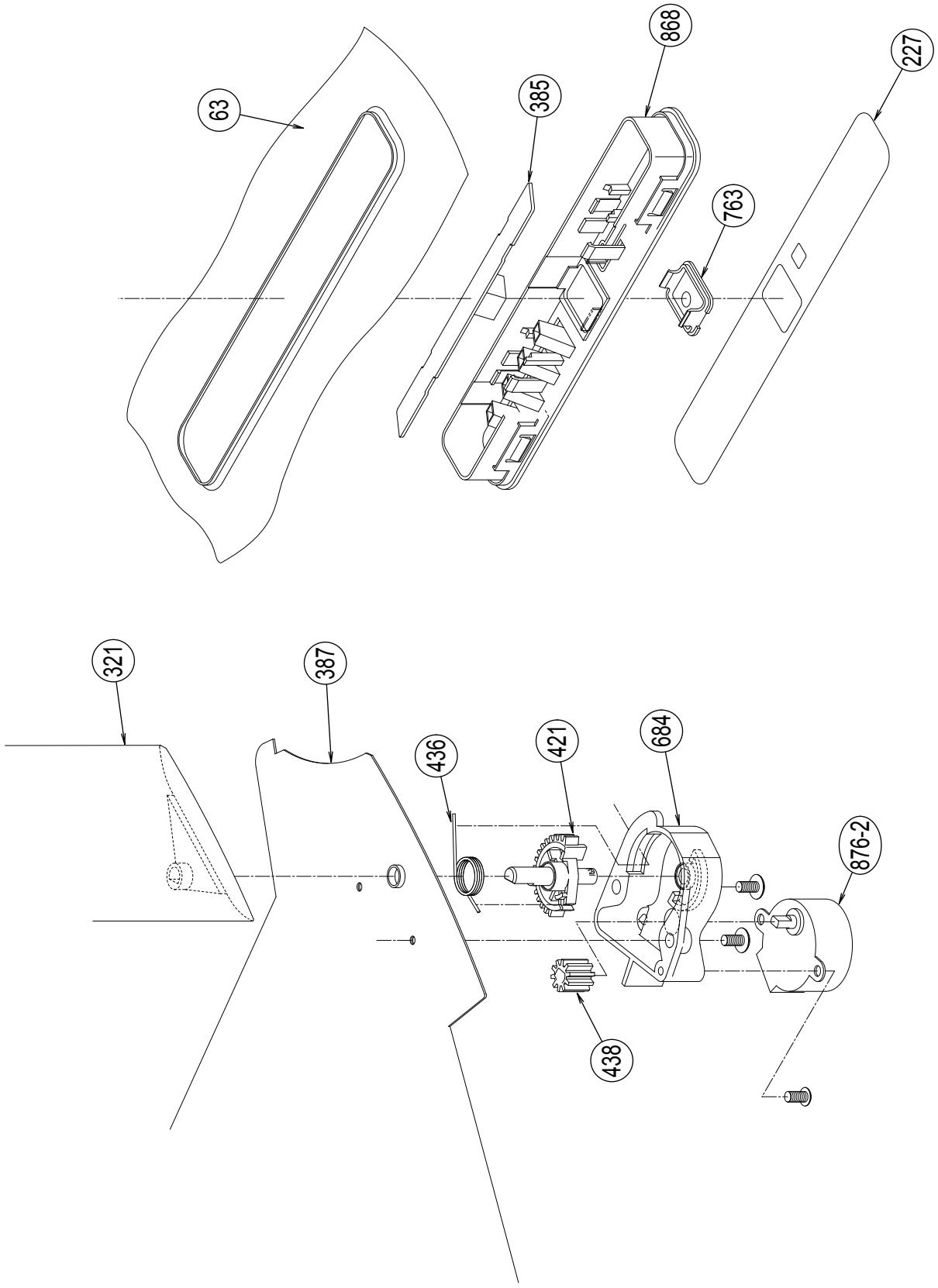
Models : AB∗A30TATA
AB∗A36TATA
AB∗A45TATA



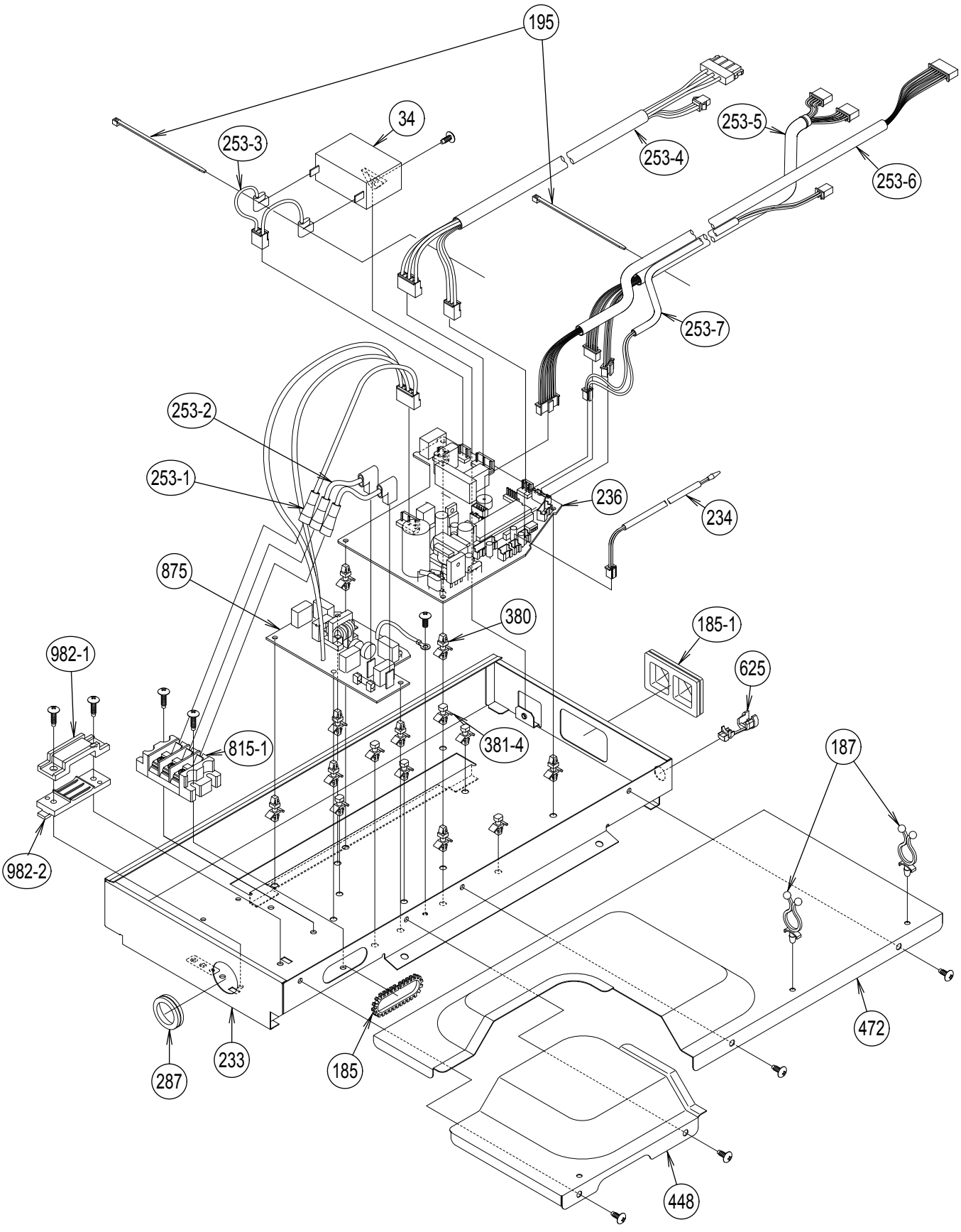
Models : AB＊A30TATA
AB＊A36TATA
AB＊A45TATA



Models : AB＊A30TATA
AB＊A36TATA
AB＊A45TATA



Models : AB＊A30TATA
AB＊A36TATA
AB＊A45TATA



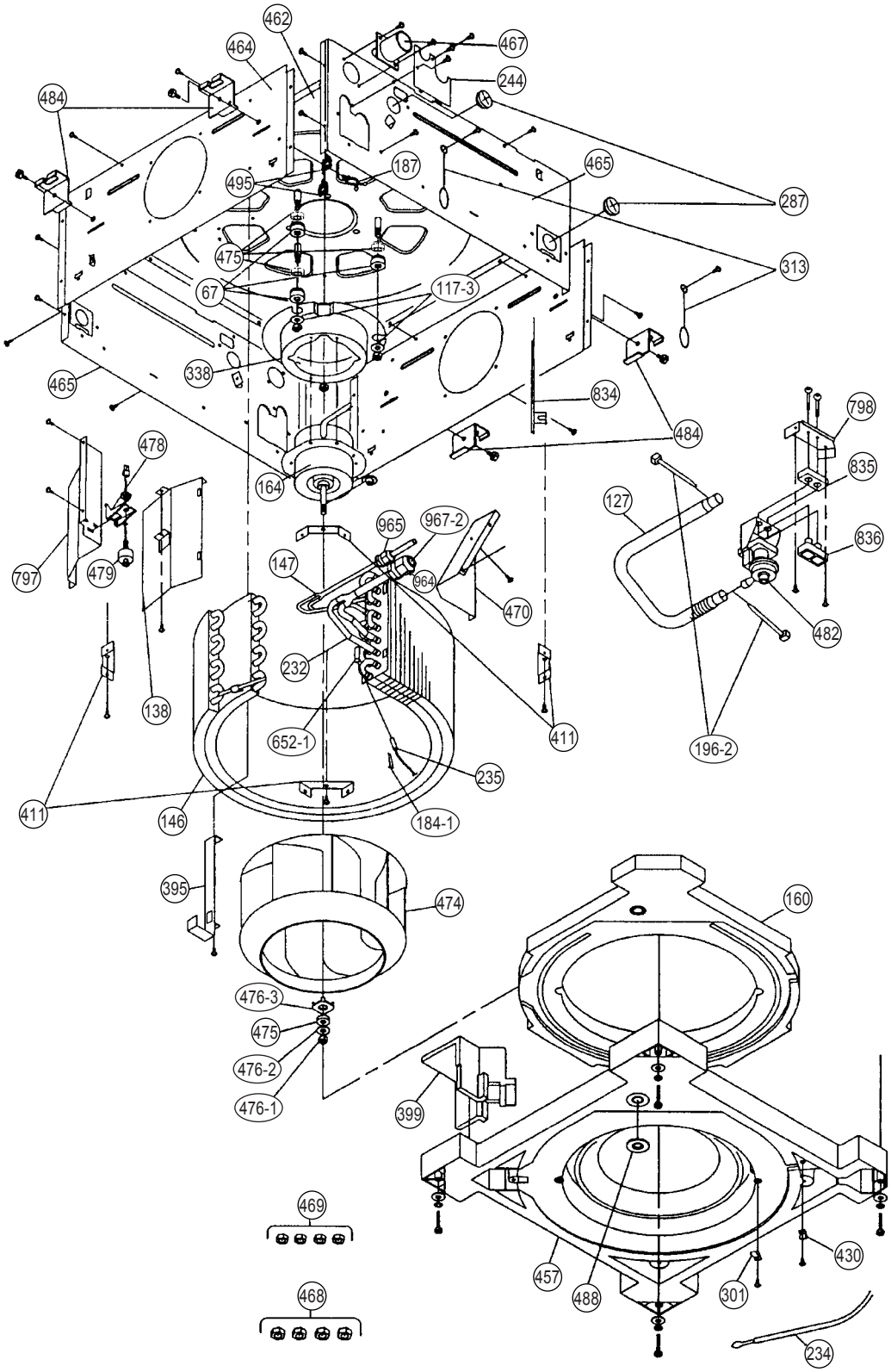
Models : AB＊A30TATA
AB＊A36TATA
AB＊A45TATA

INDOOR UNIT

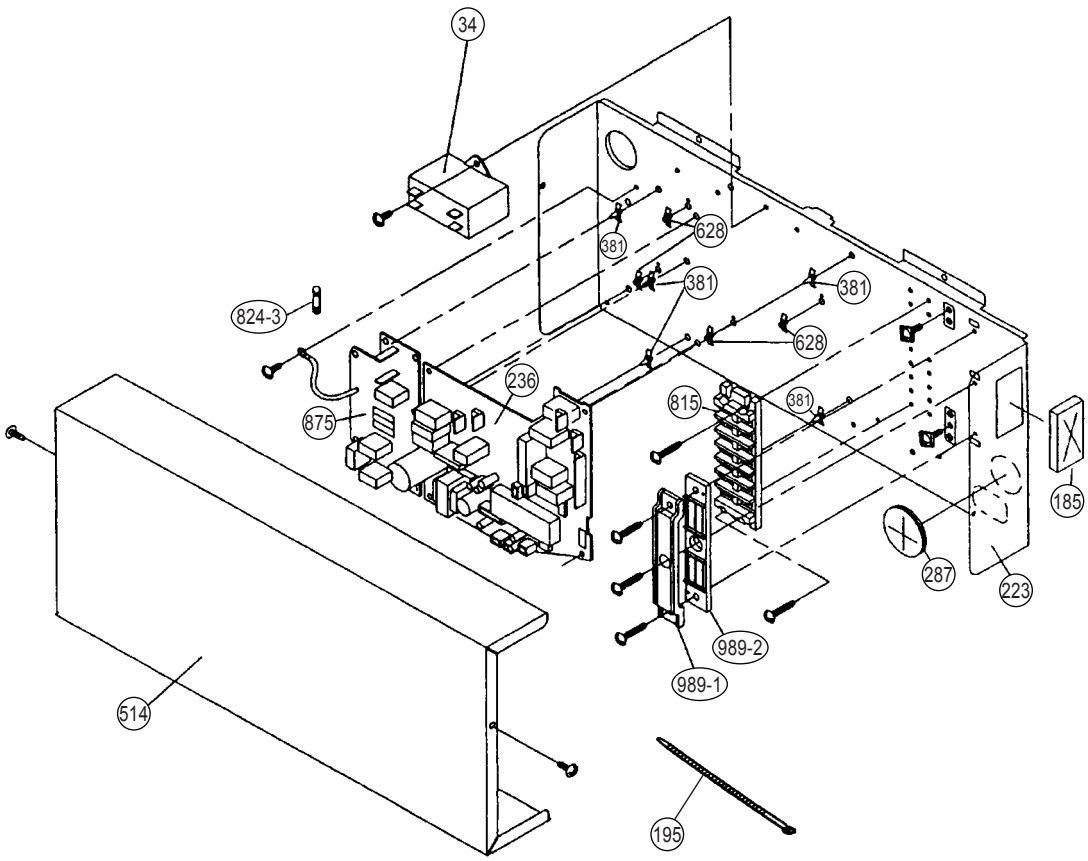
When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

Ref. No.	Description	Part No.			Q'ty	Ref. No.	Description	Part No.			Q'ty
		AB＊A30TATA	AB＊A36TATA	AB＊A45TATA				AB＊A30TATA	AB＊A36TATA	AB＊A45TATA	
3	Louver	9359719007	9359719007	9359719007		345-2	Filter Guide-L	9359693000	9359693000	9359693000	
8	Air Filter	9359739005	9359739005	9359739005		361	Bushing	9359733003	9359733003	9359733003	
34	Capacitor(Fan Motor)	9900270216	9900270216	9900270216		379	Hinge Grille Plate	9359694007	9359694007	9359694007	
56	Sirocco Fan Assy	9359701002	9359701002	9359701002		380	Locking Spacer KGLS-6S	313209391403	313209391403	313209391403	
63	Front Panel	9359734000	9359734000	9359734000		381-4	Locking Spacer	0600118075	0600118075	0600118075	
74	Intake Grille	9359738008	9359738008	9359738008		382	Decoration Cover-R	9359744009	9359744009	9359744009	
91	Hinge	9359699002	9359699002	9359699002		383	Decoration Cover-L	9359745006	9359745006	9359745006	
108	Base Assy	9359680000	9359680000	9359680000		384	Shaft, (Sirocco Fan)	9359707004	9359707004	9359707004	
109	Casing	9359704003	9359704003	9359704003		385	Indicator PCB Assy	9702260019	9702260019	9702260019	
122	Shaft Holder-B	9357921006	9357921006	9357921006		386	Panel-L	9359685005	9359685005	9359685005	
126	Motor Fixing Table	9359681007	9359681007	9359681007		387	Panel-R	9359683001	9359683001	9359683001	
138	Separate Wall	9359700005	9359700005	9359700005		388	Joint Assy	9359706007	9359706007	9359706007	
146	Evaporator Assy	9359696001	9359696001	9359696001		396	Reinforcement Metal	9359697008	9359697008	9359697008	
160	Drain Pan	9359698005	9359698005	9359698005		403	Shaft Holder Fixture	9359687009	9359687009	9359687009	
164	Fan Motor Assy-IN	9360457004	9360457004	9360457004		407	Motor Rod	9359723004	9359723004	9359723004	
174	Hanger Bracket	9359742005	9359742005	9359742005		408	Louver Link	9359726005	9359726005	9359726005	
181	Hole Cover	9359691006	9359691006	9359691006		424	Sector Gear	9359729006	9359729006	9359729006	
185-1	Rubber Bushing	9357376004	9357376004	9357376004		434	Louver Base	9359718000	9359718000	9359718000	
186	Edge Cover	9361049017	9361049017	9361049017		435	Louver Spring	9359720003	9359720003	9359720003	
187	Clamp No.1219	313361271706	313361271706	313361271706		436	Flap Spring	9359730002	9359730002	9359730002	
195	Clamp SKB-100	313361275805	313361275805	313361275805		438	Pinion Gear	9359728009	9359728009	9359728009	
223	Control Box Assy	9359708001	9359708001	9359708001		448	Control Box Metal-B	9359713005	9359713005	9359713005	
227	Badge "FUJI"	9359735014	9359735014	9359735014		472	Control Box Metal-A	9359712008	9359712008	9359712008	
228	Insulation (Louver)-R	9359721000	9359721000	9359721000		505	Louver Stopper	9359724001	9359724001	9359724001	
229	Insulation (Louver)-L	9359722007	9359722007	9359722007		506	Louver Rod	9359725008	9359725008	9359725008	
234	Thermistor Assy-Room	9703299025	9703299025	9703299025		580	Top Cover	9359737001	9359737001	9359737001	
236	Controller PCB Assy	9705914131	9705914179	9705914186		625	Cord Bushing	9359240006	9359240006	9359240006	
240-1	Pipe Cover-L	9359690009	9359690009	9359690009		684	Motor Base	9359727002	9359727002	9359727002	
240-2	Pipe Cover-R	9359689003	9359689003	9359689003		735	Distributor Assy	9363002003	9363002003	9363002003	
253-1	Wire Assy (Terminal)	9703440014	9703440014	9703440014		752	Pipe Fixture	9359688006	9359688006	9359688006	
253-2	Wire Assy (Terminal)	9703441011	9703441011	9703441011		755	Casing Cover	9359705000	9359705000	9359705000	
253-3	Wire Assy (Connector)	9702311018	9702311018	9702311018		761	Side Cover-R	9359740001	9359740001	9359740001	
253-4	Wire Assy (Connector)	9702323011	9702323011	9702323011		762	Side Cover-L	9359741008	9359741008	9359741008	
253-5	Wire Assy (Connector)	9702319014	9702319014	9702319014		763	Receiver Cover	9359714002	9359714002	9359714002	
253-6	Wire Assy (Connector)	9702317010	9702317010	9702317010		815	Terminal-7P	9703403026	9703403026	9703403026	
253-7	Wire Assy (Connector)	9702318017	9702318017	9702318017		868	PCB Holder	9359736004	9359736004	9359736004	
286	Shaft Holder Bracket	9359686002	9359686002	9359686002		875	Filter PCB Assy	9704561312	9704561312	9704561312	
321	Flap Assy	9359731009	9359731009	9359731009		876-1	Step Motor-H	9360479013	9360479013	9360479013	
329	Coupling Pipe Assy	9361160002	9360456007	9360456007		876-2	Step Motor-V	9360307026	9360307026	9360307026	
338-1	Motor Fixture	9359702009	9359702009	9359702009		982-1	Cord Clamp-A	9359820017	9359820017	9359820017	
338-2	Motor Fixture-B	9359703006	9359703006	9359703006		982-2	Cord Clamp-B	9359821014	9359821014	9359821014	
345-1	Filter Guide-R	9359692003	9359692003	9359692003							

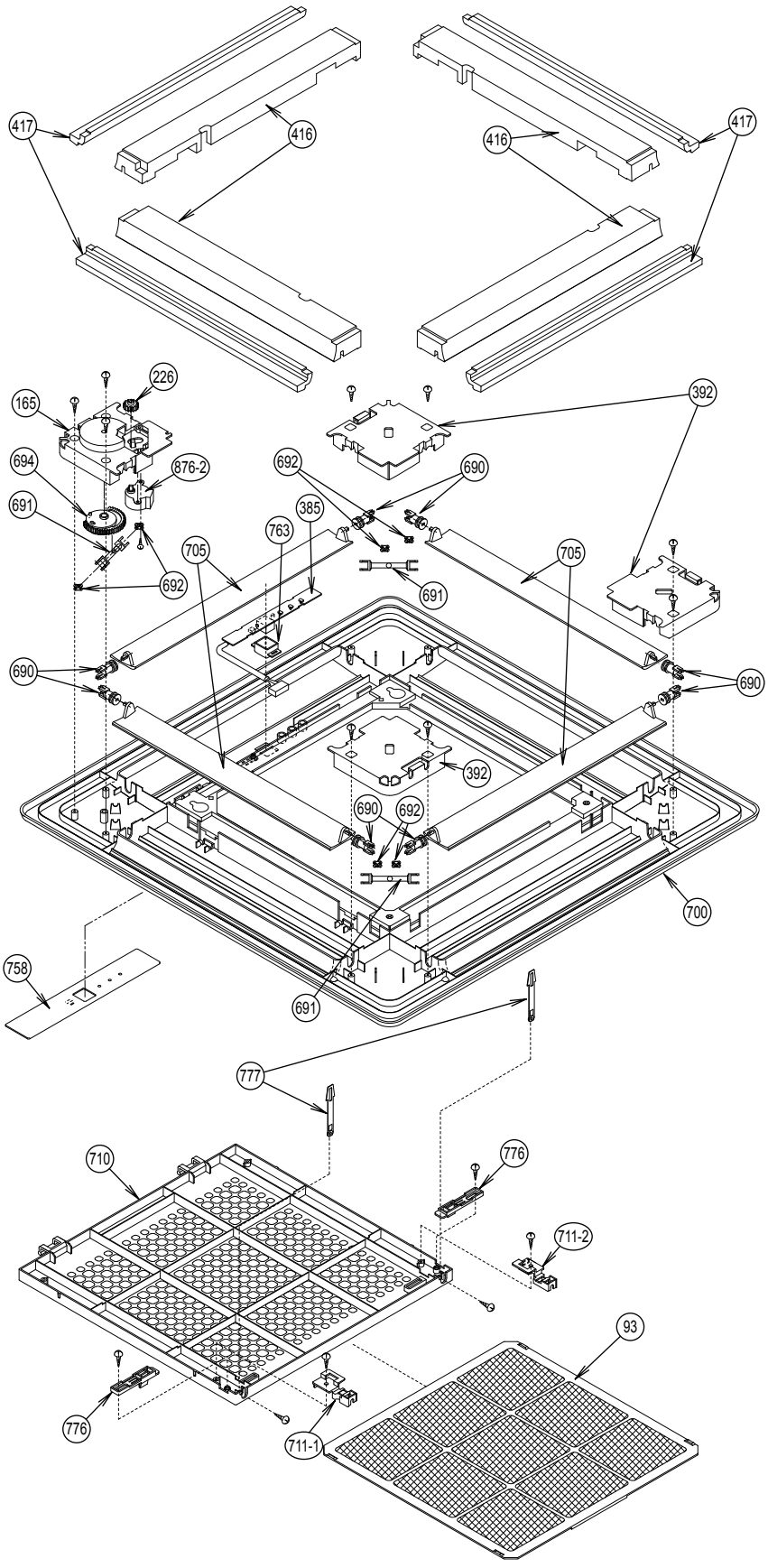
Model : AUXA18TATA



Model : AUXA18TATA



Model : AUXA18TATA



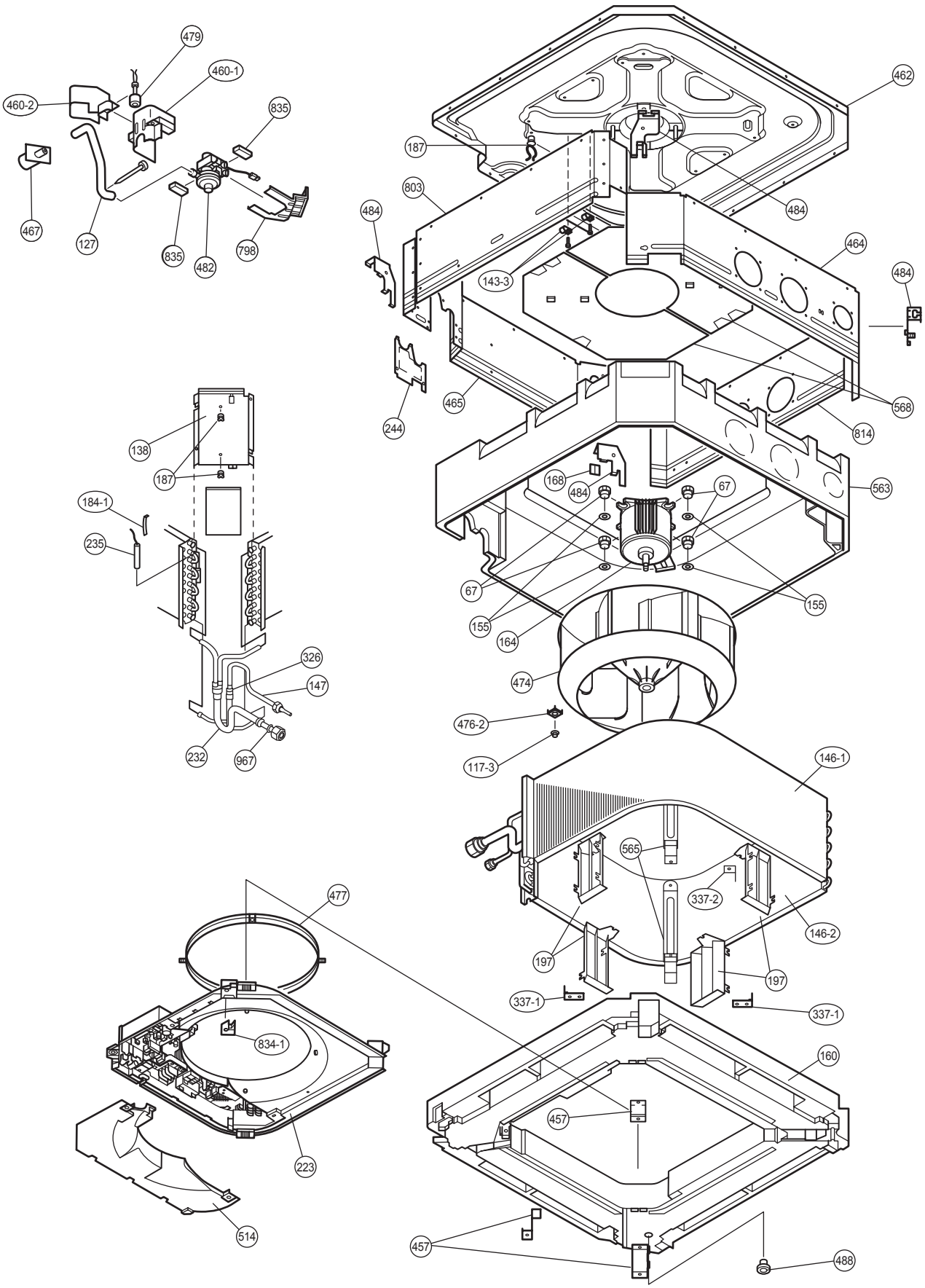
Model : AUXA18TATA

INDOOR UNIT

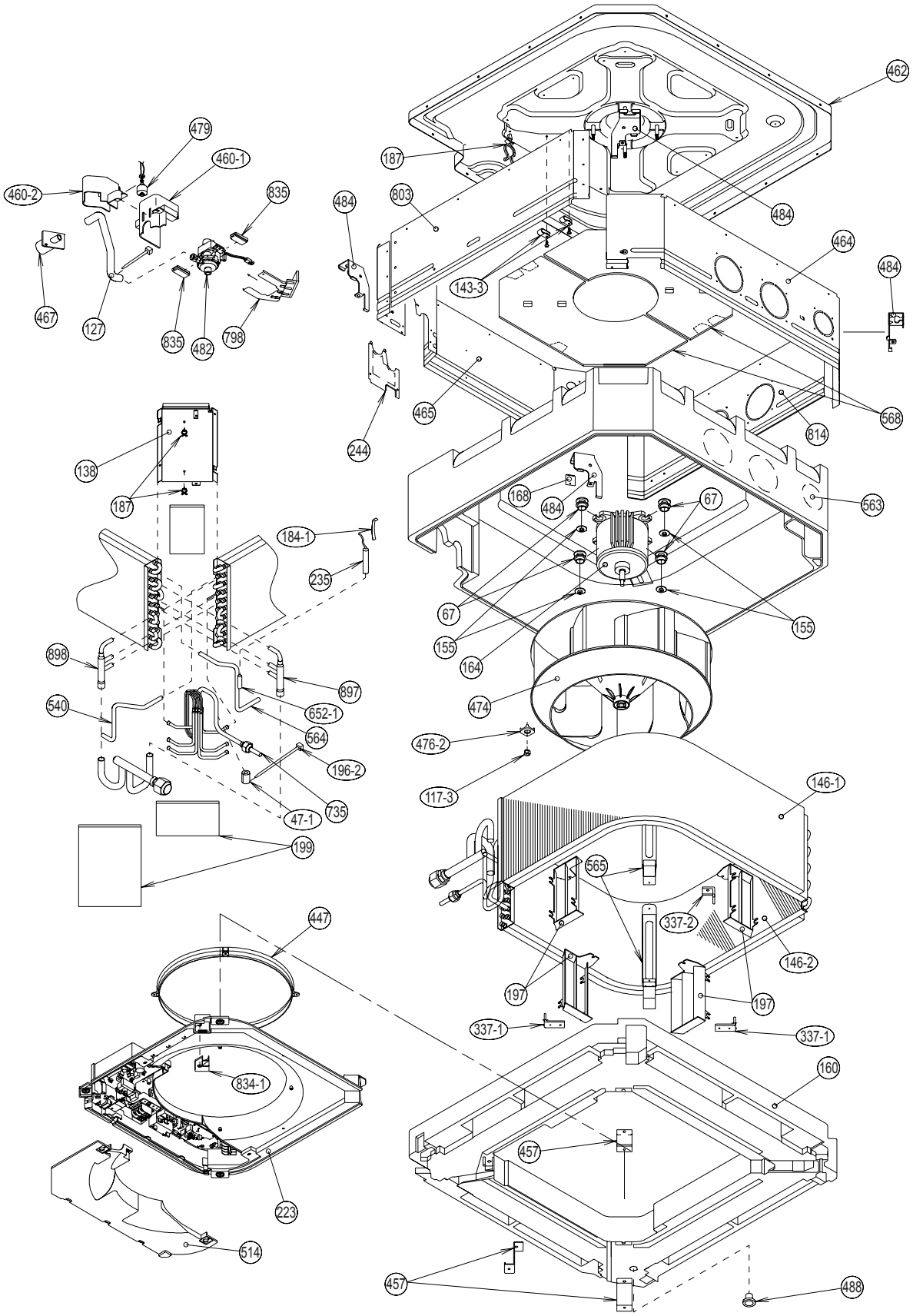
When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

Ref. No.	Description	Part No. AUXA18TATA	Q'ty	Ref. No.	Description	Part No. AUXA18TATA	Q'ty
34	Capacitor (Fan Motor)	9700468165		465	Body-B	9359645009	
67	Rubber	9361279001		467	Drain Port	313005415658	
117-3	Sepecial Washer M6	313306391007		468	Special Nut-A(Large)	313005446653	
127	Drain Hose	9359659013		469	Special Nut-B(Small)	313005446759	
138	Separate Wall-A	9359647003		470	Separate Wall-B	9359648000	
146	Evaporator Assy	9360640017		474	Turbo Fan	9359658009	
147	Inlet Pipe(Eva.) Assy	9360010018		475	Tubro Fan Rubber	313005445054	
160	Drain Pan	9359651000		476-1	Special Nut-M8	313005360755	
164	Fan Motor Assy-IN	9600868010		476-2	Special Washer	301801185049	
184-1	Thermo. Spring-A	313728262708		476-3	Special Washer	9359954002	
185	Rubber Bushing	9364122014		478	Sensor M. Bracket	9359654001	
187	Clamp No.1219	313361271706		479	Float Switch	313005416154	
195	Clamp SKB-100	313361275805		482	Pump Unit	9359974000	
196-2	Clamp SKB-150	313035356905		484	Hanger Metal	9359644002	
223	Control Box	9359661016		488	Drain Pan Plug	9359653004	
232	Outlet Pipe(Eva.) Assy	9360011015		495	Clamp No.2U46	9352715006	
234	Thermistor Assy-Room	9703299032		514	Control Box Cover	9359662006	
235	Thermistor Assy-Pipe	9701947027		628	Locking Spacer-B	313005446558	
236	Controller PCB Assy	9705914100		652-1	Therm. Holder Pipe	313806262805	
244	Pipe Cover	9359646006		797	Separate Wall-C	9359649007	
287	Cap (Power)	9352173011		798	Pump Hook Bracket	9359650003	
301	Clamp NK-2N	313985355201		815	Terminal - 7P	9703403019	
313	Hooking Wire	9359983002		824-3	Fuse	0600222512	
338	Motor Fixture	9359656005		834	Wire Cover	9359878001	
381	Locking Spacer	313209391506		835	Cushion-A, For Pump	9352211003	
395	Supporter (Eva.)	9359669005		836	Cushion-B, For Pump	9356084016	
399	Air Duct	9359660002		875	Filter PCB Assy	9704561282	
411	Supporter-A	9359655008		964	Flare Nut-A	313996239804	
430	Clamp NK-7N	313095365602		965	Flare Nut-B	9351062019	
457	Drain Pan Support	9359652007		967-2	Bonnet-B	9301858006	
462	TTop Cover Plate	9359642015		989-1	Cord Clamp-A	9359822011	
464	Body-A	9359643005		989-2	Cord Clamp-B	9359823018	

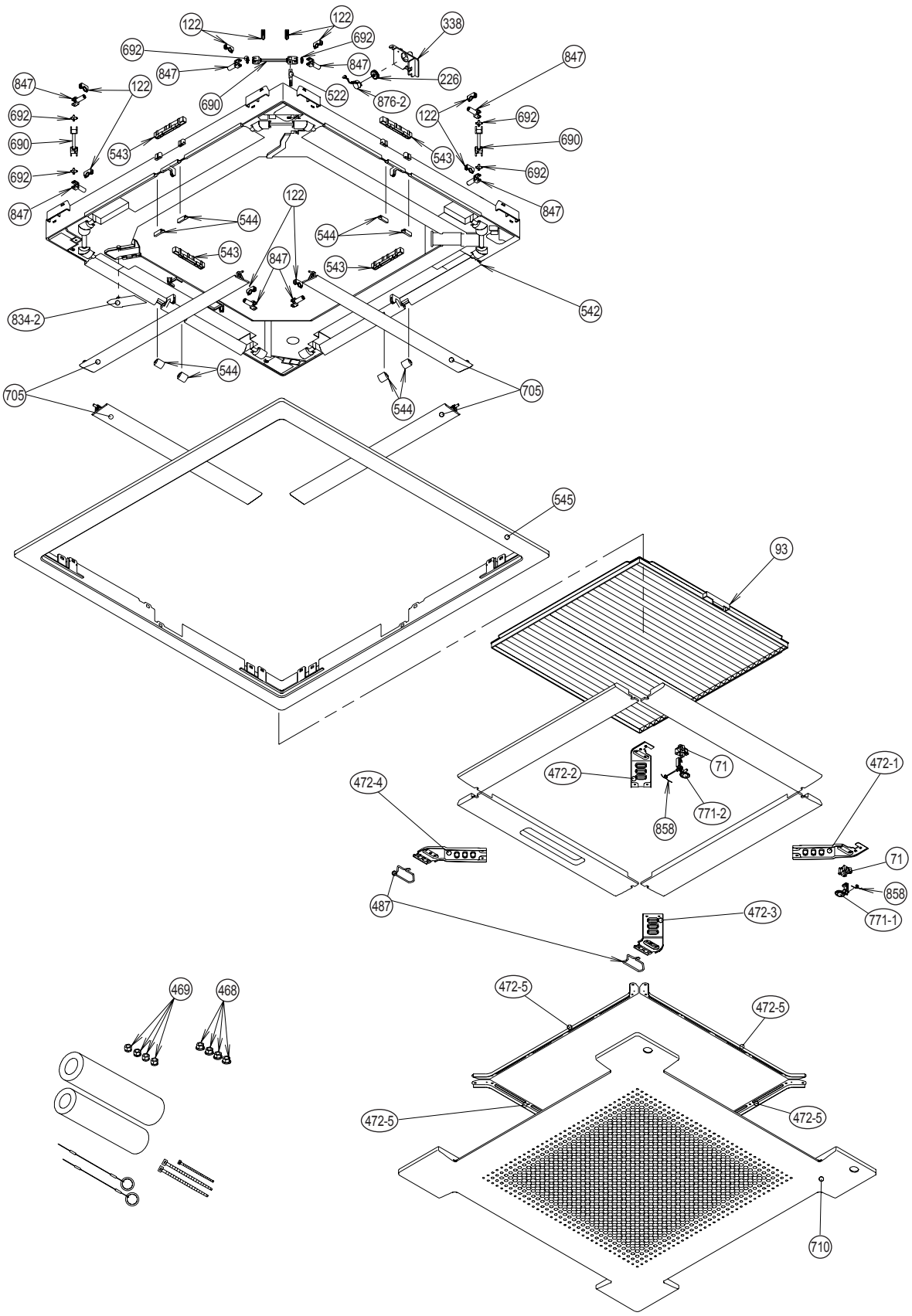
Models : AU＊A25TATA
AU＊A30TATA



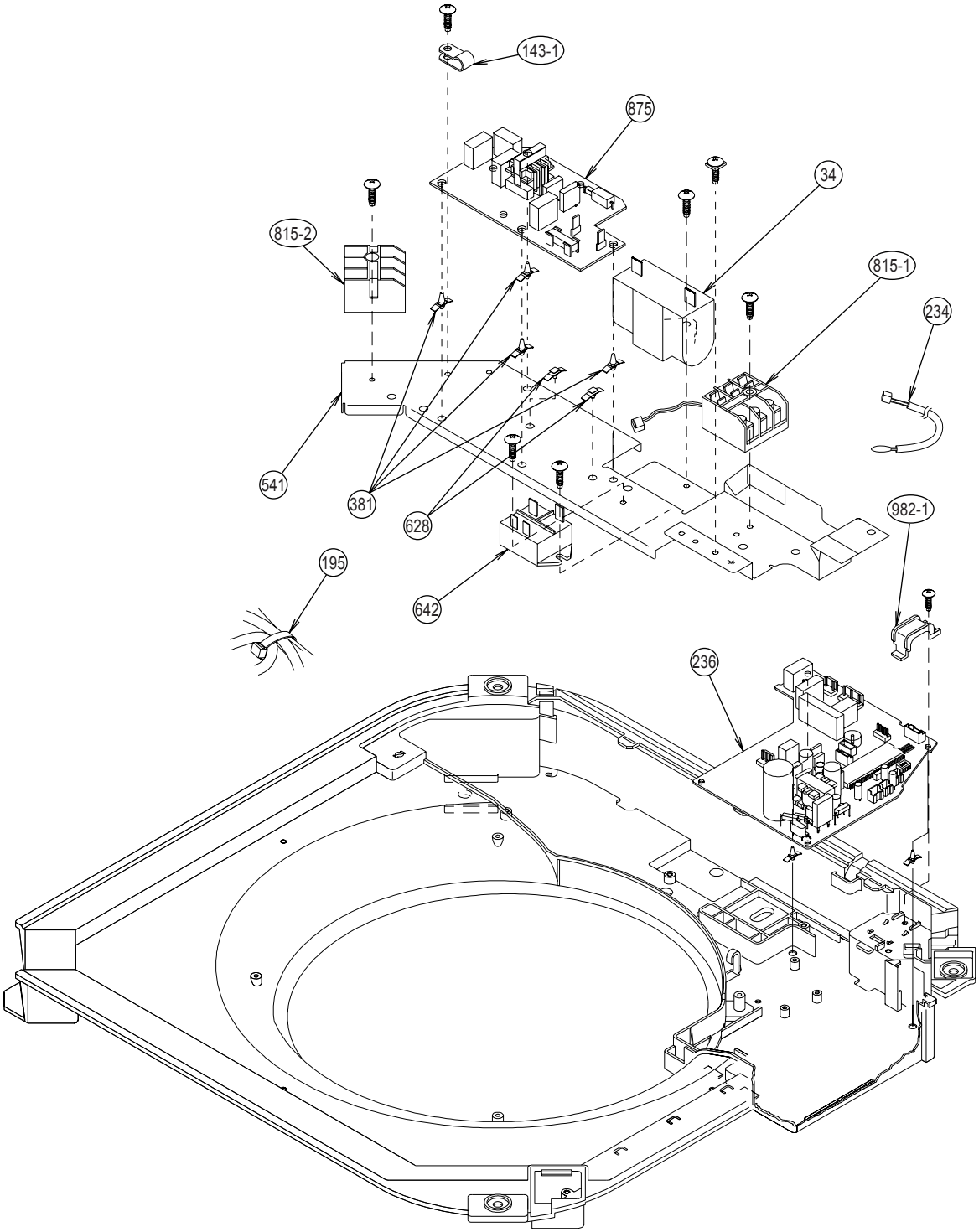
Models : AU＊A36TATA
AU＊A45TATA



Models : AU＊A25TATA, AU＊A30TATA
AU＊A36TATA, AU＊A45TATA



Models : AU＊A25TATA, AU＊A30TATA
AU＊A36TATA, AU＊A45TATA



Models : AU＊A25TATA
AU＊A30TATA

INDOOR UNIT

When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

Ref. No.	Description	Part No.		Q'ty	Ref. No.	Description	Part No.		Q'ty
		AU＊A25TATA	AU＊A30TATA				AU＊A25TATA	AU＊A30TATA	
34	Capacitor (Fan Motor)	9703306068	9703306068		472-1	Grille Reinforcement-A	9362738002	9362738002	
47-1	Rubber (Discharge Pipe)	313194159807	313194159807		472-2	Grille Reinforcement-B	9362739009	9362739009	
61	Decoration Plate	9363133004	9363133004		472-3	Grille Reinforcement-C	9362740005	9362740005	
67	Rubber (Vibration-proof)	9362783002	9362783002		472-4	Grille Reinforcement-D	9362741002	9362741002	
71	Grille Hook Holder	9362782005	9362782005		472-5	Grille Reinforcement-E	9362742009	9362742009	
93	Filter	9362766005	9362766005		474	Turbo Fan Assy	9362803014	9362803014	
117-3	Hex. Nut w/Spring Washer	301721180114	301721180114		476-2	Special Washer	9362756006	9362756006	
122	Louver Support Holder	9362799003	9362799003		479	Float Switch	9703285004	9703285004	
127	Drain Hose	9362784009	9362784009		482	Pump Unit	9703125010	9703125010	
138	Separate Wall	9362737005	9362737005		484	Hook	9362736008	9362736008	
143-1	Clamp NK-3N	313361274700	313361274700		487	Grille Hinge Wire	9362754002	9362754002	
143-3	Clamp NK-6N	9305657001	9305657001		488	Drain Pan Plug	313005174654	313005174654	
146-1	Evaporator-A Assy	9364172002	9364172002		514	Control Box Cover	9362763004	9362763004	
147	Inlet Pipe (Eva) Assy	9364126005	9364126005		522	Joint Gear	9362772006	9362772006	
155	Special Nut M6	9307615016	9307615016		541	Terminal Plate	9363642001	9363642001	
160	Drain Pan Assy	9362804004	9362804004		542	Panel Base	9362759014	9362759014	
164	Fan Motor Assy-IN	9600878019	9600878019		543	Panel Frame Holder	9362761017	9362761017	
168	Cabinet-E	9362735001	9362735001		544	Panel Base Holder	9362760010	9362760010	
184-1	Thermo. Spring-A	313728262708	313728262708		545	Panel Frame	9362758017	9362758017	
187	Clamp No.1219	313361271706	313361271706		563	Insulation (Inner Box)	9362768009	9362768009	
195	Clamp SKB-100	313361275805	313361275805		565	Eva. Holder Assy	9362802017	9362802017	
196-2	Clamp SKB-150	313035356905	313035356905		568	Noise Insulation	9363143003	9363143003	
197	Wind Guide Board	9363117004	9363117004		628	Locking Spacer-B	313005446558	313005446558	
223	Control Box	9362762007	9362762007		652-1	Therm. Holder Pipe	313806262805	313806262805	
226	Motor Gear	9362764001	9362764001		690	Joint-A	9362773003	9362773003	
232	Outlet Pipe (Eva) Assy	9364127002	9364127002		692	Joint Shaft	9362771009	9362771009	
234	Thermistor Assy-Room	9703299025	9703299025		705	Louver	9362769013	9362769013	
235	Thermistor Assy-Pipe	9703297014	9703297014		710	Intake Grille-B	9362854016	9362854016	
236	Controller PCB Assy	9705914117	9705914148		777-1	Grille Hook-A	9362779012	9362779012	
244	Pipe Cover	9362748001	9362748001		777-2	Grille Hook-B	9362778015	9362778015	
326	Joint, 3-Way	9359419006	9359419006		798	Pump Hook Bracket	9362753005	9362753005	
337-1	Reinforcement (Eva)-A	9362749008	9362749008		803	Cabinet-D	9362734004	9362734004	
337-2	Reinforcement (Eva)-B	9362750004	9362750004		814	Cabinet-C	9362733007	9362733007	
338	Motor Holder	9362765008	9362765008		815-1	Terminal 3P	9306489151	9306489151	
381	Locking Spacer	313209391506	313209391506		815-2	Terminal 3P	9703345012	9703345012	
457	Reinforcement (Drain Pan)	9362757003	9362757003		824-3	Fuse	0600285210	0600285210	
460-1	Pump Cover-A	9362775007	9362775007		834-1	Wire Cover-A	9362789004	9362789004	
460-2	Pump Cover-B	9362776004	9362776004		834-2	Wire Cover-B	9362788007	9362788007	
462	Top Cover Plate	9362806015	9362806015		835	Cushion Rubber (Pump)	9362777001	9362777001	
464	Cabinet-A	9362800013	9362800013		847	Louver Supporter	9362770019	9362770019	
465	Cabinet-B	9362801010	9362801010		858	Grille Spring	9362755009	9362755009	
467	Drain Port	9362786003	9362786003		875	Filter PCB Assy	9704561299	9704561299	
468	Special Nut-A (Large)	313005446653	313005446653		876-2	Step Motor	9360307019	9360307019	
477	Bellmouth (B)	9362774000	9362774000		967	Bonnet-B	313045417959	313045417959	
469	Special Nut-B (Small)	313005446759	313005446759		982-1	Cord Clamp	9356857009	9356857009	

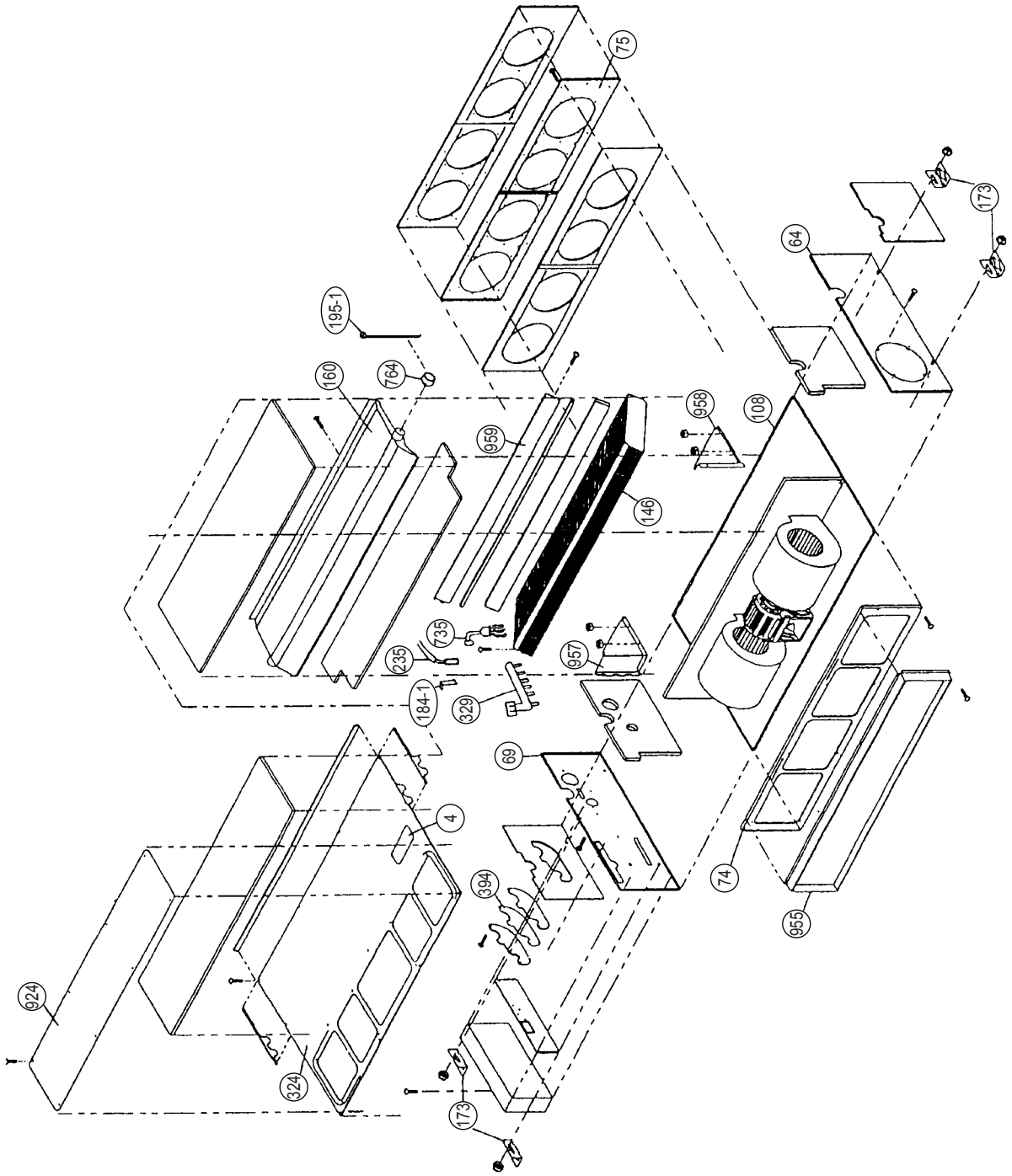
Models : AU＊A36TATA
AU＊A45TATA

When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

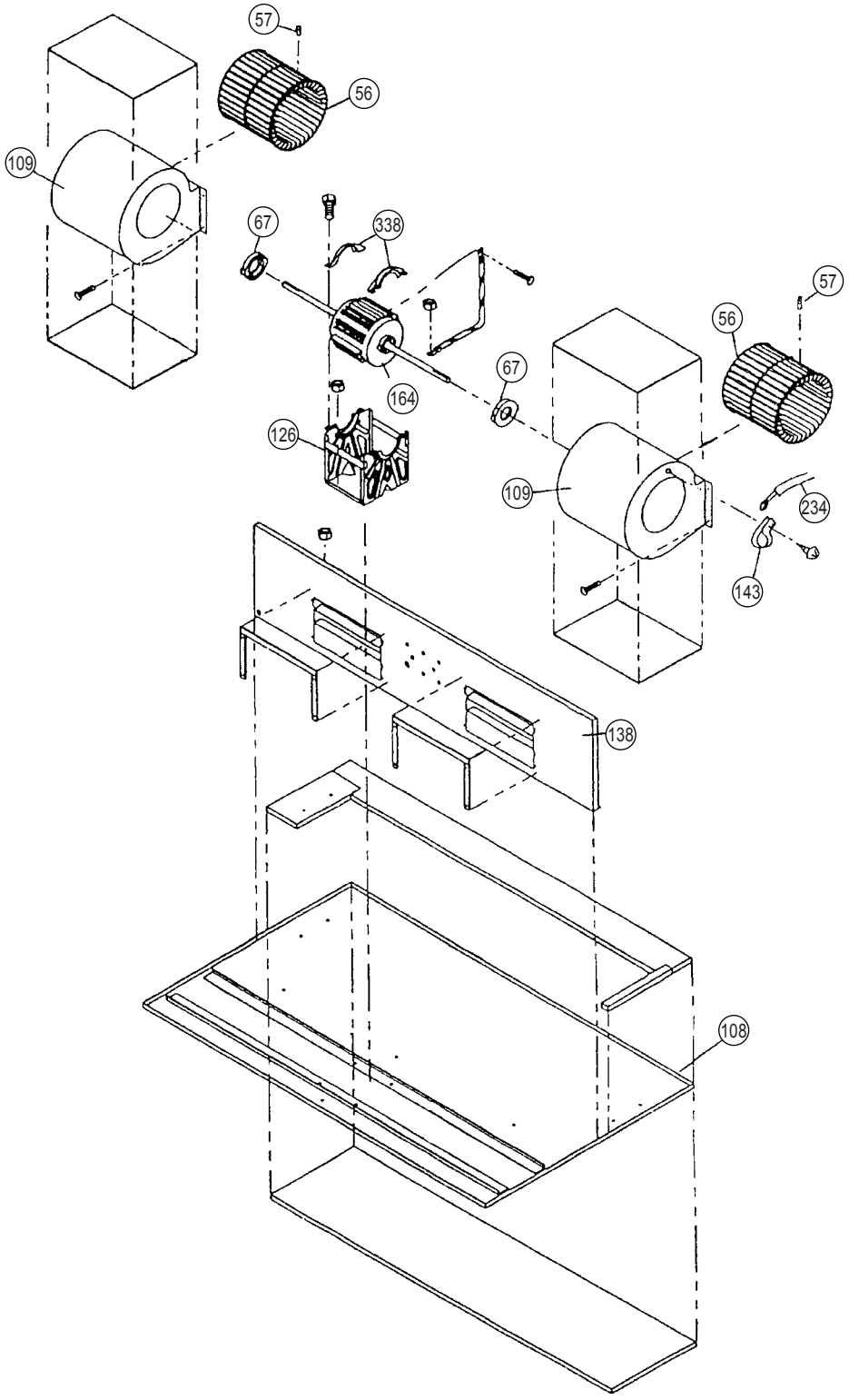
INDOOR UNIT

Ref. No.	Description	Part No.		Q'ty	Ref. No.	Description	Part No.		Q'ty
		AU＊A36TATA	AU＊A45TATA				AU＊A36TATA	AU＊A45TATA	
34	Capacitor (Fan Motor)	9703306068	9703306068		472-5	Grille Reinforcement-E	9362742009	9362742009	
47-1	Rubber (Discharge Pipe)	313194159807	313194159807		474	Turbo Fan Assy	9362803014	9362803014	
61	Decoration Plate	9363133004	9363133004		476-2	Special Washer	9362756006	9362756006	
67	Rubber (Vibration-proof)	9362783002	9362783002		477	Bellmouth (B)	9362774000	9362774000	
71	Grille Hook Holder	9362782005	9362782005		479	Float Switch	9703285004	9703285004	
93	Filter	9362766005	9362766005		482	Pump Unit	9703125010	9703125010	
117-3	Hex. Nut w/Spring Washer	301721180114	301721180114		484	Hook	9362736008	9362736008	
122	Louver Support Holder	9362799003	9362799003		487	Grille Hinge Wire	9362754002	9362754002	
127	Drain Hose	9362784009	9362784009		488	Drain Pan Plug	313005174654	313005174654	
138	Separate Wall	9362737005	9362737005		514	Control Box Cover	9362763004	9362763004	
143-1	Clamp NK-3N	313361274700	313361274700		522	Joint Gear	9362772006	9362772006	
143-3	Clamp NK-6N	9305657001	9305657001		540	Bypath Pipe-B	9363152005	9363152005	
146-1	Evaporator-A Assy	9363149005	9363149005		541	Terminal Plate	9363642001	9363642001	
146-2	Evaporator-B Assy	9363150001	9363150001		542	Panel Base	9362759014	9362759014	
155	Special Nut M6	9307615016	9307615016		543	Panel Frame Holder	9362761017	9362761017	
160	Drain Pan Assy	9362804004	9362804004		544	Panel Base Holder	9362760010	9362760010	
164	Fan Motor Assy-IN	9600878019	9600878019		545	Panel Frame	9362758017	9362758017	
168	Cabinet-E	9362735001	9362735001		563	Insulation (Inner Box)	9362768009	9362768009	
184-1	Thermo. Spring-A	313728262708	313728262708		564	Bypath Pipe-A Assy	9363151008	9363151008	
187	Clamp No.1219	313361271706	313361271706		565	Eva. Holder Assy	9362802017	9362802017	
195	Clamp SKB-100	313361275805	313361275805		568	Noise Insulation	9363143003	9363143003	
196-2	Clamp SKB-150	313035356905	313035356905		628	Locking Spacer-B	313005446558	313005446558	
197	Wind Guide Board	9363117004	9363117004		652-1	Therm. Holder Pipe	313806262805	313806262805	
223	Control Box	9362762007	9362762007		690	Joint-A	9362773003	9362773003	
226	Motor Gear	9362764001	9362764001		692	Joint Shaft	9362771009	9362771009	
234	Thermistor Assy-Room	9703299025	9703299025		705	Louver	9362769013	9362769013	
235	Thermistor Assy-Pipe	9703297014	9703297014		710	Intake Grille-B	9362854016	9362854016	
236	Controller PCB Assy	9705914155	9705914162		735	Distributor Assy	9364155005	9364155005	
244	Pipe Cover	9362748001	9362748001		777-1	Grille Hook-A	9362779012	9362779012	
337-1	Reinforcement (Eva)-A	9362749008	9362749008		777-2	Grille Hook-B	9362778015	9362778015	
337-2	Reinforcement (Eva)-B	9362750004	9362750004		798	Pump Hook Bracket	9362753005	9362753005	
338	Motor Holder	9362765008	9362765008		803	Cabinet-D	9362734004	9362734004	
381	Locking Spacer	313209391506	313209391506		814	Cabinet-C	9362733007	9362733007	
457	Reinforcement (Drain Pan)	9362757003	9362757003		815-1	Terminal 3P	9306489151	9306489151	
460-1	Pump Cover-A	9362775007	9362775007		815-2	Terminal 3P	9703345012	9703345012	
460-2	Pump Cover-B	9362776004	9362776004		824-3	Fuse	0600285210	0600285210	
462	Top Cover Plate	9362806015	9362806015		834-1	Wire Cover-A	9362789004	9362789004	
464	Cabinet-A	9362800013	9362800013		834-2	Wire Cover-B	9362788007	9362788007	
465	Cabinet-B	9362801010	9362801010		835	Cushion Rubber (Pump)	9362777001	9362777001	
467	Drain Port	9362786003	9362786003		847	Louver Supporter	9362770019	9362770019	
468	Special Nut-A (Large)	313005446653	313005446653		858	Grille Spring	9362755009	9362755009	
469	Special Nut-B (Small)	313005446759	313005446759		875	Filter PCB Assy	9704561299	9704561299	
472-1	Grille Reinforcement-A	9362738002	9362738002		876-2	Step Motor	9360307019	9360307019	
472-2	Grille Reinforcement-B	9362739009	9362739009		897	Coupling Pipe-A Assy	9363153002	9363153002	
472-3	Grille Reinforcement-C	9362740005	9362740005		898	Coupling Pipe-B Assy	9363155006	9363155006	
472-4	Grille Reinforcement-D	9362741002	9362741002		982-1	Cord Clamp	9356857009	9356857009	

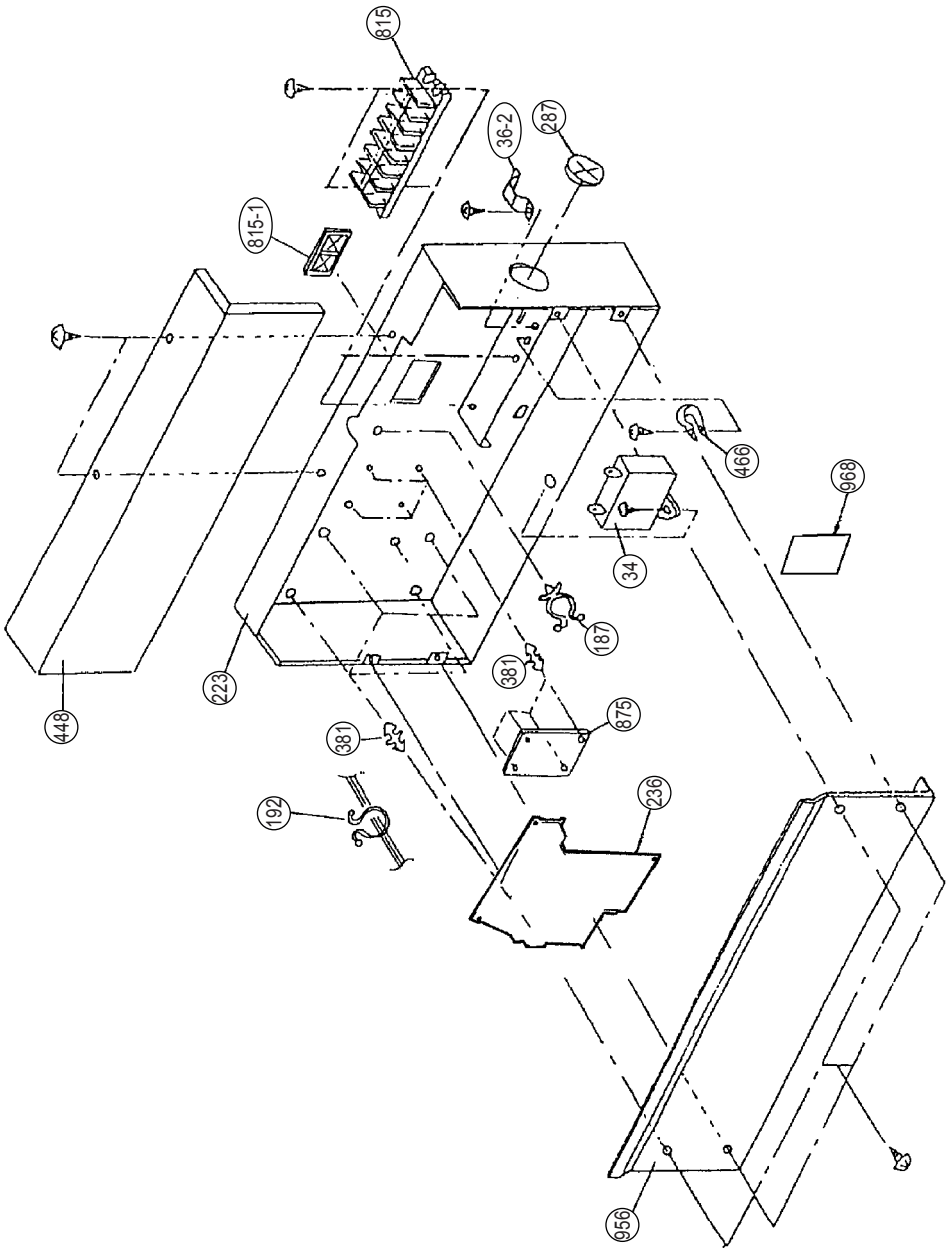
Models : ARXA25TATA, ARXA30TATA
ARXA36TATA, ARXA45TATA



Models : ARXA25TATA, ARXA30TATA
ARXA36TATA, ARXA45TATA



Models : ARXA25TATA, ARXA30TATA
ARXA36TATA, ARXA45TATA



Models : ARXA25TATA, ARXA30TATA
ARXA36TATA, ARXA45TATA

INDOOR UNIT

When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

Ref. No.	Description	Part No.				Q'ty
		ARXA25TATA	ARXA30TATA	ARXA36TATA	ARXA45TATA	
34	Capacitor (Fan Motor)	9700467083	9700468035	9700468035	9700468042	
36-2	Cord Holder Metal	9356362008	9356362008	9356362008	9356362008	
56	Sirocco Fan Assy	9356531022	9356531022	9356531022	9356531022	
57	Hex. Socket Screw	313616213202	313616213202	313616213202	313616213202	
64	Cabinet-Left Metal	9356551006	9356551006	9356551006	9356551006	
67	Rubber (Vibration-proof)	313659068604	313659068604	313659068604	313659068604	
69	Cabinet-Right	9356547009	9356547009	9356547009	9356547009	
74	Intake Panel	9356537000	9356537000	9356537000	9356537000	
75	Outlet Panel Assy	9356538007	9356538007	9356538007	9356538007	
108	Base Assy	9356518009	9356518009	9356518009	9356518009	
109	Casing Assy	9356527001	9356527001	9356527001	9356527001	
126	Motor Fixing Table Assy	9356533002	9356533002	9356533002	9356533002	
138	Separate Wall	9356523003	9356523003	9356523003	9356523003	
143-1	Clamp NK-3N	313361274700	313361274700	313361274700	313361274700	
146	Evaporator Assy	9356524017	9356524017	9356524017	9356524017	
160	Drain Pan Assy	9356542028	9356542028	9356542028	9356542028	
164	Fan Motor Assy-IN	9600830024	9600830017	9600830017	9600830017	
173	Hanger Bracket	9356563009	9356563009	9356563009	9356563009	
184-1	Thermo. Spring-A	313728262708	313728262708	313728262708	313728262708	
185-1	Rubber Bushing	9357376004	9357376004	9357376004	9357376004	
187	Clamp No.1219	313361271706	313361271706	313361271706	313361271706	
195	Clamp SKB-100	313361275805	313361275805	313361275805	313361275805	
196-1	Clamp SKB-3M	312300787605	312300787605	312300787605	312300787605	
223	Control Box Metal	9356558005	9356558005	9356558005	9356558005	
234	Thermistor Assy-ROOM	9703299056	9703299056	9703299056	9703299056	
235	Thermistor Assy-Pipe	9703297045	9703297045	9703297045	9703297045	
236	Controller PCB Assy	9705914087	9705914094	9705914094	9705914094	
287	Cap. (Power)	9352173011	9352173011	9352173011	9352173011	
324	Top Plate	9356546002	9356546002	9356546002	9356546002	
329	Coupling Pipe Assy	9357876009	9361547001	9357005003	9357005003	
338	Motor Fixture	9356536003	9356536003	9356536003	9356536003	
381	Locking Spacer	313209391506	313209391506	313209391506	313209391506	
394	Pipe Fixing Plate	9356554007	9356554007	9356554007	9356554007	
448	Control Box Metal-B	9356560008	9356560008	9356560008	9356560008	
466	Clamp NK-4N	313714328805	313714328805	313714328805	313714328805	
735	Distributor Assy	9357875002	9361543003	9357004006	9357004006	
764	Drain Cap	9356541007	9356541007	9356541007	9356541007	
815	Terminal-7P	9703403019	9703403019	9703403019	9703403019	
875	Filter PCB Assy	9704561268	9704561275	9704561275	9704561275	
924	Intake Seal Plate	9356553000	9356553000	9356553000	9356553000	
955	Square Flange Assy	9356555004	9356555004	9356555004	9356555004	
956	Control Box Metal-E	9356900002	9356900002	9356900002	9356900002	
957	Eva. Fixing Plate-R	9356521009	9356521009	9356521009	9356521009	
958	Eva. Fixing Plate-L	9356522006	9356522006	9356522006	9356522006	
959	Eva. Seal Plate	9356540000	9356540000	9356540000	9356540000	
968	Relay PCB Assy	------	9701594030	9701594030	9701594030	

FUJITSU GENERAL LIMITED

1116, Suenaga, Takatsu-ku, Kawasaki 213-8502, Japan

October 2005 Printed in Japan