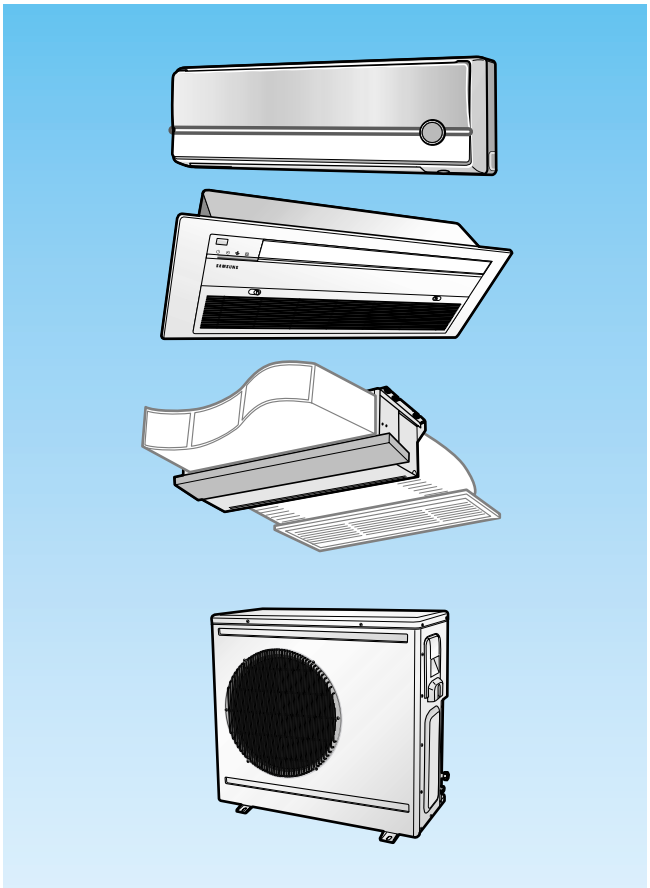
SAMSUNG

FREE JOINT MULTI AIR CONDITIONER

INDOOR UNIT	OUTDOOR UNIT
MH020FPEA	MH18VP2X
MH023FPEA	MH19VP2X
MH026FPEA	MH052FXEA2
MH035FPEA	MH068FXEA4
MH052FPEA	MH080FXEA4
MH18VP2-09	
MH19VP2-07	
MH19VP2-12	
MH026FKEA	
MH035FKEA	
MH052FDEA	

SERVICE Manual

AIR CONDITIONER



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1. Product Specifications

1-1 Table

Item \ Model					MH020FPEA MH19VP2-07	MH023FPEA	MH026FPEA MH18VP2-09
					INDOOR UNIT		
Type					Wall-mounted	Wall-mounted	Wall-mounted
Perfor-mance	Cooling			kW	2.00	2.30	2.60
	Heating				2.20	2.60	2.90
	Dehumidifying			ℓ/h	1.4	1.4	1.4
	Air Volume	Cooling		m^3/min	7.0	7.0	7.0
		Heating			7.8	7.8	7.8
	Noise	Cooling		dB	40	40	40
		Heating			40	40	40
	Energy Efficiency Ratio	Cooling		W/W	3.04	3.04	3.04
		Heating			2.40	2.40	2.40
	Power			ø-V-Hz	1-220~240-50	1-220~240-50	1-220~240-50
Power	Power Consumption	Cooling		W	830	830	830
		Heating			1,230	1,230	1,230
	Operating Current	Cooling		A	3.9	3.9	3.9
		Heating			5.6	5.6	5.6
Size	Outer Dimension	W x H x D		mm	795 x 258 x 179	795 x 258 x 179	795 x 258 x 179
				inch	31.3 x 10.2 x 7.0	31.3 x 10.2 x 7.0	31.3 x 10.2 x 7.0
	Weight			kg	7.5	7.5	7.5
	Refrigerant Pipe	Liquid		mm x L(m)	ø6.35 x 7	ø6.35 x 7	ø6.35 x 7
		Gas		mm x L(m)	ø9.52 x 7	ø9.52 x 7	ø9.52 x 7
	Drain Hose			D x L(mm)	ø18 x 2,000	ø18 x 2,000	ø18 x 2,000
	Blower	Type			Cross-fan	Cross-fan	Cross-fan
		Motor	Type		steel	steel	steel
			Rated Output	W	11	11	11
Heat Exchanger					2ROW 10STEP	2ROW 10STEP	2ROW 10STEP
Refrigerant Control Unit					EEV	EEV	EEV

Table(cont.)

Item \ Model					MH035FPEA MH19VP2-12	MH052FPEA
					INDOOR UNIT	
Type					Wall-mounted	Wall-mounted
Performance	Cooling			kW	3.50	5.20
	Heating				3.80	5.60
	Dehumidifying			ℓ/h	1.9	2.5
	Air Volume		Cooling	m^3/min	8.3	13.3
			Heating		8.8	13.4
	Noise		Cooling	dB	42	48
			Heating		42	48
	Energy Efficiency Ratio		Cooling	W/W	3.08	3.31
			Heating		2.50	2.60
	Power			ø-V-Hz	1-220~240-50	1-220~240-50
Power	Power Consumption		Cooling	W	1,115	1,550
			Heating		1,615	2,250
	Operating Current		Cooling	A	5.2	7.0
			Heating		7.2	10.1
Size	Outer Dimension		W x H x D	mm	890 x 285 x 179	1,080 x 315 x 205
				inch	35.0 x 11.2 x 7.0	42.5 x 12.4 x 8.1
	Weight			kg	8.5	13
	Refrigerant Pipe		Liquid	mm x L(m)	ø6.35 x 7	ø6.35 x 7
			Gas	mm x L(m)	ø9.52 x 7	ø12.7 x 7
	Drain Hose			D x L(mm)	ø18 x 2,000	ø18 x 2,000
	Blower	Type			Cross-fan	Cross-fan
		Motor	Type		steel	steel
			Rated Output	W	15	19
Heat Exchanger					2ROW 12STEP	2ROW 16STEP
Refrigerant Control Unit					EEV	EEV

Table(cont.)

Item \ Model					MH026FKEA	MH035FKEA	MH052FDEA
					INDOOR UNIT		
Type					1-Way Cassette	1-Way Cassette	Duct
Performance	Cooling			kW	2.60	3.50	5.20
	Heating				2.90	3.80	5.60
	Air Volume	Cooling		m^3/min	7.0	7.5	15.0
		Heating			7.5	8.0	15.5
	Noise	Cooling		dB	40	42	43
		Heating			40	42	43
	Power			ø-V-Hz	1-220~240-50	1-220~240-50	1-220~240-50
Power	Power Consumption	Cooling		W	830	1,115	1,550
		Heating			1,230	1,615	2,250
	Operating Current	Cooling		A	3.9	5.2	7.0
		Heating			5.6	7.2	10.1
Size	Outer Dimension	W x H x D		mm	970 x 180 x 390	970 x 180 x 390	1,340 x 260 x 600
				inch	38.2 x 7.1 x 15.4	38.2 x 7.1 x 15.4	52.8 x 10.2 x 23.6
	Weight			kg	15	15	41
	Refrigerant Pipe	Liquid		mm x L(m)	ø6.35 x 7	ø6.35 x 7	ø6.35 x 7
		Gas		mm x L(m)	ø9.52 x 7	ø9.52 x 7	ø12.7 x 7
	Drain Hose			D x L(mm)	ø20 x 2,000	ø20 x 2,000	ø21 x 2,000
	Blower	Type			Cross-fan	Cross-fan	Sirocco
		Motor	Type		steel	steel	steel
			Rated Output	W	28	28	97
Heat Exchanger					2ROW 14STEP	2ROW 14STEP	2ROW 12STEP
Refrigerant Control Unit					EEV	EEV	EEV

Table(cont.)

Item \ Model					MH18VP2X	MH19VP2X	MH052FXEA2
					OUTDOOR UNIT		
Type					Wall Mounting Multi Split		Free Joint Multi
Perfor-mance	Capacity		Cooling	kW	5.20	5.50	2.0 ~ 6.5
			Heating		5.80	6.00	2.2 ~ 7.3
	Air Volume			m^3/min	48	48	48
	Noise		Cooling	dB	56	56	56
			Heating		57	57	57
Power	Power			ø-V-Hz	1-220-240V~, 50Hz		
	Power Consumption		Cooling	W	1,500	1,600	770 ~ 2,240
			Heating		1,805	1,850	850 ~ 2,420
	Operating Current		Cooling	A	6.7	7.1	3.6 ~ 9.9
			Heating		8.2	8.5	3.9 ~ 10.7
	Fuse Capacity			A	20	20	20
Size	Dimension	W x H x D		mm	880 x 638 x 310	880 x 638 x 310	880 x 368 x 310
	Weight			kg	-	-	-
Com-pressor	Type				Single Rotary		
	Model Name				G4B135LU1EH		
	Motor	Type			BLDC Permanent Magnetic Motor		
	Freezer Oil	Type			FREOL α68ES-T, Ze-GLES RB68-EP		
		Capacity		cc	600	600	600
	Protection Device				OLP	OLP	OLP
Fan Motor & Blower	Blower	Type			Propeller	Propeller	Propeller
		Size		OD(mm) x L(m)	ø460	ø460	ø460
	Motor	Rated Output		W	128	128	128
		Capacitor		uF x VAC	3.0 x 450	3.0 x 450	3.0 x 450
Heat Exchanger					2ROW 28STEP	2ROW 28STEP	2ROW 28STEP
Refrigerant Control Unit					EEV	EEV	EEV
Refrigerant to Charge(R410A)				gr	1,700	1,700	1,700

Table(cont.)

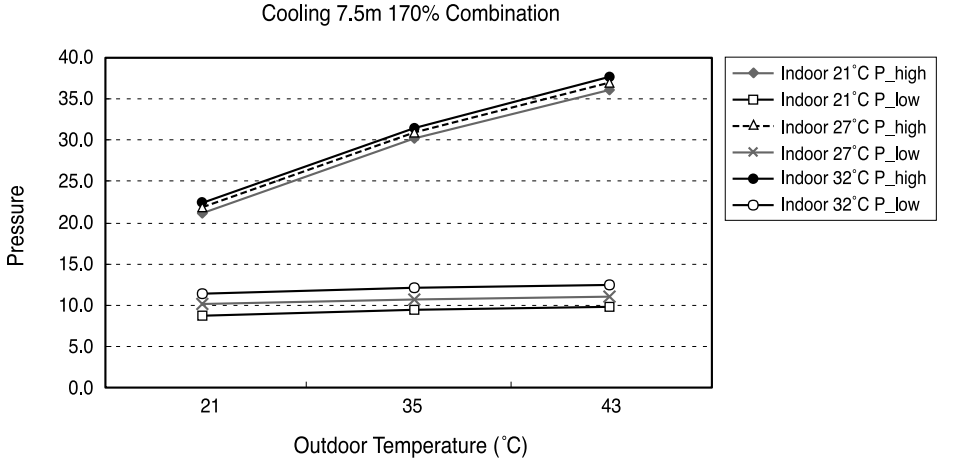
Item \ Model				MH068FXEA4	MH080FXEA4
				OUTDOOR UNIT	
Type				Free Joint Multi	
Perfor-mance	Capacity	Cooling	kW	2.6 ~ 8.9	2.6 ~ 9.3
		Heating		2.9 ~ 10.3	2.9 ~ 10.9
	Air Volume		m^3/min	48	48
	Noise	Cooling	dB	57	58
		Heating		58	59
Power	Power		ø-V-Hz	1-220-240V~, 50Hz	
	Power Consumption	Cooling	W	830 ~ 2,470	830 ~ 2,505
		Heating		1,230 ~ 2,705	1,230 ~ 2,705
	Operating Current	Cooling	A	3.9 ~ 10.8	3.9 ~ 10.9
		Heating		5.6 ~ 11.9	5.6 ~ 11.9
	Fuse Capacity		A	30	30
Size	Dimension	W x H x D	mm	880 x 796 x 330	880 x 796 x 330
	Weight		kg	72	72
Com-pressor	Type			Twin Rotary	Twin Rotary
	Model Name			G5T360FU1EK	G5T360FU1EK
	Motor	Type		BLDC Permanent Magnetic Motor	
	Freezer Oil	Type		FREOL α68ES-T, Ze-GLES RB68-EP	
		Capacity	cc	1,100	1,100
	Protection Device			OLP	OLP
Fan Motor & Blower	Blower	Type		Propeller	Propeller
		Size	OD(mm) x L(m)	ø460	ø460
	Motor	Rated Output	W	128	128
		Capacitor	uF x VAC	3.0 x 450	3.0 x 450
Heat Exchanger				2ROW 36STEP	2ROW 36STEP
Refrigerant Control Unit				EEV	EEV
Refrigerant to Charge(R410A)			gr	2,900	2,900

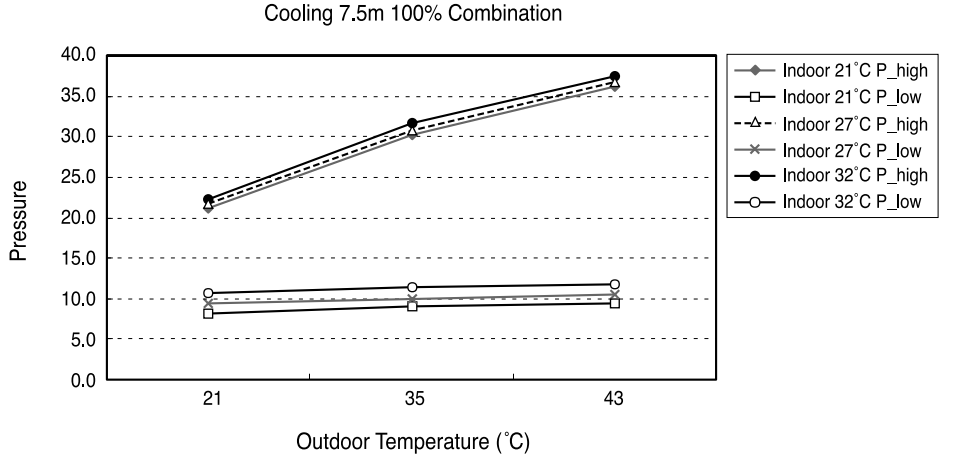
1-2 Technical Document (Pressure Graph)

1-2-1 MH18VP2X / MH19VP2X / MH052FXEA2

■ Cooling(7.5m–Piping)

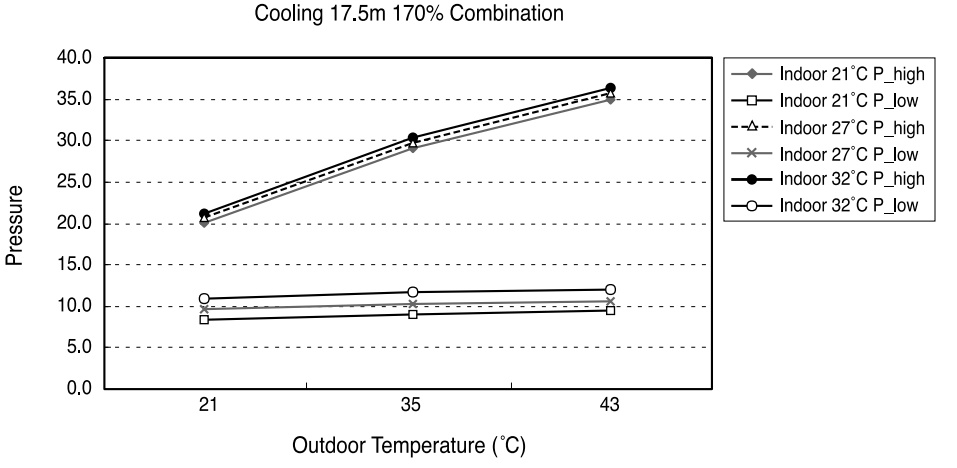
		170%(ex.026+026+035+052)				100%(ex.026+026+052)			
Outdoor	Indoor	P_high	P_low	T_dis	T_suc	P_high	P_low	T_dis	T_suc
21	21	21.2	8.7	58.4	10.9	21.2	8.2	58.7	8.2
	27	21.9	10.1	57.5	13.9	21.7	9.4	57.1	11.4
	32	22.4	11.3	56.0	16.4	22.2	10.6	55.8	14.5
35	21	30.3	9.4	78.5	12.8	30.2	9.0	78.5	10.2
	27	30.9	10.6	78.7	16.8	30.7	10.0	78.0	14.2
	32	31.6	12.0	76.3	19.4	31.7	11.4	76.7	17.2
43	21	36.1	9.8	89.8	12.8	36.2	9.4	91.5	11.4
	27	37.0	11.1	90.5	17.7	36.8	10.6	89.1	14.2
	32	37.6	12.5	88.2	20.6	37.4	11.8	86.8	16.7

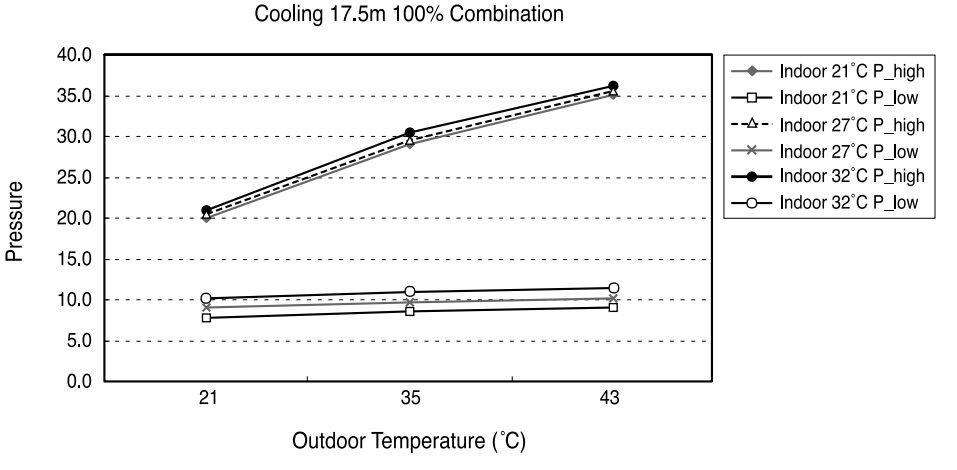




■ Cooling(17.5m–Piping)

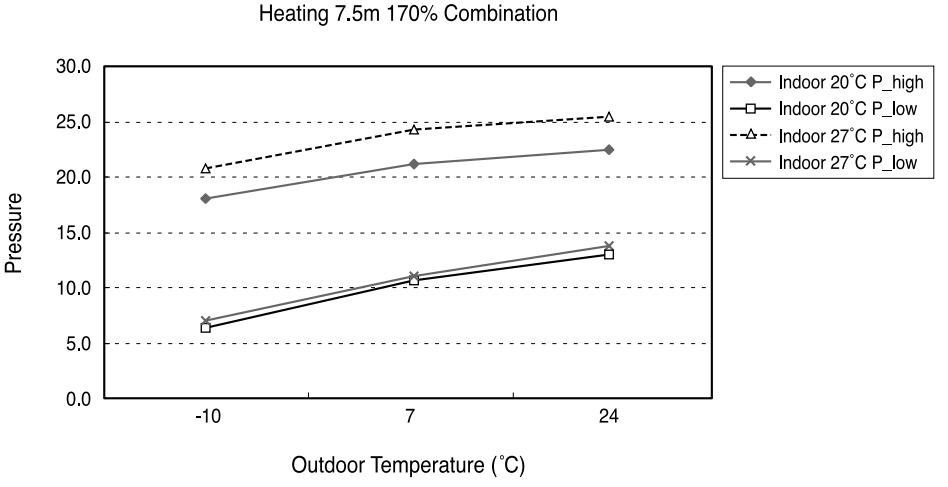
		170%(ex.026+026+035+052)		100%(ex.026+026+052)	
Outdoor	**Indoor**	**P_high**	**P_low**	**P_high**	**P_low**
21 / 15	21 / 15	20.0	8.3	20.0	7.8
	27 / 19	20.7	9.7	20.5	9.0
	32 / 23	21.2	10.9	21.0	10.2
35 / 24	21 / 15	29.1	9.0	29.0	8.6
	27 / 19	29.7	10.2	29.5	9.6
	32 / 23	30.4	11.6	30.5	11.0
43 / 26	21 / 15	34.9	9.4	35.0	9.0
	27 / 19	35.8	10.7	35.6	10.2
	32 / 23	36.4	12.1	36.2	11.4

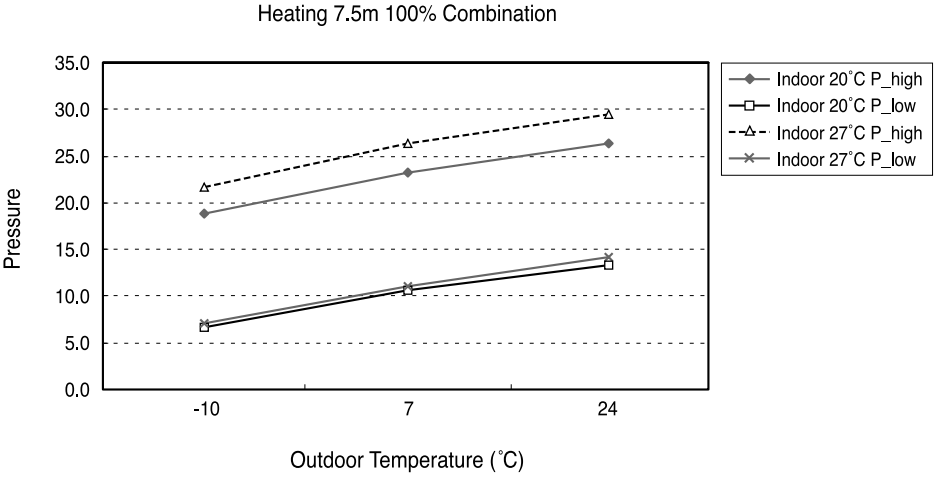




■ Heating(7.5m–Piping)

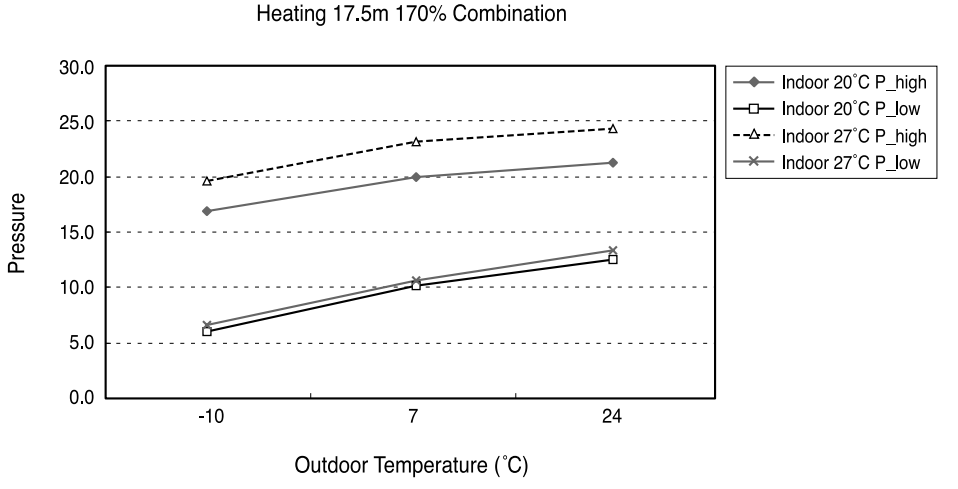
		170%(ex.026+026+035+052)				100%(ex.026+026+052)			
Outdoor	Indoor	P_high	P_low	T_dis	T_suc	P_high	P_low	T_dis	T_suc
-10	20	18.0	6.4	60.1	-18.9	18.8	6.7	59.8	-17.4
	27	20.8	7.0	66.3	-17.1	21.7	7.1	67.0	-15.7
7	20	21.2	10.6	57.9	-1.8	23.2	10.6	64.9	-0.2
	27	24.4	11.0	63.0	-0.9	26.3	11.0	69.1	0.5
24	20	22.5	12.9	60.8	16.4	26.4	13.4	71.9	17.3
	27	25.5	13.8	64.3	16.8	29.5	14.2	75.9	17.7

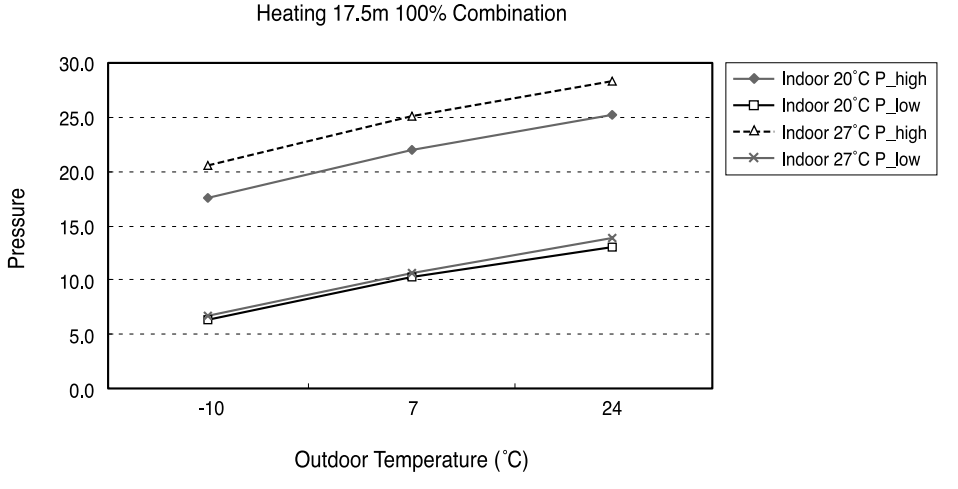




■ Heating(17.5m–Piping)

		170%(ex.026+026+035+052)		100%(ex.026+026+052)	
Outdoor	**Indoor**	**P_high**	**P_low**	**P_high**	**P_low**
-10	20 / 15	16.8	6.0	17.6	6.3
	27 / 15	19.6	6.6	20.5	6.7
7 / 6	20 / 15	20.0	10.2	22.0	10.2
	27 / 15	23.2	10.6	25.1	10.6
24 / 18	20 / 15	21.3	12.5	25.2	13.0
	27 / 15	24.3	13.4	28.3	13.8

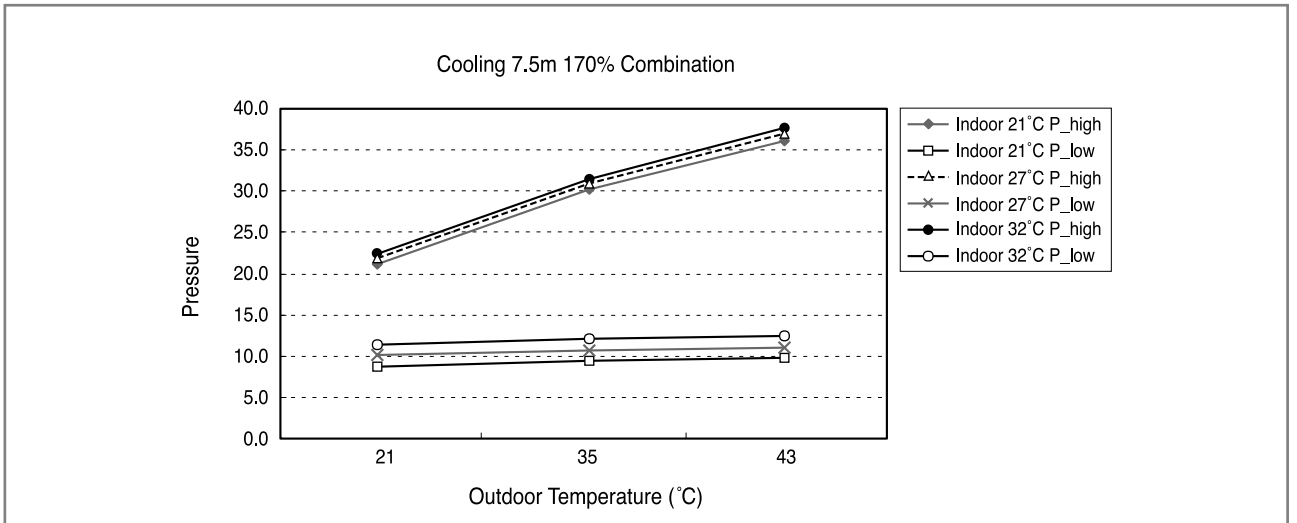


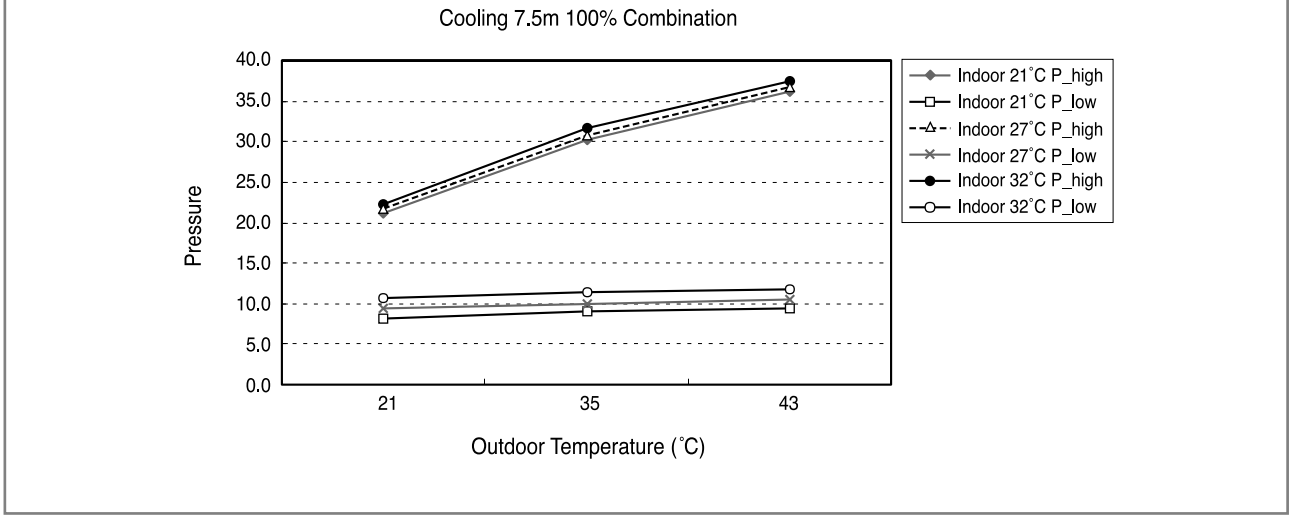


1-2-2 MH068FXEA4 / MH080FXEA4

■ Cooling(7.5m–Piping)

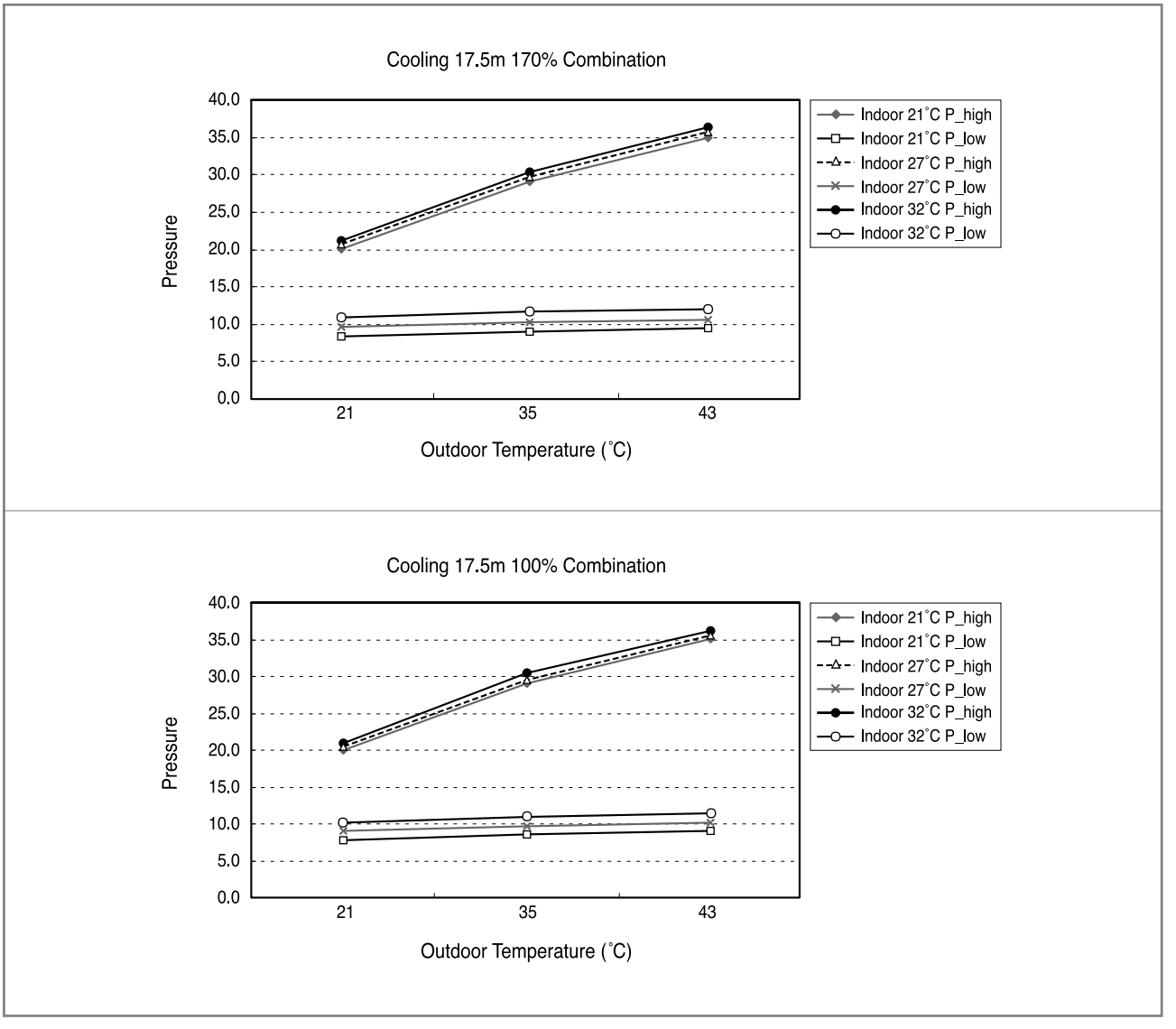
		170%(ex.026+026+035+052)				100%(ex.026+026+052)			
Outdoor	Indoor	P_high	P_low	T_dis	T_suc	P_high	P_low	T_dis	T_suc
21	21	21.2	8.7	58.4	10.9	21.2	8.2	58.7	8.2
	27	21.9	10.1	57.5	13.9	21.7	9.4	57.1	11.4
	32	22.4	11.3	56.0	16.4	22.2	10.6	55.8	14.5
35	21	30.3	9.4	78.5	12.8	30.2	9.0	78.5	10.2
	27	30.9	10.6	78.7	16.8	30.7	10.0	78.0	14.2
	32	31.6	12.0	76.3	19.4	31.7	11.4	76.7	17.2
43	21	36.1	9.8	89.8	12.8	36.2	9.4	91.5	11.4
	27	37.0	11.1	90.5	17.7	36.8	10.6	89.1	14.2
	32	37.6	12.5	88.2	20.6	37.4	11.8	86.8	16.7





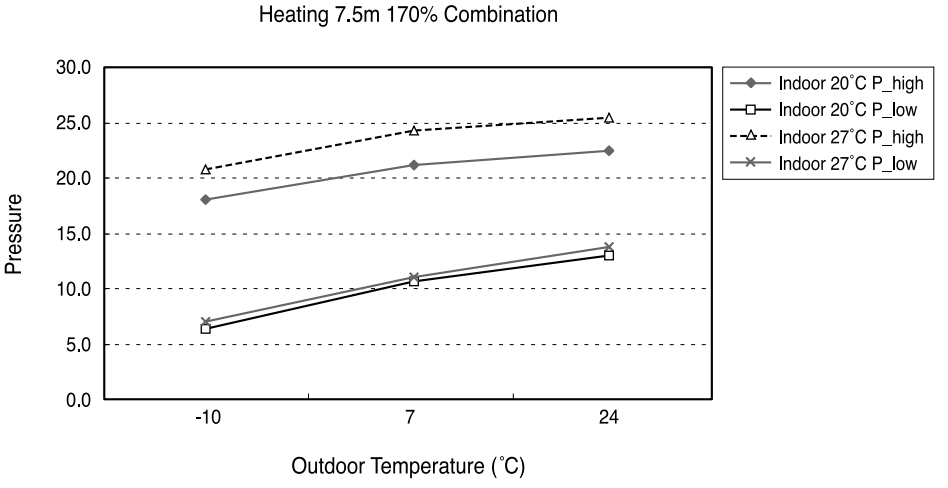
■ Cooling(17.5m–Piping)

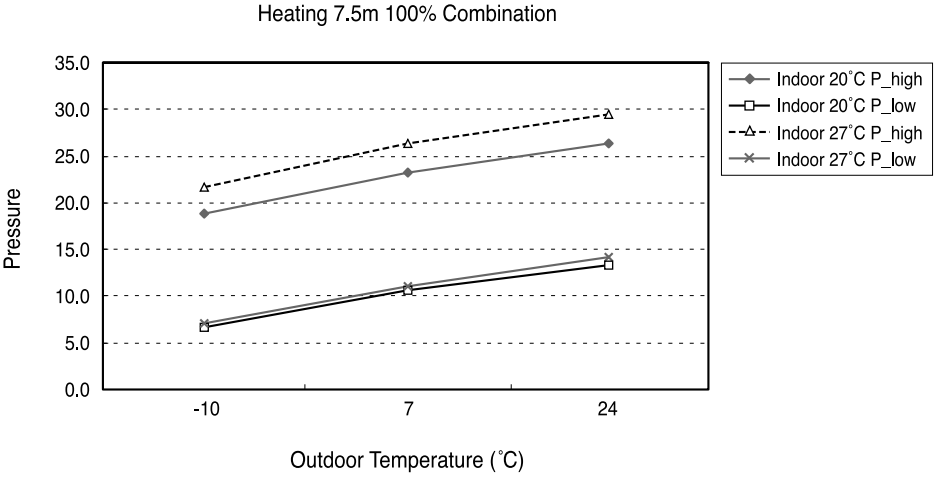
		170%(ex.026+026+035+052)		100%(ex.026+026+052)	
Outdoor	**Indoor**	**P_high**	**P_low**	**P_high**	**P_low**
21 / 15	21 / 15	20.0	8.3	20.0	7.8
	27 / 19	20.7	9.7	20.5	9.0
	32 / 23	21.2	10.9	21.0	10.2
35 / 24	21 / 15	29.1	9.0	29.0	8.6
	27 / 19	29.7	10.2	29.5	9.6
	32 / 23	30.4	11.6	30.5	11.0
43 / 26	21 / 15	34.9	9.4	35.0	9.0
	27 / 19	35.8	10.7	35.6	10.2
	32 / 23	36.4	12.1	36.2	11.4



■ Heating(7.5m–Piping)

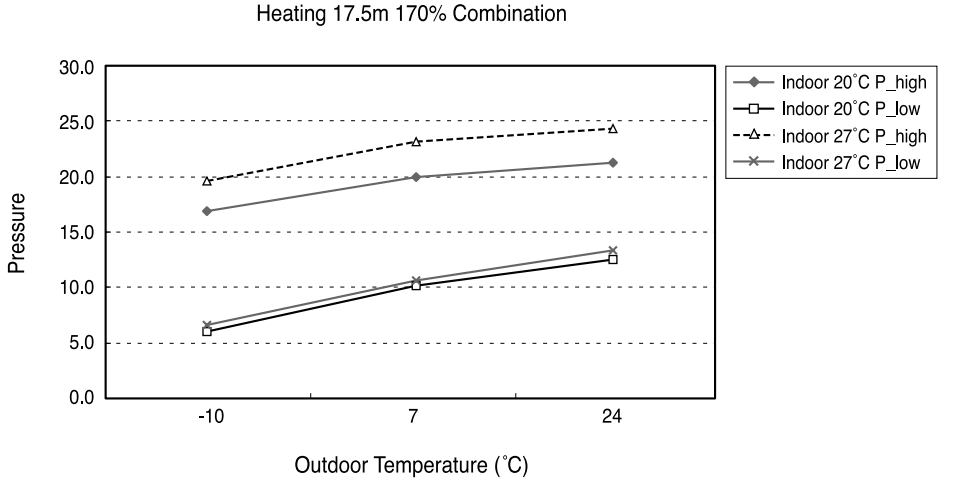
		170%(ex.026+026+035+052)				100%(ex.026+026+052)			
Outdoor	Indoor	P_high	P_low	T_dis	T_suc	P_high	P_low	T_dis	T_suc
-10	20	18.0	6.4	60.1	-18.9	18.8	6.7	59.8	-17.4
	27	20.8	7.0	66.3	-17.1	21.7	7.1	67.0	-15.7
7	20	21.2	10.6	57.9	-1.8	23.2	10.6	64.9	-0.2
	27	24.4	11.0	63.0	-0.9	26.3	11.0	69.1	0.5
24	20	22.5	12.9	60.8	16.4	26.4	13.4	71.9	17.3
	27	25.5	13.8	64.3	16.8	29.5	14.2	75.9	17.7

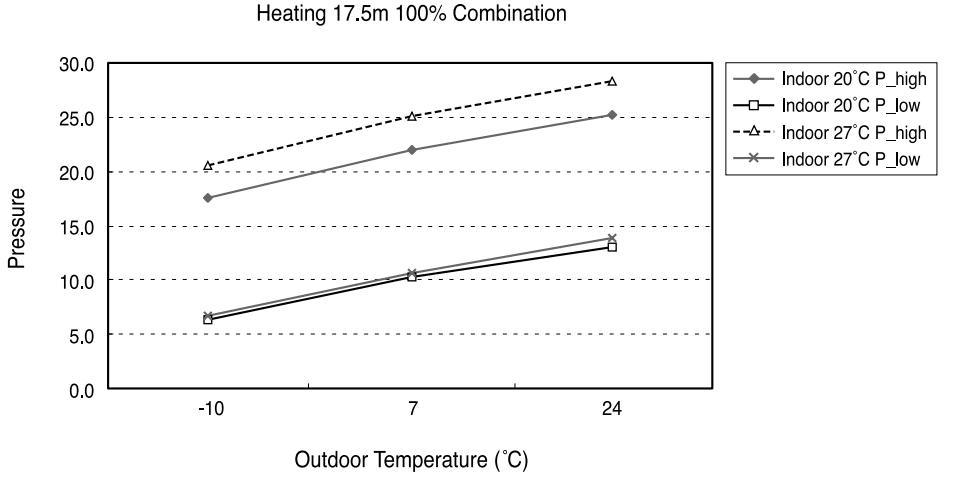




■ Heating(17.5m–Piping)

		170%(ex.026+026+035+052)		100%(ex.026+026+052)	
Outdoor	**Indoor**	**P_high**	**P_low**	**P_high**	**P_low**
-10	20 / 15	16.8	6.0	17.6	6.3
	27 / 15	19.6	6.6	20.5	6.7
7 / 6	20 / 15	20.0	10.2	22.0	10.2
	27 / 15	23.2	10.6	25.1	10.6
24 / 18	20 / 15	21.3	12.5	25.2	13.0
	27 / 15	24.3	13.4	28.3	13.8

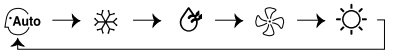
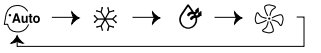




2. Operating Instructions

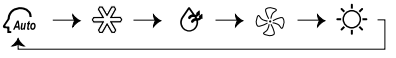
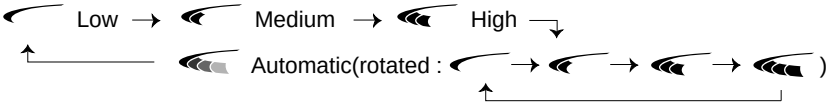
2-1 MH020FPEA / MH023FPEA / MH026FPEA / MH035FPEA / MH052FPEA / MH18VP2-09 / MH19VP2-07 / MH19VP2-12

2-1-1 The Feature of Key in remote control

No	BUTTON	FUNCTION
1		On/Off & Timer Set/Cancel button. Press the button to stop and run the air conditioner or set up On/Off timer.
2		Mode selection button. Each time you press this button, mode is changed in the following order. ▶ **In case of Heat pump model**  ▶ **In case of Cooling only model**  : Auto Mode : Fan Mode : Cool Mode : Heat Mode : Dry Mode
3	 (UP)	Temp. adjustment button(UP). The temperature is increase by the pressing the temp. button.
	 (DOWN)	Temp. adjustment button(DOWN). The temperature is decrease by the pressing the temp. button.
4		Filter Reset button. When the filter lamp is on the indoor DISPLAY part, replace the filter and press the reset button.
5		Fan speed adjustment button. Each time you press this button, FAN SPEED is changed in the following order. 
6		Swing button. It adjusts the airflow to upward and downward.
7		On Timer button. The On Timer enables you to **switch on** the air conditioner automatically after a given period of time that is from 30 minutes to 24 hours. To cancel, press the (Set/Cancel) button.
8		Off Timer button. The Off Timer enables you to **switch off** the air conditioner automatically after a given period of time that is from 30 minutes to 24 hours. To cancel, press the (Set/Cancel) button.

2-2 MH026FKEA / MH035FKEA / MH052FDEA

2-2-1 The Feature of Key in remote control

No	BUTTON	FUNCTION
1	(On/Off)	On/Off button. Press the button to stop or run the air conditioner.
2	(UP)	Temperature adjustment button(UP). The temperature is increased by the pressing the temperature button.
	(DOWN)	Temperature adjustment button(DOWN). The temperature is decreased by the pressing the temperature button.
3	Mode	Mode selection button. Each time you press this button, mode is changed in the following order.  : Auto Mode : Fan Mode : Cool Mode : Heat Mode : Dry Mode
4		Fan speed adjustment button. Each time you press this button, FAN SPEED is changed in the following order.  Low → Medium → High Automatic(rotated : → → →)
5		Swing button. It adjusts the airflow to upward and downward.
6		Turbo button. The air conditioner cools or heats the room as quickly as possible. After 30 minutes, the air conditioner is reset automatically to the previous mode.
7		Sleep button. The sleep timer can be used when you are cooling or heating your room to switch the air conditioner off automatically after a period of 6 hours.

The Feature of Key in remote control(cont.)

No	BUTTON	FUNCTION
8		On Timer button. The On Timer enables you to **switch on** the air conditioner automatically after a given period of time that is from 30 minutes to 24 hours. To set the operating time, press the On Timer button one or more times until the required time display.
9		Off Timer button. The Off Timer enables you to **switch off** the air conditioner automatically after a given period of time that is from 30 minutes to 24 hours. To set the operating time, press the Off Timer button one or more times until the required time display.
10		Timer Set/Cancel button. After setting On Timer or Off Timer, press the Timer Set/Cancel button to set it completely. And press the Timer Set/Cancel button again to cancel On Timer or Off Timer set.
11		Digital *i* On/Off button. If you want to turn off the display during operation press the Digital *i* On/Off button.

2-2-2 Details for Operation Property

1. AUTO MODE : In this mode, operation mode(COOL, HEAT) is selected automatically by the room temperature of initial operation.

Room Temp.	Operation Type
Tr≥ 21°C+ΔT	Cool Operation (Set Temp.:24˚C+ΔT)
21°C +ΔT>Tr	Heat Operation (Set Temp.:22˚C+ΔT)

   ΔT= -1°C, -2°C, 0°C, +1°C, +2°C
   ΔT is controlled by setting temperature up/down key of remote control.

2. COOL MODE : The unit operates according to the difference between the setting and room temperature. (18°C~30°C)

3. HEAT MODE : The unit operates according to the difference between the setting and room temperature.(16°C~30°C)
   *Prevention against cold wind : In order to prevent the cool air from flowing out at the heat mode, the indoor fan does not operate or operates very slowly in the following cases. At this time, the indoor heat exchanger will be preheating.
   - For 3~5 minutes after the initial operation
   - For deicing operation
   - The operation of an indoor fan in accordance with the temperature of an indoor heat exchanger

The temperature of indoor heat exchanger	Indoor fan speed
below 28˚C	off
28˚C~below 34˚C	LL Speed
34˚C~below 40˚C	L Speed
above 40˚C	Setting Speed

   *High temperature release function : It is a function to detect an outdoor overload by the sensor of an indoor heat exchanger and to turn the outdoor fan or the compressor ON/OFF for safety.
   *Deice : Deicing operation is controlled by indoor unit's heat exchanger temperature and accumulating time of compressor's operation.
   Deice ends by sensing of the processing time by deice condition.

4. DRY MODE : Has 3 states, each determined by room temperature.
   The unit operates in DRY mode.
   *Compressor ON/OFF Time is controlled compulsorily (can not set up the fan speed, always breeze).
   *Protective function : Low temperature release. (Prevention against freeze)

5. TURBO MODE : This mode is available in AUTO, COOL, HEAT, DRY, FAN MODE.
   When this button is pressed at first, the air conditioner is operated "powerful" state for 30 minutes regardless of the set temperature, room temperature.
   When this button is pressed again, or when the operating time is 30 minutes, turbo operation mode is canceled and returned to the previous mode.
   *But, if you press the TURBO button in DRY or FAN mode that is changed with AUTO mode automatically.

6. SLEEP MODE : Sleep mode is available only in COOL or HEAT mode.
   The operation will stop after 6 hours.
   *In COOL mode : The setting temperature is automatically raised by 1°C each 1hour When the temperature has been raised by total of 2°C, that temperature is maintained.
   *In HEAT mode : The setting temperature is automatically dropped by 1°C each 1hour.
   When the temperature has been dropped by total of 2°C, that temperature is maintained.

7. FAN SPEED : Manual (3 step), Auto (4 step)
   Fan speed automatically varies depending on both the difference between setting and the room temperature.

8. COMPULSORY OPERATION :
   For operating the air conditioner without the remote control.
   *The air conditioner starts up in the most suitable mode for the room temperature:

Room Temperature	Operating Mode	Temperature Setting
Less than 21˚C	Heat	24˚C approx.
21˚C or above	Cool	22˚C approx.

9. SWING : BLADE-H is rotated vertically by the stepping motor.
   *Swing Set : Press the button under the remote control is displayed on LCD the and the blades move up and down. If the one more time press the button, blades location is stop.

10. SETTING THE ON/OFF TIMER. :
    *ON TIMER : The On Timer enables you to switch on the air conditioner automatically after a given period of time. You can set the period of time from 30 minutes to 24 hours.
    *OFF TIMER : The Off Timer enables you to switch off the air conditioner automatically after a given period of time. You can set the period of time from 30 minutes to 24 hours.

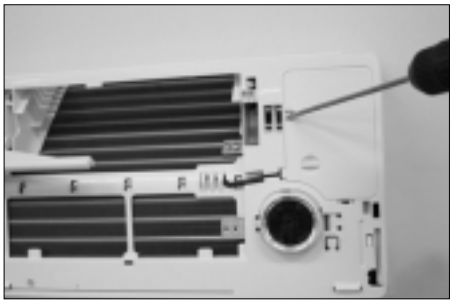
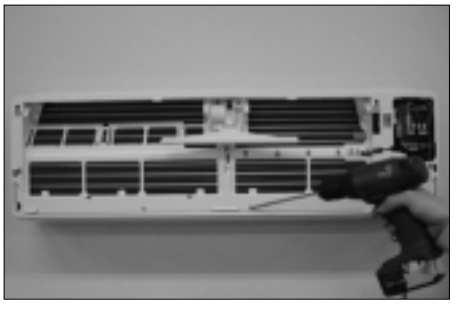
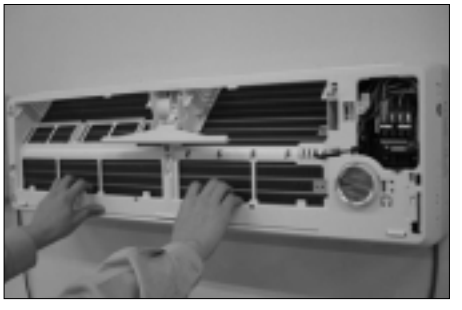
11. BUZZER SOUND : Whenever the On/Off button is pressed or whenever change occurs to the condition which is set up or select, the compulsory operation mode, buzzer is sounded "beep".

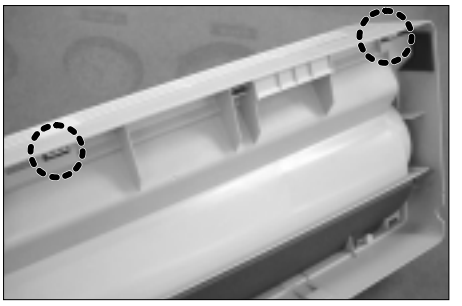
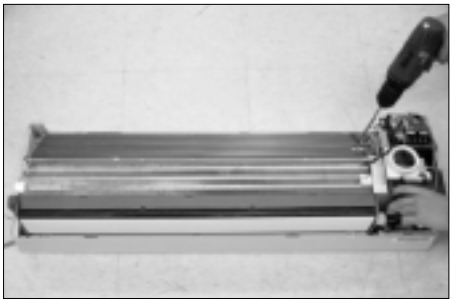
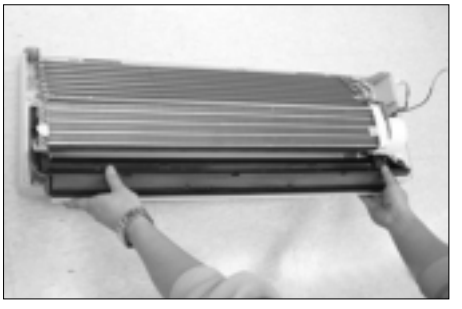
3. Disassembly and Reassembly

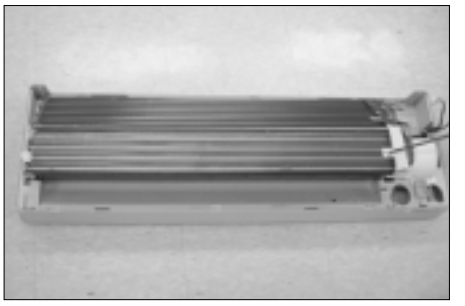
Stop operation of the air conditioner and remove the power cord before repairing the unit.

3-1 Indoor Unit

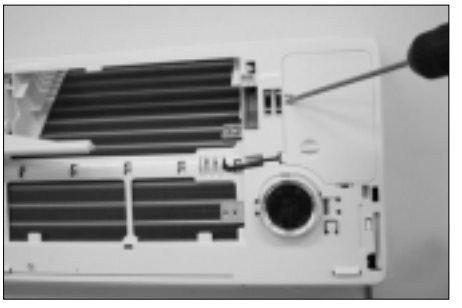
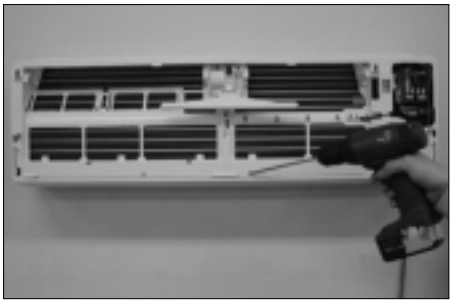
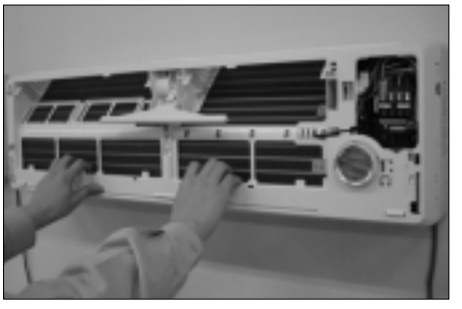
3-1-1 MH020FPEA / MH023FPEA / MH026FPEA / MH035FPEA / MH18VP2-09 / MH19VP2-07 / MH19VP2-12

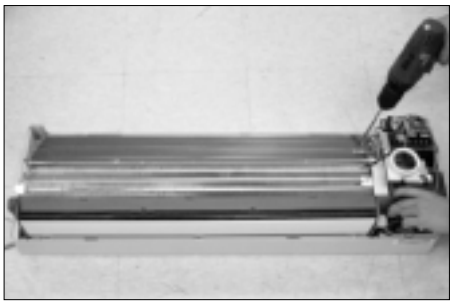
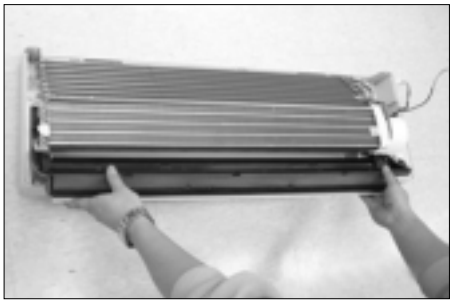
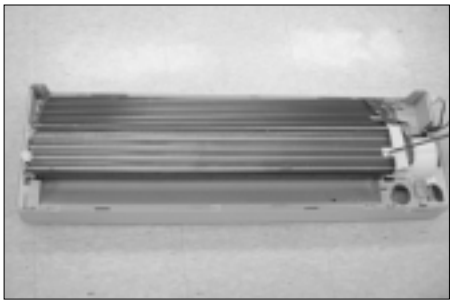
No	Parts	Procedure	Remark
1	Front Panel	1) Stop the air conditioner operation and shut off the main power. 2) Detach tape of Front Panel upper.	
		3) Slide the lower Front Grille down, then disassemble it by pulling it forwards. 4) Open the upper Front Grille by pulling right and left sides of the Grille. 5) Take the left and right Filter out. 6) Loosen one of the right screw and detach the Terminal Cover. 7) Detach the thermistor from the Front Grille.	
		8) Loosen 5 fixing screws of Front Grille.	
		9) Pull the lower left and right of discharge softly for the outside cover to be pulled out.	

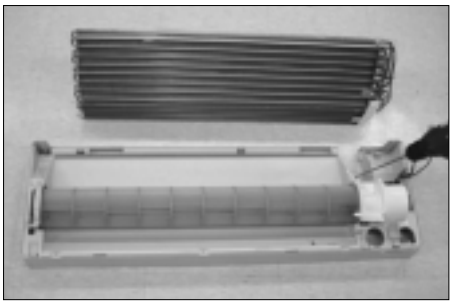
No	Parts	Procedure	Remark
		10) At first, press the left and center hook of the back side of the Panel Grille with the thumb to remove the hook. And press the right of the upper side of the Panel Grille with the fingers. And then disassemble the Panel Grille.	 
2	Electrical Parts (Main PCB)	1) Take all the connector of PCB upper side out.(Including Power Cord) 2) Detach the outdoor unit connection wire from the Terminal Block. 3) If pulling the main PCB up, it will be taken out.	
3	Tray Drain	1) Pull Tray Drain out from the Back Body.	

No	Parts	Procedure	Remark
4	Heat Exchanger	1) Loosen 2 fixing earth screws of right side. 2) Detach the Connection Pipe. 3) Detach the Holder Pipe at the rear side. 4) Loosen 3 fixing screws of right and left side.	
		5) Detach the Heat Exchanger from the indoor unit.	
			
5	Fan Motor & Cross Fan	1) Loosen 2 fixing screws and detach the Motor Holder. 2) Loosen the fixing screw of Fan Motor. (with a M3 wrench) 3) Detach the Fan Motor from the Fan.	
		4) Detach the Fan from the left Holder Bearing.	

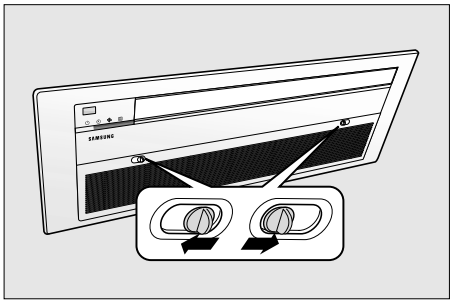
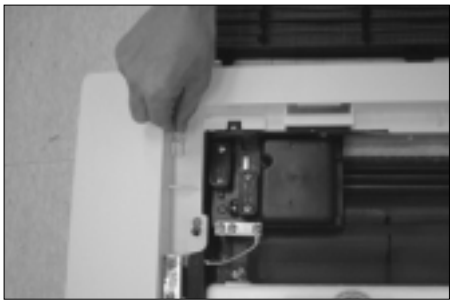
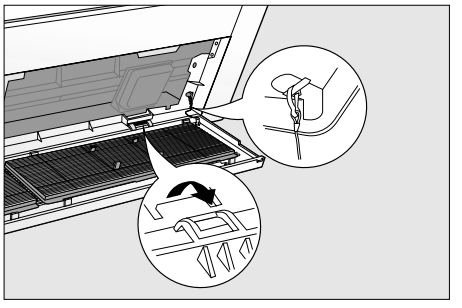
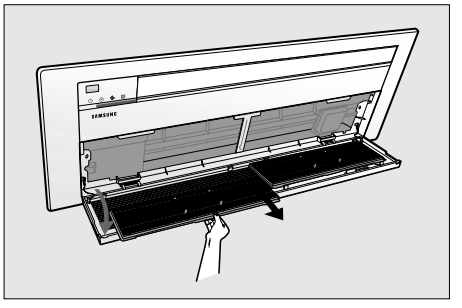
3-1-2 MH052FPEA

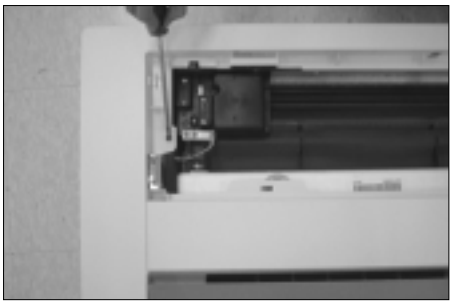
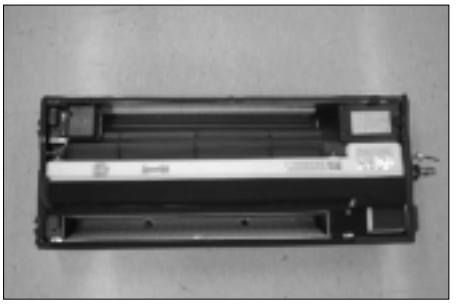
No	Parts	Procedure	Remark
1	Front Panel	1) Stop the air conditioner operation and shut off the main power. 2) Detach tape of Front Panel upper.	
		3) Slide the lower Front Grille down, then disassemble it by pulling it forwards. 4) Open the upper Front Grille by pulling right and left sides of the Grille. 5) Take the left and right Filter out. 6) Loosen one of the right screw and detach the Terminal Cover. 7) Detach the thermistor from the Front Grille.	
		8) Loosen 5 fixing screws of Front Grille.	
		9) Pull the lower left and right of discharge softly for the outside cover to be pulled out.	
		10) In order to disassemble the Panel Grille, press, in order, the left, center, and right of the upper side of the Panel Grille with the palm of the hand to remove the hook. And then disassemble the Panel Grille.	

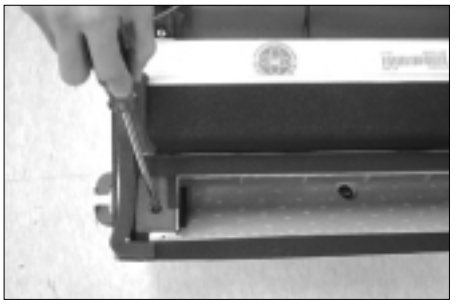
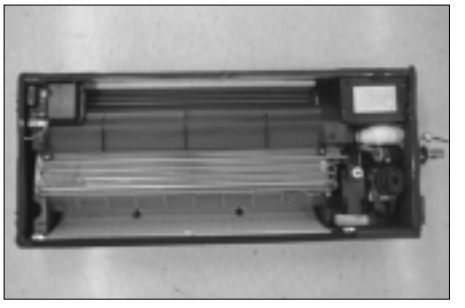
No	Parts	Procedure	Remark
2	Electrical Parts (Main PCB)	1) Take all the connector of PCB upper side out.(Including Power Cord) 2) Detach the outdoor unit connection wire from the Terminal Block. 3) If pulling the main PCB up, it will be taken out.	
3	Tray Drain	1) Pull Tray Drain out from the Back Body.	
4	Heat Exchanger	1) Loosen 2 fixing earth screws of right side. 2) Detach the Connection Pipe. 3) Detach the Holder Pipe at the rear side. 4) Loosen 3 fixing screws of right and left side. 5) Detach the Heat Exchanger from the indoor unit.	  

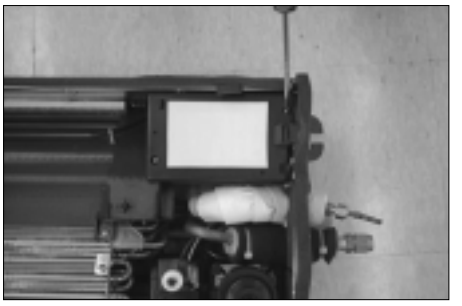
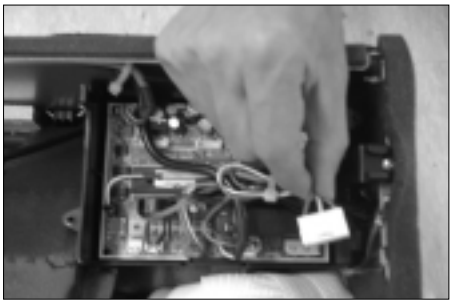
No	Parts	Procedure	Remark
5	Fan Motor & Cross Fan	1) Loosen 2 fixing screws and detach the Motor Holder. 2) Loosen the fixing screw of Fan Motor. (with a M3 wrench) 3) Detach the Fan Motor from the Fan.	
		4) Detach the Fan from the left Holder Bearing.	

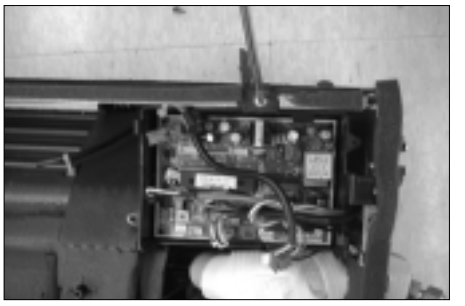
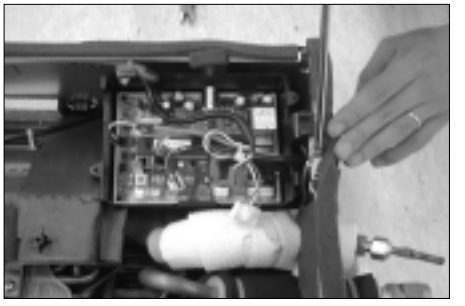
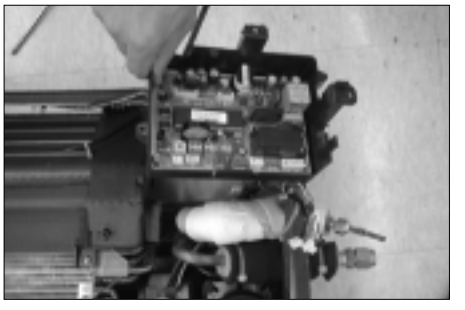
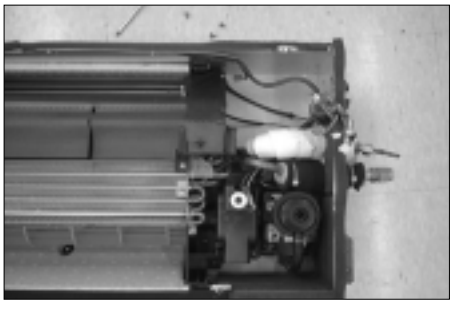
3-1-3 MH026FKEA / MH035FKEA

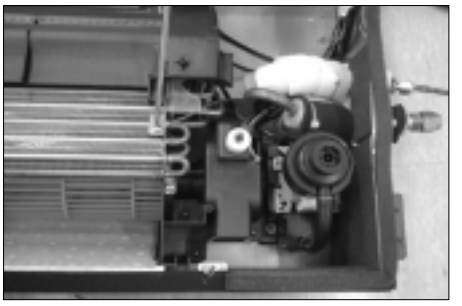
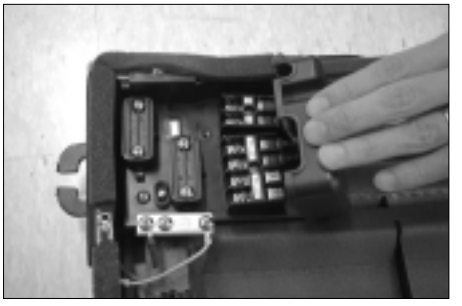
No	Parts	Procedure	Remark
1	Front Grille & Filter	1) Open the Front-Grille by pushing the tabs on the Grille. **IMPORTANT** You must give attention when disassembling the Front-Grille and must check the safety clips have been installed. If you don't ensure them, the Front Grille will drop suddenly and you will be hurt.	
		2) Detach the Front Grille. (1) Remove the safety clips. (2) Open the Front Grille about 45˚ and pull it forward.	 
		3) Pull out the Air-Filter.	

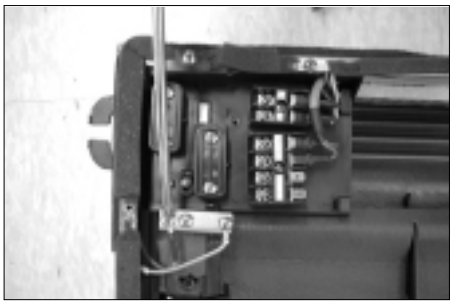
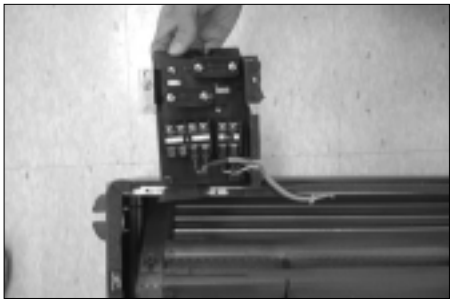
No	Parts	Procedure	Remark
2	Front Panel	1) Loosen 6 fixing screws holding the panel as shown picture.	 
		2) Detach the Front-Panel pressing the 2 hooks on the both sides of the indoor unit.	 

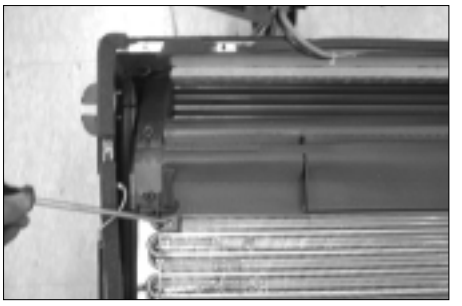
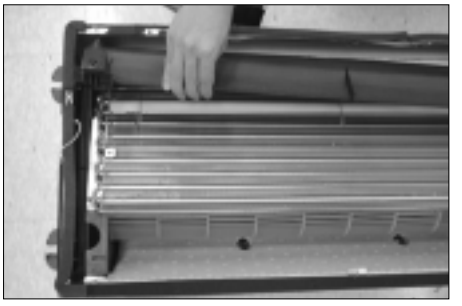
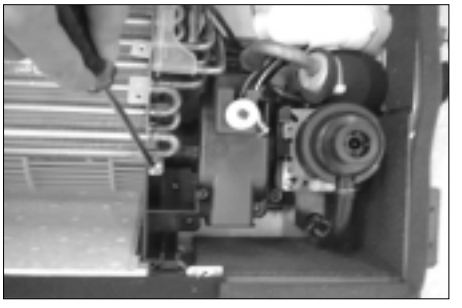
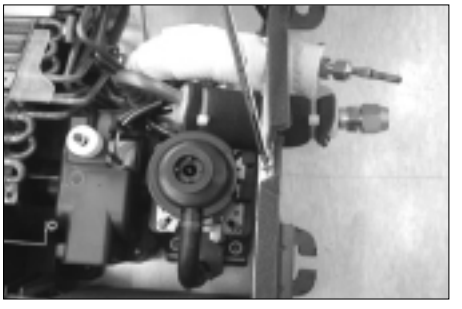
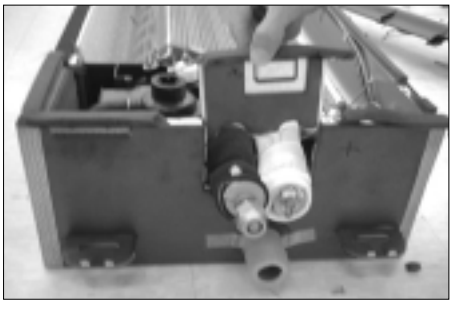
No	Parts	Procedure	Remark
3	Drain Panel	1) Loosen 4 fixing screws for Ass'y Drain Panel around as shown in pictures.	 
		2) Detach Ass'y Drain Panel as shown in Pictures.	 

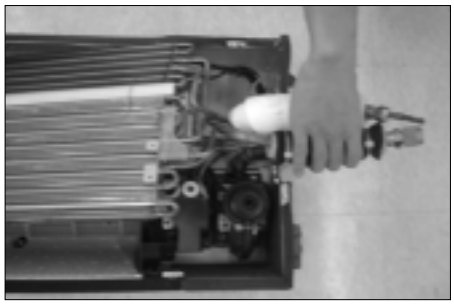
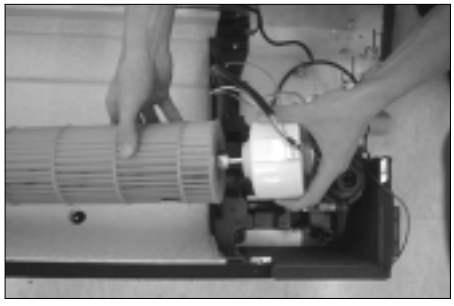
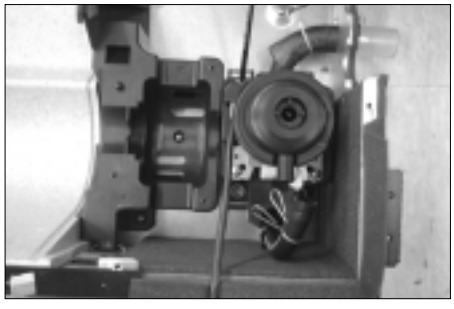
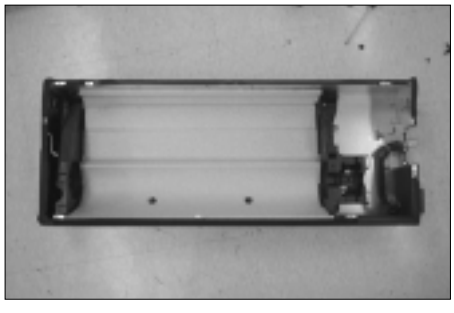
No	Parts	Procedure	Remark
4	Control In	1) Detach the Control Cover after disassembling 2 screws as shown in pictures.	  
		2) Detach the wire connection part of the Ass'y Main PCB as shown in picture.	

No	Parts	Procedure	Remark
		3) Loosen 2 fixing screws of Case Control as shown in pictures.	
			
		4) Loosen the fixing screw.	
		5) Detach the Ass'y Case Control part pulling up.	
			

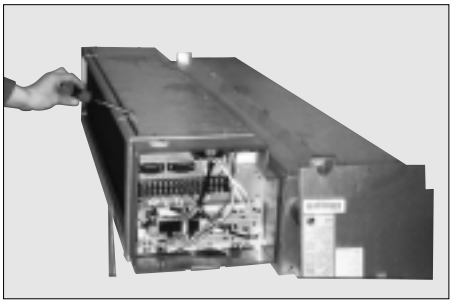
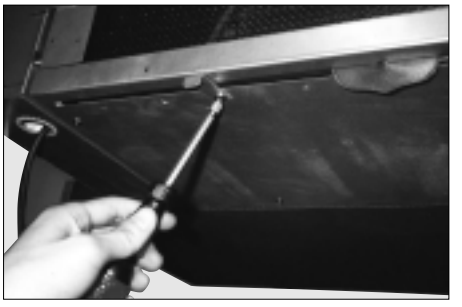
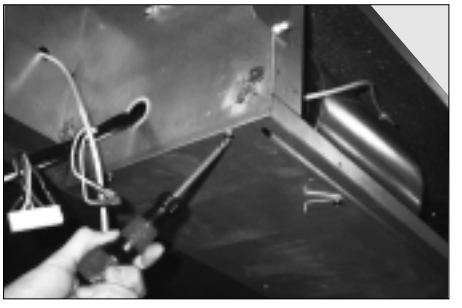
No	Parts	Procedure	Remark
		6) Loosen the fixing screw and detach earth cable.	
		7) Loosen the fixing screw and detach Terminal Cover as shown in pictures.	
			
		8) Loosen 2 fixing screws as shown in pictures.	
			

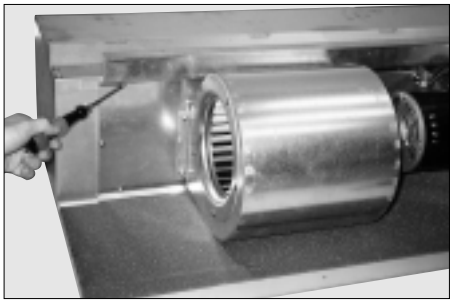
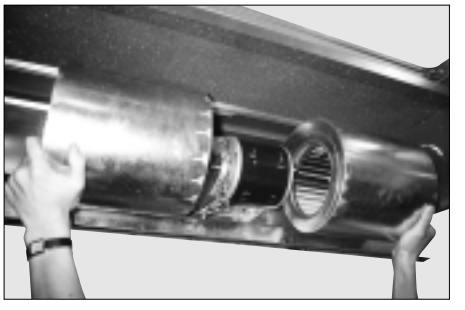
No	Parts	Procedure	Remark
		9) Loosen 2 fixing indicating screws of earth cable and the fixing screw of Base Terminal.	 
		10) Detach Base Terminal as shown in picture.	

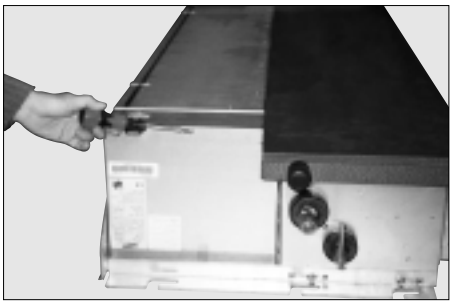
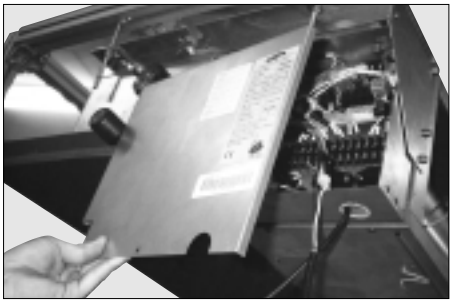
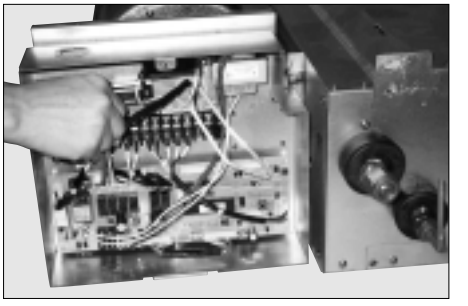
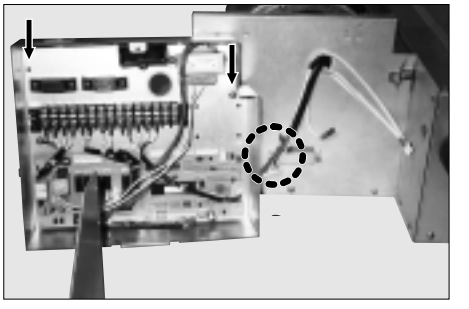
No	Parts	Procedure	Remark
5	Drain Panel Sub	1) Detach Ass'y Drain Panel Sub after loosen 2 fixing screws both side of it.	 
6	Evap	1) Loosen 4 fixing screws of Ass'y Evap around. 2) Loosen 2 fixing screws as shown in picture and detach Ass'y Cabinet-Side LF B.	  

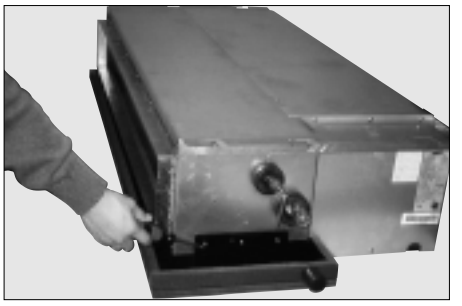
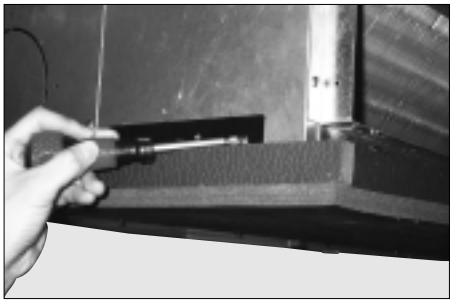
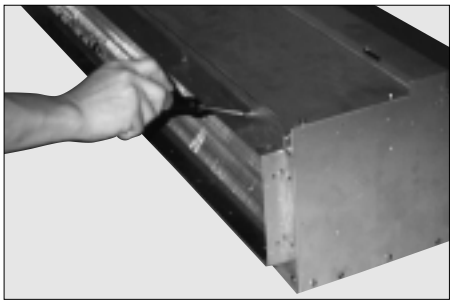
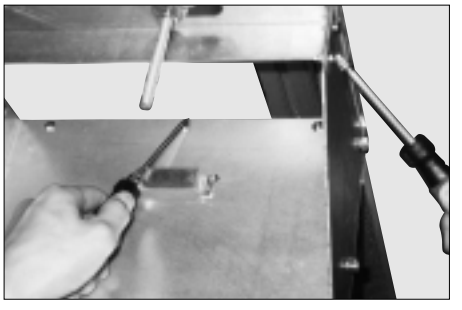
No	Parts	Procedure	Remark
		3) Detach Ass'y Evap pulling up from the indoor unit as shown in picture.	
7	Cross Fan	1) Loosen 3 fixing screws of cover Fan Motor and detach cover Fan Motor.	
		2) Detach Ass'y Cross Fan as shown in picture.	
8	Drain Pump	1) Loosen 4 fixing screws as shown in picture.	
		2) Detach Drain Hose and detach Ass'y Drain Pump as shown in pictures.	

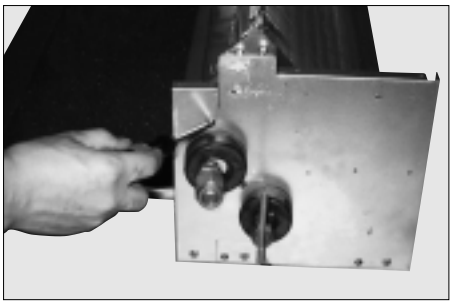
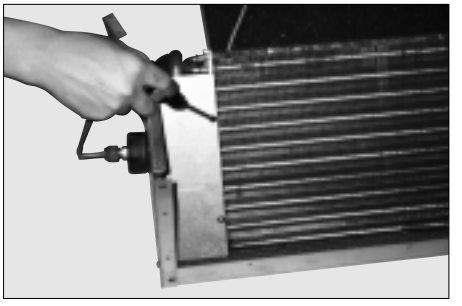
3-1-4 MH052FDEA

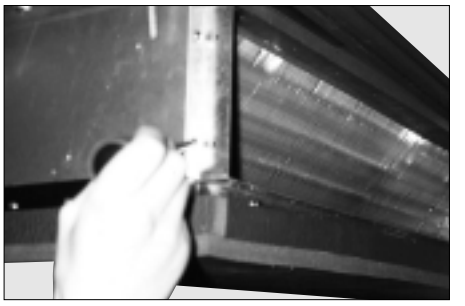
No	Parts	Procedure	Remark
1	Filter-Pre	1) Loosen 2 fixing screws of indication part and then assemble the direction of 2 Plate-Handle places by use of screw as shown in 2).	
		2) Turn the Plate Handle by hand when removing the Filter-Pre.	
		3) When pulling the Filter-Pre handle, the Filter-Pre can be assembled. ✻ Be sure to remove the cushion on the ◌ marked part after initial installation. (It cause the damage of noise).	
2	Blower & Duct	1) After disassembling 9 fixing screws, detach Ass'y Cover Bottom.	

No	Parts	Procedure	Remark
		2) Loosen 6 fixing screws.	
			
		3) Detach the Sensor Holder from the Ass'y Fan Case.	
		4) Detach from Ass'y Control In the capacitor connection wire between the Motor-Fan in and housing Connector.	
		5) Detach the Ass'y Blower and Duct from the set.	

No	Parts	Procedure	Remark
3	Control In	1) Loosen the fixing screw, detach the Cover-Control.	
			
		2) Detach the Motor-Fan in and Sensor Connector connected to PCB.	
		3) Loosen 2 fixing screws.(◌ mark)	
		4) Hold the Ass'y Control In by hand to lift up a little and then release the status of hanging on the hanging slot.	

No	Parts	Procedure	Remark
4	Drain Pan	1) Loosen 4 fixing screws to detach Ass'y Drain Pan. (2 screws each at left and right side)	 
5	Evap	✻ Work is possible when disassembling the Ass'y Drain Pan. 1) Loosen 8 fixing screws. (4 each at left and right side) 2) Loosen 6 fixing screws. 3) Loosen 5 fixing screws. ✻ It is possible at the status of No.3 Ass'y Control In disassembly at the time.	  

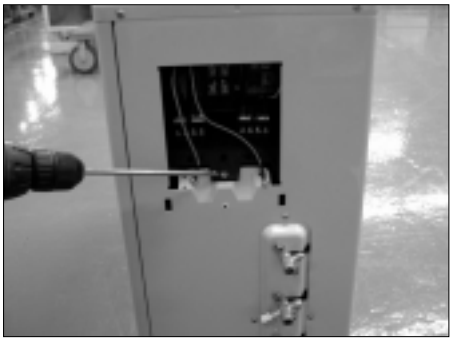
No	Parts	Procedure	Remark
		4) Loosen 4 fixing screws.	
		5) Pull the Cabinet-Side LF, RH by hand to disassemble.	
		6) Loosen 4 fixing screws. (2 each at left and right side)	
		7) Detach it from the set if the Ass'y-Evap pull up.	

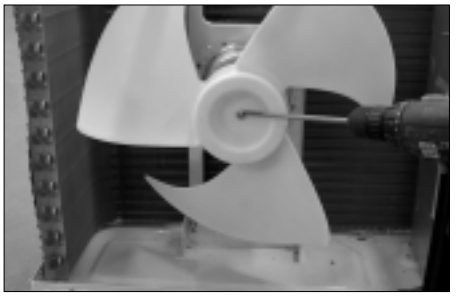
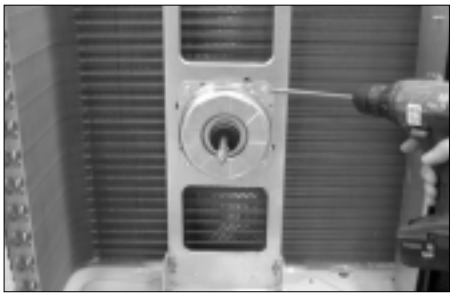
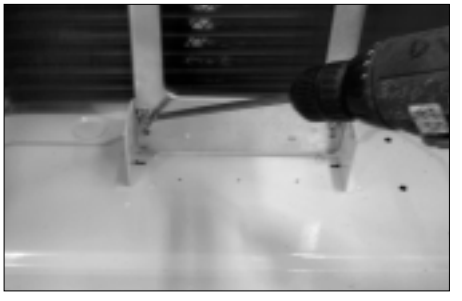
No	Parts	Procedure	Remark
6	Holder Outlet	✳ When connecting canvas to the discharge side. 1) Loosen 4 fixing screws. (2 each at left and right side)	
		2) Loosen 12 fixing screws. (6 each at upper and lower side) ✳ After connecting canvas to the disassembled Ass'y Holder Outlet 2), attach the Ass'y Holder Outlet to the set in the reverse order.	

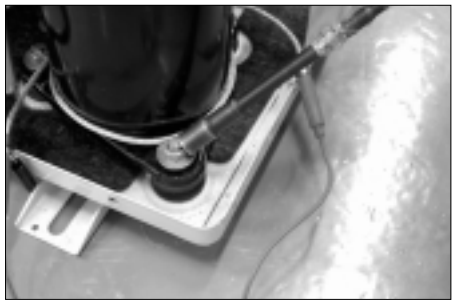
3-2 Outdoor Unit

Take care of the electrical shock by contact on the charging parts before the discharge after power off. (If takes approximately 2 minutes to discharge.)

3-2-1 MH052FXEA2 / MH18VP2X / MH19VP2X

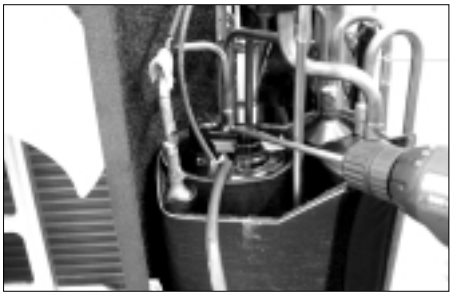
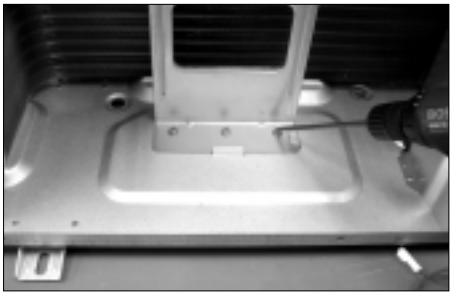
No	Parts	Procedure	Remark
1	Common Work & Control Out	1) Loosen the fixing screw and detach the Cover-Control. 2) Detach the Cable-Connector Wire from the Terminal-Block.	
		3) Loosen 8 fixing screws and detach the Cabinet-Upper.	
		4) Loosen 2 fixing screws, 7 bolts and detach the Front Cabinet.	
		5) Loosen 2 fixing screws and pull up the Control Box.	

No	Parts	Procedure	Remark
		6) Loosen 9 fixing screws and detach the Cabinet Side.	
		7) Detach the Terminal and detach the Compressor Lead Wire.	
2	Fan & Motor	1) Loosen the fixing nut and detach the Fan.	
		2) Loosen 4 fixing bolts and detach the Motor.	
		3) Loosen 2 fixing bolts and detach the Bracket Motor.	

No	Parts	Procedure	Remark
3	Heat Exchanger & Compressor	1) Release the refrigerant at first. 2) Disassemble the Inlet and Outlet Pipe by welding. 3) Loosen the fixing screws of the Heat Exchanger. 4) Detach the Heat Exchanger.	
		5) Loosen 3 nuts of the Compressor. 6) Detach the Compressor.	

3-2-2 MH068FXEA4 / MH080FXEA4

No	Parts	Procedure	Remark
1	Common Work & Control Out	1) Loosen the fixing screw and detach the Cover-Control. 2) Detach the Cable-Connector Wire from the Terminal-Block.	
		3) Loosen 8 fixing screws and detach the Cabinet-Upper.	
		4) Loosen 6 fixing screws, 7 bolts and detach the Cabinet Front.	
		5) Loosen 4 fixing screw and pull up the Control Box.	

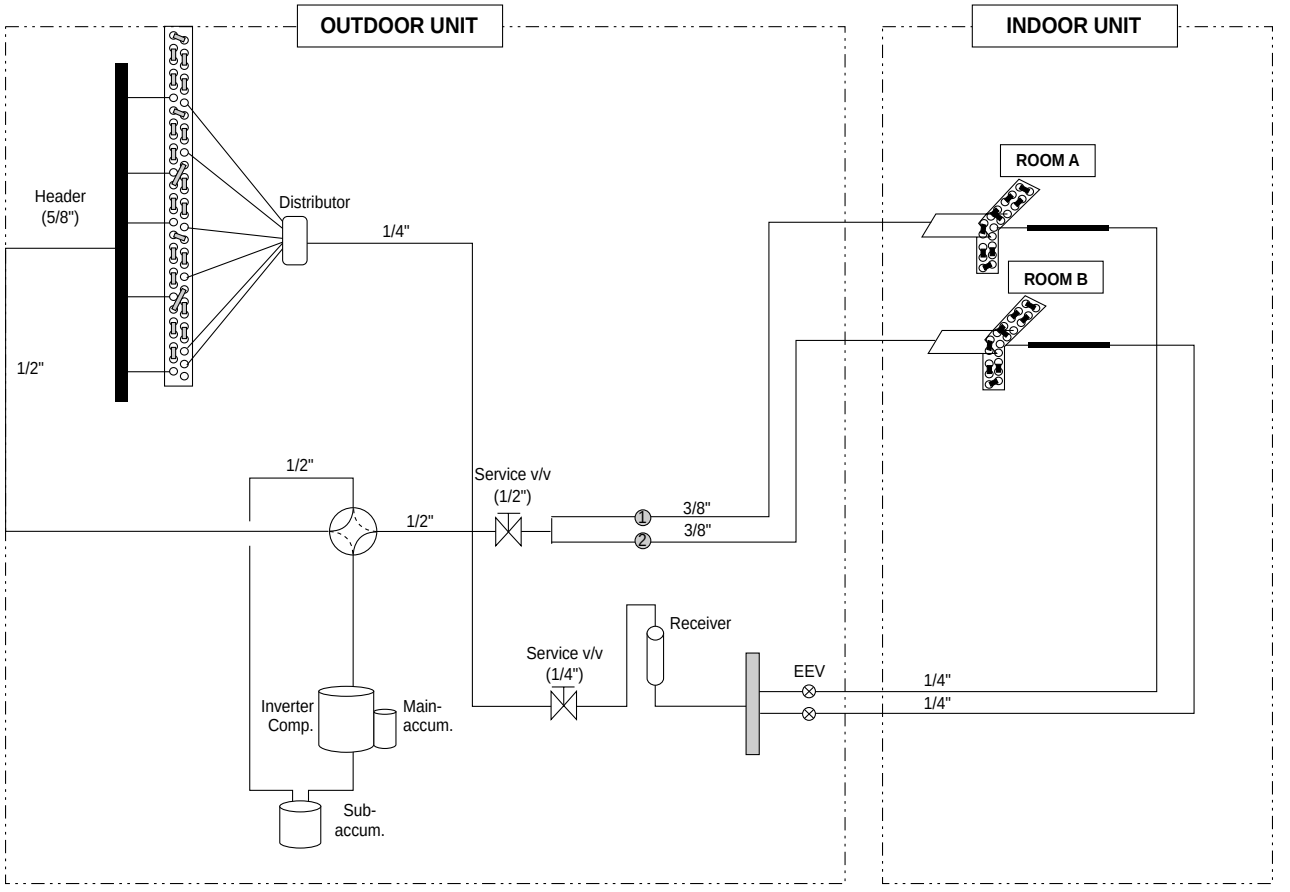
No	Parts	Procedure	Remark
		6) Loosen 12 fixing screws and detach the Cabinet Side.	
		7) Detach the Terminal Cover and detach the comp lead wire.	
2	Fan & Motor	1) Loosen the fixing nut and detach the Fan.	
		2) Loosen 4 fixing bolts and detach the Motor.	
		3) Loosen 3 fixing bolts and detach the Bracket Motor.	

No	Parts	Procedure	Remark
3	Heat Exchanger & Compressor	1) Release the refrigerant at first. 2) Disassemble the Inlet and Outlet Pipe by welding. 3) Loosen the fixing screw of the Heat Exchanger. 4) Detach the Heat Exchanger.	
		5) Loosen 3 nuts of the Compressor. 6) Detach the Compressor.	

4. Refrigerating Cycle Diagram

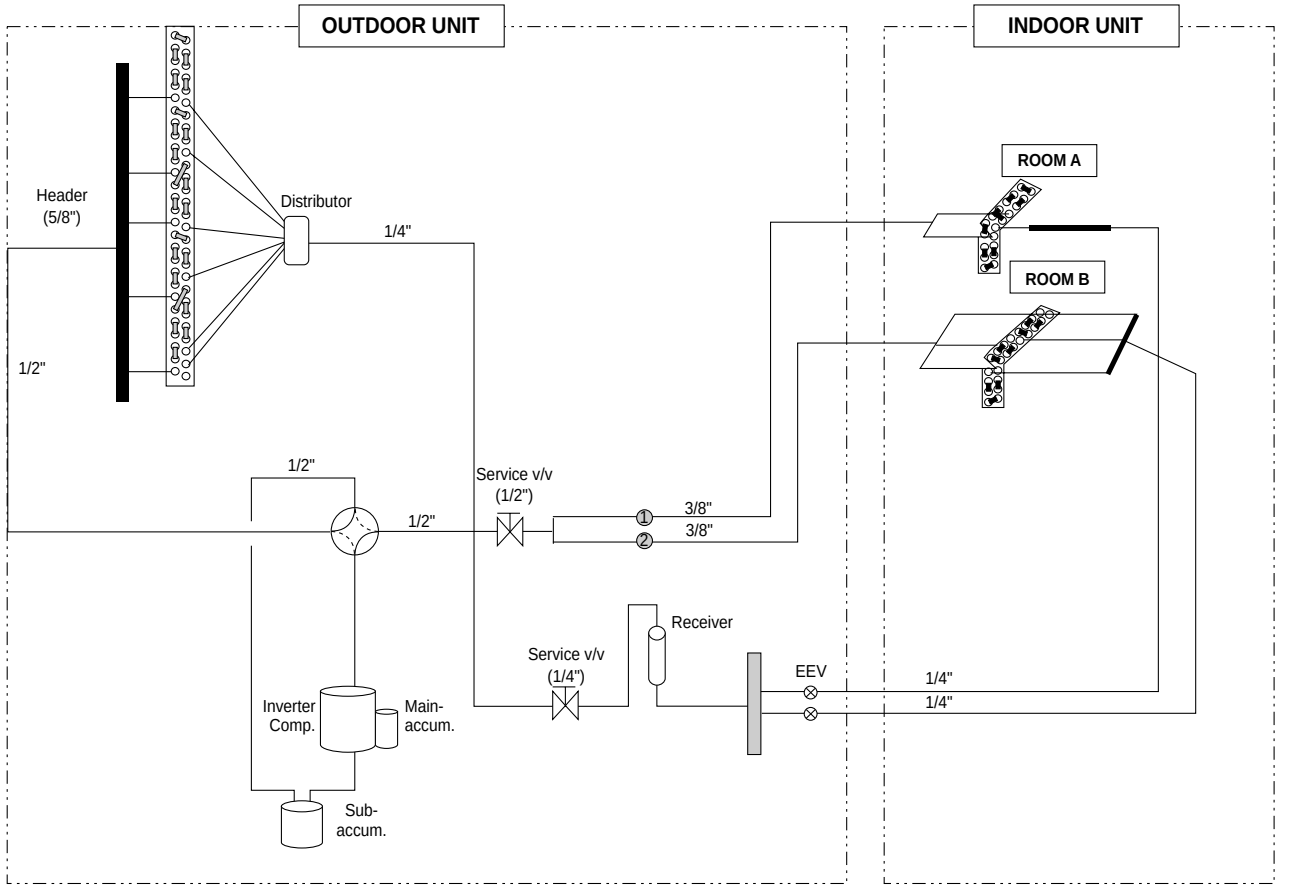
4-1 MH052FXEA / MH18VP2X

ex) 2 Rooms(MH026FPEA+MH026FPEA, MH18VP2-09+MH18VP2-09)



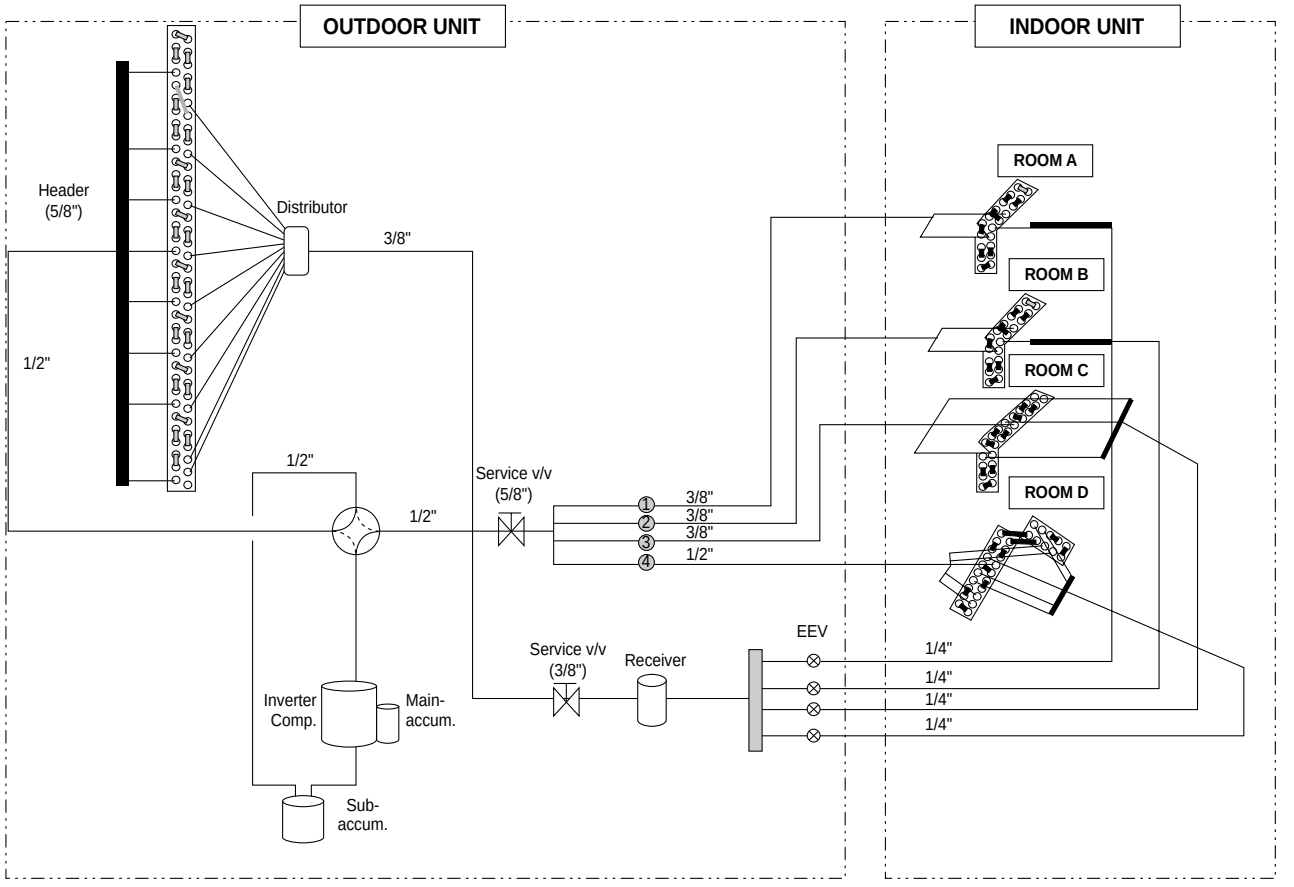
4-2 MH19PV2X

ex) 2 Rooms(MH19VP2X-07+MH19VP2X-12)



4-3 MH068FXEA4 / MH080FXEA4

ex) 4 Rooms(MH026FPEA+MH026FPEA+MH035FPEA+MH052FPEA)



5. Set Up the Model Option

5-1 Setting Option Setup Method

■ MH020FPEA / MH023FPEA / MH026FPEA / MH035FPEA / MH052FPEA / MH18VP2-09 / MH19VP2-07 / MH19VP2-12

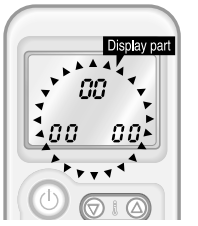
ex) Option No. : 066064- 170373

Step 1 : **Enter the Option Setup mode.**

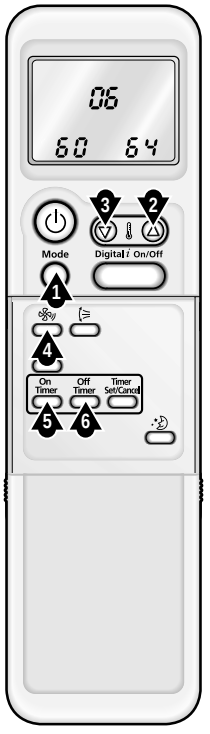
1st Take out the batteries of remote control.

2nd Press the temperature (▽ / △) button simultaneously and insert the battery again.

3rd Make sure the remote control display shown as 00 00 00 .



Step 2 : **Enter the Option Setup mode and select your option according to the following procedure.**



✻ Setting is not required if you must 0 a value which has a 0 default.

1

The default value is 00 00 00 .
Otherwise, push the Mode button to 0 .
Every time you push the button, the display panel reads 1 or 0 repeatedly.

2

Push the △ button to set the display panel to 6 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

3

Push the ▽ button to set the display panel to 6 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

4

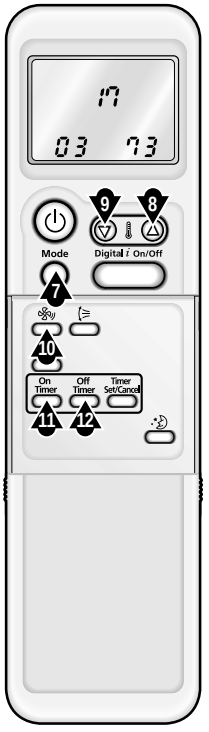
Push the button to set the display panel to 0 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

5

Push the On Timer button to set the display panel to 6 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

6

Push the Off Timer button to set the display panel to 4 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.



✻ Setting is not required if you must 0 a value which has a 0 default.

7 Press Mode button, then the default value is 00 00.

8 Push the ▲ button to set the display panel to 7.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

9 Push the ▼ button to set the display panel to 0.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

10 Push the button to set the display panel to 3.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

11 Push the On Timer button to set the display panel to 7.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

12 Push the Off Timer button to set the display panel to 3.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

Step 3 : Upon completion of the selection, check you made right selections.

Press the Mode Selection key, Mode to set the display part to 0 and check the display part.

➡ The display part shows 06 60 64.

Press the Mode Selection key, Mode to set the display part to 1 and check the display part.

➡ The display part shows 17 03 73.

Step 4 : Pressing the ON/OFF button (⏻)

When pressing the operation ON/OFF key with the direction of remote control for unit, the sound "Ding" or "Diriring" is heard and the OPERATION ICON(≋) lamp of the display is flickering at the same time, then the input of option is completed. (If the diriring sound isn't heard, try again pressing the ON/OFF button.)

Step 5 : Unit operation test-run

First, Remove the battery from the remote control.

Second, Re-insert the battery into the remote control.

Third, Press ON/OFF key with the direction of remote control for set.

• Error Mode

1st If all lamps of indoor unit are flickering, Plug out, plug in power plug again and press ON/OFF key to retry.

2nd If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for it's model.

■ MH026FKEA / MH035FKEA / MH052FDEA

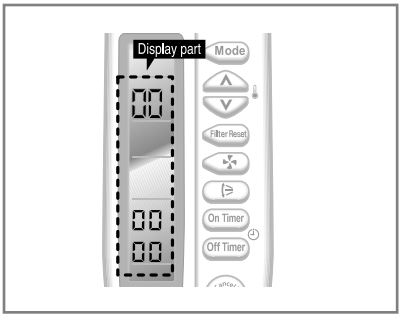
ex) Option No. : 085115-1d2340

Step 1 : **Enter the Option Setup mode.**

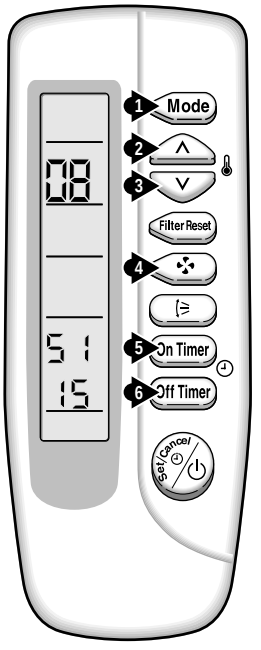
1st Take out the batteries of remote control.

2nd Press the temp. button simultaneously and insert the battery again.

3rd Make sure the remote control display shown as 00 00 00 .



Step 2 : **Enter the Option Setup mode and select your option according to the following procedure.**



✻ Setting is not required if you must 0 a value which has a 0 default.

1 The default value is 00 00 00 .
Otherwise, push the Mode button to 0 .
Every time you push the button, the display panel reads 1 or 0 repeatedly.

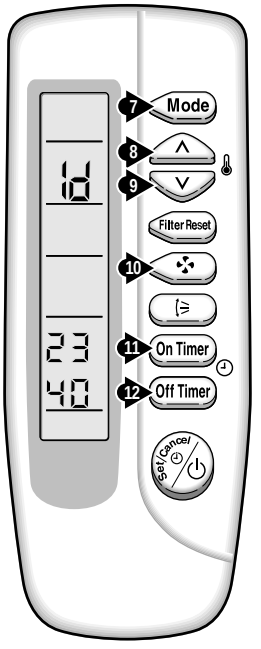
2 Push the ∧ button to set the display panel to 8 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

3 Push the ∨ button to set the display panel to 5 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

4 Push the button to set the display panel to 1 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

5 Push the On Timer button to set the display panel to 1 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

6 Push the Off Timer button to set the display panel to 5 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.



✻ Setting is not required if you must 0 a value which has a 0 default.

7 Press Mode button, then the default value is 25.

8 Push the ∧ button to set the display panel to d.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

9 Push the ∨ button to set the display panel to 2.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

10 Push the button to set the display panel to 3.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

11 Push the On Timer button to set the display panel to 4.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

12 Push the Off Timer button to set the display panel to 0.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

Step 3 : Upon completion of the selection, check you made right selections.

Press the Mode Selection key, Mode to set the display part to 0 and check the display part.

➡ The display part shows 08.

Press the Mode Selection key, Mode to set the display part to 1 and check the display part.

➡ The display part shows 10.

Step 4 : Pressing the ON/OFF button ( )

When pressing the operation ON/OFF key with the direction of remote control for unit, the sound "Ding" or "Diriring" is heard and the OPERATION ICON( ) lamp of the display is flickering at the same time, then the input of option is completed. (If the diriring sound isn't heard, try again pressing the ON/OFF button.)

Step 5 : Unit operation test-run

First, Remove the battery from the remote control.

Second, Re-insert the battery into the remote control.

Third, Press ON/OFF button( ) with the direction of remote control for set.

• Error Mode

1st If all lamps of indoor unit are flickering, Plug out, plug in power plug again and press ON/OFF key to retry.

2nd If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for its model.

■ Table of the option code

MODEL	OPTION CODE
MH020FPEA **MH19VP2-07**	0d7400-13223F
MH023FPEA **MH026FPEA** **MH18VP2-09**	0d6400-142351
MH035FPEA **MH19VP2-12**	0d7404-162362
MH052FPEA	0d5408-192351
MH026FKEA	005600-14221d
MH035FKEA	005600-162340
MH052FDEA	015200-190000

6. Troubleshooting

6-1 Items to be checked first

1. The input voltage should be rating voltage ±10% range.
   The airconditioner may not operate properly if the voltage is out of this range.

2. Is the link cable linking the indoor unit and the outdoor unit linked properly?
   The indoor unit and the outdoor unit shall be linked by 4 wires.
   2 wires are for power and other 2 wires are for communication, total 4 wires on each indoor unit. Check the terminals if the indoor unit and outdoor unit are properly linked by the same number of cables and if connecting position on the terminal is correct.
   Otherwise the airconditioner may not operate properly.

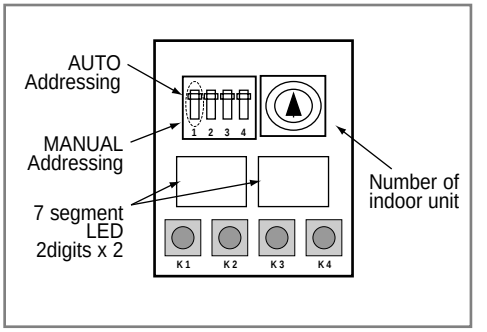
3. When a problem occurs due to the contents illustrated in the table below it is a symptom not related to the malfunction of the airconditioner.

No	Operation of air conditioner	Explanation
1	In a COOL operation mode, the compressor does not operate at a room temperature higher than the setting temperature that the INDOOR FAN should operate. In a HEAT operation mode, the compressor does not operate at a room temperature lower than the setting temperature that indoor fan should operate.	In happens after a delay of 3 minutes when the compressor is reoperated. The same phenomenon occurs when a power is on. As a phenomenon that the compressor is reoperated after a delay of 3 minutes, the indoor fan is adjusted automatically with reference to a temperature of the air blew
2	Fan speed setting is not allowed in AUTO(Auto) or DRY( ) mode.	The speed of the indoor fan is set to LL in DRY mode. Fan speed is 5 steps and is selected automatically in AUTO mode.
3	Compressor stops operation intermittently in DRY( ) mode.	Compressor operation is controlled automatically in DRY mode depending on the room temperature and humidity.
4	Compressor of the outdoor unit is operating although it is turned off in a HEAT mode.	When the unit is turned off while de-ice is activated, the compressor continues operation for up to 12 minutes (maximum) until the deice is completed.
5	Timer LED( ) only of the indoor unit lights up and the air conditioner does not operate.	Timer is being activated and the unit is in ready mode. The unit operates normally if the timer operation is cancelled.
6	The compressor and indoor fan stop intermittently in HEAT mode.	The compressor and indoor fan stop intermittently if room temperature exceeds a setting temperature in order to protect the compressor from overheated air in a HEAT mode.
7	Indoor fan and outdoor fan stop operation intermittently in a HEAT mode.	The compressor operates in a reverse cycle to remove exterior ice in a HEAT mode, and indoor fan and outdoor fan do not operate intermittently for within 20% of the total heater operation.
8	The compressor stops intermittently in a COOL mode or DRY mode, and fan speed of the indoor unit decreases.	The compressor stops intermittently or the fan speed of the indoor unit decreases to prevent inside/outside air frozen depending on the inside/outside air temperature.

6-2 Checking and Testing operations

To complete the installation, perform the following checks and tests to ensure that the air conditioner is operating correctly.

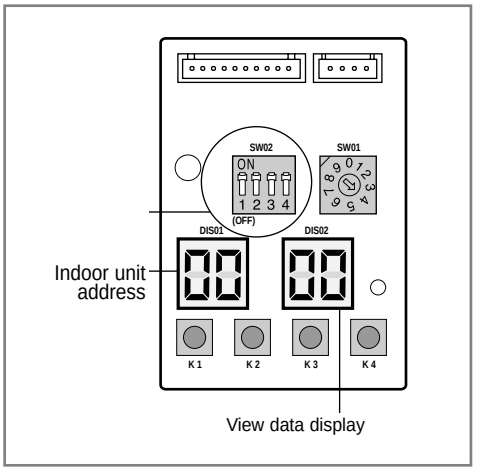
1. Review all the following elements in the installation:
   - Installation site strength
   - Piping connection tightness not to leak any gas
   - Connection wiring
   - Heat-resistant insulation of the piping
   - Drainage
   - Earthing wire connection
   - Setting number of the indoor unit installed (Outdoor unit SW)
   - Addressing mode (AUTO or MANUAL)
   - Address number on each indoor unit (Manual addressing mode)
   - Correct operation for checking connection (follow the step below)



■ **Key Options of PCB Display**

- K1 : Test button - K2 : Function button
- K3 : Reset button - K4 : View mode change button

Key / Push	K1	K2	K3	K4
1	Heat mode Try-run (Display: H1)	Refrigerant Charging (Display: H2)	Reset	View mode change
2	-	Cool mode Try-run (Display: H3)		
3	-	Pump down (Display: H4)		
4	-	Checking of pipe connection (Display: H5)		



Outdoor PCB Display

■ **K4 View mode Display changes**

Push	Display Explanation	Push	Display Explanation
0	Present Compressor Frequency	8	Discharge temperature
1	Target Compressor Frequency	9	OLP temperature
2	Order Compressor Frequency	10	Condenser temperature
3	EEV0 current step	11	Outdoor temperature
4	EEV1 current step	12	Primary current
5	EEV2 current step	13	Target Discharge temperature
6	EEV3 current step	14	Total capacity of the indoor units
7	Fan RPM (H: high, L: low, Blank: off)	15	Safety control code

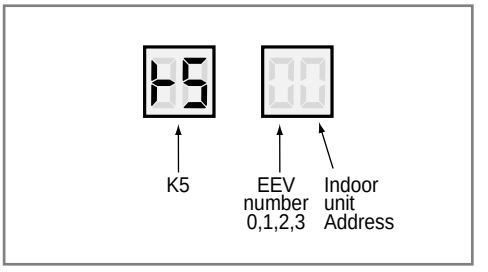
2. Apply the power to the outdoor unit

Outdoor unit will try to communicate the specified number of indoor units by SW01 on outdoor display PCB.

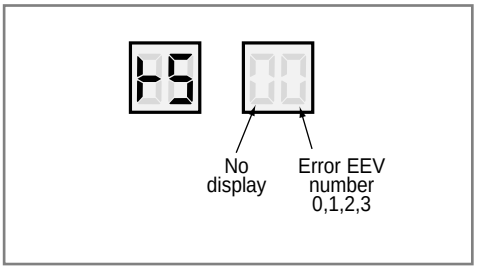
- If connection is normal then LED shows "normal display", right 2 digit of LED on Display PCB displays '00' and left 2 digit of LED displays indoor unit address number.
  This number is displayed only while communicating, so each number is displayed for a short time and in order.
- If Error code, started with 'E', is displayed on the LED check the indoor unit, outdoor unit or wiring according to the error code table.
- If nothing is displayed on the LED, check the power source, power cable and FUSE on the outdoor controller.

■ **In case of AUTO ADDRESSING mode (SW02-1:ON)**

- Press K2 switch 4 times to start "PIPE CHECK MODE".
  After starting this mode, LED on the left is displayed "K5" and press K2 switch once to cancel this mode .
- If this "PIPE CHECK MODE" finished without error, LED shows "normal display" and press K3 to restart the system.
- This mode is for finding the combination between indoor unit and each valve on the outdoor unit. Because refrigerant flow is controlled with EEV in the outdoor, controller should know which EEV will controls which indoor unit.
- It takes 5 to 50 minute to complete. This time depends on the outdoor temperature and number of indoor unit.
- During this mode LED on the right 2 digit shows EEV number and the indoor address which is checking at the time. (see right figure)
- If checking finished with no error, LED display returns to "normal display".
- If finished with error, right digit will show the EEV number which is the wrong PIPE connection. In case of two or more wrong connection, error EEV number will display each for 1 seconds in order.
  After confirm the error, press K3 to system reset and do this mode again.
- Once "PIPE CHECK MODE" is done normally, each indoor unit will remember the given address number by the outdoor unit and no need to do this checking.
  But in case of listed below, PIPE CHECK MODE should be done again.
  - Re-install the system (ie. house moving)
  - Remove indoor unit, Add new indoor unit, Change indoor PCB for repair.
  - Mode change from "manual addressing" to "auto addressing"
- On this mode the controller will ignore the manual address number set on the rotary switch on the indoor PCB.
- To confirm the indoor address number assigned by this mode, use "TEST MODE" and the address number will be displayed on the LED display on the indoor unit.



LED display under PIPE CHECK MODE



LED display when PIPE CHECK ERROR

■ **In case of MANUAL ADDRESSING mode. (SW02-1:OFF)**
Checking the address number correctly on each indoor unit PCB.
- "PIPE CHECK MODE" is also able to use.

● **If Error code is displayed on indoor or outdoor LED, check as follows;**

1. confirm if SW01 setting number and the number of indoor unit installed are the same.

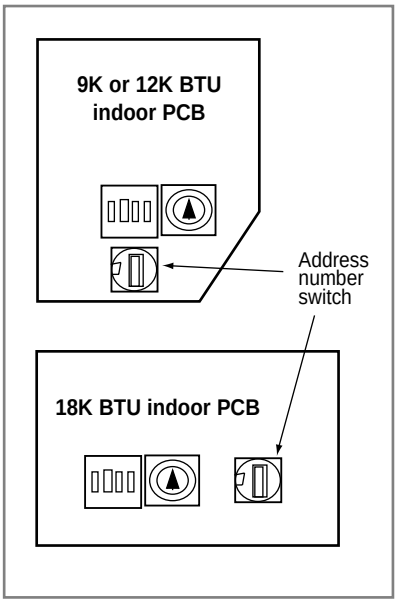
2. If some indoor unit has no power, confirm power cable connection, especially miss-wiring between communication cable and power cable.

3. If error code E101 or E185 is displayed on indoor unit LED, check communication wire and power wire connection.

4. If error code E460 is displayed on outdoor unit LED, AC power line could be connected to outdoor communication terminal, F1 & F2. So check the wiring not only communication line but also power line.

5. If error code E401, E404 or E416 is displayed on outdoor unit LED, check PIPE connection also. Because gas flow to a different indoor unit will case these error.

6. In case of communication error by wrong wiring on one indoor unit, all indoor units display a error code. In this case, correction at the wrong point could solve all indoor unit error display.



The error indicated on the PCB display of outdoor unit

Display		Explanation	Main checking Point
E1	01	Communication error (indoor unable to receive data)	Communication cable connection
E1	02	Communication error (outdoor unable to communicate)	Indoor unit
E1	21	Indoor unit room temperature sensor error (Open/Short)	Indoor unit
E1	22	Indoor unit heat exchanger in temperature sensor error (Open/Short)	Indoor unit
E1	23	Indoor unit heat exchanger out temperature sensor error (Open/Short)	Indoor unit
E1	28	Indoor unit sensor error - Evaporator pipe in sensor detached	Indoor unit
E1	29	Indoor unit sensor error - Evaporator pipe out sensor detached	Indoor unit
E1	30	Indoor unit heat exchanger in & out temperature sensor detached	Indoor unit
E1	61	More than 2 indoor units cool and heat simultaneously	Indoor unit operation mode
E2	01	The number of indoor unit mismatched	Communication wiring
E2	02	Communication error (outdoor unable to receive data)	Communication wiring
E2	03	Communication error between 2 microcontroller on the outdoor PCB	Outdoor unit PCB
E2	21	Outdoor temperature sensor error (Short/Open) - Error level : over 4.9V(-50˚C) under 0.4V(93˚C)	Temperature sensor
E2	37	Condenser temperature sensor error (Short/Open) - Error level : over 4.9V(-50˚C) under 0.4V(93˚C)	Temperature sensor
E2	46	Condenser temperature sensor detached	Temperature sensor
E2	60	Compressor discharge sensor error (Short/Open) - Error check condition : outdoor temperature over -20˚C - Error level : over 4.95V(-30˚C) under 0.5V(151˚C)	Temperature sensor
E2	61	Compressor discharge sensor detached	Temperature sensor
E3	20	Compressor OLP sensor error (Short/Open) - Error check condition : outdoor temperature over -20˚C - Error level : over 4.95V(-30˚C) under 0.5V(151˚C)	Temperature sensor
E4	01	Indoor unit heat exchanger freezing and compressor stop (cooling mode)	Check pipe matching also(indoor-outdoor)
E4	04	Outdoor unit overload and compressor stop (protection control in heating mode)	Check pipe matching also(indoor-outdoor)
E4	16	Outdoor unit high discharge temperature and compressor stop (protection control in heating mode)	Check pipe matching also(indoor-outdoor)

The error indicated on the PCB display of outdoor unit(cont.)

Display		Explanation	Main checking Point
E4	19	Outdoor unit EEV open error (self diagnosis)	EEV
E4	22	Outdoor unit EEV close error (self diagnosis)	EEV
E4	40	High temperature (over 30˚C) of outdoor as heating mode	Operation mode
E4	41	Low temperature (under -5˚C) of indoor as cooling mode	Operation mode
E4	60	Wrong connection between communication and power cable	Wiring indoor and outdoor
E4	61	Inverter compressor starting failure (5 times)	Service valve, EEV, Compressor terminal, Compressor wire, Outdoor controller
E4	62	Compressor trip by input current limit control	EEV, Gas over charge, Outdoor controller
E4	63	Compressor trip by OLP temperature limit control	Outdoor fan, Compressor, Outdoor controller
E4	64	Compressor peak current protection	Outdoor fan, Compressor, Compressor wire, Outdoor controller
E4	65	Compressor overload protection by current	Outdoor fan, EEV, Service valve, Outdoor controller
E4	66	DC-link voltage error (under 150V or over 410V) (This error might display for a few seconds after power cut)	Power voltage, Outdoor controller
E4	67	Compressor rotation error	Compressor terminal, Compressor wire, Outdoor controller
E4	68	Current sensor error	Outdoor controller
E4	69	DC-link voltage sensor error	Outdoor controller
E4	70	Compressor overload protection	Outdoor fan, EEV, Service valve, Outdoor controller
E4	71	EEPROM error	Outdoor controller
E4	72	AC line zero-crossing detection circuit error	Outdoor controller, Terminal Block
E5	54	NO GAS error (self diagnosis)	Piping (gas leak)

The error indicated on the LED display of Indoor unit

■ **MH026FPEA / MH035FPEA / MH052FPEA**

Display	Explanation	Main checking Point / Remark
E1↔01	Communication error (unable to receive data)	Communication cable connection
E1↔02	Communication error (outdoor cannot communicate)	Another indoor unit or indoor PCB
E1↔21	Indoor unit room temperature sensor error (Open/Short)	Room temperature sensor, indoor PCB
E1↔22	Indoor unit heat exchanger in temperature sensor error (Open/Short)	Heat exchanger in sensor, indoor PCB
E1↔23	Indoor unit heat exchanger out temperature sensor error (Open/Short)	Heat exchanger out sensor, indoor PCB
E1↔28	Indoor unit heat exchanger in temperature sensor detached	Heat exchanger in sensor
E1↔29	Indoor unit heat exchanger out temperature sensor detached	Heat exchanger out sensor
E1↔30	Indoor unit heat exchanger in & out temperature sensor detached	Heat exchanger in & out sensor
E1↔54	Indoor unit fan motor malfunction	Fan motor and cable
E1↔61	More than 2 indoor units cool and heat simultaneously	Another indoor unit operation mode
E1↔62	EEPROM error	Indoor PCB
E1↔63	Option code setting error	Option code
E1↔85	Cable miss-wiring	Cable connection (Indoor & Outdoor unit)
E2↔01	The number of indoor unit mismatched	Cable connection (another indoor unit & outdoor unit), SW01(outdoor)
ES↔59	Outdoor unit error	Outdoor unit (Error code)

The error indicated on the LED display of Indoor unit

■ **MH026FKEA / MH035FKEA**

Abnormal conditions	Indicators					Operating
	Green	Red				
Power reset	◑	×	×	×	×	
Error of temperature sensor in indoor unit (OPEN/SHORT)	×	×	◑	×	×	
Error of heat exchanger sensor in indoor unit Error of heat exchanger OUT sensor in indoor unit Error of outlet temperature sensor in indoor unit (OPEN/SHORT): For heat pump models only	◑	×	◑	×	×	
Error of mixed operation	×	◑	×	◑	×	
Error of indoor fan motor : Below 450RPM for 15 minutes	×	×	×	◑	×	
Error of outdoor temperature sensor Error of COND sensor Error of DISCHARGE sensor	◑	×	×	◑	×	
1. No communication for 2 minutes between indoor unit and outdoor unit (communication error for more than 2 minutes) 2. Indoor unit receiving the communication error from outdoor unit 3. Outdoor unit tracking 3 minutes error 4. When sending the communication error from outdoor unit due to the mismatching of the communication numbers and installed numbers after completion of tracking (communication error for more than 2 minutes)	×	×	◑	◑	×	Error of indoor unit: Displayed on the indoor unit regardless of operation
1. 2nd detection of refrigerant completely leak 2. 2nd detection of high temperature COND 3. 2nd detection of high temperature DISCHARGE 4. Compressor down due to 6th detection of freezing	×	×	◑	◑	◑	Displayed on appropriate indoor unit which is operating Displayed on outdoor unit
Error of float switch	×	×	×	◑	◑	
Error of setting option switches for optional accessories	×	×	◑	×	◑	
EEPROM error	◑	×	◑	◑	×	
EEPROM option error	◑	◑	◑	◑	◑	

● : On ◑ : Flickering × : Off

◆ If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

The error indicated on the LED display of Indoor unit

■ **MH052FDEA**

Abnormal conditions	Indicators					Operating
	Concealed Type					
	Blue	Red				
	Standard Type					
Power reset	◑	×	×	×	×	
Error of temperature sensor in indoor unit (OPEN/SHORT)	×	×	◑	×	×	Displayed on appropriate indoor unit which is operating
Error of heat exchanger sensor in indoor unit Error of heat exchanger OUT sensor in indoor unit Error of outlet temperature sensor in indoor unit (OPEN/SHORT): For heat pump models only	◑	×	◑	×	×	Displayed on appropriate indoor unit which is operating
Error of mixed operation	×	◑	×	◑	×	
Error of outdoor temperature sensor Error of COND sensor Error of DISCHARGE sensor	◑	×	×	◑	×	Displayed on appropriate indoor unit which is operating Displayed on outdoor unit
1. No communication for 2 minutes between indoor unit and outdoor unit (communication error for more than 2 minutes) 2. Indoor unit receiving the communication error from outdoor unit 3. Outdoor unit tracking 3 minutes error 4. When sending the communication error from outdoor unit the mismatching of the communication numbers and installed numbers after completion of tracking. (communication error for more than 2 minutes)	×	×	◑	◑	×	1. Error of indoor unit : Displayed on the indoor unit regardless of operation 2. Error of outdoor unit : Displayed on the indoor unit which is operating
Self-diagnostic error (including the indoor unit not detected) 1. Error of electronic expansion valve close 2. Error of electronic expansion valve open 3. Breakaway of EVA OUT sensor 4. Breakaway of EVA IN sensor	×	×	◑	◑	◑	Displayed on appropriate indoor unit which is operating Displayed on outdoor unit

● : On ◑ : Flickering × : Off

◆ If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

◆ If you re-operate the air conditioner, it operates normally at first, then detect an error again.

Abnormal conditions	Indicators					Operating
	Concealed Type					
	Blue	Red				
	Standard Type					
5. Breakaway of COND MID sensor 6. 2nd detection of refrigerant completely leak 7. 2nd detection of high temperature COND 8. 2nd detection of high temperature DISCHARGE 9. COMP DOWN due to 2nd detection of low pressure switch 10. Error of reverse phase 11. Compressor down due to 6th detection of freezing 12. Self-diagnosis of condensation sensor (G8, G9) 13. Compressor down due to condensation ratio control	×	×	◑	◑	◑	Displayed on appropriate indoor unit which is operating Displayed on outdoor unit
Error of float switch	×	×	×	◑	◑	
Error of setting option switches for optional accessories	×	×	◑	×	◑	
EEPROM error	◑	×	◑	◑	×	
EEPROM option error	◑	◑	◑	◑	◑	

● : On ◑ : Flickering × : Off

◆ If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

◆ If you re-operate the air conditioner, it operates normally at first, then detect an error again.

6-3 Fault Diagnosis by Symptom

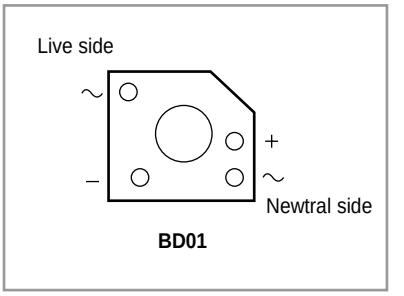
6-3-1 Basic Check Flow

Preparation : multimeter (AC voltage, DC voltage, Resistance)

Item	Procedure	Judgement	Next check if fault
Short check for safety	• Detach cable cover of the terminal blocks (HANDLE CABI RH) on outdoor unit.		
	Check resistance value between L and N of Main power terminal block.	OK : over 180KΩ	• Outdoor unit controller • Indoor unit controller
Power Source check	• Apply the power		
	Check AC voltage between L and N of MAIN power terminal block.	OK : 207-253V (50Hz)	• Power cable • Breaker
Outdoor unit	Check AC voltage between L and N of power terminal block for indoor unit.	OK : 207-253V	terminal block wiring
	Is there any display of LED		• Main PCB, • Display PCB, • Wiring between PCBs.
	Any Error code on LED display? Wait for 5 minutes to check error code because some error judgement needs long time.	Error code starts in "E"	Consult error code table
Indoor unit	Check receiving of remote control signal	By buzzer sound	• Remote control • Remote control battery • Infrared signal receiving path (front panel dirt, infrared receiving module, wiring)
	Check operation ON/OFF by the button at lower right of the display module	By buzzer sound and LED display	• Indoor unit, • Wiring cable to outdoor unit
	Any Error code on LED display? Wait for 5 minutes to check error code because some error judgement needs long time	Error code starts in "E". Error code consists of 4 digits and displays first 2 digit and last 2 digit alternatively.	Consult error code table
Error code	Is the error code related to communication?	E101, E102, E201, E202, E185, E460	• Cable wiring between indoor and outdoor • Communication wire socket check on outdoor unit controller PCB
	Is the error code related to cycle protection?	E401, E416	• Cycle check • Pipe matching
	Are some of the indoor units' operation mode (cooling/heating) different from others?	E161	Each indoor unit operation mode
	Error related outdoor controller except temperature sensor and communication between indoor unit and outdoor unit?	E461--E472	Consult LED pattern on wiring diagram on outdoor controller

6-3-2 Checking Outdoor Controller

1. Making sure the wire connections.



2. Checking AC line
   1) Checking FUSE
   2) Checking resistance between 'L wire (BRN)' and 'DB01 Live side'
      normal value : 190 - 210Ω
      If value is ∞ then check R001.
   3) Checking resistance between 'N wire (SKYBLU)' and 'DB01 Newtral side'
      normal value : 0 - 0.1Ω

3. Checking ON/OFF pattern of LED1(Red), LED2(Green), LED3(Yellow)
   Apply the power then ALL LEDs are on for about 1 second. then changed to as follow.
   ■ **LED1 (Red)** : ALWAYS ON
   ■ **LED2 (Green)** : Blinking 4 times a second
   (This means communication between 2 micoms IC01 and IC50 is normal)
   ■ **LED3 (Yellow)** : OFF

● **In case of another pattern inverter micom detects some hardware trouble or abnormal condition.**

Yellow	Green	Red	Description	Note
Status indication				
OFF	OFF	OFF	Power OFF / No power (SMPS error)	
ON	ON	ON	Power on reset (1~2 seconds)	If always in this pattern IC01(inverter micom) has some trouble.
OFF	Blink	ON	Normal operation	
Hardware trouble				
OFF	OFF	ON	Communication Error between Main micom and inverter micom	
Blink	Blink	ON	Current sensor error	
ON	Blink	Blink	DC-LINK sensor error	
ON	ON	Blink	AC-Line zero crossing error	After power off this error will display until DC LINK capacitor discharged.(Max 20sec.)
ON	OFF	Blink	Option error (EEPROM error)	
Abnormal condition				
OFF	OFF	Blink	Comp. peak current (Over Current)	
OFF	Blink	OFF	Comp. starting error	
ON	OFF	ON	Comp. rotation error	
OFF	ON	Blink	DC-Link voltage error	
Blink	ON	OFF	Unit Over current protection	

4. Checking Display PCB LED if Error code is displayed.
   See error code table if displayed.

5. Checking DC voltage on each point

Item	Measuring point	Normal value
DC LINK	Q803 E(-)~D101 Cathode (+)	about 1.4 times as much as Power AC Voltage ex) AC220V → 305~310Vdc
inverter 15V	C803 voltage	14.5V~15.5V
Main control 12V	CN59 pin 1~pin 3	12V~15V
Main control 5V	CN59 pin 1~pin 2	4.75V~5.25V

6. Checking PFC
   When Input current is over 3.0A PFC circuit will work to control the harmonics of AC current.
   Checking is measuring DC-LINK voltage.
   PFC ON (Compressor is working) : DC LINK voltage is over 300Vdc (AC line >220V)
   After starting compressor DC Link voltage is going down because of compressor load.
   But in case of 3.0A above , DC link voltage will go up over 300V. This voltage is in proportion to AC input voltage.
   Current can be monitored with "VIEW MODE".
   Press K4 key on the outdoor display PCB for several times to change the display to sensor temperature value.
   Left 1 digit of the LED is data index and Right 3 digits are the value

Index	Value	Remark
C	Estimated Primary current value from Compressor current	The unit is 0.1A

6-3-3 Checking Indoor controller

1. 9K / 12K BTU (MH026FPEA / MH035FPEA) PCB
   1) Checking FUSE
      This control PCB has 2 fuses, F701 and F702.
      If F702 is blown PCB circuit has some damage and replace PCB.
   2) Checking DC voltage
      Measure voltage between CN43 pin 1 (+12V) and CN43 pin 2 (GND).
      Normal voltage is between 11.5V and 12.5V.

2. 18K BTU (MH052FPEA) PCB
   1) Checking FUSE
      The fuse F701 is located on the inner side AC PCB.
   2) Checking DC Voltage
      Measure voltage between CN43 pin 1 (+12V) and CN43 pin 2 (GND) on the outer side PCB.
      Normal voltage is between 11.5V and 12.5V.
      DC voltage is supplied from CN90 on the inner AC PCB. Pin layout is as follows.
      Pin 7 : GND, Pin 8 : +5V, Pin 9 : +12V

6-3-4 Checking Power cable and Communication cable

See 6-2 "Checking and Testing operations" and installation manual.

6-3-5 Checking Temperature sensor

See 6-5 "Fault Diagnosis of Major Parts".
In case of a sensor in outdoor unit, temperature can be monitored with "VIEW MODE".
Press K4 key on the outdoor display PCB for several time to change the display to sensor temperature value.
Left 1 digit of the LED is data index and Right 2 digits are the value.

Index	Value	Remark
8	Discharge sensor temperature	The unit is degree C
9	OLP sensor temperature	
A	Condenser sensor temperature	
B	Outdoor sensor temperature	

6-3-6 Checking EEV

See 6-5 "Fault Diagnosis of Major Parts".
Current EEV step value can monitored with "VIEW MODE"
Press K4 key on the outdoor display PCB for several time to change the display to current EEV value.
Left 1 digit of the LED is data index and Right 3 digits is the value.

Index	Value	Remark
3	EEV-A step	The step value range is between zero and 480.
4	EEV-B step	
5	EEV-C step	
6	EEV-D step	

6-3-7 Pipe matching

See 6-2 "Checking and Testing operations".

6-3-8 Checking Motor in indoor unit

See 6-5 "Fault Diagnosis of Major Parts".

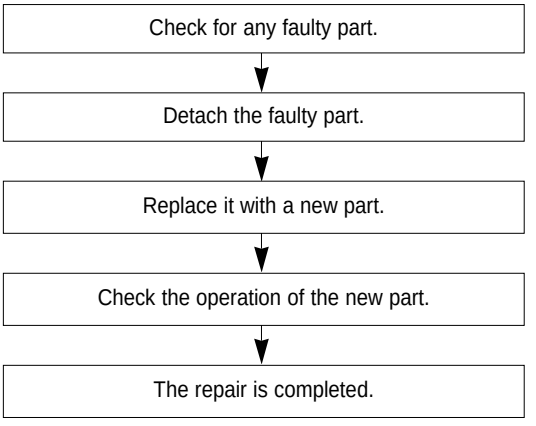
6-4 PCB Inspection

6-4-1 Cautions for Part Replacement

1. The human body carries much static electricity. Before touching a part for repair, replacement or the similar purpose, be sure to touch a grounded metallic portion by hand to let the static electricity go through the metallic portion to the earth.
   Especially when handling any micro computer or IC, carefully remove such static electricity before touching them.
2. When repairing any part on a work bench, be sure to place an insulative sheet on the bench and always keep the sheet surface neat without any metal fragments.
   If any such fragment touches a part, a secondary trouble will possibly be caused in the part.
3. Before replacing any parts, be sure to turn off the power supply. If such replacement is done with the power supply kept on, an electric shock, short circuit or destruction of a part may result.
4. During replacement or repair of a part, carefully handle it : The printed circuit board has fine lead wires (jumper wires) and glass-made parts (diode) on its substrate.
   So if a circuit board is roughly handled, such lead wires and parts will be easily broken or damaged by bending or shock.
5. When soldering the lead wires of any new part, be sure to polish them using an emery paper or the like before soldering them.
   Since the lead wires of any new part are covered with an oxide film, solder cannot adhere to the lead wires if not polished.
6. When soldering any part, care should be exercised not to apply any high-wattage soldering iron to the part for a long time. Some parts are of so low a heat resistance that they may be broken or have the properties changed if a soldering iron is so applied (Otherwise, the pattern may possibly be separated and raised).
7. The heat of the soldering iron should be transferred to the entire object to be soldered. If the solder pieces are not well fused due to insufficient transfer of the heat from the soldering iron, no satisfactory electrical continuity can be assured even if the soldered objects appear well connected to each other.
8. The solder used should be limited to a minimum.
   If excessive solder is used, it will cause inter-pattern contact, which may cause malfunction of the circuit.
9. Although some part of the PCB surface are coated with coating material for protection from dust and dirt, soldering is also available to the coating part. Because this coating is thin and is weak for soldering heat.
   But coating material remaining on the solder part should be cleaned up before soldering a new component to prevent the solder part from becoming bad conduction.

6-4-2 Procedure

The parts should be replaced in the following procedure.



6-5 Fault Diagnosis of Major Parts

Preparation : multimeter (AC voltage, DC voltage, Resistance)

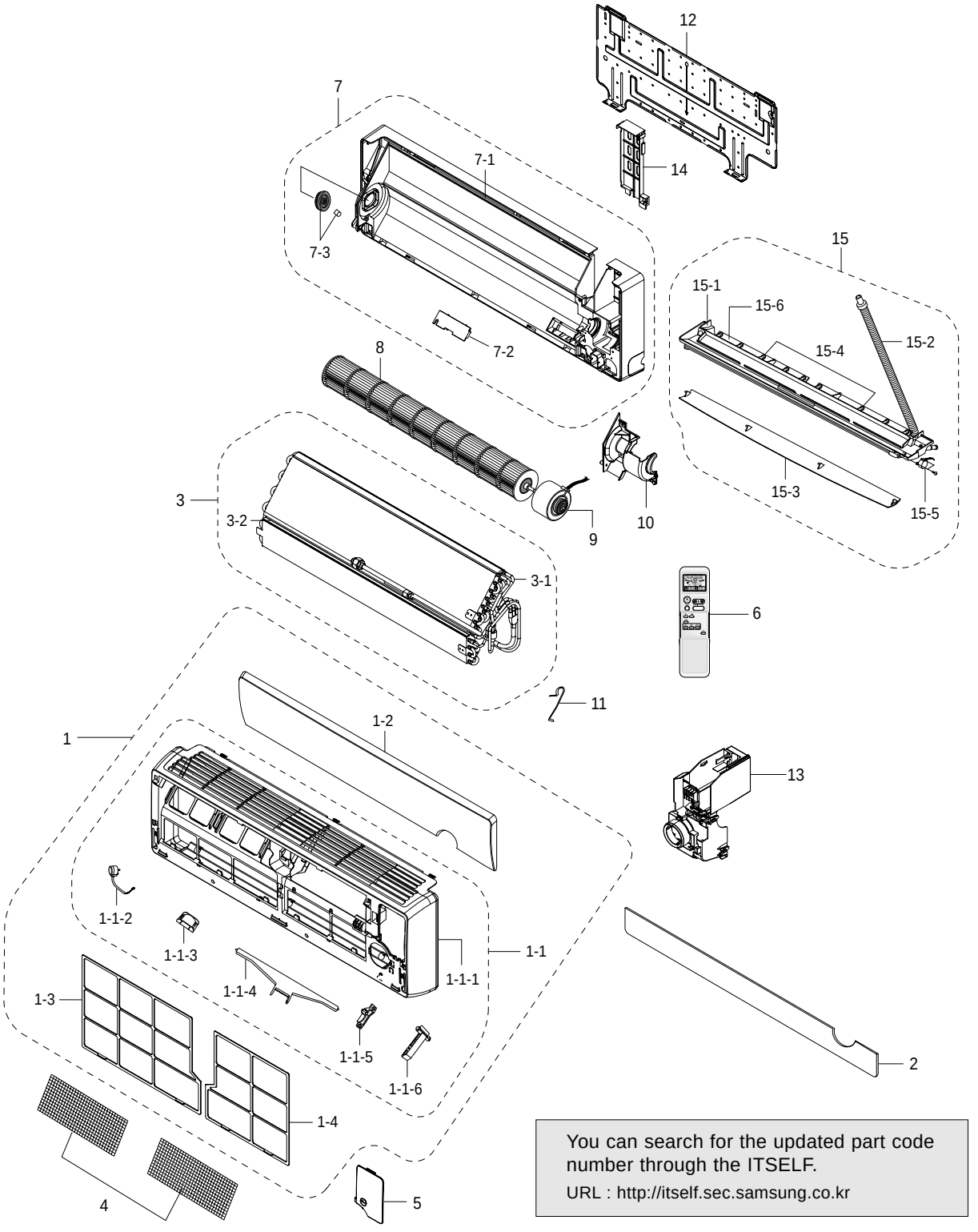
<table>
<tr><th>Part</th><th colspan="2">Diagnosis</th></tr>
<tr><td rowspan="3">Indoor
Temperature sensor
Heat exchanger in/out sensor
Outdoor
Temperature sensor Condenser
temperature sensor</td><td colspan="2">Measure the resistance between terminals of the sensor connector housing.
In case of outdoor unit sensor, "view mode" is used for checking sensor temperature.
In case of Indoor temperature sensor, temperature is displayed on the display unit in
"Fan Mode" operation.</td></tr>
<tr><td>Normal</td><td><table>
<tr><td>Ambient temperature</td><td>15˚C</td><td>20˚C</td><td>25˚C</td><td>30˚C</td><td>25˚C</td><td>40˚C</td></tr>
<tr><td>Resistance of sensor[KΩ]</td><td>14.7</td><td>12.1</td><td>10</td><td>8.3</td><td>6.9</td><td>5.8</td></tr>
</table></td></tr>
<tr><td>Abnormal</td><td>∞, 0Ω...open or short</td></tr>
<tr><td rowspan="3">Outdoor
Discharge temperature sensor
OLP temperature sensor</td><td colspan="2">Measure the resistance between terminals of the sensor connector housing.
In case of outdoor unit sensor, "view mode" is used for checking sensor temperature.</td></tr>
<tr><td>Normal</td><td><table>
<tr><td>Ambient temperature</td><td>0˚C</td><td>10˚C</td><td>20˚C</td><td>30˚C</td><td>40˚C</td><td>50˚C</td></tr>
<tr><td>Resistance of sensor[KΩ]</td><td>553</td><td>362</td><td>242</td><td>166</td><td>165</td><td>82</td></tr>
</table></td></tr>
<tr><td>Abnormal</td><td>∞, 0Ω...open or short</td></tr>
<tr><td rowspan="3">Indoor Fan Motor</td><td colspan="2">Measure the resistance between terminals of the Motor connector housing</td></tr>
<tr><td>Normal</td><td>At the normal temperature (10˚C - 30˚C)<table>
<tr><td rowspan="2">Terminals(wire color)</td><td colspan="3">Resistance[Ω]</td><td rowspan="2">Remark</td></tr>
<tr><td>MH026FPEA</td><td>MH035FPEA</td><td>MH052FPEA</td></tr>
<tr><td>Yellow-Blue</td><td>250~280</td><td>250~280</td><td>120~150</td><td>Main</td></tr>
<tr><td>Yellow-Red</td><td>420~480</td><td>330~370</td><td>120~150</td><td>Sub</td></tr>
</table></td></tr>
<tr><td>Abnormal</td><td>∞, 0Ω...open or short</td></tr>
<tr><td rowspan="3">Outdoor Fan Motor</td><td colspan="2">Measure the resistance between terminals of the Motor connector housing</td></tr>
<tr><td>Normal</td><td><table>
<tr><td>Terminals(wire color)</td><td>Resistance[Ω]</td><td>Remark</td></tr>
<tr><td>Red-Blue</td><td>95~105</td><td>Main 1</td></tr>
<tr><td>Yellow-Blue</td><td>95~105</td><td>Main 2</td></tr>
<tr><td>Blue-White(run capa line)</td><td>60~75</td><td>Sub</td></tr>
<tr><td>Red-White Blue(run capa line)</td><td>0~1</td><td>Thermal fuse</td></tr>
</table></td></tr>
<tr><td>Abnormal</td><td>∞, 0Ω...open or short</td></tr>
<tr><td rowspan="3">Outdoor unit EEV
Stepping motor</td><td colspan="2">Measure the resistance between terminals of the Motor connector housing</td></tr>
<tr><td>Normal</td><td>40-50Ω Orange-Gray, Red-Gray, Yellow-Gray, Black-Gray</td></tr>
<tr><td>Abnormal</td><td>∞, 0Ω...open or short</td></tr>
<tr><td rowspan="3">Crank case heater</td><td colspan="2">Measure the resistance between terminals</td></tr>
<tr><td>Normal</td><td>1.1-1.3KΩ</td></tr>
<tr><td>Abnormal</td><td>∞, 0Ω...open or short</td></tr>
<tr><td rowspan="3">Indoor unit step motor
Flap, Front panel</td><td colspan="2">Measure the resistance between terminals of the Motor connector housing</td></tr>
<tr><td>Normal</td><td><table>
<tr><td>Motor</td><td>Resistance[Ω]</td><td>Terminals(wire color)</td></tr>
<tr><td>Flap</td><td>280~320</td><td rowspan="2">Red-Yellow, Red-Orange,
Red-Blue, Red-Pink</td></tr>
<tr><td>Front panel</td><td>110~130</td></tr>
</table></td></tr>
<tr><td>Abnormal</td><td>∞, 0Ω...open or short</td></tr>
</table>

MEMO

7. Exploded Views and Parts List

7-1 Indoor Unit

7-1-1 MH020FPEA / MH023FPEA / MH026FPEA / MH035FPEA / MH18VP2-09 / MH19VP2-07 / MH19VP2-12



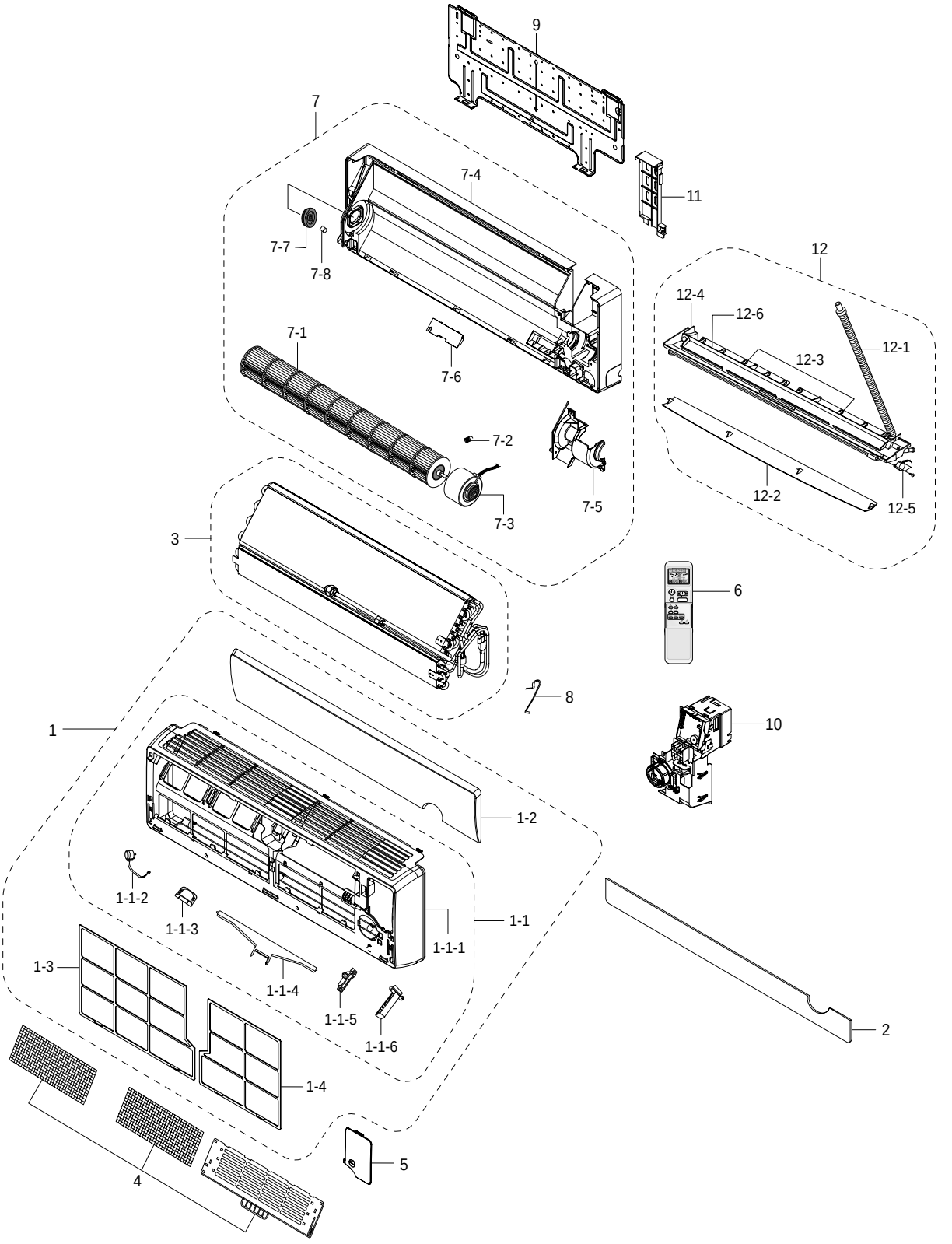
You can search for the updated part code number through the ITSELF.

URL : http://itself.sec.samsung.co.kr

■ Parts List

No.	Code No.	Description	Specification	Q'TY		Remark
				MH020FPEA / MH023FPEA MH026FPEA / MH18VP2-09 MH19VP2-07	MH035FPEA MH19VP2-12	
1	DB92-00561F	ASS'Y PANEL FRONT TOTAL	ASS'Y	-	1	
	DB92-00558F	ASS'Y PANEL FRONT TOTAL	ASS'Y	1	-	
1-1	DB92-00560A	ASS'Y PANEL FRONT SUB-P	ASS'Y	-	1	
	DB92-00557A	ASS'Y PANEL FRONT SUB-P	ASS'Y	1	-	
1-1-1	DB92-00559A	ASS'Y PANEL FRONT SUB	ASS'Y	-	1	
	DB92-00556A	ASS'Y PANEL FRONT SUB	ASS'Y	1	-	
1-1-2	DB31-00166B	MOTOR STEP	-	1	1	
1-1-3	DB61-01114A	HOLDER MOTOR DC	HIPS	-	1	
	DB61-01123A	HOLDER MOTOR DC	HIPS	1	-	
1-1-4	DB61-01115A	HINGE GRILLE	HIPS	-	1	
	DB61-01132A	HINGE GRILLE	HIPS	1	-	
1-1-5	DB61-01116A	GUIDE LINK	HIPS	-	1	
	DB61-01133A	GUIDE LINK	HIPS	1	-	
1-1-6	DB66-00364A	LINK MOTOR	ABS	-	1	
	DB66-00365A	LINK MOTOR	ABS	1	-	
1-2	DB64-00640A	GRILLE UP	ABS	-	1	
	DB64-00655A	GRILLE UP	ABS	1	-	
1-3	DB63-00585E	FILTER-PRE LF	PP	-	1	
	DB63-00590F	FILTER-PRE LF	PP	1	-	
1-4	DB63-00586E	FILTER-PRE RH	PP	-	1	
	DB63-00591F	FILTER-PRE RH	PP	1	-	
2	DB92-00540A	ASS'Y GRILLE LOW	ASS'Y	-	1	
	DB92-00538A	ASS'Y GRILLE LOW	ASS'Y	1	-	
3	DB96-03801A	ASS'Y EVAPORATOR TOTAL	ASS'Y	-	1	
	DB96-03796A	ASS'Y EVAPORATOR TOTAL	ASS'Y	1	-	
3-1	DB96-03800A	ASS'Y EVAPORATOR	ASS'Y	-	1	
	DB96-03797A	ASS'Y EVAPORATOR	ASS'Y	1	-	
3-2	DB67-00051A	SPACER-EVAP LOW	PVC	1	-	
4	DB95-00367E	ASS'Y FILTER BIO	ASS'Y	1	1	
5	DB63-00581A	COVER TERMINAL	HIPS	-	1	
	DB63-00588A	COVER TERMINAL	HIPS	1	-	
6	DB93-02531P	ASS'Y REMOCON	ASS'Y	1	1	
7	DB94-00488A	ASS'Y BACK BODY-SUB	ASS'Y	-	1	
	DB94-00486A	ASS'Y BACK BODY-SUB	ASS'Y	1	-	
7-1	DB61-01098A	BACK BODY	HIPS	-	1	
	DB61-01119A	BACK BODY	HIPS	1	-	
7-2	DB63-00580A	COVER-IONIZER	HIPS	1	1	
7-3	DB94-00258A	ASS'Y BEARING	ASS'Y	1	1	
8	DB94-00040R	ASS'Y CROSS FAN	ASS'Y	-	1	
	DB94-00040F	ASS'Y CROSS FAN	ASS'Y	1	-	
9	DB31-00152B	MOTOR-FAN IN	-	-	1	
	DB31-00152A	MOTOR-FAN IN	-	1	-	
10	DB61-01099A	HOLDER-MOTOR	PP	-	1	
	DB61-01120A	HOLDER-MOTOR	PP	1	-	
11	DB67-60030A	SPRING-SENSOR	STS301	1	1	
12	DB70-00276A	PLATE-HANGER	SGCC-M	-	1	
	DB70-00288A	PLATE-HANGER	SGCC-M	1	-	
13	DB93-02885A	ASS'Y CONTROL IN	ASS'Y	-	1	
	DB93-02884A	ASS'Y CONTROL IN	ASS'Y	1	-	
14	DB90-00992A	ASS'Y HOLDER-PIPE	HIPS	-	1	
	DB61-01121A	HOLDER-PIPE	HIPS	1	-	
15	DB94-00468B	ASS'Y TRAY DRAIN	ASS'Y	-	1	
	DB94-00465A	ASS'Y TRAY DRAIN	ASS'Y	1	-	
15-1	DB63-00587A	TRAY DRAIN	HIPS	-	1	
	DB63-00592A	TRAY DRAIN	HIPS	1	-	
15-2	DB94-00062E	ASS'Y DRAIN HOSE	ASS'Y	1	1	
15-3	DB61-01103A	BLADE-H	HIPS	-	1	
	DB61-01125A	BLADE-H	HIPS	1	-	
15-4	DB61-01104A	BLADE-V	PP	-	3	
	DB61-01126A	BLADE-V	PP	3	-	
15-5	DB95-20138A	ASS'Y MOTOR STEPPING	ASS'Y	1	1	
15-6	DB63-00634A	GUARD-SAFETY WIRE	STS27	-	1	OPTION
	DB63-00635A	GUARD-SAFETY WIRE	STS27	1	-	

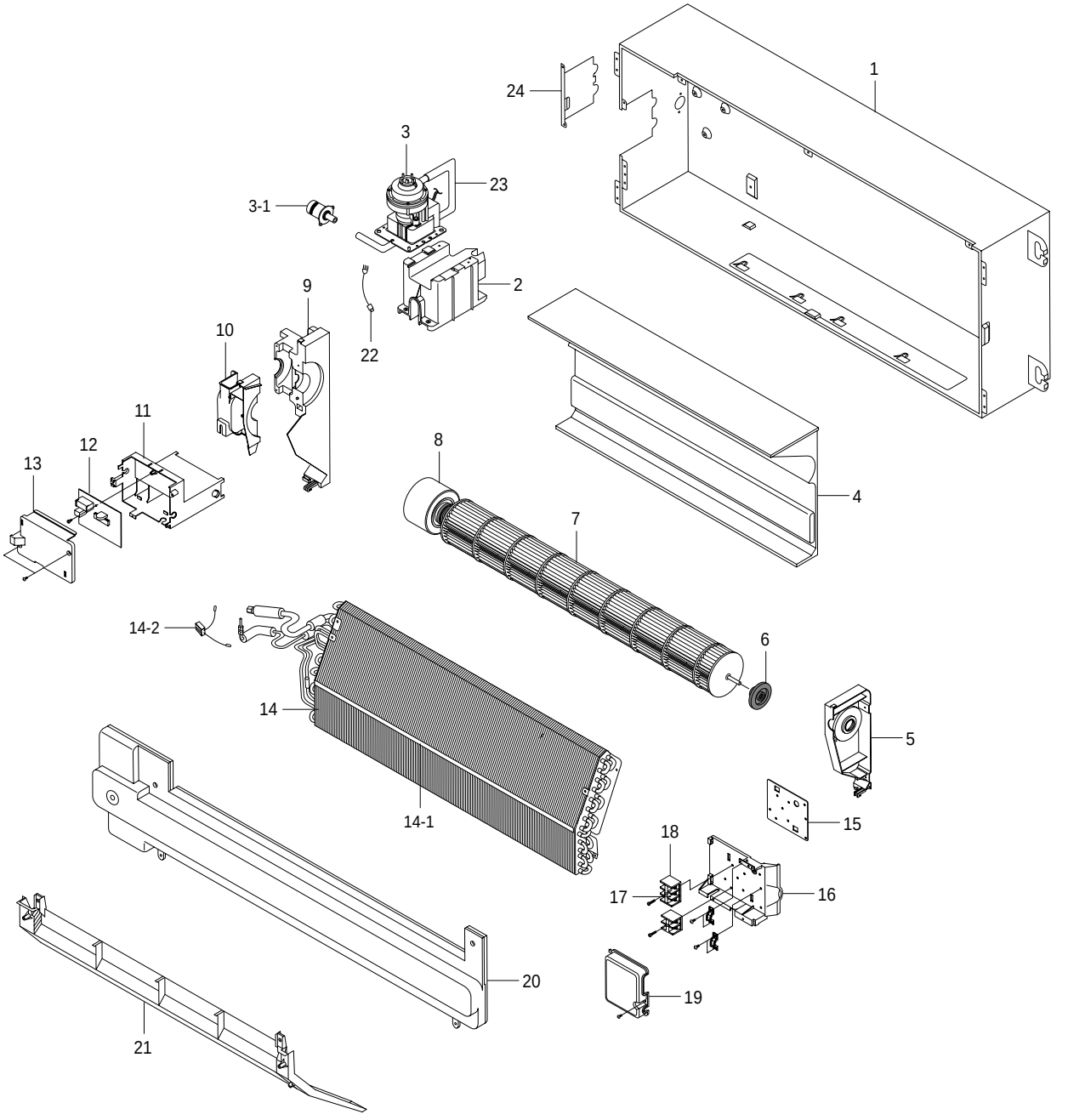
7-1-2 MH052FPEA



■ **Parts List**

No.	Code No.	Description	Specification	Q'TY	Remark
1	DB92-00447H	ASS'Y PANEL FRONT-TOTAL	ASS'Y	1	
1-1	DB92-00471A	ASS'Y PANEL FRONT-SUB	ASS'Y	1	
1-1-1	DB92-00386A	ASS'Y PANEL FRONT	ASS'Y	1	
1-1-2	DB31-00195B	MOTOR STEP	-	1	
1-1-3	DB61-01114A	HOLDER MOTOR DC	HIPS	1	
1-1-4	DB61-01144A	HINGE GRILLE	HIPS	1	
1-1-5	DB61-01116A	GUIDE LINK	HIPS	1	
1-1-6	DB66-00366A	LINK MOTOR	ABS	1	
1-2	DB64-00670A	GRILLE UP	HIPS	1	
1-3	DB63-00596D	FILTER-LF	PP	1	
1-4	DB63-00597D	FILTER-RH	PP	1	
2	DB92-00449D	ASS'Y GRILLE LOW SUB	ASS'Y	1	
3	DB96-03798A	ASS'Y EVAP-TOTAL	ASS'Y	1	
4	DB95-00367F	ASS'Y FILTER BIO	ASS'Y	1	
5	DB63-00594A	COVER TERMINAL	HIPS	1	
6	DB93-02531P	ASS'Y REMOCON	ASS'Y	1	
7	DB94-00531A	ASS'Y BACK BODY	ASS'Y	1	
7-1	DB94-00040J	ASS'Y CROSS FAN	ASS'Y	1	
7-2	DB60-20011A	BOLT SPECIAL	M6	1	
7-3	DB31-10151C	MOTOR-FAN IN	-	1	
7-4	DB61-01135A	BACK BODY	HIPS	1	
7-5	DB61-01136A	HOLDER-MOTOR	PP	1	
7-6	DB63-00580A	COVER-IONIZER	HIPS	1	
7-7	DB73-00128A	RUBBER BEARING	-	1	
7-8	DB94-40007A	ASS'Y BEARING-MOTOR	-	1	
8	DB67-60030A	SPRING SENSOR	-	1	
9	DB70-00295A	PLATE-HANGER	SGCC-M	1	
10	DB93-02744A	ASS'Y CONTROL IN	ASS'Y	1	
11	DB61-01137A	HOLDER-PIPE	HIPS	1	
12	DB94-00300C	ASS'Y TRAY DRAIN	ASS'Y	1	
12-1	DB94-00062B	ASS'Y DRAIN HOSE	ASS'Y	1	
12-2	DB61-01141A	BLADE-H	ABS	1	
12-3	DB61-01142A	BLADE-V	PP	1	
12-4	DB63-00598A	TRAY DRAIN	ABS	1	
12-5	DB31-10154A	MOTOR-STEPPING BLADE	-	1	
12-6	DB63-00699A	GUARD-SAFETY WIRE	-	1	

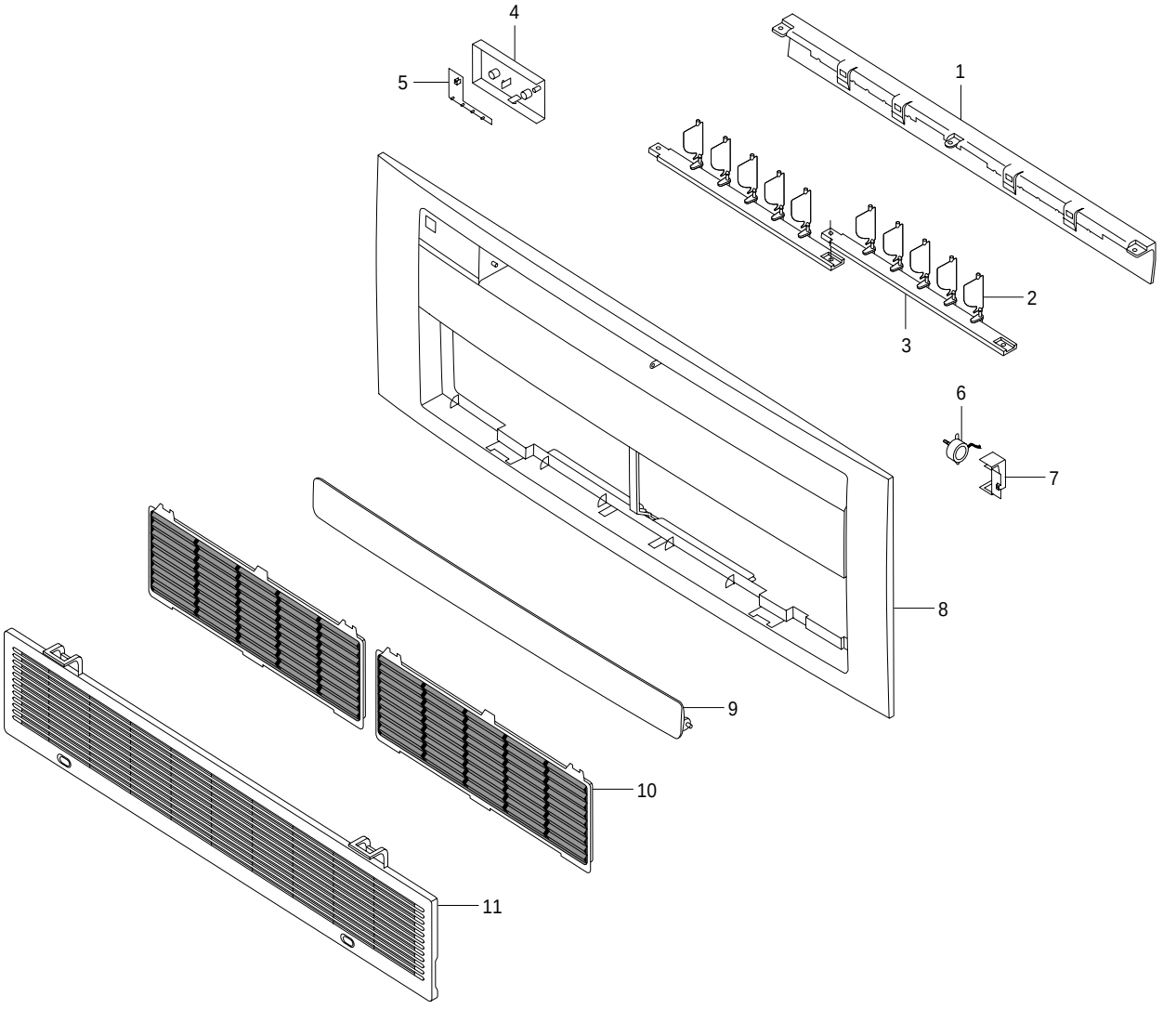
7-1-3 MH026FKEA / MH035FKEA



■ **Parts List**

No.	Code No.	Description	Specification	Q'TY		Remark
				MH026FKEA	MH035FKEA	
1	DB90-00588E	ASS'Y CABI IN	ASS'Y	1	1	
2	DB61-00364A	HOLDER DRAIN PUMP	Fire-Resistant P.S(V0)	1	1	
3	DB67-00114A	DRAIN PUMP	SAUERMANN	1	1	
3-1	DB67-00285A	DRAIN HOSE-SOCKET	POM	1	1	
4	DB69-00298A	CUSHION BODY	EPS	1	1	
5	DB61-00363A	CASE-FAN SIDE	Fire-Resistant P.S(V0)	1	1	
6	DB94-00066A	ASS'Y BEARING	ASS'Y	1	1	
7	DB94-00040K	ASS'Y CROSS FAN	ASS'Y	1	1	
8	DB31-10078M	MOTOR FAN	PFS040WTVE	1	1	
9	DB61-00354A	HOUSING MOTOR	Fire-Resistant P.S(V0)	1	1	
10	DB63-00165A	COVER FAN MOTOR	Fire-Resistant P.S(V0)	1	1	
11	DB61-00362A	CASE CONTROL	Fire-Resistant P.S(V0)	1	1	
12	DB93-02335D	ASS'Y PCB	ASS'Y	1	1	
13	DB63-00167A	COVER CONTROL	ASS'Y	1	1	
14	DB96-01190H	ASS'Y EVAP-IN	ASS'Y	1	1	
14-1	DB60-00057A	SPACER EVAP	ABS	1	1	
14-2	DB32-00035B	THERMISTOR-ASS'Y	103AT	1	1	
15	DB61-00365A	BRACKET TERMINAL	SGCC-M	1	1	
16	DB61-00394A	BASE TERMINAL	ABS	1	1	
17	DB65-00004B	TERMINAL BLOCK	DAF 2P	1	1	
18	DB65-00004C	TERMINAL BLOCK	DAF 4P	1	1	
19	DB63-00168A	COVER TERMINAL	Fire-Resistant P.S(V0)	1	1	
20	DB94-00084A	ASS'Y DRAIN	ASS'Y	1	1	
21	DB94-00290A	ASS'Y DRAIN PAN SUB	ASS'Y	1	1	
22	DB95-00131A	ASS'Y SENSOR FLOAT	ASS'Y	1	1	
23	DB62-02199A	VALVE CHECK	ASS'Y	1	1	
	DB67-00382A	HOSE DRAIN	DURITE-01	1	1	
24	DB90-00589A	ASS'Y CABI-SIDE LF	ASS'Y	1	1	

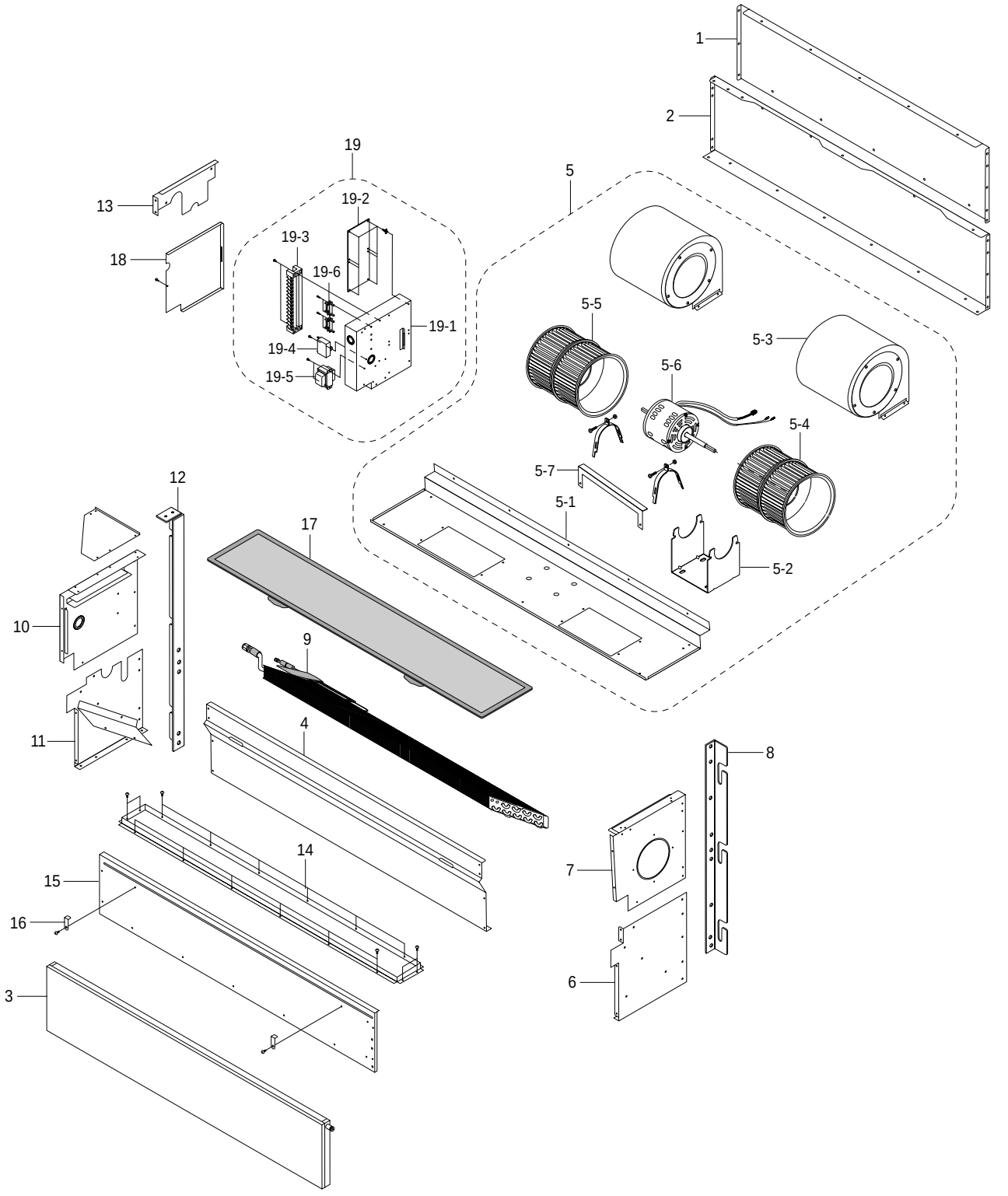
■ PK118MG



■ **Parts List**

No.	Code No.	Description	Specification	Q'TY	Remark
1	DB63-00164A	COVER BLADE	HIPS (UL94-V0)	1	
2	DB66-00160A	BLADE-V	HIPS (UL94-V0)	10	
3	DB66-00157A	LINK BLADE-LF	POM	2	
4	DB63-00163A	COVER PCB CASE	HIPS (UL94-V0)	1	
5	DB93-01021A	ASS'Y PCB DISPLAY		1	
6	DB31-10153D	MOTOR STEP	MSFCC20A05	1	
7	DB61-00535A	HOLDER MOTOR	HIPS (UL94-V0)	1	
8	DB64-00234B	PANEL FRONT	HIPS (UL94-V0)	1	
9	DB66-00159A	BLADE-H	HIPS (UL94-V0)	1	
10	DB64-00243B	GRILLE FRONT	HIPS (UL94-V0)	1	
11	DB64-00244A	GRILLE INLET AIR	PP	1	

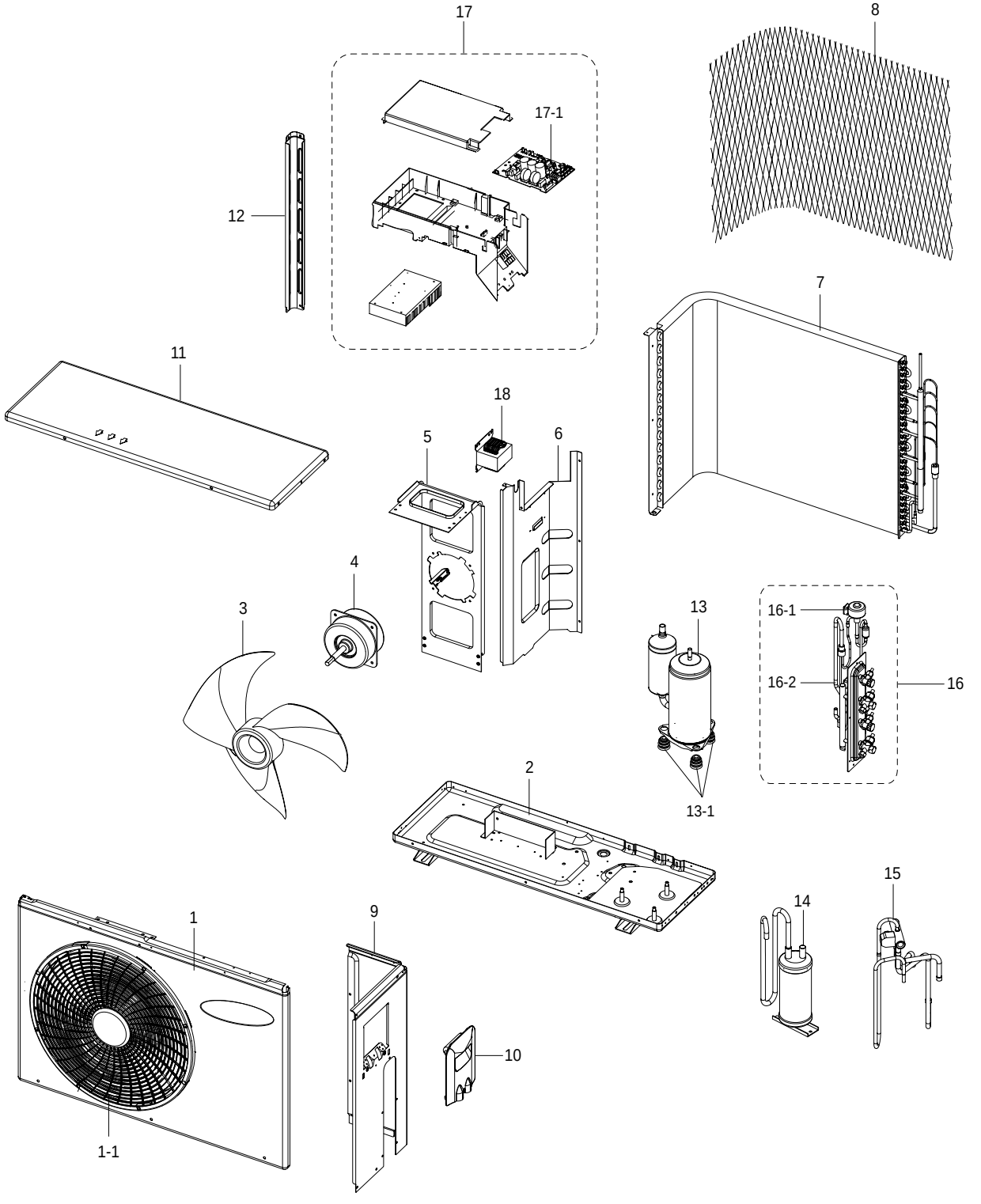
7-1-4 MH052FDEA



■ **Parts List**

No.	Code No.	Description	Specification	Q'TY	Remark
1	DB63-00076A	COVER-TOP	SGCC-M T0.8	1	
2	DB63-00074A	COVER-CASE DUCT	SGCC-M T0.8	1	
3	DB94-00022A	ASS'Y-DRAIN PAN	ASS'Y, BLK	1	
4	DB61-00099A	CASE-BOTTOM	SGCC-M, T0.8	1	
5	DB94-00023C	ASS'Y-BLOWER DUCT	ASS'Y	1	
5-1	DB64-00071A	PANEL-DUCT HOLDER	SGCC-M, T1.2	1	
5-2	DB61-00155A	BRACKET-MOUNT MOTOR	SGCC-M, T2.0	1	
5-3	DB90-00121A	ASS'Y-CASE FAN	ASS'Y	2	
5-4	DB67-00046A	BLOWER-LF	SGCC-M, ø175	1	
5-5	DB67-00046B	BLOWER-RH	SGCC-M, ø175	1	
5-6	DB31-00025A	MOTOR-FAN IN	OSME-1004 SAC	1	
5-7	DB61-00499A	BRACKET-MOTOR GUIDE	SGCC-M, T1.6	1	
6	DB90-00117A	ASS'Y-CABI LF	ASS'Y	1	
7	DB90-00119C	ASS'Y-CABI INLET LF	ASS'Y	1	
8	DB70-00026B	PLATE-HANGER LF	SGCC-M, T2.0	1	
9	DB96-03225F	ASS'Y-EVAP UNIT	ASS'Y	1	
10	DB90-00120C	ASS'Y-CABI INLET RH	ASS'Y	1	
11	DB90-00118A	ASS'Y-CABI SIDE RH	ASS'Y	1	
12	DB70-00027B	PLATE-HANGER RH	SGCC-M, T2.0	1	
13	DB64-00121A	CABINET-SIDE RH B	SGCC-M, T0.8	1	
14	DB90-00113A	ASS'Y-HOLDER OUTLET	ASS'Y	1	
15	DB90-00114A	ASS'Y-COVER BOTTOM	ASS'Y	1	
16	DB71-00019A	PLATE-HANDLE	SGCC-M, T1.2	2	
17	DB74-00006A	FILTER-PRE	PE, 36x40	1	
18	DB63-00186A	COVER-CONTROL	SGCC-M, T0.8	1	
19	DB93-01037Y	ASS'Y-CONTROL IN	ASS'Y	1	
19-1	DB90-00282A	ASS'Y-CASE CONTROL	ASS'Y	1	
19-2	DB93-01764D	ASS'Y-PCB MAIN	DPM24K DUCT IN	1	
19-3	DB65-00004H	TERMINAL-BLOCK 6P	DAF-6P	1	
	DB65-00004C	TERMINAL-BLOCK 6P	DAF-6P	1	
19-4	2301-001369	C-FILM	2.5µF/450VAC	1	
19-5	DB26-10065B	TRANS-POWER	DC17 AC230V 50Hz	1	
19-6	DB61-40291B	HOLDER-WIRE	PP, T2.0, BLK	2	

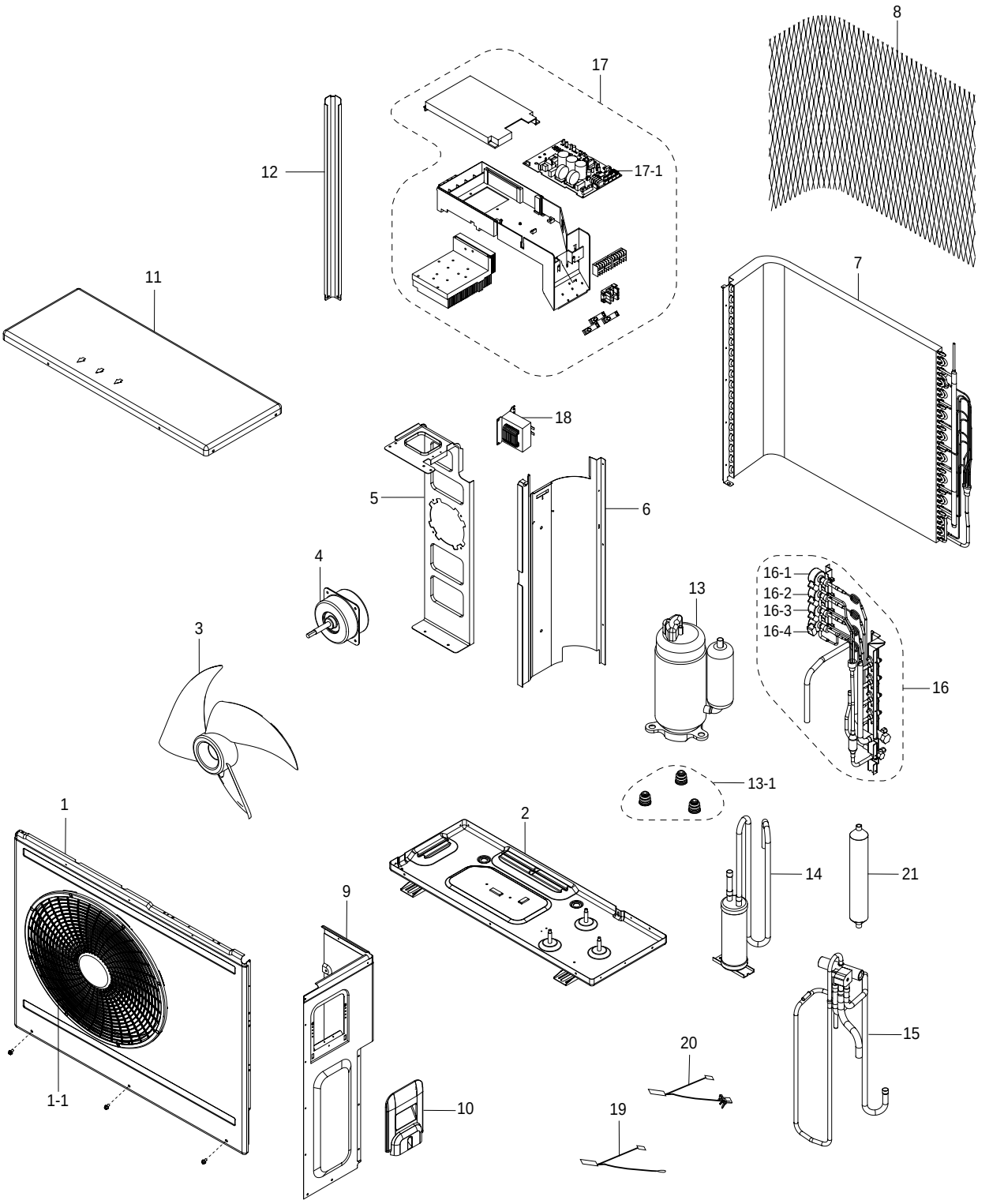
■ MH052FXEA2 / MH18VP2X / MH19VP2X



■ **Parts List**

No.	Code No.	Description	Q'TY			Remark
			MH052FXEA2	MH18VP2X	MH19VP2X	
1	DB90-01364B	ASS'Y CABINET FRONT	1	1	1	
1-1	DB63-00831A	GUARD FAN	1	1	1	
2	DB90-01908A	ASS'Y BASE OUT	1	1	1	
3	DB67-00438A	FAN PROPELLER	1	1	1	
4	DB31-00268B	MOTOR FAN	1	1	1	
5	DB90-00966A	ASS'Y BRACKET MOTOR	1	1	1	
6	DB94-00694A	ASS'Y PARTITION	1	1	1	
7	DB96-04466A	ASS'Y COND	1	1	1	
8	DB61-00821D	GUIDE SCREEN	1	1	1	
9	DB90-01907A	ASS'Y CABINET SIDE	1	1	1	
10	DB90-40176B	ASS'Y COVER CONTROL	1	1	1	
11	DB90-10616N	ASS'Y CABINET UPPER	1	1	1	
12	DB63-00343A	GUARD COND	1	1	1	
13	G4B135LU1EH	ROTARY COMPRESSOR	1	1	1	
13-1	DB73-00070A	GROMMET-ISOLATOR	3	3	3	
14	DB96-04469A	ASS'Y TUBE SUCTION	1	1	1	
15	DB99-00607A	ASS'Y 4-WAY VALVE	1	1	1	
16	DB99-00608A	ASS'Y VALVE	1	1	1	
16-1	DB96-04450A	ASS'Y TUBE EEV A	1	1	1	
16-2	DB96-04451A	ASS'Y TUBE EEV B	1	1	1	
17	DB93-03142A	ASS'Y CONTROL OUT	1	1	1	
17-1	DB93-03143A	ASS'Y PCB MAIN	1	1	1	
18	DB81-00534A	REACTOR	1	1	1	
19	DB32-00081B	THERMISTOR COND	1	1	1	
20	DB32-00083D	THERMISTOR	1	1	1	

■ MH068FXEA4 / MH080FXEA4

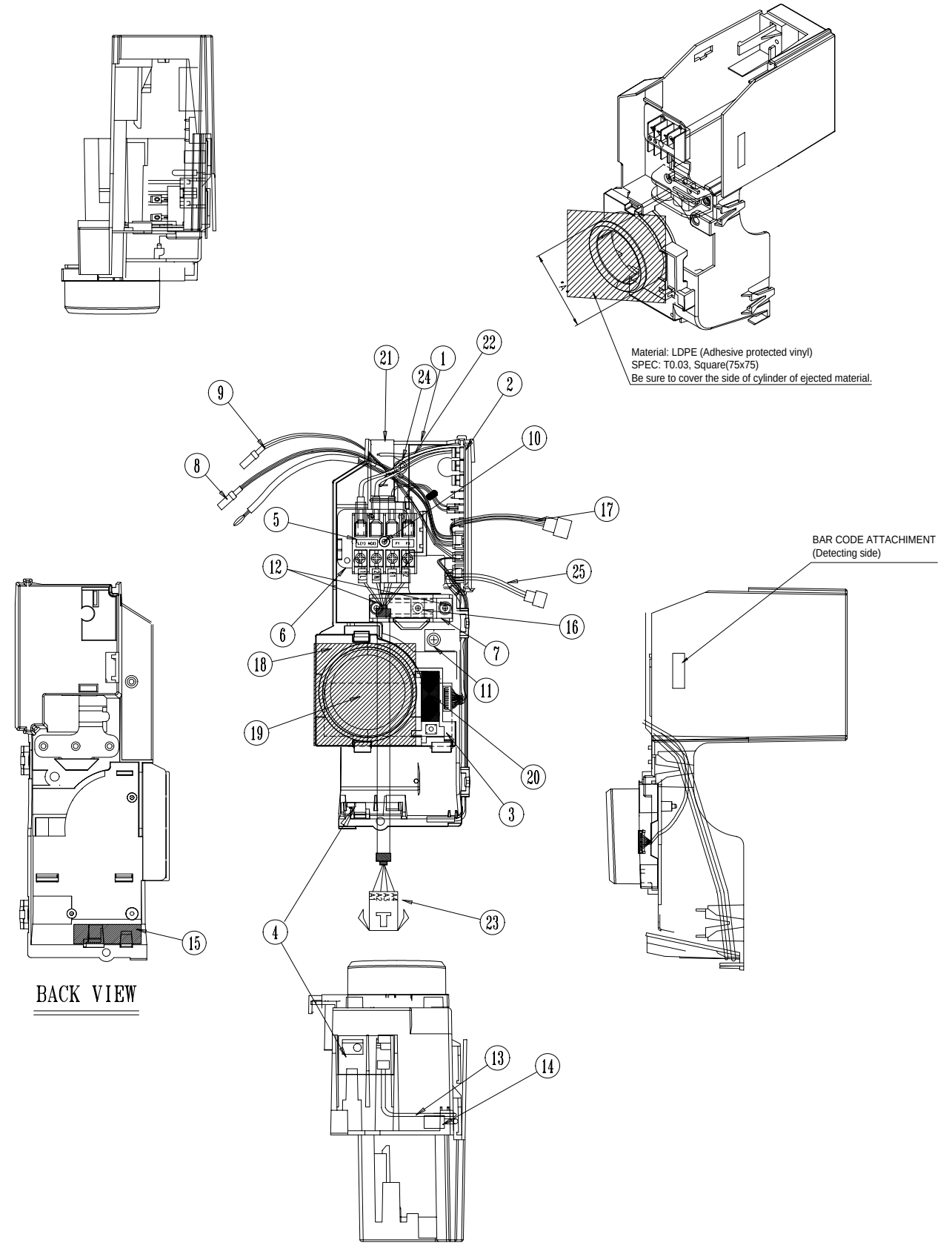


■ **Parts List**

No.	Code No.	Description	Q'TY		Remark
			MH068FXEA4	MH080FXEA4	
1	DB90-01006B	ASS'Y CABINET FRONT	1	1	
1-1	DB63-00831A	GUARD FAN	1	1	
2	DB90-01049C	ASS'Y BASE OUT	1	1	
3	DB67-00438A	FAN PROPELLER	1	1	
4	DB31-00268A	MOTOR FAN	1	1	
5	DB90-01114B	ASS'Y BASE MOTOR	1	1	
6	DB94-00308B	ASS'Y PARTITION	1	1	
7	DB96-03808B	ASS'Y COND	1	1	
8	DB64-00765A	SCREEN GUARD FIN	1	1	
9	DB90-01008B	ASS'Y CABINET SIDE	1	1	
10	DB64-00716A	HANDLE CABI RH	1	1	
11	DB90-01007B	ASS'Y COVER TOP	1	1	
12	DB63-01058A	GUARD COND	1	1	
13	G5T360FU1EK	ROTARY COMPRESSOR	1	1	
13-1	DB73-00082A	GROMMET-ISOLATOR	3	3	
14	DB96-03803A	ASS'Y TUBE SUCTION	1	1	
15	DB96-03788A	ASS'Y 4-WAY VALVE	1	1	
16	DB99-00557A	ASS'Y VALVE	1	1	
16-1	DB96-03789A	ASS'Y TUBE EEV A	1	1	
16-2	DB96-03790A	ASS'Y TUBE EEV B	1	1	
16-3	DB96-03791A	ASS'Y TUBE EEV C	1	1	
16-4	DB96-03792A	ASS'Y TUBE EEV D	1	1	
17	DB93-02892A	ASS'Y CONTROL OUT	-	1	
	DB93-02892B	ASS'Y CONTROL OUT	1	-	
17-1	DB93-02893A	ASS'Y PCB MAIN	1	1	
18	DB81-00534A	REACTOR	1	1	
19	DB32-00081B	THERMISTOR COND	1	1	
20	DB32-00083D	THERMISTOR WIRE OUT/DISCHARGE	1	1	
21	DB62-02929A	TUBE RECEIVER	1	1	

7-3 Ass'y Control In (Indoor Unit)

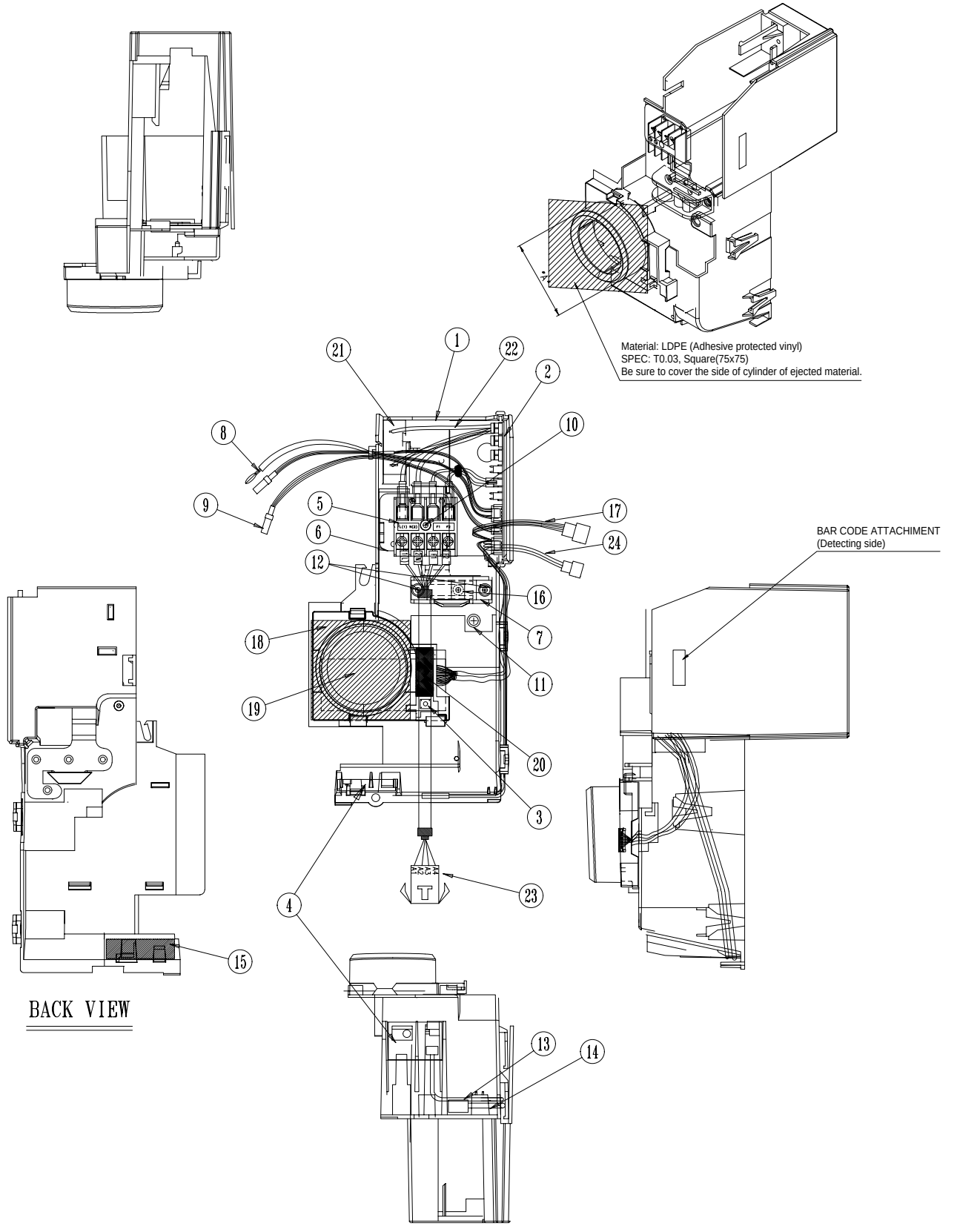
■ MH020FPEA / MH023FPEA / MH026FPEA / MH18VP2-09 / MH19VP2-07



■ **Parts List**

No.	Code No.	Description	Specification	Q'TY	Remark
1	DB61-01127A	CASE-CONTROL AC	ABS	1	
2	DB93-02779A	ASS'Y MAIN PCB	ASS'Y	1	
3	DB93-01368G	ASS'Y S/W & DISPLAY PCB	ASS'Y	1	
4	DB93-01369A	ASS'Y-MODULE PCB	ASS'Y	1	
5	DB65-00160B	ASS'Y TERMINAL BLOCK	ASS'Y	1	
6	DB70-00289A	PLATE TERMINAL LOW	SGCC-M,T1,2	1	
7	DB61-00171A	HOLDER WIRE CLAMP	HIPS	1	
8	DB32-00020A	ASS'Y THERMISTOR	ASS'Y	1	
9	DB32-00093A	ASS'Y THERMISTOR	ASS'Y	1	
10	6001-000929	SCREW-MACHINE	PH M3xL22	1	
11	6001-000572	SCREW-MACHINE	TH M4xL10	1	
12	6001-000725	SCREW-MACHINE	TH M4xL16	2	
13	DB93-01380B	C/W MODULE	ASS'Y	1	
14	DB39-00643M	C/W STEP MOTOR UP/DOWN	ASS'Y	1	
15	DB62-01368X	SEAL	61x40x3,30FOAM-PE,GRAY	1	
16	6002-000538	SCREW TAPPING	PH M4xL8	1	
17	DB39-00780B	C/W STEPPING MOTOR	ASS'Y(AUTO GRILLE)	1	
18	DB61-01110A	HOLDER-DISPLAY	ABS	1	
19	DB64-00763A	HALF MIRROR	95,T1.5	1	
20	DB72-00126N	SEAL	T3,FOAM-PE,GRAY	1	
21	2301-001377	MF-CAPACITOR	1.2µF/450V	1	
22	DB39-00183A	C/W MF CAPACITOR	2P	1	
23	DB39-00889B	C/W POWER TEST	ASS'Y	1	
24	6002-000234	SCREW-TAPPING	TH M4xL16	1	
25	DB39-01074A	C/W HALL IC	3P	1	

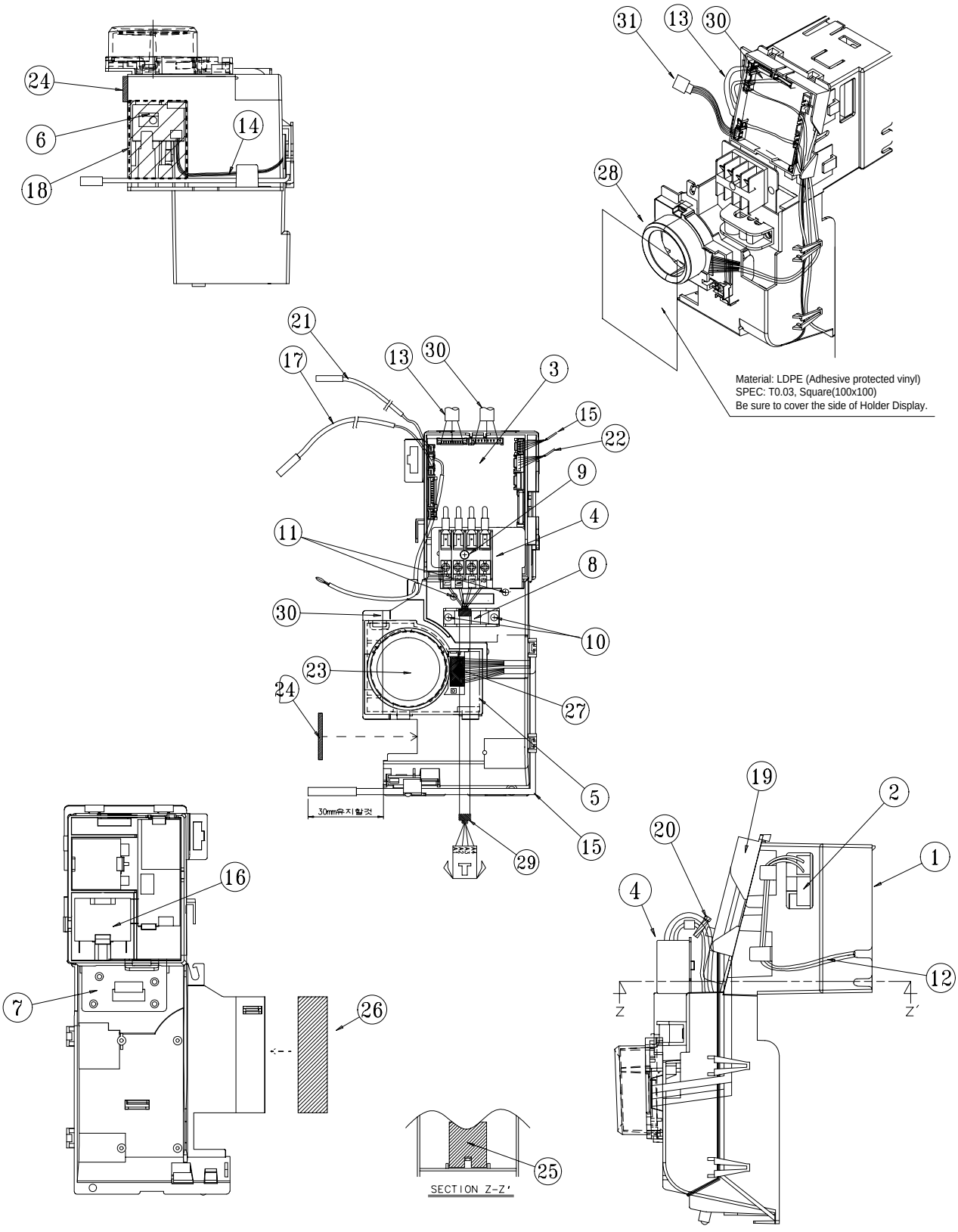
■ MH035FPEA / MH19VP2-12



■ **Parts List**

No.	Code No.	Description	Specification	Q'TY	Remark
1	DB61-01631A	CASE-CONTROL AC	ABS	1	
2	DB93-02779A	ASS'Y MAIN PCB	ASS'Y	1	
3	DB93-01368G	ASS'Y S/W & DISPLAY PCB	ASS'Y	1	
4	DB93-01369A	ASS'Y-MODULE PCB	ASS'Y	1	
5	DB65-00160B	ASS'Y TERMINAL BLOCK	ASS'Y	1	
6	DB70-00289A	PLATE TERMINAL LOW	SGCC-M,T1,2	1	
7	DB61-00171A	HOLDER WIRE CLAMP	HIPS	1	
8	DB32-00020A	ASS'Y THERMISTOR	ASS'Y	1	
9	DB32-00093A	ASS'Y THERMISTOR	ASS'Y	1	
10	6001-000929	SCREW-MACHINE	PH M3xL22	1	
11	6001-000572	SCREW-MACHINE	TH M4xL10	1	
12	6001-000725	SCREW-MACHINE	TH M4xL16	2	
13	DB93-01380A	C/W MODULE	ASS'Y	1	
14	DB39-00643F	C/W STEP MOTOR UP/DOWN	ASS'Y	1	
15	DB62-01368X	SEAL	61x40x3,30FOAM-PE,GRAY	1	
16	6002-000538	SCREW TAPPING	PH M4xL8	1	
17	DB39-00780B	C/W STEPPING MOTOR	ASS'Y(AUTO GRILLE)	1	
18	DB61-01110A	HOLDER-DISPLAY	ABS	1	
19	DB64-00763A	HALF MIRROR	95,T1.5	1	
20	DB72-00126N	SEAL	T3,FOAM-PE,GRAY	1	
21	2301-001339	MF-CAPACITOR	1.2µF/450V	1	
22	DB39-00183A	C/W MF CAPACITOR	2P	1	
23	DB39-00889B	C/W POWER TEST	ASS'Y	1	
24	DB39-01074A	C/W HALL IC	3P	1	

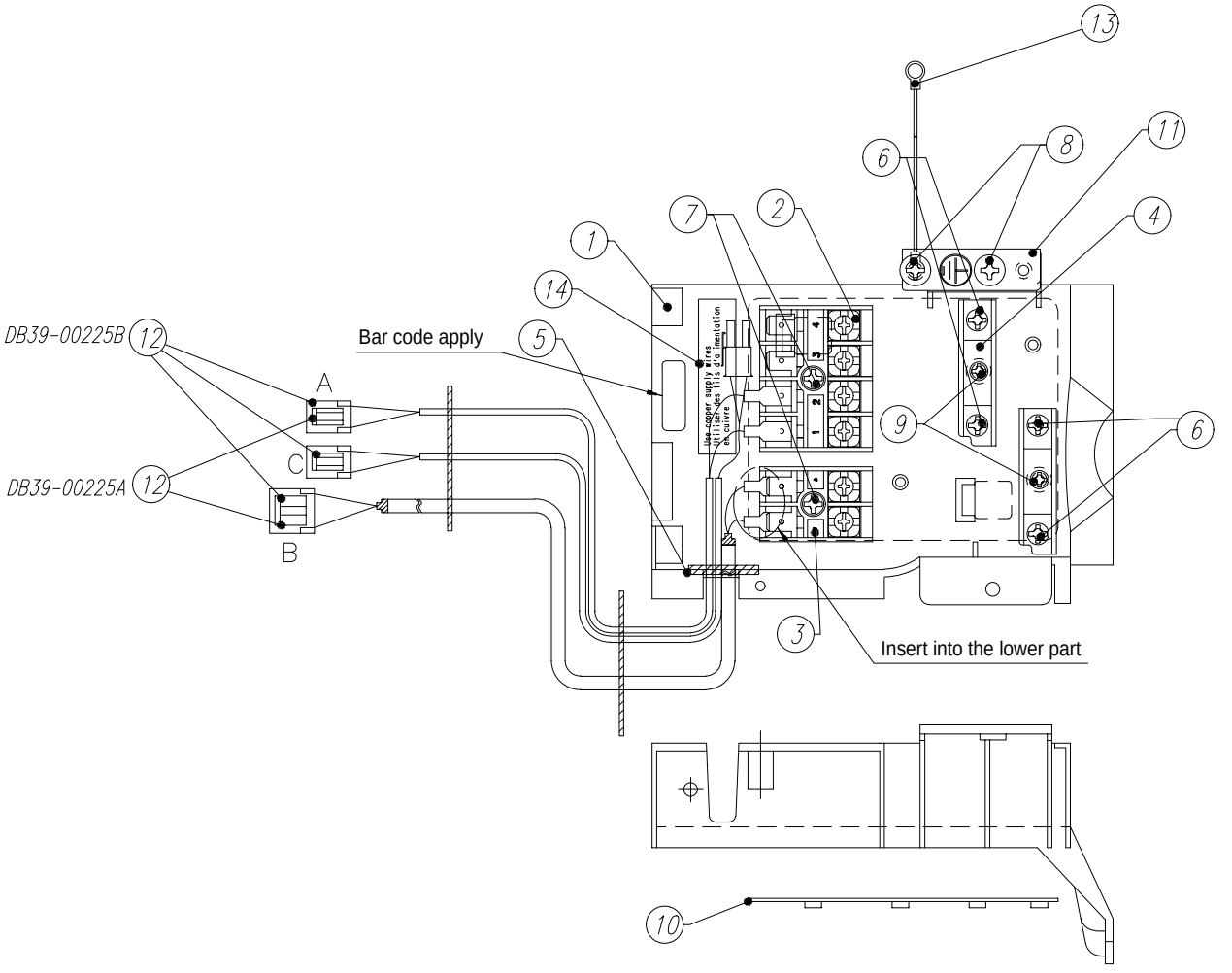
■ MH052FPEA : DB93-02744A



■ **Parts List**

No.	Code No.	Description	Specification	Q'TY	Remark
1	DB61-01143A	CASE CONTROL AC	ABS	1	
2	DB93-02743A	ASS'Y MAIN PCB(AC)	ASS'Y	1	
3	DB93-02745A	ASS'Y MAIN PCB(DC)	ASS'Y	1	
4	DB65-00160B	ASS'Y TERMINAL BLOCK	ASS'Y	1	
5	DB93-01368C	ASS'Y-S/W & DISPLAY	ASS'Y	1	
6	DB93-01369B	ASS'Y-MODULE PCB	ASS'Y	1	
7	DB70-00277A	PLATE-TERMINAL LOW	SGCC-M T1.2	1	
8	DB61-00171A	HOLDER WIRE CLAMP	ABS	1	
9	6001-000929	SCREW-MACHINE	PH M3xL22	1	
10	6001-000725	SCREW-MACHINE	TH M4xL16	2	
11	6001-001054	SCREW-MACHINE	TH M4xL10	2	
12	DB93-01386A	ASS'Y-C/W MOTOR CAPACITOR	ASS'Y	1	
13	DB93-01384B	ASS'Y-C/W AC/DC CONNECTION	ASS'Y	1	
14	DB93-01380C	ASS'Y-C/W MODULE PCB	ASS'Y	1	
15	DB93-01543A	C/W STEP MOTOR UP/DOWN	ASS'Y	1	
16	2301-001371	CAPACITOR	2.0uF,450VAC	1	
17	DB32-00020H	ASS'Y-THERMISTOR	4P(103AT)	1	
18	DB62-01368X	SEAL	61x40x3,30FOAM-PE	1	
19	DB61-01106A	CASE CONTROL(DC)	HIPS VO	1	
20	6501-000123	CABLE TIE	DA-140	1	
21	DB32-00029G	EVA OUT	ASS'Y	1	
22	DB39-00780B	ASS'Y C/W AUTO GRILLE	95,T1.5	1	
23	DB64-00763A	HALF MIRROR	T1.5/53.5PI	1	
24	DB62-01838L	SEAL-CASE CONTROL	FLOCKED,BLK,T1x45x22	1	
25	DB62-02015A	SEAL-CONTROL IN	FOAM-PE	1	
26	DB62-01838Y	SEAL-CASE CONTROL	FLOCKED,BLK,T1x77x20	1	
27	DB72-00126N	SEAL	10x30xT3,FOAM-PE,GRAY	1	
28	DB61-01139A	HOLDER DISPLAY		1	
29	DB39-00889B	C/WIRE POWER TEST	ASS'Y	1	
30	DB39-01014A	ASS'Y-C/W AC-DC CONNECTION	ASS'Y	1	
31	DB39-01074A	C/W HALL IC	ASS'Y	1	

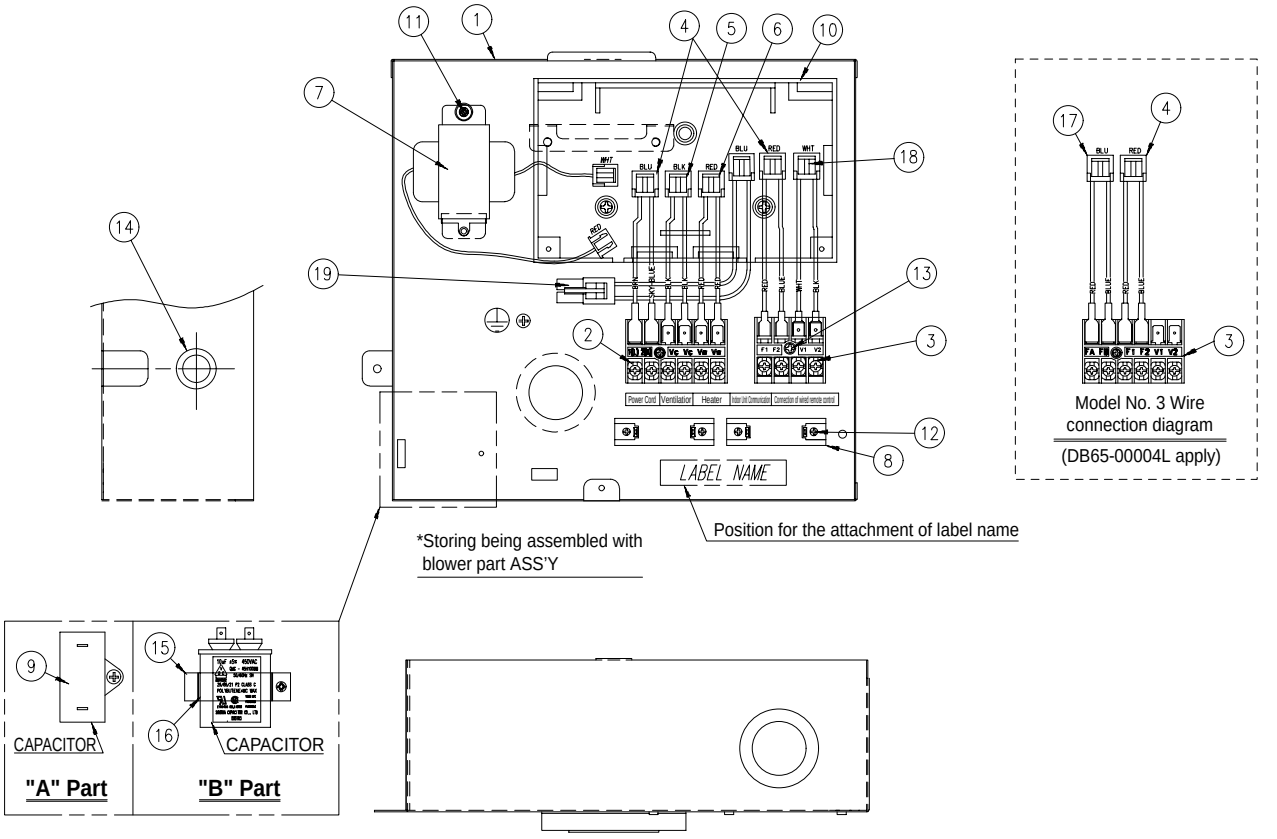
■ MH026FKEA / MH035FKEA : DB90-00590A



■ **Parts List**

No.	Code No.	Description	Specification	Q'TY		Remark
				MH026FKEA	MH035FKEA	
1	DB61-00394A	BASE TERMINAL	BLK	1	1	
2	DB65-00004C	TERMINAL BLOCK	ASS'Y	1	1	
3	DB65-00004B	TERMINAL BLOCK	ASS'Y	1	1	
4	DB61-00250A	HOLDER WIRE	ABS,BLK	2	2	
5	DB65-10088B	CABLE TIE	-	1	1	
6	6002-000234	SCREW TAPPING	ZPC(YEL)	4	4	
7	6001-000841	SCREW MACHINE	ZPC(YEL)	2	2	
8	6009-001001	SCREW SPECIAL	ZPC(YEL)	2	2	
9	6002-000231	SCREW TAPPING	ZPC(YEL)	2	2	
10	DB61-00365A	BRACKET TERMINAL	SGCC-M	1	1	
11	DB61-00163A	BRACKET EARTH	SGCC-M	1	1	
12	DB39-00255A	C/W POWER & COMMUNICATION	-	1	1	
13	DB39-00165A	CONNECTOR WIRE EARTH	-	1	1	
14	DB68-01975A	LABEL CAUTION	ART PAPER	1	1	

■ MH052FDEA : DB93-01037Y

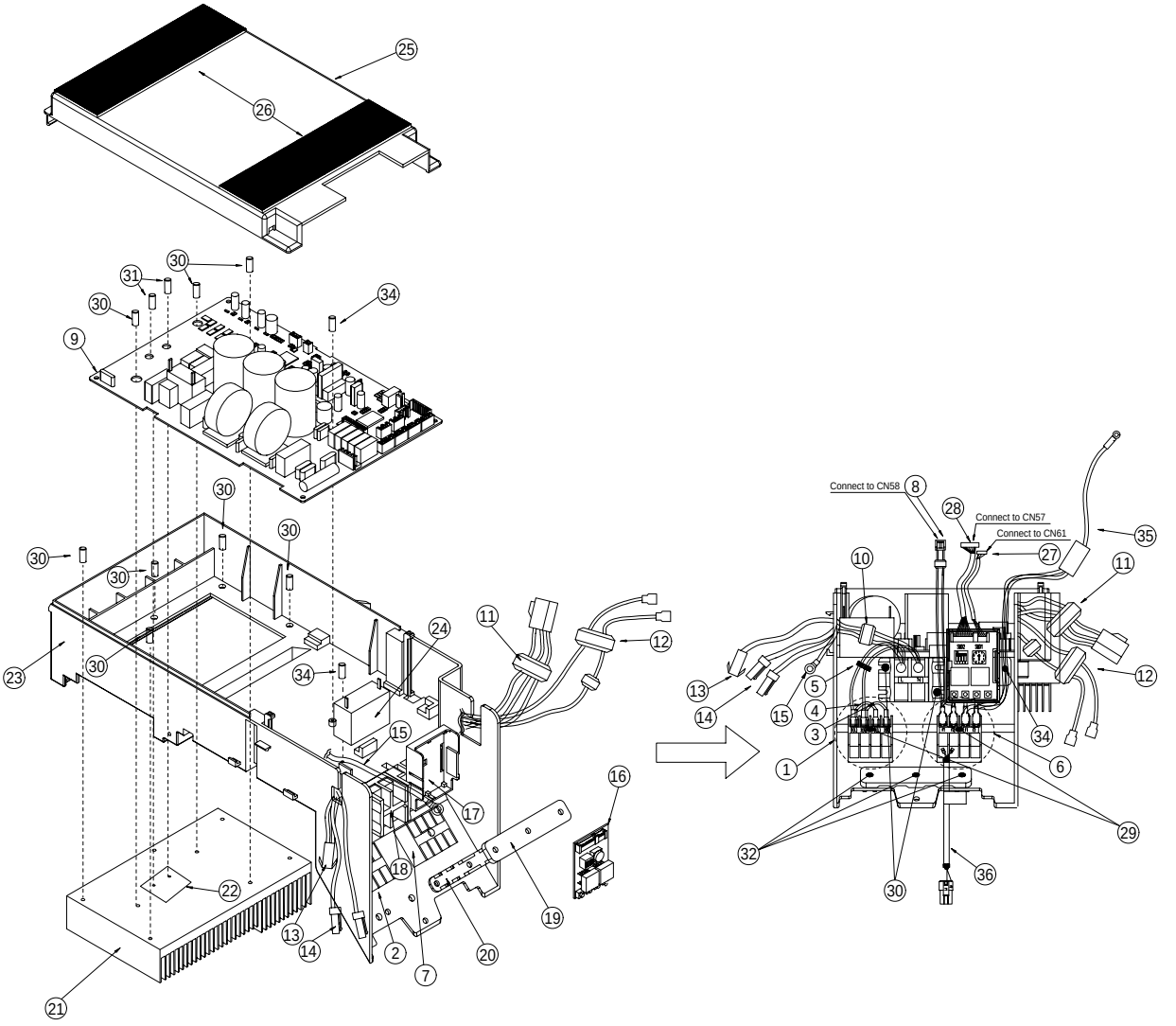


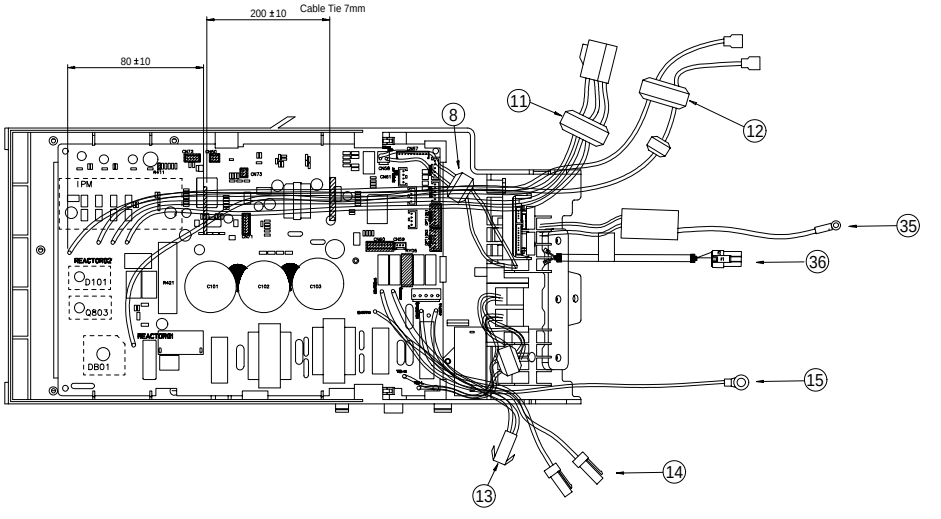
■ **Parts List**

No.	Code No.	Description	Specification	Q'TY	Remark
1	DB90-00282A	ASS'Y CASE-CONTROL	ASS'Y	1	
2	DB65-00004H	TERMINAL-BLOCK 6P	300V 25A,DAF-6P	1	
3	DB65-00004C	TERMINAL-BLOCK 4P	300V 25A,DAF-4P	1	
4	DB39-00228A	CONNECTOR WIRE POWER&COMM	-	2	
5	DB39-00640A	CONNECTOR WIRE VENTILATOR	-	1	
6	DB39-00640B	CONNECTOR WIRE HOT WATER HEATER	-	1	
7	DB26-10065B	TRANS POWER	DC17V,DC500mA	1	
8	DB61-40291B	HOLDER WIRE	PP	2	
9	2301-001369	C-OIL	3.0uF,450VAC	1	
10	DB61-00449A	CASE PCB	ABS	1	
11	6002-000231	SCREW-TAPPING	TH,+,2S,M4x12,ZPC(YEL)	4	
12	6001-000044	SCREW-MACHINE	TH,+,M4,L18,ZPC(YEL)	4	
13	-	SCREW-TAPPING	PH,M4,L22	2	
14	DB73-30039A	BUSHING	NR/BLK,T7xD37	1	
15	DB69-60008A	BAND-CAPACITOR	SBHG1-M,T0.8	1	
16	DB73-30038B	BUSH-CONDENSER	NR/BLK	1	
17	DB39-00687A	CONNECTOR WIRE INTER COM	-	1	
18	DB39-00760A	C/W COMMUNICATION THROUGH	UL1007 AW#18	1	
19	DB39-00943B	CONNECTOR WIRE COMM2	UL1007 AW#22	1	

7-4 Ass'y Control Out (Outdoor Unit)

■ MH052FXEA2 / MH18VP2X / MH19VP2X

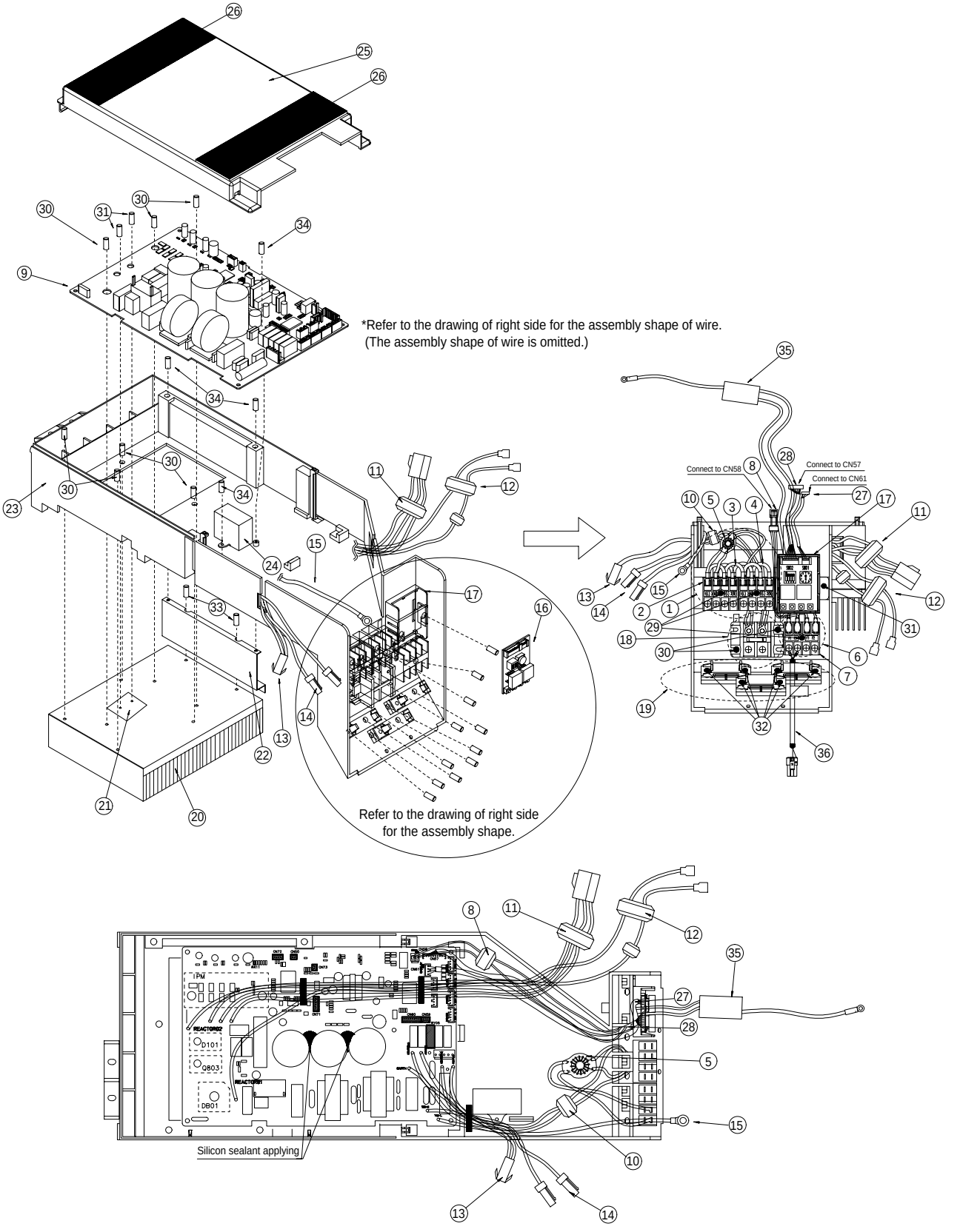

Connect to CN58
Connect to CN57
Connect to CN61



■ **Parts List**

No.	Code No.	Description	Specification	Q'TY	Remark
1	DB93-02990B	ASS'Y TERMINAL BLOCK P/W		1	
2	DB65-00161A	TERMINAL BLOCK		1	
3	DB39-00604H	CONNECT WIRE		1	
4	DB39-00604G	CONNECT WIRE		1	
5	DB39-00625E	CONNECT WIRE POWER		1	
6	DB93-02991B	ASS'Y TERMINAL BLOCK 485		1	
7	DB65-00161B	TERMINAL BLOCK		1	
8	DB39-01017B	CONNECT WIRE COMM		1	
9	DB93-03143A	ASS'Y PCB MAIN		1	
10	DB39-00749C	CONNECT WIRE POWER		1	
11	DB39-00746B	CONNECT WIRE COMP		1	
12	DB39-00747B	CONNECT WIRE REACTOR		1	
13	DB39-00649C	CONNECT WIRE 4WAY		1	
14	DB39-00765Q	CONNECT WIRE HEATER		2	
15	DB39-00765P	CONNECT WIRE		1	
16	DB93-02894A	ASS'Y PCB OUT DISPLAY		1	
17	DB61-01948A	CASE SUB-PCB		1	
18	DB65-40062S	TERMINAL BLOCK		1	
19	DB61-00586A	HOLDER WIRE-UP		1	
20	DB61-00587A	HOLDER WIRE-DOWN		1	
21	DB62-03330A	HEAT SINK		1	
22	DB81-00547A	INSULATOR MICA	T0.1, 45x28	1	
23	DB61-02254A	CASE CONTROL BASE		1	
24	2301-001369	FAN MOTOR CAPACITOR	3.0µF/450V	1	
25	DB61-01198A	CASE CONTROL UPP		1	
26	DB62-01925B	INSUL-CONTROL BOX TOP		2	
27	DB39-01019B	CONNECT WIRE 4P		1	
28	DB39-01018B	CONNECT WIRE 10P		1	
29	-	SCREW-MACHINE	M3x25 ZPC(YEL) PH+ WSP	2	
30	-	SCREW-MACHINE	M4x16 ZPC(YEL) PH+ WSP	10	
31	-	SCREW-MACHINE	M3x16 ZPC(YEL) PH+ WSP	2	
32	-	SCREW-MACHINE	M4x25 ZPC(YEL) PH+ WSP	3	
33	6006-000245	SCREW-MACHINE	M4x10 2S PH+	2	
34	6002-000171	SCREW-MACHINE		2	
35	DB93-01469D	ASS'Y NOISE ABSORBOR		1	
36	DB93-03076A	ASS'Y WIRE JIG		1	

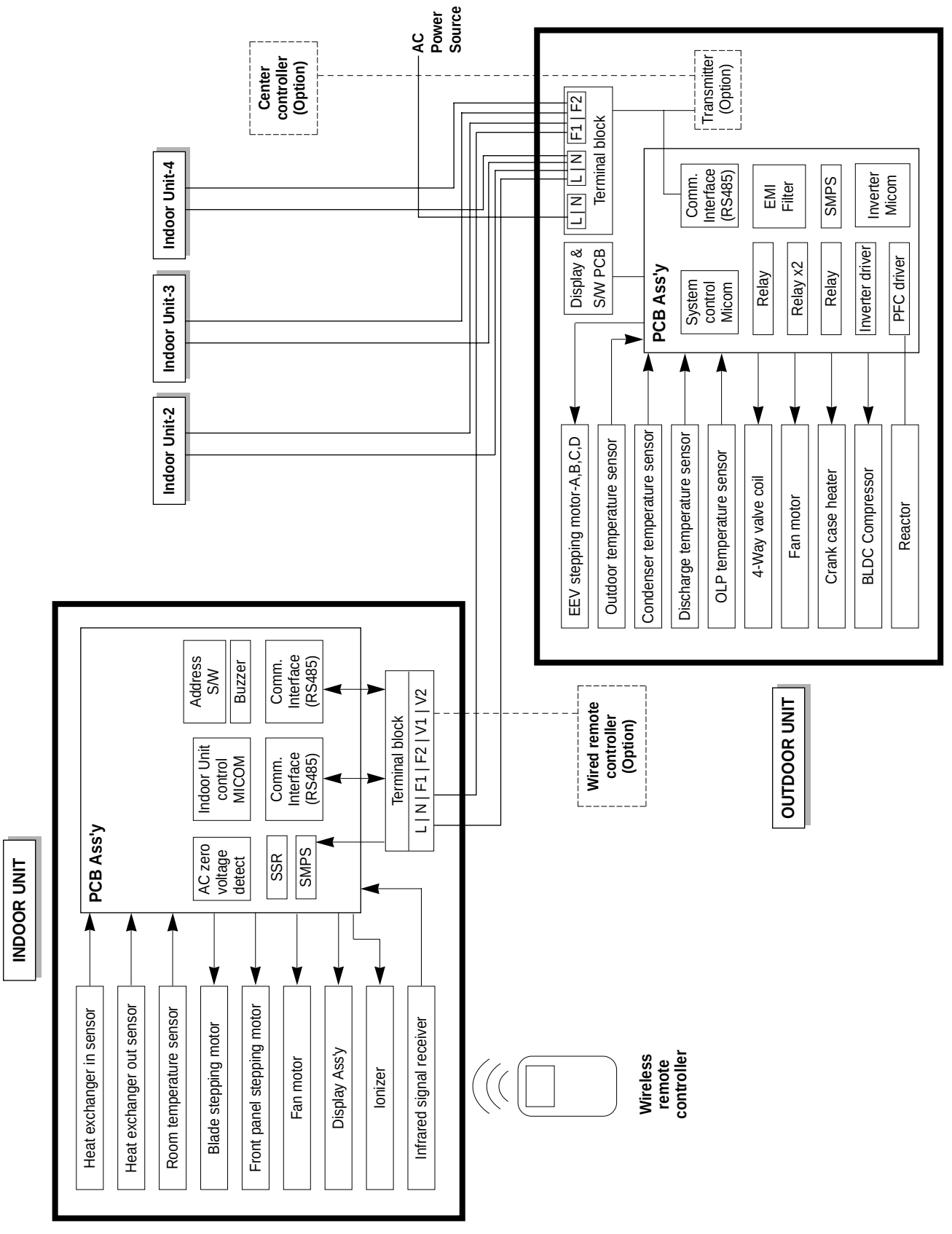
■ MH068FXEA4 / MH080FXEA4



■ **Parts List**

No.	Code No.	Description	Specification	Q'TY	Remark
1	DB93-02990A	ASS'Y TERMINAL BLOCK P/W		1	
2	DB65-00161A	TERMINAL BLOCK		2	
3	DB39-00604H	CONNECT WIRE		3	
4	DB39-00604G	CONNECT WIRE		3	
5	DB39-00625D	CONNECT WIRE POWER		1	
6	DB93-02991A	ASS'Y TERMINAL BLOCK 485		1	
7	DB65-00161B	TERMINAL BLOCK		1	
8	DB39-01017A	CONNECT WIRE COMM		1	
9	DB93-02893A	ASS'Y PCB MAIN		1	
10	DB39-00749C	CONNECT WIRE POWER		1	
11	DB39-00746B	CONNECT WIRE COMP		1	
12	DB39-00747B	CONNECT WIRE REACTOR		1	
13	DB39-00649C	CONNECT WIRE 4-WAY		1	
14	DB39-00765Q	CONNECT WIRE HEATER		2	
15	DB39-00765P	CONNECT WIRE		1	
16	DB93-02894A	ASS'Y PCB OUT DISPLAY		1	
17	DB61-01948A	CASE SUB-PCB		1	
18	DB65-40062S	TERMINAL BLOCK		1	
19	DB61-40291B	HOLDER-WIRE		3	
20	DB62-02900A	HEAT SINK		1	
21	DB81-00547A	INSULATOR MICA	T0.1, 45x28	1	
22	DB62-03079A	HEAT SINK-PLATE		1	
23	DB61-01197A	CASE CONTROL BASE		1	
24	2301-001369	FAN MOTOR CAPACITOR	3.0uF/450V	1	
25	DB61-01198A	CASE CONTROL UPP		1	
26	DB62-01925B	INSUL-CONTROL BOX TOP		2	
27	DB39-01019A	CONNECT WIRE	4P	1	
28	DB39-01018A	CONNECT WIRE	10P	1	
29	-	SCREW-MACHINE	M3x25 ZPC(YEL) PH+ WSP	3	
30	-	SCREW-MACHINE	M4x16 ZPC(YEL) PH+ WSP	9	
31	-	SCREW-MACHINE	M3x16 ZPC(YEL) PH+ WSP	3	
32	-	SCREW-MACHINE	M4x25 ZPC(YEL) PH+ WSP	6	
33	6006-000245	SCREW-MACHINE	M4x8 ZPC(YEL) PH+ WSP	2	
34	6002-000171	SCREW-TAPPING	M4x10 2S PH+	4	
35	DB93-01469D	ASS'Y NOISE ABSORBER		1	
36	DB93-03076A	ASS'Y WIRE JIG		1	

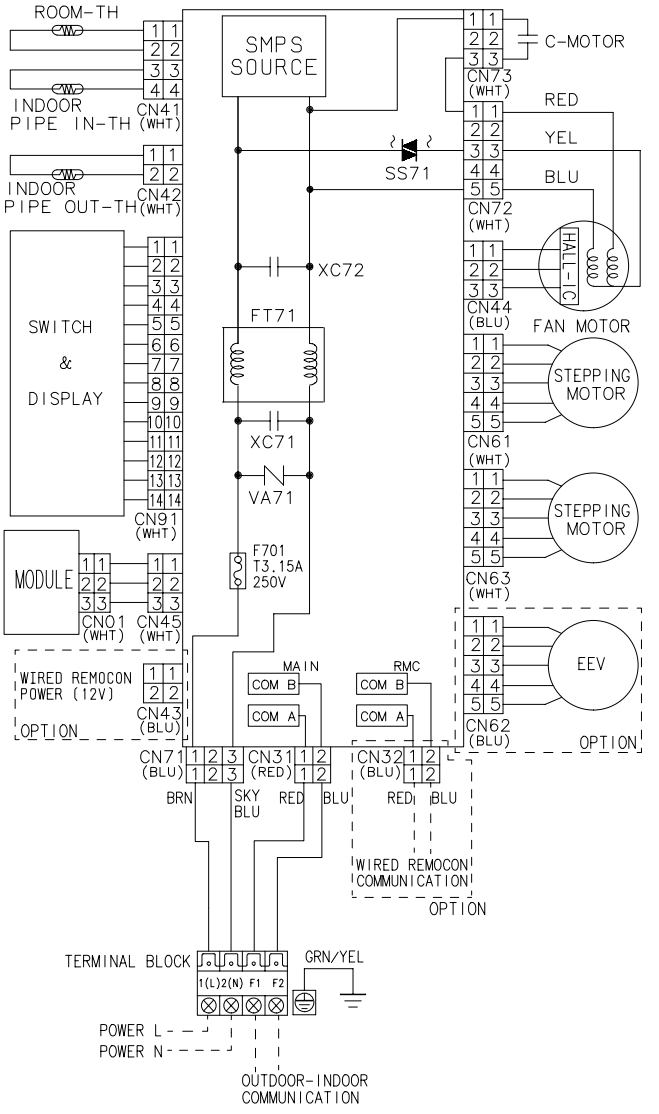
8. Block Diagram



9. Wiring Diagram

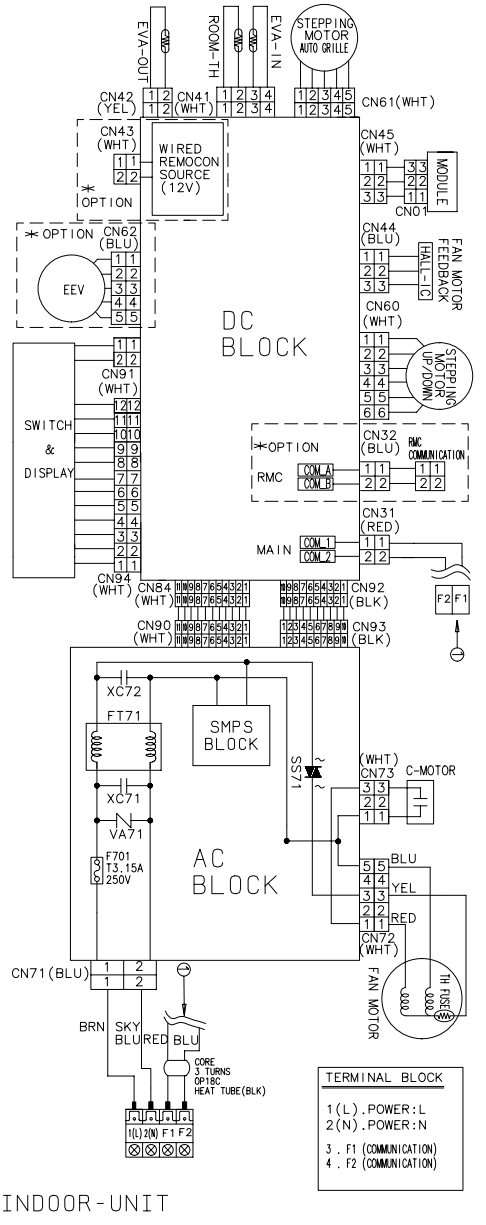
9-1 Indoor Unit

■ MH020FPEA / MH023FPEA / MH026FPEA / MH035FPEA / MH18VP2-09 / MH19VP2-07 / MH19VP2-12



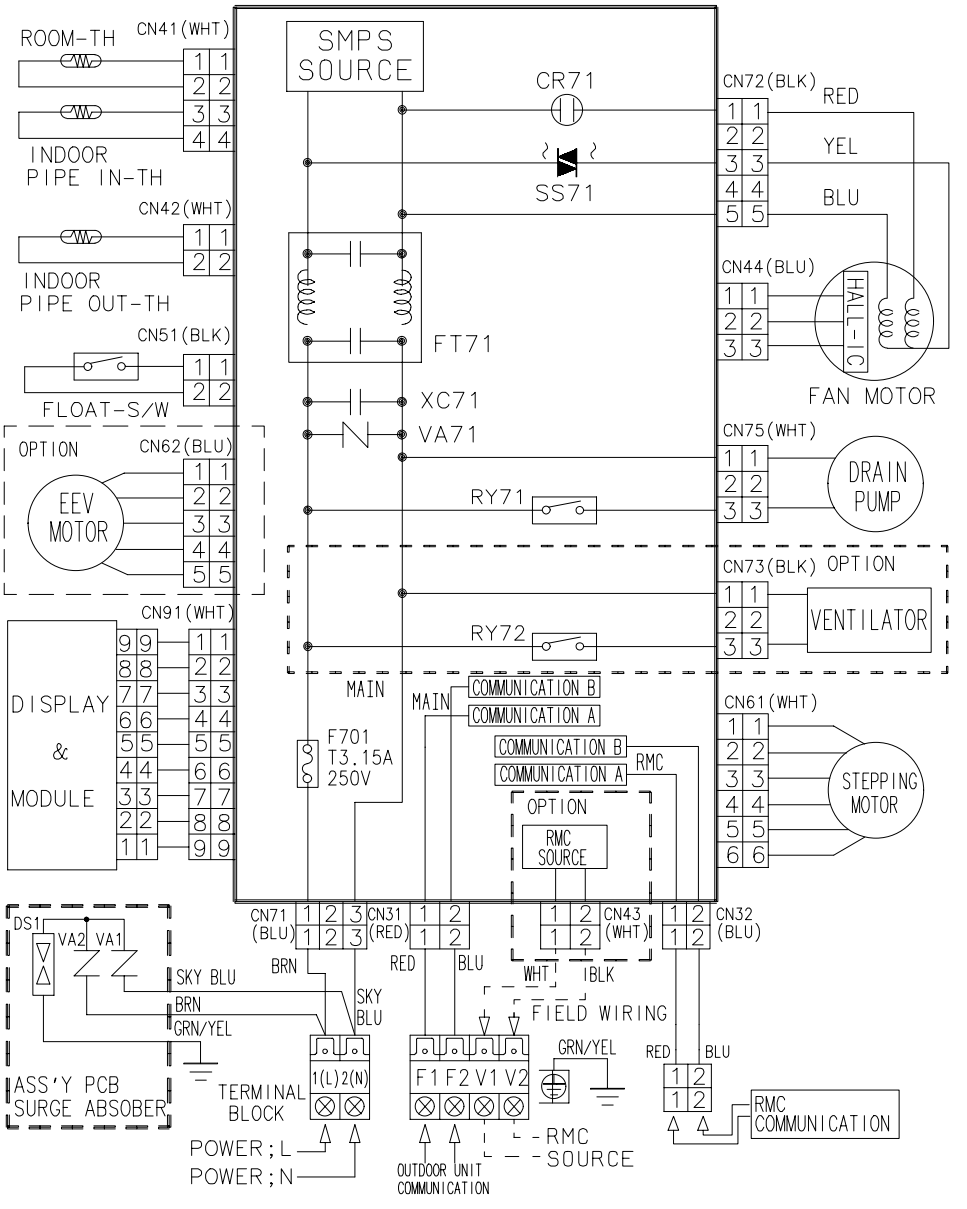
Code No : DB98-20172A

■ MH052FPEA



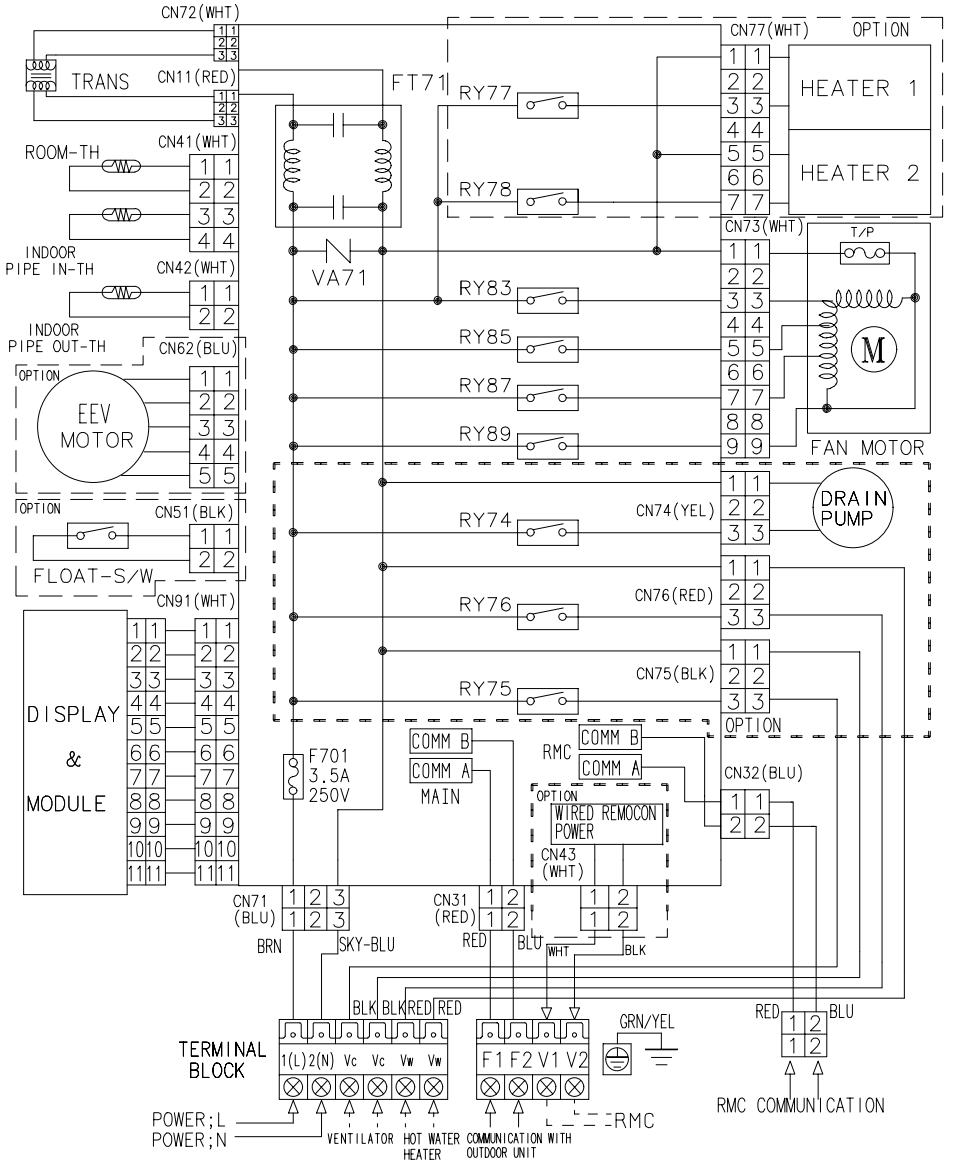
Code No : DB98-20217A

■ MH026FKEA / MH035FKEA



Code No : DB98-20898A

■ MH052FDEA

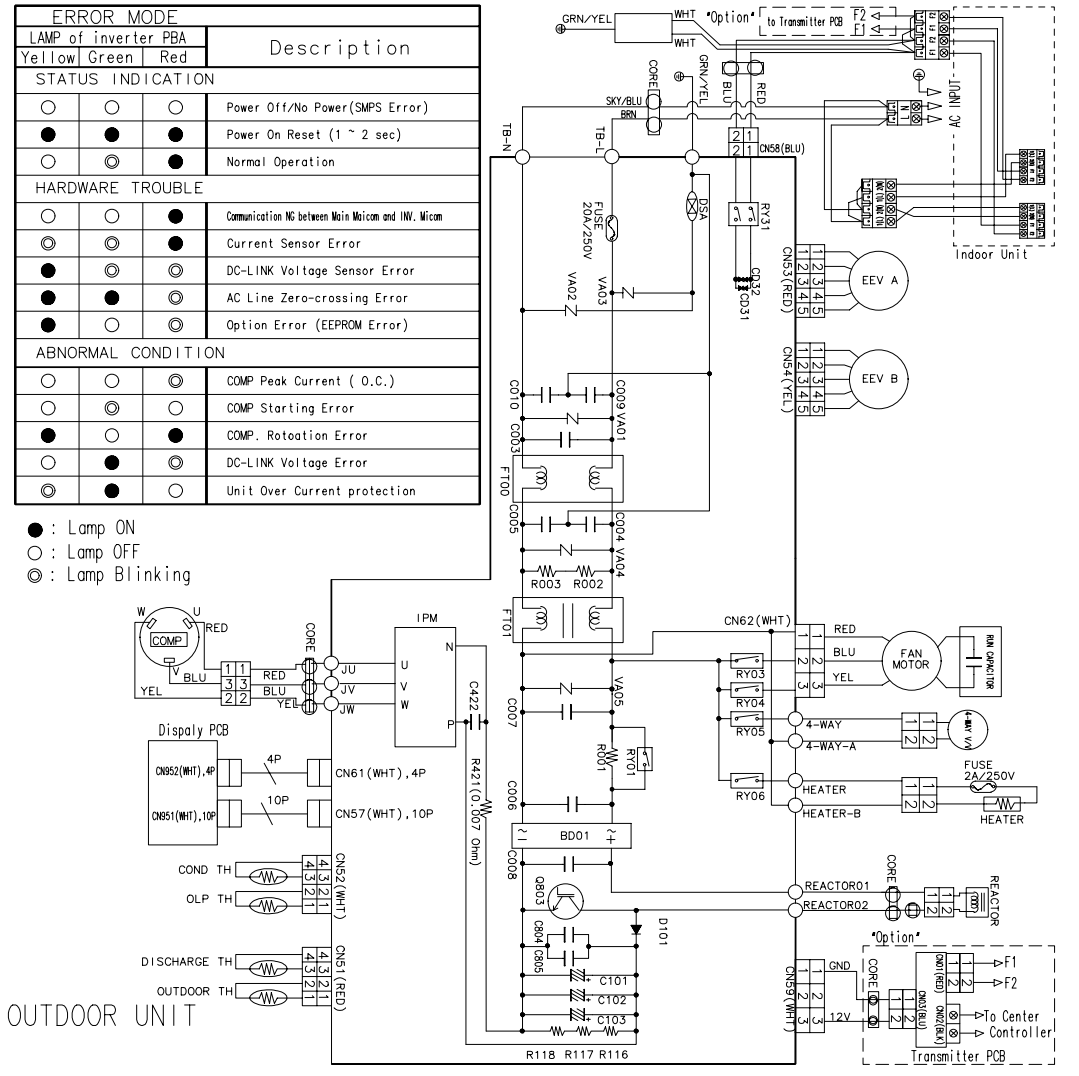


Code No : DB98-20896A

■ MH18VP2X / MH19VP2X / MH052FXEA2

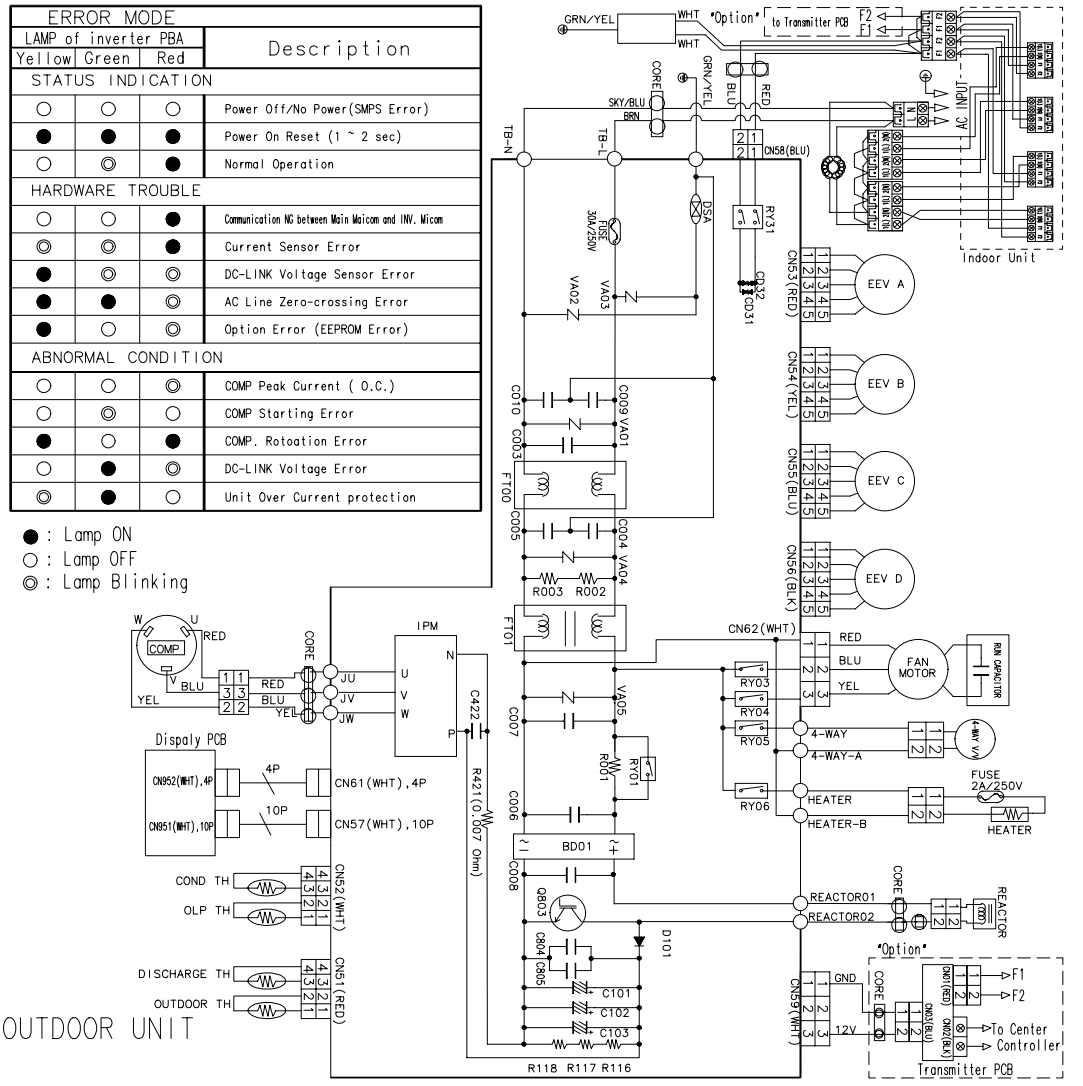
ERROR MODE			
LAMP of inverter PBA			Description
Yellow	Green	Red	
STATUS INDICATION			
○	○	○	Power Off/No Power(SMPS Error)
●	●	●	Power On Reset (1 ~ 2 sec)
○	◎	●	Normal Operation
HARDWARE TROUBLE			
○	○	●	Communication NG between Main Micom and INV. Micom
◎	◎	●	Current Sensor Error
●	◎	◎	DC-LINK Voltage Sensor Error
●	●	◎	AC Line Zero-crossing Error
●	○	◎	Option Error (EEPROM Error)
ABNORMAL CONDITION			
○	○	◎	COMP Peak Current (O.C.)
○	◎	○	COMP Starting Error
●	○	●	COMP. Rotoation Error
○	●	◎	DC-LINK Voltage Error
◎	●	○	Unit Over Current protection

● : Lamp ON
○ : Lamp OFF
◎ : Lamp Blinking



Code No : DB98-21561A

■ MH068FXEA4 / MH080FXEA4



Code No : DB98-20369A

MEMO

MEMO

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