MITSUBISHI ELECTRIC

SPLIT-TYPE AIR CONDITIONERS

Changes for the Better

Revision D:
- Errors in TROUBLESHOOTING have been corrected.

Please void OB408 REVISED EDITION-C.

OUTDOOR UNIT

SERVICE MANUAL

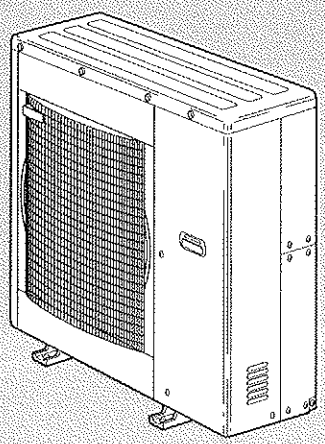
HFC utilized R410A

No. OB408
REVISED EDITION-D

Models

MXY-4A38VA -P1
MXY-4A38VA -P2
MXY-4A38VA -P3

Indoor unit service manual
MSXY-GA·VA Series (OB406)



MXY-4A38VA-P1

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NOTE:
- This service manual describes technical data of outdoor units.
- RoHS compliant products have <G> mark on the spec name plate. For servicing of RoHS compliant products, refer to the RoHS Parts List.

starMEX

Use the specified refrigerant only

Never use any refrigerant other than that specified.

Doing so may cause a burst, an explosion, or fire when the unit is being used, serviced, or disposed of.

Correct refrigerant is specified in the manuals and on the spec labels provided with our products.

We will not be held responsible for mechanical failure, system malfunction, unit breakdown or accidents caused by failure to follow the instructions.

Revision A:

- "Check of HPS" has been corrected.
- RoHS PARTS LIST has been added.

Revision B:

- **MXY-4A38VA-**[P2] has been added.

Revision C:

- **MXY-4A38VA-**[P3] has been added.

Revision D:

- Errors in TROUBLESHOOTING have been corrected.

1 TECHNICAL CHANGES

MXY-32SV -[P2]→ MXY-4A38VA -[P1]

1. Communication system has been changed.
2. Evaporation temperature thermistor has been removed.
3. Ambient temperature thermistor has been added.
4. New dip switch has been added to the controller board for "Changing the ampere limit" mode. and "Lowering the operating noise "mode.
5. Combinations of connectable indoor units have been increased.
6. Capacity class of connectable indoor units has been become larger.
7. Compressor has been changed. (THV247FBA → TNB220FMCH)
8. Outdoor fan motor has been changed. (RA6V60-BB → PM8H60-UA)
9. Refrigerant has been changed. (R22 → R410A)
10. Refrigerant system diagram has been changed.
    - High pressure switch has been decreased. (2 → 1)
    - Accumulator has been removed.
    - Receiver has been added.
11. Outdoor electronic control P.C. board has been changed.
12. Noise filter P.C. board has been changed.
13. Signal of terminal block has been changed.

MXY-4A38VA -[P1]→ MXY-4A38VA -[P2]

1. Ball valve has been changed to stop valve.
2. Gas pipe temperature thermistor has been removed.
3. Pre-heat control has been added.
4. Auto line correcting function has been added.
5. Noise filter P.C. board has been changed.
6. Electronic control P.C. board has been changed.
7. Weight has been changed (70kg → 67kg)

MXY-4A38VA -[P2]→ MXY-4A38VA -[P3]

1. Outdoor fan moor has been changed. (PM8H60-UA → RC0J-CA)
2. Electronic control P.C. board has been changed.
3. Defrost thermistor has been added.

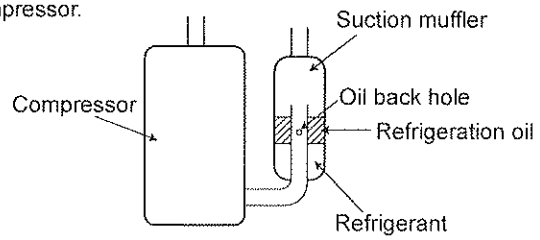
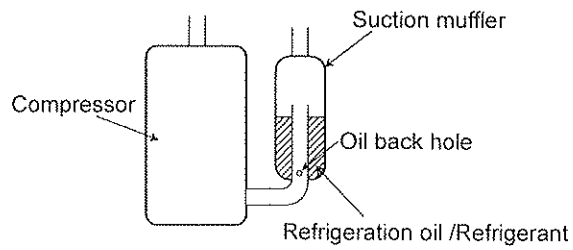
INFORMATION FOR THE AIR CONDITIONER WITH R410A REFRIGERANT

- This room air conditioner adopts HFC refrigerant (R410A) which never destroys the ozone layer.
- Pay particular attention to the following points, though the basic installation procedure is same as that for R22 air conditioners.

① As R410A has working pressure approximate 1.6 times as high as that of R22, some special tools and piping parts/ materials are required. Refer to the table below.
② Take sufficient care not to allow water and other contaminations to enter the R410A refrigerant during storage and installation, since it is more susceptible to contaminations than R22.
③ For refrigerant piping, use clean, pressure-proof parts/materials specifically designed for R410A. (Refer to 2. Refrigerant piping.)
④ Composition change may occur in R410A since it is a mixed refrigerant. When charging, charge liquid refrigerant to prevent composition change.

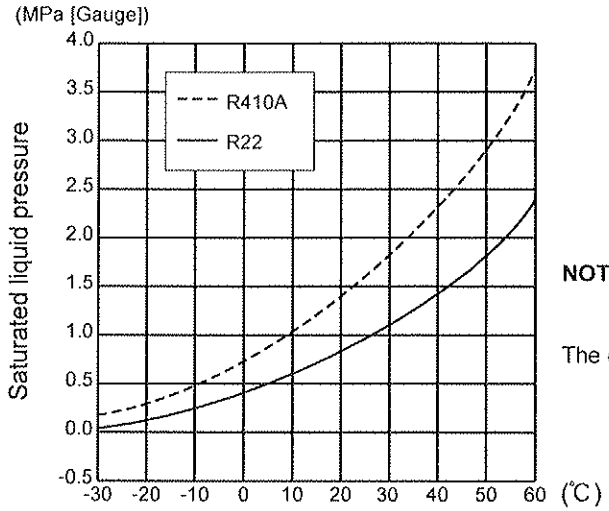
		New refrigerant	Previous refrigerant
Refrigerant	Refrigerant	R410A	R22
	Composition (Ratio)	HFC-32: HFC-125 (50%:50%)	R22 (100%)
	Refrigerant handling	Pseudo-azeotropic refrigerant	Single refrigerant
	Chlorine	Not included	Included
	Safety group (ASHRAE)	A1/A1	A1
	Molecular weight	72.6	86.5
	Boiling point (°C)	-51.4	-40.8
	Steam pressure [25 °C](Mpa)	1.557	0.94
	Saturated steam density [25 °C](Kg/m^3)	64	44.4
	Combustibility	Non combustible	Non combustible
	ODP ※1	0	0.055
	GWP ※2	1730	1700
	Refrigerant charge method	From liquid phase in cylinder	Gas phase
	Additional charge on leakage	Possible	Possible
Refrigeration oil	Kind	Incompatible oil	Compatible oil
	Color	Non	Light yellow
	Smell	Non	Non

※1: Ozone Depletion Potential : based on CFC-11
※2: Global Warming Potential : based on CO_2

	New Specification	Current Specification
Compressor	The incompatible refrigeration oil easily separates from refrigerant and is in the upper layer inside the suction muffler. Raising position of the oil back hole enables to back the refrigeration oil of the upper layer to flow back to the compressor. 	Since refrigerant and refrigeration oil are compatible, refrigeration oil goes back to the compressor through the lower position oil back hole. 

NOTE : The unit of pressure has been changed to MPa on the international system of units (SI unit system).
The conversion factor is: **1 (MPa [Gauge]) = 10.2 (kgf/cm^2 [Gauge])**

Conversion chart of refrigerant temperature and pressure



NOTE : The unit of pressure has been changed to MPa on the international system of units (SI unit system).

The conversion factor is: **1 (MPa [Gauge]) = 10.2 (kgf/cm² [Gauge])**

1. Tools dedicated for the air conditioner with R410A refrigerant

The following tools are required for R410A refrigerant. Some R22 tools can be substituted for R410A tools.
The diameter of the service port on the stop valve in outdoor unit has been changed to prevent any other refrigerant from being charged into the unit. Cap size has been changed from 7/16 UNF with 20 threads to 1/2 UNF with 20 threads.

R410A tools	Can R22 tools be used?	Description
Gauge manifold	No	R410A has high pressures beyond the measurement range of existing gauges. Port diameters have been changed to prevent any other refrigerant from being charged into the unit.
Charge hose	No	Hose material and cap size have been changed to improve the pressure resistance.
Gas leak detector	No	Dedicated for HFC refrigerant.
Torque wrench	Yes	6.35 mm and 9.52 mm
	No	12.7 mm and 15.88 mm
Flare tool	Yes	Clamp bar hole has been enlarged to reinforce the spring strength in the tool.
Flare gauge	New	Provided for flaring work (to be used with R22 flare tool).
Vacuum pump adapter	New	Provided to prevent the back flow of oil. This adapter enables you to use vacuum pumps.
Electronic scale for refrigerant charging	New	It is difficult to measure R410A with a charging cylinder because the refrigerant bubbles due to high pressure and high-speed vaporization

No : Not Substitutable for R410A Yes : Substitutable for R410A

2. Refrigerant piping

① Specifications

Use the refrigerant pipes that meet the following specifications.

Pipe	Outside diameter mm	Wall thickness	Insulation material
For liquid	6.35/9.52	0.8 mm/0.8 mm	Heat resisting foam plastic Specific gravity 0.045 Thickness 8 mm
For gas	9.52	0.8 mm	
	12.7	0.8 mm	
	15.88	1.0 mm	

• Use a copper pipe or a copper-alloy seamless pipe with a thickness of 0.8 mm. Never use any pipe with a thickness less than 0.8 mm, as the pressure resistance is insufficient.

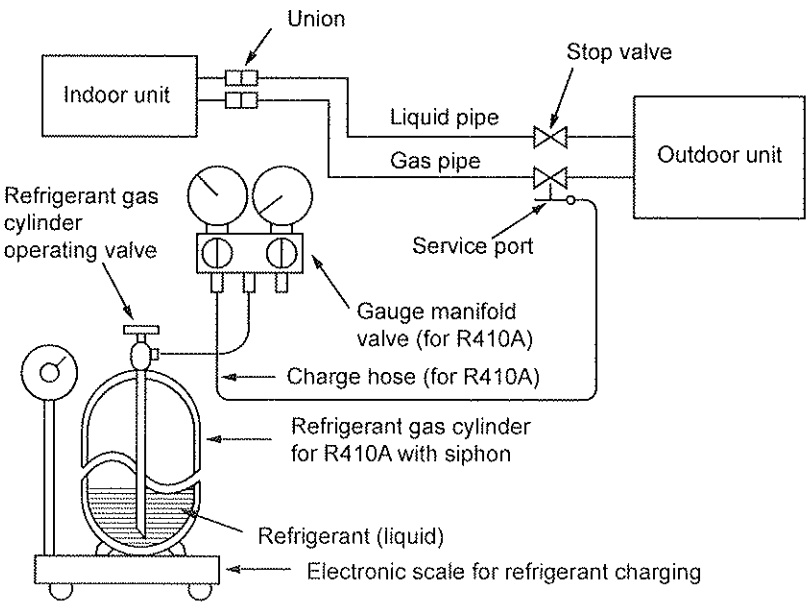
② Flaring work and flare nut
Flaring work for R410A pipe differs from that for R22 pipe.
For details of flaring work, refer to Installation manual "FLARING WORK".

Pipe diameter	Dimension of flare nut	
mm	R410A	R22
6.35	17	17
9.52	22	22
12.7	26	24
15.88	29	27

3. Refrigeration oil
Apply the special refrigeration oil (accessories: packed with indoor unit) to the flare and the union seat surfaces.

4. Air purge
- Do not discharge the refrigerant into the atmosphere.
  Take care not to discharge refrigerant into the atmosphere during installation, reinstallation, or repairs to the refrigerant circuit.
- Use the vacuum pump for air purging for the purpose of environmental protection.

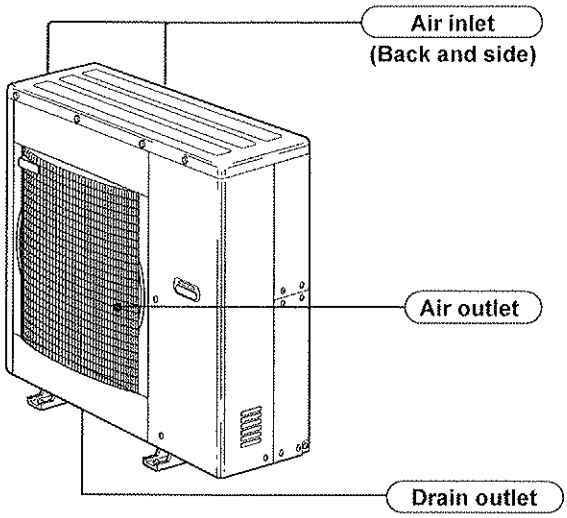
5. Additional charge
For additional charging, charge the refrigerant from liquid phase of the gas cylinder.
If the refrigerant is charged from the gas phase, composition change may occur in the refrigerant inside the cylinder and the outdoor unit. In this case, ability of the refrigeration cycle decreases or normal operation can be impossible. However, charging the liquid refrigerant all at once may cause the compressor to be locked. Thus, charge the refrigerant slowly.



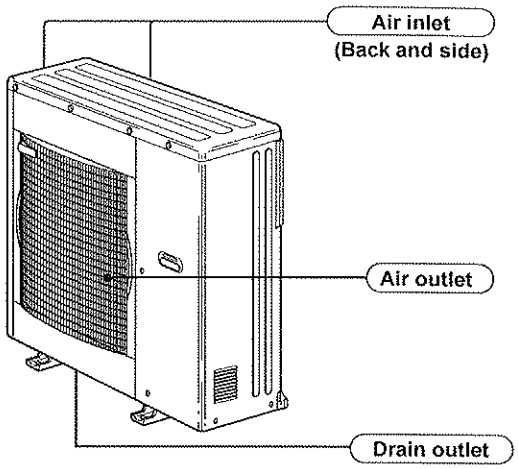
2 PART NAMES AND FUNCTIONS

OUTDOOR UNIT

MXY-4A38VA-P1



MXY-4A38VA-P2, P3



3 INDOOR/ OUTDOOR CORRESPONDENCE TABLE

MXY-4A38VA

	OUTDOOR UNIT
	MXY-4A38VA
Combination of the connectable indoor units	10+10
	10+13
	10+18
	10+22
	10+26
	13+13
	13+18
	13+22
	13+26
	18+18
	18+22
	18+26
	22+22
	22+26
	26+26
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	10+10+10+26
	10+10+13+13
	10+10+13+18
	10+10+13+22
	10+10+18+18
	10+13+13+13
	10+13+13+18
	10+13+13+22
	13+13+13+13
	13+13+13+18

※There is no combination other than this table.

4 INDOOR UNITS COMBINATION

MXY-4A38VA (Full)

Indoor units combination	Cooling capacity (kW)					Power consumption (kW)	Current (A)	Power factor (%)
	Unit A	Unit B	Unit C	Unit D	Total			
10	2.50	–	–	–	2.50 (1.4-3.5)	0.590 (0.430-0.810)	2.59 (1.89-3.56)	99
13	3.50	–	–	–	3.50 (1.4-4.3)	0.810 (0.430-1.000)	3.56 (1.89-4.39)	99
18	5.00	–	–	–	5.00 (1.5-6.1)	1.230 (0.470-1.640)	5.40 (2.06-7.20)	99
22	6.00	–	–	–	6.00 (1.6- 6.7)	1.720 (0.470-1.930)	7.55 (2.06-8.48)	99
26	7.10	–	–	–	7.10 (1.6-8.5)	2.550 (0.470-3.480)	11.20 (2.06-15.28)	99
10+10	2.50	2.50	–	–	5.00 (2.0- 6.5)	1.180 (0.640-1.890)	5.18 (2.81-8.30)	99
10+13	2.50	3.50	–	–	6.00 (2.0-7.3)	1.610 (0.640-2.350)	7.07 (2.81-10.32)	99
10+18	2.50	5.00	–	–	7.50 (2.0-8.5)	2.460 (0.640-3.280)	10.80 (2.81-14.40)	99
10+22	2.50	6.00	–	–	8.50 (2.0-8.7)	3.320 (0.650-3.480)	14.58 (2.85-15.28)	99
10+26	2.27	6.43	–	–	8.70 (2.0-8.8)	3.380 (0.650-3.480)	14.84 (2.85-15.28)	99
13+13	3.50	3.50	–	–	7.00 (2.0-8.8)	2.220 (0.640-3.330)	9.75 (2.81-14.62)	99
13+18	3.50	5.00	–	–	8.50 (2.0-8.9)	3.320 (0.640-3.480)	14.58 (2.81-15.28)	99
13+22	3.21	5.49	–	–	8.70 (2.0-9.1)	3.270 (0.650-3.480)	14.36 (2.85-15.28)	99
13+26	2.87	5.83	–	–	8.70 (2.0-9.1)	3.200 (0.650-3.480)	14.05 (2.85-15.28)	99
18+18	4.35	4.35	–	–	8.70 (2.1-9.1)	3.200 (0.690-3.480)	14.05 (3.03-15.28)	99
18+22	4.00	4.80	–	–	8.80 (2.1-9.2)	3.200 (0.690-3.480)	14.05 (3.03-15.28)	99
18+26	3.64	5.16	–	–	8.80 (2.1-9.2)	3.200 (0.690-3.480)	14.05 (3.03-15.28)	99
22+22	4.40	4.40	–	–	8.80 (2.1-9.2)	3.200 (0.690-3.480)	14.05 (3.03-15.28)	99
22+26	4.03	4.77	–	–	8.80 (2.1-9.2)	3.200 (0.690-3.480)	14.05 (3.03-15.28)	99
26+26	4.40	4.40	–	–	8.80 (2.1-9.2)	3.200 (0.690-3.480)	14.05 (3.03-15.28)	99
10+10+10	2.50	2.50	2.50	–	7.50 (2.9-10.0)	1.880 (0.780-3.480)	8.26 (3.43-15.28)	99
10+10+13	2.50	2.50	3.50	–	8.50 (2.9-10.0)	2.330 (0.780-3.480)	10.23 (3.43-15.28)	99
10+10+18	2.28	2.28	4.54	–	9.10 (2.9-10.6)	2.520 (0.810-3.480)	11.07 (3.56-15.28)	99
10+10+22	2.07	2.07	4.96	–	9.10 (2.9-10.6)	2.510 (0.810-3.480)	11.02 (3.56-15.28)	99
10+10+26	1.88	1.88	5.34	–	9.10 (2.9-10.6)	2.510 (0.810-3.480)	11.02 (3.56-15.28)	99
10+13+13	2.36	3.32	3.32	–	9.00 (2.9-10.6)	2.540 (0.780-3.480)	11.16 (3.43-15.28)	99
10+13+18	2.07	2.90	4.13	–	9.10 (2.9-10.6)	2.510 (0.810-3.480)	11.02 (3.56-15.28)	99
10+13+22	1.90	2.65	4.55	–	9.10 (2.9-10.6)	2.510 (0.810-3.480)	11.02 (3.56-15.28)	99
10+13+26	1.76	2.46	4.98	–	9.20 (2.9-10.7)	2.590 (0.810-3.480)	11.37 (3.56-15.28)	99
10+18+18	1.84	3.68	3.68	–	9.20 (2.9-10.7)	2.580 (0.810-3.480)	11.33 (3.56-15.28)	99
10+18+22	1.70	3.42	4.08	–	9.20 (2.9-10.7)	2.580 (0.810-3.480)	11.33 (3.56-15.28)	99
10+18+26	1.58	3.15	4.47	–	9.20 (2.9-10.7)	2.560 (0.810-3.480)	11.24 (3.56-15.28)	99
10+22+22	1.58	3.81	3.81	–	9.20 (2.9-10.7)	2.550 (0.810-3.480)	11.20 (3.56-15.28)	99

Indoor units combination	Cooling capacity (kW)					Power consumption (kW)	Current (A)	Power factor (%)
	Unit A	Unit B	Unit C	Unit D	Total			
13+13+13	3.00	3.00	3.00	–	9.00 (2.9-10.6)	2.520 (0.810-3.480)	11.07 (3.56-15.28)	99
13+13+18	2.65	2.65	3.80	–	9.10 (2.9-10.6)	2.510 (0.810-3.480)	11.02 (3.56-15.28)	99
13+13+22	2.48	2.48	4.24	–	9.20 (2.9-10.7)	2.590 (0.810-3.480)	11.37 (3.56-15.28)	99
13+13+26	2.28	2.28	4.64	–	9.20 (2.9-10.7)	2.590 (0.810-3.480)	11.37 (3.56-15.28)	99
13+18+18	2.38	3.41	3.41	–	9.20 (2.9-10.7)	2.580 (0.810-3.480)	11.33 (3.56-15.28)	99
13+18+22	2.22	3.17	3.81	–	9.20 (2.9-10.7)	2.560 (0.810-3.480)	11.24 (3.56-15.28)	99
13+22+22	2.08	3.56	3.56	–	9.20 (2.9-10.8)	2.550 (0.810-3.480)	11.20 (3.56-15.28)	99
18+18+18	3.06	3.06	3.06	–	9.18 (2.9-10.8)	2.530 (0.830-3.480)	11.11 (3.56-15.28)	99
10+10+10+10	2.30	2.30	2.30	2.30	9.20 (3.7-11.2)	2.480 (0.930-3.480)	10.89 (4.08-15.28)	99
10+10+10+13	2.09	2.09	2.09	2.93	9.20 (3.7-11.2)	2.480 (0.930-3.480)	10.89 (4.08-15.28)	99
10+10+10+18	1.84	1.84	1.84	3.68	9.20 (3.7-11.2)	2.450 (0.930-3.450)	10.76 (4.08-15.15)	99
10+10+10+22	1.70	1.70	1.70	4.10	9.20 (3.7-11.2)	2.440 (0.930-3.440)	10.72 (4.08-15.11)	99
10+10+10+26	1.58	1.58	1.58	4.46	9.20 (3.7-11.2)	2.440 (0.930-3.440)	10.72 (4.08-15.11)	99
10+10+13+13	1.92	1.92	2.68	2.68	9.20 (3.7-11.2)	2.480 (0.930-3.480)	10.89 (4.08-15.28)	99
10+10+13+18	1.70	1.70	2.39	3.41	9.20 (3.7-11.2)	2.450 (0.930-3.450)	10.76 (4.08-15.15)	99
10+10+13+22	1.59	1.59	2.22	3.80	9.20 (3.7-11.2)	2.440 (0.930-3.440)	10.72 (4.08-15.11)	99
10+10+18+18	1.53	1.53	3.07	3.07	9.20 (3.7-11.2)	2.410 (0.950-3.410)	10.58 (4.17-14.98)	99
10+13+13+13	1.76	2.48	2.48	2.48	9.20 (3.7-11.2)	2.480 (0.930-3.480)	10.89 (4.08-15.28)	99
10+13+13+18	1.59	2.22	2.22	3.17	9.20 (3.7-11.2)	2.450 (0.930-3.450)	10.76 (4.08-15.15)	99
10+13+13+22	1.48	2.08	2.08	3.56	9.20 (3.7-11.2)	2.440 (0.930-3.440)	10.72 (4.08 -15.11)	99
13+13+13+13	2.30	2.30	2.30	2.30	9.20 (3.7-11.2)	2.480 (0.930-3.480)	10.89 (4.08-15.28)	99
13+13+13+18	2.08	2.08	2.08	2.96	9.20 (3.7-11.2)	2.450 (0.930-3.450)	10.76 (4.08-15.15)	99

MXY-4A38VA (11A)

Indoor units combination	Cooling capacity (kW)					Power consumption (kW)	Current (A)	Power factor (%)
	Unit A	Unit B	Unit C	Unit D	Total			
10	2.50	–	–	–	2.50 (1.4-3.5)	0.590 (0.430-0.810)	2.59 (1.89-3.56)	99
13	3.50	–	–	–	3.50 (1.4-4.3)	0.810 (0.430-1.000)	3.56 (1.89-4.39)	99
18	5.00	–	–	–	5.00 (1.5-6.1)	1.230 (0.470-1.640)	5.40 (2.06-7.20)	99
22	6.00	–	–	–	6.00 (1.6-6.7)	1.720 (0.470-1.930)	7.55 (2.06-8.48)	99
26	7.00	–	–	–	7.00 (1.6-7.0)	2.500 (0.470-2.500)	10.98 (2.06-10.98)	99
10+10	2.50	2.50	–	–	5.00 (2.0-6.5)	1.180 (0.640-1.890)	5.18 (2.81-8.30)	99
10+13	2.50	3.50	–	–	6.00 (2.0-7.3)	1.610 (0.640-2.350)	7.07 (2.81-10.32)	99
10+18	2.50	5.00	–	–	7.50 (2.0-7.5)	2.460 (0.640-2.460)	10.80 (2.81-10.80)	99
10+22	2.24	5.36	–	–	7.60 (2.0-7.6)	2.500 (0.650-2.500)	10.98 (2.85-10.98)	99
10+26	1.98	5.62	–	–	7.60 (2.0-7.6)	2.500 (0.650-2.500)	10.98 (2.85-10.98)	99
13+13	3.50	3.50	–	–	7.00 (2.0-7.5)	2.220 (0.640-2.500)	9.75 (2.81-10.98)	99
13+18	3.13	4.47	–	–	7.60 (2.0-7.6)	2.460 (0.640-2.460)	10.80 (2.81-10.80)	99
13+22	2.80	4.80	–	–	7.60 (2.0-7.6)	2.450 (0.650-2.450)	10.76 (2.85-10.76)	99
13+26	2.51	5.09	–	–	7.60 (2.0-7.6)	2.450 (0.650-2.450)	10.76 (2.85-10.76)	99
18+18	3.85	3.85	–	–	7.70 (2.1-7.7)	2.480 (0.690-2.480)	10.89 (3.03-10.89)	99
18+22	3.50	4.20	–	–	7.70 (2.1-7.7)	2.470 (0.690-2.470)	10.85 (3.03-10.85)	99
18+26	3.18	4.52	–	–	7.70 (2.1-7.7)	2.470 (0.690-2.470)	10.85 (3.03-10.85)	99
22+22	3.85	3.85	–	–	7.70 (2.1-7.7)	2.470 (0.690-2.470)	10.85 (3.03-10.85)	99
22+26	3.53	4.17	–	–	7.70 (2.1-7.7)	2.470 (0.690-2.470)	10.85 (3.03-10.85)	99
26+26	3.85	3.85	–	–	7.70 (2.1-7.7)	2.470 (0.690-2.470)	10.85 (3.03-10.85)	99
10+10+10	2.50	2.50	2.50	–	7.50 (2.9-8.9)	1.880 (0.780-2.500)	8.26 (3.43-10.98)	99
10+10+13	2.29	2.29	3.22	–	7.80 (2.9-8.9)	2.010 (0.780-2.500)	8.83 (3.43-10.98)	99
10+10+18	2.00	2.00	4.00	–	8.00 (2.9-8.9)	2.090 (0.810-2.480)	9.18 (3.56-10.89)	99
10+10+22	1.86	1.86	4.48	–	8.20 (2.9-8.9)	2.150 (0.810-2.470)	9.44 (3.56-10.85)	99
10+10+26	1.76	1.76	4.98	–	8.50 (2.9-8.9)	2.240 (0.810-2.460)	9.84 (3.56-10.80)	99
10+13+13	2.08	2.91	2.91	–	7.90 (2.9-8.9)	2.080 (0.780-2.490)	9.13 (3.43-10.94)	99
10+13+18	1.86	2.61	3.73	–	8.20 (2.9-8.9)	2.150 (0.810-2.470)	9.44 (3.56-10.85)	99
10+13+22	1.77	2.48	4.25	–	8.50 (2.9-8.9)	2.240 (0.810-2.490)	9.84 (3.56-10.94)	99
10+13+26	1.68	2.35	4.77	–	8.80 (2.9-8.9)	2.380 (0.810-2.490)	10.45 (3.56-10.94)	99
10+18+18	1.72	3.44	3.44	–	8.60 (2.9-9.0)	2.270 (0.810-2.500)	9.97 (3.56-10.98)	99
10+18+22	1.63	3.26	3.91	–	8.80 (2.9-9.0)	2.360 (0.810-2.490)	10.36 (3.56-10.94)	99
10+18+26	1.54	3.08	4.38	–	9.00 (2.9-9.0)	2.490 (0.810-2.490)	10.94 (3.56-10.94)	99
10+22+22	1.58	3.76	3.76	–	9.10 (2.9-9.1)	2.500 (0.810-2.500)	10.98 (3.56-10.98)	99

Indoor units combination	Cooling capacity (kW)					Power consumption (kW)	Current (A)	Power factor (%)
	Unit A	Unit B	Unit C	Unit D	Total			
13+13+13	2.80	2.80	2.80	--	8.40 (2.9-9.0)	2.230 (0.810-2.460)	9.79 (3.56 -10.80)	99
13+13+18	2.51	2.51	3.58	--	8.60 (2.9-9.0)	2.310 (0.810-2.500)	10.14 (3.56-10.98)	99
13+13+22	2.42	2.42	4.16	--	9.00 (2.9-9.0)	2.490 (0.810-2.490)	10.94 (3.56-10.94)	99
13+13+26	2.23	2.23	4.54	--	9.00 (2.9-9.0)	2.490 (0.810-2.490)	10.94 (3.56-10.94)	99
13+18+18	2.34	3.33	3.33	--	9.00 (2.9-9.0)	2.490 (0.810-2.490)	10.94 (3.56-10.94)	99
13+18+22	2.17	3.10	3.73	--	9.00 (2.9-9.0)	2.480 (0.810-2.480)	10.89 (3.56-10.89)	99
13+22+22	2.04	3.48	3.48	--	9.00 (2.9-9.0)	2.470 (0.810-2.470)	10.85 (3.56-10.85)	99
18+18+18	3.00	3.00	3.00	--	9.00 (2.9-9.0)	2.460 (0.830-2.460)	10.80 (3.65-10.80)	99
10+10+10+10	2.30	2.30	2.30	2.30	9.20 (3.7-9.2)	2.480 (0.930-2.480)	10.89 (4.08-10.89)	99
10+10+10+13	2.09	2.09	2.09	2.93	9.20 (3.7-9.2)	2.480 (0.930-2.480)	10.89 (4.08-10.89)	99
10+10+10+18	1.84	1.84	1.84	3.68	9.20 (3.7-9.2)	2.450 (0.930-2.450)	10.76 (4.08-10.76)	99
10+10+10+22	1.70	1.70	1.70	4.10	9.20 (3.7-9.2)	2.440 (0.930-2.440)	10.72 (4.08-10.72)	99
10+10+10+26	1.58	1.58	1.58	4.46	9.20 (3.7-9.2)	2.440 (0.930-2.440)	10.72 (4.08-10.72)	99
10+10+13+13	1.92	1.92	2.68	2.68	9.20 (3.7-9.2)	2.480 (0.930-2.480)	10.89 (4.08-10.89)	99
10+10+13+18	1.70	1.70	2.39	3.41	9.20 (3.7-9.2)	2.450 (0.930-2.450)	10.76 (4.08-10.76)	99
10+10+13+22	1.59	1.59	2.22	3.80	9.20 (3.7-9.2)	2.440 (0.930-2.440)	10.72 (4.08-10.72)	99
10+10+18+18	1.53	1.53	3.07	3.07	9.20 (3.7-9.2)	2.410 (0.950-2.410)	10.58 (4.17-10.58)	99
10+13+13+13	1.76	2.48	2.48	2.48	9.20 (3.7-9.2)	2.480 (0.930-2.480)	10.89 (4.08-10.89)	99
10+13+13+18	1.59	2.22	2.22	3.17	9.20 (3.7-9.2)	2.450 (0.930-2.450)	10.76 (4.08-10.76)	99
10+13+13+22	1.48	2.08	2.08	3.56	9.20 (3.7-9.2)	2.440 (0.930-2.440)	10.72 (4.08-10.72)	99
13+13+13+13	2.30	2.30	2.30	2.30	9.20 (3.7-9.2)	2.480 (0.930-2.480)	10.89 (4.08-10.89)	99
13+13+13+18	2.08	2.08	2.08	2.96	9.20 (3.7-9.2)	2.450 (0.930-2.450)	10.76 (4.08-10.76)	99

MXY-4A38VA (8.5A)

Indoor units combination	Cooling capacity (kW)					Power consumption (kW)	Current (A)	Power factor (%)
	Unit A	Unit B	Unit C	Unit D	Total			
10	2.50	–	–	–	2.50 (1.4-3.5)	0.590 (0.430-0.810)	2.59 (1.89-3.56)	99
13	3.50	–	–	–	3.50 (1.4-4.3)	0.810 (0.430-1.000)	3.56 (1.89-4.39)	99
18	5.00	–	–	–	5.00 (1.5-6.1)	1.230 (0.470-1.640)	5.40 (2.06-7.20)	99
22	6.00	–	–	–	6.00 (1.6-6.7)	1.720 (0.470-1.930)	7.55 (2.06-8.48)	99
26	6.70	–	–	–	6.70 (1.6-6.7)	1.930 (0.470-1.930)	8.48 (2.06-8.48)	99
10+10	2.50	2.50	–	–	5.00 (2.0-6.5)	1.180 (0.640-1.890)	5.18 (2.81-8.30)	99
10+13	2.50	3.50	–	–	6.00 (2.0-6.6)	1.610 (0.640-1.890)	7.07 (2.81-8.30)	99
10+18	2.20	4.40	–	–	6.60 (2.0-6.6)	1.930 (0.640-1.930)	8.48 (2.81-8.48)	99
10+22	1.94	4.66	–	–	6.60 (2.0-6.6)	1.930 (0.650-1.930)	8.48 (2.85-8.48)	99
10+26	1.72	4.88	–	–	6.60 (2.0-6.6)	1.930 (0.650-1.930)	8.48 (2.85-8.48)	99
13+13	3.25	3.25	–	–	6.50 (2.0-6.5)	1.930 (0.640-1.930)	8.48 (2.81-8.48)	99
13+18	2.72	3.88	–	–	6.60 (2.0-6.6)	1.930 (0.640-1.930)	8.48 (2.81-8.48)	99
13+22	2.43	4.17	–	–	6.60 (2.0-6.6)	1.930 (0.650-1.930)	8.48 (2.85-8.48)	99
13+26	2.18	4.42	–	–	6.60 (2.0-6.6)	1.930 (0.650-1.930)	8.48 (2.85-8.48)	99
18+18	3.35	3.35	–	–	6.70 (2.1-6.7)	1.930 (0.690-1.930)	8.48 (3.03-8.48)	99
18+22	3.05	3.65	–	–	6.70 (2.1-6.7)	1.930 (0.690-1.930)	8.48 (3.03-8.48)	99
18+26	2.80	3.90	–	–	6.70 (2.1-6.7)	1.930 (0.690-1.930)	8.48 (3.03-8.48)	99
22+22	3.35	3.35	–	–	6.70 (2.1-6.7)	1.930 (0.690-1.930)	8.48 (3.03-8.48)	99
22+26	3.07	3.63	–	–	6.70 (2.1-6.7)	1.930 (0.690-1.930)	8.48 (3.03-8.48)	99
26+26	3.35	3.35	–	–	6.70 (2.1-6.7)	1.930 (0.690-1.930)	8.48 (3.03-8.48)	99
10+10+10	2.50	2.50	2.50	–	7.50 (2.9-7.6)	1.880 (0.780-1.930)	8.26 (3.43-8.48)	99
10+10+13	2.24	2.24	3.12	–	7.60 (2.9-7.6)	1.930 (0.780-1.930)	8.48 (3.43-8.48)	99
10+10+18	1.95	1.95	3.90	–	7.80 (2.9-7.8)	1.930 (0.810-1.930)	8.48 (3.56-8.48)	99
10+10+22	1.77	1.77	4.26	–	7.80 (2.9-7.8)	1.920 (0.810-1.920)	8.43 (3.56-8.43)	99
10+10+26	1.61	1.61	4.58	–	7.80 (2.9-7.8)	1.920 (0.810-1.920)	8.43 (3.56-8.43)	99
10+13+13	2.00	2.80	2.80	–	7.60 (2.9-7.6)	1.930 (0.780-1.930)	8.48 (3.43-8.48)	99
10+13+18	1.77	2.48	3.55	–	7.80 (2.9-7.8)	1.930 (0.810-1.930)	8.48 (3.56-8.48)	99
10+13+22	1.63	2.27	3.90	–	7.80 (2.9-7.8)	1.920 (0.810-1.920)	8.43 (3.56-8.43)	99
10+13+26	1.49	2.08	4.23	–	7.80 (2.9-7.8)	1.930 (0.810-1.920)	8.48 (3.56-8.43)	99
10+18+18	1.56	3.12	3.12	–	7.80 (2.9-7.8)	1.930 (0.810-1.930)	8.48 (3.56-8.43)	99
10+18+22	1.44	2.89	3.47	–	7.80 (2.9-7.8)	1.920 (0.810-1.920)	8.43 (3.56-8.43)	99
10+18+26	1.34	2.67	3.79	–	7.80 (2.9- 7.8)	1.920 (0.810-1.920)	8.43 (3.56-8.43)	99
10+22+22	1.34	3.23	3.23	–	7.80 (2.9-7.8)	1.910 (0.810-1.910)	8.39 (3.56-8.39)	99

Indoor units combination	Cooling capacity (kW)					Power consumption (kW)	Current (A)	Power factor (%)
	Unit A	Unit B	Unit C	Unit D	Total			
13+13+13	2.53	2.53	2.53	--	7.59 (2.9-7.59)	1.930 (0.810-1.930)	8.48 (3.56-8.48)	99
13+13+18	2.28	2.28	3.24	--	7.80 (2.9-7.8)	1.930 (0.810-1.930)	8.48 (3.56-8.48)	99
13+13+22	2.10	2.10	3.60	--	7.80 (2.9-7.8)	1.920 (0.810-1.920)	8.43 (3.56-8.43)	99
13+13+26	1.94	1.94	3.92	--	7.80 (2.9-7.8)	1.920 (0.810-1.920)	8.43 (3.56-8.43)	99
13+18+18	2.02	2.89	2.89	--	7.80 (2.9-7.8)	1.930 (0.810-1.930)	8.48 (3.56-8.48)	99
13+18+22	1.88	2.69	3.23	--	7.80 (2.9-7.8)	1.920 (0.810-1.920)	8.43 (3.56-8.43)	99
13+22+22	1.76	3.02	3.02	--	7.80 (2.9-7.8)	1.920 (0.810-1.920)	8.43 (3.56-8.43)	99
18+18+18	2.60	2.60	2.60	--	7.80 (2.9-7.8)	1.910 (0.830-1.910)	8.39 (3.65-8.39)	99
10+10+10+10	2.00	2.00	2.00	2.00	8.00 (3.7-8.0)	1.930 (0.930-1.930)	8.48 (4.08-8.48)	99
10+10+10+13	1.82	1.82	1.82	2.54	8.00 (3.7-8.0)	1.930 (0.930-1.930)	8.48 (4.08-8.48)	99
10+10+10+18	1.60	1.60	1.60	3.20	8.00 (3.7-8.0)	1.930 (0.930-1.930)	8.48 (4.08-8.48)	99
10+10+10+22	1.48	1.48	1.48	3.56	8.00 (3.7-8.0)	1.930 (0.930-1.930)	8.48 (4.08-8.48)	99
10+10+10+26	1.37	1.37	1.37	3.89	8.00 (3.7-8.0)	1.930 (0.930-1.930)	8.48 (4.08-8.48)	99
10+10+13+13	1.67	1.67	2.33	2.33	8.00 (3.7-8.0)	1.930 (0.930-1.930)	8.48 (4.08-8.48)	99
10+10+13+18	1.48	1.48	2.08	2.96	8.00 (3.7-8.0)	1.930 (0.930-1.930)	8.48 (4.08-8.48)	99
10+10+13+22	1.38	1.38	1.93	3.31	8.00 (3.7-8.0)	1.930 (0.930-1.930)	8.48 (4.08-8.48)	99
10+10+18+18	1.33	1.33	2.67	2.67	8.00 (3.7-8.0)	1.930 (0.950-1.930)	8.48 (4.17-8.48)	99
10+13+13+13	1.55	2.15	2.15	2.15	8.00 (3.7-8.0)	1.930 (0.930-1.930)	8.48 (4.08-8.48)	99
10+13+13+18	1.38	1.93	1.93	2.76	8.00 (3.7-8.0)	1.930 (0.930-1.930)	8.48 (4.08-8.48)	99
10+13+13+22	1.29	1.81	1.81	3.09	8.00 (3.7-8.0)	1.930 (0.930-1.930)	8.48 (4.08-8.48)	99
13+13+13+13	2.00	2.00	2.00	2.00	8.00 (3.7-8.0)	1.930 (0.930-1.930)	8.48 (4.08-8.48)	99
13+13+13+18	1.81	1.81	1.81	2.57	8.00 (3.7-8.0)	1.930 (0.930-1.930)	8.48 (4.08-8.48)	99

5 SPECIFICATION

Outdoor model			**MXY-4A38VA**
Outdoor unit power supply			Single phase 220-230-240V,50Hz
System	Indoor units number		2 to 4
	Piping total length	m	Max. 70
	Connecting pipe length	m	Max. 25
	Height difference (Indoor ~ Outdoor)	m	Refer to 8.
	Height difference (Indoor ~ Indoor)	m	Refer to 8.
Function			Cooling
Capacity	Capacity [Rated (Min.-Max.) Hz]*1	kW	9.2 (3.7-11.2)
	Dehumidification	ℓ/h	----
	Outdoor air flow	m^3 /h	2,530
12 Electrical data	Breaker capacity	A	25
	Running current *1	A	11.25-10.76-10.31
	Power input	W	2,450
	Power factor * 1	%	99.0
	Starting current *1	A	11.25
	Compressor motor current	A	10.70-10.23-9.81
	Fan motor current	A	0.2
Coefficient of performance (C.O.P)			3.76
Compressor	Model		TNB220FMCH
	Output	W	2,100
	Winding resistance (at 20 °C)	Ω	U-V 1.41 V-W 1.41 W-U 1.41
Fan motor	Model		P1,P2 PM8H60-UA P3 RC0J60-CA
	Winding resistance (at 20 °C)	Ω	BLK-WHT 15.2 WHT-RED 15.2 RED-BLK 15.2
	Dimensions W x H x D	mm	900 x 900 x 320
	Weight	kg	P1 70 P2,P3 67
Special remarks	Sound level (High/Low) *2	dB	46/44
	Fan speed (High/Low) *2	rpm	560/400
	Fan speed regulator *2		2
	Refrigerant filling capacity(R410A)	kg	3.5
	Refrigerating oil (Model)	L	0.87 (NEO22)

NOTE: •Test conditions are based on ISO 5151 (Refrigerant piping length (one way) : 5 m).
•Refer to "3. INDOOR/OUTDOOR CORRESPONDENCE TABLE" for the combination.

*1 Measured under rated operating frequency.

*2 These specifications are when all indoor units are operating.

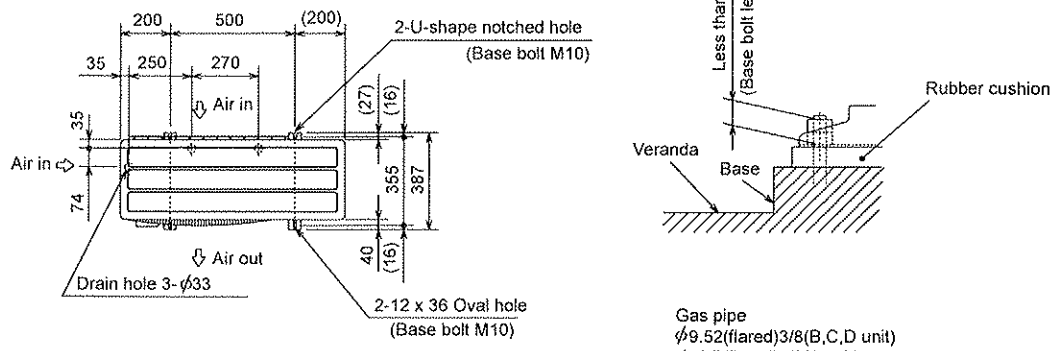
TEST CONDITIONS COOLING INDOOR Dry-bulb temperature 27.0 °C Wet-bulb temperature 19.0 °C
OUTDOOR Dry-bulb temperature 35.0 °C Wet-bulb temperature 24.0 °C

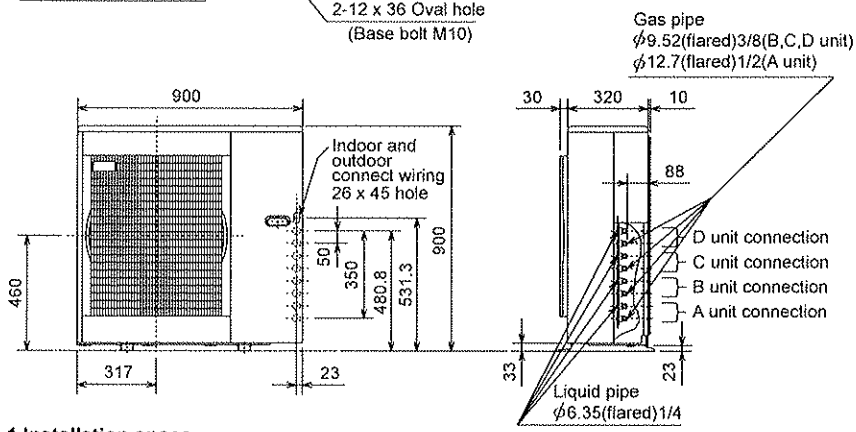
6 OUTLINES AND DIMENSIONS

OUTDOOR UNIT

MXY-4A38VA - P1

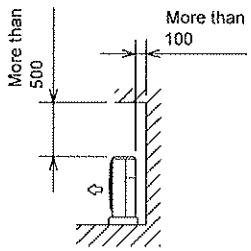
Unit: mm



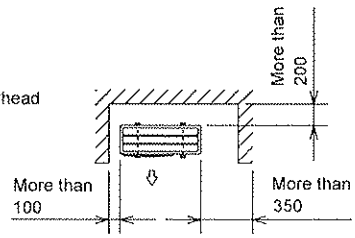


1.Installation space

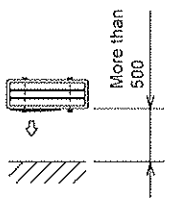
Note : Leave front and both sides clearance fully.



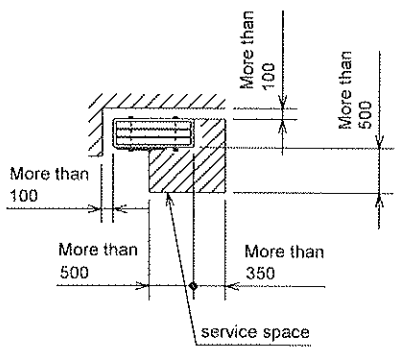
Note : Leave front and overhead clearance fully.



Note : Leave front, overhead and both sides clearance fully.

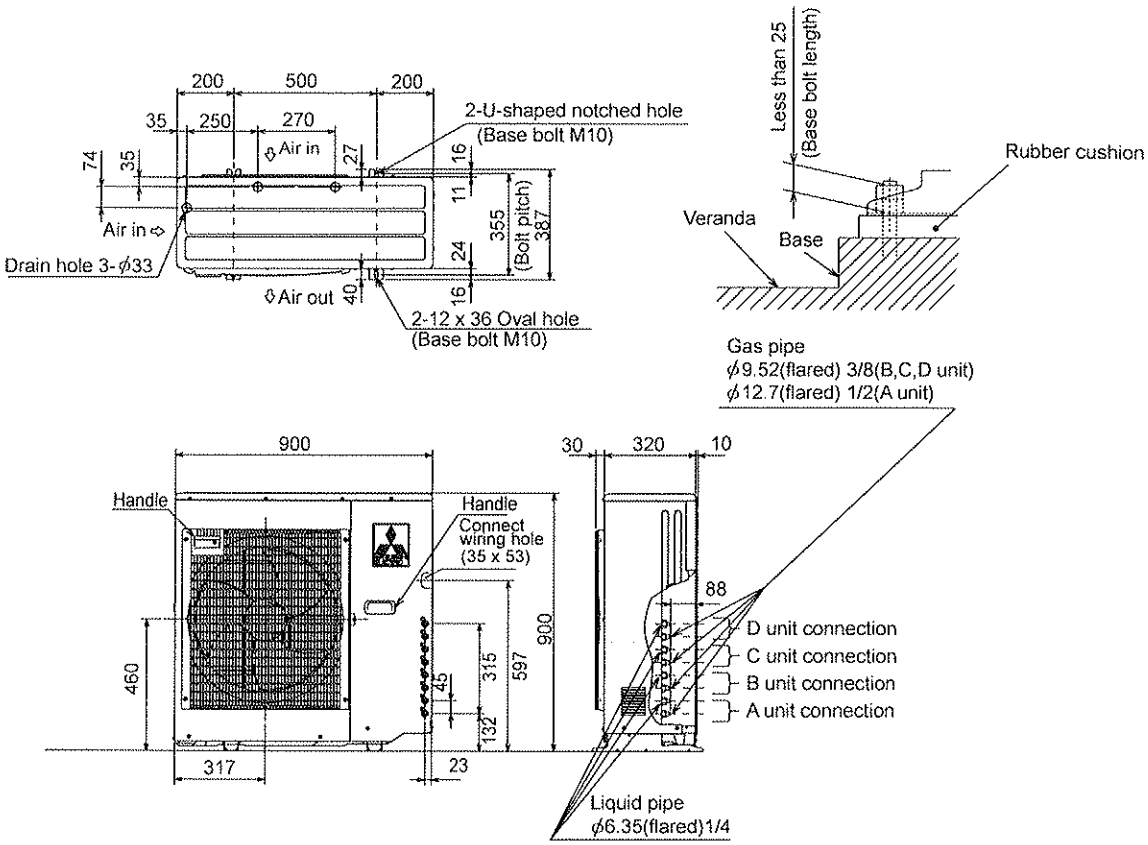


2.Service space



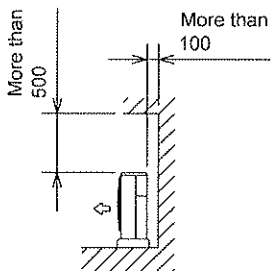
Unit: mm

MXY-4A38VA -P2, P3

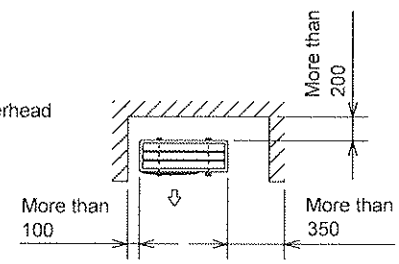


1.Installation space

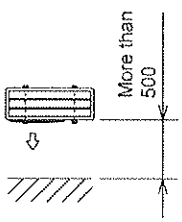
Note : Leave front and both sides clearance fully.



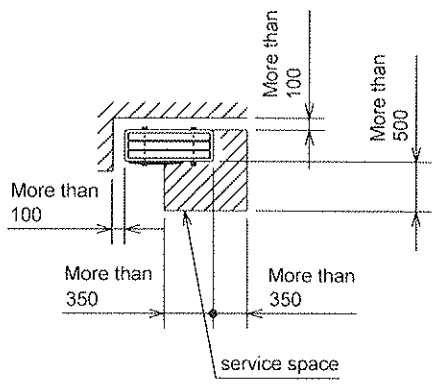
Note : Leave front and overhead clearance fully.



Note : Leave front, overhead and both sides clearance fully.

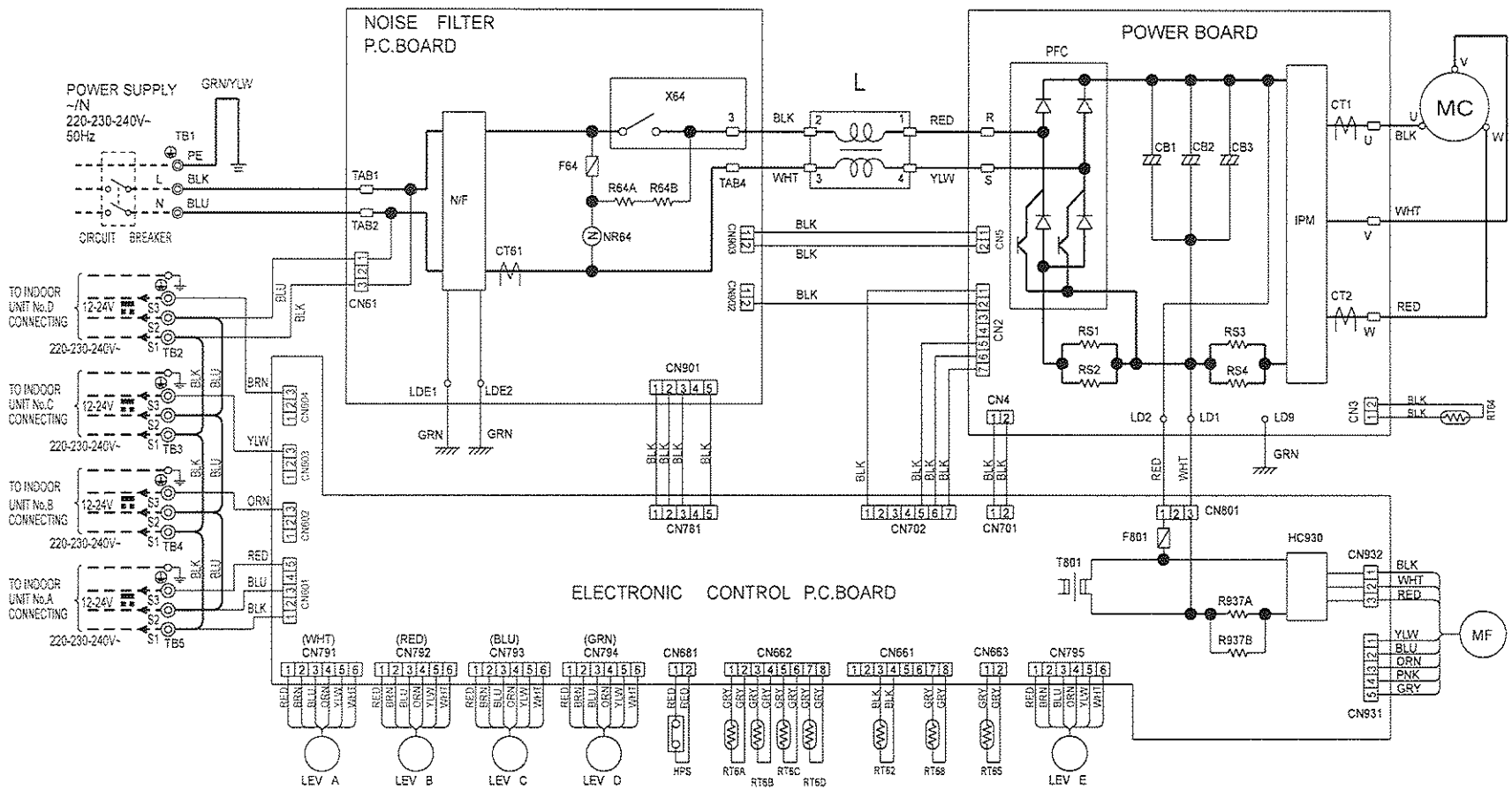


2.Service space



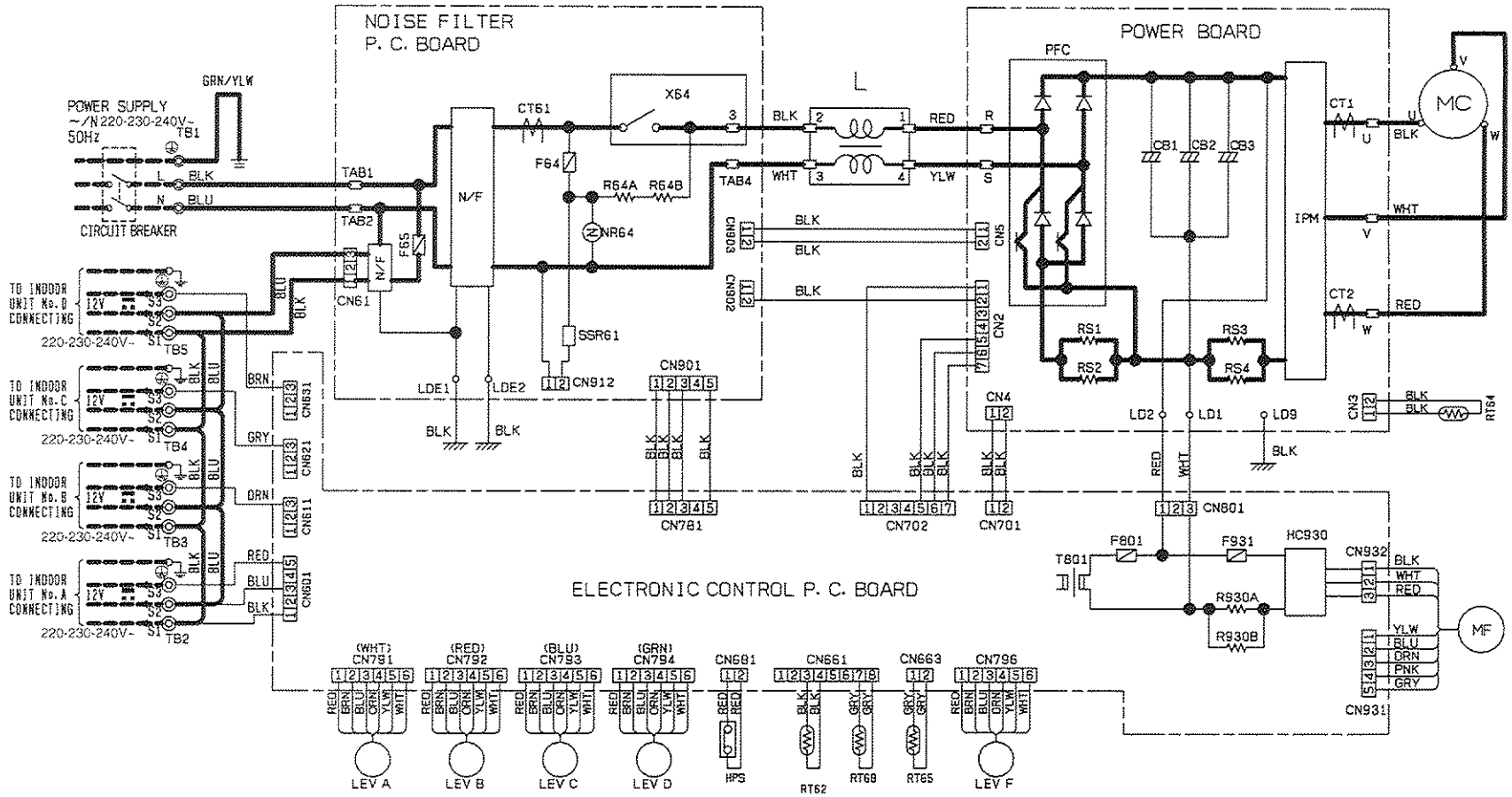
MXY-4A38VA - P1

OUTDOOR UNIT



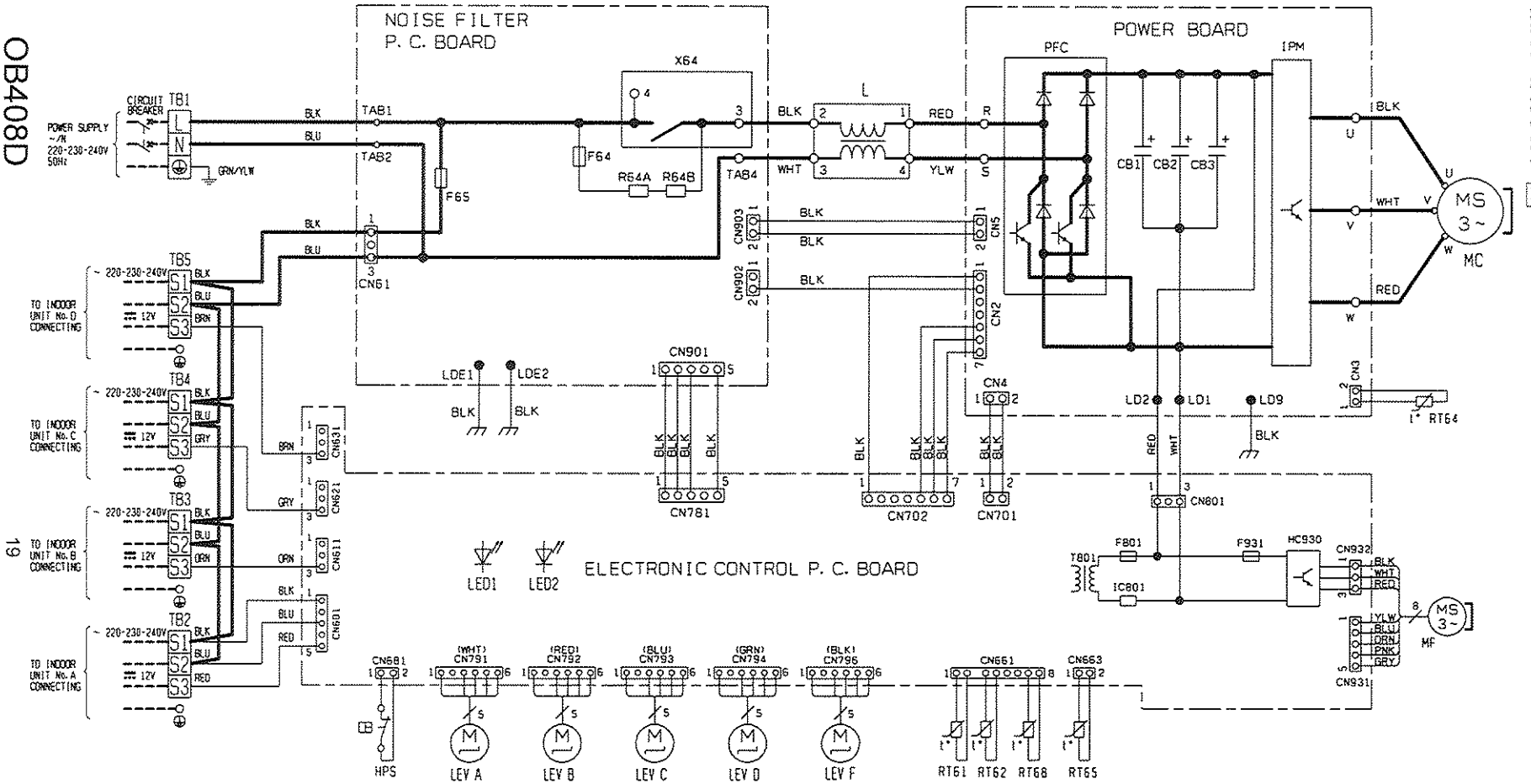
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CB1~3	SMOOTHING CAPACITOR	LEV E	EXPANSION VALVE	RT62	DISCHARGE TEMPERATURE THERMISTOR
CT1, 2	CURRENT TRANSFORMER	MC	COMPRESSOR	RT64	FIN TEMPERATURE THERMISTOR
CT61	CURRENT TRANSFORMER	MF	OUTDOOR FAN MOTOR	RT65	AMBIENT TEMPERATURE THERMISTOR
F801	FUSE (T3.15AL250V)	NR64	VARISTOR	RT68	OUTDOOR HEAT EXCHANGER TEMPERATURE THERMISTOR
F64	FUSE (T2AL250V)	N/F	NOISE FILTER		
HC930	INTELLIGENT POWER MODULE	PFC	POWER FACTOR CONTROLLER	T801	TRANSFORMER
HPS	HIGH PRESSURE SWITCH	R64A,B	RESISTOR	TB1~5	TERMINAL BLOCK
IPM	INTELLIGENT POWER MODULE	R937A, B	RESISTOR	X64	RELAY
L	REACTOR	RS1~4	RESISTOR		
LEVA~D	EXPANSION VALVE	RT6A~D	GAS PIPE TEMPERATURE THERMISTOR		

NOTES: 1.About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
2.Use copper conductors only (for field wiring).
3.Symbols below indicate.
◎:Terminal block □□□:Connector



SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CB1~3	SMOOTHING CAPACITOR	LEV A~D	EXPANSION VALVE	RT64	FIN TEMPERATURE THERMISTOR
CT1, 2	CURRENT TRANSFORMER	LEV F	EXPANSION VALVE	RT65	AMBIENT TEMPERATURE THERMISTOR
CT61	CURRENT TRANSFORMER	MC	COMPRESSOR	RT68	OUTDOOR HEAT EXCHANGER TEMPERATURE THERMISTOR
F64	FUSE (T2AL250V)	MF	OUTDOOR FAN MOTOR		
F65	FUSE (T6.3AL250V)	NR64	VARISTOR	SSR61	SOLENOID COIL RELAY
F801	FUSE (T3.15AL250V)	N/F	NOISE FILTER	T801	TRANSFORMER
F931	FUSE (T3.15AL250V)	PFC	POWER FACTOR CONTROLLER	TB1~5	TERMINAL BLOCK
HC930	INTELLIGENT POWER MODULE	R64A, B	RESISTOR	X64	RELAY
HPS	HIGH PRESSURE SWITCH	R930A, B	RESISTOR		
IPM	INTELLIGENT POWER MODULE	RS1~4	RESISTOR		
L	REACTOR	RT62	DISCHARGE TEMPERATURE THERMISTOR		

NOTES: 1.About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
2.Use copper conductors only (for field wiring).
3.Symbols below indicate.
⊙:Terminal block □□□:Connector



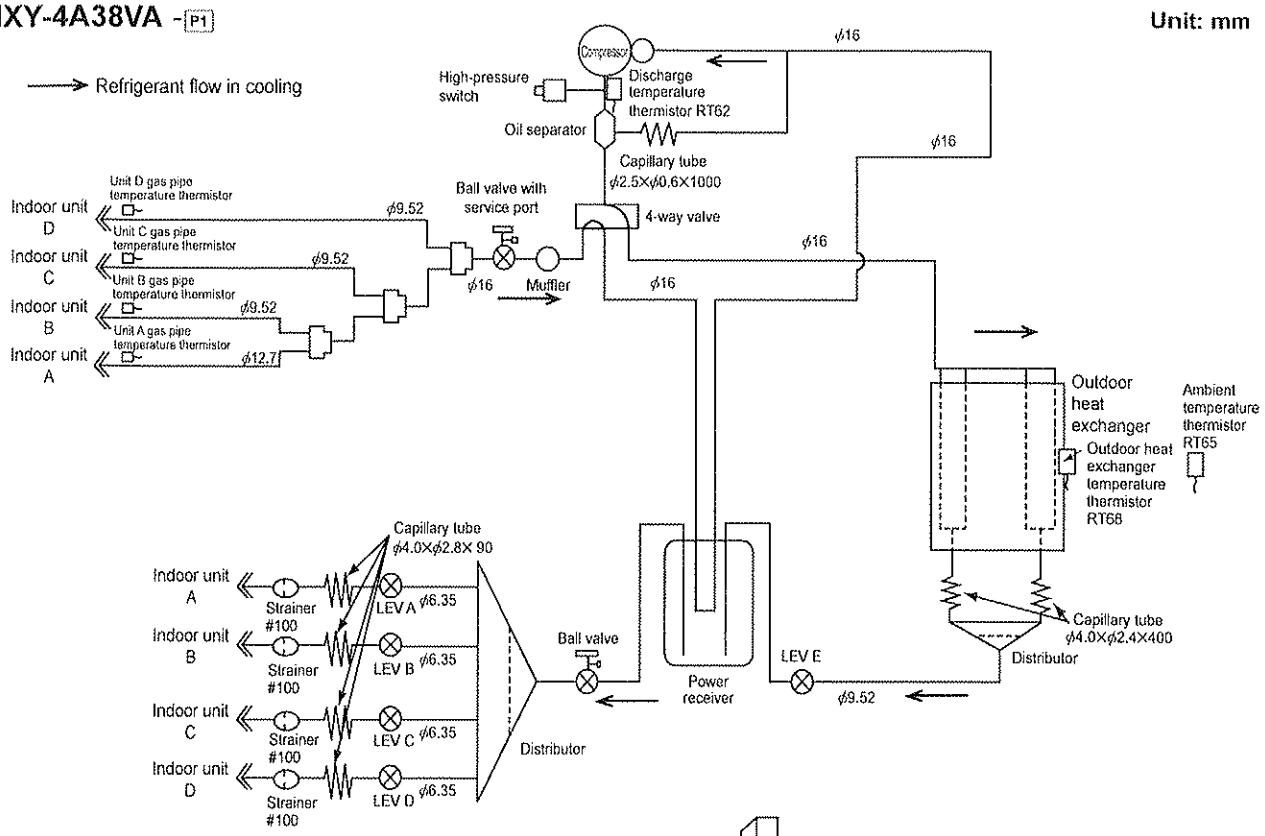
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CB1~3	SMOOTHING CAPACITOR	HPS	HIGH PRESSURE SWITCH	LEV F	EXPANSION VALVE	RT62	DISCHARGE TEMP. THERMISTOR	TB1~5	TERMINAL BLOCK
F64	FUSE (T2AL250V)	IC801	POWER DEVICE	MC	COMPRESSOR	RT64	FIN TEMP. THERMISTOR	X64	RELAY
F65	FUSE (T6.3AL250V)	IPM	POWER MODULE	MF	FAN MOTOR	RT65	AMBIENT TEMP. THERMISTOR		
F801	FUSE (T3.15AL250V)	L	REACTOR	PFC	POWER FACTOR CONTROLLER	RT68	OUTDOOR HEAT EXCHANGER TEMPERATURE THERMISTOR		
F931	FUSE (T3.15AL250V)	LED 1,2	LED	R64A,B	RESISTOR				
HC930	POWER MODULE	LEV A~D	EXPANSION VALVE	RT61	DEFROST THERMISTOR	T801	TRANSFORMER		

NOTES:
1. About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
2. Use copper conductors only (For field wiring).
3. Symbols below indicate.
   ⊟ :Terminal block
   ooo :connector

8 REFRIGERANT SYSTEM DIAGRAM

MXY-4A38VA -P1

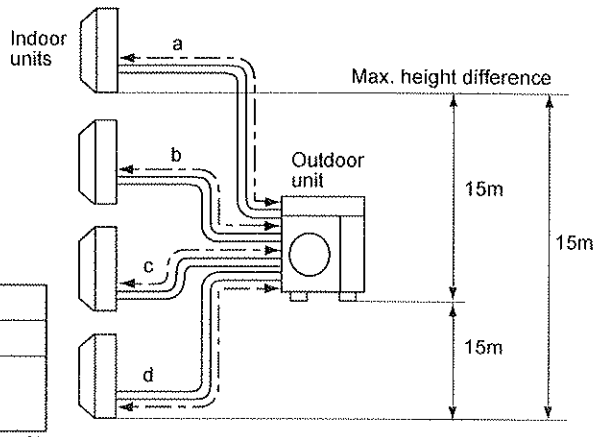
Unit: mm



MAX REFRIGERANT PIPING LENGTH

Piping length each indoor unit (a, b, c, d)	25m
Total piping length (a+b+c+d)	70m
Bending point for each unit	25
Total bending point	70

*It is irrelevant which unit is higher.



ADDITIONAL REFRIGERANT CHARGE

Outdoor unit precharged (g)	Refrigerant piping length (one way, 4 unit total)			
	40m	50m	60m	70m
3,500	0	200	400	600

Calculation : Xg = 20g/m x (Refrigerant piping length (m) - 40)

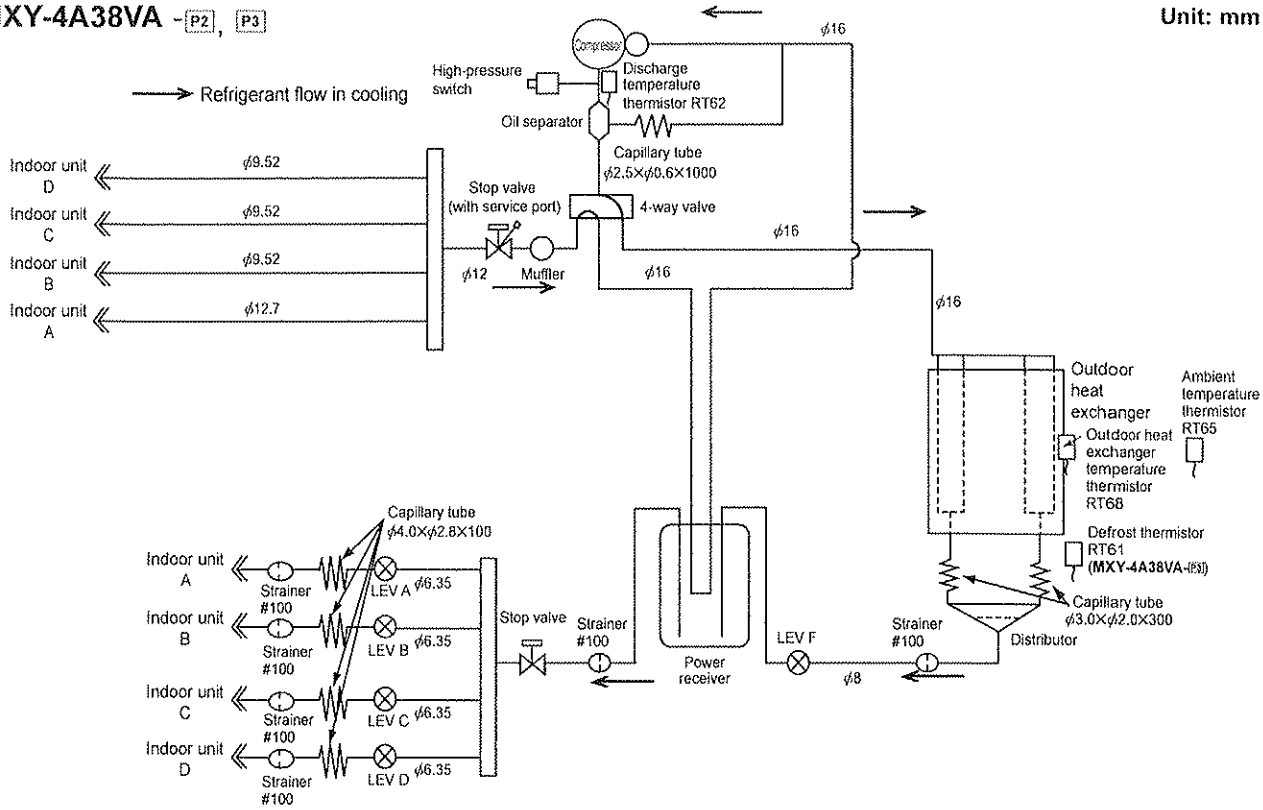
- Refrigerant pipe diameter is different according to indoor unit to be connected. When using extension pipes, refer to the tables below.
- When diameter of refrigerant pipe is different from that of outdoor unit union, use optional Different-diameter pipe. For further information on Different-diameter pipe, see 16-1.

Unit: mm (inch)

Outdoor unit union diameter		
For		
Indoor unit A	Liquid	6.35(1/4)
	Gas	12.7(1/2)
Indoor unit B	Liquid	6.35(1/4)
	Gas	9.52(3/8)
Indoor unit C	Liquid	6.35(1/4)
	Gas	9.52(3/8)
Indoor unit D	Liquid	6.35(1/4)
	Gas	9.52(3/8)

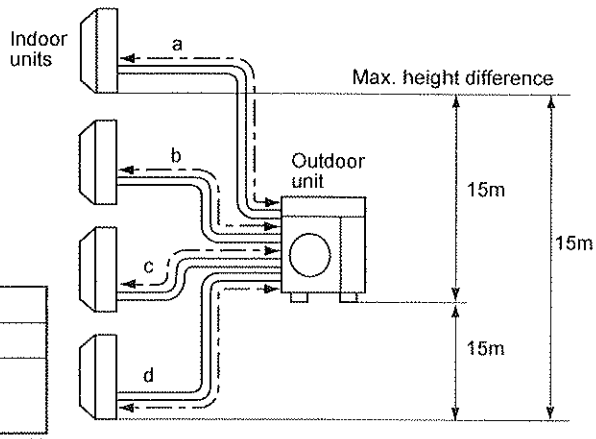
MXY-4A38VA -P2, P3

Unit: mm



MAX REFRIGERANT PIPING LENGTH

Piping length each indoor unit (a, b, c, d)	25m
Total piping length (a+b+c+d)	70m
Bending point for each unit	25
Total bending point	70



*It is irrelevant which unit is higher.

ADDITIONAL REFRIGERANT CHARGE

Outdoor unit precharged (g)	Refrigerant piping length (one way, 4 unit total)			
	40m	50m	60m	70m
3,500	0	200	400	600

Calculation : Xg = 20g/m x (Refrigerant piping length (m) - 40)

- Refrigerant pipe diameter is different according to indoor unit to be connected. When using extension pipes, refer to the tables below.
- When diameter of refrigerant pipe is different from that of outdoor unit union, use optional Different-diameter pipe. For further information on Different-diameter pipe, see 16-1.

Unit: mm (inch)

Outdoor unit union diameter		
For		
Indoor unit A	Liquid	6.35(1/4)
	Gas	12.7(1/2)
Indoor unit B	Liquid	6.35(1/4)
	Gas	9.52(3/8)
Indoor unit C	Liquid	6.35(1/4)
	Gas	9.52(3/8)
Indoor unit D	Liquid	6.35(1/4)
	Gas	9.52(3/8)

9 PERFORMANCE CURVES

MXY-4A38VA

The standard specifications apply only to the operation of the air conditioner under normal conditions. Since operating conditions vary according to the areas where these units are installed, the following information has been provided to clarify the operating characteristics of the air conditioner under the conditions indicated by the performance curve.

(1) GUARANTEED VOLTAGE

198~264 V 50Hz

(2) AIR FLOW

Air flow should be set at MAX.

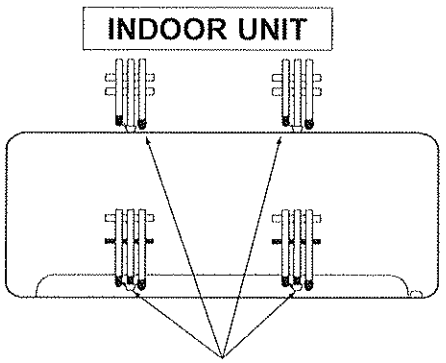
(3) MAIN READINGS

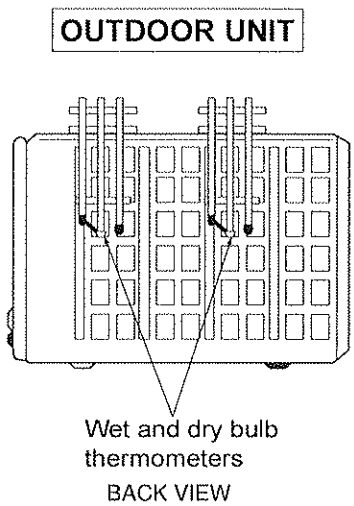
(1) Indoor intake air wet-bulb temperature : °CWB
(2) Indoor outlet air wet-bulb temperature : °CWB
(3) Outdoor intake air dry-bulb temperature : °CDB
(4) Total input: W

Indoor air wet and dry bulb temperature difference on the left side of the following chart shows the difference between the indoor intake air wet and dry bulb temperature and the indoor outlet air wet and dry bulb temperature for your reference at service.

How to measure the indoor air wet and dry bulb temperature difference

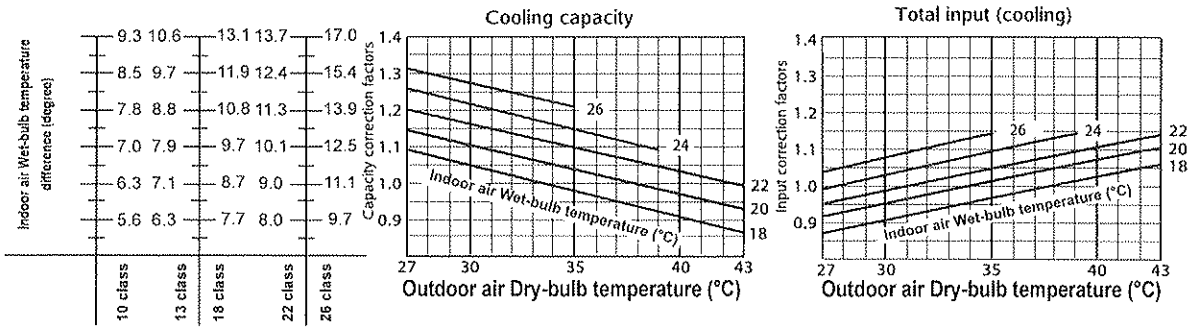
1. Attach at least 2 sets of wet and dry bulb thermometers to the indoor air intake as shown in the figure, and at least 2 sets of wet and dry bulb thermometers to the indoor air outlet. The thermometers must be attached to the position where air speed is high.
2. Attach at least 2 sets of wet and dry bulb thermometers to the outdoor air intake. Cover the thermometers to prevent direct rays of the sun.
3. Check that the air filter is cleaned.
4. Open windows and doors of room.
5. Press the EMERGENCY OPERATION switch once to start the EMERGENCY COOL MODE.
6. When system stabilizes after more than 15 minutes, measure temperature and take an average temperature.
7. 10 minutes later, measure temperature again and check that the temperature does not change.





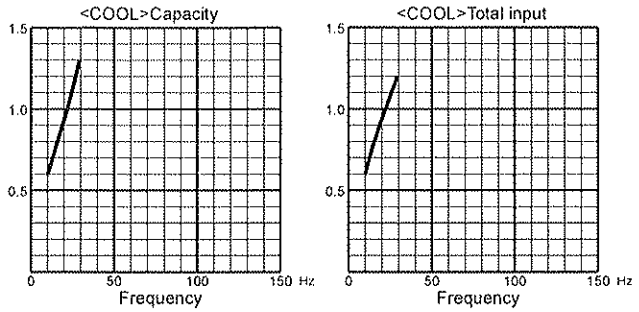
9-1. CAPACITY AND THE INPUT CURVES

MXY-4A38VA

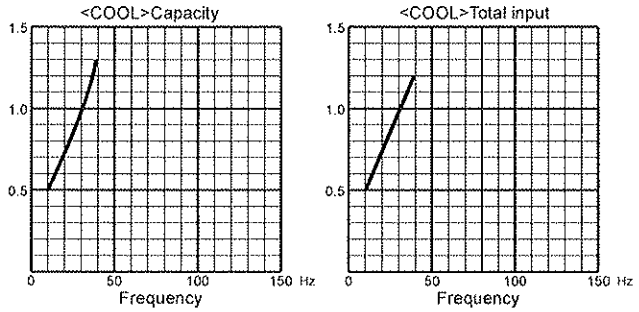


9-2. CAPACITY AND INPUT CORRECTION BY INVERTER OUTPUT FREQUENCY (OUTDOOR UNIT: MXY-4A38VA)

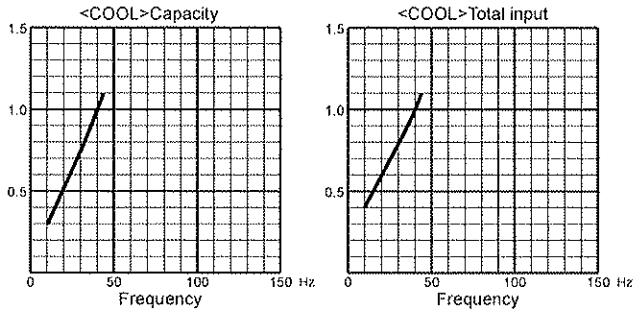
1. 10-class unit in single operation



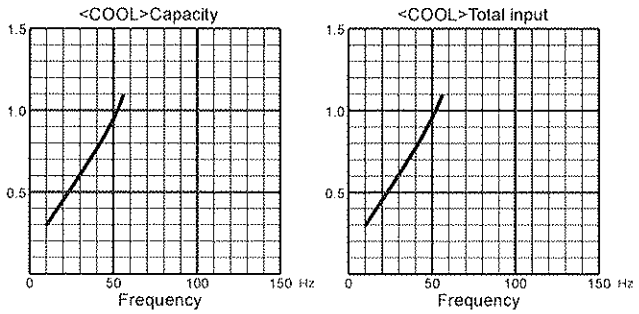
2. 13-class unit in single operation



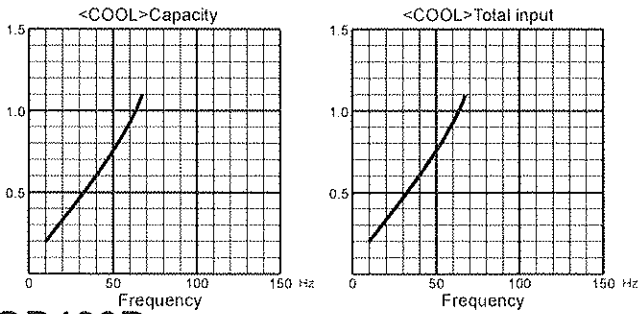
3. 18-class unit in single operation



4. 22-class unit in single operation



5. 26-class unit in single operation



9-3. OUTDOOR LOW PRESSURE AND OUTDOOR UNIT CURRENT

1. 10-class unit in single operation (OUTDOOR UNIT : MXY-4A38VA)

NOTE: The unit of pressure has been changed to MPa on the international system of units (SI unit system).
The conversion factor is : **1 (MPa[Gauge]) = 10.2(kgf/cm^2 [Gauge])**

COOL operation

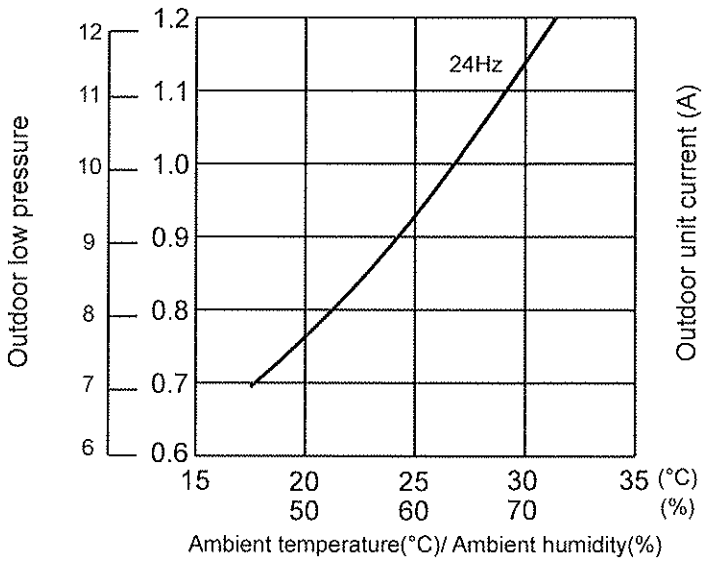
①Both indoor and outdoor units are under the same temperature/humidity condition.

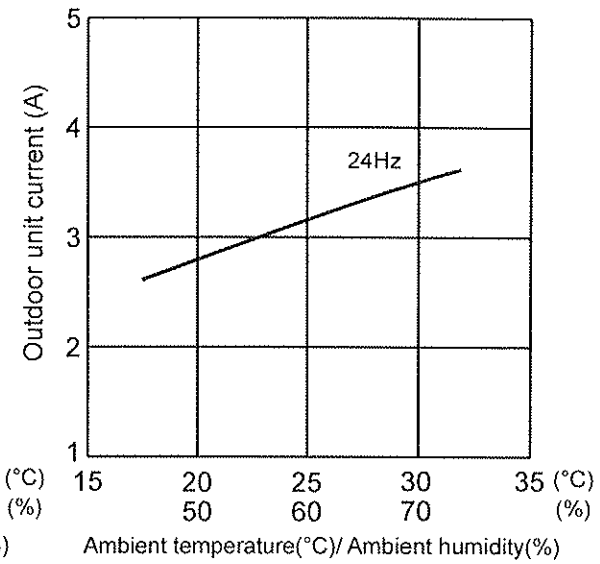
Dry-bulb temperature (°C)	Relative humidity(%)
20	50
25	60
30	70

②Air flow speed : High
③Inverter output frequency : 24Hz

<How to work fixed-frequency operation>
1. Set emergency switch to COOL.
   The switch is located on indoor unit.
2. Press emergency operation button.
3. Compressor starts running at fixed-frequency.
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency operation button or any button on remote controller.

(kgf/cm^2[Gauge]) (MPa[Gauge])





2. 13-class unit in single operation (OUTDOOR UNIT : MXY-4A38VA)

NOTE: The unit of pressure has been changed to MPa on the international system of units (SI unit system).
The conversion factor is : **1 (MPa[Gauge]) =10.2(kgf/cm²[Gauge])**

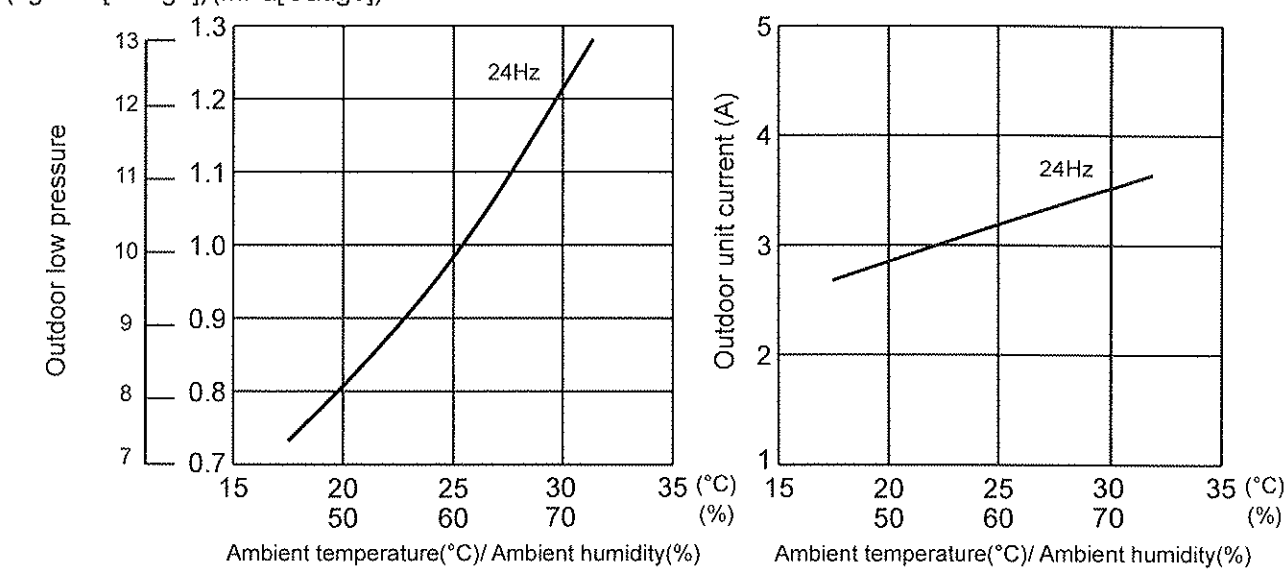
COOL operation

①Both indoor and outdoor units are under the same temperature/humidity condition.

Dry-bulb temperature (°C)	Relative humidity(%)
20	50
25	60
30	70

②Air flow speed : High
③Inverter output frequency : 24Hz

<How to work fixed-frequency operation>
1. Set emergency switch to COOL.
   The switch is located on indoor unit.
2. Press emergency operation button.
3. Compressor starts running at fixed-frequency.
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency operation button or any button on remote controller.



3. 18-class unit in single operation (OUTDOOR UNIT : MXY-4A38VA)

NOTE: The unit of pressure has been changed to MPa on the international system of units (SI unit system).
The conversion factor is : **1 (MPa[Gauge]) = 10.2 (kgf/cm²[Gauge])**

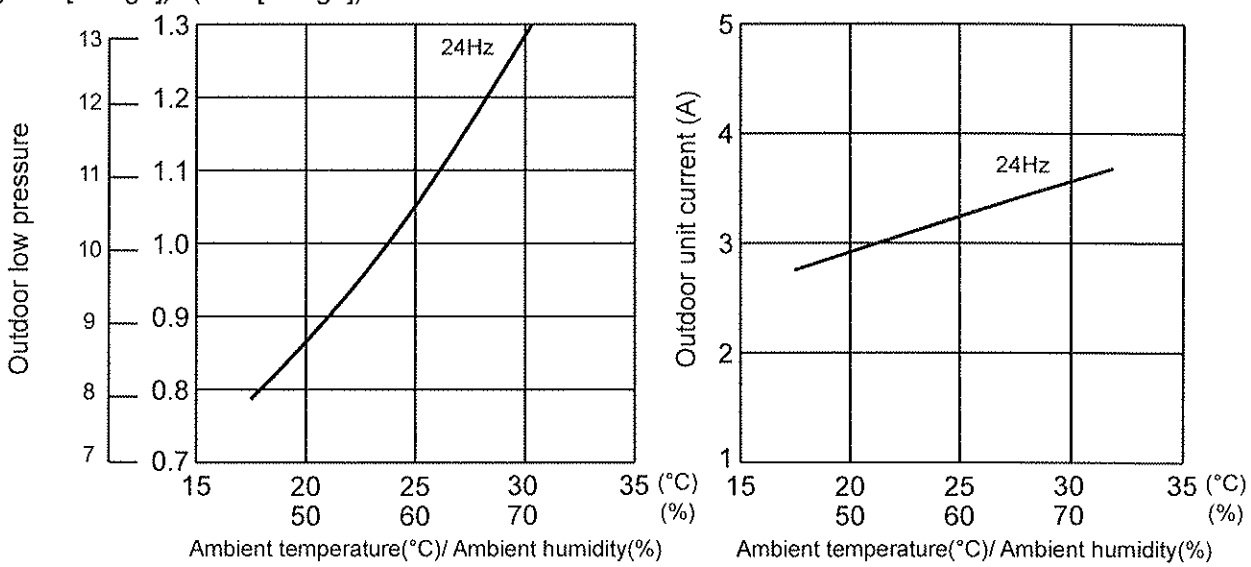
COOL operation

①Both indoor and outdoor units are under the same temperature/humidity condition.

Dry-bulb temperature (°C)	Relative humidity (%)
20	50
25	60
30	70

②Air flow speed : High
③Inverter output frequency : 24Hz

<How to work fixed-frequency operation>
1. Set emergency switch to COOL.
   The switch is located on indoor unit.
2. Press emergency operation button.
3. Compressor starts running at fixed-frequency.
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency operation button or any button on remote controller.



4. 22-class unit in single operation (OUTDOOR UNIT : MXY-4A38VA)

NOTE: The unit of pressure has been changed to MPa on the international system of units (SI unit system).
The conversion factor is : **1 (MPa[Gauge]) = 10.2 (kgf/cm²[Gauge])**

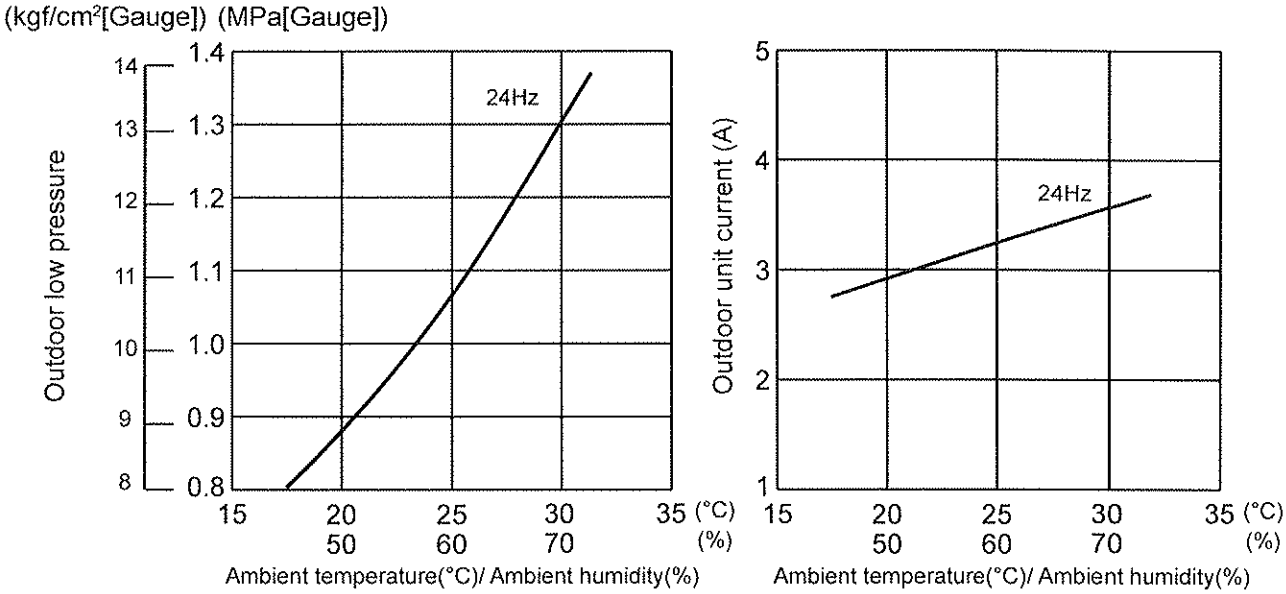
COOL operation

①Both indoor and outdoor units are under the same temperature/humidity condition.

Dry-bulb temperature (°C)	Relative humidity(%)
20	50
25	60
30	70

②Air flow speed : High
③Inverter output frequency : 24Hz

<How to work fixed-frequency operation>
1. Set emergency switch to COOL.
   The switch is located on indoor unit.
2. Press emergency operation button.
3. Compressor starts running at fixed-frequency.
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency operation button or any button on remote controller.



5. 26-class unit in single operation (OUTDOOR UNIT : MXY-4A38VA)

NOTE: The unit of pressure has been changed to MPa on the international system of units (SI unit system).
The conversion factor is : **1 (MPa[Gauge]) = 10.2 (kgf/cm²[Gauge])**

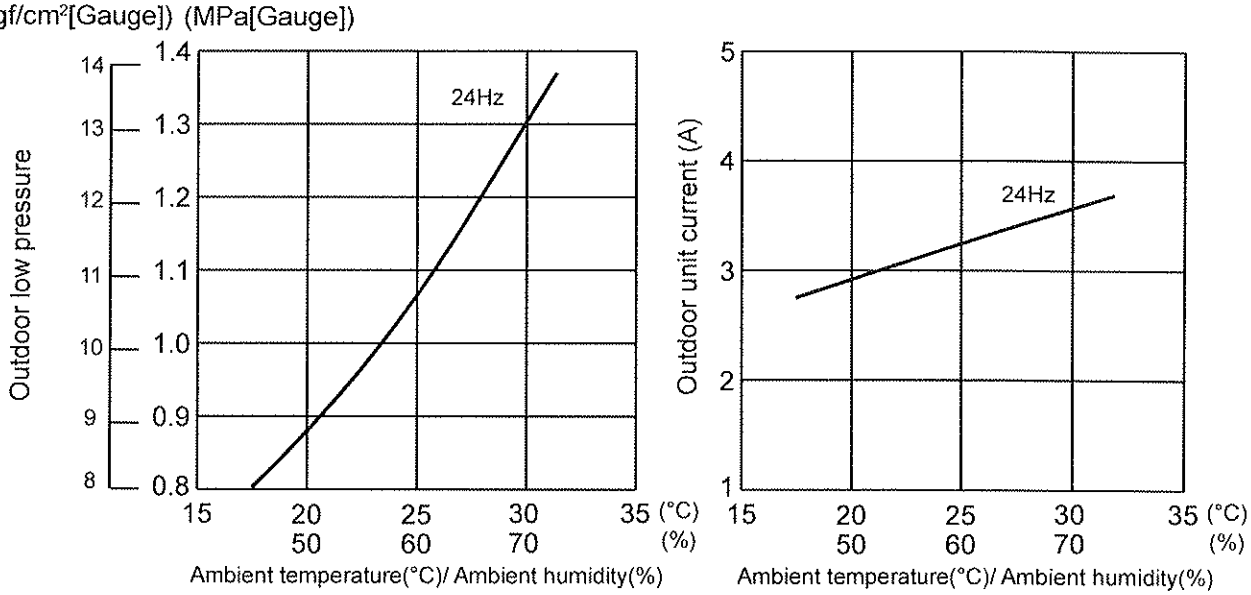
COOL operation

①Both indoor and outdoor units are under the same temperature/humidity condition.

Dry-bulb temperature (°C)	Relative humidity(%)
20	50
25	60
30	70

②Air flow speed : High
③Inverter output frequency : 24Hz

<How to work fixed-frequency operation>
1. Set emergency switch to COOL.
   The switch is located on indoor unit.
2. Press emergency operation button.
3. Compressor starts running at fixed-frequency.
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency operation button or any button on remote controller.



10 ACTUATOR CONTROL

MXY-4A38VA

Relation between main sensor and actuator

Sensor	Purpose	Actuator		
		Compressor	LEV	Outdoor fan motor
Defrost thermistor (**MXY-4A38VA-P3**)	Pre-heat control	○		
Discharge temperature thermistor	Protection	○	○	
Indoor pipe temperature thermistor	Defrosting Protection	○	○	○
Gas pipe temperature thermistor (**MXY-4A38VA-P1**)	Control		○	
Fin temperature thermistor	Protection	○		○
Ambient temperature thermistor	Control	○	○	○
Outdoor heat exchanger temperature	Protection	○	○	○
Capacity code	Control	○	○	

11 SERVICE FUNCTIONS

MXY-4A38VA

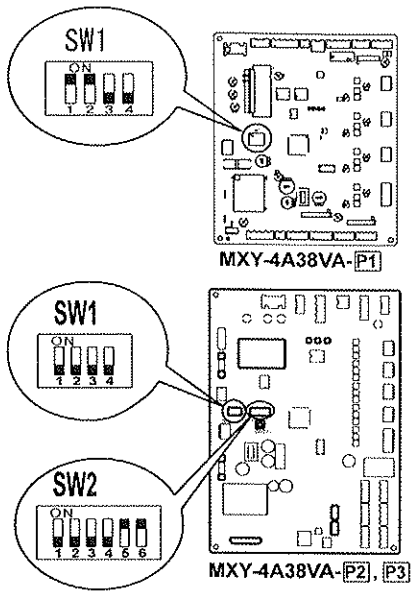
11-1. CHANGING THE AMPERE LIMIT

• Description of the function:
With this function, you can change the current that flows in the outdoor unit.

NOTE:
Use this function only when the amount of current exceeds the allowed value, which differs from home to home, or the value specified by HDB or local authority.

[How to change the ampere limit]

①Turn OFF the power supply for the air conditioner before making the setting.
②Make the setting referring to the table below.
③Turn ON the power supply for the air conditioner.



SW 1	MXY-4A38VA - P1
ON 1 2 3 4	8.5A
ON 1 2 3 4	Factory setting 11A
ON 1 2 3 4	Full

SW 2	MXY-4A38VA-P2, P3
ON 1 2 3 4 5 6	8.5A
ON 1 2 3 4 5 6	Factory setting 11A
ON 1 2 3 4 5 6	Full

11-2. LOWERING THE OPERATING NOISE OF THE OUTDOOR UNIT

• Description of the function:
With this function, you can lower the operating noise of the outdoor unit when the outside temperature falls to a certain degree (26°C or 28°C) which you can select by changing the Dip Switch setting. However, please note that the cooling capacity can also be lowered if this function is activated.

* Initial setting is required to activate this function. Please explain about this function to your customers and ask them whether they want to use it.

[How to lower the operating noise]

①Turn OFF the power supply for the air conditioner before making the setting.
②Make the setting referring to the table below.
③Turn ON the power supply for the air conditioner.

SW 1	To activate this function at outside temperature; MXY-4A38VA - P1
ON 1 2 3 4	26°C
ON 1 2 3 4	28°C

SW 1	To activate this function at outside temperature; MXY-4A38VA - P2, P3
ON 1 2 3 4	26°C

11-3. PRE-HEAT CONTROL <MXY-4A38VA -P2, P3>

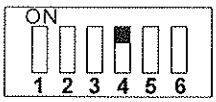
If moisture gets into the refrigerant cycle, or when refrigerant is liquefied and collected in the compressor, it may interfere the start-up of the compressor.
To improve start-up condition, the compressor is energized even while it is not operating.
This is to generate heat at the winding.
The compressor uses about 50 W when pre-heat control is turned ON.
Pre-heat control is ON at initial setting.

[How to deactivate pre-heat control]

① Turn OFF the power supply for the air conditioner before making the setting.
② Set the "4" of SW2 on the outdoor electronic control P.C. board to ON to deactivate pre-heat control function.

Pre-heat control is deactivated.

SW2



③ Turn ON the power supply for the air conditioner.

NOTE: Pre-heat control will be turned OFF when the breaker is turned OFF.

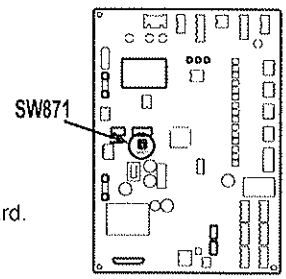
11-4. AUTO LINE CORRECTING

Outdoor unit has an auto line correcting function which automatically detects and corrects improper wiring or piping.

<MXY-4A38VA -P2, P3>

Improper wiring or piping can be automatically detected by pressing the piping/wiring correction switch (SW871).
When improper wiring or piping is detected, wiring lines are corrected.
This will be completed in about 10 to 15 minutes.

[How to activate this function]



1. Check that outside temperature is above 0°C.
   (This function does not work when outside temperature is not above 0°C.)
2. Check that the stop valves of the liquid pipe and gas pipe are open.
3. Check that the wiring between indoor and outdoor unit is correct.
   (If the wiring is not correct, this function does not work.)
4. Turn ON the power supply and wait at least 1 minute.
5. Press the piping/wiring correction switch (SW871) on the electronic control P.C. board.
   Do not touch energized parts.

   LED indication during detection:

LED1(Red)	LED2(Yellow)	LED3(Green)
Lighting	Lighting	Blinking

   LED indication after detection:

LED1(Red)	LED2(Yellow)	LED3(Green)	Indication
Lighting	Goes out	Lighting	Completed (Detected successfully)
Blinking	Blinking	Blinking	Cannot be corrected
Other indications			Refer to "SAFETY PRECAUTIONS WHEN LED FLASHES" located behind the service panel.

   ※ Make sure that the valves are open and the pipes are not collapsed or clogged.
6. Press the switch to cancel.

   LED indication after cancel :

LED1(Red)	LED2(Yellow)	LED3(Green)
Lighting	Lighting	Goes out

NOTE : Indoor unit cannot be operated while this function is activated.
When this function is activated while indoor unit is operating, the operation will be stopped.
Operate indoor unit after the auto line correcting is finished.
Pressing the switch during detection cancels this function.

The record of auto line correcting can be confirmed in the following way:

Press the switch for more than 5 seconds.
LED will show the record of auto correcting for about 30 seconds as shown in the table below:

Number of blinks			Wiring line
LED1(Red)	LED2(Yellow)	LED3(Green)	
Once	Once	Lighting	Not corrected
3 times	3 times	Lighting	Corrected

NOTE : Activate this function to confirm the correct wiring after replacing the electronic control P.C. board.
(Previous records are deleted when the electronic control P.C. board is replaced.)
The record cannot be shown if auto line correcting is not canceled (Refer to "How to activate this function").

12 TROUBLESHOOTING

MXY-4A38VA

12-1. CAUTIONS ON TROUBLESHOOTING

1. Before troubleshooting, check the following:

1) Check the power supply voltage.
2) Check the indoor/outdoor connecting wire for mis-wiring.

2. Take care of the following during servicing.

1) Before servicing the air conditioner, be sure to turn off the unit first with the remote controller, and then after confirming the horizontal vane is closed, turn off the breaker and/or disconnect the power plug.
2) Be sure to turn OFF the power supply before removing the front panel, the cabinet, the top panel, and the electronic control P.C. board.
3) When removing the electrical parts, be careful to the residual voltage of smoothing capacitor.
4) When removing the electronic control P.C. board, hold the edge of the board with care NOT to apply stress on the components.
5) When connecting or disconnecting the connectors, hold the housing of the connector. DO NOT pull the lead wires.

<Incorrect> <Correct>



Lead wiring **Housing point**

3. Troubleshooting procedure

1) First, check if the OPERATION INDICATOR lamp on the indoor unit is flashing on and off to indicate an abnormality. To make sure, check how many times the OPERATION INDICATOR lamp is flashing on and off before starting service work.
2) When the electronic control P.C. board seems to be defective, check the copper foil pattern for disconnection and the components for bursting and discoloration.
3) When troubleshooting, refer to 12-2. 12-3. and 12-4.

12-2. FAILURE MODE RECALL FUNCTION

This air conditioner can memorize the abnormal condition which has occurred once.
Even though LED indication listed on the troubleshooting check table (12-4.) disappears, the memorized failure details can be recalled.
This mode is very useful when the unit needs to be repaired for the abnormality which doesn't recur.

1. Type of failure mode recall function

There are 2 types in failure mode recall function as shown below.

① Indoor and outdoor unit failure mode recall function
With this function, failure mode of indoor unit and a part of failure mode of outdoor unit can be recalled.

② The details of outdoor unit failure mode recall function
With this function, more detailed failure mode of outdoor unit can be recalled.

Refer to the service manual of indoor unit for how to recall the failure mode and the details of indoor unit failure mode.
The outdoor unit failure mode is indicated by the operation indicator lamp on the indoor unit and the LED of outdoor unit.
See "12-2.2. Failure mode table".

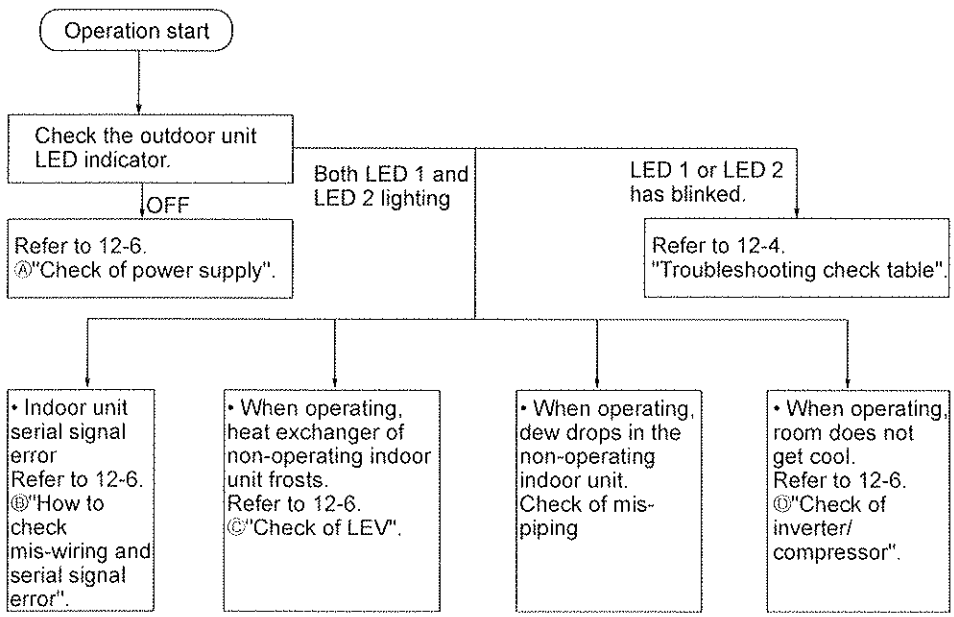
2. Failure mode table (for outdoor unit in multi-system)

Indoor operation indicator lamp	Abnormal point (Failure mode)	Details of abnormal point	Outdoor LED indication		Condition	Remedy	Indoor/outdoor failure mode recall function
			LED1	LED2			
OFF	Normal	—	—		—	—	—
2-time flash	Outdoor power system	Outdoor power system	Lighting	Lighting	IPM protection cut-out or lock protection cut-out is operates 3 consecutive times within 1 minute after the compressor gets started, or converter protection cut-out or bus-bar voltage protection cut-out is operates 3 consecutive times within 3 minutes after start-up.	• Check the connection of the compressor connecting wire. • Check the inverter/compressor. (Refer to 12-6.Ⓒ.) • Check the stop valve. • Check the PAM module.	○
3-time flash	Outdoor thermistors	Discharge temperature thermistor	Lighting	Once	A short circuit is detected in the thermistor during operation, or an open circuit is detected in the thermistor after 10 minutes of compressor start-up.	• Check the outdoor thermistors. (Refer to 12-6.Ⓒ.)	
		Defrost thermistor	Lighting	Once	A short or open circuit is detected in the thermistor during operation.		
		Ambient temperature thermistor	Lighting	Twice			
		P.C. board temperature thermistor	Lighting	4 times		• Replace the outdoor electronic control P.C. board.	
		Outdoor heat exchanger temperature thermistor	Lighting	9 times	A short circuit is detected in the thermistor during operation, or an open circuit is detected in the thermistor after 5 minutes (in cooling) and 10 minutes (in heating) of compressor start-up.	• Check the outdoor thermistors. (Refer to 12-6.Ⓒ.)	○
		Gas pipe temperature thermistor A	Lighting	10 times	A short or open circuit is detected in the thermistor during operation. A, B, C, D: MXY-4A38VA-[P1]		
		Gas pipe temperature thermistor B	Lighting	11 times			
		Gas pipe temperature thermistor C	Lighting	12 times			
		Gas pipe temperature thermistor D	Lighting	13 times			
4-time flash	Over current protection	IPM protection	Once	Goes out	Over current is detected after 30 seconds of compressor start-up.	• Check the connection of the compressor connecting wire. • Check the inverter/compressor. (Refer to 12-6.Ⓒ.) • Check the stop valve.	
		Lock protection	Once	Goes out	Over current is detected within 30 seconds after the compressor gets started.		
5-time flash	Refrigerant system protection	Discharge temperature protection	Lighting	Lighting	Discharge temperature exceeds 116 °C during operation.	• Check the amount of gas and refrigerant circuit. • Check the LEV. (Refer to 12-6.Ⓒ.)	
6-time flash	High-pressure protection	HPS protection	Lighting	Lighting	High-pressure is detected with the high-pressure switch (HPS) during operation.	• Check the amount of gas and the refrigerant circuit. • Check the stop valve.	
		High-pressure protection	Lighting	Lighting	The outdoor heat exchanger temperature exceeds 70 °C during operation.		
7-time flash	Fin temperature / P.C. board temperature overheat protection	Fin temperature protection	3 times	Goes out	The fin temperature exceeds 87 °C during operation.	• Check the surrounding of the outdoor unit. • Check the air passage. • Check the outdoor fan motor. (Refer to 12-6.Ⓒ.)	
		P.C. board temperature protection	4 times	Goes out	The P.C. board temperature exceeds 70 °C during operation.		
8-time flash	Fan protection	Fan protection	Lighting	Lighting	Failure occurs 3 consecutive times within 30 seconds after the fan gets started.	• Check the outdoor fan motor. (Refer to 12-6.Ⓒ.)	
9-time flash	Outdoor control system	EEPROM	Lighting	5 times	The nonvolatile memory data cannot be read properly.	• Replace the outdoor electronic control P.C. board.	○
10-time flash	Low discharge temperature protection	Low discharge temperature protection	Lighting	Lighting	The frequency of the compressor is kept 80 Hz or more and the discharge temperature is kept under 50 °C for more than 40 minutes.	• Check the amount of gas and refrigerant circuit. • Check the LEV. (Refer to 12-6.Ⓒ.)	

Indoor operation indicator lamp	Abnormal point (Failure mode)	Details of abnormal point	Outdoor LED indication		Condition	Remedy	Indoor/outdoor failure mode recall function
			LED1	LED2			
OFF	Normal	—	—	—	—	—	—
11-time flash	Converter	Communication error between P.C. boards	Lighting	6 times	The communication between boards protection cut-out operates 2 consecutive times.	• Check the connecting wire between outdoor electronic control P.C. board and power board.	○
		Communication between P.C. boards protection	Lighting	6 times	Communication error occurs between the electronic control P.C. board and power board for more than 10 seconds.		
		Current sensor	Lighting	7 times	Current sensor protection cut-out operates 2 consecutive times.	• Replace the power board.	○
		Current sensor protection	Lighting	7 times	A short or open circuit is detected in the current sensor during compressor operating.		
		Zero cross detecting circuit	5 times	Goes out	The protection cut-out of the zero cross detecting circuit operates 10 consecutive times.	• Check the connecting wire among electronic control P.C. board, noise filter P.C. board and power board.	○
		Zero cross detecting circuit protection	5 times	Goes out	Zero cross signal cannot be detected while the compressor is operating.		
		Converter protection	5 times	Goes out	A failure is detected in the operation of the converter during operation.	• Check the voltage of power supply. • Replace the power board.	
		Bus-bar voltage protection (1)	5 times	Goes out	The bus-bar voltage exceeds 400V or falls to 200V or below during compressor operating.		
		Bus-bar voltage protection (2) ※Even if this protection stop is performed continuously three times, it does not mean the abnormality in outdoor power system.	6 times	Goes out	The bus-bar voltage exceeds 400V or falls to 50V or below during compressor operating.	• Check the voltage of power supply. • Replace the outdoor electronic control P.C. board.	
15-time flash	LEV and drain pump	LEV and drain pump	Lighting	Lighting	The indoor unit detects an abnormality in the LEV and drain pump.	• Check the LEV. (Refer to 12-6.©.) • Check the drain pump of the indoor unit.	

12-3. INSTRUCTION OF TROUBLESHOOTING

• Check the indoor unit with referring to the indoor unit service manual, and confirm that there is any problem in the indoor unit.
Then, check the outdoor unit with referring to this page.



12-4. TROUBLESHOOTING CHECK TABLE

Symptom: Outdoor unit does not operate.				
Indication		Abnormal point	Condition	Remedy
LED1(Red)	LED2(Yellow)			
Lighting	Once	LEV and drain pump	The indoor unit detects an abnormality in the LEV and drain pump.	• Check the LEV. (Refer to 12-6.Ⓒ.) • Check the drain pump of the indoor unit.
Lighting	Twice	Outdoor power system	IPM protection cut-out or lock protection cut-out operates 3 consecutive times within 1 minute after the compressor gets started, or when converter protection cut-out or bus-bar voltage protection cut-out operates 3 consecutive times within 3 minutes after start-up.	• Check the connection of the compressor connecting wire. • Check the inverter/compressor. (Refer to 12-6.Ⓒ.) • Check the stop valve. • Check the power module (PAM module).
Lighting	3 times	Discharge temperature thermistor	A short circuit is detected in the thermistor during operation, or an open circuit is detected in the thermistor after 10 minutes of compressor start-up.	• Check the discharge temperature thermistor. (Refer to 12-6.Ⓔ.)
Lighting	4 times	Fin temperature thermistor	A short or open circuit is detected in the thermistor during operation.	• Check the fin temperature thermistor. (Refer to 12-6.Ⓔ.)
		P.C board temperature thermistor		• Replace the outdoor electronic control P.C. board.
Lighting	5 times	Ambient temperature thermistor	A short or open circuit is detected in the thermistor during operation.	• Check the ambient temperature thermistor. (Refer to 12-6.Ⓔ.)
		Outdoor heat exchanger temperature thermistor	A short circuit is detected in the thermistor during operation, or an open circuit is detected in the thermistor after 5 minutes (in cooling) and 10 minutes (in heating) of compressor start-up.	• Check the outdoor hear exchanger temperature thermistor. (Refer to 12-6.Ⓔ.)
		Defrost thermistor	A short circuit is detected in the thermistor during operation, or an open circuit is detected in the thermistor after 5 minutes of compressor start-up.	• Check the defrost thermistor. (Refer to 12-6.Ⓔ.)
Lighting	7 times	EEPROM	The nonvolatile memory data cannot be read properly.	• Replace the outdoor electronic control P.C. board.
Lighting	8 times	Current sensor	Current sensor protection cut-out operates 2 consecutive times.	• Replace the power board.
Lighting	10 times	Gas pipe temperature thermistor A	A short or open circuit is detected in the thermistor during operation. A, B, C, D : **MXY-4A38VA-**F1	• Check each gas pipe temperature thermistor. (Refer to 12-6.Ⓔ.)
		Gas pipe temperature thermistor B		
		Gas pipe temperature thermistor C		
		Gas pipe temperature thermistor D		
Lighting	11 times	Communication error between P.C. boards	The communication protection cut-out between boards operates 2 consecutive times.	• Check the connecting wire between outdoor electronic control P.C. board and power board.
Lighting	12 times	Zero cross detecting circuit	The protection cut-out of the zero cross detecting circuit is operate 10 consecutive times.	• Check the connecting wire among outdoor electronic control P.C. board, noise filter P.C. board and power board.

Symptom: It is repeated that outdoor unit stops and restarts 3 minutes later.				
Indication		Abnormal point	Condition	Remedy
LED1	LED2			
Twice	Goes out	IPM protection	Over-current is detected after 30 seconds of compressor start-up.	• Check the connection of the compressor connecting wire. • Check the inverter/compressor. (Refer to 12-6.Ⓓ.) • Check the stop valve. • Check the power module.
		Lock protection	Over-current is detected within 30 seconds of compressor start-up.	
3 times	Goes out	Discharge temperature protection	The discharge temperature exceeds 116 °C during operation.	• Check the amount of gas and refrigerant circuit. • Check the LEV. (Refer to 12-6.Ⓒ.)
4 times	Goes out	Fin temperature protection	The fin temperature exceeds 87 °C during operation.	• Check the surrounding of the outdoor unit. • Check the air passage. • Check the outdoor fan motor. (Refer to 12-6.Ⓘ.)
		P.C. board temperature protection	The P.C. board temperature exceeds 70 °C during operation.	
5 times	Goes out	HPS protection	High-pressure is detected with the high-pressure switch (HPS) during operation.	• Check the amount of gas and the refrigerant circuit. • Check the stop valve.
		High-pressure protection	Outdoor heat exchanger temperature exceeds 70 °C during operation.	
8 times	Goes out	Converter protection	A failure is detected in the operation of the converter during operation.	• Replace the power board.
9 times	Goes out	Bus-bar voltage protection (1)	The bus-bar voltage exceeds 400 V or falls to 200 V or below during compressor operating.	• Check the voltage of power supply. • Replace the power board or the outdoor electronic control P.C. board. • Check the bus-bar voltage. (Refer to 12-6.Ⓘ.)
		Bus-bar voltage protection (2)	The bus-bar voltage exceeds 400 V or falls to 50 V or below during compressor operating.	
13 times	Goes out	Fan protection	Failure occurs 3 consecutive times within 30 seconds after the fan gets started.	• Check the outdoor fan motor. (Refer to 12-6.Ⓘ.)
Lighting	8 times	Current sensor protection	A short or open circuit is detected in the current sensor during compressor operating.	• Replace the power board.
Lighting	11 times	Communication between P.C. boards protection	Communication error occurs between the outdoor electronic control P.C. board and power board for more than 10 seconds.	• Check the connecting wire between outdoor electronic control P.C. board and power board.
Lighting	12 times	Zero cross detecting circuit protection	Zero cross signal cannot be detected while the compressor is operating.	• Check the connecting wire among outdoor electronic control P.C. board, noise filter P.C. board and power board.

Symptom: Outdoor unit does not operate normally.				
Indication		Abnormal point	Condition	Remedy
LED1	LED2			
Once	Lighting	Primary current protection	The input current exceeds 11 A.※	These symptoms do not mean any abnormality of the product, but check the following points. • Indoor unit filter clogging • Amount of gas • Short cycle of indoor/outdoor air flow
		Secondary current protection	The current of the compressor exceeds 15A.	
Twice	Lighting	Defrosting in cooling	The indoor gas pipe temperature falls 10 °C or below during operation.	
3 times	Lighting	Discharge temperature protection	The discharge temperature exceeds 100 °C during operation.	• Check the amount of gas and refrigerant circuit. • Check the LEV. (Refer to 12-6.Ⓐ) • Check the outdoor thermistor. (Refer to 12-6.Ⓒ)
4 times	Lighting	Low discharge temperature protection	The frequency of the compressor is kept 80Hz or more and the discharge temperature is kept under 50 °C.	• Check the amount of gas and refrigerant circuit. • Check the LEV. (Refer to 12-6.Ⓐ)
5 times	Lighting	Cooling high-pressure protection	The outdoor heat exchanger temperature exceeds 47 °C during operation.	This symptom does not mean any abnormality of the product, but check the following points. • Indoor unit filter clogging • Amount of gas • Short cycle of indoor/outdoor air flow

Symptom: Outdoor unit operates normally.				
Indication		Abnormal point	Condition	Remedy
LED1	LED2			
9 times	Lighting	Service mode	The unit is operated with the emergency operation switch.	—
Lighting	Lighting	Normal	—	—

※The limit differs when the limitation of current has been changed.

12-5. TROUBLE CRITERION OF MAIN PARTS

MXY-4A38VA

<table>
<tr><th>Part name</th><th>Check method and criterion</th></tr>
<tr><td>Ambient temperature thermistor (RT65)

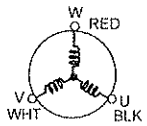
Defrost thermistor (RT61)
MXY-4A38VA-P3

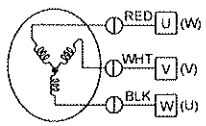
Outdoor heat exchanger temperature thermistor (RT68)

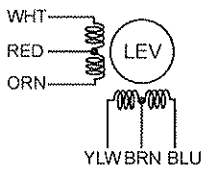
Gas pipe temperature thermistor (RT6A~D)
MXY-4A38VA-P1</td><td>Measure the resistance with a tester.

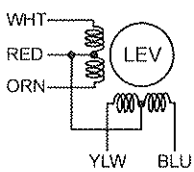
Refer to 12-7. “Test point diagram and voltage”, 1.
“Outdoor electronic control P.C. board”, the chart of thermistor.</td></tr>
<tr><td>Discharge temperature thermistor (RT62)

Fin temperature thermistor (RT64)</td><td>Measure the resistance with a tester.
Before measurement, hold the thermistor with your hands to warm it up.

Refer to 12-7. “Test point diagram and voltage”, 1.
“Outdoor electronic control P.C. board”, the chart of thermistor.</td></tr>
<tr><td>Compressor

</td><td>Measure the resistance between terminals using a tester.
(Winding temperature : -10°C - 40°C)

<table><tr><th>Normal</th></tr><tr><td>Each phase 1.29Ω - 1.49Ω</td></tr></table></td></tr>
<tr><td>Outdoor fan motor

</td><td>Measure the resistance between lead wires using a tester.
(Part temperature : -10°C - 40°C)

<table><tr><th>Normal</th></tr><tr><td>Each phase 13.4Ω - 16.4Ω</td></tr></table></td></tr>
<tr><td>Linear expansion valve
MXY-4A38VA-P1, P2


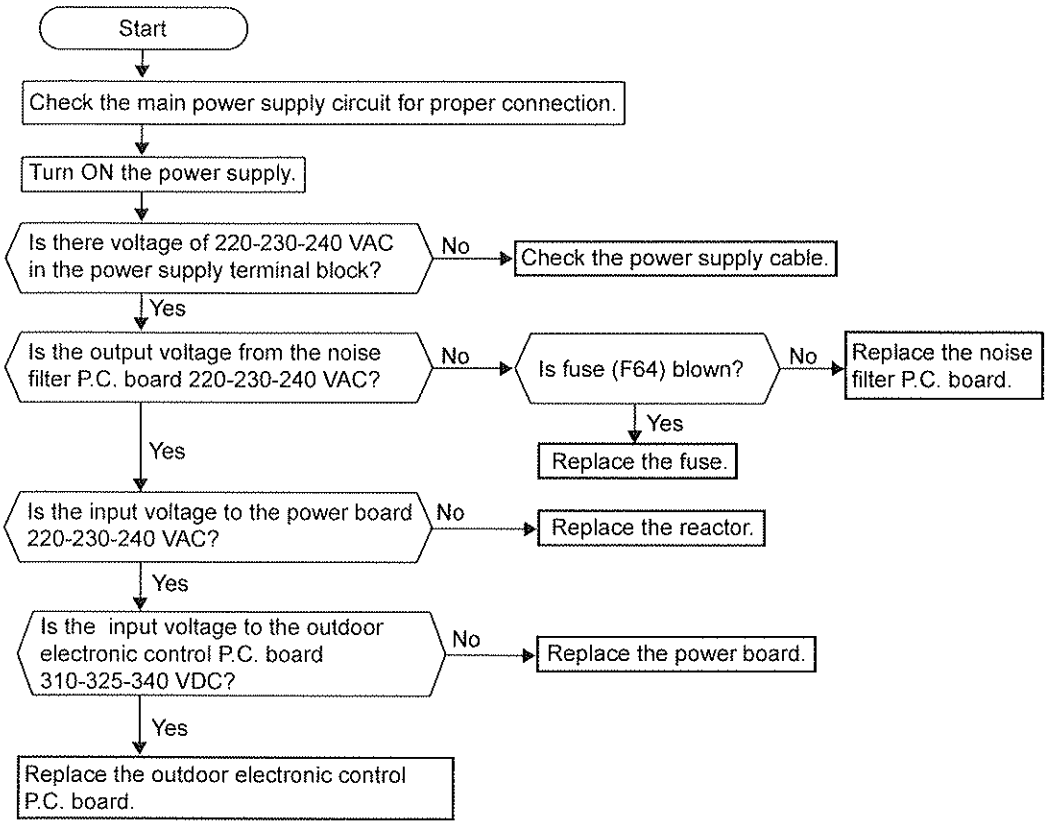
MXY-4A38VA-P3

</td><td>Measure the resistance using a tester. (Part temperature : -10°C - 40°C)

<table><tr><th>Color of lead wire</th><th>Normal</th></tr><tr><td>WHT - RED</td><td rowspan="4">37.4Ω - 53.9Ω</td></tr><tr><td>RED - ORN</td></tr><tr><td>YLW - BRN</td></tr><tr><td>BRN - BLU</td></tr></table>
<table><tr><th>Color of lead wire</th><th>Normal</th></tr><tr><td>WHT - RED</td><td rowspan="4">37.4Ω - 53.9Ω</td></tr><tr><td>RED - ORN</td></tr><tr><td>YLW - RED</td></tr><tr><td>RED - BLU</td></tr></table></td></tr>
<tr><td>High pressure switch (HPS)</td><td><table><tr><th colspan="2">Pressure</th><th>Normal</th></tr><tr><td colspan="2">Operation OFF</td><td rowspan="2">Close</td></tr><tr><td rowspan="2">HPS</td><td>3.7 ± 0.15 MPa</td></tr><tr><td>$4.8^{+0.05}_{-0.1}$ MPa</td><td>Open</td></tr></table></td></tr>
</table>

12-6. TROUBLESHOOTING FLOW

Outdoor unit does not operate. (LED display: display OFF)

Ⓐ Check of power supply



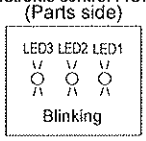
- **When unit cannot operate neither by the remote controller nor by EMERGENCY OPERATION switch. Indoor unit does not operate.**
- **When OPERATION INDICATOR lamp flashes ON and OFF in every 0.5-second. Outdoor unit does not operate.**

Ⓑ How to check mis-wiring and serial signal error (when outdoor unit does not work)

※3. Blinking LED indicates normal communication. Lighting LED dose not indicate normal communication.

MXY-4A38VA -P1

Outdoor electronic control P.C. board (Parts side)



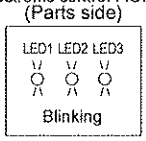
※ LED indication

LED 3	LED 2	LED 1
Lighting	Unit B ※3	Unit A ※3
Goes out	Unit D ※3	Unit C ※3

The LED indication for unit A and unit B, and unit C and unit D interchanges at a interval of 15 seconds.

MXY-4A38VA -P2, P3

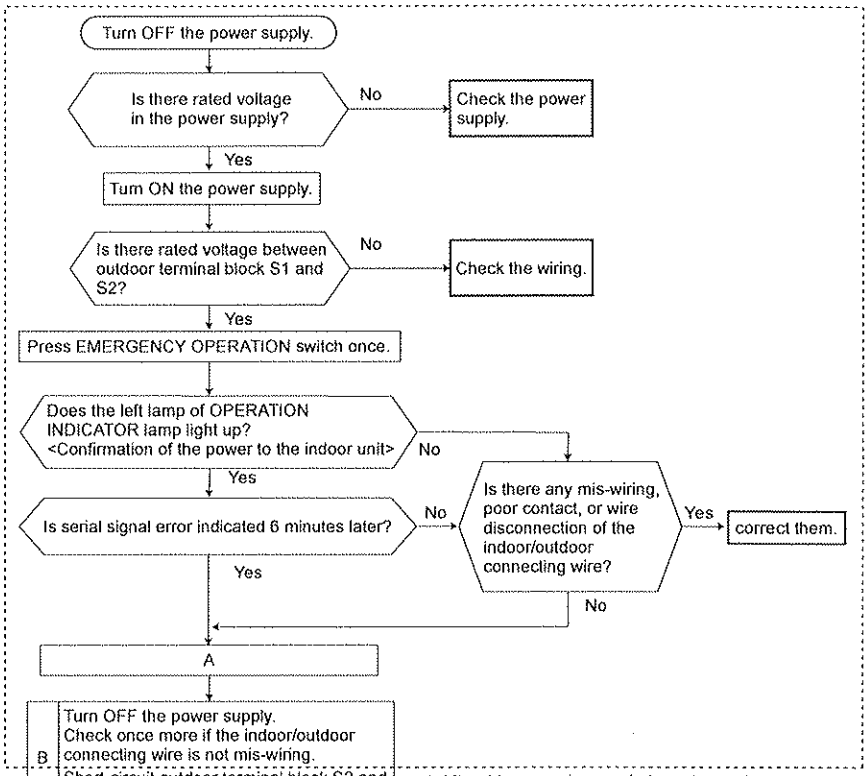
Outdoor electronic control P.C. board (Parts side)

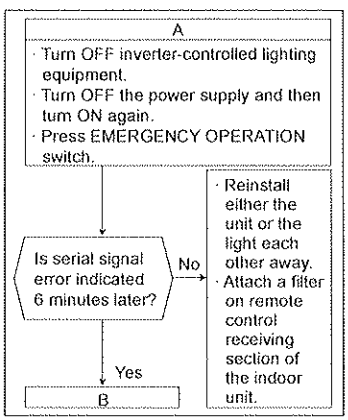


※ LED indication

LED 3	LED 2	LED 1
Unit A ※3	Unit B ※3	Unit C ※3
Unit D ※3	Lighting	Goes out

The LED indication for unit A and unit B and unit C, and unit D interchanges at a interval of 15 seconds.



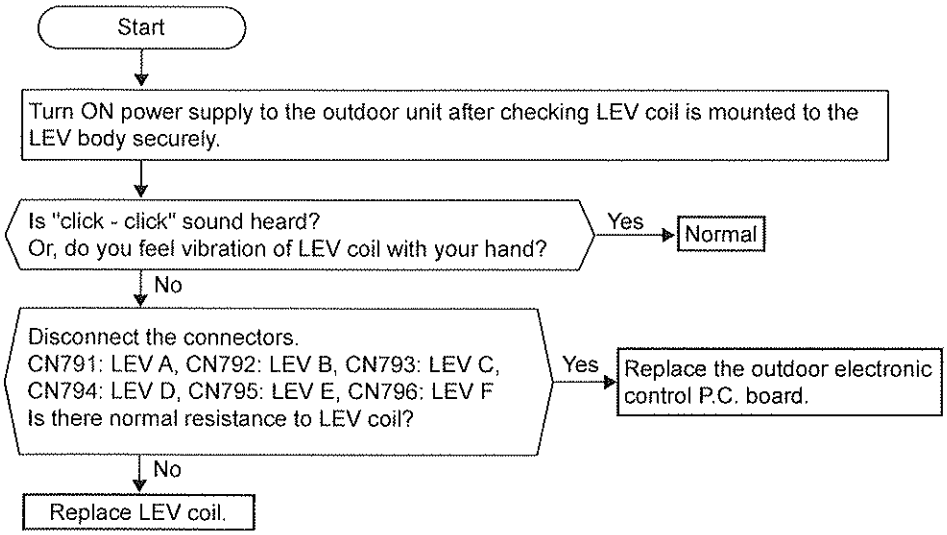


• **When operating, heat exchanger of non-operating indoor unit frosts.**

© Check of LEV

LED display:

LED1	LED2
Lighting	Lighting
Lighting	Once

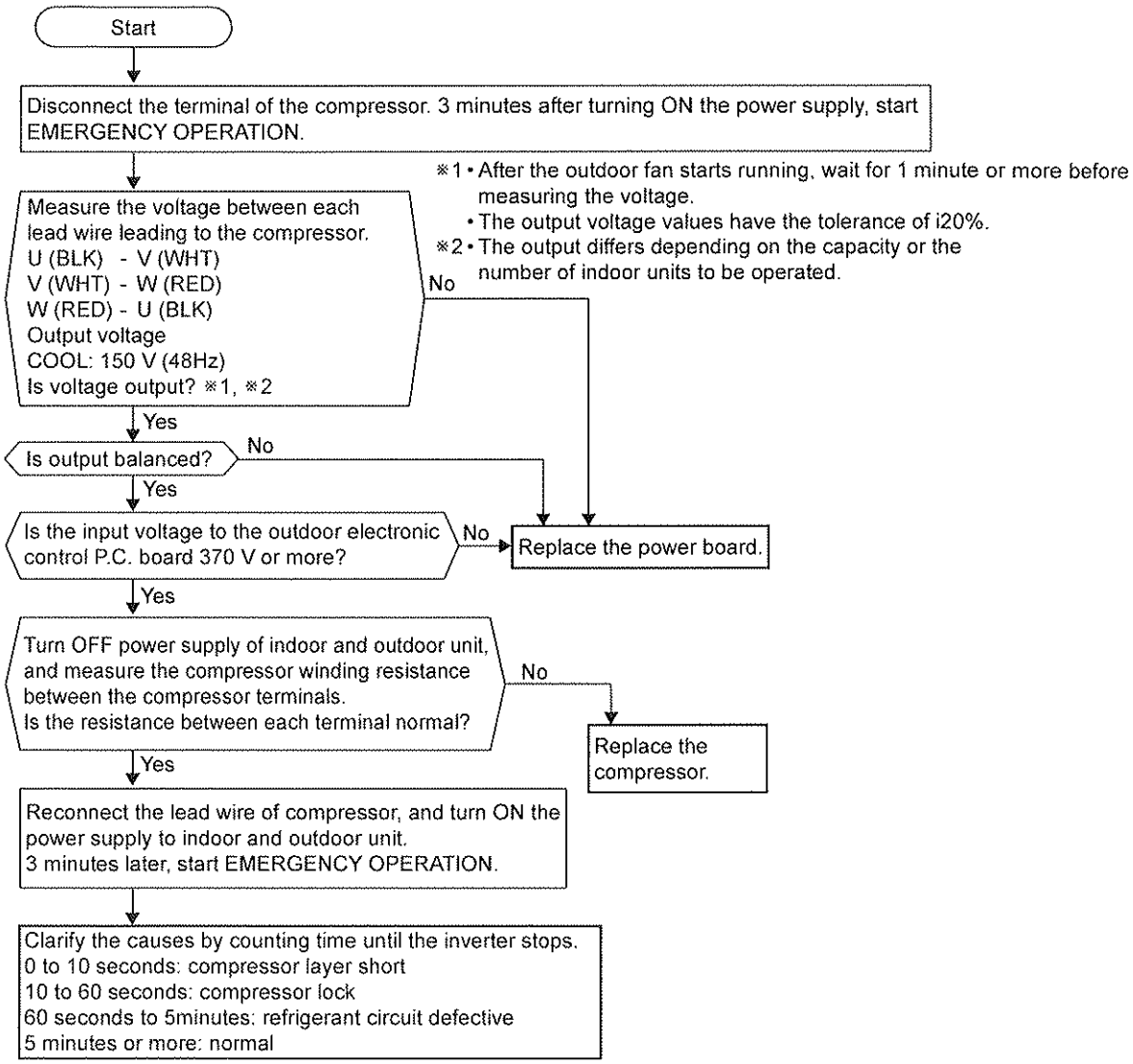


• **When operating, room does not get cool.**

◎ Check of inverter/ compressor

LED display:

LED1	LED2
Lighting	Lighting
Lighting	Twice
Twice	Goes out



• **When thermistor is abnormal.**

Ⓔ Check of outdoor unit thermistors

Disconnect the connector in the following table and measure the resistance of the thermistor to check whether the thermistor is normal or not.

Abnormal → Replace the thermistor except RT64. In case that RT64 is abnormal, replace the outdoor power board since RT64 is combined with the outdoor power board.

Normal ↓

Reconnect the connector in the following table and disconnect the lead wire leading to the compressor. 3 minutes after turning ON the power supply, start EMERGENCY OPERATION.

↓

Does the unit operate 10 minutes or more without showing thermistor abnormality?

No → Replace the outdoor electronic control P.C. board or the outdoor power board.

Yes ↓

Normal

Thermistor	Symbol	Connector, Pin No.	Board
Defrost thermistor	RT61	Between CN661 pin1 and pin2	Outdoor electronic control P.C. board
Discharge temperature	RT62	Between CN661 pin3 and pin4	
Outdoor heat exchanger temperature	RT68	Between CN661 pin7 and pin8	
Gas pipe temperature (Unit A) ※	RT6A	Between CN662 pin1 and pin2	
Gas pipe temperature (Unit B) ※	RT6B	Between CN662 pin3 and pin4	
Gas pipe temperature (Unit C) ※	RT6C	Between CN662 pin5 and pin6	
Gas pipe temperature (Unit D) ※	RT6D	Between CN662 pin7 and pin8	
Ambient temperature	RT65	Between CN663 pin1 and pin2	
Fin temperature	RT64	Between CN3 pin1 and pin2	Outdoor power board

※ Except **MXZ-4A38VA** -P2, P3.

• **Fan motor does not operate or stops operating shortly after starting the operation.**

Ⓕ Check of outdoor fan motor

Start ↓

Check the connection between the connectors CN931 and CN932. ↓

Is the resistance between each terminal of outdoor fan motor normal?

Yes → Disconnect CN932 from outdoor electronic control P.C. board, and turn ON the power supply. ↓

Rotate the outdoor fan motor manually and measure the voltage of CN931.
Between ①(+) and ⑤(-)
Between ②(+) and ⑤(-)
Between ③(+) and ⑤(-) ↓

Does the voltage between each terminal become 5V DC and 0V DC repeatedly?

No (Fixed to either 5 V or 0 V DC) → Replace the outdoor DC fan motor.

Yes ↓

Does the outdoor fan motor rotate smoothly?

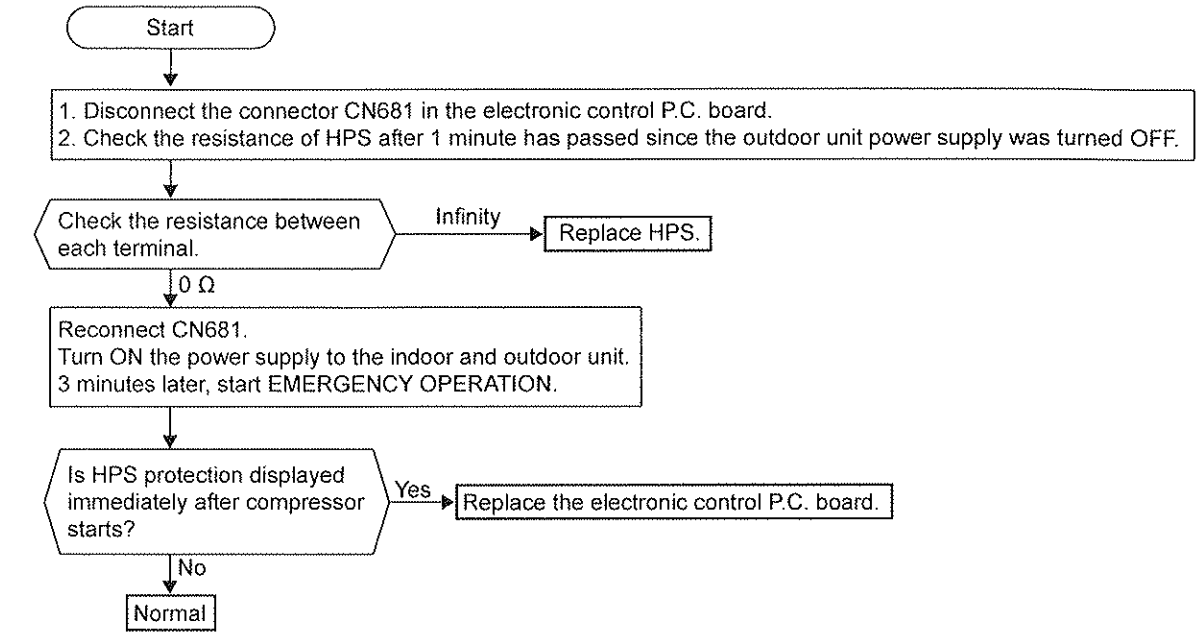
No → Replace the outdoor DC fan motor.

Yes ↓

Replace the outdoor electronic control P.C. board.

• **When the operation frequency does not go up from lowest frequency.**

Ⓖ Check of HPS

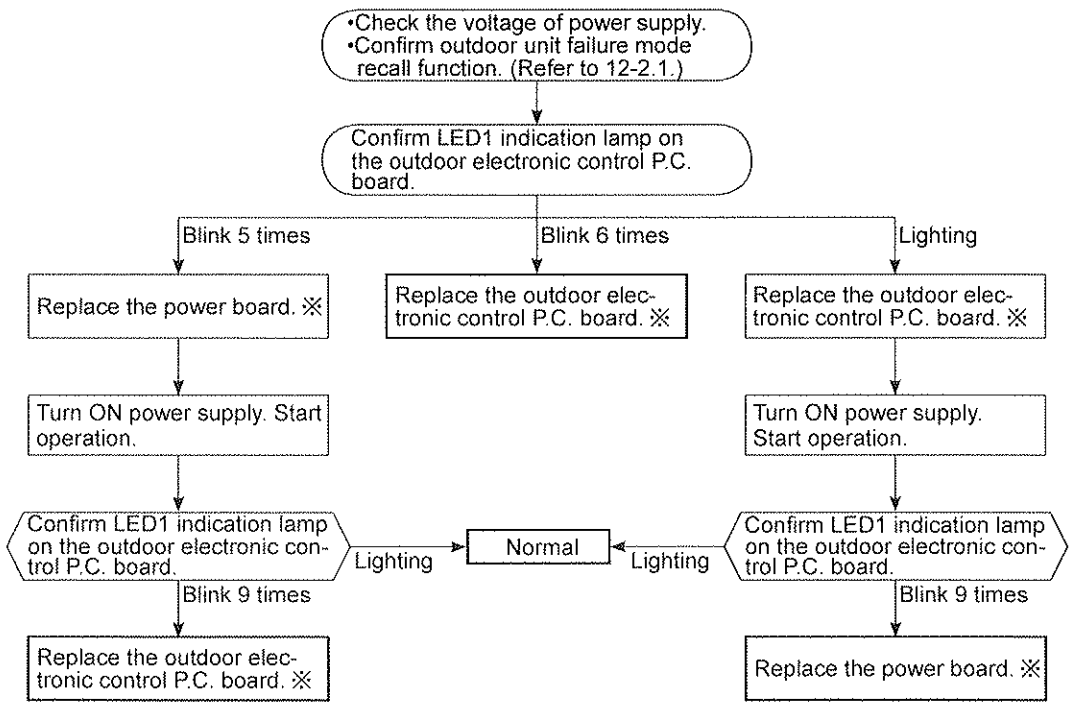


Ⓗ The other cases

Multi system air conditioner can connect two or more indoor units with one outdoor unit.

• Unit won't operate in case the total capacity of indoor units exceeds the capacity of outdoor units. Do not connect indoor units beyond the outdoor unit capacity.

Ⓘ Check of bus-bar voltage



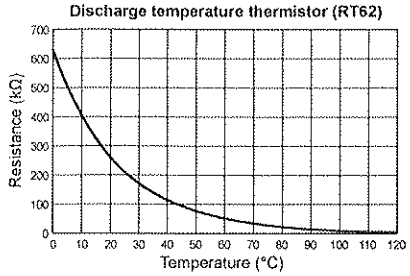
※ Turn OFF power supply before removing P.C. board.

12-7. TEST POINT DIAGRAM AND VOLTAGE

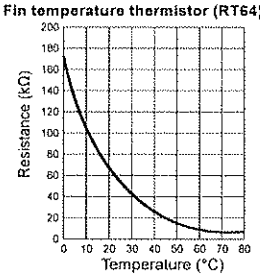
1. Outdoor electronic control P.C. board

MXY-4A38VA - P1

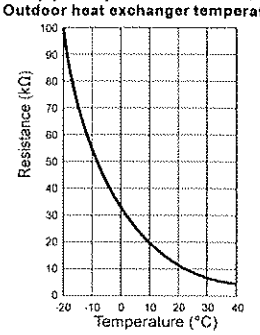
Discharge temperature thermistor (RT62)

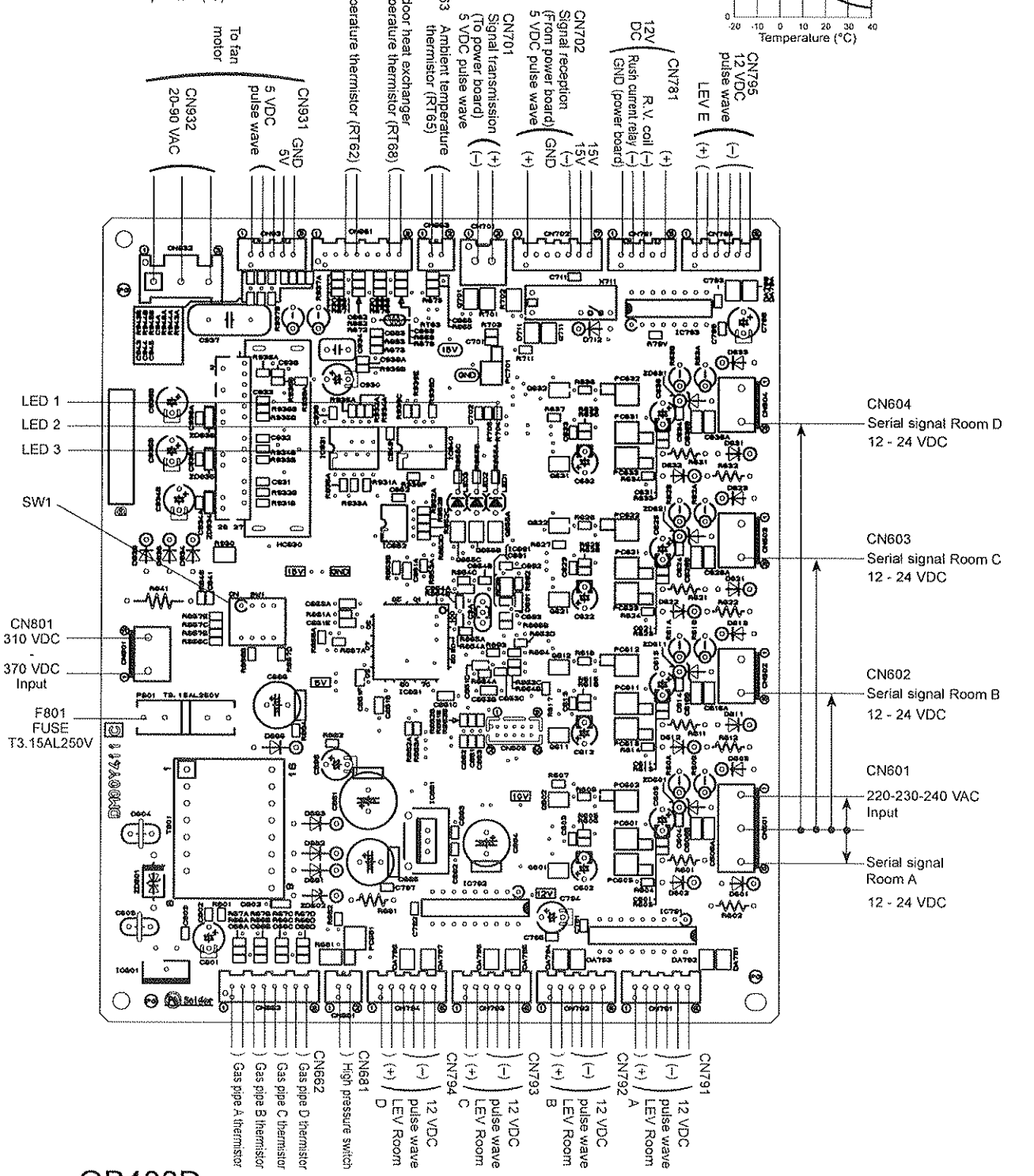


Fin temperature thermistor (RT64)



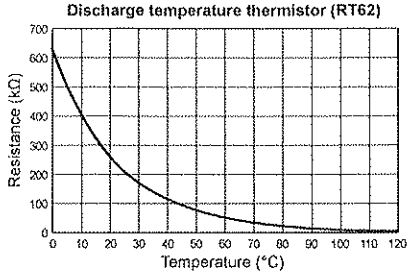
Ambient temperature thermistor (RT65)
Gas pipe temperature thermistor (RT6A,6B,6C,6D)
Outdoor heat exchanger temperature thermistor (RT68)



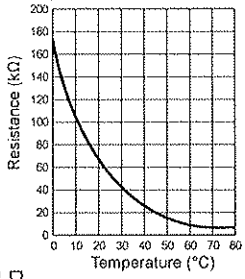


MXY-4A38VA -[P2], [P3]

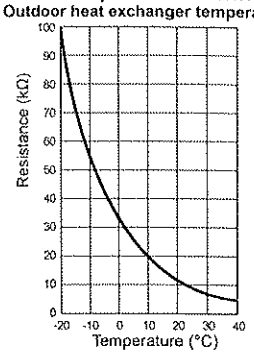
Discharge temperature thermistor (RT62)

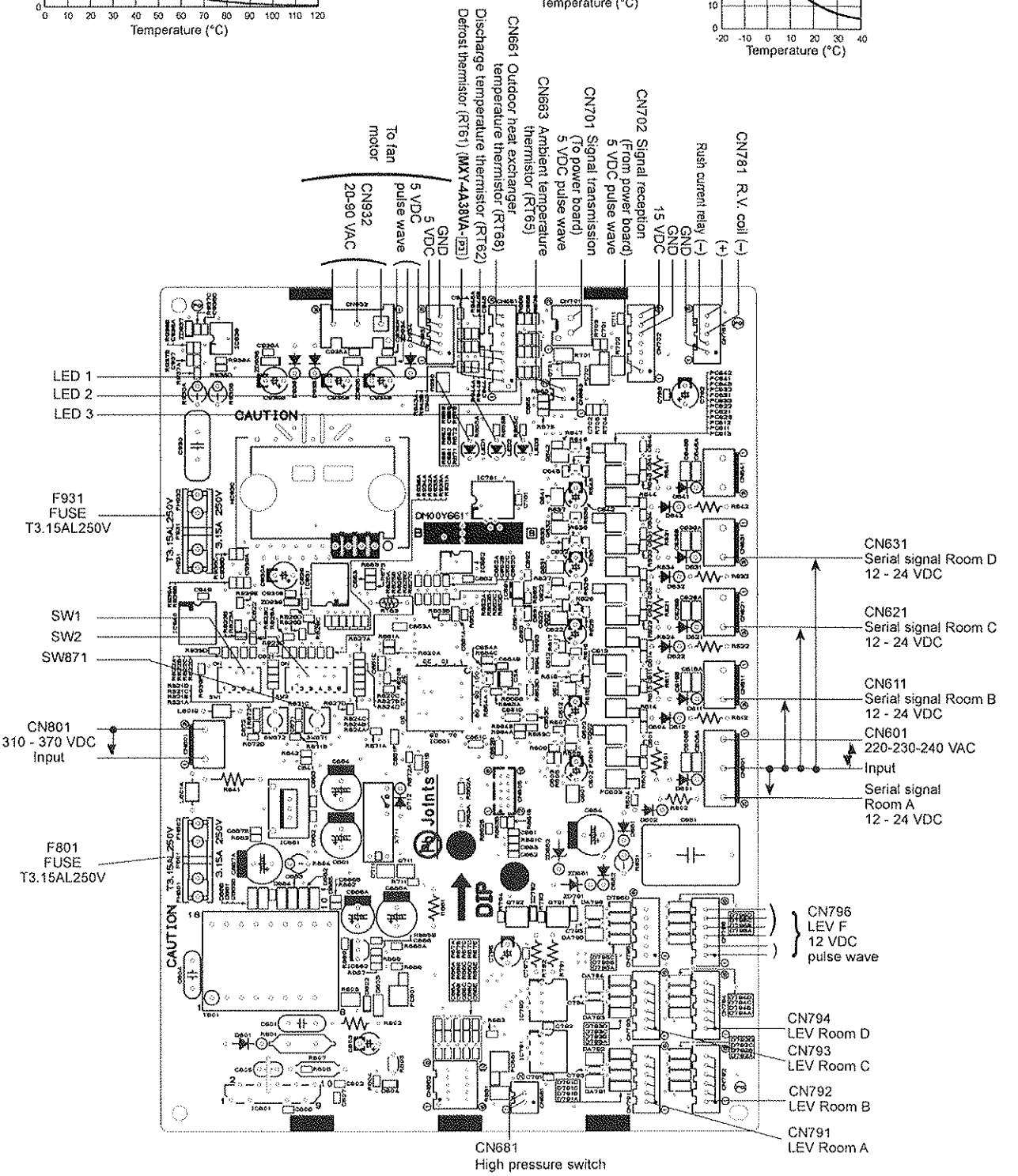


Fin temperature thermistor (RT64)



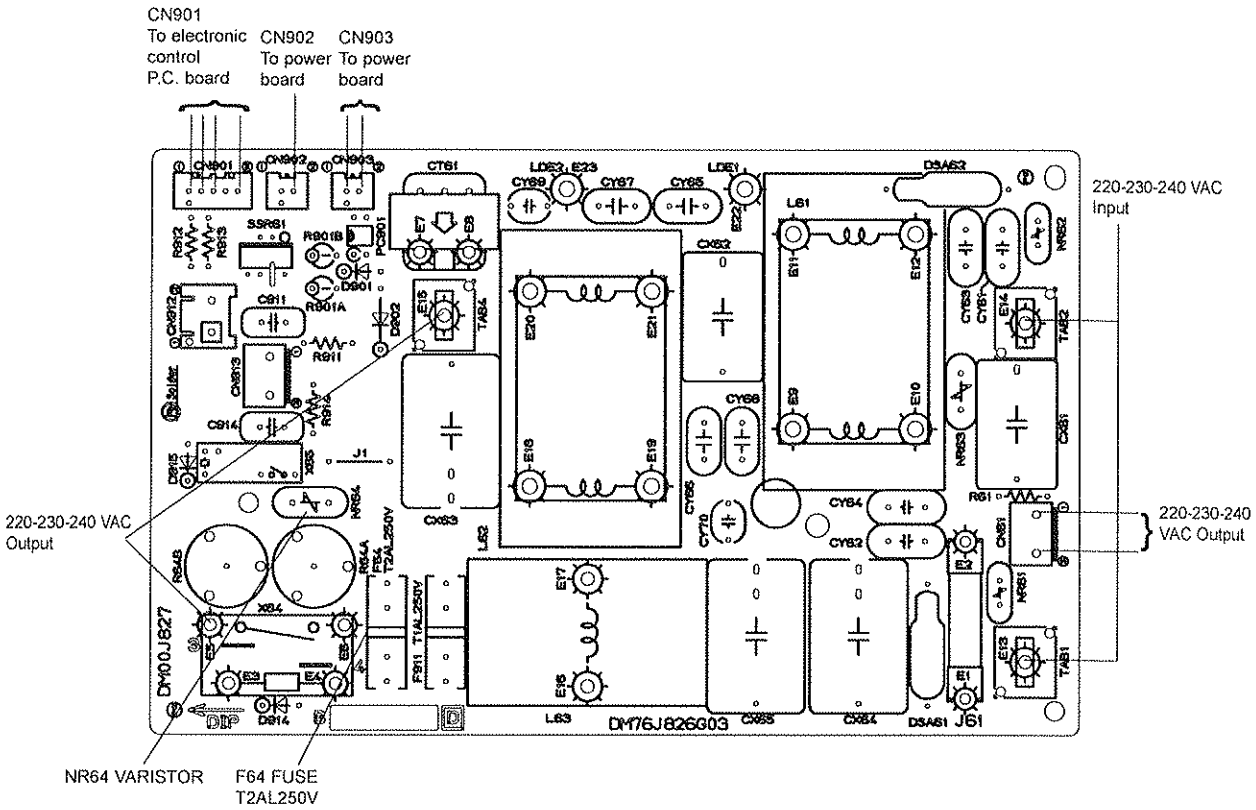
Defrost thermistor (RT61) (MXY-4A38VA-[P3])
Ambient temperature thermistor (RT65)
Outdoor heat exchanger temperature thermistor (RT68)



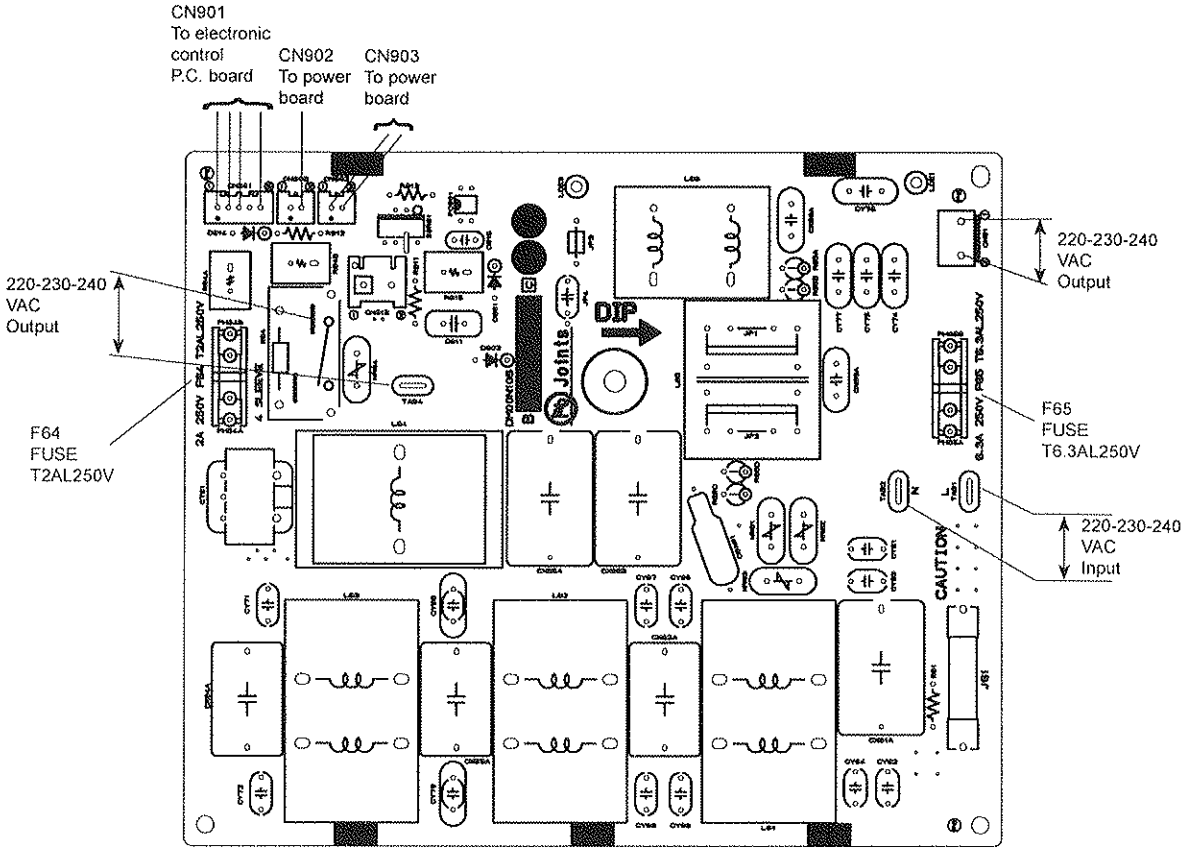


2. Noise filter P.C. board

MXY-4A38VA - P1

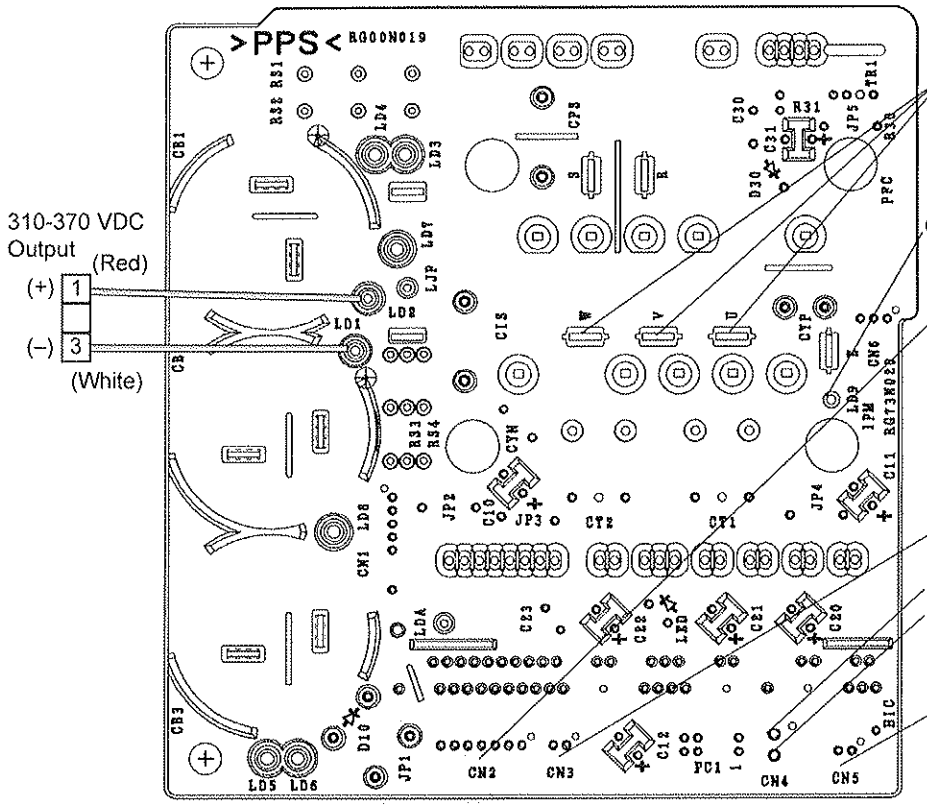


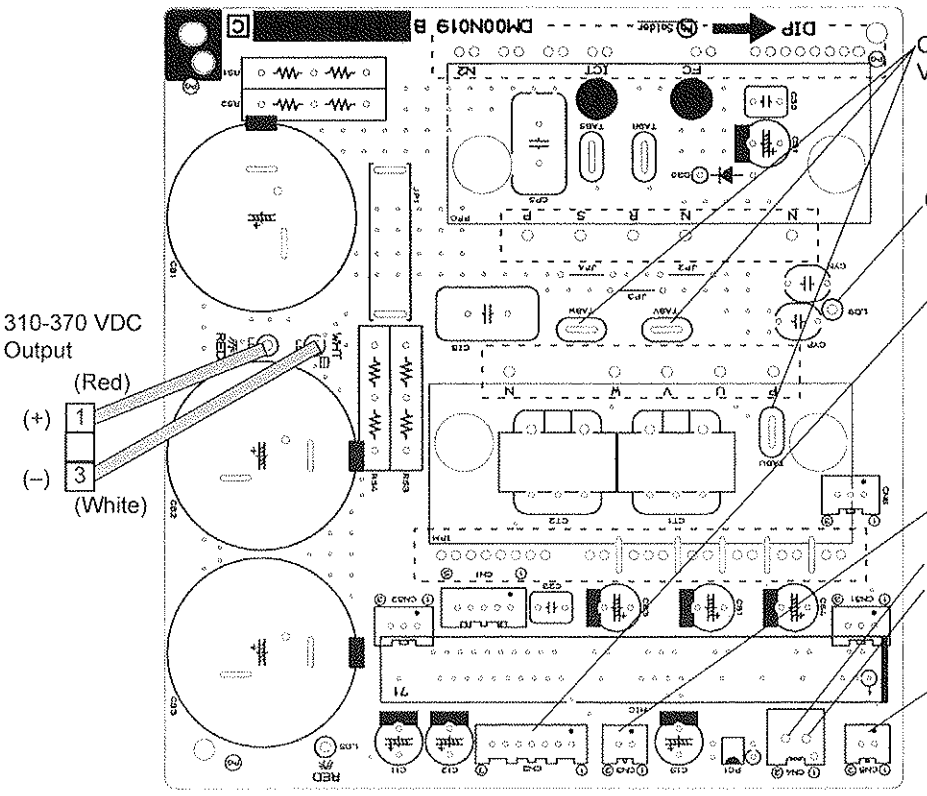
MXY-4A38VA - P2, P3



3. Outdoor Power board

MXY-4A38VA



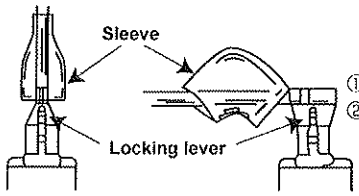


13 DISASSEMBLY INSTRUCTIONS

<"Terminal with locking mechanism" Detaching points>

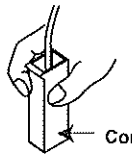
The terminal which has the locking mechanism can be detached as shown below.
There are two types (Refer to (1) and (2)) of the terminal with locking mechanism.
The terminal without locking mechanism can be detached by pulling it out.
Check the shape of the terminal before detaching.

(1) Slide the sleeve and check if there is a locking lever or not.



①Slide the sleeve.
②Pull the terminal while pushing the locking lever.

(2) The terminal with this connector has the locking mechanism.



①Hold the sleeve, and pull out the terminal slowly.

13-1. MXY-4A38VA - P1 OUTDOOR UNIT

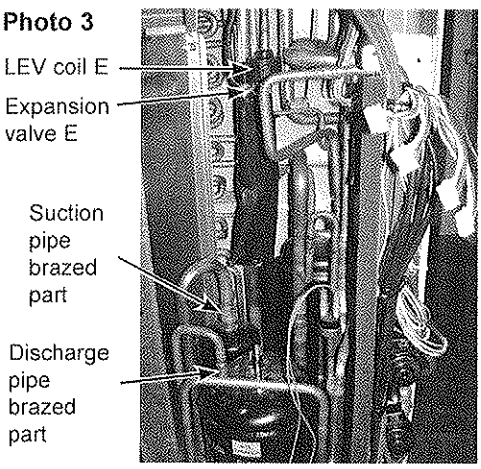
Note: Turn OFF the power supply before disassembly.

OPERATING PROCEDURE

1. Removing the compressor

(1) Remove the screws of the top panel, and remove the top panel.
(2) Remove the screws of the service panel, and remove the service panel.
Recover refrigerant gas.
(3) Remove the screws of the front panel, and remove the front panel.
(4) Disconnect the compressor lead wire from terminal of compressor (U, V, W).
(5) Disconnect the outdoor electronic control P.C. board connectors :
CN661, CN662, CN663, CN681, CN791, CN792, CN793, CN794, CN795, CN931, CN932
(6) Remove the screws of the electrical parts, and remove the electrical parts.
(7) Remove the propeller.
(8) Remove the screws of the separator, and remove the separator.
(9) Remove the sound proof felt.
(10) Detach the brazed parts of the compressor suction and discharge pipes.
(11) Remove the compressor nuts and remove the compressor.

Photo 3



PHOTOS

Photo 1

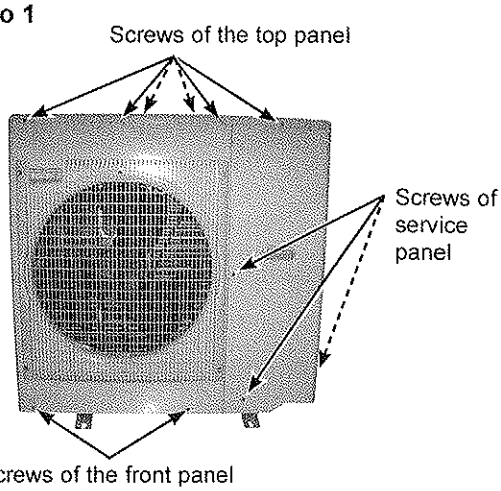
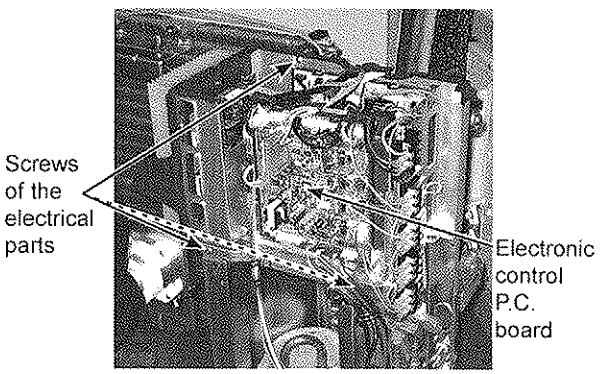
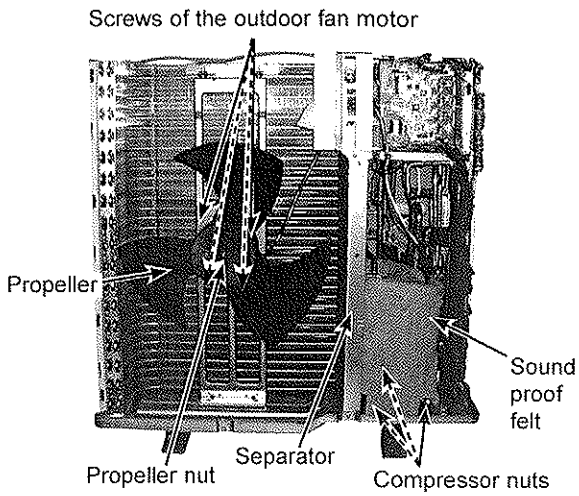
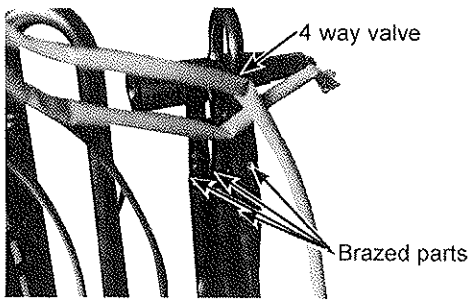
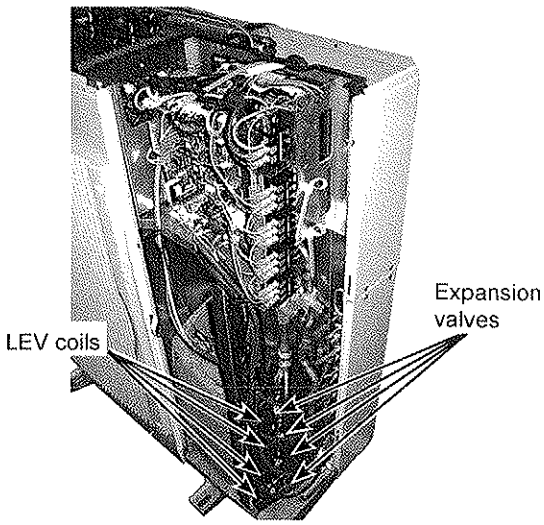
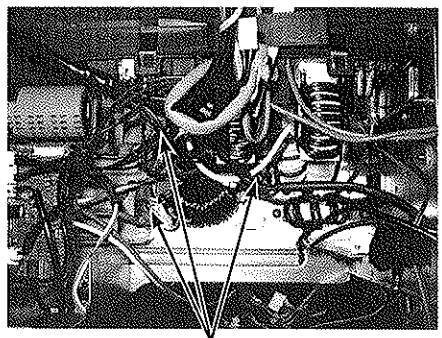


Photo 2



OPERATING PROCEDURE	PHOTOS
2. Removing the fan motor (1) Remove the top panel, the service panel, and the front panel (Photo 1). (2) Disconnect the connector CN931 and CN932 on the outdoor electronic control P.C. board. (3) Remove the propeller. (4) Remove the fan motor.	**Photo 4** 
3. Removing the 4-way valve (1) Remove the top panel (Photo 1). (2) Remove the service panel, rear panel, and pipe cover. Recover refrigerant gas. (3) Remove the electrical parts (Photo 2). (4) Detach the brazed parts of 4-way valve and pipe.	**Photo 5** 

OPERATING PROCEDURE	PHOTOS
4. Removing the expansion valve (1) Remove the top panel (Photo 1). (2) Remove the service panel (Photo 1). (Gas recovery is not required if the unit is pumped down.) (3) Remove the front panel for removing LEV E (Photo 1, 3). (4) Remove the electrical parts for removing LEV E (Photo 2, 3). (5) Remove the LEV coils. (6) Detach the brazed parts of expansion valves and pipes.	**Photo 6** 
5. Removing the reactor (1) Remove the top panel (Photo 1). (2) Disconnect the reactor lead wire. (3) Remove the screws of the reactor, and remove the reactor.	**Photo 7**  Screws of the reactor

13-2. MXY-4A38VA -[P2], [P3]
OUTDOOR UNIT

Note: Turn OFF the power supply before disassembly.

OPERATING PROCEDURE

1. Removing the compressor

(1) Remove the screws of the top panel, and remove the top panel.
(2) Remove the screws of the service panel, and remove the service panel.
Recover refrigerant gas.
(3) Remove the screws of the front panel, and remove the front panel.
(4) Remove the screws of the rear panel, and remove the rear panel.
(5) Disconnect the compressor lead wire from terminal of compressor (U, V, W).
(6) Disconnect the outdoor electronic control P.C. board connectors :
CN661, CN663, CN681, CN791, CN792, CN793, CN794, CN796, CN931, CN932
(7) Remove the screws of the electrical parts, and remove the electrical parts.
(8) Remove the propeller.
(9) Remove the screws of the separator, and remove the separator.
(10) Remove the sound proof felt.
(11) Detach the brazed parts of the compressor suction and discharge pipes (Photo 4).
(12) Remove the compressor nuts and remove the compressor.

PHOTOS

Photo 1 Screws of the top panel

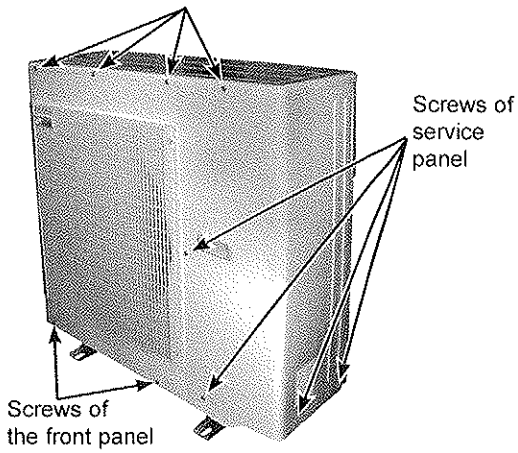


Photo 2

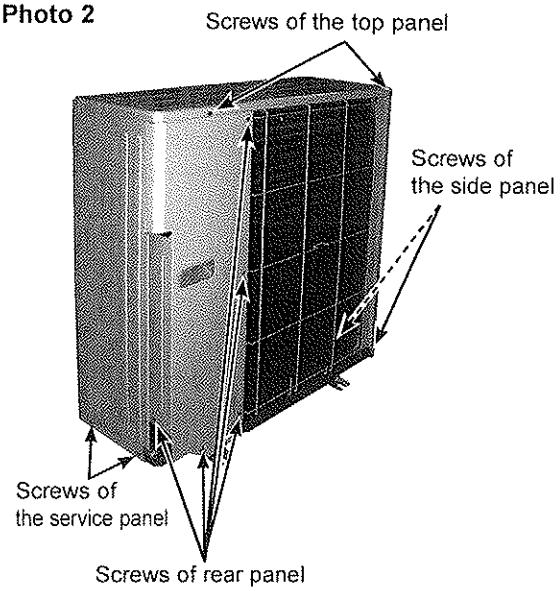


Photo 3

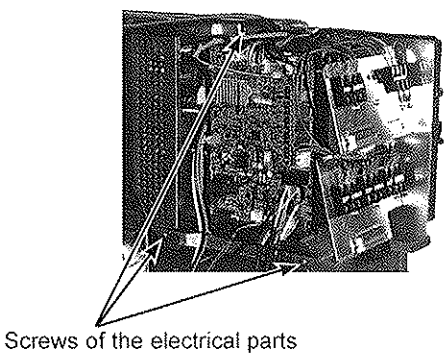
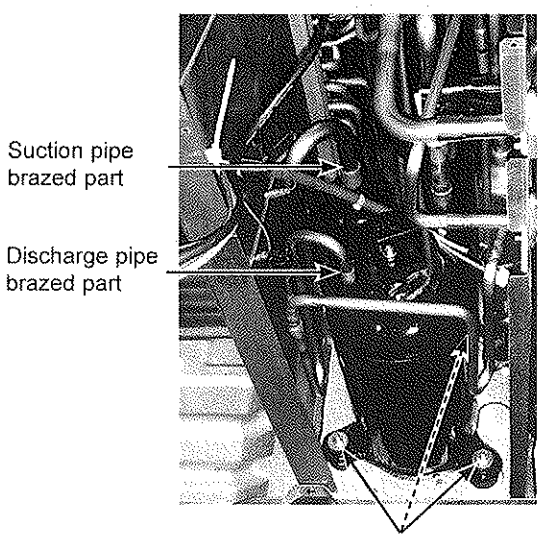
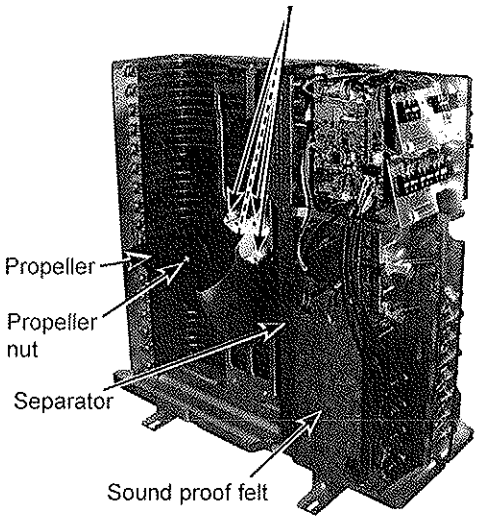
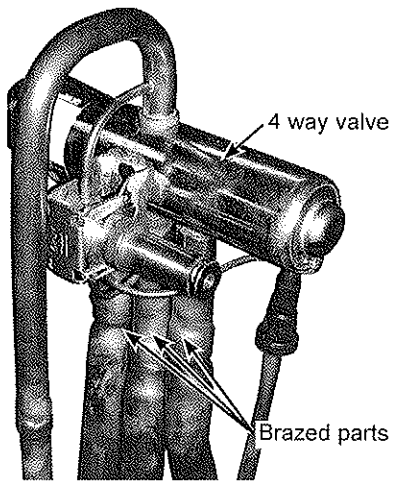
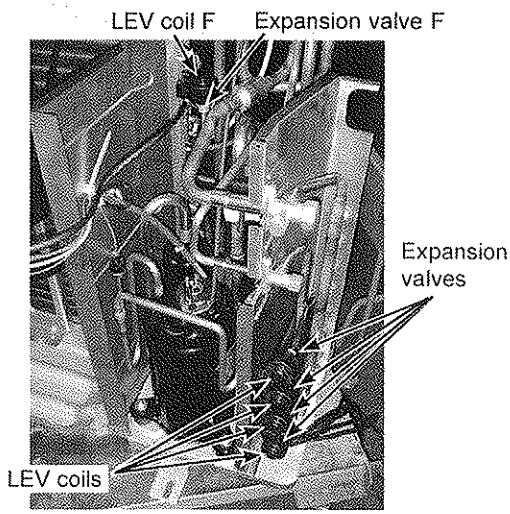
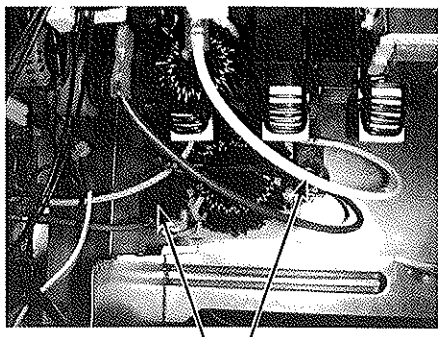


Photo 4



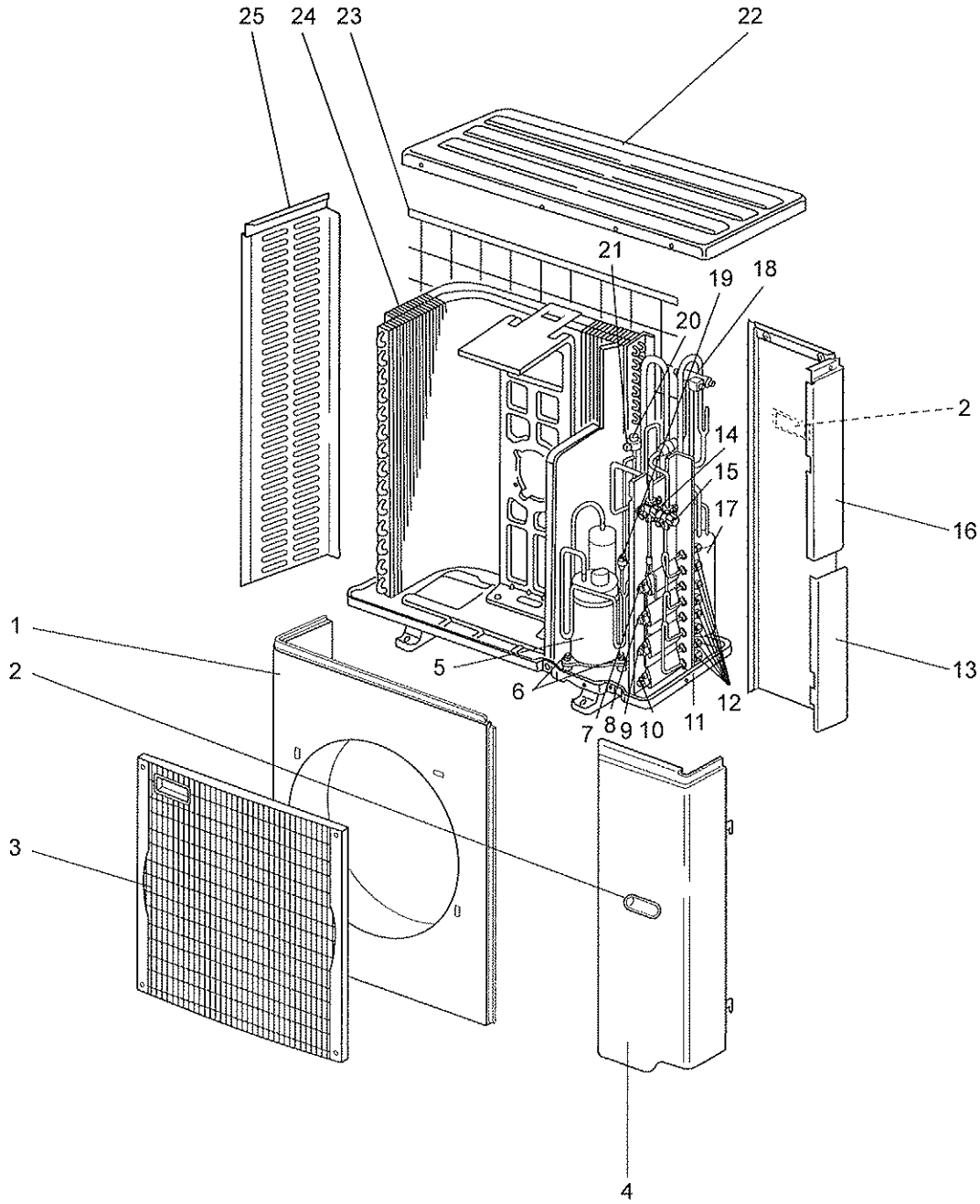
OPERATING PROCEDURE	PHOTOS
2. Removing the fan motor (1) Remove the top panel, the service panel, and the front panel (Photo 1). (2) Disconnect the connector CN931 and CN932 on the outdoor electronic control P.C. board. (3) Remove the propeller. (4) Remove the fan motor.	**Photo 5** Screws of the outdoor fan motor 
3. Removing the 4-way valve (1) Remove the top panel (Photo 1). (2) Remove the service panel, rear panel, and pipe cover. Recover refrigerant gas. (3) Remove the electrical parts (Photo 3). (4) Detach the brazed parts of 4-way valve and pipe.	**Photo 6** 
4. Removing the expansion valve (1) Remove the top panel (Photo 1, 2). (2) Remove the service panel (Photo 1, 2). (Gas recovery is not required if the unit is pumped down.) (3) Remove the front panel for removing LEV F (Photo 1). (4) Remove the electrical parts for removing LEV F (Photo 3). (5) Remove the LEV coils. (6) Detach the brazed parts of expansion valves and pipes.	**Photo 7** 

OPERATING PROCEDURE	PHOTOS
5. Removing the reactor (1) Remove the top panel (Photo 1). (2) Disconnect the reactor lead wire. (3) Remove the screws of the reactor, and remove the reactor.	 Screws of the reactor

14 PARTS LIST (non-RoHS compliant)

MXY-4A38VA -P1

14-1. OUTDOOR UNIT STRUCTURAL PARTS AND FUNCTIONAL PARTS



PARTS LIST (non-RoHS compliant)

MXY-4A38VA -P1

14-1. OUTDOOR UNIT STRUCTURAL PARTS AND FUNCTIONAL PARTS

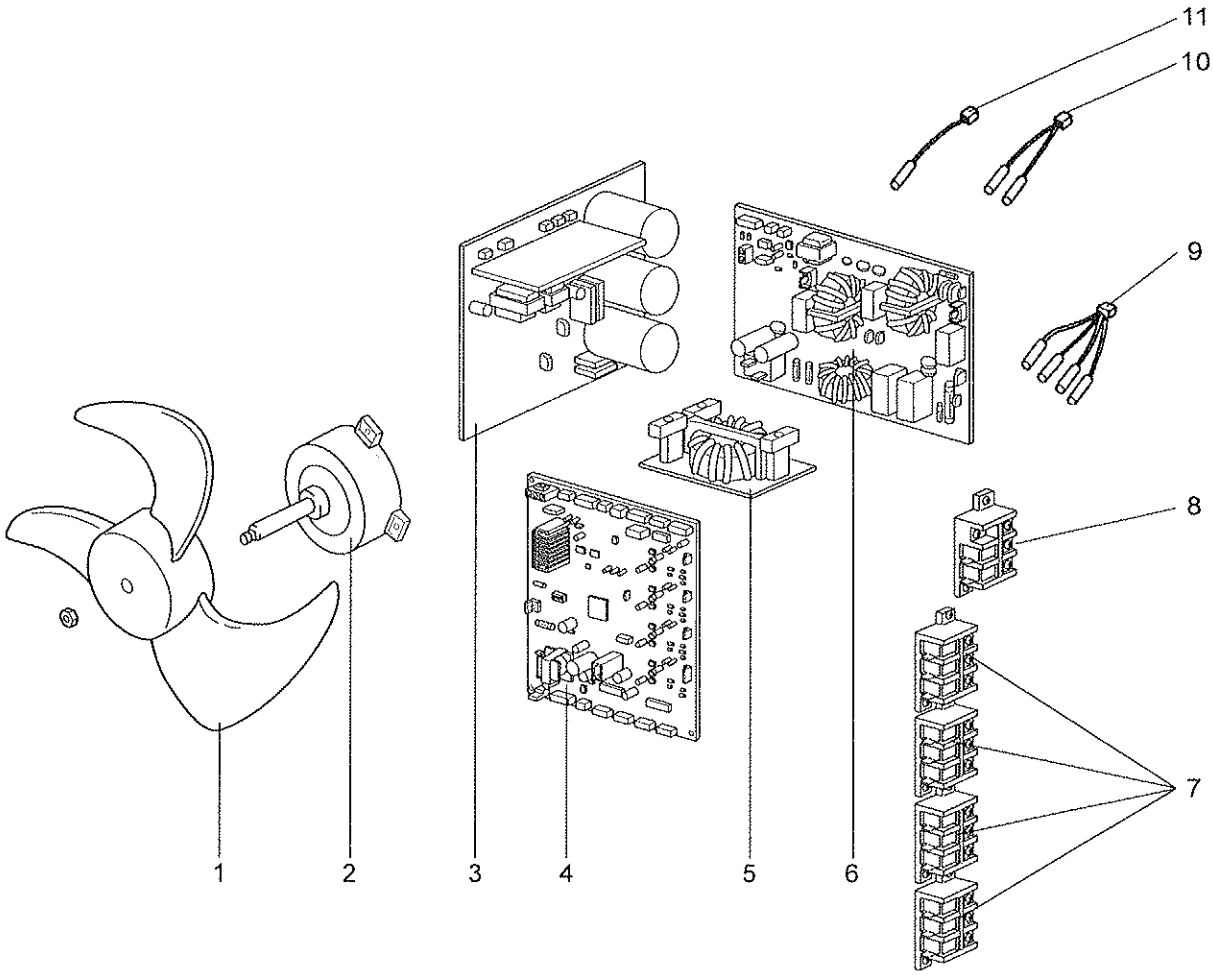
Part numbers that are circled are not shown in the illustration.

No.	Part No.	Part Name	Symbol in Wiring Diagram	Q'ty/unit	Remarks
				MXY-4A38VA-P1	
1	M21 TK0 232	FRONT PANEL		1	
2	M21 TK0 027	HANDLE ASSEMBLY		2	
3	M21 TK5 010	GRILLE		1	
4	M21 E1K 245	SERVICE PANEL		1	
5	T92 500 801	COMPRESSOR	MC	1	TNB220FMCH
6	T2W TK0 505	COMPRESSOR RUBBER SET		3	3 RUBBERS SET
7	R01 E39 401	EXPANSION VALVE		1	D room
	T2W TK0 654	LEV COIL	LEV D	1	D room
8	R01 E39 401	EXPANSION VALVE		1	C room
	T2W TK0 653	LEV COIL	LEV C	1	C room
9	R01 E39 401	EXPANSION VALVE		1	B room
	T2W TK0 652	LEV COIL	LEV B	1	B room
10	R01 E39 401	EXPANSION VALVE		1	A room
	T2W TK0 651	LEV COIL	LEV A	1	A room
11	M21 AS2 290	BASE ASSEMBLY		1	
12	M21 42E 644	UNION		1	ϕ12.7, ϕ9.52, ϕ6.35 SET
13	T2W E1K 247	PIPE COVER		1	
14	M21 TK5 667	BALL VALVE (LIQUID) 3/8		1	ϕ9.52
15	M21 TK0 667	BALL VALVE (GAS) 5/8		1	ϕ15.88
16	M21 E1K 248	REAR PANEL		1	
17	T2W TK0 959	POWER RECEIVER		1	
18	R01 E09 403	4-WAY VALVE		1	
19	M21 NT1 646	HIGH PRESSURE SWITCH	HPS	1	4.8 MPa (48.9 kg/cm^2)
20	T2W WW8 401	EXPANSION VALVE		1	E
21	T2W TK0 651	LEV COIL	LEV E	1	
22	M21 TK0 297	TOP PANEL		1	
23	T2W E40 523	REAR GUARD		1	
24	M21 YH1 630	HEAT EXCHANGER		1	
25	M21 E1K 249	SIDE PANEL		1	
(26)	T2W E2K 937	CAPILLARY TUBE		2	ϕ4.0 x ϕ2.4 x 400
(27)	M21 TK0 936	CAPILLARY TUBE		4	ϕ4.0 x ϕ2.8 x 90
(28)	T2W E59 936	CAPILLARY TUBE		1	ϕ2.5 x ϕ0.6 x 1000
(29)	T2W YH1 656	OIL SEPARATOR		1	

PARTS LIST (non-RoHS compliant)

MXY-4A38VA -P1

14-2. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS



PARTS LIST (non-RoHS compliant)

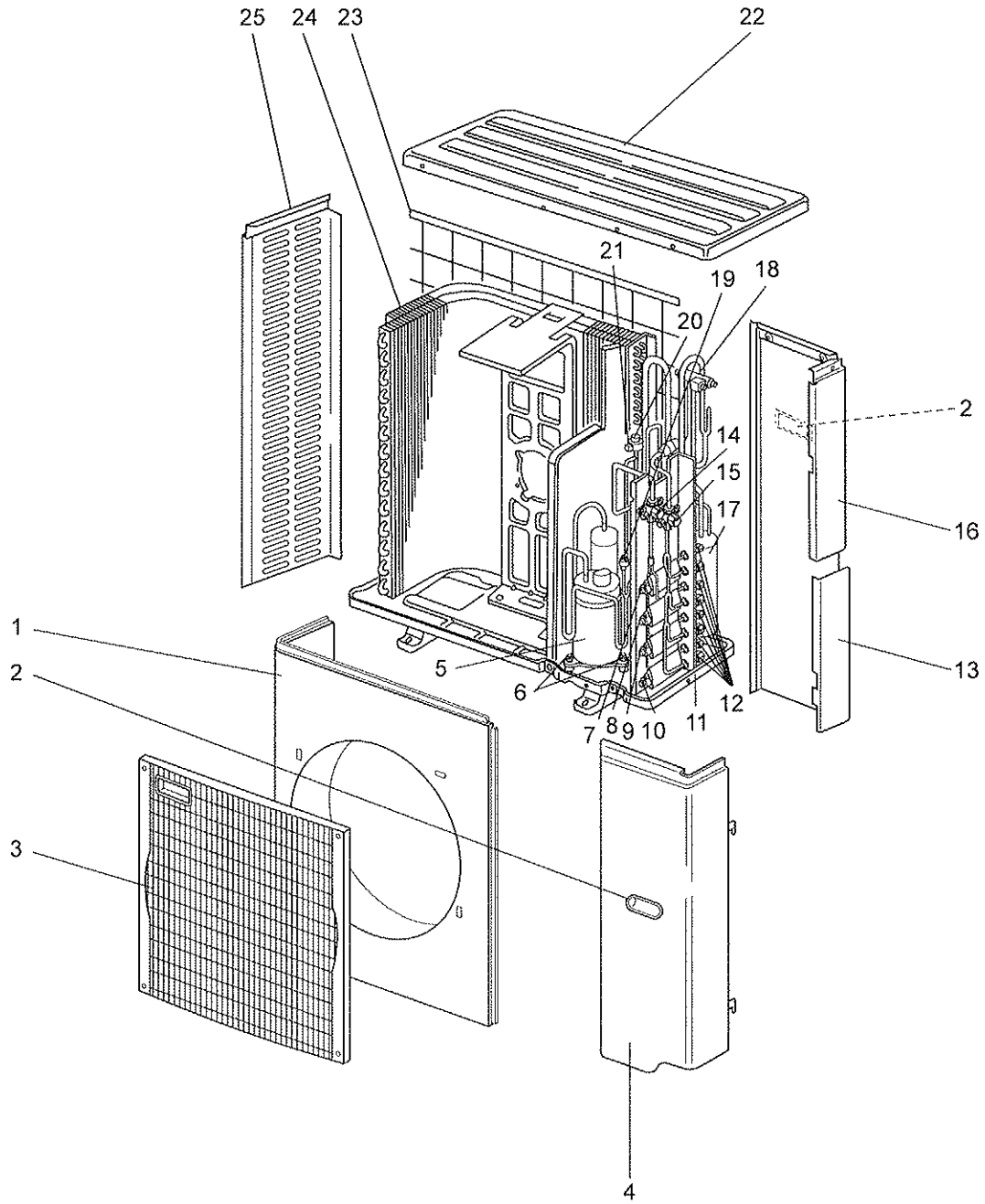
MXY-4A38VA -P1
14-2. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS

No.	Part No.	Part Name	Symbol in Wiring Diagram	Q'ty/unit	Remarks
				MXY-4A38VA-P1	
1	M21 TK0 501	PROPELLER		1	
2	M21 TK0 301	OUTDOOR FAN MOTOR	MF	1	PM8H60- □□
3	T2W YH1 440	POWER BOARD		1	Including heat sink and RT64
4	T2W E1K 451	ELECTRONIC CONTROL P.C. BOARD		1	
5	M21 TK0 337	REACTOR	L	1	20A 600μH
6	T2W E1K 424	NOISE FILTER P.C. BOARD		1	
7	T2W YH1 376	TERMINAL BLOCK	TB2~5	4	Indoor unit connecting
8	T2W E64 376	TERMINAL BLOCK	TB1	1	Power supply
9	T2W E70 307	GAS PIPE TEMPERATURE THERMISTOR	RT6A,B,C,D	1	
10	T2W L8V 308	THERMISTOR SET	RT62,68	1	DISCHARGE OUTDOOR HEAT EXCHANGER
11	M21 L2Y 309	AMBIENT TEMPERATURE THERMISTOR	RT65	1	

15 RoHS PARTS LIST (RoHS compliant)

MXY-4A38VA -P1

15-1. OUTDOOR UNIT STRUCTURAL PARTS AND FUNCTIONAL PARTS



RoHS PARTS LIST (RoHS compliant)

MXY-4A38VA -P1

15-1. OUTDOOR UNIT STRUCTURAL PARTS AND FUNCTIONAL PARTS

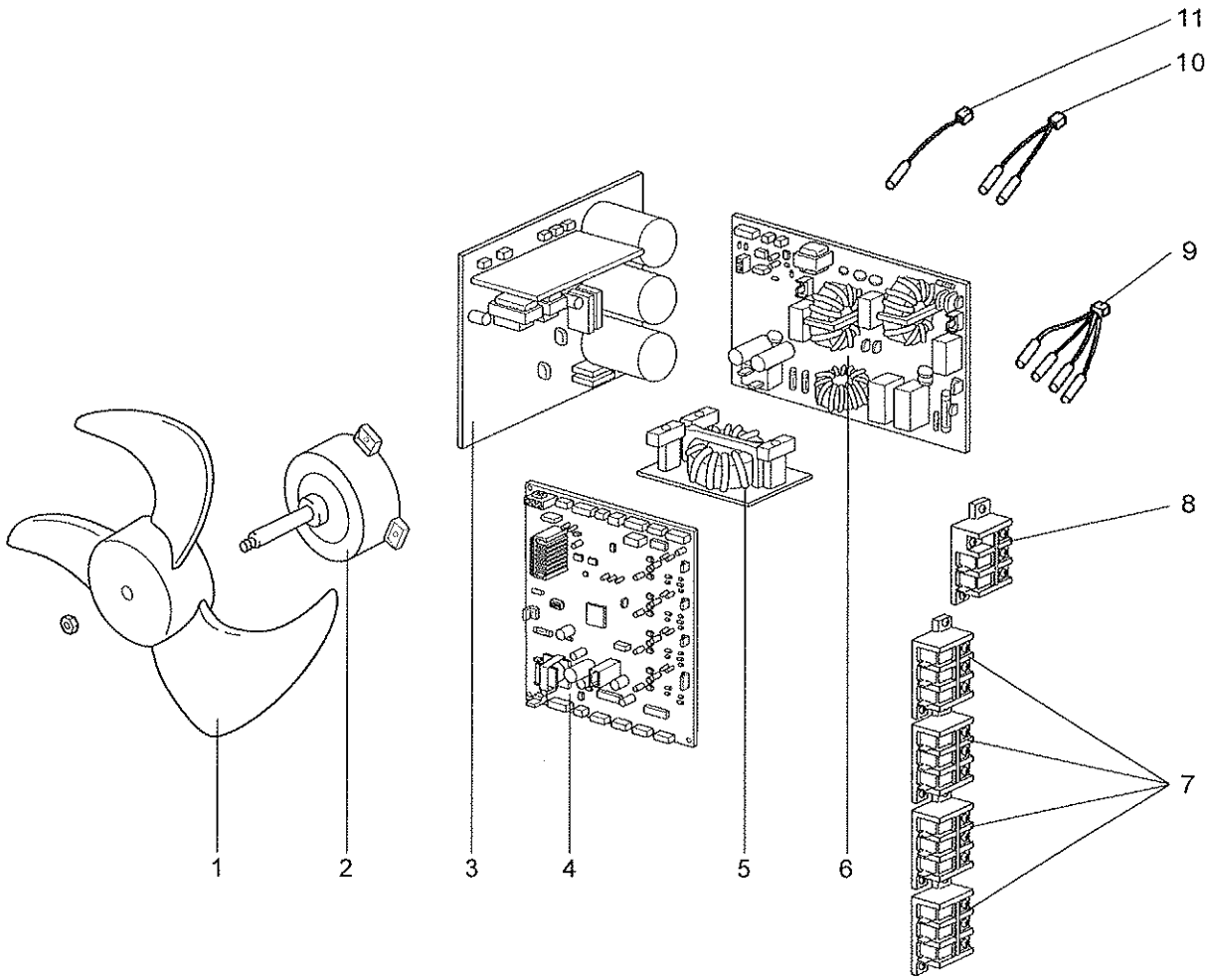
Part numbers that are circled are not shown in the illustration.

No.	RoSH	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty/unit	Remarks
					MXY-4A38VA-P1	
1	G	M21 L8V 232	FRONT PANEL		1	
2	G	M21 L2V 027	HANDLE ASSEMBLY		2	
3	G	M21 L2V 010	GRILLE		1	
4	G	M21 L8V 245	SERVICE PANEL		1	
5	G	T92 505 801	COMPRESSOR	MC	1	TNB220FMCH
6	G	M21 L2V 505	COMPRESSOR RUBBER SET		3	3 RUBBERS SET
7	G	M21 L2V 401	EXPANSION VALVE		1	D room
	G	M21 L2V 654	LEV COIL	LEV D	1	D room
8	G	M21 L2V 401	EXPANSION VALVE		1	C room
	G	M21 L2V 653	LEV COIL	LEV C	1	C room
9	G	M21 L2V 401	EXPANSION VALVE		1	B room
	G	M21 L2V 652	LEV COIL	LEV B	1	B room
10	G	M21 L2V 401	EXPANSION VALVE		1	A room
	G	M21 L2V 651	LEV COIL	LEV A	1	A room
11	G	M21 L8V 290	BASE ASSEMBLY		1	
12	G	M21 L2V 644	UNION		1	ϕ12.7, ϕ9.52, ϕ6.35 SET
13	G	M21 L8V 247	PIPE COVER		1	
14	G	M21 L2V 667	BALL VALVE (LIQUID) 3/8		1	ϕ9.52
15	G	M21 L2V 668	BALL VALVE (GAS) 5/8		1	ϕ15.88
16	G	T2W L8V 248	REAR PANEL		1	
17	G	M21 L2V 959	POWER RECEIVER		1	
18	G	M21 L2V 642	4-WAY VALVE		1	
19	G	M21 L2V 646	HIGH PRESSURE SWITCH	HPS	1	4.8 MPa (48.9 kg/cm^2)
20	G	M21 L2V 402	EXPANSION VALVE		1	E
21	G	M21 L2V 651	LEV COIL	LEV E	1	
22	G	M21 L2V 297	TOP PANEL		1	
23	G	M21 L2V 523	REAR GUARD		1	
24	G	M21 L2V 630	HEAT EXCHANGER		1	
25	G	M21 L8V 249	SIDE PANEL		1	
(26)	G	M21 L2V 937	CAPILLARY TUBE		2	ϕ4.0 x ϕ2.4 x 400
(27)	G	M21 L2V 936	CAPILLARY TUBE		4	ϕ4.0 x ϕ2.8 x 90
(28)	G	M21 L2V 938	CAPILLARY TUBE		1	ϕ2.5 x ϕ0.6 x 1000
(29)	G	M21 L2V 656	OIL SEPARATOR		1	

RoHS PARTS LIST (RoHS compliant)

MXY-4A38VA -P1

15-2. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS



RoHS PARTS LIST (RoHS compliant)

MXY-4A38VA -P1

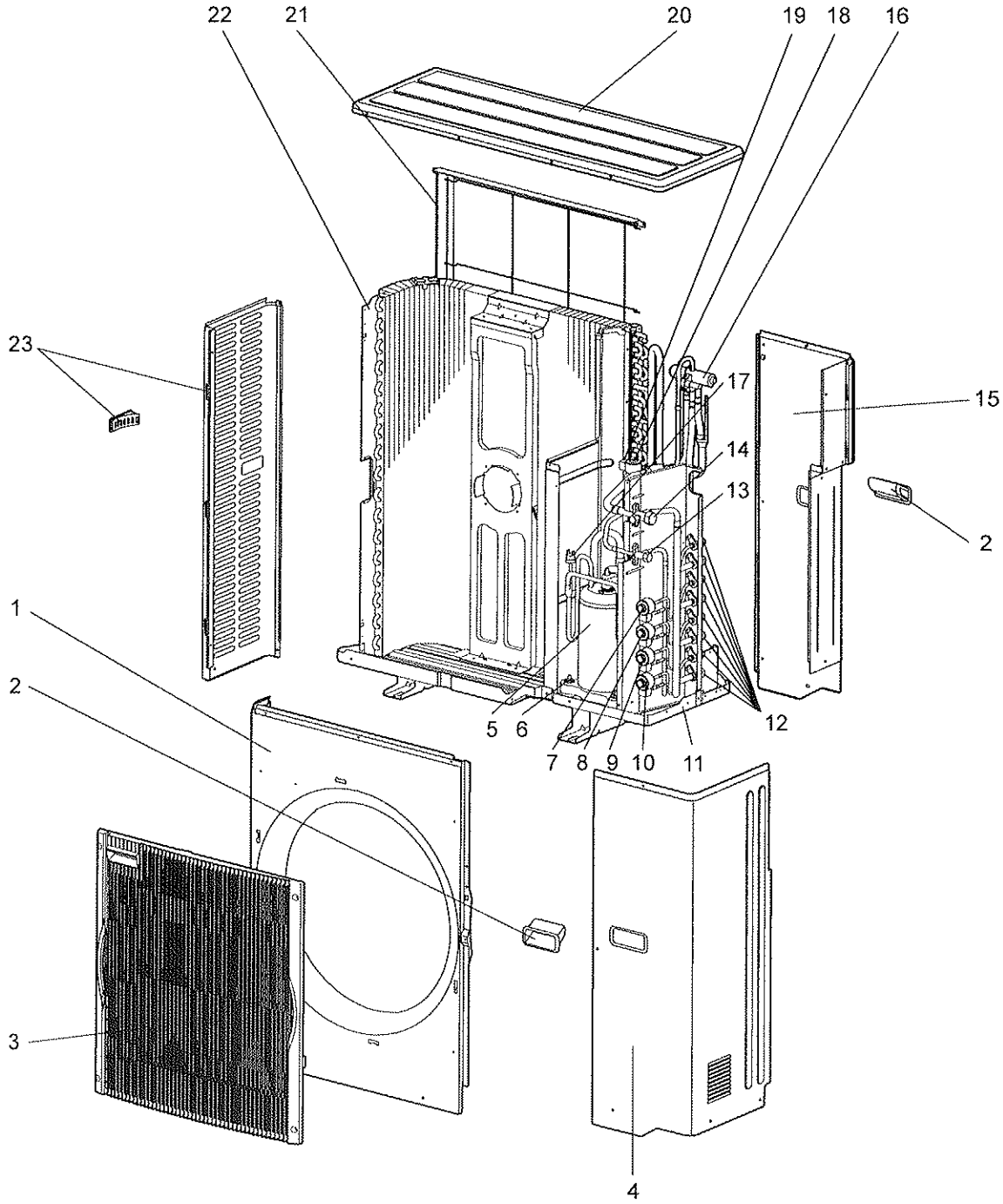
15-2. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS

No.	RoSH	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty/unit	Remarks
					MXY-4A38VA-P1	
1	G	M21 L2V 501	PROPELLER		1	
2	G	M21 L2V 301	OUTDOOR FAN MOTOR	MF	1	PM8H60- □□
3	G	T2W L2V 440	POWER BOARD		1	Including heat sink and RT64
4	G	T2W L8V 451	ELECTRONIC CONTROL P.C. BOARD		1	
5	G	M21 L2V 337	REACTOR	L	1	20A 600μH
6	G	T2W L8V 424	NOISE FILTER P.C. BOARD		1	
7	G	T2W L2V 376	TERMINAL BLOCK	TB2~5	4	Indoor unit connecting
8	G	T2W L2V 377	TERMINAL BLOCK	TB1	1	Power supply
9	G	M21 L2V 307	GAS PIPE TEMPERATURE THERMISTOR	RT6A,B,C,D	1	
10	G	T2W L8V 308	THERMISTOR SET	RT62,68	1	DISCHARGE OUTDOOR HEAT EXCHANGER
11	G	M21 L2V 309	AMBIENT TEMPERATURE THERMISTOR	RT65	1	

RoHS PARTS LIST (RoHS compliant)

MXY-4A38VA - P2, P3

15-3. OUTDOOR UNIT STRUCTURAL PARTS AND FUNCTIONAL PARTS



RoHS PARTS LIST (RoHS compliant)

MXY-4A38VA - P2, P3

15-3. OUTDOOR UNIT STRUCTURAL PARTS AND FUNCTIONAL PARTS

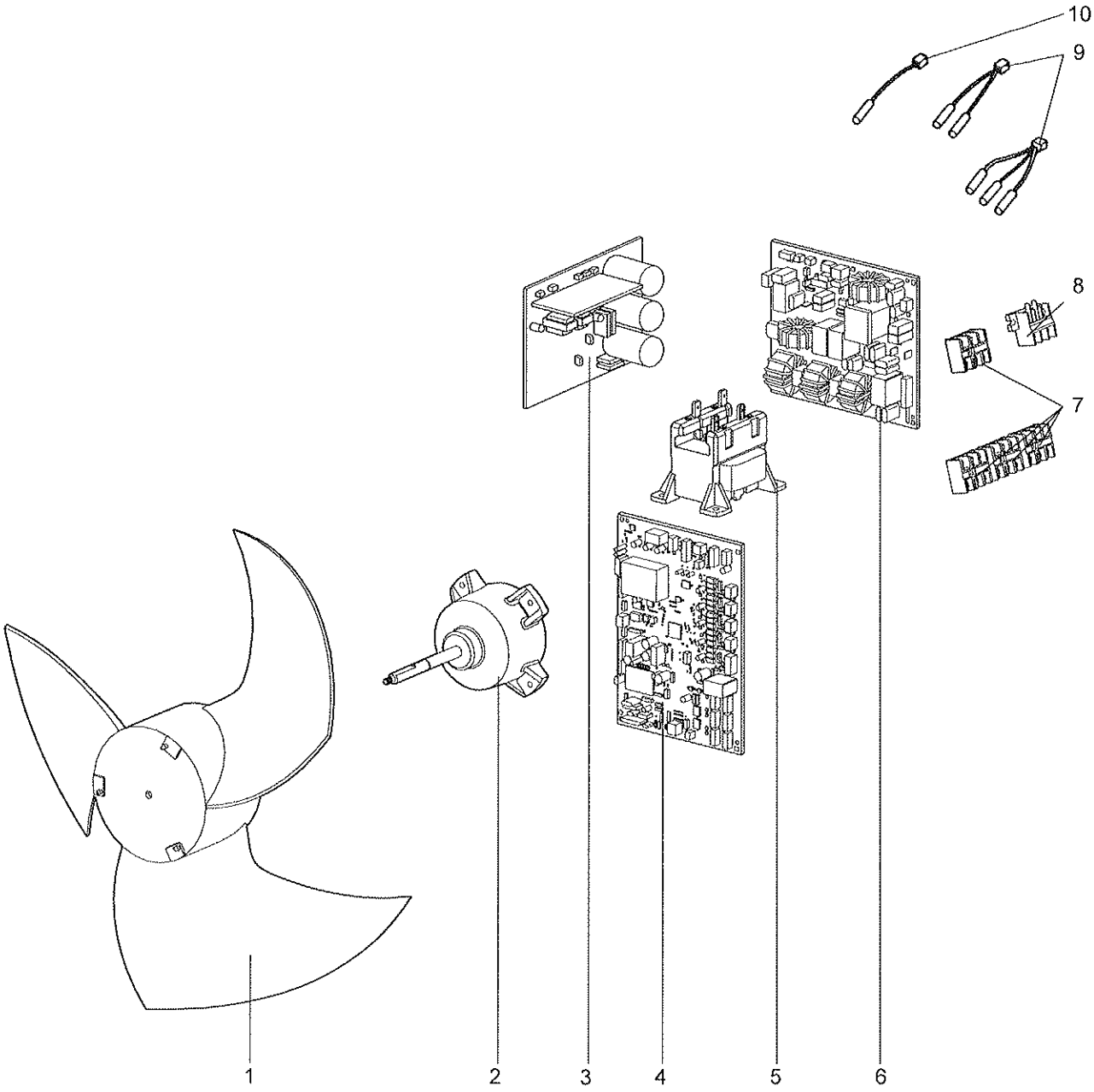
Part numbers that are circled are not shown in the illustration.

No.	RoSH	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty/unit		Remarks
					MXY-4A38VA-P2	MXY-4A38VA-P3	
1	G	M21 0A4 232	FRONT PANEL		1	1	
2	G	M21 0A2 027	HANDLE ASSEMBLY		2	2	
3	G	M21 L2V 010	GRILLE		1	1	
4	G	M21 0A4 245	SERVICE PANEL		1	1	
5	G	T92 505 801	COMPRESSOR	MC	1	1	TNB220FMCH
6	G	M21 L2V 505	COMPRESSOR RUBBER SET		3	3	3 RUBBERS SET
	G	M21 L2V 401	EXPANSION VALVE		1	1	D room
7	G	M21 L2V 654	LEV COIL	LEV D	1		D room
	G	M21 9T4 654	LEV COIL	LEV D		1	D room
	G	M21 L2V 401	EXPANSION VALVE		1	1	C room
8	G	M21 L2V 653	LEV COIL	LEV C	1		C room
	G	M21 9T4 653	LEV COIL	LEV C		1	C room
	G	M21 L2V 401	EXPANSION VALVE		1	1	B room
9	G	M21 L2V 652	LEV COIL	LEV B	1		B room
	G	M21 9T4 652	LEV COIL	LEV B		1	B room
	G	M21 L2V 401	EXPANSION VALVE		1	1	A room
10	G	M21 L2V 651	LEV COIL	LEV A	1		A room
	G	M21 9T4 651	LEV COIL	LEV A		1	A room
11	G	M21 0A4 290	BASE ASSEMBLY		1	1	
12	G	M21 0A2 644	UNION		1	1	ϕ12.7, ϕ9.52, ϕ6.35 SET
13	G	M21 4N9 668	STOP VALVE (LIQUID) 3/8		1	1	ϕ9.52
14	G	M21 4N0 667	STOP VALVE (GAS) 5/8		1	1	ϕ15.88
15	G	M21 0A4 248	REAR PANEL		1	1	
16	G	M21 L2V 642	4-WAY VALVE		1	1	
17	G	M21 L2V 646	HIGH PRESSURE SWITCH	HPS	1	1	4.8 MPa(48.9 kg/cm^2)
18	G	M21 L2V 402	EXPANSION VALVE		1	1	
19	G	M21 0A2 652	LEV COIL	LEV F	1		F
	G	M21 9T6 651	LEV COIL	LEV F		1	F
20	G	M21 L2V 297	TOP PANEL		1	1	
21	G	M21 0A2 523	REAR GUARD		1	1	
22	G	M21 0A3 630	HEAT EXCHANGER		1	1	
23	G	M21 L8V 249	SIDE PANEL		1	1	Including a handle
(24)	G	M21 EA0 959	POWER RECEIVER		1	1	
(25)	G	M21 0A2 937	CAPILLARY TUBE		2	2	ϕ3.0 x ϕ2.0 x 300
(26)	G	M21 0A2 936	CAPILLARY TUBE		4	4	ϕ4.0 x ϕ2.8 x 100
(27)	G	M21 L2V 938	CAPILLARY TUBE		1	1	ϕ2.5 x ϕ0.6 x 1000
(28)	G	M21 L2V 656	OIL SEPARATOR		1	1	

RoHS PARTS LIST (RoHS compliant)

MXY-4A38VA - P2, P3

15-4. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS



RoHS PARTS LIST (RoHS compliant)

MXY-4A38VA - P2, P3

15-4. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS

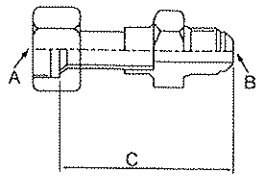
No.	RoSH	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty/unit		Remarks
					MXY-4A38VA-P2	MXY-4A38VA-P3	
1	G	M21 L2V 501	PROPELLER		1	1	
2	G	M21 L2V 301	OUTDOOR FAN MOTOR	MF	1		PM8H60-□□
	G	T2W 3K5 301	OUTDOOR FAN MOTOR	MF		1	RC0J60-□□
3	G	M21 9T4 440	POWER BOARD		1	1	Including heat sink and RT64
4	G	T2W 4K5 451	ELECTRONIC CONTROL P.C. BOARD		1	1	
5	G	M21 9T7 337	REACTOR	L	1	1	20A 600μH
6	G	T2W 0A4 424	NOISE FILTER P.C. BOARD		1	1	
7	G	T2W 0A2 376	TERMINAL BLOCK	TB2~5	4	4	Indoor unit connecting
8	G	T2W L2V 377	TERMINAL BLOCK	TB1	1		Power supply
	G	T2W 9T4 377	TERMINAL BLOCK	TB1		1	Power supply
9	G	T2W L8V 308	THERMISTOR SET	RT62,68	1		DISCHARGE, OUTDOOR HEAT EXCHANGER
	G	M21 L2V 308	THERMISTOR SET	RT61,62,68		1	DISCHARGE, DEFROST, OUTDOOR HEAT EXCHANGER
10	G	M21 0A2 309	AMBIENT TEMPERATURE THERMISTOR	RT65	1	1	

16 OPTIONAL PARTS

16-1. DIFFERENT-DIAMETER PIPE

MXY-4A38VA	Model name	Connected pipes diameter	Diameter A	Diameter B	Length C
For different-diameter pipes	MAC-A454JP	ϕ9.52 — ϕ12.7 (3/8) (1/2)	ϕ9.52 (3/8)	ϕ12.7 (1/2)	69
	MAC-A455JP	ϕ12.7 — ϕ9.52 (1/2) (3/8)	ϕ12.7 (1/2)	ϕ9.52 (3/8)	65
	MAC-A456JP	ϕ12.7 — ϕ15.88 (1/2) (5/8)	ϕ12.7 (1/2)	ϕ15.88 (5/8)	66.5
	PAC-493PI	ϕ6.35 — ϕ9.52 (1/4) (3/8)	ϕ6.35 (1/4)	ϕ9.52 (3/8)	60.5
	PAC-SG76RJ-E	ϕ9.52 — ϕ15.88 (3/8) (5/8)	ϕ9.52 (1/2)	ϕ15.88 (5/8)	101.5

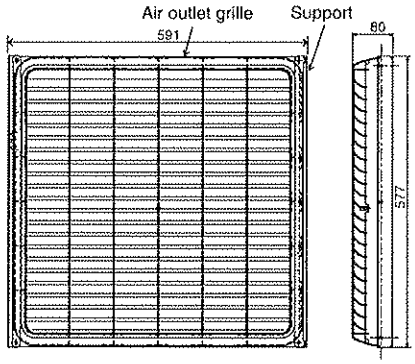
Unit: mm (inch)



16-2. OUTLET GUIDE

Changes air discharge direction.

Applied unit	Model name	Model code
MXY-4A38VA	MAC-856SG	51H-856



MAC-856SG

MITSUBISHI ELECTRIC CORPORATION

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