

OUTDOOR UNIT

SERVICE MANUAL



No. OBH469

Wireless type
Models

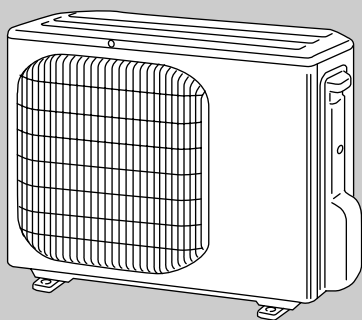
MUZ-GC25VA - E1

MUZ-GC25VAH - E1

MUZ-GC35VA - E1

MUZ-GC35VAH - E1

Indoor unit service manual
MSZ-GC•VA Series (OBH468)



MUZ-GC25VA
MUZ-GC25VAH

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PARTS CATALOG (OBB469)

NOTE:
RoHS compliant products have <G> mark on the spec name plate.



1 TECHNICAL CHANGES

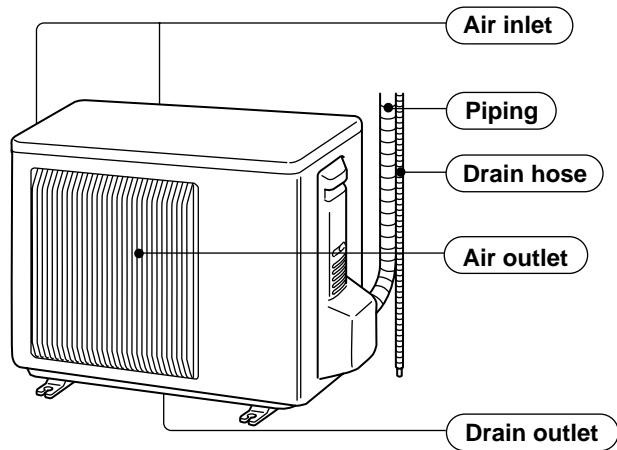
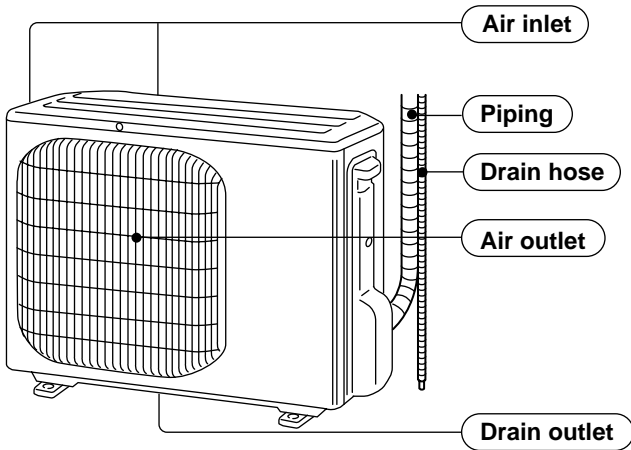
- MUZ-GA25VA -[E3] → MUZ-GC25VA -[E1]
- MUZ-GA25VAH -[E3] → MUZ-GC25VAH -[E1]
- MUZ-GA35VA -[E3] → MUZ-GC35VA -[E1]
- MUZ-GA35VAH -[E3] → MUZ-GC35VAH -[E1]

1.Outdoor model has been changed.

2 PART NAMES AND FUNCTIONS

**MUZ-GC25VA
MUZ-GC25VAH**

**MUZ-GC35VA
MUZ-GC35VAH**



ACCESSORIES

| | MUZ-GC25VA | MUZ-GC35VA |
|----------------|------------|------------|
| ① Drain socket | 1 | 1 |

3

SPECIFICATION

| Outdoor model | | | MUZ-GC25VA MUZ-GC25VAH | | MUZ-GC35VA MUZ-GC35VAH | | |
|---|-------------------------------------|-------|---------------------------|---------------|---------------------------|---------------|---|
| Function | | | Cooling | Heating | Cooling | Heating | |
| Power supply | | | Single phase 230V,50Hz | | | | |
| Capacity | Capacity Rated frequency(Min.-Max.) | kW | 2.5 (0.9-3.0) | 3.2 (0.9-4.5) | 3.5 (1.0-3.9) | 4.0 (0.9-5.0) | |
| | Dehumidification | ℓ /h | 1.4 | — | 2.0 | — | |
| | Air flow *1 | m³ /h | 1,812 | 1,788 | 2,010 | 2,082 | |
| Electrical data | Power outlet | A | 10 | | | | |
| | Running current *1(Total) | A | 3.6 | 4.2 | 5.0 | 4.9 | |
| | Power input *1(Total) | W | 665 | 835 | 1,075 | 1,055 | |
| | Power factor *1(Total) | % | 80 | 86 | 93 | 94 | |
| | Starting current *1(Total) | A | 4.2 | | 5.0 | | |
| | Compressor motor current *1 | A | 3.14 | 3.74 | 4.47 | 4.33 | |
| | Fan motor current *1 | A | 0.24 | | 0.31 | 0.35 | |
| Coefficient of performance(C.O.P) *1(Total) | | | 3.76 | 3.83 | 3.26 | 3.79 | |
| Compressor | Model | | KNB065FDTH(C) | | KNB073FEDH or FGDH | | |
| | Output | W | 500 | | 550 | | |
| Fan motor Model | | | RA6V21-AB or BB | | RC0J50-AM | | |
| Dimensions W×H×D | | mm | 684×540×255 | | 800×550×285 | | |
| Weight | | kg | 26 | | 31 | | |
| Special remarks | Sound level *1 | dB(A) | 46 | 47 | 47 | 48 | |
| | Fan speed | rpm | 810 | 800 | 810/750 | 880/810/650 | |
| | Fan speed regulator | | | 1 | | 2 | 3 |
| | Refrigerant filling capacity(R410A) | kg | 0.75 | | 0.85 | | |
| | Refrigeration oil (Model) | | cc | 320 (NEO22) | | | |

NOTE : Test conditions are based on ISO 5151

Cooling : Indoor Dry-bulb temperature 27°C Wet-bulb temperature 19°C

Outdoor Dry-bulb temperature 35°C

Heating : Indoor Dry-bulb temperature 20°C

Outdoor Dry-bulb temperature 7°C Wet-bulb temperature 6°C

Refrigerant piping length (one way): 5m

*1 Measured under rated operating frequency

Specifications and rating conditions of main electric parts

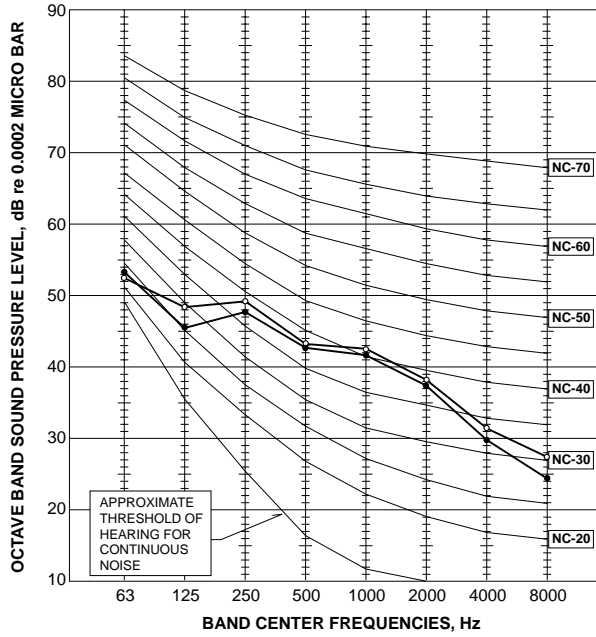
| Item | | Model | MUZ-GC25VA | MUZ-GC25VAH | MUZ-GC35VA | MUZ-GC35VAH |
|---------------------------------|--------------------|-------|--|----------------------|------------------|----------------------|
| Current transformer | (CT) | | 20A | | | |
| | (CT761, CT781) | | — | | 20A | |
| Smoothing capacitor | (C61,C62) | | 500 μ F 420V | | — | |
| | (C63A, C63B, C63C) | | — | | 620 μ F 420V | |
| Diode module | (DB61) | | 15A 600V | | — | |
| | (DB65) | | 10A 600V | | — | |
| | (DB61, DB65) | | — | | 25A 600V | |
| Fuse | (F61) | | T20AL250V | | | |
| | (F701, F801) | | T3.15AL250V | | — | |
| | (F71,F801,F901) | | — | | T3.15AL250V | |
| Defrost heater | (H) | — | 230V 130W | — | 230V 138W | |
| Intelligent power module | (IPM) | | 10A 600V | | 15A 600V | |
| Expansion valve coil | (LEV) | | CAM-MD12ME 12VDC | | | |
| Reactor | (L61) | | 7A 18.0mH | | 10A 23.0mH | |
| Current-detecting resistor | (R61) | | 45m Ω 5W | | | |
| | (R825,R831) | | 25m Ω 5W | | | |
| Current-limiting PTC thermistor | (PTC64) | | 33 Ω | | — | |
| Current-limiting resistor | (R64A, R64B) | | — | | 10 Ω 5W | |
| Terminal block | (TB1,TB2) | | 3P | | | |
| Relay | (X61) | | 2A 240V | | — | |
| | (X63) | | 3A 250V | | | |
| | (X64) | | 20A 250V | | | |
| | (X66) | | — | 3A 250V | — | 3A 250V |
| R.V. coil | (21S4) | | SHF-4-10W5 | | STF-01AJ503 | |
| Heater protector | (26H) | | — | Open 45 $^{\circ}$ C | — | Open 45 $^{\circ}$ C |
| Outdoor fan motor thermal fuse | | | Open 152 $^{\circ}$ C (RA6V21-AB) or Open 126 $^{\circ}$ C (RA6V21-BB) | | — | |
| IGBT | (TR821) | | 3A 600V | | | |

4

NOISE CRITERIA CURVES

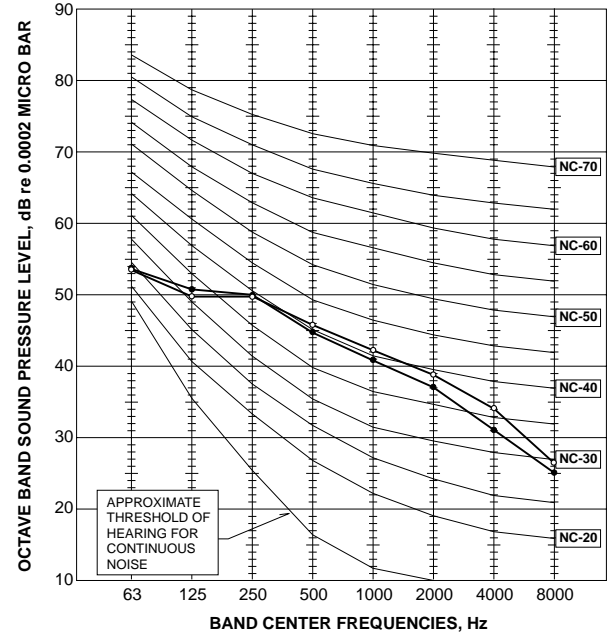
MUZ-GC25VA MUZ-GC25VAH

| FUNCTION | SPL(dB(A)) | LINE |
|----------|------------|------|
| COOLING | 46 | ●—● |
| HEATING | 47 | ○—○ |



MUZ-GC35VA MUZ-GC35VAH

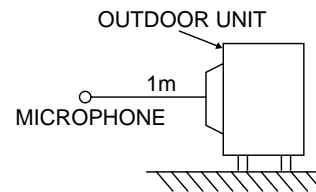
| FUNCTION | SPL(dB(A)) | LINE |
|----------|------------|------|
| COOLING | 47 | ●—● |
| HEATING | 48 | ○—○ |



Test conditions

Cooling : Dry-bulb temperature 35°C

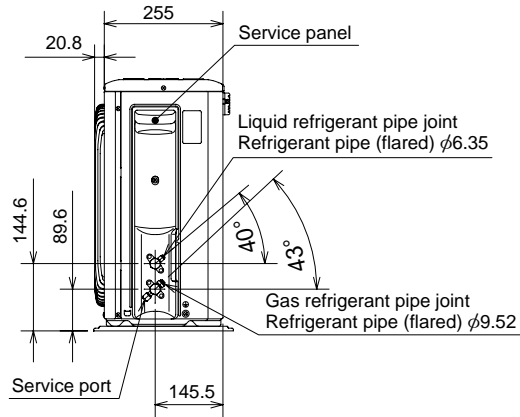
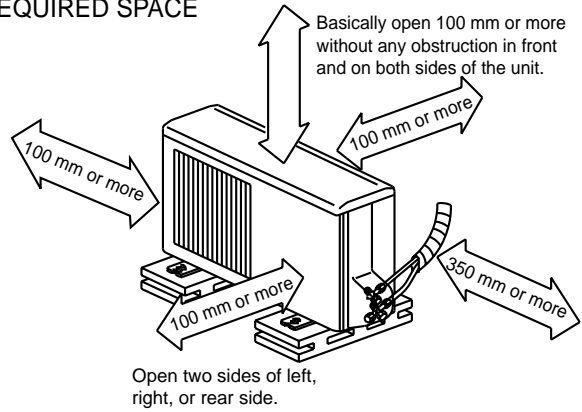
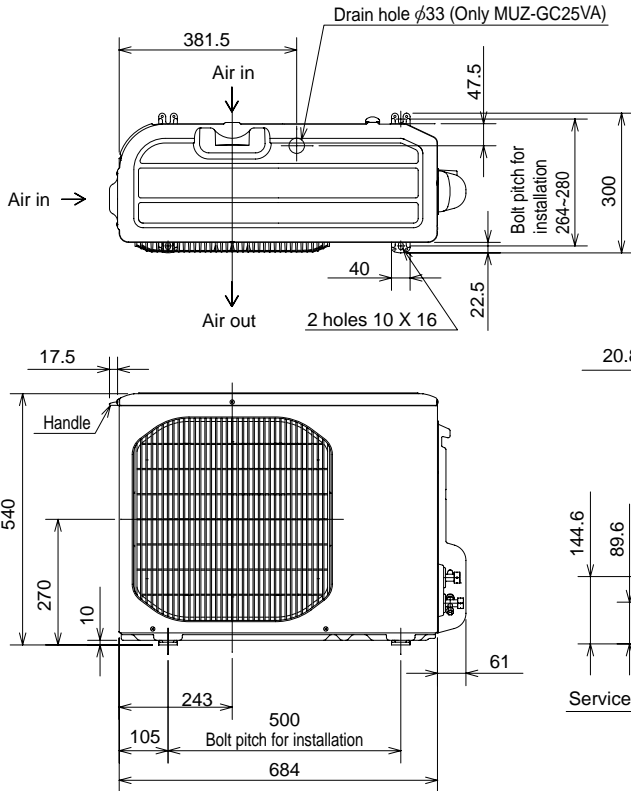
Heating : Dry-bulb temperature 7°C Wet-bulb temperature 6°C



**MUZ-GC25VA
MUZ-GC25VAH**

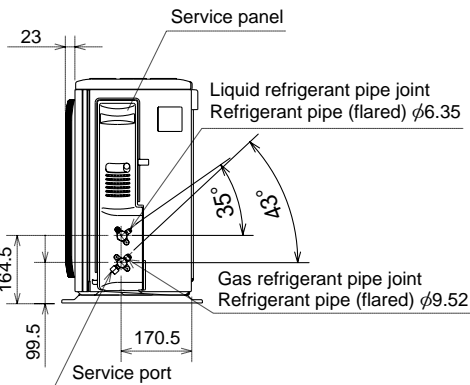
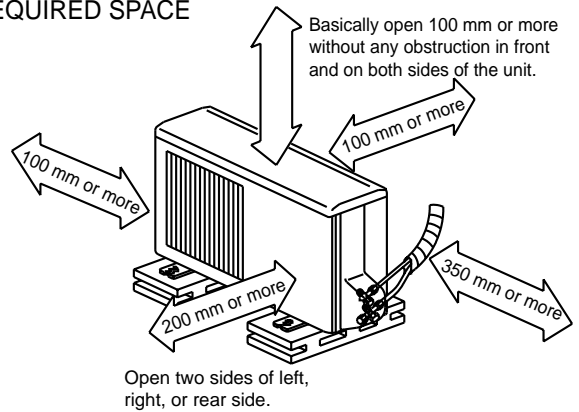
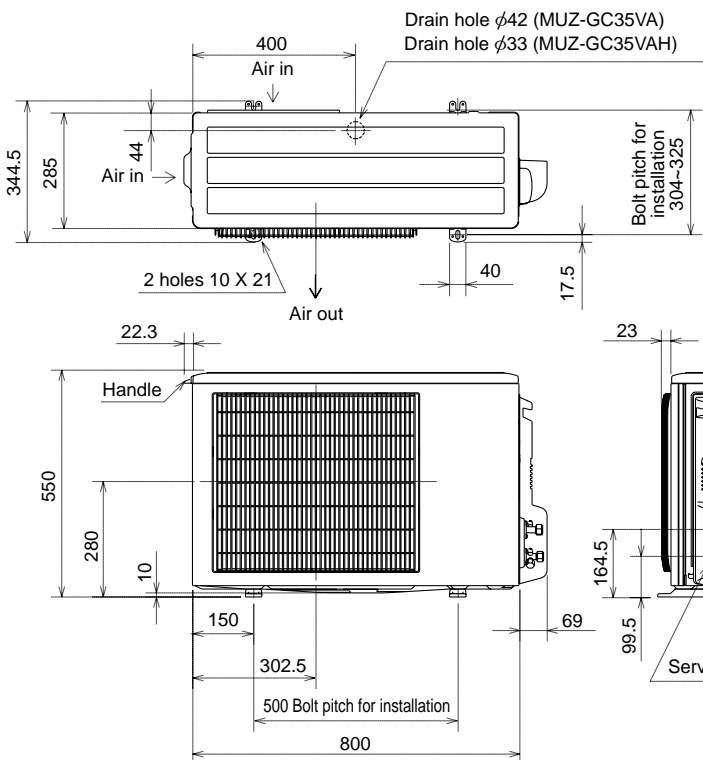
Unit: mm

REQUIRED SPACE

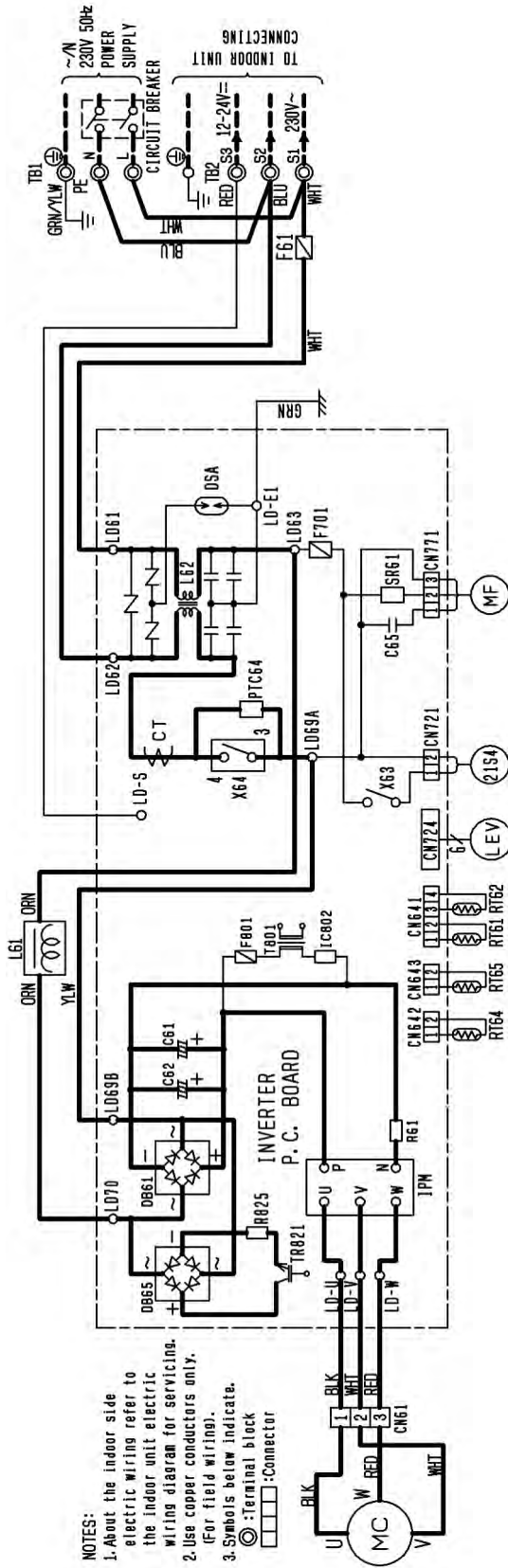


**MUZ-GC35VA
MUZ-GC35VAH**

REQUIRED SPACE



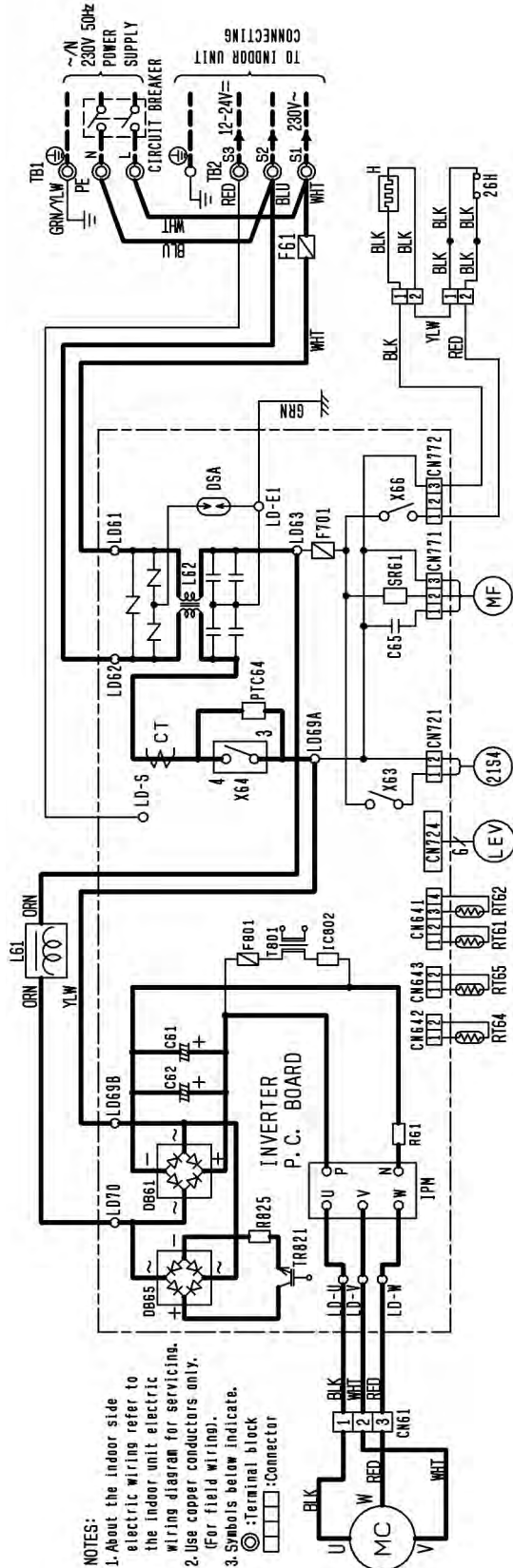
MUZ-GC25VA



- 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

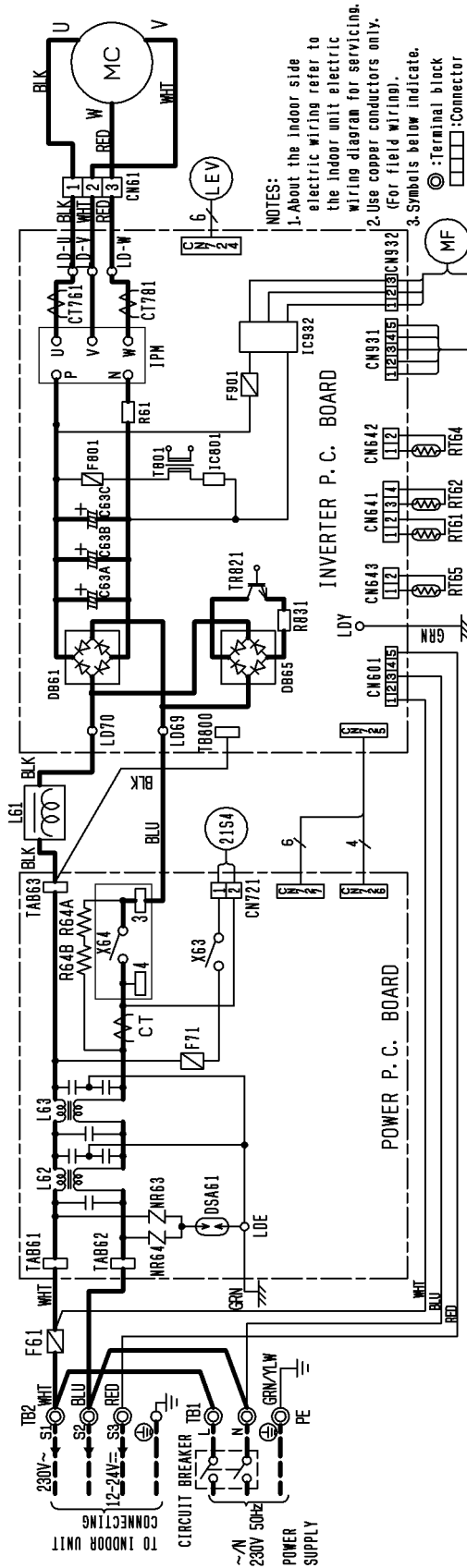
| SYMBOL | NAME | SYMBOL | NAME | SYMBOL | NAME |
|------------|--------------------------|--------|----------------------------|-----------|----------------------------|
| CT | CURRENT TRANSFORMER | LEV | EXPANSION VALVE COIL | RT65 | AMBIENT TEMP. THERMISTOR |
| C61, C62 | SMOOTHING CAPACITOR | L61 | REACTOR | R61, R825 | CURRENT-DETECTING RESISTOR |
| C65 | FAN MOTOR CAPACITOR | L62 | CMC COIL | SR61 | SOLID STATE RELAY |
| DB61, DB65 | DIODE MODULE | MC | COMPRESSOR | TB1, TB2 | TERMINAL BLOCK |
| DSA | SURGE ABSORBER | MF | FAN MOTOR (INNER FUSE) | TR821 | SWITCHING POWER TRANSISTOR |
| F61 | FUSE (T20AL250V) | PTC64 | CIRCUIT PROTECTION | T801 | TRANSFORMER |
| F701, F801 | FUSE (T3.15AL250V) | RT61 | DEFROST THERMISTOR | X63, X64 | REVERSING VALVE COIL RELAY |
| IC802 | INTELLIGENT POWER DEVICE | RT62 | DISCHARGE TEMP. THERMISTOR | 21S4 | REVERSING VALVE COIL |
| IPM | INTELLIGENT POWER MODULE | RT64 | FIN TEMP. THERMISTOR | | |

MUZ-GC25VAH



| SYMBOL | NAME | SYMBOL | NAME | SYMBOL | NAME |
|------------|--------------------------|--------|----------------------------|---------------|----------------------------|
| CT | CURRENT TRANSFORMER | LEV | EXPANSION VALVE COIL | R61, R825 | CURRENT-DETECTING RESISTOR |
| CG1, CG2 | SMOOTHING CAPACITOR | L61 | REACTOR | SR61 | SOLID STATE RELAY |
| CG5 | FAN MOTOR CAPACITOR | L62 | CMC COIL | TB1, TB2 | TERMINAL BLOCK |
| DB61, DB65 | DIODE MODULE | MC | COMPRESSOR | TR821 | SWITCHING POWER TRANSISTOR |
| DSA | SURGE ABSORBER | MF | FAN MOTOR (INNER FUSE) | T801 | TRANSFORMER |
| F61 | FUSE (T20AL250V) | PTC64 | CIRCUIT PROTECTION | X63, X64, X66 | RELAY |
| F701, F801 | FUSE (T3.15AL250V) | RT61 | DEFROST THERMISTOR | 21S4 | REVERSING VALVE COIL |
| H | DEFROST HEATER | RT62 | DISCHARGE TEMP. THERMISTOR | 26H | HEATER PROTECTOR |
| IC802 | INTELLIGENT POWER DEVICE | RT64 | FIN TEMP. THERMISTOR | | |
| IPM | INTELLIGENT POWER MODULE | RT65 | AMBIENT TEMP. THERMISTOR | | |

MUZ-GC35VA

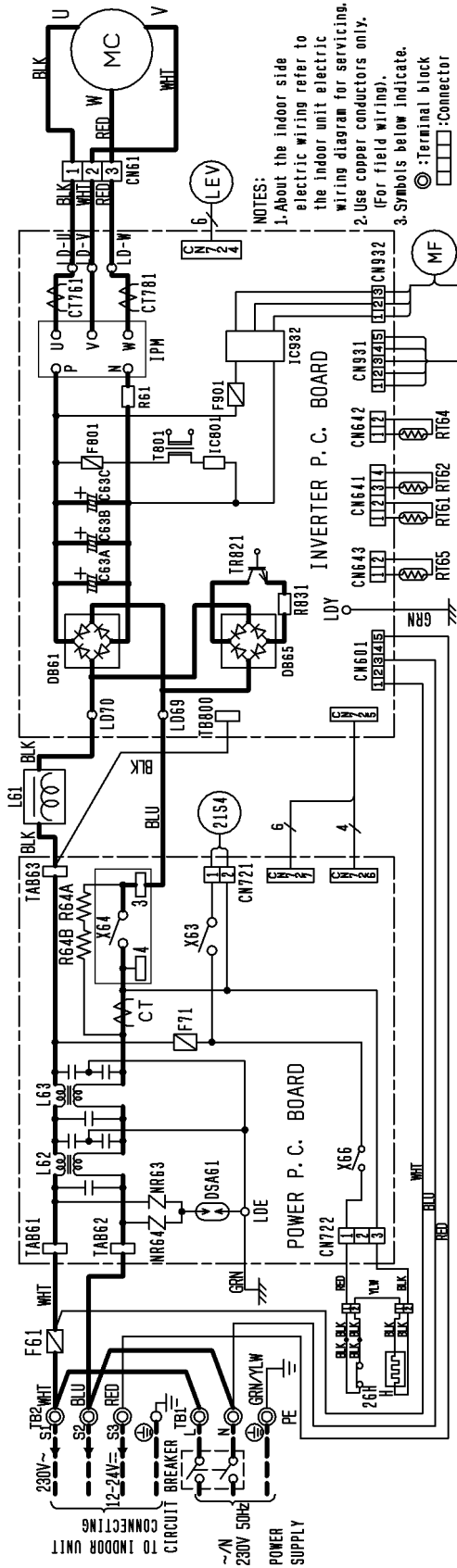


- NOTES:
1. About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
 2. Use copper conductors only.
 3. Symbols below indicate.

⊙ : Terminal block
 □ : Connector

| SYMBOL | NAME | SYMBOL | NAME | SYMBOL | NAME |
|------------------|--------------------------|------------|----------------------------|------------|----------------------------|
| CT, C7761, C7762 | CURRENT TRANSFORMER | LEV | EXPANSION VALVE COIL | RT65 | AMBIENT TEMP. THERMISTOR |
| C63A, C63B, C63C | SMOOTHING CAPACITOR | L61 | REACTOR | R61, R831 | CURRENT-DETECTING RESISTOR |
| DB61, DB65 | DIODE MODULE | L62, L63 | CNC COIL | R64A, R64B | CURRENT-LIMITING RESISTOR |
| DS461 | SURGE ABSORBER | MC | COMPRESSOR | TB1, TB2 | TERMINAL BLOCK |
| F61 | FUSE (T20AL250V) | MF | FAN MOTOR | TR821 | SWITCHING POWER TRANSISTOR |
| F71 | FUSE (T3.15AL250V) | NR63, NR64 | VARISTOR | T801 | TRANSFORMER |
| F801, F901 | FUSE (T3.15AL250V) | RT61 | DEFROST THERMISTOR | X63, X64 | RELAY |
| IC801 | INTELLIGENT POWER DEVICE | RT62 | DISCHARGE TEMP. THERMISTOR | 21S4 | REVERSING VALVE COIL |
| IPM, IC932 | INTELLIGENT POWER MODULE | RT64 | F IN TEMP. THERMISTOR | | |

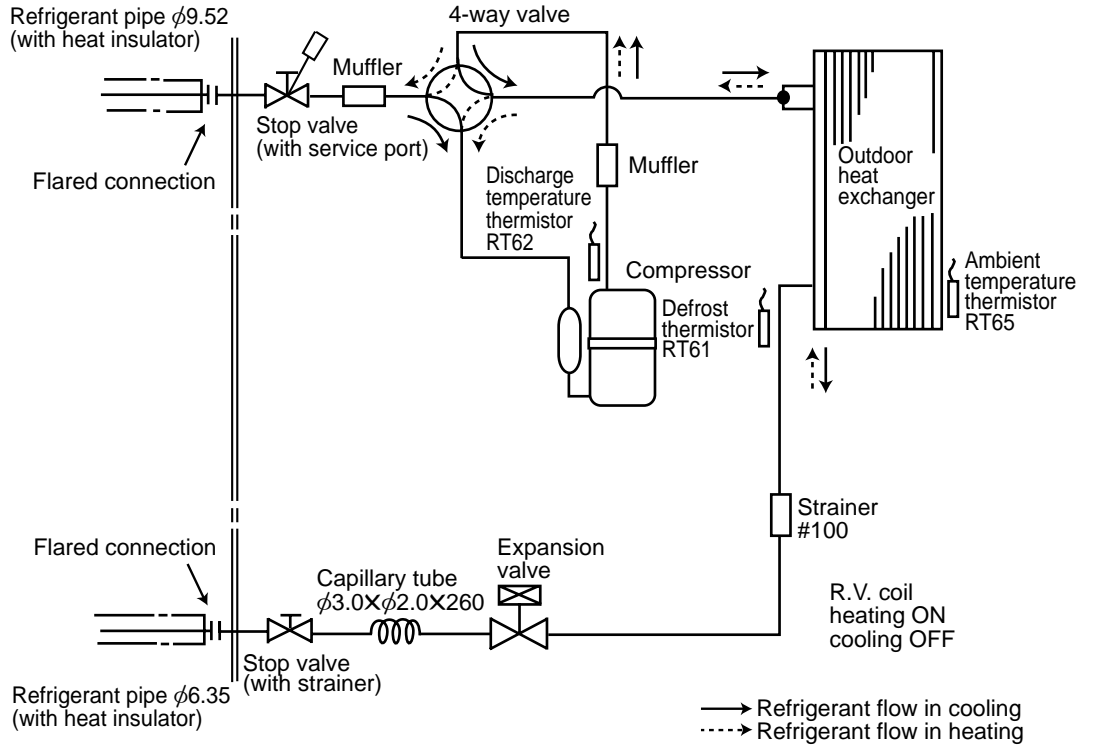
MUZ-GC35VAH



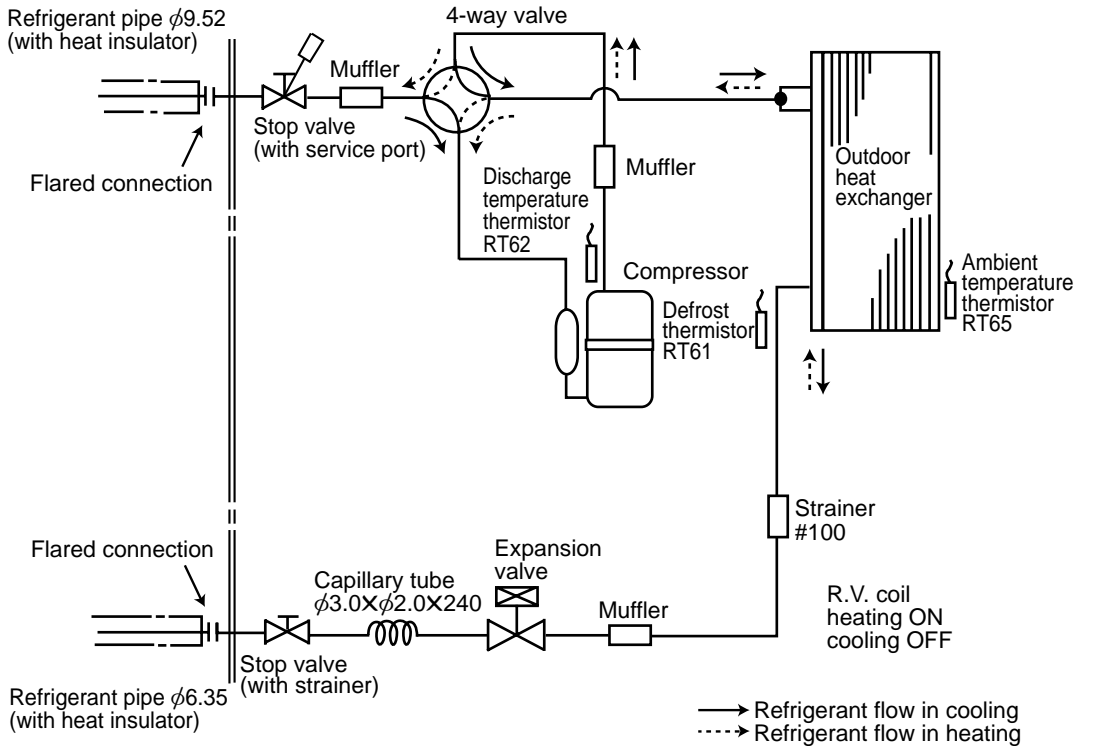
| SYMBOL | NAME | SYMBOL | NAME | SYMBOL | NAME |
|------------------|--------------------------|------------|----------------------------|---------------|----------------------------|
| CT, C1761, C1781 | CURRENT TRANSFORMER | LEV | EXPANSION VALVE COIL | R61, R831 | CURRENT-DETECTING RESISTOR |
| C63A, C63B, C63C | SMOOTHING CAPACITOR | L61 | REACTOR | R64A, R64B | CURRENT-LIMITING RESISTOR |
| DB61, DB65 | DIODE MODULE | L62, L63 | CMC COIL | TB1, TB2 | TERMINAL BLOCK |
| DSAG1 | SURGE ABSORBER | MC | COMPRESSOR | TR821 | SWITCHING POWER TRANSISTOR |
| F61 | FUSE (T20AL250V) | MF | FAN MOTOR | T801 | TRANSFORMER |
| F71 | FUSE (T3.15AL250V) | NR63, NR64 | VARIABLE | X63, X64, X66 | RELAY |
| F801, F901 | FUSE (T3.15AL250V) | RT61 | DEFROST THERMISTOR | 21S4 | REVERSING VALVE COIL |
| H | DEFROST HEATER | RT62 | DISCHARGE TEMP. THERMISTOR | 26H | HEATER PROTECTOR |
| IC801 | INTELLIGENT POWER DEVICE | RT64 | FIN TEMP. THERMISTOR | | |
| IPM, IC932 | INTELLIGENT POWER MODULE | RT65 | AMBIENT TEMP. THERMISTOR | | |

MUZ-GC25VA
MUZ-GC25VAH

Unit:mm

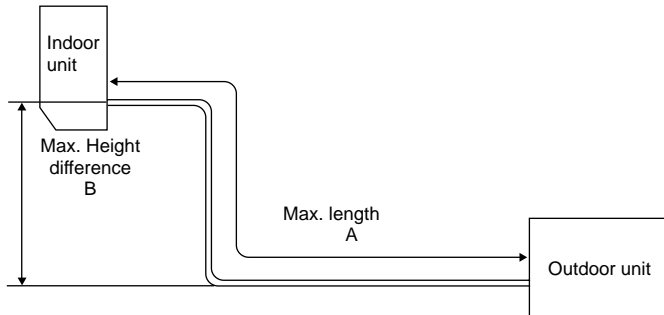


MUZ-GC35VA
MUZ-GC35VAH



MAX. REFRIGERANT PIPING LENGTH and MAX. HEIGHT DIFFERENCE

| Model | Refrigerant piping : m | | Piping size O.D : mm | |
|---|------------------------|------------------------|----------------------|--------|
| | Max. length | Max. Height difference | Gas | Liquid |
| | A | B | | |
| MUZ-GC25VA MUZ-GC25VAH | 20 | 12 | 9.52 | 6.35 |
| MUZ-GC35VA MUZ-GC35VAH | | | | |



ADDITIONAL REFRIGERANT CHARGE (R410A:g)

| Model | Outdoor unit precharged | Refrigerant piping length (one way) | | | | | | | | | | | |
|--------------------|-------------------------|-------------------------------------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | 5m | 6m | 7m | 8m | 9m | 10m | 11m | 12m | 13m | 14m | 15m | 20m |
| MUZ-GC25VA | 750 | 0 | 0 | 0 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 450 |
| MUZ-GC25VAH | | | | | | | | | | | | | |
| MUZ-GC35VA | 850 | 0 | 0 | 0 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 450 |
| MUZ-GC35VAH | | | | | | | | | | | | | |

Calculation : $Xg=30 \text{ g/m} \times (\text{Refrigerant piping length (m)}-5)$

NOTE: Refrigerant piping exceeding 7 m requires additional refrigerant charge according to the calculation.

MUZ-GC25VA MUZ-GC35VA MUZ-GC25VAH MUZ-GC35VAH

The standard data contained in these 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 ~ 264V, 50Hz

(2) AIR FLOW

Air flow should be set at MAX.

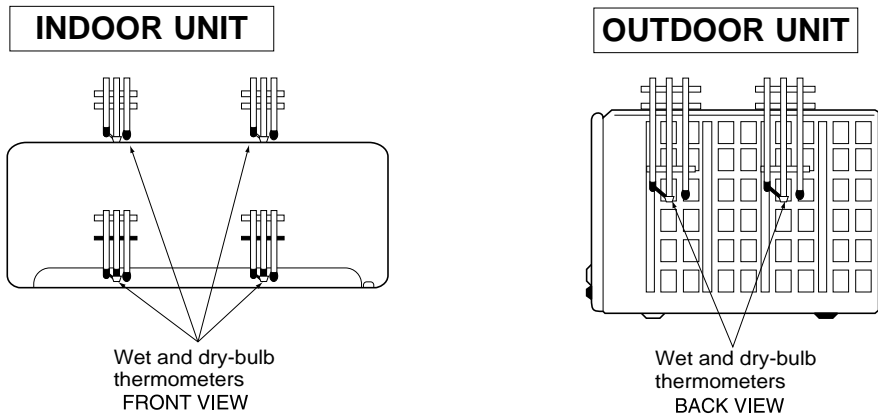
(3) MAIN READINGS

| | | |
|---|-------|-----------|
| (1) Indoor intake air wet-bulb temperature : | °C WB | } Cooling |
| (2) Indoor outlet air wet-bulb temperature : | °C WB | |
| (3) Outdoor intake air dry-bulb temperature : | °C DB | |
| (4) Total input: | W | } Heating |
| (5) Indoor intake air dry-bulb temperature : | °C DB | |
| (6) Outdoor intake air wet-bulb temperature : | °C WB | |
| (7) Total input : | W | |

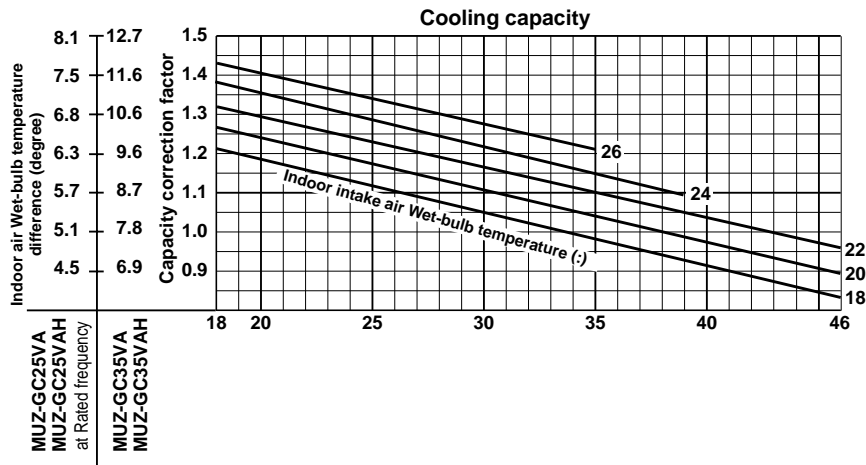
Indoor air wet/dry-bulb temperature difference on the left side of the following chart shows the difference between the indoor intake air wet/dry-bulb temperature and the indoor outlet air wet/dry-bulb temperature for your reference at service.

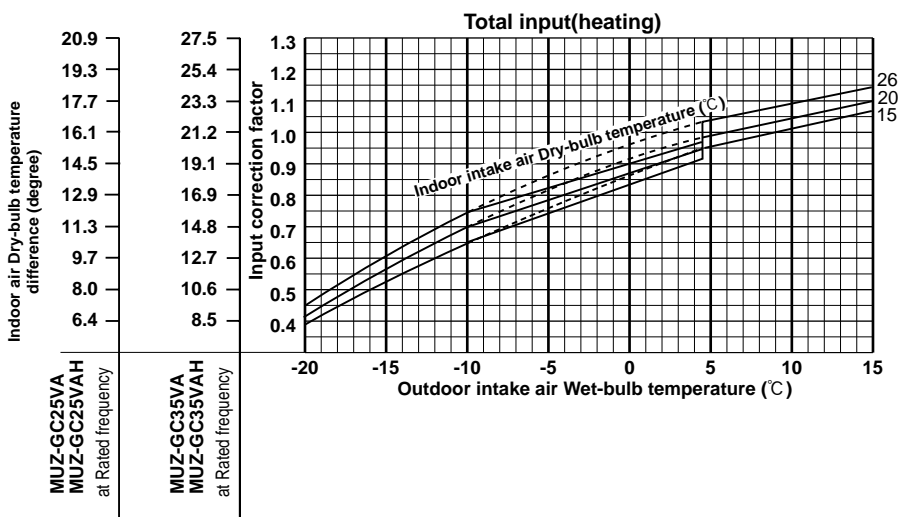
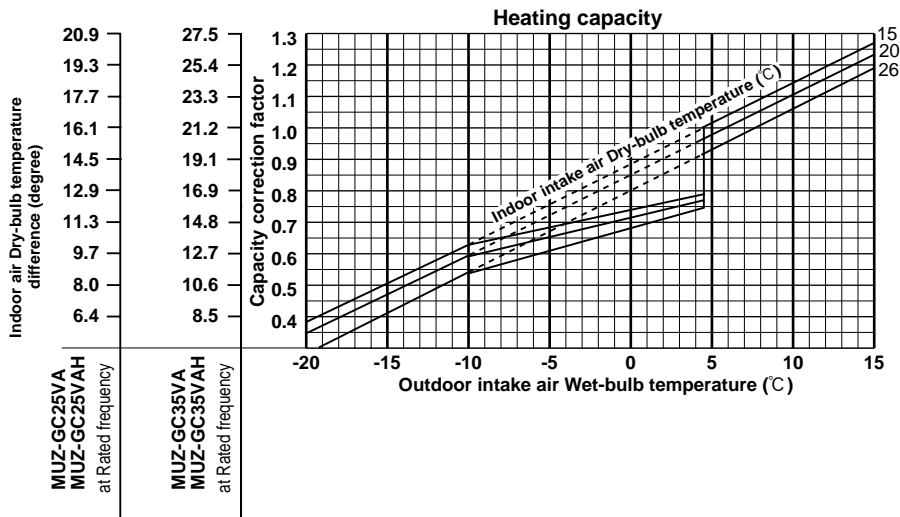
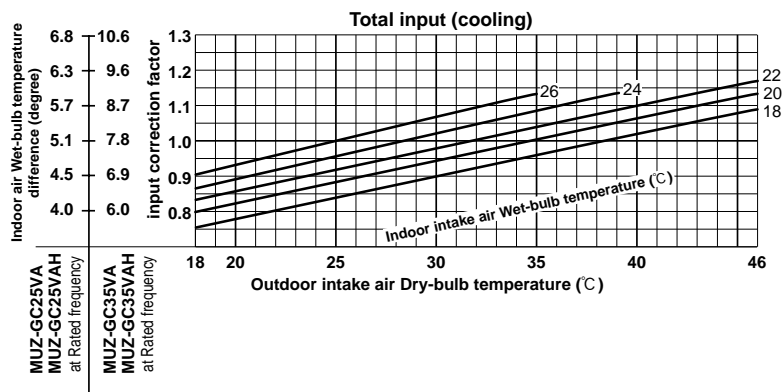
How to measure the indoor air wet-bulb / dry-bulb temperature difference

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 (twice) to start the EMERGENCY COOL (HEAT) 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.



8-1. Capacity and input curves

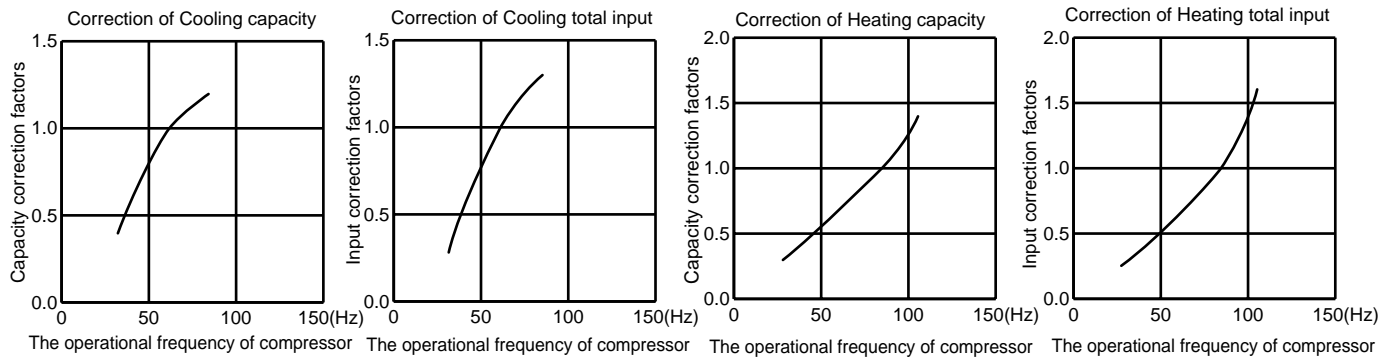




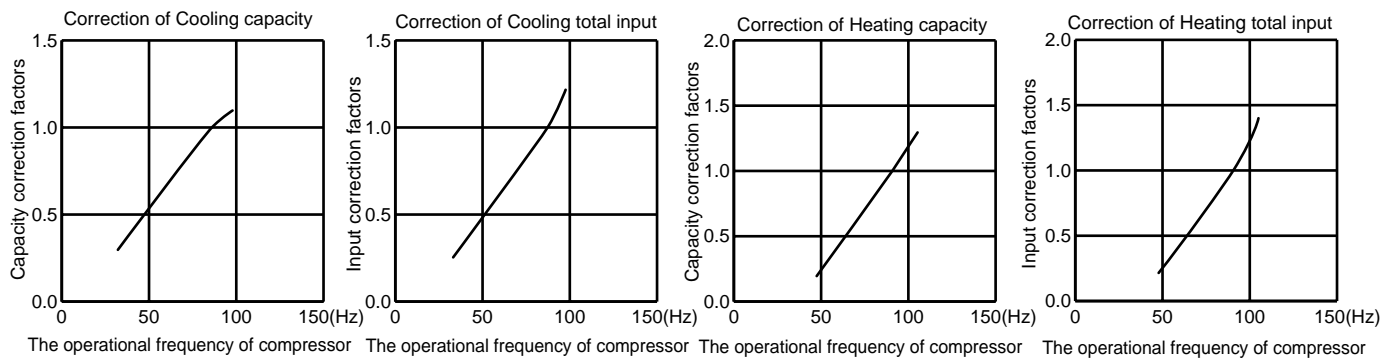
NOTE: The above broken lines are for the heating operation without any frost and defrost operation.

8-2. Capacity and input correction by operational frequency of compressor

MUZ-GC25VA MUZ-GC25VAH



MUZ-GC35VA MUZ-GC35VAH



8-3. Test run operation (How to operate fixed-frequency operation)

1. Press EMERGENCY OPERATION switch to COOL or HEAT mode (COOL : Press once, HEAT : Press twice).
2. Test run operation starts and continues to operate for 30 minutes.
3. Compressor operates at rated frequency in COOL mode or 58Hz in HEAT mode.
4. Indoor fan operates at High speed.
5. After 30 minutes, test run operation finishes and EMERGENCY OPERATION starts (Operation frequency of compressor varies).
6. To cancel test run operation (EMERGENCY OPERATION), press EMERGENCY OPERATION switch or any button on remote controller.

8-4. Outdoor low pressure and outdoor unit current

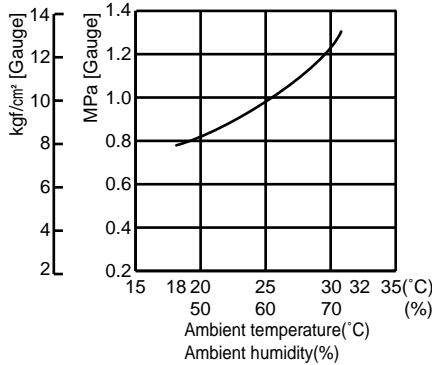
COOL operation

- ① Both indoor and outdoor unit are under the same temperature/humidity condition.
- ② Operation : TEST RUN OPERATION (refer to 8-3.)

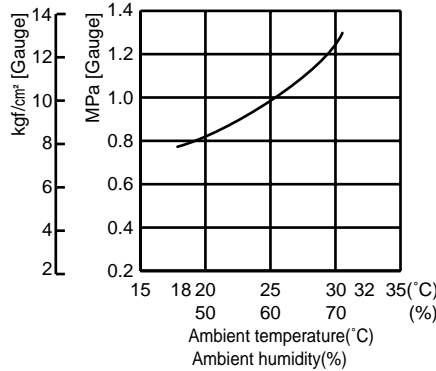
| Dry-bulb temperature(°C) | Relative humidity(%) |
|--------------------------|----------------------|
| 20 | 50 |
| 25 | 60 |
| 30 | 70 |

Outdoor low pressure

MUZ-GC25VA MUZ-GC25VAH



MUZ-GC35VA MUZ-GC35VAH



NOTE :

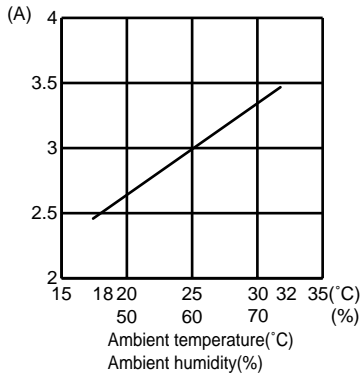
The unit of pressure has been changed to MPa on the international system of units (SI unit system).

The conversion factor is:

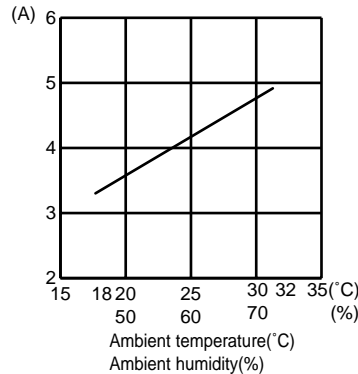
$$1(\text{MPa [Gauge]}) = 10.2(\text{kgf/cm}^2 \text{ [Gauge]})$$

Outdoor unit current

MUZ-GC25VA MUZ-GC25VAH



MUZ-GC35VA MUZ-GC35VAH



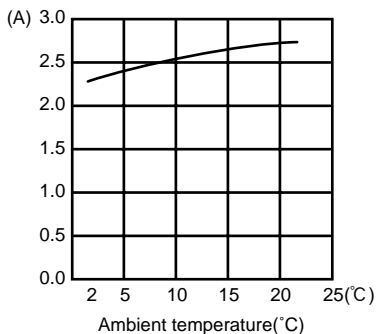
HEAT operation

| ① Condition : | Indoor | Outdoor | | | |
|---------------------------|--------|---------|---|----|------|
| | | 2 | 7 | 15 | 20.0 |
| Dry bulb temperature (°C) | 20.0 | 2 | 7 | 15 | 20.0 |
| Wet bulb temperature (°C) | 14.5 | 1 | 6 | 12 | 14.5 |

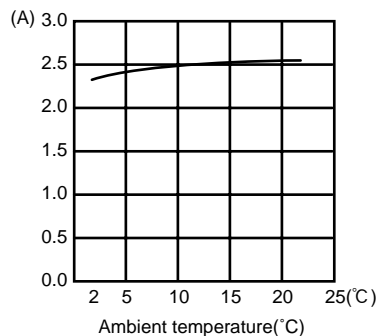
- ② Operation : Test run operation (refer to 8-3.)

Outdoor unit current

MUZ-GC25VA MUZ-GC25VAH



MUZ-GC35VA MUZ-GC35VAH



PERFORMANCE DATA COOL operation at Rated frequency

MUZ-GC25VA MUZ-GC25VAH

CAPACITY:2.5(kW) SHF:0.79 INPUT:665(W)

| | | OUTDOOR DB(°C) | | | | | | | | | | | | | | | |
|---------------|---------------|----------------|------|------|-------|------|------|------|-------|------|------|------|-------|------|------|------|-------|
| INDOOR DB(°C) | INDOOR WB(°C) | 21 | | | | 25 | | | | 27 | | | | 30 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 2.94 | 1.79 | 0.61 | 532 | 2.81 | 1.72 | 0.61 | 559 | 2.70 | 1.65 | 0.61 | 585 | 2.60 | 1.59 | 0.61 | 612 |
| 21 | 20 | 3.06 | 1.50 | 0.49 | 559 | 2.94 | 1.44 | 0.49 | 592 | 2.85 | 1.40 | 0.49 | 605 | 2.75 | 1.35 | 0.49 | 632 |
| 22 | 18 | 2.94 | 1.91 | 0.65 | 532 | 2.81 | 1.83 | 0.65 | 559 | 2.70 | 1.76 | 0.65 | 585 | 2.60 | 1.69 | 0.65 | 612 |
| 22 | 20 | 3.06 | 1.62 | 0.53 | 559 | 2.94 | 1.56 | 0.53 | 592 | 2.85 | 1.51 | 0.53 | 605 | 2.75 | 1.46 | 0.53 | 632 |
| 22 | 22 | 3.19 | 1.31 | 0.41 | 579 | 3.08 | 1.26 | 0.41 | 615 | 3.00 | 1.23 | 0.41 | 632 | 2.88 | 1.18 | 0.41 | 658 |
| 23 | 18 | 2.94 | 2.03 | 0.69 | 532 | 2.81 | 1.94 | 0.69 | 559 | 2.70 | 1.86 | 0.69 | 585 | 2.60 | 1.79 | 0.69 | 612 |
| 23 | 20 | 3.06 | 1.75 | 0.57 | 559 | 2.94 | 1.67 | 0.57 | 592 | 2.85 | 1.62 | 0.57 | 605 | 2.75 | 1.57 | 0.57 | 632 |
| 23 | 22 | 3.19 | 1.43 | 0.45 | 579 | 3.08 | 1.38 | 0.45 | 615 | 3.00 | 1.35 | 0.45 | 632 | 2.88 | 1.29 | 0.45 | 658 |
| 24 | 18 | 2.94 | 2.14 | 0.73 | 532 | 2.81 | 2.05 | 0.73 | 559 | 2.70 | 1.97 | 0.73 | 585 | 2.60 | 1.90 | 0.73 | 612 |
| 24 | 20 | 3.06 | 1.87 | 0.61 | 559 | 2.94 | 1.79 | 0.61 | 592 | 2.85 | 1.74 | 0.61 | 605 | 2.75 | 1.68 | 0.61 | 632 |
| 24 | 22 | 3.19 | 1.56 | 0.49 | 579 | 3.08 | 1.51 | 0.49 | 615 | 3.00 | 1.47 | 0.49 | 632 | 2.88 | 1.41 | 0.49 | 658 |
| 24 | 24 | 3.35 | 1.24 | 0.37 | 605 | 3.23 | 1.19 | 0.37 | 638 | 3.15 | 1.17 | 0.37 | 658 | 3.05 | 1.13 | 0.37 | 692 |
| 25 | 18 | 2.94 | 2.26 | 0.77 | 532 | 2.81 | 2.17 | 0.77 | 559 | 2.70 | 2.08 | 0.77 | 585 | 2.60 | 2.00 | 0.77 | 612 |
| 25 | 20 | 3.06 | 1.99 | 0.65 | 559 | 2.94 | 1.91 | 0.65 | 592 | 2.85 | 1.85 | 0.65 | 605 | 2.75 | 1.79 | 0.65 | 632 |
| 25 | 22 | 3.19 | 1.69 | 0.53 | 579 | 3.08 | 1.63 | 0.53 | 615 | 3.00 | 1.59 | 0.53 | 632 | 2.88 | 1.52 | 0.53 | 658 |
| 25 | 24 | 3.35 | 1.37 | 0.41 | 605 | 3.23 | 1.32 | 0.41 | 638 | 3.15 | 1.29 | 0.41 | 658 | 3.05 | 1.25 | 0.41 | 692 |
| 26 | 18 | 2.94 | 2.38 | 0.81 | 532 | 2.81 | 2.28 | 0.81 | 559 | 2.70 | 2.19 | 0.81 | 585 | 2.60 | 2.11 | 0.81 | 612 |
| 26 | 20 | 3.06 | 2.11 | 0.69 | 559 | 2.94 | 2.03 | 0.69 | 592 | 2.85 | 1.97 | 0.69 | 605 | 2.75 | 1.90 | 0.69 | 632 |
| 26 | 22 | 3.19 | 1.82 | 0.57 | 579 | 3.08 | 1.75 | 0.57 | 615 | 3.00 | 1.71 | 0.57 | 632 | 2.88 | 1.64 | 0.57 | 658 |
| 26 | 24 | 3.35 | 1.51 | 0.45 | 605 | 3.23 | 1.45 | 0.45 | 638 | 3.15 | 1.42 | 0.45 | 658 | 3.05 | 1.37 | 0.45 | 692 |
| 26 | 26 | 3.45 | 1.14 | 0.33 | 638 | 3.35 | 1.11 | 0.33 | 672 | 3.30 | 1.09 | 0.33 | 692 | 3.20 | 1.06 | 0.33 | 712 |
| 27 | 18 | 2.94 | 2.50 | 0.85 | 532 | 2.81 | 2.39 | 0.85 | 559 | 2.70 | 2.30 | 0.85 | 585 | 2.60 | 2.21 | 0.85 | 612 |
| 27 | 20 | 3.06 | 2.24 | 0.73 | 559 | 2.94 | 2.14 | 0.73 | 592 | 2.85 | 2.08 | 0.73 | 605 | 2.75 | 2.01 | 0.73 | 632 |
| 27 | 22 | 3.19 | 1.94 | 0.61 | 579 | 3.08 | 1.88 | 0.61 | 615 | 3.00 | 1.83 | 0.61 | 632 | 2.88 | 1.75 | 0.61 | 658 |
| 27 | 24 | 3.35 | 1.64 | 0.49 | 605 | 3.23 | 1.58 | 0.49 | 638 | 3.15 | 1.54 | 0.49 | 658 | 3.05 | 1.49 | 0.49 | 692 |
| 27 | 26 | 3.45 | 1.28 | 0.37 | 638 | 3.35 | 1.24 | 0.37 | 672 | 3.30 | 1.22 | 0.37 | 692 | 3.20 | 1.18 | 0.37 | 712 |
| 28 | 18 | 2.94 | 2.61 | 0.89 | 532 | 2.81 | 2.50 | 0.89 | 559 | 2.70 | 2.40 | 0.89 | 585 | 2.60 | 2.31 | 0.89 | 612 |
| 28 | 20 | 3.06 | 2.36 | 0.77 | 559 | 2.94 | 2.26 | 0.77 | 592 | 2.85 | 2.19 | 0.77 | 605 | 2.75 | 2.12 | 0.77 | 632 |
| 28 | 22 | 3.19 | 2.07 | 0.65 | 579 | 3.08 | 2.00 | 0.65 | 615 | 3.00 | 1.95 | 0.65 | 632 | 2.88 | 1.87 | 0.65 | 658 |
| 28 | 24 | 3.35 | 1.78 | 0.53 | 605 | 3.23 | 1.71 | 0.53 | 638 | 3.15 | 1.67 | 0.53 | 658 | 3.05 | 1.62 | 0.53 | 692 |
| 28 | 26 | 3.45 | 1.41 | 0.41 | 638 | 3.35 | 1.37 | 0.41 | 672 | 3.30 | 1.35 | 0.41 | 692 | 3.20 | 1.31 | 0.41 | 712 |
| 29 | 18 | 2.94 | 2.73 | 0.93 | 532 | 2.81 | 2.62 | 0.93 | 559 | 2.70 | 2.51 | 0.93 | 585 | 2.60 | 2.42 | 0.93 | 612 |
| 29 | 20 | 3.06 | 2.48 | 0.81 | 559 | 2.94 | 2.38 | 0.81 | 592 | 2.85 | 2.31 | 0.81 | 605 | 2.75 | 2.23 | 0.81 | 632 |
| 29 | 22 | 3.19 | 2.20 | 0.69 | 579 | 3.08 | 2.12 | 0.69 | 615 | 3.00 | 2.07 | 0.69 | 632 | 2.88 | 1.98 | 0.69 | 658 |
| 29 | 24 | 3.35 | 1.91 | 0.57 | 605 | 3.23 | 1.84 | 0.57 | 638 | 3.15 | 1.80 | 0.57 | 658 | 3.05 | 1.74 | 0.57 | 692 |
| 29 | 26 | 3.45 | 1.55 | 0.45 | 638 | 3.35 | 1.51 | 0.45 | 672 | 3.30 | 1.49 | 0.45 | 692 | 3.20 | 1.44 | 0.45 | 712 |
| 30 | 18 | 2.94 | 2.85 | 0.97 | 532 | 2.81 | 2.73 | 0.97 | 559 | 2.70 | 2.62 | 0.97 | 585 | 2.60 | 2.52 | 0.97 | 612 |
| 30 | 20 | 3.06 | 2.60 | 0.85 | 559 | 2.94 | 2.50 | 0.85 | 592 | 2.85 | 2.42 | 0.85 | 605 | 2.75 | 2.34 | 0.85 | 632 |
| 30 | 22 | 3.19 | 2.33 | 0.73 | 579 | 3.08 | 2.24 | 0.73 | 615 | 3.00 | 2.19 | 0.73 | 632 | 2.88 | 2.10 | 0.73 | 658 |
| 30 | 24 | 3.35 | 2.04 | 0.61 | 605 | 3.23 | 1.97 | 0.61 | 638 | 3.15 | 1.92 | 0.61 | 658 | 3.05 | 1.86 | 0.61 | 692 |
| 30 | 26 | 3.45 | 1.69 | 0.49 | 638 | 3.35 | 1.64 | 0.49 | 672 | 3.30 | 1.62 | 0.49 | 692 | 3.20 | 1.57 | 0.49 | 712 |
| 31 | 18 | 2.94 | 2.97 | 1.01 | 532 | 2.81 | 2.84 | 1.01 | 559 | 2.70 | 2.73 | 1.01 | 585 | 2.60 | 2.63 | 1.01 | 612 |
| 31 | 20 | 3.06 | 2.73 | 0.89 | 559 | 2.94 | 2.61 | 0.89 | 592 | 2.85 | 2.54 | 0.89 | 605 | 2.75 | 2.45 | 0.89 | 632 |
| 31 | 22 | 3.19 | 2.45 | 0.77 | 579 | 3.08 | 2.37 | 0.77 | 615 | 3.00 | 2.31 | 0.77 | 632 | 2.88 | 2.21 | 0.77 | 658 |
| 31 | 24 | 3.35 | 2.18 | 0.65 | 605 | 3.23 | 2.10 | 0.65 | 638 | 3.15 | 2.05 | 0.65 | 658 | 3.05 | 1.98 | 0.65 | 692 |
| 31 | 26 | 3.45 | 1.83 | 0.53 | 638 | 3.35 | 1.78 | 0.53 | 672 | 3.30 | 1.75 | 0.53 | 692 | 3.20 | 1.70 | 0.53 | 712 |
| 32 | 18 | 2.94 | 3.08 | 1.05 | 532 | 2.81 | 2.95 | 1.05 | 559 | 2.70 | 2.84 | 1.05 | 585 | 2.60 | 2.73 | 1.05 | 612 |
| 32 | 20 | 3.06 | 2.85 | 0.93 | 559 | 2.94 | 2.73 | 0.93 | 592 | 2.85 | 2.65 | 0.93 | 605 | 2.75 | 2.56 | 0.93 | 632 |
| 32 | 22 | 3.19 | 2.58 | 0.81 | 579 | 3.08 | 2.49 | 0.81 | 615 | 3.00 | 2.43 | 0.81 | 632 | 2.88 | 2.33 | 0.81 | 658 |
| 32 | 24 | 3.35 | 2.31 | 0.69 | 605 | 3.23 | 2.23 | 0.69 | 638 | 3.15 | 2.17 | 0.69 | 658 | 3.05 | 2.10 | 0.69 | 692 |
| 32 | 26 | 3.45 | 1.97 | 0.57 | 638 | 3.35 | 1.91 | 0.57 | 672 | 3.30 | 1.88 | 0.57 | 692 | 3.20 | 1.82 | 0.57 | 712 |

NOTE: Q : Total capacity (kW) SHF : Sensible heat factor DB : Dry-bulb temperature
 SHC : Sensible heat capacity (kW) INPUT : Total power input (W) WB : Wet-bulb temperature

PERFORMANCE DATA COOL operation at Rated frequency

MUZ-GC25VA MUZ-GC25VAH

CAPACITY:2.5(kW) SHF:0.79 INPUT:665(W)

| | | OUTDOOR DB(°C) | | | | | | | | | | | |
|----------------|----------------|----------------|------|------|-------|------|------|------|-------|------|------|------|-------|
| INDOOR DB (°C) | INDOOR WB (°C) | 35 | | | | 40 | | | | 46 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 2.45 | 1.49 | 0.61 | 652 | 2.25 | 1.37 | 0.61 | 692 | 2.08 | 1.27 | 0.61 | 718 |
| 21 | 20 | 2.58 | 1.26 | 0.49 | 678 | 2.40 | 1.18 | 0.49 | 712 | 2.23 | 1.09 | 0.49 | 751 |
| 22 | 18 | 2.45 | 1.59 | 0.65 | 652 | 2.25 | 1.46 | 0.65 | 692 | 2.08 | 1.35 | 0.65 | 718 |
| 22 | 20 | 2.58 | 1.36 | 0.53 | 678 | 2.40 | 1.27 | 0.53 | 712 | 2.23 | 1.18 | 0.53 | 751 |
| 22 | 22 | 2.73 | 1.12 | 0.41 | 705 | 2.55 | 1.05 | 0.41 | 745 | 2.38 | 0.97 | 0.41 | 771 |
| 23 | 18 | 2.45 | 1.69 | 0.69 | 652 | 2.25 | 1.55 | 0.69 | 692 | 2.08 | 1.43 | 0.69 | 718 |
| 23 | 20 | 2.58 | 1.47 | 0.57 | 678 | 2.40 | 1.37 | 0.57 | 712 | 2.23 | 1.27 | 0.57 | 751 |
| 23 | 22 | 2.73 | 1.23 | 0.45 | 705 | 2.55 | 1.15 | 0.45 | 745 | 2.38 | 1.07 | 0.45 | 771 |
| 24 | 18 | 2.45 | 1.79 | 0.73 | 652 | 2.25 | 1.64 | 0.73 | 692 | 2.08 | 1.51 | 0.73 | 718 |
| 24 | 20 | 2.58 | 1.57 | 0.61 | 678 | 2.40 | 1.46 | 0.61 | 712 | 2.23 | 1.36 | 0.61 | 751 |
| 24 | 22 | 2.73 | 1.34 | 0.49 | 705 | 2.55 | 1.25 | 0.49 | 745 | 2.38 | 1.16 | 0.49 | 771 |
| 24 | 24 | 2.88 | 1.06 | 0.37 | 732 | 2.70 | 1.00 | 0.37 | 765 | 2.55 | 0.94 | 0.37 | 798 |
| 25 | 18 | 2.45 | 1.89 | 0.77 | 652 | 2.25 | 1.73 | 0.77 | 692 | 2.08 | 1.60 | 0.77 | 718 |
| 25 | 20 | 2.58 | 1.67 | 0.65 | 678 | 2.40 | 1.56 | 0.65 | 712 | 2.23 | 1.45 | 0.65 | 751 |
| 25 | 22 | 2.73 | 1.44 | 0.53 | 705 | 2.55 | 1.35 | 0.53 | 745 | 2.38 | 1.26 | 0.53 | 771 |
| 25 | 24 | 2.88 | 1.18 | 0.41 | 732 | 2.70 | 1.11 | 0.41 | 765 | 2.55 | 1.05 | 0.41 | 798 |
| 26 | 18 | 2.45 | 1.98 | 0.81 | 652 | 2.25 | 1.82 | 0.81 | 692 | 2.08 | 1.68 | 0.81 | 718 |
| 26 | 20 | 2.58 | 1.78 | 0.69 | 678 | 2.40 | 1.66 | 0.69 | 712 | 2.23 | 1.54 | 0.69 | 751 |
| 26 | 22 | 2.73 | 1.55 | 0.57 | 705 | 2.55 | 1.45 | 0.57 | 745 | 2.38 | 1.35 | 0.57 | 771 |
| 26 | 24 | 2.88 | 1.29 | 0.45 | 732 | 2.70 | 1.22 | 0.45 | 765 | 2.55 | 1.15 | 0.45 | 798 |
| 26 | 26 | 3.03 | 1.00 | 0.33 | 758 | 2.85 | 0.94 | 0.33 | 791 | 2.68 | 0.88 | 0.33 | 825 |
| 27 | 18 | 2.45 | 2.08 | 0.85 | 652 | 2.25 | 1.91 | 0.85 | 692 | 2.08 | 1.76 | 0.85 | 718 |
| 27 | 20 | 2.58 | 1.88 | 0.73 | 678 | 2.40 | 1.75 | 0.73 | 712 | 2.23 | 1.62 | 0.73 | 751 |
| 27 | 22 | 2.73 | 1.66 | 0.61 | 705 | 2.55 | 1.56 | 0.61 | 745 | 2.38 | 1.45 | 0.61 | 771 |
| 27 | 24 | 2.88 | 1.41 | 0.49 | 732 | 2.70 | 1.32 | 0.49 | 765 | 2.55 | 1.25 | 0.49 | 798 |
| 27 | 26 | 3.03 | 1.12 | 0.37 | 758 | 2.85 | 1.05 | 0.37 | 791 | 2.68 | 0.99 | 0.37 | 825 |
| 28 | 18 | 2.45 | 2.18 | 0.89 | 652 | 2.25 | 2.00 | 0.89 | 692 | 2.08 | 1.85 | 0.89 | 718 |
| 28 | 20 | 2.58 | 1.98 | 0.77 | 678 | 2.40 | 1.85 | 0.77 | 712 | 2.23 | 1.71 | 0.77 | 751 |
| 28 | 22 | 2.73 | 1.77 | 0.65 | 705 | 2.55 | 1.66 | 0.65 | 745 | 2.38 | 1.54 | 0.65 | 771 |
| 28 | 24 | 2.88 | 1.52 | 0.53 | 732 | 2.70 | 1.43 | 0.53 | 765 | 2.55 | 1.35 | 0.53 | 798 |
| 28 | 26 | 3.03 | 1.24 | 0.41 | 758 | 2.85 | 1.17 | 0.41 | 791 | 2.68 | 1.10 | 0.41 | 825 |
| 29 | 18 | 2.45 | 2.28 | 0.93 | 652 | 2.25 | 2.09 | 0.93 | 692 | 2.08 | 1.93 | 0.93 | 718 |
| 29 | 20 | 2.58 | 2.09 | 0.81 | 678 | 2.40 | 1.94 | 0.81 | 712 | 2.23 | 1.80 | 0.81 | 751 |
| 29 | 22 | 2.73 | 1.88 | 0.69 | 705 | 2.55 | 1.76 | 0.69 | 745 | 2.38 | 1.64 | 0.69 | 771 |
| 29 | 24 | 2.88 | 1.64 | 0.57 | 732 | 2.70 | 1.54 | 0.57 | 765 | 2.55 | 1.45 | 0.57 | 798 |
| 29 | 26 | 3.03 | 1.36 | 0.45 | 758 | 2.85 | 1.28 | 0.45 | 791 | 2.68 | 1.20 | 0.45 | 825 |
| 30 | 18 | 2.45 | 2.38 | 0.97 | 652 | 2.25 | 2.18 | 0.97 | 692 | 2.08 | 2.01 | 0.97 | 718 |
| 30 | 20 | 2.58 | 2.19 | 0.85 | 678 | 2.40 | 2.04 | 0.85 | 712 | 2.23 | 1.89 | 0.85 | 751 |
| 30 | 22 | 2.73 | 1.99 | 0.73 | 705 | 2.55 | 1.86 | 0.73 | 745 | 2.38 | 1.73 | 0.73 | 771 |
| 30 | 24 | 2.88 | 1.75 | 0.61 | 732 | 2.70 | 1.65 | 0.61 | 765 | 2.55 | 1.56 | 0.61 | 798 |
| 30 | 26 | 3.03 | 1.48 | 0.49 | 758 | 2.85 | 1.40 | 0.49 | 791 | 2.68 | 1.31 | 0.49 | 825 |
| 31 | 18 | 2.45 | 2.47 | 1.01 | 652 | 2.25 | 2.27 | 1.01 | 692 | 2.08 | 2.10 | 1.01 | 718 |
| 31 | 20 | 2.58 | 2.29 | 0.89 | 678 | 2.40 | 2.14 | 0.89 | 712 | 2.23 | 1.98 | 0.89 | 751 |
| 31 | 22 | 2.73 | 2.10 | 0.77 | 705 | 2.55 | 1.96 | 0.77 | 745 | 2.38 | 1.83 | 0.77 | 771 |
| 31 | 24 | 2.88 | 1.87 | 0.65 | 732 | 2.70 | 1.76 | 0.65 | 765 | 2.55 | 1.66 | 0.65 | 798 |
| 31 | 26 | 3.03 | 1.60 | 0.53 | 758 | 2.85 | 1.51 | 0.53 | 791 | 2.68 | 1.42 | 0.53 | 825 |
| 32 | 18 | 2.45 | 2.57 | 1.05 | 652 | 2.25 | 2.36 | 1.05 | 692 | 2.08 | 2.18 | 1.05 | 718 |
| 32 | 20 | 2.58 | 2.39 | 0.93 | 678 | 2.40 | 2.23 | 0.93 | 712 | 2.23 | 2.07 | 0.93 | 751 |
| 32 | 22 | 2.73 | 2.21 | 0.81 | 705 | 2.55 | 2.07 | 0.81 | 745 | 2.38 | 1.92 | 0.81 | 771 |
| 32 | 24 | 2.88 | 1.98 | 0.69 | 732 | 2.70 | 1.86 | 0.69 | 765 | 2.55 | 1.76 | 0.69 | 798 |
| 32 | 26 | 3.03 | 1.72 | 0.57 | 758 | 2.85 | 1.62 | 0.57 | 791 | 2.68 | 1.52 | 0.57 | 825 |

NOTE: Q : Total capacity (kW) SHF : Sensible heat factor DB : Dry-bulb temperature
 SHC : Sensible heat capacity (kW) INPUT : Total power input (W) WB : Wet-bulb temperature

PERFORMANCE DATA COOL operation at Rated frequency

MUZ-GC35VA MUZ-GC35VAH

CAPACITY:3.5(kW) SHF:0.76 INPUT:1075(W)

| | | OUTDOOR DB(°C) | | | | | | | | | | | | | | | |
|---------------|---------------|----------------|------|------|-------|------|------|------|-------|------|------|------|-------|------|------|------|-------|
| INDOOR DB(°C) | INDOOR WB(°C) | 21 | | | | 25 | | | | 27 | | | | 30 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 4.11 | 2.39 | 0.58 | 860 | 3.94 | 2.28 | 0.58 | 903 | 3.78 | 2.19 | 0.58 | 946 | 3.64 | 2.11 | 0.58 | 989 |
| 21 | 20 | 4.29 | 1.97 | 0.46 | 903 | 4.11 | 1.89 | 0.46 | 957 | 3.99 | 1.84 | 0.46 | 978 | 3.85 | 1.77 | 0.46 | 1021 |
| 22 | 18 | 4.11 | 2.55 | 0.62 | 860 | 3.94 | 2.44 | 0.62 | 903 | 3.78 | 2.34 | 0.62 | 946 | 3.64 | 2.26 | 0.62 | 989 |
| 22 | 20 | 4.29 | 2.14 | 0.50 | 903 | 4.11 | 2.06 | 0.50 | 957 | 3.99 | 2.00 | 0.50 | 978 | 3.85 | 1.93 | 0.50 | 1021 |
| 22 | 22 | 4.46 | 1.70 | 0.38 | 935 | 4.31 | 1.64 | 0.38 | 994 | 4.20 | 1.60 | 0.38 | 1021 | 4.03 | 1.53 | 0.38 | 1064 |
| 23 | 18 | 4.11 | 2.71 | 0.66 | 860 | 3.94 | 2.60 | 0.66 | 903 | 3.78 | 2.49 | 0.66 | 946 | 3.64 | 2.40 | 0.66 | 989 |
| 23 | 20 | 4.29 | 2.32 | 0.54 | 903 | 4.11 | 2.22 | 0.54 | 957 | 3.99 | 2.15 | 0.54 | 978 | 3.85 | 2.08 | 0.54 | 1021 |
| 23 | 22 | 4.46 | 1.87 | 0.42 | 935 | 4.31 | 1.81 | 0.42 | 994 | 4.20 | 1.76 | 0.42 | 1021 | 4.03 | 1.69 | 0.42 | 1064 |
| 24 | 18 | 4.11 | 2.88 | 0.70 | 860 | 3.94 | 2.76 | 0.70 | 903 | 3.78 | 2.65 | 0.70 | 946 | 3.64 | 2.55 | 0.70 | 989 |
| 24 | 20 | 4.29 | 2.49 | 0.58 | 903 | 4.11 | 2.39 | 0.58 | 957 | 3.99 | 2.31 | 0.58 | 978 | 3.85 | 2.23 | 0.58 | 1021 |
| 24 | 22 | 4.46 | 2.05 | 0.46 | 935 | 4.31 | 1.98 | 0.46 | 994 | 4.20 | 1.93 | 0.46 | 1021 | 4.03 | 1.85 | 0.46 | 1064 |
| 24 | 24 | 4.69 | 1.59 | 0.34 | 978 | 4.52 | 1.54 | 0.34 | 1032 | 4.41 | 1.50 | 0.34 | 1064 | 4.27 | 1.45 | 0.34 | 1118 |
| 25 | 18 | 4.11 | 3.04 | 0.74 | 860 | 3.94 | 2.91 | 0.74 | 903 | 3.78 | 2.80 | 0.74 | 946 | 3.64 | 2.69 | 0.74 | 989 |
| 25 | 20 | 4.29 | 2.66 | 0.62 | 903 | 4.11 | 2.55 | 0.62 | 957 | 3.99 | 2.47 | 0.62 | 978 | 3.85 | 2.39 | 0.62 | 1021 |
| 25 | 22 | 4.46 | 2.23 | 0.50 | 935 | 4.31 | 2.15 | 0.50 | 994 | 4.20 | 2.10 | 0.50 | 1021 | 4.03 | 2.01 | 0.50 | 1064 |
| 25 | 24 | 4.69 | 1.78 | 0.38 | 978 | 4.52 | 1.72 | 0.38 | 1032 | 4.41 | 1.68 | 0.38 | 1064 | 4.27 | 1.62 | 0.38 | 1118 |
| 26 | 18 | 4.11 | 3.21 | 0.78 | 860 | 3.94 | 3.07 | 0.78 | 903 | 3.78 | 2.95 | 0.78 | 946 | 3.64 | 2.84 | 0.78 | 989 |
| 26 | 20 | 4.29 | 2.83 | 0.66 | 903 | 4.11 | 2.71 | 0.66 | 957 | 3.99 | 2.63 | 0.66 | 978 | 3.85 | 2.54 | 0.66 | 1021 |
| 26 | 22 | 4.46 | 2.41 | 0.54 | 935 | 4.31 | 2.32 | 0.54 | 994 | 4.20 | 2.27 | 0.54 | 1021 | 4.03 | 2.17 | 0.54 | 1064 |
| 26 | 24 | 4.69 | 1.97 | 0.42 | 978 | 4.52 | 1.90 | 0.42 | 1032 | 4.41 | 1.85 | 0.42 | 1064 | 4.27 | 1.79 | 0.42 | 1118 |
| 26 | 26 | 4.83 | 1.45 | 0.30 | 1032 | 4.69 | 1.41 | 0.30 | 1086 | 4.62 | 1.39 | 0.30 | 1118 | 4.48 | 1.34 | 0.30 | 1150 |
| 27 | 18 | 4.11 | 3.37 | 0.82 | 860 | 3.94 | 3.23 | 0.82 | 903 | 3.78 | 3.10 | 0.82 | 946 | 3.64 | 2.98 | 0.82 | 989 |
| 27 | 20 | 4.29 | 3.00 | 0.70 | 903 | 4.11 | 2.88 | 0.70 | 957 | 3.99 | 2.79 | 0.70 | 978 | 3.85 | 2.70 | 0.70 | 1021 |
| 27 | 22 | 4.46 | 2.59 | 0.58 | 935 | 4.31 | 2.50 | 0.58 | 994 | 4.20 | 2.44 | 0.58 | 1021 | 4.03 | 2.33 | 0.58 | 1064 |
| 27 | 24 | 4.69 | 2.16 | 0.46 | 978 | 4.52 | 2.08 | 0.46 | 1032 | 4.41 | 2.03 | 0.46 | 1064 | 4.27 | 1.96 | 0.46 | 1118 |
| 27 | 26 | 4.83 | 1.64 | 0.34 | 1032 | 4.69 | 1.59 | 0.34 | 1086 | 4.62 | 1.57 | 0.34 | 1118 | 4.48 | 1.52 | 0.34 | 1150 |
| 28 | 18 | 4.11 | 3.54 | 0.86 | 860 | 3.94 | 3.39 | 0.86 | 903 | 3.78 | 3.25 | 0.86 | 946 | 3.64 | 3.13 | 0.86 | 989 |
| 28 | 20 | 4.29 | 3.17 | 0.74 | 903 | 4.11 | 3.04 | 0.74 | 957 | 3.99 | 2.95 | 0.74 | 978 | 3.85 | 2.85 | 0.74 | 1021 |
| 28 | 22 | 4.46 | 2.77 | 0.62 | 935 | 4.31 | 2.67 | 0.62 | 994 | 4.20 | 2.60 | 0.62 | 1021 | 4.03 | 2.50 | 0.62 | 1064 |
| 28 | 24 | 4.69 | 2.35 | 0.50 | 978 | 4.52 | 2.26 | 0.50 | 1032 | 4.41 | 2.21 | 0.50 | 1064 | 4.27 | 2.14 | 0.50 | 1118 |
| 28 | 26 | 4.83 | 1.84 | 0.38 | 1032 | 4.69 | 1.78 | 0.38 | 1086 | 4.62 | 1.76 | 0.38 | 1118 | 4.48 | 1.70 | 0.38 | 1150 |
| 29 | 18 | 4.11 | 3.70 | 0.90 | 860 | 3.94 | 3.54 | 0.90 | 903 | 3.78 | 3.40 | 0.90 | 946 | 3.64 | 3.28 | 0.90 | 989 |
| 29 | 20 | 4.29 | 3.34 | 0.78 | 903 | 4.11 | 3.21 | 0.78 | 957 | 3.99 | 3.11 | 0.78 | 978 | 3.85 | 3.00 | 0.78 | 1021 |
| 29 | 22 | 4.46 | 2.95 | 0.66 | 935 | 4.31 | 2.84 | 0.66 | 994 | 4.20 | 2.77 | 0.66 | 1021 | 4.03 | 2.66 | 0.66 | 1064 |
| 29 | 24 | 4.69 | 2.53 | 0.54 | 978 | 4.52 | 2.44 | 0.54 | 1032 | 4.41 | 2.38 | 0.54 | 1064 | 4.27 | 2.31 | 0.54 | 1118 |
| 29 | 26 | 4.83 | 2.03 | 0.42 | 1032 | 4.69 | 1.97 | 0.42 | 1086 | 4.62 | 1.94 | 0.42 | 1118 | 4.48 | 1.88 | 0.42 | 1150 |
| 30 | 18 | 4.11 | 3.87 | 0.94 | 860 | 3.94 | 3.70 | 0.94 | 903 | 3.78 | 3.55 | 0.94 | 946 | 3.64 | 3.42 | 0.94 | 989 |
| 30 | 20 | 4.29 | 3.52 | 0.82 | 903 | 4.11 | 3.37 | 0.82 | 957 | 3.99 | 3.27 | 0.82 | 978 | 3.85 | 3.16 | 0.82 | 1021 |
| 30 | 22 | 4.46 | 3.12 | 0.70 | 935 | 4.31 | 3.01 | 0.70 | 994 | 4.20 | 2.94 | 0.70 | 1021 | 4.03 | 2.82 | 0.70 | 1064 |
| 30 | 24 | 4.69 | 2.72 | 0.58 | 978 | 4.52 | 2.62 | 0.58 | 1032 | 4.41 | 2.56 | 0.58 | 1064 | 4.27 | 2.48 | 0.58 | 1118 |
| 30 | 26 | 4.83 | 2.22 | 0.46 | 1032 | 4.69 | 2.16 | 0.46 | 1086 | 4.62 | 2.13 | 0.46 | 1118 | 4.48 | 2.06 | 0.46 | 1150 |
| 31 | 18 | 4.11 | 4.03 | 0.98 | 860 | 3.94 | 3.86 | 0.98 | 903 | 3.78 | 3.70 | 0.98 | 946 | 3.64 | 3.57 | 0.98 | 989 |
| 31 | 20 | 4.29 | 3.69 | 0.86 | 903 | 4.11 | 3.54 | 0.86 | 957 | 3.99 | 3.43 | 0.86 | 978 | 3.85 | 3.31 | 0.86 | 1021 |
| 31 | 22 | 4.46 | 3.30 | 0.74 | 935 | 4.31 | 3.19 | 0.74 | 994 | 4.20 | 3.11 | 0.74 | 1021 | 4.03 | 2.98 | 0.74 | 1064 |
| 31 | 24 | 4.69 | 2.91 | 0.62 | 978 | 4.52 | 2.80 | 0.62 | 1032 | 4.41 | 2.73 | 0.62 | 1064 | 4.27 | 2.65 | 0.62 | 1118 |
| 31 | 26 | 4.83 | 2.42 | 0.50 | 1032 | 4.69 | 2.35 | 0.50 | 1086 | 4.62 | 2.31 | 0.50 | 1118 | 4.48 | 2.24 | 0.50 | 1150 |
| 32 | 18 | 4.11 | 4.19 | 1.02 | 860 | 3.94 | 4.02 | 1.02 | 903 | 3.78 | 3.86 | 1.02 | 946 | 3.64 | 3.71 | 1.02 | 989 |
| 32 | 20 | 4.29 | 3.86 | 0.90 | 903 | 4.11 | 3.70 | 0.90 | 957 | 3.99 | 3.59 | 0.90 | 978 | 3.85 | 3.47 | 0.90 | 1021 |
| 32 | 22 | 4.46 | 3.48 | 0.78 | 935 | 4.31 | 3.36 | 0.78 | 994 | 4.20 | 3.28 | 0.78 | 1021 | 4.03 | 3.14 | 0.78 | 1064 |
| 32 | 24 | 4.69 | 3.10 | 0.66 | 978 | 4.52 | 2.98 | 0.66 | 1032 | 4.41 | 2.91 | 0.66 | 1064 | 4.27 | 2.82 | 0.66 | 1118 |
| 32 | 26 | 4.83 | 2.61 | 0.54 | 1032 | 4.69 | 2.53 | 0.54 | 1086 | 4.62 | 2.49 | 0.54 | 1118 | 4.48 | 2.42 | 0.54 | 1150 |

NOTE: Q : Total capacity (kW) SHF : Sensible heat factor DB : Dry-bulb temperature
 SHC : Sensible heat capacity (kW) INPUT : Total power input (W) WB : Wet-bulb temperature

PERFORMANCE DATA COOL operation at Rated frequency
MUZ-GC35VA MUZ-GC35VAH

CAPACITY:3.5(kW) SHF:0.76 INPUT:1075(W)

| | | OUTDOOR DB(°C) | | | | | | | | | | | |
|----------------|----------------|----------------|------|------|-------|------|------|------|-------|------|------|------|-------|
| INDOOR DB (°C) | INDOOR WB (°C) | 35 | | | | 40 | | | | 46 | | | |
| | | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT | Q | SHC | SHF | INPUT |
| 21 | 18 | 3.43 | 1.99 | 0.58 | 1054 | 3.15 | 1.83 | 0.58 | 1118 | 2.91 | 1.68 | 0.58 | 1161 |
| 21 | 20 | 3.61 | 1.66 | 0.46 | 1097 | 3.36 | 1.55 | 0.46 | 1150 | 3.12 | 1.43 | 0.46 | 1215 |
| 22 | 18 | 3.43 | 2.13 | 0.62 | 1054 | 3.15 | 1.95 | 0.62 | 1118 | 2.91 | 1.80 | 0.62 | 1161 |
| 22 | 20 | 3.61 | 1.80 | 0.50 | 1097 | 3.36 | 1.68 | 0.50 | 1150 | 3.12 | 1.56 | 0.50 | 1215 |
| 22 | 22 | 3.82 | 1.45 | 0.38 | 1140 | 3.57 | 1.36 | 0.38 | 1204 | 3.33 | 1.26 | 0.38 | 1247 |
| 23 | 18 | 3.43 | 2.26 | 0.66 | 1054 | 3.15 | 2.08 | 0.66 | 1118 | 2.91 | 1.92 | 0.66 | 1161 |
| 23 | 20 | 3.61 | 1.95 | 0.54 | 1097 | 3.36 | 1.81 | 0.54 | 1150 | 3.12 | 1.68 | 0.54 | 1215 |
| 23 | 22 | 3.82 | 1.60 | 0.42 | 1140 | 3.57 | 1.50 | 0.42 | 1204 | 3.33 | 1.40 | 0.42 | 1247 |
| 24 | 18 | 3.43 | 2.40 | 0.70 | 1054 | 3.15 | 2.21 | 0.70 | 1118 | 2.91 | 2.03 | 0.70 | 1161 |
| 24 | 20 | 3.61 | 2.09 | 0.58 | 1097 | 3.36 | 1.95 | 0.58 | 1150 | 3.12 | 1.81 | 0.58 | 1215 |
| 24 | 22 | 3.82 | 1.75 | 0.46 | 1140 | 3.57 | 1.64 | 0.46 | 1204 | 3.33 | 1.53 | 0.46 | 1247 |
| 24 | 24 | 4.03 | 1.37 | 0.34 | 1183 | 3.78 | 1.29 | 0.34 | 1236 | 3.57 | 1.21 | 0.34 | 1290 |
| 25 | 18 | 3.43 | 2.54 | 0.74 | 1054 | 3.15 | 2.33 | 0.74 | 1118 | 2.91 | 2.15 | 0.74 | 1161 |
| 25 | 20 | 3.61 | 2.24 | 0.62 | 1097 | 3.36 | 2.08 | 0.62 | 1150 | 3.12 | 1.93 | 0.62 | 1215 |
| 25 | 22 | 3.82 | 1.91 | 0.50 | 1140 | 3.57 | 1.79 | 0.50 | 1204 | 3.33 | 1.66 | 0.50 | 1247 |
| 25 | 24 | 4.03 | 1.53 | 0.38 | 1183 | 3.78 | 1.44 | 0.38 | 1236 | 3.57 | 1.36 | 0.38 | 1290 |
| 26 | 18 | 3.43 | 2.68 | 0.78 | 1054 | 3.15 | 2.46 | 0.78 | 1118 | 2.91 | 2.27 | 0.78 | 1161 |
| 26 | 20 | 3.61 | 2.38 | 0.66 | 1097 | 3.36 | 2.22 | 0.66 | 1150 | 3.12 | 2.06 | 0.66 | 1215 |
| 26 | 22 | 3.82 | 2.06 | 0.54 | 1140 | 3.57 | 1.93 | 0.54 | 1204 | 3.33 | 1.80 | 0.54 | 1247 |
| 26 | 24 | 4.03 | 1.69 | 0.42 | 1183 | 3.78 | 1.59 | 0.42 | 1236 | 3.57 | 1.50 | 0.42 | 1290 |
| 26 | 26 | 4.24 | 1.27 | 0.30 | 1226 | 3.99 | 1.20 | 0.30 | 1279 | 3.75 | 1.12 | 0.30 | 1333 |
| 27 | 18 | 3.43 | 2.81 | 0.82 | 1054 | 3.15 | 2.58 | 0.82 | 1118 | 2.91 | 2.38 | 0.82 | 1161 |
| 27 | 20 | 3.61 | 2.52 | 0.70 | 1097 | 3.36 | 2.35 | 0.70 | 1150 | 3.12 | 2.18 | 0.70 | 1215 |
| 27 | 22 | 3.82 | 2.21 | 0.58 | 1140 | 3.57 | 2.07 | 0.58 | 1204 | 3.33 | 1.93 | 0.58 | 1247 |
| 27 | 24 | 4.03 | 1.85 | 0.46 | 1183 | 3.78 | 1.74 | 0.46 | 1236 | 3.57 | 1.64 | 0.46 | 1290 |
| 27 | 26 | 4.24 | 1.44 | 0.34 | 1226 | 3.99 | 1.36 | 0.34 | 1279 | 3.75 | 1.27 | 0.34 | 1333 |
| 28 | 18 | 3.43 | 2.95 | 0.86 | 1054 | 3.15 | 2.71 | 0.86 | 1118 | 2.91 | 2.50 | 0.86 | 1161 |
| 28 | 20 | 3.61 | 2.67 | 0.74 | 1097 | 3.36 | 2.49 | 0.74 | 1150 | 3.12 | 2.31 | 0.74 | 1215 |
| 28 | 22 | 3.82 | 2.37 | 0.62 | 1140 | 3.57 | 2.21 | 0.62 | 1204 | 3.33 | 2.06 | 0.62 | 1247 |
| 28 | 24 | 4.03 | 2.01 | 0.50 | 1183 | 3.78 | 1.89 | 0.50 | 1236 | 3.57 | 1.79 | 0.50 | 1290 |
| 28 | 26 | 4.24 | 1.61 | 0.38 | 1226 | 3.99 | 1.52 | 0.38 | 1279 | 3.75 | 1.42 | 0.38 | 1333 |
| 29 | 18 | 3.43 | 3.09 | 0.90 | 1054 | 3.15 | 2.84 | 0.90 | 1118 | 2.91 | 2.61 | 0.90 | 1161 |
| 29 | 20 | 3.61 | 2.81 | 0.78 | 1097 | 3.36 | 2.62 | 0.78 | 1150 | 3.12 | 2.43 | 0.78 | 1215 |
| 29 | 22 | 3.82 | 2.52 | 0.66 | 1140 | 3.57 | 2.36 | 0.66 | 1204 | 3.33 | 2.19 | 0.66 | 1247 |
| 29 | 24 | 4.03 | 2.17 | 0.54 | 1183 | 3.78 | 2.04 | 0.54 | 1236 | 3.57 | 1.93 | 0.54 | 1290 |
| 29 | 26 | 4.24 | 1.78 | 0.42 | 1226 | 3.99 | 1.68 | 0.42 | 1279 | 3.75 | 1.57 | 0.42 | 1333 |
| 30 | 18 | 3.43 | 3.22 | 0.94 | 1054 | 3.15 | 2.96 | 0.94 | 1118 | 2.91 | 2.73 | 0.94 | 1161 |
| 30 | 20 | 3.61 | 2.96 | 0.82 | 1097 | 3.36 | 2.76 | 0.82 | 1150 | 3.12 | 2.55 | 0.82 | 1215 |
| 30 | 22 | 3.82 | 2.67 | 0.70 | 1140 | 3.57 | 2.50 | 0.70 | 1204 | 3.33 | 2.33 | 0.70 | 1247 |
| 30 | 24 | 4.03 | 2.33 | 0.58 | 1183 | 3.78 | 2.19 | 0.58 | 1236 | 3.57 | 2.07 | 0.58 | 1290 |
| 30 | 26 | 4.24 | 1.95 | 0.46 | 1226 | 3.99 | 1.84 | 0.46 | 1279 | 3.75 | 1.72 | 0.46 | 1333 |
| 31 | 18 | 3.43 | 3.36 | 0.98 | 1054 | 3.15 | 3.09 | 0.98 | 1118 | 2.91 | 2.85 | 0.98 | 1161 |
| 31 | 20 | 3.61 | 3.10 | 0.86 | 1097 | 3.36 | 2.89 | 0.86 | 1150 | 3.12 | 2.68 | 0.86 | 1215 |
| 31 | 22 | 3.82 | 2.82 | 0.74 | 1140 | 3.57 | 2.64 | 0.74 | 1204 | 3.33 | 2.46 | 0.74 | 1247 |
| 31 | 24 | 4.03 | 2.50 | 0.62 | 1183 | 3.78 | 2.34 | 0.62 | 1236 | 3.57 | 2.21 | 0.62 | 1290 |
| 31 | 26 | 4.24 | 2.12 | 0.50 | 1226 | 3.99 | 2.00 | 0.50 | 1279 | 3.75 | 1.87 | 0.50 | 1333 |
| 32 | 18 | 3.43 | 3.50 | 1.02 | 1054 | 3.15 | 3.21 | 1.02 | 1118 | 2.91 | 2.96 | 1.02 | 1161 |
| 32 | 20 | 3.61 | 3.24 | 0.90 | 1097 | 3.36 | 3.02 | 0.90 | 1150 | 3.12 | 2.80 | 0.90 | 1215 |
| 32 | 22 | 3.82 | 2.98 | 0.78 | 1140 | 3.57 | 2.78 | 0.78 | 1204 | 3.33 | 2.59 | 0.78 | 1247 |
| 32 | 24 | 4.03 | 2.66 | 0.66 | 1183 | 3.78 | 2.49 | 0.66 | 1236 | 3.57 | 2.36 | 0.66 | 1290 |
| 32 | 26 | 4.24 | 2.29 | 0.54 | 1226 | 3.99 | 2.15 | 0.54 | 1279 | 3.75 | 2.02 | 0.54 | 1333 |

NOTE: Q : Total capacity (kW) SHF : Sensible heat factor DB : Dry-bulb temperature
 SHC : Sensible heat capacity (kW) INPUT : Total power input (W) WB : Wet-bulb temperature

PERFORMANCE DATA HEAT operation at Rated frequency

MUZ-GC25VA MUZ-GC25VAH

CAPACITY:3.2(kW) INPUT:835(W)

| INDOOR DB(°C) | OUTDOOR WB(°C) | | | | | | | | | | | | | |
|------------------|----------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| | -10 | | -5 | | 0 | | 5 | | 10 | | 15 | | 20 | |
| | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT |
| 15 | 2.02 | 543 | 2.43 | 651 | 2.85 | 735 | 3.26 | 793 | 3.68 | 843 | 4.06 | 868 | 4.48 | 885 |
| 21 | 1.92 | 585 | 2.30 | 693 | 2.72 | 768 | 3.10 | 827 | 3.52 | 868 | 3.90 | 893 | 4.30 | 927 |
| 26 | 1.73 | 626 | 2.14 | 735 | 2.53 | 810 | 2.94 | 868 | 3.36 | 910 | 3.74 | 935 | 4.16 | 960 |

MUZ-GC35VA MUZ-GC35VAH

CAPACITY:4.0(kW) INPUT:1055(W)

| INDOOR DB(°C) | OUTDOOR WB(°C) | | | | | | | | | | | | | |
|------------------|----------------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
| | -10 | | -5 | | 0 | | 5 | | 10 | | 15 | | 20 | |
| | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT | Q | INPUT |
| 15 | 2.52 | 686 | 3.04 | 823 | 3.56 | 928 | 4.08 | 1002 | 4.60 | 1066 | 5.08 | 1097 | 5.60 | 1118 |
| 21 | 2.40 | 739 | 2.88 | 876 | 3.40 | 971 | 3.88 | 1044 | 4.40 | 1097 | 4.88 | 1129 | 5.38 | 1171 |
| 26 | 2.16 | 791 | 2.68 | 928 | 3.16 | 1023 | 3.68 | 1097 | 4.20 | 1150 | 4.68 | 1182 | 5.20 | 1213 |

NOTE: Q:Total capacity (kW) INPUT:Total power input (W) DB : Dry-bulb temperature WB : Wet-bulb temperature

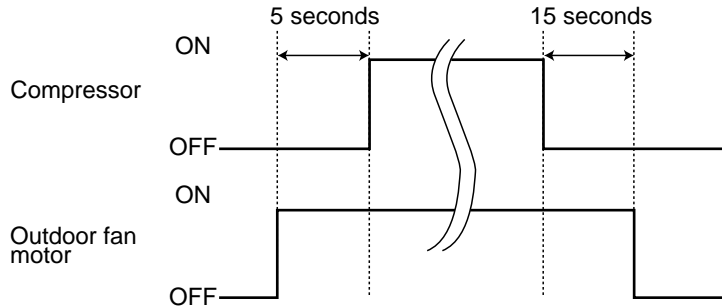
MUZ-GC25VA MUZ-GC35VA
MUZ-GC25VAH MUZ-GC35VAH

9-1. Outdoor fan motor control

The fan motor turns ON/OFF, interlocking with the compressor.

[ON] The fan motor turns ON 5 seconds before the compressor starts up.

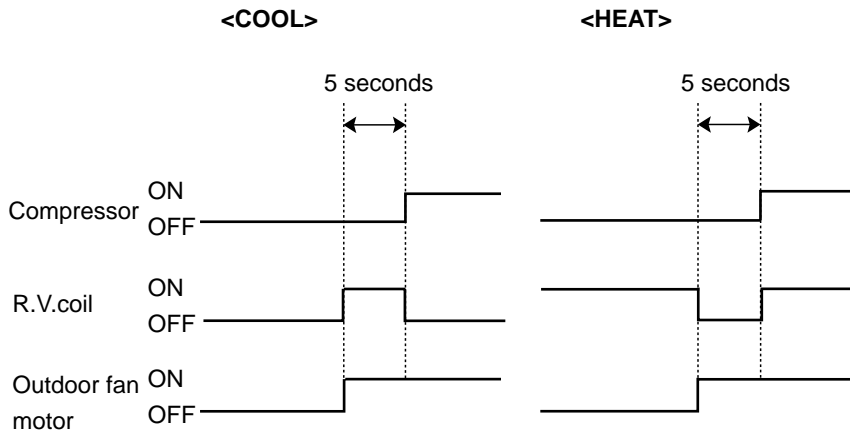
[OFF] The fan motor turns OFF 15 seconds after the compressor has stopped running.



9-2. R.V. coil control

- Heating ON
- Cooling OFF
- Dry OFF

NOTE: The 4-way valve reverses for 5 seconds right before start-up of the compressor.



9-3. Relation between main sensor and actuator

| Sensor | Purpose | Actuator | | | | | |
|------------------------------------|---|------------|-----|-------------------|-----------|------------------|----------------|
| | | Compressor | LEV | Outdoor fan motor | R.V. coil | Indoor fan motor | Defrost heater |
| Discharge temperature thermistor | Protection | ○ | ○ | | | | |
| Indoor coil temperature thermistor | Cooling : Coil frost prevention | ○ | ○ | | | | |
| | Heating : High pressure protection | ○ | ○ | | | | |
| Defrost thermistor | Cooling : High pressure protection | ○ | ○ | | | | |
| | Heating : Defrosting | ○ | ○ | ○ | ○ | ○ | |
| Fin temperature thermistor | Protection | ○ | ○ | ○ ※1 | | | |
| Ambient temperature thermistor | Cooling : Low outside temperature operation | ○ | ○ | ○ | | | |
| | Heating : Defrosting (Heater) | | | | | | ○ |

※1 MUZ-GC35VA
 MUZ-GC35VAH

10

SERVICE FUNCTIONS

MUZ-GC25VA
MUZ-GC25VAH

MUZ-GC35VA
MUZ-GC35VAH

10-1. CHANGE IN DEFROST SETTING

<JS> When the JS wire of the outdoor Inverter P.C. board is cut/ soldered, the defrost finish temperature is changed. (Refer to 11-6-1.)

| Jumper wire | | Defrost finish temperature (°C) | |
|-------------|-------------------------------|---------------------------------|----------------------------|
| | | MUZ-GC25VA MUZ-GC35VA | MUZ-GC25VAH MUZ-GC35VAH |
| JS | soldered (Initial setting) | 5 | 8 |
| | none (cut) | 8 | 15 |

10-2. PRE-HEAT CONTROL SETTING

PRE-HEAT CONTROL

When moisture gets into the refrigerant cycle, it may interfere the start-up of the compressor at low outside temperature. The pre-heat control prevents this interference. The pre-heat control turns ON when outside temperature is 20°C or below. When pre-heat control is turned ON, compressor is energized. (about 50 W)

MUZ-GC25 <JK> When the JK wire of the inverter P.C. board is cut, pre-heat control is activated.(Refer to 11-6.1)
MUZ-GC35 Inverter P.C.board needs to be changed.

NOTE: When the inverter P.C. board is replaced, check the Jumper wires, and cut/solder them if necessary.

11

TROUBLESHOOTING

MUZ-GC25VA
MUZ-GC25VAH

MUZ-GC35VA
MUZ-GC35VAH

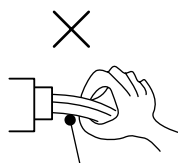
11-1. Cautions on troubleshooting

1. Before troubleshooting, check the following:

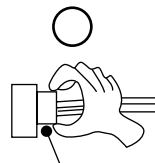
- 1) Check the power supply voltage.
- 2) Check the indoor/outdoor connecting wire for mis-wiring.

2. Take care of the following during servicing

- 1) Before servicing the air conditioner, be sure to turn OFF the main 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.



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 abnormality indication is flashing on and off before starting service work.
- 2) Before servicing check that the connector and terminal are connected properly.
- 3) If the electronic control P.C. board is supposed to be defective, check the copper foil pattern for disconnection and the components for bursting and discoloration.
- 4) Refer to 11-2. and 11-3.

11-2. Failure mode recall function

Outline of the function

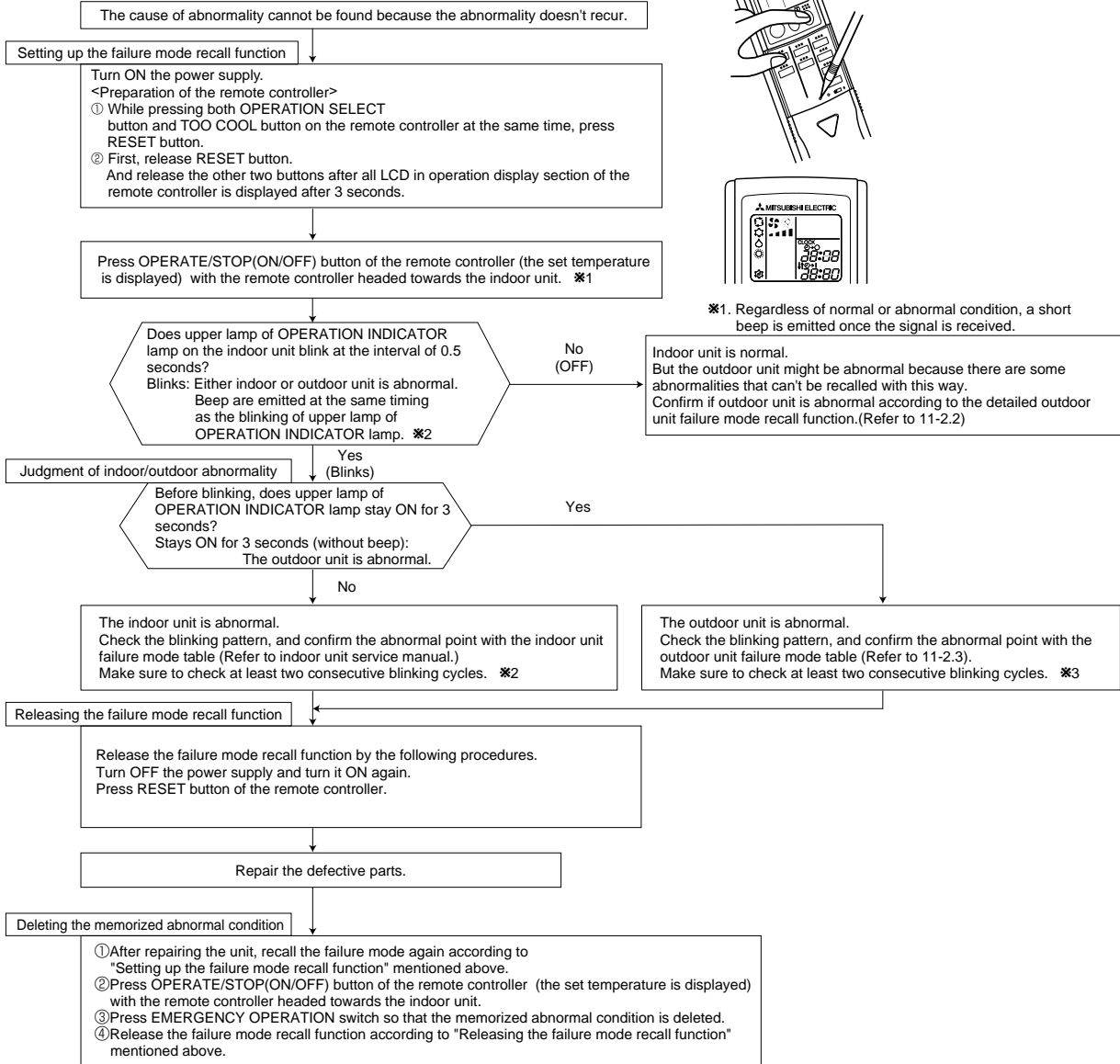
This air conditioner can memorize the abnormal condition which has occurred once.

Even though LED indication listed on the troubleshooting check table (11-4.) 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.

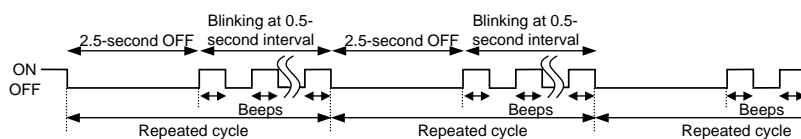
1. Flow chart of failure mode recall function for the indoor/outdoor unit

Operational procedure

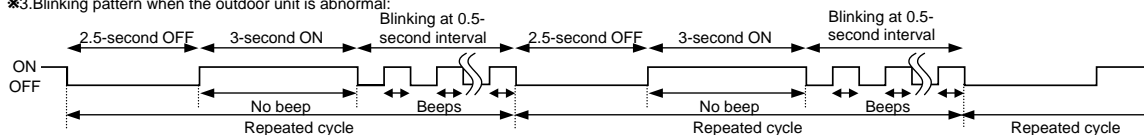


NOTE: 1. Make sure to release the failure mode recall function once it's set up, otherwise the unit cannot operate properly.
2. If the abnormal condition is not deleted from the memory, the last abnormal condition is kept memorized.

※2. Blinking pattern when the indoor unit is abnormal:

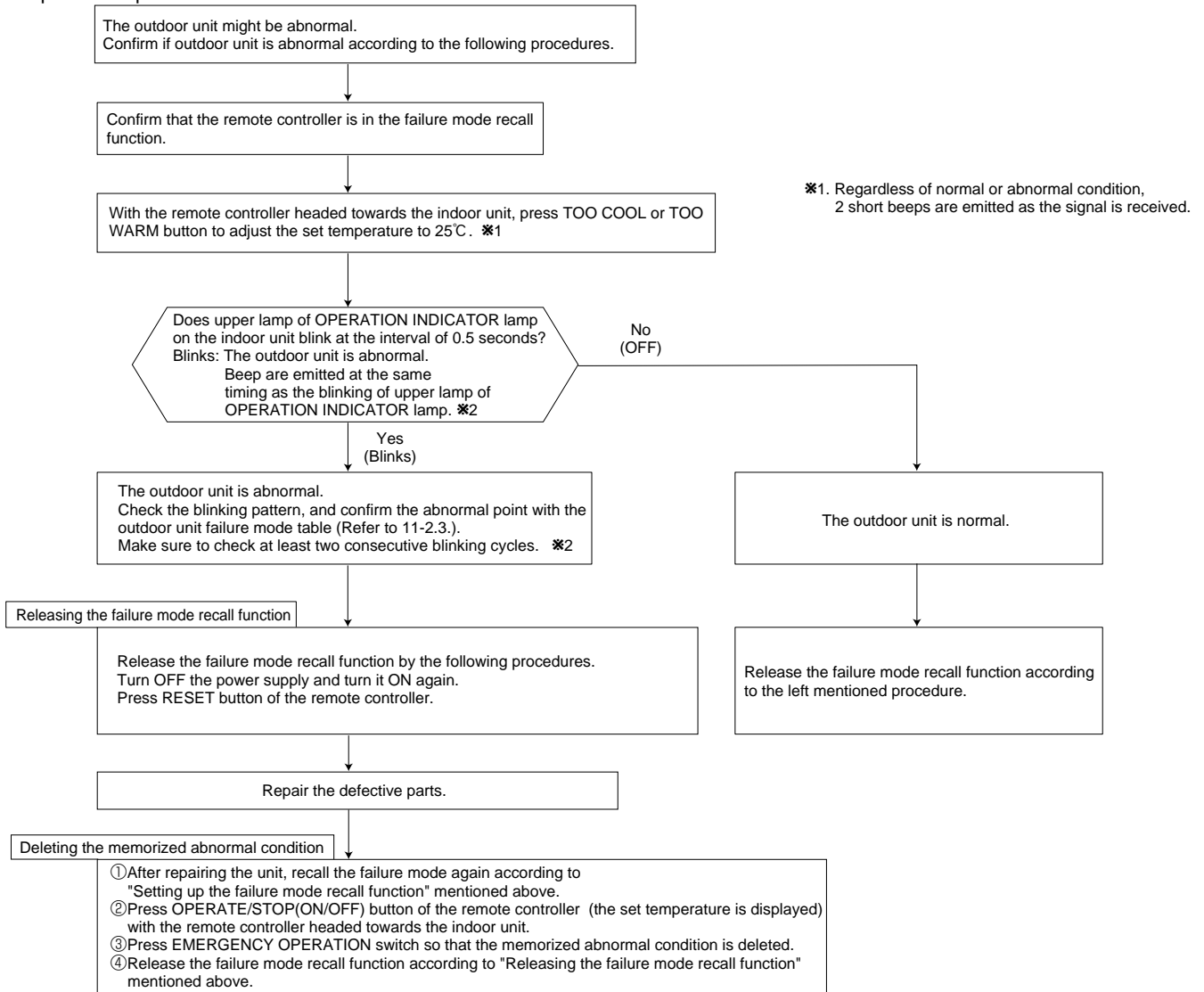


※3. Blinking pattern when the outdoor unit is abnormal:



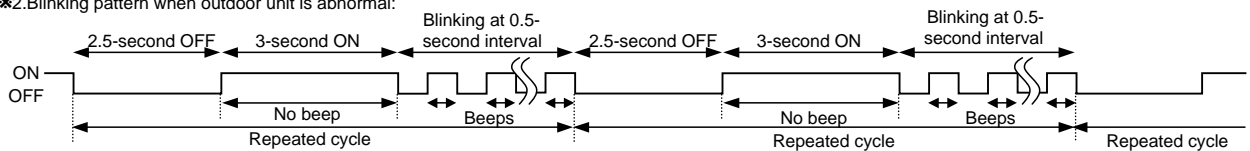
2. Flow chart of the detailed outdoor unit failure mode recall function

Operational procedure



NOTE: 1. Make sure to release the failure mode recall function once it's set up, otherwise the unit cannot operate properly.
2. If the abnormal condition is not deleted from the memory, the last abnormal condition is kept memorized.

※2. Blinking pattern when outdoor unit is abnormal:



3. Outdoor unit failure mode table

| The upper lamp of OPERATION INDICATOR lamp(Indoor unit) | Abnormal point (Failure mode / protection) | LED indication (Outdoor P.C. board) | Condition | Correspondence | Indoor/outdoor unit failure mode recall function | Outdoor unit failure mode recall function |
|---|---|-------------------------------------|--|---|--|---|
| OFF | None (Normal) | — | — | — | — | — |
| 2-time flash 2.5 seconds OFF | Outdoor power system | — | Over current protection stop is continuously performed three times within 1 minute after the compressor gets started. | <ul style="list-style-type: none"> •Reconnect connectors. •Refer to 11-5. Ⓐ) "How to check inverter/compressor". •Check stop valve. | ○ | ○ |
| 3-time flash 2.5 seconds OFF | Discharge temperature thermistor | 1-time flash every 2.5 seconds | Thermistor shorts or opens during compressor running. | <ul style="list-style-type: none"> •Refer to 11-5. Ⓒ) "Check of outdoor thermistors". ※Defective outdoor thermistors can be identified by checking the blinking pattern of LED. | ○ | ○ |
| | Defrost thermistor | 3-time flash 2.5 seconds OFF | | | | |
| | Fin temperature thermistor | 4-time flash 2.5 seconds OFF | | | | |
| | P.C. board temperature thermistor | 2-time flash 2.5 seconds OFF | | | | |
| 4-time flash 2.5 seconds OFF | Overcurrent | 11-time flash 2.5 seconds OFF | 14 A (MUZ-GC25)/24 A (MUZ-GC35) current flow into intelligent power module. | <ul style="list-style-type: none"> •Reconnect compressor connector. •Refer to 11-5. Ⓐ) "How to check inverter/compressor". •Check stop valve. | — | ○ |
| | Compressor synchronous abnormality (Compressor start-up failure protection) | 12-time flash 2.5 seconds OFF | Waveform of compressor current is distorted. | <ul style="list-style-type: none"> •Reconnect compressor connector. •Refer to 11-5. Ⓐ) "How to check inverter/compressor". | — | ○ |
| 5-time flash 2.5 seconds OFF | Discharge temperature | — | Temperature of discharge temperature thermistor exceeds 116°C, compressor stops. Compressor can restart if discharge temperature thermistor reads 100°C or less 3 minutes later. | <ul style="list-style-type: none"> •Check refrigerant circuit and refrigerant amount. •Refer to 11-5. Ⓓ) "Check of LEV". | — | ○ |
| 6-time flash 2.5 seconds OFF | High pressure | — | Temperature indoor coil thermistor exceeds 70°C in HEAT mode. Temperature defrost thermistor exceeds 70°C in COOL mode. | <ul style="list-style-type: none"> •Check refrigerant circuit and refrigerant amount. •Check stop valve. | — | ○ |
| 7-time flash 2.5 seconds OFF | Fin temperature/ P.C. board temperature | 7-time flash 2.5 seconds OFF | Temperature of fin temperature thermistor on the inverter P.C. board exceeds 82°C (MUZ-GC25)/83°C (MUZ-GC35), or temperature of P.C. board temperature thermistor on the inverter P.C. board exceeds 81°C (MUZ-GC25)/85°C (MUZ-GC35). | <ul style="list-style-type: none"> •Check around outdoor unit. •Check outdoor unit air passage. •Refer to 11-5. ①) "Check of outdoor fan motor". | — | ○ |
| 8-time flash 2.5 seconds OFF | Outdoor fan motor | — | Outdoor fan has stopped 3 times in a row within 30 seconds after outdoor fan start-up. | <ul style="list-style-type: none"> •Refer to 11-5. ①) "Check of outdoor fan motor". Refer to 11-5. Ⓜ) "Check of inverter P.C. board". | — | ○ |
| 9-time flash 2.5 seconds OFF | Nonvolatile memory data | 5-time flash 2.5 seconds OFF | Nonvolatile memory data cannot be read properly. | <ul style="list-style-type: none"> •Replace the inverter P.C. board. | ○ | ○ |
| 10-time flash 2.5 seconds OFF | Discharge temperature | — | Temperature of discharge temperature thermistor has been 50°C or less for 20 minutes. | <ul style="list-style-type: none"> •Refer to 11-5. ①) "Check of LEV". •Check refrigerant circuit and refrigerant amount. | — | ○ |
| 11-time flash 2.5 seconds OFF | DC voltage | 8-time flash 2.5 seconds OFF | DC voltage of inverter cannot be detected normally. | <ul style="list-style-type: none"> •Refer to 11-5. Ⓐ) "How to check inverter/compressor". | — | ○ |
| | Each phase current of compressor | 9-time flash 2.5 seconds OFF | Each phase current of compressor cannot be detected normally. | | | |
| 12-time flash 2.5 seconds OFF | Overcurrent Compressor open-phase | 10-time flash 2.5 seconds OFF | 14 A (MUZ-GC25) / 24 A (MUZ-GC35) current flow into intelligent power module (IPM). The open-phase operation of compressor is detected. The interphase short out occurs in the output of the intelligent power module (IPM). The compressor winding shorts out. | <ul style="list-style-type: none"> •Reconnect compressor connector. •Refer to 11-5. Ⓐ) "How to check inverter/compressor". | — | ○ |
| 14-time flash 2.5 seconds OFF | Stop valve (Closed valve) | 14-time flash 2.5 seconds OFF | Closed valve is detected by compressor current. | <ul style="list-style-type: none"> •Check stop valve | ○ | ○ |

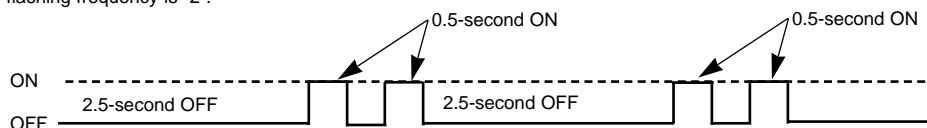
NOTE: Blinking patterns of this mode differ from the ones of Troubleshooting check table (11-3.).

11-3. Troubleshooting check table

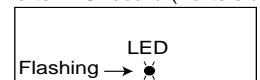
| No. | Symptom | LED indication | Abnormal point/ Condition | Condition | Correspondence | |
|-----|--|--------------------------------|--|--|---|--|
| 1 | Outdoor unit does not operate. | 1-time flash every 2.5 seconds | Outdoor power system | Over current protection stop is continuously performed three times within 1 minute after the compressor gets started, or failure of restart of compressor has repeated 24 times. | <ul style="list-style-type: none"> Reconnect connector of compressor. Refer to 11-5.③ "How to check inverter/ compressor". Check stop valve. | |
| 2 | | | Outdoor thermistors | Discharge temperature thermistor, fin temperature thermistor, defrost thermistor, P.C. board temperature thermistor or ambient temperature thermistor shorts or opens during compressor running. | <ul style="list-style-type: none"> Refer to 11-5.④ "Check of outdoor thermistors". | |
| 3 | | | Outdoor control system | Nonvolatile memory data cannot be read properly. (When the upper lamp of OPERATION INDICATOR lamp of the indoor unit lights up or flashes 7-time.) | Replace inverter P.C. board. | |
| 4 | | 6-time flash 2.5 seconds OFF | Serial signal | The communication fails between the indoor and outdoor unit for 3 minutes. | Refer to 11-5.⑤ "How to check mis-wiring and serial signal error". | |
| 5 | | 11-time flash 2.5 seconds OFF | Stop valve/ Closed valve | Closed valve is detected by compressor current. | Check stop valve. | |
| 6 | | 14-time flash 2.5 seconds OFF | Outdoor unit (Other abnormality) | Outdoor unit is defective. | Refer to 11-2.2. "Flow chart of the detailed outdoor unit failure mode recall function". | |
| 7 | 'Outdoor unit stops and restarts 3 minutes later' is repeated. | 2-time flash 2.5 seconds OFF | Overcurrent protection | 14 A (MUZ-GC25)/ 24 A (MUZ-GC35) current flows into intelligent power module, or compressor repeats after 15 seconds when overcurrent protection occurs with in 10 seconds after compressor starts. (Repeated 24 times at Maximum) | <ul style="list-style-type: none"> Reconnect connector of compressor. Refer to 11-5.③ "How to check inverter/compressor". Check stop valve. | |
| 8 | | 3-time flash 2.5 seconds OFF | Discharge temperature overheat protection | Temperature of discharge temperature thermistor exceeds 116°C, compressor stops. Compressor can restart if discharge temperature thermistor reads 100°C or less 3 minutes later. | <ul style="list-style-type: none"> Check refrigerant circuit and refrigerant amount. Refer to 11-5.④ "Check of LEV". | |
| 9 | | 4-time flash 2.5 seconds OFF | Fin temperature /P.C. board temperature thermistor overheat protection | Temperature of fin temperature thermistor on the heat sink exceeds 82°C (MUZ-GC25)/ 83°C (MUZ-GC35) or temperature of P.C. board temperature thermistor on the inverter P.C.board exceeds 81°C (MUZ-GC25)/ 85°C (MUZ-GC35). | <ul style="list-style-type: none"> Check around outdoor unit. Check outdoor unit air passage. Refer to 11-5.④ "Check of outdoor fan motor". | |
| 10 | | 5-time flash 2.5 seconds OFF | High pressure protection | Indoor coil thermistor exceeds 70°C in HEAT mode. Defrost thermistor exceeds 70°C in COOL mode. | <ul style="list-style-type: none"> Check refrigerant circuit and refrigerant amount. Check stop valve. | |
| 11 | | 8-time flash 2.5 seconds OFF | Compressor synchronous abnormality | The waveform of compressor current is distorted. | <ul style="list-style-type: none"> Reconnect connector of compressor. Refer to 11-5.③ "How to check inverter/compressor". | |
| 12 | | 10-time flash 2.5 seconds OFF | Outdoor fan motor | Outdoor fan has stopped 3 times in a row within 30 seconds after outdoor fan start-up. | <ul style="list-style-type: none"> Refer to 11-5.① "Check of outdoor fan motor". Refer to 11-5.⑤ "Check of inverter P.C. board". | |
| 13 | | 12-time flash 2.5 seconds OFF | Each phase current of compressor | Each phase current of compressor cannot be detected normally | Refer to 11-5.⑤ "How to check inverter/compressor". | |
| 14 | | 13-time flash 2.5 seconds OFF | DC voltage | DC voltage of inverter cannot be detected normally. | Refer to 11-5.⑤ "How to check inverter/compressor". | |
| 15 | | Outdoor unit operates. | 1-time flash 2.5 seconds OFF | Frequency drop by current protection | Current from power outlet exceeds 5.5 A (MUZ-GC25)/ 5.2 A (MUZ-GC35 in COOL mode)/6.1 A (MUZ-GC35 in HEAT mode), compressor frequency lowers. | The unit is normal, but check the following. <ul style="list-style-type: none"> Check if indoor filters are clogged. Check if refrigerant is short. Check if indoor/outdoor unit air circulation is short cycled. |
| 16 | | | 3-time flash 2.5 seconds OFF | Frequency drop by high pressure protection | Temperature of indoor coil thermistor exceeds 55°C in HEAT mode, compressor frequency lowers. | |
| 17 | 4-time flash 2.5 seconds OFF | | Frequency drop by defrosting in COOL mode | Indoor coil thermistor reads 8°C or less in COOL mode, compressor frequency lowers. | | |
| 18 | Outdoor unit operates. | 7-time flash 2.5 seconds OFF | Low discharge temperature protection | Temperature of discharge temperature thermistor has been 50°C or less for 20 minutes. | <ul style="list-style-type: none"> Refer to 11-5.④ "Check of LEV". Check refrigerant circuit and refrigerant amount. | |
| 19 | | 8-time flash 2.5 seconds OFF | PAM protection PAM: Pulse Amplitude Modulation | The overcurrent flows into IGBT(Insulated Gate Bipolar transistor : TR821) or when the bus-bar voltage reaches 320 V or more, PAM stops and restarts. | This is not malfunction. PAM protection will be activated in the following cases: <ul style="list-style-type: none"> ① Instantaneous power voltage drop (Short time power failure) ② When the power supply voltage is high. | |
| 20 | | 9-time flash 2.5 seconds OFF | Inverter check mode | The connector of compressor is disconnected, inverter check mode starts. | Check if the connector of the compressor is correctly connected. Refer to 11-5.⑤ "How to check inverter/ compressor". | |

NOTE: 1. The location of LED is illustrated at the right figure. Refer to 11-6.1.
2. LED is lighted during normal operation.

The flashing frequency shows the number of times the LED blinks after every 2.5-second OFF.
(Example) When the flashing frequency is "2".



Inverter P.C. board (Parts side)



11-4. Trouble criterion of main parts

MUZ-GC25VA
MUZ-GC25VAH

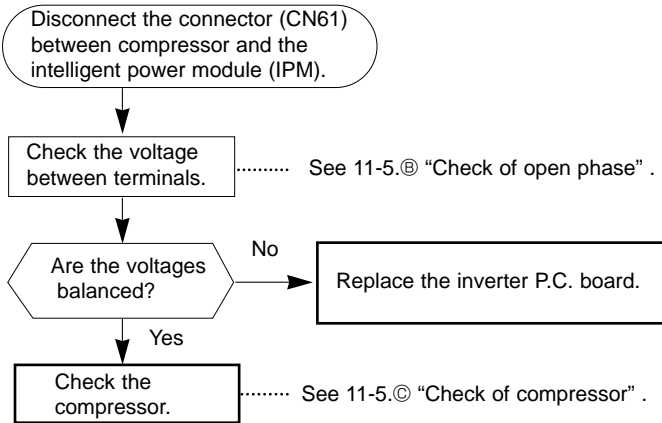
MUZ-GC35VA
MUZ-GC35VAH

| Part name | Check method and criterion | Figure | | | | | | | | | | | | | | | | | | | |
|--|--|-------------------------------|---------------------------|----------|-----------|-----------------------------|-----------------------------|-----------|-------------------------------|-------------------------------|-----------------------------|---------------------------|-----------|-----------------------------|-----------------------------|---------------------------|-----------|---|---|---------------------------|--|
| Defrost thermistor (RT61) | Measure the resistance with a tester. | | | | | | | | | | | | | | | | | | | | |
| Ambient temperature thermistor (RT65) | Refer to 11-7. "Test point diagram and voltage", 1. "Inverter P.C. board", the chart of thermistor. | | | | | | | | | | | | | | | | | | | | |
| Discharge temperature thermistor (RT62) | Measure the resistance with a tester. Before measurement, hold the thermistor with your hands to warm it up. | | | | | | | | | | | | | | | | | | | | |
| Fin temperature thermistor (RT64) | Refer to 11-7. "Test point diagram and voltage", 1. "Inverter P.C. board", the chart of thermistor. | | | | | | | | | | | | | | | | | | | | |
| Compressor (MC) | Measure the resistance between the terminals with a tester. (Part temperature $-20^{\circ}\text{C} \sim 40^{\circ}\text{C}$) | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Normal</th> </tr> <tr> <th>MUZ-GC25</th> <th>MUZ-GC35</th> </tr> </thead> <tbody> <tr> <td>U-V</td> <td rowspan="3">1.58 Ω ~ 2.03 Ω</td> <td rowspan="3">1.43 Ω ~ 1.84 Ω</td> </tr> <tr> <td>U-W</td> </tr> <tr> <td>V-W</td> </tr> </tbody> </table> | | | Normal | | MUZ-GC25 | MUZ-GC35 | U-V | 1.58 Ω ~ 2.03 Ω | 1.43 Ω ~ 1.84 Ω | U-W | V-W | | | | | | | | | |
| | Normal | | | | | | | | | | | | | | | | | | | | |
| | MUZ-GC25 | MUZ-GC35 | | | | | | | | | | | | | | | | | | | |
| U-V | 1.58 Ω ~ 2.03 Ω | 1.43 Ω ~ 1.84 Ω | | | | | | | | | | | | | | | | | | | |
| U-W | | | | | | | | | | | | | | | | | | | | | |
| V-W | | | | | | | | | | | | | | | | | | | | | |
| Outdoor fan motor (MF) INNER FUSE (Only MUZ-GC25) RA6V21-AB 152 $^{+0}_{-5}$ $^{\circ}\text{C}$ CUT OFF RA6V21-BB 126 \pm 2 $^{\circ}\text{C}$ CUT OFF | Measure the resistance between the terminals with a tester. (Part temperature $-20^{\circ}\text{C} \sim 40^{\circ}\text{C}$) | | | | | | | | | | | | | | | | | | | | |
| R.V. coil (21S4) | Measure the resistance between the terminals with a tester. (Part temperature $-20^{\circ}\text{C} \sim 40^{\circ}\text{C}$) | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th rowspan="2">Color of the lead wire</th> <th colspan="3">Normal</th> </tr> <tr> <th colspan="2">MUZ-GC25</th> <th>MUZ-GC35</th> </tr> </thead> <tbody> <tr> <td>WHT – BLK</td> <td>292 Ω ~ 374 Ω</td> <td>212 Ω ~ 272 Ω</td> <td>31 Ω ~ 41 Ω</td> </tr> <tr> <td>BLK – RED</td> <td>236 Ω ~ 304 Ω</td> <td>234 Ω ~ 300 Ω</td> <td>31 Ω ~ 41 Ω</td> </tr> <tr> <td>RED – WHT</td> <td>—</td> <td>—</td> <td>31 Ω ~ 41 Ω</td> </tr> </tbody> </table> | Color of the lead wire | Normal | | | MUZ-GC25 | | MUZ-GC35 | WHT – BLK | 292 Ω ~ 374 Ω | 212 Ω ~ 272 Ω | 31 Ω ~ 41 Ω | BLK – RED | 236 Ω ~ 304 Ω | 234 Ω ~ 300 Ω | 31 Ω ~ 41 Ω | RED – WHT | — | — | 31 Ω ~ 41 Ω | |
| Color of the lead wire | Normal | | | | | | | | | | | | | | | | | | | | |
| | MUZ-GC25 | | MUZ-GC35 | | | | | | | | | | | | | | | | | | |
| WHT – BLK | 292 Ω ~ 374 Ω | 212 Ω ~ 272 Ω | 31 Ω ~ 41 Ω | | | | | | | | | | | | | | | | | | |
| BLK – RED | 236 Ω ~ 304 Ω | 234 Ω ~ 300 Ω | 31 Ω ~ 41 Ω | | | | | | | | | | | | | | | | | | |
| RED – WHT | — | — | 31 Ω ~ 41 Ω | | | | | | | | | | | | | | | | | | |
| Expansion valve coil (LEV) | Measure the resistance with a tester. (Part temperature $-20^{\circ}\text{C} \sim 40^{\circ}\text{C}$) | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Color of the lead wire</th> <th>Normal</th> </tr> </thead> <tbody> <tr> <td>WHT – RED</td> <td rowspan="4">38 Ω ~ 50 Ω</td> </tr> <tr> <td>RED – ORN</td> </tr> <tr> <td>YLW – BRN</td> </tr> <tr> <td>BRN – BLU</td> </tr> </tbody> </table> | | Color of the lead wire | Normal | WHT – RED | 38 Ω ~ 50 Ω | RED – ORN | YLW – BRN | BRN – BLU | | | | | | | | | | | | |
| Color of the lead wire | Normal | | | | | | | | | | | | | | | | | | | | |
| WHT – RED | 38 Ω ~ 50 Ω | | | | | | | | | | | | | | | | | | | | |
| RED – ORN | | | | | | | | | | | | | | | | | | | | | |
| YLW – BRN | | | | | | | | | | | | | | | | | | | | | |
| BRN – BLU | | | | | | | | | | | | | | | | | | | | | |
| Defrost heater (H) | Measure the resistance with a tester. (Part temperature $-20^{\circ}\text{C} \sim 40^{\circ}\text{C}$) | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th colspan="2">Normal</th> </tr> <tr> <th>MUZ-GC25</th> <th>MUZ-GC35</th> </tr> </thead> <tbody> <tr> <td>313 Ω ~ 402 Ω</td> <td>333 Ω ~ 428 Ω</td> </tr> </tbody> </table> | Normal | | MUZ-GC25 | MUZ-GC35 | 313 Ω ~ 402 Ω | 333 Ω ~ 428 Ω | | | | | | | | | | | | | | |
| Normal | | | | | | | | | | | | | | | | | | | | | |
| MUZ-GC25 | MUZ-GC35 | | | | | | | | | | | | | | | | | | | | |
| 313 Ω ~ 402 Ω | 333 Ω ~ 428 Ω | | | | | | | | | | | | | | | | | | | | |

11-5. Troubleshooting flow

When OPERATION INDICATOR lamp flashes 5-times.
Outdoor unit does not operate.

A How to check inverter/ compressor



B Check of open phase

- With the connector between the compressor and the intelligent power module disconnected, activate the inverter and check if the inverter is normal by measuring the balance of voltage between the terminals.

Output voltage 115V

<< Operation method >>

Start cooling or heating operation by pressing EMERGENCY OPERATION switch on the indoor unit. (Test run operation : refer to 8-3.)

<< Measurement point >>

at 3 points

BLK (U)-WHT (V)

BLK (U)-RED (W)

WHT(V)-RED (W)

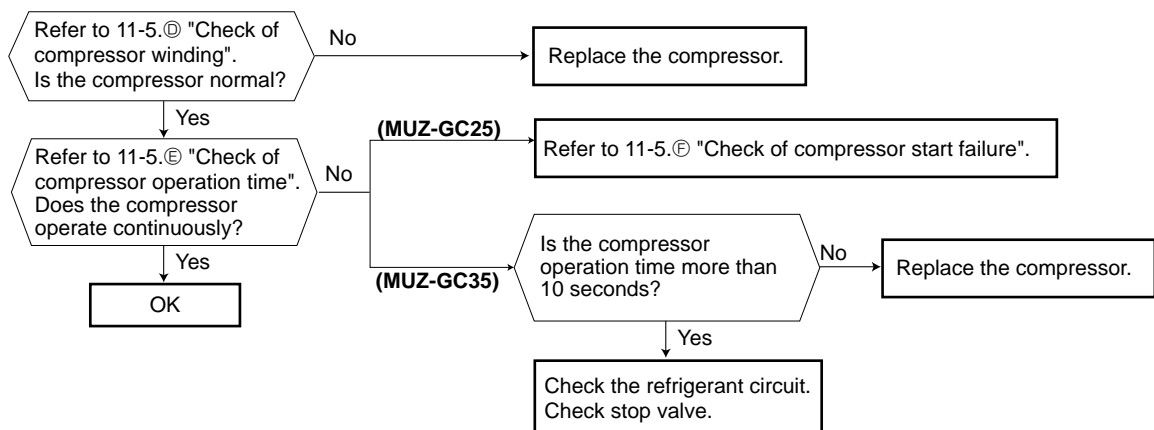
※ Measure AC voltage between the lead wires at 3 points.

9-time flash



- NOTE:** 1. Output voltage varies according to power supply voltage.
2. Measure the voltage by analog type tester.
3. During this check, LED of inverter P.C. board flashes 9 times. (Refer to 11-6.1.)

C Check of compressor



D Check of compressor winding

- Disconnect the connector (CN61) between the compressor and intelligent power module, and measure the resistance between the compressor terminals.

<<Measurement point>>

at 3 points

BLK-WHT

BLK-RED

WHT-RED

* Measure the resistance between the lead wires at 3 points.

<<Judgement>>

Refer to 11-4.

0[Ω]Abnormal [short]

Infinite[Ω]Abnormal [open]

NOTE: 1. Be sure to zero the ohmmeter before measurement.

2. Winding resistance for each phase at 20°C.

Refer to 3.SPECIFICATION.

E Check of compressor operation time

- Connect the compressor and activate the inverter. Then measure the time until the inverter stops due to over current.

<<Operation method>>

Start heating or cooling operation by pressing EMERGENCY

OPERATION switch on the indoor unit.

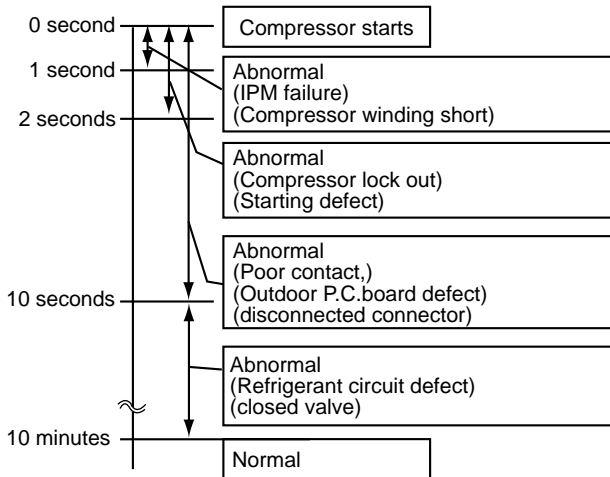
(Test run operation : Refer to 8-3.)

<<Measurement>>

Measure the time from the start of compressor to the stop of compressor due to over current.

<<Judgement>>

For reference



F Check of compressor start failure

Confirm that 1~5 is normal.

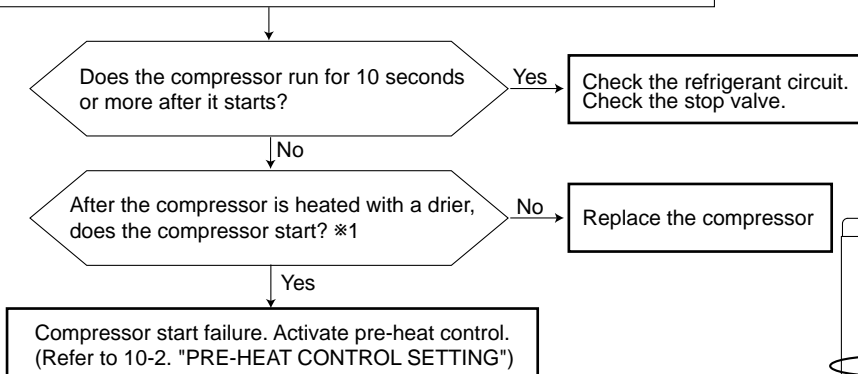
•Electrical circuit check

①Contact of the compressor connector (including CN61)

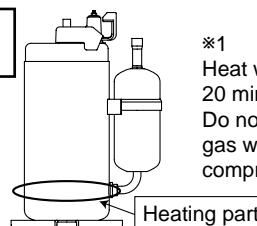
②Output voltage of inverter P.C.board and balance of them (See 11-5.③)

③Direct current voltage between DB61(+) and (-) on inverter P.C.board

④Voltage between outdoor terminal block S1-S2

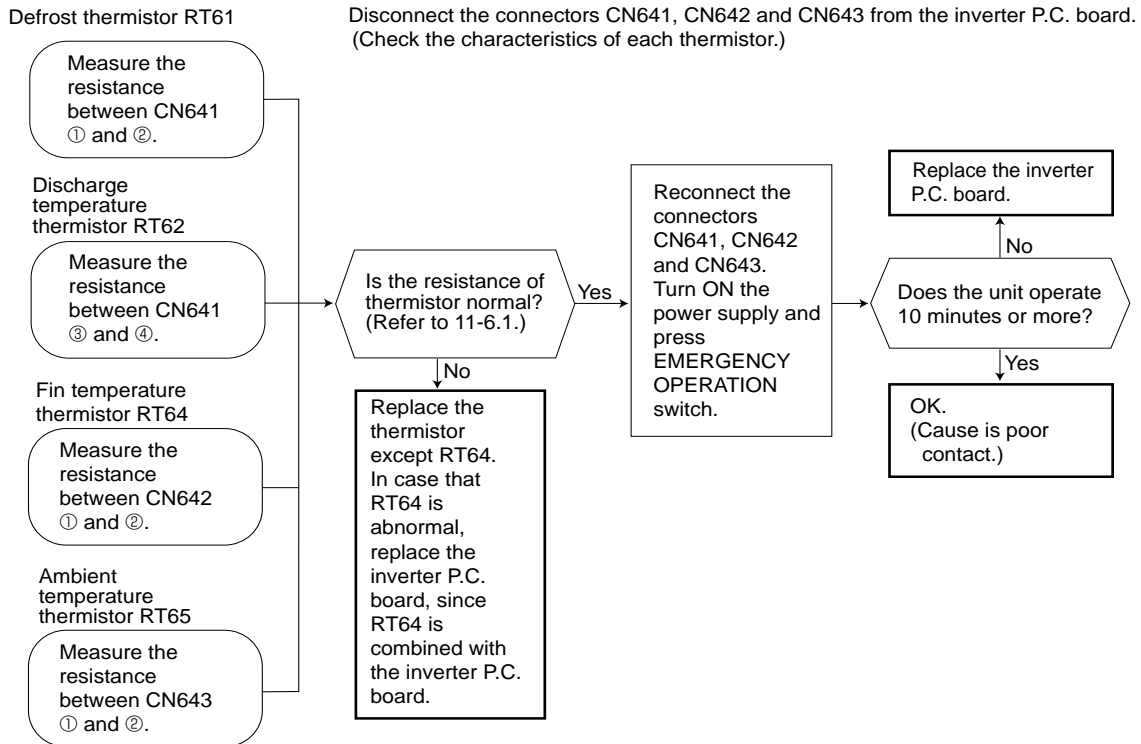


*1
Heat with a drier for about 20 minutes.
Do not recover refrigerant gas while heating compressor with a drier.



**When OPERATION INDICATOR lamp flashes 6-time.
The thermistors in the outdoor unit are abnormal.**

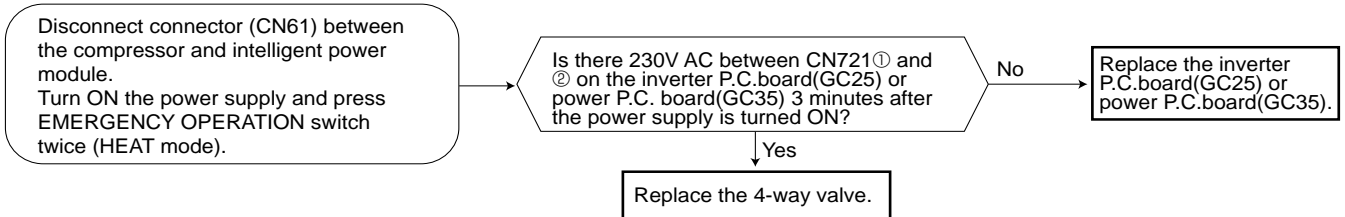
G Check of outdoor thermistors



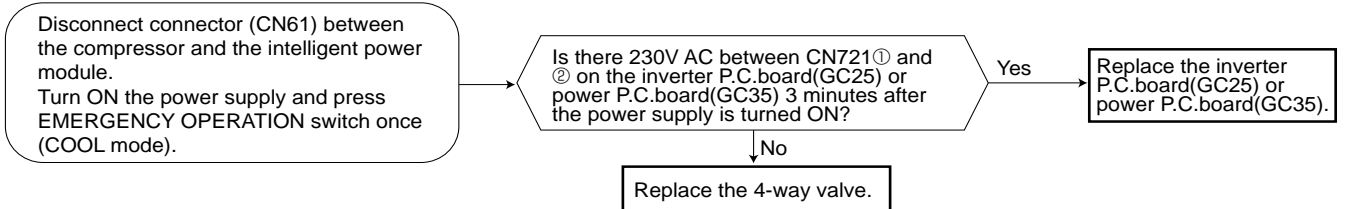
H Check of R.V. coil

- * First of all, measure the resistance of R.V. coil to check if the coil is defective. Refer to 11-4.
- * In case CN721 is not connected or R.V. coil is open, voltage is generated between the terminal pins of the connector although any signal is not being transmitted to R.V. coil. Check if CN721 is connected.

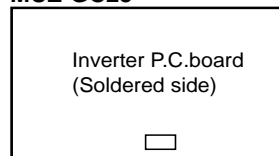
Unit operates COOL mode even if it is set to HEAT mode.



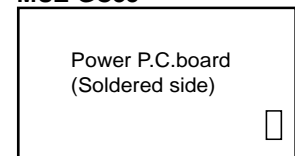
Unit operates HEAT mode even if it is set to COOL mode.



MUZ-GC25



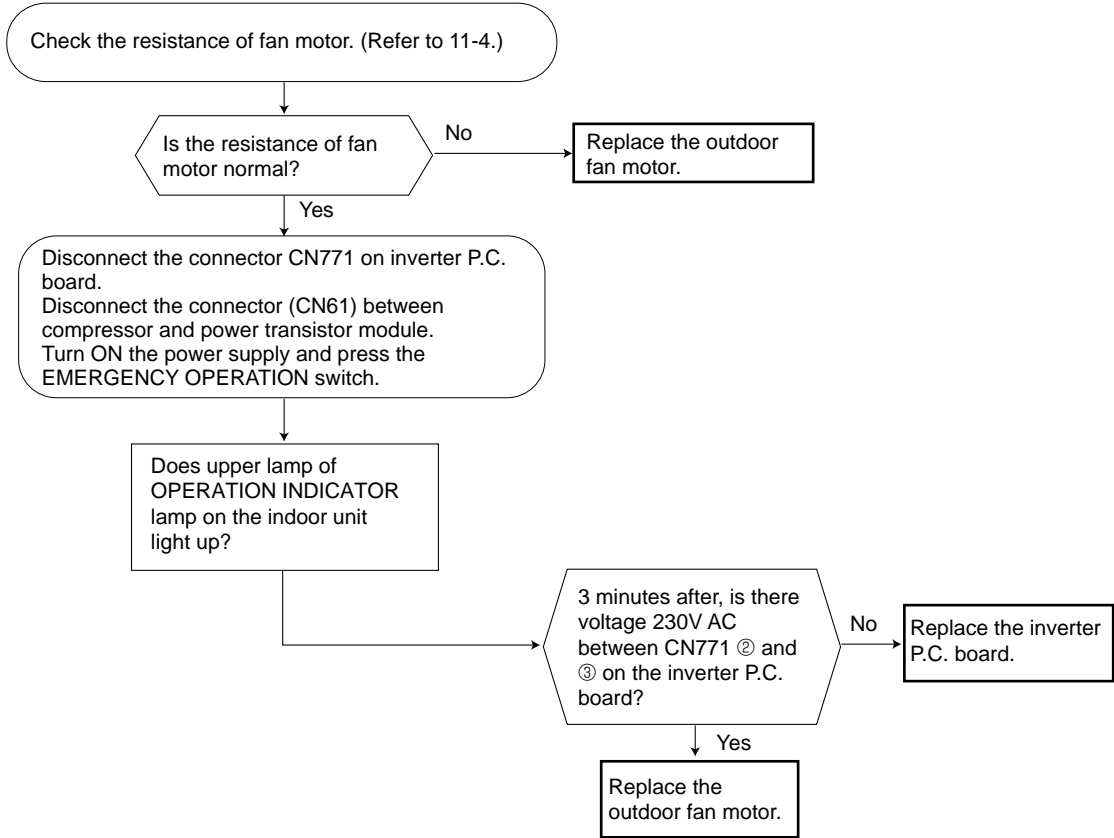
MUZ-GC35



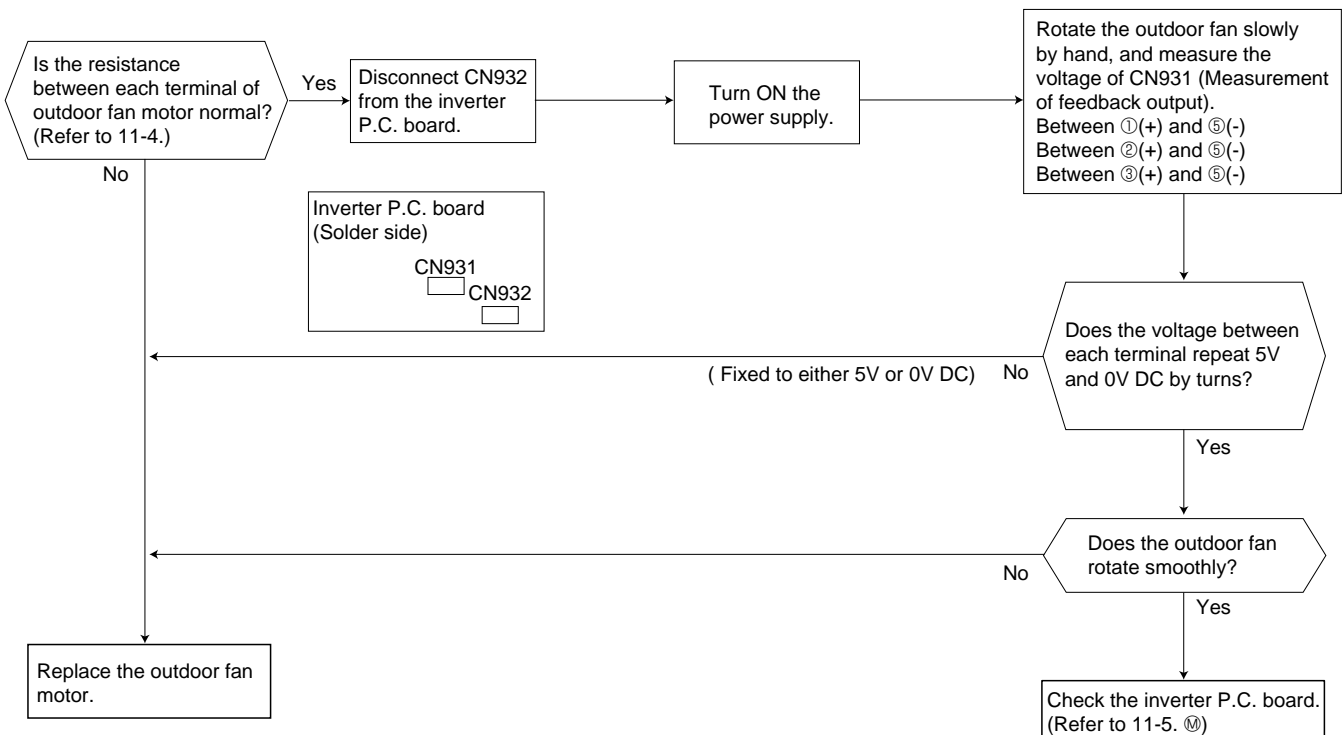
Outdoor fan motor does not operate.

① Check of outdoor fan motor

MUZ-GC25VA MUZ-GC25VAH

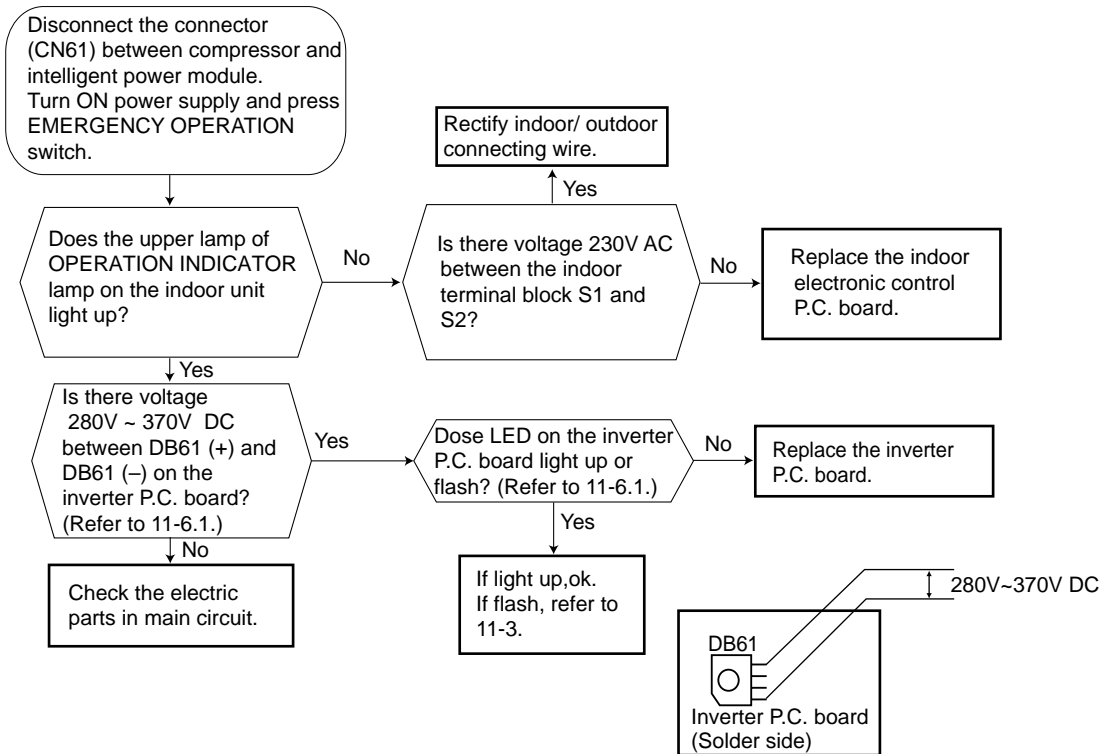


MUZ-GC35VA MUZ-GC35VAH



Inverter does not operate.

J Check of power supply

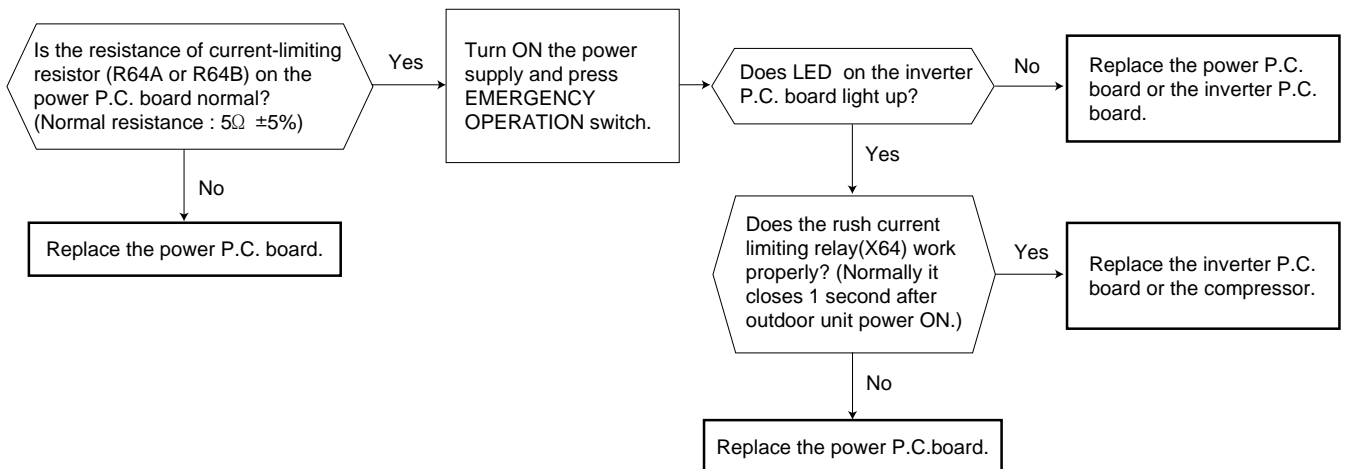


Outdoor unit does not operate at all, or stops immediately due to overcurrent.

K Check of current-limiting resistor

MUZ-GC35VA MUZ-GC35VAH

When the current-limiting resistor is open, the rush current limiting relay (X64) may not work properly.

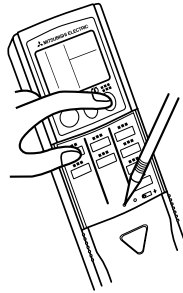


● Check other electric parts in the main circuit together in the case that the current-limiting resistor is defective.

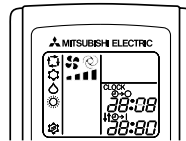
Heating/Cooling does not work sufficiently.

Ⓐ Check of LEV (Expansion valve)

Turn ON the power supply.
 <Preparation of the remote controller>
 ① While pressing both OPERATION SELECT button and TOO COOL button on the remote controller at the same time, press RESET button.
 ② First, release RESET button.
 And release the other two buttons after all LCD except the set temperature in operation display section of the remote controller is displayed after 3 seconds.



Press OPERATE/STOP(ON/OFF) button of the remote controller (the set temperature is displayed) with the remote controller headed towards the indoor unit. ※1



※1. Regardless of normal or abnormal condition, a short beep is emitted once the signal is received.

Expansion valve operates in full-opening direction.

Do you hear the expansion valve "click, click....."?
 Do you feel the expansion valve vibrate on touching it ?

Yes → OK

No

Is LEV properly fixed to the expansion valve?

No → Properly fix the LEV to the expansion valve.

Yes

Does the resistance of LEV have the characteristics? (Refer to 11-4.)

Yes → Measure each voltage between connector pins of CN724 on the inverter P.C. board.

Measure each voltage between connector pins of CN724 on the inverter P.C. board.
 1.Pin③(-) – Pin①(+)
 2.Pin④(-) – Pin①(+)
 3.Pin⑤(-) – Pin①(+)
 4.Pin⑥(-) – Pin①(+)
 Is there about 3~5V AC between each?
 NOTE: Measure the voltage by an analog tester.

No → Replace the LEV.

Yes → Replace the expansion valve.

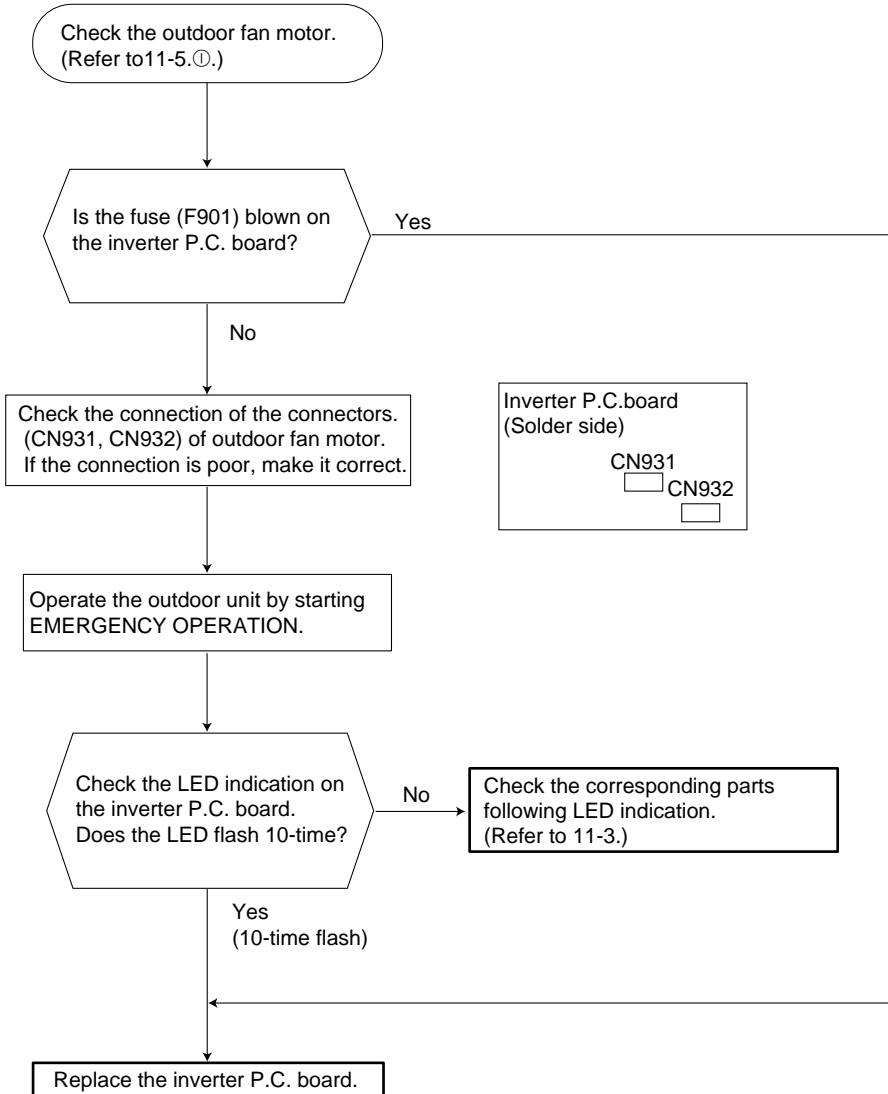
No → Replace the inverter P.C. board.

NOTE : After check of LEV, do the undermentioned operations.
 1. Turn OFF the power supply and turn ON it again.
 2. Press RESET button on the remote controller.

Outdoor fan motor does not operate , or stops immediately after starting up.

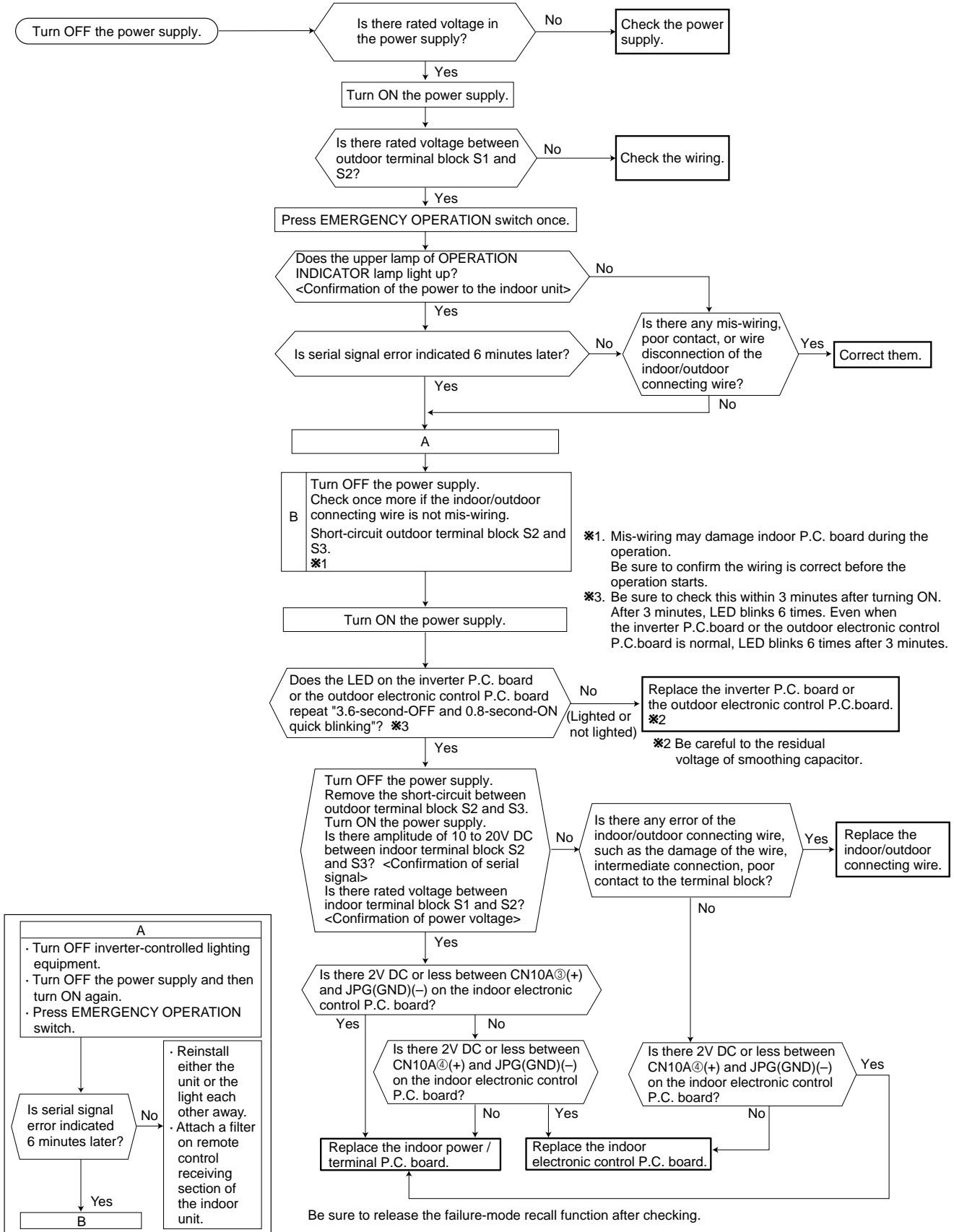
M Check of inverter P.C. board

MUZ-GC35VA MUZ-GC35VAH

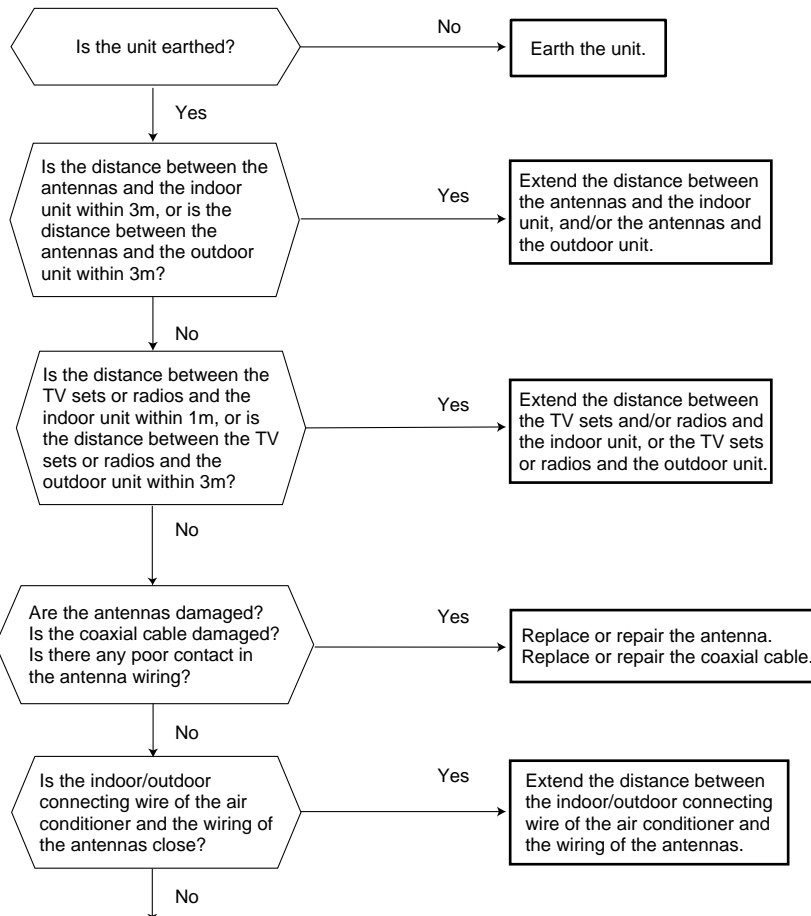


- When unit cannot operate neither by the remote controller nor by EMERGENCY OPERATION switch. Indoor unit does not operate.
- When OPERATION INDICATOR lamp flashes ON and OFF in every 0.5-seconds. Outdoor unit doesn't operate.

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



① Electromagnetic noise enters into TV sets or radios



Even if all of the above conditions are fulfilled, the electromagnetic noise may enter, depending on the electric field strength or the installation condition (combination of specific conditions such as antennas or wiring).
 Check the followings before asking for service.

- 1.Devices affected by the electromagnetic noise
 TV sets, radios (FM/AM broadcast, shortwave)
- 2.Channel, frequency, broadcast station affected by the electromagnetic noise
- 3.Channel, frequency, broadcast station unaffected by the electromagnetic noise
- 4.Layout of ;
 indoor/outdoor unit of the air conditioner, indoor/outdoor wiring, grounding wire, antennas, wiring from antennas, receiver
- 5.Electric field intensity of the broadcast station affected by the electromagnetic noise
- 6.Presence or absence of amplifier such as booster
- 7.Operation condition of air conditioner when the electromagnetic noise enters in.
 - 1)Turn OFF the power supply once, and then turn ON the power supply. In this situation, check for the electromagnetic noise.
 - 2)Within 3 minutes after turning ON the power supply, press OPERATE/STOP (ON/OFF) button on the remote controller for power ON, and check for the electromagnetic noise.
 - 3)After a short time (3 minutes later after turning ON), the outdoor unit starts running. During operation, check for the electromagnetic noise.
 - 4)Press OPERATE/STOP (ON/OFF) button on the remote controller for power OFF, when the outdoor unit stops but the indoor/outdoor communication still runs on. In this situation, check for the electromagnetic noise.

After checking the above, consult the service representative.

Outdoor base gets frozen.

Ⓟ Check of defrost heater

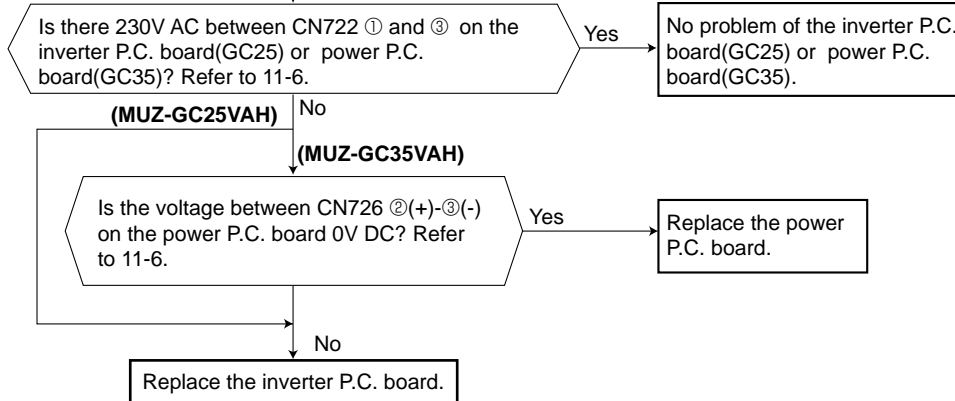
MUZ-GC25VAH MUZ-GC35VAH

Check the following points before checking electric continuity.

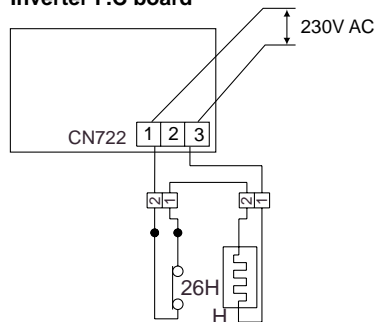
- 1) Does the resistance of ambient temperature thermistor have the characteristics? Refer to 11-6.1.
- 2) Is the resistance of defrost heater normal? Refer to 11-4.
- 3) Does the heater protector remain conducted (not open)?
- 4) Are both ambient temperature thermistor and circuit of defrost heater securely connected to connectors?

In HEAT mode, for more than 5 minutes, let the ambient temperature thermistor continue to read 5°C or below, and let the defrost thermistor continue to read -1°C or below.

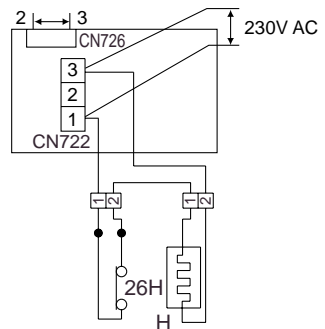
NOTE: In case both thermistors are more than the above temperature, cool them with cold water etc...



**MUZ-GC25VAH
Inverter P.C board**



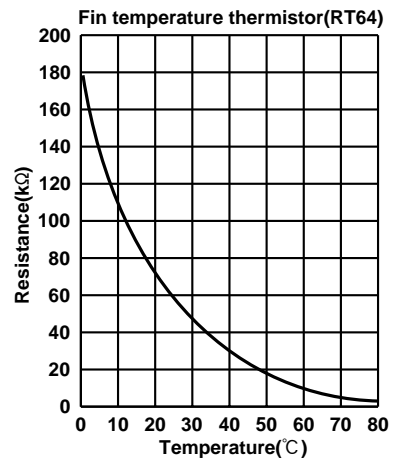
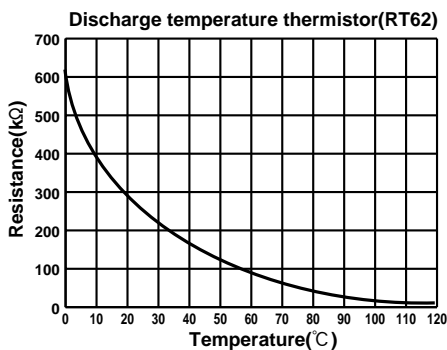
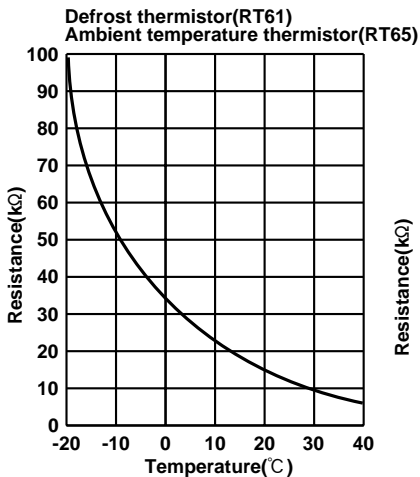
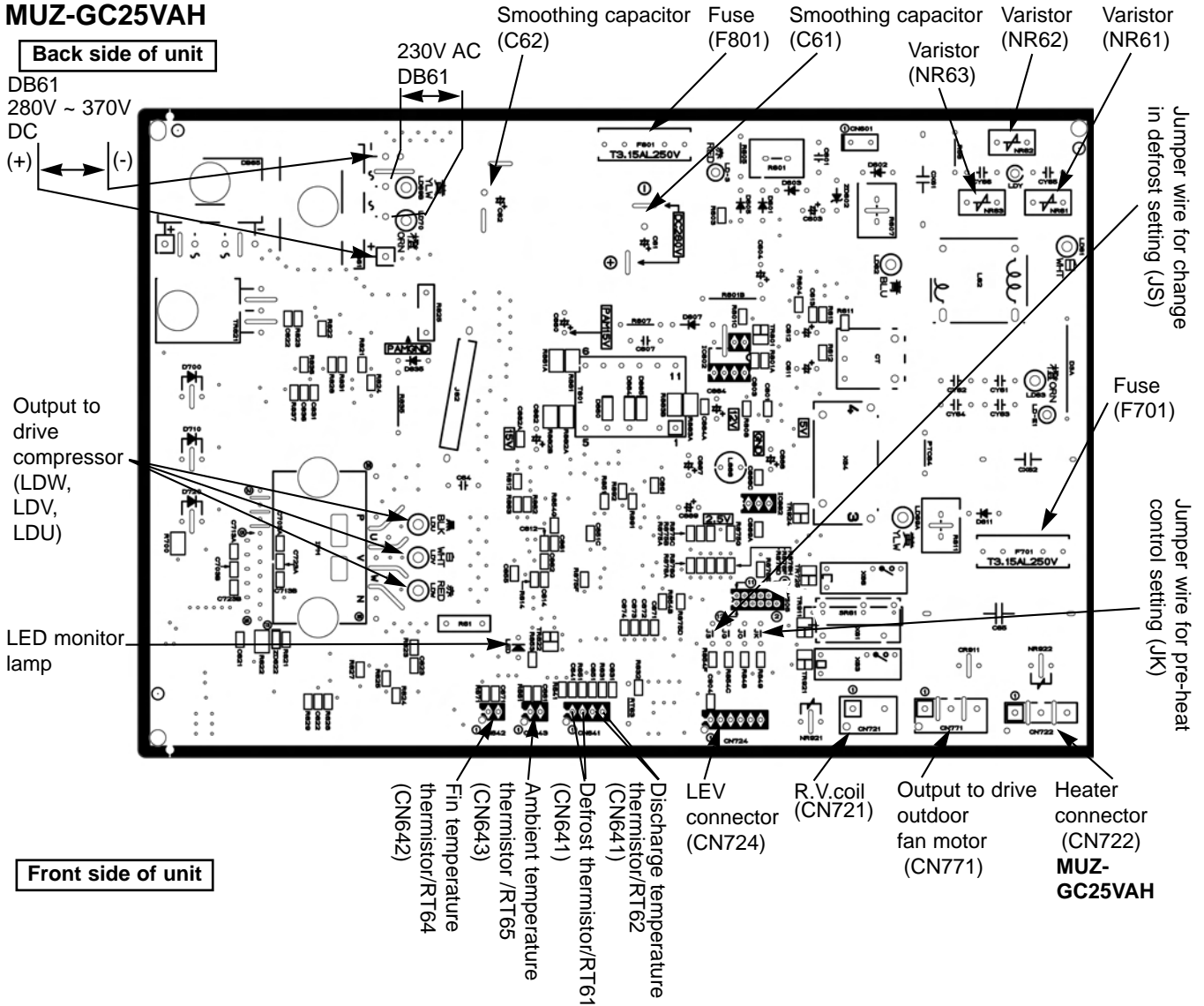
**MUZ-GC35VAH
Power P.C board**



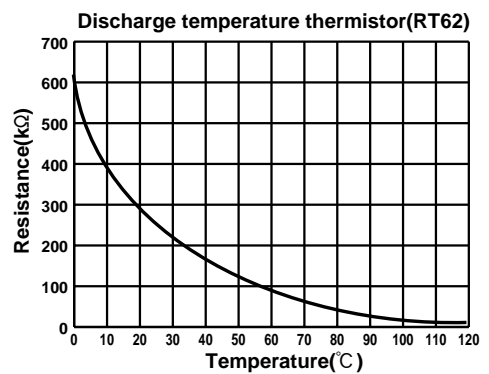
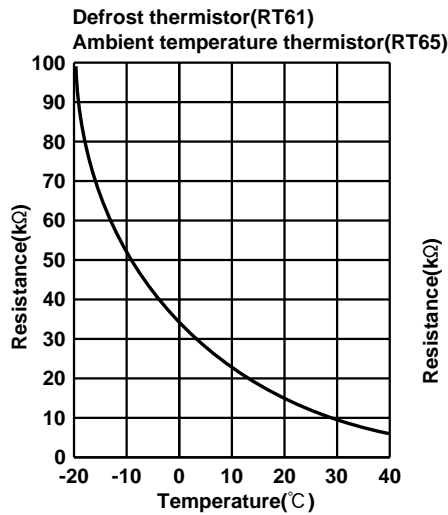
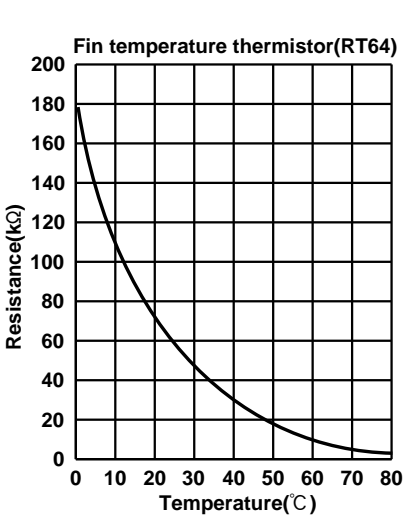
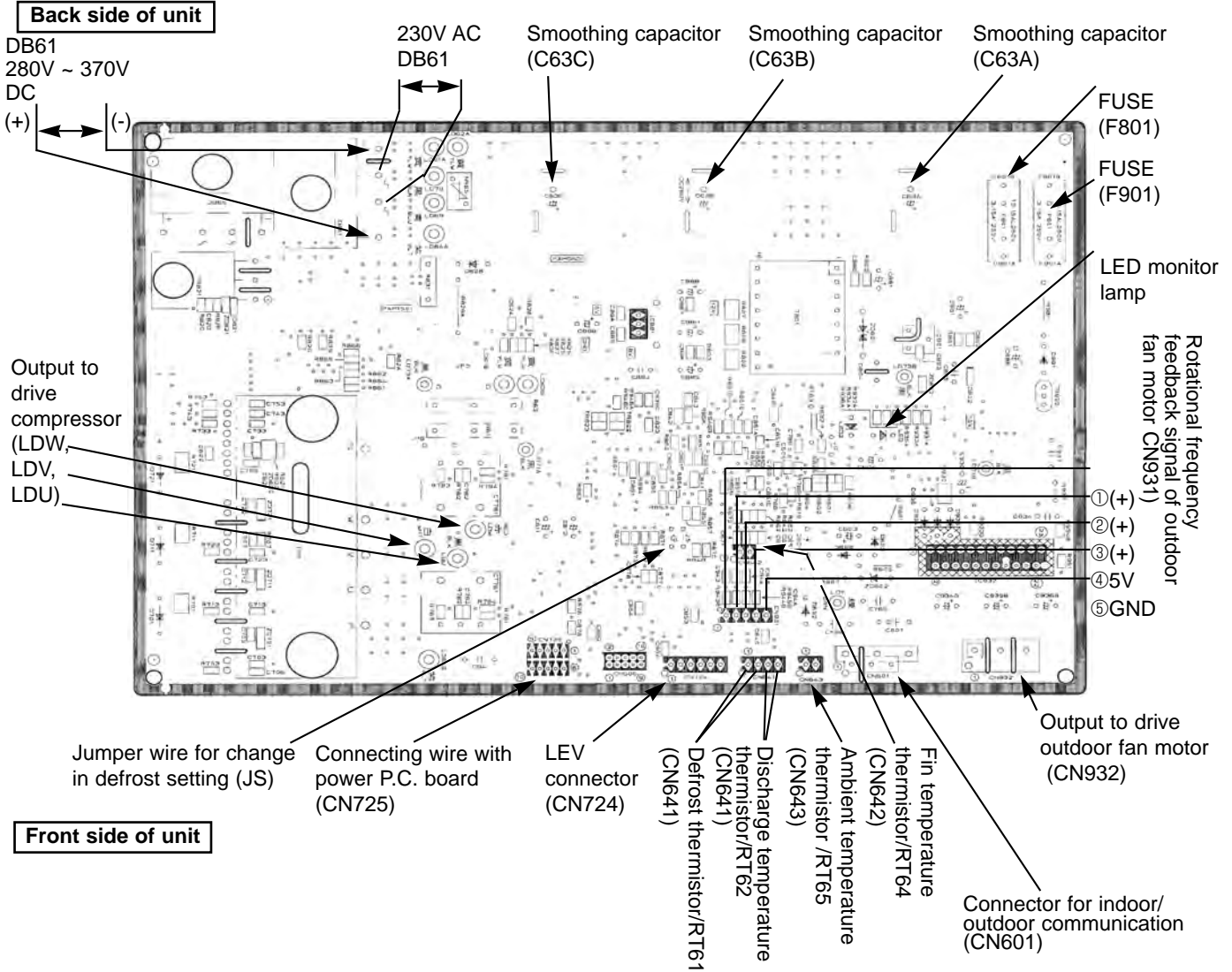
11-6. Test point diagram and voltage

1. Inverter P.C. board

MUZ-GC25VA MUZ-GC25VAH



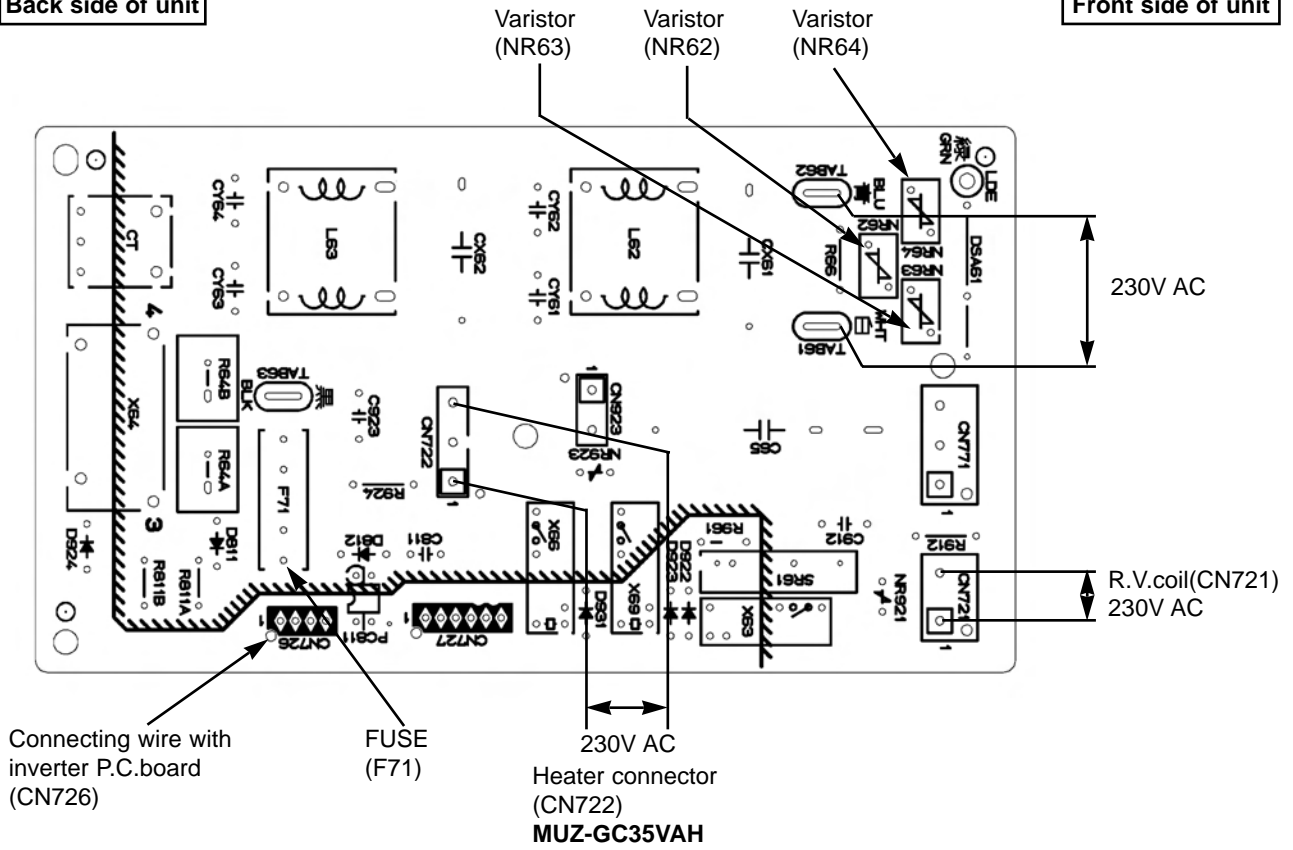
1. Inverter P.C. board
MUZ-GC35VA
MUZ-GC35VAH



2. Power P.C. board
MUZ-GC35VA
MUZ-GC35VAH

Back side of unit

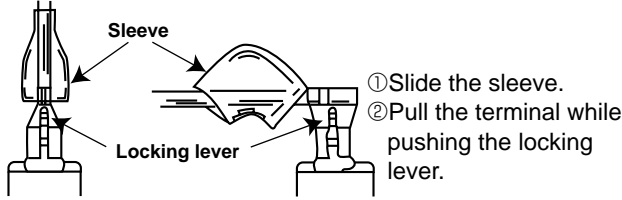
Front side of unit



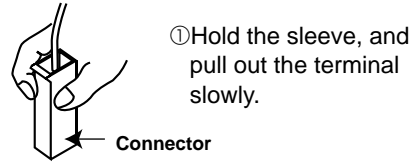
<"Terminal with locking mechanism" Detaching points>

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.

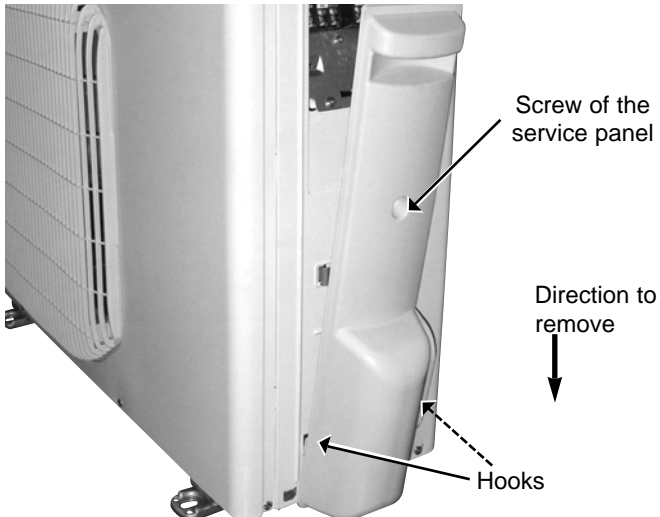
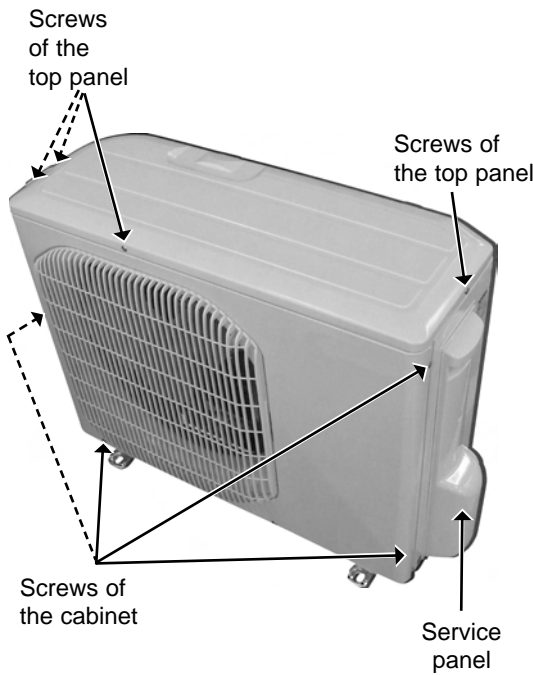


(2) The terminal with this connector has the locking mechanism.



12-1. MUZ-GC25VA MUZ-GC25VAH

NOTE : Turn OFF power supply before disassembling.

| OPERATING PROCEDURE | PHOTOS |
|--|--|
| <p>1. Removing cabinet and panels</p> <p>(1) Remove the screw fixing the service panel. (See Photo 2.) (2) Pull down the service panel and remove it. (See Photo 2.) (3) Disconnect the power supply and indoor/outdoor connecting wire. (4) Remove the screws fixing the top panel. (See Photo 1.) (5) Remove the top panel. (See Photo 1.) (6) Remove the screws fixing the cabinet. (See Photo 1.) (7) Remove the cabinet. (8) Remove the screws fixing the back panel. (9) Remove the back panel.</p> <p>Photo 2</p>  | <p>Photo 1</p>  |

OPERATING PROCEDURE

2. Removing the inverter assembly, inverter P.C. board

- (1) Remove the cabinet and panels. (Refer to 1.)
- (2) Disconnect the earth wires (See Photo 3.), the lead wire to the reactor and the following connectors;
<Inverter P.C. board>
CN641 (Defrost thermistor and discharge temperature thermistor)
CN643 (Ambient temperature thermistor)
CN721 (4-way valve)
CN771 (Fan motor)
CN724 (LEV)
CN772 (Defrost heater **GC25VAH**)
- (3) Disconnect the compressor connector (CN61).
- (4) Remove the screws fixing the relay panel. (See Photo 3.)
- (5) Remove the inverter assembly. (See Photo 4.)
- (6) Remove the inverter P.C. board from the inverter assembly.

3. Removing R.V. coil

- (1) Remove the cabinet and panels. (Refer to 1.)
- (2) Remove the R.V. coil. (See Photo 5.)

4. Removing the discharge temperature thermistor and defrost thermistor

- (1) Remove the cabinet and panels. (Refer to 1.)
- (2) Pull out the discharge temperature thermistor from its holder. (See Photo 6.)
- (3) Pull out the defrost thermistor from its holder. (See Photo 5.)

PHOTOS

Photo 3

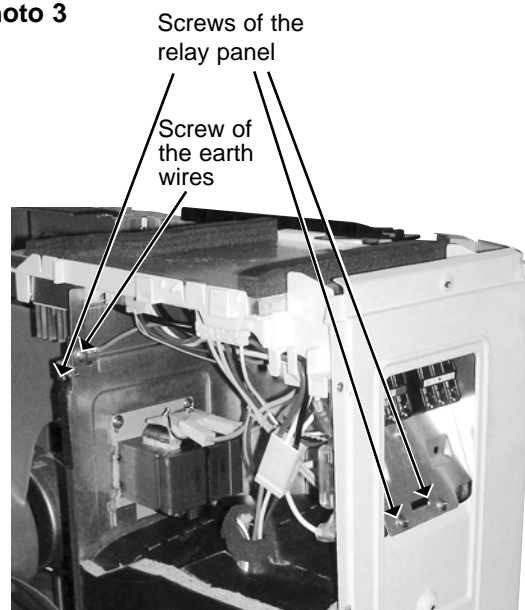


Photo 4 (Inverter assembly)

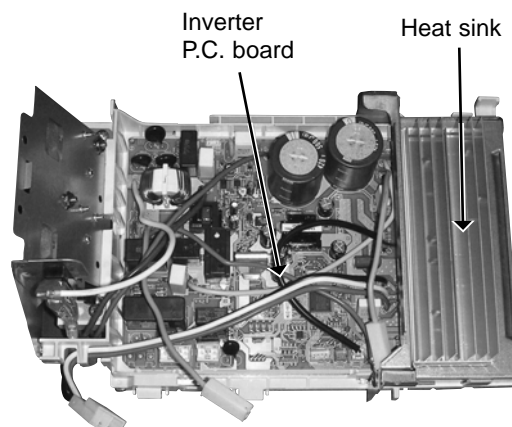
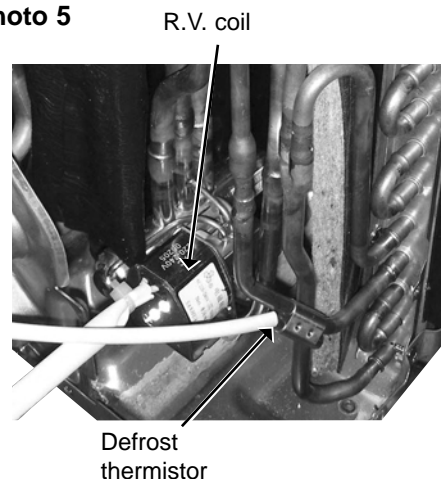


Photo 5



OPERATING PROCEDURE

5. Removing outdoor fan motor

- (1) Remove the cabinet and panels. (Refer to 1.)
- (2) Disconnect the connectors for outdoor fan motor.
- (3) Remove the propeller nut. (See Photo 7.)
- (4) Remove the propeller. (See Photo 7.)
- (5) Remove the screws fixing the fan motor. (See Photo 7.)
- (6) Remove the fan motor.

6. Removing the compressor and 4-way valve

- (1) Remove the cabinet and panels. (Refer to 1.)
- (2) Remove the inverter assembly. (Refer to 2.)
- (3) Recover gas from the refrigerant circuit.
NOTE: Recover gas from the pipes until the pressure gauge shows 0 kg/cm² (0 MPa).
- (4) Detach the welded part of the suction and the discharge pipe connected with compressor.
- (5) Remove the nuts of compressor legs.
- (6) Remove the compressor.
- (7) Detach the welded part of pipes connected with 4-way valve. (See Photo 8.)

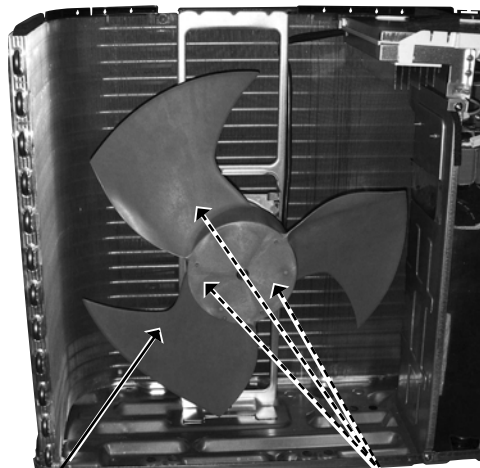
PHOTOS

Photo 6



Discharge temperature thermistor

Photo 7



Propeller

Screws of the outdoor fan motor

Photo 8



Welded parts of 4-way valve

12-2. MUZ-GC35VA MUZ-GC35VAH

NOTE : Turn OFF power supply before disassembling.

OPERATING PROCEDURE

1. Removing the cabinet

- (1) Remove the screw fixing the service panel. (See Photo 2.)
- (2) Pull down the service panel and remove it. (See Photo 2.)
- (3) Disconnect the power supply and indoor/outdoor connecting wire.
- (4) Remove the screws fixing the top panel. (See Photo 1.)
- (5) Remove the top panel. (See Photo 1.)
- (6) Remove the screws fixing the cabinet.
- (7) Remove the cabinet.
- (8) Remove the screws fixing the back panel.
- (9) Remove the back panel.

PHOTOS

Photo 1

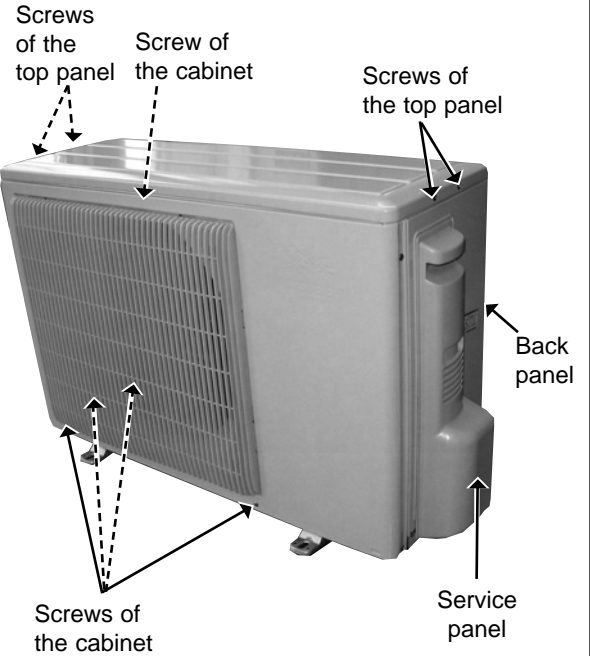
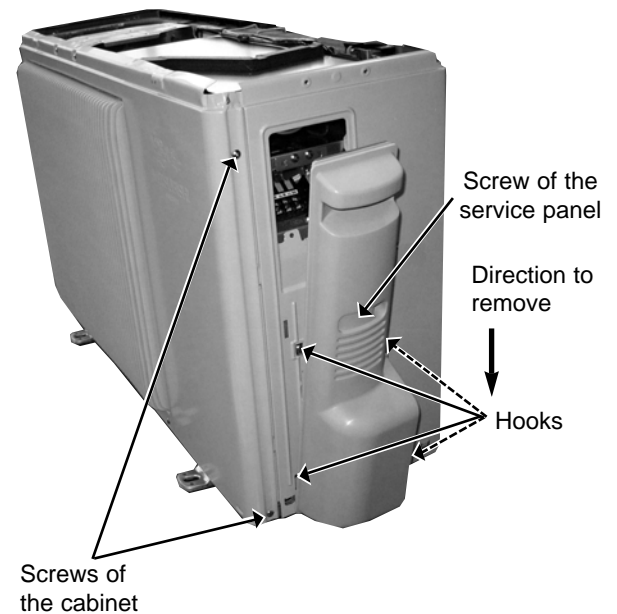


Photo 2



OPERATING PROCEDURE

2. Removing the inverter assembly, inverter P.C. board and power P.C. board

- (1) Remove the cabinet and panels. (Refer to 1.)
- (2) Disconnect the earth wires (See Photo 3.), the lead wire to the reactor and the following connectors;
<Power P.C. board>
CN721 (4-way valve)
CN722 (Defrost heater) MUZ-GC35VAH
<Inverter P.C. board>
CN931, CN932 (Fan motor)
CN641 (Defrost thermistor and discharge temperature thermistor)
CN643 (Ambient temperature thermistor)
CN724 (LEV)
- (3) Remove the compressor connector (CN61).
- (4) Remove the screws fixing the relay panel. (See Photo 3.)
- (5) Remove the inverter assembly. (See Photo 4.)
- (6) Remove the inverter P.C. board from the inverter assembly.
- (7) Remove the screw fixing the power P.C. board. (See Photo 4.)
- (8) Remove the power P.C. board from the inverter assembly.

3. Removing R.V. coil

- (1) Remove the cabinet and panels. (Refer to 1.)
- (2) Remove the R.V. coil. (See Photo 5.)

4. Removing the discharge temperature thermistor and defrost thermistor

- (1) Remove the cabinet and panels. (Refer to 1.)
- (2) Pull out the discharge temperature thermistor from its holder. (See Photo 5.)
- (3) Pull out the defrost thermistor from its holder. (See Photo 6.)

PHOTOS

Photo 3

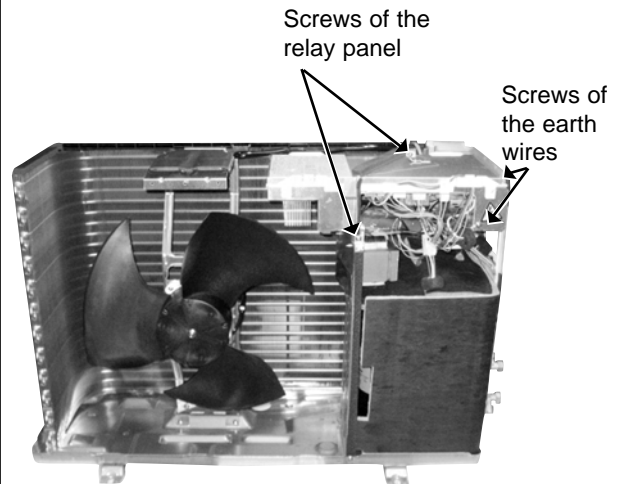


Photo 4 (inverter assembly)

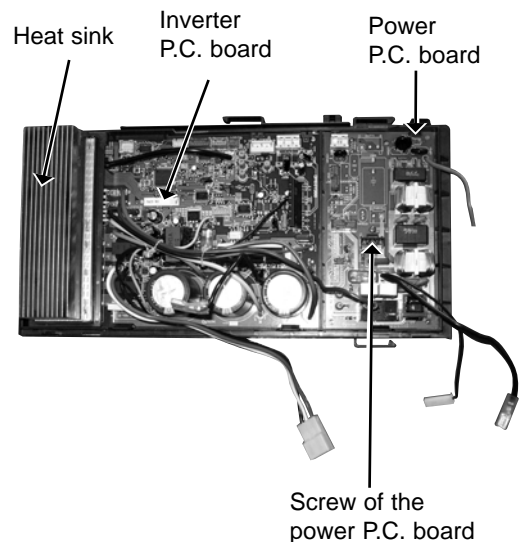
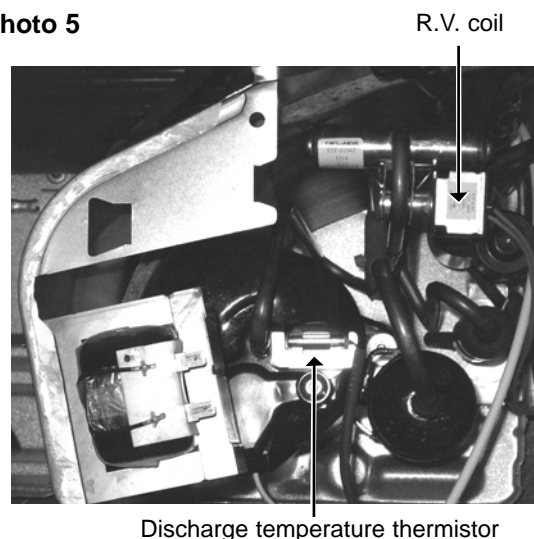


Photo 5



OPERATING PROCEDURE

5. Removing outdoor fan motor

- (1) Remove the cabinet and panels. (Refer to 1.)
- (2) Disconnect the connectors for outdoor fan motor.
- (3) Remove the propeller nut. (See Photo 7.)
- (4) Remove the propeller. (See Photo 7.)
- (5) Remove the screws fixing the fan motor. (See Photo 7.)
- (6) Remove the fan motor.

6. Removing the compressor and 4-way valve

- (1) Remove the cabinet and panels. (Refer to 1.)
- (2) Remove the inverter assembly. (Refer to 2.)
- (3) Recover gas from the refrigerant circuit.
NOTE: Recover gas from the pipes until the pressure gauge shows 0kg/cm² (0 MPa).
- (4) Detach the welded part of the suction and the discharge pipe connected with compressor.
- (5) Remove the nuts of compressor legs.
- (6) Remove the compressor.
- (7) Detach the welded part of pipes connected with 4-way valve. (See Photo 8.)

PHOTOS

Photo 6

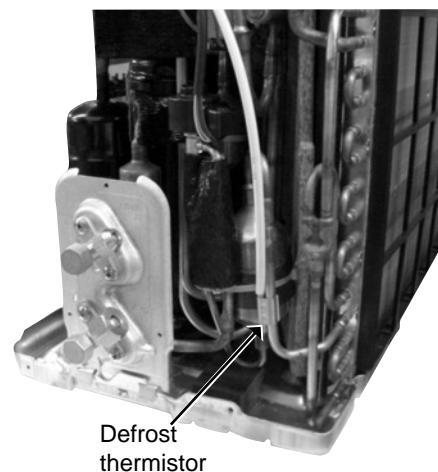
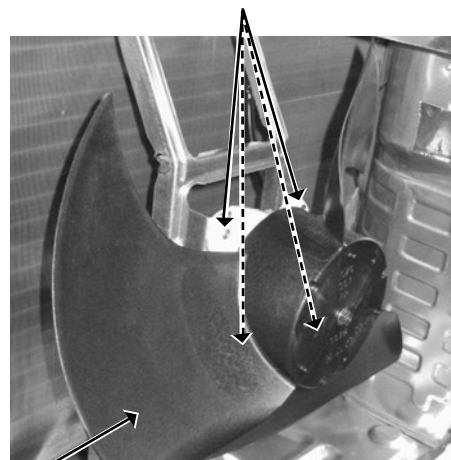


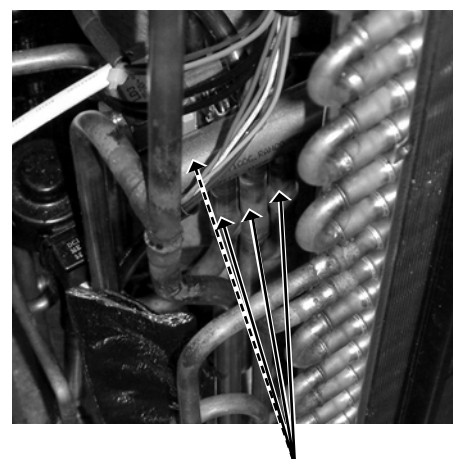
Photo 7

Screws of the outdoor fan motor



Propeller

Photo 8



Welded parts of 4-way valve



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