OUTDOOR UNIT

SERVICE MANUAL

No. OBH469

Wireless type
Models
MUZ-GC25VA - E1
MUZ-GC25VAH - E1
MUZ-GC35VA - E1
MUZ-GC35VAH - E1

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

MUZ-GA25VA ➔ MUZ-GC25VA
MUZ-GA25VAH ➔ MUZ-GC25VAH
MUZ-GA35VA ➔ MUZ-GC35VA
MUZ-GA35VAH ➔ MUZ-GC35VAH

1. Outdoor model has been changed.

2 PART NAMES AND FUNCTIONS

MUZ-GC25VA
MUZ-GA25VAH

MUZ-GC35VA
MUZ-GC35VAH

ACCESSORIES

<table>
<thead>
<tr>
<th></th>
<th>MUZ-GC25VA</th>
<th>MUZ-GC35VA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drain socket</td>
<td>1</td>
<td>1</td>
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</tbody>
</table>

Air inlet
Piping
Drain hose
Air outlet
Drain outlet
## SPECIFICATION

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

**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

*#1 Measured under rated operating frequency*
### Specifications and rating conditions of main electric parts

<table>
<thead>
<tr>
<th>Item</th>
<th>Model</th>
<th>MUZ-GC25VA</th>
<th>MUZ-GC25VAH</th>
<th>MUZ-GC35VA</th>
<th>MUZ-GC35VAH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current transformer</td>
<td>(CT)</td>
<td>20A</td>
<td></td>
<td>20A</td>
<td></td>
</tr>
<tr>
<td>Smoothing capacitor</td>
<td>(C61,C62)</td>
<td>500μF 420V</td>
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</tr>
<tr>
<td>Diode module</td>
<td>(DB61)</td>
<td>15A 600V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diode module</td>
<td>(DB65)</td>
<td>10A 600V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuse</td>
<td>(F61)</td>
<td>T20AL250V</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Defrost heater</td>
<td>(H)</td>
<td>230V 130W</td>
<td>230V 138W</td>
<td></td>
<td></td>
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<tr>
<td>Expansion valve module</td>
<td>(LEV)</td>
<td>CAM-MD12ME 12VDC</td>
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<tr>
<td>Reactor</td>
<td>(L61)</td>
<td>7A 18.0mH</td>
<td>10A 23.0mH</td>
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<tr>
<td>Current-detecting resistor</td>
<td>(R61)</td>
<td>45mΩ 5W</td>
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<td></td>
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<tr>
<td>Current-limiting PTC thermistor</td>
<td>(R825,R831)</td>
<td>33Ω</td>
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<tr>
<td>Current-limiting resistor</td>
<td>(R64A, R64B)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terminal block</td>
<td>(TB1,TB2)</td>
<td>3P</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Relay</td>
<td>(X61)</td>
<td>2A 240V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R.V. coil</td>
<td>(21S4)</td>
<td>SHF-4-10W5</td>
<td>STF-01A503</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heater protector</td>
<td>(26H)</td>
<td>Open 45°C</td>
<td></td>
<td>Open 45°C</td>
<td></td>
</tr>
<tr>
<td>Outdoor fan motor thermal fuse</td>
<td></td>
<td>Open 152°C (RA6V21-AB) or Open 128°C (RA6V21-BB)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IGBT</td>
<td>(TR821)</td>
<td>3A 600V</td>
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</tbody>
</table>
**4 NOISE CRITERIA CURVES**

**MUZ-GC25VA**  
**MUZ-GC25VAH**

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SPL(dB(A))</th>
</tr>
</thead>
<tbody>
<tr>
<td>COOLING</td>
<td>46</td>
</tr>
<tr>
<td>HEATING</td>
<td>47</td>
</tr>
</tbody>
</table>

**MUZ-GC35VA**  
**MUZ-GC35VAH**

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SPL(dB(A))</th>
</tr>
</thead>
<tbody>
<tr>
<td>COOLING</td>
<td>47</td>
</tr>
<tr>
<td>HEATING</td>
<td>48</td>
</tr>
</tbody>
</table>

Test conditions:
- **Cooling**: Dry-bulb temperature 35°C,  
  Wet-bulb temperature 6°C
- **Heating**: Dry-bulb temperature 7°C
5 OUTLINES AND DIMENSIONS

MUZ-GC25VA
MUZ-GC25VAH

REQUIRED SPACE

MUZ-GC35VA
MUZ-GC35VAH

REQUIRED SPACE

UNIT: MM

REQUIRED SPACE

Basically open 100 mm or more without any obstruction in front and on both sides of the unit.

Open two sides of left, right, or rear side.

Basic installation

Basic installation

Basic installation
<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>NAME</th>
<th>SYMBOL</th>
<th>NAME</th>
<th>SYMBOL</th>
<th>NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT</td>
<td>CURRENT TRANSFORMER</td>
<td>CT2</td>
<td>EXPANSION VALVE COIL</td>
<td>CT5</td>
<td>AMBIENT TEMP. THERMISTOR</td>
</tr>
<tr>
<td>CA</td>
<td>SMOOTHING CAPACITOR</td>
<td>CA1</td>
<td>REACTOR</td>
<td>CA2</td>
<td>CURRENT-DETECTING RESISTOR</td>
</tr>
<tr>
<td>DB61, DB62</td>
<td>DIODE MODULE</td>
<td>DB63, DB64</td>
<td>CMC COIL</td>
<td>DB64, DB65</td>
<td>CURRENT-LIMITING RESISTOR</td>
</tr>
<tr>
<td>GB61</td>
<td>SURGE ABSORBER</td>
<td>MB</td>
<td>COMPRESSOR</td>
<td>TB1, TB2</td>
<td>TERMINAL BLOCK</td>
</tr>
<tr>
<td>F61</td>
<td>FUSE (100A 240V)</td>
<td>MF</td>
<td>FAN MOTOR</td>
<td>TB3</td>
<td>SWITCHING POWER TRANSISTOR</td>
</tr>
<tr>
<td>F71</td>
<td>FUSE (15A 250V)</td>
<td>MR61, MR62</td>
<td>VARISTOR</td>
<td>T201</td>
<td>TRANSFORMER</td>
</tr>
<tr>
<td>FR01, FR02</td>
<td>FUSE (10A 250V)</td>
<td>RT61</td>
<td>DEFROST THERMISTOR</td>
<td>X65, X64</td>
<td>RELAY</td>
</tr>
<tr>
<td>IC801</td>
<td>INTELLIGENT POWER DEVICE</td>
<td>RT62</td>
<td>DISCHARGE TEMP. THERMISTOR</td>
<td>21S4</td>
<td>REVERSING VALVE COIL</td>
</tr>
<tr>
<td>IPA</td>
<td>INTELLIGENT POWER MODULE</td>
<td>RT64</td>
<td>FIN TEMP. THERMISTOR</td>
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<td></td>
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</tbody>
</table>
MAX. REFRIGERANT PIPING LENGTH and MAX. HEIGHT DIFFERENCE

<table>
<thead>
<tr>
<th>Model</th>
<th>Refrigerant piping : m</th>
<th>Piping size O.D : mm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max. length A</td>
<td>Max. Height difference B</td>
</tr>
<tr>
<td>MUZ-GC25VA</td>
<td>20</td>
<td>12</td>
</tr>
<tr>
<td>MUZ-GC25VAH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUZ-GC35VA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUZ-GC35VAH</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

ADDITIONAL REFRIGERANT CHARGE (R410A:g)

<table>
<thead>
<tr>
<th>Model</th>
<th>Outdoor unit precharged</th>
<th>Refrigerant piping length (one way)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>5m</td>
</tr>
<tr>
<td>MUZ-GC25VA</td>
<td>750</td>
<td>0</td>
</tr>
<tr>
<td>MUZ-GC25VAH</td>
<td></td>
<td>850</td>
</tr>
<tr>
<td>MUZ-GC35VA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUZ-GC35VAH</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculation: Xg=30 g/m × (Refrigerant piping length (m)–5)

NOTE: Refrigerant piping exceeding 7 m requires additional refrigerant charge according to the calculation.
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
   (2) Indoor outlet air wet-bulb temperature : °C WB
   (3) Outdoor intake air dry-bulb temperature : °C DB
   (4) Total input: W
   (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-GC25VAH

MUZ-GC35VAH

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

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.)

<table>
<thead>
<tr>
<th>Dry-bulb temperature(°C)</th>
<th>Relative humidity(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>50</td>
</tr>
<tr>
<td>25</td>
<td>60</td>
</tr>
<tr>
<td>30</td>
<td>70</td>
</tr>
</tbody>
</table>

NOTE: The unit of pressure has been changed to MPa on the international system of units (SI unit system).
The conversion factor is: $1 \text{MPa (Gauge)} = 10.2 \text{kgf/ff (Gauge)}$

**Outdoor low pressure**

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

**Outdoor unit current**

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

**HEAT operation**

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

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

**Outdoor unit current**

- **MUZ-GC25VAH**
- **MUZ-GC25VA**
- **MUZ-GC35VAH**
- **MUZ-GC35VA**
### PERFORMANCE DATA COOL operation at Rated frequency

**MUZ-GC25VA**  **MUZ-GC25VAH**

**CAPACITY:** 2.5 (kW)  **INPUT:** 665 (W)

<table>
<thead>
<tr>
<th>OUTDOOR DB (°C)</th>
<th>INDOOR DB (°C)</th>
<th>INDOOR WB (°C)</th>
<th>Q (kW)</th>
<th>SHF (kW)</th>
<th>INPUT (W)</th>
<th>Q (kW)</th>
<th>SHF (kW)</th>
<th>INPUT (W)</th>
<th>Q (kW)</th>
<th>SHF (kW)</th>
<th>INPUT (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>18</td>
<td>2.94</td>
<td>1.79</td>
<td>0.61</td>
<td>532</td>
<td>2.81</td>
<td>1.72</td>
<td>0.61</td>
<td>559</td>
<td>2.70</td>
<td>1.65</td>
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<tr>
<td>22</td>
<td>18</td>
<td>2.94</td>
<td>1.91</td>
<td>0.65</td>
<td>532</td>
<td>2.81</td>
<td>1.83</td>
<td>0.65</td>
<td>559</td>
<td>2.70</td>
<td>1.76</td>
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<tr>
<td>20</td>
<td>3.06</td>
<td>1.62</td>
<td>0.53</td>
<td>559</td>
<td>2.94</td>
<td>1.56</td>
<td>0.53</td>
<td>592</td>
<td>2.85</td>
<td>1.51</td>
<td>535</td>
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<tr>
<td>22</td>
<td>3.19</td>
<td>1.31</td>
<td>0.41</td>
<td>579</td>
<td>3.08</td>
<td>1.26</td>
<td>0.41</td>
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<td>3.00</td>
<td>1.23</td>
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<td>2.94</td>
<td>2.03</td>
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<td>2.81</td>
<td>1.94</td>
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<td>559</td>
<td>2.70</td>
<td>1.86</td>
<td>689</td>
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<td>2.94</td>
<td>1.67</td>
<td>0.57</td>
<td>592</td>
<td>2.85</td>
<td>1.62</td>
<td>689</td>
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<tr>
<td>22</td>
<td>3.19</td>
<td>1.43</td>
<td>0.45</td>
<td>579</td>
<td>3.08</td>
<td>1.38</td>
<td>0.45</td>
<td>615</td>
<td>3.00</td>
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<td>638</td>
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<td>1.33</td>
<td>615</td>
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</tbody>
</table>

**NOTE:**
- Q : Total capacity (kW)  
- SHF : Sensible heat factor  
- SHC : Sensible heat capacity (kW)  
- INPUT : Total power input (W)  
- WB : Wet-bulb temperature  
- DB : Dry-bulb temperature
## PERFORMANCE DATA COOL operation at Rated frequency

**MUZ-GC25VA**  **MUZ-GC25VAH**

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

<table>
<thead>
<tr>
<th>INDOOR DB (°C)</th>
<th>OUTDOOR DB (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>35</td>
</tr>
<tr>
<td>Q</td>
<td>SHC</td>
</tr>
<tr>
<td>-------</td>
<td>-----</td>
</tr>
<tr>
<td>21</td>
<td>18</td>
</tr>
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<td>22</td>
<td>18</td>
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<tr>
<td>22</td>
<td>22</td>
</tr>
</tbody>
</table>

**NOTE:**
- Total power input : W
- Sensible heat capacity : kW
- Dry-bulb temperature

**INPUT** : Total power input (W)
**WB** : Wet-bulb temperature

**Q** : Cooling capacity (kW)
**SHC** : Sensible heat capacity (kW)
**SHF** : Sensible heat factor
### PERFORMANCE DATA COOL operation at Rated frequency

#### MUZ-GC35VA MUZ-GC35VAH

**CAPACITY: 3.5(kW)**

**INPUT: 1075(W)**

<table>
<thead>
<tr>
<th>INDOOR DB(C)</th>
<th>INDOOR WB(C)</th>
<th>Q</th>
<th>SHC</th>
<th>SHF</th>
<th>INPUT</th>
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<td>2.35</td>
<td>0.78</td>
<td>946</td>
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</tbody>
</table>

**NOTE:**

- Total capacity (kW): SHF
- SHF: Sensible heat factor
- 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)

<table>
<thead>
<tr>
<th>INDOOR DB (°C)</th>
<th>OUTDOOR DB (°C)</th>
<th>Q</th>
<th>SHC</th>
<th>SHF</th>
<th>INPUT Q</th>
<th>SHC</th>
<th>SHF</th>
<th>INPUT Q</th>
<th>SHC</th>
<th>SHF</th>
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<th>SHF</th>
<th>INPUT Q</th>
<th>SHC</th>
<th>SHF</th>
<th>INPUT</th>
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<td>22 18</td>
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<td>2.91 1.80 0.62 1161</td>
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</tr>
<tr>
<td>22 20</td>
<td>3.61 1.80 0.50 1097</td>
<td>3.36 1.68 0.50 1150</td>
<td>3.12 1.56 0.50 1215</td>
<td>22 22</td>
<td>3.82 1.45 0.38 1140</td>
<td>3.57 1.36 0.38 1204</td>
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<tr>
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<td>3.43 2.26 0.66 1054</td>
<td>3.15 2.08 0.66 1118</td>
<td>2.91 1.92 0.66 1161</td>
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<td>3.36 1.81 0.54 1150</td>
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<tr>
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</tr>
</tbody>
</table>

**NOTE:**

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

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

**MUZ-GC35VA MUZ-GC35VAH**

**PERFORMANCE DATA COOL operation at Rated frequency**

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

**NOTE:**

- **Q:** Total capacity (kW)
- **SHC:** Sensible heat capacity (kW)
- **SHF:** Sensible heat factor
- **DB:** Dry-bulb temperature
- **WB:** Wet-bulb temperature

**MUZ-GC35VA MUZ-GC35VAH**

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

**NOTE:**

- **Q:** Total capacity (kW)
- **SHC:** Sensible heat capacity (kW)
- **SHF:** Sensible heat factor
- **DB:** Dry-bulb temperature
- **WB:** Wet-bulb temperature

**MUZ-GC35VA MUZ-GC35VAH**

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

**NOTE:**

- **Q:** Total capacity (kW)
- **SHC:** Sensible heat capacity (kW)
- **SHF:** Sensible heat factor
- **DB:** Dry-bulb temperature
- **WB:** Wet-bulb temperature
### PERFORMANCE DATA  HEAT operation at Rated frequency

**MUZ-GC25VA  MUZ-GC25VAH**

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

<table>
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<tr>
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<th>OUTDOOR WB(C)</th>
<th>Q INPUT</th>
<th>Q INPUT</th>
<th>Q INPUT</th>
<th>Q INPUT</th>
<th>Q INPUT</th>
<th>Q INPUT</th>
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<td>-5</td>
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<td>693</td>
<td>2.72</td>
<td>768</td>
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<td>0</td>
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<td>910</td>
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<td>693</td>
<td>2.72</td>
<td>768</td>
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<tr>
<td></td>
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<td>693</td>
<td>2.72</td>
<td>768</td>
<td>3.10</td>
<td>827</td>
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<td></td>
<td>0</td>
<td>2.53</td>
<td>810</td>
<td>2.94</td>
<td>868</td>
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<td>910</td>
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**MUZ-GC35VA  MUZ-GC35VAH**

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

<table>
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<th>INDOOR DB(C)</th>
<th>OUTDOOR WB(C)</th>
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<th>Q INPUT</th>
<th>Q INPUT</th>
<th>Q INPUT</th>
<th>Q INPUT</th>
<th>Q INPUT</th>
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</thead>
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<td>2.68</td>
<td>928</td>
<td>3.16</td>
<td>1023</td>
</tr>
</tbody>
</table>

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

MUZ-GC25VA    MUZ-GC25VAH
MUZ-GC35VA    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

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Purpose</th>
<th>Actuator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Compressor</td>
<td>LEV</td>
</tr>
<tr>
<td>Discharge temperature thermistor</td>
<td>Protection</td>
<td></td>
</tr>
<tr>
<td>Indoor coil temperature thermistor</td>
<td>Cooling: Coil frost prevention</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heating: High pressure protection</td>
<td></td>
</tr>
<tr>
<td>Defrost thermistor</td>
<td>Cooling: High pressure protection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heating: Defrosting</td>
<td></td>
</tr>
<tr>
<td>Fin temperature thermistor</td>
<td>Protection</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient temperature thermistor</td>
<td>Cooling: Low outside temperature operation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heating: Defrosting (Heater)</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: MUZ-GC35VA

MUZ-GC35VAH
10 SERVICE FUNCTIONS

MUZ-GC25VA  MUZ-GC35VA
MUZ-GC25VAH  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.)

<table>
<thead>
<tr>
<th>Jumper wire</th>
<th>Defrost finish temperature (°C)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>MUZ-GC25VA</td>
</tr>
<tr>
<td>soldered (Initial setting)</td>
<td>5</td>
</tr>
<tr>
<td>none (cut)</td>
<td>8</td>
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</tbody>
</table>

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 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-GC35VA
MUZ-GC25VAH  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](image)
   ![Housing point](image)

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

Setting up the failure mode recall function:

1. Turn ON the power supply.
2. Prepare the remote controller.
   a. While pressing both OPERATION SELECT button and TOO COOL button on the remote controller at the same time, press RESET button.
   b. First, release RESET button.
   c. And release the other two buttons after all LCD 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.  

Judgment of indoor/outdoor abnormality

1. Does upper lamp of OPERATION INDICATOR lamp on the indoor unit blink at the interval of 0.5 seconds?
   a. Blink: Either indoor or outdoor unit is abnormal.
   b. No Blink: Either indoor or outdoor unit is normal.

2. Does upper lamp of OPERATION INDICATOR lamp stay ON for 3 seconds?
   a. Stays ON for 3 seconds without beep: The outdoor unit is abnormal.
   b. Stays ON for 3 seconds with beep: The indoor unit is abnormal.

Release the failure mode recall function:

Release the failure mode recall function by the following procedures.

1. Turn OFF the power supply and turn it ON again.
2. Press RESET button of the remote controller.

Delete the memorized abnormal condition:

1. After repairing the unit, recall the failure mode again according to “Setting up the failure mode recall function” mentioned above.
2. Press OPERATE/STOP/ON/OFF button of the remote controller (the set temperature is displayed), with the remote controller headed towards the indoor unit.
3. Press EMERGENCY OPERATION switch so that the memorized abnormal condition is deleted.
4. Release the failure mode recall function according to “Releasing the failure mode recall function” mentioned above.

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.

Releasing the failure mode recall function:

Repair the defective parts.

Deleting the memorized abnormal condition:

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

Blinking pattern when the indoor unit is abnormal:

ON 2.5-second OFF

OFF 2.5-second OFF

Repeated cycle

Blinking pattern when the outdoor unit is abnormal:

ON 2.5-second OFF

OFF 2.5-second OFF

Repeated cycle

Repeted cycle

Repetition of the signal is repeated.

Indoor unit is normal.

Blinking pattern when the indoor unit is abnormal:  

The cause of abnormality cannot be found because the abnormality doesn’t recur.

Indoor unit is normal.

Blinking pattern when the outdoor unit is abnormal:  

The outdoor unit is abnormal.

Check the blinking pattern, and confirm the abnormal point with the outdoor unit failure mode table (Refer to 11-2.3).

Make sure to check at least two consecutive blinking cycles.

Blinking pattern when the indoor unit is abnormal:  

Indoor unit is normal.

The outdoor unit might be abnormal because there are some abnormalities that can’t be recalled with this way.

Confirm if outdoor unit is abnormal according to the detailed outdoor unit failure mode recall function (Refer to 11-2.2).

Make sure to check at least two consecutive blinking cycles.

Blinking pattern when the indoor unit is abnormal:  

Indoor unit is normal.

But the outdoor unit might be abnormal because there are some abnormalities that can’t be recalled with this way.

Confirm if outdoor unit is abnormal according to the detailed outdoor unit failure mode recall function (Refer to 11-2.2).

Make sure to check at least two consecutive blinking cycles.

Blinking pattern when the indoor unit is abnormal:  

Repeating cycle

Repeted cycle

Repetition of the signal is repeated.

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

Operational procedure

The outdoor unit might be abnormal.
Confirm if outdoor unit is abnormal according to the following procedures.

Confirm that the remote controller is in the failure mode recall function.

With the remote controller headed towards the indoor unit, press TO COOL or TOO WARM button to adjust the set temperature to 25°C. 1

Does upper lamp of OPERATION INDICATOR lamp on the indoor unit blink at the interval of 0.5 seconds?

- Blinks: The outdoor unit is abnormal.
- No (OFF): Beeps are emitted at the same timing as the blinking of upper lamp of OPERATION INDICATOR lamp. 2

The outdoor unit is abnormal.
Check the blinking pattern, and confirm the abnormal point with the outdoor unit failure mode table (Refer to 11-2.3.)
Make sure to check at least two consecutive blinking cycles. 2

Release the failure mode recall function.
Release the failure mode recall function by the following procedures.
Press RESET button of the remote controller.

Repair the defective parts.

Deleting the memorized abnormal condition

1. Regardless of normal or abnormal condition, 2 short beeps are emitted as the signal is received.

2. If the abnormal condition is not deleted from the memory, the last abnormal condition is kept memorized.

Release the failure mode recall function according to the left mentioned 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.
### 3. Outdoor unit failure mode table

<table>
<thead>
<tr>
<th>Condition</th>
<th>Condition</th>
<th>Correspondence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over current protection stopped continuously performed three times within 1 minute after the compressor gets started.</td>
<td>Thermistor shorts or opens during compressor running.</td>
<td>Reconnect compressor connector. Refer to 11-5.8 &quot;Check of outdoor thermostats&quot;. Defective outdoor thermostats can be identified by checking the blinking pattern of LED.*</td>
</tr>
<tr>
<td>Overcurrent</td>
<td>11-time flash 2.5 seconds OFF</td>
<td>Reconnect compressor connector. Refer to 11-5.8 &quot;Check of outdoor thermostats&quot;.</td>
</tr>
<tr>
<td>Compressor synchronous abnormality (Compressor start-up failure protection)</td>
<td>2-time flash 2.5 seconds OFF</td>
<td>Waveform of compressor current is distorted. Reconnect compressor connector. Refer to 11-5.8 &quot;Check of outdoor thermostats&quot;.</td>
</tr>
<tr>
<td>Discharge temperature</td>
<td>2.5 seconds OFF</td>
<td>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. Check refrigerant circuit and refrigerant amount. Check stop valve.</td>
</tr>
<tr>
<td>High pressure</td>
<td>2.5 seconds OFF</td>
<td>Temperature of high pressure thermistor exceeds 87°C in COOL mode. Temperature of high pressure thermistor exceeds 95°C in HEAT mode. Check refrigerant circuit and refrigerant amount. Check stop valve.</td>
</tr>
<tr>
<td>Pin temperature/ P.C. board temperature</td>
<td>2.5 seconds OFF</td>
<td>Temperature of pin temperature thermistor 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). Check around outdoor unit. Check outdoor unit air passage. Refer to 11-5.8 &quot;Check of outdoor fan motor&quot;.</td>
</tr>
<tr>
<td>Outdoor fan motor</td>
<td>2.5 seconds OFF</td>
<td>Outdoor fan has stopped 3 times in a row within 30 seconds after outdoor fan start-up. Refer to 11-5.8 &quot;Check of outdoor fan motor&quot;. Refer to 11-5.8 &quot;Check of inverter P.C. board&quot;.</td>
</tr>
<tr>
<td>Nonvolatile memory data</td>
<td>2.5 seconds OFF</td>
<td>Nonvolatile memory data cannot be read properly. Replace the inverter P.C. board.</td>
</tr>
<tr>
<td>Discharge temperature</td>
<td>2.5 seconds OFF</td>
<td>Temperature of discharge temperature thermistor has been 50°C or less for 20 minutes. Refer to 11-5.8 &quot;Check of LEV&quot;. Check refrigerant circuit and refrigerant amount. Refer to 11-5.8 &quot;Check of outdoor unit failure mode&quot;.</td>
</tr>
<tr>
<td>DC voltage</td>
<td>2.5 seconds OFF</td>
<td>DC voltage of inverter cannot be detected normally. Refer to 11-5.8 &quot;How to check inverter/ compressor&quot;.</td>
</tr>
<tr>
<td>Each phase current of compressor open-phase</td>
<td>2.5 seconds OFF</td>
<td>Each phase current of compressor cannot be detected normally. Refer to 11-5.8 &quot;Check of LEV&quot;. Check refrigerant circuit and refrigerant amount. Refer to 11-5.8 &quot;Check of outdoor unit failure mode&quot;.</td>
</tr>
<tr>
<td>Overcurrent</td>
<td>2.5 seconds OFF</td>
<td>14 A (MUZ-GC25)/ 24 A (MUZ-GC35) current flow into intelligent power module. Refer to 11-5.8 &quot;Check of LEV&quot;. Check refrigerant circuit and refrigerant amount. Refer to 11-5.8 &quot;Check of outdoor unit failure mode&quot;.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>No.</th>
<th>Symptom</th>
<th>LED indication</th>
<th>Normal point/Condition</th>
<th>Correspondence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Outdoor unit does not operate.</td>
<td>1-time flash every 2.5 seconds</td>
<td>Outdoor power system</td>
<td>Over current protection stops is continuously performed three times within 1 minute after the compressor gets started, or failure of restart of compressor has repeated 24 times.</td>
</tr>
<tr>
<td>2</td>
<td>Outdoor unit does not operate.</td>
<td>2.5 seconds OFF</td>
<td>Outdoor thermistors</td>
<td>Discharge temperature thermometer, fin temperature thermometer, defrost timer, P.C. board temperature thermometer or ambient temperature thermometer shorts or opens during compressor running.</td>
</tr>
<tr>
<td>3</td>
<td>Outdoor unit does not operate.</td>
<td>2.5 seconds OFF</td>
<td>Outdoor control system</td>
<td>Nonvolatile memory data cannot be read properly. (When the upper lamp of OPERATION INDICATOR lamp of the indoor unit lights up or flashes 7 times.)</td>
</tr>
<tr>
<td>4</td>
<td>Outdoor unit does not operate.</td>
<td>6-time flash OFF</td>
<td>Serial signal</td>
<td>The communication fails between the indoor and outdoor unit for 3 minutes.</td>
</tr>
<tr>
<td>5</td>
<td>Outdoor unit does not operate.</td>
<td>11-time flash 2.5 seconds OFF</td>
<td>Stop valve/ Closed valve</td>
<td>Closed valve is defected by compressor current.</td>
</tr>
<tr>
<td>6</td>
<td>Outdoor unit does not operate.</td>
<td>14-time flash 2.5 seconds OFF</td>
<td>Outdoor unit (Other abnormality)</td>
<td>Outdoor unit is defective.</td>
</tr>
<tr>
<td>7</td>
<td>Outdoor unit does not operate.</td>
<td>2.5 seconds OFF</td>
<td>Overcurrent protection</td>
<td>Outdoor unit is defective.</td>
</tr>
<tr>
<td>8</td>
<td>Discharge temperature</td>
<td>2.5 seconds OFF</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Fin temperature</td>
<td>2.5 seconds OFF</td>
<td>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).</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>High pressure</td>
<td>2.5 seconds OFF</td>
<td>Indoor coil thermometer exceeds 76°C in HEAT mode. Defrost thermometer exceeds 70°C in COOL mode.</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Compressor</td>
<td>2.5 seconds OFF</td>
<td>The waveform of compressor current is distorted.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Outdoor fan motor</td>
<td>2.5 seconds OFF</td>
<td>Outdoor fan has stopped 3 times in a row within 30 seconds after outdoor fan start-up.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Each phase current of compressor</td>
<td>2.5 seconds OFF</td>
<td>Each phase current of compressor cannot be detected normally.</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>DC voltage</td>
<td>2.5 seconds OFF</td>
<td>DC voltage of inverter cannot be detected normally.</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Outdoor unit operates.</td>
<td>2.5 seconds OFF</td>
<td>Frequency drop by current protection</td>
<td>Current from power outlet exceeds 5.6 A (MUZ-GC25)/ 6.2 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.</td>
</tr>
<tr>
<td>16</td>
<td>Frequency drop by high pressure protection</td>
<td>2.5 seconds OFF</td>
<td>Temperature of indoor coil thermometer exceeds 55°C in HEAT mode, compressor frequency lowers.</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Frequency drop by defrosting in COOL mode</td>
<td>2.5 seconds OFF</td>
<td>Indoor coil thermometer reads 8°C or less in COOL mode, compressor frequency lowers.</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Frequency drop by discharge temperature protection</td>
<td>2.5 seconds OFF</td>
<td>Temperature of discharge temperature thermistor exceeds 111°C, compressor frequency lowers.</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Low discharge temperature protection</td>
<td>2.5 seconds OFF</td>
<td>Temperature of discharge temperature thermistor has been 50°C or less for 20 minutes.</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Low discharge temperature protection</td>
<td>2.5 seconds OFF</td>
<td>Short is detected on S0-S1 (Connecting Coil Winding) or when the bus-bar voltage reaches 330 V or more, PAM stops and restarts.</td>
<td></td>
</tr>
</tbody>
</table>

### 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 (Part side)**

![LED flashing diagram]

- **ON**: 2.5-second OFF
- **OFF**: 2.5-second OFF

0.5-second ON 0.5-second ON
### 11-4. Trouble criterion of main parts

<table>
<thead>
<tr>
<th>MUZ-GC25VA</th>
<th>MUZ-GC35VA</th>
<th>MUZ-GC25VAH</th>
<th>MUZ-GC35VAH</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part name</strong></td>
<td><strong>Check method and criterion</strong></td>
<td><strong>Figure</strong></td>
<td></td>
</tr>
<tr>
<td>Defrost thermistor (RT61)</td>
<td>Measure the resistance with a tester.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discharge temperature thermistor (RT62)</td>
<td>Measure the resistance with a tester.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Before measurement, hold the thermistor with your hands to warm it up.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fin temperature thermistor (RT64)</td>
<td>Refer to 11-7. &quot;Test point diagram and voltage&quot;, 1. &quot;Inverter P.C. board&quot;, the chart of thermistor.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compressor (MC)</td>
<td>Measure the resistance between the terminals with a tester. (Part temperature –20°C ~ 40°C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>**</td>
<td>**</td>
<td>MUZ-GC25</td>
</tr>
<tr>
<td></td>
<td><strong>Color of the lead wire</strong></td>
<td><strong>Normal</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RA6V21-AB</td>
<td>RA6V21-BB</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WHT – BLK</td>
<td>239Ω ~ 374Ω</td>
<td>212Ω ~ 272Ω</td>
</tr>
<tr>
<td></td>
<td>BLK – RED</td>
<td>236Ω ~ 304Ω</td>
<td>234Ω ~ 300Ω</td>
</tr>
<tr>
<td></td>
<td>RED – WHT</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Outdoor fan motor (MF)</td>
<td>Measure the resistance between the terminals with a tester. (Part temperature –20°C ~ 40°C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INNER FUSE (Only MUZ-GC25)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RA6V21-AB</td>
<td>WHT RED BLK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>152 ± 2°C CUT OFF</td>
<td>MUZ-GC25</td>
<td>MUZ-GC35</td>
<td></td>
</tr>
<tr>
<td>RA6V21-BB</td>
<td>WHT RED BLK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>126±2°C CUT OFF</td>
<td>MUZ-GC25</td>
<td>MUZ-GC35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WHT – RED</td>
<td>1.26 kΩ ~ 1.62 kΩ</td>
<td>1.21 kΩ ~ 1.56 kΩ</td>
</tr>
<tr>
<td>R.V. coil (21S4)</td>
<td>Measure the resistance between the terminals with a tester. (Part temperature –20°C ~ 40°C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>MUZ-GC25</td>
<td>MUZ-GC35</td>
</tr>
<tr>
<td>Expansion valve coil (LEV)</td>
<td>Measure the resistance with a tester. (Part temperature –20°C ~ 40°C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Color of the lead wire</td>
<td>Normal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WHT – RED</td>
<td>38Ω ~ 50Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RED – ORN</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>YLW – BRN</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BRN – BLU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defrost heater (H)</td>
<td>Measure the resistance with a tester. (Part temperature –20°C ~ 40°C)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
11-5. Troubleshooting flow

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

A How to check inverter/compressor

- Disconnect the connector (CN61) between compressor and the intelligent power module (IPM).

Check the voltage between terminals.

- Are the voltages balanced?
  - No: Replace the inverter P.C. board.
  - Yes: See 11-5. "Check of open phase".

Check the compressor.

See 11-5. "Check of 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

2.5-second OFF

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

- Refer to 11-5. "Check of compressor winding".
  - Is the compressor normal?
    - No: Replace the compressor.
    - Yes: Refer to 11-5. "Check of compressor operation time".
      - Does the compressor operate continuously?
        - No: Replace the compressor.
        - Yes: Check the refrigerant circuit. Check stop valve.

(MUZ-GC25)

Is the compressor operation time more than 10 seconds?

Yes

Replace the compressor.

(MUZ-GC35)
Check of compressor winding

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

<<Measurement points>>
- BLK-WHT
- BLK-RED
- WHT-RED

<<Judgement>>
Refer to 11-4.

<table>
<thead>
<tr>
<th>Resistance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>0[Ω]</td>
<td>Abnormal [short]</td>
</tr>
<tr>
<td>Infinite</td>
<td>Abnormal [open]</td>
</tr>
</tbody>
</table>

NOTE: 1. Be sure to zero the ohmmeter before measurement.
2. Winding resistance for each phase at 20°C. Refer to 3. SPECIFICATION.

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.

<table>
<thead>
<tr>
<th>Time</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 second</td>
<td>Normal</td>
</tr>
<tr>
<td>1 second</td>
<td>Abnormal (Compressor winding short)</td>
</tr>
<tr>
<td>2 seconds</td>
<td>Abnormal (Compressor lock out)</td>
</tr>
<tr>
<td>10 seconds</td>
<td>Abnormal (Outdoor P.C.board defect)</td>
</tr>
<tr>
<td>10 minutes</td>
<td>Abnormal (Refrigerant circuit defect)</td>
</tr>
</tbody>
</table>

Check of compressor start failure

Confirm that 1~5 is normal.

- Electrical circuit check
  1. Contact of the compressor connector (including CN61)
  2. Output voltage of inverter P.C.board and balance of them (See 11-5.B)
  3. Direct current voltage between DB61(+) and (-) on inverter P.C.board
  4. Voltage between outdoor terminal block S1-S2

- Check the refrigerant circuit.
- Check the stop valve.

Does the compressor run for 10 seconds or more after it starts?
- Yes: Check the refrigerant circuit. Check the stop valve.
- No: Replace the compressor

After the compressor is heated with a drier, does the compressor start? *1
- Yes: Replace the compressor
- No: Replace the compressor

Compressor start failure. Activate pre-heat control. (Refer to 10-2. "PRE-HEAT CONTROL SETTING")
When OPERATION INDICATOR lamp flashes 6-time.
The thermistors in the outdoor unit are abnormal.

### Check of outdoor thermistors

- Defrost thermistor RT61
  - Measure the resistance between CN641 1 and 2.
- Discharge temperature thermistor RT62
  - Measure the resistance between CN641 1 and 2.
- Fin temperature thermistor RT64
  - Measure the resistance between CN642 1 and 2.
- Ambient temperature thermistor RT65
  - Measure the resistance between CN643 1 and 2.

### 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.

- Disconnect connector (CN61) between the compressor and intelligent power module.
  - Turn ON the power supply and press EMERGENCY OPERATION switch twice (HEAT mode).
- Is there 230V AC between CN721 1 and 2 on the inverter P.C.board (GC25) or power P.C.board (GC35) 3 minutes after the power supply is turned ON?
  - No: Replace the inverter P.C.board (GC25) or power P.C.board (GC35).
  - Yes: Replace the 4-way valve.

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

- Disconnect connector (CN61) between the compressor and intelligent power module.
  - Turn ON the power supply and press EMERGENCY OPERATION switch once (COOL mode).
- Is there 230V AC between CN721 1 and 2 on the inverter P.C.board (GC25) or power P.C.board (GC35) 3 minutes after the power supply is turned ON?
  - No: Replace the 4-way valve.
  - Yes: Replace the inverter P.C.board (GC25) or power P.C.board (GC35).
Outdoor fan motor does not operate.

1. Check of outdoor fan motor

MUZ-GC25VA  MUZ-GC25VAH

Check the resistance of fan motor. (Refer to 11-4.)

Is the resistance of fan motor normal?  
No  Replace the outdoor fan motor.
Yes

Disconnect the connector CN771 on inverter P.C. board.
Disconnect the connector (CN61) between compressor and power transistor module.
Turn ON the power supply and press the EMERGENCY OPERATION switch.

Does upper lamp of OPERATION INDICATOR lamp on the indoor unit light up?

3 minutes after, is there voltage 230V AC between CN771 ① and ② on the inverter P.C. board?

No  Replace the inverter P.C. board.
Yes  Replace the outdoor fan motor.

MUZ-GC35VA  MUZ-GC35VAH

Is the resistance between each terminal of outdoor fan motor normal?  
(Refer to 11-4.)  
Yes  Disconnect CN802 from the inverter P.C. board.
No  Replace the outdoor fan motor.

Turn ON the power supply.

Rotate the outdoor fan slowly by hand, and measure the voltage of CN931 (Measurement of feedback output). Between ①(+), ②(-) Between ③(+), ④(-) Between ②(+), ⑤(-)

Does the voltage between each terminal repeat 5V and 0V DC by turns?

Yes

No

Does the outdoor fan rotate smoothly?

Yes

No

Check the inverter P.C. board.
(Refer to 11-5, 9)
Outdoor unit does not operate at all, or stops immediately due to overcurrent.

**Check of current-limiting resistor**

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

- Is the resistance of current-limiting resistor (R64A or R64B) on the power P.C. board normal? (Normal resistance = 5 ±5%)
  - Yes
  - No
  - Replace the power P.C. board

- Turn ON the power supply and press EMERGENCY OPERATION switch.
  - Yes
  - Does LED on the inverter P.C. board light up?
    - Yes
    - Replace the power P.C. board or the inverter P.C. board.
    - No
  - Does the rush current limiting relay (X64) work properly? (Normally it closes 1 second after outdoor unit power ON)
    - Yes
    - Replace the inverter P.C. board.
    - No
    - Replace the power P.C. board.

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.
③ 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.

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?

Is LEV properly fixed to the expansion valve?

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

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

1. Pin 3(-) - Pin 1(+)
2. Pin 4(-) - Pin 1(+)
3. Pin 5(-) - Pin 1(+)
4. Pin 6(-) - Pin 1(+) Is there about 3~5V AC between each?

NOTE: Measure the voltage by an analog tester.

Replace the LEV.

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.

**Check of inverter P.C. board**

**MUZ-GC35VA MUZ-GC35VAH**

Check the outdoor fan motor.
(Refer to 11-5.)

Is the fuse (F901) blown on the inverter P.C. board?

Yes

No

Check the connection of the connectors (CN931, CN932) of outdoor fan motor. If the connection is poor, make it correct.

Operate the outdoor unit by starting EMERGENCY OPERATION.

Check the corresponding parts following LED indication.
(Refer to 11-3.)

Check the LED indication on the inverter P.C. board.
Does the LED flash 10-time?

Yes

(10-time flash)

Replace the inverter P.C. board.

No
How to check mis-wiring and serial signal error (when outdoor unit does not work)

Turn OFF the power supply.

Is there rated voltage in the power supply?

Yes

Check the power supply.

No

Turn ON the power supply.

Is there rated voltage between outdoor terminal block S1 and S2?

Yes

Check the wiring.

No

Press EMERGENCY OPERATION switch once.

Does the upper lamp of OPERATION INDICATOR lamp light up?

<Confirmation of the power to the indoor unit>

Yes

Is serial signal error indicated 6 minutes later?

Yes

Contact them.

No

Is there any mis-wiring, poor contact, or wire disconnection of the indoor/outdoor connecting wire?

Yes

No

A

Turn OFF the power supply.

Check once more if the indoor/outdoor connecting wire is not mis-wiring.

Short-circuit outdoor terminal block S2 and S3.

Is there 2V DC or less between CN10A (+) and JPG (GND) on the indoor power/terminal P.C. board?

Yes

No

Replace the indoor power/terminal P.C. board.

Is serial signal error indicated 6 minutes later?

No

Yes

B

Turn ON the power supply.

Remove the short-circuit between outdoor terminal block S2 and S3.

Turn ON the power supply.

Is there amplitude of 10 to 20V DC between indoor terminal block S2 and SJ7? <Confirmation of serial signal>

Yes

No

Replace the inverter P.C. board or the outdoor electronic control P.C. board.

Is there any error of the indoor/outdoor connecting wire, such as the damage of the wire, intermediate connection, poor contact to the terminal block?

Yes

No

Replace the indoor/outdoor connecting wire.

Replace the indoor/outdoor connecting wire.

Be sure to release the failure-mode recall function after checking.
Electromagnetic noise enters into TV sets or radios

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.

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).

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...

Is there 230V AC between CN722 1 and 3 on the inverter P.C. board(GC25) or power P.C. board(GC35)? Refer to 11-6.

Yes  No

No problem of the inverter P.C. board(GC25) or power P.C. board(GC35).

Is the voltage between CN726 (+) and (-) on the power P.C. board 0V DC? Refer to 11-6.

Yes  No

Replace the power P.C. board.

Replace the inverter P.C. board.
11-6. Test point diagram and voltage

1. Inverter P.C. board

**MUZ-GC25VA**

**MUZ-GC25VAH**

![Diagram of MUZ-GC25VA and MUZ-GC25VAH](image)

- Back side of unit:
  - DB61
  - 280V ~ 370V DC
  - Output to drive compressor (LDW, LDV, LDU)
  - LED monitor lamp

- Front side of unit:
  - DB61
  - 230V AC
  - Output to drive outdoor fan motor (CN771)
  - LEV connector (CN724)
  - RV coil (CN721)
  - Output to drive compressor (LDW, LDV, LDU)
  - LED lamp

- jumper wire for change in defrost setting (JS)
- Jumper wire for pre-heat control setting (JK)
- Smoothing capacitor (C62)
- Fuse (F801)
- Smoothing capacitor (C61)
- Varistor (NR62)
- Varistor (NR61)
- Varistor (NR63)

- Graphs for Resistance vs. Temperature
  - Defrost thermistor (RT61)
  - Ambient temperature thermistor (RT65)
  - Discharge temperature thermistor (RT62)
  - Fin temperature thermistor (RT64)

- 230V AC DB61
- Jumper wire for change in defrost setting (JS)
- Jumper wire for pre-heat control setting (JK)

**MUZ-GC25VAH**

- 230V AC DB61
- Jumper wire for change in defrost setting (JS)
- Jumper wire for pre-heat control setting (JK)

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

**Back side of unit**
- 230V AC
- DB61
- DC
- Output to drive outdoor fan motor (CN932)
- Fin temperature thermistor/RT64 (CN642)
- Ambient temperature thermistor/RT65 (CN642)
- Discharge temperature thermistor/RT62 (CN641)
- Defrost thermistor/RT61 (CN641)
- LEV connector (CN724)
- Jumper wire for change in defrost setting (JS)
- Connecting wire with power P.C. board (CN725)
- FUSE (F801)
- FUSE (F901)
- LED monitor lamp
- Connecting wire with power P.C. board (CN725)
- Connector for indoor/outdoor communication (CN601)
- Output to drive outdoor fan motor (CN932)
- Rotational frequency feedback signal of outdoor fan motor (CN931)

**Front side of unit**
- DB61
- 280V ~ 370V DC
- 230V AC
- FUSE (F801)
- FUSE (F901)
- LED monitor lamp
- Connecting wire with power P.C. board (CN725)
- Connector for indoor/outdoor communication (CN601)
- Output to drive outdoor fan motor (CN932)

**Graphs**
- Fin temperature thermistor (RT64)
- Ambient temperature thermistor (RT65)
- Discharge temperature thermistor (RT62)
2. Power P.C. board

MUZ-GC35VA
MUZ-GC35VAH
12 DISASSEMBLY INSTRUCTIONS

"Terminal with locking mechanism" Detaching points

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

1. 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.

12-1. MUZ-GC25VA MUZ-GC25VAH

NOTE: Turn OFF power supply before disassembling.

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

Screw of the service panel

Direction to remove

Hooks

Screws of the top panel

Screws of the cabinet

Service panel
### OPERATING PROCEDURE

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<th>2. Removing the inverter assembly, inverter P.C. board</th>
<th>PHOTOS</th>
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<td>(1) Remove the cabinet and panels. (Refer to 1.)</td>
<td><img src="image1.png" alt="Photo 3" /></td>
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<tr>
<td>(2) Disconnect the earth wires (See Photo 3.), the lead wire to the reactor and the following connectors;  &lt;Inverter P.C. board&gt; 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.</td>
<td><img src="image2.png" alt="Photo 4" /></td>
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<th>3. Removing R.V. coil</th>
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<td>(1) Remove the cabinet and panels. (Refer to 1.)</td>
<td><img src="image3.png" alt="Photo 5" /></td>
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<td>(2) Remove the R.V. coil. (See Photo 5.)</td>
<td><img src="image4.png" alt="Photo 5" /></td>
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<th>4. Removing the discharge temperature thermistor and defrost thermistor</th>
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<td>(1) Remove the cabinet and panels. (Refer to 1.)</td>
<td><img src="image5.png" alt="Photo 5" /></td>
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<tr>
<td>(2) Pull out the discharge temperature thermistor from its holder. (See Photo 6.)</td>
<td></td>
</tr>
<tr>
<td>(3) Pull out the defrost thermistor from its holder. (See Photo 5.)</td>
<td></td>
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### 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 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

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<td><img src="image2" alt="Photo 7" /></td>
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<tr>
<td><img src="image3" alt="Photo 8" /></td>
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- **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.

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<td>(1) Remove the screw fixing the service panel. (See Photo 2.)</td>
<td>Screws of the top panel</td>
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<tr>
<td>(2) Pull down the service panel and remove it. (See Photo 2.)</td>
<td>Screw of the cabinet</td>
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<td>(3) Disconnect the power supply and indoor/outdoor connecting wire.</td>
<td>Screws of the top panel</td>
</tr>
<tr>
<td>(4) Remove the screws fixing the top panel. (See Photo 1.)</td>
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</tr>
<tr>
<td>(5) Remove the top panel. (See Photo 1.)</td>
<td>Back panel</td>
</tr>
<tr>
<td>(6) Remove the screws fixing the cabinet.</td>
<td>Service panel</td>
</tr>
<tr>
<td>(7) Remove the cabinet.</td>
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<tr>
<td>(8) Remove the screws fixing the back panel.</td>
<td>Screw of the service panel</td>
</tr>
<tr>
<td>(9) Remove the back panel.</td>
<td>Direction to remove</td>
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Photo 2
Screws of the cabinet
Hooks

Screws of the cabinet
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.)
### OPERATING PROCEDURE

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<th>5. Removing outdoor fan motor</th>
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<td>(1) Remove the cabinet and panels. (Refer to 1.)</td>
<td><strong>Photo 6</strong></td>
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<tr>
<td>(2) Disconnect the connectors for outdoor fan motor.</td>
<td>Defrost thermistor</td>
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<tr>
<td>(3) Remove the propeller nut. (See Photo 7.)</td>
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</tr>
<tr>
<td>(4) Remove the propeller. (See Photo 7.)</td>
<td></td>
</tr>
<tr>
<td>(5) Remove the screws fixing the fan motor. (See Photo 7.)</td>
<td></td>
</tr>
<tr>
<td>(6) Remove the fan motor.</td>
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<tr>
<th>6. Removing the compressor and 4-way valve</th>
<th><strong>Photo 7</strong></th>
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<tbody>
<tr>
<td>(1) Remove the cabinet and panels. (Refer to 1.)</td>
<td>Screws of the outdoor fan motor</td>
</tr>
<tr>
<td>(2) Remove the inverter assembly. (Refer to 2.)</td>
<td></td>
</tr>
<tr>
<td>(3) Recover gas from the refrigerant circuit.</td>
<td></td>
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<tr>
<td><strong>NOTE:</strong> Recover gas from the pipes until the pressure gauge shows 0kg/cm² (0 MPa).</td>
<td></td>
</tr>
<tr>
<td>(4) Detach the welded part of the suction and the discharge pipe connected with compressor.</td>
<td></td>
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<tr>
<td>(5) Remove the nuts of compressor legs.</td>
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<td>(6) Remove the compressor.</td>
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<tr>
<td>(7) Detach the welded part of pipes connected with 4-way valve. (See Photo 8.)</td>
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### PHOTOS

- **Photo 6**
- **Photo 7**
- **Photo 8**