Use the specified refrigerant only

Never use any refrigerant other than that specified.
Doing so may cause a burst, an explosion, or fire when the unit is being used, serviced, or disposed of. Correct refrigerant is specified in the manuals and on the spec labels provided with our products. We will not be held responsible for mechanical failure, system malfunction, unit breakdown or accidents caused by failure to follow the instructions.

Revision A:
• 3. SPECIFICATION has been corrected.

Revision B:
• MUZ-D•NA-1 and MUY-D•NA-1 have been corrected.

Revision C:
• Errors in TROUBLESHOOTING have been corrected.

Revision D:
• "Check of outdoor thermistor" has been corrected (10-5. @).

Revision E:
• Capacity corrections have been corrected (7-1. 2), 3).
1. TECHNICAL CHANGES

MUZ-D30NA  MUZ-D30NA-U1
MUZ-D36NA  MUZ-D36NA-U1
MUY-D30NA  MUY-D36NA

1. New model

MUZ-D30NA → MUZ-D30NA-U1  MUZ-D30NA-U1 → MUZ-D30NA-U2
MUZ-D36NA → MUZ-D36NA-U1  MUZ-D36NA-U1 → MUZ-D36NA-U2
MUY-D30NA → MUY-D30NA-U1
MUY-D36NA → MUY-D36NA-U1

1. Wiring diagram has been changed.
2. Fan motor has been changed.

2. PART NAMES AND FUNCTIONS

MUZ-D30NA  MUZ-D36NA  MUY-D30NA  MUY-D36NA

Air inlet (back and side)
Piping
Drain hose
Air outlet
Drain outlet
## SPECIFICATION

<table>
<thead>
<tr>
<th>Item</th>
<th>Model</th>
<th>MSZ-D30NA</th>
<th>MSY-D30NA</th>
<th>MSZ-D36NA</th>
<th>MSY-D36NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (Minimum ~ Maximum)</td>
<td>Cooler</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooling #1 Btu/h</td>
<td></td>
<td>30,700</td>
<td>30,700</td>
<td>32,000</td>
<td>33,200</td>
</tr>
<tr>
<td>Heating 47 #1</td>
<td></td>
<td>32,600</td>
<td></td>
<td>35,200</td>
<td></td>
</tr>
<tr>
<td>Power consumption (Minimum ~ Maximum) (TOTAL)</td>
<td>Cooler</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooling #1 W</td>
<td></td>
<td>3,850</td>
<td>3,380</td>
<td>4,140</td>
<td>4,210</td>
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<tr>
<td>Heating 47 #1 W</td>
<td></td>
<td>3,360</td>
<td></td>
<td>3,840</td>
<td></td>
</tr>
<tr>
<td>HSPF IV(V)</td>
<td>Heating</td>
<td>8.2 (6.7)</td>
<td>8.2 (6.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COP Heat #1</td>
<td></td>
<td>2.84</td>
<td></td>
<td>2.69</td>
<td></td>
</tr>
<tr>
<td>Outdoor unit model</td>
<td></td>
<td>MUZ-D30NA</td>
<td>MUY-D30NA</td>
<td>MUZ-D36NA</td>
<td>MUY-D36NA</td>
</tr>
<tr>
<td>Power supply V, phase, Hz</td>
<td></td>
<td>208/230 1 , 1 , 60</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Max. fuse size (time delay) A</td>
<td></td>
<td></td>
<td></td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Min. circuit ampacity A</td>
<td></td>
<td></td>
<td></td>
<td>21</td>
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<tr>
<td>Compressor</td>
<td></td>
<td>TNB220FMCHT</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>L.R.A</td>
<td></td>
<td>20</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Refrigerant control</td>
<td></td>
<td>Linear expansion valve</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sound level #1 dB(A)</td>
<td></td>
<td>55</td>
<td>55</td>
<td>56</td>
<td>56</td>
</tr>
<tr>
<td>Defrost method Reverse cycle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td></td>
<td>33-1/16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W in.</td>
<td></td>
<td>33-1/16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H in.</td>
<td></td>
<td>13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight lb.</td>
<td></td>
<td>141</td>
<td>126</td>
<td>141</td>
<td>126</td>
</tr>
<tr>
<td>External finish Munsell 3Y 7.8/1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remote controller</td>
<td></td>
<td>Wireless type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control voltage (by built-in transformer)</td>
<td></td>
<td>12 - 24 VDC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refrigerant piping</td>
<td></td>
<td>Not supplied</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refrigerant pipe size (Min. wall thickness)</td>
<td></td>
<td>3/8 (0.0315)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connection method</td>
<td></td>
<td>Flared</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between the indoor &amp; outdoor units Height difference ft.</td>
<td></td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piping length</td>
<td></td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refrigerant charge (R410A)</td>
<td></td>
<td>4 lb, 10 oz. 4 lb. 4 lb, 10 oz. 4 lb.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Test conditions are based on ARI 210/240.  
1: Rating conditions (Cooling) — Indoor: 80 FDB, 67 FWB, Outdoor: 95 FDB, 75 FWB  
2: (Heating) — Indoor: 70 FDB, 60 FWB, Outdoor: 47 FDB, 43 FWB  

OBH502E
Test condition

<table>
<thead>
<tr>
<th>ARI Mode</th>
<th>Test</th>
<th>Indoor air condition (°F)</th>
<th>Outdoor air condition (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEER (Cooling)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;A&quot; Cooling Steady State at rated compressor Speed</td>
<td></td>
<td>80</td>
<td>67</td>
</tr>
<tr>
<td>&quot;B-2&quot; Cooling Steady State at rated compressor Speed</td>
<td></td>
<td>80</td>
<td>67</td>
</tr>
<tr>
<td>&quot;B-1&quot; Cooling Steady State at minimum compressor Speed</td>
<td></td>
<td>80</td>
<td>67</td>
</tr>
<tr>
<td>Low ambient Cooling Steady State at minimum compressor Speed</td>
<td></td>
<td>80</td>
<td>67</td>
</tr>
<tr>
<td>Intermediate Cooling Steady State at Intermediate compressor Speed</td>
<td></td>
<td>80</td>
<td>67</td>
</tr>
</tbody>
</table>

| HSPF (Heating) | | | |
| Standard Rating-Heating at rated compressor Speed | | 70 | 60 | 47 | 43 |
| Low temperature Heating at rated compressor Speed | | 70 | 60 | 17 | 15 |
| Max temperature Heating at minimum compressor Speed | | 70 | 60 | 62 | 56.5 |
| High temperature Heating at minimum compressor Speed | | 70 | 60 | 47 | 43 |
| Frost Accumulation at rated compressor Speed | | 70 | 60 | 35 | 33 |
| Frost Accumulation at Intermediate compressor Speed | | 70 | 60 | 35 | 33 |

#5: At Intermediate compressor Speed

\[ \text{Intermediate compressor Speed} = \left( \frac{\text{Cooling rated compressor speed} - \text{minimum compressor speed}}{3} \right) + \text{minimum compressor speed} \]

Operating range

(1) Power supply

<table>
<thead>
<tr>
<th>Outdoor unit</th>
<th>Rated voltage</th>
<th>Guaranteed voltage (V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>208/230 V 1 phase 60 Hz</td>
<td>Min. 187 208 230</td>
<td>Max. 253</td>
</tr>
</tbody>
</table>

(2) Operation

<table>
<thead>
<tr>
<th>Mode</th>
<th>Condition</th>
<th>Intake air temperature (°F)</th>
<th>Indoor</th>
<th>Outdoor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>DB</td>
<td>WB</td>
<td>DB</td>
</tr>
<tr>
<td>Cooling</td>
<td>Standard temperature</td>
<td>80</td>
<td>67</td>
<td>95</td>
</tr>
<tr>
<td></td>
<td>Maximum temperature</td>
<td>90</td>
<td>73</td>
<td>115</td>
</tr>
<tr>
<td></td>
<td>Minimum temperature</td>
<td>67</td>
<td>57</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Maximum humidity</td>
<td>78%</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Heating</td>
<td>Standard temperature</td>
<td>70</td>
<td>60</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>Maximum temperature</td>
<td>80</td>
<td>67</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Minimum temperature</td>
<td>70</td>
<td>60</td>
<td>14</td>
</tr>
</tbody>
</table>

OBH502E
Open as a rule 20 inch or more if the front and both sides are open.

4 inch or more / 8 inch or more if there are obstacles to both sides.

Open as a rule 20 inch or more if the back, both sides and top are open.

REQUIRED SPACE

Unit: inch
5 WIRING DIAGRAM

MUZ-D30NA  MUZ-D30NA-  MUZ-D36NA  MUZ-D36NA-
# MAX. REFRIGERANT PIPING LENGTH and MAX. HEIGHT DIFFERENCE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max. Length A</td>
<td>Max. Height difference B</td>
</tr>
<tr>
<td>MUZ-D30NA</td>
<td>100</td>
<td>50</td>
</tr>
<tr>
<td>MUZ-D36NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUY-D30NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUY-D36NA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## ADDITIONAL REFRIGERANT CHARGE (R410A: oz.)

Refrigerant piping exceeding 25 ft. requires additional refrigerant charge according to the calculation.

<table>
<thead>
<tr>
<th>Model</th>
<th>Outdoor unit precharged</th>
<th>Refrigerant piping length (one way): ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>MUZ-D30NA</td>
<td>4 lb. 10 oz.</td>
<td>0</td>
</tr>
<tr>
<td>MUZ-D36NA</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

Calculation: \( X \text{ oz.} = \frac{2.96}{5} \text{ oz. / ft.} \times (\text{Refrigerant piping length (ft.)} - 25) \)

<table>
<thead>
<tr>
<th>Model</th>
<th>Outdoor unit precharged</th>
<th>Refrigerant piping length (one way): ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>MUY-D30NA</td>
<td>4 lb.</td>
<td>0</td>
</tr>
<tr>
<td>MUY-D36NA</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

Calculation: \( X \text{ oz.} = \frac{1.08}{5} \text{ oz. / ft.} \times (\text{Refrigerant piping length (ft.)} - 25) \)

**NOTE:** Refrigerant piping exceeding 25 ft. requires additional refrigerant charge according to the calculation.
### 7. PERFORMANCE DATA

#### 1) COOLING CAPACITY

<table>
<thead>
<tr>
<th>Model</th>
<th>Indoor air (˚F)</th>
<th>Outdoor intake air DB temperature (˚F)</th>
<th>IWB (˚F)</th>
<th>75</th>
<th>85</th>
<th>95</th>
<th>105</th>
<th>115</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TC</td>
<td>SHC</td>
<td>TPC</td>
<td>TC</td>
<td>SHC</td>
<td>TPC</td>
<td>TC</td>
<td>SHC</td>
</tr>
<tr>
<td>MUZ-D30NA</td>
<td>71 37.6 19.1</td>
<td>3.43 35.2 17.8</td>
<td>3.75 33.0 16.7</td>
<td>4.04 30.7 15.6</td>
<td>4.25 28.2 14.3</td>
<td>4.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>67 35.6 22.8</td>
<td>3.23 33.2 21.2</td>
<td>3.56 30.7 19.6</td>
<td>3.85 28.6 18.3</td>
<td>4.08 26.2 16.8</td>
<td>4.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>63 33.5 25.9</td>
<td>3.08 31.0 24.0</td>
<td>3.41 28.9 22.3</td>
<td>3.68 26.2 20.3</td>
<td>3.93 23.9 18.5</td>
<td>4.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUZ-D36NA</td>
<td>71 40.7 19.8</td>
<td>3.88 38.0 18.5</td>
<td>4.25 35.7 17.4</td>
<td>4.58 33.2 16.2</td>
<td>4.82 30.5 14.9</td>
<td>5.01</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>67 38.5 23.9</td>
<td>3.66 35.9 22.2</td>
<td>4.03 33.2 20.6</td>
<td>4.36 30.7 19.1</td>
<td>4.62 28.4 17.6</td>
<td>4.84</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>63 36.2 27.3</td>
<td>3.49 33.5 25.3</td>
<td>3.86 31.2 23.5</td>
<td>4.16 28.4 21.4</td>
<td>4.45 26.2 19.5</td>
<td>4.62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUY-D30NA</td>
<td>71 37.6 19.1</td>
<td>3.01 35.2 17.8</td>
<td>3.30 33.0 16.7</td>
<td>3.55 30.7 15.6</td>
<td>3.73 28.2 14.3</td>
<td>3.99</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>67 35.6 22.8</td>
<td>2.84 33.2 21.2</td>
<td>3.13 30.7 19.6</td>
<td>3.38 28.6 18.3</td>
<td>3.58 26.2 16.8</td>
<td>3.75</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>63 33.5 25.9</td>
<td>2.70 31.0 24.0</td>
<td>2.99 28.9 22.3</td>
<td>3.23 26.2 20.3</td>
<td>3.43 23.9 18.5</td>
<td>3.58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUY-D36NA (208 V)</td>
<td>71 40.7 19.8</td>
<td>3.75 38.0 18.5</td>
<td>4.10 35.7 17.4</td>
<td>4.42 33.2 16.2</td>
<td>4.65 30.5 14.9</td>
<td>4.84</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>67 38.5 23.9</td>
<td>3.54 35.9 22.2</td>
<td>3.89 33.2 20.6</td>
<td>4.21 30.9 19.1</td>
<td>4.46 28.4 17.6</td>
<td>4.67</td>
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<td></td>
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<tr>
<td></td>
<td>63 36.2 27.3</td>
<td>3.37 33.5 25.3</td>
<td>3.73 31.2 23.5</td>
<td>4.02 28.4 21.4</td>
<td>4.29 26.2 19.5</td>
<td>4.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUY-D36NA (230 V)</td>
<td>71 42.4 20.6</td>
<td>3.77 39.6 19.3</td>
<td>4.13 37.2 18.1</td>
<td>4.45 34.6 16.8</td>
<td>4.69 31.8 15.5</td>
<td>4.86</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>67 40.1 24.9</td>
<td>3.56 37.4 23.2</td>
<td>3.92 34.6 21.5</td>
<td>4.24 32.2 20.0</td>
<td>4.49 29.6 18.3</td>
<td>4.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>63 37.7 28.4</td>
<td>3.39 34.9 26.3</td>
<td>3.75 32.5 24.5</td>
<td>4.06 29.6 22.3</td>
<td>4.32 27.0 20.3</td>
<td>4.49</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:**
1. IWB: Intake air wet-bulb temperature
2. TC: Total Capacity (x10^3 Btu/h)
3. SHC: Sensible Heat Capacity (x10^3 Btu/h)
4. TPC: Total Power Consumption (kW)
5. SHC is based on 80˚F of indoor Intake air DB temperature.

#### 2) COOLING CAPACITY CORRECTIONS

<table>
<thead>
<tr>
<th>Refrigerant piping length (one way: ft.)</th>
<th>25 (std.)</th>
<th>40</th>
<th>65</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUZ-D30NA MUY-D30NA</td>
<td>1.0 0.976</td>
<td>0.937</td>
<td>0.887</td>
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<tr>
<td>MUZ-D36NA MUY-D36NA</td>
<td>1.0 0.974</td>
<td>0.932</td>
<td>0.878</td>
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</tbody>
</table>

#### 3) HEATING CAPACITY CORRECTIONS

<table>
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<tr>
<th>Refrigerant piping length (one way: ft.)</th>
<th>25 (std.)</th>
<th>40</th>
<th>65</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUZ-D30NA MUY-D30NA</td>
<td>1.0 0.997</td>
<td>0.993</td>
<td>0.987</td>
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</tbody>
</table>

#### 4) HEATING CAPACITY

<table>
<thead>
<tr>
<th>Model</th>
<th>Indoor air (˚F)</th>
<th>Outdoor intake air WB temperature (˚F)</th>
<th>15</th>
<th>25</th>
<th>35</th>
<th>43</th>
<th>45</th>
<th>55</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TC</td>
<td>TPC</td>
<td>TC</td>
<td>TPC</td>
<td>TC</td>
<td>TPC</td>
<td>TC</td>
<td>TPC</td>
</tr>
<tr>
<td>MUZ-D30NA</td>
<td>75 18.9 2.50</td>
<td>23.6 2.94</td>
<td>28.2 3.28</td>
<td>31.8 3.44</td>
<td>32.8 3.49</td>
<td>37.2 3.63</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>70 20.0 2.42</td>
<td>24.5 2.87</td>
<td>28.9 3.19</td>
<td>32.6 3.36</td>
<td>33.6 3.43</td>
<td>38.0 3.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>65 20.5 2.32</td>
<td>25.6 2.77</td>
<td>29.6 3.11</td>
<td>33.6 3.26</td>
<td>34.6 3.33</td>
<td>38.6 3.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUZ-D36NA</td>
<td>75 20.4 2.86</td>
<td>25.5 3.36</td>
<td>30.4 3.74</td>
<td>34.3 3.94</td>
<td>35.4 3.99</td>
<td>40.1 4.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>70 21.6 2.76</td>
<td>26.4 3.28</td>
<td>31.2 3.65</td>
<td>35.2 3.84</td>
<td>36.3 3.92</td>
<td>41.0 4.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>65 22.2 2.65</td>
<td>27.6 3.17</td>
<td>32.2 3.55</td>
<td>36.3 3.74</td>
<td>37.3 3.80</td>
<td>41.9 3.99</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:**
1. IDB: Intake air dry-bulb temperature
2. Above data is for heating operation without any frost.

---

**OBH502E**
How to operate with fixed operational frequency of the compressor.
1. Press the EMERGENCY OPERATION switch on the front of the indoor unit, and select either EMERGENCY COOL mode or EMERGENCY HEAT mode before starting to operate the air conditioner.
2. The compressor starts with operational frequency.
3. The fan speed of the indoor unit is High.
4. This operation continues for 30 minutes.
5. In order to release this operation, press the EMERGENCY OPERATION switch twice or once, or press any button on the remote controller.

7-2. PERFORMANCE CURVE
Cooling

MUZ-D30NA
MUZ-D36NA
MUY-D30NA
MUY-D36NA

This value of frequency is not the same as the actual frequency in operating. Refer to 7-5 and 7-6 for the relationships between frequency and capacity.

OBH502E
7-3. CONDENSING PRESSURE

Cooling
Data is based on the condition of indoor humidity 50%.
Air flow should be set to High speed.

MUZ-D30NA

MUZ-D36NA

MUY-D30NA

OBH502E
Heating
Data is based on the condition of outdoor humidity 75%.
Air flow should be set to High speed.
Data is for heating operation without any frost.

MUZ-D30NA

MUZ-D36NA

OBH502E
### 7-4. STANDARD OPERATION DATA

<table>
<thead>
<tr>
<th>Model</th>
<th>MSZ-D30NA</th>
<th>MSZ-D36NA</th>
<th>MSY-D30NA</th>
<th>MSY-D36NA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item</strong></td>
<td><strong>Unit</strong></td>
<td><strong>Cooling</strong></td>
<td><strong>Heating</strong></td>
<td><strong>Cooling</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capacity</td>
<td>Btu/h</td>
<td>30,700</td>
<td>32,600</td>
<td>32,000/33,200</td>
</tr>
<tr>
<td>SHF</td>
<td>—</td>
<td>0.64</td>
<td>0.62</td>
<td>0.62</td>
</tr>
<tr>
<td>Input</td>
<td>kW</td>
<td>3.85</td>
<td>3.36</td>
<td>4.14/4.36</td>
</tr>
<tr>
<td>Rated frequency</td>
<td>Hz</td>
<td>84</td>
<td>84</td>
<td>91</td>
</tr>
<tr>
<td><strong>Indoor unit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power supply</td>
<td>V, phase, Hz</td>
<td>208/230 , 1 , 60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input</td>
<td>kW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fan motor current</td>
<td>A</td>
<td>0.45/0.42</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Outdoor unit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power supply</td>
<td>V, phase, Hz</td>
<td>208/230 , 1 , 60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comp. current</td>
<td>A</td>
<td>17.25/15.56</td>
<td>14.95/13.46</td>
<td>18.65/17.88</td>
</tr>
<tr>
<td>Fan motor current</td>
<td>A</td>
<td>0.800/0.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Refrigerant circuit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condensing pressure</td>
<td>PSIG</td>
<td>468</td>
<td>404</td>
<td>480</td>
</tr>
<tr>
<td>Suction pressure</td>
<td>PSIG</td>
<td>126</td>
<td>98</td>
<td>122</td>
</tr>
<tr>
<td>Discharge temperature</td>
<td>°F</td>
<td>186.8</td>
<td>169.7</td>
<td>198.7</td>
</tr>
<tr>
<td>Condensing temperature</td>
<td>°F</td>
<td>126.5</td>
<td>114.3</td>
<td>128.5</td>
</tr>
<tr>
<td>Suction temperature</td>
<td>°F</td>
<td>45.5</td>
<td>29.8</td>
<td>48.0</td>
</tr>
<tr>
<td>Comp. shell bottom temperature</td>
<td>°F</td>
<td>175.6</td>
<td>156.4</td>
<td>187.0</td>
</tr>
<tr>
<td>Fan speed (High)</td>
<td>rpm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airflow (High)</td>
<td>CFM</td>
<td>741 (Wet)</td>
<td>795</td>
<td>738 (Wet)</td>
</tr>
<tr>
<td><strong>Intake air temperature</strong></td>
<td>°F</td>
<td>80</td>
<td>70</td>
<td>80</td>
</tr>
<tr>
<td><strong>Discharge air temperature</strong></td>
<td>°F</td>
<td>53.9</td>
<td>112.2</td>
<td>53</td>
</tr>
<tr>
<td><strong>Fan speed (High)</strong></td>
<td>rpm</td>
<td>1,100</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Outdoor unit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intake air temperature</td>
<td>°F</td>
<td>95</td>
<td>47</td>
<td>95</td>
</tr>
<tr>
<td>Fan speed</td>
<td>rpm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airflow</td>
<td>CFM</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OBH502E**
7-5. CAPACITY AND INPUT CORRECTION BY INVERTER OUTPUT FREQUENCY

MUZ-D30NA

Correction of Cooling capacity

Correction of Cooling total input

Correction of Heating capacity

Correction of Heating total input

MUZ-D36NA

Correction of Cooling capacity

Correction of Cooling total input

Correction of Heating capacity

Correction of Heating total input

MUY-D30NA

Correction of Cooling capacity

Correction of Cooling total input

Correction of Heating capacity

Correction of Heating total input

MUY-D36NA

Correction of Cooling capacity

Correction of Cooling total input

Correction of Heating capacity

Correction of Heating total input

OBH502E
7-6. 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 58 Hz 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 ACTUATOR CONTROL

MUZ-D30NA  MUZ-D36NA  MUY-D30NA  MUY-D36NA

8-1. 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.

8-2. R.V. COIL CONTROL
<MUZ>
Heating ............................. ON
Cooling ............................. OFF
Dry .............................. OFF
NOTE: The 4-way valve reverses for 5 seconds right before start-up of the compressor.

8-3. Relation between main sensor and actuator

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Purpose</th>
<th>Compressor</th>
<th>LEV</th>
<th>Outdoor fan motor</th>
<th>R.V. coil</th>
<th>Indoor fan motor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge temperature thermistor</td>
<td>Protection</td>
<td>○</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indoor coil temperature thermistor</td>
<td>Cooling: Coil frost prevention</td>
<td>○</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defrost thermistor</td>
<td>Heating: High pressure protection</td>
<td>○</td>
<td>○</td>
<td></td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>Fin temperature thermistor</td>
<td>Protection</td>
<td>○</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outdoor heat exchanger temperature</td>
<td>Protection</td>
<td>○</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient temperature thermistor</td>
<td>Cooling: Low ambient temperature operation</td>
<td>○</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OBH502E
9 SERVICE FUNCTIONS

MUZ-D30NA MUZ-D36NA MUY-D30NA MUY-D36NA

9-1. PRE-HEAT CONTROL

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

[How to activate pre-heat control]
1. Turn OFF the power supply for the air conditioner before making the setting.
2. Set the 2nd Dip Switch of SW1 on the outdoor electronic control P.C. board to ON to activate pre-heat control function.

9-2. CHANGE IN DEFROST SETTING

Changing defrost finish temperature
1. Turn OFF the power supply for the air conditioner before making the setting.
2. Set the 4th Dip Switch of SW1 on the outdoor electronic control P.C. board to ON to change the defrost finish temperature. (Refer to 10-6-1.)

<table>
<thead>
<tr>
<th>4th Dip Switch of SW1</th>
<th>Defrost finish temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF (Initial setting)</td>
<td>49.5°F (9.7°C)</td>
</tr>
<tr>
<td>ON</td>
<td>64.9°F (18.3°C)</td>
</tr>
</tbody>
</table>
10 TROUBLESHOOTING

MUZ-D30NA  MUZ-D36NA  MUY-D30NA  MUY-D36NA

10-1. CAUTIONS ON TROUBLESHOOTING

1. Before troubleshooting, check the following
   1) Check the power supply voltage.
   2) Check the indoor/outdoor connecting wire for miswiring.

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 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 of 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 connector housing. DO NOT pull the lead wires.

3. Troubleshooting procedure
   1) First, check if the OPERATION INDICATOR lamp on the indoor unit is flashing on and off to indicate an abnormality. To make sure, check how many times the OPERATION INDICATOR lamp is flashing on and off before starting service work.
   2) Before servicing check that the connector and terminal are connected properly.
   3) When the electronic control P.C. board seems to be defective, check the copper foil pattern for disconnection and the components for bursting and discoloration.
   4) Refer to 10-2 and 10-3.
10-2. 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 (10-3.) disappears, the memorized failure details can be recalled.

This mode is very useful when the unit needs to be repaired for the abnormality which does not recur.

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

Operational procedure:

Setting up the failure mode recall function

Turn ON the power supply.

Preparation of the remote controller:
While pressing both OPERATION SELECT button and TOO COOL button on the remote controller at the same time, press RESET button.
First, release RESET button. Hold down the other two buttons for another 3 seconds. Make sure that the indicators on the LCD screen shown in the right figure are all displayed.
Then release the buttons.

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

Does the left lamp of OPERATION INDICATOR lamp on the indoor unit blink at the interval of 0.5 seconds?
Blinks: Either indoor or outdoor unit is abnormal. Beep is emitted at the same timing as the blinking of the left lamp of OPERATION INDICATOR lamp.
No beep: Indoor unit is normal. But the outdoor unit might be abnormal because there are some abnormalities that cannot be recalled with this way.
Check if outdoor unit is abnormal according to the detailed outdoor unit failure mode recall function. (Refer to 10-2.2)

Judgment of indoor/outdoor abnormality

Before blinking, does the left lamp of OPERATION INDICATOR lamp stay ON for 3 seconds?
When it stays ON for 3 seconds (without beep):
The outdoor unit is abnormal.
The indoor unit is abnormal.
Check the blinking pattern, and identify the abnormal point by referring to the indoor unit failure recall mode table. (Refer to indoor unit service manual.) Make sure to check at least two consecutive blinking cycles.

Releasing the failure mode recall function

Release the failure mode recall function by the following procedures.
Turn OFF the power supply and turn it ON again.
Press RESET button of the remote controller.

Repair the failure parts.

Deleting 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 after it is 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:

Blinking at 0.5-second interval

ON OFF

Repeated cycle

Beeps

2.5-second OFF

Beeps

3. Blinking pattern when the outdoor unit is abnormal:

Blinking at 0.5-second interval

ON OFF

Repeated cycle

No beep

2.5-second OFF

Beeps

3-second ON

Beeps

3-second OFF

2.5-second Interval

Blinking at 0.5-second interval

ON OFF

Repeated cycle

No beep

2.5-second OFF

Beeps

3-second ON

Beeps

3-second OFF

2.5-second Interval

Blinking at 0.5-second interval

ON OFF

Repeated cycle

No beep

Beeps

Beeps

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

Operational procedure

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

Make sure that the remote controller is in the failure mode recall function.

With the remote controller headed towards the indoor unit, press TOO COOL or TOO WARM button to adjust the set temperature to 77°F (25°C). 1.

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

 rallies: The outdoor unit is abnormal. Beep is emitted at the same timing as the blinking of the left 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 recall mode table. (10-2.3.) Make sure to check at least two consecutive blinking cycles. 3.

Releasing the failure mode recall function

Release the failure mode recall function by the following procedures. Turn OFF the power supply and turn it ON again. Press RESET button of the remote controller.

Repair the failure parts.

Deleting the memorized abnormal condition

1. After repairing the unit, recall the failure mode again according to “Setting up the failure mode recall function” (10-2.1.).
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 after it is 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:

ON OFF

2.5-second OFF 3-second ON

No beep Beeps

Repeated cycle

Blinking at 0.5-second interval

Blinking at 0.5-second interval

No beep Beeps

Repeated cycle

Repeated cycle
### 3. Outdoor unit failure recall mode table

<table>
<thead>
<tr>
<th>MUZ-D30NA</th>
<th>MUZ-D36NA</th>
<th>MUY-D30NA</th>
<th>MUY-D36NA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The left lamp of OPERATOR INDICATOR lamp (Indoor unit)</strong></td>
<td><strong>Abnormal point (Failure mode / protection)</strong></td>
<td><strong>LED indication (Outdoor P.C. board)</strong></td>
<td><strong>Condition</strong></td>
</tr>
<tr>
<td><strong>OFF</strong></td>
<td>Non (Normal)</td>
<td>Lighting</td>
<td>Lighting</td>
</tr>
<tr>
<td><strong>2-time flash</strong></td>
<td>Outdoor power system</td>
<td>Lighting</td>
<td>Lighting</td>
</tr>
<tr>
<td><strong>3-time flash</strong></td>
<td>Discharge temperature thermometer</td>
<td>Lighting</td>
<td>Once</td>
</tr>
<tr>
<td></td>
<td>Defrost thermometer (MUZ)</td>
<td>Lighting</td>
<td>Once</td>
</tr>
<tr>
<td></td>
<td>Ambient temperature thermometer</td>
<td>Lighting</td>
<td>Twice</td>
</tr>
<tr>
<td></td>
<td>Fin temperature thermometer</td>
<td>Lighting</td>
<td>3 times</td>
</tr>
<tr>
<td></td>
<td>P.C. board temperature thermometer</td>
<td>Lighting</td>
<td>4 times</td>
</tr>
<tr>
<td></td>
<td>Outdoor heat exchanger temperature thermometer</td>
<td>Lighting</td>
<td>9 times</td>
</tr>
<tr>
<td><strong>4-time flash</strong></td>
<td>Overcurrent</td>
<td>Once</td>
<td>Goes out</td>
</tr>
<tr>
<td><strong>5-time flash</strong></td>
<td>Discharge temperature</td>
<td>Lighting</td>
<td>Lighting</td>
</tr>
<tr>
<td><strong>6-time flash</strong></td>
<td>High pressure</td>
<td>Lighting</td>
<td>Lighting</td>
</tr>
<tr>
<td><strong>7-time flash</strong></td>
<td>Fin temperature</td>
<td>3 times</td>
<td>Goes out</td>
</tr>
<tr>
<td></td>
<td>P.C. board temperature</td>
<td>4 times</td>
<td>Goes out</td>
</tr>
<tr>
<td><strong>8-time flash</strong></td>
<td>Outdoor fan motor</td>
<td>Lighting</td>
<td>Lighting</td>
</tr>
<tr>
<td><strong>9-time flash</strong></td>
<td>Nonvolatile memory data</td>
<td>Lighting</td>
<td>5 times</td>
</tr>
<tr>
<td><strong>10-time flash</strong></td>
<td>Discharge temperature</td>
<td>Lighting</td>
<td>Lighting</td>
</tr>
<tr>
<td><strong>11-time flash</strong></td>
<td>Communication error between P.C. boards</td>
<td>Lighting</td>
<td>6 times</td>
</tr>
<tr>
<td></td>
<td>Current sensor</td>
<td>Lighting</td>
<td>7 times</td>
</tr>
<tr>
<td></td>
<td>Zero cross detecting circuit</td>
<td>5 times</td>
<td>Goes out</td>
</tr>
</tbody>
</table>

**NOTE:** Blinking patterns of this mode differ from the ones of Troubleshooting check table (10-3.).
<table>
<thead>
<tr>
<th>Abnormal point (Failure mode / protection)</th>
<th>LED indication (Outdoor P.C. board)</th>
<th>Condition</th>
<th>Remedy</th>
<th>Indoor/outdoor unit failure mode recall function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Converter</td>
<td>LED 1 &amp; LED 2</td>
<td>11-time flash</td>
<td></td>
<td>A failure is detected in the operation of the converter during operation.</td>
</tr>
<tr>
<td>Bus-bar voltage (1)</td>
<td>5 times</td>
<td>Goes out</td>
<td>Converter</td>
<td>The bus-bar voltage exceeds 400 V or falls to 200 V or below during compressor operating.</td>
</tr>
<tr>
<td>Even if this protection stop is performed continuously 3 times, it does not mean the abnormality in outdoor power system.</td>
<td>5 times</td>
<td>Goes out</td>
<td>Bus-bar voltage (2)</td>
<td>The bus-bar voltage exceeds 400 V or falls to 200 V or below during compressor operating.</td>
</tr>
<tr>
<td></td>
<td>6 times</td>
<td>Goes out</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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10-3. TROUBLESHOOTING CHECK TABLE
MUZ-D30NA MUZ-D36NA MUY-D30NA MUY-D36NA

<table>
<thead>
<tr>
<th>No.</th>
<th>Symptom</th>
<th>LED Abnormal point / Condition</th>
<th>Condition</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lightning twice</td>
<td>Outdoor power system</td>
<td>PM protection stop or lock protection stop is continuously performed 3 times within 1 minute after the compressor gets started, or converter protection stop or bus-bar voltage protection stop is continuously performed 3 times within 3 minutes after start-up.</td>
<td>• Check the connection of the compressor connecting wire. • Refer to 10-5.6 &quot;How to check inverter/compres- sor&quot;. • Refer to 10-5.6 &quot;Check of compressor start failure&quot;. • Check the stop valve.</td>
</tr>
<tr>
<td>2</td>
<td>Lightning 5 times</td>
<td>Discharge temperature thermometer</td>
<td>A short circuit is detected in the thermistor during operation, or an open circuit is detected in the thermistor after 10 minutes of compressor start-up.</td>
<td>• Refer to 10-5.6 &quot;Check of outdoor thermistors&quot;. • Refer to 10-5.6 &quot;Check of compressor start failure&quot;. • Check the stop valve.</td>
</tr>
<tr>
<td>3</td>
<td>Lightning 4 times</td>
<td>PTC board temperature thermometer</td>
<td>A short circuit is detected in the thermistor during operation.</td>
<td>• Refer to 10-5.6 &quot;Check of outdoor thermistors&quot;. • Replace the outdoor electronic control P.C. board.</td>
</tr>
<tr>
<td>4</td>
<td>Lightning 6 times</td>
<td>Ambient temperature thermometer</td>
<td>A short circuit is detected in the thermistor during operation, or an open circuit is detected in the thermistor after 5 minutes of compressor start-up.</td>
<td>• Replace the outdoor electronic control P.C. board.</td>
</tr>
<tr>
<td>5</td>
<td>Lighting 6 times</td>
<td>Serial signal</td>
<td>The communication falls between the indoor and outdoor unit for 3 minutes.</td>
<td>• Refer to 10-5.6 &quot;How to check measuring and serial signal error&quot;.</td>
</tr>
<tr>
<td>6</td>
<td>Lighting 7 times</td>
<td>Nonvolatile memory data</td>
<td>The nonvolatile memory data cannot be read properly.</td>
<td>• Replace the outdoor electronic control P.C. board.</td>
</tr>
<tr>
<td>7</td>
<td>Lighting 8 times</td>
<td>Current sensor</td>
<td>Current sensor protection stop is continuously performed twice.</td>
<td>• Replace the power board.</td>
</tr>
<tr>
<td>8</td>
<td>Lighting 11 times</td>
<td>Communication error between P.C. boards</td>
<td>The communication protection stop between boards is continuously performed three times within 3 minutes.</td>
<td>• Check the connecting wire between outdoor electronic control P.C. board and power board.</td>
</tr>
<tr>
<td>9</td>
<td>Lightning 12 times</td>
<td>Zero cross detecting circuit</td>
<td>The protection stop of the zero cross detecting circuit is continuously performed 10 times.</td>
<td>• Check the connecting wire among outdoor electric control P.C. board, noise filter P.C. board and power board.</td>
</tr>
<tr>
<td>10</td>
<td>Twice</td>
<td>Goes out</td>
<td>Overcurrent is detected after 30 seconds of compressor start-up.</td>
<td>• Reconnect compressor connection. • Refer to 10-5.6 &quot;How to check inverter/compres- sor&quot;. • Refer to 10-5.6 &quot;Check of compressor start failure&quot;. • Check the stop valve. • Check the power module (PM module).</td>
</tr>
<tr>
<td>11</td>
<td>3 times</td>
<td>Goes out</td>
<td>Discharge temperature protection</td>
<td>Temperature of discharge temperature thermistor exceeds 241°F (116°C), compressor stops. Compressor runs after 3 minutes later.</td>
</tr>
<tr>
<td>12</td>
<td>4 times</td>
<td>Goes out</td>
<td>Ambient temperature protection</td>
<td>The fin temperature exceeds 189°F (87°C) during operation.</td>
</tr>
<tr>
<td>13</td>
<td>5 times</td>
<td>Goes out</td>
<td>High-pressure protection</td>
<td>The outdoor heat exchanger temperature exceeds 100°F (38°C) during operation.</td>
</tr>
<tr>
<td>14</td>
<td>8 times</td>
<td>Goes out</td>
<td>Converter protection</td>
<td>The bus-bar voltage exceeds 600 V or falls to 200 V or below during compressor operating.</td>
</tr>
<tr>
<td>15</td>
<td>9 times</td>
<td>Goes out</td>
<td>Bus-bar voltage protection (1)</td>
<td>The bus-bar voltage exceeds 600 V or falls to 200 V or below during compressor operating.</td>
</tr>
<tr>
<td>16</td>
<td>13 times</td>
<td>Goes out</td>
<td>Outdoor fan motor</td>
<td>Failure occurs continuously three times within 30 seconds after the fan gets started.</td>
</tr>
<tr>
<td>17</td>
<td>Lighting 8 times</td>
<td>Current sensor</td>
<td>A short or open circuit is detected in the current sensor during compressor operating.</td>
<td>• Replace the power board.</td>
</tr>
<tr>
<td>18</td>
<td>Lighting 11 times</td>
<td>Communication between P.C. boards</td>
<td>Communication error occurs between the outdoor electronic control P.C. board and power board for more than 10 seconds.</td>
<td>• Check the connecting wire between outdoor electronic control P.C. board and power board.</td>
</tr>
<tr>
<td>19</td>
<td>Lighting 12 times</td>
<td>Zero cross detecting circuit</td>
<td>Zero cross signal cannot be detected while the compressor is operating.</td>
<td>• Check the connecting wire among outdoor electronic control P.C. board, noise filter P.C. board and power board.</td>
</tr>
</tbody>
</table>

NOTE 1. The location of LED is illustrated at the right figure. Refer to 10-6.1. 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", the LED blinks twice before turning off and then blinks twice every 0.5 seconds. LED 1 (Red) indicates the fault and LED 2 (Yellow) indicates the indication. The ON and OFF time of the LED is 0.5 seconds.
<table>
<thead>
<tr>
<th>No.</th>
<th>Symptom (Outdoor unit operates)</th>
<th>Condition</th>
<th>LED1 (Red)</th>
<th>LED2 (Yellow)</th>
<th>Abnormal point / Condition</th>
<th>Condition</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Once Lighting</td>
<td>The input current exceeds 15 A.</td>
<td>primary current protection</td>
<td>Primary current protection</td>
<td>The input current exceeds 15 A.</td>
<td>• These symptoms do not mean any abnormality of the product, but check the following points. Check if indoor filters are clogged. Check if refrigerant is short. Check if indoor/outdoor unit air circulation is short cycled.</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Twice Lighting, Defrosting in cooling</td>
<td>The indoor gas pipe temperature exceeds 113°F (45°C) during heating.</td>
<td>high-pressure protection</td>
<td>High-pressure protection</td>
<td>The indoor gas pipe temperature exceeds 113°F (45°C) during heating.</td>
<td>• Refer to 10-5-6 &quot;Check of outdoor thermistors&quot;.</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>3 times Lighting, Inverter check mode</td>
<td>The discharge temperature exceeds 212°F (100°C) during operation.</td>
<td>discharge temperature protection</td>
<td>Discharge temperature protection</td>
<td>The discharge temperature exceeds 212°F (100°C) during operation.</td>
<td>• Check refrigerant circuit and refrigerant amount. Refer to 10-5-6 &quot;Check of LEV&quot;. Refer to 10-5-6 &quot;Check of outdoor thermistors&quot;.</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>4 times Lighting, Low discharge temperature protection</td>
<td>The frequency of the compressor is kept 80 Hz or more and the discharge temperature is kept under 102°F (39°C) for more than 20 minutes.</td>
<td>low-discharge temperature protection</td>
<td>Low-discharge temperature protection</td>
<td>The frequency of the compressor is kept 80 Hz or more and the discharge temperature is kept under 102°F (39°C) for more than 20 minutes.</td>
<td>• Refer to 10-5-6 &quot;Check of LEV&quot;. Check refrigerant circuit and refrigerant amount.</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>5 times Lighting, Cooling high-pressure protection</td>
<td>The outdoor heat exchanger temperature exceeds 136°F (58°C) during operation.</td>
<td>cooling high-pressure protection</td>
<td>Cooling high-pressure protection</td>
<td>The outdoor heat exchanger temperature exceeds 136°F (58°C) during operation.</td>
<td>• This symptom does not mean any abnormality of the product, but check the following points. Check if indoor filters are clogged. Check if refrigerant is short. Check if indoor/outdoor unit air circulation is short cycled.</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>9 times Lighting, Normal</td>
<td>The unit is operated with emergency operation switch.</td>
<td>Lighting</td>
<td>Lighting</td>
<td>Normal</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Lighting</td>
<td>--</td>
<td>Lighting</td>
<td>Lighting</td>
<td>Normal</td>
<td>--</td>
<td></td>
</tr>
</tbody>
</table>
## 10-4. TROUBLE CRITERION OF MAIN PARTS

<table>
<thead>
<tr>
<th>Part name</th>
<th>Check method and criterion</th>
<th>Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outdoor heat exchanger temperature thermistor (RT68)</strong></td>
<td>Measure the resistance with a tester. Before measurement, hold the thermistor with your hands to warm it up. Refer to 10-6. “Test point diagram and voltage”, 1. “Outdoor electronic control P.C. board”, the chart of thermistor.</td>
<td></td>
</tr>
<tr>
<td><strong>Fin temperature thermistor (RT64)</strong></td>
<td>Measure the resistance with a tester. Before measurement, hold the thermistor with your hands to warm it up. Refer to 10-6. “Test point diagram and voltage”, 1. “Outdoor electronic control P.C. board”, the chart of thermistor.</td>
<td></td>
</tr>
<tr>
<td><strong>Discharge temperature thermistor (RT62)</strong></td>
<td>Measure the resistance with a tester. Before measurement, hold the thermistor with your hands to warm it up. Refer to 10-6. “Test point diagram and voltage”, 1. “Outdoor electronic control P.C. board”, the chart of thermistor.</td>
<td></td>
</tr>
<tr>
<td><strong>Compressor</strong></td>
<td>Measure the resistance between terminals using a tester. (Temperature: 14 ~ 104°F (-10 ~ 40°C))</td>
<td><img src="#" alt="Compressor Diagram" /></td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td><img src="#" alt="Resistance Chart" /></td>
</tr>
<tr>
<td></td>
<td>1.24 ~ 1.53 Ω</td>
<td></td>
</tr>
<tr>
<td><strong>Outdoor fan motor</strong></td>
<td>Measure the resistance between lead wires using a tester. (Temperature: 14 ~ 104°F (-10 ~ 40°C))</td>
<td><img src="#" alt="Outdoor Fan Motor Diagram" /></td>
</tr>
<tr>
<td></td>
<td>Color of lead wire</td>
<td><img src="#" alt="Resistance Chart" /></td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13 ~ 16 Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BLK – WHT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WHT – RED</td>
<td></td>
</tr>
<tr>
<td><strong>R. V. coil (MUZ)</strong></td>
<td>Measure the resistance using a tester. (Temperature: 14 ~ 104°F (-10 ~ 40°C))</td>
<td><img src="#" alt="R. V. Coil Diagram" /></td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td><img src="#" alt="Resistance Chart" /></td>
</tr>
<tr>
<td></td>
<td>1.20 ~ 1.55 kΩ</td>
<td></td>
</tr>
<tr>
<td><strong>Linear expansion valve</strong></td>
<td>Measure the resistance using a tester. (Temperature: 14 ~ 104°F (-10 ~ 40°C))</td>
<td><img src="#" alt="Linear Expansion Valve Diagram" /></td>
</tr>
<tr>
<td></td>
<td>Color of lead wire</td>
<td><img src="#" alt="Resistance Chart" /></td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>38 ~ 50 Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WHT – RED</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RED – ORN</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YLW – BRN</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BRN – BLU</td>
<td></td>
</tr>
</tbody>
</table>
10-5. TROUBLESHOOTING FLOW

**A. How to check inverter/compressor**

Disconnect the terminal of the compressor. 3 minutes after turning on the power supply, start EMERGENCY OPERATION.

Measure the voltage between each lead wire leading to the compressor.
- U (BLK) - V (WHT)
- V (WHT) - W (RED)
- W (RED) - U (BLK)

Is there output voltage?
- Yes
- No

Is output balanced?
- Yes
- No

Is the input voltage to the outdoor electronic control P.C. board 370 V or more?
- Yes
- No

Turn off power supply of indoor and outdoor unit, and measure the compressor winding resistance between the compressor terminals.

Is the resistance between each terminal normal?
- Yes
- No

Reconnect the lead wire of compressor, and turn on power supply to indoor and outdoor unit.

3 minutes later, starts EMERGENCY OPERATION.

Clarify the causes by counting time until the inverter stops.
- 0 to 10 seconds: compressor layer short
- 10 to 60 seconds: compressor lock
- 60 seconds to 5 minutes: refrigerant circuit defective
- 5 minutes or more: normal

Note:
- After the outdoor fan starts running, wait for 1 minute or more before measuring the voltage.
- Output voltage is 50 - 130 V. (The voltage may differ according to the tester.)

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B. Check of outdoor thermistors

Disconnect the connector of thermistor in the outdoor P.C. board (see below table), and measure the resistance of thermistor.

Is the thermistor normal? (Refer to 10-6.1.)

No

Replace the thermistor except RT64. When RT64 is abnormal, replace the outdoor power board.

Yes

Reconnect the connector of thermistor.

Turn ON the power supply and press EMERGENCY OPERATION switch.

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

No

Replace the outdoor electronic control P.C. board.

Yes

OK.
(Cause is poor contact.)

---

<table>
<thead>
<tr>
<th>Thermistor</th>
<th>Symbol</th>
<th>Connector, Pin No.</th>
<th>Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defrost (MUZ)</td>
<td>RT61</td>
<td>Between CN661 pin1 and pin2</td>
<td>Outdoor electronic control P.C. board</td>
</tr>
<tr>
<td>Discharge temperature</td>
<td>RT62</td>
<td>Between CN661 pin3 and pin4</td>
<td></td>
</tr>
<tr>
<td>Outdoor heat exchanger temperature</td>
<td>RT68</td>
<td>Between CN661 pin7 and pin8</td>
<td></td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>RT65</td>
<td>Between CN663 pin1 and pin2</td>
<td></td>
</tr>
<tr>
<td>Fin temperature</td>
<td>RT64</td>
<td>Between CN3 pin1 and pin2</td>
<td>Outdoor power board</td>
</tr>
</tbody>
</table>
• Heating operation does not work.

1. Disconnect the lead wire leading to the compressor.
2. 3 minutes after turning on the power supply, start EMERGENCY OPERATION in HEAT mode.

   Is there voltage of 208/230 VAC between pin 1 and pin 2 at connector CN912?
   No
   Yes
   Turn OFF power supply of indoor and outdoor unit.

   Disconnect the connector CN912 in noise filter P.C. board. Is there normal resistance to R.V. coil?
   No
   Yes
   Replace the R.V. coil.

   Replace the 4-way valve.

• Cooling operation does not work.

1. Disconnect the lead wire leading to the compressor.
2. 3 minutes after turning on the power supply, start EMERGENCY OPERATION in COOL mode.

   Is there voltage of 208/230 VAC between pin 1 and pin 2 at connector CN912?
   No
   Replace the 4-way valve.
   Yes
   Replace the electronic control P.C. board.

   1. Turn OFF power supply of indoor and outdoor unit, and disconnect the connector CN781 in the outdoor electronic control P.C. board.
   2. 3 minutes after turning ON the power supply, start EMERGENCY OPERATION in HEAT mode.
   3. Is there voltage 12 VDC between the connector CN781 pin 5 (+) and pin 3 (-)?
   No
   Replace the noise filter P.C. board.
   Yes
   Replace the outdoor electronic control P.C. board.

   If the connector CN912 is not connected or R.V. coil is open, voltage occurs between terminals even when the control is OFF.

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D. Check of outdoor fan motor

Check the connection between the connector CN931 and CN932.

Is the resistance between each terminal of outdoor fan motor normal? (Refer to 10-4.)

Yes

Disconnect CN932 from outdoor electronic control P.C. board, and turn on the power supply.

No

Rotate the outdoor fan motor manually and measure the voltage of CN931.

Between 1(+) and 5(-)
Between 2(+) and 5(-)
Between 3(+) and 5(-)

(Fixed to either 5 or 0 VDC)

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

Yes

No

Does the outdoor fan motor rotate smoothly?

Yes

No

Replace the outdoor DC fan motor.

Replace the outdoor electronic control P.C. board.

E. Check of power supply

Check the connecting of parts of main power supply circuit.

Turn ON power supply.

Is there voltage of 208/230 VAC in the power supply terminal block?

No

Check the power supply cable.

Yes

Is the output voltage from the noise filter P.C. board 208/230 VAC?

No

Replace the noise filter P.C. board.

Yes

Is the input voltage to the power board 208/230 VAC?

Yes

No

Replace the reactor.

Replace the power board.

Is the input voltage to the outdoor electronic control P.C. board 294/325 VDC?

Yes

No

Replace the outdoor electronic control P.C. board.
Check of compressor start failure

Confirm that 1~4 is normal.
1. Contact of lead wire leading to compressor
2. Output voltage of the outdoor electronic control P.C. board and balance of them (See 10-5.⑥)
3. Direct current voltage to the outdoor electronic control P.C. board
4. Voltage between outdoor terminal block S1-S2

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

After the compressor is heated with a drier, does the compressor start? ≡1
No
   Replace the compressor.
Yes

Compressor start failure. Activate pre-heat control.
(Refer to 9-1. "PRE-HEAT CONTROL")

Check of LEV

Turn ON power supply to the outdoor unit after checking LEV coil is mounted to the LEV body securely.

Is "click - click" sound heard?
Yes
   Normal
   No

Or, do you feel vibration of the LEV coil with a hand?

Disconnect the connector CN795.
Is there normal resistance to LEV coil?
Yes
   Replace the outdoor electronic control P.C. board.
No
   Replace the LEV coil.
**How to check miswiring and serial signal error**

1. **Turn OFF the power supply.**
   - Is there rated voltage in the power supply?
     - Yes: Check the power supply.
     - No: Is there rated voltage between outdoor terminal block S1 and S2?
       - Yes: Check the wiring.
       - No: Press EMERGENCY OPERATION switch once.

2. **Does the left lamp of OPERATION INDICATOR lamp light up?**
   - Yes: Is there any miswiring, poor contact, or wire disconnection of the indoor/outdoor connecting wire?
     - Yes: Correct them.
     - No: Is fuse (F65 or F66) broken?
       - Yes: Correct them.
       - No: Turn ON the power supply.

3. **Is serial signal error indicated 6 minutes later?**
   - Yes: Reinstall either the unit or the light away from each other. Attach a filter on remote control receiving section of the indoor unit.
   - No: Replace the indoor electronic control P.C. board.

4. **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: Replace the indoor/outdoor connecting wire.
   - No: Be sure to release the failure-mode recall function after checking.

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

- LED1 LED2
  - Blinking: Lighted (Parts side)

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**OBH502E**
1. Disconnect the connector CN681 in the electronic control P.C. board.
2. Check the resistance of HPS 1 minute after the outdoor unit power supply was turned OFF.

- Check the resistance between each terminal.
  - Infinity: Replace HPS.
  - 0 Ω: Reconnect CN681.

Reconnect CN681.
Turn ON power supply to the indoor and outdoor unit.
3 minutes later, start EMERGENCY OPERATION.

Is HPS protection displayed immediately after compressor starts?
- Yes: Replace the outdoor electronic control P.C. board.
- No: Normal

3. Check of bus-bar voltage

- Check the voltage of power supply.
- Confirm outdoor unit failure mode recall function. (Refer to 10-2.2)

Confirm LED1 indication lamp on the outdoor electronic control P.C. board.

- Blink 5 times: Replace the power board. ※
- Blink 6 times: Replace the outdoor electronic control P.C. board. ※
- Blink 9 times: Replace the outdoor electronic control P.C. board. ※

Turn ON power supply. Start operation.

- Blink 5 times: Replace the power board. ※
- Blink 6 times: Replace the outdoor electronic control P.C. board. ※
- Blink 9 times: Replace the power board. ※

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

OBH502E
**Electromagnetic noise enters into TV sets or radios**

- **Is the unit grounded?**
  - Yes
  - **Is the distance between the antennas and the indoor unit within 9.91 ft. (3m), or is the distance between the antennas and the outdoor unit within 9.91 ft. (3m)?**
    - Yes
      - **Extend the distance between the antennas and the indoor unit, and/or the antennas and the outdoor unit.**
    - No
      - **Extend the distance between the TV sets and/or radios and the indoor unit, or the TV sets or radios and the outdoor unit.**
  - No

- **Is the distance between the TV sets or radios and the indoor unit within 3.28 ft. (1m), or is the distance between the TV sets or radios and the outdoor unit within 9.91 ft. (3m)?**
  - Yes
    - **Extend the distance between the TV sets and/or radios and the indoor unit, or the TV sets or radios and the outdoor unit.**
  - No

- **Are the antennas damaged?**
  - Yes
    - **Replace or repair the antenna.**
    - **Replace or repair the coaxial cable.**
  - No

- **Is the indoor/outdoor connecting wire of the air conditioner and the wiring of the antennas close?**
  - Yes
    - **Extend the distance between the indoor/outdoor connecting wire of the air conditioner and the wiring of the antennas.**
  - No

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
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.
1. Outdoor electronic control P.C. board

- MUZ-D30NA  MUZ-D36NA  MUY-D30NA  MUY-D36NA

2. LED 1

3. CN801

4. 294 ~ 370 VDC

5. Input

6. CN932

7. 20-90 VAC

8. CN931

9. 5 VDC pulse wave

10. To fan motor

11. Defrost thermistor (RT61) (MUZ)

12. CN661

13. Discharge temperature thermistor (RT62) CN661

14. Outdoor heat exchanger temperature thermistor (RT68) CN661

15. Ambient temperature thermistor (RT65) CN663

16. CN701

17. Signal transmission (To power board) 5 VDC pulse wave

18. CN702

19. Signal reception (From power board) 5 VDC pulse wave

20. GND (power board)

21. CN781

22. CN795

23. 12 VDC pulse wave

24. Fuse: T3.15 AL 250V

25. CN681

26. High pressure switch

27. Temperature (°F)

28. For indoor use 5~10 VDC

29. CN601

30. 208/230 VAC 60 Hz Input
2. Noise filter P.C. board

MUZ-D30NA  MUZ-D36NA  MUY-D30NA  MUY-D36NA

MUZ
CN912
R.V. coil
208/230 VAC
60 Hz
Output

208/230 VAC
60 Hz
Input

CN901
To electronic
control P.C.
board

CN902
To power
board

CN903
To power
board

CN61

F64 FUSE
T2AL250V

NR64 VARISTOR

To electronic
control P.C.
board

OBH502E
3. Outdoor power board

MUZ-D30NA  MUZ-D36NA  MUY-D30NA  MUY-D36NA

- **294-370 VDC**
- **Output**
  - (+) 1 (Red)
  - (−) 3 (White)

- **Connect to the compressor**
  - Voltage among phases: 180 V

- **Connect to the ground**
  - CN5

- **Connect to the controller board**
  - (+) 1-5 (-): Signal transmission (To electronic control P.C. board)
  - 5 VDC pulse wave
  - (+) 2-5 (-): Zero cross signal
  - 3-4 : Not used
  - (+) 6-5 (-): 15 V
  - (+) 7-5 (-): 15 V

- **CN3**
  - Fin temperature thermistor RT64
  - Signal reception (From electronic control P.C. board)
  - 5 VDC pulse wave

- **CN5**
  - Primary current detection (Connect to the noise filter)
11 DISASSEMBLY INSTRUCTIONS

<"Terminal with locking mechanism" Detaching points>
The terminal which has the locking mechanism can be detached as shown below.
There are 2 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.

MUZ-D30NA  MUZ-D36NA  MUY-D30NA  MUY-D36NA

OPERATING PROCEDURE

1. Removing the cabinet
   (1) Remove the screws of the service panel.
   (2) Remove the screws of the valve cover.
   (3) Remove the top panel.
   (4) Remove the service panel.
   (5) Remove the top panel.
   (6) Remove the valve cover.
   (7) Remove the screws of the cabinet.
   (8) Remove the cabinet.
   (9) Remove the screws of the back panel.
   (10) Remove the back panel.

PHOTOS

Photo 1
Screw of the top panel
Screws of the cabinet
Screws of the cabinet

Photo 2
Screw of the service panel
Screws of the top panel
Screws of the back panel
Screws of the valve cover

Photo 3
Screw of the motor support
Conduit plate
Screws of the back panel
Set screws of the back panel

NOTE: Turn OFF power supply before disassembly.
### OPERATING PROCEDURE

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

1. Remove the top panel, cabinet, service panel and the back panel. (Refer to 1.)
2. Disconnect the following connectors:
   - Electronic control P.C. board
     - CN931 and CN932 (Fan motor)
     - CN795 (LEV)
     - CN661 (Discharge temperature thermistor, defrost thermistor (MUZ) and outdoor heat exchanger temperature thermistor)
     - CN663 (Ambient temperature thermistor)
     - CN681 (High pressure switch) (MUZ)
   - Noise filter P.C. board
     - CN912 (4-way valve) (MUZ)
   - Compressor
   - Reactor
3. Remove the screws fixing the relay panel.
4. Remove the inverter assembly.
5. Disconnect all connectors and lead wires on the electronic control P.C. board.
6. Remove the electronic control P.C. board from the inverter assembly.
7. Disconnect all connectors and lead wires on the noise filter P.C. board.
8. Remove the noise filter P.C. board from the inverter assembly.
9. Remove the screws fixing the power board assembly.
10. Remove the power board from the inverter assembly.
11. Disconnect all connectors and lead wires on the power board.
12. Remove the power board from the inverter assembly.

#### 3. Removing R.V. coil (MUZ)

1. Remove the top panel, cabinet, service panel and the back panel. (Refer to 1.)
2. Disconnect the following connectors:
   - Noise filter P.C. board
     - CN912 (4-way valve)
3. Remove the R.V. coil. (Photo 9)

---

### PHOTOS

**Photo 4**
- Screws of the reactor
- HPS
- Discharge temperature thermistor

**Photo 5 (Inverter assembly)**
- Screws of the power board assembly
- Screws of the relay panel

**Photo 6**
- Screws of the relay panel
- Propeller
OPERATING PROCEDURE

4. Removing the defrost thermistor (MUZ), discharge temperature thermistor, outdoor heat exchanger temperature thermistor and ambient temperature thermistor

(1) Remove the top panel, cabinet, service panel and the back panel. (Refer to 1.)
(2) Disconnect the following connectors:
   <Electronic control P.C. board>
   - CN661 (Discharge temperature thermistor, defrost thermistor (MUZ) and outdoor heat exchanger temperature thermistor)
   - CN663 (Ambient temperature thermistor)
(3) Pull out the defrost thermistor from its holder. (MUZ)
(4) Pull out the discharge temperature thermistor from its holder. (Photo 4)
(5) Pull out the outdoor heat exchanger temperature thermistor from its holder.
(6) Pull out the ambient temperature thermistor from its holder.

5. Removing outdoor fan motor

(1) Remove the top panel, cabinet, service panel and the back panel. (Refer to 1.)
(2) Disconnect the following connectors:
   <Electronic control P.C. board>
   - CN931 and CN932 (Fan motor)
(3) Remove the propeller.
(4) Remove the screws fixing the outdoor fan motor.
(5) Remove the outdoor fan motor.
### OPERATING PROCEDURE

<table>
<thead>
<tr>
<th>6. Removing the compressor and 4-way valve</th>
<th>PHOTOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Remove the top panel, cabinet, service panel and the back panel. (Refer to 1.)</td>
<td></td>
</tr>
<tr>
<td>(2) Remove the inverter assembly. (Refer to 2.)</td>
<td></td>
</tr>
<tr>
<td>(3) Remove the R.V. coil. (Refer to 3.)</td>
<td></td>
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<tr>
<td>(4) 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 0 PSIG.</td>
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<tr>
<td>(5) Detach the brazed part of the suction and the discharge pipe connected with compressor.</td>
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<tr>
<td>(6) Remove the compressor nuts.</td>
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<tr>
<td>(7) Remove the compressor.</td>
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<tr>
<td>(8) Detach the brazed part of 4-way valve and pipe. (Photo 8)</td>
<td></td>
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</tbody>
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<tr>
<th>7. Removing the reactor</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Remove the top panel, cabinet, service panel and the back panel. (Refer to 1.)</td>
</tr>
<tr>
<td>(2) Disconnect the reactor lead wire.</td>
</tr>
<tr>
<td>(3) Remove the screws of the reactor, and remove the reactor.</td>
</tr>
</tbody>
</table>

![Photo 9](Brazed parts of 4-way valve R.V. coil)

![Photo 10](Brazed part of the discharge pipe Brazed part of the suction pipe)