1. BEFORE INSTALLATION

1-1. THE FOLLOWING SHOULD ALWAYS BE OBSERVED FOR SAFETY

- Be sure to read “THE FOLLOWING SHOULD ALWAYS BE OBSERVED FOR SAFETY” before installing the air conditioner.
- Be sure to observe all items related to safety.
- After reading this manual, be sure to keep it together with the OPERATING INSTRUCTIONS for future reference.

![WARNING](Could lead to death, serious injury, etc.)

- Do not install the unit by yourself (user).
- Incomplete installation could cause fire or electric shock.
- Where children cannot touch it.
- Where it is not exposed to direct sunshine.
- A rigid wall without vibration.
- Where airflow is not blocked.
- After reading this manual, be sure to keep it together with the OPERATING INSTRUCTIONS for future reference.

1-2. SELECTING THE INSTALLATION LOCATION

**INDOOR UNIT**

- Where airflow is not blocked.
- Where cool air spreads over the entire room.
- Where the ambient temperature is within a comfortable range.
- Where it is not exposed to direct sunshine.
- Where the unit is easy to drain.
- A distance of 1 m or more away from your TV and radio.

**OUTDOOR UNIT**

- Where it is easy to operate and easy visible.
- Where the air is cool.
- Where the air is not exposed to wind.
- Where the unit is not exposed to wind.
- Where there is no dust, clogging, or loose parts in both the outlet and the plug.
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**REMOTE CONTROLLER**

- Where it is easy to operate and easy visible.
- Where the air is cool.
- Where the air is not exposed to wind.
- Where the unit is not exposed to wind.
- Where there is no dust, clogging, or loose parts in both the outlet and the plug.
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1-3. SPECIFICATIONS

<table>
<thead>
<tr>
<th>Indoor unit</th>
<th>Outdoor unit</th>
<th>Power supply</th>
<th>Wire specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSZ-GE22VA</td>
<td>MUZ-GE22VA</td>
<td>230 V 50 Hz</td>
<td>10 A, 3-core 1.0 mm²</td>
</tr>
<tr>
<td>MSZ-GE33VA</td>
<td>MUZ-GE33VA</td>
<td>230 V 50 Hz</td>
<td>16 A, 3-core 1.0 mm²</td>
</tr>
<tr>
<td>MSZ-GE42VA</td>
<td>MUZ-GE42VA</td>
<td>230 V 50 Hz</td>
<td>20 mm²</td>
</tr>
<tr>
<td>MSZ-GE50VA</td>
<td>MUZ-GE50VA</td>
<td>230 V 50 Hz</td>
<td>20 mm²</td>
</tr>
</tbody>
</table>

- Table 1: Indoor unit specifications
- Table 2: Outdoor unit specifications

Note: In the table, “Power supply” indicates the voltage and frequency. “Wire specifications” indicates the current and conductor type.

**Additional Information:**

- Gas/Liquid: 9.52 / 6.35 mm (0.8 mm)
- Refrigerant adjustment: A*7 30/20 g/m
- Pipe length and height: 8 mm
- Max. pipe length: 20/30 m
- Max. height difference: 12/15 m
- Max. number of bends: 5, 10

** Preliminary Specifications:**

- Gas/Liquid: 8 mm
- Refrigerant adjustment: A*7 30/20 g/m
- Insulation thickness: 8 mm
1.4. INSTALLATION DIAGRAM

ACCESSORIES
Check the following parts before installation. <Indoor unit>

- Installation plate 1
- Installation plate fixing screw (4 × 25 mm) 5
- Remote controller holder 1
- Fixing screw for (3) 3.5 × 16 mm (Black) 2
- Battery (AAA) for (6) 2
- Wireless remote controller 1
- Felt tape (For left or left-rear piping) 1
- Air cleaning filter 1

<Outdoor unit>
- Drain cap ø 33 (GE50VA only) 2
- Drain cap ø 33 (GE50VA only) 2

PARTS TO BE PROVIDED AT YOUR SITE

- Indoor/outdoor unit connecting wire* 1
- Extension pipe 1
- Wall hole sleeve 1
- Wall hole cover 1
- Pipe fixing band 1
- Fixing screw for (E) 4 × 20 mm 2 to 5
- Piping tape 1
- Putty 1
- Drain hose (ø 65 mm or more)
- Putty for (I)
- Refrigeration oil 1
- Power supply cord* 1

* Note:
Place indoor/outdoor unit connecting wire (A) and power supply cord (K) at least 1 m away from the TV antenna wire.

Units should be installed by a licensed contractor according to local code requirements.

2. INDOOR UNIT INSTALLATION

2-1. FIXING OF INSTALLATION PLATE
- Find a structural material (such as a stud) in the wall and fix installation plate (1) horizontally with fixing screws (2).
- To prevent installation plate (1) from vibrating, be sure to install the fixing screws in the holes indicated in the illustration. For added support, fixing screws may also be installed in other holes.
- When the knockout is removed, apply vinyl tape to the knockout edges to prevent damaging the wires.
- When bolts recessed in the concrete wall are to be utilized, secure installation plate (1) using 11 × 20 · 11 × 26 oval hole (450 mm pitch).
- If the recessed bolt is too long, change it for a shorter one available in the market.

2-2. WALL HOLE DRILLING
1) Determine the wall hole position.
2) Drill a ø 65 mm hole. The outdoor side should be 5 to 7 mm lower than the indoor side.
3) Insert wall hole sleeve (C).

2-3. CONNECTING WIRES FOR INDOOR UNIT
You can connect indoor/outdoor lead wire without removing the front panel.
1) Open the front panel.
2) Remove VA clamp.
3) Pass indoor/outdoor unit connecting wire (A) from the back of the indoor unit and proceed the end of the wire.

4) Loosen terminal screw, and connect first the earth wire, then indoor/outdoor unit connecting wire (A) to the terminal block. Be careful not to make mis-wiring. Fix the wire to the terminal block securely so that no part of its core is exposed, and no external force is conveyed to the connecting section of the terminal block.
5) Firmly tighten the terminal screws to prevent them from loosening. After tightening, pull the wires lightly to confirm that they do not move.
6) Secure indoor/outdoor unit connecting wire (A) and the earth wire with the VA clamp. Never fail to hook the left claw of the VA clamp. Attach the VA clamp securely.

2-4. PIPE FORMING AND DRAIN PIPING
Pipe Forming
- Place the drain hose below the refrigerant piping.
- Make sure that the drain hose is not heaved or snaked.
- Do not pull the hose when applying the tape.
- When the drain hose passes the room, be sure to wrap insulation material (obtainable at a store) around it.

For future servicing, give extra length to the connecting wires.
- Make earth wire a little longer than others. (More than 60 mm)
- Do not fold the excess wire, or cram it into small space. Take caution not to damage the wires.
- Be sure to attach each screw to its corresponding terminal when securing the cord and/or the wire to the terminal block.

Note: Do not place the wires between the indoor unit and the installation plate (1). Damaged wire could cause heat generation or fire.
3. OUTDOOR UNIT INSTALLATION

3-1. CONNECTING WIRES FOR OUTDOOR UNIT
1) Open the service panel.
2) Loosen terminal screw, and connect indoor/outdoor unit connecting wire (A) from the indoor unit correctly on the terminal block. Be sure not to make mis-wiring. Fix the wire to the terminal block securely so that no part of its core is appeared, and no external force is conveyed to the connecting section of the terminal block.
3) Firmly tighten the terminal screws to prevent them from loosening. After tightening, pull the wires lightly to confirm that they do not move.
4) Connect power supply cord (K).
5) Fix indoor/outdoor unit connecting wire (A) and power supply cord (K) with the cord clamp.
6) Close the service panel securely.

3-2. FLARING WORK
1) Cut the copper pipe correctly with pipe cutter. (Fig. 1, 2)
2) Completely remove all burrs from the cut cross section of pipe. (Fig. 3)
   • Put the end of the copper pipe to downward direction as you remove burrs in order to avoid letting burrs drop in the piping.
3) Remove flare nuts attached to indoor and outdoor units, then put them on pipe having completed burr removal. (Not possible to put them on after flaring work.)
4) Flaring work (Fig. 4, 5). Firmly hold copper pipe in the dimension shown in the table. Select A mm from the table according to the tool you use.
5) Check
   • Compare the flared work with Fig. 6.
   • If flare is noted to be defective, cut off the flared section and do flaring work again.

3-3. PIPE CONNECTION
• Fasten flare nut with a torque wrench as specified in the table.
• When fastened too tight, flare nut may break after a long period and cause refrigerant leakage.

Indoor unit connection
Connect both liquid and gas piping to indoor unit,
• Apply a thin coat of refrigeration oil (J) on the seat surface of pipe.
• When fastened too tight, flare nut may break after a long period and cause refrigerant leakage.

Outdoor unit connection
Connect pipes to stop valve pipe joint of the outdoor unit in the same manner applied for indoor unit.
• For tightening, use a torque wrench or spanner and use the same tightening torque applied for indoor unit.

WARNING
When installing the unit, securely connect the refrigerant pipes before starting the compressor.

3-4. INSULATION AND TAPING
1) Cover piping joints with pipe cover.
2) For outdoor unit side, surely insulate every piping including valves.
3) Using piping tape (G), apply tapering starting from the entry of outdoor unit.
4) When piping have to be arranged through above ceiling, closet or where the temperature and humidity are high, wind additional commercially sold insulation to prevent condensation.
4. PURGING PROCEDURES, LEAK TEST, AND TEST RUN

4.1. PURGING PROCEDURES AND LEAK TEST

1) Remove service port cap of stop valve on the side of the outdoor unit gas pipe. (The stop valves are fully closed and covered in caps in initial state.)

2) Connect gauge manifold valve and vacuum pump to service port of stop valve on the gas pipe side of the outdoor unit.

3) Run the vacuum pump. (Vacuumize for more than 15 minutes.)

4) Check the vacuum with gauge manifold valve, then close gauge manifold valve, and stop the vacuum pump.

5) Leave as it is for one or two minutes. Make sure pointer gauge manifold valve remains in the same position. Confirm that pressure gauge shows –0.101 MPa [Gauge] (–760 mmHg).

6) Remove gauge manifold valve quickly from service port of stop valve.

7) After refrigerant pipes are connected and evacuated, fully open all stop valves on both sides of gas pipe and liquid pipe. Operating without fully opening lowers the performance and this causes trouble.

8) Refer to 1–3., and charge the prescribed amount of refrigerant if needed. Be sure to charge slowly with liquid refrigerant. Otherwise, composition of the refrigerant in the system may be changed and affect performance of the air conditioner.

9) Tighten cap of service port to obtain the initial status.

10) Leak test

4.2. TEST RUN

1) Insert power supply plug into the power outlet and/or turn on the breaker. Check that all LED lamps are not lit. If they are blinking, check that the horizontal vane is installed correctly. Refer to operating instructions for details.

2) Press the E.O. SW once for COOL, and twice for HEAT operation. Test run will be performed for 30 minutes. If the upper lamp of the operation indicator blinks every 0.5 seconds, inspect the indoor/outdoor unit connecting wire (A) for mis-wiring. After the test run, emergency mode (set temperature 24°C) will start.

3) To stop operation, press the E.O. SW several times until all LED lamps turn off. Refer to operating instructions for details.

Checking the remote (infrared) signal reception

Press the ON/OFF button on the remote controller (6) and check that an electronic sound is heard from the indoor unit. Press the ON/OFF button again to turn the air conditioner off.

• Once the compressor stops, the restart preventive device operates so the compressor will not operate for 3 minutes to protect the air conditioner.

4.3. AUTO RESTART FUNCTION

This product is equipped with an auto restart function. When the power supply is stopped during operation, such as during blackouts, the function automatically starts operation in the previous setting once the power supply is resumed. (Refer to the operating instructions for details.)

Caution:

• After test run or remote signal reception check, turn off the unit with the E.O. SW or the remote controller before turning off the power supply. Not doing so will cause the unit to start operation automatically when power supply is resumed.

To the user

• After installing the unit, make sure to explain the user about auto restart function. If auto restart function is unnecessary, it can be deactivated. Consult the service representative to deactivate the function. Refer to the service manual for details.

4.4. EXPLANATION TO THE USER

• Using the OPERATING INSTRUCTIONS, explain to the user how to use the air conditioner (how to use the remote controller, how to remove the air filters, how to remove or put the remote controller in the remote controller holder, how to clean, precautions for operation, etc.)

• Recommend the user to read the OPERATING INSTRUCTIONS carefully.

5. RELOCATION AND MAINTENANCE

5.1. REMOVING AND INSTALLING THE PANEL ASSEMBLY

Removal procedure

1) Remove the 2 screws which fix the panel assembly.
2) Remove the panel assembly. Be sure to remove its bottom end first.

Installation procedure

1) Install the panel assembly following the removal procedure in reverse.
2) Be sure to press the positions as indicated by the arrows in order to attach the assembly completely to the unit.

5.2. REMOVING THE INDOOR UNIT

Remove the bottom of the indoor unit from the installation plate.

When releasing the corner part, release both left and right bottom corner part of indoor unit and pull it downward and forward as shown in the figure on the right.

If the above method cannot be used

Remove the panel. Then, insert hexagonal wrenches into the square holes on the left and right sides of the unit and push them up as shown in the following figure. The bottom of the indoor unit lowers and releases the hooks.

5.3. PUMPING DOWN

When relocating or disposing of the air conditioner, pump down the system following the procedure below so that no refrigerant is released into the atmosphere.

1) Connect the gauge manifold valve to the service port of the stop valve on the gas pipe side of the outdoor unit.
2) Fully close the stop valve on the liquid pipe side of the outdoor unit.
3) Close the stop valve on the gas pipe side of the outdoor unit almost completely so that it can be easily closed fully when the pressure gauge shows 0 MPa [Gauge] (0 kgf/cm²).
4) Start the emergency COOL operation.

To start the emergency operation in COOL mode, disconnect the power supply plug and/or turn off the breaker. After 15 seconds, connect the power supply plug and/or turn on the breaker, and then press the E.O. SW once. (The emergency COOL operation can be performed continuously for up to 30 minutes.)
5) Fully close the stop valve on the gas pipe side of the outdoor unit when the pressure gauge shows 0.05 to 0 MPa [Gauge] (approx. 0.5 to 0 kgf/cm²).
6) Stop the emergency COOL operation.

Press the E.O. SW several times until all LED lamps turn off. Refer to operating instructions for details.

WARNING

When pumping down the refrigerant, stop the compressor before disconnecting the refrigerant pipes. The compressor may burst if air etc. get into it.