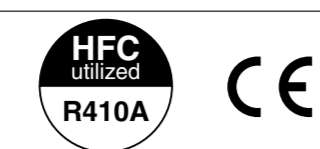


SPLIT-TYPE AIR CONDITIONERS

Models (Indoor unit MSC type is the common specifications of MS type and MSH type.)
MS-GA20/25/35VB
MSH-GA20/25/35VB Series
[FLARE CONNECTION TYPE]



When installing an MUX or MXZ series outdoor unit, refer to the MSC type manual for indoor unit set up.

1. THE FOLLOWING SHOULD ALWAYS BE OBSERVED FOR SAFETY

- Please provide an exclusive circuit for the air conditioner and do not connect other electrical appliances to it.
- Be sure to read "THE FOLLOWING SHOULD ALWAYS BE OBSERVED FOR SAFETY" before installing the air conditioner.
- Be sure to observe the cautions specified here as they include important items related to safety.
- The indications and meanings are as follows.

WARNING
Could lead to death, serious injury, etc.

CAUTION
Could lead to serious injury in particular environments when operated incorrectly.

• After reading this manual, be sure to keep it together with the OPERATING INSTRUCTIONS in a handy place on the customer's site.

WARNING
Do not install the unit by yourself (customer). Incomplete installation could cause injury due to fire, electric shock, the unit falling or leakage of water. Consult the dealer from whom you purchased the unit or special installer.

• **Install the unit securely in a place which can bear the weight of the unit.** When installed in an insufficient strong place, the unit could fall causing injury.

• **Use the specified wires to connect the indoor and outdoor units securely and attach the wires firmly to the terminal block connecting sections so the stress of the wires is not applied to the sections.** Incomplete connecting and fixing could cause fire.

• **Do not use intermediate connection of the power cord or the extension cord and do not connect many devices to one AC outlet.** It could cause a fire or an electric shock due to defective contact, defective insulation, exceeding the permissible current, etc.

• **Check that the refrigerant gas do not leak after installation has completed.** If refrigerant gas leaks indoors, and comes into contact with the fire of a fan heater, space heater, stove, etc., harmful substances will be generated.

• **Perform the installation securely referring to the installation manual.** Incomplete installation could cause a personal injury due to fire, electric shock, the unit falling or leakage of water.

• **Perform electrical work according to the installation manual and be sure to use an exclusive circuit.** If the capacity of the power circuit is insufficient or there is incomplete electrical work, it could result in a fire or an electric shock.

• **Attach the electrical cover to the indoor unit and the service panel to the outdoor unit securely.** If the electrical cover of the indoor unit and/or the service panel in the outdoor unit are not attached securely, it could result in a fire or an electric shock due to dust, water, etc.

• **Be sure to use the part provided or specified parts for the installation work.** The use of defective parts could cause an injury or leakage of water due to a fire, an electric shock, the unit falling, etc.

• **Be sure to cut off the main power in case of setting up the indoor electronic control P.C. board or wiring works.** (Refer to the table below.)

• **The appliance shall be installed in accordance with national wiring regulations.**

• **When installing or relocating the unit, make sure that no substance other than the specified refrigerant (R410A) enters the refrigerant circuit.** Any presence of foreign substance such as air can cause abnormal pressure rise or an explosion.

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3. INSTALLATION DIAGRAM & ACCESSORIES

FLARED CONNECTIONS

- This unit has flared connections on both indoor and outdoor sides.
- Remove the outdoor units valve cover, then connect the pipe.
- Refrigerant pipes are used to connect the indoor and outdoor units.
- Be careful not to crush or bend the pipe in pipe bending.

Limits	
Pipe length	20/25 type 20 m max. 35 type 25 m max.
Height difference	10 m max.
No. of bends	10 max.

Refrigerant adjustment ...

... If pipe length exceeds 7 m, additional refrigerant (R410A) charge is required. (The outdoor unit is charged with refrigerant for pipe length up to 7 m.)

Pipe length	Additional charge is required.
Up to 7 m	No additional charge is required.
Exceeding 7 m	Additional charge is required. (Refer to the table below.)

Refrigerant to be added 20 g/m × (refrigerant piping length (m) - 7)

ACCESSORIES

Check the following parts before installation.

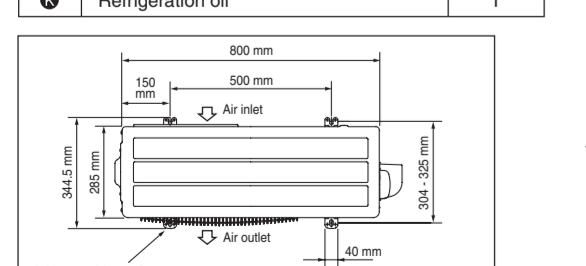
Indoor unit-		
Installation plate	1	5
Remote controller holder	1	2
Fixing screw (φ 3.5 × 16 mm (Black))	2	1
Battery (AAA) for remote controller	2	1
Wireless remote controller	1	1
Felt tape (Used for left or left-rear piping)	1	1

<Outdoor unit- MUH type>

Drain socket	1
Drain cap	2

PART TO BE PROVIDED AT YOUR SITE

Indoor/outdoor unit connecting wire (2-core 1.0 mm ²)	1
Extension pipe	1
Wall hole sleeve	1
Wall hole cover	1
Pipe fixing band (The quantity depends on the pipe length.)	2 to 5
Fixing screw for φ 4 × 20 mm (The quantity depends on the pipe length.)	2 to 5
Piping tape	1
Putty	1
Drain hose (or soft PVC hose, 15 mm inner dia. or hard PVC pipe (φ16))	1
Power supply cord (1.0 mm ²)	1
Refrigeration oil	1



Note: When operating the air conditioner in low outside temperature, be sure to follow the instructions described below.

- Never install the outdoor unit in a place where its air inlet/outlet side may be exposed directly to wind.
- To prevent exposure to wind, install the outdoor unit with its air inlet side facing the wall.
- To prevent exposure to wind, it is recommended to install a baffle board on the air outlet side of the outdoor unit.

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

This product is designed and intended for use in the residential, commercial and light-industrial environment.

The product at hand is based on Low Voltage Directive 73/23/EEC the following EU regulations:

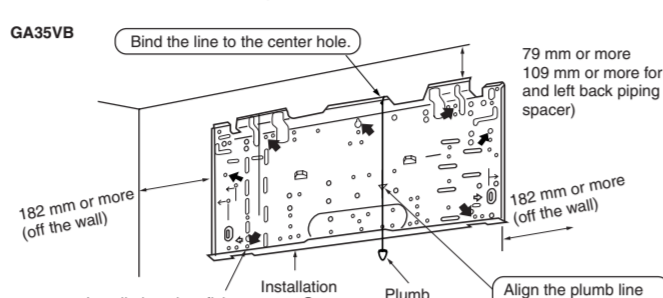
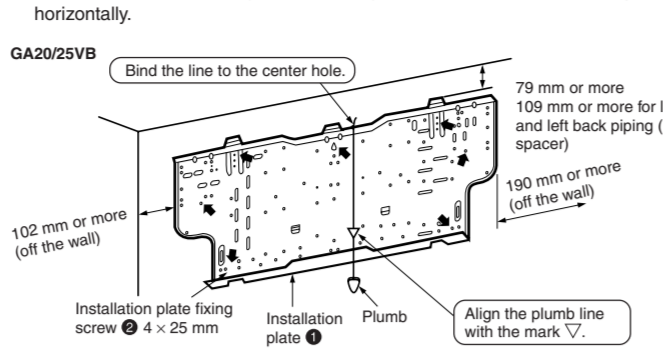
- Electromagnetic Compatibility Directive 89/336/EEC

MITSUBISHI ELECTRIC CORPORATION
HEAD OFFICE: MITSUBISHI DENKI BLDG., 2-2-3, MARUNOUCHI, CHYODA-KU, TOKYO 100-8310, JAPAN

4. INDOOR UNIT INSTALLATION

4-1 FIXING OF INSTALLATION PLATE

- Find a structural material (such as a stud) in the wall and fix installation plate horizontally.



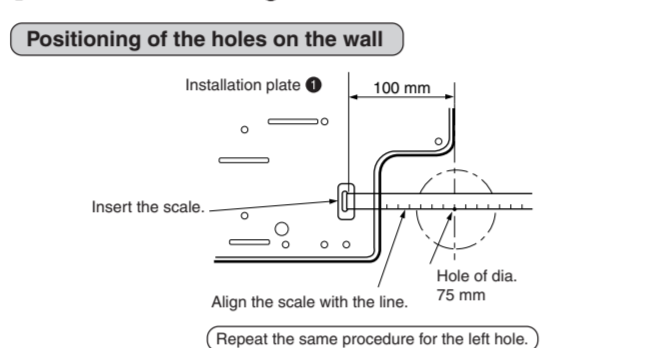
To prevent the installation plate from vibrating, be sure to fix the holes as indicated by the arrows 1.

When bolts inserted in the concrete wall are to be utilized, secure the installation plate ⑨ using 11 × 20 - 11 × 26 oval hole (450 mm pitch).

- Where the distance between the wall and the indoor unit is 10 mm.
- Rigid wall without vibration.
- Where it is not exposed to direct sunshine.
- Where it is easily drained.
- At a distance 1 m or more away from your TV and radio. Operation of the air conditioner may interfere with radio or TV reception in areas where reception is weak. An amplifier may be required for the affected device.
- In a place as far away as possible from fluorescent and incandescent lights (so the infrared remote control can operate the air conditioner normally).
- Where the air filter can be removed and replaced easily.

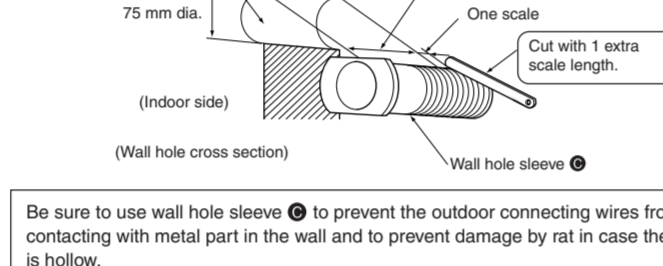
4-2 WALL HOLE DRILLING

- 1 Determine the wall hole position.
- 2 Drill a 75 mm hole so that outside can be lower than inside.
- 3 Insert the wall hole sleeve ⑩.



Be sure to use wall hole sleeve ⑩ to prevent the outdoor connecting wires from contacting with metal part in the wall and to prevent damage by rust in case the wall is hollow.

Wall hole sealing and fixing pipe to wall



Be careful not to make mis-wiring.

- Firmly tighten the terminal screws to prevent them from loosening.
- After tightening, pull the wires lightly to confirm that they do not move.
- If the connecting wire is incorrectly connected to the terminal block, the unit does not operate normally.
- If an earth is incorrect, it may cause an electric shock.
- Make earth wire a little longer than the others. (more than 35 mm)

Never cut the indoor and outdoor unit connecting wire and connect it to other wires. It may cause a fire.

Never cut the power cord and connect it to other wires. It may cause a fire.

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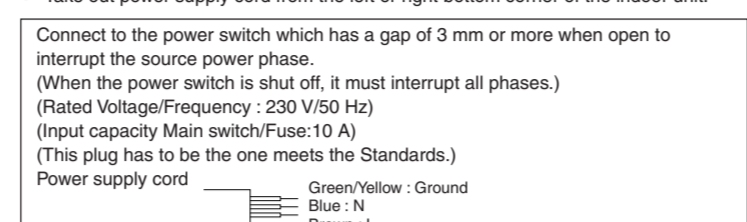
Never cut the power cord and connect it to other wires. It may cause a fire.

4-3 POWER SUPPLY AND CONNECTING WIRE SPECIFICATIONS

- Use special room air conditioning circuit.

Power supply cord length (Lead to left/lead to right)	0.3 m/1 m
Indoor/outdoor unit connecting wire Specification	Cable 2-core 1.0 mm ² , in conformity with Design 245 IEC 57.

- Take out power supply cord from the left or right bottom corner of the indoor unit.



Connect to the power switch which has a gap of 3 mm or more when open to interrupt the source power phase. (When the power switch is shut off, it must interrupt all phases.) (Rated Voltage/Frequency: 230 V/50 Hz) (Input capacity Main switch/Fuse:10 A) (This plug has to be the one meets the Standards.)

Power supply cord

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