RH79C083H01

Option Model Name	PAC-SK04VK-E

MITSUBISHI ELECTRIC

Optional Part For Air-Conditioners For Building Application
VALVE KIT Installation Manual

* Carefully read this instruction manual, and the installation manual included with the indoor unit, before installation.

Always observe for safety

- Carefully read this section “Always observe for safety”, and securely install the optional parts.
- Be sure to observe the cautions described here: They include critical contents for safety.
- The following indications show the classifications for danger, and possible consequences following incorrect handling.

⚠ WARNING	Incorrect handling could lead to death or serious injury.
⚠ CAUTION	Incorrect handling could lead to injury or damage to house and household articles.

- After installation, perform a test run and make sure that there is no abnormality, and ask your customer to keep this installation sheet with the instruction manual at all times. Also ask the customer to transfer these manuals to a new user if the user changes.

⚠ WARNING

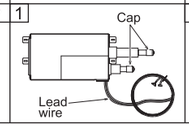
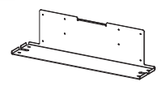
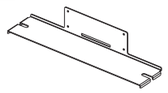
- Ask a dealer or an authorized technician to install, relocate and repair the unit.
- Do not alter the unit. It may cause fire, electric shock, injury or water leakage.
- The unit must be installed according to the instructions in order to minimize the risk of damage from earthquakes, typhoons, or strong winds. An incorrectly installed unit may fall down and cause damage or injuries.
- All electric work must be performed by a qualified technician according to local regulations and the instructions given in this manual.
- Do not use intermediate connection of the electric wires.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Use only accessories authorized by Mitsubishi Electric and ask a dealer or an authorized technician to install them.
- Do not install the unit where combustible gases may leak, be produced, flow, or accumulate. If combustible gas accumulates around the unit, fire or explosion may result.
- For the power lines, use standard cables of sufficient capacity. Otherwise, a short circuit, overheating, or fire may result.
- Be sure to ground the unit. If the unit is not properly grounded, electric shock may result.
- Before starting operation, check that all panels, guards and other protective parts are correctly installed. Rotating, hot, or high voltage parts can cause injuries.
- The user should never attempt to repair the unit or transfer it to another location.
- For installation and relocation work, follow the instructions in the Installation Manual and use tools and pipe components specifically made for use with refrigerant specified in the outdoor unit installation manual.
- The unit must be securely installed on a structure that can sustain its weight.
- Use only specified cables for wiring. The wiring connections must be made securely with no tension applied on the terminal connections. Also, never splice the cables for wiring (unless otherwise indicated in this document). Failure to observe these instructions may result in overheating or a fire.
- The appliance shall be installed in accordance with national wiring regulations.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Do not clean the air conditioner unit with water. Electric shock may result.
- Be sure to install circuit breakers. If not installed, electric shock may result.
- Use circuit breakers (ground fault interrupter, isolating switch (+B fuse), and molded case circuit breaker) with the specified capacity. If the circuit breaker capacity is larger than the specified capacity, breakdown or fire may result.
- Do not touch any switch with wet hands. Electric shock may result.

⚠ CAUTION

- The electrical box cover panel of the unit must be firmly attached.
- Do not touch the heat exchanger fins.
- Turn on the main power switch more than 12 hours before starting operation. Starting operation just after turning on the power switch can severely damage the internal parts.
- Do not operate the air conditioner without the air filter set in place. If the air filter is not installed, dust may accumulate and breakdown may result.
- If the unit is run for long hours when the air above the ceiling is at high temperature/high humidity (dew point above 26 ºC), dew condensation may be produced in the indoor unit or the ceiling materials. When operating the units in this condition, add insulation material (10-20 mm) to the entire surface of the unit and ceiling materials to avoid dew condensation.
- Tighten all flare nuts to specification using a torque wrench. If tightened too much, the flare nut can break after an extended period.
- Place thermal insulation on the pipes to prevent condensation. If the drainpipe is installed incorrectly, water leakage and damage to the ceiling, floor, furniture, or other possessions may result.
- When the room humidity exceeds 80% or when the drainpipe is clogged, water may drip from the indoor unit. Do not install the indoor unit where such dripping can cause damage.
- Be extremely careful when transporting the units. Two or more persons are needed to handle the unit, as it weighs 20 kg or more. Do not grasp the packaging bands. Wear protective gloves as you can injure your hands on the fins or other parts.
- When installing the power lines, do not apply tension to the cables.
- After stopping operation, be sure to wait at least five minutes before turning off the main power switch. Otherwise, water leakage or breakdown may result.
- Children should be supervised to ensure that they do not play with the appliance.
- Do not touch the refrigerant pipes during and immediately after operation.
- Thermal insulation of the refrigerant pipe is necessary to prevent condensation. If the refrigerant pipe is not properly insulated, condensation will be formed.
- Be sure to safely dispose of the packaging materials. Packaging materials, such as nails and other metal or wooden parts may cause stabs or other injuries.
- Do not keep food, plants, caged pets, artwork, or precision instruments in the direct airflow of the indoor unit or too close to the unit, as these items can be damaged by temperature changes or dripping water.
- When installing the unit in a hospital or communications office, be prepared for noise and electronic interference. Inverters, home appliances, high-frequency medical equipment, and radio communications equipment can cause the air conditioner to malfunction or breakdown. The air conditioner may also affect medical equipment, disturbing medical care, and communications equipment, harming the screen display quality.
- Do not use the unit in an unusual environment. If the air conditioner is installed in areas exposed to steam, volatile oil (including machine oil), or sulfuric gas, areas exposed to high salt content such as the seaside, the performance can be significantly reduced and the internal parts can be damaged.

1. Checking the parts

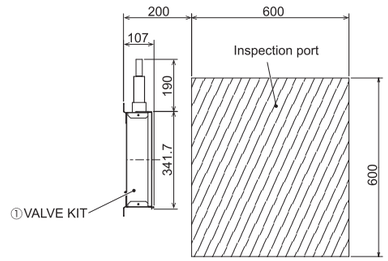
Please check the following parts included in the box with this instruction manual.

Part name	① VALVE KIT	② Attachment-1	③ Attachment-2	④ Band (large)	⑤ Band (small)	⑥ Screw
Quantity	1	1	1	1	1	8
Shape						

2. Installation procedure

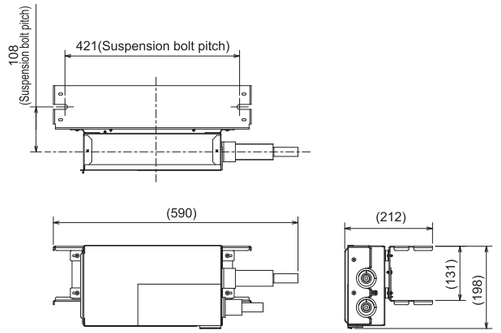
2-1 Pre-installation preparation

Attach the VALVE KIT to the water piping to install it in the room. (Do not install the VALVE KIT to outdoors. It may cause a malfunction.)
Be sure to make an inspection port in the ceiling for the VALVE KIT.
Choose a pattern from the figures below for a method of installation.
Decide the installation location by referring to the dimensions of the figures below to make sure there is enough space for installation.
Try to keep the distance from the main unit of the indoor unit to the VALVE KIT at 5 m or less.
* Remove the CAP attached to the pipe during installation.

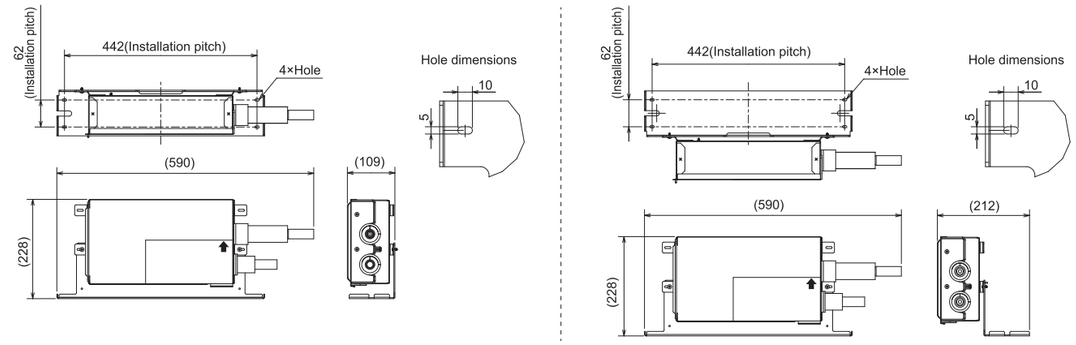


Suspension bolt pitch

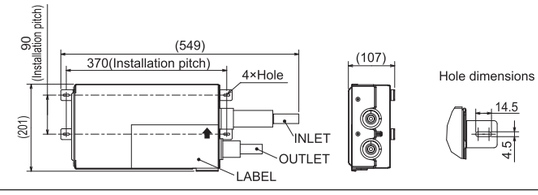
Install the suspension bolts (procured locally, W3/8 or M10). For hanging structures, make a strong structure such as shown below.



Plane surface installation pitch



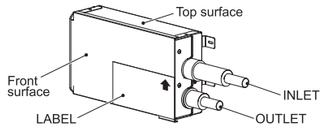
Vertical surface installation pitch



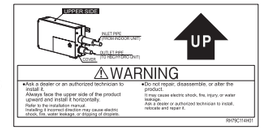
2-2 VALVE KIT installation

Installation direction

Be sure to adjust the main unit using a level during installation so it is installed horizontally.
(If the difference in elevation between both ends is 10 mm or more, the drain pan will overflow.)

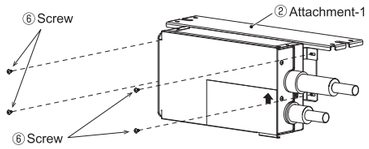


Refer to this label and note its direction when connecting to the local water piping. Be sure to install the VALVE KIT with the surface with this label as the front.

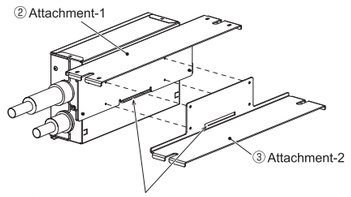


Installation pattern A (suspension bolt method)

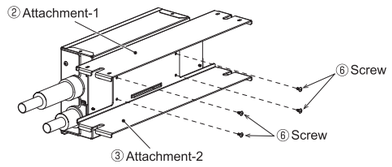
1. Install Attachment-1 as shown in the figure below.



2. After installing Attachment-1, install Attachment-2 as shown in the figure below.

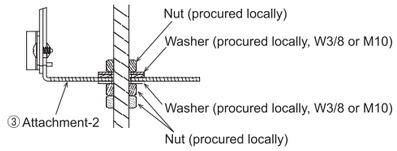


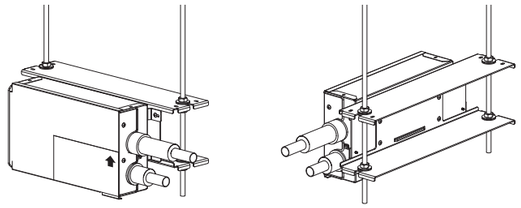
Pass the flange part of Attachment-1 through the square hole of Attachment-2.



3. Set the VALVE KIT on the suspension bolts, and tighten each nut and washer. (4 locations)

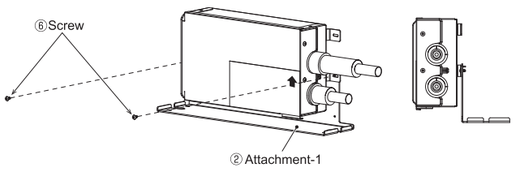
* Use a level to install the VALVE KIT horizontally.
(If the difference in elevation between both ends is 10 mm or more, the drain pan will overflow.)

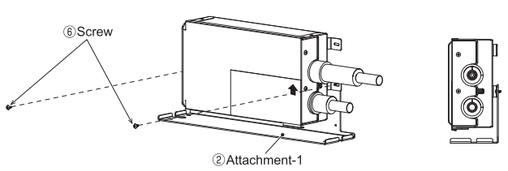




Installation pattern B (plane surface installation method)

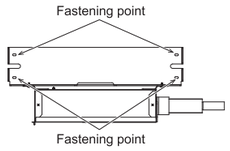
1. The VALVE KIT can be installed on the plane surface about ceiling-space by installing Attachment-1 as shown in the figure below.

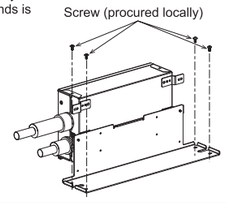


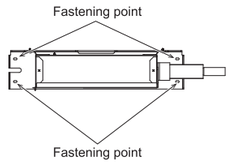


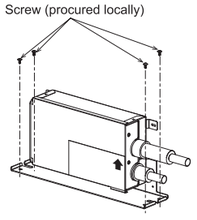
2. Secure Attachment-1 with screws in the holes in 4 locations.

* Secure with screws using locally procured screws that are suitable for the material of the installation location.
* Use a level to install the VALVE KIT horizontally.
(If the difference in elevation between both ends is 10 mm or more, the drain pan will overflow.)





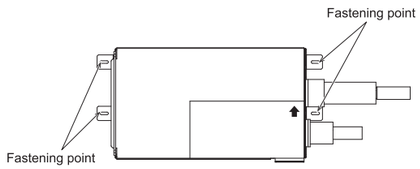


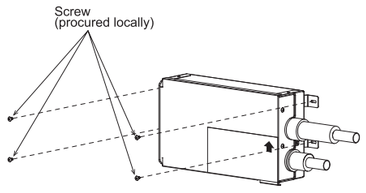


Installation pattern C (vertical surface installation method)

1. The VALVE KIT can be installed on the wall surface by securing it with screws in 4 locations as shown in the figure below.

* Secure with screws using locally procured screws that are suitable for the material of the installation location.
* Use a level to install the VALVE KIT horizontally.



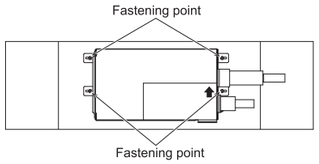


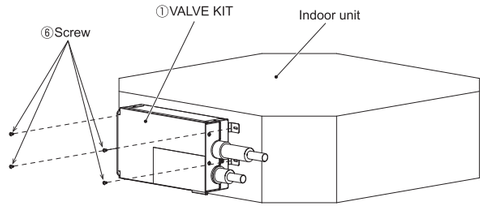
Installation pattern D (unit side surface installation method)

1. The VALVE KIT can be installed on the indoor unit side surface by securing it with screws in 4 locations as shown in the figure below. For details, refer to the installation manual of the indoor unit.

* Installation may not be possible depending on the shape of the indoor unit.

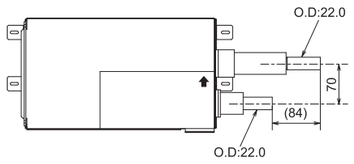
Ex: Install to 4-way cassette



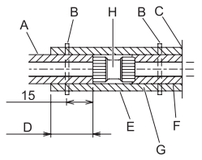


2-3 Pipe connection work

After deciding the installation location, connect the piping.
Locally procure any parts necessary for connection.



Connection image



A. Locally procured pipe insulation
B. Tighten this location with a band (procured locally)
C. Do not separate from the opening
D. Wrap overlap: 40 mm or more
E. Insulation material (procured locally)
F. Unit side insulation material
G. Depending on the selected joint, there may be a gap between the unit side pipe cover and the joint.
If there is a gap, fill in the gap with the pipe covers prepared on-site.
H. Piping connection joint (procured locally)

Be sure to also perform insulation work to separately cover the water piping with heat resistant polyethylene of a sufficient thickness to prevent gaps from forming where the indoor piping joins the insulation material, or in the insulation material itself.
If the insulation work is insufficient, condensation or other problems may occur.
Take special care when performing insulation work in the ceiling plenum.

• Pipe insulation to be added on-site must satisfy the following specifications.

HBC controller or hydro unit -indoor unit	20 mm or more

• These specifications are based on copper for water piping. When using plastic piping, choose a thickness based on the performance of the plastic piping.
• When installing pipe in an environment prone to high temperatures and humidity, such as the top floor of a building, it is necessary to use insulation material that is thicker than the materials specified in the table above.
• If it is necessary to satisfy special specifications provided by the client, check that they also satisfy the specifications in the table above.

Prevent leaking of the water piping, valve, and drain piping.
In order to prevent condensation from entering the insulated pipe, include the end of the pipe so that leaks are prevented all the way to the end of the pipe.

Swage both ends of the insulation material so that condensation does not enter the space between the piping and the insulation material.

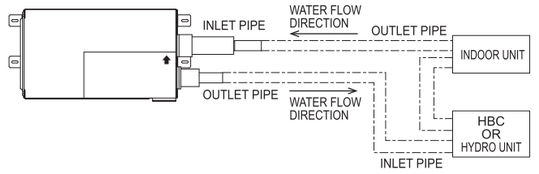
Attach a drainage valve to allow drainage from the unit and piping.

Check that there are no gaps between the piping and the insulation material. Insulate the piping all the way to the unit.

Install the shut-off valve and strainer in a location where operation and maintenance work will be easy to perform.

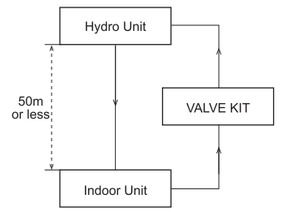
Insulate the indoor unit piping, strainer, shut-off valve, and pressure relief valve.

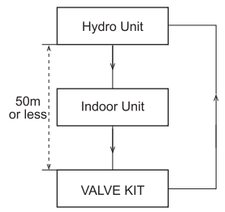
Do not use a corrosion inhibitor in the water system.



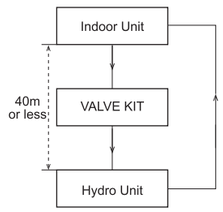
<VALVE KIT (PAC-SK04VK-E) Installation notice>

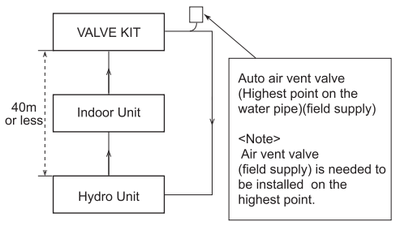
• Hydro unit position is higher than Indoor unit/VALVE KIT
*Piping length between Indoor unit and VALVE KIT should be 5m or less.





•Indoor unit/VALVE KIT is higher than Hydro unit
*Piping length between Indoor unit and VALVE KIT should be 5m or less.

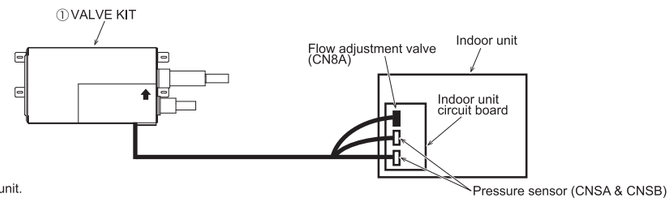




3. Wiring procedure

Refer to the installation manual included with the indoor unit for the method of removal of the electrical box cover when connecting the relay cable of the indoor unit.
Bundle excess lead wire with a band (large) ④.

*Band (small) ⑤ : For details, refer to the installation manual of the indoor unit.



4. Test run

Refer to the installation manual included with the indoor unit, and perform a test run.

MITSUBISHI ELECTRIC CORPORATION