

CITY MULTI

Air-Conditioners
INDOOR UNIT

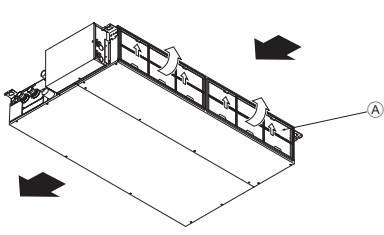


PEFY-WP15, 20, 25, 32, 40, 50VMS1-E

OPERATION MANUAL

For safe and correct use, please read this operation manual thoroughly before operating the air-conditioner unit.

[Fig. A]
<PEFY-WP-VMS1-E>



Ⓐ: Filter ➡ : Air Flow


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1. Safety precautions






- ▶ Before operating the unit, make sure you read all the “Safety precautions”.
- ▶ “Safety precautions” lists important points about safety. Please be sure to follow them.

Symbols used in the text

 **Warning:**
Describes precautions that should be observed to avoid the risk of injury or death to the user.

 **Caution:**
Describes precautions that should be observed to prevent damage to the unit.


Symbols used in the illustrations

-  : Indicates an action that must be avoided.
-  : Indicates that important instructions must be followed.
-  : Indicates a part which must be grounded.
-  : Indicates that caution should be taken with rotating parts. (This symbol is displayed on the main unit label.) <Color: yellow>
-  : Beware of electric shock. (This symbol is displayed on the main unit label.) <Color: yellow>

 **Warning:**
Carefully read the labels affixed to the main unit.

1.1. Installation

- ▶ After you have read this manual, keep it and the Installation Manual in a safe place for easy reference whenever a question arises. If the unit is going to be operated by another person, make sure that this manual is given to him or her.


-  **Warning:**
- The unit should not be installed by the user. Ask the dealer or an authorized company to install the unit. If the unit is installed improperly, water leakage, electric shock or fire may result.
 - Use only accessories authorized by Mitsubishi Electric and ask your dealer or an authorized company to install them. If accessories are installed improperly, water leakage, electric shock or fire may result.
 - The Installation Manual details the suggested installation method. Any structural alteration necessary for installation must comply with local building code requirements.
 - Never repair the unit or transfer it to another site by yourself. If repair is performed improperly, water leakage, electric shock or fire may result. If you need to have the unit repaired or moved, consult your dealer.
 - Keep the electric parts away from water (washing water) etc.
 - It might result in electric shock, catching fire or smoke.

Note1: When washing the Heat Exchanger and Drain Pan, ensure the Control Box and Motor remain dry, using a water proof covering.

Note2: Never drain the washing water for the Drain Pan and the Heat Exchanger using the Drain Pump. Drain separately.

- The appliance is not intended for use by young children or infirm persons without supervision.
- Young children should be supervised to ensure that they do not play with the appliance.
- Do not use a leak detection additive.
- Do not use refrigerant other than the type indicated in the manuals provided with the unit and on the nameplate.
 - Doing so may cause the unit or pipes to burst, or result in explosion or fire during use, during repair, or at the time of disposal of the unit.
 - It may also be in violation of applicable laws.
 - MITSUBISHI ELECTRIC CORPORATION cannot be held responsible for malfunctions or accidents resulting from the use of the wrong type of refrigerant.

1) Outdoor unit


-  **Warning:**
- The outdoor unit must be installed on a stable, level surface, in a place where there is no accumulation of snow, leaves or rubbish.
 - Do not stand on, or place any items on the unit. You may fall down or the item may fall, causing injury.

 **Caution:**
The outdoor unit should be installed in a location where air and noise emitted by the unit will not disturb the neighbours.


2) Indoor unit

-  **Warning:**
The indoor unit should be securely installed. If the unit is loosely mounted, it may fall, causing injury.


3) Remote controller

-  **Warning:**
The remote controller should be installed in such a way that children cannot play with it.


4) Drain hose

-  **Caution:**
Make sure that the drain hose is installed so that drainage can go ahead smoothly. Incorrect installation may result in water leakage, causing damage to furniture.


5) Power line, fuse or circuit breaker


-  **Warning:**
- Make sure that the unit is powered by a dedicated supply. Other appliances connected to the same supply could cause an overload.
 - Make sure that there is a main power switch.
 - Be sure to adhere to the unit's voltage and fuse or circuit breaker ratings. Never use a piece of wire or a fuse with a higher rating than the one specified.

6) Grounding

-  **Caution:**
- The unit must be properly grounded. Never connect the grounding wire to a water pipe, lightning conductor or telephone grounding wire. If the unit is not grounded properly, electric shock may result.
 - Check frequently that the ground wire from the outdoor unit is properly connected to both the unit's ground terminal and the grounding electrode.

1.2. During operation

-  **Caution:**
- Do not use any sharp object to push the buttons, as this may damage the remote controller.
 - Do not twist or tug on the remote controller cord as this may damage the remote controller and cause malfunction.
 - Never remove the upper case of the remote controller. It is dangerous to remove the upper case of the remote controller and touch the printed circuit boards inside. Doing so can result in fire and failure.
 - Never wipe the remote controller with benzene, thinner, chemical rags, etc. Doing so can result in discoloration and failure. To remove heavy stains, soak a cloth in neutral detergent mixed with water, wring it out thoroughly, wipe the stains off, and wipe again with a dry cloth.
 - Never block or cover the indoor or outdoor unit's intakes or outlets. Tall items of furniture underneath the indoor unit, or bulky items such as large boxes placed close to the outdoor unit will reduce the unit's efficiency.

-  **Warning:**
- Do not splash water over the unit and do not touch the unit with wet hands. An electric shock may result.
 - Do not spray combustible gas close to the unit. Fire may result.
 - Do not place a gas heater or any other open-flame appliance where it will be exposed to the air discharged from the unit. Incomplete combustion may result.

⚠ Warning:

- Do not remove the front panel or the fan guard from the outdoor unit when it is running. You could be injured if you touch rotating, hot or high-voltage parts.
- Never insert fingers, sticks etc. into the intakes or outlets, otherwise injury may result, since the fan inside the unit rotates at high speed. Exercise particular care when children are present.
- If you detect odd smells, stop using the unit, turn off the power switch and consult your dealer. Otherwise, a breakdown, electric shock or fire may result.
- When you notice exceptionally abnormal noise or vibration, stop operation, turn off the power switch, and contact your dealer.
- Do not over-cool. The most suitable inside temperature is one that is within 5 °C of the outside temperature.
- Do not leave handicapped people or infants sitting or standing in the path of the airflow from the air-conditioner. This could cause health problems.

⚠ Caution:

- Do not direct the airflow at plants or caged pets.
- Ventilate the room frequently. If the unit is operated continuously in a closed room for a long period of time, the air will become stale.

In case of failure**⚠ Warning:**

- Never remodel the air conditioner. Consult your dealer for any repair or service. Improper repair work can result in water leakage, electric shock, fire, etc.

2. Names and functions of various parts

Attachment and detachment of filter

[Fig. A] (P.2)

3. How to operate

- Refer to either Installation Manual or Initial Setting Manual that comes with the controller to be used.

⚠ Caution:

Never expose your body directly to cool air for a long time. Excessive exposure to cool air is bad for your health, and should therefore be avoided.

Dry operation

The dry is a microcomputer-controlled dehumidifying operation which controls excessive air-cooling according to the room temperature of your choice. (Not usable for heating.)

1. Until reaching room temperature of your choice
The compressor and indoor fan function is linked motion according to the change of the room temperature and automatically repeat ON/OFF.
2. When reaching room temperature of your choice
Both the compressor and indoor fan stop.
When stop continues for 10 minutes, the compressor and indoor fan are operated for 3 minutes to keep the humidity low.

Heating operation

1. **When the air-conditioner is used together with burners, thoroughly ventilate the area. Insufficient ventilation can result in accidents due to oxygen deficiency.**
2. **Never place a burner at a place where it is exposed to the airflow from the air-conditioner.**
Doing so can result in imperfect combustion of the burner.
3. **The microcomputer functions in the following cases:**
4. **Air does not blow out when heating starts.**
 - To prevent any cool air from escaping, the indoor fan is gradually switched in sequence from faint airflow/weak airflow/set airflow according to the temperature rise of the blown out air. Wait a moment until the airflow comes out naturally.
5. **The fan is not moving at the set speed.**
 - In some models, the system switches over to faint airflow when the temperature of the room reaches the set temperature. In other cases, it stops to prevent any cool air from escaping during the defrosting operation.

- If the remote controller displays an error indication, the air conditioner does not run, or there is any abnormality, stop operation and contact your dealer. Leaving the unit as it is under such conditions can result in fire or failure.
- If the power breaker is frequently activated, get in touch with your dealer. Leaving it as it is can result in fire or failure.

When the air conditioner is not to be used for a long time

- If the air conditioner is not to be used for a long time due to a seasonal change, etc., run it for 4 - 5 hours with the air blowing until the inside is completely dry. Failing to do so can result in the growth of unhygienic, unhealthy mold in scattered areas throughout the room.
- When it is not to be used for an extended time, keep the [power supply] turned OFF.
If the power supply is kept on, several watts or several tens of watts will be wasted. Also, the accumulation of dust, etc., can result in fire.
- Keep the power switched ON for more than 12 hours before starting operation. Do not turn the power supply OFF during seasons of heavy use. Doing so can result in failure.

1.3. Disposing of the unit

⚠ Warning:

If pipes are cut, water may leak and wet the surroundings in the room. When you need to dispose of the unit, consult your dealer.

⚠ Caution:


- In removing the filter, precautions must be taken to protect your eyes from dust. Also, if you have to climb up on a stool to do the job, be careful not to fall.
- Turn off the power supply when the filter is changed.

6. Air flows out even if operation is stopped.

- Approximately 1 minute after the stop of operation, the indoor fan sometimes rotates to eliminate extra heat generated by the electric heater, etc. The fan speed comes to low or high.

3.1. Fan speed adjustment

To change fan speed

Every time you press the  [Fan Speed] button once, it switches from the low-speed to high-speed settings successively.

In the electronics dry operation, the indoor fan automatically turns to low-speed operation. Switching of fan speed is impossible. (Only the display on the remote controller changes.)

- * Every time the fan speed adjustment button is pressed once, the fan speed is changed.

Fan speed: 3 stages

- * This setting can be adjusted only with MA remote controller.

4. The smart way to use

Even minimal steps to care for your air conditioner can help make its use far more effective in terms of air-conditioning effect, electricity charges, etc.

Set the right room temperature

- In cooling operation, a temperature difference of about 5 °C between indoors and outdoors is optimum.
- If the room temperature is raised by 1 °C during air-cooling operation, about 10 % electric power can be saved.
- Excessive cooling is bad for health. It also results in the waste of electric power.

Clean the filter thoroughly

- If the screen of the air filter becomes clogged, the airflow and air-conditioning effect can be significantly reduced. Further, if the condition is left unattended, failure can result. It is particularly important to clean the filter at the beginning of the cooling and heating seasons. (When profuse dust and dirt have accumulated, clean the filter thoroughly.)

5. Caring for the machine

Always have filter maintenance performed by a service person.

Before care-taking, turn the power supply OFF.

⚠ Caution:

- Before you start cleaning, stop operation and turn OFF the power supply. Remember that the fan is rotating inside at high speed, posing a serious risk of injury.
- Indoor units are equipped with filters to remove the dust of sucked-in air. Clean the filters following the procedures on the right. (The standard filter should normally be cleaned once a week, and the long-life filter at the beginning of each season.)
- The life of the filter depends on where the unit is installed and how it is operated.

Prevent intrusion of heat during air-cooling

- To prevent the intrusion of heat during cooling operation, provide a curtain or a blind on the window to block out direct sunlight. Also, do not open the entrance or exit except in cases of dire necessity.

Carry out ventilation sometimes

- Since the air periodically gets dirty in a room that is kept closed for a long time, ventilation is sometimes necessary. When gas appliances are used together with the air conditioner, special precautions must be taken. If the "LOSSNAY" ventilation unit developed by our company is used, you can perform ventilation with less waste. For details on this unit, consult with your dealer.

How to clean

- Clear dust away lightly or clean it up with a vacuum cleaner. In the case of severe staining, wash the filter in lukewarm water mixed with dissolved neutral detergent or water, and then rinse off the detergent completely. After washing, dry it and fix it back into place.

⚠ Caution:

- Do not dry the filter by exposing it to direct sunlight or warming it using fire, etc. Doing so can result in the deformation of the filter.
- Washing it in hot water (more than 50 °C) can also result in deformation.

⚠ Caution:

Never pour water or flammable sprays onto the air conditioner. Cleaning using these methods can result in the failure of the air conditioner, electric shock, or fire.

6. Troubleshooting

Before you ask for repair service, check the following points:

State of Machine	Remote Controller	Cause	Troubleshooting
It does not run.	"●" display is not lit up. No display appears even when the [ON/OFF] button is pressed.	Power failure	Press the [ON/OFF] button after power restoration.
		The power supply is turned OFF.	Turn the power supply ON.
		The fuse in the power supply is gone.	Replace fuse.
		The earth leakage breaker is gone.	Put in the earth leakage breaker.
Air flows out but it does not cool enough or heat enough.	The liquid crystal display shows that it is in the state of operation.	Improper temperature adjustment	After checking the set temperature and inlet temperature on the liquid crystal display, operate the adjustment button.
		The filter is filled with dust and dirt.	Clean up the filter. (Refer to [Caring for the machine].)
		There are some obstacles at the air inlet and outlet of the indoor and outdoor units.	Remove.
		Windows and doors are open.	Close.
Cool air or warm air does not come out.	The liquid crystal display shows that it is in operation.	The restart-preventing circuit is in operation for 3 minutes.	Wait for a while. (To protect the compressor, a 3-minute restart-preventing circuit is built into the indoor unit. Therefore, there are occasions sometimes when the compressor does not start running immediately. There are cases when it does not run for as long as 3 minutes.)
		Indoor unit operation was restarted during the heating and defrosting operation.	Wait for a while. (Heating operation starts after ending defrosting operation.)
It runs briefly, but soon stops.	The "CHECK" and check code flashes on the liquid crystal display.	There are some obstacles at the air inlet and outlet of the indoor and outdoor units.	Rerun after removal
		The filter is filled with dust and dirt.	Rerun after cleaning the filter. (Refer to [Caring for the machine].)
The sound of the exhaust and rotation of the motor can still be heard after stop of running.	All lights are out except the powered display of "●".	When other indoor units are engaged in cooling operation, the machine stops after running a drain-up mechanism for 3 minutes when air-cooling operation is stopped.	Wait for 3 minutes.
The sound of the exhaust and the rotation of the motor can be heard intermittently after stop of running.	All lights are out except the powered display of "●".	When other indoor units are engaged in cooling operation, drained water is brought in. If the drain water is collected, the drain-up mechanism initiates a draining operation.	It soon stops. (If the noise occurs more than 2-3 times in an hour, ask for repair service.)
Warm air comes out intermittently when the thermostat is OFF or during fan operation.	The liquid crystal display shows that it is in the state of operation.	When other indoor units are engaged in heating operation, the control valves are opened and closed from time to time to maintain the stability of the system.	It soon stops. (If the room temperature rises uncomfortably high in a small room, stop operation.)

- If operation stops due to a power failure, the [restart-preventing circuit at power failure] operates and disables unit operation even after power restoration. In this case, press the [ON/OFF] button again and start operation.

If malfunctions persist after you have checked the above, turn the power supply OFF and contact your dealer with information about the product name, the nature of the malfunction, etc. If the display of "[CHECK]" and (4 digit) check code flashes, tell the dealer contents of the display (check code). Never attempt to repair by yourself.

The following symptoms are not air conditioner failures:

- The air blown out from the air conditioner can sometimes give off odors. This is due to cigarette smoke contained in the air of the room, the smell of cosmetics, the walls, furniture, etc., absorbed in the air conditioner.
- The air conditioner sometimes snaps or clicks at the beginning or end of cooling/heating operation. This is the sound of friction on the front panel and other sections due to expansion and contraction caused by temperature change. This is normal.
- The fan speed changes in spite of not changing the setting. Not to blow out cold air at the beginning of heating operation, the air conditioner automatically adjusts the fan speed gradually from lower to the set speed. It also adjust its fan speed to protect the fan motor when return air temperature or fan speed excessively rises.

7. Installation, transferring works, and checking

Regarding place for installation

Consult with your dealer for details on installation and transferring the installation.

⚠ Caution:

Never install the air conditioner where there is a risk of leakage of flammable gas.

If gas leaks and accumulates around the unit, fire can result.

Never install the air conditioner at the following place:

- where there is a lot of machine oil
- near the ocean and beach areas where there is salt air.
- where humidity is high
- where there are hot springs nearby
- where there is sulphurous gas
- where there is a high-frequency processing machinery (a high-frequency welder, etc.)
- where acid solution is frequently used
- where special sprays are frequently used
- Install the indoor unit horizontally. Otherwise, water leakage can result.
- Take sufficient measures against noise when installing the air conditioners at hospitals or communication-related businesses.

If the air conditioner is used in any of the above-mentioned environments, frequent operational failure can be expected. It is advisable to avoid these types of installation sites.

For further details, consult with your dealer.

Regarding electrical work

⚠ Caution:

- The electrical work must be undertaken by a person who is qualified as an electrical engineer according to the [technical standard respecting electrical installation], [internal wiring rules], and the installation instruction manual with the absolute use of exclusive circuits. The use of other products with the power source can result in burnt-out breakers and fuses.

- Never connect the grounding wire to a water pipe, arrester, or telephone grounding wire. For details, consult with your dealer.
- In some types of installation sites, the installation of an earth leakage breaker is mandatory. For details, consult with your dealer.

Regarding transfer of installation

- When removing and reinstalling the air conditioner when you enlarge your home, remodel, or move, consult with your dealer in advance to ascertain the cost of the professional engineering work required for transferring the installation.

⚠ Caution:

When moving or reinstalling the air conditioner, consult with your dealer. Defective installation can result in electric shock, fire, etc.

Regarding noise

- In installing work, choose a place that can fully bear the weight of the air conditioner, and where noise and vibration can be reduced.
- Choose a place where cool or warm air and noise from the outdoor air outlet of the air conditioner does not inconvenience the neighbors.
- If any alien object is placed near the outdoor air outlet of the air conditioner, decreased performance and increased noise can result. Avoid placing any obstacles adjacent to the air outlet.
- If the air conditioner produces any abnormal sound, consult with your dealer.

Maintenance and inspection

- If the air conditioner is used throughout several seasons, the insides can get dirty, reducing the performance. Depending upon the conditions of usage, foul odors can be generated and drainage can deteriorate due to dust and dirt, etc.

8. Specifications

PEFY-WP-VMS1-E series

Item	Model	WP15VMS1-E	WP20VMS1-E	WP25VMS1-E	WP32VMS1-E	WP40VMS1-E	WP50VMS1-E	
Power source		~220-240V 50/60Hz						
Cooling capacity ^{*1} / Heating capacity ^{*1}	kW	1.7/1.9	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	
Dimension Height / Width / Depth	mm	200/790/700	200/790/700	200/790/700	200/990/700	200/990/700	200/1190/700	
Net weight	kg	19	20	20	25	25	27	
Fan	Airflow rate (Low-Middle-High)	m ³ /min	5.0-6.0-7.0	5.5-6.5-8.0	5.5-7.0-9.0	8.0-9.0-11.0	9.5-11.0-13.0	12.0-14.0-16.5
	External static pressure ^{*2}	Pa	5/15/35/50	5/15/35/50	5/15/35/50	5/15/35/50	5/15/35/50	5/15/35/50
Sound level (Low-Middle-High) ^{*3}		dB(A)	22-24-28	23-25-29	23-26-30	28-30-33	30-32-35	30-33-36
Filter		Standard filter						

Notes: * Operation temperature of indoor unit.
Cooling mode: 15 °C WB - 24 °C WB
Heating mode: 15 °C DB - 27 °C DB

*1 Cooling/Heating capacity indicates the maximum value at operation under the following condition.

Cooling: Indoor: 27 °C DB/19 °C WB Outdoor: 35 °C DB
Heating: Indoor: 20 °C DB Outdoor: 7 °C DB/6 °C WB

*2 The external static pressure is set to 15 Pa at factory shipment.

*3 The operating noise is the data that was obtained in an anechoic room.

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

The product at hand is
based on the following
EU regulations:

- Low Voltage Directive 2006/95/EC
- Electromagnetic Compatibility Directive
2004/108/EC

Please be sure to put the contact address/telephone number on
this manual before handing it to the customer.

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: TOKYO BLDG., 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN