FILE NO. SVM-20095

TOSHIBA

AIR CONDITIONER (MULTI TYPE)

SERVICE MANUAL

Indoor unit

<4-way cassette type>

MMU-UP0091HP-E(TR)
MMU-UP0121HP-E(TR)
MMU-UP0151HP-E(TR)
MMU-UP0181HP-E(TR)
MMU-UP0241HP-E(TR)
MMU-UP0271HP-E(TR)
MMU-UP0301HP-E(TR)
MMU-UP0361HP-E(TR)
MMU-UP0481HP-E(TR)
MMU-UP0561HP-E(TR)

<Ceiling type>

MMC-UP0151HP-E(TR)
MMC-UP0181HP-E(TR)
MMC-UP0241HP-E(TR)
MMC-UP0271HP-E(TR)
MMC-UP0361HP-E(TR)
MMC-UP0481HP-E(TR)
MMC-UP0561HP-E(TR)

<Concealed Duct Standard type>

MMD-UP0051BHP-E
MMD-UP0071BHP-E(TR)
MMD-UP0091BHP-E(TR)
MMD-UP0121BHP-E(TR)
MMD-UP0151BHP-E(TR)
MMD-UP0181BHP-E(TR)
MMD-UP0241BHP-E(TR)
MMD-UP0271BHP-E(TR)
MMD-UP0301BHP-E(TR)
MMD-UP0361BHP-E(TR)
MMD-UP0481BHP-E(TR)
MMD-UP0561BHP-E(TR)

<Concealed Duct High Static Pressure type>

MMD-UP0181HP-E(TR)
MMD-UP0241HP-E(TR)
MMD-UP0271HP-E(TR)
MMD-UP0361HP-E(TR)
MMD-UP0481HP-E(TR)
MMD-UP0561HP-E(TR)
MMD-UP0721HP-E(TR)
MMD-UP0961HP-E(TR)

<Concealed Duct High Static Pressure fresh air intake type>

MMD-UP0481HFP-E(TR)
MMD-UP0721HFP-E(TR)
MMD-UP0961HFP-E(TR)
MMD-UP1121HFP-E(TR)
MMD-UP1281HFP-E(TR)

<Console type>

MML-UP0071NHP-E(TR)
MML-UP0091NHP-E(TR)
MML-UP0121NHP-E(TR)
MML-UP0151NHP-E(TR)
MML-UP0181NHP-E(TR)

<High wall type>

MMK-UP0031HP-E(TR)
MMK-UP0051HP-E(TR)
MMK-UP0071HP-E(TR)
MMK-UP0091HP-E(TR)
MMK-UP0121HP-E(TR)
MMK-UP0151HP-E(TR)
MMK-UP0181HP-E(TR)
MMK-UP0241HP-E(TR)
MMK-UP0031HPL-E(TR)
MMK-UP0051HPL-E(TR)
MMK-UP0071HPL-E(TR)
MMK-UP0091HPL-E(TR)
MMK-UP0121HPL-E(TR)
MMK-UP0151HPL-E(TR)
MMK-UP0181HPL-E(TR)
MMK-UP0241HPL-E(TR)

January, 2021

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Please read carefully through these instructions that contain important information which complies with the “Machinery” Directive (Directive 2006/42/EC), and ensure that you understand them.

Definition of Qualified Installer or Qualified Service Person

The air conditioner must be installed, maintained, repaired and removed by a qualified installer or qualified service person. When any of these jobs is to be done, ask a qualified installer or qualified service person to do them.
A qualified installer or qualified service person is an agent who has the qualifications and knowledge described in the table below.

Agent	Qualifications and knowledge which the agent must have
Qualified installer (*1)	• The qualified installer is a person who installs, maintains, relocates and removes the air conditioners made by Toshiba Carrier Corporation. He or she has been trained to install, maintain, relocate and remove the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such operations by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to these operations. • The qualified installer who is allowed to do the electrical work involved in installation, relocation and removal has the qualifications pertaining to this electrical work as stipulated by the local laws and regulations, and he or she is a person who has been trained in matters relating to electrical work on the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work. • The qualified installer who is allowed to do the refrigerant handling and piping work involved in installation, relocation and removal has the qualifications pertaining to this refrigerant handling and piping work as stipulated by the local laws and regulations, and he or she is a person who has been trained in matters relating to refrigerant handling and piping work on the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work. • The qualified installer who is allowed to work at heights has been trained in matters relating to working at heights with the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work.
Qualified service person (*1)	• The qualified service person is a person who installs, repairs, maintains, relocates and removes the air conditioners made by Toshiba Carrier Corporation. He or she has been trained to install, repair, maintain, relocate and remove the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such operations by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to these operations. • The qualified service person who is allowed to do the electrical work involved in installation, repair, relocation and removal has the qualifications pertaining to this electrical work as stipulated by the local laws and regulations, and he or she is a person who has been trained in matters relating to electrical work on the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work. • The qualified service person who is allowed to do the refrigerant handling and piping work involved in installation, repair, relocation and removal has the qualifications pertaining to this refrigerant handling and piping work as stipulated by the local laws and regulations, and he or she is a person who has been trained in matters relating to refrigerant handling and piping work on the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work. • The qualified service person who is allowed to work at heights has been trained in matters relating to working at heights with the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work.

Definition of Protective Gear

When the air conditioner is to be transported, installed, maintained, repaired or removed, wear protective gloves and 'safety' work clothing.
In addition to such normal protective gear, wear the protective gear described below when undertaking the special work detailed in the table below.
Failure to wear the proper protective gear is dangerous because you will be more susceptible to injury, burns, electric shocks and other injuries.

Work undertaken	Protective gear worn
All types of work	Protective gloves 'Safety' working clothing
Electrical-related work	Gloves to provide protection for electricians Insulating shoes Clothing to provide protection from electric shock
Work done at heights (50 cm or more)	Helmets for use in industry
Transportation of heavy objects	Shoes with additional protective toecap
Repair of outdoor unit	Gloves to provide protection for electricians

The important contents concerned to the safety are described on the product itself and on this Service Manual.
Please read this Service Manual after understanding the described items thoroughly in the following contents (Indications / Illustrated marks), and keep them.

[Explanation of indications]

Indication	Explanation
⚠ **DANGER**	Indicates contents assumed that an imminent danger causing a death or serious injury of the repair engineers and the third parties when an incorrect work has been executed.
⚠ **WARNING**	Indicates possibilities assumed that a danger causing a death or serious injury of the repair engineers, the third parties, and the users due to troubles of the product after work when an incorrect work has been executed.
⚠ **CAUTION**	Indicates contents assumed that an injury or property damage (*) may be caused on the repair engineers, the third parties, and the users due to troubles of the product after work when an incorrect work has been executed.

* Property damage: Enlarged damage concerned to property, furniture, and domestic animal / pet

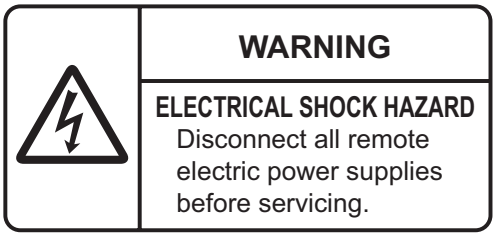
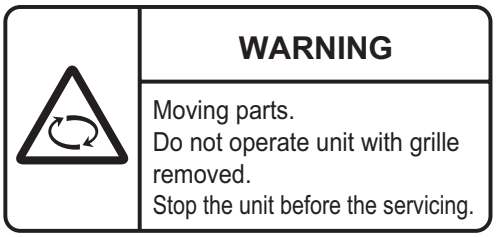
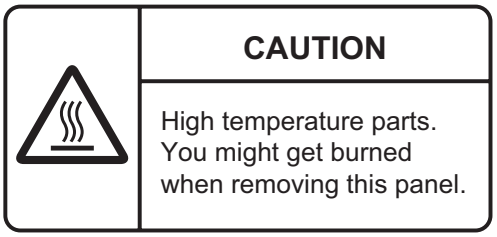
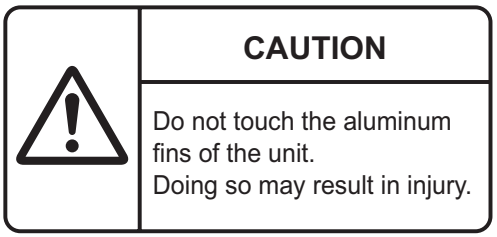
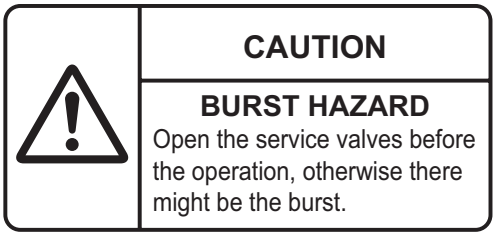
[Explanation of illustrated marks]

Indication	Explanation
	Indicates prohibited items (Forbidden items to do) The sentences near an illustrated mark describe the concrete prohibited contents.
	Indicates mandatory items (Compulsory items to do) The sentences near an illustrated mark describe the concrete mandatory contents.
	Indicates cautions (Including danger / warning) The sentences or illustration near or in an illustrated mark describe the concrete cautious contents.

Warning Indications on the Air Conditioner Unit

[Confirmation of warning label on the main unit]

Confirm that labels are indicated on the specified positions
If removing the label during parts replace, stick it as the original.

Warning indication	Description
	**WARNING** **ELECTRICAL SHOCK HAZARD** Disconnect all remote electric power supplies before servicing.
	**WARNING** Moving parts. Do not operate unit with grille removed. Stop the unit before the servicing.
	**CAUTION** High temperature parts. You might get burned when removing this panel.
	**CAUTION** Do not touch the aluminium fins of the unit. Doing so may result in injury.
	**CAUTION** **BURST HAZARD** Open the service valves before the operation, otherwise there might be the burst.

PRECAUTIONS FOR SAFETY

The manufacturer shall not assume any liability for the damage caused by not observing the description of this manual.

⚠ DANGER

Turn off breaker	Before carrying out the installation, maintenance, repair or removal work, be sure to set the circuit breaker for both the indoor and outdoor units to the OFF position. Otherwise, electric shocks may result.
	Before opening the intake grille of the indoor unit or service panel of the outdoor unit, set the circuit breaker to the OFF position. Failure to set the circuit breaker to the OFF position may result in electric shocks through contact with the interior parts. Only a qualified installer (*1) or qualified service person (*1) is allowed to remove the intake grille of the indoor unit or service panel of the outdoor unit and do the work required.
	Before opening the electric box cover set the circuit breaker to the OFF position. Failure to set the circuit breaker to the OFF position may result in injury through contact with the rotation parts. Only a qualified installer (*1) or qualified service person (*1) is allowed to remove the electric box cover and do the work required.
	Before starting to repair the outdoor unit fan or fan guard, be absolutely sure to set the circuit breaker to the OFF position, and place a “Work in progress” sign on the circuit breaker.
	When cleaning the filter or other parts of the indoor unit, set the circuit breaker to OFF without fail, and place a “Work in progress” sign near the circuit breaker before proceeding with the work.
	When you have noticed that some kind of trouble (such as when a check code display has appeared, there is a smell of burning, abnormal sounds are heard, the air conditioner fails to cool or heat or water is leaking) has occurred in the air conditioner, do not touch the air conditioner yourself but set the circuit breaker to the OFF position, and contact a qualified service person. Take steps to ensure that the power will not be turned on (by marking “out of service” near the circuit breaker, for instance) until qualified service person arrives. Continuing to use the air conditioner in the trouble status may cause mechanical problems to escalate or result in electric shocks or other failure.
Electric shock hazard	When you access inside of the electric cover to repair electric parts, wait for about five minutes after turning off the breaker. Do not start repairing immediately.Otherwise you may get electric shock by touching terminals of high-voltage capacitors. Natural discharge of the capacitor takes about five minutes.
	When checking the electric parts, removing the cover of the electric parts box of Indoor Unit and/or service panel of Outdoor Unit inevitably to determine the failure, use gloves to provide protection for electricians, insulating shoes, clothing to provide protection from electric shock and insulating tools. Be careful not to touch the live part. Electric shock may result. Only “Qualified service person” is allowed to do this work.
Prohibition	Place a “Work in progress” sign near the circuit breaker while the installation, maintenance, repair or removal work is being carried out. There is a danger of electric shocks if the circuit breaker is set to ON by mistake.
	When checking the electric parts, removing the cover of the electric parts box of Indoor Unit and/or front panel of outdoor unit inevitably to determine the failure, put a sign “Do not enter” around the site before the work. Failure to do this may result in third person getting electric shock.
	Before operating the air conditioner after having completed the work, check that the electrical parts box cover of the indoor unit and service panel of the outdoor unit are closed, and set the circuit breaker to the ON position. You may receive an electric shock if the power is turned on without first conducting these checks.
Stay on protection	If, in the course of carrying out repairs, it becomes absolutely necessary to check out the electrical parts with the electrical parts box cover of one or more of the indoor units and the service panel of the outdoor unit removed in order to find out exactly where the trouble lies, wear insulated heat-resistant gloves, insulated boots and insulated work overalls, and take care to avoid touching any live parts. You may receive an electric shock if you fail to heed this warning. Only qualified service person (*1) is allowed to do this kind of work.

(*1) Refer to the “Definition of Qualified Installer or Qualified Service Person”

⚠ WARNIG

General	Before starting to repair the air conditioner, read carefully through the Service Manual, and repair the air conditioner by following its instructions.
	Only qualified service person (*1) is allowed to repair the air conditioner. Repair of the air conditioner by unqualified person may give rise to a fire, electric shocks, injury, water leaks and / or other problems.
	Do not use any refrigerant different from the one specified for complement or replacement. Otherwise, abnormally high pressure may be generated in the refrigeration cycle, which may result in a failure or explosion of the product or an injury to your body.
	Only a qualified installer (*1) or qualified service person (*1) is allowed to carry out the electrical work of the air conditioner. Under no circumstances must this work be done by an unqualified individual since failure to carry out the work properly may result in electric shocks and / or electrical leaks.
	When the air conditioner is to be transported, installed, maintained, repaired or removed, wear protective gloves and 'safety' work clothing.
	To connect the electrical wires, repair the electrical parts or undertake other electrical jobs, wear gloves to provide protection for electricians, insulating shoes and clothing to provide protection from electric shocks. Failure to wear this protective gear may result in electric shocks.
	Electrical wiring work shall be conducted according to law and regulation in the community and Installation Manual. Failure to do so may result in electrocution or short circuit.
	Use wiring that meets the specifications in the Installation Manual and the stipulations in the local regulations and laws. Use of wiring which does not meet the specifications may give rise to electric shocks, electrical leakage, smoking and/or a fire.
	Only a qualified installer (*1) or qualified service person (*1) is allowed to undertake work at heights using a stand of 50 cm or more or to remove the intake grille of the indoor unit to undertake work.
	When working at heights, use a ladder which complies with the ISO 14122 standard, and follow the procedure in the ladder's instructions. Also wear a helmet for use in industry as protective gear to undertake the work.
	Before working at heights, put a sign in place so that no-one will approach the work location, before proceeding with the work. Parts and other objects may fall from above, possibly injuring a person below. While carrying out the work, wear a helmet for protection from falling objects.
	When executing address setting, test run, or troubleshooting through the checking window on the electric parts box, put on insulated gloves to provide protection from electric shock. Otherwise you may receive an electric shock.
	Do not touch the aluminum fin of the unit. You may injure yourself if you do so. If the fin must be touched for some reason, first put on protective gloves and safety work clothing, and then proceed.
	Do not climb onto or place objects on top of the outdoor unit. You may fall or the objects may fall off the outdoor unit and result in injury.
	Use forklift truck to carry in the air conditioner units and use winch or hoist at installation of them.
	When transporting the air conditioner, wear shoes with protective toe caps, protective gloves and other protective clothing.
	When transporting the air conditioner, do not hold the bands around the packing carton. You may injure yourself if the bands should break.
	Be sure that a heavy unit (10 kg or heavier) such as a compressor is carried by four persons.
Check earth wires.	Before troubleshooting or repair work, check the earth wire is connected to the earth terminals of the main unit, otherwise an electric shock is caused when a leak occurs.If the earth wire is not correctly connected, contact an electric engineer for rework.
	After completing the repair or relocation work, check that the ground wires are connected properly.
	Connect earth wire. (Grounding work) Incomplete grounding causes an electric shock. Do not connect earth wires to gas pipes, water pipes, and lightning rods or ground wires for telephone wires.

(*1) Refer to the "Definition of Qualified Installer or Qualified Service Person"

Prohibition of modification.	Do not modify the products.Do not also disassemble or modify the parts. It may cause a fire, electric shock or injury.
Use specified parts.	When any of the electrical parts are to be replaced, ensure that the replacement parts satisfy the specifications given in the Service Manual (or use the parts contained on the parts list in the Service Manual). Use of any parts which do not satisfy the required specifications may give rise to electric shocks, smoking and / or a fire.
Do not bring a child close to the equipment.	If, in the course of carrying out repairs, it becomes absolutely necessary to check out the electrical parts with the electrical parts box cover of one or more of the indoor units and the service panel of the outdoor unit removed in order to find out exactly where the trouble lies, put a sign in place so that no-one will approach the work location before proceeding with the work. Third-party individuals may enter the work site and receive electric shocks if this warning is not heeded.
Insulating measures	Connect the cut-off lead wires with crimp contact, etc., put the closed end side upward and then apply a watercut method, otherwise a leak or production of fire is caused at the users' side.
No fire	When performing repairs using a gas burner, replace the refrigerant with nitrogen gas because the oil that coats the pipes may otherwise burn. When repairing the refrigerating cycle, take the following measures. 1) Be attentive to fire around the cycle. When using a gas stove, etc., be sure to put out fire before work; otherwise the oil mixed with refrigerant gas may catch fire. 2) Do not use a welder in the closed room. When using it without ventilation, carbon monoxide poisoning may be caused. 3) Do not bring inflammables close to the refrigerant cycle, otherwise fire of the welder may catch the inflammables.
Refrigerant	The refrigerant used by this air conditioner is the R410A.
	Check the used refrigerant name and use tools and materials of the parts which match with it. For the products which use R410A refrigerant, the refrigerant name is indicated at a position on the outdoor unit where is easy to see. To prevent miss charging, the route of the service port is changed from one of the former R22.
	Do not use any refrigerant different from the one specified for complement or replacement. Otherwise, abnormally high pressure may be generated in the refrigeration cycle, which may result in a failure or explosion of the product or an injury to your body.
	For an air conditioner which uses R410A, never use other refrigerant than R410A. For an air conditioner which uses other refrigerant (R22, etc.), never use R410A. If different types of refrigerant are mixed, abnormal high pressure generates in the refrigerating cycle and an injury due to breakage may be caused.
	When the air conditioner has been installed or relocated, follow the instructions in the Installation Manual and purge the air completely so that no gases other than the refrigerant will be mixed in the refrigerating cycle. Failure to purge the air completely may cause the air conditioner to malfunction.
	Do not charge refrigerant additionally. If charging refrigerant additionally when refrigerant gas leaks, the refrigerant composition in the refrigerating cycle changes resulted in change of air conditioner characteristics or refrigerant over the specified standard amount is charged and an abnormal high pressure is applied to the inside of the refrigerating cycle resulted in cause of breakage or injury. Therefore if the refrigerant gas leaks, recover the refrigerant in the air conditioner, execute vacuuming, and then newly recharge the specified amount of liquid refrigerant. In this time, never charge the refrigerant over the specified amount.
	When recharging the refrigerant in the refrigerating cycle, do not mix the refrigerant or air other than R410A into the specified refrigerant. If air or others is mixed with the refrigerant, abnormal high pressure generates in the refrigerating cycle resulted in cause of injury due to breakage.
	After installation work, check the refrigerant gas does not leak. If the refrigerant gas leaks in the room, poisonous gas generates when gas touches to fire such as fan heater, stove or cooking stove though the refrigerant gas itself is innocuous.
	Never recover the refrigerant into the outdoor unit. When the equipment is moved or repaired, be sure to recover the refrigerant with recovering device. The refrigerant cannot be recovered in the outdoor unit; otherwise a serious accident such as breakage or injury is caused.

 Assembly / Wiring	After repair work, surely assemble the disassembled parts, and connect and lead the removed wires as before. Perform the work so that the cabinet or panel does not catch the inner wires. If incorrect assembly or incorrect wire connection was done, a disaster such as a leak or fire is caused at user's side.
 Insulator check	After the work has finished, be sure to use an insulation tester set (500VMΩ) to check the resistance is 1 MΩ or more between the charge section and the non-charge metal section (Earth position). If the resistance value is low, a disaster such as a leak or electric shock is caused at user's side.
 Ventilation	When the refrigerant gas leaks during work, execute ventilation. If the refrigerant gas touches to a fire, poisonous gas generates. A case of leakage of the refrigerant and the closed room full with gas is dangerous because a shortage of oxygen occurs. Be sure to execute ventilation.
	If refrigerant gas has leaked during the installation work, ventilate the room immediately. If the leaked refrigerant gas comes in contact with fire, noxious gas may generate.
	After installation work, check the refrigerant gas does not leak. If the refrigerant gas leaks in the room, poisonous gas generates when gas touches to fire such as fan heater, stove or cooking stove though the refrigerant gas itself is innocuous.
 Compulsion	When the refrigerant gas leaks, find out the leaked position and repair it surely. If the leaked position cannot be found out and the repair work is interrupted, reclaim and tighten the service valve, otherwise the refrigerant gas may leak into the room. The poisonous gas generates when gas touches to fire such as fan heater, stove or cooking stove though the refrigerant gas itself is innocuous. When installing equipment which includes a large amount of charged refrigerant in a sub-room, it is necessary that the concentration does not the limit even if the refrigerant leaks. If the refrigerant leaks and exceeds the limit concentration, an accident of shortage of oxygen is caused.
	Tighten the flare nut with a torque wrench in the specified manner. Excessive tighten of the flare nut may cause a crack in the flare nut after a long period, which may result in refrigerant leakage.
	Nitrogen gas must be used for the airtight test.
	The charge hose must be connected in such a way that it is not slack.
	For the installation / moving / reinstallation work, follow to the Installation Manual. If an incorrect installation is done, a trouble of the refrigerating cycle, water leak, electric shock or fire is caused.
 Check after repair	Once the repair work has been completed, check for refrigerant leaks, and check the insulation resistance and water drainage. Then perform a trial run to check that the air conditioner is running properly.
	After repair work has finished, check there is no trouble. If check is not executed, a fire, electric shock or injury may be caused. For a check, turn off the power breaker.
	After repair work (installation of front panel and cabinet) has finished, execute a test run to check there is no generation of smoke or abnormal sound. If check is not executed, a fire or an electric shock is caused. Before test run, install the front panel and cabinet.
	Be sure to fix the screws back which have been removed for installation or other purposes.
 Do not operate the unit with the valve closed.	Check the following matters before a test run after repairing piping. • Connect the pipes surely and there is no leak of refrigerant. • The valve is opened. Running the compressor under condition that the valve closes causes an abnormal high pressure resulted in damage of the parts of the compressor and etc. and moreover if there is leak of refrigerant at connecting section of pipes, the air is sucked and causes further abnormal high pressure resulted in burst or injury.
 Check after reinstallation	Only a qualified installer (*1) or qualified service person (*1) is allowed to relocate the air conditioner. It is dangerous for the air conditioner to be relocated by an unqualified individual since a fire, electric shocks, injury, water leakage, noise and / or vibration may result.
	Check the following items after reinstallation. 1) The earth wire is correctly connected. 2) The power cord is not caught in the product. 3) There is no inclination or unsteadiness and the installation is stable. If check is not executed, a fire, an electric shock or an injury is caused.
	When carrying out the reclaim work shut down the compressor before disconnecting the refrigerant pipe. Disconnecting the refrigerant pipe with the service valve left open and the compressor still operating will cause air, etc. to be sucked in, raising the pressure inside the refrigeration cycle to an abnormally high level, and possibly resulting in rupture, injury, etc.

(*1) Refer to the "Definition of Qualified Installer or Qualified Service Person"

Cooling check	When the service panel of the outdoor unit is to be opened in order for the compressor or the area around this part to be repaired immediately after the air conditioner has been shut down, set the circuit breaker to the OFF position, and then wait at least 10 minutes before opening the service panel. If you fail to heed this warning, you will run the risk of burning yourself because the compressor pipes and other parts will be very hot to the touch. In addition, before proceeding with the repair work, wear the kind of insulated heat-resistant gloves designed to protect electricians.
	Take care not to get burned by compressor pipes or other parts when checking the cooling cycle while running the unit as they get heated while running. Be sure to put on gloves providing protection for heat.
	When the service panel of the outdoor unit is to be opened in order for the fan motor, reactor, inverter or the areas around these parts to be repaired immediately after the air conditioner has been shut down, set the circuit breaker to the OFF position, and then wait at least 10 minutes before opening the service panel. If you fail to heed this warning, you will run the risk of burning yourself because the fan motor, reactor, inverter heat sink and other parts will be very hot to the touch. In addition, before proceeding with the repair work, wear the kind of insulated heat-resistant gloves designed to protect electricians.
Installation	Only a qualified installer or service person is allowed to do installation work. Inappropriate installation may result in water leakage, electric shock or fire.
	Before starting to install the air conditioner, read carefully through the Installation Manual, and follow its instructions to install the air conditioner.
	Be sure to use the company-specified products for the separately purchased parts. Use of non-specified products may result in fire, electric shock, water leakage or other failure. Have the installation performed by a qualified installer.
	Do not supply power from the power terminal block equipped on the outdoor unit to another outdoor unit. Capacity overflow may occur on the terminal block and may result in fire.
	Do not install the air conditioner in a location that may be subject to a risk of expire to a combustible gas. If a combustible gas leaks and becomes concentrated around the unit, a fire may occur.
	Install the indoor unit at least 2.5 m above the floor level since otherwise the users may injure themselves or receive electric shocks if they poke their fingers or other objects into the indoor unit while the air conditioner is running.
	Install a circuit breaker that meets the specifications in the Installation Manual and the stipulations in the local regulations and laws.
	Install the circuit breaker where it can be easily accessed by the agent.
	If you install the unit in a small room, take appropriate measures to prevent the refrigerant from exceeding the limit concentration even if it leaks. Consult the dealer from whom you purchased the air conditioner when you implement the measures. Accumulation of highly concentrated refrigerant may cause an oxygen deficiency accident.
	Do not place any combustion appliance in a place where it is directly exposed to the wind of air conditioner, otherwise it may cause imperfect combustion.

Explanations given to user

If you have discovered that the fan grille is damaged, do not approach the outdoor unit but set the circuit breaker to the OFF position, and contact a qualified service person to have the repairs done.
Do not set the circuit breaker to the ON position until the repairs are completed.

Relocation

- Only a qualified installer (*1) or qualified service person (*1) is allowed to relocate the air conditioner. It is dangerous for the air conditioner to be relocated by an unqualified individual since a fire, electric shocks, injury, water leakage, noise and / or vibration may result.
- When carrying out the reclaim work shut down the compressor before disconnecting the refrigerant pipe. Disconnecting the refrigerant pipe with the service valve left open and the compressor still operating will cause air, etc. to be sucked in, raising the pressure inside the refrigeration cycle to an abnormally high level, and possibly resulting in rupture, injury, etc.

(*1) Refer to the “Definition of Qualified Installer or Qualified Service Person”

Declaration of Conformity

Manufacturer:	TOSHIBA CARRIER (THAILAND) CO., LTD. 144/9 Moo 5, Bangkadi Industrial Park, Tivanon road, Tambol Bangkadi, Amphur Muang, Pathumthani 12000, Thailand
TCF holder:	TOSHIBA CARRIER EUROPE S.A.S Route de Thil 01120 Montluel FRANCE

Hereby declares that the machinery described below:

Generic Denomination: Air Conditioner

Model/type:

MMU-UP0091HP-E(TR), MMD-UP0121HP-E(TR), MMD-UP0151HP-E(TR),
MMU-UP0181HP-E(TR), MMD-UP0241HP-E(TR), MMD-UP0271HP-E(TR),
MMU-UP0301HP-E(TR), MMD-UP0361HP-E(TR), MMD-UP0481HP-E(TR),
MMU-UP0561HP-E(TR)

MMC-UP0151HP-E(TR), MMC-UP0181HP-E(TR), MMC-UP0241HP-E(TR),
MMC-UP0271HP-E(TR), MMC-UP0361HP-E(TR), MMC-UP0481HP-E(TR),
MMC-UP0561HP-E(TR)

MMD-UP0051BHP-E, MMD-UP0071BHP-E(TR), MMD-UP0091BHP-E(TR),
MMD-UP0121BHP-E(TR), MMD-UP0151BHP-E(TR), MMD-UP0181BHP-E(TR),
MMD-UP0241BHP-E(TR), MMD-UP0271BHP-E(TR), MMD-UP0301BHP-E(TR),
MMD-UP0361BHP-E(TR), MMD-UP0481BHP-E(TR), MMD-UP0561BHP-E(TR)

MMD-UP0181HP-E(TR), MMD-UP0241HP-E(TR), MMD-UP0271HP-E(TR),
MMD-UP0361HP-E(TR), MMD-UP0481HP-E(TR), MMD-UP0561HP-E(TR),
MMD-UP0721HP-E(TR), MMD-UP0961HP-E(TR)

MMD-UP0481HFP-E(TR), MMD-UP0721HFP-E(TR), MMD-UP0961HFP-E(TR),
MMD-UP1121HFP-E(TR), MMD-UP1281HFP-E(TR)

MML-UP0071NHP-E(TR), MML-UP0091NHP-E(TR), MML-UP0121NHP-E(TR),
MML-UP0151NHP-E(TR), MML-UP0181NHP-E(TR)

MMK-UP0031HP-E(TR), MMK-UP0051HP-E(TR), MMK-UP0071HP-E(TR),
MMK-UP0091HP-E(TR), MMK-UP0121HP-E(TR), MMK-UP0151HP-E(TR),
MMK-UP0181HP-E(TR), MMK-UP0241HP-E(TR)
MMK-UP0031HPL-E(TR), MMK-UP0051HPL-E(TR), MMK-UP0071HPL-E(TR),
MMK-UP0091HPL-E(TR), MMK-UP0121HPL-E(TR), MMK-UP0151HPL-E(TR),
MMK-UP0181HPL-E(TR), MMK-UP0241HPL-E(TR)

Commercial name: Super Modular Multi System Air Conditioner
Super Heat Recovery Multi System Air Conditioner
Mini-Super Modular Multi System Air Conditioner (MiNi-SMMS series)

Complies with the provisions of the Machinery Directive (Directive 2006/42/EC) and the regulations transposing into national law

Complies with the provisions of the following harmonized standard:
EN 378-2: 2008+A2: 2012

“Declaration of incorporation of partly completed machinery”

Must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of this Directive, where appropriate.

NOTE

This declaration becomes invalid if technical or operational modifications are introduced without the manufacturer’s consent.

Specifications

Model	Sound power level (dBA)		Weight (kg) Main unit (Ceiling panel)
	Cooling	Heating	
MMU-UP0091HP-E(TR)	*	*	18 (4)
MMU-UP0121HP-E(TR)	*	*	18 (4)
MMU-UP0151HP-E(TR)	*	*	20 (4)
MMU-UP0181HP-E(TR)	*	*	20 (4)
MMU-UP0241HP-E(TR)	*	*	20 (4)
MMU-UP0271HP-E(TR)	*	*	20 (4)
MMU-UP0301HP-E(TR)	*	*	20 (4)
MMU-UP0361HP-E(TR)	*	*	25 (4)
MMU-UP0481HP-E(TR)	*	*	25 (4)
MMU-UP0561HP-E(TR)	*	*	25 (4)
MMC-UP0151HP-E(TR)	*	*	24
MMC-UP0181HP-E(TR)	*	*	24
MMC-UP0241HP-E(TR)	*	*	30
MMC-UP0271HP-E(TR)	*	*	30
MMC-UP0361HP-E(TR)	*	*	39
MMC-UP0481HP-E(TR)	*	*	39
MMC-UP0561HP-E(TR)	*	*	39
MMD-UP0051BHP-E	*	*	23
MMD-UP0071BHP-E(TR)	*	*	23
MMD-UP0091BHP-E(TR)	*	*	23
MMD-UP0121BHP-E(TR)	*	*	23
MMD-UP0151BHP-E(TR)	*	*	23
MMD-UP0181BHP-E(TR)	*	*	23
MMD-UP0241BHP-E(TR)	*	*	30
MMD-UP0271BHP-E(TR)	*	*	30
MMD-UP0301BHP-E(TR)	*	*	30
MMD-UP0361BHP-E(TR)	*	*	40
MMD-UP0481BHP-E(TR)	*	*	40
MMD-UP0561BHP-E(TR)	*	*	40
MMD-UP0181HP-E(TR)	*	*	34
MMD-UP0241HP-E(TR)	*	*	34
MMD-UP0271HP-E(TR)	*	*	34
MMD-UP0361HP-E(TR)	*	*	43
MMD-UP0481HP-E(TR)	*	*	43
MMD-UP0561HP-E(TR)	*	*	43
MMD-UP0721HP-E(TR)	44	44	97
MMD-UP0961HP-E(TR)	46	46	97

* Under 70 dBA

Model	Sound pressure level (dBA)		Weight (kg)
	Cooling	Heating	
MMD-UP0481HFP-E(TR)	*	*	43
MMD-UP0721HFP-E(TR)	*	*	99
MMD-UP0961HFP-E(TR)	*	*	99
MMD-UP1121HFP-E(TR)	*	*	99
MMD-UP1281HFP-E(TR)	*	*	99
MML-UP0071NHP-E(TR)	*	*	17
MML-UP0091NHP-E(TR)	*	*	17
MML-UP0121NHP-E(TR)	*	*	17
MML-UP0151NHP-E(TR)	*	*	17
MML-UP0181NHP-E(TR)	*	*	17
MMK-UP0031HP-E(TR)	*	*	11
MMK-UP0051HP-E(TR)	*	*	11
MMK-UP0071HP-E(TR)	*	*	11
MMK-UP0091HP-E(TR)	*	*	11
MMK-UP0121HP-E(TR)	*	*	11
MMK-UP0031HPL-E(TR)	*	*	11
MMK-UP0051HPL-E(TR)	*	*	11
MMK-UP0071HPL-E(TR)	*	*	11
MMK-UP0091HPL-E(TR)	*	*	11
MMK-UP0121HPL-E(TR)	*	*	11
MMK-UP0151HP-E(TR)	*	*	16
MMK-UP0181HP-E(TR)	*	*	16
MMK-UP0241HP-E(TR)	*	*	16
MMK-UP0151HPL-E(TR)	*	*	16
MMK-UP0181HPL-E(TR)	*	*	16
MMK-UP0241HPL-E(TR)	*	*	16

* Under 70 dB

1. SPECIFICATIONS

1-1. 4-way cassette type

Model name				MMU-UP0091HP-E(TR)	MMU-UP0121HP-E(TR)
Cooling Capacity			(kW)	2.80	3.60
Heating Capacity			(kW)	3.20	4.00
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz	
	Running current		(A)	0.24	0.24
	Power consumption		(kW)	0.021	0.021
	Starting current		(A)	0.3	0.3
Appearance	Main unit			Zinc hot dipping steel plate	
	Ceiling panel	Model name		RBC-U32PGP(W)-E	
		Panel Color		Gran White (Munsell 5PB9/1)	
Outer diamension	Main unit	Height	(mm)	256	256
		Width	(mm)	840	840
		Depth	(mm)	840	840
	Ceiling panel	Height	(mm)	9.5	9.5
		Width	(mm)	100	100
		Depth	(mm)	100.5	100.5
Total weight	Main unit		(kg)	18	18
	Ceiling panel		(kg)	4	4
Heat exchanger				Finned tube	
Fan unit	Fan			Turbo fan	
	Standard air flow	H/M/L	(m^3/hr)	800/730/680	800/730/680
	Motor		(W)	60	60
Air filte				Standard filter attached (Long life filter)	
Controller				-	-
Sound pressure level	H/M/L		(dBA)	30/29/27	30/29/27
Sound power level	H/M/L		(dBA)	45/44/42	45/44/42
Connecting pipe	Gas side		(mm)	9.5	9.5
	Liquid		(mm)	6.4	6.4
	Drain port		(mm)	VP25	

Model name				MMU-UP0151HP-E(TR)	MMU-UP0181HP-E(TR)
Cooling Capacity			(kW)	4.50	5.60
Heating Capacity			(kW)	5.00	6.30
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz	
	Running current		(A)	0.29	0.30
	Power consumption		(kW)	0.023	0.026
	Starting current		(A)	0.33	0.36
Appearance	Main unit			Zinc hot dipping steel plate	
	Ceiling panel	Model name		RBC-U32PGP(W)-E	
		Panel Color		Gran White (Munsell 5PB9/1)	
Outer diamension	Main unit	Height	(mm)	256	256
		Width	(mm)	840	840
		Depth	(mm)	840	840
	Ceiling panel	Height	(mm)	9.5	9.5
		Width	(mm)	100	100
		Depth	(mm)	100.5	100.5
Total weight	Main unit		(kg)	20	20
	Ceiling panel		(kg)	4	4
Heat exchanger				Finned tube	
Fan unit	Fan			Turbo fan	
	Standard air flow	H/M/L	(m^3/hr)	930/830/790	1050/920/800
	Motor		(W)	60	60
Air filte				Standard filter attached (Long life filter)	
Controller				-	-
Sound pressure level		H/M/L	(dBA)	31/29/27	32/29/27
Sound power level		H/M/L	(dBA)	46/44/42	47/44/42
Connecting pipe		Gas side	(mm)	12.7	12.7
		Liquid	(mm)	6.4	6.4
		Drain port	(mm)	VP25	

Model name				MMU-UP0241HP-E(TR)	MMU-UP0271HP-E(TR)	MMU-UP0301HP-E(TR)
Cooling Capacity			(kW)	7.10	8.00	9.00
Heating Capacity			(kW)	8.00	9.00	10.00
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz		
	Running current		(A)	0.40	0.39	0.45
	Power consumption		(kW)	0.036	0.036	0.043
	Starting current		(A)	0.42	0.42	0.59
Appearance	Main unit			Zinc hot dipping steel plate		
	Ceiling panel	Model name		RBC-U32PGP(W)-E		
		Panel Color		Gran White (Munsell 5PB9/1)		
Outer diamension	Main unit	Height	(mm)	256	256	256
		Width	(mm)	840	840	840
		Depth	(mm)	840	840	840
	Ceiling panel	Height	(mm)	9.5	9.5	9.5
		Width	(mm)	100	100	100
		Depth	(mm)	100.5	100.5	100.5
Total weight	Main unit		(kg)	20	20	20
	Ceiling panel		(kg)	4	4	4
Heat exchanger				Finned tube		
Fan unit	Fan			Turbo fan		
	Standard air flow	H/M/L	(m^3/hr)	1290/920/800	1290/920/800	1320/1110/850
	Motor		(W)	60	60	60
Air filte				Standard filter attached (Long life filter)		
Controller				-	-	-
Sound pressure level	H/M/L		(dBA)	35/31/28	35/31/28	38/33/30
Sound power level	H/M/L		(dBA)	50/46/43	50/46/43	53/48/445
Connecting pipe	Gas side		(mm)	15.8	15.8	15.8
	Liquid		(mm)	9.5	9.5	9.5
	Drain port		(mm)	VP25		

Model name				MMU-UP0361HP-E(TR)	MMU-UP0481HP-E(TR)	MMU-UP0561HP-E(TR)
Cooling Capacity			(kW)	11.20	14.00	16.00
Heating Capacity			(kW)	12.50	16.00	18.00
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz		
	Running current		(A)	0.76	0.92	0.92
	Power consumption		(kW)	0.088	0.112	0.112
	Starting current		(A)	0.87	1.23	1.26
Appearance	Main unit			Zinc hot dipping steel plate		
	Ceiling panel	Model name		RBC-U32PGP(W)-E		
		Panel Color		Gran White (Munsell 5PB9/1)		
Outer diamension	Main unit	Height	(mm)	319	319	319
		Width	(mm)	840	840	840
		Depth	(mm)	840	840	840
	Ceiling panel	Height	(mm)	9.5	9.5	9.5
		Width	(mm)	100	100	100
		Depth	(mm)	100.5	100.5	100.5
Total weight	Main unit		(kg)	25	25	25
	Ceiling panel		(kg)	4	4	4
Heat exchanger				Finned tube		
Fan unit	Fan			Turbo fan		
	Standard air flow	H/M/L	(m^3/hr)	1970/1430/1070	2130/1430/1130	2130/1520/1230
	Motor		(W)	130	130	130
Air filte				Standard filter attached (Long life filter)		
Controller				-	-	-
Sound pressure level	H/M/L		(dBA)	43/38/32	46/38/33	46/40/33
Sound power level	H/M/L		(dBA)	58/53/47	61/53/48	61/55/48
Connecting pipe	Gas side		(mm)	15.8	15.8	15.8
	Liquid		(mm)	9.5	9.5	9.5
	Drain port		(mm)	VP25		

1-2. Ceiling type

Model name				MMC-UP0151HP-E(TR)	MMC-UP0181HP-E(TR)
Cooling Capacity			(kW)	4.50	5.60
Heating Capacity			(kW)	5.00	6.30
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz	
	Running current		(A)	0.37	0.38
	Power consumption		(kW)	0.033	0.034
	Starting current		(A)	0.55	0.57
Appearance	Main unit			Zinc hot dipping steel plate	
	Ceiling panel	Model name		-	
		Panel Color		-	
Outer diamension	Main unit	Height	(mm)	235	235
		Width	(mm)	690	690
		Depth	(mm)	950	950
	Ceiling panel	Height	(mm)	-	-
		Width	(mm)	-	-
		Depth	(mm)	-	-
Total weight	Main unit		(kg)	24	24
	Ceiling panel		(kg)	-	-
Heat exchanger				Finned tube	
Fan unit	Fan			Centrifugal (Multi Balde)	
	Standard air flow	H/M/L	(m^3/hr)	840/690/540	960/720/540
	Motor		(W)	94	94
Air filte				Standard filter attached (Long life filter)	
Controller				-	-
Sound pressure level	H/M/L		(dBA)	36/34/28	37/35/28
Sound power level	H/M/L		(dBA)	51/49/43	52/49/43
Connecting pipe	Gas side		(mm)	12.7	12.7
	Liquid		(mm)	6.4	6.4
	Drain port		(mm)	VP25	

Model name				MMC-UP0241HP-E(TR)	MMC-UP0271HP-E(TR)
Cooling Capacity			(kW)	7.10	8.00
Heating Capacity			(kW)	8.00	9.00
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz	
	Running current		(A)	0.67	0.67
	Power consumption		(kW)	0.067	0.067
	Starting current		(A)	1.00	1.00
Appearance	Main unit			Zinc hot dipping steel plate	
	Ceiling panel	Model name		-	
		Panel Color		-	
Outer diamension	Main unit	Height	(mm)	235	235
		Width	(mm)	690	690
		Depth	(mm)	1270	1270
	Ceiling panel	Height	(mm)	-	-
		Width	(mm)	-	-
		Depth	(mm)	-	-
Total weight	Main unit		(kg)	30	30
	Ceiling panel		(kg)	-	-
Heat exchanger				Finned tube	
Fan unit	Fan			Centrifugal (Multi Balde)	
	Standard air flow	H/M/L	(m^3/hr)	1440/1020/750	1440/1020/750
	Motor		(W)	94	94
Air filte				Standard filter attached (Long life filter)	
Controller				-	-
Sound pressure level		H/M/L	(dBA)	41/36/29	41/36/29
Sound power level		H/M/L	(dBA)	56/51/44	56/51/44
Connecting pipe		Gas side	(mm)	15.8	15.8
		Liquid	(mm)	9.5	9.5
		Drain port	(mm)	VP25	

Model name				MMC-UP0361HP-E(TR)	MMC-UP0481HP-E(TR)	MMC-UP0561HP-E(TR)
Cooling Capacity			(kW)	11.20	14.00	16.00
Heating Capacity			(kW)	12.50	16.00	18.00
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz		
	Running current		(A)	0.80	0.80	1.02
	Power consumption		(kW)	0.083	0.083	0.111
	Starting current		(A)	1.20	1.20	1.43
Appearance	Main unit			Zinc hot dipping steel plate		
	Ceiling panel	Model name		-		
		Panel Color		-		
Outer diamension	Main unit	Height	(mm)	235	235	235
		Width	(mm)	690	690	690
		Depth	(mm)	1586	1586	1586
	Ceiling panel	Height	(mm)	-	-	-
		Width	(mm)	-	-	-
		Depth	(mm)	-	-	-
Total weight	Main unit		(kg)	39	39	39
	Ceiling panel		(kg)	-	-	-
Heat exchanger				Finned tube		
Fan unit	Fan			Centrifugal (Multi Balde)		
	Standard air flow	H/M/L	(m^3/hr)	1860/1350/1020	1860/1580/1200	2040/1650/1260
	Motor		(W)	139	139	139
Air filte				Standard filter attached (Long life filter)		
Controller				-	-	-
Sound pressure level	H/M/L		(dBA)	44/38/32	44/41/35	46/42/36
Sound power level	H/M/L		(dBA)	59/53/47	59/56/50	61/57/51
Connecting pipe	Gas side		(mm)	15.8	15.8	15.8
	Liquid		(mm)	9.5	9.5	9.5
	Drain port		(mm)	VP25		

1-3. Concealed Duct Standard type

Model name				MMD-UP0051BHP-E	MMD-UP0071BHP-E(TR)	MMD-UP0091BHP-E(TR)
Cooling Capacity			(kW)	1.70	2.20	2.80
Heating Capacity			(kW)	1.90	2.50	3.20
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz		
	Running current		(A)	0.36	0.36	0.40
	Power consumption		(kW)	0.055	0.055	0.060
	Starting current		(A)	0.56	0.56	0.60
Appearance	Main unit			Zinc hot dipping steel plate		
	Ceiling panel	Model name		-		
		Panel Color		-		
Outer diamension	Main unit	Height	(mm)	275	275	275
		Width	(mm)	750	750	750
		Depth	(mm)	700	700	700
	Ceiling panel	Height	(mm)	-	-	-
		Width	(mm)	-	-	-
		Depth	(mm)	-	-	-
Total weight	Main unit		(kg)	23	23	23
	Ceiling panel		(kg)	-	-	-
Heat exchanger				Finned tube		
Fan unit	Fan			Centrifugal (Multi Balde)		
	Standard air flow	H/M/L	(m^3/hr)	540/450/360	540/450/360	570/480/390
	Motor		(W)	150	150	150
	External static pressure		(Pa)	30	30	30
Air filte				Standard filter attached (Long life filter)		
Controller				-	-	-
Sound pressure level	H/M/L		(dBA)	29/26/23	29/26/23	30/26/23
Sound power level	H/M/L		(dBA)	44/41/38	44/41/38	45/41/38
Connecting pipe	Gas side		(mm)	9.5	9.5	9.5
	Liquid		(mm)	6.4	6.4	6.4
	Drain port		(mm)	VP25		

Model name				MMD-UP0121BHP-E(TR)	MMD-UP0151BHP-E(TR)	MMD-UP0181BHP-E(TR)
Cooling Capacity			(kW)	3.60	4.50	5.60
Heating Capacity			(kW)	4.00	5.00	6.30
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz		
	Running current		(A)	0.40	0.72	0.72
	Power consumption		(kW)	0.060	0.110	0.110
	Starting current		(A)	0.60	1.12	1.12
Appearance	Main unit			Zinc hot dipping steel plate		
	Ceiling panel	Model name		-		
		Panel Color		-		
Outer diamension	Main unit	Height	(mm)	275	275	275
		Width	(mm)	750	750	750
		Depth	(mm)	700	700	700
	Ceiling panel	Height	(mm)	-	-	-
		Width	(mm)	-	-	-
		Depth	(mm)	-	-	-
Total weight	Main unit		(kg)	23	23	23
	Ceiling panel		(kg)	-	-	-
Heat exchanger				Finned tube		
Fan unit	Fan			Centrifugal (Multi Balde)		
	Standard air flow	H/M/L	(m^3/hr)	570/480/390	920/660/540	920/660/540
	Motor		(W)	150	150	150
	External static pressure		(Pa)	30	30	30
Air filte				Standard filter attached (Long life filter)		
Controller				-	-	-
Sound pressure level	H/M/L		(dBA)	30/26/23	33/29/25	33/29/25
Sound power level	H/M/L		(dBA)	45/41/38	48/44/40	48/44/40
Connecting pipe	Gas side		(mm)	9.5	12.7	12.7
	Liquid		(mm)	6.4	6.4	6.4
	Drain port		(mm)	VP25		

Model name				MMD-UP0241BHP-E(TR)	MMD-UP0271BHP-E(TR)	MMD-UP0301BHP-E(TR)
Cooling Capacity			(kW)	7.10	8.00	9.00
Heating Capacity			(kW)	8.00	9.00	10.00
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz		
	Running current		(A)	0.83	0.83	0.98
	Power consumption		(kW)	0.135	0.135	0.160
	Starting current		(A)	1.23	1.23	1.38
Appearance	Main unit			Zinc hot dipping steel plate		
	Ceiling panel	Model name		-		
		Panel Color		-		
Outer diamension	Main unit	Height	(mm)	275	275	275
		Width	(mm)	750	750	750
		Depth	(mm)	1000	1000	1000
	Ceiling panel	Height	(mm)	-	-	-
		Width	(mm)	-	-	-
		Depth	(mm)	-	-	-
Total weight	Main unit		(kg)	30	30	30
	Ceiling panel		(kg)	-	-	-
Heat exchanger				Finned tube		
Fan unit	Fan			Centrifugal (Multi Balde)		
	Standard air flow	H/M/L	(m^3/hr)	1320/1090/870	1320/1090/870	1450/1200/960
	Motor		(W)	150	150	150
	External static pressure		(Pa)	40	40	40
Air filte				Standard filter attached (Long life filter)		
Controller				-	-	-
Sound pressure level	H/M/L		(dBA)	33/30/27	33/30/27	36/31/27
Sound power level	H/M/L		(dBA)	48/45/42	48/45/42	51/46/42
Connecting pipe	Gas side		(mm)	15.8	15.8	15.8
	Liquid		(mm)	9.5	9.5	9.5
	Drain port		(mm)	VP25		

Model name				MMD-UP0361BHP-E(TR)	MMD-UP0481BHP-E(TR)	MMD-UP0561BHP-E(TR)
Cooling Capacity			(kW)	11.20	14.00	16.00
Heating Capacity			(kW)	12.50	16.00	18.00
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz		
	Running current		(A)	1.33	1.76	1.76
	Power consumption		(kW)	0.220	0.290	0.290
	Starting current		(A)	2.13	2.56	2.56
Appearance	Main unit			Zinc hot dipping steel plate		
	Ceiling panel	Model name		-		
		Panel Color		-		
Outer diamension	Main unit	Height	(mm)	275	275	275
		Width	(mm)	750	750	750
		Depth	(mm)	1400	1400	1400
	Ceiling panel	Height	(mm)	-	-	-
		Width	(mm)	-	-	-
		Depth	(mm)	-	-	-
Total weight	Main unit		(kg)	40	40	40
	Ceiling panel		(kg)	-	-	-
Heat exchanger				Finned tube		
Fan unit	Fan			Centrifugal (Multi Balde)		
	Standard air flow	H/M/L	(m^3/hr)	1920/1620/1380	2350/1920/1500	2350/1920/1500
	Motor		(W)	250	250	250
	External static pressure		(Pa)	50	50	50
Air filte				Standard filter attached (Long life filter)		
Controller				-	-	-
Sound pressure level	H/M/L		(dBA)	36/34/31	40/36/33	40/36/33
Sound power level	H/M/L		(dBA)	51/49/46	55/51/48	55/51/48
Connecting pipe	Gas side		(mm)	15.8	15.8	15.8
	Liquid		(mm)	9.5	9.5	9.5
	Drain port		(mm)	VP25		

1-4. Concealed Duct High Static Pressure type

Model name				MMD-UP0181HP-E(TR)	MMD-UP0241HP-E(TR)	MMD-UP0271HP-E(TR)
Cooling Capacity			(kW)	5.60	7.10	8.00
Heating Capacity			(kW)	6.30	8.00	9.00
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz		
	Running current		(A)	0.85	0.95	1.20
	Power consumption		(kW)	0.125	0.140	0.190
	Starting current		(A)	1.15	1.25	1.50
Appearance	Main unit			Zinc hot dipping steel plate		
	Ceiling panel	Model name		-		
		Panel Color		-		
Outer diamension	Main unit	Height	(mm)	298	298	298
		Width	(mm)	750	750	750
		Depth	(mm)	1000	1000	1000
	Ceiling panel	Height	(mm)	-	-	-
		Width	(mm)	-	-	-
		Depth	(mm)	-	-	-
Total weight	Main unit		(kg)	34	34	34
	Ceiling panel		(kg)	-	-	-
Heat exchanger				Finned tube		
Fan unit	Fan			Centrifugal (Multi Balde)		
	Standard air flow	H/M/L	(m^3/hr)	1100/990/900	1200/1050/960	1500/13500/1200
	Motor		(W)	250	250	250
	External static pressure		(Pa)	100	100	100
Air filte				Standard filter attached (Long life filter)		
Controller				-	-	-
Sound pressure level	H/M/L		(dBA)	37/33/31	38/34/32	43/41/38
Sound power level	H/M/L		(dBA)	60/56/54	60/56/54	65/63/60
Connecting pipe	Gas side		(mm)	12.7	15.8	15.8
	Liquid		(mm)	6.4	9.5	9.5
	Drain port		(mm)	VP25		

Model name				MMD-UP0361HP-E(TR)	MMD-UP0481HP-E(TR)	MMD-UP0561HP-E(TR)
Cooling Capacity			(kW)	11.20	14.00	16.00
Heating Capacity			(kW)	12.50	16.00	18.00
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz		
	Running current		(A)	1.43	1.86	2.57
	Power consumption		(kW)	0.230	0.300	0.400
	Starting current		(A)	1.93	2.46	3.17
Appearance	Main unit			Zinc hot dipping steel plate		
	Ceiling panel	Model name		-		
		Panel Color		-		
Outer diamension	Main unit	Height	(mm)	298	298	298
		Width	(mm)	750	750	750
		Depth	(mm)	1400	1400	1400
	Ceiling panel	Height	(mm)	-	-	-
		Width	(mm)	-	-	-
		Depth	(mm)	-	-	-
Total weight	Main unit		(kg)	43	43	43
	Ceiling panel		(kg)	-	-	-
Heat exchanger				Finned tube		
Fan unit	Fan			Centrifugal (Multi Balde)		
	Standard air flow	H/M/L	(m^3/hr)	1920/1560/1340	2340/1980/1695	2760/2340/1920
	Motor		(W)	350	350	350
	External static pressure		(Pa)	100	100	100
Air filte				Standard filter attached (Long life filter)		
Controller				-	-	-
Sound pressure level	H/M/L		(dBA)	41/37/34	44/41/38	46/44/41
Sound power level	H/M/L		(dBA)	62/58/55	67/64/61	69/67/64
Connecting pipe	Gas side		(mm)	15.8	15.8	15.8
	Liquid		(mm)	9.5	9.5	9.5
	Drain port		(mm)	VP25		

Model name				MMD-UP0721HP-E(TR)	MMD-UP0961HP-E(TR)
Cooling Capacity			(kW)	22.40	28.00
Heating Capacity			(kW)	25.00	31.50
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz	
	Running current		(A)	2.93	3.92
	Power consumption		(kW)	0.540	0.790
	Starting current		(A)	8.15	8.15
Appearance	Main unit			Zinc hot dipping steel plate	
	Ceiling panel	Model name		-	
		Panel Color		-	
Outer diamension	Main unit	Height	(mm)	448	448
		Width	(mm)	900	900
		Depth	(mm)	1400	1400
	Ceiling panel	Height	(mm)	-	-
		Width	(mm)	-	-
		Depth	(mm)	-	-
Total weight	Main unit		(kg)	97	97
	Ceiling panel		(kg)	-	-
Heat exchanger				Finned tube	
Fan unit	Fan			Centrifugal (Multi Balde)	
	Standard air flow	H/M/L	(m^3/hr)	3800/3200/2500	4800/4200/3500
	Motor		(W)	800	800
	External static pressure		(Pa)	150	150
Air filte				Standard filter attached (Long life filter)	
Controller				-	-
Sound pressure level	H/M/L		(dBA)	44/40/36	46/42/38
Sound power level	H/M/L		(dBA)	79/75/71	81/77/73
Connecting pipe	Gas side		(mm)	22.2	22.2
	Liquid		(mm)	12.7	12.7
	Drain port		(mm)	VP25	

1-5. Concealed Duct High Static Pressure fresh air intake type

Model name				MMD-UP0481HFP-E(TR)	MMD-UP0721HFP-E(TR)	MMD-UP0961HFP-E(TR)
Cooling Capacity			(kW)	14.00	22.40	28.00
Heating Capacity			(kW)	8.90	13.90	17.40
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz		
	Running current		(A)	0.80	0.90	1.12
	Power consumption		(kW)	0.108	0.153	0.198
	Starting current		(A)	1.95	9.40	9.4
Appearance	Main unit			Zinc hot dipping steel plate		
	Ceiling panel	Model name		-		
		Panel Color		-		
Outer diamension	Main unit	Height	(mm)	298	448	448
		Width	(mm)	750	900	900
		Depth	(mm)	1400	1400	1400
	Ceiling panel	Height	(mm)	-	-	-
		Width	(mm)	-	-	-
		Depth	(mm)	-	-	-
Total weight	Main unit		(kg)	45	100	100
	Ceiling panel		(kg)	-	-	-
Heat exchanger				Finned tube		
Fan unit	Fan			Centrifugal (Multi Balde)		
	Standard air flow	H/M/L	(m^3/hr)	1080/930/760	1680/1440/1200	2100/1800/1470
	Motor		(W)	350	1000	1000
	External static pressure		(Pa)	100	100	100
Air filte				Standard filter attached (Long life filter)		
Controller				-	-	-
Sound pressure level	H/M/L		(dBA)	36/34/32	38/36/34	40/38/36
Sound power level	H/M/L		(dBA)	71/69/67	73/71/69	75/73/71
Connecting pipe	Gas side		(mm)	15.8	22.2	22.2
	Liquid		(mm)	9.5	12.7	12.7
	Drain port		(mm)	VP25		

Model name				MMD-UP1121HFP-E(TR)	MMD-UP1281HFP-E(TR)
Cooling Capacity			(kW)	33.50	40.00
Heating Capacity			(kW)	20.80	25.20
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz	
	Running current		(A)	1.36	1.91
	Power consumption		(kW)	0.243	0.330
	Starting current		(A)	9.4	9.4
Appearance	Main unit			Zinc hot dipping steel plate	
	Ceiling panel	Model name		-	
		Panel Color		-	
Outer diamension	Main unit	Height	(mm)	448	448
		Width	(mm)	900	900
		Depth	(mm)	1400	1400
	Ceiling panel	Height	(mm)	-	-
		Width	(mm)	-	-
		Depth	(mm)	-	-
Total weight	Main unit		(kg)	100	100
	Ceiling panel		(kg)	-	-
Heat exchanger				Finned tube	
Fan unit	Fan			Centrifugal (Multi Balde)	
	Standard air flow	H/M/L	(m^3/hr)	2520/2130/1770	3060/2580/2130
	Motor		(W)	1000	1000
	External static pressure		(Pa)	100	100
Air filte				Standard filter attached (Long life filter)	
Controller				-	-
Sound pressure level		H/M/L	(dBA)	42/40/38	44/42/40
Sound power level		H/M/L	(dBA)	77/75/73	79/77/75
Connecting pipe		Gas side	(mm)	28.6	28.6
		Liquid	(mm)	15.9	15.9
		Drain port	(mm)	VP25	

1-6. Console type

Model name				MML-UP0071NHP-E(TR)	MML-UP0091NHP-E(TR)	MML-UP0121NHP-E(TR)
Cooling Capacity			(kW)	2.20	2.80	3.60
Heating Capacity			(kW)	2.50	3.20	4.00
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz		
	Running current		(A)	0.20	0.20	0.23
	Power consumption		(kW)	0.021	0.021	0.025
	Starting current		(A)	0.26	0.26	0.30
Appearance	Main unit			Zinc hot dipping steel plate		
	Ceiling panel	Model name		-		
		Panel Color		-		
Outer diamension	Main unit	Height	(mm)	600	600	600
		Width	(mm)	220	220	220
		Depth	(mm)	700	700	700
	Ceiling panel	Height	(mm)	-	-	-
		Width	(mm)	-	-	-
		Depth	(mm)	-	-	-
Total weight	Main unit		(kg)	17	17	17
	Ceiling panel		(kg)	-	-	-
Heat exchanger				Finned tube		
Fan unit	Fan			Turbo fan		
	Standard air flow	H/M/L	(m^3/hr)	510/366/282	510/366/282	522/408/324
	Motor		(W)	41	41	41
Air filte				Standard filter attached (Long life filter)		
Controller				WH-TA09NE	WH-TA09NE	WH-TA09NE
Sound pressure level	H/M/L		(dBA)	38/32/26	38/32/26	40/34/29
Sound power level	H/M/L		(dBA)	53/47/41	53/47/41	55/49/44
Connecting pipe	Gas side		(mm)	9.5	9.5	9.5
	Liquid		(mm)	6.4	6.4	6.4
	Drain port		(mm)	VP25		

Model name				MML-UP0151NHP-E(TR)	MML-UP0181NHP-E(TR)
Cooling Capacity			(kW)	4.50	5.60
Heating Capacity			(kW)	5.00	6.30
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz	
	Running current		(A)	0.29	0.42
	Power consumption		(kW)	0.034	0.052
	Starting current		(A)	0.38	0.55
Appearance	Main unit			Zinc hot dipping steel plate	
	Ceiling panel	Model name		-	
		Panel Color		-	
Outer diamension	Main unit	Height	(mm)	600	600
		Width	(mm)	220	220
		Depth	(mm)	700	700
	Ceiling panel	Height	(mm)	-	-
		Width	(mm)	-	-
		Depth	(mm)	-	-
Total weight	Main unit		(kg)	17	17
	Ceiling panel		(kg)	-	-
Heat exchanger				Finned tube	
Fan unit	Fan			Turbo fan	
	Standard air flow	H/M/L	(m^3/hr)	624/468/384	726/528/426
	Motor		(W)	41	41
Air filte				Standard filter attached (Long life filter)	
Controller				WH-TA09NE	WH-TA09NE
Sound pressure level	H/M/L		(dBA)	43/37/31	47/40/34
Sound power level	H/M/L		(dBA)	58/52/46	62/55/49
Connecting pipe	Gas side		(mm)	12.7	12.7
	Liquid		(mm)	6.4	6.4
	Drain port		(mm)	VP25	

1-7. High wall type

High wall type

Model name				MMK-UP0031HP-E(TR)	MMK-UP0051HP-E(TR)	MMK-UP0071HP-E(TR)
Cooling Capacity			(kW)	0.90	1.70	2.20
Heating Capacity			(kW)	1.30	1.90	2.50
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz		
	Running current		(A)	0.15	0.15	0.16
	Power consumption		(kW)	0.013	0.013	0.015
	Starting current		(A)	0.19	0.19	0.2
Appearance	Main unit			Gran White		
	Ceiling panel	Model name		-		
		Panel Color		-		
Outer diamension	Main unit	Height	(mm)	293	293	293
		Width	(mm)	230	230	230
		Depth	(mm)	798	798	798
	Ceiling panel	Height	(mm)	-	-	-
		Width	(mm)	-	-	-
		Depth	(mm)	-	-	-
Total weight	Main unit		(kg)	11	11	11
	Ceiling panel		(kg)	-	-	-
Heat exchanger				Finned tube		
Fan unit	Fan			Cross flow fan		
	Standard air flow	H/M/L	(m^3/hr)	455/370/300	455/370/300	480/385/300
	Motor		(W)	30	30	30
Air filte				Standard filter attached (Long life filter)		
Controller				WH-TA09NE	WH-TA09NE	WH-TA09NE
Sound pressure level	H/M/L		(dBA)	33/29/25	33/29/25	35/30/25
Sound power level	H/M/L		(dBA)	48/44/40	48/44/40	50/45/40
Connecting pipe	Gas side		(mm)	9.5	9.5	9.5
	Liquid		(mm)	6.4	6.4	6.4
	Drain port		(mm)	-		

Model name				MMK-UP0091HP-E(TR)	MMK-UP0121HP-E(TR)	MMK-UP0151HP-E(TR)
Cooling Capacity			(kW)	2.80	3.60	4.50
Heating Capacity			(kW)	3.20	4.00	5.00
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz		
	Running current		(A)	0.17	0.18	0.26
	Power consumption		(kW)	0.016	0.017	0.028
	Starting current		(A)	0.21	0.22	0.35
Appearance	Main unit			Gran White		
	Ceiling panel	Model name		-		
		Panel Color		-		
Outer diamension	Main unit	Height	(mm)	293	293	320
		Width	(mm)	230	230	250
		Depth	(mm)	798	798	1050
	Ceiling panel	Height	(mm)	-	-	-
		Width	(mm)	-	-	-
		Depth	(mm)	-	-	-
Total weight	Main unit		(kg)	11	11	16
	Ceiling panel		(kg)	-	-	-
Heat exchanger				Finned tube		
Fan unit	Fan			Cross flow fan		
	Standard air flow	H/M/L	(m^3/hr)	510/395/300	540/410/270	840/770/620
	Motor		(W)	30	30	30
Air filte				Standard filter attached (Long life filter)		
Controller				WH-TA09NE	WH-TA09NE	WH-TA09NE
Sound pressure level	H/M/L		(dBA)	36/31/25	37/32/25	40/36/32
Sound power level	H/M/L		(dBA)	51/46/40	52/47/40	55/51/47
Connecting pipe	Gas side		(mm)	9.5	9.5	12.7
	Liquid		(mm)	6.4	6.4	6.4
	Drain port		(mm)	-		

Model name				MMK-UP0181HP-E(TR)	MMK-UP0241HP-E(TR)
Cooling Capacity			(kW)	5.60	7.10
Heating Capacity			(kW)	6.30	8.00
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz	
	Running current		(A)	0.29	0.42
	Power consumption		(kW)	0.032	0.050
	Starting current		(A)	0.38	0.5
Appearance	Main unit			Gran White	
	Ceiling panel	Model name		-	
		Panel Color		-	
Outer diamension	Main unit	Height	(mm)	320	320
		Width	(mm)	250	250
		Depth	(mm)	1050	1050
	Ceiling panel	Height	(mm)	-	-
		Width	(mm)	-	-
		Depth	(mm)	-	-
Total weight	Main unit		(kg)	16	16
	Ceiling panel		(kg)	-	-
Heat exchanger				Finned tube	
Fan unit	Fan			Cross flow fan	
	Standard air flow	H/M/L	(m^3/hr)	900/750/640	1200/940/750
	Motor		(W)	30	30
Air filte				Standard filter attached (Long life filter)	
Controller				WH-TA09NE	WH-TA09NE
Sound pressure level		H/M/L	(dBA)	41/37/32	45/39/33
Sound power level		H/M/L	(dBA)	56/52/47	60/54/48
Connecting pipe		Gas side	(mm)	12.7	15.8
		Liquid	(mm)	6.4	9.5
		Drain port	(mm)	-	

High wall (PMV less) type

Model name				MMK-UP0031HPL-E(TR)	MMK-UP0051HPL-E(TR)	MMK-UP0071HPL-E(TR)
Cooling Capacity			(kW)	0.90	1.70	2.20
Heating Capacity			(kW)	1.30	1.90	2.50
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz		
	Running current		(A)	0.15	0.15	0.16
	Power consumption		(kW)	0.013	0.013	0.015
	Starting current		(A)	0.19	0.19	0.2
Appearance	Main unit			Gran White		
	Ceiling panel	Model name		-		
		Panel Color		-		
Outer diamension	Main unit	Height	(mm)	293	293	293
		Width	(mm)	230	230	230
		Depth	(mm)	798	798	798
	Ceiling panel	Height	(mm)	-	-	-
		Width	(mm)	-	-	-
		Depth	(mm)	-	-	-
Total weight	Main unit		(kg)	11	11	11
	Ceiling panel		(kg)	-	-	-
Heat exchanger				Finned tube		
Fan unit	Fan			Cross flow fan		
	Standard air flow	H/M/L	(m^3/hr)	455/370/300	455/370/300	480/385/300
	Motor		(W)	30	30	30
Air filte				Standard filter attached (Long life filter)		
Controller				WH-TA09NE	WH-TA09NE	WH-TA09NE
Sound pressure level	H/M/L		(dBA)	33/29/25	33/29/25	35/30/25
Sound power level	H/M/L		(dBA)	48/44/40	48/44/40	50/45/40
Connecting pipe	Gas side		(mm)	9.5	9.5	9.5
	Liquid		(mm)	6.4	6.4	6.4
	Drain port		(mm)	-		

Model name				MMK-UP0091HPL-E(TR)	MMK-UP0121HPL-E(TR)	MMK-UP0151HPL-E(TR)
Cooling Capacity			(kW)	2.80	3.60	4.50
Heating Capacity			(kW)	3.20	4.00	5.00
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz		
	Running current		(A)	0.17	0.18	0.26
	Power consumption		(kW)	0.016	0.017	0.028
	Starting current		(A)	0.21	0.22	0.35
Appearance	Main unit			Gran White		
	Ceiling panel	Model name		-		
		Panel Color		-		
Outer diamension	Main unit	Height	(mm)	293	293	320
		Width	(mm)	230	230	250
		Depth	(mm)	798	798	1050
	Ceiling panel	Height	(mm)	-	-	-
		Width	(mm)	-	-	-
		Depth	(mm)	-	-	-
Total weight	Main unit		(kg)	11	11	16
	Ceiling panel		(kg)	-	-	-
Heat exchanger				Finned tube		
Fan unit	Fan			Cross flow fan		
	Standard air flow	H/M/L	(m^3/hr)	510/395/300	540/410/270	840/770/620
	Motor		(W)	30	30	30
Air filte				Standard filter attached (Long life filter)		
Controller				WH-TA09NE	WH-TA09NE	WH-TA09NE
Sound pressure level	H/M/L		(dBA)	36/31/25	37/32/25	40/36/32
Sound power level	H/M/L		(dBA)	51/46/40	52/47/40	55/51/47
Connecting pipe	Gas side		(mm)	9.5	9.5	12.7
	Liquid		(mm)	6.4	6.4	6.4
	Drain port		(mm)	-		

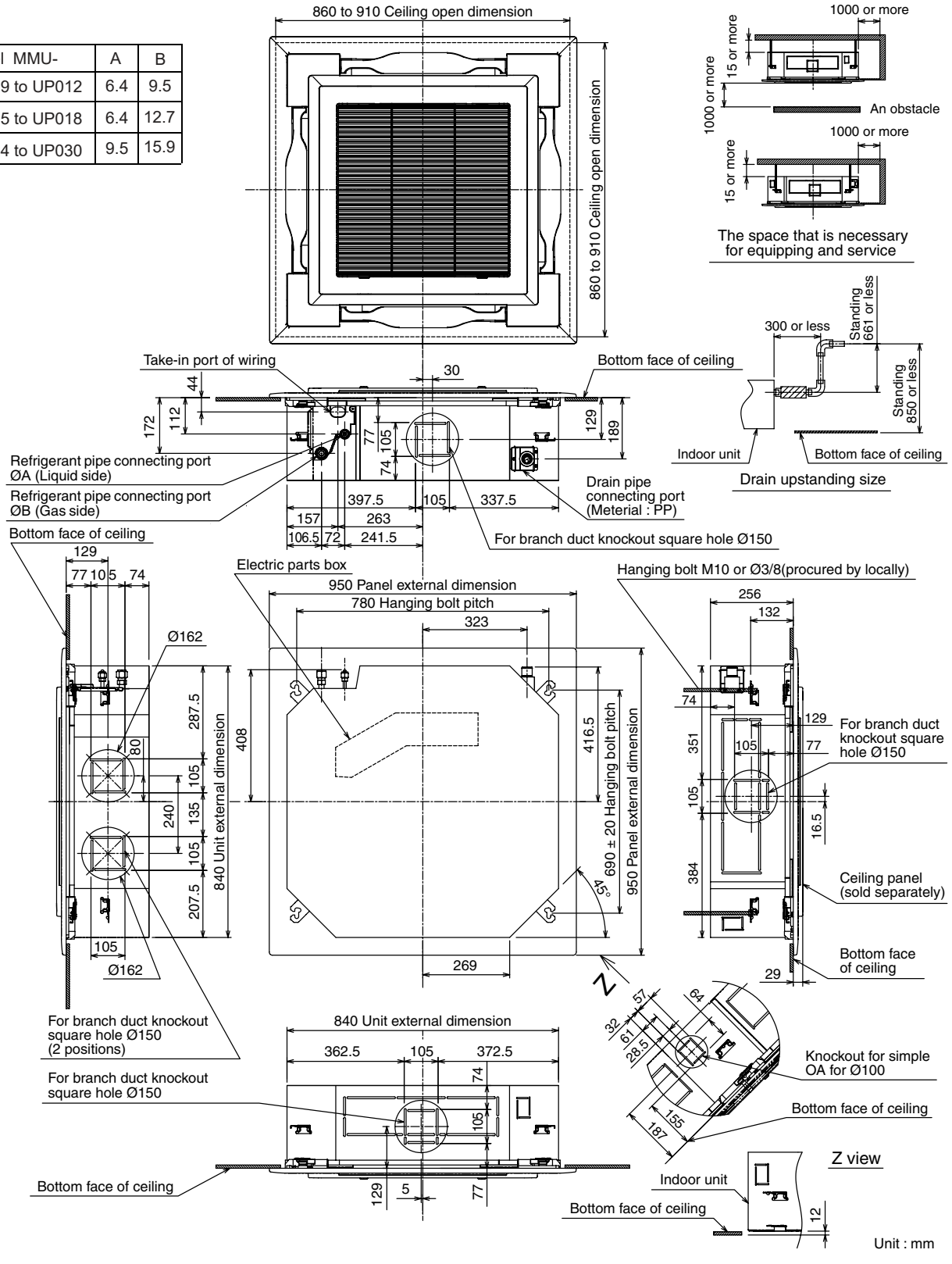
Model name				MMK-UP0181HPL-E(TR)	MMK-UP0241HPL-E(TR)
Cooling Capacity			(kW)	5.60	7.10
Heating Capacity			(kW)	6.30	8.00
Electrical characteristics	Power supply			220-240V~50Hz. & 208-230V~60Hz	
	Running current		(A)	0.29	0.42
	Power consumption		(kW)	0.032	0.050
	Starting current		(A)	0.38	0.5
Appearance	Main unit			Gran White	
	Ceiling panel	Model name		-	
		Panel Color		-	
Outer diamension	Main unit	Height	(mm)	320	320
		Width	(mm)	250	250
		Depth	(mm)	1050	1050
	Ceiling panel	Height	(mm)	-	-
		Width	(mm)	-	-
		Depth	(mm)	-	-
Total weight	Main unit		(kg)	16	16
	Ceiling panel		(kg)	-	-
Heat exchanger				Finned tube	
Fan unit	Fan			Cross flow fan	
	Standard air flow	H/M/L	(m^3/hr)	900/750/640	1200/940/750
	Motor		(W)	30	30
Air filte				Standard filter attached (Long life filter)	
Controller				WH-TA09NE	WH-TA09NE
Sound pressure level	H/M/L		(dBA)	41/37/32	45/39/33
Sound power level	H/M/L		(dBA)	56/52/47	60/54/48
Connecting pipe	Gas side		(mm)	12.7	15.8
	Liquid		(mm)	6.4	9.5
	Drain port		(mm)	-	

2. CONSTRUCTION VIEWS (EXTERNAL VIEWS)

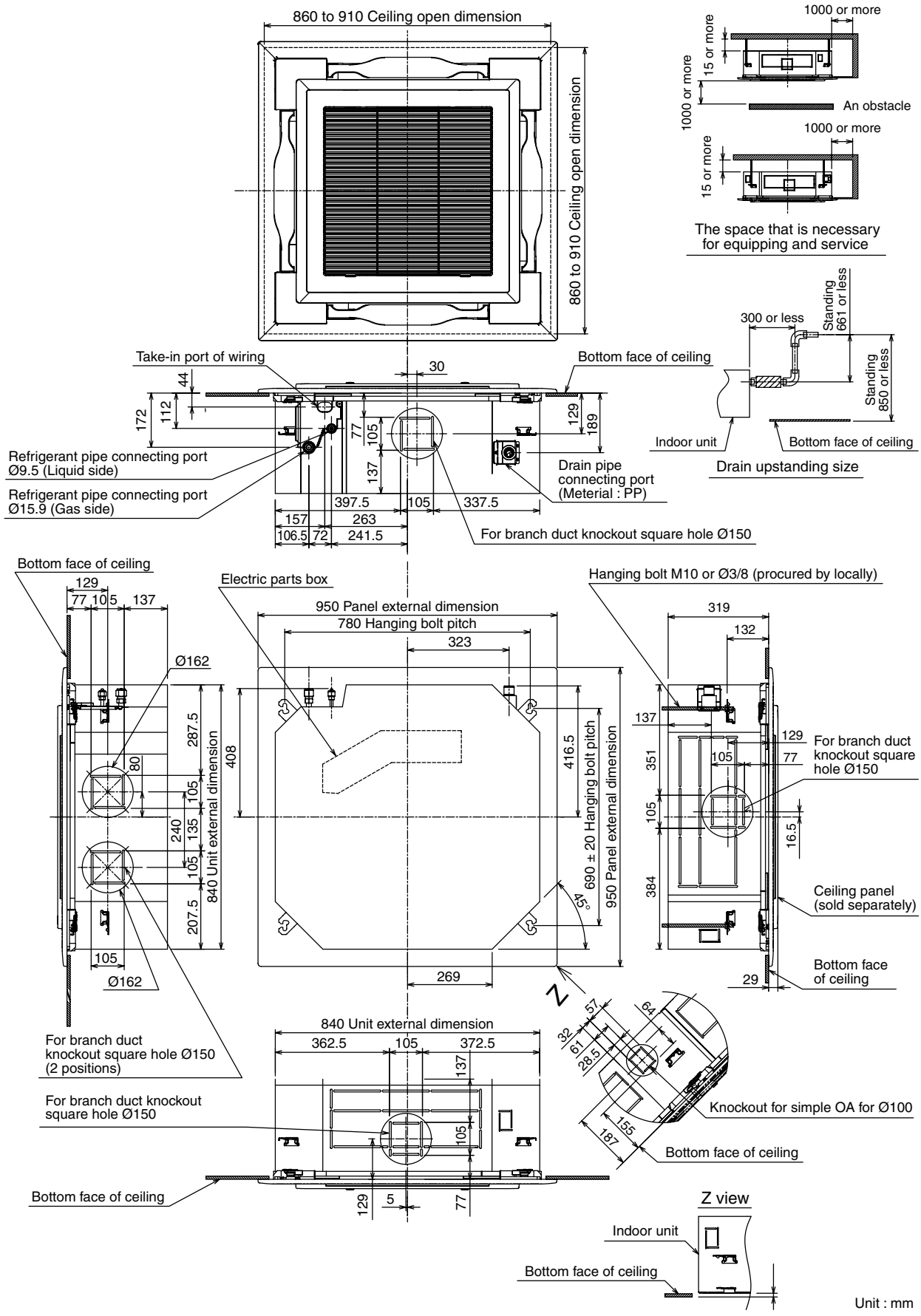
2-1. 4-way cassette type

MMU-UP0091HP-E(TR), MMU-UP0121HP-E(TR), MMU-UP0151HP-E(TR), MMU-UP0181HP-E(TR), MMU-UP0241HP-E(TR), MMU-UP0271HP-E(TR), MMU-UP0301HP-E(TR)

Model MMU-	A	B
UP009 to UP012	6.4	9.5
UP015 to UP018	6.4	12.7
UP024 to UP030	9.5	15.9

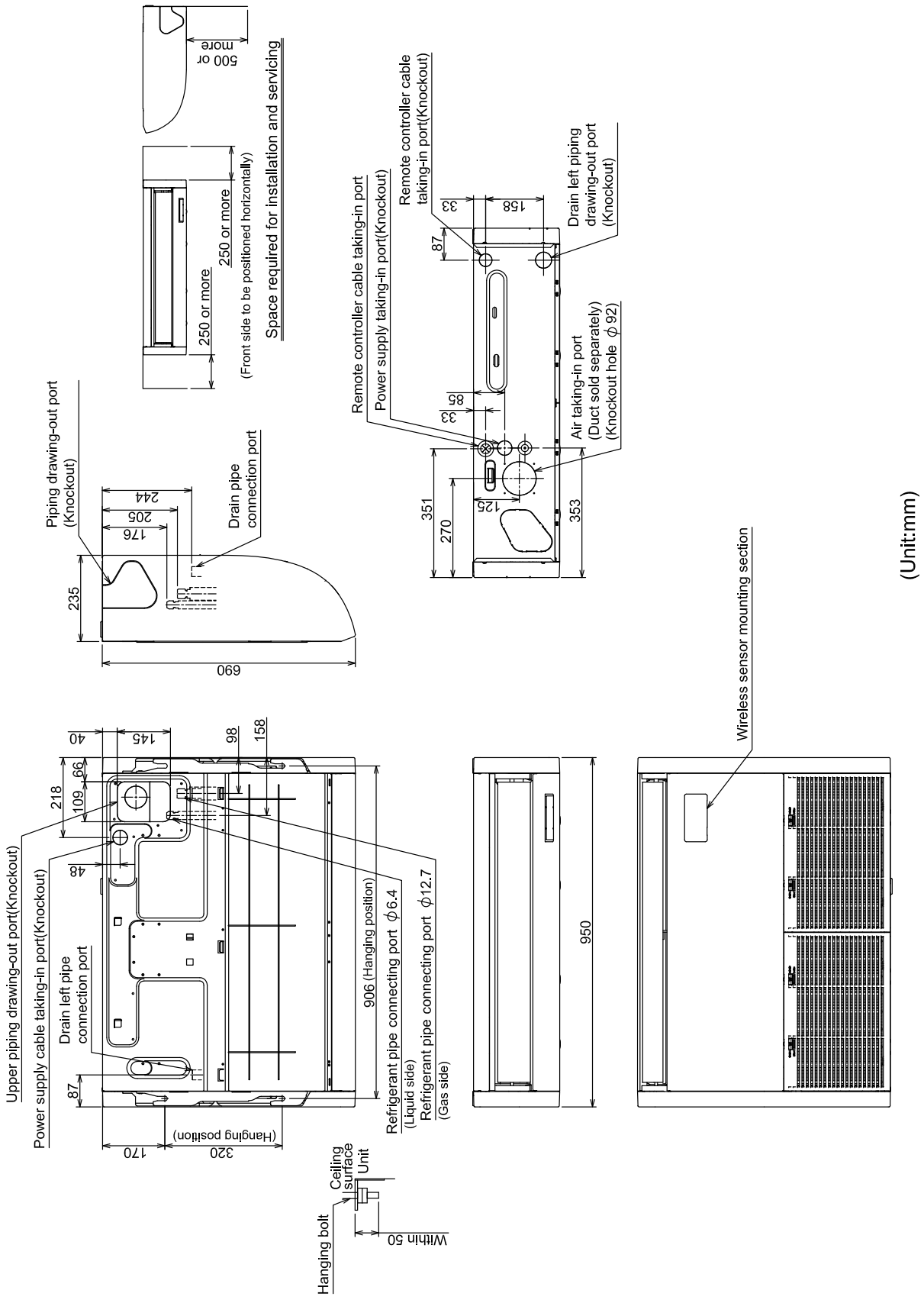


MMU-UP0361HP-E(TR), MMU-UP0481HP-E(TR), MMU-UP0561HP-E(TR)

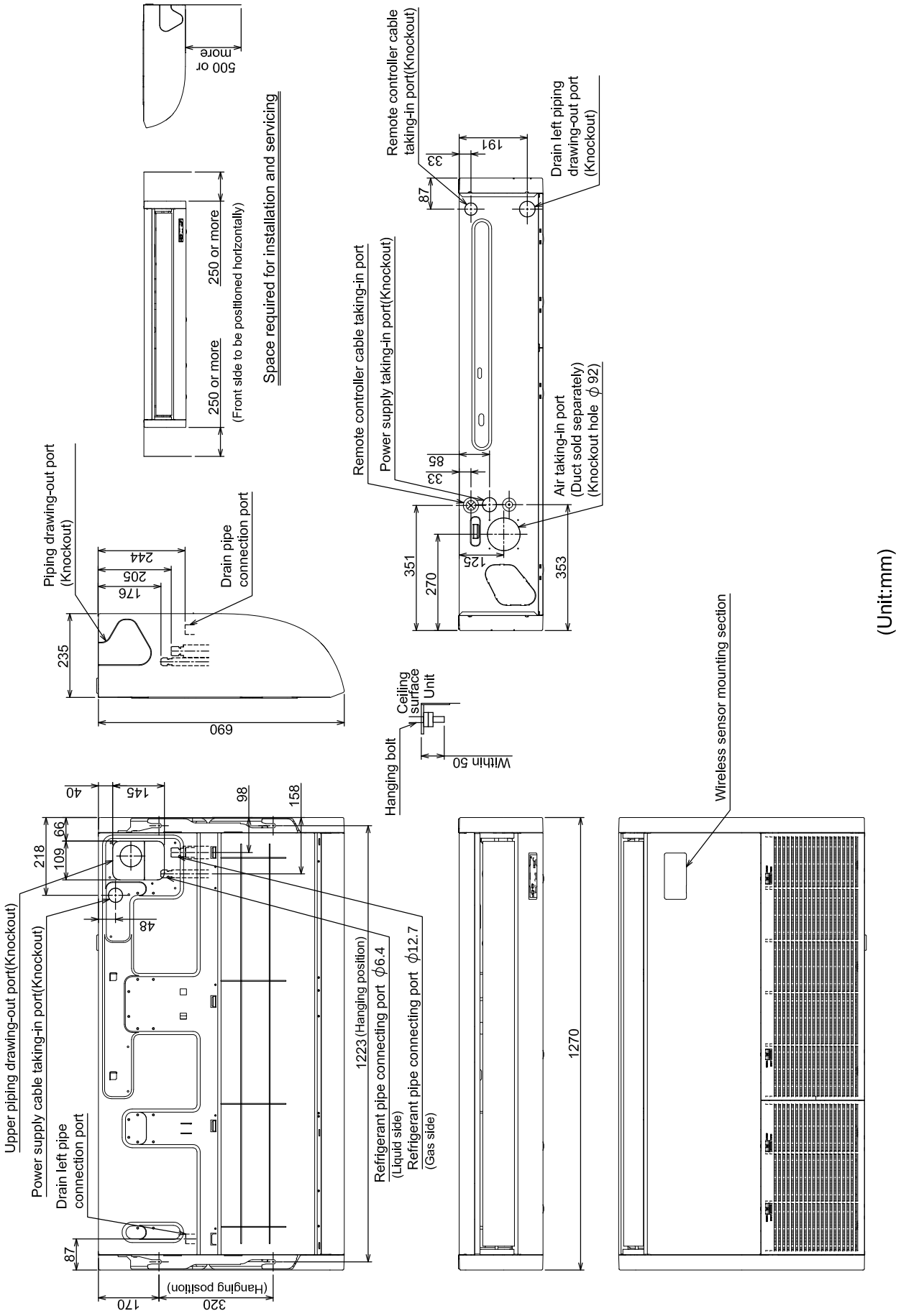


2-2. Ceiling type

MMC-UP0151HP-E(TR), MMC-UP0181HP-E(TR)

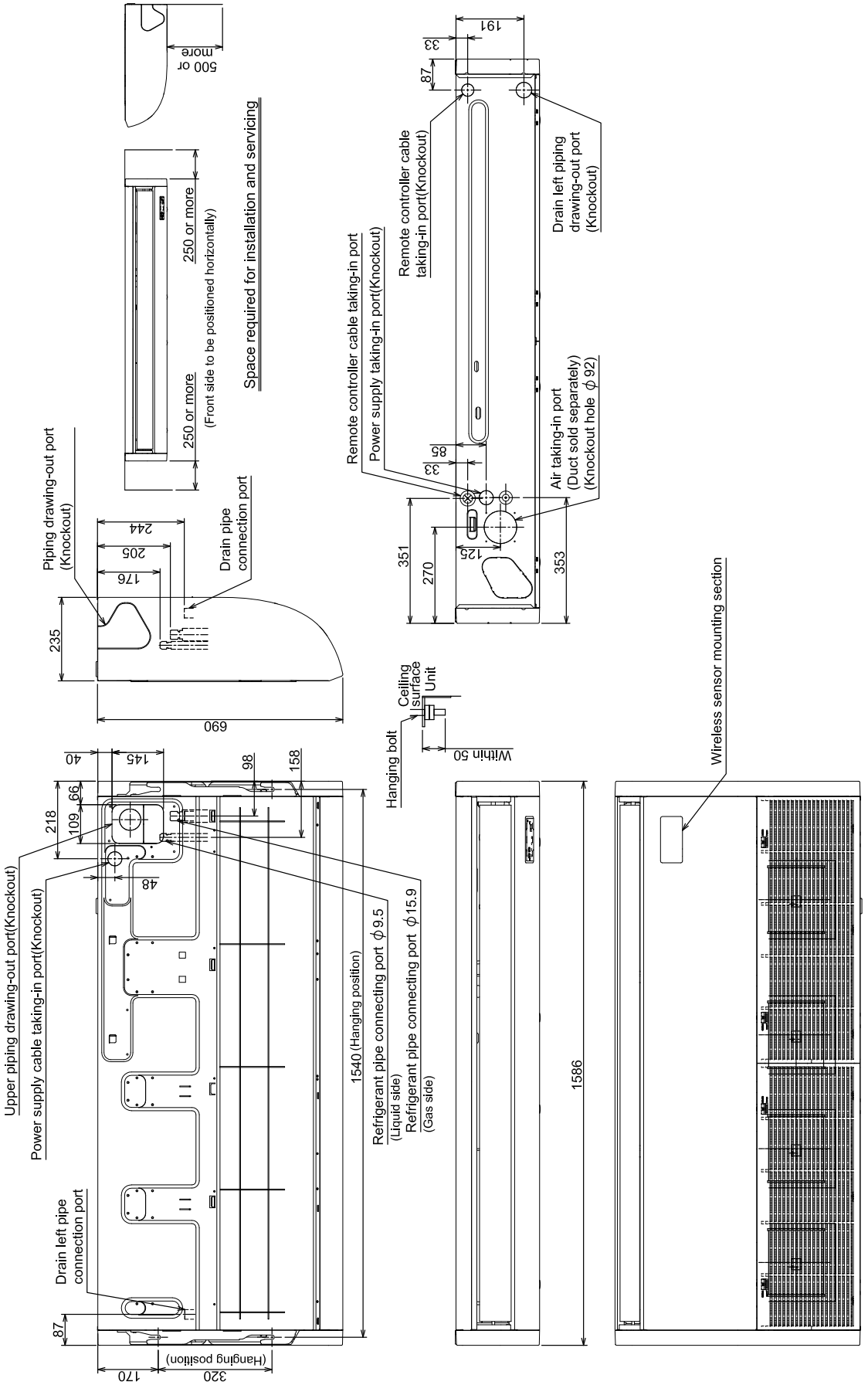


MMC-UP0241HP-E(TR), MMC-UP0271HP-E(TR)



(Unit:mm)

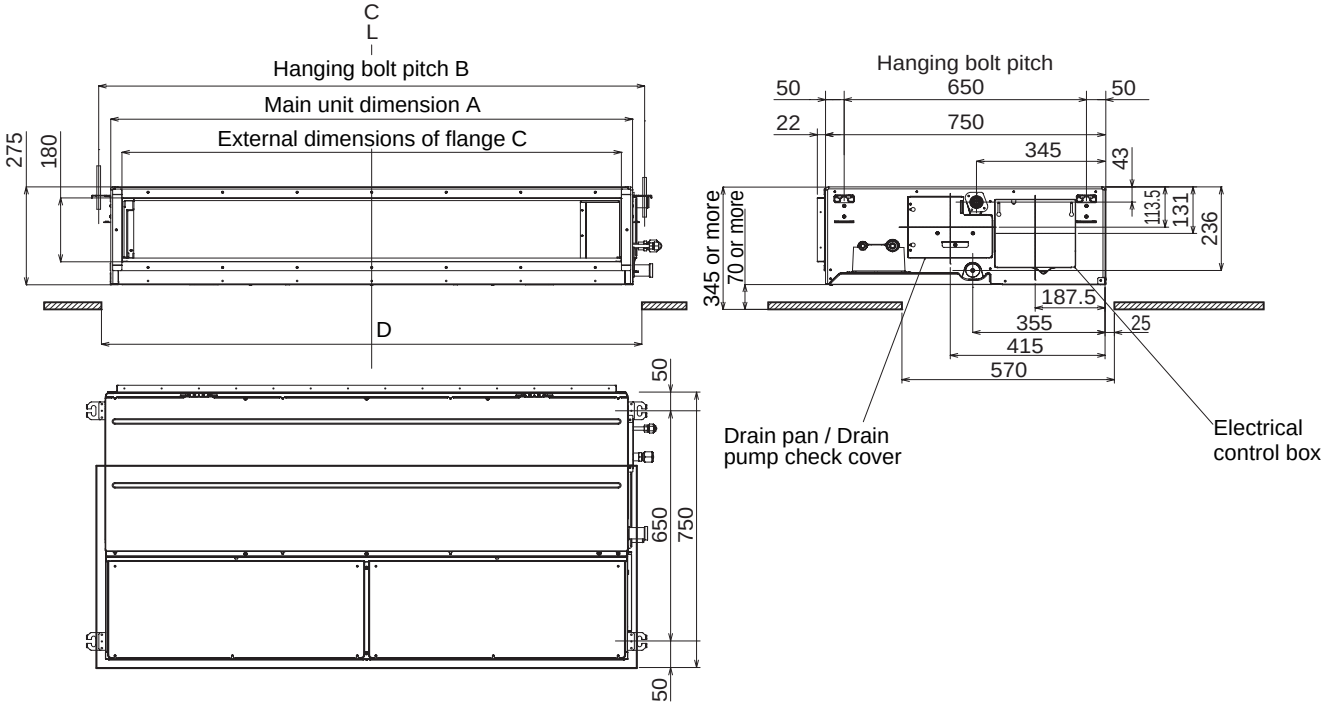
MMC-UP0361HP-E(TR), MMC-UP0481HP-E(TR), MMC-UP0561HP-E(TR)



(Unit:mm)

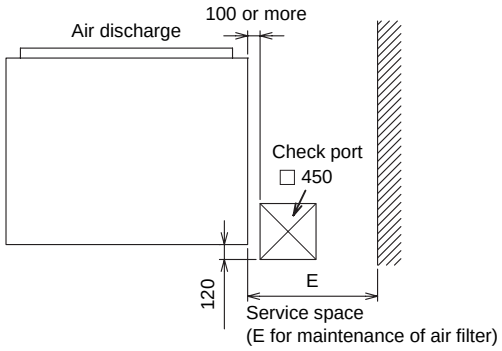
2-3. Concealed Duct Standard type

MMD-UP0051BHP-E, MMD-UP0071BHP-E(TR), MMD-UP0091BHP-E(TR), MMD-UP0121BHP-E(TR), MMD-UP0151BHP-E(TR), MMD-UP0181BHP-E(TR), MMD-UP0241BHP-E(TR), MMD-UP0271BHP-E(TR), MMD-UP0301BHP-E(TR), MMD-UP0361BHP-E(TR), MMD-UP0481BHP-E(TR), MMD-UP0561BHP-E(TR)



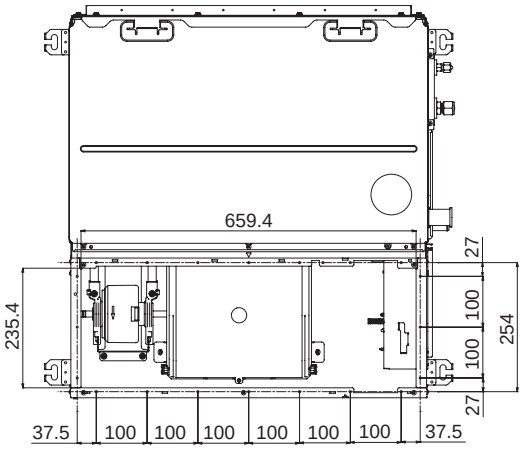
Dimension

	A	B	C	D	E
UP005 ~ 018 type	700	765	640	750	700
UP024 ~ 030 type	1000	1065	940	1050	500
UP036 ~ 056 type	1400	1465	1340	1450	700

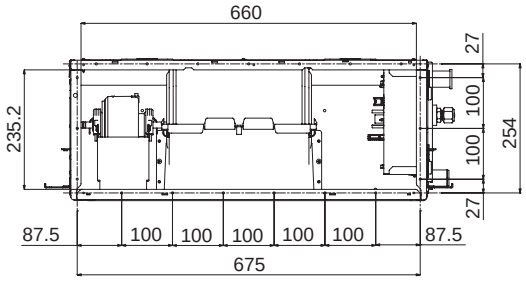


UP005 ~ UP018 type

<Under air intake>

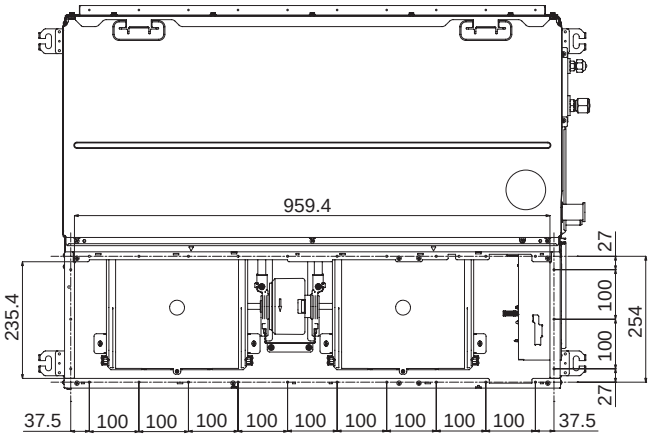


<Back air intake>

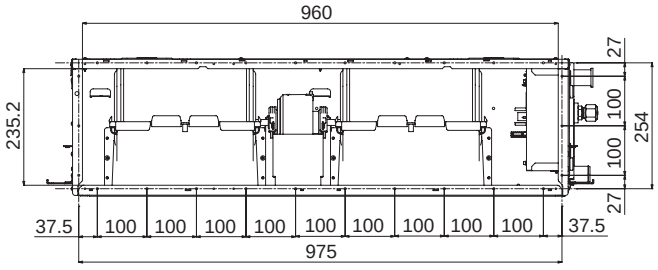


UP024 ~ UP030 type

<Under air intake>

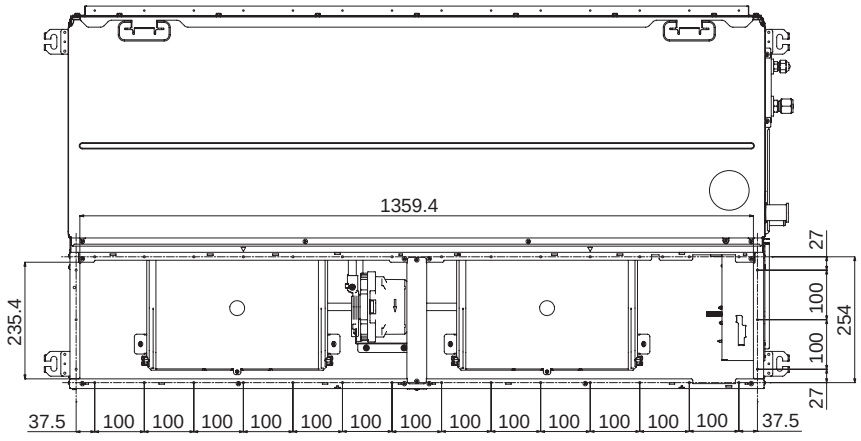


<Back air intake>

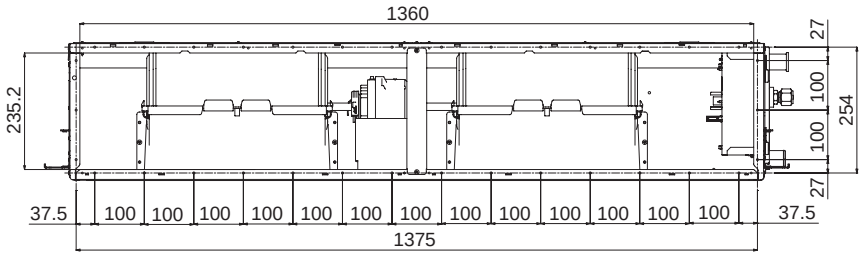


UP036 ~ UP056 type

<Under air intake>

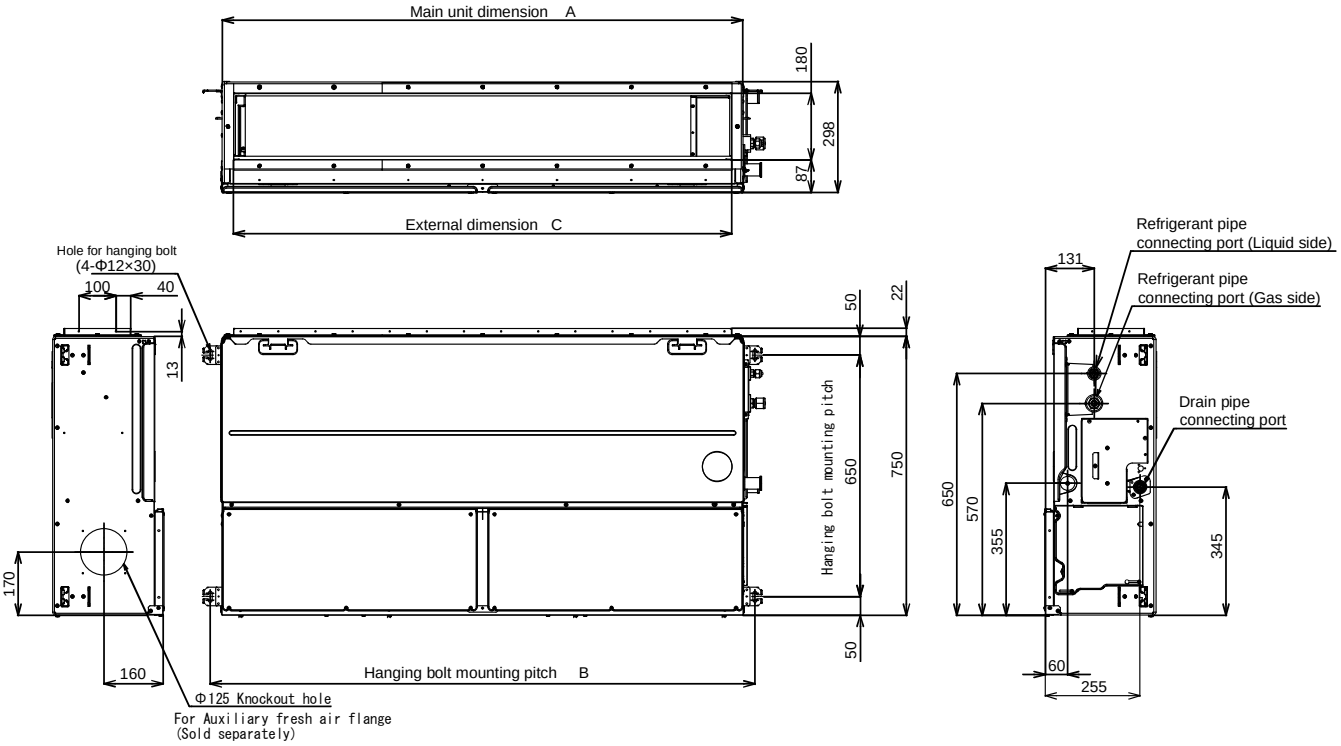


<Back air intake>



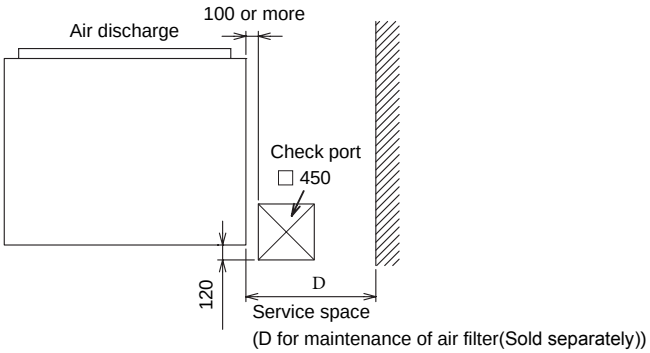
2-4. Concealed Duct High Static Pressure type

MMD-UP0181HP-E(TR), MMD-UP0241HP-E(TR), MMD-UP0271HP-E(TR), MMD-UP0361HP-E(TR), MMD-UP0481HP-E(TR), MMD-UP0561HP-E(TR)



Dimension

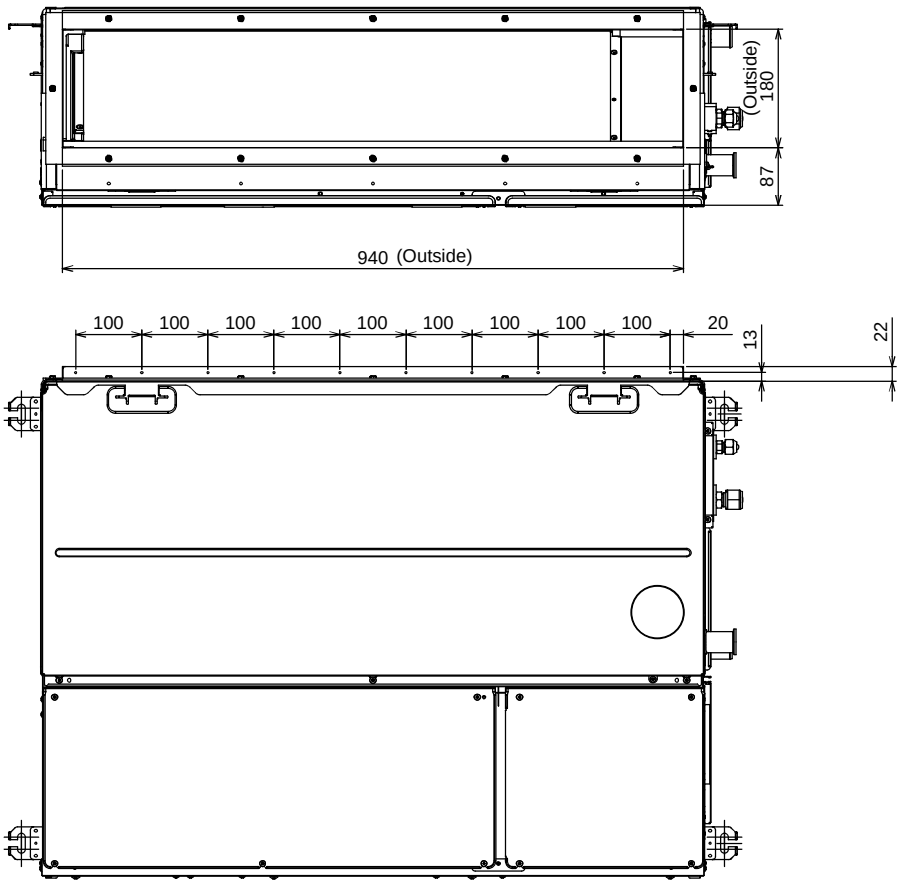
	A	B	C	D
AP018~027 type	1000	1065	940	500
AP036~056 type	1400	1465	1340	700



Duct arrangement

UP0181, UP0241, UP0271

<Air outlet>



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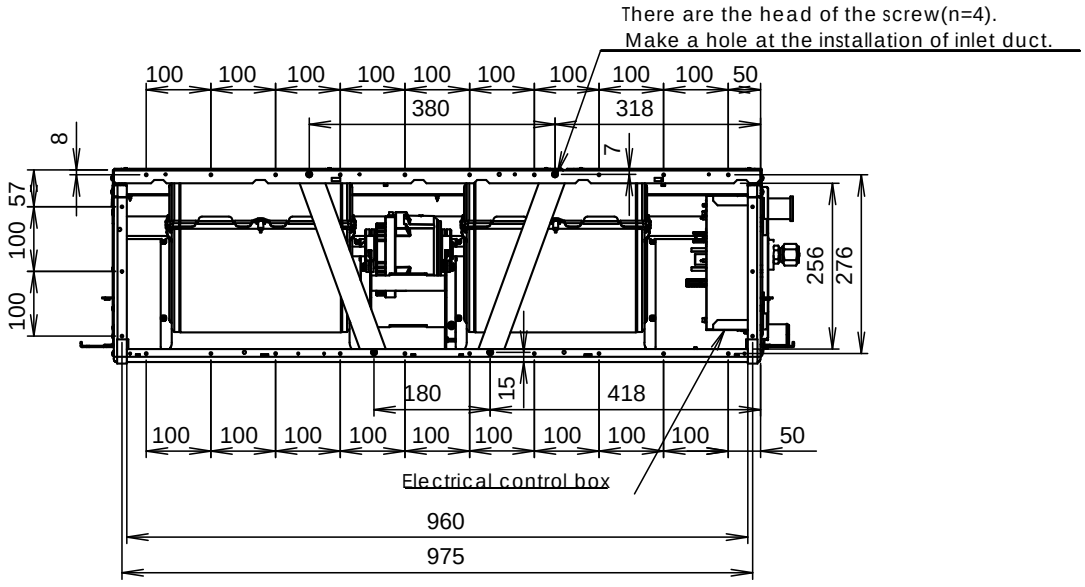
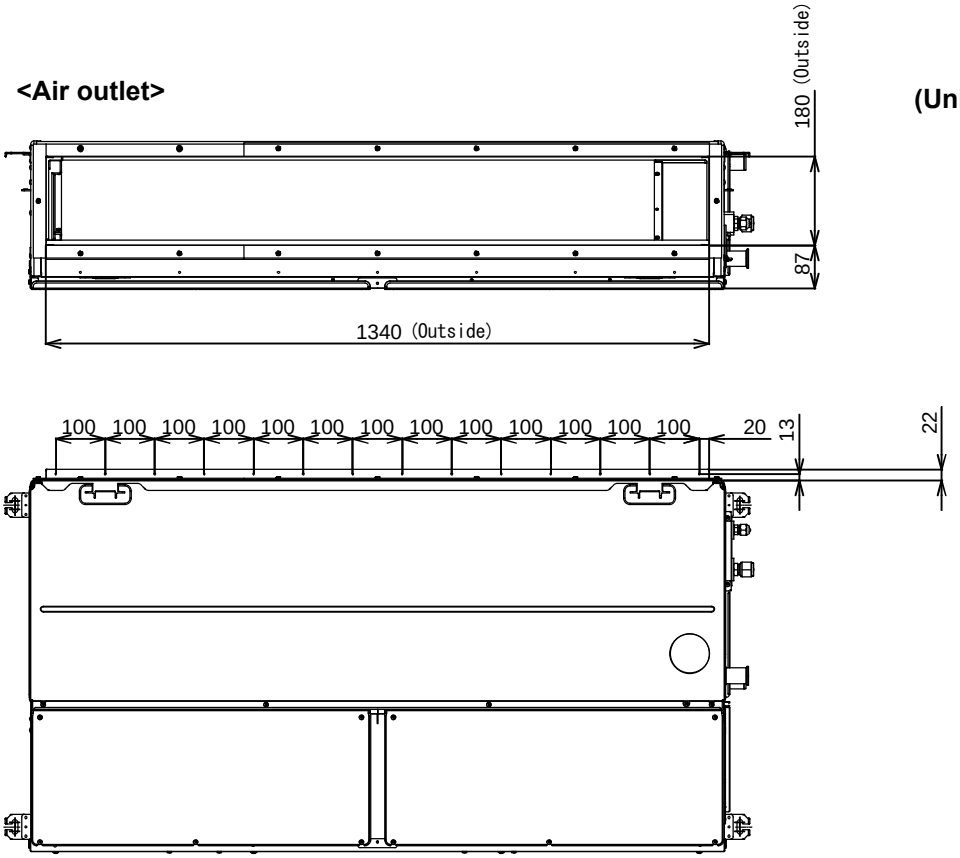


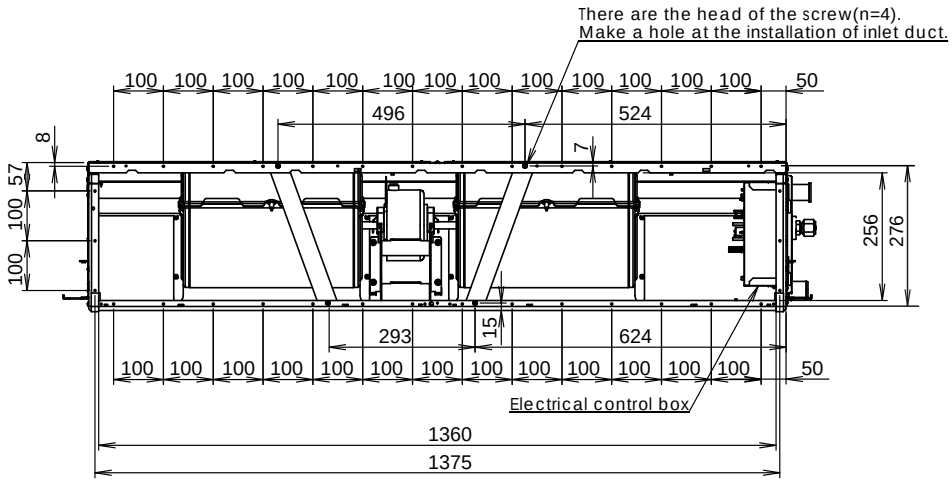
UP0361, IP0481, UP0561

<Air outlet>

(Unit : mm)

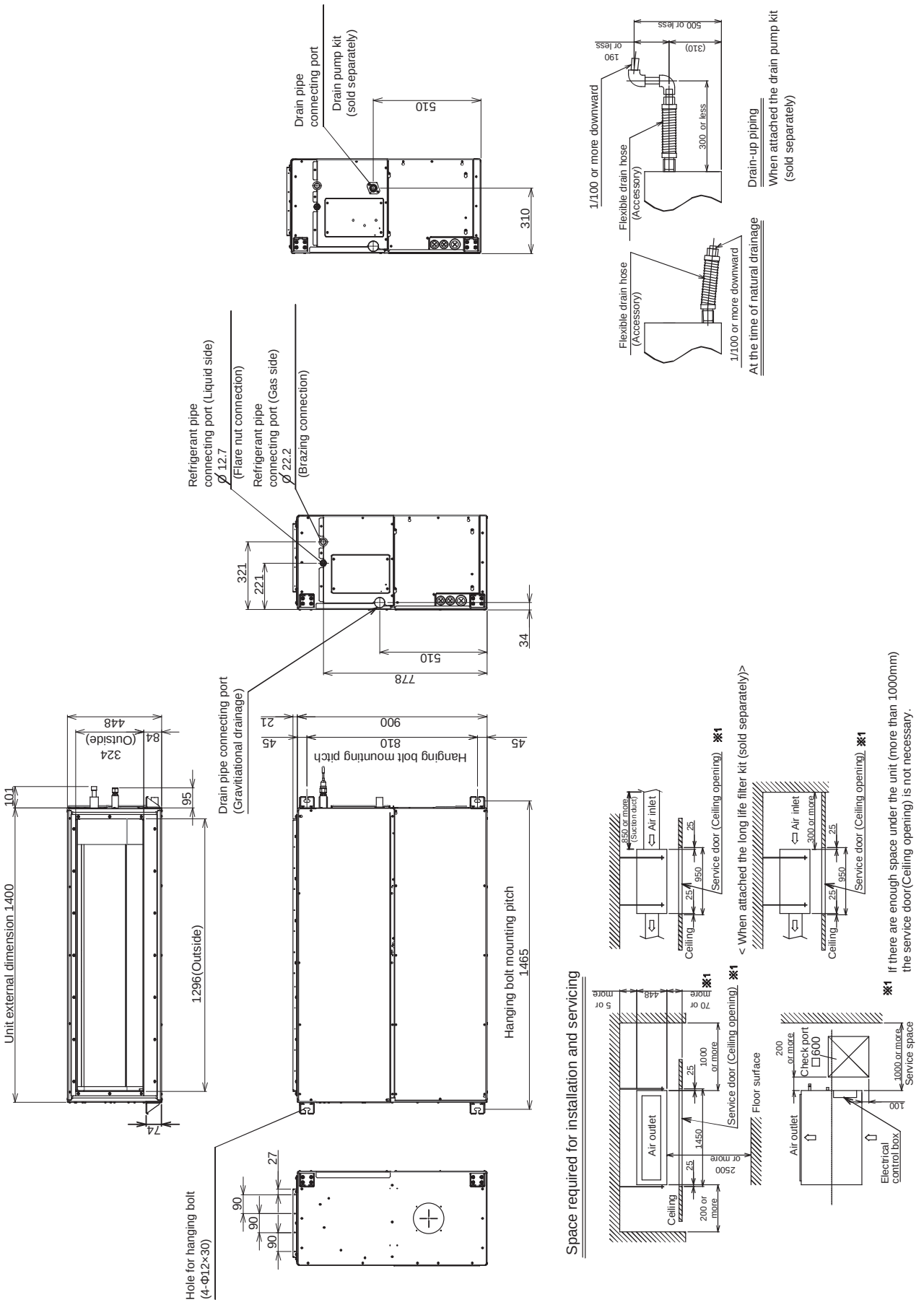


<Air inlet>



MMD-UP0721HP-E(TR), MMD-UP0961HP-E(TR)

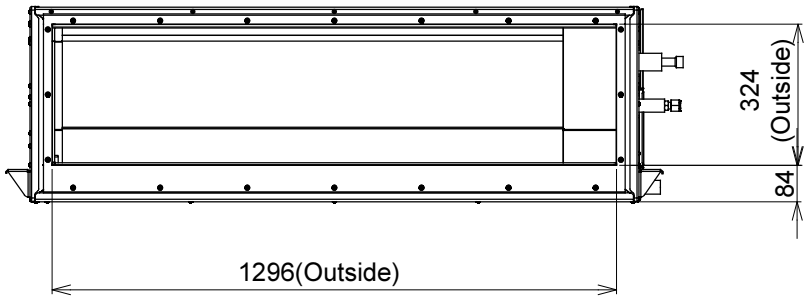
Unit : mm

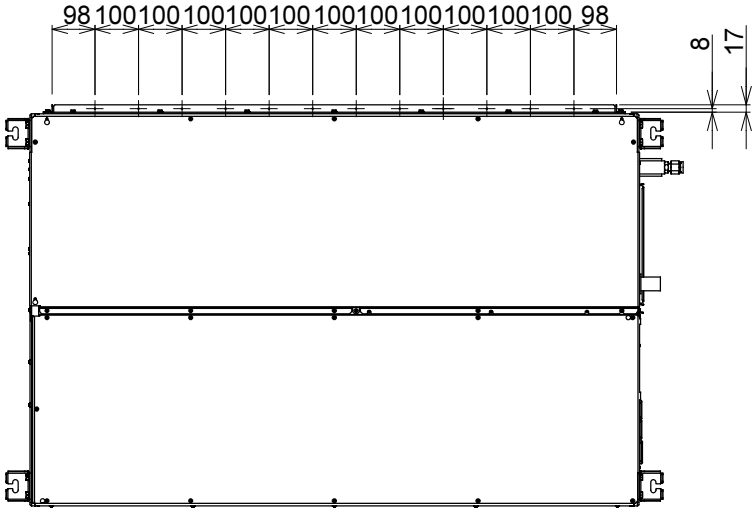


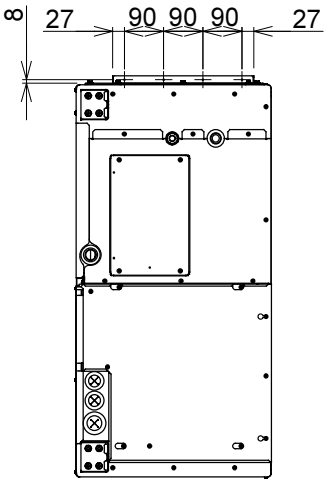
Duct arrangement

Unit : mm

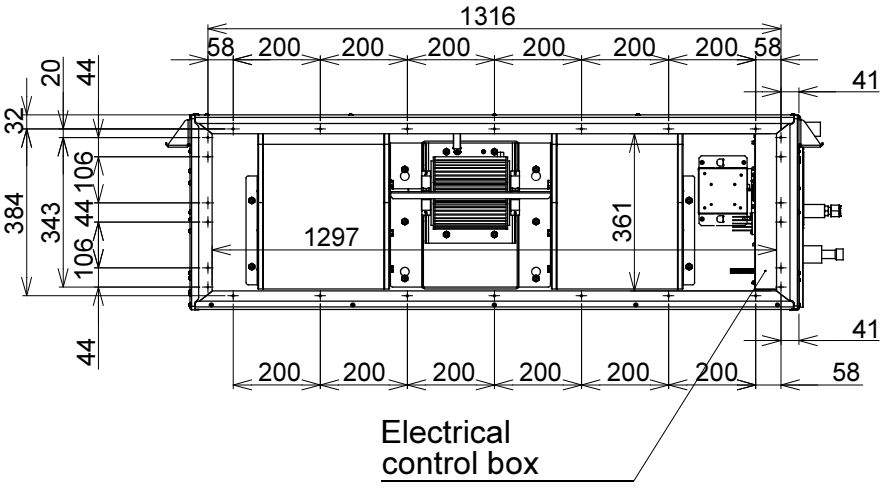
<Air outlet>





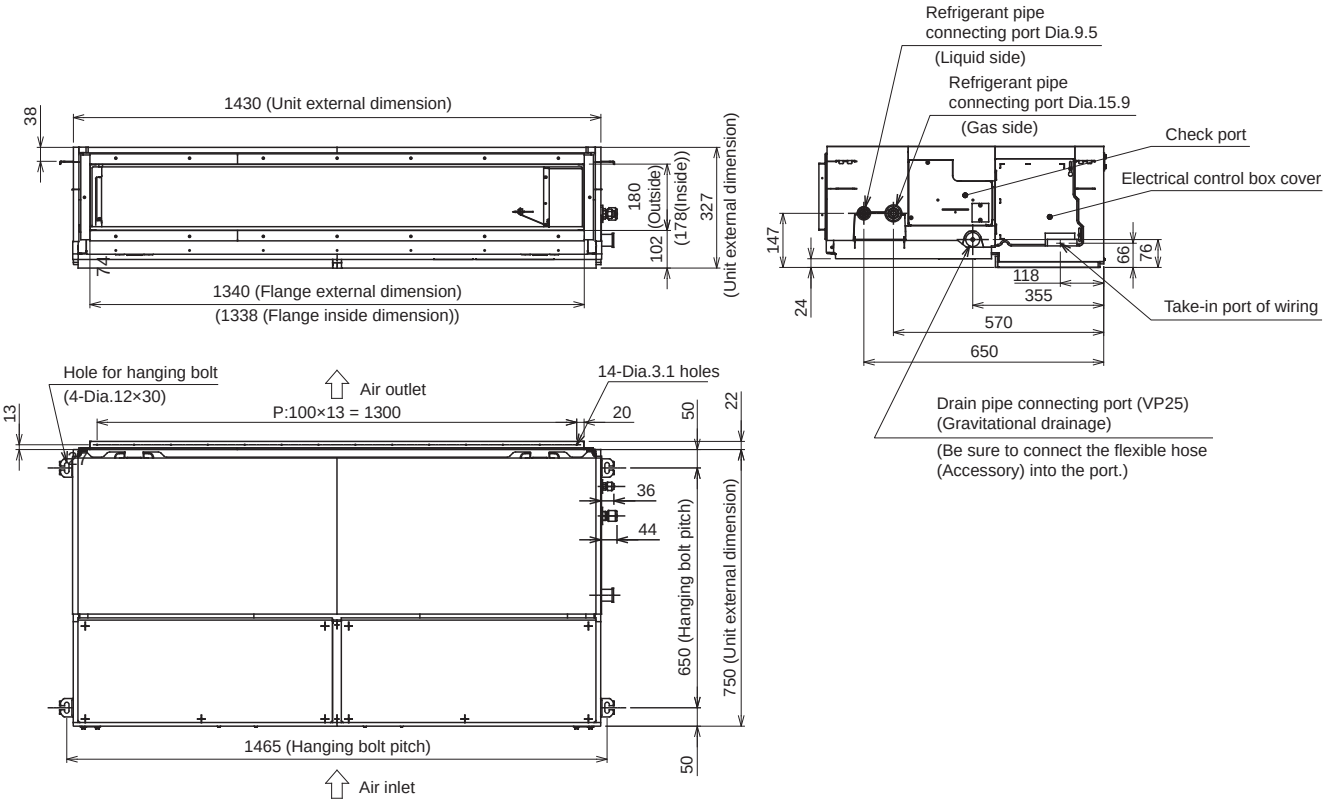


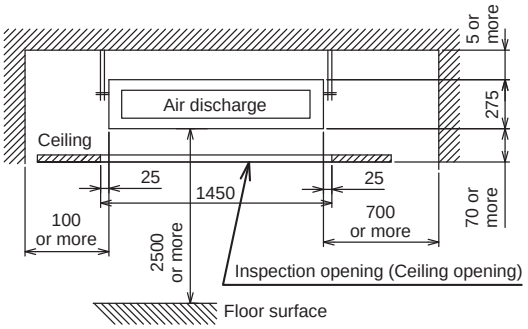
<Air inlet>

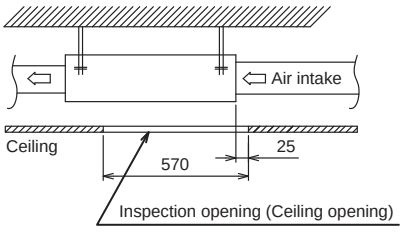


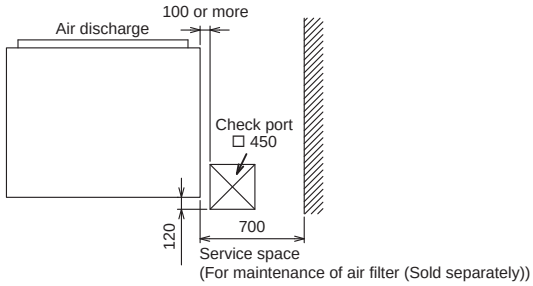
2-5. Concealed Duct High Static Pressure fresh air intake type

MMD-UP0481HFP-E(TR)

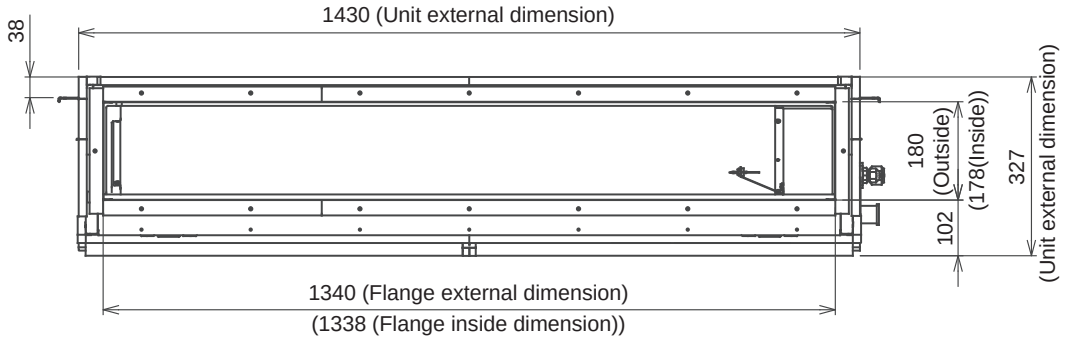


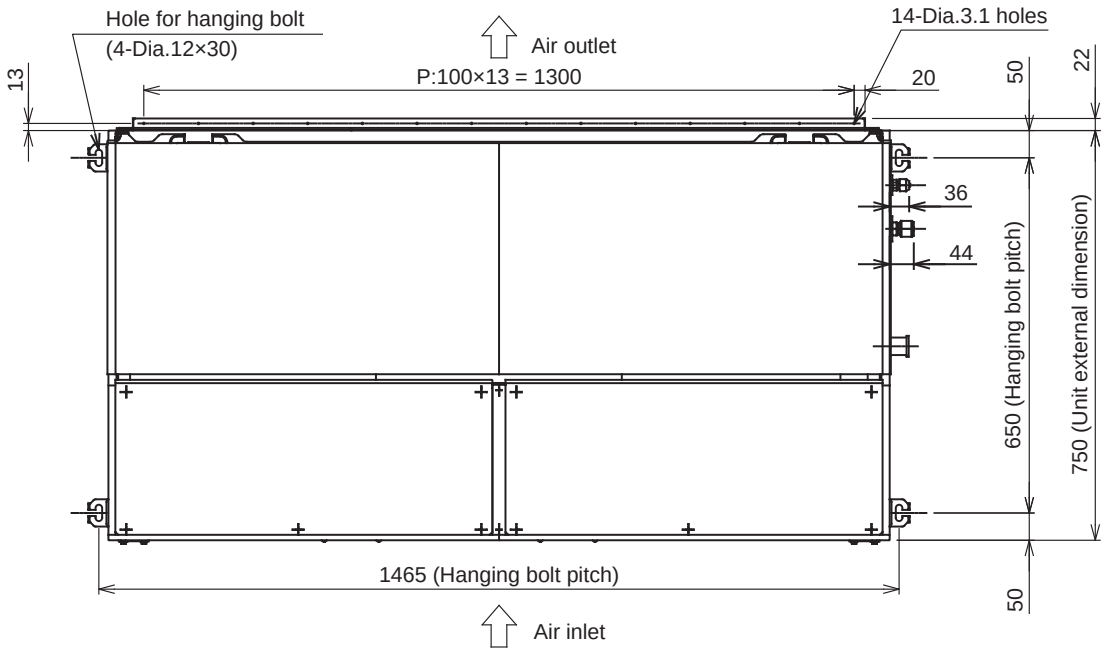


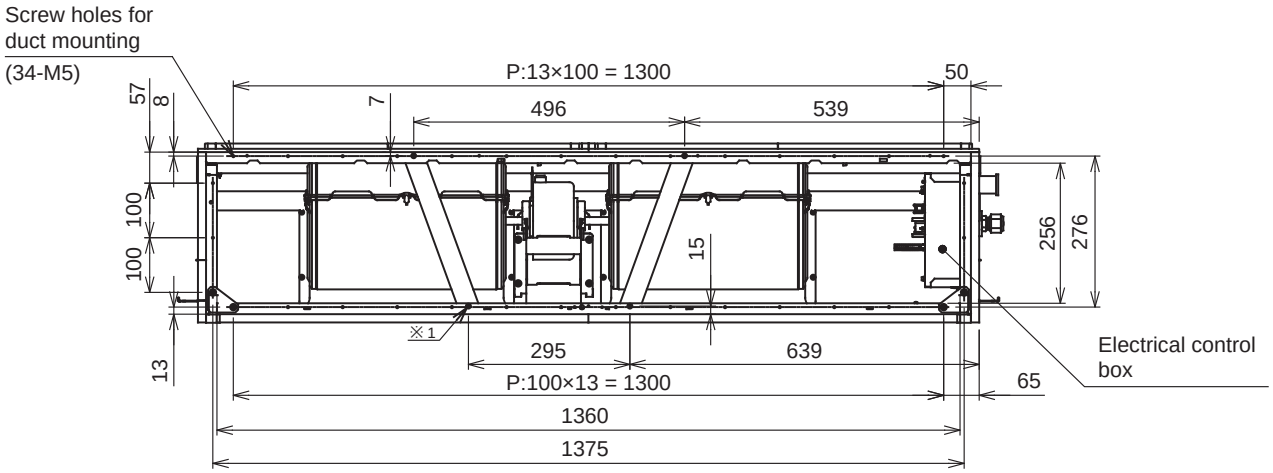




<Air outlet>

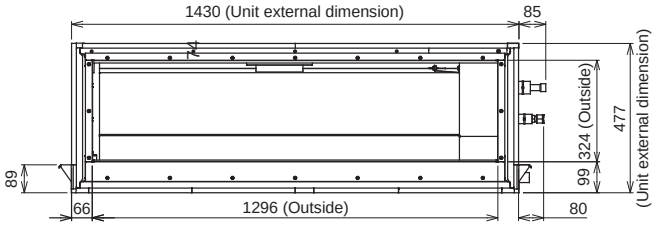


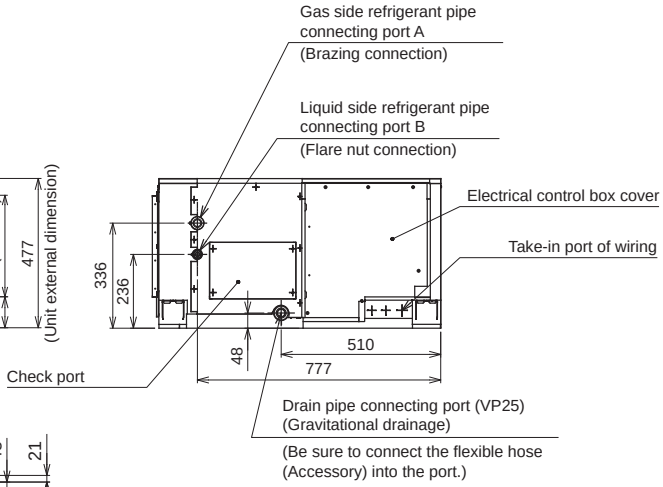


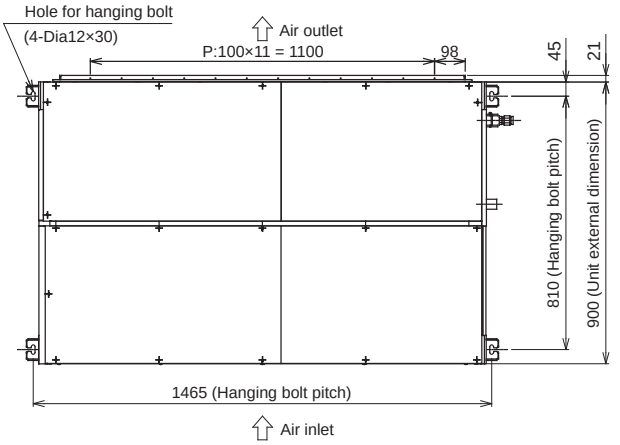


※1) When attached the duct at air inlet, make holes in the duct and do not interfere in it.
The screw head (4 places) is convex.

MMD-UP0721HFP-E(TR), MMD-UP0961HFP-E(TR), MMD-UP1121HFP-E(TR), MMD-UP1281HFP-E(TR)

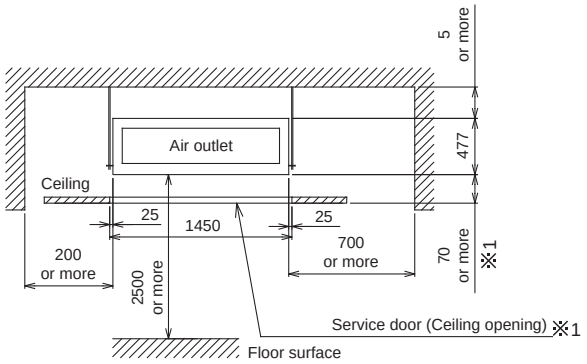


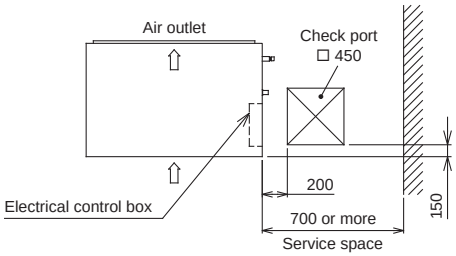


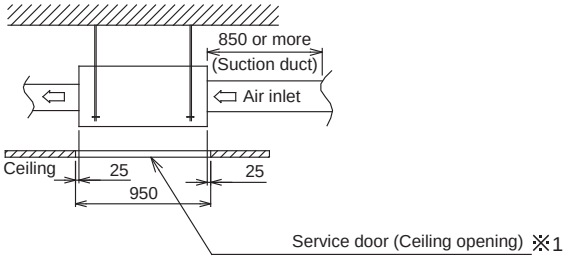


Connecting pipe size

Model	Pipe size		Remarks
0721 0961	A(Gas)	Dia22.2	
	B(Liquid)	Dia12.7	
1121	A(Gas)	Dia28.6	Use the SOCKET(Accessory)
	B(Liquid)	Dia12.7	
1281	A(Gas)	Dia28.6	Use the SOCKET(Accessory)
	B(Liquid)	Dia15.9	Use the LIQUID JOINT PIPE(Accessory)

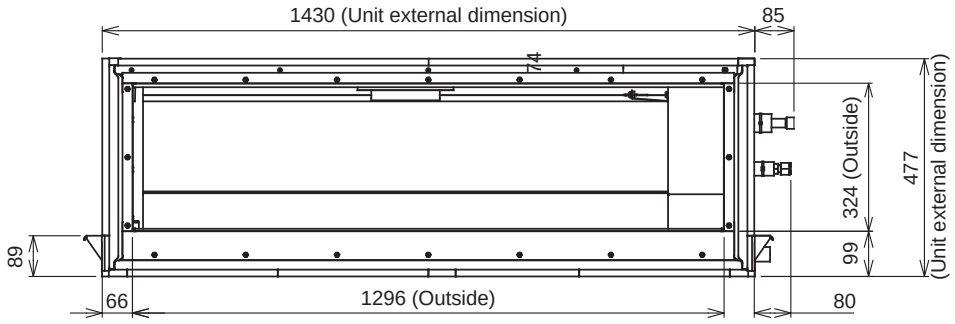


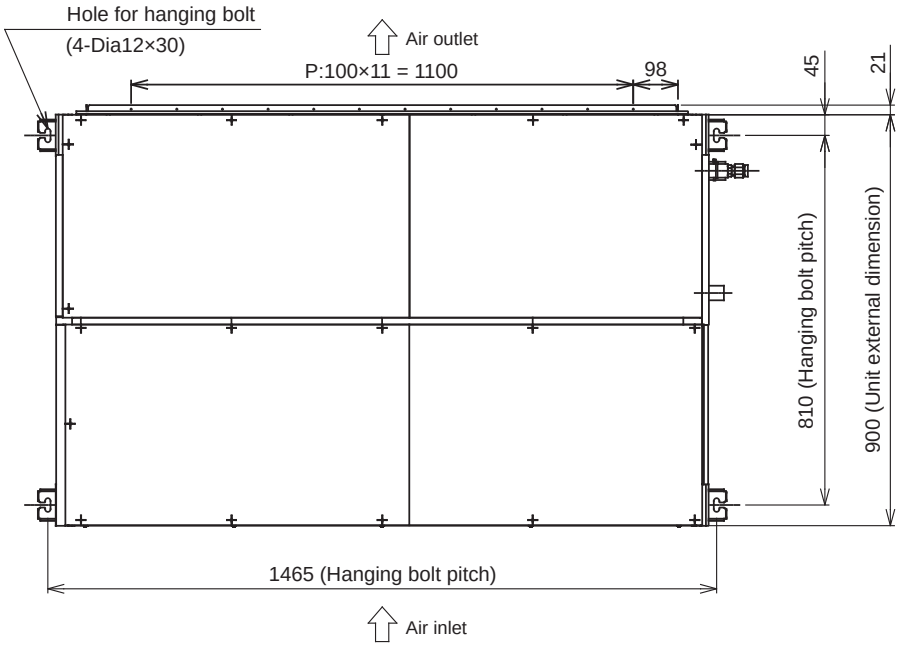


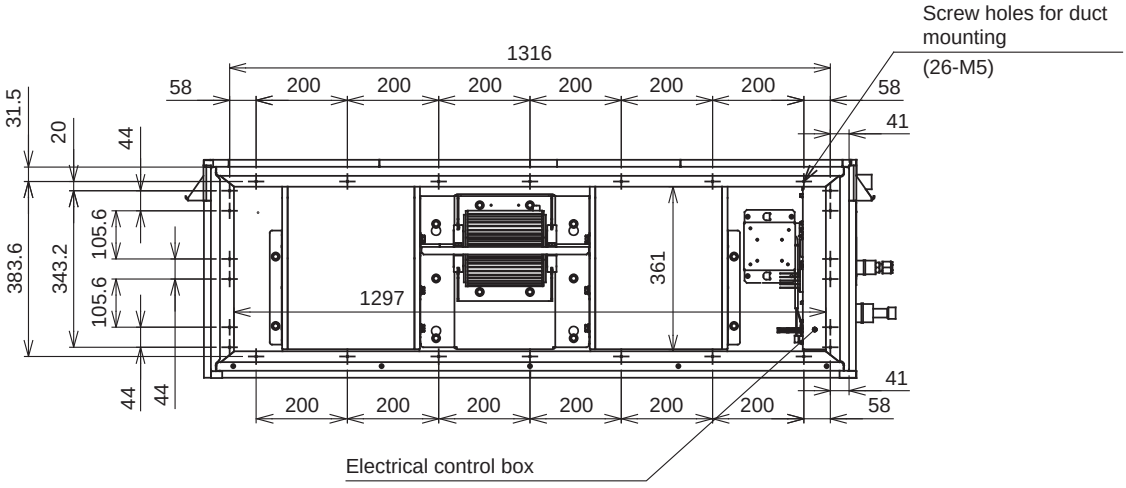


※1 If there are enough space under the unit (more than 1000 mm) the service door (Ceiling opening) is not necessary.

<Air outlet>

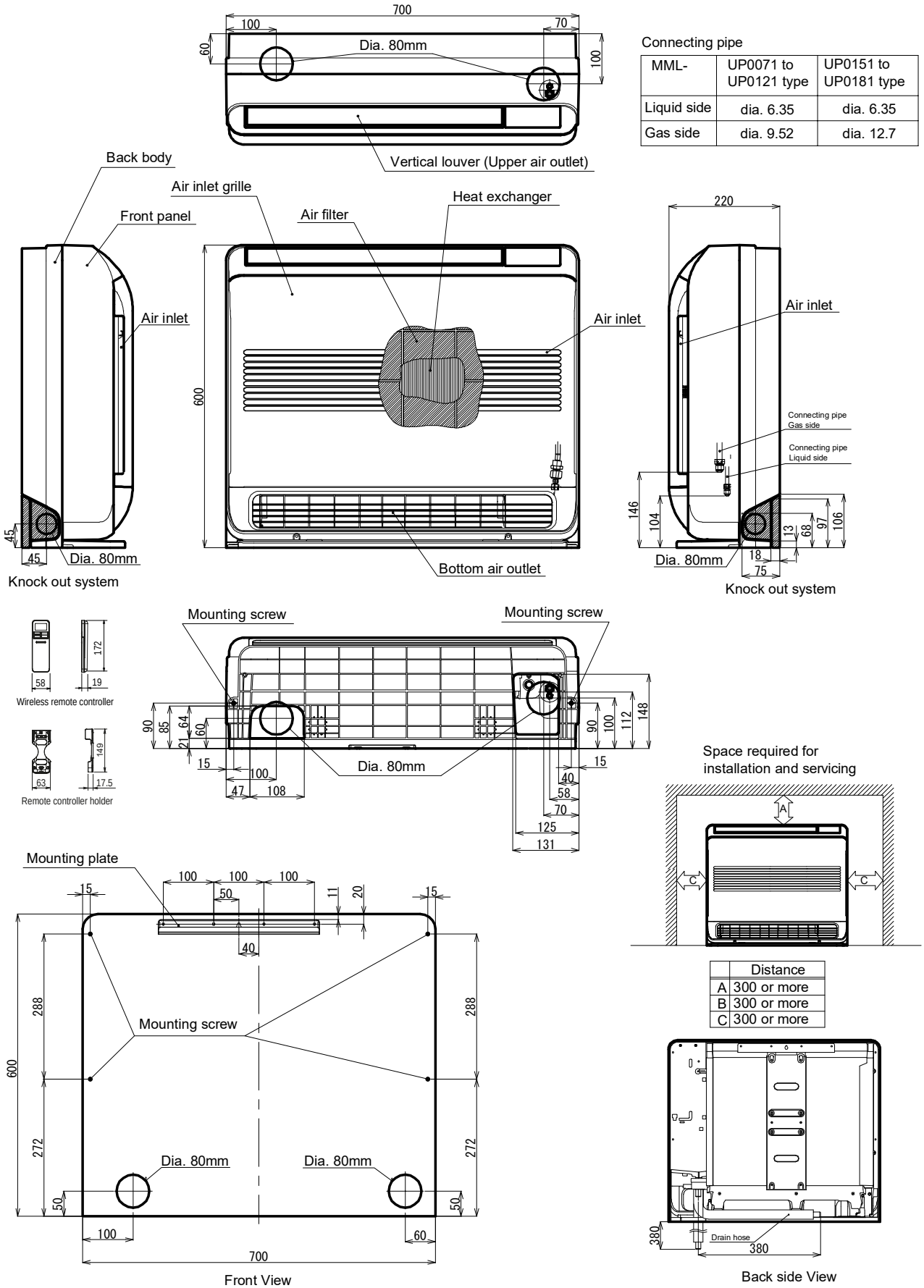

1430 (Unit external dimension)
85
74
324 (Outside)
477
(Unit external dimension)
89
99
66
1296 (Outside)
80


Hole for hanging bolt
(4-Dia12×30)
Air outlet
P:100×11 = 1100
98
45
21
810 (Hanging bolt pitch)
900 (Unit external dimension)
1465 (Hanging bolt pitch)
Air inlet


Screw holes for duct
mounting
(26-M5)
1316
58
200
200
200
200
200
200
58
41
31.5
20
44
383.6
343.2
105.6
105.6
1297
361
44
44
200
200
200
200
200
200
41
58
Electrical control box

2-6. Console type

MML-UP0071NHP-E(TR), MML-UP0091NHP-E(TR), MML-UP0121NHP-E(TR), MML-UP0151NHP-E(TR), MML-UP0181NHP-E(TR)



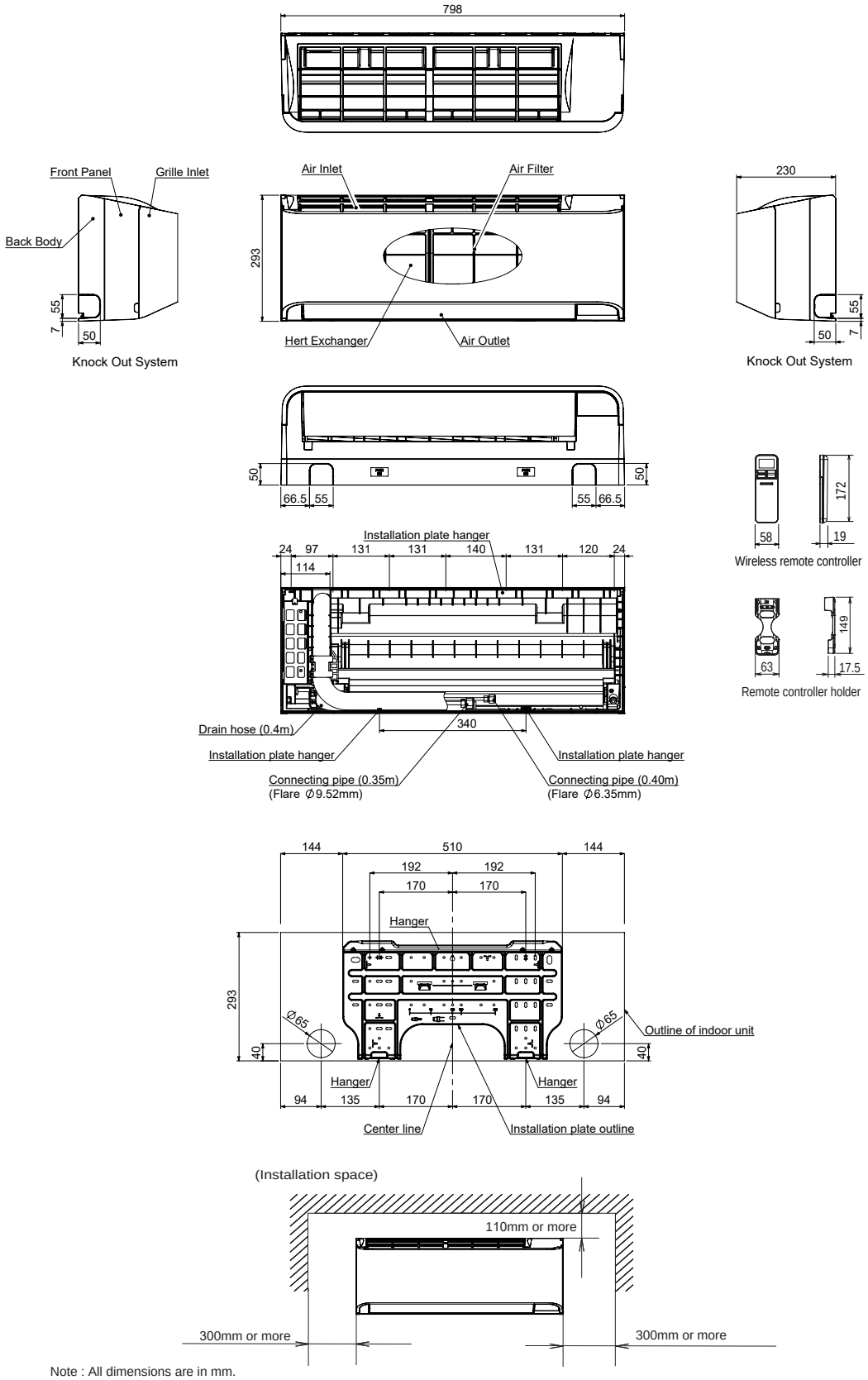
Connecting pipe

MML-	UP0071 to UP0121 type	UP0151 to UP0181 type
Liquid side	dia. 6.35	dia. 6.35
Gas side	dia. 9.52	dia. 12.7

	Distance
A	300 or more
B	300 or more
C	300 or more

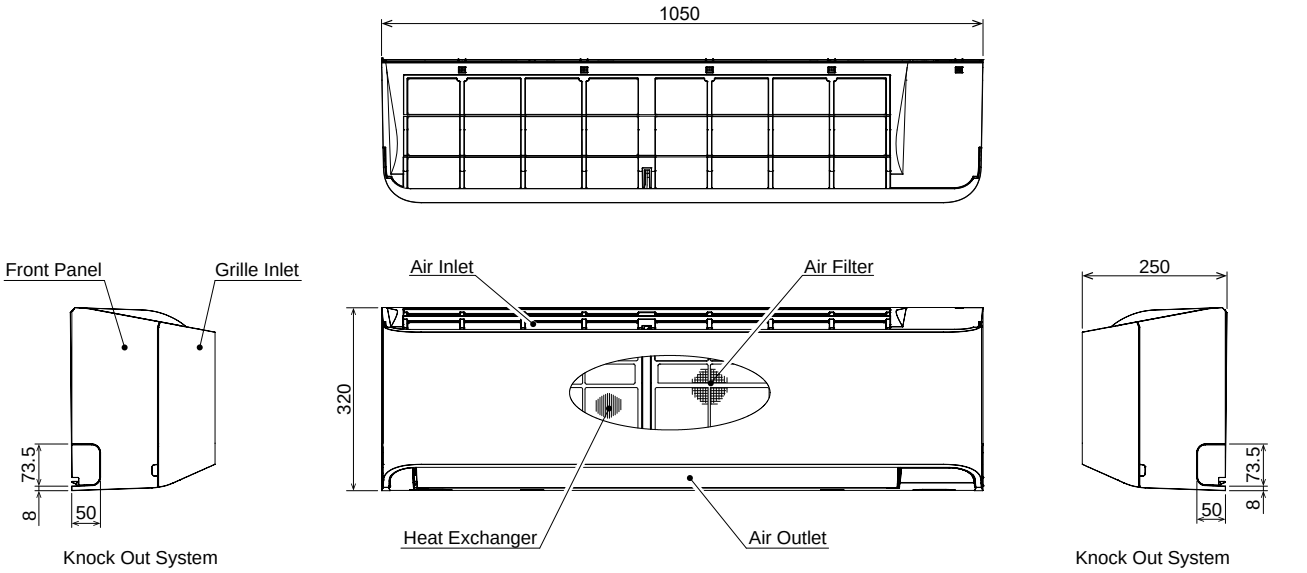
2-7. High wall type

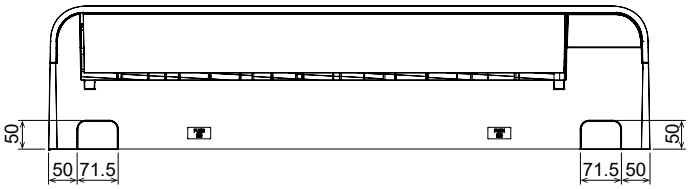
MMK-UP0031HP-E(TR), MMK-UP0051HP-E(TR), MMK-UP0071HP-E(TR), MMK-UP0091HP-E(TR), MMK-UP0121HP-E(TR)
MMK-UP0031HPL-E(TR), MMK-UP0051HPL-E(TR), MMK-UP0071HPL-E(TR), MMK-UP0091HPL-E(TR), MMK-UP0121HPL-E(TR)

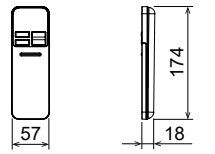


Note : All dimensions are in mm.

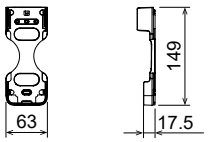
MMK-UP0151HP-E(TR), MMK-UP0181HP-E(TR), MMK-UP0241HP-E(TR),
MMK-UP0151HPL-E(TR), MMK-UP0181HPL-E(TR), MMK-UP0241HPL-E(TR)



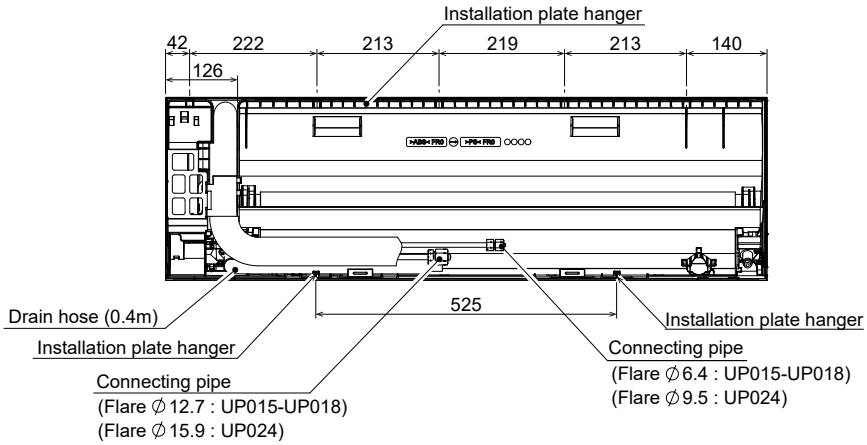


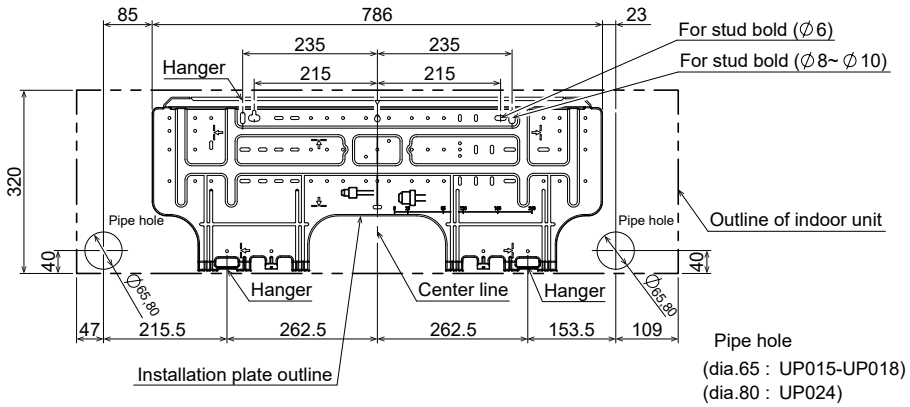


Wireless remote controller



Remote controller holder

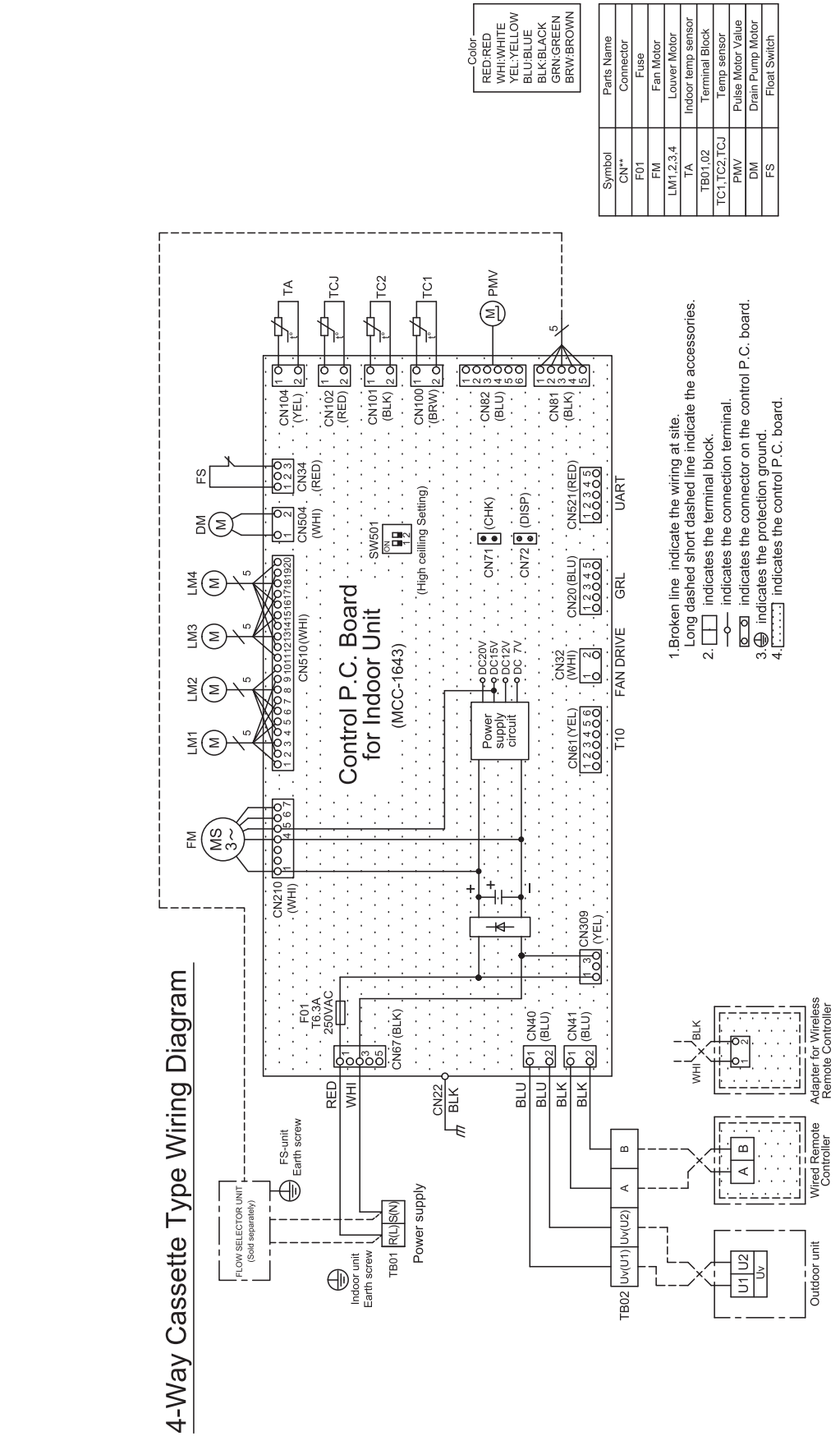




3. WIRING DIAGRAMS

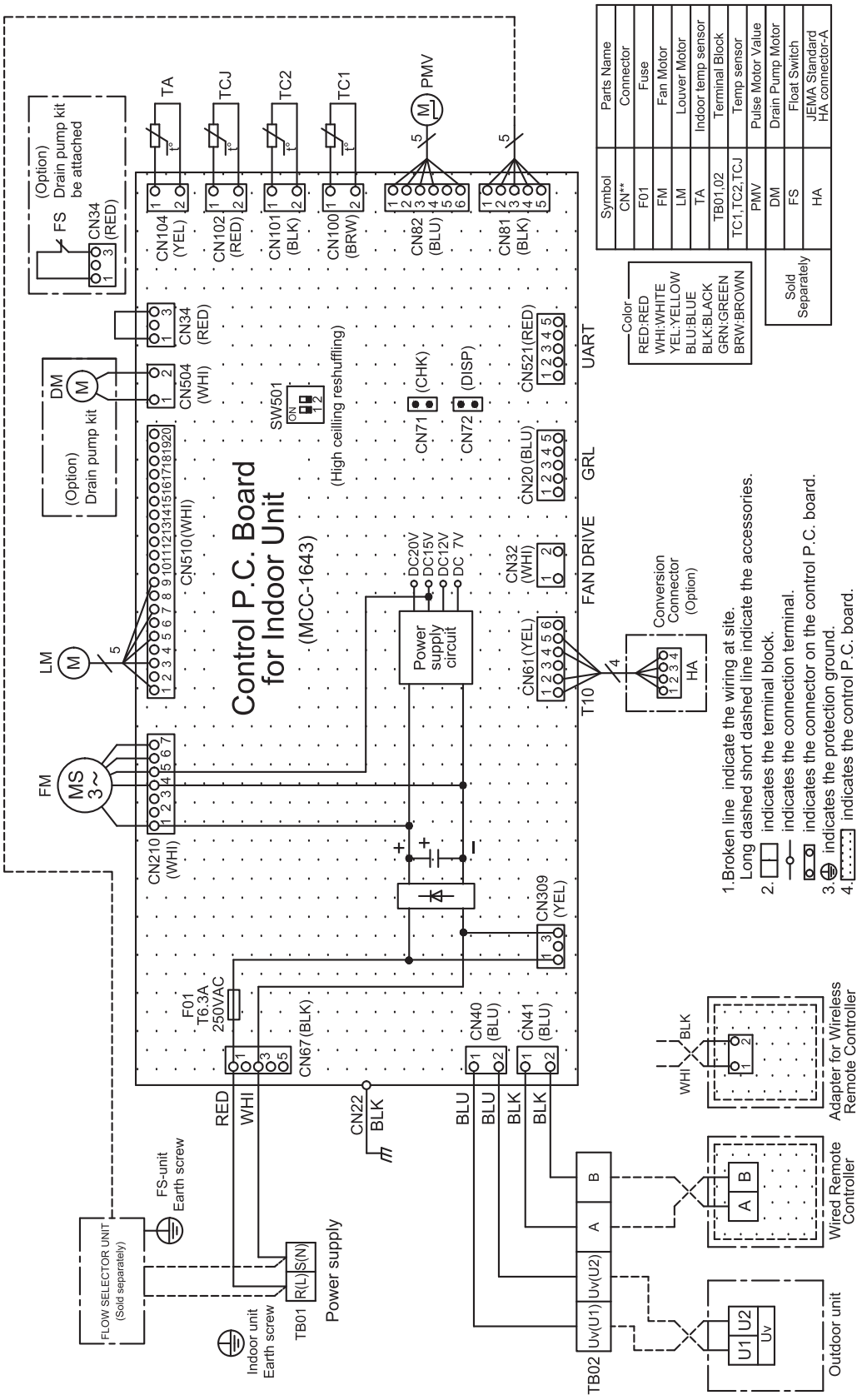
3-1. 4-way cassette type

MMU-UP****HP-E(TR)



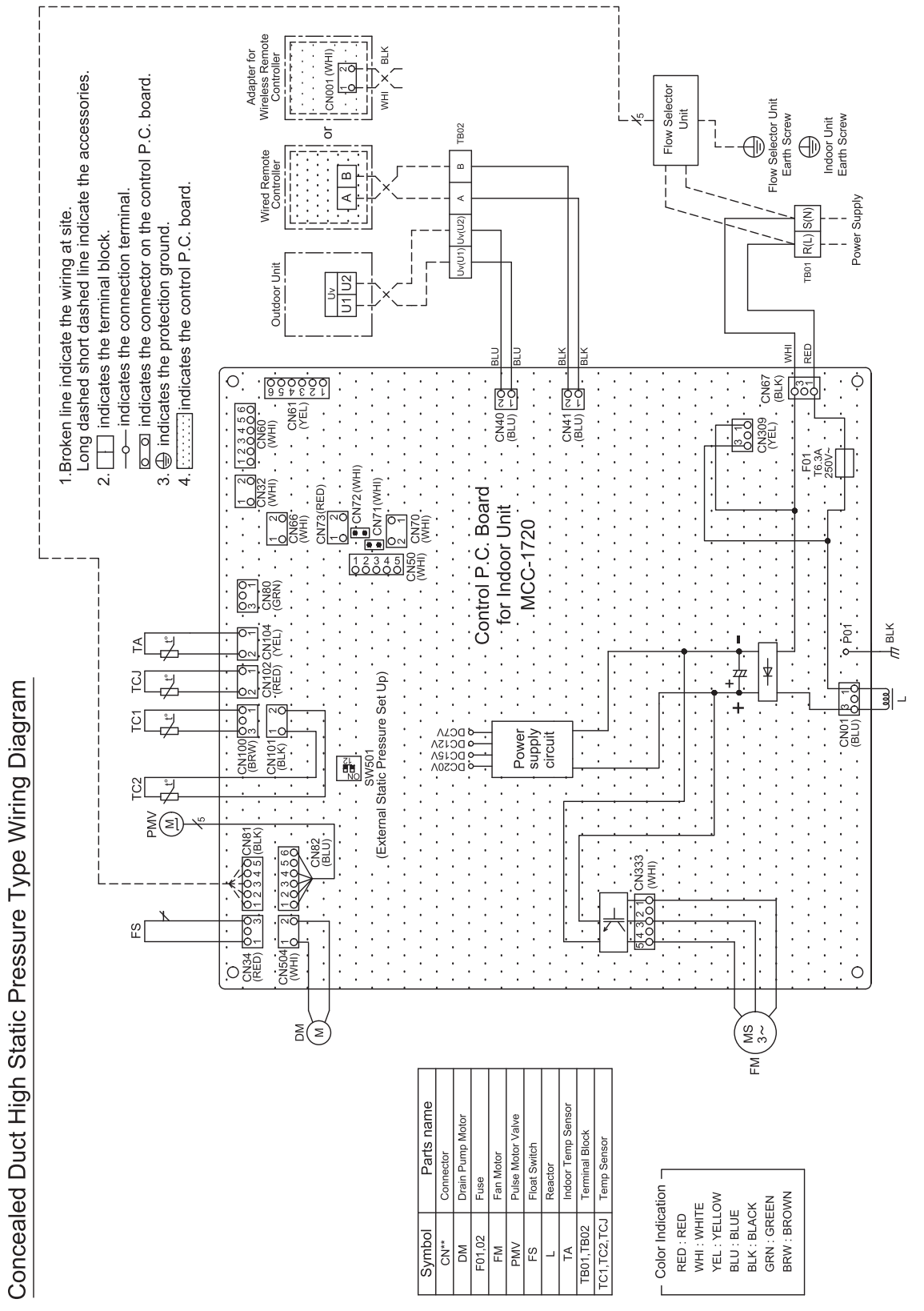
3-2. Ceiling type

MMC-UP****HP-E(TR)



3-3. Concealed Duct Standard type

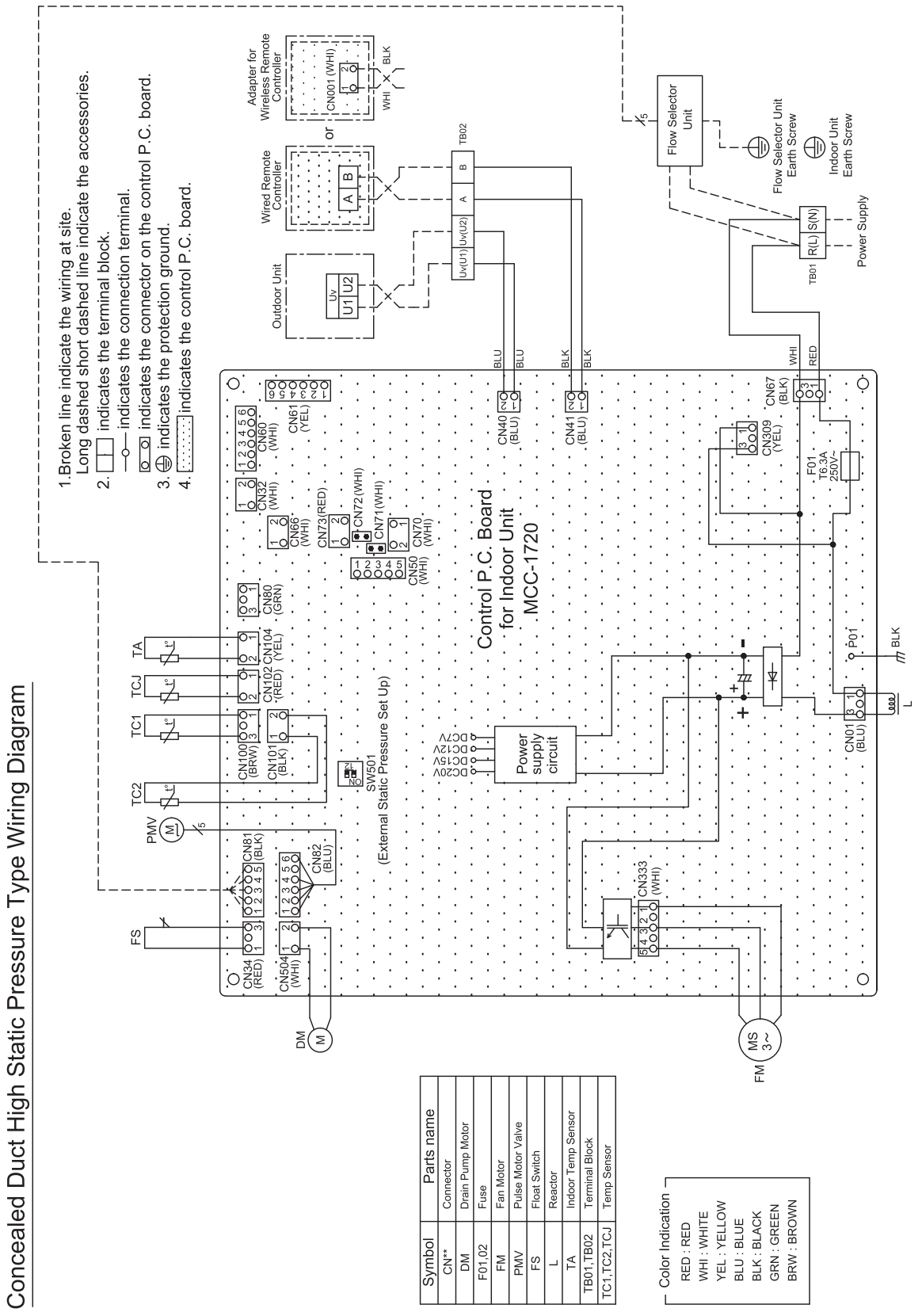
MMD-UP****BHP-E(TR)



3-4. Concealed Duct High Static Pressure type

MMD-UP****HP-E(TR)

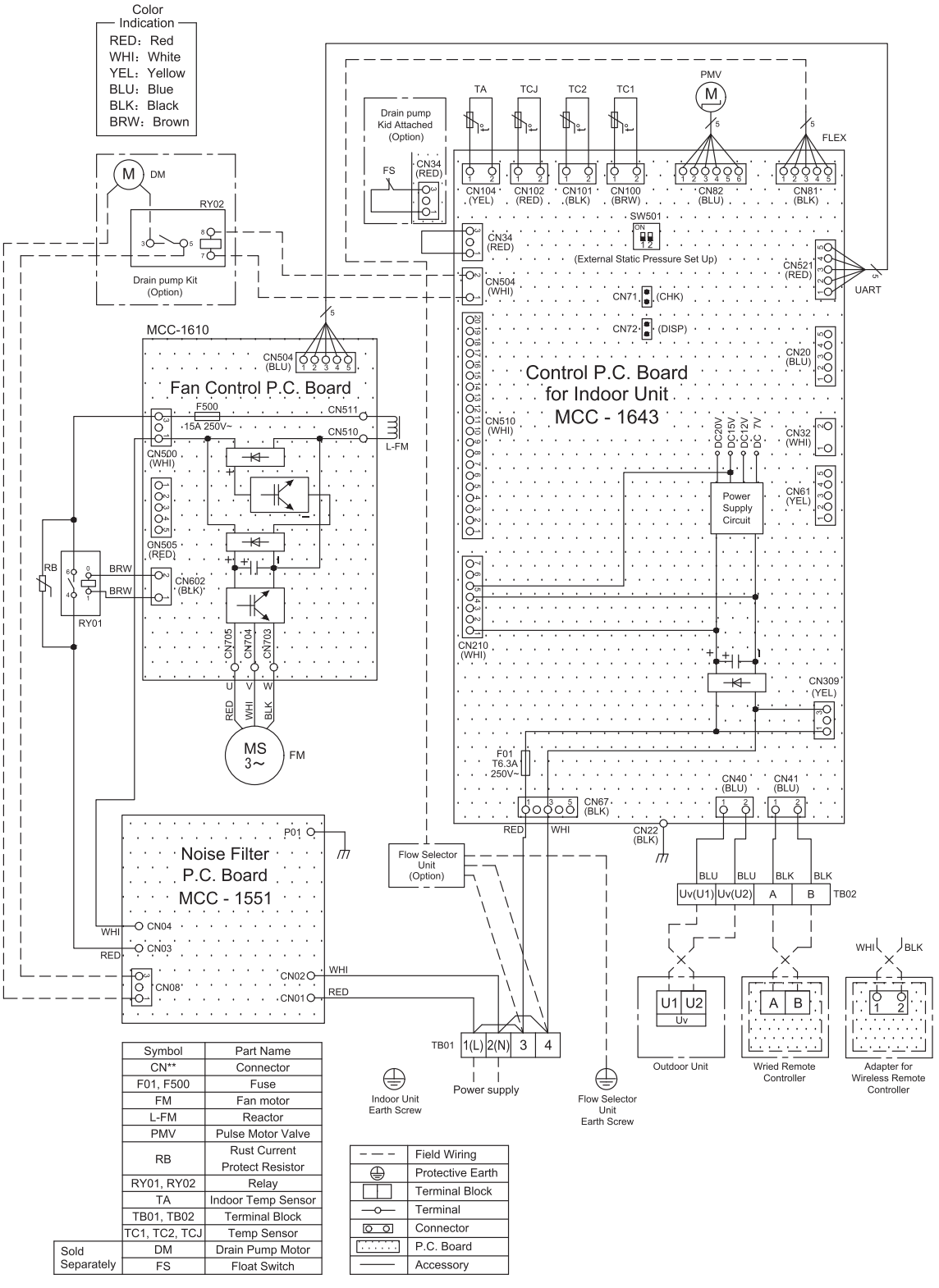
Concealed Duct High Static Pressure Type Wiring Diagram



Concealed Duct High Static Pressure type

MMD-UP****HP-E(TR)

Concealed Duct High Static Pressure Type Wiring Diagram



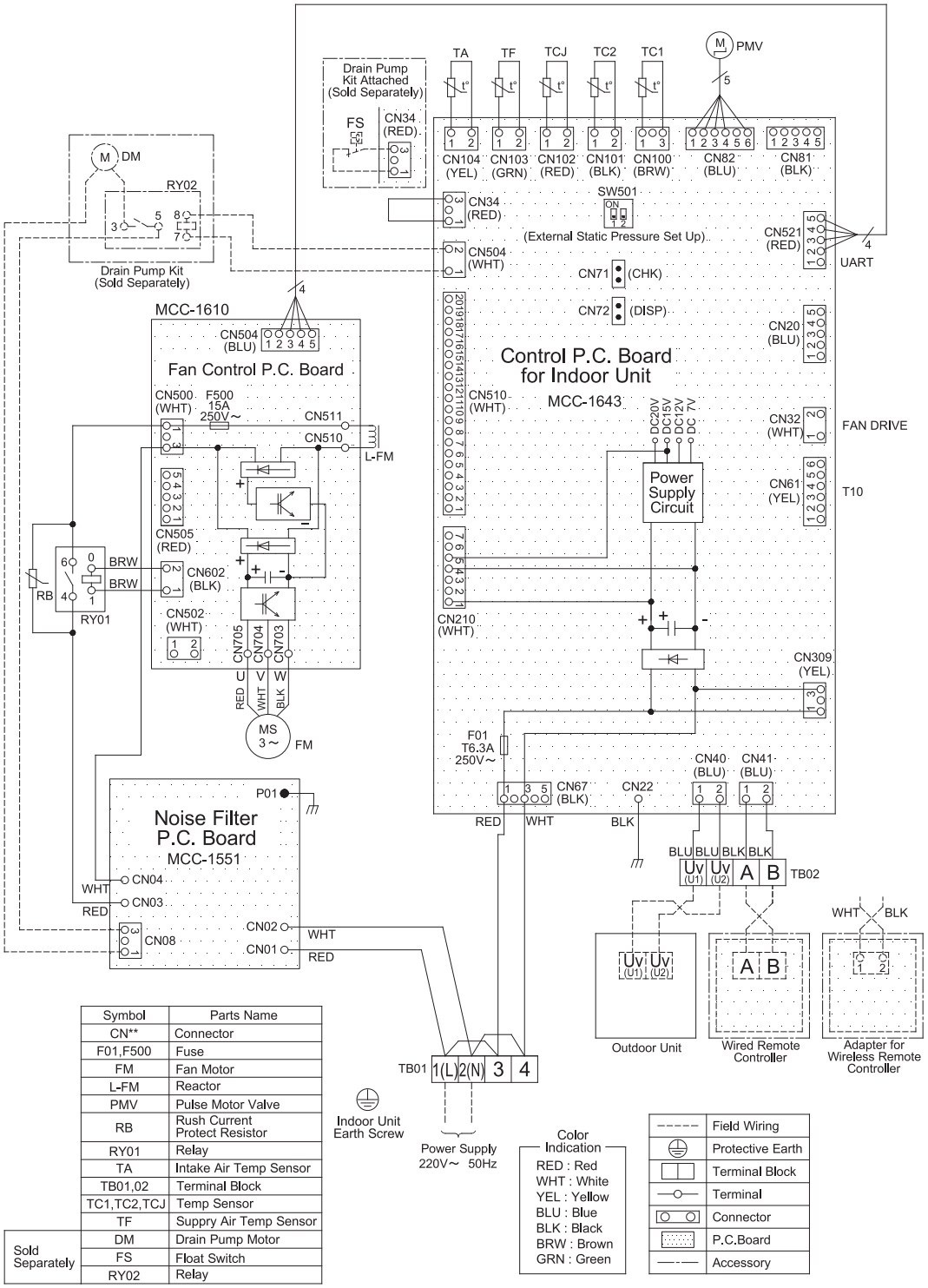
Symbol	Part Name
CN**	Connector
F01, F500	Fuse
FM	Fan motor
L-FM	Reactor
PMV	Pulse Motor Valve
RB	Rust Current Protect Resistor
RY01, RY02	Relay
TA	Indoor Temp Sensor
TB01, TB02	Terminal Block
TC1, TC2, TCJ	Temp Sensor
Sold Separately	DM
	FS

	Field Wiring
	Protective Earth
	Terminal Block
	Terminal
	Connector
	P.C. Board
	Accessory

3-5. Concealed Duct High Static Pressure fresh air intake type

MMD-UP****HFP-E(TR)

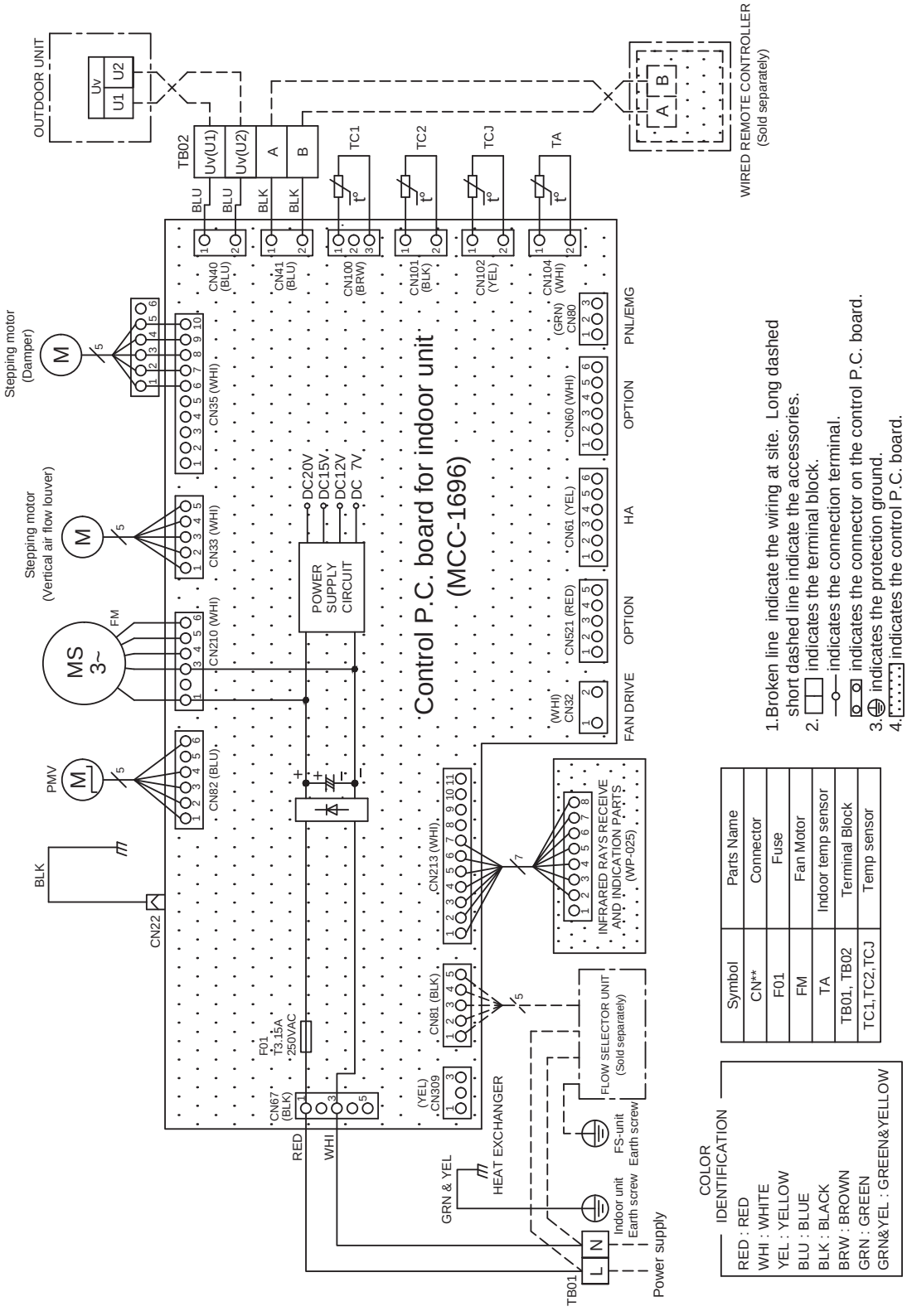
Fresh Air Intake Unit Concealed Duct Type Wiring Diagram



	Symbol	Parts Name
	CN**	Connector
	F01,F500	Fuse
	FM	Fan Motor
	L-FM	Reactor
	PMV	Pulse Motor Valve
	RB	Rush Current Protect Resistor
	RY01	Relay
	TA	Intake Air Temp Sensor
	TB01,02	Terminal Block
	TC1,TC2,TCJ	Temp Sensor
	TF	Suppry Air Temp Sensor
Sold Separately	DM	Drain Pump Motor
	FS	Float Switch
	RY02	Relay

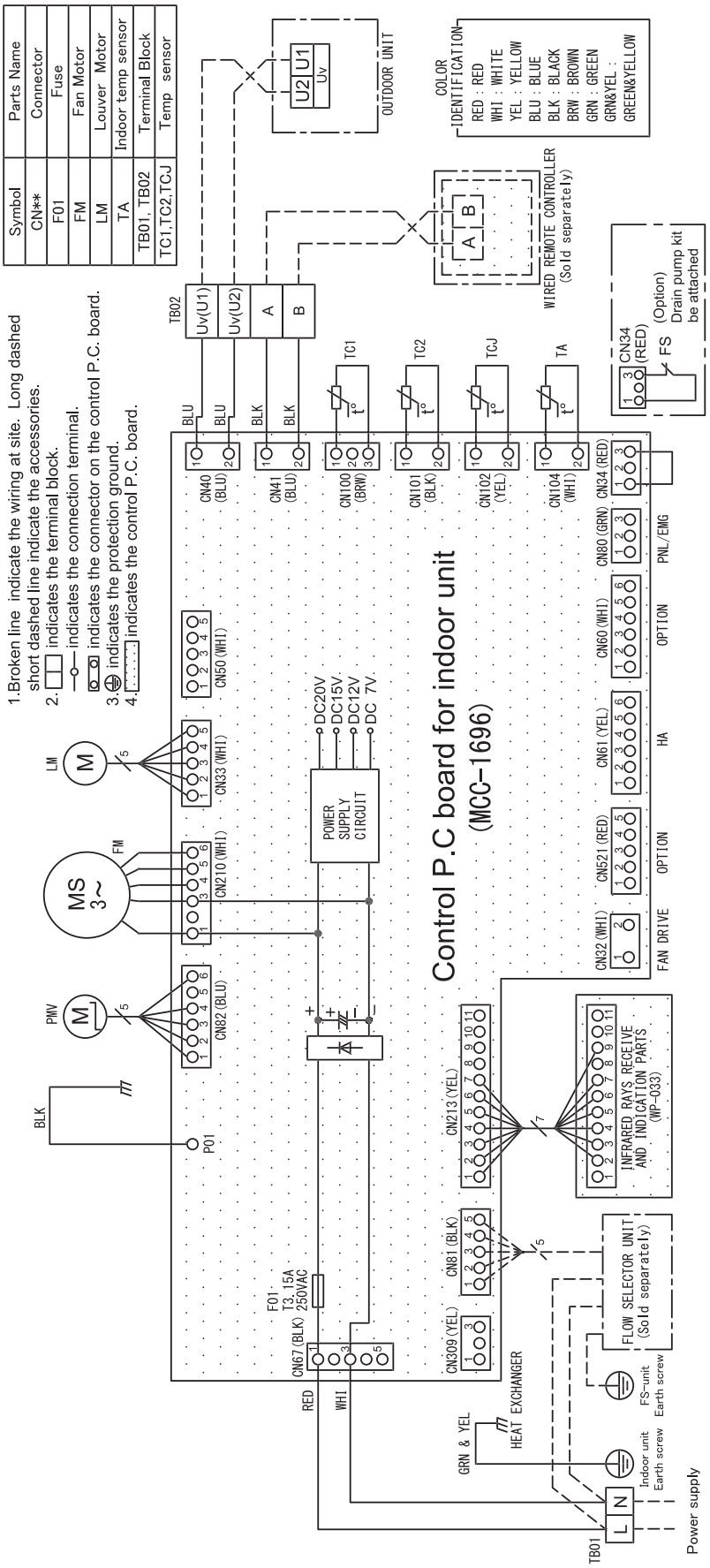
3-6. Console type

MML-UP****NHP-E(TR)



3-7. High wall type

MMK-UP****HP-E(TR)



4. PARTS RATING

Indoor unit

4-way cassette type

Model MMU-UP****HP-E(TR)	009	012	015	018	024	027	030	036	048	056
Fan motor	ICF-340D60-1							ICF-340D130-3		
Drain pump motor	MDP-1401									
Float switch	FS-1A-31-3									
Pulse motor valve	PAM-MD12TF-301									
P.C. board	MMC-1643									
TA sensor	Lead wire length : 328mm.									
TC1 sensor	Dia.4 size Lead wire length : 1000mm.									
TC2 sensor	Dia.6 size Lead wire length : 1000mm.									
TCJ sensor	Dia.6 size Lead wire length : 1000mm.									

Ceiling type

Model MMC-UP****HP-E(TR)	015	018	024	027	036	048	056
Fan motor	ICF-340WD94-1		ICF-340WD94-2		ICF-340WD139-2		
Pulse motor valve	PAM-MD12TF-301						
P.C. board	MMC-1643						
TA sensor	Lead wire length : 328mm.						
TC1 sensor	Dia.4 size Lead wire length : 1000mm.						
TC2 sensor	Dia.6 size Lead wire length : 1000mm.						
TCJ sensor	Dia.6 size Lead wire length : 1000mm.						

Concealed Duct Standard type

Model MMD-UP****BHP-E(TR)	005	007	009	012	015	018	024	027	030	036	048	056
Fan motor	ICF-340W150-2						ICF-340W150-1			ICF-340W250-1		
Drain pump motor	PMD-08D121TF-2											
Float switch	FS-1A-31-3											
Drain pump motor	PAM-MD12TF-301											
P.C. board	MMC-1720											
TA sensor	Lead wire length :218mm.											
TC1 sensor	Dia.4 size Lead wire length : 1000mm.											
TC2 sensor	Dia.6 size Lead wire length : 1000mm.											
TCJ sensor	Dia.6 size Lead wire length : 1000mm.											

Concealed Duct High Static Pressure type

Model MMD-UP****HP-E(TR)	018	024	027	036	048	056	072	096
Fan motor	ICF-340W250-2			MF-340W350-1			SWF-340W1000-1	
Drain pump motor	PMD-08D121TF-2						-	
Float switch	FS-1A-31-3						-	
Pulse motor valve	PAM-MD12TF-301							
P.C. board	MMC-1720						MCC-1643, MCC-1610, MCC-1551	
TA sensor	Lead wire length :218mm.							
TC1 sensor	Dia.4 size Lead wire length : 1000mm.							
TC2 sensor	Dia.6 size Lead wire length : 1000mm.							
TCJ sensor	Dia.6 size Lead wire length : 1000mm.							

Concealed Duct High Static Pressure Fresh air intake type

Model MMD-UP****HFP-E(TR)	048	072	096	112	128
Fan motor	MF-340W350-3	SWF-340W1000-1			
Drain pump motor	MDP-1401	-			
Float switch	FS-1A-31-3	-			
Pulse motor valve	PAM-MD12TF-301				
P.C. board	MMC-1720	MCC-1643, MCC-1610, MCC-1551			
TA sensor	Lead wire length :218mm.				
TC1 sensor	Dia.4 size Lead wire length : 1000mm.				
TC2 sensor	Dia.6 size Lead wire length : 1000mm.				
TCJ sensor	Dia.6 size Lead wire length : 1000mm.				
TA sensor	Lead wire length :1100mm.				

Console type

Model MML-UP****NHP-E(TR)	007	009	012	015	018
Fan motor	ICF-340-41-1				
Pulse motor valve	PAM-MD12TF-302				
P.C. board	MMC-1696				
TA sensor	Lead wire length : 268mm.				
TC1 sensor	Dia.4 size Lead wire length : 500mm.				
TC2 sensor	Dia.6 size Lead wire length : 450mm.				
TCJ sensor	Dia.6 size Lead wire length : 500mm.				

High wall type

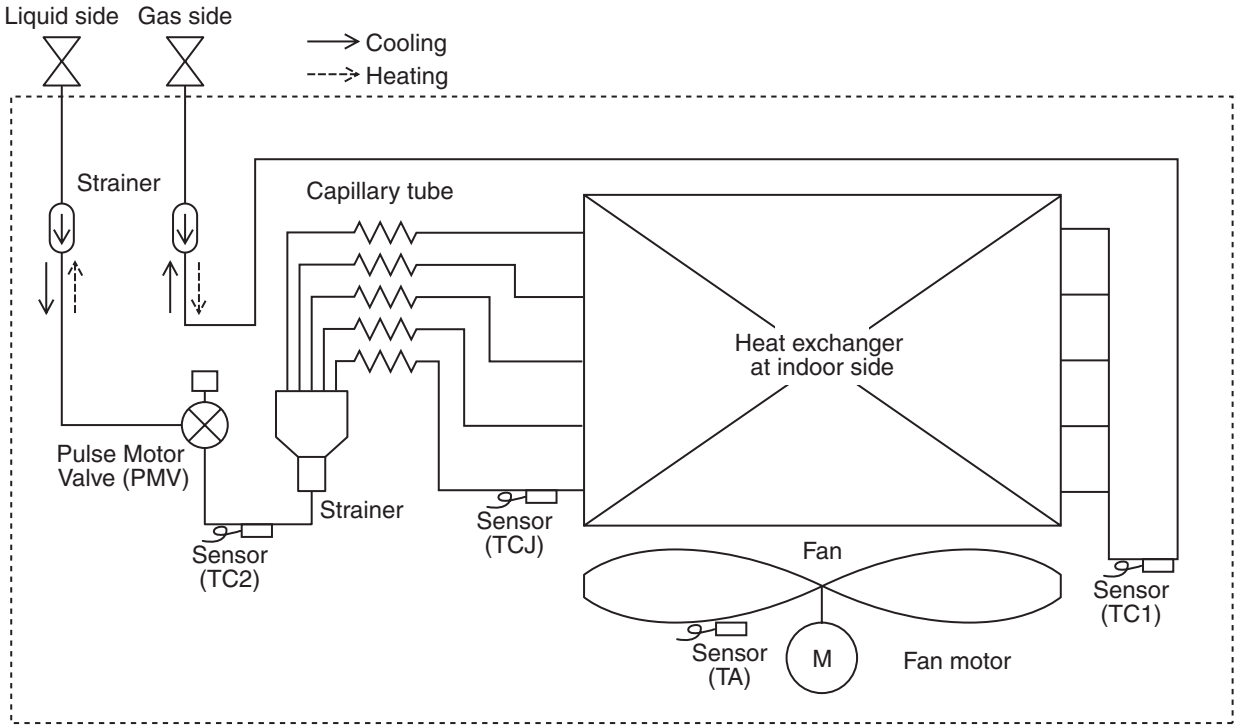
Model MMK-UP****HP-E(TR)	003	005	007	009	012	015	018
Fan motor	ICF-340-30-6						
Pulse motor valve	PAM-MD12TF-302						
P.C. board	MMC-1696						
TA sensor	Lead wire length :418mm.						
TC1 sensor	Dia.4 size Lead wire length : 500mm.						
TC2 sensor	Dia.6 size Lead wire length : 800mm.						
TCJ sensor	Dia.6 size Lead wire length : 500mm.						

High wall type

Model MMK-UP****HPL-E(TR)	003	005	007	009	012	015	018
Fan motor	ICF-340-30-6						
Pulse motor valve	-						
P.C. board	MMC-1696						
TA sensor	Lead wire length :418mm.						
TC1 sensor	Dia.4 size Lead wire length : 500mm.						
TC2 sensor	Dia.6 size Lead wire length : 800mm.						
TCJ sensor	Dia.6 size Lead wire length : 500mm.						

5. REFRIGERANT CYCLE DIAGRAM

Indoor unit

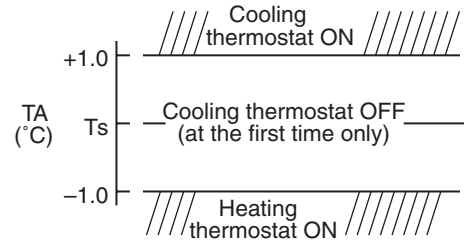


Explanation of functional parts in indoor unit

Functional part name		Functional outline
Pulse Motor Valve	PMV	(Connector CN82 (6P): Blue) 1) Controls superheat in cooling operation 2) Controls subcool in heating operation 3) Recovers refrigerant oil in cooling operation 4) Recovers refrigerant oil in heating operation
Temp. Sensor	TA	(Connector CN104 (2P): Yellow) 1) Detects indoor suction temperature
	TC1	(Connector CN100 (3P): Brown) 1) Controls PMV superheat in cooling operation
	TC2	(Connector CN101 (2P): Black) 1) Controls PMV subcool in heating operation
	TCJ	(Connector CN102 (2P): Red) 1) Controls PMV superheat in cooling operation

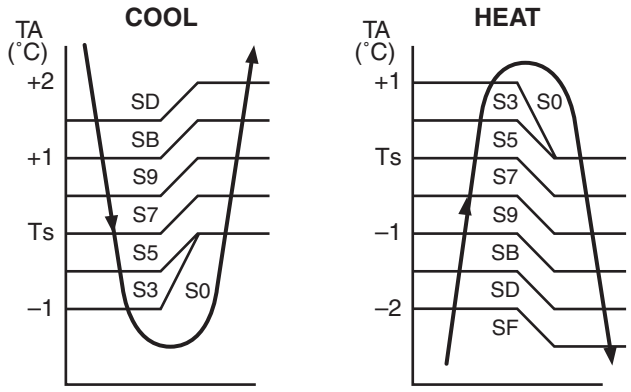
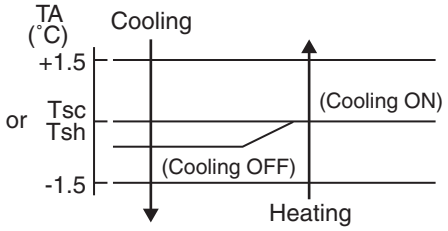
6. CONTROL OUTLINE

Control Specifications

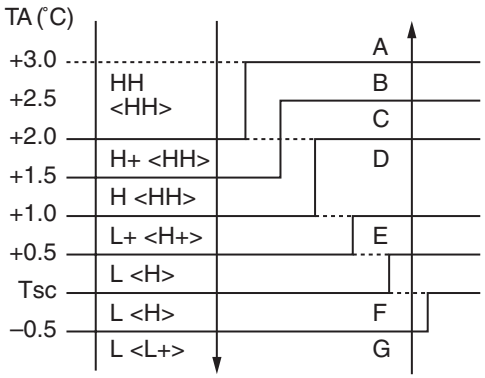
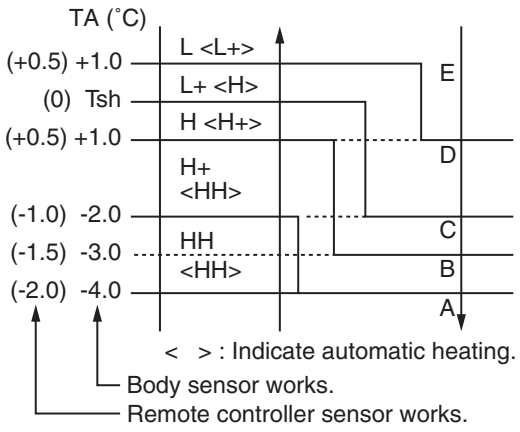
<table>
<tr><th>No.</th><th>Item</th><th>Outline of specifications</th><th>Remarks</th></tr>
<tr><td>1</td><td>When power supply is reset</td><td>1) Distinction of outdoor unit
When the power supply is reset, the outdoors are distinguished and the control is selected according to the distinguished result.
2) Setting of indoor fan speed and existence of air direction adjustment
Based on EEPROM data, select setting of the indoor fan speed and the existence of air direction adjustment.
3) If resetting the power supply during occurrence of a trouble, the check code is once cleared. After ON/OFF button of the remote controller was pushed and the operation was resumed, if the abnormal status continues, the check code is again displayed on the remote controller.</td><td></td></tr>
<tr><td>2</td><td>Operation mode selection</td><td>1) Based on the operation mode selecting command from the remote controller, the operation mode is selected.
<table>
<tr><th>Remote controller command</th><th>Control outline</th></tr>
<tr><td>STOP</td><td>Air conditioner stops.</td></tr>
<tr><td>FAN</td><td>Fan operation</td></tr>
<tr><td>COOL</td><td>Cooling operation</td></tr>
<tr><td>DRY</td><td>Dry operation</td></tr>
<tr><td>HEAT</td><td>Heating operation</td></tr>
<tr><td>AUTO
(Heat recovery system outdoor unit type)</td><td>• TA and Ts automatically select COOL/HEAT operation mode for operation.
• The operation is performed as shown in the following figure according to TA value at the first time only.
(In the range of Ts – 1 < TA < Ts + 1, Cooling thermostat OFF (Fan) / Setup air volume operation continues.)</td></tr>
</table>


∗ Only Heat recovery system outdoor unit type can select automatic mode. While a wireless remote controller is used, the mode is notified by “Pi Pi” (two times) receiving sound and the alternate flashing of [TIMER] and [READY]. To clear the alternate flashing, change the mode on the wireless remote controller.</td><td>TA: Room temp.
Ts: Setup temp.</td></tr>
<tr><td>3</td><td>Room temp. control</td><td>1) Adjustment range: Remote controller setup temperature (˚C)
<table>
<tr><th></th><th>COOL/DRY</th><th>HEAT</th><th>AUTO∗</th></tr>
<tr><td>Wired type</td><td>18 to 29</td><td>18 to 29</td><td>18 to 29</td></tr>
<tr><td>Wireless type</td><td>17 to 30</td><td>17 to 30</td><td>17 to 30</td></tr>
</table></td><td>∗ For Heat recovery system outdoor unit type</td></tr>
</table>

<table>
<tr><th>No.</th><th>Item</th><th>Outline of specifications</th><th>Remarks</th></tr>
<tr><td>3</td><td>Room temp. control (Continued)</td><td>2) Using the Item code 06, the setup temperature in heating operation can be compensated.
<table><tr><th>Setup data</th><td>0</td><td>2</td><td>4</td><td>6</td></tr><tr><th>Setup temp. compensation</th><td>+0˚C</td><td>+2˚C</td><td>+4˚C</td><td>+6˚C</td></tr></table>Setting at shipment
<table><tr><th>Model</th><th>Set data</th></tr><tr><td>Floor standing cabinet, Floor standing concealed, Floor standing</td><td>0</td></tr><tr><td>Other models</td><td>2</td></tr></table></td><td>Shift of return air temperature in heating operation

Except while sensor of the remote controller is controlled
(Code No. [32], “0001”)</td></tr>
<tr><td>4</td><td>Automatic capacity control</td><td>1) Based on the difference between TA and Ts, the operation capacity is determined by the outdoor unit.
 
</td><td>Ts: Setup temp.
TA: Room temp.</td></tr>
<tr><td>5</td><td>Automatic cooling/heating control</td><td>1) The judgment of selecting COOL/HEAT is carried out as shown below. When +1.5 exceeds against Tsh 10 minutes and after thermostat OFF, heating operation (Thermostat OFF) exchanges to cooling operation.
Description in the parentheses shows an example of cooling ON/OFF.
 

When –1.5 lowers against Tsc 10 minutes and after thermostat OFF, cooling operation (Thermostat OFF) exchanges to heating operation.
2) For the automatic capacity control after judgment of cooling/heating, see Item 4.
3) For temperature compensation of room temp. control in automatic heating, see Item 3.</td><td>* For Heat recovery system outdoor unit type
Tsc: Setup temp. in cooling operation
Tsh: Setup temp. in heating operation + temp. compensation of room temp. control</td></tr>
</table>

No.	Item	Outline of specifications	Remarks
6	Fan speed selection	1) By the command from remote control, fan speed is changed. ((HH), (H+), (H), (L+), (L) or [AUTO]) 2) When the fan speed mode [AUTO] is selected, the fan speed varies by the difference between TA and Ts. **<COOL>**  < > : Indicate automatic cooling. • Fan speed mode [AUTO] in case when remote controller sensor works is equal to that in case when indoor unit sensor works. • If the fan speed has been changed once, it is not changed for 3 minutes. However when the air volume is changed, the fan speed changes. • When cooling operation has started, select a downward slope for the fan speed, that is, the high position. • If the temperature is just on the difference boundary, the fan speed does not change **<HEAT>**  < > : Indicate automatic heating. Value in the parentheses indicates one when sensor of the remote controller works. Value without parentheses indicates one when sensor of the indoor unit sensor works. • If the fan speed has been changed once, it is not changed for 1 minute. However when the fan speed changed, the fan speed changes. • When heating operation has started, select an upward slope for the fan speed, that is, the high position. • If the temperature is just on the difference boundary, the fan speed does not change. • In TC2 ≥ 60˚C, the fan speed increases by 1 step.	HH > H+ > H > L+ > L > UL Depending on the remote controller used, (H+) and (L+) cannot be selected. For Floor Standing Concealed Type,or Floor Standing Cabinet Type, (HH), (H), (L) or [AUTO] can be selected regardless of remote controller models. Code No. [32] 0000: Indoor unit sensor (Main unit) 0001: Remote controller sensor TC2: Temperature of indoor heat exchanger sensor

No.	Item	Outline of specifications	Remarks
6	Fan speed selection (Continued):		Standard or Type 1, 3, or 6 can be selected with Code No. [5d] or switching of SW501 on P.C. board.

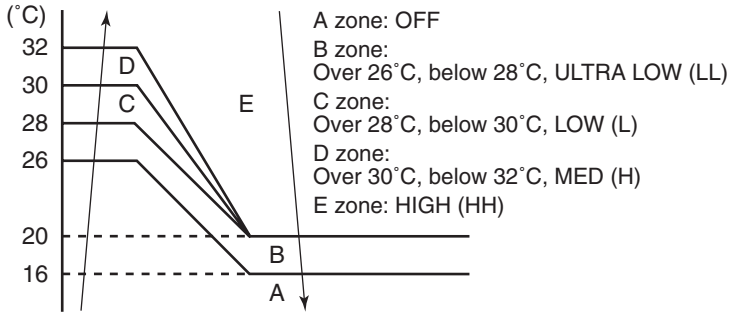
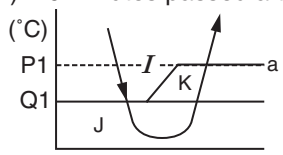
4Way, Ceiling, Console type

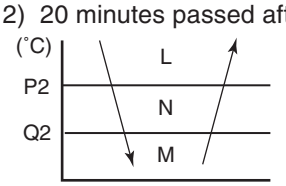
CODE No. [5d]	Standard 0000		Type 1 0001		Type 2 0002		Type 3 0003		Type 4 0004		Type 5 0005		Type 6 0006	
SW501 (1)/(2)	OFF/OFF		ON/OFF				OFF/ON						ON/ON	
Tap	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating
F 1							HH	HH					HH	HH
F 2			HH	HH										
F 3				H+	HH	HH	H+,H	H+,H					H+,H L+,L	H+,H L+,L
F 4			H+								HH	HH		
F 5		HH		H	H+	H+								
F 6	HH		H			H	L+	L+						
F 7	H+	H+			H		L	L		HH				
F 8		H		L+		L+			HH	H+,H		H+,H		
F 9	H		L+	L	L+	L			H+,H		H+,H			
F A		L+	L		L					L+		L+		
F B	L+	L							L+	L	L+	L		
F C	L								L		L			
F D	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL

High Wall, High Wall(PMV less)

CODE No. [5d]	Standard 0000		Type 1 0001		Type 2 0002		Type 3 0003		Type 4 0004		Type 5 0005		Type 6 0006	
Tap	Cool,Dry	Heat,Fan	Cool,Dry	Heat,Fan	Cool,Dry	Heat,Fan	Cool,Dry	Heat,Fan	Cool,Dry	Heat,Fan	Cool,Dry	Heat,Fan	Cool,Dry	Heat,Fan
F 1							HH	HH					HH	HH
F 2			HH	HH										
F 3		HH		H+	HH	HH	H+,H	H+,H					H+,H L+,L	H+,H L+,L
F 4	HH		H+								HH	HH		
F 5		H+		H	H+	H+								
F 6	H+		H			H	L+	L+						
F 7		H			H		L	L		HH				
F 8	H			L+		L+			HH	H+,H		H+,H		
F 9		L+	L+	L	L+	L			H+,H		H+,H			
F A	L+		L		L					L+		L+		
F B		L							L+	L	L+	L		
F C	L								L		L			
F D	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL

3)In heating operation, the mode changes to [LL] if thermostat is turned off.

<table>
<tr><th>No.</th><th>Item</th><th>Outline of specifications</th><th>Remarks</th></tr>
<tr><td>7</td><td>Prevention of cold air discharge</td><td>1. In heating operation, the higher temperature of TC2 sensor and TCJ sensor is compared with temperature of TC1 sensor and then the lower temperature is used to set the upper limit of the fan tap.
• When B zone has continued for 6 minutes, the operation shifts to C zone.
• In defrost time, the control point is set to +6˚C.
 
</td><td>TCJ: Temperature of indoor heat exchanger sensor
• In D and E zones, priority is given to remote controller fan speed setup.
• In A zone “ ❁ ” is displayed.</td></tr>
<tr><td>8</td><td>Freeze prevention control (Low temp. release)</td><td>1. In all cooling operation, the air conditioner operates as described below based upon temp. detected by TC1, TC2 and TCJ sensors.
• When “J” zone is detected for 5 minutes, the thermostat is forcedly off.
• In “K” zone, the timer count is interrupted, and held.
• When “I”zone is detected, the timer is cleared and the operation returns to the normal operation.
• If “J” zone continues, operation of the indoor fan in LOW mode continues until it reaches the “I”zone.
It is reset when the following conditions are satisfied.
Reset conditions
1) TC1 ≥ 12˚C and TC2 ≥ 12˚C and TCJ ≥ 12˚C
2) 20 minutes passed after stop.
 

<table>
<tr><th></th><th>TC1</th><th>TC2, TCJ</th></tr>
<tr><td>P1</td><td>10˚C (5˚C)</td><td>–10˚C</td></tr>
<tr><td>Q1</td><td>0˚C</td><td>–14˚C</td></tr>
</table>
2. In all cooling operation, the air conditioner operates as described below based upon temp. detected by TC2 and TCJ sensors.
• When “M” zone is detected for 45 minutes, the thermostat is forcedly off.
• In “N” zone, the timer count is interrupted and held.
• When shifting to “M” zone again, the timer count restarts and continues.
• If “L”zone is detected, the timer is cleared and the operation returns to normal operation.
Reset conditions
1) TC1 ≥ 12˚C and TC2 ≥ 12˚C and TCJ ≥ 12˚C
2) 20 minutes passed after stop.
 

<table>
<tr><th></th><th>TC2, TCJ</th></tr>
<tr><td>P2</td><td>5˚C</td></tr>
<tr><td>Q2</td><td>–2.0˚C</td></tr>
</table></td><td>TC1: Temperature of indoor heat exchanger sensor
( ) value:
When the power supply is turned on, the forced thermostat becomes OFF if the temperature is less than this indicated temperature.</td></tr>
</table>

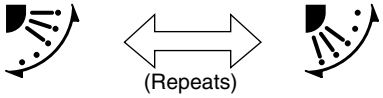
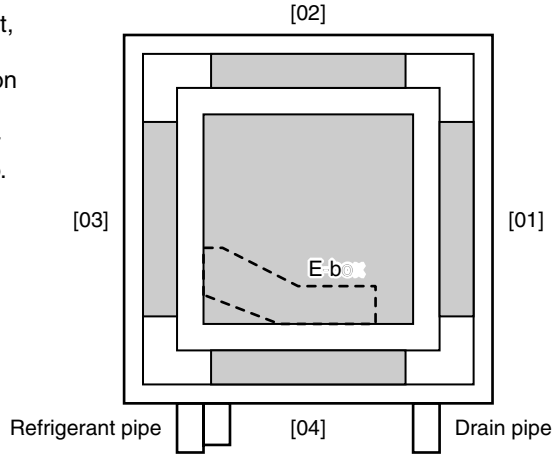
No.	Item	Outline of specifications	Remarks
9	Refrigerant (Oil) recovery control in cooling operation	Indoor units during stop/thermostat OFF or FAN operation perform following controls when a refrigerant (compressor oil) recovery signal is received from outdoor unit at the cooling operation, (1) Opening the indoor unit PMV at constant valve opening. (For a maximum of about 4 minutes) (2) Operating the drain pump for about one minute, during recovery control and after the control finished. Also, indoor unit fan or louvers may operate depending on the indoor unit type.	Control is performed per two hours or when the outdoor unit determines its need.(It varies depending on the indoor units connected.)
10	Refrigerant (Oil) recovery control in heating operation	Indoor units during stop/thermostat OFF or FAN operation perform following controls when a refrigerant (compressor oil) recovery signal is received from outdoor unit at the heating operation, (1) Opening the indoor unit PMV at constant valve opening. (For a maximum of about 20 minutes) (2) TC2 temperature is detected to close its PMV. Also, the fan, louvers, drain pump may operate for about one minute after recovery control finished depending on indoor unit types, until the number of recovery control reaches the predetermined number. NOTE The PMV, indoor fan, or louvers may operate through the outdoor unit instruction. For its detail, refer to the outdoor unit service guide.	Indoor unit during cooling thermostat OFF or FAN operation stops the indoor fan and displays "Operation standby ⏻". Control is performed per one hour or when the outdoor unit determines its need.(It varies depending on the indoor units connected.)
11	Compensation control for short intermittent operation	1) For 3 minutes after start of operation, the operation is forcedly continued even if the unit enters in Thermostat-OFF condition. 2) However the thermostat is OFF giving prior to COOL/HEAT selection, READY ✳ for operation and protective control.	Usually the priority is given to 5 minutes at outdoor controller side.
12	Drain pump control	1) In cooling operation (including DRY operation), this control anytime operates the drain pump. 2) During operation of the drain pump, if the float switch operates, the drain pump continuously operates and a check code is issued. 3) During stop status of the drain pump, if the float switch operates, the thermostat is forcedly off and this control operates the drain pump. After continuous operation of the float switch for approx. 5 minutes, this control stops the operation and a check code is issued.	Check Code [P10] • A model with a drain pump : 4-way Concealed Duct High Static Duct Fresh air
13	Elimination of retained heat	1) When the unit stopped from [HEAT] operation, the indoor fan operates with [L] for approx. 30 seconds.	
14	HA control	1) ON/OFF operation is available by input of HA signal from the remote site when connected to remote controller or the remote ON/OFF interface. 2) HA control outputs ON/OFF status to HA terminal. 3) The input-output specifications of HA conform to JEMA standard.	When using HA terminal (CN61) for the remote ON/OFF, a connector sold separately is necessary. In case of group operation, use the connector to connect HA terminal to either master or follower indoor unit.

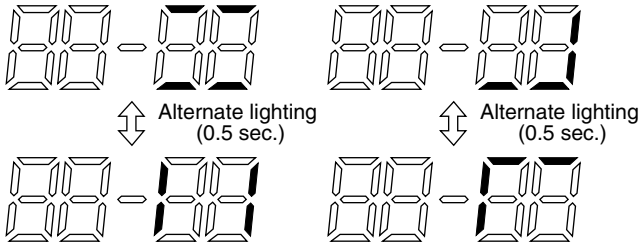
<table>
<tr><th>No.</th><th>Item</th><th>Outline of specifications</th><th>Remarks</th></tr>
<tr><td>15</td><td>Alarm output setup</td><td>The alarm output from the indoor P.C. board is output in each indoor unit during group control, but it can be set so as to be output in the header unit and follower units.
Following the table below, register the setting data in DN Code "79".
<table>
<tr><th>DN</th><th>Alarm output of the header indoor unit</th><th>Setting data</th></tr>
<tr><td rowspan="2">79</td><td>Not including the state of follower units</td><td>0000 (Factory default)</td></tr>
<tr><td>Including the state of follower units</td><td>0001</td></tr>
</table></td><td>Connector CN61
(Refer to 8-3-1,8-3-2. Optional connector specifications of indoor P.C.board (MCC-1643, MCC-1744)

Be sure to change the setting data while operation stops.</td></tr>
<tr><td>16</td><td>Display of filter sign [▦] (Not provided to the wireless type)</td><td>1) The filter sign is displayed with LC by sending the filter-reset signal to the remote controller when the specified time (150H/2500H) elapsed as a result of integration of the operation time of the indoor fan.
2) The integrated timer is cleared when the filter-reset signal is received from the remote controller.
In this time, if the specified time elapsed, the counted time is reset and the liquid crystal display is deleted.</td><td>[▦ FILTER] goes on.
The filter sign is not displayed in RBC-ASCU11-∗.</td></tr>
<tr><td>17</td><td>Display of [READY] [HEAT READY]</td><td>< READY> Displayed on the remote controller
1) When the following check codes are indicated
• Open phase of power supply wiring [P05] was detected.
• There is an indoor unit that detected the indoor overflow [P10].
• There is an indoor unit that detected the interlock alarm [L30].
2) During Force Thermostat-OFF
• [COOL/DRY] operation is unavailable because the other indoor unit operates with [HEAT] mode.
• [HEAT] operation is unavailable because COOL priority (SW11-bit1 of the Outdoor I/F P. C. board is ON) is set and the other indoor unit operates with [COOL/DRY] mode.
3) The above indoor units that cannot operate stay in Thermostat-OFF status.
4) The indoor fan stops because the system performs [Recovery operation for heating refrigerant (Oil)].

<HEAT READY> Displayed on the remote controller
The indoor fan stops in order to prevent discharge of cool air when heating operation started or during heating operation. (including the defrost operation during thermostat-OFF)</td><td>• < READY ⏻ > display
No display for wireless type remote controller

• <HEAT READY ❄ > display</td></tr>
<tr><td>18</td><td>Selection of central control mode</td><td>1) Selection of the contents that can be operated by the remote controller at the indoor unit side is possible according to setting at the central controller side.
2) Setting contents
<table>
<tr><th rowspan="2">Operation from central controller</th><th colspan="6">Operation on remote controller</th></tr>
<tr><th>ON/OFF setting</th><th>Operation selection</th><th>Timer setting</th><th>Temp. setting</th><th>Fan speed setting</th><th>Air direction setting</th></tr>
<tr><td>Individual</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr>
<tr><td>[Central 1]</td><td>×</td><td>○</td><td>×</td><td>○</td><td>○</td><td>○</td></tr>
<tr><td>[Central 2]</td><td>×</td><td>×</td><td>×</td><td>×</td><td>○</td><td>○</td></tr>
<tr><td>[Central 3]</td><td>○</td><td>×</td><td>○</td><td>×</td><td>○</td><td>○</td></tr>
<tr><td>[Central 4]</td><td>○</td><td>×</td><td>○</td><td>○</td><td>○</td><td>○</td></tr>
</table>
(○: Operation possible ×: Operation impossible)</td><td></td></tr>
</table>

No.	Item	Outline of specifications	Remarks
19	Louver control:	1) Louver position setup • When the louver position is changed, the position moves necessarily to downward discharge position once to return to the set position. • The louver position can be set up in the following operation range. **In cooling/dry operation** **In heating/fan operation**  • In group twin/triple operation, the louver positions can be set up collectively or individually. In case that HEAT refrigerant recovery control was performed in STOP status, the louver position becomes horizontal when the operation is resumed. 2) Swing setup • [SWING] is displayed and the following display is repeated. **In all operations**  (Repeats) • In group operation, the louver positions can be set up collectively or individually. 3) When the unit stopped or the warning was output, the louver is automatically set to full closed position. 4) When PRE-HEAT (Heating ready) is displayed (Heating operation started or defrost operation is performed), heating thermo is off or self-cleaning is performed, the louver is automatically set to horizontal discharge position. * The louver which air direction is individually set or the locked louver closes fully when the unit stops and the louver is automatically set to horizontal discharge position when PRE-HEAT (Heating ready) is displayed, heating thermo is off. **<<Individual air direction setup>>** • Pushing UNIT LOUVER Louver select button enables every discharge port to set up the air direction. The louver numbers that are displayed on the display part correspond to those in the following figure. • In case of no input (key operation) for approx. 5 seconds during setting of individual air direction (during displaying of louver No. on the remote controller screen), the remote controller screen returns to the normal display screen. • For the air direction illustration during normal operation, the air direction of the least No. among the louvers which are block-set is displayed. • While individual air direction is being set, the remote controller operation (Illustration of air direction) and operation of the real machine are linked. • When selecting a case, UNIT LOUVER Louver select button is not pushed or louver No. is not displayed, the air directions of all the louvers are ollectively set up.  	The louver position at horizontal discharge position at under UP30 differs from that at over UP036. The swinging louver moves usually up to the ceiling side from the louver position of the set time. Setup from the remote controller without UNIT LOUVER button is unavailable. For the setup operation, refer to “How to set up louver individually” of Item “Setup at local site/ Others”.

No.	Item	Outline of specifications	Remarks
19	Louver control (Continued):	**<<Selection of Swing mode>>** • For the Swing mode, the following three types of modes are selectable and settable by keeping Swing/Direction SWING/FIX button pushed for 4 seconds or more on the remote controller. 1) Standard (4 pieces: same phase) swing → Data: [0001 (At shipment)] When Swing operation is selected, four louvers align at the horizontal discharge position and then start the Swing operation at the same time. 2) Dual swing → Data: [0002] When operation is selected, the louvers of louver No. [01] and [03] move to the horizontal discharge position, the louvers of louver No. [02] and [04] move to the downward discharge position and then start the Swing operation at the same time. 3) Cycle swing → Data: [0003] When operation is selected, the louver No. [01] moves to the horizontal discharge position, [03] to the downward discharge position, [02] and [04] to the middle position and then start the Swing operation at the same time. • Three types of the swing modes can be also selected and set by the setup data of Item code (DN) [F0]. • In case of selecting the Swing mode, “Dual swing” or “Cycle swing”, the following numerals is displayed at the center of the remote controller screen for approx. 3 seconds when SWING/FIX button was pushed to select [SWING]. (No display for the standard swing)  **Dual swing** **Cycle swing** **<<Louver lock (Louver fix)>>** • For the air direction setup for each discharge port, the louver position can be locked during the normal operation. • An arbitrary air direction of an arbitrary louver can be registered and set by keeping UNIT LOUVER button pushed for 4 seconds or more on the remote controller. • The louver lock can be set by registering the setup data to Item code (DN) [F1] to [F4] according to the following table.	Carry out setting operation during stop of the unit; otherwise the unit stops operation. For the setting operation, refer to [How to set up type of the swings] in Item “7 APPLIED CONTROL” Carry out setting operation during stop of the unit; otherwise the unit stops operation.

CODE No.	Objective louver No.	Setup data
F1	01	0000: Release (At shipment) 0001: Horizontal discharge position ~ 0005: Downward discharge position
F2	02	
F3	03	
F4	04	

<table>
<tr><th>No.</th><th>Item</th><th>Outline of specifications</th><th>Remarks</th></tr>
<tr><td>19</td><td>Louver control
(Continued)</td><td>• If there is the locked louver in the unit, [⊕] goes on the remote controller screen.
• While the following controls are performed, the louvers operate even if executing the louver lock.
<table>
<tr><th></th><th>Control which ignores lock</th><th>Objective louver No.</th></tr>
<tr><td>①</td><td>Operation stop</td><td>Full-close position</td></tr>
<tr><td>②</td><td>When heating operation started</td><td>Horizontal discharge position</td></tr>
<tr><td>③</td><td>Heating thermostat OFF</td><td>Horizontal discharge position</td></tr>
<tr><td>④</td><td>During defrost operation</td><td>Horizontal discharge position</td></tr>
<tr><td>⑤</td><td>Initialize operation</td><td>Full-close position</td></tr>
</table>
• The real louver corresponding to the louver No. displayed on the remote controller screen during setting of louver lock operates swinging.</td><td>For the setting operation, refer to [How to set louver lock] of Installation Manual.

It is position check operation and it does not link with the real louver and air direction setup (Illustration on the remote controller screen).</td></tr>
<tr><td>20</td><td>DC motor</td><td>1) When the fan starts, positioning is performed for the starter and the rotor. (Vibrate slightly)
2) DC motor operates according to the command from the indoor controller.
(Note) If the fan rotates by entry of outside air, etc while the air conditioner stopped, the indoor unit may operate as the fan motor stops.
(Note) If the fan lock was detected, the operation of the indoor unit stops and the check code is displayed.</td><td>Check code [P12]
Subject model :
Compact 4-way
2-way cassette
1-way cassette (SH)
Floor standing</td></tr>
<tr><td>21</td><td>Power saving mode</td><td>(In the case of RBC-AMT∗∗∗)
1. Push the SAVE button on the remote controller
2. The “ ” segment lights up on the wired remote controller display.
3. The requirement capacity ratio is limited to approximately 75 %.
4. If the power saving operation is enabled, the settings are retained when the operation is stopped, when the mode is changed, or when the power is reset.
The power saving operation will be enabled at the next time the operation starts.
• The operation may differ depending on the connected outdoor unit. Refer to the Service Manual of the outdoor unit.</td><td></td></tr>
</table>

7. COMMUNICATION TYPE, MODEL NAMES AND THE MAXIMUM NUMBER OF CONNECTABLE UNITS

7-1. This air conditioning (U series) has new communication specifications, and TU2C-Link (U series) and TCC-Link (other than U series) differ in a communication type. For the communication type and the model names such as each unit or remote controllers, refer to the following table.

Communication type	TU2C-Link (U series and future models)	TCC-Link (Other than U series)
Outdoor unit	MMY-M**U**P∗∗∗ ↑ This letter indicates U series model.	Other than U series MMY-MAP∗∗∗ MCY-MHP∗∗∗
Indoor unit	MM∗-**U**P∗∗∗ ↑ This letter indicates U series model.	Other than U series MM∗-AP∗∗∗
Wired remote controller	RBC-A∗∗**U**∗∗∗ ↑ This letter indicates U series model.	Other than U series
Wireless remote controller kit & receiver unit	RBC-AX**U**∗∗∗ ↑ This letter indicates U series model.	Other than U series
Remote sensor	TCB-TC∗∗**U**∗∗∗ ↑ This letter indicates U series model.	Other than U series

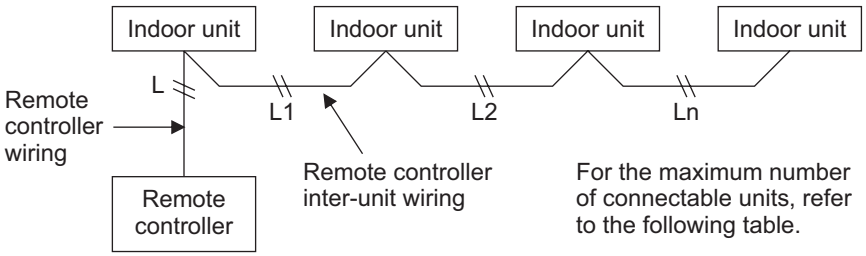
U series outdoor unit : SMMS-u (MMY-MUP∗∗∗)
Other than U series outdoor unit : SMMS-i, SMMS-e etc. (MMY-MAP∗∗∗)

7-2. If TU2C-Link (U series) is combined with TCC-Link (other than U series), the wiring specifications and the maximum number of connectable indoor units during group control operation will be changed.

(1) For wiring specifications, carry out the installation, maintenance, or repair according to the attached Installation Manual.

(2) For a communication type combination and the max. number of connectable indoor units, refer to the following table.

- Only when all outdoor unit, indoor unit and remote control are a U series, communication method is TU2C-LINK, and the maximum number of connectable units will be 16.



The combination of unit type and the number of the maximum connection of a communication method

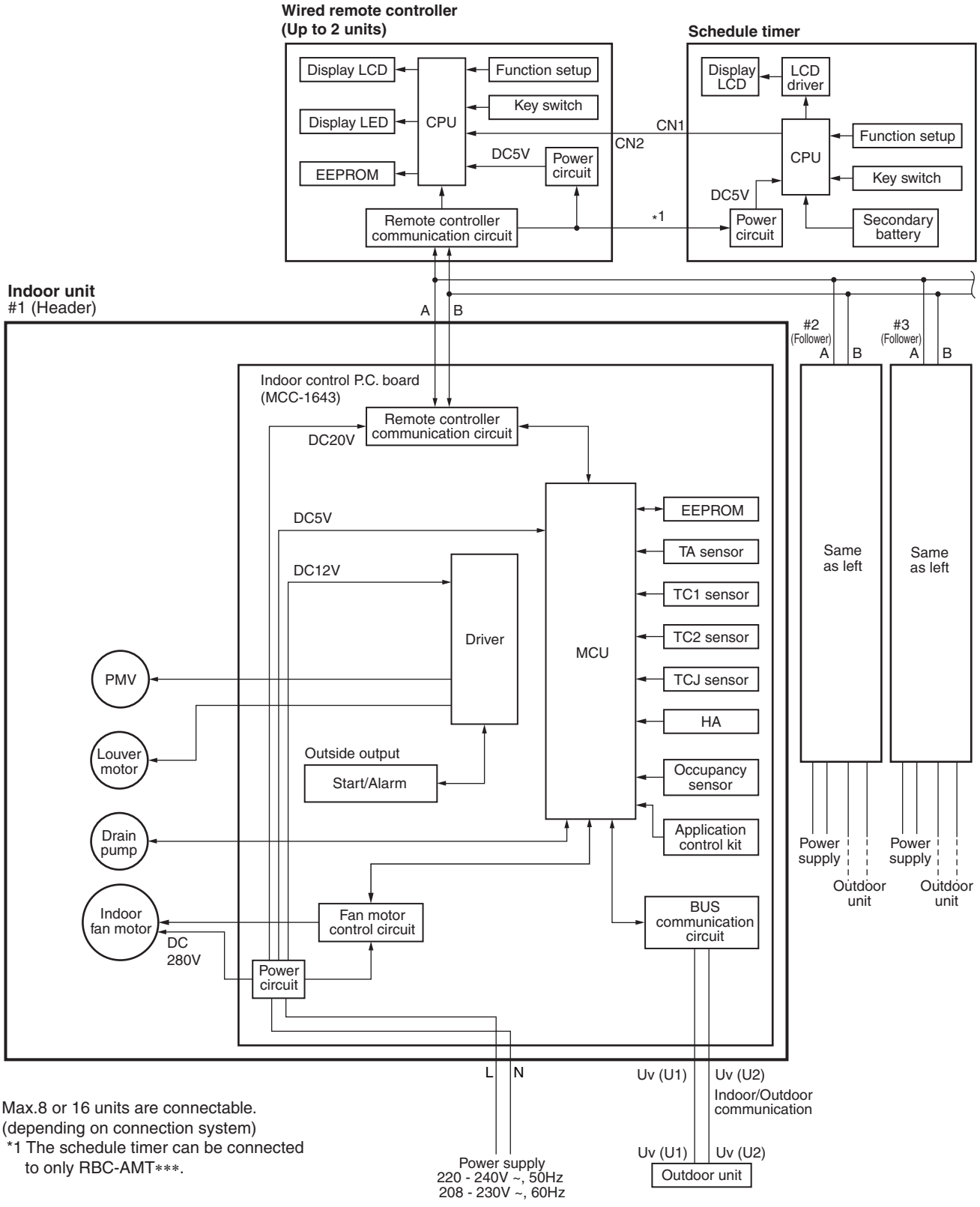
	Unit type							
Outdoor unit	U series	U series	U series	U series	*	*	*	*
Indoor unit	U series	U series	*	*	U series	U series	*	*
Remote controller Remote sensor	U series	*	U series	*	U series	*	U series	*
Communication type	TU2C-Link	TCC-Link						
Maximum number of connectable units	16	8						

* Other than U series

8. APPLIED CONTROL AND FUNCTIONS (INCLUDING CIRCUIT CONFIGURATION)

8-1. Indoor controller block diagram (MCC-1643)

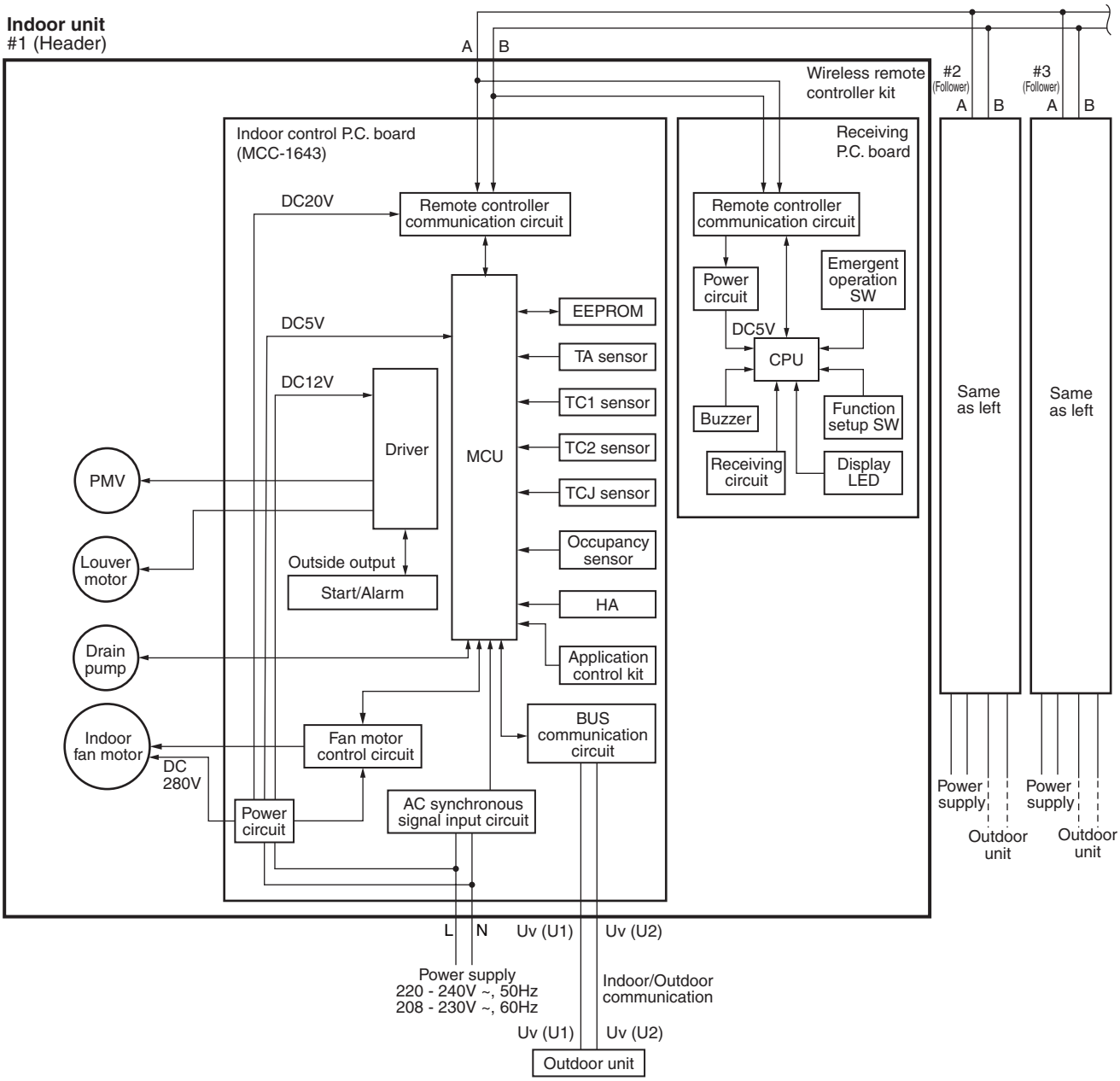
8-1-1. In case of connection of wired remote controller



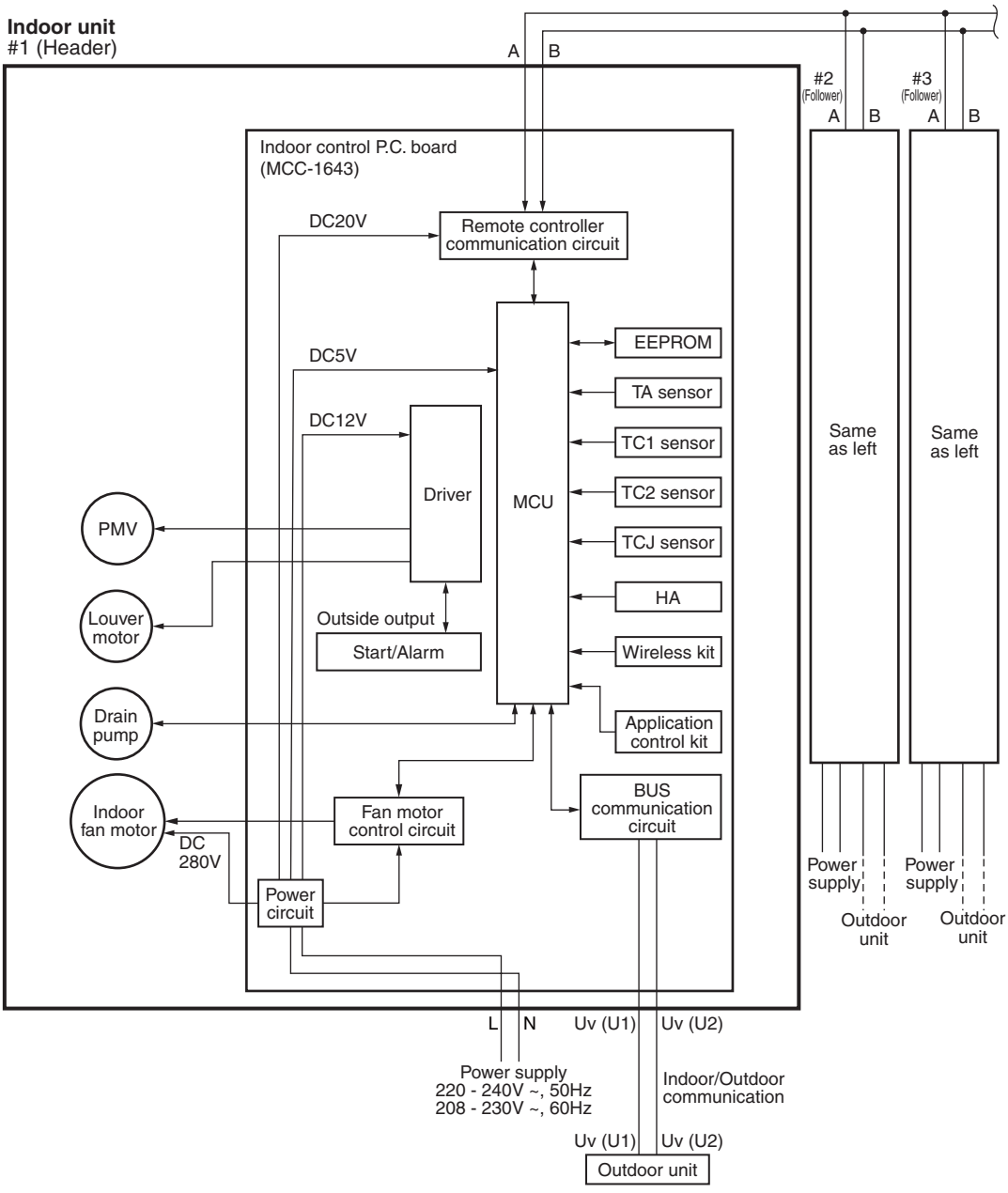
Max.8 or 16 units are connectable.
(depending on connection system)

*1 The schedule timer can be connected to only RBC-AMT***.

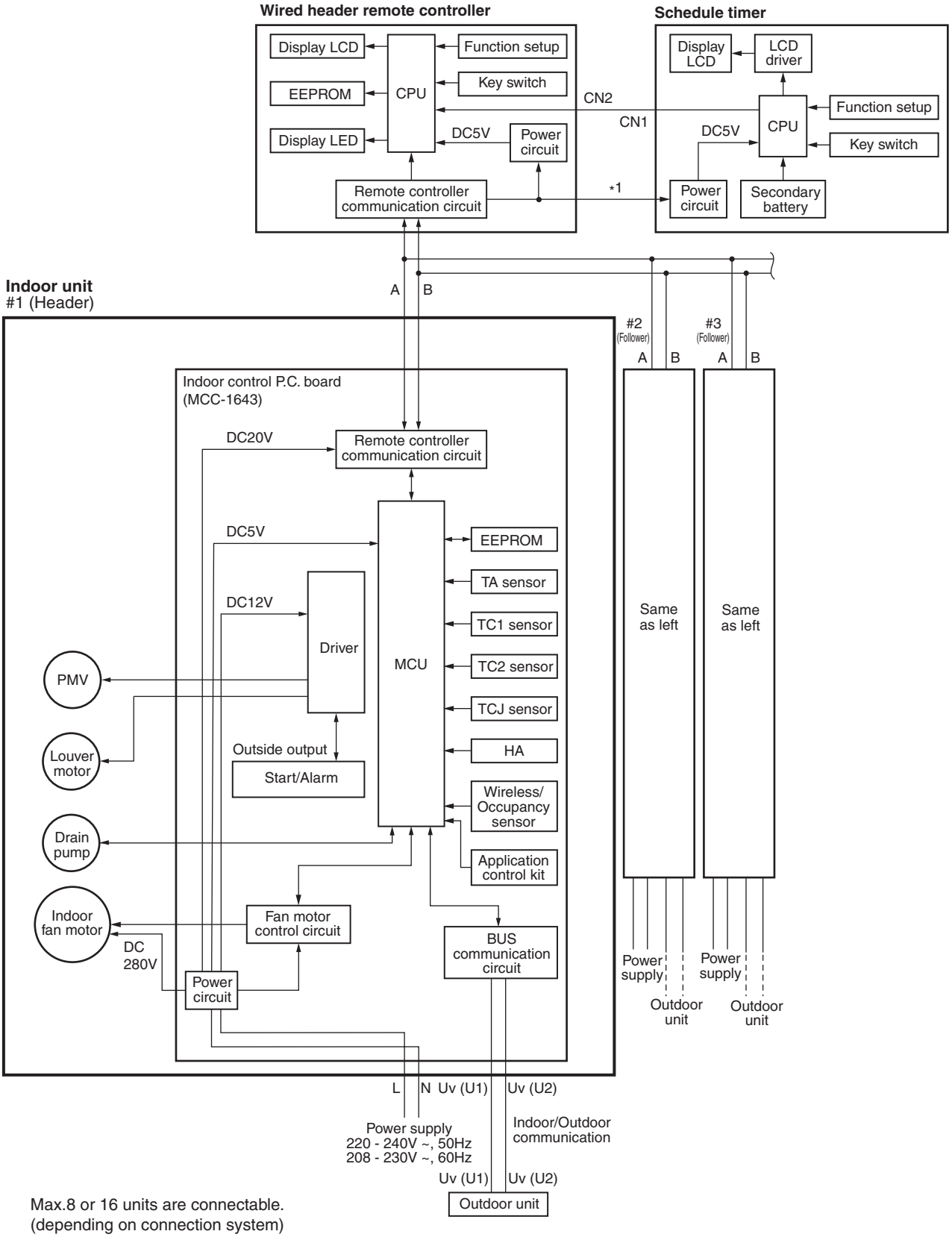
8-1-2. In case of connection of wireless remote controller



In case of 4-way cassette type



8-1-3. Connection of both wired remote controller and wireless remote controller

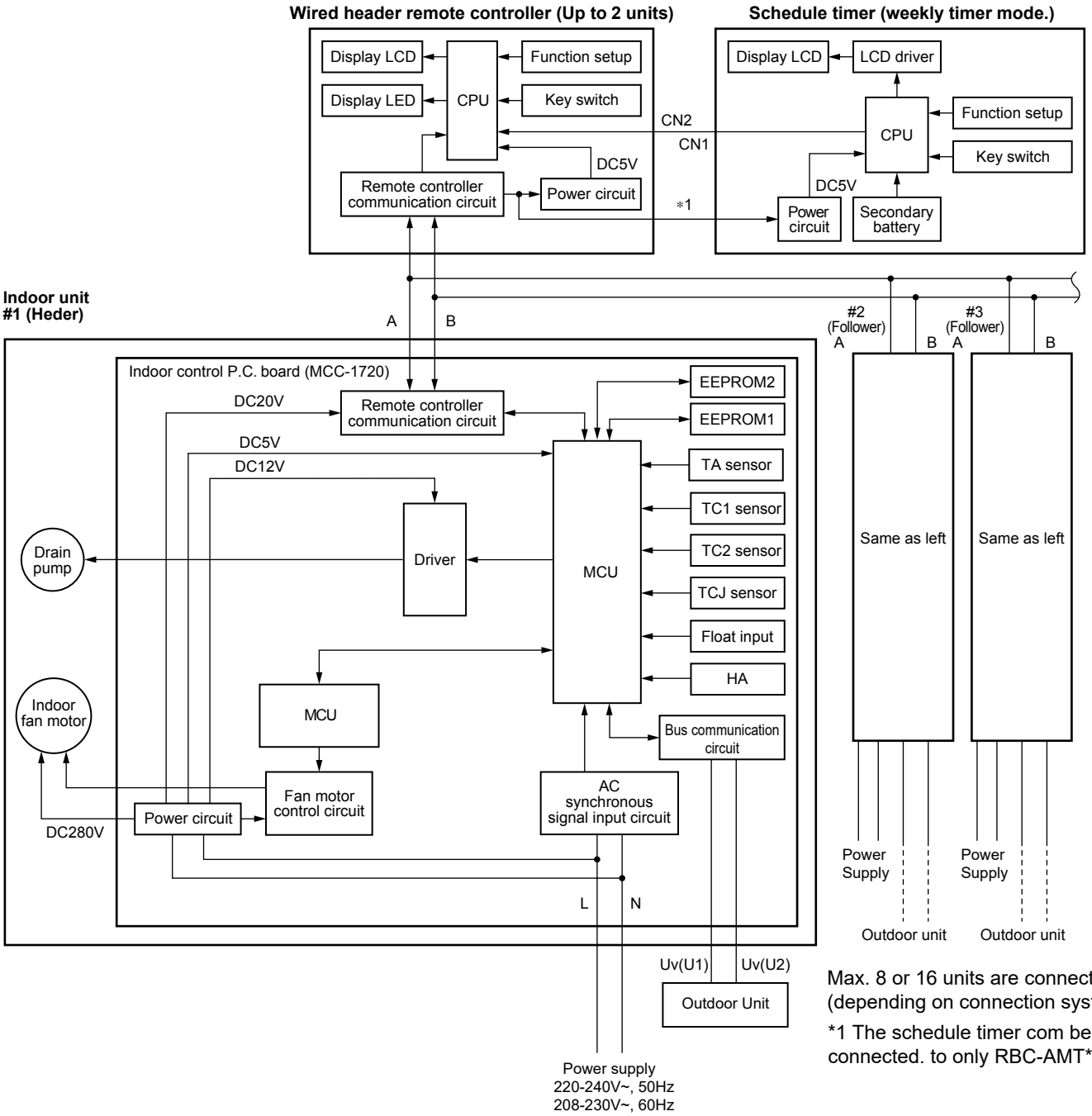


Max.8 or 16 units are connectable.
(depending on connection system)

*1 The schedule timer can be connected to only RBC-AMT***.

8-2. Indoor controller block diagram (MCC-1720)

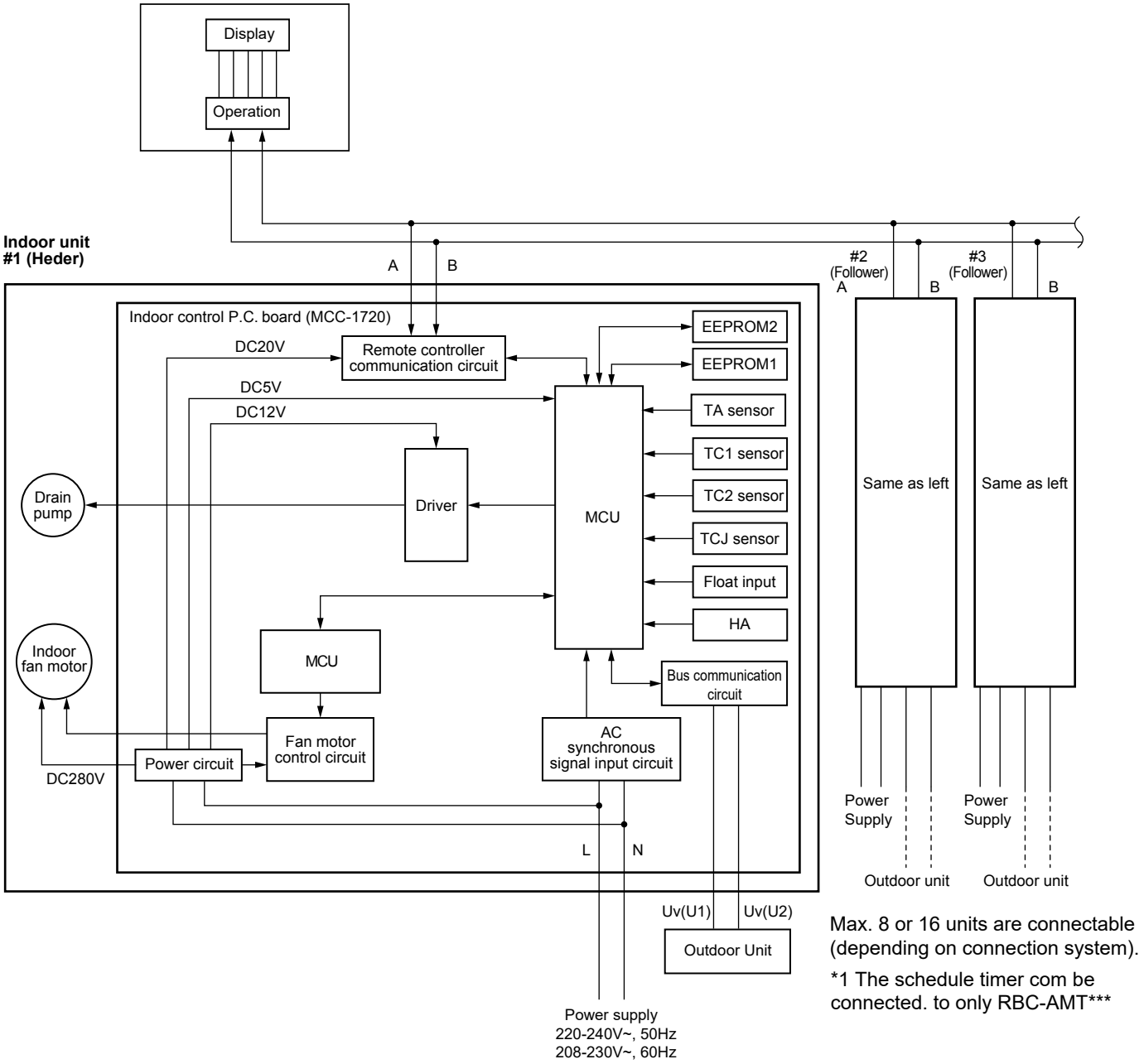
8-2-1. In case of connection of wired remote controller



Max. 8 or 16 units are connectable (depending on connection system).

*1 The schedule timer com be connected. to only RBC-AMT***

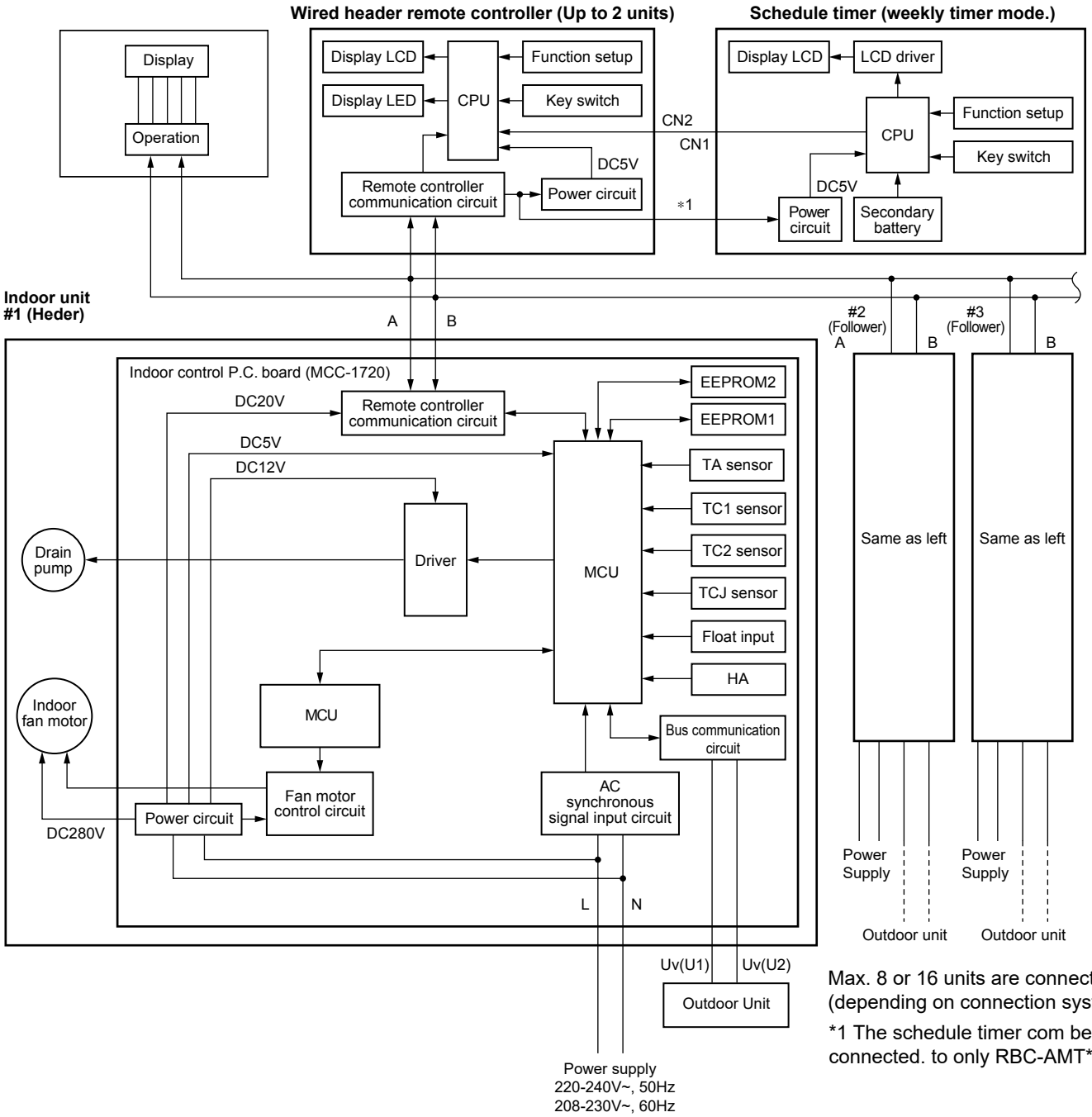
8-2-2. In case of connection of wireless remote controller



Max. 8 or 16 units are connectable (depending on connection system).

*1 The schedule timer com be connected. to only RBC-AMT***

8-2-3. In case of connection of wired remote controller and wireless remote controller

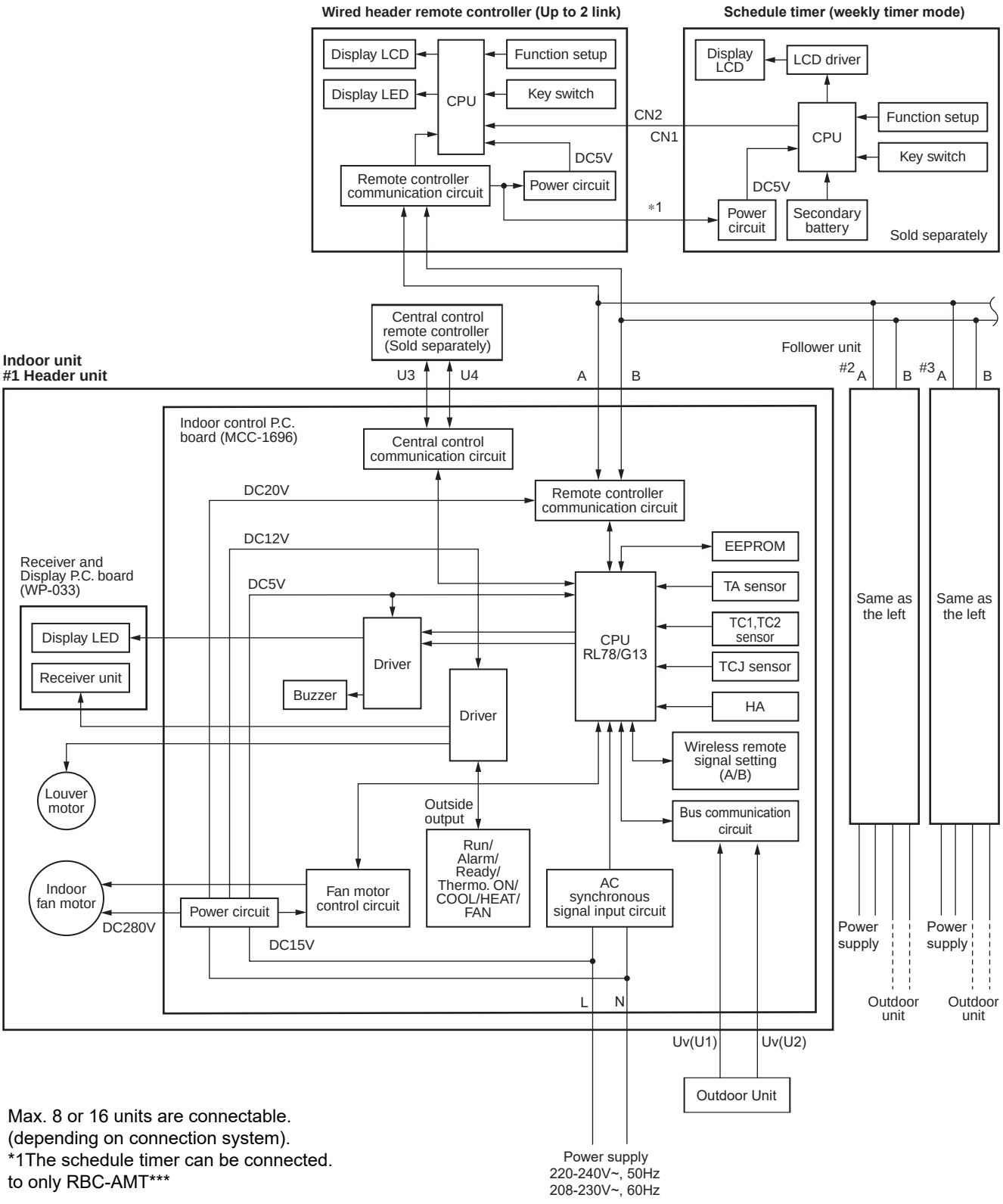


Max. 8 or 16 units are connectable (depending on connection system).

*1 The schedule timer com be connected. to only RBC-AMT***

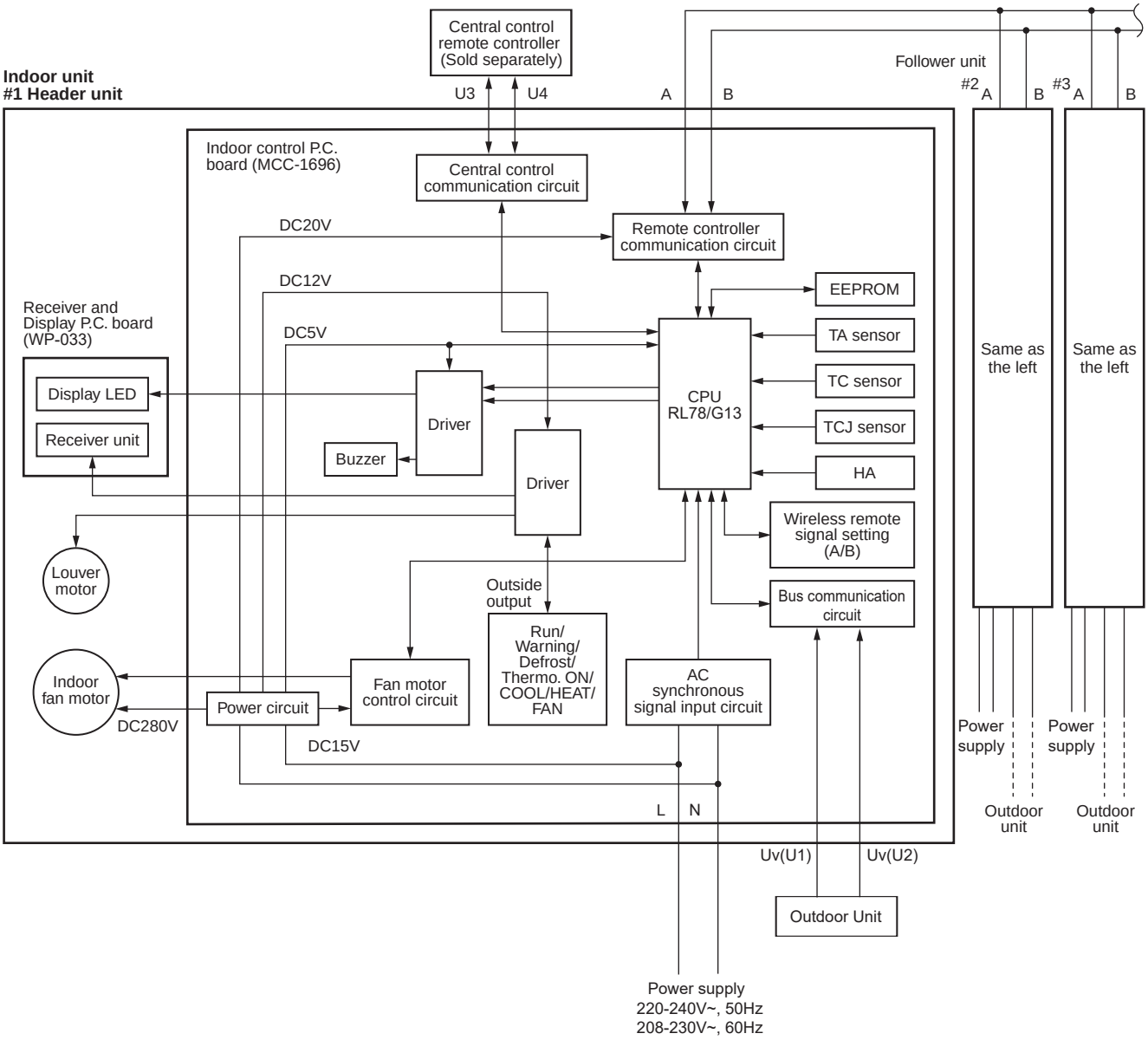
8-3. Indoor controller block diagram (MCC-1696)

8-3-1. Connection of wired remote controller



Max. 8 or 16 units are connectable.
(depending on connection system).
*1The schedule timer can be connected.
to only RBC-AMT***

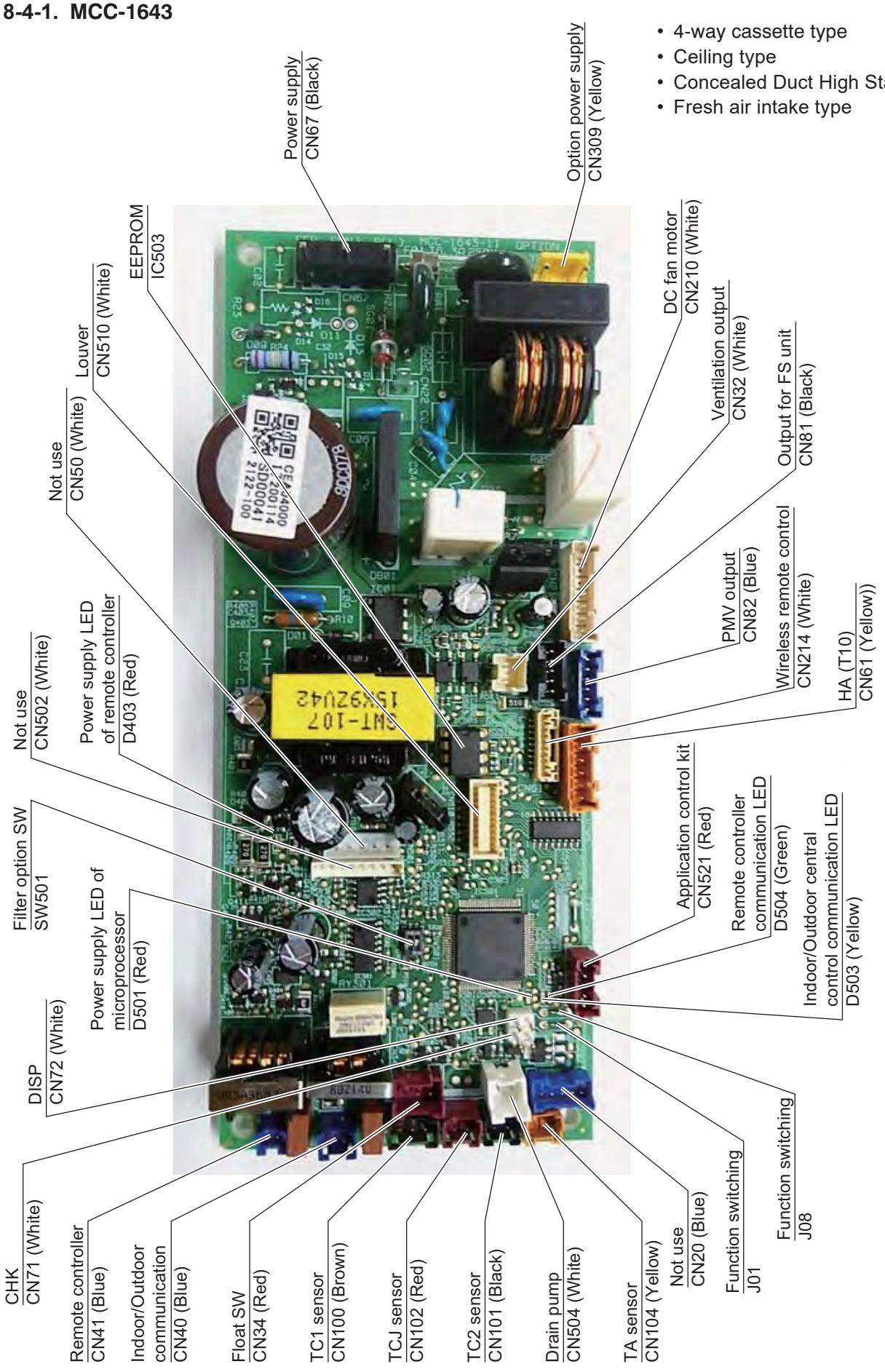
8-3-2. Connection of Wireless Remote Controller



8-4. Indoor Print Circuit Board

8-4-1. MCC-1643

- 4-way cassette type
- Ceiling type
- Concealed Duct High Static pressure type
- Fresh air intake type



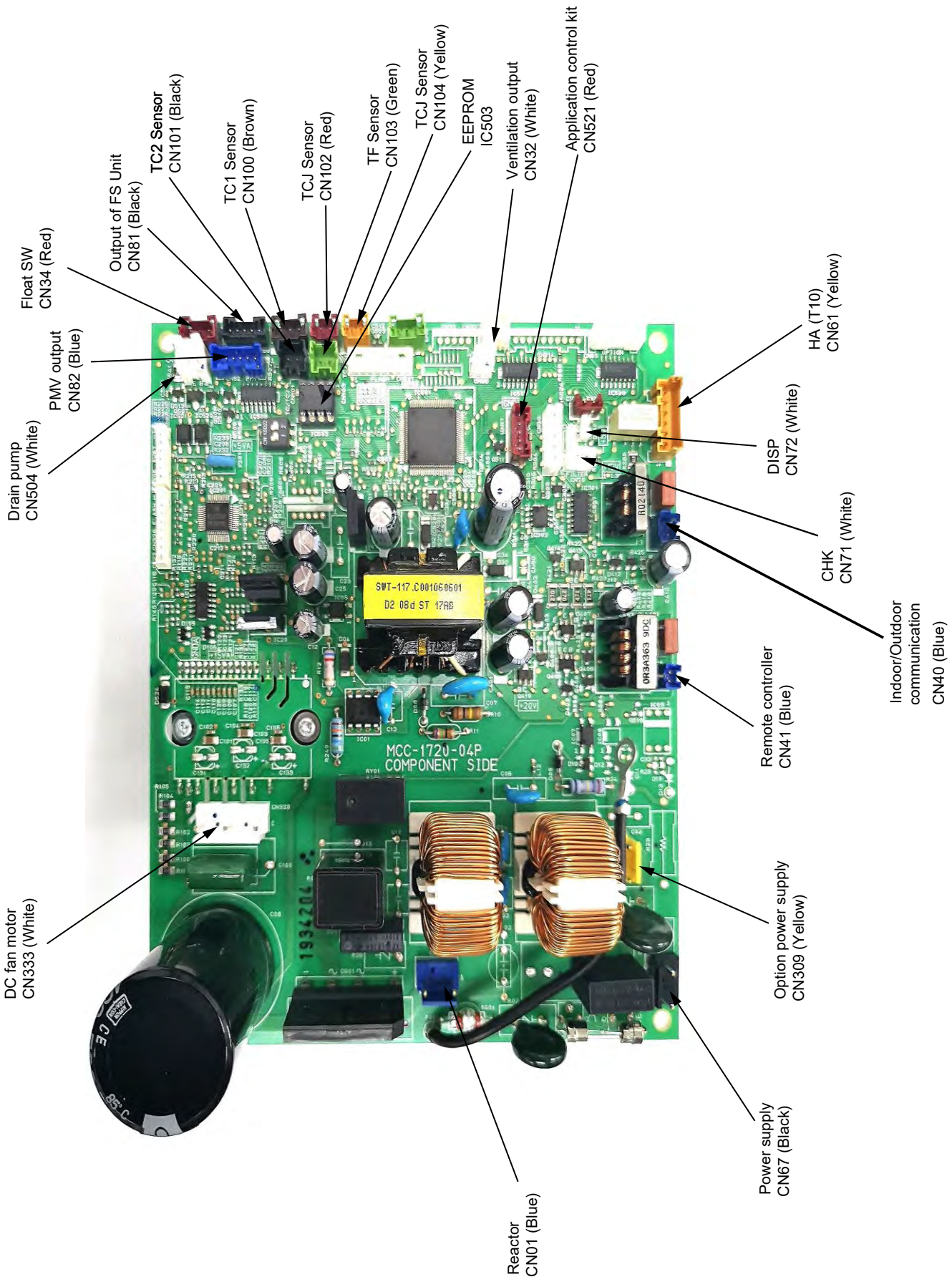
Optional connector specifications of indoor P.C. board (MCC-1643)

Connector No.	Color	Function	4-way Cassette	Ceiling	Concealed Duct High Static Pressure	Concealed Duct High Static Pressure fresh air intake	Pin No.	Specifications	Remarks
CN32	White	Ventilation output	○	○	○	○	① ②	DC12V Output (Open collector)	Setting at shipment: Interlock of ON by indoor unit operation, with OFF by stop operation * The single operation setting by FAN button on the remote controller is performed on the remote controller (DN=31).
CN34	Red	Input for float SW	●	× (With short-circuit connector)	●	●	① ② ③	DC12V NC Float SW input	Normal when between ①–③ short-circuits, but abnormal when open-circuits. (check code "P10" appears)
CN61	Yellow	HA	○	○	○	○	① ② ③ ④ ⑤ ⑥	ON/OFF input 0V（COM） Remote controller prohibited input Operation output (Open collector) DC12V（COM) Warning output (Open collector)	HA ON/OFF input (J01: YES/NO=Pulse (At shipment from factory) /Static input selection) Permission/Prohibition of remote controller operation stop is performed by input. Operation ON (Answer back of HA) Warning output ON
CN71	White	CHK Operation check	○	○	○	○	① ②	Check mode input 0V	This check is used to check indoor operation. (Performs operation of indoor fan “H” , Louver horizontal and Drain pump ON without communication with outdoor and remote controller)
CN72	White	DISP Exhibition mode	○	○	○	○	① ②	DISP mode input 0V	Communication is available by indoor unit and remote controller only (When the power is turned on). Shortening time of timer (Always)
CN81	Black	Output for Flow selector unit	△	△	△	△	① ② ③ ④ ⑤	DC12V EP valve output (Open collector) Balance valve output (Open collector) Suction valve output (Open collector) Discharge valve output (Open collector)	
CN309	Yellow	Output power supply for option	○	○	○	○	① ③	AC230V AC230V	This can be used as power supply for option devices.
CN521	Red	Connection for option P.C.board	△	△	△	△	① ② ③ ④ ⑤	DC12V DC5V Send Receive 0V	Connected Application control kit (TCB-PCUC2E)

● : Use in standard, ○ : Available, △ : Use by connecting parts sold separately, × : Unavailable

* To use the functions operated by CN60, CN80, CN70 and CN73, which are provided for other P.C.board, use the Application control kit (TCB-PCUC2E) sold separately.

8-4-2. MCC-1720


Float SW
CN34 (Red)
Output of FS Unit
CN81 (Black)
TC2 Sensor
CN101 (Black)
TC1 Sensor
CN100 (Brown)
TCJ Sensor
CN102 (Red)
TF Sensor
CN103 (Green)
TCJ Sensor
CN104 (Yellow)
EEPROM
IC503
Ventilation output
CN32 (White)
Application control kit
CN521 (Red)
HA (T10)
CN61 (Yellow)
PMV output
CN82 (Blue)
Drain pump
CN504 (White)
DISP
CN72 (White)
CHK
CN71 (White)
Indoor/Outdoor
communication
CN40 (Blue)
Remote controller
CN41 (Blue)
Option power supply
CN309 (Yellow)
Power supply
CN67 (Black)
Reactor
CN01 (Blue)
DC fan motor
CN333 (White)
MCC-172u-04P
COMPONENT SIDE

Optional connector specifications of indoor P.C. board (MCC-1720)

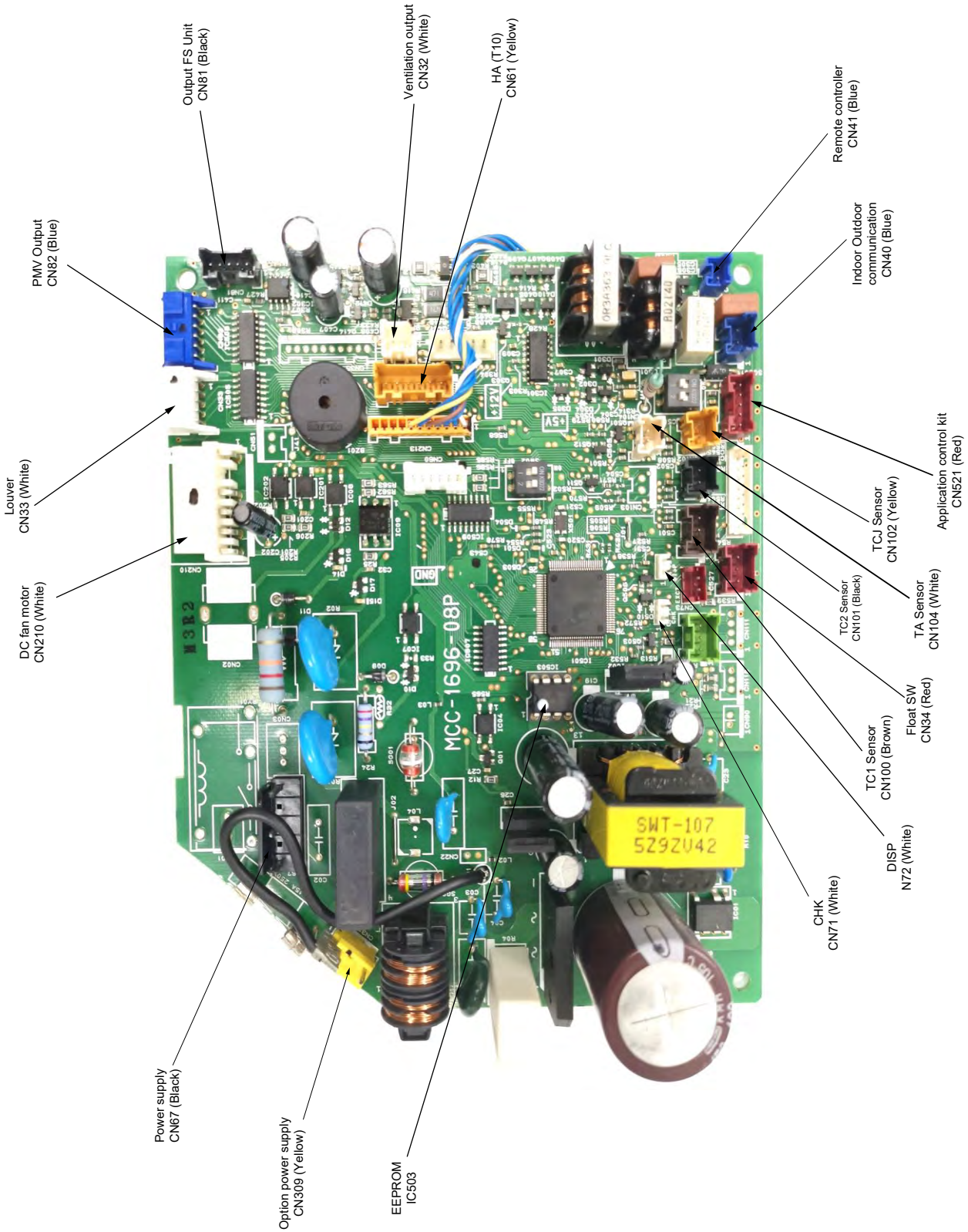
Connector No.	Color	Function	Concealed Duct Standard	Concealed Duct High static pressure	Concealed Duct High static pressure fresh air intake	Pin No.	Specifications	Remarks
CN32	White	Ventilation output	○	○	○	① ②	DC12V Output (Open collector)	Setting at shipment: Interlock of ON by indoor unit operation, with OFF by stop operation * The single operation setting by FAN button on the remote controller is performed on the remote controller (DN=31).
CN34	Red	Input for float SW	●	●	●	① ② ③	DC12V NC Float SW input	Normal when between ①−③ short-circuits, but abnormal when open-circuits. (check code "P10" appears)
CN61	Yellow	HA	○	○	○	① ② ③ ④ ⑤ ⑥	ON/OFF input 0V（COM） Remote controller prohibited input Operation output (Open collector) DC12V（COM） Warning output (Open collector)	HA ON/OFF input (J01: YES/NO=Pulse (At shipment from factory) /Static input selection) Permission/Prohibition of remote controller operation stop is performed by input. Operation ON (Answer back of HA) Warning output ON
CN71	White	CHK Operation check	○	○	○	① ②	Check mode input 0V	This check is used to check indoor operation. (Performs operation of indoor fan “H” , Louver horizontal and Drain pump ON without communication with outdoor and remote controller)
CN72	White	DISP Exhibition mode	○	○	○	① ②	DISP mode input 0V	Communication is available by indoor unit and remote controller only (When the power is turned on). Shortening time of timer (Always)
CN81	Black	Output for Flow selector unit	△	△	△	① ② ③ ④ ⑤	DC12V EP valve output (Open collector) Balance valve output (Open collector) Suction valve output (Open collector) Discharge valve output (Open collector)	
CN309	Yellow	Output power supply for option	○	○	○	① ③	AC230V AC230V	This can be used as power supply for option devices.
CN521	Red	Connection for option P.C.board	△	△	△	① ② ③ ④ ⑤	DC12V DC5V Send Receive 0V	Connected Application control kit (TCB-PCUC2E)

● : Use in standard, ○ : Available, △ : Use by connecting parts sold separately, × : Unavailable

* To use the functions operated by CN60, CN80, CN70 and CN73, which are provided for other P.C.board, use the Application control kit (TCB-PCUC2E) sold separately.

8-4-3. MCC-1696

- High Wall type
- Console type



Optional connector specifications of indoor P.C. board (MCC-1696)

Connector No.	Color	Function	High wall	Console	Pin No.	Specifications	Remarks
CN32	White	Ventilation output	○	○	① ②	DC12V Output (Open collector)	Setting at shipment: Interlock of ON by indoor unit operation, with OFF by stop operation * The single operation setting by FAN button on the remote controller is performed on the remote controller (DN=31).
CN34	Red	Input for float SW	× (With short-circuit connector)	× (With short-circuit connector)	① ② ③	DC12V NC Float SW input	Normal when between ①−③ short-circuits, but abnormal when open-circuits. (check code "P10" appears)
CN61	Yellow	HA	○	○	① ② ③ ④ ⑤ ⑥	ON/OFF input 0V（COM） Remote controller prohibited input Operation output (Open collector) DC12V（COM） Warning output (Open collector)	HA ON/OFF input (J01: YES/NO=Pulse (At shipment from factory) /Static input selection) Permission/Prohibition of remote controller operation stop is performed by input. Operation ON (Answer back of HA) Warning output ON
CN71	White	CHK Operation check	○	○	① ②	Check mode input 0V	This check is used to check indoor operation. (Performs operation of indoor fan “H” , Louver horizontal and Drain pump ON without communication with outdoor and remote controller)
CN72	White	DISP Exhibition mode	○	○	① ②	DISP mode input 0V	Communication is available by indoor unit and remote controller only (When the power is turned on). Shortening time of timer (Always)
CN81	Black	Output for Flow selector unit	△	△	① ② ③ ④ ⑤	DC12V EP valve output (Open collector) Balance valve output (Open collector) Suction valve output (Open collector) Discharge valve output (Open collector)	
CN309	Yellow	Output power supply for option	○	○	① ③	AC230V AC230V	This can be used as power supply for option devices.
CN521	Red	Connection for option P.C.board	△	△	① ② ③ ④ ⑤	DC12V DC5V Send Receive 0V	Connected Application control kit (TCB-PCUC2E)

● : Use in standard, ○ : Available, △ : Use by connecting parts sold separately, × : Unavailable

* To use the functions operated by CN60, CN80, CN70 and CN73, which are provided for other P.C.board, use the Application control kit (TCB-PCUC2E) sold separately.

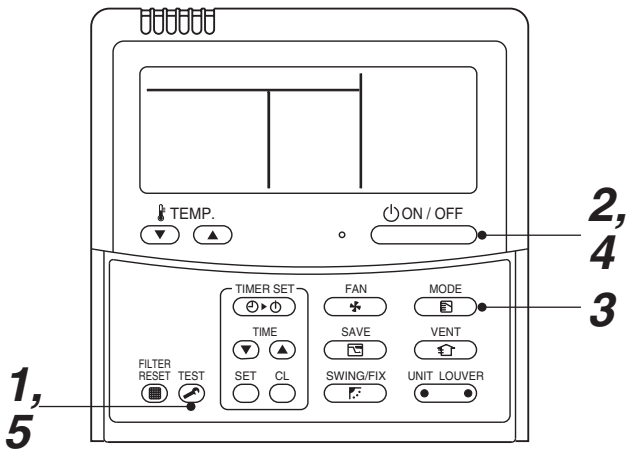
8-5. Test run of indoor unit

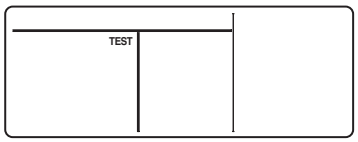
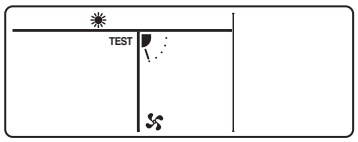
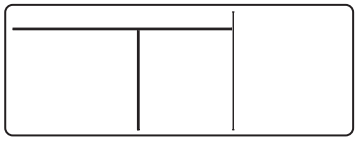
■ Cooling/Heating test run check

The test run for cooling/heating can be performed from either indoor remote controller or outdoor interface P.C. board. Refer to the Installation Manual and Service Manual of outdoor unit for the procedure of the test run from an outdoor interface P.C. board.

◆ In case of wired remote controller

<RBC-AMT∗∗∗>



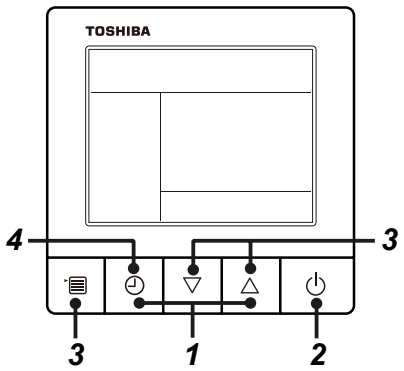
Procedure	Operation contents
1	Push [TEST] button for 4 seconds or more. [TEST] is displayed at the display part and the mode enters in TEST mode. 
2	Push [ON/OFF] button.
3	Change the mode from [COOL] to [HEAT] using [MODE] button. • Do not use [MODE] button for other mode except [COOL]/[HEAT] modes. • The temperature cannot be adjusted during test run. • The trouble detection is performed as usual. 
4	After test run, push [ON/OFF] button to stop the operation. (Display on the display part is same to that in Procedure *1* .)
5	Push [TEST] button to clear the TEST mode. ([TEST] display in the display part disappears and status becomes the normal stop status.) 

Note) The test run returns to the normal operation after 60 minutes.

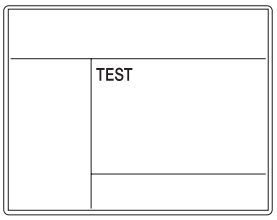
<RBC-ASCU11-∗>

Be sure to stop the air conditioner before making settings.

(Change the setup while the air conditioner is not working.)



1 **Push and hold OFF timer button and [△] setting button simultaneously for 10 seconds or more. [TEST] is displayed on the display part and the test run is permitted.**



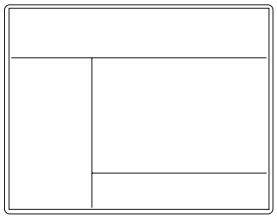
2 **Push ON/OFF button.**

3 **Push menu button to select the operation mode. Select [Cool] or [Heat] with [▽] [△] setting button.**

- Do not run the air conditioner in a mode other than [Cool] or [Heat].
- The temperature setting function does not work during test run.
- The check code is displayed as usual.

4 **After the test run, push OFF timer button to stop a test run.**

([TEST] disappears on the display and the air conditioner enters the normal stop mode.)



◆ In case of wireless remote controller

1 Turn on the power of the air conditioner.
When power is turned on for the first time after installation, it takes approx. 5 minutes until the remote controller becomes available. In the case of subsequent power-on, it takes approx. 1 minute until the remote controller becomes available.
Execute a test run after the predetermined time has passed.

2 Push “ON/OFF” button on the remote controller, select [Cool] or [Heat] with “MODE” button, and then select [HIGH] with “FAN” button.

3

Cooling test run	Heating test run
Set the temperature to 17 ˚C with the temp. setup buttons.	Set the temperature to 30 ˚C with the temp. setup buttons.

4

Cooling test run	Heating test run
After confirming a signal receiving sound “beep” immediately set the temperature to 18 ˚C with the temp. setup buttons.	After confirming a signal receiving sound “beep” immediately set the temperature to 29 ˚C with the temp. setup buttons.

5

Cooling test run	Heating test run
After confirming a signal receiving sound “beep” immediately set the temperature to 17 ˚C with the temp. setup buttons.	After confirming a signal receiving sound “beep” immediately set the temperature to 30 ˚C with the temp. setup buttons.

6 Repeat procedures ***4 → 5 → 4 → 5***.
Indicators “Operation” (green), “Timer” (green), and “Ready” (orange) in the wireless receiver section flash in approx. 10 seconds, and the air conditioner starts operation. If any of these indicators does not flash, repeat procedures 2 to 5.

7 Upon completion of the test run, push “ON/OFF” button to stop operation.

<Overview of test run operations using the wireless remote controller>

▼ Cooling test run:
ON/OFF → 17 °C → 18 °C → 17 °C → 18 °C → 17 °C → 18 °C → 17 °C → (test run) → ON/OFF

▼ Heating test run:
ON/OFF → 30 °C → 29 °C → 30 °C → 29 °C → 30 °C → 29 °C → 30 °C → (test run) → ON/OFF

■ Check function for operation of indoor unit (Functions at indoor unit side)

This function is provided to check the operation of the indoor unit singly without communication with the remote controller or the outdoor unit. This function can be used regardless of operation or stop of the system. However, if using this function for a long time, a trouble of the equipment may be caused. Limit using this function within several minutes.

[How to operate]

1) Short-circuit CHK pin (CN71 on the indoor P.C. board).
   The operation mode differs according to the indoor unit status in that time.
   Normal time: Both float SW and fan motor are normal.
   Abnormal time: Either one of float SW or fan motor is abnormal.
2) Restricted to the normal time, if short-circuiting DISP pin (CN72 on the indoor P.C. board) in addition to short-circuit of CHK pin (CN71 on the indoor P.C. board), the minimum opening degree (30 pls) can be set to the indoor PMV only.
   When open DISP pin, the maximum opening degree (1500 pls) can be obtained again.
   • For the detailed positions of CHK pin (CN71 on indoor P.C. board) and DISP pin (CN72 on indoor P.C. board),
   refer to the indoor P.C. board.

[How to clear]

Open CHK pin. While the system is operating, it stops once but automatically returns to operation after several minutes.

	Short-circuit of CHK pin		
	Normal time		**Abnormal time**
	DISP pin open	**DISP pin short circuit**	
Fan motor	(H)	(H)	Stop
Indoor PMV (*)	Max. opening degree (1500 pls)	Min. opening degree (30 pls)	Min. opening degree (30 pls)
Louver	Vertical	Vertical	Immediate stop
Communication	All ignored	All ignored	All ignored
P.C. board LED	Lights	Lights	Flashes

* The actual indoor PMV opening degree may differ from the described values due to adjustment depending on PMV types.

• To exchange the indoor PMV coil, set the indoor PMV to Max. opening degree.

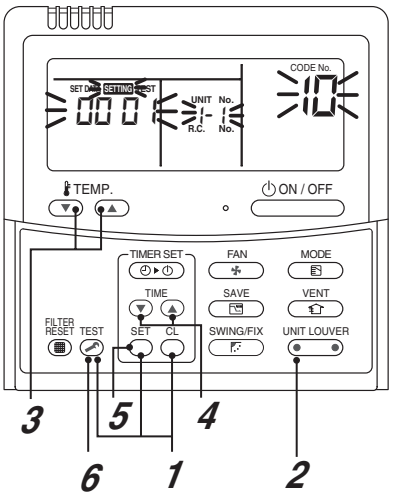
8-6. Method to set indoor unit function DN code

(When performing this task, be sure to use a wired remote controller.)

◆ Procedure

Be sure to stop the air conditioner before making settings

<RBC-AMT∗∗∗>



1 **Push the TEST + SET + CL buttons simultaneously and hold for at least 4 seconds.**

The unit No. displayed first is the address of the header indoor unit in group control.

Then the fan and louver of the selected indoor unit move.

2 **Each time the UNIT LOUVER button (left side of the button) is pressed, one of the indoor unit Nos. under group control is displayed in turn. Then the fan and louver of the selected indoor unit move.**

3 **Use the TEMP. button to select the CODE No. (DN code) of the desired function.**

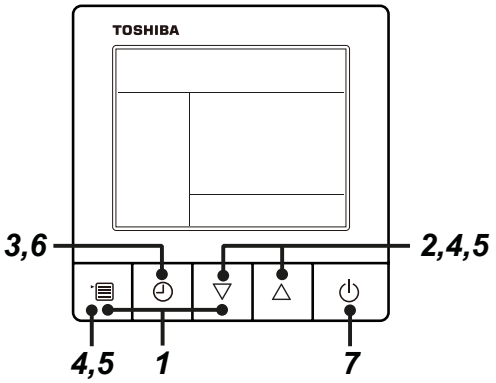
4 **Use the TIME button to select the desired SET DATA associated with the selected function.**

5 **Push the SET button. (The display changes from flashing to steady.)**

- To change the selected indoor unit, go back to step ***2***.
- To change the selected function, go back to step ***3***.

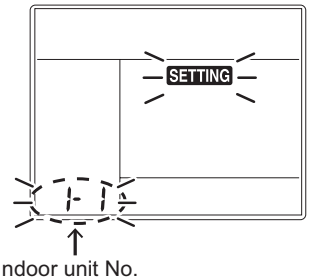
6 **When the SET button is pushed, the system returns to normal off state.**

<RBC-ASCU11-∗>



1 **Push and hold menu button and [▽] setting button simultaneously for 10 seconds or more.**

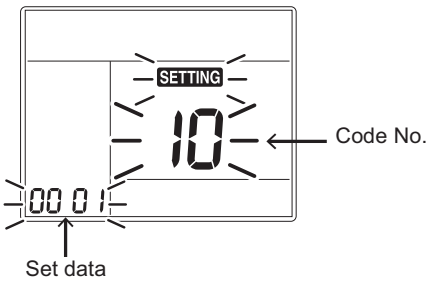
- After a while, the display flashes as shown in the figure. “ALL” is displayed as indoor unit numbers during initial communication immediately after the power has been turned on.



2 **Each time [▽] [△] setting button is pushed, indoor unit numbers in the group control change cyclically. Select the indoor unit to change settings for.**

- The fan of the selected indoor unit runs . The indoor unit can be confirmed for which to change settings.

3 **Push OFF timer button to confirm the selected indoor unit.**



4 **Push the menu button to make Code No. [✱✱] flash. Change Code No. [✱✱] with [▽] [△] setting button.**

5 **Push the menu button to make Set data [✱✱✱✱] flash. Change Set data [✱✱✱✱] with [▽] [△] setting button.**

6 **Push OFF timer button to complete the set up.**

- To change other settings of the selected indoor unit, repeat from Procedure ***4***.

7 **When all the settings have been completed, push ON/OFF button to finish the settings. (Return to the normal mode)**

" SETTING " flashes and then the display content disappears and the air conditioner enters the normal stop mode. (The remote controller is unavailable while " SETTING " is flashing.)

- To change settings of another indoor unit, repeat from Procedure ***1***.

Indoor unit function Code No. (DN Code) table

(includes functions needed to perform applied control on site)

DN	Item	Description	At shipment
01	Filter display delay timer	0000: None 0001: 150H 0002: 2500H 0003: 5000H 0004: 10000H	Depending on model type
02	Dirty state of filter	0000: Standard 0001: High degree of dirt (Half of standard time)	0000: Standard
03	Central control address	0001: No.1 unit to 0064: No.64 unit … TCC-LINK 0001: No.1 unit to 0128: No.128 unit … TU2C-LINK 00Un: Unfixed (When using U series remote controller) 0099: Unfixed (Other than U series remote controller)	00Un/0099: Unfixed *1
04	Specific indoor unit priority	0000: No priority 0001: Priority	0000: No priority
06	Heating temp. shift	0000: 0 °C 0001: +1 °C 0002: +2 °C to 0010: +10 °C (Up to +6 recommended)	Depending on model type
0b	Demand control (CN73 / CN4)	0000: Demand input 0001: O2 sensor input 0002: Card input setup.3 0003: Fire alarm input 0004: Card input setup.4 (Normal open) 0005: Fire alarm input 0006: Notice cord (202) (Normal close) 0008: Card input setup.1 0007: Card input setup.5 0009: Card input setup.2	0000: Demand input
0d	Existence of [AUTO] mode	0000: Provided 0001: Not provided (Automatic selection from connected outdoor unit)	0001: Not provided
0F	Cooling only	0000: Heat pump 0001: Cooling only (No display of [AUTO] [HEAT])	0000: Heat pump
10	Type	Refer to **Type DN code "10" list**	Depending on model type
11	Indoor unit capacity	0000: Unfixed 0001 to 0034 Refer to Indoor Unit Capacity DN code "11" list	According to capacity type
12	Line address	0001: No.1 unit to 0064: No.30 unit … TCC-LINK 0001: No.1 unit to 0128: No.128 unit … TU2C-LINK 00Un: Unfixed (When using U series remote controller) 0099: Unfixed (Other than U series remote controller)	00Un/0099: Unfixed *1
13	Indoor unit address	0001: No.1 unit to 0064: No.64 unit … TCC-LINK 0001: No.1 unit to 0128: No.128 unit … TU2C-LINK 00Un: Unfixed (When using U series remote controller) 0099: Unfixed (Other than U series remote controller)	00Un/0099: Unfixed *1
14	Group address	0000: Individual 0001: Header unit of group 0002: Follower unit of group 00Un: Unfixed (When using U series remote controller) 0099: Unfixed (Other than U series remote controller)	00Un/0099: Unfixed *1
19	Louver type (Air direction adjustment)	0000: No louver 0001: Swing only 0004: (4-way Air Discharge Cassette type, etc.)	Depending on model type
1E	Temp difference of [AUTO] mode selection COOL → HEAT, HEAT → COOL	0000: 0 °C to 0010: 10 °C (Ts ± 5°C) Ts:Remote controller setup temp.	0003: 3 °C (Ts ±1.5 °C)
28	Automatic restart of power failure	0000: None 0001: Restart	0000: None
2A	Selection of option/Trouble input (TCB-PCUC2E: CN3)	0000: Filter input 0001: Alarm input 0002: None (Air washer, etc.)	0002: None
2E	HA terminal (CN61) select	0000: Usual 0001: Card input setup.1 (3) 0002: Fire alarm input 0003: Card input setup.2 (4) (arbiter contact) 0004: Notice cord (201) 0005: Card input setup.5	0000: Usual (HA terminal)
31	Ventilating fan control	0000: Unavailable 0001: Available	0000: Unavailable
32	TA sensor selection	0000: Body TA sensor 0001: Remote controller sensor	0000: Body TA sensor

DN	Item	Description	At shipment
33	Temperature unit select	0000: °C 0001: °F	0000: °C
5d	External static pressure High-ceiling adjustment (Air flow selection)	Refer to next page.	Depending on model type
60	Timer setting (wired remote controller)	0000: Available (can be performed) 0001: Unavailable (cannot be performed)	0000: Available
77	Dual set point	0000: Unavailable 0002: Available	0000: Unavailable
79	Alarm output setup of the header unit	0000: Not including the state of following unit 0001: Including the state of following unit	0000: Not including the state of following unit
b3	Soft cooling	0000: Unavailable 0001: Available	0001: Available
b5	Occupancy sensor/ Wireless Remote controller Provided / None	0000: None 0001: Occupancy sensor provided 0002: Wireless remote controller provided	0000: None
b6	Occupancy sensor Enable / Invalid (Absence time judgment time)	0000: Invalid 0001: 30min. 0002: 60min. 0004: 120min. 0005: 150min.	0002: Enable (60 min.)
b7	Occupancy sensor operation at absent time	0000: Stand by 0001: operation stop	0000: Stand by
CF	4-way cassette type model name	0000: Standard Model 0001: larger case model	Depending on model type
d0	Whether the power saving mode can be set by the remote controller	0000: Invalid 0001: Valid	0001: Valid
E0	Destination	0000: Japan 0003: China 0004: Global	0004: Global
E6	Wireless remote controller A-B selection	0000: A 0001: B	0000: A
F0	Swing mode	0000 : Out of sync swing 0001 : 4-way sync swing 0002 : Dual swing 0003 : Cycle swing	0000: Not including 4-way 0001: 4-way (Compact)
F1	Louver fixed position (Louver No.1)	0000 : Release 0001 : Horizontal discharge position 0005 : Downward discharge position	0000: Not fixed
F2	Louver fixed position (Louver No.2)	0000 : Release 0001 : Horizontal discharge position 0005 : Downward discharge position	0000: Not fixed
F3	Louver fixed position (Louver No.3)	0000 : Release 0001 : Horizontal discharge position 0005 : Downward discharge position	0000: Not fixed
F4	Louver fixed position (Louver No.4)	0000 : Release 0001 : Horizontal discharge position 0005 : Downward discharge position	0000: Not fixed
F6	Presence of Application control kit (TCB-PCUC2E)	0000: None 0001: Exist	0000: None
FC	Communication protocol *2	0000 : TCC-LINK 0003:TU2C-LINK	0000: TCC-LINK
Fd	Priority operation mode (FS unit)	0000: Heating 0001: Cooling	0000: Heating
FE	FS unit address	0001: No.1 unit to 0064: No.64 unit … TCC-LINK 0001: No.1 unit to 0128: No.128 unit … TU2C-LINK 00Un: Unfixed (When using U series remote controller) 0099: Unfixed (Other than U series remote controller)	00Un/0099: Unfixed *1

DN	Item	Description	At shipment
180	Notice code number 01	0000: None 0001 ~ 0255 : Notice code 0129 : Notice code (201) 0130 : Notice code (202) (0001 ~ 0255 : TU2C-LINK only)	0000: None
181	Notice code number 02		0000: None
182	Notice code number 03		0000: None
183	Notice code number 04		0000: None
184	Notice code number 05		0000: None
185	Notice code number 06		0000: None
186	Notice code number 07		0000: None
187	Notice code number 08		0000: None
188	Notice code number 09		0000: None
189	Notice code number 10		0000: None
103	Remote controller	0000 : Use 0001 : Do not use	0000 : Use
1FB	Central device control state	0000: No central device control (Remote controller use is possible) 0001: Central device control (Remote controller use is impossible)	0000: No central device control
1FC	Indoor Unit terminating resistance	0000: OFF 0001: ON	0000: OFF

*1 Display order of “00Un”and “0099” varies depending on remote controller models or communication types.

For Central control address (DN [03]), Indoor unit address (DN [13]), FS unit address (DN [FE])

Remote controller	Communication type	Display order
U series	TU2C-LINK	··· ⇔ 0128 ⇔ 00Un ⇔ 0001 ⇔ ···
	TCC-LINK	··· ⇔ 0064 ⇔ 00Un ⇔ 0001 ⇔ ···
Other than U series	TCC-LINK	··· ⇔ 0064 ⇔ 0099 ⇔ 0001 ⇔ ···

For Line address (DN [12])

Remote controller	Communication type	Display order
U series	TU2C-LINK	··· ⇔ 0128 ⇔ 00Un ⇔ 0001 ⇔ ···
	TCC-LINK	··· ⇔ 0030 ⇔ 00Un ⇔ 0001 ⇔ ···
Other than U series	TCC-LINK	··· ⇔ 0030 ⇔ 0099 ⇔ 0001 ⇔ ···

For Group address (DN [14])

Remote controller	Communication type	Display order
U series	TU2C-LINK TCC-LINK	··· ⇔ 0002 ⇔ 00Un ⇔ 0000 ⇔ ···
Other than U series	TCC-LINK	··· ⇔ 0002 ⇔ 0099 ⇔ 0000 ⇔ ···

*2 Communication protocol can be automatically switched with the setup in the outdoor unit during installation.

[5d] External

Concealed Duct Standard type

UP005 - 018

Set data	0000	0001	0002	0003	0004	0005	0006
External static pressure	30 Pa	50 Pa	40 Pa	80 Pa	65 Pa	100 Pa	150 Pa
	(Factory default)	-	-	-	-	-	-

UP024 - 030

Set data	0000	0001	0002	0003	0004	0005	0006
External static pressure	40 Pa	50 Pa	30 Pa	80 Pa	65 Pa	100 Pa	150 Pa
	(Factory default)	-	-	-	-	-	-

UP036-056 Series

Set data	0000	0001	0002	0003	0004	0005	0006
External static pressure	50 Pa	30 Pa	40 Pa	80 Pa	65 Pa	100 Pa	150 Pa
	(Factory default)	-	-	-	-	-	-

Concealed Duct High static pressure Fresh Air Intake type

UP0481-1281 Series

Set data	0000	0001	0002	0003	0004	0005	0006
External static pressure	100 Pa	50 Pa	75 Pa	150 Pa	125 Pa	175 Pa	200 Pa
	(Factory default)	-	-	-	-	-	-

Concealed Duct High static pressure type

UP0181-0561 Series

Set data	0000	0001	0002	0003	0004	0005	0006
External static pressure	100 Pa	50 Pa	75 Pa	150 Pa	125 Pa	175 Pa	200 Pa
	(Factory default)	-	-	-	-	-	-

UP0721-0961 Series

Set data	0000	0001	0002	0003	0004	0005	0006
External static pressure	150 Pa	50 Pa	83 Pa	217 Pa	117 Pa	183 Pa	250 Pa
	(Factory default)	-	-	-	-	-	-

Type
DN code "10"

Value	Type	Model
06	Concealed Duct High static pressure type	MMD-UP0181,241,271,361,481,561, 721,961
01	4Way	MMU-UP0091,121,151,181,241,271,301, 361,481,561
04	Concealed Duct standard type	MMD-UP0051,071,091,121,151,181,241, 271,301,361,481,561
08	High Wall	MMK-UP0031,051,071,091,121,151,181, 241
07	Ceiling	MMC-UP0151,181,241,271,361,481,561
18	Console	MML-UP0071,091,121,151,181
16	Concealed Duct High static pressure Fresh Air Intake type	MMD-UP0481,721,961,1121,1281

Indoor Unit Capacity
DN code "11"

Value	Capacity
44	0031
41	0051
01	0071
03	0091
05	0121
07	0151
09	0181
11	0241
12	0271
13	0301
15	0361
17	0481
18	0561
21	0721
23	0961
24	1121
25	1281

8-7. Applied control of indoor unit

■ Control system using Remote location ON/OFF control box (TCB-IFCB-4E2)

Wiring and setting

- In the case of group control, the control system functions as long as it is connected to one of the indoor units (control P.C. board) in the group. If it is desired to access the operation and trouble statuses of other units, relevant signals must be brought to it from those units individually.

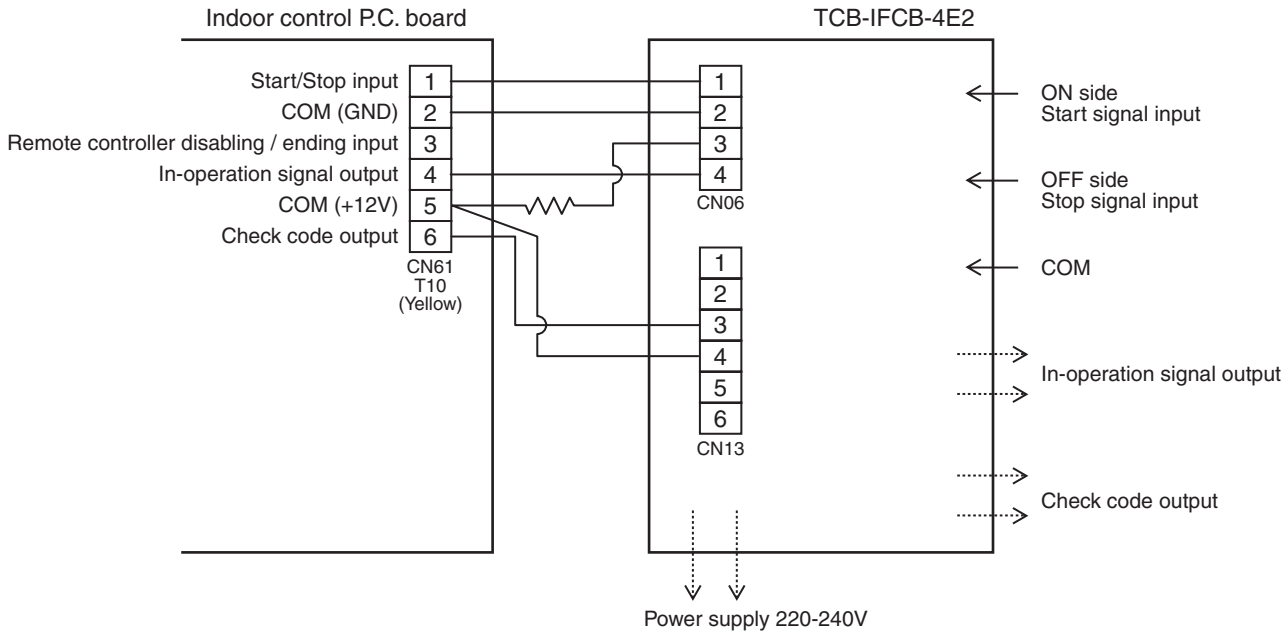
1. Control items

(1) Start / Stop input signal	Start / stop of unit
(2) In-operation signal	Output present while unit in normal operation
(3) Check code Output	present while alarm (e.g. serial communication trouble or operation of protective device for indoor / outdoor unit) being activated

2. Wiring diagram of control system using Remote location ON/OFF control box (TCB-IFCB-4E2)

Input IFCB-4E2: No-voltage ON / OFF serial signal

Output No-voltage contact (in-operation and check code indication)
Contact capacity: Max. AC 240 V, 0.5 A



■ Ventilating fan control from remote controller

[Function]

- The start / stop operation can be operated from the wired remote controller when air to air heat exchanger or ventilating fan is installed in the system.
- The fan can be operated even if the indoor unit is not operating.
- Use a fan which can receive the no-voltage normally-open contact as an outside input signal.
- In a group control, the units are collectively operated and they cannot be individually operated.

1. Operation

Handle a wired remote controller in the following procedure.

* Use the wired remote controller during stop of the system.

* Be sure to set up the wired remote controller to the header unit. (Same in group control)

* In a group control, if the wired remote controller is set up to the header unit, both header and follower units are simultaneously operable.

<RBC-AMT∗∗∗>

1 **Push concurrently SET + CL + TEST buttons for 4 seconds or more.**

The unit No. displayed firstly indicates the header indoor unit address in the group control.
In this time, the fan of the selected indoor unit turns on.

2 **Every pushing UNIT LOUVER button (left side of the button), the indoor unit numbers in group control are displayed successively.**

In this time, the fan of the selected indoor unit only turns on.

3 **Using the setup temp ▼ or ▲ button, specify the CODE No. 31.**

4 **Using the timer time ▼ or ▲ button, select the SET DATA. (At shipment: 0000)**

The setup data are as follows:

SET DATA	Handling of operation of air to air heat exchanger or ventilating fan
0000	Unavailable (At shipment)
0001	Available

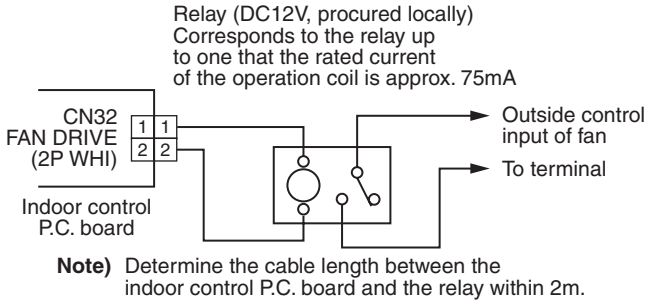
5 **Push SET button. (OK if display goes on.)**

- To change the selected indoor unit, go to the procedure ***2***).
- To change the item to be set up, go to the procedure ***3***).

6 **Pushing TEST returns the status to the usual stop status.**

* The ventilating fan control may be unavailable depending on the remote controllers.
(RBC-ASCU11-∗ does not have this function.)

2. Wiring



Note) Determine the cable length between the indoor control P.C. board and the relay within 2m.

■ Auto-off feature control

[Function]

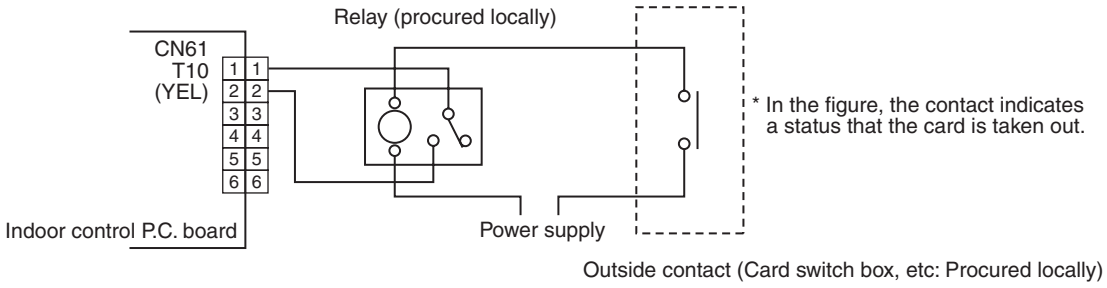
- This function controls the indoor units individually. It is used when the start operation from outside is unnecessary but the stop operation is necessary.
- A card switch box or card lock helps protect customers from forgetting to turn off the indoor unit. (not including the following Card Input 3)
- It is connected with connector on the indoor control P.C. board, and switched with the Code No. and jumper wire setup for use.
- Available connectors are CN61 or CN73. For models without CN73, CN4 on the optional Application control kit (TCB-PCUC2E) can be used.

* Leaving-ON prevention control cannot be set with both CN61 and CN73 (CN4). If both of them are set, CN73 (CN4) setting automatically turns to a factory default.

[Setup method]

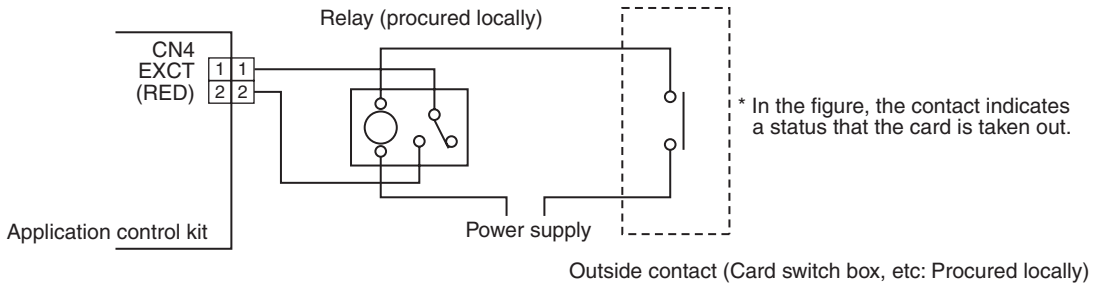
(1) Wiring

Connecting to the CN61 connector



NOTE) Determine the cable length between the indoor control P.C. board and the relay within 3m.

Connecting to the Application control kit (TCB-PCUC2E, connector : CN4)



NOTE) Determine the cable length between the indoor control P.C. board and the relay within 3m.

(2) Code (DN) setup

Set Code (DN) according to “8-6. Method to set indoor unit function DN code”.

Connector	Jumper wire (J01)	Code No. (DN)	Set data	Function
CN61	Short-circuit (Factory default)	002E	0000 (Factory default)	"HA normal setup" (pulse)
			0001	"Card Input 1" setup
			0003	"Card Input 2" setup
			0005	"Card Input 5" setup
	Open-circuit (cut)		0000 (Factory default)	"HA normal setup" (Static)
			0001	"Card Input 3" setup
			0003	"Card Input 4" setup
CN73 (CN4)	Short-circuit (Factory default) or Open-circuit (cut)	000b	0000 (Factory default)	"EXCT demand" setup (Forced thermostat-OFF)
			0002	"Card Input 3" setup
			0004	"Card Input 4" setup
			0007	"Card Input 5" setup
			0008	"Card Input 1" setup
			0009	"Card Input 2" setup

* If you set “Card Input 1 to 5” for Code No. of CN61 and CN73, Code No. 000b setup becomes unavailable and the functions of Card Input 1 to 5 in CN73 cannot be used.

[Control items]

Function	External contact terminal	
	Close (Status that card is inserted)	Open (Status that card is taken out)
Card Input 1	Manual prohibition release (Manual operation)	Manual prohibition (Operation stop)
Card Input 2	Manual prohibition release (Automatic operation)	Manual prohibition (Operation stop)
Card Input 3	Operation status continues (Do nothing)	Operation status continues and setting temperature changes (COOL/DRY: 29ºC, HEAT: 18ºC)
Card Input 4	Manual prohibition release (The status returns to operating condition before removing the card.)	Manual prohibition (Operation stop)
Card Input 5	1) To change a setting temperature by changing data at DN code No. 172 to 174. 2) The operation mode can be set by changing data (0000, 0001, 0002) at DN code No. 16b. 0000: operation mode is the same at the current mode. (factory setting default) 0001: operation mode returns to the previous mode when card was inserted. (in case of the previous mode is off operation, the operation mode is also off.) 0002: operation mode starts at the same previous mode when the card was inserted. (the operation mode is on operation even the previous mode is off operation.) See contents below for DN settings and detailed operations.	1) To change a setting temperature, fan speed and wind direction by changing data at DN code No. 16C to 171. 2) The operation mode can be set by changing data (0000, 0001) at DN code No. 16A. 0000: operation mode is the same at the current mode. (factory setting default) 0001: operation automatically starts. See contents below for DN settings and detailed operations.

* For the card switch box that does not involve contact operation described above, convert signals with a relay including a normally-closed contact.

[Card input setup.5 Code (DN)]

DN	Item	Description	At shipment
16C	Open mode Set temp. (Cool, Dry)	-0015 : -15ºC to 0060 : 60ºC	0027 : 27ºC
16d	Open mode Set temp. (Heat)	-0015 : -15ºC to 0060 : 60ºC	0020 : 20ºC
16E	Open mode Set temp. (Auto)	-0015 : -15ºC to 0060 : 60ºC	0024 : 24ºC
16F	Open mode Fan speed (All operation mode)	0000 : No change 0001 : HH 0002 : H 0003 : L	0000 : No change
170	Open mode Wind direction (Cool, Dry, Fan)	0000 : No change 0001 : F1 0002 : F2 0003 : F3	0000 : No change
171	Open mode Wind direction (Heat)	0000 : No change 0001 : F1 0002 : F2 0003 : F3 0004 : F4 0005 : F5	0000 : No change
16A	Open mode Operation	0000 : No change 0001 : Run operation	0000 : No change
172	Close mode Set temp. (Cool, Dry)	-0015 : -15ºC to 0060 : 60ºC	0024 : 24ºC
173	Close mode Set temp. (Heat)	-0015 : -15ºC to 0060 : 60ºC	0024 : 24ºC
174	Close mode Set temp. (Heat)	-0015 : -15ºC to 0060 : 60ºC	0024 : 24ºC
16b	Close mode Operation	0000 : No change 0001 : Card ON mode operation 0002 : Run operation (Card ON mode setting)	0000 : No change

[The example of Card Input 5 setting]

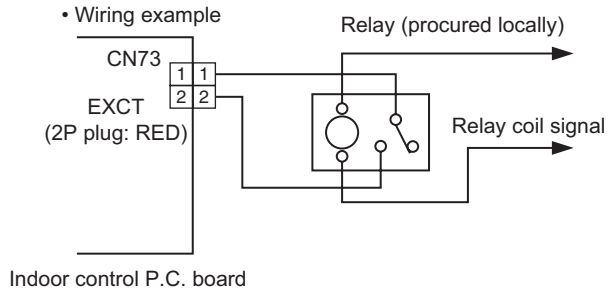
Case.	Code No. (DN) setting									External contact terminal	
	[16A] data	[16b] data	[16C] data	[16d] data	[16F] data	[170] data	[171] data	[172] data	[173] data	Close (Status that card is inserted)	Open (Status that card is taken n out)
(1)	0000	0000	0027	0020	0000	0000	0000	0024	0024	• The operation mode continues running at the same as the current mode. • The setting temperature of cooling/dry and heating mode is changed to 24ºC and 24ºC respectively due to change in code No. 172, 173.	• The operation mode continues running at the same as the current mode. • The setting temperature of cooling/dry and heating mode is changed to 27ºC and 20ºC respectively due to change in code No. 16C, 16d.
(2)*	0000	0001	0027	0020	0003	0001	0001	0024	0024	• The operation mode is running at the same mode as the last time when the card was inserted due to change in code no. 16b. * The operation mode will be off if the mode at the last time was in off operation. Also, the fan speed will the same as the last time when the card is inserted. • The setting temperature of cooling/dry and heating mode is changed to 24ºC and 24ºC respectively due to change in code No. 172, 173.	• The operation mode continues running at the same as the current mode. • The setting temperature of cooling/dry and heating mode is changed to 27ºC and 20ºC respectively due to change in code no. 172, 173. • The fan speed for all operation modes is changed due to change in code no.16F. • The wind direction of Cooling/dry/fan and heating mode are changed due to change in code No. 170, 171 respectively.
(3)*	0000	0002	0027	0020	0003	0001	0001	0024	0024	• The operation mode is running at the same mode as the last time when the card was inserted. Also, the operation mode will be on even the mode was in off operation at the last time due to change in code no. 16B. * The fan speed will the same as the last time when the card is inserted. • The setting temperature of cooling/dry and heating mode is changed to 24ºC and 24ºC respectively due to change in code No. 172, 173.	Same operation as case (2)
(4)	0001	0000	0027	0020	0003	0001	0001	0024	0024	• The operation mode continues running at the same as the current mode. • The setting temperature of cooling/dry and heating mode is changed to 24ºC and 24ºC respectively due to change in code No. 172, 173.	• Due to change in code no. 16A, the operation mode will be as below. • When the operation is ON, the operation mode will continue running at the same as the current mode. • When the operation is OFF, the air conditioner will turn on automatically. • The setting temperature of cooling/dry and heating mode is changed to 27ºC and 20ºC respectively due to change in code No. 172, 173. • The fan speed for all operation modes is changed due to change in code no.16F. • The wind direction of Cooling/dry/fan and heating mode are changed due to change in code No. 170, 171 respectively.

* The history operation mode is only recorded when the card is inserted even if the operation mode is changed when the card is taken out, there is no related to the history operation mode.

■ Power peak-cut from indoor unit

When the relay is turned on, a forced thermostat OFF operation starts.

- For indoor P.C. boards other than MCC-1643, the “EXCT” is input with connector CN73 on the P.C. board. MCC-1643 requires Application control kit (TCB-PCUC2E) for input of a forced thermostat OFF “EXCT”. Please refer to the manual of Application control kit for a detailed setting.



Note) Determine the cable length between the indoor or outdoor control P.C. board and the relay within 2 m.

■ Notice code signal

Notice code is a function dedicated to TU2C-Link communication.
See service manual for u series outdoor unit for details of Notice code.

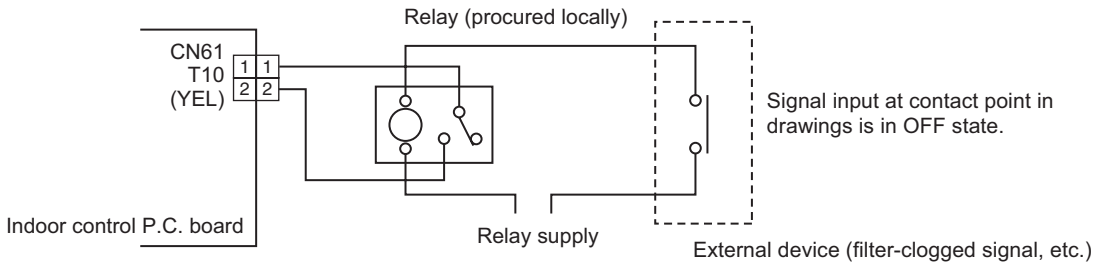
[Function]

- Notice Code is issued if there is signal input to connector of outdoor unit P.C. board. This can be used in cases such as when confirming state of outdoor unit (filter clogging, etc.) by air conditioner system.
- Connector that can be used is CN61 or CN73. CN4 of separately-sold "option input/output P.C. board (TCB-PCUC2E)" can be used for models that do not have CN73.
- Used by switching functions with settings of Code No. (DN Code).
- Notice Code is continuously issued while input signal is ON.

[Setup method]

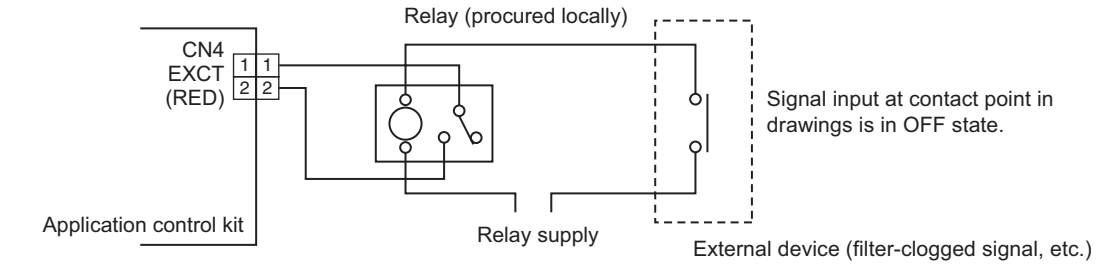
(1) Wiring

Connecting to the CN61 connector



Note) Determine the cable length between the indoor control P.C. board and the relay within 3m.

Connecting to the Application control kit (TCB-PCUC2E, connector : CN4)



Note) Determine the cable length between the indoor control P.C. board and the relay within 3m.

(2) Code (DN) setup and Notice code
Set Code (DN) according to “8-6. Method to set indoor unit function DN code”.

Connector	Code No. (DN)	Set data	Notice code
CN61	002E	0004	201
CN73 (CN4)	000B	0006	202

* Setting of Code No. (DN Code) is necessary to display Notice code mark at remote controller.
Set data corresponding to Notice code to be used to one of Code No. 180 to 189, in accordance with following table.
In case where data other than 0000 is already set, set to other Code No. (DN Code).

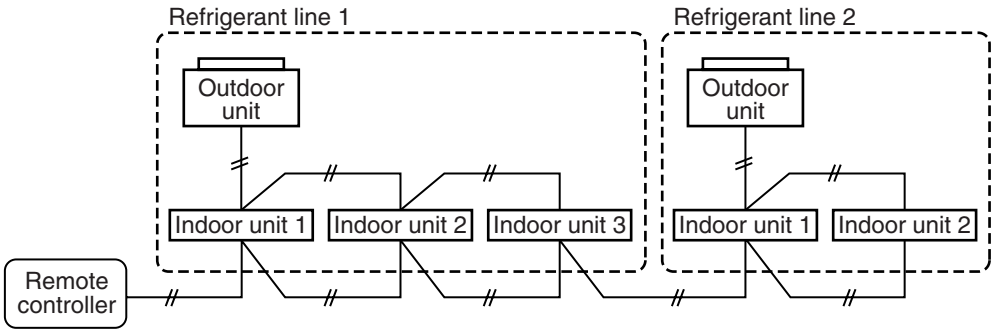
Code No. (DN)	Set data	Notice code
0180 to 0189	0000	OFF (Factory default)
	0129	201
	0130	202

* It may take up to ten minutes to be displayed on remote controller after Notice code is issued.

■ Manual address setting using the remote controller

Procedure when setting indoor units' addresses first under the condition that indoor wiring has been completed and outdoor wiring has not been started (manual setting using the remote controller)

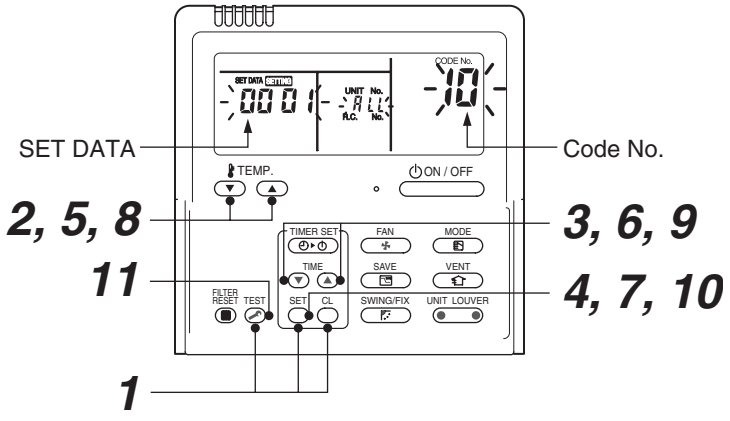
▼ Wiring example of 2 refrigerant lines



Line (system) address	1	1	1		2	2
Indoor unit address	1	2	3		1	2
Group address	1 Header unit	2 Follower unit	2 Follower unit		2 Follower unit	2 Follower unit

In the example above, disconnect the remote controller connections between the indoor units and connect a wired remote controller to the target unit directly before address setting.

<RBC-AMT∗∗∗>



Pair the indoor unit to set and the remote controller one-to-one.

Turn on the power.

1 **Push and hold the SET , CL and TEST buttons at the same time for more than 4 seconds.**
LCD starts flashing.

<Line (system) address>

2 **Push the TEMP. ▼ / ▲ buttons repeatedly to set the CODE No. to 12 .**

3 **Push the TIME ▼ / ▲ buttons repeatedly to set a system address.**
(Match the address with the address on the interface P.C. board of the header outdoor unit in the same refrigerant line.)

4 **Push SET button.**
(It is OK if the display turns on.)

<Indoor unit address>

5 **Push the TEMP. ▽ / △ buttons repeatedly to set the CODE No. to 13 .**

6 **Push the TIME ▽ / △ buttons repeatedly to set an indoor unit address.**

7 **Push the SET button.**
(It is OK if the display turns on.)

<Group address>

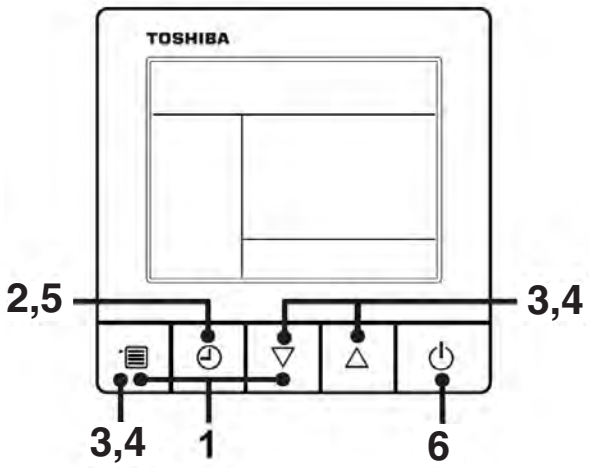
8 **Push the TEMP. ▽ / △ buttons repeatedly to set the CODE No. to 14 .**

9 **Push the TIME ▽ / △ buttons repeatedly to set a group address. If the indoor unit is individual, set the address to 0000 ; header unit, 0001 ; follower unit, 0002 .**
Individual : 0000
Header unit : 0001
Follower unit : 0002
} In case of group control

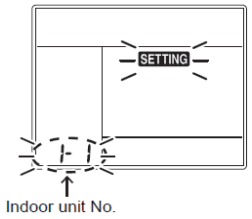
10 **Push the SET button.**
(It is OK if the display turns on.)

11 **Push the TEST button.**
The address setting is complete.
(SETTING flashes. You can control the unit after SETTING has disappeared.)

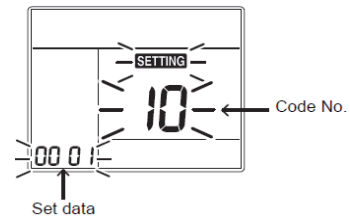
<RBC-ASCU11-∗>



2



3,4



1 **Push and hold the [menu + ▽] buttons at same time for more than 10 seconds.**

2 **Push the [OFF timer] button to confirm the selected indoor unit.**

<Line (system) address>

3 **Push the [menu] button until the CODE No. flashes. And using the [▽ or △] buttons, specify the CODE No.12.**

4 **Push the [menu] button until the SET DATA flashes. And using the [▽ or △] buttons, set a system address.**

5 **Push the [OFF timer] button to confirm the SET DATA.**

<Indoor unit address>

3 **Push the [menu] button until the CODE No. flashes. And using the [▽ or △] buttons, specify the CODE No.13.**

4 **Push the [menu] button until the SET DATA flashes. And using the [▽ or △] buttons, set an indoor unit address.**

5 **Push the [OFF timer] button to confirm the SET DATA.**

<Group address>

3 **Push the [menu] button until the CODE No. flashes. And using the [▽ or △] buttons, specify the CODE No.14.**

4 **Push the [menu] button until the SET DATA flashes. And using the [▽ or △] buttons, set a group address.**
If the indoor unit is individual, set the address to 0000. (header unit : 0001, follower unit : 0002)

Individual :0000
Header unit :0001
Follower unit :0002
} In case of group control

5 **Push the [OFF timer] button to confirm the SET DATA.**

6 **When all the settings have been completed, push the [ON/OFF] button to return to normal mode.**

NOTE

<In the case of combining with outdoor units of Super Modular Multi System u series (SMMS-u)>

- Turn ON DIP switch 1 of SW100 on the header outdoor unit interface P.C. board the lowest system address number.
- After finishing all the settings above, set the address of the central control devices. (For the setting of the central control address, refer to the installation manual of the central control devices.)

<In the case of combining with outdoor units other than Super Modular Multi System u series (SMMS-u)>

- Set a system address for the header outdoor unit of each line with SW13 and 14 of their interface P.C. boards.
- Turn off dip switch 2 of SW30 on the interface P.C. boards of all the header outdoor units connected to the same central control, except the unit that has the lowest address. (For unifying the termination of the wiring for the central control of indoor and outdoor units)
- Connect the relay connectors between the [U1, U2] and [U3, U4] terminals on the header outdoor unit of each refrigerate line.
- After finishing all the settings above, set the address of the central control devices. (For the setting of the central control address, refer to the installation manuals of the central control devices.)

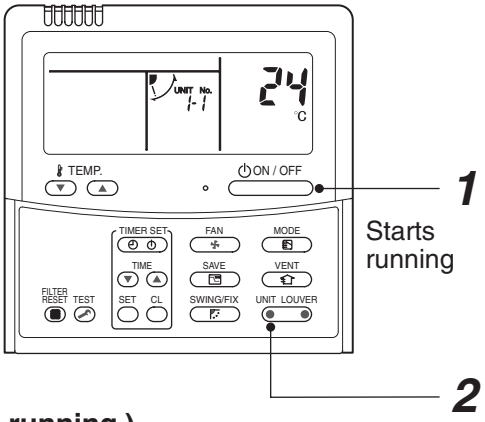
■ Confirming the indoor unit addresses and the position of an indoor unit using the remote controller

◆ Confirming the numbers and positions of indoor units

To know the indoor unit addresses though position of the indoor unit is recognized

▼ When the unit is individual (the indoor unit is paired with a wired remote controller one-to-one), or it is a group-controlled one.

<RBC-AMT∗∗∗>



(Execute it while the units are running.)

1 **Push the ON / OFF button if the units stop.**

2 **Push the UNIT LOUVER button (left side of the button).**

A unit numbers 1-1 is indicated on the LCD (it will disappear after a few seconds). The indicated number shows the system address and indoor unit address of the unit.
When 2 or more indoor units are connected to the remote controller (group-controlled units), a number of other connected units appears each time you push the UNIT LOUVER button (left side of the button).

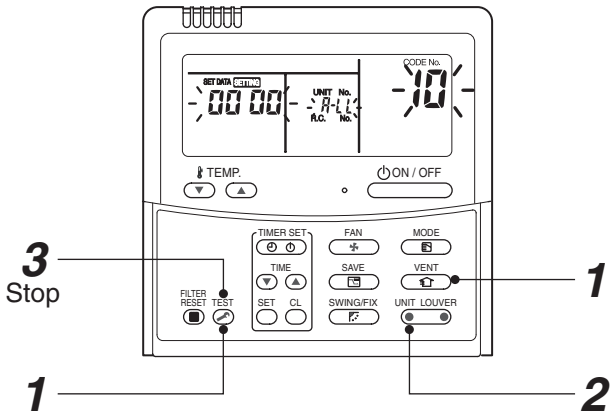
<RBC-ASCU11-∗>

There is no such function in the remote controller.

◆To find an indoor unit's position from its address

▼When checking unit numbers controlled as a group

<RBC-AMT∗∗∗>



(Execute it while the units are stopped.)

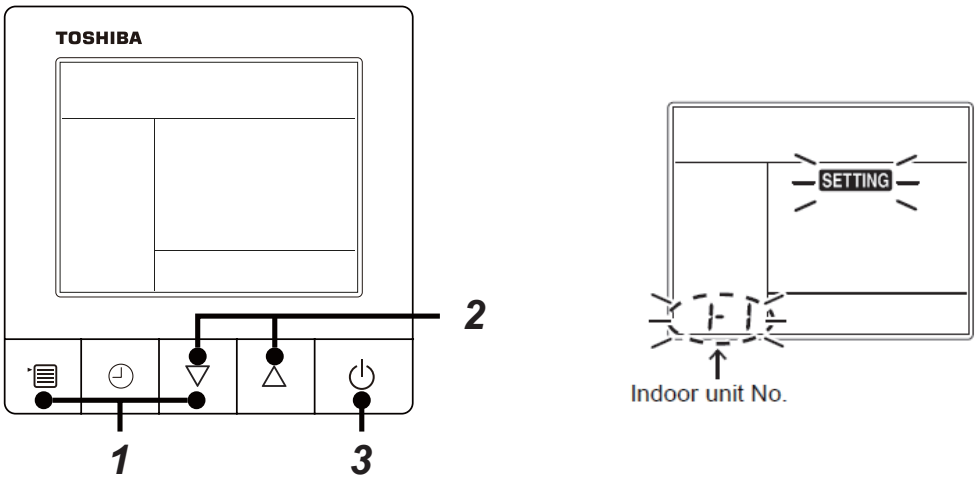
The indoor unit numbers in a group are indicated one after another. The fan and louvers of the indicated units are activated.

1 Push and hold the VENT and TEST buttons at the same time for more than 4 seconds.
- ALL appears on UNIT No. on the LCD display.
- The fans and louvers of all the indoor units in the group are activated.

2 Push the UNIT LOUVER button (left side of the button). Each time you push the button, the indoor unit numbers are indicated one after another.
- The first-indicated unit number is the address of the header unit.
- Only the fan and louvers of the indicated indoor unit are activated.

3 Push the TEST button to finish the procedure.
All the indoor units in the group stop.

<RBC-ASCU11-∗>



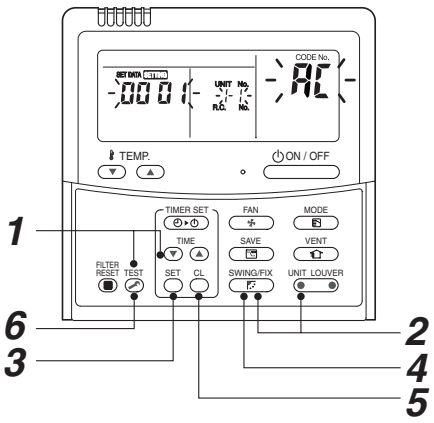
1 Push and hold the [menu + ▽] buttons at same time for more than 10 seconds. e.g.)A unit number 1-1 is indicated on the LCD. The indicated number shows the system address and indoor unit address of the unit.

2 When 2 or more indoor units are connected to the remote controller (group-controlled units), a number of other connected units appears each time you push the [▽ or △] buttons.

3 Push the [ON/OFF] button, return to the normal mode.

▼ To check all the indoor unit addresses using an arbitrary wired remote controller. (When communication wirings of 2 or more refrigerant lines are interconnected for central control)

<RBC-AMT∗∗∗>



(Execute it while the units are stopped.)

You can check indoor unit addresses and positions of the indoor units in a single refrigerant line.
When an outdoor unit is selected, the indoor unit numbers of the refrigerant line of the selected unit are indicated one after another and the fan and louvers of the indicated indoor units are activated.

1 **Push and hold the TIME ▼ and TEST buttons at the same time for more than 4 seconds. At first, the line 1 and CODE No. RC (Address Change) are indicated on the LCD display. (Select an outdoor unit.)**

2 **Push the UNIT LOUVER button (left side of the button) and SWING/FIX buttons repeatedly to select a system address.**

3 **Push the SET button to confirm the system address selection.**

- The address of an indoor unit connected to the selected refrigerant line is indicated on the LCD display and its fan and louvers are activated.

4 **Push the UNIT LOUVER button (left side of the button). Each time you push the button, the indoor unit numbers of the selected refrigerant line are indicated one after another.**

- Only the fan and louvers of the indicated indoor unit are activated.

◆ To select another system address

5 **Push the CL button to return to step *2*.**

- After returning to step ***2***, select another system address and check the indoor unit addresses of the line.

6 **Push the TEST button to finish the procedure.**

<RBC-ASCU11-∗>

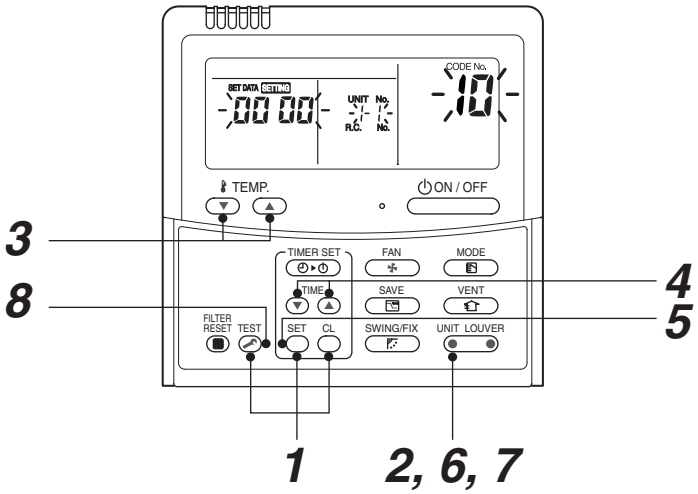
There is no such function in the remote controller.

◆ Changing the indoor unit address using a remote controller

To change an indoor unit address using a wired remote controller.

▼ The method to change the address of an individual indoor unit (the indoor unit is paired with a wired remote controller one-to-one), or an indoor unit in a group. (The method is available when the addresses have already been set automatically.)

<RBC-AMT∗∗∗>



(Execute it while the units are stopped.)

1 **Push and hold the SET , CL , and TEST buttons at the same time for more than 4 seconds.**
(If 2 or more indoor units are controlled in a group, the first indicated UNIT No. is that of the head unit.)

2 **Push the UNIT LOUVER button (left side of the button) repeatedly to select an indoor unit number to change if 2 or more units are controlled in a group. (The fan and louvers of the selected indoor unit are activated.)**
(The fan of the selected indoor unit is turned on.)

3 **Push the TEMP. ▽ / △ buttons repeatedly to select 03 for CODE No.**

4 **Push the TIME ▽ / △ buttons repeatedly to change the value indicated in the SET DATA section to that you want.**

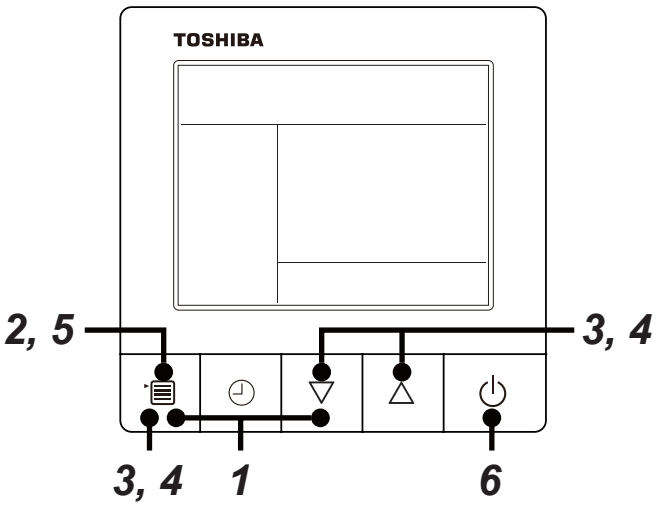
5 **Push the SET button.**

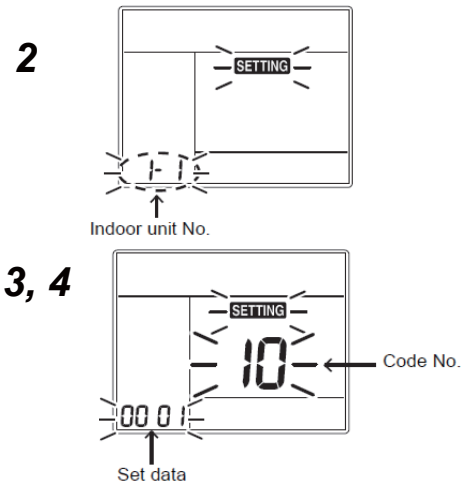
6 **Push the UNIT LOUVER button (left side of the button) repeatedly to select another indoor UNIT No. to change.**
Repeat steps ***4*** to ***6*** to change the indoor unit addresses so as to make each of them unique.

7 **Push the UNIT LOUVER button (left side of the button) to check the changed addresses.**

8 **If the addresses have been changed correctly, push the TEST button to finish the procedure.**

<RBC-ASCU11-∗>





1 Push and hold the [menu + ▽] buttons at same time for more than 10 seconds.

2 Push the [OFF timer] button to confirm the selected indoor unit.

3 Push the [menu] button until the CODE No. flashes. And using the [▽ or △] buttons, specify the CODE No.13.

4 Push the [menu] button until the SET DATA flashes. And using the [▽ or △] buttons, set an indoor unit address.

5 Push the [OFF timer] button to confirm the SET DATA.

6 When all the settings have been completed, push the [ON/OFF] button, return to normal mode.

▼ To change all the indoor unit addresses using an arbitrary wired remote controller. (The method is available when the addresses have already been set automatically.)

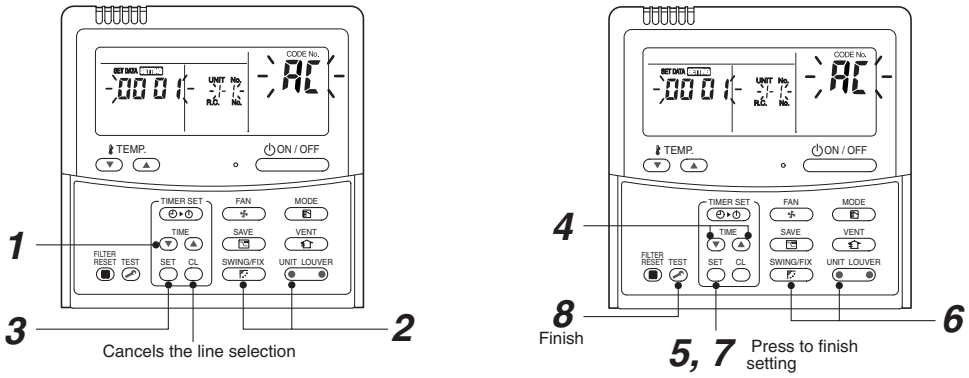
(When communication wirings of 2 or more refrigerant lines are interconnected for central control)

NOTE

You can change the addresses of indoor units in each refrigerant line using an arbitrary wired remote controller.

* Enter the address check / change mode and change the addresses.

<RBC-AMT∗∗∗>



If no number appears on UNIT No., no outdoor unit exists on the line. Push button and select another line following step ***2***.

(Execute it while the units are stopped.)

1 **Push and hold the TIME ▼ / ▲ buttons at the same time for more than 4 seconds. At first, the line 1 and CODE No. RC (Address Change) are indicated on the LCD display.**

2 **Push UNIT LOUVER button (left side of the button) and SWING/FIX buttons repeatedly to select a system address.**

3 **Push the SET button.**

- The address of one of the indoor units connected to the selected refrigerant line is indicated on the LCD display and the fan and louvers of the unit are activated.
  At first, the current indoor unit address is displayed in SET DATA.
  (No system address is indicated.)

4 **Push the TIME ▼ / ▲ buttons repeatedly to change the value of the indoor unit address in SET DATA.**
Change the value in SET DATA to that of a new address.

5 **Push the SET button to confirm the new address on SET DATA.**

6 **Push the UNIT LOUVER button (left side of the button) repeatedly to select another address to change.**
Each time you push the button, the indoor unit numbers in a refrigerant line are indicated one after another. Only the fan and louvers of the selected indoor unit are activated.
Repeat steps ***4*** to ***6*** to change the indoor unit addresses so as to make each of them unique.

7 **Push the SET button.**
(All the segments on the LCD display light up.)

8 **Push the TEST button to finish the procedure.**

<RBC-ASCU11-∗>

There is no such function in the remote controller.

◆ Check code clearing function

How to clear the check code using the wired remote controller

<RBC-AMT∗∗∗>

▼ Clearing a check code of the outdoor unit
Clear the currently detected outdoor unit for each refrigerant line to which the indoor unit controlled by the remote controller is connected. (The indoor unit check code is not cleared.)
Use the service monitoring function of the remote controller.

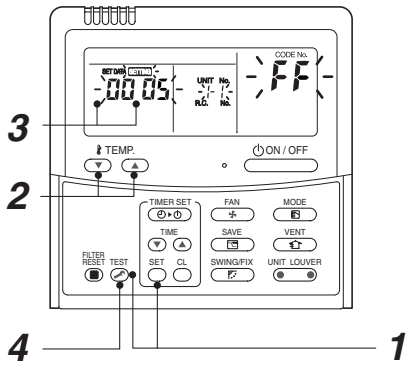
1 **Push and hold the CL , and TEST for 4 seconds or longer to enter the service monitoring mode.**

2 **Push the TEMP. button to set CODE No. to "FF".**

3 **The display in A of the following figure counts down as follows at 5-second intervals: "0005" → "0004" → "0003" → "0002" → "0001" → "0000".**

The check code is cleared when "0000" appears.
However, the display counts down from "0005" again.

4 **Push the TEST to return the display to normal.**

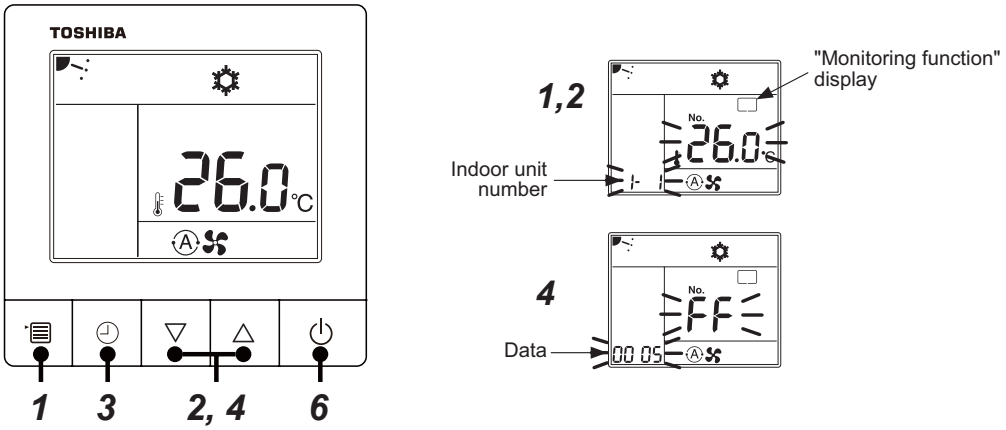


▼ Clearing a check code of the indoor unit
Push the ON / OFF button on the remote controller.
(Only the check code of the indoor unit controlled by the remote controller will be cleared.)

<RBC-ASCU11-∗>

▼ Clearing a check code of the outdoor unit

Clear the currently detected outdoor unit for each refrigerant line to which the indoor unit controlled by the remote controller is connected. (The indoor unit check code is not cleared.)
Use the service monitoring function of the remote controller.



1 **Push the [menu] button for over 10 seconds.**

2 **Every pushing [▽ or △] buttons, the indoor unit numbers in group control are displayed successively.**

3 **Push the [OFF timer] button to confirm the selected indoor unit.**

4 **Every pushing [▽ or △] buttons to set CODE No. to "FF"**

5 **The display in A of the following figure counts down as follows at 5-second intervals:**
"0005" → "0004" → "0003" → "0002" → "000 1" → "0000"
The check code is cleared when "000" appears.
However, the display counts down from "005" again.

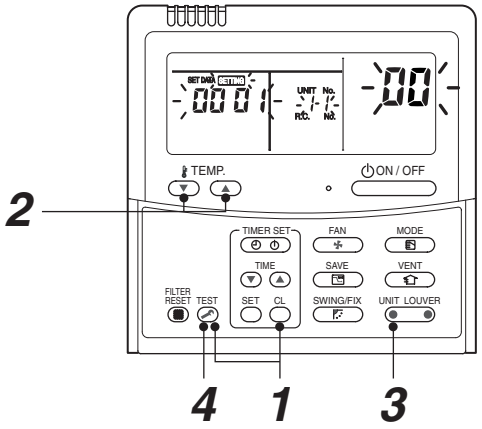
6 **After you have finished checking, push the [ON/OFF] button to return to normal mode.**

▼ Clearing a check code of the indoor unit

Push the ON / OFF button on the remote controller.
(Only the check code of the indoor unit controlled by the remote controller will be cleared.)

▼ Monitoring function of wired remote controller

<RBC-AMT∗∗∗>



Content

Enter the service monitoring mode using the remote controller to check the sensor temperature or operation status of the remote controller, indoor unit, and outdoor unit.

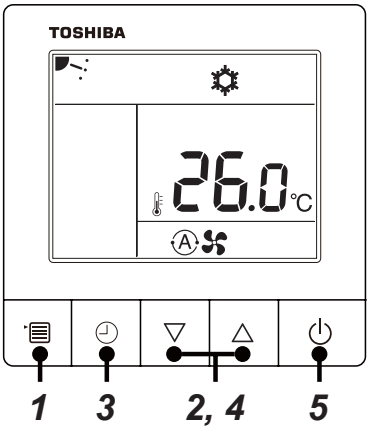
1 Push and hold the TEST , and CL for 4 seconds or longer to enter the service monitoring mode.
The service monitor lights up. The CODE No. 00 appears at first.

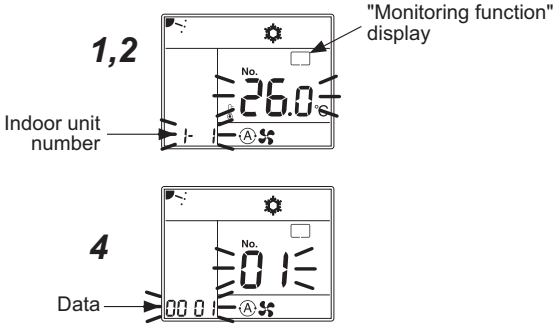
2 Push the TEMP. button to change to CODE No. of the item to monitor. Refer to the next page for CODE No.

3 Push the left part of the UNIT LOUVER button (left side of the button) to change to the item to monitor. Monitor the sensor temperature or operation status of the indoor unit and outdoor unit in the refrigerant line.

4 Push the TEST button to return the display to normal.

<RBC-ASCU11-∗>





1 Push the [menu] button for over 10 seconds. "Monitoring function" is displayed on a screen.

2 Every pushing [▽ or △] buttons, the indoor unit numbers in group control are displayed successively.

3 Push the [OFF timer] button to confirm the selected indoor unit.

4 Every pushing [▽ or △] buttons, CODE No. of the item is changed successively.

5 After you have finished checking, push the [ON/OFF] button, return to normal mode.

◆ Indoor service monitor list

	Code No.	Data name	Display format	Unit	Remote controller display example
Indoor unit data *	00	Room temperature (Use to control)	×1	°C	
	01	Room temperature (Remote controller)	×1	°C	
	02	Indoor suction air temperature (TA)	×1	°C	
	03	Indoor coil temperature (TCJ)	×1	°C	
	04	Indoor coil temperature (TC2)	×1	°C	
	05	Indoor coil temperature (TC1)	×1	°C	
	06	Indoor discharge air temperature (TF) **	×1	°C	
	07	Indoor fan motor number of revolutions**	×1	rpm	[0600] = 600rpm
	08	Indoor PMV opening	×1/10	pls	[0150]=1500pls
	F3	Filter sign time	×1	h	[2500] = 2500h
	F9	Suction temperature of air to air heat exchanger (TSA) **	×1	℃	[0024] = 24°C
	FA	Outside air temperature (TOA) **	×1	℃	

* When the units are connected to a group, data of the header indoor unit only can be displayed.
** There is also a model which cannot be displayed.

• Refer to the service manual of an outdoor unit for "outdoor service monitor list".

9. TROUBLESHOOTING

9-1. Overview

(1) Before engaging in troubleshooting

(a) Applicable models
All Super Modular Multi System (SMMS-∗) models.
(Indoor units: MM∗-UP∗∗∗, Outdoor units: MMY-M∗P∗∗∗)

(b) Tools and measuring devices required
- Screwdrivers (Philips, flat head), spanners, long-nose pliers, nipper, pin to push reset switch, etc.
- Multimeter, thermometer, pressure gauge, etc.

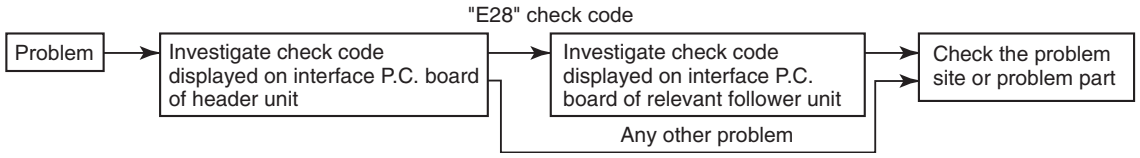
(c) Things to check prior to troubleshooting (behaviors listed below are normal)

NO.	Behavior	Possible cause
1	A compressor would not start	• The air conditioner is being controlled by the 3-minute protective function. • It is in standby status though the room temperature has reached the setup temperature. • It is being operated in timer mode or fan mode. • It is being in initial communication.
2	An indoor fan would not start	• The air conditioner is being controlled by the cool air discharge preventive function in "heating"?
3	An outdoor fan would not start or would change speed for no reason	• The air conditioner is being operated in "cooling" under the low outside air temperature. • It is being operated in defrost operation.
4	An indoor fan would not stop	• The air conditioner is being controlled by function of residual heat elimination being performed as part of the air conditioner shutdown process after heating operation.
5	The air conditioner would not respond to a start/stop command from a remote controller	• The air conditioner is being operated under external or remote controller.

⚠ CAUTION

The cooling performance may be declining considerably when total operating capacity of cooling indoor units is less than 4 HP while ambient temperature is below.

(2) Troubleshooting procedure
When a problem occurs, proceed with troubleshooting in accordance with the procedure shown below.



NOTE

Rather than a product trouble (see the List of Check Codes below), the problem could have been caused by a microprocessor malfunction attributable to a poor quality of the power source or an external noise. Check for possible noise sources, and shield the remote controller wiring and signal wires as necessary.

9-2. Troubleshooting method

The remote controllers (main remote controller and central control device) and the interface P.C. board of an outdoor unit are provided with an a 7-segment display (outdoor interface P.C. board) to display operational status. Using this self-diagnosis feature, the trouble site / trouble part may be identified in the event of a trouble by following the method described below.

The list below summarizes check codes detected by various devices. Analyze the check code according to where it is displayed and work out the nature of the trouble in consultation with the list.

- When investigating a trouble on the basis of a display provided on the indoor remote controller or central control device - See the “central control device or main remote controller display” section of the list.
- When investigating a trouble on the basis of a display provided on an outdoor unit - See the “Outdoor 7-segment display” section of the list.
- When investigating a trouble on the basis of a wireless remote controller-controlled indoor unit - See the “Indicator light block” section of the list.

List of check codes (indoor unit)

(Check code detected by indoor unit)

IPDU: Compressor / Fan inverter P.C. board
○: Lighting,◎: Flashing,●: Goes off
ALT.: Flashing is alternately when there are two flashing LED
SIM: Simultaneous flashing when there are two flashing LED

Check code			Display of receiving unit				Typical trouble on site	Description of check code
Remote controller display	Outdoor 7-segment display		Indicator light block					
		Sub-code	Operation	Timer	Ready	Flash		
E03	–	–	◎	●	●		Indoor-remote controller periodic communication check code	Communication from remote controller or network adaptor has been lost (so has central control communication).
E04	–	–	●	●	◎		Indoor-outdoor periodic communication check code	Signals are not being received from outdoor unit.
E08	E08	Duplicated indoor address	◎	●	●		Duplicated indoor address	Indoor unit detects address identical to its own.
E10	–	–	◎	●	●		Communication trouble between indoor unit MCU	Communication trouble between main MCU and the motor microcomputer MCU
E11	–	–	◎	●	●		Communication check code between Application control kit and indoor unit	Communication check code between Application control kit and indoor unit P.C. board
E18	–	–	◎	●	●		Check cod in periodic communication between indoor header and follower unit	Periodic communication between indoor header and follower units cannot be maintained.
F01	–	–	◎	◎	●	ALT	Indoor heat exchanger temperature sensor (TCJ) check code	Heat exchanger temperature sensor (TCJ) has been open / short-circuit.
F02	–	–	◎	◎	●	ALT	Indoor heat exchanger temperature sensor (TC2) check code	Heat exchanger temperature sensor (TC2) has been open / short-circuit.
F03	–	–	◎	◎	●	ALT	Indoor heat exchanger temperature sensor (TC1) check code	Heat exchanger temperature sensor (TC1) has been open / short-circuit.
F10	–	–	◎	◎	●	ALT	Ambient temperature sensor (TA) check code	Ambient temperature sensor (TA) has been open / short-circuit.
F11	–	–	◎	◎	●	ALT	Discharge temperature sensor (TF) check code	Discharge temperature sensor (TF) has been open / short-circuit.
F29	–	–	◎	◎	●	SIM	P.C. board or other indoor check code	Indoor EEPROM is abnormal (some other trouble may be detected).
F30	–	–	◎	◎	○	ALT	Occupancy sensor trouble	Occupancy sensor trouble has been detected.
L03	–	–	◎	●	◎	SIM	Duplicated indoor group header unit	There is more than one header unit in group.
L07	–	–	◎	●	◎	SIM	Connection of group control cable to a single indoor unit	There is at least one a single indoor unit to which group control cable is connected.
L08	L08	–	◎	●	◎	SIM	Indoor group address not set	Address setting has not been performed for one or more indoor units (also detected at outdoor unit end).
L09	–	–	◎	●	◎	SIM	Indoor capacity not set	Capacity setting has not been performed for indoor unit.
L20	–	–	◎	○	◎	SIM	Duplicated central control address	There is duplication in central control address setting.
L30	L30	Detected indoor unit No.	◎	○	◎	SIM	Indoor external check code input (interlock)	Unit shutdown has been caused by external check code input (CN80).
P01	–	–	●	◎	◎	ALT	Indoor AC fan check code	Indoor AC fan check code is detected (activation of fan motor thermal relay).
P10	P10	Detected indoor unit No.	●	◎	◎	ALT	Indoor overflow check code	Float switch has been activated.
P12	–	–	●	◎	◎	ALT	Indoor DC fan check code	• Indoor DC fan check code (e.g. overcurrent or lock-up) is detected.
P31	–	–	◎	●	◎	ALT	Other indoor unit check code	Follower unit cannot be operated due to header unit alarm (E03 /L03 / L07 / L08).

(Check code detected by remote controller)

Check code			Display of receiving unit				Typical trouble site	Description of trouble
Remote control	Outdoor 7-segment display		Indicator light block					
		Sub-code	Operation	Timer	Ready	Flash		
E01	–	–	◎	●	●		No master remote control, failure remote control communication (reception)	Signals cannot be received from indoor unit; master remote control has not been set (including two remote control).
E02	–	–	◎	●	●		Failure remote control communication (transmission)	Signals cannot be transmitted to indoor unit.
E09	–	–	◎	●	●		Duplicated master remote control	Both remote controls have been set as master remote control in two remote control (alarm and shutdown for header unit and continued operation for follower unit)

(Check code detected by central control device)

Check code			Display of receiving unit				Typical trouble site	Description of trouble
Central control	Outdoor 7-segment display		Indicator light block					
		Sub-code	Operation	Timer	Ready	Flash		
C05	–	–	No indication (when main remote control also in use)				Failure central control communication (transmission)	Central control device is unable to transmit signal due to duplication of central control device
C06	–	–					Failure central control communication (reception)	Central control device is unable to receive signal.
C12	–	–	–				Bracket alarm for general-purpose device control interface	Device connected to general-purpose device control interface is trouble.
P30 (L20)	–	–	(L20 is displayed.)				Communication Link	• Duplication addresses of indoor units in central control device • With the combination of air conditioning system, the indoor unit may detect the check code of L20

Note: The same trouble, e.g. a communication trouble, may result in the display of different check codes depending on the device that detects it. Moreover, check codes detected by the main remote controller / central control device do not necessarily have a direct impact on air conditioner operation.

Flow selector unit (FS unit) Relation

(Check code detected by indoor unit)

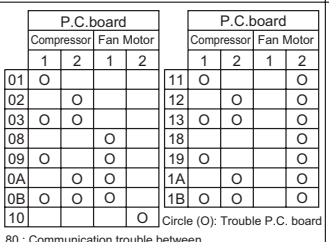
Check code			Display of receiving unit				Typical trouble site	Description of trouble
Main remote control	Outdoor 7-segment display		Indicator light block					
		Sub-code	Operation	Timer	Ready	Flash		
E17	–	–	◎	●	●		Communication trouble between indoor unit (s) and FS unit (s)	There is no communication from FS unit(s)
J03	–	–	●	◎	◎		Duplicated FS units	More than one FS units have been set up in one refrigerant line.
J10	–	–	●	◎	◎		FS unit overflow trouble	FS unit has been shutdown in one refrigerant line due to detection of overflow
J11	–	–	●	◎	◎		FS unit temperature sensor (TCS) trouble	FS unit temperature sensor (TCS) has been open/short-circuited.
L12	L12	–	◎	○	◎		FS unit(s) system trouble	FS unit(s) outside the application setting

List of Check Codes (Outdoor Unit)

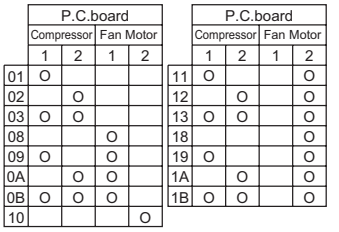
(Check code detected by outdoor interface - typical examples)

If "HELLO" is displayed on the oudoor 7-segment for 1 minute or more, turn off the power supply once and then turn on the power supply again after passage of 30 seconds or more. When the same symptom appears, it is considered there is a possibility of I/F board trouble.

◯ : Lighting, ◎ : Flashing, ● : Goes off
ALT.: Flashing is alternately when there are two flashing LED
SIM: Simultaneous flashing when there are two flashing LED

Check code			Display of receiving unit				Typical problem site	Description of problem
Outdoor 7-segment display		Central control or main remote controller display	Indicator light block					
	Sub-code		Operation ⏻	Timer 🕘	Ready	Flash		
E06	Number of indoor units from which signal is received normally	E06	●	●	◎		Signal lack of indoor unit	Indoor unit initially communicating normally fails to return signal (reduction in number of indoor units connected).
E07	–	(E04)	●	●	◎		Indoor-outdoor communication circuit trouble	Signal cannot be transmitted to indoor units (→ indoor units left without communication from outdoor unit).
E08	Duplicated indoor address	(E08)	◎	●	●		Duplicated indoor address	More than one indoor unit are assigned same address (also detected at indoor unit end).
E12	01: Indoor-outdoor communication 02: Outdoor-outdoor communication	E12	◎	●	●		Automatic address starting trouble	• Indoor automatic address setting is started while automatic address setting for equipment in other refrigerant line is in progress. • Outdoor automatic address setting is started while automatic address setting for indoor units is in progress.
E15	–	E15	●	●	◎		Indoor unit not found during automatic address setting	Indoor unit fails to communicate while automatic address setting for indoor units is in progress.
E16	00: Capacity over 01: Number of units connected	E16	●	●	◎		Too many indoor units connected/capacity over	Combined capacity of indoor units is too large. The maximum combined of indoor units shown in the specification table.
E19	00: No header unit 02: Two or more header units	E19	●	●	◎		Trouble in number of outdoor header units	There is no or more than one outdoor header unit in one refrigerant line.
E20	01: Connection of outdoor unit from other refrigerant line 02: Connection of indoor unit from other refrigerant line	E20	●	●	◎		Connection to other refrigerant line found during automatic address setting	Indoor unit from other refrigerant line is detected while indoor automatic address setting is in progress.
E23	–	E23	●	●	◎		Outdoor-outdoor communication transmission trouble	Signal cannot be transmitted to other outdoor units.
E25	–	E25	●	●	◎		Duplicated follower outdoor address	There is duplication in outdoor addresses set manually.
E26	Address of outdoor unit from which signal is not received normally	E26	●	●	◎		Signal lack of outdoor unit	Follower outdoor unit initially communicating normally fails to do so (reduction in number of follower outdoor units connected).
E28	Detected outdoor unit No.	E28	●	●	◎		Outdoor follower unit trouble	Outdoor header unit detects trouble relating to follower outdoor unit (detail displayed on follower outdoor unit).
E31	 80 : Communication trouble between MCU and Sub MCU	E31	●	●	◎		P.C. board communication trouble Sub MCU communication trouble	There is no communication between P.C. boards in inverter box.
F04	–	F04	◎	◎	○	ALT	Outdoor discharge temperature sensor (TD1) trouble	Outdoor discharge temperature sensor (TD1) has been open/short-circuited.
F05	–	F05	◎	◎	○	ALT	Outdoor discharge temperature sensor (TD2) trouble	Outdoor discharge temperature sensor (TD2) has been open/short-circuited.
F06	01: TE1 sensor 02: TE2 sensor 03: TE3 sensor	F06	◎	◎	○	ALT	Outdoor heat exchanger liquid side temperature sensor (TE1, TE2, TE3) trouble	Outdoor heat exchanger liquid side temperature sensors (TE1, TE2, TE3) have been open/short-circuited.
F07	01: TL1 sensor 02: TL2 sensor 03: TL3 sensor	F07	◎	◎	○	ALT	Outdoor liquid temperature sensor (TL1,TL2,TL3) trouble	Outdoor liquid temperature sensor (TL1,TL2,TL3) has been open/short-circuited.
F08	–	F08	◎	◎	○	ALT	Outdoor outside air temperature sensor (TO) trouble	Outdoor air temperature sensor (TO) has been open/short-circuited.
F09	01: TG1 sensor 02: TG2 sensor 03: TG3 sensor	F09	◎	◎	○	ALT	Outdoor heat exchanger gas side temperature sensor (TG1, TG2, TG3) trouble	Outdoor heat exchanger gas side temperature sensors (TG1, TG2, TG3) have been open/short-circuited.

Check code			Display of receiving unit				Typical problem site	Description of problem
Outdoor 7-segment display		Central control or main remote controller display	Indicator light block					
	Sub-code		Operation	Timer	Ready	Flash		
F12	01: TS1 sensor 03: TS3 sensor	F12	◎	◎	○	ALT	Outdoor suction temperature sensor (TS1,TS3) trouble	Outdoor suction temperature sensor (TS1,TS3) has been open/short-circuited.
F15	–	F15	◎	◎	○	ALT	Outdoor temperature sensor (TE1,TL1) wiring trouble	Wiring trouble in outdoor temperature sensors (TE1,TL1) has been detected.
F16	–	F16	◎	◎	○	ALT	Outdoor pressure sensor (Pd, Ps) wiring trouble	Wiring trouble in outdoor pressure sensors (Pd, Ps) has been detected.
F23	–	F23	◎	◎	○	ALT	Low pressure sensor (Ps) trouble	Output voltage of low pressure sensor (Ps) is zero.
F24	–	F24	◎	◎	○	ALT	High pressure sensor (Pd) trouble	Output voltage of high pressure sensor (Pd) is zero or provides abnormal readings when compressors have been turned off.
F31	–	F31	◎	◎	○	SIM	Outdoor EEPROM trouble	Outdoor EEPROM is failure (alarm and shutdown for header unit and continued operation for follower unit)
H05	–	H05	●	◎	●		Outdoor discharge temperature sensor (TD1) wiring trouble	Wiring/installation trouble or detachment of outdoor discharge temperature sensor (TD1) has been detected.
H06	–	H06	●	◎	●		Activation of low-pressure protection	Low pressure (Ps) sensor detects abnormally low operating pressure.
H07	–	H07	●	◎	●		Low oil level protection	Temperature sensor for oil level detection (TK1,TK2) detects abnormally low oil level.
H08	01: TK1 sensor trouble 02: TK2 sensor trouble	H08	●	◎	●		Trouble in temperature sensor for oil level detection (TK1,TK2)	Temperature sensor for oil level detection (TK1,TK2) has been open/short-circuited.
H15	–	H15	●	◎	●		Outdoor discharge temperature sensor (TD2) wiring trouble	Wiring/installation trouble or detachment of outdoor discharge temperature sensor (TD2) has been detected.
H16	01: TK1 oil circuit trouble 02: TK2 oil circuit trouble	H16	●	◎	●		Oil level detection circuit trouble	No temperature change is detected by temperature sensor for oil level detection (TK1,TK2) despite compressor having been started.
L04	–	L04	◎	○	◎	SIM	Duplicated outdoor refrigerant line address	Identical refrigerant line address has been assigned to outdoor units belonging to different refrigerant piping systems.
L06	Number of priority indoor units (check code L05 or L06 depending on individual unit)	L05	◎	●	◎	SIM	Duplicated priority indoor unit (as displayed on priority indoor unit)	More than one indoor unit have been set up as priority indoor unit.
		L06	◎	●	◎	SIM	Duplicated priority indoor unit (as displayed on indoor unit other than priority indoor unit)	More than one indoor unit have been set up as priority indoor unit.
L08	–	(L08)	◎	●	◎	SIM	Indoor group address not set	Address setting have not been performed for one or more indoor units (also detected at indoor end).
L10	–	L10	◎	○	◎	SIM	Outdoor capacity not set	Outdoor unit capacity has not been set (after P.C. board replacement).
L17	–	L17	◎	○	◎	SIM	Outdoor model incompatibility trouble	Old model outdoor unit has been connected.
L23	–	L23	◎	○	◎	SIM	SW setting mistake	
L28	–	L28	◎	○	◎	SIM	Too many outdoor units connected	More than five outdoor units have been connected.

Check code			Display of receiving unit				Typical problem site	Description of problem
Outdoor 7-segment display		Central control or main remote controller display	Indicator light block					
	Sub-code		Operation	Timer	Ready	Flash		
L29	 Circle (O): Trouble P.C. board	L29	◎	○	◎	SIM	Trouble in number of P.C. boards	There are insufficient number of P.C. board in inverter box.
L30	Detected indoor unit No.	(L30)	◎	○	◎	SIM	Indoor external trouble input (interlock)	Indoor unit has been shut down for external trouble input in one refrigerant line (detected by indoor unit).
P03	–	P03	◎	●	◎	ALT	Outdoor discharge (TD1) temperature trouble	Outdoor discharge temperature sensor (TD1) has detected abnormally high temperature.
P05	00: Power detection trouble 01: Open phase 02: Power supply miswiring	P05	◎	●	◎	ALT	Power detection trouble /Open phase detection /Power supply miswiring detection	Open phase is detected when power is turned on. Inverter DC voltage is too high (overvoltage) or too low (undervoltage).
P07	1 : Compressor 1 heat sink trouble 2 : Compressor 2 heat sink trouble	P07	◎	●	◎	ALT	Heat sink overheating trouble	Temperature sensor built into IPM (TH) detects overheating.
	04: Heat sink dew condensation						Heat sink dew condensation trouble	Outdoor liquid temperature sensor (TL2) has detected abnormally low temperature.
P10	Indoor unit No. detected	(P10)	●	◎	◎	ALT	Indoor unit overflow	Indoor unit has been shutdown in one refrigerant line due to detection of overflow (detected by indoor unit).
P11	–	P11	●	◎	◎	ALT	Outdoor heat exchanger freeze trouble	Remaining frost on outdoor heat exchanger has been detected repeatedly.
P13	–	P13	●	◎	◎	ALT	Outdoor liquid backflow detection trouble	State of refrigerant cycle circuit indicates liquid backflow operation.
P15	01: TS condition 02: TD condition	P15	◎	●	◎	ALT	Gas leak detection	Outdoor suction temperature sensor (TS1) detects sustained and repeated high temperatures that exceed standard value.
P17	–	P17	◎	●	◎	ALT	Outdoor discharge (TD2) temperature trouble	Outdoor discharge temperature sensor (TD2) detects abnormally high temperature.
P19	Outdoor unit No. detected	P19	◎	●	◎	ALT	4-way valve reversing trouble	Abnormality in refrigerating cycle is detected during heating operation.
P20	–	P20	◎	●	◎	ALT	Activation of high-pressure protection	High pressure (Pd) sensor detects high pressure that exceeds standard value.

MG-CTT: Magnet contactor

(Check code detected by Inverter of Compressor featuring in outdoor unit - typical examples)

Check code			Display of receiving unit				Typical problem site	Description of proplem
Outdoor 7-segment display		Central control or main remote controller display	Indicator light block					
	Sub-code		Operation	Timer	Ready	Flash		
F13	1∗: Compressor 1 2∗: Compressor 2	F13	◎	◎	○	ALT	Trouble in temperature sensor built into indoor IPM (TH)	Temperature sensor built into indoor IPM (TH) has been open/short-circuited.
H01	1∗: Compressor 1 2∗: Compressor 2	H01	●	◎	●		Compressor breakdown	Inverter current (Idc) detection circuit detects overcurrent.
H02	1∗: Compressor 1 2∗: Compressor 2	H02	●	◎	●		Compressor trouble (lockup)	Compressor lockup is detected
H03	1∗: Compressor 1 2∗: Compressor 2	H03	●	◎	●		Current detection circuit trouble	Abnormal current is detected while inverter compressor is turned off.
P04	01: Compressor 1 02: Compressor 2	P04	◎	●	◎	ALT	Activation of high-pressure SW	High-pressure SW is activated.
P05	01: Compressor 1 side 02: Compressor 2 side	P05	◎	●	◎	ALT	Compressor Vdc trouble	Inverter DC voltage is too high (overvoltage) or too low (undervoltage).
P07	01: Compressor 1 side 02: Compressor 2 side	P07	◎	●	◎	ALT	Heat sink overheat trouble	Temperature sensor built into IPM (TH) detects overheating.
P11	–	P11	●	◎	◎	ALT	Outdoor heat exchanger freeze trouble	Remaining frost on outdoor heat exchanger has been detected repeatedly.
P22	1∗: Fan P.C. board 1 2∗: Fan P.C. board 2	P22	◎	●	◎	ALT	Outdoor fan P.C. board trouble	Outdoor fan P.C. board detects trouble.
P26	1∗: Compressor 1 2∗: Compressor 2	P26	◎	●	◎	ALT	Activation of IPM, compressor short-circuit protection	Short-circuit protection for compressor motor driver circuit components is activated (momentary overcurrent).
P29	1∗: Compressor 1 2∗: Compressor 2	P29	◎	●	◎	ALT	Compressor position detection circuit trouble	Compressor motor position detection trouble is detected.

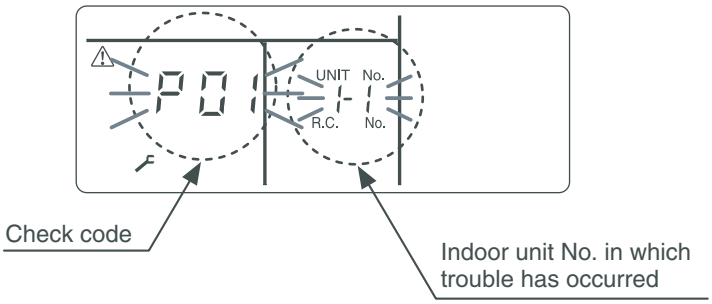
Note: The above check codes are examples only, and different check codes may be displayed depending on the outdoor unit configuration

9-3. Troubleshooting based on information displayed on remote controller

<RBC-AMT✱✱✱>

(1) Checking and testing

When a trouble occurs to an air conditioner, a check code and indoor unit No. are displayed on the display window of the remote controller.
Check codes are only displayed while the air conditioner is in operation.
If the display has already disappeared, access check code history by following the procedure described below.



(2) Trouble history

The trouble history access procedure is described below (up to four check codes stored in memory).
Check code history can be accessed regardless of whether the air conditioner is in operation or shut down.

<Procedure> To be performed when system at rest

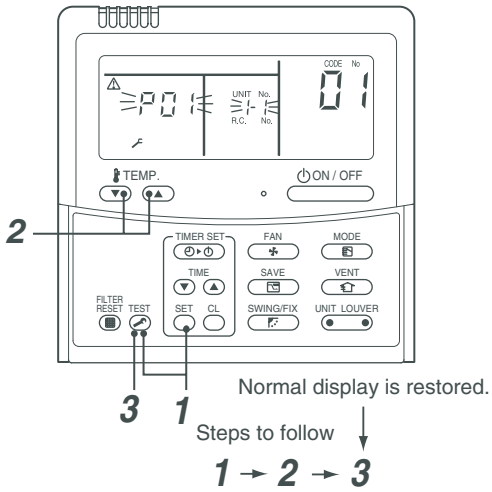
1 **Invoke the SERVICE CHECK mode by pressing the TEST + SET buttons simultaneously and holding for at least 4 seconds.**

The letters "SERVICE CHECK" light up, and the check code "01" is displayed, indicating the trouble history. This is accompanied by the indoor unit No. to which the trouble history is related and a check code.

2 **To check other trouble history items, press the TEMP. button to select another check code.**

Check code "01" (latest) → Check code "04" (oldest)
Note: Trouble history contains four items.

3 **When the TEST button is pushed, normal display is restored.**



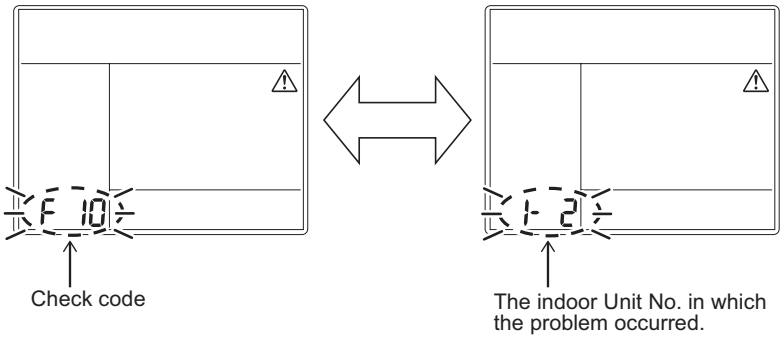
⚠ CAUTION

Do not push the CL button as it would erase the whole trouble history of the indoor unit.

<RBC-ASCU11-∗>

(1) Confirmation and check

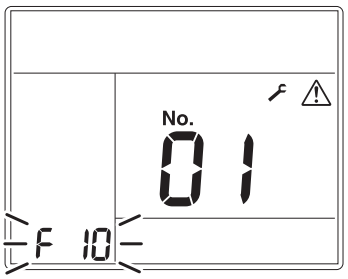
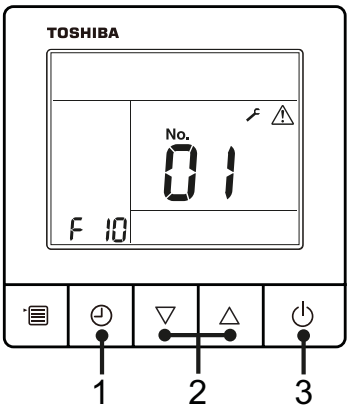
If a problem occurs with the air conditioner, the OFF timer indicator alternately shows the check code and the indoor Unit No. in which the problem occurred.



(2) Troubleshooting history and confirmation

You can check the troubleshooting history with the following procedure if a problem occurs with the air conditioner.
(The troubleshooting history records up to 4 incidents.)
You can check it during operation or when operation is stopped.

- If you check the troubleshooting history during OFF timer operation, the OFF timer will be canceled.

Procedure	Description of operation
1	Push the OFF timer button for over 10 seconds and the indicators appear as an image indicating the troubleshooting history mode has been entered. If [Service check] is displayed, the mode enters in the troubleshooting history mode. • [01: Order of troubleshooting history] appears in the temperature indicator. • The OFF timer indicator alternately shows the [check code] and the [indoor Unit No.] in which the problem occurred. 
2	Each time the setting button is pushed, the recorded troubleshooting history is displayed in sequence. The troubleshooting history appears in order from [01] (newest) to [04] (oldest). **⚠ CAUTION** In the troubleshooting history mode, DO NOT push the Menu button for over 10 seconds, doing so deletes the entire troubleshooting history of the indoor unit. 
3	After you have finished checking, push the ON/OFF button to return to the regular mode. • If the air conditioner is operating, it remains operated even after the ON/OFF button has been pushed. To stop its operation, push the ON/OFF button again.

How to read displayed information

<7-segment display symbols>

0 1 2 3 4 5 6 7 8 9 A b C d E F H J L P

<Corresponding alphanumerical letters>

0 1 2 3 4 5 6 7 8 9 A b C d E F H J L P

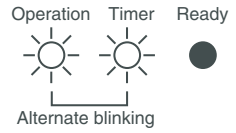
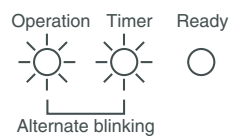
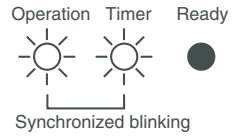
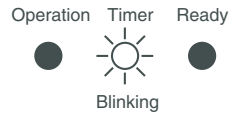
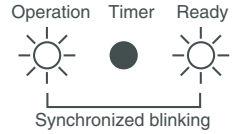
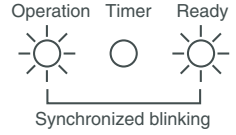
Using indoor unit indicators (receiving unit light block) (wireless type)

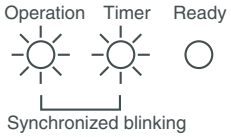
To identify the check code, check the 7-segment display on the header unit. To check for check codes not displayed on the 7-segment display, consult the “List of Check Codes (Indoor Unit)” in “9-2. Troubleshooting method”.

● : Goes off ○ : Lighting ☼ : Blinking (0.5 seconds)

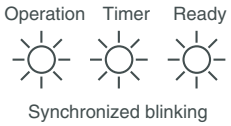
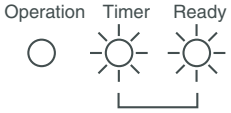
Light block	Check code	Cause of trouble		
Operation ● Timer ● Ready ● All lights out	–	Power turned off or trouble in wiring between receiving and indoor units		
Operation ☼ Timer ● Ready ● Blinking	E01	Trouble reception	Receiving unit	Trouble or poor contact in wiring between receiving unit and indoor units
	E02	Trouble transmission		
	E03	Loss of communication		
	E08	Duplicated indoor unit No. (address)		Setting trouble
	E09	Duplicated master remote controller		
	E10	Communication trouble between indoor unit MCU		
	E11	Communication trouble between Application control kit and indoor unit P.C. board		
	E12	Automatic address starting trouble		
	E18	Trouble or poor contact in wiring between indoor units, indoor power turned off		
Operation ● Timer ● Ready ☼ Blinking	E04	Trouble or poor contact in wiring between indoor and outdoor units (loss of indoor-outdoor communication)		
	E06	Trouble reception in indoor-outdoor communication (dropping out of indoor unit)		
	E07	Trouble transmission in indoor-outdoor communication		
	E15	Indoor unit not found during automatic address setting		
	E16	Too many indoor units connected / overloading		
	E19	Trouble in number of outdoor header units		
	E20	Detection of refrigerant piping communication trouble during automatic address setting		
	E23	Trouble transmission in outdoor-outdoor communication		
	E25	Duplicated follower outdoor address		
	E26	Trouble reception in outdoor-outdoor communication, dropping out of outdoor unit		
	E28	Outdoor follower unit trouble		
	E31	P.C. board communication trouble		
Operation ● Timer ☼ Ready ☼ Alternate blinking	P01	Indoor AC fan trouble		
	P10	Indoor overflow trouble		
	P11	Outdoor heat exchanger freezing trouble		
	P12	Indoor DC fan trouble		
	P13	Outdoor liquid backflow detection trouble		
Operation ☼ Timer ● Ready ☼ Alternate blinking	P03	Outdoor discharge (TD1) temperature trouble		
	P04	Activation of outdoor high-pressure SW		
	P05	Open phase / power failure Inverter DC voltage (Vdc) trouble MG-CTT trouble		
	P07	Outdoor heat sink overheating trouble - Poor cooling of electrical component (IGBT) of outdoor unit		
	P15	Gas leak detection - insufficient refrigerant charging		
	P17	Outdoor discharge (TD2) temperature trouble		
	P18	Outdoor discharge (TD3) temperature trouble		
	P19	Outdoor 4-way valve reversing trouble		
	P20	Activation of high-pressure protection		
	P22	Outdoor fan P.C. board trouble		
	P26	Outdoor IPM, Compressor short-circuit trouble		
	P29	Compressor position detection circuit trouble		
	P31	Shutdown of other indoor unit in group due to trouble (group follower unit trouble)		

MG-CTT: Magnet contactor

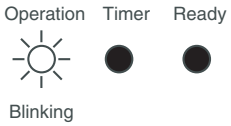
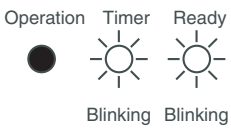
Light block	Check code	Cause of trouble	
	F01	Heat exchanger temperature sensor (TCJ) trouble	Indoor unit temperature sensor trouble
	F02	Heat exchanger temperature sensor (TC2) trouble	
	F03	Heat exchanger temperature sensor (TC1) trouble	
	F10	Ambient temperature sensor (TA) trouble	
	F11	Discharge temperature sensor (TF) trouble	
	F04	Discharge temperature sensor (TD1) trouble Discharge	Outdoor unit temperature sensor trouble
	F05	temperature sensor (TD2) trouble	
	F06	Heat exchanger temperature sensor (TE1, TE2) trouble	
	F07	Liquid temperature sensor (TL) trouble	
	F08	Outside air temperature sensor (TO) trouble	
	F09	TG1,TG2 or TG3 sensor trouble	
	F12	Suction temperature sensor (TS1) trouble	
	F13	Heat sink sensor (TH) trouble	
	F15	Wiring trouble in heat exchanger sensor (TE1) and liquid temperature sensor (TL) Outdoor unit temperature sensor wiring / installation trouble	
	F16	Wiring trouble in outdoor high pressure sensor (Pd) and low pressure sensor (Ps) Outdoor pressure sensor wiring trouble	
	F22	Outdoor discharge temperature sensor (TD3) trouble	
	F23	Low pressure sensor (Ps) trouble	Outdoor unit pressure sensor trouble
	F24	High pressure sensor (Pd) trouble	
	F30	Occupancy sensor trouble	
	F31	Indoor unit EEPROM trouble	
	F29	Failure in indoor EEPROM	
	H01	Compressor breakdown	Outdoor unit compressor related trouble
	H02	Compressor lockup	
	H03	Current detection circuit trouble	
	H04	Comp. 1 case thermostat operation	
	H05	Wiring / installation trouble or detachment of outdoor discharge temperature sensor (TD1)	
	H06	Abnormal drop in low-pressure sensor (Ps) reading	Protective shutdown of outdoor unit
	H07	Abnormal drop in oil level	
	H08	Trouble in temperature sensor for oil level detection circuit (TK1, TK2, TK3, TK4 or TK5)	
	F14	Comp. 2 case thermostat operation	
	H15	Wiring / installation trouble or detachment of outdoor discharge temperature sensor (TD2)	
	H16	Oil level detection circuit trouble - Trouble in outdoor unit TK1, TK2, TK3, TK4 or TK5 circuit	
	H25	Wiring / installation trouble or detachment of outdoor discharge temperature sensor (TD3)	
	L02	Model mismatched of indoor and outdoor unit	
	L03	Duplicated indoor group header unit	
	L05	Duplicated priority indoor unit (as displayed on priority indoor unit)	
	L06	Duplicated priority indoor unit (as displayed on indoor unit other than priority indoor unit)	
	L07	Connection of group control cable to a single indoor unit	
	L08	Indoor group address not set	
	L09	Indoor capacity not set	
	L04	Duplicated outdoor refrigerant line address	
	L10	Outdoor capacity not set	
	L17	Outdoor model incompatibility trouble	
	L18	Flow selector units trouble	
	L20	Duplicated central control address	
	L28	Too many outdoor units connected	
	L29	Trouble in number of P.C. boards	
	L30	Indoor external interlock trouble (External abnormal input)	

Light block	Check code	Cause of trouble
	F30	Occupancy sensor trouble
	F31	Outdoor EEPROM trouble

Other (indications not involving check code)

Light block	Check code	Cause of trouble
	–	Test run in progress
	–	Setting incompatibility (automatic cooling / heating setting for model incapable of it and heating setting for cooling-only model)

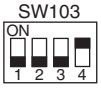
Flow selector unit (FS unit) Relation

Light block	Check code	Cause of trouble
	E17	Communication trouble between indoor unit(s) and FS unit(s)
	L12	FS unit(s) system trouble
	L24	FS unit(s) setting trouble
	J03	Duplicated FS units
	J10	FS unit overflow trouble
	J11	FS unit temperature sensor(TCS) trouble

9-4. Check Codes Displayed on Remote Controller and SMMS series Outdoor Unit (7-Segment Display on I/F Board) and Locations to Be Checked

For other types of outdoor units, refer to their own service manuals.

Check code			Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
Main remote controller	Outdoor 7-segment display						
	Check code	Sub-code					
E01	—	—	Remote controller	Indoor-remote controller communication trouble (detected at remote controller end)	Stop of corresponding unit	Communication between indoor P.C. board and remote controller is disrupted.	• Check remote controller inter-unit tie cable (A/B). • Check for broken wire or connector bad contact. • Check indoor power supply. • Check for failure in indoor P.C. board. • Check remote controller address settings (when two remote controllers are in use). • Check remote controller P.C. board.
E02	—	—	Remote controller	Remote controller transmission trouble	Stop of corresponding unit	Signal cannot be transmitted from remote controller to indoor unit.	• Check internal transmission circuit of remote controller. --- Replace remote controller as necessary.
E03	—	—	Indoor unit	Indoor-remote controller communication trouble (detected at indoor end)	Stop of corresponding unit	There is no communication from remote controller (including wireless) or network adaptor.	• Check remote controller and network adaptor wiring.
E04	—	—	Indoor unit	Indoor-outdoor communication circuit trouble (detected at indoor end)	Stop of corresponding unit	Indoor unit is not receiving signal from outdoor unit.	• Check order in which power was turned on for indoor and outdoor units. • Check indoor address setting. • Check indoor-outdoor tie cable. • Check outdoor terminator resistor setting (SW100, Bit 2).
E04	E06	No. of indoor units from which signal is received normally	I/F	Dropping out of indoor unit	All stop	**Condition 1** All indoor unit initially communicating normally fails to return signal for specified length of time. **Condition 2** Outdoor I / F board SW103, Bit4 : OFF (Factory default)	• Check power supply to indoor unit. (Is power turned on?) • Check connection of indoor-outdoor communication cable. • Check connection of communication connectors on indoor P.C. board. • Check connection of communication connectors on outdoor P.C. board. • Check for failure in indoor P.C. board. • Check for failure in outdoor P.C. board (I/F).
	—	—	Indoor unit	Indoor-outdoor communication circuit trouble	Only specified indoor units stop	**Condition 1** Indoor unit initially communicating normally fails to return signal for specified length of time.	• Check power supply to indoor unit. (Is power turned on?) • Check indoor-outdoor power-on sequence. • Check indoor address setting • Check wiring of Indoor-outdoor communication wires • Check outdoor terminator resistor setting (SW100, Bit 2).

Check code			Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
Main remote controller	Outdoor 7-segment display						
	Check code	Sub-code					
E04/E06	E06	No. of indoor units from which signal is received normally	Indoor unit	Indoor-outdoor communication circuit trouble (E04)	All stop	**Condition 1** One indoor unit or more initially communicating normally fails to return signal for specified length of time. **Condition 2** Outdoor I / F board SW103, Bit4 : ON (To switch the check code detection condition.) SW103  Display on main remote controller. Indoor units unavailable for indoor / outdoor communication. :E04 Indoor units available for indoor / outdoor communication. : E06	• Check power supply to indoor unit. (Is power turned on?) • Check indoor-outdoor power-on sequence. • Check indoor address setting • Check wiring of Indoor-outdoor communication wires • Check outdoor terminator resistor setting (SW100, Bit 2).
			I/F	Dropping out of indoor unit (E06)			• Check power supply to indoor unit. (Is power turned on?) • Check connection of indoor-outdoor communication cable. • Check connection of communication connectors on indoor P.C. board. • Check connection of communication connectors on outdoor P.C. board. • Check for failure in indoor P.C. board. • Check for failure in outdoor P.C. board (I/F).
—	E07	—	I/F	Indoor-outdoor communication circuit trouble (detected at outdoor end)	All stop	Signal cannot be transmitted from outdoor to indoor units for 30 seconds continuously.	• Check outdoor terminator resistor setting (SW100, Bit 2). • Check connection of indoor-outdoor communication circuit.
E08	E08	Duplicated indoor address	Indoor unit I/F	Duplicated indoor address	All stop	More than one indoor unit are assigned same address.	• Check indoor addresses. • Check for any change made to remote controller connection (group/ individual) since indoor address setting.
E09	—	—	Remote controller	Duplicated master remote controller	Stop of corresponding unit	In two remote controller configuration (including wireless), both controllers are set up as master. (Header indoor unit is shut down with alarm, while follower indoor units continue operating.)	• Check remote controller settings. • Check remote controller P.C. boards.
E10	—	—	Indoor unit	Indoor inter-MCU communication trouble	Stop of corresponding unit	Communication cannot be established/maintained upon turning on of power or during communication.	• Check for failure in indoor P.C. board
E12	E12	01: Indoor-outdoor communication 02: Outdoor-outdoor communication	I/F	Automatic address starting trouble	All stop	• Indoor automatic address setting is started while automatic address setting for equipment in other refrigerant line is in progress. • Outdoor automatic address setting is started while automatic address setting for indoor units is in progress.	• Perform automatic address setting again after disconnecting communication cable to that refrigerant line.
E15	E15	—	I/F	Indoor unit not found during automatic address setting	All stop	Indoor unit cannot be detected after indoor automatic address setting is started.	• Check connection of indoor-outdoor communication line. • Check for trouble in indoor power supply system. • Check for noise from other devices. • Check for power failure. • Check for failure in indoor P.C. board.

Check code			Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
Main remote controller	Outdoor 7-segment display						
	Check code	Sub-code					
E16	E16	00: Capacity over 01-: No. of units connected	I/F	Too many indoor units connected	All stop	• Combined capacity of indoor units is too large. **Note:** **If this code comes up after backup setting for outdoor unit failure is performed, perform "No capacity over detected" setting.** <"No capacity over detected" setting method> Turn on SW103 / Bit 3 on I/F P.C. board of outdoor header unit. For Cooling Only model, this check code is not displayed even if it exceeds the combined capacity of indoor units. • More than 128 indoor units are connected.	• Check capacities of indoor units connected. • Check combined HP capacities of indoor units. • Check HP capacity settings of outdoor units. • Check No. of indoor units connected. • Check for failure in outdoor P.C. board (I/F).
E18	—	—	Indoor unit	Trouble in communication between indoor header and follower units	Stop of corresponding unit	Periodic communication between indoor header and follower units cannot be maintained.	• Check remote controller wiring. • Check indoor power supply wiring. • Check P.C. boards of indoor units.
E19	E19	00: No header unit 02: Two or more header units	I/F	Trouble in number of outdoor header units	All stop	• There are more than one outdoor header units in one line. • There is no outdoor header unit in one line.	Outdoor header unit is outdoor unit to which indoor-outdoor tie cable (U1,U2) is connected. • Check connection of indoor-outdoor communication line. • Check for failure in outdoor P.C. board (I/F).
E20	E20	01: Connection of outdoor unit from other line 02: Connection of indoor unit from other line	I/F	Connection to other line found during automatic address setting	All stop	Equipment from other line is found to have been connected when indoor automatic address setting is in progress.	Disconnect inter-line tie cable in accordance with automatic address setting method explained in "Address setting" section.
E23	E23	—	I/F	Outdooroutdoor communication transmission trouble	All stop	Signal cannot be transmitted to other outdoor units for at least 30 seconds continuously.	• Check power supply to outdoor units. (Is power turned on?) • Check connection of tie cables between outdoor units for bad contact or broken wire. • Check communication connectors on outdoor P.C. boards. • Check for failure in outdoor P.C. board (I/F). • Check termination resistance setting for communication between outdoor units.
E25	E25	—	I/F	Duplicated follower outdoor address	All stop	There is duplication in outdoor addresses set manually.	**Note:** **Do not set outdoor addresses manually.**
E26	E26	Address of outdoor unit from which signal is not received normally	I/F	Signal lack of outdoor unit	All stop	Outdoor unit initially communicating normally fails to return signal for specified length of time.	• Backup setting is being used for outdoor units. • Check power supply to outdoor unit. (Is power turned on?) • Check connection of tie cables between outdoor units for bad contact or broken wire. • Check communication connectors on outdoor P.C. boards. • Check for failure in outdoor P.C. board (I/F).

<table>
<tr><th colspan="3">Check code</th><th rowspan="3">Location of detection</th><th rowspan="3">Description</th><th rowspan="3">System status</th><th rowspan="3">Check code detection condition(s)</th><th rowspan="3">Check items (locations)</th></tr>
<tr><th rowspan="2">Main remote controller</th><th colspan="2">Outdoor 7-segment display</th></tr>
<tr><th>Check code</th><th>Sub-code</th></tr>
<tr><td>E28</td><td>E28</td><td>Detected outdoor unit No.</td><td>I/F</td><td>Outdoor follower unit trouble</td><td>All stop</td><td>Outdoor header unit receives trouble code from outdoor follower unit.</td><td>• Check check code displayed on outdoor follower unit.
<Convenient functions>
If SW04 is pressed and held for at least 1 second while [E28] is displayed on the 7-segment display of outdoor header unit, the fan of the outdoor unit that has been shut down due to an trouble comes on.
If SW04 and SW05 are pressed simultaneously, the fans of normal outdoor units come on.
To stop the fan or fans, press SW05 on its own.</td></tr>
<tr><td rowspan="2">E31</td><td rowspan="2">E31</td><td>P.C.board
Compressor / Fan Motor
1 2 1 2
01 O
02 O
03 O O
08 O
09 O O
0A O O
0B O O O
10 O
11 O O
12 O O
13 O O O
18 O
19 O O
1A O O
1B O O O
Circle (O): Trouble P.C. board</td><td>I/F</td><td>P.C. board communication trouble</td><td>All stop</td><td>Communication is disrupted between P.C. board in inverter box.</td><td>• Check wiring and connectors involved in communication between P.C. board I/F P.C. board for bad contact or broken wire.
• Check for failure in outdoor P.C. board (I/F, comp. P.C. board or Fan P.C. board).
• Check for external noise.</td></tr>
<tr><td>80</td><td></td><td>Communication trouble between MCU and Sub MCU</td><td>All stop</td><td>Communication between MCU and Sub MCU stopped.</td><td>• Operation of power supply reset (OFF for 60 seconds or more)
• Outdoor I/F PC board trouble check</td></tr>
<tr><td>F01</td><td>—</td><td>—</td><td>Indoor unit</td><td>Indoor TCJ sensor trouble</td><td>Stop of corresponding unit</td><td>Sensor resistance is infinity or zero (open/short circuit).</td><td>• Check connection of TCJ sensor connector and wiring.
• Check resistance characteristics of TCJ sensor.
• Check for failure in indoor P.C. board.</td></tr>
<tr><td>F02</td><td>—</td><td>—</td><td>Indoor unit</td><td>Indoor TC2 sensor trouble</td><td>Stop of corresponding unit</td><td>Sensor resistance is infinity or zero (open/short circuit).</td><td>• Check connection of TC2 sensor connector and wiring.
• Check resistance characteristics of TC2 sensor.
• Check for failure in indoor P.C. board.</td></tr>
<tr><td>F03</td><td>—</td><td>—</td><td>Indoor unit</td><td>Indoor TC1 sensor trouble</td><td>Stop of corresponding unit</td><td>Sensor resistance is infinity or zero (open/short circuit).</td><td>• Check connection of TC1 sensor connector and wiring.
• Check resistance characteristics of TC1 sensor.
• Check for failure in indoor P.C. board.</td></tr>
<tr><td>F04</td><td>F04</td><td>—</td><td>I/F</td><td>TD1 sensor trouble</td><td>All stop</td><td>Sensor resistance is infinity or zero (open/short circuit).</td><td>• Check connection of TD1 sensor connector.
• Check resistance characteristics of TD1 sensor.
• Check for failure in outdoor P.C. board (I/F).</td></tr>
</table>

Check code			Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
Main remote controller	Outdoor 7-segment display						
	Check code	Sub-code					
F05	F05	—	I/F	TD2 sensor trouble	All stop	Sensor resistance is infinity or zero (open/short circuit).	• Check connection of TD2 sensor connector. • Check resistance characteristics of TD2 sensor. • Check for failure in outdoor P.C. board (I/F).
F06	F06	01: TE1 sensor trouble 02: TE2 sensor trouble 03: TE3 sensor trouble	I/F	TE1/TE2/TE3 sensor trouble	All stop	Sensor resistance is infinity or zero (open/short circuit).	• Check connection of TE1/TE2/TE3 sensor connectors. • Check resistance characteristics of TE1/TE2/TE3 sensors. • Check for failure in outdoor P.C. board (I/F).
F07	F07	01: TL1 sensor trouble 02: TL2 sensor trouble 03: TL3 sensor trouble	I/F	TL1/TL2/TL3 sensor trouble	All stop	Sensor resistance is infinity or zero (open/short circuit).	• Check connection of TL1/TL2/TL3 sensor connector. • Check resistance characteristics of TL1/TL2/TL3 sensor. • Check for failure in outdoor P.C. board (I/F).
F08	F08	—	I/F	TO sensor trouble	All stop	Sensor resistance is infinity or zero (open/short circuit).	• Check connection of TO sensor connector. • Check resistance characteristics of TO sensor. • Check for failure in outdoor P.C. board (I/F).
F09	F09	01: TG1 sensor trouble 02: TG2 sensor trouble 03: TG3 sensor trouble	I/F	TG1/TG2/TG3 sensor trouble	All stop	Sensor resistance is infinity or zero (open/short circuit).	• Check connection of TG1/TG2/TG3 sensor connectors. • Check resistance characteristics of TG1/TG2/TG3 sensors. • Check for failure in outdoor P.C. board (I/F).
F10	—	—	Indoor unit	Indoor TA sensor trouble	Stop of corresponding unit	Sensor resistance is infinity or zero (open/short circuit).	• Check connection of TA sensor connector and wiring. • Check resistance characteristics of TA sensor. • Check for failure in indoor P.C. board.
F11	—	—	Indoor unit	Indoor TF sensor trouble	Stop of corresponding unit	Sensor resistance is infinity or zero (open/short circuit).	• Check connection of TF sensor connector and wiring. • Check resistance characteristics of TF sensor. • Check for failure in indoor P.C. board.
F12	F12	01: TS1 sensor trouble 03: TS3 sensor trouble	I/F	TS1/TS3 sensor trouble	All stop	Sensor resistance is infinity or zero (open/short circuit).	• Check connection of TS1/TS3 sensor connector • Check resistance characteristics of TS1/TS3 sensor. • Check for failure in indoor P.C. board.
F13	F13	1∗: Compressor 1 side 2∗: Compressor 2 side	Compressor P.C. board	TH sensor trouble	All stop	Sensor resistance is infinity or zero (open/short circuit).	• Failure in IPM built-in temperature sensor → Replace Compressor P.C. board.
F15	F15	—	I/F	Outdoor temperature sensor wiring trouble (TE1, TL1)	All stop	During compressor operation in HEAT mode, TL1 continuously provides temperature reading higher than indicated by TL1 by at least specified margin for 3 minutes or more.	• Check installation of TE1 and TL1 sensors. • Check resistance characteristics of TE1 and TL1 sensors. • Check for outdoor P.C. board (I/F) trouble

Check code			Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
Main remote controller	Outdoor 7-segment display						
	Check code	Sub-code					
F16	F16	—	I/F	Outdoor pressure sensor wiring trouble (Pd, Ps)	All stop	Readings of high-pressure Pd sensor and low-pressure Ps sensor are switched. Output voltages of both sensors are zero.	• Check connection of high-pressure Pd sensor connector. • Check connection of low-pressure Ps sensor connector. • Check for failure in pressure sensors Pd and Ps. • Check for trouble in outdoor P.C. board (I/F). • Check for compressor poor compression.
F23	F23	—	I/F	Ps sensor trouble	All stop	Output voltage of Ps sensor is zero.	• Check for connection trouble involving Ps sensor and Pd sensor connectors. • Check connection of Ps sensor connector. • Check for failure in Ps sensor. • Check for compressor poor compression. • Check for failure in 4-way valve. • Check for failure in outdoor P.C. board (I/F). • Check for failure in SV4 circuit.
F24	F24	—	I/F	Pd sensor trouble	All stop	Output voltage of Pd sensor is zero (sensor open-circuited). Pd > 4.15MPa despite compressor having been turned off.	• Check connection of Pd sensor connector. • Check for failure in Pd sensor. • Check for failure in outdoor P.C. board (I/F).
F29	—	—	Indoor unit	Other indoor trouble	Stop of corresponding unit	Indoor P.C. board does not operate normally.	• Check for failure in indoor P.C. board (failure EEPROM)
F31	F31	—	I/F	Outdoor EEPROM trouble	All stop *1	Outdoor P.C. board (I/F) does not operate normally.	• Check power supply voltage. • Check power supply noise. • Check for failure in outdoor P.C. board (I/F).
H01	H01	1∗: Compressor 1 side 2∗: Compressor 2 side	Compressor P.C. board	Compressor breakdown	All stop	Inverter current detection circuit detects overcurrent and shuts system down.	• Check power supply voltage. (AC380V-415V ± 10%). • Check for failure in compressor. • Check for possible cause of abnormal overloading. • Check for failure in outdoor P.C. board (Compressor).
H02	H02	1∗: Compressor 1 side 2∗: Compressor 2 side	Compressor P.C. board	Compressor trouble (lockup) MG-CTT trouble	All stop	Overcurrent is detected several seconds after startup of inverter compressor.	• Check for failure in compressor. • Check power supply voltage. (AC380V-415V ± 10%). • Check compressor system wiring, particularly for open phase. • Check connection of connectors/terminals on compressor P.C. board. • Check conductivity of case heater. (Check for refrigerant problem inside compressor.) • Check for failure in outdoor P.C. board (Compressor). • Check outdoor MG-CTT.
H03	H03	1∗: Compressor 1 side 2∗: Compressor 2 side	Compressor P.C. board	Current detection circuit trouble	All stop	Current flow of at least specified magnitude is detected despite inverter compressor having been shut turned off.	• Check current detection circuit wiring. • Check failure in outdoor P.C. board (Compressor).

*1 Total shutdown in case of header unit
Continued operation in case of follower unit

Check code			Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
Main remote controller	Outdoor 7-segment display						
	Check code	Sub-code					
H05	H05	—	I/F	TD1 sensor miswiring (incomplete insertion)	All stop	Discharge temperature of compressor 1 (TD1) does not increase despite compressor being in operation.	• Check installation of TD1 sensor. • Check connection of TD1 sensor connector and wiring. • Check resistance characteristics of TD1 sensor. • Check for failure in outdoor P.C. board (I/F).
H06	H06	—	I/F	Activation of low-pressure protection	All stop	Low-pressure Ps sensor detects operating pressure lower than 0.02MPa.	• Check service valves to confirm full opening (both gas and liquid sides). • Check outdoor PMVs for clogging (PMV1, 2, 3). • Check for failure in SV4 circuits. • Check for failure in low-pressure Ps sensor. • Check indoor filter for clogging. • Check valve opening status of indoor PMV. • Check refrigerant piping for clogging. • Check operation of outdoor fan (during heating). • Check for insufficiency in refrigerant quantity.
H07	H07	—	I/F	Low oil level protection	All stop	Operating compressor detects continuous state of low oil level for about 2 hours.	<All outdoor units in corresponding line to be checked> • Check connection and installation of TK1 and TK2 sensors. • Check resistance characteristics of TK1 and TK2 sensors. • Check for gas or oil leak in same line. • Check for refrigerant problem inside compressor casing. • Check SV3D, SV3F valves for failure. • Check oil return circuit of oil separator for clogging. • Check oil equalizing circuit for clogging.
H08	H08	01: TK1 sensor trouble 02: TK2 sensor trouble	I/F	Trouble in temperature sensor for oil level detection	All stop	Sensor resistance is infinity or zero (open/short circuit).	• Check connection of TK1 sensor connector. • Check resistance characteristics of TK1 sensor. • Check for failure in outdoor P.C. board (I/F).
					All stop	Sensor resistance is infinity or zero (open/short circuit).	• Check connection of TK2 sensor connector. • Check resistance characteristics of TK2 sensor. • Check for failure in outdoor P.C. board (I/F).
H15	H15	—	I/F	TD2 sensor miswiring (incomplete insertion)	All stop	Discharge temperature of (TD2) does not increase despite compressor 2 being in operation.	• Check installation of TD2 sensor. • Check connection of TD2 sensor connector and wiring. • Check resistance characteristics of TD2 sensor. • Check for failure in outdoor P.C. board (I/F).

Check code			Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
Main remote controller	Outdoor 7-segment display						
	Check code	Sub-code					
H16	H16	01: TK1 oil circuit trouble 02: TK2 oil circuit trouble	I/F	Oil level detection circuit trouble	All stop	No temperature change is detected by TK1 despite compressor 1 having been started.	• Check for disconnection of TK1 sensor. • Check resistance characteristics of TK1 sensor. • Check for connection trouble involving TK1 and TK2 sensors • Check for clogging in oil equalizing circuit capillary. • Check for refrigerant entrapment inside compressor.
						No temperature change is detected by TK2 despite compressor 2 having been started.	• Check for disconnection of TK2 sensor. • Check resistance characteristics of TK2 sensor. • Check for connection trouble involving TK1 and TK2 sensors • Check SV3F valve malfunction. • Check for clogging in oil equalizing circuit capillary. • Check for refrigerant entrapment inside compressor.
H17	H17	1∗: Compressor 1 side 2∗: Compressor 2 side	Compressor P.C. board	Compressor trouble (Step-out)	All stop	Judged that the synchronization could not be taken.	• Check power supply voltage. (AC380V-415V ± 10%). • Check for failure in compressor. • Check for possible cause of abnormal overloading. • Check for failure in outdoor P.C. board (compressor).
L02	L02	—	Indoor unit	Outdoor units model disagreement trouble	Stop of corresponding unit	In case of different outdoor unit (Not corresponded to Air to Air Heat Exchanger type)	• Check outdoor unit model. (Check whether the outdoor unit corresponds to Air to Air Heat Exchanger type or not.)
L03	—	—	Indoor unit	Duplicated indoor header unit	Stop of corresponding unit	There are more than one header units in group.	• Check indoor addresses. • Check for any change made to remote controller connection (group/ individual) since indoor address setting.
L04	L04	—	I/F	Duplicated outdoor line address	All stop	There is duplication in line address setting for outdoor units belonging to different refrigerant piping systems.	• Check line addresses.
L05	—	—	I/F	Duplicated priority indoor unit (as displayed on priority indoor unit)	All stop	More than one indoor units have been set up as priority indoor unit.	• Check display on priority indoor unit.
L06	L06	No. of priority indoor units	I/F	Duplicated priority indoor unit (as displayed on indoor unit other than priority indoor unit)	All stop	More than one indoor units have been set up as priority indoor unit.	• Check displays on priority indoor unit and outdoor unit.
L07	—	—	Indoor unit	Connection of group control cable to standalone indoor unit	Stop of corresponding unit	There is at least one standalone indoor unit to which group control cable is connected.	• Check indoor addresses.
L08	L08	—	Indoor unit	Indoor group / addresses not set	Stop of corresponding unit	Address setting has not been performed for indoor units.	• Check indoor addresses. **Note:** **This code is displayed when power is turned on for the first time after installation.**
L09	—	—	Indoor unit	Indoor capacity not set	Stop of corresponding unit	Capacity setting has not been performed for indoor unit.	Set indoor capacity. (DN = 11)

<table>
<tr><th colspan="3">Check code</th><th rowspan="2">Location of detection</th><th rowspan="2">Description</th><th rowspan="2">System status</th><th rowspan="2">Check code detection condition(s)</th><th rowspan="2">Check items (locations)</th></tr>
<tr><th rowspan="2">Main remote controller</th><th colspan="2">Outdoor 7-segment display</th></tr>
<tr><th>Check code</th><th>Sub-code</th></tr>
<tr><td>L10</td><td>L10</td><td>—</td><td>I/F</td><td>Outdoor capacity not set</td><td>All stop</td><td>Initial setting of I/F P.C. board has not been implemented.</td><td>• Check model setting of P.C. board for servicing outdoor I/F P.C. board.</td></tr>
<tr><td>L20</td><td>—</td><td>—</td><td>Network adaptor Indoor unit</td><td>Duplicated central control address</td><td>All stop</td><td>There is duplication in central control address setting.</td><td>• Check central control addresses.</td></tr>
<tr><td>L23</td><td>—</td><td>—</td><td>I/F</td><td>SW setting mistake</td><td>All stop</td><td>Outdoor P.C. board (I/F) does not operate normally.</td><td>• Check switch setting of outdoor P.C. board (I/F).</td></tr>
<tr><td>L28</td><td>L28</td><td>—</td><td>I/F</td><td>Too many outdoor units connected</td><td>All stop</td><td>There are more than 5 outdoor units.</td><td>• Check No. of outdoor units connected (Only up to 5 units per system allowed).
• Check communication lines between outdoor units.
• Check for failure in outdoor P.C. board (I/F).</td></tr>
<tr><td>L29</td><td>L29</td><td>
<table>
<tr><th></th><th colspan="4">P.C.board</th></tr>
<tr><th></th><th colspan="2">Compressor</th><th colspan="2">Fan Motor</th></tr>
<tr><th></th><th>1</th><th>2</th><th>1</th><th>2</th></tr>
<tr><td>01</td><td>O</td><td></td><td></td><td></td></tr>
<tr><td>02</td><td></td><td>O</td><td></td><td></td></tr>
<tr><td>03</td><td>O</td><td>O</td><td></td><td></td></tr>
<tr><td>08</td><td></td><td></td><td>O</td><td></td></tr>
<tr><td>09</td><td>O</td><td></td><td>O</td><td></td></tr>
<tr><td>0A</td><td></td><td>O</td><td>O</td><td></td></tr>
<tr><td>0B</td><td>O</td><td>O</td><td>O</td><td></td></tr>
<tr><td>10</td><td></td><td></td><td></td><td>O</td></tr>
<tr><td>11</td><td>O</td><td></td><td></td><td>O</td></tr>
<tr><td>12</td><td></td><td>O</td><td></td><td>O</td></tr>
<tr><td>13</td><td>O</td><td>O</td><td></td><td>O</td></tr>
<tr><td>18</td><td></td><td></td><td></td><td>O</td></tr>
<tr><td>19</td><td>O</td><td></td><td></td><td>O</td></tr>
<tr><td>1A</td><td></td><td>O</td><td></td><td>O</td></tr>
<tr><td>1B</td><td>O</td><td>O</td><td></td><td>O</td></tr>
</table>
Circle (O): Trouble P.C. board</td><td>I/F</td><td>Trouble in No. of P.C. board</td><td>All stop</td><td>Insufficient number of P.C. board are detected when power is turned on.</td><td>• Check model setting of P.C. board for servicing outdoor I/F P.C. board.
• Check connection of UART communication connector.
• Check compressor P.C. board, fan P.C. board, and I/F P.C. board for failure.</td></tr>
<tr><td>L30</td><td>L30</td><td>Detected indoor address</td><td>Indoor unit</td><td>Indoor external interlock (External abnormal input)</td><td>Stop of corresponding unit</td><td>• Indoor unit has been shut down due to external abnormal input signal.</td><td>When external device is connected:
1) Check for trouble in external device.
2) Check for trouble in indoor P.C. board.
When external device is not connected:
1) Check for trouble in indoor P.C. board.</td></tr>
<tr><td>—</td><td>L31</td><td>—</td><td>I/F</td><td>Extended IC trouble</td><td>Continued operation</td><td>There is part failure in P.C. board (I/F).</td><td>Check outdoor P.C. board (I/F).</td></tr>
<tr><td>P01</td><td>—</td><td>—</td><td>Indoor unit</td><td>Indoor fan motor trouble</td><td>Stop of corresponding unit</td><td></td><td>• Check the lock of fan motor (AC fan).
• Check wiring.</td></tr>
<tr><td>P03</td><td>P03</td><td>—</td><td>I/F</td><td>Discharge temperature TD1 trouble</td><td>All stop</td><td>Discharge temperature (TD1) exceeds 115 ˚C.</td><td>• Check outdoor service valves (gas side, liquid side) to confirm full opening.
• Check outdoor PMVs (PMV1, 2, 3, 4) for clogging.
• Check resistance characteristics of TD1 sensor.
• Check for insufficiency in refrigerant quantity.
• Check for failure in 4-way valve.
• Check for leakage of SV4 circuit.
• Check SV4 circuit (wiring or installation trouble in SV41 or SV42).</td></tr>
</table>

Check code			Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
Main remote controller	Outdoor 7-segment display						
	Check code	Sub-code					
P04	P04	1∗: Compressor 1 side 2∗: Compressor 2 side	I/F	Activation of high-pressure SW	All stop	High-pressure SW is activated.	• Check connection of high-pressure SW connector. • Check for failure in Pd pressure sensor. • Check outdoor service valves (gas side, liquid side) to confirm full opening. • Check for failure in outdoor fan. • Check for failure in outdoor fan motor. • Check outdoor PMVs (PMV1, 2, 3) for clogging. • Check indoor/outdoor heat exchangers for clogging. • Check for short-circuiting of outdoor suction/discharge air flows. • Check for failure in outdoor P.C. board (I/F). • Check for trouble in indoor fan system (possible cause of air flow reduction). • Check opening status of indoor PMV. • Check indoor-outdoor communication line for wiring trouble. • Check for failure operation of check valve in discharge pipe convergent section. • Check gas balancing SV4 valve circuit. • Check for refrigerant overcharging.
P05	P05	00: Power detection trouble 01: Open phase 02: Power supply miswiring	I/F	Power detection trouble / Open phase detection / Power supply miswiring	All stop	• Open phase is detected when power is turned on. • Inverter DC voltage is too high (overvoltage) or too low (undervoltage).	• Check for failure in outdoor P.C. board (I/F). • Check wiring of outdoor power supply. • Check power supply voltage.
		1∗: Compressor 1 side 2∗: Compressor 2 side	Compressor P.C. board	Compressor Vdc trouble			
P07	P07	1∗: Compressor 1 side 2∗: Compressor 2 side	Compressor P.C. board	Heat sink overheating trouble	All stop	Temperature sensor built into IPM (TH) is overheated.	• Check outdoor fan system trouble. • Check IPM and heat sink for thermal performance for failure installation. (e.g. mounting screws and thermal conductivity) • Check for failure in Compressor P.C. board. (failure IPM built-in temperature sensor (TH))
		01: Compressor 1 heat sink trouble 02: Compressor 2 heat sink trouble 04: Heat sink dew condensation	I/F	Heat sink overheating trouble Heat sink dew condensation trouble	All stop	Condensation detection on heat sink has occurred four times or more in operation. Temperature sensor built into IPM (TH) is overheated.	• Check outdoor fan system trouble. • Check IPM and heat sink for thermal performance for troubled installation. (e. g. mounting screws and thermal conductivity) • Check for failure in compressor P.C. board. (failure IPM built-in temperature sensor (TH)) • Check shortage of refrigerant. • Check outdoor service valves. • Check connection of TL2 sensor. • Check resistance characteristics of TL2 sensor. • Check resistance characteristics of TO sensor. • Check malfunctions of Pd and Ps sensors. • Check outdoor I/F P.C. board malfunction. • Check PMV2 and PMV3

Check code			Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
Main remote controller	Outdoor 7-segment display						
	Check code	Sub-code					
P10	P10	Detected indoor address	Indoor unit	Indoor overflow trouble	All stop	• Float switch operates. • Float switch circuit is open-circuited or disconnected at connector.	• Check float switch connector. • Check operation of drain pump. • Check drain pump circuit. • Check drain pipe for clogging. • Check for failure in indoor P.C. board.
P11	—	—	I/F	Outdoor heat exchanger freeze trouble	All stop	• Outdoor heat exchanger remaining frost detection has occurred eight times or more due to abnormal frost formation in heating operation.	• Check shortage of refrigerant. • Check connection of TE1, TE2 and TE3 sensors. • Check resistance characteristics of TE1, TE2, and TE3 sensors. • Check disconnection of TS1 sensor. • Check resistance characteristics of TS1 sensor. • Check outdoor I/F P.C. board malfunction. • Check operation of 4 way valve. • Check operation of outdoor PMV (1, 2, 3). • Check short circuit from outlet air to inlet air.
P12	—	—	Indoor unit	Indoor fan motor trouble	Stop of corresponding unit	• Motor speed measurements continuously deviate from target value. • Overcurrent protection is activated.	• Check connection of fan connector and wiring. • Check for failure in fan motor. • Check for failure in indoor P.C. board. • Check impact of outside air treatment (OA).
P13	P13	—	I/F	Outdoor liquid backflow detection trouble	All stop	<During cooling operation> When system is in cooling operation, high pressure is detected in the unit that has been turned off. <During heating operation> When system is in heating operation, low pressure is detected to be high in unit that has been turned off.	• Check full-close operation of outdoor PMV (1, 2, 3, 4). • Check for failure in Pd or Ps sensor. • Check failure in outdoor P.C. board (I/F). • Check capillary of oil separator oil return circuit for clogging. • Check for leakage of check valve in discharge pipe
P15	P15	01: TS condition	I/F	Gas leak detection (TS1 condition)	All stop	Protective shutdown due to sustained suction temperature at or above judgment criterion for at least 10 minutes is repeated four times or more. <TS trouble judgment criterion> In cooling operation: 60 ˚C In heating operation: 40 ˚C	• Check for insufficiency in refrigerant quantity. • Check outdoor service valves (gas side, liquid side) to confirm full opening. • Check PMVs (PMV1, 2, 3, 4) for clogging. • Check resistance characteristics of TS1 sensor. • Check for failure in 4-way valve. • Check SV4 circuit for leakage
		02: TD condition	I/F	Gas leak detection (TD condition)	All stop	Protective shutdown due to sustained discharge temperature (TD1 or TD2) at or above 108 ˚C for at least 10 minutes is repeated four times or more.	• Check for insufficiency in refrigerant quantity. • Check PMVs (PMV 1, 2, 3, 4) for clogging. • Check resistance characteristics of TD1 and TD2 sensors. • Check indoor filter for clogging. • Check piping for clogging. • Check SV4 circuit (for leakage or coil installation trouble).

Check code			Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
Main remote controller	Outdoor 7-segment display						
	Check code	Sub-code					
P17	P17	—	I/F	Discharge temperature TD2 trouble	All stop	Discharge temperature (TD2) exceeds 115 ˚C.	• Check outdoor service valves (gas side, liquid side) to confirm full opening. • Check outdoor PMVs (PMV1, 2, 3, 4) for clogging. • Check resistance characteristics of TD2 sensor. • Check for failure in 4-way valve. • Check SV4 circuit for leakage. • Check SV4 circuit (for wiring or installation trouble involving SV41 and SV42).
P19	P19	Detected outdoor unit No.	I/F	4-way valve reversing trouble	All stop	Abnormal refrigerating cycle data is collected during heating operation.	• Check for failure in main body of 4-way valve. • Check for coil failure in 4-way valve and loose connection of its connector. • Check resistance characteristics of TS1 and TE1,TE2 sensors. • Check output voltage characteristics of Pd and Ps pressure sensors. • Check for wiring trouble involving TE1 and TL1 sensors.
P20	P20	—	I/F	Activation of high-pressure protection	All stop	<During cooling operation> Pd sensor detects pressure equal to or greater than 3.85 MPa. <During heating operation> Pd sensor detects pressure equal to or greater than 3.6 MPa.	• Check for failure in Pd pressure sensor. • Check service valves (gas side, liquid side) to confirm full opening. • Check for failure in outdoor fan. • Check for failure in outdoor fan motor. • Check outdoor PMV (PMV1, 2, 3, 4) for clogging. • Check indoor/outdoor heat exchangers for clogging. • Check for short-circuiting of outdoor suction/ discharge air flows. • Check for failure in outdoor P.C. board (I/F). • Check for failure in indoor fan system (possible cause of air flow reduction). • Check opening status of indoor PMV. • Check indoor-outdoor communication line for wiring trouble. • Check for troble operation of check valve in discharge pipe convergent section. • Check gas balancing SV4 valve circuit. • Check for refrigerant overcharging.

Check code			Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
Main remote controller	Outdoor 7-segment display						
	Check code	Sub-code					
P22	P22	1∗: Fan P.C. board 1 2∗: Fan P.C. board 2	Fan INV. P.C. board	Outdoor fan P.C. board trouble	All stop	Protected operation of Fan inverter P.C. board	• Check fan motor. • Check for failure in fan P.C. board. • Check connection of fan motor connector. • Check power voltage of the main power supply.
P26	P26	1∗: Compressor 1 side 2∗: Compressor 2 side	Compressor P.C. board	IPM, Compressor shortcircuit protection trouble	All stop	Overcurrent is momentarily detected during startup of compressor.	• Check connector connection and wiring on compressor P.C. board. • Check for failure in compressor (layer shortcircuit). • Check for failure in outdoor P.C. board (Compressor).
P29	P29	1∗: Compressor 1 side 2∗: Compressor 2 side	Compressor P.C. board	Compressor position detection circuit trouble	All stop	Position detection is not going on normally.	• Check wiring and connector connection. • Check for compressor layer short-circuit. • Check for failure in compressor P.C. board.
P31	—	—	Indoor unit	Other indoor trouble (group follower unit trouble)	Stop of corresponding unit	There is trouble in other indoor unit in group, resulting in detection of E07/L07/L03/L08.	• Check indoor P.C. board.

Check codes Detected by Central Control Device

Check code			Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
Main remote controller	Outdoor 7-segment display						
	Check code	Sub-code					
C05	—		Central control device	Central control device transmission trouble	Continued operation	Central control device is unable to transmit signal.	• Check for failure in central control device. • Check for failure in central control communication line. • Check termination resistance setting.
C06	—		Central control device	Central control device reception trouble	Continued operation	Central control device is unable to receive signal.	• Check for failure in central control device. • Check for failure in central control communication line. • Check terminator resistor setting. • Check power supply for devices at other end of central control communication line. • Check failure in P.C. boards of devices at other end of central control communication line.
C12	—		General-purpose device I/F	Batch alarm for general-purpose device control interface	Continued operation	Trouble signal is input to control interface for general-purpose devices.	• Check trouble input.
P30	Differs according to nature of alarm-causing trouble		Central control device	Group control follower unit trouble	Continued operation	Trouble occurs in follower unit under group control. ([P30] is displayed on central control remote controller.)	• Check check code of unit that has generated alarm.
	(L20 displayed.)			Duplicated central control address	Continued operation	There is duplication in central control addresses.	• Check address settings.

▼ Points to Note When Servicing Compressor

(1) When checking the outputs of inverters, remove the wiring from all the compressors.

▼ How to Check Inverter Output

(1) Turn off the power supply.
(2) Remove compressor leads from the compressor P.C. board.
(The model with two compressor should remove the wiring for two sets (6 leads).
(3) Turn on the power supply and start cooling or heating operation.
(4) Check the output voltage across each pair of inverter-side. If the result is unsatisfactory according to the judgment criteria given in the table below, replace the compressor P.C. board.

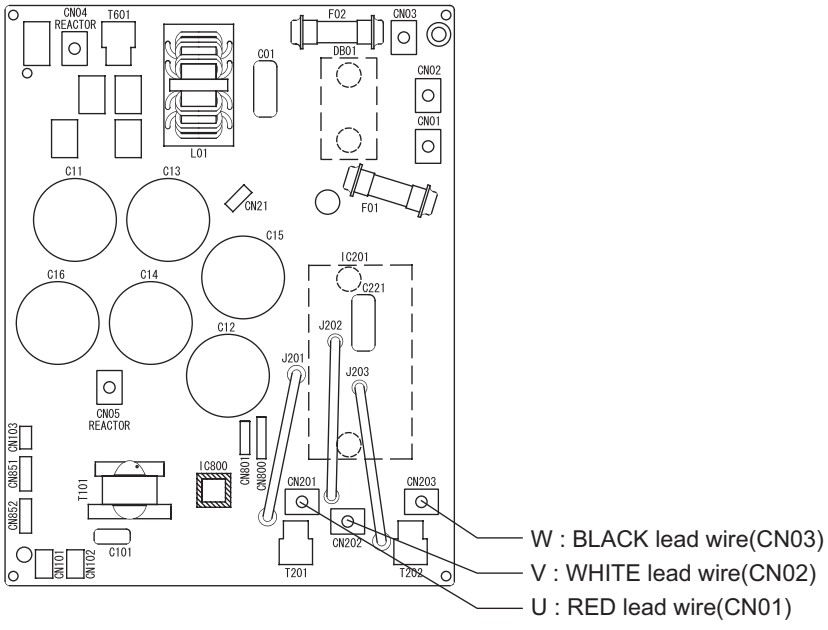
No.	Measured leads	Criterion
1	CN201 - CN202	380~580V
2	CN202 - CN203	380~580V
3	CN203 - CN201	380~580V

▼ How to Check Resistance of Compressor Winding

(1) Turn off the power supply.
(2) Remove compressor leads from the compressor P.C. board. (Be sure to remove all the leads.)
(3) With each compressor, check the phase-to-phase winding resistances and winding-to-outdoor cabinet resistance using a multimeter.
- Earth trouble?
→ It is normal if the winding-to-outdoor cabinet resistance is 10MΩ or more.
- Inter-winding short circuit?
→ It is normal if the phase-to-phase resistances are in the 0.1-1.0Ω range. (Use a digital multimeter.)

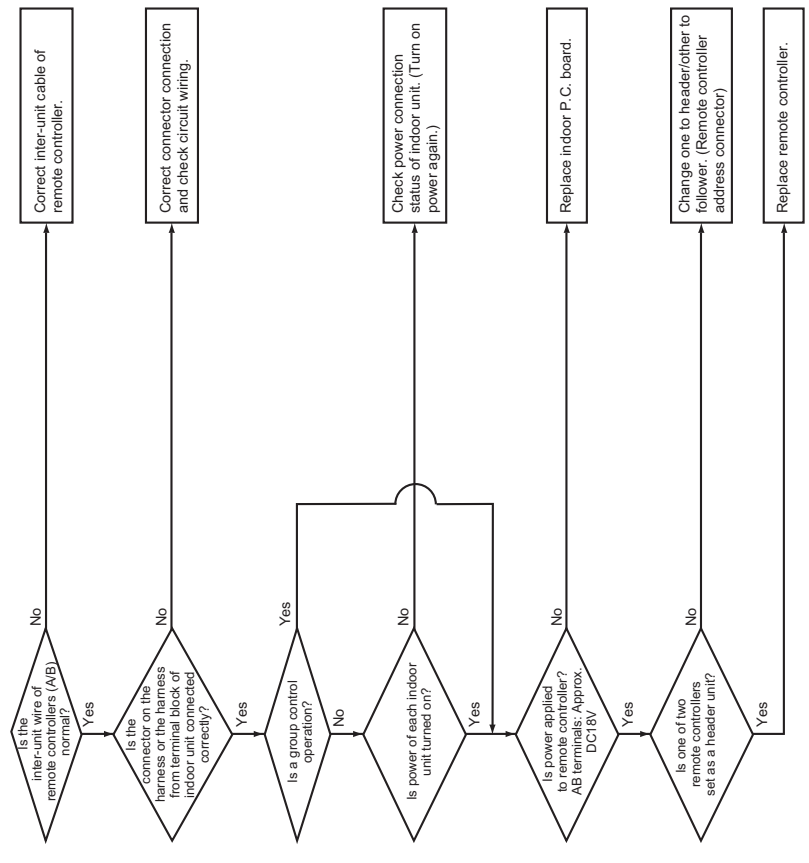
▼ How to Check Outdoor Fan Motor

(1) Turn off the power supply.
(2) Remove fan motor leads from the fan P.C. board for the outdoor fan.
(3) Rotate the fan by hand. If the fan does not turn, the fan motor is faulty (locked up). Replace the fan motor. If the fan turns, measure the phase-to-phase winding resistances using a multimeter. It is normal if the measurements are in the 8.1-9.9 range. (Use a digital multimeter.)



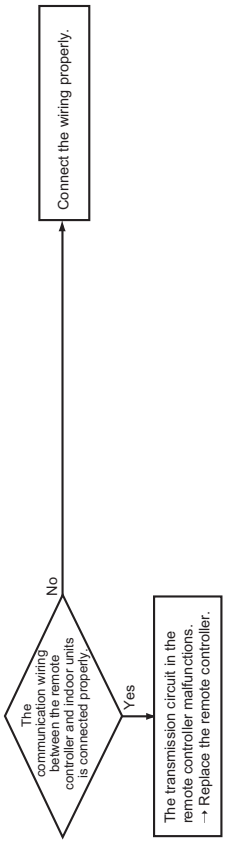
9-5. Diagnostic Procedure for Each Check Code (Indoor Unit)

Check code	Check code name	Cause
[E01]	Communication trouble between the indoor unit and remote controller (detected on the remote controller)	1. Remote controller inter-unit wire trouble 2. Indoor power trouble 3. Indoor P.C. board trouble 4. Remote controller address setup trouble 5. Remote controller P.C. board trouble



Check code	Check code name	Cause
[E02]	Signal transmission trouble on the remote controller	Unable to send signals to indoor units

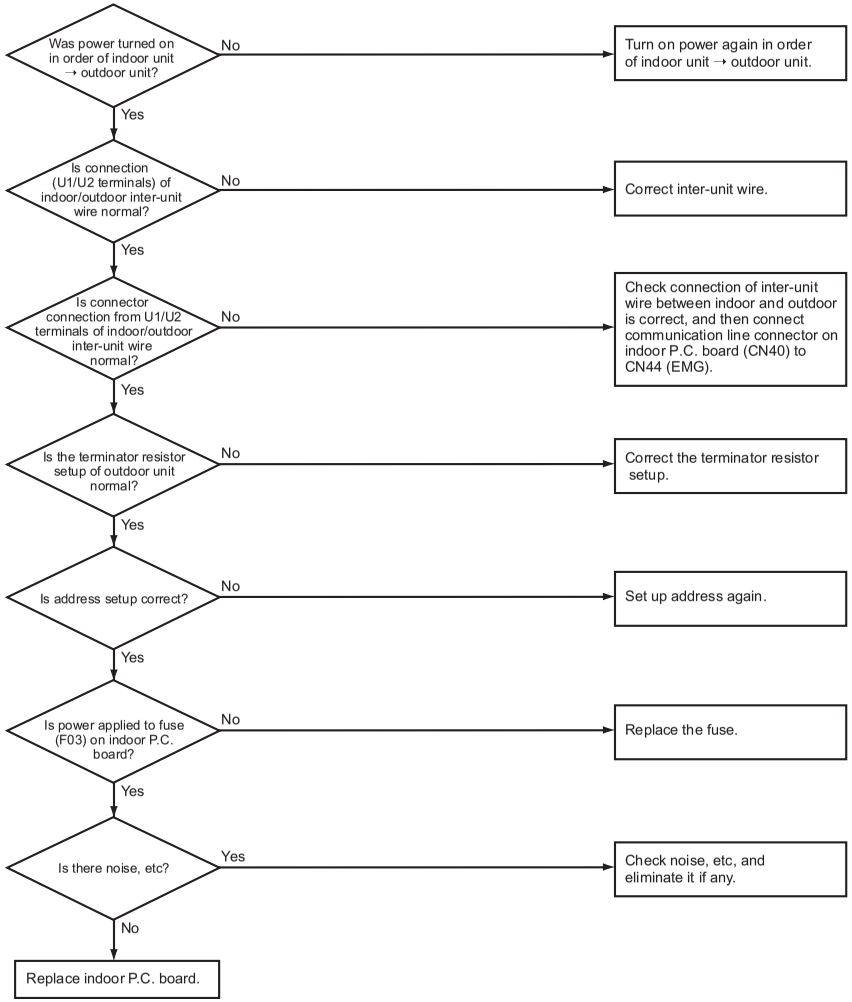
* The check code is not indicated on the central control device or the 7-segment indication on the outdoor unit.



Check code	Check code name	Cause
[E03]	Communication trouble between the indoor unit and remote controller controller (detected on the indoor unit)	No communication from the remote controller/communication adapter

The trouble is detected when the indoor unit cannot receive the signal from the wired remote controller.
Check the communication wiring from the remote controller A and B.
The check code [E03] is not indicated on the remote controller as its communication is down.
However, the code is indicated on the central controller.

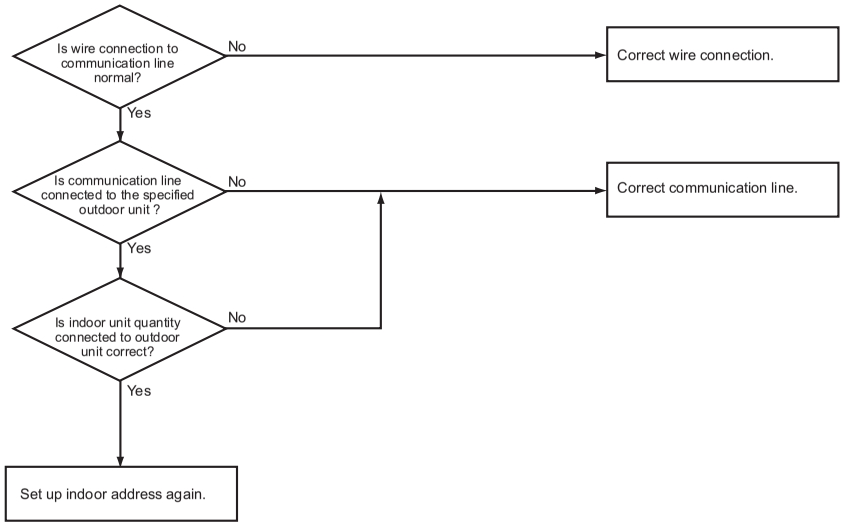
Check code	Check code name	Cause
[E04]	Indoor/Outdoor communication circuit trouble (Detected at indoor side)	1. Power of outdoor unit was firstly turned on. 2. Connection trouble of communication line between indoor and outdoor 3. Terminator resistor setup trouble on communication between indoor and outdoor 4. Address setup trouble



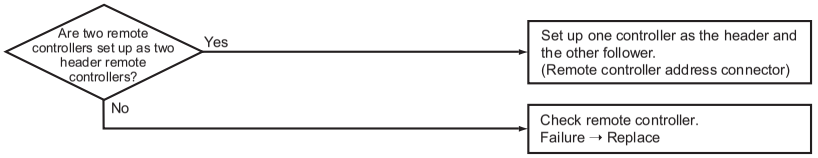
Check code	Check code name	Cause
[E08]	Duplicated indoor addresses	Indoor addresses are duplicated.

Sub-code: Duplicated indoor address

Using a wired remote controller, check the setup CODE No. (DN code) 12, 13, and 14.
When there is no address duplication, check to the following flowchart.

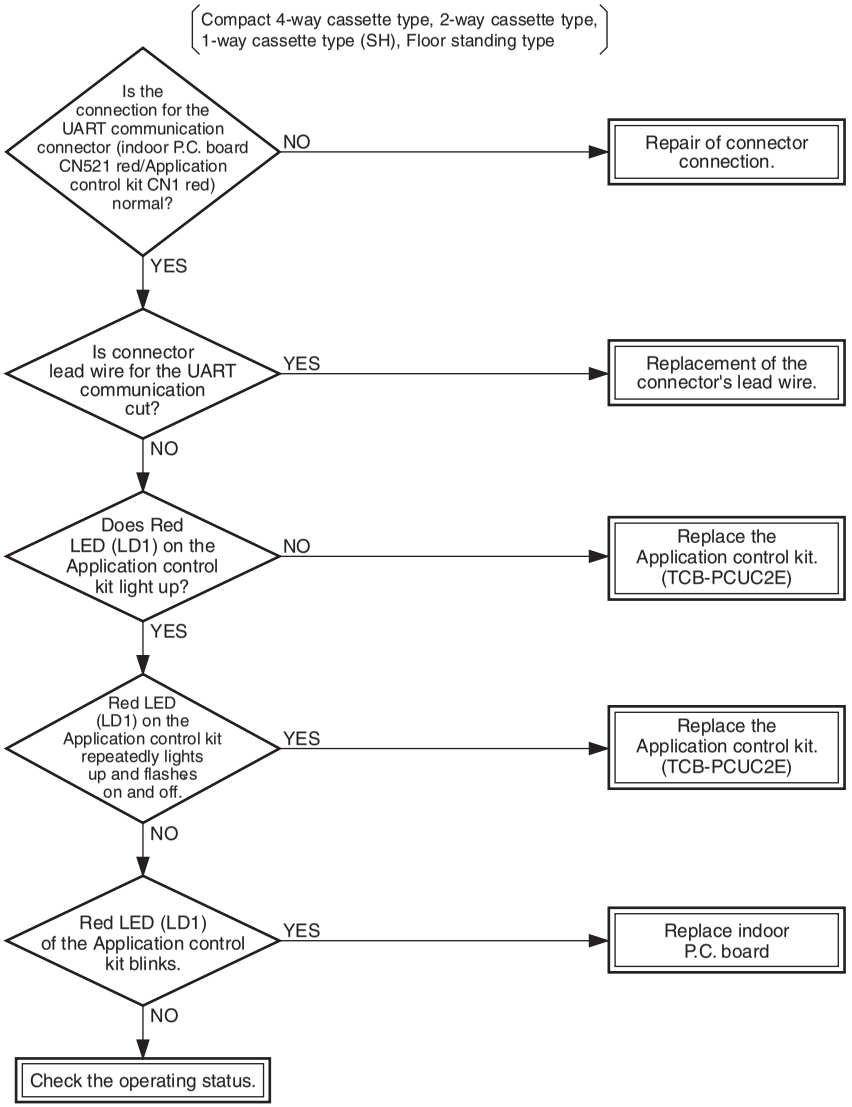


Check code	Check code name	Cause
[E09]	Duplicated header remote controller	Setup of header remote controller is duplicated.

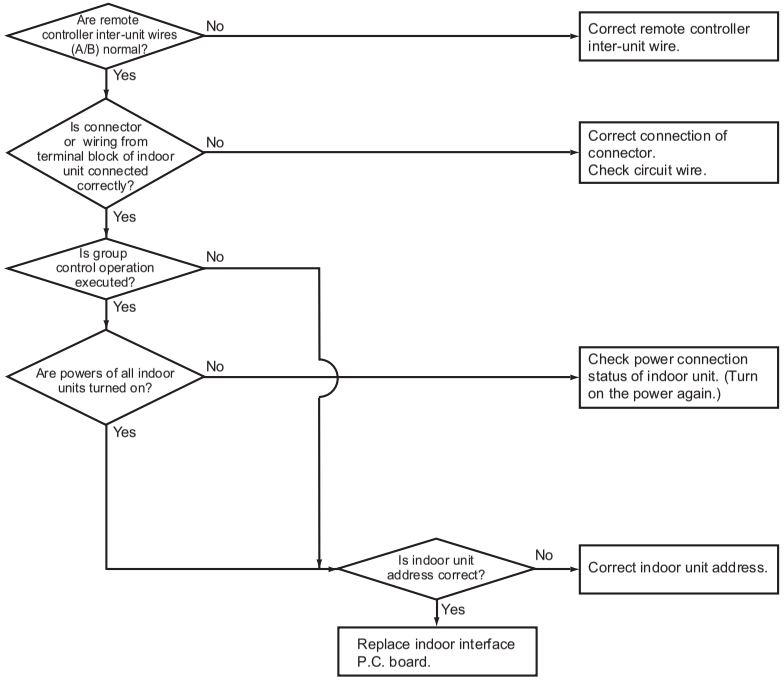


Check code	Check code name	Cause
[E10]	Communication trouble between indoor MCUs.	Indoor P.C. board trouble.

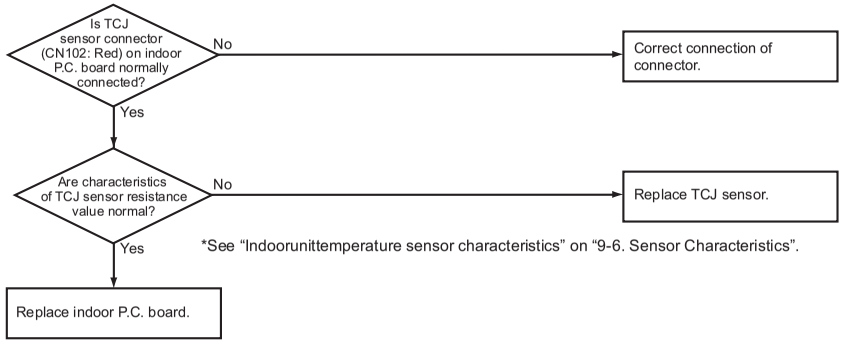
Check code	Check code name	Cause
[E11]	Communication trouble between Application control kit and Indoor unit	1.Application control kit trouble 2. Indoor P.C. board trouble



Check code	Check code name	Cause
[E18]	Communication trouble between indoor header and follower	Regular communication between indoor header and follower is unavailable.

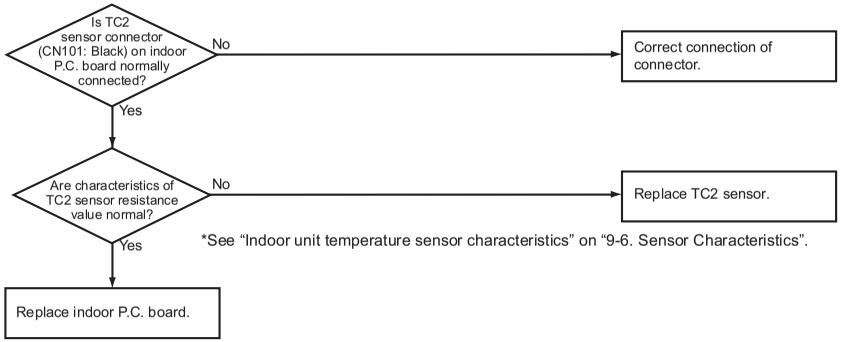


Check code	Check code name	Cause
[F01]	Indoor TCJ sensor trouble	TCJ sensor Open/Short-circuit



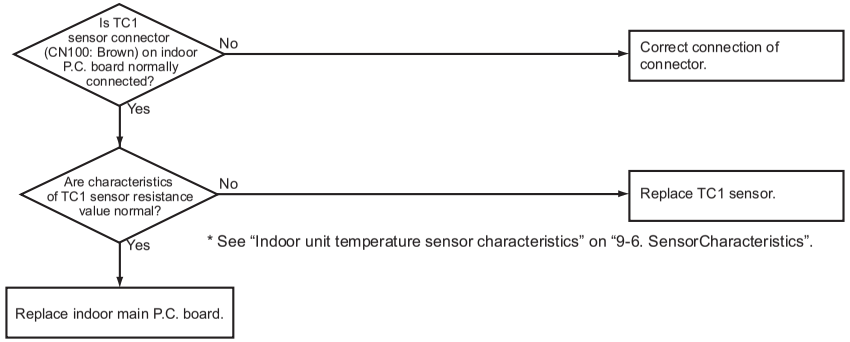
*See “Indoorunittemperature sensor characteristics” on “9-6. Sensor Characteristics”.

Check code	Check code name	Cause
[F02]	Indoor TC2 sensor trouble	TC2 sensor Open/Short-circuit



*See “Indoor unit temperature sensor characteristics” on “9-6. Sensor Characteristics”.

Check code	Check code name	Cause
[F03]	Indoor TC1 sensor trouble	TC1 sensor Open/Short-circuit



* See “Indoor unit temperature sensor characteristics” on “9-6. SensorCharacteristics”.

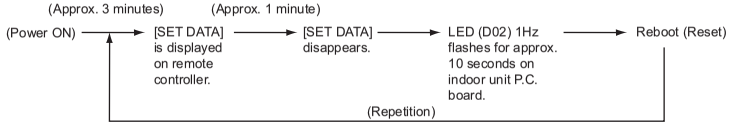
Check code	Check code name	Cause
[F10]	Indoor TA/TSA sensor trouble	TA sensor Open/Short-circuit

This trouble code means detection of Open/Short-circuit of TA sensor. Check disconnection of circuit for connection of connector (TA /TSA sensor : CN104, Yellow) and characteristics of sensor resistance value. (See “Indoor unit temperaturesensor characteristics” on “9-6. Sensor Characteristics”.)
If sensor is normal, replace indoor P.C. board.

Check code	Check code name	Cause
[F29]	Indoor other trouble	Indoor P.C. board trouble

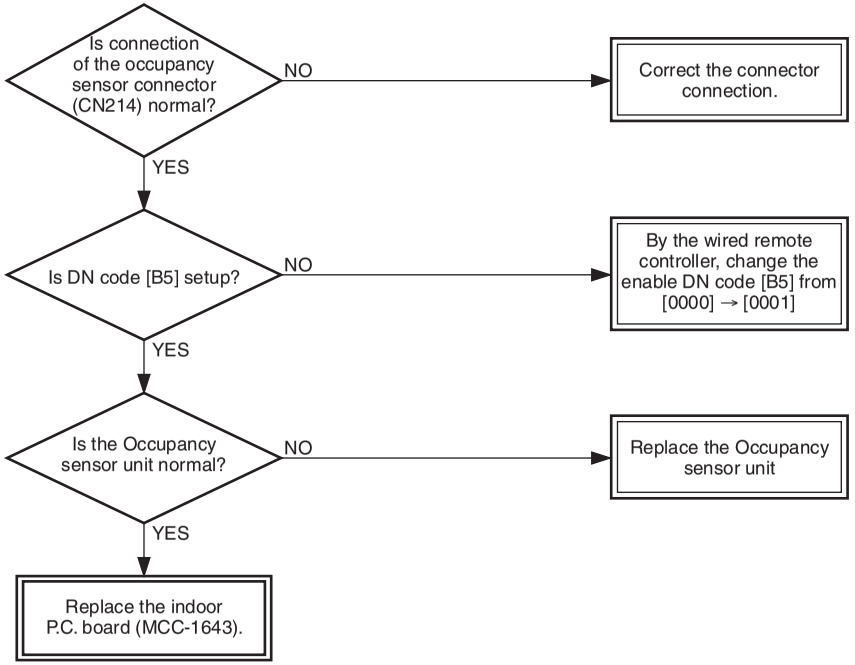
This trouble is detected during operation of air conditioner of IC10 non-volatile memory (EEPROM) on indoor unit P.C.board. Replace service P.C. board.

* If EEPROM was not inserted when power was turned on or it is absolutely impossible to read/write EEPROM data, the automatic address mode is repeated.



Check code	Check code name	Cause
[F30]	Occupancy sensor trouble	1.Occupancy sensor trouble 2. Indoor P.C. board trouble

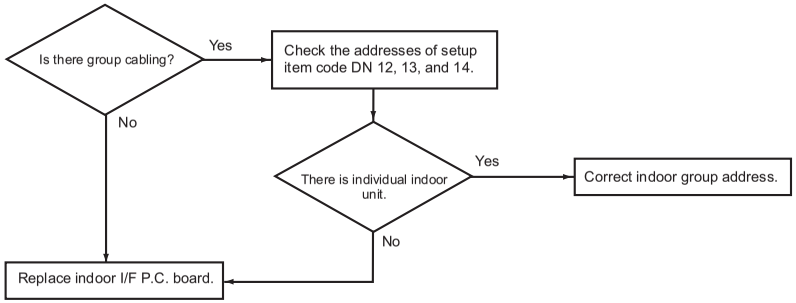
(4-way cassette type)



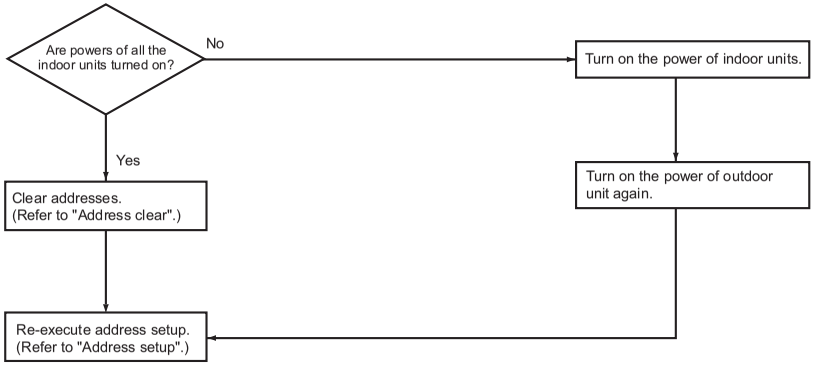
Check code	Check code name	Cause
[L03]	Duplicated indoor header units	There are two or more indoor header units in a group during group control.

1) Check whether the connection on remote controllers (group and/or individual) has been changed since the group configuration and address checking on the remote controllers finished.
2) If the group configuration and address are normal when power has been turned on, the mode automatically shifts to address setup mode. For setting up addresses again, refer to "Address setup".

Check code	Check code name	Cause
[L07]	A group line exists in an individual indoor unit	A group line is connected to an individual indoor unit.

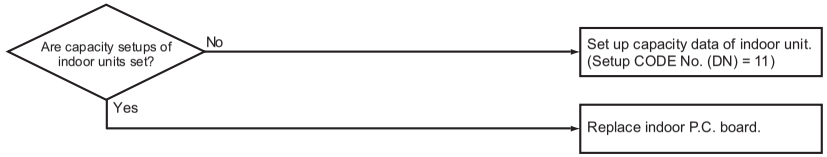


Check code	Check code name	Cause
[L08]	Indoor group / address unset	Indoor unit address is unset

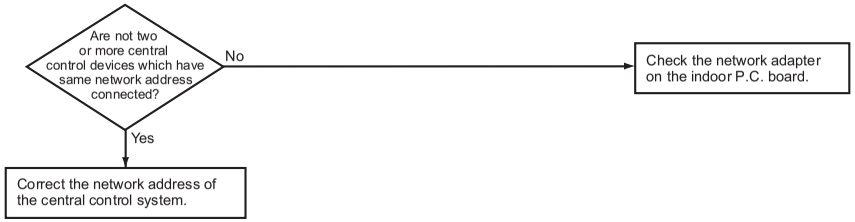


Note) This code is displayed when the power is turned on at the first time after installation. (Because the address is not yet set up)

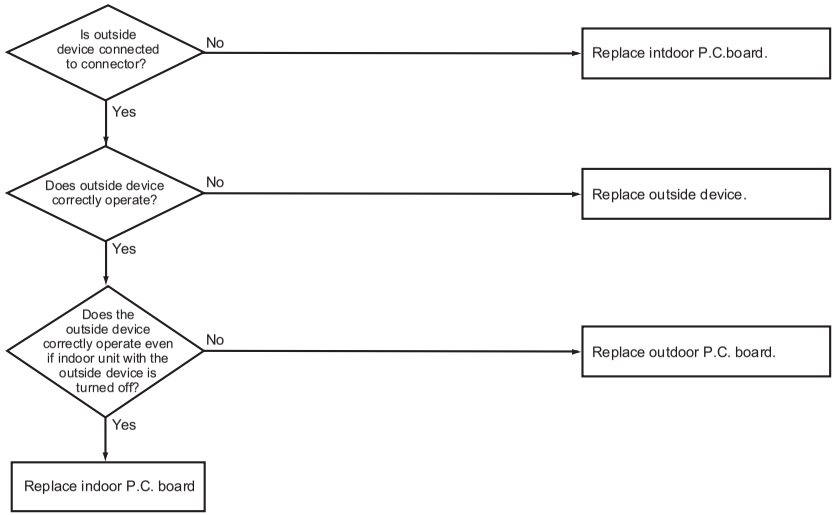
Check code	Check code name	Cause
[L09]	Indoor capacity unset	Indoor unit's capacity is unset



Check code	Check code name	Cause
[L20]	Duplicated central control addresses	Central control addresses are duplicated.

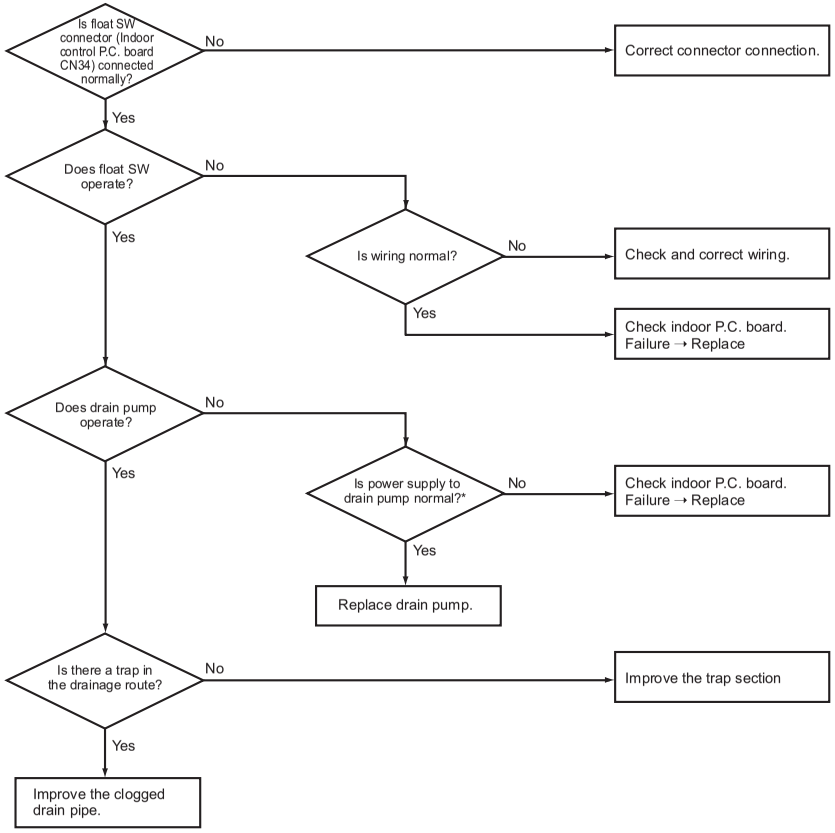


Check code	Check code name	Cause
[L30]	Interlock in indoor unit from outside	Abnormal input from the outside



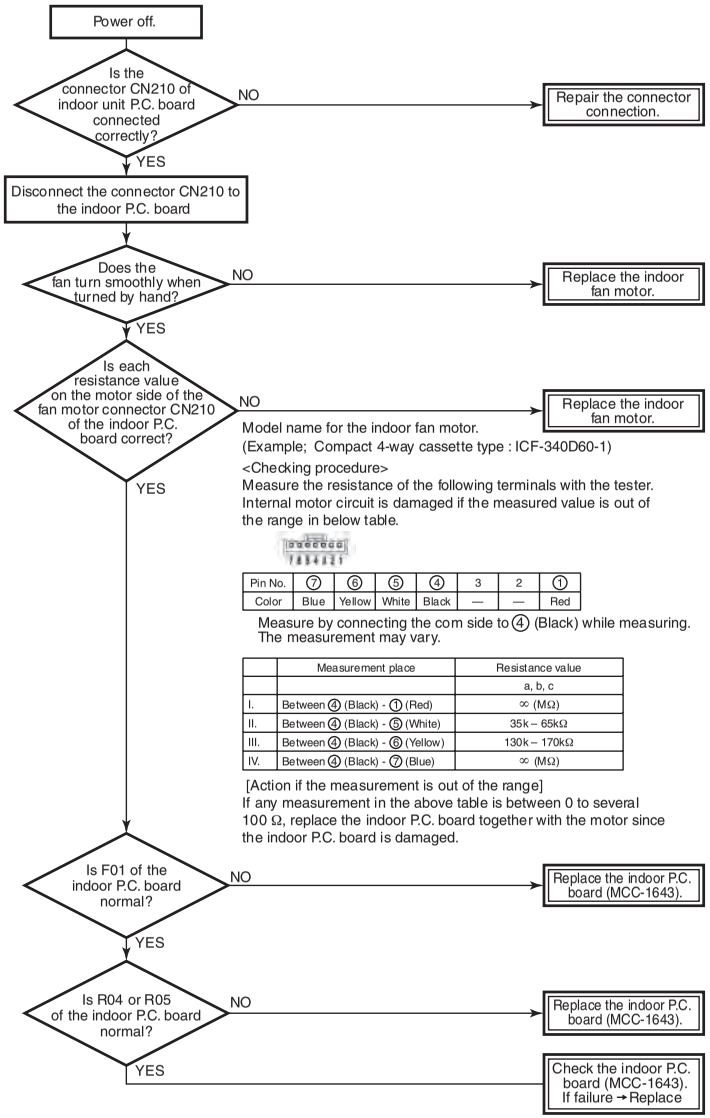
Check code	Check code name	Cause
[P10]	Water overflow in an indoor unit	1. Float SW malfunction 2. Drain pump malfunction 3. Clogging of drain pipe 4. Indoor P.C. board trouble

Sub-code: Overflowing indoor unit's address



* Check there is 220V-240V voltage of 1-3 pin of CN504 on indoor P.C. board.

Check code	Check code name	Cause
[P12]	Indoor fan motor trouble	1. Wiring trouble of fan motor connector 2. Fan motor trouble 3. Indoor P.C. board trouble



Model name for the indoor fan motor.
(Example; Compact 4-way cassette type : ICF-340D60-1)

<Checking procedure>
Measure the resistance of the following terminals with the tester.
Internal motor circuit is damaged if the measured value is out of the range in below table.

Pin No.	⑦	⑥	⑤	④	3	2	①
Color	Blue	Yellow	White	Black	—	—	Red

Measure by connecting the com side to ④ (Black) while measuring.
The measurement may vary.

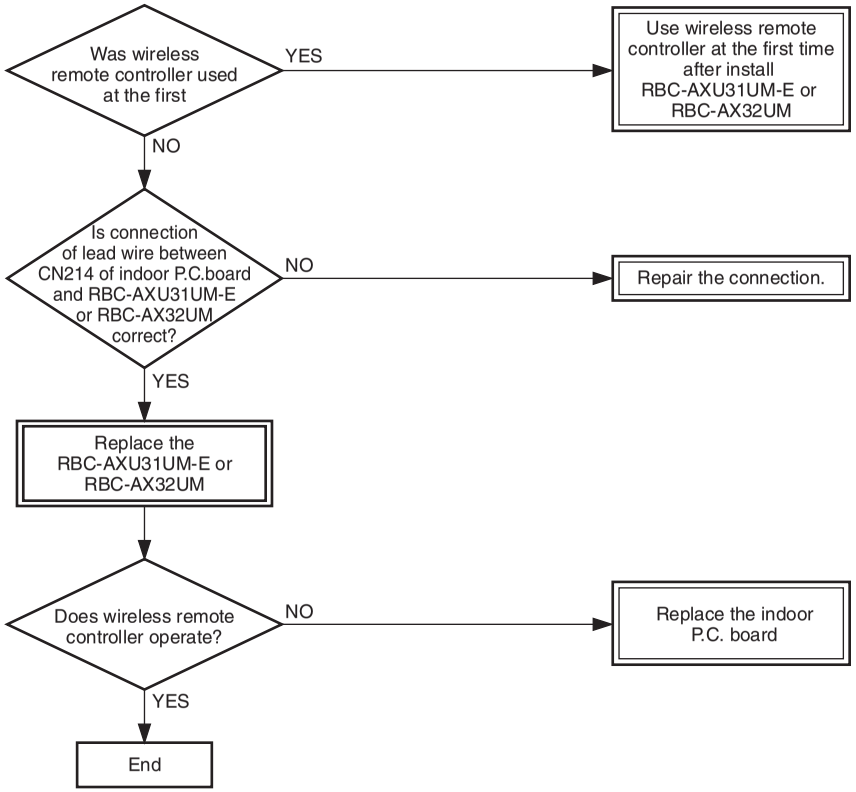
	Measurement place	Resistance value
		a, b, c
I.	Between ④ (Black) - ① (Red)	∞ (MΩ)
II.	Between ④ (Black) - ⑤ (White)	35k – 65kΩ
III.	Between ④ (Black) - ⑥ (Yellow)	130k – 170kΩ
IV.	Between ④ (Black) - ⑦ (Blue)	∞ (MΩ)

[Action if the measurement is out of the range]
If any measurement in the above table is between 0 to several 100 Ω, replace the indoor P.C. board together with the motor since the indoor P.C. board is damaged.

Check code	Check code name	Cause
[P31]	Other indoor trouble (Group follower unit trouble)	Another indoor unit in the group is abnormal.

When the header unit of the group detected trouble [E03], [L03], [L07] or [L08], the follower unit of the group displays [P31] trouble and stops. There are no check code display and alarm record of the main remote controller.

Check code	Check code name	Cause
----	Wireless remote controller trouble	1. Wireless remote controller trouble 2. Indoor P.C. board trouble

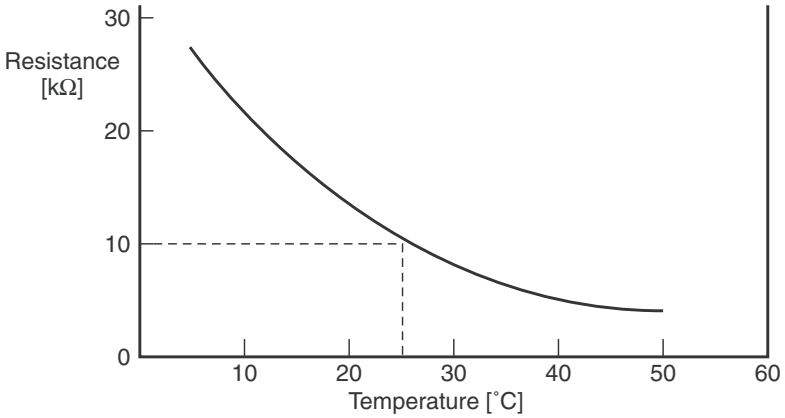


9-6. Sensor characteristics

Indoor unit

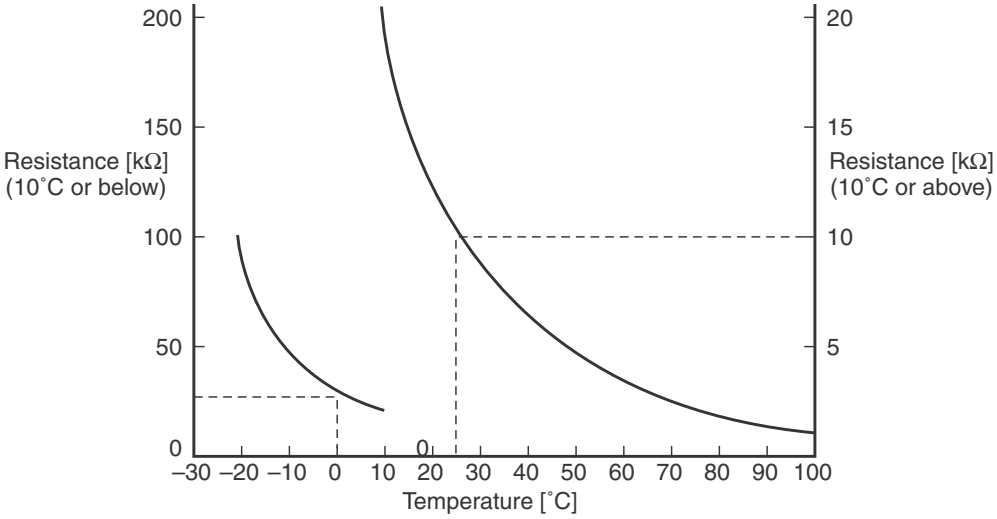
▼Temperature sensor characteristics

Indoor TA sensor



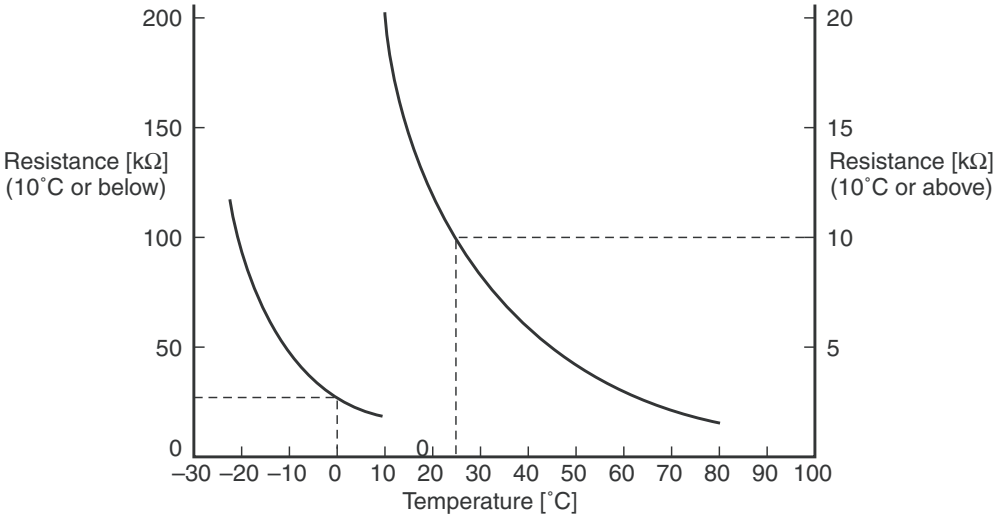
Temperature [˚C]	Resistance [kΩ]
0	33.9
5	26.1
10	20.3
15	15.9
20	12.6
25	10.0
30	8.0
35	6.4
40	5.2
45	4.2
50	3.5
55	2.6
60	2.4

Indoor TC1 sensor



Temperature [˚C]	Resistance [kΩ]
–20	99.9
–15	74.1
–10	55.6
–5	42.2
0	32.8
5	25.4
10	19.8
15	15.6
20	12.4
25	10.0
30	8.1
35	6.5
40	5.3
45	4.4
50	3.6
55	3.0
60	2.5
65	2.1
70	1.8
75	1.5
80	1.3
85	1.1
90	1.0
95	0.8
100	0.7

Indoor TC2 and TCJ sensors



Temperature [˚C]	Resistance [kΩ]
–20	115.2
–15	84.2
–10	62.3
–5	46.6
0	35.2
5	26.9
10	20.7
15	16.1
20	12.6
25	10.0
30	8.0
35	6.4
40	5.2
45	4.2
50	3.5
55	2.8
60	2.4
65	2.0
70	1.6
75	1.4
80	1.2

9-7. Maintenance list

Aiming in environmental preservation, it is strictly recommended to clean and maintain the indoor/outdoor units of the operating air conditioning system regularly to secure effective operation of the air conditioner.

It is also recommended to maintain the units once a year regularly when operating the air conditioner for a long time.

Check periodically signs of rust or scratches, etc. on coating of the outdoor units.

Repair the defective position or apply the rust resisting paint if necessary.

If an indoor unit operates for approx. 8 hours or more per day, usually it is necessary to clean the indoor/ outdoor units once three months at least.

These cleaning and maintenance should be carried out by a qualified dealer.

Although the customer has to pay the charge for the maintenance, the life of the unit can be prolonged.

Failure to clean the indoor/outdoor units regularly will cause shortage of capacity, freezing, water leakage or trouble on the compressor.

<Check list>

Part name	Object		Contents of check	Contents of maintenance
	Indoor	Outdoor		
Heat exchanger	✓	✓	• Blocking with dust, damage check	• Clean it when blocking is found.
Fan motor	✓	✓	• Audibility for sound	• When abnormal sound is heard
Filter	✓	—	• Visual check for dirt and breakage	• Clean with water if dirty • Replace if any breakage
Fan	✓	✓	• Visual check for swing and balance • Check adhesion of dust and external appearance.	• Replace fan when swinging or balance is remarkably poor. • If a large dust adheres, clean it with brush or water.
Suction/ Discharge grille	✓	—	• Visual check for dirt and scratch	• Repair or replace it if deformation or damage is found.
Drain pan	✓	—	• Check blocking by dust and dirt of drain water.	• Clean drain pan, Inclination check
Front panel, Louver	✓	—	• Check dirt and scratch.	• Cleaning/Coating with repair painting
External appearance	—	✓	• Check rust and pealing of insulator • Check pealing and floating of coating film	• Coating with repair painting

10. P.C. BOARD EXCHANGE PROCEDURES

■ Indoor unit

10-1. Replacement of indoor P.C. boards

<Note: when replacing the P.C. board for indoor unit servicing>

The nonvolatile memory (hereafter called EEPROM, IC503) on the indoor unit P.C. board before replacement includes the model specific type information and capacity codes as the factory-set value and the important setting data which have been automatically or manually set when the indoor unit is installed, such as system/indoor/group addresses, high ceiling select setting, etc.

When replacing the P.C. board for indoor unit servicing, follow the procedures below.

After replacement completes, confirm whether the settings are correct by checking the indoor unit No., Group header unit/follower unit settings and perform the cooling cycle confirmation through the trial operation.

<Replacement procedures>

CASE 1

Before replacement, the indoor unit can be turned on and the setting data can be read out by wired remote control operation.

EEPROM data read out **[1]**

⇩

Replacement of P.C. board for Indoor unit servicing and power on **[2]**

⇩

Writing the read out EEPROM data **[3]**

⇩

Power reset
(for all indoor units connected to the remote control when the group operation control is performed.)

CASE 2

The EEPROM before replacement is incomplete and the setting data cannot be read out.

Replacement of P.C. board for Indoor unit servicing and power on **[2]**

⇩

Writing the setting data to EEPROM, such as high ceiling installation setting and optional connection setting, etc., based on the customer information. **[3]**

⇩

Power reset
(for all indoor units connected to the remote control hen the group operation control is performed.)

[1] Setting data read out from EEPROM

The setting data modified on the site, other than factory-set value, stored in the EEPROM shall be read out.

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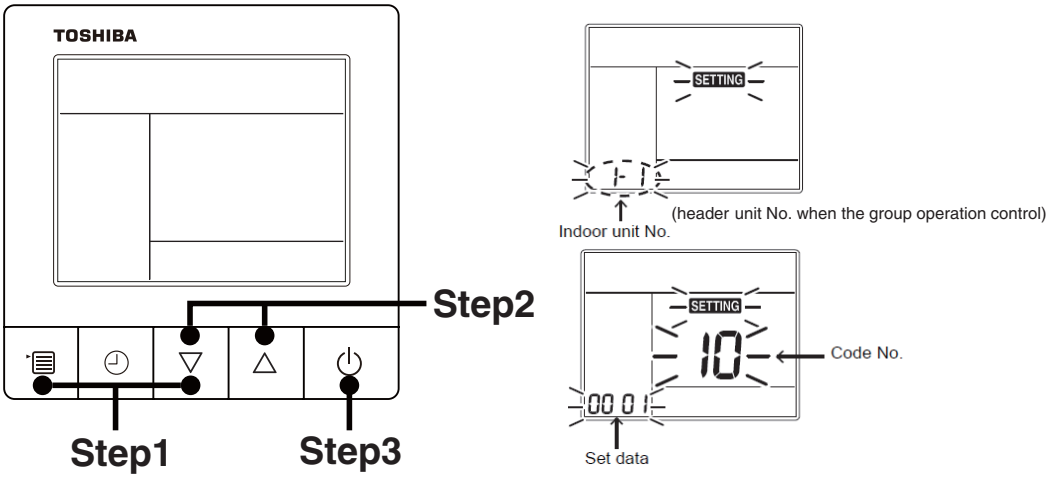


Step1 Push and hold the [menu + ▽] buttons at same time for more than 10 seconds.

* When the group operation control is performed, the unit No. displayed for the first time is the header unit No.
  At this time, the Code No. (DN) shows “10”. Also, the fan of the indoor unit selected starts its operation and the swing operation also starts if it has the louvers.

Step2 Every time when the [▽ or △] button is pushed, the indoor unit No. under the group control is displayed in order. Specify the indoor unit No. to be replaced.

1. Change the Code No. (DN) to 10 → 01 by pushing [▽ or △] buttons setting. (this is the setting for the filter sign lighting time.)
   At this time, be sure to write down the setting data displayed.
2. Change the Code No. (DN) by pushing [▽ or △] buttons.
   Similarly, be sure to write down the setting data displayed.
3. Repeat the step 2-2 to set the other settings in the same way and write down the setting data as shown in the table 1 (example).
   * The Code No. (DN) are ranged from “01” to “FE”. The Code No. (DN) may skip.

<RBC-AMT∗∗∗>

[1] Setting data read out from EEPROM

The setting data modified on the site, other than factory-set value, stored in the EEPROM shall be read out.

Step 1 Push SET , CL and TEST button on the remote controller simultaneously for more than 4 seconds.

* When the group operation control is performed, the unit No. displayed for the first time is the header unit No.
  At this time, the CODE No. (DN) shows “ 10 ”. Also, the fan of the indoor unit selected starts its operation and the swing operation also starts if it has the louvers.

Step 2 Every time when the UNIT LOUVER (left side button) button is pushed, the indoor unit No. under the group control is displayed in order. Specify the indoor unit No. to be replaced.

1. **Change e the CODE No. (DN) to 10 → 01 by pushing ▽ / △ buttons for the temperature setting. (this is the setting for the filter sign lighting time.)**
   At this time, be sure to write down the setting data displayed.
2. Change the CODE No. (DN) by pushing ▽ / △ buttons for the temperature setting.
   Similarly, be sure to write down the setting data displayed.
3. Repeat the step 2-2 to set the other settings in the same way and write down the setting data as shown in the table 1 (example).
   * The CODE No. (DN) are ranged from “ 01 ” to “ FE ”. The CODE No. (DN) may skip.

CODE No. required at least

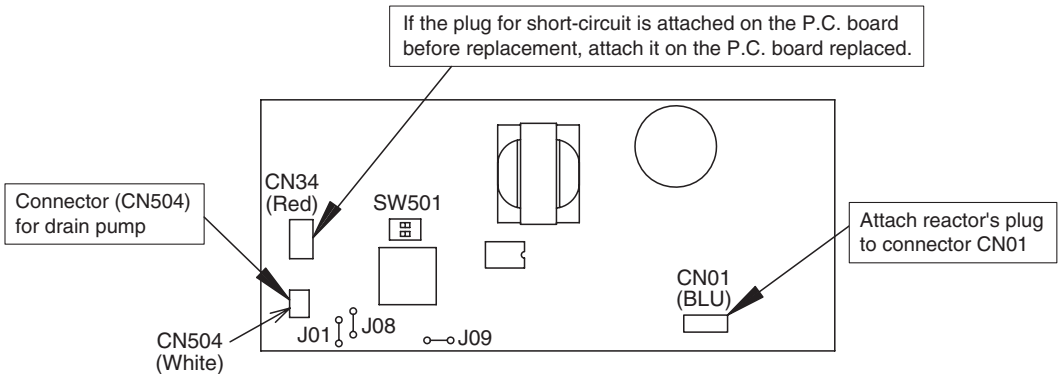
DN	Contents
10	Type
11	Indoor unit capacity
12	System address
13	Indoor unit address
14	Group address

1. The Code No. for the Indoor unit type and Indoor unit capacity are required to set the rotation number setting of the fan.
2. If the system/indoor/group addresses are different from those before replacement, the auto-address setting mode starts and the manual resetting may be required again.
   (when the multiple units group operation including twin system.)

Step3 After writing down all setting data, push [ON/OFF] button to return to the normal stop status.
(It takes approx. 1 min until the remote controller operation is available again.)

[2] P.C. Board for indoor unit servicing replacement procedures (e.g. MCC-1643)

Step1 Replace the P.C. board to the P.C. board for indoor unit servicing.
At this time, perform the same setting of the jumper wire (J01, J08, J09) setting (cut), switch SW501, (short-circuit) connector CN34 as the setting of the P.C. board before replacement.



Step2 It is necessary to set indoor unit to be exchanged: Remote controller = 1 : 1
Based upon the system configuration, turn on power of the indoor unit with one of the following items.

1) Single (Individual) operation. Turn on power of the indoor units and proceed to [3].

2) Group operation

A) In case that power of the exchanged indoor unit only can be turned on
Turn on power of the exchanger indoor unit only and proceed to [3].

B) In case that power of the indoor units cannot be turned on individually (Case 1)

a) Remove temporarily the group wire connected to the terminal blocks A and B of the indoor unit.

b) After connecting the remote controller wire only to the removed terminal block, turn on power of the indoor units and proceed to [3].

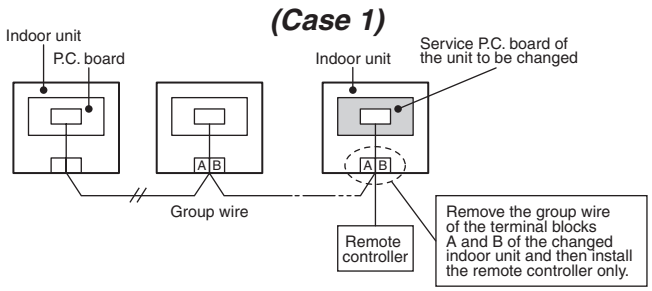
* When the above methods cannot be used, follow to the two cases below.

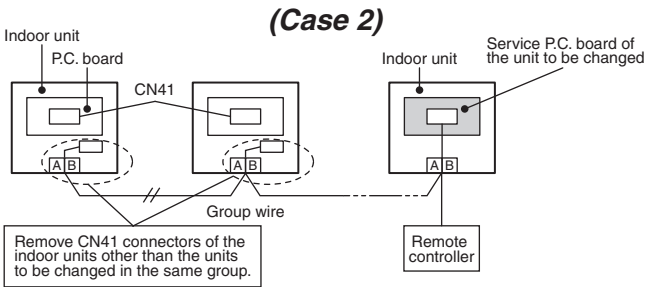
C) In case that power of the indoor units cannot be turned in individually (Case 2)

a) Remove all CN41 connectors of the indoor units in the same group except those of the exchanged indoor unit.

b) Turn on power of the indoor units and proceed to [3].

* After [3] operation has finished, be sure to return the temporarily removed group wire or CN41 connector to the original connection.





[3] Writing the setting data to EEPROM

The settings stored in the EEPROM of the P.C. board for indoor unit servicing are the factory-set values.

<RBC-ASCU11-∗>

Step 1 Push and hold the [menu + ▽] buttons at same time for more than 10 seconds.

* When the group operation control is performed, the unit No. displayed for the first time is the header unit No.
  At this time, the Code No. (DN) shows “10”. Also, the fan of the indoor unit selected starts its operation and the swing operation also starts if it has the louvers.

Step 2 Every time when the [▽ or △] button is pushed, the indoor unit No. in the group control operation are displayed in order.
(The settings stored in the EEPROM of the P.C. board for indoor unit servicing are the factory-set values.)
Specify the indoor unit No. with its P.C. board replaced to the P.C. board for indoor unit servicing.
(You cannot perform this operation if “ALL” is displayed.)

Step 3 Select the Code No. (DN) can be selected by pushing the [▽ or △] button.

• Set the indoor unit type and capacity.
  The factory-set values shall be written to the EEPROM by changing the type and capacity.

1. Push the [menu] button to make Code No. flash. And set the Code No. (DN) to10 .
2. Push the [menu] button to make SET DATA flash. And select the type by pushing the [•¤ or •¢] buttons.
   (For example, 4-way Cassette Type is set to “0001”. Refer to table 2)
3. Push [OFF timer] button.
   (The changed data is set.)
4. Change the Code No. (DN) to”11” by pushing the [▽ or △] buttons.
5. Select the capacity by pushing the [▽ or △] buttons.
   (For example, UP009 Type is set to “0003”. Refer to table 3)
6. Push [OFF timer] button.
   (The changed data is set.)

Step 4 Write the on-site setting data to the EEPROM, such as address setting, etc. Perform the steps 1 and 2 above again.

Step 5 Change the Code No. (DN) to “01” by pushing the [▽ or △] buttons.
(this is the setting for the filter sign lighting time.)

Step 6 Check the setting data displayed at this time with the setting data put down in [1].

1. If the setting data is different, modify the setting data by pushing the [▽ or △] buttons to the data put down in [1].
2. If the data is the same, proceed to next step.

Step 7 Change the Code No. (DN) by pushing the [▽ or △] buttons.
As described above, check the setting data and modify to the data put down in [1].

Step 8 Repeat the steps 6 and 7.

Step 9 After the setting completes, push the [ON/OFF] button to return to the normal stop status.
(It takes approx. 1 min until the remote controller operation is available again.)

<RBC-AMT∗∗∗>

Step 1 Push SET , CL and TEST buttons on the remote controller simultaneously for more than 4 seconds.

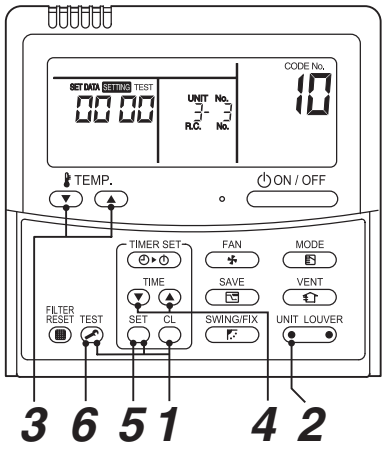
* In the group control operation, the unit No. displayed for the first time is the header unit No.. At this time, the CODE No. (DN) shows " 10 ". Also, the fan of the indoor unit selected starts its operation and the swing operation starts if it has the louvers.
(The unit No. " ALL " is displayed if the auto-address setting mode is interrupted in [2] step 2 a))

Step 2 Every time when UNIT LOUVER (left side button) button is pushed, the indoor unit No. in the group control operation are displayed in order.
(The settings stored in the EEPROM of the P.C. board for indoor unit servicing are the factory-set values.)
Specify the indoor unit No. with its P.C. board replaced to the P.C. board for indoor unit servicing.
(You cannot perform this operation if " ALL " is displayed.)

Step 3 Select the CODE No. (DN) can be selected by pushing the ▼ / ▲ button for the temperature setting.

• Set the indoor unit type and capacity.
The factory-set values shall be written to the EEPROM by changing the type and capacity.

1. Set the CODE No. (DN) to 10 . (without change)
2. Select the type by pushing ▼ / ▲ buttons for the timer setting.
(For example, 4-way Cassette Type is set to "0001". Refer to table 2)
3. Push SET button.
(The operation completes if the setting data is displayed.)
4. Change the CODE No. (DN) to " 11 " by pushing ▼ / ▲ buttons for the temperature setting.
5. Select the capacity by pushing ▼ / ▲ buttons for the timer setting.
(For example, UP018 Type is set to "0009 ". Refer to table 3)
6. Push SET button.
(The setting completes if the setting data are displayed.)



Step 4 Write the on-site setting data to the EEPROM, such as address setting, etc. Perform the steps 1 and 2 above again.

Step 5 Change the CODE No. (DN) to " 01 " by pushing ▼ / ▲ buttons for the temperature setting. (this is the setting for the filter sign lighting time.)

Step 6 Check the setting data displayed at this time with the setting data put down in [1].

1. If the setting data is different, modify the setting data by pushing ▼ / ▲ buttons for the timer setting to the data put down in [1].
The operation completes if the setting data is displayed.
2. If the data is the same, proceed to next step.

Step 7 Change the CODE No. (DN) by pushing ▼ / ▲ buttons for the temperature setting.
As described above, check the setting data and modify to the data put down in [1].

Step 8 Repeat the steps 6 and 7.

Step 9 After the setting completes, push TEST button to return to the normal stop status.
(It takes approx. 1 min until the remote controller operation is available again.)

* The CODE No. (DN) are ranged from " 01 " to " FE ". The CODE No. (DN) is not limited to be serial No.
Even after modifying the data wrongly and pushing SET button, it is possible to return to the data before modification by pushing CL button if the CODE No. (DN) is not changed.

Table 1. Setting data (CODE No. table (example))

CODE No. (DN)	Item	Setting data	Factory-set value
01	Filter sign lighting time		Depending on Type
02	Filter pollution level		0000: standard
03	Central control address		0099: Not determined
06	Heating suction temperature shift		Depending on Type
0F	Cooling only		0000: Heat pump
10	Type		Depending on model type
11	Indoor unit capacity		Depending on capacity type
12	System address		0099: Not determined
13	Indoor unit address		0099: Not determined
14	Group address		0099: Not determined
19	Louver type (wind direction adjustment)		Depending on Type.
1E	Temperature range of cooling/heating automatic SW control point		0003: 3 deg (Ts ±1.5)
28	Power failure automatic recovery		0000: None
2b	Thermostat output SW (T10 ③)		0000: Thermostat ON
31	Ventilation fan (standalone)		0000: Not available
32	Sensor SW (Selection of static pressure)		0000: Body sensor
5d	High ceiling SW		0000: Standard
60	Timer setting (wired remote controller)		0000: Available
77	Dual set point		0000: Unavailable
b3	Soft cooling		0001: Available
b5	Occupancy sensor: Provided/None		0000: None
b6	Occupancy sensor: Enable/Invalid (Judgment time of absence)		0002: Enable (60 min.)
b7	Occupancy sensor: Operation at absent time		0000: Stand by
d0	Remote controller operation save function		0001: Enable
F0	Swing mode		0001: Standard
F1	Louver fixing position (Flap No. 1)		0000: Not fixed
F2	Louver fixing position (Flap No. 2)		0000: Not fixed
F3	Louver fixing position (Flap No. 3)		0000: Not fixed
F4	Louver fixing position (Flap No. 4)		0000: Not fixed
F6	Presence of Application control kit		0000: None
Fd	Priority operation mode (FS unit)		0000: Heating
FE	FS unit address		0099: Unfixed

Table 2. Type: Code No.10

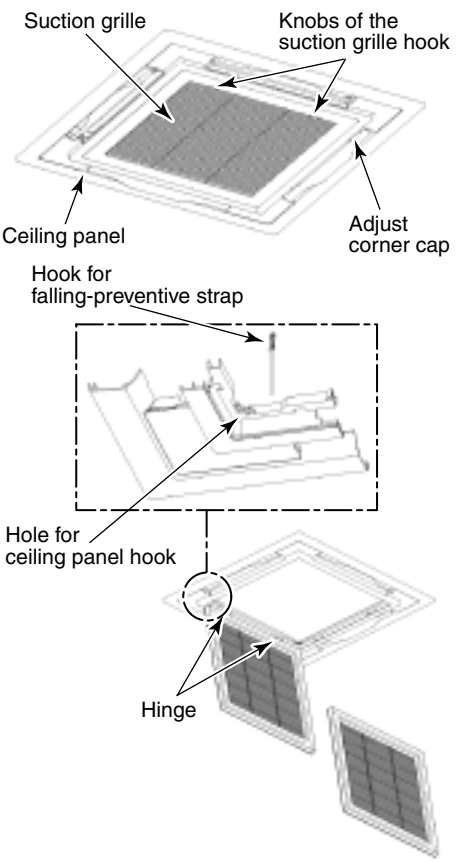
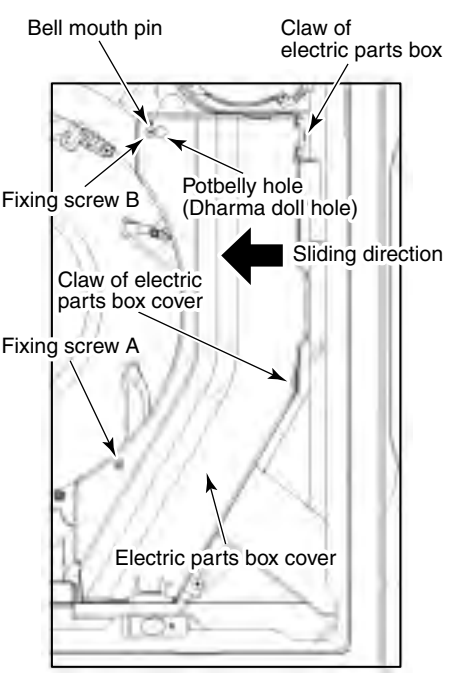
Setting data	Type	Model name
0001	4-way cassette	MMU-UP****HP
0004	Concealed Duct Standard	MMD-UP****BHP
0006	Concealed Duct High static pressure	MMD-UP****HP
0007	Ceiling	MMC-UP****HP
0008	High Wall	MMK-UP****HP
0016	Concealed Duct High static pressure fresh air intake	MMD-UP****HFP
0018	Console	MML-UP****NHP

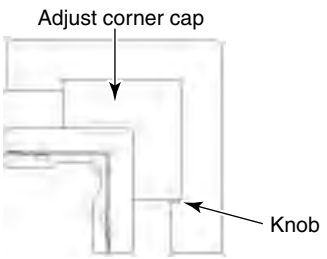
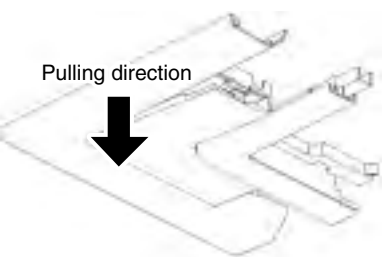
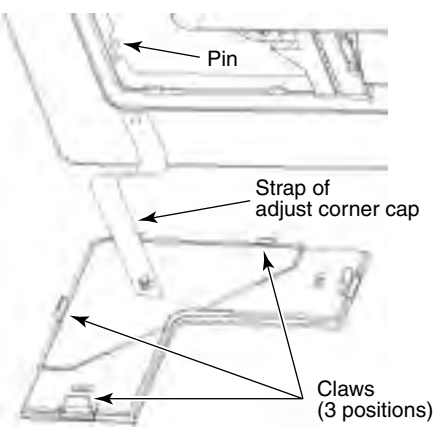
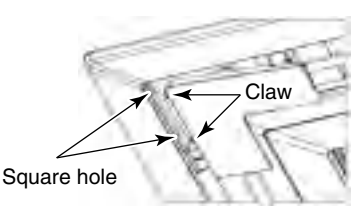
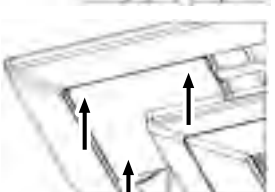
Table 3. Indoor unit capacity: Code No.11

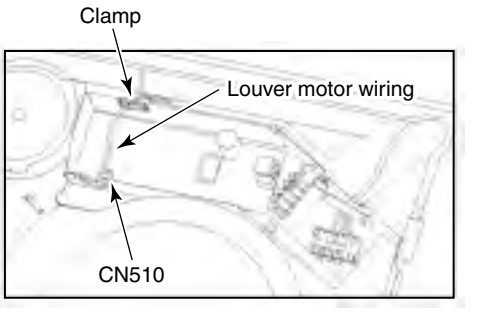
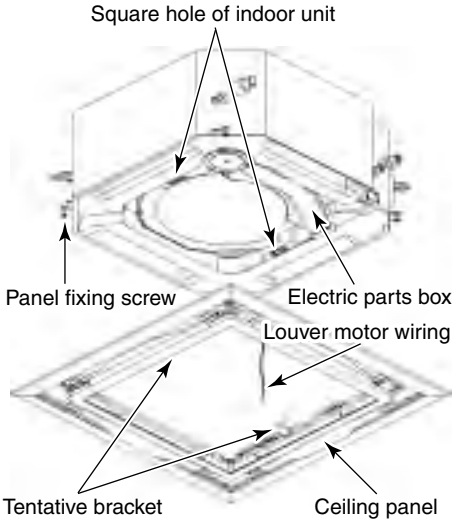
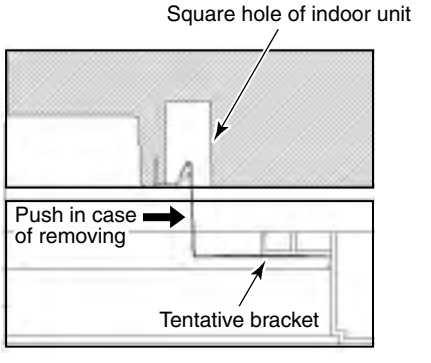
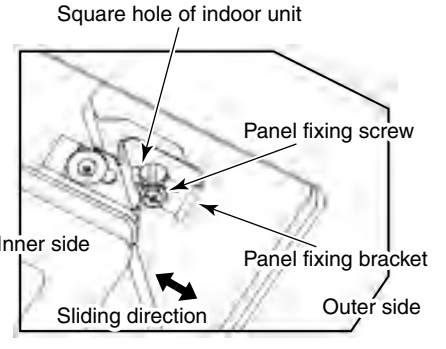
Setting data	Model	Setting data	Model
0000*	Invalid	0012	027 type
0044	003 type	0013	030 type
0041	005 type	0015	036 type
0001	007 type	0017	048 type
0003	009 type	0018	056 type
0005	012 type	0021	072 type
0007	015 type	0023	096 type
0009	018 type	0024	112 type
0011	024 type	0025	128 type

11. DETACHMENTS

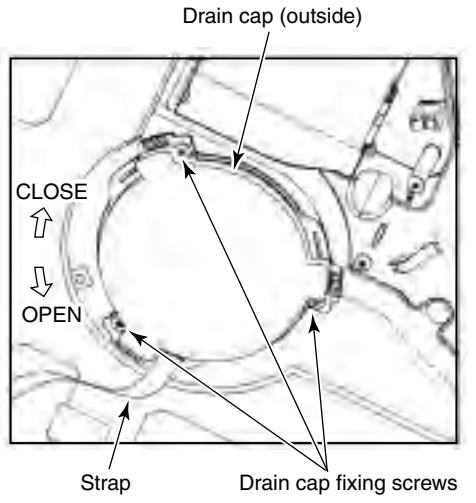
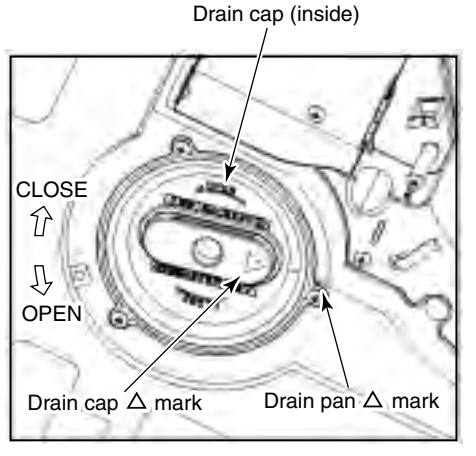
11-1. 4-way cassette type

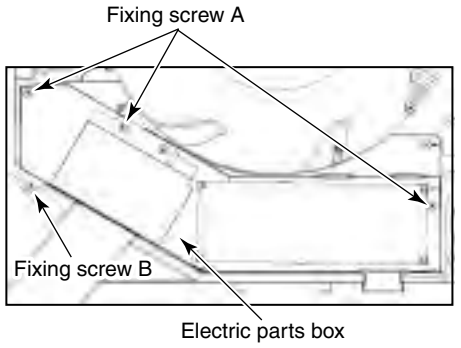
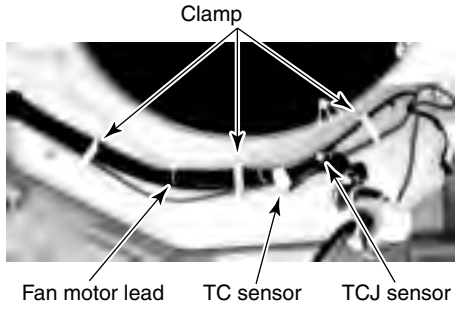
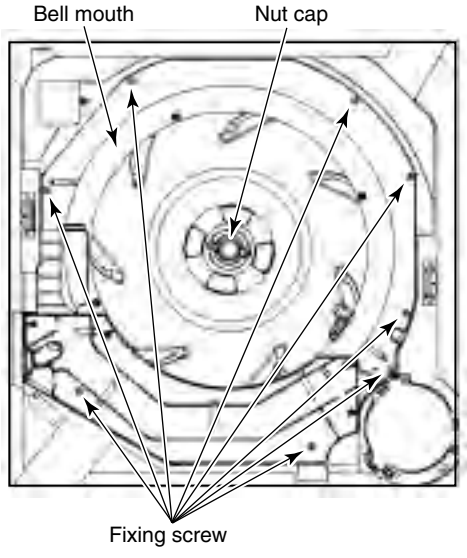
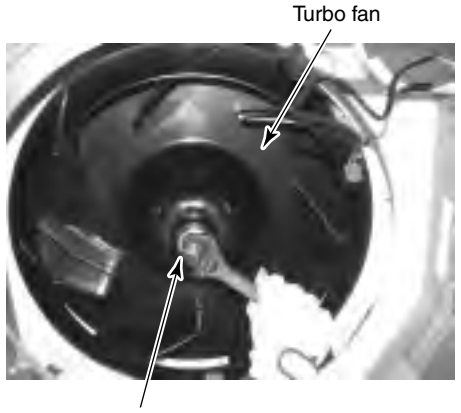
No.	Part name	Procedure	Remarks
①	Suction grille	**CAUTION** Be sure to put on the gloves and long-sleeved shirt at disassembling work; otherwise an injury will be caused by a part, etc. **1. Detachment** 1) Stop operation of the air conditioner and then turn off switch of the breaker. 2) Slide the 2 knobs of the suction grille inward and then hang down the suction grille. 3) Remove a strap connecting the panel and the suction grille and then remove the suction grille. **2. Attachment** 1) Hook the suction grille to the panel. 2) Attach strap of the suction grille to the panel as before. 3) Close the suction grille, slide the knobs outward and then fix the panel.	
②	Electric parts cover	**1. Detachment** 1) Carry out work of item 1. of ①. 2) Remove the fixing screw A which fixes the electric parts cover and loosen the fixing screw B. 3) Pull down the electric parts cover, remove pin of the bell mouth and then slide it to the arrow direction in order to open the claws and the electric parts box cover. **2. Attachment** 1) Close the electric parts cover and slide it, hook claw of the electric parts box, claw of the electric parts box cover and the Dharma doll hole, and then insert pin of the bell mouth into hole of the electric parts box cover. 2) Tighten the fixing screws A and B and then fix the electric parts box cover. 3) Following to work of item 2 of ①, mount the suction grille as before.	

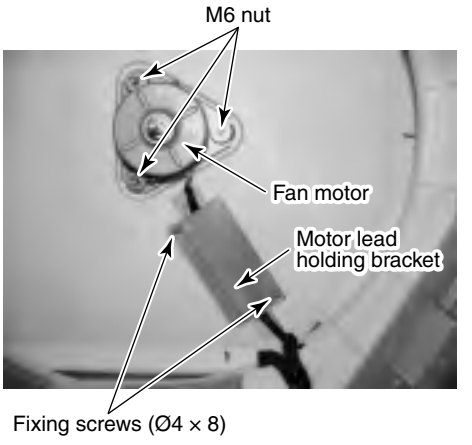
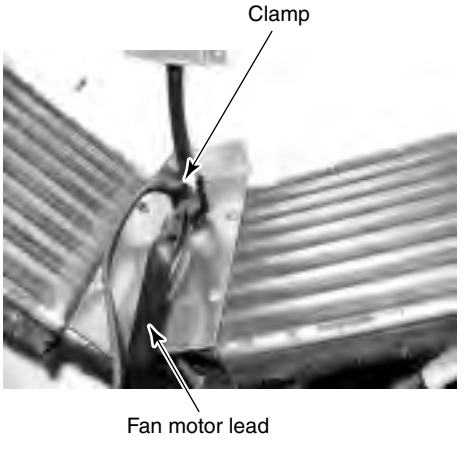
No.	Part name	Procedure	Remarks
②	Electric parts cover (Continued)		
③	Adjust corner cap	**1. Detachment** 1) Pull knob of the adjust corner cap to the arrow direction, remove strap of the adjust corner cap from pin of the panel and then remove all the 4 corners of the cap. **NOTE :** The knob is provided to only one side. Be sure to remove the cap of the knob side at first. **2. Attachment** 1) Hook strap of the adjust corner cap securely to pin of the ceiling panel. 2) Insert claw of the adjust corner cap into the square hole of the panel. (2 positions) 3) Push claws of the adjust corner cap into the positions indicated with arrow marks so that they fit in 3 positions.	     Push into positions with arrow marks

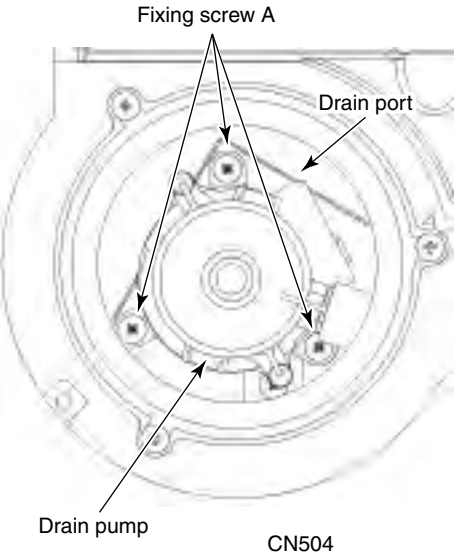
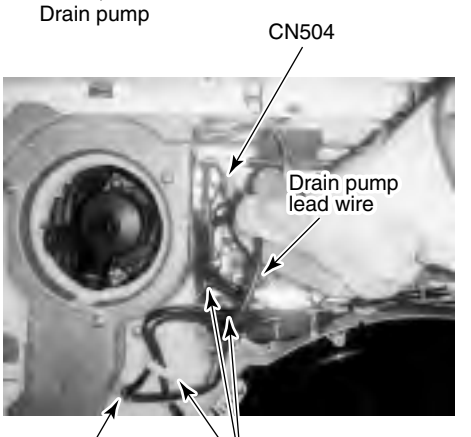
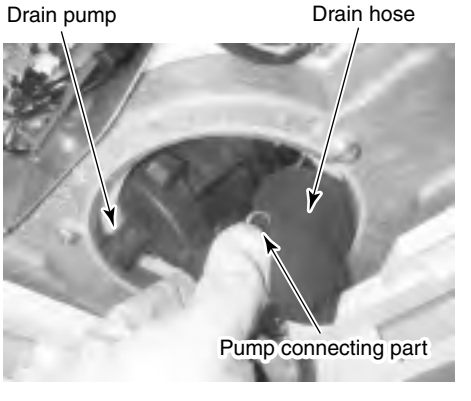
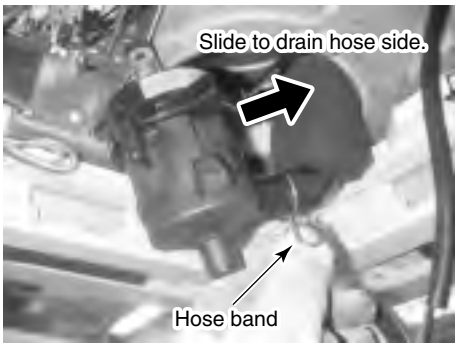
No.	Part name	Procedure	Remarks
④	Ceiling panel	**1. Detachment** 1) Carry out works of item 1 of ② and item 1 of ③. 2) Remove the flap connector (CN510, White, 20P) connected to the control P.C. board and then remove the lead wire from the clamp. **NOTE :** Unlock the lock of the housing part and then remove the connector. 3) Loosen the panel fixing 4 screws. 4) Slide the panel fixing brackets (4 positions) outward. 5) Push the tentative bracket outward and then remove the ceiling panel. **2. Attachment** 1) Insert the tentative brackets (2 positions) of the ceiling panel into square holes of the indoor unit and then hook the panel tentatively. **NOTE :** The ceiling panel has the directional properties against the indoor unit. Direct the louver motor wire to the electric parts box side of the indoor unit. 2) Pass the head of the panel fixing screw through hole of the panel fixing bracket and then slide the panel fixing bracket inward. 3) Tighten in the panel fixing screw to fix the ceiling panel. 4) Following to work of item 2 of ③, attach the adjust corner cap as before. 5) Connect the louver connector (CN510, White, 20P) as before and then fix the lead wire with clamp. 6) Following to work of item 2 of ②, mount the electric parts box cover and the suction grille as before.	   

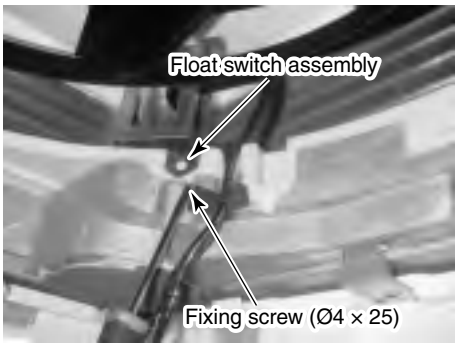
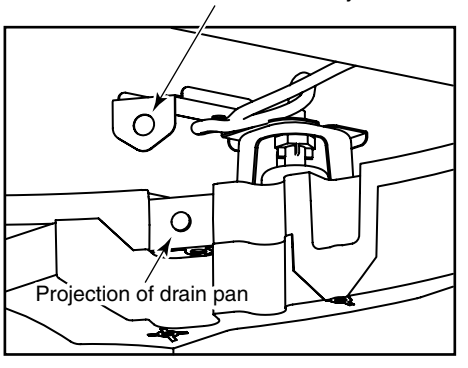
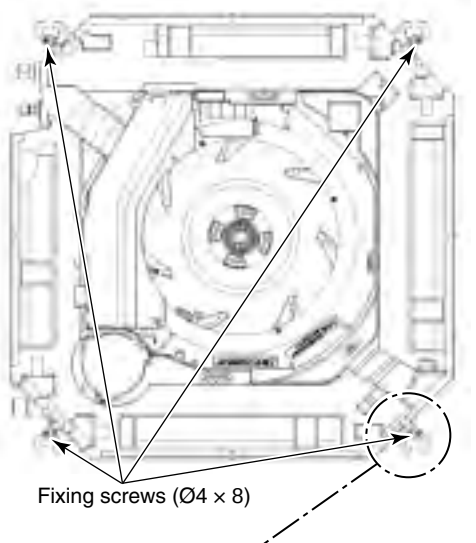
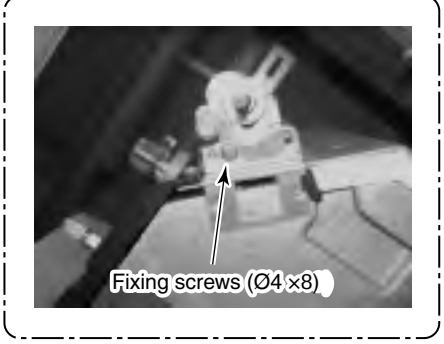
No.	Part name	Procedure	Remarks
⑤	Control P.C. board	**1. Detachment** 1) Carry out work of item 1 of ②. 2) Remove connectors which are connected from the control P.C. board to the other parts and then remove wiring from the clamp. CN510 : Louver motor (20P, White) CN34 : Float switch (3P, Red) CN504 : Drain pump (2P, White) CN100 : TC1 sensor (3P, Brown) CN101 : TC2 sensor (2P, Black) CN102 : TCJ sensor (2P, Red) CN104 : Room temp. Sensor (2P, Yellow) CN210 : Fan motor power supply (5P, White) CN82 : PMV (6P, Blue) **NOTE :** Unlock the lock of the housing part and then remove the connector. 3) Unlock the locks of the card edge spacer (6 positions) and then remove the control P.C. board. **2. Attachment** 1) Fix the control P.C. board to the card edge spacer (6 positions) 2) Connect the connector removed in item 1 as before and then fix the wiring with the clamp. 3) Following to work of item 2 of ②, mount the electric parts box cover and the suction grille as before. **CAUTION** When exchanging P.C. board, mount the ferrite core attached to the existing earth lead to the earth lead of the new P.C. board.	

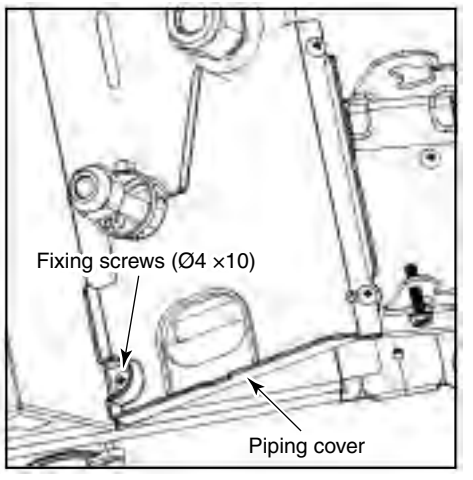
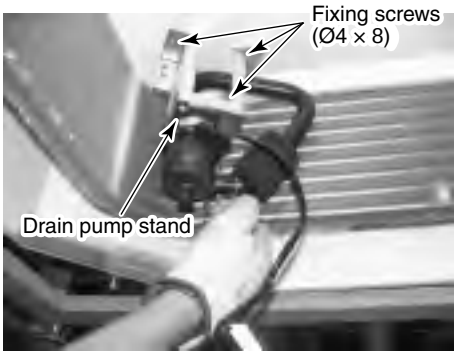
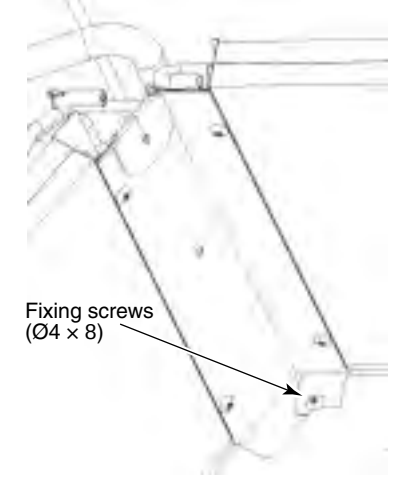
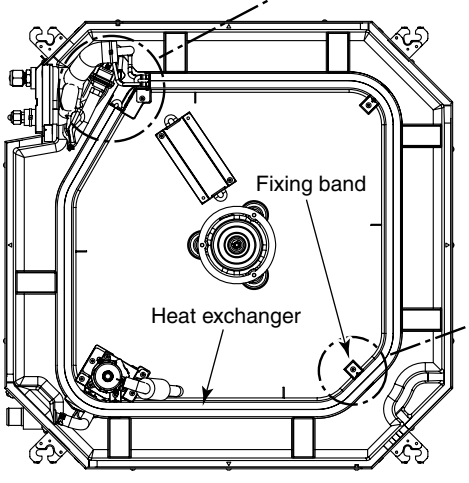
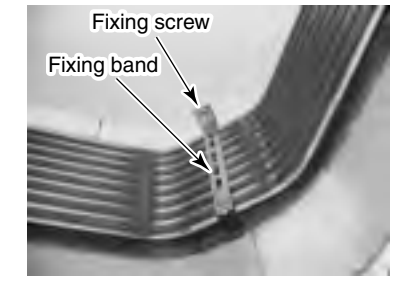
No.	Part name	Procedure	Remarks
⑥	Drain cap	**1. Detachment** 1) Carry out work of item 1 of ①. 2) Loosen screws (3 positions) fixing the drain cap (outside) and then turn the drain cap to the arrow mark direction to remove it. **NOTE :** The drain cap is hung down because a strap is attached to it (outside). 3) Loosen the cap by turn the drain cap (inside) for approx. 1 turn to OPEN → direction and then drain the drain water accumulated in the drain pan. **NOTE :** Be sure to catch drain water using a bucket, etc. when loosening the drain cap. The insulating materials are adhered to the drain cap (outside) and opening part of the drain pan; be careful that they are not come off. If they are come off, stick them as before using double-faces tape, etc. 4) Turn the drain cap once again to OPEN → direction to remove it. **2. Attachment** 1) Insert the drain cap (inside), turn it to CLOSE → direction until the position where "Clashed sound" is heard and it cannot be turned more over (Position where △ mark of the drain pan matches with △ mark of the drain cap (inside)) and then fix it. **NOTE :** When attaching the drain cap (inside), remove dirt attached to the packing. And tighten in it noting so that the cap is not slantingly set. If attaching the drain cap as dust or dirt is attached or the cap is set slantingly, water leakage is caused. 2) Turn the drain cap (outside) to → direction and then attach it using the fixing screw as original. 3) Following to work of item 2 of ① , mount the suction grille as before.	 

No.	Part name	Procedure	Remarks
⑦	Fan motor	**1. Detachment** 1) Carry out work of item 1 of ②. 2) Remove connectors which are connected from the control P.C. board to the other parts and then remove each wiring from the clamp. CN510 : Louver motor (20P, White) CN34 : Float switch (3P, Red) CN504 : Drain pump (2P, White) CN100 : TC1 sensor (3P, Brown) CN101 : TC2 sensor (2P, Black) CN102 : TCJ sensor (2P, Red) CN104 : Room temp. Sensor (2P, Yellow) CN210 : Fan motor power supply (5P, White) CN82 : PMV (6P, Blue) **NOTE :** Unlock the lock of the housing part and then remove the connector. 3) Remove the fixing screws A and B, and then remove the electric parts box. (Fixing screw A: Ø4 × 10, 3 pcs, Fixing screw B: Ø4 × 10, 1 pc.) 4) Remove the fan motor lead, TC sensor and TCJ sensor from clamp of the bell mouth. 5) Remove the fixing screws and then remove the bell mouth. (Ø4 × 10, 8 pcs.) 6) Remove the fixing screws and then remove the nut cap. (Ø4 × 10, 2 pcs.) 7) Remove the fixing nut and then remove the turbo fan. (M8 nut with flange, 1 pc.) 8) Remove the fixing screws and then remove the motor lead holding bracket. (Ø4 × 8, 2 pcs.) 9) Cut the bundling band and then remove it from the clamp. 10) Remove the fixing nut and then remove the fan motor. (Ø6 nut, 3 pcs.) **2. Attachment** 1) Fix the parts as before in order of fan motor → motor lead holding bracket → turbo fan → nut cap → bell mouth. **NOTE :** Fix the motor lead to the clamp without slack as before using bundling band. When fixing the turbo fan, be sure to match the D-cut of the fan boss with D-cut of the motor shaft. Using a torque wrench, fix the turbo fan and tighten it to 5.4 $^{+0.5}_{-0.2}$ Nm. Using torque wrench, fix the fan motor (at 3 positions) and tighten it to 4.9 $^{+0.5}_{-0.2}$ Nm.	   

No.	Part name	Procedure	Remarks
⑦	Fan motor (Continued)	**2. Attachment** 2) Fix the fan motor lead, TC sensor and TCJ sensor with the clamp of the bell mouth. 3) Mount the electric parts box with the fixing screws A and B. (Ø4 × 10, 3 pcs. Ø4 × 10, 1 pc.) 4) Connect the connector removed in item 1 as before and then fix wiring with the clamp. 5) Following to work of item 2 of ②, mount the electric parts box cover and the suction grille as before. **CAUTION** When exchanging the fan motors of the models MMU-AP009 to AP030, take off lead wire from the clamp filter, which is connected to CN334 of the fan motor to be exchanged and then connect the removed lead wire to a new fan motor.	 

No.	Part name	Procedure	Remarks
⑧	Drain pump	**1. Detachment** 1) Carry out works of item 1 of ② and item 1 of ⑥. 2) Remove the drain pump connector (CN504, White, 2P) connected to the control P.C. board and then remove the lead wire from the clamp. 3) Remove the fixing screws and then remove the drain pump. (Ø4 × 10, 3 pcs.) 4) As shown in the right figure, first pull out the connecting part of the drain pump and the drain hose from the drain port and then take out the drain pump. 5) Set direction of the knob of the hose band downward, slide it from the pump connecting part to the hose side and then remove the drain hose from the drain pump. 6) Pass the connector of the drain pump lead wire through the wiring taking-out port and then take out the drain pump. **2. Attachment** 1) Enter your hand into the drain port and pass the connector of the drain pump lead wire through the wiring taking-out port. 2) Connect the drain hose to the drain pump as before. **NOTE :** Insert the drain hose up to the end of the drain pump connecting part, apply band to the white mark position of the hose and then set the band knob upward. 3) Return the drain pump to the indoor unit and then mount it as before using the fixing screws. (Ø4 × 10, 3 pcs.) 4) Connect the drain pump connector (CN504, White, 2P) to the control P.C. board and then fix it as before with the clamp. 5) Following to words of item 2 of ⑥ and item 2 of ②, mount the drain cap, the electric parts box cover and the suction grille as before.	   

No.	Part name	Procedure	Remarks
⑨	Float switch assembly	**1. Detachment** 1) Carry out works of item 1 of ⑦ and works from 1) to 5). 2) Remove the fixing screw and then remove the float switch assembly. (Ø4 × 25, 1 pc.) **2. Attachment** 1) Mount the float switch assembly as before with the fixing screw. **NOTE :** When mounting, match hole of the float switch assembly with projection of the drain pan. 2) Mount the bell mouth as before. (Ø4 × 10, 8 pcs.) 3) Following to works of item 2 of ⑦ and works from 2) to 5), attach the parts as before.	 Hole of float switch assembly 
⑩	Drain pan	**1. Detachment** 1) Carry out works of item 1 of ④, item 1 of ⑥, item 1 of ⑦ and works from 2) to 5). 2) Remove the fixing screws to remove the drain pan. (Ø4 × 8, 4 pcs.) **2. Attachment** 1) Fix parts as before in order of drain cap → drain pan → bell mouth. 2) Following to works of item 2 of ⑦ and works from 2) to 5), attach parts as before.	 

No.	Part name	Procedure	Remarks
⑪	Heat exchanger	**1. Detachment** 1) Recover the refrigerant gas. 2) Carry out work of item 1 of ⑩. 3) Remove refrigerant pipe at indoor unit side. 4) Remove the fixing screws and then remove the piping cover. (Ø4 ×10, 3 pcs.) 5) Remove the drain hose from the drain pump and remove the fixing screws to remove the drain pump stand. (Ø4 ×8, 3 pcs.) 6) While pushing the heat exchanger, remove the fixing band, fixing screws and the heat exchanger. (Ø4 ×8, 3 pcs.) **2. Attachment** 1) Mount the heat exchanger with the fixing band and the fixing screws. (Ø4 ×8, 3 pcs.) 2) Fix the parts as before in order of drain pump stand → piping cover. 3) Connect the refrigerant pipe as before and then apply vacuuming. 4) Following to work of item 2 of ⑩, attach the parts as before.	    

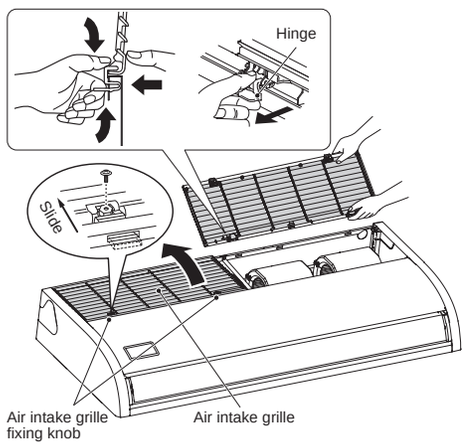
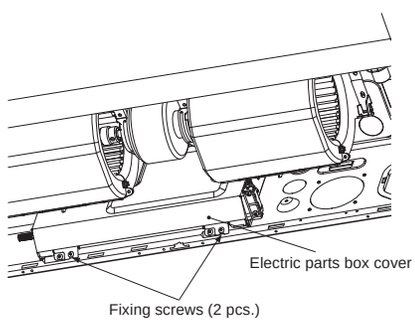
11-2. Ceiling type

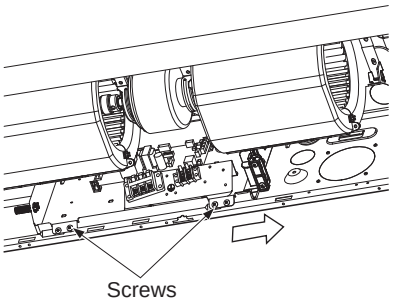
⚠ DANGER

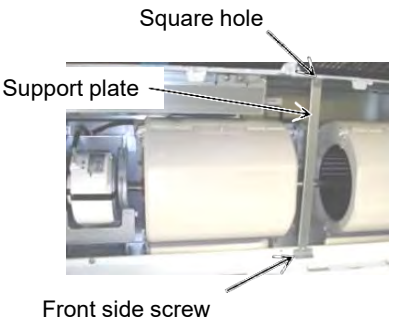
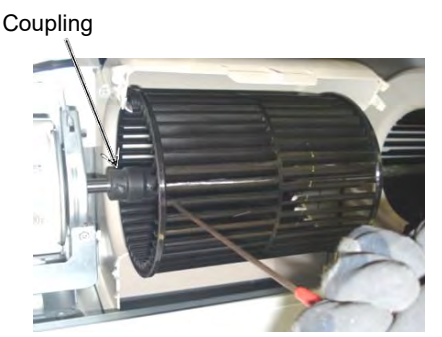
Before carrying out the repair or removal work, be sure to set the circuit breaker to the OFF position.
Otherwise, electric shocks may result.

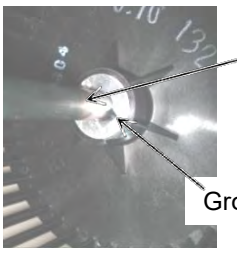
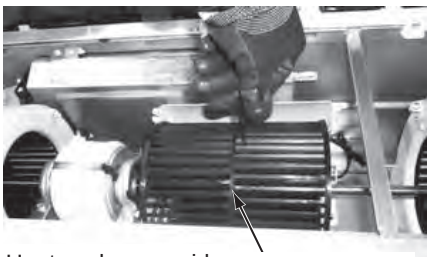
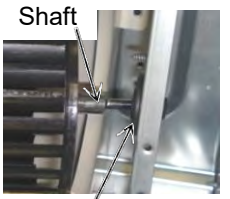
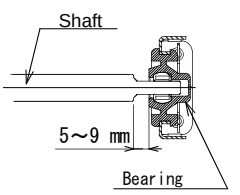
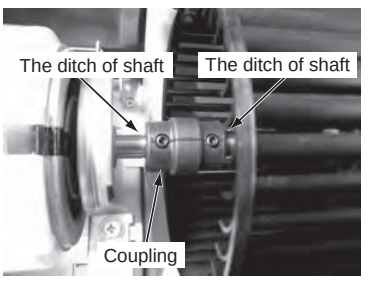
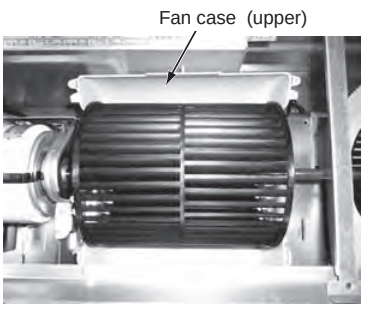
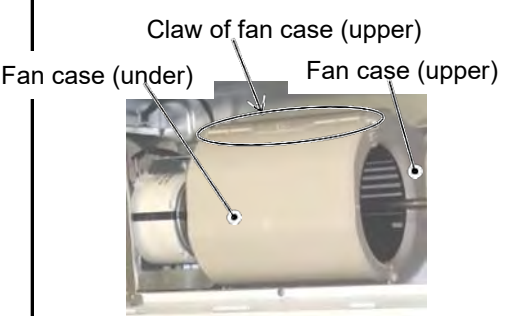
⚠ CAUTION

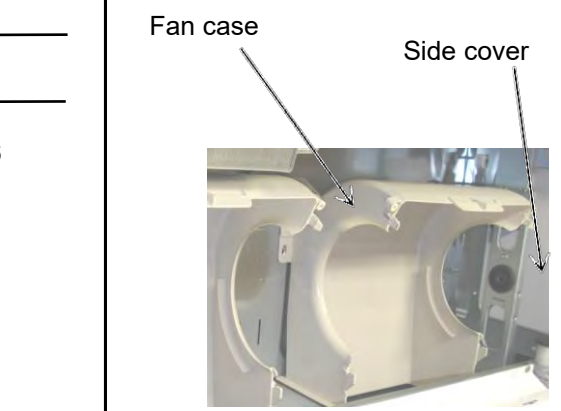
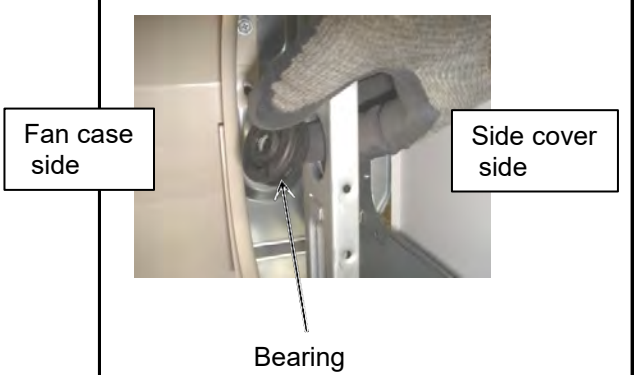
Be sure to put on the gloves at disassembling work; otherwise an injury will be caused by a part, etc.

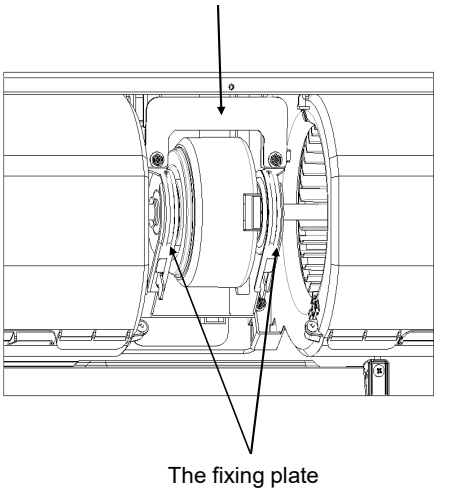
No.	Part name	Procedure	Remarks
①	Air intake grille	**1. Detachment** 1) Remove the screws of air intake grille fixing knob on a side of each filter. 2) Slide the air intake grille fixing knobs (two positions) toward the arrow direction (OPEN), and then open the air intake grille. 3) With the air intake grille open, hold the hinge from above and below with one hand and take out the air intake grille with the other hand while gently pushing it. (There are two air intake grilles.) Fixing knob: 4 / Hinge: 4 **2. Attachment** 1) Attach the hinge of air intake grille in square hole of body. 2) Close the air intake grille, and then fix it securely while sliding knob closed side (CLOSE). 3) Fix the screws of air intake grille fixing knob on a side of each filter.	
②	Electric parts box cover	**1. Detachment** 1) Loosen the screw of the electric parts box cover. (Ø4 x 10, 2 pcs.) 2) The electric parts box cover is moved to fan motor side and it removes. The electric parts box cover screw fixation part is U character structure. **2. Attachment** 1) Shut while inserting the electric parts box cover in the interior side of the electric parts box. 2) Fix the electric parts box cover by tightening with screws. (Ø4 x 10, 2 pcs.)	

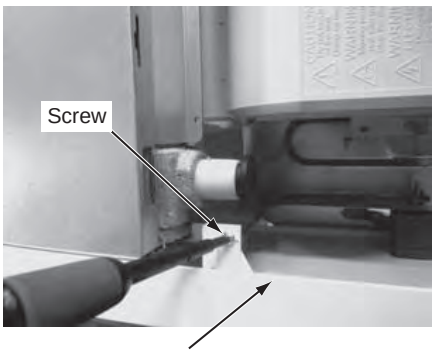
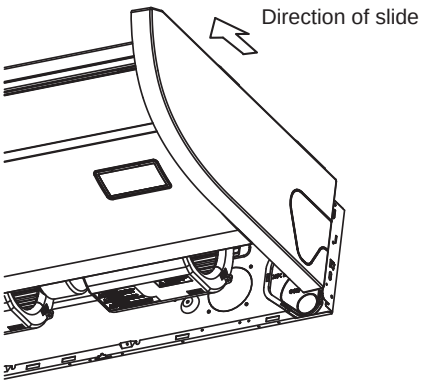
No.	Part name	Procedure	Remarks
③	Electric parts box	**1. Detachment** 1) Perform works of 1 of ②. 2) Remove the screws of electric parts box. 3) Draws out forward after the electric box is moved in the direction of the arrow, and the back of the part electric part boxis hung on the edge of the main body. **2. Attachment** 1) It moves in the direction opposite to time when the electric parts box is removed and the claw part in the interior of the electric part box is inserted in the hanging part of the main body. 2) Fix the electric parts box by tightening with screws. (Ø4 x 10, 2 pcs.)	
④	Control P.C. board	**1. Detachment** 1) Perform works of 1 of ③. 2) Remove the indoor/outdoor connecting wire and remote controller wire from each terminal block. 3) Remove the connectors which connected from the control P.C. board to other parts. **NOTE** First unlock the housing and then remove the connectors. CN510 : Louver motor (20P, White) CN41 : Remote controller terminal block (2P, Blue) CN67 : Power supply terminal block (3P, Black) CN100 : TC1 sensor (2P : Brown) CN101 : TC2 sensor (2P: Black) CN102 : TCJ sensor (2P, Red) CN104 : Room temperature (2P, Yellow) CN210 : Fan motor (5P, White) 4) Unlock the card edge spacers (4 positions) in the electric parts box to remove the control P.C. board.	 **2. Attachment** 1) Attach the electric parts box and then perform wiring as original. **NOTE** Check there is no missing or contact failure on the connectors.

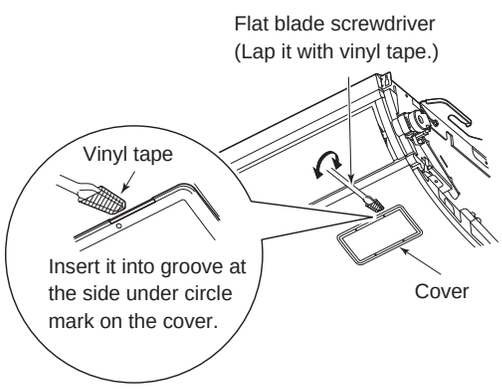
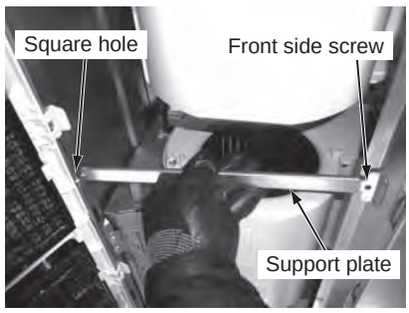
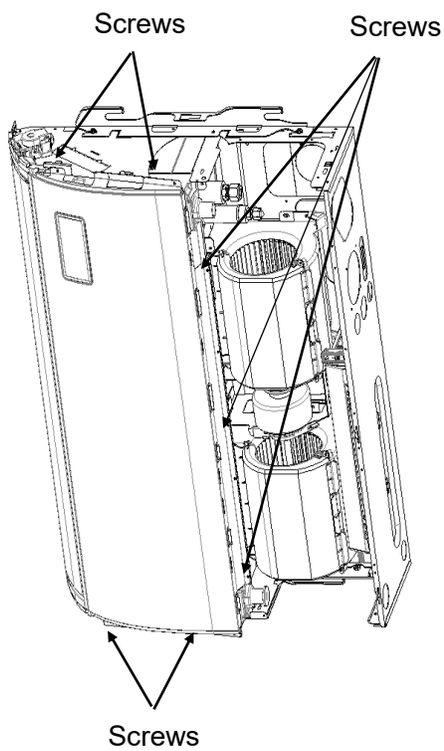
No.	Part name	Procedure	Remarks
⑤	Fan, Fan case, Shaft	**Quantity of fan** Model / QTY 15, 18 — 2 24, 27 — 3 36 ～ 56 — 4 **1. Detachment** **NOTE** It explains the following content by 24 to 56 type. 1) Perform works of 1 of ① and ②. 2) Remove the support plate. (Ø4 x 10, 1 pcs.) (24-56 type only) The screw on a front side is removed, and it detaches it from the square hole on the back side. 3) Remove the fixing screws of the fan case (under). (Ø4 x 10, 1 pcs.) 4) The hanging claw on both sides of fan case (under) is removed. 5) Fan case (under) is pulled out from the partition plate, and fan case (under) is removed. 6) The screw with the hexagonal screw hole to of the coupling is loosened, and the shaft is removed with the fan. 7) The screw with the hexagonal screw hole of the fan is loosened, and the fan is detached from the shaft. **NOTE** It explains the following content by 15 and 18 type. 1) Perform works of 1 of ① , ② and ③. 2) Remove connectors for fan motor wiring from control P.C. board. CN210 : Fan motor (7P, White) 3) Remove the fixing screws of the fan case (under). (Ø4 x 10, 1 pcs.) 4) The hanging claw on both sides of fan case (under) is removed. 5) Fan case (under) is pulled out from the partition plate, and fan case (under) is removed. 6) Remove the fixing screws of the fixing plate (2 pcs.) at the side of the fan motor. (Ø5 x 10, 2 pcs.) The earth screw is tightening together with motor fixing screw. 7) While supporting the fan motor by hands, remove the the fan motor. 8) The screw with the hexagonal screw hole of the fan is loosened, and the fan is detached from the shaft.	   

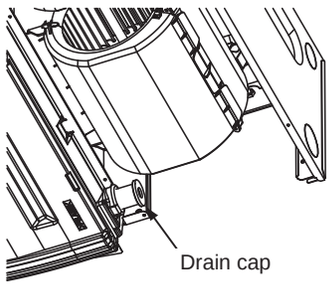
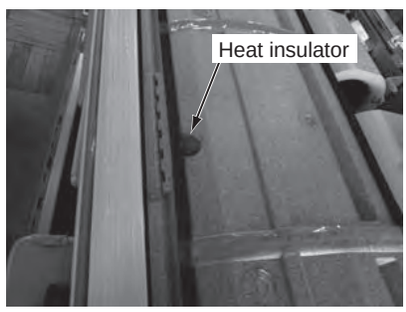
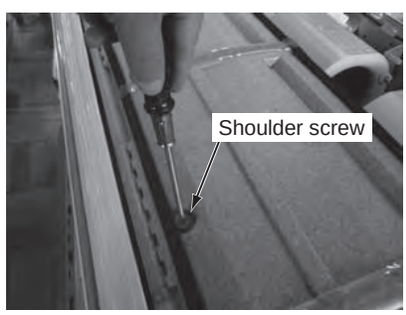
No.	Part name	Procedure	Remarks
		2. Attachment 1) The fan is installed in the shaft so that the tightening screw may come at the right of the fan toward the heat exchanger. 2) Insert the fan in the shaft while adjusting to match the installation mark to the groove of the fan. The fan and the screw tightening of the shaft are the last work. Refer to the photograph for the direction of the installation of the fan. 3) The shaft that inserts the fan is inserted in the coupling. After the shaft is installed, it tightens. 4) Attach restored after inserting the end of the shaft to the bearing. 5) The coupling inserted by the work of 3) is set to the ditch of the shaft and it fixes with hexagonal screw hole. (Motor side only) **NOTE** Be sure to use a torque wrench for fixing and tighten with 4.9N•m or more. 6) Adjust the shaft position so that the dimensions of the bearing part of the right figure. 7) After the dimensional adjustment, tighten the shaft side fixing screws of the coupling. **NOTE** Be sure to use a torque wrench for fixing and tighten with 4.9N•m or more. 8) The fan is positioned so that the fan may become a center for fan case (upper), and it fixes with the hexagonal screw hole. **NOTE** Be sure to use a torque wrench for fixing and tighten with 4.9N•m or more. 9) Attach the fan case (under) as original and check the fan turns smoothly without coming to contact with the fan case. (That the claw of the fan case (upper) and the fan case (under) has been on the outside of all the fan case.)	      Be sure to confirm that the fan is at the center of the fan case. 

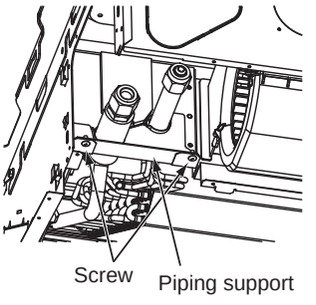
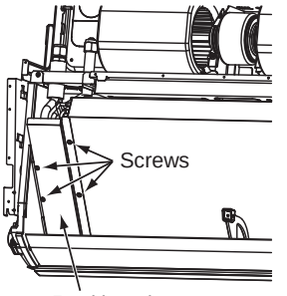
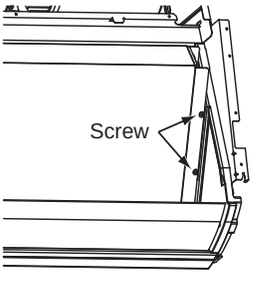
No.	Part name	Procedure	Remarks
⑥	Bearing	**1. Detachment** **NOTE** It explains the following content by 24 to 56 type. 1) Perform works of 1 of ⑤.(24 to 56 type) 2) Bearing press from the side cover side. And remove it. **2.Attachment** 1) Bearing press from the fan case side. And mounting. 2) Perform works of 2 of ⑤.(24 to 56 type)	 

No.	Part name	Procedure	Remarks
⑦	Fan motor	**1. Detachment** 1) Perform works of 1 of ⑤. 2) Remove connectors for fan motor wiring from control P.C. board. CN210 : Fan motor (5P, White) **NOTE** First unlock the housing and then remove the connectors. 3) Remove the fixing screws of the fixing plate (2 pcs.) at the side of the fan motor. (Ø5 x 10, 2 pcs.) 4) While supporting the fan motor by hands, remove the the fan motor. **2. Attachment** 1) Attach as before in fan motor → motor fixing plate → electric part box cover order. Attach the connector, then perform wiring as original.	Rein forced pate (24 to 56 type only)  The fixing plate

No.	Part name	Procedure	Remarks
⑧	Side cover	**1. Detachment** 1) Perform works of 1 of ①. 2) Remove the screws of the side cover. (One side: Ø4 x 10, 1 pcs.) 3) Slide to the air discharge side, remove the side cover. **2. Attachment** 1) Insert hooking claw of the side cover in the square hole on the main body. Slide to the air intake side and attach the side cover. 2) Fix the side cover by screws. (One side: Ø4 x 10, 1 pcs.)	 

No.	Part name	Procedure	Remarks
⑨	Under panel	**1. Detachment** 1) Perform works of 1 of ⑧. 2) Remove the support plate. (24-56 type only) (Ø4 x 10, 1 pcs.) The screw on a front side is removed, and it detaches it from the square hole on the back side. 3) The screw on both sides is removed. (Ø4 x 10, 2 pcs.) 4) The screw on fan side is removed. 15-27 type : (Ø4 x 10, 3 pcs.) 36-56 type : (Ø4 x 10, 4 pcs.) 5) Slide to the air discharge side and remove the under panel. **NOTE** When you remove forcibly which may result in the product breaks. 6) When you remove the signal receiving unit, lap the end of flat head screw driver with vinyl tape, and forcedly insert it into the groove at the side under circle mark on the cover.  **2. Attachment** 1) Attach the under panel from air discharge side according to drain pan. 2) Attach the screws as original position. 24-56 type attach the support plate as original position.	 

No.	Part name	Procedure	Remarks
⑩	Drain pan	**1. Detachment** 1) Perform works of 1 of ⑨. 2) Remove the drain cap and then extract the drain water accumulated in the drain pan. **NOTE** When removing the drain cap, be sure to receive drain water using a bucket, etc. 3) The drain hose is removed from the drain pan joint while picking up the hose band. 4) The heat insulator stuck on air discharge side of the drain pan is peeled off and an inside shoulder screw is removed. 15-18 type : (1 pcs.) 24-56 type : (2 pcs.) 5) When installing, the heat insulator peeled off is used. 5) Slide to the air discharge side, remove the drain pan. **2. Attachment** 1) The drain cap is surely inserted up to the drain pan root. 2) Slide to the air discharge side, hooking surely the frame on fan side. 3) Attach the shoulder screws as original position, the heat insulator is stuck on. 4) The hose band is used and the drain hose is installed.	  

No.	Part name	Procedure	Remarks
⑪	Heat exchanger	**1. Detachment** 1) Recover the refrigerant gas and then remove the refrigerant pipe of the indoor unit. 2) Perform works of 1 of ⑩ Pull out sensor wires from the holder. 3) The screw that is the fixing of the piping support is removed, and the piping support is removed. (Ø4 x 10, 2 pcs.) 4) The screw of the partition plate is removed while holding the heat exchanger, the partition plate is removed. (Ø4 x 10, 4 pcs.) 5) The screw of the heat exchanger on the partition plate and the other side is removed while holding the heat exchanger, and the heat exchanger is removed. **2. Attachment** 1) Attach as before in heat exchanger → sensor → piping support → drain pan → under panel order. 2) Connect the refrigerant pipe as original, and then perform vacuuming.	  

11-3. Concealed Duct Standard type

⚠ WARNING

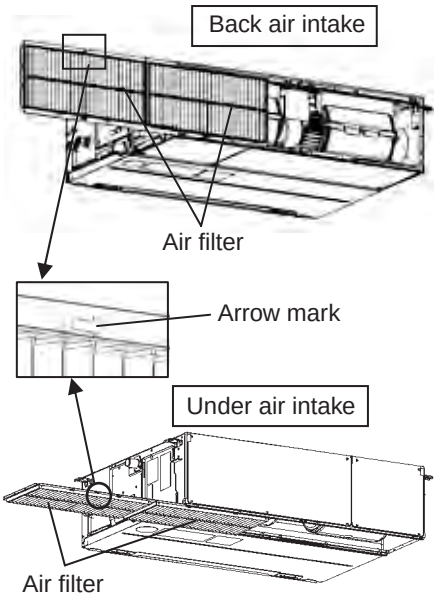
Be sure to stop operation of the air conditioner before work and then turn off switch of the breaker.

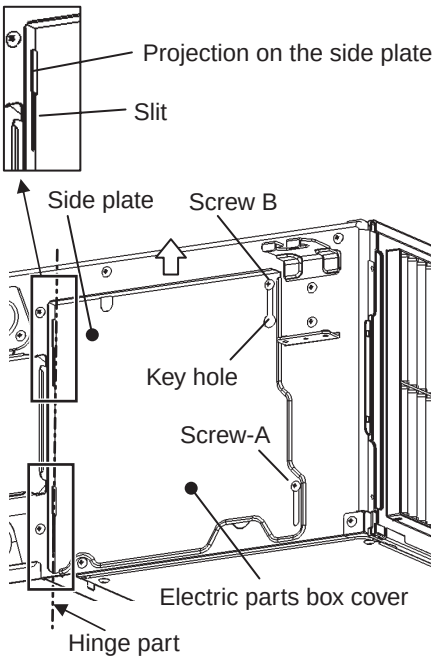
⚠CAUTION

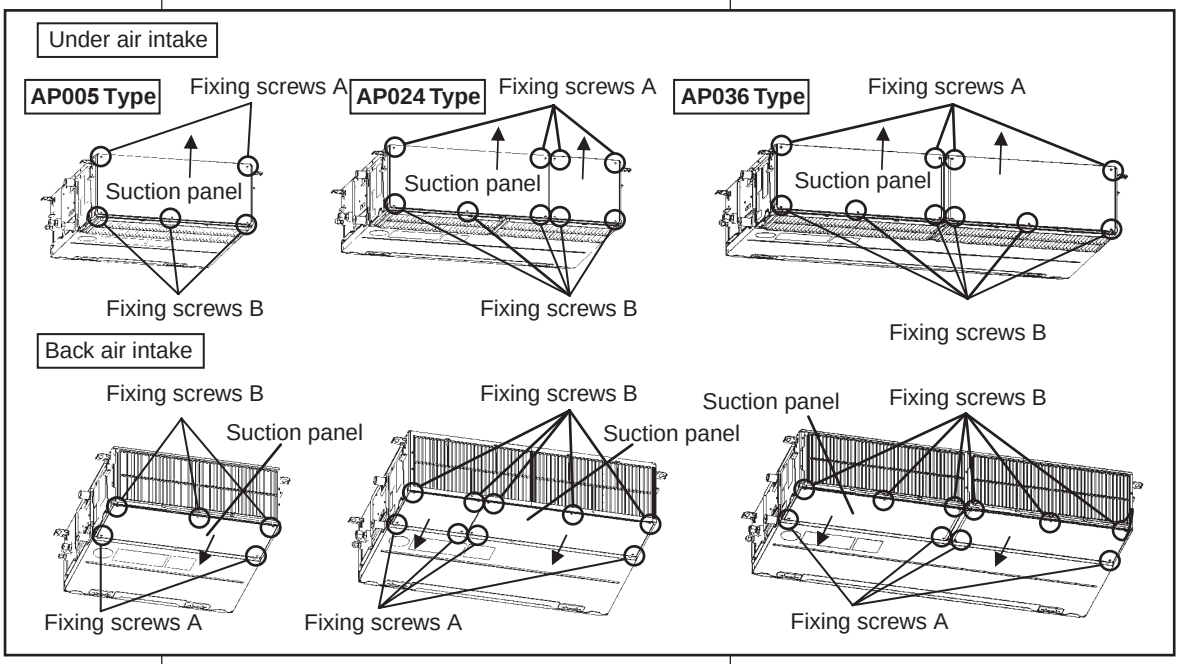
Be sure to put on gloves during working time; otherwise an injury will be caused by a part, etc.

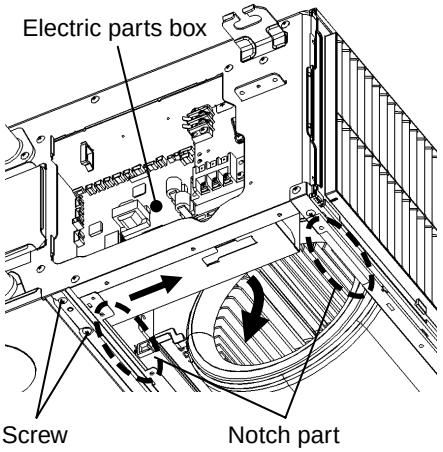
NOTE

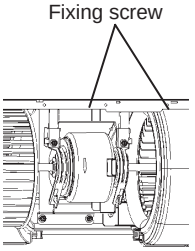
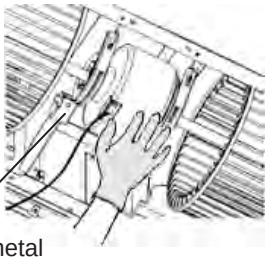
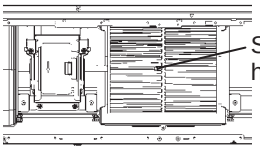
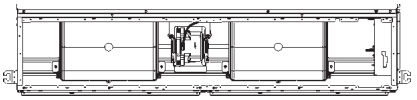
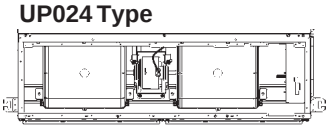
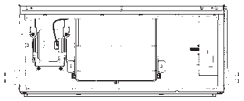
In a section, Detachments, the models are expressed as follows for convenience.
UP005: MMD-UP0051BHP-E to UP0181BHP-E(TR)
UP024: MMD-UP0241BHP-E(TR) to UP0301BHP-E(TR)
UP036: MMD-UP0361BHP-E(TR) to UP0561BHP-E(TR)

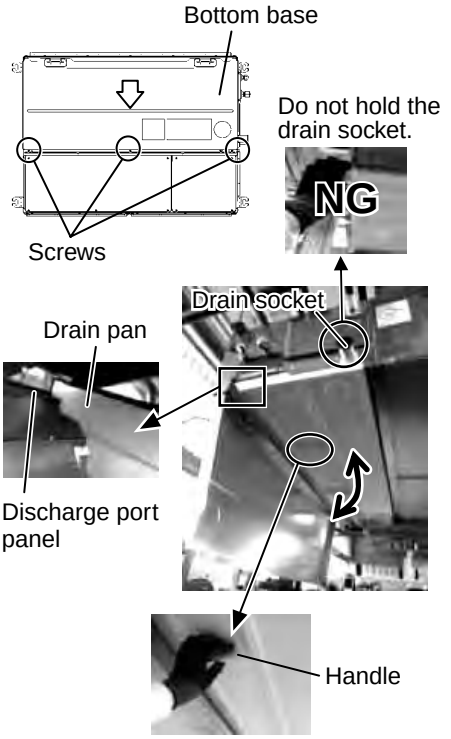
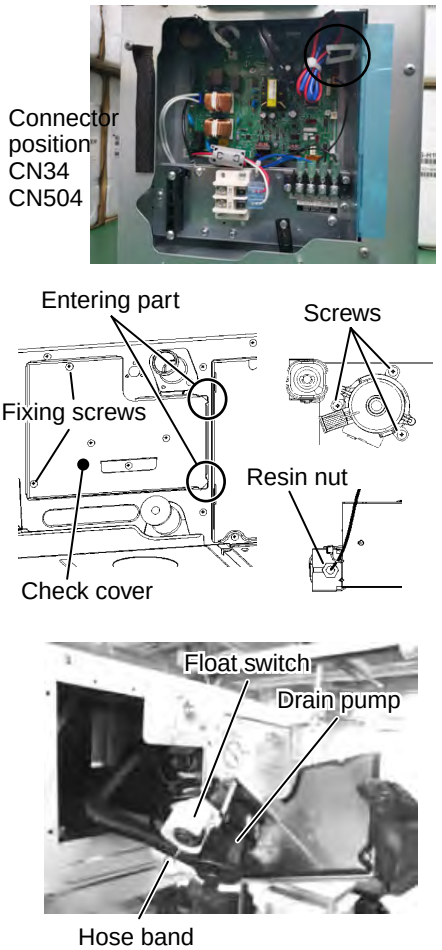
No.	Part name	Procedure	Remarks
①	Air filter	**1. Detachment** 1) Slide the filter toward the opposite side of the arrow mark and then pull out the filter. (In the case that two filters are provided, pull out the first filter, then the second filter will be pulled out connected with the first filter.) **2. Attachment** 1) Insert the filter in the filter rail toward the arrow mark, slide it until the filter stops and then fix it. (In the case that two filters are provided, insert the second filter in the same direction after inserting the first filter.)	

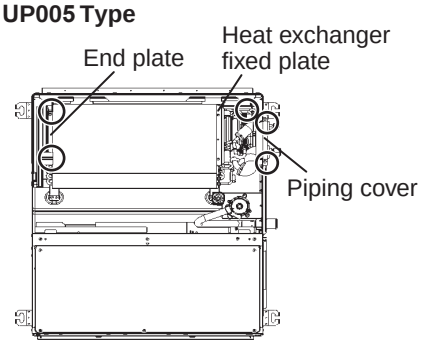
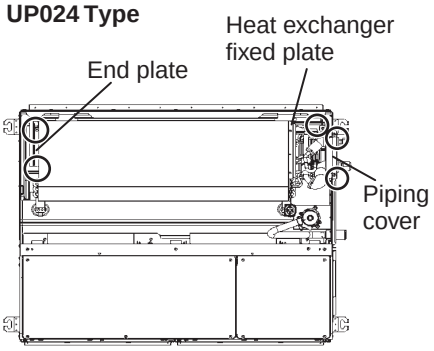
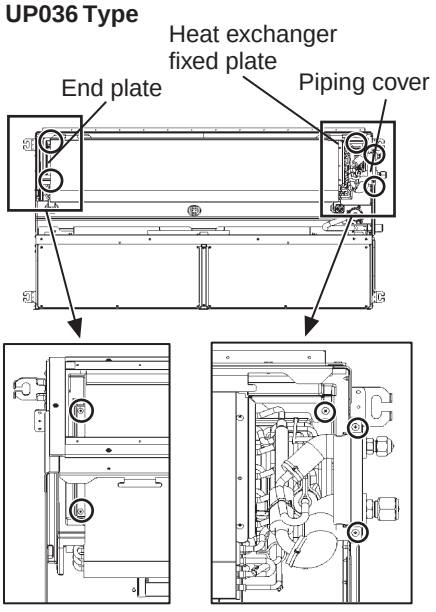
No.	Part name	Procedure	Remarks
②	Suction panel	**1. Detachment** 1) Remove the fixing screws A which fix the suction panel. Loosen the fixing screws B. 2) Slide the suction panel to the arrow side and then remove the panel. **2. Attachment** 1) Hook the suction panel to the fixing screws B and tighten screws. 2) Attach the removed screws A to the original positions.	
③	Electric parts box cover	**1. Detachment** 1) Remove the screw A of the electric parts box cover to loosen screw B. 2) As shown in the right figure, when sliding it toward arrow direction and pulling to this side, the electric parts cover opens using the hinge part as a shaft. 3) Take off the slit of the electric parts box cover from the projection of the side plate and then remove the cover. **2. Attachment** 1) Hook the slit of the electric parts box cover to the projection of the side plate, close the cover, enter screw B in the Key hole and then slide it. 2) Fix the electric parts box cover by tightening with screws A and B.	



No.	Part name	Procedure	Remarks
④	Electric parts box	**1. Detachment** 1) Perform works of 1 of ①. (In case of under air intake) Perform works of 1 of ②. (In case of back air intake) Perform works of 1 of ③. 2) Remove the indoor/outdoor connecting wire and remote controller wire from each terminal block. 3) Remove the connectors which connected from the control P.C. board to other parts. **NOTE** First unlock the housing and then remove the connectors. CN34 : Float switch (3P, Red) CN41 : Remote controller terminal block (3P, Blue) (Screw part of terminal block, 2P.) CN504 : Drain pump (2P, White) CN67 : Power supply terminal block (5P: Black) (Screw part of terminal block, 3P.) CN101 : TC sensor (2P: Black) CN102 : TCJ sensor (2P, Red) CN104 : Room temperature (2P, Yellow) 4) Remove screws. (Ø4 x 10, 2 pcs.) 5) Slide the electric parts box toward the arrow mark and then remove the box from the bottom side of the main unit. **2. Attachment** 1) Attach the electric parts box and then perform wiring as original. **Notes 1** Check there is no missing or contact failure on the connectors. **Notes 2** Be sure to perform wiring as original. 2) Attach air filter, suction panel, and electric parts box as original.	 
⑤	Control P.C. board	**1. Detachment** 1) Perform work of 1 of ④. (In the works of 1 of ④, removal of the control P.C. board is available even if you do not perform works after 4)). 2) Unlock the card edge spacers (5 positions) in the electric parts box to remove the control P.C. board. **2. Attachment** 1) Mount control P.C. board in the electric parts box as original. 2) Attach the electric parts box as original. 3) Be sure to perform wiring as original in the electric parts box. **NOTE** Check there is no missing or contact failure on the connectors. 4) Attach each air filter, suction panel or electric parts box cover as original.	 **⚠CAUTION** When replacing PC. board, check no-mex paper is attached. 

No.	Part name	Procedure	Remarks
⑥	Fan motor, Fan, Fan case	**1. Detachment** 1) Perform works until opening of the electric parts box cover in works of 1 of ④. 2) Remove connectors for fan motor wiring from control P.C. board. CN333 : Motor power supply (5P: White) 3) Open the fan case (under) and remove it while pressing claws of the fan case (under). (There are both sides of the case) 4) Remove the fixing screws (Ø5 x 10, 2 pcs.) of the fixing plate (2 pcs.) at the side of the fan motor. (The fan motor becomes temporal hanging status by fixing plate.) 5) While supporting the fan motor by hands, remove the fixing plate from the motor base to remove the fan motor. 6) Loosen the hexagonal screw hole of the fan and then pull out the fan from the shaft. (Hexagon wrench : 3mm) **2. Attachment** 1) Insert the fan in the shaft while adjusting to match the hexagonal screw hole to the groove of the shaft. 2) Perform screwing the fan motor with the fixing plate (Ø5 x 10, 2 pcs.) **NOTE** Match the fan motor with turning direction of the fan and fix so that the UP005 type and UP024 type fan motor wirings are at refrigerant piping side and UP036 type is at opposite side of-refrigerant piping. 3) While positioning so that the fan is at the center of the fan case (upper), fix the fan with hexagonal screw. **NOTE** Be sure to use a torque wrench for fixing and tighten with 4.9N•m or more. 4) Attach the fan case (under) as original and check the fan turns smoothly without coming to contact with the fan case. 5) Connect the fan motor wirings as before, close and fix the electric parts box cover. Be sure to perform wirings as original in the electric parts box. 6) Attach air filter and suction panel as original position.	 Fixing screw   Fixing sheet metal  Screw with hexagonal hole **UP036 Type**  **UP024 Type**  **UP005 Type**  Refrigerant piping side  **⚠CAUTION** When replacing the fan motor, be sure to exchange the clamp filter with the fan motor lead wire.

No.	Part name	Procedure	Remarks
⑦	Drain pan	**1. Detachment** 1) Remove the drain cap and then extract the drain water accumulated in the drain pan. **NOTE** When removing the drain cap, be sure to receive drain water using a bucket, etc. 2) Loosen screws which fix the bottom base. (3 positions) (For UP036 models, remove 2 screws at the center.) 3) As shown in the right figure, when sliding it toward arrow direction, the electric parts cover the bottom base opens using the hinge part as a shaft. 4) Hold handle of the drain pan and then pull off slowly. **⚠ CAUTION** When removing the drain pan, do not hold the drain socket. (Water leakage may be caused.) **2. Attachment** 1) First hook the thin side of the drain pan to the discharge panel and then push in the thick side. 2) Close the bottom base and fix it with screws.	
⑧	Drain pump Float switch	**1. Detachment** 1) Perform works until opening of the electric parts box cover in works of 1 of ④. 2) Remove the connectors which connect to float switch of the drain pump from the control P.C. board. CN34 : Float switch (3P, Red) CN504 : Drain pump (2P, White) 3) Remove the fixing screws (2 positions) of the check cover and then take out the check cover. (To the check cover, the drain pump and float switch are attached.) 4) Pick up the hose band, shift from the pump connecting part, remove the drain hose and then remove the check cover. 5) Remove screws which fix the drain pump assembly and then remove the drain pump assembly. (Ø4 x 10, 3 pcs.) 6) Remove the resin nut switch and then remove the float switch from the fixing plate. **2. Attachment** 1) Using the removed screws, fix the drain pump assembly as original. 2) Using the removed resin nut, fix the float switch as original. 3) Connect the drain hose as original and then attach the hose band. 4) Connect the drain pump and the float switch wiring as original and close the electric parts box cover for fixing. Be sure to perform wiring in the electric parts box as original. 5) Enter the corners (2 positions) of the check cover in the entering part and then fix it using fixing screws (2 positions).	

No.	Part name	Procedure	Remarks
⑨	Heat exchanger	**1. Detachment** 1) Recover the refrigerant gas and then remove the refrigerant pipe of the indoor unit. 2) Perform works of 1 of ⑧. 3) Pull out TC sensor and TCJ sensor wirings from the holder. 4) Remove the screws (Ø4 x 8, 2 pcs.) and then remove the piping cover. 5) Remove screws (Ø4 x 8, 1pc.) of the heat exchanger fixed plate. 6) While holding the heat exchanger, remove the fixed screws (Ø4 x 8, 2 pcs.) of the end plate and then take out the heat exchanger slowly. **2. Attachment** 1) Set the heat exchanger at the original position and fix it as before, using screws which removed the end plate, heat exchanger fixed plate and piping cover. 2) Enter TC sensor and TCJ sensor wirings in the holder and then perform wirings as original. 3) Attach the drain pan and the bottom base as original.	◯ : Screw position **UP005 Type**  **UP024 Type**  **UP036 Type** 

11-4. Concealed Duct High Static Pressure type

⚠ WARNING

Be sure to stop operation of the air conditioner before work and then turn off switch of the breaker.

⚠ CAUTION

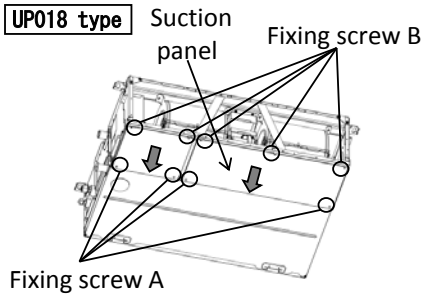
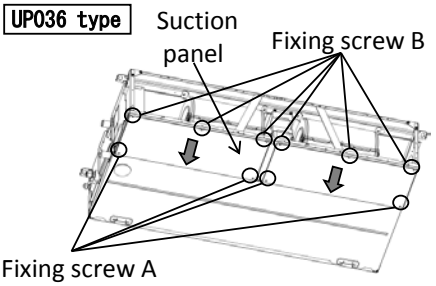
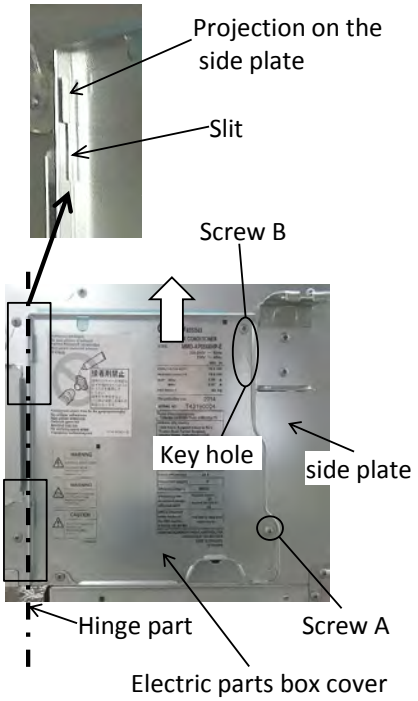
Be sure to put on gloves during working time; otherwise an injury will be caused by a part, etc.

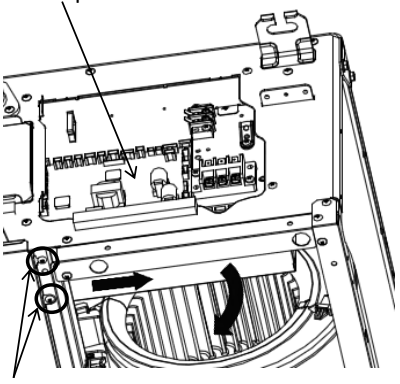
NOTE

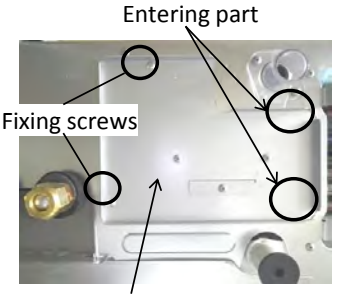
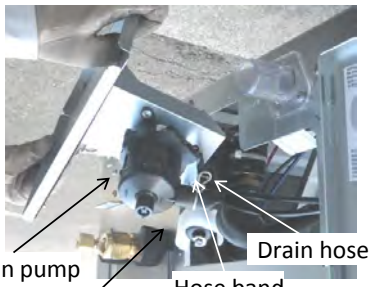
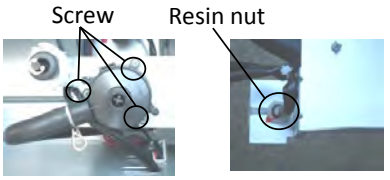
In a section, Detachments, the models are expressed as follows for convenience.

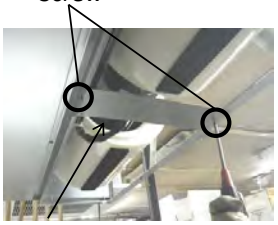
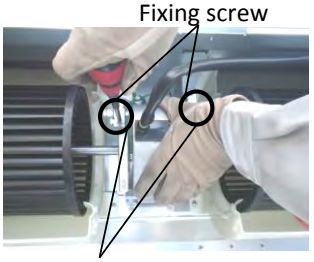
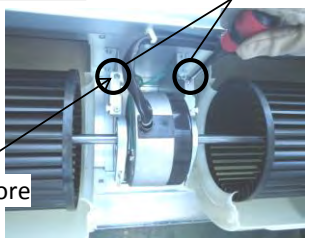
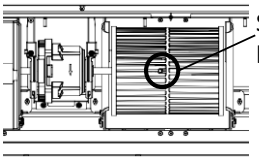
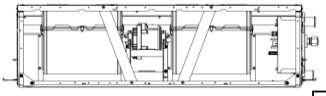
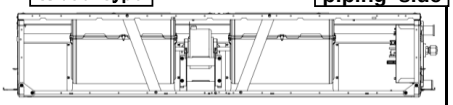
UP018 : MMD－UP0181HP-E(TR) to UP0271HP-E(TR)

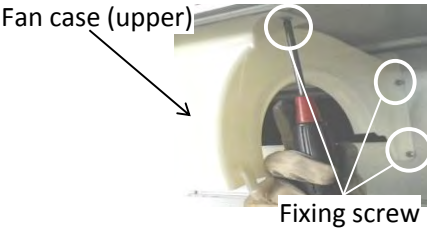
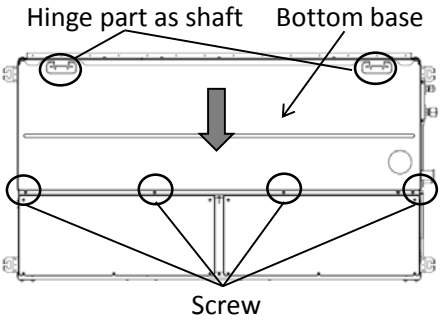
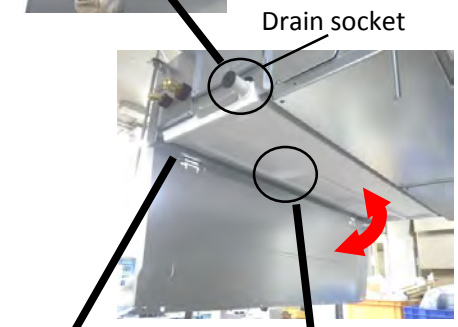
UP036 : MMD－UP0361HP-E(TR) to UP0561HP-E(TR)

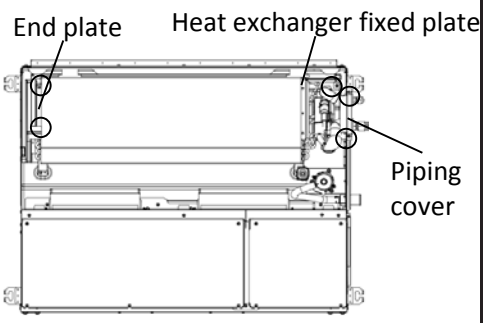
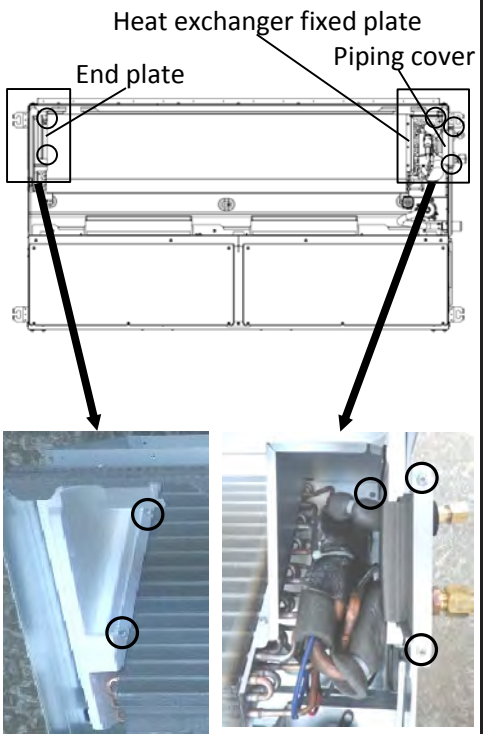
No.	Part name	Procedure	Remarks
①	Suction panel	**1. Detachment** 1) Remove the fixing screws A which fix the suction panel. Loosen the fixing screws B. 2) Slide the suction panel to the arrow side and then remove the panel. **2. Attachment** 1) Hook the suction panel to the fixing screws B and tighten screws. 2) Attach the removed screws A to the original positions.	UP018 type  UP036 type 
②	Electric parts box cover	**1. Detachment** 1) Remove the screw A of the electric parts box cover to loosen screw B. 2) As shown in the right figure, when sliding it toward arrow direction and pulling to this side, the electric parts cover opens using the hinge part as a shaft. 3) Take off the slit of the electric parts box cover from the projection of the side plate and then remove the cover. **2. Attachment** 1) Hook the slit of the electric parts box cover to the projection of the side plate, close the cover, enter screw B in the Key hole and then slide it. 2) Fix the electric parts box cover by tightening with screws A and B.	

No.	Part name	Procedure	Remarks
③	Electric parts box	**1. Detachment** 1) Perform works of 1 of ①. 2) Remove the indoor/outdoor connecting wire and remote controller wire from each terminal block. 3) Remove the connectors which connected from the control P.C. board to other parts. **NOTE** First unlock the housing and then remove the connectors. CN34 : Float switch (3P, Red) CN41 : Remote controller terminal block (3P, Blue) (Screw part of terminal block, 2P.) CN504 : Drain pump (2P, White) CN67 : Power supply terminal block (5P: Black) (Screw part of terminal block, 3P.) CN101 : TC sensor (2P: Black) CN102 : TCJ sensor (2P, Red) CN104 : Room temperature (2P, Yellow) 4) Remove screws. (Ø4 x 10, 2 pcs.) 5) Slide the electric parts box toward the arrow mark and then remove the box from the bottom side of the main unit. **2. Attachment** 1) Attach the electric parts box and then perform wiring as original. **NOTE 1** Check there is no missing or contact failure on the connectors. **NOTE 2** Be sure to perform wiring as original. 2) Attach suction panel and electric parts box cover as original.	 Electric parts box  Screw
④	Control P.C. board	**1. Detachment** 1) Perform work of 1 of ③. (In the works of 1 of ③, removal of the control P.C. board is available even if you do not perform works after ③). 2) Unlock the card edge spacers (5 positions) in the electric parts box to remove the control P.C. board. **2. Attachment** 1) Mount control P.C. board in the electric parts box as original. 2) Attach the electric parts box as original. 3) Be sure to perform wiring as original in the electric parts box. **NOTE** Check there is no missing or contact failure on the connectors. 4) Attach suction panel and electric parts box cover as original.	 **⚠CAUTION** When replacing PC. board, check no-mex paper is attached. 

No.	Part name	Procedure	Remarks
⑤	Drain pump Float switch	**1. Detachment** 1) Perform works until opening of the electric parts box cover in works of 1 of ②. 2) Remove the connectors which connect to float switch of the drain pump from the control P.C. board. CN34 : Float switch (3P, Red) CN504 : Drain pump (2P, White) 3) Loosen the fixing screws (2 positions) of the check cover and then take out the check cover. (To the check cover, the drain pump and float switch are attached.) 4) Pick up the hose band, shift from the pump connecting part, remove the drain hose and then remove the check cover. 5) Remove screws which fix the drain pump assembly and then remove the drain pump assembly. (Ø4 x 10, 3 pcs.) 6) Remove the resin nut switch and then remove the float switch from the fixing plate. **2. Attachment** 1) Using the removed screws, fix the drain pump assembly as original. 2) Using the removed resin nut, fix the float switch as original. 3) Connect the drain hose as original and then attach the hose band. **NOTE** Insert the drain hose to the end of the drain pump. 4) Connect the drain pump and the float switch wiring as original and close the electric parts box cover for fixing. Be sure to perform wiring in the electric parts box as original. 5) Enter the corners (2 positions) of the check cover in the entering part and then fix it using fixing screws (2 positions).	   

No.	Part name	Procedure	Remarks
⑥	Fan motor, Fan, Fan case	**1. Detachment** 1) Perform works until opening of the electric parts box cover in works of 1 of ②. 2) Remove connectors for fan motor wiring from control P.C. board. CN333 : Motor power supply (5P: White) 3) Remove the fixing screws(Ø4x 8, 2 pcs.) of the fixing plate. 4) Remove the screw C from the fan case (under),open and remove it while pressing claws of both sides of the case. 5) Remove a fixing screw of ferrite core and unscrew a grounding only for AP036Type. 6) Remove the fixing screws (Ø5 x 10, 2 pcs.) of the motor band (2 pcs.) at the side of the fan motor. (The fan motor becomes temporal hanging status by fixing plate.) 7) While supporting the fan motor by hands,remove the fixing plate from the motor base to remove the fan motor. 8) Loosen the hexagonal screw hole of the fan and then pull out the fan from the shaft. (Hexagon wrench : 3mm) 9) Remove the fixing screws(Ø4x 10, 6 pcs.) of the fan case (upper) And remove the fan case (upper). **2. Attachment** 1) Attach the fan case (upper)as original position with the fixing screws (Ø4x 10, 6 pcs.) . 2) Insert the fan in the shaft while adjusting to match the hexagonal screw hole to the groove of the shaft. 3) Perform screwing the fan motor with the motor band (Ø5 x 10, 2 pcs.) **NOTE** Match the fan motor with turning direction of the fan and fix so that the UP018 type and UP036 type is at opposite side refrigerant piping. 4) While positioning so that the fan is at the center of the fan case (upper), fix the fan with hexagonal screw. **NOTE** Be sure to use a torque wrench for fixing and tighten with 4.9N・m or more. 5) Attach the fan case (under) as original and check the fan turns smoothly without coming to contact with the fan case,and fix the fan case (under) with screw C. 6)Attach the fixing plate as original position. 7) Connect the fan motor wirings as before,close and fix the electric parts box cover. Be sure to perform wirings as original in the electric parts box. 8) Attach the suction panel as original position.	 Screw  Fixing plate  Screw C Fan case (under) Fixing screw  Motor band UP036 type only Fixing screw  Ferrite core  Screw with hexagonal hole UP018 type  UP036 type Refrigerant piping side 

No.	Part name	Procedure	Remarks
⑥	Fan motor, Fan, Fan case	～ Continuance from the page in front ～ **⚠ CAUTION** When replacing the fan motor, be sure to exchange the clamp filter with the fan motor lead wire.	 
⑦	Drain pan	**1. Detachment** 1) Remove the drain cap and then extract the drain water accumulated in the drain pan. **NOTE** When removing the drain cap, be sure to receive drain water using a bucket, etc. 2) Loosen screws which fix the bottom base. (For UP018 3 positions and UP036 2 positions) Remove the fixing screws(2pcs.)at the center only for UP036 Type. 3) As shown in the right figure, when sliding the bottom base toward arrow direction,it opens using the hinge part as a shaft. 4) Hold handle of the drain pan and then pull off slowly. **⚠ CAUTION** When removing the drain pan, do not hold the drain socket. (Water leakage may be caused.) **2. Attachment** 1) First hook the thin side of the drain pan to the discharge port panel and then push in the thick side. 2) Close the bottom base and fix it with screws.	  Do not hold the drain socket.   

No.	Part name	Procedure	Remarks
⑧	Heat exchanger	**1. Detachment** 1) Recover the refrigerant gas and then remove the refrigerant pipe of the indoor unit. 2) Perform works of 1 of ⑧. 3) Pull out TC sensor and TCJ sensor wirings from the holder. 4) Remove the screws (Ø4 x 8, 2 pcs.) and then remove the piping cover. 5) Remove screws (Ø4 x 8, 1pc.) of the heat exchanger fixed plate. 6) While holding the heat exchanger, remove the fixed screws (Ø4 x 8, 2 pcs.) of the end plate and then take out the heat exchanger slowly. **2. Attachment** 1) Set the heat exchanger at the original position and fix it as before, using screws which removed the end plate, heat exchanger fixed plate and piping cover. 2) Enter TC sensor and TCJ sensor wirings in the holder and then perform wirings as original. 3) Attach the drain pan and the bottom base as original.	○ : Screw position UP018 type  UP036 type 

NOTE

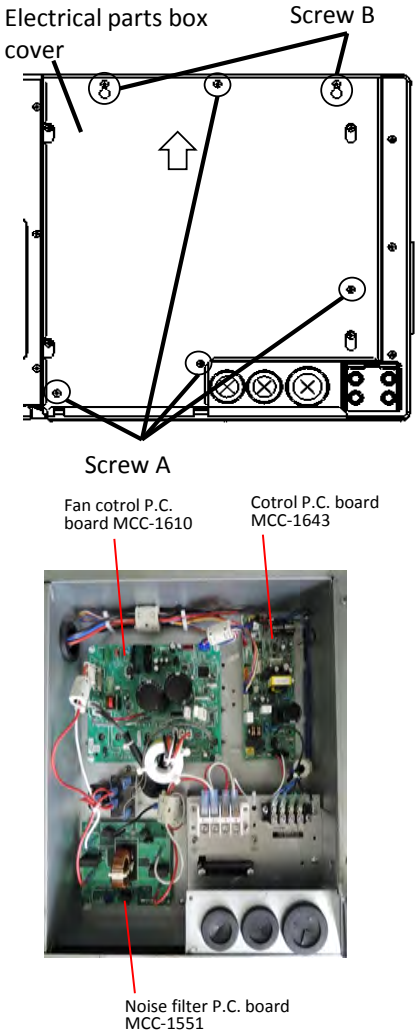
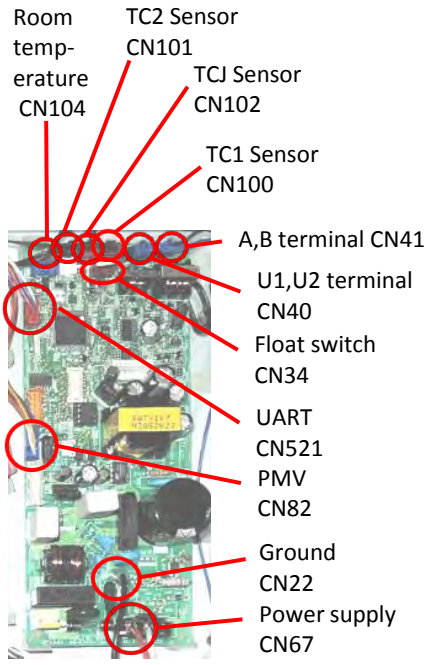
After assembling, please confirm that there are not an abnormal sound, vibration, a puncture. Please check an exchange point when you have a problem.

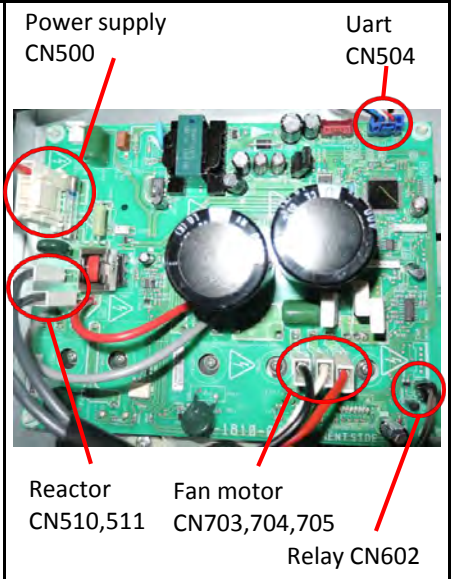
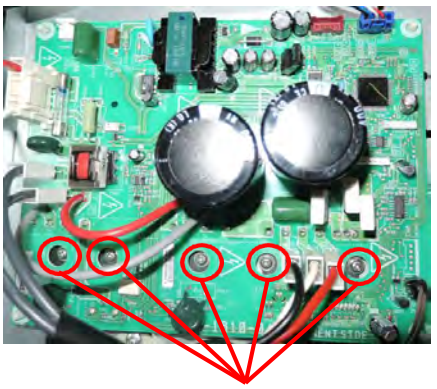
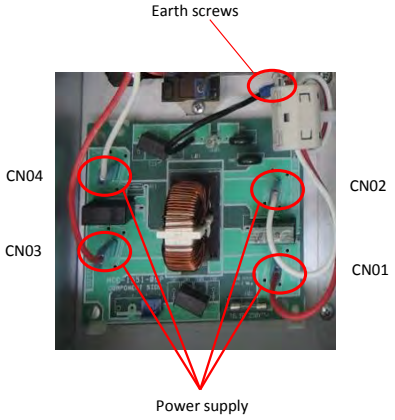
⚠ WARNING

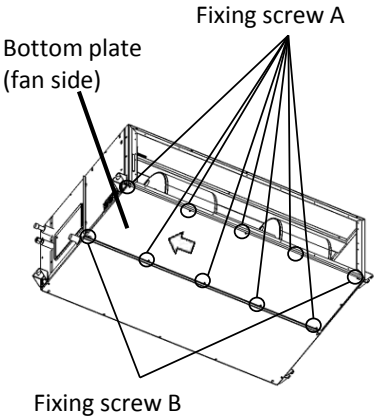
Be sure to stop operation of the air conditioner before work and then turn off switch of the breaker.

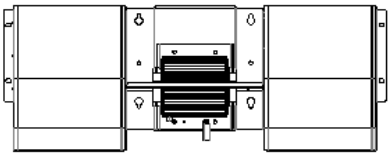
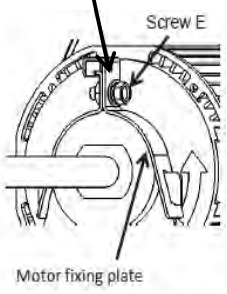
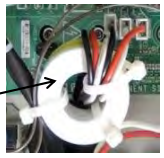
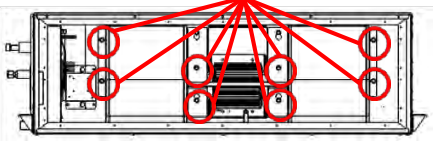
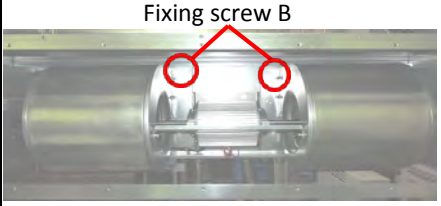
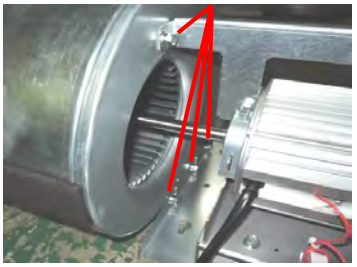
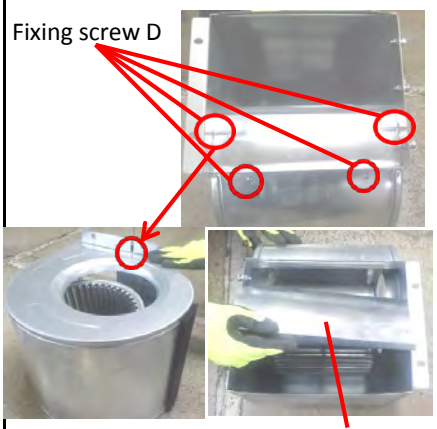
⚠ CAUTION

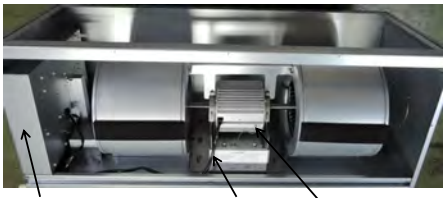
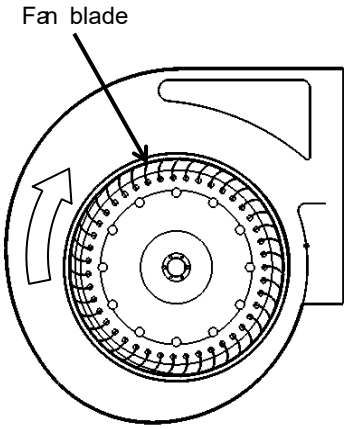
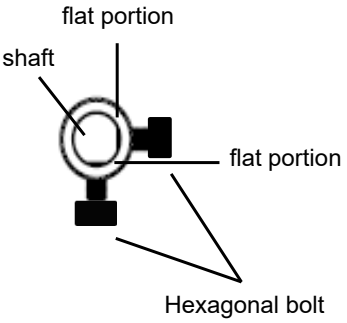
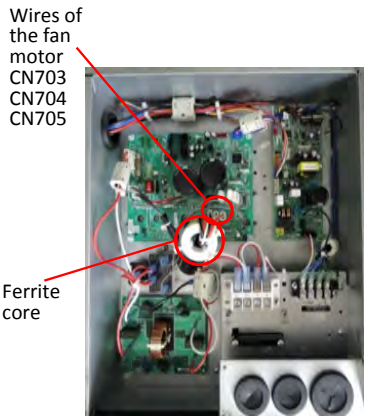
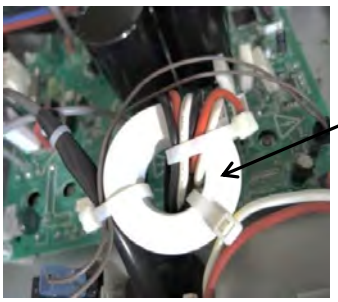
Be sure to put on gloves during working time; otherwise an injury will be caused by a part, etc.

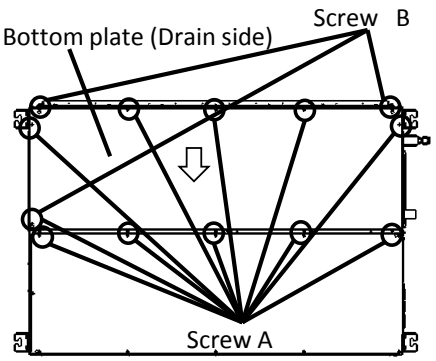
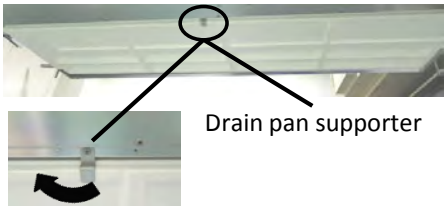
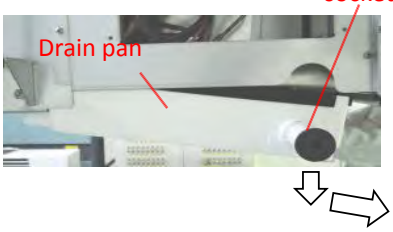
No.	Part name	Procedure	Remarks
①	Electrical parts box cover	**1. Detachment** 1) Remove the fixing screws A fixing the electrical parts box cover. Loosen the fixing screws B. 2) Slide the electrical parts box cover to the arrow direction and remove the panel. **2. Attachment** 1) Hang the electrical parts box cover to the screws B and tighten the screws. 2) Attach the removed screws A to the original positions.	
②	Control P.C. board MCC-1643	**1. Detachment** 1) Perform 1 of ①. (In 1 of ①, the removal of the control P.C board is possible even if you do not finish ①). 2) Unlock the locking card spacers (4 positions) in the electrical parts box to remove the control P.C. board. **NOTE** First unlock the housing and then remove the connectors. CN41 : A,B terminal block (2P, Blue) CN40 : U1,U2 terminal block (2P, Blue) CN67 : Power supply terminal block (5P: Black) CN100 : TC1 sensor (3P: Brown) CN101 : TC2 sensor (2P: Black) CN102 : TCJ sensor (2P, Red) CN104 : Room temperature (2P, Yellow) CN82 : PMV motor(6P,Blue) CN521 : UART(5P,Red) CN22 : Ground (Faston terminal) CN34 : Float switch (3P, Red) *Option	

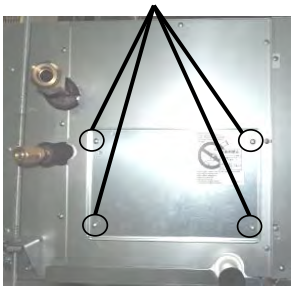
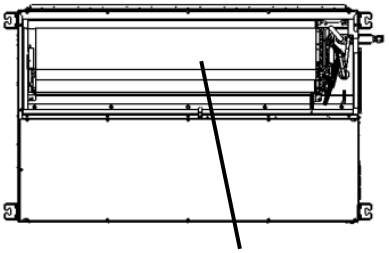
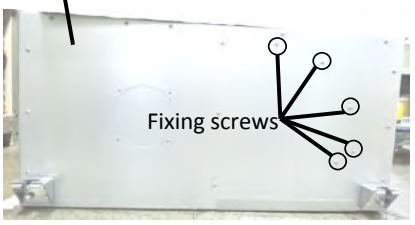
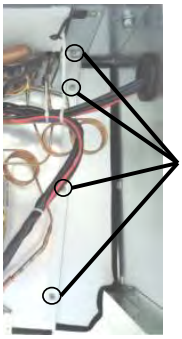
No.	Part name	Procedure	Remarks
②	Control P.C. board MCC-1643	**2. Attachment** 1) Mount the control P.C. board in the electrical parts box as before. 2) Attach the electrical parts box as before. 3) Be sure to wire in the electric parts box as before. **NOTE 1** Check if there is no missing or contact failure of the connectors. **NOTE 2** Be sure to wire as before. 4) Attach the electrical parts box cover as before.	
③	Fan control P.C. board MCC-1610	**1. Detachment** 1) Perform 1 of ①. 2) Unlock the card edge spacers (4 positions) in the electrical parts box to remove the fan control P.C. board. 3) Remove the fixing screws A. **NOTE** First unlock the housing and then remove the connectors. CN504 : Uart (5P, Blue) CN500 : Power supply terminal block (3P: White) CN510 : Reactor (Faston terminal) CN511 : Reactor (Faston terminal) CN602 : Relay (2P, Black) CN703 : Fan motor (Black wire) W CN704 : Fan motor (White wire) V CN705 : Fan motor (Red wire) U **2. Attachment** 1) Mount the fan control P.C. board in the electrical parts box as before. 2) Attach the electrical parts box as before. 3) Be sure to wire in the electrical parts box as before. **NOTE 1** Check if there is no missing or contact failure of the connectors. **NOTE 2** Be sure to wire as before. 4) Attach the electrical parts box cover as before.	 
④	Noise filter P.C. board MCC-1551	**1. Detachment** 1) Perform 1 of ①. 2) Unlock the card edge spacers (4 positions) in the electrical parts box to remove the noise filter P.C. board. **NOTE** First unlock the housing and then remove the connectors. CN01 : Power supply (Red wire) CN02 : Power supply (White wire) CN03 : Power supply (Red wire) CN04 : Power supply (White wire)	

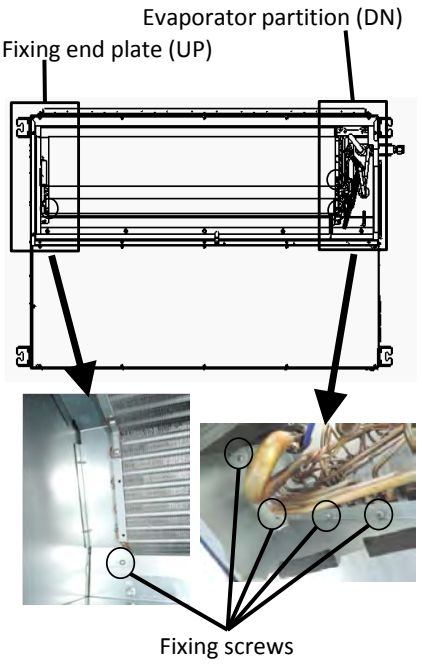
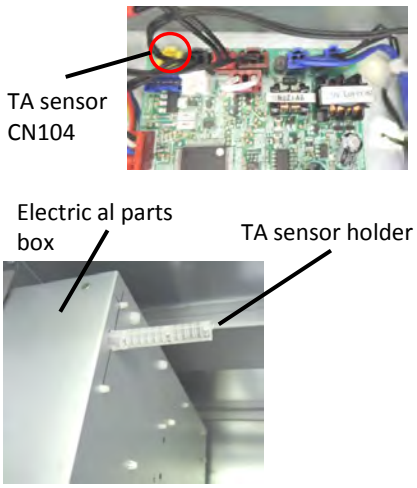
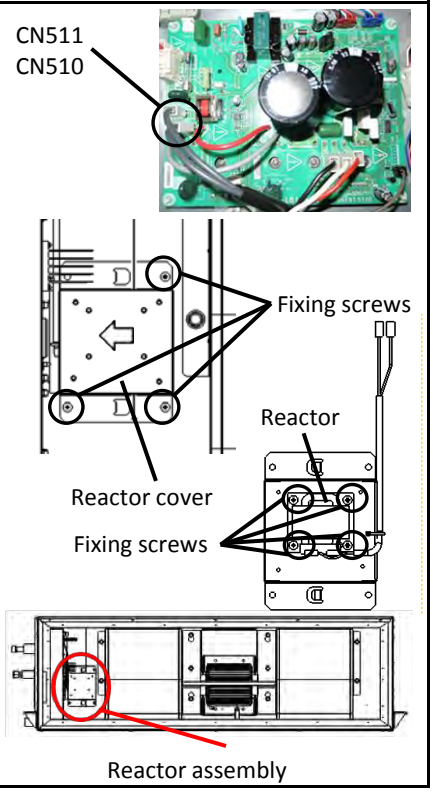
No.	Part name	Procedure	Remarks
④	Noise filter P.C. board MCC-1551	**2. Attachment** 1) Mount the noise filter P.C. board in the electrical parts box as before. 2) Attach the electrical parts box as before. 3) Be sure to wire in the electric parts box as before. **NOTE 1** Check if there is no missing or contact failure of the connectors. **NOTE 2** Be sure to wire as before. 4) Attach the electrical parts box cover as before.	
⑤	Suction panel	**1. Detachment** 1) Remove the fixing screws A fixing the bottom panel (fan side). Loosen the fixing screws B. 2) Slide the bottom plate of the (fan side) to the arrow direction and remove the panel. **2. Attachment** 1) Hang the bottom plate (fan side) to the screws B. 2) Attach the removed screws A to the original positions.	

No.	Part name	Procedure	Remarks
⑥	Fan motor, Fan	**1. Detachment** 1) Perform 1 of ① to open the electrical parts box cover. 2) Perform 1 of ⑥. 3) Remove the connectors of the wires of the fan motor from the fan control P.C. board. CN703 : Fan motor (Black wire) CN704 : Fan motor (White wire) CN705 : Fan motor (Red wire) 4) Remove the ferrite core from wire of the fan motor. 5) Remove the fixing screws A (M8 x 20, 8 pcs) . and loosen the fixing screws B (M8 x 20, 2 pcs) . (The fan motor is in the temporary hanging state by the fixing plate.) 6) Remove the fan assembly. 7) Remove the fixing screws C (M8 x 20, 8 pcs) . 8) Loosen the hexagonal bolt of the fan and pull out the fan from the shaft. 9) Remove the fixing screws D (4 pcs) from the fan case and remove the nose plate and then take out the fan. 10) Remove the fixing screw of ferrite core and unscrew the earth. 11) Remove the fixing screws E(M8 x 20, 2 pcs) and remove the motor fixing plate.  Fan assembly **⚠CAUTION** **Weight of the fan assembly is about 30kg. Handle it by 2 workers.** Earth screw   Screw E Motor fixing plate	Wires of the fan motor CN703 CN704 CN705  Ferrite core  Ferrite core Fixing screw A  Fixing screw B  Fixing screw C  Fixing screw D  Nose plate  Screw with hexagonal bolt

No.	Part name	Procedure	Remarks
⑥	Fan motor, Fan,	**2. Attachment** 1) Screw the fan motor with the motor fixing plate. (M8 x 20, 2 pcs). **NOTE** Fix the wiring of the motor on the electrical parts box side as right figure. 2) Attach the earth screw. 3) Put the fan in the fan case. Attach the nose plate to the original position on the fan case. **NOTE** Adjust the direction of the fan blade. 4) Insert the fan to the shaft. 5) Tighten the Screw C. (M8 x 20, 8 pcs) 6) Insert the fan to where the shaft of the fan motor stops, and adjust the flat portion(2 places) , then tighten the hexagon head bolt. **NOTE** Check that if the fan rotate smoothly without touching the fan case. **NOTE** Be sure to use a torque wench for fixing and tighten with 10.0N•m 7) Hook the fan assembly on the looser screw B. 8) Tighten the screw A and B.(M8 x 20, 10 pcs) 9) A ferrite core is attached to the wire of a fan motor as before within an electric part box. Connect the wires of the fan motor as before, and close and fix the electrical parts box cover. Be sure to wire in the electrical parts box as before. **NOTE** When the ferrite core is attached to the earth wire of a fan motor as below photo, please repairing work indicated to P94 ~ 97.  Ferrite core attached in earth lead of motor	    

No.	Part name	Procedure	Remarks
⑦	Drain pan	**1. Detachment** 1) Remove the drain hose or drain cap and then extract the drain water accumulated in the drain pan. **NOTE** When removing the drain hose or drain cap, be sure to take the drain water with a bucket, etc. 2) Remove the fixing screws A fixing the bottom plate . (10 positions) Loosen the fixing screws B. (3 positions) 3) Slide the bottom plate (drain side) to the arrow direction and then remove the panel. 4) Loosen the fixing screw of the drain pan supporter, and turn the drain pan supporter. 5) Lower the drain pan of the drain socket side, and remove it to the arrow direction slowly. ⚠ **CAUTION** When removing the drain pan, do not hold the drain socket. (Water leakage may occur.) **2. Attachment** 1) Put back the drain pan, and turn back the drain pan supporter and fix it with the screws.	  Drain pan pull-out direction. 

No.	Part name	Procedure	Remarks
⑧	Sensor TC1,TC2,TCJ	**1. Detachment** 1) Perform 1 of ① to open the electrical parts box cover. 2) Loosen the fixing screws of the inspection cover and open the inspection cover. 3) Remove the connectors of the wires of TC1 sensor , TC2 sensor and TCJ sensor from the control P.C. board. CN100 : TC1 sensor (3P: Brown) CN101 : TC2 sensor (2P: Black) CN102 : TCJ sensor (2P: Red)  Control P.C.board MCC-1643 **2. Attachment** 1) Attach the TC1 sensor , TC2 sensor and TCJ sensor to the original position. 2) Wire the wires of TC1 sensor, TC2 sensor, and TCJ sensor as before. 3) Attach the left side panel as before.	Screw  Inspection cover TC1 sensor TC2 sensor TCJ sensor 
⑨	Heat exchanger	**1. Detachment** 1) Recover the refrigerant gas and then remove the refrigerant pipe of the indoor unit. 2) Perform 1 of ⑧. 3) Perform 1 of ⑨. 4) Remove the screws (M8 x 20, 5 pcs) and remove the right side panel. 5) Remove the screws (M8 x 20, 4 pcs) and remove the evaporator partition (back). 6) While holding the heat exchanger, remove the fixing screws (M8 x 20, 5 pcs) of the fixing end plate (UP) and evaporator partition (DOWN) and then take out the heat exchanger slowly.	 Heat exchanger Right side panel  Fixing screws Evaporator partition (back)  Fixing screws

No.	Part name	Procedure	Remarks
⑨	Heat exchanger	**2. Attachment** 1) Attach the heat exchanger to the original position, attach the fixing end plate (UP) and evaporator partition (Down) as before. 2) Attach the evaporator partition (back) as before. 3) Wire the wires of TC1 sensor, TC2 sensor, and TCJ sensor as before. 4) Attach the right side panel and left side panel as before. 5) Perform 2 of ⑧. 6) Attach the bottom base as before.	
⑩	Sensor TA	**1. Detachment** 1) Perform 1 of ① and 1 of ⑥. 2) Remove the connector of the wires of TA sensor from the control P.C. board. 3) Pinch the lock of the TA sensor holder from the outside of the electrical parts box and push it into the inside of the electrical parts box. **2. Attachment** 1) Attach the TA sensor to the original position. 2) Wire the wires of TA sensor in the holder as before. 3) Attach the electronical parts box as before.	
⑪	Reactor	**1. Detachment** 1) Perform 1 of ① and 1 of ⑥. 2) Remove the connector of the wires of the reactor from the fan control P.C. board. 3) Remove the fixing screws fixing the reactor cover. Slide the reactor cover to the arrow direction and remove. 3) Remove the fixing screws fixing the reactor. Remove the reactor from the reactor cover. **2. Attachment** 1) Attach the reactor to the reactor cover. 2) Attach the reactor cover as before. 3) Wire the wires of the reactor in the holder as before.	

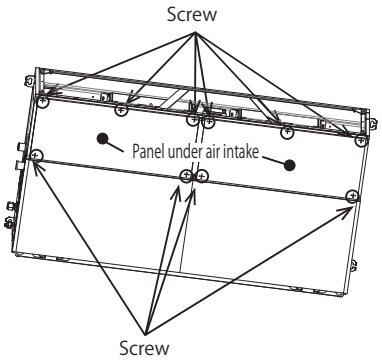
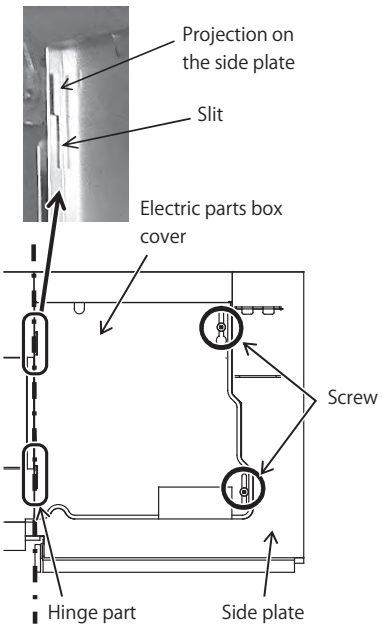
NOTE

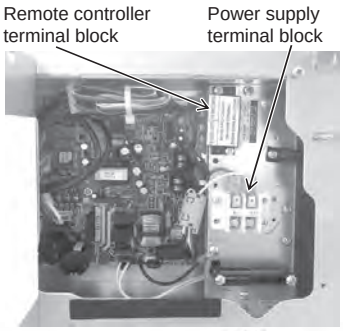
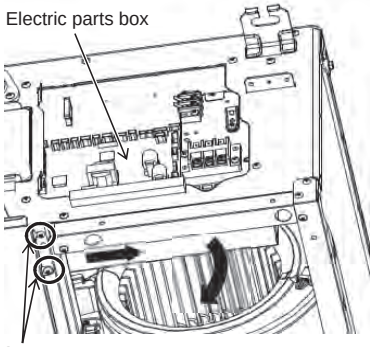
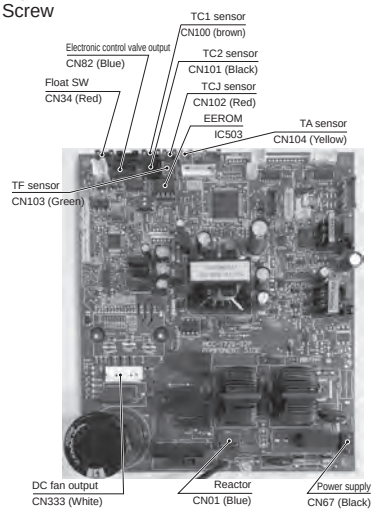
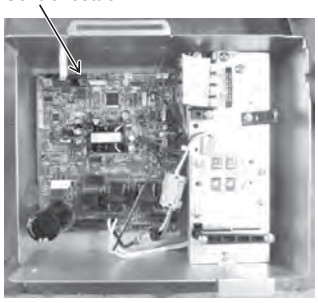
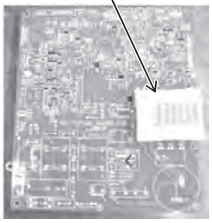
After assembling, check if that there is no abnormal sound, vibration, or puncture.
Check the exchange point when you have a problem.

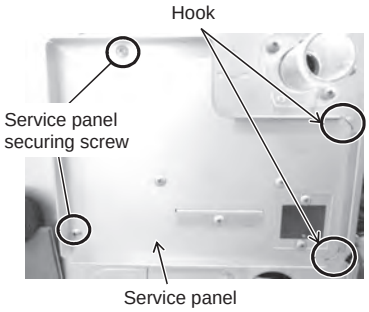
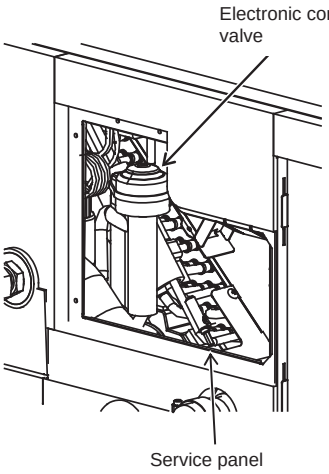
11-5. Concealed Duct High Static Pressure fresh air intake type

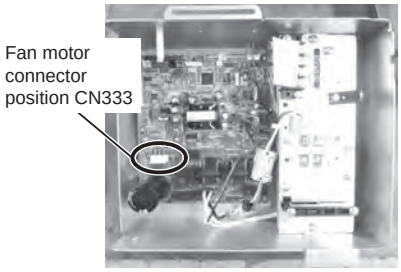
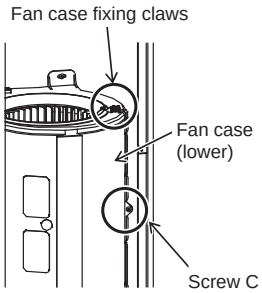
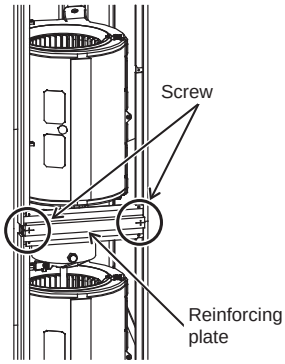
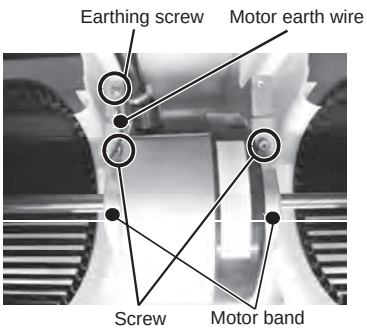
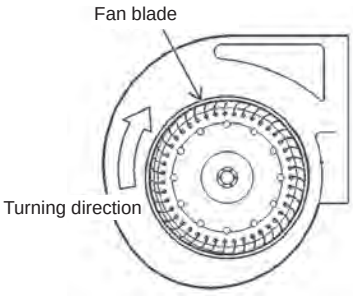
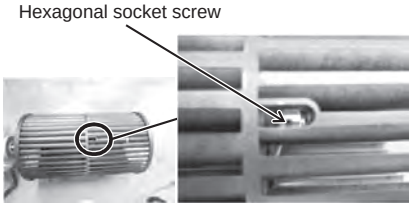
MMD-UP0481HFP-E(TR)

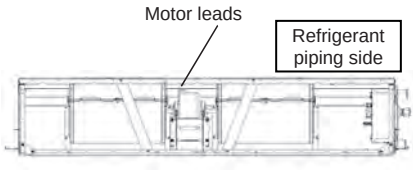
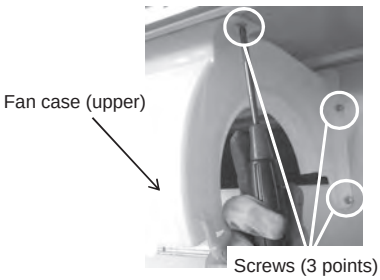
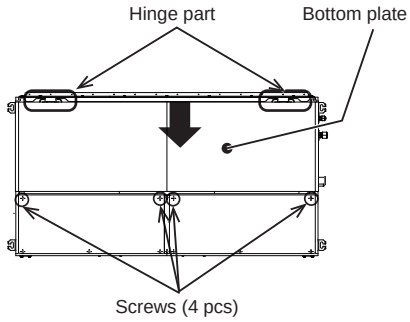
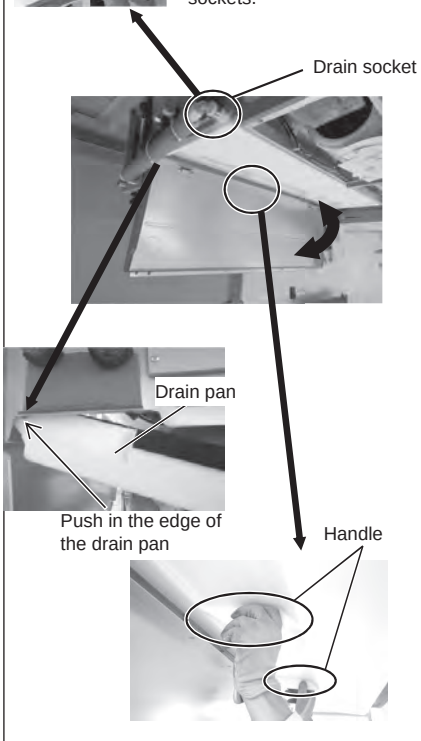
⚠ Warning	⚠ Caution
Be sure to stop the air conditioner operation, and turn off the power breaker before starting the work. Failure to turn off the power breaker may results in electric shock.	**Wear a pair of gloves when undertaking the work.** Otherwise, you will risk an injury involving a replacement part or some other objects. ※ Heavy gloves such as work gloves

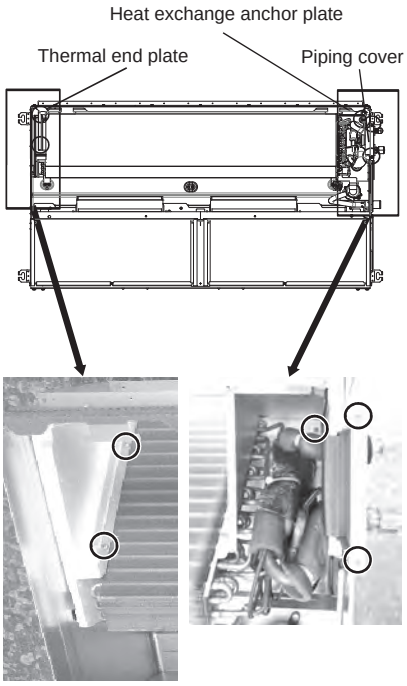
No.	Part to be replaced	Work procedure	Remarks
①	Panel under air intake	**1. Detachment** 1) Remove the screw for the panel under the air intake. (Ø4X8, 10 pcs (screws locate under the cross slit on the heat-insulating material)) 2) Remove the panel under the air intake. **2. Attachment** 1) Attach the panel under the air intake and screw the panel.	
②	Electric parts box cover	**1. Detachment** 1) Remove the screws for the electrical part parts cover. 2) Pull the electric component cover to open it using the hinge part as a shaft. 3) Disengage the slit of the electric parts box cover from the projection on the side plate, and the n remove the electric parts box cover. **2. Attachment** 1) Hook the slit of the electric parts box cover to the projection on the side plate to close the electric box cover. 2) Screw to secure the electric box cover.	

No.	Part to be replaced	Work procedure	Remarks
③	Electric parts box	**1. Detachment** 1) Remove the panel under the air intake and the electric parts box cover. (see the 1. of ① and 1. of ②) 2) Remove the remote controller wire, indoor/outdoor connecting cord and power supply wire from the remote controller terminal block and power terminal block. 3) Remove the connectors from the control board. **Note** **First unlock the housing and then disconnect the connectors.** CN34 : Float switch (3P : Red) CN41 : Remote controller wire (2P : Blue) CN40 : Indoor/outdoor connecting cord (2P : Blue) CN 67 : Power supply (2P : Black) CN01 : Reactor (2P : Blue) CN100 : TC1 sensor (3P : Brown) CN101 : TC2 sensor (2P : Black) CN102 : TCJ sensor (2P : Red) CN103 : TF sensor (2P : Green) CN104 : TA sensor (2P : Yellow) CN333 : Fan motor (3P : White) CN 82 : Electronic control valve coil (6P : Blue) 4) Remove the mounting screws for the electric parts box. (Ø4X10, 2 pcs (screws locate under the cross slit on the heat-insulating material)) 5) Slide the electric parts box in arrow direction, and remove the box from the bottom side. **2. Attachment** 1) Attach the electric parts box, and rewire the connector in the same way as before replacement. **Note** ● **Confirm that the connector is installed correctly.** ● **Be sure to confirm that the wiring is correct.** 2) Attach the electric parts box cover and the panel under the air intake..	  
④	Control board	**1. Detachment** 1) Remove the electric parts box. (see the 1. of ③) (The control board can be removed without performing the work procedure 1. of ③) 2) Unlock the cart edge spacers (5 pcs) within the electrical equipment box, and remove the control board. **Note** **Unlock the locks on the housing to remove the connector.** **2. Attachment** 1) Reinstall the control board in the electric parts box in the same way as before replacement 2) Install the electric parts box. 3) Re-connect the wiring within the electric parts box in the same way as before replacement. 4) Mount the panel under the air intake, the electric parts box cover, and the electric parts box.	 ⚠**Note** Confirm that Nomex pare is in place when replacing the control board. 

No.	Part to be replaced	Work procedure	Remarks
⑤	Service panel	**1. Detachment** 1) Remove the screws (2 places) securing the service panel. **2. Attachment** 1) Hook the corners (2 points) of the service panel and screw to secure (2 places).	
⑥	Solenoid valve control coil	**1. Detachment** 1) Remove the electric parts box cover. (see the 1. of ②) 2) Remove the screws (2 pcs) securing the service panel. (Screws locate under the cross slit on the heat-insulating material) 3) Disconnect the connector of the electronic control valve coil. 4) While securing the electronic control valve body, remove the electronic control valve coil by turning it. **2. Attachment** 1) Install the electronic control valve coil. 2) Re-connect the connector of the electronic control valve coil in the same way as before replacement, and close the electric parts box cover. Be sure to re-connect the wiring inside the electric parts box in the same way as before replacement. 3) Hook the corners (2 points) of the service panel and screw to secure (2 places).	

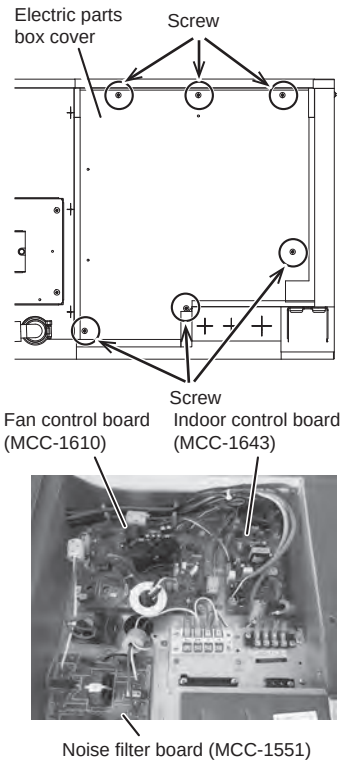
No.	Part to be replaced	Work procedure	Remarks
⑦	Fan motor, Fan, Fan case	**1. Detachment** 1) Remove the electric parts box cover. (See the 1.of ②) 2) Disconnect the connector for the fan motor from the control board. CN 333: Motor power supply (3P: White) 3) Remove the clamp filter from the fan motor leads and pull the fan motor leads out from the back side of the electric parts box. 4) Remove the bottom plate of the air inlet. (See the 1.of ①) 5) Remove the screws securing the reinforcing plate. (Φ4X8, 2 pcs (screws locate under the cross slit of heat-insulating material)) **Note: Be sure to re-attach the removed clamp filter to the fan motor leads in the same way as before replacement.** 6) Remove the screws for the fan case (lower) and open the fan case by pressing the fixing claws on both sides of the fan case. 7) Remove the earthing screw for the fan motor to remove the earth wire. 8) Remove the screws (Ø5X10, 2 pcs) to secure the motor band (2 pcs) on the fan motor side. (The fan motor is temporarily suspended from the motor base.) 9) While supporting the fan motor with hand, remove the motor band from the motor base, and remove the fan motor. 10) Loosen the hexagonal socket screw for the fan, and pull out the fan from the shaft. (Hex wrench type: 3 mm) 11) Remove the screws (φ4X10, 6 pcs) to secure the fan case (upper), and remove the fan case (upper). **2. Attachment** 1) Screw (Ø4X10, 6 pcs) to secure the upper fan case to the same position as before replacement. 2) Insert the fan into the shaft of the fan motor. **Note: Fan motor and fan are directional. Align the turning direction of the fan blade with the direction marked on the fan motor name plate.** 3) Secure the fan with the hexagonal socket screw so that the fan is positioned in the center of the fan case (upper). **Note: Be sure to use a torque wrench to tighten at a torque of 4.9N•m or more.**	     

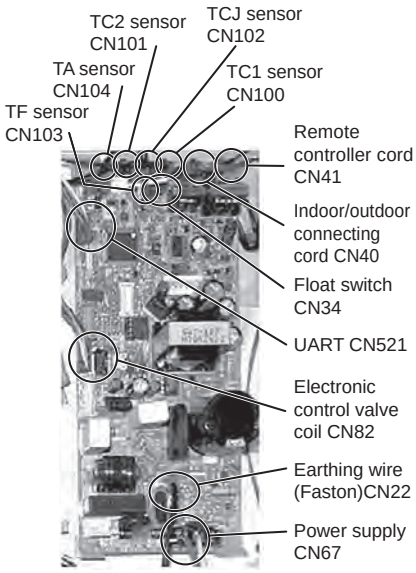
No.	Part to be replaced	Work procedure	Remarks
⑦	Fan motor, fan, fan case (continued)	5) Attach the fan case (lower) in the same way as before replacement. After confirming that the fan turns smoothly without touching the fan case, screw the fan case to secure. 6) Install the reinforcing plate in the same position as before replacement. 7) Re-connect the motor wiring in the same way as before replacement, and attach the electric parts box cover. Be sure to re-connect the wiring within the electrical parts box in the same way as before replacement. 8) Attach the panel under the air intake to the same position as before replacement.	 
⑧	Drain pan	**1. Detachment** 1) Remove the panel under the air intake. (See the 1. of ①) 2) Remove the screws to secure the bottom plate. (4 pcs (screws locate under the cross slit on the heat-insulating material)) 3) Slide the bottom plate in arrow direction as right figure, and open the bottom plate using the hinge part as a shaft. 4) Hold handles on the drain pan, and pull off slowly. **Note** **Do not hold the drain sockets when removing the drain pan. (It may cause water leakage.)** **2. Attachment** 1) Hook the edge (thin side) of the drain pan first, and then push in the other side. 2) Screw to attach the bottom plate.	  

No.	Part to be replaced	Work procedure	Remarks
⑨	Heat exchanger	**1. Detachment** 1) Recover the refrigerant gas, and remove the refrigerant pipings of the indoor unit. 2) Remove the drain pan. (see the 1. of ⑧) 3) Pull out the TC1 sensor, TC2 sensor and TCJ sensor from the sensor holder. 4) Remove the screws (Ø4X8, 2 pcs) for the npiping cover. (Screws locate under the cross slit on the heat-insulating material) 5) While supporting the heat exchanger, remove the screws (Ø4X8, 2 pcs) for the heat exchanger anchor plate, and then remove the heat exchanger slowly. **2. Attachment** 1) Install the heat exchanger in the same position as before replacement, and screw the heat exchanger end plate, heat exchanger anchor plate and piping cover to secure. 2) Attach the TC1 sensor, TC2 sensor and TCJ sensor to the sensor holder in the same way as before replacement. 3) Attach the drain pan and bottom plate in the same way as before replacement.	○ : Screw position 

MMD-UP0721HFP-E(TR), MMD-UP0961HFP-E(TR), MMD-UP1121HFP-E(TR), MMD-UP1281HFP-E(TR)

<table>
<tr><th>No.</th><th>Part to be replaced</th><th>Work procedure</th><th>Remarks</th></tr>
<tr><td>①</td><td>Electric parts box cover</td><td>1. Detachment
1) Turn OFF the air conditioner operation, and turn off the electric breaker.
2) Remove the screws (colored, 6 pcs) for the electrical parts box cover.
3) Remove the electric parts box cover.

2. Attachment
1) Screw (colored, 6 pcs) and reinstall the electric parts box cover in the same way as before replacement.</td><td> 
</td></tr>
<tr><td>②</td><td>Indoor control board (MCC-1643)</td><td>1. Detachment
1) Remove the electric parts box cover.
(see the 1. of ①)
2) Detach the connectors connected to the board.
CN41 : Remote controller cord (Blue)
CN40 : Indoor/outdoor connecting cord (Blue (leads : Black))
CN 67 : Power supply (Black)
CN100 : TC1 sensor (Brown)
CN101 : TC2 sensor (Black)
CN102 : TCJ sensor (Red)
CN103 : TF sensor (2P : Green)
CN104 : TA sensor (Yellow)
CN82 : Electronic control valve coil (Blue)
CN521 : UART (Red)
CN34 : Float switch (Red)
CN22 : Earthing wire (Faston)
Note Unlock the locks on the housing to remove the connector.
3) Unlock the card edge spacers (4 pcs) at the four corners of the board, and remove the board.

2. Attachment
1) Secure the board to the card edge spacers (4 pcs).
2) Re-connect the connector which has been removed in step 1. in the same way as before replacement.
3) Attach the electric parts box cover.
(See the 2. of No. ①)</td><td> 
</td></tr>
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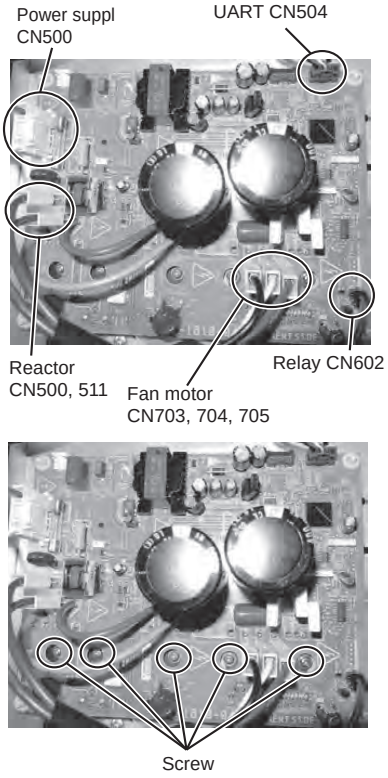
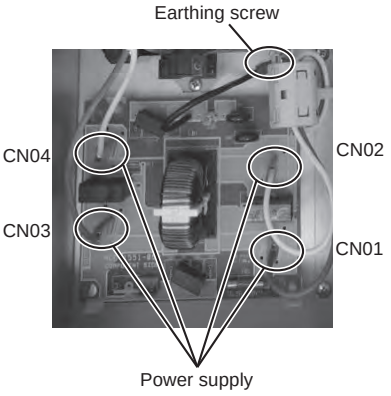
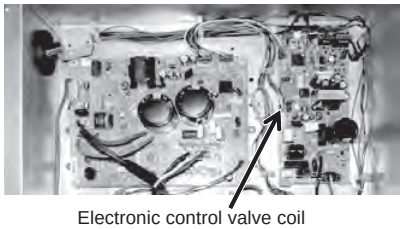
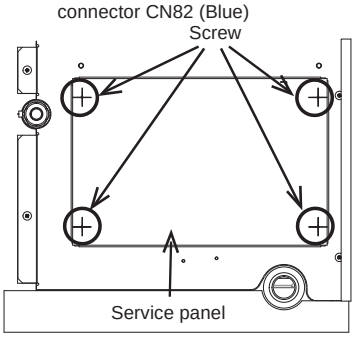
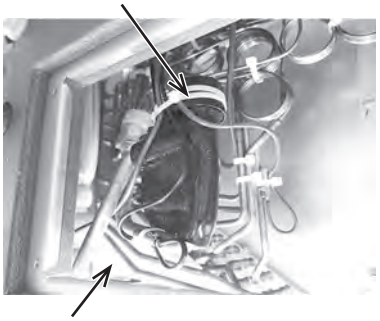
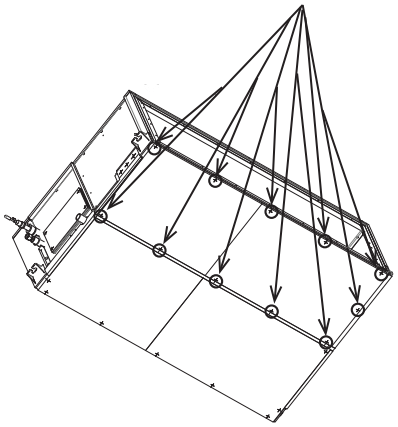
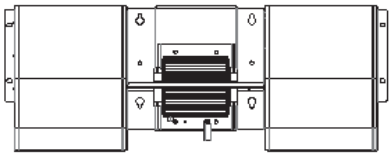
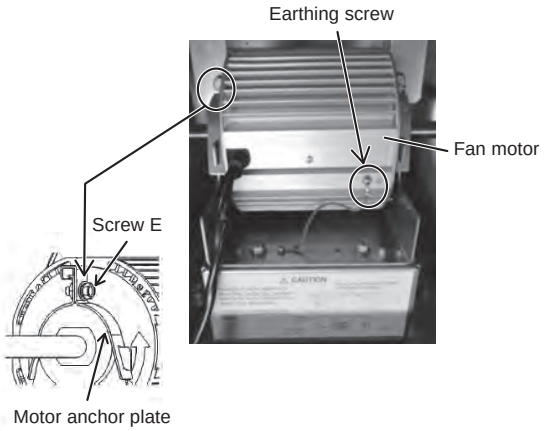
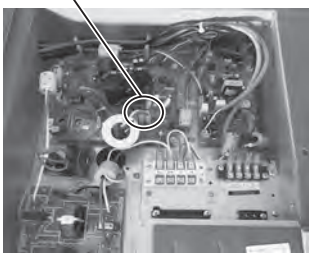
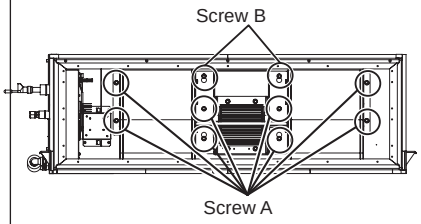
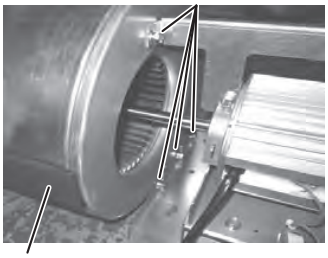
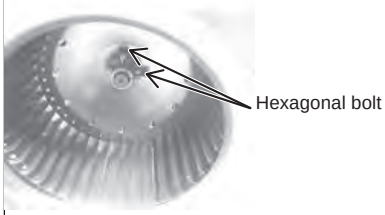
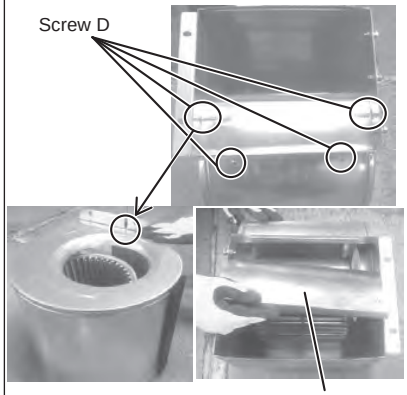
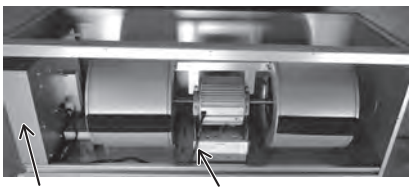
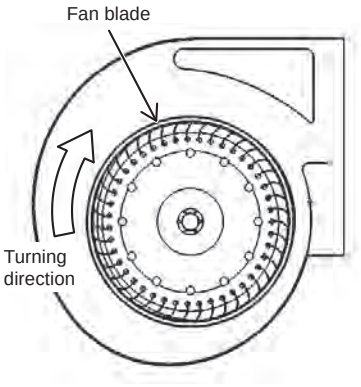
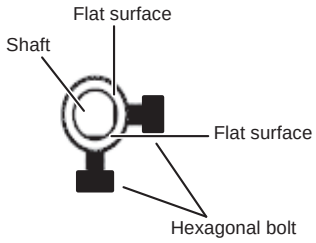
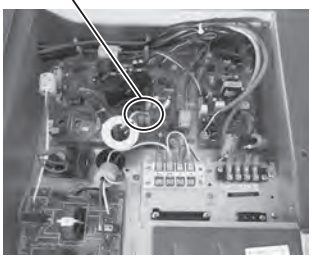
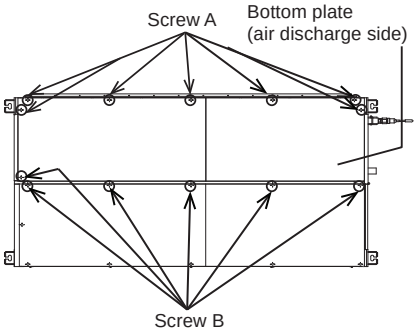
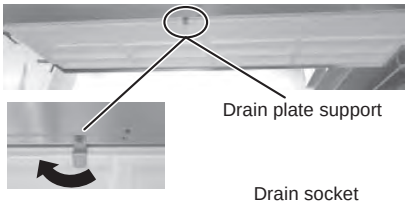
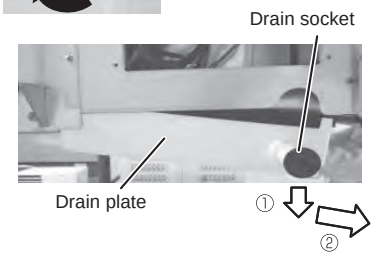
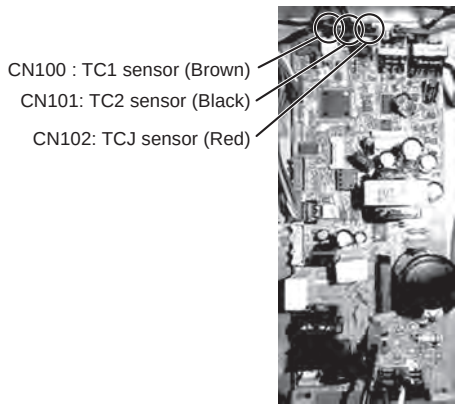
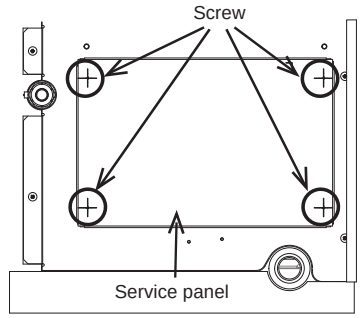
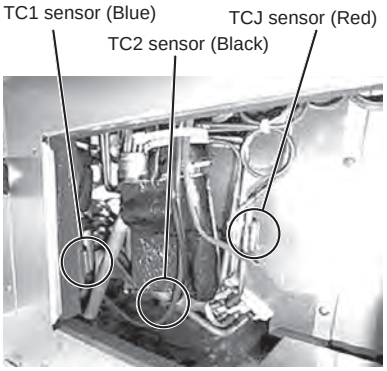
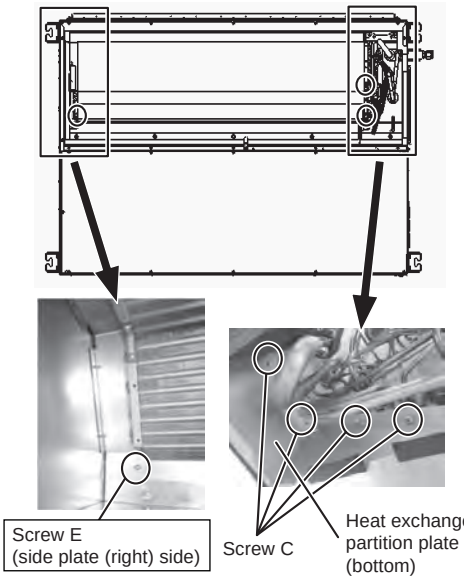
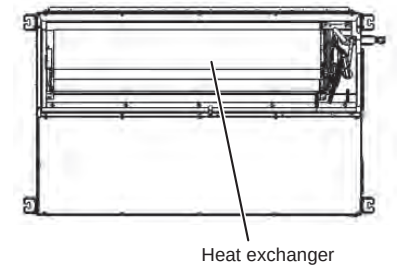
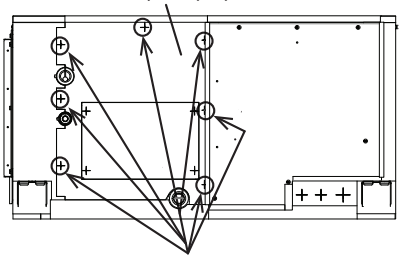
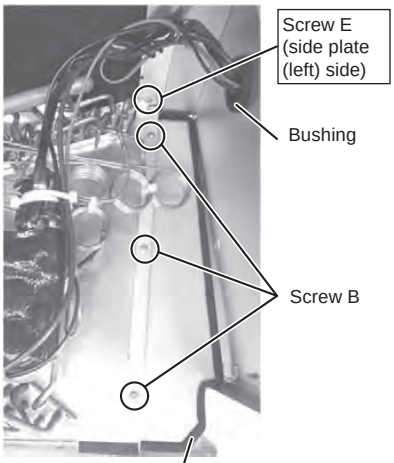
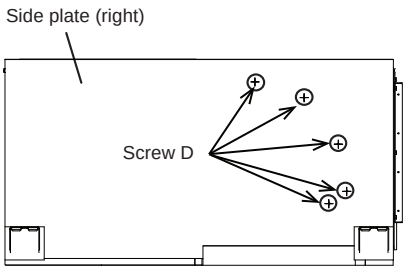
No.	Part to be replaced	Work procedure	Remarks
③	Fan control board (MCC-1610)	**1. Detachment** 1) Remove the electric parts box cover. (see the 1. of ①) 2) Detach the connector connected to the board, and remove the wiring from the clamp. CN504 : UART (Blue) CN510 : Reactor (Faston) CN511 : Reactor (Faston) CN602 : Relay (Black) CN703 : Fan motor (W phase) (leads : Black) CN704 : Fan motor (V phase) (leads : White) CN705 : Fan motor (U phase) (leads: Red) **Note** **Unlock the locks on the housing to remove the connector.** 3) Remove the screws (5 pcs), and remove the sub heat sink. (The sub heat sink is attached to the back side of the board with screws (5 pcs).) 4) Unlock the card edge spacers (4 pcs) at the four corners of the board, and remove the board. **2. Attachment** 1) Temporarily secure the board to the card edge spacers (4 pcs), and then screw (5 pcs) the sub heat sink on the board to secure. 2) Re-connect the connector which has been removed in step 1. in the same way as before replacement. 3) Attach the electric parts box cover. (see the 2 of No. ①)	
④	Noise filter board (MCC-1511)	**1. Detachment** 1) Remove the electric parts box cover. (see the 1. of ①) 2) Disconnect the Faston connected to the board. CN01 : Power output (L phase) (leads : Red) CN02 : Power output (N phase) (leads : White) CN03 : Power output (L phase) (leads : Red) CN04 : Power output (N phase) (leads : White) 3) Remove the earthing screw (1 pcs). 4) Unlock the card edge spacers (4 pcs) at the four corners of the board, and remove the board. **2. Attachment** 1) Secure the board to the card edge spacers (4 pcs). 2) Re-connect the Faston which has been removed in the step 1. in in the same way as before replacement. 3) Attach the electric parts box cover. (see the 2. of No. ①)	

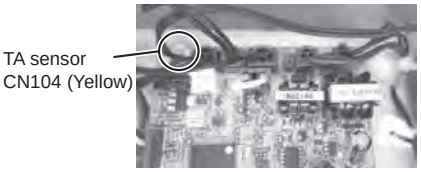
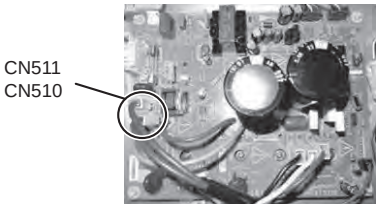
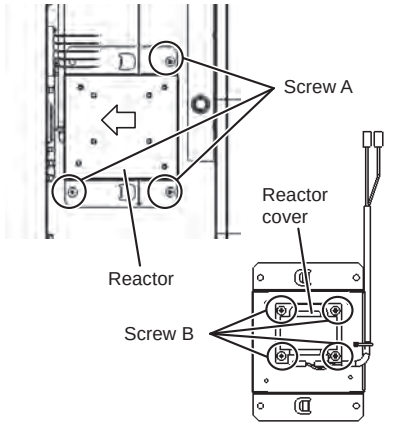
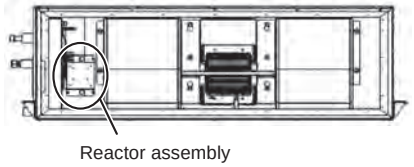
No.	Part to be replaced	Work procedure	Remarks
⑤	Electronic control valve coil	**1. Detachment** 1) Remove the electric parts box cover. (see the 1. of ①) 2) Remove the screws (4 pcs), and remove the service panel. 3) Disconnect the PMV relay connector. 4) While securing the electronic control valve body, remove the electronic control valve coil by turning it. **2. Attachment** 1) Attach the electronic control valve coil. 2) Re-connect the relay connector of the electronic control valve in the same way as before replacement. 3) Attach the service panel. 4) Attach the electric parts box cover. (see the 2. of No. ①)	 Electronic control valve coil connector CN82 (Blue)  Electronic control coil  Service panel
⑥	Bottom plate (suction side)	**1. Detachment** 1) Remove the screws (11 pcs) to secure the bottom plate (suction side). (Screws locate under the cross slit on the heat-insulating material) **2. Attachment** 1) Screw (11 pcs) the bottom plate in the same way as before replacement.	Screw 

No.	Part to be replaced	Work procedure	Remarks
⑦	Fan motor, fan	**1. Detachment** 1) Remove the electric parts box cover. (see the 1. of ①) 2) Disconnect the leads for the fan motor from the fan control board. CN703 : Fan motor (leads : Black), W CN704 : Fan motor (leads: White), V CN705 : Fan motor (leads: Red), U **Note** **Unlock the locks on the housing to remove the connector.** 3) Remove the ferrite core from the leads of the fan motor. **Note** **After replacing the fan motor, re-connect motor leads with the ferrite core rang around the leads by 1 loop.** 4) Remove the bottom plate (suction side). (see the 1. of No. ⑥) 5) Remove the screws A (8 pcs), and loosen the screws B (2 pcs). Don't remove the screws B (2 pcs) since they are used as hooks later. 6) Remove the fan assembly.  Fan assembly **⚠ Caution** **The fan assembly weighs 30 kg.** **Be sure that the work is performed by two persons or more with great care.** 7) Remove the screws C (8 pcs). 8) Loosen the hexagonal bolts (2 pcs) which secure the fan to the motor shaft, and remove the fan from the motor shaft. 9) Remove the screws D (4 pcs) for the fan case, and remove the fan after removing the nose plate. 10) Remove the earthing screw for the fan motor. 11) Remove the screws E (2 pcs), and remove the motor anchor plate and the fan motor.  	     

No.	Part to be replaced	Work procedure	Remarks
⑦	Fan motor, fan (continued)	**2. Attachment** 1) Secure the fan motor with the motor anchor plate. (Screws E (2 pcs)) **Note** **Take care to mount the fan motor so that the motor leads are placed to the electric parts box side as right figure.** 2) Install the earthing screw to the motor. 3) After mounting the fan within the fan case, secure the nose plate in the same way as before replacement. **Note** **The fan has a direction. Align the turning direction with the fan blade as right figure.** 4) While inserting the fan into the motor shaft, secure the fan case with screws C (8 pcs). 5) After inserting the fan until the fan motor shaft stops, be sure to adjust the flat surface (2 pcs) of the shaft, and secure it with hexagonal bolts. **Note** **Be sure to secure the hexagonal bolts to the flat surface of the fan motor shaft, otherwise the fan will not be able to be removed. After securing the fan, confirm that the fun turns smoothly without touching the fan case by turning it by hand. Secure the hexagonal bolts using a torque wrench to tighten at a torque of 10.8N•m.** 6) Temporarily hang the fan assembly on the screws B (2 pcs). 7) Secure the fan assembly with the fan assembly screws A (8 pcs), and screws B (2 pcs). 8) Pull the fan motor leads into the electric parts box, attach the ferrite core in the same way as before replacement, and then re-connect to the fan control board. 9) Reinstall the electric parts box cover and bottom plate (suction side) in the same way as before replacement. (see the 2. of No. ①, 2.of No. ⑥)	 Electric parts box Motor leads  Fan blade Turning direction  Flat surface Shaft Flat surface Hexagonal bolt Fan motor leads CN703 CN704 CN705   Ferrite core

No.	Part to be replaced	Work procedure	Remarks
⑧	Drain plate	**1. Detachment** 1) Remove the screws A (8 pcs (locate under the cross slit on the heat-insulating material)) and screws B (5 pcs (locate under the cross slit on the heat-insulating material)) to secure the bottom plate (air discharge side), and remove the bottom plate. 2) Loosen the screws to secure the drain plate and lower it to the position where the bottom surface of the drain plate will apart from the drain plate supports. 3) Pull down the drain socket side of the drain pan and slowly remove it towards the arrow direction. **Note** **Do not apply excessive force to the drain socket when removing the drain pan. (It may cause water leakage.)** **2. Attachment** 1) Attach the drain plate in the same way as before replacement, and turn the drain plate support to its original position. 2) Attach the bottom plate with the screws A (8 pcs) and the screws B (5 pcs).	  
⑨	TC1, TC2, TCJ sensor	**1. Detachment** 1) Remove the electric parts box cover. (see the 1. of ①) 2) Remove the screws (4 pcs) for the service panel, and remove the service panel. 3) Disconnect the TC1, TC2, and TCJ sensor connectors from the indoor control board. 4) Remove the sensors from the sensor holders. **2. Attachment** 1) Re-connect the TC1, TC2, TCJ sensors in the same positions as before replacement. 2) Attach the service panel in the same way as before replacement. 3) Re-connect the TC1, TC2, and TCJ sensor connectors to the indoor control board. 4) Attach the electric parts box cover. (see the 2. of No. ①) 	 <Sensor connecting position> 

No.	Part to be replaced	Work procedure	Remarks
⑩	Heat exchanger	**1. Detachment** 1) Recover the refrigerant gas, and remove the refrigerant pipe connection of the indoor unit. 2) Remove the drain plate. (see the 1. Of No. ⑧) 3) Remove the screws A (7 pcs), and remove the side plate (left). (Screws locate under the cross slit on the heat-insulating material) 4) Remove the electric parts box cover. Remove the TC1 / TC2 / TCJ sensor connectors from the board, and pull out the sensor from the bushing to the heat exchanger side. 5) Remove the screws B (3 pcs), and remove the heat exchanger partition plate (rear). 6) Remove the screws C (4 pcs), and remove the heat exchanger partition plate (bottom). 7) Remove the screws D (5 pcs) to secure the heat exchanger and the side plate (right). (Screws locate under the cross slit on the heat-insulating material) 8) While supporting the heat exchanger, remove the screws E (2 pcs) and then slowly remove the heat exchanger. **⚠ Caution** **Be sure that the work is performed by two persons or more with great care.**  **2. Attachment** 1) Mount the heat exchanger in the same position as before replacement. (Screw E (2 pcs)) 2) Secure the heat exchanger to the side plate (right). (Screw D (5 pcs)) 3) Reinstall the heat exchanger partition plate (bottom) in the same way as before replacement. (Screw C (4 pcs)) 4) Reinstall the heat exchanger partition plate (rear) in the same way as before replacement. (Screw B (3 pcs)) 5) Re-connect the TC sensor in the same way as before replacement. (see the 1), 3), 4) under 2. of No. ⑨) 6) Reinstall the side plate (left) in the same way as before replacement. (Screw A (7 pcs)) 7) Attach the drain pan. (see the 2. of No, ⑧)	   

No.	Part to be replaced	Work procedure	Remarks
⑪	TA sensor	**1. Detachment** 1) Remove the electric parts box cover and the bottom plate (suction side). (see the 1.of No, ①, 1.of No. ⑥) 2) Disconnect the TA sensor connector from the indoor control board. 3) Remove the TA sensor by pinching the lock for the TA sensor holder from the outside of the electric parts box and pushing it to inside of the electric parts box. **2. Attachment** 1) Secure the TA sensor to the holder, and attach it to the electric parts box. 2) Re-connect the TA sensor connector to the indoor control board in the same way as before replacement. 3) Attach the electronic parts box cover and the bottom plate. (see the 2. of No, ①, 2. of No. ⑥)	 
⑫	Reactor	**1. Detachment** 1) Remove the electric parts box cover and the bottom plate (suction side). (see the 1.of No, ①, 1.of No. ⑥) 2) Remove the Fastons for the reactor leads (CN511, CN510) from the fan control board. 3) Remove the screws A (3 pcs) for the reactor cover, and slide in the arrow direction to remove. 4) Remove the screws B (4 pcs) to secure the reactor, and remove the reactor from the reactor cover. **2. Attachment** 1) Mount the reactor to the reactor cover. (Screw B (4 pcs)) 2) Reinstall the reactor cover in the same way as before replacement. (Screw A (3 pcs)) 3) Pull the leads for the reactor into the electric parts box, and connect to the fan control board in the same way as before replacement.	  

11-6. Console type

WARNING

- Since high voltages pass through the electrical parts, turn off the power without fail before proceeding with the repairs.

  Electric shocks may occur if the power plug is not disconnected.
- After the repairs have been completed (after the front panel and cabinet have been installed), perform a test run, and check for smoking, unusual sounds and other abnormalities.

  If this check is omitted, a fire and/or electric shocks may occur.
  Before proceeding with the test run, install the front panel and cabinet.
- Ensure that the following steps are taken when doing repairs on the refrigerating cycle.
  1. Do not allow any naked flames in the surrounding area.
     If a gas stove or other appliance is being used, extinguish the flames before proceeding.

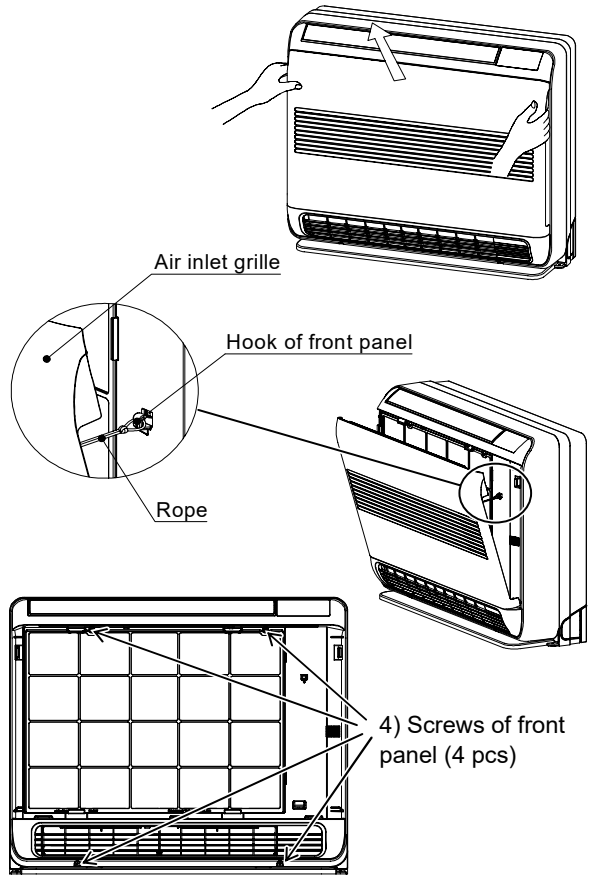
     If the flames are not extinguished, they may ignite any oil mixed with the refrigerant gas.
  2. Do not use welding equipment in an airtight room.

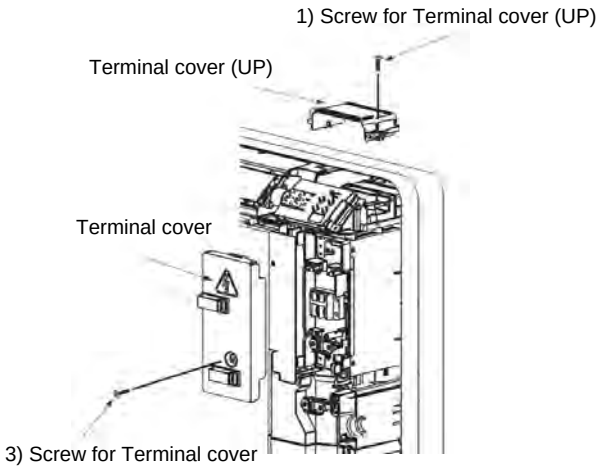
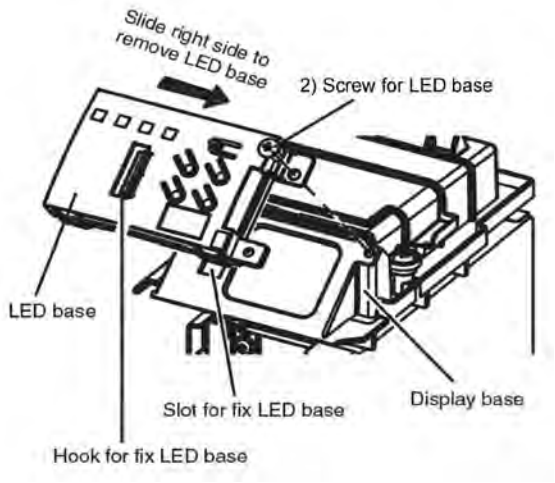
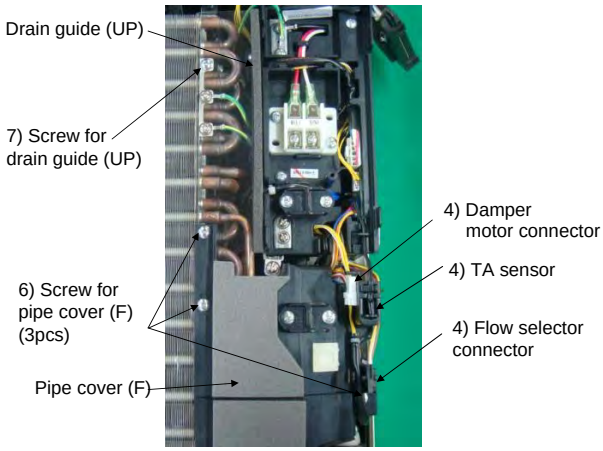
     Carbon monoxide poisoning may result if the room is not properly ventilated.
  3. Do not bring welding equipment near flammable objects.

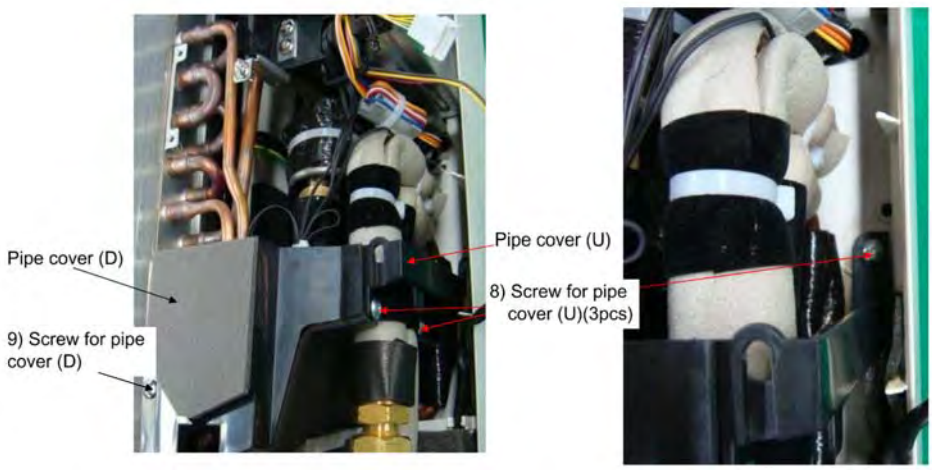
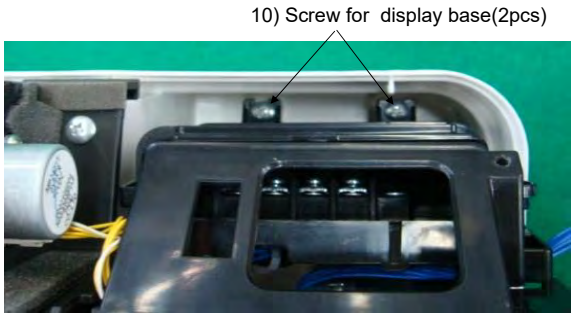
     Flames from the equipment may cause the flammable objects to catch fire.
- **If keeping the power on is absolutely unavoidable while doing a job such as inspecting the circuitry, wear rubber gloves to avoid contact with the live parts.**

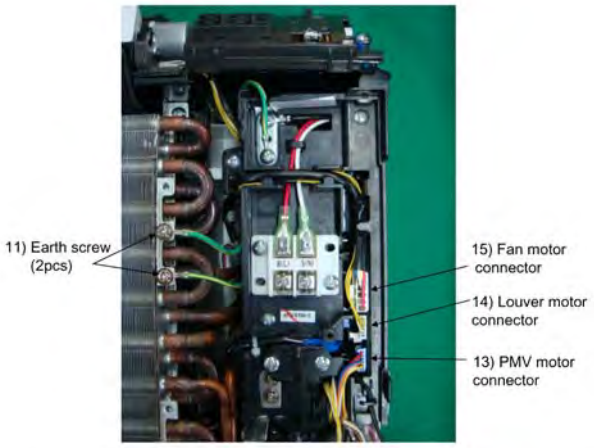
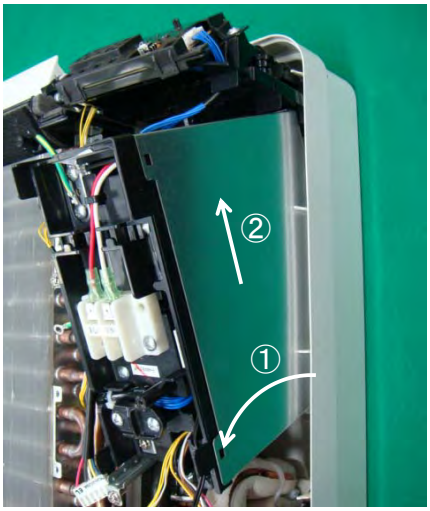
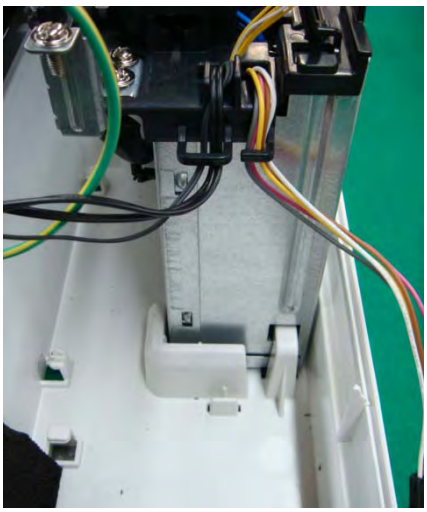
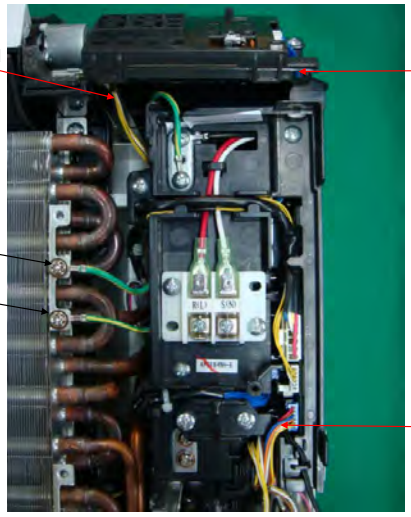
  Electric shocks may be received if the live parts are touched.
  High-voltage circuits are contained inside this unit.

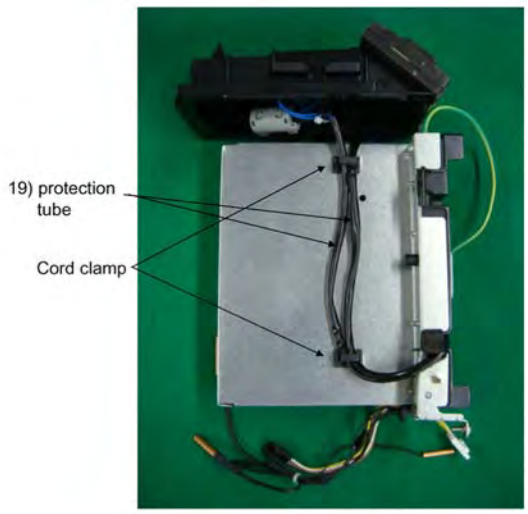
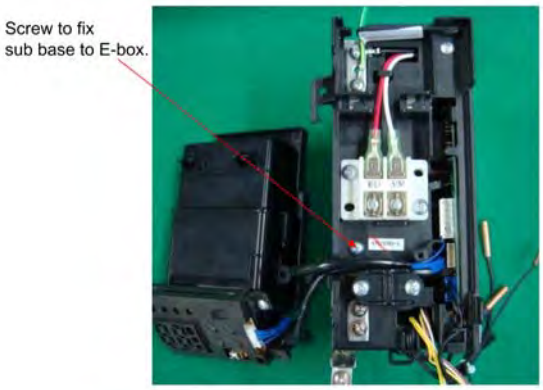
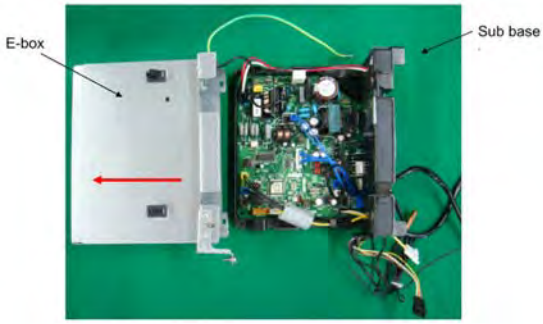
  Proceed very carefully when conducting checks since directly touching the parts on the control circuit board may result in electric shocks.

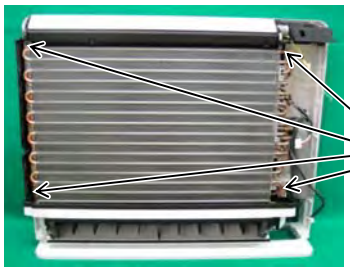
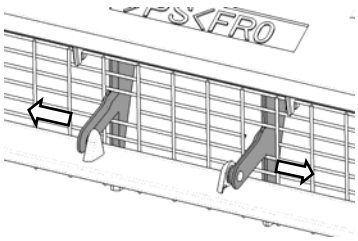
No.	Part name	Procedure	Remarks
①	Front panel	1) Stop operation of the air conditioner and turn off the main power supply. 2) Grip the air inlet grille by two hands at the handle positions. 3) Pull the air inlet grille as the arrow direction and remove the rope from the hook of front panel. 4) Remove screws for front panel. (4 pcs)	

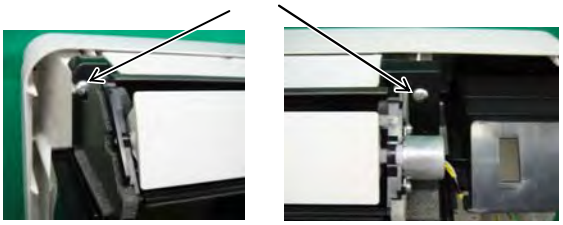
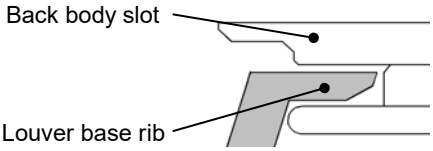
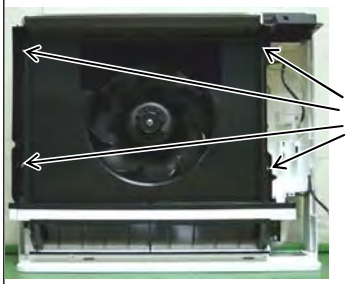
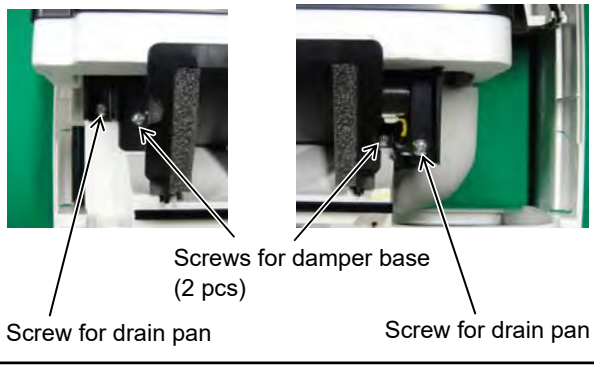
No.	Part name	Procedure	Remarks
②	Electrical parts Box assembly (E-box)	1) Remove screw for Terminal cover (UP). 2) Remove screw for LED base. NOTE Take off control wire and wired remote controller wire before it removes E-box cover. Otherwise, defective control might be caused. 3) Remove screw for E-box cover.	 
		4) Remove damper motor connector, flow selector connector and TA sensor from pipe cover (F). 5) Take off damper motor connector. 6) Remove screw for pipe cover (F). (3 pcs) 7) Remove screw for drain guide (UP).	

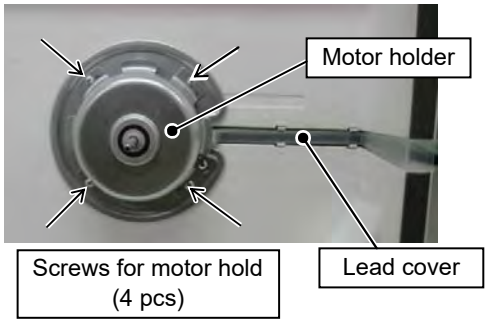
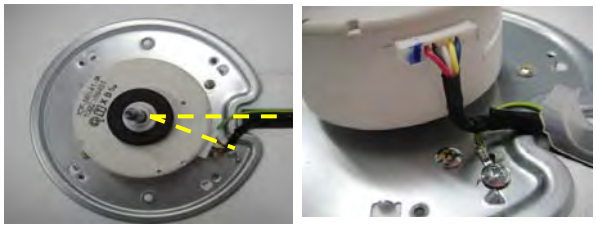
No.	Part name	Procedure	Remarks
②	Electrical parts Box assembly (E-box)	8) Remove screw for pipe cover (U). (3 pcs) 9) Remove screw for pipe cover (D).  10) Remove screw for display base. 11) Remove screw for earth-lead. (2 pcs) 12) Pull off the TC1, TC2, TCJ sensor.	 

No.	Part name	Procedure	Remarks
②	Electrical parts Box assembly (E-box)	13) Take off PMV motor connector. 14) Take off louver motor conector. 15) Take off fan motor conector. 16) Remove screw for E-box	
		17) - ① Pull the upper part of the E-box. 18) - ② Lift a E-box in the upward for take off from the hook.	
		 	
		<How to arrenge the lead> Shown in the picture	
			

No.	Part name	Procedure	Remarks
②	Electrical parts Box assembly (E-box)	<How to remove P.C. board ASSY> 19) Remove protection tube for lead from cord clamp. (2pcs)	
		20) Remove screw to fix sub base to E-box. NOTE Remove protection tube from cord clamp before it pulls out E-box. Otherwise, the breakdown in the disconnection etc. might be caused.	
		21) Pull out E-box from sub base.	

No.	Part name	Procedure	Remarks
③	Heat exchanger (Refrigerant cycle assembly)	1) Take off the pipe holder. 2) Remove screws for heat exchanger. (4 pcs)	
m	Horizontal louver	Open a horizontal louver outward and stretch the arm of louver base same as the direction in the picture.	 

No.	Part name	Procedure	Remarks
n	Louver base assembly	1) Remove screws for louver base. (2 pcs) 2) - ① Pull the upper part of the louver base to upward. 2) - ② Take off the louver base by pull out in the front direction. <Attention for louver base assemble> Insert the rib of the louver base into the slot of back body same as the picture.	Screws for louver base (2 pcs)    
o	Bell mouth	1) Remove screws for bell mouth. (4 pcs)	
p	Drain pan and damper base	1) Remove screws for drain pan. (2 pcs) 2) Remove screws for damper base. (2 pcs)	

No.	Part name	Procedure	Remarks
q	Turbo fan	1) Turn the flange nut (M10) in the counter-clockwise direction and take it off. 2) Pull out the turbo fan from the fan motor shaft. <Attention for turbo fan assemble> The tightening torque of the flange nut is 5N·m.	
⑨	Fan motor	1) Remove screws for motor holder, and take off the motor holder. 2) Take off the lead cover. <Attention for motor holder assemble> 1. Arrange the earth lead and fan motor lead. 2. Adjust the motor axis to the center of the motor holder then fix screws 4 pcs.	  
⑩	Fan motor	A method to take off a fan motor in a condition taking on a heat exchanger. 1) Take off pipe holder and remove screws for heat exchanger. (refer to ③) 2) Remove screws for the bell mouth. (refer to ⑥)	 

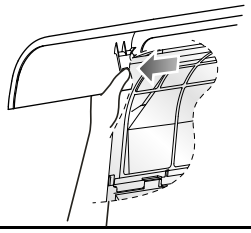
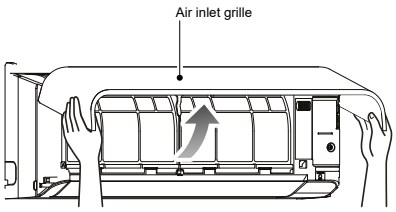
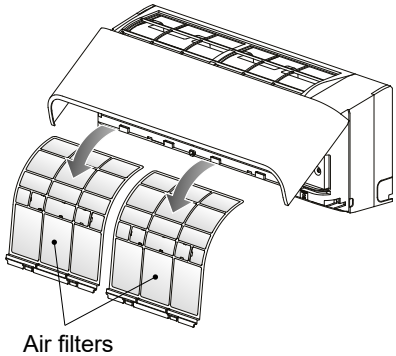
No.	Part name	Procedure	Remarks
⑩	Fan motor	3) Remove the flange nut and turbo fan. (refer to ⑧)	
		4) Remove screws for motor holder and lead cover. (refer to ⑨)	 

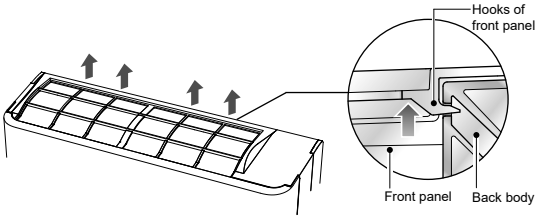
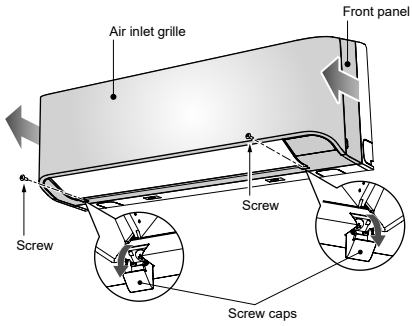
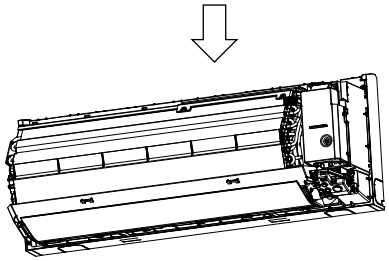
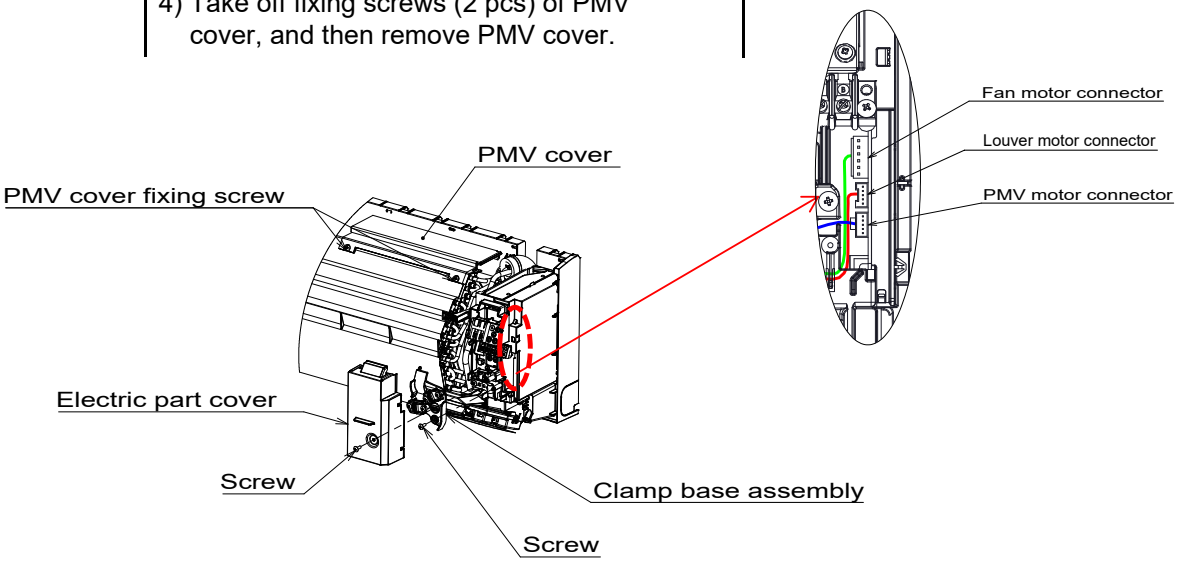
11-7. High wall type (For MMK-UP0031 ~ 0121HP*)

WARNING

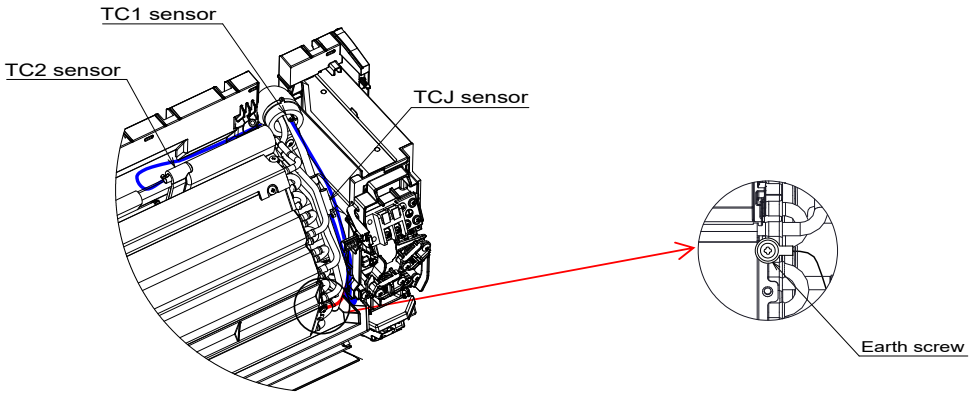
- Since high voltages pass through the electrical parts, turn off the power without fail before proceeding with the repairs.
  Electric shocks may occur if the power plug is not disconnected.
- After the repairs have been completed (after the front panel and cabinet have been installed), perform a test run, and check for smoking, unusual sounds and other abnormalities.
  If this check is omitted, a fire and/or electric shocks may occur.
  Before proceeding with the test run, install the front panel and cabinet.
- Ensure that the following steps are taken when doing repairs on the refrigerating cycle.
  1. Do not allow any naked flames in the surrounding area.
     If a gas stove or other appliance is being used, extinguish the flames before proceeding.
     If the flames are not extinguished, they may ignite any oil mixed with the refrigerant gas.
  2. Do not use welding equipment in an airtight room.
     Carbon monoxide poisoning may result if the room is not properly ventilated.
  3. Do not bring welding equipment near flammable objects.
     Flames from the equipment may cause the flammable objects to catch fire.
- **If keeping the power on is absolutely unavoidable while doing a job such as inspecting the circuitry, wear rubber gloves to avoid contact with the live parts.**
  Electric shocks may be received if the live parts are touched.
  High-voltage circuits are contained inside this unit.
  Proceed very carefully when conducting checks since directly touching the parts on the control circuit board may result in electric shocks.

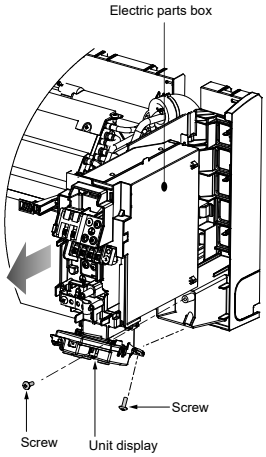
12-1. Indoor Unit

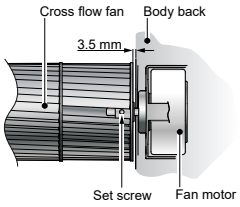
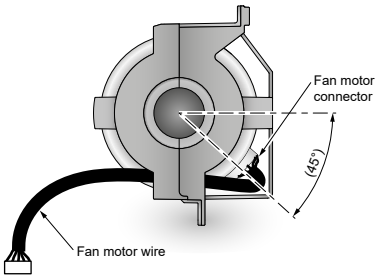
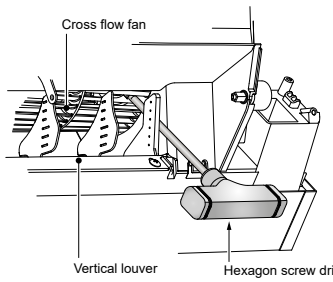
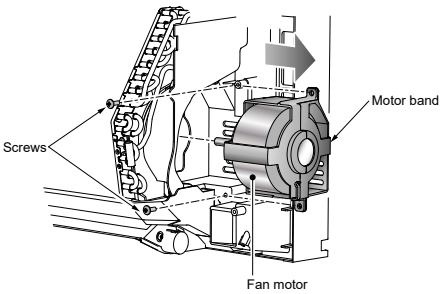
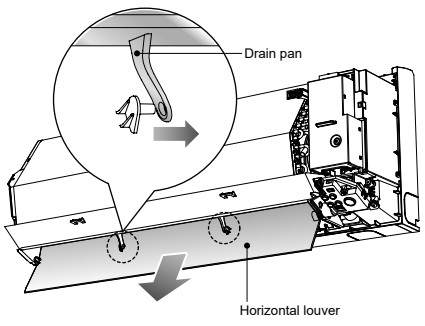
No.	Part name	Procedures	Remarks
①	Air inlet grille	1) Stop operation of the air conditioner and turn off its main power supply. 2) Open the air inlet grille and push it up until the air inlet grille take off. **<Remark>** If you do not have enough space for push the air inlet grille up until it take off, you can push the arms of air inlet grille toward the outside, and remove the air inlet grille. 	
②	Air filters	1) Follow to the procedure in the item ①.  2) Remove the left and the right air filters from the front panel.	

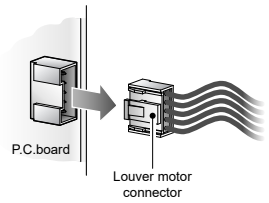
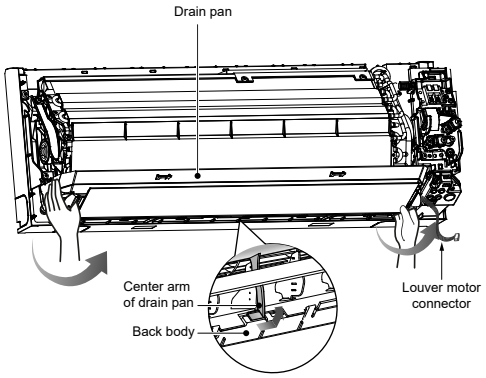
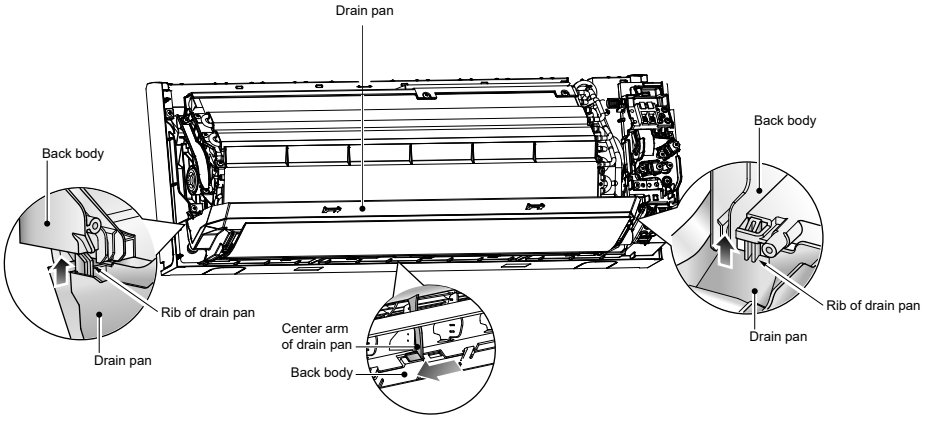
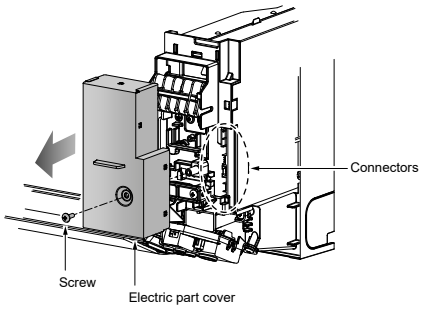
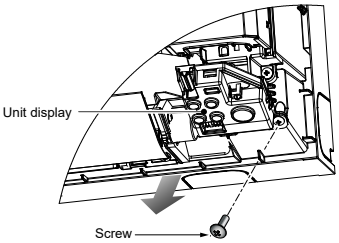
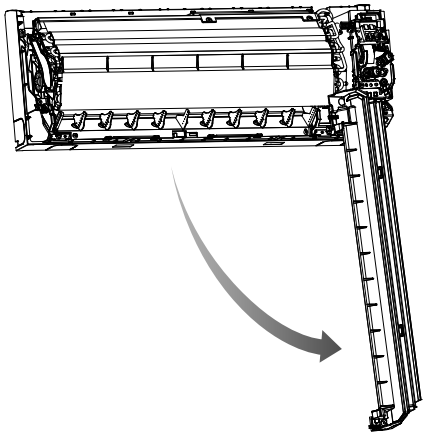
No.	Part name	Procedures	Remarks
③	Front panel	1) Stop operation of the air conditioner and turn off its main power supply. 2) Open two screw caps and securely remove screws (2 pcs.) at the front panel.  3) Take off the hooks of front panel from top side of the back body. 4) Slightly open the lower part of the front panel then pull the upper part of the front panel toward you to remove it as shown on figure.	 
④	Electric part box assembly	1) Follow the procedure item③. 2) Remove screw holding the electric part cover. 3) Take off the clamp base mounting screw and then remove the clamp base assembly. 4) Take off fixing screws (2 pcs) of PMV cover, and then remove PMV cover.	

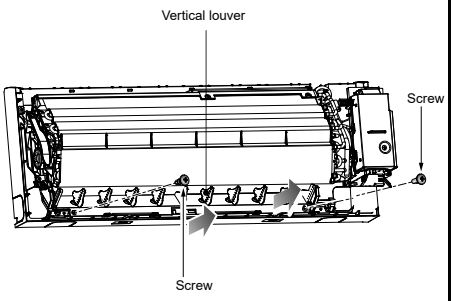
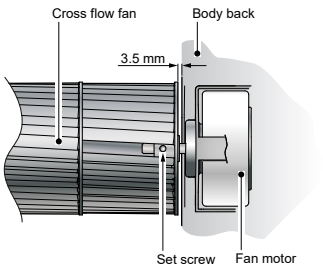
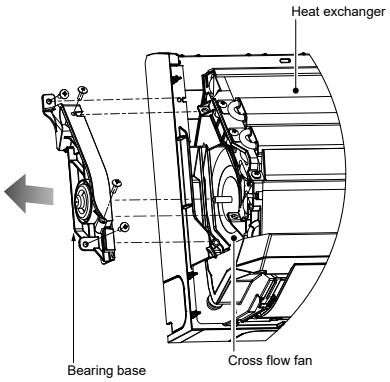
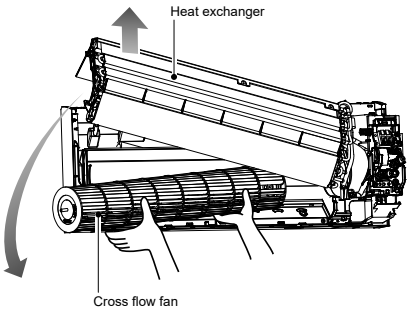
No.	Part name	Procedures	Remarks
		5) Pull out TC1, TC2, TCJ sensors from sensor holder of hear exchanger. (Pay attention to mounting positions of each sensor when reassembling of electric parts. Be sure to apply marking, etc to TC2 and TCJ sensors before removing because their shapes are reassembled.)	
		6) Remove the earth screw and earth line from evaporator. 7) Disconnect the connectors for the fan motor, louver motor and PMV motor from P.C. board assembly. 8) Remove the 2 fixing screws that secures the electric parts box assembly, unit display assembly and remove the electric parts box assembly.	

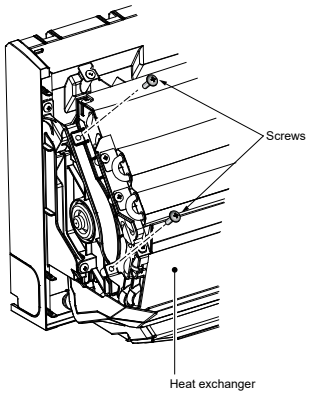


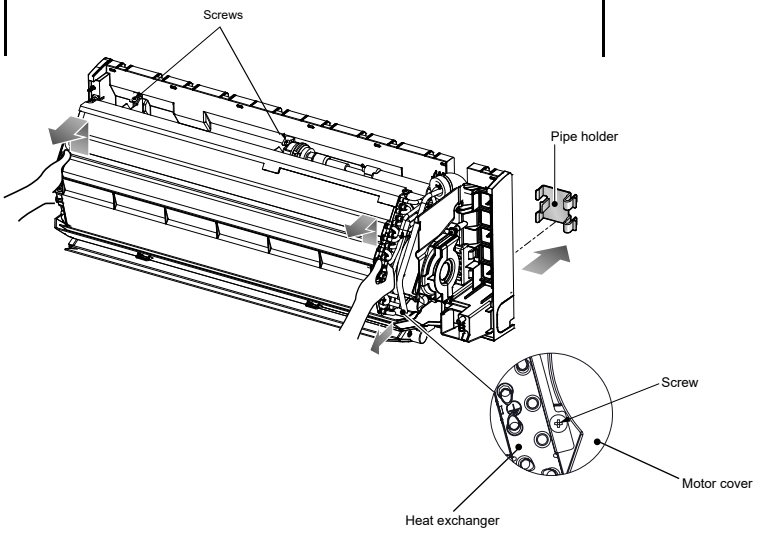


No.	Part name	Procedures	Remarks
⑤	Fan motor	1) Follow the procedure item ③and④. 2) Loosen the set screw of the cross flow fan.  3) Remove 2 fixing screws of the motor band. 4) Pull the motor band and the fan motor outward. **<To re-installation>** - Check the type name of fan motor. - Keep connector position and arrange fan motor wires follow figure. For ICF-340-30-6  	 
⑥	Horizontal louver	1) Remove shaft of the horizontal louver from the back body. (First remove 2 the center shafts then remove the other shafts.)	

No.	Part name	Procedures	Remarks
⑦	Drain pan assembly	1) Follow the procedure item ③. 2) Remove screw holding the electric part cover.  3) Disconnect the louver motor connector (5P) from P.C. board assembly. 4) Remove fixing screws of the unit display and remove unit display.  5) Remove the drain pan from the back body. **<To re-installation>** - Press the drain pan into the back body - Please make sure ribs of drain pan in left and right side must be install to lock position. - Press the center arm of drain pan to back body. 	  

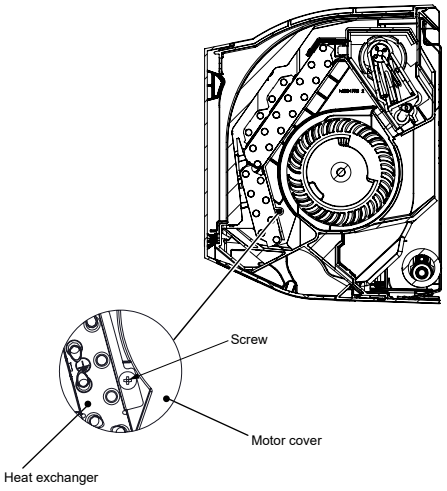
No.	Part name	Procedures	Remarks
⑧	Vertical louver assembly	1) Follow the procedure item③and⑦. 2) Remove 2 fixing screws from the base vertical louver then remove the vertical louver assembly from the body back.	
⑨	Cross flow fan	1) Follow the procedure item③and④. 2) Loosen the set screw of the cross flow fan. 3) Remove 4 fixing screws from the bearing base then remove it from the main unit. 4) Lift up the heat exchanger follow the figure. Pull out the left hand side until the cross flow fan is released from the shaft of the fan motor and then pull out the lower side of heat exchanger follow the figure. **<To re-installation>** 1) To incorporate the fan motor and the motor into the position in the following figure. - Install the cross flow fan so that the right end of the 1st joint from the right of the Cross flow fan is keep 3.5mm from closed wall of the main unit.  - Holding the set screw, install the cross flow fan so that flat area on shaft of the fan motor comes to the mounting hole of the set screw.	 

No.	Part name	Procedures	Remarks
⑩	Heat exchanger (Evaporator)	1) Follow the procedure in item③and④. 2) Remove 2 fixing screws at the left side of the heat exchanger. 3) Remove 3 fixing screws at the upper and right side of the heat exchanger. 4) Remove the pipe holder from the rear side of the main unit. 5) Pull out the heat exchanger.	



<To re-installation>

- Please keep assembly heat exchanger follow figure as below :



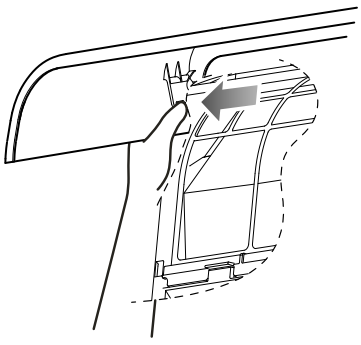
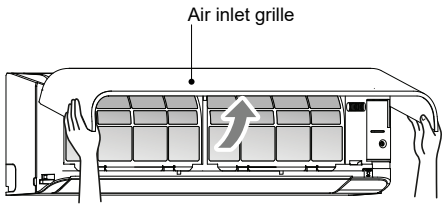
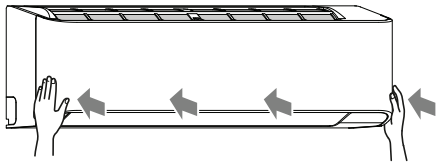
- Please make sure that the screw must be fix heat exchanger and motor cover

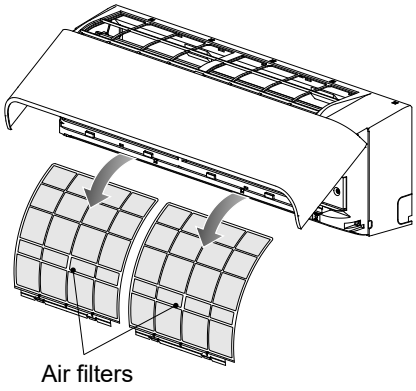
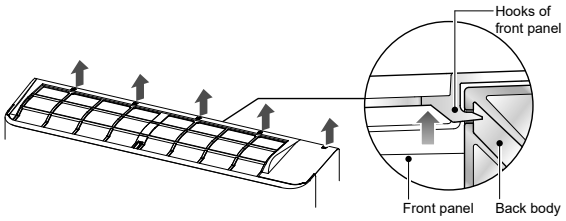
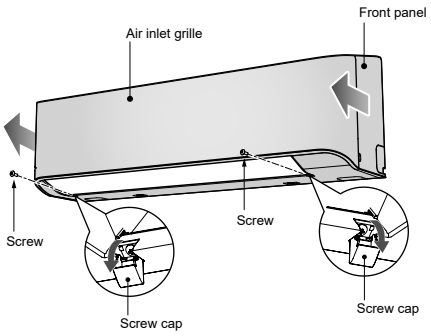
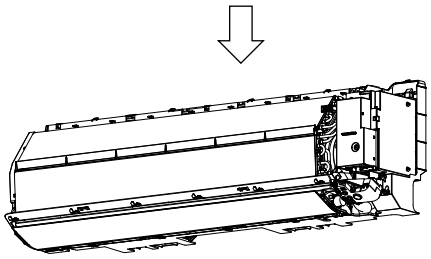
High wall type (For MMK-UP0151 ~ 0241HP*)

WARNING

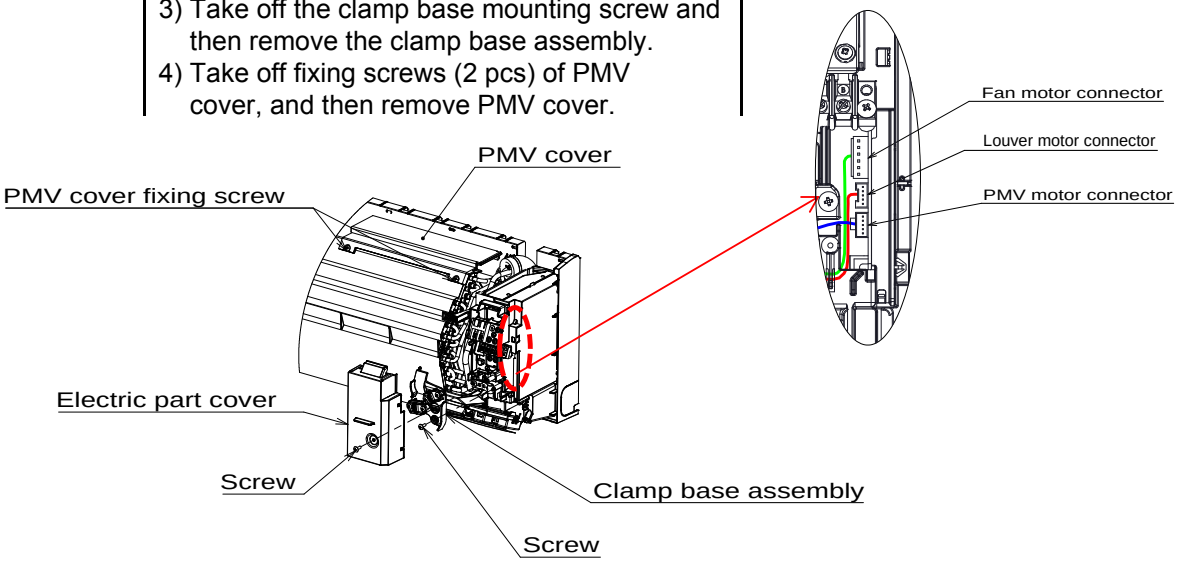
- Since high voltages pass through the electrical parts, turn off the power without fail before proceeding with the repairs.
  Electric shocks may occur if the power plug is not disconnected.
- After the repairs have been completed (after the front panel and cabinet have been installed), perform a test run, and check for smoking, unusual sounds and other abnormalities.
  If this check is omitted, a fire and/or electric shocks may occur.
  Before proceeding with the test run, install the front panel and cabinet.
- Ensure that the following steps are taken when doing repairs on the refrigerating cycle.
  1. Do not allow any naked flames in the surrounding area.
     If a gas stove or other appliance is being used, extinguish the flames before proceeding.
     If the flames are not extinguished, they may ignite any oil mixed with the refrigerant gas.
  2. Do not use welding equipment in an airtight room.
     Carbon monoxide poisoning may result if the room is not properly ventilated.
  3. Do not bring welding equipment near flammable objects.
     Flames from the equipment may cause the flammable objects to catch fire.
- **If keeping the power on is absolutely unavoidable while doing a job such as inspecting the circuitry, wear rubber gloves to avoid contact with the live parts.**
  Electric shocks may be received if the live parts are touched.
  High-voltage circuits are contained inside this unit.
  Proceed very carefully when conducting checks since directly touching the parts on the control circuit board may result in electric shocks.

10-1. Indoor Unit

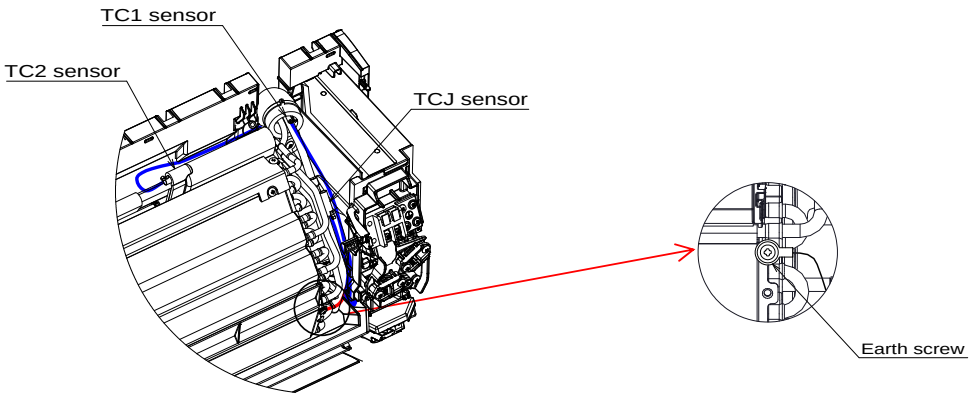
No.	Part name	Procedures	Remarks
①	Air inlet grille	1) Stop operation of the air conditioner and turn off its main power supply. 2) Open the air inlet grille and push it up until the air inlet grille take off. **<Remark>** If you do not have enough space for push the air inlet grille up until it take off, you can push the arms of air inlet grille toward the outside, and remove the air inlet grille.  **<To re-installation>** - Carry out attaching in the reverse order to removal. - Keep front panel horizontally and put both arms into guides. - Make sure both arms are inserted completely.	 

No.	Part name	Procedures	Remarks
②	Air filters	1) Follow to the procedure in the item ①.  2) Remove the left and the right air filters from the front panel.	
③	Front panel	1) Stop operation of the air conditioner and turn off its main power supply. 2) Open two screw caps and securely remove screws (2 pcs.) at the front panel.  3) Take off the hooks of front panel from top side of the back body. 4) Slightly open the lower part of the front panel then pull the upper part of the front panel toward you to remove it as shown on figure.	 

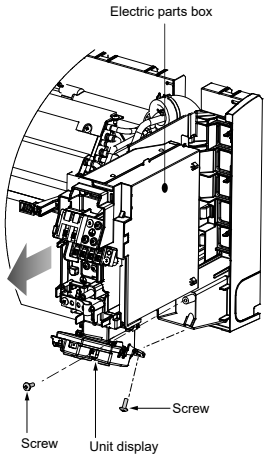
No.	Part name	Procedures	Remarks
④	Electric part box assembly	1) Follow the procedure item③. 2) Remove screw holding the electric part cover. 3) Take off the clamp base mounting screw and then remove the clamp base assembly. 4) Take off fixing screws (2 pcs) of PMV cover, and then remove PMV cover.	

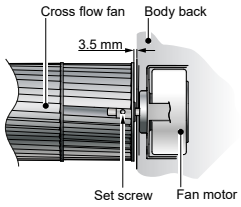
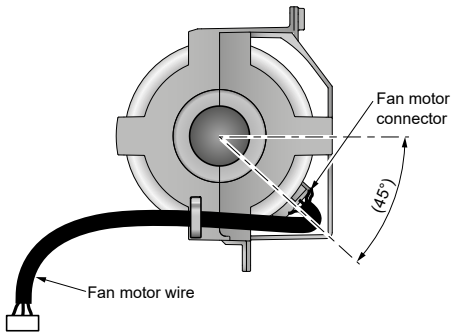
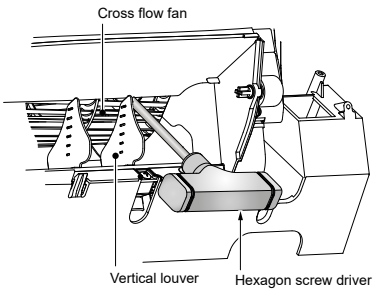
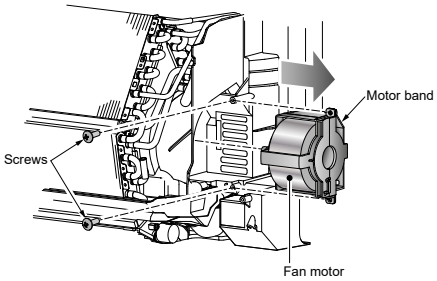
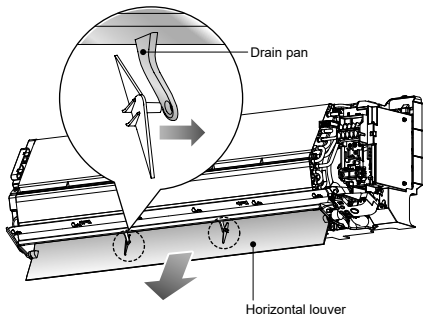
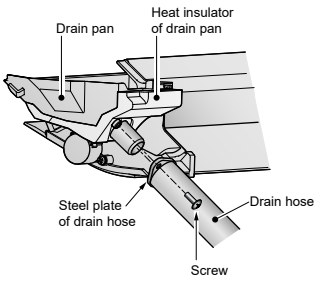
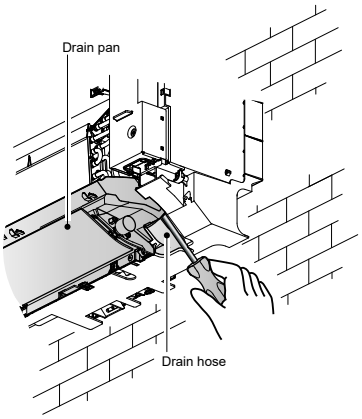


5) Pull out TC1, TC2, TCJ sensors from sensor holder of hear exchanger.
(Pay attention to mounting positions of each sensor when reassembling of electric parts. Be sure to apply marking, etc to TC2 and TCJ sensors before removing because their shapes are reassembled.)

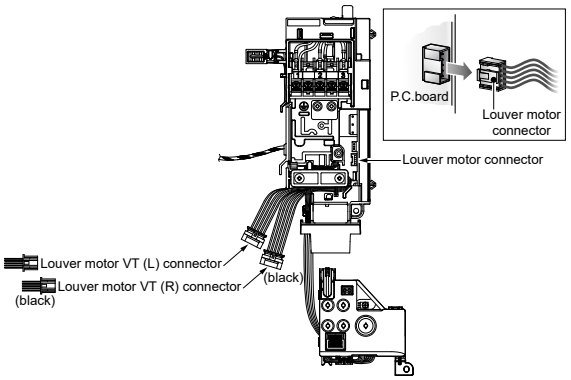


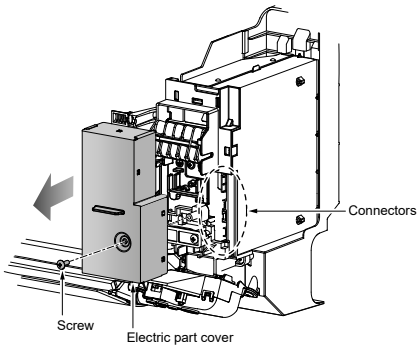
6) Remove the earth screw and earth line from evaporator.
7) Disconnect the connectors for the fan motor, louver motor and PMV motor from P.C. board assembly.
8) Remove the 2 fixing screws that secures the electric parts box assembly, unit display assembly and remove the electric parts box assembly.



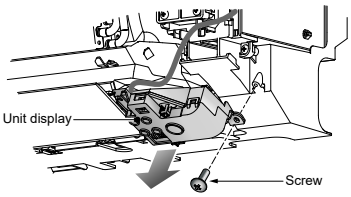
No.	Part name	Procedures	Remarks
⑤	Fan motor	1) Follow the procedure item ③and④. 2) Loosen the set screw of the cross flow fan.  3) Remove 2 fixing screws of the motor band. 4) Pull the motor band and the fan motor outward. **<To re-installation>** - Keep connector position and arrange fan motor wire follow figure.  	 
⑥	Horizontal louver	1) Remove shaft of the horizontal louver from the back body. (First remove 2 the center shafts then remove the other shafts.)	
⑦	Drain hose	1) Follow the procedure item ③. 2) The drain hose can be removed by removing the screw securing the drain hose and then pulling out the drain hose. 3) When removing the drain hose, be careful of any sharp edges of steel plate. The edges can injuries.  **<To re-installation>** - To install the drain hose, insert the drain hose firmly until the connection part contacts with heat insulator, and then secure it with original screw.	

No.	Part name	Procedures	Remarks
⑧	Drain pan assembly	1) Follow the procedure item ③. 2) Remove screw holding the electric part cover. 3) Disconnect the louver motor connector (5P) from P.C. board assembly. 4) Disconnect the cord motor of Louver VT (5P) from the Louver VT (L/R) connector.	





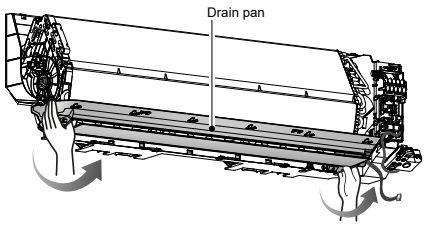
5) Remove fixing screw of the unit display and remove unit display.



6) Remove drain pan can be selected remove drain hose or not remove drain hose following:

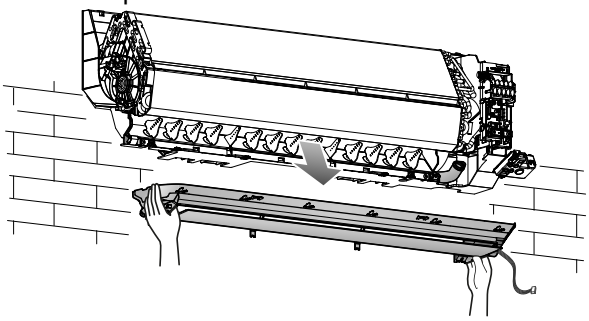
- Not remove drain hose;

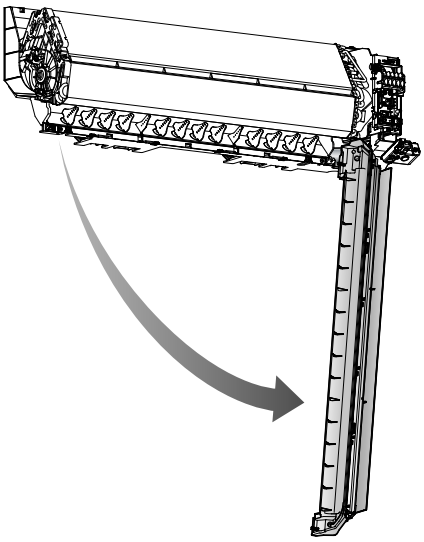
Pulling out the drain pan from back body, then holding the drain pan with main unit.



- Remove drain hose;

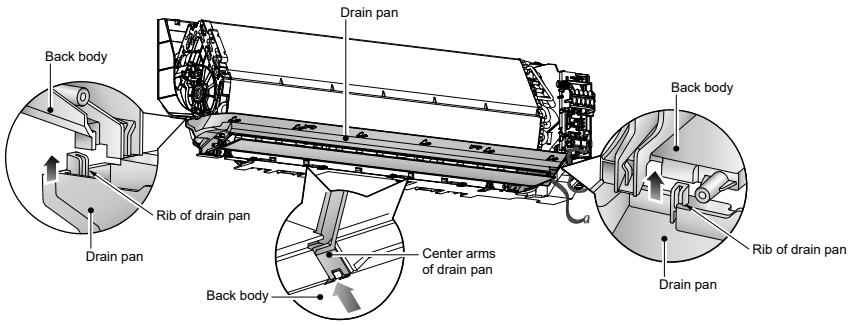
Drain hose can be removed follow the procedure item ⑦. After that remove the drain pan from main unit.

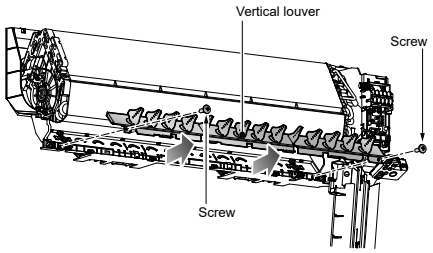
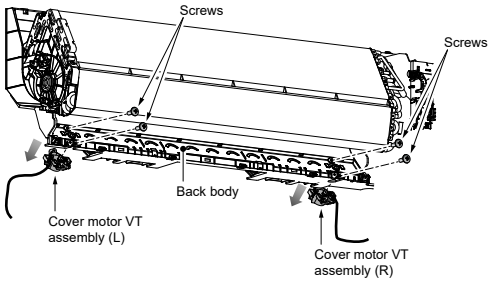
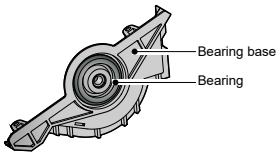
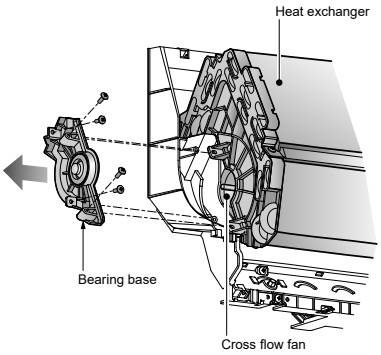
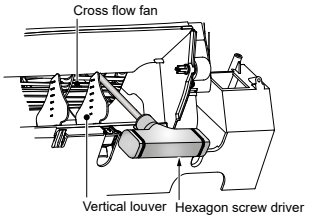
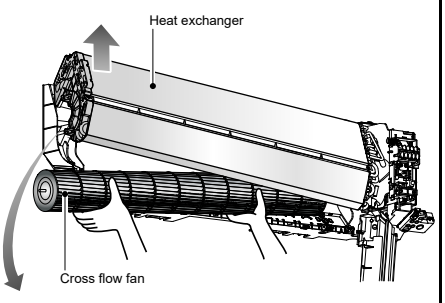


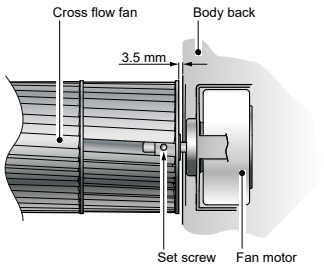
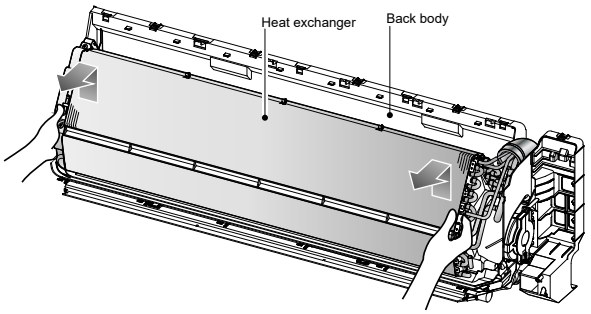
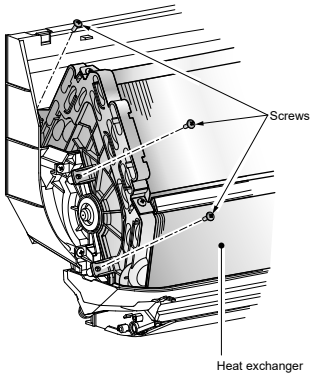
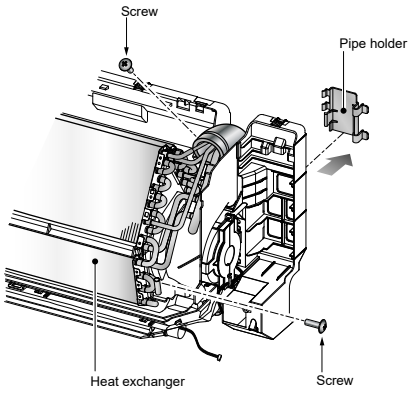


<To re-installation>

- Press the drain pan into the back body.
- Please make sure ribs of drain pan in left and right side must be install to lock position.
- Press the two center arms of drain pan to back body.



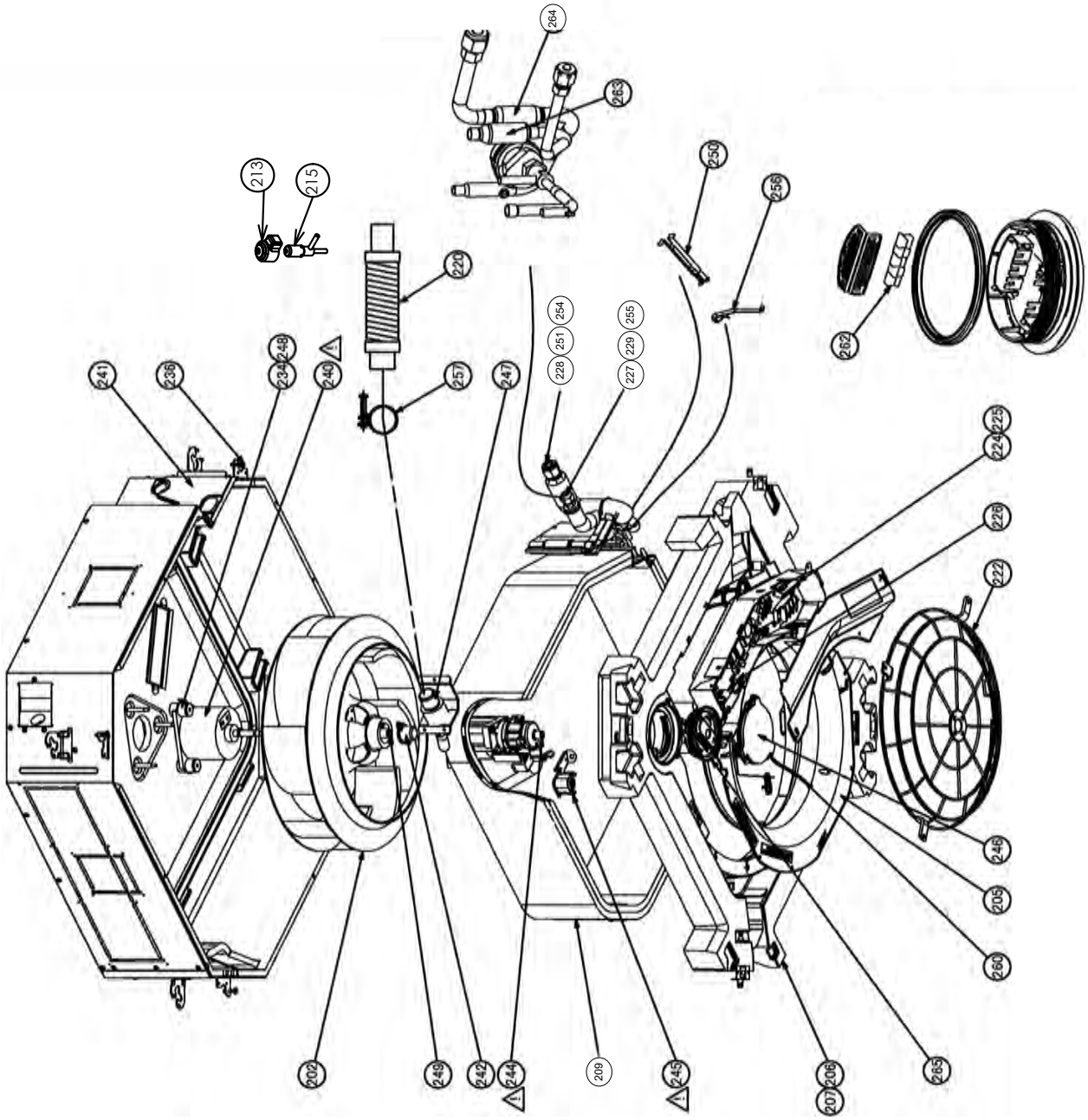
No.	Part name	Procedures	Remarks
⑨	Vertical louver assembly	1) Follow the procedure item③and⑧. 2) Remove 2 fixing screws from the base vertical louver then remove the vertical louver assembly from the body back.	
⑩	Cover motor VT assembly	1) Follow the procedure item③,⑧and⑨. 2) Remove 4 fixing screws from the body back. then remove cover motor VT assembly from rear side of main unit. 	
⑪	Bearing base	1) Follow the procedure item ③. 2) Remove 4 fixing screws from the bearing base, then remove it from the main unit.  **<Caution at assembling>** - If the bearing is out from the housing, push it into the specified position, then incorporate it in the main unit.	
⑫	Cross flow fan	1) Follow the procedure item ⑨ and ⑪. 2) Loosen the set screw of the cross flow fan. 3) Lift up the heat exchanger follow the figure. Pull out the left hand side until the cross flow fan released from the shaft of the fan motor and then pull out the lower side of heat exchanger follow the figure. **<To re-installation>** 1) To incorporate the fan motor and the motor into the position in the following figure. - Install the cross flow fan so that the right end of the 1st joint from the right of the Cross flow fan is keep 3.5mm from closed wall of the main unit.	 

No.	Part name	Procedures	Remarks
		 - Holding the set screw, install the cross flow fan so that flat area on shaft of the fan motor comes to the mounting hole of the set screw.	
⑬	Heat exchanger (Evaporator)	1) Follow the procedure in item③ and④. 2) Remove 3 fixing screws at the upper left side of the heat exchanger. 3) Remove 2 fixing screws at the upper and right side of the heat exchanger. 4) Remove the pipe holder from the rear side of the main unit. 5) Pull out the heat exchanger to upper side.  **<To re-installation>** - Keep the back body horizontally and put the heat exchanger carefully to the back body. - Make sure the heat exchenger can be assembled with the back body and secure it tightly with screws.	 

12. EXPLODED VIEWS AND PARTS LIST

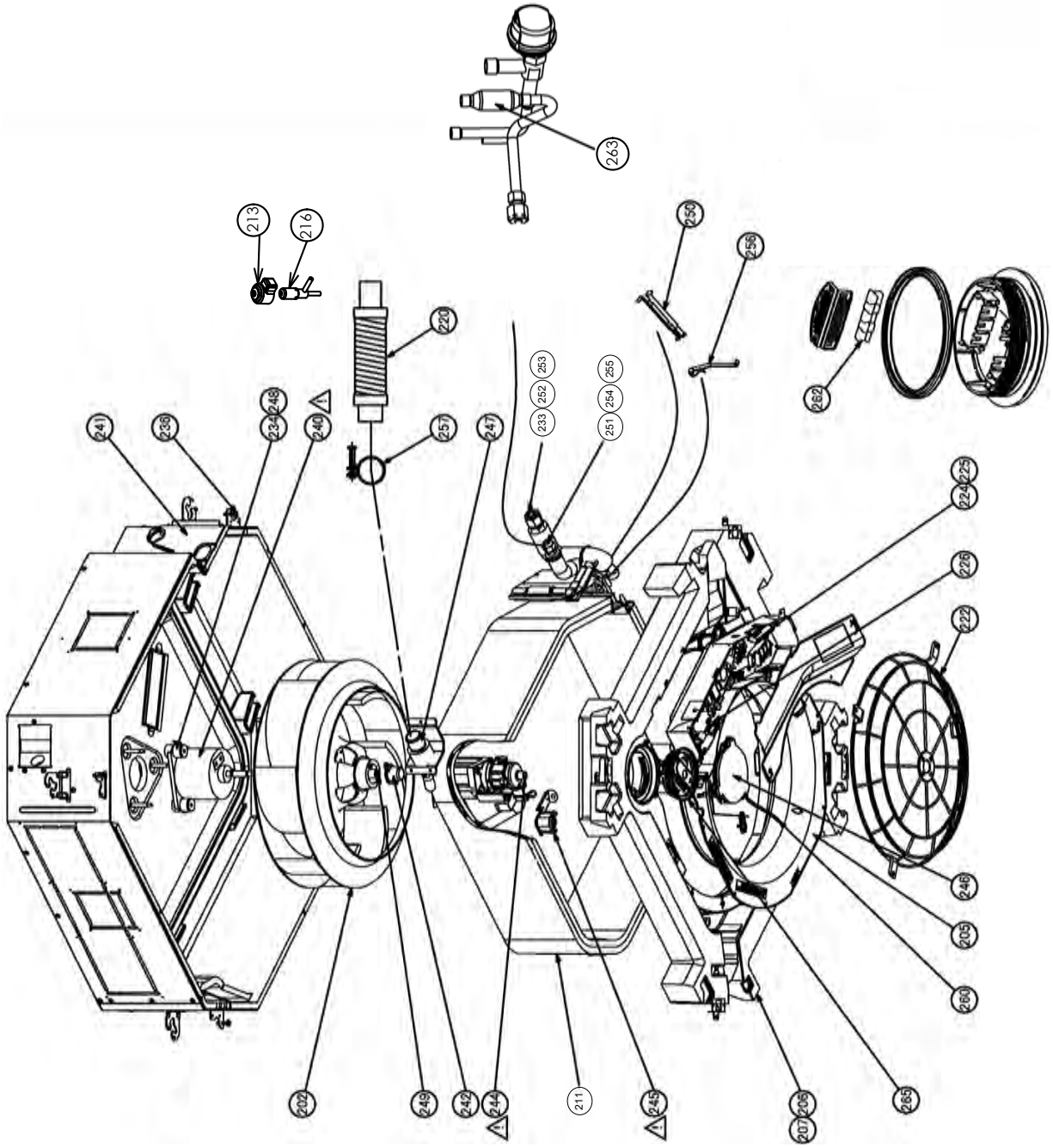
12-1. 4-way cassette type

MMU-UP0091HP-E(TR), MMU-UP0121HP-E(TR), MMU-UP0151HP-E(TR), MMU-UP0181HP-E(TR)



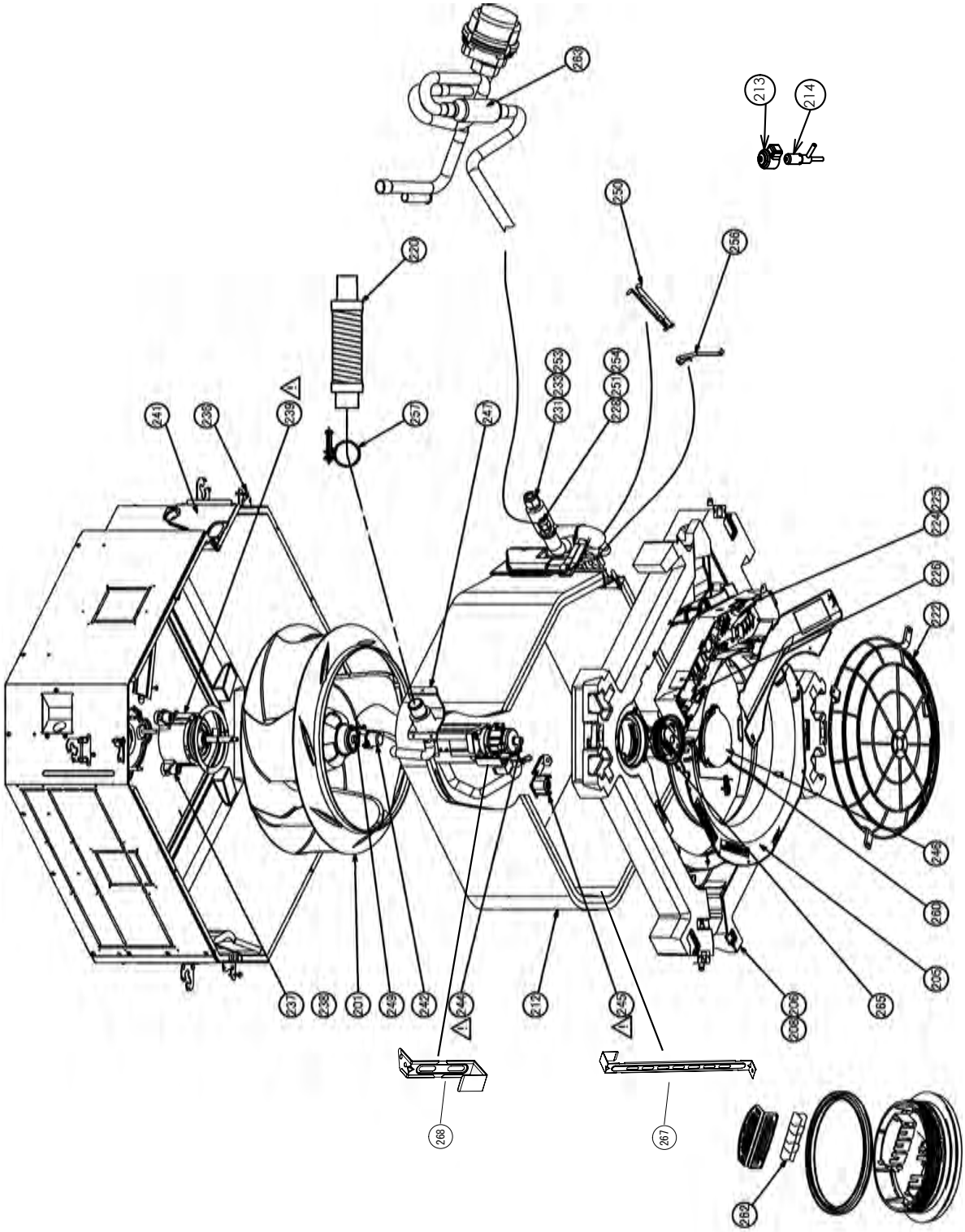
Location No.	Part No.	Description	Model name MMU-UP			
			0091HP-E(TR)	0121HP-E(TR)	0151HP-E(TR)	0181HP-E(TR)
202	43T20335	FAN,ASSY TURB	1	1	1	1
205	43T22322	BELL MOUTH	1	1	1	1
206	43T72320	PAN ASSY, DRAIN	-	-	1	1
207	43T72321	PAN ASSY, DRAIN	1	1	-	-
209	43T44705	REFRIGERATION CYCLE ASSY	1	1	-	-
210	43T44706	REFRIGERATION CYCLE ASSY	-	-	1	1
213	43T46515	COIL, PMV	1	1	1	1
215	43T46516	BODY, PMV	1	1	-	-
216	43T46518	BODY, PMV	-	-	1	1
220	43T70326	HOSE, DRAIN	1	1	1	1
222	43T19357	GUARD,FAN	1	1	1	1
224	43T63348	CLAMP, DOWN	1	1	1	1
225	43T63349	CLAMP, UP	1	1	1	1
226	43T63347	CLAMP, WIRE	4	4	4	4
227	43T97311	NUT, FLARE, 1/4 IN	1	1	1	1
228	43T82318	SOCKET	1	1	-	-
229	43T82319	SOCKET	1	1	1	1
230	43T97317	NUT,FLARE,1/2 IN	-	-	1	1
232	43T82320	SOCKET	-	-	1	1
234	43T11323	RUBBER,CUSHION	3	3	3	3
236	43T97315	SCREW, FIX PANEL	4	4	4	4
240	43T21485	FAN MOTOR WIRING ASSEMBLY	1	1	1	1
241	43T04318	COVER ASSY	1	1	1	1
242	43T39353	CAP,NUT	1	1	1	1
244	43T77301	PUMP ASSY	1	1	1	1
245	43T51314	SWITCH ASSY FLOAT	1	1	1	1
246	43T79319	LID ASSY, OUTSIDE	1	1	1	1
247	43T71303	SOCKET, ASSY DRAIN	1	1	1	1
248	43T97310	WASHER	3	3	3	3
249	43T97001	NUT	1	1	1	1
250	43T19321	FIX-P-SENSOR	1	1	1	1
251	43T47332	BONNET, 9.52 DIA	1	1	-	-
252	43T47333	BONNET, 12.70 DIA	-	-	1	1
254	43T97312	NUT, FLARE, 3/8 IN	1	1	-	-
255	43T47331	BONNET, 6.35 DIA	1	1	1	1
256	43T19333	HOLDER, SENSOR	2	2	2	2
257	43T83311	BAND, HOSE	1	1	1	1
260	43T83312	STRING	1	1	1	1
262	43T79318	GLASS	1	1	1	1
263	43T47386	STRAINER	1	1	1	1
264	43T47387	STRAINER	1	1	-	-
265	43T79317	LID ASSY, INSIDE	1	1	1	1
266	43T39405	BAND-FIX-EVA	2	2	2	2
267	43T39407	BAND-FIX-EVA	1	1	1	1

MMU-UP0241HP-E(TR), MMU-UP0271HP-E(TR), MMU-UP0301HP-E(TR)



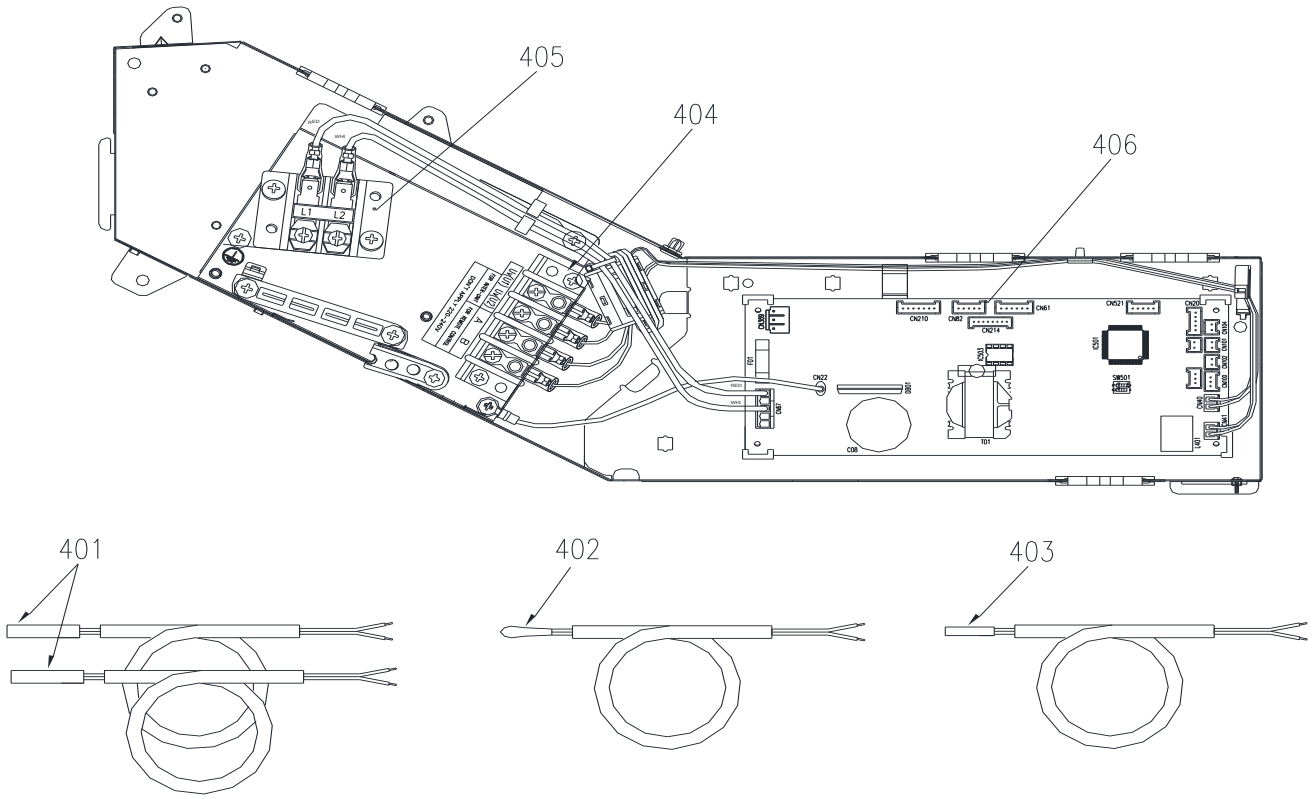
Location No.	Part No.	Description	Model name MMU-UP		
			0241HP-E(TR)	0271HP-E(TR)	0301HP-E(TR)
202	43T20335	FAN,ASSY TURB	1	1	1
205	43T22322	BELL MOUTH	1	1	1
206	43T72320	PAN ASSY, DRAIN	1	1	1
211	43T44707	REFRIGERATION CYCLE ASSY	1	1	1
213	43T46515	COIL, PMV	1	1	1
216	43T46518	BODY, PMV	1	1	1
220	43T70326	HOSE, DRAIN	1	1	1
222	43T19357	GUARD,FAN	1	1	1
224	43T63348	CLAMP, DOWN	1	1	1
225	43T63349	CLAMP, UP	1	1	1
226	43T63347	CLAMP, WIRE	4	4	4
228	43T82318	SOCKET	1	1	1
231	43T97314	NUT, FLARE, 5/8 IN	1	1	1
233	43T82321	SOCKET	1	1	1
234	43T11323	RUBBER,CUSHION	3	3	3
236	43T97315	SCREW, FIX PANEL	4	4	4
240	43T21485	FAN MOTOR WIRING ASSEMBLY	1	1	1
241	43T04318	COVER ASSY	1	1	1
242	43T39353	CAP,NUT	1	1	1
244	43T77301	PUMP ASSY	1	1	1
245	43T51314	SWITCH ASSY FLOAT	1	1	1
246	43T79319	LID ASSY, OUTSIDE	1	1	1
247	43T71303	SOCKET, ASSY DRAIN	1	1	1
248	43T97310	WASHER	3	3	3
249	43T97001	NUT	1	1	1
250	43T19321	FIX-P-SENSOR	1	1	1
251	43T47332	BONNET, 9.52 DIA	1	1	1
253	43T47334	BONNET; 15.88 DIA.	1	1	1
254	43T97312	NUT, FLARE, 3/8 IN	1	1	1
256	43T19333	HOLDER, SENSOR	2	2	2
257	43T83311	BAND, HOSE	1	1	1
260	43T83312	STRING	1	1	1
262	43T79318	GLASS	1	1	1
263	43T47386	STRAINER	1	1	1
265	43T79317	LID ASSY, INSIDE	1	1	1
266	43T39405	BAND-FIX-EVA	2	2	2
268	43T39407	BAND-FIX-EVA	1	1	1

MMU-UP0361HP-E(TR), MMU-UP0481HP-E(TR), MMU-UP0561HP-E(TR)



Location No.	Part No.	Description	Model name MMU-UP		
			0361HP-E(TR)	0481HP-E(TR)	0561HP-E(TR)
201	43T20334	FAN,ASSY TURB	1	1	1
205	43T22322	BELL MOUTH	1	1	1
208	43T72322	PAN ASSY, DRAIN	1	1	1
212	43T44708	REFRIGERATION CYCLE ASSY	1	1	1
213	43T46515	COIL, PMV	1	1	1
214	43T46513	BODY, PMV	1	1	1
220	43T70326	HOSE, DRAIN	1	1	1
222	43T19357	GUARD,FAN	1	1	1
224	43T63348	CLAMP, DOWN	1	1	1
225	43T63349	CLAMP, UP	1	1	1
226	43T63347	CLAMP, WIRE	4	4	4
228	43T82318	SOCKET	1	1	1
231	43T97314	NUT, FLARE, 5/8 IN	1	1	1
233	43T82321	SOCKET	1	1	1
235	43T39352	PLATE,WIND	4	4	4
236	43T97315	SCREW, FIX PANEL	4	4	4
237	43T11324	RUBBER,CUSHION	3	3	3
238	43T97316	WASHER	1	1	1
239	43T21486	MOTOR ASSEMBLY	1	1	1
241	43T04318	COVER ASSY	1	1	1
242	43T39353	CAP,NUT	1	1	1
244	43T77301	PUMP ASSY	1	1	1
245	43T51314	SWITCH ASSY FLOAT	1	1	1
246	43T79319	LID ASSY, OUTSIDE	1	1	1
247	43T71303	SOCKET, ASSY DRAIN	1	1	1
249	43T97001	NUT	1	1	1
250	43T19321	FIX-P-SENSOR	1	1	1
251	43T47332	BONNET, 9.52 DIA	1	1	1
253	43T47334	BONNET; 15.88 DIA	1	1	1
254	43T97312	NUT, FLARE, 3/8 IN	1	1	1
256	43T19333	HOLDER, SENSOR	2	2	2
257	43T83311	BAND, HOSE	1	1	1
260	43T83312	STRING	1	1	1
262	43T79318	GLASS	1	1	1
263	43T47386	STRAINER	1	1	1
265	43T79317	LID ASSY, INSIDE	1	1	1
267	43T39406	BAND-FIX-EVA	2	2	2
268	43T39407	BAND-FIX-EVA	1	1	1

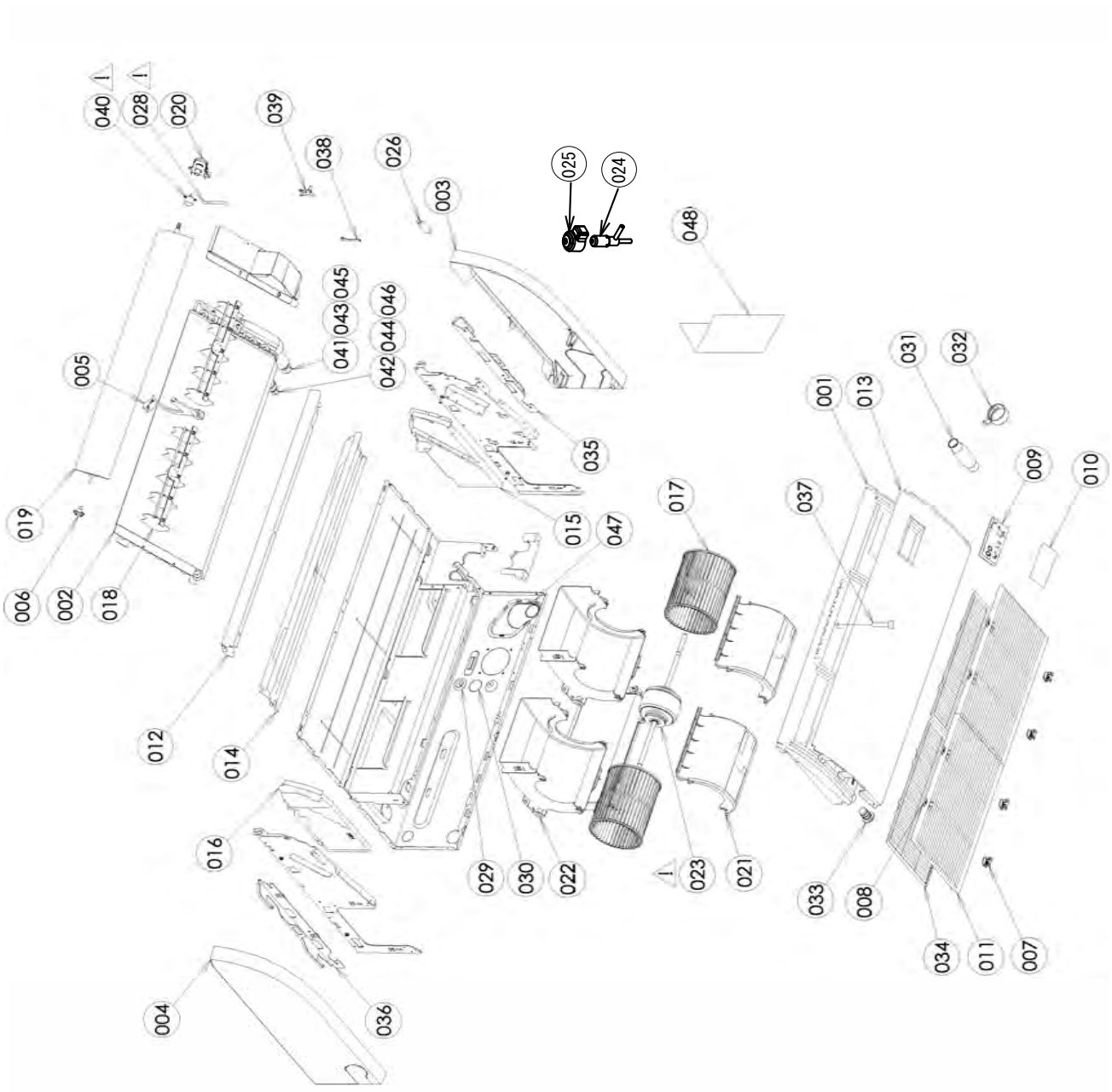
Electric Parts



Location No.	Part No.	Description	Model name MMU-UP									
			0091 HP-E(TR)	0121 HP-E(TR)	0151 HP-E(TR)	0181 HP-E(TR)	0241 HP-E(TR)	0271 HP-E(TR)	0301 HP-E(TR)	0361 HP-E(TR)	0481 HP-E(TR)	0561 HP-E(TR)
401	43T50347	SENSOR ASSY, SERVICE	2	2	2	2	2	2	2	2	2	2
402	43T50476	SERVICE-SENSOR	1	1	1	1	1	1	1	1	1	1
403	43T50477	TC-SENSOR (TC1)	1	1	1	1	1	1	1	1	1	1
404	43T60362	TERMINAL	1	1	1	1	1	1	1	1	1	1
405	43T60435	SERV-TERMINAL	1	1	1	1	1	1	1	1	1	1
406	43T6W845	PC BOARD ASSY	1	1	1	1	1	1	1	1	1	1

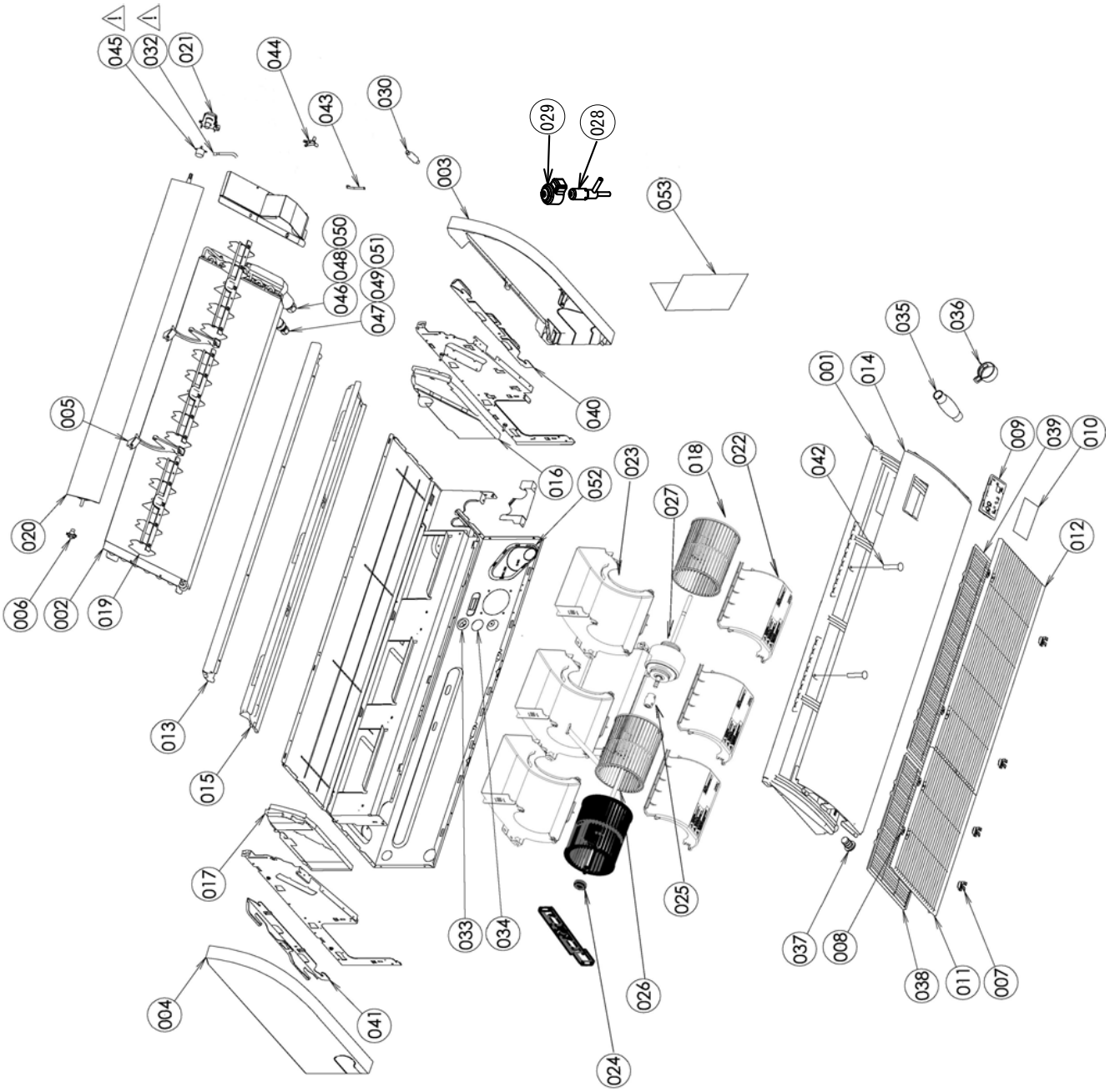
12-2. Ceiling type

MMC-UP0151HP-E(TR), MMC-UP0181HP-E(TR)



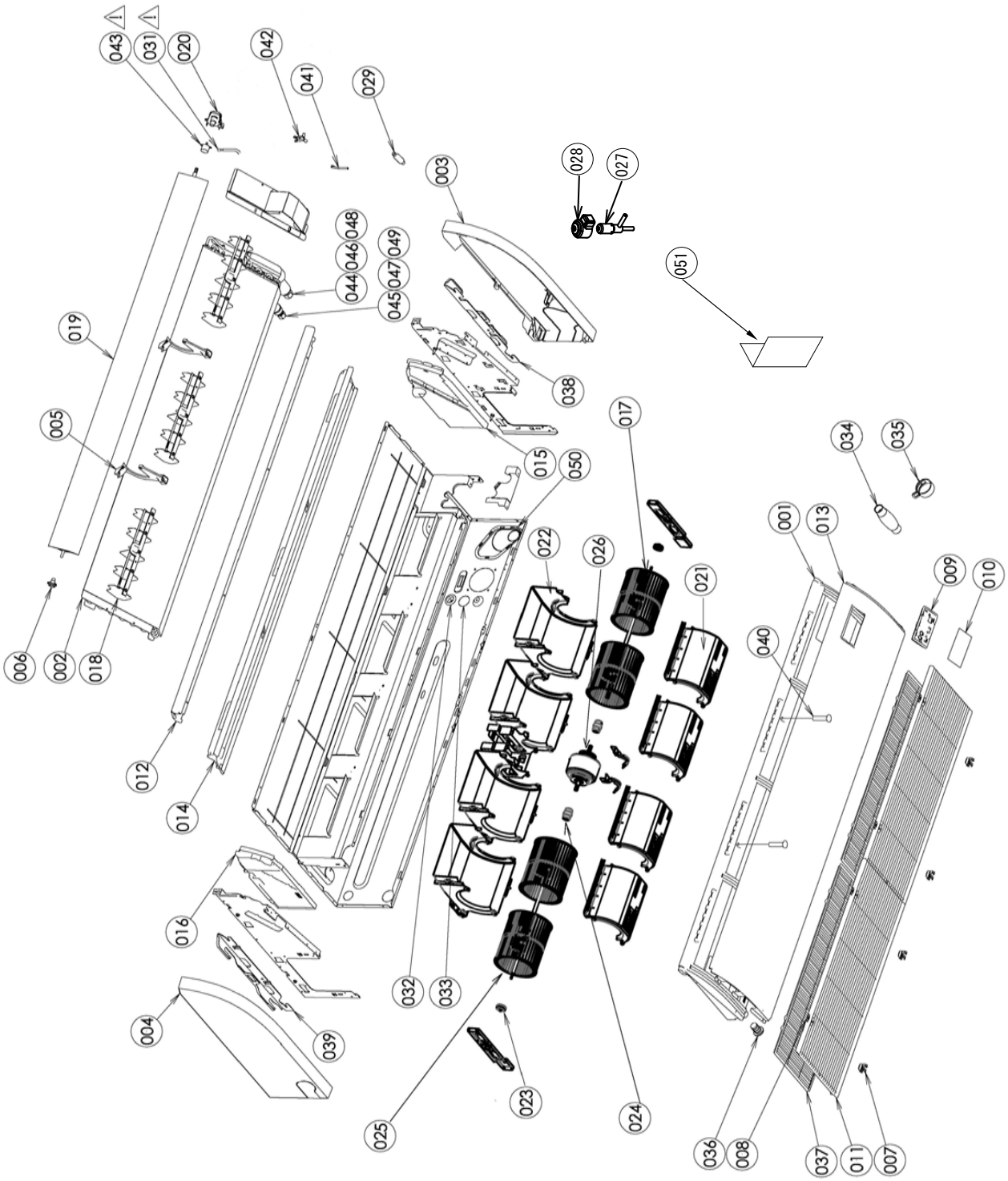
Location No.	Part No.	Description	Model name MMC-UP	
			0151HP-E(TR)	0181HP-E(TR)
1	43T72314	ASM-SUB-PAN-DR	1	1
2	43T44702	REFRIGERATION CYCLE ASSY	1	1
3	43T02301	ASM-P-SIDE-R	1	1
4	43T02302	ASM-P-SIDE-L	1	1
5	43T07313	ASM-SUP-FLAP	1	1
6	43T07314	SUP-SHAFT	1	1
7	43T07315	HINGE-GRILLE	4	4
8	43T07316	HOOK-GRILLE	4	4
9	43T08420	LED-BASE	1	1
10	43T08421	PANEL-LED	1	1
11	43T09493	SUCTION-GRILLE	2	2
12	43T00638	ASM-COAT-P-UP	1	1
13	43T00641	ASM-COAT-P-UD	1	1
14	43T11326	ASM-FORM-UP	1	1
15	43T11329	ASM-FORM	1	1
16	43T11330	ASM-FORM	1	1
17	43T20338	ASM-FAN-MLB	2	2
18	43T22329	ASM-S-V-LOUVER	2	2
19	43T22334	ASM-F-FLAP	1	1
20	43T22333	ASM-GEAR-FLAP	1	1
21	43T22327	ASM-FAN-CASE-D	2	2
22	43T22328	ASM-FAN-CASE-U	2	2
23	43T21443	MOTOR-FAN	1	1
24	43T46517	BODY, PMV	1	1
25	43T46515	COIL, PMV	1	1
26	43T47386	STRAINER	1	1
28	43T60446	LEAD-MOT	1	1
29	43T62349	GROMMET	1	1
30	43T62350	GROMMET	1	1
31	43T70317	ASM-HOSE	1	1
32	43T83313	HOSE-BAND	2	2
33	43T79320	CAP-DRAIN	1	1
34	43T80338	AIR FILTER	2	2
35	43T81304	HANGER-R	1	1
36	43T81305	HANGER-L	1	1
37	43T97318	SCREW-DR	1	1
38	43T19333	HOLDER, SENSOR	2	2
39	43T19321	FIX-P-SENSOR	1	1
40	43T21397	STEPPING-MOTOR	1	1
41	43T47333	BONNET, 12.70 DIA	1	1
42	43T47331	BONNET, 6.35 DIA	1	1
43	43T82320	SOCKET	1	1
44	43T82319	SOCKET	1	1
45	43T97317	NUT, FLARE, 1/2 IN	1	1
46	43T97311	NUT, FLARE, 1/4 IN	1	1
47	43T49364	COV-FRAME-MAIN	1	1
48	43T85809	INSTALLATION MANUAL	1	1

MMC-UP0241HP-E(TR), MMC-UP0271HP-E(TR)



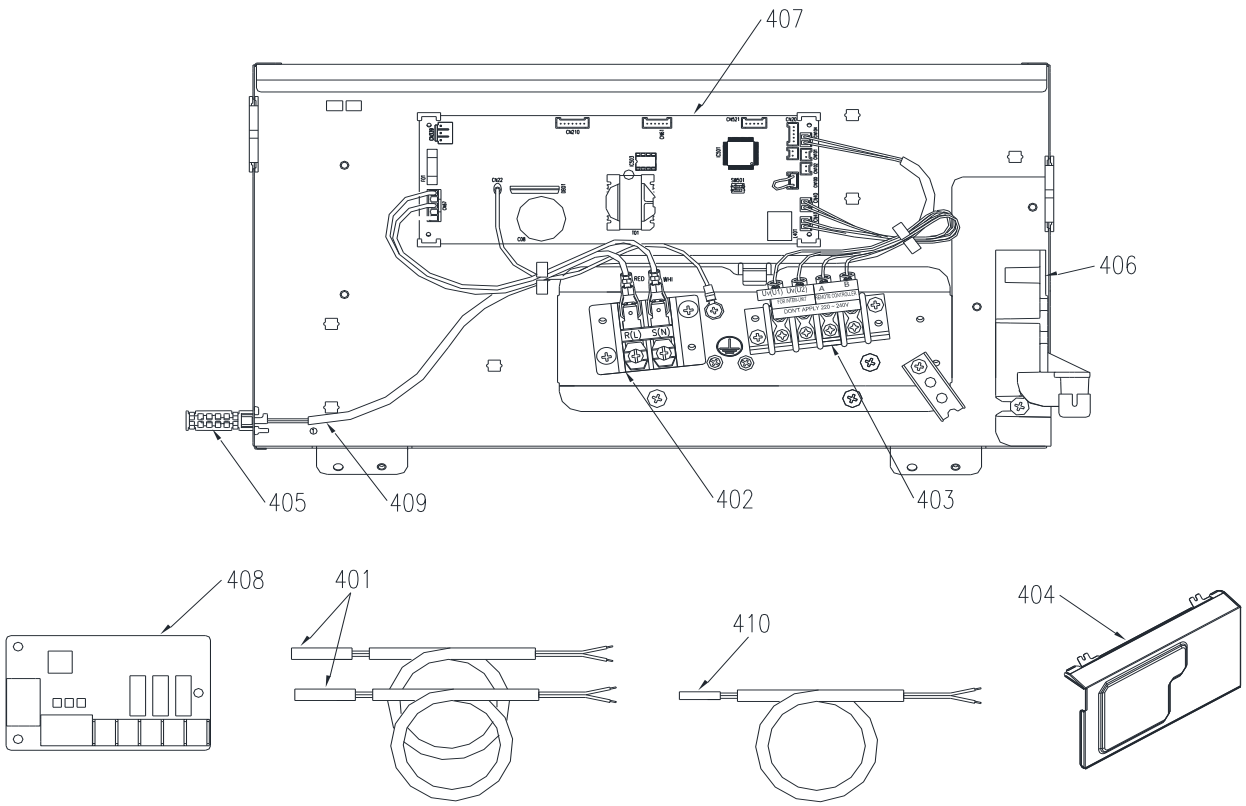
Location No.	Part No.	Description	Model name MMC-UP	
			0241HP-E(TR)	0271HP-E(TR)
1	43T72315	ASM-SUB-PAN-DR	1	1
2	43T44703	REFRIGERATION CYCLE ASSY	1	1
3	43T02301	ASM-P-SIDE-R	1	1
4	43T02302	ASM-P-SIDE-L	1	1
5	43T07313	ASM-SUP-FLAP	2	2
6	43T07314	SUP-SHAFT	1	1
7	43T07315	HINGE-GRILLE	4	4
8	43T07316	HOOK-GRILLE	4	4
9	43T08420	LED-BASE	1	1
10	43T08421	PANEL-LED	1	1
11	43T09493	SUCTION-GRILLE	1	1
12	43T09494	SUCTION-GRILLE	1	1
13	43T00639	ASM-COAT-P-UP	1	1
14	43T00642	ASM-COAT-P-UD	1	1
15	43T11327	ASM-FORM-UP	1	1
16	43T11329	ASM-FORM	1	1
17	43T11330	ASM-FORM	1	1
18	43T20338	ASM-FAN-MLB	3	3
19	43T22329	ASM-S-V-LOUVER	3	3
20	43T22331	ASM-FLAP	1	1
21	43T22333	ASM-GEAR-FLAP	1	1
22	43T22327	ASM-FAN-CASE-D	3	3
23	43T22328	ASM-FAN-CASE-U	3	3
24	43T22312	BEARING ASSY, MOLD	1	1
25	43T22324	COUPLING	1	1
26	43T22350	SHAFT	1	1
27	43T21444	MOTOR-FAN	1	1
28	43T46518	BODY, PMV	1	1
29	43T46515	COIL, PMV	1	1
30	43T47386	STRAINER	1	1
32	43T60446	LEAD-MOT	1	1
33	43T62349	GROMMET	1	1
34	43T62350	GROMMET	1	1
35	43T70317	ASM-HOSE	1	1
36	43T83313	HOSE-BAND	2	2
37	43T79320	CAP-DRAIN	1	1
38	43T80338	AIR FILTER	1	1
39	43T80339	AIR FILTER	1	1
40	43T81304	HANGER-R	1	1
41	43T81305	HANGER-L	1	1
42	43T97318	SCREW-DR	2	2
43	43T19333	HOLDER, SENSOR	2	2
44	43T19321	FIX-P-SENSOR	1	1
45	43T21397	STEPPING-MOTOR	1	1
46	43T47334	BONNET; 15.88 DIA.	1	1
47	43T47332	BONNET, 9.52 DIA	1	1
48	43T82321	SOCKET	1	1
49	43T82318	SOCKET	1	1
50	43T97314	NUT, FLARE, 5/8 IN	1	1
51	43T97312	NUT, FLARE, 3/8 IN	1	1
52	43T49364	COV-FRAME-MAIN	1	1
53	43T85809	INSTALLATION MANUAL	1	1

MMC-UP0361HP-E(TR), MMC-UP0481HP-E(TR), MMC-UP0561HP-E(TR)



Location No.	Part No.	Description	Model name MMC-UP		
			0361HP-E(TR)	0481HP-E(TR)	0561HP-E(TR)
1	43T72316	ASM-SUB-PAN-DR	1	1	1
2	43T44704	REFRIGERATION CYCLE ASSY	1	1	1
3	43T02301	ASM-P-SIDE-R	1	1	1
4	43T02302	ASM-P-SIDE-L	1	1	1
5	43T07313	ASM-SUP-FLAP	2	2	2
6	43T07314	SUP-SHAFT	1	1	1
7	43T07315	HINGE-GRILLE	4	4	4
8	43T07316	HOOK-GRILLE	4	4	4
9	43T08420	LED-BASE	1	1	1
10	43T08421	PANEL-LED	1	1	1
11	43T09494	SUCTION-GRILLE	2	2	2
12	43T00640	ASM-COAT-P-UP	1	1	1
13	43T00643	ASM-COAT-P-UD	1	1	1
14	43T11328	ASM-FORM-UP	1	1	1
15	43T11329	ASM-FORM	1	1	1
16	43T11330	ASM-FORM	1	1	1
17	43T20338	ASM-FAN-MLB	4	4	4
18	43T22329	ASM-S-V-LOUVER	3	3	3
19	43T22332	ASM-FLAP	1	1	1
20	43T22333	ASM-GEAR-FLAP	1	1	1
21	43T22327	ASM-FAN-CASE-D	4	4	4
22	43T22328	ASM-FAN-CASE-U	4	4	4
23	43T22312	BEARING ASSY, MOLD	1	1	1
24	43T22324	COUPLING	1	1	1
25	43T22351	SHAFT	1	1	1
26	43T21470	MOTOR-FAN	1	1	1
27	43T46513	BODY, PMV	1	1	1
28	43T46515	COIL, PMV	1	1	1
29	43T47386	STRAINER	1	1	1
31	43T60446	LEAD-MOT	1	1	1
32	43T62349	GROMMET	1	1	1
33	43T62350	GROMMET	1	1	1
34	43T70317	ASM-HOSE	1	1	1
35	43T83313	HOSE-BAND	2	2	2
36	43T79320	CAP-DRAIN	1	1	1
37	43T80339	AIR FILTER	2	2	2
38	43T81304	HANGER-R	1	1	1
39	43T81305	HANGER-L	1	1	1
40	43T97318	SCREW-DR	2	2	2
41	43T19333	HOLDER, SENSOR	2	2	2
42	43T19321	FIX-P-SENSOR	1	1	1
43	43T21397	STEPPING-MOTOR	1	1	1
44	43T47334	BONNET; 15.88 DIA	1	1	1
45	43T47332	BONNET, 9.52 DIA	1	1	1
46	43T82321	SOCKET	1	1	1
47	43T82318	SOCKET	1	1	1
48	43T97314	NUT, FLARE, 5/8 IN	1	1	1
49	43T97312	NUT, FLARE, 3/8 IN	1	1	1
50	43T49364	COV-FRAME-MAIN	1	1	1
51	43T85809	INSTALLATION MANUAL	1	1	1

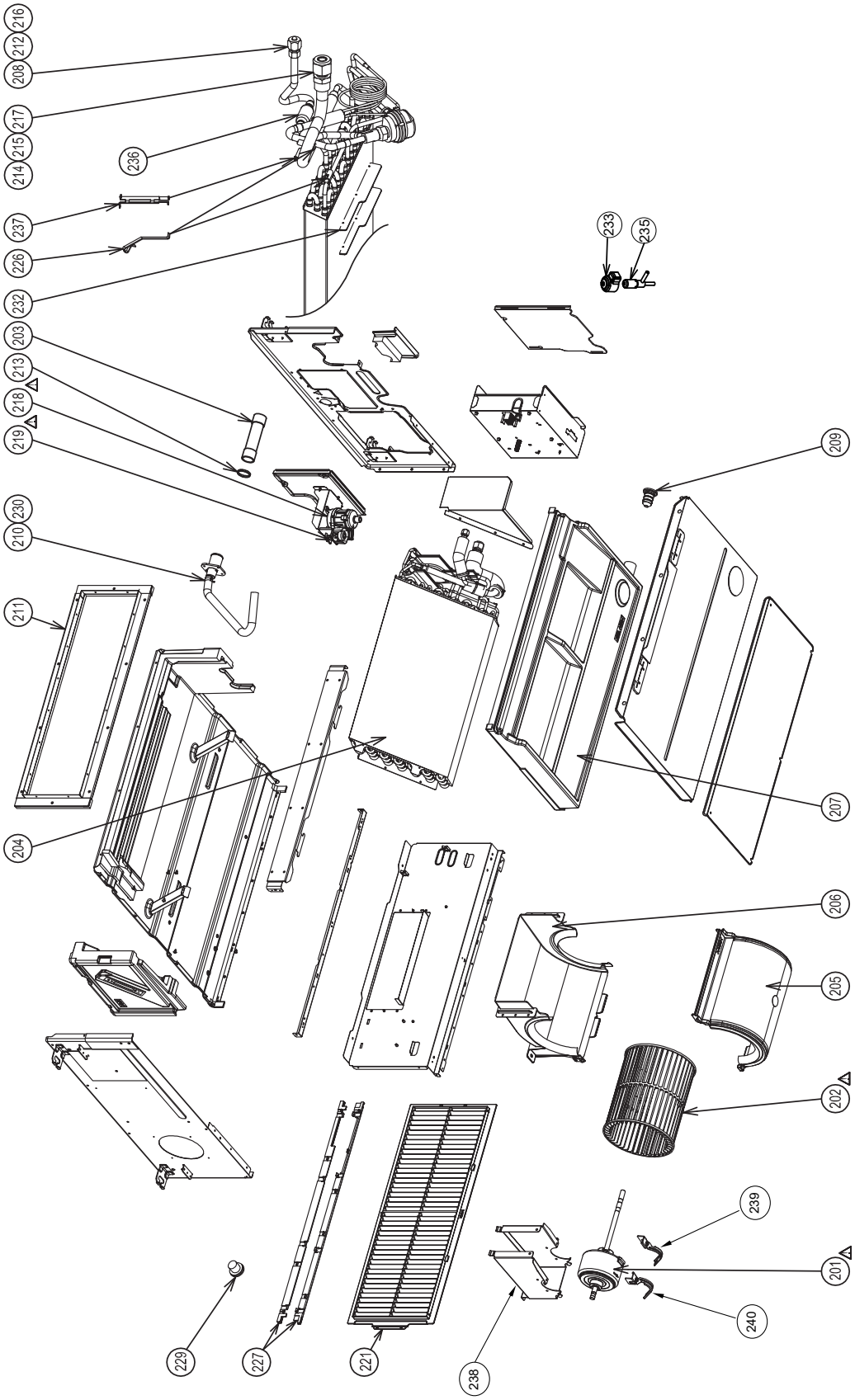
Electric Parts



Location No.	Part No.	Description	Model name MMC-UP						
			0151 HP-E(TR)	0181 HP-E(TR)	0241 HP-E(TR)	0271 HP-E(TR)	0361 HP-E(TR)	0481 HP-E(TR)	0561 HP-E(TR)
401	43T50347	SENSOR ASSY, SERVICE	2	2	2	2	2	2	2
402	43T60435	SERV-TERMINAL	1	1	1	1	1	1	1
403	43T60362	TERMINAL	1	1	1	1	1	1	1
404	43T62348	COVER-E-BOX	1	1	1	1	1	1	1
405	43T50351	HOLDER-TA	1	1	1	1	1	1	1
406	43T61317	BASE-CLAMP	1	1	1	1	1	1	1
407	43T6W951	PC BOARD ASSY	1	1	1	1	1	1	1
408	43459017	ASM-PCB(OP)	1	1	1	1	1	1	1
409	43T50476	SERVICE-SENSOR	1	1	1	1	1	1	1
410	43T50477	TC-SENSOR (TC1)	1	1	1	1	1	1	1

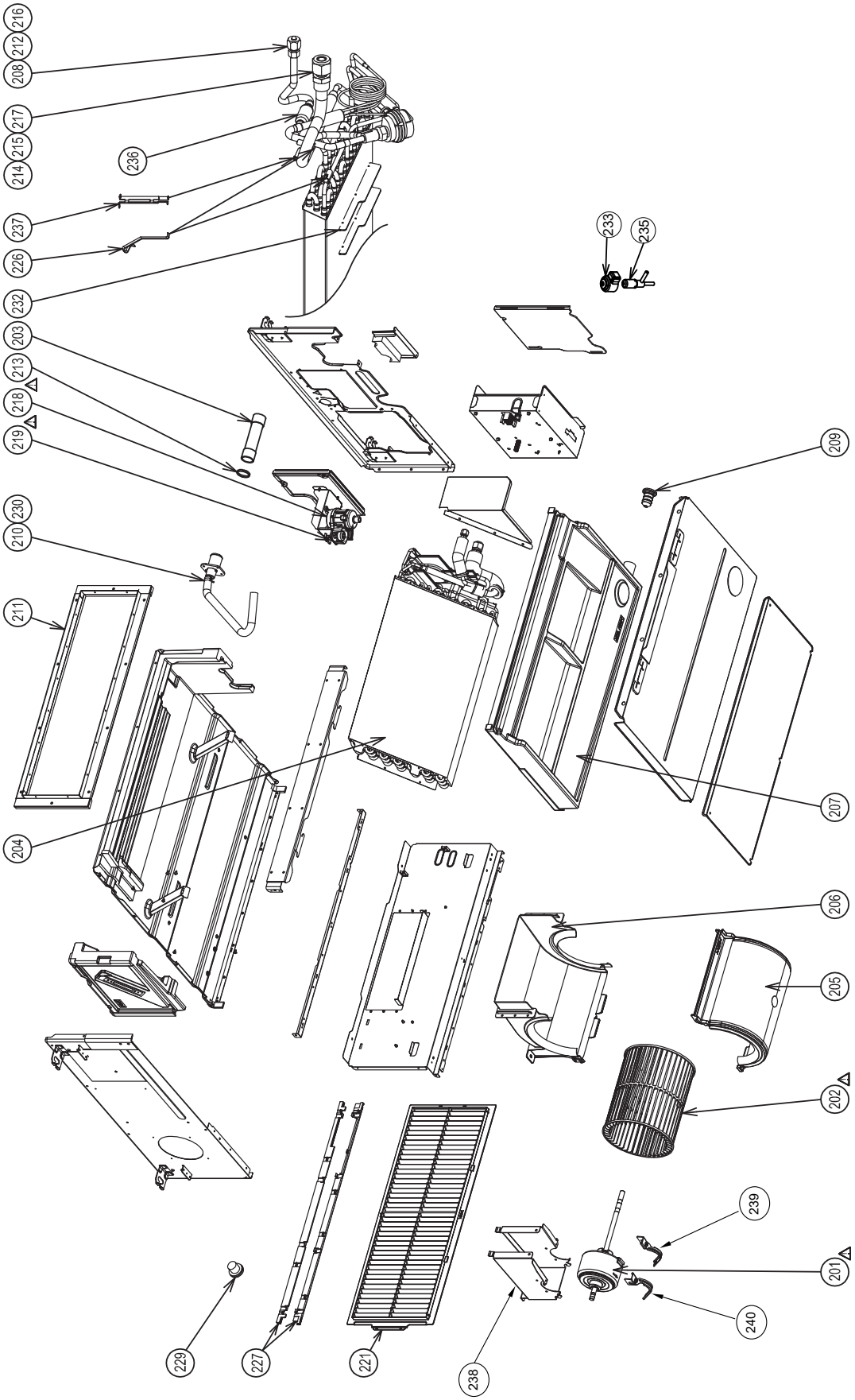
12-3. Concealed Duct Standard type

MMD-UP0051BHP-E, MMD-UP0071BHP-E(TR), MMD-UP0091BHP-E(TR), MMD-UP0121BHP-E(TR)



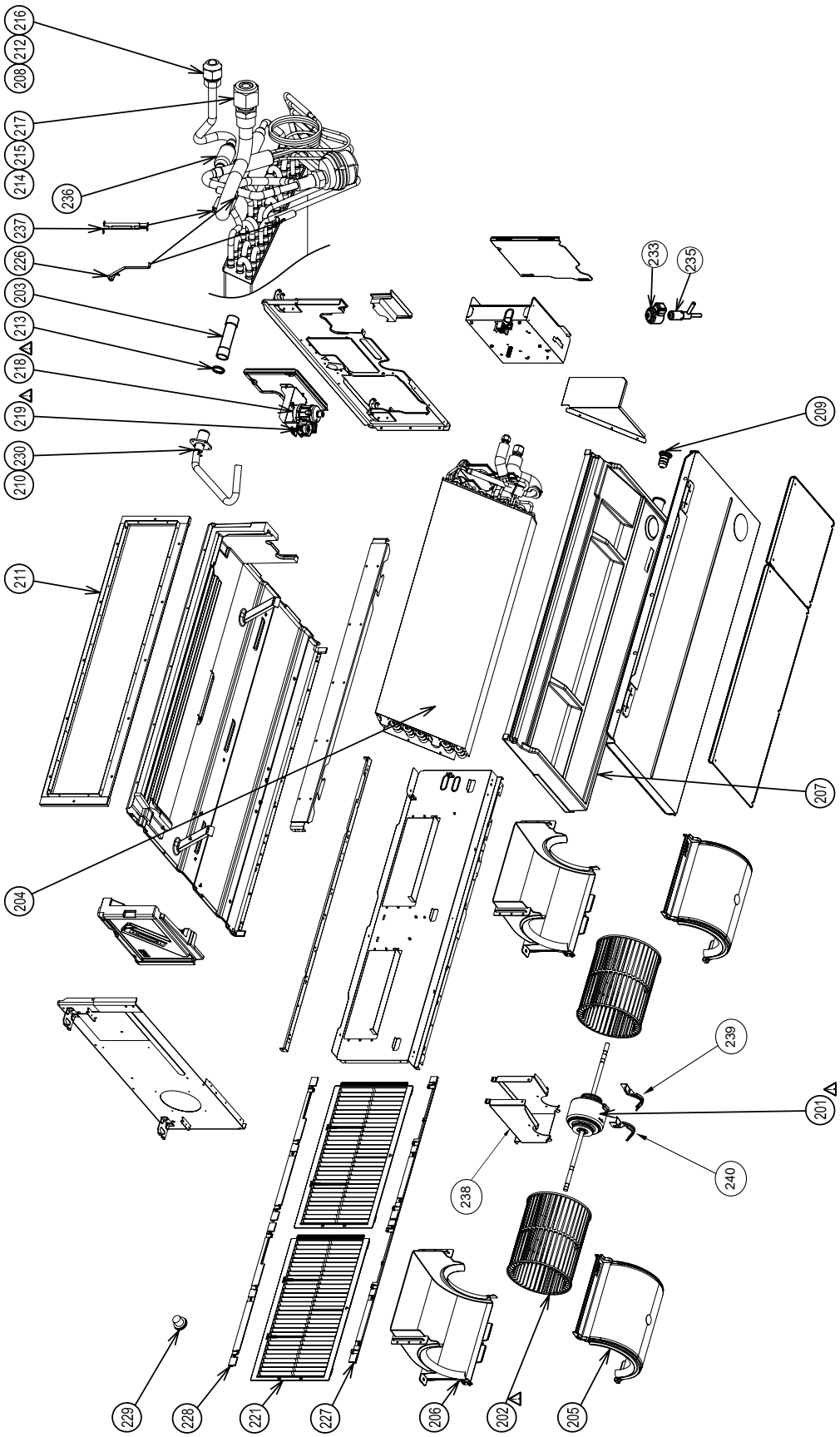
Location No.	Part No.	Description	Model name MMD-UP			
			0051BHP-E	0071BHP-E(TR)	0091BHP-E(TR)	0121BHP-E(TR)
201	43T21448	MOTOR, FAN	1	1	1	1
202	43T20340	FAN, MULTI BLADE	1	1	1	1
203	43T70315	HOSE, DRAIN	1	1	1	1
204	43T44709	REFRIGERATION CYCLE ASSY	1	1	1	1
205	43T22335	CASE, FAN, LOWER	1	1	1	1
206	43T22337	CASE, FAN, UPPER	1	1	1	1
207	43T72317	PAN ASSY, DRAIN	1	1	1	1
208	43T82319	SOCKET	1	1	1	1
209	43T79321	CAP, DRAIN	1	1	1	1
210	43T70319	ASM-HOSE-DRAIN	1	1	1	1
211	43T39356	FLANGE	1	1	1	1
212	43T47331	BONNET, 6.35 DIA	1	1	1	1
213	43T83311	BAND, HOSE	1	1	1	1
214	43T82318	SOCKET	1	1	1	1
215	43T97312	NUT, FLARE, 3/8 IN	1	1	1	1
216	43T97311	NUT, FLARE, 1/4 IN	1	1	1	1
217	43T47332	BONNET, 9.52 DIA	1	1	1	1
218	43T77301	PUMP ASSY	1	1	1	1
219	43T51312	SWITCH, FLOAT	1	1	1	1
221	43T80340	AIR FILTER	1	1	1	1
226	43T19333	HOLDER, SENSOR	2	2	2	2
227	43T82329	RAIL, FILTER ASSY	1	1	1	1
229	43T82323	FILTER, STOPPER	1	1	1	1
232	43T39352	PLATE,WIND	2	2	2	2
233	43T46515	COIL, PMV	1	1	1	1
235	43T46516	BODY, PMV	1	1	1	1
236	43T47386	STRAINER	1	1	1	1
237	43T19321	FIX-P-SENSOR	1	1	1	1
238	43T39417	BASE-MOTOR	1	1	1	1
239	43T39415	BAND-MOTOR-R	1	1	1	1
240	43T39416	BAND-MOTOR-L	1	1	1	1

MMD-UP0151BHP-E(TR), MMD-UP0181BHP-E(TR)



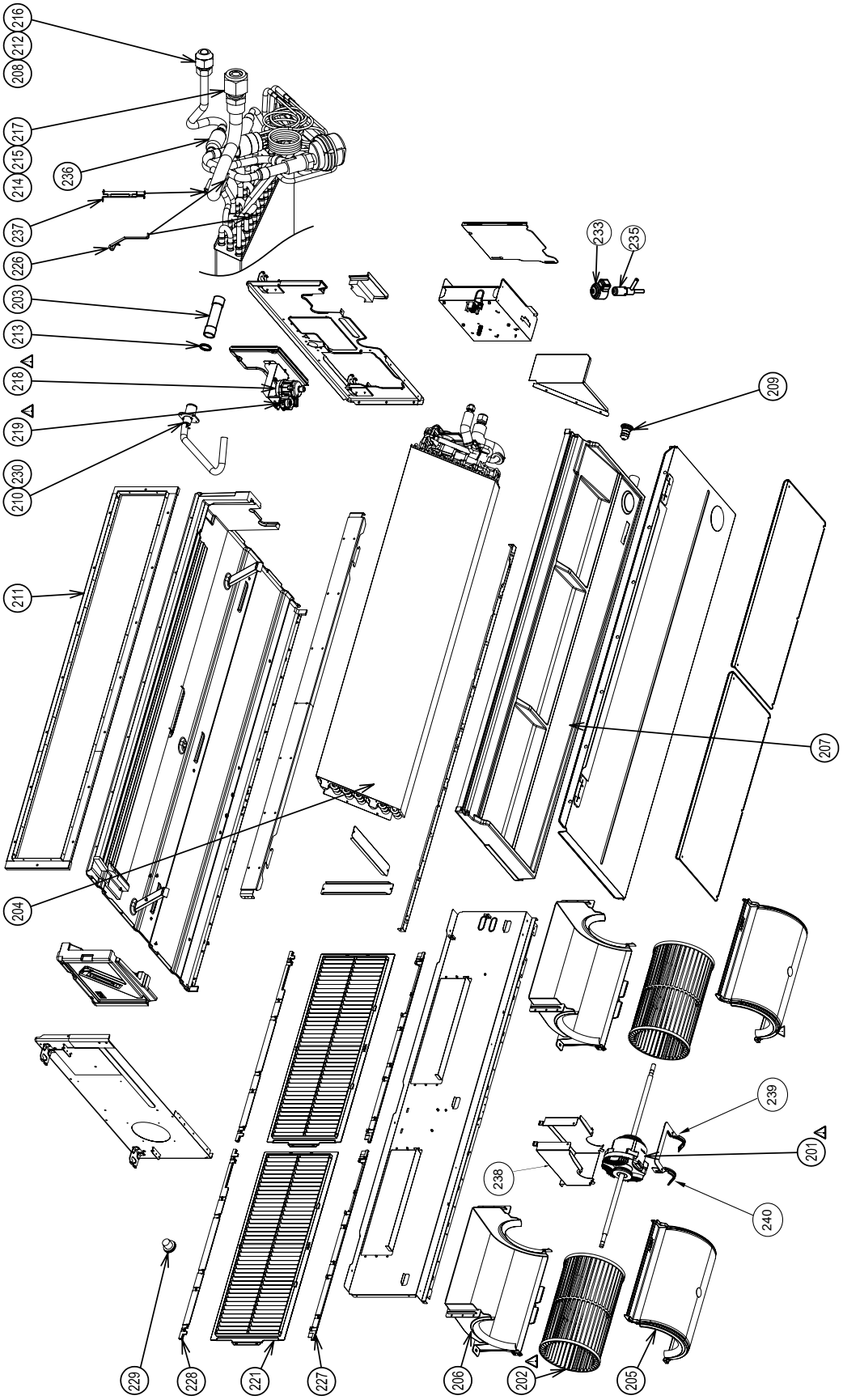
Location No.	Part No.	Description	Model name MMD-UP	
			0151BHP-E(TR)	0181BHP-E(TR)
201	43T21448	MOTOR, FAN	1	1
202	43T20340	FAN, MULTI BLADE	1	1
203	43T70315	HOSE, DRAIN	1	1
204	43T44710	REFRIGERATION CYCLE ASSY	1	1
205	43T22335	CASE, FAN, LOWER	1	1
206	43T22337	CASE, FAN, UPPER	1	1
207	43T72317	PAN ASSY, DRAIN	1	1
208	43T82319	SOCKET	1	1
209	43T79321	CAP, DRAIN	1	1
210	43T70319	ASM-HOSE-DRAIN	1	1
211	43T39356	FLANGE	1	1
212	43T47331	BONNET, 6.35 DIA	1	1
213	43T83311	BAND, HOSE	1	1
214	43T82320	SOCKET	1	1
215	43T97317	NUT, FLARE, 1/2 IN	1	1
216	43T97311	NUT, FLARE, 1/4 IN	1	1
217	43T47333	BONNET, 12.70 DIA	1	1
218	43T77301	PUMP ASSY	1	1
219	43T51312	SWITCH, FLOAT	1	1
221	43T80340	AIR FILTER	1	1
226	43T19333	HOLDER, SENSOR	2	2
227	43T82329	RAIL, FILTER ASSY	1	1
229	43T82323	FILTER, STOPPER	1	1
232	43T39352	PLATE,WIND	2	2
233	43T46515	COIL, PMV	1	1
235	43T46517	BODY, PMV	1	1
236	43T47386	STRAINER	1	1
237	43T19321	FIX-P-SENSOR	1	1
238	43T39417	BASE-MOTOR	1	1
239	43T39415	BAND-MOTOR-R	1	1
240	43T39416	BAND-MOTOR-L	1	1

MMD-UP0241BHP-E(TR), MMD-UP0271BHP-E(TR), MMD-UP0301BHP-E(TR)



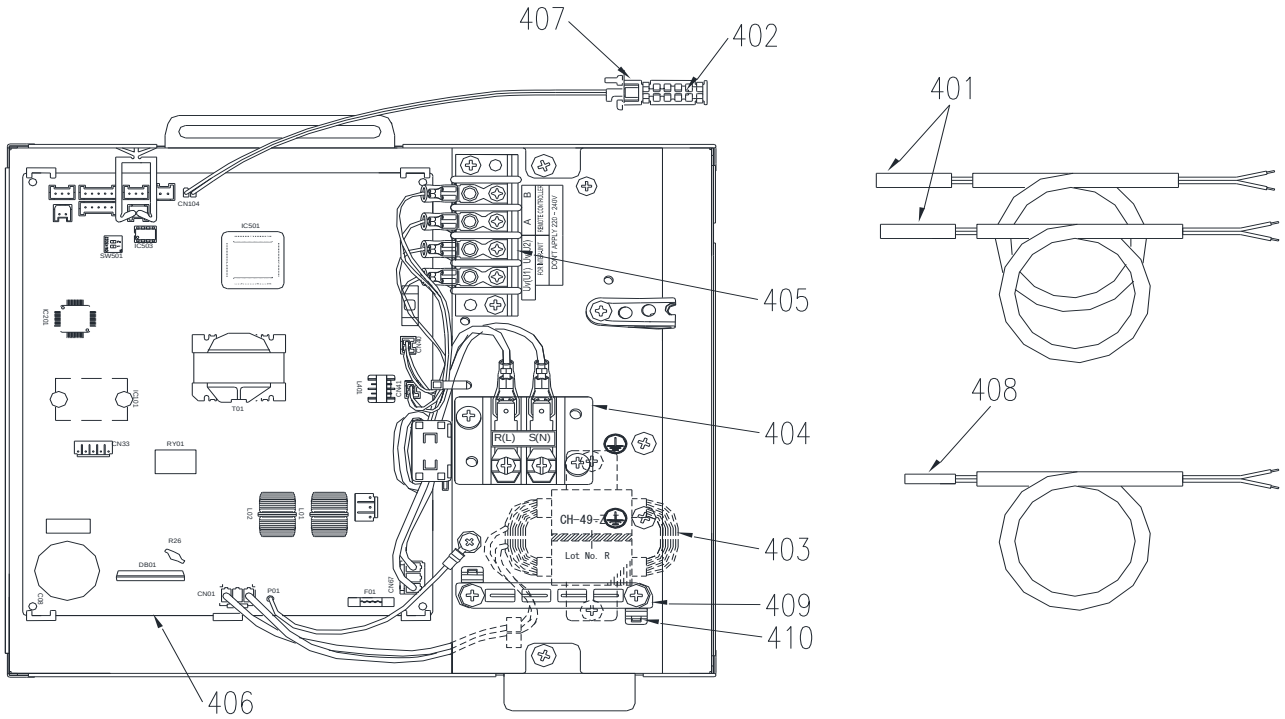
Location No.	Part No.	Description	Model name MMD-UP		
			0241BHP-E(TR)	0271BHP-E(TR)	0301BHP-E(TR)
201	43T21447	MOTOR, FAN	1	1	1
202	43T20340	FAN, MULTI BLADE	2	2	2
203	43T70315	HOSE, DRAIN	1	1	1
204	43T44711	REFRIGERATION CYCLE ASSY	1	1	1
205	43T22335	CASE, FAN, LOWER	2	2	2
206	43T22337	CASE, FAN, UPPER	2	2	2
207	43T72318	PAN ASSY, DRAIN	1	1	1
208	43T82318	SOCKET	1	1	1
209	43T79321	CAP, DRAIN	1	1	1
210	43T70319	ASM-HOSE-DRAIN	1	1	1
211	43T39357	FLANGE	1	1	1
212	43T47332	BONNET, 9.52 DIA	1	1	1
213	43T83311	BAND, HOSE	1	1	1
214	43T82321	SOCKET	1	1	1
215	43T97314	NUT, FLARE, 5/8 IN	1	1	1
216	43T97312	NUT, FLARE, 3/8 IN	1	1	1
217	43T47334	BONNET; 15.88 DIA	1	1	1
218	43T77301	PUMP ASSY	1	1	1
219	43T51312	SWITCH, FLOAT	1	1	1
221	43T80341	AIR FILTER	2	2	2
226	43T19333	HOLDER, SENSOR	2	2	2
227	43T82330	RAIL, FILTER ASSY	1	1	1
229	43T82323	FILTER, STOPPER	1	1	1
233	43T46515	COIL, PMV	1	1	1
235	43T46517	BODY, PMV	1	1	1
236	43T47386	STRAINER	1	1	1
237	43T19321	FIX-P-SENSOR	1	1	1
238	43T39417	BASE-MOTOR	1	1	1
239	43T39415	BAND-MOTOR-R	1	1	1
240	43T39416	BAND-MOTOR-L	1	1	1

MMD-UP0361BHP-E(TR), MMD-UP0481BHP-E(TR), MMD-UP0561BHP-E(TR)



Location No.	Part No.	Description	Model name MMD-UP		
			0361BHP-E(TR)	0481BHP-E(TR)	0561BHP-E(TR)
201	43T21446	MOTOR, FAN	1	1	1
202	43T20339	FAN, MULTI BLADE	2	2	2
203	43T70315	HOSE, DRAIN	1	1	1
204	43T44712	REFRIGERATION CYCLE ASSY	1	1	1
205	43T22336	CASE, FAN, LOWER	2	2	2
206	43T22338	CASE, FAN, UPPER	2	2	2
207	43T72319	PAN ASSY, DRAIN	1	1	1
208	43T82318	SOCKET	1	1	1
209	43T79321	CAP, DRAIN	1	1	1
210	43T70319	ASM-HOSE-DRAIN	1	1	1
211	43T39358	FLANGE	1	1	1
212	43T47332	BONNET, 9.52 DIA	1	1	1
213	43T83311	BAND, HOSE	1	1	1
214	43T82321	SOCKET	1	1	1
215	43T97314	NUT, FLARE, 5/8 IN	1	1	1
216	43T97312	NUT, FLARE, 3/8 IN	1	1	1
217	43T47334	BONNET; 15.88 DIA	1	1	1
218	43T77301	PUMP ASSY	1	1	1
219	43T51312	SWITCH, FLOAT	1	1	1
221	43T80340	AIR FILTER	2	2	2
226	43T19333	HOLDER, SENSOR	2	2	2
227	43T82331	RAIL, FILTER ASSY	1	1	1
229	43T82323	FILTER, STOPPER	1	1	1
233	43T46515	COIL, PMV	1	1	1
235	43T46513	BODY, PMV	1	1	1
236	43T47386	STRAINER	1	1	1
237	43T19321	FIX-P-SENSOR	1	1	1
238	43T39418	BASE-MOTOR	1	1	1
239	43T39415	BAND-MOTOR-R	1	1	1
240	43T39416	BAND-MOTOR-L	1	1	1

Electric Parts

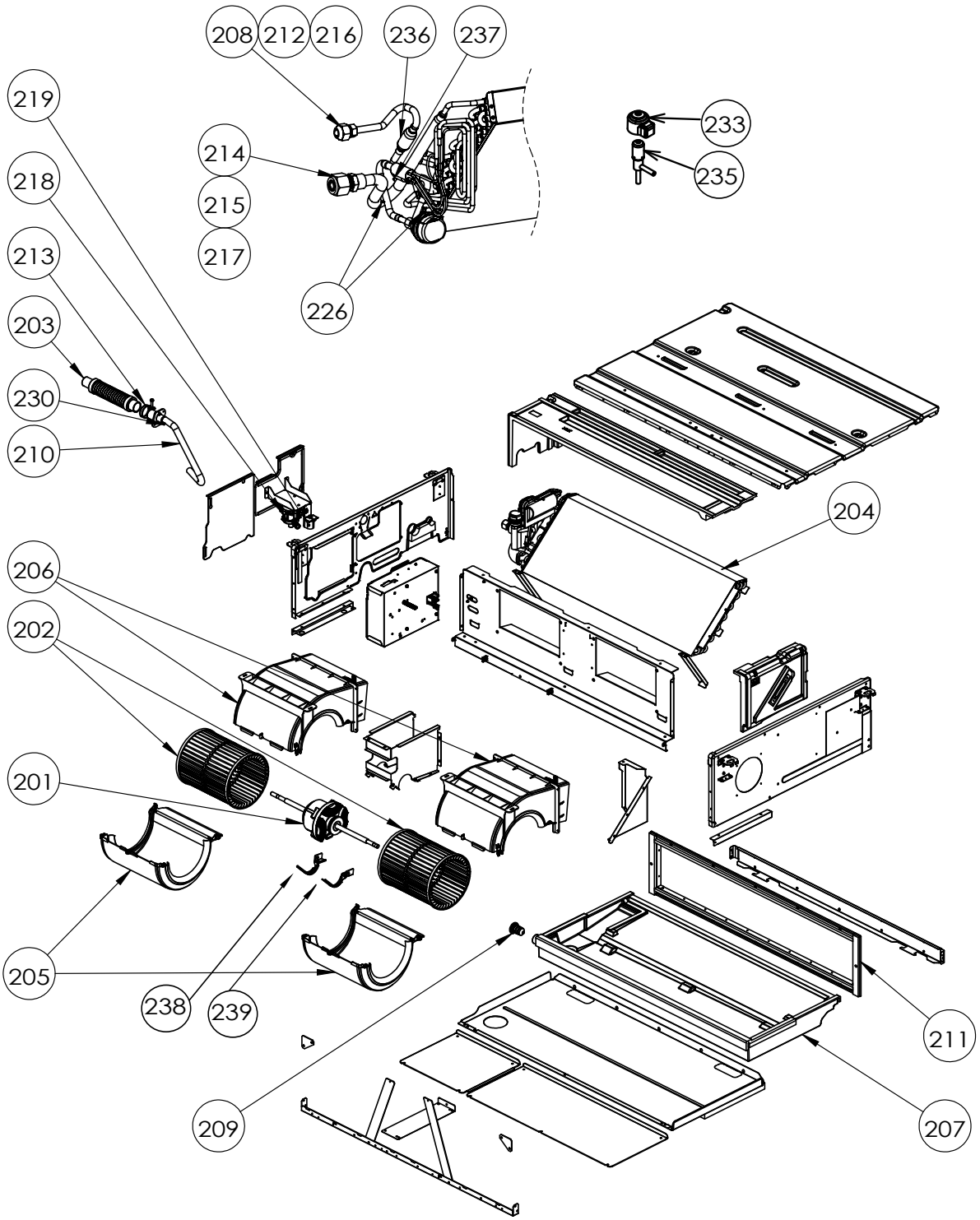


Location No.	Part No.	Description	Model name MMD-UP					
			0051 BHP-E	0071 BHP-E(TR)	0091 BHP-E(TR)	0121 BHP-E(TR)	0151 BHP-E(TR)	0181 BHP-E(TR)
401	43T50347	SENSOR ASSY, SERVICE	2	2	2	2	2	2
402	43T50476	SERVICE-SENSOR	1	1	1	1	1	1
403	43T58320	REACTOR	1	1	1	1	1	1
404	43T60435	SERV-TERMINAL	1	1	1	1	1	1
405	43T60362	TERMINAL	1	1	1	1	1	1
406	43T6W849	PC BOARD ASSY	1	1	1	1	1	1
407	43T50351	HOLDER-TA	1	1	1	1	1	1
408	43T50477	TC-SENSOR (TC1)	1	1	1	1	1	1
409	43T63348	CLAMP, DOWN	1	1	1	1	1	1
410	43T63349	CLAMP, UP	1	1	1	1	1	1

Location No.	Part No.	Description	Model name MMD-UP					
			0241 BHP-E(TR)	0271 BHP-E(TR)	0301 BHP-E(TR)	0361 BHP-E(TR)	0481 BHP-E(TR)	0561 BHP-E(TR)
401	43T50347	SENSOR ASSY, SERVICE	2	2	2	2	2	2
402	43T50476	SERVICE-SENSOR	1	1	1	1	1	1
403	43T58320	REACTOR	1	1	1	1	1	1
404	43T60435	SERV-TERMINAL	1	1	1	1	1	1
405	43T60362	TERMINAL	1	1	1	1	1	1
406	43T6W849	PC BOARD ASSY	1	1	1	1	1	1
407	43T50351	HOLDER-TA	1	1	1	1	1	1
408	43T50477	TC-SENSOR (TC1)	1	1	1	1	1	1
409	43T63348	CLAMP, DOWN	1	1	1	1	1	1
410	43T63349	CLAMP, UP	1	1	1	1	1	1

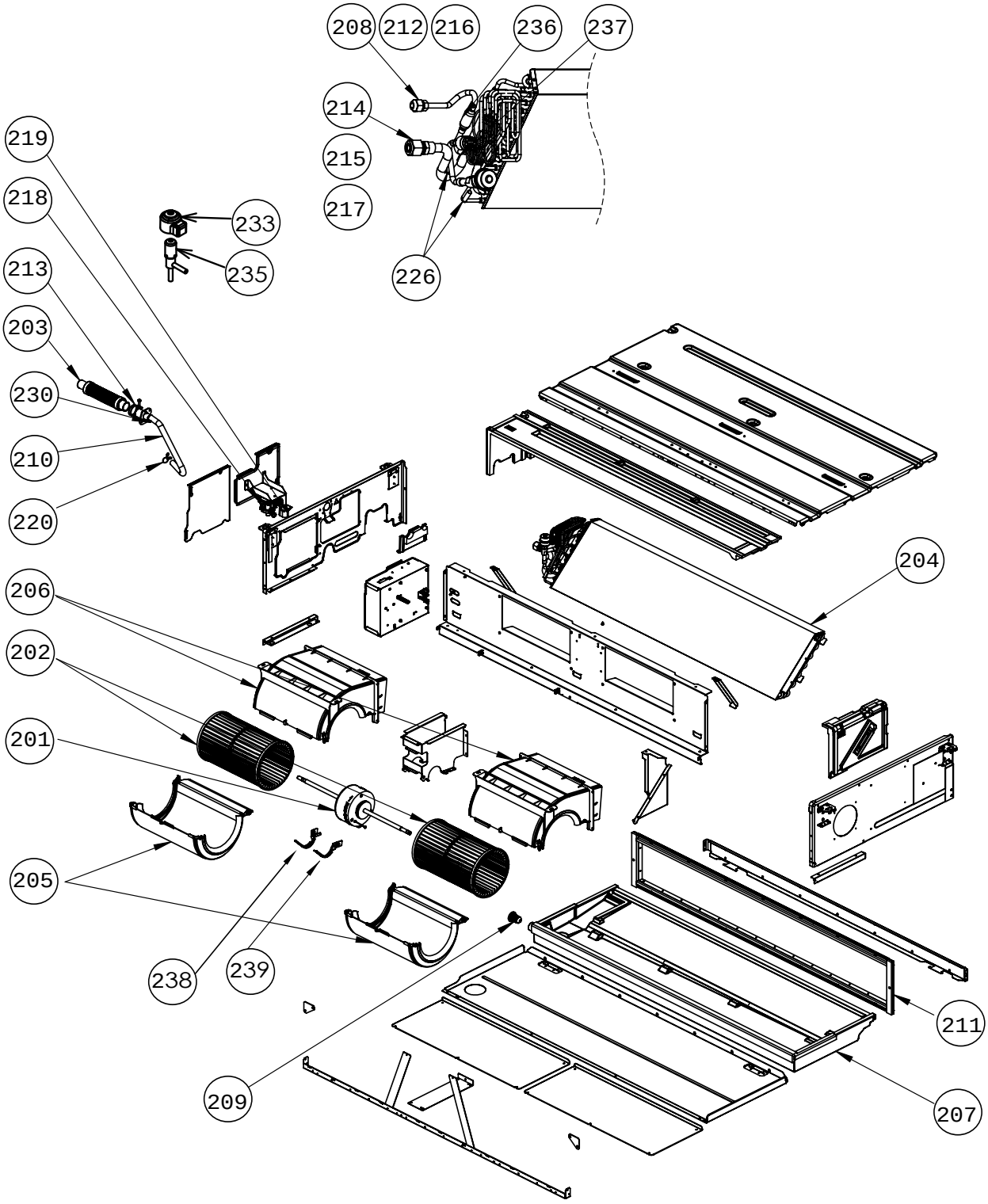
12-4. Concealed Duct High Static Pressure type

MMD-UP0181HP-E(TR), MMD-UP0241HP-E(TR), MMD-UP0271HP-E(TR)



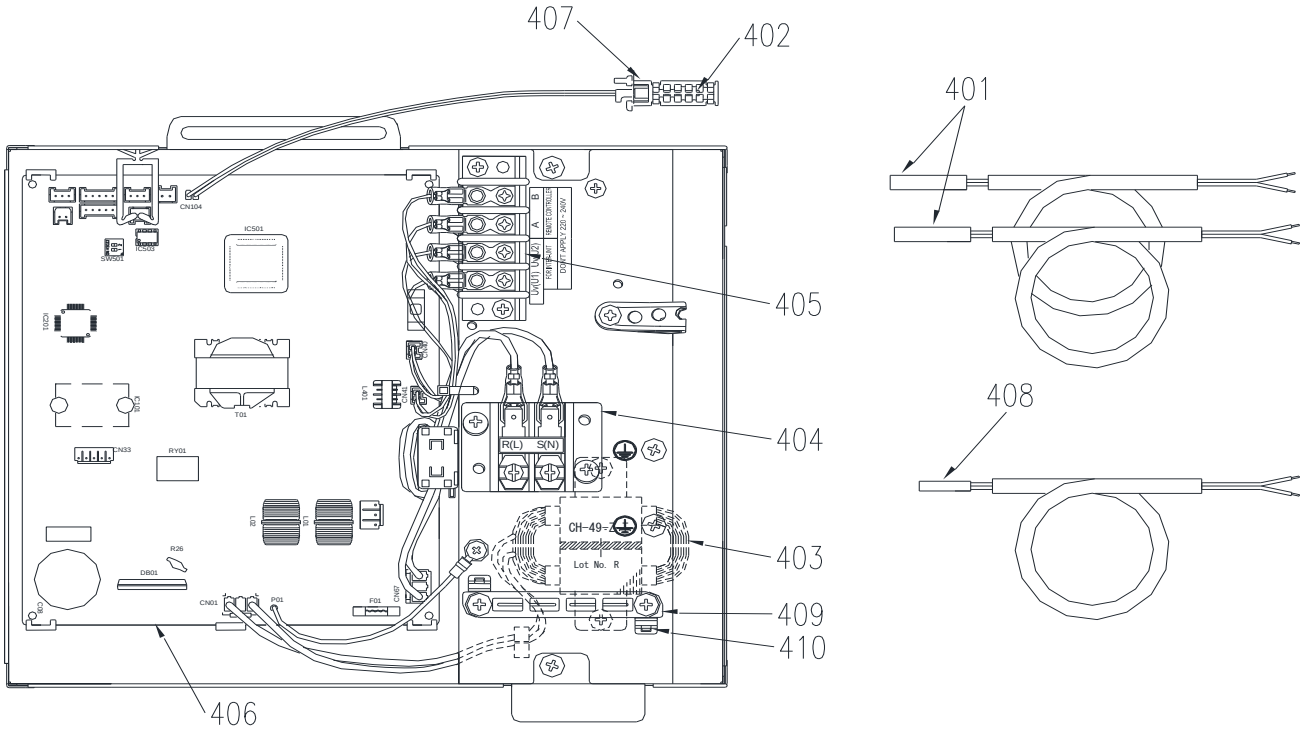
Location No.	Part No.	Description	Model name MMD-UP		
			0181HP-E(TR)	0241HP-E(TR)	0271HP-E(TR)
201	43T21457	MOTOR, FAN	1	1	1
202	43T20340	FAN, MULTI BLADE	2	2	2
203	43T70315	HOSE, DRAIN	1	1	1
204	43T44697	REFRIGERATION CYCLE ASSY	1	-	-
204	43T44698	REFRIGERATION CYCLE ASSY	-	1	1
205	43T22339	CASE, FAN, LOWER	2	2	2
206	43T22341	FAN, CASE, LOWER	2	2	2
207	43T72323	PAN ASSY, DRAIN	1	1	1
208	43T82319	SOCKET	-	1	1
208	43T82319	SOCKET	1	-	-
209	43T79321	CAP, DRAIN	1	1	1
210	43T70320	HOSE, DRAIN	1	1	1
211	43T39361	FLANGE	1	1	1
212	43T47331	BONNET, 6.35 DIA	1	-	-
212	43T47332	BONNET, 9.52 DIA	-	1	1
213	43T83311	BAND, HOSE	1	1	1
214	43T82320	SOCKET	1	-	-
214	43T82321	SOCKET	-	1	1
215	43T97314	NUT, FLARE, 5/8 IN	-	1	1
215	43T97317	NUT, FLARE, 1/2 IN	1	-	-
216	43T97311	NUT, FLARE, 1/4 IN	1	-	-
216	43T97312	NUT, FLARE, 3/8 IN	-	1	1
217	43T47333	BONNET, 12.70 DIA	1	-	-
217	43T47334	BONNET, 15.88 DIA	-	1	1
218	43T77301	PUMP ASSY	1	1	1
219	43T51312	SWITCH, FLOAT	1	1	1
226	43T19333	HOLDER, SENSOR	2	2	2
233	43T46515	COIL, PMV	1	1	1
235	43T46517	BODY, PMV	1	1	1
236	43T47386	STRAINER	1	1	1
237	43T19321	FIX-P-SENSOR	1	1	1
238	43T39416	BAND-MOTOR-L	1	1	1
239	43T39415	BAND-MOTOR-R	1	1	1

MMD-UP0361HP-E(TR), MMD-UP0481HP-E(TR), MMD-UP0561HP-E(TR)



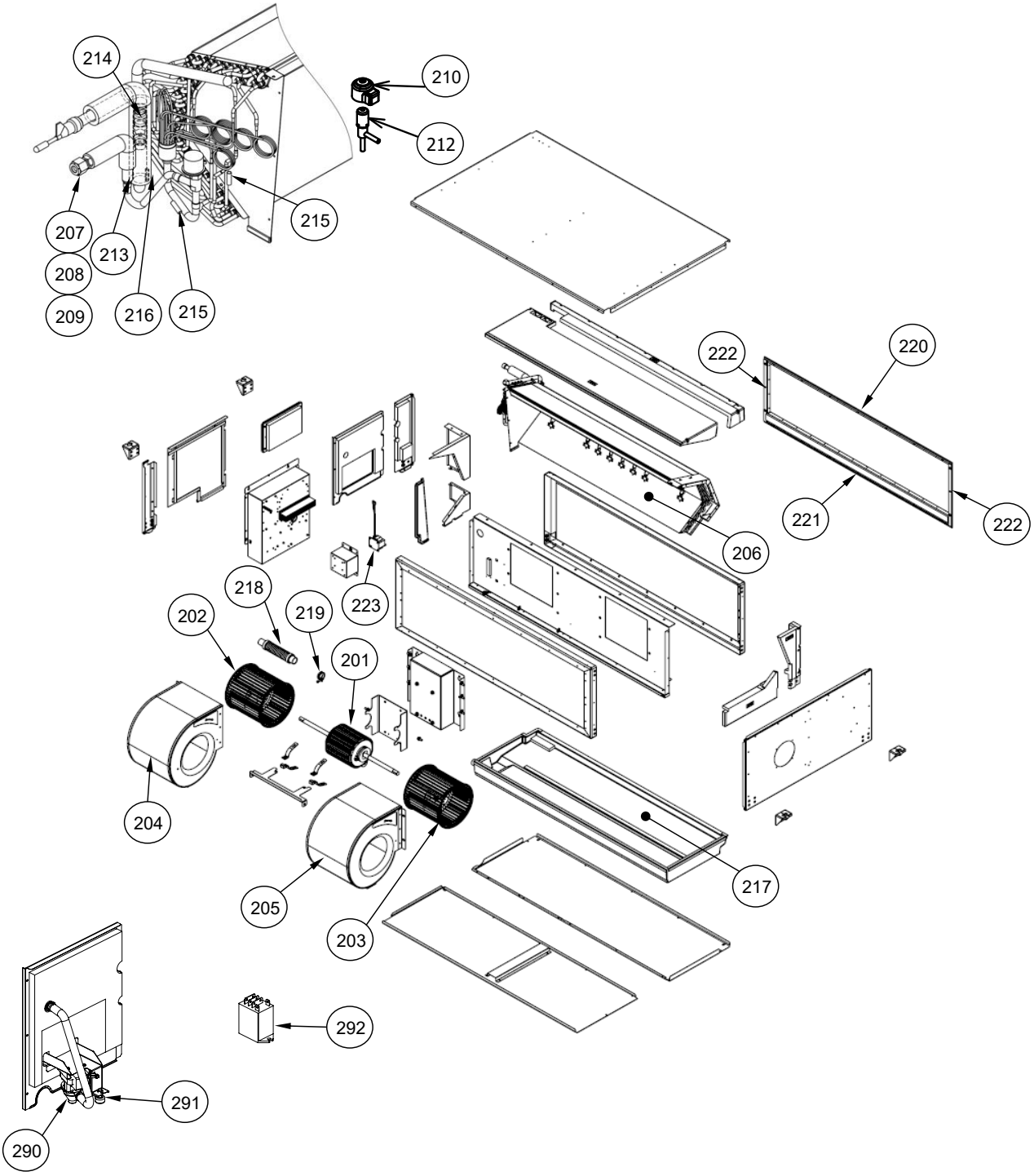
Location No.	Part No.	Description	Model name MMD-UP		
			0361HP-E(TR)	0481HP-E(TR)	0561HP-E(TR)
201	43T21456	MOTOR, FAN	1	1	1
202	43T20339	FAN, MULTI BLADE	2	2	2
203	43T70315	HOSE, DRAIN	1	1	1
204	43T44693	REFRIGERATION CYCLE ASSY	1	1	1
205	43T22340	FAN, CASE, LOWER	2	2	2
206	43T22342	FAN, CASE, UPPER	2	2	2
207	43T72324	PAN ASSY, DRAIN	1	1	1
208	43T82318	SOCKET	1	1	1
209	43T79321	CAP, DRAIN	1	1	1
210	43T70320	HOSE, DRAIN	1	1	1
211	43T39362	FLANGE	1	1	1
212	43T47332	BONNET, 9.52 DIA	1	1	1
213	43T83311	BAND, HOSE	1	1	1
214	43T82321	SOCKET	1	1	1
215	43T97314	NUT, FLARE, 5/8 IN	1	1	1
216	43T97312	NUT, FLARE, 3/8 IN	1	1	1
217	43T47334	BONNET; 15.88 DIA	1	1	1
218	43T77301	PUMP ASSY	1	1	1
219	43T51312	SWITCH, FLOAT	1	1	1
226	43T19333	HOLDER, SENSOR	2	2	2
233	43T46515	COIL, PMV	1	1	1
235	43T46513	BODY, PMV	1	1	1
236	43T47386	STRAINER	1	1	1
237	43T19321	FIX-P-SENSOR	1	1	1
238	43T39416	BAND-MOTOR-L	1	1	1
239	43T39415	BAND-MOTOR-R	1	1	1

Electric Parts



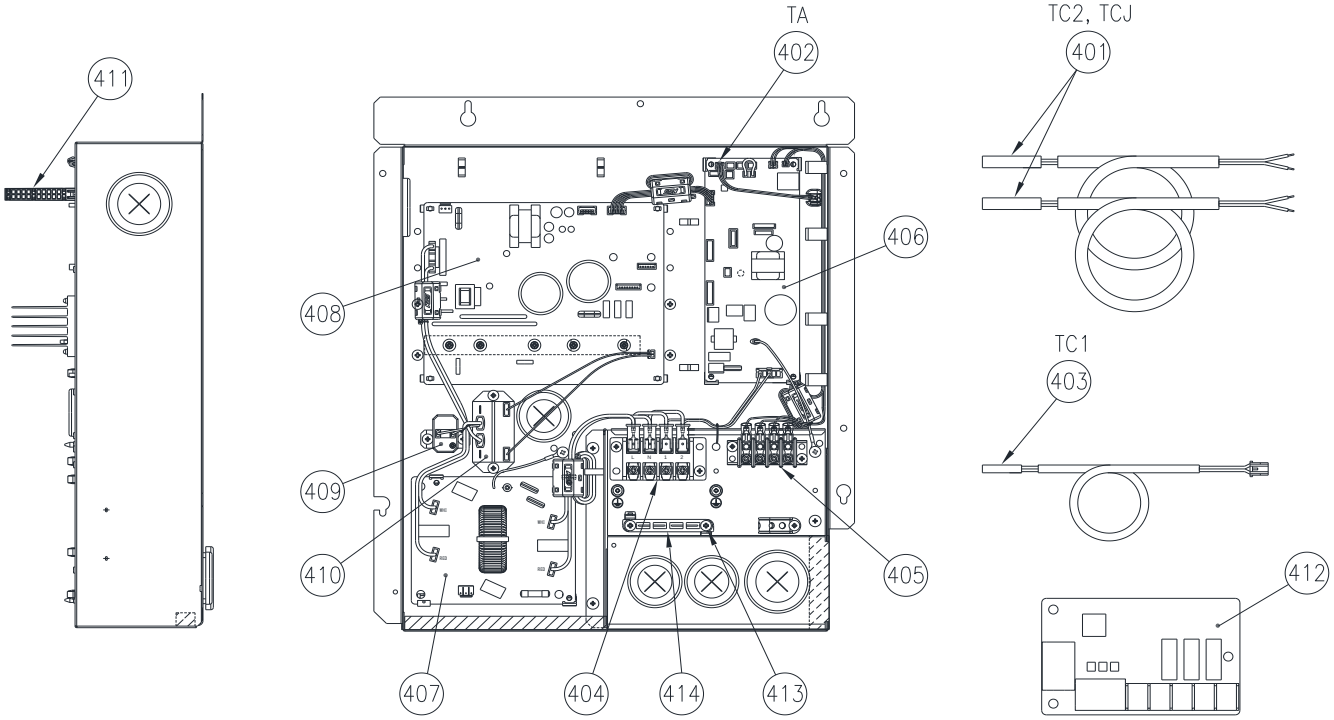
Location No.	Part No.	Description	Model name MMD-UP					
			0181HP-E(TR)	0241HP-E(TR)	0271HP-E(TR)	0361HP-E(TR)	0481HP-E(TR)	0561HP-E(TR)
401	43T50347	SENSOR ASSY, SERVICE	2	2	2	2	2	2
402	43T50476	SERVICE-SENSOR	1	1	1	1	1	1
403	43T58320	REACTOR	1	1	1	1	1	1
404	43T60435	SERV-TERMINAL	1	1	1	1	1	1
405	43T60362	TERMINAL	1	1	1	1	1	1
406	43T6W954	PC BOARD ASSY	1	1	1	1	1	1
407	43T50351	HOLDER-TA	1	1	1	1	1	1
408	43T50477	TC-SENSOR (TC1)	1	1	1	1	1	1
409	43T63348	CLAMP, DOWN	1	1	1	1	1	1
410	43T63349	CLAMP, UP	1	1	1	1	1	1

MMD-UP0721HP-E(TR), MMD-UP0961HP-E(TR)



Location No.	Part No.	Description	Model name MMD-UP	
			0721HP-E(TR)	0961HP-E(TR)
201	43T21463	MOTOR, FAN	1	1
202	43T20346	FAN, MULTI BLADE, LEFT	1	1
203	43T20345	FAN, MULTI BLADE, RIGHT	1	1
204	43T22347	CASE, FAN, LEFT	1	1
205	43T22346	CASE, FAN, RIGHT	1	1
206	43T44694	REFRIGERATION CYCLE ASSY	1	1
207	43T47333	BONNET, 12.70 DIA	1	1
208	43T82333	SOCKET	1	1
209	43T97317	NUT, FLARE, 1/2 IN	1	1
210	43T46515	COIL, PMV	1	1
212	43T46514	BODY, PMV	1	1
213	43T47387	STRAINER	1	1
214	43T47407	STRAINER, GAS	1	1
215	43T19333	HOLDER, SENSOR	2	2
216	43T19321	FIX-P-SENSOR	1	1
217	43T72326	ASM-DR-GENE	1	1
218	43T70315	HOSE, DRAIN	1	1
219	43T83311	BAND, HOSE	1	1
220	43T39371	FLANGE, UPPER	1	1
221	43T39372	FLANGE, LOWER	1	1
222	43T39373	FLANGE, SIDE	2	2
223	43T58332	REACTOR	1	1
290	43T77302	PUMP DRAIN	1	1
291	43T51313	FLOT SWITCH	1	1
292	43T54325	RELAY	1	1

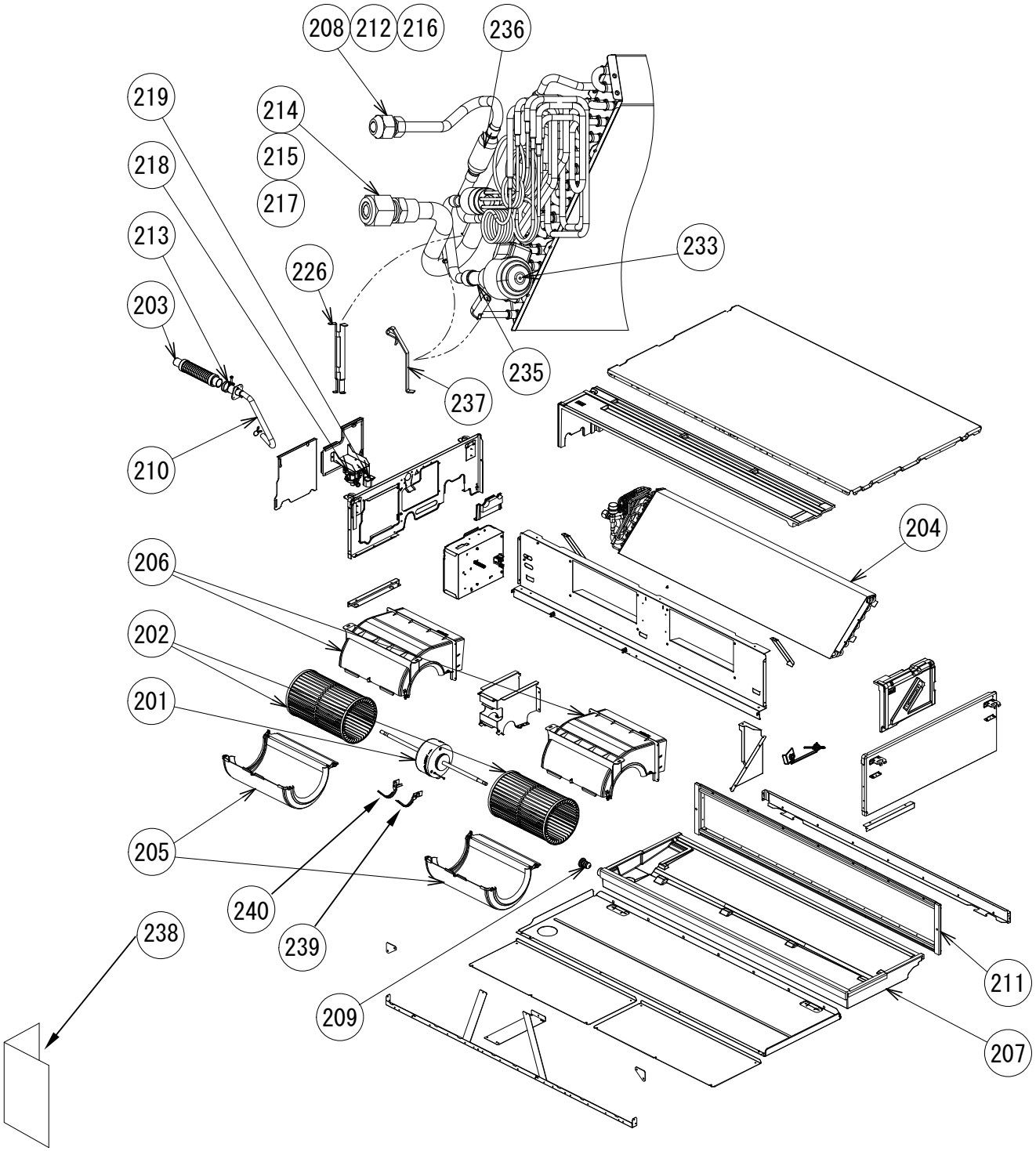
Electric Parts



Location No.	Part No.	Description	Model name MMD-UP	
			0721HP-E(TR)	0961HP-E(TR)
401	43T50347	SENSOR ASSY, SERVICE	2	2
402	43T50476	SERVICE-SENSOR	1	1
403	43T50477	TC-SENSOR (TC1)	1	1
404	43T60458	SERV-TERMINAL	1	1
405	43T60362	TERMINAL	1	1
406	43T6W952	PC BOARD ASSY	1	1
407	43T6V670	PC BOARD ASSY	1	1
408	43T6V671	PC BOARD ASSY	1	1
409	43T50345	THERMISTOR,PTC	1	1
410	43T54324	POWER-RELAY	1	1
411	43T63356	HOLDER-TA	1	1
412	43459017	ASM-PCB(OP)	1	1
413	43T63348	CLAMP, DOWN	1	1
414	43T63349	CLAMP, UP	1	1

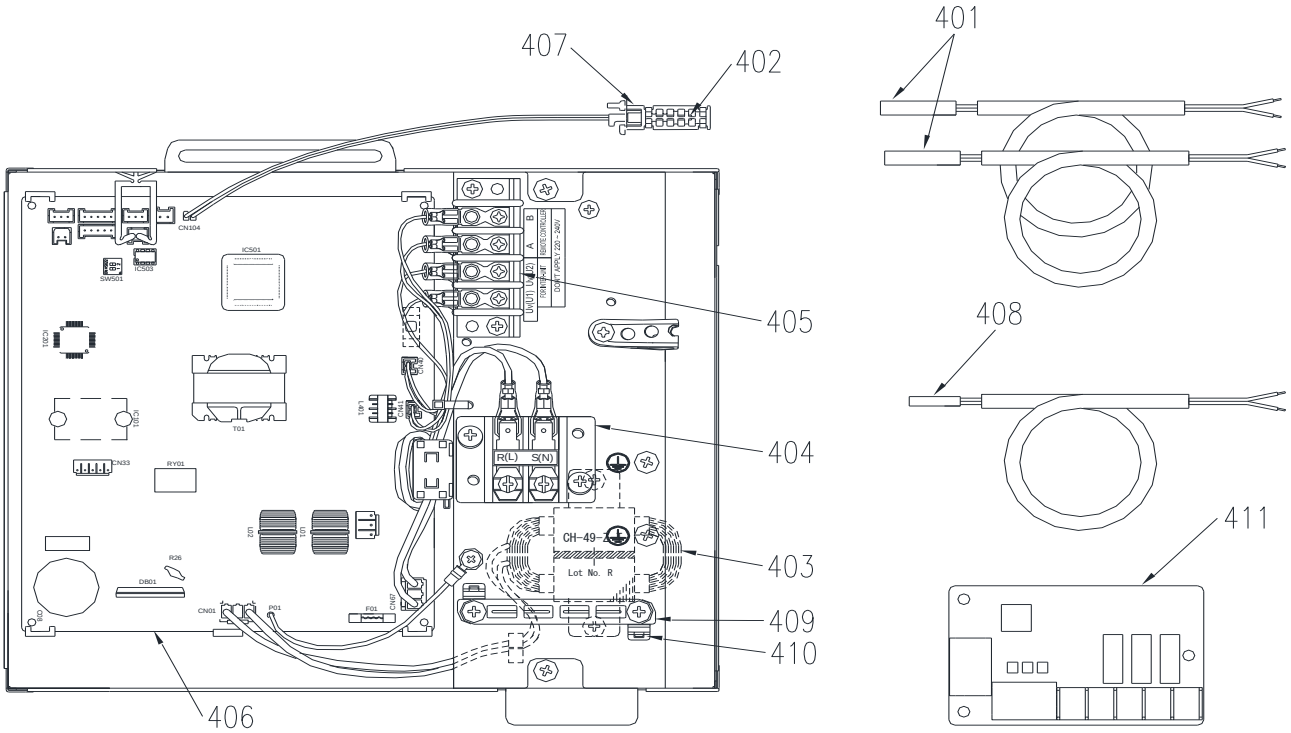
12-5. Concealed Duct High Static Pressure fresh air intake type

MMD-UP0481HFP-E(TR)



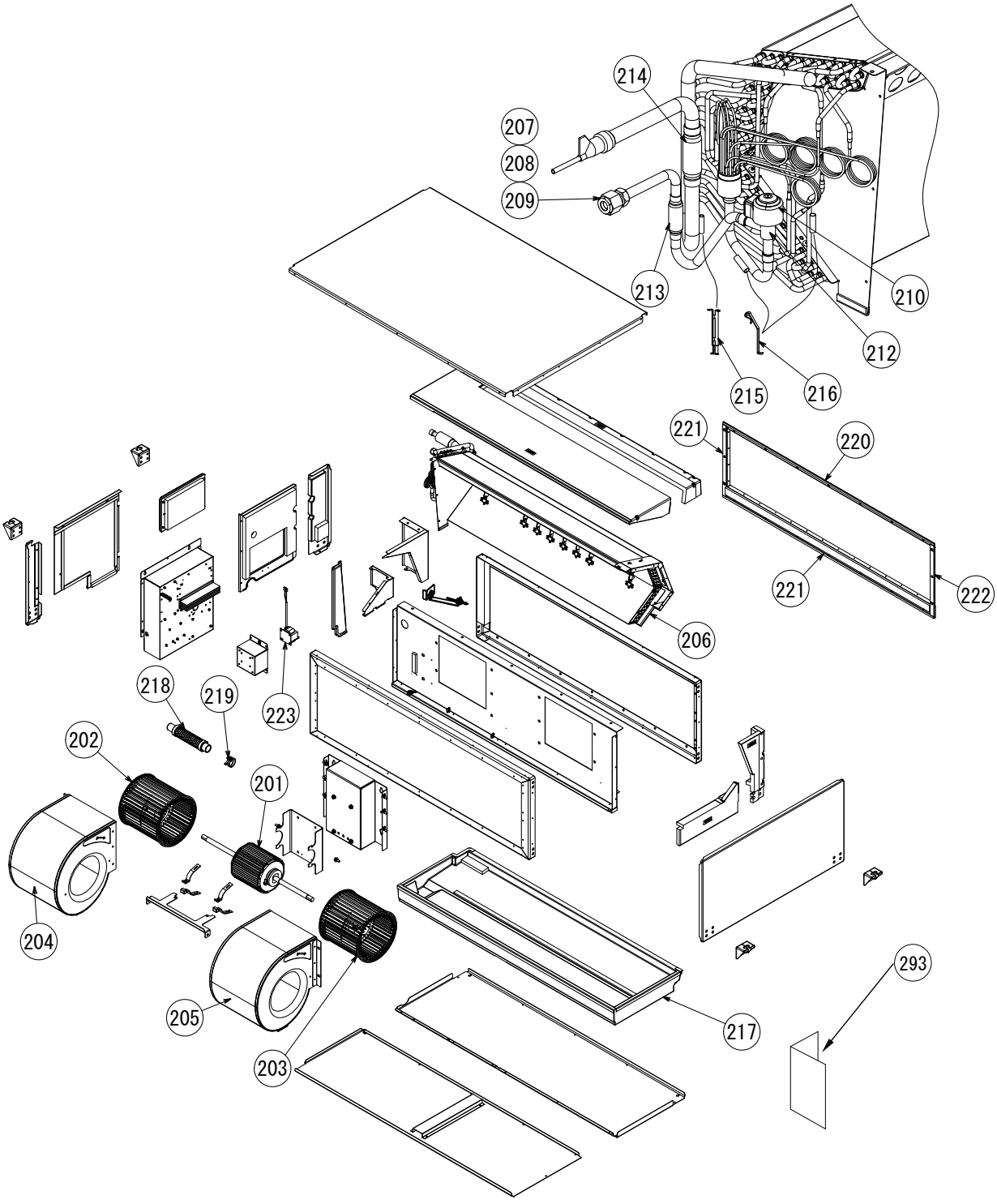
Location No.	Part No.	Description	Model name MMD-UP
			0481HFP-E(TR)
201	43T21520	MOTOR, FAN	1
202	43T20339	FAN, MULTI BLADE	2
203	43T70315	HOSE, DRAIN	1
204	43T44693	REFRIGERATION CYCLE ASSY	1
205	43T22340	FAN, CASE, LOWER	2
206	43T22342	FAN, CASE, UPPER	2
207	43T72324	PAN ASSY, DRAIN	1
208	43T82318	SOCKET	1
209	43T79321	CAP, DRAIN	1
210	43T70320	HOSE, DRAIN	1
211	43T39362	FLANGE	1
212	43T47332	BONNET, 9.52 DIA	1
213	43T83311	BAND, HOSE	1
214	43T82321	SOCKET	1
215	43T97314	NUT, FLARE, 5/8 IN	1
216	43T97312	NUT, FLARE, 3/8 IN	1
217	43T47334	BONNET; 15.88 DIA	1
218	43T77301	PUMP ASSY	1
219	43T51312	SWITCH, FLOAT	1
226	43T19333	HOLDER, SENSOR	2
233	43T46515	COIL, PMV	1
235	43T46513	BODY, PMV	1
236	43T47386	STRAINER	1
237	43T19321	FIX-P-SENSOR	1
238	43T85807	OWNER'S MANUAL	1
239	43T39426	BAND-MOTOR-R	1
240	43T39427	BAND-MOTOR-L	1

Electric Parts



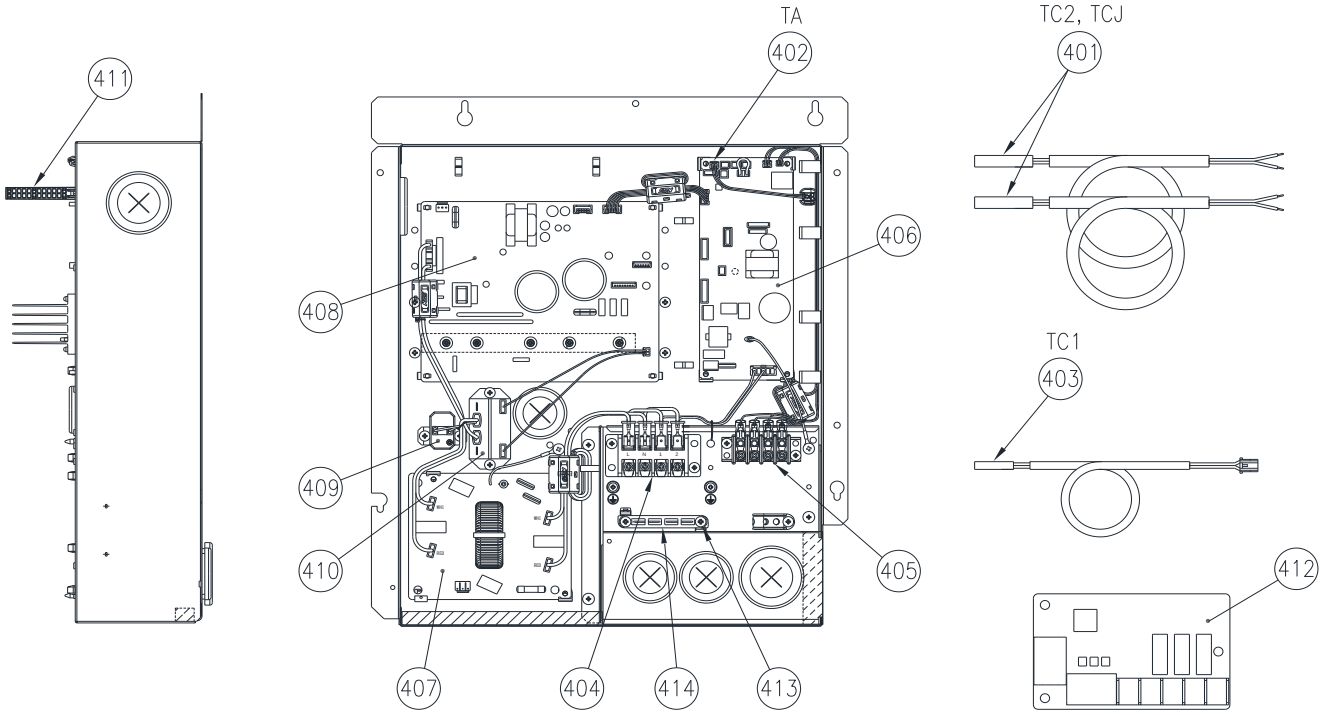
Location No.	Part No.	Description	Model name MMD-UP
			0481HFP-E(TR)
401	43T50347	SENSOR ASSY, SERVICE	2
402	43T50476	SERVICE-SENSOR	1
403	43T58320	REACTOR	1
404	43T60435	SERV-TERMINAL	1
405	43T60362	TERMINAL	1
406	43T6W955	PC BOARD ASSY	1
407	43T50351	HOLDER-TA	1
408	43T50477	TC-SENSOR (TC1)	1
409	43T63348	CLAMP, DOWN	1
410	43T63349	CLAMP, UP	1
411	43459017	ASM-PCB(OP)	1

MMD-UP0721HFP-E(TR), MMD-UP0961HFP-E(TR), MMD-UP1121HFP-E(TR), MMD-UP1281HFP-E(TR)



Location No.	Part No.	Description	Model name MMD-UP			
			0721HFP-E(TR)	0961HFP-E(TR)	1121HFP-E(TR)	1281HFP-E(TR)
201	43T21463	MOTOR, FAN	1	1	1	1
202	43T20346	FAN, MULTI BLADE, LEFT	1	1	1	1
203	43T20345	FAN, MULTI BLADE, RIGHT	1	1	1	1
204	43T22347	CASE, FAN, LEFT	1	1	1	1
205	43T22346	CASE, FAN, RIGHT	1	1	1	1
206	43T44694	REFRIGERATION CYCLE ASSY	1	1	1	1
207	43T47333	BONNET, 12.70 DIA	1	1	1	1
208	43T82333	SOCKET	1	1	1	1
209	43T97317	NUT, FLARE, 1/2 IN	1	1	1	1
210	43T46515	COIL, PMV	1	1	1	1
212	43T46514	BODY, PMV	1	1	1	1
213	43T47387	STRAINER	1	1	1	1
214	43T47407	STRAINER, GAS	1	1	1	1
215	43T19333	HOLDER, SENSOR	2	2	2	2
216	43T19321	FIX-P-SENSOR	1	1	1	1
217	43T72326	ASM-DR-GENE	1	1	1	1
218	43T70315	HOSE, DRAIN	1	1	1	1
219	43T83311	BAND, HOSE	1	1	1	1
220	43T39371	FLANGE, UPPER	1	1	1	1
221	43T39372	FLANGE, LOWER	1	1	1	1
222	43T39373	FLANGE, SIDE	2	2	2	2
223	43T58332	REACTOR	1	1	1	1
290	43T77302	PUMP DRAIN	1	1	1	1
291	43T51313	FLOT SWITCH	1	1	1	1
292	43T54325	RELAY	1	1	1	1
293	43T85807	OWNER'S MANUAL	1	1	1	1

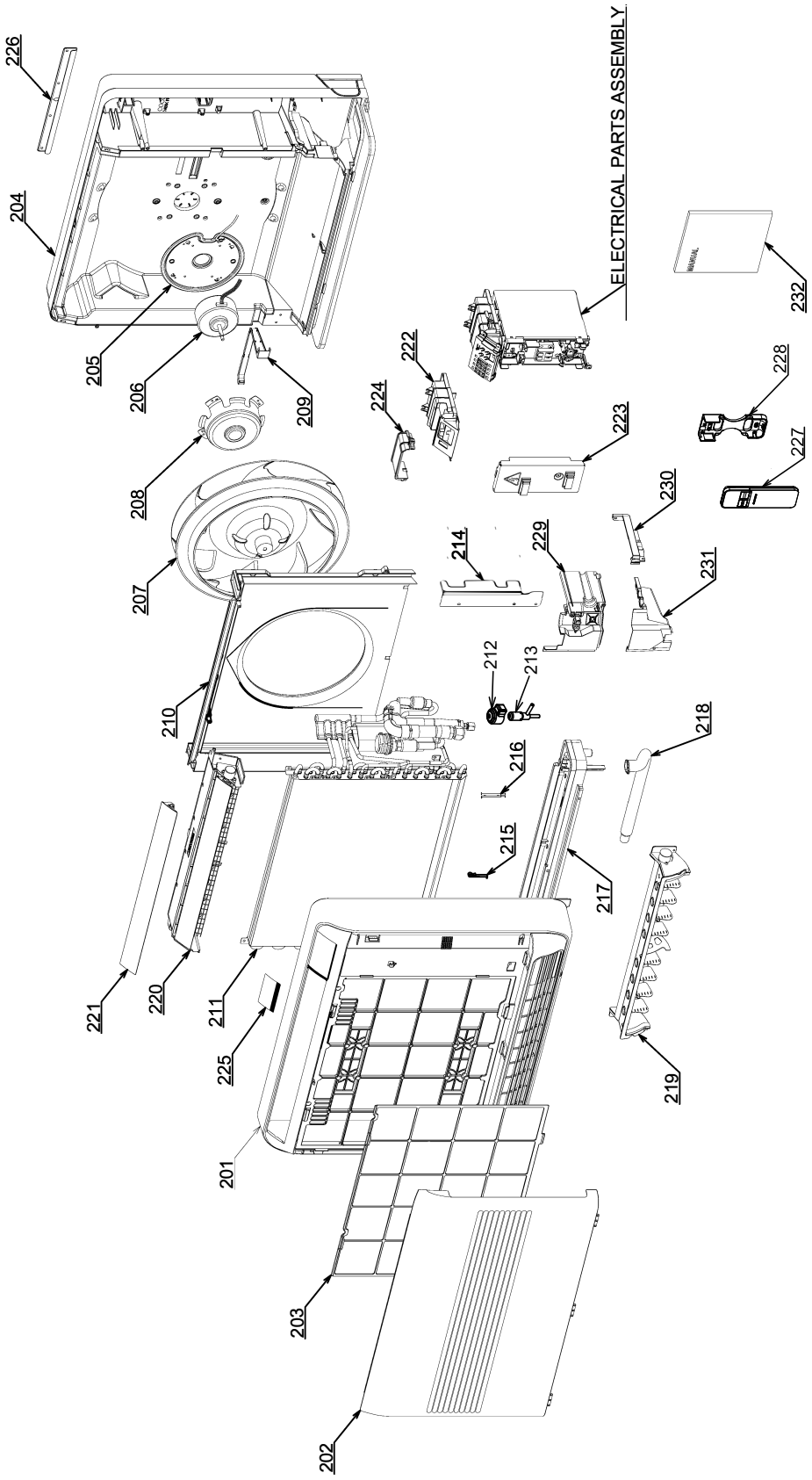
Electric Parts



Location No.	Part No.	Description	Model name MMD-UP			
			0721HFP-E(TR)	0961HFP-E(TR)	1121HFP-E(TR)	1281HFP-E(TR)
401	43T50347	SENSOR ASSY, SERVICE	2	2	2	2
402	43T50476	SERVICE-SENSOR	1	1	1	1
403	43T50477	TC-SENSOR (TC1)	1	1	1	1
404	43T60458	SERV-TERMINAL	1	1	1	1
405	43T60362	TERMINAL	1	1	1	1
406	43T6W953	PC BOARD ASSY	1	1	1	1
407	43T6V670	PC BOARD ASSY	1	1	1	1
408	43T6V671	PC BOARD ASSY	1	1	1	1
409	43T50345	THERMISTOR,PTC	1	1	1	1
410	43T54324	POWER-RELAY	1	1	1	1
411	43T63356	HOLDER-TA	1	1	1	1
412	43459017	ASM-PCB(OP)	1	1	1	1
413	43T63348	CLAMP, DOWN	1	1	1	1
414	43T63349	CLAMP, UP	1	1	1	1

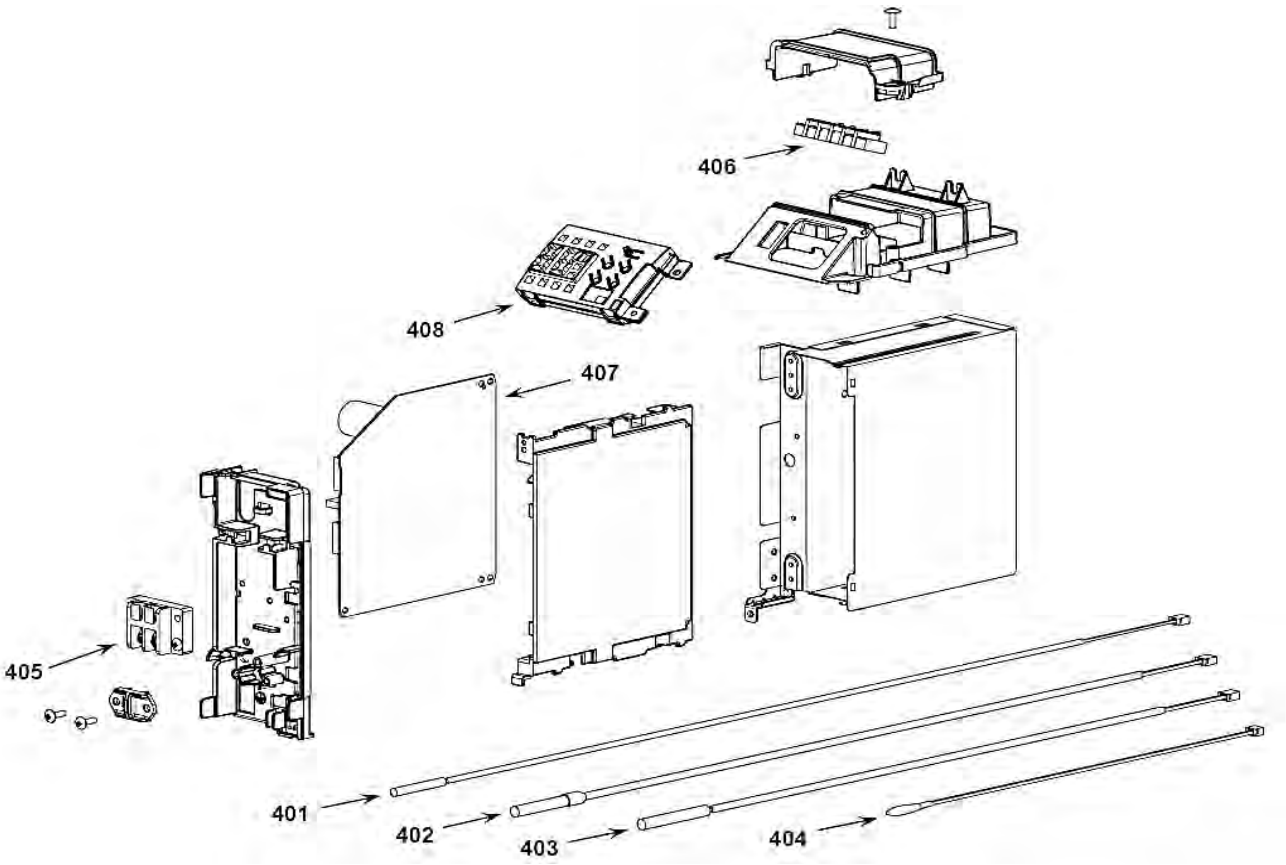
12-6. Console type

MML-UP0071NHP-E(TR), MML-UP0091NHP-E(TR), MML-UP0121NHP-E(TR), MML-UP0151NHP-E(TR), MML-UP0181NHP-E(TR)



Location No.	Part No.	Description	Model name MML-UP				
			0071 NHP-E(TR)	0091 NHP-E(TR)	0121 NHP-E(TR)	0151 NHP-E(TR)	0181 NHP-E(TR)
201	43T00558	FRONT PANEL ASSY	1	1	1	1	1
202	43T09460	INLET GRILLE ASSY	1	1	1	1	1
203	43T80325	AIR FILTER	1	1	1	1	1
204	43T03415	BACK BODY ASSY	1	1	1	1	1
205	43T39340	MOTOR BASE ASSY	1	1	1	1	1
206	43T21424	FAN MOTOR ASSY	1	1	1	1	1
207	43T20330	TURBO FAN ASSY	1	1	1	1	1
208	43T60408	MOTOR HOLDER	1	1	1	1	1
209	43T63331	LEAD COVER	1	1	1	1	1
210	43T22319	BELL MOUTH ASSY	1	1	1	1	1
211	43T44695	REFRIGERATION CYCLE ASSY	1	1	1	-	-
211	43T44696	REFRIGERATION CYCLE ASSY	-	-	-	1	1
212	43T46519	COIL, PMV	1	1	1	1	1
213	43T46516	BODY, PMV	1	1	1	-	-
213	43T46518	BODY, PMV	-	-	-	1	1
214	43T79316	DRAIN GUIDE (UP)	1	1	1	1	1
215	43T19333	HOLDER, SENSOR	2	2	2	2	2
216	43T19321	FIX-P-SENSOR	1	1	1	1	1
217	43T72310	DRAIN PAN ASSY	1	1	1	1	1
218	43T70313	HOSE, DRAIN	1	1	1	1	1
219	43T22318	DAMPER ASSY	1	1	1	1	1
220	43T22320	UPPER LOUVER ASSY	1	1	1	1	1
221	43T22315	HORIZONTAL LOUVER	1	1	1	1	1
222	43T63336	DISPLAY BASE	1	1	1	1	1
223	43T62341	TERMINAL COVER ASSY	1	1	1	1	1
224	43T62342	TERMINAL COVER (UP)	1	1	1	1	1
225	43T08419	DISPLAY	1	1	1	1	1
226	43T82316	PLATE MOUNTING	1	1	1	1	1
227	43T66324	WIRELESS REMOCO	1	1	1	1	1
228	43T83305	HOLDER, REMOTE CONTROL	1	1	1	1	1
229	43T49342	COVER PIPE F ASSY	1	1	1	1	1
230	43T49343	COVER PIPE U ASSY	1	1	1	1	1
231	43T49344	COVER PIPE D ASSY	1	1	1	1	1
232	43T85803	OWNER'S MANUAL	1	1	1	1	1

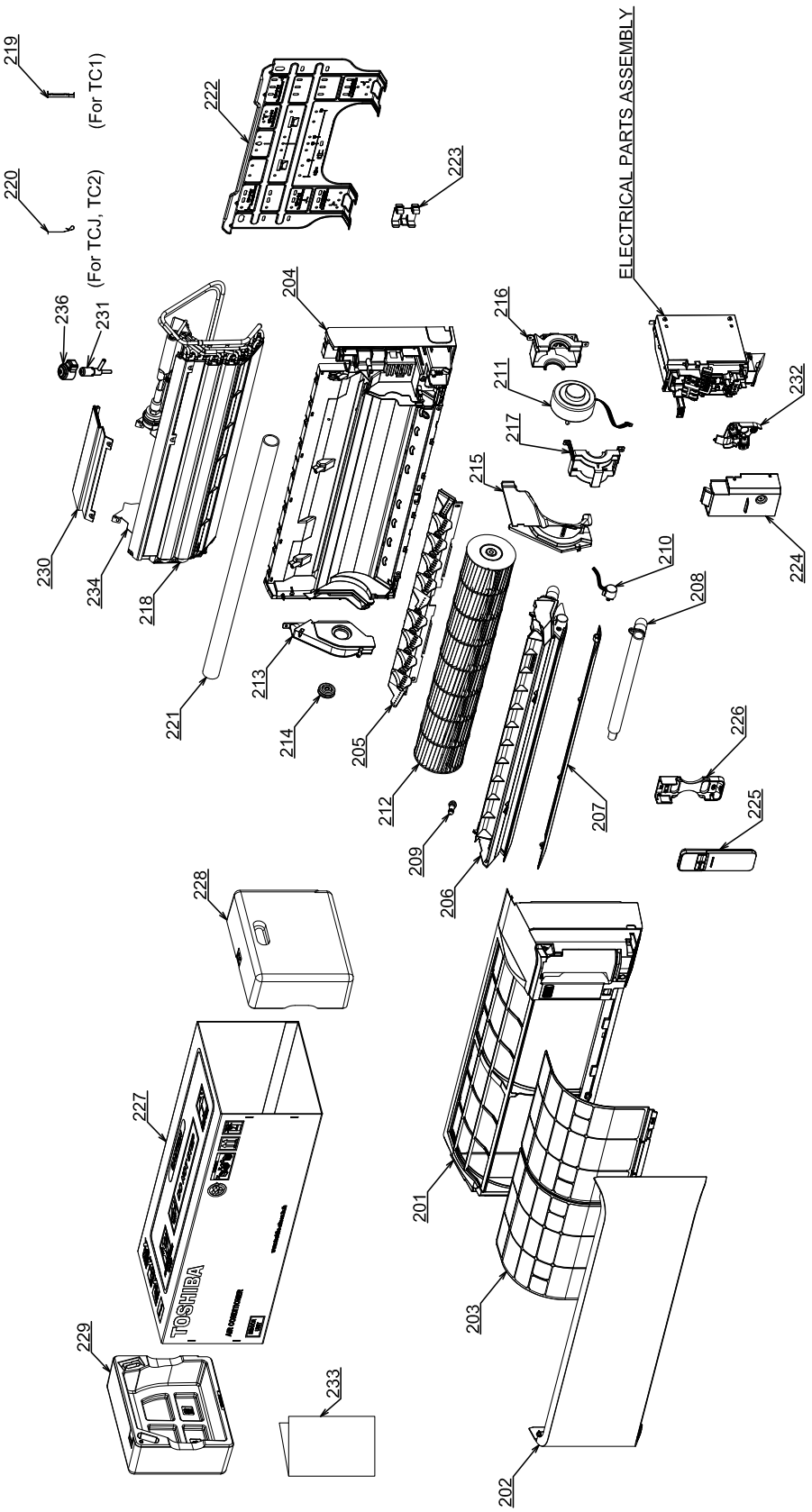
Electric Parts



Location No.	Part No.	Description	Model name MML-UP				
			0071 NHP-E(TR)	0091 NHP-E(TR)	0121 NHP-E(TR)	0151 NHP-E(TR)	0181 NHP-E(TR)
401	43T50317	SENSOR;HEAT EXCHANGER	1	1	1	1	1
402	43T50306	TEMPERATURE SENSOR	1	1	1	1	1
403	43T50393	TEMPERATURE SENSOR	1	1	1	1	1
404	43T69320	TEMPERATURE SENSOR	1	1	1	1	1
405	43T60078	TERMIMAL BLOCK	1	1	1	1	1
406	43T60079	TERMINAL BLOCK	1	1	1	1	1
407	43T6W957	PC BOARD ASSY	1	1	1	1	1
408	43T69900	PC BOARD ASSY,WRS-LED	1	1	1	1	1

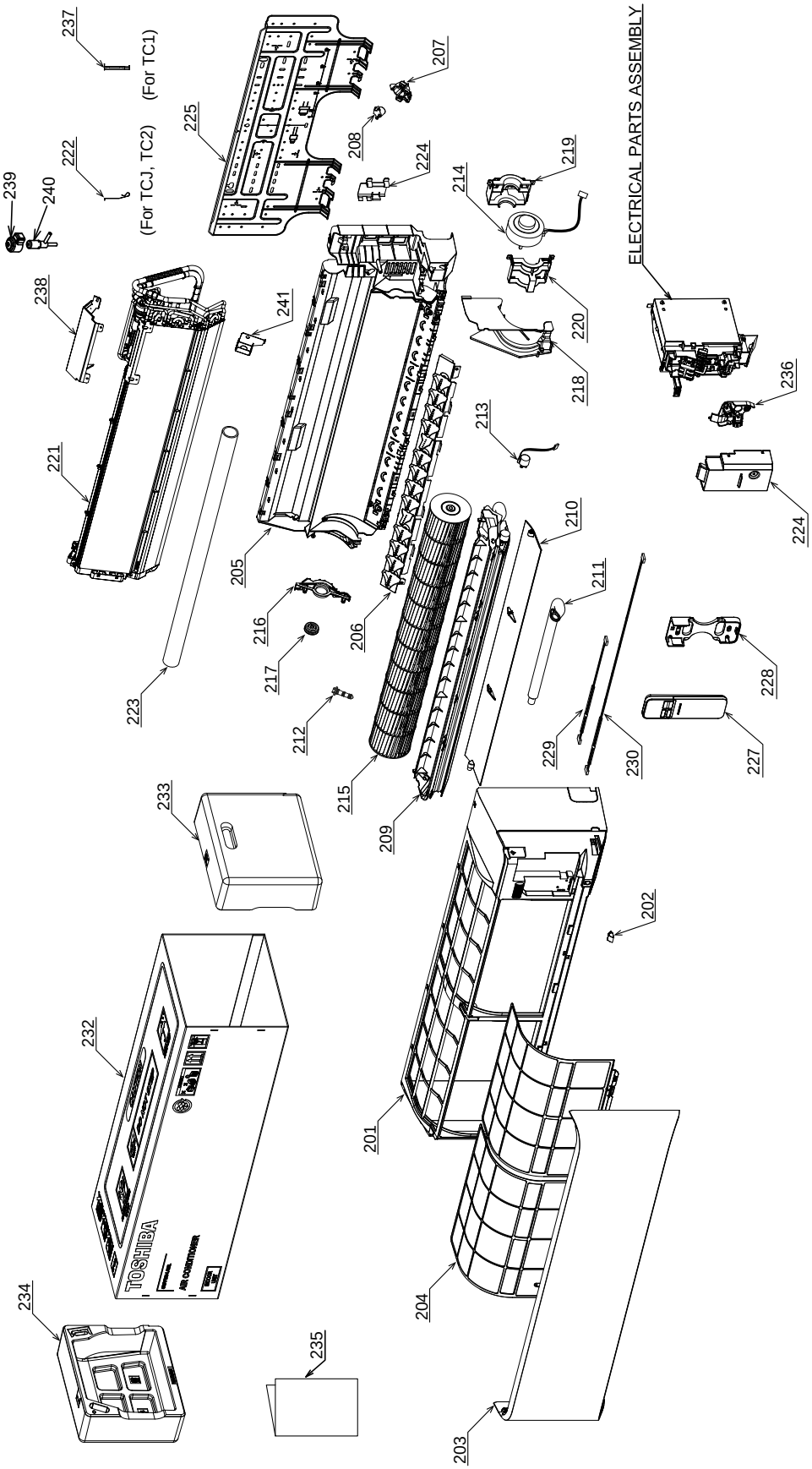
12-7. High wall type

MMK-UP0031HP-E(TR), MMK-UP0051HP-E(TR), MMK-UP0071HP-E(TR), MMK-UP0091HP-E(TR), MMK-UP0121HP-E(TR)



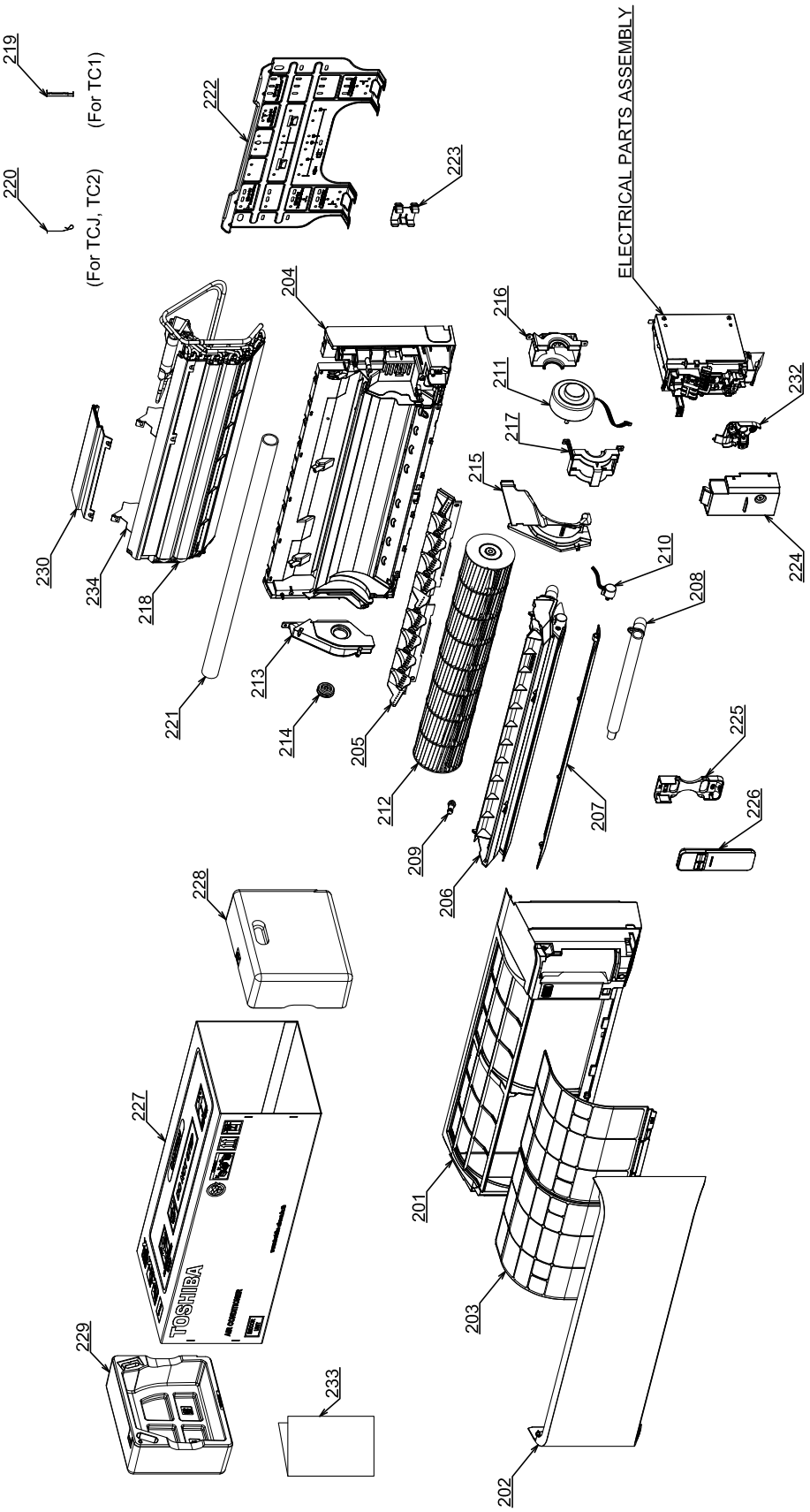
Location No.	Part No.	Description	Model name MMK-UP				
			0031 HP-E(TR)	0051 HP-E(TR)	0071 HP-E(TR)	0091 HP-E(TR)	0121 HP-E(TR)
201	43T00806	FRONT PANEL ASSY	1	1	1	1	1
202	43T09520	GRILLE OF AIR INLET ASSY	1	1	1	1	1
203	43T80357	AIR FILTER	2	2	2	2	2
204	43T03408	BACK BODY ASSY	1	1	1	1	1
205	43T22358	VERTICAL LOUVER ASSY	1	1	1	1	1
206	43T72336	DRAIN PAN ASSY	1	1	1	1	1
207	43T22359	HORIZONTAL LOUVER ASSY	1	1	1	1	1
208	43T70321	DRAIN HOSE	1	1	1	1	1
209	43T79322	DRAIN CAP	1	1	1	1	1
210	43T21461	STEPPING MOTOR	1	1	1	1	1
211	43T21471	MOTOR FAN	1	1	1	1	1
212	43T20344	CROSS FLOW FAN ASSY	1	1	1	1	1
213	43T39365	BASE BEARING	1	1	1	1	1
214	43T22312	BEARING ASSY, MOLD	1	1	1	1	1
215	43T39390	MOTOR-COVER	1	1	1	1	1
216	43T39368	MOTOR BAND BACK	1	1	1	1	1
217	43T39369	MOTOR BAND FRONT	1	1	1	1	1
218	43T44699	REFRIGERATION CYCLE ASSY	1	1	1	1	1
219	43T19321	FIX-P-SENSOR	1	1	1	1	1
220	43T19333	HOLDER, SENSOR	2	2	2	2	2
221	43T11321	PIPE-SHIELD	1	1	1	1	1
222	43T82332	INSTALLATION PLATE	1	1	1	1	1
223	43T49368	PIPE HOLDER	1	1	1	1	1
224	43T62364	TERMINAL COVER ASSY	1	1	1	1	1
225	43T66324	WIRELESS REMOCO	1	1	1	1	1
226	43T83305	HOLDER, REMOTE CONTROL	1	1	1	1	1
227	43T91305	PACKING SLEEVE	1	1	1	1	1
228	43T91306	PACKING CUSHION RIGHT	1	1	1	1	1
229	43T91307	PACKING CUSHION LEFT	1	1	1	1	1
230	43T04348	COVER PMV ASSEMBLY	1	1	1	1	1
231	43T46516	BODY, PMV	1	1	1	1	1
232	43T62365	CLAMP BASE ASSY	1	1	1	1	1
233	43T85805	OWNER'S MANUAL	1	1	1	1	1
234	43T39391	PLATE BACK ASSY	1	1	1	1	1
236	43T46519	COIL, PMV	1	1	1	1	1

MMK-UP0151HP-E(TR), MMK-UP0181HP-E(TR), MMK-UP0241HP-E(TR)



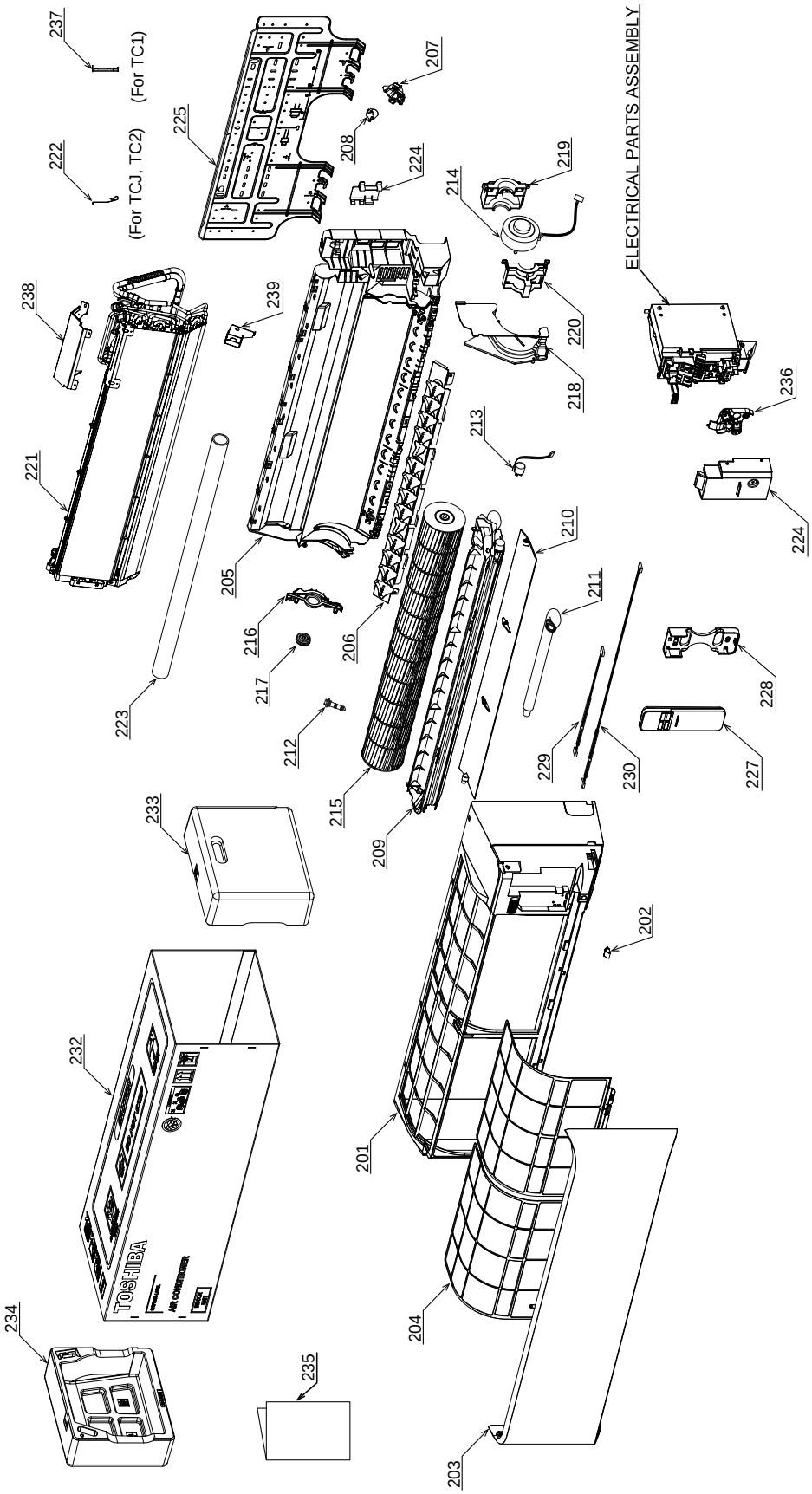
Location No.	Part No.	Description	Model name MMK-UP		
			0151HP-E(TR)	0181HP-E(TR)	0241HP-E(TR)
201	43T00805	FRONT PANEL ASSY	1	1	1
202	43T00752	CAP SCREW ASSEMBLY	2	2	2
203	43T09554	GRILLE OF AIR INLET ASSY	1	1	1
204	43T80358	AIR FILTER	2	2	2
205	43T03414	BACK BODY ASSY	1	1	1
206	43T22360	VERTICAL LOUVER ASSY	1	1	1
209	43T72346	DRAIN PAN ASSY	1	1	1
210	43T22354	HORIZONTAL LOUVER	1	1	1
211	43T70321	DRAIN HOSE	1	1	1
212	43T79322	DRAIN CAP	1	1	1
213	43T21478	MOTOR; STEPPING	1	1	1
214	43T21471	MOTOR FAN	1	1	1
215	43T20357	CROSS FLOW FAN ASSY	1	1	1
216	43T39385	BASE BEARING	1	1	1
217	43T22312	BEARING ASSY, MOLD	1	1	1
218	43T39384	MOTOR COVER	1	1	1
219	43T39381	MOTOR BAND BACK	1	1	1
220	43T39382	MOTOR BAND FRONT	1	1	1
221	43T44700	REFRIGERATION CYCLE ASSY	1	1	-
221	43T44701	REFRIGERATION CYCLE ASSY	-	-	1
222	43T19333	HOLDER, SENSOR	2	2	2
223	43T49045	PIPE, SHIELD	1	1	1
224	43T49043	HOLDER, PIPE	1	1	1
225	43T82008	PLATE, INSTALLATION	1	1	1
226	43T62364	TERMINAL COVER ASSY	1	1	1
227	43T66324	WIRELESS REMOCO	1	1	1
228	43T83305	HOLDER, REMOTE CONTROL	1	1	1
232	43T91333	PACKING SLEEVE	1	1	1
233	43T91334	PACKING CUSHION RIGHT	1	1	1
234	43T91335	PACKING CUSHION LEFT	1	1	1
235	43T85805	OWNER'S MANUAL	1	1	1
236	43T62365	CLAMP BASE ASSY	1	1	1
237	43T19321	FIX-P-SENSOR	1	1	1
238	43T04378	PMV COVER ASSEMBLY	1	1	1
239	43T46519	COIL, PMV	1	1	1
240	43T46518	BODY, PMV	1	1	1
241	43T63377	PLATE-HOLDER-SENSOR	1	1	1
242	43T91392	REINFORCEMENT FIBERBOARD ASSY	1	1	1

MMK-UP0031HPL-E(TR), MMK-UP0051HPL-E(TR), MMK-UP0071HPL-E(TR), MMK-UP0091HPL-E(TR), MMK-UP0121HPL-E(TR)



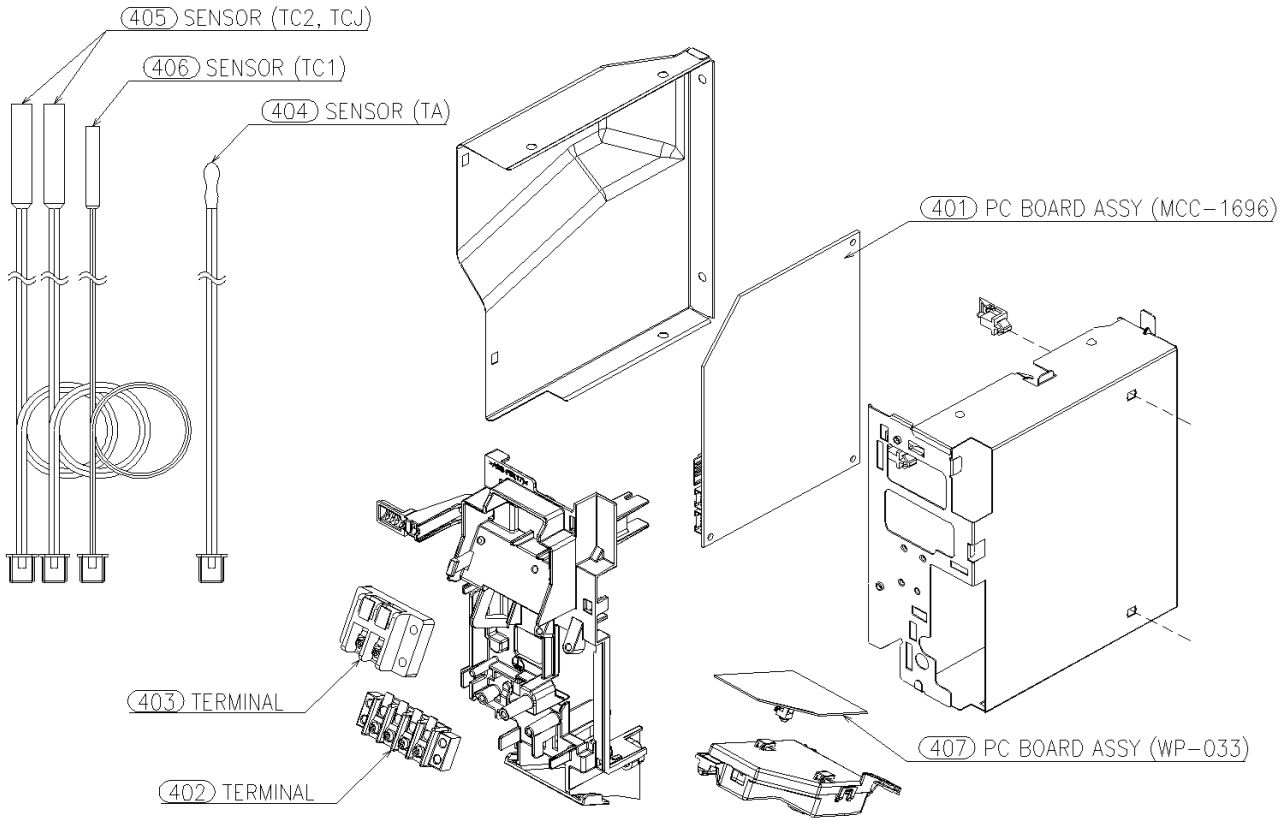
Location No.	Part No.	Description	Model name MMK-UP				
			0031 HPL-E(TR)	0051 HPL-E(TR)	0071 HPL-E(TR)	0091 HPL-E(TR)	0121 HPL-E(TR)
201	43T00806	FRONT PANEL ASSY	1	1	1	1	1
202	43T09520	GRILLE OF AIR INLET ASSY	1	1	1	1	1
203	43T80357	AIR FILTER	2	2	2	2	2
204	43T03408	BACK BODY ASSY	1	1	1	1	1
205	43T22358	VERTICAL LOUVER ASSY	1	1	1	1	1
206	43T72336	DRAIN PAN ASSY	1	1	1	1	1
207	43T22359	HORIZONTAL LOUVER ASSY	1	1	1	1	1
208	43T70321	DRAIN HOSE	1	1	1	1	1
209	43T79322	DRAIN CAP	1	1	1	1	1
210	43T21461	STEPPING MOTOR	1	1	1	1	1
211	43T21471	MOTOR FAN	1	1	1	1	1
212	43T20344	CROSS FLOW FAN ASSY	1	1	1	1	1
213	43T39365	BASE BEARING	1	1	1	1	1
214	43T22312	BEARING ASSY, MOLD	1	1	1	1	1
215	43T39390	MOTOR-COVER	1	1	1	1	1
216	43T39368	MOTOR BAND BACK	1	1	1	1	1
217	43T39369	MOTOR BAND FRONT	1	1	1	1	1
218	43T44596	REFRIGERATION CYCLE ASSY	1	1	1	1	1
219	43T19321	FIX-P-SENSOR	1	1	1	1	1
220	43T19333	HOLDER, SENSOR	2	2	2	2	2
221	43T11321	PIPE-SHIELD	1	1	1	1	1
222	43T82332	INSTALLATION PLATE	1	1	1	1	1
223	43T49368	PIPE HOLDER	1	1	1	1	1
224	43T62364	TERMINAL COVER ASSY	1	1	1	1	1
225	43T66324	WIRELESS REMOCO	1	1	1	1	1
226	43T83305	HOLDER, REMOTE CONTROL	1	1	1	1	1
227	43T91305	PACKING SLEEVE	1	1	1	1	1
228	43T91306	PACKING CUSHION RIGHT	1	1	1	1	1
229	43T91307	PACKING CUSHION LEFT	1	1	1	1	1
230	43T04348	COVER PMV ASSEMBLY	1	1	1	1	1
232	43T62365	CLAMP BASE ASSY	1	1	1	1	1
233	43T85805	OWNER'S MANUAL	1	1	1	1	1
234	43T39391	PLATE BACK ASSY	1	1	1	1	1

MMK-UP0151HPL-E(TR), MMK-UP0181HPL-E(TR), MMK-UP0241HPL-E(TR)



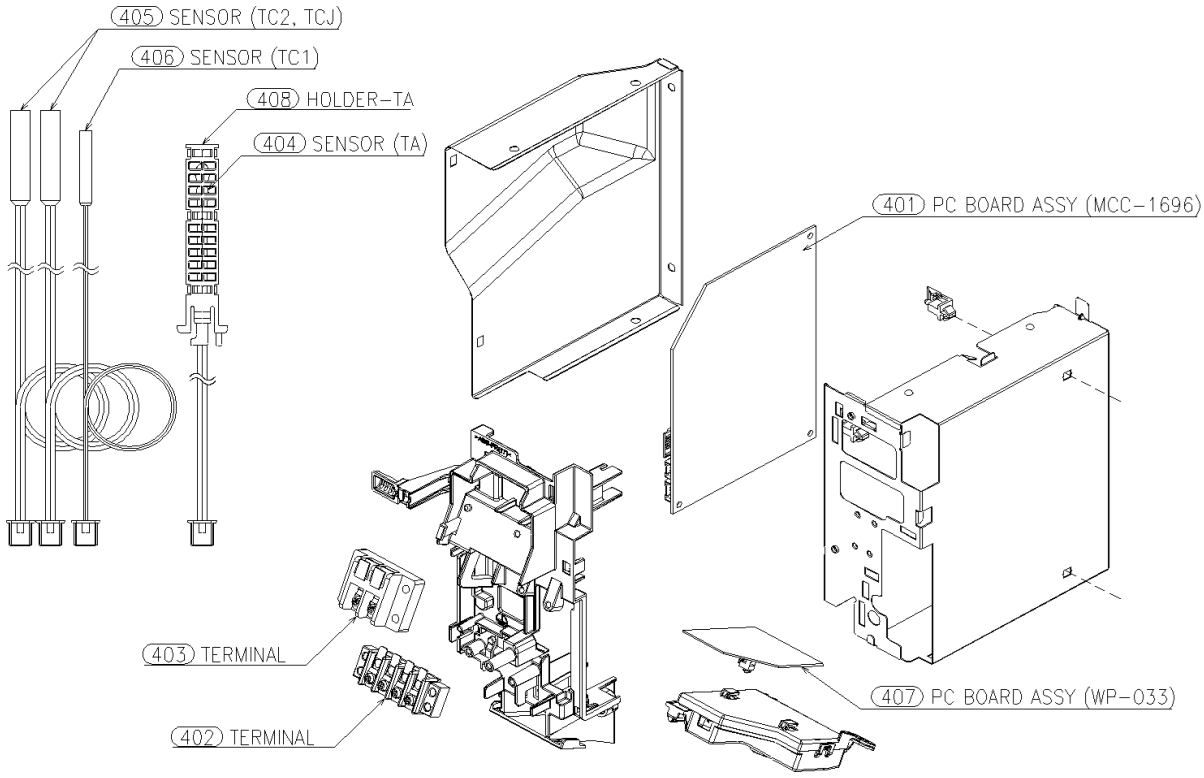
Location No.	Part No.	Description	Model name MMK-UP		
			0151HPL-E(TR)	0181HPL-E(TR)	0241HPL-E(TR)
201	43T00805	FRONT PANEL ASSY	1	1	1
202	43T00752	CAP SCREW ASSEMBLY	2	2	2
203	43T09554	GRILLE OF AIR INLET ASSY	1	1	1
204	43T80358	AIR FILTER	2	2	2
205	43T03414	BACK BODY ASSY	1	1	1
206	43T22360	VERTICAL LOUVER ASSY	1	1	1
209	43T72346	DRAIN PAN ASSY	1	1	1
210	43T22354	HORIZONTAL LOUVER	1	1	1
211	43T70321	DRAIN HOSE	1	1	1
212	43T79322	DRAIN CAP	1	1	1
213	43T21478	MOTOR; STEPPING	1	1	1
214	43T21471	MOTOR FAN	1	1	1
215	43T20357	CROSS FLOW FAN ASSY	1	1	1
216	43T39385	BASE BEARING	1	1	1
217	43T22312	BEARING ASSY, MOLD	1	1	1
218	43T39384	MOTOR COVER	1	1	1
219	43T39381	MOTOR BAND BACK	1	1	1
220	43T39382	MOTOR BAND FRONT	1	1	1
221	43T44639	REFRIGERATION CYCLE ASSY	1	1	-
221	43T44640	REFRIGERATION CYCLE ASSY	-	-	1
222	43T19333	HOLDER, SENSOR	2	2	2
223	43T49045	PIPE, SHIELD	1	1	1
224	43T49043	HOLDER, PIPE	1	1	1
225	43T82008	PLATE, INSTALLATION	1	1	1
226	43T62364	TERMINAL COVER ASSY	1	1	1
227	43T66324	WIRELESS REMOCO	1	1	1
228	43T83305	HOLDER, REMOTE CONTROL	1	1	1
232	43T91333	PACKING SLEEVE	1	1	1
233	43T91334	PACKING CUSHION RIGHT	1	1	1
234	43T91335	PACKING CUSHION LEFT	1	1	1
235	43T85805	OWNER'S MANUAL	1	1	1
236	43T62365	CLAMP BASE ASSY	1	1	1
237	43T19321	FIX-P-SENSOR	1	1	1
238	43T04378	PMV COVER ASSEMBLY	1	1	1
239	43T63377	PLATE-HOLDER-SENSOR	1	1	1

Electric Parts



Location No.	Part No.	Description	Model name MMK-UP				
			0031 HP,HPL-E(TR)	0051 HP,HPL-E(TR)	0071 HP,HPL-E(TR)	0091 HP,HPL-E(TR)	0121 HP,HPL-E(TR)
401	43T6W956	PC BOARD ASSY	1	1	1	1	1
402	43T60448	TERMINAL	1	1	1	1	1
403	43T60078	TERMIMAL BLOCK	1	1	1	1	1
404	43T50392	SENSOR,THERMOSTAT	1	1	1	1	1
405	43T50304	SENSOR;HEAT EXCHANGER	1	1	1	1	1
406	43T50317	SENSOR;HEAT EXCHANGER	1	1	1	1	1
407	43T6V932	PC BOARD ASSY	1	1	1	1	1

Electric Parts



Location No.	Part No.	Description	Model name MMK-UP		
			0151 HP,HPL-E(TR)	0181 HP,HPL-E(TR)	0241 HP,HPL-E(TR)
401	43T6W956	PC BOARD ASSY	1	1	1
402	43T60448	TERMINAL	1	1	1
403	43T60078	TERMIMAL BLOCK	1	1	1
404	43T50392	SENSOR,THERMOSTAT	1	1	1
405	43T50304	SENSOR;HEAT EXCHANGER	1	1	1
406	43T50317	SENSOR;HEAT EXCHANGER	1	1	1
407	43T6V932	PC BOARD ASSY	1	1	1
408	43T63356	HOLDER-TA	1	1	1

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