TOSHIBA

AIR CONDITIONER (MULTI TYPE)

# Installation Manual

**R32 or R410A**

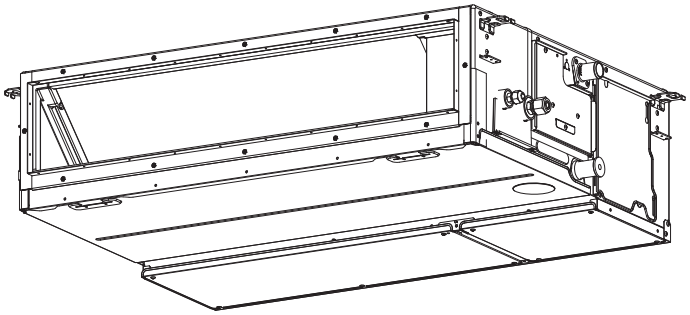
## Indoor Unit

For commercial use

**Model name :**

Concealed Duct High Static Pressure Type

**MMD-UP0181HP-E**
**MMD-UP0241HP-E**
**MMD-UP0271HP-E**
**MMD-UP0361HP-E**
**MMD-UP0481HP-E**
**MMD-UP0561HP-E**



Scan QR CODE to access installation and owner's manual on website.
https://www.toshiba-carrier.co.th/manuals/default.aspx
Manual are available in AR/BG/CZ/DA/DE/EL/EN/ES/ET/FI/FR/
HR/HU/IT/LT/LV/NL/NO/PL/PT/RO/RU/SK/SL/SV/TR.

English

**Original instruction**

Please read this Installation Manual carefully before installing the Air Conditioner.
- This Manual describes the installation method of the indoor unit.
- For installation of the outdoor unit, follow the Installation Manual attached to the outdoor unit.

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# 1 Accessory parts

## ■ Accessory parts

| Part name | Q'ty | Shape | Usage |
|---|---|---|---|
| Installation Manual | 1 | This manual | For hand over to customers |
| Heat insulating pipe | 2 | | For heat insulation of pipe connecting section |
| Washer | 8 | | For hanging-down unit |
| Hose band | 1 | | For connecting drain pipe |
| Flexible hose | 1 | | For adjusting center of drain pipe |
| Heat insulator | 1 | | For heat insulation of drain connecting section |
| Safety Manual | 1 | | For hand over directly to the customer |

# 2 Selection of installation place

### ⚠ WARNING

- **Install the air conditioner at enough strong place to withstand the weight of the unit.**
  If the strength is not enough, the unit may fall down resulting in injury.
- **Install the air conditioner at a height 2.5 m or more from the floor.**
  If you insert your hands or others directly into the unit while the air conditioner operates, it is dangerous because you may contact with revolving fan or active electricity.

### ⚠ CAUTION

- **Do not install in a location where flammable gas may leaks are possible.**
  If the gas leak and accumulate around the unit, it may ignite and cause a fire.
- **When an outdoor unit using R32 refrigerant is combined with indoor unit, be attention to the floor area in the room to be installed.**
  Indoor units cannot be installed in rooms with a floor area less than the minimum floor area. For details, follow the Installation Manual to the outdoor unit.

### Avoid installing in the following places

Select a location for the indoor unit where the cool or warm air will circulate evenly.
Avoid installation in the following kinds of locations.

- Saline area (coastal area)
- Locations with acidic or alkaline atmospheres (such as areas with hot springs, factories where chemicals or pharmaceuticals are made and places where the exhaust air from combustion appliances will be sucked into the unit).
  Doing so may cause the heat exchanger (its aluminum fins and copper pipes) and other parts to become corroded.
- Locations with atmospheres with mist of cutting oil or other types of machine oil.
  Doing so may cause the heat exchanger to become corroded, mists caused by the blockage of the heat exchanger to be generated, the plastic parts to be damaged, the heat insulators to peel off, and other such problems to result.
- Places where iron or other metal dust is present. If iron or other metal dust adheres to or collects on the interior of the air conditioner, it may spontaneously combust and start a fire.
- Locations where vapors from food oils are formed (such as kitchens where food oils are used).
  Blocked filters may cause the air conditioner's performance to deteriorate, condensation to form, the plastic parts to be damaged, and other such problems to result.
- Locations near obstructions such as ventilation openings or lighting fixtures where the flow of the blown air will be disrupted (a disruption of the air flow may cause the air conditioner's performance to deteriorate or the unit to shut down).
- Locations where an in-house power generator is used for the power supply.
  The power line frequency and voltage may fluctuate, and the air conditioner may not work properly as a result.
- On truck cranes, ships or other moving conveyances.
- The air conditioner must not be used for special applications (such as for storing food, plants, precision instruments or art works).
  (The quality of the items stored may be degraded.)
- Locations where high frequencies are generated (by inverter equipment, in-house power generators, medical equipment or communication equipment).
  (Malfunctioning or control trouble in the air conditioner or noise may adversely affect the equipment's operation.)
- Locations where there is anything under the unit installed that would be compromised by wetness.
  (If the drain has become blocked or when the humidity is over 80%, condensation from the indoor unit will drip, possibly causing damage to anything underneath.)
- In the case of the wireless type of system, rooms with the inverter type of fluorescent lighting or locations exposed to direct sunlight.
  (The signals from the wireless remote controller may not be sensed.)
- Locations where organic solvents are being used.
- The air conditioner cannot be used for liquefied carbonic acid cooling or in chemical plants.
- Location near doors or windows where the air conditioner may come into contact with high-temperature, high-humidity outdoor air.
  (Condensation may occur as a result.)
- Locations where special sprays are used frequently.

## ■ Installation under high-humidity atmosphere

In some cases including the rainy season, especially inside of the ceiling may become high-humidity atmosphere (dew-point temperature: 23°C or higher).

1. Installation to inside of the ceiling with tiles on the roof
2. Installation to inside of the ceiling with slated roof
3. Installation to a place where inside of the ceiling is used for pathway to intake the fresh air
4. Installation to a kitchen

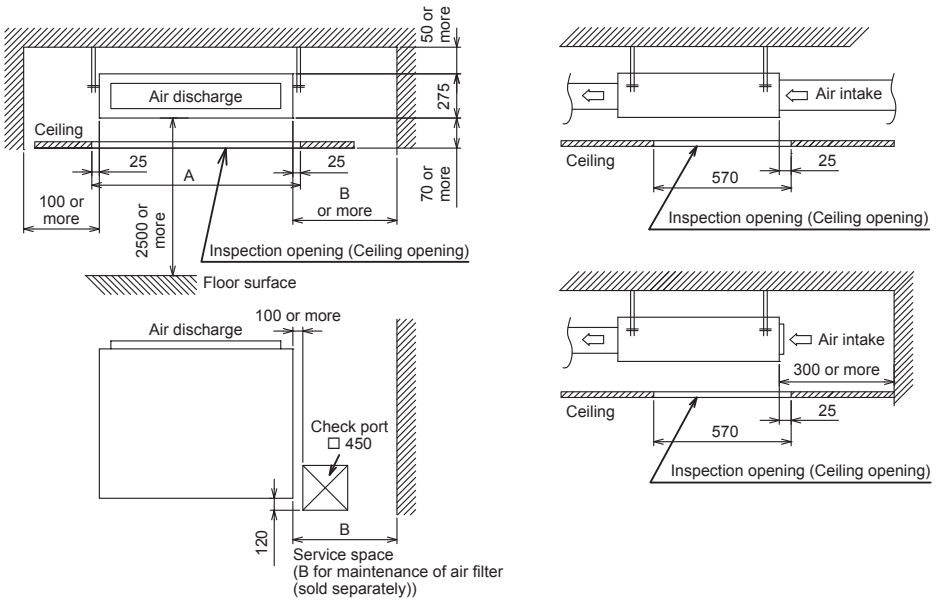
- In the above cases, additionally attach the heat insulator to all positions of the air conditioner, which come to contact with the high-humidity atmosphere. In this case, arrange the side plate (Check port) so that it is easily removed.
- Apply also a sufficient heat insulation to the duct and connecting part of the duct.

| | | |
|---|---|---|
| **[Reference]** | Condensation test conditions | |
| | Indoor side: | 27°C dry bulb temperature<br>24°C wet bulb temperature |
| | Air volume: | Low air volume, operation time 4 hours |

## ■ Installation space

**(Unit: mm)**

Reserve sufficient space required for installation or service work.




| Model MMD- | A | B |
|---|---|---|
| **UP018~UP027** | 1050 | 500 |
| **UP036~UP056** | 1450 | 700 |

## ■ Filter cleaning sign term setting

The lighting term setup of the filter sign (Notification of filter cleaning) of the remote controller can be changed according to the condition of installation.
For setup method, refer to “Filter sign setting” in the Applicable controls of this Manual.

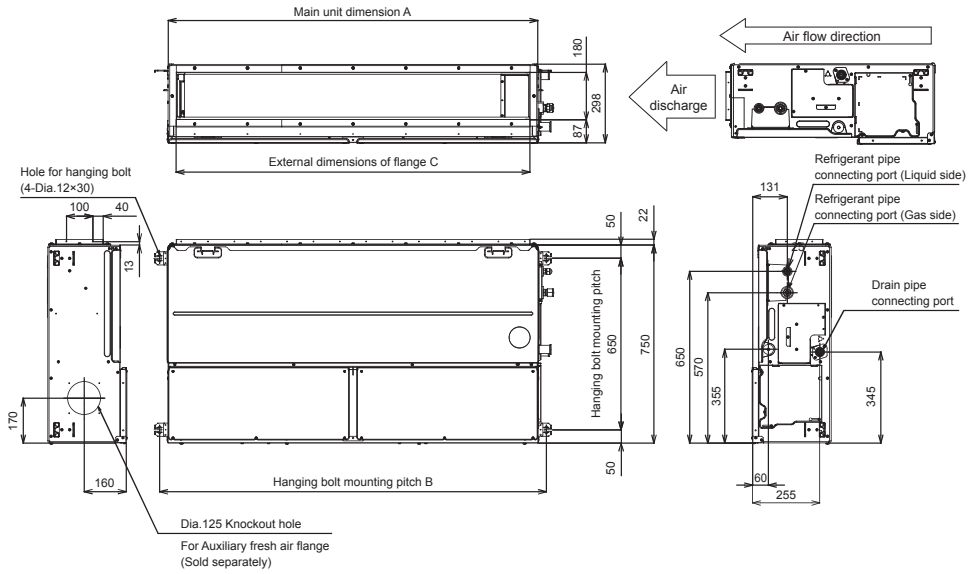
# 3 Installation

## ⚠ CAUTION

Strictly comply with the following rules to prevent damage of the indoor units and human injury.

- Do not put a heavy article on the indoor unit or let a person get on it. (Even units are packaged)
- Carry in the indoor unit as it is packaged if possible. If carrying in the indoor unit unpacked by necessity, use buffering cloth or other material to not damage the unit.
- To move the indoor unit, hold the hooking brackets (4 positions) only. Do not apply force to the other parts (such as refrigerant pipe, drain pan, foamed parts, or resin parts).
- Carry the package by four or more persons, and do not bundle it with plastic band at positions other than specified.
- To install vibration isolation material to hanging bolts, confirm that it does not increase the unit vibration.

## ■ External dimensions (Unit: mm)




▼ Dimension

| Model MMD- | A | B | C |
|---|---|---|---|
| UP018~UP027 | 1000 | 1065 | 940 |
| UP036~UP056 | 1400 | 1465 | 1340 |

## ■ Installation of hanging bolt

- Consider the piping / wiring after the unit is hung to determine the location of the indoor unit installation and orientation.
- After the location of the indoor unit installation has been determined, install hanging bolts.
- For the dimensions of the hanging bolt pitches, refer to the external view.
- When a ceiling already exists, lay the drain pipe, refrigerant pipe, control wires, and remote controller wires to their connection locations before hanging the indoor unit.

Procure hanging bolts washer and nuts for installing the indoor unit (these are not supplied).

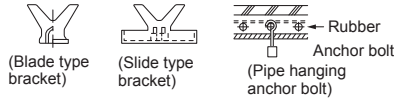
| | | |
|---|---|---|
| Hanging bolt | M10 or W3/8 | 4 pieces |
| Nut | M10 or W3/8 | 12 pieces |
| Washer | M10 | 8 pieces |

### Installation of hanging bolt

Use M10 hanging bolts (4 pcs, locally procured). Matching to the existing structure, set pitch according to size in the unit external view as shown below.

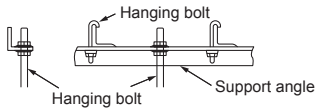
**New concrete slab**

Install the bolts with insert brackets or anchor bolts.



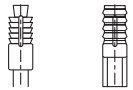

**Steel frame structure**

Use existing angles or install new support angles.




**Existing concrete slab**

Use a hole-in anchors, hole-in plugs, or a hole-in bolts.

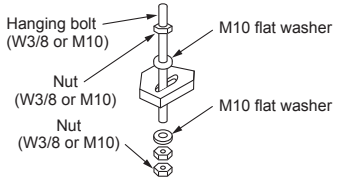


## ■ Installation of indoor unit

### Treatment of ceiling

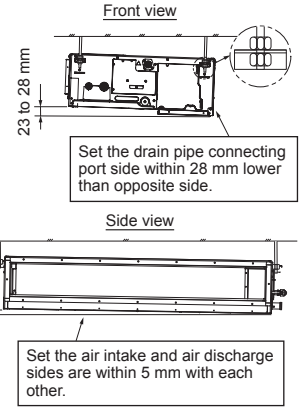
The ceiling differs according to structure of building. For details, consult your constructor or interior finish contractor.
In the process after the ceiling board has been removed, it is important to reinforce ceiling foundation (frame) and to keep horizontal level of installed ceiling correctly in order to prevent vibration of ceiling board.

- Attach the nuts and the M10 flat washers to the hanging bolt.
- Put washers at up and down of the hanging bracket of the indoor unit to hang down the indoor unit.
- Check that four sides are horizontal with a level gauge. (Horizontal degree: Within 5 mm)




**REQUIREMENT**

- Hang the unit in a horizontal position. When unit is hanged to slant, it may cause overflow of drainage.
- Install the unit within the dimension according to the figure below.
- Use level gauge to confirm whether the unit is hang horizontally.

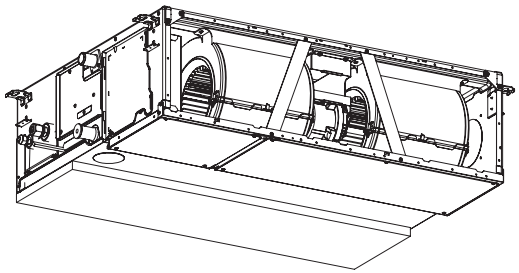


## ■ Removing the foamed polystyrene and three plates for transportation.

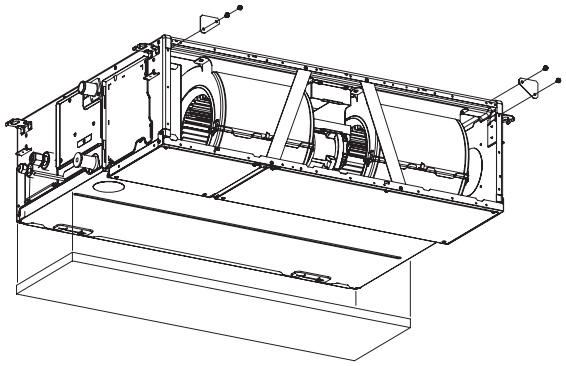
**1** **Remove three plates from air inlet side.**

**2** **Remove the foamed polystyrene from bottom side after setting indoor unit at hanging bolt.**

**Before**



**After**

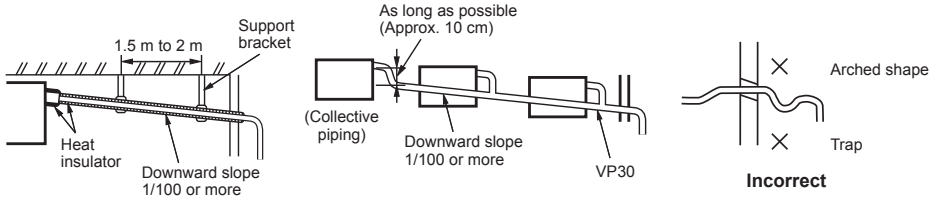


# 4 Drain piping

**⚠ CAUTION**

**Following the Installation Manual, perform the drain piping work so that water is properly drained.**
**Apply a heat insulation so as not to cause a dew condensation.**
**Inappropriate piping work may result in water leakage in the room and wet furniture.**

- Provide the indoor drain piping with proper heat insulation.
- Provide the area where the pipe connects to the indoor unit with proper heat insulation. Improper heat insulation will cause condensation to form.
- The drain pipe must be sloping downward (at an angle of 1/100 or more), and do not run the pipe up and down (arched shape) or allow it to form traps. Doing so may cause abnormal sounds.
- Restrict the length of the traversing drain pipe to 20 meters or less. For a long pipe, provide support brackets at intervals of 1.5 to 2 meters to prevent flapping.
- Install the collective piping as shown in the following figure.
- Do not provide any air vents. Otherwise, the drain water will spout, causing water to leak.
- Do not allow any force to be applied to the connection area with the drain pipe.




## ■ Pipe material, size and insulator

The following materials for piping work and insulating process are locally procured.

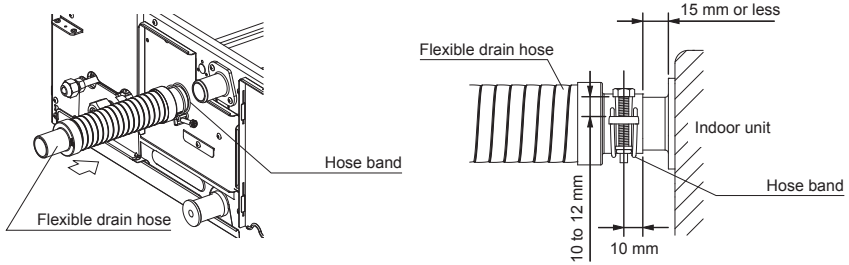
| | |
|---|---|
| **Pipe material** | Hard vinyl chloride pipe VP25 (Nominal outer diameter 32 mm) |
| **Insulator** | Foamed polyethylene foam, thickness: 10 mm or more |

## ■ Connecting drain pipe

Insert flexible drain hose into upper drain pipe of main unit as far as it will go. Fix it with hose band.

**REQUIREMENT**

Mount the flexible drain hose using the hose band without using adhesive.

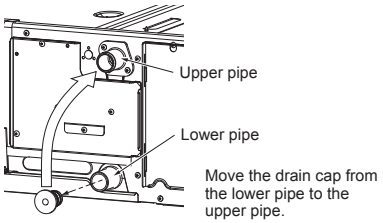


## ■ Gravitational drainage

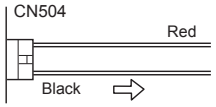
**1** **Reattach the drain cap.**

* For gravitational drainage, remove the white connector (CN504) on the upper left of the circuit board in the electrical control box.

**2** **Insert flexible drain hose into lower drain pipe and fix it with hose band.**



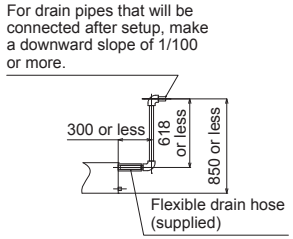

**3** **Remove drain pump connector CN504.**




## ■ Drain up

When a down-gradient cannot be secured for the drain pipe, drain-up piping is possible.

- The height of the drain pipe must be 850 mm or less from the underside of the indoor unit.
- Take the drain pipe out of the drain pipe joint with the indoor unit in 300 mm or less, and bend up the pipe vertically.
- Immediately after the pipe is bent up vertically, lay the pipe making a down-gradient.




Drain up setup dimensions

## ■ Check the draining

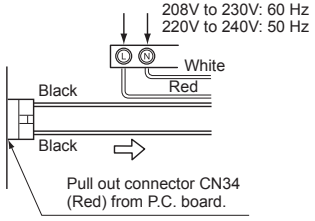
In the test run, check that water drain is properly performed and water does not leak from the connecting part of the pipes. When doing this, also check that no abnormal sounds are heard from the drain pump motor.
Check draining also when installed in heating period.

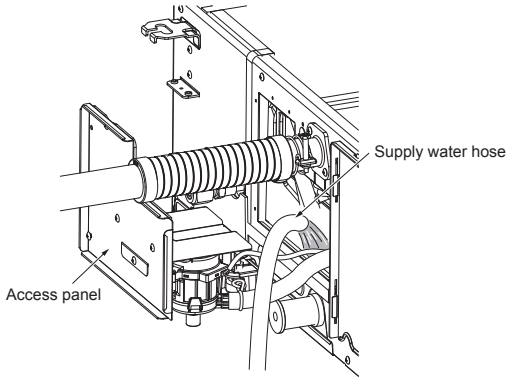
### When the electrical and wiring work has been completed

Pour some water by following the method shown in the following figure. Then, while performing a cooling operation, check that the water drains from the drain pipe connecting port (transparent) and that no water is leaking from the drain pipe.

### When the electrical and wiring work has not been completed

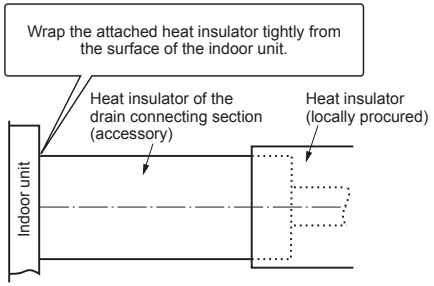
- Disconnect the float switch connector (3P: red) from the connector (CN34: red) on the printed circuit board inside the electrical control box. (Before doing this, the power must be turned off.)
- Connect a 208V to 240V supply voltage to (L) and (N) on the power supply terminal block. (Do not apply a 208V to 240V voltage to (Uv (U1)), (Uv (U2)), (A), (B) of the terminal block. Otherwise, the printed circuit board may be damaged.)
- Pour the water by following the method shown in the following figure. (Amount of water poured: 1500 cc to 2000 cc)
- When the power is turned on, the drain pump automatically starts running. Check whether the water is draining from the drain pipe connecting port, and check that no water is leaking from the drain pipe.
- After checking that the water drains and there are no water leaks, turn off the power, connect the float switch connector to its original location (CN34) on the printed circuit board, and return the electrical control box to its original position.



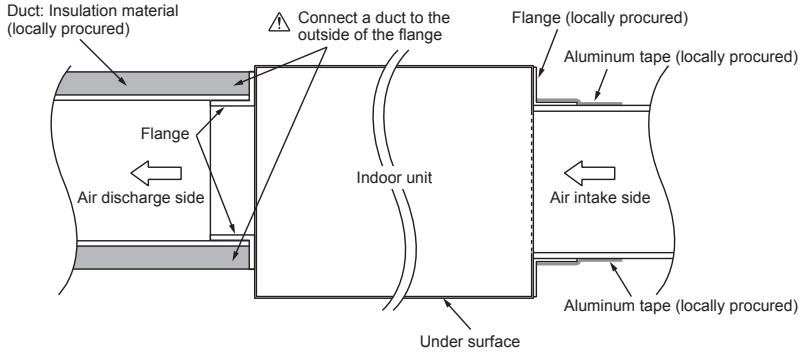



## ■ Heat insulating process

- As shown in the figure, cover the flexible hose and hose band with the attached heat insulator up to the bottom of the indoor unit tightly.
- Cover the drain pipe tightly with a heat insulator procured locally so that it overlaps with the attached heat insulator of the drain connecting section.




## ■ Connecting method of the duct

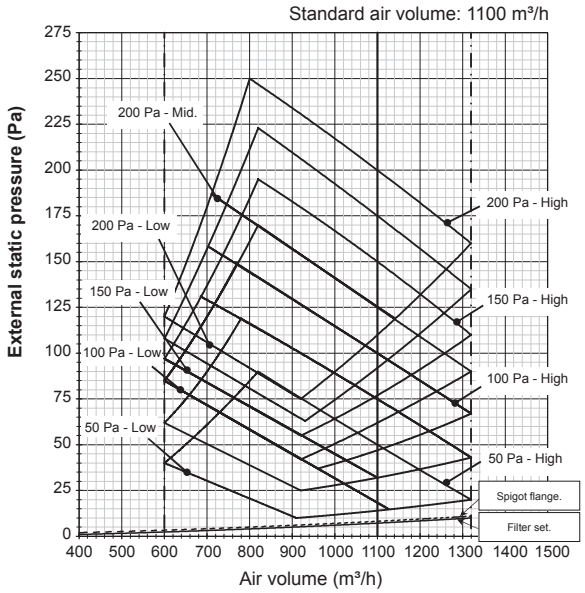



### ⚠ CAUTION

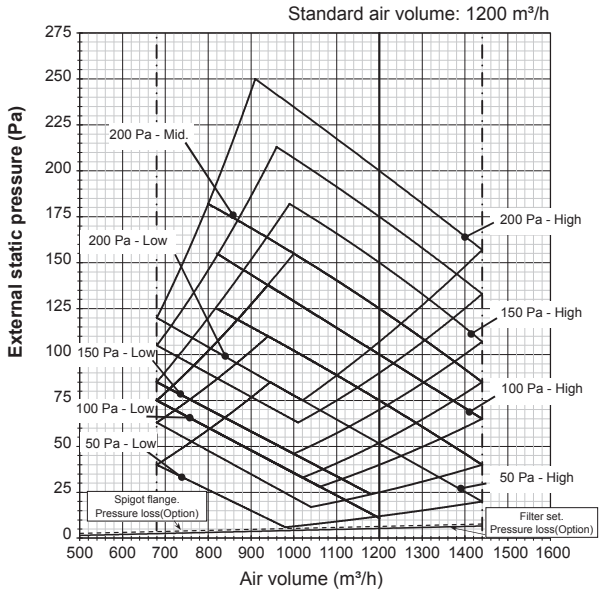
Incomplete heat insulation of the supply air flange and sealing may occur dewing resulted in falling of water drop.

## ■ Fan characteristics

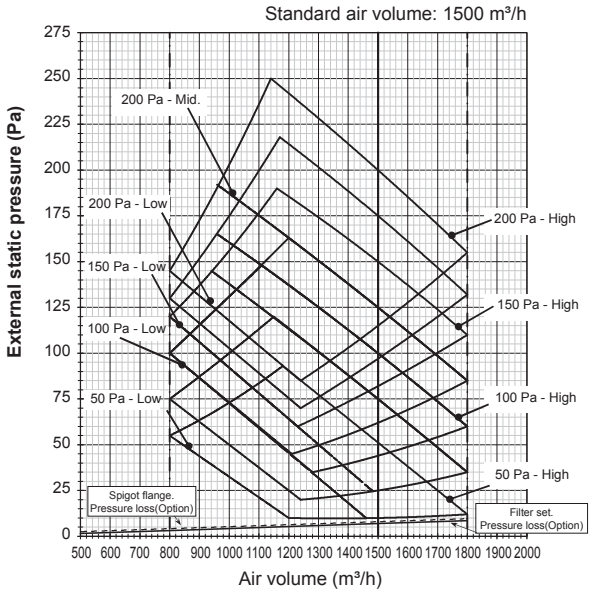
**UP018 type**



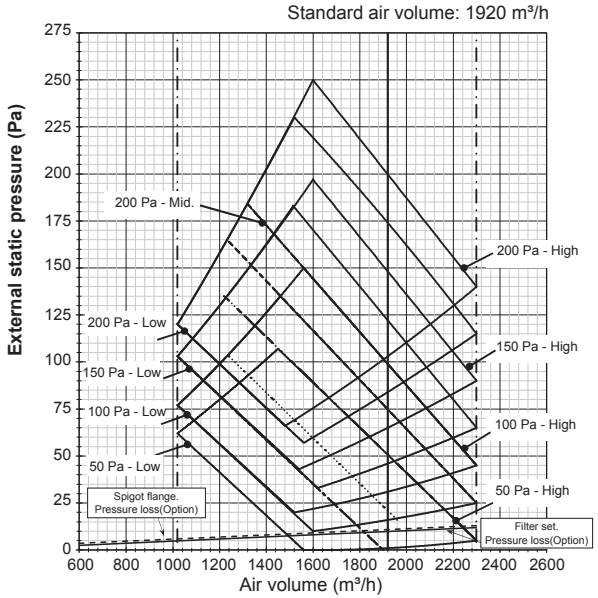

**UP024 type**



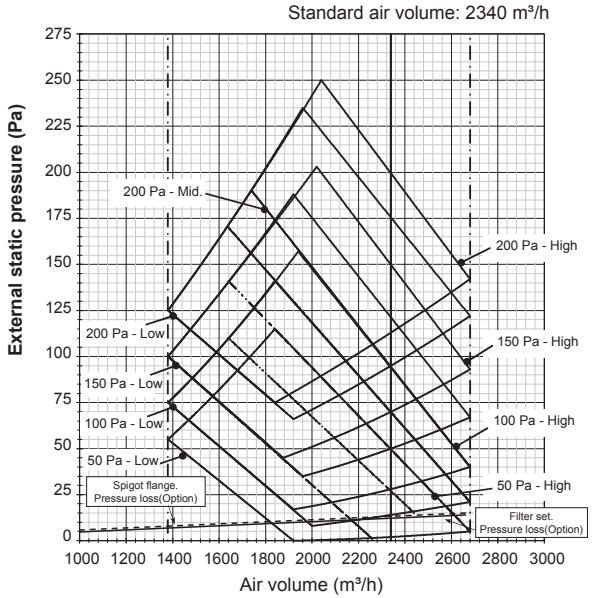

**UP027 type**



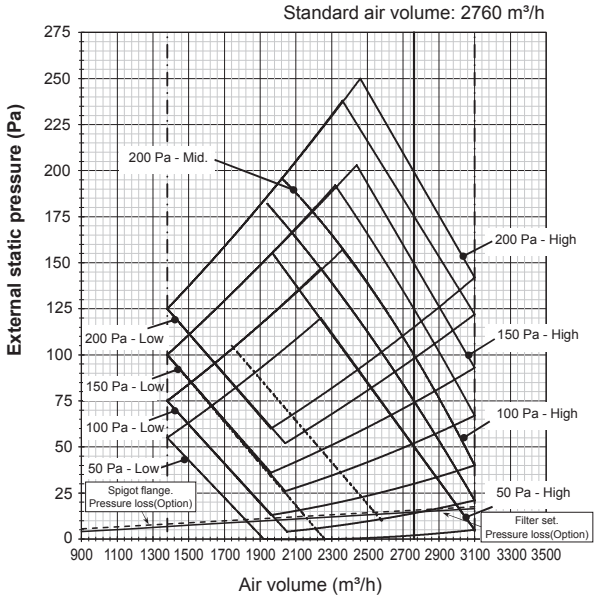

**UP036 type**




**UP048 type**




**UP056 type**



# 5 Duct design

## ■ Duct design

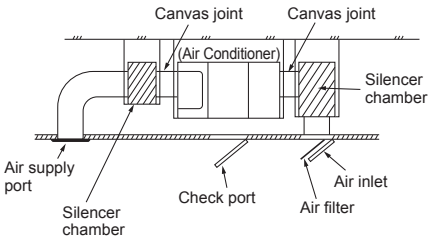
**1 In order to prevent short circuits, design the duct work so that the intake and discharge openings are not adjacent to each other.**

**2 The indoor unit does not have a built-in air filter.**
Always install the air filter (Local procure) in a location that permits easy maintenance, such as behind the intake grille. (If no air filter is installed, dust will collect in the heat exchanger, which may cause the air conditioner to fail or to leak.)

**<Overview of duct connection>**

**NOTE**

Parts except air conditioner unit are to be locally procured.



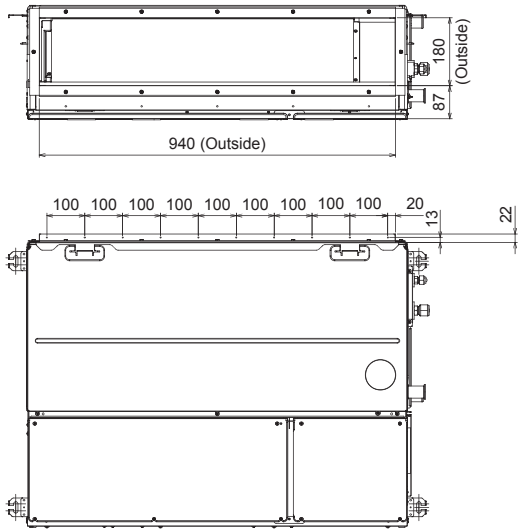

## ■ Arrangement

(Unit: mm)

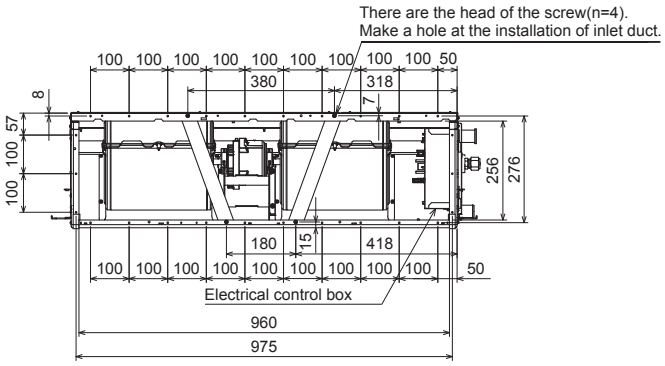
Referring to the following dimensions, manufacture duct at the local site.

**UP018, UP024, UP027**

**<Air outlet>**

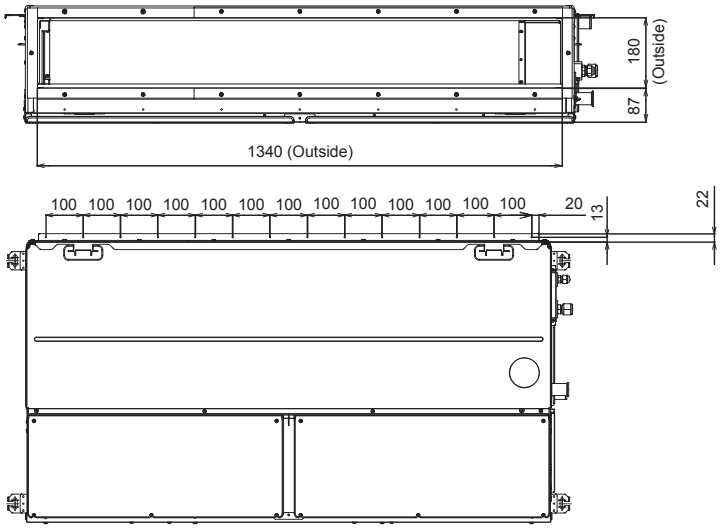



**<Air inlet>**

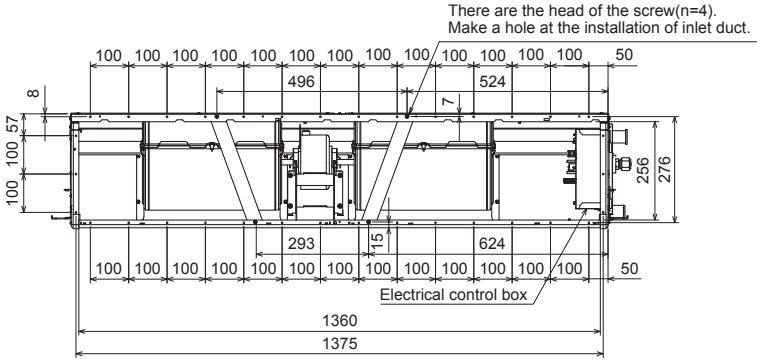



**UP036, UP048, UP056**

**<Air outlet>**




**<Air inlet>**



# 6 Refrigerant piping

**⚠ CAUTION**

Use flare nuts that are included with the unit. Using different flare nuts may cause refrigerant gas leakage.

## ■ Refrigerant piping

**Use the following item for the refrigerant piping.**
**Material: Seamless phosphorous de-oxidized copper pipe.**
**6.35, 9.52 and 12.7 wall thickness 0.8 mm or more.**
**15.88 wall thickness 1.0 mm or more.**

**REQUIREMENT**

When the refrigerant pipe is long, provide support brackets at intervals of 2.5 - 3 m to clamp the refrigerant pipe. Otherwise, abnormal sound may be generated.

**⚠ CAUTION**

**IMPORTANT 4 POINTS FOR PIPING WORK**

1. Reusable mechanical connectors and flared joints are not allowed indoors. When mechanical connectors are reused indoors, sealing parts shall be renewed.
   When flared joints are reused indoors, the flare part shall be re-fabricated.
2. Tight connection (between pipes and unit)
3. Evacuate the air in the connecting pipes by using VACUUM PUMP.
4. Check the gas leakage. (Connected points)

## ■ Permissible piping length and height difference

They vary depending on the outdoor unit. For details, refer to the Installation Manual attached to the outdoor unit.

## ■ Pipe size

| Model MMD- | Pipe size (mm) | |
|---|---|---|
| | Gas side | Liquid side |
| UP018 | 12.7 | 6.4 |
| UP024 to UP056 | 15.9 | 9.5 |

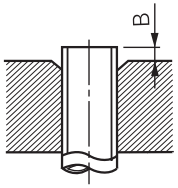
## ■ Connecting refrigerant piping

### Flaring

1. Cut the pipe with a pipe cutter.
   Remove burrs completely. (Remaining burrs may cause gas leakage.)
2. Insert a flare nut into the pipe, and flare the pipe.
   Use the flare nut provided with the unit or the one used for the R32 or R410A refrigerant. The flaring dimensions for R32 or R410A are different from the ones used for the conventional R22 refrigerant.
   A new flare tool manufactured for use with the R32 or R410A refrigerant is recommended, but the conventional tool can still be used if the projection margin of the copper pipe is adjusted to be as shown in the following table.

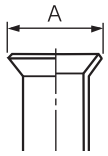
### Projection margin in flaring: B (Unit: mm)

| Outer dia. of copper pipe | Tool used | Conventional tool used |
|---|---|---|
| 6.4, 9.5 | 0 to 0.5 | 1.0 to 1.5 |
| 12.7, 15.9 | | |




### Flaring diameter size: A (Unit: mm)

| Outer dia. of copper pipe | $A^{+0}_{-0.4}$ |
|---|---|
| 6.4 | 9.1 |
| 9.5 | 13.2 |
| 12.7 | 16.6 |
| 15.9 | 19.7 |

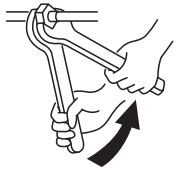



**⚠ CAUTION**

- Do not scratch the inner surface of the flared part when removing burrs.
- Flare processing under the condition of scratches on the inner surface of flare processing part will cause refrigerant gas leak.
- Check that the flared part is not scratched, deformed, stepped, or flattened, and that there are no chips adhered or other problems, after flare processing.
- Do not apply refrigerating machine oil to the flare surface.

* In case of flaring for R32 or R410A with the conventional flare tool, pull it out approx. 0.5 mm more than that for R22 to adjust to the specified flare size. The copper pipe gauge is useful for adjusting projection margin size.

- The sealed gas was sealed at the atmospheric pressure so when the flare nut is removed, there will no “whooshing” sound: This is normal and is not indicative of trouble.
- Use two wrenches to connect the indoor unit pipe.



Work using double spanner

- Use the tightening torque levels as listed in the following table.

| Outer dia. of connecting pipe (mm) | Tightening torque (N•m) |
|---|---|
| 6.4 | 14 to 18 |
| 9.5 | 34 to 42 |
| 12.7 | 49 to 61 |
| 15.9 | 63 to 77 |

- Tightening torque of flare pipe connections.
  Pressure of R32 or R410A is higher than that of R22 (Approx. 1.6 times). Therefore, using a torque wrench, tighten the flare pipe connecting sections which connect the indoor and outdoor units of the specified tightening torque.
  Incorrect connections may cause not only a gas leak, but also a trouble of the refrigeration cycle.

**⚠ CAUTION**

Tightening with an excessive torque may crack the nut depending on installation conditions.

## ■ Evacuation

Perform vacuuming from the charge port of valve of the outdoor unit by using a vacuum pump.
For details, follow to the Installation Manual attached to the outdoor unit.

- Do not use the refrigerant sealed in the outdoor unit for evacuation.

**REQUIREMENT**

For the tools such as charge hose, use those manufactured exclusively for R32 or R410A.

### Refrigerant amount to be added

For addition of the refrigerant, add refrigerant “R32 or R410A” referring to the attached Installation Manual of outdoor unit.
Use a scale to charge the refrigerant of specified amount.

**REQUIREMENT**

- Charging an excessive or too little amount of refrigerant causes a trouble of the compressor. Charge the refrigerant of specified amount.
- A personnel who charged the refrigerant should write down the pipe length and the added refrigerant amount in the F-GAS label of the outdoor unit. It is necessary to fix the compressor and refrigeration cycle malfunction.

## ■ Airtight test / Air purge, etc.

For air tightness test, vacuum drying and adding refrigerant, refer to the Installation Manual attached to the outdoor unit.

**⚠ CAUTION**

Do not supply power to the indoor unit until the airtight test and vacuuming are completed. (If the indoor unit is powered on, the pulse motor valve is fully closed, which extends the time for vacuuming.)

### Open the valve fully

Open the valve of the outdoor unit fully. A 4 mm-hexagonal wrench is required for opening the valve.
For details, refer to the Installation Manual attached to the outdoor unit.

### Gas leak check

Check with a leak detector or soap water whether gas leaks or not, from the pipe connecting section or cap of the valve.

**REQUIREMENT**

Use a leak detector manufactured exclusively for HFC refrigerant (R32, R134a, R410A, etc).

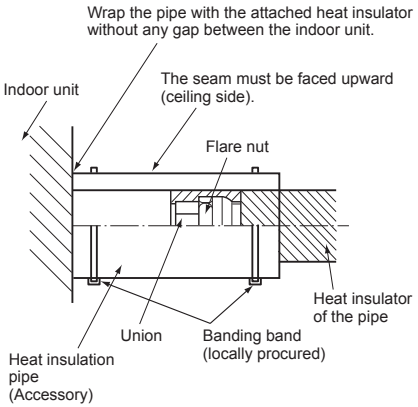
### Heat insulation process

Apply heat insulation for the pipes separately at liquid side and gas side.

- For the heat insulation to the pipes at gas side, be sure to use the material with heat-resisting temperature 120°C or higher.
- To use the attached heat insulation pipe, apply the heat insulation to the pipe connecting section of the indoor unit securely without gap.

**REQUIREMENT**

- Apply the heat insulation to the pipe connecting section of the indoor unit securely up to the root without exposure of the pipe. (The pipe exposed to the outside causes water leak.)
- Wrap heat insulator with its slits facing up (ceiling side).




# 7 Electrical connection

**⚠ WARNING**

- **Use the specified wires for wiring connect the terminals. Securely fix them to prevent external forces applied to the terminals from affecting the terminals.**
  Incomplete connection or fixation may cause a fire or other trouble.
- **Connect earth wire. (grounding work)**
  Incomplete grounding cause an electric shock.
  Do not connect earth wires to gas pipes, water pipes, lightning conductor or telephone earth wires.
- **Appliance shall be installed in accordance with national wiring regulations.**
  Capacity shortage of power circuit or incomplete installation may cause an electric shock or a fire.

**⚠ CAUTION**

- **For communication line, use wires with the same type and size. If each wire has a different type and size from another one, it will cause a communication trouble.**
- If incorrect/incomplete wiring is carried out, it will cause an electrical fire or smoke.
- Install an earth leakage breaker that is not tripped by shock waves. If an earth leakged breaker is not installed, an electric shock may be caused.
- Use the cord clamps attached to the product.
- Do not damage or scratch the conductive core and inner insulator of power and system interconnection wires when peeling them.
- Use the power supply wire and control wires of specified thickness, type, and protective devices required.
- Do not connect 208V − 240V power to the terminal blocks (Uv (U1)), (Uv (U2)), (A), (B) for control wiring. (Otherwise, the system will fail.)
- Perform the electric wiring so that it does not come to contact with the high-temperature part of the pipe. The coating may melt resulting in an accident.

**REQUIREMENT**

- For power supply wiring, strictly conform to the Local Regulation in each country.
- For wiring of power supply of the outdoor units, follow the Installation Manual of each outdoor unit.
- After connecting wires to the terminal blocks, provide a trap and fix wires with the cord clamp.
- Run the refrigerant piping line and control wiring line in the same line.
- Do not turn on the power of the indoor unit until the refrigerant pipes are vacuumed.

## ■ Power supply wire and communication wires specifications

Power supply wire and communication wires are procured locally.
For the power supply specifications, follow to the following table. If capacity is little, it is dangerous because overheat or burnout may be caused.
For specifications of the power capacity of the outdoor unit and the power supply wires, refer to the Installation Manual attached to the outdoor unit.

### Indoor unit power supply

- For the power supply of the indoor unit, prepare the exclusive power supply separated from that of the outdoor unit.
- Arrange the power supply, circuit breaker, and main switch of the indoor unit connected to the same outdoor unit so that they are commonly used.
- Power supply wire specification: Cable 3-core 2.5 mm², **in conformity with Design 60245 IEC 57**.

### ▼ Power supply

| | | |
|---|---|---|
| Power supply | 220V – 240V ~, 50 Hz<br>208V – 230V ~, 60 Hz | |
| Power supply switch/circuit breaker or power supply wiring/fuse rating for indoor units should be selected by the accumulated total current values of the indoor units. | | |
| Power supply wiring | Below 50 m | 2.5 mm² |

## Control wiring, Central controller wiring

- 2-core with polarity wires are used for the Control wiring between indoor unit and outdoor unit and Central controller wiring.
- To prevent noise trouble, use 2-core shield wire.
- The length of the communication line means the total length of the inter-unit wire length between indoor and outdoor units added with the central control system wire length.

### ▼ Communication line

TU2C-Link models (U series) can be combined with TCC-Link models (other than U series).
For details of communication type, refer to the following table.

**Communication type and model names**

| Communication type | TU2C-Link<br>(U series and future models) | TCC-Link<br>(Other than U series) |
|---|---|---|
| Outdoor unit | MMY-MUP***<br>↑<br>This letter indicates U series model. | Other than U series<br>MMY-MHP***<br>MCY-MHP***<br>MMY-MAP*** |
| Indoor unit | MM*-UP***<br>↑<br>This letter indicates U series model. | Other than U series<br>MM*-AP*** |
| Wired remote controller | RBC-ASCU***<br>↑<br>This letter indicates U series model. | Other than U series |
| Wireless remote controller kit & receiver unit | RBC-AXU***<br>↑<br>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-MHP***)

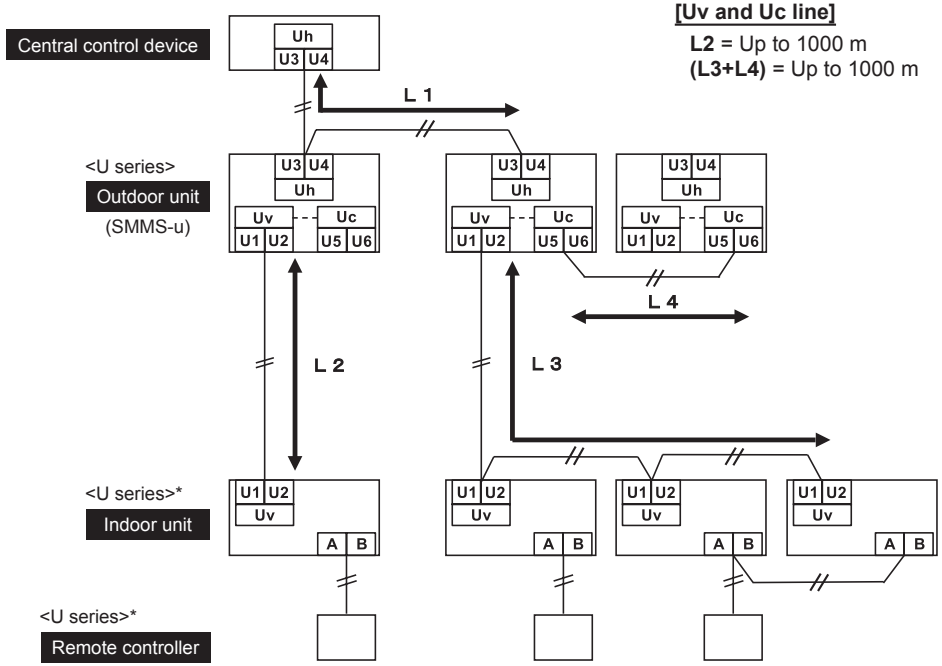
**<In the case of combining with outdoor units of Super Modular Multi System u series (SMMS-u)>**

| | | | |
|---|---|---|---|
| **Uv** line and **Uc** line (**L2, L3, L4**)<br>(2-core shield wire, non-polarity) | Wire size : | 0.5 mm²<br>0.75 to 1.25 mm² | (Up to 500 m)<br>(Up to 1000 m) |
| **Uh** line (**L1**)<br>(2-core shield wire, non-polarity) | Wire size : | 0.75 to 1.25 mm²<br>2.0 mm² | (Up to 1000 m)<br>(Up to 2000 m) |

- **U (v, h, c)** line means of control wiring.
  **Uv** line : Between indoor and outdoor units.
  **Uh** line : Central control line.
  **Uc** line : Between outdoor and outdoor units.
- **Uv** line and **Uc** line are independent from another refrigerant line. Total length of **Uv** and **Uc** lines **(L3+L4)** in each refrigerant line is up to 1000 m.

**[Uh line]**
**L1** = Up to 2000 m

**[Uv and Uc line]**
**L2** = Up to 1000 m
**(L3+L4)** = Up to 1000 m




* Even if the indoor unit and the remote controller are "other than U series", the wiring specification are the same.

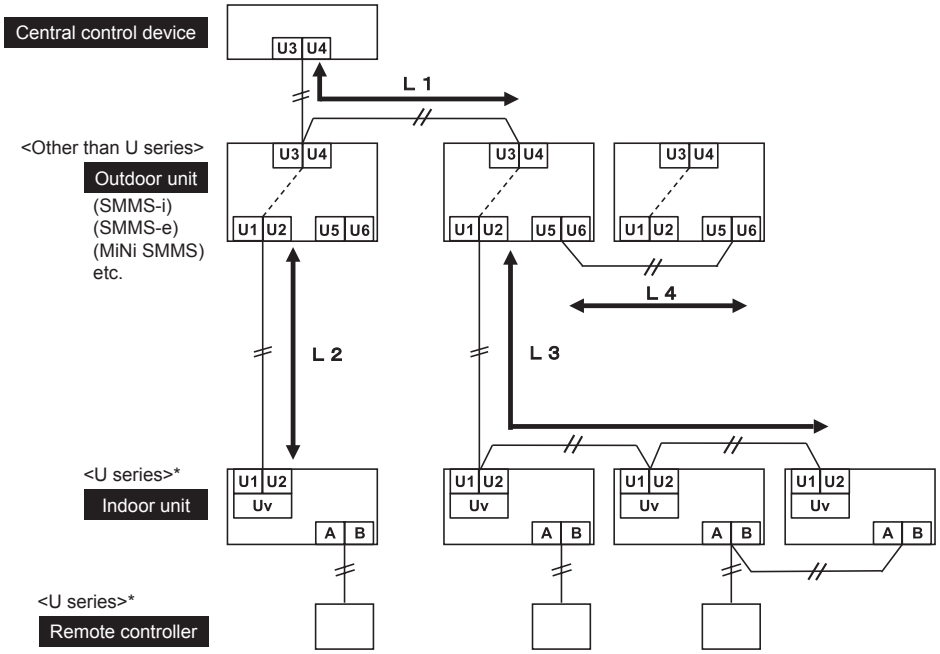
**<In the case of combining with outdoor units other than Super Modular Multi System u series (SMMS-u)>**

| | | | |
|---|---|---|---|
| Control wiring between indoor units, and outdoor unit **(L2, L3)** (2-core shield wire, non-polarity) | Wire size : | 1.25 mm² | (Up to 1000 m) |
| Central control line wiring **(L1)** (2-core shield wire, non-polarity) | | 2.0 mm² | (Up to 2000 m) |
| Control wiring between outdoor units **(L4)** (2-core shield wire, non-polarity) | Wire size : | 1.25 to 2.0 mm² | (Up to 100 m) |

- The length of the communication line **(L1+L2+L3)** means the total length of the inter-unit wire length between indoor and outdoor units added with the central control system wire length.

**[Communication line]**

**(L1+L2+L3)** = Up to 2000 m




* Even if the indoor unit and the remote controller are "other than U series", the wiring specification are the same.

## Remote controller wiring

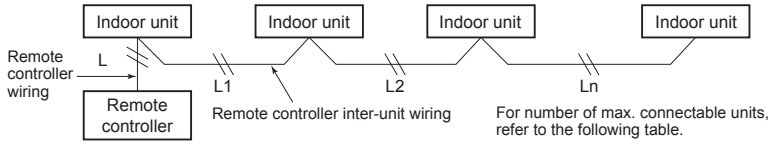
- 2-core with non-polarity wire is used for wiring of the remote controller wiring and group remote controllers wiring.

| | |
|---|---|
| Remote controller wiring, remote controller inter-unit wiring | Wire size: 0.5 mm² to 2.0 mm² |

| | | |
|---|---|---|
| Total wire length of remote controller wiring and remote controller inter-unit wiring = L + L1 + L2 + … Ln | In case of wired type only | Up to 500 m |
| | In case of wireless type included | Up to 400 m |
| Total wire length of remote controller inter-unit wiring = L1 + L2 + … Ln | | Up to 200 m |

### ⚠ CAUTION

- **The remote controller wire (Communication line) and AC 208 – 240V wires cannot be parallel to contact each other and cannot be stored in the same conduits. If doing so, it may cause troubles on the control system due to noise or other factor.**
- If U series models (TU2C-Link) are combined with models other than U series (TCC-Link), the wiring specifications and maximum number of connectable indoor units will be changed. Pay attentions to their communication specifications when carrying out the installation, maintenance, or repair. For its details, refer to the “Communication line” in **7 Electrical connection.**




### Max. number of connectable indoor units, and communication type

| | Unit type | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Outdoor unit | U series | U series | U series | U series | * | * | * | * |
| Indoor unit | U series | U series | * | * | U series | U series | * | * |
| Remote controller | U series | * | U series | * | U series | * | U series | * |
| Communication type | TU2C-Link | TCC-Link | | | | | | |
| Max. number of connectable unit | 16 | 8 | | | | | | |

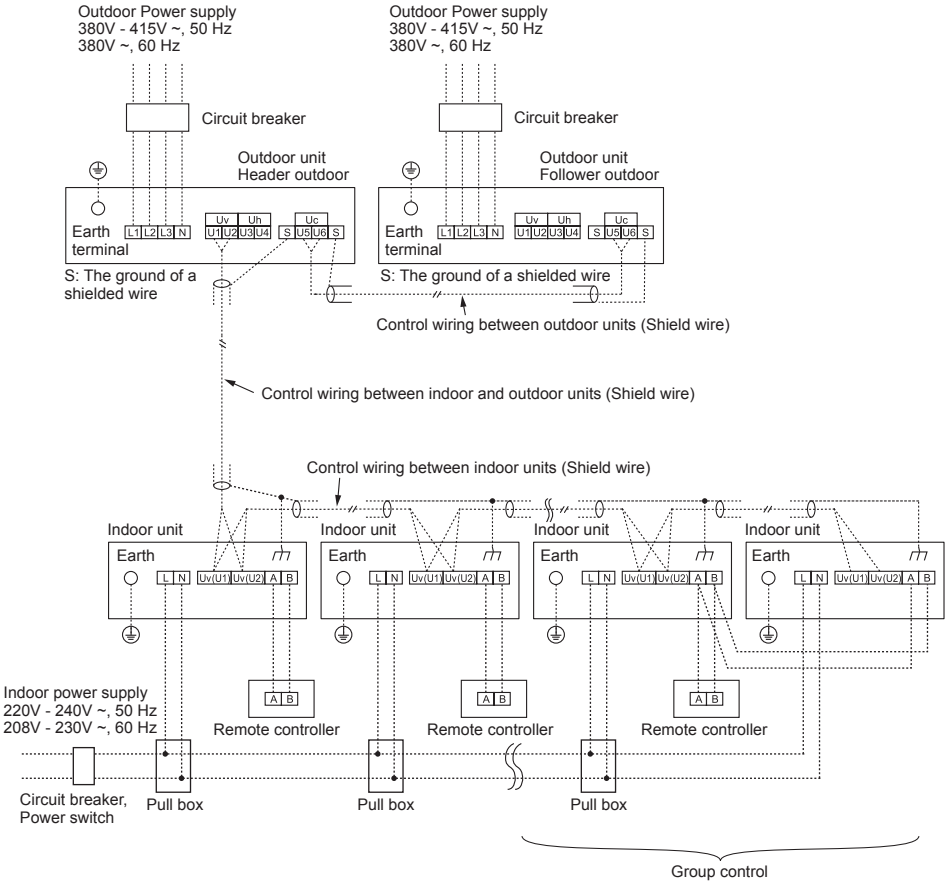
* : Other than U series

## ■ Wiring between indoor unit and outdoor units

**NOTE**

- A wiring diagram below is an example for connection to SMMS-u series. For connecting to other outdoor unit series, refer to the Installation Manual attached to the outdoor unit to be connected.

**▼ Wiring example**

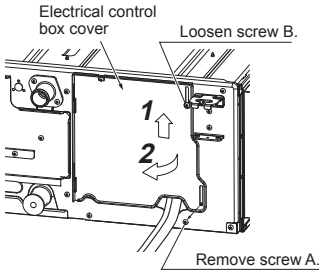


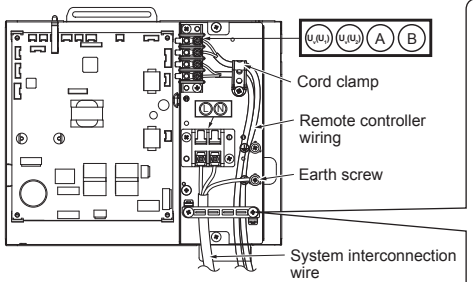

## ■ Wire connection

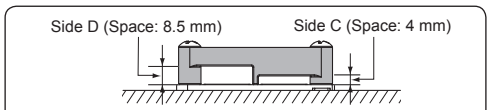
**REQUIREMENT**

- Connect the wires matching the terminal numbers. Incorrect connection causes a trouble.
- Pass the wires through the bushing of wire connection holes of the indoor unit.
- Keep a margin (Approx. 100 mm) on a wire to hang down the electrical control box at servicing or other purpose.
- The low-voltage circuit is provided for the remote controller. (Do not connect the high-voltage circuit)

- Before performing wiring work in the electrical control box, remove the cover of the box (fixed with 2 screws).
- Remove screw A, and loosen screw B.
- Pull up the electrical control box cover and then open it forward.
- Tighten the screws of the terminal block firmly, and fix the wires with the cord clamps attached to the electrical control box.
  (Do not apply tension to the connecting section of the terminal block.)
- Slide the electrical control box cover to install it. Do not pinch the wire too strong, and reduce the load on the wire. Make the gap as small as possible when installing the cover.

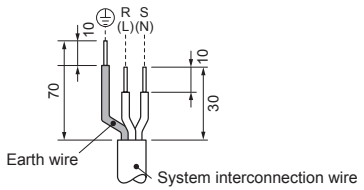


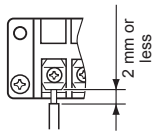




Select side C or D for the power cable clamping position referring to the following table according to the cable type and diameter.
* The cord clamp can be attached on either right or left side.
Clamp two cords side-by-side for twin connection.

| Wire type | Specification | Cable clamping position |
|---|---|---|
| Cabtyre cord | 3-core stranded wire 2.5 mm² | Side D |
| | 4-core stranded wire 1.5 mm² | Side C |



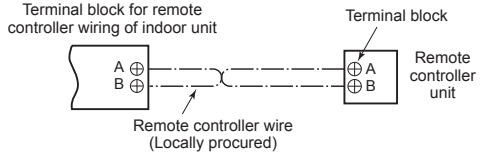




See the figure on the left for system interconnection wires to the terminal block.

## ■ Remote controller wiring

Strip off approx. 9 mm the wire to be connected.

**Wiring diagram**



# 8 Applicable controls

**REQUIREMENT**

When the air conditioner is used for the first time, it will take some moments after the power has been turned on before the remote controller becomes available for operations: This is normal and is not indicative of trouble.

- Concerning the automatic addresses
  (The automatic addresses are set up by performing operations on the outdoor interface circuit board.)
  While the automatic addresses are being set up, no remote controller operations can be performed.
  Setup takes up to 10 minutes (usually about 5 minutes).
- When the power is turned on after automatic address setup
  It takes up to 10 minutes (usually about 3 minutes) for the outdoor unit to start operating after the power has been turned on.

Before the air conditioner was shipped from the factory, all units are set to [STANDARD] (factory default).
If necessary, change the indoor unit settings.
The settings are changed by operating the wired remote controller.

* The settings cannot be changed using only a wireless remote controller, simple remote controller or group control remote controller by itself so install a wired remote controller separately as well.

## ■ Applicable controls setup (settings at the site)

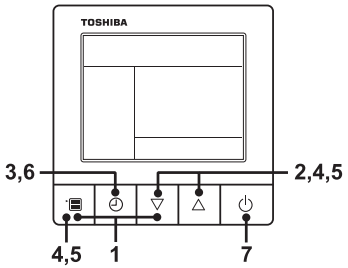
### Remote controller model name: RBC-ASCU11-E

**Basic procedure**

**Be sure to stop the air conditioner before making settings.**
(Change the setup while the air conditioner is not working.)

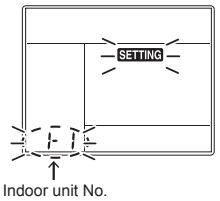
**⚠ CAUTION**

Set only the Code No. shown in the following table: Do NOT set any other Code No.
If a Code No. not listed is set, it may not be possible to operate the air conditioner or other trouble with the product may result.




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

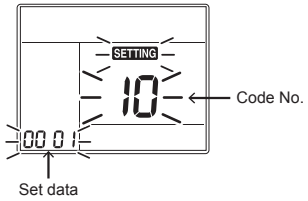
- After a while, the display flashes as shown in the figure. “ALL” is displayed as indoor unit numbers during initial communication immediately after the power has been turned on.




**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.**
**By doing so, the setup is completed.**

- 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 determine the settings.**

“ 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***.

## ■ External static pressure settings

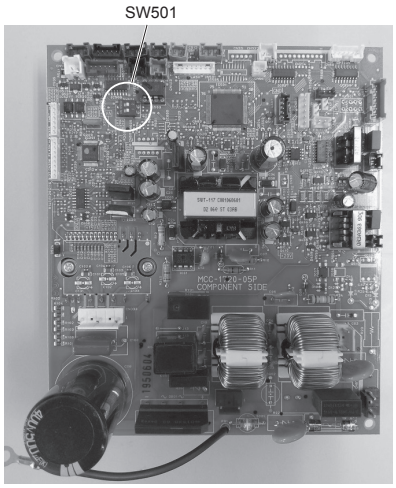
To set the external static pressure, refer to the “Fan characteristics”.
Set up a tap change based upon the external static pressure of the duct to be connected.
To set up a tap change, follow to the basic operation procedure (***1*** → ***2*** → ***3*** → ***4*** → ***5*** → ***6***).

- Specify [5d] to the CODE No. in procedure ***4***.
- For the SET DATA of procedure ***5***, select a SET DATA of the external static pressure to be set up from the following table.

| SET DATA | External static pressure | |
|---|---|---|
| **0000** | 100 Pa | Factory default |
| **0001** | 50 Pa | — |
| **0002** | 75 Pa | — |
| **0003** | 150 Pa | — |
| **0004** | 125 Pa | — |
| **0005** | 175 Pa | — |
| **0006** | 200 Pa | — |

The list above is when SW501-1 and SW501-2 is OFF.
If the setting is wrong, “P12” may appear indicating a fan motor error.

**<Setting up on the circuit board of the indoor unit>**
To set up the external static pressure, use the DIP switch on the circuit board of the wireless reception part.
For details, refer to the instruction manual of the wireless remote controller kit. Alternatively, use the switch on the indoor micro computer circuit board as shown in the following figure and table.




| | | | | |
|---|---|---|---|---|
| **SW501-1** | OFF | ON | OFF | ON |
| **SW501-2** | OFF | OFF | ON | ON |
| **SET DATA** | Factory default | 0001 | 0003 | 0006 |

**To reset to the factory default**
Switch off SW501-1 and SW501-2, connect a separately-sold wired remote controller, and then perform the procedure for external static pressure settings on this page to set the [5d] data to “0000”.

## ■ Filter sign setting

According to the installation condition, the filter sign term (Notification of filter cleaning) can be changed.
Follow to the basic operation procedure
(***1*** → ***2*** → ***3*** → ***4*** → ***5*** → ***6*** → ***7***).
- Specify **[01]** for the Code No. in Procedure ***4***.
- For the set data in Procedure ***5***, select the set data of filter sign term from the following table.

| SET DATA | Filter sign term |
|---|---|
| **0000** | None |
| **0001** | 150 H |
| **0002** | 2500 H (Factory default) |
| **0003** | 5000 H |
| **0004** | 10000 H |

- The filter sign may be unavailable depending on the remote controllers.

## ■ To secure better effect of heating

When it is difficult to obtain satisfactory heating due to installation place of the indoor unit or structure of the room, the detection temperature of heating can be raised. Also use a circulator or other device to circulate heat air near the ceiling.
Follow to the basic operation procedure
(***1*** → ***2*** → ***3*** → ***4*** → ***5*** → ***6***).
- For the CODE No. in Procedure ***4***, specify [06].
- For the SET DATA in Procedure ***5***, select the SET DATA of shift value of detection temperature to be set up from the following table.

| SET DATA | Detection temperature shift value |
|---|---|
| **0000** | No shift |
| **0001** | +1°C |
| **0002** | +2°C (Factory default) |
| **0003** | +3°C |
| **0004** | +4°C |
| **0005** | +5°C |
| **0006** | +6°C |

## ■ Remote controller sensor

The temperature sensor of the indoor unit senses room temperature usually. Set the remote controller sensor to sense the temperature around the remote controller.
Select items following the basic operation procedure
(***1*** → ***2*** → ***3*** → ***4*** → ***5*** → ***6***).
- Specify [32] for the CODE No. in Procedure ***4***.
- Select the following data for the SET DATA in Procedure ***5***.

| SET DATA | 0000 | 0001 |
|---|---|---|
| Remote controller sensor | Not used (Factory default) | Used |

When flashes, the remote controller sensor is defective.
Select the SET DATA [0000] (not used) or replace the remote controller.

## ■ Group control

In a group control, a remote controller can control up to maximum 8 or 16 units. (Depending on the outdoor unit.)
- The wired remote controller only can control a group control. The wireless remote controller is unavailable for this control.
- For wiring procedure and wires of the individual line (Identical refrigerant line) system, refer to “Electrical Connection” in this Manual.
- Wiring between indoor units in a group is performed in the following procedure.
- Connect the indoor units by connecting the remote controller wires from the remote controller terminal blocks (A, B) of the indoor unit connected with a remote controller to the remote controller terminal blocks (A, B) of the other indoor unit. (Non-polarity)
- For address setup, refer to the Installation Manual attached to the outdoor unit.

# 9 Test run

## ■ Before test run

- Before turning on the power supply, carry out the following procedure.
  1) By using insulation tester (500VMΩ) check that resistance of 1MΩ or more exists between the terminal block L to N and the earth (grounding). If resistance of less than 1MΩ is detected, do not run the unit.
  2) Check the valve of the outdoor unit being opened fully.
- To protect the compressor at activation time, leave power-ON for 12 hours or more before operating.
- Before starting a test run, set addresses by following the Installation Manual supplied with the outdoor unit.

### ◆ Requirements for turning thermostat OFF

**Cooling operation**

- When the outdoor/suction air temperature is lower than or equal to 19°C.
- When the outdoor/suction air temperature is lower than or equal to 3°C above the set temperature.

**Heating operation**

- When the outdoor/suction air temperature is lower than or equal to -10°C
- When the outdoor/suction air temperature is higher than or equal to 15°C.
- When the outdoor/suction air temperature is higher than or equal to 3°C above the set temperature.

## ■ Execute a test run

- When a fan operation is to be performed for an individual indoor unit, turn off the power, short circuit CN72 on the circuit board, and then turn the power back on. (Set the operation mode to “fan” to operate the unit.) When the test run has been performed using this method, be sure to release the short circuit of CN72 after the test run is completed.

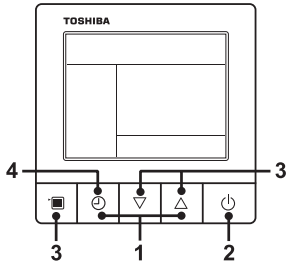
Operate the unit with the remote controller as usual.
For the procedure of the operation, refer to the attached Owner’s Manual to the outdoor unit.
A forced test run can be executed in the following procedure even if the operation stops by thermostat-OFF.
In order to prevent a serial operation, the forced test run is released after 60 minutes have passed and returns to the usual operation.

**⚠ CAUTION**

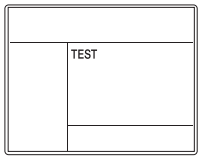
Do not use the forced test run for cases other than the test run because it applies an excessive load to the devices.

**Wired remote controller**

**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.**

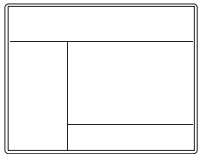



**2 Push ON/OFF button.**

**3 Push menu button to select the operation mode. Select [☼ Cool] or [☀ Heat] with [▽] [△] setting button, and then push menu button (three times) again to determine the operation mode.**

- 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.

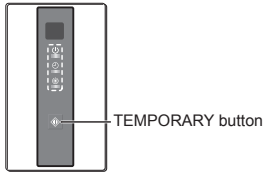
**4 After the test run, push OFF timer button to stop a test run.**
([TEST] disappears on the display and the air conditioner enters the normal stop mode.)



**Wireless remote controller**

**1 When TEMPORARY button is pushed for 10 seconds or more, “Pi!” sound is heard and the operation changes to test run. After approx. 3 minutes, a cooling operation starts forcedly.**
Check cool air starts blowing. If the operation does not start, check wiring again.

**2 To stop a test operation, push TEMPORARY button once again (Approx. 1 second).**
Check wiring / piping of the indoor and outdoor units in test run.




## ■ When a test run is not performed properly

- When a test run is not performed properly, refer to the error code and the part to be checked on “Troubleshooting”.
- When a test run is executed before installing the external duct, a protection control may be activated and lets the unit stop and the code P12 may be displayed. (This is not due to a malfunction but to the current control function of the DC motor in this unit.) When a test run executed before installing the external duct, select “Low” for the fan speed level or cover the air discharge.
- In addition, stop the operation before replacing the opening the service panel.
  After the test run, reset the circuit breaker of the indoor unit.

# 10 Maintenance

**Periodic Maintenance**

For environmental conservation, it is strongly recommended that the indoor and outdoor units of the air conditioner in use be cleaned and maintained regularly to ensure efficient operation of the air conditioner.
When the air conditioner is operated for a long time, periodic maintenance (once a year) is recommended.
Furthermore, regularly check the outdoor unit for rust and scratches, and remove them or apply rustproof treatment, if necessary.
As a general rule, when an indoor unit is operated for 8 hours or more daily, clean the indoor unit and outdoor unit at least once every 3 months. Ask a professional for this cleaning / maintenance work.
Such maintenance can extend the life of the product though it involves the owner's expense.
Failure to clean the indoor and outdoor units regularly will result in poor performance, freezing, water leakage, and even compressor failure.

**Inspection before maintenance (Once a year)**

Following inspection must be carried out by a qualified installer or qualified service person.

| Parts | Inspection method |
|---|---|
| Heat exchanger | Access from inspection opening and remove the access panel. Examine the heat exchanger if there is any clogging or damages. |
| Fan motor | Access from inspection opening and check if any abnormal noise can be heard. |
| Fan | Access from inspection opening and remove the access panel. Examine the fan if there are any waggles, damages or adhesive dust. |
| Filter | Go to installed location and check if there are any stains or breaks on the filter. |
| Drain pan | Access from inspection opening and remove the access panel. Check if there is any clogging or drain water is polluted. |

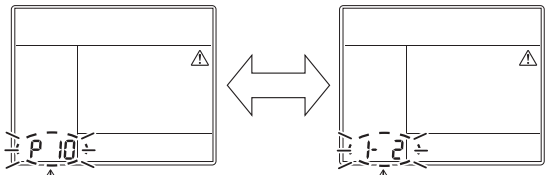
**Maintenance List**

| Part | Unit | Check (visual / auditory) | Maintenance |
|---|---|---|---|
| Heat exchanger | Indoor / outdoor | Dust / dirt clogging, scratches | Wash the heat exchanger when it is clogged. |
| Fan motor | Indoor / outdoor | Sound | Take appropriate measures when abnormal sound is generated. |
| Filter | Indoor | Dust / dirt, breakage | • Wash the filter with water when it is contaminated.<br>• Replace it when it is damaged. |
| Fan | Indoor | • Vibration, balance<br>• Dust / dirt, appearance | • Replace the fan when vibration or balance is terrible.<br>• Brush or wash the fan when it is contaminated. |
| Air intake / discharge grilles | Indoor / outdoor | Dust / dirt, scratches | Fix or replace them when they are deformed or damaged. |
| Drain pan | Indoor | Dust / dirt clogging, drain contamination | Clean the drain pan and check the downward slope for smooth drainage. |
| Ornamental panel, louvers | Indoor | Dust / dirt, scratches | Wash them when they are contaminated or apply repair coating. |
| Exterior | Outdoor | • Rust, peeling of insulator<br>• Peeling / lift of coat | Apply repair coating. |

# 11 Troubleshooting

## ■ 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.



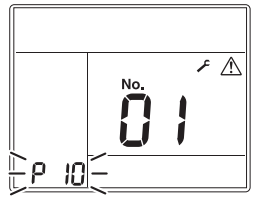

## ■ Troubleshooting history and confirmation

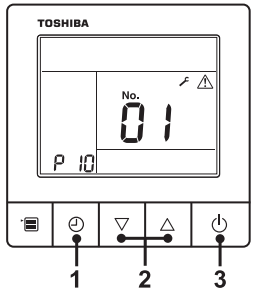
You can check the troubleshooting history with the following procedure if a problem occurs with the air conditioner. (The troubleshooting history records up to 4 incidents.)

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.<br>If [ Service check] is displayed, the mode enters in the troubleshooting history mode.<br>• [01: Order of troubleshooting history] appears in the temperature indicator.<br>• 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.<br>The troubleshooting history appears in order from [01] (newest) to [04] (oldest).<br>**⚠ CAUTION**<br>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.<br>• 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. |



## Check method

On the wired remote controller, central control remote controller and the interface P.C. board of the outdoor unit (I/F), a check display LCD (Remote controller) or 7-segment display (on the outdoor interface P.C. board) to display the operation is provided. Therefore the operation status can be known. Using this self-diagnosis function, a trouble or position with error of the air conditioner can be found as shown in the following table.

## Check code list

The following list shows each check code. Find the check contents from the list according to part to be checked.

- In case of check from indoor remote controller: See “Wired remote controller display” in the list.
- In case of check from outdoor unit: See “Outdoor unit 7-segment display” in the list.
- In case of check from indoor unit with a wireless remote controller: See “Sensor block display of receiving unit” in the list.

○ : Lighting, ☼ : Flashing, ● : Goes off
ALT: Flashing is alternately when there are two flashing LED.
SIM: Simultaneous flashing when there are two flashing LED.
Inverter: Compressor / Fan Inverter P.C. board
I/F: Interface P.C. board

| Check code | | | Wireless remote controller | | | | Check code name | Judging device |
|---|---|---|---|---|---|---|---|---|
| Wired remote controller display | Outdoor unit 7-segment display | | Sensor block display of receiving unit | | | | | |
| | | Auxiliary code | Operation | Timer | Ready | Flash | | |
| E01 | – | – | ☼ | ● | ● | | Communication trouble between indoor unit and remote controller (Detected at remote controller side) | Remote controller |
| E02 | – | – | ☼ | ● | ● | | Remote controller transmission trouble | Remote controller |
| E03 | – | – | ☼ | ● | ● | | Communication trouble between indoor unit and remote controller (Detected at indoor unit side) | Indoor unit |
| E04 | – | – | ● | ● | ☼ | | Communication circuit trouble between indoor / outdoor unit (Detected at indoor unit side) | Indoor unit |
| E06 | E06 | No. of indoor units in which sensor has been normally received | ● | ● | ☼ | | Decrease of No. of indoor units | I/F |
| – | E07 | – | ● | ● | ☼ | | Communication circuit trouble between indoor / outdoor unit (Detected at outdoor unit side) | I/F |
| E08 | E08 | Duplicated indoor unit addresses | ☼ | ● | ● | | Duplicated indoor unit addresses | Indoor unit • I/F |
| E09 | – | – | ☼ | ● | ● | | Duplicated master remote controllers | Remote controller |
| E10 | – | – | ☼ | ● | ● | | Communication trouble between indoor unit MCU | Indoor unit |
| E11 | – | – | ☼ | ● | ● | | Communication trouble between Application control kit and indoor unit | Indoor unit Application control kit |
| E12 | E12 | 01: Indoor/Outdoor units communication 02: Outdoor/Outdoor units communication | ☼ | ● | ● | | Automatic address start trouble | I/F |
| E15 | E15 | – | ● | ● | ☼ | | No indoor unit during automatic addressing | I/F |
| E16 | E16 | 00: Capacity over 01: No. of connected units | ● | ● | ☼ | | Capacity over / No. of connected indoor units | I/F |
| E17 | – | | ☼ | ● | ● | | Communication trouble between indoor unit and Flow Selector unit | Indoor unit |
| E18 | – | – | ☼ | ● | ● | | Communication trouble between header and follower units Indoor unit | Indoor unit |
| E19 | E19 | 00: Header is not detected 02: Two or more header units | ● | ● | ☼ | | Outdoor header units quantity trouble | I/F |
| E20 | E20 | 01: Outdoor unit of other line connected 02: Indoor unit of other line connected | ● | ● | ☼ | | Other line connected during automatic address | I/F |
| E23 | E23 | – | ● | ● | ☼ | | Sending trouble in communication between outdoor units Trouble in number of heat storage units (trouble with reception) | I/F |
| E25 | E25 | – | ● | ● | ☼ | | Duplicated follower outdoor addresses | I/F |
| E26 | E26 | No. of outdoor units which received signal normally | ● | ● | ☼ | | Decrease of No. of connected outdoor units | I/F |
| E28 | E28 | Detected outdoor unit number | ● | ● | ☼ | | Follower outdoor unit trouble | I/F |
| E31 | E31 | *1 Inverter quantity information | ● | ● | ☼ | | Inverter communication trouble | I/F |
| F01 | – | – | ☼ | ☼ | ● | ALT | Indoor unit TCJ sensor trouble | Indoor unit |
| F02 | – | – | ☼ | ☼ | ● | ALT | Indoor unit TC2 sensor trouble | Indoor unit |
| F03 | – | – | ☼ | ☼ | ● | ALT | Indoor unit TC1 sensor trouble | Indoor unit |
| F04 | F04 | – | ☼ | ☼ | ○ | ALT | TD1 sensor trouble | I/F |
| F05 | F05 | – | ☼ | ☼ | ○ | ALT | TD2 sensor trouble | I/F |

| Check code | | | Wireless remote controller | | | | Check code name | Judging device |
|---|---|---|---|---|---|---|---|---|
| Wired remote controller display | Outdoor unit 7-segment display | | Sensor block display of receiving unit | | | | | |
| | | Auxiliary code | Operation | Timer | Ready | Flash | | |
| F06 | F06 | 01: TE1 sensor<br>02: TE2 sensor<br>03: TE3 sensor | ¤ | ¤ | ○ | ALT | TE1,TE2 or TE3 sensor trouble | I/F |
| F07 | F07 | 01: TL1 sensor<br>02: TL2 sensor<br>03: TL3 sensor | ¤ | ¤ | ○ | ALT | TL1,TL2 or TL3 sensor trouble | I/F |
| F08 | F08 | – | ¤ | ¤ | ○ | ALT | TO sensor trouble | I/F |
| F09 | F09 | 01: TG1 sensor<br>02: TG2 sensor<br>03: TG3 sensor | ¤ | ¤ | ○ | ALT | TG1,TG2 or TG3 sensor trouble | I/F |
| F10 | – | – | ¤ | ¤ | ● | ALT | Indoor unit TA sensor trouble | Indoor unit |
| F11 | – | – | ¤ | ¤ | ● | ALT | TF sensor trouble | Indoor unit |
| F12 | F12 | 01: TS1 sensor<br>03: TS3 sensor<br>04: TS3 sensor disconnect | ¤ | ¤ | ○ | ALT | TS1 or TS3 sensor trouble | I/F |
| F13 | F13 | 1∗: Comp. 1 side<br>2∗: Comp. 2 side | ¤ | ¤ | ○ | ALT | TH sensor trouble | Inverter |
| F15 | F15 | – | ¤ | ¤ | ○ | ALT | Outdoor unit temp. sensor miswiring (TE, TL) | I/F |
| F16 | F16 | – | ¤ | ¤ | ○ | ALT | Outdoor unit pressure sensor miswiring (Pd, Ps) | I/F |
| F22 | F22 | – | ¤ | ¤ | ○ | ALT | TD3 sensor trouble | I/F |
| F23 | F23 | – | ¤ | ¤ | ○ | ALT | Ps sensor trouble | I/F |
| F24 | F24 | – | ¤ | ¤ | ○ | ALT | Pd sensor trouble | I/F |
| F29 | – | – | ¤ | ¤ | ● | SIM | Indoor unit other trouble | Indoor unit |
| F30 | F30 | – | ¤ | ¤ | ○ | SIM | Occupancy sensor trouble | Indoor unit |
| F31 | F31 | – | ¤ | ¤ | ○ | SIM | Indoor unit EEPROM trouble | I/F |
| H01 | H01 | 1∗: Comp. 1 side<br>2∗: Comp. 2 side | ● | ¤ | ● | | Compressor break down | Inverter |
| H02 | H02 | 1∗: Comp. 1 side<br>2∗: Comp. 2 side | ● | ¤ | ● | | Compressor trouble (lock) | Inverter |
| H03 | H03 | 1∗: Comp. 1 side<br>2∗: Comp. 2 side | ● | ¤ | ● | | Current detect circuit system trouble | Inverter |
| H04 | H04 | – | ● | ¤ | ● | | Comp. 1 case thermostat operation | I/F |
| H05 | H05 | – | ● | ¤ | ● | | TD1 sensor miswiring | I/F |
| H06 | H06 | – | ● | ¤ | ● | | Low pressure protective operation | I/F |
| H07 | H07 | – | ● | ¤ | ● | | Oil level down detective protection | I/F |
| H08 | H08 | 01: TK1 sensor trouble<br>02: TK2 sensor trouble<br>03: TK3 sensor trouble<br>04: TK4 sensor trouble<br>05: TK5 sensor trouble | ● | ¤ | ● | | Oil level detective temp. sensor trouble | I/F |
| H14 | H14 | – | ● | ¤ | ● | | Comp. 2 case thermostat operation | I/F |
| H15 | H15 | – | ● | ¤ | ● | | TD2 sensor miswiring | I/F |
| H16 | H16 | 01: TK1 oil circuit system trouble<br>02: TK2 oil circuit system trouble<br>03: TK3 oil circuit system trouble<br>04: TK4 oil circuit system trouble<br>05: TK5 oil circuit system trouble | ● | ¤ | ● | | Oil level detective circuit trouble | I/F |
| H17 | H17 | 1∗ : Compressor 1 side<br>2∗ : Compressor 2 side | ● | ¤ | ● | | Compressor trouble (Step out) | I/F |
| H25 | H25 | – | ● | ¤ | ● | | TD3 sensor miswiring | I/F |
| J02 | – | – | ● | ¤ | ¤ | SIM | Communication trouble between control boards in Flow Selector unit | Indoor unit |
| J03 | – | – | ● | ¤ | ¤ | SIM | Duplicated Flow Selector unit addresses | Indoor unit |

| Check code | | | Wireless remote controller | | | | Check code name | Judging device |
|---|---|---|---|---|---|---|---|---|
| Wired remote controller display | Outdoor unit 7-segment display | | Sensor block display of receiving unit | | | | | |
| | | Auxiliary code | Operation | Timer | Ready | Flash | | |
| J10 | J10 | Detected indoor unit address | ● | ☼ | ☼ | SIM | Flow Selector unit overflow trouble | Indoor unit |
| J11 | – | – | ● | ☼ | ☼ | SIM | Flow Selector unit temperature sensor (TCS) trouble | |
| J29 | – | – | ● | ☼ | ☼ | SIM | Refrigerant leak detection sensor trouble | Indoor unit |
| J30 | J30 | Detected indoor unit address<br>*Not displayed depending on the DN code (I.DN) setting | ● | ☼ | ☼ | SIM | Refrigerant leak detection | Indoor unit |
| J31 | – | – | ● | ☼ | ☼ | SIM | Refrigerant leak detection sensor exceeding its life of the product | Indoor unit |
| L02 | L02 | Detected indoor unit address | ☼ | ● | ☼ | SIM | Model mismatch of indoor and outdoor unit<br>Indoor unit incompatible with A2L (R32) refrigerant | I/F |
| L03 | – | – | ☼ | ● | ☼ | SIM | Indoor unit centre unit duplicated | Indoor unit |
| L04 | L04 | – | ☼ | ○ | ☼ | SIM | Outdoor unit line address duplicated | I/F |
| L05 | – | – | ☼ | ● | ☼ | SIM | Duplicated indoor units with priority (Displayed in indoor unit with priority) | I/F |
| L06 | L06 | No. of indoor units with priority | ☼ | ● | ☼ | SIM | Duplicated indoor units with priority (Displayed in unit other than indoor unit with priority) | I/F |
| L07 | – | – | ☼ | ● | ☼ | SIM | Group line in individual indoor unit | Indoor unit |
| L08 | L08 | – | ☼ | ● | ☼ | SIM | Indoor unit group/Address unset | Indoor unit, I/F |
| L09 | – | – | ☼ | ● | ☼ | SIM | Indoor unit capacity unset | Indoor unit |
| L10 | L10 | – | ☼ | ○ | ☼ | SIM | Outdoor unit capacity unset | I/F |
| L11 | L11 | Detected indoor unit address | ☼ | ○ | ☼ | SIM | Flow Selector unit not connected | I/F |
| L12 | L12 | 01: Flow Selector unit installation trouble | ☼ | ○ | ☼ | SIM | Flow Selector unit system trouble | I/F |
| L13 | L13 | Detected indoor unit address | ☼ | ○ | ☼ | SIM | Safety device setting unmatch | I/F |
| L14 | L14 | Detected indoor unit address | ☼ | ○ | ☼ | SIM | Safety device nonconformity | I/F |
| L17 | L17 | – | ☼ | ○ | ☼ | SIM | Outdoor unit type mismatch trouble | I/F |
| L18 | L18 | Detected indoor unit address | ☼ | ○ | ☼ | SIM | Flow Selector unit trouble | I/F |
| L20 | – | – | ☼ | ○ | ☼ | SIM | Duplicated central control addresses | Indoor unit |
| L22 | – | – | ☼ | ○ | ☼ | SIM | There is a DX-kit (heat source capacity command) non-compliant machine in the group<br>(DDC control, TA control and TF control are mixed) | Indoor unit |
| L24 | L24 | 01: Duplication of Flow Selector unit address<br>02: Indoor unit operation mode priority setting | ☼ | ○ | ☼ | SIM | Flow Selector unit setting trouble | I/F |
| L28 | L28 | – | ☼ | ○ | ☼ | SIM | Too many outdoor units connected | I/F |
| L29 | L29 | *1 Inverter quantity information | ☼ | ○ | ☼ | SIM | No. of inverter trouble | I/F |
| L30 | L30 | Detected indoor unit address | ☼ | ○ | ☼ | SIM | Indoor unit outside interlock | Indoor unit |
| – | L31 | – | – | | | | Extended I/C trouble | I/F |
| P01 | – | – | ● | ☼ | ☼ | ALT | Indoor fan motor trouble | Indoor unit |
| P03 | P03 | – | ☼ | ● | ☼ | ALT | Discharge temp. TD1 trouble | I/F |
| P04 | P04 | 1∗: Comp. 1 side<br>2∗: Comp. 2 side | ☼ | ● | ☼ | ALT | High-pressure SW system operation | Inverter |
| P05 | P05 | 1∗: Comp. 1 side<br>2∗: Comp. 2 side | ☼ | ● | ☼ | ALT | Phase missing detection/Power failure detection<br>Inverter DC voltage trouble (comp.) | I/F |
| P07 | P07 | 1∗: Comp. 1 side<br>2∗: Comp. 2 side | ☼ | ● | ☼ | ALT | Heat sink overheat trouble | Inverter, I/F |
| | | 04: Heat sink | | | | | Heat sink dew condensation trouble | |
| P10 | P10 | Detected indoor unit address | ● | ☼ | ☼ | ALT | Indoor unit overflow trouble | Indoor unit |
| P11 | P11 | – | ● | ☼ | ☼ | ALT | Outdoor heat exchanger freezing trouble | I/F |
| P12 | – | – | ● | ☼ | ☼ | ALT | Indoor unit fan motor trouble | Indoor unit |
| P13 | P13 | – | ● | ☼ | ☼ | ALT | Outdoor liquid back detection trouble | I/F |
| P15 | P15 | 01: TS condition<br>02: TD condition | ☼ | ● | ☼ | ALT | Gas leak detection | I/F |
| P16 | P16 | 01: PMV5<br>02: PMV6<br>03: SV7 | ☼ | ● | ☼ | ALT | Injection circuit trouble | I/F |

| Check code | | | Wireless remote controller | | | | Check code name | Judging device |
|---|---|---|---|---|---|---|---|---|
| Wired remote controller display | Outdoor unit 7-segment display | | Sensor block display of receiving unit | | | | | |
| | | Auxiliary code | Operation | Timer | Ready | Flash | | |
| P17 | P17 | – | ¤ | ● | ¤ | ALT | Discharge temp. TD2 trouble | I/F |
| P18 | P18 | – | ¤ | ● | ¤ | ALT | Discharge temp. TD3 trouble | I/F |
| P19 | P19 | 0#: 4-way valves<br>1#: 4-way valve1<br>2#: 4-way valve2<br>*Put in outdoor unit No. in [#] mark. | ¤ | ● | ¤ | ALT | 4-way valve inverse trouble | I/F |
| P20 | P20 | – | ¤ | ● | ¤ | ALT | High-pressure protective operation | I/F |
| P22 | P22 | 1∗ : Compressor 1 side<br>2∗ : Compressor 2 side | ¤ | ● | ¤ | ALT | Outdoor unit fan inverter trouble | Inverter |
| P26 | P26 | 1∗ : Comp. 1 side<br>2∗ : Comp. 2 side | ¤ | ● | ¤ | ALT | IPM short protection trouble | Inverter |
| P29 | P29 | 1∗ : Comp. 1 side<br>2∗ : Comp. 2 side | ¤ | ● | ¤ | ALT | Comp. position detective circuit system trouble | Inverter |
| P31 | – | – | ¤ | ● | ¤ | ALT | Other indoor unit trouble<br>(Group follower indoor unit trouble) | Indoor unit |

• For details about check codes determined with an Interface P.C. board or an Inverter P.C. Board, refer to the Installation Manual of the outdoor unit.

***1 Inverter quantity information**
**(Super Modular Multi System e and u series (SMMS-e, SMMS-u, SHRM-A))**

| No. | Comp. Inverter | | Fan Inverter | | Trouble |
|---|---|---|---|---|---|
| | 1 | 2 | 1 | 2 | |
| 01 | ○ | | | | Comp. 1 |
| 02 | | ○ | | | Comp. 2 |
| 03 | ○ | ○ | | | Comp. 1 + Comp. 2 |
| 08 | | | ○ | | Fan1 |
| 09 | ○ | | ○ | | Comp. 1 + Fan1 |
| 0A | | ○ | ○ | | Comp. 2 + Fan1 |
| 0B | ○ | ○ | ○ | | Comp. 1 + Comp. 2 + Fan1 |
| 10 | | | | ○ | Fan2 |
| 11 | ○ | | | ○ | Comp. 1 + Fan2 |
| 12 | | ○ | | ○ | Comp. 2 + Fan2 |
| 13 | ○ | ○ | | ○ | Comp. 1 + Comp. 2 + Fan2 |
| 18 | | | ○ | ○ | Fan1 + Fan2 |
| 19 | ○ | | ○ | ○ | Comp. 1 + Fan1 + Fan2 |
| 1A | | ○ | ○ | ○ | Comp. 2 + Fan1 + Fan2 |
| 1B | ○ | ○ | ○ | ○ | All |
| ○ : Inverter trouble | | | | | |

## Trouble detected by central control device

| Check code | | | Wireless remote controller | | | | Check code name | Judging device |
|---|---|---|---|---|---|---|---|---|
| Central control device indication | Outdoor unit 7-segment display | | Sensor block display of receiving unit | | | | | |
| | | Auxiliary code | Operation | Timer | Ready | Flash | | |
| C05 | – | – | – | | | | Sending trouble in central control device | Central control device |
| C06 | – | – | – | | | | Receiving trouble in central control device | Central control device |
| C12 | – | – | – | | | | Batch alarm of general-purpose equipment control interface | General-purpose equipment I/F |
| P30<br>(L20) | Differs according to trouble contents of unit with occurrence of alarm | | | | | | Group control follower unit trouble | Central control device |
| | – | – | (L20 is displayed.) | | | | • Duplication addresses of indoor units in central control device<br>• With the combination of air conditioning system, the indoor unit may detect the check code of L20 | |
| S01 | – | – | – | | | | Receiving trouble in central control device | Central control device |

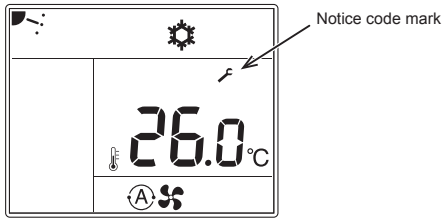
# 12 Specifications

| Model | Sound power level (dBA) | | Weight (kg) |
|---|---|---|---|
| | Cooling | Heating | |
| MMD-UP0181HP-E | * | * | 34 |
| MMD-UP0241HP-E | * | * | 34 |
| MMD-UP0271HP-E | * | * | 34 |
| MMD-UP0361HP-E | * | * | 43 |
| MMD-UP0481HP-E | * | * | 43 |
| MMD-UP0561HP-E | * | * | 43 |

* Under 70 dBA

# 13 Notice code

- Notice code is a function only in TC2U-Link communication.
- When the outdoor or indoor unit detects its conditions requiring caution or maintenance, this function notices you to check your units with the spanner mark (Notice code mark) on the wired remote controller or central controller display.
- Even while the notice code mark is displayed, the air conditioner can operate normally.
- A maximum of 5 notice codes can be issued simultaneously in one system (line).




## ■ How to check Notice code No.

**1** **Stop the operation of the air conditioner and push the Menu button and OFF timer button at the same time for 10 seconds or more.**

**2** **The unit number of the indoor unit is displayed at the bottom left of the screen. Change it with the [▽] [△] setting button and push the OFF timer button to confirm.**

**3** **The history number is displayed in the center of the screen, and the Notice code No. is displayed in the lower left.**
**[▽] [△] You can switch the history with the setting button (a maximum of 5 notice codes).**

**4** **Push the ON / OFF button to return to the operation stop screen.**

## ■ Notice code list

| Notice code No. | Item | Content |
|---|---|---|
| 203 | Flow Selector unit battery dead | The battery kit connected to the Flow Selector unit has reached the end of its life. |
| 204 | Leak detector life advance display | The leak detector will soon reach the end of its life. |

# 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: MMD-UP0181HP-E, MMD-UP0361HP-E
MMD-UP0241HP-E, MMD-UP0481HP-E
MMD-UP0271HP-E, MMD-UP0561HP-E

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

Name: Masaru Takeyama
Position: GM, Quality Assurance Dept.
Date: 2 November, 2021
Place Issued: Thailand

**NOTE**

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

# 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 UK LTD.
Porsham Close Belliver Industrial Estate Roborough Plymouth Devon
PL6 7DB United Kingdom

Hereby declares that the machinery described below:

Generic Denomination: Air Conditioner

Model / type: MMD-UP0181HP-E, MMD-UP0361HP-E
MMD-UP0241HP-E, MMD-UP0481HP-E
MMD-UP0271HP-E, MMD-UP0561HP-E

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 Supply of Machinery (Safety) Regulations 2008

Name: Masaru Takeyama
Position: GM, Quality Assurance Dept.
Date: 2 November, 2021
Place Issued: Thailand

**NOTE**

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

# 14 Appendix

## Work instructions

The existing R22 and R410A piping can be reused for inverter R32 product installations.

**⚠ WARNING**

**Confirming the existence of scratches or dents on the existing pipes and confirming the reliability of the pipe strength are conventionally referred to the local site.**
**If the specified conditions can be cleared, it is possible to update existing R22 and R410A pipes to those for R32 models.**

## Basic conditions needed to reuse existing pipes

Check and observe the presence of three conditions in the refrigerant piping works.

1. **Dry** (There is no moisture inside of the pipes.)
2. **Clean** (There is no dust inside of the pipes.)
3. **Tight** (There are no refrigerant leaks.)

## Restrictions for use of existing pipes

**In the following cases, the existing pipes should not be reused as they are. Clean the existing pipes or exchange them with new pipes.**

1. When a scratch or dent is heavy, be sure to use new pipes for the refrigerant piping works.
2. When the existing pipe thickness is thinner than the specified "Pipe diameter and thickness," be sure to use new pipes for the refrigerant piping works.
   - The operating pressure of refrigerant is high. If there is a scratch or dent on the pipe or a thinner pipe is used, the pressure strength may be inadequate, which may cause the pipe to break in the worst case.

*** Pipe diameter and thickness (mm)**

| Pipe outer diameter | | Ø6.4 | Ø9.5 | Ø12.7 | Ø15.9 |
|---|---|---|---|---|---|
| Thickness | R32, R410A | 0.8 | 0.8 | 0.8 | 1.0 |
| | R22 | | | | |

3. When the outdoor unit was left with the pipes disconnected, or the gas leaked from the pipes and the pipes were not repaired and refilled.
   - There is the possibility of rain water or air, including moisture, entering the pipe.
4. When refrigerant cannot be recovered using a refrigerant recovery unit.
   - There is the possibility that a large quantity of dirty oil or moisture remains inside the pipes.
5. When a commercially available dryer is attached to the existing pipes.
   - There is the possibility that copper green rust has been generated.
6. When the existing air conditioner is removed after refrigerant has been recovered.
   Check if the oil is judged to be clearly different from normal oil.
   - The refrigerator oil is copper rust green in color: There is the possibility that moisture has mixed with the oil and rust has been generated inside the pipe.
   - There is discolored oil, a large quantity of residue, or a bad smell.
   - A large quantity of shiny metal dust or other wear residue can be seen in the refrigerant oil.
7. When the air conditioner has a history of the compressor failing and being replaced.
   - When discolored oil, a large quantity of residue, shiny metal dust, or other wear residue or mixture of foreign matter is observed, trouble will occur.
8. When temporary installation and removal of the air conditioner are repeated such as when leased etc.
9. If the type of refrigerator oil of the existing air conditioner is other than the following oil (Mineral oil), Suniso, Freol-S, MS (Synthetic oil), alkyl benzene (HAB, Barrel-freeze), ester series, PVE only of ether series.
   - The winding-insulation of the compressor may deteriorate.

**NOTE**

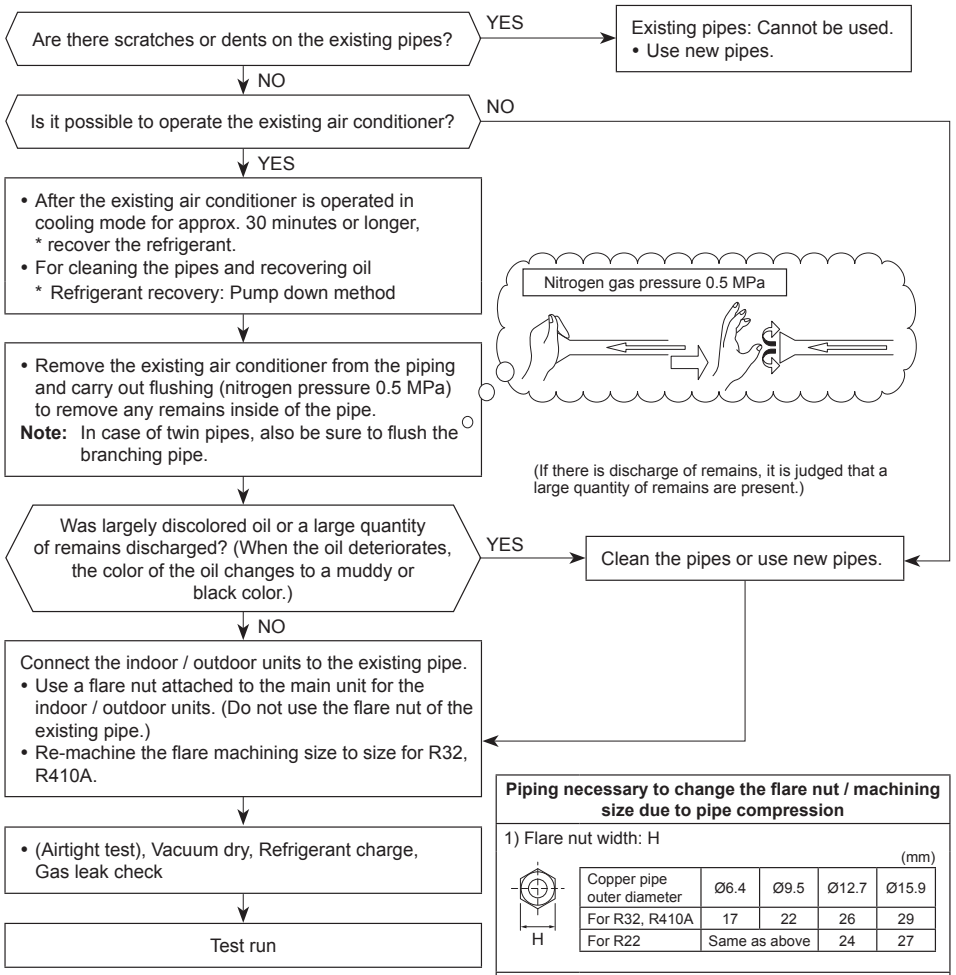
The above descriptions are results have been confirmed by our company and represent our views on our air conditioners, but do not guarantee the use of the existing pipes of air conditioners that have adopted R32, R410A in other companies.

## Curing of pipes

When removing and opening the indoor or outdoor unit for a long time, cure the pipes as follows:

- Otherwise rust may be generated when moisture or foreign matter due to condensation enters the pipes.
- The rust cannot be removed by cleaning, and new pipes are necessary.

| Placement location | Term | Curing manner |
|---|---|---|
| Outdoors | 1 month or more | Pinching |
| | Less than 1 month | Pinching or taping |
| Indoors | Every time | |




**Piping necessary to change the flare nut / machining size due to pipe compression**

1) Flare nut width: H

(mm)




| Copper pipe outer diameter | Ø6.4 | Ø9.5 | Ø12.7 | Ø15.9 |
|---|---|---|---|---|
| For R32, R410A | 17 | 22 | 26 | 29 |
| For R22 | Same as above | | 24 | 27 |

2) Flare machining size: A

(mm)

| Copper pipe outer diameter | Ø6.4 | Ø9.5 | Ø12.7 | Ø15.9 |
|---|---|---|---|---|
| For R32, R410A | 9.1 | 13.2 | 16.6 | 19.7 |
| For R22 | 9.0 | 13.0 | 16.2 | 19.4 |

Becomes a little larger for R32, R410A

Do not apply refrigerator oil to the flare surface.

# *Warnings on Refrigerant Leakage*

## Check of concentration limit

**The room in which the air conditioner is to be installed requires a design that in the event of refrigerant gas leaking out, its concentration will not exceed a set limit.**

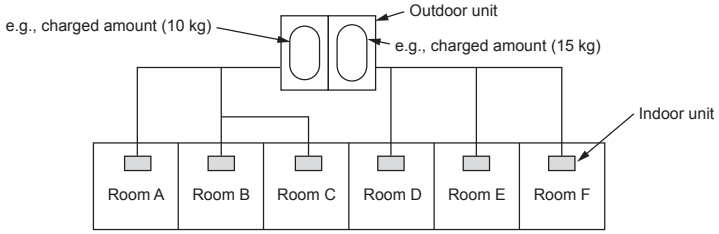
**Refrigerant R32**
The refrigerant R32 which is used in the air conditioner is mildly flammable. In Europe and areas where IEC standards apply, EN/IEC 60335-2-40 is the applicable standard. The refrigerant R32 does not have the toxicity of ammonia, and is not restricted by laws to be imposed which protect the ozone layer. If this appliance is connected with the outdoor unit containing R32 refrigerant, refer to the Installation and Owner's Manual attached to the outdoor unit.

**Refrigerant R410A**
The refrigerant R410A which is used in the air conditioner is safe, without the toxicity or combustibility of ammonia, and is not restricted by laws to be imposed which protect the ozone layer. However, since it contains more than air, it poses the risk of suffocation if its concentration should rise excessively. Suffocation from leakage of R410A is almost non-existent. With the recent increase in the number of high concentration buildings, however, the installation of multi air conditioner systems is on the increase because of the need for effective use of space, individual control, energy conservation by curtailing heat and carrying power etc.
Most importantly, the multi air conditioner system is able to hold a large amount of refrigerant compared with conventional individual air conditioners. If a single unit of the multi conditioner system is to be installed in a small room, select a suitable model and installation procedure so that if the refrigerant accidentally leaks out, its concentration does not reach the limit (and in the event of an emergency, measures can be made before injury can occur).
In a room where the concentration may exceed the limit imposed by the local regulation, create an opening with adjacent rooms, or install mechanical ventilation or isolation, combined with a gas leak detection device, which complies with the local regulatory requirements.
The concentration calculation method is as given below. Please note the concentration limit between R32 and R410A refrigerant differs.

$$\frac{\text{Total amount of refrigerant (kg)}}{\text{Min. volume of the indoor unit installed room (m}^3\text{)}} \leq \text{Concentration limit (kg/m}^3\text{)}$$

Refrigerant Concentration Limit shall be in accordance with local regulations.

**▼NOTE 1**
If there are 2 or more refrigerating systems in a single refrigerating device, the amounts of refrigerant should be as charged in each independent device.



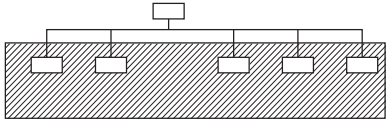

For the amount of charge in this example:
The possible amount of leaked refrigerant gas in rooms A, B and C is 10 kg.
The possible amount of leaked refrigerant gas in rooms D, E and F is 15 kg.

**Important**

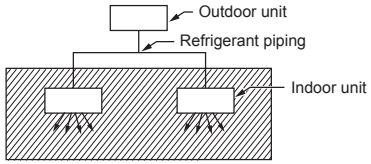
**▼NOTE 2**

The standards for minimum room volume are as follows.

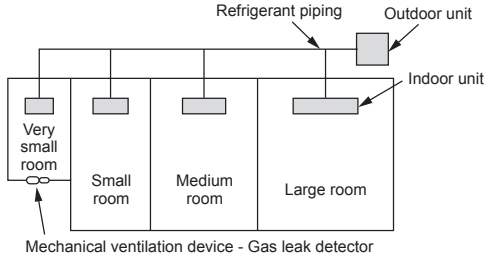
1) No partition (shaded portion)



2) When there is an effective opening with the adjacent room for ventilation of leaking refrigerant gas (opening without a door, or an opening 0.15% or larger than the respective floor spaces at the top or bottom of the door).




3) If an indoor unit is installed in each partitioned room and the refrigerant piping is interconnected, the smallest room of course becomes the object. But when a mechanical ventilation is installed interlocked with a gas leakage detector in the smallest room where the density limit is exceeded, the volume of the next smallest room becomes the object.




**▼NOTE 3**

System compliance has been completed to IEC60335-2-40 Ed6. If EN378 compliance is required, please refer separately to EN378 for guidance.

## ■ Confirmation of indoor unit setup

Prior to delivery to the customer, check the address and setup of the indoor unit, which has been installed in this time and fill the check sheet (Following table). Data of four units can be entered in this check sheet. Copy this sheet according to the No. of the indoor units. If the installed system is a group control system, use this sheet by entering each line system into each Installation Manual attached to the other indoor units.

**REQUIREMENT**

This check sheet is required for maintenance after installation. Fill this sheet and then pass this Installation Manual to the customers.

### Indoor unit setup check sheet

| Indoor unit | Indoor unit | Indoor unit | Indoor unit |
|---|---|---|---|
| **Room name** | **Room name** | **Room name** | **Room name** |
| **Model** | **Model** | **Model** | **Model** |

Check indoor unit address. (For check method, refer to APPLICABLE CONTROLS in this manual.)
*In case of a single system, it is unnecessary to enter the indoor address. (CODE NO.: Line [12], Indoor [13], Group [14], Central control [03])

| Line | Indoor | Group | Line | Indoor | Group | Line | Indoor | Group | Line | Indoor | Group |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |

| Central control address | Central control address | Central control address | Central control address |
|---|---|---|---|
| | | | |

| Various setup | Various setup | Various setup | Various setup |
|---|---|---|---|

Have you changed high ceiling setup? If not, fill check mark [×] in [NO CHANGE], and fill check mark [×] in [ITEM] if changed, respectively.
(For check method, refer to APPLICABLE CONTROLS in this manual.) * In case of replacement of jumper blocks on indoor microcomputer P.C. board, setup is automatically changed.

| External static pressure (CODE NO. [5d]) | External static pressure (CODE NO. [5d]) | External static pressure (CODE NO. [5d]) | External static pressure (CODE NO. [5d]) |
|---|---|---|---|
| ☐ NO CHANGE | ☐ NO CHANGE | ☐ NO CHANGE | ☐ NO CHANGE |
| ☐ STANDARD [0000] | ☐ STANDARD [0000] | ☐ STANDARD [0000] | ☐ STANDARD [0000] |
| ☐ STATIC 1 [0001] | ☐ STATIC 1 [0001] | ☐ STATIC 1 [0001] | ☐ STATIC 1 [0001] |
| ☐ STATIC 2 [0002] | ☐ STATIC 2 [0002] | ☐ STATIC 2 [0002] | ☐ STATIC 2 [0002] |
| ☐ STATIC 3 [0003] | ☐ STATIC 3 [0003] | ☐ STATIC 3 [0003] | ☐ STATIC 3 [0003] |
| ☐ STATIC 4 [0004] | ☐ STATIC 4 [0004] | ☐ STATIC 4 [0004] | ☐ STATIC 4 [0004] |
| ☐ STATIC 5 [0005] | ☐ STATIC 5 [0005] | ☐ STATIC 5 [0005] | ☐ STATIC 5 [0005] |
| ☐ STATIC 6 [0006] | ☐ STATIC 6 [0006] | ☐ STATIC 6 [0006] | ☐ STATIC 6 [0006] |

Have you changed lighting time of filter sign? If not, fill check mark [×] in [NO CHANGE], and fill check mark [×] in [ITEM] if changed, respectively.
(For check method, refer to APPLICABLE CONTROLS in this manual.)

| Filter sign lighting time (CODE NO. [01]) | Filter sign lighting time (CODE NO. [01]) | Filter sign lighting time (CODE NO. [01]) | Filter sign lighting time (CODE NO. [01]) |
|---|---|---|---|
| ☐ NO CHANGE | ☐ NO CHANGE | ☐ NO CHANGE | ☐ NO CHANGE |
| ☐ NONE [0000] | ☐ NONE [0000] | ☐ NONE [0000] | ☐ NONE [0000] |
| ☐ 150H [0001] | ☐ 150H [0001] | ☐ 150H [0001] | ☐ 150H [0001] |
| ☐ 2500H [0002] | ☐ 2500H [0002] | ☐ 2500H [0002] | ☐ 2500H [0002] |
| ☐ 5000H [0003] | ☐ 5000H [0003] | ☐ 5000H [0003] | ☐ 5000H [0003] |
| ☐ 10000H [0004] | ☐ 10000H [0004] | ☐ 10000H [0004] | ☐ 10000H [0004] |

Have you changed detected temp, shift value? If not, fill check mark [×] in [NO CHANGE], and fill check mark [×] in [ITEM] if changed, respectively.
(For check method, refer to APPLICABLE CONTROLS in this manual.)

| Detected temp, shift value setup (CODE NO. [06]) | Detected temp, shift value setup (CODE NO. [06]) | Detected temp, shift value setup (CODE NO. [06]) | Detected temp, shift value setup (CODE NO. [06]) |
|---|---|---|---|
| ☐ NO CHANGE | ☐ NO CHANGE | ☐ NO CHANGE | ☐ NO CHANGE |
| ☐ NO SHIFT [0000] | ☐ NO SHIFT [0000] | ☐ NO SHIFT [0000] | ☐ NO SHIFT [0000] |
| ☐ +1°C [0001] | ☐ +1°C [0001] | ☐ +1°C [0001] | ☐ +1°C [0001] |
| ☐ +2°C [0002] | ☐ +2°C [0002] | ☐ +2°C [0002] | ☐ +2°C [0002] |
| ☐ +3°C [0003] | ☐ +3°C [0003] | ☐ +3°C [0003] | ☐ +3°C [0003] |
| ☐ +4°C [0004] | ☐ +4°C [0004] | ☐ +4°C [0004] | ☐ +4°C [0004] |
| ☐ +5°C [0005] | ☐ +5°C [0005] | ☐ +5°C [0005] | ☐ +5°C [0005] |
| ☐ +6°C [0006] | ☐ +6°C [0006] | ☐ +6°C [0006] | ☐ +6°C [0006] |

| Incorporation of parts sold separately | Incorporation of parts sold separately | Incorporation of parts sold separately | Incorporation of parts sold separately |
|---|---|---|---|

Have you incorporated the following parts sold separately? If incorporated, fill check mark [×] in each [ITEM].
(When incorporating, the setup change is necessary in some cases. For setup change method, refer to Installation Manual attached to each part sold separately.)

| Panel | Panel | Panel | Panel |
|---|---|---|---|
| Standard panel | Standard panel | Standard panel | Standard panel |
| ☐ Others ( ) | ☐ Others ( ) | ☐ Others ( ) | ☐ Others ( ) |
| ☐ Others ( ) | ☐ Others ( ) | ☐ Others ( ) | ☐ Others ( ) |

# Toshiba Carrier (Thailand) Co., Ltd.

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