

TOSHIBA

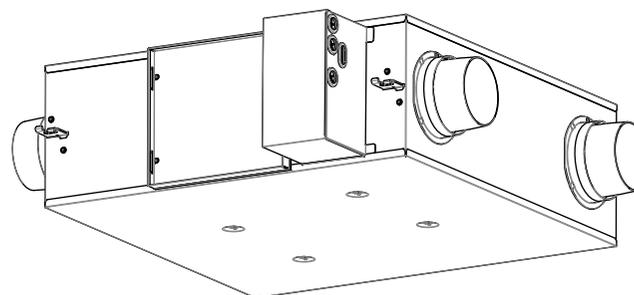
HEAT RECOVERY VENTILATION UNIT Installation Manual

Concealed Microcomputer Control Type

Model name:

VN-U00151SY-E VN-U00251SY-E
VN-U00351SY-E VN-U00501SY-E
VN-U00651SY-E VN-U00801SY-E
VN-U01001SY-E

For commercial use



Original instruction

Thank you very much for purchasing TOSHIBA Heat recovery ventilation unit.
 Please read this owner's manual carefully before using your Heat recovery ventilation unit.

- Obtain the "Owner's manual" and "Installation manual" from constructor (or dealer).

Request to constructor or dealer

- Please clearly explain the contents of the Owner's manual and hand over it.

- Read this Installation Manual thoroughly to fully understand everything about your Toshiba Heat recovery ventilation unit and be able to install it properly.
- Ask a qualified installer or qualified service person to perform installation.
- System parts such as a wired remote controller (sold separately) are necessary for using this unit.
- After installation, perform a test operation and confirm the safety, then explain to the customer how to use this unit. Give this installation manual to the customer and ask him / her to keep it with the owner's manual.

■ Handover to the customer

- Hand the owner's manual and installation manual to the customer.
- Before the handover, explain fully to the customer the contents of the owner's manual.

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

Generic Denomination: Heat recovery ventilation unit

Definition of Qualified Installer or Qualified Service Person

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

Agent	Qualifications and knowledge which the agent must have
Qualified installer (*1)	<ul style="list-style-type: none"> • The qualified installer is a person who installs, maintains, relocates and removes the Heat recovery ventilation unit made by Toshiba Carrier Corporation. He or she has been trained to install, maintain, relocate and remove the Heat recovery ventilation unit made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such operations by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to these operations. • The qualified installer who is allowed to do the electrical work involved in installation, relocation and removal has the qualifications pertaining to this electrical work as stipulated by the local laws and regulations, and he or she is a person who has been trained in matters relating to electrical work on the Heat recovery ventilation unit made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work. • The qualified installer who is allowed to work at heights has been trained in matters relating to working at heights with the Heat recovery ventilation unit made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work.
Qualified service person (*1)	<ul style="list-style-type: none"> • The qualified service person is a person who installs, repairs, maintains, relocates and removes the Heat recovery ventilation unit made by Toshiba Carrier Corporation. He or she has been trained to install, repair, maintain, relocate and remove the Heat recovery ventilation unit made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such operations by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to these operations. • The qualified service person who is allowed to do the electrical work involved in installation, repair, relocation and removal has the qualifications pertaining to this electrical work as stipulated by the local laws and regulations, and he or she is a person who has been trained in matters relating to electrical work on the Heat recovery ventilation unit made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work. • The qualified service person who is allowed to work at heights has been trained in matters relating to working at heights with the Heat recovery ventilation unit made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work.

Definition of Protective Gear

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

Work undertaken	Protective gear worn
All types of work	Protective gloves 'Safety' working clothing
Electrical-related work	Gloves to provide protection for electricians and from heat
Work done at heights (50 cm or more)	Helmets for use in industry
Transportation of heavy objects	Shoes with additional protective toe cap

These safety cautions describe important matters concerning safety to prevent injury to users or other people and damages to property. Please read through this manual after understanding the contents below (meanings of indications), and be sure to follow the description.

Indication	Meaning of Indication
 WARNING	Text set off in this manner indicates that failure to adhere to the directions in the warning could result in serious bodily harm (1) or loss of life if the product is handled improperly.
 CAUTION	Text set off in this manner indicates that failure to adhere to the directions in the caution could result in slight injury (2) or damage (3) to property if the product is handled improperly.

- 1: Serious bodily harm indicates loss of eyesight, injury, burns, electric shock, bone fracture, poisoning, and other injuries which leave aftereffect and require hospitalization or long-term treatment as an outpatient.
- 2: Slight injury indicates injury, burns, electric shock, and other injuries which do not require hospitalization or long-term treatment as an outpatient.
- 3: Damage to property indicates damage extending to buildings, household effects, domestic livestock, and pets.

MEANINGS OF SYMBOLS DISPLAYED ON THE UNIT

	Read the OWNER'S MANUAL carefully before operation.
	Service personnel are required to carefully read the OWNER'S MANUAL and INSTALLATION MANUAL before operation.
	Further information is available in the OWNER'S MANUAL, INSTALLATION MANUAL, and the like.

Warning indications on the Heat recovery ventilation unit

Warning indication	Description		
 <table border="1" style="margin-left: 10px;"> <tr> <td style="text-align: center;">WARNING</td> </tr> <tr> <td>ELECTRICAL SHOCK HAZARD Disconnect all remote electric power supplies before servicing.</td> </tr> </table>	WARNING	ELECTRICAL SHOCK HAZARD Disconnect all remote electric power supplies before servicing.	<p>WARNING</p> <p>ELECTRICAL SHOCK HAZARD Disconnect all remote electric power supplies before servicing.</p>
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CAUTION			
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1 Precautions for safety

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

WARNING

General

- Before starting to install the Heat recovery ventilation unit, read carefully through the Installation Manual, and follow its instructions to install the Heat recovery ventilation unit.
- Only a qualified installer (*1) or qualified service person (*1) is allowed to install the Heat recovery ventilation unit. If the Heat recovery ventilation unit is installed by an unqualified individual, a fire, electric shocks, injury, water leakage, noise and/or vibration may result.
- If using separately sold products, make sure to use Toshiba specified products only. Using unspecified products may cause fire, electric shock, water leak or other failure.
- Before opening the electrical control cover or inspection cover of the Heat recovery ventilation unit, set the circuit breaker to the OFF position. Failure to set the circuit breaker to the OFF position may result in electric shocks through contact with the interior parts. Only a qualified installer (*1) or qualified service person (*1) is allowed to remove the electrical control cover or inspection cover of the Heat recovery ventilation unit and do the work required.
- Before carrying out the installation, maintenance, repair or removal work, set the circuit breaker to the OFF position. Otherwise, electric shocks may result.
- Place a “Work in progress” sign near the circuit breaker while the installation, maintenance, repair or removal work is being carried out. There is a danger of electric shocks if the circuit breaker is set to ON by mistake.
- Only a qualified installer (*1) or qualified service person (*1) is allowed to undertake work at heights using a stand of 50 cm or more or to remove the electrical control cover or inspection cover of the Heat recovery ventilation unit to undertake work.
- Wear protective gloves and safety work clothing during installation, servicing and removal.

- When working at heights, use a ladder which complies with the ISO 14122 standard, and follow the procedure in the ladder’s instructions. Also wear a helmet for use in industry as protective gear to undertake the work.
- When cleaning the filter or heat exchange element of the Heat recovery ventilation unit, set the circuit breaker to OFF without fail, and place a “Work in progress” sign near the circuit breaker before proceeding with the work.
- When working at heights, put a sign in place so that no-one will approach the work location, before proceeding with the work. Parts and other objects may fall from above, possibly injuring a person below.
- The Heat recovery ventilation unit must be transported in stable condition. In case an accident such as dropping of the unit occurs while transporting the Heat recovery ventilation unit, contact the dealer.
- Do not move or repair any unit by yourself. There is high voltage inside the unit. You may get electric shock when removing the cover and main unit.
- Do not modify the products. Do not also disassemble or modify the parts. It may cause a fire, electric shock or injury.
- Confirm whether there is a risk of the Heat recovery ventilation unit falling down during maintenance or repairing work.
- Before opening the Supply / Exhaust air grill, set the circuit breaker to the OFF position. Otherwise, your hand may be caught in the rotating parts inside and an injury may result.

Selection of installation location

- Do not install the Heat recovery ventilation unit in a location that may be subject to a risk of exposure to a combustible gas. If a combustible gas leaks and becomes concentrated around the unit, a fire may occur.
- When transporting the Heat recovery ventilation unit, wear shoes with additional protective toe caps, protective gloves and other protective clothing.
- When transporting the Heat recovery ventilation unit, do not take hold of the bands around the packing carton. You may injure yourself if the bands should break.
- Install the Heat recovery ventilation unit at least 2.5 m above the floor level since otherwise the users may injure themselves or receive electric shocks if they poke their fingers or other objects into the Heat recovery ventilation unit while it is running.

- Do not place any combustion appliance in a place where it is directly exposed to the wind of Heat recovery ventilation unit, otherwise it may cause imperfect combustion.
- Use a hand track or forklift to carry the unit. When carrying it by human power, have four persons otherwise, you may strain your back.
- Do not install the place where there is a wind flow that rotates the fan while operation is stopped.
(If the Heat recovery ventilation unit is connected to other booster fans or Fresh air intake unit through a common duct, the Heat recovery ventilation unit may not operate if the fan is rotating while operation is stopped.)

Installation

- Use a winch or hoist to install Heat recovery ventilation unit.
- When the Heat recovery ventilation unit is to be suspended, the designated hanging bolts (M10 to M12) and nuts (M10 to M12) must be used.
- Install the Heat recovery ventilation unit at enough strong places to withstand the weight of the unit. If the strength is not enough, the unit may fall down resulting in injury.
- Follow the instructions in the Installation Manual to install the Heat recovery ventilation unit. Failure to follow these instructions may cause the product to fall down or topple over or give rise to noise, vibration, water leakage, etc.
- When connecting other booster fans to the common duct with Heat recovery ventilation unit, be sure to link the operation with Heat recovery ventilation unit.

Electrical wiring

- Only a qualified installer (*1) or qualified service person (*1) is allowed to carry out the electrical work of the Heat recovery ventilation unit. Under no circumstances must this work be done by an unqualified individual since failure to carry out the work properly may result in electric shocks and/or electrical leaks.
- When repairing the electrical parts or undertaking other electrical jobs, wear gloves to provide protection for electricians and from heat. Failure to wear this protective gear may result in burn.
- Use wiring that meets the specifications in the Installation Manual and the stipulations in the local regulations and laws. Use of wiring which does not meet the specifications may give rise to electric shocks, electrical leakage, smoking and/or a fire.

- Connect earth wire. (Grounding work)
Incomplete earthing causes an electric shock.
- Do not connect earth wires to gas pipes, water pipes, and lightning rods or earth wires for telephone wires.
- After completing the repair or relocation work, check that the earth wires are connected properly.
- Install a circuit breaker that meets the specifications in the installation manual and the stipulations in the local regulations and laws. Use an exclusive power supply circuit for the Heat recovery ventilation unit at the rated voltage.
- Install the circuit breaker where it can be easily accessed by the agent.
- When installing the circuit breaker outdoors, install one which is designed to be used outdoors.
- Under no circumstances must the power cable be extended. Connection trouble in the places where the cable is extended may give rise to smoking and/or a fire.
- Electrical wiring work shall be conducted according to law and regulation in the community and installation manual. Failure to do so may result in electrocution or short circuit.
- When carrying out electric connection, use the wire specified in the Installation Manual and connect and fix the wires securely to prevent them applying external force to the terminals. Improper connection or fixing may result in fire.

Test run

- Before operating the Heat recovery ventilation unit after having completed the work, check that the electrical control cover and inspection cover are closed, and set the circuit breaker to the ON position. You may receive an electric shock if the power is turned on without first conducting these checks.
- When there is some kind of trouble (such as when a check code display has appeared, there is a smell of burning, abnormal sounds are heard, or water is leaking) has occurred in the Heat recovery ventilation unit, do not touch the Heat recovery ventilation unit yourself but set the circuit breaker to the OFF position, and contact a qualified service person. Take steps to ensure that the power will not be turned on (by marking "out of service" near the circuit breaker, for instance) until qualified service person arrives. Continuing to use the Heat recovery ventilation unit in the trouble status may cause mechanical problems to escalate or result in electric shocks, etc.
- After the work has finished, use an insulation tester set (500 V Megger) to check the resistance is 1 MΩ or more between the charge section and the non-charge metal section (Earth section). If the resistance value is low, a disaster such as a leak or electric shock is caused at user's side.
- Upon completion of the installation work, check the insulation resistance. Then conduct a test run to check that the Heat recovery ventilation unit is operating properly.

Explanations given to user

- Upon completion of the installation work, tell the user where the circuit breaker is located. If the user does not know where the circuit breaker is, he or she will not be able to turn it off in the event that trouble has occurred in the Heat recovery ventilation unit.
- After the installation work, follow the Owner's Manual to explain to the customer how to use and maintain the unit.
- If there is a danger of the Heat recovery ventilation unit falling, do not approach the Heat recovery ventilation unit but set the circuit breaker to the OFF position, and contact a qualified service person (*1) to have the repairs done. Do not set the circuit breaker to the ON position until the repairs are completed.

Relocation

- Only a qualified installer (*1) or qualified service person (*1) is allowed to relocate the Heat recovery ventilation unit. It is dangerous for the Heat recovery ventilation unit to be relocated by an unqualified individual since a fire, electric shocks, injury, water leakage, noise and/or vibration may result.

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

⚠ CAUTION

- The external air intake opening should be positioned away from the exhaust openings of combustion gases. The intake of such gases could cause a lack of oxygen in the room.
The external air intake opening should not be positioned where discharged air may directly enter it.
A situation like this will lead to the room being contaminated and this may pose a health risk.
- Netting or something similar should be provided at the external air intake opening to prevent birds or other things interfering with the unit.
- Nests or other foreign objects should be removed. That could cause a lack of oxygen in the room.
- To pierce the metal duct through the metal lath or the wire lath or the metal plate of the wooden facility, do not forget to insulate electrically between the duct and the wall. Otherwise, it would cause an electric shock or an electric leakage.
- Install the outdoor duct in a falling gradient toward the outside so as to prevent water from coming in. If it is not installed so, the building is likely to be flooded, wetting the household effects.
- Heat-insulate the outdoor duct (including the indoor side, if necessary) to prevent dewing. If heat insulation is not adequate, water likely goes indoor and wets the household properties.
- When it is high humid and high temperature inside the ceiling, a ventilation system must be installed inside the ceiling.
Otherwise, it could cause a fire or an electric leakage.
- Install the power line and the connecting line with accuracy so the power source cover may not float. If the installation of the electrical control cover is inappropriate, the pin connection area is likely to cause a heat generation, a fire and an electric shock due to dust or powder.
- Do not use the unit at the other voltages than the rated one. It could cause a fire or an electric shock.
- Do not install the unit in locations with large amounts of oily smoke, such as food preparation areas. It could cause a fire.
- Do not install the unit at the place of a high temperature or a flame. It could cause a heat generation or a fire.
- Do not install in locations with high humidity, such as close to bathroom or other similar environment. It could cause an electric shock or an electric leakage or other troubles.

- Install an earth leakage breaker that is not tripped by shock waves. If an earth leakage breaker is not installed, an electric shock may be caused.
- Do not install the unit and inside air intake in a place such as a machine factory, chemical plant, or research institute, where acids, alkaline, organic solvents, or coating materials are handled and toxic gases and/or corrosive gases may be produced.
Otherwise gas poisoning may occur and/or the inside of the unit may be eroded or deteriorated. The deterioration and erosion may result in a fire.
- After installation, switch off the circuit breaker for safety if the unit will not be used for a long time.
- Attach the parts such as the inspection cover securely.

To disconnect the appliance from main power supply

- This appliance must be connected to the main power supply by means of a switch with a contact separation of at least 3 mm.
-

■ Disposal

Dispose of Heat recovery ventilation unit in accordance with the Directive 2012/19/EU WEEE (Waste Electrical and Electronic Equipment).

2 Accessory parts

Name	Quantity	Shape	Usage
Installation manual	1	—	(Hand it to the customers.)
CD-ROM (Owner's manual and Installation manual)	1	—	(For other languages that do not appear in this manual, please refer to the enclosed CD-ROM.)
Owner's manual	1	—	(Hand it to the customers.)
Seal material	3	 (50 × 50 × 3 t)	For sealing of wire connecting port

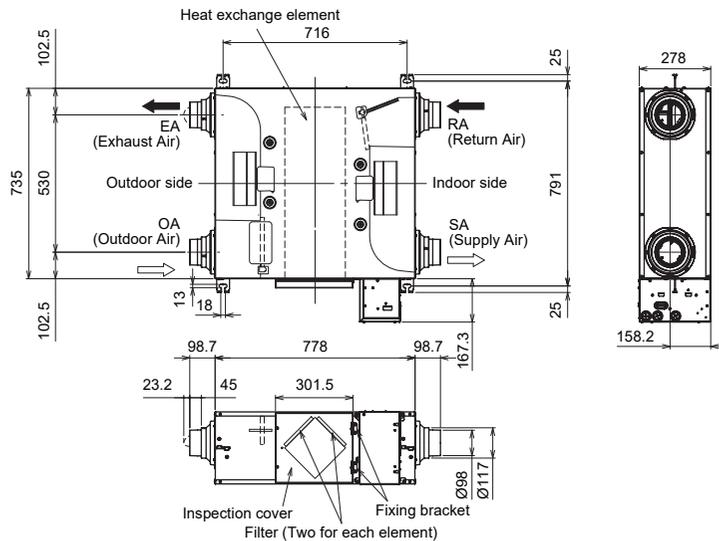
3 Cautions for installation

Make the inspection opening at the specific place on the ceiling so the constant cleaning or the equipment checking of filter and heat exchange element can be performed. Be sure to clean filter and heat exchanger element once or twice a year to prevent their degradation of performance or condensation.

- The inspection opening shown below is necessary to clean the heat exchange element and the filter as required. If not cleaned, they are likely to get clogged, resulting in degradation of performance.
- Use forklift to carry in the Heat recovery ventilation units and use winch or hoist at installation of them.

▼ VN-U00151SY-E

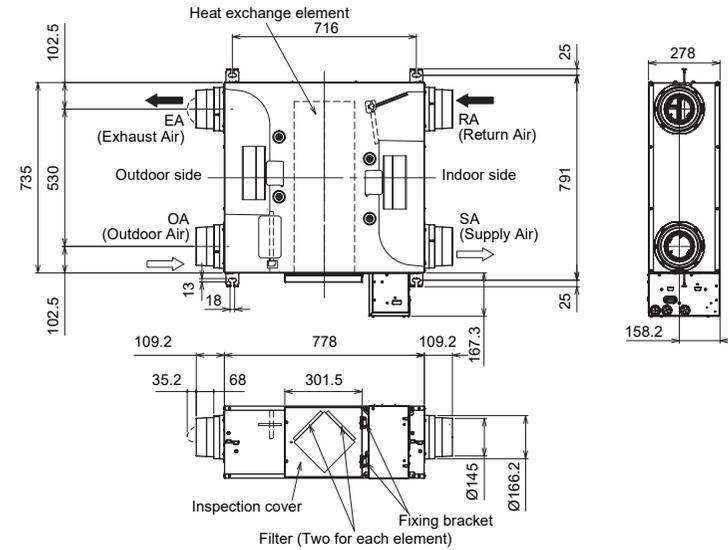
Unit: mm



Weight: 29 kg
Heat exchange element: 1

▼ VN-U00251SY-E

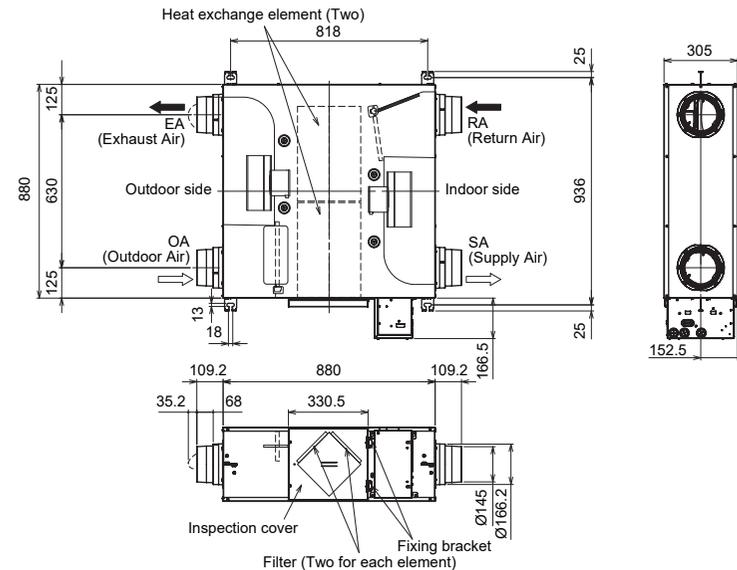
Unit: mm



Weight: 29 kg
Heat exchange element: 1

▼ VN-U00351SY-E

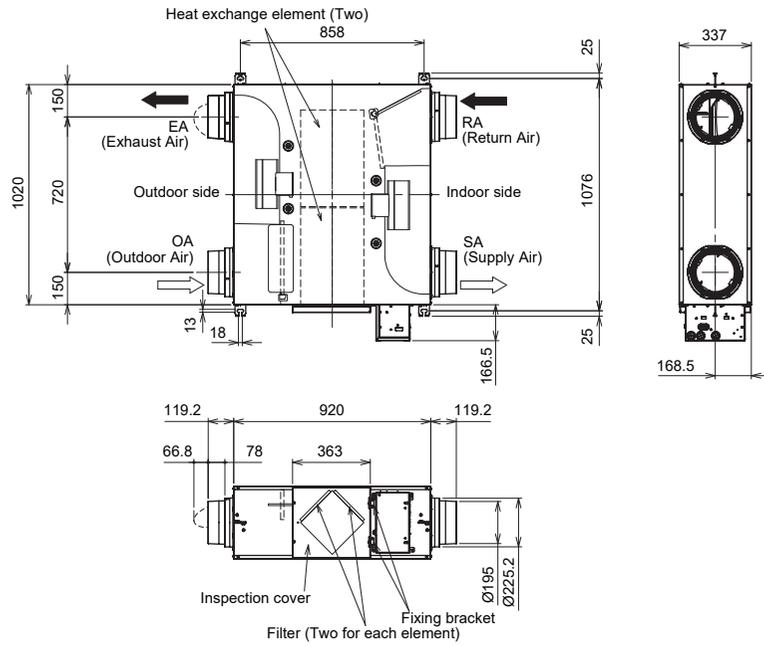
Unit: mm



Weight: 40 kg
Heat exchange element: 2

▼ VN-U00501SY-E, U00651SY-E

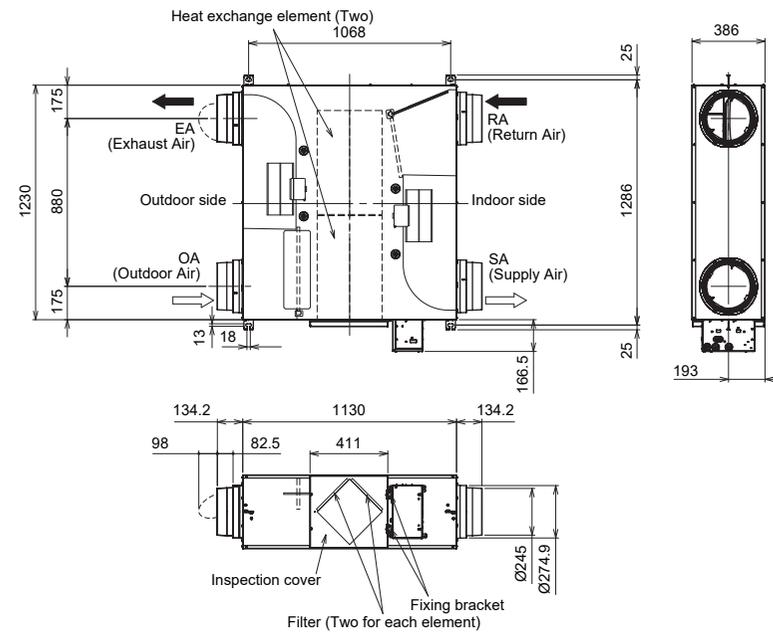
Unit: mm



Weight: 47 kg
Heat exchange element: 2

▼ VN-U00801SY-E, U01001SY-E

Unit: mm



Weight: 63 kg
Heat exchange element: 2

- **Helmet must be worn to protect your head from falling objects. Especially, when you work under an inspection opening, helmet must be worn to protect your head from falling objects from the opening.**

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

■ Observe the following conditions when using the Heat recovery ventilation unit

Installation requirements : Temperature range -15°C to +50°C, relative humidity 80% or less
 Outdoor air conditions : Temperature range -20°C to +52°C, relative humidity 80% or less
 Return air conditions : Temperature range +5°C to +40°C, relative humidity 80% or less

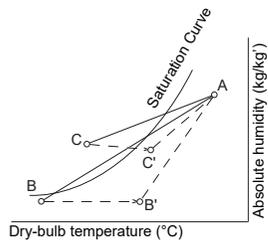
- If Heat recovery ventilation unit is used under conditions in which air after heat exchange is saturated, condensation or frosts occur in the heat exchange element.
 When such condition is expected, use the heater by heating air at the low temp side.
 (For the detail, refer to "Dewing and frosting")
- Do not install the Heat recovery ventilation unit in a place where flames can come into contact with the unit. If the Heat recovery ventilation unit is used for a long time without observing the conditions above, deterioration or deformation of resin parts will occur and a malfunction may result.

■ Do not use the Heat recovery ventilation unit in location such as kitchen, bathroom, swimming pool or air conditioning cultivation room etc.

- Use of it in the location where large amount of soot are present leads to the clogging in the filter or in the heat exchanger element, cause not to function properly.
- Use of it in the location where high humidity is present can cause condensation water drops from the inside of the unit.

■ Dewing and frosting

- In cold regions, the surface (or inside) of the unit or the duct connector may be affected by condensation or frosting depending on the outdoor air conditions or temperature / humidity of the ceiling cavity even though the conditions for use are observed. In this case, add a heat insulator.
- Do not install the unit in a place where there is something that must not become wet. Depending on the temperature or humidity of outdoor air and the installation place, water droplets may fall from the unit.
- As shown in the figure to the below, suppose a high temp absorbing air condition A and a low temp absorbing air condition B are plotted on the air line figure, then a high temp air A is heat-exchanged by the unit and goes out of the saturation curve as shown by Point C. In this case, the unit will be dewed or frosted. To avoid this, heating a low temp air B up to B' is required so as to get C' below the saturation curve, before using the unit.



• Calculation example from Psychrometric chart

When the temperature exchange efficiency is 73.5% and the enthalpy efficiency is 60.5%

Example 1

In the following conditions, since the air after heat exchange is not saturated, condensation will not occur in the heat exchange element.

		Dry-bulb temp [°CDB]	Wet-bulb temp [°CWB]	Humidity [%]
Suction air at the high temp side	A	35	29	64.3
Suction air at the low temp side	B'	20	17	60.9
Air after heat exchange	C'	24	22.5	77.1

Example 2

In the following conditions, since the air after heat exchange is saturated and dew condensation occurs in the heat exchanger element, use heater by heating the air from point B to point B'. (Humidity of point C' should be less than 90% as a guide.)

		Dry-bulb temp [°CDB]	Wet-bulb temp [°CWB]	Humidity [%]
Suction air at the high temp side	A	35	31.8	80
Suction air at the low temp side	B	18	14	65
Air after heat exchange	C	22.5	(22.5)	100



		Dry-bulb temp [°CDB]	Wet-bulb temp [°CWB]	Humidity [%]
Suction air at the high temp side	A	35	31.8	80
Suction air at the low temp side	B'	22.1	17.7	65
Air after heat exchange	C'	25.6	24.3	89.7

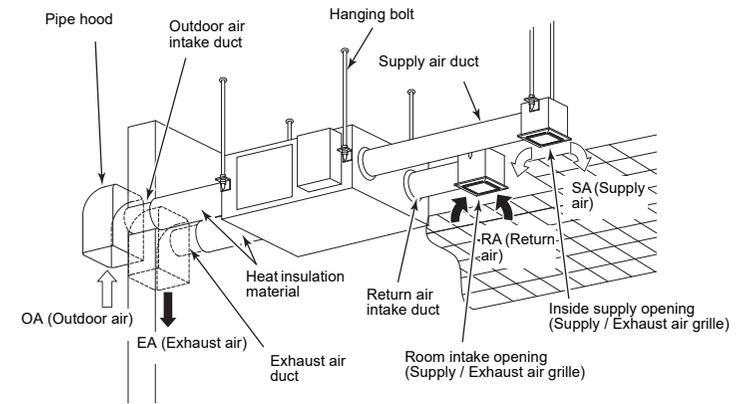
- Our Heat recovery ventilation unit has been tested under condensation test condition described in JIS B 8628, "Air-to-air heat and energy exchanger and ventilators" and found that condensation water does not drop. Due to changes in temperature and humidity, dew condensation occurs even under similar conditions, may cause condensation water to drop from the inside of the unit.
- Be sure to cover two ducts (OA, EA) at the outdoor side with heat insulators (Material: Glass Wool, Thickness-25 mm or more) to prevent condensation and slope them downward to the outdoor side. (For its detail, refer to "5. Installation ■ Duct installation")
- When the inside of the room is cooled by another air conditioner during the summer season and the surrounding of the Heat recovery ventilation unit is expected to become high temperature and high humidity, covering also two ducts at the indoor side with the heat insulators to prevent condensation is recommended.
- If the unit sucks high moisture air such as fog (relative humidity of 80% or more), condensation water may drop from the unit. Do not operate the Heat recovery ventilation unit temporarily while high moisture air is present.
 * When such a condition is expected, avoid setting the 24-hour ventilation and the nighttime heat purge.
- Use of Heat recovery ventilation unit in bypass mode in winter may cause condensation on the inside of the product or its discharge port.
 * When such a condition is expected, use it in heat exchange mode.
- In cold areas where the wind is strong, due to the outside air sometimes entering while the Heat recovery ventilation unit stops, use of the unit in combination with an intermediate mounting type electric shutter is recommended.
- Do not install the unit near the water heater.

• Refrain from the following duct installation works.

- 1) Excessive bending 
- 2) Multi-times bending 
- 3) Making the connecting duct smaller 
- 4) Bending near the exhaust air duct 

- Do not install it near the water-heater
- Do not use in bathrooms or food preparation areas or in similar condition place.
If the unit is used at the place of much soot and high humidity large amounts of oily smoke, the filter or the heat exchange element gets clogged and it will be disable to be use.
- Duct length must be longer than 850 mm.

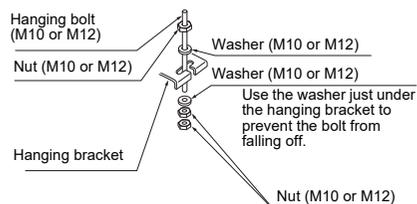
4 Reference diagram



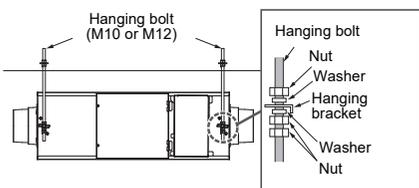
5 Installation

■ Attaching the washer and the nut

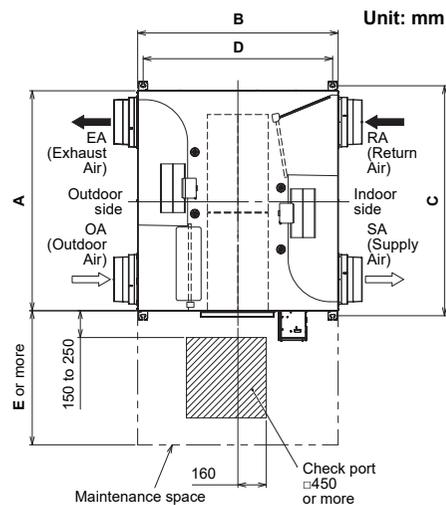
- 1) Preparation of the hanging bolt, nut, and washer is required.
- 2) Attach the washer and the nut to the hanging bolt (see the table on the below) according to the diagram on the below.



■ Fixing the unit



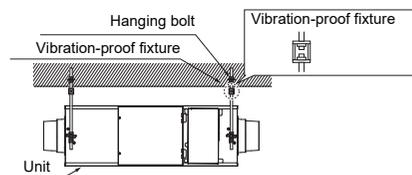
- 1) Hang the hanging bracket on the hanging bolt, then adjust the nut so that the unit is level.
- 2) Use a double nut and fasten it firmly so that the nut does not become loose.
 - If the unit is not installed properly, it will vibrate and may pose a hazard.
 - If the unit is not level, the damper unit will not work properly.
 - Install the unit firmly enough to support its own weight.



Model	A	B	C	D	E
VN-U0***1SY-E					
015 / 025	735	778	791	716	700
035	880	880	936	818	600
050 / 065	1020	920	1076	858	600
080 / 100	1230	1130	1286	1068	600

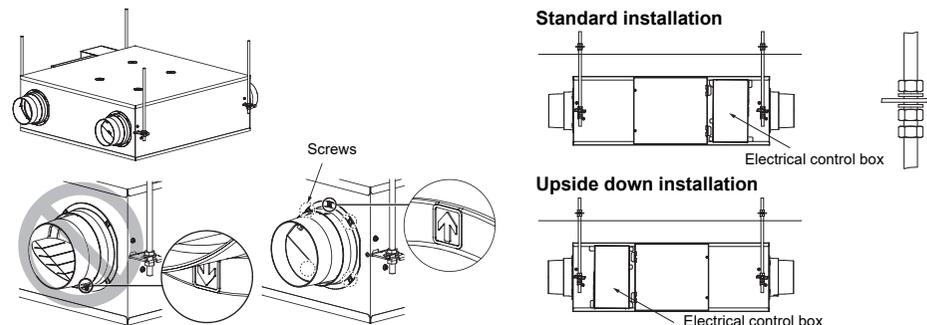
⚠ CAUTION

- Use a commercially available vibration-proof fixture when the unit is installed in a place where preventing vibration is necessary.
- Leave a space of 450 mm × 450 mm or more for checking the filter, heat exchanging element, power source, or motor. Refer to "3. Cautions for installation" for the location of the space required.



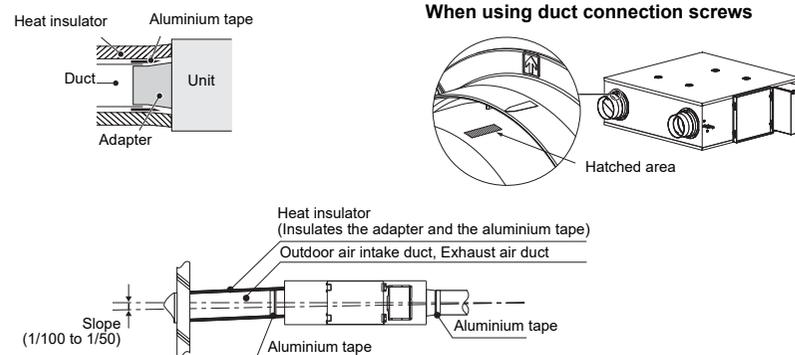
■ Cautions installing unit body upside down

- The hanging bracket does not need to be replaced.
- The printed image is reversed.
- The EA adapter need to upside down.



■ Duct installation

- Duct installation is necessary to protect against access to live parts, rain water or contact with moving parts.
- Seal the junction of an adaptor and a duct with an aluminium tape firmly to prevent any air leakage.
- The room intake opening should be positioned as far as possible from the indoor supply opening.
- Use the specified ducts. (See the Model List)
- Install two outdoor ducts so they will be in the down gradient toward outdoor to prevent water from coming in. (Gradient: 1/100 to 1/50) (See the figure below)
- Heat-insulate two outdoor ducts (including outdoor air and exhaust air duct) to prevent dewing. (Material: Glass Wool, Thickness-25 mm) (See the figure below)
- To pierce the metal duct through the metal lath or the wire lath or the metal plate of the wooden facility, insulate electrically between the duct and the wall. (Refer to the laws and regulations of the country concerned and the technical standard.)
- When fixing the duct with screws, fix them so that the screws are in the hatched areas in the figure below.



6 Electrical connection

⚠ WARNING

- Use the specified wires for wiring connection to 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 earthing 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

- The wire size and wire length of the communication line differs depending on the outdoor unit series to be connected.
- 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 leakage 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 control wires when peeling them.
- Use the power supply wire and control wires of specified thickness, type, and protective devices required.
- Do not connect 208 to 240 V 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.
- After connecting wires to the terminal blocks, provide a trap and fix wires with the cord clamp.

■ Power supply wire and communication wires specifications

Power supply wire and communication wires are locally procured.

For the power supply specifications, follow to the table below. If capacity is little, it is dangerous because overheating or burnout may be caused.

- Power supply wire specification: Cable 3-core 2.5 mm², in conformity with Design 60245 IEC 57.

■ Power supply

Power supply	220 - 240 V, 50 Hz 208 - 230 V, 60 Hz	
Power supply switch / circuit breaker or power supply wiring / fuse rating for Heat recovery ventilation units should be selected by the accumulated total current values of the Heat recovery ventilation units.		
Power supply wiring	Below 50 m	3 × 2.5 mm ² (power supply and earth)

Control wiring, Central controller wiring

- 2-core with non-polarity wires are used for the Control wiring between Heat recovery ventilation unit and Central controller wiring.
- To prevent noise trouble, use 2-core shield wire.

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

U series outdoor unit: SMMS-u (MMY-MUP***)

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

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

Follow the wiring specifications in the table below even when units other than U series are mixed in the indoor units and remote controllers to be connected.

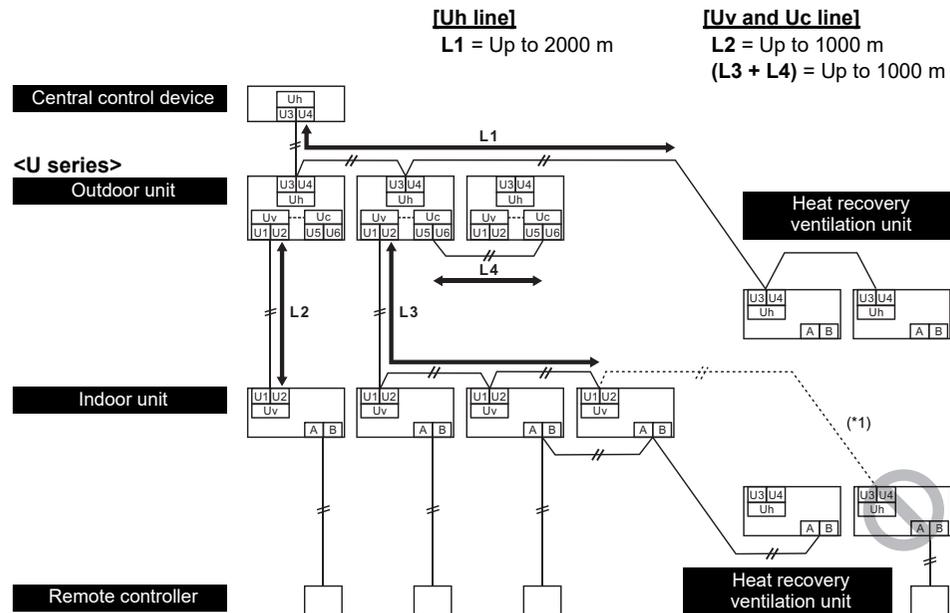
Uv line and Uc line (L2, L3, L4) (2-core shield wire, non-polarity)	Wire size: 1.0 to 1.5 mm ² (Up to 1000 m)
Uh line (L1) (2-core shield wire, non-polarity)	Wire size: 1.0 to 1.5 mm ² (Up to 1000 m) 2.0 mm ² (Up to 2000 m)

- **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.

REQUIREMENT

For connection of Uv line / Uc line or Uh line, wire each line using wires with the same type and size. If different wire types and size are mixed and used in a system, communication trouble is caused.

System of U series



*1. **This connection is prohibited.** Because central controller cannot recognize Heat recovery ventilation unit and cannot operate Heat recovery ventilation unit at all. (Heat recovery ventilation does not appear in central controller.)

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

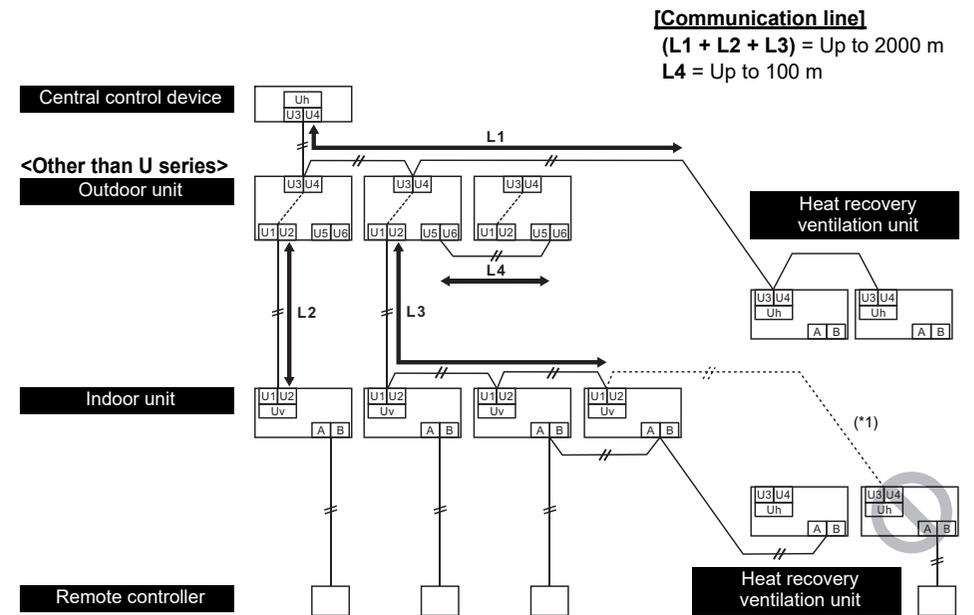
Control wiring between indoor units, and outdoor unit (L2, L3) (2-core shield wire, non-polarity)	Wire size: 1.25 mm ² (Up to 1000 m)
Central control line wiring (L1) (2-core shield wire, non-polarity)	Wire size: 2.0 mm ² (Up to 2000 m)
Control wiring between outdoor units (L4) (2-core shield wire, non-polarity)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

REQUIREMENT

For connection of between indoor and outdoor units line / between outdoor and outdoor units line or central control line, wire each line using wires with the same type and size. If different wire types and size are mixed and used in a system, communication trouble is caused.

Combination system of U series and others



*1. **This connection is prohibited.** Connect the Heat recovery ventilation unit (U series) with U3 and U4 line.

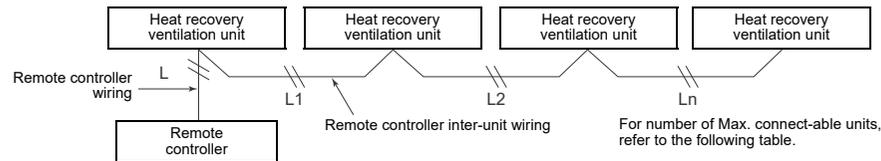
Remote controller wiring

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

Remote controller wiring, remote controller inter-unit wiring	Wire size: 0.5 to 2.0 mm ²	
Total wire length of remote controller wiring and remote controller inter-unit wiring = L + L1 + L2 + ... Ln	In case of one remote controller	Up to 500 m
	In case of two remote controller	Up to 300 m
Max. length of each remote control wiring between indoor units = L1, L2, ..., Ln	Up to 200 m	

CAUTION

- The remote controller wire (Communication line) and AC 208 to 240 V wires cannot be parallel to contact each other and cannot be stored in the same conduits. If doing so, a trouble may be caused 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 connect-able 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 "6. Electrical connection".



Max. number of connect-able indoor units, and communication type

Outdoor unit	Unit type							
	U series	U series	U series	U series	*	*	*	*
Indoor unit (including Heat recovery ventilation unit)	U series	U series	*	*	U series	U series	*	*
Remote controller Remote sensor	U series	*	U series	*	U series	*	U series	*
Communication type	TU2C-Link				TCC-Link			
Max. number of connect-able units	16				8			
* DN code setting of Heat recovery ventilation unit about communication type	Not necessary				Necessary			
	* DN code [FC]: 0004 (factory default)				* DN code [FC]: 0000			

*: Other than U series

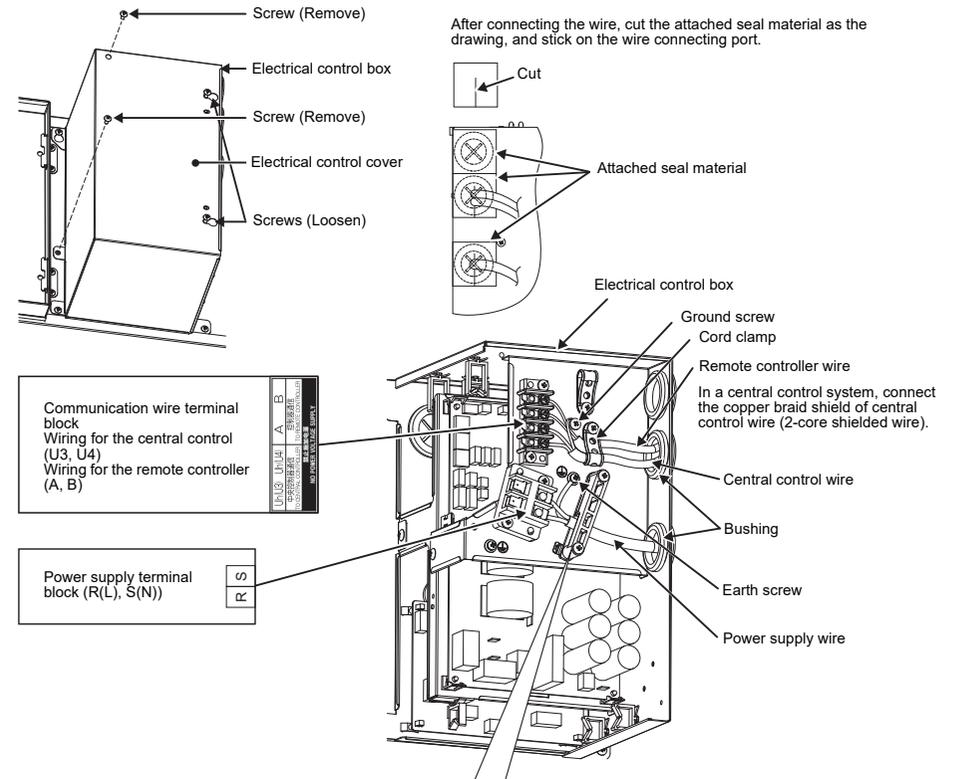
REQUIREMENT

After carrying out installation of additional indoor unit, relocation, or repairing, set the addresses again. For its detail, refer to the Installation Manual attached to the outdoor unit.

Wire connection

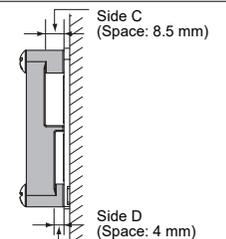
Remove the 2 screws and loosen the 2 screws on the front surface of the electric control cover to open the cover.

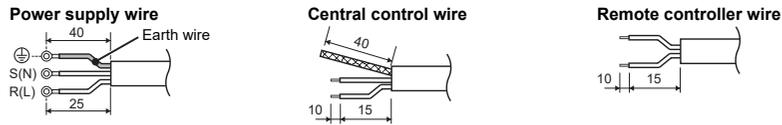
- Make a cut in the bushing and connect the power supply wire (R (L), S (N)) and the remote controller wire (A, B).
- Connect the central control wire U3, U4 or the external output terminal block (1 to 5) if necessary.
- Tighten the screws on the terminal board firmly, then fix the wiring on the electrical control box using the accessory cord clamp.
- Perform grounding work.
- Attach the electrical control cover so that wires are not pinched.
- Refer to "7. Installation method for each system configuration" about setting the switch and DN setting.
- After wiring is completed, stick the seal material over the bushing. The seal material is accessory parts.



Select side C or D for the cord clamp position referring to the following table according to the cable type and diameter.
* Cord clamp can be attached on either right or left side.
When twin system are connected, clamp two cables with one cord clamp.

Wire type	Specification	Cord clamping position
Cable type	3-core stranded wire 2.5 mm ²	Side C
Cable type	3-core stranded wire 1.5 mm ²	Side D





REQUIREMENT

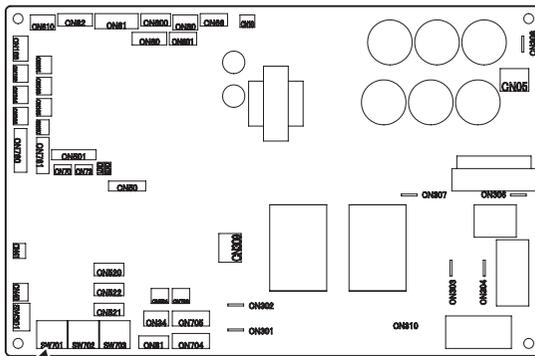
- Pass the wires through the grommet of wiring connection holes of the Heat recovery ventilation unit.
- Keep a margin (Approx.100 mm) on a wire.
- The low-voltage circuit is provided for the remote controller.

Switching between extra high and high (Remote controller-less setting)

Change the "extra-high/high" setting with the DIP switch "SW701-3" on the P.C. board (MCC-1784).

* Once the Set data has been changed by the DIP switch, to reset it to 0000, it need changing using remote controller (sold separately). Change the DN code to 0000.

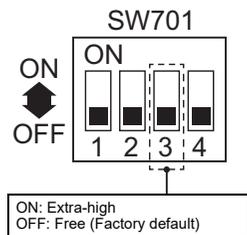
After setting has been completed, restart the Heat recovery ventilation unit and check the operation is no problem.



However, the factory default of DN code [5D] is "Extra High", so basically setting change is not necessary.

SW701-3

* DIP SW setting change is necessary for all the Heat recovery ventilation unit in the group.



7 Installation method for each system configuration

Settings and electric wiring differ depending on the system configuration. Perform electric wiring according to the system examples shown in the table below. (Refer to page 20 to 23 for details.)

System example	Operation
<p>A Heat recovery ventilation unit system (One Heat recovery ventilation unit is used.)</p>	<ul style="list-style-type: none"> • Using the remote controller for the Heat recovery ventilation unit RBC-AW(M)SU5*, the unit can be started or stopped, control the ventilation fan speed, and select the ventilation mode. • If two remote controllers are used, the latter operation overrides the former and their indications always reflect the result of the latter operation. * Remote controllers other than RBC-AW(M)SU5* are not compatible with heat recovery ventilation systems. (Some functions cannot be available.)
<p>B Heat recovery ventilation unit system (Multiple Heat recovery ventilation units are used.)</p>	<ul style="list-style-type: none"> • Using the remote controller for the Heat recovery ventilation unit RBC-AW(M)SU5*, the unit can be started or stopped, control the ventilation fan speed, and select the ventilation mode. • If two remote controllers are used, the latter operation overrides the former and their indications always reflect the result of the latter operation and the settings of the header unit. * Remote controllers other than RBC-AW(M)SU5* are not compatible with heat recovery ventilation systems. (Some functions cannot be available.)
<p>C Heat recovery ventilation unit system linked with Air conditioners</p>	<ul style="list-style-type: none"> • The wired remote controller RBC-AW(M)SU5* can be used the ON/OFF of the Heat recovery ventilation unit and the ventilation fan speed and select ventilation mode. * Remote controllers other than RBC-AW(M)SU5* are not compatible with heat recovery ventilation systems. (Some functions can not be available.) • The wired remote controller RBC-AW(M)SU5* can be used to ON/OFF the Heat recovery ventilation unit separately from Air conditioner. * Setting modifications are required for separate control. Refer to "9. Advanced control". • If two remote controllers are used, the latter operation overrides the former and their indications always reflect the result of the latter operation. In addition, the indications of the Heat recovery ventilation unit always reflect the setting of the unit with the smallest indoor unit address number.

• In the case of Heat recovery ventilation unit system linked Air conditioner (C, F system), the type of ventilation fan speed that you can select from the remote controllers are less than Heat recovery ventilation unit ONLY system (A, B, D system).

System example	Operation
<p>D Central control system (When controlling the Heat recovery ventilation unit only)</p>	<ul style="list-style-type: none"> The central controller can be used to ON/OFF the whole system and separately ON/OFF groups of the Heat recovery ventilation units. The functions that can control Heat recovery ventilation from central controller may differ depend on the of central controller. If the central controller and the remote controller for the Heat recovery ventilation unit are used, the latter operation overrides the former. The RBC-AW(M)SU5* can be used to control the ventilation fan speed and ventilation mode of the Heat recovery ventilation unit. * The remote controllers for the Air conditioners (RBC-ASCU1* and RBC-AMTU3*) cannot be used to control the group of the Heat recovery ventilation units. * Remote controllers other than RBC-AW(M)SU5* are not compatible with heat recovery ventilation systems. (Some functions can not be available.)
<p>E Central control system (When controlling the air conditioner and the Heat recovery ventilation unit separately)</p>	<ul style="list-style-type: none"> The central controller can be used to ON/OFF the whole system and separately ON/OFF groups of Air conditioners and the Heat recovery ventilation units. (Air conditioners and Heat recovery ventilation units are not linked in this system.) The functions that can control Heat recovery ventilation from central controller may differ depend on the of central controller. <p>If three control devices are used;</p> <ul style="list-style-type: none"> About the central controller and the remote controllers for Air conditioner or the central controller and the remote controllers for Heat recovery ventilation units, the latter operation overrides the former and their indications always reflect the result of the latter operation. About the remote controllers for Air conditioner and Heat recovery ventilation units are not affected by each other's operations. * Remote controllers other than RBC-AW(M)SU5* are not compatible with heat recovery ventilation systems. (Some functions can not be available.)

• In the case of Heat recovery ventilation unit system linked Air conditioner (C, F system), the type of ventilation fan speed that you can select from the remote controllers are less than Heat recovery ventilation unit ONLY system (A, B, D system).

System example	Operation
<p>F Central control system (When controlling the air conditioner and Heat recovery ventilation unit together)</p>	<ul style="list-style-type: none"> The central controller can be used to ON/OFF the whole system. It can also be used to ON/OFF the Heat recovery ventilation unit separately (*). The central controller cannot be used to control the ventilation fan speed or ventilation mode of the Heat recovery ventilation unit. * Central controller cannot recognize Heat recovery ventilation. (Heat recovery ventilation does not appear in central controller.) If multiple control devices are used; the central controller and the remote controllers, the latter operation overrides the former regardless of which device is used. The remote controller for the Heat recovery ventilation unit RBC-AW(M)SU5* and the remote controller for the Air conditioners RBC-AMS5*E* can be used to control the ventilation fan speed and ventilation mode of the Heat recovery ventilation unit. * Remote controllers other than RBC-AW(M)SU5* are not compatible with heat recovery ventilation systems. (Some functions can not be available.) If the RBC-ASCU1* and RBC-AMTU3 is used; the ventilation fan speed or ventilation mode of the Heat recovery ventilation unit cannot be controlled. The remote controllers other than RBC-ASCU1* can be used to ON/OFF the Heat recovery ventilation unit separately. * Setting modifications are required for separate control. Refer to "9. Advanced control"

• In the case of Heat recovery ventilation unit system linked Air conditioner (C, F system), the type of ventilation fan speed that you can select from the remote controllers are less than Heat recovery ventilation unit ONLY system (A, B, D system).

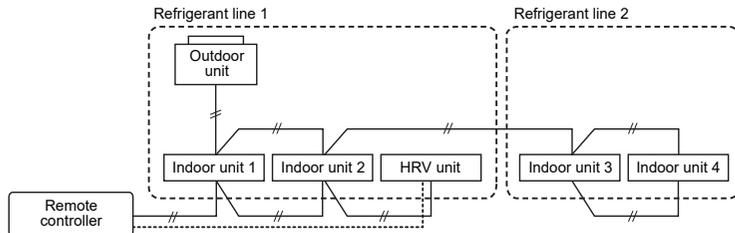
		Heat recovery ventilation unit system		Heat recovery ventilation unit system linked with Air conditioners		Central control system				
System example		A	B	C		D	E		F	
Central control		None				Only Heat recovery ventilation unit is used.	When controlling the air conditioner and the Heat recovery ventilation unit separately		When controlling the air conditioner and Heat recovery ventilation unit together	
No. of Heat recovery ventilation units		1	Multiple	1	Multiple	Multiple	1	Multiple	1	Multiple
Operation together with the Air conditioners		No		Yes		No		Yes		
Remote controller inter-unit wiring		Not necessary	Necessary			Necessary	Not necessary	Necessary		
Central control wiring		Not necessary				Necessary (Header unit only)			Not necessary	
Circuit board of the Heat recovery ventilation unit	1. Line (system) address	Fixed * The line (system) address is fixed as 31 for the Heat recovery ventilation unit.								
	2. Changing the indoor unit address <u>No.2 of SW701</u> <u>No.1 to 4 of SW702</u> <u>No.1 and 2 of SW703</u> (Or if you need to set using remote controller, change DN code [13]. Factory default: 0001)	Not necessary	Necessary (Do not duplication) SW701 to SW703 (Or DN code [13])	Not necessary	Necessary (Do not duplication) SW701 to SW703 (Or DN code [13])	Necessary (Do not duplication) SW701 to SW703 (Or DN code [13])	Not necessary	Necessary (Do not duplication) SW701 to SW703 (Or DN code [13])	Not necessary	Necessary (Do not duplication) SW701 to SW703 (Or DN code [13])
	3. Changing the group address <u>No.4 of SW703</u> (Or if you need to set using remote controller, change DN code [14]. Factory default: 00Un)	Necessary No.4 of SW703: ON (Or DN code [14]: 0001)	Necessary <u>Header</u> No.4 of SW703: ON (Or DN code [14]: 0001) <u>Follower</u> No.4 of SW703: OFF (Or DN code [14]: 0002) * Settings of the header unit reflect the indications of the remote controller.	Not necessary * Check that all Heat recovery ventilation units are "Follower". No.4 of SW703: OFF (Or DN code [14]: 0002) * Settings of the follower unit with the smallest indoor unit address number reflect the indication of the remote controller.	Necessary <u>Header</u> No.4 of SW703: ON (Or DN code [14]: 0001) <u>Follower</u> No.4 of SW703: OFF (Or DN code [14]: 0002) * Settings of the header unit reflect the indications of the remote controller.	Necessary <u>Header</u> No.4 of SW703: ON (Or DN code [14]: 0001) <u>Follower</u> No.4 of SW703: OFF (Or DN code [14]: 0002) * Settings of the header unit reflect the indications of the remote controller.	Necessary <u>Header</u> No.4 of SW703: ON (Or DN code [14]: 0001) <u>Follower</u> No.4 of SW703: OFF (Or DN code [14]: 0002) * Settings of the header unit reflect the indications of the remote controller.	Necessary <u>Header</u> No.4 of SW703: ON (Or DN code [14]: 0001) <u>Follower</u> No.4 of SW703: OFF (Or DN code [14]: 0002) * Settings of the header unit reflect the indications of the remote controller.	Not necessary * Check that all Heat recovery ventilation units are "Follower". No.4 of SW703: OFF (Or DN code [14]: 0002) * Settings of the follower unit with the smallest indoor unit address number reflect the indication of the remote controller.	
	4. Fix / Automatic changeover of the central control address <u>No.3 of SW703</u> (Or if you need to set using remote controller, change DN code [03]. Factory default: 00Un)	Not necessary No.3 of SW703: OFF (Or DN code [03]: 00Un)	* SW703 ON (Fix): Central control address equals indoor unit address. OFF (Auto): Central control address equals DN code [03].			Not necessary No.3 of SW703: OFF (Or DN code [03]: 00Un)	* SW703 ON (Fix): Central control address equals indoor unit address. OFF (Auto): Central control address equals DN code [03]. * Refer to the Installation Manual of the central control device.			
	5. Changing the terminator <u>No.1 of SW301</u>	Not necessary No.1 of SW301: OFF				Necessary No.1 of SW301: ON (100 Ω) * Set 1 header unit only.	Not necessary No.1 of SW301: OFF * Adjust settings on the air conditioner.			
Checking before turning on the power	Complete the settings of the Heat recovery ventilation unit and wiring.		• Complete the settings of the Heat recovery ventilation unit and wiring. • Refer to the Installation Manual of the air conditioner for the settings and wiring.		Complete the settings of the Heat recovery ventilation unit and wiring.	• Complete the settings of the Heat recovery ventilation unit and wiring. • Refer to the Installation Manual of the air conditioner for the settings and wiring.				
Turning on the power	Turn on the breaker of all the Heat recovery ventilation units.		Turn on the Heat recovery ventilation unit first. Refer to the Installation Manual of the air conditioner for its power supply.		Turn on the breaker of all the Heat recovery ventilation units.	Turn on the Heat recovery ventilation unit first. Refer to the Installation Manual of the air conditioner for its power supply.				
Central control address setting	Not necessary				Refer to the Installation Manual of the central control device.					

Manual Indoor unit address setting using the remote controller

(If you need to set using remote controller.)

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

▼ Wiring example of 2 refrigerant lines

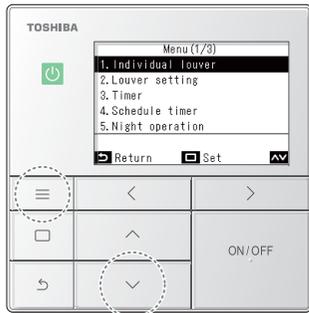


Heat recovery ventilation unit can not be set the address even if the automatic address is set from outdoor unit in the system of Refrigerant line 1. Perform the address setting individually using remote controller. (Indoor unit 1,2 or 3,4 can be set the automatic address by the outdoor unit.)

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

Field setting menu

Pair the Heat recovery ventilation unit to set and the remote controller one-to-one. Turn on the power.



- 1 Push [] to open the "Menu"
- 2 Push and hold [] and [] at the same time to open "Field setting menu"
→ Push and hold 4 seconds.



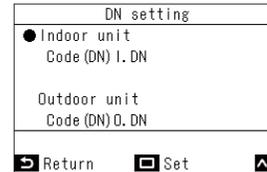
- 3 Push [] and [] to select an item
- 4 Push []
→ The setting screen opens.

DN setting

Detailed data of various models of air conditioner and Heat recovery ventilation unit can be set.

REQUIREMENT

Be sure to stop operation of the air conditioners and Heat recovery ventilation units.



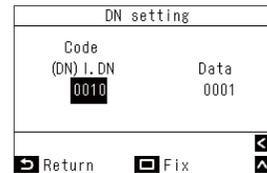
- 1 In the "Field setting menu" screen, push [] and [] to select "DN setting", and then push []

- 2 Push [] and [] to select "Indoor unit" and the push []

→ If "Indoor unit" was selected, the fans and louvres of the indoor units operate.

When doing group connections:

→ The fans and louvres of the selected indoor units operate.

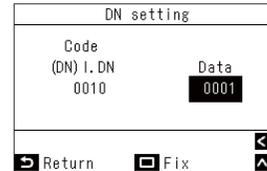


- 3 Push [] to black highlight the code (DN), and then push [] and [] to set the code

- 4 Push [] to black highlight the data, and then push [] and [] to set the data

- 5 After finishing setting the data of the code (DN), push []

→ "Continue?" is displayed.

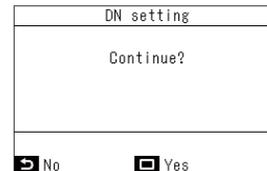


- 6 To set the data of other codes (DN), push [] To not do other settings, push []

→ The changes are fixed, and the "Field setting menu" screen returns.
→ "Σ" appears while data is changing.

When doing group connections:

→ Push [] to open the unit selection screen. In the unit selection screen, push [] to briefly display "Σ", and then return to the "Field setting menu" screen.



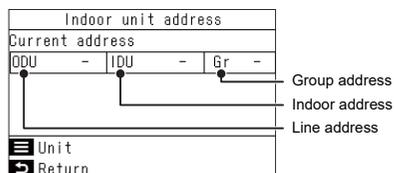
■ Confirming the indoor unit addresses and the position of an indoor unit using the remote controller

◆ Checking and setting addresses

Show the line address, indoor address, and group address of indoor units on the remote controller, operate the fan of relevant indoor units to check the relationship of the addresses and the indoor units, and if needed manually change the addresses.

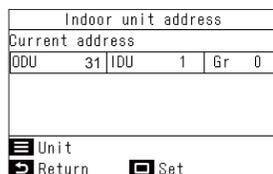


- 1 Select "Indoor unit address" from "Address" in the "Field setting menu", and push [Set/Fix]**
→ At first, the fans and louvres of all indoor units in the group operate.

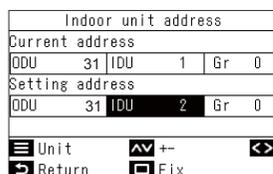


The address is indicated as "-".

- 2 Push [Menu]**
→ Each push of [Menu] displays in order: Entire group → Header unit → Follower unit 1 ...
→ The fans and louvres of the relevant indoor units operate.



- 3 If you need to change the address manually from the remote control, push [Set/Fix]**
→ The screen for settings appears.
* The priority of the DIP switch and the remote controller setting is the latter.



- 4 Push [] and [] to move the black highlight, and then push [] and [] to set the address**

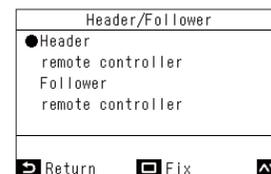
- 5 After manually setting the addresses of all indoor units, push [Set/Fix]**
→ The message "Address confirm?" appears on screen.



- 6 Push [Set/Fix]**
→ The changes are fixed.
→ "⊗" appears while data is changing.

■ Header/Follower (Settings required to use 2 remote controllers to do operations)

When using 2 remote controllers, you need to set "Header remote controller" and "Follower remote controller".



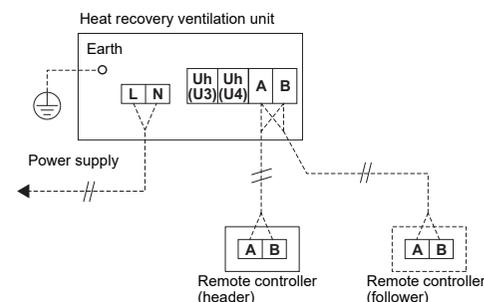
- 1 In the "Initial setting" screen, push [] and [] to select "Header/Follower", and then push [Set/Fix]**
- 2 Push [] and [] to select "Header remote controller" or "Follower remote controller"**
- 3 Push [Set/Fix]**
→ When "⊗" appears, return to the "Initial setting" screen.

■ Settings for each system configuration

NOTE

The line (system) address is fixed as 31 for the Heat recovery ventilation unit.

A Heat recovery ventilation unit system (One Heat recovery ventilation unit is used.)



Changing the group address (SW703 or DN code [14])

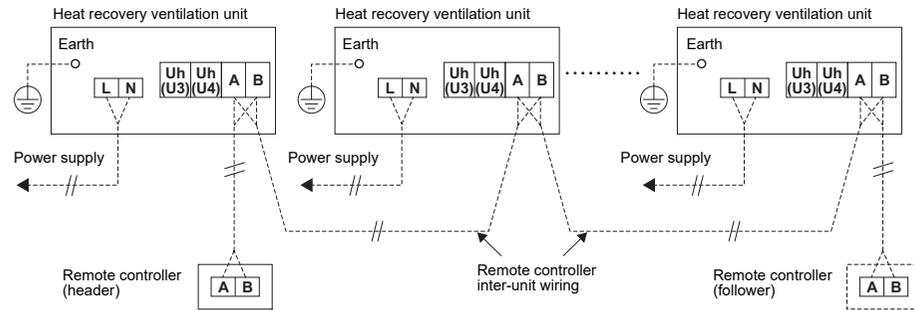
The setting for group address change are necessary. Set the No.4 of SW703: ON. Or No.4 of SW703: OFF and DN code [14]: 0000 or 0001 to set the remote controller as the header. (Factory default setting SW703 No.4: OFF and DN code [14]: 00Un)

* When "Header: ON" is selected, "Individual: ON" will be selected in this system. (In short, this case "Header" = "Individual")

Changing the indoor unit address (DN code [13])

The setting does not need to be adjusted. (Factory default: 0001)

B Heat recovery ventilation unit system (Multiple Heat recovery ventilation units are used.)



- * For group control, install remote controller inter-unit wiring between the units.
- * TCC-Link: Up to 8 units can be installed for group control.
- * TU2C-Link: Up to 16 units can be installed for group control.

Changing the group address (SW703 or DN code [14])

The setting for group address change are necessary.

1. In multiple Heat recovery ventilation units, set the No.4 of SW703: ON, or set No.4 of SW703: OFF and DN code [14]: 0001 to the only one unit to the header.

* Settings of the header unit reflect to the indications of the remote controller.

2. For other units, do not change the No.4 of SW703 or DN code [14]. If you need to reset to the follower, set the No.4 of SW703: OFF and DN code [14]: 00Un or 0002.

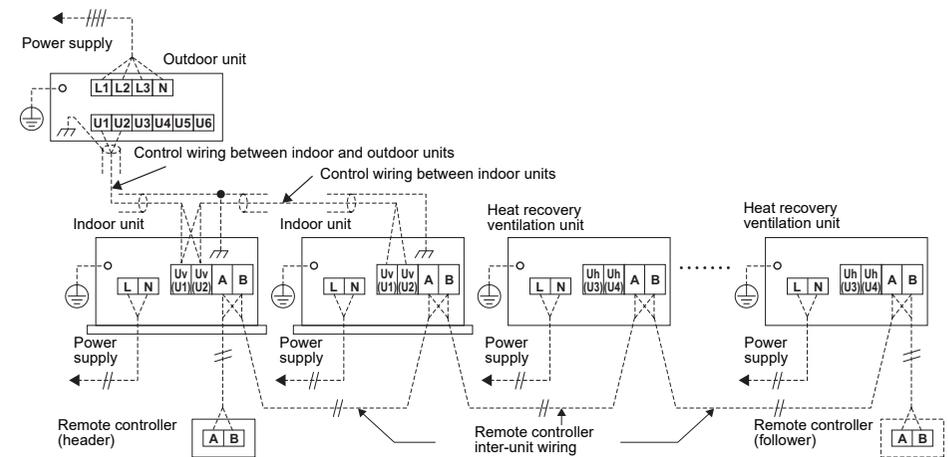
(Factory default (Follower): No.4 of SW703: OFF and DN code [14]: 00Un)

Changing the indoor unit address (SW701, SW702, 703 or DN code [13])

Settings for changing the indoor unit address are necessary.

- Do not duplicate the value. (SW701, SW702 and SW703: 1 to 128, or DN code [13]: 1 to 128)
- * The header unit does not need to be selected as "1". (Factory default: 1)
- * The priority of DIP SW and DN code is the latter.

C Heat recovery ventilation unit system linked with Air conditioners



- * For group control with Air conditioners, install inter-unit wiring between the units.
- * TCC-Link: Up to 8 units can be installed for group control.
- * TU2C-Link: Up to 16 units can be installed for group control.

Changing the group address (SW703 or DN code [14])

The settings of the group address does not need to be adjusted. Leave the value "Follower". No.4 of SW703: OFF and DN code [14]: 00Un or 0002 (Factory default (Follower): No.4 of SW703: OFF and DN code [14]: 00Un)

- * Settings of the follower unit with the smallest indoor unit address number reflect to the indication of the remote controller.

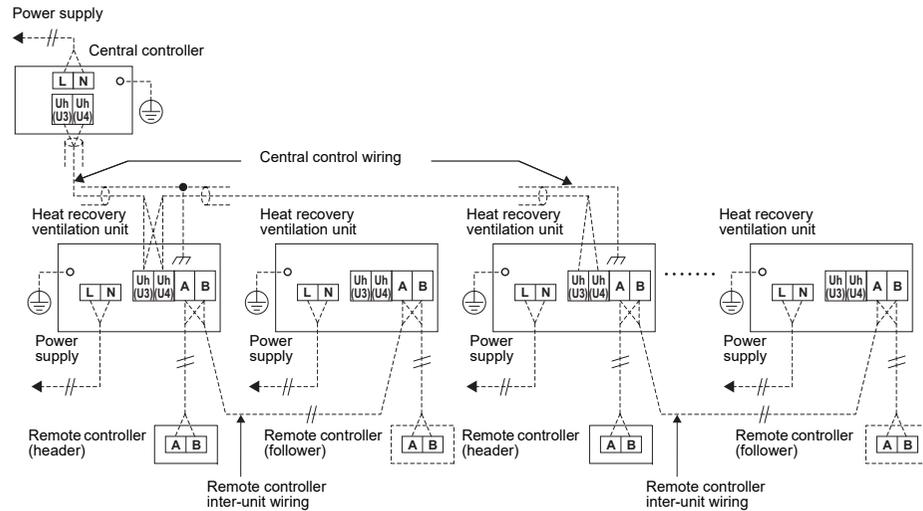
Changing the indoor unit address (SW701, SW702 and SW703 or DN code [13])

Settings for changing the indoor unit address are necessary.

- Do not duplicate the value. (SW701, SW702 and SW703: 1 to 128, or DN code [13]: 1 to 128)
- * The header unit does not need to be selected as "1". (Factory default: 0001)
- * The priority of DIP SW and DN code is the latter.

D Central control system (When controlling the Heat recovery ventilation unit only)

For the settings of the central control address, refer to the Installation Manual of the central control device.



- * Central control wiring must be connected to the header Heat recovery ventilation unit only.
- * For group control, install inter-unit wiring between the units.
- * TCC-Link: Up to 8 units can be installed for group control.
- * TU2C-Link: Up to 16 units can be installed for group control.

Changing the group address (SW703 or DN code [14])

The setting for group address change are necessary.

- In multiple Heat recovery ventilation units, set the No.4 of SW703: ON, or set No.4 of SW703: OFF and DN code [14]: 0001 to the only one unit to the header.
 - * Setting needs to units which is connected central control wiring of each group.
 - * Settings of the header unit reflect to the indications of the remote controller.
- For other units, do not change the No.4 of SW703 or DN code [14]. If you need to reset to the follower, set the No.4 of SW703: OFF and DN code [14]: 00Un or 0002.
 - (Factory default (Follower): No.4 of SW703: OFF and DN code [14]: 00Un)

Changing the indoor unit address (SW701, SW702 and SW703 or DN code [13])

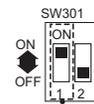
Settings for changing the indoor unit address are necessary.

- * Do not duplicate the value. (SW701, SW702 and SW703: 1 to 128, or DN code [13]: 1 to 128)
- * The priority of DIP SW and DN code is the latter.

Changing the terminator (No.1 of SW301)

Settings for changing the terminator are necessary. Select "ON" for one of the header unit. (Factory default: OFF)

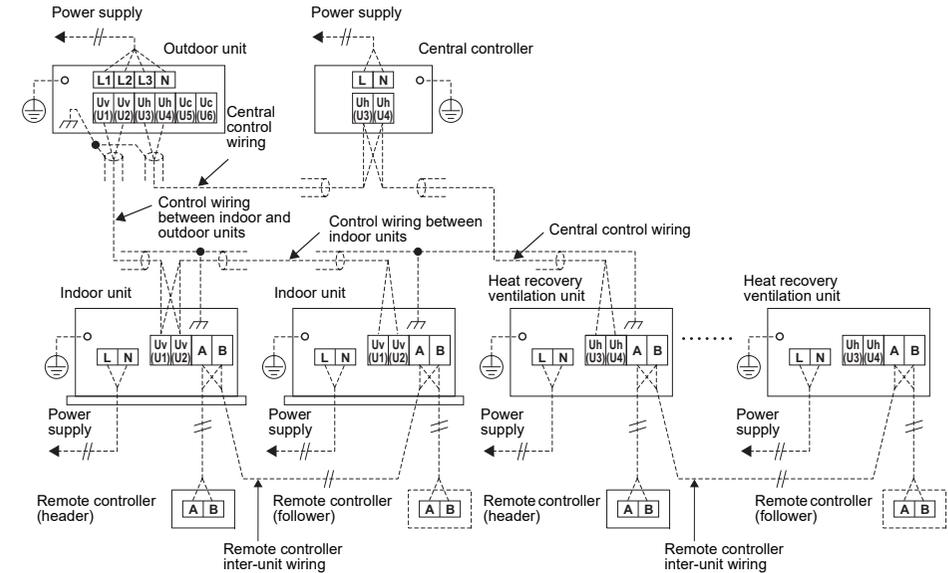
- 100 Ω: ON (1 header unit only)
- None: OFF (the other units)



Changing the terminator
 100 Ω: ON
 None: OFF
 (Factory default: OFF)

E Central control system (When controlling the air conditioner and the Heat recovery ventilation unit separately)

For the settings of the central control address, refer to the Installation Manual of the central control device.



- * Central control wiring of the Heat recovery ventilation unit is necessary only for the header unit.
- * For group control, install inter-unit wiring between the units.
- * TCC-Link: Up to 8 units can be installed for group control.
- * TU2C-Link: Up to 16 units can be installed for group control.

Changing the group address (SW703 or DN code [14])

The setting for group address change are necessary.

- In multiple Heat recovery ventilation units, set the No.4 of SW703: ON, or set No.4 of SW703: OFF and DN code [14]: 0001 to the only one unit to the header.
 - * Settings of the header unit reflect to the indications of the remote controller.
 - For other units, do not change the No.4 of SW703 or DN code [14]. If you need to reset to the follower, set the No.4 of SW703: OFF and DN code [14]: 00Un or 0002.
 - (Factory default (Follower): No.4 of SW703: OFF and DN code [14]: 00Un)
- * Settings of the header unit reflect to the indications of the remote controller. (Factory default: Follower)

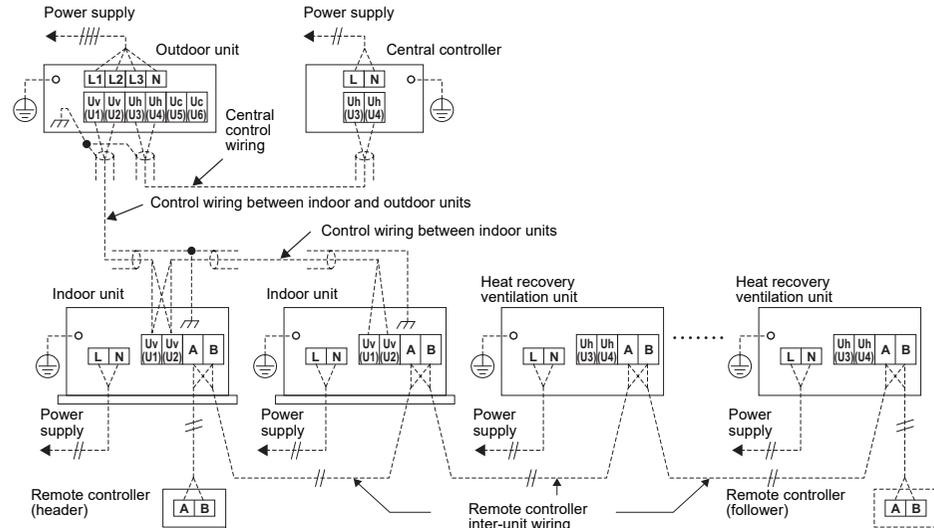
Changing the indoor unit address (SW701, SW702 and SW703 or DN code [13])

Settings for changing the indoor unit address are necessary.

- * Do not duplicate the value. (SW701, SW702 and SW703: 1 to 128, or DN code [13]: 1 to 128)
- * The header unit does not need to be selected as "1". (Factory default: 1)
- * The priority of DIP SW and DN code is the latter.

F Central control system (When controlling the air conditioner and Heat recovery ventilation unit together)

- For the settings of the central control address, refer to the Installation Manual of the central control device.
- Do not perform the central control wiring with the Heat recovery ventilation unit.



- * For group control with Air conditioners, perform inter-unit wiring between the units.
- * TCC-Link: Up to 8 units can be installed for group control.
- * TU2C-Link: Up to 16 units can be installed for group control.

Changing the group address (SW703 or DN code [14])

The settings of the group address does not need to be adjusted. Leave the value "Follower". No.4 of SW703: OFF and DN code [14]: 00Un or 0002. (Factory default (Follower): No.4 of SW703: OFF and DN code [14]: 00Un)

- * The settings of the follower unit with the smallest indoor unit address number reflect to the indication of the remote controller.

Changing the indoor unit address (SW701, SW702 and SW703 or DN code [13])

Settings for changing the indoor unit address are necessary.

- Do not duplicate the value. (SW701, SW702 and SW703: 1 to 128, or DN code [13]: 1 to 128)
- * The header unit does not need to be selected as "1". (Factory default: 0001)
- * The priority of DIP SW and DN code is the latter.

8 Advanced system

WARNING

- Use wiring that meets the specifications in the Installation Manual and the stipulations in the local regulations and laws. Use of wiring which does not meet the specifications may give rise to electric shocks, electrical leakage, smoking and/or a fire.
- When carrying out electric connection, use the wire specified in the Installation Manual and connect and fix the wire securely to prevent them applying external force to the terminals. Improper connection of fixing may result in fire.
- Electrical wiring work shall be conducted according to law and regulation in the community and Installation Manual. Failure to do so may result in electrocution or short circuit.

REQUIREMENT

When external input / output function is used, connect the control adapter sold separately. Connect it to Control P.C. board (MCC-1784). It does not function even if connected to other P.C. board.

External input / output function List

- Depending on the model, some DN codes may not be displayed on the remote controller. Also, the number of data that can be set may differ.
- DN codes (functions) that are not displayed on the remote controller cannot be set.
- CN60 can be used in models with a refrigeration cycle (excluding "fan output").
- The color of the connector or lead wire may change due to material procurement, but the function is the same.
- * This lead wire color is the original color of the optional adapter. It doesn't matter if you use local supply lead wires.
- * When using CN60, 61, 70, 73, 80, 610, remove the power terminal block mounting plate and insert it.

WHT: White, YEL: Yellow, RED: Red, GRN: Green, ORN: Orange, BRN: Brown, BLK: Black, BLU: Blue

No.	Connector No.	Color (Connector)	PIN No.	Color* (Lead wire)	DN		Function	Note	Adapter (sold separately)
					Code	Data			
1	CN60 (Operation status signal output)	WHT	1	RED	-	-	DC12 V (COM)	Common for Pin.2 to 6	TCB-KBCN60OPE
			2	BLU	-	-	Defrost output	ON signal when outdoor unit is in defrosting	
			3	ORN	-	-	Thermostat ON output	ON signal when indoor unit is "thermostat-ON"	
			4	YEL	-	-	Cooling output	ON when operation mode is cooling	
			5	BRN	-	-	Heating output	ON when operation mode is heating	
			6	BLK	-	-	Fan output	ON when indoor unit fan is ON	

No.	Connector No.	Color (Connector)	PIN No.	Color* (Lead wire)	DN		Function	Note	Adapter (sold separately)				
					Code	Data							
2	CN61 (Leaving-ON prevention control)	YEL	1	BLU	72E	0000	ON/OFF input	External ON/OFF control (Factory default) * You can change pulse (ON) / static (OFF) for No.1 of SW701. (Setting is common to CN61, CN705 and CN706)	TCB-KBCN61HAE				
						0001	Fire alarm input	Normal OPEN (Albeit contact)					
						0002	Notice code input	Display code 201					
						0003	Ventilation fan speed input	Low speed					
			2	WHT	-	0 V (COM)	Common for Pin.1, 3						
			3	ORN	-	-	Prohibition of remote controller operation input	Input signal makes switching of permission (OFF) / prohibition (ON) of individual remote controller operation (During prohibition, "Central controlling mark" is shown on the LCD.) * Common circuit with Pin.2 of CN705					
3	CN70 (Option error input)	WHT	1	BLU	2A	0000	Filter display input	When signal is input, filter sign symbol is displayed on RC	TCB-KBCN70OAE				
						0001	External error input	When signal is input, error symbol is displayed on RC (Indoor unit does not stop)					
						0002	Humidifier input	Factory default					
			2	WHT	-	0 V (COM)	-						
			4	CN73 (Demand control input)	RED	1	BLU	0B		0003	Fire alarm input	Normal OPEN (Albeit contact) (Factory default)	TCB-KBCN73DEE
										0005	Fire alarm input	Normal CLOSE (Break contact)	
0006	Notice code input	Display code 202											
0010	Humidifier ON/OFF input	-											
2	WHT	-	0 V (COM)	-									
5	CN80 (Outside error input)	GRN	1	RED	-	DC12 V (COM)	-	TCB-KBCN80EXE					
			2	-	-	-	-						
			3	BLU	-	-	Outside error input		After the signal input is as follows: 1) 3 sec. → Thermo-off forcedly 2) 1 min. → Generates Error code "L30" (Interlock from outside) to stop the operation forcedly				
6	CN610 (Option output)	YEL	1	RED	-	-	ON when outside temperature is very low (For detail, refer to the Service Manual)	TCB-KBCN610V-E					
			2	-	-	-	Cold air detection output						
			3	BLU	-	-	-						

No.	Connector No.	Color (Connector)	PIN No.	Color* (Lead wire)	DN		Function	Note	Adapter (sold separately)	
					Code	Data				
7	CN704 (External output)	WHT	1	WHT	-	-	DC12 V (COM)	Common for Pin.2	TCB-KBCN704V-E	
			2	YEL	ED	-	-	ON output (Supply fan)		ON when operation is ON
						0000		ON during normal operation (Factory default)		
						0001		ON during normal operation, 24-hour ventilation or nighttime heat purge operation		
						0002		ON during 24-hour ventilation or nighttime heat purge operation		
			0003		ON when SA fan is ON					
			0004		ON when EA fan is ON					
			3	RED	-	-	DC12 V (COM)	Common for Pin.4 to 5		
			4	ORN	-	-	External damper output	ON during normal operation, 24-hour ventilation or nighttime heat purge operation		
			5	BRN	EE	0000	Alarm output	ON during an error (Factory default)		
0001	Bypass mode output	ON when operation is bypass mode								
8	CN705 (External input)	RED	1	GRN	-	-	DC12 V (COM)	Common for Pin. 2, 5	TCB-KBCN705V-E	
			2	YEL	-	-	Prohibition of remote controller operation input	Input signal makes switching of permission / prohibition of individual remote controller operation (During prohibition, "Central controlling mark" is shown on the LCD.) * Common circuit with Pin.3 of CN61		
			3	RED	-	-	Ventilation fan speed input	Select fan speed: High (open) / Medium (close) speed * If Pin.1 of CN61 setting is 0003, the priority is CN61 (Fan speed operates on Low)		
			4	WHT	-	-	Ventilation mode input	Select ventilation mode: Bypass mode (close) / Heat exchange mode (open)		
			5	BLK	-	-	ON/OFF input * Non-voltage	External ON/OFF control ON (close) / OFF (open) * Common circuit with Pin.1 of CN706 * You can change pulse (ON) / static (OFF) for No.1 of SW701 (Setting is common to CN61, CN705 and CN706)		
9	CN706 (External input)	WHT (Natural)	1	BLU	-	-	ON/OFF input * With DC12 or DC24 voltage	External ON/OFF control * Common circuit with Pin.5 of CN705 * You can change pulse (ON) / static (OFF) for No.1 of SW701 (Setting is common to CN61, CN705 and CN706)	TCB-KBCN706V-E	
							0 V (COM)			
							0000	ON/OFF linked		Factory default
			2	ORN	4E	0001	ON linked	-		
						0002	OFF linked	-		

The connecting method refer to follow.

How to connect the control adapter

1 CN60: Operation status signal output (On P.C. board MCC-1784)

Diagram of local supply parts		Note
		Locally procure relays and other devices suitable for DC12 V output. * Use an adapter (sold separately) to connect to the connector.
No.	Diagram of connector	Note
1		ON signal when outdoor unit is in defrosting. (When receiving defrost signal from outdoor unit.)
2		ON signal when indoor unit is "Thermostat-ON".
3		ON when operation mode is cooling.
4		ON when operation mode is heating.

5		ON when indoor unit fan is ON.
---	--	--------------------------------

2 CN61: Leaving-ON prevention control (On P.C. board MCC-1784)

Diagram of local supply parts		Note
		Locally procure relays and other devices suitable for shorting connector pins. * Use an adapter (sold separately) to connect to the connector.
No.	Diagram of connector	Note
1		External ON/OFF control (Factory default). * It is necessary to set the DN code when using the other input function.
2		Input signal makes switching of permission / prohibition of individual remote controller operation.

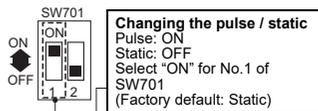
(Description of CN61 continues on next page)

(Continued description of CN61 from the previous page)

Diagram of local supply parts		Note
		<p>Locally procure relays and other devices suitable for DC12 V output. * Use an adapter (sold separately) to connect to the connector.</p>
No.	Diagram of connector	Note
3		On signal during "remote controller ON".
4		On signal during alarm output (non recovery fatal trouble).

[Additional note for No.1]

- This input can use for linking to "ON/OFF" from external device or remotely controlled.
- For Heat recovery ventilation unit linked with air conditioner system, if a command is sent to one of the units in the group, all units operate together.
- When a remote controller is used with the Heat recovery ventilation unit:
The latter operation of the remote controller or the switch of the external device overrides the former.
- When no remote controller is used with the Heat recovery ventilation unit:
The operation of the Heat recovery ventilation unit is confined to that together with the external device.
- Operation together with a pulse transmission device such as a building management system:
Select "ON (Pulse)" for No.1 of SW701 (changeover switch for pulse/static).
* Factory default: Static



SW701	Action
ON	<p>Pulse input</p> <p>Pulse interval 200 msec or more</p> <p>Pulse width 200 to 300 msec</p>
OFF	<p>Static input</p>

[Additional note for No.2]

- This input can use for switching the remote controller between permission/prohibition.
- During prohibition, "Central controlling mark" is shown on the LCD.
- If a command is sent to one of the group, the permission/prohibition setting of the remote controller in the group can be switched.

[Additional note for No.3]

- This output is linked with the "remote controller ON" state. (Not fan ON)

[Additional note for No.4]

- This output can use for monitoring an abnormal signal.
* It is possible to monitor an abnormal signal from the Heat recovery ventilation unit.

3 CN70: Option trouble input
(On P.C. board MCC-1784)

Diagram of local supply parts		Note
		<p>Locally procure relays and other devices suitable for shorting connector pins. * Use an adapter (sold separately) to connect to the connector.</p>
No.	Diagram of connector	Note
1		<p>ON signal when trouble occurs. (Factory default: No function) * It is necessary to set the DN code when using this function.</p>

4 CN73: Demand control input

(On P.C. board MCC-1784)

Diagram of local supply parts		Note
		Locally procure relays and other devices suitable for shorting connector pins. * Use an adapter (sold separately) to connect to the connector.
No.	Diagram of connector	Note
1		Normal OPEN (Factory default) * It is necessary to set the DN code when using the other function.

5 CN80: Outside trouble input

(On P.C. board MCC-1784)

Diagram of local supply parts		Note
		Locally procure relays and other devices suitable for shorting connector pins. * Use an adapter (sold separately) to connect to the connector.
No.	Diagram of connector	Note
1		After the signal input is as follows: 1) 3 sec. → Thermostat-off forcedly 2) 1 min. → Generates trouble code "L30" (Interlock from outside)

6 CN610: Cold air detection output

(On P.C. board MCC-1784)

Diagram of local supply parts		Note
		Locally procure relays and other devices suitable for DC12 V output. * Use an adapter (sold separately) to connect to the connector.
No.	Diagram of connector	Note
1		ON when outside temperature is very low.

[Additional note for No.1]

- A signal will be output when low outside air temperature is detected in linking with Heat recovery ventilation unit operation (ON/OFF).
- * For its control contents or setting detail, refer to the Service Manual.

7 CN704: External output
(On P.C. board MCC-1784)

Diagram of local supply parts		Note
		<p>Locally procure relays and other devices suitable for DC12 V output.</p> <p>* Use an adapter (sold separately) to connect to the connector.</p>
No.	Diagram of connector	Note
1		<p>ON when operation is ON.</p> <p>* It is necessary to set the DN code when changing the output ON signal.</p>
2		<p>ON during normal operation, 24-hour ventilation or night-time heat purge operation.</p>
3		<p>ON during an trouble (Factory default).</p> <p>* It is necessary to set the DN code when using the other output function.</p>

[Additional note for No.1]

- This output can use for connecting an auxiliary fan or monitoring operation.
- This output is linked with the “fan ON” state. (Not remote controller ON)
- Contact is on during normal operation as factory default.
- * Contact is off during 24-hour ventilation mode, night-time heat purge operation, delay mode or cold mode (temperature is below -10°C) as factory default.
- * The operation output settings can be changed the DN code.

[Additional note for No.2]

- This output can use for connecting an electric damper (electric shutter).
- The electric damper (electric shutter) works during normal operation, 24-hour ventilation mode, and nighttime hear purge operation.
- The electric damper (electric shutter) also works in the following circumstances:
 - * While the operation is stopped intermittently in 24-hour ventilation mode
 - * While the operation is paused during nighttime heat purge operation
 - * While operating in cold mode (Temperature is below -10°C)
- The electric damper (electric shutter) does not works in the following circumstances:
 - * While the operation is stopped
 - * Before the monitoring operation of nighttime heat purge operation starts
 - * While in the delay mode

[Additional note for No.3]

- This output can use for monitoring an abnormal signal or the operation signal of bypass mode.
 - * It is possible to monitor an abnormal signal or the operation signal of bypass mode from the Heat recovery ventilation unit.
- Detection of an abnormal signal is possible, as factory default.

8 CN705: External input
(On P.C. board MCC-1784)

Diagram of local supply parts		Note
		<p>Locally procure relays and other devices suitable for shorting connector pins.</p> <p>* Use an adapter (sold separately) to connect to the connector.</p>
No.	Diagram of connector	Note
1		<p>Input signal makes switching of permission / prohibition of individual remote controller operation.</p>
2		<p>Select fan speed: High (open) / Medium (close)</p>
3		<p>Select ventilation mode: Bypass mode (close) / Heat exchange mode (open)</p>
4		<p>External ON/OFF control (Factory default: ON/OFF linked).</p> <p>* It is necessary to set the DN code when changing the type of ON/OFF link.</p>

[Additional note for No.1]

- This input can use for switching the remote controller between permission/prohibition.
- During prohibition, “Central controlling mark” is shown on the LCD.
- If a command is sent to one of the group, the permission/prohibition setting of the remote controller in the group can be switched.

[Additional note for No.2]

- This input can use for switching between High/Medium ventilation fan speed.
- If a command is sent to one of the units in the group, all the Heat recovery ventilation units in the group operate together.
- The latter operation of the remote controller or the external device overrides the former.

[Additional note for No.3]

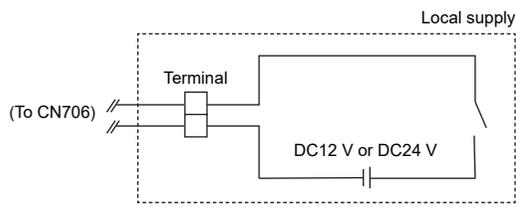
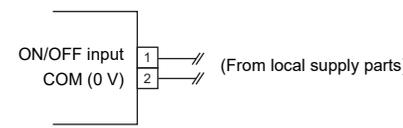
- This input can use for switching between bypass mode/heat exchange mode.
- If a command is sent to one of the units in the group, all the Heat recovery ventilation units in the group operate together.
- The latter operation of the remote controller or the external device overrides the former.

[Additional note for No.4]

- This input can use for linking to “ON/OFF” from external device or remotely controlled.
 - When the output signal of the external device is a no voltage a-contact. (static signal)
 - For Heat recovery ventilation unit linked with air conditioner system, if a command is sent to one of the units in the group, all units operate together.
 - When a remote controller is used with the Heat recovery ventilation unit:
The latter operation of the remote controller or the switch of the external device overrides the former.
 - When no remote controller is used with the Heat recovery ventilation unit:
The operation of the Heat recovery ventilation unit is confined to that together with the external device.
 - Operation together with a pulse transmission device such as a building management system:
Select “ON (Pulse)” for No.1 of SW701 (changeover switch for pulse/static).
- * Factory default: Static

9 CN706: External input

(On P.C. board MCC-1784)

Diagram of local supply parts		Note
		<p>Locally procure relays and other devices suitable for shorting connector pins.</p> <p>* Use an adapter (sold separately) to connect to the connector.</p>
No.	Diagram of connector	Note
1		<p>External ON/OFF control (Factory default: ON/OFF linked).</p> <p>* It is necessary to set the DN code when changing the type of ON/OFF link.</p>

[Additional note for No.1]

- This input can use for linking to “ON/OFF” from external device or remotely controlled.
- When the output signal of the external device is DC12 V or DC24 V. (static signal)
- For Heat recovery ventilation unit linked with air conditioner system, if a command is sent to one of the units in the group, all units operate together.
- When a remote controller is used with the Heat recovery ventilation unit:
The latter operation of the remote controller or the switch of the external device overrides the former.
- When no remote controller is used with the Heat recovery ventilation unit:
The operation of the Heat recovery ventilation unit is confined to that together with the external device.
- Operation together with a pulse transmission device such as a building management system:
Select “ON (Pulse)” for No.1 of SW701 (changeover switch for pulse/static).
* Factory default: Static

9 Advanced control

REQUIREMENT

- When the unit is used for the first time, it takes a while for the remote controller to recognize operation input after the power is turned on. This is not a malfunction.
 - For details on the auto address setting of Air conditioners when operating together with a SMMS series air conditioner (adjust the auto address setting on the circuit board of the outdoor interface), refer to the Installation Manual of the SMMS series air conditioner.
 - For details on the auto address setting of Air conditioners when operating together with a DI-SDI series air conditioner (the action is performed when the power is turned on), refer to the Installation Manual of the DI-SDI series air conditioner.
 - Turn on the Heat recovery ventilation unit first. Refer to the Installation Manual of the air conditioner about its power supply.
-
- When shipped from the factory, all the settings are set to [Factory default]. Change the settings of the Heat recovery ventilation unit if necessary.
 - Change settings using the main remote controller (wired remote controller).
- * The settings cannot be changed using the wireless remote controller, the sub remote controller, or a system without a remote controller (system with only the central remote controller). Therefore, prepare the main remote controller and install it.

■ Changing the advanced control settings

Basic procedure for changing the settings

Change settings while the operation is OFF and power supply is ON.

CAUTION

Do not change any setting codes other than those in this manual; otherwise, the unit may not work or some problems may occur.

Changing the settings of the Heat recovery ventilation unit (For RBC-AW(M)SU5*)

- * In the case of RBC-ASCU1* and RBC-AMTU3*, the display position is different, but it can be set in the same way.
- * For RBC-AW(M)SU5*, set from “9. DN setting” in the Field setting menu.

Codes (DN codes) for changing settings

Codes in the table below are necessary for local advanced control.

Code	Description	SET DATA and description	Factory default	Note
01	Lighting-up hours of the Filter Sign	0000: None 0001: 150 H 0002: 2500 H 0003: 5000 H 0004: 10000 H	0002: 2500 H	Adjusting this setting is necessary for the header unit.
03	Central control address	0001: No.1 unit to 0128: No.128 unit (TU2C-Link) No.1 unit to 0064: No.64 unit (TCC-Link) 00Un: Unfixed	00Un: Unfixed	The maximum number of addresses that can be set (64 or 128) depends on the communication type (TCC-Link or TU2C-Link).
13	Indoor unit address	0001: No.1 unit to 0128: No.128 unit (TU2C-Link) No.1 unit to 0064: No.64 unit (TCC-Link)	0001: No.1 unit	The maximum number of addresses that can be set (64 or 128) depends on the communication type (TCC-Link or TU2C-Link). *5
14	Group address	0000: Individual 0001: Header 0002: Follower 00Un: Unfixed	00Un: Unfixed	*6
28	Auto recovery from a power failure	0000: Invalid 0001: Valid * Resumes the status just before the power failure	0000: Invalid	*1
31	Single operation of the fan	0000: Invalid 0001: Valid ON/OFF operation for the Heat recovery ventilation unit only	0000: Invalid	Setting change is necessary for the header unit of Air conditioners. *2
47	Operation pattern and ventilation fan speed at 24-hour ventilation	0000: Medium fan speed (continuous) 0001: "Before stop" fan speed (continuous) 0002: Low fan speed (continuous) 0003: High* fan speed (intermittent*) * "High" may be "Extra High" * 60 minutes ON / 60 minutes OFF	0002: Low fan speed	Setting change is necessary for all the Heat recovery ventilation unit in the group. *3
48	Unbalanced ventilation fan speed (Main setting)	0000: Normal 0001: SA (High) > EA (Medium) or SA (Medium) > EA (Low) * SA: Fan speed follows the remote controller setting * EA: Fan speed is one step lower than SA 0002: SA (Medium) < EA (High) or SA (Low) < EA (Medium) * EA: Fan speed follows the remote controller setting * SA: Fan speed is one step lower than EA	0000: Normal	Setting change is necessary for all the Heat recovery ventilation unit in the group. *3, *4
49	24-hour ventilation	0001: Invalid 0002: Valid	0001: Invalid	Setting change is necessary for all the Heat recovery ventilation unit in the group. *3

Code	Description	SET DATA and description	Factory default	Note
4B	Delayed operation	0000: Invalid 0001 - 0006: [Setting value] × 10 minutes delay * Delaying the Heat recovery ventilation unit operation to reduce the air-conditioning load when starting running the air conditioner	0000: Invalid	Setting change is necessary for all the Heat recovery ventilation unit in the group. *2, *3
	Quick-ventilation control	After starting operation, the fan speed is fixed at "High" for the following setting time. (Regardless of the remote controller fan speed setting.) 0000: Invalid 0007: 15 minutes running "High" fan speed 0008: 30 minutes running "High" fan speed 0007: 60 minutes running "High" fan speed * "High" may be "Extra-High"	0000: Invalid	Setting change is necessary for all the Heat recovery ventilation unit in the group. *3
4C	Nighttime heat purge	0000: Invalid 0001 - 0048: Start after [Setting value] × 1 hour(s) * Setting for the time before the nighttime heat purge operation starts	0000: Nighttime heat purge OFF	Setting change is necessary for all the Heat recovery ventilation unit in the group. *2, *3
4D	Setting of the exhausting fan operation below -20°C (OA)	0000: Exhausting fan run 0001: Exhausting fan stop * The supplying fan stops when the temperature is below -20°C (OA)	0000: Exhausting fan run	Setting change is necessary for all the Heat recovery ventilation unit in the group. *3
4E	Setting of the linked operation with external devices	0000: ON/OFF linked 0001: ON linked 0002: OFF linked * Specifies whether the ON/OFF operation of the Heat recovery ventilation unit is linked with the external device operation	0000: ON/OFF linked	Setting change is necessary for a Heat recovery ventilation unit to which an adapter for remote ON/OFF control (sold separately) is connected.
5D	Max fan speed selection	0000: High 0001: Extra High	0001: Extra High	Setting change is necessary for all the Heat recovery ventilation unit in the group. *6
EA	Changing the ventilation mode	0001: Bypass mode 0002: Heat Exchange mode 0003: Automatic mode * Compatible with systems without a remote controller and RBC-ASCU1* and RBC-AMTU3*	0003: Automatic mode	*1
EB	Changing the ventilation Fan speed	0002: High 0003: Medium 0004: Unbalanced (High) 0011: Low 0012: Unbalanced (Medium) * "High" may be "Extra High" * Compatible with remote controller less systems or when using remote controller "RBC-ASCU1*" and RBC-AMTU3**.	0002: High	*1

Code	Description	SET DATA and description	Factory default	Note
ED	Changing the operation output	0000: ON during normal operation 0001: ON during normal operation, 24-hour ventilation, or nighttime heat purge operation 0002: ON during 24-hour ventilation or nighttime heat purge operation 0003: ON when SA fan is running 0004: ON when EA fan is running	0000: ON during normal operation	Setting change is necessary for a Heat recovery ventilation unit which transfers the operation output.
EE	Changing the abnormal signal / Bypass mode signal output	0000: ON when an abnormal signal is detected 0001: ON when the Bypass mode signal is detected	0000: ON when an abnormal signal is detected	Setting change is necessary for a Heat recovery ventilation unit which transfers the operation output.
FC	Communication type	0000: TCC-Link 0004: TU2C-Link	0004: TU2C-Link	Setting change is necessary for all the Heat recovery ventilation unit in the group. *3 * For details, refer to "6. Electrical connection ■Remote controller wiring".
701	Remote controller display value correction for "Outdoor temperature (TOA)"	0000: No correction -0010 - 0010: Add the value × 1°C to the displayed value	0000: No correction	The displayed value is the value detected at the intake port (OA) of the Heat recovery ventilation unit. *1
702	Remote controller display value correction for "Indoor temperature (TRA)"	0000: No correction -0010 - 0010: Add the value × 1°C to the displayed value	0000: No correction	The displayed value is the value detected at the intake port (RA) of the Heat recovery ventilation unit. *1
703	Remote controller display value correction for "Indoor humidity"	0000: No correction -0020 - 0020: Add the value × 1% to the displayed value	0000: No correction	The displayed value is the value detected at the intake port (RA) of the Heat recovery ventilation unit. *1
745	Forced stop due to humidity at Nighttime heat purge	0000: Invalid 0001 - 0100: Humidity (%)	0000: Invalid	<ul style="list-style-type: none"> When the humidity exceeds the set humidity, it will be forced to stop. The humidity value is the value detected at the intake port (RA) of the Heat recovery ventilation unit.
747	Operation pattern and ventilation fan speed at Nighttime heat purge	0000: Medium fan speed (continuous) 0001: "Before stop" fan speed (continuous) 0002: Low fan speed (continuous) * "High" may be "Extra High"	0002: Low fan speed	Setting change is necessary for all the Heat recovery ventilation unit in the group. *2, *3
748	Unbalanced Fan speed ventilation (Sub setting)	0000: Not fixed 0001: Fixed the low airflow side at Low fan speed SA > EA (Low) or SA (Low) < EA	0000: Not fixed	<ul style="list-style-type: none"> This setting is invalid if DN code [48] is not set. Setting change is necessary for all the Heat recovery ventilation unit in the group. *3
74E	Fan control	0000: Constant input power control 0001: Constant air volume control	0000: Constant input power control	Setting change is necessary for all the Heat recovery ventilation unit in the group. *3

Code	Description	SET DATA and description	Factory default	Note																											
750, 754	"High" fan speed power setting of supply air (SA) and exhaust air (EA) * "High" may be "Extra-High"	<ul style="list-style-type: none"> If you want to use "High setting", it must be set to "DN code [5D] = 0000" Percentages below are for "Extra-High (100%)" You can set the data from 40% to 100% by the 1%. <table border="1"> <thead> <tr> <th>DN code</th> <th>[750]</th> <th>[754]</th> </tr> </thead> <tbody> <tr> <td>Class</td> <td>SA power</td> <td>EA power</td> </tr> <tr> <td>150 m³/h</td> <td>0067: 67%</td> <td>0060: 60%</td> </tr> <tr> <td>250 m³/h</td> <td>0066: 66%</td> <td>0066: 66%</td> </tr> <tr> <td>350 m³/h</td> <td>0051: 51%</td> <td>0050: 50%</td> </tr> <tr> <td>500 m³/h</td> <td>0054: 54%</td> <td>0053: 53%</td> </tr> <tr> <td>650 m³/h</td> <td>0050: 50%</td> <td>0048: 48%</td> </tr> <tr> <td>800 m³/h</td> <td>0054: 54%</td> <td>0055: 55%</td> </tr> <tr> <td>1000 m³/h</td> <td>0050: 50%</td> <td>0052: 52%</td> </tr> </tbody> </table>	DN code	[750]	[754]	Class	SA power	EA power	150 m³/h	0067: 67%	0060: 60%	250 m³/h	0066: 66%	0066: 66%	350 m³/h	0051: 51%	0050: 50%	500 m³/h	0054: 54%	0053: 53%	650 m³/h	0050: 50%	0048: 48%	800 m³/h	0054: 54%	0055: 55%	1000 m³/h	0050: 50%	0052: 52%	As shown in the table on the left * Max.: 0100 * Min.: 0040	<ul style="list-style-type: none"> These setting are for "Constant input power control". (for supply air and exhaust air fan motor power) Setting change is necessary for all the Heat recovery ventilation unit in the group. *3
DN code	[750]	[754]																													
Class	SA power	EA power																													
150 m³/h	0067: 67%	0060: 60%																													
250 m³/h	0066: 66%	0066: 66%																													
350 m³/h	0051: 51%	0050: 50%																													
500 m³/h	0054: 54%	0053: 53%																													
650 m³/h	0050: 50%	0048: 48%																													
800 m³/h	0054: 54%	0055: 55%																													
1000 m³/h	0050: 50%	0052: 52%																													
751, 755	"Medium" fan speed power setting of supply air (SA) and exhaust air (EA)	<ul style="list-style-type: none"> Percentages below is for "Extra-High (100%)" You can set the data from 20% to 50% by the 1%. <table border="1"> <thead> <tr> <th>DN code</th> <th>[751]</th> <th>[755]</th> </tr> </thead> <tbody> <tr> <td>Class</td> <td>SA power</td> <td>EA power</td> </tr> <tr> <td>150 m³/h</td> <td>0042: 42%</td> <td>0040: 40%</td> </tr> <tr> <td>250 m³/h</td> <td>0033: 33%</td> <td>0033: 33%</td> </tr> <tr> <td>350 m³/h</td> <td>0023: 23%</td> <td>0023: 23%</td> </tr> <tr> <td>500 m³/h</td> <td>0024: 24%</td> <td>0022: 22%</td> </tr> <tr> <td>650 m³/h</td> <td>0024: 24%</td> <td>0021: 21%</td> </tr> <tr> <td>800 m³/h</td> <td>0028: 28%</td> <td>0028: 28%</td> </tr> <tr> <td>1000 m³/h</td> <td>0023: 23%</td> <td>0025: 25%</td> </tr> </tbody> </table>	DN code	[751]	[755]	Class	SA power	EA power	150 m³/h	0042: 42%	0040: 40%	250 m³/h	0033: 33%	0033: 33%	350 m³/h	0023: 23%	0023: 23%	500 m³/h	0024: 24%	0022: 22%	650 m³/h	0024: 24%	0021: 21%	800 m³/h	0028: 28%	0028: 28%	1000 m³/h	0023: 23%	0025: 25%	As shown in the table on the left * Max.: 0050 * Min.: 0020	
DN code	[751]	[755]																													
Class	SA power	EA power																													
150 m³/h	0042: 42%	0040: 40%																													
250 m³/h	0033: 33%	0033: 33%																													
350 m³/h	0023: 23%	0023: 23%																													
500 m³/h	0024: 24%	0022: 22%																													
650 m³/h	0024: 24%	0021: 21%																													
800 m³/h	0028: 28%	0028: 28%																													
1000 m³/h	0023: 23%	0025: 25%																													
752, 756	"Low" fan speed power setting of supply air (SA) and exhaust air (EA)	<ul style="list-style-type: none"> Percentages below is for "Extra-High (100%)" You can set the data from 5% to 25% by the 1%. <table border="1"> <thead> <tr> <th>DN code</th> <th>[752]</th> <th>[756]</th> </tr> </thead> <tbody> <tr> <td>Class</td> <td>SA power</td> <td>EA power</td> </tr> <tr> <td>150 m³/h</td> <td>0025: 25%</td> <td>0020: 20%</td> </tr> <tr> <td>250 m³/h</td> <td>0017: 17%</td> <td>0015: 15%</td> </tr> <tr> <td>350 m³/h</td> <td>0007: 7%</td> <td>0008: 8%</td> </tr> <tr> <td>500 m³/h</td> <td>0018: 18%</td> <td>0016: 16%</td> </tr> <tr> <td>650 m³/h</td> <td>0007: 7%</td> <td>0006: 6%</td> </tr> <tr> <td>800 m³/h</td> <td>0012: 12%</td> <td>0012: 12%</td> </tr> <tr> <td>1000 m³/h</td> <td>0009: 9%</td> <td>0010: 10%</td> </tr> </tbody> </table>	DN code	[752]	[756]	Class	SA power	EA power	150 m³/h	0025: 25%	0020: 20%	250 m³/h	0017: 17%	0015: 15%	350 m³/h	0007: 7%	0008: 8%	500 m³/h	0018: 18%	0016: 16%	650 m³/h	0007: 7%	0006: 6%	800 m³/h	0012: 12%	0012: 12%	1000 m³/h	0009: 9%	0010: 10%	As shown in the table on the left * Max.: 0025 * Min.: 0005	
DN code	[752]	[756]																													
Class	SA power	EA power																													
150 m³/h	0025: 25%	0020: 20%																													
250 m³/h	0017: 17%	0015: 15%																													
350 m³/h	0007: 7%	0008: 8%																													
500 m³/h	0018: 18%	0016: 16%																													
650 m³/h	0007: 7%	0006: 6%																													
800 m³/h	0012: 12%	0012: 12%																													
1000 m³/h	0009: 9%	0010: 10%																													

Code	Description	SET DATA and description	Factory default	Note															
759, 75D	"High" fan speed air volume setting of supply air (SA) and exhaust air (EA) * "High" may be "Extra-High"	<ul style="list-style-type: none"> If you want to use "High setting", it must be set to "DN code [5D] = 0000" Percentages below are for "Extra-High (100%)" You can set the data from 71% to 120% by the 1%. <table border="1"> <thead> <tr> <th>DN code</th> <th>[759]</th> <th>[75D]</th> </tr> <tr> <th>Class</th> <th>SA air volume</th> <th>EA air volume</th> </tr> </thead> <tbody> <tr><td>150 m³/h</td><td rowspan="7">0080: 80%</td><td rowspan="7">0080: 80%</td></tr> <tr><td>250 m³/h</td></tr> <tr><td>350 m³/h</td></tr> <tr><td>500 m³/h</td></tr> <tr><td>650 m³/h</td></tr> <tr><td>800 m³/h</td></tr> <tr><td>1000 m³/h</td></tr> </tbody> </table>	DN code	[759]	[75D]	Class	SA air volume	EA air volume	150 m³/h	0080: 80%	0080: 80%	250 m³/h	350 m³/h	500 m³/h	650 m³/h	800 m³/h	1000 m³/h	As shown in the table on the left * Max.: 0120 * Min.: 0071	<ul style="list-style-type: none"> These setting are for "Constant air volume control". (for supply air and exhaust air) Setting change is necessary for all the Heat recovery ventilation unit in the group. *3
DN code	[759]	[75D]																	
Class	SA air volume	EA air volume																	
150 m³/h	0080: 80%	0080: 80%																	
250 m³/h																			
350 m³/h																			
500 m³/h																			
650 m³/h																			
800 m³/h																			
1000 m³/h																			
75A, 75E	"Medium" fan speed air volume setting of supply air (SA) and exhaust air (EA)	<ul style="list-style-type: none"> Percentages below is for "Extra-High (100%)" You can set the data from 51% to 70% by the 1%. <table border="1"> <thead> <tr> <th>DN code</th> <th>[75A]</th> <th>[75E]</th> </tr> <tr> <th>Class</th> <th>SA air volume</th> <th>EA air volume</th> </tr> </thead> <tbody> <tr><td>150 m³/h</td><td rowspan="7">0060: 60%</td><td rowspan="7">0060: 60%</td></tr> <tr><td>250 m³/h</td></tr> <tr><td>350 m³/h</td></tr> <tr><td>500 m³/h</td></tr> <tr><td>650 m³/h</td></tr> <tr><td>800 m³/h</td></tr> <tr><td>1000 m³/h</td></tr> </tbody> </table>	DN code	[75A]	[75E]	Class	SA air volume	EA air volume	150 m³/h	0060: 60%	0060: 60%	250 m³/h	350 m³/h	500 m³/h	650 m³/h	800 m³/h	1000 m³/h	As shown in the table on the left * Max.: 0070 * Min.: 0051	
DN code	[75A]	[75E]																	
Class	SA air volume	EA air volume																	
150 m³/h	0060: 60%	0060: 60%																	
250 m³/h																			
350 m³/h																			
500 m³/h																			
650 m³/h																			
800 m³/h																			
1000 m³/h																			
75B, 75F	"Low" fan speed air volume setting of supply air (SA) and exhaust air (EA)	<ul style="list-style-type: none"> Percentages below is for "Extra-High (100%)" You can set the data from 30(35)% to 50% by the 1%. <table border="1"> <thead> <tr> <th>DN code</th> <th>[75B]</th> <th>[75F]</th> </tr> <tr> <th>Class</th> <th>SA air volume</th> <th>EA air volume</th> </tr> </thead> <tbody> <tr><td>150 m³/h</td><td rowspan="7">0040: 40%</td><td rowspan="7">0040: 40%</td></tr> <tr><td>250 m³/h</td></tr> <tr><td>350 m³/h</td></tr> <tr><td>500 m³/h</td></tr> <tr><td>650 m³/h</td></tr> <tr><td>800 m³/h</td></tr> <tr><td>1000 m³/h</td></tr> </tbody> </table>	DN code	[75B]	[75F]	Class	SA air volume	EA air volume	150 m³/h	0040: 40%	0040: 40%	250 m³/h	350 m³/h	500 m³/h	650 m³/h	800 m³/h	1000 m³/h	As shown in the table on the left * Max.: 0050 * Min.: 0030 (SA) * Min.: 0035 (EA)	
DN code	[75B]	[75F]																	
Class	SA air volume	EA air volume																	
150 m³/h	0040: 40%	0040: 40%																	
250 m³/h																			
350 m³/h																			
500 m³/h																			
650 m³/h																			
800 m³/h																			
1000 m³/h																			

■ Changing the time before the Filter Sign lights up

- Setting change is necessary for all the header unit of Heat recovery ventilation unit when installing the system with the Heat recovery ventilation unit only.
- Refer to the "DN setting" section for how to set the DN code. (Same for the following setting items)

Code	SET DATA	0000	0001	0002	0003	0004
01	Time before the Filter Sign lights up	None	150 H	2500 H (Factory default)	5000 H	10000 H

■ Setting of auto recovery from a power failure

- Setting change is necessary for the header unit when installing the system with the Heat recovery ventilation unit only, or the smallest indoor unit address number of Heat recovery ventilation unit when using the system linked with Air conditioners.

Code	SET DATA	0000	0001
28	Auto recovery from a power failure	Invalid (Factory default)	Valid

*1 Setting change is necessary for the header unit when installing the system with the Heat recovery ventilation unit only, or the smallest indoor unit address number of Heat recovery ventilation unit when using the system linked with Air conditioners.

*2 This setting is for the system linked with Air conditioners system.

*3 Setting change apply only to the unit that changed the data.

*4 If you want to set the fan speed difference in 2 steps, for example SA = High and EA = Low, you also need to set DN code [748].

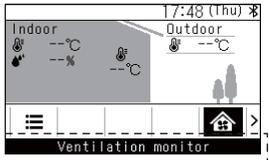
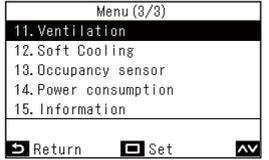
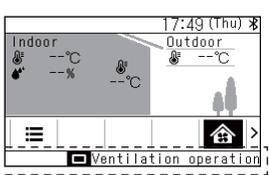
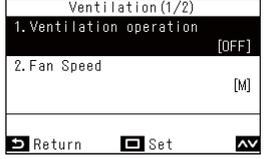
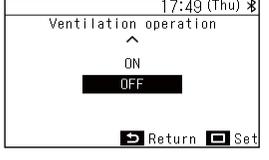
*5 DN and DIP SW settings are given priority to later operations.

*6 DN setting is possible only when DIP SW is "OFF" (factory default).

■ Setting of the Heat recovery ventilation unit single operation (Setting for the header air conditioner)

- Setting change is necessary for the header unit of Air conditioners.
- * This setting is for the system linked with Air conditioners system.
- * There are two ways to operate the remote controller (on the main screen or in the menu "11. Ventilation"). For details on operation, refer to the following.

Code	SET DATA	0000	0001
31	Single operation of the fan	Invalid (Factory default)	Valid

Setting from the main screen	Setting from the "Menu"
 <p>(*1) on the main screen will change to (*2) after 5 seconds.</p>	 <p>In "Menu", select "Ventilation".</p>
 <p>Push [<input type="checkbox"/>] button.</p>	 <p>Select item and push [<input type="checkbox"/>] button.</p>
 <p>Select item and push [<input type="checkbox"/>] button.</p>	

REQUIREMENT

This setting is invalid when the operation is linked by a signal from an external device or remotely controlled on and off.

■ Setting of the unbalanced ventilation Fan speed

- SA / EA unbalanced operation of the Heat recovery ventilation unit is possible.
- Setting change is necessary for all the Heat recovery ventilation unit in the group.
- * Setting change apply only to the unit that changed the data.
- * If you want to set the fan speed difference in 2 steps, for example SA = High and EA = Low, you also need to set DN code [748].

Code	SET DATA	0000	0001	0002
48	Umbalanced ventilation fan speed (Main setting)	Normal (Factory default)	SA (High) > EA (Medium) or SA (Medium) > EA (Low)	SA (Medium) < EA (High) or SA (Low) < EA (Medium)

■ Setting of 24-hour ventilation

- Setting change is necessary for all the Heat recovery ventilation unit in the group.
- * Setting change apply only to the unit that changed the data.

Code	SET DATA	0000	0001
49	24-hour ventilation	Invalid (Factory default)	Valid

■ Setting of delayed operation

- The operation of the Heat recovery ventilation unit is delayed by [Setting value] × 10 minutes (10 to 60 minutes) when the [ON/OFF] button is pressed. (Available when the operation of the Heat recovery ventilation unit is linked with that of Air conditioners.)
- Setting change is necessary for all the Heat recovery ventilation unit in the group.
- * Setting change apply only to the unit that changed the data.
- * This setting is for the system linked with Air conditioners system.

Code	SET DATA	0000	0001 to 0006
4B	Delayed operation	Invalid (Factory default)	[Setting value] × 10 minutes delay

■ Nighttime heat purge setting

- Nighttime heat purge exhausts hot air in the room by bypass mode and reduces the cooling load in the morning. Monitoring operation starts after [Setting value] × 1 hour(s). (1 to 48 hours)
- Setting change is necessary for all the Heat recovery ventilation unit in the group.
- * Setting change apply only to the unit that changed the data.
- * This setting is for the system linked with Air conditioners system.

Code	SET DATA	0000	0001 to 0048
4C	Nighttime heat purge	Invalid (Factory default)	Start after [Setting value] × 1 hour(s)

■ Setting for operation of the exhausting fan below -20°C

- Stops the exhausting fan when the outdoor temperature falls below -20°C.
- Setting change is necessary for all the Heat recovery ventilation unit in the group.
- * Setting change apply only to the unit that changed the data.
- * The air supplying fan stops regardless of this setting.
- * When the indoor temperature is over 21°C, the exhausting fan stops even when the outdoor temperature is higher than -20°C.

Code	SET DATA	0000	0001
4D	Exhausting fan operation below -20°C	Exhausting fan runs (Factory default)	Exhausting fan stops

■ Setting for linked operation with external devices

- Specifies the operation of the Heat recovery ventilation unit linked with the on/off operation of external devices.
- * Setting change is necessary for a Heat recovery ventilation unit to which an adapter for remote ON/OFF control (sold separately) is connected.

Code	SET DATA	0000	0001	0002
4E	Linked operation with external devices	ON/OFF linked (Factory default)	ON linked	OFF linked

0000: The Heat recovery ventilation unit starts / stops together with the starting / stopping of an external device. (The latter operation of the remote controller or the switch of the external device overrides the former.)
 0001: The Heat recovery ventilation unit starts together with the starting of an external device. Use the remote controller to stop operation.
 0002: The Heat recovery ventilation unit stops together with the stopping of an external device. Use the remote controller to start operation.

■ Ventilation mode setting

- The setting of the ventilation mode can be changed when the remote controller for Air conditioners RBC-ASCU1* and RBC-AMTU3* or a system without a remote controller is used.
- Setting change is necessary for the header unit when installing the system with the Heat recovery ventilation unit only, or the smallest indoor unit address number of Heat recovery ventilation unit when using the system linked with Air conditioners.
- * When the remote controller RBC-AW(M)SU5* is installed, this setting is invalid. (Because the remote controller can be used for operation.)

Code	SET DATA	0000	0001	0002
EA	Changing the ventilation mode	Bypass mode	Heat Exchange mode	Automatic mode (Factory default)

■ Ventilation Fan speed setting

- The setting of the ventilation Fan speed can be changed when the remote controller for Air conditioners RBC-ASCU1* and RBC-AMTU3* or the system without the remote controller is used.
- Setting change is necessary for the header unit when installing the system with the Heat recovery ventilation unit only, or the smallest indoor unit address number of Heat recovery ventilation unit when using the system linked with Air conditioners.
- * When the remote controller RBC-AW(M)SU5* is installed, this setting is invalid. (Because the remote controller can be used for operation.)

Code	SET DATA	0002	0003	0004	0011	0012
EB	Changing ventilation fan speed	High (Factory default)	Medium	Unbalanced (High)	Low	Unbalanced (Medium)

- * When [0004] or [0012] is selected, adjust setting of the unbalanced ventilation Fan speed (Code: [48]).

■ Setting for changing the operation output

- This operation output can be used to connect an auxiliary fan or operate an external device. (You can select the output pattern from the table below.)
- * Setting change is necessary for the Heat recovery ventilation unit to which an external device is connected.

Code	SET DATA	0000	0001	0002	0003	0004
ED	Changing the operation output	ON during normal operation (Factory default)	ON during normal operation, 24-hour ventilation, or nighttime heat purge operation	ON during 24-hour ventilation or nighttime heat purge operation	ON when SA fan is running	ON when EA fan is running

0000: Contact is on only during normal operation.
 * Contact is off during 24-hour ventilation or nighttime heat purge operation.
 * Contact is off during cold mode (while the temperature is below -10°C).
 0001: Contact is on during normal operation, 24-hour ventilation, or nighttime heat purge operation.
 * Contact is on when 24-hour ventilation is stopped intermittently.
 * Contact is off when nighttime heat purge operation is on standby. (paused before the monitoring operation of the nighttime heat purge operation starts)
 * Contact is off during cold mode (while the temperature is below -10°C).
 0002: Contact is on during 24-hour ventilation or nighttime heat purge operation.
 * Contact is on when 24-hour ventilation is stopped intermittently.
 * Contact is off during normal operation or when the nighttime heat purge operation is on standby. (paused before the monitoring operation of the nighttime heat purge operation starts)
 * Contact is off during cold mode (while the temperature is below -10°C).
 0003: Contact is on only when SA fan is running.
 * Contact is off when 24-hour ventilation is stopped intermittently, so do not connect an auxiliary fan.
 0004: Contact is on only when EA fan is running.
 * Contact is off when 24-hour ventilation is stopped intermittently, so do not connect an auxiliary fan.

- * Contact is off during delayed operation, when switching the damper (Heat exchange mode / Bypass mode), regardless of the selected value.

■ Abnormal signal / bypass mode signal output setting

- External output can be used to detect an abnormal signal / bypass mode signal output. Output signal to be detected can be selected.
- * Setting change is necessary for the Heat recovery ventilation unit to which an external output is connected.
- * When [0000] is selected, contact is on If there is any trouble on the connected Heat recovery ventilation unit.

Code	SET DATA	0000	0001
EE	Changing the abnormal signal / bypass mode signal output	ON when an abnormal signal is detected (Factory default)	ON when the bypass mode signal is detected

0000: Contact is on when an abnormal signal output is detected.
 0001: Contact is on when the bypass mode signal output is detected.
 * Contact is on during nighttime heat purge operation.
 * Contact is off when the nighttime heat purge operation is on standby. (paused before the monitoring operation of the nighttime heat purge operation starts)
 * Even when  is displayed on the remote controller, contact is off during the Heat exchange mode.

■ Select of fan control type

- There are two types of fan control, so you can select one according to the local installation requirements.
- Setting change is necessary for all the Heat recovery ventilation unit in the group.
- * Setting change apply only to the unit that changed the data.

Code	SET DATA	0000	0001
74E	Fan control type	Constant input power control (Factory default)	Constant air volume control

■ Adjust for Constant input power control

- These setting are for "Constant input power control". (for supply air and exhaust air fan motor power)
- This power setting can be adjusted when the duct length is significantly different between the supply air and the exhaust air.
- All percentages can be set as a ratio to Extra-High mode (100%).
- * In case of "Extra-High", the air volume will be fixed at 100%.
(Therefore, the power percentage cannot be changed in "Extra-High" mode.)
- * Must change for "DN code [5D] = 0000" when changing the power percentage for "High" fan speed.
- Do not set the power of each fan speed to be High < Medium or Medium < Low.
- Setting change is necessary for all the Heat recovery ventilation unit in the group.
- * Setting change apply only to the unit that changed the data.
- When adjusting the data in the table, refer to the P-Q graph below.

Code	SET DATA	(Factory default)																											
750, 754	"High" fan speed power setting of supply air (SA) and exhaust air (EA) * "High" may be "Extra-High"	<ul style="list-style-type: none"> If you want to use "High setting", it must be set to "DN code [5D] = 0000" You can set the data from 40% to 100% by the 1%. * Max.: 0100, Min.: 0040 <table border="1"> <thead> <tr> <th>DN code</th> <th>[750]</th> <th>[754]</th> </tr> <tr> <th>Class</th> <th>SA power</th> <th>EA power</th> </tr> </thead> <tbody> <tr> <td>150 m³/h</td> <td>0067: 67%</td> <td>0060: 60%</td> </tr> <tr> <td>250 m³/h</td> <td>0066: 66%</td> <td>0068: 66%</td> </tr> <tr> <td>350 m³/h</td> <td>0051: 51%</td> <td>0050: 50%</td> </tr> <tr> <td>500 m³/h</td> <td>0054: 54%</td> <td>0053: 53%</td> </tr> <tr> <td>650 m³/h</td> <td>0050: 50%</td> <td>0048: 48%</td> </tr> <tr> <td>800 m³/h</td> <td>0054: 54%</td> <td>0055: 55%</td> </tr> <tr> <td>1000 m³/h</td> <td>0050: 50%</td> <td>0052: 52%</td> </tr> </tbody> </table>	DN code	[750]	[754]	Class	SA power	EA power	150 m³/h	0067: 67%	0060: 60%	250 m³/h	0066: 66%	0068: 66%	350 m³/h	0051: 51%	0050: 50%	500 m³/h	0054: 54%	0053: 53%	650 m³/h	0050: 50%	0048: 48%	800 m³/h	0054: 54%	0055: 55%	1000 m³/h	0050: 50%	0052: 52%
		DN code	[750]	[754]																									
Class	SA power	EA power																											
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350 m³/h	0051: 51%	0050: 50%																											
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800 m³/h	0054: 54%	0055: 55%																											
1000 m³/h	0050: 50%	0052: 52%																											
751, 755	"Medium" fan speed power setting of supply air (SA) and exhaust air (EA)	<ul style="list-style-type: none"> You can set the data from 20% to 50% by the 1%. * Max.: 0050, Min.: 0020 <table border="1"> <thead> <tr> <th>DN code</th> <th>[751]</th> <th>[755]</th> </tr> <tr> <th>Class</th> <th>SA power</th> <th>EA power</th> </tr> </thead> <tbody> <tr> <td>150 m³/h</td> <td>0042: 42%</td> <td>0040: 40%</td> </tr> <tr> <td>250 m³/h</td> <td>0033: 33%</td> <td>0033: 33%</td> </tr> <tr> <td>350 m³/h</td> <td>0023: 23%</td> <td>0023: 23%</td> </tr> <tr> <td>500 m³/h</td> <td>0024: 24%</td> <td>0022: 22%</td> </tr> <tr> <td>650 m³/h</td> <td>0024: 24%</td> <td>0021: 21%</td> </tr> <tr> <td>800 m³/h</td> <td>0028: 28%</td> <td>0028: 28%</td> </tr> <tr> <td>1000 m³/h</td> <td>0023: 23%</td> <td>0025: 25%</td> </tr> </tbody> </table>	DN code	[751]	[755]	Class	SA power	EA power	150 m³/h	0042: 42%	0040: 40%	250 m³/h	0033: 33%	0033: 33%	350 m³/h	0023: 23%	0023: 23%	500 m³/h	0024: 24%	0022: 22%	650 m³/h	0024: 24%	0021: 21%	800 m³/h	0028: 28%	0028: 28%	1000 m³/h	0023: 23%	0025: 25%
		DN code	[751]	[755]																									
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650 m³/h	0024: 24%	0021: 21%																											
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1000 m³/h	0023: 23%	0025: 25%																											
752, 756	"Low" fan speed power setting of supply air (SA) and exhaust air (EA)	<ul style="list-style-type: none"> You can set the data from 5% to 25% by the 1%. * Max.: 0025, Min.: 0005 <table border="1"> <thead> <tr> <th>DN code</th> <th>[752]</th> <th>[756]</th> </tr> <tr> <th>Class</th> <th>SA power</th> <th>EA power</th> </tr> </thead> <tbody> <tr> <td>150 m³/h</td> <td>0025: 25%</td> <td>0020: 20%</td> </tr> <tr> <td>250 m³/h</td> <td>0017: 17%</td> <td>0015: 15%</td> </tr> <tr> <td>350 m³/h</td> <td>0007: 7%</td> <td>0008: 8%</td> </tr> <tr> <td>500 m³/h</td> <td>0018: 18%</td> <td>0016: 16%</td> </tr> <tr> <td>650 m³/h</td> <td>0007: 7%</td> <td>0006: 6%</td> </tr> <tr> <td>800 m³/h</td> <td>0012: 12%</td> <td>0012: 12%</td> </tr> <tr> <td>1000 m³/h</td> <td>0009: 9%</td> <td>0010: 10%</td> </tr> </tbody> </table>	DN code	[752]	[756]	Class	SA power	EA power	150 m³/h	0025: 25%	0020: 20%	250 m³/h	0017: 17%	0015: 15%	350 m³/h	0007: 7%	0008: 8%	500 m³/h	0018: 18%	0016: 16%	650 m³/h	0007: 7%	0006: 6%	800 m³/h	0012: 12%	0012: 12%	1000 m³/h	0009: 9%	0010: 10%
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800 m³/h	0012: 12%	0012: 12%																											
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■ Adjust for Constant air volume control

- These setting are for "Constant air volume control". (for supply air and exhaust air)
- This setting can keep the rated air volume even if the pressure loss varies depending on the duct.
- All percentages can be set as a ratio to Extra-High mode (100%).
- * In case of "Extra-High", the air volume will be fixed at 100%. (Therefore, the air volume percentage cannot be changed in "Extra-High" mode.)
- * Must change for "DN code [5D] = 0000" when changing the air volume percentage for "High" fan speed.
- Do not set the air volume of each fan speed to be High < Medium or Medium < Low.
- Setting change is necessary for all the Heat recovery ventilation unit in the group.
- * Setting change apply only to the unit that changed the data.
- When adjusting the data in the table, refer to the P-Q graph below.

Code	SET DATA	(Factory default)																											
759, 75D	"High" fan speed air volume setting of supply air (SA) and exhaust air (EA) * "High" may be "Extra-High"	<ul style="list-style-type: none"> • If you want to use "High setting", it must be set to "DN code [5D] = 0000" • You can set the data from 71% to 120% by the 1%. * Max.: 0120, Min.: 0071 <table border="1"> <thead> <tr> <th>DN code</th> <th>[759]</th> <th>[75D]</th> </tr> <tr> <th>Class</th> <th>SA air volume</th> <th>EA air volume</th> </tr> </thead> <tbody> <tr><td>150 m³/h</td><td></td><td></td></tr> <tr><td>250 m³/h</td><td></td><td></td></tr> <tr><td>350 m³/h</td><td></td><td></td></tr> <tr><td>500 m³/h</td><td>0080: 80%</td><td>0080: 80%</td></tr> <tr><td>650 m³/h</td><td></td><td></td></tr> <tr><td>800 m³/h</td><td></td><td></td></tr> <tr><td>1000 m³/h</td><td></td><td></td></tr> </tbody> </table>	DN code	[759]	[75D]	Class	SA air volume	EA air volume	150 m³/h			250 m³/h			350 m³/h			500 m³/h	0080: 80%	0080: 80%	650 m³/h			800 m³/h			1000 m³/h		
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Class	SA air volume	EA air volume																											
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1000 m³/h																													
75A, 75E	"Medium" fan speed air volume setting of supply air (SA) and exhaust air (EA)	<ul style="list-style-type: none"> • You can set the data from 51% to 70% by the 1%. * Max.: 0070, Min.: 0051 <table border="1"> <thead> <tr> <th>DN code</th> <th>[75A]</th> <th>[75E]</th> </tr> <tr> <th>Class</th> <th>SA air volume</th> <th>EA air volume</th> </tr> </thead> <tbody> <tr><td>150 m³/h</td><td></td><td></td></tr> <tr><td>250 m³/h</td><td></td><td></td></tr> <tr><td>350 m³/h</td><td></td><td></td></tr> <tr><td>500 m³/h</td><td>0060: 60%</td><td>0060: 60%</td></tr> <tr><td>650 m³/h</td><td></td><td></td></tr> <tr><td>800 m³/h</td><td></td><td></td></tr> <tr><td>1000 m³/h</td><td></td><td></td></tr> </tbody> </table>	DN code	[75A]	[75E]	Class	SA air volume	EA air volume	150 m³/h			250 m³/h			350 m³/h			500 m³/h	0060: 60%	0060: 60%	650 m³/h			800 m³/h			1000 m³/h		
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500 m³/h	0060: 60%	0060: 60%																											
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75B, 75F	"Low" fan speed air volume setting of supply air (SA) and exhaust air (EA)	<ul style="list-style-type: none"> • You can set the data from 30(35)% to 50% by the 1%. * Max.: 0050, Min.: 0030(SA) / 0035(EA) <table border="1"> <thead> <tr> <th>DN code</th> <th>[75B]</th> <th>[75F]</th> </tr> <tr> <th>Class</th> <th>SA air volume</th> <th>EA air volume</th> </tr> </thead> <tbody> <tr><td>150 m³/h</td><td></td><td></td></tr> <tr><td>250 m³/h</td><td></td><td></td></tr> <tr><td>350 m³/h</td><td></td><td></td></tr> <tr><td>500 m³/h</td><td>0040: 40%</td><td>0040: 40%</td></tr> <tr><td>650 m³/h</td><td></td><td></td></tr> <tr><td>800 m³/h</td><td></td><td></td></tr> <tr><td>1000 m³/h</td><td></td><td></td></tr> </tbody> </table>	DN code	[75B]	[75F]	Class	SA air volume	EA air volume	150 m³/h			250 m³/h			350 m³/h			500 m³/h	0040: 40%	0040: 40%	650 m³/h			800 m³/h			1000 m³/h		
DN code	[75B]	[75F]																											
Class	SA air volume	EA air volume																											
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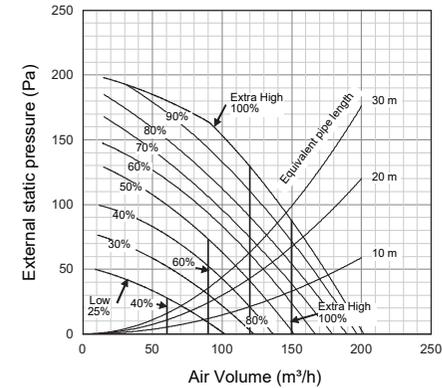
■ P-Q graph

Use the graph below as a guide for adjusting the data.

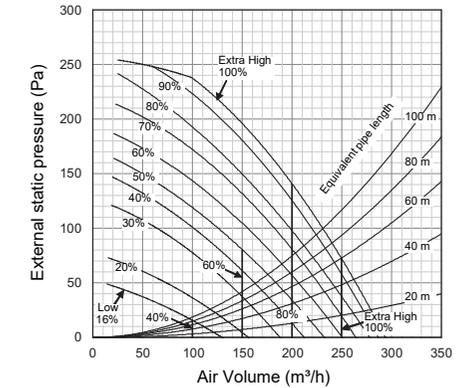
P-Q Curve

* When friction coefficient of pipe (duct): $\lambda = 0.02$

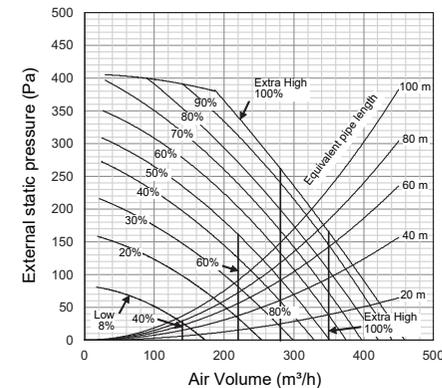
▼ 150 m³/h



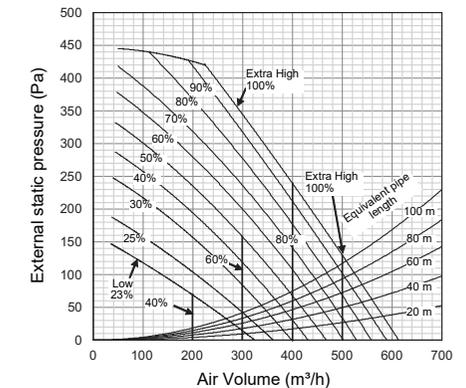
▼ 250 m³/h



▼ 350 m³/h



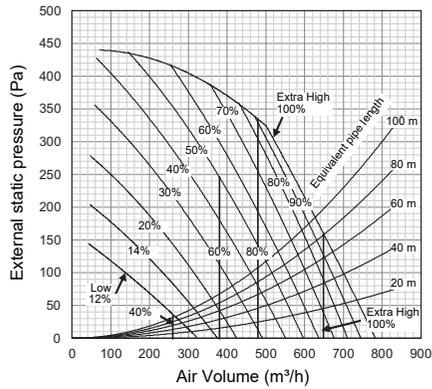
▼ 500 m³/h



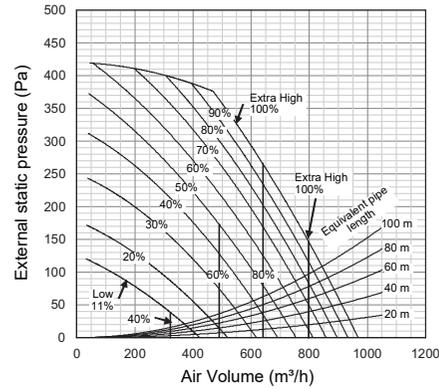
P-Q Curve

* When friction coefficient of pipe (duct): $\lambda = 0.02$

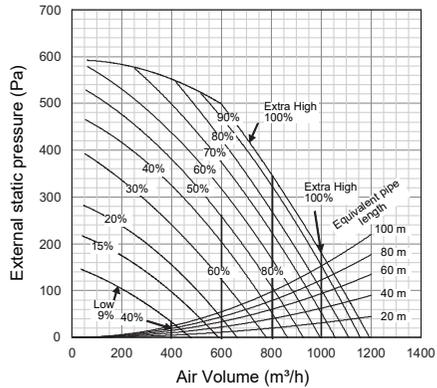
▼ 650 m³/h



▼ 800 m³/h



▼ 1000 m³/h



Remote controller switch monitoring function

This function is available to call the service monitor mode from the remote controller during a test run to acquire temperatures of sensors of indoor unit (Heat recovery ventilation unit).

Monitor function	
Code	Data
00	0024
Return	

- 1 Push [Menu] to open the "Menu"
- 2 Push and hold [Menu] and [] at the same time to open "Field setting menu"
→ Push and hold 4 seconds.
- 3 In the "Field setting menu" screen, push [] and [] to select "Monitor function", and then push [Set/Fix]
→ Push [] and [] to change the code and then check the data.
→ In a group connection, after a selection in the unit selection screen, move to the "Monitor function" screen.
- 4 Push [Return]
→ Return to the "Field setting menu" screen.

Indoor unit data (Heat recovery ventilation unit)											
CODE No.	Data name										
02	Return air temperature (TRA)										
07	Supply air actual fan speed (× 1 rpm)										
ED	Relative humidity (× 1%)										
EE	Trouble sub-code * For example "P12" trouble										
		<table border="1"> <thead> <tr> <th>Sub-code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0000</td> <td>Normal</td> </tr> <tr> <td>0001</td> <td>SA motor trouble</td> </tr> <tr> <td>0002</td> <td>EA motor trouble</td> </tr> </tbody> </table>		Sub-code	Description	0000	Normal	0001	SA motor trouble	0002	EA motor trouble
		Sub-code	Description								
		0000	Normal								
0001	SA motor trouble										
0002	EA motor trouble										
F0	Microcomputer cumulative energized hours (× 100 h)										
F2	Supply air fan cumulative energized hours (× 100 h)										
F3	Filter cumulative hours (× 1 h)										
F9	Supply air temperature (TSA)										
FA	Outdoor air temperature (TOA)										

10 Test run

■ Before performing a test run

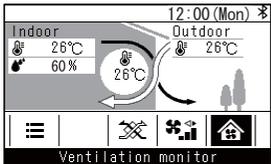
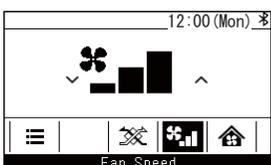
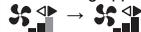
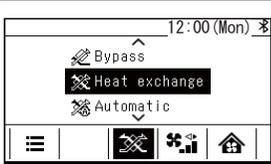
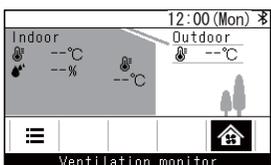
- Before turning on the power supply, carry out the following procedure.
Using 500 V-megger, check that resistance of 1 MΩ or more exists between the terminal block of the power supply and the earth (earthing).
If resistance of less than 1 MΩ is detected, do not run the unit.
- When a test run is performed together with Air conditioners, follow the Installation Manuals of the Air conditioners.

■ Test run

Confirm that the unit operates properly referring to the Owner's Manual of the Heat recovery ventilation unit.

Push [ON/OFF] button to start operations

Perform the following operation mode operations to confirm that there are no problems with the test run.

Operation item	Display	Operation
1. Starting operation		The operation lamp lights up, then the Heat recovery ventilation unit starts running. (The ventilation monitor is displayed on the top screen.)
2. Changing the ventilation fan speed		Each time push the button [▲] or [▼], the ventilation fan speed changes as follows:  When the unbalance ventilation fan speed is valid, the following appears on the display: 
3. Changing the ventilation mode		Each time push the button [▲] or [▼], the ventilation mode changes as follows: 
4. Stopping operation		The operation lamp goes off, then the Heat recovery ventilation unit stops running.

11 Maintenance

Running the Heat recovery ventilation unit for a long period causes the filter or heat exchange element to become clogged with dust. If the filter or heat exchange element is clogged, the ventilation amount is reduced and ventilation effect will be deteriorated.

Clean the filter and heat exchange element regularly according to the extent of dust accumulation.

⚠ WARNING

Before performing maintenance, stop the unit, then turn off the breaker.

- Otherwise, an electric shock or injury may result.
- Do not pour or spray water or detergent on the electric parts.**
- Otherwise, an electrical leakage may occur and a fire or electric shock may result.

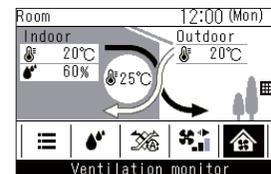
⚠ CAUTION

Wear protective gloves when performing maintenance.

- Otherwise, an injury may result.

■ Filter sign reset

“” appears on the detailed display to tell the time for cleaning the filter.



- When “” is displayed, be sure to clean the filters and then do a reset.



- If the Heat recovery ventilation units are operated while “” is displayed, then “Filter check.” is displayed. Push an operation button while it is displayed or leave it for at least 5 seconds and the display will disappear.

When the filter check mark is displayed (filter check reset)



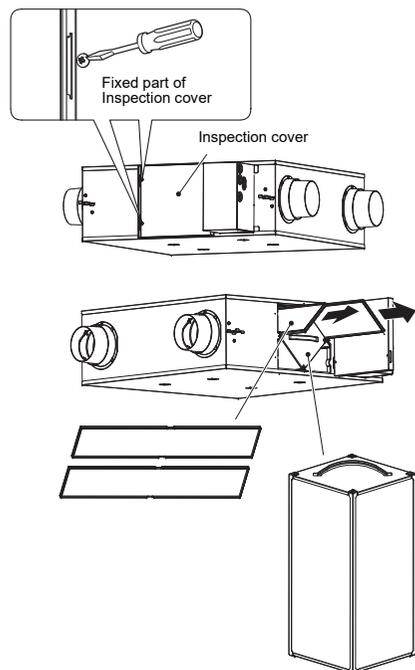
- 1** In “Menu”, select “Filter sign reset”, and push [ Set/Fix]
- 2** Push [ Set/Fix]

■ Maintenance of the filter and heat exchange element

◆ Filter maintenance (Clean the filter once or twice a year.)

1 Open the inspection cover

Enter the ceiling cavity remove the screw of fixed part of inspection cover and remove the fixing lever (support the inspection cover while removing the brackets), then open the inspection cover.



2 Remove the filters

Remove the filters from the frame of the heat exchange element.

3 Pull out the heat exchange elements

Hold the handle of the heat exchange element, then pull it out.

⚠ CAUTION

The table below shows the weight of each heat exchange element. Handle the heat exchange element carefully so as not to drop it.

Model name	Weight (kg)
VN-U00151SY-E	2.2
VN-U00251SY-E	2.2
VN-U00351SY-E	1.7
VN-U00501SY-E	2.4
VN-U00651SY-E	2.4
VN-U00801SY-E	3.6
VN-U01001SY-E	3.6

4 Clean the filters

Clean the filters by dusting them or using a vacuum cleaner. If the filters are badly clogged, wash them by pressing them down in lukewarm water with a neutral dish washing liquid.

NOTE

- Do not dry the filter with heat from a flame; otherwise, deformation or deterioration of the filter may result.
- Light-up hours of the  indicator is set to [2500 H]. If the filter is badly clogged, change the setting value. For the details, refer to the "Changing the time before the Filter Sign lights up" on page 33.
- Do not soak the filter in water hotter than 60°C; otherwise, deformation or deterioration of the filter may result.

◆ Maintenance of the heat exchange elements (Clean the heat exchange elements once or twice in 2 years.)

1 Clean the heat exchange elements

Remove the dust on the surface of the heat exchange element using a vacuum cleaner.

NOTE

- Use a vacuum cleaner with a brush, and stroke the brush gently on the heat exchange element.
- Do not press the nozzle of the vacuum cleaner hard against the heat exchange element; otherwise, the surface of it will be scratched.
- Do not wash the heat exchange element in water.

* Contact the dealer or installer when the heat exchange element is damaged and replacing it is necessary.

■ Reinstallation after maintenance

1 Attach the heat exchange elements

Install the heat exchange elements as before.

NOTE

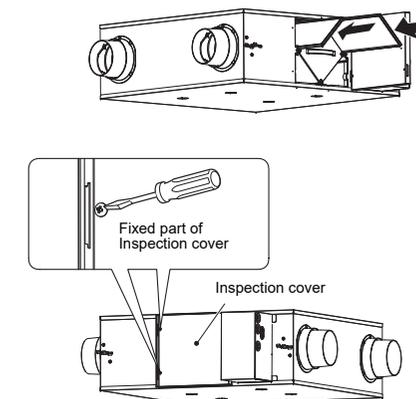
Attach the filters. If this unit is used without them, the heat exchange elements will become clogged and a breakdown may result.

2 Attach the filters

Attach the filters after they have completely dried. Attach them to the frame of the heat exchange element as before.

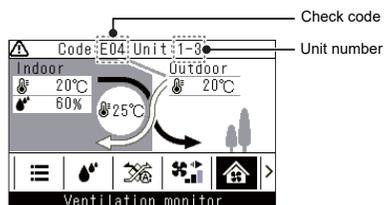
3 Attach the inspection cover

Fix the fixing part of the inspection cover with screws.



12 Troubleshooting

■ Confirm and check



When a trouble occurs in the Heat recovery ventilation unit, the check code and the Heat recovery ventilation unit number flash on the display of the remote controller.

* The check code is only displayed during the operation.

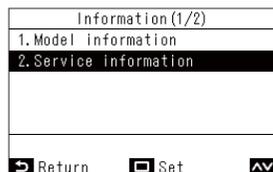
When the check code and Heat recovery ventilation unit number are displayed, pushing [Return] opens the "Check" screen.



In the "Check" screen, push [Set/Fix] to show the contacts. Push [Menu] to display "Model information".

■ Contact information for repairs

You can look for contact information for repairs.



1 In the "Information" screen, push [] and [] to select "Service information", and then push [Set/Fix]

■ Check codes and parts to be checked

Wired remote controller display	Main defective parts	Judging device	Parts to be checked / trouble description
E01	No header remote controller	Remote controller	Incorrect remote controller setting --- The header remote controller has not been set (including two remote controllers).
	Remote controller communication trouble		No signal can be received from the indoor unit.
E02	Remote controller transmission trouble	Remote controller	System interconnection wires, indoor P.C. board, remote controller --- No signal can be sent to the indoor unit.
E03	Indoor unit-remote controller regular communication trouble	Indoor	Remote controller, network adapter, indoor P.C. board --- No data is received from the remote controller or network adapter.
E08	Duplicated indoor addresses	Indoor	Indoor address setting trouble --- The same address as the self-address was detected.
E09	Duplicated header remote controllers	Remote controller	Remote controller address setting trouble --- Two remote controllers are set as header in the double-remote controller control.
			(* The header indoor unit stops raising alarm and follower indoor units continue to operate.)
E10	Communication trouble between control P.C. board	Remote controller	1. Check connector indoor unit (CN520 (blue) and CN570 (blue)) 2. Check communication line between Indoor unit control P.C. board - Branch P.C. board for UART. 3. Check indoor control P.C. board. 4. Check Branch P.C. board of UART.
E11	Communication trouble between Application control kit and indoor unit	Remote controller	1. Check connector indoor unit (CN521 (red)) Application control kit. 2. Check connection of indoor-Application control kit communication line. 3. Check indoor P.C. board. 4. Check Application control kit P.C. board.
E18	Header indoor unit-indoor follower unit regular communication trouble	Indoor	Indoor P.C. board --- Regular communication is not possible between header and follower indoor units or between twin header (main) and follower (sub) units.
F10	Heat recovery ventilation unit (TSA) trouble	Heat recovery ventilation unit	Supply air sensor (TSA): Indoor P.C. board --- Open-circuit or short-circuit of the sensor was detected.
F17	Heat recovery ventilation unit (TOA) trouble	Heat recovery ventilation unit	Outdoor Air sensor (TOA): Indoor P.C. board --- Open-circuit or short-circuit of the sensor was detected.
F18	Heat recovery ventilation unit (TRA) trouble	Heat recovery ventilation unit	Return Air sensor (TRA): Indoor P.C. board --- Open-circuit or short-circuit of the sensor was detected.
F29	Indoor unit, other P.C. board trouble	Indoor	Indoor P.C. board --- EEPROM trouble
J13	Abnormal air volume trouble on the supply air side between OA and SA	Heat recovery ventilation unit	<ul style="list-style-type: none"> Check the OA dumper is open when the fan is ON while Heat recovery ventilation unit is running. Check if there is anything blocking the air passage between OA and SA.
J14	Abnormal air volume trouble on the exhaust air side between RA and EA	Heat recovery ventilation unit	<ul style="list-style-type: none"> Check the EA shutter is open when the fan is ON while Heat recovery ventilation unit is running. Check if there is anything blocking the air passage between RA and EA.
L03	Duplicated header indoor units	Indoor	Indoor address setting trouble --- There are two or more header units in the group.
L08	Indoor group address not set	Indoor	Indoor address setting trouble --- Indoor address group has not been set.
L09	Indoor power level not set	Indoor	Indoor power level has not been set.

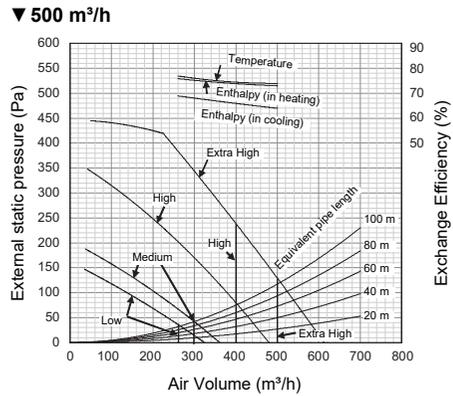
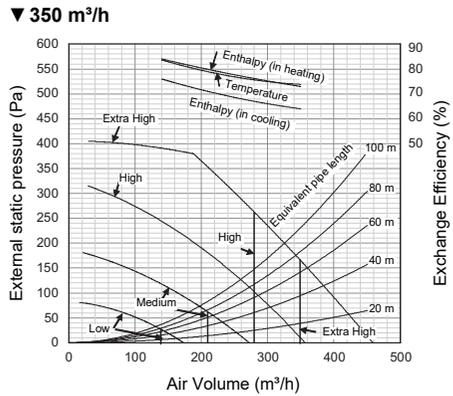
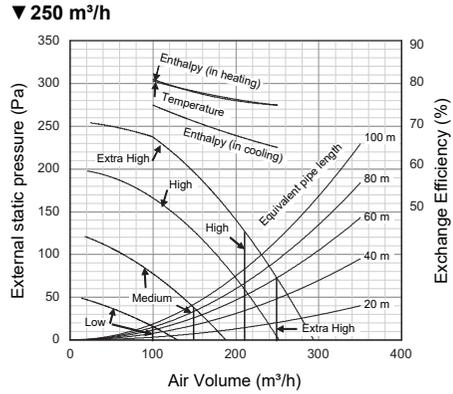
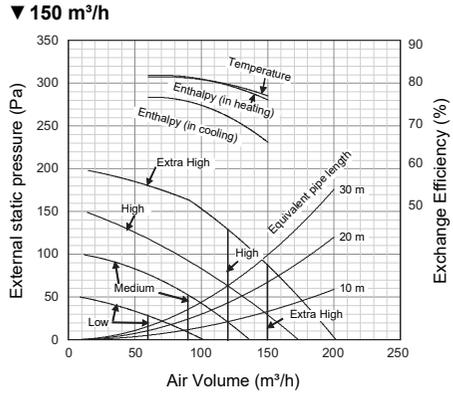
Wired remote controller display	Main defective parts	Judging device	Parts to be checked / trouble description
L20	LAN communication trouble	Indoor	Address setting, central control remote controller, network adapter --- Duplication of address in central control communication.
P12	Indoor fan motor trouble	Remote controller	<ul style="list-style-type: none"> • Check connection of fan connector and wiring. • Check for defect in fan motor. • Check for defect in indoor P.C. board. • Check impact of outside air treatment (OA).
P31	Other indoor unit trouble	Indoor	<p>Another indoor unit in the group is raising an alarm.</p> <p>E03/L07/L03/L08 alarm check locations and trouble description.</p>

* "Indoor" in "Judging device" refers to the Heat recovery ventilation unit or the air conditioner.

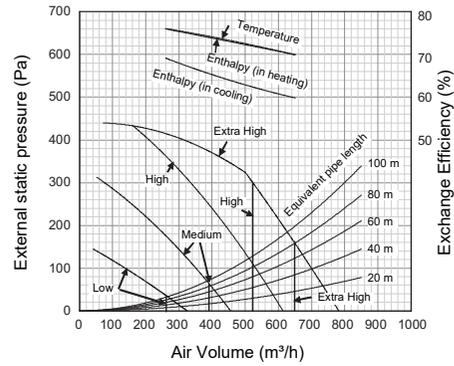
13 Fan characteristics

P-Q Curve

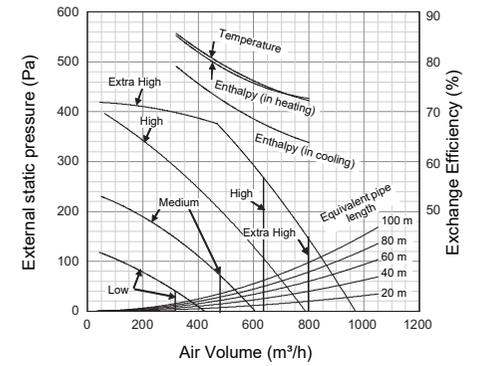
* When friction coefficient of pipe (duct): $\lambda = 0.02$



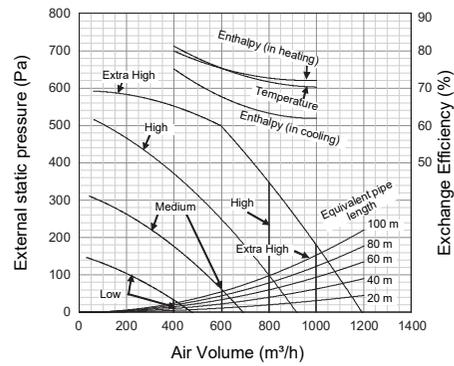
▼ 650 m³/h



▼ 800 m³/h



▼ 1000 m³/h



P-Q Curve
* When friction coefficient of pipe (duct): $\lambda = 0.02$

Toshiba Carrier Air Conditioning (China) Co., Ltd.

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