

Air Conducting Fan

MODEL

AH-1006S-E

AH-1509S-E

AH-2009S-E

AH-3009S-E

OPERATING AND INSTALLATION INSTRUCTIONS

For users









Carefully read this manual before use for safe and correct operation.
After reading this manual, keep it in a place where any person using the product can refer at anytime.

For dealers






- Carefully read this manual before work for safe and correct installation.
- Installation must be made by the dealer or qualified contractor.
- This product is for indoor use. Do not install the product in a place where it may be exposed to rain.
- After completing installation, be sure to give this manual to the user.

Safety Precautions

- The following symbols denote the type and degree of danger resulting from incorrect handling.

| | | | |
|--|---|---|---|
|  WARNING | Incorrect handling could cause serious injury or death. | | |
|  Prohibited | Do not install the product where explosive gas or dust is being, or could be, emitted. It could induce explosion or fire. |  Follow instructions | Operate the product at the rated voltage and rated frequency. Otherwise, fire or electric shock could result. |
|  No water exposure | Refrain from immersing in water or splashing the product with water. Failure to heed this warning could result in short circuit or electric shock. | | When power supply cable passes through metal or wire lath in the wall, securely prevent the cable from contacting to them. Ignition may occur if power leaks. |
|  No disassembly | Do not modify or disassemble the product. Failure to heed this warning could result in fire, electric shock or injury. | | Make sure to turn off the circuit breaker before maintenance. There are risks of electrical shock or injury. |
|  Do not touch | Do not poke your fingers or any objects into the air outlet or moving parts during operation since this is dangerous. You may injure yourself. If operation stops while the power is still switched on, do not touch the product under any circumstances. There is a danger that the unit could suddenly start operating again and cause injury. There is also a danger of electrical shock. | | If power fails, be sure to turn off the product. Injury could result if the product operates suddenly at restoration of power. |
|  Check grounding | Make sure to ground and install an all-pole isolator securely. If a malfunction or current leakage occurs, electric shock could result. |  Beware of the rotating parts | Since the product is designed to be installed at a higher location, install the product at least 2.3 m above the floor. Failure to heed this warning could result in injury. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard. |
| | | | Do not touch the moving parts. You may injure yourself. |

Safety Precautions (Continued)

| | | | |
|--|--|--|---|
|  CAUTION | Incorrect handling could cause injury or damage to property or household effects. | | |
|  Prohibited | <p>Do not hang from the product. It may fall, resulting in injury.</p> <p>When adjusting the mounting angle, do not remove the self-locking nut at the center. It may fall, resulting in injury.</p> | | <p>For installation and maintenance work, wear gloves. Otherwise, you may injure yourself.</p> <p>If the fans get dirty, clean off the dirt of them. Parts may fall due to the vibration, which could cause injury.</p> |
|  Cannot be installed in a bathroom | <p>Never use the product in a bathroom or other location with excessive moisture (more than 90% RH). Electrical shock or fire could result.</p> | | <p>Do not use the product when any abnormal vibration has been detected on the main unit. There are risks of injury by falling the main unit or parts.</p> |
|  Follow instructions | <p>Select a place with rigid structural strength and install the product securely. It may fall, resulting in injury.</p> |  Follow instructions | <p>Make sure to turn off the circuit breaker when suspending use for a long time. It could cause electrical shocks or fire by fault current resulting from deteriorated insulation.</p> |
| | <p>Make sure to install securely every part. It may fall, resulting in injury.</p> | | |
| | <p>Wiring work must be performed by qualified professionals, and be implemented safely and securely in accordance with local rules and regulations. Poor connection or improper wiring work could cause electric shock or fire.</p> <p>Always use the specified anchor bolts (hook bolts), nuts and washers. It may fall, resulting in injury.</p> | | <p>This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.</p> |

Before Installation

- **Installation in an inappropriate place may cause malfunctions. When mounting the product, avoid the following locations:**
 - outdoor
 - the salt damage area
 - where the product is subject to high temperatures over 45 °C or low temperatures under -10 °C
 - where freezing is anticipated or the ambient temperature is extremely low as is in a refrigerated storage or freezing chamber
 - where there is a high concentration of oil mist or steam
 - dusty locations such as the places where the air is likely to contain plenty of cotton dust, or cloudy/ powdery sand dust
 - where it is exposed combustible gases, and acid or alkaline gases
 - where relative humidity exceeds 90% at normal temperature
- **Be sure to use an all-pole isolator in the wiring system.**
- **Install the product in a place where trouble does not occur even if dust or the like accumulated on the product falls.**

External Dimensions

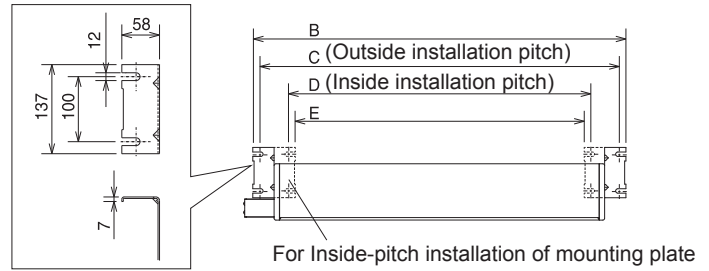
■ AH-1006S-E, AH-1509S-E, AH-2009S-E

Unit: mm

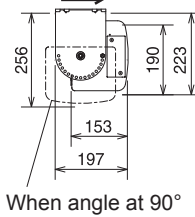
| Model | A | B | C | D | E |
|------------|-----|------|-----|-----|-----|
| AH-1006S-E | 600 | 716 | 680 | 525 | 489 |
| AH-1509S-E | 900 | 1016 | 980 | 825 | 789 |
| AH-2009S-E | 900 | 1016 | 980 | 825 | 789 |

- The mounting angle of the main unit is selectable from the following 8 angles to the mounting surface:
0°, 11.3°, 22.5°, 33.8°, 45°, 56.3°, 67.5°, 90°

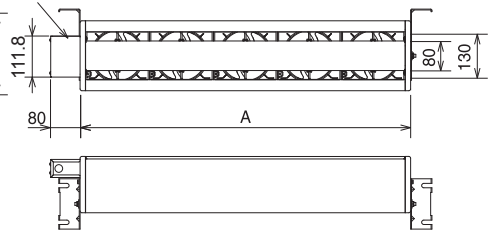
Details of mounting plate



Wind direction



Terminal cover

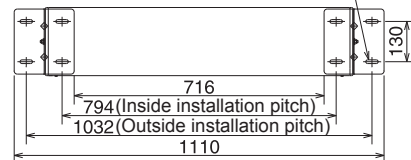
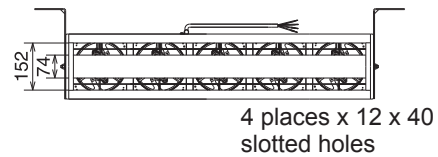
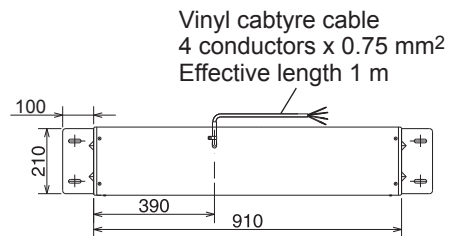
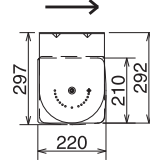


■ AH-3009S-E

- Eight-angle wind direction can be selected as following angles to the mounting surface.
0°, 11.3°, 22.5°, 33.8°, 45°, 56.3°, 67.5°, 90°

* When it is mounted directly on the ceiling, 67.5° and 90° are not allowed.

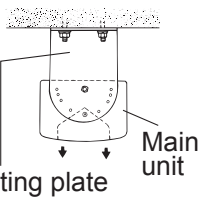
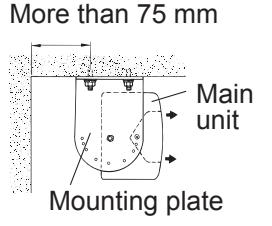
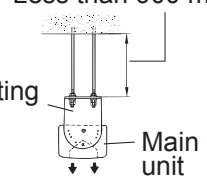
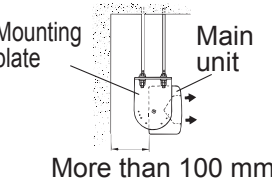
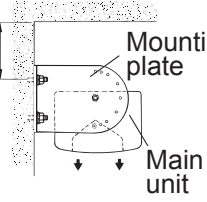
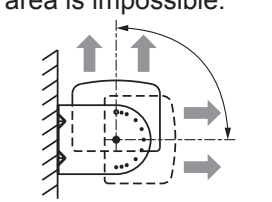
Wind direction



Unit: mm

Example of Installation

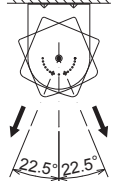
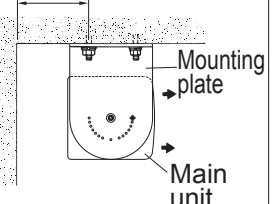
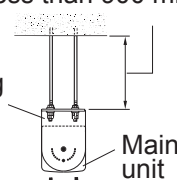
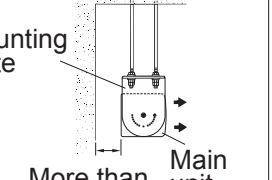
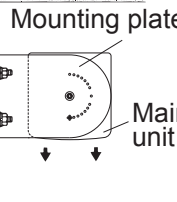
■ AH-1006S-E, AH-1509S-E, AH-2009S-E

| | | |
|--------------------------|--|--|
| Ceiling surface-mounting | Horizontal installation (with outlet facing downward) | Vertical installation (with outlet facing sideward) |
| |  |  |
| | Less than 900 mm | More than 100 mm |
| Ceiling-suspension |  |  |
| | More than 75 mm | Outflow within this area is impossible. |
| Wall mounting |  |  |

Note

- An open space of at least 100 mm must be provided for the inlet of the product. Otherwise, the product will not provide sufficient blowing capacity.
- When installing two or more units, leave a clearance of more than 100 mm between the neighboring mounting plates.
- The wall-mounted unit must not be set for the outflow in upward direction ranging from horizontal to vertical (see the figure). (Outflow in such direction will cause excessive vibrations.)
- For ceiling-suspension, be sure to reinforce the anchor bolts with vibration-isolation parts.

■ AH-3009S-E

| | | |
|--------------------------|---|---|
| Ceiling surface-mounting | Horizontal installation (with outlet facing downward) | Vertical installation (with outlet facing sideward) |
| | A unit that is mounted directly on the ceiling cannot discharge air vertically.  |  |
| Ceiling-suspension | Less than 900 mm | More than 150 mm |
| |  |  |
| Wall mounting | More than 240 mm | |
| |  | |

Note

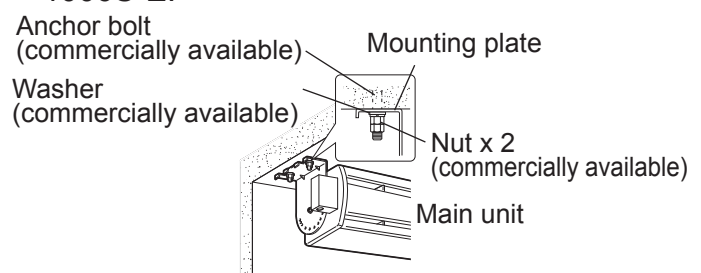
- An open space of at least 150 mm must be provided for the inlet of the product. Otherwise, the product will not provide sufficient blowing capacity.
- When installing two or more units, leave a clearance of more than 100 mm between the neighboring mounting plates.
- For ceiling-suspension, be sure to reinforce the anchor bolts with vibration-isolation parts.

Installation of Main Unit

1. According to the "External dimensions", select firm foundation and install commercially available anchor bolts (M8 or M10). (Refer to the figures below.)
2. When adjusting the mounting angle, first, remove the angle adjustment bolts to unclamp the main unit from the mounting plate, and then, loosen the self-locking nuts.
3. To clamp the mounting plate to the ceiling, get the installed anchor bolts (hook bolts) through the holes in the mounting plate and firmly secure them using commercially available washers and nuts.

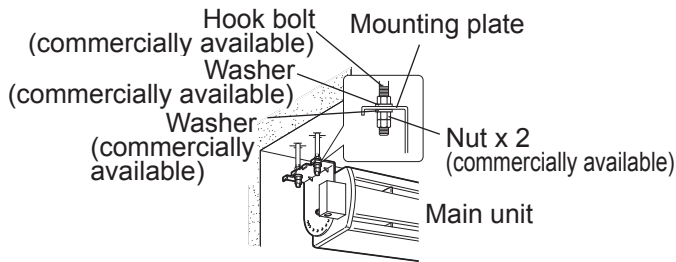
Direct mounting

- * The figure shows ceiling surface-mounting, and the shape of mounting plate is AH-1006S-E.



Installation of Main Unit (Continued)

Ceiling-suspension

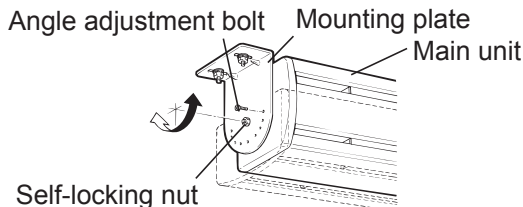


Adjusting the Mounting Angle

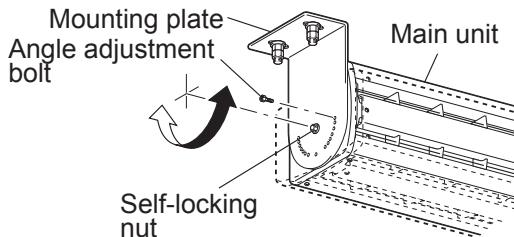
The wind direction is selectable using 8-angle adjustment.

1. When adjusting the angle after installation of the main unit, remove the angle adjustment bolts, and then, loosen the self-locking nuts.
2. After adjusting the angle, reinstall the angle adjustment bolts, tighten them, and firmly secure with the self-locking nuts.

■ AH-1006S-E, AH-1509S-E, AH-2009S-E



■ AH-3009S-E



⚠ CAUTION

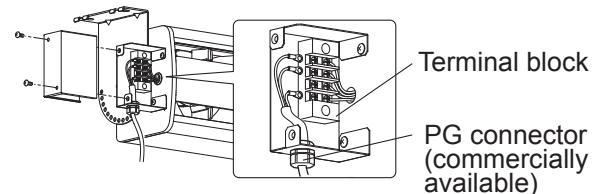
When adjusting the mounting angle, do not remove the self-locking nuts at the center. It may fall, resulting in injury.

Electrical Work

- Electrical work must be performed by qualified professionals.
- The cable size must be at least 0.75 mm² for power cable. When operating multiple units, connect the power using a cable with a capacity corresponding to the total current value of the units installed.
- Use ring-terminals to connect with the terminal block.
- When selecting a motor circuit breaker, etc., make selection on the basis of its tripping current corresponding to the 1.2 to 1.5 times the load current given in the specification table.
- Make sure to ground and install an all-pole isolator securely.

■ AH-1006S-E, AH-1509S-E, AH-2009S-E

1. Remove the two screws securing the terminal cover and installed bushing.
2. Connect the wires to the terminals as shown in the figure, using firmly fixable bushing such as a PG connector. Opening for bushing is dia. 21 mm.
3. Connect the grounding wire.
4. After connecting wires, reinstall the terminal cover as it has been before.

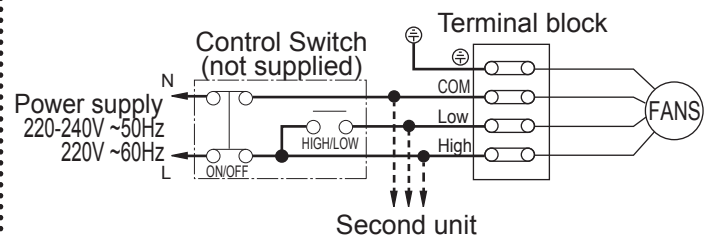


Wire Connection

■ AH-1006S-E, AH-1509S-E, AH-2009S-E

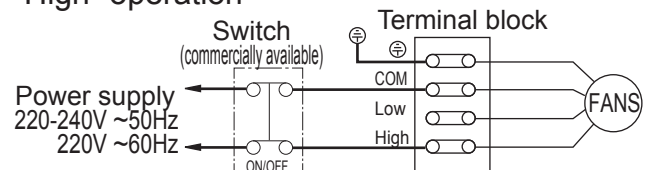
Thick and dotted lines are field work.

When "High-Low" operation is selected:

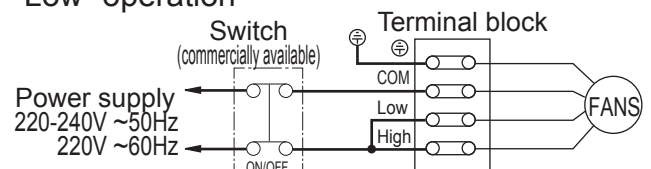


When "High" or "Low" fixed operation is selected:

"High" operation



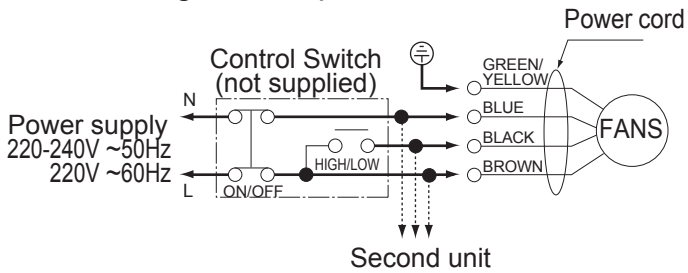
"Low" operation



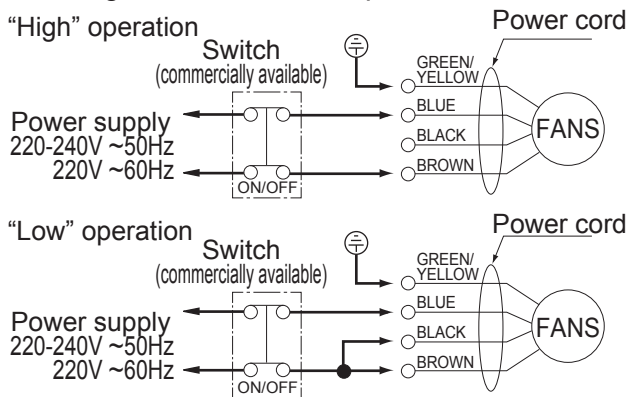
Installation of Main Unit (Continued)

■ AH-3009S-E

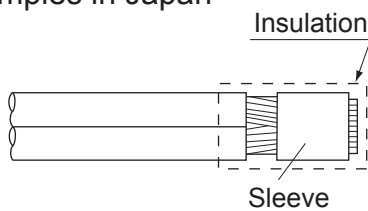
When "High-Low" operation is selected:



When "High" or "Low" fixed operation is selected:



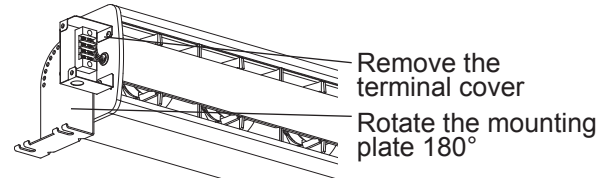
*Connect the power supply cable securely according to local rules and regulations.
Examples in Japan



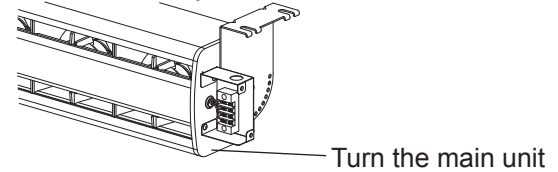
Shifting the Terminal block to the Right Side (AH-1006S-E, AH-1509S-E, AH-2009S-E)

If the terminal block is desired to relocate on the right side of the main unit, perform as follows before mounting the main unit on the ceiling.

1. Remove the terminal cover. Rotate the mounting plate 180° and re-secure it.



2. Turn the main unit upside down and fit the terminal cover in place.



Trial Operation

After completing installation, check that every wire is connected properly, the product operates properly, and the main unit is installed securely and does not produce vibration or abnormal noises. Should any trouble be found, it must be immediately corrected.

Please explain correct manner of operation with the presence of the user (customer).

For Users

When the product has become dirty, clean it once every three months.

- Always switch power off before cleaning the product.
- Never hang from the product or push downward on it forcefully. It could result serious accident.
- Wear rubber gloves to avoid injuring your fingers.

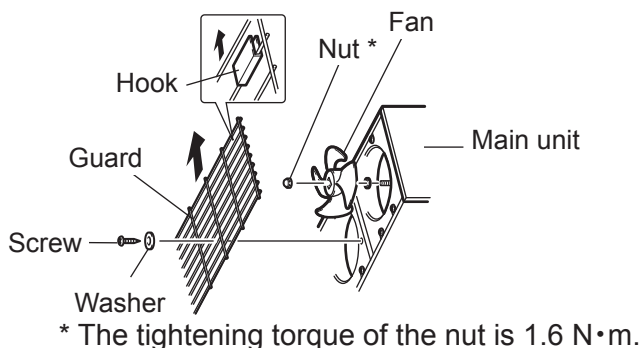
Disassembling the Product

1. Remove the guard stopper screw and the washer. Then slide the guard as shown in the figure and remove it from the hook. (The number of guards differs depending on the model.)
2. Remove the fan nut (M5 counterclockwise threading) and pull off the fan.

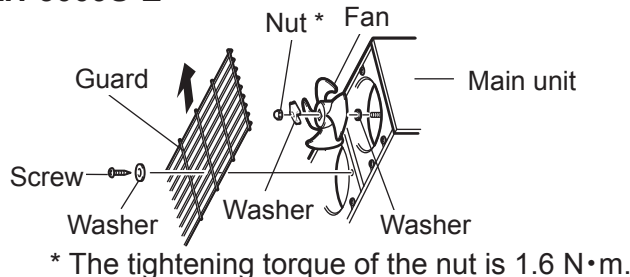
Note:

- Note that the fan fits onto the shaft in a specific orientation.

■ AH-1006S-E, AH-1509S-E, AH-2009S-E



■ AH-3009S-E



⚠ CAUTION

During cleaning or maintenance, do not climb on an unstable stand.

Injury may result if you tumble down.

Cleaning the Product

Use a cloth dipped in neutral detergent to wipe away dirt from the main unit, guards, and fans. Then wipe with a dry cloth to remove any remaining detergent.

Note

- Do not use solvents such as the following to clean the product:
Paint thinner, alcohol, benzine, gasoline, kerosene, aerosol sprays, alkaline solvents or chemicals in chemically treated cleaning clothes. (Surface deterioration or discoloration could result.)

Reassembly and Inspection after Cleaning

After cleaning, reverse the disassembly steps to reassemble the product.

Inspect the following items as you reassemble the product.

1. The fan fits onto the shaft in a specific orientation. Be sure not to install it upside-down.
2. Are there any scratches on the wiring inside the main unit?
3. Have the main unit, screws, washers, fans, nuts, and guards all been mounted securely?
4. Switch power on and check that the product operates properly.

Maintenance and lifetime

Motors are service parts. It is necessary that the regular check and the regular replacement, or replacement when it is broken.

In addition, expenses for parts and replacement work are charged to users (customers).

After-sale service

Please contact the dealer from whom the product was purchased concerning after-sales service.

Specifications

| Model | Notch | Air Velocity (m/s) | | Noise (dB) | | Current (A) | | Starting Current (A) | Weight (Kg) |
|------------|-------|--------------------|--------------|------------------|--------------|------------------|--------------|----------------------|-------------|
| | | 220-240 V ~50 Hz | 220 V ~60 Hz | 220-240 V ~50 Hz | 220 V ~60 Hz | 220-240 V ~50 Hz | 220 V ~60 Hz | | |
| AH-1006S-E | High | 6.5 - 6.9 | 6.5 | 42 - 44 | 43 | 0.14 - 0.15 | 0.17 | 0.23 | 7.5 |
| | Low | 5.3 - 5.7 | 5.0 | 39 - 40 | 39 | 0.13 - 0.13 | 0.15 | | |
| AH-1509S-E | High | 7.3 - 7.8 | 7.3 | 43.5 - 45 | 44 | 0.26 - 0.26 | 0.30 | 0.43 | 10.5 |
| | Low | 5.8 - 6.4 | 5.4 | 39 - 41.5 | 36 | 0.24 - 0.25 | 0.26 | | |
| AH-2009S-E | High | 8.3 - 8.6 | 9.0 | 46.5 - 47.5 | 50 | 0.43 - 0.47 | 0.47 | 0.85 | 11 |
| | Low | 7.0 - 7.4 | 6.5 | 44 - 46 | 43 | 0.36 - 0.37 | 0.39 | | |
| AH-3009S-E | High | 8.2-8.2 | | 58-58 | | 0.87 - 0.94 | | 2.53 | 20.5 |
| | Low | 7.3-7.3 | | 55.5-56 | | 0.74 - 0.75 | | 1.55 | |

* The noise values were measured at 1.5 meters inclined at 45° from the center of the air outlet.

MITSUBISHI ELECTRIC CORPORATION

Manufactured by: MITSUBISHI ELECTRIC CORPORATION

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

Importer in EU: MITSUBISHI ELECTRIC EUROPE B.V.

HARMAN HOUSE, 1 GEORGE STREET, UXBRIDGE, MIDDLESEX, UB8 1QQ, U.K.