

AIR CONDUCTING FAN
MODEL

AH-1006S1-E, AH-1509S1-E, AH-2009S1-E, AH-3012S1-E

OPERATING AND INSTALLATION INSTRUCTIONS

For users

- Carefully read this manual before use for safe and correct operation.
- Keep this manual where any person using the unit can refer at anytime.
- The unit has thermal fuses to prevent overheating. When they blow and some fan motors stop, turn the circuit isolator off and contact the dealer.









For dealers

- Carefully read this manual before work for safe and correct installation.
- Installation must be performed by a qualified contractor/installer and electrical wiring by a qualified electrician.
- This unit is for indoor use. Do not install the unit in a place where it may be exposed to rain.
- After completing installation, be sure to give this manual to the user.
- Installation in an inappropriate place may cause malfunctions. In addition to the following WARNING and CAUTION, avoid the following locations:
 - the salt damage area
 - where the temperature range is outside between -10 and 45°C
 - where freezing is anticipated, such as a refrigerated storage or freezing chamber
 - where there is a high concentration of oil mist or steam
 - 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 troubles may occur when dust or the like accumulated on the unit falls.





Safety Precautions

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

 Prohibited	 No water exposure	 No disassembly	 Do not wet	 Do not touch	 Cannot be installed in a bathroom	 Follow instructions
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 WARNING Incorrect handling could cause serious injury or death.				
	Do not use the unit where the combustion device will be directly exposed to wind. Otherwise, it may cause incomplete combustion leading to carbon monoxide poisoning.		Do not expose with water. Otherwise, it may result in short circuit or electric shock.	
	Do not install the unit where explosive gas or dust could be emitted. It could induce explosion or fire.		Operate the unit at the rated voltage and rated frequency. Otherwise, it may result in fire or electric shock.	
	If the unit is installed where poisonous fume is produced, be sure to ventilate sufficiently. Otherwise, it may result in poisoning due to the poisonous fume.		When the power supply cable passes through metal or wire lath in the wall, securely prevent the cord from contacting to them. Otherwise, it may result in fire or power leakage.	
	 Do not modify or disassemble the unit. Otherwise, it may result in fire, electric shock or injury.			Make sure to ground and install an all-pole electric leakage isolator securely. Make sure to turn off the circuit isolator before maintenance or in case of power failure. Otherwise, it may result in injury or electrical shock.
	 Do not operate with wet hands. Otherwise, it may result in electric shock.			Install the unit at least 2.3 m above the floor. Otherwise, it may result in injury.
 Do not put your fingers or any objects in the air outlet. Otherwise, you may injure yourself.	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.			
 If operation stops while the power is still switched on, do not touch the unit under any circumstances. Sudden start may result in injury or electrical shock.				

CAUTION Incorrect handling could cause injury or damage to property or household effects.

-  **Do not hang from the unit.**
Otherwise it may result in injury or malfunction.
-  **When adjusting the mounting angle, do not remove the self-locking nut at the center.**
It may fall, resulting in injury.
-  **Never use the unit in a bathroom or other location with excessive moisture (more than 90% RH). Never use the unit where it may be exposed to rain.**
Otherwise, it may result in electrical shock or fire.
-  **Select a place with rigid structural strength and install the unit securely. Make sure to install every part securely. Always use the specified anchor bolts, nuts and washers.**
Otherwise, it may result in fall or injury.
- Wiring work must be performed by qualified persons in accordance with national wiring regulations.**
Poor connection or improper wiring work could cause electric shock or fire.
- For installation and maintenance work, wear gloves.**
Otherwise, it may result in injury.
- If the fans get dirty, clean off the dirt of them.**
Parts may fall due to the vibration, which could cause injury.
- Do not use the unit when any abnormal vibration has been detected on the unit.**
There are risks of injury by falling the unit or parts.
- Make sure to turn off the circuit isolator when suspending use for a long time.**
It could cause electrical shocks or fire by fault current resulting from deteriorated insulation.
- 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.**

External Dimensions

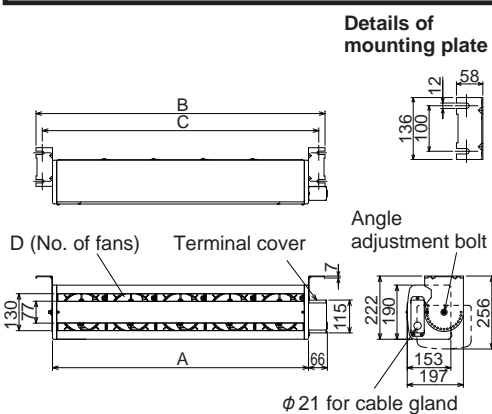


Table of dimension changes Unit (mm)

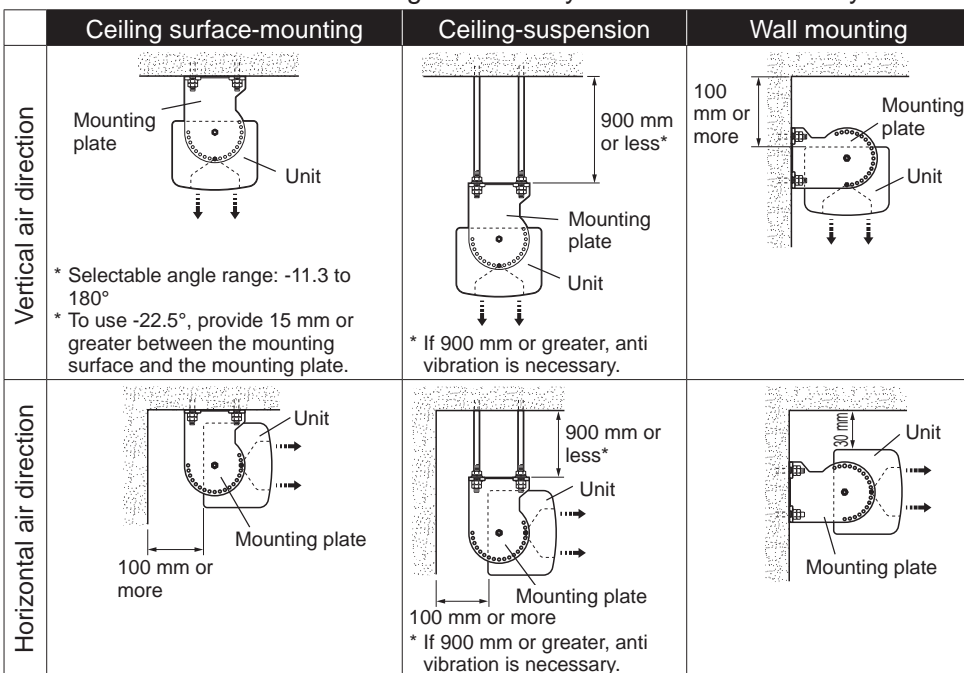
Model	A	B	C	D
AH-1006S1-E	552	668	624	3
AH-1509S1-E	900	1016	972	5
AH-2009S1-E	900	1016	972	5
AH-3012S1-E	1194	1310	1266	6

- * The mounting angle of the unit is selectable from the following 19 angles to the mounting surface:
-22.5°, -11.3°, 0°, 11.3°, 22.5°, 33.8°, 45°, 56.3°, 67.5°, 78.8°, 90°, 101.3°, 112.5°, 123.8°, 135°, 146.3°, 157.5°, 168.8°, 180°
- * When it is mounted directly on the ceiling, -22.5° is not allowed.
- * Mount the unit with the mounting plates facing outside. If there is an obstacle preventing to do so, use the mounting plates facing inside. In such cases, interchange the left and right mounting plates.

Installation

Mounting examples

Make sure to install Air conducting fan securely and on the level in any case.



Note

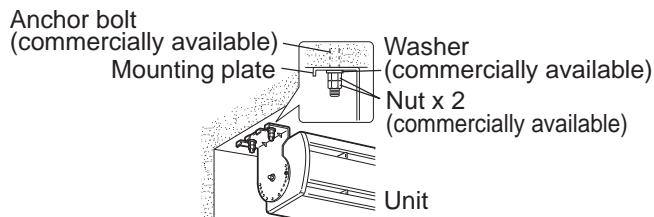
- At least, 100 mm must be provided for the air inlet opening. Otherwise, the unit will not provide sufficient blowing performance.
- When multiple units are installed side by side, at least 100 mm clearance is necessary between the neighboring mounting plates.
- For ceiling-suspension, be sure to reinforce the anchor bolts with vibration-isolation parts.

Mounting the Unit

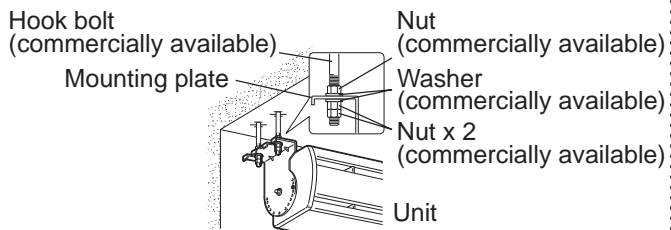
1. According to the "External dimensions", select firm foundation and install commercially available anchor bolts (M8 or M10). (Refer to the figures.)
2. When adjusting the mounting angle, first, remove the angle adjustment bolts to unclamp the unit from the mounting plate, and then, loosen the self-locking nuts.
After adjustment is completed, fasten nuts and bolts securely again.
3. To clamp the mounting plate, 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.



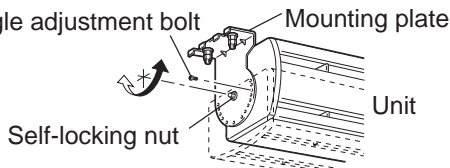
Ceiling-suspension



Adjusting the Mounting Angle

The wind direction is selectable using 19-angle adjustment.

1. When adjusting the angle after installation of the 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.



CAUTION

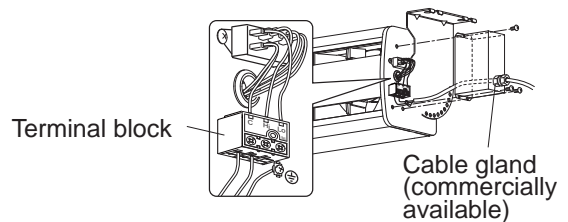
When adjusting the mounting angle, do not remove the self-locking nut at the center. It may fall, resulting in injury.

Trial Operation

After completing installation, check that every wire is connected properly, the unit operates properly, and the unit is installed securely and does not produce vibration or abnormal noises. If any trouble is found, it must be immediately corrected. Explain correct operation to the user (customer).

Electrical Work

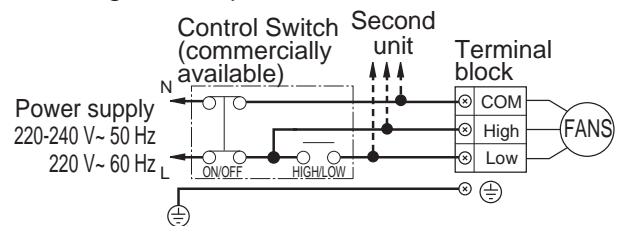
- Electrical work shall be performed by qualified persons accordance with national wiring regulations.
 - The cable size must be at least 0.75 mm² for power cable. When operating multiple units, connect the power using a cable with a capacity corresponding to the total current value of the units installed.
 - When selecting a motor circuit isolator, use a value of 1.2 to 1.5 as the safety factor for the maximum load current listed in the specifications as a rule of thumb.
 - Make sure to ground and install an all-pole electric leakage isolator.
1. Remove the three screws securing the terminal cover and installed bushing.
 2. Set a cable gland on the hole of terminal cover. Opening dia. is 21 mm.
 3. After pass the power supply cable through the cable gland, connect to the terminal block and grounding terminal securely. Peel 10 mm of the cable end for the connection.
 4. Reinstall the terminal cover as it has been before and securely fasten the cable gland.



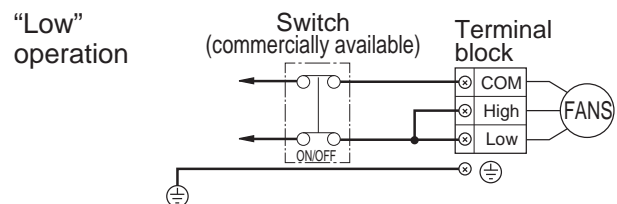
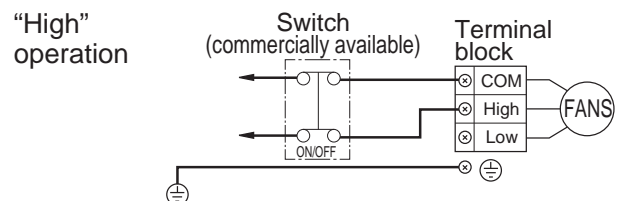
Wire Connection

Thick and dotted lines are field work.

When "High-Low" operation is selected:



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



For Users

The unit should be cleaned when it gets dirty-roughly once every three months as a general rule. Also, make sure to clean and perform a test run before starting full operation for the summer and winter seasons.

⚠ CAUTION

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

Injury may result if you tumble down.

Always switch power off before cleaning the unit.

Never hang from the unit or push downward on it forcefully. It could result serious accident.

Wear gloves to avoid injuring your fingers.

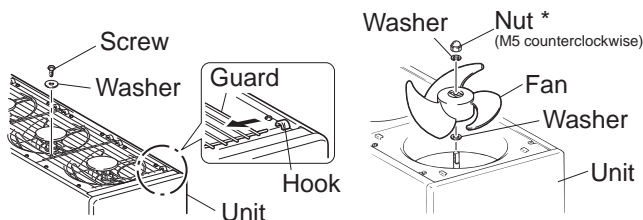
If the unit is mounted in a high place (about 5 m), contact the dealer.

Disassembling the Unit

1. Remove the guard stopper screw and the washer. Then slide the guard as shown in the figure and remove it from the hook.
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.



* The tightening torque of the nut is 1.1 N · m.

Cleaning the Unit

Use a cloth dipped in neutral detergent to wipe dirt away 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 unit:

Paint thinner, alcohol, benzene, 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 unit.

Inspect the following items as you reassemble the unit.

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

Maintenance and lifetime

Fan motors are service parts. It is necessary that the regular check and the regular replacement or the replacement when it is broken. In addition, expenses for parts and replacement work is charged to customers.

After-Sales Service

Consult with your dealer about the after-sales services provided for this unit.

Specifications

Model	Power Source	Fan Speed	Air Velocity (m/s)	Airflow Rate (m ³ /h)	Noise (dB)	Rating Current (A)	Starting Current (A)	Weight (kg)
AH-1006S1-E	220-240 V~ 50 Hz	High	7.5-8.0	740-790	42-43	0.15-0.16	0.23	7
		Low	6.0-6.6	600-650	37-39	0.13-0.14		
	220 V~ 60 Hz	High	7.1	700	41	0.18		
		Low	5.2	520	33	0.15		
AH-1509S1-E	220-240 V~ 50 Hz	High	7.6-8.1	1260-1340	44.5-46	0.25-0.26	0.36	10.5
		Low	5.5-6.6	910-1100	38-41	0.22-0.24		
	220 V~ 60 Hz	High	7.4	1220	44	0.31		
		Low	4.9	820	35	0.24		
AH-2009S1-E	220-240 V~ 50 Hz	High	8.7-8.9	1450-1470	47-47.5	0.41-0.49	0.88	11
		Low	7.2-7.5	1200-1250	43.5-45.5	0.34-0.35		
	220 V~ 60 Hz	High	9.9	1640	50	0.47		
		Low	6.4	1060	40	0.36		
AH-3012S1-E	220-240 V~ 50 Hz	High	7.8-7.9	1740-1760	47.5-48.5	0.45-0.53	0.91	14
		Low	6.6-7.2	1460-1600	46-47	0.38-0.40		
	220 V~ 60 Hz	High	8.8	1950	51	0.60		
		Low	5.5	1220	52	0.43		

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

MITSUBISHI ELECTRIC CORPORATION

Manufactured by: MITSUBISHI ELECTRIC CORPORATION

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