

SAMSUNG

FCU Technical Data Book

Fan Coil Unit for Europe
(Water, 50Hz)



Model : AG***AN4DKH/EU

History

Version	Modification	Date	Remark
Ver.1.0	Release 2021 FCU Fan Coil Unit for EU TDB (Water, 50Hz)	21.09.30	
Ver.1.1	Updated the panel information in specification page	21.11.16	

Nomenclature

Indoor Unit

Model Name

AG

026

A

N

4

D

K

H

/

EU

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

Buyer

(1) Classification

AG	Chiller / FAN COIL UNIT
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(2) Capacity

X 1/10 kW (3 digits)

(3) Version

A	2021
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(4) Product Type

N	Indoor Unit
X	Outdoor Unit

(5) Product Notation

1	1 Way Cassette
N	4 Way Cassette (600x600)
4	4 Way Cassette, 360 Cassette
L	LSP Duct
M	MSP Duct
C	Ceiling
J	Console
Q	RAC (with EEV)
T	RAC (without EEV)
A	A3050 (Wall Mounted)

(6) Feature

F	Flagship
S	Standard
D	Deluxe
P	Premium

(7) Rating Voltage

E	1Φ, 220~240V, 50Hz
K	1Φ, 220~240V, 50/60Hz
C	1Φ, 208~230V, 60Hz

(8) Mode

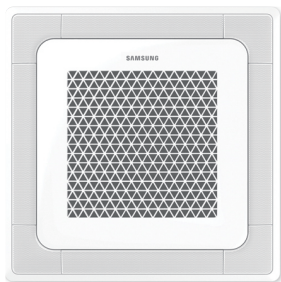
H	Heat Pump
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Features & Benefits

Wind-Free 4Way Cassette

Stage a beautiful yet comfortable environment

With its newly improved design, Wind-Free 4Way Cassette supports a clean, aesthetically appealing atmosphere and adds a sense of sophistication to work and living spaces. Not only is this unit attractively designed, but it also uses advanced technologies to optimize comfort in any environment.



The Samsung Wind-Free 4Way Cassette indoor air conditioning system delivers polish, comfort and efficiency with features such as:

- **Stylishly clean design.** Add panache to interior spaces with a choice of clean, streamlined panel patterns in a lightweight build.
- **Robust operation.** Control the atmosphere perfectly with an advanced design for superior air flow and cooling/heating performance.
- **Low maintenance and simple installation.** Ease installation and minimize maintenance with a detachable, no-drip design.

Wind-Free 4Way Cassette – Stylishly clean design

Aesthetic panel and display

Wind-Free 4Way Cassette offers two different pattern designs for the panel. The simple display design with rounded corners adds a chic sophistication to the interior.

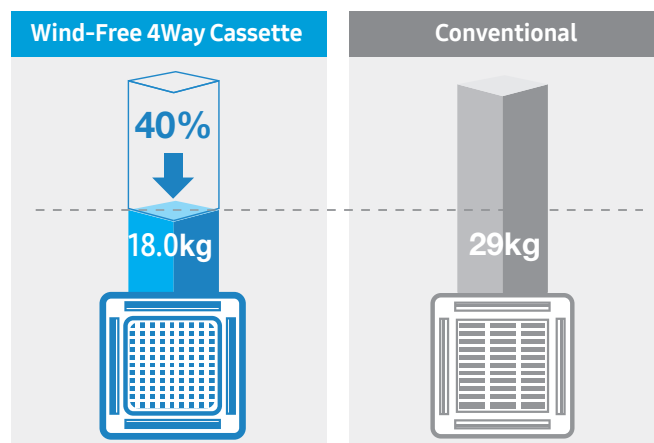


Neat and clean design

The indoor Wind-Free 4Way Cassette boasts a smart design that promotes a neat and clean look. The completely hermetic blade structure keeps the indoor unit clean by preventing dust or other foreign substances from entering it. The internal parts of the indoor unit are also out of sight when the blade is shut, thus improving the unit's appearance.

Lightweight build

The Samsung Wind-Free 4Way Cassette indoor unit is now lighter in weight at 18.0kg, is one of the lightest indoor units in the industry, about 40 percent lighter than conventional products.



*Based on 10.0kW

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1. Line-up

Fan Coil Unit

(kW)					
Model Type	Image	6	7.2	9	10.0
Wind-Free 4Way Cassette		●	●	●	●

2. Specification

Wind-Free 4Way Cassette

Model				AG060AN4DKH/EU	AG072AN4DKH/EU	AG090AN4DKH/EU	AG105AN4DKH/EU
Power Supply			Φ, V, Hz	1, 220~240, 50/60	1, 220~240, 50/60	1, 220~240, 50/60	1, 220~240, 50/60
Mode			-	HP	HP	HP	HP
Performance	Capacity (Nominal)	Cooling	kW	6.00	7.20	9.00	10.00
		Heating		7.30	8.50	10.00	10.70
Power	Power Input (Nominal)	Cooling	W	50.0	73.0	82.0	99.0
		Heating		50.0	73.0	82.0	99.0
	Current Input (Nominal)	Cooling	A	0.37	0.50	0.58	0.79
		Heating		0.37	0.50	0.58	0.79
Heat exchanger	Type		-	Fin & Tube	Fin & Tube	Fin & Tube	Fin & Tube
	Material	Fin	-	Al	Al	Al	Al
		Tube	-	Cu	Cu	Cu	Cu
	Fin Treatment		-	Green Hydrophile	Green Hydrophile	Green Hydrophile	Green Hydrophile
Fan	Type		-	Turbo Fan	Turbo Fan	Turbo Fan	Turbo Fan
	Quantity		EA	1	1	1	1
	Air Flow Rate	H/M/L	CMM	18.9/16.5/13.6	21.3/18.2/13.6	23.3/21.3/19.4	30.1/26.2/19.4
			l/s	-	-	-	-
Fan Motor	Type		-	BLDC	BLDC	BLDC	BLDC
	Output x n		W	65 x 1	65 x 1	97 x 1	97 x 1
Water	Water Flow Rate	Cooling	LPM	17.5	20.8	26.0	28.9
	Water Flow Rate	Heating	LPM	21.1	24.5	28.9	30.9
	Loss of Head	Cooling	kPa	27	36	46.8	56.3
	Loss of Head	Heating	kPa	37.3	48.6	56.3	63.4
Piping Connections	Liquid Pipe (IN)		Type	PF MALE	PF MALE	PF MALE	PF MALE
			ø, mm (inch)	20A (3/4")	20A (3/4")	20A (3/4")	20A (3/4")
	Liquid Pipe (OUT)		Type	PF MALE	PF MALE	PF MALE	PF MALE
			ø, mm (inch)	20A (3/4")	20A (3/4")	20A (3/4")	20A (3/4")
	Heat insulation		-	Both inlet/outlet pipes	Both inlet/outlet pipes	Both inlet/outlet pipes	Both inlet/outlet pipes
	Drain Pipe		Φ,mm	VP25 (OD 32, ID 25)	VP25 (OD 32, ID 25)	VP25 (OD 32, ID 25)	VP25 (OD 32, ID 25)
Wiring connections	Communication	Min.	mm²	0.75	0.75	0.75	0.75
		Remark	-	F1, F2	F1, F2	F1, F2	F1, F2
Sound	Sound Pressure	High / Mid / Low	dB(A)	37/33/30	41/36/30	42/39/36	45/41/37
	Sound Power	Cooling		56	60	58	60
Dimensions	Net Weight		kg	15.5	15.5	18.0	18.0
	Shipping Weight		kg	19.0	19.0	21.5	21.5
	Net Dimensions (W×H×D)		mm	840 × 204 × 840	840 × 204 × 840	840 × 246 × 840	840 × 246 × 840
	Shipping Dimensions (W×H×D)		mm	898 × 275 x 898	898 × 275 x 898	898 × 316 x 898	898 × 316 x 898
Casing	Material		-	Plastic	Plastic	Plastic	Plastic

2. Specification

Wind-Free 4Way Cassette

Model				AG060AN4DKH/EU	AG072AN4DKH/EU	AG090AN4DKH/EU	AG105AN4DKH/EU
Panel	Panel model	-		PC4NUFMAN	PC4NUFMAN	PC4NUFMAN	PC4NUFMAN
	Panel Net Weight	kg		6.3	6.3	6.3	6.3
	Shipping Weight	kg		8.7	8.7	8.7	8.7
	Net Dimensions (W×H×D)	mm		950 × 64 × 950	950 × 64 × 950	950 × 64 × 950	950 × 64 × 950
	Shipping Dimensions (W×H×D)	mm		1,010 × 117 × 1,000	1,010 × 117 × 1,000	1,010 × 117 × 1,000	1,010 × 117 × 1,000
Additional Accessories	Drain pump	Type	-	Built In	Built In	Built In	Built In
		Max. lifting Height / Displacement	mm / (cc/min)	750 / 400	750 / 400	750 / 400	750 / 400
	Filter		-	Microfibrous filter	Microfibrous filter	Microfibrous filter	Microfibrous filter



NOTE

- Cooling : Indoor temperature 27°C DB, 19°C WB / Water In/Out temperature 7°C, 12°C
Heating : Indoor temperature 20°C DB, 15°C WB / Water In/Out temperature 45°C, 40°C
- Sound level was acquired in an anechoic room. Thus actual noise level may be different depending on the installation conditions.
- Specifications may be subject to change without prior notice.
- Select wire size based on the value of MCA

3. Summary Table

Fan Coil Unit

Model		Fan Speed	Capacity (kW)			Airflow (CMM)	Sound Pressure (dBA)	Sound Power (dBA)
			Cooling	Sensible	Heating			
Wind Free 4Way Cassette	AG060AN4DKH/EU	High	6	4.45	7.3	18.9	37	56
		Mid	5.3	3.9	6.8	16.5	33	-
		Low	4.5	3.3	6.2	13.6	30	-
	AG072AN4DKH/EU	High	7.2	5.41	8.5	21.3	41	60
		Mid	6.3	4.7	7.9	18.2	36	-
		Low	4.7	3.5	6.8	13.6	30	-
	AG090AN4DKH/EU	High	9	6.71	10	23.3	42	58
		Mid	8.3	6.2	9.6	21.3	39	-
		Low	7.7	5.7	9.1	19.4	36	-
	AG105AN4DKH/EU	High	10	7.56	10.7	30.1	45	60
		Mid	8.9	6.7	10	26.2	41	-
		Low	6.6	5	8.6	19.4	37	-

 NOTE

- Sound data is based on cooling operation.

3. Summary Table

Fan Coil Unit

Electrical Characteristics

Model		Power Supply (Φ, #, V, Hz)	Power Input (W)	Current Input (A)	MCA (A)	MFA (A)	FLA (A)
Wind Free 4Way Cassette	AG060AN4DKH	1,2,220~240, 50/60	50	0.37	0.5	15	0.46
	AG072AN4DKH		73	0.5	0.8	15	0.66
	AG090AN4DKH		82	0.58	0.8	15	0.60
	AG105AN4DKH		99	0.79	1.0	15	0.75

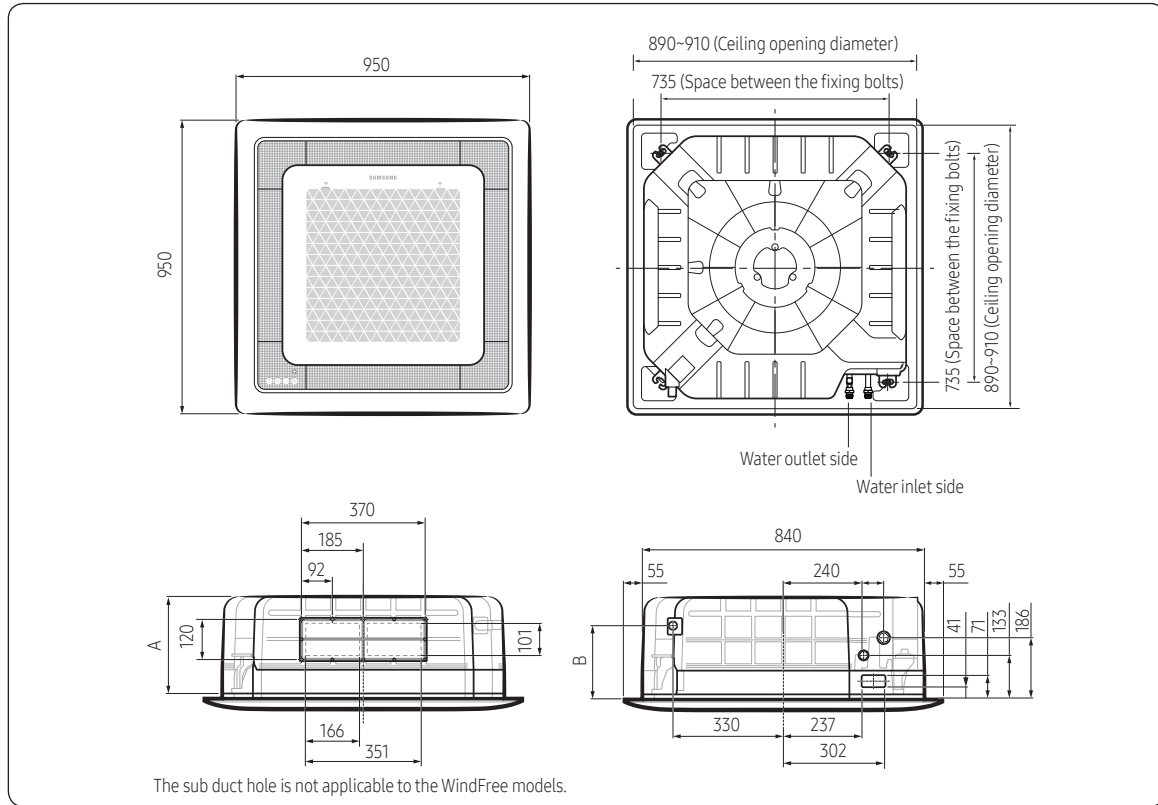
 NOTE

- MCA : Minimum circuit amperes
- MFA : Maximum fuse amperes
- FLA : Full load amperes
- Select wire size based on the value of MCA

4. Dimensional Drawing

Wind-Free 4Way Cassette

(Unit: mm)

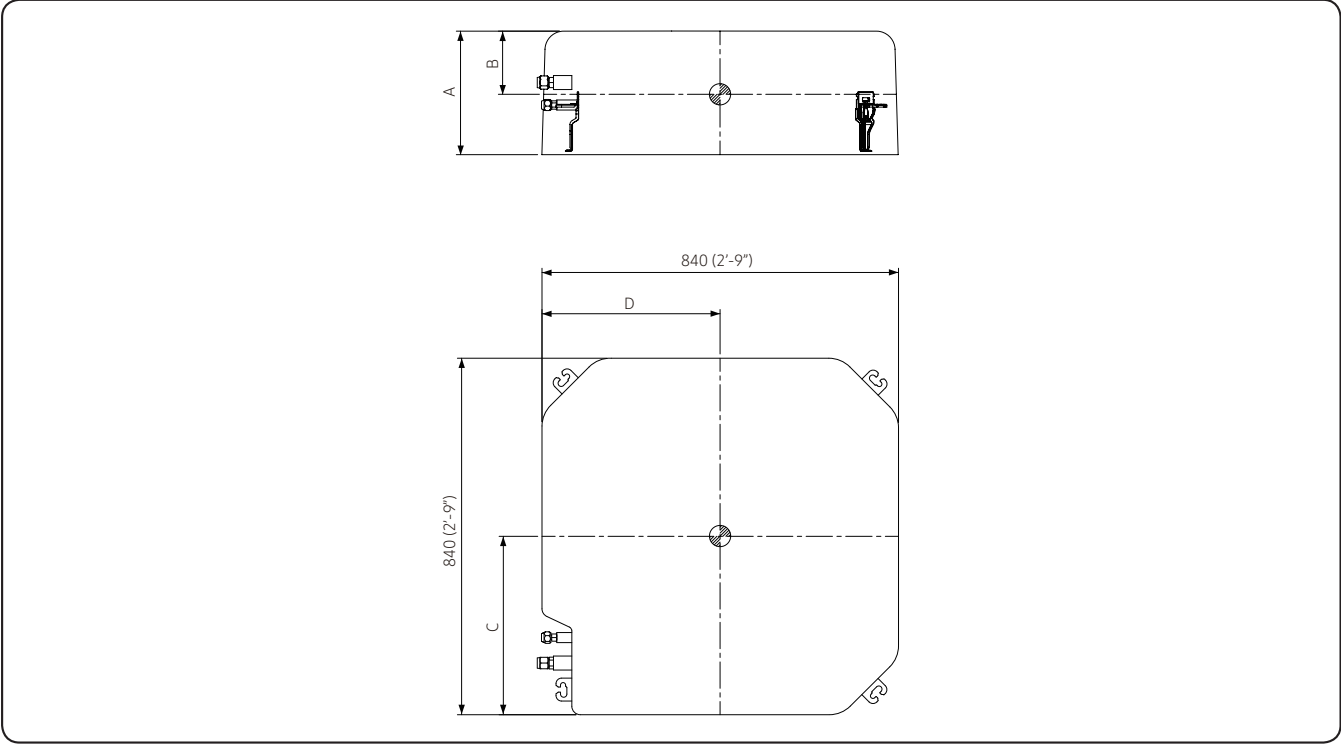


Category		Type A	Type B
Model		AG060×N4DKH×	AG090×N4DKH×
		AG072×N4DKH×	AG105×N4DKH×
A	(mm)	204	246
B	(mm)	196	222
Connection port		PF 3/4" Male	
Flexible hose connection port		VP25 (outer diameter: Ø32, inner diameter: Ø25)	

5. Center of Gravity

Wind-Free 4Way Cassette

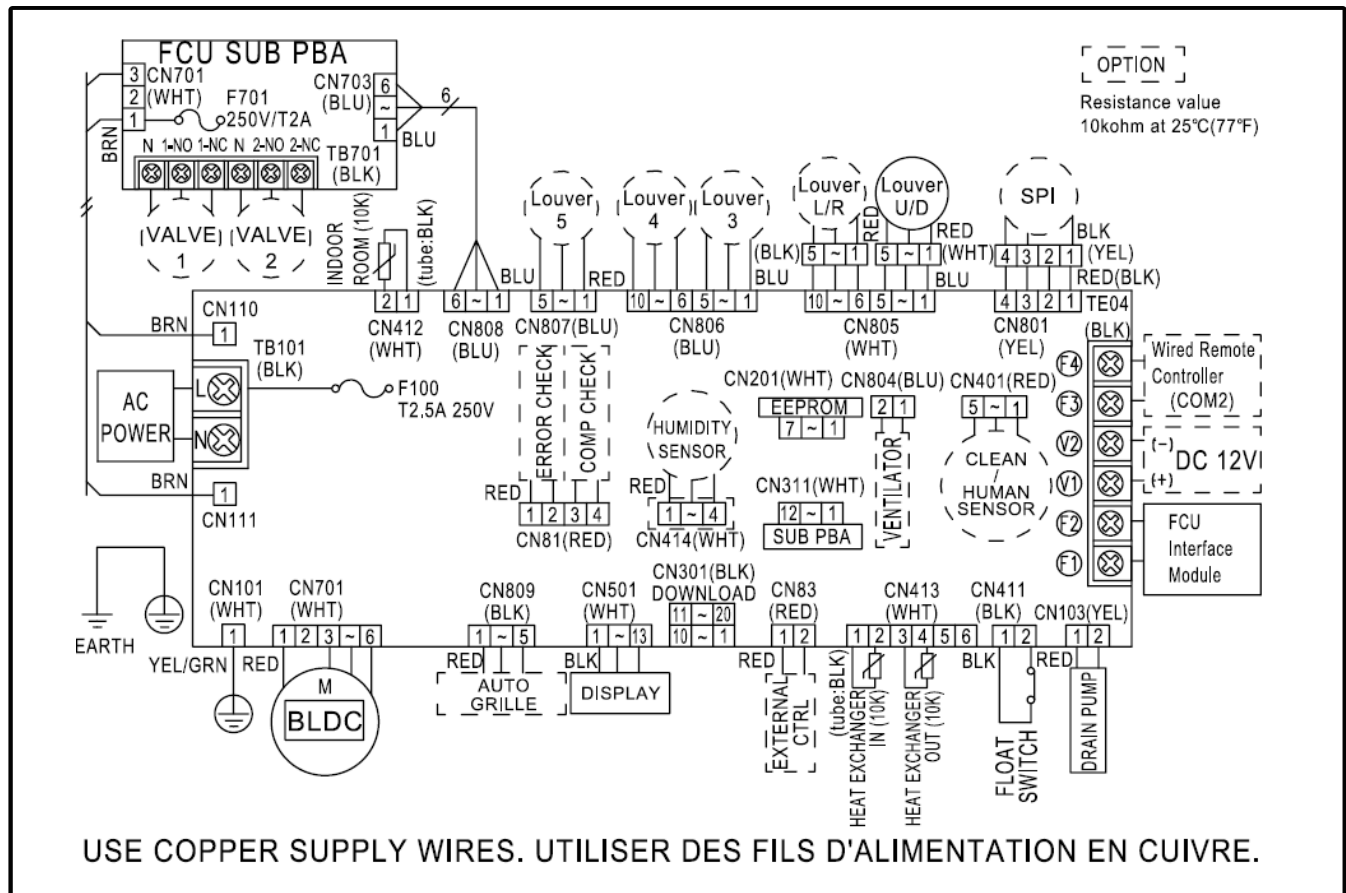
Units : mm [inches]



Model	A	B	C	D
AG060AN4DKH AG072AN4DKH	204 [8]	70 [2-3/4]	410 [16-1/8]	360 [14-3/16]
AG090AN4DKH AG105AN4DKH	246 [9-5/8]	91 [3-1/2]	410 [16-1/8]	360 [14-3/16]

6. Electrical Wiring Diagram

Wind-Free 4Way Cassette



F100, F701	Fuse	INDOOR ROOM(10K)	Thermistor - Indoor Room
EEV	Electronic Expansion Valve	HEAT EXCHANGER IN (10K)	Thermistor - IDU heat exchanger In
SPI	S-Plasma ion	HEAT EXCHANGER OUT (10K)	Thermistor - IDU heat exchanger Out
M-BLDC	Motor for Indoor Fan	EEPROM	EEPROM SUB PBA
DISPLAY	Panel LED display	SUB PBA	SUB PBA for wired remote control communication
ERROR CHECK	Contact output port for error check	VENTILATOR	Contact output port for Ventilator control
COMP CHECK	Contact output port for compressor operation check	EXTERNAL CTRL	Input port for external contact control
FCU SUB PBA	Water pipe valve control circuit board	VALVE 1,2	Water pipe valve 1, 2

NOTE

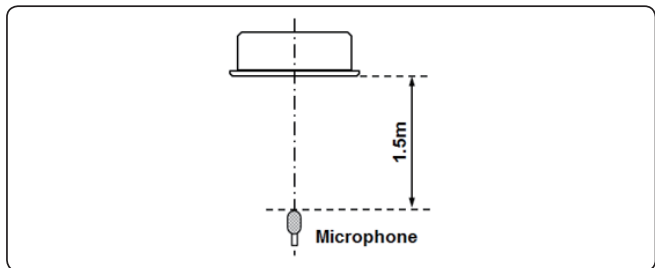
- This wiring diagram applies only to the Fan Coil Unit.
- Colors blk: black, red: red, blu: blue, wht: white, yel: yellow, brn: brown, sky: skyblue
- For connection wiring indoor-outdoor transmission F1-F2, outdoor-outdoor transmission F3-F4, refer to the installation manual.
- ⏏ Protective earth(SCREW), □□□ : connector, $\overline{\text{N}}$: The wire quantity

7. Sound Data

Wind-Free 4Way Cassette

Sound Pressure level

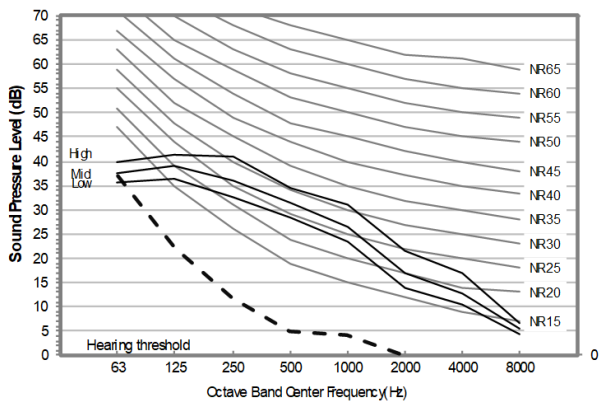
Unit: dB(A)



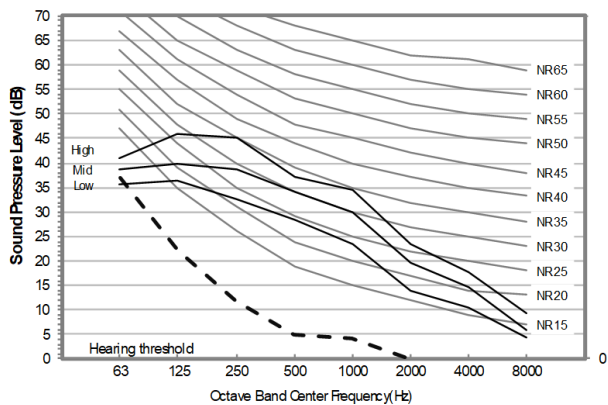
Model	HIGH	MID	LOW
AG060AN4DKH/EU	37	33	30
AG072AN4DKH/EU	41	36	30
AG090AN4DKH/EU	42	39	36
AG105AN4DKH/EU	45	41	37

• NR Curve

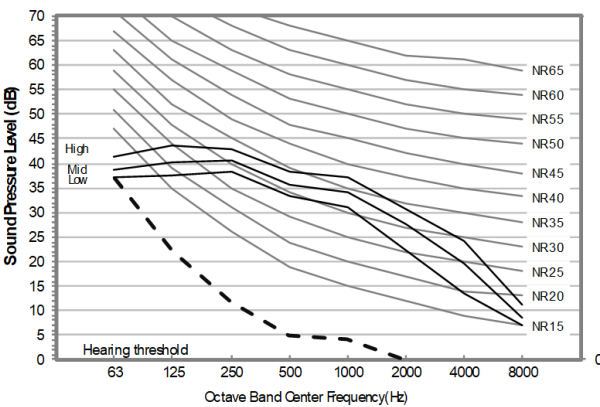
1) AG060AN4DKH/EU



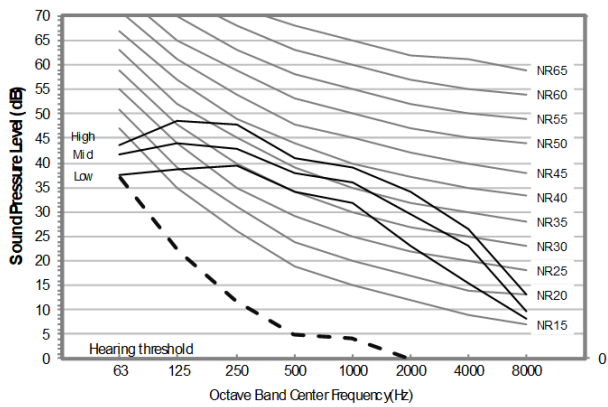
2) AG072AN4DKH/EU



3) AG090AN4DKH/EU



4) AG105AN4DKH/EU



NOTE

- Specifications may be subject to change without prior notice.
- Sound Pressure Level
 - Sound pressure level is obtained in an anechoic room.
 - Sound pressure level is a relative value, depending on the distance and acoustic environment.
 - Sound pressure level may differ depending on operation condition.
 - dBA = A-weighted sound pressure level
 - Reference acoustic pressure 0dB = 20μPa

7. Sound Data

Wind-Free 4Way Cassette

Sound Power level



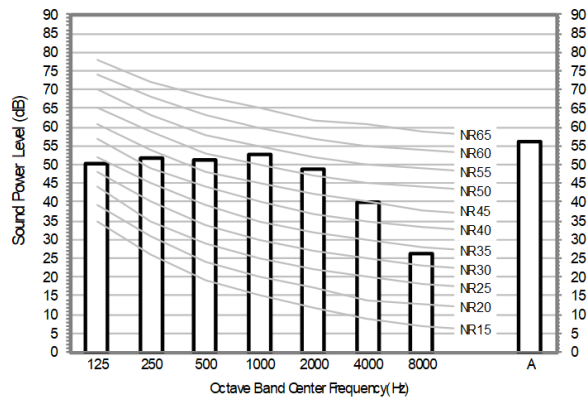
NOTE

- Specifications may be subject to change without prior notice.
 - Sound power level is an absolute value that a sound source generates
 - dBA = A weighted sound power level
 - Reference power : 1pW
 - Measured according to ISO

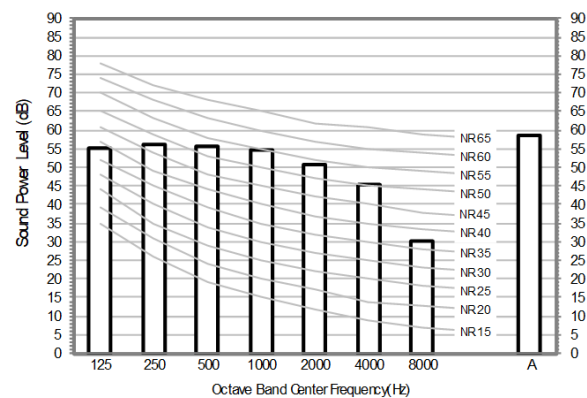
Unit: dB(A)

Model	Cooling
AG060AN4DKH/EU	56
AG072AN4DKH/EU	60
AG090AN4DKH/EU	58
AG105AN4DKH/EU	60

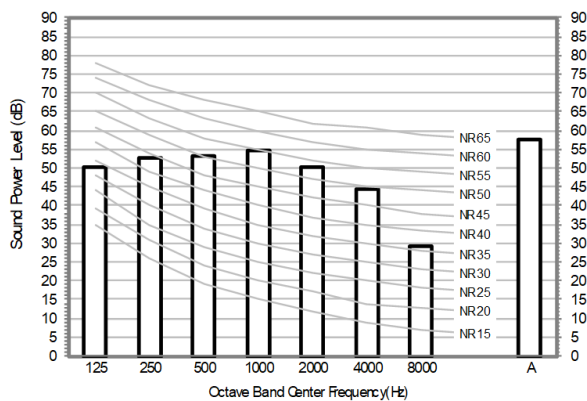
1) AG060AN4DKH/EU



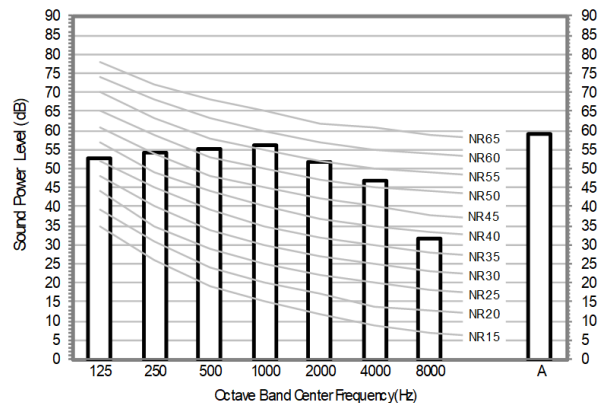
2) AG072AN4DKH/EU



3) AG090AN4DKH/EU



4) AG105AN4DKH/EU



8. Temperature and Airflow Distribution

Wind-Free 4Way Cassette

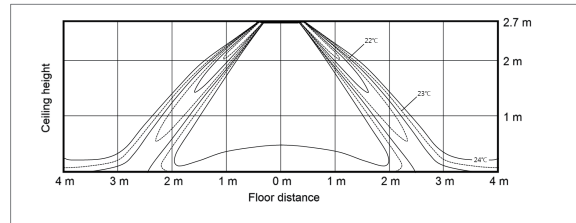
• AG060AN4DKH/EU

Discharge angle : 45

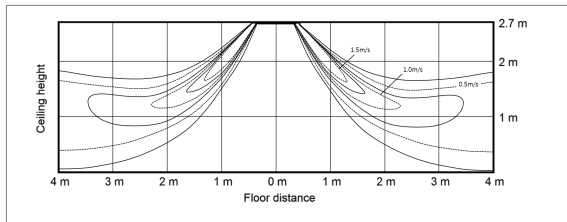
Cooling Air Velocity distribution



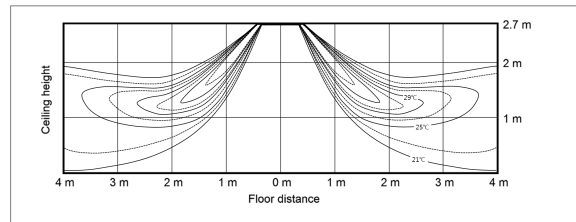
Cooling temperature distribution



Heating Air Velocity distribution



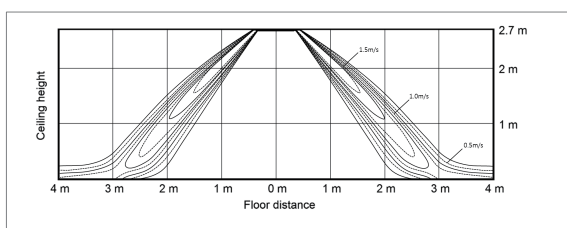
Heating temperature distribution



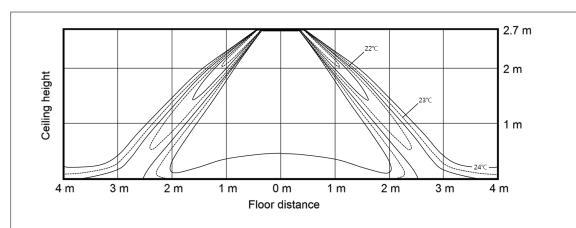
• AG072AN4DKH/EU

Discharge angle : 45

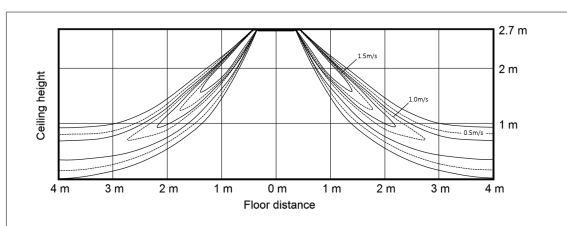
Cooling Air Velocity distribution



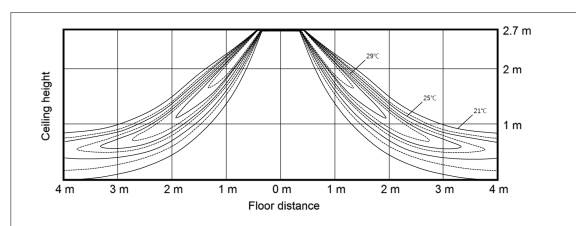
Cooling temperature distribution



Heating Air Velocity distribution



Heating temperature distribution



Discharge angle : 52

8. Temperature and Airflow Distribution

Wind-Free 4Way Cassette

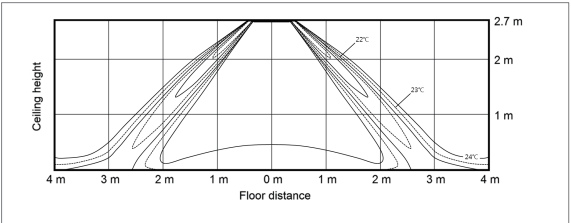
• AG090AN4DKH/EU

Discharge angle : 45

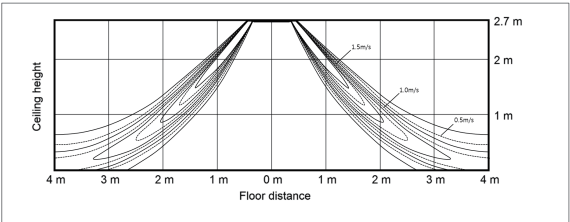
Cooling Air Velocity distribution



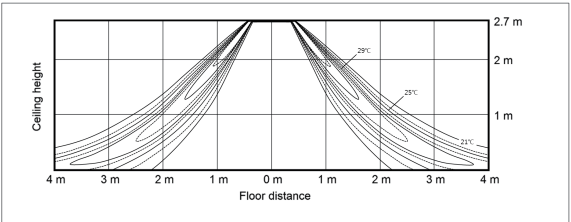
Cooling temperature distribution



Heating Air Velocity distribution



Heating temperature distribution

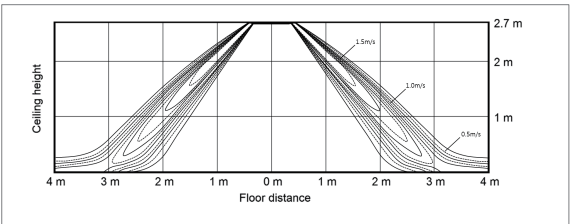


Discharge angle : 52

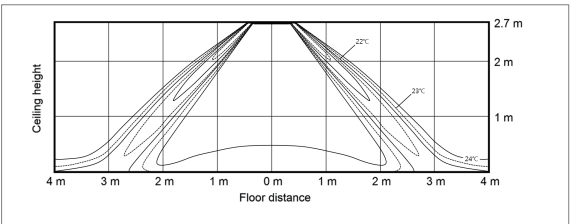
• AG105AN4DKH/EU

Discharge angle : 45

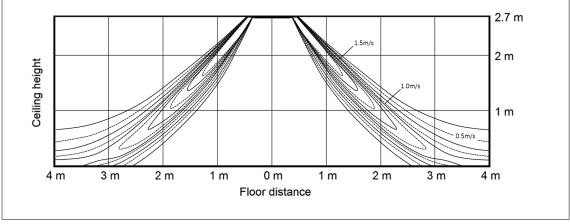
Cooling Air Velocity distribution



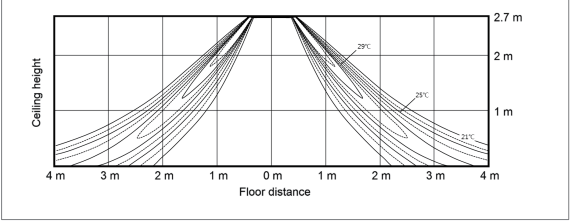
Cooling temperature distribution



Heating Air Velocity distribution

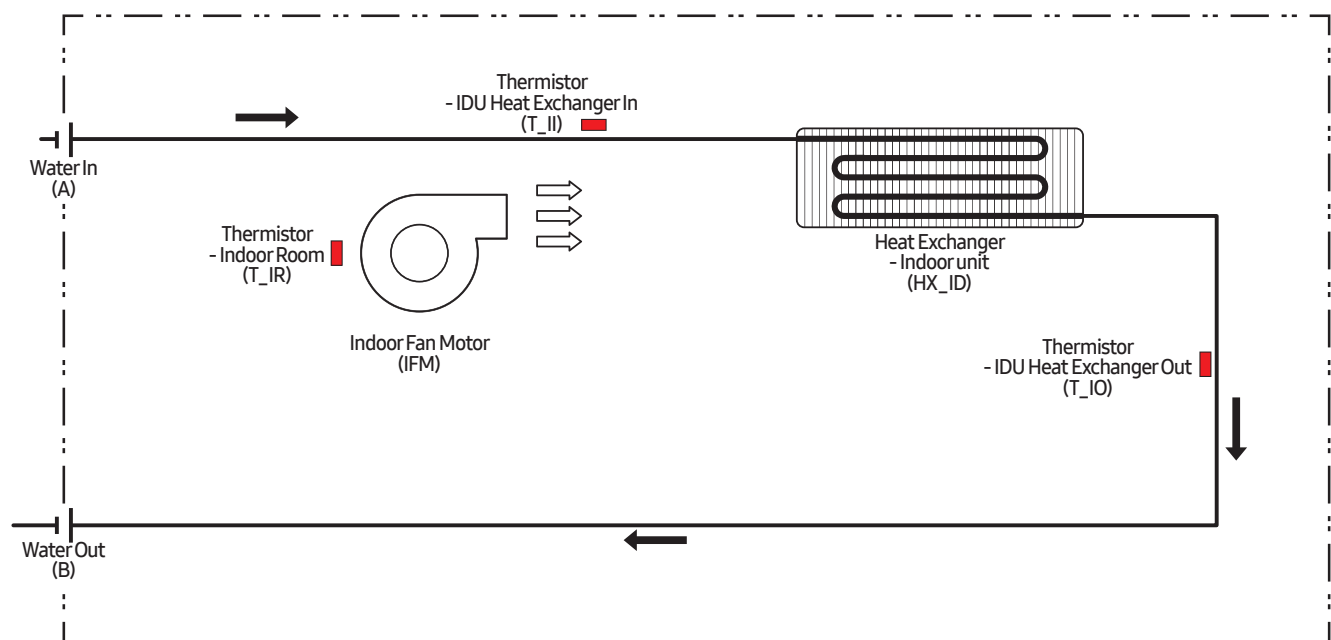


Heating temperature distribution



Discharge angle : 52

9. Piping Diagram



Water Flow
Cooling/Heating
→

Medel		Water pipe	
		A	B
Wind Free 4Way Cassette	AG060AN4DKH/EU	20A(3/4")	20A(3/4")
	AG072AN4DKH/EU	20A(3/4")	20A(3/4")
	AG090AN4DKH/EU	20A(3/4")	20A(3/4")
	AG105AN4DKH/EU	20A(3/4")	20A(3/4")

10. Installation

Choosing the installation location

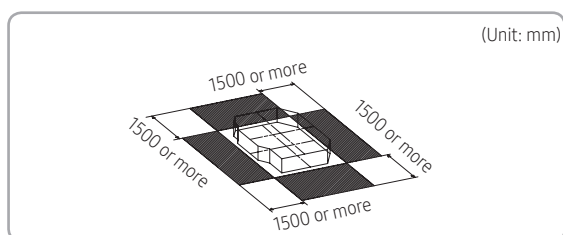
Installation location requirements

- Air must be distributed optimally.
- The passage of air must not be disturbed.
- Condensation water must be drained easily.
- The support structure must be strong enough to support the weight of the fan coil unit. (If the structure is not strong, the fan coil unit may fall off, leading to personal injury.)
- The ceiling must not be significantly sloped.
- There must be a sufficient space for maintenance and service.
- The power and communication cables of the fan coil unit must be at least 1 m away from electronic appliances such as televisions. (Occasionally, more distance may be required.)

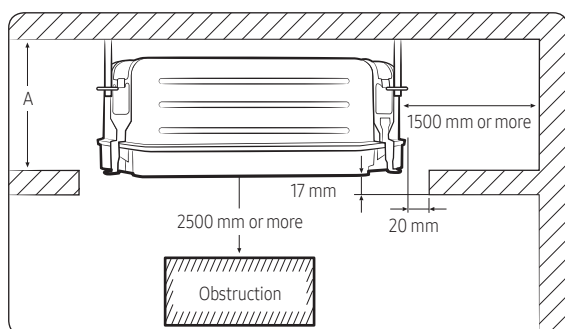
Reinforcing the ceiling

Make sure that the ceiling is sufficient to support the weight of the fan coil unit. If dangerous, reinforce the ceiling with foundation bolts before installing the fan coil unit.

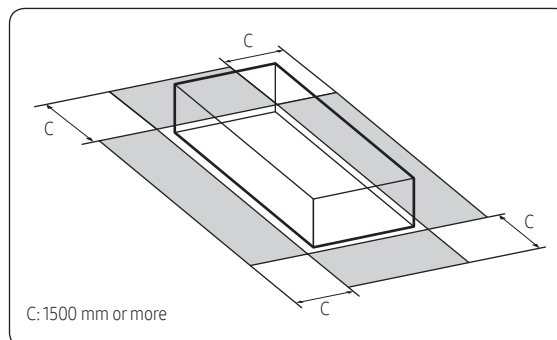
Spacing requirements



Spacing requirements



Model	AG060AN4DKH AG072AN4DKH	AG090AN4DKH AG105AN4DKH
A	251	293

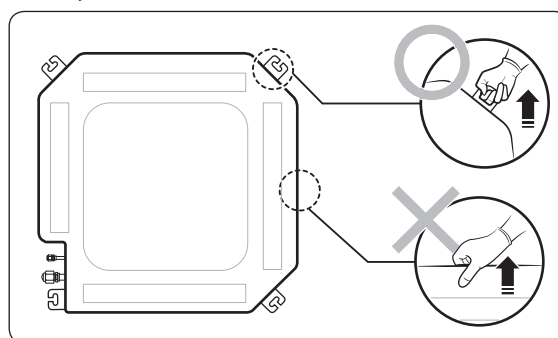


NOTE

- The shape of the fan coil unit may differ depending on the model.
- The recommended ceiling height is 2.7m.

CAUTION

- The indoor unit must be installed according to the specified distances in order to permit accessibility from each side, to guarantee correct operation, maintenance, and repair of the unit. The components of the indoor unit must be reachable and removable under safe conditions for people and the unit.
- Do not hold the discharge while carrying the indoor unit to avoid the possibility of breakage.
- You must hold the hanger plate on the corner and carry the indoor unit.

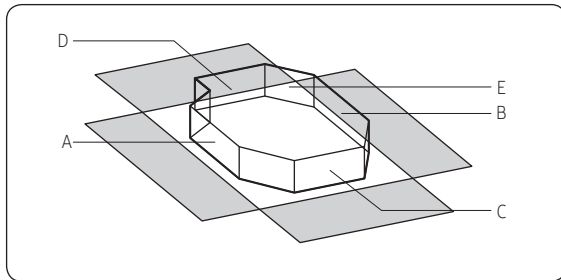


Optional: Insulating the body of the indoor unit

If you install a cassette type indoor unit on the ceiling when temperature is over 27°C and humidity is over 80%, you must apply an extra 10 mm thick polyethylene insulation or a similar type of insulation to the body of the indoor unit.

Cut away the part where pipes are pulled out for the insulating work.

10. Installation



Insulate the end of the pipe and some curved area by using separate insulator.

NOTE

- A: Reference for the outer circumference of the unit (When insulating the body of the indoor unit, use A as the reference for its outer circumference.)

(Unit: mm)

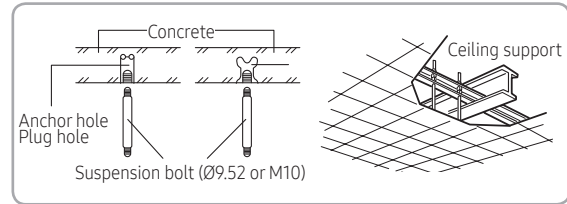
Indoor unit		A	B	C	D	E
4 way Cassette <S> (840x204x840)	AG060AN4DKH AG072AN4DKH	910X151	940X151	610X151	650X151	870X870
4 way Cassette <M> (840x246x840)	AG090AN4DKH AG105AN4DKH	910X193	940X193	610X193	650X193	870X870

Installing the fan coil unit

Preparations for installation

The piping that will be connected to the fan coil unit must be completed before installation.

- Check the product to install and its installation location.
- Check the following installation requirements:
 - When the product is installed on the ceiling, check the strength of the ceiling first.
 - When the product is installed on the ceiling, use the pattern sheet.
 - After making the mounting hole on the ceiling, keep the ceiling surface level.
 - You may need to reinforce the ceiling to prevent the product from causing the upper floor to vibrate.
- Drill holes on the ceiling or the ceiling support, and then insert the foundation bolts, as shown in the following figure:
 - Use bolts of Ø9.52 or M10 size and of 1.5 m or less length.
 - Install at least four foundation bolts so that the fan coil unit can be fixed firmly.
 - When the existing ceilings require reinforcement, use anchor holes.
 - For new ceilings, use sunken inserts, sunken anchors, or other commercially available parts.



CAUTION

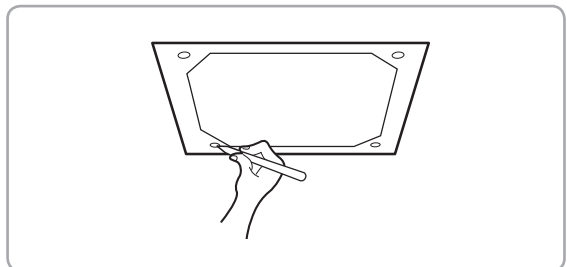
- Purchase all the needed parts from the market.
- Because the pattern sheet is made of paper, it may shrink or stretch slightly due to temperature or humidity. Therefore, before drilling holes on the ceiling, be sure to check the correct dimensions.
- Be sure to secure a sufficient space that allows for access for maintenance or repairs.

Installing on a new ceiling

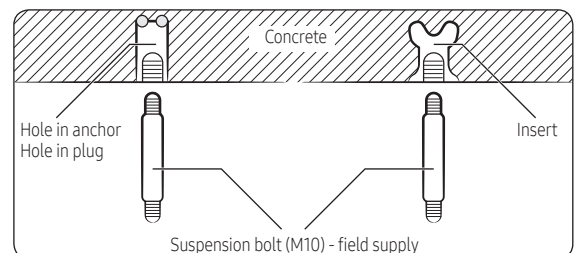
- Place the pattern sheet on the ceiling at the spot where you want to install the fan coil unit.

NOTE

- Since the diagram is made of paper, it may shrink or stretch slightly due to temperature or humidity. For this reason, before drilling the holes, be sure to maintain the correct dimensions between the markings.

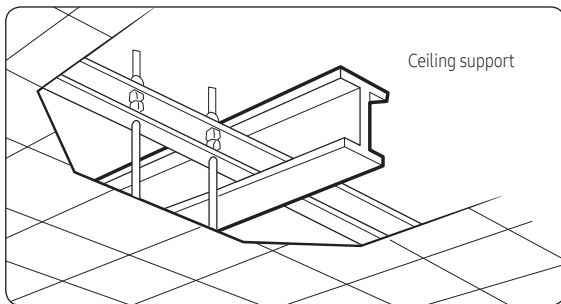


- Drill holes on the ceiling or the ceiling support, and then insert the foundation bolts, as shown in the following figure:

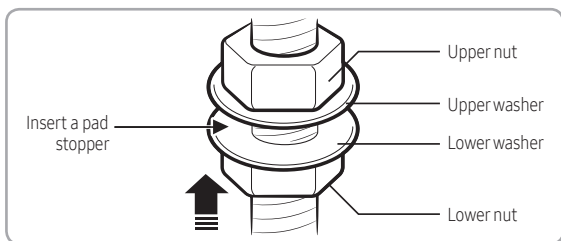


10. Installation

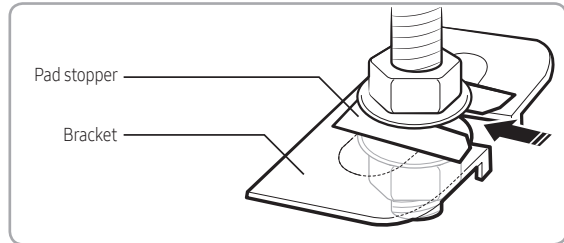
- 3** Install suspension bolts, depending on the ceiling conditions.
- Before hanging the fan coil unit, make sure that the ceiling is strong enough to support the weight of the unit. Test the strength of each suspension bolt installed.
 - Install the suspension bolts in various ways suitable for the type and material of the ceiling. Anti-vibration treatment is required when the ceiling fixing bolt is 1.5 m or more.



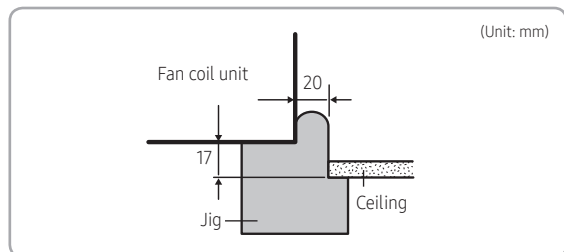
- 4** Secure a total of 8 nuts and washers to each suspension bolt. However, leave a little space between the nuts into which the hanger bracket of the fan coil unit will be inserted.
- At this time, if you cut the stopper pad and insert it under the upper washer, the washer will not flow down, making the installation easier.
 - For installation of the fan coil unit, be sure to install at least four suspension bolts.



- 5** Insert a hanger bracket between the nuts fixed to each suspension bolt to hang the fan coil unit.
- When installing the product, be sure to install the piping inside the ceiling. When an existing ceiling is used, install the piping inside the ceiling before installing the fan coil unit.



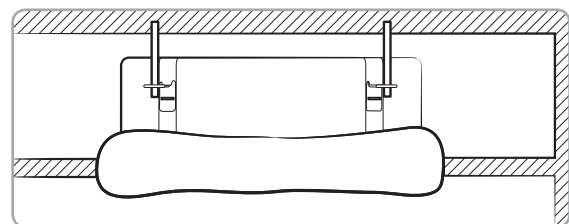
- 6** Tighten the nuts to firmly fasten the fan coil unit.
- 7** Adjust the position of the fan coil unit while considering the space for installing the front panel.
- Remove the jig made in the pattern sheet, and then use the jig to adjust the space between the ceiling and the fan coil unit, as shown in the figure below.
 - If not installed in alignment with the jig, noise may occur.
 - Adjust the position of the fan coil unit in alignment with the jig.
 - Adjust the level of the fan coil unit by using a leveler, and then fix the unit securely.
 - First, fix the front panel with the panel fixing bolts, and then install the front panel so that it comes in close contact with the fan coil unit body.



- 8** After installing the fan coil unit, be sure to cover it with the fan coil unit protection vinyl to prevent any paint or dust from entering the unit until the panel is fixed.

⚠ CAUTION

- If dust or paint enters the unit, it may degrade the product performance or cause product malfunction.



10. Installation

Connecting the water pipes

Connect the pipes.

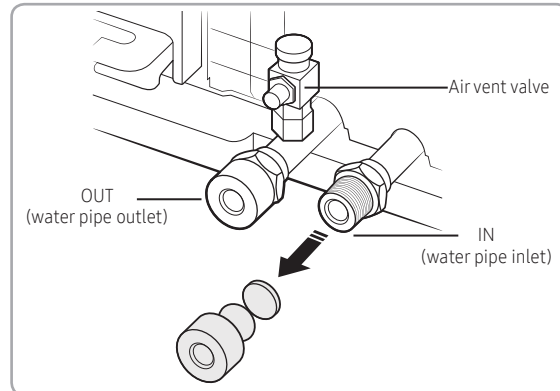
- Be sure to use a metal pipe for the piping outlet.
- Be careful not to erroneously change the piping inlet and outlet connections.
(Outlet: air vent valve)
- Be sure to attach a valve to each of the piping inlet and outlet.
- Be sure to insulate all of the water pipes and the drain pipe.
- The maximum operating water pressure of the fan coil is 1.0 MPa. Design your air conditioning system so that the operating water pressure becomes 1.0 MPa or less.
- Design the piping so that air clogging does not occur.
- Use Teflon tape on the T-type screws to prevent water leakage.

⚠ CAUTION

- Failure to connect the water pipes may cause performance degradation.
 - Be sure to insulate both the inlet and outlet pipings.
- 3 Before connecting the water pipes, be sure to install a 2-way electric valve.
- Be sure to install the 2-way electric valve on the inlet side pipe.
 - When circulating cold/hot water, open the air vent valve and use a tube to receive water so that the air inside the pipe and coil is sufficiently removed, and then close the valve. Failure to do so may cause performance degradation and noise.
 - Before connecting the water pipes., check if the water pipe Flexible tube (loose nut PF 3/4") specification is correct. After connecting the water pipes, remove foreign objects from them, and then circulate water to check for water leakage.

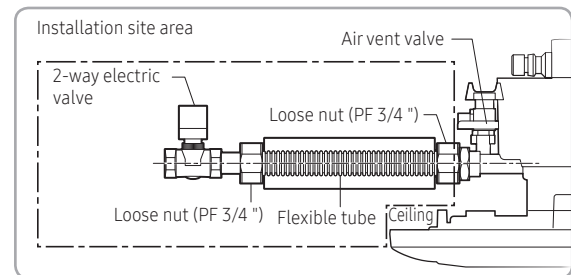
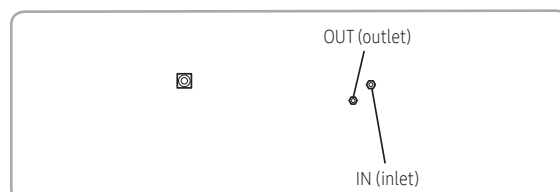
Installing the water pipes

- 1 Remove the caps from the water pipe inlet and outlet.



- 2 Be sure to check the positions of the water pipe inlet and outlet of the fan coil unit by finding their labels (IN and OUT) attached.

- The water pipe inlet label is printed with IN and the water pipe outlet label with OUT.
- Note that the air vent valve is attached to the side where you can find the water pipe outlet.



⚠ CAUTION

- Be sure to install a 2-way electric valve on the water pipe inlet of the fan coil unit.
Failure to do so may cause condensation and product malfunction.
- Attach a 40 mesh strainer to the inlet piping (Installation site area)
- If there is no strainer installed, foreign objects may enter the pipe, causing malfunction and performance degradation to the 2-way electric valve, condensation, or water leakage, etc.
- When the temperature of intake water is higher than 65 °C, the protection control of the product may be activated.

10. Installation

- If the outside temperature is lower than 0 °C during winter, the inside of the heat exchanger may freeze and burst. To prevent this, operate a water pump and operate the product to open the 2-way electric valve.
- When the product is not used for a long period of time in winter, drain all the water from the heat exchanger and the entire water piping system.
- If both the room temperature and the piping temperature are 5°C or less, the 2-way electric valve automatically opens to prevent freezing and bursting.
- Use frost preventive additives to prevent the circulating water from freezing in winter.
- Check if the rated flow rate is being supplied. Low flow rates may cause performance degradation or product malfunction.

- 4 Wind Teflon tape (10 to 15 times) around the threads of the water pipe inlet/outlet Flexible tube of the fan coil unit in the thread direction.

CAUTION

- When connecting the pipes, tighten sufficiently with a monkey wrench and a torque wrench as shown in the figure above. Failure to do so may cause water leakage.
- When operating the product for the first time or restarting it after a long period of stoppage, open the air vent valve of the heat exchanger and use a tube to receive water so that the air inside the pipe and coil is sufficiently removed, and then close the valve.

- 5 Manage water quality in accordance with the following water quality standards for refrigeration equipment:

CAUTION

- If water quality is not managed in accordance with the water quality standards, corrosion and scales may develop, which may shorten the life of the product and cause performance degradation and lead to a serious product malfunction.

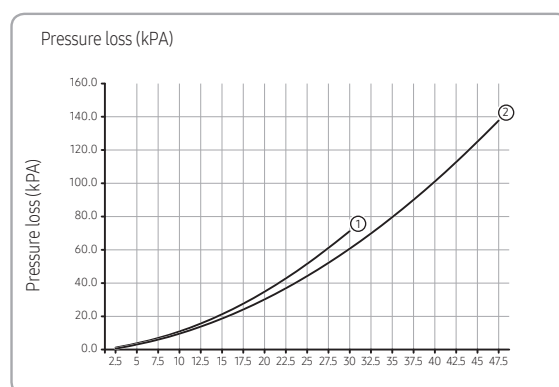
	Item	Cold water	Corrosion	Scales
Reference value	PH(25°C)	6.5-8.0	0	-
	Conductivity (25 °C, $\mu\text{S}/\text{cm}$)	200 or less	0	-
	Alkalinity (PPM)	50 or less	-	0
	Hardness (PPM)	50 or less	-	0
	Chlorine ion (PPM)	50 or less	0	-
	Sulfate ion (PPM)	50 or less	0	-
	Iron (PPM)	0.3 or less	0	-
	Sulfur ion (PPM)	Not detected	0	-
	Ammonium ion (PPM)	0.2 or less	0	-
	Silica (PPM)	30 or less	-	0

- 6 Check the rated flow rate of cold / hot water and the pressure loss inside the heat exchanger.

CAUTION

- If the rated flow rate is not supplied, it may cause performance degradation and product malfunction.

Mode	Rated flow (LPM)	Pressure drop (kPa)
AG060×N4DKH×	17.5	27.0
AG072×N4DKH×	20.8	36.0
AG090×N4DKH×	26.0	46.8
AG105×N4DKH×	28.9	56.3

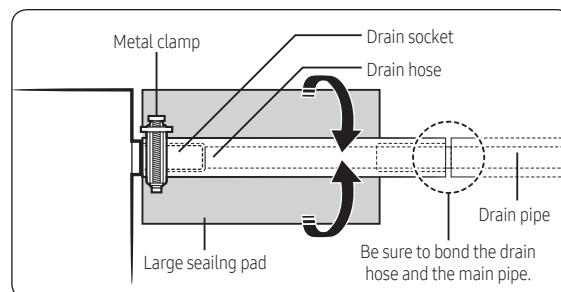


1	AG060/072×N4DKH×
2	AG090/105×N4DKH×

Installing the drain pipe

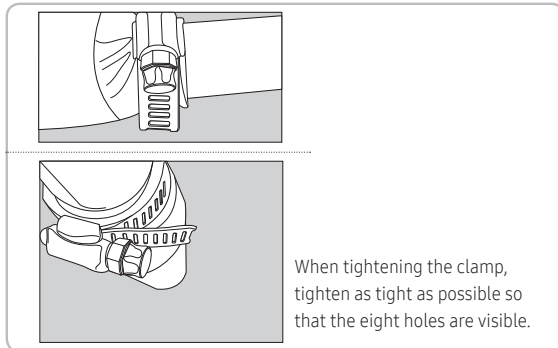
- Drain hoses and PVC pipes are sold separately.
- Before installing the drain pipe, be sure to check if drainage is good.

- 1 Slide the drain hose all the way into the drain socket



- 2 Tighten the metal clamp as shown in the figure.

10. Installation



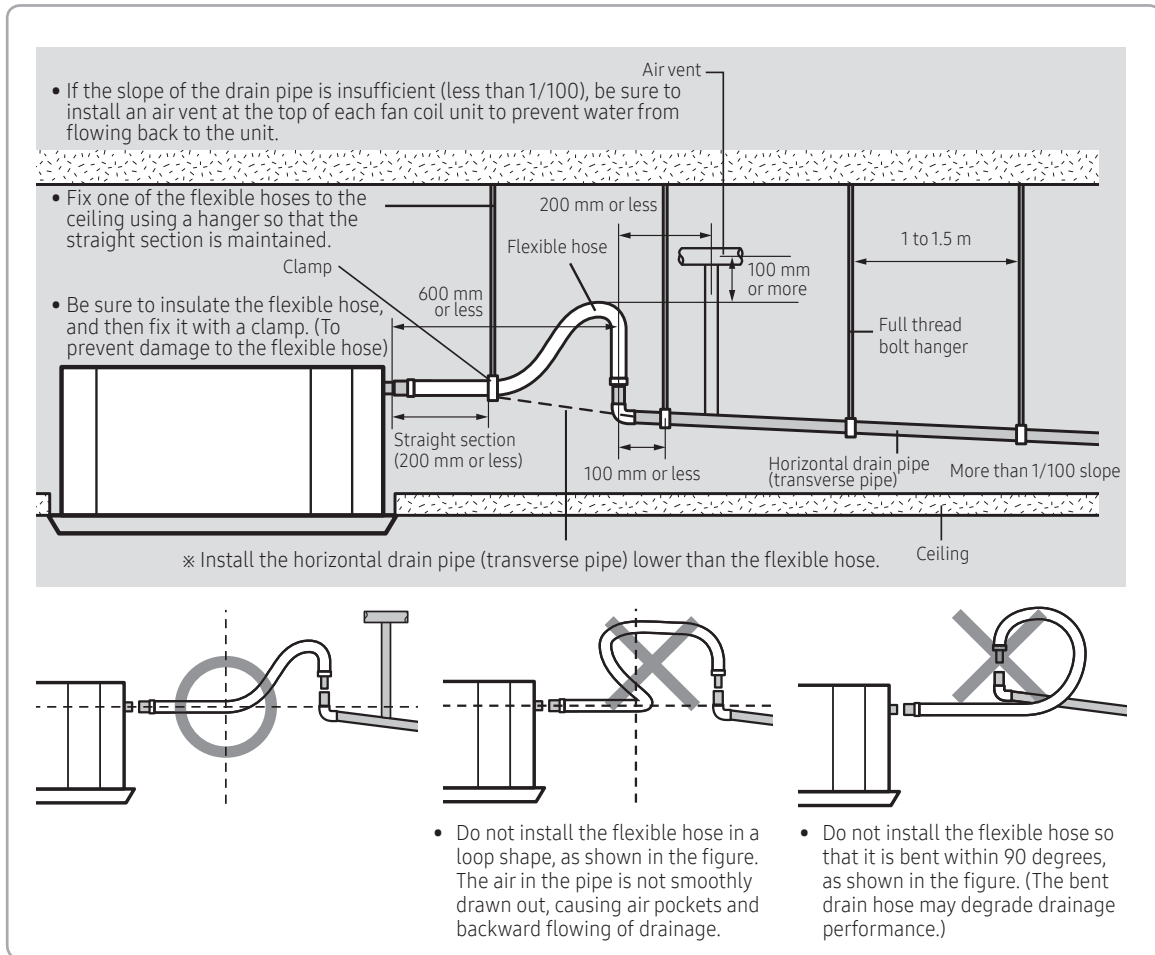
- 3 Wrap the metal clamp and the drain hose with a sealing pad for insulation, and then fix them with a clamp.
- 4 Fully insulate the drain pipe inside the building (on site).
If the drain pipe is sloped insufficiently, install the drain pipe vertically from the hose connection port (on site).
- 5 When connecting the drain hose to the drain socket, connect the drain hose by pushing it up.

Individual drainage

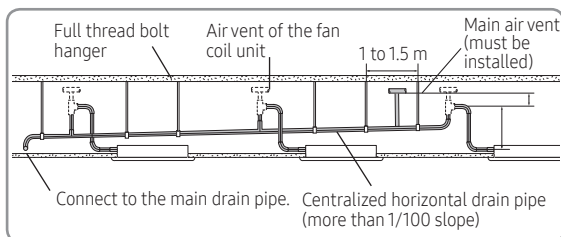
Use a leveler to check that the fan coil unit is parallel to the ceiling.

- 1 If the slope of the drain pipe is less than 1/100, be sure to install an air vent at the inlet of each drain hole to smooth the flow of condensation water.
- 2 If the drain pipe is installed higher than the connection port, install the drain pipe vertically within a distance of 300 mm from the flexible hose connection port. (Slim 1 way cassette)
 - However, because the water may leak, the height of the drain pipe should not exceed 550 mm.
- 3 Install the drain pipe at a slope of 1/100 or more.
- 4 Make sure that the distance between the supports is 1 to 1.5 m.
- 5 In order to prevent odor from the outlet of the drain pipe, install a trap at the end of the drain pipe or install an indirect drain.
- 6 Do not apply force to the hose when connecting the drain pipe.
 - Make sure that the hose connection is not loosened and as close as possible to the wall or other support, as shown in the figure.

10. Installation



Concentrated drainage

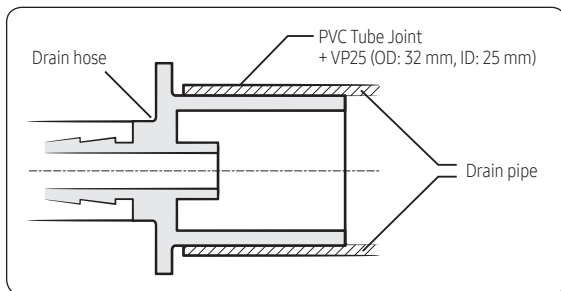
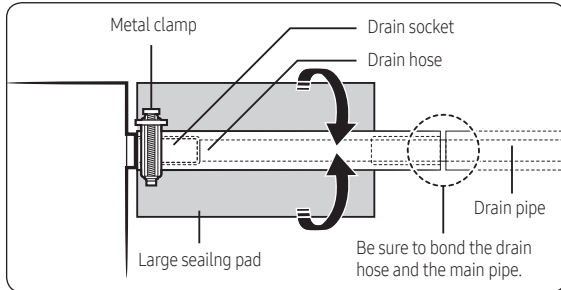


- 1 If 3 or more fan coil units are installed, install the main air vent at the front of the farthest fan coil unit from the main drain pipe.
- 2 If the slope of the centralized horizontal drain pipe is less than 1/100, be sure to install an air vent at the top of each fan coil unit to prevent water from flowing back to the unit.

Connecting the drain hose

- 1 Connect the flexible hose to the drain port of the fan coil unit.
 - Make sure that a rubber ring is assembled at the connection port.
 - Securely fasten the flexible hose until you hear "click."
 - The position of the connection port may differ depending on the fan coil unit model.
- 2 Fix the drain pipe to the opposite end of the flexible hose.
 - Fix the connection port of the flexible hose and the drain pipe (PVC) with adhesive for PVC.
 - After the adhesive for PVC is completely hardened, check whether water leaks from the connection part.
 - Water pipe specifications : VP25 (OD: ø32, ID: ø25)

10. Installation



- 3 Shorten the connection length of the drain pipe as much as possible .
 - Install the drain pipe so that it is sloped downward (3 mm or more) for proper drainage of condensation water.
 - Use a cable tie to secure the connection part so that the flexible hose and the drain pipe are not separated.

CAUTION

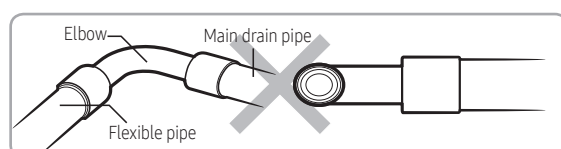
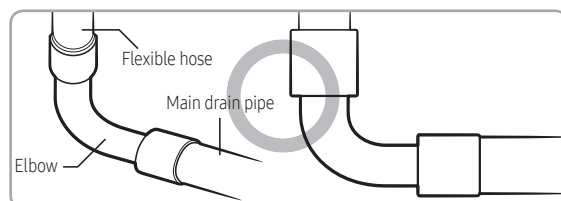
- After installing the fan coil unit, be sure to insulate the pipe, piping connections, and drain pipe.

- 4 Wrap the metal clamp and the drain hose with insulation, and then fix them with a clamp.

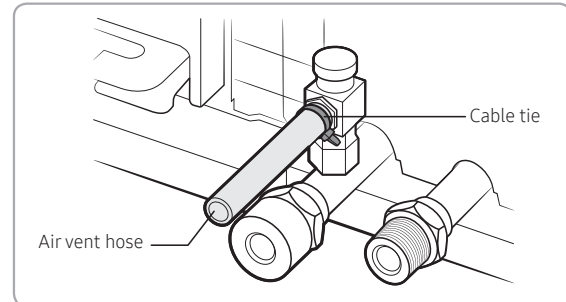
- 5 Fully insulate the drain pipe inside the building (on site).
If the drain pipe is sloped insufficiently, install the drain pipe vertically from the hose connection port (on site).

CAUTION

- When connecting the flexible hose to the main drain pipe, make sure that the elbow is installed vertically. (Horizontal installation is prohibited.)



- 6 Remove the accessory vinyl attached to the drain pan. Connect the air vent hose, and then secure it with a cable tie so that it does not come out.



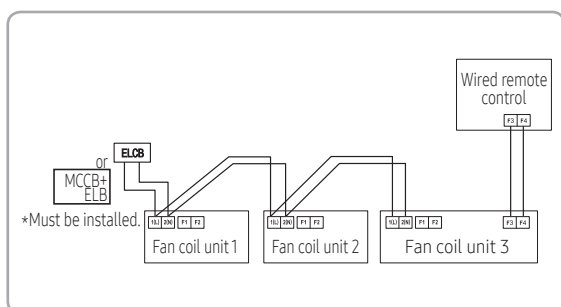
Connecting the power and communication cables

- 1 Power and communication cable connection

- Before wiring work, you must turn off all power source.
- Connect the power and communication cables between the fan coil units in the electrical panel within maximum length so that the voltage drop is under 10%.
- Install an auxiliary circuit breaker (ELCB, MCCB, ELB) with sufficient capacity by considering the number of fan coil units to be connected to it.
- Connect F3 and F4 of the fan coil unit terminal block to the communication cable of the wired remote control.
- Tighten the electric wires with a proper tool within the torque limit to connect and fix them firmly, and then organize the wires to prevent outside pressure being exerted on the covers and other parts.
Failure to do so may result in overheating, electric shock, and fire.
- To protect the product from water and possible shock, you should keep the power and the communication cables in an iron pipe.
- Connect the power cable to the auxiliary circuit breaker (ELCB, MCCB, ELB).
- Keep a distance of 50 mm or more^{mm} between the power cable and the communication cable.

Torque limit (N·m)	
M3.5	0.8~1.2
M4	1.2~1.8

10. Installation



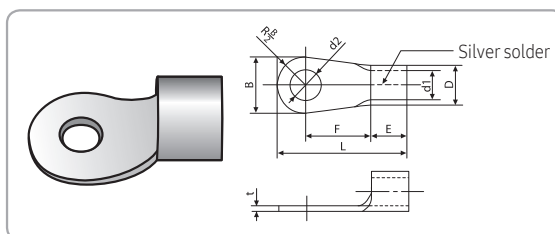
CAUTION

- The circuit diagram given above shows only wiring schematic, and the details of the actual installation are not presented.
- The standard specification is that the power supply for the fan coil unit should be separate from that for a heat source such as a chiller.
- Never branch the terminal block power supply cable from one fan coil unit to two fan coil units.
- When peeling the power cable, use a special tool for it to prevent damage to the inner sheaths.

- Make sure that more than 20 mm of the outer sheaths of the fan coil unit's power and communication cables are inserted inside the electrical part.
- Separate each communication cable from the power cable and other communication cables.
- When wiring, make sure that the connecting wire is loosened properly.

2 Selecting the crimping terminal lug

- Select the crimping terminal lug based on the nominal cross-sectional size of the power cable.
- Cover the connection part of the power cable and the crimping terminal lug to insulate it.



Nominal cross-sectional size	Nominal diameter of thread	B		D		d1		E	F	L	d2		t
		Basic size	Tolerance	Basic size	Tolerance	Basic size	Tolerance	Min.	Min.	Max.	Basic size	Tolerance	Min.
1.5	4	6.6	±0.2	3.4	+0.3 -0.2	1.7	±0.2	4.1	6	16	4.3	+0.2 0	0.7
	4	8											
2.5	4	6.6	±0.2	4.2	+0.3 -0.2	2.3	±0.2	6	6	17.5	4.3	+0.2 0	0.8
	4	8.5											
4	4	9.5	±0.2	5.6	+0.3 -0.2	3.4	±0.2	6	5	20	4.3	+0.2 0	0.9

3 Specifications of the terminal blocks

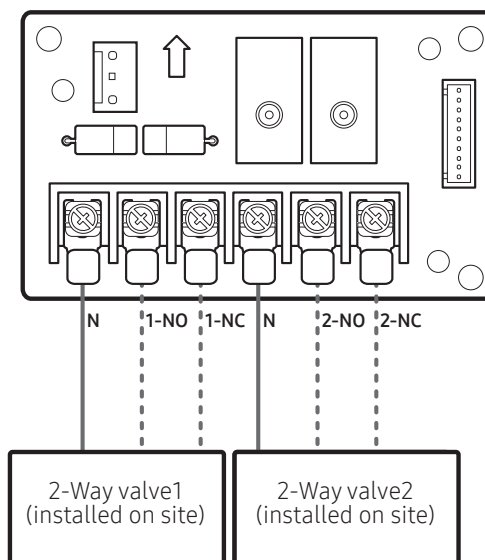
(Unit: mm)

AC power: M4 screw	Communication: M3.5 screwELB

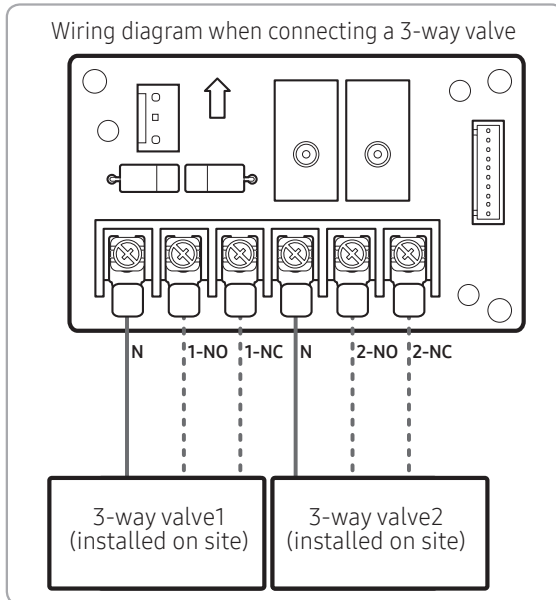
CAUTION

- When installing the product, be sure to install a 2-way electric valve on the water inlet pipe.
When connecting a 2-way electric valve, be sure to check the correct sub PBA terminals as shown in the figure below. Incorrect terminal connection may cause product malfunction. (Valve: Purchased at site)
 - Specification: AC 220 to 240V (Operating current must be 0.3A or less.)
 - Applicable type: ON / OFF startup contact
- The standard specification is that the power supply for the fan coil unit should be separate from that for a heat source such as a chiller.

Wiring diagram when connecting a 2-way valve



10. Installation



- In the 05 series installation options, the SEG15 and SEG22 values define the valve signals, classified as shown in the table below.
- SEG15 and SEG22 are set to 0 by default. After delivery, connect N, NO, and NC terminals depending on the valve specifications noting the table below:

		Valve specification	
		Normal Close	Normal Open
PBA terminal	N	Connect	Connect
	NO	Connect	Do not connect
	NC	Do not connect	Connect

- Depending on the 05 series installation options (SEG15 and SEG22), the contact output signals are as follows:

			SEG22: 0 (Cooling/Heating synchronizing signal)						SEG22: 1 (Cooling/Heating signal separated)					
			SEG15: 0			SEG15: 1			SEG15: 0			SEG15: 1		
Valve	Common terminal	Optional terminal	Cooling T-ON	Heating T-ON	Operation OFF	Cooling T-ON	Heating T-ON	Operation OFF	Cooling T-ON	Heating T-ON	Operation OFF	Cooling T-ON	Heating T-ON	Operation OFF
Valve 1	N	NO	ON	ON	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	ON	ON
		NC	OFF	OFF	ON	ON	ON	OFF	OFF	ON	ON	ON	OFF	OFF
Valve 2	N	NO	ON	ON	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	ON	ON
		NC	OFF	OFF	ON	ON	ON	OFF	OFF	ON	ON	ON	OFF	OFF

※ ON (220 VAC), OFF (0 VAC)

- The terminal output upon T-OFF is subject to change depending on the 05 series installation options, SEG16.

4 Specifications of electrical wiring between fan coil units

Power supply (single phase)	MCCB	ELB	Power cable	Earth wire	Communication cable
220 to 240 V Min. 198V Max. 264V	XA	XA, 30 mA 0.1 s	2.5 mm ² or more	2.5 mm ²	0.75 to 1.5 mm ²

① Decide the capacity of ELB and MCCB using the following formula.

$$X[A] = 1.25 \times 1.1 \times \sum A_i$$

NOTE

- X: The capacity of ELB, MCCB
- $\sum A_i$: Sum of the rated currents of the fan coil units

10. Installation

Rated currents

Mode	Rated current (A)
AG060×N4DKH×	0.37
AG072×N4DKH×	0.50
AG090×N4DKH×	0.58
AG105×N4DKH×	0.79

② Select the cable thickness and wiring length so that the total voltage drop between the fan coil units is less than about 10% of the input voltage (220 V).

$$\sum_{k=1}^n \left(\frac{\text{Coef} \times 35.6 \times L_k}{1000 \times A_k} \times i_k \right) < 10\% \text{ of input voltage [V]}$$

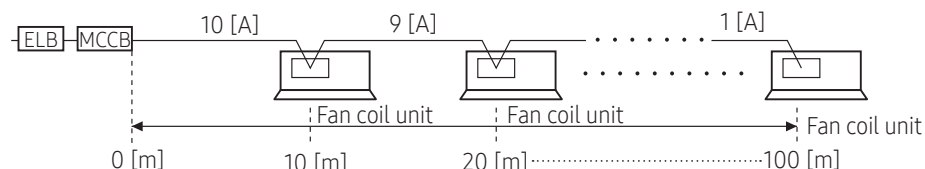
※ coef: Approximately 1.55 in consideration of the contact resistance when the wire is fastened to the terminal

※ Lk: Distance between fan coil units [m], Ak: Thickness of the power cable [mm²]

ik: Current between fan coil units [A]

Installation example

Total power cable length L = 100 [m], initial pull-in current i = 10 [A], running current of each unit = 1 [A], total 10 fan coil units are installed

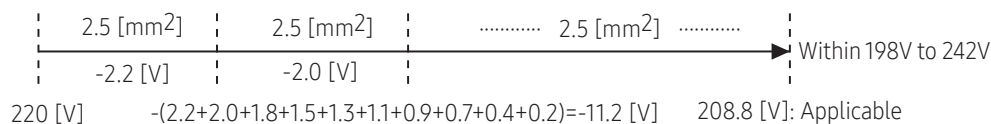


> Apply the following formula.

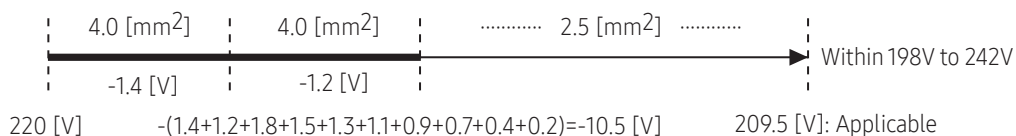
$$\sum_{k=1}^n \left(\frac{\text{Coef} \times 35.6 \times L_k \times i_k}{1000 \times A_k} \right) < 10\% \text{ of input voltage [V]}$$

> Calculation

- Installing with one type of wire



- Installing with two types of wires



※ Appendix : Capacity Table

Wind-Free 4Way Cassette

Cooling

※ Total Capacity (kW) / Sensible Capacity (kW) / Water Flow (ℓ/min) / ΔP (kPa)

AG060AN4DKH/EU																
Air temperature (DB°C - WB°C)	24-17															
Water In (°C)-Out (°C)	6-11				6-13				7-12				9-14			
Air flow	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP
H	5.66	4.50	16.2	23.5	4.57	4.02	9.4	9.2	5.08	4.25	14.5	19.5	4.05	3.74	11.6	13.2
M	5.15	4.03	14.8	19.9	4.16	3.60	8.5	7.8	4.62	3.81	13.2	16.5	3.69	3.36	10.6	11.3
L	4.50	3.48	12.9	15.8	3.63	3.09	7.4	6.2	4.03	3.29	11.6	13.1	3.22	2.90	9.2	8.9
Air temperature (DB°C - WB°C)	25-18.7															
Water In (°C)-Out (°C)	6-11				6-13				7-12				9-14			
Air flow	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP
H	6.99	4.64	20.0	34.0	5.61	4.14	11.5	13.0	6.16	4.36	17.6	27.2	4.79	3.82	13.7	17.6
M	6.36	4.12	18.2	28.8	5.10	3.69	10.4	11.0	5.60	3.88	16.0	23.1	4.36	3.41	12.5	15.0
L	5.55	3.58	15.9	22.7	4.46	3.16	9.1	8.8	4.89	3.37	14.0	18.2	3.81	2.93	10.9	11.9
Air temperature (DB°C - WB°C)	27-19.5															
Water In (°C)-Out (°C)	6-11				6-13				7-12				9-14			
Air flow	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP
H	7.82	5.27	22.4	41.5	6.20	4.65	12.7	15.4	6.50	4.74	19.0	31.0	5.55	4.46	15.9	22.7
M	7.11	4.70	20.4	35.0	5.64	4.16	11.5	13.1	5.91	4.23	16.9	25.3	5.04	3.99	14.5	19.2
L	6.21	4.05	17.8	27.6	4.93	3.58	10.1	10.4	5.16	3.64	14.8	20.0	4.41	3.44	12.6	15.3
Air temperature (DB°C - WB°C)	27-21															
Water In (°C)-Out (°C)	6-11				6-13				7-12				9-14			
Air flow	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP
H	9.32	5.25	26.7	56.8	7.54	4.57	15.4	21.6	8.29	4.92	23.8	46.1	6.82	4.36	19.5	32.5
M	8.47	4.73	24.3	47.9	6.86	4.12	14.0	18.3	7.54	4.40	21.6	38.9	6.20	3.93	17.8	27.5
L	7.40	4.09	21.2	37.6	5.99	3.57	12.3	14.5	6.59	3.74	18.9	30.6	5.41	3.40	15.5	21.8

AG072AN4DKH/EU																
Air temperature (DB°C - WB°C)	24-17															
Water In (°C)-Out (°C)	6-11				6-13				7-12				9-14			
Air flow	Total capacity (kW)	Sensible (kW)	Water Flow (ℓ/min)	ΔP (kPa)	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP
H	6.64	5.12	19.0	31.0	5.33	4.57	10.9	11.9	5.94	4.83	17.0	25.5	4.71	4.24	13.5	17.1
M	5.95	4.52	17.0	25.6	4.77	4.03	9.8	9.9	5.32	4.27	15.2	21.1	4.22	3.75	12.1	14.2
L	4.85	3.64	13.9	18.0	3.89	3.22	8.0	7.0	4.34	3.43	12.4	14.8	3.44	3.02	9.9	10.0
Air temperature (DB°C - WB°C)	25-18.7															
Water In (°C)-Out (°C)	6-11				6-13				7-12				9-14			
Air flow	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP
H	8.24	5.28	23.6	45.5	6.58	4.70	13.5	17.0	7.23	4.96	20.7	36.1	5.60	4.34	16.0	23.0
M	7.38	4.62	21.1	37.4	5.89	4.12	12.1	14.1	6.48	4.34	18.6	29.7	5.01	3.81	14.4	19.0
L	6.02	3.74	17.2	26.1	4.80	3.30	9.8	10.0	5.28	3.52	15.1	20.9	4.09	3.05	11.7	13.4
Air temperature (DB°C - WB°C)	27-19.5															
Water In (°C)-Out (°C)	6-11				6-13				7-12				9-14			
Air flow	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP
H	9.23	6.01	26.4	55.8	7.29	5.30	14.9	20.3	7.80	5.51	22.5	41.8	6.50	5.08	18.6	29.9
M	8.26	5.28	23.7	45.8	6.53	4.66	13.4	16.8	6.99	4.84	20.0	34.0	5.82	4.48	16.7	24.7
L	6.74	4.24	19.3	31.9	5.32	3.75	10.9	11.9	5.70	3.89	16.3	23.8	4.75	3.60	13.6	17.3
Air temperature (DB°C - WB°C)	27-21															
Water In (°C)-Out (°C)	6-11				6-13				7-12				9-14			
Air flow	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP
H	11.02	5.96	31.6	77.0	8.90	5.19	18.2	28.8	9.79	5.58	28.1	62.1	8.02	4.94	23.0	43.4
M	9.87	5.29	28.3	63.0	7.97	4.61	16.3	23.7	8.77	4.92	25.1	50.9	7.19	4.39	20.6	35.7
L	8.05	4.26	23.1	43.7	6.50	3.72	13.3	16.7	7.15	3.89	20.5	35.4	5.86	3.55	16.8	25.0

※ Appendix : Capacity Table

Wind-Free 4Way Cassette

Cooling

※ Total Capacity (kW) / Sensible Capacity (kW) / Water Flow (ℓ/min) / ΔP (kPa)

AG090AN4DKH/EU																
Air temperature (DB°C - WB°C)	24-17															
Water In (°C)-Out (°C)	6-11				6-13				7-12				9-14			
Air flow	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP
H	8.10	6.28	23.2	38.3	6.47	5.58	13.2	14.6	7.22	5.92	20.7	31.4	5.69	5.15	16.3	20.9
M	7.60	5.81	21.8	34.4	6.07	5.16	12.4	13.2	6.78	5.48	19.4	28.2	5.35	4.78	15.3	18.8
L	7.12	5.39	20.4	30.7	5.69	4.74	11.6	11.8	6.35	5.06	18.2	25.2	5.01	4.42	14.4	16.8
Air temperature (DB°C - WB°C)	25-18.7															
Water In (°C)-Out (°C)	6-11				6-13				7-12				9-14			
Air flow	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP
H	10.09	6.51	28.9	56.4	8.02	5.77	16.4	21.1	8.84	6.10	25.3	44.7	6.80	5.30	19.5	28.3
M	9.47	5.97	27.2	50.5	7.53	5.31	15.4	19.0	8.30	5.60	23.8	40.0	6.39	4.88	18.3	25.4
L	8.87	5.56	25.4	45.0	7.05	4.87	14.4	17.0	7.77	5.22	22.3	35.7	5.98	4.49	17.1	22.7
Air temperature (DB°C - WB°C)	27-19.5															
Water In (°C)-Out (°C)	6-11				6-13				7-12				9-14			
Air flow	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP
H	11.32	7.43	32.5	69.1	8.90	6.52	18.2	25.3	9.72	6.91	28.5	54.9	7.93	6.23	22.7	36.9
M	10.63	6.84	30.5	61.8	8.36	6.01	17.1	22.7	9.13	6.37	26.2	47.3	7.44	5.76	21.3	33.1
L	9.96	6.31	28.5	55.1	7.83	5.55	16.0	20.3	8.55	5.88	24.5	42.2	6.97	5.32	20.0	29.6
Air temperature (DB°C - WB°C)	27-21															
Water In (°C)-Out (°C)	6-11				6-13				7-12				9-14			
Air flow	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP
H	13.56	7.40	38.9	95.5	10.91	6.42	22.3	35.9	12.03	6.92	34.5	77.0	9.82	6.10	28.2	53.8
M	12.74	6.88	36.5	85.3	10.25	5.97	21.0	32.2	11.30	6.40	32.4	68.9	9.23	5.69	26.4	48.1
L	11.93	6.38	34.2	75.9	9.60	5.54	19.6	28.8	10.58	5.81	30.3	61.3	8.64	5.27	24.8	42.9

AG105AN4DKH/EU																
Air temperature (DB°C - WB°C)	24-17															
Water In (°C)-Out (°C)	6-11				6-13				7-12				9-14			
Air flow	Total capacity (kW)	Sensible (kW)	Water Flow (ℓ/min)	ΔP (kPa)	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP
H	8.65	6.80	24.8	43.0	6.84	5.97	14.0	16.1	7.68	6.37	22.0	35.0	5.98	5.47	17.1	22.7
M	7.85	6.08	22.5	36.3	6.21	5.33	12.7	13.7	6.97	5.70	20.0	29.6	5.43	4.90	15.6	19.3
L	6.36	4.88	18.2	25.3	5.03	4.24	10.3	9.5	5.65	4.56	16.2	20.6	4.40	3.92	12.6	13.5
Air temperature (DB°C - WB°C)	25-18.7															
Water In (°C)-Out (°C)	6-11				6-13				7-12				9-14			
Air flow	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP
H	10.86	7.12	31.1	64.2	8.57	6.25	17.5	23.6	9.47	6.63	27.2	50.4	7.21	5.69	20.7	31.4
M	9.86	6.32	28.3	54.1	7.77	5.56	15.9	20.0	8.60	5.89	24.6	42.6	6.54	5.07	18.7	26.5
L	7.99	5.09	22.9	37.5	6.30	4.41	12.9	14.0	6.97	4.75	20.0	29.6	5.30	4.03	15.2	18.5
Air temperature (DB°C - WB°C)	27-19.5															
Water In (°C)-Out (°C)	6-11				6-13				7-12				9-14			
Air flow	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP
H	12.24	8.15	35.1	79.4	9.55	7.08	19.5	28.5	10.80	7.79	31.0	63.6	8.46	6.74	24.3	41.4
M	11.10	7.25	31.8	66.8	8.66	6.31	17.7	24.1	9.80	6.94	28.1	53.5	7.68	6.02	22.0	35.0
L	9.00	5.79	25.8	46.1	7.02	5.05	14.4	16.8	7.94	5.54	22.8	37.1	6.22	4.81	17.8	24.3
Air temperature (DB°C - WB°C)	27-21															
Water In (°C)-Out (°C)	6-11				6-13				7-12				9-14			
Air flow	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP	Total capacity	Sensible	Water Flow	ΔP
H	14.72	8.18	42.2	110.7	11.78	7.04	24.1	41.0	13.02	7.62	37.3	88.7	10.57	6.67	30.3	61.2
M	13.36	7.35	38.3	92.9	10.69	6.34	21.9	34.6	11.82	6.81	33.9	74.6	9.59	6.01	27.5	51.5
L	10.83	5.89	31.0	63.8	8.66	5.08	17.7	24.1	9.58	5.35	27.4	51.4	7.77	4.82	22.3	35.7

※ Appendix : Capacity Table

Wind-Free 4Way Cassette

Heating

※ Capacity (kW) / Water Flow (ℓ/min) / ΔP (kPa)

AG060AN4DKH/EU															
Air temperature(°C)	18														
Water In(°C)-Out(°C)	45-40			50-45			55-50			55-45			60-50		
Air Flow	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP
H	7.80	22.4	41.3	8.89	25.5	52.4	10.30	29.6	68.3	9.43	13.5	16.7	11.86	17.0	25.5
M	7.09	20.3	34.9	8.09	23.2	44.3	9.50	27.3	59.2	8.69	12.5	14.5	10.78	15.5	21.6
L	6.19	17.8	27.5	7.33	21.0	37.3	8.67	24.9	50.5	7.94	11.4	12.4	9.42	13.5	17.1
Air temperature(°C)	20														
Water In(°C)-Out(°C)	45-40			50-45			55-50			55-45			60-50		
Air Flow	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP
H	7.30	21.1	37.3	8.32	23.9	46.6	9.64	27.7	60.7	8.82	12.7	14.9	11.20	16.1	23.1
M	6.64	19.0	31.0	7.57	21.7	39.4	8.89	25.5	52.7	8.14	11.7	12.9	10.18	14.6	19.6
L	5.80	16.6	24.5	6.86	19.7	33.2	8.11	23.3	44.9	7.42	10.6	11.0	8.90	12.7	15.5
Air temperature(°C)	22														
Water In(°C)-Out(°C)	45-40			50-45			55-50			55-45			60-50		
Air Flow	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP
H	6.41	18.4	29.2	7.31	21.0	37.1	8.46	24.3	48.2	7.74	11.1	11.8	10.50	15.0	20.6
M	5.83	16.7	24.7	6.64	19.1	31.3	7.81	22.4	42.0	7.15	10.3	10.3	9.55	13.7	17.5
L	5.09	14.6	19.6	6.02	17.3	26.5	7.12	20.4	35.9	6.52	9.4	8.8	8.34	11.9	13.9

AG072AN4DKH/EU															
Air temperature(°C)	18														
Water In(°C)-Out(°C)	45-40			50-45			55-50			55-45			60-50		
Air Flow	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP
H	9.08	26.0	54.2	10.35	29.7	68.7	11.99	34.4	89.6	10.97	15.7	21.9	12.89	18.5	29.5
M	8.14	23.3	44.5	9.27	26.6	56.4	10.90	31.3	75.5	9.98	14.3	18.5	11.55	16.5	24.3
L	6.63	19.0	31.0	8.54	24.5	49.0	10.17	29.2	67.1	8.71	12.5	14.6	9.42	13.5	17.1
Air temperature(°C)	20														
Water In(°C)-Out(°C)	45-40			50-45			55-50			55-45			60-50		
Air Flow	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP
H	8.50	24.5	48.6	9.69	27.8	61.1	11.22	32.2	79.5	10.27	14.7	19.5	12.17	17.4	26.7
M	7.61	21.8	39.6	8.68	24.9	50.2	10.20	29.3	67.1	9.34	13.4	16.5	10.90	15.6	22.0
L	6.21	17.8	27.6	7.99	22.9	43.6	9.52	27.3	59.7	8.06	11.6	12.7	8.89	12.7	15.5
Air temperature(°C)	22														
Water In(°C)-Out(°C)	45-40			50-45			55-50			55-45			60-50		
Air Flow	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP
H	7.46	21.4	38.2	8.51	24.4	48.5	9.85	28.3	63.1	9.02	12.9	15.5	11.41	16.4	23.8
M	6.68	19.2	31.4	7.62	21.9	39.9	8.96	25.7	53.4	8.20	11.8	13.1	10.22	14.6	19.7
L	5.45	15.6	22.0	7.02	20.1	34.8	8.36	24.0	47.6	7.46	10.7	11.1	8.34	11.9	13.9

※ Appendix : Capacity Table

Wind-Free 4Way Cassette

Heating

※ Capacity (kW) / Water Flow (ℓ/min) / ΔP (kPa)

AG090AN4DKH/EU															
Air temperature(°C)	18														
Water In(°C)-Out(°C)	45-40			50-45			55-50			55-45			60-50		
Air Flow	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP
H	10.68	30.6	62.4	12.18	35.0	79.1	14.10	40.5	103.0	12.91	18.5	25.2	15.47	22.2	35.4
M	10.03	28.8	55.8	11.44	32.8	70.8	13.45	38.6	94.8	12.31	17.7	23.2	14.52	20.8	31.8
L	9.40	26.9	49.7	10.71	30.7	63.1	12.59	36.1	84.4	11.52	16.5	20.7	13.61	19.5	28.4
Air temperature(°C)	20														
Water In(°C)-Out(°C)	45-40			50-45			55-50			55-45			60-50		
Air Flow	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP
H	10.00	28.9	56.3	11.40	32.7	70.4	13.20	37.9	91.6	12.08	17.3	22.4	14.61	20.9	32.1
M	9.39	26.9	49.7	10.71	30.7	63.1	12.58	36.1	84.3	11.51	16.5	20.6	13.72	19.7	28.8
L	8.80	25.2	44.3	10.03	28.8	56.2	11.79	33.8	75.2	10.79	15.5	18.4	12.85	18.4	25.7
Air temperature(°C)	22														
Water In(°C)-Out(°C)	45-40			50-45			55-50			55-45			60-50		
Air Flow	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP
H	8.78	25.2	44.1	10.01	28.7	56.0	11.59	33.3	73.0	10.61	15.2	17.9	13.69	19.6	28.7
M	8.24	23.6	39.6	9.40	27.0	50.2	11.05	31.7	67.2	10.11	14.5	16.4	12.86	18.4	25.8
L	7.72	22.1	35.3	8.80	25.3	44.8	10.35	29.7	60.0	9.47	13.6	14.7	12.05	17.3	23.0

AG105AN4DKH/EU															
Air temperature(°C)	18														
Water In(°C)-Out(°C)	45-40			50-45			55-50			55-45			60-50		
Air Flow	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP
H	11.43	32.8	70.3	13.03	37.4	89.2	15.09	43.3	116.2	13.81	19.8	28.4	18.56	26.6	48.7
M	10.37	29.7	59.2	11.83	34.0	75.2	13.90	39.9	100.5	12.72	18.3	24.6	16.84	24.1	41.1
L	8.41	24.1	40.9	10.75	30.9	63.9	12.81	36.8	87.6	11.72	16.8	21.4	13.65	19.6	28.5
Air temperature(°C)	20														
Water In(°C)-Out(°C)	45-40			50-45			55-50			55-45			60-50		
Air Flow	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP
H	10.70	30.9	63.4	12.20	35.0	79.3	14.12	40.5	103.2	12.92	18.5	25.3	17.53	25.1	44.0
M	9.71	27.8	52.7	11.07	31.8	66.9	13.01	37.3	89.4	11.91	17.1	21.9	15.91	22.8	37.2
L	7.87	22.6	36.5	10.06	28.9	56.9	11.99	34.4	78.1	10.97	15.7	19.1	12.89	18.5	25.9
Air temperature(°C)	22														
Water In(°C)-Out(°C)	45-40			50-45			55-50			55-45			60-50		
Air Flow	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP	Capacity	Water Flow	ΔP
H	9.39	26.9	49.7	10.71	30.7	63.1	12.40	35.6	82.1	11.35	16.3	20.1	16.43	23.5	39.3
M	8.52	24.4	41.9	9.72	27.9	53.2	11.42	32.8	71.2	10.45	15.0	17.4	14.91	21.4	33.2
L	6.91	19.8	29.1	8.83	25.3	45.4	10.52	30.2	62.3	9.63	13.8	15.2	12.08	17.3	23.1



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