

Model: AM\*\*\*DNCDKH/TK

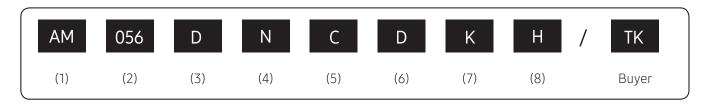
# History

Version	Modification	Date	Remark
Ver.1.0	Released 2024 Ceiling TDB	24. 04. 03	-

## Nomenclature

#### Indoor Unit

#### **Model Names**



(1) Classification (6) Feature AM VRF D Deluxe (7) Rating Voltage (2) Capacity x 1/10 kW (3 digits) K 220~240V, 50/60Hz, 1Ø (3) Version (8) Mode Heat Pump(R410A) D 2024 Н

### (4) Product Type

N	Indoor Unit(NASA)

#### (5) Product Notation

~	6
(	l (eiling
	certing

## **Features & Benefits**

#### Ceiling (small capacity) - Slim yet functional design

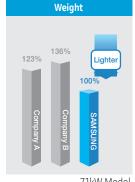
#### Distribute refreshing airflow where needed with a compact, flexible design

Samsung's Ceiling Type indoor unit has 2-way installation options for the ceiling and floor, enabling more efficient use of available space. Users can enjoy crisp, powerful air throughout their entire space from the compact unit in the ceiling or floor.

#### Small package, big performance

The Samsung Ceiling Type air conditioner boasts a slim, compact design—half the size of conventional products—with cooling power comparable to larger units.





7.1kW Model



#### Choice of installation options

Depending on the available space and the purpose of the air conditioner, the indoor unit can be installed behind the ceiling the ceiling or on the floor.





## **Features & Benefits**

#### Ceiling (large capacity) - Powerful cooling with a long distance wind

## Combine simple neat and innovated technologies to experience superior performance and easy operation

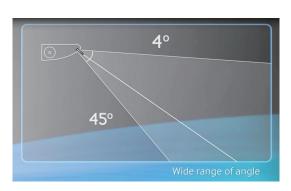
Samsung has been rewriting product descriptions beyond the industry standards. As one of such company's product, Samsung Ceiling focused on sending "sufficient" amount of conditioned air to "distant" places to cover huge area. For convenient installations and maintenances, the Ceiling concentrated service direction on one side. Do not get stressed with air conditioning. Just leave it to Samsung Ceiling.



#### Fast cooling, 15m air flow

When users need air conditioning, they really need it quickly. While the ceiling applied latest flow-efficient blowers to increase amount of air it discharges, it also mounted single BLDC motor to reduce noises and possibilities of abrupt changes of modes. With increased size of inlet area and fluid dynamically designed inner passages, customers can experience incomparable cooling power.

Also, with the advanced blade, which can move from 40 to 450, Samsung ceiling type can refreshingly cool air that reaches every corner of the room with no blind spots.



#### Simple display

The simple display design with its rounded corners adds a neat and tidy feeling to your interior.



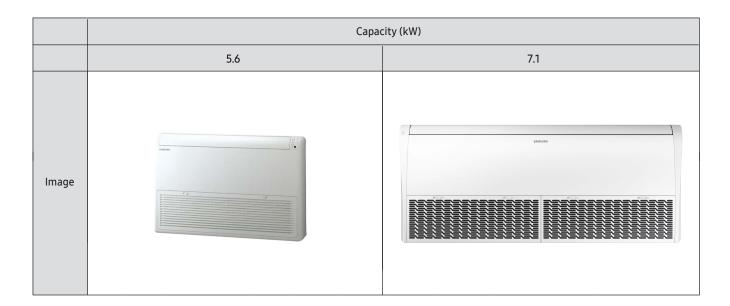
- Ice Blue : Operating
- Yellow Green : Schedule
- Red : Error
- Orange : Filter Alarm Time Limit + Operating Pattern

#### Single side installation

Due to difficulties in accessing their installed locations, easiness to maintain ceiling indoor units should be considered seriously. Relatively thin width of the product makes locating all service ports at one side difficult. However, for better customer experience, Samsung challenged to this difficulty.

# Line-up

### Indoor unit



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# 1. Specification

#### Ceiling

Туре			Ceiling	Ceiling		
Model Name			AM056DNCDKH/TK	AM071DNCDKH/TK		
Power Supply			Φ, #, V, Hz	1, 2, 220-240, 50/60	1, 2, 220-240, 50/60	
Performance	Capacity	Cooling	kW	5.6 / 5.0	7.1 / 6.2	
	(ISO/SASO)		Btu/h	19,100 / 17,100	24,200 / 21,200	
		Heating	kW	6.30	8.00	
			Btu/h	21,500	27,300	
Power	Power Input	Cooling	W	50	51	
		Heating	vv	50	51	
	Current Input	Cooling	Α	0.43	0.47	
		Heating	_ ^	0.43	0.47	
	Current	MCA	A	0.64	0.65	
		MFA	7 ^	15	15	
Heat	Туре		-	Fin & Tube	Fin & Tube	
Exchanger	Material	Fin	-	AL	AL	
	Material	Tube	-	CU	CU	
	Fin Treatment	,	-	NEO SILICA	NEO SILICA	
Fan	Туре		-	Sirocco Fan	Sirocco Fan	
	Quantity		EA	2	3	
	Air Flow Rate	High/Mid/Low	m³/min	12.6 / 11.3 / 10.0	18.4 / 16.4 / 14.3	
		Trigit/Mid/Low	l/s	210.00 / 188.33 / 166.66	306.66 / 273.33 / 238.33	
Fan Motor	Туре		-	BLDC	BLDC	
	Output x n		W	40	153	
Piping	Liquid Pipe		Type	Flare connection	Flare connection	
Connections			Φ, mm (inch)	6.35 (1/4)	9.52 (3/8)	
	Gas Pipe		Type	Flare connection	Flare connection	
			Φ, mm (inch)	12.7 (1/2)	15.88 (5/8)	
	Drain Pipe		Ф,mm	ID 18 hose	VP25 (OD 25, ID 20)	
Wiring	Power Source Wire	Min.	mm²	1.5	1.5	
Connections	Communication	Min.	mm²	0.75	0.75	
		Remark	-	F1, F2	F1, F2	
Refrigerant	Туре		-	R410A	R410A	
	Control Method		-	EEV INCLUDED	EEV INCLUDED	
Sound Level	Sound Pressure Lev	vel H/M/L	dB(A)	41 / 39 / 36	37 / 35 / 33	
	Sound Power Leve	l Cooling		60	56	
Dimensions	Net Weight		kg	20.8	33.3	
	Shipping Weight		kg	26.4	39.2	
	Net Dimensions (W	<u> </u>	mm	1,000×200×650	1,350×235×675	
	Shipping Dimensio	ns (W×H×D)	mm	1,080×300×730	1,440×320×760	
Additional	Drain Pump	External Model	-	-	-	
Accessories		Internal Model	-			
		Max. lifting Height / Displacement	mm/Liter/h	-	-	

- Specification may be subject to change without prior notice.
  - 1) Performances are based on the following test conditions.
    - Cooling : Indoor temperature 27°C DB, 19°C WB, Outdoor temperature 35°C DB, 24°C WB
    - Heating : Indoor temperature 20 °C DB, 15 °C WB, Outdoor temperature 7 °C DB, 6 °C WB
    - Equivalent refrigerant piping length 7.5m, Level differences  $\stackrel{\cdot}{\text{Om}}$
  - 2) Sound pressure level is obtained in an anechoic room.
    - Sound pressure level is a relative value, depending on the distance and acoustic environment.
  - 3) Sound pressure level may differ depending on operation condition.
    - dBA = A-weighted sound pressure level, Reference acoustic pressure 0 dB = 20uPa
  - 4) 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 3741
  - 5) Select wire size based on the value of MCA

# 2. Summary Table

## Ceiling

#### **Performance Characteristics**

Model Code	Nomir	nal Capacity [k	(W]	Fan	Airflow [CMM]	Sound Pressure	Sound Power [dBA]	
Model Code	Cooling	Sensible	Heating	Speed	Airitow [CIMM]	[dBA]		
	5.6	3.9	6.3	High	12.6	41	60	
AM056DNCDKH/TK	5.0	3.5	5.7	Mid	11.3	39	-	
	4.4	3.1	5.0	Low	10.0	36	-	
	7.1	5.0	8.0	High	18.4	37	56	
AM071DNCDKH/TK	6.3	4.5	7.1	Mid	16.4	35	-	
	5.5	3.9	6.2	Low	14.3	33	-	

#### **Electrical Characteristics**

Model Code	Power Supply (Φ, #, V, Hz)	Power Input (W)	Current Input (A)	MCA (A)	MFA (A)	FLA (A)
AM056DNCDKH/TK	1, 2, 220-240, 50/60	50	0.43	0.64	15	0.51
AM071DNCDKH/TK	1, 2, 220-240, 50/60	51	0.47	0.65	15	0.52

## ■ NOTE

• MCA: Minimum circuit amperes

• MFA: Maximum fuse amperes

• FLA: Full load amperes

• Select wire size based on the value of MCA

# 3. Capacity Table

### Ceiling

Cooling

TC: Total Capacity, SHC: Sensible Heat Capacity

Capacity Index	Outdoor Air Temp. (°C,DB)	20 ( 14 (\	WB)	23 (		26 (		or tempei 27 (	rature (°	C ) 28 (	DD)	701	(DB)	32 (	DD)
	Air Temp. (°C,DB)	14 (	WB)			26 (					DD)	307	(DD)	32 (	DD)
	(°C,DB)	14 (	WB)												וחוו
IIIUCA	-5				WB)	18 (		19 (		20 (			WB)		WB)
		1.0	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
		3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.3	4.1	6.7	3.9
	-4	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.3	4.1	6.7	3.9
	-2	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.3	4.1	6.7	3.9
	0	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.3	4.1	6.7	3.9
	2	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.3	4.1	6.7	3.9
	4	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.3	4.1	6.7	3.9
	6	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.3	4.1	6.7	3.9
	8	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.3	4.1	6.7	3.9
	10	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.3	4.1	6.7	3.9
	12	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.2	4.0	6.7	3.9
	14	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.2	4.0	6.7	3.9
	16	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.2	4.0	6.6	3.8
	18	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.2	4.0	6.6	3.8
	20	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.2	4.0	6.6	3.8
056	21	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.2	4.0	6.6	3.8
	23	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.2	4.0	6.6	3.8
	25	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.2	4.0	6.6	3.8
	27	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.2	4.0	6.6	3.8
1	29	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.2	4.0	6.6	3.8
-	31	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.2	4.0	6.6	3.8
+	33	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.2	4.0	6.6	3.8
-	35	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.2	4.0	6.6	3.8
f		3.9					3.8					6.2	4.0		
=	37		3.1	4.6	3.6	5.3		5.6	3.9	5.8	4.0			6.5	3.7
	39	3.9	3.1	4.6	3.6	5.3	3.8	5.6	3.9	5.8	4.0	6.1	3.9	6.4	3.7
	42	3.9	3.1	4.6	3.6	5.3	3.8	5.4	3.8	5.5	3.9	5.8	3.8	6.0	3.5
	44	3.9	3.1	4.6	3.6	5.0	3.6	5.3	3.8	5.4	3.8	5.5	3.8	5.6	3.4
	46	3.9	3.1	4.6	3.6	5.0	3.6	5.3	3.8	5.4	3.8	5.5	3.8	5.6	3.4
	48	3.9	3.1	4.6	3.6	5.0	3.6	5.3	3.8	5.4	3.8	5.5	3.8	5.5	3.3
	50	3.9	3.1	4.5	3.5	5.0	3.6	5.3	3.8	5.4	3.8	5.4	3.7	5.5	3.3
	-5	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	8.0	5.3	8.5	5.0
	-4	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	8.0	5.3	8.5	5.0
	-2	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	8.0	5.3	8.5	5.0
	0	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	8.0	5.3	8.5	5.0
	2	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	8.0	5.3	8.5	5.0
	4	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	8.0	5.3	8.5	5.0
	6	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	8.0	5.3	8.5	5.0
	8	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	8.0	5.3	8.5	5.0
	10	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	8.0	5.3	8.5	5.0
Ī	12	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	7.9	5.2	8.5	5.0
	14	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	7.9	5.2	8.5	5.0
	16	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	7.9	5.2	8.4	4.9
	18	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	7.9	5.2	8.4	4.9
	20	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	7.9	5.2	8.4	4.9
071	21	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	7.9	5.2	8.4	4.9
0,1	23	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	7.9	5.2	8.4	4.9
	25	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	7.9	5.2	8.4	4.9
	27	4.9	4.0	5.8	4.6	6.7	4.8		5.0	7.4	5.2	7.9	5.2	8.4	4.9
								7.1							
	29	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	7.9	5.2	8.4	4.9
	31	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	7.9	5.2	8.4	4.9
	33	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	7.9	5.2	8.4	4.9
	35	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.4	5.2	7.9	5.2	8.4	4.9
	37	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.3	5.1	7.8	5.1	8.2	4.7
	39	4.9	4.0	5.8	4.6	6.7	4.8	7.1	5.0	7.3	5.1	7.7	5.0	8.1	4.7
	42	4.9	4.0	5.8	4.6	6.7	4.8	6.9	4.9	7.0	5.0	7.3	4.9	7.6	4.5
	44	4.9	4.0	5.8	4.6	6.3	4.6	6.7	4.8	6.8	4.9	7.0	4.8	7.1	4.4
	46	4.9	4.0	5.8	4.6	6.3	4.6	6.7	4.8	6.8	4.9	7.0	4.8	7.1	4.4
	48	4.9	4.0	5.8	4.6	6.3	4.6	6.7	4.8	6.8	4.9	7.0	4.8	7.0	4.3
	50	4.9	4.0	5.7	4.5	6.3	4.6	6.7	4.8	6.8	4.9	6.9	4.7	7.0	4.3



The performance table shows the average value of each conditions.

# 3. Capacity Table

### Ceiling

Heating TC: Total Capacity

	0.11	A: T			Indoor	temperature (°	C,DB)		
Capacity		Air Temp.	14	16	18	20	22	24	27
Index	(°C	:)	TC	TC	TC	TC	TC	TC	TC
	DB	WB	kW	kW	kW	kW	kW	kW	kW
	-25	-25.1	3.7	3.7	3.6	3.6	3.5	3.5	3.5
	-22	-22.2	3.8	3.7	3.7	3.7	3.6	3.6	3.5
	-19.8	-20	3.9	3.9	3.9	3.8	3.7	3.7	3.6
	-18.8	-19	3.9	3.9	3.9	3.9	3.8	3.8	3.7
	-16.7	-17	4.0	4.0	3.9	3.9	3.8	3.8	3.7
	-14.7	-15	4.2	4.2	4.1	4.0	3.9	3.8	3.8
	-12.6	-13	4.4	4.4	4.3	4.3	4.2	4.1	4.0
	-10.5	-11	4.7	4.7	4.6	4.5	4.4	4.4	4.3
	-9.5	-10	4.8	4.7	4.7	4.6	4.5	4.4	4.3
	-8.5	-9.1	5.0	4.8	4.7	4.7	4.6	4.5	4.3
	-7	-7.6	5.1	4.9	4.8	4.7	4.7	4.6	4.4
	-5	-5.6	5.4	5.1	5.1	5.0	4.9	4.7	4.4
056	-3	-3.7	5.6	5.4	5.4	5.3	5.0	4.9	4.7
	0	-0.7	5.8	5.7	5.6	5.5	5.3	5.4	5.0
	3	2.2	6.0	6.0	5.9	5.8	5.6	5.4	5.0
	5	4.1	6.3	6.2	6.1	6.1	5.7	5.4	5.0
	7	6	6.5	6.5	6.4	6.3	5.8	5.4	5.0
	9	7.9	6.9	6.7	6.5	6.3	5.8	5.4	5.0
	11	9.8	7.1	6.9	6.6	6.3	5.8	5.4	5.0
	13	11.8	7.2	7.1	6.7	6.3	5.8	5.4	5.0
	15	13.7	7.3	7.3	6.8	6.3	5.8	5.4	5.0
	18	16.6	7.3	7.3	6.8	6.3	5.8	5.4	5.1
	20	18.5	7.4	7.3	6.8	6.4	5.9	5.5	5.1
	22	20.4	7.4	7.3	6.9	6.5	5.9	5.6	5.2
	24	22.4	7.5	7.3	6.9	6.5	6.0	5.6	5.2
	-25.0	-25.1	4.7	4.7	4.6	4.6	4.5	4.5	4.4
	-22.0	-22.2	4.8	4.7	4.7	4.7	4.6	4.6	4.5
	-19.8	-20.0	4.9	4.9	4.9	4.8	4.7	4.7	4.6
	-18.8	-19.0	5.0	5.0	5.0	4.9	4.8	4.8	4.7
	-16.7	-17.0	5.1	5.1	5.0	4.9	4.8	4.8	4.7
	-14.7	-15.0	5.3	5.3	5.2	5.1	4.9	4.8	4.8
	-12.6	-13.0	5.6	5.6	5.5	5.4	5.3	5.2	5.1
	-10.5	-11.0	5.9	5.9	5.8	5.7	5.6	5.6	5.4
	-9.5	-10.0	6.1	6.0	5.9	5.8	5.7	5.6	5.4
	-8.5	-9.1	6.3	6.1	6.0	5.9	5.8	5.7	5.5
	-7.0	-7.6	6.5	6.2	6.1	6.0	5.9	5.8	5.6
071	-5.0	-5.6	6.8	6.5	6.5	6.4	6.2	6.0	5.6
071	-3.0 0.0	-3.7 -0.7	7.1 7.3	6.9 7.2	6.8 7.1	6.7 7.0	6.4	6.2	5.9
		2.2						6.8	6.4
	3.0 5.0	4.1	7.6	7.6 7.9	7.5 7.8	7.3 7.7	7.1 7.2	6.8	6.4
			8.0				7.4		6.4
	7.0 9.0	6.0 7.9	8.3 8.7	8.2 8.5	8.1 8.2	8.0	7.4	6.8	6.4
	11.0	9.8	9.0	8.7	8.4	8.0	7.4	6.8	6.4
	13.0	11.8	9.0	9.0	8.5	8.0	7.4	6.8	6.4
	15.0	13.7	9.1	9.0	8.6	8.0	7.4	6.8	6.4
	18.0	16.6	9.3	9.2	8.6	8.0	7.4	6.9	6.5
	20.0	18.5	9.3	9.2	8.6	8.1	7.4	7.0	6.5
	22.0	20.4	9.4	9.2	8.7	8.2	7.5	7.0	6.6
	24.0	20.4	9.4	9.3	8.8	8.3	7.6	7.1	6.6
	24.0	22.4	7.0	7.3	0.0	6.3	7.0	7.1	0.0



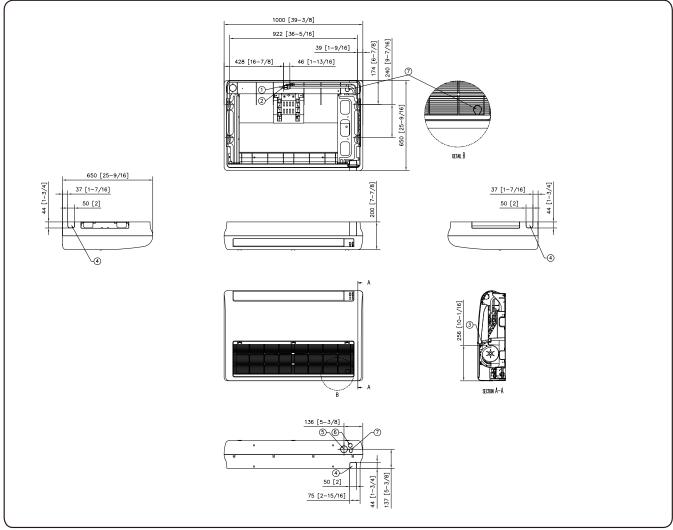
The performance table shows the average value of each conditions.

# 4. Dimensional Drawing

## Ceiling

AM056DNCDKH/TK

Units : mm [inches]



No.	Name	Description			
1	Refrigerant liquid pipe	Ф6.35(1/4)			
2	Refrigerant gas pipe	Φ12.7(1/2)			
3	Condensate drain	ID18mm [11/16inch] Hose			
4	Knockout hole for piping				
5	Knockout hole for air intake	Ф50 [2]			
6	Knockout hole for drain pipe				
7	Knockout hole for wiring				



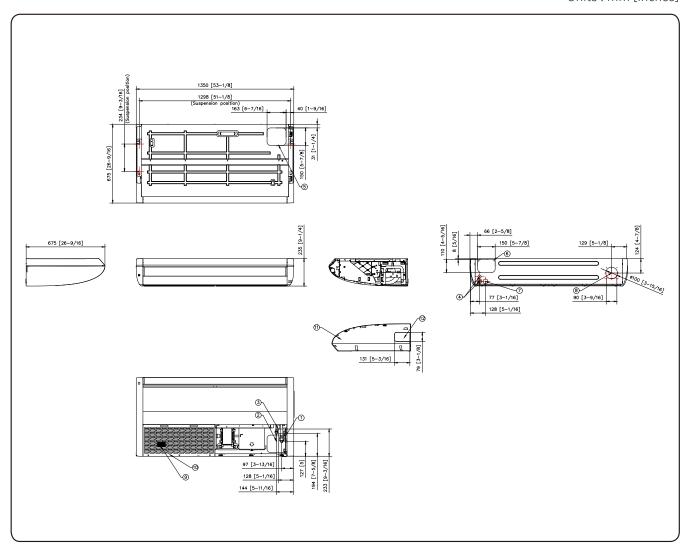
• As for suspension bolt, please use M8 ~ M10. (Procured at local site)

# 4. Dimensional Drawing

### Ceiling

AM071DNCDKH/TK

Units: mm [inches]



No.	Name	Description
1	Refrigerant gas pipe	Ф15.88 (5/8)
2	Refrigerant liquid pipe	Φ9.52 (3/8)
3	Condensate drain	VP25 (OD 25, ID 20)
4	Conduit hole	Ф28(1-1/8)
5	Knockout hole for upper piping arrangement	
6	Knockout hole for rear piping arrangement	
7	Knockout hole for drain pipe arrangement	
8	Knockout hole for fresh air intake	Φ42(Φ1-5/16)
9	Air filter	
10	Air suction grille	
11	Cover side	
12	Knockout hole for side piping arrangement	

## ■ NOTE

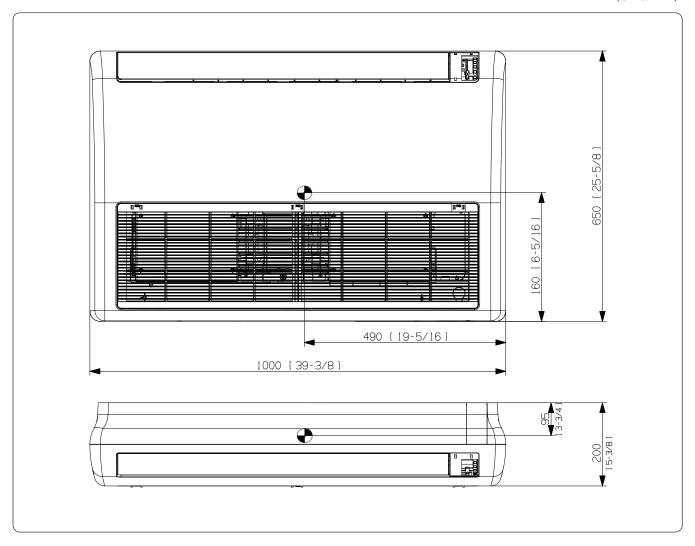
• As for suspension bolt, please use M8 ~ M10. (Procured at local site)

# 5. Center of Gravity

## Ceiling

AM056DNCDKH/TK

(Unit: mm)

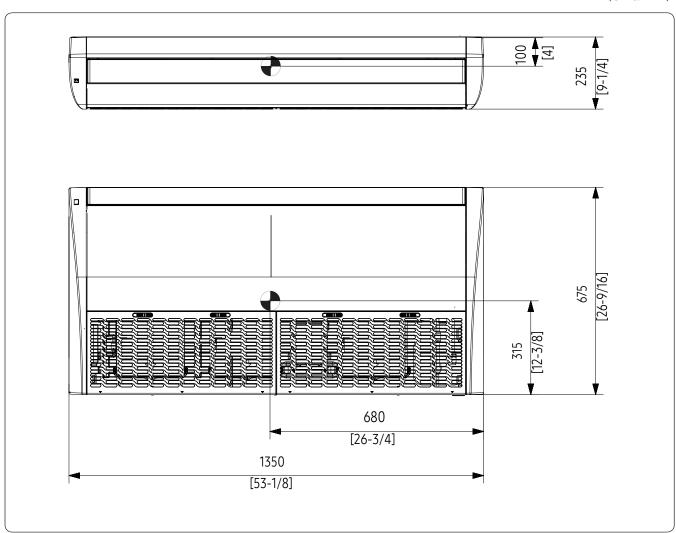


# 5. Center of Gravity

## Ceiling

AM071DNCDKH/TK

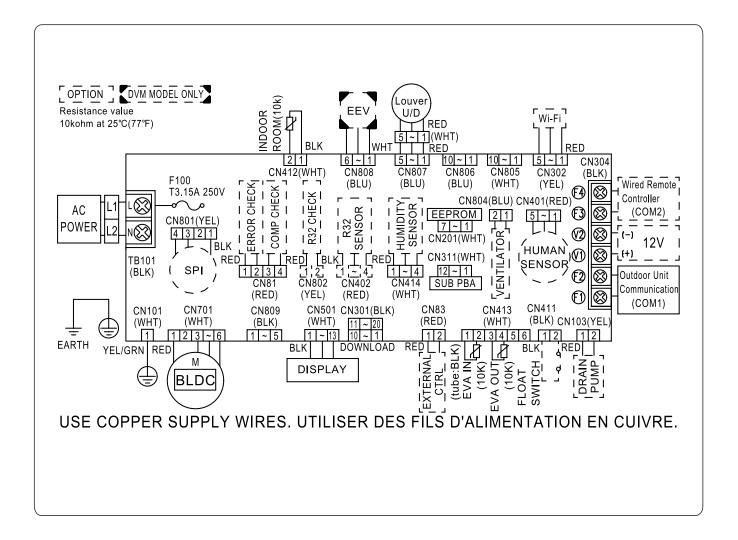
(Unit: mm)



## 6. Electrical Wiring Diagram

#### Ceiling

AM056DNCDKH/TK



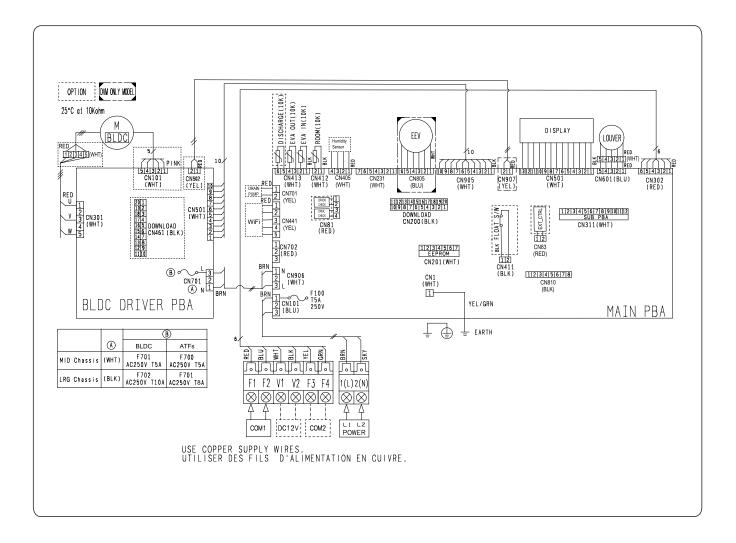
F100	Fuse	INDOOR ROOM(10K)	Thermistor - Indoor Room
EEV	Electronic Expansion Valve	EVA IN (10K)	Thermistor - IDU heat exchanger In
SPI	S-Plasma ion	EVA OUT (10K)	Thermistor - IDU heat exchanger Out
M-BLDC	Motor for Indoor Fan	EEPROM	EEPROM SUB PBA
DISPLAY	Panel LED display		SUB PBA for wired remote control 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

- This wiring diagram applies only to the Indoor unit.
- Symbols show as follow: BLK: black, RED: red, BLU: blue, WHT white, YEL: yellow, BRN: brown, SKY: skyblue: GRN: green
- For connection wiring indoor-outdoor transmission F1-F2, indoor-wired remote controller transmission F3-F4.
- ⊕ Protective earth(screw), □□□: connector, ┡ : The wire quantity

## 6. Electrical Wiring Diagram

#### Ceiling

#### AM071DNCDKH/TK



F100	Fuse	INDOOR ROOM(10K)	Thermistor - Indoor Room
EEV	Electronic Expansion Valve	EVA IN (10K)	Thermistor - IDU heat exchanger In
SPI	S-Plasma ion	EVA OUT (10K)	Thermistor - IDU heat exchanger Out
M-BLDC	Motor for Indoor Fan	EEPROM	EEPROM SUB PBA
DISPLAY	Panel LED display		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

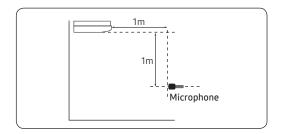
- This wiring diagram applies only to the Indoor unit.
- Symbols show as follow: BLK: black, RED: red, BLU: blue, WHT white, YEL: yellow, BRN: brown, SKY: skyblue: GRN: green
- For connection wiring indoor-outdoor transmission F1-F2, indoor-wired remote controller transmission F3-F4.
- ☐ Protective earth(screw), ☐ : connector, → : The wire quantity

## 7. Sound Data

### Ceiling

#### Sound pressure level

Unit: dB(A)



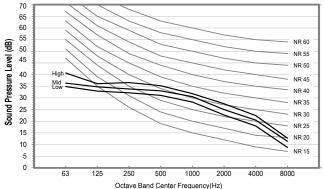
Model	High	Mid	Low
AM056DNCDKH/TK	41	39	36
AM071DNCDKH/TK	37	35	33

#### • NR Curve

1) AM056DNCDKH/TK

#### 65 60 55 50 45 40 35 Sound Pressure Level (dB) NR 55 NR 50 NR 40 30 NR 35 25 NR 30 20 NR 25 15 NR 20 10 Octave Band Center Frequency(Hz)

#### 2) AM071DNCDKH/TK



- Specifications may be subject to change without prior notice.
  - 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 0 dB = 20μPa

## 7. Sound Data

### Ceiling

#### Sound Power level

NOTE

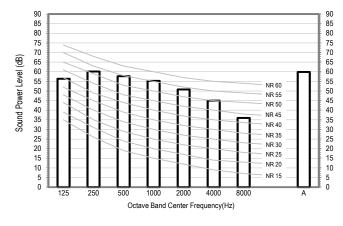
Unit: dB(A)

Power

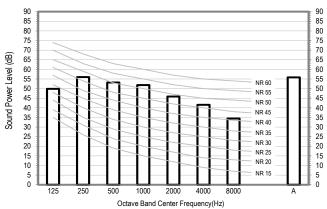
60

56

- 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 3741.
- NR Curve
  - 1) AM056DNCDKH/TK



#### 2) AM071DNCDKH/TK



Model

AM056DNCDKH/TK

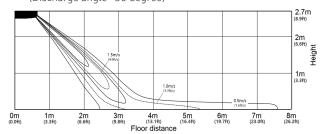
AM071DNCDKH/TK

# 8. Temperature and air flow distribution

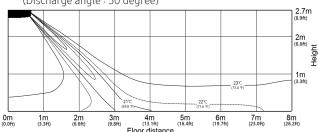
#### Ceiling

#### AM056DNCDKH/TK

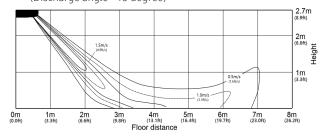
• Cooling Air Velocity distribution (Discharge angle: 50 degree)



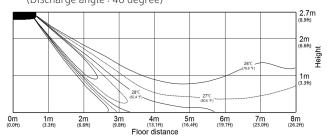
 Cooling temperature distribution (Discharge angle: 50 degree)



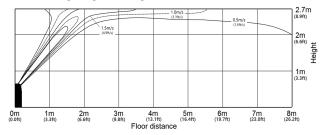
 Heating Air Velocity distribution (Discharge angle: 40 degree)



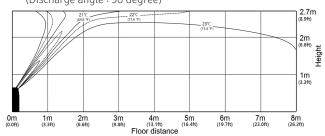
 Heating temperature distribution (Discharge angle: 40 degree)



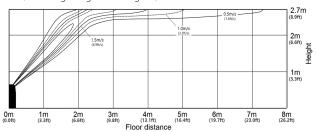
 Cooling Air Velocity distribution (Discharge angle: 50 degree)



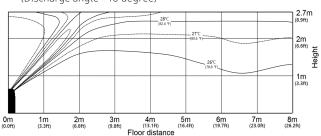
• Cooling temperature distribution (Discharge angle: 50 degree)



 Heating Air Velocity distribution (Discharge angle: 40 degree)



• Heating temperature distribution (Discharge angle : 40 degree)

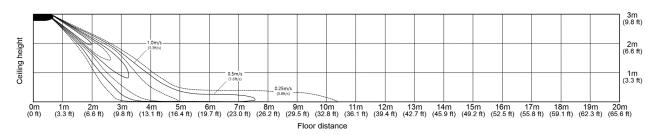


## 8. Temperature and air flow distribution

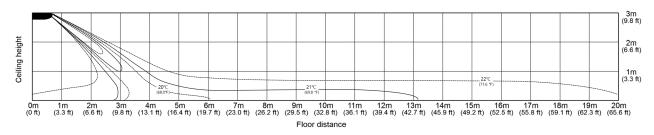
#### Ceiling

#### AM071DNCDKH/TK

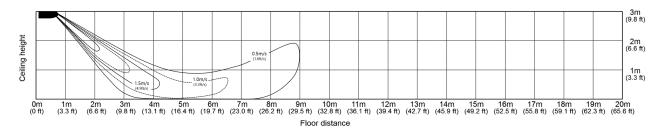
 Cooling Air Velocity distribution (Discharge angle : 32 degree)



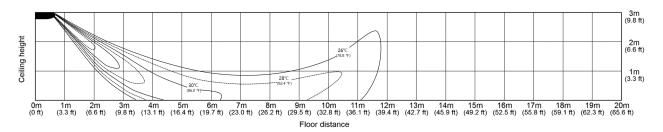
 Cooling temperature distribution (Discharge angle : 32 degree)



 Cooling Air Velocity distribution (Discharge angle: 43 degree)



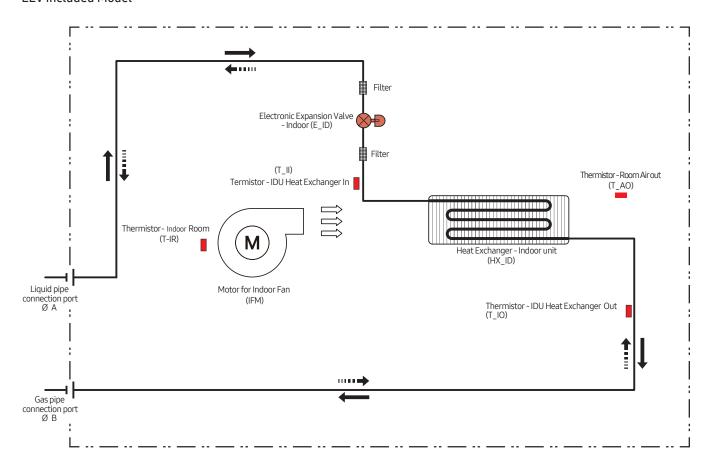
 Cooling temperature distribution (Discharge angle : 43 degree)



# 9. Piping Diagram

## Ceiling

#### EEV included Model



Refrigerant flow				
Cooling Heating				
<b>→</b>				

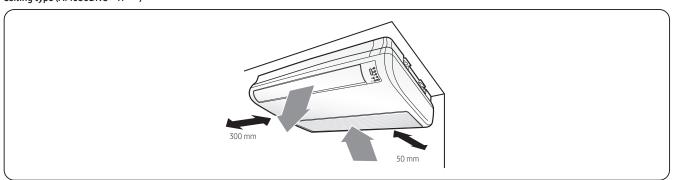
Unit: mm (inch)

Model	А	В
AM056DNCDKH/TK	6.35 (1/4)	12.7 (1/2)
AM071DNCDKH/TK	9.52 (3/8)	15.88 (5/8)

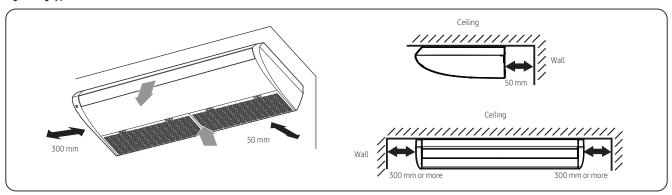
## Ceiling

### Ceiling installation

Ceiling type (AM056DNC\*\*H\*\*\*)

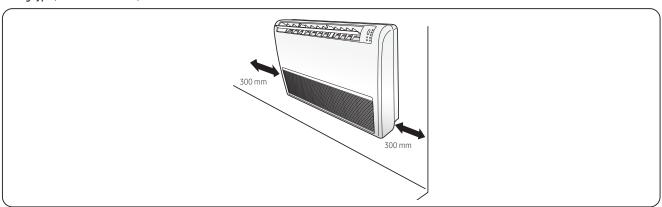


#### Big Ceiling type (AM071DNC\*\*H\*\*\*)



#### **Floor installation**

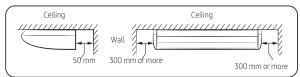
Ceiling type (AM056DNC\*\*H\*\*\*)



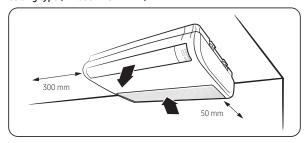
#### Ceiling

#### Spacing requirements

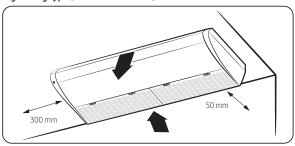
It is recommended to install the Y-joint before installing the indoor unit.



#### Ceiling type (AM056DNC\*\*H\*\*\*)



#### Big Ceiling type (AM071DNC\*\*H\*\*\*)



#### Installing the indoor unit Ceiling

#### installation

#### Ceiling type (AM056DNC\*\*H\*\*\*)

Select pipe directions.

When the directions are selected, drill 3-1/8"-(100mm, for pipe and cables) and 1-3/4"-(40mm, for drain hose) diameter holes on the wall so that it slants slightly downwards toward the outdoor for smooth water flow.

#### NOTE

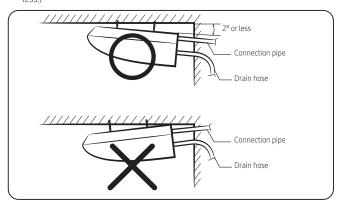
- Use the pattern sheet to select pipe directions.
- 2 Drill holes for anchor bolts according to the distance and mount them.

#### NOTE

- Use the pattern sheet.
- $3\,$  Install the unit onto the ceiling. Be sure to arrange the drain hose so that it is leveled lower than the drain hose connecting port of the indoor unit.

#### NOTE

For proper drainage of condensate, give a 2° or less slant to the side of the unit
which will be connected with the drain hose as shown in the figure. (The gap
between the lower end of the indoor unit and the ceiling should be 12 mm or
less?)

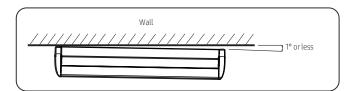


### **A** CAUTION

- Ensure that the ceiling is strong enough to support the weight of the indoor
  unit.
- Before hanging the unit, test the strength of each attached suspension bolt.
- Install the drain hose from the rear of the unit.

#### **₽**NOTE

 The gap between the lower end of the indoor unit and the ceiling should be 1° (16 mm) or less.



#### Big Ceiling type (AM071DNC\*\*H\*\*\*)

1 Select pipe directions.

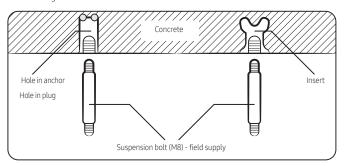
When the directions are selected, drill 3-1/8"-(100mm, for pipe and cables) and 1-3/4"-(40mm, for drain hose) diameter holes on the wall so that it slants slightly downwards toward the outdoor for smooth water flow.

#### MOTI

- Use the pattern sheet to select pipe directions.
- 2 Drill holes for anchor bolts according to the distance and mount them.

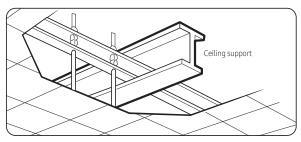
#### ■ NOTE

- Use the pattern sheet.
- ${\bf 3}$  Insert bolt anchors. Use existing ceiling supports or construct a suitable support as shown in figure.



#### Ceiling

4 Install the suspension bolts depending on the ceiling type.

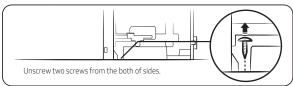


#### ♠ CAUTION

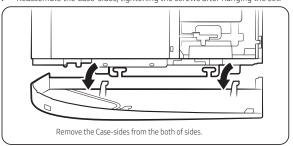
- Ensure that the ceiling is strong enough to support the weight of the indoor unit. Before hanging the unit, test the strength of each attached suspension bolt.
- If the length of suspension bolt is more than 1.5m, it is required to prevent vibration.
- If this is not possible, create an opening on the false ceiling in order to be able to use it to perform the required operations on the indoor unit.
- **5** Screw eight nuts to the suspension bolts making space for hanging the indoor unit.

#### NOTE

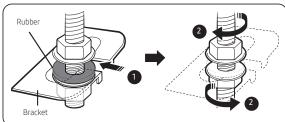
- You must install all the suspension rods.
- **6** When Hanging the set, firstly unscrew the screws from the both of sides, and then disassemble the Case-sides, or else the case-side will be damaged by disassembling it directly.



7 Reassemble the Case-sides, tightening the screws after hanging the set.



8 Hang the indoor unit to the suspension bolts between two nuts.



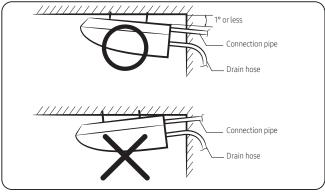
#### **!** CAUTION

 Piping must be laid and connected inside the ceiling when suspending the unit. If the ceiling is already constructed, lay the piping into position for connection to the unit before placing the unit inside the ceiling.

- 9 Screw the nuts to suspend the unit.
- 10 Adjust level of the unit by using measurement plate for all 4 sides.

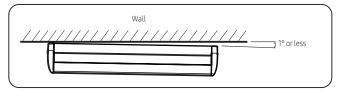
#### ■ NOTE

For proper drainage of condensate, give a 1° or less slant to the side of the unit which will be connected with the drain hose as shown in the figure. (The gap between the lower end of the indoor unit and the ceiling should be 12 mm or less.)



#### ♠ NOTE

The gap between the lower end of the indoor unit and the ceiling should be 1° (28 mm) or less.



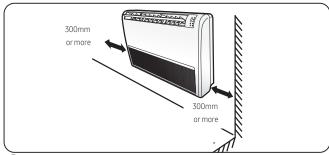
#### Floor installation

#### Ceiling type (AM056DNC\*\*H\*\*\*)

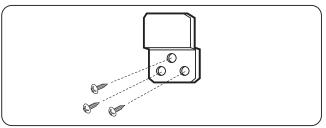
1 Select pipe directions.

When the directions are selected, drill 3-1/8" (100mm, for pipe and cables) and 1-3/4" (40mm, for drain hose)

diameter holes on the wall so that it slants slightly downwards toward the outdoor for smooth water flow.

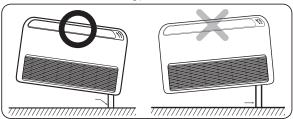


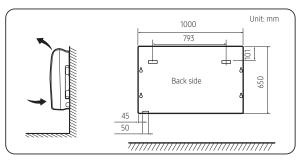
- Use the pattern sheet to select pipe directions.
- 2 Install the hanging plate according to the distance and mount it.



#### Ceiling

 ${\bf 3}$  Install the unit and be sure to arrange the drain hose so that it is leveled lower than the drain hose connecting port of the indoor unit.

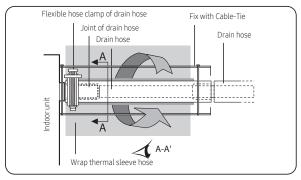


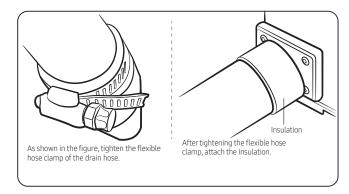


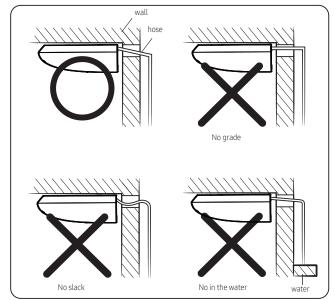
#### Installing the drain hose and drain pipe

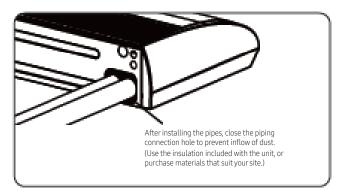
Care must be taken when installing the drain hose for the indoor unit to ensure that any condensate water is correctly drained outside. The drain hose can be installed to the right of the base pan.

- 1 Installing the drain hose should be the shorter, the better.
  - In order to discharge condensation water, the drain hose should keep tilted.
  - Fix the drain hose with Cable-Tie, so that it will not separate from the machine.
- 2 Insulate and fix the drain hose according to the figure.
  - Insert the drain hose to bottom of the outfall of water basin.
  - Lock flexible hose clamp of the drain hose according to the figure.
  - Wind and wrap flexible hose clamp and drain hose fully with thermal insulation sponge; fix both ends of external layer with ribbon for thermal insulation.
  - After being installed, drain hose must be insulated fully by heat insulating material. (To be provided at site.)









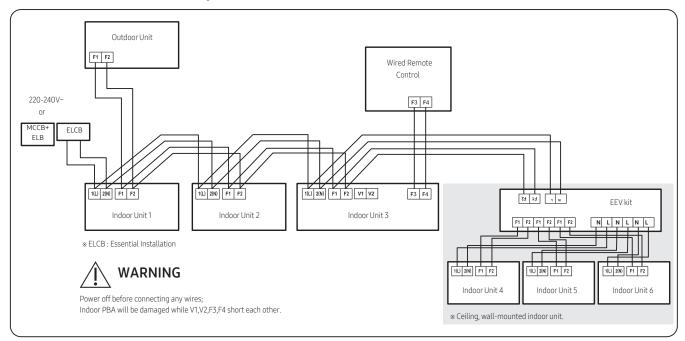
#### ■ NOTE

 Please follow national and local electrical codes. Additional electrical connection components may be required.

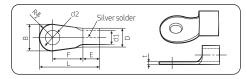
### Ceiling

#### Connecting the power and communication cables

- 1 Before wiring work, you must turn off all power source.
- 2 Indoor unit power should be supplied through the breaker( ELCB or MCCB+ELB ) separated by the outdoor power.
  - ELCB : Earth Leakage Circuit Breaker
  - MCCB: Molded Case Circuit Breaker
  - ELB: Earth Leakage Breaker
- 3 The power cable should be used only copper wires.
- 4 Connect the power cable{1(L), 2(N)} among the units within maximum length and communication cable(F1, F2) each.
- 5 Connect F3, F4(for communication) when installing the wired remote control.



#### Selecting compressed ring terminal



Norminal	Norminal	E	3	[	)	d	11	E	F	L	d	2	t
dimensions for cable (mm2)		Standard dimension (mm)	Allowance (mm)	Standard dimension (mm)	Allowance (mm)	Standard dimension (mm)	Allowance (mm)	Min.	Min.	Max.	Standard dimension (mm)	Allowance (mm)	Min.
1.5	4	6.6	±0.2	3.4	+0.3	1.7	±0.2	4.1	6	16	4.3	+0.2	0.7
2.5	4 4	6.6	±0.2	4.2	+0.3	2.3	±0.2	6	6	17.5	4.3	+0.2	0.8
4	4	9.5	±0.2	5.6	+0.3	3.4	±0.2	6	5	20	4.3	+0.2	0.9

#### Ceiling

#### Specification of electronic wire

Power supply	МССВ	ELB or ELCB	Power cable	Earth cable	Communication cable
Max : 242V Min : 198V	XA	XA, 30mmA 0.1 s	2.5mm²	2.5mm²	0.75~1.5mm²

- Decide the capacity of ELCB(or MCCB+ELB) by below formula.
   Power supply cords of parts of appliances for outdoor use shall not be
- lighter than polychloroprene sheathed flexible cord. (Code designation IEC:60245 IEC 57 / CENELEC: H05RN-F or IEC:60245 IEC 66 / CENELEC: H07RN-F)

#### The capacity of ELCB(or MCCB+ELB) $X[A] = 1.25 \times 1.1 \times \sum A_i$

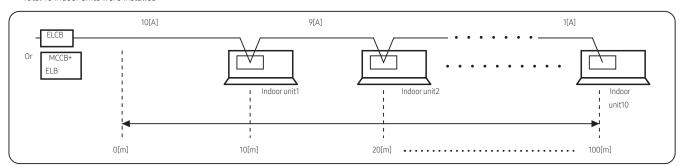
- X: The capacity of ELCB(or MCCB+ELB).
- $-\quad \Sigma A_i$  : Sum of Rating currents of each indoor unit.
- Refer to each installation manual about the rating current of indoor unit.
- Decide the power cable specification and maximum length within 10% power drop among indoor units.

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

- Coef: 1.55
- L<sub>k</sub>: Distance among each indoor unit[m], A<sub>k</sub>: Power cable specification[mm²] i<sub>k</sub>: Running current of each unit[A]

#### **Example of Installation**

- Total power cable length L = 100(m), Running current of each units 1[A]
- Total 10 indoor units were installed

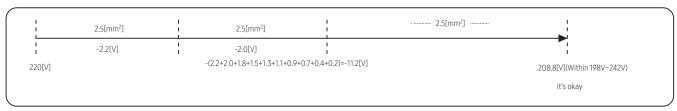


Apply following equation.

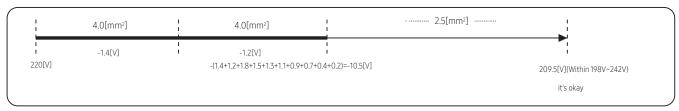


#### Calculation

Installing with 1 sort wire.



Installing with 2 different sort wire.



#### Ceiling

#### Rating current

Unit	Model	Rating current	
Ceiling type	AM056DNC**H***	0.43A	
Big Ceiling type	AM071DNC**H***	0.47A	



#### 

- Select the power cable in accordance with relevant local and national regulations.
- Wire size must comply with local and national code.
- For the power cable, use the grade of H07RN-F or H05RN-F
- You should connect the power cable into the power cable terminal and fasten it with a clamp.
- The unbalanced power must be maintained within 10% of supply rating among whole indoor units.
- If the power is unbalanced greatly, it may shorten the life of the  $% \left( 1\right) =\left( 1\right) \left( 1\right) +\left( 1\right) \left( 1\right)$ condenser. If the unbalanced power is exceeded over 10% of supply rating, the indoor unit is protected, stopped and the error mode indicates. To protect the product from water and possible shock, you
- should keep the power cable and the connection cord of the indoor and outdoor units in the iron pipe.
- Connect the power cable to the auxiliary circuit breaker. An all pole disconnection from the power supply must be incorporated in the fixed wiring(≥3mm).
- You must keep the cable in a protection tube.

- Keep distances of 50mm or more between power cable and communication
- Maximum length of power cables are decided within 10% of power drop. If it exceeds, you must consider another power supplying method.
- The circuit breaker(ELCB or MCCB+ELB) should be considered more capacity if many indoor units are connected from one breaker.
- Use round pressure terminal for connections to the power terminal block.
- For wiring, use the designated power cable and connect it firmly, then secure to prevent outside pressure being exerted on the terminal board.
- Use an appropriate screwdriver for tightening the terminal screws. A screwdriver with a small head will strip the head and make proper tightening impossible.
- Over-tightening the terminal screws may break them.
- See the table below for tightening torque for the terminal screws.

	Tightening torque			
	N∙m	kgf•cm		
M3.5	0.8~1.0	8.0~10.0		
M4	12~15	12 0~14 7		

