

**SAMSUNG**

# VRF Technical Data Book

Wind-Free 4Way Cassette  
for North America

(R410A, HP)



Model : AM\*\*\*NN4DCH/\*\*

# Nomenclature

## Indoor Unit

### Model Name

<b>AM</b>	<b>015</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>D</b>	<b>C</b>	<b>H</b>	/	<b>**</b>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		Buyer

#### (1) Classification

AM	DVM
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#### (5) Product Notation

N	(Wind-Free) 4Way Cassette(600x600)
4	(Wind-Free) 4Way Cassette

#### (2) Capacity

X kBtu/h (3digits)
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#### (6) Feature

P	Premium
D	Deluxe

#### (3) Version

K	2016
M	2017
N	2018

#### (7) Rating Voltage

C	1Φ, 208~230V, 60Hz
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#### (4) Product Type

N	Indoor Unit
X	Outdoor Unit

#### (8) Mode

H	Heat Pump (R410A)
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# 1. Specification

## Wind-Free 4Way Cassette

Type				4Way CASSETTE	4Way CASSETTE	4Way CASSETTE	
Model Name				AM030NN4DCH/AA	AM036NN4DCH/AA	AM048NN4DCH/AA	
Power Supply			Φ, #, V, Hz	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60	
Mode				-	HP/HR	HP/HR	
Performance	TON			Ton	2.5	3	4
		Capacity	Cooling	kW	8.79	10.55	14.07
	Btu/h			30,000	36,000	48,000	
	US RT			2.5	3	4	
	Heating		kW	16.5 (36.4)	18.5 (40.8)	18.5 (40.8)	
			Btu/h	20.0 (44.1)	22.5 (49.6)	22.5 (49.6)	
			US RT	2.83	3.33	4.5	
Power	Power Input	Cooling	W	65.00	75.00	95.00	
		Heating		65.00	75.00	95.00	
	Current Input	Cooling	A	0.50	0.56	0.75	
		Heating		0.50	0.56	0.75	
	Current	MCA	A	0.35	0.35	0.35	
		MOP		15	15	15	
Heat exchanger	Type		-	Fin & tube	Fin & tube	Fin & tube	
	Material	Fin	-	Al	Al	Al	
		Tube	-	Cu	Cu	Cu	
	Fin Treatment		-	Slit-Fin*Hydrophilic	Slit-Fin*Hydrophilic	Slit-Fin*Hydrophilic	
Fan	Type		-	Turbo Fan	Turbo Fan	Turbo Fan	
	Quantity		EA	5	6	6	
	Air Flow Rate	H/M/L	m <sup>3</sup> /min	22.00 / 19.50 / 17.00	24.00 / 22.00 / 20.00	29.00 / 27.00 / 24.00	
			ft <sup>3</sup> /min	777 / 687 / 600	845 / 777 / 706	1024 / 953 / 845	
			l/s	367/235/283	400/367/333	483/450/400	
	External Pressure	Max. (Min/Std/Max)	mmAq	-	-	-	
			Pa	-	-	-	
In Wg			-	-	-		
Fan Motor	Type		-	BLDC	BLDC	BLDC	
	Output x n		W	97 x 1	97 x 1	97 x 1	
Piping Connections	Liquid Pipe		Type	Flare connection	Flare connection	Flare connection	
			Φ, mm (inch)	9.52 (3/8)	9.52 (3/8)	9.52 (3/8)	
	Gas Pipe		Type	0	0	0	
			Φ, mm (inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	
	Heat insulation		-				
Drain Pipe		Φ,mm	VP25 (OD 32,ID 25)	VP25 (OD 32,ID 25)	VP25 (OD 32,ID 25)		
Wiring connections	Communication	Min.	mm <sup>2</sup>	2 X 16 AWG SHIELDED	2 X 16 AWG SHIELDED	2 X 16 AWG SHIELDED	
		Remark	-				
Refrigerant	Type		-	R410A	R410A	R410A	
	Electronic Expansion Valve		-	EEV INCLUDED	EEV INCLUDED	EEV INCLUDED	
Sound	Sound Pressure Level	H/M/L	dB(A)	41/37/31	42/39/36	45/42/39	
	Sound Power	Cooling		57	58	60	
External Dimension	Net Weight		kg (lbs)	16.5	18.5	18.5	
	Shipping Weight		kg (lbs)	20	22.5	22.5	
	Net Dimensions (WxHxD)		mm	840 x 288 x 840	840 x 288 x 840	840 x 288 x 840	
			inch	33 1/16 x 8 1/16 x 33 1/16	33 1/16 x 8 1/16 x 33 1/16	33 1/16 x 8 1/16 x 33 1/16	
	Shipping Dimensions (WxHxD)		mm	898 x 357 x 898	898 x 357 x 898	898 x 357 x 898	
			inch	35 3/8 x 10 13/16 x 35 3/8	35 3/8 x 10 13/16 x 35 3/8	35 3/8 x 10 13/16 x 35 3/8	

# 1. Specification

## Wind-Free 4Way Cassette

Type			4Way CASSETTE	4Way CASSETTE	4Way CASSETTE	
Model Name			AM030NN4DCH/AA	AM036NN4DCH/AA	AM048NN4DCH/AA	
Casing	Material	-	HIPS	HIPS	HIPS	
Panel	Model Name	-	PC4NUFMAN PC4NUFMUN	PC4NUFMAN PC4NUFMUN	PC4NUFMAN PC4NUFMUN	
	Type	-	Wind Free Type	Wind Free Type	Wind Free Type	
	Material	-	HIPS	HIPS	HIPS	
	Color	-	White	White	White	
	Net Weight	kg (lbs)	6.3 (13.9)	6.3 (13.9)	6.3 (13.9)	
	Shipping Weight	kg (lbs)	8.7 (19.2)	8.7 (19.2)	8.7 (19.2)	
	Net Dimensions (W×H×D)	mm	-	950 x 64 x 950	950 x 64 x 950	950 x 64 x 950
		inch	-	37 3/8 x 2 1/2 x 37 3/8	37 3/8 x 2 1/2 x 37 3/8	37 3/8 x 2 1/2 x 37 3/8
Shipping Dimensions (W×H×D)	mm	-	1,010 x 117 x 1,000	1,010 x 117 x 1,000	1,010 x 117 x 1,000	
	inch	-	39 3/4 x 4 5/8 x 39 3/4	39 3/4 x 4 5/8 x 39 3/4	39 3/4 x 4 5/8 x 39 3/4	
Drain Pump	Drain Pump	-	included	included	included	
	Max. Lifting Height / Displacement	in / gal/h	29-5/16 6.34gal/h	29-5/16 6.34gal/h	29-5/16 6.34gal/h	
Additional Accessories	Drain Pump	External Model	-	-	-	
		Internal Model	-	-	-	
		Max. lifting Height / Displacement	in / gal/h	-	-	-
	Air Filter	-	Removable / Washable	Removable / Washable	Removable / Washable	

### NOTE

- Specification may be subject to change without prior notice.
  - 1) Mode : HP(Heat Pump), HR(Heat Recovery)
  - 2) Performances are based on the following test conditions.
    - Cooling : Indoor temperature : 80°F(26.7°C) DB, 67°F(19.4°C) WB, Outdoor temperature : 95°F(35°C) DB, 75°F(23.9°C) WB
    - Heating : Indoor temperature : 70°F(21.1°C) DB, 60°F(15.6°C) WB, Outdoor temperature : 47°F(8.3°C) DB, 43°F(6.1°C) WB
    - Equivalent refrigerant pipe length 25ft(7.5m), Level differences 0ft(0m)
  - 3) 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 = 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) These products contain R410A which is fluorinated greenhouse gas.
  - 6) Select wire size based on the value of MCA



## 2. Summary Table

### Wind-Free 4Way Cassette

#### Performance Characteristics

Model Code	Net Weight (lbs)	Fan Speed	Nominal Capacity(Btu/h)			Airflow (CFM)	Sound Pressure (dBA)	Sound Power (dBA)
			Cooling	Sensible	Heating			
AM009NN4DCH/AA	33.1	High	9,000	6,600	10,000	548	32	49
		Mid	8,200	6,000	9,500	495	30	-
		Low	7,200	5,300	8,800	424	28	-
AM012NN4DCH/AA	33.1	High	12,000	9,000	13,500	548	32	49
		Mid	11,000	8,300	12,800	495	30	-
		Low	9,500	7,100	11,900	424	28	-
AM018NN4DCH/AA	33.1	High	18,000	13,700	20,000	548	32	49
		Mid	16,500	12,600	19,000	495	30	-
		Low	14,300	10,900	17,600	424	28	-
AM024NN4DCH/AA	33.1	High	24,000	19,000	27,000	618	35	56
		Mid	22,200	17,600	25,800	565	32	-
		Low	19,700	15,600	24,200	495	28	-
AM030NN4DCH/AA	36.4	High	30,000	23,000	34,000	777	41	57
		Mid	27,000	20,700	32,000	689	37	-
		Low	23,800	18,200	29,900	600	32	-
AM036NN4DCH/AA	40.8	High	36,000	28,000	40,000	848	42	58
		Mid	33,400	26,000	38,300	777	39	-
		Low	30,700	23,900	36,500	706	36	-
AM048NN4DCH/AA	40.8	High	48,000	37,000	54,000	1024	45	60
		Mid	45,100	34,800	52,100	954	42	-
		Low	40,600	31,300	49,100	848	39	-

#### NOTE

- Sound data is based on cooling operation.

#### Electric Characteristics

Indoor Unit	Power Supply (Ø, #, V, Hz)	Power Input (W)	Current Input (A)	MCA (A)	MFA (A)	FLA (A)
AM009NN4DCH/AA	1,2,208-230,60	32	0.25	0.41	15	0.33
AM012NN4DCH/AA		32	0.25	0.41	15	0.33
AM018NN4DCH/AA		32	0.25	0.41	15	0.33
AM024NN4DCH/AA		40	0.3	0.41	15	0.33
AM030NN4DCH/AA		65	0.5	0.49	15	0.39
AM036NN4DCH/AA		75	0.56	0.49	15	0.39
AM048NN4DCH/AA		90	0.75	0.49	15	0.39

#### NOTE

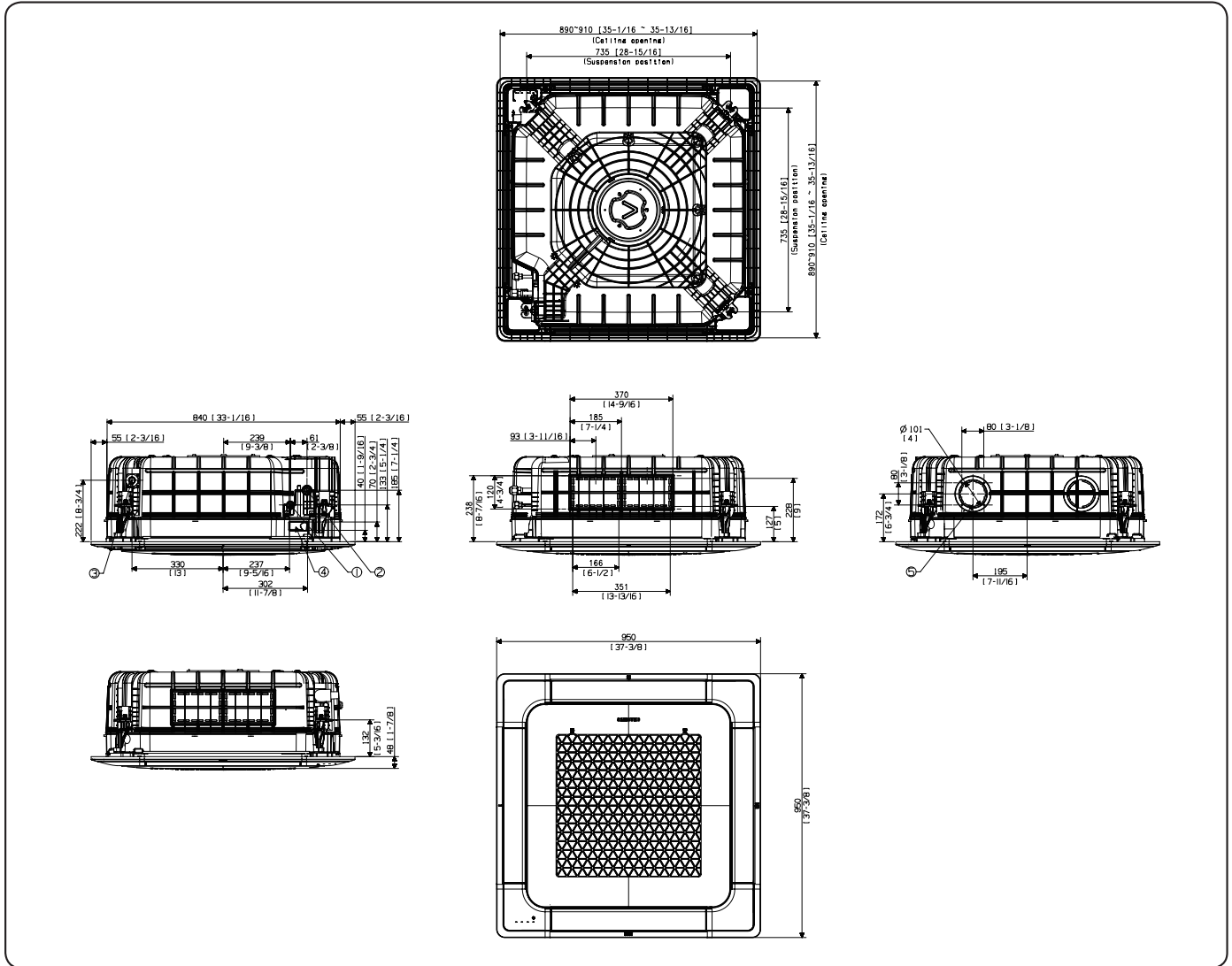
- MCA : Minimum circuit amperes
- MFA : Maximum fuse amperes
- FLA : Full load amperes
- Select wire size based on the value of MCA

# 4. Dimensional Drawing

## Wind-Free 4Way Cassette

AM030/036/048NN4DCH/AA

Units : mm [inches]



No.	Name	Description
1	Liquid pipe connection	Φ9.52(3/8)
2	Gas pipe connection	Φ15.88(5/8)
3	Drain pipe connection	VP-25(OD32, ID25)
4	Power supply & Communication wiring conduit	-
5	Fresh air intake knockout hole	Φ10[4] , Use M4 Screw

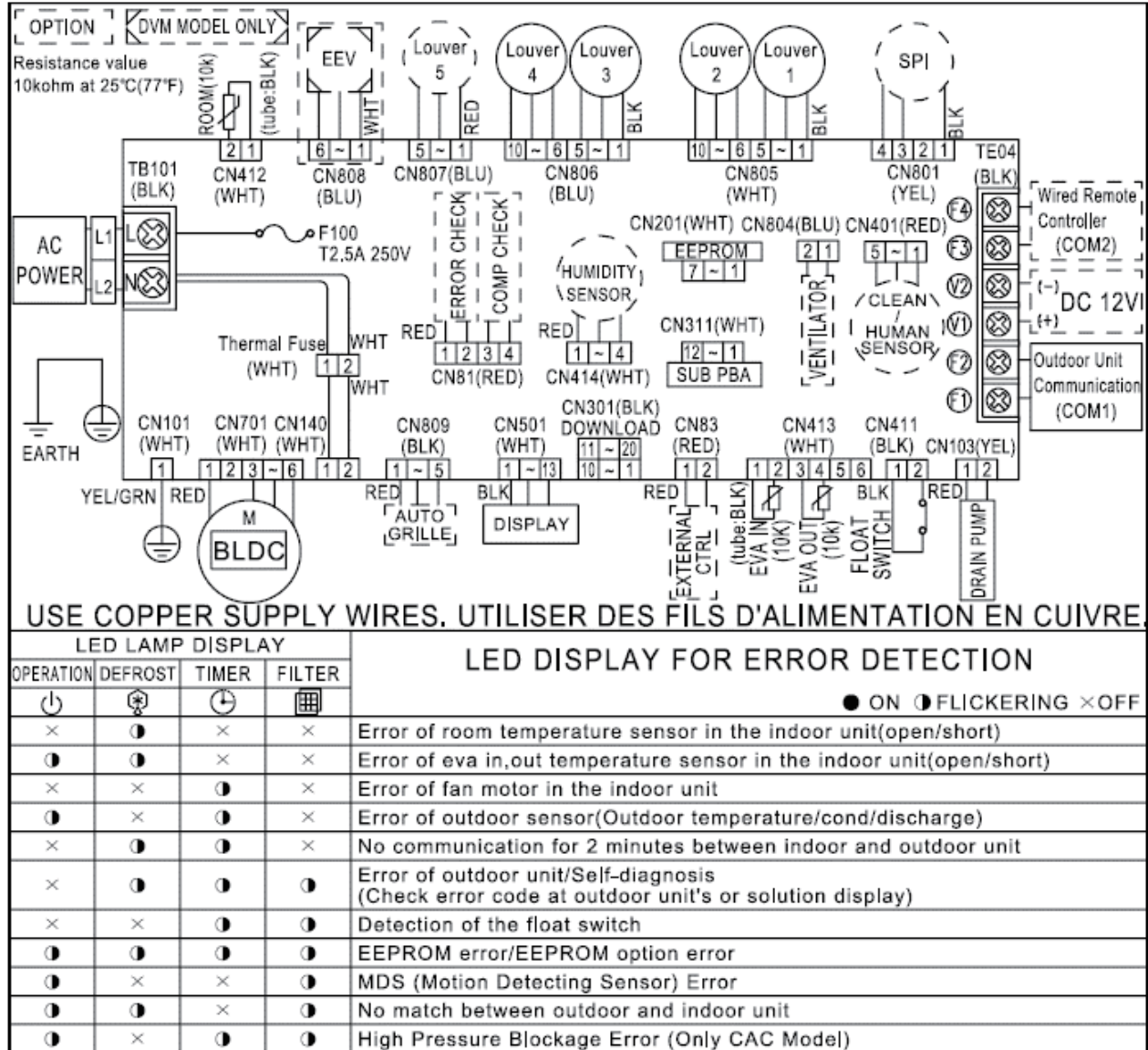
### NOTE

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

# 6. Electrical Wiring Diagram

## Wind-Free 4Way Cassette

AM009 ~ 048NN4DCH/AA



F100	FUSE	SPI	S-Plasma ion	ROOM(10K)	Thermistor ROOM OUT(10K)
M-BLDC	BLDC Motor	EEV	Electronic Expansion Valve	EVA-IN(10K)	Thermistor EVA IN(10K)
		EXT_CONTROL	EXTERNAL_CONTROL	EVA-OUT(10K)	Thermistor EVA OUT(10K)

### NOTE

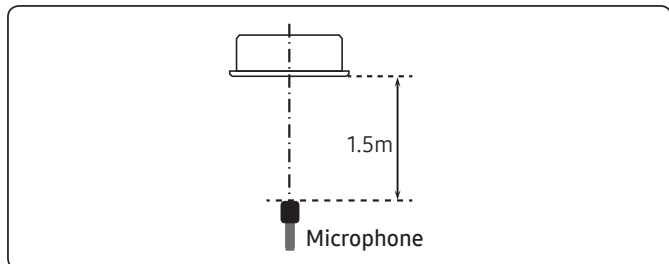
- This wiring diagram applies only to the Indoor unit.
- Symbols show as follow :  
blk: black, red: red, blu: blue, wht: white, yel: yellow, brn: brown, sky: skyblue: grn: green
- For connection wiring indoor-outdoor transmission F1-F2, indoor-wired remote controller transmission F3-F4.
- ⊕ Protective earth(screw), □□□□ : connector,  $\frac{N}{\text{wire}}$  : The wire quantity

# 7. Sound Data

## Wind-Free 4Way Cassette

### Sound Pressure level

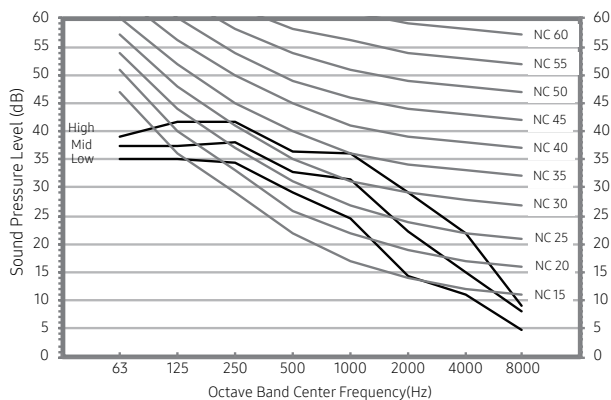
Unit: dB(A)



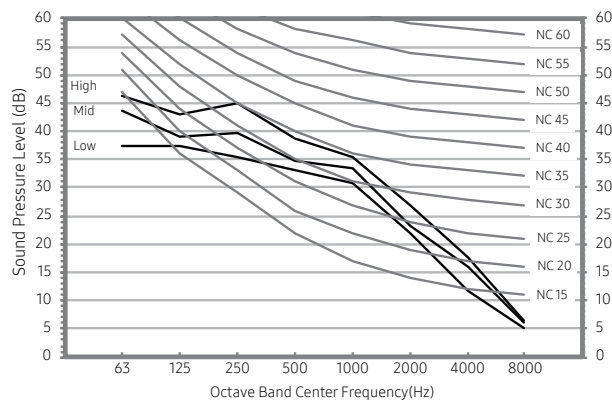
Model	High	MID	LOW
AM030NN4DCH/AA	41	37	32
AM036NN4DCH/AA	42	39	36
AM048NN4DCH/AA	45	42	39

- NC Curve

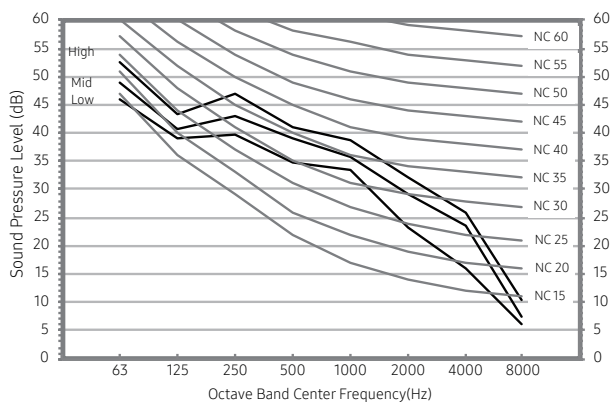
5) AM030NN4DCH/AA



6) AM036NN4DCH/AA



7) AM048NN4DCH/AA



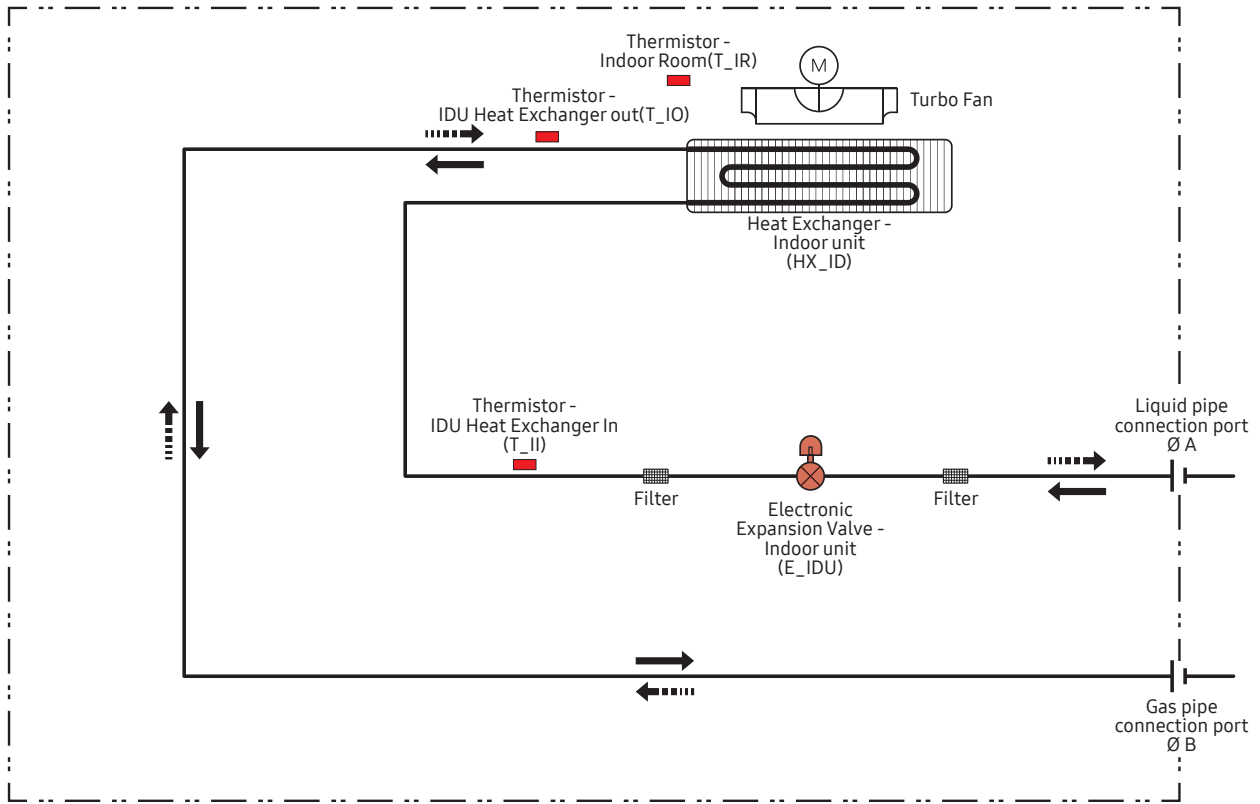
### NOTE

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  - 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



# 9. Piping Diagram

## Wind-Free 4Way Cassette



Refrigerant flow	
Cooling	Heating
→	- - - - - →

Unit : inches

Model	A	B
AM009NN4DCH/AA	1/4"	1/2"
AM012NN4DCH/AA		
AM018NN4DCH/AA		
AM024NN4DCH/AA	3/8"	5/8"
AM030NN4DCH/AA		
AM036NN4DCH/AA		
AM048NN4DCH/AA		

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