

**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	4Way CASSETTE	
Model Name			AM009NN4DCH/AA	AM012NN4DCH/AA	AM018NN4DCH/AA	AM024NN4DCH/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	HP/HR	
Performance	TON		Ton	0.75	1	1.5	2
		Capacity	Cooling	kW	2.64	3.52	5.28
	Btu/h			9,000	12,000	18,000	24,000
	USRT			0.75	1	1.5	2
	Heating		kW	2.93	3.96	5.86	7.91
			Btu/h	10,000	13,500	20,000	27,000
			USRT	0.83	1.13	1.67	2.25
Power	Power Input	Cooling	W	32.00	32.00	32.00	40.00
		Heating		32.00	32.00	32.00	40.00
	Current Input	Cooling	A	0.25	0.25	0.25	0.30
		Heating		0.25	0.25	0.25	0.30
	Current	MCA	A	0.35	0.35	0.35	0.35
		MOP		15	15	15	15
Heat exchanger	Type		-	Fin & tube	Fin & tube	Fin & tube	Fin & tube
	Material	Fin	-	Al	Al	Al	Al
		Tube	-	Cu	Cu	Cu	Cu
	Fin Treatment		-	Slit-Fin*Hydrophilic	Slit-Fin*Hydrophilic	Slit-Fin*Hydrophilic	Slit-Fin*Hydrophilic
Fan	Type		-	Turbo Fan	Turbo Fan	Turbo Fan	Turbo Fan
	Quantity		EA	1	2	3	4
	Air Flow Rate	H/M/L	m <sup>3</sup> /min	15.50 / 14.00 / 12.00	15.50 / 14.00 / 12.00	15.50 / 14.00 / 12.00	17.50 / 16.00 / 14.00
			ft <sup>3</sup> /min	547 / 494 / 424	547 / 494 / 424	547 / 494 / 424	618 / 565 / 494
			l/s	258/233/200	258/233/200	258/233/200	291/266/233
	External Pressure	Max. (Min/Std/Max)	mmAq	-	-	-	-
			Pa	-	-	-	-
In Wg			-	-	-	-	
Fan Motor	Type		-	BLDC	BLDC	BLDC	BLDC
	Output x n		W	65 x 1	65 x 1	65 x 1	65 x 1
Piping Connections	Liquid Pipe	Type		Flare connection	Flare connection	Flare connection	Flare connection
		Φ, mm (inch)		6.35 (1/4)	6.35 (1/4)	6.35 (1/4)	9.52 (3/8)
	Gas Pipe	Type		0	0	0	0
		Φ, mm (inch)		12.70 (1/2)	12.70 (1/2)	12.70 (1/2)	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)	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	2 X 16 AWG SHIELDED
		Remark	-				
Refrigerant	Type		-	R410A	R410A	R410A	R410A
	Electronic Expansion Valve		-	EEV INCLUDED	EEV INCLUDED	EEV INCLUDED	EEV INCLUDED
Sound	Sound Pressure Level	H/M/L	dB(A)	32/30/28	32/30/28	32/30/28	35/32/28
	Sound Power	Cooling		49	49	49	56
External Dimension	Net Weight		kg (lbs)	15.0 (33.1)	15.0 (33.1)	15.0 (33.1)	15.0 (33.1)
	Shipping Weight		kg (lbs)	18.5 (40.8)	18.5 (40.8)	18.5 (40.8)	18.5 (40.8)
	Net Dimensions (WxHxD)	mm		840 x 204 x 840	840 x 204 x 840	840 x 204 x 840	840 x 204 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	33 1/16 x 8 1/16 x 33 1/16
	Shipping Dimensions (WxHxD)	mm		898 x 275 x 898	898 x 275 x 898	898 x 275 x 898	898 x 275 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	35 3/8 x 10 13/16 x 35 3/8

# 1. Specification

## Wind-Free 4Way Cassette

Type			4Way CASSETTE	4Way CASSETTE	4Way CASSETTE	4Way CASSETTE	
Model Name			AM009NN4DCH/AA	AM012NN4DCH/AA	AM018NN4DCH/AA	AM024NN4DCH/AA	
Casing	Material	-	HIPS	HIPS	HIPS	HIPS	
Panel	Model Name	-	PC4NUFMAN PC4NUFMUN	PC4NUFMAN PC4NUFMUN	PC4NUFMAN PC4NUFMUN	PC4NUFMAN PC4NUFMUN	
	Type	-	Wind Free Type	Wind Free Type	Wind Free Type	Wind Free Type	
	Material		HIPS	HIPS	HIPS	HIPS	
	Color	-	White	White	White	White	
	Net Weight	kg (lbs)	6.3 (13.9)	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)	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	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	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	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	39 3/4 x 4 5/8 x 39 3/4	
Drain Pump	Drain Pump	-	included	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	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	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

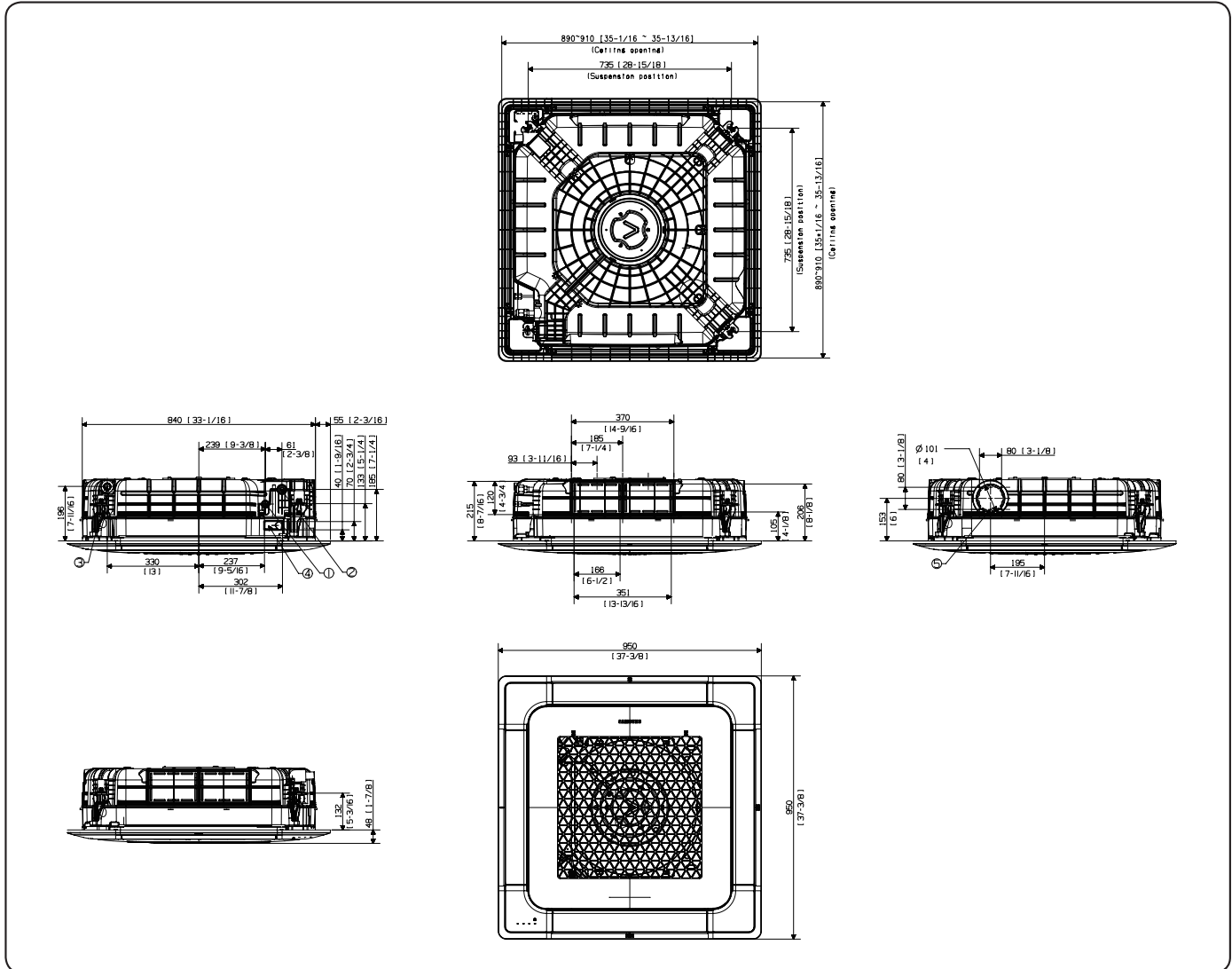
- MCA : Minimum circuit amperes
- MFA : Maximum fuse amperes
- FLA : Full load amperes
- Select wire size based on the value of MCA

# 4. Dimensional Drawing

## Wind-Free 4Way Cassette

AM009/012/018/024NN4DCH/AA

Units : mm [inches]



No.	Name	Description	
		AM009/012/018NN4DCH*	AM024NN4DCH*
1	Liquid pipe connection	Φ6.35(1/4)	Φ9.52(3/8)
2	Gas pipe connection	Φ12.7(1/2)	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	

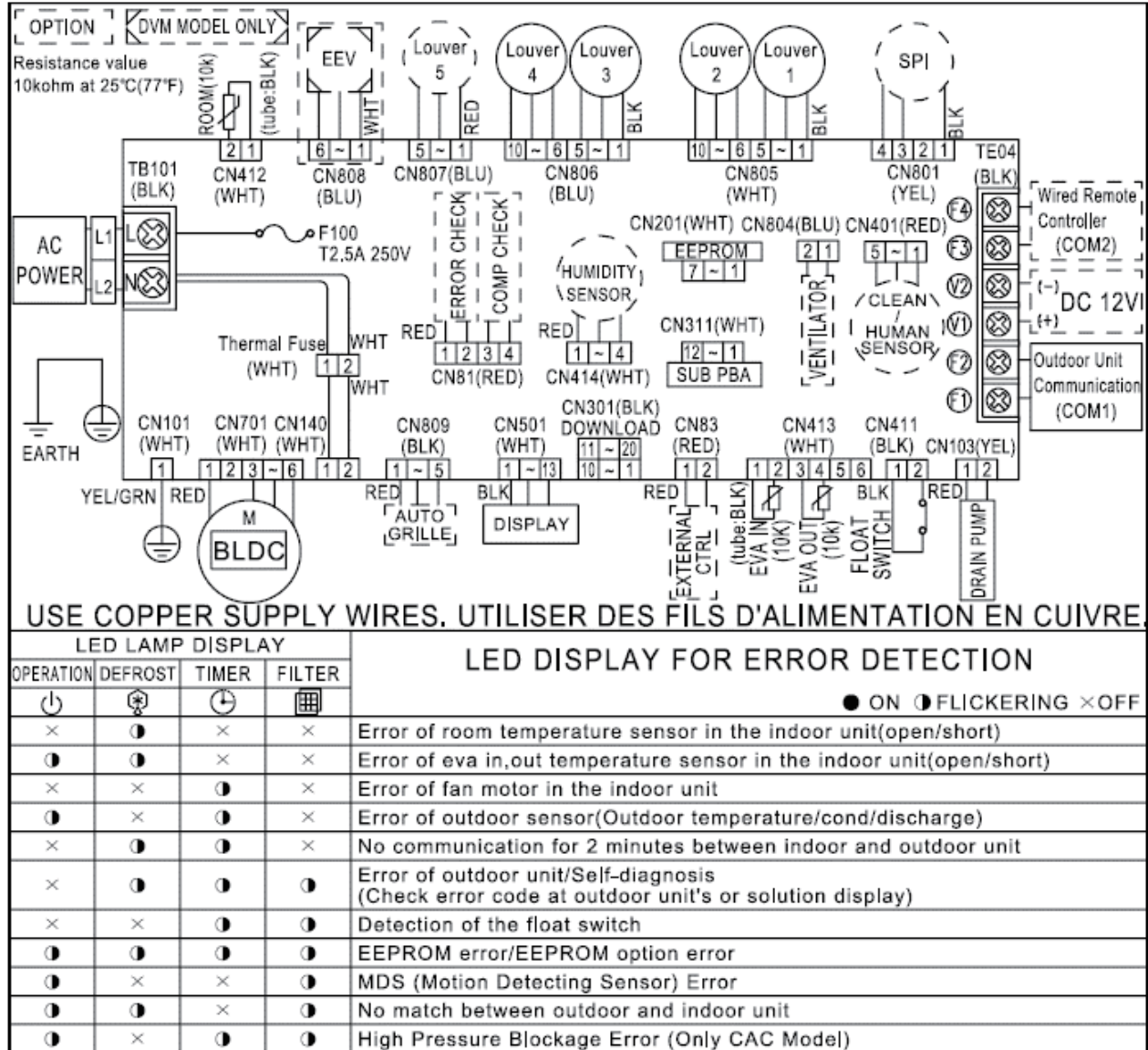
### NOTE

- 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

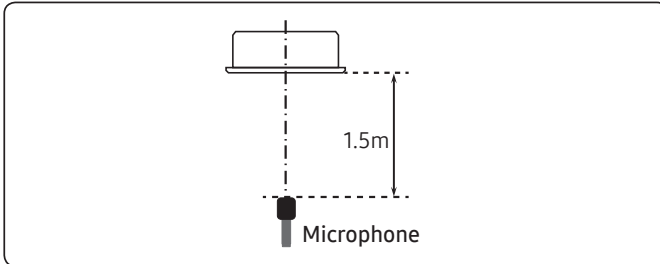
- This wiring diagram applies only to the Indoor unit.
- Symbols show as follow :  
blk: black, red: red, blu: blue, wht: white, yel: yellow, brn: brown, sky: skyblue: grn: green
- For connection wiring indoor-outdoor transmission F1-F2, indoor-wired remote controller transmission F3-F4.
- ⊕ Protective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

# 7. Sound Data

## Wind-Free 4Way Cassette

### Sound Pressure level

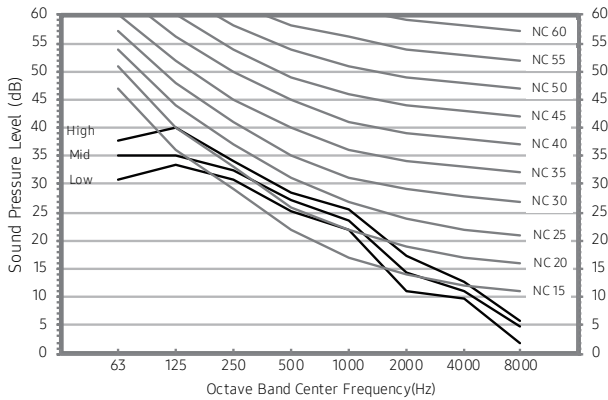
Unit: dB(A)



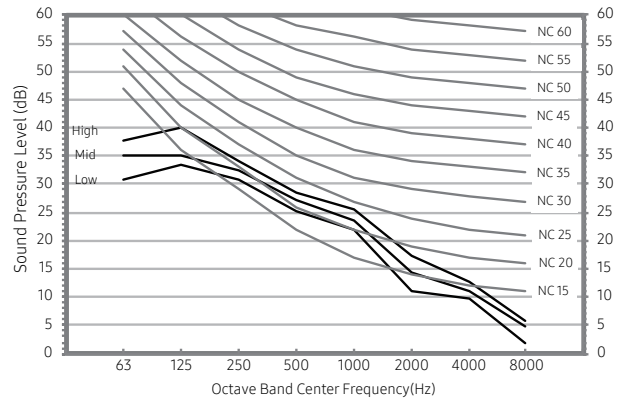
Model	High	MID	LOW
AM009NN4DCH/AA	32	30	28
AM012NN4DCH/AA	32	30	28
AM018NN4DCH/AA	32	30	28
AM024NN4DCH/AA	35	32	28

- NC Curve

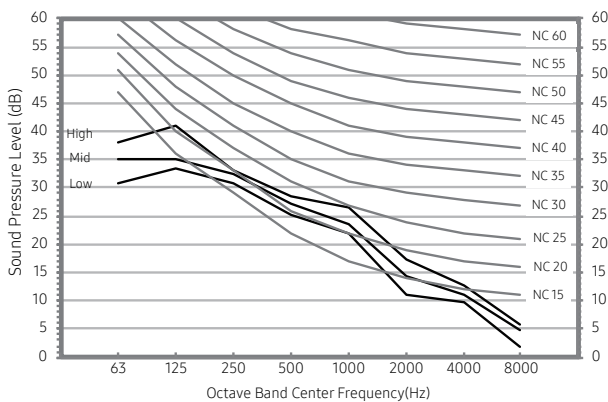
1) AM009NN4DCH/AA



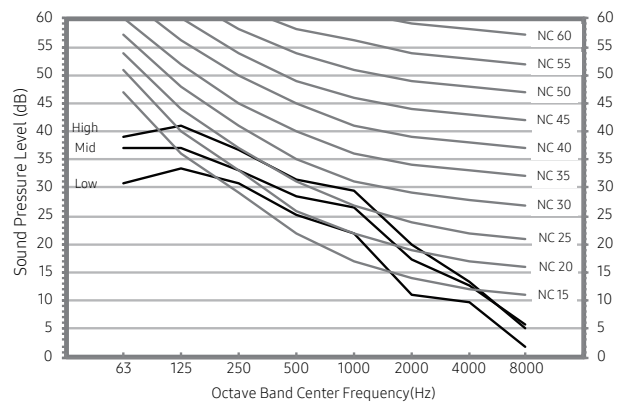
2) AM012NN4DCH/AA



3) AM018NN4DCH/AA



4) AM024NN4DCH/AA



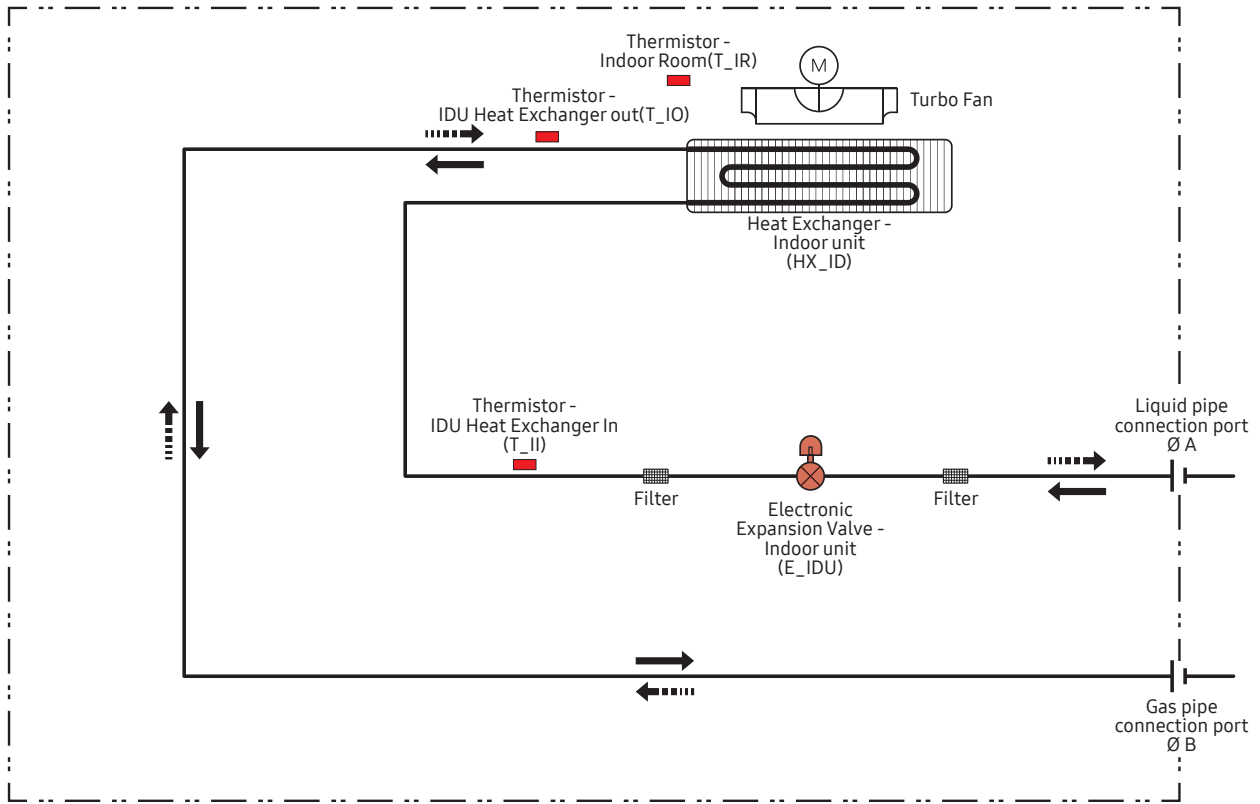
### NOTE

- 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.
  - dB(A) = 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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