SAMSUNG

RAC Technical Data Book

Max (R32, Heat Pump)



Model : RNX36UMD(AR36DXFUMGMNCV), RXX36UMD(AR36DXFUMGMXCV)

History

Version	Modification	Date	Remark
Ver.1.0	Released RAC Max TDB	25. 01. 15	
Ver.1.1	Updated Specification page	25. 07. 01	

Nomenclature

US Code

Model Name

R	N	X	36	U	M	D
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Classification

R	RAC

(2) Product Type

N	Indoor Unit
X	Outdoor Unit

(3) Mode

X	Inverter HP R32

(4) Capacity

X1,000 Btu/h (2 digits)

(5) Design

U	Max RAC

(6) Version

A-Z (1 digit)

(7) YEAR

D	2024

Nomenclature

Model Code

Model Name

AR	36	D	X	F	U	M	GM	N	CV
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	Buyer

(1) Classification

AR	RAC

(2) Capacity

x1000 Btu/h (2 digits)

(3) Year

B	2022
C	2023
D	2024

(4) Product Type

X	INVERTER HP R32

(5) Characteristics

H	-

(6) Design Segment

U	Max RAC

(7) Version

A-Z (1 digit)

(8) Color

GM	PM Gray

(9) Set

N	Indoor Unit
X	Outdoor Unit
/	Set

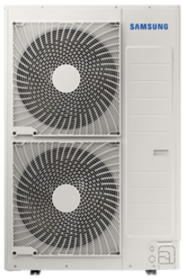
Line-up

Max

Indoor unit

Model	Capacity (kBtu/h)
	36
Max	
	RNX36UMD(AR36DXFUMGMNCV)

Outdoor Unit

Model	Capacity (kBtu/h)
	36
Max	
	RXX36UMD(AR36DXFUMGMXCV)

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1. Specification

Max

Model Name		Indoor Unit			AR36DXFUMGMNCV
		Outdooru Unit			AR36DXFUMGMXCV
US Code		Indoor Unit			RNX36UMD
		Outdooru Unit			RXX36UMD
System	Mode			-	Heat Pump
	Performance	Capacity	Cooling (Min/Std/Max)	kW	3.5 / 9.6 / 13.1
				Btu/h	12,000 / 33,000 / 45,000
				US RT	1.00 / 2.75 / 3.75
			Heating (Min/Std/Max)	kW	2.9 / 11.7 / 15.8
				Btu/h	10,000 / 40,000 / 54,000
				US RT	0.83 / 3.33 / 4.50
	Power	Power Input	Cooling (Min/Std/Max)	kW	0.74 / 2.75 / 3.85
			Heating (Min/Std/Max)		0.56 / 4.50 / 6.80
		Current Input	Cooling (Min/Std/Max)	A	3.8 / 12.3 / 17.0
			Heating (Min/Std/Max)		3.0 / 20.1 / 29.9
		Current	MCA	A	35.8
			MOP	A	40
	Efficiency	EER2	Cooling	-	3.52
			Cooling (US)	(Btu/h)/W	12
		COP	Heating	W/W	2.6
		SEER2 (Cooling Energy Grade)		-	20
		HSPF2 (Heating Energy Grade)		-	9
	Pipe Connections	Liquid Pipe		Type	Flare
				Φ, mm(inch)	9.52 (3/8)
		Gas Pipe		Type	Flare
				Φ, mm(inch)	15.88 (5/8)
		Heat Insulation		-	Both liquid and gas pipes
		Pipe Length (ODU-IDU)	Standard	m (ft)	7.5 (24.6)
			Max.	m (ft)	75 (246.0)
			Elevation	m (ft)	30 (98.4)
			Chargeless	m (ft)	7.5 (24.6)
	Wiring Connections	Communication	Min.	mm^2	0.75
				AWG	18
			Remark	-	F1,F2
	Refrigerant	Type		-	R32
		Factory Charging		kg	3.5
				lbs	7.72
Indoor Unit	Power Supply			Φ,#,V,Hz	1, 2, 208-230, 60
	Heat Exchanger	Type		-	Fin & Tube
		Material	Fin	-	Al
			Tube	-	Cu
		Fin Treatment		-	Green Hydrophile
	Fan	Type		-	Cross Flow
		Quantity		EA	2
		Air Flow Rate	Cooling (H/M/L)	m^3/min	23.5 / 21.3 / 19.8
				ft^3/min	830 / 752 / 699
			Heating (H/M/L)	m^3/min	23.5 / 21.3 / 19.8
				ft^3/min	830 / 752 / 699
	Fan Motor	Type		-	BLDC
		Output		W x n	58 x 1
	Drain	Drain Pipe		Φ, mm	ID18
	Sound Level	Sound Pressure Level	H/M/L/Silence	dB(A)	51 / 48 / 46 / 38
		Sound Power Level		dB(A)	65
	External Dimension	Net Weight		kg(lbs)	18.5 (40.8)
		Shipping Weight		kg(lbs)	22.5 (49.6)
		Net Dimensions (WxHxD)		mm	1,280 x 345 x 253
				inch	50.39 x 13.58 x 9.96
		Shipping Dimensions (WxHxD)		mm	1,352 x 326 x 420
				inch	53.23 x 12.83 x 16.54
	Casing	Material		-	Plastic

1. Specification

Max

Model Name		Indoor Unit			AR36DXFUMGMNCV
		Outdooru Unit			AR36DXFUMGMXCV
US Code		Indoor Unit			RNX36UMD
		Outdooru Unit			RXX36UMD
Indoor Unit	Control System	Infrared remote control		-	DB96-25924H
		Wired remote control		-	MWR-WG01UN
	Drain Pump	Drain Pump		-	-
		Max.lifting Height / Displacement		in / gal/h	-
	Additional Accessories	Air Filter		-	Removable / Washable
Outdoor Unit	Power Supply			Φ,#,V,Hz	1,2,208-230,60
	Heat Exchanger	Type		-	Fin & Tube
		Material	Fin	-	Al
			Tube	-	Cu
		Fin Treatment		-	Anti-Corrosion
	Compressor	Model		-	ATQ420D1UNT1
		Type		-	Twin Rotary
		Output		kW	3.6
		Oil	Type	-	POE
			Initial Charge	cc (fl oz)	1,500
	Fan	Type		-	Propeller
		Discharge direction		-	Side
		Quantity		EA	2
		Air Flow Rate		m^3/min	125
				ft^3/min	4,414
	Fan Motor	Type		-	BLDC
		Output		W x n	125 x 2
	Sound Level	Sound Pressure Level	Cooling	dB(A)	50
			Heating	dB(A)	52
		Sound Power Level		dB(A)	69
	External Dimension	Net Weight		kg(lbs)	96.0 (211.6)
		Shipping Weight		kg(lbs)	106.0 (233.7)
		Net Dimensions (WxHxD)		mm	940 x 1,420 x 330
				inch	37.01 x 55.91 x 12.99
		Shipping Dimensions (WxHxD)		mm	995 x 1,598 x 426
				inch	37.17 x 62.91 x 16.77
	Casing	Material	Body	-	Steel
	Operating Temp. Range	Cooling		℃ (℉)	-20~50 (-4~122)
		Heating		℃ (℉)	-25~24 (-13~75)

- Specification may be subject to change without prior notice.
  1) Performances are based on the following test conditions.
     - Cooling : Indoortemperature : 80℉(26.7℃) DB, 67℉(19.4℃) WB, Outdoortemperature : 95℉(35℃) DB, 75℉(23.9℃) WB
     - Heating : Indoortemperature : 70℉(21.1℃) DB, 60℉(15.6℃) WB, Outdoortemperature : 47℉(8.3℃) DB, 43℉(6.1℃) WB
     - Equivalent refrigerant piping length 5m(16.4ft), Level differences : 0m(0ft))
  2) Select wire size based on the value of MCA
  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 R32 (GWP=675) which is fluorinated greenhouse gas.

2. Capacity Table

Max

RNX36UMD(AR36DXFUMGMNCV)+RXX36UMD(AR36DXFUMGMXCV)

Cooling

TC : Total Capacity, SHC : Sensible Heat Capacity, PI : Power Input

Outdoor Temperature (°F, DB)	Indoor Temperature (°F, DB / WB)																				
	68 / 57			72 / 61			77 / 64			80 / 67			82 / 70			86 / 72			90 / 75		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW
-4	32.1	23.2	2.20	33.8	23.9	2.24	35.2	24.6	2.29	36.3	25.4	2.34	37.0	25.2	2.36	38.9	24.9	2.38	40.8	24.4	2.43
70	36.5	26.4	2.33	38.4	27.2	2.38	40.0	28.0	2.43	41.3	28.9	2.48	42.1	28.6	2.50	44.2	28.3	2.52	46.4	27.7	2.57
95	29.2	21.1	2.59	30.7	21.7	2.64	32.0	22.4	2.70	33.0	23.1	2.75	33.7	22.9	2.78	35.3	22.6	2.81	37.1	22.2	2.86
115	30.7	22.1	4.09	32.3	22.8	4.17	33.6	23.5	4.26	34.7	24.3	4.35	35.3	24.0	4.39	37.1	23.8	4.43	39.0	23.3	4.52
122	27.7	21.5	3.75	29.2	22.1	3.83	30.4	22.8	3.91	31.4	23.5	3.99	32.0	23.3	4.03	33.6	23.0	4.07	35.3	22.6	4.15

Heating

TC : Total Capacity, PI : Power Input

Outdoor Temperature (°F, DB)	Indoor Temperature (°F, DB)											
	61		64		68		70		72		75	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
-13	33.0	6.12	32.6	6.06	32.3	6.00	32.0	5.94	31.7	5.88	31.4	5.82
-4	39.2	6.95	38.8	6.89	38.4	6.82	38.0	6.75	37.6	6.68	37.2	6.62
14	43.3	6.95	42.8	6.89	42.4	6.82	42.0	6.75	41.6	6.68	41.2	6.62
32	47.4	6.72	46.9	6.66	46.5	6.59	46.0	6.53	45.5	6.46	45.1	6.40
47	41.2	4.64	40.8	4.59	40.4	4.55	40.0	4.50	39.6	4.46	39.2	4.41
75.2	53.6	5.10	53.0	5.05	52.5	5.00	52.0	4.95	51.5	4.90	51.0	4.85

NOTE

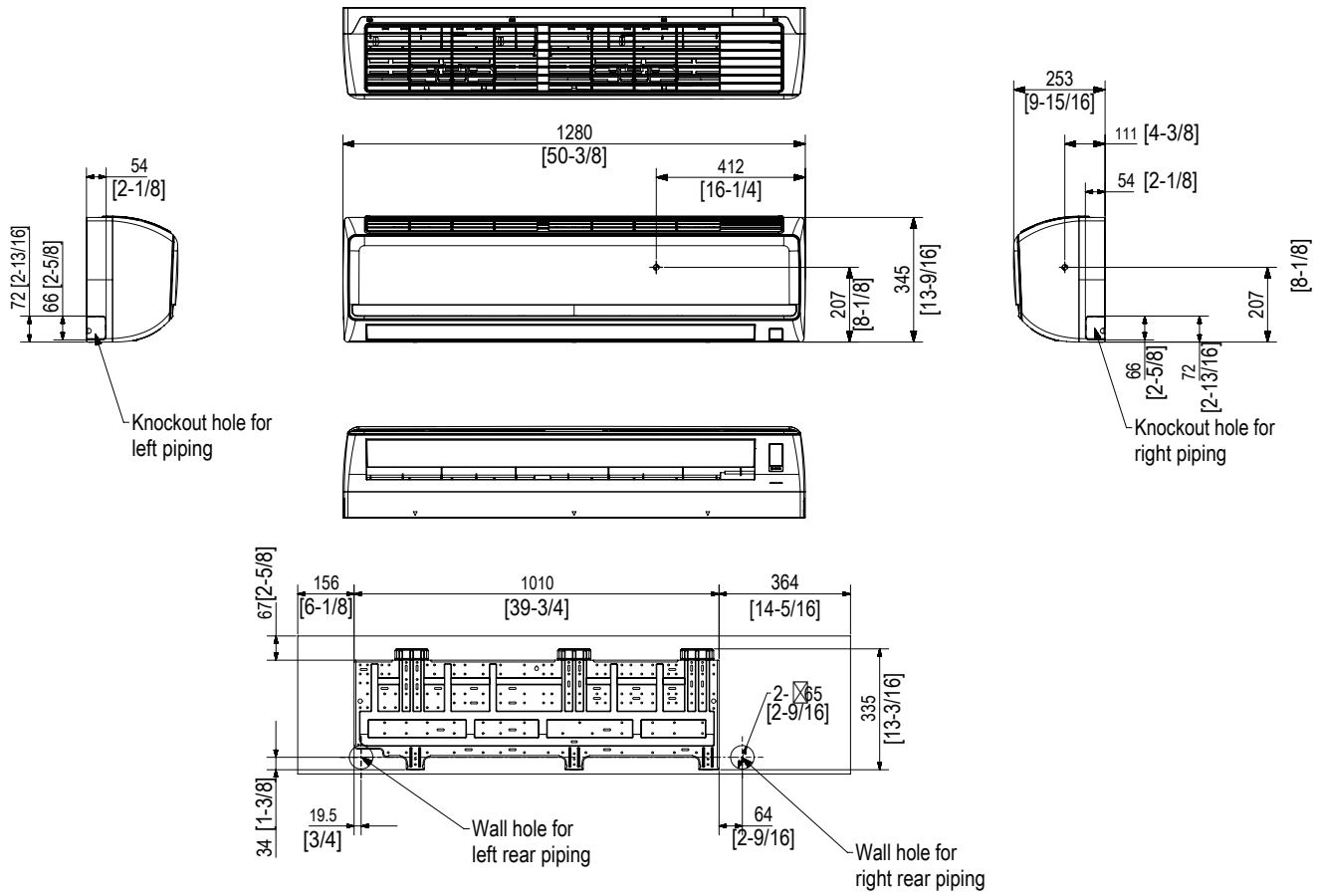
- The performance table shows the average value of each conditions.

3. Dimensional Drawing

Max

RNX36UMD(AR36DXFUMGMNCV)

Units : mm [inches]

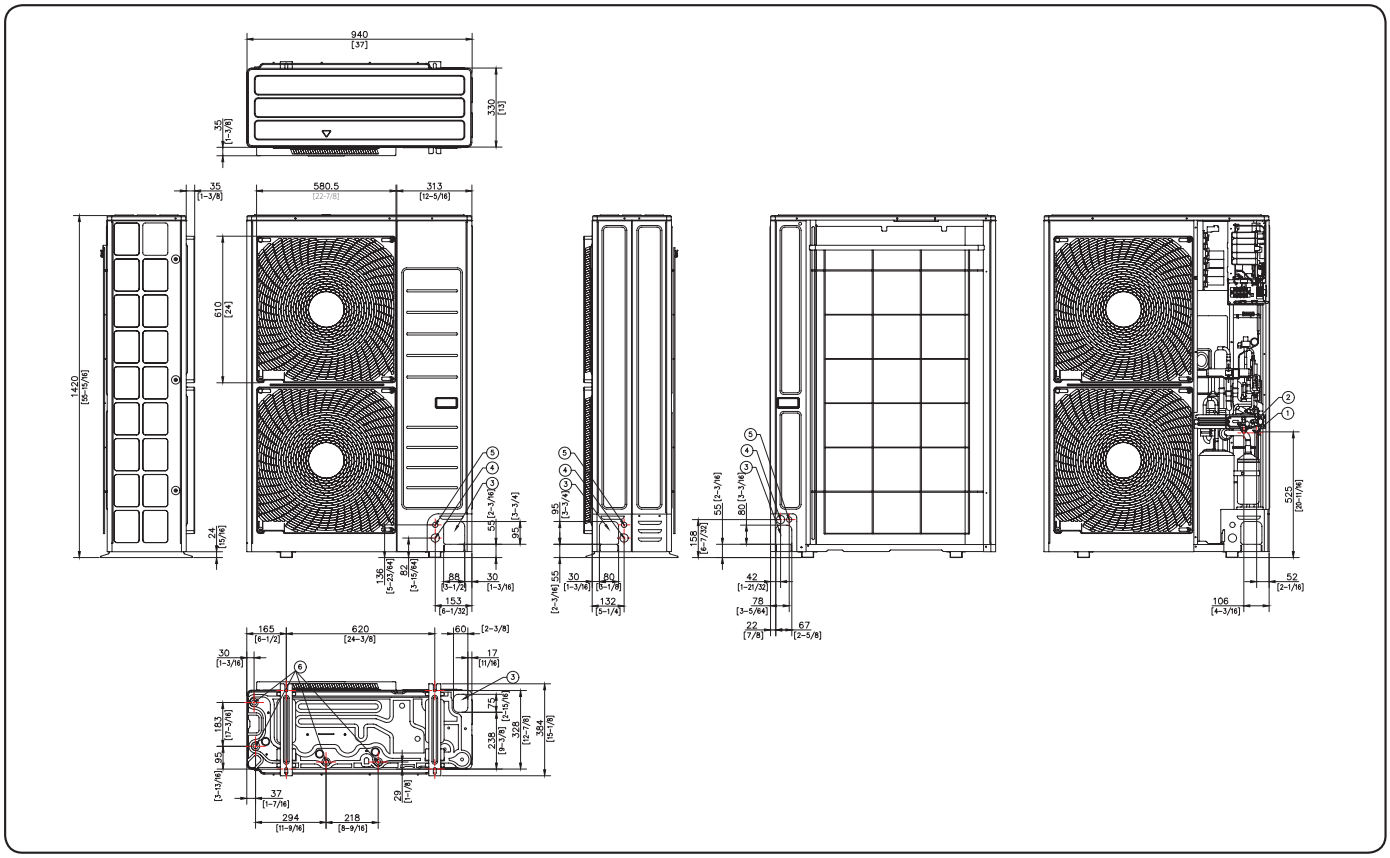


3. Dimensional Drawing

Outdoor Units

RXX36UMD(AR36DXFUMGMXCV)

Units : mm [inches]



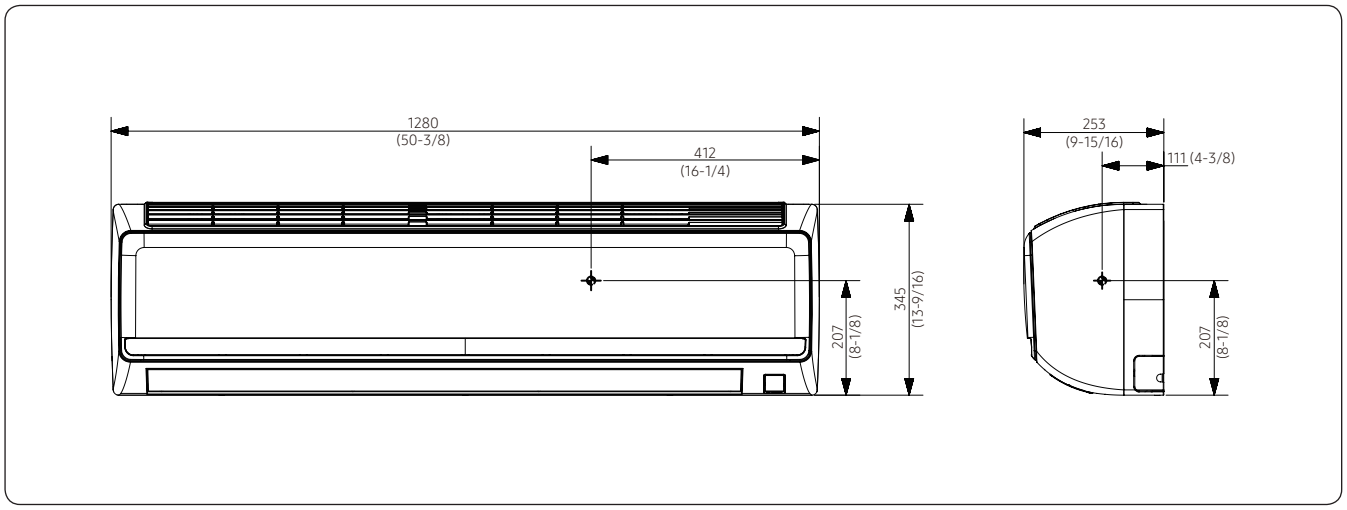
No.	Name	Description
1	Liquid pipe connection	Φ 9.52 (3/8)
2	Gas pipe connection	Φ 15.88 (5/8)
3	Piping intake knockout hole	Front / Side / Rear / Bottom
4	Power wiring conduit	Front / Side / Rear , Φ 3 4(1-3/8)
5	Communication wiring conduit	Front / Side / Rear , Φ 2 2(7/8)
6	Drain Hole	Connect with the provided drain plug

4. Center of Gravity

Max

RNX36UMD(AR36DXFUMGMNCV)

Units : mm [inches]

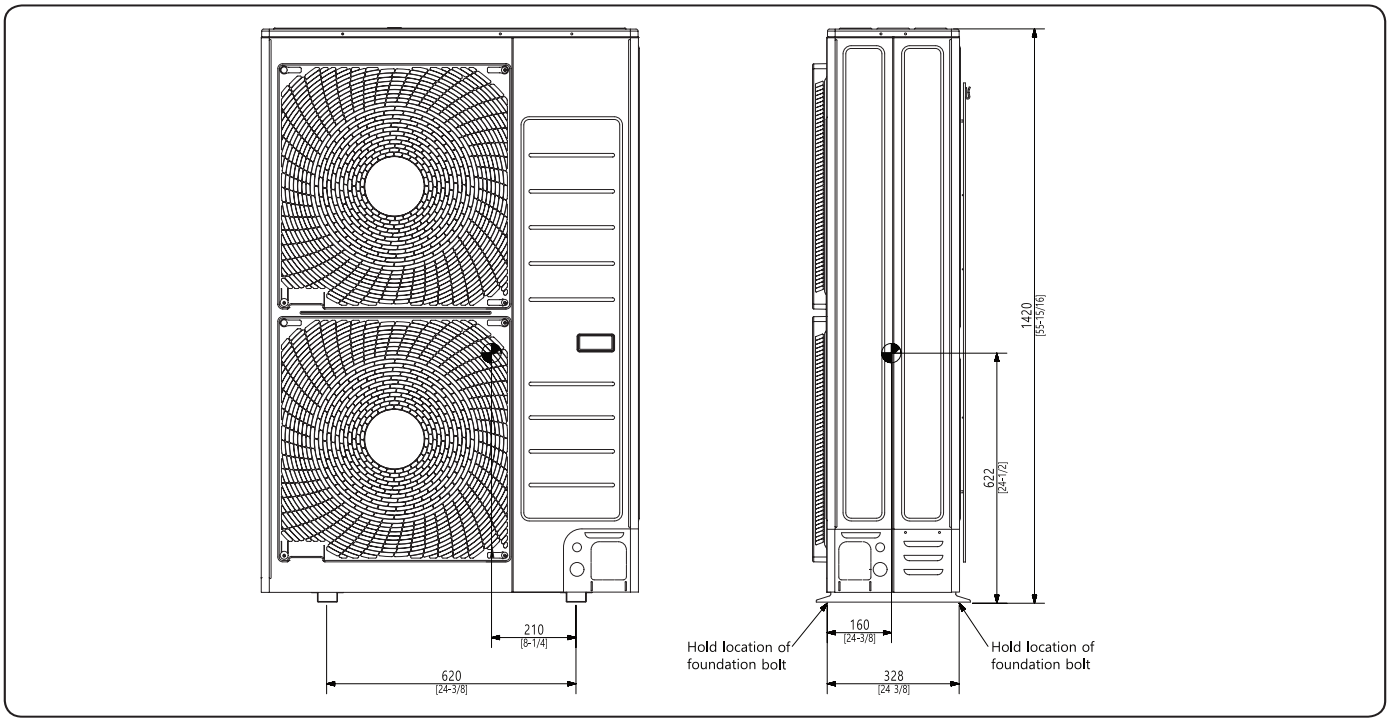


4. Center of Gravity

Outdoor Units

RXX36UMD(AR36DXFUMGMXCV)

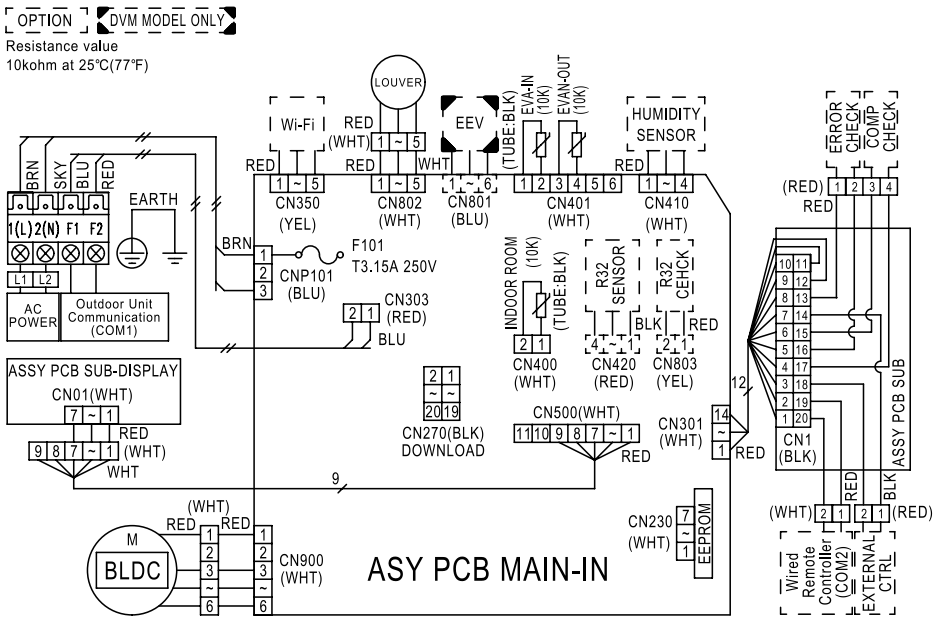
Units : mm [inches]



5. Electrical Wiring Diagram

Max

RNX36UMD(AR36DXFUMGMNCV)



USE COPPER SUPPLY WIRES. UTILISER DES FILS D'ALIMENTATION EN CUIVRE.

ASSY PCB SUB-DISPLAY	DISPLAY SUB PBA	INDOOR ROOM(10K)	Thermistor - Indoor Room	EEV	Electronic Expansion Valve
COMP CHECK	Contact output port for compressor operation check	EVA IN(10K)	Thermistor - IDU heat exchanger In	F101	Fuse
ERROR CHECK	Contact output port for error check	EVA OUT(10K)	Thermistor - IDU heat exchanger Out	EEPROM	EEPROM SUB PBA
R32 SENSOR	R32 Gas sensor	EXTERNAL CTRL	Input port for external contact control		
R32 CHECK	Contact output port for R32 Gas check	M-BLDC	Motor for Indoor Fan		

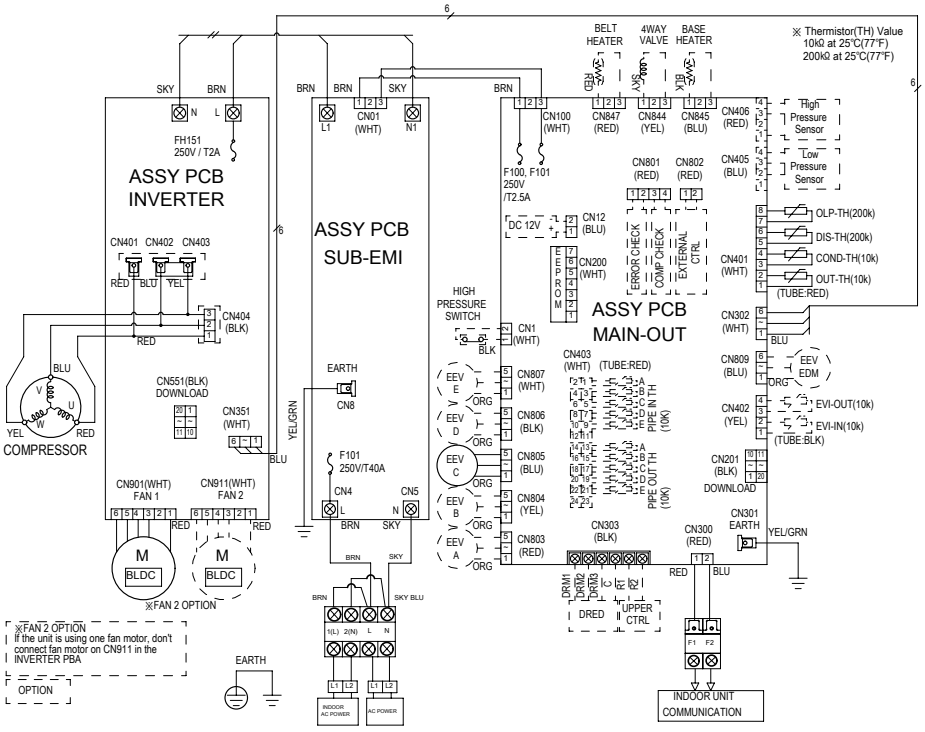
NOTE

- 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, N : The wire quantity

5. Electrical Wiring Diagram

Outdoor Units

RXX36UMD(AR36DXFUMGMXCV)



M-BLDC	Motor for outdoor Fan	PIPE IN TH(10K)	Thermistor - ODU PIPE IN	EEV	Electronic Expansion Valve
ERROR CHECK	Contact output port for error check	PIPE OUT TH(10K)	Thermistor - ODU PIPE OUT	EXTERNAL CRTL	Input port for external contact control
COMP CHECK	Contact output port for compressor operation check	OUT-TH(10K)	OUTDOOR TEMPERATURE SENSOR	F100, F101	Fuse
INDOOR ROOM(10K)	Thermistor - Indoor Room	DIS-TH(200K)	DISCHARGE TEMPERATURE SENSOR	DISPLAY	Panel LED display
EVI-IN(10K)	ESC IN TEMPERATURE SENSOR	COND-TH(10K)	CONDENSOR TEMPERATURE SENSOR		
EVI-OUT(10K)	ESC OUT TEMPERATURE SENSOR	OLP-TH(200K)	OLP TEMPERATURE SENSOR		

NOTE

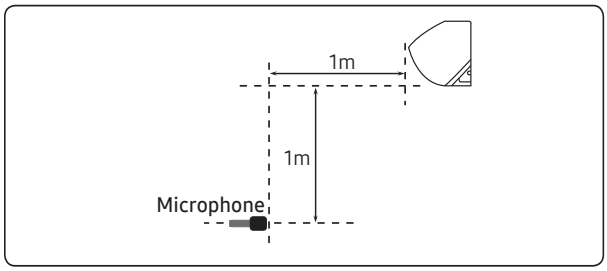
- This wiring diagram applies only to the outdoor unit.
- Colors blk: black, red: red, blu: blue, wht: white, yel: yellow, brn: brown, sky: skyblue
- When operating, don't shortcircuit the protection device (High Pressure switch)
- For connection wiring indoor-outdoor transmission F1-F2, outdoor-outdoor transmission OF1-OF2, refer to the installation manual.
- ⏚ Protective earth(screw), ▭▭▭ : connector, ⫽ : The wire quantity

6. Sound Data

Max

Sound Pressure level

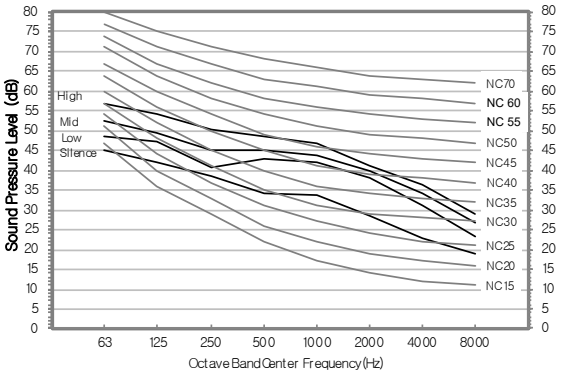
Unit: dB(A)



Model	High	Mid	Low	Silence
RNX36UMD(AR36DXFUMGMNCV)	51	48	46	38

- NC Curve

1) RNX36UMD(AR36DXFUMGMNCV)



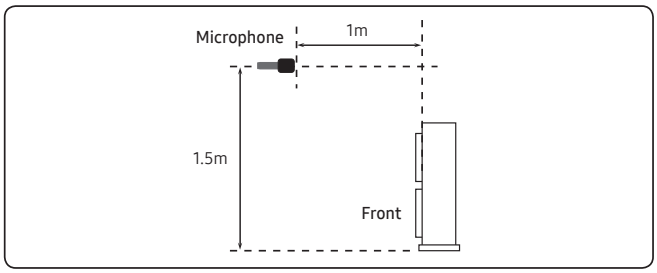
NOTE

- 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.
  - dBA = A weighted sound pressure level
  - Reference acoustic pressure 0 dB = 20μPa

6. Sound Data

Outdoor Units

Sound Pressure level

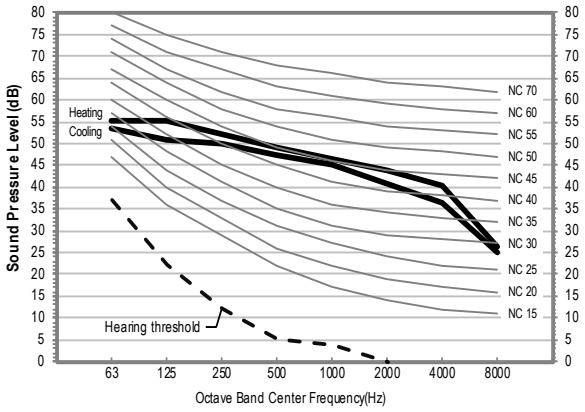


Unit: dB(A)

Model	Cooling	Heating
RXX36UMD(AR36DXFUMGMXCV)	50	52

- NC Curve

1) RXX36UMD(AR36DXFUMGMXCV)



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.
  - dBA = A weighted sound pressure level
  - Reference acoustic pressure 0 dB = 20μPa

6. Sound Data

Max

Sound Power level

NOTE

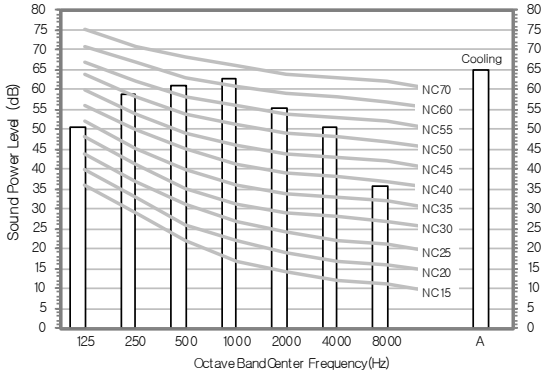
- Specifications may be subject to change without prior notice
  - Sound power level is an absolute value that a sound source generates.
  - dBA = A-weighted sound power level.
  - Reference power : 1pW.
  - Measured according to ISO 3741.

Unit: dB(A)

Model	Cooling
RNX36UMD(AR36DXFUMGMNCV)	65

- NC Curve

1) RNX36UMD(AR36DXFUMGMNCV)



6. Sound Data

Outdoor Units

Sound Power level

NOTE

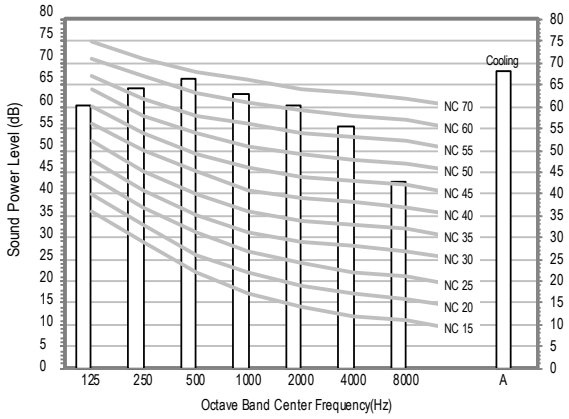
- Specifications may be subject to change without prior notice
  - Sound power level is an absolute value that a sound source generates.
  - dBA = A-weighted sound power level.
  - Reference power : 1pW.
  - Measured according to ISO 3741.

Unit: dB(A)

Model	Cooling
RXX36UMD(AR36DXFUMGMXCV)	69

- NC Curve

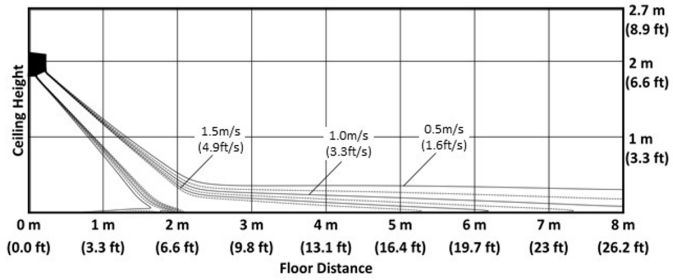
1) RXX36UMD(AR36DXFUMGMXCV)

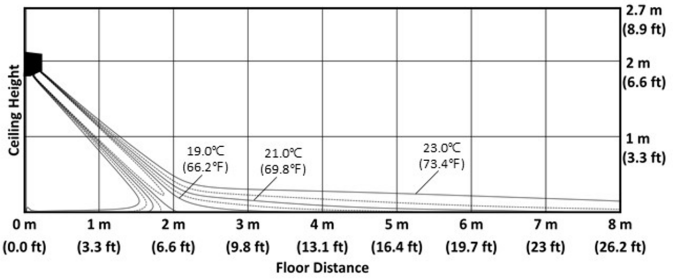


7. Temperature and air flow distribution

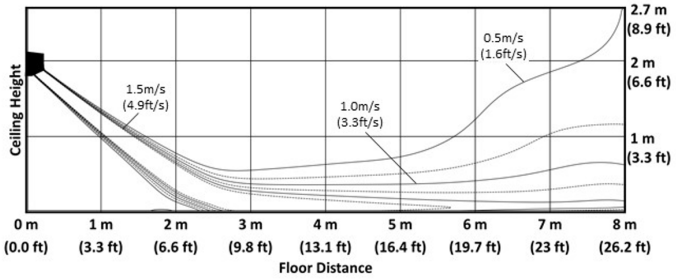
Max

RNX36UMD(AR36DXFUMGMNCV)+RXX36UMD(AR36DXFUMGMXCV)

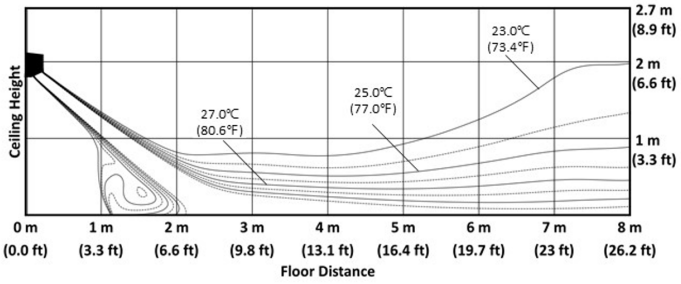




- Heating Air Velocity distribution
  (Discharge angle : 30 degree)



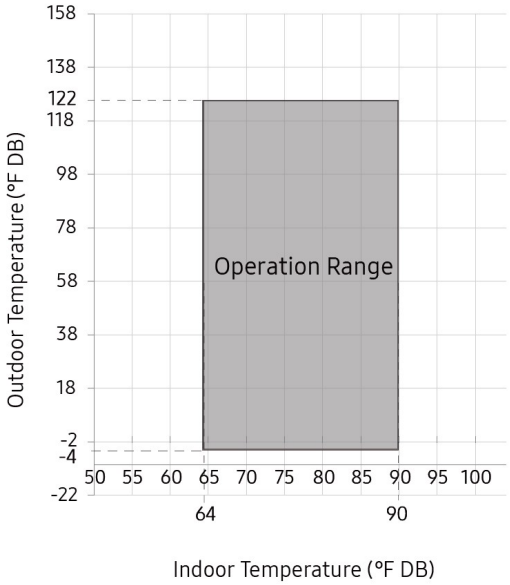
- Heating temperature distribution
  (Discharge angle : 30 degree)



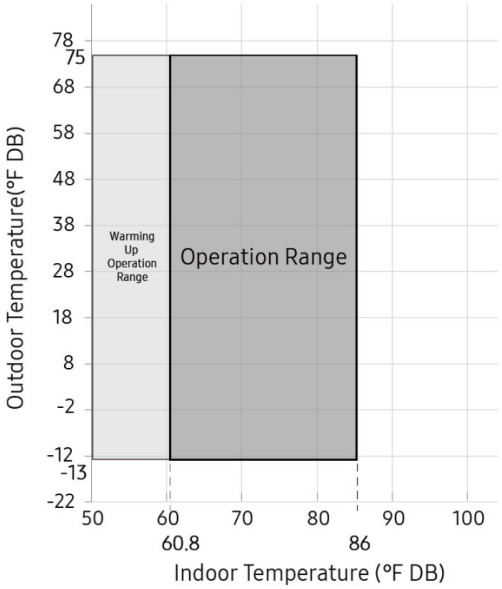
8. Operation Range

Outdoor Units

Cooling



Heating

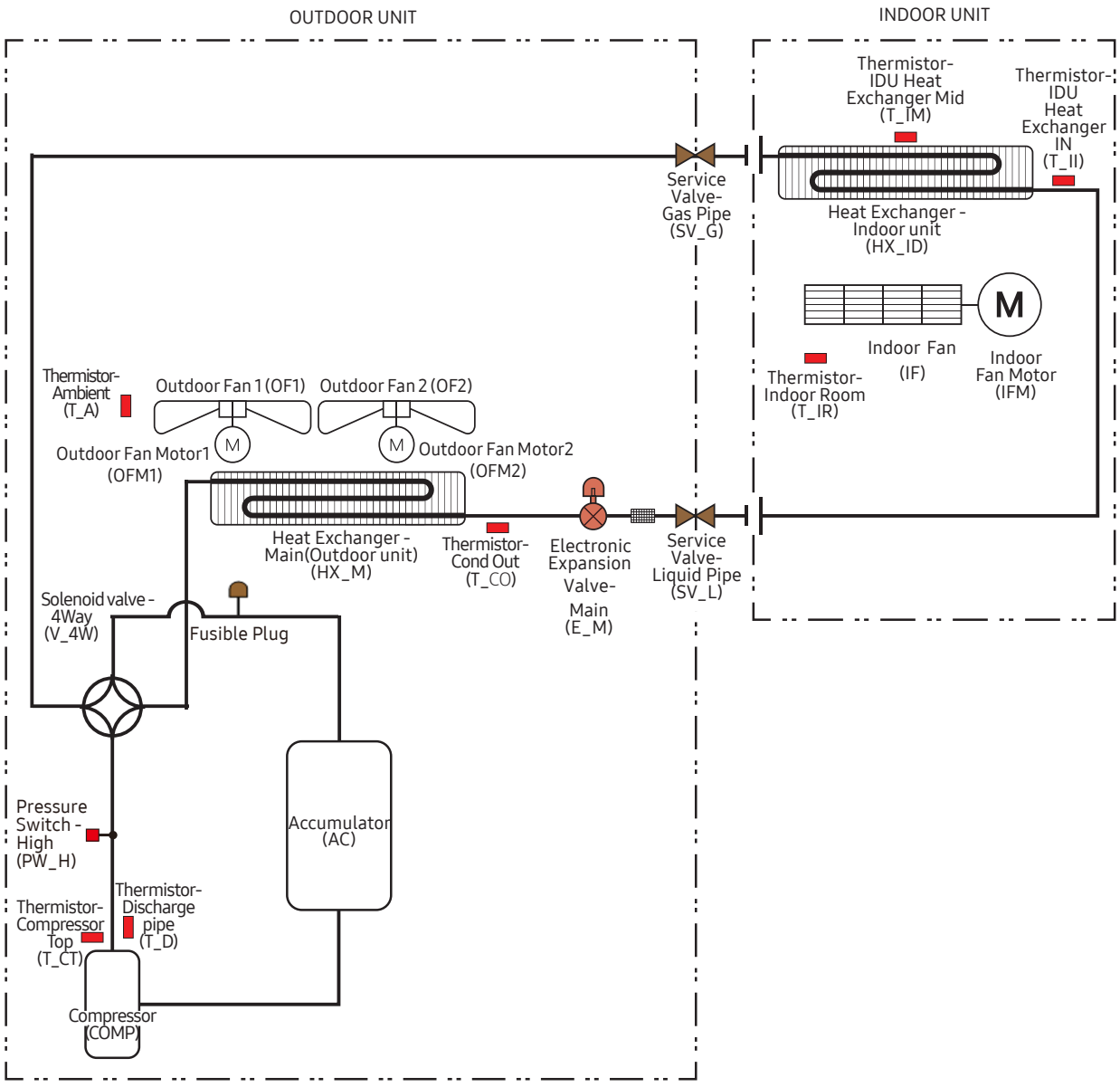


NOTE

- The assumed installation conditions are follows
  - The pipe length(including elbow) is 7.5m(24.6ft).
  - The level difference is 0 m.

9. Piping Diagram

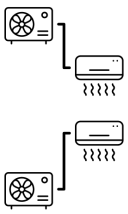
Outdoor Units



10. Capacity Correction

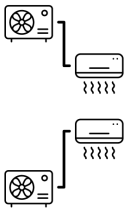
Outdoor Units

Cooling



Level Difference (ft)	Pipe Length (ft)														
	24.6	32.8	49.2	65.6	82.0	98.4	114.8	131.2	147.6	164.0	180.4	196.9	213.3	229.7	246.1
98.4	-	-	-	-	-	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
82.0	-	-	-	-	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
65.6	-	-	-	0.97	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
49.2	-	-	0.98	0.97	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
32.8	-	0.99	0.98	0.97	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
16.4	1.00	0.99	0.98	0.97	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
0.0	1.00	0.99	0.98	0.97	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
-16.4	1.00	0.99	0.98	0.97	0.96	0.95	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87
-32.8	-	0.98	0.98	0.97	0.96	0.95	0.94	0.93	0.93	0.92	0.91	0.90	0.89	0.87	0.85
-49.2	-	-	0.97	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.86	0.84
-65.6	-	-	-	0.96	0.95	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.86	0.83
-82.0	-	-	-	-	0.95	0.94	0.93	0.93	0.92	0.91	0.90	0.88	0.87	0.85	0.81
-98.4	-	-	-	-	-	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.86	0.84	0.80

Heating



Level Difference (ft)	Pipe Length (ft)														
	24.6	32.8	49.2	65.6	82.0	98.4	114.8	131.2	147.6	164.0	180.4	196.9	213.3	229.7	246.1
98.4	-	-	-	-	-	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
82.0	-	-	-	-	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
65.6	-	-	-	0.97	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
49.2	-	-	0.98	0.97	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
32.8	-	0.99	0.98	0.97	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
16.4	1.00	0.99	0.98	0.97	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
0.0	1.00	0.99	0.98	0.97	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
-16.4	1.00	0.99	0.98	0.97	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
-32.8	-	0.99	0.98	0.97	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
-49.2	-	-	0.98	0.97	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
-65.6	-	-	-	0.97	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
-82.0	-	-	-	-	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88
-98.4	-	-	-	-	-	0.96	0.95	0.94	0.93	0.92	0.91	0.91	0.90	0.89	0.88

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