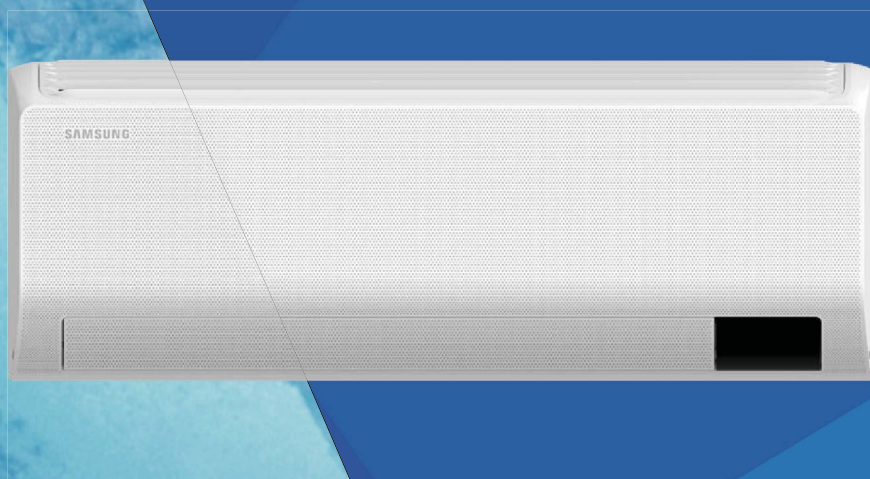


SAMSUNG

RAC

Technical Data Book

**RAC for North America
(INV, R410A, 60Hz, HP)**



Model : AR**BSFCMWKNCV (Indoor Unit)
AR**BSFCMWKXCV (Outdoor Unit)

Nomenclature

Model Name

AR	09	B	S	F	C	M	WK	N	CV
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	Buyer

(1) Classification

AR	RAC
----	-----

(2) Capacity

x1000 Btu/h

(3) Year

B	2022
---	------

(4) Product Type

S	INVERTER HPR410A
---	------------------

(5) Characteristics

C	Motion Detect Sensor +Wi-Fi + Tri-care Filter
E	Wi-Fi + Tri-care Filter
F	Wi-Fi
H	-

(6) Design Segment

C	WindFree 2.0e
---	---------------

(7) Version

A-Z (1 digit)

(8) Color

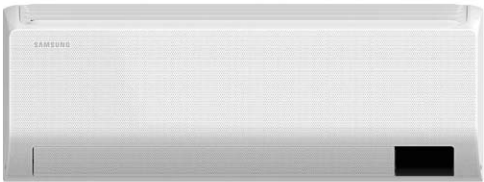
WK	DA White
----	----------

(9) Set

N	Indoor Unit
X	Outdoor Unit
/	Set

Line-up

Indoor Unit

Model Type	Design	Image	
WindFree 2.0e	Wind-Free		

Model Type	Design	Capacity (kBtu/h)			
		9	12	18	24
WindFree 2.0e	Wind-Free	●	●	●	●

* The Wind-Free™ unit delivers an air current that is under 0.15 m/s while in Wind-Free™ mode. Air velocity that is below 0.15 m/s is considered "still air" as defined by ASHRAE 55-2013 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers).

Line-up

Outdoor Unit

Model Type	Design	Capacity (kW)			
		9	12	18	24
WindFree 2.0e	Wind-Free				

* The Wind-Free™ unit delivers an air current that is under 0.15 m/s while in Wind-Free™ mode. Air velocity that is below 0.15 m/s is considered "still air" as defined by ASHRAE 55-2013 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers).

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1. Specification

WindFree 2.0e

Model Name		Indoor Unit			AR09BSFCMWKNCV		AR12BSFCMWKNCV		
		Outdoor Unit			AR09BSFCMWKXCV		AR12BSFCMWKXCV		
US Code		Indoor Unit			RNS09CMB		RNS12CMB		
		Outdoor Unit			RXS09CMB		RXS12CMB		
System	Mode				HEAT PUMP		HEAT PUMP		
	Performance	Capacity (Min/Std/Max)	Cooling	kW	0.88 / 2.64 / 3.52		0.88 / 3.52 / 4.25		
				Btu/h	3,000 / 9,000 / 12,000		3,000 / 12,000 / 14,500		
				US RT	0.25 / 0.75 / 1.0		0.25 / 1.0 / 1.21		
			Heating	kW	0.66 / 3.22 / 5.57		0.76 / 3.52 / 5.86		
				Btu/h	2,250 / 11,000 / 19,000		2,600 / 12,000 / 20,000		
				US RT	0.19 / 0.92 / 1.58		0.22 / 1.0 / 1.67		
	Power	Power Input (Min/Std/Max)	Cooling	kW	0.18 / 0.65 / 1.15		0.18 / 1.0 / 1.33		
			Heating	kW	0.15 / 0.87 / 2.05		0.16 / 0.96 / 2.1		
		Current Input (Min/Std/Max)	Cooling	A	1.2 / 3.1 / 5.4		1.2 / 4.8 / 6.2		
			Heating	A	1.0 / 4.2 / 9.1		1.1 / 4.6 / 9.3		
		Current	MCA	A	12		12.5		
			MOP	A	20		20		
	Efficiency	EER	Cooling	(Btu/h)/W	13.95		12.05		
		COP	Heating	W/W	3.73		3.66		
		SEER (Cooling Energy Grade)		(Btu/h)/W	23.5		21.5		
		HSPF (Heating Energy Grade)		(Btu/h)/W	12.0		12.0		
		Piping Connections	Liquid Pipe		Type	Flare connection		Flare connection	
	Φ, mm (inch)				6.35 (1/4)		6.35 (1/4)		
	Gas Pipe		Type	Flare connection		Flare connection			
			Φ, mm (inch)	9.52 (3/8)		9.52 (3/8)			
	Heat Insulation		-	Both liquid and gas pipes		Both liquid and gas pipes			
	Installation Limitation		Max. Length (Outdoor to indoor)	m	20		20		
				ft	66		66		
			Max. Height (Between ID/OD)	m	15		15		
		ft		49		49			
	Wiring connections	Communication	Min.	mm ²	0.75		0.75		
			Remark	-	F1, F2		F1, F2		
		Power Supply	-			Outdoor unit powers indoor unit		Outdoor unit powers indoor unit	
	Refrigerant	Type		-	R410A		R410A		
		Factory Charging		kg	1		1		
lbs				2.2		2.2			
Indoor Unit	Power Supply			Ø, #, V, Hz	1, 2, 208-230, 60		1, 2, 208-230, 60		
	Heat Exchanger	Type		-	F&T		F&T		
		Material	Fin	-	Al		Al		
			Tube	-	Cu		Cu		
		Fin Treatment		-	Green Hydrophile		Green Hydrophile		
	Fan	Type		-	Cross Flow		Cross Flow		
		Quantity		EA	1		1		
		Air Flow Rate	Cooling (T/H/M/L)	CMM	10.5 / 10 / 9.5 / 8.5		10.9 / 10.5 / 9.5 / 8.5		
				CFM	370.8 / 353.15 / 335.49 / 300.17		384.93 / 370.8 / 335.49 / 300.17		
			Heating (T/H/M/L)	CMM	11.4 / 10.9 / 10.5 / 9.5		11.9 / 11.4 / 10.5 / 9.5		
				CFM	402.59 / 384.93 / 370.8 / 335.49		420.24 / 402.59 / 370.8 / 335.49		
	Fan Motor	Type		-	BLDC		BLDC		
		Output		W x n	27 x 1		27 x 1		
	Drain	Drain Pipe		Φ, mm	16.3, 550		16.3, 550		
	Sound	Sound Pressure Level	H / Silent	dB(A)	37 / 20		38 / 20		
	External Dimension	Net Weight		kg	9.1		9.1		
				lbs	20.1		20.1		
		Shipping Weight		kg	10.4		10.4		
				lbs	22.9		22.9		
		Net Dimensions (WxHxD)		mm	820 x 299 x 215		820 x 299 x 215		
				inch	32.3 x 11.8 x 8.5		32.3 x 11.8 x 8.5		
	Shipping Dimensions (WxHxD)			mm	880 x 290 x 375		880 x 290 x 375		
				inch	34.6 x 11.4 x 14.8		34.6 x 11.4 x 14.8		

1. Specification

WindFree 2.0e

Model Name		Indoor Unit		AR09BSFCMWKNCV	AR12BSFCMWKNCV		
		Outdoor Unit		AR09BSFCMWKXCV	AR12BSFCMWKXCV		
US Code		Indoor Unit		RNS09CMB	RNS12CMB		
		Outdoor Unit		RXS09CMB	RXS12CMB		
Indoor Unit	Casing	Material	-	HIPS	HIPS		
	Control System	Infrared remote control		Included	Included		
		Wired remote control		MWR-WE13UN MWR-WG00UN MWR-SH11UN	MWR-WE13UN MWR-WG00UN MWR-SH11UN		
	Drain Pump	Drain Pump		-	-		
		Max. lifting Height / Displacement		mm / Liter/h	-		
	Additional Accessories	Drain Pump	External Model	-	-		
			Internal Model	-	-		
		Max. lifting Height / Displacement	mm / Liter/h	-	-		
				Easy Filter Plus		Removable / Washable	Removable / Washable
		Tri-Care Filter		-	-		
		Motion Detect Sensor		-	-		
	Wi-Fi		-	○	○		
	Outdoor Unit	Power Supply		Ø, #, V, Hz	1, 2, 208-230, 60	1, 2, 208-230, 60	
Heat Exchanger		Type		-	F&T	F&T	
		Material	Fin	-	Al	Al	
			Tube	-	Cu	Cu	
		Fin Treatment		-	Anti-Corrosion	Anti-Corrosion	
Compressor		Model Name			KTN130D42UFR	KTN130D42UFR	
		Type		-	BLDC ROTARY	BLDC ROTARY	
		Output		kW	4.09	4.09	
		Oil	Type	-	POE	POE	
Initial charge			cc	350	350		
Fan		Type		-	Propeller	Propeller	
		Discharge direction		-	Front	Front	
		Quantity		EA	1	1	
		Air Flow Rate	CMM	45	45		
			CFM	1,589	1,589		
Fan Motor		Type		-	BLDC	BLDC	
		Output		W x n	40 x 1	40 x 1	
Sound		Sound Pressure Level	Cooling	dB(A)	45	46	
External Dimension		Net Weight		kg	31.7	31.7	
				lbs	69.9	69.9	
		Shipping Weight		kg	33.9	33.9	
				lbs	74.7	74.7	
		Net Dimensions (WxHxD)		mm	790 x 548 x 285	790 x 548 x 285	
				inch	31.1 x 21.6 x 11.2	31.1 x 21.6 x 11.2	
		Shipping Dimensions (WxHxD)		mm	913 x 622 x 371	913 x 622 x 371	
				inch	35.9 x 24.5 x 14.6	35.9 x 24.5 x 14.6	
Casing		Material	Body	-	EGI Steel Plate / PP	EGI Steel Plate / PP	
Operating Temp. Range		Cooling		°F	14.0~114.8	14.0~114.8	
		Heating		°F	-5.1~ 75.2	-5.1~ 75.2	

NOTE

- Specifications may be subject to change without prior notice.
- 1) Nominal cooling capacities are based on;
Indoor temperature: 27°C DB, 19°C WB (80°F DB/67°F WB)
Outdoor temperature: 35°C DB, 24°C WB (95°F DB/75°F WB), Equivalent refrigerant piping: 5m (16.4ft), Level differences: 0 m (0ft).
- 2) Nominal heating capacities are based on;
Indoor temperature: 20°C DB, 15°C WB (68°F DB/59°F WB)
Outdoor temperature: 7°C DB, 6°C WB (44.6°F DB/42.8°F WB), Equivalent refrigerant piping: 5m (16.4ft), Level differences: 0 m (0ft).
- 3) Sound pressure was acquired in an anechoic room. Thus actual noise level may be different depending on the installation conditions.
- 4) These products contain R410A which is fluorinated greenhouse gas.

* The Wind-Free™ unit delivers an air current that is under 0.15 m/s while in Wind-Free™ mode.

Air velocity that is below 0.15 m/s is considered "still air" as defined by ASHRAE 55-2013 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers).

1. Specification

WindFree 2.0e

Model Name		Indoor Unit			AR18BSFCMWKNCV		AR24BSFCMWKNCV			
		Outdoor Unit			AR18BSFCMWKXCV		AR24BSFCMWKXCV			
US Code		Indoor Unit			RNS18CMB		RNS24CMB			
		Outdoor Unit			RXS18CMB		RXS24CMB			
System	Mode				HEAT PUMP		HEAT PUMP			
	Performance	Capacity (Min/Std/Max)	Cooling	kW	1.61 / 5.28 / 6.45		2.58 / 6.45 / 8.5			
				Btu/h	5,500 / 18,000 / 22,000		8,800 / 22,000 / 29,000			
				US RT	0.46 / 1.5 / 1.83		0.73 / 1.83 / 2.42			
			Heating	kW	1.17 / 6.15 / 7.18		2.2 / 7.03 / 11.72			
				Btu/h	4,000 / 21,000 / 24,500		7,500 / 24,000 / 40,000			
				US RT	0.33 / 1.75 / 2.04		0.62 / 2 / 3.33			
	Power	Power Input (Min/Std/Max)	Cooling	kW	0.3 / 1.63 / 1.98		0.52 / 2.1 / 3.0			
			Heating	kW	0.27 / 1.85 / 2.0		0.48 / 2.29 / 4.3			
		Current Input (Min/Std/Max)	Cooling	A	2.0 / 7.4 / 9.2		2.7 / 9.8 / 13.5			
			Heating	A	2.2 / 8.2 / 9.0		2.6 / 10.5 / 18.9			
		Current	MCA	A	16		20			
			MOP	A	25		30			
	Efficiency	EER	Cooling	(Btu/h)/W	11.05		10.50			
		COP	Heating	W/W	3.33		3.07			
		SEER (Cooling Energy Grade)		(Btu/h)/W	20.0		18.0			
		HSPF (Heating Energy Grade)		(Btu/h)/W	11.0		9.0			
	Piping Connections	Liquid Pipe			Type	Flare connection		Flare connection		
					Φ, mm (inch)	6.35 (1/4)		6.35 (1/4)		
			Gas Pipe			Type	Flare connection		Flare connection	
						Φ, mm (inch)	12.7 (1/2)		15.88 (5/8)	
		Heat Insulation				-	Both liquid and gas pipes		Both liquid and gas pipes	
		Installation Limitation	Max. Length (Outdoor to indoor)	m	30		30			
				ft	98		98			
			Max. Height (Between ID/OD)	m	20		20			
				ft	66		66			
	Wiring connections	Communication	Min.	mm ²	0.75		0.75			
			Remark	-	F1, F2		F1, F2			
	Refrigerant	Power Supply				Outdoor unit powers indoor unit		Outdoor unit powers indoor unit		
		Type			-	R410A		R410A		
		Factory Charging			kg	1.3		1.8		
			lbs	2.87		3.97				
Indoor Unit	Power Supply			Ø, #, V, Hz	1, 2, 208-230, 60		1, 2, 208-230, 60			
	Heat Exchanger	Type		-	F&T		F&T			
		Material	Fin	-	Al		Al			
			Tube	-	Cu		Cu			
		Fin Treatment				-	Green Hydrophile		Green Hydrophile	
	Fan	Type				-	Cross Flow		Cross Flow	
		Quantity				EA	1		1	
		Air Flow Rate	Cooling (T/H/M/L)	CMM	16.5 / 15.8 / 14.4 / 13		18.6 / 17.2 / 15.1 / 13			
				CFM	582.69 / 557.97 / 508.53 / 459.09		656.85 / 607.41 / 533.25 / 459.09			
			Heating (T/H/M/L)	CMM	16.5 / 15.8 / 14.4 / 13		18.6 / 17.2 / 15.1 / 13			
				CFM	582.69 / 557.97 / 508.53 / 459.09		656.85 / 607.41 / 533.25 / 459.09			
	Fan Motor	Type				-	BLDC		BLDC	
		Output				W x n	27 x 1		27 x 1	
	Drain	Drain Pipe				Φ, mm	16.3, 550		16.3, 550	
	Sound	Sound Pressure Level	H / Silent			dB(A)	41 / 28		45 / 30	
	External Dimension	Net Weight				kg	11.5		11.5	
						lbs	25.4		25.4	
		Shipping Weight				kg	13.1		13.2	
						lbs	28.9		29.1	
		Net Dimensions (WxHxD)				mm	1,055 x 299 x 215		1,055 x 299 x 215	
						inch	41.5 x 11.8 x 8.5		41.5 x 11.8 x 8.5	
		Shipping Dimensions (WxHxD)				mm	1,115 x 290 x 375		1,115 x 290 x 375	
						inch	43.9 x 11.4 x 14.8		43.9 x 11.4 x 14.8	

1. Specification

WindFree 2.0e

Model Name		Indoor Unit		AR18BSFCMWKNCV		AR24BSFCMWKNCV			
		Outdoor Unit		AR18BSFCMWKXCV		AR24BSFCMWKXCV			
US Code		Indoor Unit		RNS18CMB		RNS24CMB			
		Outdoor Unit		RXS18CMB		RXS24CMB			
Indoor Unit	Casing	Material		-	HIPS		HIPS		
	Control System	Infrared remote control		-	Included		Included		
		Wired remote control		-	MWR-WE13UN MWR-WG00UN MWR-SH11UN		MWR-WE13UN MWR-WG00UN MWR-SH11UN		
	Drain Pump	Drain Pump		-	-		-		
		Max. lifting Height / Displacement		mm / Liter/h	-		-		
	Additional Accessories	Drain Pump	External Model		-	-			
			Internal Model		-	-			
			Max. lifting Height / Displacement		mm / Liter/h	-			
		Easy Filter Plus		-	Removable / Washable		Removable / Washable		
		Tri-Care Filter		-	-		-		
		Motion Detect Sensor		-	-		-		
	Wi-Fi		-	○		○			
	Outdoor Unit	Power Supply			Ø, #, V, Hz	1, 2, 208-230, 60		1, 2, 208-230, 60	
Heat Exchanger		Type		-	F&T		F&T		
		Material	Fin	-	Al		Al		
			Tube	-	Cu		Cu		
		Fin Treatment		-	Anti-Corrosion		Anti-Corrosion		
Compressor		Model Name			UG9TK3150FE4		UG8TH8265FEW		
		Type		-	BLDC ROTARY		BLDC ROTARY		
		Output		kW	4.57		7.29		
		Oil	Type	-	POE		POE		
			Initial charge	cc	500		700		
Fan		Type		-	Propeller		Propeller		
		Discharge direction		-	Front		Front		
		Quantity		EA	1		1		
		Air Flow Rate		CMM	50		67		
				CFM	1,766		2,365		
Fan Motor		Type		-	BLDC		BLDC		
		Output		W x n	40 x 1		125 x 1		
Sound		Sound Pressure Level	Cooling	dB(A)	51		56		
		External Dimension		Net Weight		kg	39.5		55.6
						lbs	87.1		122.6
				Shipping Weight		kg	42.6		59.2
						lbs	93.9		130.5
				Net Dimensions (WxHxD)		mm	880 x 638 x 310		880 x 798 x 310
						inch	34.6 x 25.1 x 12.2		34.6 x 31.4 x 12.2
				Shipping Dimensions (WxHxD)		mm	1,023 x 724 x 413		1,023 x 896 x 413
						inch	40.3 x 28.5 x 16.3		40.3 x 35.3 x 16.3
		Casing	Material	Body	-	EGI Steel Plate / PP		EGI Steel Plate / PP	
		Operating Temp. Range	Cooling		°F	14.0~114.8		14.0~114.8	
			Heating		°F	-5.1~ 75.2		-5.1~ 75.2	

NOTE

- Specifications may be subject to change without prior notice.
- 1) Nominal cooling capacities are based on;
Indoor temperature: 27°C DB, 19°C WB (80°F DB/67°F WB)
Outdoor temperature: 35°C DB, 24°C WB (95°F DB/75°F WB), Equivalent refrigerant piping: 5m (16.4ft), Level differences: 0 m (0ft).
- 2) Nominal heating capacities are based on;
Indoor temperature: 20°C DB, 15°C WB (68°F DB/59°F WB)
Outdoor temperature: 7°C DB, 6°C WB (44.6°F DB/42.8°F WB), Equivalent refrigerant piping: 5m (16.4ft), Level differences: 0 m (0ft).
- 3) Sound pressure was acquired in an anechoic room. Thus actual noise level may be different depending on the installation conditions.
- 4) These products contain R410A which is fluorinated greenhouse gas.

* The Wind-Free™ unit delivers an air current that is under 0.15 m/s while in Wind-Free™ mode.

Air velocity that is below 0.15 m/s is considered "still air" as defined by ASHRAE 55-2013 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers).

2. Capacity Table

WindFree 2.0e

RNS09CMB+RXS09CMB (AR09BSFCMWKNCV+AR09BSFCMWKXCV)

Cooling

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

Outdoor Temperature (°F, DB)	Indoor Temperature (°F, DB / WB)																							
	64 / 53			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	TC	SHC	PI
	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW
14	9.6	8.0	0.4	10.1	8.4	0.5	10.6	8.8	0.6	11.3	9.3	0.7	11.8	9.5	0.7	12.2	9.7	0.7	13.1	10.1	0.7	14.2	10.5	0.7
32	9.3	7.8	0.3	9.9	8.3	0.4	10.5	8.7	0.5	11.2	9.2	0.6	11.8	9.5	0.6	12.2	9.7	0.6	13.1	10.1	0.6	14.3	10.6	0.6
50	9.7	8.2	0.3	10.3	8.6	0.4	10.9	9.1	0.5	11.8	9.6	0.6	12.3	9.9	0.6	12.8	10.1	0.6	13.7	10.5	0.6	14.9	11.0	0.6
68	10.2	8.5	0.3	10.8	8.9	0.5	11.3	9.3	0.6	12.1	9.8	0.7	12.7	10.1	0.7	13.1	10.3	0.7	14.1	10.7	0.7	15.1	11.3	0.7
85	10.4	8.6	0.4	11.0	9.1	0.6	11.5	9.5	0.8	12.3	10.0	0.9	12.9	10.3	0.9	13.3	10.5	0.9	14.2	10.9	0.9	15.3	11.4	0.9
95	10.0	8.3	0.5	10.6	8.8	0.7	11.1	9.2	0.9	11.9	9.7	1.0	9.0	7.2	0.6	12.8	10.1	1.0	13.7	10.5	1.1	14.8	11.0	1.0
104	9.4	7.8	0.6	9.9	8.2	0.8	10.4	8.6	1.0	11.1	9.0	1.1	11.6	9.3	1.2	12.0	9.5	1.2	12.8	9.9	1.2	13.9	10.3	1.2
110	8.7	7.2	0.7	9.2	7.7	0.9	9.7	8.0	1.1	10.3	8.4	1.2	10.8	8.7	1.3	11.2	8.9	1.3	12.0	9.2	1.3	13.0	9.7	1.3
115	8.0	6.6	0.7	8.4	7.0	1.0	8.9	7.4	1.1	9.5	7.8	1.3	10.0	8.0	1.3	10.3	8.2	1.4	11.1	8.6	1.4	12.1	9.0	1.4

Heating

TC : Total Capacity, PI : Power Input

Outdoor Temperature (°F, DB)	Indoor Temperature (°F, DB)											
	60		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
-5.08	8.3	1.0	8.0	1.0	8.0	1.0	8.1	1.1	8.3	1.2	8.6	1.4
0	9.7	1.3	9.4	1.2	9.3	1.3	9.4	1.3	9.5	1.4	9.7	1.6
5	10.9	1.5	10.6	1.4	10.5	1.5	10.5	1.5	10.5	1.6	10.5	1.8
14	12.5	1.6	12.3	1.6	12.1	1.6	12.0	1.7	11.9	1.8	11.7	2.0
23	13.5	1.6	13.4	1.6	13.2	1.6	13.0	1.7	12.8	1.8	12.4	1.9
32	14.1	1.5	14.1	1.5	13.9	1.5	13.7	1.6	13.4	1.6	12.8	1.8
41	14.3	1.3	14.5	1.3	14.4	1.3	14.1	1.4	13.7	1.5	13.0	1.6
47	14.3	1.1	14.7	1.1	14.5	1.2	11.0	0.9	13.9	1.3	13.0	1.5
55	14.1	1.0	14.7	1.0	14.7	1.1	14.4	1.1	14.0	1.2	13.1	1.3
65	13.8	0.9	14.7	0.9	14.9	1.0	14.7	1.1	14.2	1.1	13.2	1.2
75.2	13.5	1.0	14.8	1.1	15.2	1.1	15.0	1.2	14.6	1.2	13.6	1.4

NOTE

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

2. Capacity Table

WindFree 2.0e

RNS12CMB+RXS12CMB (AR12BSFCMWKNCV+AR12BSFCMWKXCV)

Cooling

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

Outdoor Temperature (°F, DB)	Indoor Temperature (°F, DB / WB)																							
	64 / 53			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	TC	SHC	PI
	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW
14	10.9	8.7	0.5	11.0	9.1	0.6	11.3	9.5	0.7	12.2	10.0	0.8	12.8	10.3	0.8	13.3	10.5	0.8	14.3	11.0	0.8	15.3	11.4	0.8
32	10.8	8.7	0.3	10.9	9.1	0.4	11.4	9.5	0.5	12.3	10.1	0.6	13.0	10.4	0.6	13.5	10.7	0.7	14.6	11.1	0.7	15.7	11.6	0.6
50	11.3	9.2	0.3	11.5	9.6	0.4	12.0	10.1	0.5	13.0	10.6	0.6	13.7	11.0	0.7	14.2	11.2	0.7	15.3	11.7	0.7	16.5	12.3	0.7
68	12.0	9.7	0.4	12.1	10.1	0.6	12.7	10.6	0.7	13.6	11.1	0.8	14.3	11.4	0.8	14.9	11.8	0.9	16.0	12.3	0.9	17.2	12.8	0.8
85	12.1	9.8	0.6	12.3	10.2	0.8	12.8	10.7	0.9	13.7	11.2	1.0	14.5	11.6	1.1	14.9	11.8	1.1	16.1	12.3	1.1	17.2	12.8	1.1
95	11.8	9.5	0.7	12.0	9.9	0.9	12.4	10.4	1.0	13.3	10.9	1.2	12.0	9.6	1.0	14.5	11.5	1.3	15.6	11.9	1.3	16.7	12.5	1.2
104	11.2	9.0	0.8	11.3	9.4	1.0	11.7	9.8	1.2	12.6	10.3	1.3	13.2	10.6	1.4	13.7	10.9	1.4	14.8	11.3	1.4	15.8	11.8	1.4
110	10.5	8.4	0.8	10.6	8.8	1.1	11.0	9.2	1.2	11.8	9.7	1.4	12.5	10.0	1.5	12.9	10.2	1.5	13.9	10.7	1.5	15.0	11.2	1.5
115	9.8	7.9	0.9	9.9	8.2	1.1	10.2	8.6	1.3	11.0	9.1	1.5	11.7	9.4	1.6	12.1	9.6	1.6	13.1	10.0	1.6	14.1	10.5	1.6

Heating

TC : Total Capacity, PI : Power Input

Outdoor temperature (°F, DB)	Indoor Temperature (°F, DB)											
	60		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
-5.08	10.6	1.1	10.3	1.0	10.3	1.1	10.4	1.1	10.6	1.2	11.0	1.5
0	11.3	1.4	11.0	1.3	10.9	1.3	10.9	1.4	11.0	1.5	11.3	1.7
5	12.0	1.6	11.7	1.5	11.5	1.5	11.5	1.6	11.5	1.7	11.6	1.9
14	13.2	1.7	13.0	1.7	12.8	1.7	12.7	1.8	12.5	1.9	12.3	2.1
23	14.4	1.7	14.3	1.7	14.1	1.7	13.9	1.8	13.6	1.9	13.2	2.1
32	15.5	1.6	15.5	1.6	15.3	1.6	15.0	1.7	14.7	1.8	14.0	1.9
41	16.2	1.4	16.5	1.4	16.2	1.4	16.0	1.5	15.6	1.6	14.8	1.7
47	16.5	1.2	16.9	1.2	16.7	1.3	12.0	1.0	16.0	1.4	15.1	1.6
55	16.5	1.1	17.2	1.1	17.1	1.2	16.9	1.2	16.4	1.3	15.4	1.4
65	15.9	1.0	16.9	1.0	17.1	1.1	16.8	1.2	16.4	1.2	15.3	1.3
75.2	14.4	1.1	15.8	1.1	16.2	1.2	16.0	1.3	15.6	1.4	14.5	1.5

NOTE

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

2. Capacity Table

WindFree 2.0e

RNS18CMB+RXS18CMB (AR18BSFCMWKNCV+AR18BSFCMWKXCV)

Cooling

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

Outdoor Temperature (°F, DB)	Indoor Temperature (°F, DB / WB)																							
	64 / 53			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	TC	SHC	PI
	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW
14	14.0	11.9	0.8	14.8	12.3	0.8	15.6	12.8	0.9	16.6	13.5	0.9	17.4	13.9	0.9	17.9	14.2	0.9	19.2	14.9	0.9	20.8	15.5	0.9
32	14.2	12.1	0.9	15.1	12.6	0.9	16.0	13.2	0.9	17.1	13.9	0.9	18.0	14.4	0.9	18.6	14.7	0.9	20.0	15.4	0.9	21.7	16.1	0.9
50	15.0	12.9	1.0	16.0	13.4	1.0	17.0	14.0	1.1	18.2	14.8	1.1	19.0	15.3	1.1	19.7	15.6	1.1	21.1	16.3	1.1	22.9	17.0	1.1
68	15.9	13.5	1.3	16.9	14.1	1.3	17.8	14.6	1.3	19.1	15.4	1.3	19.9	15.9	1.4	20.5	16.3	1.4	22.0	17.0	1.4	23.8	17.7	1.4
85	16.0	13.6	1.6	16.9	14.1	1.6	17.8	14.6	1.6	19.0	15.4	1.6	19.9	15.9	1.7	20.5	16.3	1.7	21.9	16.9	1.7	23.7	17.6	1.7
95	15.5	13.1	1.8	16.4	13.6	1.8	17.2	14.2	1.8	18.4	14.9	1.8	18.0	14.4	1.6	19.8	15.7	1.9	21.2	16.4	1.9	22.9	17.0	1.9
104	14.5	12.4	1.9	15.4	12.8	2.0	16.2	13.3	2.0	17.3	14.0	2.0	18.1	14.5	2.1	18.6	14.8	2.1	20.0	15.4	2.1	21.6	16.1	2.1
110	13.6	11.6	2.1	14.4	12.0	2.1	15.2	12.5	2.1	16.2	13.2	2.2	17.0	13.6	2.2	17.5	13.9	2.2	18.8	14.5	2.2	20.4	15.2	2.2
115	12.6	10.8	2.2	13.4	11.2	2.2	14.2	11.7	2.2	15.1	12.3	2.3	15.8	12.7	2.3	16.4	13.0	2.3	17.6	13.6	2.3	19.2	14.2	2.3

Heating

TC : Total Capacity, PI : Power Input

Outdoor emperature (°F, DB)	Indoor Temperature (°F, DB)											
	60		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
-5.08	18.2	0.8	12.8	0.7	10.6	0.8	10.7	0.8	11.5	0.9	14.3	1.1
0	19.0	0.9	14.3	0.8	12.4	0.9	12.4	1.0	13.1	1.1	15.4	1.3
5	19.8	1.0	15.9	1.0	14.1	1.0	14.1	1.1	14.6	1.2	16.4	1.5
14	20.3	1.9	17.7	1.8	16.4	1.9	16.3	2.0	16.5	2.1	17.4	2.3
23	20.2	2.1	18.9	2.0	18.1	2.1	17.9	2.2	17.8	2.3	17.9	2.5
32	19.5	1.9	19.7	1.9	19.4	1.9	19.1	2.0	18.8	2.1	18.1	2.3
41	18.6	1.6	20.2	1.7	20.5	1.8	20.2	1.9	19.6	1.9	18.2	2.1
47	18.0	1.6	20.6	1.7	21.3	1.8	21.0	1.9	20.2	2.0	18.3	2.2
55	17.2	2.0	21.1	2.1	22.4	2.3	22.1	2.4	21.2	2.5	18.6	2.7
65	16.6	3.4	22.2	3.6	24.3	3.9	24.0	4.0	22.8	4.1	19.4	4.4
75.2	16.5	6.4	23.9	6.8	26.9	7.1	26.6	7.2	25.3	7.4	21.1	7.7

NOTE

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

2. Capacity Table

WindFree 2.0e

RNS24CMB+RXS24CMB (AR24BSFCMWKNCV+AR24BSFCMWKXCV)

Cooling

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

Outdoor Temperature (°F, DB)	Indoor Temperature (°F, DB / WB)																							
	64 / 53			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	TC	SHC	PI
	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW	MBH	MBH	kW
14	19.3	11.8	4.2	23.3	19.4	4.4	25.5	22.7	4.7	27.0	23.1	5.0	27.9	22.3	5.1	28.3	22.1	5.1	30.2	22.3	5.2	33.5	25.1	5.1
32	19.7	12.3	1.3	23.8	19.9	1.7	26.1	23.2	1.9	27.7	23.7	2.2	28.7	22.9	2.3	29.1	22.7	2.4	31.1	23.0	2.4	34.5	25.8	2.3
50	20.6	13.0	0.6	24.7	20.7	0.9	27.1	24.0	1.2	28.7	24.4	1.5	29.7	23.7	1.6	30.1	23.5	1.6	32.1	23.7	1.7	35.4	26.5	1.6
68	21.1	13.4	1.0	25.2	21.0	1.3	27.5	24.3	1.6	29.1	24.7	1.9	30.0	23.9	2.1	30.4	23.7	2.1	32.3	23.9	2.1	35.6	26.7	2.1
85	20.4	12.7	1.7	24.4	20.3	2.1	26.6	23.5	2.4	28.1	23.9	2.7	28.9	23.1	2.8	29.3	22.8	2.9	31.0	23.0	2.9	34.2	25.7	2.8
95	19.2	11.7	2.0	23.1	19.2	2.3	25.2	22.4	2.7	26.6	22.7	3.0	22.0	17.6	2.1	27.7	21.5	3.2	29.3	21.7	3.2	32.4	24.3	3.2
104	17.4	10.2	2.0	21.2	17.6	2.4	23.3	20.8	2.7	24.5	21.0	3.1	25.1	20.1	3.2	25.4	19.8	3.3	27.0	19.9	3.3	29.9	22.5	3.2
110	15.8	8.8	1.8	19.5	16.3	2.2	21.5	19.4	2.6	22.6	19.5	2.9	23.2	18.6	3.1	23.5	18.3	3.1	25.0	18.3	3.2	27.9	20.9	3.1
115	14.2	7.5	1.5	17.8	14.9	1.9	19.8	18.0	2.3	20.8	18.1	2.7	21.3	17.1	2.8	21.6	16.8	2.9	23.0	16.8	2.9	25.8	19.3	2.8

Heating

TC : Total Capacity, PI : Power Input

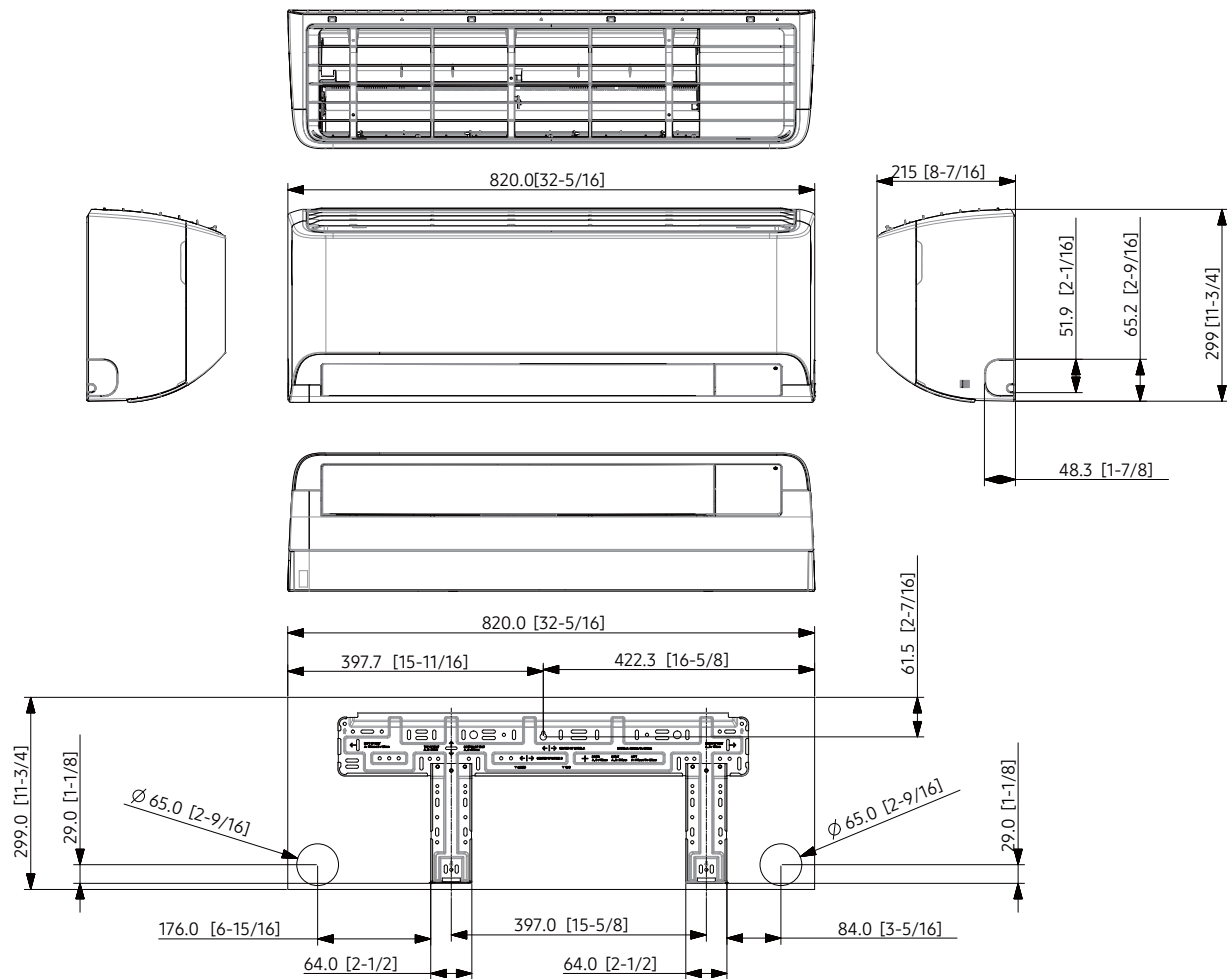
Outdoor temperature (°F, DB)	Indoor Temperature (°F, DB)											
	60		64		68		70		72		75	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW	MBH	kW
-5.08	21.3	2.3	20.0	2.2	20.0	2.2	20.4	2.4	21.1	2.6	22.6	3.0
0	22.4	3.3	21.1	3.1	20.9	3.2	21.2	3.3	21.6	3.5	22.7	3.9
5	23.5	3.9	22.3	3.7	21.9	3.8	22.0	4.0	22.3	4.1	23.0	4.5
14	25.6	4.2	24.6	4.1	24.0	4.2	23.9	4.4	23.8	4.5	23.8	4.9
23	27.6	3.9	26.8	3.8	26.2	3.9	25.8	4.1	25.5	4.3	24.9	4.6
32	29.2	3.1	28.9	3.1	28.3	3.2	27.8	3.4	27.2	3.6	26.1	3.9
41	30.4	2.3	30.6	2.3	27.5	2.4	29.6	2.6	28.8	2.7	27.3	3.1
47	30.9	1.7	31.4	1.8	31.1	1.9	24.0	2.3	29.7	2.2	27.9	2.5
55	30.9	1.3	32.1	1.3	32.0	1.5	31.5	1.6	30.6	1.8	28.5	2.1
65	30.0	1.3	32.0	1.4	32.4	1.6	31.9	1.7	31.0	1.9	28.7	2.2
75.2	27.6	2.5	30.7	2.6	31.7	2.8	31.3	2.9	30.4	3.1	27.9	3.3

NOTE

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

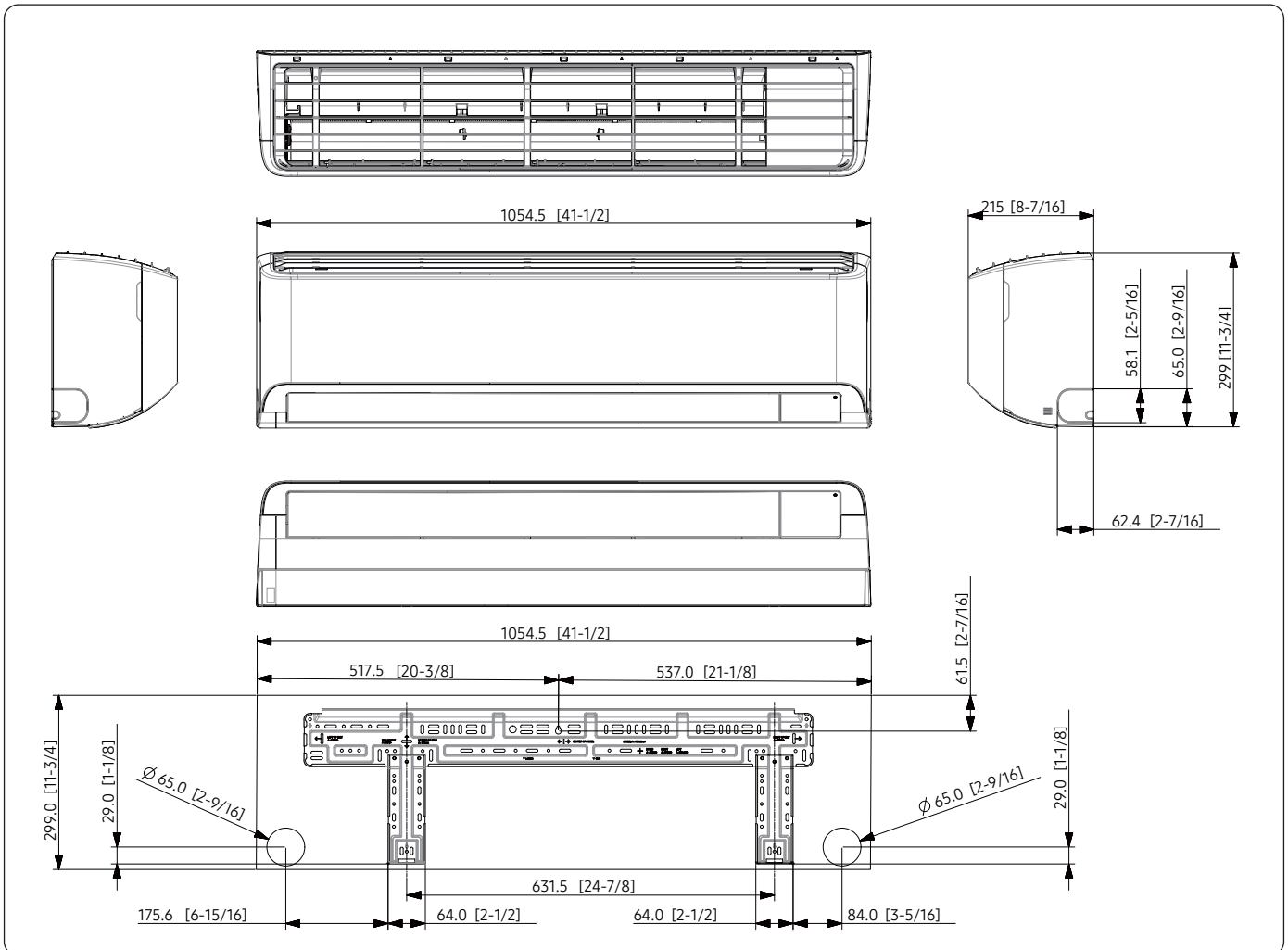
Indoor units

Unit: mm (inches)



Indoor units

Unit: mm (inches)

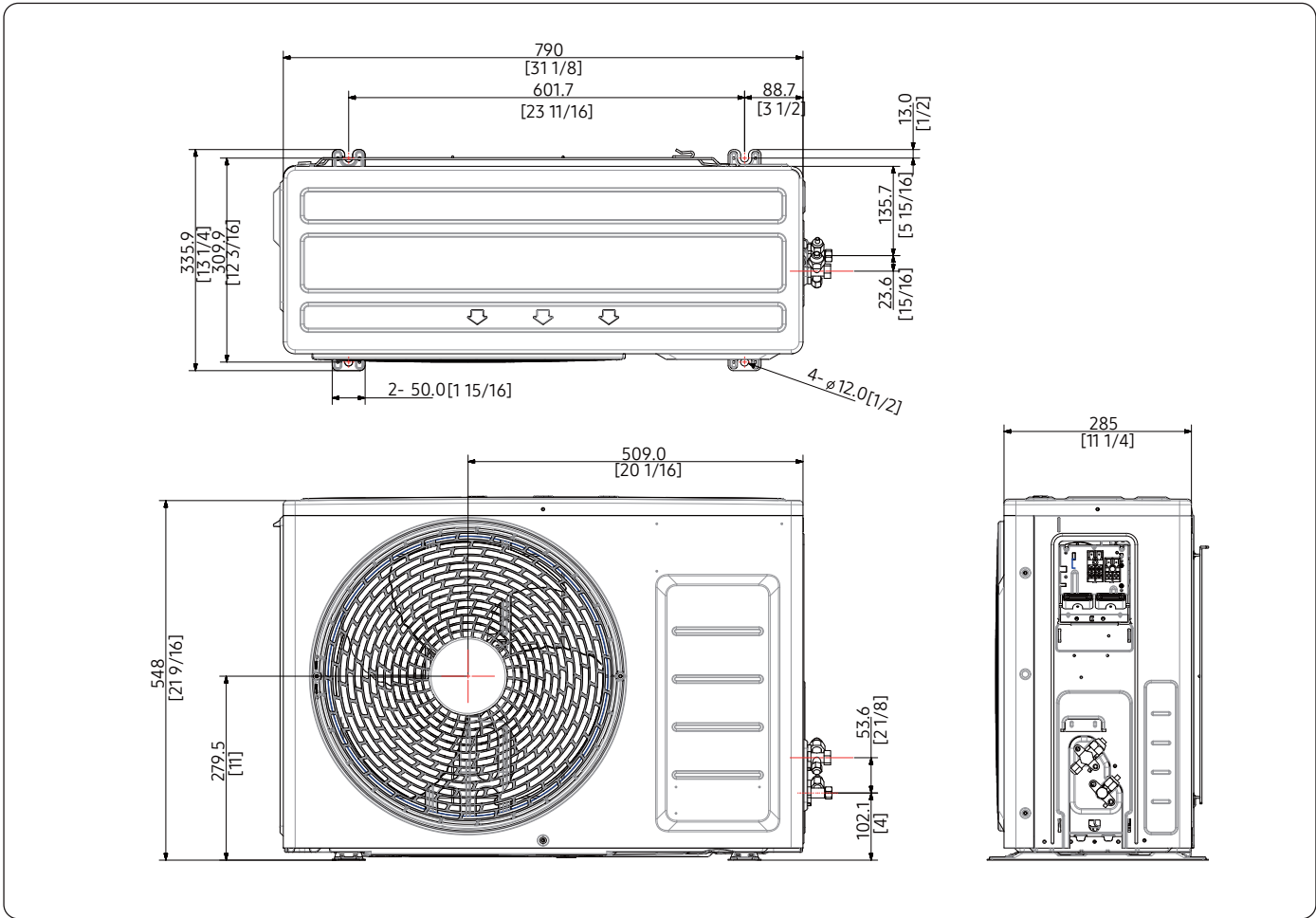


3. Dimensional Drawing

Outdoor units

WindFree 2.0e : RXS09CMB (AR09BSFCMWKXCV), RXS12CMB (AR12BSFCMWKXCV)

Unit: mm (inches)

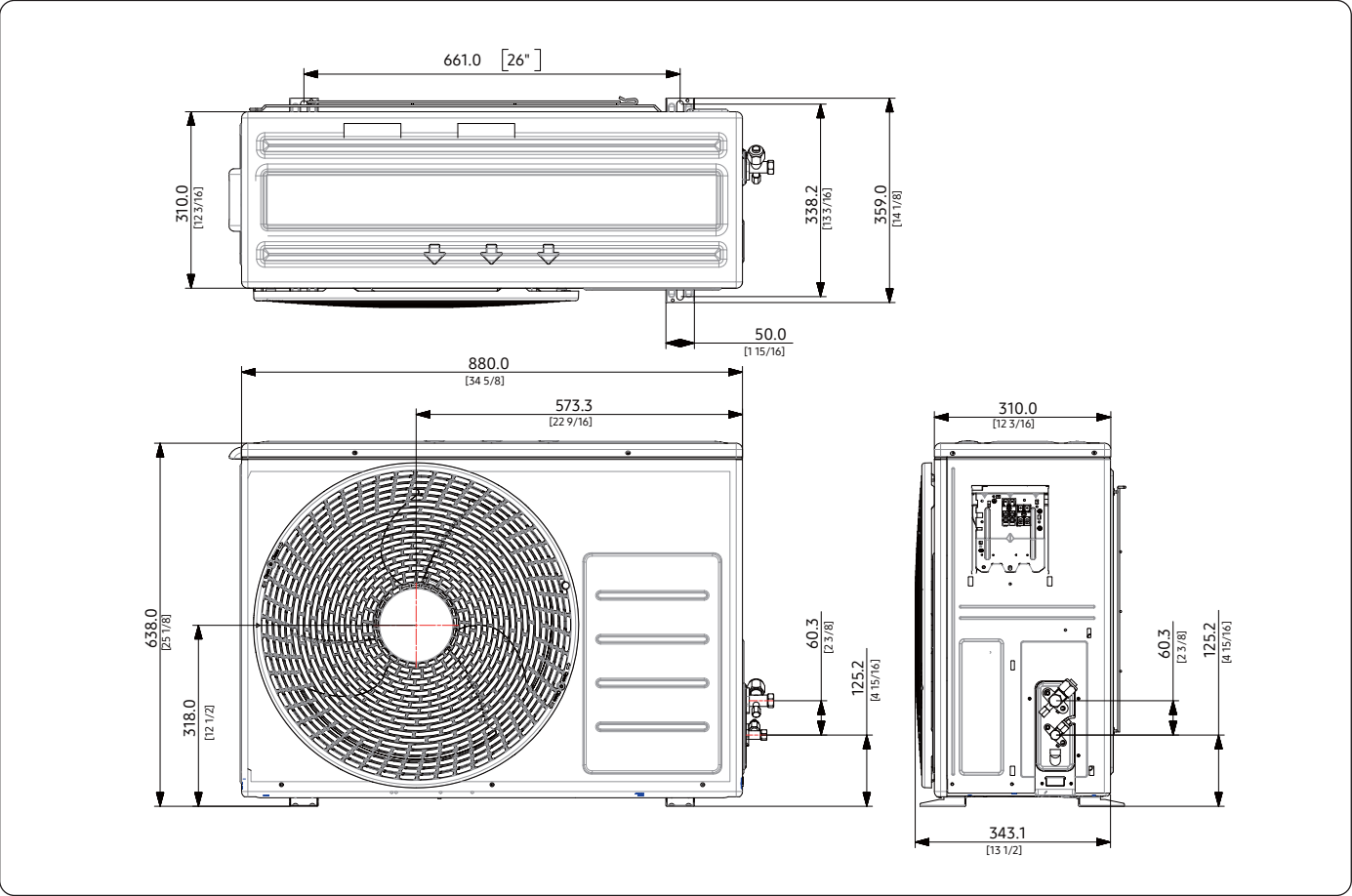


3. Dimensional Drawing

Outdoor units

WindFree 2.0e : RXS18CMB (AR18BSFCMWKXCV)

Unit: mm (inches)

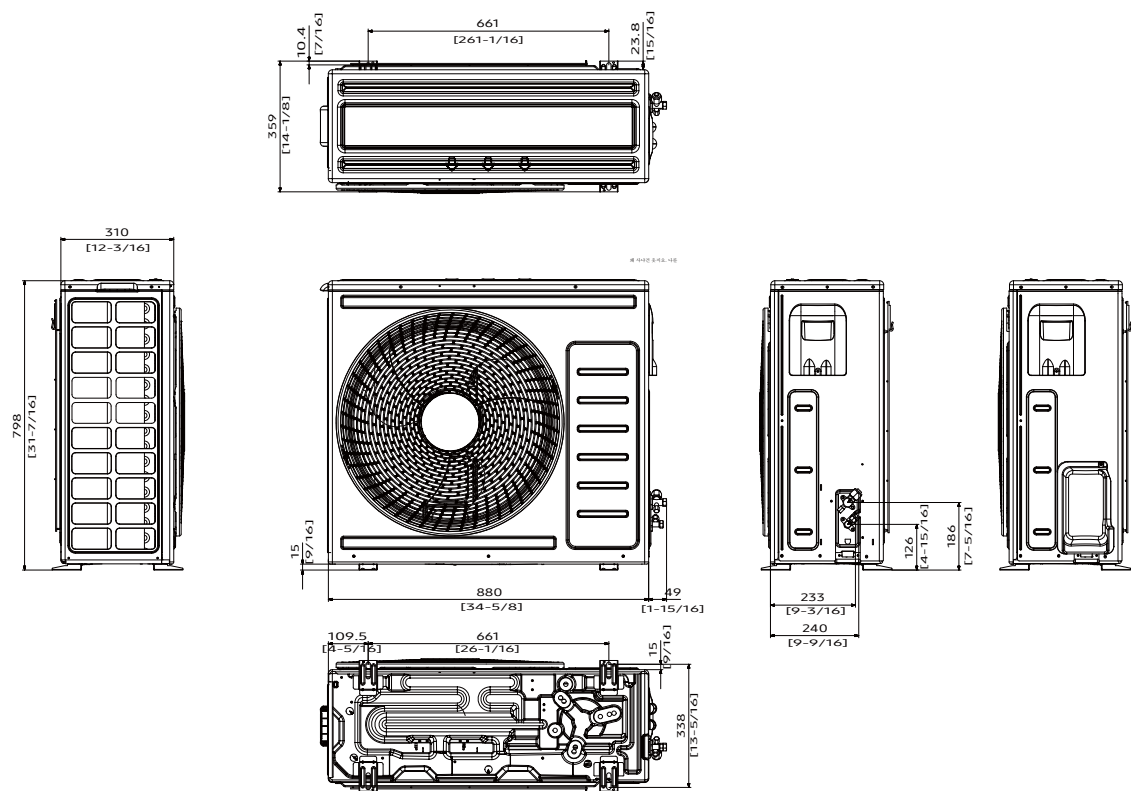


3. Dimensional Drawing

Outdoor units

WindFree 2.0e : RXS24CMB (AR24BSFCMWKXCV)

Unit: mm (inches)

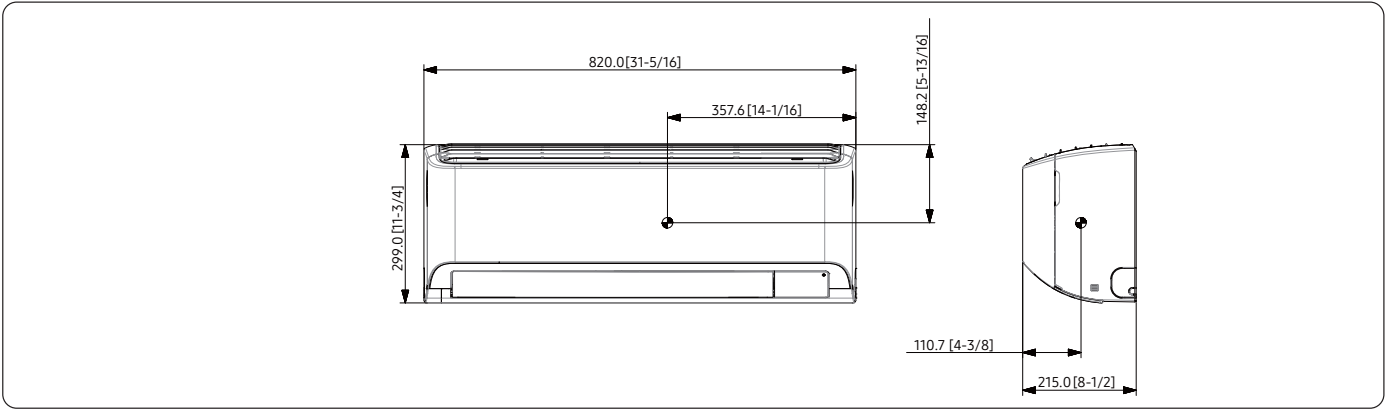


4. Center of Gravity

Indoor units

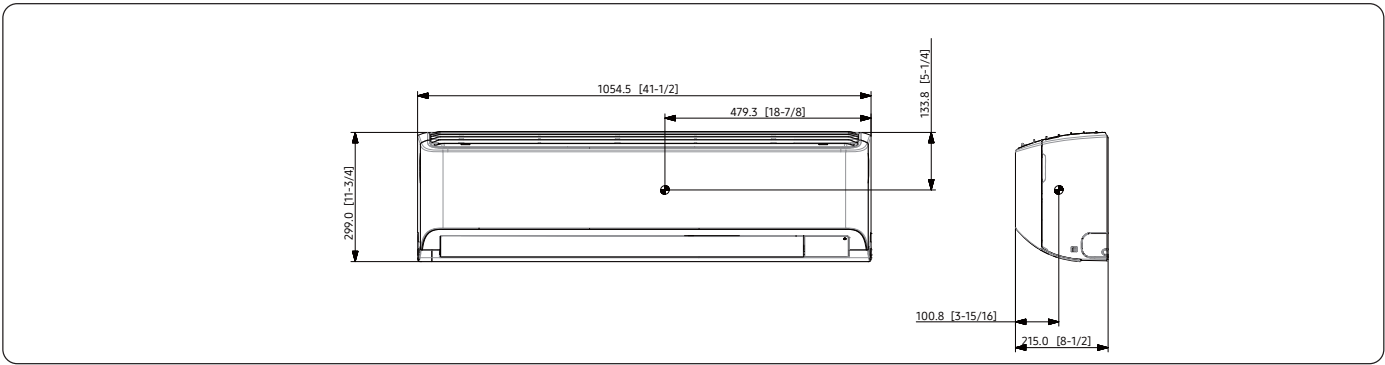
WindFree 2.0e : RNS09CMB (AR09BSFCMWKNCV), RNS12CMB (AR12BSFCMWKNCV)

Unit: mm (inches)



WindFree 2.0e : RNS18CMB (AR18BSFCMWKNCV), RNS24CMB (AR24BSFCMWKNCV)

Unit: mm (inches)

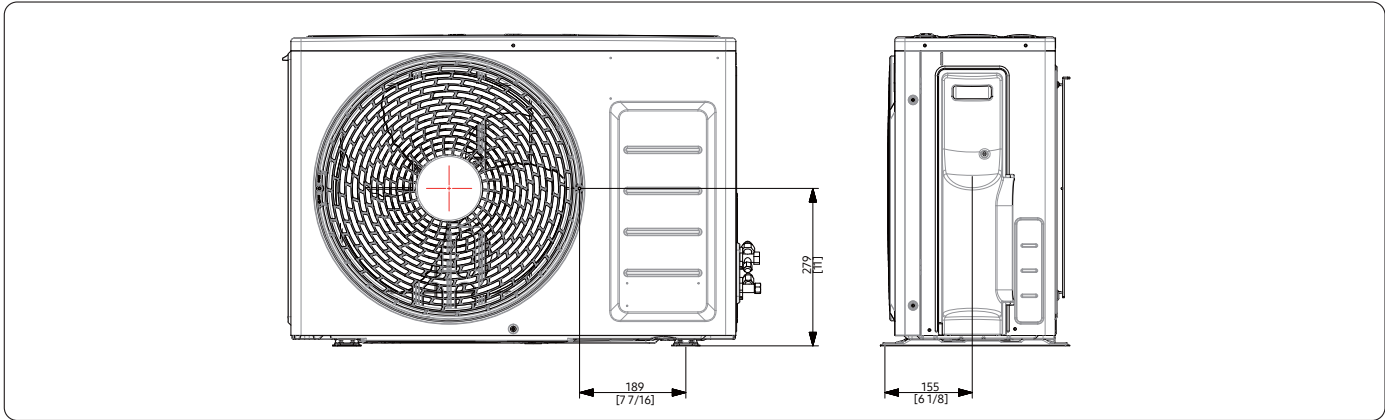


4. Center of Gravity

Outdoor units

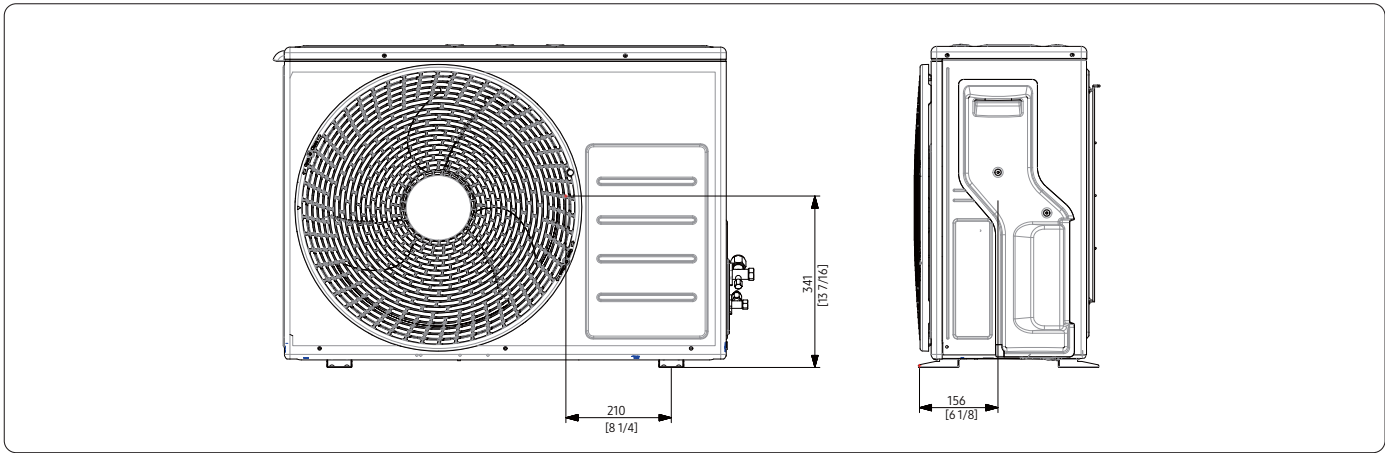
WindFree 2.0e : RXS09CMB (AR09BSFCMWKXCV), RXS12CMB (AR12BSFCMWKXCV)

Unit: mm (inches)



WindFree 2.0e : RXS18CMB (AR18BSFCMWKXCV)

Unit: mm (inches)

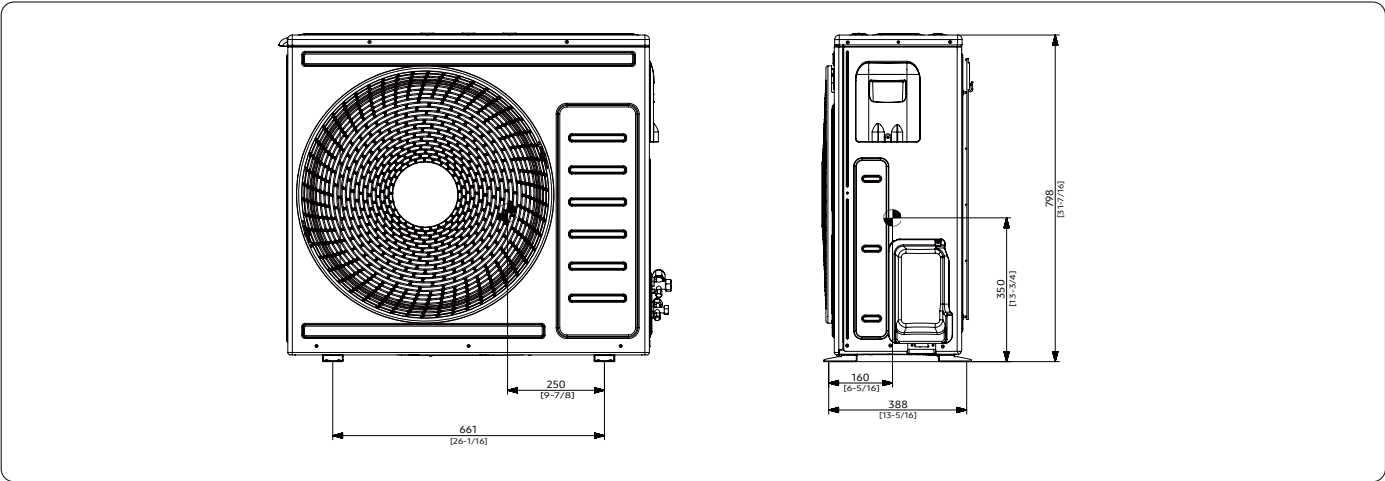


4. Center of Gravity

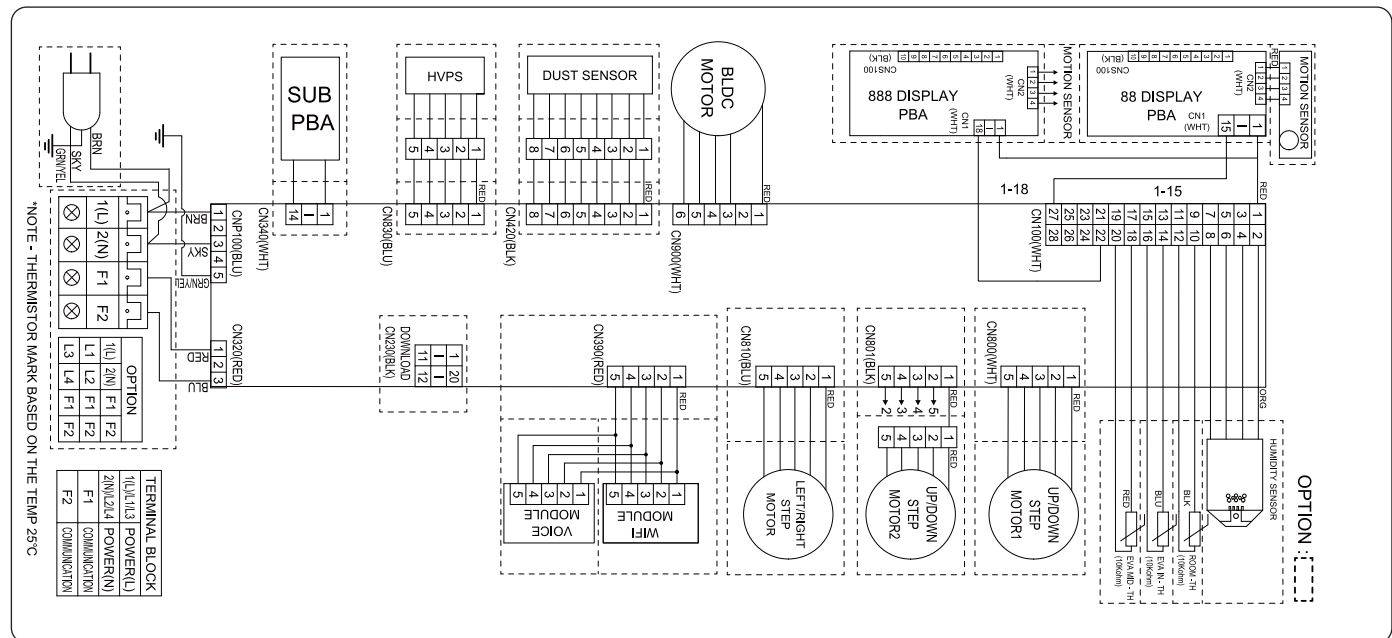
Outdoor units

WindFree 2.0e : RXS24CMB (AR24BSFCMWKXCV)

Unit: mm (inches)



Indoor units



MOTION SENSOR	SENSOR(MOTION)	DISPLAY	Printed circuit board(DISPLAY BOARD)	DUST SNESOR	SENSOR(DUST)
ROOM TH	Thermistor(Room Temp. 10Kohm)	BLDC	Motor(BLDC FAN MOTOR)	HVPS	LOAD(HVPS MODULE)
EVA MID - TH	Thermistor(EVA MID Temp. 10Kohm)	UP/DOWN STEP MOTOR1	Motor(STEP MOTOR)	WIFI MODULE	LOAD(WIFI MODULE)
EVA IN -TH	Thermistor(EVA IN Temp. 10Kohm)	UP/DOWN STEP MOTOR2	Motor(STEP MOTOR)	SUB PBA	Printed circuit board(SUB BOARD)
HUMIDITY SENSOR	SENSOR(HUMIDITY)	LEFT/RIGHT STEP MOTOR	Motor(STEP MOTOR)		

NOTE

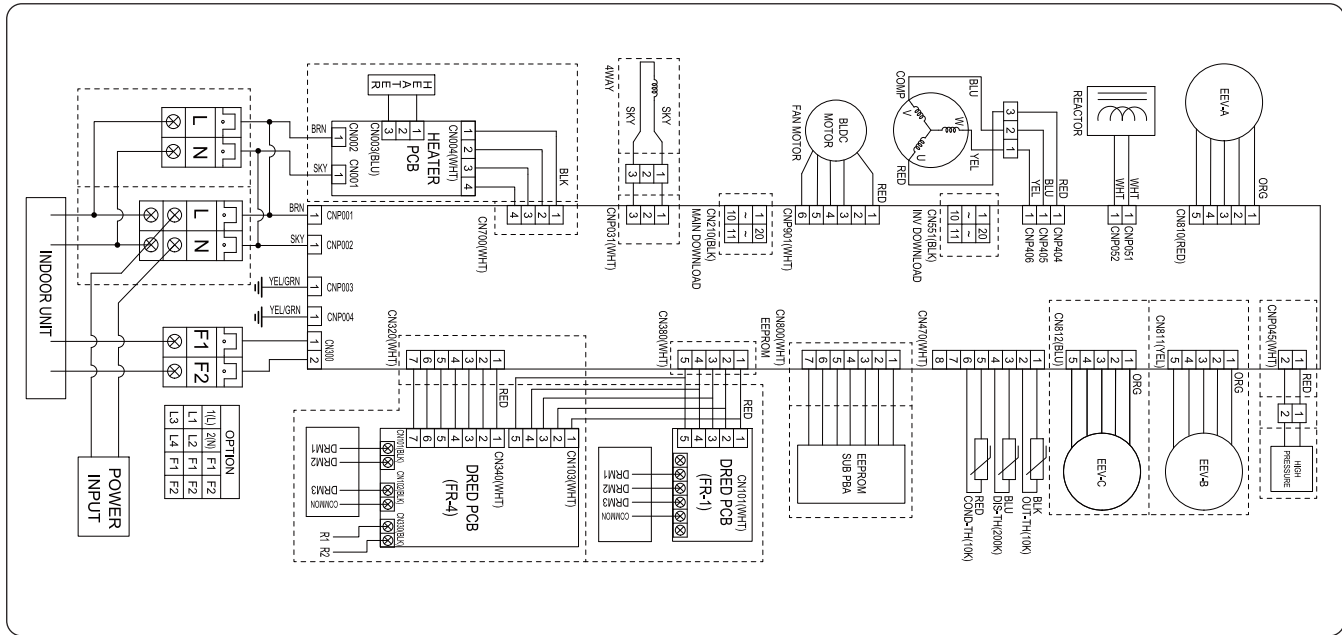
- This wiring diagram applies only to the indoor unit.
- Colors BLK : black, BRN : brown, SKY-BLU : sky-blue, GRN/YEL : green/yellow, RED : red, YEL : yellow, ORG : orange, BLU : blue, WHT:white
-  : Protective earth(screw)

- This wiring diagram applies only to the outdoor unit.
- Colors BLK : black, BRN : brown, SKY-BLU : sky-blue, GRN/YEL : green/yellow, RED : red, YEL : yellow, ORG : orange, BLU : blue, WHT:white
-  Protective earth(screw)

5. Electrical Wiring Diagram

Outdoor units

WindFree 2.0e : RXS24CMB (AR24BSFCMWKXCV)



DRED	Printed circuit board(DRED PCB)	DIS-TH	Thermistor (Discharge Temp._200Kohm)	EEV-C	Electronic expansion valve C
REACTOR	REACTOR	OUT-TH	Thermistor (AmbientTemp._10Kohm)	EEV-A	Electronic expansion valve A
EEPROM	Printed circuit board(EEPROM PCB)	COND-TH	Thermistor (Cond Out Temp._10Kohm)	EEV-B	Electronic expansion valve B
COMP	COMPRESSOR	BLDC	Motor(BLDC FAN Motor)	HIGH PRESSURE	PRESSURE SWITCH
HEATER	Printed circuit board(HEATER PCB)	4-WAY VALVE	4WAY VALVE		

NOTE

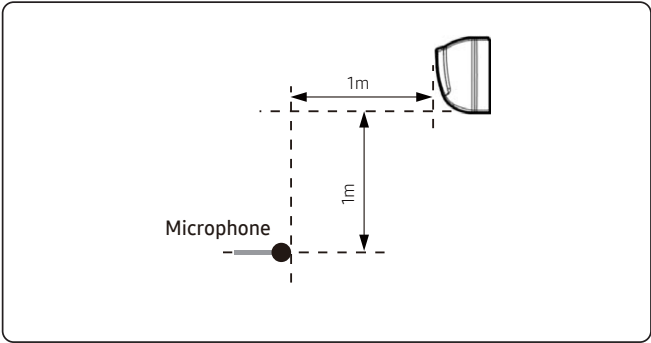
- This wiring diagram applies only to the outdoor unit.
- Colors BLK : black, BRN : brown, SKY-BLU : sky-blue, GRN/YEL : green/yellow, RED : red, YEL : yellow, ORG : orange, BLU : blue, WHT:white
- Protective earth(screw)

6. Sound Data

Indoor units : WindFree 2.0e

Sound Pressure level

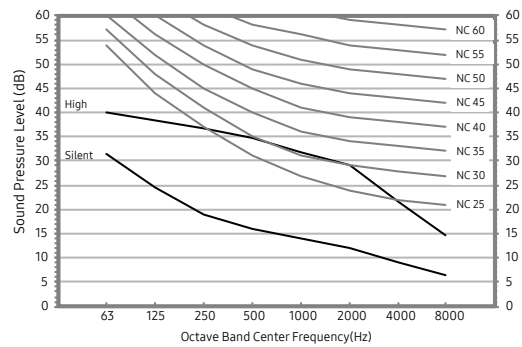
Unit: dB(A)



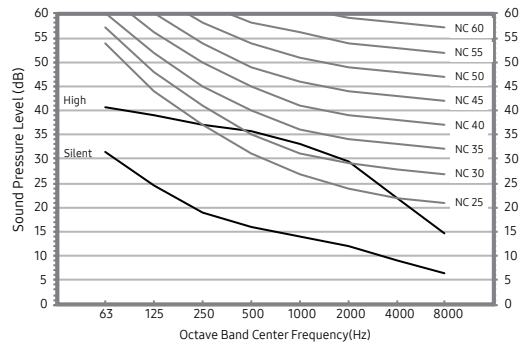
Model	Cooling	
	High	Silent
RNS09CMB (AR09BSFCMWKNCV)	37	20
RNS12CMB (AR12BSFCMWKNCV)	38	20
RNS18CMB (AR18BSFCMWKNCV)	41	28
RNS24CMB (AR24BSFCMWKNCV)	45	30

NC Curve

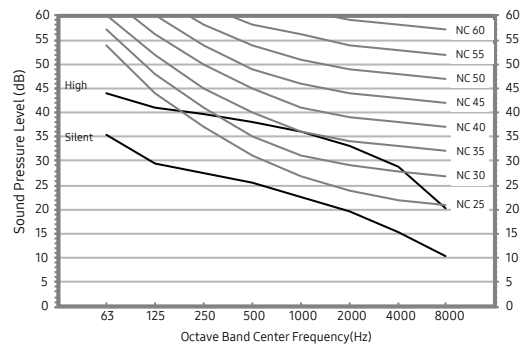
1) RNS09CMB (AR09BSFCMWKNCV)



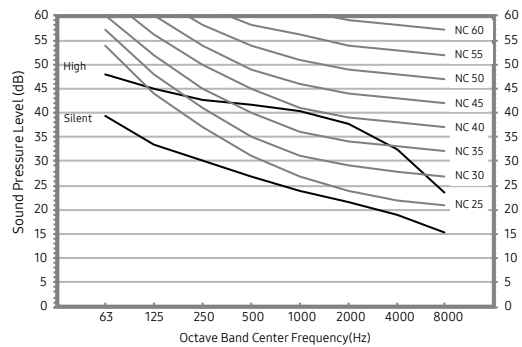
2) RNS12CMB (AR12BSFCMWKNCV)



3) RNS18CMB (AR18BSFCMWKNCV)



4) RNS24CMB (AR24BSFCMWKNCV)



NOTE

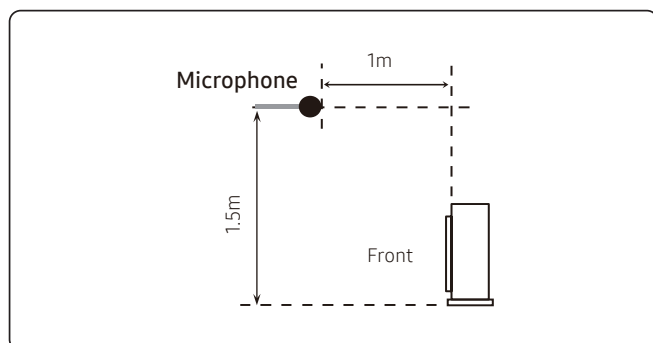
- Specifications may be subject to change without prior notice.
- Sound pressure Level
 - Sound pressure level is obtained in an anechoic room.
 - Sound pressure level is a relative value, depending on the distance and acoustic environment.
 - Sound pressure level may differ depending on operation condition.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

6. Sound Data

Outdoor units : WindFree 2.0e

Sound Pressure level

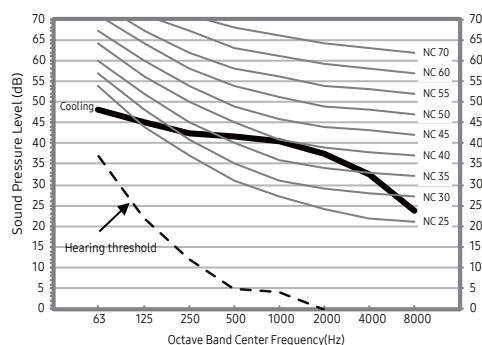
Unit: dB(A)



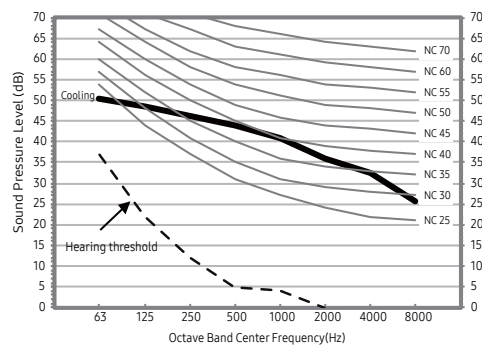
Model	Cooling
RXS09CMB (AR09BSFCMWKXCV)	45
RXS12CMB (AR12BSFCMWKXCV)	46
RXS18CMB (AR18BSFCMWKXCV)	51
RXS24CMB (AR24BSFCMWKXCV)	56

• NC Curve

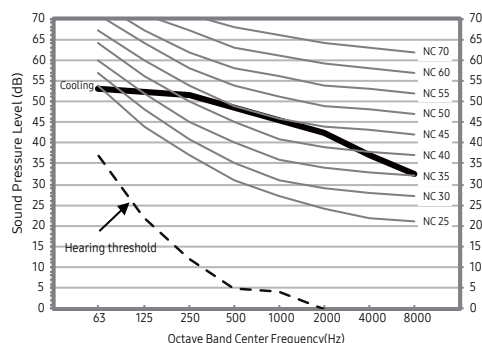
1) RXS09CMB (AR09BSFCMWKXCV)



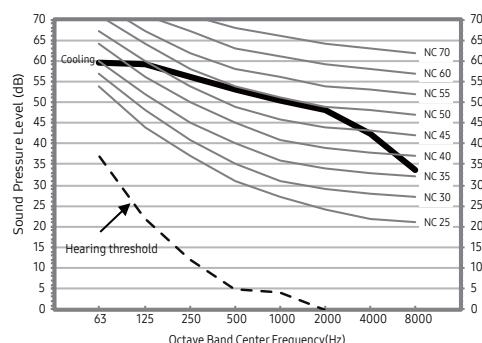
2) RXS12CMB (AR12BSFCMWKXCV)



3) RXS18CMB (AR18BSFCMWKXCV)



4) RXS24CMB (AR24BSFCMWKXCV)



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 0 dB = 20μPa

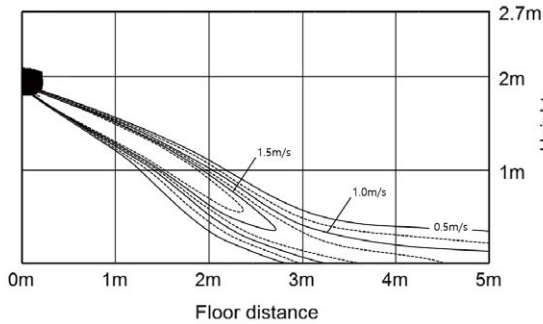
7. Temperature and air flow distribution

WindFree 2.0e

RNS09CMB (AR09BSFCMWKNCV)

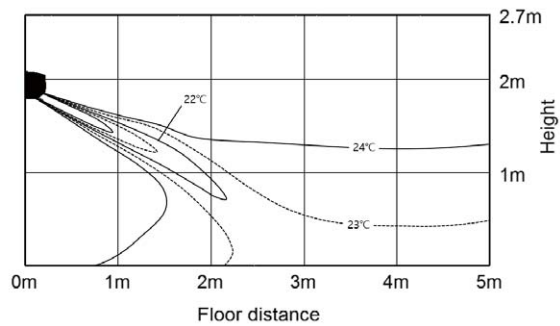
- Cooling air velocity distribution

(Discharge angle : 20 degree)



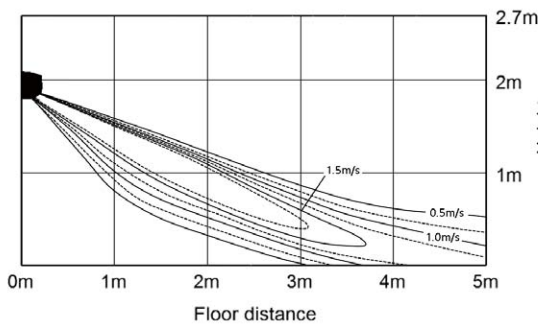
- Cooling Temperature distribution

(Discharge angle : 20 degree)



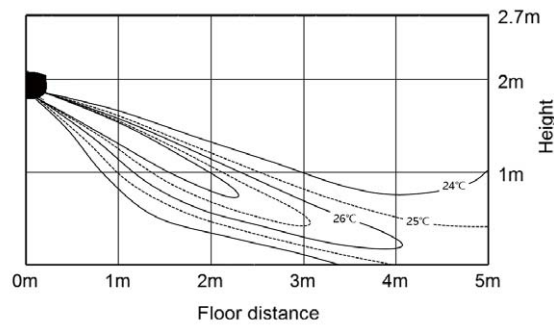
- Heating air velocity distribution

(Discharge angle : 30 degree)



- Heating Temperature distribution

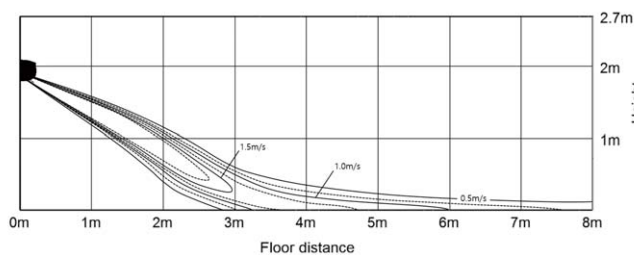
(Discharge angle : 30 degree)



RNS12CMB (AR12BSFCMWKNCV)

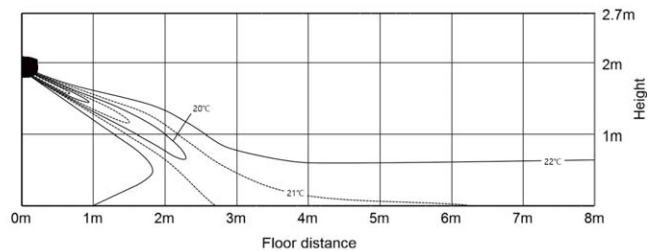
- Cooling air velocity distribution

(Discharge angle : 20 degree)



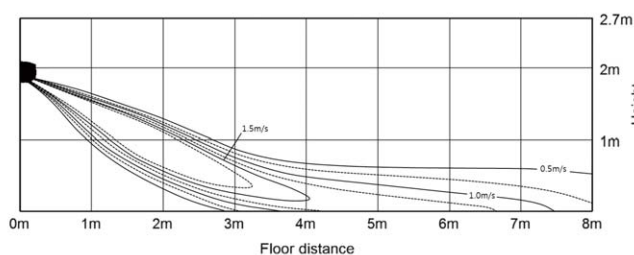
- Cooling Temperature distribution

(Discharge angle : 20 degree)



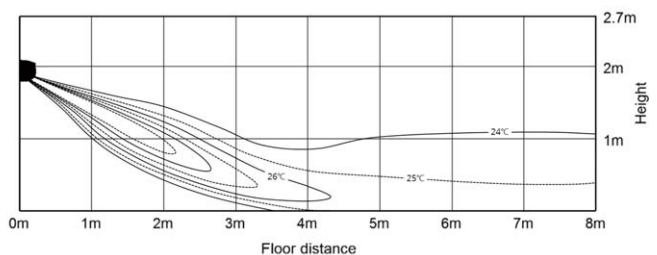
- Heating air velocity distribution

(Discharge angle : 30 degree)



- Heating Temperature distribution

(Discharge angle : 30 degree)



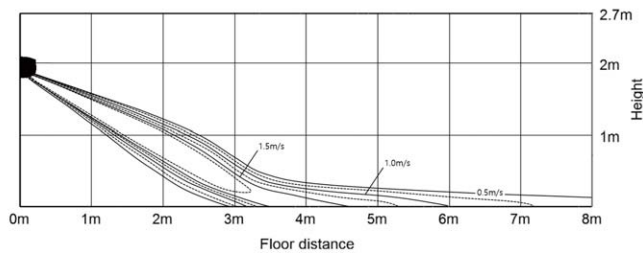
7. Temperature and air flow distribution

WindFree 2.0e

RNS18CMB (AR18BSFCMWKNCV)

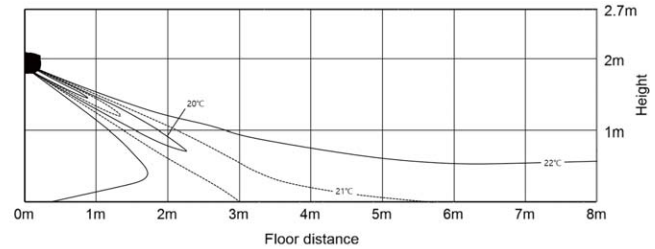
- Cooling air velocity distribution

(Discharge angle : 20 degree)



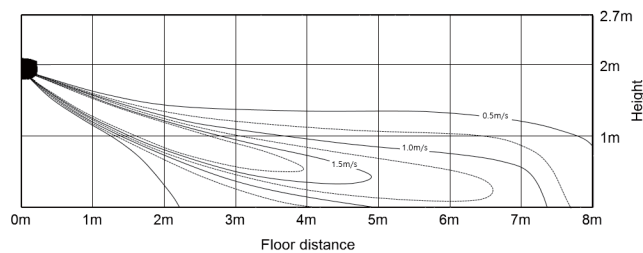
- Cooling Temperature distribution

(Discharge angle : 20 degree)



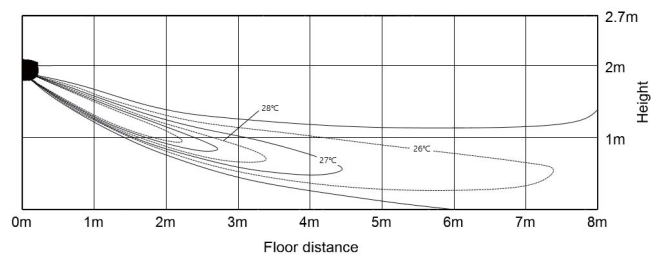
- Heating air velocity distribution

(Discharge angle : 30 degree)



- Heating Temperature distribution

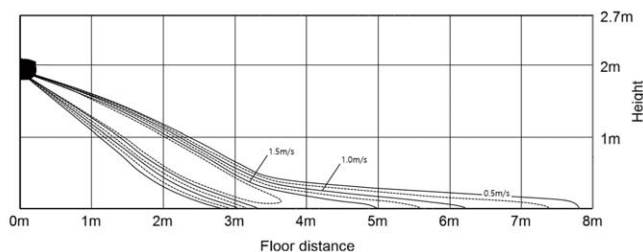
(Discharge angle : 30 degree)



RNS24CMB (AR24BSFCMWKNCV)

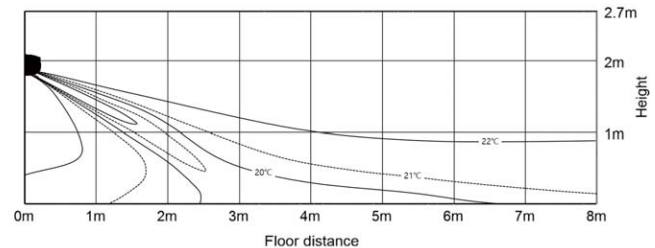
- Cooling air velocity distribution

(Discharge angle : 20 degree)



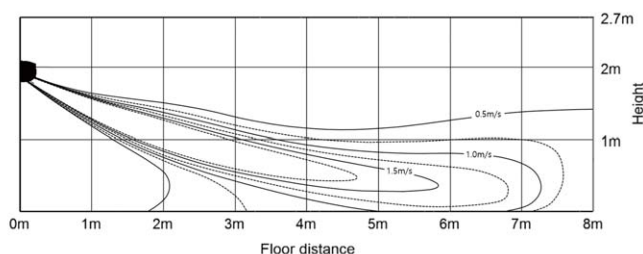
- Cooling Temperature distribution

(Discharge angle : 20 degree)



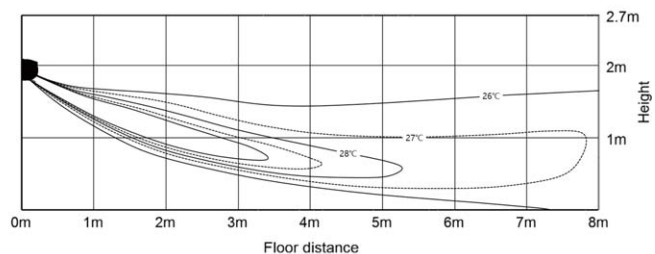
- Heating air velocity distribution

(Discharge angle : 30 degree)

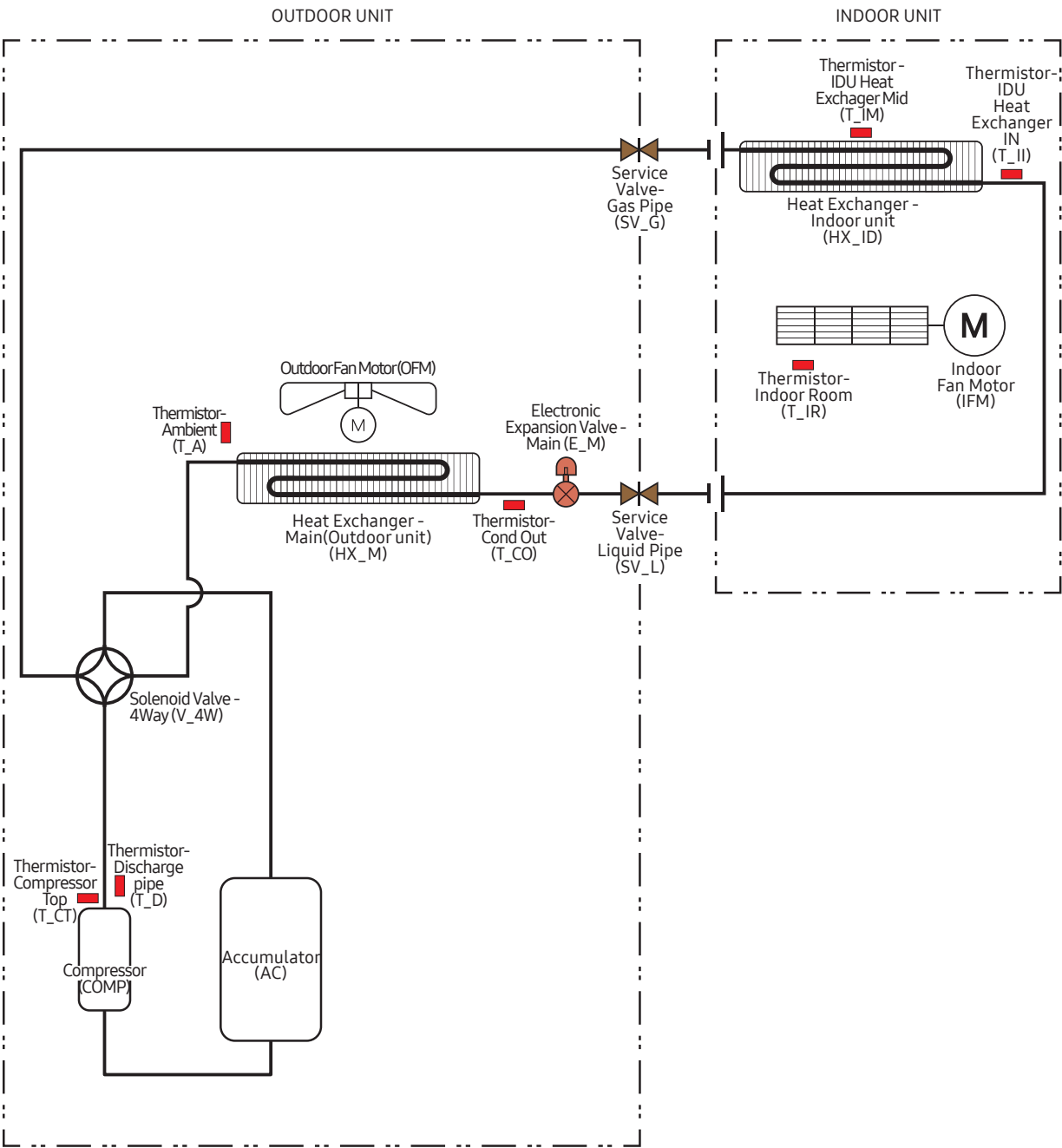


- Heating Temperature distribution

(Discharge angle : 30 degree)

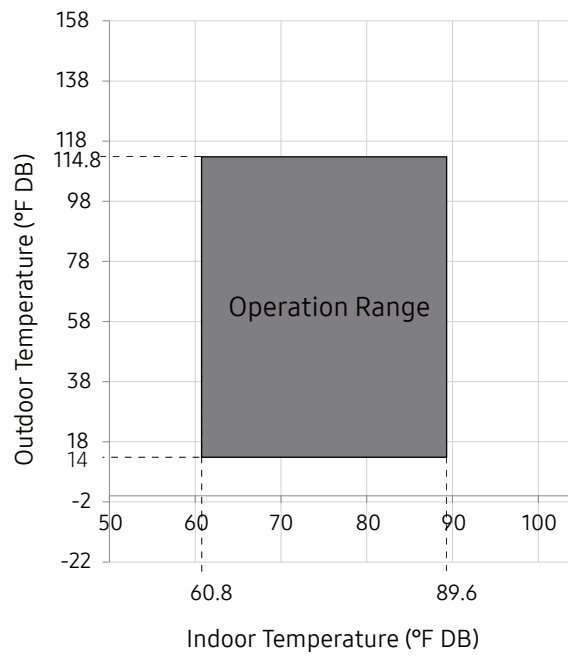


8. Piping Diagram

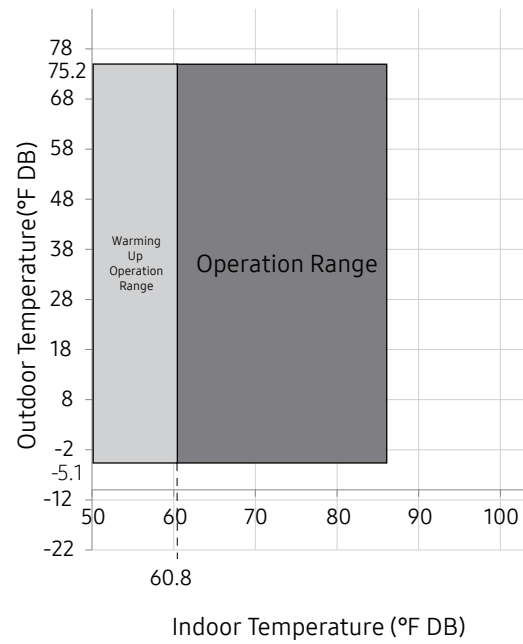


9. Operation Limit

Cooling



Heating



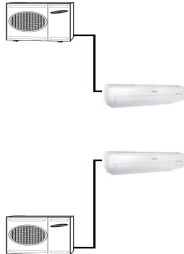
10. Capacity Correction

Outdoor units

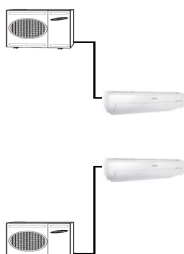
RNS09CMB+RXS09CMB (AR09BSFCMWKNCV+AR09BSFCMWKXCV)

RNS12CMB+RXS12CMB (AR12BSFCMWKNCV+AR12BSFCMWKXCV)

Cooling

			Pipe Length (ft)				
			16	33	41	49	66
	Level Difference (m)	49	-	-	-	0.92	0.9
		33	-	0.95	0.94	0.93	0.91
		23	-	0.96	0.95	0.94	0.92
		16	0.99	0.97	0.96	0.95	0.93
		0	1	0.98	0.97	0.96	0.94
		-16	0.99	0.97	0.96	0.95	0.93
		-23	-	0.96	0.95	0.94	0.92
		-33	-	0.95	0.94	0.93	0.91
		-49	-	-	-	0.92	0.9

Heating

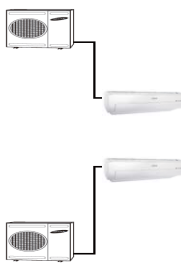
			Pipe Length (ft)				
			16	33	41	49	66
	Level Difference (m)	49	-	-	-	0.92	0.9
		33	-	0.95	0.94	0.93	0.91
		23	-	0.96	0.95	0.94	0.92
		16	0.99	0.97	0.96	0.95	0.93
		0	1	0.98	0.97	0.96	0.94
		-16	0.99	0.97	0.96	0.95	0.93
		-23	-	0.96	0.95	0.94	0.92
		-33	-	0.95	0.94	0.93	0.91
		-49	-	-	-	0.92	0.9

10. Capacity Correction

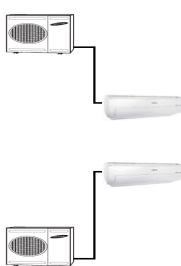
Outdoor units

RNS18CMB+RXS18CMB (AR18BSFCMWKNCV+AR18BSFCMWKXCV)
 RNS24CMB+RXS24CMB (AR24BSFCMWKNCV+AR24BSFCMWKXCV)

Cooling

		Pipe Length (ft)						
		16	33	41	49	66	82	98
	Level Difference (ft)	66	-	-	-	-	0.87	0.85
		49	-	-	-	0.92	0.9	0.88
		33	-	0.95	0.94	0.93	0.91	0.89
		23	-	0.96	0.95	0.94	0.92	0.9
		16	0.99	0.97	0.96	0.95	0.93	0.91
		0	1	0.98	0.97	0.96	0.94	0.92
		-16	0.99	0.97	0.96	0.95	0.93	0.91
		-23	-	0.96	0.95	0.94	0.92	0.9
		-33	-	0.95	0.94	0.93	0.91	0.89
		-49	-	-	-	0.92	0.9	0.88
		-66	-	-	-	-	0.87	0.85

Heating

		Pipe Length (ft)						
		16	33	41	49	66	82	98
	Level Difference (ft)	66	-	-	-	-	0.87	0.85
		49	-	-	-	0.92	0.9	0.88
		33	-	0.95	0.94	0.93	0.91	0.89
		23	-	0.96	0.95	0.94	0.92	0.9
		16	0.99	0.97	0.96	0.95	0.93	0.91
		0	1	0.98	0.97	0.96	0.94	0.92
		-16	0.99	0.97	0.96	0.95	0.93	0.91
		-23	-	0.96	0.95	0.94	0.92	0.9
		-33	-	0.95	0.94	0.93	0.91	0.89
		-49	-	-	-	0.92	0.9	0.88
		-66	-	-	-	-	0.87	0.85

11. Installation

Viewing the typical installation

A typical installation will be similar to the one shown below.

	Unit : ft(m)				
Model	Pipe length			Pipe height	
	Minimum	Maximum	Standard for factory charge	Maximum	
09***	9.8(3)	65.6(20)	24.6(7.5)	49.2(15)	
12***				65.6(20)	
18***	9.8(3)	98.4(30)	24.6(7.5)		
24***					

Outdoor Unit

Outer wall

Indoor Unit

Cut insulation to have rainwater drained

Make a U-trap (A) on the pipe (which is connected to the indoor unit) at outer wall and cut the bottom part of the insulation (about 10 mm) to prevent rainwater from getting inside through the insulation.

11. Installation

Choosing the installation location

If using a multi system, install as described in the installation manual supplied with the outdoor unit.

WARNING

- Verify that a dedicated circuit breaker and a disconnect switch of the appropriate sizes for the air conditioner are preinstalled and available for use. See the submittal document for the model, listed on page 3.
- Verify that the voltage and frequency of the power supply comply with the rated voltage as defined on the unit name plate.
- Verify that a suitable grounding connection is available.
- Do not install this appliance in an environment containing hazardous substances or close to equipment that releases open flames.
- Do not install this appliance near a heater or flammable material.

CAUTION

- The manufacturer shall not be responsible for damage occurring as a result of the wrong voltage being applied to this air conditioner.
- The indoor and outdoor units must be installed in compliance with minimum clearances to ensure that both units are accessible from both sides and can be maintained or repaired. Insufficient clearance may reduce product performance, generate excessive noise, and reduce the life of some unit components.

IMPORTANT

- Any changes or modifications to the installation described in this manual that are not expressly approved by the manufacturer could void the manufacturer's warranty.

To determine where to locate the indoor and outdoor units, you must survey the entire site and consider many variables. The goal is to select locations that comply with all safety precautions while also minimizing the total effort involved.

Indoor unit location requirements

WARNING

- Do not install the unit in a humid, oily, or dusty location or in a location exposed to direct sunlight, water, or rain.
- Make sure that the wall can support the unit weight.

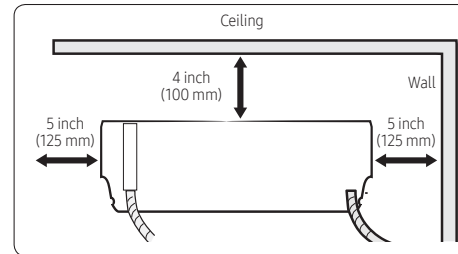
Examine the area that the customer wants to be air conditioned. Consider the following:

- What wall location will meet minimum clearances and provide optimal product performance?
- Will the wall provide adequate support for the unit weight (wall with stud construction or concrete)? If applicable, where are the studs?
- Where will you place the wall penetration for routing the piping bundle (consisting of power and communication cables, refrigerant pipes, and the drain hose) through the wall to the outdoor unit? Will the hole intersect any plumbing or wires in the wall?
- Is the location as close as possible to where the outdoor unit will be installed, to minimize the length of piping and cables?
- Will the condensate drain inside the room, through the wall penetration to the outdoor unit, or be connected to a condensate pump?

NOTE

- This manual covers a typical gravity-drain installation where the drain hose is routed to the outdoor unit through a hole in the wall.

Minimum clearances for the indoor unit



Outdoor unit location requirements

Examine the area where the outdoor unit could be located. Consider the following:

- What location will meet minimum clearances and provide optimal product performance?
- Is there an existing level and hard foundation, such as a concrete pad, that will support the unit weight and produce minimal vibration? Installation on uneven ground may result in abnormal vibrations, noise, or problems with the unit.
- Does the unit need to be mounted on the wall?
- Where are the dedicated circuit breaker and disconnect switch located? How will you connect them to the unit?
- How will you route the piping bundle from the indoor unit? Is the location as close as possible to where the indoor unit will be installed, to minimize the length of piping and cables?
- Will the unit be sheltered from the wind? In a high-wind area, you may need to build a protective fence around the unit.
- Where will the condensate drain?

WARNING

- The drain location must allow condensate to drain properly and prevent ice from forming on the unit in winter. If a block of ice falls from the unit, it may result in death, serious injury, or property damage. Improper or inadequate draining may result in water overflowing and property damage.

CAUTION

- Do not connect the drain hose to existing waste pipes as odors may arise.

Installation on an exterior wall

If the outdoor unit must be installed on an exterior wall, you will need an L-bracket to support the unit. This bracket is not included with the unit.

WARNING

- The wall must be capable of supporting the weight of both the L-bracket and the outdoor unit. If the unit falls, it may result in crushing, electric shock, fire, or explosion that could cause death, severe personal injury, or property damage.

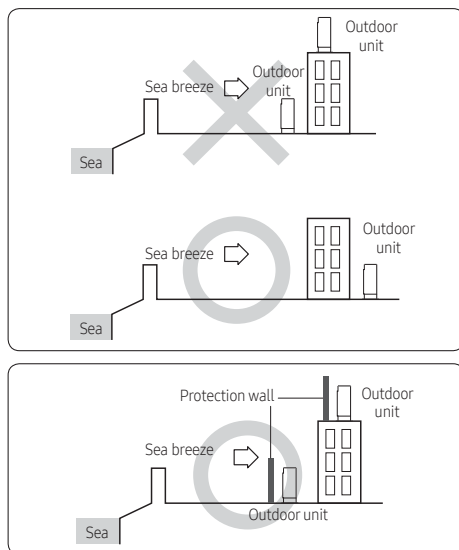
11. Installation

Installation Guide at the seashore

Make sure to follow below guides when installing at the seashore.

- Do not install the product in a place where it is directly exposed to sea water and sea breeze.
 - Make sure to install the product behind a structure (such as building) that can block sea breeze.
 - Even when it is inevitable to install the product in seashore, make sure that product is not directly exposed to sea breeze by installing a protection wall.
- Consider that the salinity particles clinging to the external panels should be sufficiently washed out.
- Because the residual water at the bottom of the outdoor unit significantly promotes corrosion, make sure that the slope does not disturb drainage.
 - Keep the floor level so that rain does not accumulate.
 - Be careful not to block the drain hole due to foreign substance.
- When product is installed in seashore, periodically clean it with water to remove attached salinity.
- Make sure to install the product in a place that provides smooth water drainage. Especially, ensure that the base part has good drainage.
- If the product is damaged during the installation or maintenance, make sure to repair it.
- Check the condition of the product periodically.
 - Check the installation site every 3 months and perform anti-corrosion treatment such as R-Pro supplied by SAMSUNG (Code : MOK-220SA) or commercial water repellent grease and wax, etc., based on the product condition.
 - When the product is to be shut down for a long period of time, such as off-peak hours, take appropriate measures like covering the product.
- If the product installed within 1640.4 ft (500 m) of seashore, special anti-corrosion treatment is required.

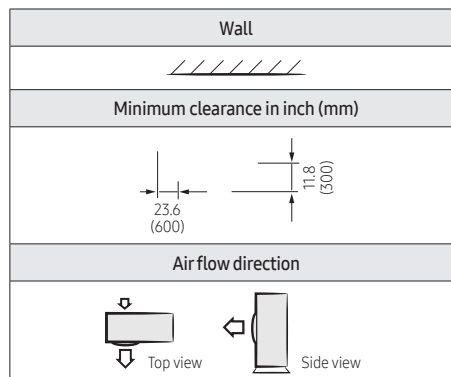
※ Please contact your local SAMSUNG representative for further details.



- Protection wall should be constructed with a solid material that can block the sea breeze and the height and width of the wall should be 1.5 times larger than the size of the outdoor unit. (You must secure more than 1.9685 ft (600 mm) of space between the protection wall and the outdoor unit for air circulation.)

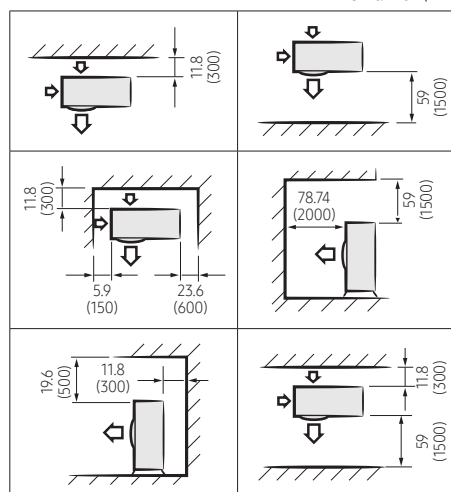
Minimum clearances for the outdoor unit

Legends:



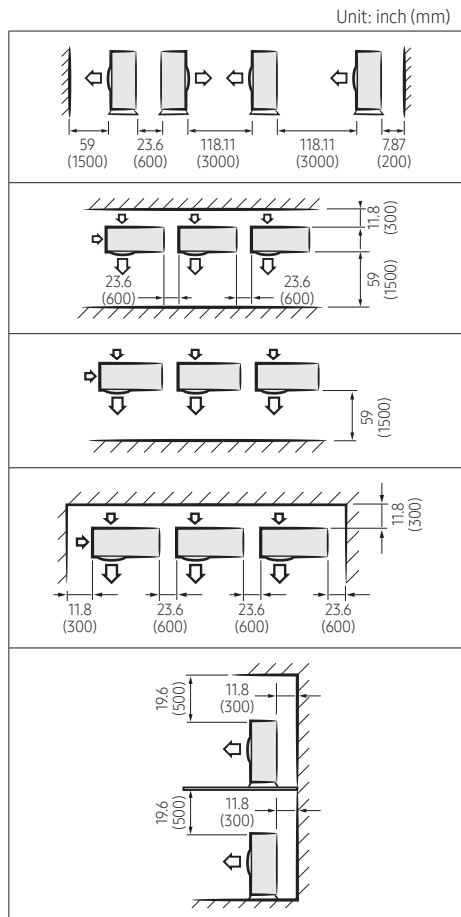
Examples for installing one outdoor unit:

Unit: inch (mm)



11. Installation

Examples for installing multiple outdoor units:



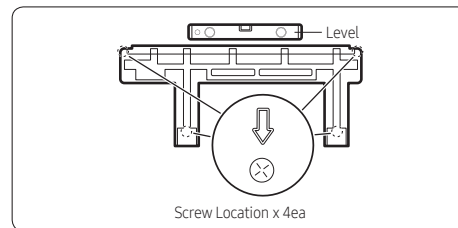
Attaching the mounting bracket to the wall

- 1 Hold the mounting bracket against the wall at the selected installation position (Step 1-3 on page 8), making sure that the screw holes align with the center of the studs in the wall. If the screw locations do not align with the studs, use wall anchors.

CAUTION

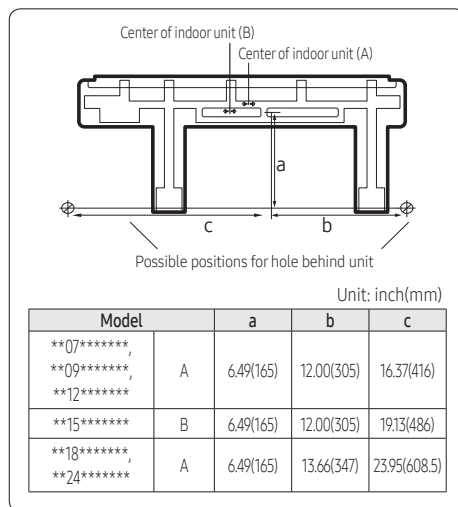
- The recommended best practice is to attach the mounting bracket directly to the studs in the wall. If you did not find a suitable location with studs (in Step 1-3 on page 8), or if the wall is concrete, you must use wall anchors of a suitable type and weight capacity, and install them according to the manufacturer's instructions. Failure to do so may cause the material surrounding the joints to crumble over time and the screws to be loosened and stripped. This may result in the unit falling from the wall, which could cause physical injury or equipment damage.

- 2 Using a level, make sure that the mounting bracket is level, then mark the location of the screw holes on the wall.
- 3 If using wall anchors, install them at the screw hole positions, following the manufacturer's instructions.
- 4 Using six field-supplied mounting screws and anchors (if applicable), attach the bracket to the wall.



Drilling the wall penetration

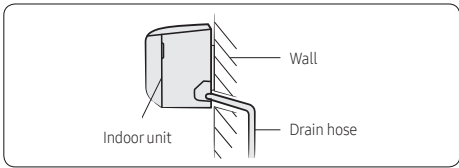
- 1 Determine the position of the hole through which the piping bundle (consisting of power and communication cables, refrigerant pipes, and the drain hose) will pass. Consider the following:
 - The hole inner diameter must be 2.5 inches (65 mm).
 - The recommended hole location is behind the unit so that the hole and the piping bundle will not be visible in the room. The minimum distances between the hole and the mounting bracket are:



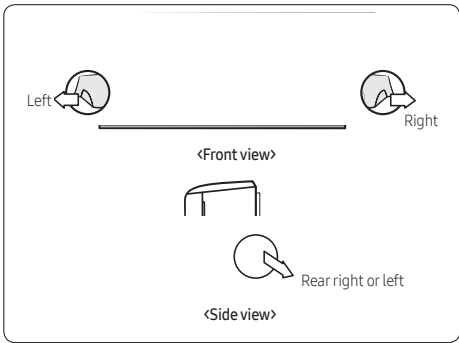
- If the hole cannot be positioned behind the unit, find a position as close to the unit as possible. The piping bundle that exits the unit and extends to the hole will need to be attached to the wall and will be visible inside the room.
- In relation to the bracket shown above, the unit is shipped with the drain hose connection on the right, the drain hose exits the unit on the left, and the refrigerant pipes are bent to exit on the left. Thus, positioning the hole to the left (A/B or outside the unit) requires the least effort. If you position the hole to the right (C/D or outside the unit) or below the unit, you will need to move the drain hose connection to the left and bend the pipes so that the hose and pipes exit to the right or bottom. See the figure in step 3 on page 15.

11. Installation

- 2 Use a standard 2-5-inch (65-mm) hole saw to drill one hole at the selected location, at a 15° downward angle so that the drain hose will drain properly.



- 3 Based on the hole location, determine where the piping bundle (drain hose, refrigerant pipes, and cables) will exit the unit.



NOTE

- The left or right exit will only be used if the hole is not positioned behind the unit.

Connecting the power and communication cables

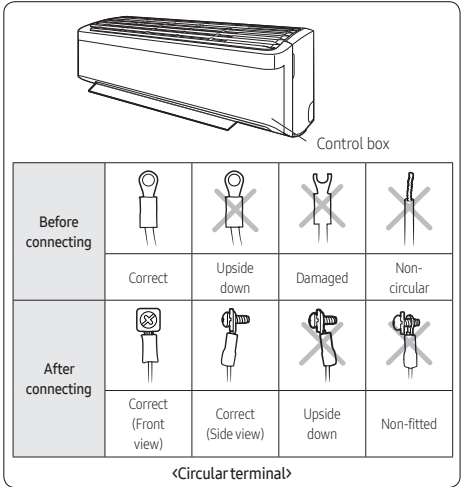
If using a multi system, install as described in the installation manual supplied with the outdoor unit.

WARNING

- Do not modify the power cable in any way. Doing so may cause electric shock or fire due to poor connection, poor insulation, or current limit override. Make sure to comply with the technical standards of electrical installations and the wiring regulations in the local area.
- This appliance must be properly grounded. Do not ground the appliance to a gas pipe, plastic water pipe, or telephone line. Failure to comply may result in electric shock, fire, and explosion.

- 1 Connect each wire to its corresponding terminal number.

Cable	Terminals
Power cable	L1, L2, ground
Communication cable	F1, F2



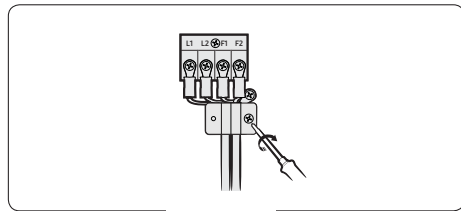
CAUTION

- Connect the wires firmly so that wires cannot be pulled out. Loose wires can cause the connection to overheat. Each circular terminal must match the size of its corresponding screw in the terminal block.

CAUTION

- For the terminal block wiring, use a wire with a ring terminal socket only. Regular wires without a ring terminal socket may become a hazard as the connections may loosen during operation.

- 2 Tighten the terminal block screw.



- 3 In Step 2-3, step 3 you determined the exit position for the piping bundle. If using the left, right, or bottom exits, pass the cables through the selected knockout.

NOTE

- Power supply cords of parts of appliances for outdoor use shall not be lighter than polychloroprene sheathed flexible cord.
- Power & Communication cable shall not exceed 98.42ft(30 m).

11. Installation

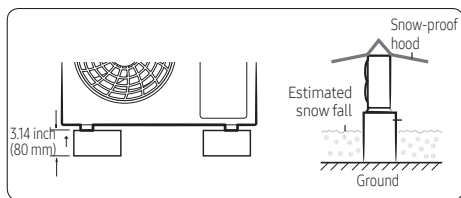
If using a multi system,install as described in the installation manual supplied with the outdoor unit.

Mounting the outdoor unit

To promote proper condensate draining, the recommended installation of the outdoor unit is elevated above the ground on a mounting bracket attached to a concrete pad.

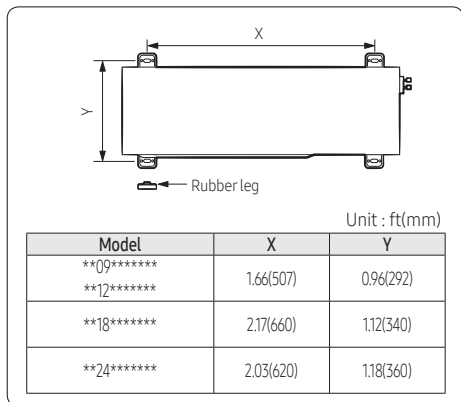
In areas where snowfall occurs, the unit must be mounted above the snow line to allow for proper heating. Snow cannot be allowed to collect on top of the unit. For promoting natural drainage in a heavy snow fall area:

- Make space more 3.14 inch(80 mm) between the bottom of the outdoor unit and the ground for installation. (Ensure that the drained water runs off correctly and safely.)
- Allow enough separation distance between the product and the ground.



On the ground

- 1 Place the outdoor unit in the selected installation location (Step 1-1 on page 6), ensuring proper clearances and with the arrow on top of the unit pointing away from the wall.
- 2 Clip the rubber feet to the tabs to minimize sound and vibration to the structure.



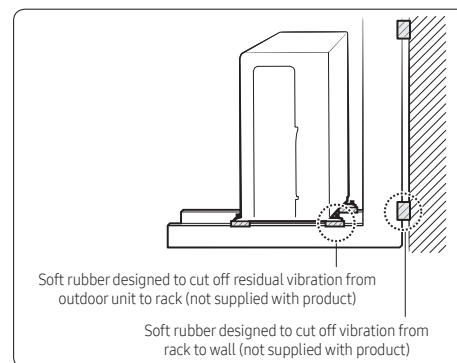
- 3 Level the unit, then use anchor bolts to secure it at the four mounting points.
- 4 For installations in locations that require seismic or hurricane tie downs, comply with local codes.
- 5 If the selected location is exposed to strong winds, install a protective fence around the unit so that the fan can operate correctly.

On a wall

! WARNING

- The unit must be properly secured to the wall. If the unit falls, it may result in crushing, electric shock, fire, or explosion that could cause death, severe personal injury, or property damage.

- 1 At the selected installation location (Step 1-1 on page 6), attach the L-bracket to the wall as follows:
 - Install the bracket as close to the wall as possible.
 - Insert rubber isolators between the bracket and the wall to minimize sound and vibration to the structure. Do not fully compress the isolators.

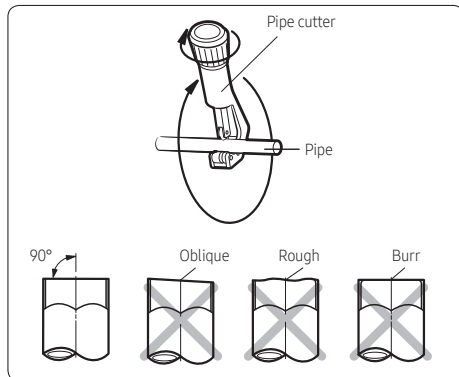


- Make sure that the bracket is level.
 - Use suitable bolts/washers and lock washers.
- 2 Place the outdoor unit on the bracket, ensuring proper clearances and with the arrow on top of the unit pointing away from the wall.
 - 3 Clip the rubber feet to the tabs to minimize sound and vibration to the structure.
 - 4 Level the unit, then use anchor bolts to secure it at the four mounting points.
 - 5 For installations in locations that require seismic or hurricane tie downs, comply with local codes.

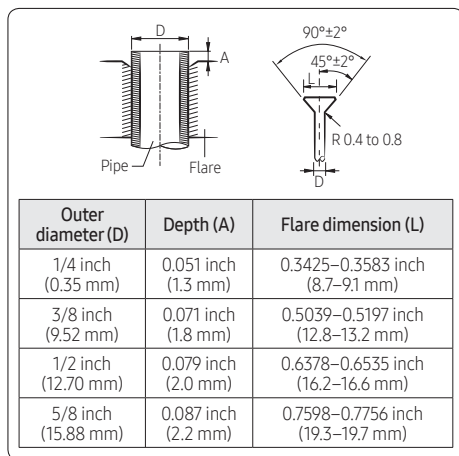
11. Installation

Connecting the cables and the pipes

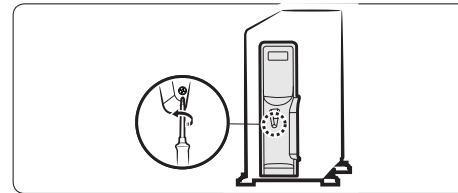
- 1 Route the piping bundle to the outdoor unit.
- 2 Use piping clamps to fasten the piping bundle to the foundation or wall.
- 3 Cut the refrigerant pipes to the length needed to reach the pipe connections (located behind the cover panel; see the figure in step 7).



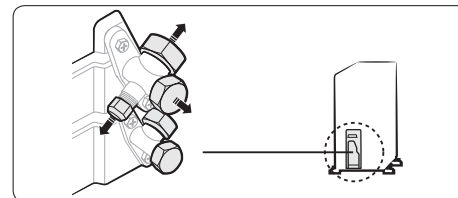
- 4 Remove any burrs, positioning the pipe face down to make sure that the burrs do not get into the pipe.
- 5 Assemble the flare connections on the cut pipe ends.



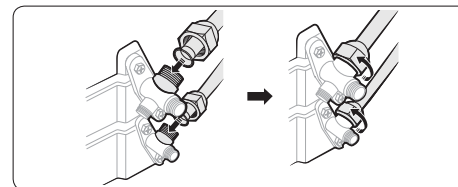
- 6 Remove the cover panel on the unit.



- 7 Remove the service valve caps.

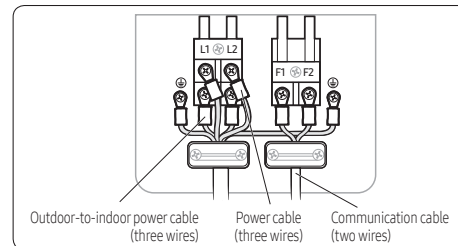


- 8 Connect the pipes to the service valve with the flare nuts. Hand-tighten the nuts to prevent stripping.



- 9 Torque the flare connections to the values in Step 2-3, step 7 on page 16.

- 10 Connect the power cables and secure with a cable clamp.



- 11 Connect the outdoor unit power supply cable to the preinstalled disconnect switch.

- 12 Leave the cover panel off for testing later in the installation process.



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