

SAMSUNG

RAC

Technical

Data Book

RAC for CIS
(INV, R32, 50Hz, HP)



Model : AR**A****WKNER (Indoor Unit)
AR**A****WKXER (Outdoor Unit)

GREE 
CLIMAT 
ОФІЦІЙНИЙ ДИЛЕР GREE В УКРАЇНІ

History

Version	Modification	Date	Remark
Ver.1.0	Released 2021 QMD RAC TDB for CIS	21. 07. 16	

Gree Climat

Nomenclature

Model Name

AR	09	A	X	A	A	A	WK	N	ER
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	Buyer

(1) Classification

AR	RAC
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(2) Capacity

x1000 Btu/h

(3) Year

A	2021
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(4) Product Type

S	INVERTER HP R410A
X	INVERTER HP R32

(5) Characteristics

A	Motion Detect Sensor + PM1.0 Filter + PM1.0 Sensor+Wi-Fi
C	Motion Detect Sensor +Wi-Fi + Tri-care Filter
E	Wi-Fi + Tri-care Filter
F	Wi-Fi
G	Tri-care Filter
H	-

(6) Design Segment

A	Wind-Free GEO
C	Wind-Free AIRISE
Y	GEO
Z	AIRISE

(7) Version

A-Z (1 digit)

(8) Color







WK	DA White
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(9) Set

N	Indoor Unit
X	Outdoor Unit
/	Set

Line-up

Outdoor Unit

Design	Capacity (kBtu/h)			
	9	12	18	24
Wind-Free GEO PM1.0				
Wind-Free AIRISE				

Gree Climat

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Gree Climat

1. Specification

Wind-Free GEO

	Model Name	Indoor Unit		AR09AXAAA WKNER	AR12AXAAA WKNER			
		Outdoor Unit		AR09AXAAA WKXER	AR12AXAAA WKXER			
System	Mode			-	Heat Pump			
	Performance	Capacity (Min/Std/Max)	Cooling	W	900 / 2,500 / 3,400	900 / 3,500 / 4,400		
			Heating	Btu/h	3,071 / 8,530 / 11,601	3,071 / 11,942 / 15,013		
			Cooling	W	700 / 3,200 / 6,500	700 / 4,000 / 6,800		
			Heating	Btu/h	2,388 / 10,919 / 22,179	2,388 / 13,649 / 23,203		
	Power	Power Input (Min/Std/Max)	Cooling	W	180 / 560 / 930	180 / 920 / 1,450		
			Heating	W	150 / 810 / 2,160	150 / 1,079 / 2,280		
		Current Input (Min/Std/Max)	Cooling	A	1.2 / 2.9 / 4.5	1.2 / 4.4 / 6.4		
			Heating	A	1 / 3.9 / 9.5	1 / 5.1 / 10		
	Efficiency	EER	Cooling	W/W	4.46	3.80		
		COP	Heating	-	3.95	3.71		
		Energy Grade	Cooling	-	A++	A++		
			Heating	-	A++ / A	A++ / A		
	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		15	15		
	Max. Height (Between ID/OD)	m		8	8			
Wiring connections	Power Source Wire			mm ²	1.5	1.5		
	Communication	Min.	mm ²	0.75	0.75			
		Remark			-	F1, F2	F1, F2	
Refrigerant	Type			-	R32	R32		
	Factory Charging			kg	0.965	0.965		
				tCO ₂ e	0.65	0.65		
Indoor Unit	Power Supply			Ø, #, V, Hz	1, 2, 220-240, 50	1, 2, 220-240, 50		
	Heat Exchanger	Type			-	F&T	F&T	
		Material	Fin			-	Al	Al
			Tube			-	Cu	Cu
	Fin Treatment			-	NGS(Neo-Green)	NGS(Neo-Green)		
	Fan	Type			-	Cross Flow	Cross Flow	
		Quantity			EA	1	1	
		Air Flow Rate	Cooling (T/H/M/L)	m ³ /min		11.7 / 10.7 / 9.8 / 8.4	12.1 / 11.2 / 9.8 / 8.4	
			Heating (T/H/M/L)	l/s		195 / 178 / 163 / 140	202 / 187 / 163 / 140	
	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)		38 / 19	40 / 19	
	External Dimension	Net Weight			kg	10.5	10.5	
		Shipping Weight			kg	12.1	12.1	
		Net Dimensions (WxHxD)			mm	820 x 345 x 215	820 x 345 x 215	
		Shipping Dimensions (WxHxD)			mm	880 x 290 x 410	880 x 290 x 410	
Casing	Material			-	HIPS	HIPS		
Control System	Infrared remote control			-	Included	Included		
	Wired remote control			-	-	-		
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			-	○	○			

1. Specification

Wind-Free GEO

Model Name		Indoor Unit		AR09AXAAAWKNER	AR12AXAAAWKNER
		Outdoor Unit		AR09AXAAAWKXER	AR12AXAAAWKXER
Outdoor Unit	Power Supply			Ø, #, V, Hz	1, 2, 220-240, 50
	Heat Exchanger	Type		-	F&T
		Material	Fin	-	Al
			Tube	-	Cu
		Fin Treatment		-	NGS(Neo-Green)
	Compressor	Model Name			KTN130D42UFR
		Type		-	BLDC ROTARY
		Output		kW	4.09
		Oil	Type	-	POE
	Initial charge		cc	350	
	Fan	Type		-	Propeller
		Discharge direction		-	Front
		Quantity		EA	1
		Air Flow Rate		m ³ /min	45
	l/s			750	
	Fan Motor	Type		-	BLDC
		Output		W x n	40 x 1
	Sound □	Sound Pressure Level	Cooling	dB(A)	45
					46
	External Dimension	Net Weight		kg	32.8
Shipping Weight		kg	35.0		
Net Dimensions (WxHxD)		mm	790 x 548 x 285		
Shipping Dimensions (WxHxD)		mm	913 x 622 x 371		
Casing	Material	Body	-	EGI Steel Plate / PP	
				EGI Steel Plate / PP	
Operating Temp. Range	Cooling		°C	-10 ~ 46	
	Heating		°C	-15 ~ 24	

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
Outdoor temperature: 35°C DB, 24°C WB, Equivalent refrigerant piping: 5m, Level differences: 0 m
 - 2) Nominal heating capacities are based on;
Indoor temperature: 20°C DB, 15°C WB
Outdoor temperature: 7°C DB, 6°C WB, Equivalent refrigerant piping: 5m, Level differences: 0 m
 - 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/R32 which is fluorinated greenhouse gas.

1. Specification

Wind-Free AIRISE

	Model Name	Indoor Unit		AR09ASHCBWKNER	AR12ASHCBWKNER	
		Outdoor Unit		AR09ASHCBWKXER	AR12ASHCBWKXER	
System	Mode			Heat Pump	Heat Pump	
	Performance	Capacity (Min/Std/Max)	Cooling	W	1,000 / 2,500 / 3,300	1,000 / 3,500 / 4,000
				Btu/h	3,412 / 8,530 / 11,260	3,412 / 11,942 / 13,649
			Heating	W	1,100 / 3,200 / 5,200	1,100 / 3,500 / 5,400
				Btu/h	3,753 / 10,919 / 17,743	3,753 / 11,942 / 18,426
	Power	Power Input (Min/Std/Max)	Cooling	W	180 / 670 / 890	180 / 1,060 / 1,210
			Heating	W	240 / 860 / 1,600	240 / 940 / 1,600
		Current Input (Min/Std/Max)	Cooling	A	1.5 / 3.6 / 4.4	1.5 / 5 / 6
			Heating	A	1.6 / 4.4 / 7	1.6 / 4.5 / 7
	Efficiency	EER	Cooling	W/W	3.73	3.30
		COP	Heating	-	3.72	3.72
		Energy Grade	Cooling	-	A++	A++
			Heating	-	A+ / B	A+ / B
	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	15	15
	Max. Height (Between ID/OD)		m	8	8	
Wiring connections	Power Source Wire		mm ²	1.5	1.5	
	Communication	Min.	mm ²	0.75	0.75	
		Remark	-	-	F1, F2	F1, F2
Refrigerant	Type		-	R410A	R410A	
	Factory Charging		kg	1	1	
			tCO _{2e}	2.09	2.09	
Indoor Unit	Power Supply		Ø, #, V, Hz	1, 2, 220-240, 50	1, 2, 220-240, 50	
	Heat Exchanger	Type		-	F&T	F&T
		Material	Fin	-	Al	Al
			Tube	-	Cu	Cu
		Fin Treatment		-	NGS(Neo-Green)	NGS(Neo-Green)
	Fan	Type		-	Cross Flow	Cross Flow
		Quantity		EA	1	1
		Air Flow Rate	Cooling (T/H/M/L)	m ³ /min	10.3 / 9.8 / 9.3 / 8.4	10.7 / 10.3 / 9.3 / 8.4
				l/s	172 / 163 / 155 / 140	178 / 172 / 155 / 140
		Heating (T/H/M/L)	m ³ /min	11.2 / 10.7 / 10.3 / 9.3	11.7 / 11.2 / 10.3 / 9.3	
			l/s	187 / 178 / 172 / 155	195 / 187 / 172 / 155	
	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)	38 / 22
	External Dimension	Net Weight		kg	9.2	9.2
Shipping Weight		kg	10.5	10.5		
Net Dimensions (WxHxD)		mm	820 x 299 x 215	820 x 299 x 215		
Shipping Dimensions (WxHxD)		mm	880 x 290 x 375	880 x 290 x 375		
Casing	Material		-	HIPS	HIPS	
Control System	Infrared remote control		-	Included	Included	
	Wired remote control		-	-	-	
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		-	-	-		

1. Specification

Wind-Free AIRISE

Model Name		Indoor Unit		AR09ASHCBWKNER	AR12ASHCBWKNER	
		Outdoor Unit		AR09ASHCBWKXER	AR12ASHCBWKXER	
Outdoor Unit	Power Supply			Ø, #, V, Hz	1, 2, 220-240, 50	
	Heat Exchanger	Type		-	F&T	
		Material	Fin	-	Al	
			Tube	-	Cu	
		Fin Treatment		-	NGS(Neo-Green)	
	Compressor	Model Name			UB1AR1090FE6	
		Type		-	BLDC ROTARY	
		Output		kW	2.8	
		Oil	Type	-	POE	
	Initial charge		cc	260		
	Fan	Type		-	Propeller	
		Discharge direction		-	Front	
		Quantity		EA	1	
		Air Flow Rate		m ³ /min	40	
	l/s			667		
	Fan Motor	Type		-	BLDC	
		Output		W x n	40 x 1	
	Sound □	Sound Pressure Level	Cooling		dB(A)	45
			Heating			46
	External Dimension	Net Weight		kg	27.0	
Shipping Weight		kg	29.1			
Net Dimensions (WxHxD)		mm	720 x 548 x 265			
Shipping Dimensions (WxHxD)		mm	844 x 622 x 353			
Casing	Material	Body		-	EGI Steel Plate / PP	
					EGI Steel Plate / PP	
Operating Temp. Range	Cooling		°C	-10 ~ 46		
	Heating		°C	-15 ~ 24		

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
Outdoor temperature: 35°C DB, 24°C WB, Equivalent refrigerant piping: 5m, Level differences: 0 m
 - 2) Nominal heating capacities are based on;
Indoor temperature: 20°C DB, 15°C WB
Outdoor temperature: 7°C DB, 6°C WB, Equivalent refrigerant piping: 5m, Level differences: 0 m
 - 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/R32 which is fluorinated greenhouse gas.

1. Specification

Wind-Free AIRISE

Model Name	Indoor Unit		AR18ASHCBWKNER	AR24ASHCBWKNER	
	Outdoor Unit		AR18ASHCBWKXER	AR24ASHCBWKXER	
Mode			Heat Pump	Heat Pump	
Performance	Capacity (Min/Std/Max)	Cooling	W Btu/h	1,600 / 5,000 / 6,500 5,459 / 17,061 / 22,179	
		Heating	W Btu/h	1,200 / 6,000 / 7,200 4,095 / 20,473 / 24,567	
	Power Input (Min/Std/Max)	Cooling	W	300 / 1,450 / 1,980	
		Heating	W	270 / 1,750 / 2,000	
Efficiency	EER	Cooling	W/W	3.45	
		Heating	-	3.43	
	COP	Cooling	-	A++	
		Heating	-	A / B	
Piping Connections	Liquid Pipe	Type	Flare connection		
		Φ, mm (inch)	6.35 (1/4)		
	Gas Pipe	Type	Flare connection		
		Φ, mm (inch)	12.7 (1/2)		
	Heat Insulation		-	Both liquid and gas pipes	Both liquid and gas pipes
	Installation Limitation	Max. Length (Outdoor to indoor)	m	30	
		Max. Height (Between ID/OD)	m	15	
	Wiring connections	Power Source Wire		mm ²	2.5
Communication		Min.	mm ²	0.75	
		Remark	-	F1, F2	F1, F2
Refrigerant	Type		-	R410A	
	Factory Charging		kg	1.3	
			tCO _{2e}	2.71	
Power Supply			Ø, #, V, Hz	1, 2, 220-240, 50	
Heat Exchanger	Type		-	F&T	
	Material	Fin	-	Al	
		Tube	-	Cu	
	Fin Treatment		-	NGS(Neo-Green)	NGS(Neo-Green)
Fan	Type		-	Cross Flow	
	Quantity		EA	1	
	Air Flow Rate	Cooling (T/H/M/L)	m ³ /min	16.6 / 15.3 / 14 / 12.6	
		Heating (T/H/M/L)	l/s	277 / 255 / 233 / 210	
Fan Motor	Type		-	BLDC	
	Output		W x n	27 x 1	
	Drain Pipe		Φ, mm	16.3, 550	
	Sound □		H / Silent	41 / 28	
External Dimension	Net Weight		kg	11.5	
	Shipping Weight		kg	13.2	
	Net Dimensions (WxHxD)		mm	1,055 x 299 x 215	
	Shipping Dimensions (WxHxD)		mm	1,115 x 290 x 375	
Casing	Material		-	HIPS	
Control System	Infrared remote control		-	Included	
	Wired remote control		-	-	
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	
Tri-Care Filter		-	-		
Motion Detect Sensor		-	-		
Wi-Fi		-	-		

1. Specification

Wind-Free AIRISE

Model Name		Indoor Unit		AR18ASHCBWKNER	AR24ASHCBWKNER
		Outdoor Unit		AR18ASHCBWKXER	AR24ASHCBWKXER
Outdoor Unit	Power Supply			Ø, #, V, Hz	1, 2, 220-240, 50
	Heat Exchanger	Type		-	F&T
		Material	Fin	-	Al
			Tube	-	Cu
		Fin Treatment		-	NGS(Neo-Green)
	Compressor	Model Name			UG9TK3150FE4
		Type		-	BLDC ROTARY
		Output		kW	4.57
		Oil	Type	-	POE
	Initial charge		cc	500	
	Fan	Type		-	Propeller
		Discharge direction		-	Front
		Quantity		EA	1
		Air Flow Rate		m ³ /min	50
	l/s			833	
	Fan Motor	Type		-	BLDC
		Output		W x n	40 x 1
	Sound □	Sound Pressure Level	Cooling		51
					54
	External Dimension	Net Weight		kg	39.8
Shipping Weight		kg	43.1		
Net Dimensions (WxHxD)		mm	880 x 638 x 310		
Shipping Dimensions (WxHxD)		mm	1,023 x 724 x 413		
Casing	Material	Body	-	EGI Steel Plate / PP	
				EGI Steel Plate / PP	
Operating Temp. Range	Cooling		°C	-10 ~ 46	
	Heating		°C	-15 ~ 24	

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
Outdoor temperature: 35°C DB, 24°C WB, Equivalent refrigerant piping: 5m, Level differences: 0 m
 - 2) Nominal heating capacities are based on;
Indoor temperature: 20°C DB, 15°C WB
Outdoor temperature: 7°C DB, 6°C WB, Equivalent refrigerant piping: 5m, Level differences: 0 m
 - 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/R32 which is fluorinated greenhouse gas.

2. Capacity Table

Wind-Free GEO

AR09AXAAAWKNER + AR09AXAAAWKXER

Cooling

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

Outdoor Temperature (°C, DB)	Indoor Temperature (°C, DB / WB)																				
	20 / 14			22 / 16			25 / 18			27 / 19			28 / 20			30 / 22			32 / 24		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-10	2.80	2.33	0.76	2.91	2.41	0.79	3.13	2.55	0.83	3.31	2.65	0.84	3.42	2.71	0.84	3.65	2.81	0.85	3.91	2.92	0.85
0	2.88	2.41	0.66	3.01	2.50	0.69	3.26	2.65	0.72	3.46	2.77	0.73	3.57	2.82	0.73	3.82	2.94	0.74	4.10	3.05	0.74
10	3.06	2.55	0.61	3.19	2.65	0.64	3.45	2.81	0.67	3.66	2.93	0.68	3.78	2.99	0.68	4.04	3.11	0.68	4.33	3.23	0.68
20	3.20	2.67	0.63	3.34	2.77	0.66	3.61	2.93	0.70	3.82	3.05	0.71	3.94	3.11	0.71	4.20	3.24	0.71	4.49	3.35	0.71
25	3.23	2.69	0.67	3.37	2.79	0.70	3.63	2.95	0.74	3.84	3.07	0.75	3.96	3.13	0.75	4.22	3.25	0.75	4.51	3.37	0.75
32	3.19	2.65	0.76	3.32	2.75	0.80	3.57	2.91	0.83	3.78	3.02	0.85	3.90	3.08	0.85	4.15	3.20	0.85	4.44	3.31	0.85
35	3.13	2.61	0.81	3.26	2.70	0.85	3.51	2.85	0.89	3.70	2.97	0.91	3.82	3.02	0.91	4.07	3.14	0.91	4.36	3.25	0.91
40	2.97	2.47	0.92	3.09	2.56	0.96	3.33	2.71	1.00	3.52	2.82	1.02	3.63	2.88	1.02	3.88	2.99	1.03	4.15	3.10	1.03
43	2.84	2.36	0.99	2.95	2.44	1.04	3.18	2.59	1.08	3.37	2.70	1.10	3.47	2.75	1.11	3.71	2.86	1.11	3.98	2.97	1.11
46	2.66	2.22	1.08	2.77	2.30	1.13	2.99	2.44	1.17	3.17	2.54	1.19	3.27	2.59	1.20	3.50	2.70	1.21	3.77	2.80	1.21

Heating

TC : Total Capacity, PI : Power Input

Outdoor Temperature (°C, DB)	Indoor Temperature (°C, DB)											
	16		18		20		21		22		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-15	3.65	1.88	3.64	1.90	3.63	1.92	3.62	1.93	3.60	1.94	3.53	1.97
-10	4.06	1.93	4.11	1.96	4.11	2.00	4.10	2.02	4.06	2.04	3.92	2.07
-5	4.20	1.77	4.30	1.82	4.33	1.88	4.30	1.90	4.25	1.92	4.05	1.96
0	4.17	1.49	4.33	1.56	4.37	1.63	4.34	1.65	4.27	1.68	4.01	1.71
2	4.13	1.37	4.31	1.44	4.36	1.51	4.32	1.54	4.25	1.56	3.97	1.60
5	4.06	1.18	4.28	1.26	4.34	1.34	4.30	1.36	4.22	1.39	3.90	1.42
7	4.02	1.06	4.26	1.15	4.30	0.81	4.29	1.25	4.20	1.28	3.86	1.31
10	3.98	0.91	4.25	1.01	4.33	1.08	4.29	1.11	4.20	1.13	3.82	1.16
15	4.01	0.77	4.35	0.88	4.45	0.95	4.41	0.98	4.30	1.00	3.87	1.02
20	4.27	0.85	4.67	0.95	4.80	1.03	4.76	1.05	4.63	1.07	4.15	1.07
24	4.70	1.11	5.15	1.22	5.30	1.29	5.26	1.31	5.13	1.32	4.61	1.31

NOTE

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

2. Capacity Table

Wind-Free GEO

AR12AXAAWKNER + AR12AXAAWKXER

Cooling

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

Outdoor Temperature (°C, DB)	Indoor Temperature (°C, DB / WB)																				
	20 / 14			22 / 16			25 / 18			27 / 19			28 / 20			30 / 22			32 / 24		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-10	3.09	2.57	0.87	3.22	2.62	0.91	3.45	2.78	0.94	3.64	2.91	0.96	3.74	2.98	0.96	3.98	3.10	0.97	4.27	3.19	0.97
0	2.98	2.49	0.71	3.13	2.56	0.75	3.39	2.73	0.79	3.59	2.88	0.80	3.71	2.95	0.80	3.97	3.08	0.81	4.28	3.18	0.81
10	3.21	2.69	0.73	3.37	2.76	0.77	3.65	2.94	0.81	3.87	3.09	0.82	3.99	3.17	0.82	4.27	3.31	0.83	4.59	3.42	0.82
20	3.54	2.95	0.87	3.70	3.02	0.91	3.99	3.21	0.95	4.21	3.37	0.97	4.34	3.44	0.97	4.62	3.58	0.98	4.95	3.70	0.97
25	3.66	3.04	0.97	3.82	3.12	1.01	4.11	3.31	1.06	4.33	3.46	1.08	4.46	3.54	1.08	4.74	3.68	1.08	5.07	3.79	1.08
32	3.70	3.08	1.12	3.87	3.15	1.17	4.15	3.34	1.22	4.37	3.49	1.24	4.49	3.56	1.25	4.77	3.71	1.26	5.10	3.82	1.25
35	3.66	3.04	1.19	3.82	3.11	1.24	4.10	3.30	1.30	4.30	3.49	1.33	4.44	3.52	1.33	4.72	3.66	1.33	5.04	3.77	1.33
40	3.48	2.89	1.30	3.63	2.96	1.36	3.90	3.14	1.42	4.11	3.29	1.44	4.23	3.36	1.45	4.51	3.50	1.46	4.83	3.61	1.46
43	3.30	2.74	1.37	3.44	2.81	1.43	3.70	2.99	1.49	3.91	3.13	1.51	4.03	3.21	1.52	4.30	3.34	1.53	4.62	3.44	1.53
46	3.05	2.54	1.42	3.19	2.61	1.49	3.44	2.78	1.55	3.64	2.92	1.58	3.76	2.99	1.59	4.03	3.13	1.60	4.34	3.23	1.60

Heating

TC : Total Capacity, PI : Power Input

Outdoor Temperature (°C, DB)	Indoor Temperature (°C, DB)											
	16		18		20		21		22		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-15	4.15	2.20	4.15	2.21	4.14	2.24	4.12	2.25	4.10	2.27	4.01	2.30
-10	4.64	2.32	4.70	2.36	4.70	2.41	4.68	2.44	4.63	2.46	4.48	2.50
-5	4.84	2.21	4.95	2.28	4.97	2.35	4.94	2.38	4.88	2.41	4.66	2.46
0	4.83	1.96	5.00	2.05	5.04	2.13	5.00	2.17	4.93	2.20	4.65	2.25
2	4.79	1.84	4.99	1.93	5.03	2.02	4.99	2.06	4.91	2.09	4.61	2.14
5	4.71	1.64	4.95	1.75	5.00	1.84	4.96	1.87	4.87	1.91	4.53	1.95
7	4.65	1.51	4.91	1.62	4.90	1.08	4.93	1.75	4.84	1.78	4.48	1.82
10	4.57	1.33	4.87	1.44	4.95	1.53	4.90	1.57	4.80	1.60	4.40	1.63
15	4.50	1.10	4.86	1.21	4.96	1.30	4.92	1.34	4.80	1.36	4.35	1.38
20	4.58	1.03	5.01	1.14	5.14	1.23	5.09	1.25	4.96	1.27	4.46	1.27
24	4.83	1.14	5.31	1.25	5.47	1.32	5.42	1.35	5.28	1.36	4.73	1.34

NOTE

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

2. Capacity Table

Wind-Free AIRISE

AR09ASHCBWKNER + AR09ASHCBWKXER

Cooling

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

Outdoor Temperature (°C, DB)	Indoor Temperature (°C, DB / WB)																				
	20 / 14			22 / 16			25 / 18			27 / 19			28 / 20			30 / 22			32 / 24		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-10	2.40	2.00	0.34	2.48	2.07	0.39	2.68	2.19	0.45	2.85	2.28	0.47	2.94	2.33	0.48	3.15	2.42	0.49	3.38	2.52	0.49
0	2.55	2.12	0.28	2.65	2.20	0.33	2.86	2.33	0.39	3.03	2.42	0.41	3.13	2.47	0.42	3.34	2.57	0.42	3.57	2.66	0.41
10	2.55	2.12	0.27	2.65	2.20	0.33	2.86	2.33	0.39	3.03	2.42	0.41	3.13	2.47	0.41	3.34	2.56	0.41	3.56	2.66	0.40
20	2.41	2.01	0.31	2.51	2.08	0.37	2.71	2.21	0.43	2.88	2.30	0.46	2.97	2.34	0.46	3.17	2.43	0.46	3.38	2.52	0.45
25	2.30	1.92	0.34	2.39	1.99	0.41	2.59	2.11	0.47	2.75	2.19	0.50	2.84	2.24	0.50	3.03	2.32	0.50	3.23	2.41	0.49
32	2.10	1.75	0.40	2.19	1.82	0.47	2.37	1.93	0.55	2.52	2.01	0.57	2.60	2.05	0.58	2.77	2.13	0.58	2.96	2.21	0.57
35	2.01	1.67	0.42	2.08	1.74	0.50	2.26	1.84	0.58	3.20	2.56	0.86	2.48	1.96	0.62	2.65	2.03	0.62	2.83	2.11	0.61
40	1.83	1.53	0.48	1.90	1.58	0.56	2.06	1.68	0.65	2.19	1.75	0.68	2.26	1.78	0.69	2.42	1.86	0.70	2.58	1.93	0.69
43	1.72	1.43	0.51	1.78	1.49	0.60	1.93	1.58	0.69	2.05	1.64	0.73	2.12	1.67	0.74	2.27	1.74	0.75	2.42	1.81	0.74
46	1.60	1.33	0.55	1.66	1.38	0.64	1.79	1.47	0.74	1.91	1.53	0.78	1.97	1.56	0.79	2.11	1.62	0.80	2.26	1.68	0.79

Heating

TC : Total Capacity, PI : Power Input

Outdoor Temperature (°C, DB)	Indoor Temperature (°C, DB)											
	16		18		20		21		22		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-15	3.40	1.30	3.01	1.26	2.80	1.30	2.77	1.35	2.79	1.42	3.01	1.63
-10	3.30	1.36	3.00	1.33	2.84	1.36	2.83	1.41	2.86	1.47	3.05	1.67
-5	3.36	1.33	3.14	1.30	3.03	1.33	3.02	1.37	3.05	1.43	3.21	1.61
0	3.55	1.24	3.40	1.21	3.32	1.24	3.31	1.28	3.32	1.34	3.43	1.50
2	3.65	1.20	3.52	1.17	3.45	1.20	3.44	1.23	3.45	1.29	3.54	1.45
5	3.82	1.13	3.72	1.10	3.66	1.13	3.64	1.16	3.64	1.22	3.69	1.37
7	3.95	1.08	3.86	1.06	3.20	0.86	3.78	1.12	3.77	1.17	3.80	1.32
10	4.14	1.02	4.08	1.00	4.02	1.03	3.99	1.06	3.96	1.11	3.94	1.26
15	4.45	0.96	4.42	0.94	4.35	0.97	4.30	1.01	4.25	1.06	4.14	1.19
20	4.73	0.98	4.71	0.97	4.62	1.00	4.54	1.04	4.45	1.09	4.24	1.22
24	4.90	1.08	4.88	1.08	4.75	1.11	4.65	1.15	4.53	1.19	4.23	1.32

NOTE

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

2. Capacity Table

Wind-Free AIRISE

AR12ASHCBWKNER + AR12ASHCBWKXER

Cooling

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

Outdoor Temperature (°C, DB)	Indoor Temperature (°C, DB / WB)																				
	20 / 14			22 / 16			25 / 18			27 / 19			28 / 20			30 / 22			32 / 24		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-10	3.24	2.69	0.70	3.34	2.79	0.80	3.59	2.95	0.91	3.82	3.06	0.96	3.95	3.12	0.97	4.22	3.24	0.99	4.51	3.37	0.97
0	3.33	2.78	0.51	3.45	2.89	0.62	3.75	3.07	0.73	4.00	3.20	0.78	4.14	3.26	0.80	4.43	3.39	0.81	4.74	3.53	0.79
10	3.46	2.89	0.52	3.60	3.01	0.63	3.91	3.20	0.75	4.17	3.33	0.80	4.31	3.40	0.82	4.62	3.54	0.83	4.93	3.67	0.81
20	3.52	2.94	0.64	3.66	3.06	0.76	3.97	3.24	0.89	4.23	3.37	0.94	4.37	3.44	0.96	4.66	3.57	0.97	4.97	3.71	0.94
25	3.49	2.92	0.72	3.63	3.03	0.84	3.93	3.21	0.97	4.18	3.33	1.03	4.32	3.40	1.04	4.60	3.53	1.05	4.90	3.66	1.03
32	3.35	2.79	0.82	3.47	2.89	0.94	3.75	3.06	1.09	3.99	3.18	1.14	4.11	3.24	1.16	4.38	3.36	1.17	4.66	3.49	1.15
35	3.24	2.70	0.85	3.36	2.80	0.98	3.62	2.96	1.13	3.50	2.80	0.94	3.97	3.13	1.20	4.23	3.25	1.22	4.50	3.37	1.19
40	2.99	2.49	0.89	3.09	2.58	1.03	3.33	2.72	1.18	3.54	2.83	1.24	3.65	2.88	1.26	3.90	2.99	1.27	4.15	3.10	1.25
43	2.79	2.32	0.90	2.88	2.40	1.04	3.10	2.54	1.19	3.30	2.64	1.26	3.41	2.69	1.28	3.64	2.79	1.29	3.87	2.89	1.27
46	2.55	2.12	0.90	2.63	2.20	1.04	2.83	2.32	1.19	3.02	2.42	1.26	3.12	2.46	1.28	3.33	2.56	1.30	3.55	2.65	1.27

Heating

TC : Total Capacity, PI : Power Input

Outdoor Temperature (°C, DB)	Indoor Temperature (°C, DB)											
	16		18		20		21		22		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-15	3.56	1.31	3.13	1.27	2.92	1.31	2.90	1.36	2.93	1.43	3.14	1.64
-10	3.38	1.36	3.05	1.33	2.91	1.36	2.90	1.41	2.94	1.48	3.13	1.67
-5	3.45	1.37	3.21	1.33	3.11	1.37	3.11	1.41	3.14	1.48	3.29	1.66
0	3.70	1.34	3.53	1.30	3.46	1.34	3.46	1.38	3.48	1.44	3.58	1.62
2	3.84	1.32	3.69	1.29	3.63	1.32	3.63	1.37	3.64	1.43	3.72	1.60
5	4.07	1.29	3.95	1.26	3.90	1.30	3.89	1.34	3.90	1.40	3.93	1.57
7	4.24	1.27	4.14	1.25	3.50	0.94	4.07	1.33	4.07	1.38	4.08	1.56
10	4.49	1.25	4.42	1.23	4.36	1.27	4.34	1.31	4.32	1.37	4.28	1.54
15	4.91	1.24	4.86	1.22	4.79	1.26	4.75	1.30	4.69	1.36	4.56	1.53
20	5.25	1.27	5.22	1.26	5.12	1.31	5.05	1.35	4.95	1.41	4.71	1.57
24	5.44	1.35	5.40	1.34	5.27	1.39	5.17	1.43	5.04	1.49	4.70	1.65

NOTE

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

2. Capacity Table

Wind-Free AIRISE

AR18ASHCBWKNER + AR18ASHCBWKXER

Cooling

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

Outdoor Temperature (°C, DB)	Indoor Temperature (°C, DB / WB)																				
	20 / 14			22 / 16			25 / 18			27 / 19			28 / 20			30 / 22			32 / 24		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-10	4.35	2.90	0.81	4.54	3.37	0.82	4.86	3.89	0.86	5.13	4.12	0.89	5.28	4.22	0.90	5.63	4.37	0.91	6.05	4.50	0.90
0	4.43	2.94	0.84	4.64	3.44	0.87	5.02	3.99	0.91	5.31	4.26	0.94	5.48	4.37	0.95	5.86	4.55	0.96	6.30	4.70	0.95
10	4.69	3.12	0.99	4.93	3.64	1.02	5.32	4.22	1.07	5.64	4.50	1.10	5.81	4.62	1.11	6.20	4.81	1.12	6.67	4.98	1.11
20	4.94	3.30	1.22	5.18	3.82	1.26	5.58	4.40	1.32	5.89	4.69	1.36	6.07	4.80	1.37	6.46	5.01	1.38	6.93	5.18	1.37
25	4.99	3.34	1.36	5.22	3.86	1.41	5.62	4.43	1.48	5.93	4.71	1.51	6.10	4.83	1.53	6.49	5.03	1.54	6.95	5.19	1.53
32	4.90	3.29	1.58	5.13	3.79	1.64	5.51	4.35	1.72	5.80	4.62	1.76	5.97	4.73	1.77	6.35	4.92	1.79	6.80	5.08	1.78
35	4.80	3.22	1.69	5.02	3.71	1.75	5.38	4.26	1.83	5.00	4.00	1.45	5.84	4.63	1.89	6.21	4.81	1.90	6.66	4.97	1.89
40	4.51	3.01	1.87	4.71	3.50	1.93	5.06	4.03	2.02	5.34	4.27	2.07	5.50	4.37	2.09	5.86	4.54	2.10	6.29	4.68	2.09
43	4.26	2.83	1.98	4.45	3.31	2.05	4.79	3.82	2.14	5.06	4.06	2.19	5.21	4.16	2.21	5.56	4.32	2.23	5.98	4.45	2.22
46	3.94	2.61	2.09	4.13	3.07	2.16	4.44	3.57	2.26	4.70	3.80	2.32	4.85	3.89	2.34	5.19	4.04	2.36	5.59	4.16	2.35

Heating

TC : Total Capacity, PI : Power Input

Outdoor Temperature (°C, DB)	Indoor Temperature (°C, DB)											
	16		18		20		21		22		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-15	4.15	1.63	4.04	1.63	4.00	1.65	4.00	1.66	4.01	1.67	4.04	1.69
-10	4.91	1.68	4.88	1.71	4.85	1.73	4.84	1.74	4.81	1.76	4.75	1.78
-5	5.35	1.72	5.40	1.76	5.40	1.80	5.37	1.81	5.32	1.83	5.16	1.85
0	5.57	1.74	5.70	1.80	5.72	1.85	5.69	1.87	5.61	1.88	5.36	1.90
2	5.62	1.74	5.78	1.80	5.81	1.86	5.77	1.88	5.69	1.90	5.40	1.92
5	5.65	1.74	5.87	1.81	5.92	1.87	5.87	1.90	5.78	1.91	5.43	1.93
7	5.67	1.73	5.92	1.81	6.00	1.75	5.93	1.90	5.82	1.92	5.44	1.94
10	5.68	1.72	5.98	1.81	6.06	1.88	6.01	1.90	5.89	1.92	5.46	1.94
15	5.73	1.68	6.13	1.78	6.24	1.86	6.18	1.89	6.05	1.91	5.54	1.92
20	5.90	1.61	6.39	1.74	6.54	1.83	6.48	1.85	6.33	1.87	5.74	1.88
24	6.17	1.55	6.75	1.68	6.93	1.78	6.87	1.81	6.71	1.83	6.06	1.83

NOTE

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

2. Capacity Table

Wind-Free AIRISE

AR24ASHCBWKNER + AR24ASHCBWKXER

Cooling

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

Outdoor Temperature (°C, DB)	Indoor Temperature (°C, DB / WB)																				
	20 / 14			22 / 16			25 / 18			27 / 19			28 / 20			30 / 22			32 / 24		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-10	5.49	3.64	0.89	5.67	4.17	0.93	6.10	4.87	0.97	6.48	5.24	0.99	6.69	5.39	0.99	7.16	5.61	1.00	7.68	5.69	0.99
0	5.51	3.63	0.70	5.75	4.20	0.75	6.25	4.95	0.81	6.67	5.37	0.83	6.90	5.54	0.84	7.41	5.81	0.85	7.97	5.95	0.84
10	5.87	3.89	1.04	6.14	4.47	1.11	6.68	5.25	1.18	7.12	5.69	1.21	7.36	5.87	1.22	7.89	6.17	1.23	8.47	6.34	1.23
20	6.25	4.18	1.65	6.51	4.74	1.72	7.06	5.52	1.80	7.50	5.95	1.84	7.74	6.14	1.85	8.27	6.44	1.86	8.83	6.62	1.86
25	6.34	4.25	1.95	6.60	4.80	2.03	7.13	5.56	2.12	7.56	5.99	2.16	7.80	6.18	2.17	8.31	6.47	2.19	8.86	6.64	2.18
32	6.25	4.21	2.31	6.49	4.73	2.39	6.99	5.45	2.49	7.40	5.86	2.53	7.63	6.03	2.54	8.11	6.31	2.56	8.64	6.46	2.56
35	6.11	4.12	2.41	6.34	4.63	2.50	6.82	5.33	2.60	7.24	5.76	2.64	7.47	5.92	2.65	7.91	6.15	2.67	8.42	6.30	2.67
40	5.72	3.85	2.49	5.93	4.33	2.58	6.37	4.99	2.69	6.74	5.35	2.73	6.94	5.51	2.74	7.39	5.75	2.76	7.87	5.87	2.75
43	5.37	3.60	2.47	5.56	4.06	2.57	5.97	4.69	2.67	6.32	5.04	2.71	6.52	5.19	2.73	6.94	5.41	2.74	7.40	5.52	2.74
46	4.92	3.29	2.39	5.09	3.72	2.49	5.48	4.32	2.59	5.81	4.65	2.64	5.99	4.79	2.65	6.39	4.99	2.67	6.83	5.08	2.66

Heating

TC : Total Capacity, PI : Power Input

Outdoor Temperature (°C, DB)	Indoor Temperature (°C, DB)											
	16		18		20		21		22		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-15	4.57	2.29	4.50	2.26	4.47	2.25	4.46	2.25	4.46	2.26	4.45	2.27
-10	5.55	2.40	5.57	2.42	5.56	2.46	5.53	2.48	5.49	2.49	5.37	2.53
-5	6.20	2.54	6.31	2.62	6.32	2.69	6.28	2.72	6.21	2.75	5.97	2.80
0	6.60	2.70	6.81	2.81	6.85	2.91	6.80	2.95	6.70	2.99	6.34	3.04
2	6.71	2.75	6.96	2.88	7.01	2.99	6.96	3.03	6.85	3.07	6.45	3.12
5	6.84	2.82	7.15	2.97	7.23	3.09	7.16	3.14	7.04	3.18	6.57	3.23
7	6.91	2.85	7.27	3.01	7.35	3.19	7.29	3.19	7.15	3.23	6.64	3.28
10	7.01	2.88	7.43	3.05	7.53	3.19	7.46	3.24	7.31	3.28	6.74	3.33
15	7.18	2.83	7.71	3.03	7.85	3.17	7.78	3.23	7.60	3.26	6.94	3.30
20	7.44	2.66	8.09	2.87	8.28	3.01	8.20	3.06	8.00	3.10	7.24	3.11
24	7.78	2.40	8.52	2.61	8.74	2.76	8.66	2.80	8.45	2.83	7.61	2.82

NOTE

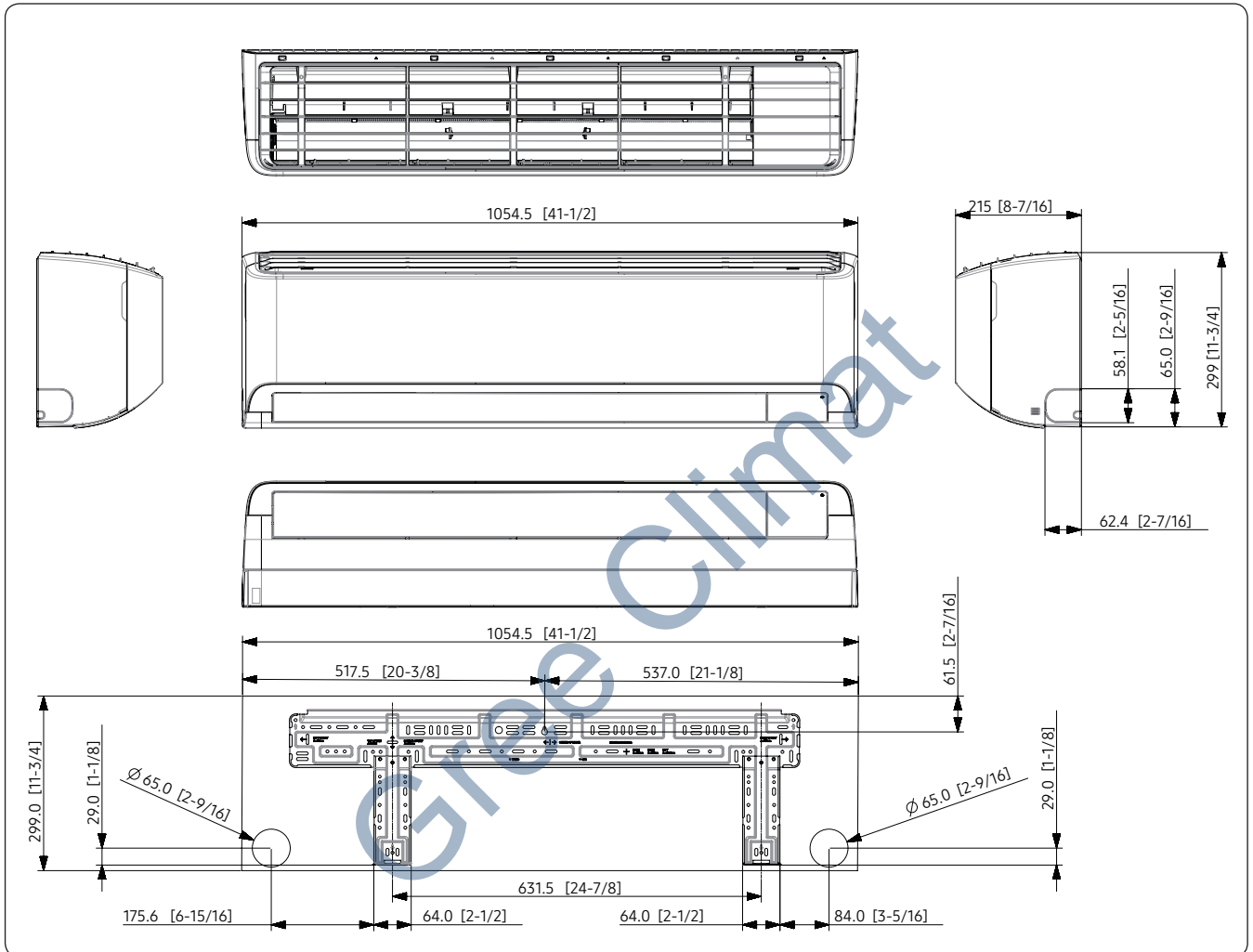
- The performance table shows the average value of each conditions.

3. Dimensional Drawing

Indoor units

Wind-Free AIRISE : AR18ASHCBWKNR, AR24ASHCBWKNR

Unit: mm (inches)

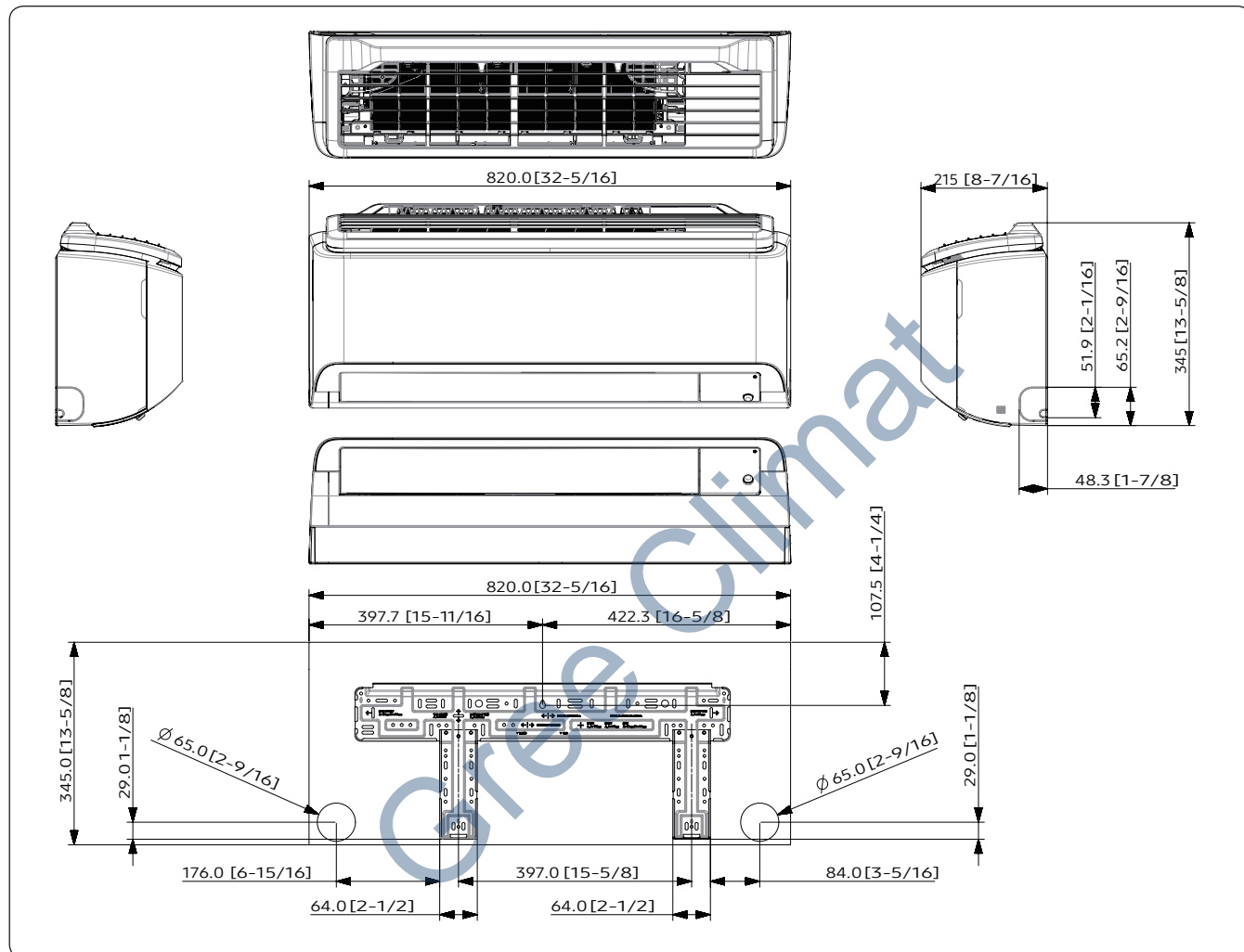


3. Dimensional Drawing

Indoor units

Wind-Free GEO : AR09AXAAWKNER, AR12AXAAWKNER

Unit: mm (inches)

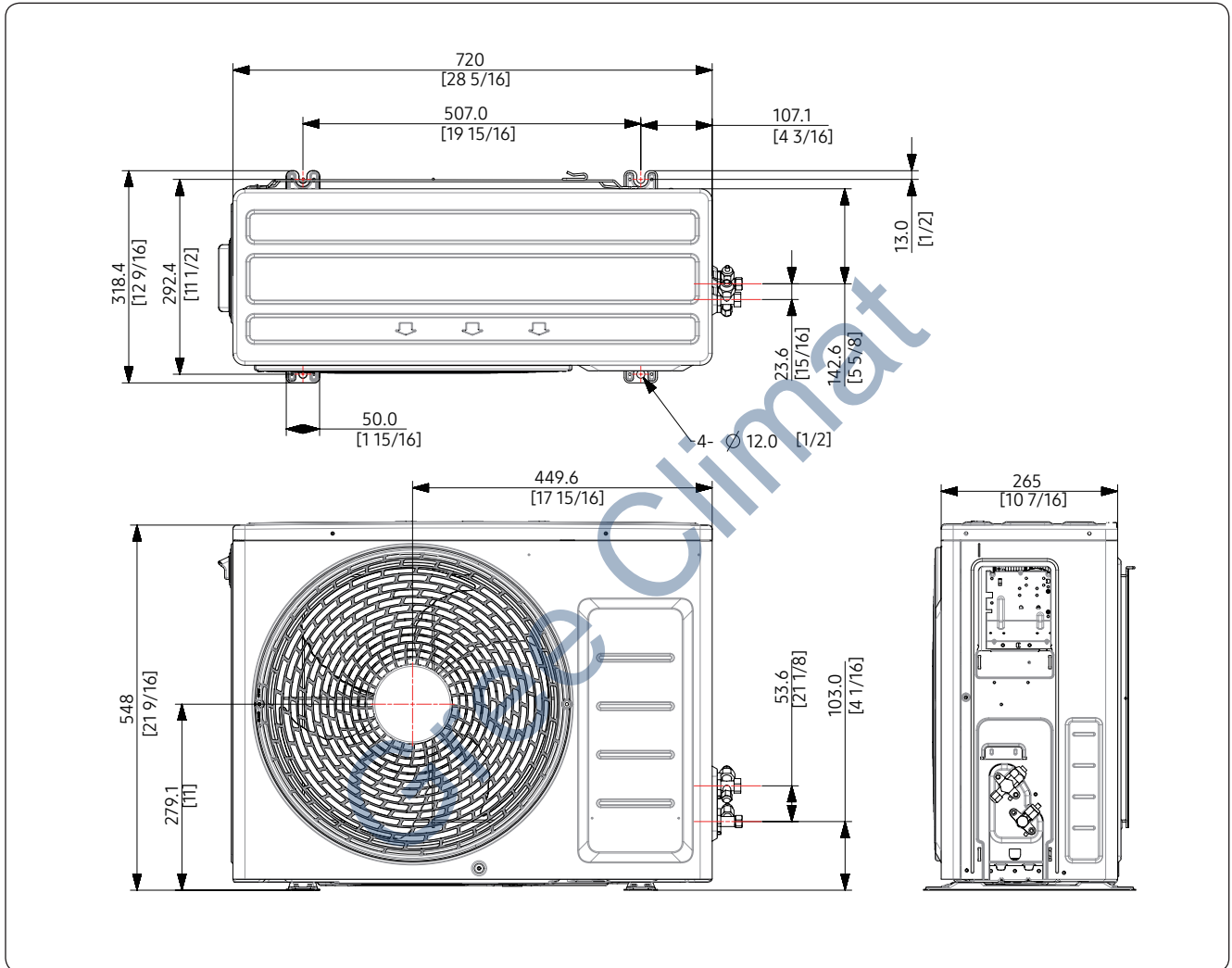


3. Dimensional Drawing

Outdoor units

Wind-Free AIRISE : AR09ASHCBWKXER, AR12ASHCBWKXER

Unit: mm (inches)

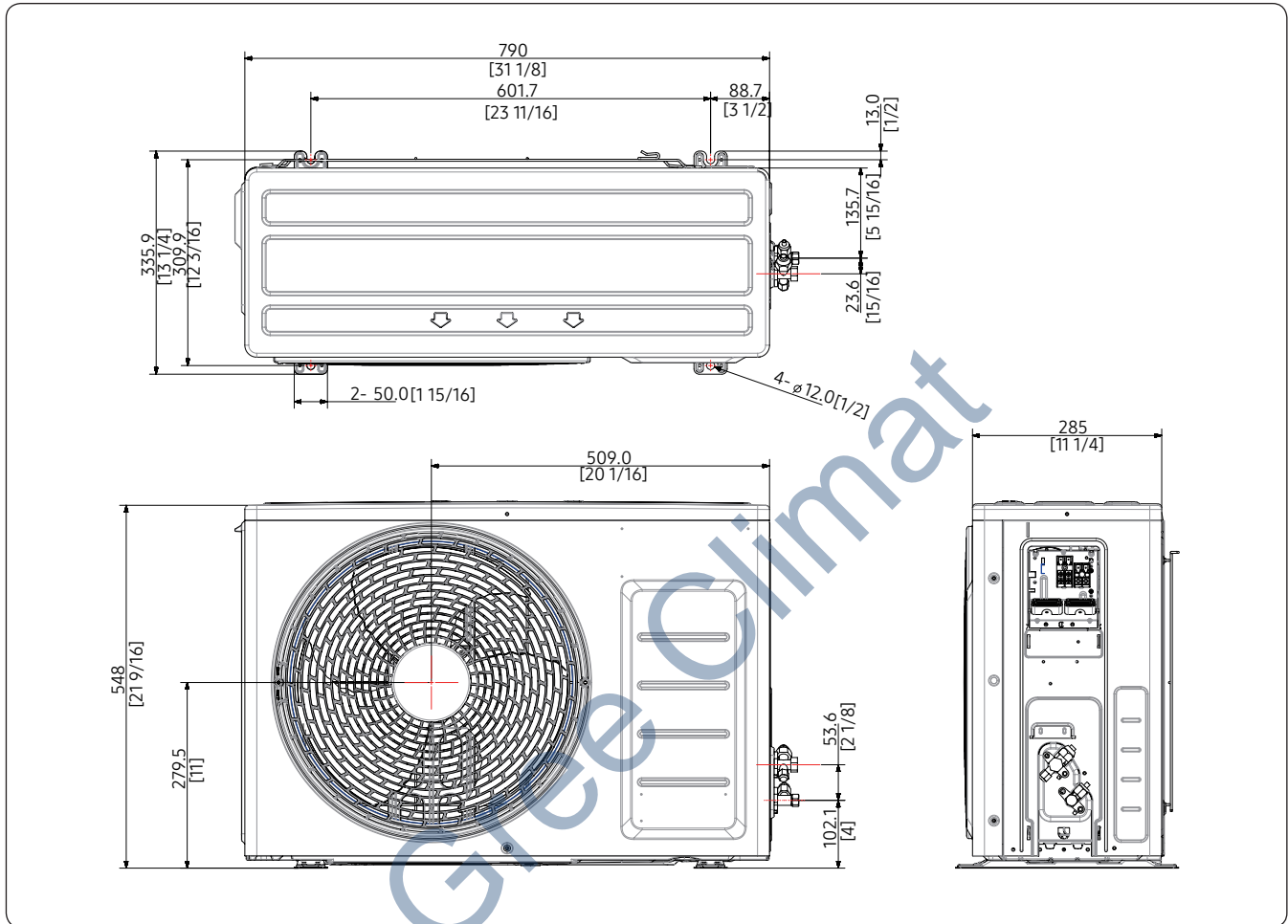


3. Dimensional Drawing

Outdoor units

Wind-Free GEO : AR09AXAAAWKXER, AR12AXAAAWKXER

Unit: mm (inches)

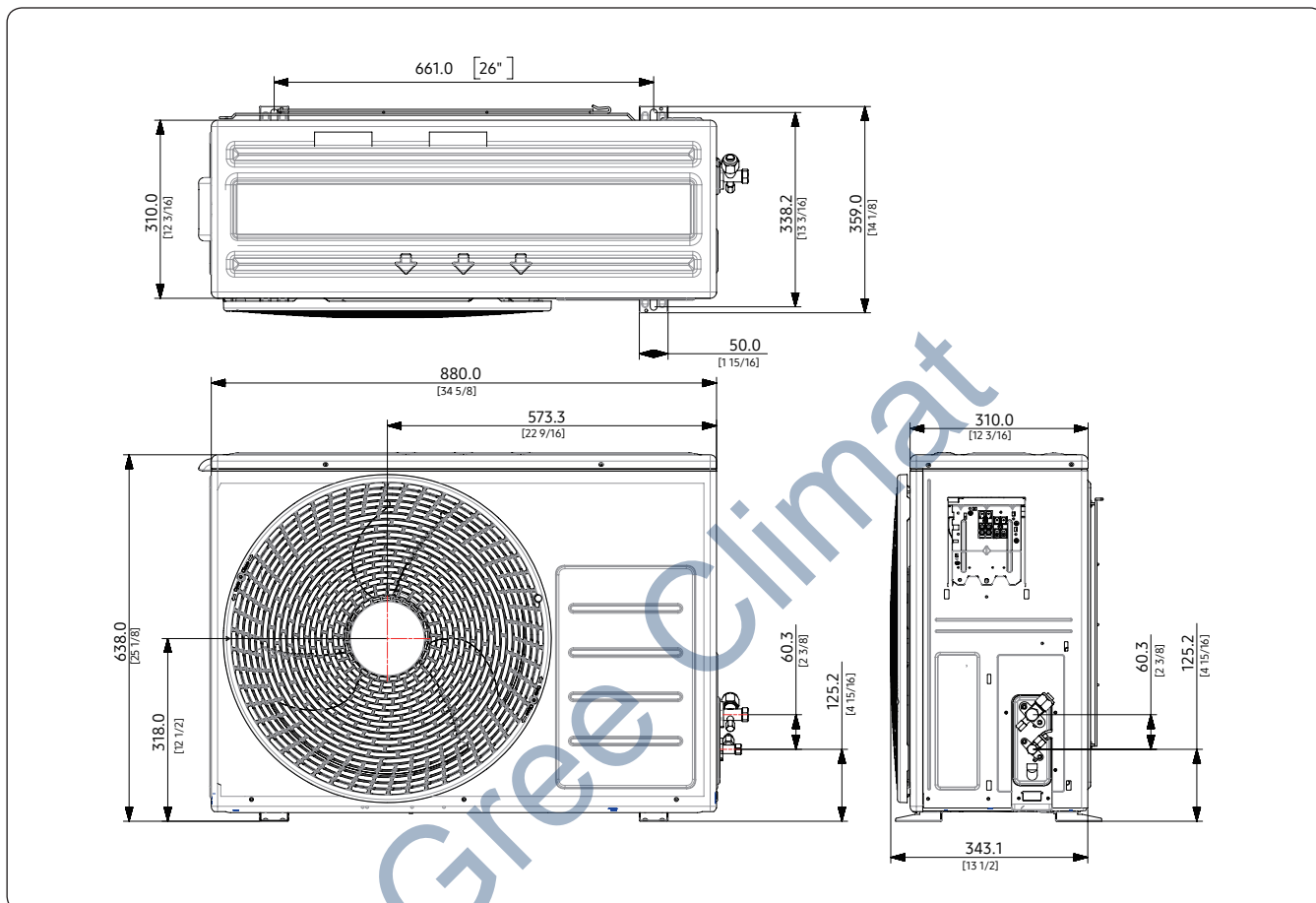


3. Dimensional Drawing

Outdoor units

Wind-Free AIRISE : AR18ASHCBWKXER, AR24ASHCBWKXER

Unit: mm (inches)

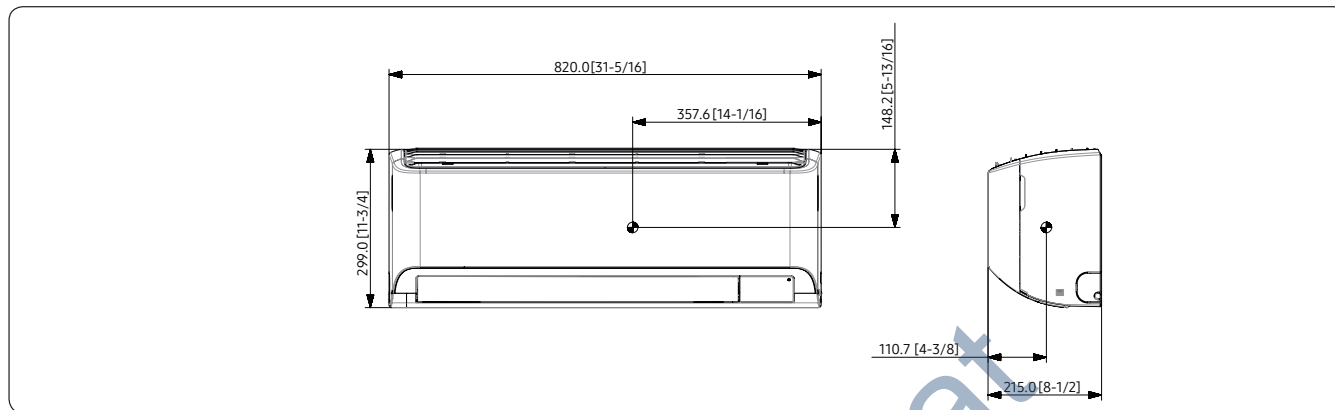


4. Center of Gravity

Indoor units

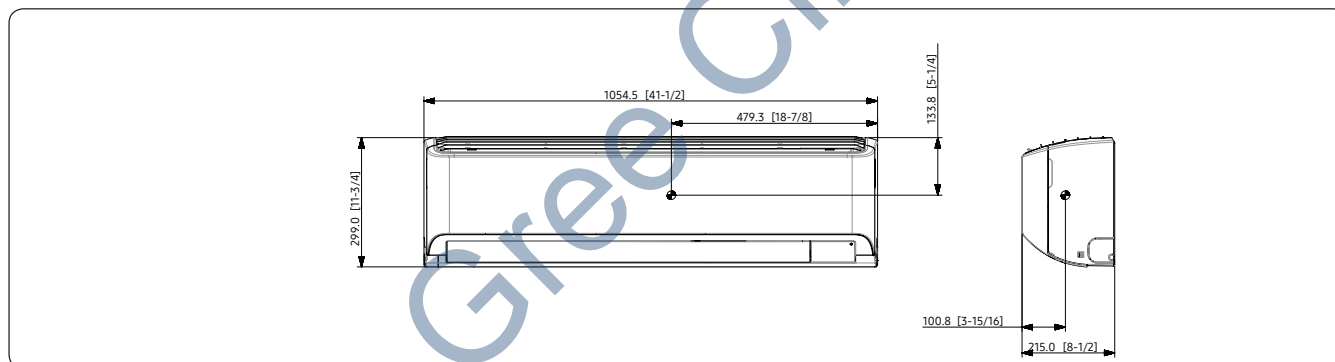
Wind-Free AIRISE : AR09ASHCBWKNER, AR12ASHCBWKNER

Unit: mm (inches)



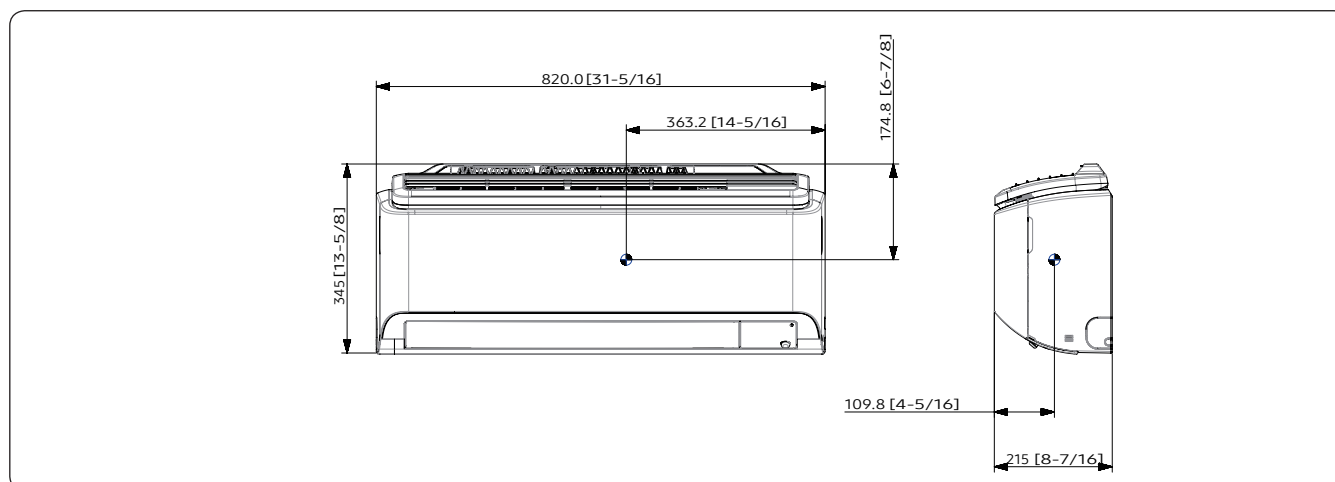
Wind-Free AIRISE : AR18ASHCBWKNER, AR24ASHCBWKNER

Unit: mm (inches)



Wind-Free GEO : AR09AXAAAWKNER, AR12AXAAAWKNER

Unit: mm (inches)

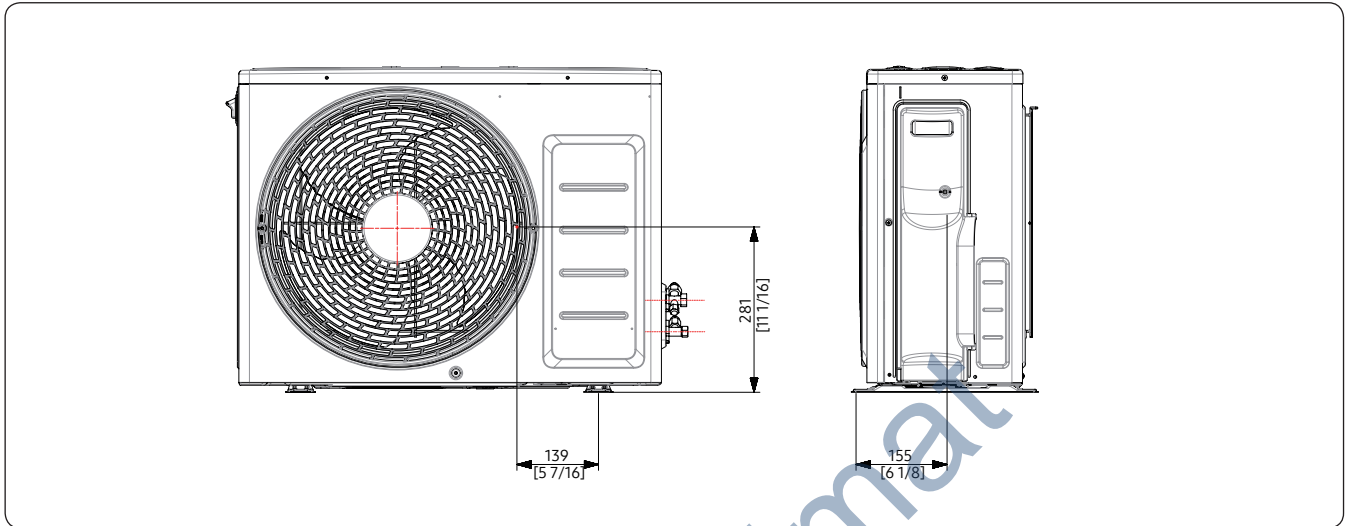


4. Center of Gravity

Outdoor units

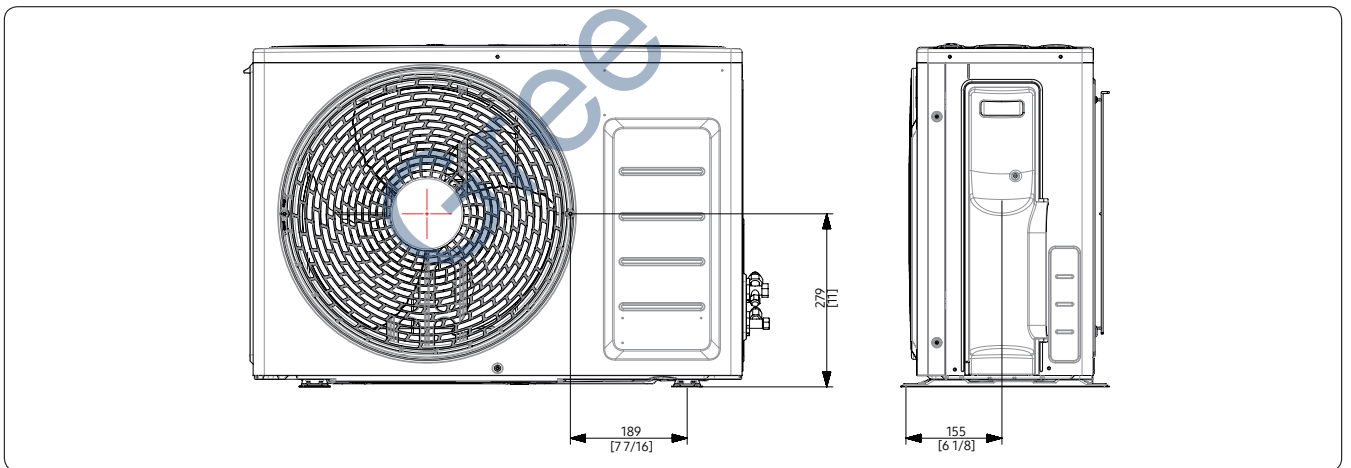
Wind-Free AIRISE : AR09ASHCBWKXER, AR12ASHCBWKXER

Unit: mm (inches)



Wind-Free GEO : AR09AXAAA WKXER, AR12AXAAA WKXER

Unit: mm (inches)

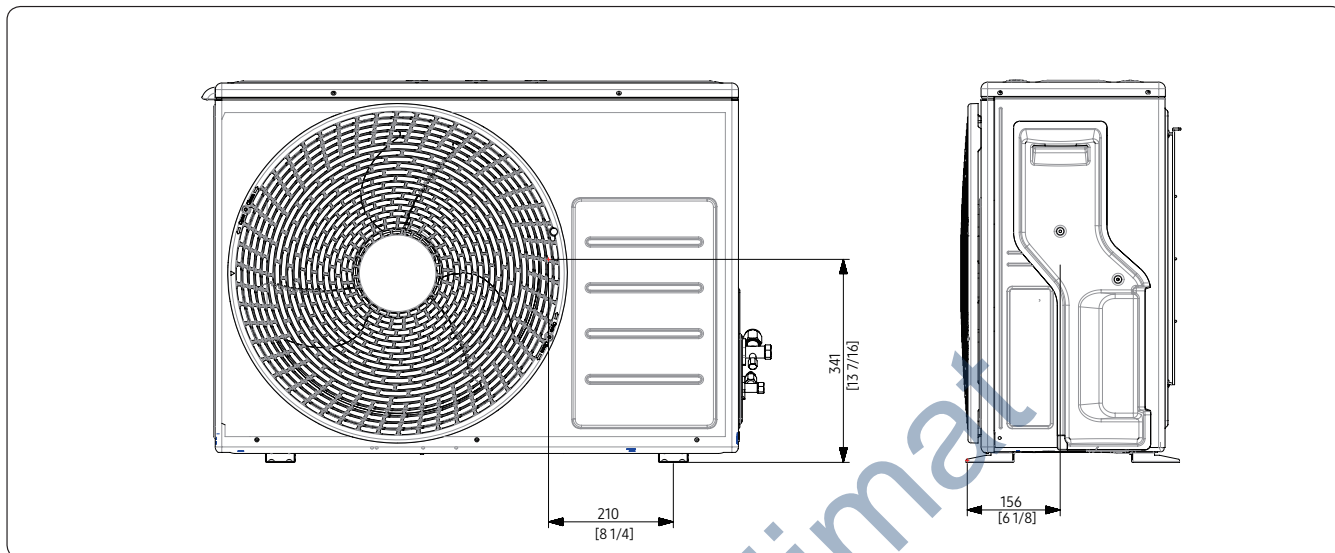


4. Center of Gravity

Outdoor units

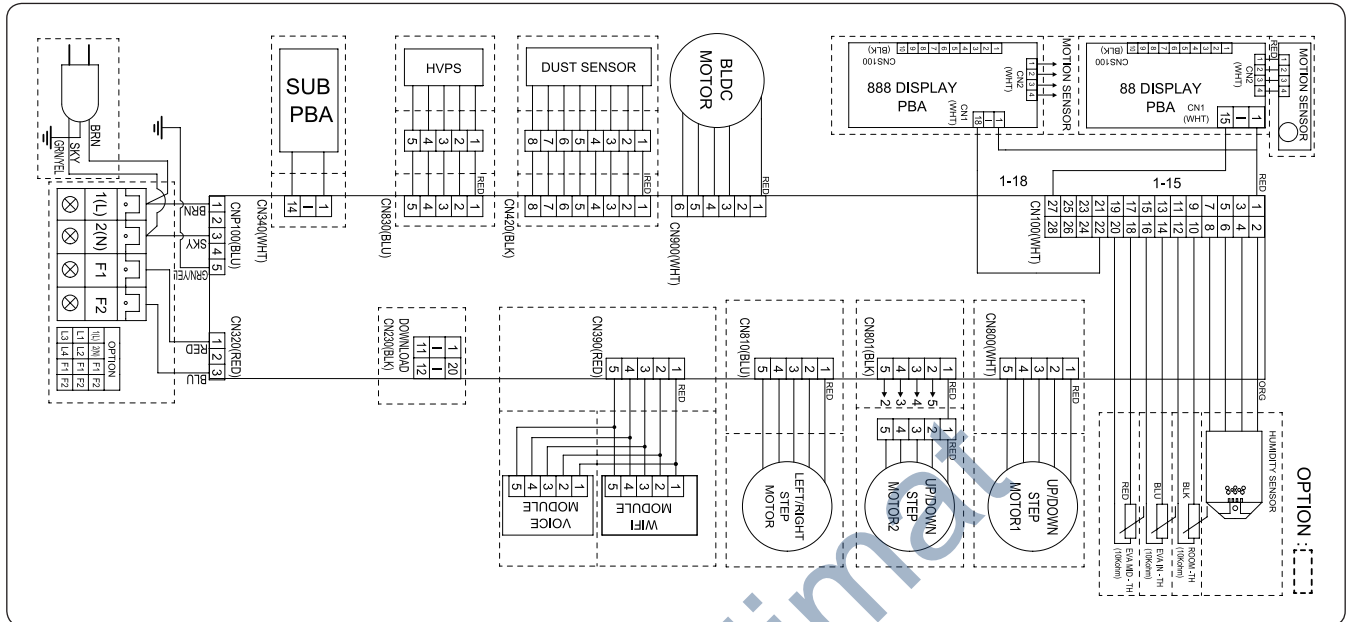
Wind-Free AIRISE : AR18ASHCBWKXER, AR24ASHCBWKXER

Unit: mm (inches)




5. Electrical Wiring Diagram

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

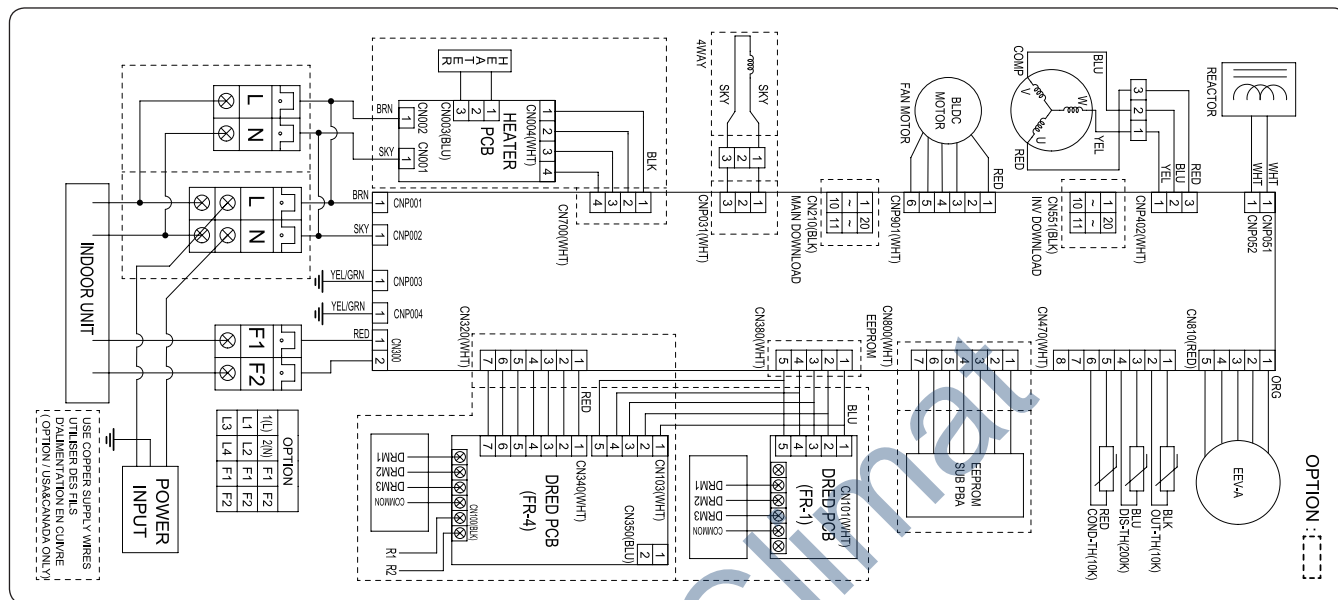
- This wiring diagram applies only to the indoor unit.
- Colors BLK : black, BRN : brown, SKY-BLU : sky-blue, GRN/YEL : green/yellow, RED : red, YEL : yellow, ORG : orange, BLU : blue, WHT:white
-  : Protective earth(screw)

5. Electrical Wiring Diagram

Outdoor units

Wind-Free GEO : AR09AXAAAWKXER, AR12AXAAAWKXER

Wind-Free AIRISE : AR09ASHCBWKXER, AR12ASHCBWKXER, AR18ASHCBWKXER



DRED	Printed circuit board(DRED PCB)	DIS-TH	Thermistor(Discharge Temp. 200Kohm)
REACTOR	REACTOR	OUT-TH	Thermistor(AmbientTemp. 10Kohm)
EEPROM	Printed circuit board(EEPROM PCB)	COND-TH	Thermistor(Cond Out Temp. 10Kohm)
COMP	COMPRESSOR	BLDC	Motor(BLDC FAN Motor)
HEATER	Printed circuit board(HEATER PCB)	EEV-A	Electronic expansion valve A
4-WAY VALVE	4-WAY VALVE		

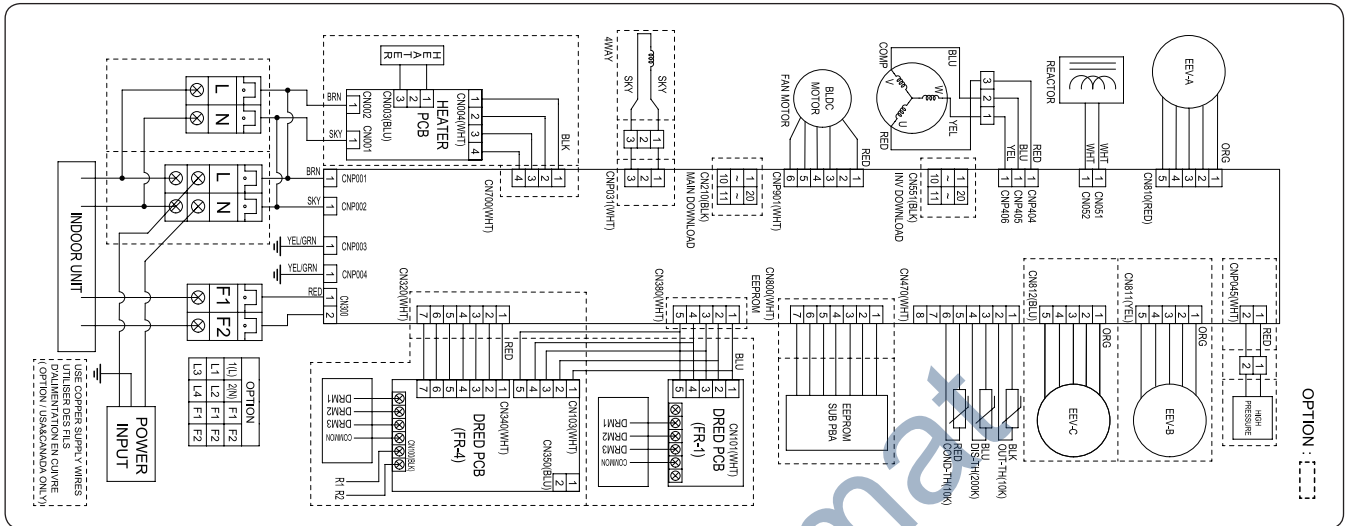
NOTE

- 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)

5. Electrical Wiring Diagram

Outdoor units

Wind-Free AIRISE : AR24ASHCBWKXR



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

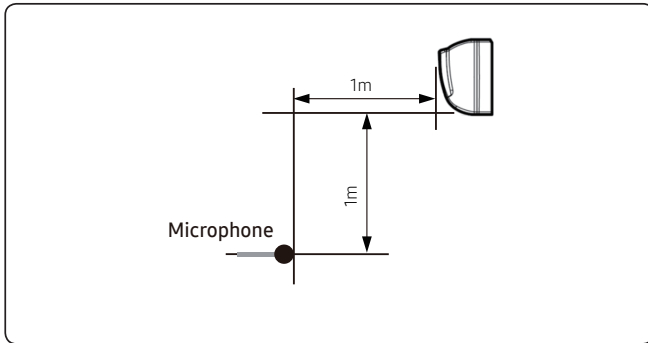
- This wiring diagram applies only to the outdoor unit.
- Colors BLK : black, BRN : brown, SKY-BLU : sky-blue, GRN/YEL : green/yellow, RED : red, YEL : yellow, ORG : orange, BLU : blue, WHT:white
- protective earth(screw)

6. Sound Data

Indoor units: Wind-Free GEO

Sound Pressure level

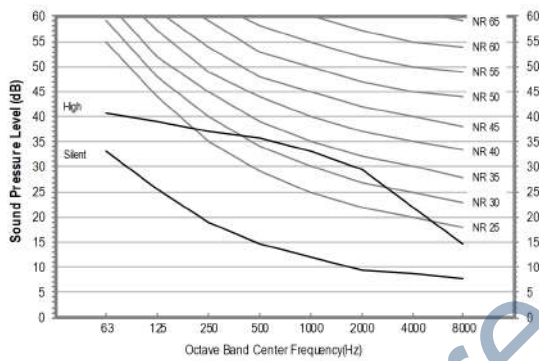
Unit: dB(A)



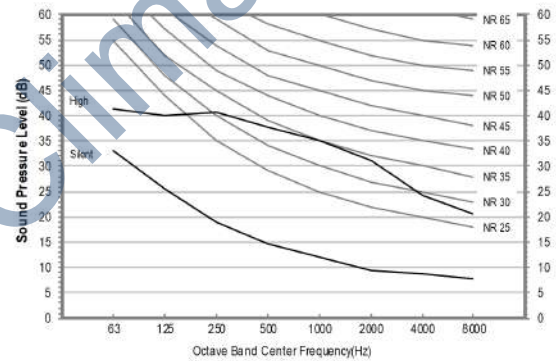
Model	Cooling	
	High	Silent
AR09AXAAAWKNER	38	19
AR12AXAAAWKNER	40	19

- NR Curve

1) AR09AXAAAWKNER



2) AR12AXAAAWKNER



NOTE

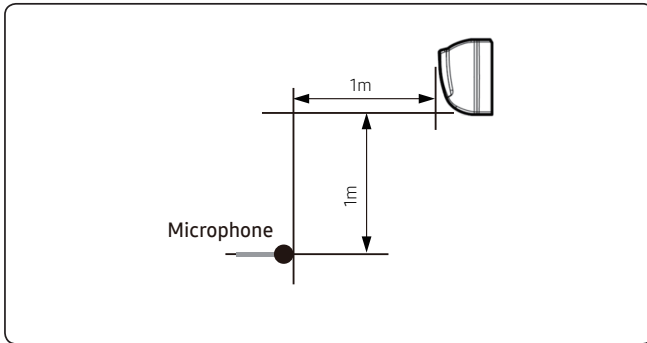
- Specifications may be subject to change without prior notice.
- Sound pressure Level
 - Sound pressure level is obtained in an anechoic room.
 - Sound pressure level is a relative value, depending on the distance and acoustic environment.
 - Sound pressure level may differ depending on operation condition.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

6. Sound Data

Indoor units: Wind-Free AIRISE

Sound Pressure level

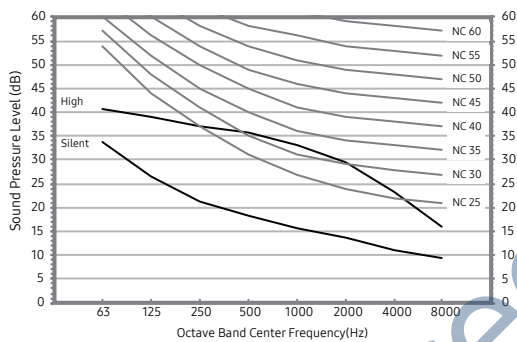
Unit: dB(A)



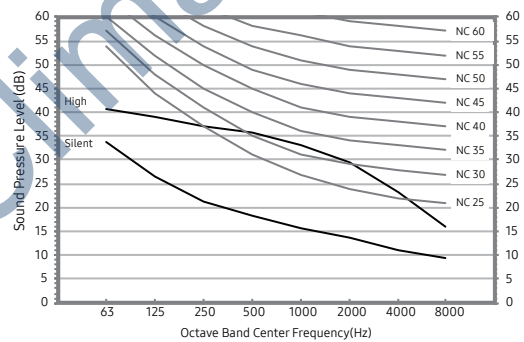
Model	Cooling	
	High	Silent
AR09ASHCBWKNER	38	22
AR12ASHCBWKNER	38	22
AR18ASHCBWKNER	41	28
AR24ASHCBWKNER	44	28

- NR Curve

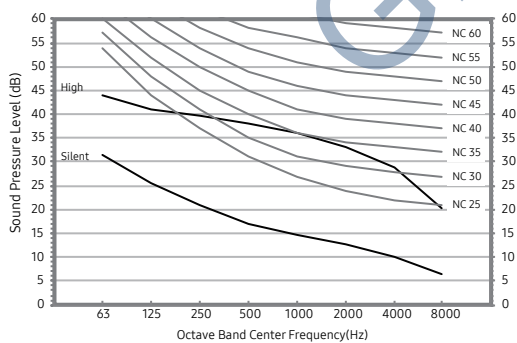
1) AR09ASHCBWKNER



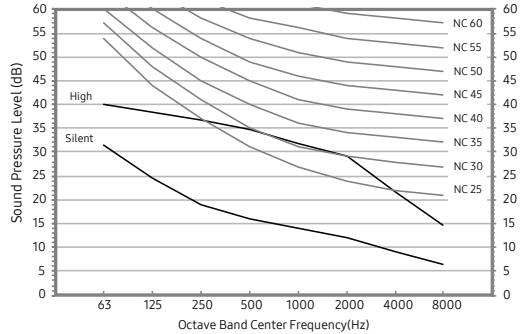
2) AR12ASHCBWKNER



3) AR18ASHCBWKNER



4) AR24ASHCBWKNER



NOTE

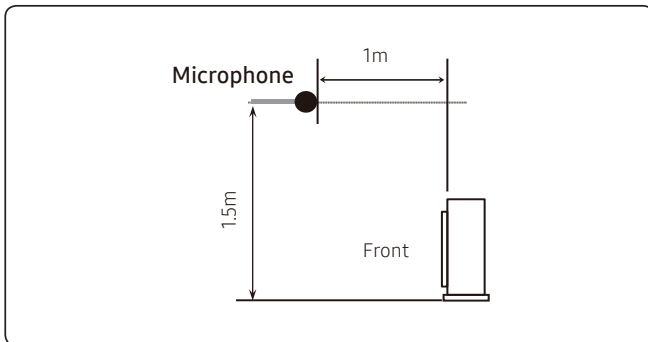
- Specifications may be subject to change without prior notice.
- Sound pressure Level
 - Sound pressure level is obtained in an anechoic room.
 - Sound pressure level is a relative value, depending on the distance and acoustic environment.
 - Sound pressure level may differ depending on operation condition.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

6. Sound Data

Outdoor units: Wind-Free GEO

Sound Pressure level

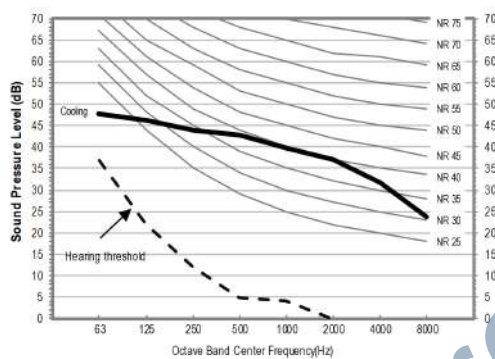
Unit: dB(A)



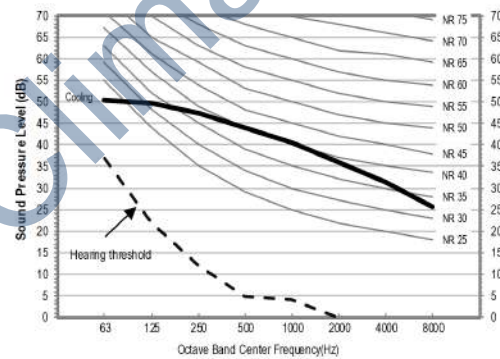
Model	Cooling
AR09AXAAA WKXER	45
AR12AXAAA WKXER	46

- NR Curve

1) AR09AXAAA WKXER



2) AR12AXAAA WKXER



NOTE

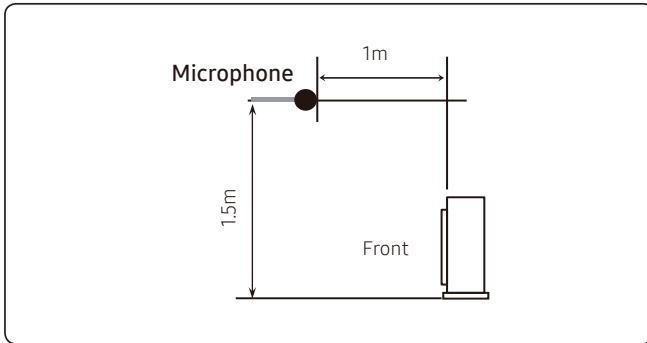
- Specifications may be subject to change without prior notice.
- Sound pressure Level
 - Sound pressure level is obtained in an anechoic room.
 - Sound pressure level is a relative value, depending on the distance and acoustic environment.
 - Sound pressure level may differ depending on operation condition.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

6. Sound Data

Outdoor units: Wind-Free AIRISE

Sound Pressure level

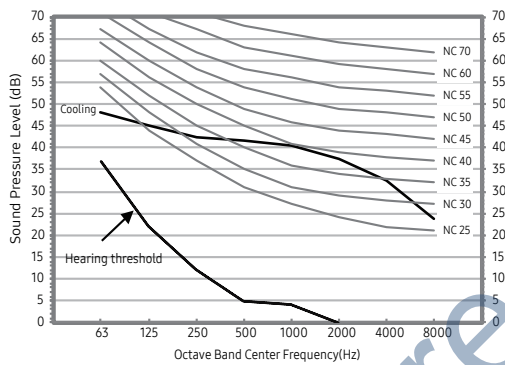
Unit: dB(A)



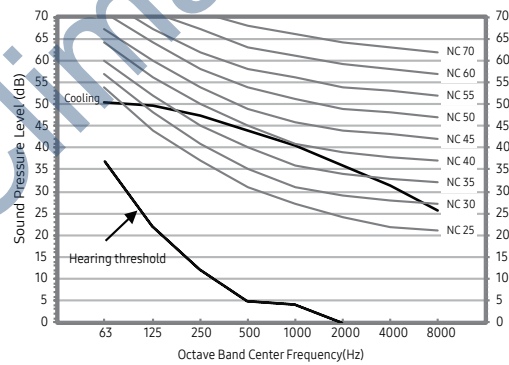
Model	Cooling
AR09ASHCBWKXER	45
AR12ASHCBWKXER	46
AR18ASHCBWKXER	51
AR24ASHCBWKXER	54

- NR Curve

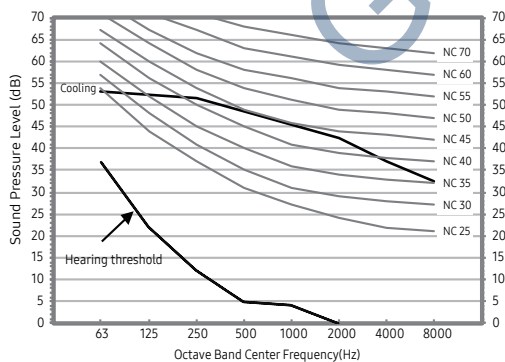
1) AR09ASHCBWKXER



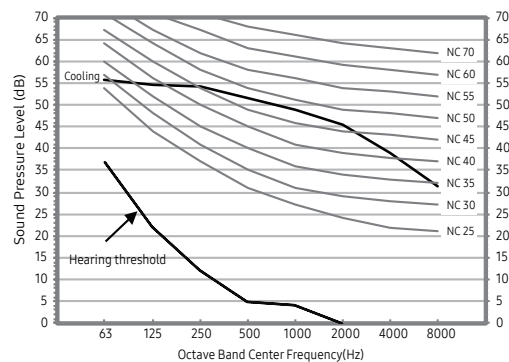
2) AR12ASHCBWKXER



3) AR18ASHCBWKXER



4) AR24ASHCBWKXER



NOTE

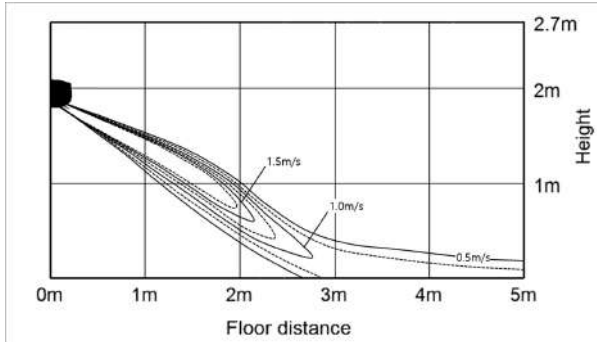
- Specifications may be subject to change without prior notice.
- Sound pressure Level
 - Sound pressure level is obtained in an anechoic room.
 - Sound pressure level is a relative value, depending on the distance and acoustic environment.
 - Sound pressure level may differ depending on operation condition.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

7. Temperature and air flow distribution

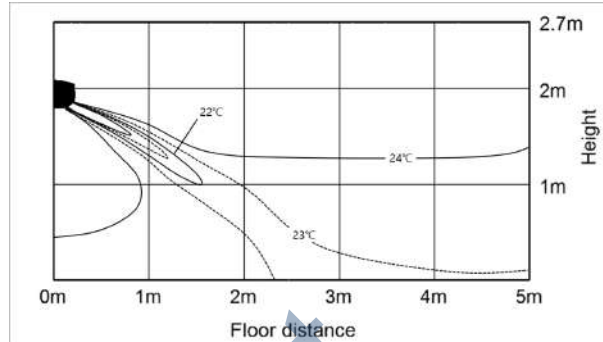
Wind-Free GEO

AR09AXAAWKNER

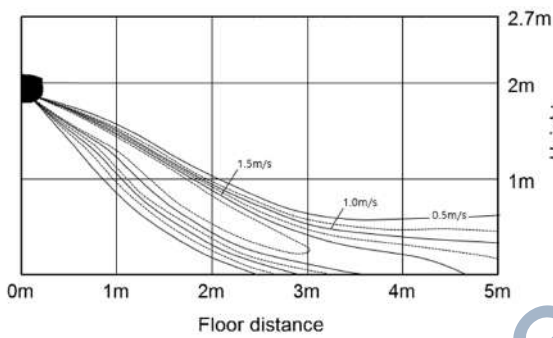
- Cooling air velocity distribution
(Discharge angle : 20 degree)



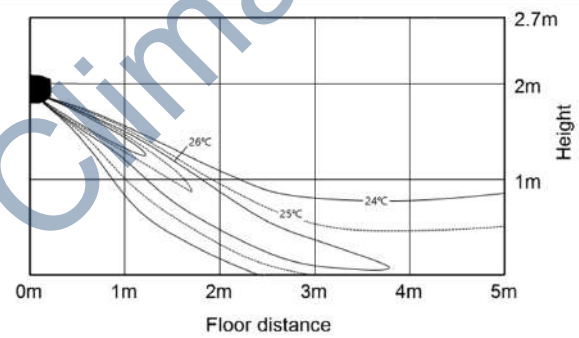
- Cooling Temperature distribution
(Discharge angle : 20 degree)



- Heating air velocity distribution
(Discharge angle : 30 degree)

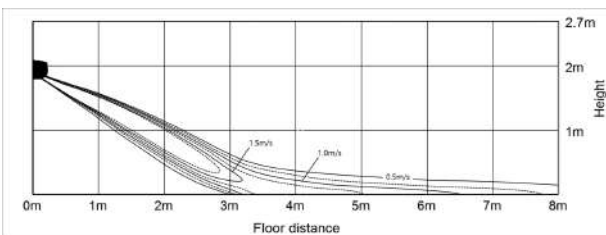


- Heating Temperature distribution
(Discharge angle : 30 degree)

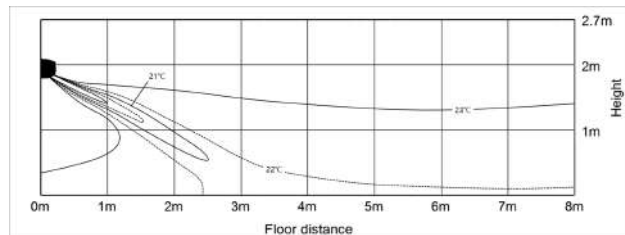


AR12AXAAWKNER

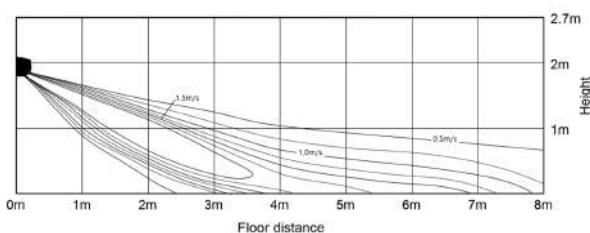
- Cooling air velocity distribution
(Discharge angle : 20 degree)



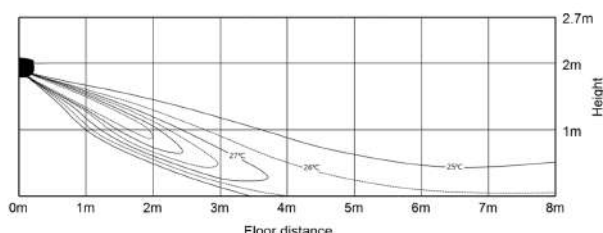
- Cooling Temperature distribution
(Discharge angle : 20 degree)



- Heating air velocity distribution
(Discharge angle : 30 degree)



- Heating Temperature distribution
(Discharge angle : 30 degree)

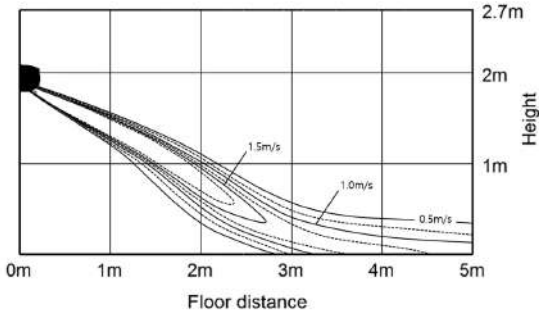


7. Temperature and air flow distribution

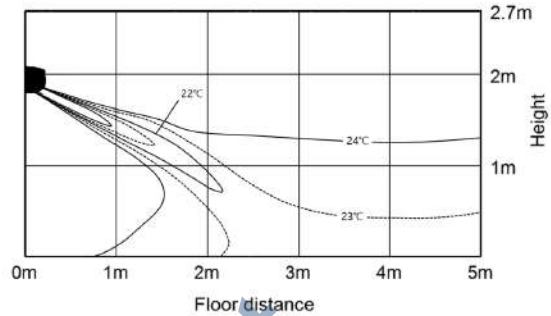
Wind-Free AIRISE

AR09ASHCBWKNER

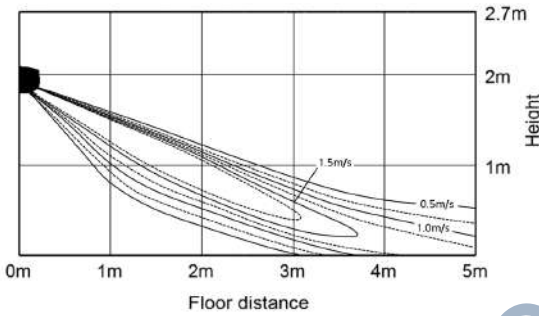
- Cooling air velocity distribution
(Discharge angle : 20 degree)



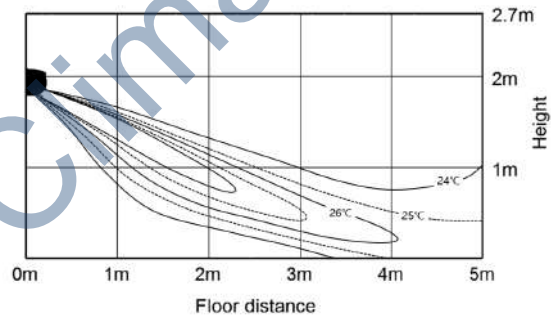
- Cooling Temperature distribution
(Discharge angle : 20 degree)



- Heating air velocity distribution
(Discharge angle : 30 degree)

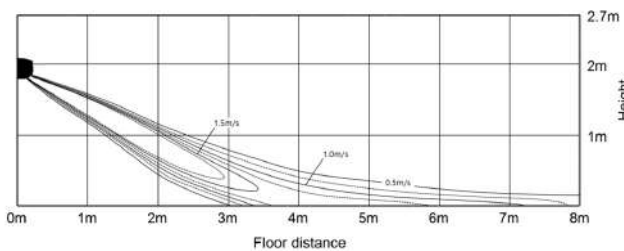


- Heating Temperature distribution
(Discharge angle : 30 degree)

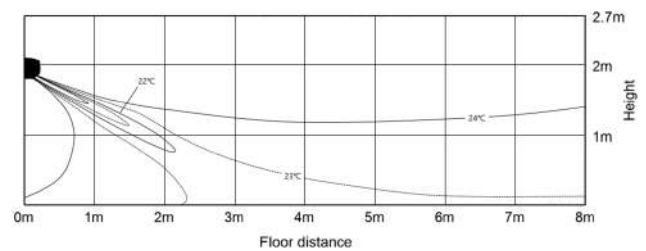


AR12ASHCBWKNER

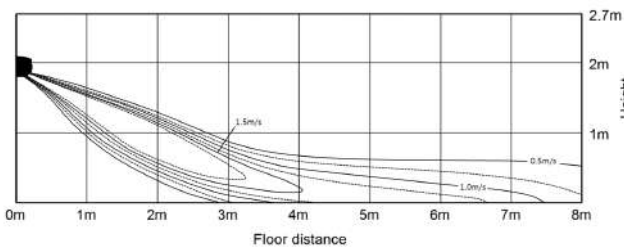
- Cooling air velocity distribution
(Discharge angle : 20 degree)



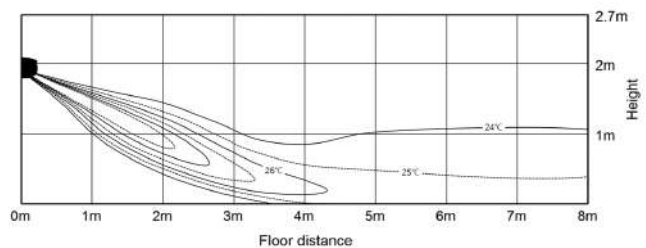
- Cooling Temperature distribution
(Discharge angle : 20 degree)



- Heating air velocity distribution
(Discharge angle : 30 degree)



- Heating Temperature distribution
(Discharge angle : 30 degree)



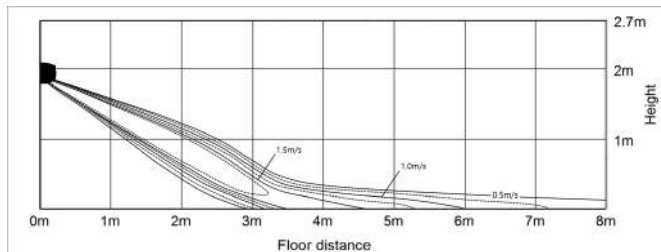
7. Temperature and air flow distribution

Wind-Free AIRISE

AR18ASHCBWKNER

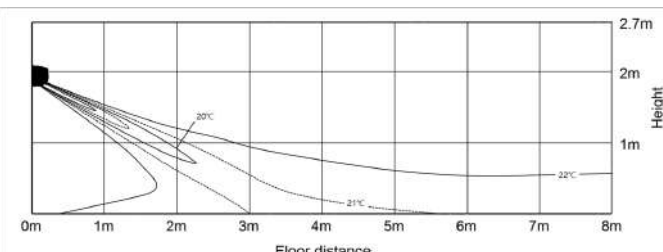
- Cooling air velocity distribution

(Discharge angle : 20 degree)



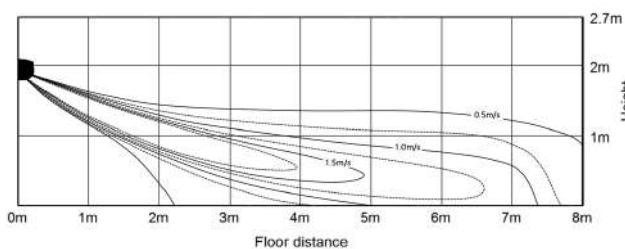
- Cooling Temperature distribution

(Discharge angle : 20 degree)



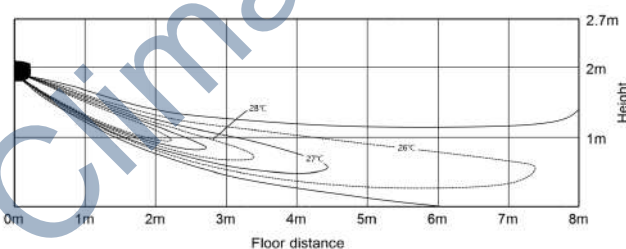
- Heating air velocity distribution

(Discharge angle : 30 degree)



- Heating Temperature distribution

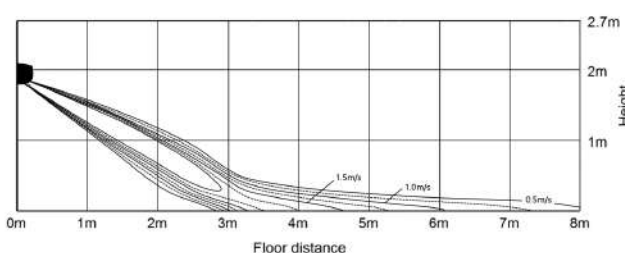
(Discharge angle : 30 degree)



AR24ASHCBWKNER

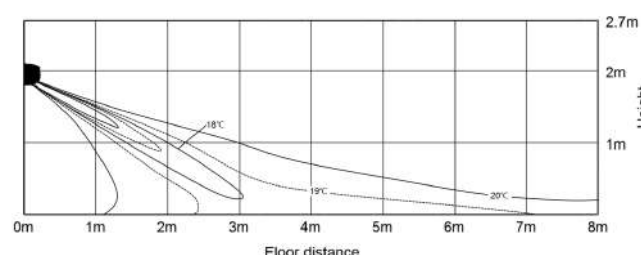
- Cooling air velocity distribution

(Discharge angle : 20 degree)



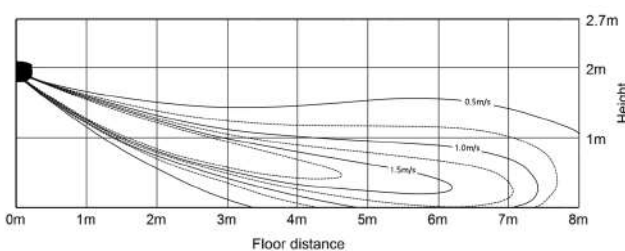
- Cooling Temperature distribution

(Discharge angle : 20 degree)



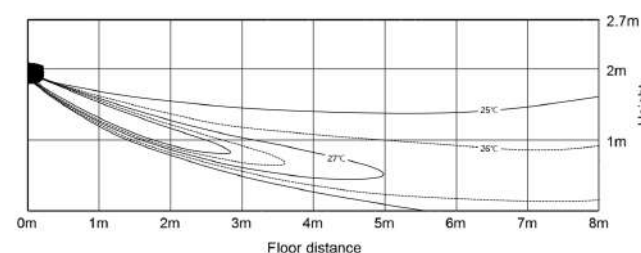
- Heating air velocity distribution

(Discharge angle : 30 degree)

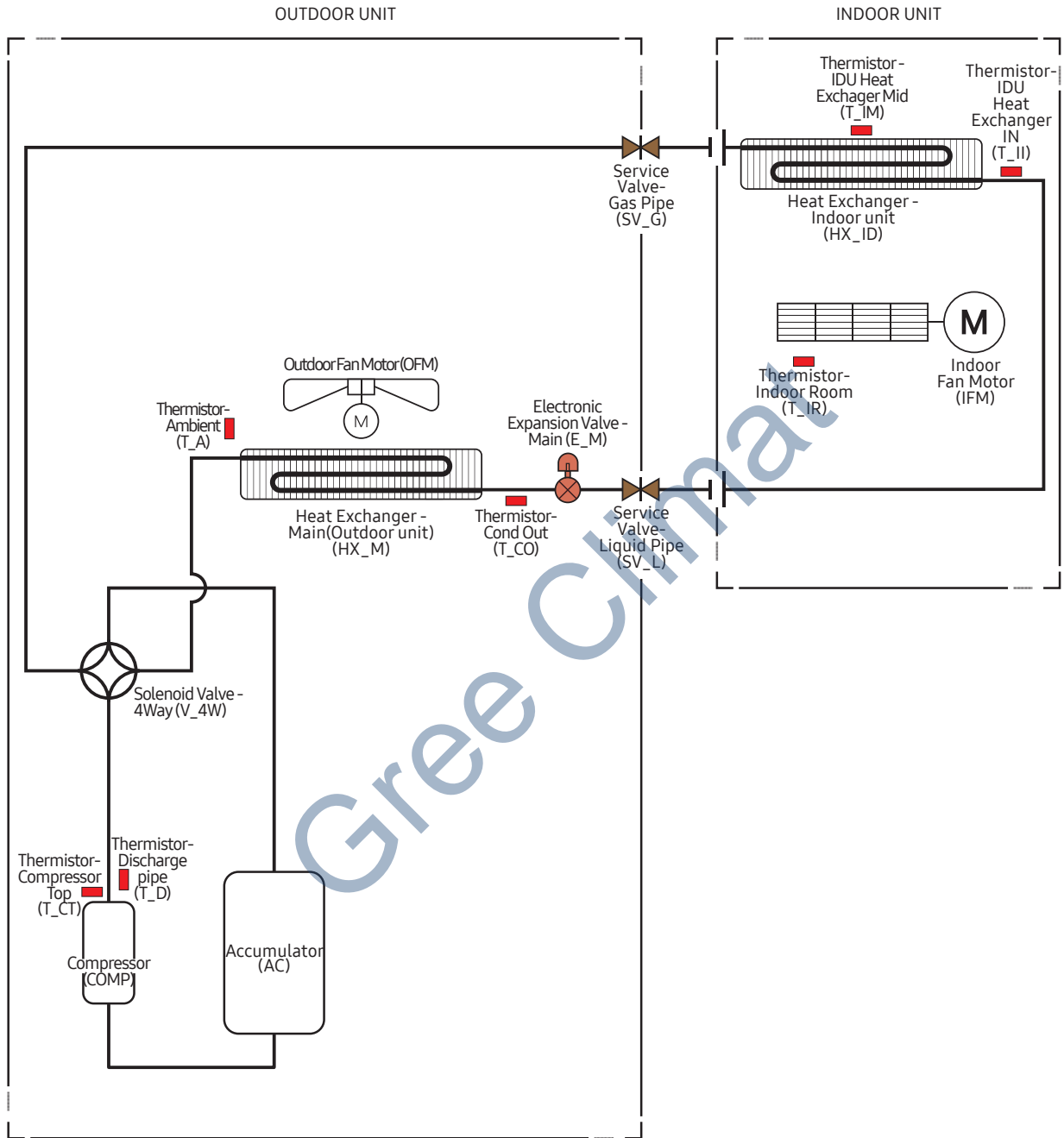


- Heating Temperature distribution

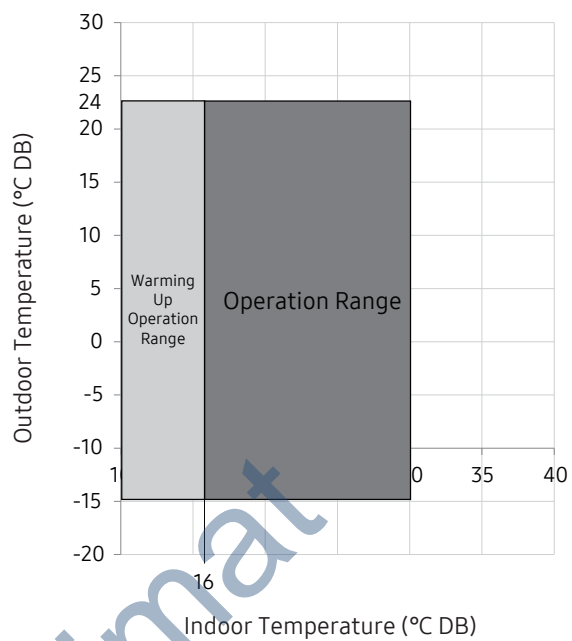
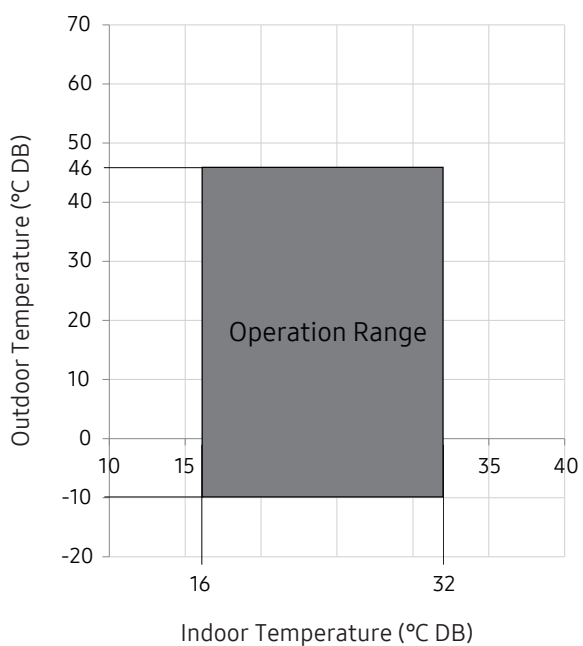
(Discharge angle : 30 degree)



8. Piping Diagram



9. Operation Limit




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10. Capacity Correction

Outdoor units


AR09AXAAAWKNER + AR09AXAAAWKXER, AR12AXAAAWKNER + AR12AXAAAWKXER
 AR09ASHCBWKNER + AR09ASHCBWKXER, AR12ASHCBWKNER + AR12ASHCBWKXER

Cooling



		Pipe Length (m)			
		5	10	12.5	15
Level Difference (m)	8	-	0.96	0.94	0.91
	5	0.99	0.97	0.95	0.92
	0	1	0.98	0.96	0.93
	-5	0.99	0.97	0.95	0.92
	-8	-	0.96	0.94	0.91

Heating




		Pipe Length (m)			
		5	10	12.5	15
Level Difference (m)	8	-	0.96	0.94	0.91
	5	0.99	0.97	0.95	0.92
	0	1	0.98	0.96	0.93
	-5	0.99	0.97	0.95	0.92
	-8	-	0.96	0.94	0.91

10. Capacity Correction

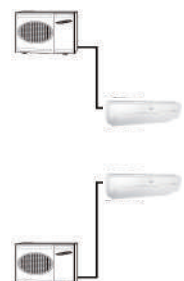
Outdoor units

AR18ASHCBWKNER + AR18ASHCBWKXER, AR24ASHCBWKNER + AR24ASHCBWKXER

Cooling

		Pipe Length (m)							
		5	10	12.5	15	20	25	30	
	Level Difference (m)	15	-	-	-	0.92	0.90	0.88	0.86
		10	-	0.95	0.94	0.93	0.91	0.89	0.87
		7	-	0.96	0.95	0.94	0.92	0.90	0.88
		5	0.99	0.97	0.96	0.95	0.93	0.91	0.89
		0	1	0.98	0.97	0.96	0.94	0.92	0.90
		-5	0.99	0.97	0.96	0.95	0.93	0.91	0.89
		-7	-	0.96	0.95	0.94	0.92	0.90	0.88
		-10	-	0.95	0.94	0.93	0.91	0.89	0.87
		-15	-	-	-	0.92	0.90	0.88	0.86

Heating

		Pipe Length (m)							
		5	10	12.5	15	20	25	30	
	Level Difference (m)	15	-	-	-	0.92	0.90	0.88	0.86
		10	-	0.95	0.94	0.93	0.91	0.89	0.87
		7	-	0.96	0.95	0.94	0.92	0.90	0.88
		5	0.99	0.97	0.96	0.95	0.93	0.91	0.89
		0	1	0.98	0.97	0.96	0.94	0.92	0.90
		-5	0.99	0.97	0.96	0.95	0.93	0.91	0.89
		-7	-	0.96	0.95	0.94	0.92	0.90	0.88
		-10	-	0.95	0.94	0.93	0.91	0.89	0.87
		-15	-	-	-	0.92	0.90	0.88	0.86



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