

INDOOR UNIT

1. CEILING WALL TYPE :

AW*Z14LBC

AW*Z18LBC

AW*Z24LBC

1. FEATURE

- **MODEL :**
AW*Z14LBC
AW*Z18LBC
AW*Z24LBC



■ FEATURES

- **Energy saving CLASS A cleared with a margin to spare**
- **Automatic filter cleaner** **WORLD FIRST** *1
Entire filter is cleaned automatically in approx. 2 minutes

Since the filter is cleaned automatically, energy saving capability is displayed without regard to the load on the air conditioner.

- **Bacteria eliminating countermeasure**

- a **Dirt and dust are bacteria-eliminated by photocatalytic filter***

* Displays double the effect of a conventional optical medium and retains its property for a long time to suck in and remove approx. 99.99% of cigarette odors and bacteria, etc.

- b **Drives away bacteria and refreshes the air by UV (ultraviolet rays) illumination**

- **Our unique technology that achieved top energy efficiency in the industry**

- c **Energy saving by automatic filter cleaning function¹**

This function allows an energy saving of more than 25% a year and maintains a smooth airflow by preventing the filters from being clogged with dust.

- d **Computer-designed fan provides a larger airflow than conventional models**

New air trunk, which provides a smooth airflow, and axial gap fan motor increase the max. airflow by 10% over that of conventional models.



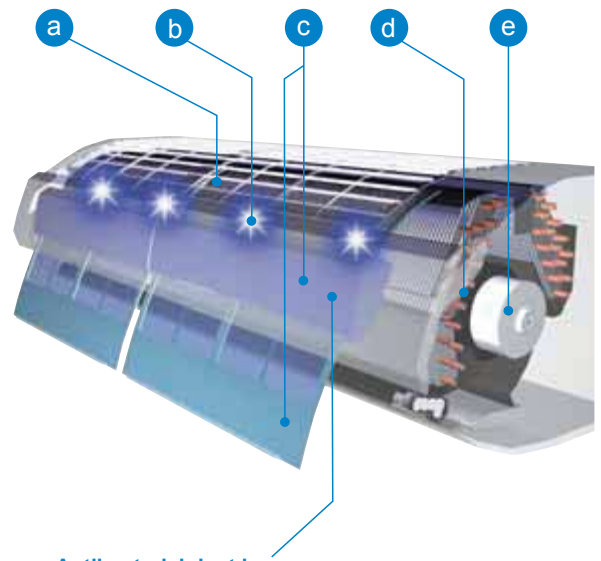
CAE analysis

CAE:Computer aided engineering

- e **Axial gap fan motor enables nonconventional high power and high efficiency²**

Axial gap method

Rotor plates are installed above and below electromagnets.

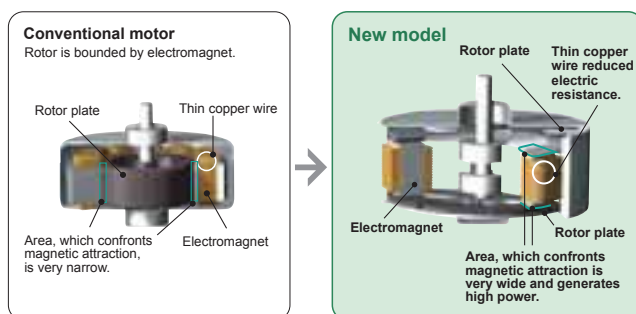


Antibacterial dust box

Removes dirt and dust by double brushes. Dust collection is approx. twice that in the past. (our company comparison)
Maintenance: Only throwing into a trash bin once every 2 years

Features (Compared to conventional models)

Compact size with 1.5 more power output Self-driven method increases rotating efficiency by 10%. Our electromagnetic field simulation technology enables low vibration and low noise.



*1: Announced September 9, 2002. In room air conditioner for the home (Our company's investigation)
*2: Announced December 13, 2004. As fan motor for air conditioner (Our company's investigation)

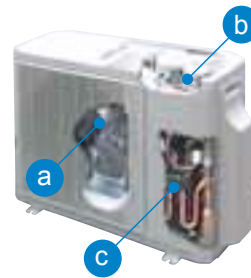
● **ALL DC**

a DC fan motor

b V-PAM control

V-PAM technology makes a compressor more powerful.

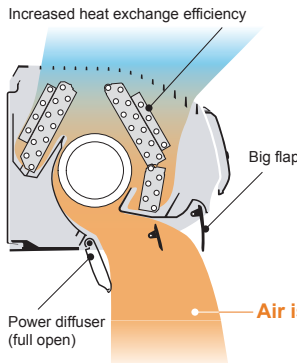
c DC compressor



Front view

● **"Vertical airflow" provides powerful floor level heating**

No.1 Heating capacity

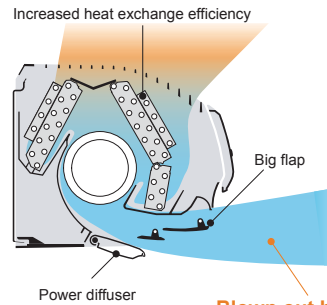


Air is blown directly downward



*Compared to our conventional Model ASY13PSCCW

● **"Horizontal airflow" does not blow cool air directly at the occupants in the room**



Blown out horizontally



*Compared to our conventional Model ASY13PSCCW

● **Super quiet**

Air flow mode can be set in 5 steps and more detailed air flow setting is possible.

● **Inner drying operation**

This model is equipped with an inner drying function. After the power is turned off, the dry operation starts inside the air conditioner. This prevents the growth of mold and bacterial inside the air conditioner.

● **Low outdoor air temperature cooling correspondence**

Corresponds to cooling operation at -10°C outdoor air temperature

● **Low outdoor air temperature heating correspondence**

Corresponds to heating operation at -15°C outdoor air temperature

● **Corresponds to maximum 30m long piping (24TYPE)**

2. REMOTE CONTROLLER

2-1. WIRELESS REMOTE CONTROLLER

■ FEATURES



- * Four kinds of timer setup (ON / OFF / PROGRAM / SLEEP) are possible.
- * Four kinds of timers. Easy operation.

● Built-in timers

Select from four different timer programs (On/Off/Program/Sleep).

● Program timer

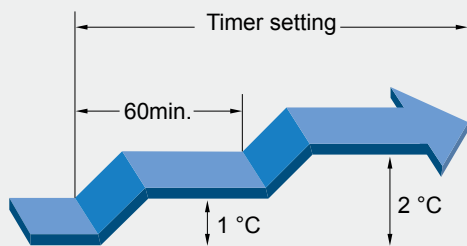
The program timer operates the ON and OFF timer once within a 24 hour period.

● Sleep timer

The sleep timer function automatically corrects the temperature thermostat setting according to the time setting to prevent excessive cooling and heating while sleeping.

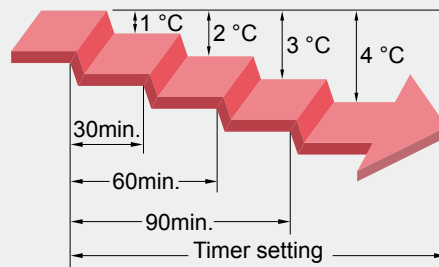
Cooling operation/dry operation

When the sleep timer is set, the set temperature automatically rises 1 °C every hour. The set temperature can rise up to a maximum of 2 °C.

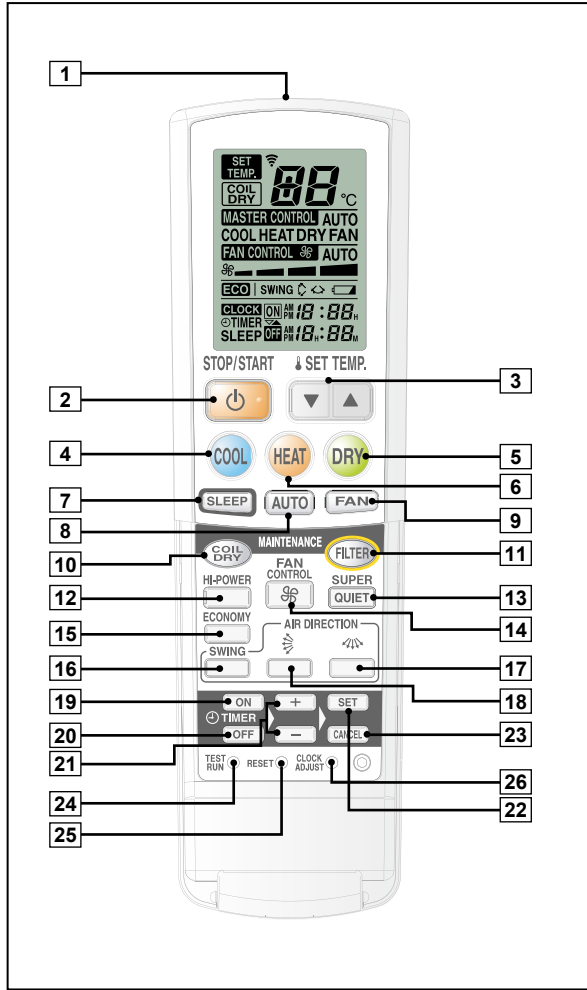


Heating operation

When the sleep timer is set, the set temperature automatically drops 1 °C every 30 minutes. The set temperature can drop to a maximum of 4 °C.

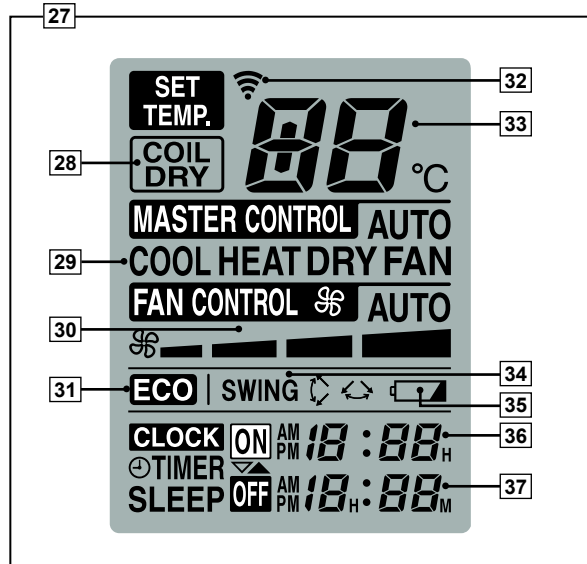


FUNCTIONS



- 1 Signal Transmitter
 - 2 STOP/START button
 - 3 SET TEMP. button (▲ / ▼)
 - 4 COOL button
 - 5 DRY button
 - 6 HEAT button
 - 7 SLEEP button
 - 8 AUTO button
 - 9 FAN button
 - 10 COIL DRY button
 - 11 FILTER button
 - 12 HI-POWER button
 - 13 SUPER QUIET button
 - 14 FAN CONTROL button
 - 15 ECONOMY button
 - 16 SWING button
 - 17 AIR DIRECTION (Left-Right) button
 - 18 AIR DIRECTION (Up-Down) button
 - 19 ON TIMER button
 - 20 OFF TIMER button
 - 21 SET TIME buttons (+ / -)
 - 22 SET (TIMER) button
 - 23 CANCEL (TIMER) button
 - 24 TEST RUN button
 - 25 RESET button
 - 26 CLOCK ADJUST button
- 27 Remote Control Unit Display
 - 28 COIL DRY Display
 - 29 Operating Mode Display
 - 30 FAN CONTROL Display
 - 31 ECONOMY Operation
 - 32 Transmit Indicator
 - 33 Temperature Display
 - 34 SWING Display
 - 35 Battery Indicator Display
 - 36 ON TIMER Display
 - 37 OFF TIMER Display

Display panel



SPECIFICATION

SIZE (H × W × D mm)	204 × 60 × 22
WEIGHT (g)	170
ACCESSORY	Holder

3. SPECIFICATIONS

Type				CEILING WALL INVERTER HEAT PUMP				
Model name				AW*Z14LBC	AW*Z18LBC	AW*Z24LBC		
Power source				230V~ 50Hz				
Available voltage range				198-264V~ 50Hz				
European energy label				Cooling	A	A		
				Heating	A	A		
Capacity	Cooling	Rated	kW	4.20	5.20	7.10		
			BTU/h	14,300	17,700	24,200		
		Min.-Max.	kW	0.9-5.3	0.9-5.9	0.9-8.0		
			BTU/h	3,100-18,100	3,100-20,100	3,100-27,300		
	Heating	Rated	kW	6.00	6.70	8.50		
			BTU/h	20,500	22,900	29,000		
		Min.-Max.	kW	0.9-9.1	0.9-9.7	0.9-11.0		
			BTU/h	3,100-31,000	3,100-33,100	3,100-37,500		
Input power	Cooling	Rated	kW	1.02	1.58	2.21		
				Min.-Max.	0.09-1.75	0.09-2.00	0.11-2.62	
	Heating	Rated		1.35	1.63	2.35		
		Min.-Max.		0.09-2.95	0.09-3.20	0.11-3.68		
Current	Cooling	Rated	A	4.5	6.9	9.7		
		Max.*		8.5	8.5	12.5		
	Heating	Rated		5.9	7.2	10.3		
		Max.*		14.0	14.0	17.5		
EER			kW/kW	Cooling	4.12	3.29	3.21	
COP				Heating	4.44	4.11	3.62	
SENSIBLE CAPACITY			kW	Cooling	2.80	3.30	5.10	
POWER FACTOR			%	Cooling	98	99	99	
				Heating	99	99	99	
Moisture removal				l/h (pints/h)	2.1 (3.7)	2.8 (4.9)	3.0 (5.3)	
Fan	Airflow rate	Cooling	High	m ³ /h	850	850	880	
			Med		760	760	780	
			Low		580	580	700	
			Quiet		465	465	620	
			S-Quiet		365	365	560	
		Heating	High		940	940	980	
			Med		740	740	880	
			Low		605	605	780	
			Quiet		510	510	700	
			S-Quiet		390	390	605	
	Type × Q'ty				Cross flow fan × 1			
	Motor output				W	72		
	Sound pressure level	Cooling	High	dB (A)	46	46	47	
			Med		43	43	43	
Low			35		35	40		
Quiet			29		29	36		
S-Quiet			24		24	32		
Heating		High	46		46	47		
		Med	39		39	43		
		Low	34		34	40		
		Quiet	29		29	36		
		S-Quiet	24		24	32		
Heat exchanger type			Dimensions (H × W × D)	mm	315 × 750 × 26.6			
			Fin pitch		1.2			
			Rows × Stages		2 × 15			
			Pipe type		Copper			
			Fin type		Aluminium			
Enclosure			Material		Polystyrene			
			Colour		White			
Dimensions (H × W × D)	Net			mm	250 × 899 × 298			
	Gross				356 × 960 × 378			
Weight	Net			kg (lb.)	13.5 (30)			
	Gross				17 (37)			
Connection pipe	Size	Liquid	mm	Φ6.35 (Φ1/4 in.)		Φ6.35 (Φ1/4 in.)		
		Gas		Φ12.7 (Φ1/2 in.)		Φ15.88 (Φ5/8 in.)		
Method				Flare				
Operation range			Cooling	°C	18 to 32			
				%RH	80 or less			
			Heating	°C	30 or less			
Remote controller type				Wireless				
Drain pipe	Material			PP+LLDPE				
	Size			mm	Outer diameter : 29 / Inner diameter : 13.6			

Note :

Specifications are based on the following conditions.

Cooling : Indoor temperature of 27°CDB / 19°CWB. and outdoor temperature of 35°CDB/24°CWB.

Heating : Indoor temperature of 20°CDB / 15°CWB. and outdoor temperature of 7°CDB/6°CWB.

Pipe length : 7.5 m. Height difference : 0 m. (Outdoor unit - Indoor unit)

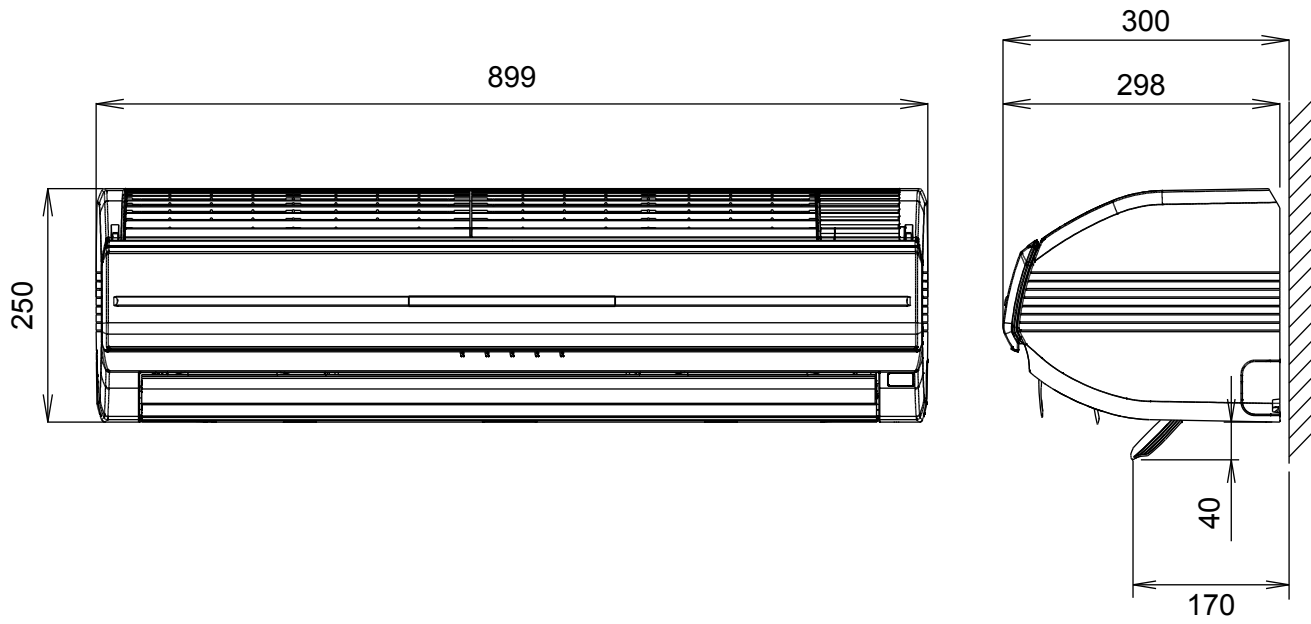
The maximum current is the maximum value when operated within the operation range (temperature).

* The maximum current is the total current of indoor unit and outdoor unit.

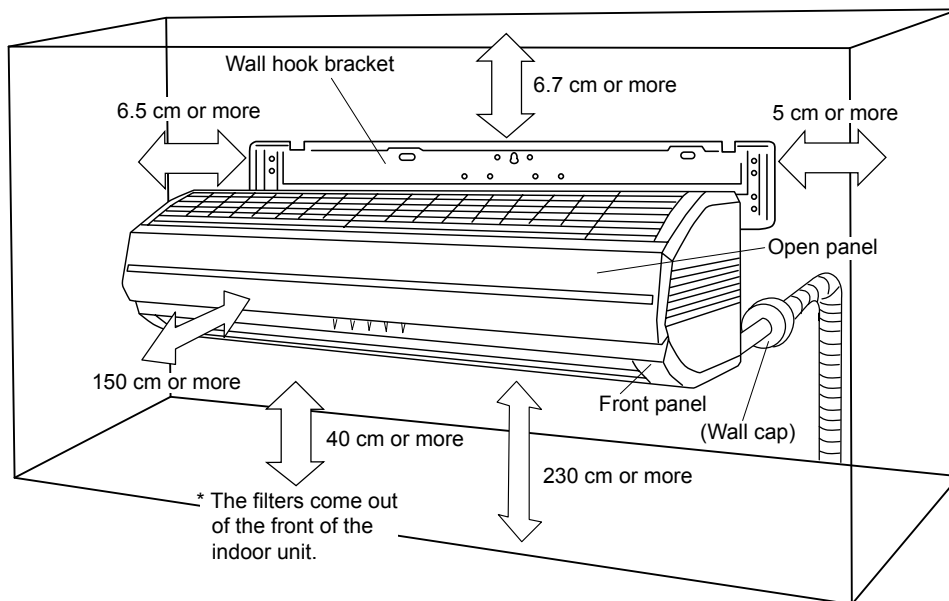
4. DIMENSIONS

■ MODEL : AW*Z14LB , AW*Z18LB , AW*Z24LB

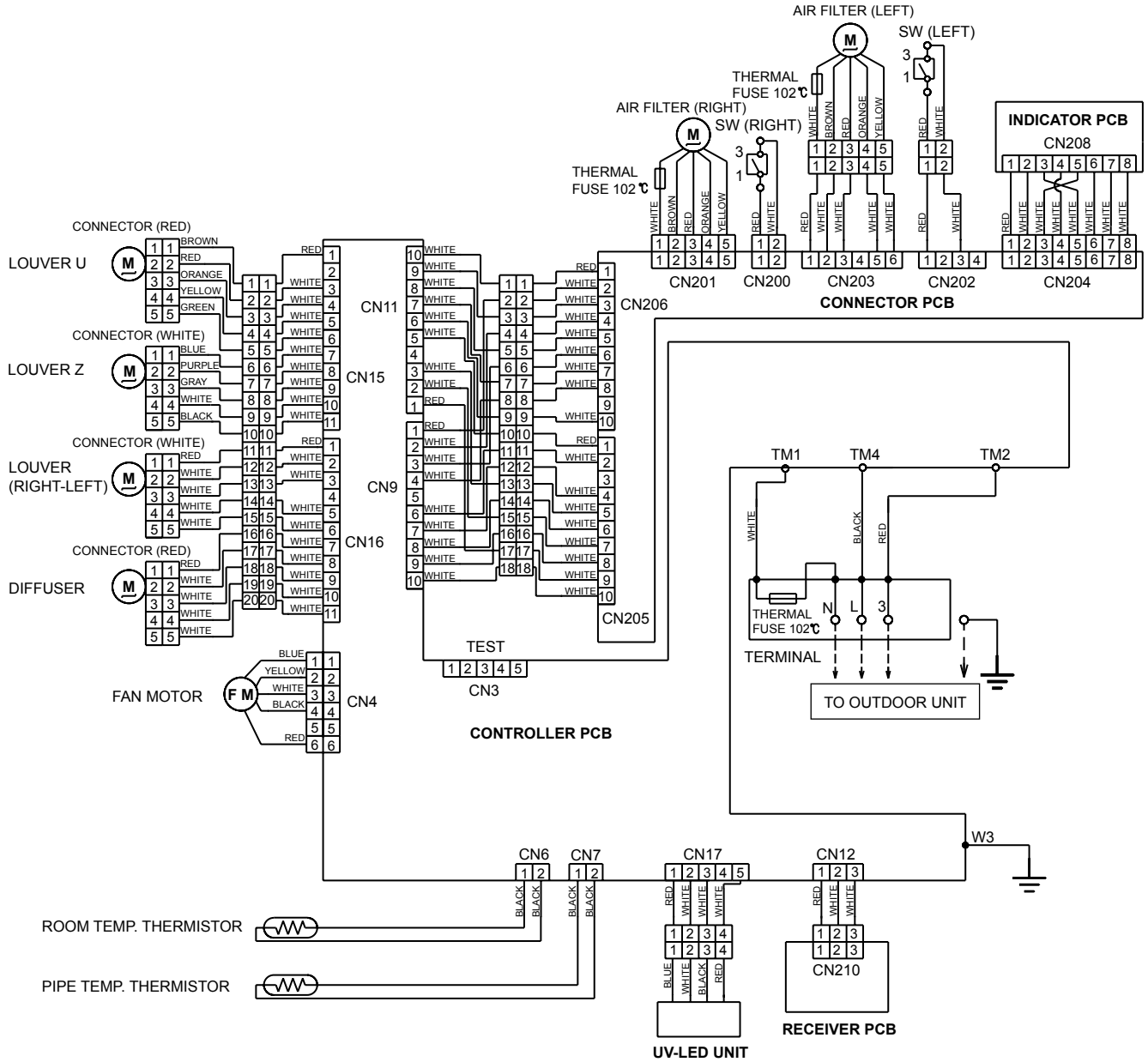
(Unit : mm)



■ INSTALLATION PLACE



■ MODEL : AW*Z24LB



6. CAPACITY TABLE

6-1. COOLING CAPACITY

■ MODEL : AW*Z14LB

AFR	14.2
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		Indoor temperature																				
		18			21			23			25			27			29			32		
		12			15			16			18			19			21			23		
Outdoor temperature	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
	20	3.90	2.78	0.71	4.35	2.80	0.72	4.49	3.04	0.72	4.79	3.05	0.73	4.94	3.29	0.74	5.23	3.28	0.74	5.53	3.49	0.75
	25	3.72	2.65	0.80	4.15	2.67	0.81	4.29	2.90	0.82	4.57	2.91	0.83	4.71	3.14	0.83	4.99	3.13	0.84	5.28	3.33	0.85
	30	3.53	2.51	0.89	3.93	2.53	0.90	4.06	2.75	0.91	4.33	2.76	0.92	4.46	2.98	0.92	4.73	2.96	0.93	5.00	3.16	0.94
	35	3.32	2.36	0.98	3.70	2.38	1.00	3.82	2.58	1.00	4.07	2.59	1.01	4.20	2.80	1.02	4.45	2.79	1.03	4.70	2.97	1.04
	40	2.85	2.03	0.94	3.18	2.04	0.95	3.28	2.22	0.96	3.50	2.23	0.97	3.61	2.41	0.97	3.83	2.40	0.98	4.04	2.55	0.99
	43	2.63	1.87	0.93	2.93	1.88	0.95	3.03	2.05	0.95	3.23	2.05	0.96	3.33	2.22	0.97	3.53	2.21	0.98	3.73	2.35	0.98

AFR : Air flow rate (m³/min)
 TC : Total capacity (kW)
 SHC : Sensible Heat capacity (kW)
 PI : Power Input (kW)

■ MODEL : AW*Z18LB

AFR	14.2
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		Indoor temperature																				
		18			21			23			25			27			29			32		
		12			15			16			18			19			21			23		
Outdoor temperature	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
	20	4.83	3.27	1.10	5.38	3.29	1.12	5.56	3.58	1.12	5.93	3.59	1.13	6.11	3.88	1.14	6.48	3.86	1.15	6.85	4.12	1.16
	25	4.61	3.12	1.24	5.13	3.14	1.26	5.31	3.42	1.27	5.66	3.43	1.28	5.83	3.70	1.29	6.18	3.69	1.30	6.53	3.93	1.31
	30	4.37	2.96	1.38	4.86	2.98	1.40	5.03	3.24	1.41	5.36	3.25	1.42	5.53	3.51	1.43	5.86	3.49	1.44	6.19	3.72	1.46
	35	4.11	2.79	1.52	4.58	2.80	1.55	4.73	3.05	1.56	5.04	3.06	1.57	5.20	3.30	1.58	5.51	3.29	1.60	5.82	3.50	1.61
	40	3.53	2.39	1.45	3.93	2.41	1.47	4.07	2.62	1.48	4.33	2.63	1.50	4.47	2.84	1.50	4.74	2.82	1.52	5.00	3.01	1.53
	43	3.26	2.21	1.44	3.63	2.22	1.47	3.75	2.41	1.47	4.00	2.42	1.49	4.12	2.62	1.50	4.37	2.60	1.51	4.62	2.77	1.53

AFR : Air flow rate (m³/min)
 TC : Total capacity (kW)
 SHC : Sensible Heat capacity (kW)
 PI : Power Input (kW)

■ MODEL : AW*Z24LB

AFR	14.7
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		Indoor temperature																				
		18			21			23			25			27			29			32		
		12			15			16			18			19			21			23		
Outdoor temperature	°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
	20	5.79	4.44	1.15	6.45	4.47	1.17	6.67	4.86	1.17	7.11	4.87	1.19	7.33	5.26	1.19	7.77	5.24	1.20	8.20	5.58	1.22
	25	5.52	4.24	1.33	6.15	4.26	1.35	6.36	4.63	1.36	6.78	4.65	1.37	6.99	5.02	1.38	7.41	5.00	1.39	7.83	5.33	1.41
	30	5.94	4.56	1.91	6.62	4.59	1.94	6.84	4.99	1.95	7.30	5.00	1.97	7.52	5.40	1.98	7.97	5.38	2.00	8.42	5.73	2.02
	35	5.61	4.30	2.13	6.25	4.33	2.17	6.46	4.71	2.18	6.89	4.72	2.20	7.10	5.10	2.21	7.53	5.08	2.23	7.95	5.41	2.25
	40	5.26	4.04	2.36	5.86	4.06	2.39	6.06	4.42	2.41	6.46	4.43	2.43	6.66	4.78	2.44	7.06	4.76	2.47	7.46	5.08	2.49
	43	5.05	3.88	2.50	5.63	3.90	2.53	5.82	4.24	2.55	6.20	4.25	2.57	6.39	4.59	2.59	6.78	4.57	2.61	7.16	4.87	2.64

AFR : Air flow rate (m³/min)
 TC : Total capacity (kW)
 SHC : Sensible Heat capacity (kW)
 PI : Power Input (kW)

6-2. HEATING CAPACITY

■ MODEL : AW*Z14LB

AFR	15.7
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		°CDB	Indoor temperature									
			16		18		20		22		24	
Outdoor temperature	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	-15	-16	6.03	2.14	5.89	2.16	5.74	2.18	5.60	2.21	5.46	2.23
	-10	-11	7.04	2.48	6.87	2.50	6.70	2.53	6.54	2.56	6.37	2.58
	-5	-7	7.89	2.63	7.70	2.65	7.51	2.68	7.33	2.71	7.14	2.73
	0	-2	9.10	2.83	8.88	2.86	8.67	2.89	8.45	2.92	8.23	2.95
	5	3	9.14	2.25	8.92	2.27	8.71	2.30	8.49	2.32	8.27	2.34
	7	6	9.56	2.23	9.33	2.26	9.10	2.28	8.87	2.30	8.65	2.33
	10	8	9.32	2.22	9.10	2.24	8.88	2.27	8.66	2.29	8.43	2.31
	15	10	9.14	1.91	8.92	1.93	8.71	1.95	8.49	1.97	8.27	1.99

AFR : Air flow rate (m³/min)
 TC : Total capacity (kW)
 PI : Power Input (kW)

■ MODEL : AW*Z18LB

AFR	15.7
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		°CDB	Indoor temperature									
			16		18		20		22		24	
Outdoor temperature	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	-15	-16	6.43	2.33	6.28	2.35	6.12	2.38	5.97	2.40	5.82	2.42
	-10	-11	7.50	2.70	7.32	2.72	7.14	2.75	6.97	2.78	6.79	2.81
	-5	-7	8.41	2.86	8.21	2.88	8.01	2.91	7.81	2.94	7.61	2.97
	0	-2	9.70	3.08	9.47	3.11	9.24	3.14	9.01	3.17	8.78	3.20
	5	3	9.75	2.45	9.51	2.47	9.28	2.50	9.05	2.52	8.82	2.55
	7	6	10.19	2.43	9.94	2.46	9.70	2.48	9.46	2.50	9.22	2.53
	10	8	9.94	2.42	9.70	2.44	9.46	2.47	9.23	2.49	8.99	2.51
	15	10	9.74	2.08	9.51	2.10	9.28	2.12	9.05	2.14	8.82	2.16

AFR : Air flow rate (m³/min)
 TC : Total capacity (kW)
 PI : Power Input (kW)

■ MODEL : AW*Z24LB

AFR	16.3
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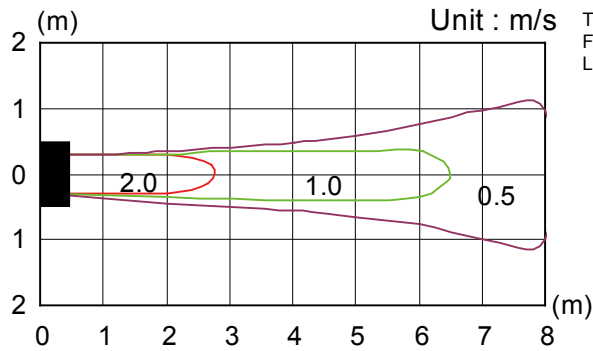
		°CDB	Indoor temperature									
			16		18		20		22		24	
Outdoor temperature	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	-15	-16	7.57	3.21	7.39	3.25	7.21	3.28	7.03	3.31	6.85	3.34
	-10	-11	8.69	3.33	8.48	3.36	8.28	3.40	8.07	3.43	7.86	3.46
	-5	-7	9.81	3.44	9.57	3.48	9.34	3.51	9.11	3.55	8.87	3.58
	0	-2	10.58	3.54	10.33	3.57	10.08	3.61	9.82	3.65	9.57	3.68
	5	3	10.02	3.50	9.78	3.54	9.54	3.57	9.30	3.61	9.06	3.64
	7	6	11.55	3.47	11.28	3.50	11.00	3.54	10.73	3.58	10.45	3.61
	10	8	12.49	3.47	12.20	3.50	11.90	3.54	11.60	3.57	11.30	3.61
	15	10	12.00	3.02	11.71	3.05	11.42	3.08	11.14	3.11	10.85	3.14

AFR : Air flow rate (m³/min)
 TC : Total capacity (kW)
 PI : Power Input (kW)

7. FAN PERFORMANCE

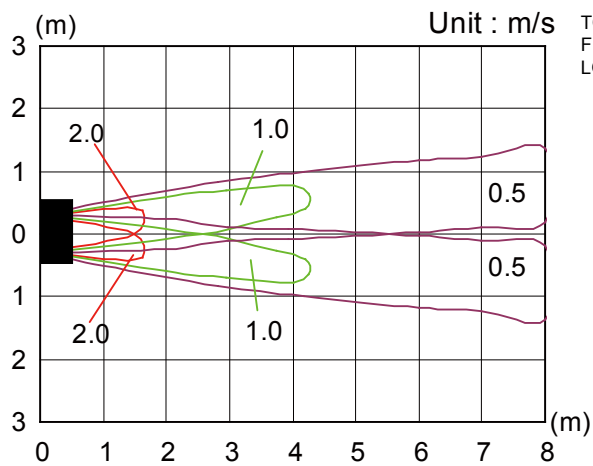
7-1. AIR VELOCITY DISTRIBUTION

■ MODEL : AW*Z14LB , AW*Z18LB

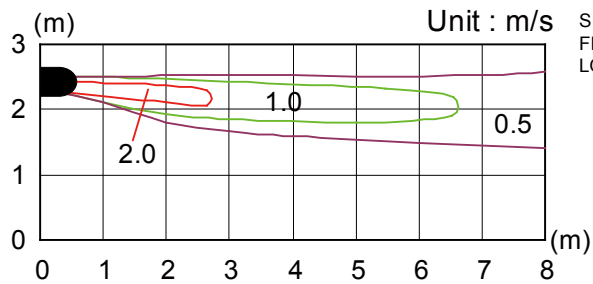


TOP VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Center

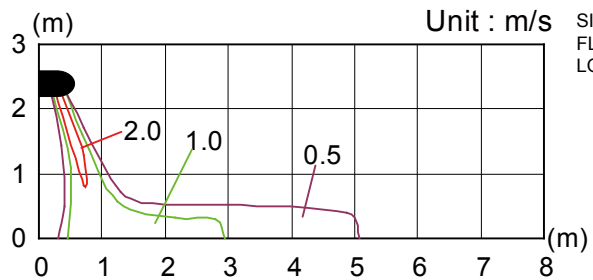
Note :
Fan speed : High
Operation mode : FAN
Voltage : 230V



TOP VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Right & Left



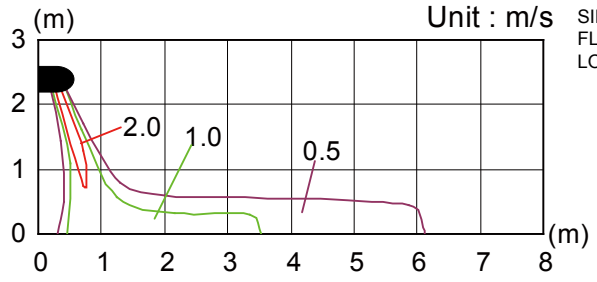
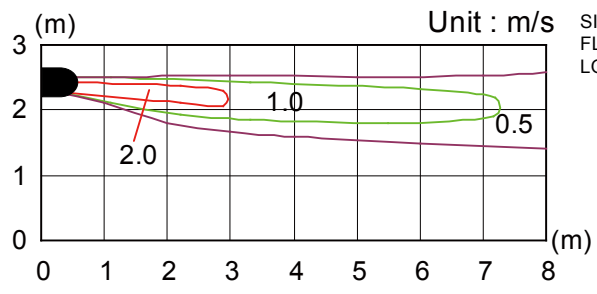
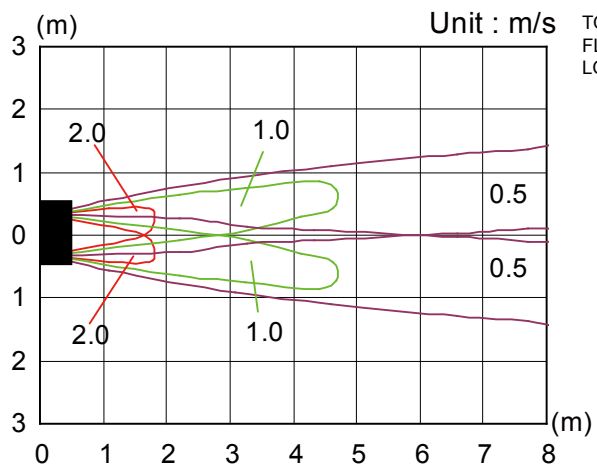
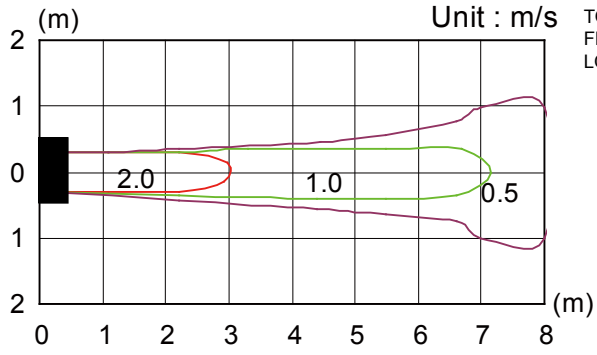
SIDE VIEW
FLOW CONTROL PANEL : Horiz.
LOUVER : Center



SIDE VIEW
FLOW CONTROL PANEL : Vert.
LOUVER : Center

MODEL : AW*Z24LB

Note :
Fan speed : High
Operation mode : FAN
Voltage : 230V



7-2. AIR FLOW

■ MODEL : AW*Z14LB , AW*Z18LB

● COOLING

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	1450	850	m ³ /h
		236	l/s
		500	CFM
MED	1320	760	m ³ /h
		211	l/s
		447	CFM
LOW	1050	580	m ³ /h
		161	l/s
		341	CFM
QUIET	880	465	m ³ /h
		129	l/s
		274	CFM
SUPERQUIET	730	365	m ³ /h
		101	l/s
		215	CFM

● HEATING

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	1650	940	m ³ /h
		261	l/s
		553	CFM
MED	1350	740	m ³ /h
		206	l/s
		435	CFM
LOW	1150	605	m ³ /h
		168	l/s
		356	CFM
QUIET	1000	510	m ³ /h
		142	l/s
		300	CFM
SUPERQUIET	820	390	m ³ /h
		108	l/s
		230	CFM

■ MODEL : AW*Z24LB

● COOLING

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	1500	880	m ³ /h
		244	l/s
		518	CFM
MED	1370	780	m ³ /h
		217	l/s
		459	CFM
LOW	1250	700	m ³ /h
		194	l/s
		412	CFM
QUIET	1130	620	m ³ /h
		172	l/s
		365	CFM
SUPERQUIET	1030	560	m ³ /h
		156	l/s
		330	CFM

● HEATING

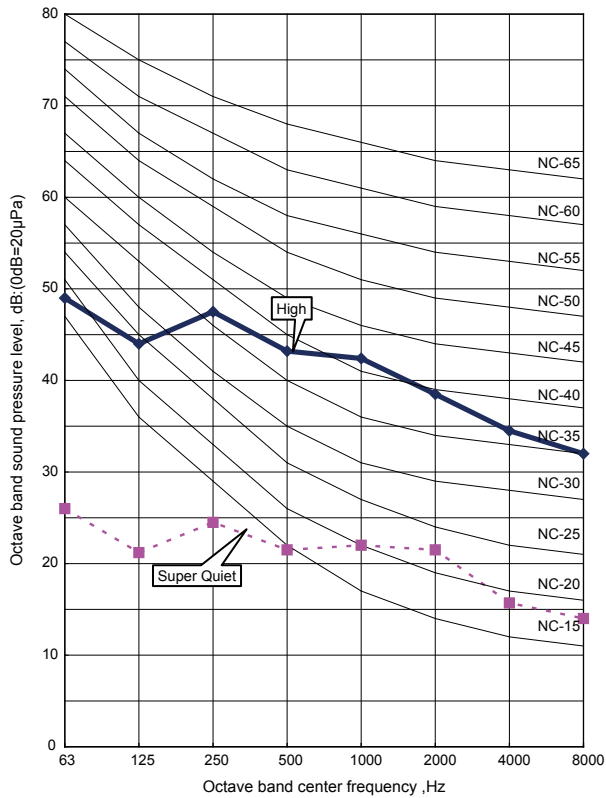
Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	1700	980	m ³ /h
		272	l/s
		577	CFM
MED	1540	880	m ³ /h
		244	l/s
		518	CFM
LOW	1390	780	m ³ /h
		217	l/s
		459	CFM
QUIET	1260	700	m ³ /h
		194	l/s
		412	CFM
SUPERQUIET	1120	605	m ³ /h
		168	l/s
		356	CFM

8. OPERATION NOISE

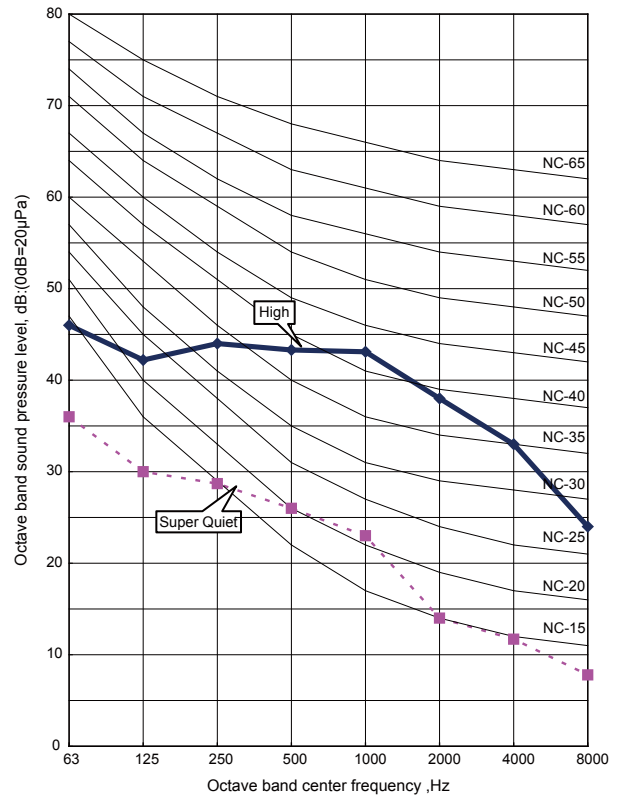
8-1. NOISE LEVEL CURVE

MODEL : AW*Z14LB

● COOLING

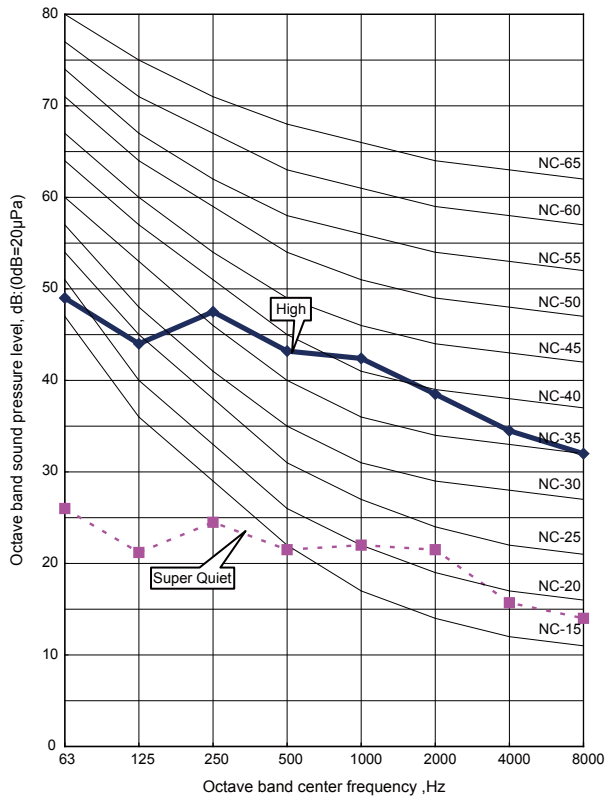


● HEATING

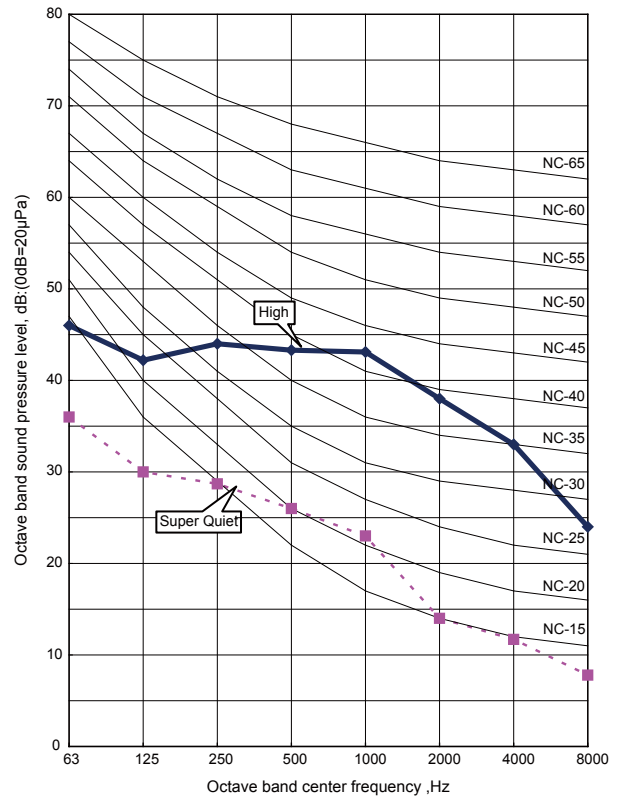


MODEL : AW*Z18LB

● COOLING

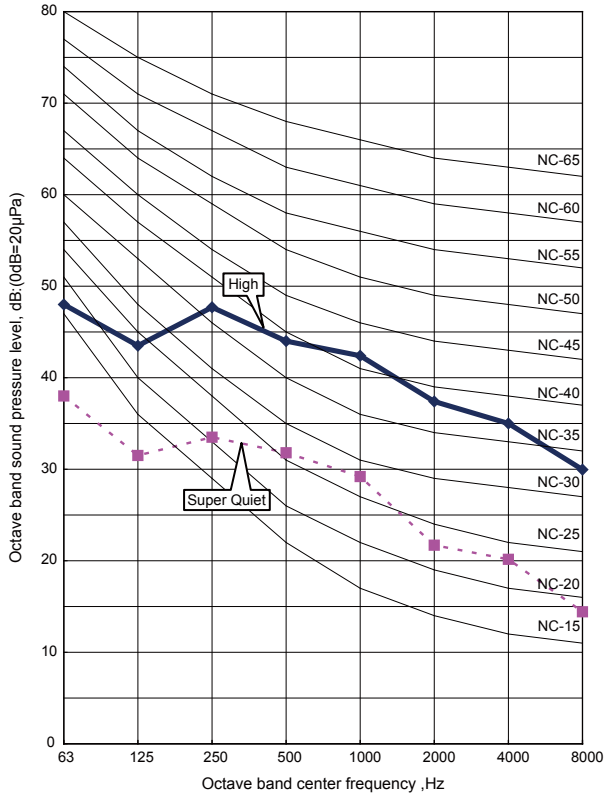


● HEATING

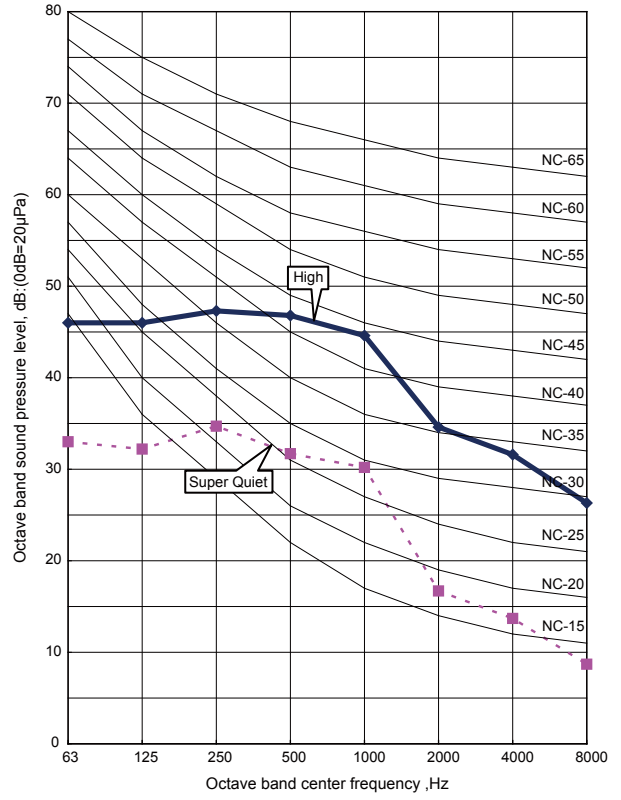


■ MODEL : AW*Z24LB

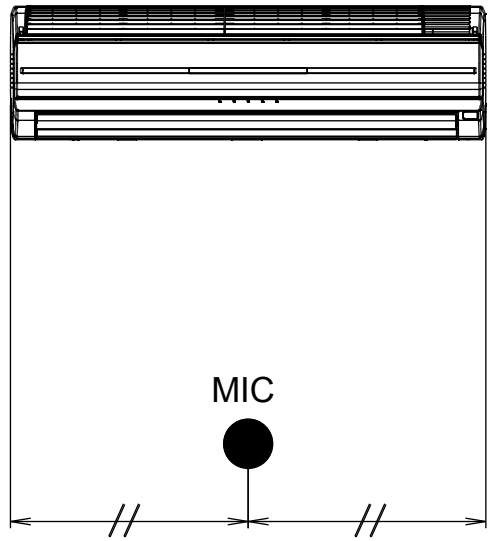
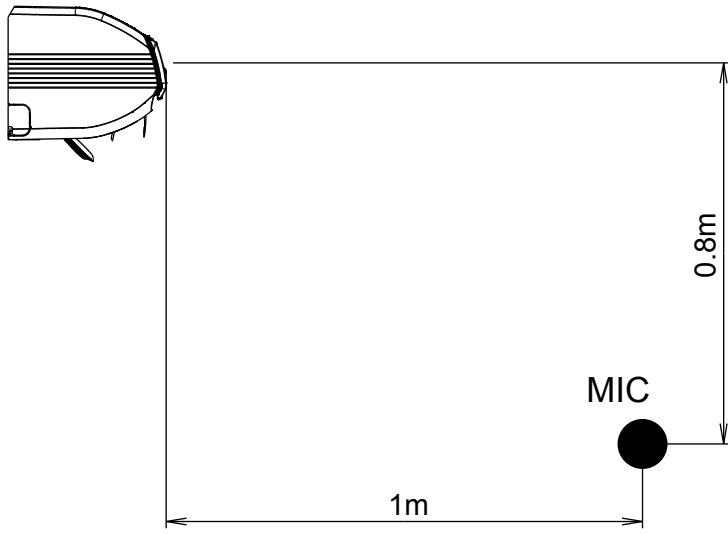
● COOLING



● HEATING



8-2. SOUND LEVEL CHECK POINT



9. ELECTRIC CHARACTERISTICS

Model Name			AW*Z14LB	AW*Z18LB	AW*Z24LB
Power Supply	Voltage	V	230~		
	Frequency	Hz	50		
*1) Max Operating Current		A	14.0	14.0	0.3 (Indoor unit)
*2) Wiring Spec.	Main Fuse (circuit breaker) Current	A	20	20	—
	Connection Cable	mm ²	2.0-3.5	2.0-3.5	1.5-2.5
	Limited wiring length	m	21	21	31

*1) The maximum current is the total current of indoor unit and outdoor unit.
(14, 18 model only)

*2) Wiring Spec.
Selected Sample
(Selected based on Japan Electrotechnical Standard and Codes Committee E0005)

10. SAFETY DEVICES

	Protection form	Model		
		AW*Z14LB	AW*Z18LB	AW*Z24LB
Circuit protection	Current fuse (PCB)	3.15A 250V		
Terminal protection	Current (thermal) fuse	3A 250V 102°C		
Fan motor protection	Thermal protection program	130 ⁺²⁰ ₋₂₀ °C OFF 100 ⁺²⁰ ₋₂₀ °C ON		

OUTDOOR UNIT

2. SINGLE TYPE :

AO*Z14LBC

AO*Z18LBC

AO*Z24LBT

1. SPECIFICATIONS

OUTDOOR UNIT
AO*Z14-24LB

OUTDOOR UNIT
AO*Z14-24LB

Type				INVERTER HEAT PUMP			
Model name				AO*Z14LBC	AO*Z18LBC	AO*Z24LBT	
Power source				230V~ 50Hz			
Available voltage range				198-264V~ 50Hz			
Starting current				A	5.9	7.2	10.3
Fan	Airflow rate	Cooling	m ³ /h	1,910	1,910	3,600	
		Heating		1,910	1,910	3,320	
	Type × Q'ty		Propeller fan × 1				
	Motor output		W	60		103	
Sound pressure level		Cooling	dB (A)	46	47	53	
		Heating		47	48	54	
Heat exchanger type		Dimensions (H × W × D)	mm	546 × 876 × 36.4		798 × 900 × 36.4	
		Fin pitch		1.3		1.3	
		Rows × Stages	2 × 26		2 × 38		
		Pipe type	Copper				
		Fin type	Aluminium				
Compressor	Type × Q'ty		Rotary × 1				
	Motor output		W	900	1,700		
Refrigerant		Type	R410A				
		Charge	g	1,350		1,900	
Refrigerant oil		Type	POE (α68SZ)		POE (FV50S)		
Enclosure		Material	Steel				
		Colour	Beige				
Dimensions (H × W × D)		Net	mm	578 × 790 × 300		830 × 900 × 330	
		Gross		648 × 910 × 380		970 × 1,050 × 445	
Weight		Net	kg (lb.)	39 (86)		62 (137)	
		Gross		43 (95)		70 (154)	
Connection pipe		Size	Liquid	mm	Φ6.35 (Φ1/4 in.)		
			Gas		Φ12.7 (Φ1/2 in.)		
		Method		Flare			
		Max. length		m	20 (chargeless:15)		30 (chargeless:15)
		Max. height difference			15		20
Operation range		Cooling	°C	-10 to 43			
		Heating		-15 to 24			

Note :

Specifications are based on the following conditions.

Cooling : Indoor temperature of 27°CDB / 19°CWB. and outdoor temperature of 35°CDB/24°CWB.

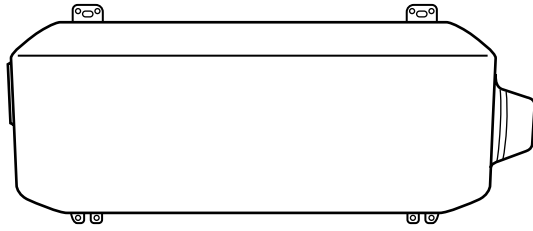
Heating : Indoor temperature of 20°CDB / 15°CWB. and outdoor temperature of 7°CDB/6°CWB.

Pipe length : 7.5 m, Height difference : 0 m. (Outdoor unit - Indoor unit)

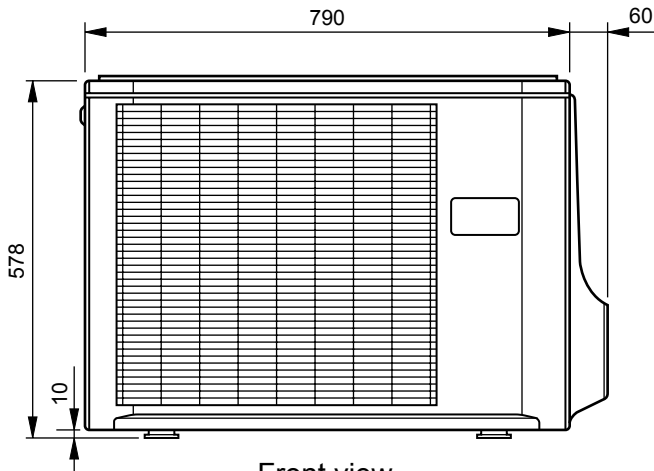
2. DIMENSIONS

■ MODEL : AO*Z14LB , AO*Z18LB

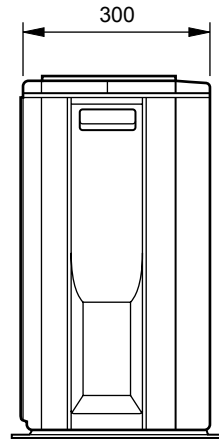
(Unit : mm)



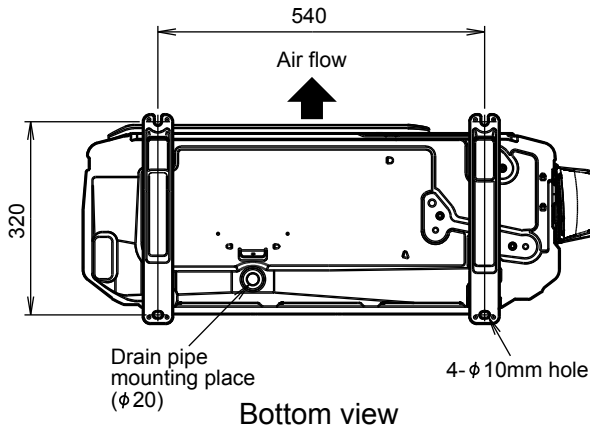
Top view



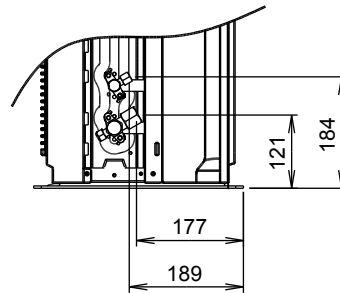
Front view



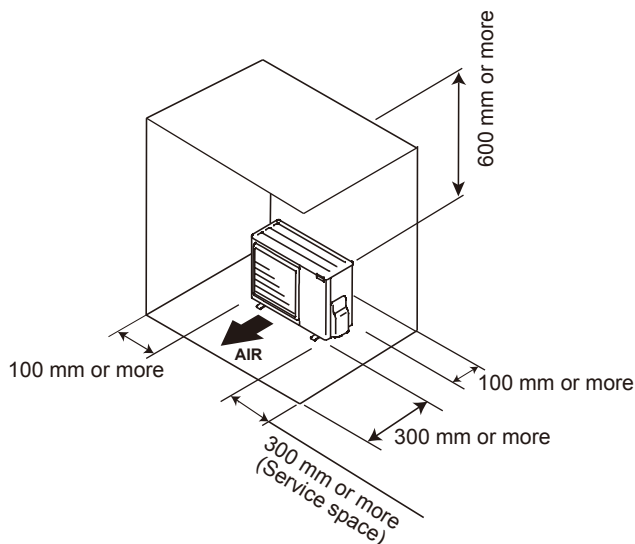
Side view



Bottom view



■ INSTALLATION PLACE



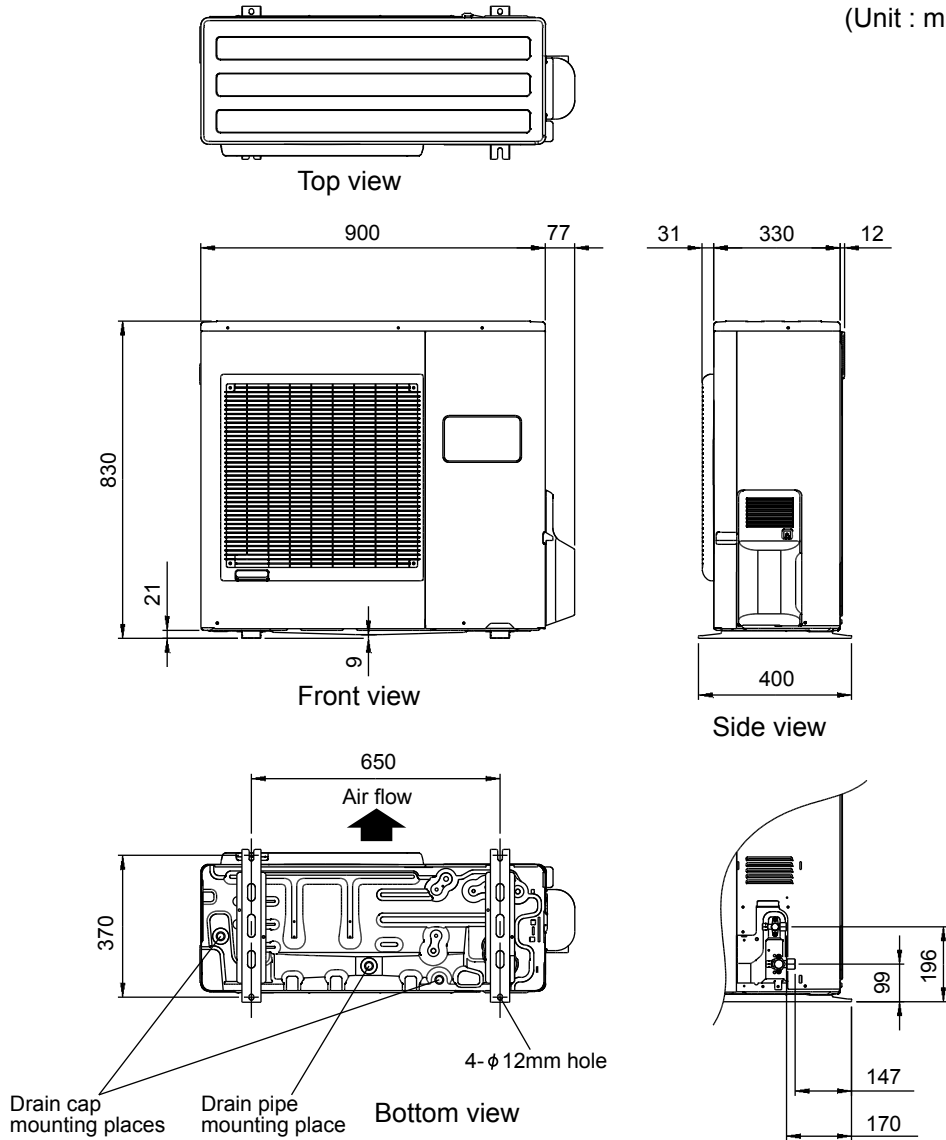
If the space is larger that is stated, the condition will be the same as that are no obstacles.

MODEL : AO*Z24LB

OUTDOOR UNIT
AO*Z14-24LB

OUTDOOR UNIT
AO*Z14-24LB

(Unit : mm)

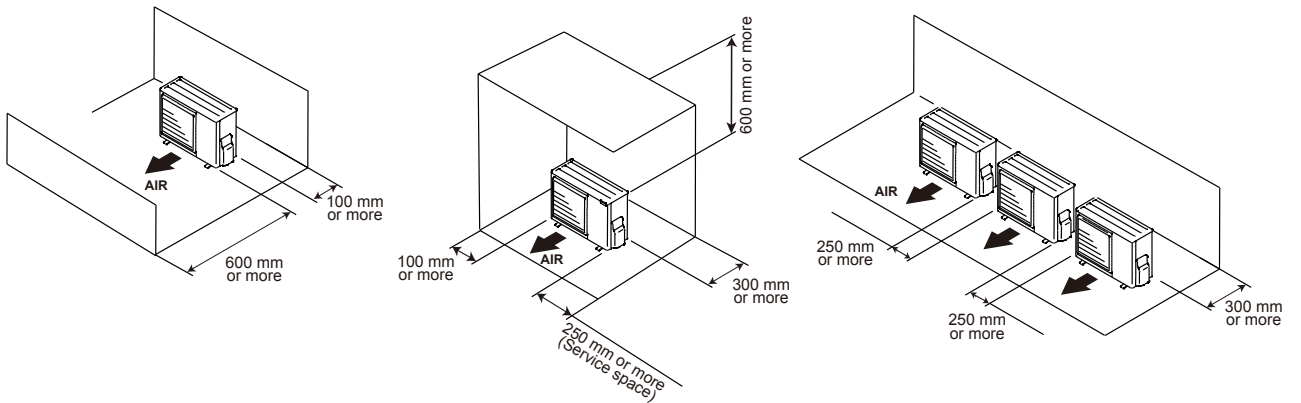


INSTALLATION PLACE

When there are obstacles at the back or front sides.

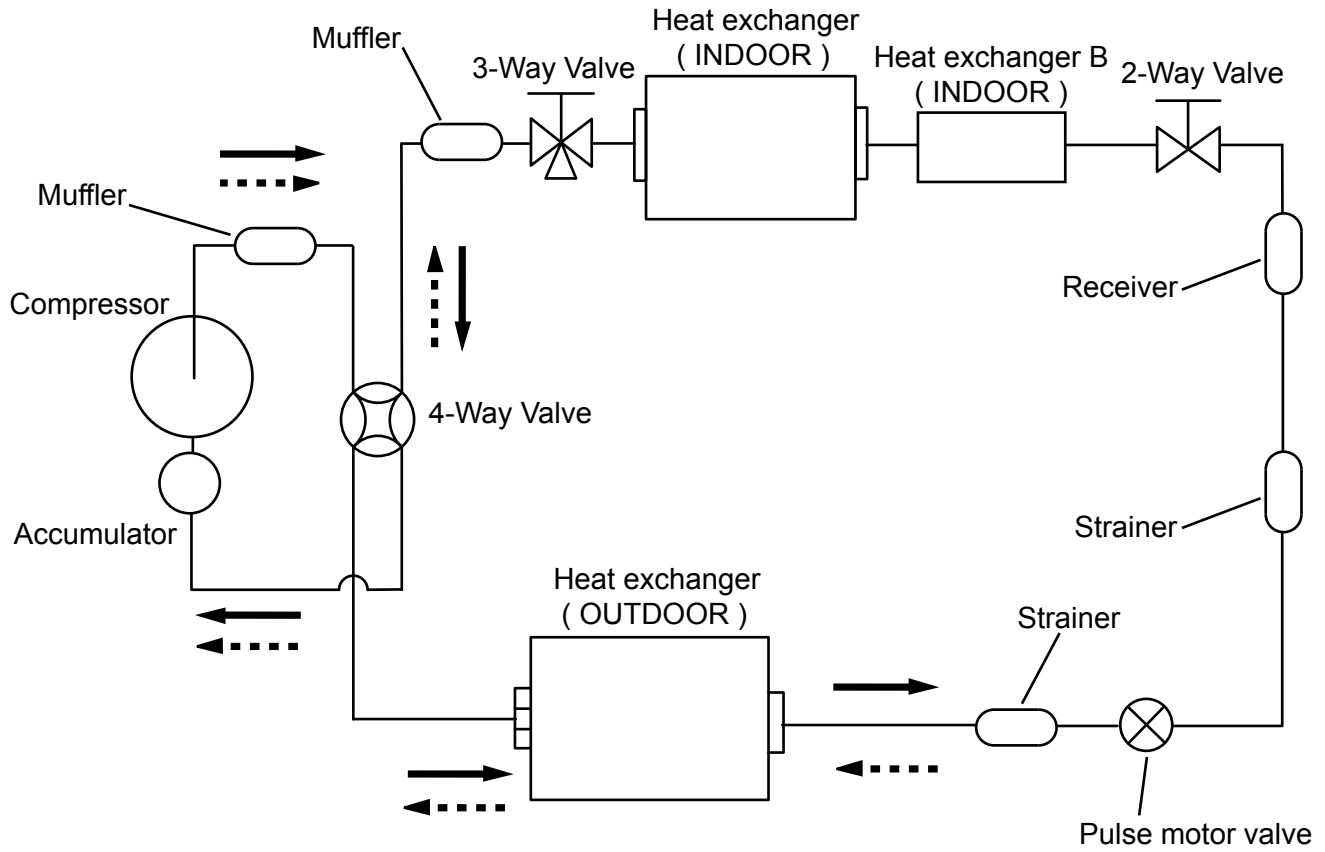
When there are obstacles at the back, side(s), and top.



When there are obstacles at the back, side with the installation of more than one unit.



3. REFRIGERANT CIRCUIT

■ MODEL : AO*Z14LB , AO*Z18LB



 Cooling
 Heating

Refrigerant pipe diameter
 Liquid pipe : 6.35 mm
 Gas pipe : 12.7 mm

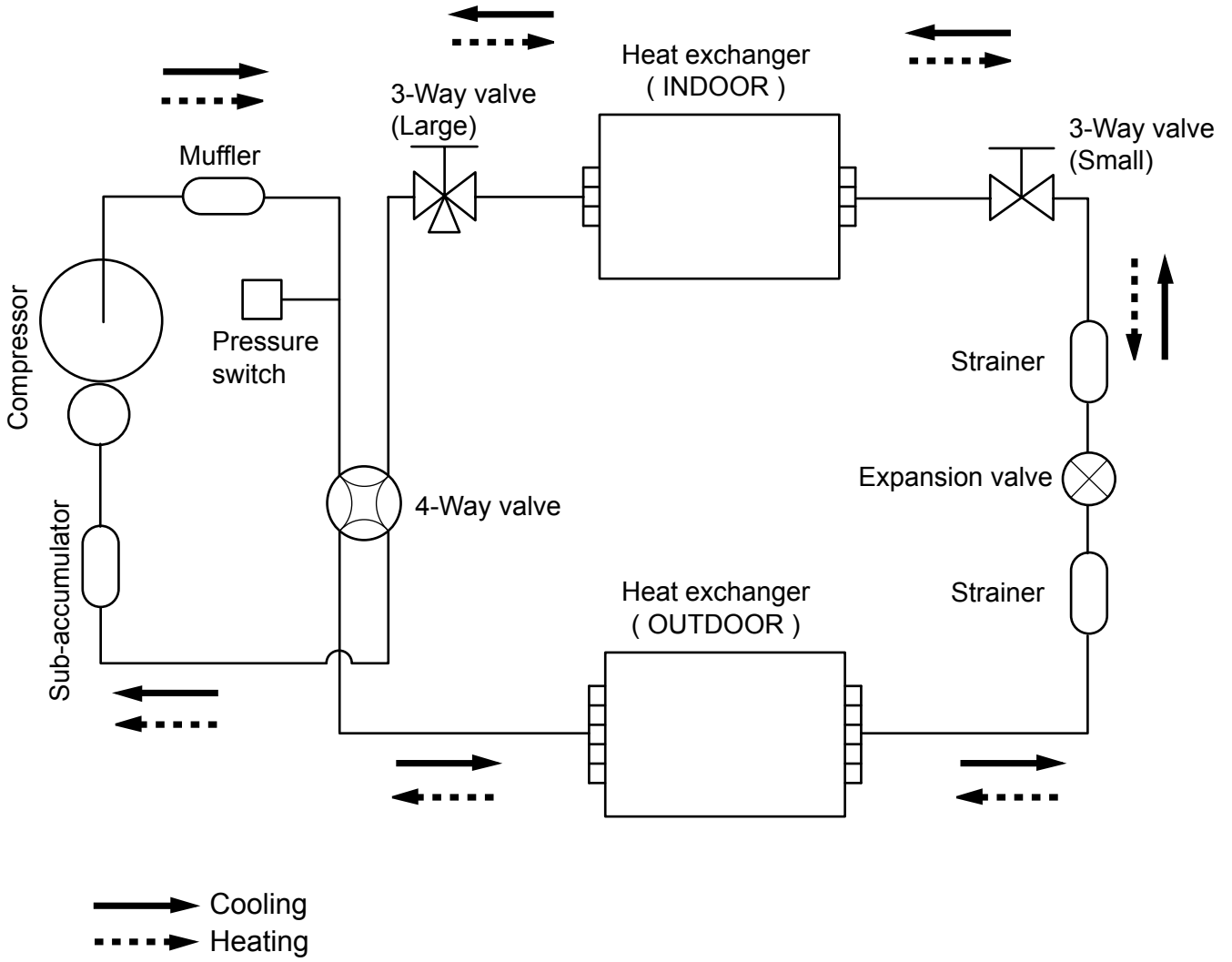
OUTDOOR UNIT
AO*Z14-24LB



OUTDOOR UNIT
AO*Z14-24LB

■ MODEL : AO*Z24LB

OUTDOOR UNIT
AO*Z14-24LB

OUTDOOR UNIT
AO*Z14-24LB



 Cooling
 Heating

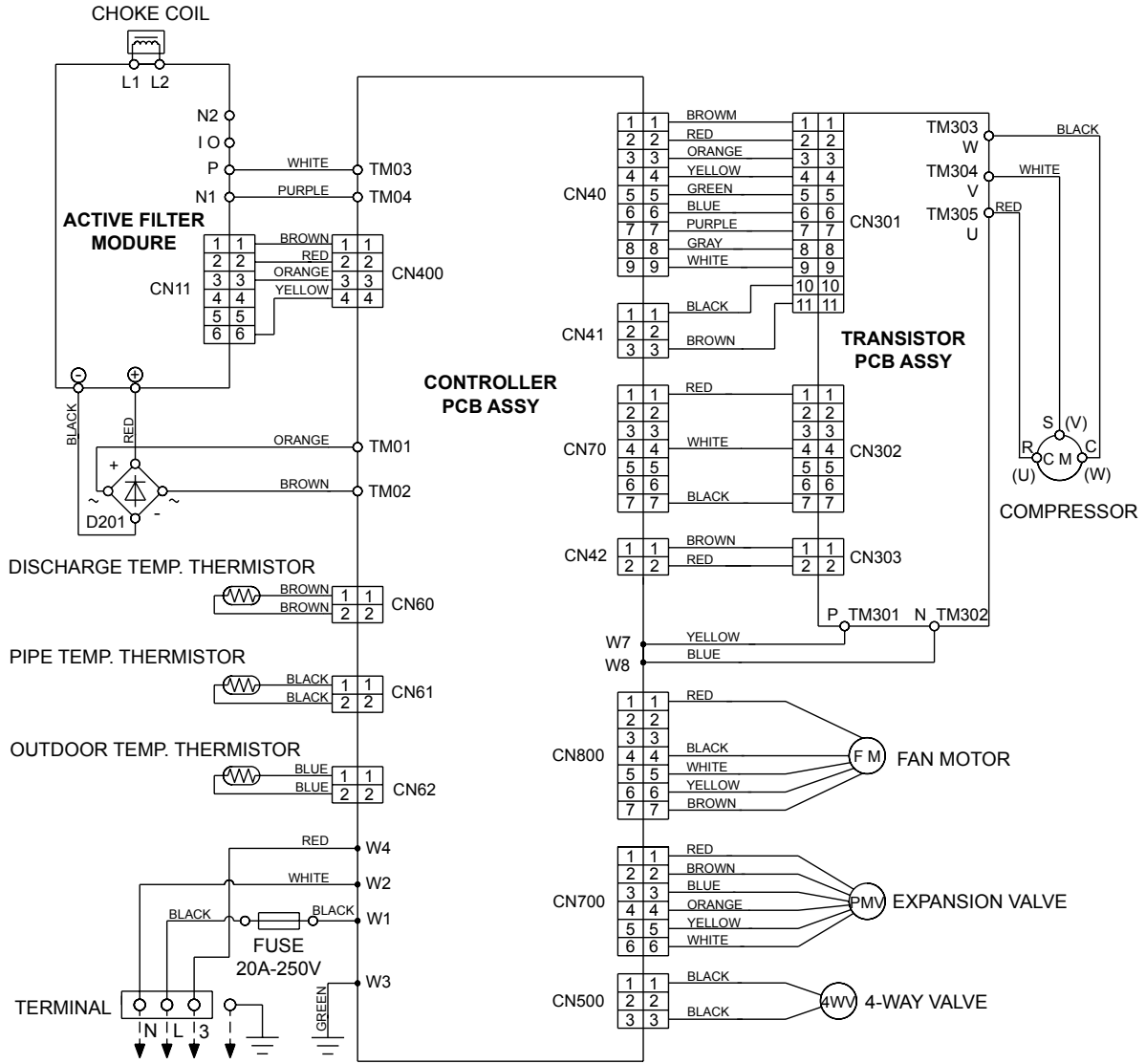
Refrigerant pipe diameter
 Liquid : 1/4" (6.35 mm)
 Gas : 5/8" (15.88 mm)

4. WIRING DIAGRAMS

■ MODEL : AO*Z14LB , AO*Z18LB

OUTDOOR UNIT
AO*Z14-24LB

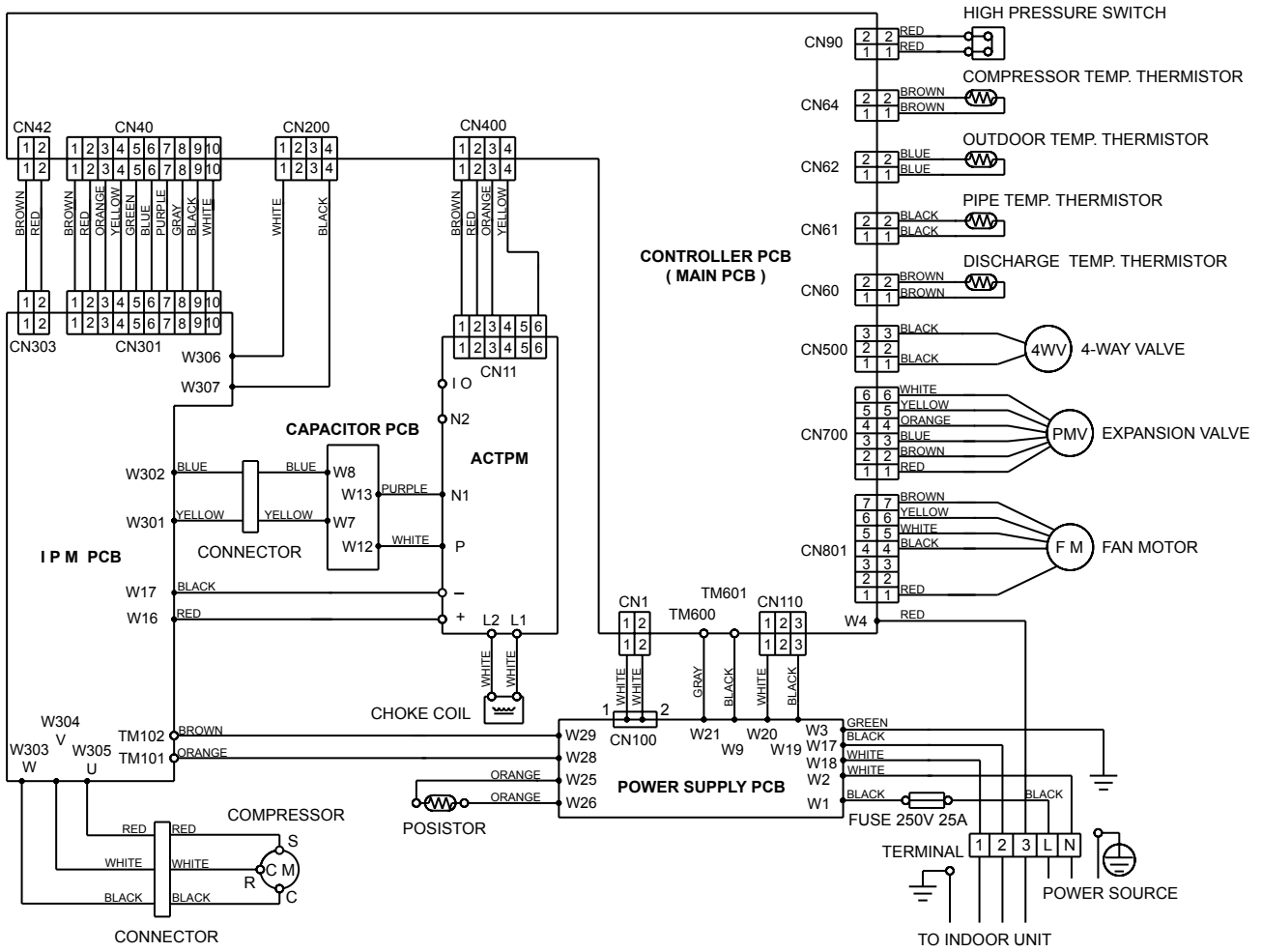
OUTDOOR UNIT
AO*Z14-24LB



MODEL : AO*Z24LB

OUTDOOR UNIT
AO*Z14-24LB

OUTDOOR UNIT
AO*Z14-24LB



5. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE

■ MODEL : AO*Z14LB , AO*Z18LB

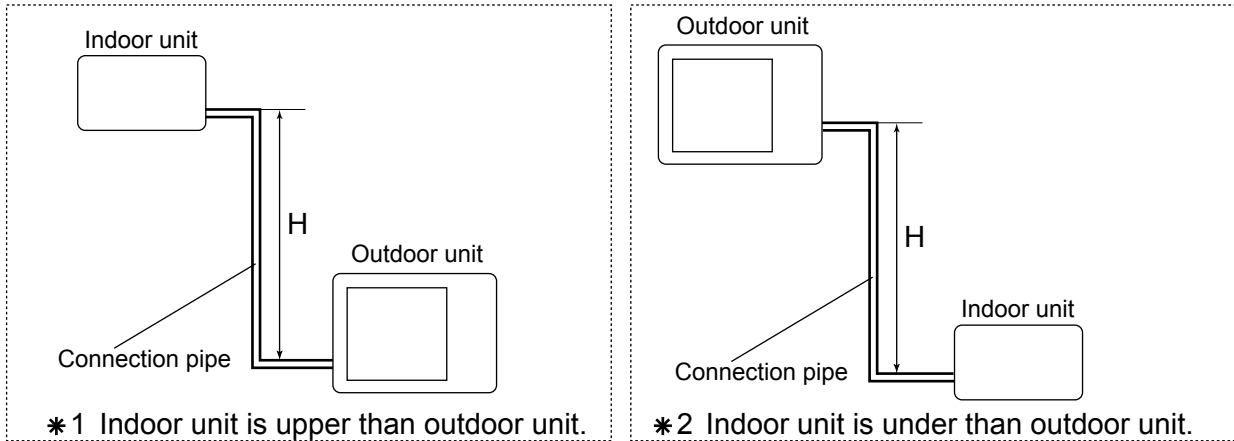
OUTDOOR UNIT
AO*Z14-24LB

OUTDOOR UNIT
AO*Z14-24LB

COOLING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	*1 Indoor unit is upper than outdoor unit.	15	—	—	—	0.953	0.951
		10	—	—	0.981	0.969	0.967
		7.5	—	0.988	0.985	0.973	0.971
		5	0.994	0.992	0.989	0.977	0.975
		0	1.002	1.000	0.997	0.984	0.983
	*2 Indoor unit is under than outdoor unit	-5	1.002	1.000	0.997	0.984	0.983
		-7.5	—	1.000	0.997	0.984	0.983
		-10	—	—	0.997	0.984	0.983
		-15	—	—	—	0.984	0.983

HEATING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	*1 Indoor unit is upper than outdoor unit.	15	—	—	—	0.946	0.923
		10	—	—	0.987	0.946	0.923
		7.5	—	1.000	0.987	0.946	0.923
		5	1.008	1.000	0.987	0.946	0.923
		0	1.008	1.000	0.987	0.946	0.923
	*2 Indoor unit is under than outdoor unit	-5	1.003	0.995	0.982	0.941	0.918
		-7.5	—	0.993	0.979	0.939	0.916
		-10	—	—	0.977	0.936	0.913
		-15	—	—	—	0.927	0.904

Height difference H



MODEL : AO*Z24LB

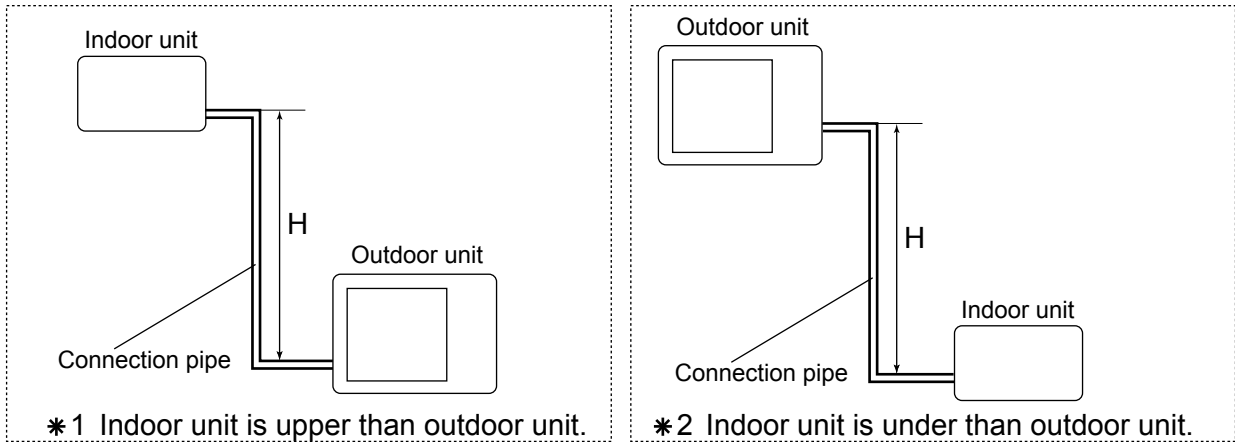
OUTDOOR UNIT
AO*Z14-24LB

OUTDOOR UNIT
AO*Z14-24LB

COOLING			Pipe length (m)						
			5	7.5	10	15	20	25	30
Height difference H (m)	*1 Indoor unit is upper than outdoor unit.	20	—	—	—	0.964	0.964	0.964	0.965
		10	—	—	0.984	0.980	0.979	0.980	0.981
		7.5	—	0.988	0.988	0.984	0.983	0.984	0.985
		5	0.992	0.992	0.992	0.988	0.987	0.988	0.989
	*2 Indoor unit is under than outdoor unit	0	1.000	1.000	1.000	0.996	0.995	0.996	0.997
		-5	1.000	1.000	1.000	0.996	0.995	0.996	0.997
		-7.5	—	1.000	1.000	0.996	0.995	0.996	0.997
		-10	—	—	1.000	0.996	0.995	0.996	0.997
		-20	—	—	—	0.996	0.995	0.996	0.997

HEATING			Pipe length (m)						
			5	7.5	10	15	20	25	30
Height difference H (m)	*1 Indoor unit is upper than outdoor unit.	20	—	—	—	0.959	0.935	0.912	0.889
		10	—	—	0.993	0.959	0.935	0.912	0.889
		7.5	—	1.000	0.993	0.959	0.935	0.912	0.889
		5	1.005	1.000	0.993	0.959	0.935	0.912	0.889
	*2 Indoor unit is under than outdoor unit	0	1.005	1.000	0.993	0.959	0.935	0.912	0.889
		-5	1.000	0.995	0.988	0.954	0.930	0.908	0.884
		-7.5	—	0.993	0.985	0.952	0.928	0.906	0.882
		-10	—	—	0.983	0.949	0.926	0.903	0.880
		-20	—	—	—	0.940	0.916	0.894	0.871

Height difference H



6. ADDITIONAL CHARGE CALCULATION

■ MODEL : AO*Z14LB , AO*Z18LB

Refrigerant type		R410A
Refrigerant amount	g	1,350

● REFRIGERANT CHARGE

Pipe length	m	~15	20	20g/m
Additional charge	g	0 (Charge less)	+100	

■ MODEL : AO*Z24LB

Refrigerant type		R410A
Refrigerant amount	g	1,900

● REFRIGERANT CHARGE

Pipe length	m	~15	20	25	30	20g/m
Additional charge	g	0 (Charge less)	+100	+200	+300	

7. AIR FLOW

■ MODEL : AO*Z14LB , AO*Z18LB

● COOLING

Number of rotations (r.p.m)	Airflow	
	820	1,910
531		l/s
1,142		CFM

● HEATING

Number of rotations (r.p.m)	Airflow	
	820	1,910
531		l/s
1,124		CFM

■ MODEL : AO*Z24LB

● COOLING

Number of rotations (r.p.m)	Airflow	
	850	3,600
1,000		l/s
2,119		CFM

● HEATING

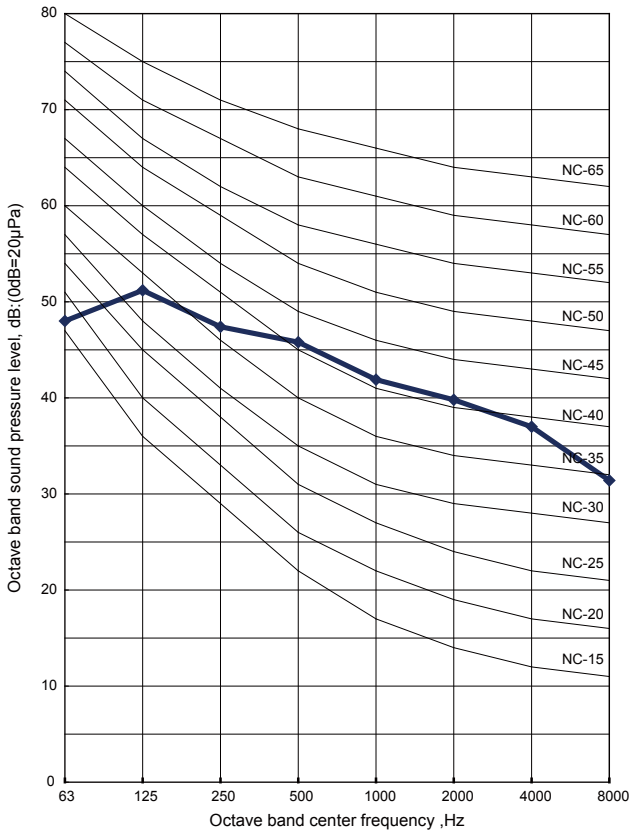
Number of rotations (r.p.m)	Airflow	
	780	3,320
922		l/s
1,954		CFM

8. OPERATION NOISE

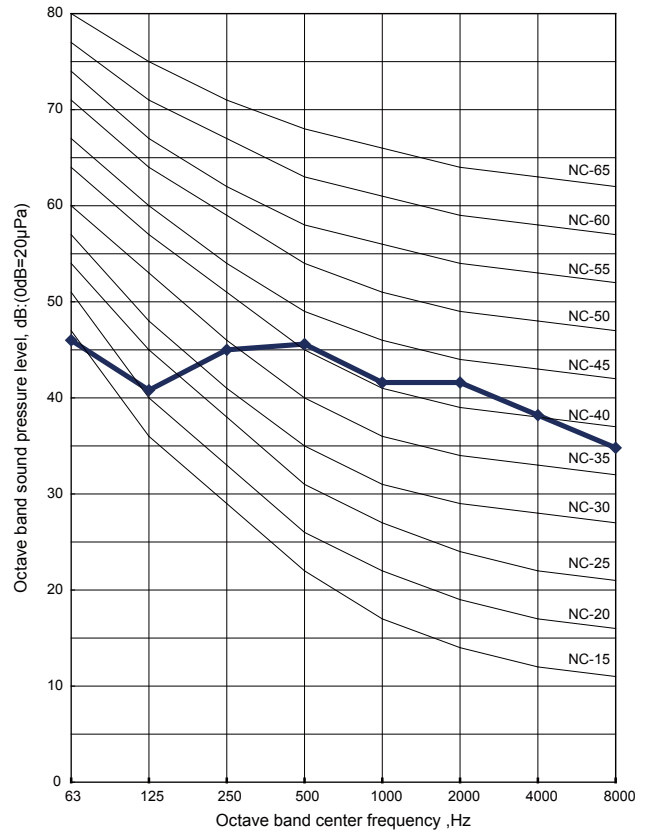
8-1. NOISE LEVEL CURVE

MODEL : AO*Z14LB

● COOLING

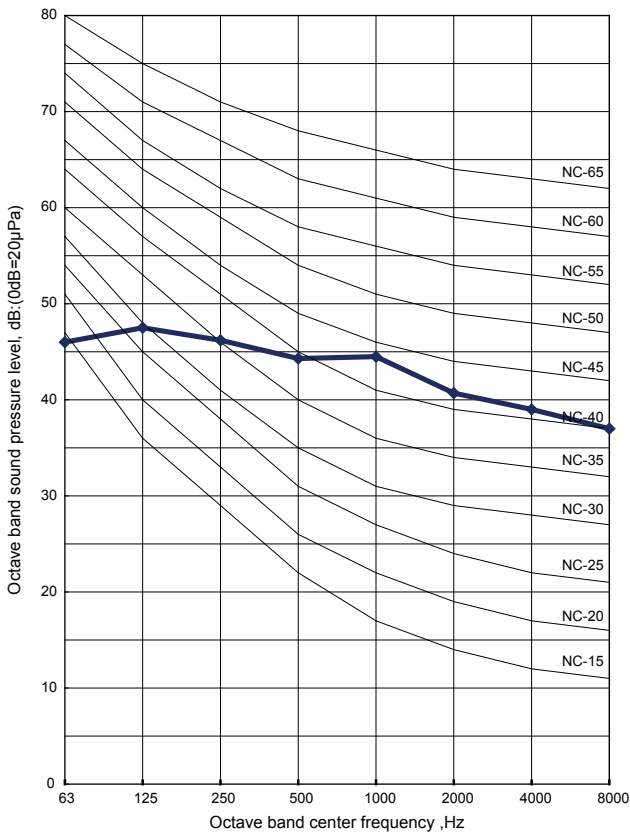


● HEATING

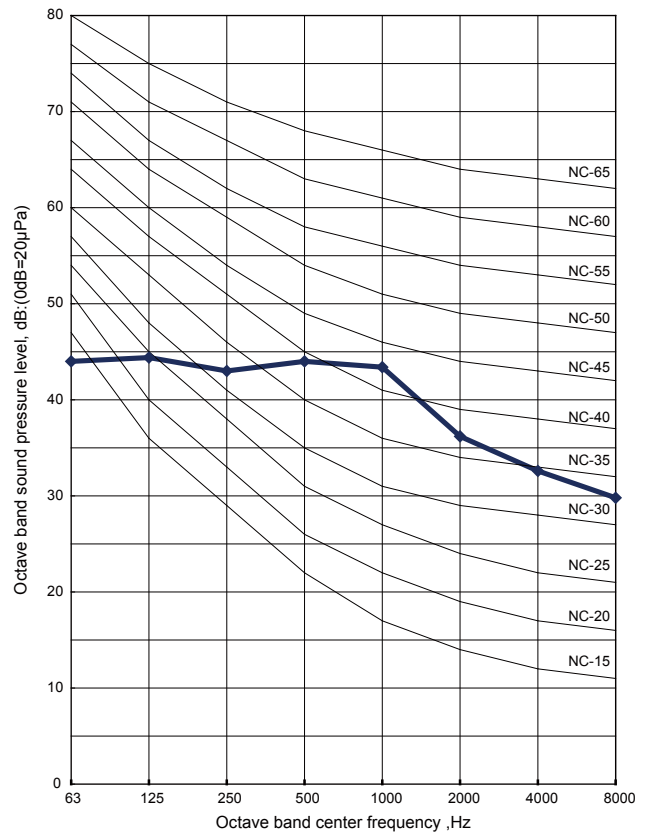


MODEL : AO*Z18LB

● COOLING



● HEATING

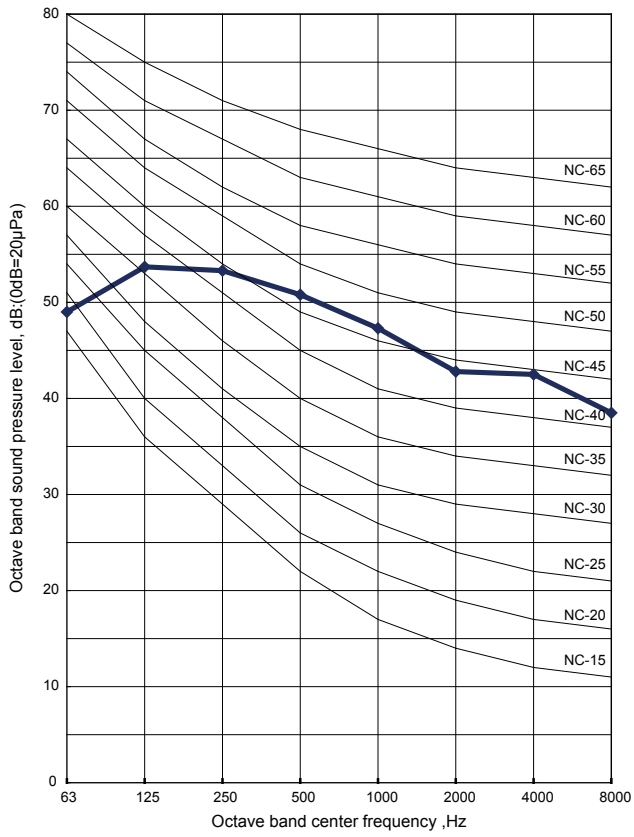


OUTDOOR UNIT
AO*Z14-24LB

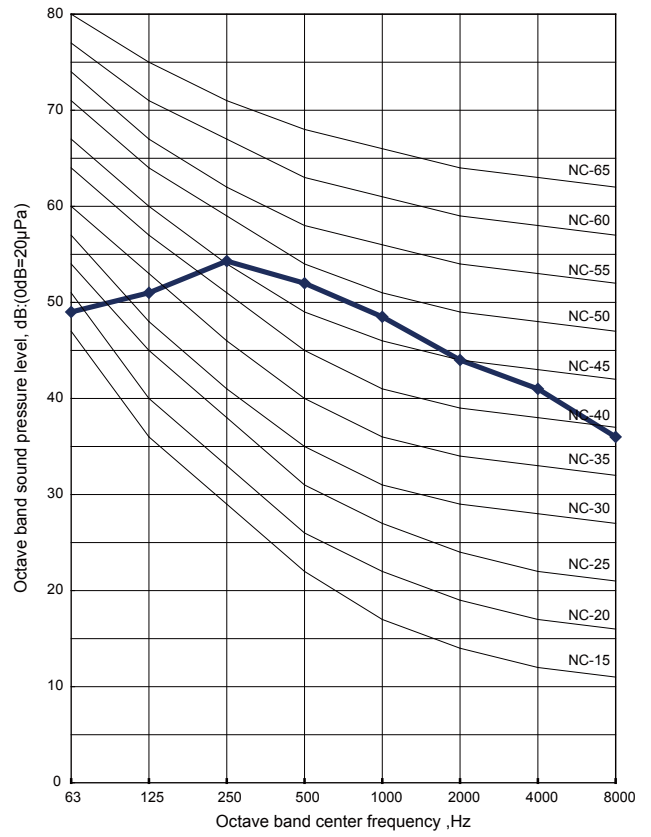
OUTDOOR UNIT
AO*Z14-24LB

■ MODEL : AO*Z24LB

● COOLING

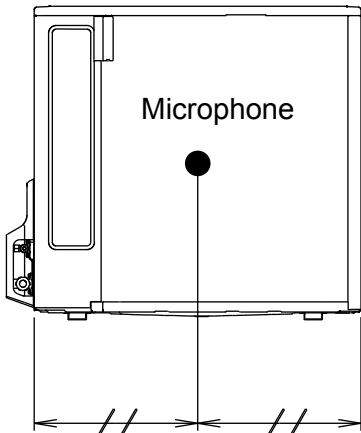
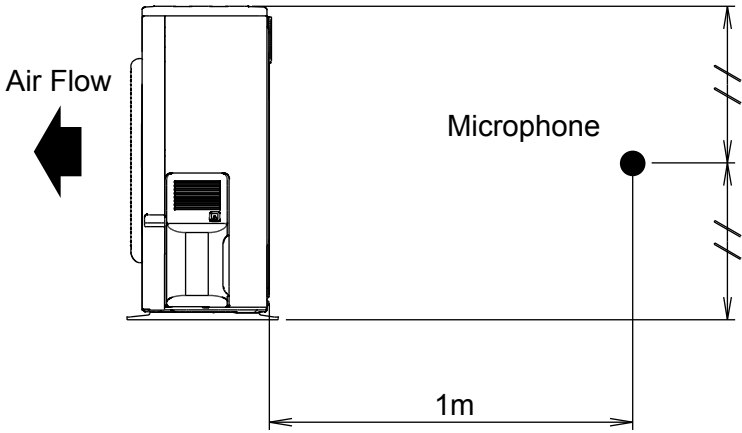


● HEATING



8-2. SOUND LEVEL CHECK POINT

OUTDOOR UNIT
AO*Z14-24LB



OUTDOOR UNIT
AO*Z14-24LB

9. ELECTRIC CHARACTERISTICS

Model Name			AO*Z14LB	AO*Z18LB	AO*Z24LB
Power Supply	Voltage	V	230~		
	Frequency	Hz	50		
Starting Current		A	5.9	7.2	10.3
*1) Wiring Spec.	Main Fuse (Circuit breaker) Current	A	—	—	30
	Power Cable	mm ²	—	—	3.5-4.0
	*2) Limited wiring length	m	—	—	20

*1) Wiring Spec.

Selected Sample

(Selected based on Japan Electrotechnical Standard and Codes Committee E0005)

*2) Limited Wiring length :

This is the wiring length in case voltage descent is less than 2%.

When the wiring length becomes long, please select the wiring of a more larger diameter.

10. SAFETY DEVICES

	Protection form	Model		
		AO*Z14LB	AO*Z18LB	AO*Z24LB
Circuit protection	Current fuse (NEAR THE TERMINAL)	20A 250V		20A 250V
		5A 250V		5A 250V
	Current fuse (MAIN PRINTED CIRCUIT BOARD)	15A 250V		15A 250V
		3.15A 250V		3.15A 250V
Fan motor protection	Thermal protection program	OFF : 110^{+15}_{-10} °C ON : 105^{+15}_{-10} °C		OFF : 130 ± 20 °C ON : 100 ± 20 °C
High Pressure Protection	Pressure Switch	—		OFF : 4.2 ± 0.1 MPa ON : 3.2 ± 0.15 MPa
Compressor protection	Thermal protection program (COMPRESSOR TEMP.)	—		OFF : 110 °C ON : After 40 minutes
	Thermal protection program (DISCHARGE TEMP.)	OFF : 110 °C ON : After 7 minutes		OFF : 110 °C ON : After 7 minutes

OUTDOOR UNIT
AO*Z14-24LB

OUTDOOR UNIT
AO*Z14-24LB