

INDOOR UNIT

1. WALL MOUNTED TYPE :

AS * A07LCC

AS * A09LCC

AS * A12LCC

AS * A14LCC

AS * A18LCC

1. FEATURE

■ MODEL :

AS*A07LCC
AS*A09LCC
AS*A12LCC
AS*A14LCC
AS*A18LCC



■ FEATURES

- Energy saving Rank A (07/09/12/14TYPE)
Europe energy saving Rank A achieved

- ALL DC (14/18TYPE)



a

a DC fan motor

Indoor unit : ALL TYPE
Outdoor unit : 14/18TYPE

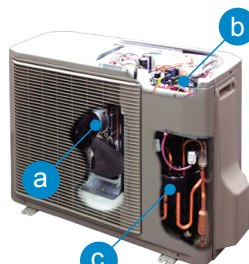
b i-PAM control (07/09TYPE)

When operation starts, the machine operates at high voltage and high power and when operation stabilizes, the set temperature is maintained at low voltage.

V-PAM control (12/14/18TYPE)

V-PAM technology makes a compressor more powerful.

c DC rotary compressor



Front view

- Super quiet

Air flow mode can be set in 4 steps and more detailed air flow setting is possible.

- Easy maintenance

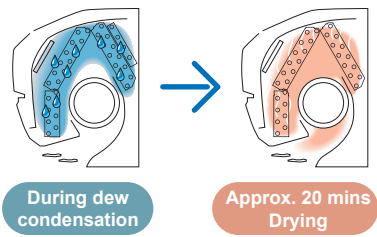
Easy maintenance and always clean. Troublesome maintenance has been made easy.

Since the front panel is easy to remove, maintenance is also easy.



● 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 bacteria inside the air conditioner.



● Low outdoor air temperature cooling correspondence (14, 18TYPE)

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

● Corresponds to maximum 20m long piping

● Air conditioner filter features



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

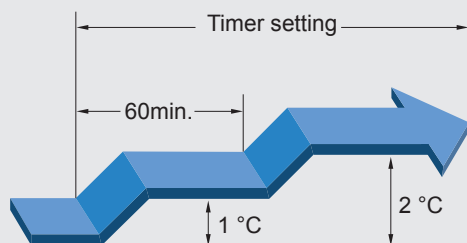
The program timer operates the ON and OFF timer once within a 24 hour period.

● 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.

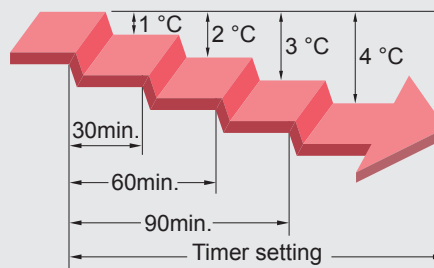
Cooling operation/dry operation

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 .

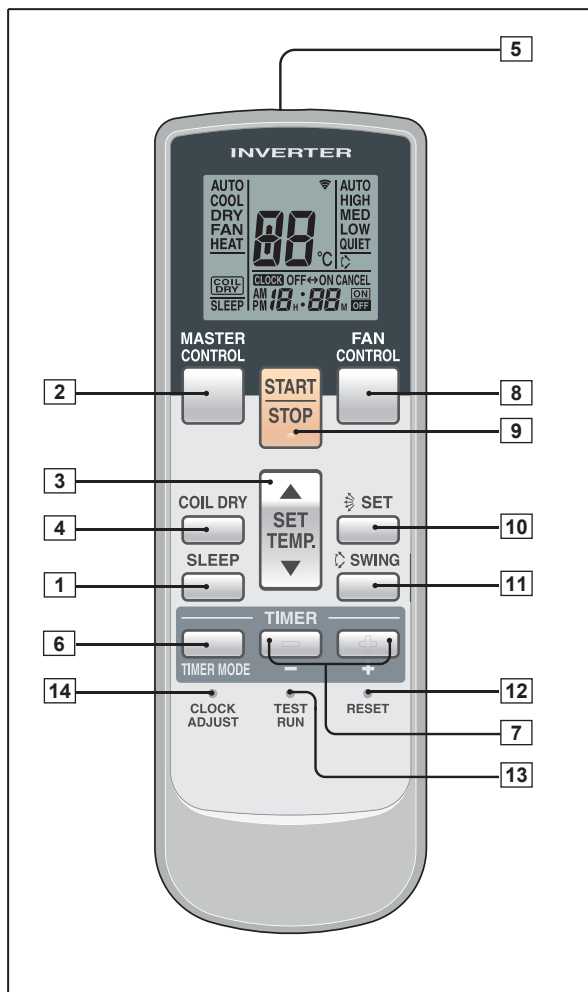


Heating operation

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 .

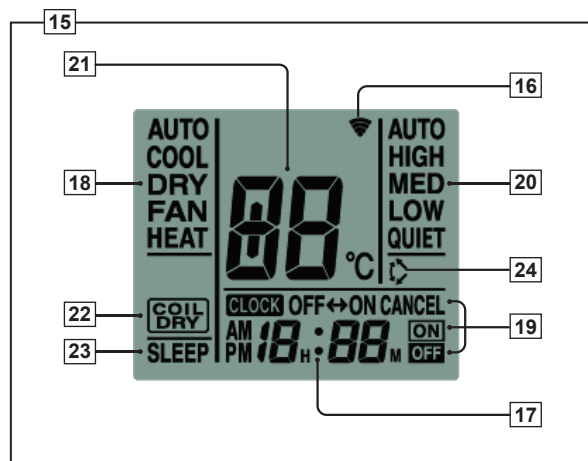


FUNCTIONS



- 1 SLEEP button
- 2 MASTER CONTROL button
- 3 SET TEMP button (▲ / ▼)
- 4 COIL DRY button
- 5 Signal Transmitter
- 6 TIMER MODE button
- 7 TIMER SET (+ / -) button
- 8 FAN CONTROL button
- 9 START/STOP button
- 10 SET button (Vertical)
- 11 SWING button
- 12 RESET button
- 13 TEST RUN button
 - This button is used when installing the conditioner, and should not be used under normal conditions, as it will cause the air conditioner's thermostat function to operate incorrectly.
 - If this button is pressed during normal operation, the unit will switch to test operation mode, and the Indoor Unit's OPERATION Indicator Lamp and TIMER Indicator Lamp will begin to flash simultaneously.
 - To stop the test operation mode, press the START/STOP button to stop the air conditioner.

Display panel



- 14 CLOCK ADJUST button
- 15 Remote Control Unit Display
- 16 Transmit Indicator
- 17 Clock Display
- 18 Operating Mode Display
- 19 Timer Mode Display
- 20 Fan Speed Display
- 21 Temperature SET Display
- 22 COIL DRY Display
- 23 SLEEP Display
- 24 SWING Display

SPECIFICATION

SIZE (H x W x D mm)	176 x 56 x 18
WEIGHT (g)	110
ACCESSORY	Holder

3. SPECIFICATIONS

Type				WALL MOUNTED							
				INVERTER HEAT PUMP							
Model name				AS * A07LCC		AS * A09LCC		AS * A12LCC			
Power source				230V~ 50Hz							
Available voltage range				198 - 264V~ 50Hz							
European energy label				Cooling	A		A		A		
				Heating	A		A		A		
Capacity	Cooling	Rated	kW	2.10		2.60		3.50			
			BTU/h	7,200		8,900		11,900			
		Min-Max	kW	0.5 - 3.0		0.5 - 3.6		0.9 - 4.3			
			BTU/h	1,700 - 10,200		1,700 - 12,300		3,100 - 14,700			
	Heating	Rated	kW	3.00		3.60		4.80			
			BTU/h	10,200		12,300		16,400			
		Min-Max	kW	0.5 - 4.6		0.5 - 5.3		0.9 - 6.7			
			BTU/h	1,700 - 15,700		1,700 - 18,100		3,100 - 22,900			
Input power	Cooling	Rated	kW	0.47		0.655		0.92			
		Min-Max		0.25 - 1.08		0.25 - 1.18		0.25 - 1.61			
	Heating	Rated		0.66		0.845		1.24			
		Min-Max		0.25 - 1.76		0.25 - 1.96		0.25 - 2.30			
Current	Cooling	Rated	A	2.5		3.2		4.3			
		Max		6.0		6.0		7.0			
	Heating	Rated		3.2		4.0		5.6			
		Max		8.5		8.5		10.0			
EER		Cooling	kW/kW	4.47		3.97		3.80			
COP		Heating		4.55		4.26		3.87			
SENSIBLE CAPACITY		Cooling	kW	1.40		1.70		2.30			
POWER FACTOR		Cooling	%	82		90		93			
		Heating		90		91		96			
Moisture removal			l/h (pints/h)	1.0 (2.1)		1.3 (2.7)		1.8 (3.8)			
Fan	Airflow rate	Cooling	High	m³/h	595				635		
			Med		500				515		
			Low		410				410		
			Quiet		290				290		
		Heating	High		645				670		
			Med		540				540		
			Low		435				435		
			Quiet		320				320		
	Type × Q'ty			Cross flow fan × 1							
	Motor output			W	24		24		24		
Noise level	Cooling	High	dB(A)	41		41		42			
		Med		36		36		36			
		Low		30		30		30			
		Quiet		21		21		21			
	Heating	High		41		41		42			
		Med		36		36		35			
		Low		30		30		29			
		Quiet		21		21		21			
Heat exchanger type		Dimensions (H × W × D)		mm	336 × 635 × 26.6						
		Fin pitch			1.2						
		Rows x Stages		2 × 16							
		Pipe type		Copper							
		Fin type		Aluminium							
Enclosure		Material		Polystyrene							
		Colour		White							
Dimensions (H × W × D)	Net	mm		275 × 790 × 215							
	Gross			290 × 835 × 345							
Weight	Net	kg (lb.)		9 (20)							
	Gross			12 (17)							
Connection pipe	Size	Liquid	mm	Φ 6.35 (Φ 1/4 in.)							
		Gas		Φ 9.52 (Φ 3/8 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).

Type				WALL MOUNTED			
				INVERTER HEAT PUMP			
Model name				AS*A14LCC	AS*A18LCC		
Power source				230V~ 50Hz			
Available voltage range				198 - 264V~ 50Hz			
European energy label			Cooling	A	B		
			Heating	A	A		
Capacity	Cooling	Rated	kW	4.20	5.20		
			BTU/h	14,300	17,700		
		Min-Max	kW	0.9 - 5.3	0.9 - 5.7		
			BTU/h	3,100 - 18,100	3,100 - 19,400		
	Heating	Rated	kW	5.60	6.25		
			BTU/h	19,100	21,300		
		Min-Max	kW	0.9 - 8.4	0.9 - 9.1		
			BTU/h	3,100 - 28,700	3,100 - 31,000		
Input power	Cooling	Rated	kW	1.11	1.72		
		Min-Max		0.09 - 1.75	0.09 - 2.00		
	Heating	Rated		1.45	1.73		
		Min-Max		0.09 - 2.48	0.09 - 2.66		
Current	Cooling	Rated	A	5.0	7.6		
		Max		9.0	9.0		
	Heating	Rated		6.4	7.7		
		Max		13.5	13.5		
	EER			Cooling	kW/kW	3.78	3.02
	COP					Heating	3.86
SENSIBLE CAPACITY		Cooling	kW	2.80	3.30		
POWER FACTOR		Cooling	%	96	98		
		Heating		98	98		
Moisture removal			l/h (pints/h)	2.1 (4.4)	2.8 (5.9)		
Fan	Airflow rate	Cooling	High	m ³ /h	700		
			Med		580		
			Low		460		
			Quiet		370		
		Heating	High		700		
			Med		600		
			Low		500		
			Quiet		420		
	Type × Q'ty			Cross flow fan × 1			
	Motor output			W	24	24	
Noise level		Cooling	High	dB(A)	44	44	
			Med		38	38	
			Low		32	32	
			Quiet		25	25	
		Heating	High		43	42	
			Med		37	37	
			Low		32	32	
			Quiet		27	27	
Heat exchanger type		Dimensions (H × W × D)		mm	MAIN : 336 × 635 × 26.6 SUB : 84 × 635 × 13.3		
		Fin pitch			Main : 1.2, Sub : 1.4		
		Rows × Stages			Main : 2 × 16, Sub : 1 × 4		
		Pipe type			Copper		
		Fin type			Aluminium		
Enclosure		Material		Polystyrene			
		Colour		White			
Dimensions (H × W × D)	Net		mm	275 × 790 × 215			
	Gross			290 × 835 × 345			
Weight	Net		kg(lb.)	9 (20)			
	Gross			12 (26)			
Connection pipe	Size	Liquid	mm	Φ6.35 (Φ 1/4 in.)			
		Gas		Φ12.7 (Φ 1/2 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.

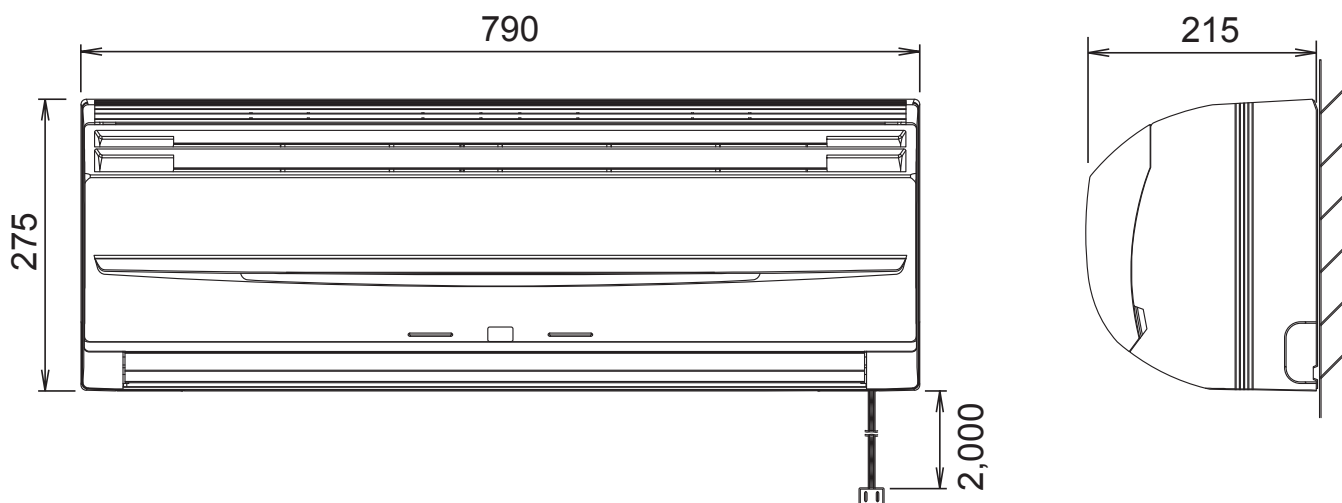
Pipe length : 7.5 m, Height difference : 0 m. (Outdoor unit - Indoor unit)

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

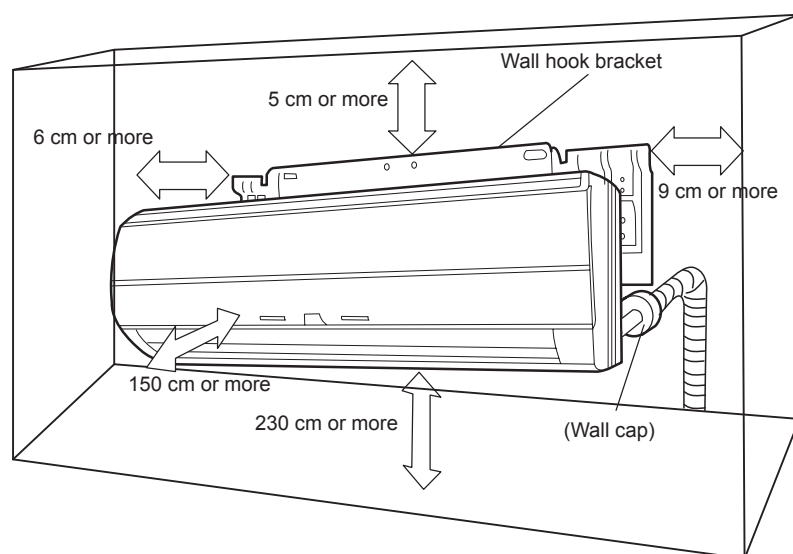
4. DIMENSIONS

■ MODEL : AS*A07LC, AS*A09LC, AS*A12LC, AS*A14LC, AS*A18LC

(Unit : mm)

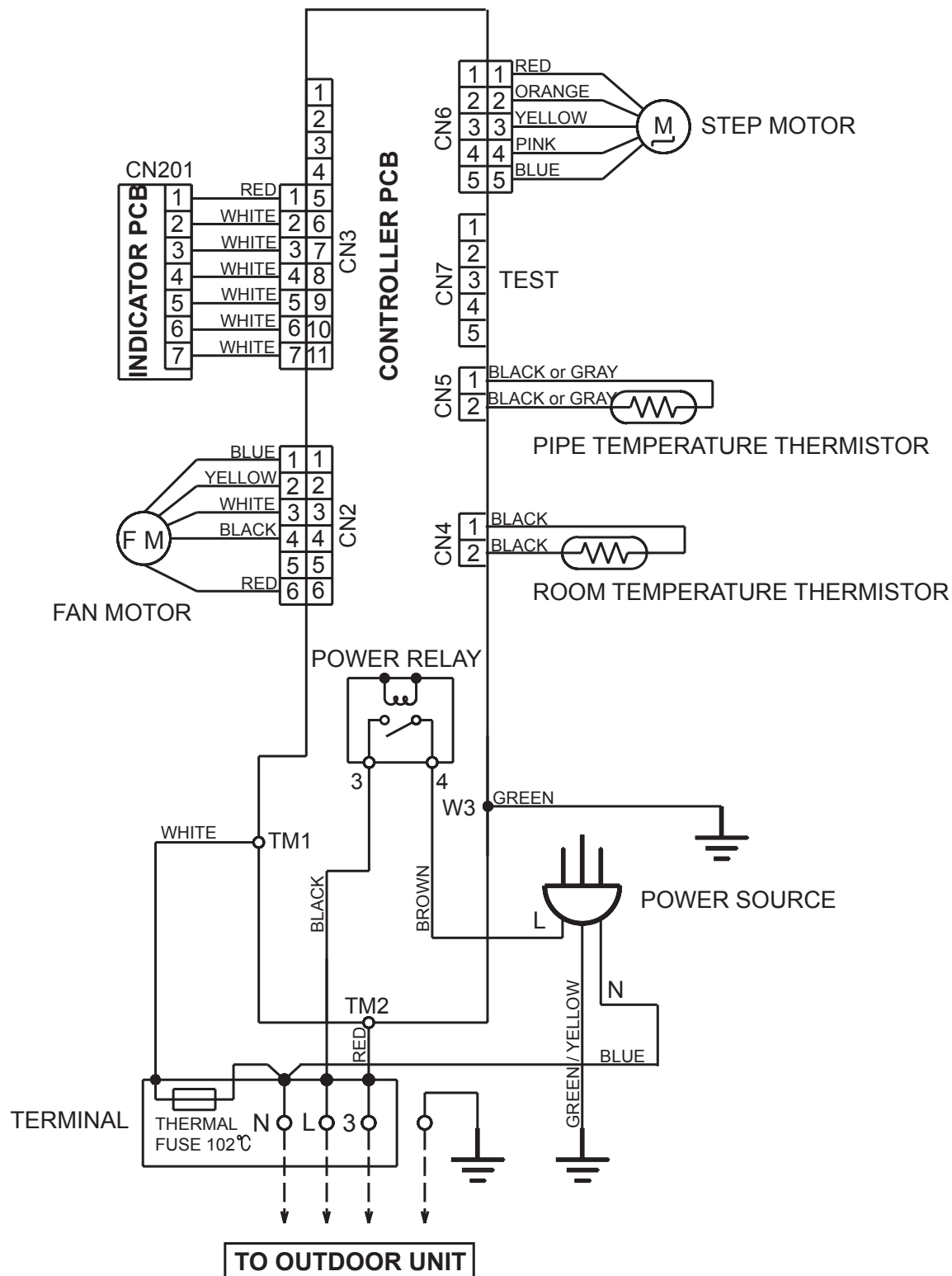


■ INSTALLATION PLACE



5. WIRING DIAGRAMS

■ MODEL : AS*A07LC, AS*A09LC, AS*A12LC, AS*A14LC, AS*A18LC



6. CAPACITY TABLE

6-1. COOLING CAPACITY

■ MODEL : AS *A07LC

AFR	9.9
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		Indoor temperature																				
		18			21			23			25			27			29			32		
		°CDB			°CWB			12			15			16			18			19		
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	1.56	1.11	0.22	1.73	1.11	0.23	1.79	1.21	0.23	1.91	1.22	0.23	1.97	1.31	0.23	2.09	1.31	0.23	2.20	1.39	0.24
	25	1.85	1.32	0.37	2.06	1.33	0.38	2.13	1.44	0.38	2.28	1.45	0.38	2.35	1.56	0.39	2.49	1.56	0.39	2.63	1.66	0.39
	30	1.77	1.26	0.41	1.98	1.27	0.42	2.04	1.38	0.42	2.18	1.39	0.43	2.25	1.50	0.43	2.38	1.49	0.43	2.51	1.59	0.44
	35	1.66	1.18	0.45	1.85	1.19	0.46	1.91	1.29	0.46	2.04	1.30	0.47	2.10	1.40	0.47	2.23	1.39	0.47	2.35	1.49	0.48
	40	1.50	1.07	0.46	1.67	1.07	0.46	1.72	1.17	0.47	1.84	1.17	0.47	1.90	1.26	0.47	2.01	1.26	0.48	2.12	1.34	0.48
	43	1.40	1.00	0.46	1.56	1.00	0.47	1.61	1.09	0.47	1.72	1.09	0.47	1.77	1.18	0.48	1.88	1.18	0.48	1.98	1.25	0.49

■ MODEL : AS *A09LC

AFR	9.9
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		Indoor temperature																				
		18			21			23			25			27			29			32		
		°CDB			°CWB			12			15			16			18			19		
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	1.93	1.34	0.31	2.14	1.35	0.32	2.22	1.47	0.32	2.36	1.48	0.32	2.44	1.59	0.32	2.58	1.59	0.33	2.73	1.69	0.33
	25	2.29	1.60	0.52	2.56	1.61	0.53	2.64	1.75	0.53	2.82	1.76	0.53	2.90	1.90	0.54	3.08	1.89	0.54	3.25	2.01	0.55
	30	2.20	1.53	0.57	2.45	1.54	0.58	2.53	1.68	0.59	2.70	1.68	0.59	2.78	1.82	0.60	2.95	1.81	0.60	3.11	1.93	0.61
	35	2.05	1.43	0.63	2.29	1.44	0.64	2.37	1.57	0.65	2.52	1.57	0.65	2.60	1.70	0.66	2.76	1.69	0.66	2.91	1.80	0.67
	40	1.85	1.30	0.64	2.07	1.30	0.65	2.14	1.42	0.65	2.28	1.42	0.66	2.35	1.53	0.66	2.49	1.53	0.67	2.63	1.63	0.67
	43	1.73	1.21	0.64	1.93	1.22	0.65	2.00	1.32	0.65	2.13	1.33	0.66	2.19	1.43	0.66	2.33	1.43	0.67	2.46	1.52	0.68

■ MODEL : AS *A12LC

AFR	10.6
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		Indoor temperature																				
		18			21			23			25			27			29			32		
		°CDB			°CWB			12			15			16			18			19		
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	2.59	1.82	0.44	2.89	1.83	0.45	2.99	1.99	0.45	3.18	2.00	0.45	3.28	2.16	0.45	3.48	2.15	0.46	3.67	2.29	0.46
	25	3.09	2.17	0.73	3.44	2.18	0.74	3.56	2.37	0.74	3.79	2.38	0.75	3.91	2.57	0.75	4.14	2.56	0.76	4.38	2.73	0.77
	30	2.96	2.08	0.81	3.29	2.09	0.82	3.41	2.27	0.82	3.63	2.28	0.83	3.74	2.46	0.84	3.97	2.45	0.84	4.19	2.61	0.85
	35	2.77	1.94	0.89	3.08	1.95	0.90	3.19	2.12	0.91	3.40	2.13	0.92	3.50	2.30	0.92	3.71	2.29	0.93	3.92	2.44	0.94
	40	2.50	1.75	0.89	2.78	1.76	0.91	2.87	1.92	0.91	3.06	1.92	0.92	3.16	2.08	0.93	3.35	2.07	0.93	3.54	2.20	0.94
	43	2.33	1.64	0.90	2.60	1.65	0.91	2.69	1.79	0.92	2.86	1.80	0.93	2.95	1.94	0.93	3.13	1.93	0.94	3.31	2.06	0.95

AFR : Air Flow Rate (m³/min)
 TC : Total Capacity (kW)
 SHC : Sensible Heat Capacity (kW)
 PI : Power Input (kW)

MODEL : AS*A14LC

AFR	11.7
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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	3.11	2.22	0.53	3.46	2.23	0.54	3.58	2.42	0.54	3.82	2.43	0.55	3.94	2.62	0.55	4.17	2.61	0.55	4.41	2.78	0.56
	25	3.71	2.64	0.88	4.13	2.66	0.89	4.27	2.89	0.90	4.55	2.90	0.91	4.69	3.13	0.91	4.97	3.11	0.92	5.25	3.32	0.93
	30	3.55	2.53	0.97	3.95	2.54	0.99	4.09	2.76	0.99	4.36	2.77	1.00	4.49	2.99	1.01	4.76	2.98	1.02	5.03	3.18	1.03
	35	3.32	2.36	1.07	3.70	2.38	1.09	3.82	2.58	1.09	4.07	2.59	1.10	4.20	2.80	1.11	4.45	2.79	1.12	4.70	2.97	1.13
	40	2.99	2.13	1.08	3.34	2.15	1.09	3.45	2.33	1.10	3.68	2.34	1.11	3.79	2.53	1.12	4.02	2.52	1.13	4.25	2.68	1.14
	43	2.80	1.99	1.09	3.12	2.01	1.10	3.22	2.18	1.11	3.44	2.19	1.12	3.54	2.36	1.13	3.76	2.35	1.14	3.97	2.51	1.15

MODEL : AS*A18LC

AFR	11.7
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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	3.85	2.61	0.82	4.29	2.63	0.83	4.44	2.86	0.84	4.73	2.86	0.84	4.87	3.09	0.85	5.17	3.08	0.86	5.46	3.28	0.87
	25	4.59	3.11	1.36	5.11	3.13	1.38	5.29	3.40	1.39	5.63	3.41	1.40	5.81	3.69	1.41	6.16	3.67	1.43	6.51	3.91	1.44
	30	4.39	2.98	1.51	4.89	3.00	1.53	5.06	3.26	1.54	5.39	3.27	1.56	5.56	3.53	1.56	5.89	3.51	1.58	6.23	3.74	1.59
	35	4.11	2.79	1.66	4.58	2.80	1.69	4.73	3.05	1.69	5.04	3.06	1.71	5.20	3.30	1.72	5.51	3.29	1.74	5.82	3.50	1.75
	40	3.71	2.51	1.67	4.13	2.53	1.70	4.27	2.75	1.70	4.55	2.76	1.72	4.69	2.98	1.73	4.98	2.97	1.75	5.26	3.16	1.77
	43	3.47	2.35	1.68	3.86	2.36	1.71	3.99	2.57	1.72	4.26	2.58	1.74	4.39	2.78	1.75	4.65	2.77	1.76	4.91	2.95	1.78

AFR : Air Flow Rate (m³/min)
TC : Total Capacity (kW)
SHC : Sensible Heat Capacity (kW)
PI : Power Input (kW)

6-2. HEATING CAPACITY

■ MODEL : AS *A07LC

AFR	9.9
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		Indoor temperature										
		°CDB	16		18		20		22		24	
Outdoor temperature	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	-15	-16	2.57	1.33	2.51	1.36	2.45	1.38	2.39	1.41	2.33	1.44
	-10	-11	3.05	1.45	2.98	1.48	2.91	1.51	2.84	1.54	2.76	1.57
	-5	-7	3.44	1.53	3.36	1.56	3.27	1.59	3.19	1.62	3.11	1.65
	0	-2	3.97	1.63	3.88	1.66	3.78	1.70	3.69	1.73	3.59	1.77
	5	3	4.52	1.74	4.41	1.78	4.30	1.81	4.19	1.85	4.09	1.89
	7	6	4.83	1.69	4.72	1.72	4.60	1.76	4.49	1.80	4.37	1.83
	10	8	5.00	1.69	4.88	1.73	4.77	1.76	4.65	1.80	4.53	1.83
	15	10	4.84	1.47	4.73	1.50	4.61	1.53	4.50	1.56	4.38	1.59

■ MODEL : AS *A09LC

AFR	9.9
-----	-----

		Indoor temperature										
		°CDB	16		18		20		22		24	
Outdoor temperature	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	-15	-16	2.96	1.48	2.89	1.51	2.82	1.54	2.75	1.57	2.68	1.60
	-10	-11	3.52	1.62	3.43	1.65	3.35	1.68	3.27	1.72	3.18	1.75
	-5	-7	3.96	1.70	3.87	1.74	3.77	1.77	3.68	1.81	3.58	1.84
	0	-2	4.58	1.82	4.47	1.85	4.36	1.89	4.25	1.93	4.14	1.97
	5	3	5.21	1.94	5.08	1.98	4.96	2.02	4.83	2.06	4.71	2.10
	7	6	5.57	1.88	5.43	1.92	5.30	1.96	5.17	2.00	5.04	2.04
	10	8	5.76	1.88	5.63	1.92	5.49	1.96	5.35	2.00	5.22	2.04
	15	10	5.58	1.64	5.45	1.67	5.32	1.71	5.18	1.74	5.05	1.77

■ MODEL : AS *A12LC

AFR	10.6
-----	------

		Indoor temperature										
		°CDB	16		18		20		22		24	
Outdoor temperature	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	-15	-16	3.75	1.73	3.66	1.77	3.57	1.81	3.48	1.84	3.39	1.88
	-10	-11	4.45	1.90	4.34	1.94	4.24	1.98	4.13	2.02	4.02	2.06
	-5	-7	5.01	1.99	4.89	2.04	4.77	2.08	4.65	2.12	4.53	2.16
	0	-2	5.79	2.13	5.65	2.17	5.51	2.22	5.37	2.26	5.23	2.31
	5	3	6.58	2.27	6.42	2.32	6.27	2.37	6.11	2.42	5.95	2.46
	7	6	7.04	2.21	6.87	2.25	6.70	2.30	6.53	2.35	6.37	2.39
	10	8	7.29	2.21	7.11	2.26	6.94	2.30	6.77	2.35	6.59	2.39
	15	10	7.06	1.92	6.89	1.96	6.72	2.00	6.55	2.04	6.38	2.08

AFR : Air Flow Rate (m³/min)

TC : Total Capacity (kW)

PI : Power Input (kW)

MODEL : AS*A14LC

AFR	11.7
-----	------

Indoor temperature												
		°CDB	16		18		20		22		24	
Outdoor temperature	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	-15	-16	4.70	1.87	4.58	1.91	4.47	1.95	4.36	1.99	4.25	2.03
	-10	-11	5.58	2.05	5.44	2.09	5.31	2.13	5.18	2.17	5.04	2.22
	-5	-7	6.28	2.15	6.13	2.20	5.98	2.24	5.83	2.29	5.68	2.33
	0	-2	7.25	2.30	7.08	2.34	6.91	2.39	6.74	2.44	6.56	2.49
	5	3	8.25	2.45	8.05	2.50	7.86	2.56	7.66	2.61	7.46	2.66
	7	6	8.82	2.38	8.61	2.43	8.40	2.48	8.19	2.53	7.98	2.58
	10	8	9.14	2.38	8.92	2.43	8.70	2.48	8.48	2.53	8.27	2.58
	15	10	8.85	2.07	8.64	2.11	8.42	2.16	8.21	2.20	8.00	2.24

MODEL : AS*A18LC

AFR	11.7
-----	------

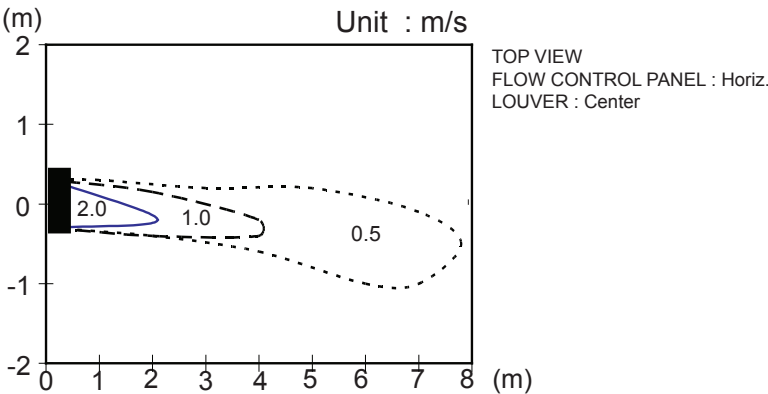
Indoor temperature												
		°CDB	16		18		20		22		24	
Outdoor temperature	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	-15	-16	5.09	2.01	4.97	2.05	4.84	2.09	4.72	2.13	4.60	2.17
	-10	-11	6.04	2.19	5.90	2.24	5.75	2.29	5.61	2.33	5.46	2.38
	-5	-7	6.80	2.31	6.64	2.35	6.48	2.40	6.32	2.45	6.15	2.50
	0	-2	7.86	2.46	7.67	2.51	7.48	2.57	7.30	2.62	7.11	2.67
	5	3	8.94	2.63	8.72	2.69	8.51	2.74	8.30	2.80	8.09	2.85
	7	6	9.56	2.55	9.33	2.61	9.10	2.66	8.87	2.71	8.65	2.77
	10	8	9.90	2.56	9.66	2.61	9.43	2.66	9.19	2.72	8.96	2.77
	15	10	9.58	2.22	9.35	2.27	9.13	2.31	8.90	2.36	8.67	2.41

AFR : Air Flow Rate (m³/min)
TC : Total Capacity (kW)
PI : Power Input (kW)

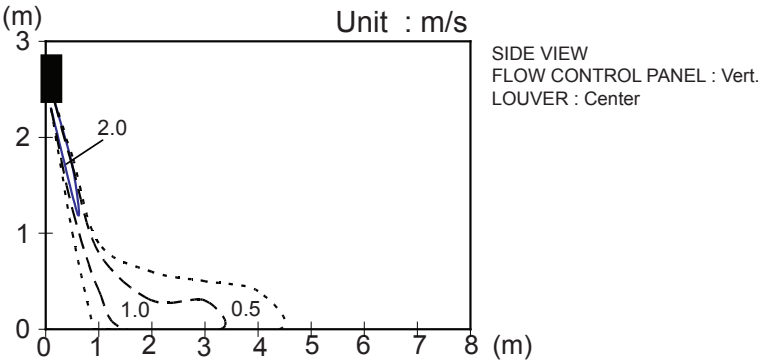
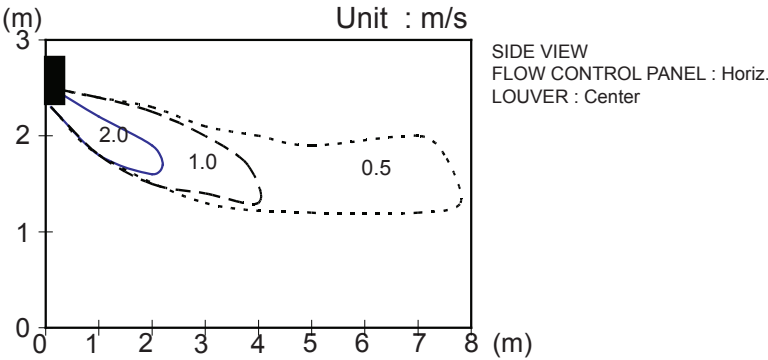
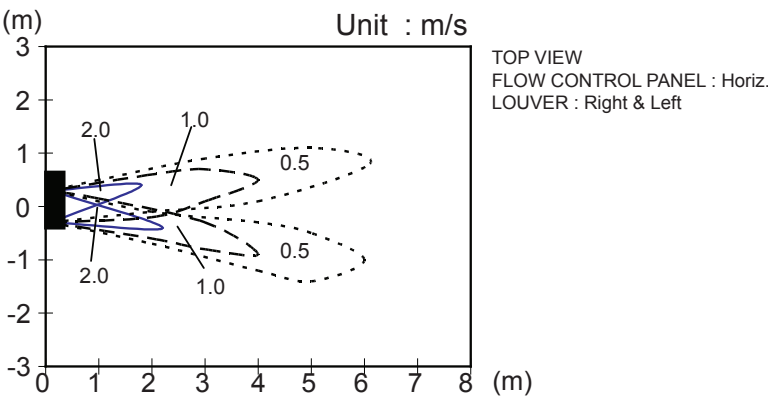
7. FAN PERFORMANCE

7-1. AIR VELOCITY DISTRIBUTION

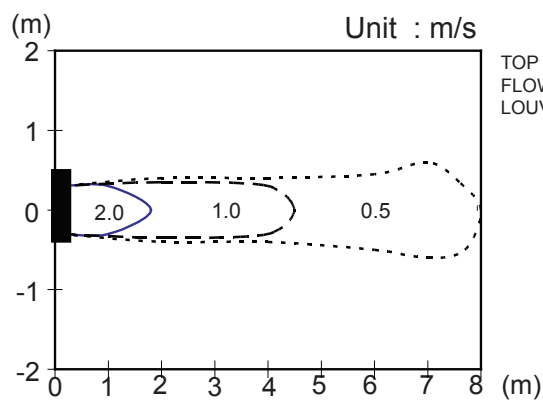
■ MODEL : AS*A07LC, AS*A09LC



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

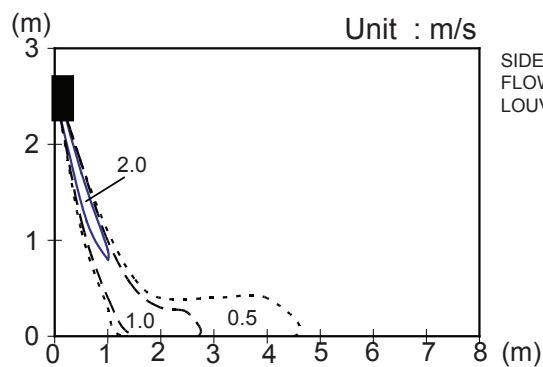
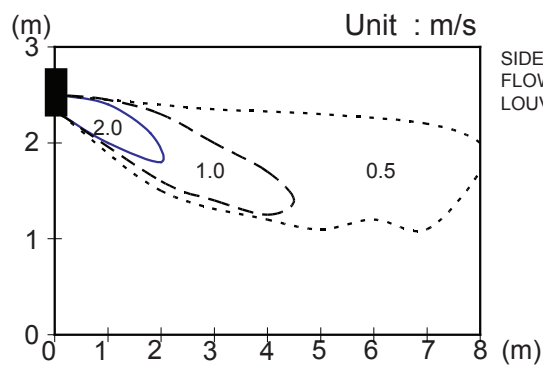
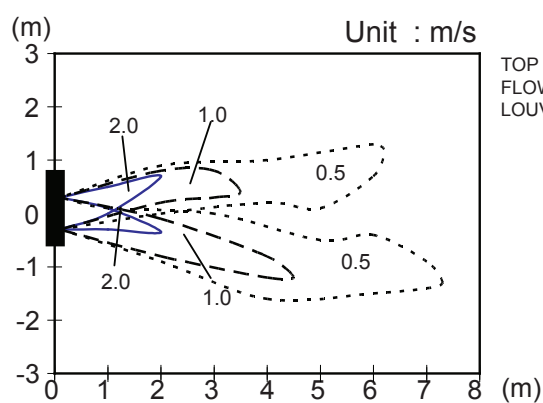


■ MODEL : AS*A12LC

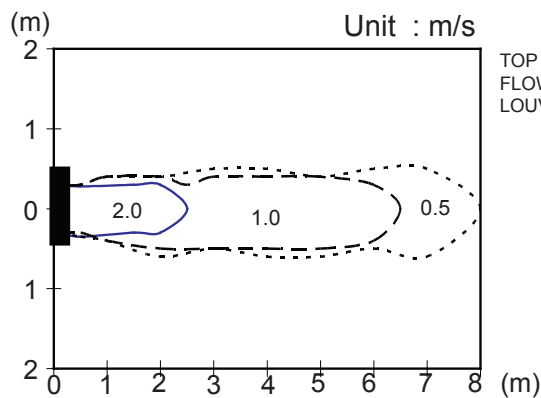


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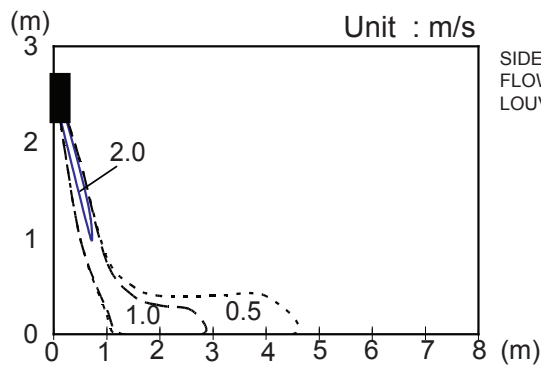
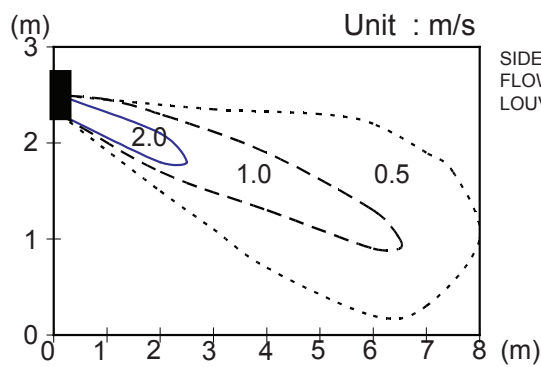
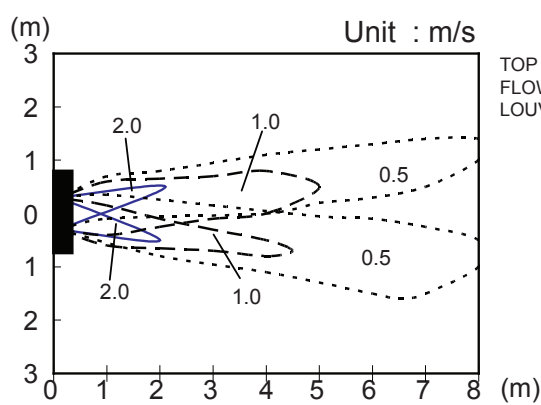
Fan speed : High
Operation mode : FAN
Voltage : 230V



■ MODEL : AS*A14LC, AS*A18LC



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



7-2. AIR FLOW

■ MODEL : AS*A07LC

● COOLING

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	1300	595	m ³ /h
		165	l/s
		350	CFM
MED	1120	500	m ³ /h
		139	l/s
		294	CFM
LOW	950	410	m ³ /h
		114	l/s
		241	CFM
QUIET	700	290	m ³ /h
		81	l/s
		171	CFM

● HEATING

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	1390	645	m ³ /h
		179	l/s
		380	CFM
MED	1200	540	m ³ /h
		150	l/s
		318	CFM
LOW	1000	435	m ³ /h
		121	l/s
		256	CFM
QUIET	760	320	m ³ /h
		89	l/s
		188	CFM

■ **MODEL : AS*A09LC**

● **COOLING**

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	1300	595	m ³ /h
		165	l/s
		350	CFM
MED	1120	500	m ³ /h
		139	l/s
		294	CFM
LOW	950	410	m ³ /h
		114	l/s
		241	CFM
QUIET	700	290	m ³ /h
		81	l/s
		171	CFM

● **HEATING**

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	1390	645	m ³ /h
		179	l/s
		380	CFM
MED	1200	540	m ³ /h
		150	l/s
		318	CFM
LOW	1000	435	m ³ /h
		121	l/s
		256	CFM
QUIET	760	320	m ³ /h
		89	l/s
		188	CFM

■MODEL : AS*A12LC

●COOLING

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	1370	635	m ³ /h
		176	l/s
		374	CFM
MED	1150	515	m ³ /h
		143	l/s
		303	CFM
LOW	950	410	m ³ /h
		114	l/s
		241	CFM
QUIET	700	290	m ³ /h
		81	l/s
		171	CFM

●HEATING

Fan speed	Number of rotations (r.p.m)	Airflow	
HIGH	1440	670	m ³ /h
		186	l/s
		394	CFM
MED	1200	540	m ³ /h
		150	l/s
		318	CFM
LOW	1000	435	m ³ /h
		121	l/s
		256	CFM
QUIET	760	320	m ³ /h
		89	l/s
		188	CFM

■ MODEL : AS*A14LC

● COOLING

Fan speed	Number of rotations (r.p.m)	Air flow	
HIGH	1480	700	m ³ /h
		194	l/s
		412	CFM
MED	1260	580	m ³ /h
		161	l/s
		341	CFM
LOW	1040	460	m ³ /h
		128	l/s
		271	CFM
QUIET	850	370	m ³ /h
		103	l/s
		218	CFM

● HEATING

Fan speed	Number of rotations (r.p.m)	Air flow	
HIGH	1480	700	m ³ /h
		194	l/s
		412	CFM
MED	1300	600	m ³ /h
		167	l/s
		353	CFM
LOW	1110	500	m ³ /h
		139	l/s
		294	CFM
QUIET	950	420	m ³ /h
		117	l/s
		247	CFM

■ MODEL : AS*A18LC

● COOLING

Fan speed	Number of rotations (r.p.m)	Air flow	
HIGH	1480	700	m ³ /h
		194	l/s
		412	CFM
MED	1260	580	m ³ /h
		161	l/s
		341	CFM
LOW	1040	460	m ³ /h
		128	l/s
		271	CFM
QUIET	850	370	m ³ /h
		103	l/s
		218	CFM

● HEATING

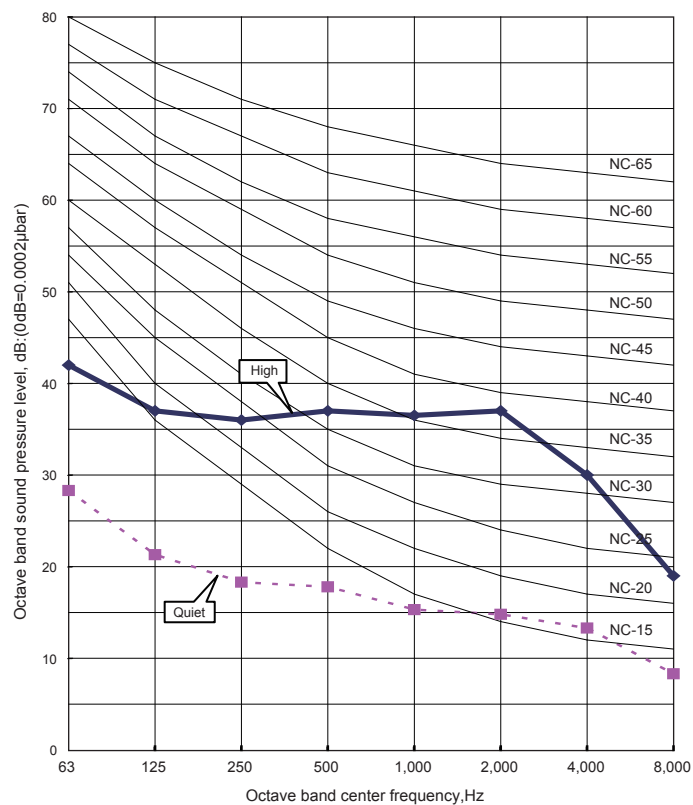
Fan speed	Number of rotations (r.p.m)	Air flow	
HIGH	1480	700	m ³ /h
		194	l/s
		412	CFM
MED	1300	600	m ³ /h
		167	l/s
		353	CFM
LOW	1110	500	m ³ /h
		139	l/s
		294	CFM
QUIET	950	420	m ³ /h
		117	l/s
		247	CFM

8. OPERATION NOISE

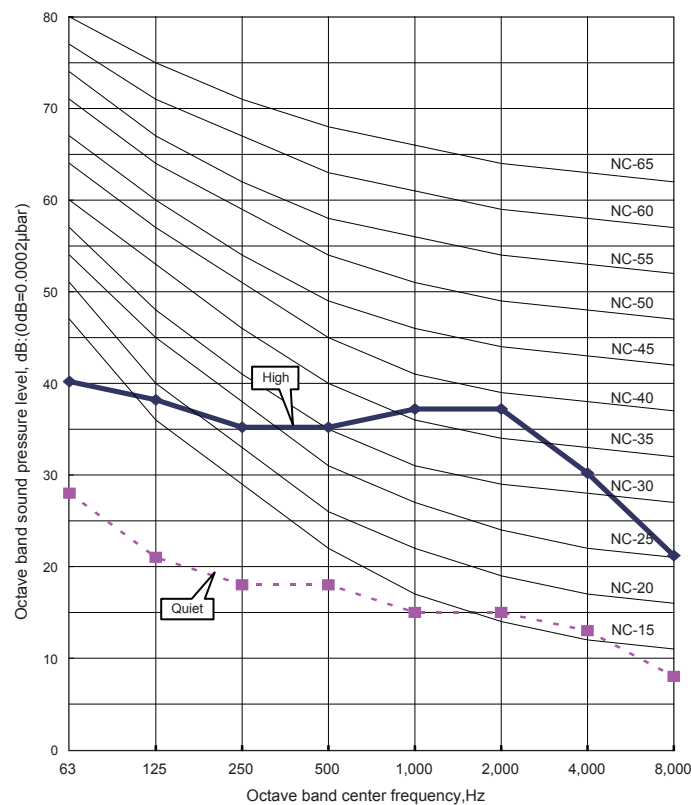
8-1. NOISE LEVEL CURVE

■ MODEL : AS*A07LC

● COOLING

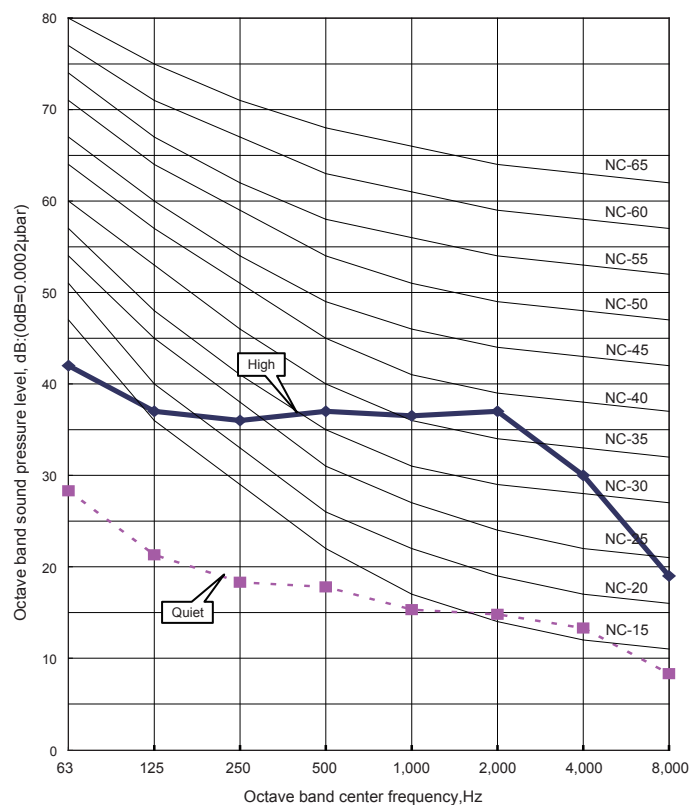


● HEATING

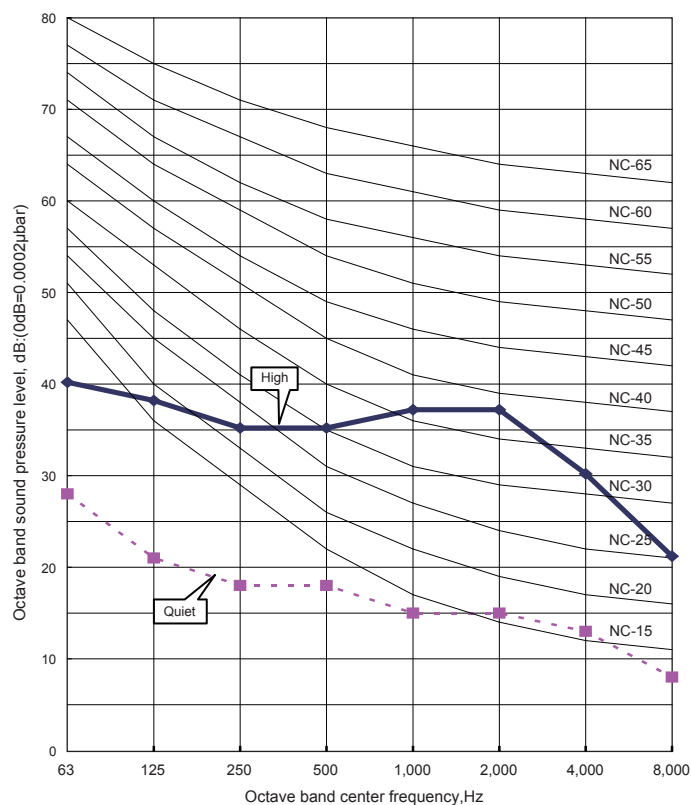


■ MODEL : AS*A09LC

● COOLING

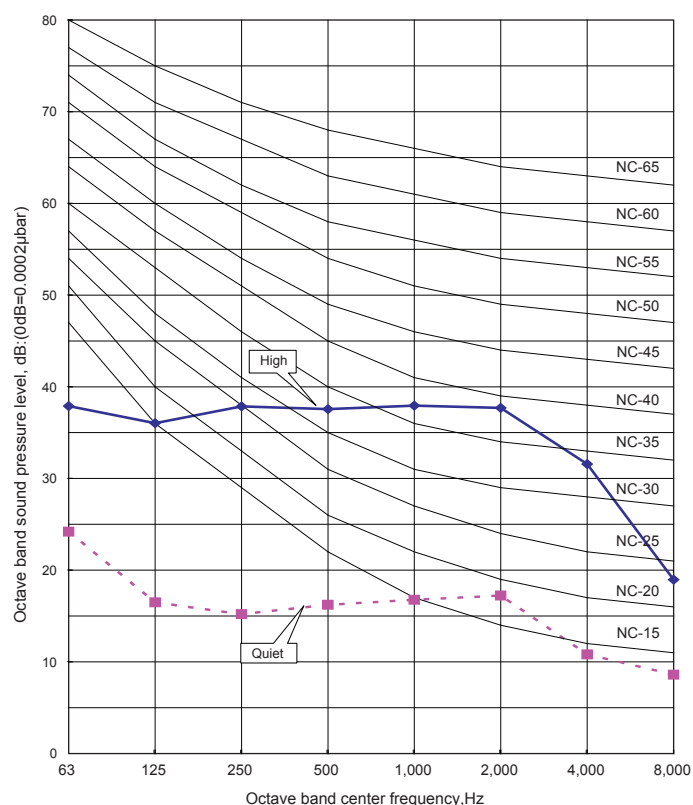


● HEATING

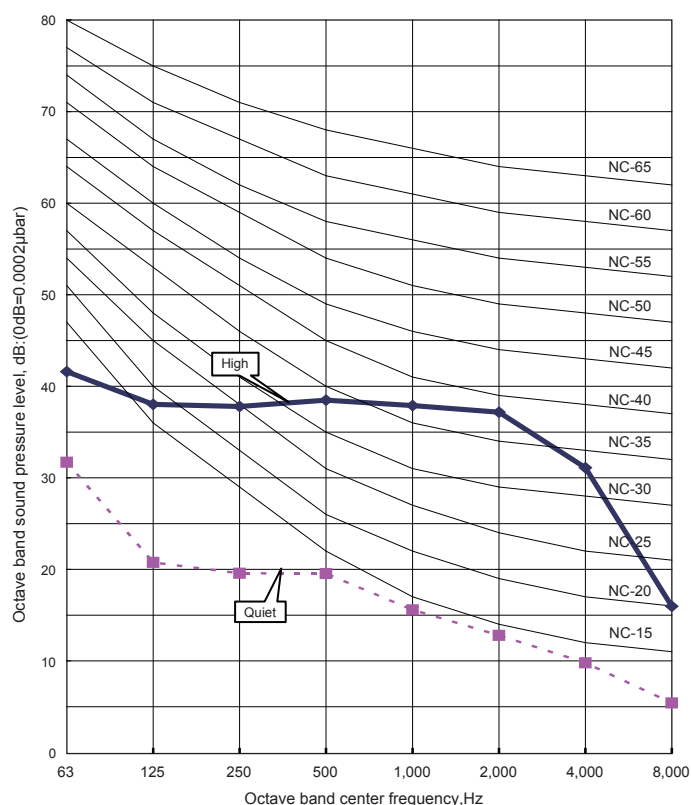


MODEL : AS*A12LC

COOLING

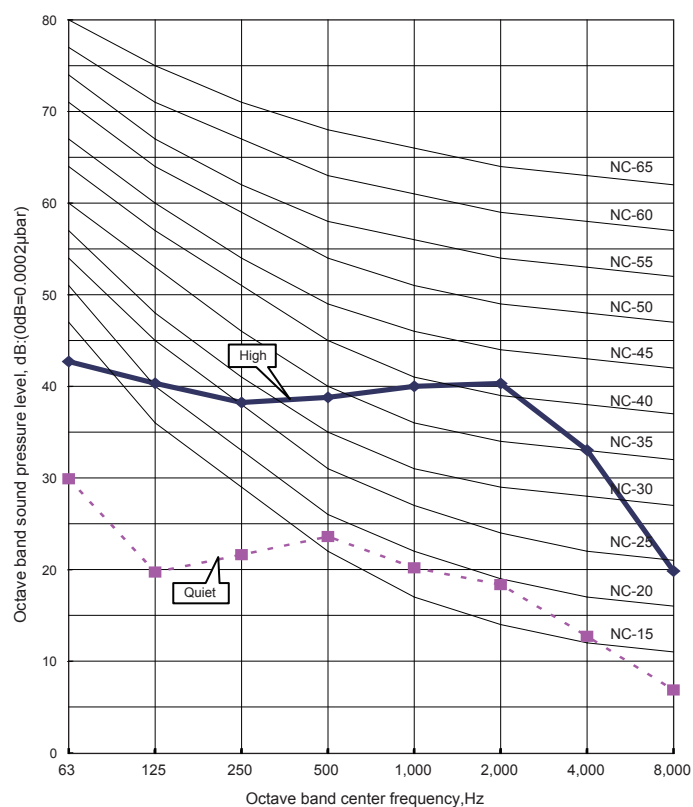


HEATING

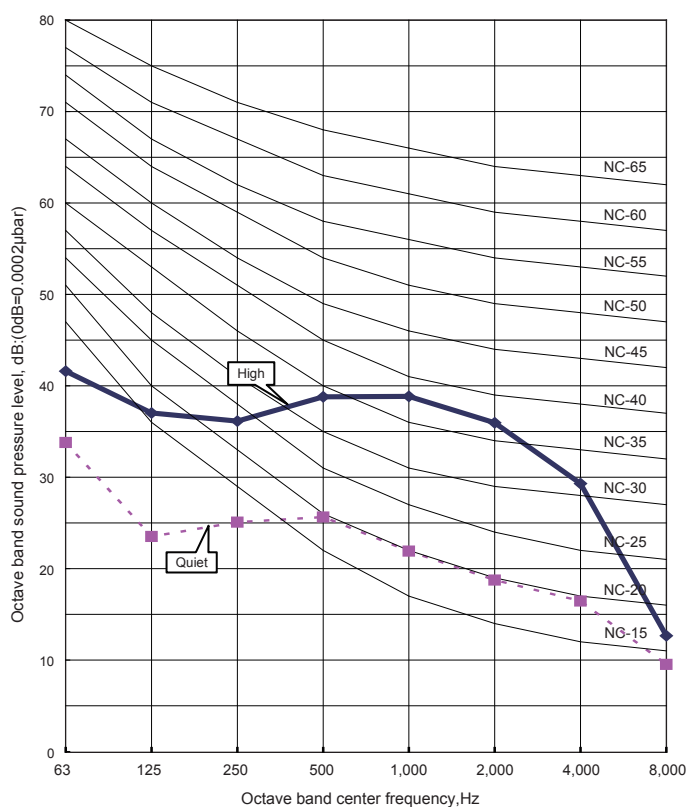


MODEL : AS*A14LC

COOLING

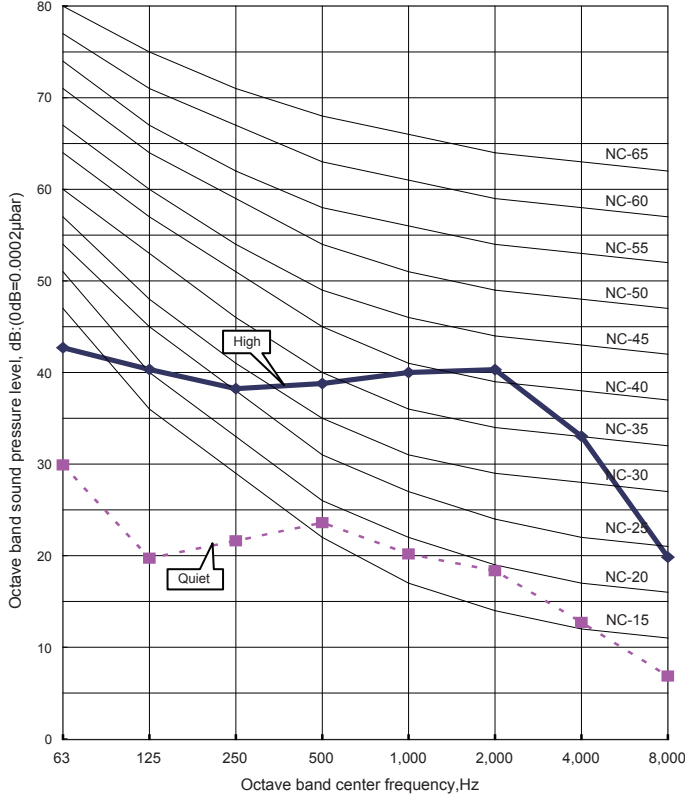


HEATING

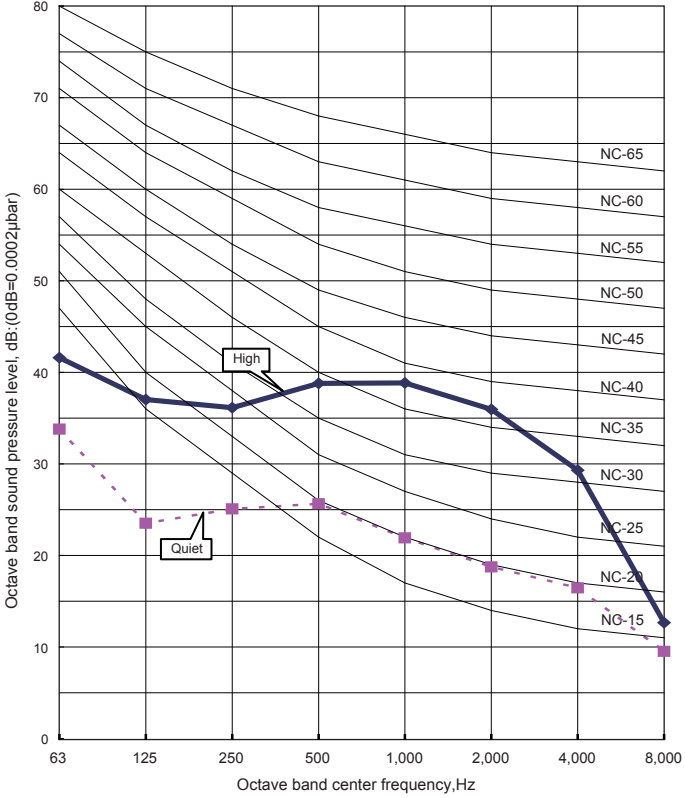


MODEL : AS*A18LC

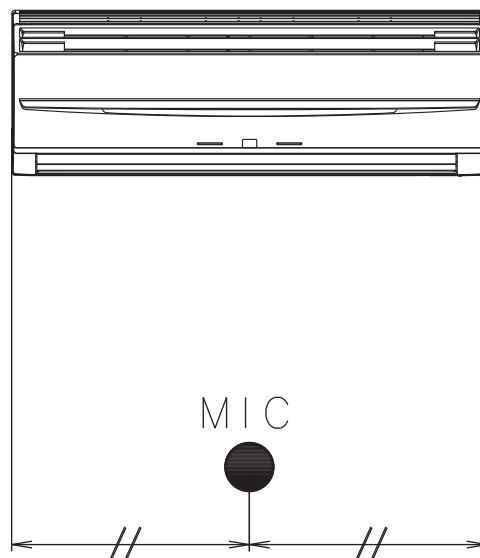
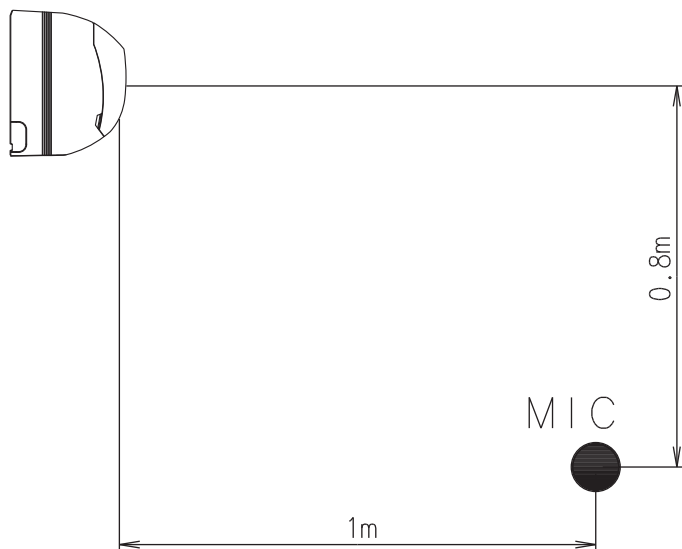
● COOLING



● HEATING



8-2. SOUND LEVEL CHECK POINT



9. ELECTRIC CHARACTERISTICS

Model Name			AS * A07LC	AS * A09LC	AS * A12LC
Power Supply	Voltage	V	230~		
	Frequency	Hz	50		
Max Operating Current		A	8.5	8.5	10.0
*1)Wiring Spec.	Circuit breaker	A	15	15	20
	Connection Cable	mm ²	1.5 - 2.5	1.5 - 2.5	1.5 - 2.5
	Limited wiring length	m	21	21	21

Model Name			AS * A14LC	AS * A18LC
Power Supply	Voltage	V	230~	
	Frequency	Hz	50	
Max Operating Current		A	13.5	13.5
*1)Wiring Spec.	Main Fuse (Circuit breaker) Current	A	20	20
	Connection Cable	mm ²	2 - 3.5	2 - 3.5
	Limited wiring length	m	21	21

*1) Wiring Spec.

Selected Sample

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

10. SAFETY DEVICES

	Protection form	Model
		AS * A07LC / AS * A09LC / AS * A12LC / AS * A14LC / AS * A18LC
Circuit protection	Current fuse (PCB)	3.15A 250V
Terminal protection	Current (thermal) fuse	3A 250V 102°C
Fan motor protection	Thermal protection program	100 ⁺¹⁵ ₋₁₀ °C OFF 95 ⁺⁵ ₋₁₀ °C ON

11. OPTIONAL PARTS

Exterior	Parts name	Model No.	Summary
	Apple-catechin filter	UTR-FA03-2	Fine dust, invisible mold spores, and harmful microorganisms are absorbed onto the filter by static electricity , and further growth is inhibited and deactivated by the polyphenol ingredient extracted from apples.
	Ion deodorisation filter	UTR-FA03-3	The filter deodorizes by powerfully decomposing absorbed odors using the oxidizing and reducing effects of ions generated by the ultra fine-particle ceramic.

OUTDOOR UNIT

2. SINGLE TYPE :

AO * R07LCC

AO * R09LCC

AO * R12LCC

AO * R14LCC

AO * R18LCC

1. SPECIFICATIONS

OUTDOOR UNIT
AO*R07-18LC

OUTDOOR UNIT
AO*R07-18LC

Type				INVERTER HEAT PUMP		
Model name				AO * R07LCC	AO * R09LCC	AO * R12LCC
Power source				230V~ 50Hz		
Available voltage range				198 - 264V~ 50Hz		
Starting current			A	3.2	4.0	5.6
Fan	Airflow rate	Cooling	m³/h	1,870	1,870	1,850
		Heating		1,870	1,870	1,850
	Type × Q'ty		Propeller fan × 1			
	Motor output		W	26	26	26
Sound pressure level		Cooling	dB(A)	47	47	47
		Heating		48	48	49
Heat exchanger type		Dimensions (H × W × D)	mm	508 × 690 × 22		504 × 850 × 36.4
		Fin pitch		1.3		1.4
		Rows × Stages		1 × 20		2 × 24
		Pipe type		Copper		
		Fin type		Aluminium		
Compressor	Type × Q'ty			Rotary × 1		
	Motor output		W	750		
Refrigerant		Type		R410A		
		Charge	g	900		1,050
Refrigerant oil		Type		POE (VG74)		
Enclosure		Material		Steel		
		Colour		Beige		
Dimensions (H × W × D)	Net		mm	540 × 660 × 290		540 × 790 × 290
	Gross			611 × 797 × 401		648 × 910 × 380
Weight	Net		kg (lb.)	32 (70)		37 (82)
	Gross			35 (77)		41 (90)
Connection pipe	Size	Liquid	mm	Φ6.35 (Φ 1/4 in.)		
		Gas		Φ9.52 (Φ 3/8 in.)		
	Method			Flare		
	Max. length		m	20 (chargeless : 15)		
	Max. height difference			15		
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)

Type				INVERTER HEAT PUMP	
Model name				AO * R14LCC	AO * R18LCC
Power source				230V~ 50Hz	
Available voltage range				198 - 264V~ 50Hz	
Starting current			A	6.4	7.7
Fan	Airflow rate	Cooling	m³/h	1,910	2,000
		Heating		1,750	1,910
	Type × Q'ty		Propeller fan × 1		
	Motor output		W	30	30
Sound pressure level		Cooling	dB(A)	48	50
		Heating		49	50
Heat exchanger type		Dimensions (H × W × D)	mm	546 × 876 × 36.4	
		Fin pitch		1.3	
		Rows × Stages		2 × 26	
		Pipe type		Copper	
		Fin type		Aluminium	
Compressor	Type × Q'ty			Rotary × 1	
	Motor output		W	1,100	
Refrigerant		Type		R410A	
		Charge	g	1,150	
Refrigerant oil		Type		POE(VG74)	
Enclosure		Material		Steel	
		Colour		Beige	
Dimensions (H × W × D)	Net		mm	578 × 790 × 300	
	Gross			648 × 910 × 380	
Weight	Net		kg(lb.)	40 (88)	
	Gross			44 (97)	
Connection pipe	Size	Liquid	mm	Φ6.35 (Φ 1/4 in.)	
		Gas		Φ 12.7 (Φ 1/2 in.)	
	Method			Flare	
	Max. length		m	20 (chargeless : 15)	
	Max. height difference			15	
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)

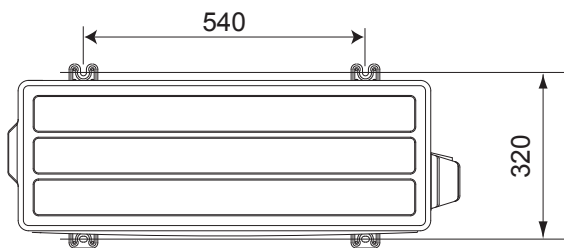
2. DIMENSIONS

■ MODEL : AO *R07LC, AO *R09LC

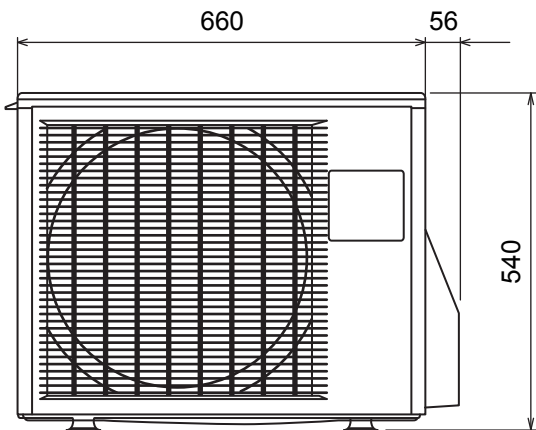
(Unit : mm)

OUTDOOR UNIT
AO*R07-18LC

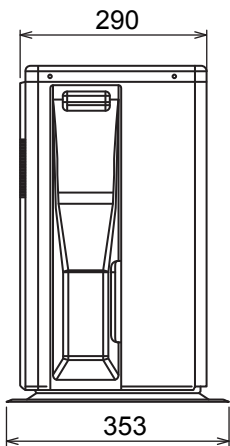
OUTDOOR UNIT
AO*R07-18LC



Top view

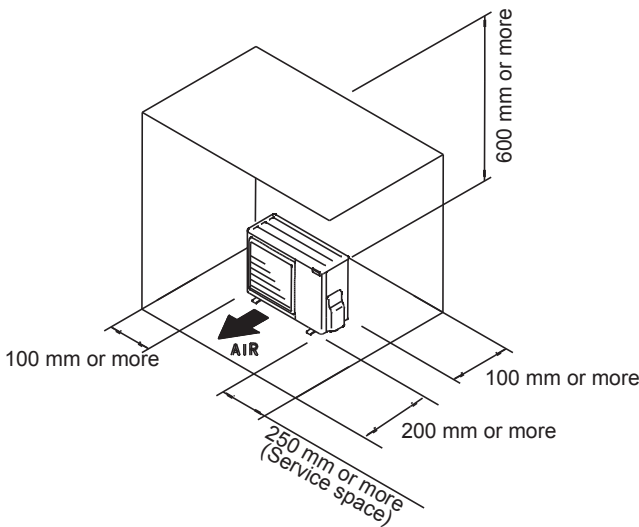


Front view



Side view

■ INSTALLATION PLACE



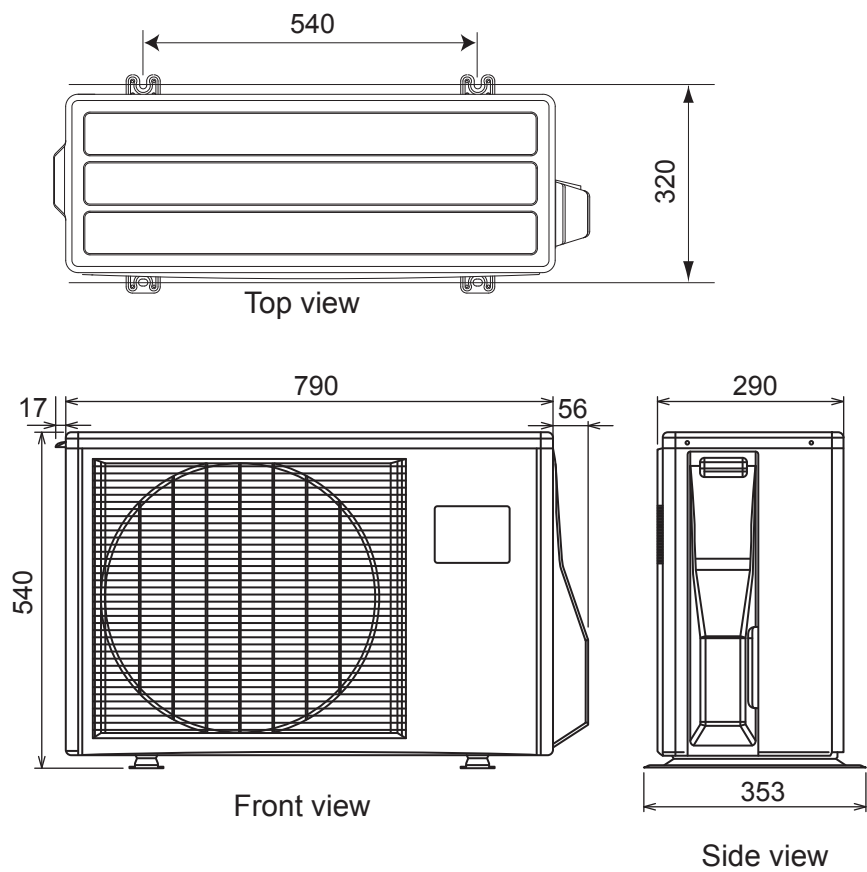
If the space is larger that is stated, the condition will be the same as that are no obstacles.

■MODEL : AO*R12LC

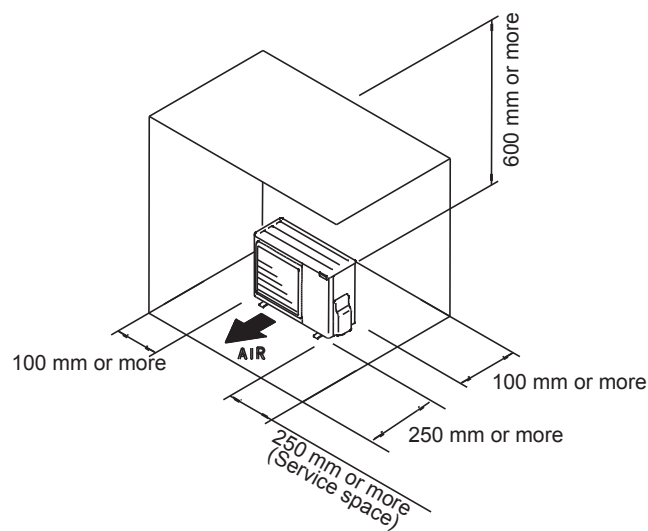
(Unit : mm)

OUTDOOR UNIT
AO*R07-18LC

OUTDOOR UNIT
AO*R07-18LC



■INSTALLATION PLACE



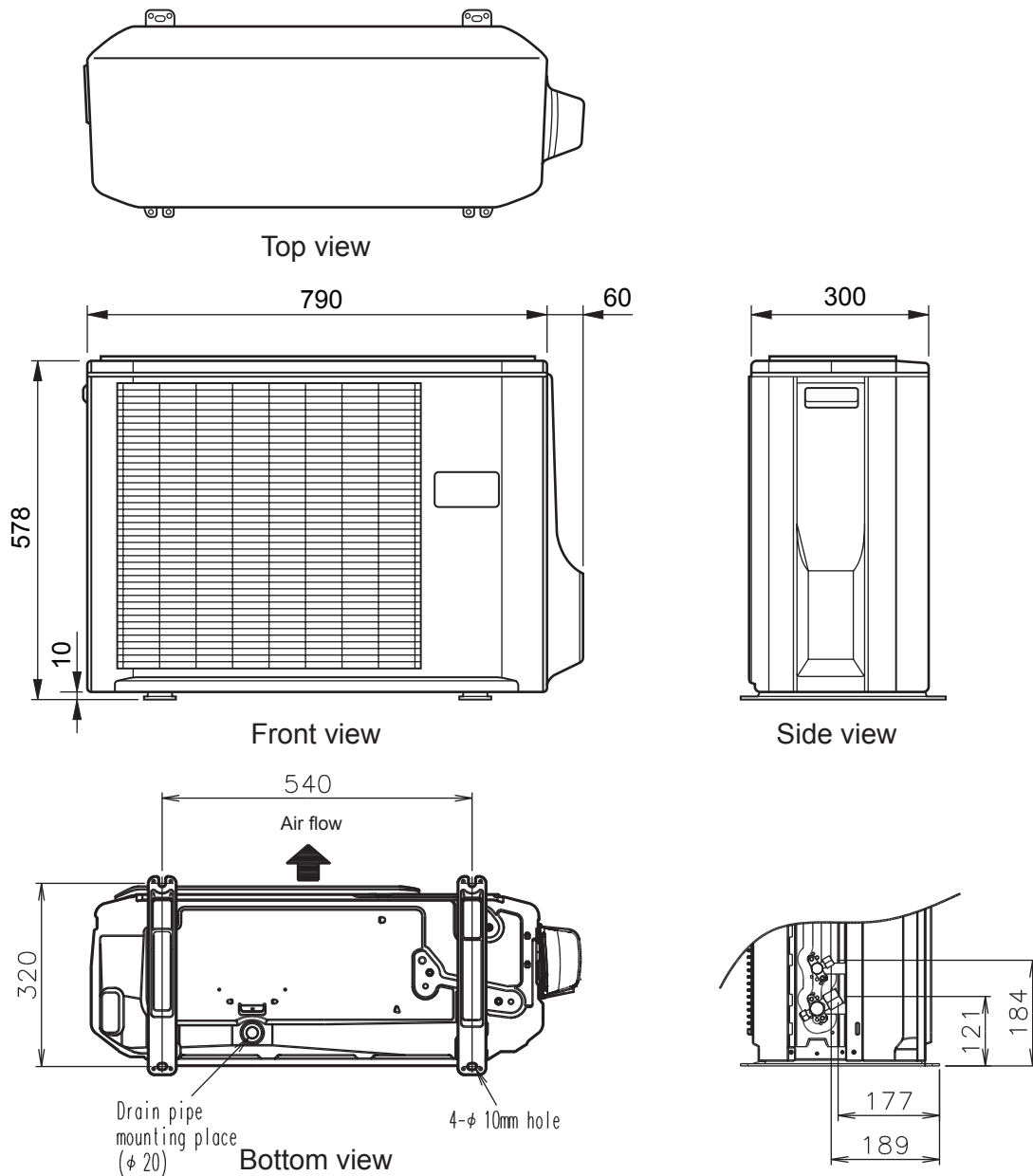
If the space is larger that is stated, the condition will be the same as that are no obstacles.

■ MODEL : AO*R14LC, AO*R18LC

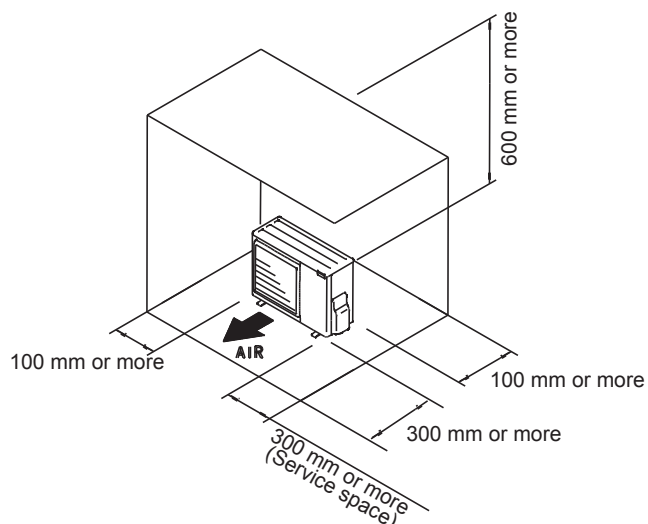
(Unit : mm)

OUTDOOR UNIT
AO*R07-18LC

OUTDOOR UNIT
AO*R07-18LC



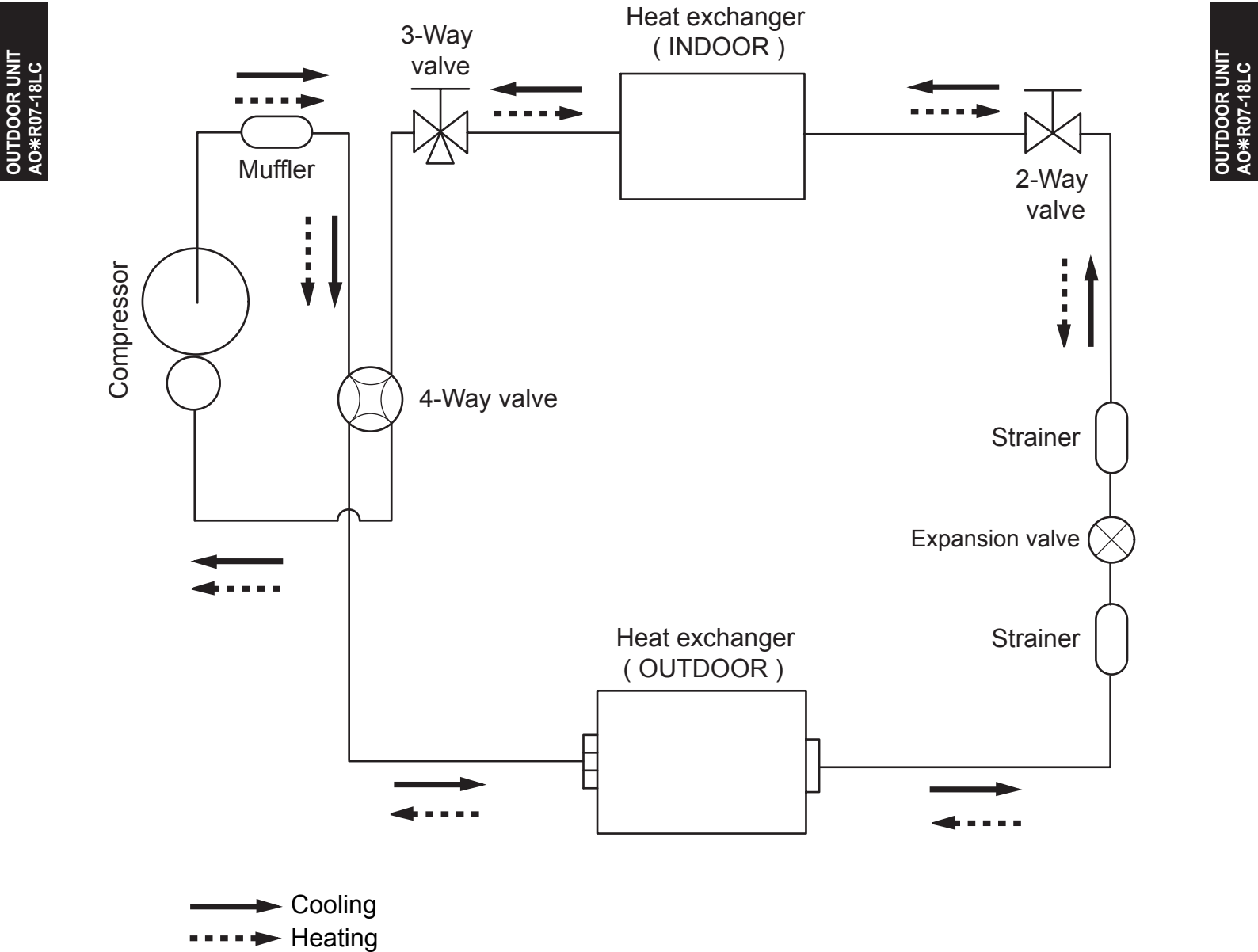
■ INSTALLATION PLACE



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

3. REFRIGERANT CIRCUIT

■ MODEL : AO*R07LC, AO*R09LC

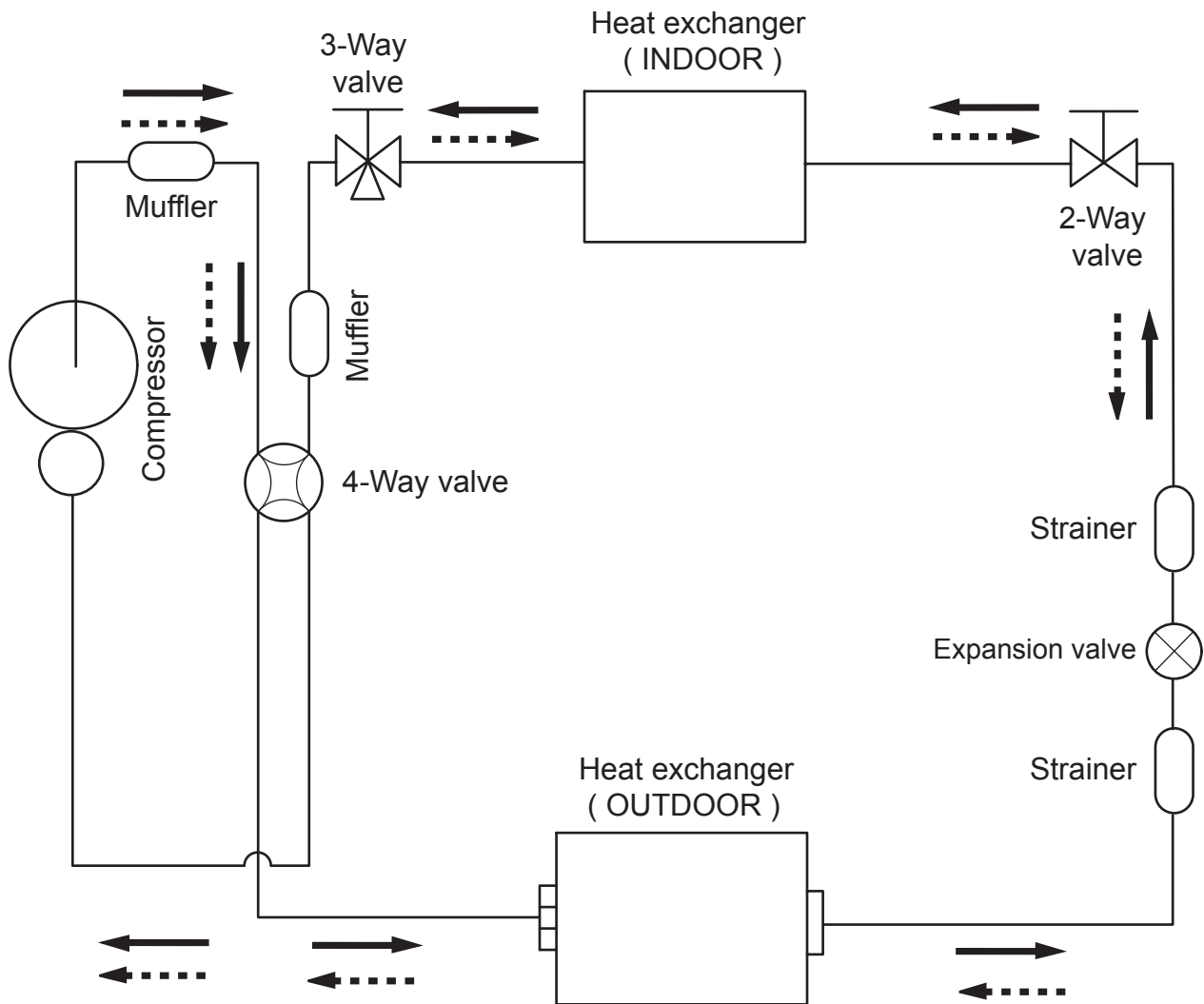


Refrigerant pipe diameter
Liquid : 1/4" (6.35 mm)
Gas : 3/8" (9.52 mm)

■ MODEL : AO*R12LC

OUTDOOR UNIT
AO*R07-18LC

OUTDOOR UNIT
AO*R07-18LC



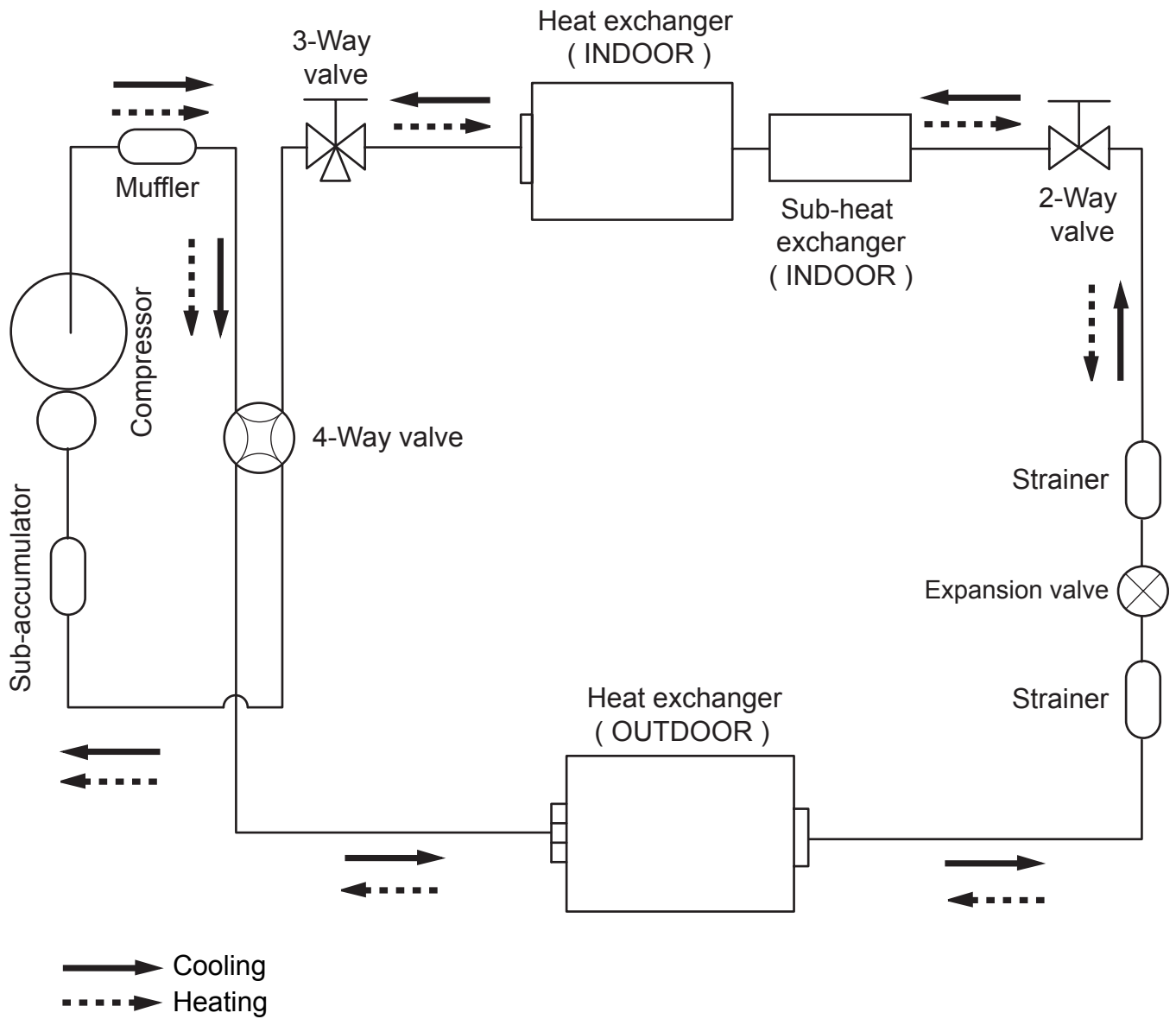
—→ Cooling
- - - - -→ Heating

Refrigerant pipe diameter
Liquid : 1/4" (6.35 mm)
Gas : 3/8" (9.52 mm)

■ MODEL : AO*R14LC, AO*R18LC

OUTDOOR UNIT
AO*R07-18LC

OUTDOOR UNIT
AO*R07-18LC



Refrigerant pipe diameter

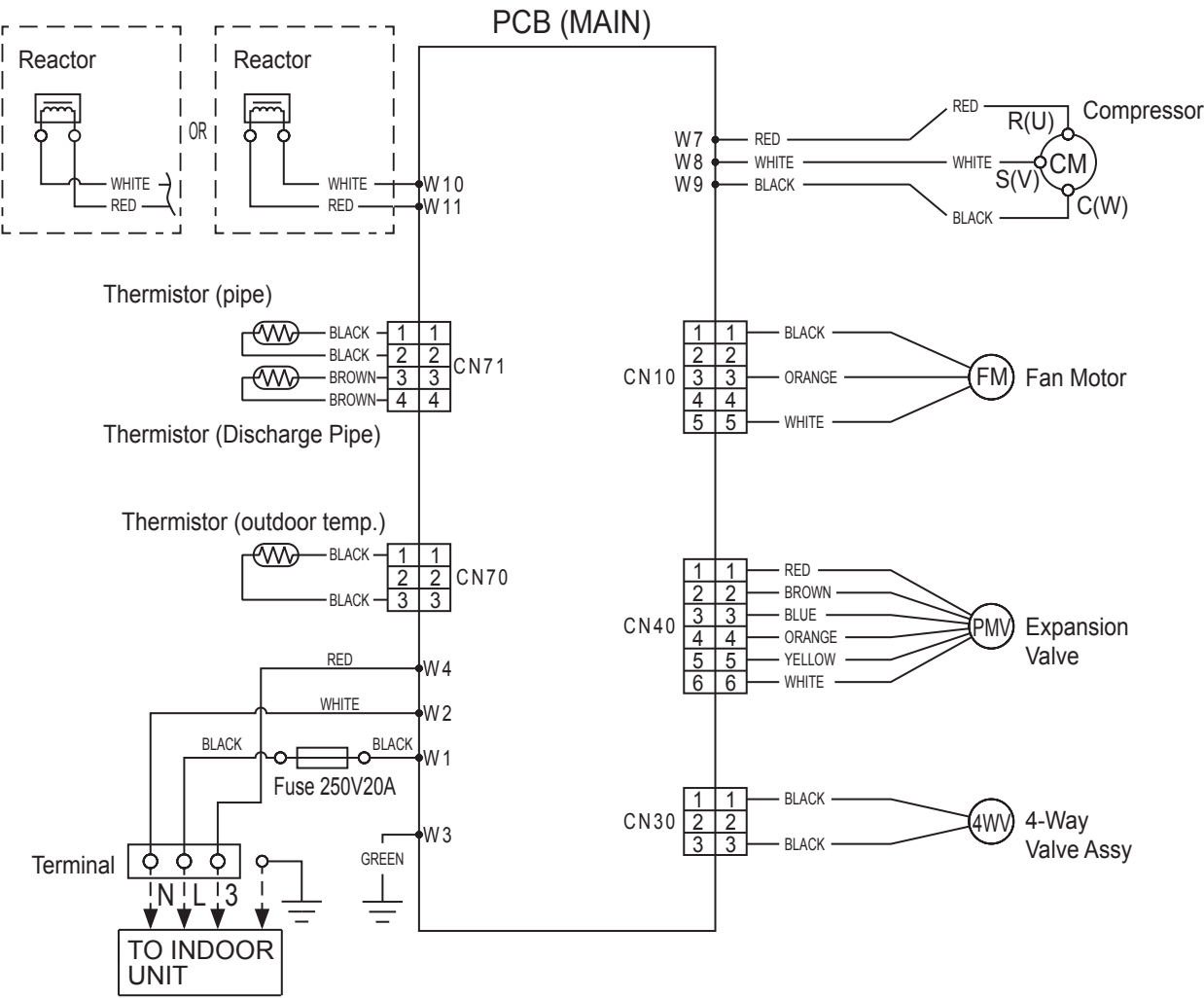
Liquid : 1/4" (6.35 mm)

Gas : 1/2" (12.7 mm)

4. WIRING DIAGRAMS

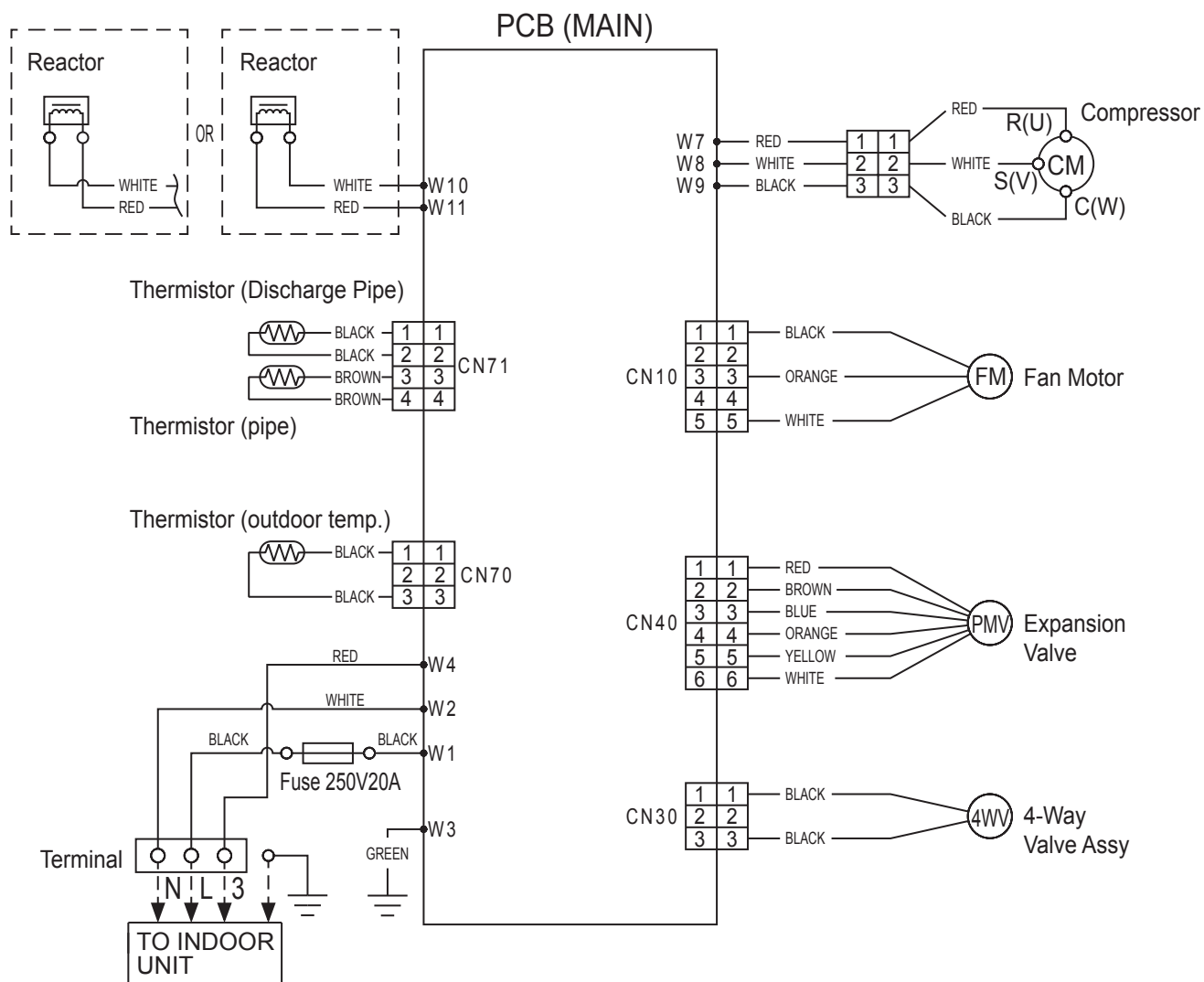
■ MODEL : AO*R07LC, AO*R09LC

OUTDOOR UNIT
AO*R07-18LC

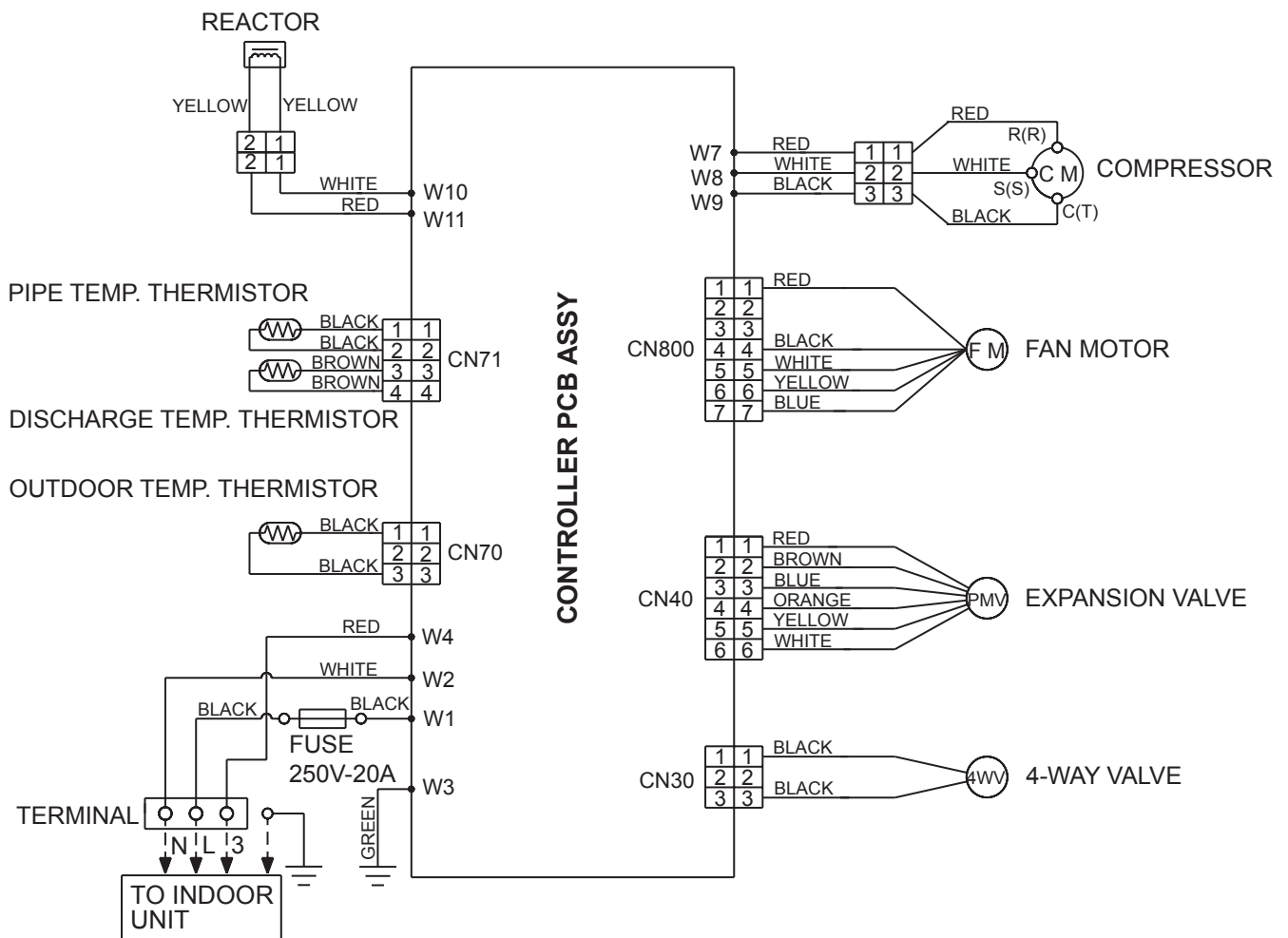


OUTDOOR UNIT
AO*R07-18LC

■ MODEL : AO*R12LC



■ MODEL : AO*R14LC, AO*R18LC



5. COEFFICIENT OF COMPENSATION FOR PIPE LENGTH AND HEIGHT DIFFERENCE

■ MODEL : AO * R07LC, AO * R09LC, AO * R12LC, AO * R14LC, AO * R18LC

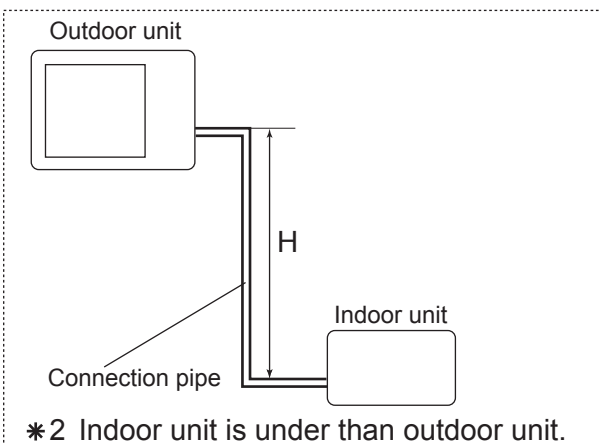
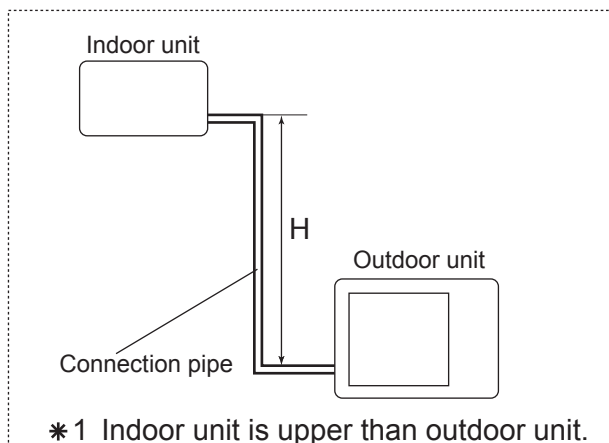
OUTDOOR UNIT
AO*R07-18LC

OUTDOOR UNIT
AO*R07-18LC

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	0.950
		10	-	-	0.983	0.968	0.966
		7.5	-	0.988	0.987	0.972	0.970
		5	0.992	0.992	0.991	0.976	0.974
		0	1.000	1.000	0.999	0.984	0.982
	* 2 Indoor unit is under than outdoor unit	-5	1.000	1.000	0.999	0.984	0.982
		-7.5	-	1.000	0.999	0.984	0.982
		-10	-	-	0.999	0.984	0.982
		-15	-	-	-	0.984	0.982

HEATING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	* 1 Indoor unit is upper than outdoor unit.	15	-	-	-	0.920	0.894
		10	-	-	0.982	0.920	0.894
		7.5	-	1.000	0.982	0.920	0.894
		5	0.993	1.000	0.982	0.920	0.894
		0	0.993	1.000	0.982	0.920	0.894
	* 2 Indoor unit is under than outdoor unit	-5	0.988	0.995	0.977	0.916	0.889
		-7.5	-	0.993	0.975	0.913	0.887
		-10	-	-	0.972	0.911	0.885
		-15	-	-	-	0.902	0.876

Height difference H



6. ADDITIONAL CHARGE CALCULATION

■ MODEL : AO * R07LC, AO * R09LC

Refrigerant type		R410A
Refrigerant amount	g	900

● REFRIGERANT CHARGE

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

■ MODEL : AO * R12LC

Refrigerant type		R410A
Refrigerant amount	g	1,050

● REFRIGERANT CHARGE

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

■ MODEL : AO * R14LC, AO * R18LC

Refrigerant type		R410A
Refrigerant amount	g	1150

● REFRIGERANT CHARGE

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

7. AIR FLOW

■ MODEL : AO * R07LC, AO * R09LC

● COOLING

Number of rotations (r.p.m)	Airflow	
	1870	m ³ /h
800	519	l/s
	1101	CFM

● HEATING

Number of rotations (r.p.m)	Airflow	
	1870	m ³ /h
800	519	l/s
	1101	CFM

■ MODEL : AO * R12LC

● COOLING

Number of rotations (r.p.m)	Airflow	
	1850	m ³ /h
830	514	l/s
	1089	CFM

● HEATING

Number of rotations (r.p.m)	Airflow	
	1850	m ³ /h
830	514	l/s
	1089	CFM

■ MODEL : AO * R14LC

● COOLING

Number of rotations (r.p.m)	Air flow	
820	1910	m ³ /h
	531	l/s
	1124	CFM

● HEATING

Number of rotations (r.p.m)	Air flow	
750	1750	m ³ /h
	486	l/s
	1030	CFM

■ MODEL : AO * R18LC

● COOLING

Number of rotations (r.p.m)	Air flow	
860	2000	m ³ /h
	556	l/s
	1177	CFM

● HEATING

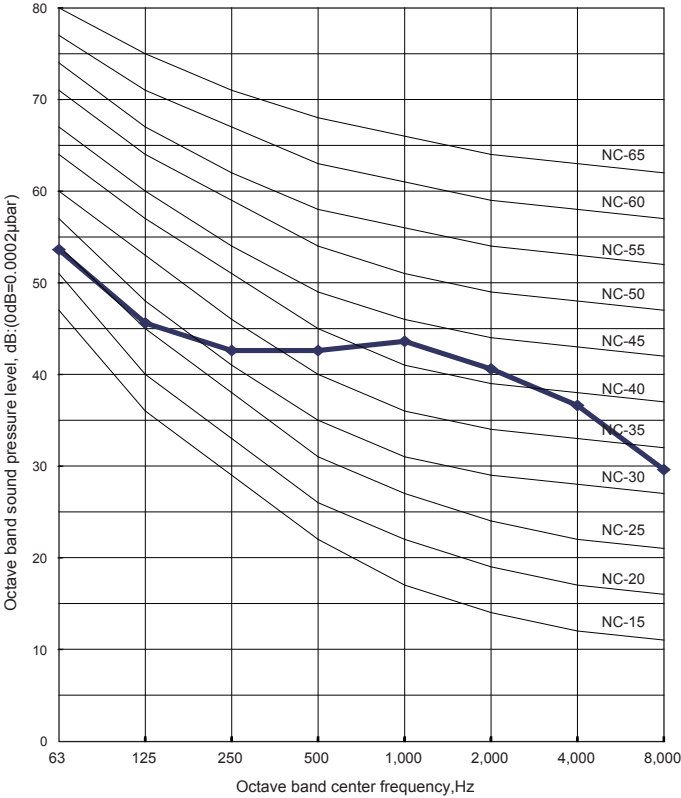
Number of rotations (r.p.m)	Air flow	
820	1910	m ³ /h
	531	l/s
	1124	CFM

8. OPERATION NOISE

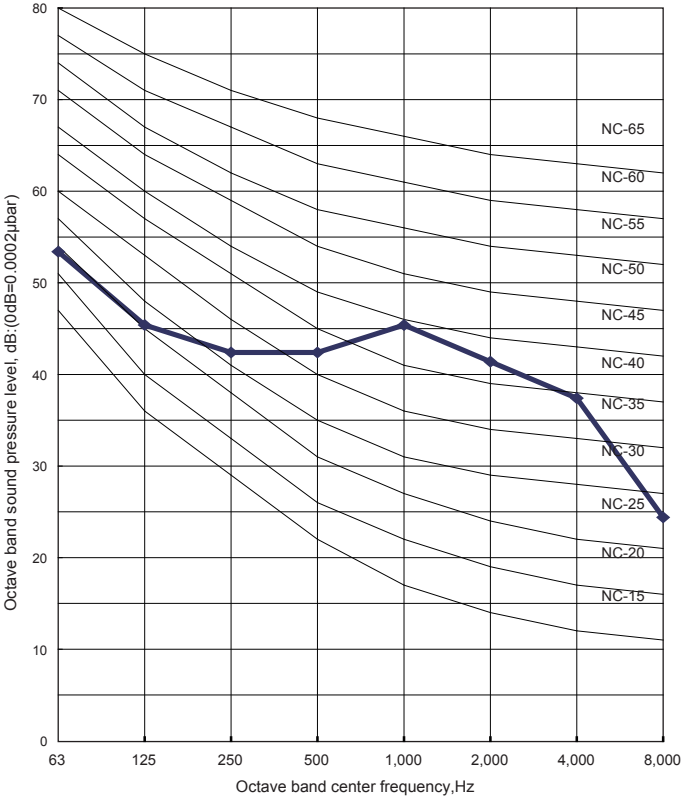
8-1. NOISE LEVEL CURVE

MODEL : AO * R07LC

COOLING

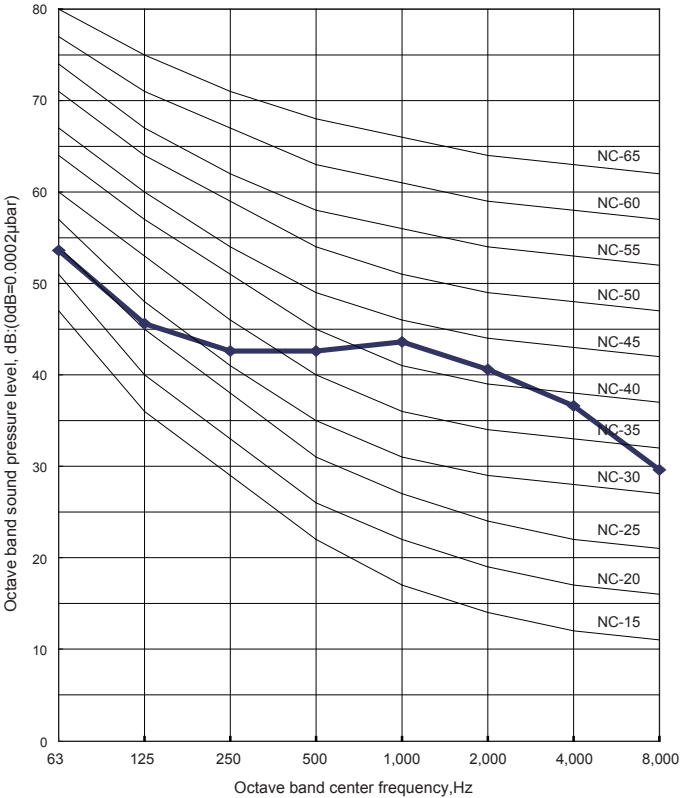


HEATING

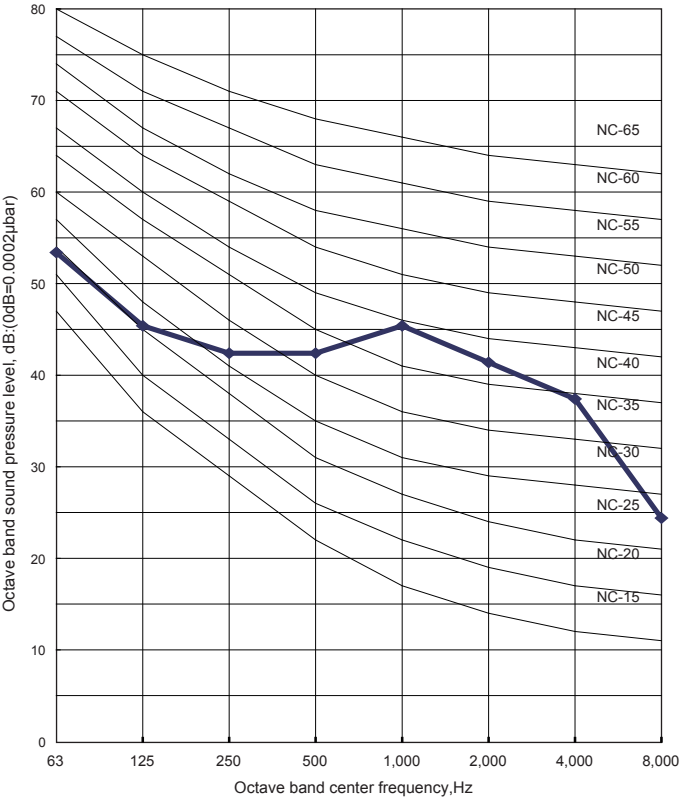


MODEL : AO * R09LC

COOLING

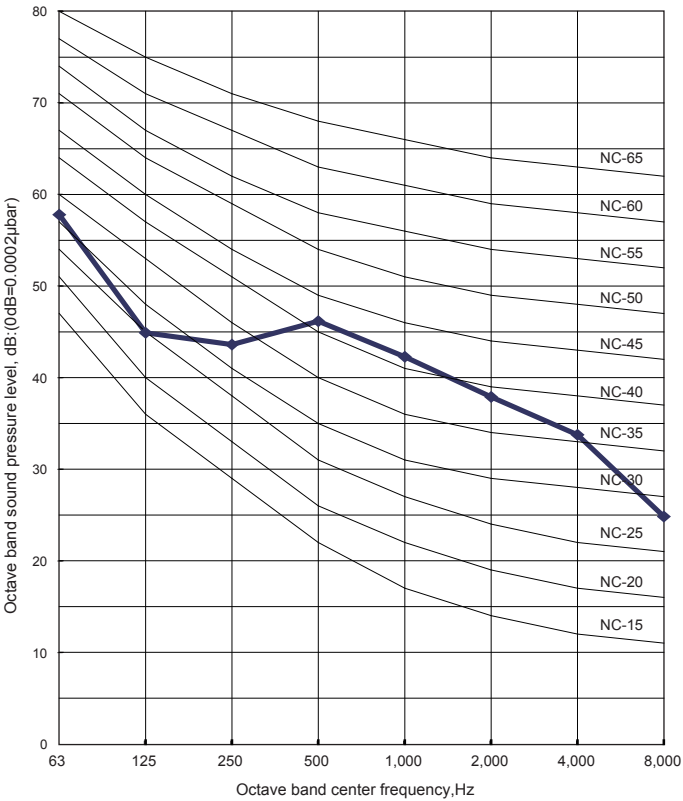


HEATING

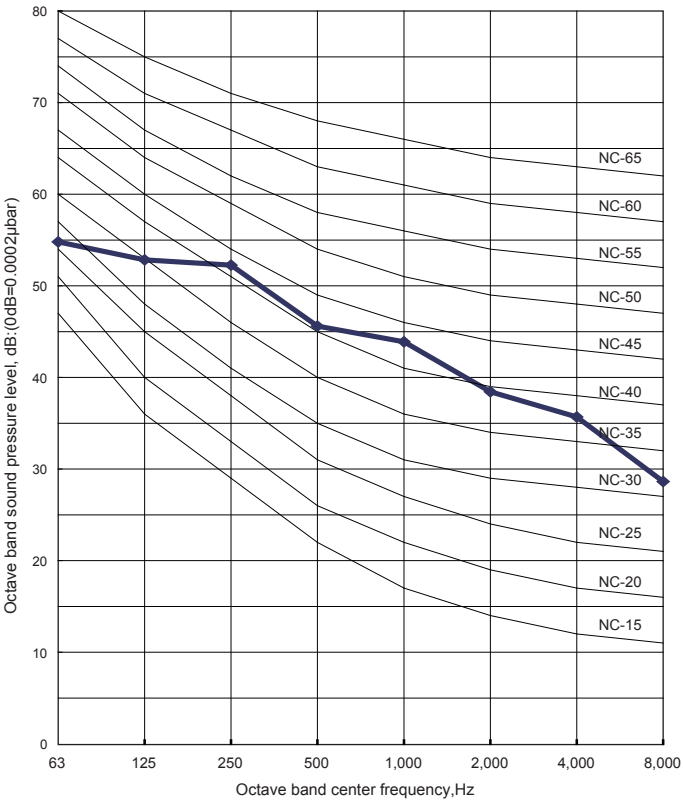


■ MODEL : AO * R12LC

● COOLING

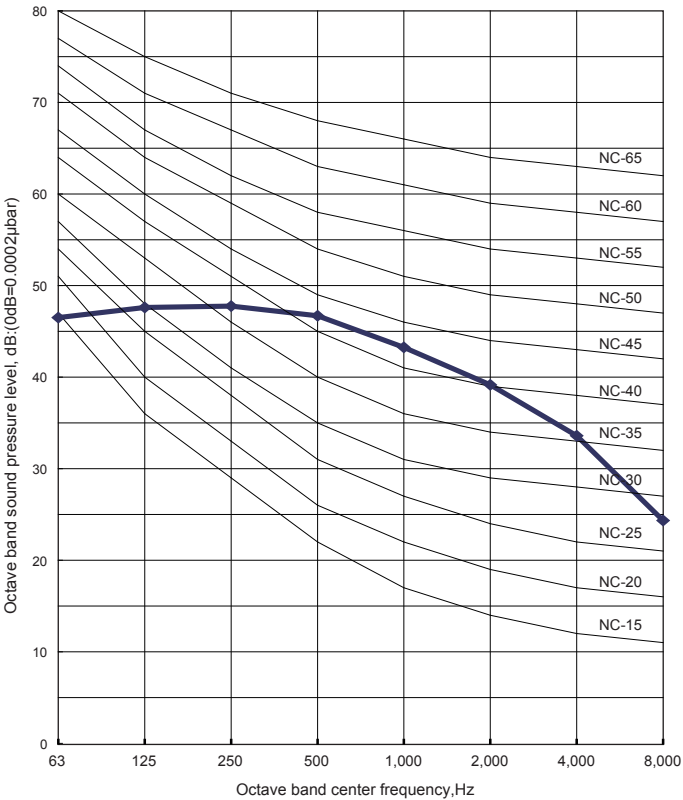


● HEATING

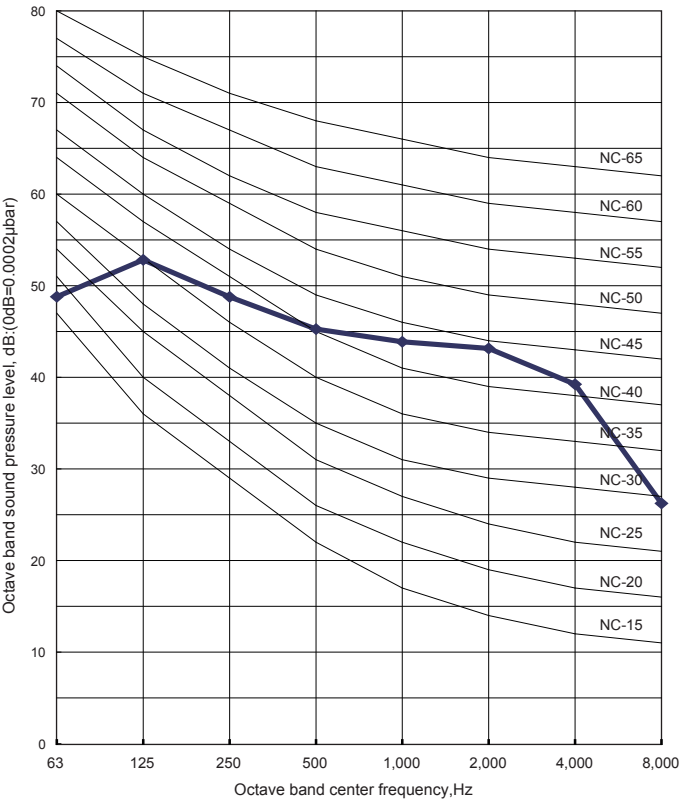


■ MODEL : AO * R14LC

● COOLING

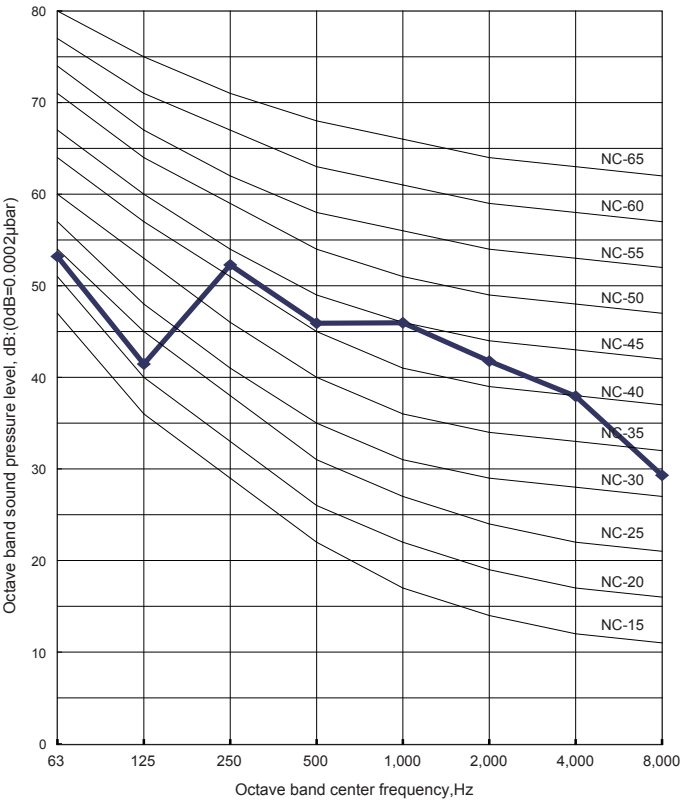


● HEATING

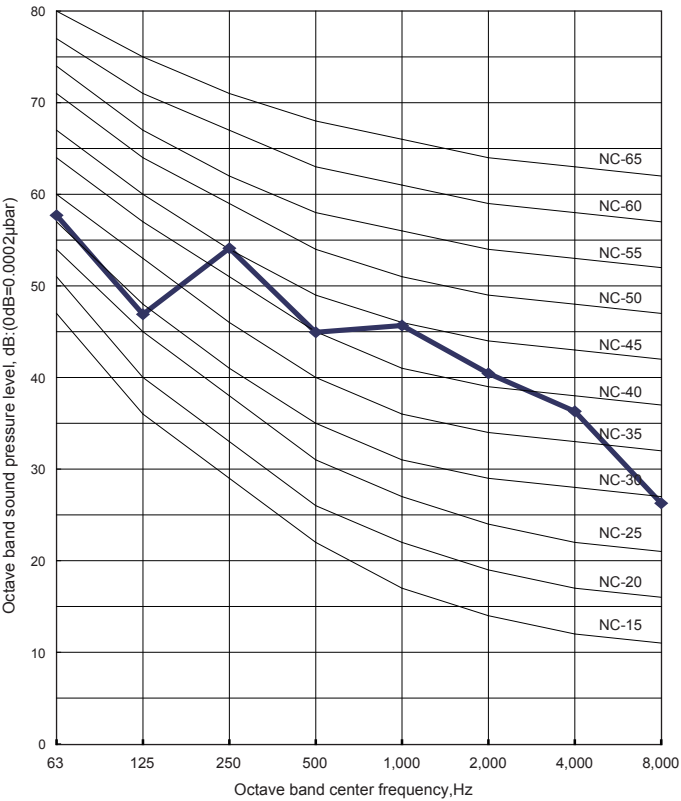


■ MODEL : AO * R18LC

● COOLING

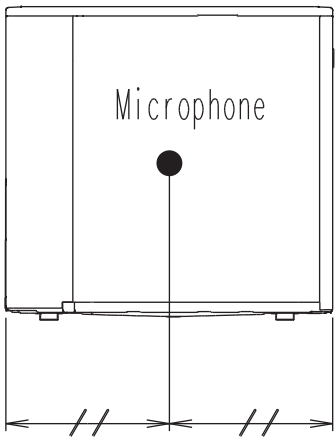
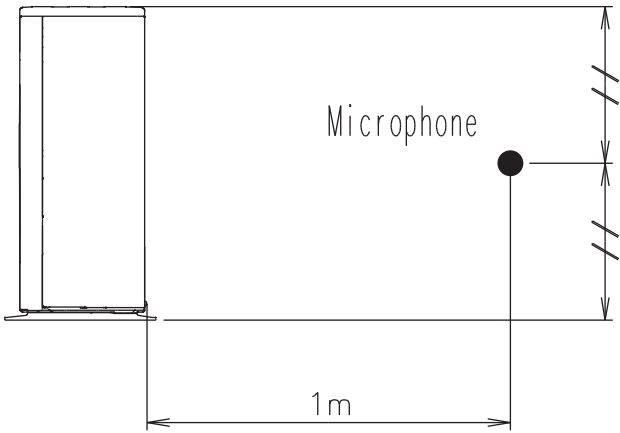


● HEATING



8-2. SOUND LEVEL CHECK POINT

OUTDOOR UNIT
AO*R07-18LC



OUTDOOR UNIT
AO*R07-18LC

9. ELECTRIC CHARACTERISTICS

OUTDOOR UNIT
AO*R07-18LC

Model Name			AO * R07LC	AO * R09LC	AO * R12LC
Power Supply	Voltage	V	230~		
	Frequency	Hz	50		
Starting Current		A	3.2	4.0	5.6

OUTDOOR UNIT
AO*R07-18LC

Model Name			AO * R14LC	AO * R18LC
Power Supply	Voltage	V	230~	
	Frequency	Hz	50	
Starting Current		A	6.4	7.7

10. SAFETY DEVICES

	Protection form	Model	
		AO * R07LC / AO * R09LC / AO * R12LC	AO * R14LC / AO * R18LC
Circuit protection	Current fuse (NEAR THE TERMINAL)	20A 250V	
	Current fuse (MAIN PRINTED CIRCUIT BOARD)	15A 250V	
		3.15A 250V	
Fan motor protection	Thermal protection program	OFF : 135 ⁺⁵ ₋₅ °C ON : 95 ⁺¹⁵ ₋₁₅ °C	OFF : 100 ⁺¹⁵ ₋₁₀ °C ON : 95 ⁺¹⁵ ₋₁₀ °C
Compressor protection	Thermal protection program (DISCHARGE TEMP.)	OFF : 110°C ON : After 7 minutes	

OUTDOOR UNIT
AO*R07-18LC

OUTDOOR UNIT
AO*R07-18LC

AIR CONDITIONER

Wall Mounted type

DESIGN & TECHNICAL MANUAL

INDOOR



AS*A24LCC
AS*A30LCC
AS*A30LFC

OUTDOOR



AO*R24LCC



AO*R30LCT
AO*R30LFT

FUJITSU GENERAL LIMITED

1. INDOOR UNIT

WALL MOUNTED TYPE :

AS*A24LCC

AS*A30LCC

AS*A30LFC

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1. INDOOR UNIT

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1. FEATURE

■ MODEL

AS*A24LCC
AS*A30LCC
AS*A30LFC



■ FEATURES

● ALL DC



Heat exchange capacities 20% up compared to conventional models



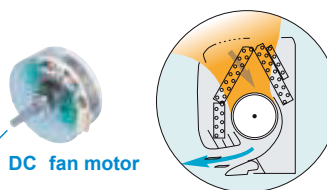
a DC fan motor

b V-PAM control

V-PAM technology makes a compressor more powerful.

c DC scroll compressor

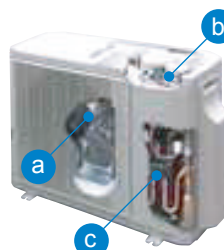
More compact compared with conventional model



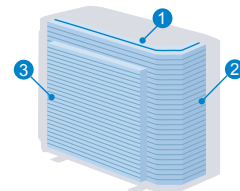
DC fan motor

High efficiency layout

Large air flow and quiet operation by new air flow path



Front view



Back view

New 3-row heat exchange system (24TYPE)

● Super quiet

Air flow mode can be set in 4 steps and more detailed air flow setting is possible.

● Easy maintenance

Easy maintenance and always clean. Troublesome maintenance has been made easy.

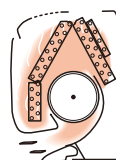
Since the front panel is easy to remove, maintenance is also easy.

● 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.



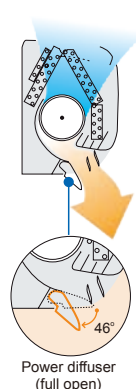
During dew condensation



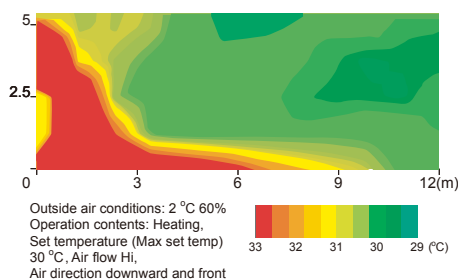
Approx. 20 mins Drying

● Power diffuser

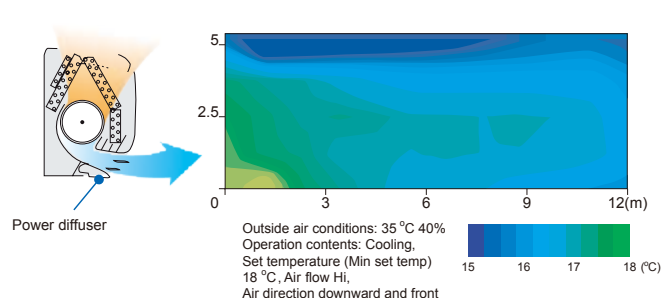
Adoption of large power diffuser



"Strong vertical air flow" provides powerful floor level heating.



"Healthy horizontal air flow" does not blow cool air directly at the occupants in the room.



● Compact design

998mm width compact design

New model



H320 x W998 x D228



H320 x W1,120 x D220

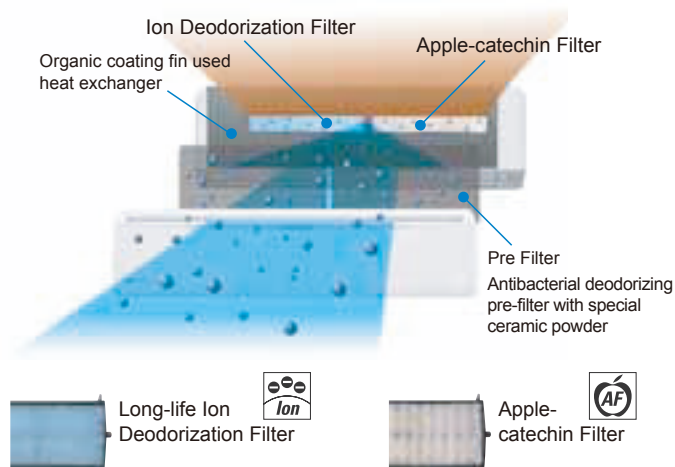
(unit:mm)

● Low outdoor air temperature cooling correspondence

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

● Corresponds to maximum 50m long piping (30TYPE)

● Air conditioner filter features



2. 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

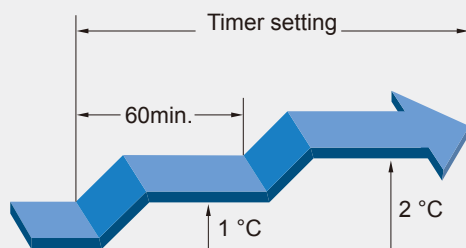
The program timer operates the ON and OFF timer once within a 24 hour period.

● 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.

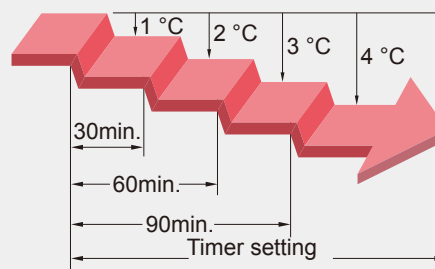
Cooling operation/dry operation

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.

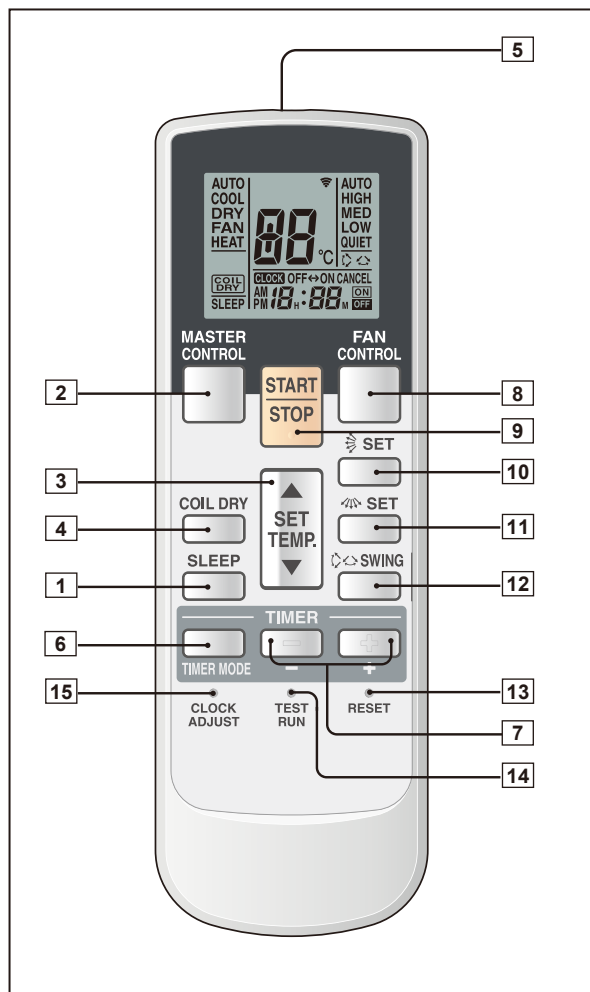


Heating operation

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 SLEEP button
- 2 MODE button
- 3 SET TEMP. button (▲ / ▼)
- 4 COIL DRY button
- 5 Signal Transmitter
- 6 TIMER MODE button
- 7 TIMER SET (+ / -) button
- 8 FAN CONTROL button
- 9 START/STOP button
- 10 SET button (Vertical)
- 11 SET button (Horizontal)
- 12 SWING button
- 13 RESET button
- 14 TEST RUN button

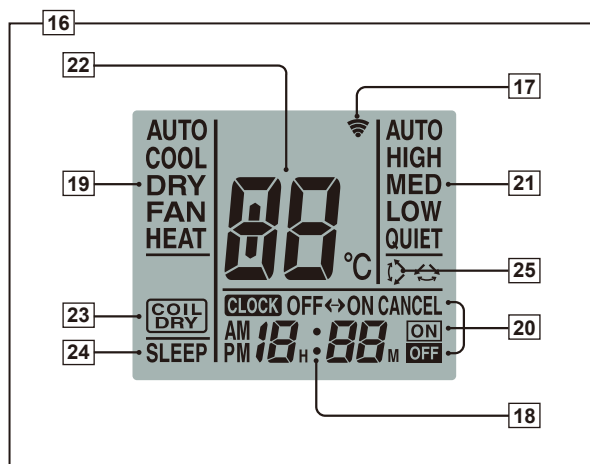
•This button is used when installing the air conditioner, and should not be used under normal conditions, as it will cause the indoor unit's thermostat function to operate incorrectly.

•If this button is pressed during normal operation, the indoor unit will switch to test operation mode, and the Indoor Unit's OPERATION Indicator Lamp and TIMER Indicator Lamp will begin to flash simultaneously.

•To stop the test operation mode, press the SRART/STOP button to stop the air conditioner.

- 15 CLOCK ADJUST button
- 16 Remote Control Unit Display
- 17 Transmit Indicator
- 18 Clock Display
- 19 Operating Mode Display
- 20 Timer Mode Display
- 21 Fan Speed Display
- 22 Temperature SET Display
- 23 COIL DRY Display
- 24 SLEEP Display
- 25 SWING Display

Display panel



SPECIFICATION

SIZE	(H x W x D mm)	176 x 56 x 18
WEIGHT	(g)	110
ACCESSORY		Holder

3. SPECIFICATIONS

Type					WALL MOUNTED		
					INVERTER HEAT PUMP		
Model name					AS*A24LCC	AS*A30LCC	
Power source					230V~ 50Hz		
Available voltage range					198 - 264V ~ 50Hz		
ENERGY STAR RANK				Cooling	A	B	
				Heating	A	B	
Capacity	Cooling	Rated	kW	7.10	8.00		
			BTU/h	24,200	27,300		
		Min.-Max.	kW	0.9-8.0	2.9-9.0		
			BTU/h	3,100-27,300	9,900-30,700		
	Heating	Rated	kW	8.10	9.00		
			BTU/h	27,600	30,700		
		Min.-Max.	kW	0.9-10.6	2.2-11.0		
			BTU/h	3,100-36,200	7,500-37,600		
Input power	Cooling	Rated	kW	2.21	2.66		
		Min.-Max.		0.11-2.62	0.58-3.60		
	Heating	Rated		2.24	2.64		
		Min.-Max.		0.11-3.68	0.50-4.30		
Current	Cooling	Rated	A	9.7	11.7		
		Max.*		12	17		
	Heating	Rated		9.8	11.6		
		Max.*		17.5	19		
EER		Cooling	kW/kW	3.21	3.01		
COP		Heating		3.62	3.41		
SENSIBLE CAPACITY		Cooling	kW	5.54	5.34		
POWER FACTOR		Cooling	%	99	99		
		Heating		99	99		
Moisture removal			l/h (pints/h)	3.0(5.3)	3.4(6.0)		
Fan	Airflow rate	Cooling	High	m³/h	1100	1100	
			Med		900	900	
			Low		740	740	
			Quiet		620	620	
		Heating	High		1100	1100	
			Med		900	900	
			Low		740	740	
			Quiet		620	620	
	Type × Q'ty		Cross flow fan × 1				
	Motor output		W	42	42		
Sound pressure level			Cooling	dB(A)	47	47	
					Med	41	41
					Low	36	36
					Quiet	32	32
			Heating		High	45	45
					Med	36	36
					Low	32	32
					Quiet	32	32
Heat exchanger type		Dimensions (H × W × D)	mm	Main : 378 × 832 × 26.6 Sub : 84 × 832 × 13.3	Main : 378 × 832 × 26.6 Sub1 : 84 × 832 × 13.3, Sub2 : 84 × 832 × 13.3		
		Fin pitch		Main : 1.2, Sub : 1.4	Main : 1.2, Sub1 : 1.4, Sub2 : 1.4		
		Rows x Stages		Main : 2 × 18, Sub : 1 × 4	Main : 2 × 18, Sub : 1 × 4, Sub2 : 1 × 4		
		Pipe type		Copper			
		Fin type		Aluminium			
Enclosure		Material		Polystyrene			
		Colour		WHITE Approximate colour of MANSELL N9.25/			
Dimensions (H×W ×D)	Net		mm	320 × 998 × 228			
	Gross			319 × 1090 × 429			
Weight	Net		kg(lb.)	14 (30.8)			
	Gross			18 (39.6)			
Connection pipe	Size	Liquid	mm	Ø6.35 (Ø 1/4 in.)	Ø9.52 (Ø 3/8 in.)		
		Gas		Ø15.88 (Ø 5/8 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			PVC			
	Size		mm Outer diameter: 28 / Inner diameter: 16				

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°CWBA.

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.

Type				WALL MOUNTED	
				INVERTER HEAT PUMP	
Model name				AS*A30LFC	
Power source				230V~ 50Hz	
Available voltage range				198-264V ~ 50Hz	
European energy label			Cooling	A	
			Heating	A	
Capacity	Cooling	Rated	kW	8.00	
			BTU/h	27,300	
		Min-Max	kW	2.9-9.0	
			BTU/h	9,900-30,700	
	Heating	Rated	kW	8.80	
			BTU/h	30,000	
Min-Max		kW	2.2-11.0		
		BTU/h	7,500-37,600		
Input power	Cooling	Rated	kW	2.49	
		Min-Max		0.58-3.87	
	Heating	Rated		2.44	
		Min-Max		0.50-4.33	
Current	Cooling	Rated	A	10.9	
		Max		17.0	
	Heating	Rated		10.7	
		Max		19.0	
EER		Cooling	kW/kW	3.21	
COP		Heating		3.61	
SENSIBLE CAPACITY		Cooling	kW	6.00	
POWER FACTOR		Cooling	%	99	
		Heating		99	
Moisture removal			l/h (pints/h)	3.2 (5.6)	
Fan	Airflow rate	Cooling	High	m³/h	1100
			Med		900
			Low		740
			Quiet		620
		Heating	High		1150
			Med		900
			Low		740
			Quiet		620
	Type × Q'ty		Cross flow fan×1		
	Motor output		W	42	
Sound pressure level		Cooling	High	dB(A)	48
			Med		42
			Low		37
			Quiet		33
		Heating	High		49
			Med		42
			Low		37
			Quiet		33
Heat exchanger type		Dimensions (H × W × D)		mm	Main:378×832×26.6 Sub1:84×832×13.3 ,Sub2:84×832×13.3
		Fin pitch			Main:1.2, Sub1:1.4, Sub2:1.4
		Rows x Stages			Main:2×18, Sub:1×4, Sub2:1×4
		Pipe type			Copper
		Fin type			Aluminium
Enclosure		Material		Polystyrene	
		Colour		WHITE Approximate colour of MANSELL N9.25/	
Dimensions (H×W ×D)		Net		mm	320×998×228
		Gross			319×1090×429
Weight		Net		kg(lb.)	14 (30.8)
		Gross			18 (39.6)
Connection pipe		Size	Liquid	mm	Ø9.52 (Ø3/8 in.)
		Gas			Ø15.88 (Ø5/8 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		PVC	
		Size		Outer diameter: 28 / Inner diameter: 16	

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)

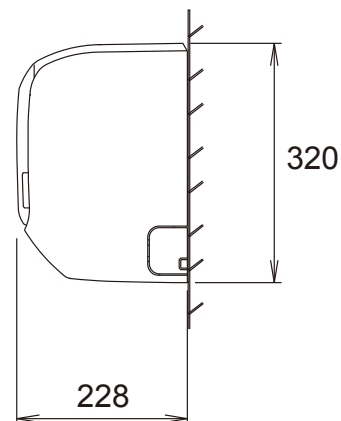
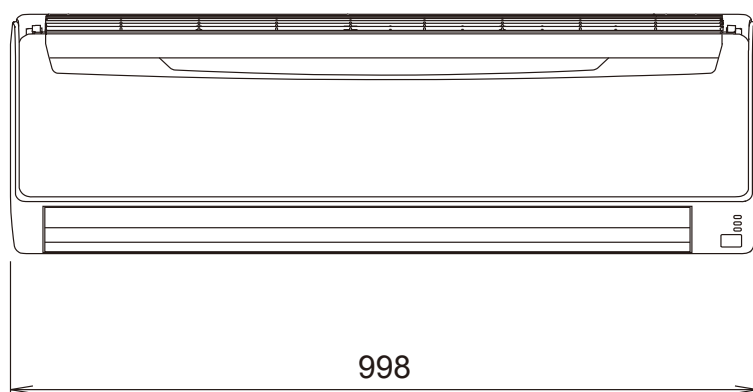
The maximum current is the maximum value when operated within the operation range(temperature)

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

4. DIMENSIONS

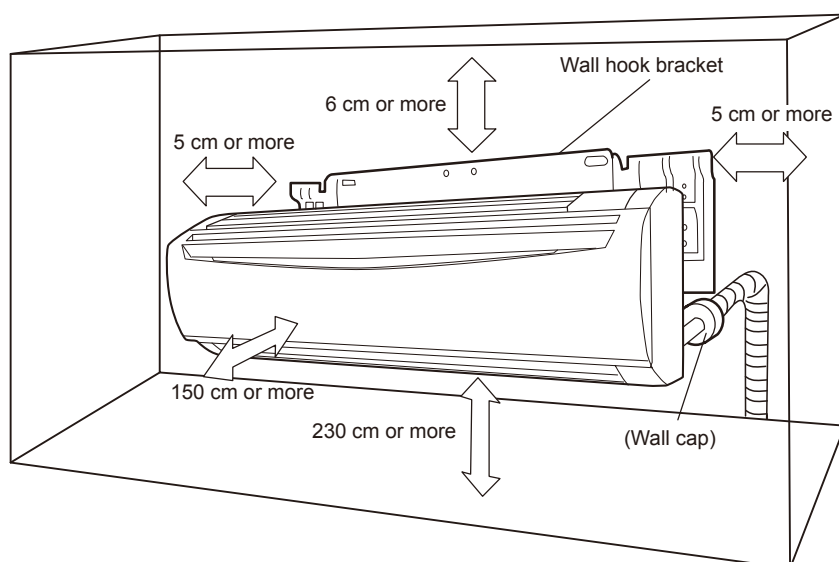
■ MODEL: AS*A24LC, AS*A30LC, AS*A30LF

(Unit : mm)

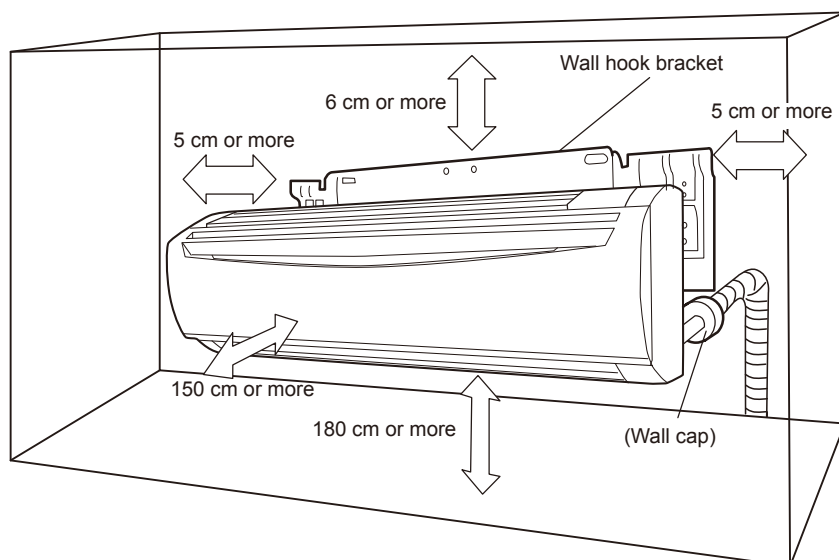


■ INSTALLATION PLACE

● Model : AS*A24LC, AS*A30LC

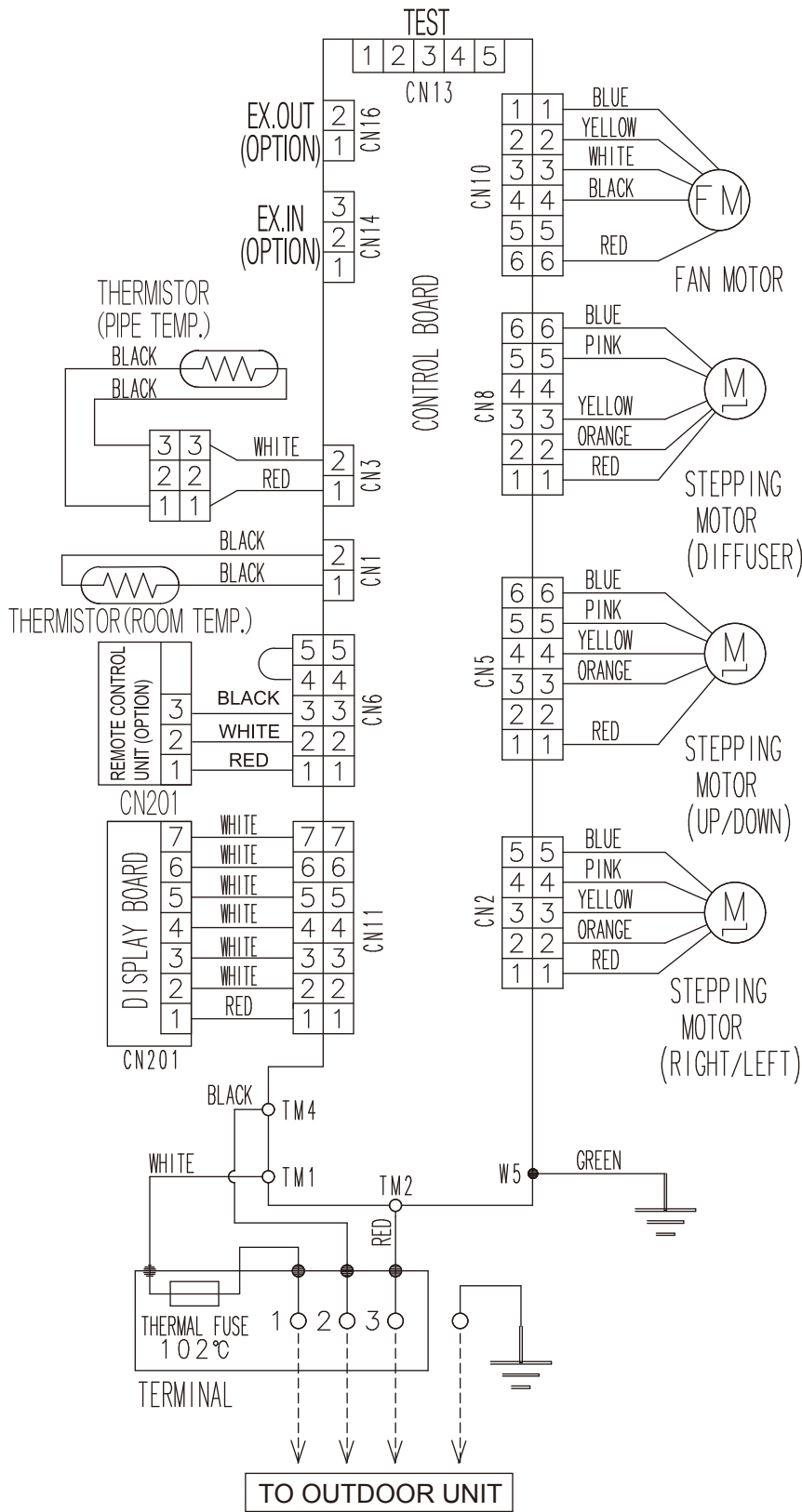


● Model : AS*A30LF

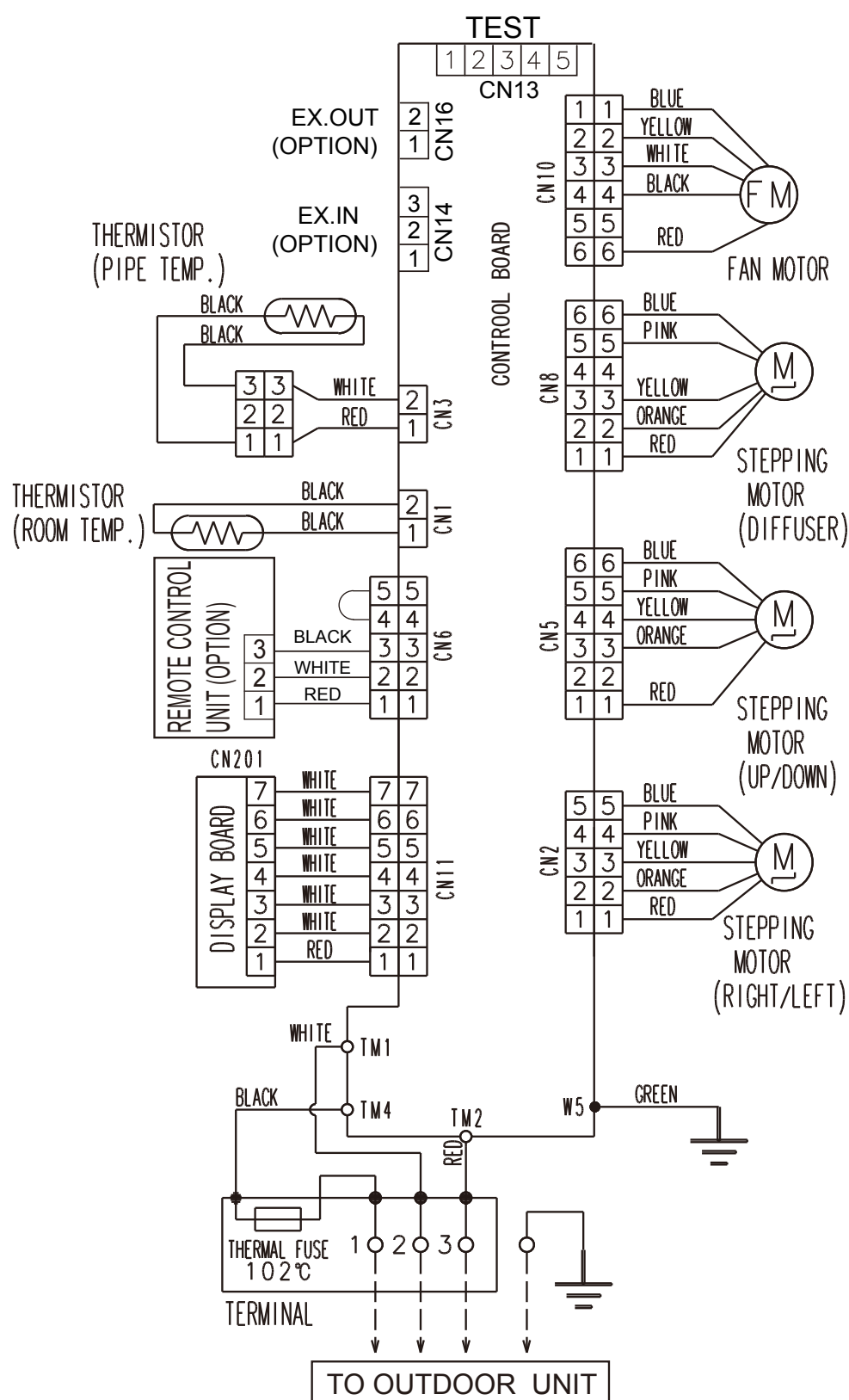


5. WIRING DIAGRAMS

MODEL: AS*A24LC, AS*A30LC



■ MODEL: AS*A30LF



6. CAPACITY TABLE

6-1. COOLING CAPACITY

■ MODEL: AS*A24LC

AFR	18.3
-----	------

		Indoor temperature																							
		°CDB			18			21			23			25			27			29			32		
		°CWB			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	5.26	4.97	1.05	5.86	5.00	1.07	6.06	5.43	1.07	6.46	5.45	1.09	6.66	5.88	1.09	7.05	5.86	1.10	7.45	6.24	1.11			
	25	6.26	5.61	1.75	6.98	5.64	1.78	7.22	6.13	1.79	7.69	6.15	1.80	7.93	6.65	1.81	8.41	6.62	1.83	8.88	7.05	1.85			
	30	6.00	5.21	1.94	6.68	5.24	1.97	6.91	5.70	1.98	7.36	5.71	2.00	7.59	6.17	2.01	8.05	6.15	2.03	8.50	6.55	2.05			
	35	5.61	4.67	2.13	6.25	4.70	2.17	6.46	5.11	2.18	6.89	5.13	2.20	7.10	5.54	2.21	7.53	5.51	2.23	7.95	5.87	2.25			
	40	5.06	4.08	2.15	5.64	4.10	2.18	5.83	4.46	2.19	6.22	4.47	2.21	6.41	4.83	2.22	6.79	4.81	2.25	7.18	5.13	2.27			
43	4.73	3.72	2.16	5.27	3.74	2.20	5.45	4.07	2.21	5.81	4.08	2.23	5.99	4.41	2.24	6.35	4.39	2.27	6.71	4.67	2.29				

■ MODEL: AS*A30LC

AFR	18.3
-----	------

		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	6.31	4.51	1.33	7.03	4.53	1.35	7.27	4.93	1.36	7.75	4.94	1.37	7.99	5.34	1.38	8.47	5.32	1.39	8.95	5.66	1.41
	25	7.00	4.86	2.09	7.79	4.89	2.12	8.06	5.31	2.13	8.59	5.33	2.15	8.85	5.75	2.16	9.39	5.73	2.19	9.92	6.10	2.21
	30	6.66	4.68	2.32	7.42	4.70	2.36	7.67	5.11	2.37	8.18	5.13	2.39	8.43	5.54	2.41	8.94	5.52	2.43	9.44	5.88	2.45
	35	6.32	4.51	2.57	7.04	4.54	2.61	7.28	4.93	2.62	7.76	4.95	2.65	8.00	5.34	2.66	8.48	5.32	2.69	8.96	5.67	2.71
	40	5.68	4.20	2.77	6.33	4.23	2.82	6.55	4.60	2.83	6.98	4.61	2.86	7.19	4.98	2.87	7.63	4.96	2.90	8.06	5.29	2.93
	43	5.34	4.04	2.80	5.95	4.07	2.84	6.15	4.42	2.85	6.56	4.44	2.88	6.76	4.79	2.90	7.16	4.77	2.93	7.57	5.08	2.96

■ MODEL: AS*A30LF

AFR	18.3
-----	------

		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	6.31	5.01	1.29	7.03	5.04	1.31	7.27	5.48	1.32	7.75	5.50	1.33	7.99	5.94	1.34	8.47	5.92	1.35	8.95	6.30	1.37
	25	6.99	5.45	2.03	7.79	5.48	2.06	8.05	5.96	2.07	8.58	5.98	2.09	8.85	6.46	2.10	9.38	6.43	2.12	9.91	6.85	2.14
	30	6.66	5.23	2.26	7.42	5.26	2.29	7.67	5.72	2.30	8.18	5.74	2.33	8.43	6.20	2.34	8.94	6.18	2.36	9.44	6.58	2.39
	35	6.32	5.06	2.49	7.04	5.09	2.53	7.28	5.54	2.54	7.76	5.56	2.57	8.00	6.00	2.49	8.48	5.98	2.61	8.96	6.37	2.63
	40	5.68	4.63	2.68	6.33	4.66	2.72	6.54	5.07	2.74	6.97	5.08	2.77	7.19	5.49	2.78	7.62	5.47	2.81	8.05	5.82	2.84
	43	5.17	4.22	2.89	5.76	4.25	2.93	5.96	4.62	2.95	6.35	4.63	2.98	6.55	5.00	2.99	6.94	4.98	3.02	7.34	5.31	3.05

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

6-2. HEATING CAPACITY

■ MODEL: AS*A24LC

AFR	18.3
-----	------

			Indoor temperature									
			16		18		20		22		24	
Outdoor temperature	(°CDB)	(°CWB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	-15	-16	5.93	2.69	5.78	2.74	5.64	2.80	5.50	2.85	5.36	2.91
	-10	-11	7.04	2.94	6.87	3.00	6.70	3.06	6.53	3.12	6.37	3.18
	-5	-7	7.92	3.09	7.73	3.15	7.54	3.22	7.36	3.28	7.17	3.34
	0	-2	9.15	3.30	8.94	3.37	8.72	3.43	8.50	3.50	8.28	3.57
	5	3	10.41	3.52	10.16	3.59	9.91	3.67	9.67	3.74	9.42	3.81
	7	6	11.13	3.42	10.87	3.49	10.60	3.56	10.34	3.63	10.07	3.70
	10	8	11.53	3.42	11.25	3.49	10.98	3.56	10.71	3.64	10.43	3.71
	15	10	11.16	2.97	10.90	3.04	10.63	3.10	10.37	3.16	10.10	3.22

■ MODEL: AS*A30LC

AFR	18.3
-----	------

			Indoor temperature									
			16		18		20		22		24	
Outdoor temperature	(°CDB)	(°CWB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	-15	-16	7.74	4.07	7.56	4.16	7.38	4.24	7.19	4.33	7.01	4.41
	-10	-11	8.34	4.06	8.14	4.15	7.94	4.23	7.74	4.32	7.54	4.40
	-5	-7	9.61	4.08	9.38	4.17	9.15	4.25	8.93	4.34	8.70	4.42
	0	-2	10.54	4.04	10.29	4.13	10.04	4.21	9.79	4.30	9.54	4.38
	5	3	11.53	4.09	11.26	4.18	10.98	4.26	10.71	4.35	10.43	4.43
	7	6	11.55	3.39	11.28	3.46	11.00	3.53	10.73	3.60	10.45	3.67
	10	8	11.90	3.38	11.62	3.45	11.33	3.52	11.05	3.59	10.77	3.66
	15	10	11.48	2.95	11.20	3.01	10.93	3.07	10.66	3.13	10.38	3.20

■ MODEL: AS*A30LF

AFR	19.2
-----	------

			Indoor temperature									
			16		18		20		22		24	
Outdoor temperature	(°CDB)	(°CWB)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	-15	-16	7.75	4.07	7.56	4.16	7.38	4.24	7.20	4.32	7.01	4.41
	-10	-11	8.34	4.06	8.14	4.15	7.94	4.23	7.74	4.31	7.54	4.40
	-5	-7	9.61	4.08	9.38	4.17	9.15	4.25	8.92	4.34	8.69	4.42
	0	-2	10.54	4.04	10.29	4.13	10.04	4.21	9.79	4.29	9.54	4.38
	5	3	11.53	4.09	11.25	4.17	10.98	4.26	10.71	4.35	10.43	4.43
	7	6	11.55	3.39	11.28	3.46	11.00	3.53	10.73	3.60	10.45	3.67
	10	8	11.90	3.38	11.61	3.45	11.33	3.52	11.05	3.59	10.76	3.66
	15	10	11.48	2.95	11.20	3.01	10.93	3.07	10.66	3.13	10.38	3.19

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

7. FAN PERFORMANCE

7-1. AIR VELOCITY DISTRIBUTION

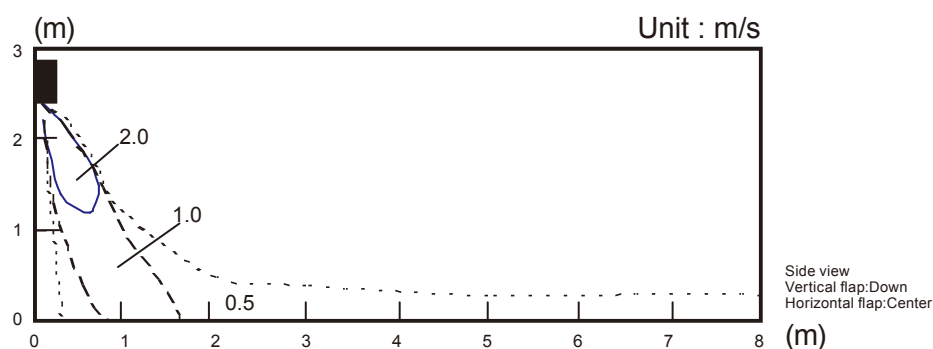
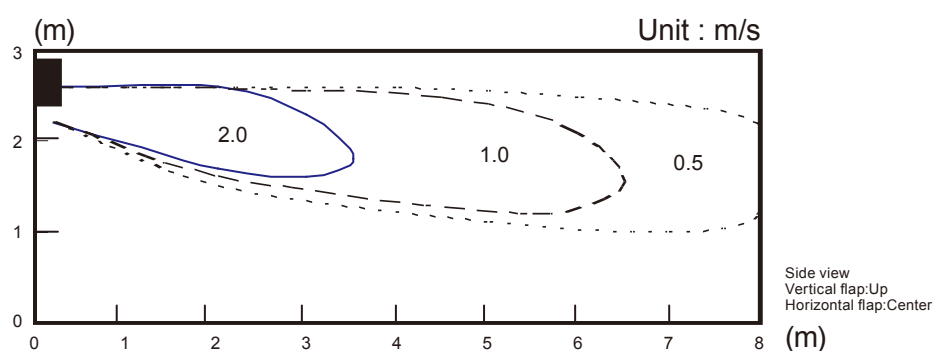
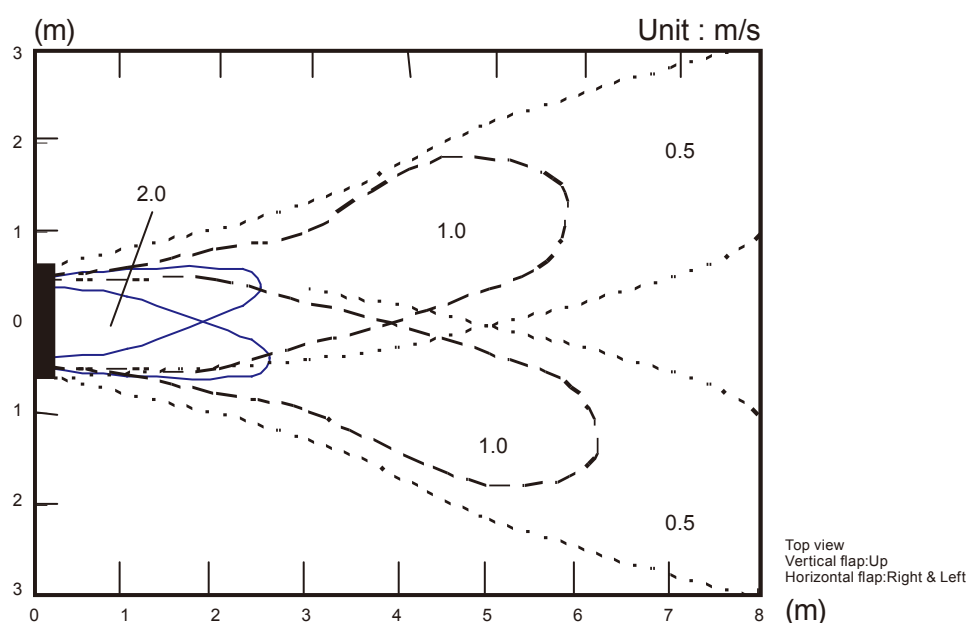
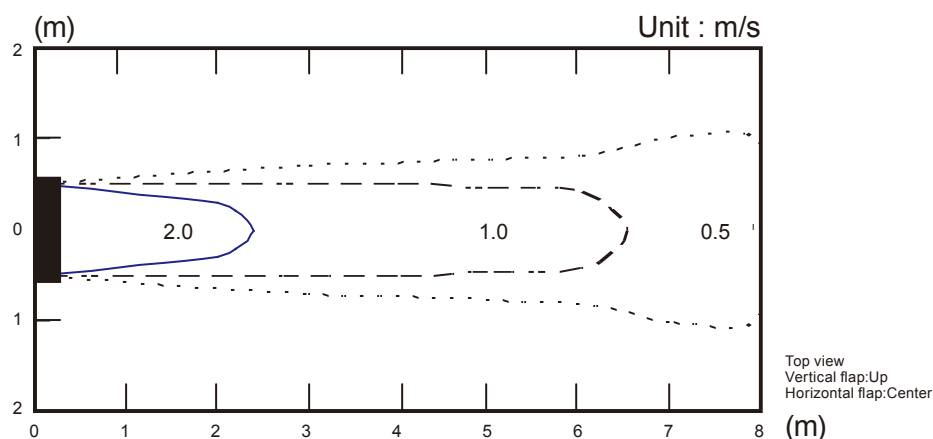
■ MODEL: AS*A24LC, AS*A30LC, AS*A30LF

Note:

Fan speed : High

Operation mode : FAN

Voltage : 230V



7-2. AIR FLOW

■ MODEL: AS*A24LC

● COOLING

Fan speed	Number of rotations (r.p.m.)	Air flow	
HIGH	1310	1100	m ³ /h
		306	l/s
		647	CFM
MED	1120	900	m ³ /h
		250	l/s
		530	CFM
LOW	940	740	m ³ /h
		206	l/s
		435	CFM
QUIET	830	620	m ³ /h
		172	l/s
		365	CFM

● HEATING

Fan speed	Number of rotations (r.p.m.)	Air flow	
HIGH	1310	1100	m ³ /h
		306	l/s
		647	CFM
MED	1120	900	m ³ /h
		250	l/s
		530	CFM
LOW	940	740	m ³ /h
		206	l/s
		435	CFM
QUIET	830	620	m ³ /h
		172	l/s
		365	CFM

■ **MODEL: AS*A30LC**

● **COOLING**

Fan speed	Number of rotations (r.p.m.)	Air flow	
HIGH	1330	1100	m ³ /h
		306	l/s
		647	CFM
MED	1120	900	m ³ /h
		250	l/s
		530	CFM
LOW	940	740	m ³ /h
		206	l/s
		435	CFM
QUIET	830	620	m ³ /h
		172	l/s
		365	CFM

● **HEATING**

Fan speed	Number of rotations (r.p.m.)	Air flow	
HIGH	1330	1100	m ³ /h
		306	l/s
		647	CFM
MED	1120	900	m ³ /h
		250	l/s
		530	CFM
LOW	940	740	m ³ /h
		206	l/s
		435	CFM
QUIET	830	620	m ³ /h
		172	l/s
		365	CFM

■ **MODEL: AS*A30LF**

● **COOLING**

Fan speed	Number of rotations (r.p.m.)	Air flow	
HIGH	1430	1100	m ³ /h
		306	l/s
		647	CFM
MED	1220	900	m ³ /h
		250	l/s
		530	CFM
LOW	1020	740	m ³ /h
		206	l/s
		435	CFM
QUIET	900	620	m ³ /h
		172	l/s
		365	CFM

● **HEATING**

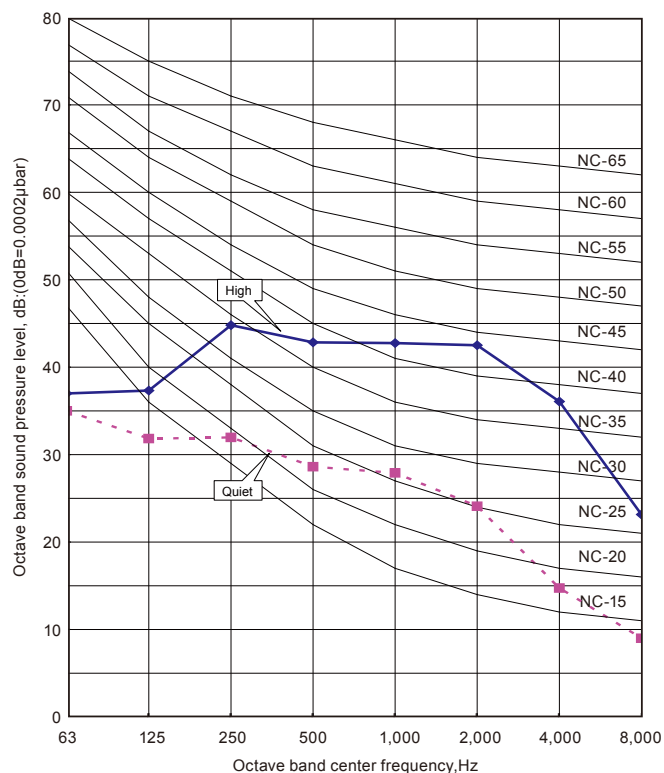
Fan speed	Number of rotations (r.p.m.)	Air flow	
HIGH	1530	1150	m ³ /h
		319	l/s
		677	CFM
MED	1220	900	m ³ /h
		250	l/s
		530	CFM
LOW	1020	740	m ³ /h
		206	l/s
		435	CFM
QUIET	900	620	m ³ /h
		172	l/s
		365	CFM

8. OPERATION NOISE

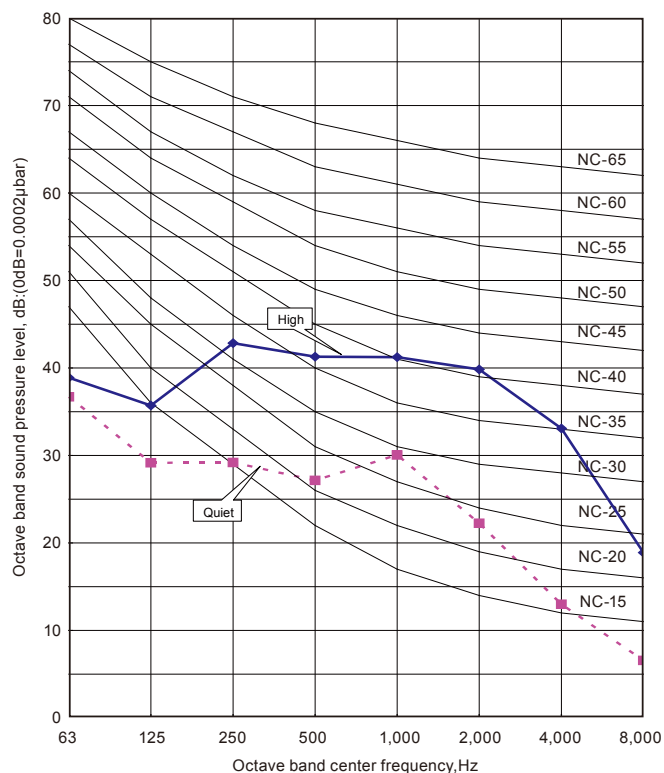
8-1. NOISE LEVEL CURVE

MODEL: AS*A24LC

● Cooling

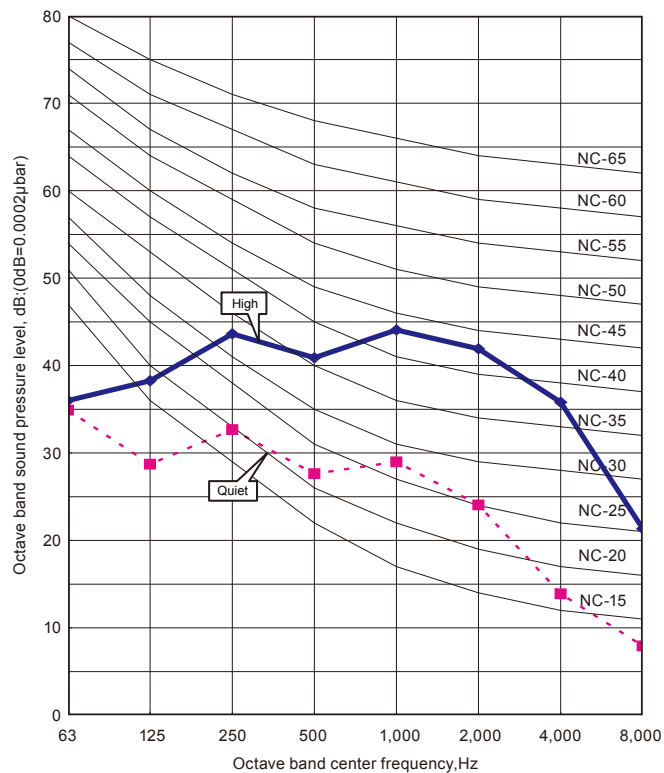


● Heating

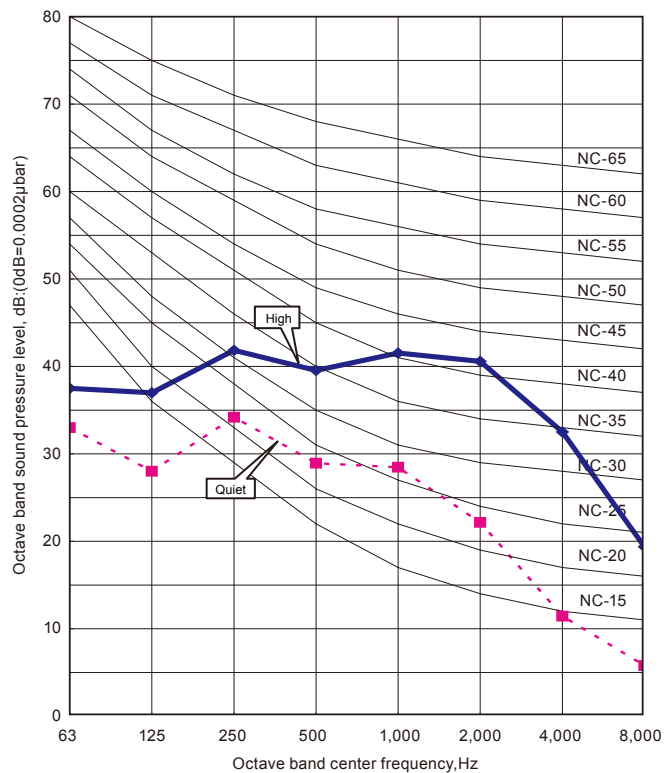


MODEL: AS*A30LC

● Cooling

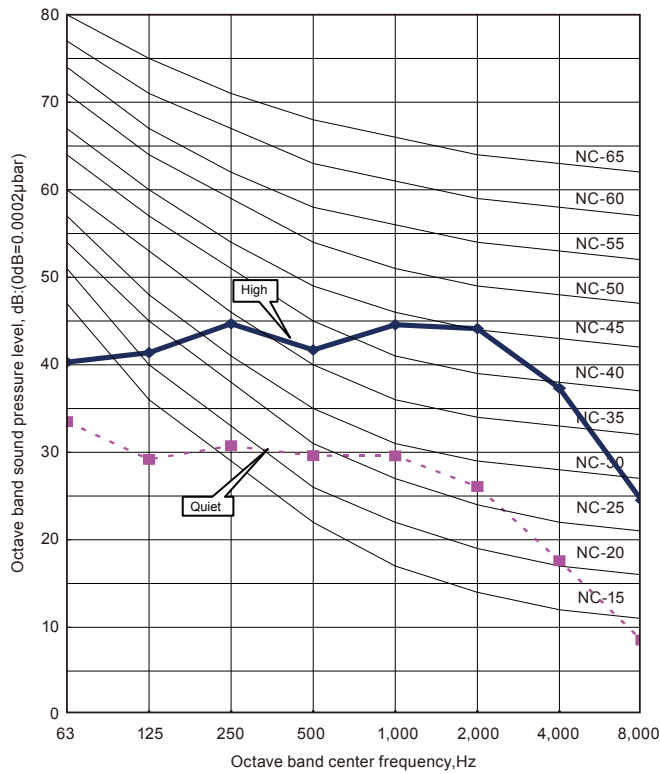


● Heating

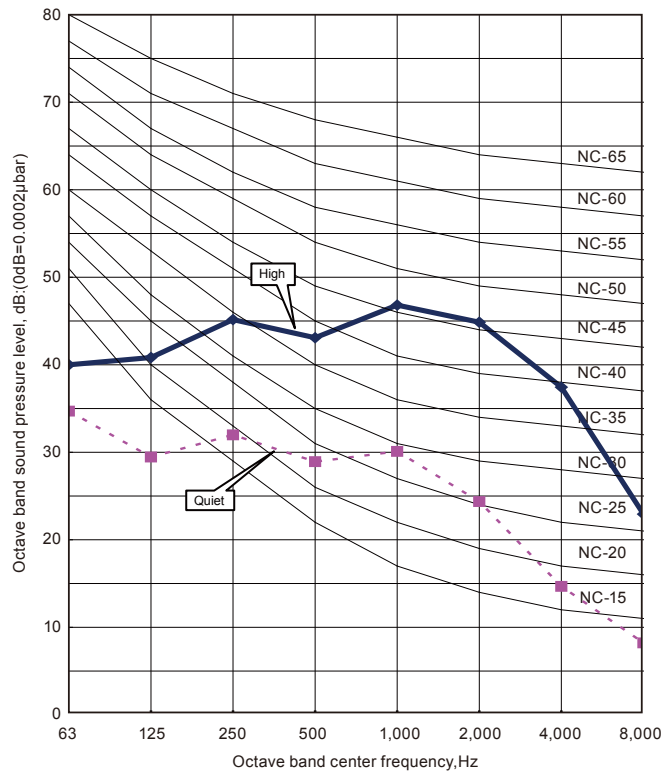


MODEL: AS*A30LF

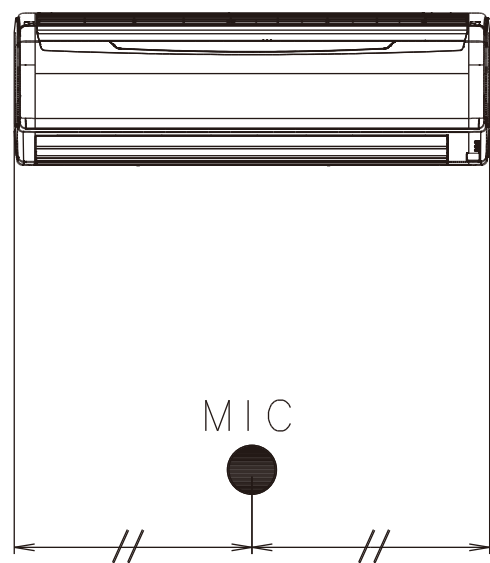
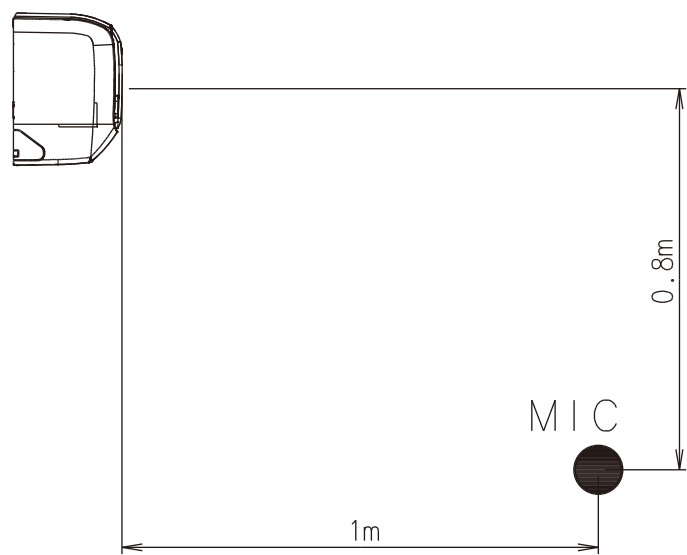
● Cooling



● Heating



8-2. SOUND LEVEL CHECK POINT



9. ELECTRIC CHARACTERISTICS

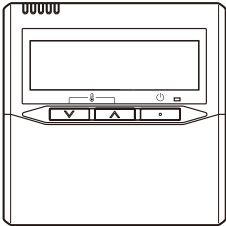
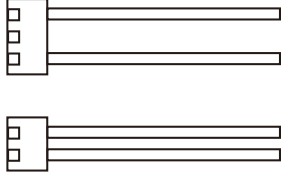
Model name			AS*A24LC	AS*A30LC, AS*A30LF
Power supply	Voltage	V	230~	
	Frequency	Hz	50	
Max. operating current		A	0.3	0.3
*1)Wiring Spec.	Circuit breaker	A	0.4	0.4
	Connection cable	mm ²	1.5-2.5	1.5-2.5
	Limited wiring length	m	31	51

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

10. SAFETY DEVICES

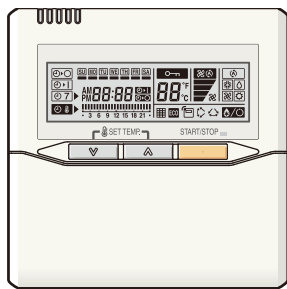
	Protection form	Model
		AS*A24LC, AS*A30LC, AS*A30LF
Circuit protection	Current fuse (PCB)	3.15A 250V
Terminal protection	Current (thermal) fuse	3A 250V
Fan motor protection	Thermal protector program	100^{+15}_{-10} °C OFF 95^{+5}_{-10} °C ON

11. OPTIONAL PARTS

Exterior	Parts name	Model No.	Summary
	Wired remote controller	UTB-＊UD	Unit control is performed by wired remote controller.
	Apple-catechin filter	UTR-FA13-1	Fine dust, invisible mold spores, and harmful microorganisms are absorbed onto the filter by static electricity, and further growth is inhibited and deactivated by the polyphenol ingredient extracted from apples.
	Ion deodorisation filter	UTR-FA13-2	The filter deodorizes by powerfully decomposing absorbed odors using the oxidizing and reducing effects of ions generated by the ultra fine-particle ceramic.
	External connect kit	UTY-XWZX	Use to connect with various peripheral devices and air conditioner PC board.

11-1. WIRED REMOTE CONTROLLER

■ FEATURES



- * Various timer setup (ON / OFF / WEEKLY) are possible.
- * Equipped with weekly timer as standard function. (2 times Start / Stop per day for a week)
- * When setting up a timer, operation mode and a temperature setup can be changed.
- * When a failure occurs, the error code is displayed.
- * Error indication.
- * Easy installation with a slim shape with no bulge in the back.

● Simple function setting

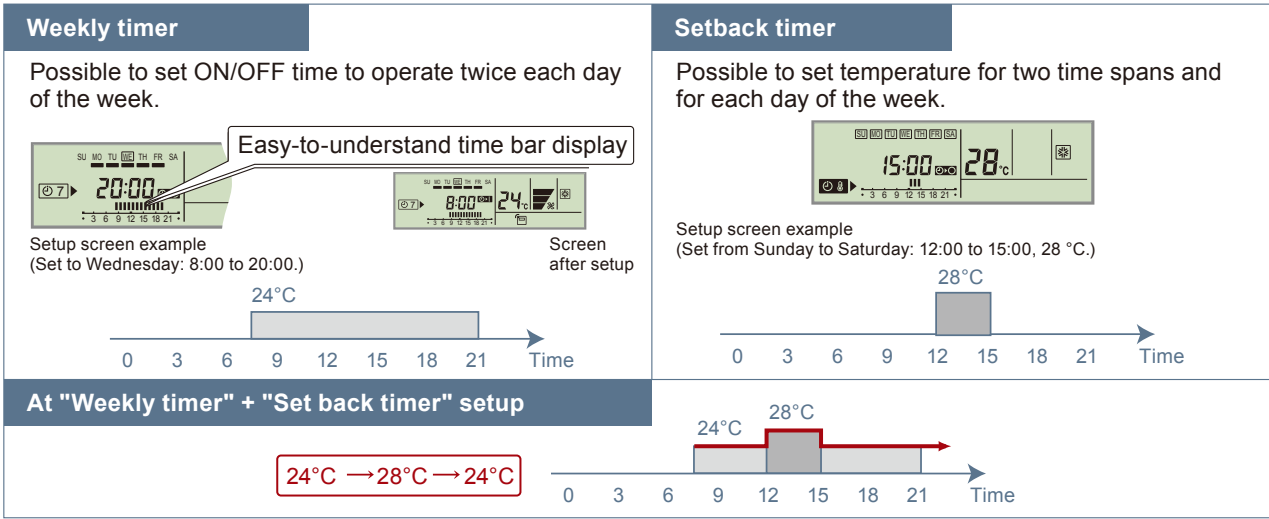
Setting of the air conditioner selection function is performed by remote controller.

● High performance and compact size

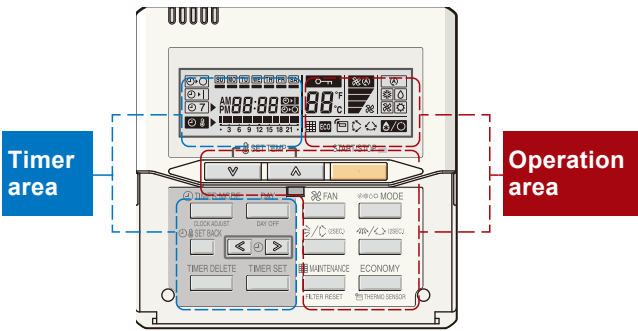
Three functions are combined in one unit.



● Built-in timers



● Easy-to-understand operation

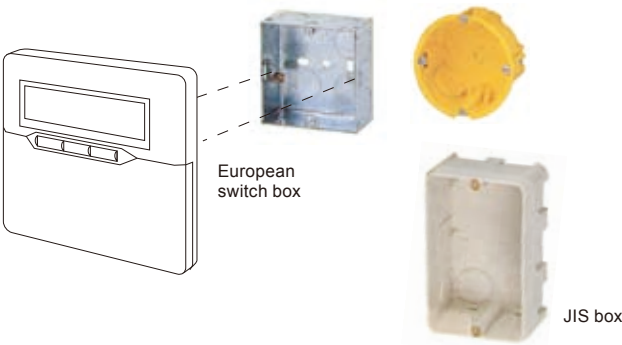


[Variable timer control]

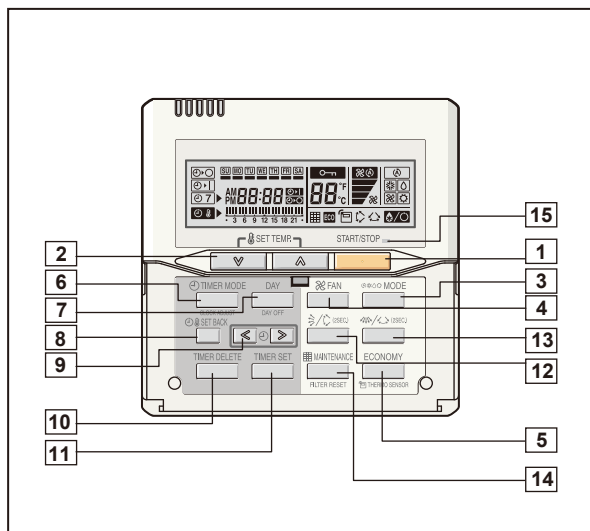
The operation/display sections are zoned according to time and operation, enabling variable programming to match application.

● Simple installation

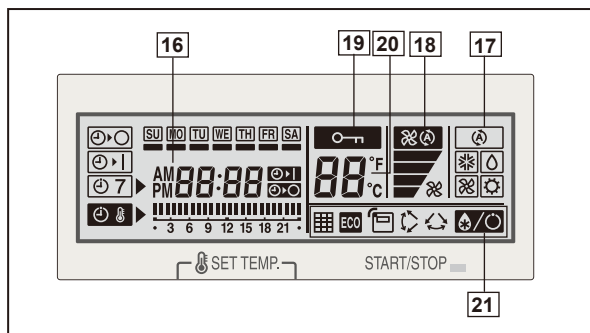
Components are compatible with standard switch boxes. Flat back construction allows equipment to be installed wherever it is needed.



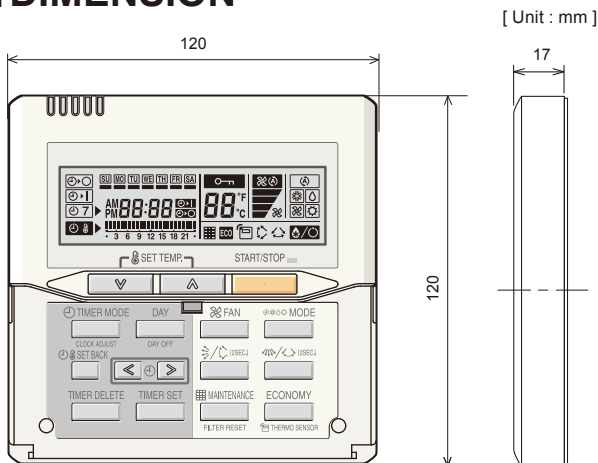
FUNCTIONS



Display panel



DIMENSION



SPECIFICATION

SIZE	(H x W x D mm)	120 x 120 x 17
WEIGHT	(g)	160
CABLE LENGTH	(m)	10
POWER	(V)	12

- 1 START/STOP button**
Pressed to start and stop operation.
- 2 Set temperature button**
Selects the setting temperature.
- 3 Master control button**
Selects the operating mode(AUTO, HEAT, FAN, COOL, DRY).
- 4 Fan control button**
Selects the fan speed (AUTO, QUIET, LOW, MED, HIGH).
- 5 Economy button**
Turns the economy efficient mode on and off.
- 6 Timer mode (CLOCK ADJUST) button**
Selects the timer mode (OFF TIMER, ON TIMER, WEEKLY TIMER). Set the current time.
- 7 Day (DAY OFF) button**
Temporarily cancels of one day timer.
- 8 Set back button**
Pressed to select the set back timer.
- 9 Set time button**
Pressed to set time.
- 10 Delete button**
The schedule of a weekly timer is deleted.
- 11 Set button**
Sets the date, hour, minute and on-off time.
- 12 Vertical airflow direction and swing button**
Push for two seconds to change the swing mode.
- 13 Horizontal airflow direction and swing button**
Push for two seconds to change the swing mode.
- 14 Filter button**
- 15 Operation lamp**
Lights during operation and when the timer is on.
- 16 Timer and clock display**
- 17 Operation mode display**
- 18 Fan speed display**
- 19 Operation lock display**
- 20 Temperature display**
- 21 Function display**
 - Defrost display
 - Thermo sensor display
 - Economy display
 - Vertical swing display
 - Horizontal swing display
 - Filter display

Functions will be different due to type of indoor unit.
For details, please see operation manual.

11-2. EXTERNAL CONNECT KIT

This kit allows to operate the air conditioner, such as stopping and starting, using an external device, and output the operation status of the air conditioner.

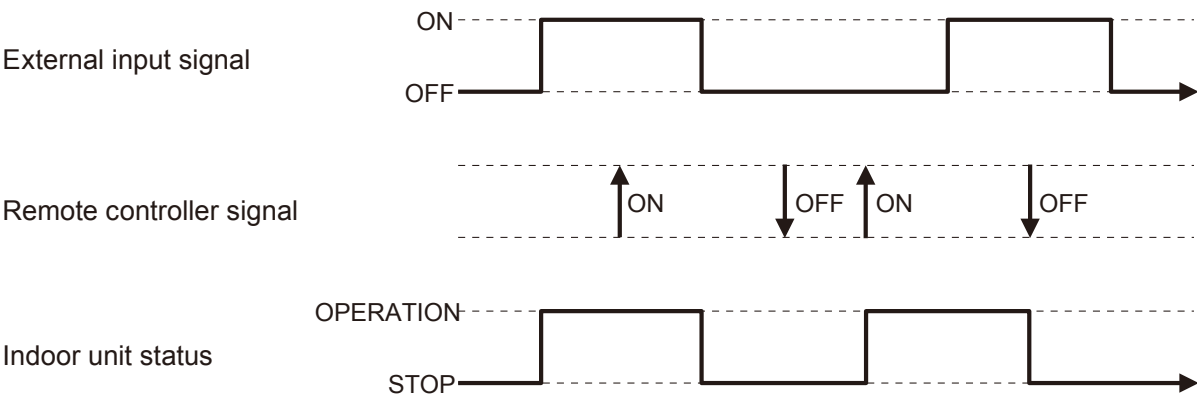
- Only operation and stop signals will be output.
Use the remote control to check the operation mode, temperature, and airflow.
Check the error information on the display area of the main unit.
- Operation mode, temperature, and airflow cannot be set by external input. Use the remote controller to set.
- If the air-conditioner is activated by external input, it will operate in the settings before stop.
To change the settings, use the remote controller.

■ CONTROL INPUT SETTING

- You can control air conditioner ON / OFF operation by external input.

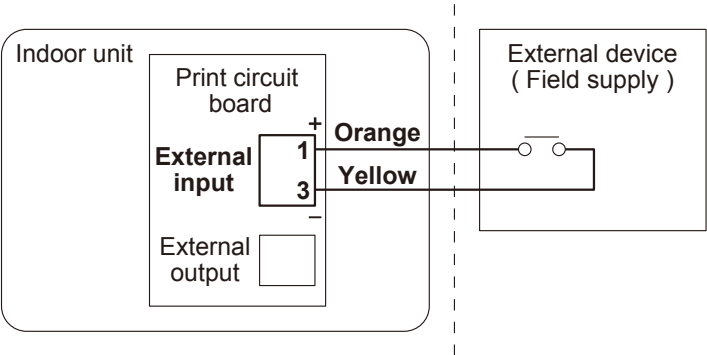
● Signal specification

- No voltage ON/OFF continuous signal.
- Contact capacity : DC12V 10mA

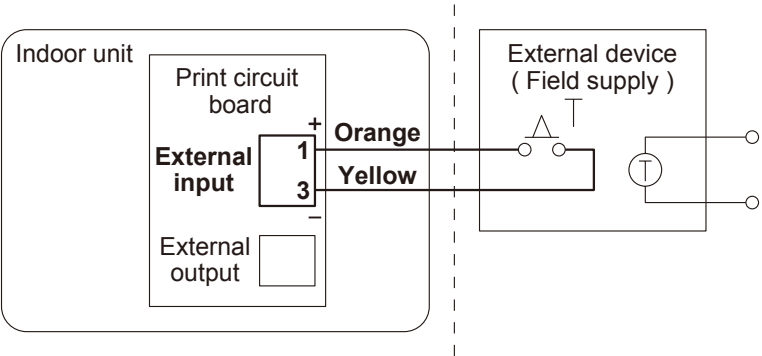


● Installation example

- For remote operation



- For external timer operation

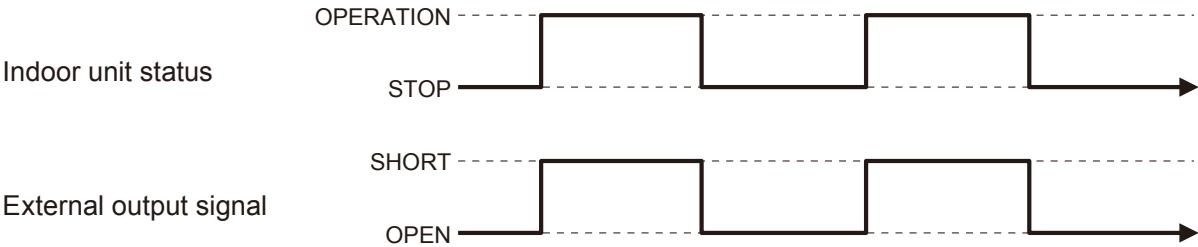


OPERATING OUTPUT SETTING

- You can display air conditioner ON / OFF operation by external output.

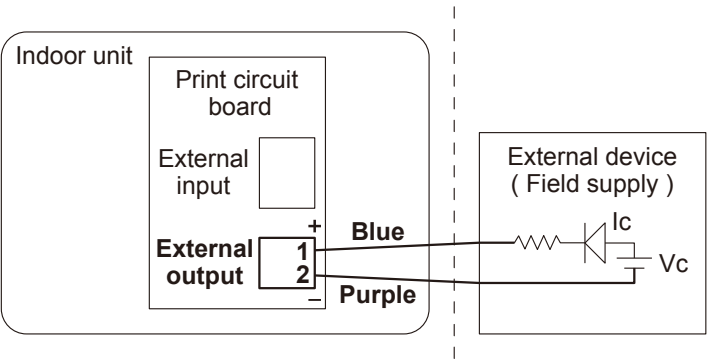
Signal specification

- No voltage contact.
- Contact capacity : Max. DC24V 10mA to 1A or less



Installation example

- For operation display



2. OUTDOOR UNIT

SINGLE TYPE :

AO*R24LCC

AO*R30LCT

AO*R30LFT

CONTENTS

2. OUTDOOR UNIT

1. SPECIFICATIONS.....	02 - 01
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5. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE	02 - 10
6. ADDITIONAL CHARGE CALCULATION.....	02 - 12
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10. SAFETY DEVICES	02 - 19

1. SPECIFICATIONS

Type				INVERTER HEAT PUMP		
Model name				AO★R24LCC	AO★R30LCT	
Power source				230V~ 50Hz		
Available voltage range				198-264V ~ 50Hz		
Starting current			A	9.8	11.7	
Fan	Airflow rate	Cooling	m³/h	2,340	3,600	
		Heating		2,470	3,800	
	Type × Q'ty		Propeller fan×1			
	Motor output		W	65	100	
Sound pressure level		Cooling	dB(A)	52	53	
		Heating		53	55	
Heat exchanger type		Dimensions (H × W × D)	mm	Main : 546 × 866 × 36.4 Sub : 504 × 589 × 18.2	798 × 900 × 36.4	
		Fin pitch		Main:1.4, Sub:1.4	1.3	
		Rows x Stages		Main:2 × 26, Sub:1 × 24	2 × 38	
		Pipe type		Copper		
		Fin Type		Aluminum		
Compressor	Type × Q'ty		Scroll × 1	Rotary × 1		
	Motor output		W	1,200	1,700	
Refrigerant		Type	R410A			
		Charge	g	1,600	2,100	
Refrigerant oil		Type	PVE (FV50S)			
Enclosure		Material	Steel			
		Colour	BEIGE Approximate colour of MUNSELL 10YR7.5/1.0			
Dimensions (H×W×D)	Net		mm	578 × 790 × 315	830 × 900 × 330	
	Gross			648 × 910 × 380	970 × 1050 × 445	
Weight	Net		kg(lb.)	44 (97)	62 (137)	
	Gross			48 (105.8)	70 (154)	
Connection pipe	Size	Liquid	mm	Ø6.35 (Ø 1/4 in.)	Ø9.52 (Ø 3/8 in.)	
		Gas		Ø15.88 (Ø 5/8 in.)	Ø15.88 (Ø 5/8 in.)	
	Method		Flare	Flare		
	Max. length		m	30 (chargeless : 15)	50 (chargeless : 20)	
	Max. height difference			20	30	
Operation range		Cooling	℃	-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)

Type				INVERTER HEAT PUMP		
Model name				AO✱R30LFT		
Power source				230V~ 50Hz		
Available voltage range				198-264V ~ 50Hz		
Starting current			A	10.9		
Fan	Airflow rate	Cooling	m³/h	3,600		
		Heating		3,600		
	Type × Q'ty		Propeller fan×1			
	Motor output		W	100		
Sound pressure level		Cooling	dB(A)	53		
		Heating		55		
Heat exchanger type		Dimensions (H × W × D)		mm	798×900×36.4	
		Fin pitch			1.3	
		Rows x Stages			2×38	
		Pipe type			Copper	
		Fin	Type(Material)		Corrugate (Aluminum)	
			Surface treatment		Corrosion resistance	
Compressor	Type × Q'ty		Rotary ×1			
	Motor output		W	2,100		
Refrigerant		Type		R410A		
		Charge	g	2,100		
Refrigerant oil		Type		POE (RB68)		
Enclosure		Material		Steel		
		Colour		BEIGE Approximate colour of MUNSELL 10YR7.5/1.0		
Dimensions (H×W×D)	Net		mm	830×900×330		
	Gross			970×1050×445		
Weight	Net		kg(lb.)	61 (135)		
	Gross			68 (150)		
Connection pipe	Size	Liquid	mm	Ø9.52 (Ø 3/8 in.)		
		Gas		Ø15.88 (Ø 5/8 in.)		
	Method			Flare		
	Max. length		m	50(chargeless:20)		
	Max. height difference			30		
Operation range		Cooling	°C	-10 to 46		
		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.

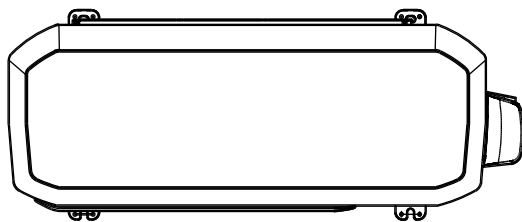
Heating : Indoor temperature of 20 °CDB / 15 °CWB.and outdoor temperature of 7 °CDB/6 °CWB.

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

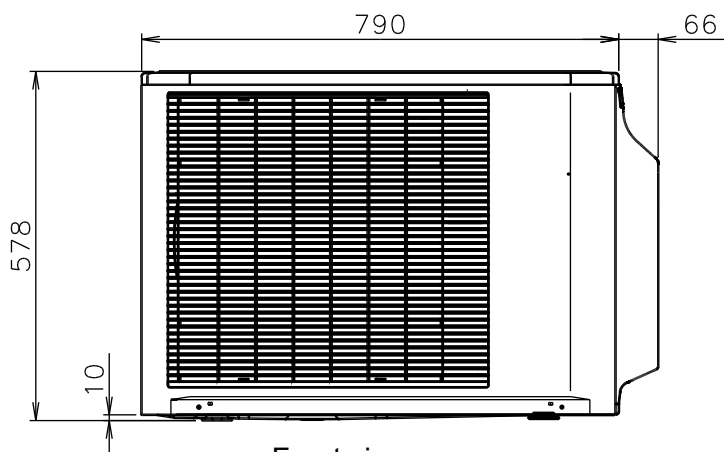
2. DIMENSIONS

■ MODEL: AO*R24LC

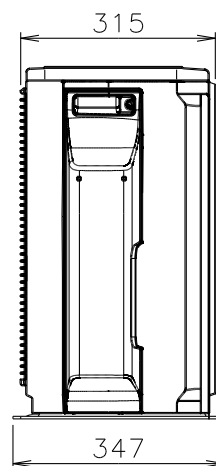
(Unit : mm)



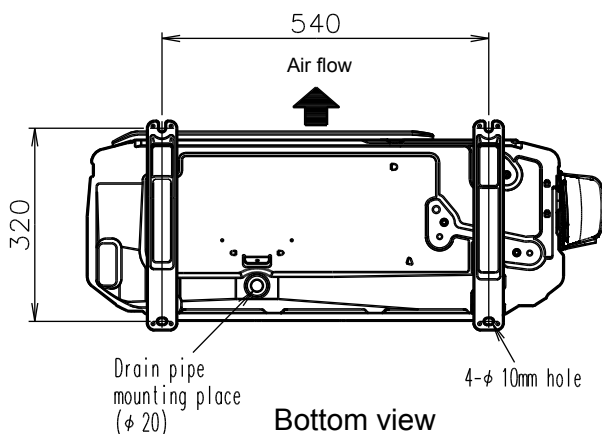
Top view



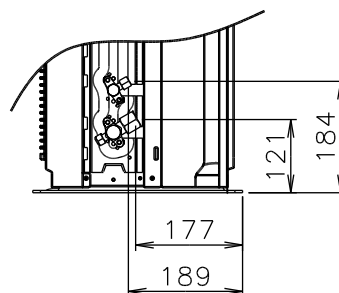
Front view



Side view

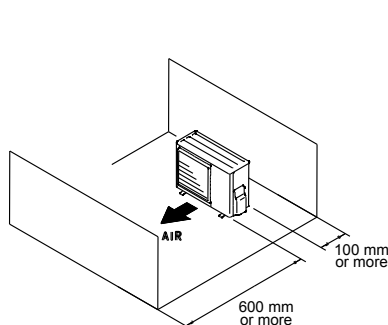


Bottom view

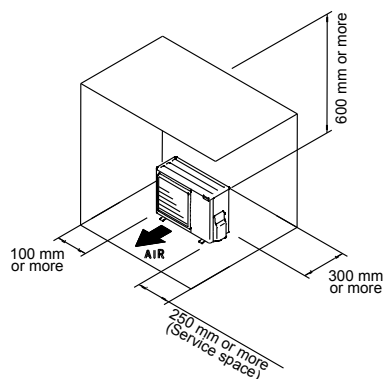


■ INSTALLATION PLACE

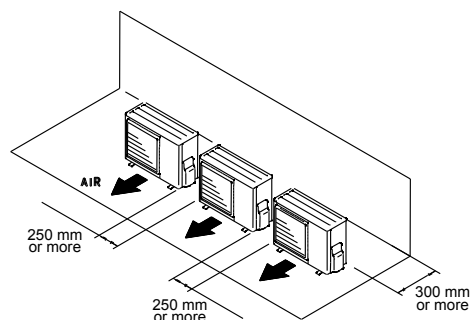
When there are obstacles at the back or front sides.



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

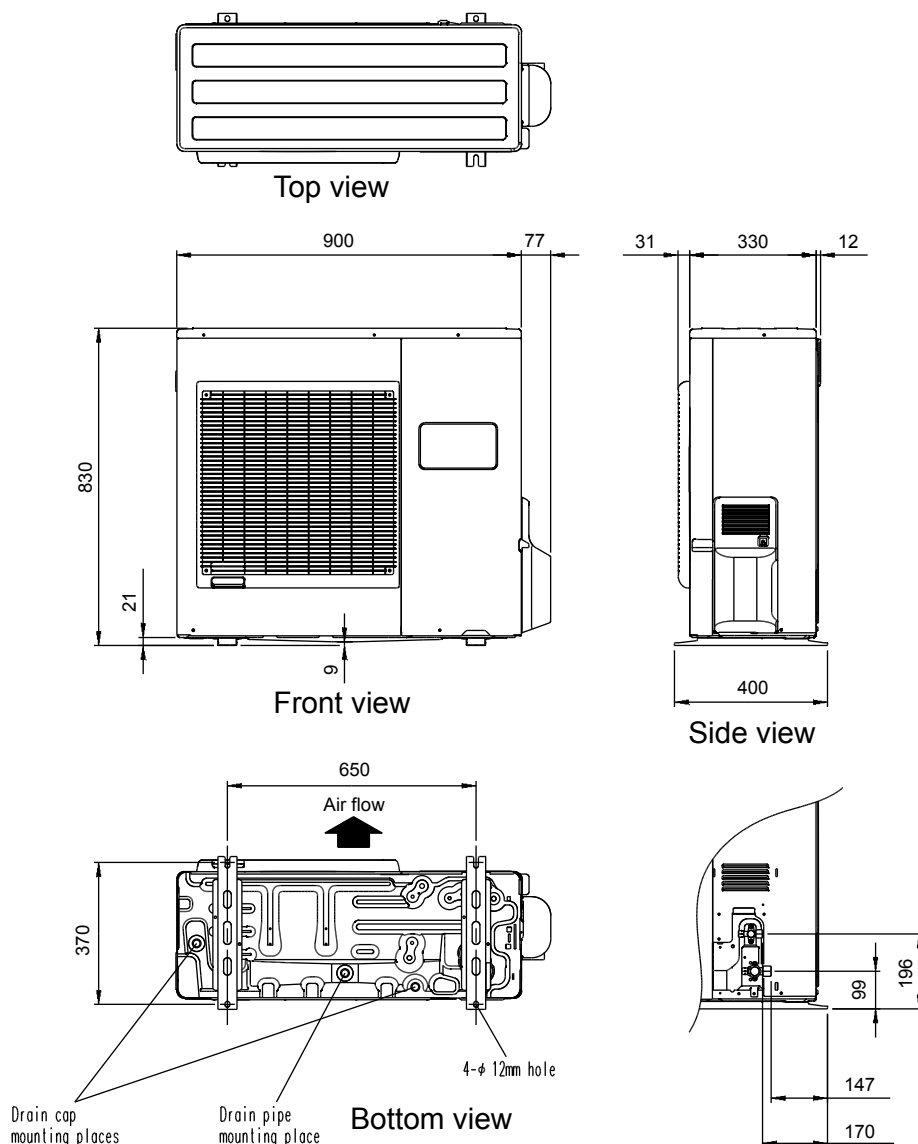


When there are obstacles at the back, side with the installation of more than one unit.



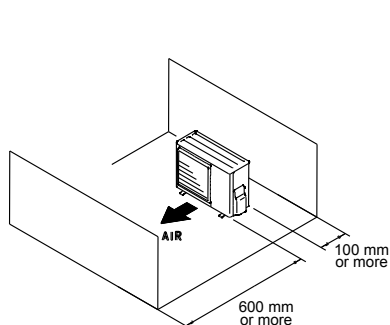
MODEL: AO*R30LC, AO*R30LF

(Unit : mm)

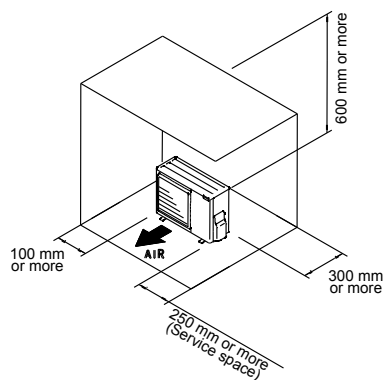


INSTALLATION PLACE

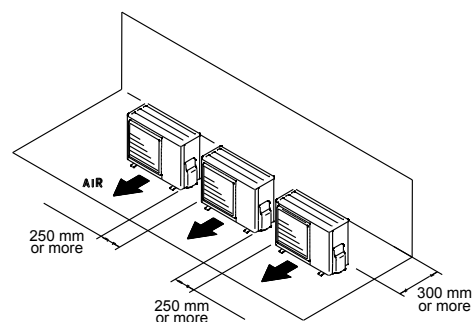
When there are obstacles at the back or front sides.



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

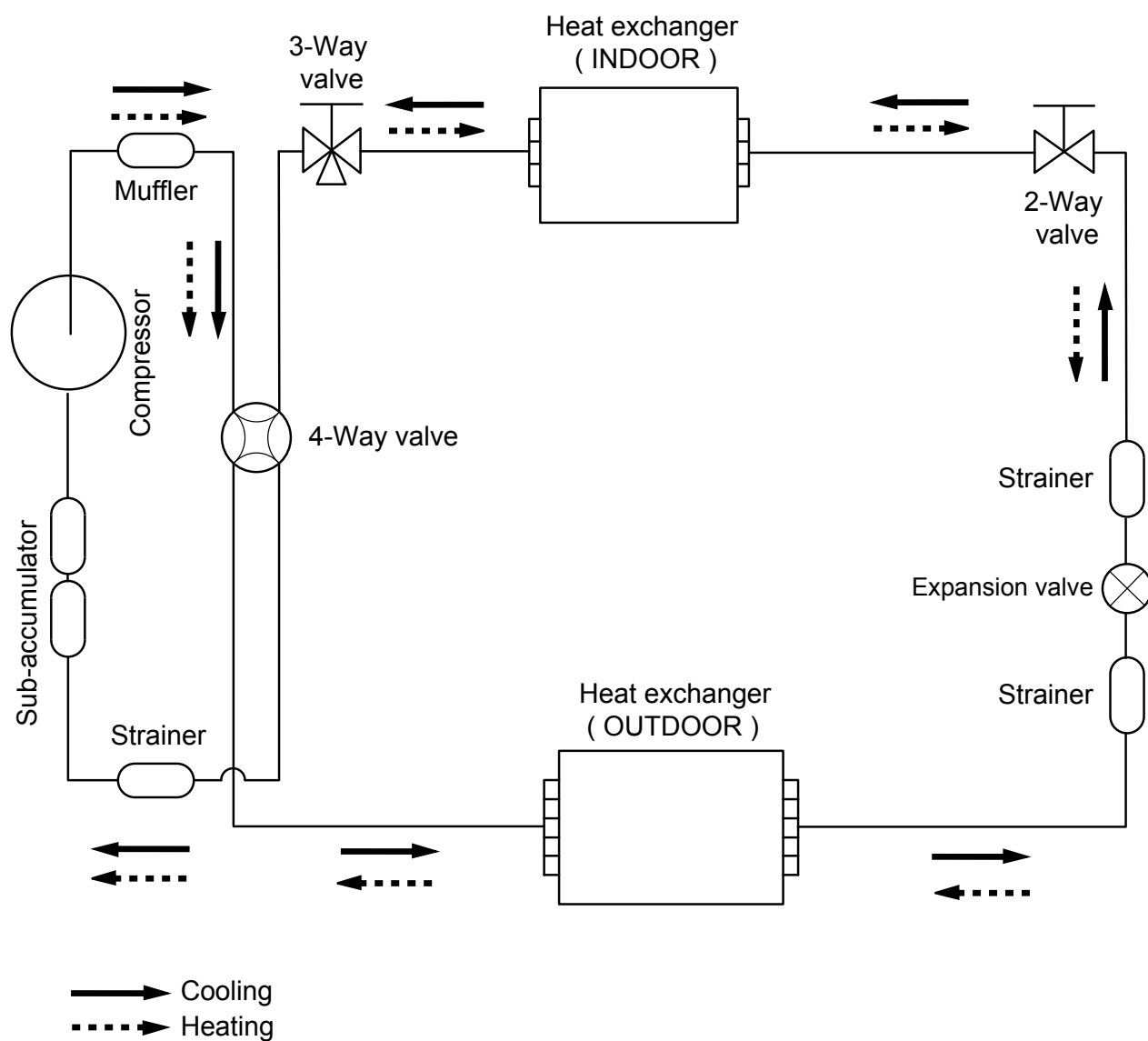


When there are obstacles at the back, side with the installation of more than one unit.



3. REFRIGERANT CIRCUIT

■ MODEL: AO*R24LC

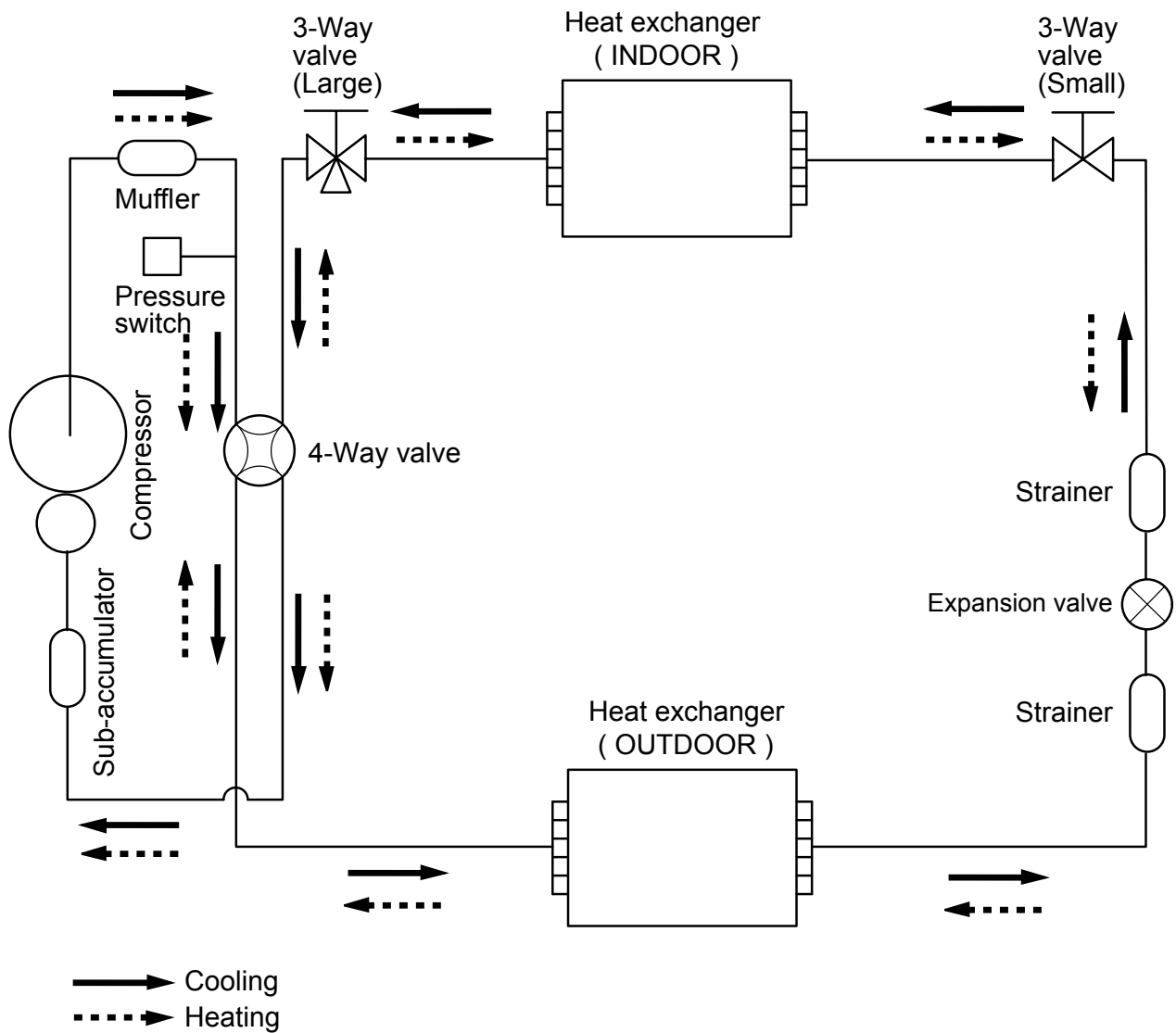


Refrigerant pipe diameter

Liquid : 1/4" (6.35 mm)

Gas : 5/8" (15.88 mm)

■ MODEL: AO*R30LC,AO*R30LF



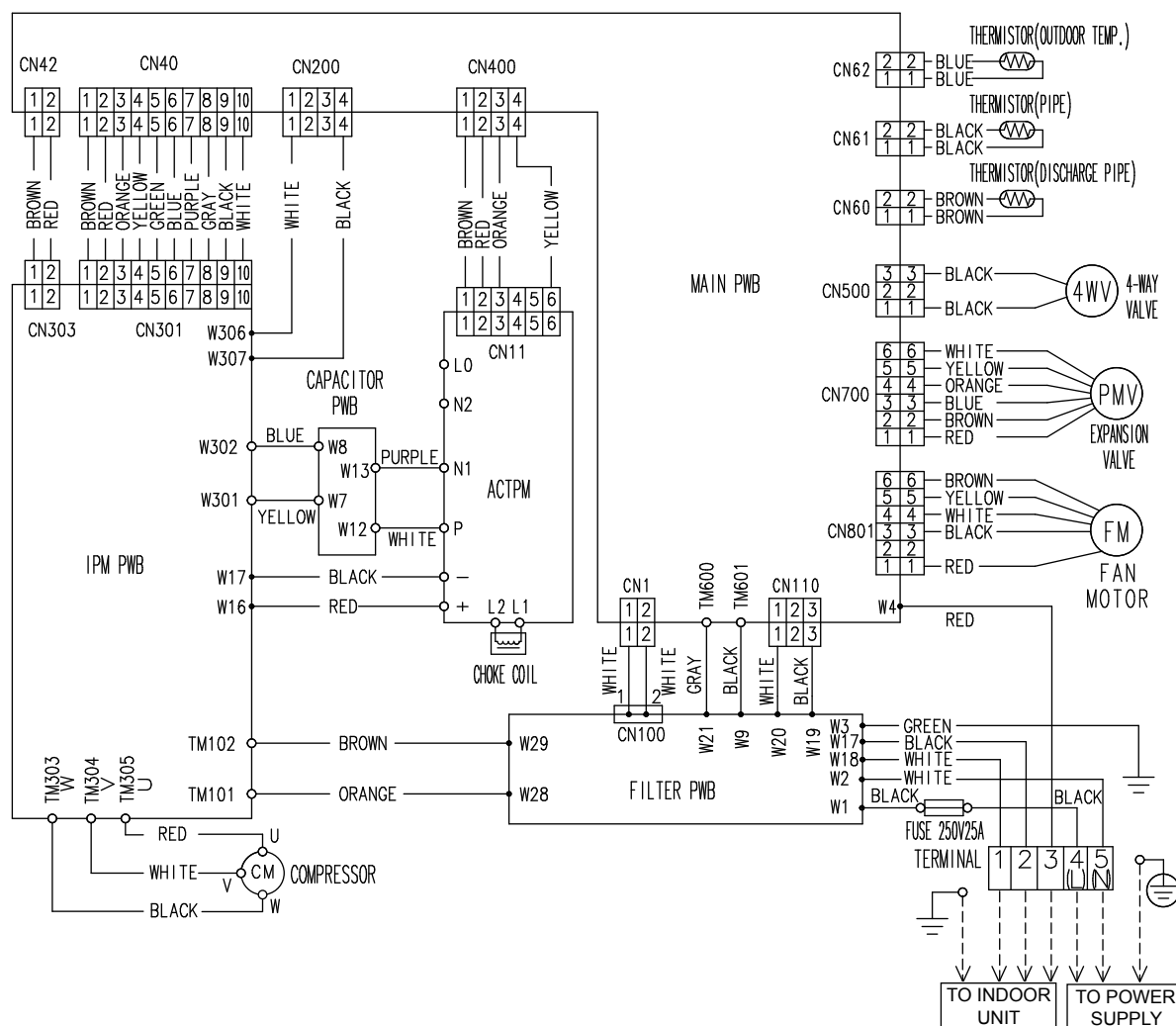
Refrigerant pipe diameter

Liquid : 3/8" (9.52 mm)

Gas : 5/8" (15.88 mm)

4. WIRING DIAGRAMS

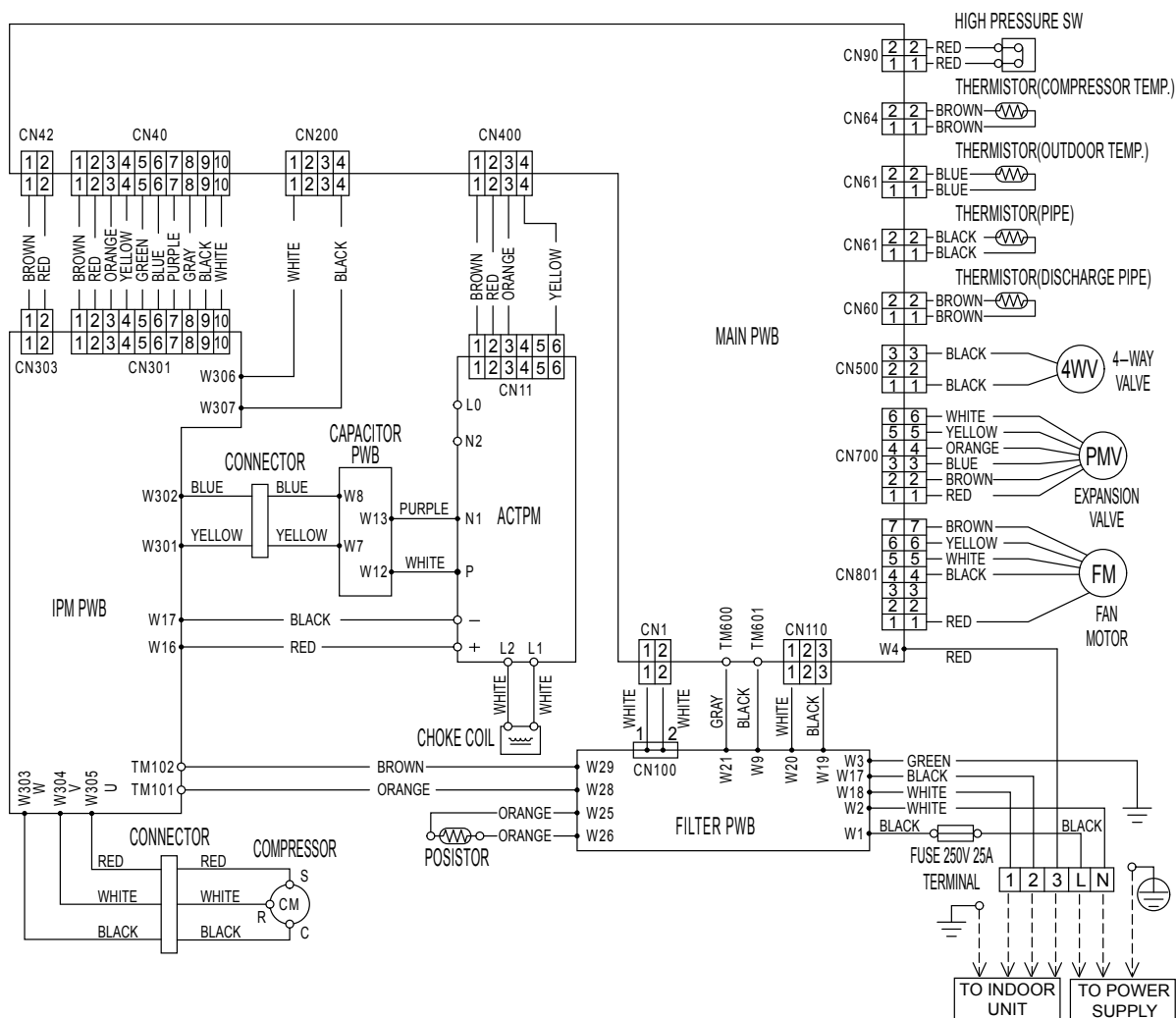
■ MODEL: AO*R24LC



MODEL: AO*R30LC

OUTDOOR UNIT
AO*R24-30LC(F)

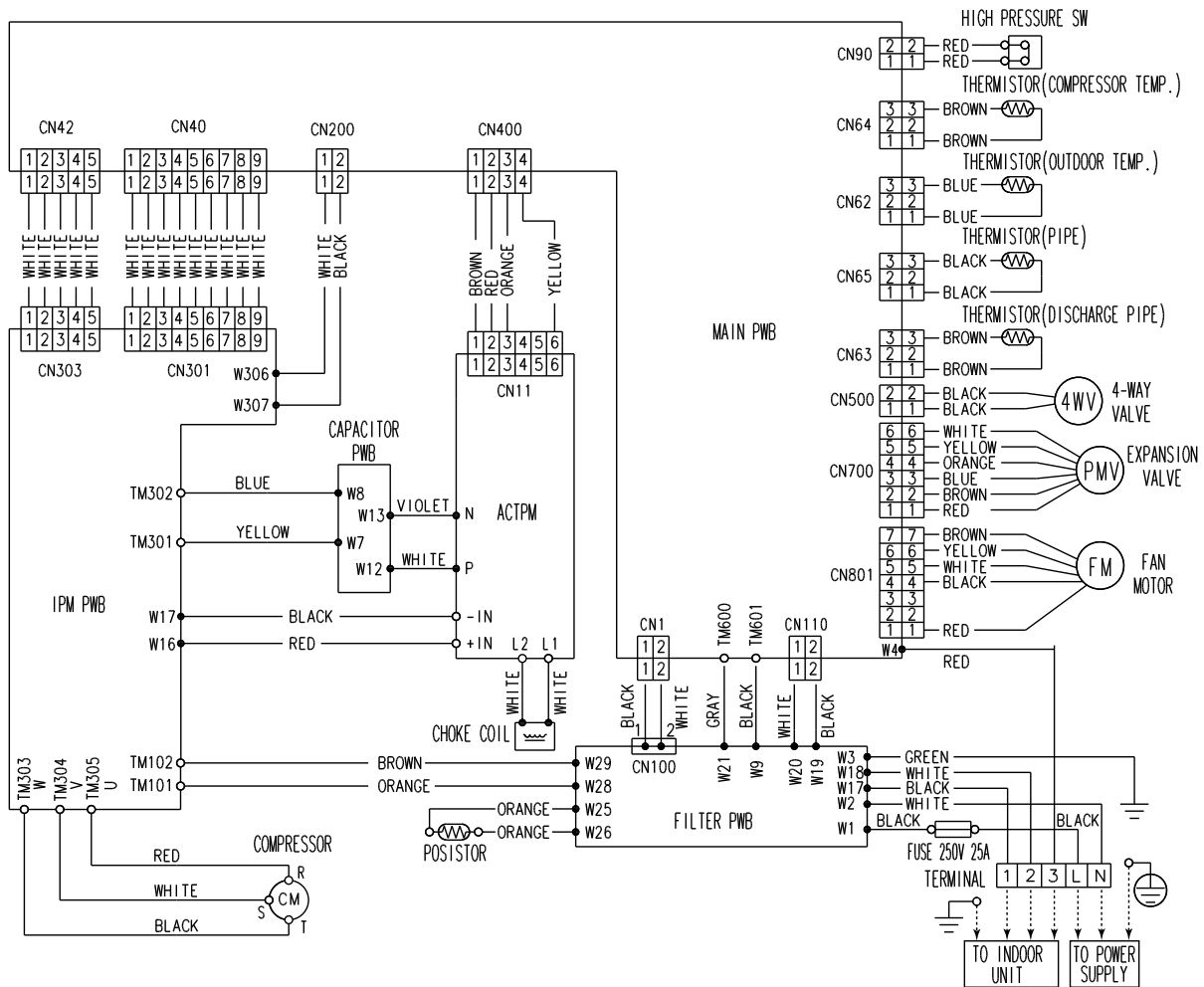
OUTDOOR UNIT
AO*R24-30LC(F)



■ MODEL: AO*R30LF

OUTDOOR UNIT
AO*R24-30LC(F)

OUTDOOR UNIT
AO*R24-30LC(F)



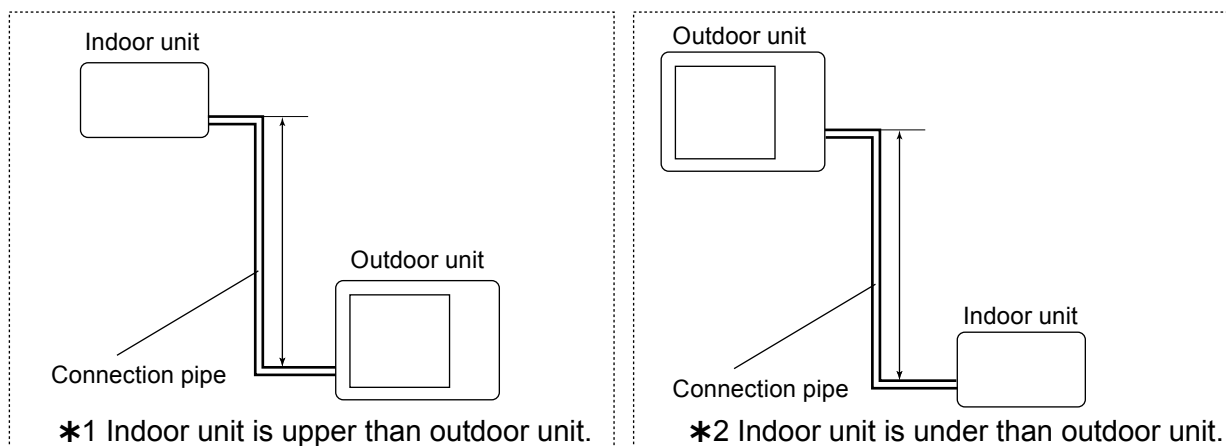
5. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE

■ MODEL: AO*R24LC

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	-	-	-	0.951	0.952	0.951	0.951
		10	-	-	0.980	0.966	0.968	0.967	0.966
		7.5	-	0.988	0.984	0.970	0.972	0.971	0.970
		5	0.995	0.992	0.988	0.974	0.976	0.975	0.974
		0	1.003	1.000	0.996	0.982	0.983	0.983	0.982
	*2 Indoor unit is under than outdoor unit	-5	1.003	1.000	0.996	0.982	0.983	0.983	0.982
		-7.5	-	1.000	0.996	0.982	0.983	0.983	0.982
		-10	-	-	0.996	0.982	0.983	0.983	0.982
		-20	-	-	-	0.982	0.983	0.983	0.982

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	-	-	-	0.975	0.954	0.932	0.908
		10	-	-	0.998	0.975	0.954	0.932	0.908
		7.5	-	1.000	0.998	0.975	0.954	0.932	0.908
		5	0.989	1.000	0.998	0.975	0.954	0.932	0.908
		0	0.989	1.000	0.998	0.975	0.954	0.932	0.908
	*2 Indoor unit is under than outdoor unit	-5	0.984	0.995	0.993	0.970	0.950	0.927	0.903
		-7.5	-	0.993	0.991	0.968	0.947	0.925	0.901
		-10	-	-	0.988	0.965	0.945	0.923	0.899
		-20	-	-	-	0.956	0.935	0.914	0.890

Height difference H

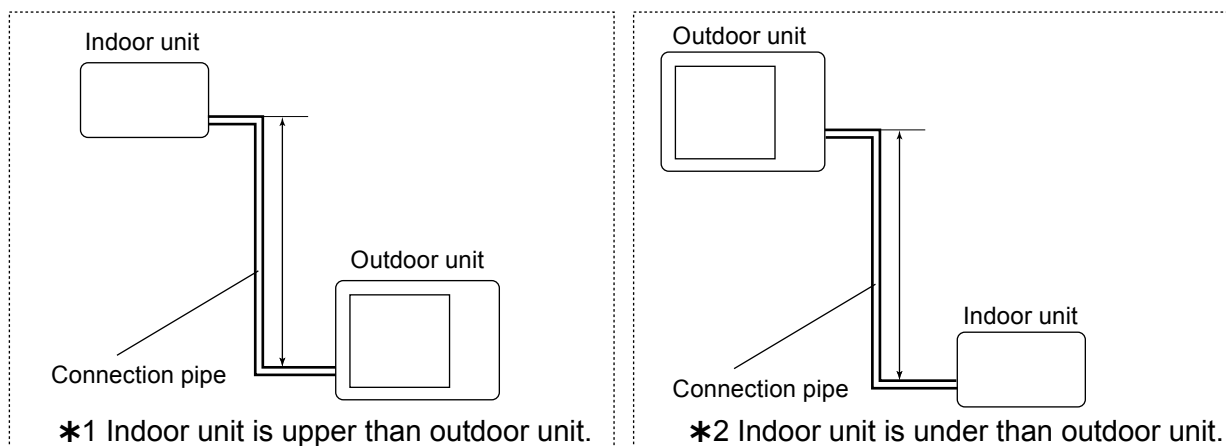


MODEL: AO*R30LC, AO*R30LF

COOLING			Pipe length (m)						
			5	7.5	10	20	30	40	50
Height difference H (m)	*1 Indoor unit is upper than outdoor unit.	20	-	-	-	0.945	0.947	0.945	0.940
		10	-	-	0.984	0.961	0.963	0.960	0.956
		7.5	-	0.988	0.988	0.965	0.967	0.964	0.959
		5	0.990	0.992	0.992	0.968	0.971	0.968	0.963
		0	0.998	1.000	1.000	0.976	0.979	0.976	0.971
	*2 Indoor unit is under than outdoor unit	-5	0.998	1.000	1.000	0.976	0.979	0.976	0.971
		-7.5	-	1.000	1.000	0.976	0.979	0.976	0.971
		-10	-	-	1.000	0.976	0.979	0.976	0.971
		-20	-	-	-	0.976	0.979	0.976	0.971

HEATING			Pipe length (m)						
			5	7.5	10	20	30	40	50
Height difference H (m)	*1 Indoor unit is upper than outdoor unit.	20	-	-	-	0.872	0.816	0.756	0.686
		10	-	-	0.991	0.872	0.816	0.756	0.686
		7.5	-	1.000	0.991	0.872	0.816	0.756	0.686
		5	0.986	1.000	0.991	0.872	0.816	0.756	0.686
		0	0.986	1.000	0.991	0.872	0.816	0.756	0.686
	*2 Indoor unit is under than outdoor unit	-5	0.981	0.995	0.986	0.868	0.812	0.752	0.683
		-7.5	-	0.993	0.983	0.866	0.810	0.750	0.681
		-10	-	-	0.981	0.864	0.808	0.748	0.679
		-20	-	-	-	0.855	0.799	0.740	0.672

Height difference H



6. ADDITIONAL CHARGE CALCULATION

■ MODEL: AO*R24LC

Refrigerant type		R410A
Refrigerant amount	g	1600

● REFRIGERANT CHARGE

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

■ MODEL: AO*R30LC, AO*R30LF

Refrigerant type		R410A
Refrigerant amount	g	2100

● REFRIGERANT CHARGE

Pipe length	m	~20	30	40	50	40g/m
Additional charge	g	0 (Chargeless)	+400	+800	+1200	

7. AIR FLOW

■ MODEL: AO*R24LC

● COOLING

Number of rotations (r.p.m.)	Air flow	
1000	2340	m ³ /h
	650	l/s
	1377	CFM

● HEATING

Number of rotations (r.p.m.)	Air flow	
1050	2470	m ³ /h
	686	l/s
	1454	CFM

■ MODEL: AO*R30LC

● COOLING

Number of rotations (r.p.m.)	Air flow	
850	3600	m ³ /h
	1000	l/s
	2119	CFM

● HEATING

Number of rotations (r.p.m.)	Air flow	
900	3800	m ³ /h
	1056	l/s
	2236	CFM

■ **MODEL: AO*R30LF**

● **COOLING**

Number of rotations (r.p.m.)	Air flow	
850	3600	m ³ /h
	1000	l/s
	2119	CFM

● **HEATING**

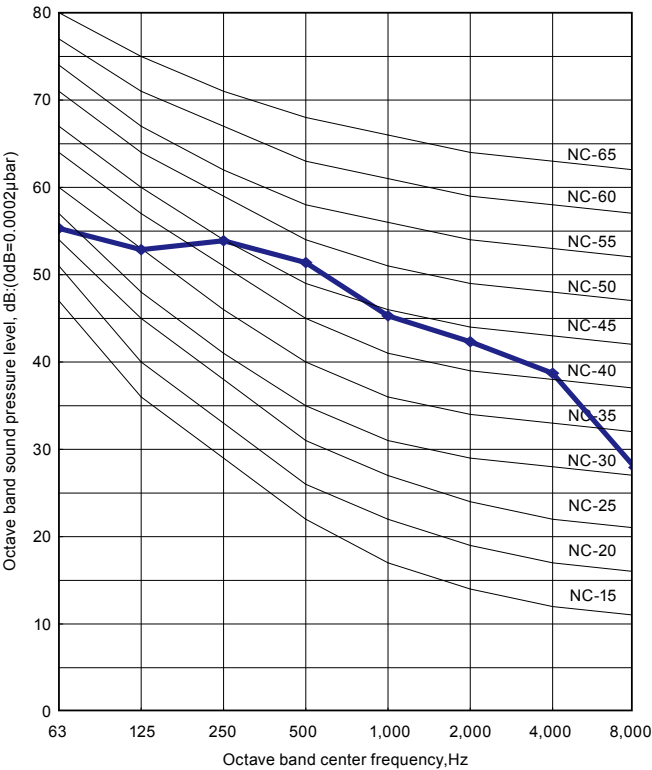
Number of rotations (r.p.m.)	Air flow	
850	3600	m ³ /h
	1000	l/s
	2119	CFM

8. OPERATION NOISE

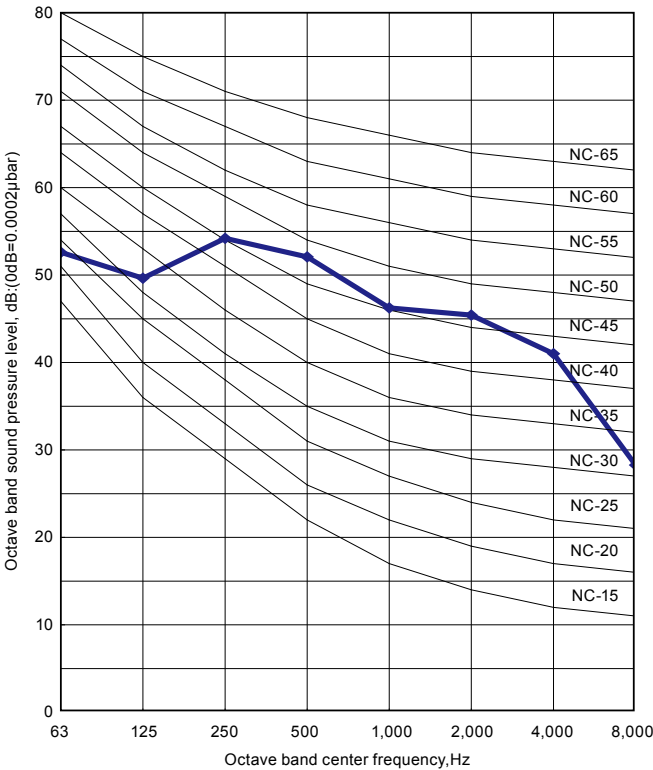
8-1. NOISE LEVEL CURVE

MODEL: AO*R24LC

Cooling

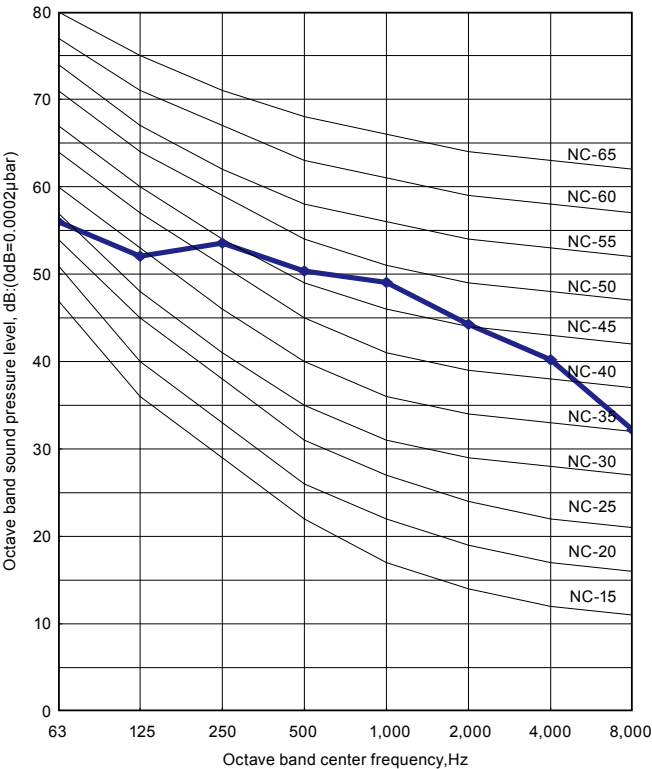


Heating

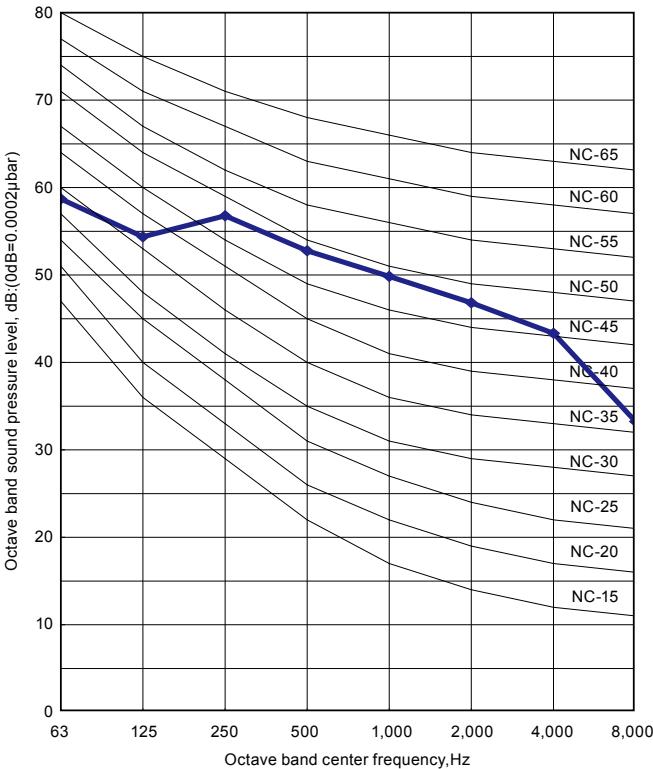


MODEL: AO*R30LC

Cooling

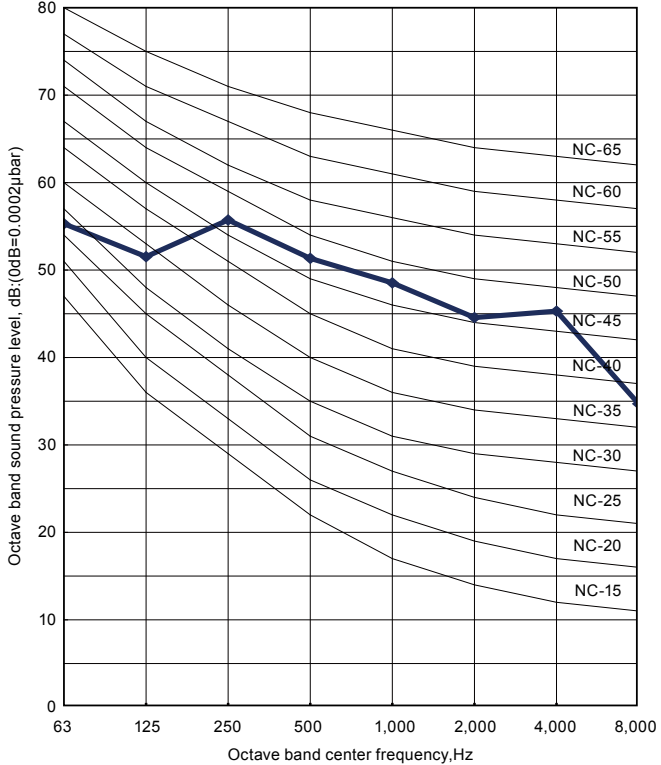


Heating

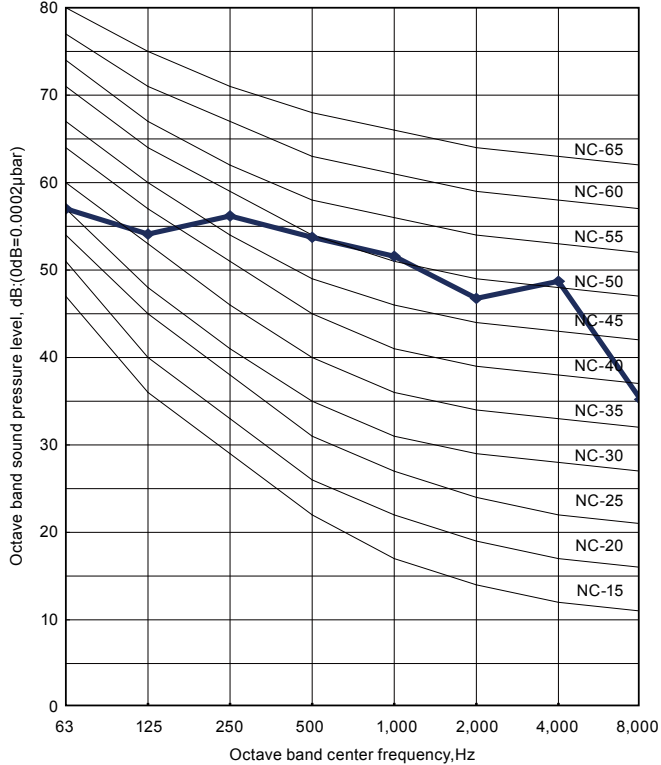


MODEL: AO*R30LF

● Cooling

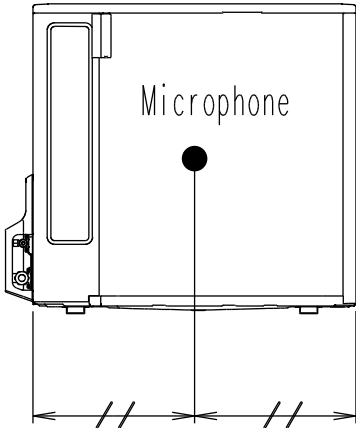
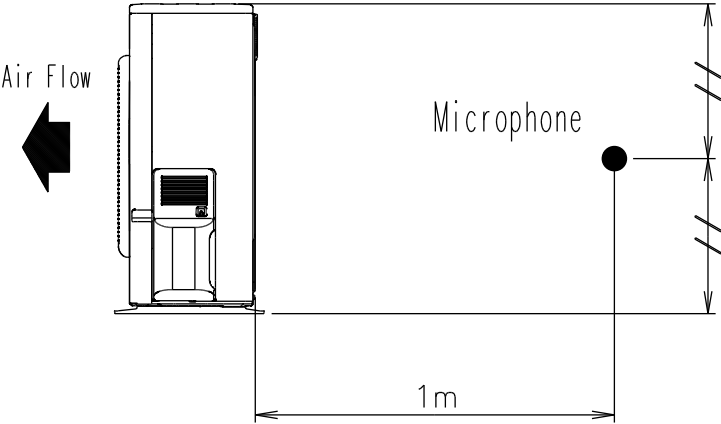


● Heating



8-2. SOUND LEVEL CHECK POINT

OUTDOOR UNIT
AO*R24-30LC(F)



OUTDOOR UNIT
AO*R24-30LC(F)

9. ELECTRIC CHARACTERISTICS

Model name			AO*R24LC	AO*R30LC	AO*R30LF
Power supply	Voltage	V	230~		
	Frequency	Hz	50		
*1) Max operating current		A	17.5	19.0	19.0
Starting Current		A	9.8	11.7	10.9
*2) Wiring Spec.:	Main Fuse (Circuit breaker) Current	A	30	30	
	Power Cable	mm ²	3.5-4.5	3.5-4.5	
	*3) Limited wiring length :	m	20	19	

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

*2) Wiring Spec.:

Selected Sample

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

*3) 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*R24LC	AO*R30LC, AO*R30LF
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 : 100^{+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 (DISCHARGE 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