AIR CONDITIONER

Wall Mounted type

Refrigerant R410A

INVERTER

DESIGN & TECHNICAL MANUAL

INDOOR

ASU9RL2
ASU12RL2

OUTDOOR

AOU9RL2
AOU12RL2

FUJITSU GENERAL LIMITED

1.INDOOR UNIT

WALL MOUNTED TYPE :

ASU9RL2
ASU12RL2

DTR_AS072E_01
2012.11.02

WALL MOUNTED TYPE
ASU9-12RL2

CONTENTS

1. INDOOR UNIT

WALL MOUNTED TYPE
ASU9-12RL2

1. FEATURE

■ MODEL

ASU9RL2 / AOU9RL2
ASU12RL2 / AOU12RL2

■ FEATURES

● Energy Efficiency

	MODEL	
	ASU9RL2	ASU12RL2
Seasonal Energy Efficiency Ratio (SEER)	16	16
Heating Seasonal Performance Factor (HSPF)	9	9

MEASUREMENT CONDITIONS
ANSI/ASHRAE STANDARD 37-1988

● Super quiet operation

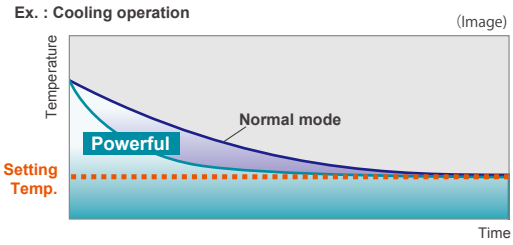
Top class low noise operation by new airflow construction.
Our quiet operation makes the more comfortable environment in a bed room and a study room, etc.

Fan speed ***Quiet***

Noise level ***23dB(A)***

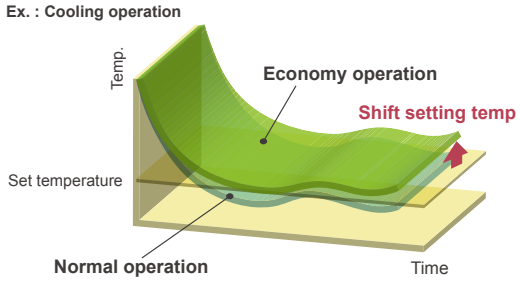
● Powerful operation

Reach the setting temperature quickly.



● Economy operation

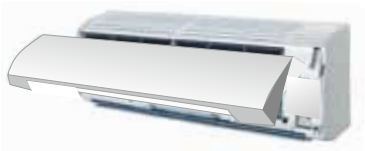
Setting temp. is shifted by 2°F (1°C) automatically.



WALL MOUNTED TYPE
ASU9-12RL2

● Easy maintenance

Removable & washable panel

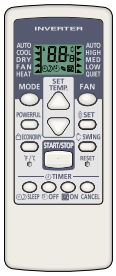


● Corresponds to maximum 66ft.(20m) long piping

WALL MOUNTED TYPE
ASU9-12RL2

2. WIRELESS REMOTE CONTROLLER

■ FEATURES



- ∗ Four kinds of timer setup
  (ON / OFF / PROGRAM / SLEEP) are possible.
- ∗ Four kinds of timer. Easy operation.
- ∗ Easy to change transmission code (4 patterns) by button operation.

● Simple function setting

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

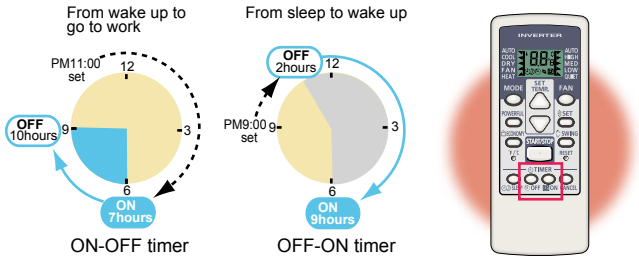
● Built-in timers

Select from four different timer programs (ON / OFF / PROGRAM / SLEEP).

● Program timer

You can set a program timer, ON-OFF or OFF-ON timer suitable for your life style.
(Setting time: 0.5, 1, 1.5, 2, 2.5, -----9.5, 10, 11, 12 hours)

Example of how to set the program timer.

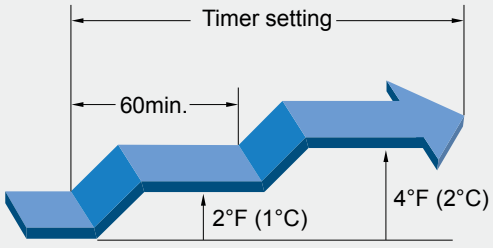


● Sleep timer

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

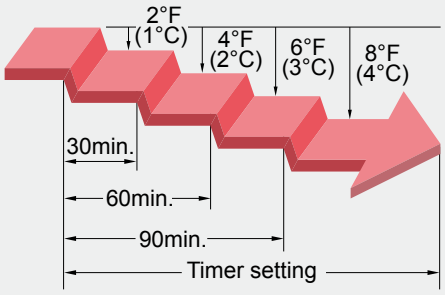
Cooling operation/dry operation

When the sleep timer is set, the set temperature automatically rises 2°F (1°C) every hour. The set temperature can rise up to a maximum of 4°F (2°C).

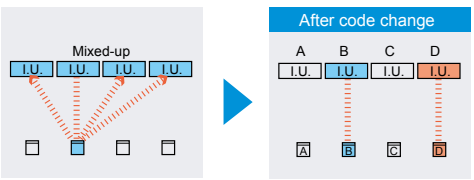


Heating operation

When the sleep timer is set, the set temperature automatically drops 2°F (1°C) every 30 minutes. The set temperature can drop to a maximum of 8°F (4°C).



● Switching remote controller signal code



- Code selector switch eliminates unit being wrongly switched.
  (Up to 4 codes can be set.)

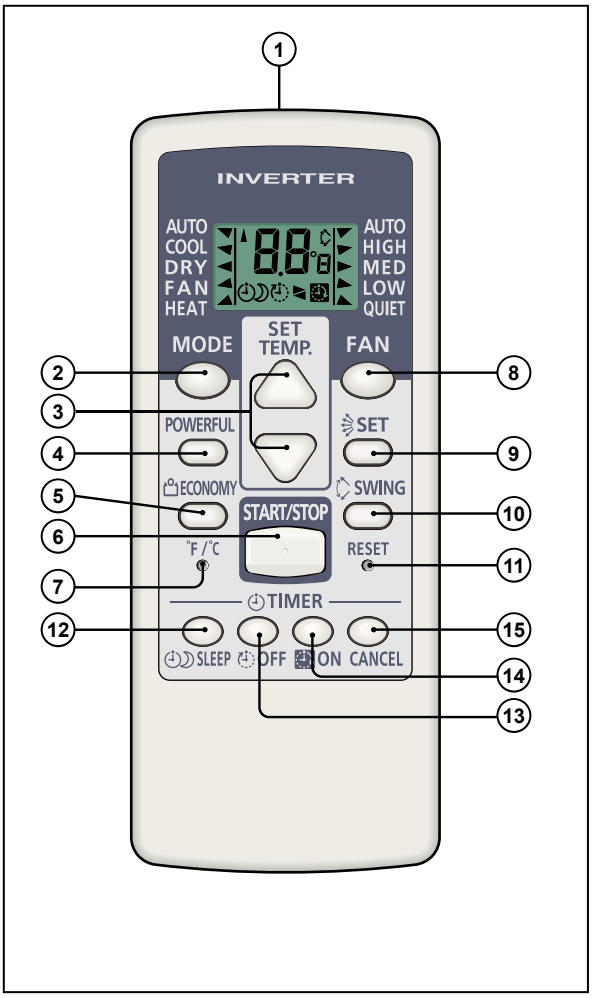
*I.U.=Indoor unit

● To change the temperature unit

Easy to change the temperature unit (°F ↔°C) by button operation.

WALL MOUNTED TYPE
ASU9-12RL2

■ FUNCTIONS



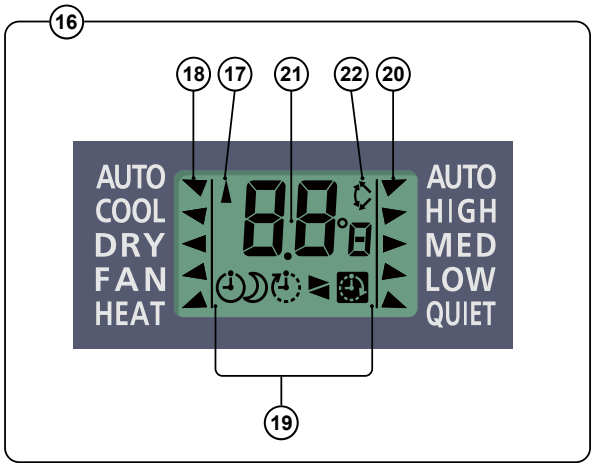
1 **Signal transmitter**
2 **MODE button**
3 **SET TEMP. button (▲ / ▼)**
4 **POWERFUL button**
5 **ECONOMY button**
6 **START/STOP button**
7 **°F / °C button**
8 **FAN button**
9 **SET button**
10 **SWING button**
11 **RESET button**

TIMER

12 **SLEEP TIMER button**
13 **OFF TIMER button**
14 **ON TIMER button**
15 **TIMER CANCEL button**

16 **Remote controller display**
17 **Transmit indicator**
18 **Operation mode display**
19 **Timer mode display**
SLEEP TIMER mark:
OFF TIMER mark:
OFF-ON TIMER mark:
ON-OFF TIMER mark:
ON TIMER Mark:
20 **Fan speed display**
21 **Temperature and time display**
It displays the temperature setting.
However, when making the Timer setting, it will display the Timer time.
(The temperature setting will reappear after finishing the timer setting)
22 **Swing display**

Display panel



■ SPECIFICATION

SIZE [H x W x D in. (mm)]	5-15/32 x 2-7/32 x 23/32 (139 x 56 x 18)
WEIGHT oz. (g)	2.5 (70)
ACCESSORY	Holder

WALL MOUNTED TYPE
ASU9-12RL2

3. SPECIFICATIONS

Type					WALL MOUNTED INVERTER HEAT PUMP	
Model name					ASU9RL2	ASU12RL2
Power source					115V~ 60Hz	
Available voltage range					103.5 - 126.5V~ 60Hz	
Capacity	Cooling	Rated		kW	2.64	3.52
				Btu/h	9,000	12,000
		Min-Max		kW	0.5 - 3.1	0.9 - 3.7
				Btu/h	1,700 - 10,700	3,100 - 12,500
	Heating	Rated		kW	2.93	4.10
				Btu/h	10,000	14,000
		Min-Max		kW	0.5 - 3.5	0.9 - 4.7
				Btu/h	1,700 - 12,000	3,100 - 16,000
Input power	Cooling	Rated		kW	0.83	1.20
		Min - Max			0.24 - 1.44	0.23 - 1.44
	Heating	Rated			0.77	1.21
		Min - Max			0.21 - 1.49	0.21 - 1.66
Current	Cooling	Rated		A	7.5	10.9
	Heating				7.0	11.0
EER		Cooling		kW/kW	3.18	2.93
				Btu/hW	10.85	10.00
COP		Heating		kW/kW	3.81	3.39
				Btu/hW	13.00	11.55
SEER		Cooling		Btu/hW	16.0	16.0
HSPF		Heating			9.0	9.0
POWER FACTOR		Cooling		%	96	96
		Heating			96	96
Moisture removal				l/h (pints/h)	1.3 (2.7)	1.8 (3.8)
Maximum operating current *1		Cooling		A	13.0	13.0
		Heating			13.5	15.0
Fan	Air flow rate	Cooling	High	CFM (m^3/h)	424 (720)	
			Med		353 (600)	
			Low		247 (420)	250 (425)
			Quiet		191 (325)	
		Heating	High		436 (740)	
			Med		353 (600)	
			Low		265 (450)	
			Quiet		191 (325)	
	Type × Q'ty				Cross flow fan × 1	
	Motor output			W	28	
Sound pressure level		Cooling	High	dB (A)	43	
			Med		38	
			Low		33	
			Quiet		23	
		Heating	High		43	
			Med		38	
			Low		33	
			Quiet		23	
Heat exchanger type		Dimensions (H × W × D)		in. (mm)	10 - 3/32 × 24 - 13/16 × 25/32 (256 × 630 × 20)	
		Fin pitch		FPI	23	
		Rows Stages			2 × 16	
		Pipe type			Copper	
		Fin type			Aluminum	
Enclosure		Material			Polystyrene	
		Color			WHITE Approximate color of MUNSELL N 9.25/	
Dimensions (H × W × D)	Net			in.	10 - 5/16 × 32 - 9/32 × 8 - 1/8	
				mm	262 × 820 × 206	
	Gross			in.	10 - 11/32 × 34 - 1/4 × 12 - 29/32	
				mm	263 × 870 × 328	
Weight	Net			lbs. (kg)	16 (7)	
	Gross				20 (9)	
Connection pipe	Size	Liquid		in. (mm)	Ø1/4 in (Ø6.35)	
		Gas			Ø3/8 in (Ø9.52)	
	Method				Flare	
Operation range		Cooling		°F (°C)	64 to 90 (18 to 32)	
				%RH	80 or less	
		Heating		°F (°C)	60 to 88 (16 to 30)	
Remote controller type					Wireless	
Drain hose	Material				PP+LLDPE	
	Size			in. (mm)	Ø17/32 (Ø13.8) (I.D.) Ø5/8 to Ø21/32 (Ø15.8 to Ø16.7) (O.D.)	

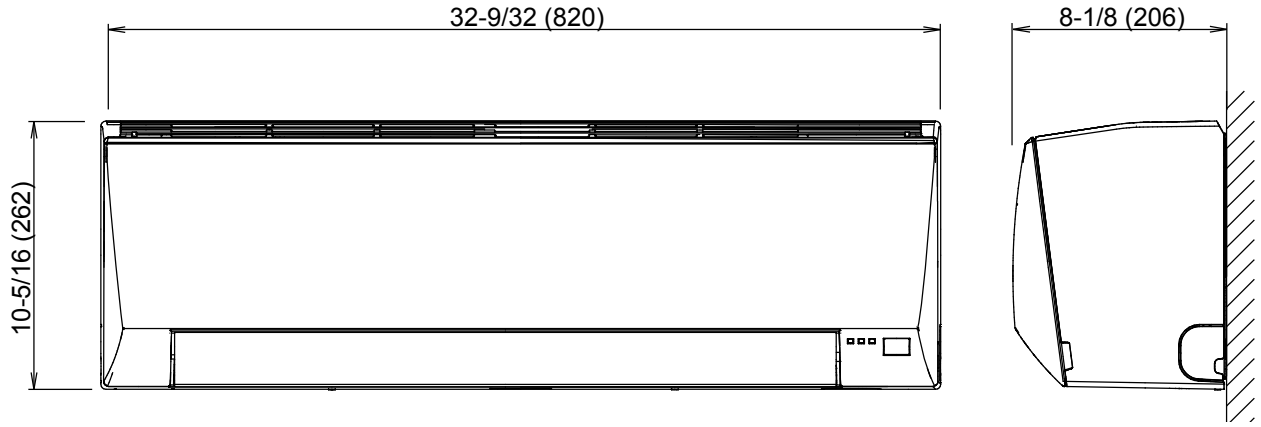
Note :
Specifications are based on the following conditions.
Cooling : Indoor temperature of 80°F (26.67°C) DB / 67°F (19.44°C) WB, and outdoor temperature of 95°F (35°C) DB / 75°F (23.9°C) WB.
Heating : Indoor temperature of 70°F (21.11°C) DB / 59°F (15°C) WB, and outdoor temperature of 47°F (8.33°C) DB / 43°F (6.11°C) WB.
Pipe length : 24ft.7in (7.5m), Height difference:0 m. (Outdoor unit-Indoor unit)
The protective function might work when using it outside the operation range.
*1: The maximum current is the maximum value when operated within the operation range.

WALL MOUNTED TYPE
ASU9-12RL2

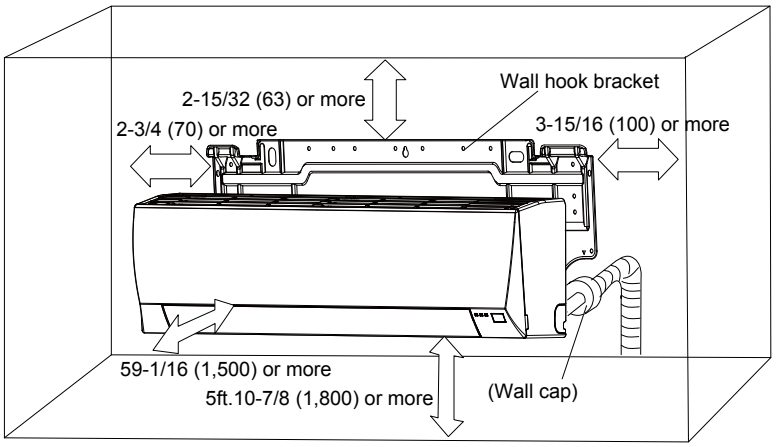
4. DIMENSIONS

■ MODEL: ASU9RL2, ASU12RL2

Unit : in. (mm)



■ INSTALLATION PLACE

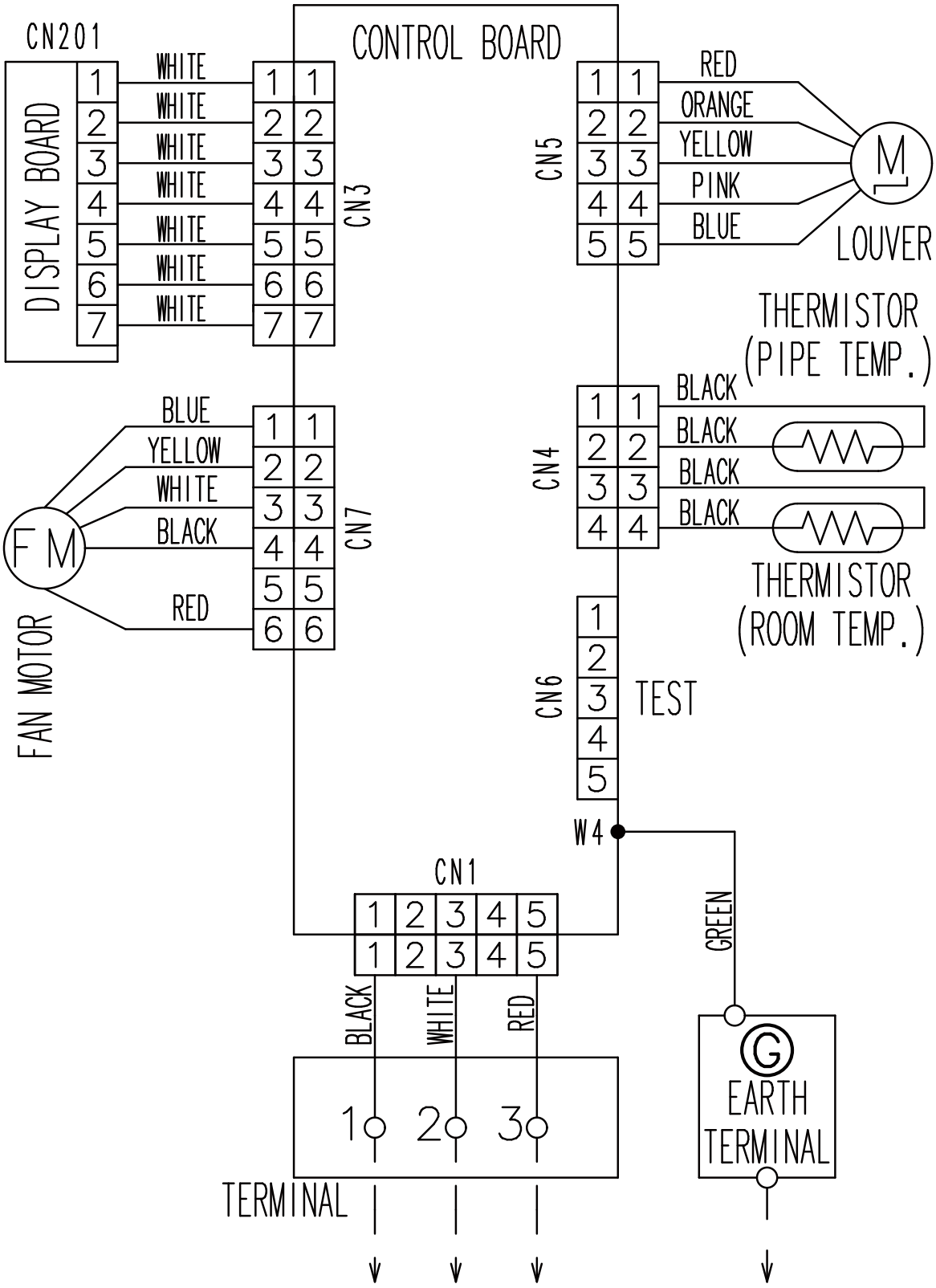


		ASU9RL2	ASU12RL2
Refrigerant pipe flare connection	Liquid	Ø 1/4 in.(6.35 mm)	
	Gas	Ø 3/8 in.(9.52 mm)	
Drain hose connection	Drain hose	Ø17/32 in. (13.8 mm) (I.D.), Ø5/8 to Ø21/32 in. (15.8 to 16.7 mm) (O.D.) Drain hose : L=23-5/8 in. (600 mm)	

WALL MOUNTED TYPE
ASU9-12RL2

5. WIRING DIAGRAMS

■ MODEL: ASU9RL2, ASU12RL2



WALL MOUNTED TYPE
ASU9-12RL2

6. CAPACITY TABLE

6-1. COOLING CAPACITY

■ MODEL: ASU9RL2

AFR	424

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	54			60			63			67			71			73		
Outdoor temperature	°FDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	15	8.48	5.61	0.30	9.44	5.64	0.31	10.41	6.15	0.31	10.73	6.64	0.32	11.38	6.62	0.32	12.02	7.05	0.32
	32	8.50	5.40	0.30	9.46	5.43	0.31	10.43	5.92	0.31	10.75	6.39	0.31	11.40	6.37	0.32	12.04	6.78	0.32
	41	7.80	5.31	0.35	8.69	5.34	0.36	9.58	5.83	0.36	9.88	6.30	0.36	10.47	6.27	0.37	11.06	6.68	0.37
	50	8.14	5.35	0.39	9.07	5.38	0.40	9.99	5.87	0.41	10.30	6.34	0.41	10.92	6.31	0.41	11.54	6.72	0.42
	59	8.18	5.38	0.40	9.11	5.41	0.41	10.04	5.90	0.41	10.35	6.37	0.42	10.98	6.35	0.42	11.60	6.76	0.42
	67	8.61	5.48	0.57	9.59	5.51	0.58	10.57	6.01	0.59	10.89	6.50	0.59	11.55	6.47	0.60	12.20	6.89	0.60
	77	8.08	5.30	0.65	9.00	5.33	0.66	9.92	5.82	0.67	10.23	6.28	0.68	10.84	6.26	0.68	11.46	6.67	0.69
	87	7.54	5.34	0.74	8.40	5.37	0.75	9.26	5.85	0.76	9.54	6.32	0.76	10.12	6.30	0.77	10.69	6.71	0.78
	95	7.12	5.01	0.80	7.93	5.04	0.81	8.74	5.50	0.83	9.01	5.94	0.83	9.55	5.91	0.84	10.09	6.30	0.85
	104	6.62	5.08	0.88	7.37	5.11	0.89	8.12	5.57	0.90	8.38	6.01	0.91	8.88	5.99	0.92	9.38	6.38	0.93
	115	5.66	4.34	0.87	6.30	4.36	0.88	6.95	4.76	0.90	7.16	5.14	0.90	7.59	5.12	0.91	8.02	5.45	0.92

AFR : Air Flow Rate (CFM)
TC : Total Capacity (kBtu/h)
SHC : Sensible Heat Capacity (kBtu/h)
IP : Input Power (kW)

AFR	12.0

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	12.2			15.6			17.7			19.4			21.7			22.8		
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	-10	2.48	1.64	0.30	2.77	1.65	0.31	3.05	1.80	0.31	3.15	1.95	0.32	3.33	1.94	0.32	3.52	2.07	0.32
	0	2.49	1.58	0.30	2.77	1.59	0.31	3.06	1.74	0.31	3.15	1.87	0.31	3.34	1.87	0.32	3.53	1.99	0.32
	5	2.29	1.56	0.35	2.55	1.57	0.36	2.81	1.71	0.36	2.89	1.85	0.36	3.07	1.84	0.37	3.24	1.96	0.37
	10	2.39	1.57	0.39	2.66	1.58	0.40	2.93	1.72	0.41	3.02	1.86	0.41	3.20	1.85	0.41	3.38	1.97	0.42
	15	2.40	1.58	0.40	2.67	1.59	0.41	2.94	1.73	0.41	3.03	1.87	0.42	3.22	1.86	0.42	3.40	1.98	0.42
	19.4	2.52	1.61	0.57	2.81	1.62	0.58	3.10	1.76	0.59	3.19	1.90	0.59	3.38	1.90	0.60	3.58	2.02	0.60
	25.0	2.37	1.55	0.65	2.64	1.56	0.66	2.91	1.71	0.67	3.00	1.84	0.68	3.18	1.83	0.68	3.36	1.95	0.69
	30.6	2.21	1.56	0.74	2.46	1.57	0.75	2.71	1.72	0.76	2.80	1.85	0.76	2.96	1.85	0.77	3.13	1.97	0.78
	35.0	2.09	1.47	0.80	2.32	1.48	0.81	2.56	1.61	0.83	2.64	1.74	0.83	2.80	1.73	0.84	2.96	1.85	0.85
	40.0	1.94	1.49	0.88	2.16	1.50	0.89	2.38	1.63	0.90	2.45	1.76	0.91	2.60	1.76	0.92	2.75	1.87	0.93
	46.1	1.66	1.27	0.87	1.85	1.28	0.88	2.04	1.40	0.90	2.10	1.51	0.90	2.22	1.50	0.91	2.35	1.60	0.92

AFR : Air Flow Rate (m^3/min)
TC : Total Capacity (kW)
SHC : Sensible Heat Capacity (kW)
IP : Input Power (kW)

WALL MOUNTED TYPE
ASU9-12RL2

■ MODEL: ASU12RL2

AFR	424

		Indoor temperature																	
	°FDB	64			70			75			80			85			90		
	°FWB	54			60			63			67			71			73		
Outdoor temperature	°FDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	15	10.40	7.04	0.51	11.59	7.09	0.52	12.78	7.73	0.52	13.17	8.35	0.53	13.96	8.31	0.53	14.75	8.85	0.54
	32	10.59	7.22	0.50	11.80	7.26	0.51	13.00	7.92	0.52	13.40	8.55	0.52	14.21	8.52	0.53	15.01	9.07	0.53
	41	10.78	7.40	0.50	12.01	7.44	0.51	13.24	8.12	0.52	13.65	8.77	0.52	14.47	8.73	0.53	15.29	9.30	0.53
	50	11.39	7.47	0.58	12.69	7.51	0.59	13.98	8.20	0.60	14.42	8.85	0.60	15.28	8.81	0.60	16.15	9.39	0.61
	59	11.44	7.77	0.57	12.74	7.81	0.58	14.05	8.52	0.59	14.48	9.20	0.59	15.35	9.17	0.60	16.22	9.76	0.61
	67	11.21	7.55	0.82	12.49	7.60	0.83	13.77	8.29	0.84	14.19	8.95	0.85	15.05	8.92	0.86	15.90	9.50	0.86
	77	10.64	7.26	0.94	11.85	7.31	0.95	13.06	7.97	0.97	13.46	8.60	0.97	14.27	8.57	0.98	15.08	9.13	0.99
	87	10.01	6.92	1.06	11.15	6.96	1.08	12.29	7.59	1.09	12.67	8.20	1.10	13.43	8.17	1.11	14.19	8.70	1.12
	95	9.49	6.68	1.16	10.57	6.72	1.18	11.65	7.33	1.19	12.01	7.92	1.20	12.73	7.88	1.21	13.45	8.40	1.22
	104	8.18	6.20	1.09	9.11	6.23	1.10	10.04	6.80	1.12	10.35	7.34	1.13	10.97	7.31	1.14	11.59	7.79	1.15
	115	5.91	5.57	0.84	6.59	5.60	0.85	7.26	6.11	0.87	7.49	6.60	0.87	7.94	6.57	0.88	8.39	7.00	0.89

AFR : Air Flow Rate (CFM)
TC : Total Capacity (kBtu/h)
SHC : Sensible Heat Capacity (kBtu/h)
IP : Input Power (kW)

AFR	12.0

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	12.2			15.6			17.7			19.4			21.7			22.8		
Outdoor temperature	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	-10	3.05	2.06	0.51	3.40	2.08	0.52	3.74	2.26	0.52	3.86	2.45	0.53	4.09	2.44	0.53	4.32	2.60	0.54
	0	3.10	2.12	0.50	3.46	2.13	0.51	3.81	2.32	0.52	3.93	2.51	0.52	4.16	2.50	0.53	4.40	2.66	0.53
	5	3.16	2.17	0.50	3.52	2.18	0.51	3.88	2.38	0.52	4.00	2.57	0.52	4.24	2.56	0.53	4.48	2.73	0.53
	10	3.34	2.19	0.58	3.72	2.20	0.59	4.10	2.40	0.60	4.23	2.59	0.60	4.48	2.58	0.60	4.73	2.75	0.61
	15	3.35	2.28	0.57	3.73	2.29	0.58	4.12	2.50	0.59	4.24	2.70	0.59	4.50	2.69	0.60	4.75	2.86	0.61
	19.4	3.29	2.21	0.82	3.66	2.23	0.83	4.04	2.43	0.84	4.16	2.62	0.85	4.41	2.61	0.86	4.66	2.78	0.86
	25.0	3.12	2.13	0.94	3.47	2.14	0.95	3.83	2.34	0.97	3.95	2.52	0.97	4.18	2.51	0.98	4.42	2.68	0.99
	30.6	2.93	2.03	1.06	3.27	2.04	1.08	3.60	2.22	1.09	3.71	2.40	1.10	3.94	2.39	1.11	4.16	2.55	1.12
	35.0	2.78	1.96	1.16	3.10	1.97	1.18	3.41	2.15	1.19	3.52	2.32	1.20	3.73	2.31	1.21	3.94	2.46	1.22
	40.0	2.40	1.82	1.09	2.67	1.83	1.10	2.94	1.99	1.12	3.03	2.15	1.13	3.22	2.14	1.14	3.40	2.28	1.15
	46.1	1.73	1.63	0.84	1.93	1.64	0.85	2.13	1.79	0.87	2.19	1.93	0.87	2.33	1.93	0.88	2.46	2.05	0.89

AFR : Air Flow Rate (m^3/min)
TC : Total Capacity (kW)
SHC : Sensible Heat Capacity (kW)
IP : Input Power (kW)

WALL MOUNTED TYPE
ASU9-12RL2

6-2. HEATING CAPACITY

■ MODEL: ASU9RL2

AFR	436

			Indoor temperature									
		°FDB	60		65		70		75		78	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
Outdoor temperature	15	11	8.17	0.86	7.97	0.88	7.78	0.89	7.59	0.91	7.39	0.93
	23	19	9.24	0.90	9.02	0.92	8.80	0.94	8.58	0.96	8.36	0.98
	32	28	10.32	0.95	10.07	0.97	9.83	0.99	9.58	1.01	9.34	1.03
	41	37	12.19	1.01	11.90	1.03	11.61	1.05	11.32	1.07	11.03	1.09
	47	43	12.62	1.00	12.32	1.02	12.02	1.04	11.72	1.06	11.42	1.08
	50	47	13.65	1.06	13.33	1.08	13.00	1.10	12.68	1.13	12.35	1.15
	59	50	14.20	1.07	13.86	1.09	13.53	1.12	13.19	1.14	12.85	1.16
	68	59	12.72	1.01	12.41	1.03	12.11	1.05	11.81	1.07	11.50	1.09
	75	65	16.08	1.11	15.69	1.13	15.31	1.15	14.93	1.18	14.55	1.20

AFR : Air Flow Rate (CFM)
TC : Total Capacity (kBtu/h)
IP : Input Power (kW)

AFR	12.3

			Indoor temperature									
		°CDB	15.6		18.3		21.1		22		23.9	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
Outdoor temperature	-9.4	-11.1	2.39	0.86	2.34	0.88	2.28	0.89	2.22	0.91	2.17	0.93
	-5.0	-7.2	2.71	0.90	2.64	0.92	2.58	0.94	2.51	0.96	2.45	0.98
	0.0	-2.2	3.02	0.95	2.95	0.97	2.88	0.99	2.81	1.01	2.74	1.03
	5.0	2.8	3.57	1.01	3.49	1.03	3.40	1.05	3.32	1.07	3.23	1.09
	8.3	6.1	3.70	1.00	3.61	1.02	3.52	1.04	3.44	1.06	3.35	1.08
	10.0	8.3	4.00	1.06	3.91	1.08	3.81	1.10	3.72	1.13	3.62	1.15
	15.0	10.0	4.16	1.07	4.06	1.09	3.96	1.12	3.87	1.14	3.77	1.16
	20.0	15.0	3.73	1.01	3.64	1.03	3.55	1.05	3.46	1.07	3.37	1.09
	23.9	18.0	4.71	1.11	4.60	1.13	4.49	1.15	4.38	1.18	4.26	1.20

AFR : Air Flow Rate (m^3/min)
TC : Total Capacity (kW)
IP : Input Power (kW)

■ MODEL: ASU12RL2

AFR	436

			Indoor temperature									
		°FDB	60		65		70		75		78	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
Outdoor temperature	15	11	11.02	1.47	10.76	1.50	10.50	1.54	10.23	1.57	9.97	1.60
	23	19	12.29	1.47	11.99	1.50	11.70	1.53	11.41	1.56	11.12	1.59
	32	28	14.15	1.48	13.81	1.51	13.48	1.54	13.14	1.57	12.80	1.60
	41	37	15.85	1.47	15.48	1.50	15.10	1.53	14.72	1.56	14.34	1.59
	47	43	16.80	1.44	16.40	1.47	16.00	1.50	15.60	1.53	15.20	1.56
	50	47	16.64	1.34	16.25	1.36	15.85	1.39	15.45	1.42	15.06	1.45
	59	50	16.36	1.24	15.97	1.26	15.58	1.29	15.19	1.31	14.80	1.34
	68	59	16.12	1.06	15.73	1.09	15.35	1.11	14.96	1.13	14.58	1.15
	75	65	15.83	0.95	15.45	0.97	15.07	0.99	14.70	1.01	14.32	1.03

AFR : Air Flow Rate (CFM)
TC : Total Capacity (kBtu/h)
IP : Input Power (kW)

AFR	12.3

			Indoor temperature									
		°CDB	15.6		18.3		21.1		22		23.9	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
Outdoor temperature	-9.4	-11.1	3.23	1.47	3.15	1.50	3.08	1.54	3.00	1.57	2.92	1.60
	-5.0	-7.2	3.60	1.47	3.52	1.50	3.43	1.53	3.34	1.56	3.26	1.59
	0.0	-2.2	4.15	1.48	4.05	1.51	3.95	1.54	3.85	1.57	3.75	1.60
	5.0	2.8	4.65	1.47	4.54	1.50	4.43	1.53	4.31	1.56	4.20	1.59
	8.3	6.1	4.92	1.44	4.81	1.47	4.69	1.50	4.57	1.53	4.46	1.56
	10.0	8.3	4.88	1.34	4.76	1.36	4.65	1.39	4.53	1.42	4.41	1.45
	15.0	10.0	4.79	1.24	4.68	1.26	4.57	1.29	4.45	1.31	4.34	1.34
	20	15	4.72	1.06	4.61	1.09	4.50	1.11	4.39	1.13	4.27	1.15
	23.89	18	4.64	0.95	4.53	0.97	4.42	0.99	4.31	1.01	4.20	1.03

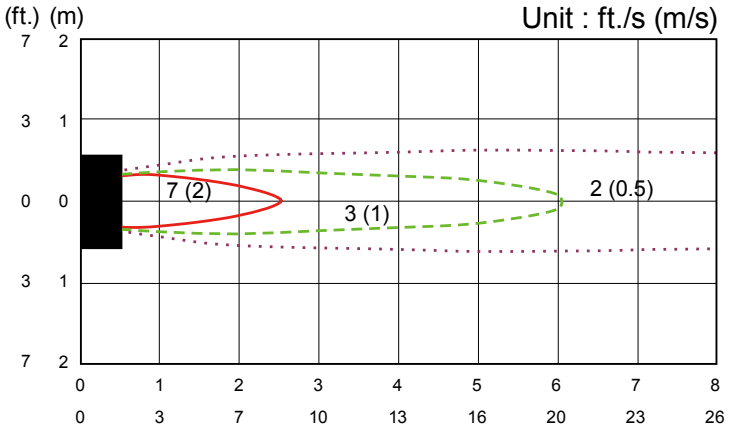
AFR : Air Flow Rate (m^3/min)
TC : Total Capacity (kW)
IP : Input Power (kW)

WALL MOUNTED TYPE
ASU9-12RL2

7. FAN PERFORMANCE AND CAPACITY

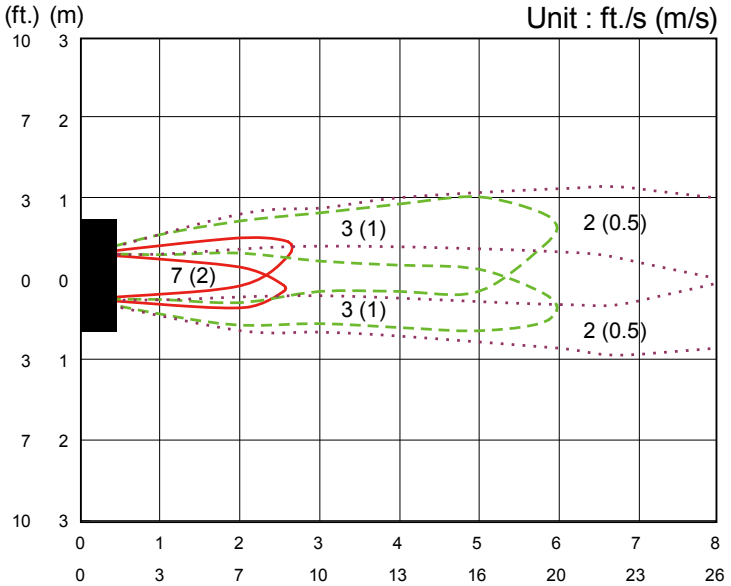
7-1. AIR VELOCITY DISTRIBUTION

■ MODEL: ASU9RL2, ASU12RL2

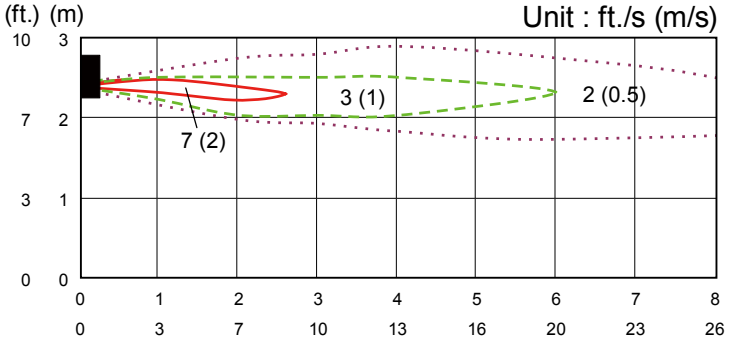


TOP VIEW
Vertical flap : Up
Horizontal flap : Center

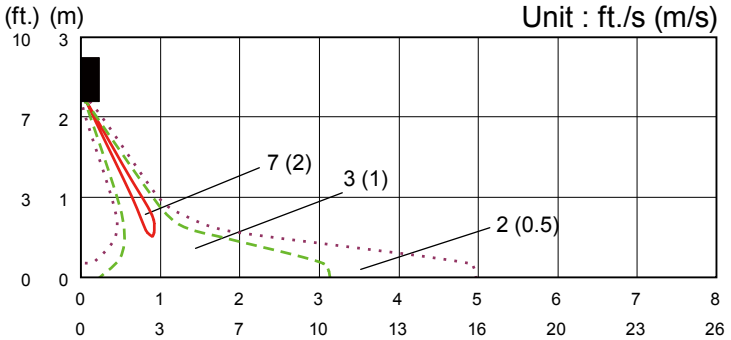
Note:
Fan speed: High
Operation mode: Fan



TOP VIEW
Vertical flap : Up
Horizontal flap : Right & Left



SIDE VIEW
Vertical flap : Up
Horizontal flap : Center



SIDE VIEW
Vertical flap : Down
Horizontal flap : Center

WALL MOUNTED TYPE
ASU9-12RL2

7-2. AIR FLOW

■ MODEL: ASU9RL2

● Cooling

Fan speed	Number of rotations (r.p.m)	Air flow	
HIGH	1320	720	m³/h
		200	l/s
		424	CFM
MED	1120	600	m³/h
		167	l/s
		353	CFM
LOW	840	420	m³/h
		117	l/s
		247	CFM
QUIET	700	325	m³/h
		90	l/s
		191	CFM

● Heating

Fan speed	Number of rotations (r.p.m)	Air flow	
HIGH	1360	740	m³/h
		206	l/s
		436	CFM
MED	1120	600	m³/h
		167	l/s
		353	CFM
LOW	900	450	m³/h
		125	l/s
		265	CFM
QUIET	700	325	m³/h
		90	l/s
		191	CFM

WALL MOUNTED TYPE
ASU9-12RL2

■ MODEL: ASU12RL2

● Cooling

Fan speed	Number of rotations (r.p.m)	Air flow	
HIGH	1320	720	m³/h
		200	l/s
		424	CFM
MED	1120	600	m³/h
		167	l/s
		353	CFM
LOW	860	425	m³/h
		118	l/s
		250	CFM
QUIET	700	325	m³/h
		90	l/s
		191	CFM

● Heating

Fan speed	Number of rotations (r.p.m)	Air flow	
HIGH	1360	740	m³/h
		206	l/s
		436	CFM
MED	1120	600	m³/h
		167	l/s
		353	CFM
LOW	900	450	m³/h
		125	l/s
		265	CFM
QUIET	700	325	m³/h
		90	l/s
		191	CFM

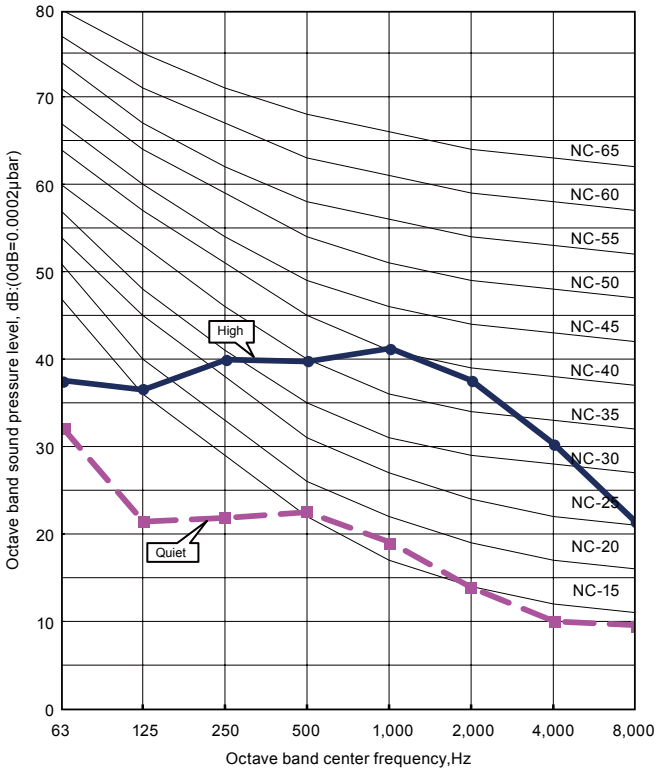
WALL MOUNTED TYPE
ASU9-12RL2

8. OPERATION NOISE

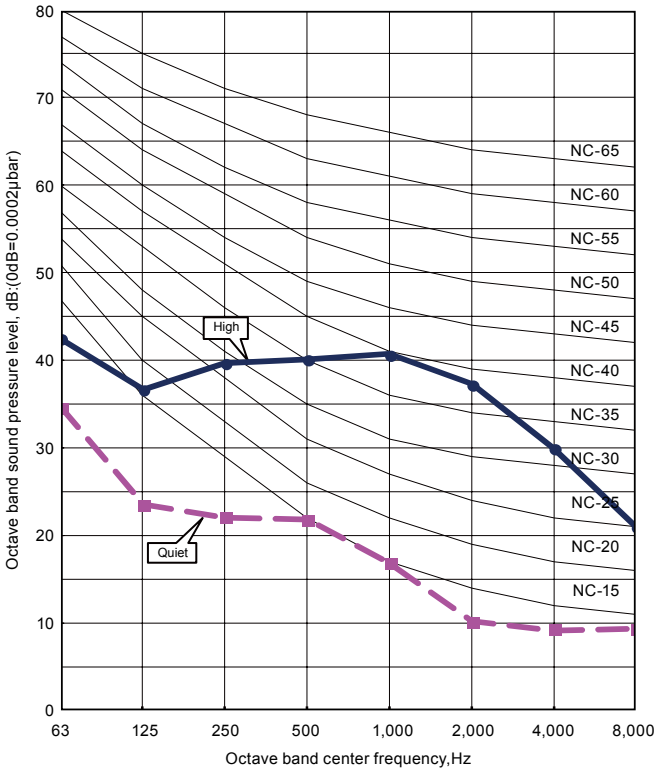
8-1. NOISE LEVEL CURVE

■ MODEL: ASU9RL2

● Cooling

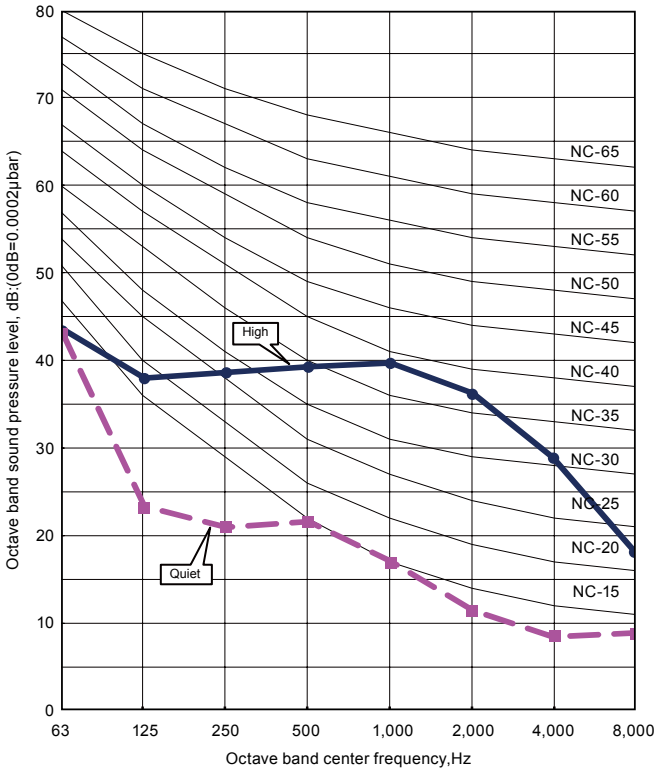


● Heating

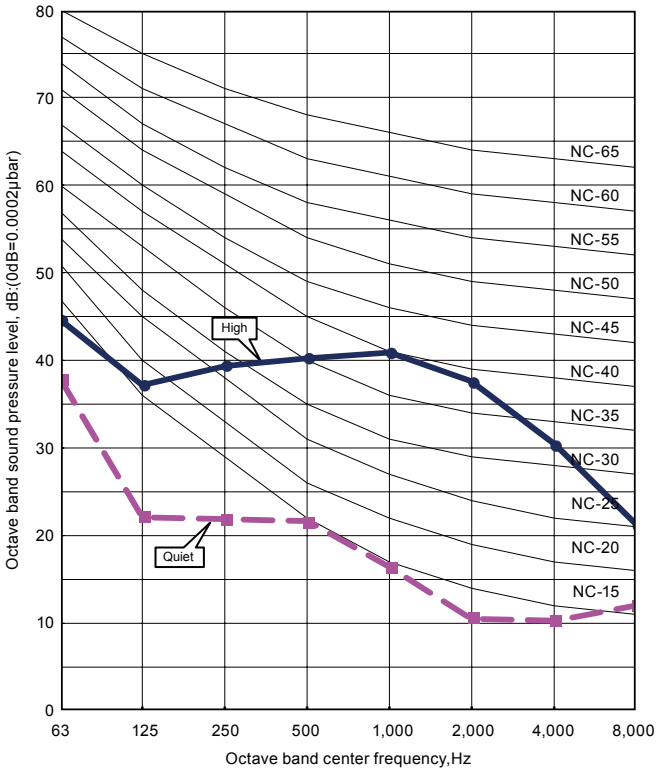


■ MODEL: ASU12RL2

● Cooling

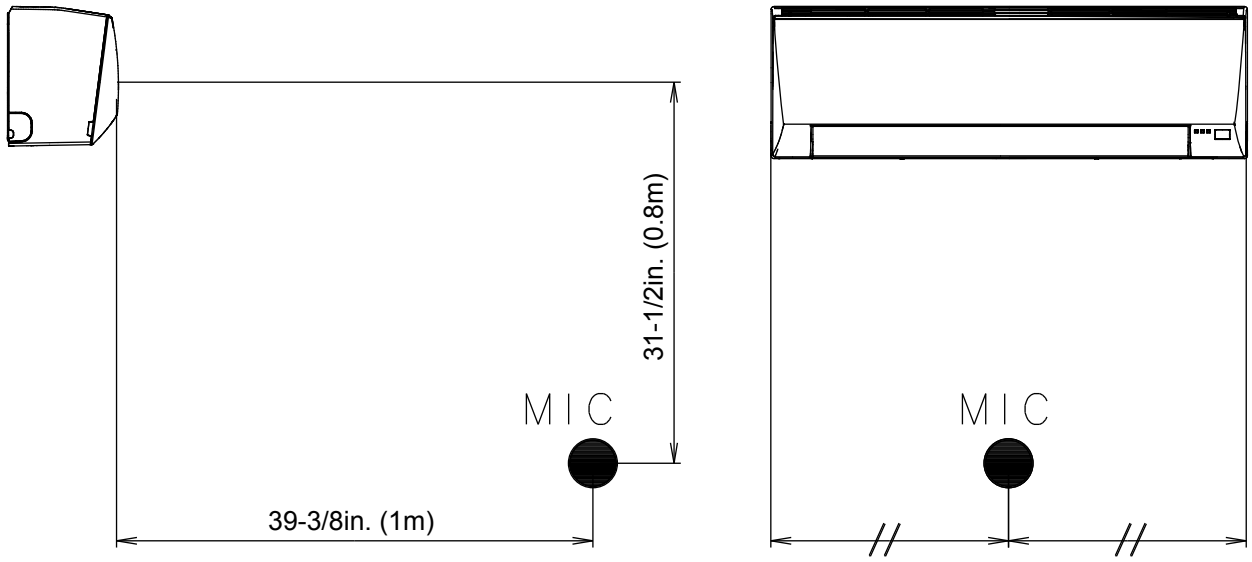


● Heating



WALL MOUNTED TYPE
ASU9-12RL2

8-2. SOUND LEVEL CHECK POINT



WALL MOUNTED TYPE
ASU9-12RL2

9. ELECTRIC CHARACTERISTICS

Model Name			ASU9RL2	ASU12RL2
Power Supply	Voltage	V	115 ~	
	Frequency	Hz	60	
Max. Operating Current		A	1.0	
*)Wiring Spec	Connection Cable	AWG	14	
	Limited wiring length	ft. (m)	66 (20)	

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

WALL MOUNTED TYPE
ASU9-12RL2

10. SAFETY DEVICES

	Protection form	Model	
		ASU9RL2	ASU12RL2
Circuit protection	Current fuse (PCB)	250V 3.15A	
Fan motor protection	Terminal protection program	320 ± 45°F (160 ± 25°C) OFF	

WALL MOUNTED TYPE
ASU9-12RL2

11. FUNCTION SETTING

11-1. INDOOR UNIT (Setting by remote controller)

- The function settings of the control of the indoor unit can be changed by this procedure according to the installation conditions. Incorrect settings can cause the indoor unit malfunction.
- After the power is turned on, perform the “FUNCTION SETTING” according to the installation conditions using the remote controller.
- The settings may be selected between the following two: Function Number or Setting Value.
- Settings will not be changed if invalid numbers or setting values are selected.

■ PREPARATION

- Turn on the power

* By turning on the power indoor units, so make sure the piping air-tight test and vacuuming have been conducted before turning on the power.

* Also check again to make sure no wiring mistakes were made before turning on the power.

■ FUNCTION SETTING METHOD (for Wireless remote controller)

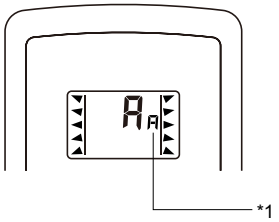
Entering the Function Setting Mode

- While pressing the FAN button and SET TEMP. (▲) button simultaneously, press the RESET button to enter the function setting mode.

STEP 1

Setting the Remote controller Signal Code

Use the following steps to select the signal code of the remote controller. (Note that the air conditioner cannot receive a signal code if the air conditioner has not been set for the signal code.) The signal code that is set through this process are applicable only to the signal in the FUNCTION SETTING. For details on how to set the signal code through the normal process, refer to SELECTING THE REMOTE CONTROLLER SIGNAL CODE.



1. Press the SET TEMP. (▲) (▼) button to change the signal code between A → b → C → d Match the code on the display to the air conditioner signal code. (initially set to A)
   (If the signal code does not need to be selected, press the MODE button and proceed to STEP 2.)
2. Press the MODE button to accept the signal code, and proceed to STEP 2.

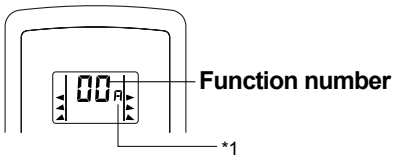
The air conditioner signal code is set to A prior to shipment. Contact your retailer to change the signal code.

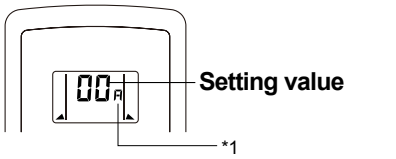
The remote controller resets to signal code A when the batteries in the remote controller are replaced. If you use a signal code other than signal code A, reset the signal code after replacing the batteries. If you do not know the air conditioner signal code setting, try each of the signal codes (A → b → C → d) until you find the code which operates the air conditioner.

STEP 2

Selecting the Function Number and Setting Value

1. Press the SET TEMP. (▲) (▼) buttons to select the function number. (Press the MODE button to switch between the left and right digits.)
2. Press the FAN button to proceed to setting the value. (Press the FAN button again to return to the function number selection.)
3. Press the SET TEMP. (▲) (▼) buttons to select the setting value. (Press the MODE button to switch between the left and right digits.)
4. Press the SLEEP button, then after you hear the beep emitted from the indoor unit, press the START/STOP button to confirm the settings.
5. Press the RESET button to cancel the function setting mode.
6. After completing the FUNCTION SETTING, be sure to turn off the power and turn it on again.





⚠CAUTION
After turning off the power, wait 10 seconds or more before turning on it again. The FUNCTION SETTING doesn’t become effective if it doesn’t do so.

Note :
*1) Small "A" is displayed on the right of the signal code during the FUNCTION SETTING.

WALL MOUNTED TYPE
ASU9-12RL2

■ FUNCTION DETAILS

	Functions	Compact wall mounted
1)	Filter sign	●
2)	Cooler room temperature correction	●
3)	Heater room temperature correction	●
4)	Auto restart	●
5)	Remote controller signal code	●

1) Filter sign

The indoor unit has a sign to inform the user that it is time to clean the filter. Select the time setting for the filter sign display interval in the table below according to the amount of dust or debris in the room. If you do not wish the filter sign to be displayed, select the setting value for "No indication".

(◆... Factory setting)

	Setting description	Function number	Setting value
	Standard	11	00
	Long interval		01
	Short interval		02
◆	No indication		03

The filter sign interval time is different according to Indoor unit type as follows.

Setting description	Compact Wall Mounted
Standard	400 hours
Long interval	1000 hours
Short interval	200 hours

2) Cooler room temperature correction

Depending on the installed environment, the room temperature sensor may require a correction.
The settings may be selected as shown in the table below.

(◆... Factory setting)

	Setting description	Function number	Setting value
◆	Standard	30	00
	Slightly lower control		01
	Lower control		02
	Warmer control		03

3) Heater room temperature correction

Depending on the installed environment, the room temperature sensor may require a correction.
The settings may be changed as shown in the table below.

(◆... Factory setting)

	Setting description	Function number	Setting value
◆	Standard	31	00
	Lower control		01
	Slightly warmer control		02
	Warmer control		03

WALL MOUNTED TYPE
ASU9-12RL2

4) Auto restart

Enable or disable automatic system restart after a power outage.

(◆... Factory setting)

	Setting description	Function number	Setting value
◆	Yes	40	00
	No		01

*Auto restart is an emergency function such as for power failure etc.
Do not start and stop the indoor unit by this function in normal operation.
Be sure to operate by the control unit, or external input device.

5) Remote controller signal code

Change the indoor unit Signal Code, depending on the remote controllers.

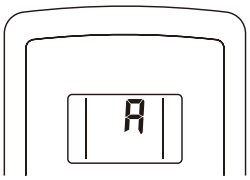
(◆... Factory setting)

	Setting description	Function number	Setting value
◆	A	44	00
	B		01
	C		02
	D		03

WALL MOUNTED TYPE
ASU9-12RL2

■ REMOTE CONTROLLER SIGNAL CODE SETTING

Use the following steps to select the signal code of the remote controller.
(Note that the air conditioner cannot receive a signal code if the air conditioner has not been set for the signal code.)



1. Press the MODE button for at least five seconds to display the current signal code (initially set to A).
2. Press the SET TEMP. (▲) (▼) button to change the signal code between A → b → C → d.
   Match the code on the display to the air conditioner signal code.
3. Press the MODE button again. The signal code will be changed.

If no buttons are pressed within 30 seconds after the signal code is displayed, the display returns to the original status. In this case, start again from step 1.

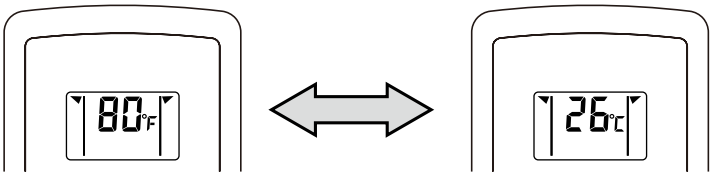
The air conditioner signal code is set to A prior to shipment.
Contact your retailer to change the signal code.

The remote controller resets to signal code A when the batteries in the remote controller are replaced. If you use a signal code other than signal code A, reset the signal code after replacing the batteries. If you do not know the air conditioner signal code setting, try each of the signal codes (A → b → C → d) until you find the code which operates the air conditioner.

■ REMOTE CONTROLLER TEMPERATURE UNIT

To change the temperature unit:

•Press the °F / °C button to switch the temperature unit. (°F ↔°C) (Factory setting: °F)



2. OUTDOOR UNIT

SINGLE TYPE :

AOU9RL2
AOU12RL2

CONTENTS

2. OUTDOOR UNIT

OUTDOOR UNIT
AOU9-12RL2

1. SPECIFICATIONS

Type				INVERTER HEAT PUMP	
Model name				AOU9RL2	AOU12RL2
Power sourse				115V~ 60Hz	
Available voltage range				103.5 - 126.5V~ 60Hz	
Starting current			A	7.5	11.0
Fan	Airflow rate	Cooling	CFM (m^3/h)	1013 (1720)	1078 (1830)
		Heating		889 (1510)	942 (1600)
	Type × Q'ty			Propeller fan × 1	
	Motor output		W	23	23
Sound pressure level		Cooling	dB (A)	47	51
		Heating		48	51
Heat exchanger type		Dimensions (H × W × D)	in.	19-27/32 × 25-19/32 × 23/32	19-27/32 × 24-3/32 × 23/32 19-27/32 × 25-9/32 × 23/32
			mm	504 × 650 × 18.2	504 × 612 × 18.2 504 × 642 × 18.2
		FPI		19	18
		Rows × Stages		1 × 24	2 × 24
		Pipe type		Copper	
		Fin Type		Aluminum	
Compressor	Type × Q'ty			Rotary × 1	
	Motor output		W	700	
Refrigerant		Type		R410A	
		Charge	lbs.oz.	1lbs. 7oz.	1lbs. 12oz.
			kg	650	800
Refrigerant oil		Type		VG74	
Enclosure		Material		Steel	
		Color		Beige Approximate color of MUNSELL 10YR7.5/1.0	
Dimensions (H × W × D)	Net		mm	540 × 660 × 290	
			inch	21-1/4 × 26 × 11-11/32	
	Gross		mm	611 × 797 × 401	
			inch	24-1/16 × 31-3/8 × 15-25/32	
Weight	Net		lbs. (kg)	64 (29)	69 (31)
	Gross			69 (31)	73 (33)
Connenction pipe	Size	Liquid	in. (mm)	Ø1/4 (Ø6.35)	
		Gas		Ø3/8 (Ø9.52)	
	Method			Flare	
	Pre - charge length		ft. (m)	49 (15)	
	Max. length			66 (20)	
	Max. height difference			49 (15)	
Operation range		Cooling	°F (°C)	15 to 115 (-10 to 46)	
		Heating		15 to 75 (-10 to 24)	

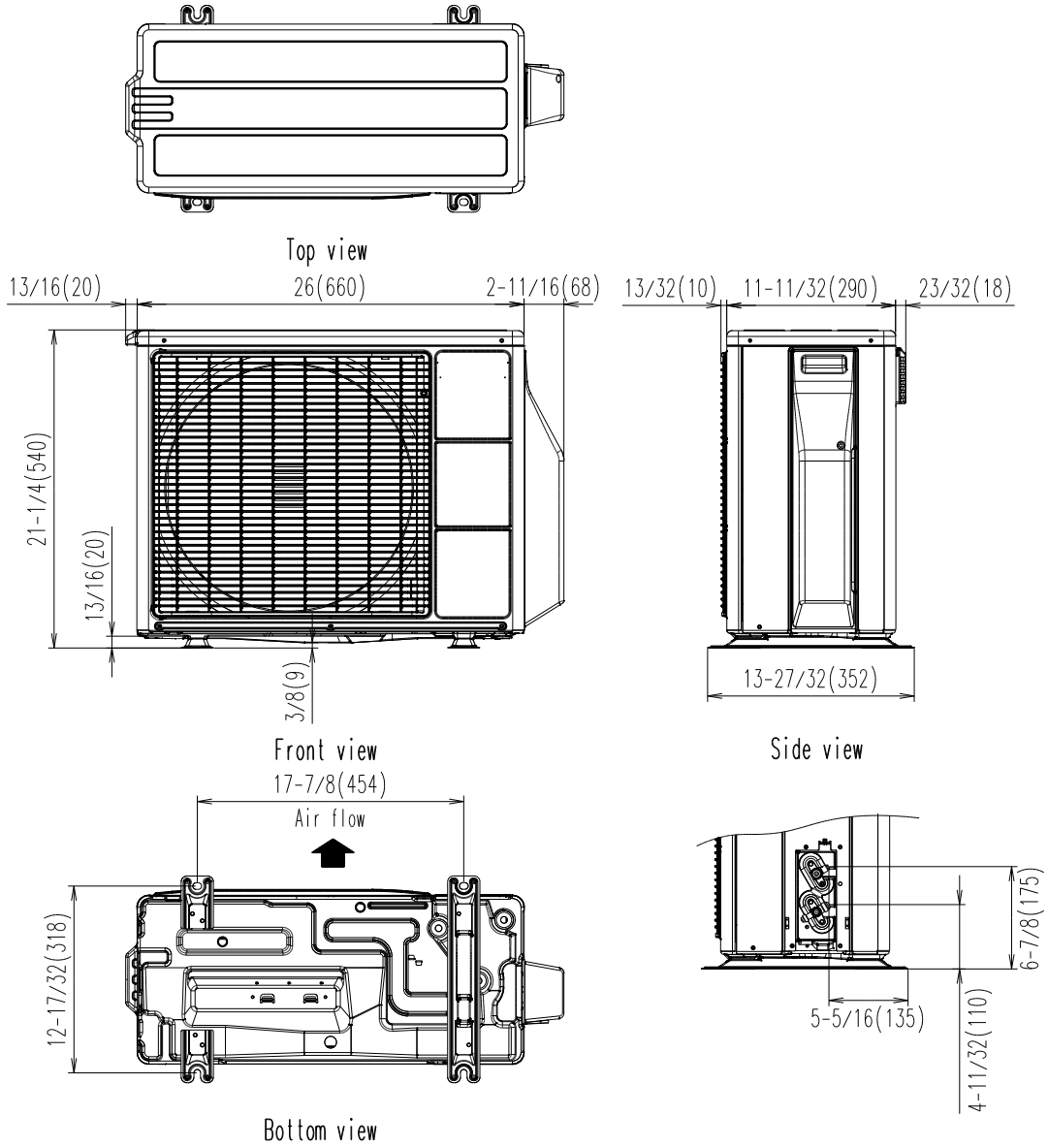
Note:
Specifications are based on the following conditions.
Cooling:Indoor temperature of 80°F(26.67°C)DB/67°F(19.44°C)WB,and outdoor temperature of 95°F(35°C)DB/75°F(23.9°C)WB.
Heating:Indoor temperature of 70°F(21.11°C)DB/59°F(15°C)WB,and outdoor temperature of 47°F(8.33°C)DB/43°F(6.11°C)WB.
Pipe length:24ft.7in(7.5m),Height difference:0 m.(Outdoor unit-Indoor unit)

OUTDOOR UNIT
AOU9-12RL2

2. DIMENSIONS

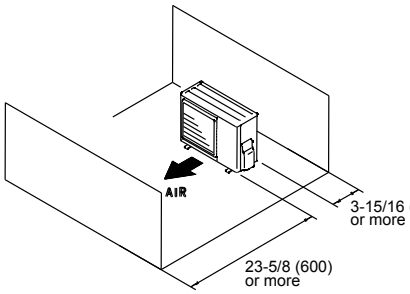
■ MODEL: AOU9RL2, AOU12RL2

Unit : in.(mm)

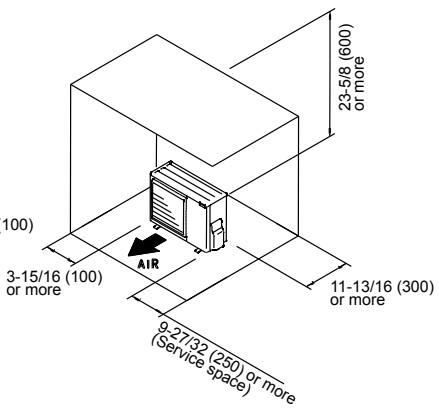


■ INSTALLATION PLACE

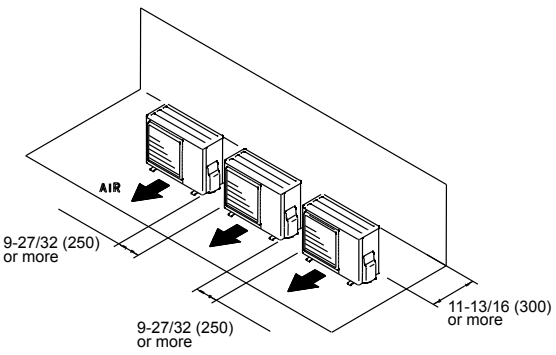
When there are obstacles at the back or front sides.



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



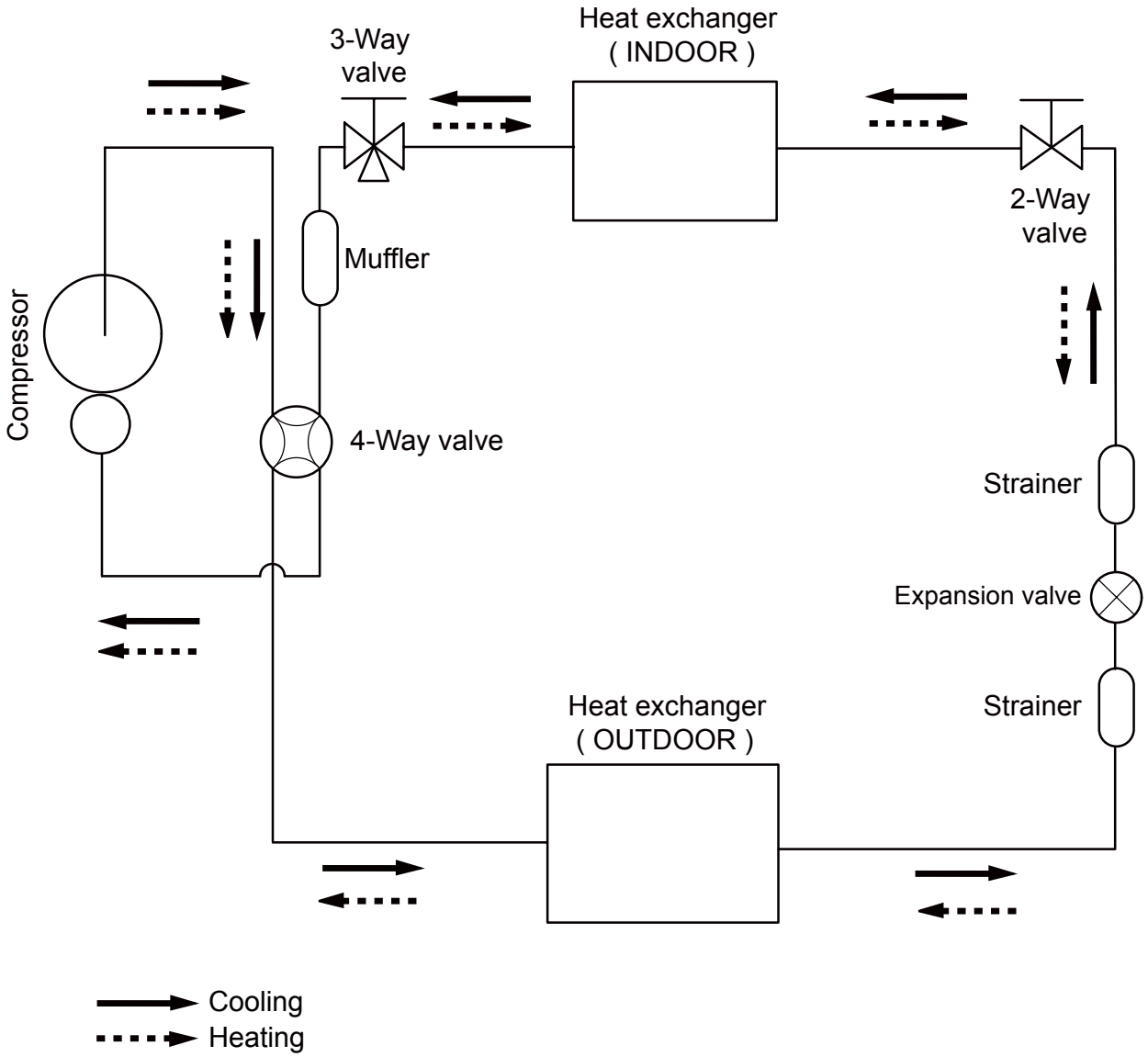
When there are obstacles at the back, side with the installation of more than one unit.



OUTDOOR UNIT
AOU9-12RL2

3. REFRIGERANT CIRCUIT

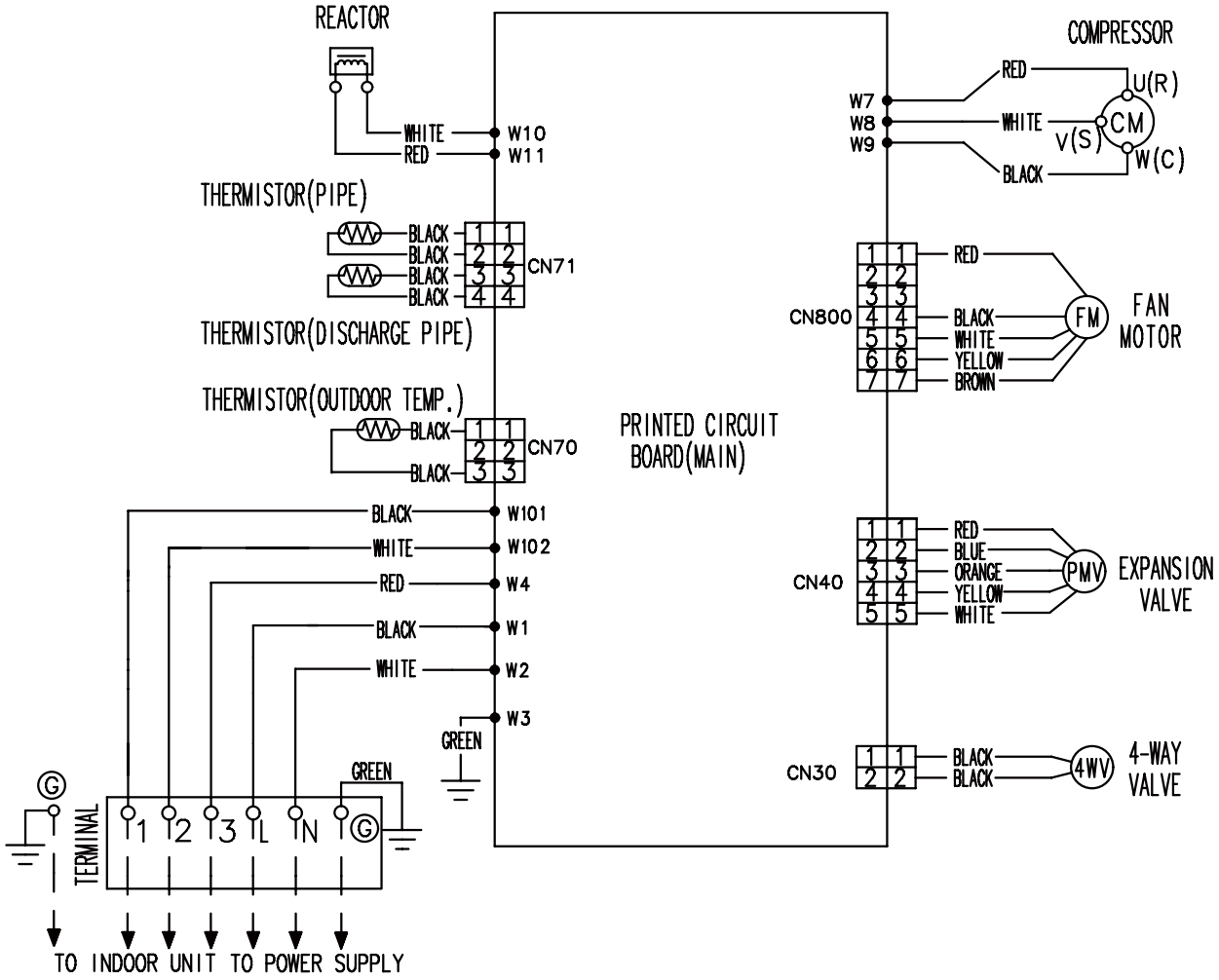
■ MODEL: AOU9RL2, AOU12RL2



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

4. WIRING DIAGRAMS

■ MODEL: AOU9RL2, AOU12RL2



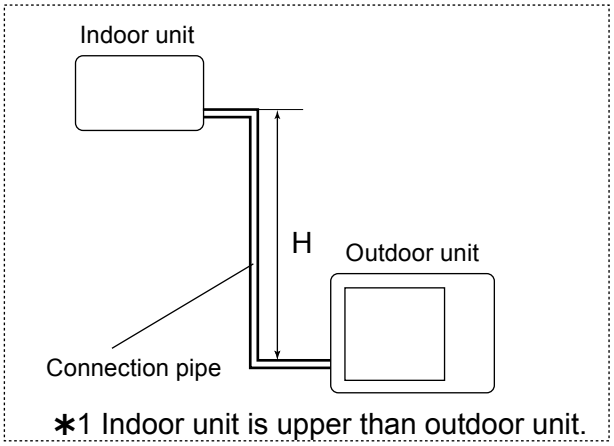
5. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE

■ MODEL: AOU9RL2

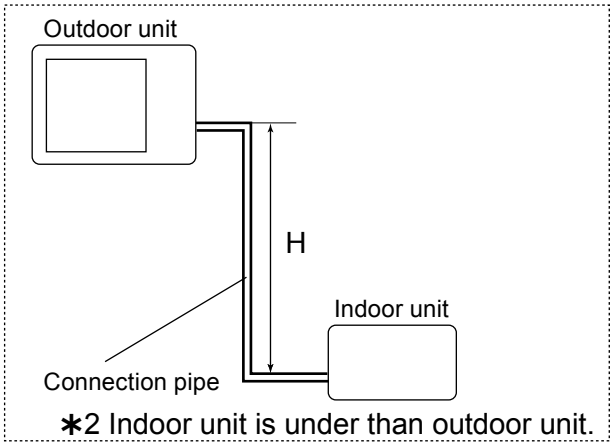
COOLING				Pipe length				
				5m	7.5m	10m	15m	20m
				17ft.	25ft.	33ft.	50ft.	67ft.
Height difference H	∗1 Indoor unit is upper than outdoor unit.	15m	50ft.	-	-	-	0.901	0.920
		10m	33ft.	-	-	0.969	0.916	0.936
		7.5m	25ft.	-	0.988	0.973	0.919	0.939
		5m	17ft.	1.003	0.992	0.976	0.923	0.943
		0	0ft.	1.011	1.000	0.984	0.931	0.951
	∗2 Indoor unit is under than outdoor unit	-5m	-17ft.	1.011	1.000	0.984	0.931	0.951
		-7.5m	-25ft.	-	1.000	0.984	0.931	0.951
		-10m	-33ft.	-	-	0.984	0.931	0.951
		-15m	-50t.	-	-	-	0.931	0.951

HEATING				Pipe length				
				5m	7.5m	10m	15m	20m
				17ft.	25ft.	33ft.	50ft.	67ft.
Height difference H	∗1 Indoor unit is upper than outdoor unit.	15m	50ft.	-	-	-	0.904	0.898
		10m	33ft.	-	-	0.976	0.904	0.898
		7.5m	25ft.	-	1.000	0.976	0.904	0.898
		5m	17ft.	1.014	1.000	0.976	0.904	0.898
		0	0ft.	1.014	1.000	0.976	0.904	0.898
	∗2 Indoor unit is under than outdoor unit	-5m	-17ft.	1.009	0.995	0.971	0.900	0.894
		-7.5m	-25ft.	-	0.993	0.968	0.898	0.892
		-10m	-33ft.	-	-	0.966	0.895	0.889
		-15m	-50t.	-	-	-	0.886	0.880

Height difference H



∗1 Indoor unit is upper than outdoor unit.



∗2 Indoor unit is under than outdoor unit.

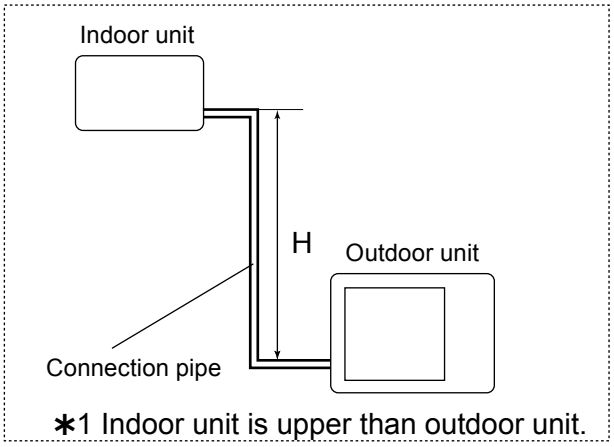
OUTDOOR UNIT
AOU9-12RL2

■ MODEL: AOU12RL2

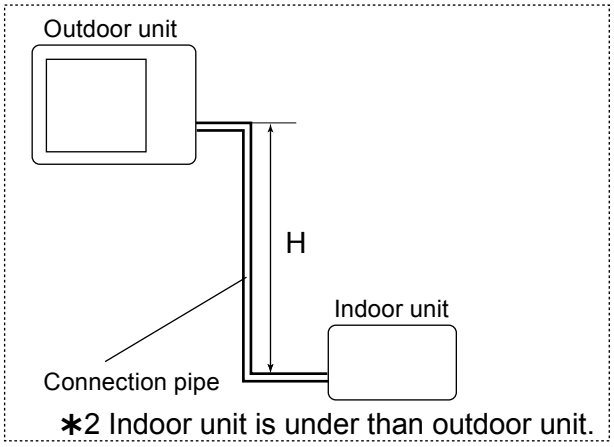
COOLING				Pipe length				
				5m	7.5m	10m	15m	20m
				17ft.	25ft.	33ft.	50ft.	67ft.
Height difference H	∗1 Indoor unit is upper than outdoor unit.	15m	50ft.	-	-	-	0.872	0.882
		10m	33ft.	-	-	0.953	0.887	0.897
		7.5m	25ft.	-	0.988	0.957	0.890	0.900
		5m	17ft.	1.023	0.992	0.961	0.894	0.904
		0	0ft.	1.031	1.000	0.969	0.901	0.911
	∗2 Indoor unit is under than outdoor unit	-5m	-17ft.	1.031	1.000	0.969	0.901	0.911
		-7.5m	-25ft.	-	1.000	0.969	0.901	0.911
		-10m	-33ft.	-	-	0.969	0.901	0.911
		-15m	-50t.	-	-	-	0.901	0.911

HEATING				Pipe length				
				5m	7.5m	10m	15m	20m
				17ft.	25ft.	33ft.	50ft.	67ft.
Height difference H	∗1 Indoor unit is upper than outdoor unit.	15m	50ft.	-	-	-	0.944	0.935
		10m	33ft.	-	-	0.982	0.944	0.935
		7.5m	25ft.	-	1.000	0.982	0.944	0.935
		5m	17ft.	1.014	1.000	0.982	0.944	0.935
		0	0ft.	1.014	1.000	0.982	0.944	0.935
	∗2 Indoor unit is under than outdoor unit	-5m	-17ft.	1.009	0.995	0.977	0.940	0.930
		-7.5m	-25ft.	-	0.993	0.975	0.937	0.928
		-10m	-33ft.	-	-	0.972	0.935	0.925
		-15m	-50t.	-	-	-	0.926	0.916

Height difference H



∗1 Indoor unit is upper than outdoor unit.



∗2 Indoor unit is under than outdoor unit.

OUTDOOR UNIT
AOU9-12RL2

6. ADDITIONAL CHARGE CALCULATION

■ MODEL: AOU9RL2

Refrigerant type		R410A
Refrigerant amount	lbs. oz.	1lbs. 7oz.
	g	650

● REFRIGERANT CHARGE

Pipe length	ft.	49 or less	66 (MAX)	0.22oz./ft. (20g/m)
	m	15 or less	20 (MAX)	
Additional charge	oz.	0	+3.5	
	g	0	+100	

■ MODEL: AOU12RL2

Refrigerant type		R410A
Refrigerant amount	lbs. oz.	1lbs. 12oz.
	g	800

● REFRIGERANT CHARGE

Pipe length	ft.	49 or less	66 (MAX)	0.22oz./ft. (20g/m)
	m	15 or less	20 (MAX)	
Additional charge	oz.	0	+3.5	
	g	0	+100	

OUTDOOR UNIT
AOU9-12RL2

7. AIR FLOW

■ MODEL: AOU9RL2

● Cooling

Number of rotations (r.p.m.)	Air flow	
730	1720	m^3/h
	478	l/s
	1013	CFM

● Heating

Number of rotations (r.p.m.)	Air flow	
650	1510	m^3/h
	419	l/s
	889	CFM

■ MODEL: AOU12RL2

● Cooling

Number of rotations (r.p.m.)	Air flow	
860	1830	m^3/h
	508	l/s
	1078	CFM

● Heating

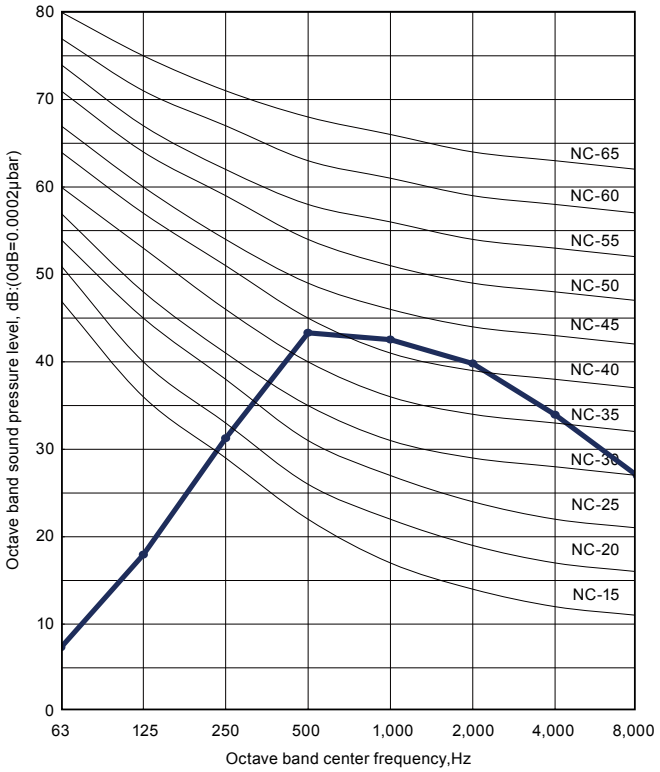
Number of rotations (r.p.m.)	Air flow	
760	1600	m^3/h
	444	l/s
	942	CFM

8. OPERATION NOISE

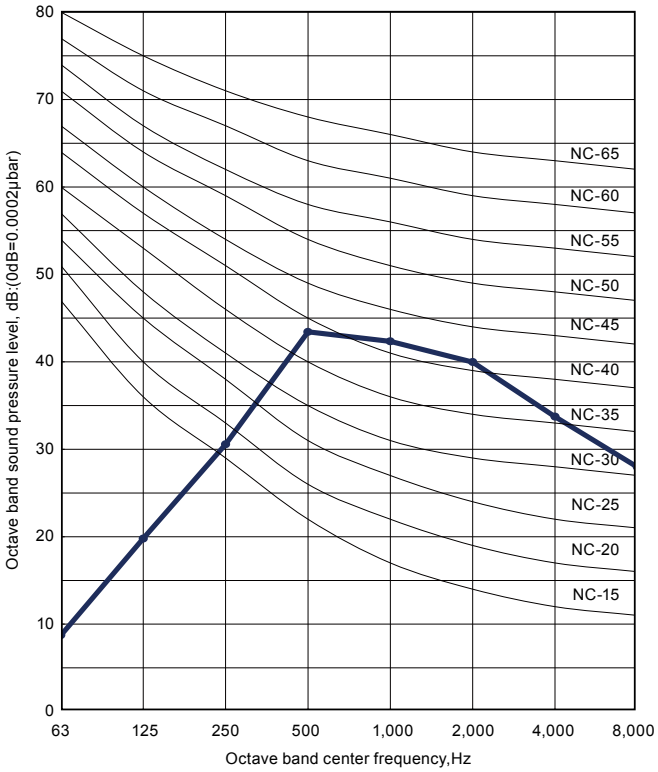
8-1. NOISE LEVEL CURVE

■ MODEL: AOU9RL2

● Cooling

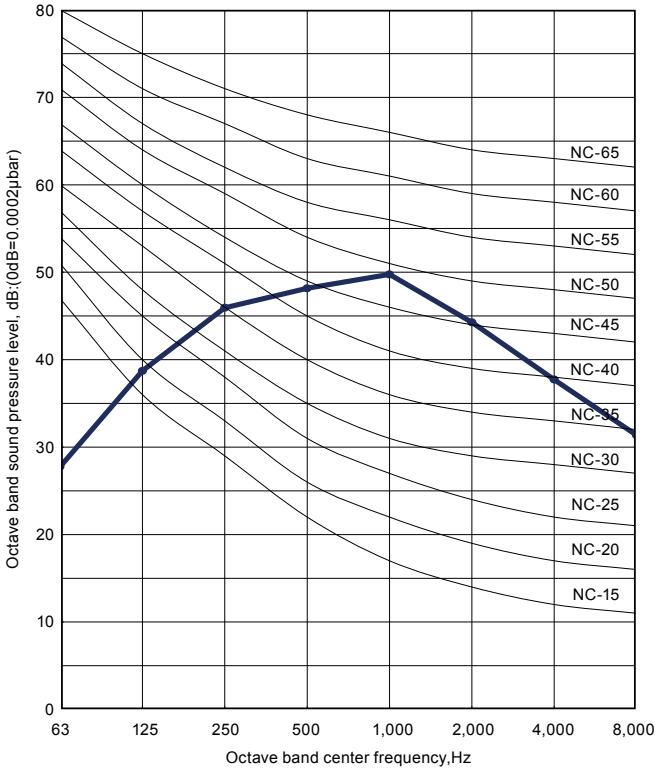


● Heating

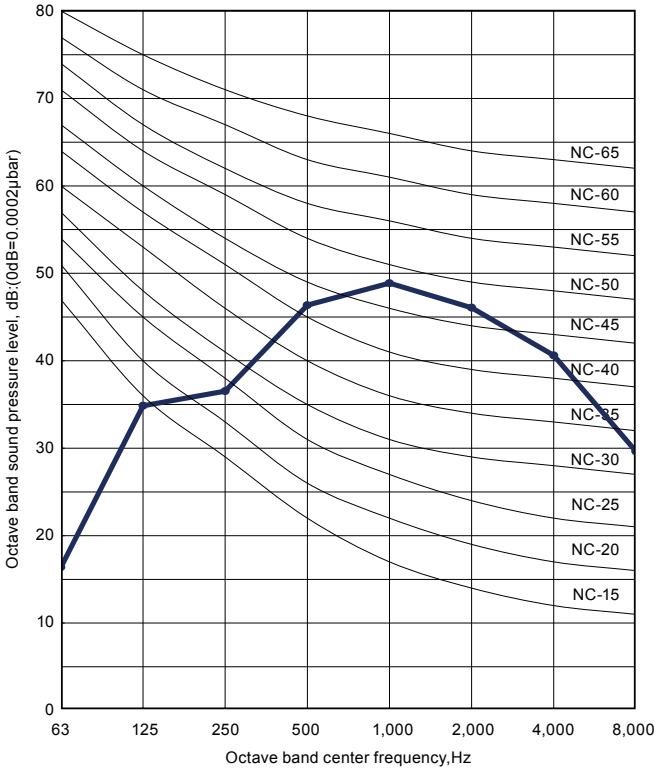


■ MODEL: AOU12RL2

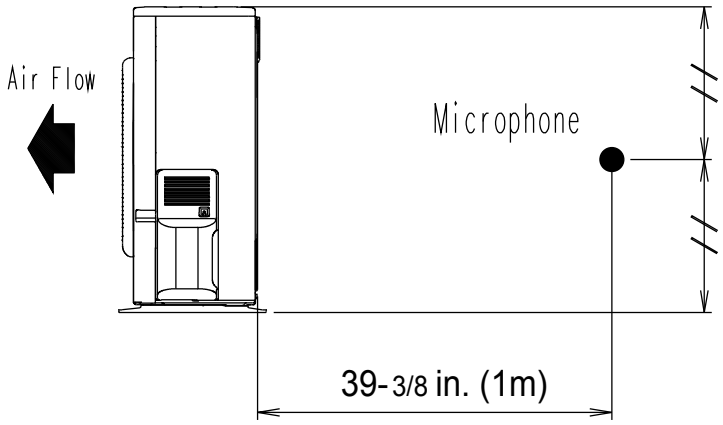
● Cooling

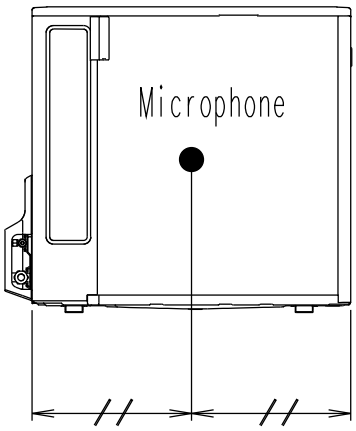


● Heating



8-2. SOUND LEVEL CHECK POINT





OUTDOOR UNIT
AOU9-12RL2

9. ELECTRIC CHARACTERISTICS

Model Name			AOU9RL2	AOU12RL2
Power Supply	Voltage	V	115 ~	
	Frequency	Hz	60	
*1) Max. Operating Current		A	13.5	15.0
Starting Current		A	7.5	11.0
*2) Wiring Spec.	Main Fuse (Circuit breaker) Current	A	15	20
	Power Cable	AWG	14	
	*3) Limited wiring length	ft. (m)	66 (20)	

*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 E00005)

*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
		AOU9RL2 AOU12RL2
Circuit protection	Current fuse (IN THE INVERTER CASE)	–
	Current fuse (MAIN PRINTED CIRCUIT BOARD)	25A/250V 3.15A/250V 3.15A/250V
Fan motor protection	Terminal protection program	OFF: 302°F (150°C) ON: 248°F (120°C)
Compressor protection	Terminal protection program COMPRESSOR TEMP.	OFF: 230°F (110°C) ON: After 7 minutes

OUTDOOR UNIT
AOU9-12RL2