FUJITSU

Refrigerant R410A INVERTER

AIR CONDITIONER

Wall mounted type

DESIGN & TECHNICAL MANUAL

INDOOR

ASU9RL2
ASU12RL2

OUTDOOR

AOU9RL2
AOU12RL2

FUJITSU GENERAL LIMITED

DR_AS184EF_01
2022.10.19

Notices:

- Product specifications and design are subject to change without notice for future improvement.
- For further details, please check with our authorized dealer.

CONTENTS

CONTENTS (continued)

Part 1. INDOOR UNIT

WALL MOUNTED TYPE:
ASU9RL2
ASU12RL2

WALL MOUNTED
ASU9-12RL2

1. Specifications

Type					Wall mounted	
					Inverter, Heat pump	
Model name					ASU9RL2	ASU12RL2
Power supply					115 V~ 60 Hz	
Power supply intake					Outdoor unit	
Available voltage range					103.5—126.5 V	
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
		Heating (17°F) *1	Rated	kW	1.93	2.46
				Btu/h	6,600	8,400
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
		Heating (17°F) *1	Rated		0.68	0.945
Current		Cooling	Rated	A	7.5	10.9
		Heating			7.0	11.0
EER2		Cooling		kW/kW	3.18	2.93
				Btu/hW	10.8	10.0
COP2		Heating		kW/kW	3.80	3.38
				Btu/hW	13.0	11.6
SEER2		Cooling		Btu/hW	16.00	
HSPF2		Heating		Btu/hW	9.00	
Power factor		Cooling		%	96	
		Heating			96	
Moisture removal				pints/h (L/h)	2.7 (1.3)	3.8 (1.8)
Maximum operating current*2		Cooling		A	13.0	
		Heating			13.5	15.0
Fan	Airflow 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 × Qty				Crossflow fan × 1	
	Motor output			W	28	
Sound pressure level*3		Cooling	HIGH	dB (A)	43	
			MED		38	
			LOW		33	
			QUIET		23	
		Heating	HIGH		44	
			MED		38	
			LOW		33	
			QUIET		23	
Heat exchanger		Dimensions (H × W × D)		in (mm)	10-1/16 × 24-13/16 × 13/16 (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 N9.25/	
Dimensions (H × W × D)		Net		in (mm)	10-5/16 × 32-5/16 × 8-1/8 (262 × 820 × 206)	
		Gross			10-3/8 × 34-1/4 × 12-15/16 (263 × 870 × 328)	
Weight		Net		lb (kg)	15 (7)	
		Gross			20 (9)	
Connection pipe		Size	Liquid	in (mm)	Ø1/4 (Ø6.35)	
			Gas		Ø3/8 (Ø9.52)	
		Method			Flare	
Drain hose		Material			PP+HDPE	
		Tip diameter		in (mm)	Ø17/32 (Ø13.8) (I.D.), Ø19/32 to 21/32 (Ø15 to 16.8) (O.D.)	
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					Wireless	

NOTES:

- Specifications are based on the following conditions:
  - Cooling: Indoor temperature of 80°F (26.67°CDB)/67°FWB (19.44°CWB), and outdoor temperature of 95°FDB (35°CDB)/75°FWB (23.9°CWB).
  - Heating: Indoor temperature of 70°FDB (21.11°CDB)/60°FWB (15.56°CWB), and outdoor temperature of 47°FDB (8.33°CDB)/43°FWB (6.11°CWB).
  - *1: Heating (17°F): Indoor temperature of 70°FDB (21.11°CDB)/60°FWB (15.56°CWB), and outdoor temperature of 17°FDB (-8.33°CDB)/15°FWB (-9.44°CWB).
  - Test conditions are based on AHRI 210/240 2023.
  - Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- *2: Maximum current is maximum value when operated within the operation range.
- *3: Sound pressure level:
  - Measured values in manufacturer's anechoic chamber.
  - Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.

WALL MOUNTED
ASU9-12RL2

M condition					
Model name				**ASU9RL2**	**ASU12RL2**
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
	Heating (17°F) *	Rated	kW	1.93	2.46
			Btu/h	6,600	8,400
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
	Heating (17°F) *	Rated		0.680	0.945
Current	Cooling	Rated	A	7.5	10.9
	Heating			7.0	11.0
EER	Cooling		kW/kW	3.18	2.93
			Btu/hW	10.8	10.0
COP	Heating		kW/kW	3.80	3.38
			Btu/hW	13.0	11.6
SEER	Cooling		Btu/hW	16.0	
HSPF	Heating		Btu/hW	9.0	
Power factor	Cooling		%	96	
	Heating			96	

NOTES:
Specifications are based on the following conditions:

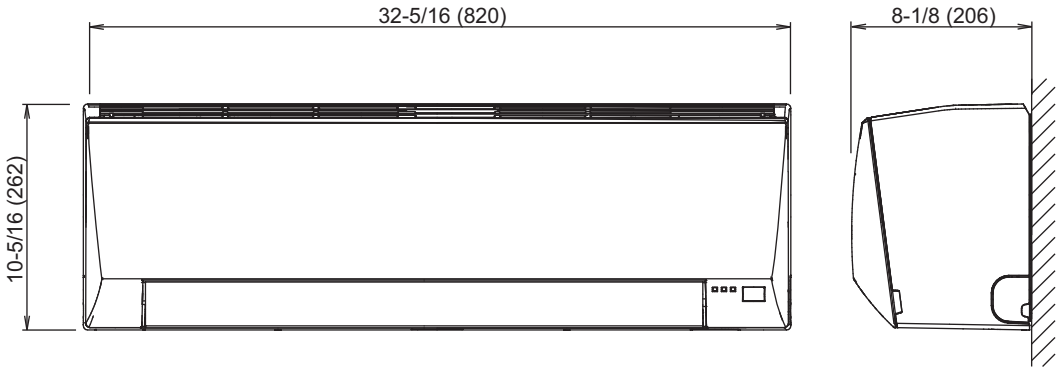
- Cooling: Indoor temperature of 80°F (26.67°CDB)/67°FWB (19.44°CWB), and outdoor temperature of 95°FDB (35°CDB)/75°FWB (23.9°CWB).
- Heating: Indoor temperature of 70°FDB (21.11°CDB)/60°FWB (15.56°CWB), and outdoor temperature of 47°FDB (8.33°CDB)/43°FWB (6.11°CWB).
- *: Heating (17°F): Indoor temperature of 70°FDB (21.11°CDB)/60°FWB (15.56°CWB), and outdoor temperature of 17°FDB (-8.33°CDB)/15°FWB (-9.44°CWB).
- Test conditions are based on AHRI 210/240 2017.
- Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.)

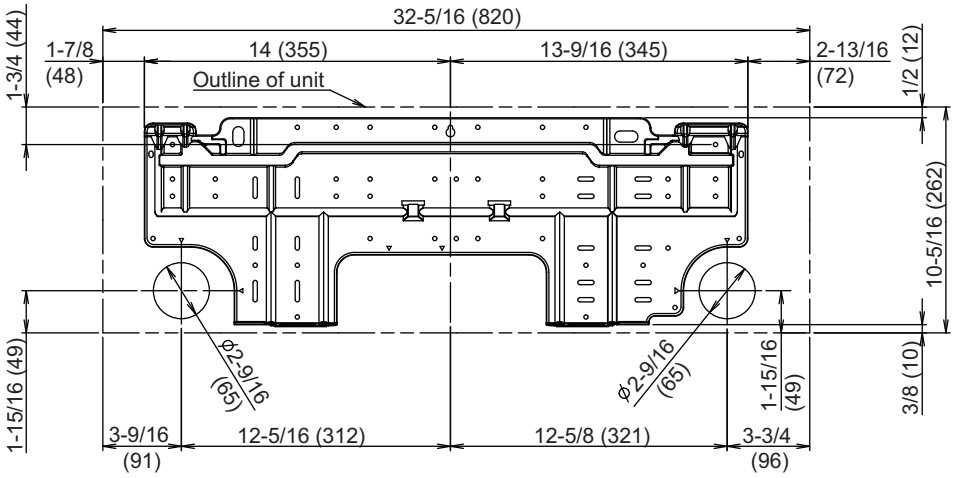
WALL MOUNTED
ASU9-12RL2

2. Dimensions

2-1. Models: ASU9RL2 and ASU12RL2

Unit: in (mm)





WALL MOUNTED
ASU9-12RL2

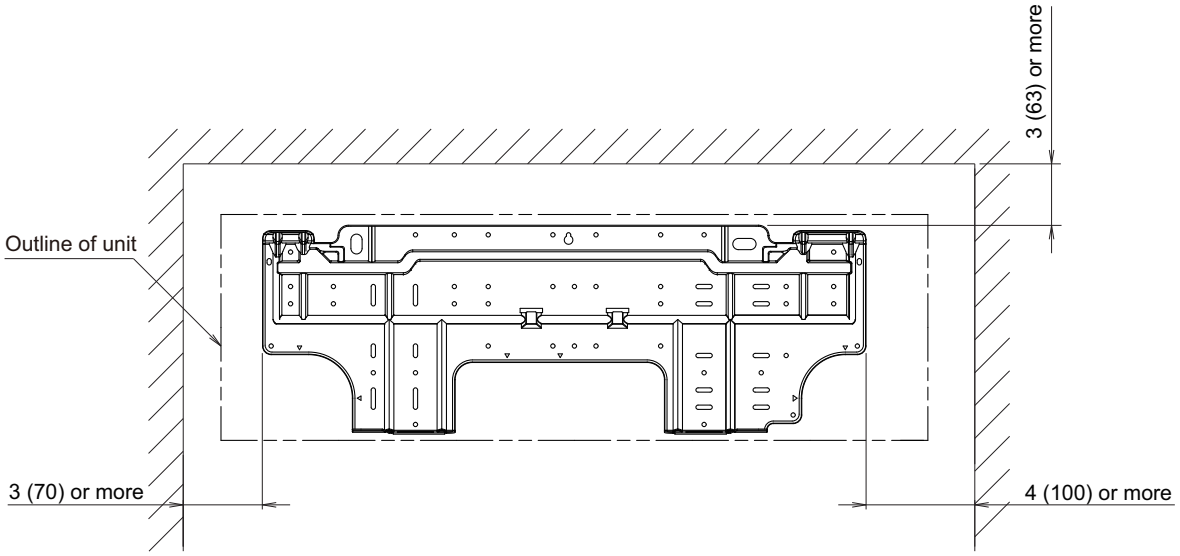
■ Installation space requirement

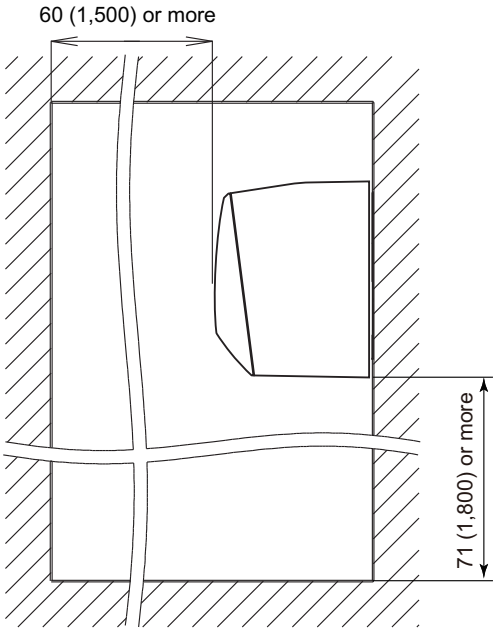
Provide sufficient installation space for product safety.

⚠ CAUTION

Do not place any other electrical products or household belongings under the product. Condensation dripping from the product might get them wet, and may cause damage or malfunction to the property.

Unit: in (mm)

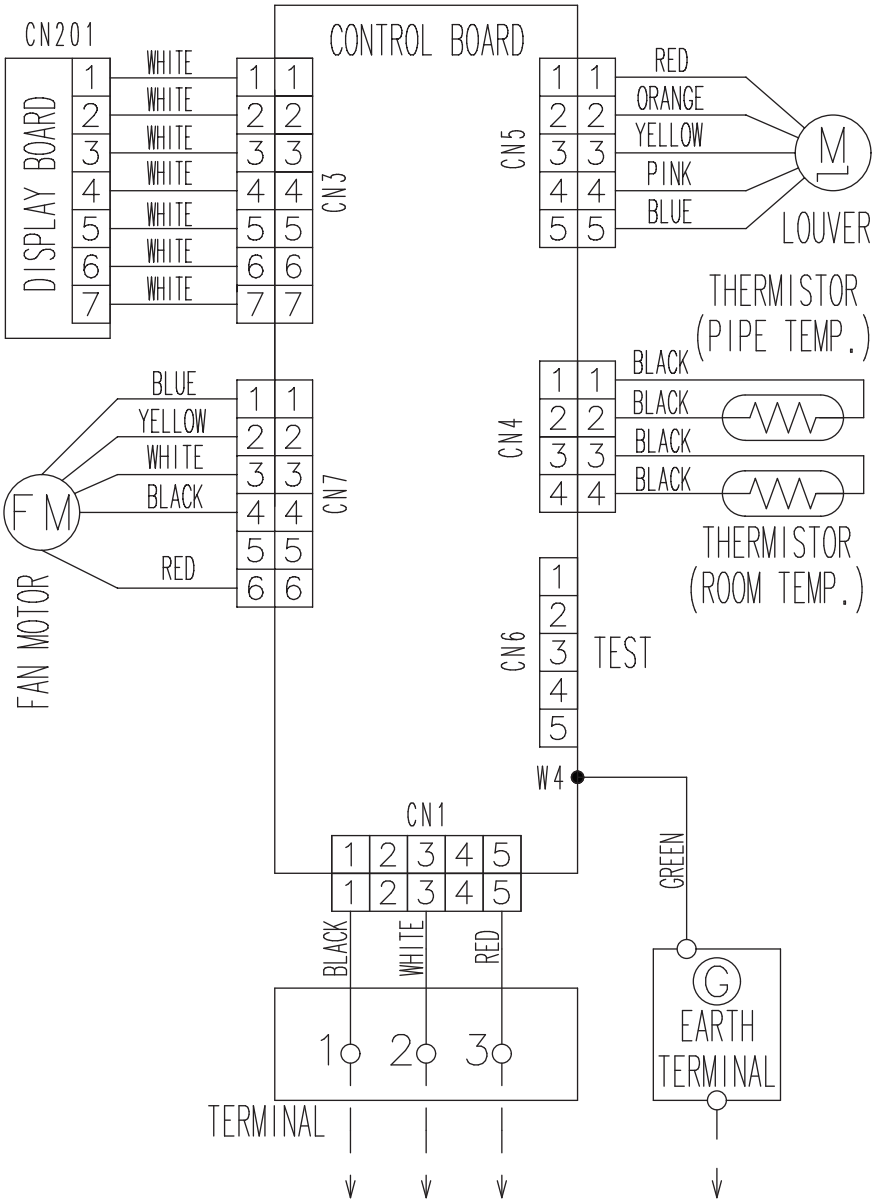




WALL MOUNTED
ASU9-12RL2

3. Wiring diagrams

3-1. Models: ASU9RL2 and ASU12RL2



WALL MOUNTED
ASU9-12RL2

4. Capacity table

Capacity tables show each of following values calculated based on the outdoor temperature and the indoor temperature, under given Airflow Rate (AFR):

For cooling capacity: Total Capacity (TC), Sensible Heat Capacity (SHC), and Input Power (IP)
For heating capacity: Total Capacity (TC) and Input Power (IP)

4-1. Cooling capacity

■ Model: ASU9RL2

AFR	CFM	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
		kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW
	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	m^3/h	720

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	12.2			15.6			17.2			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
		kW			kW			kW			kW			kW			kW		
	-10.0	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
	0.0	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
	5.0	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
	10.0	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
	15.0	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

WALL MOUNTED
ASU9-12RL2

■ Model: ASU12RL2

AFR	CFM	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
		kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW	kBtu		kW
	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	m^3/h	720

		Indoor temperature																	
	°CDB	17.8			21.1			23.9			26.7			29.4			32.2		
	°CWB	12.2			15.6			17.2			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
		kW			kW			kW			kW			kW			kW		
	-10.0	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
	0.0	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
	5.0	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
	10.0	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
	15.0	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

WALL MOUNTED
ASU9-12RL2

4-2. Heating capacity

■ Model: ASU9RL2

AFR	CFM	436

		Indoor temperature									
		°FDB	60		65		70		72		75	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW
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	m^3/h	740

		Indoor temperature									
		°CDB	15.6		18.3		21.1		23.9		25.6	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
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

■ Model: ASU12RL2

AFR	CFM	436

		Indoor temperature									
		°FDB	60		65		70		72		75	
	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW
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	m^3/h	740

		Indoor temperature									
		°CDB	15.6		18.3		21.1		23.9		25.6	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
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
	20.0	15.0	4.72	1.06	4.61	1.09	4.50	1.11	4.39	1.13	4.27	1.15
	23.89	18.0	4.64	0.95	4.53	0.97	4.42	0.99	4.31	1.01	4.20	1.03

WALL MOUNTED
ASU9-12RL2

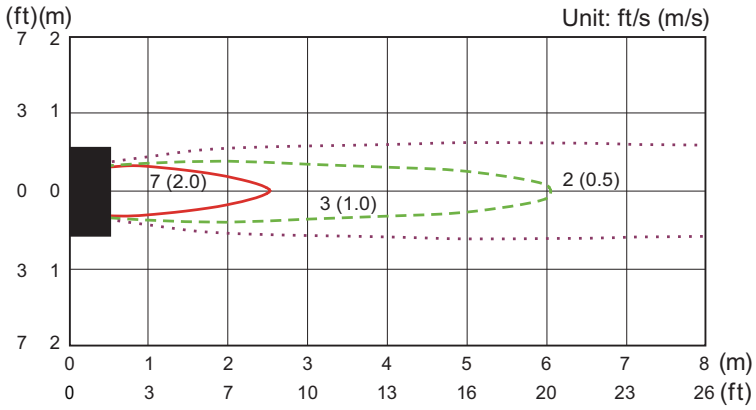
5. Fan performance

5-1. Air velocity distributions

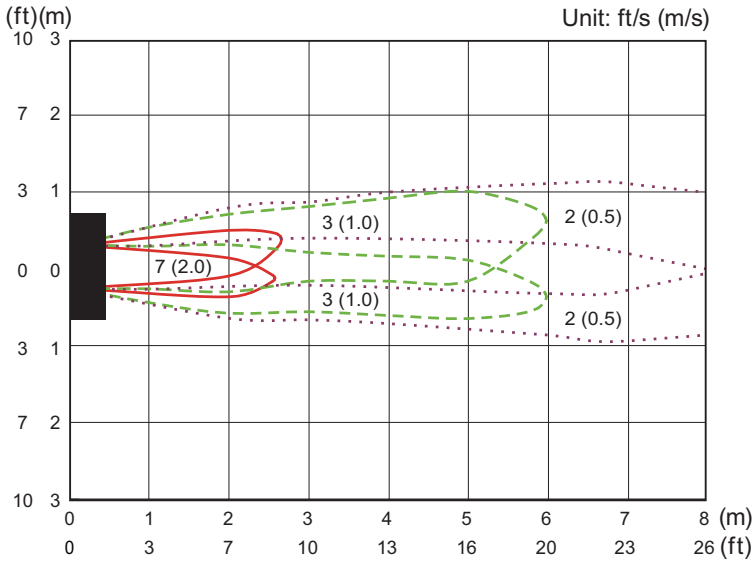
■ Models: ASU9RL2 and ASU12RL2

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

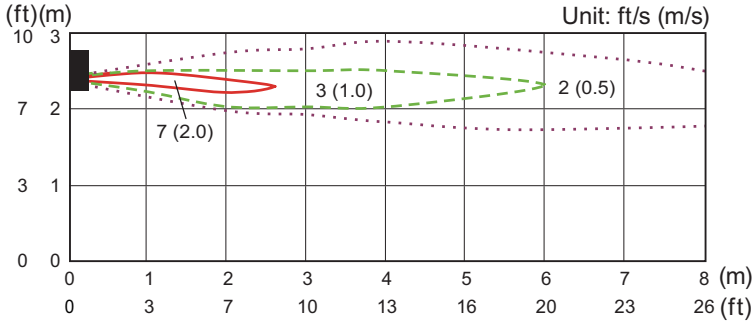
Top view
Horizontal louver: Up
Vertical louver: Center



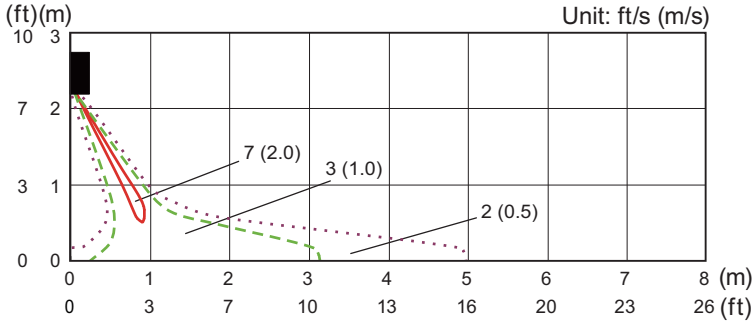
Top view
Horizontal louver: Up
Vertical louver: Left & Right



Side view
Horizontal louver: Up
Vertical louver: Center



Side view
Horizontal louver: Down
Vertical louver: Center



WALL MOUNTED
ASU9-12RL2

5-2. Airflow

■ Model: ASU9RL2

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	720
	l/s	200
	CFM	424
MED	m^3/h	600
	l/s	167
	CFM	353
LOW	m^3/h	420
	l/s	117
	CFM	247
QUIET	m^3/h	325
	l/s	90
	CFM	191

● Heating

Fan speed	Airflow	
HIGH	m^3/h	740
	l/s	167
	CFM	436
MED	m^3/h	600
	l/s	167
	CFM	353
LOW	m^3/h	450
	l/s	125
	CFM	265
QUIET	m^3/h	325
	l/s	90
	CFM	191

WALL MOUNTED
ASU9-12RL2

■ Model: ASU12RL2

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	720
	l/s	200
	CFM	424
MED	m^3/h	600
	l/s	167
	CFM	353
LOW	m^3/h	425
	l/s	118
	CFM	250
QUIET	m^3/h	325
	l/s	90
	CFM	191

● Heating

Fan speed	Airflow	
HIGH	m^3/h	740
	l/s	206
	CFM	436
MED	m^3/h	600
	l/s	167
	CFM	353
LOW	m^3/h	450
	l/s	125
	CFM	265
QUIET	m^3/h	325
	l/s	90
	CFM	191

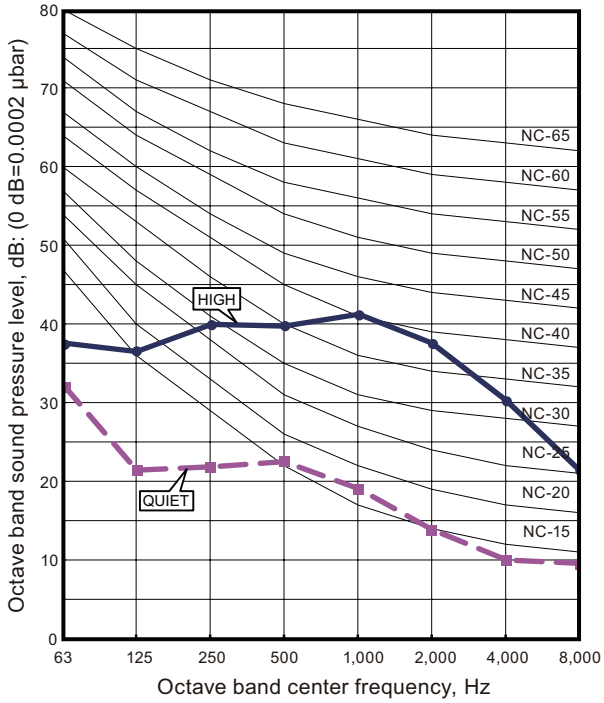
WALL MOUNTED
ASU9-12RL2

6. Operation noise (sound pressure)

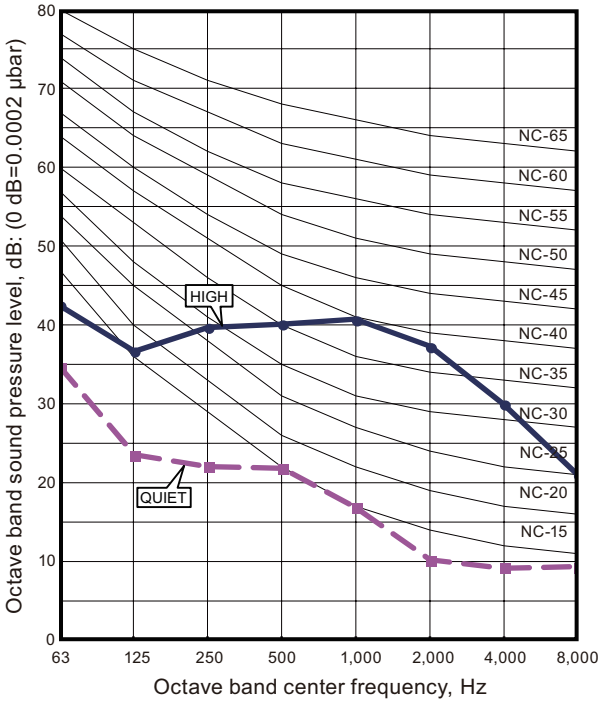
6-1. Noise level curve

■ Model: ASU9RL2

● Cooling

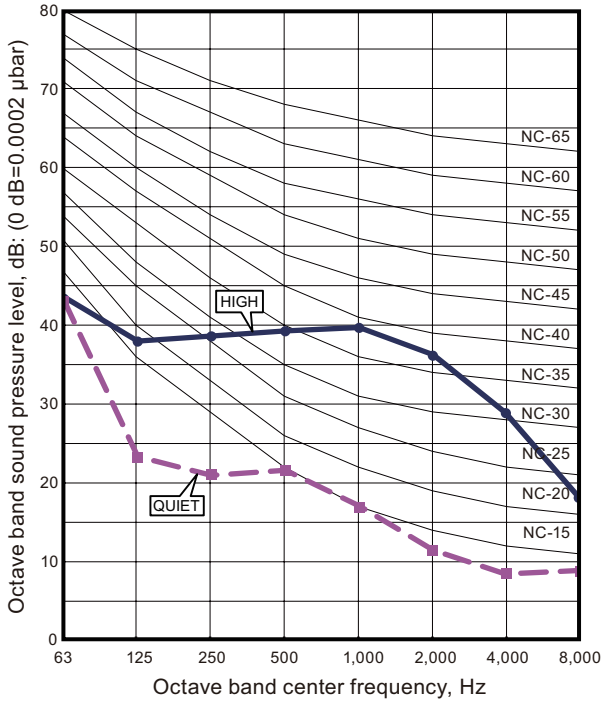


● Heating

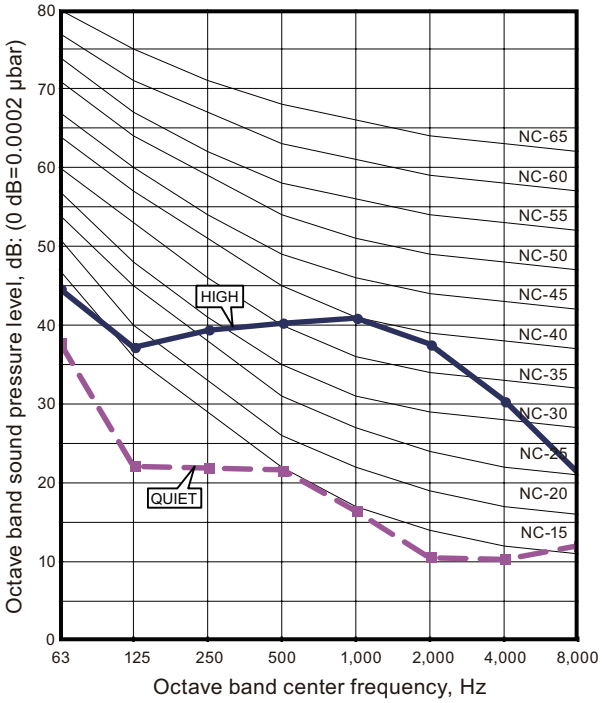


■ Model: ASU12RL2

● Cooling

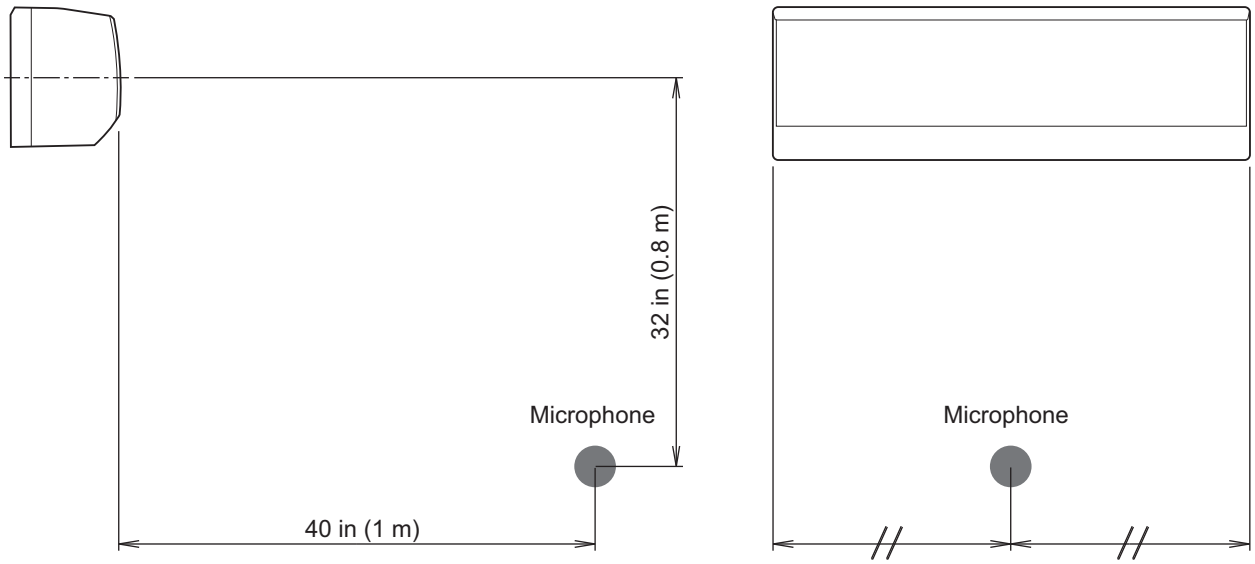


● Heating



WALL MOUNTED
ASU9-12RL2

6-2. Sound level check point



NOTE: Detailed shape of the actual indoor unit might be slightly different from the one illustrated above.

WALL MOUNTED
ASU9-12RL2

7. Safety devices

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

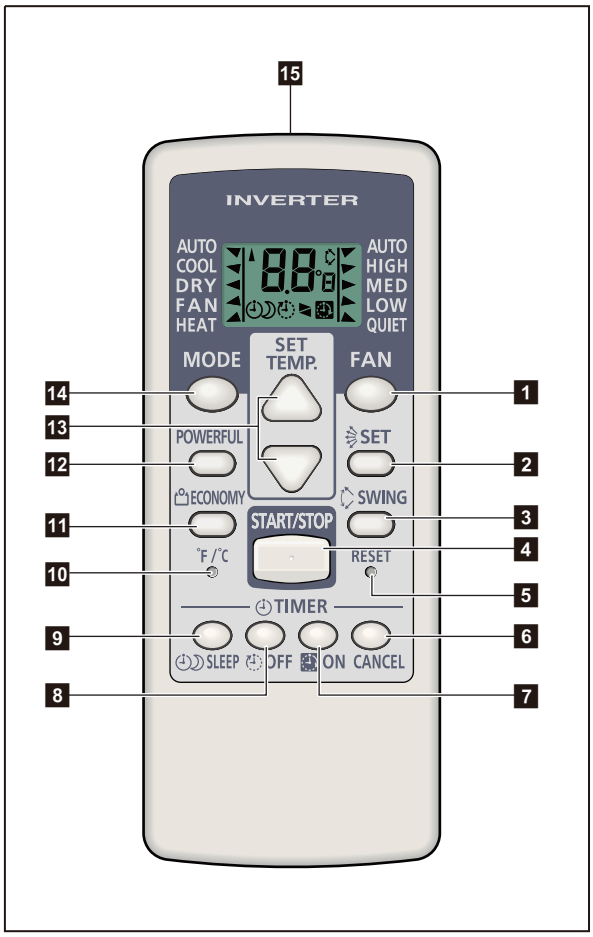
*PCB: Printed Circuit Board

WALL MOUNTED
ASU9-12RL2

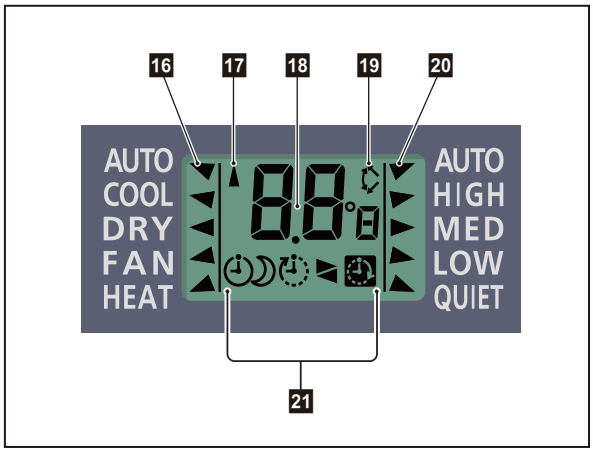
8. Remote controller

8-1. Wireless remote controller

■ Overview



Display panel



NOTE: Functions may differ by type of the indoor unit. For details, refer to the operation manual.

1 **FAN button**

2 **SET button**

3 **SWING button**

4 **START/STOP button**

5 **RESET button**

6 **TIMER CANCEL button**

7 **ON TIMER button**

8 **OFF TIMER button**

9 **SLEEP TIMER button**

10 **°F/°C button**

11 **ECONOMY button**

12 **POWERFUL button**

13 **SET TEMP. (temperature) (▲ / ▼) button**

- Sets desired temperature.
- Sets remote controller custom code.

14 **MODE button**

- Switches operation mode (AUTO, COOL, DRY, FAN, and HEAT).
- Starts/ends the remote controller custom code (max. 4 types) change.

15 **Signal transmitter**

16 **Operating mode indicator**

17 **Signal transmit indicator**

18 **Temperature and time indicator**

- Displays set temperature.
- In timer setting, it displays the timer time. After finishing the timer setting, set temperature will reappear.

19 **Swing indicator**

20 **Fan speed indicator**

21 **Timer mode indicator**

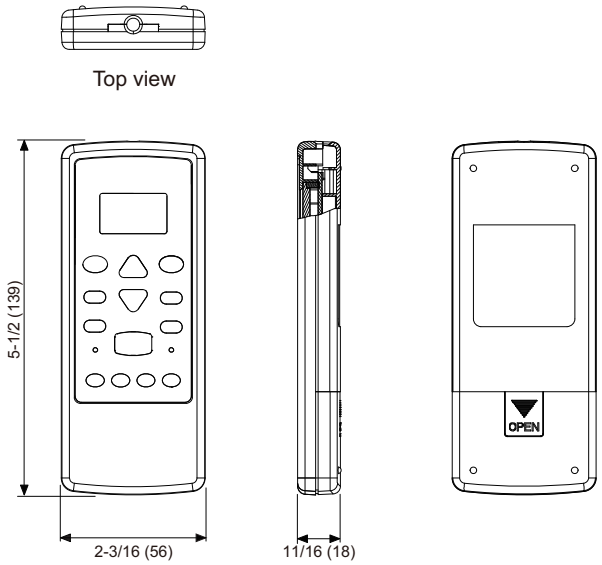
- Sleep timer
- OFF timer
- OFF-ON timer
- ON-OFF timer
- ON timer

WALL MOUNTED
ASU9-12RL2

■ Specifications

● Controller

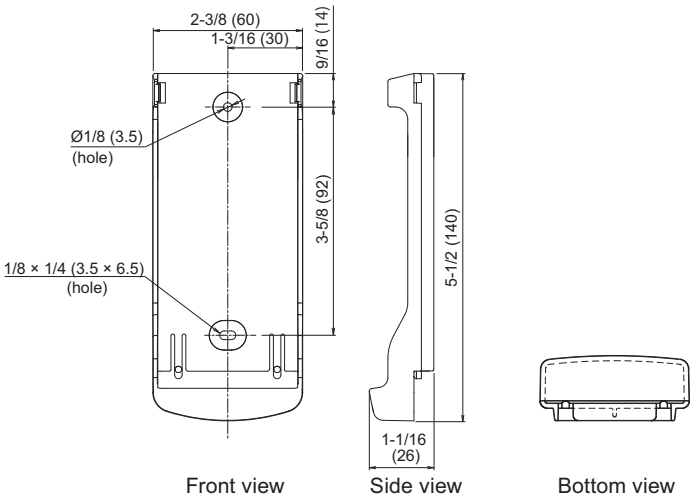
Unit: in (mm)



Size (H × W × D)	in (mm)	5-1/2 × 2-3/16 × 11/16 (139 × 56 × 18)
Weight	oz (g)	2 (70) (without batteries)

● Holder

Unit: in (mm)



Size (H × W × D)	in (mm)	5-1/2 × 2-3/8 × 1-1/16 (140 × 60.4 × 26.2)
Weight	oz (g)	9 (25)

WALL MOUNTED
ASU9-12RL2

9. Function settings

To adjust the functions of this product according to the installation environment, various types of function settings are available.

NOTE: Incorrect settings can cause a product malfunction.

9-1. Function settings by using remote controller

Some function settings can be changed on the remote controller. After confirming the setting procedure and the content of each function setting, select appropriate functions for your installation environment.

■ Setting procedure by using wireless remote controller

The function number and the associated setting value are displayed on the LCD of the remote controller. Follow the instructions written in the local setup procedure supplied with the remote controller, and select appropriate setting according to the installation environment.

Before connecting the power supply of the indoor unit, reconfirm following items:

- Piping air tightness test and vacuuming have been performed firmly.
- There is no wiring mistake.

Then, connect the power supply of indoor unit.

Entering function setting mode:

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

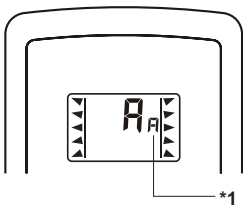
STEP 1: Setting the remote controller custom code

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

The custom codes that are set through this process are applicable only to the signal in the function setting.

For details on how to set the custom codes through the normal process, refer to "Custom code setting for wireless remote controller" on page 23.

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



***1:** Small A is displayed on the right of the custom code during the function setting.

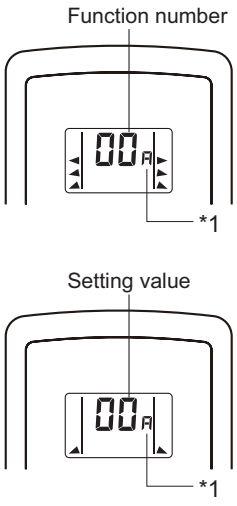
NOTES:

- The air conditioner custom code is set to A prior to shipment. To change the custom code, contact your retailer.
- The remote controller resets to custom code A when the batteries on the remote controller are replaced. If you use a custom code other than code A, reset the custom code after replacing the batteries.
- If you do not know the air conditioner custom code setting, try each of the custom codes (A →b →C →d) until you find the code that operates the air conditioner.

WALL MOUNTED
ASU9-12RL2

STEP 2: Selecting the function number and setting value

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



***1:** Small A is displayed on the right of the custom code during the function setting.

⚠ CAUTION

After disconnect the power supply, wait 30 seconds or more before reconnecting it. The function setting will not become active unless the power supply is disconnected and then reconnected.

WALL MOUNTED
ASU9-12RL2

■ Contents of function setting

Each function setting listed in this section is adjustable in accordance with the installation environment.

NOTE: Setting will not be changed if invalid numbers or setting values are selected.

● Function setting list

	Function no.	Functions
1)	11	Filter sign
2)	30/31	Room temperature control for indoor unit sensor
3)	40	Auto restart
4)	44	Remote controller custom code
5)	95	Heat insulation condition (building insulation)

1) Filter sign

Select appropriate intervals for displaying the filter sign on the indoor unit according to the estimated amount of dust in the air of the room.

If the indication is not required, select "No indication" (03).

Function number	Setting value	Setting description	Factory setting
11	00	Standard (400 hours)	
	01	Long interval (1,000 hours)	
	02	Short interval (200 hours)	
	03	No indication	♦

WALL MOUNTED
ASU9-12RL2

2) Room temperature control for indoor unit sensor

NOTE: Before performing this setting, refer to Function 95.
Depending on the installed environment, correction of the room temperature sensor may be required. Select the appropriate control setting according to the installed environment.
The temperature of the room temperature sensor is corrected as follows:

Corrected temp. = Temp. of the room temp. sensor - Correction temp. value

Example of correction:

When the temperature of the room temp. sensor is 78°F and the setting value is “03” (-2°F), the corrected temp. will be 80°F (78°F - [-2°F]).

The temperature correction values show the difference from the Standard setting “00” (manufacturer’s recommended value).
*When Function 95-01 (High insulation) is set, the Standard setting “00” will be the same as “No correction 0.0 °F (0.0 °C)” (01).

Function number		Setting value	Setting description		Factory setting
30 (For cooling)	31 (For heating)	00	Standard setting*		♦
		01	No correction 0.0 °F (0.0 °C)		
		02	-1 °F (-0.5 °C)	More cooling Less heating	
		03	-2 °F (-1.0 °C)		
		04	-3 °F (-1.5 °C)		
		05	-4 °F (-2.0 °C)		
		06	-5 °F (-2.5 °C)		
		07	-6 °F (-3.0 °C)		
		08	-7 °F (-3.5 °C)		
		09	-8 °F (-4.0 °C)		
		10	+1 °F (+0.5 °C)	Less cooling More heating	
		11	+2 °F (+1.0 °C)		
		12	+3 °F (+1.5 °C)		
		13	+4 °F (+2.0 °C)		
		14	+5 °F (+2.5 °C)		
		15	+6 °F (+3.0 °C)		
		16	+7 °F (+3.5 °C)		
		17	+8 °F (+4.0 °C)		

3) Auto restart

Enables or disables automatic restart after a power interruption.

Function number	Setting value	Setting description	Factory setting
40	00	Enable	♦
	01	Disable	

NOTE: Auto restart is an emergency function such as for power outage etc. Do not attempt to use this function in normal operation. Be sure to operate the unit by remote controller or external device.

WALL MOUNTED
ASU9-12RL2

4) Remote controller custom code

(Only for wireless remote controller)

The indoor unit custom code can be changed. Select the appropriate custom code.

Function number	Setting value	Setting description	Factory setting
44	00	A	♦
	01	B	
	02	C	
	03	D	

5) Heat insulation condition (building insulation)

Heat insulation conditions differ according to the installed environment.

"Standard insulation" (00) allows system to rapidly respond to the cooling or heating load changes.

"High insulation" (01) is when the heat insulation structure of the building is high and does not require system to rapidly respond to cooling or heating load changes.

When "High insulation" (01) is selected:

- Overheating (overcooling) is prevented at the start-up.
- All room-temperature control settings (Function 30 and 31) will reset to "No correction 0.0 °C".

Function number	Setting value	Setting description	Factory setting
95	00	Standard insulation	♦
	01	High insulation	

NOTE: When changing Function 95, perform this setting before other room-temperature control settings (Function 30 and 31). If Function 95 is not set first, room-temperature control settings (Function 30 and 31) will be reset and you must re-do them again.

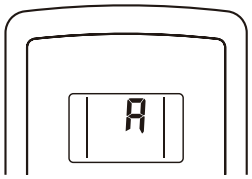
WALL MOUNTED
ASU9-12RL2

9-2. Custom code setting for wireless remote controller

To interconnect the air conditioner and the wireless remote controller, assignment of the custom code for the wireless remote controller is required.

NOTE: Air conditioner cannot receive a custom code if the air conditioner has not been set for the custom code.

1. Press the MODE button for at least 5 seconds to display the current custom code. (Initially set to A.)



2. Press the SET TEMP. (▲ or ▼) button to change the custom code between A →b →C →d. Match the code on the display to the air conditioner custom code.
3. Press the MODE button again. The custom code will be changed.

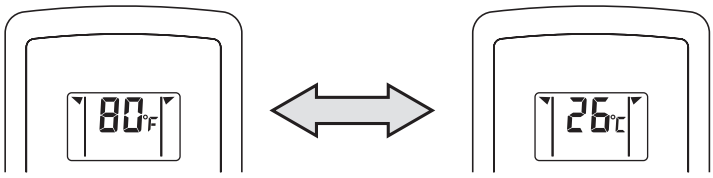
NOTES:

- If no button is pressed within 30 seconds after the custom code is displayed, the system returns to the original clock indicator. In this case, start again from step 1.
- The air conditioner custom code is set to A prior to shipment. To change the custom code, contact your retailer.
- The remote controller resets to custom code A when the batteries in the remote controller are replaced. If you use a custom code other than code A, reset the appropriate custom code after replacing the batteries. If you do not know the assigned code for the air conditioner, try each of the custom code (A →b →C →d) until you find the code which operates the air conditioner.

9-3. Temperature unit switching of remote controller

Displayed temperature unit on the remote controller LCD can be switched between °F (Fahrenheit) and °C (Celsius).

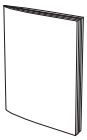
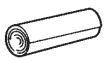
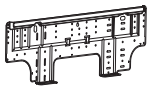
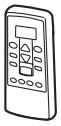
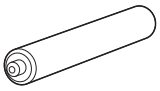
Press the °F/°C button to switch the temperature unit between °F and °C. (Factory setting: °F)



WALL MOUNTED
ASU9-12RL2

10. Accessories

10-1. Models: ASU9RL2 and ASU12RL2

Part name	Exterior	Qty	Part name	Exterior	Qty
Operating manual		1	Remote controller holder		1
Installation manual		1	Cloth tape		1
Wall hook bracket		1	Tapping screw (Large)		5
Remote controller		1	Tapping screw (Small)		2
Battery		2			

Part 2. OUTDOOR UNIT

SINGLE TYPE:

AOU9RL2
AOU12RL2

OUTDOOR UNIT
AOU9-12RL2

1. Specifications

Type				Inverter, Heat pump	
Model name				**AOU9RL2**	**AOU12RL2**
Power supply				115 V~ 60 Hz	
Power supply intake				Outdoor unit	
Available voltage range				103.5—126.5 V	
Starting current			A	7.5	11.0
Fan	Airflow rate	Cooling	CFM (m^3/h)	1,012 (1,720)	1,077 (1,830)
		Heating		889 (1,510)	942 (1,600)
	Type × Qty			Propeller fan × 1	
	Motor output		W	23	
Sound pressure level *1		Cooling	dB (A)	47	51
		Heating		48	51
Heat exchanger type		Dimensions (H × W × D)	in (mm)	19-13/16 × 25-9/16 × 11/16 (504 × 650 × 18.2)	Main 1: 19-13/16 × 24-1/8 × 11/16 (504 × 612 × 18.2) Main 2: 19-13/16 × 25-4/16 × 11/16 (504 × 642 × 18.2)
		Fin pitch	FPI	20	Main 1: 18 Main 2: 18
		Rows × Stages		1 × 24	Main 1: 1 × 24 Main 2: 1 × 24
		Pipe type		Copper tube	
		Fin type	Type (Material)	Aluminum	
			Surface treatment	PC fin	
Compressor	Type			DC rotary	
	Motor output		W	610	
Refrigerant		Type		R410A	
		Charge	lb oz	1 lb 7 oz	1 lb 12 oz
			g	650	800
Refrigerant oil		Type		POE (VG74)	
		Amount	in^3 (cm^3)	22.6 (370)	
Enclosure		Material		Steel sheet	
		Color		Beige Approximate color of Munsell 10YR 7.5/1.0	
Dimensions (H × W × D)	Net		in (mm)	21-1/4 × 26 × 11-11/32 (540 × 660 × 290)	
	Gross			24-1/16 × 31-3/8 × 15-13/16 (611 × 797 × 401)	
Weight	Net		lb (kg)	64 (29)	68 (31)
	Gross			68 (31)	73 (33)
Connection 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)	
	Additional charge		oz/ft (g/m)	0.22 (20)	
Operation range		Cooling	°F (°C)	14 to 115 (-10 to 46)	
		Heating		14 to 75 (-10 to 24)	
Drain hose		Material		LDPE	
		Tip diameter	in (mm)	Ø1/2 (Ø13.0) (I.D.), Ø5/8 to 11/16 (Ø16.0 to 16.7) (O.D.)	

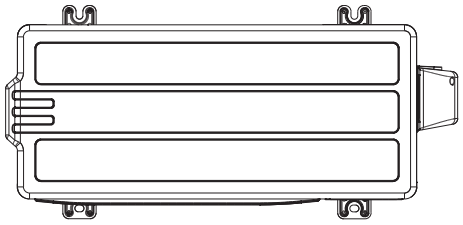
NOTES:

- Specifications are based on the following conditions:
  - Cooling: Indoor temperature of 80°FDB (26.67°CDB) / 67°FWB (19.44°CWB), and outdoor temperature of 95°FDB (35°CDB) / 75°FWB (23.9°CWB).
  - Heating: Indoor temperature of 70°FDB (21.11°CDB) / 60°FWB (15.56°CWB), and outdoor temperature of 47°FDB (8.33°CDB) / 43°FWB (6.11°CWB).
  - Pipe length: 25 ft (7.5 m), Height difference: 0 ft (0 m). (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- *1: Sound pressure level
  - Measured values in manufacturer's anechoic chamber.
  - Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.

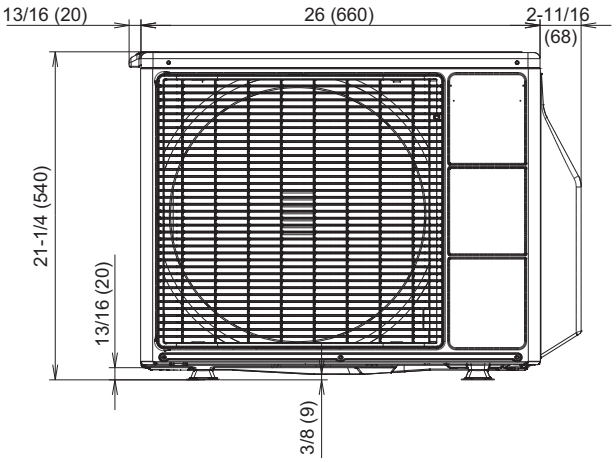
2. Dimensions

2-1. Models: AOU9RL2 and AOU12RL2

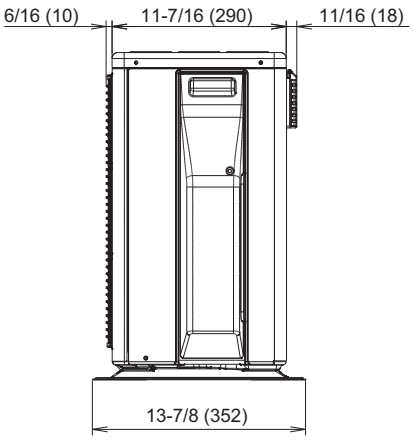
Unit: in (mm)



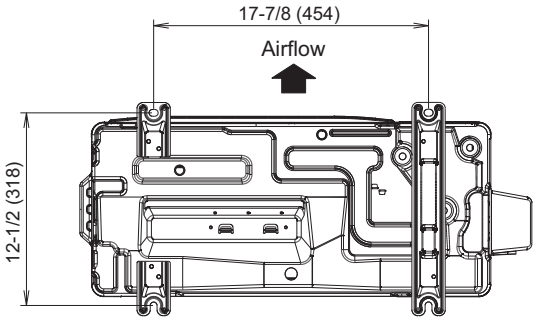
Top view



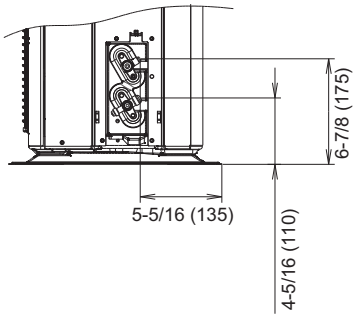
Front view



Side view



Bottom view



OUTDOOR UNIT
AOU9-12RL2

3. Installation space

3-1. Models: AOU9RL2 and AOU12RL2

■ Space requirement

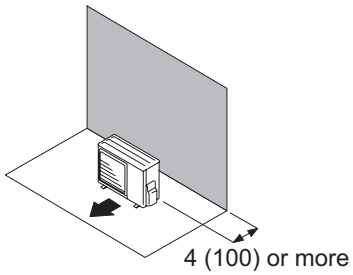
Provide sufficient installation space for product safety.

● Single outdoor unit installation

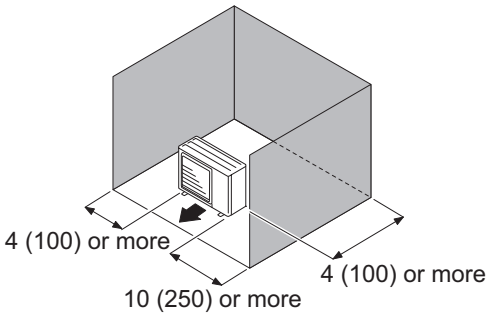
- **When the upper space is open:**

Unit: in (mm)

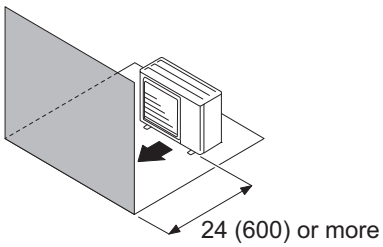
When there are obstacles at the rear only.



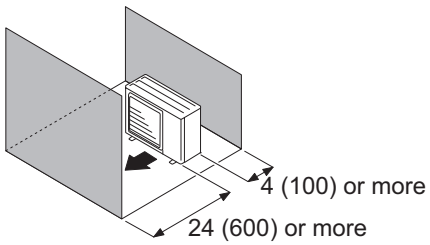
When there are obstacles at the rear and sides.



When there are obstacles at the front only.



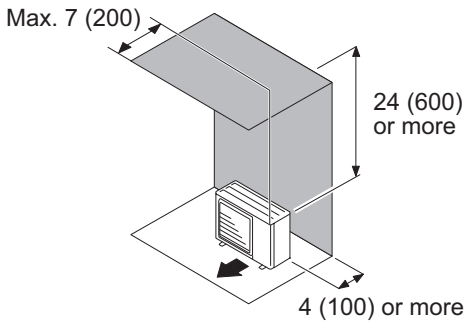
When there are obstacles at the front and rear.



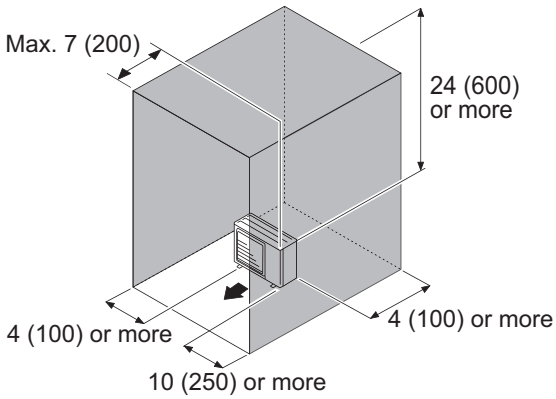
- **When there is an obstruction in the upper space:**

Unit: in (mm)

When there are obstacles at the rear and above.



When there are obstacles at the rear, sides, and above.



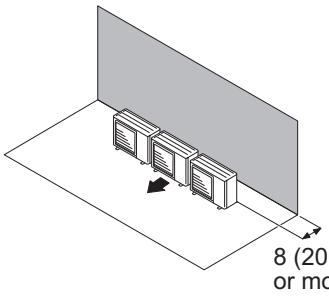
OUTDOOR UNIT
AOU9-12RL2

● Multiple outdoor unit installation

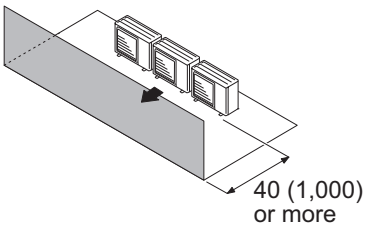
- **When the upper space is open:**

Unit: in (mm)

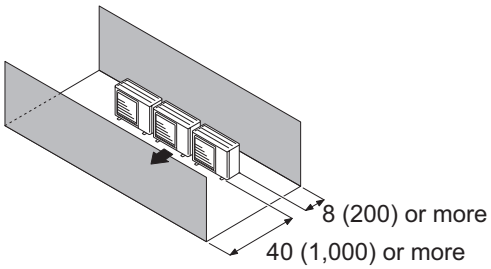
When there are obstacles at the rear only.



When there are obstacles at the front only.



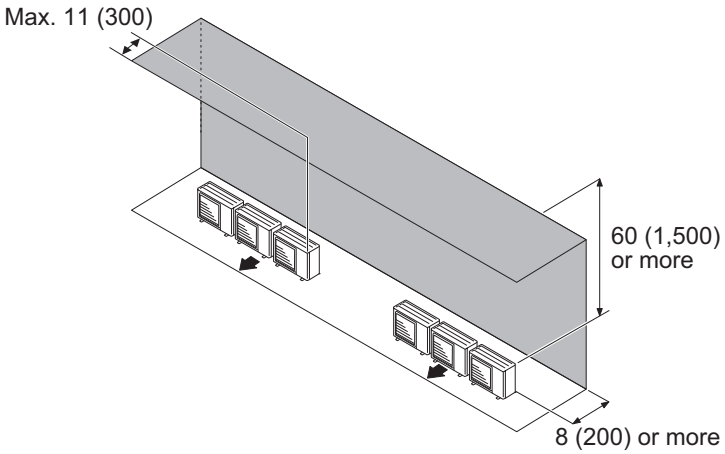
When there are obstacles at the front and rear.



- **When there is an obstruction in the upper space:**

Unit: in (mm)

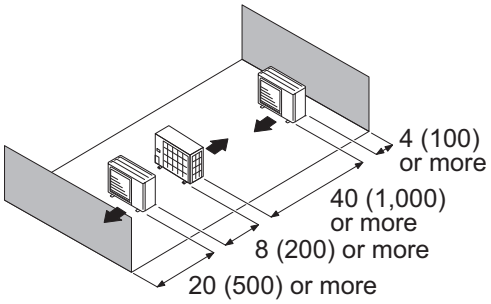
When there are obstacles at the rear and above.



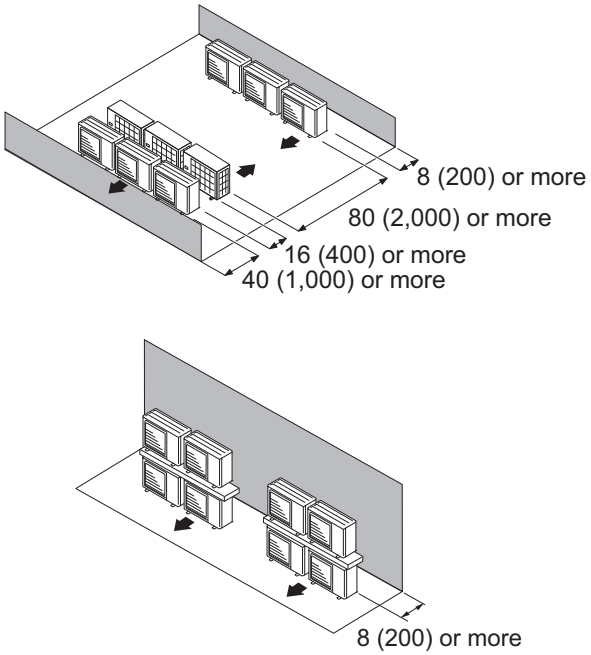
● Outdoor unit installation in multi-row

Unit: in (mm)

Single parallel unit arrangement



Multiple parallel unit arrangement

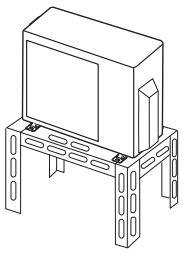


NOTES:

- If the space is larger than stated above, the condition will be the same as when there is no obstacle.
- Height above the floor level should be 2 in (50 mm) or more.
- When installing the outdoor unit, be sure to open the front and left side to obtain better operation efficiency.

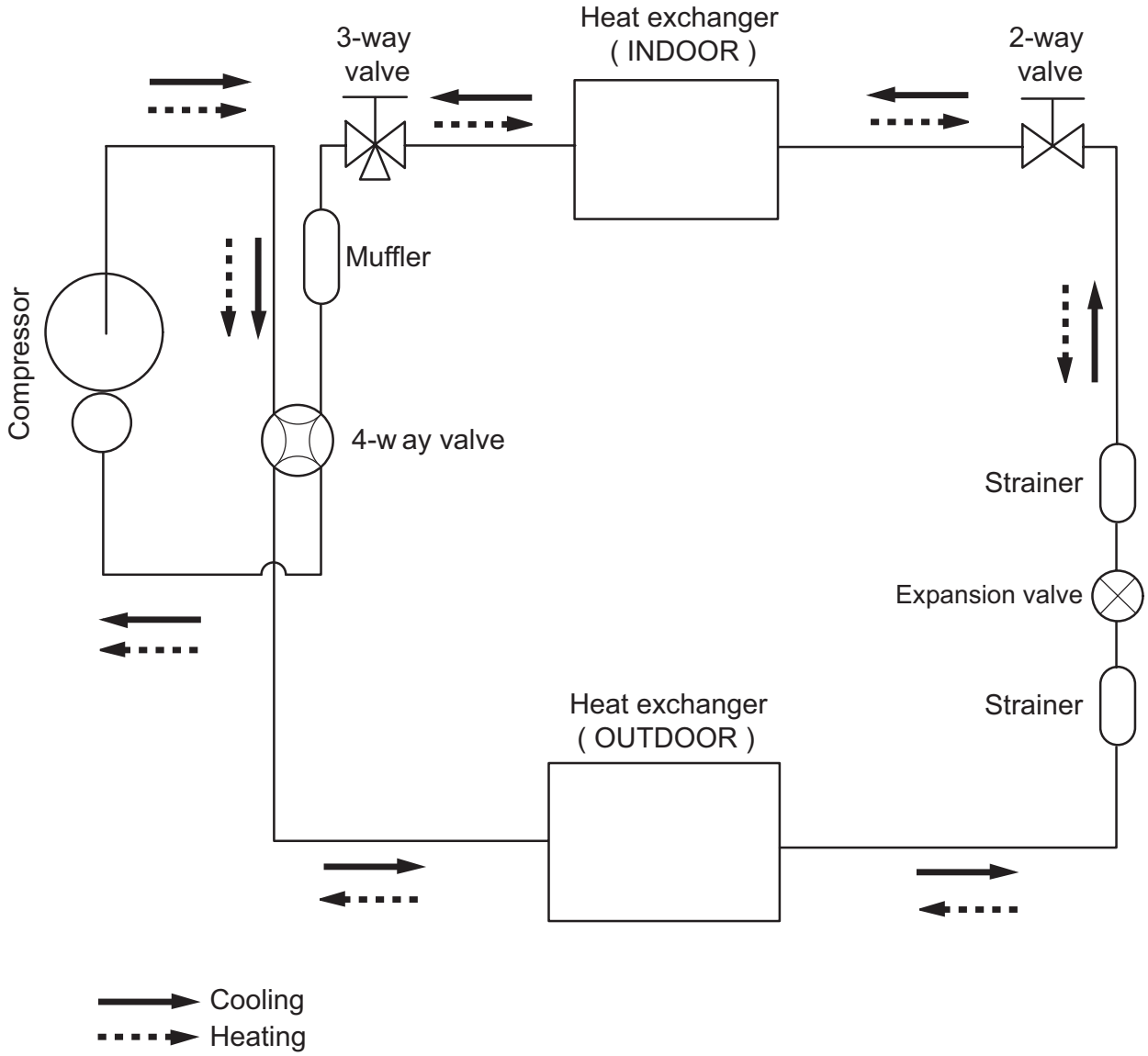
⚠ CAUTION

- Do not install the outdoor unit in two-stage where the drain water could freeze. Otherwise the drainage from the upper unit may form ice and cause a malfunction of the lower unit.
- When the outdoor temperature is 32 °F (0 °C) or less, do not use the accessory drain pipe and drain cap. If the drain pipe and drain cap are used, the drain water in the pipe may freeze in extremely cold climate. (For reverse cycle model only.)
- In area with heavy snowfall, if the inlet and outlet of the outdoor unit is blocked with snow, it might become difficult to get warm, and it is likely to cause product malfunction. Construct a canopy and a pedestal, or place the unit on a high stand that is locally installed.



4. Refrigerant circuit

4-1. Models: AOU9RL2 and AOU12RL2

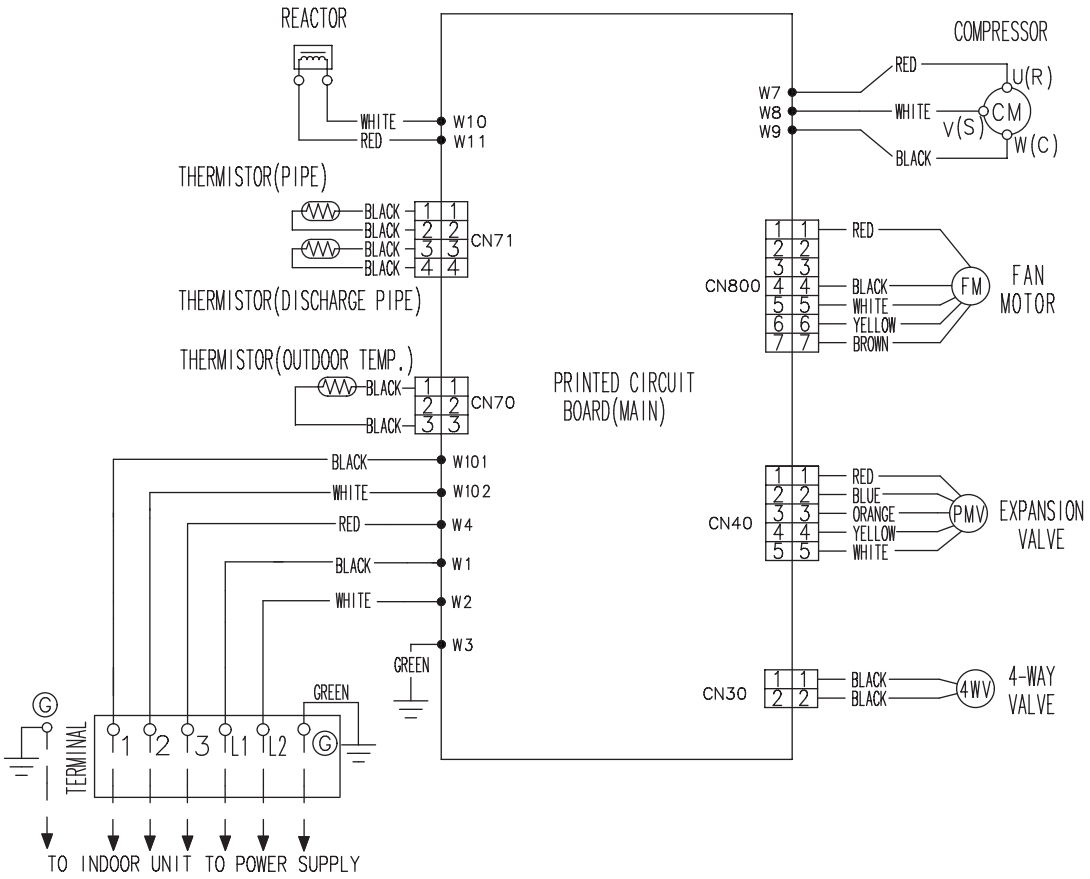


OUTDOOR UNIT
AOU9-12RL2

OUTDOOR UNIT
AOU9-12RL2

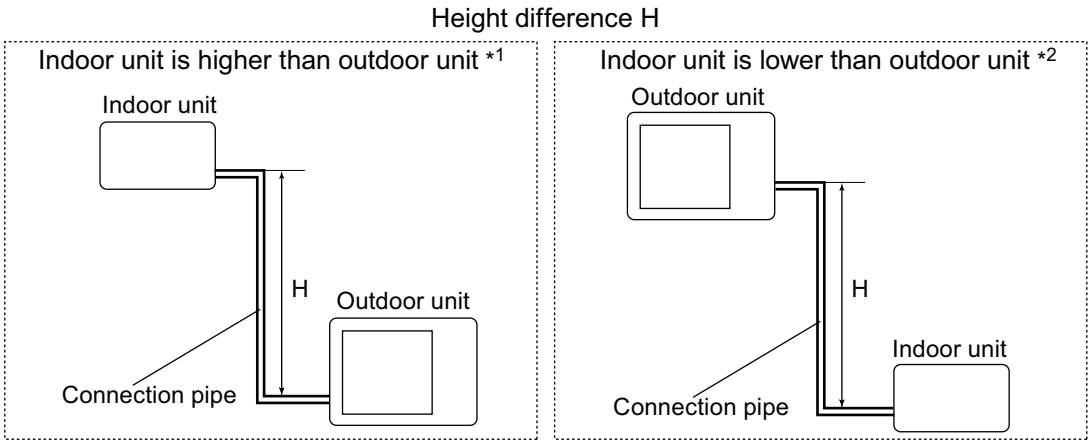
5. Wiring diagrams

5-1. Models: AOU9RL2 and AOU12RL2



OUTDOOR UNIT
AOU9-12RL2

6. Capacity compensation rate for pipe length and height difference



6-1. Model: AOU9RL2

NOTE: Values mentioned in the table are calculated based on the maximum capacity.

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

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

6-2. Model: AOU12RL2

NOTE: Values mentioned in the table are calculated based on the maximum capacity.

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

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

7. Additional charge calculation

7-1. Model: ASU9RL2

Refrigerant type		R410A
Factory charge amount	lb oz	1 lb 7 oz
	g	650

■ Refrigerant charge

Total pipe length	ft	49 or less	66 (Max.)	0.22 oz/ft (20 g/m)
	m	15 or less	20 (Max.)	
Additional charge amount	oz	0	3.5	
	g	0	100	

7-2. Model: ASU12RL2

Refrigerant type		R410A
Factory charge amount	lb oz	1 lb 12 oz
	g	800

■ Refrigerant charge

Total pipe length	ft	49 or less	66 (Max.)	0.22 oz/ft (20 g/m)
	m	15 or less	20 (Max.)	
Additional charge amount	oz	0	3.5	
	g	0	100	

8. Airflow

8-1. AOU9RL2

OUTDOOR UNIT
AOU9-12RL2

● Cooling

m^3/h	1,720
l/s	478
CFM	1,012

● Heating

m^3/h	1,510
l/s	419
CFM	889

8-2. AOU12RL2

● Cooling

m^3/h	1,830
l/s	508
CFM	1,077

● Heating

m^3/h	1,600
l/s	444
CFM	942

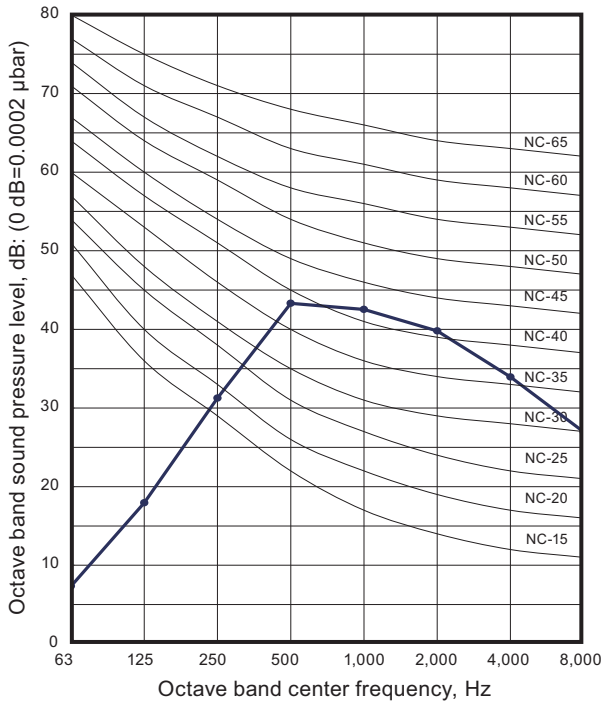
OUTDOOR UNIT
AOU9-12RL2

9. Operation noise (sound pressure)

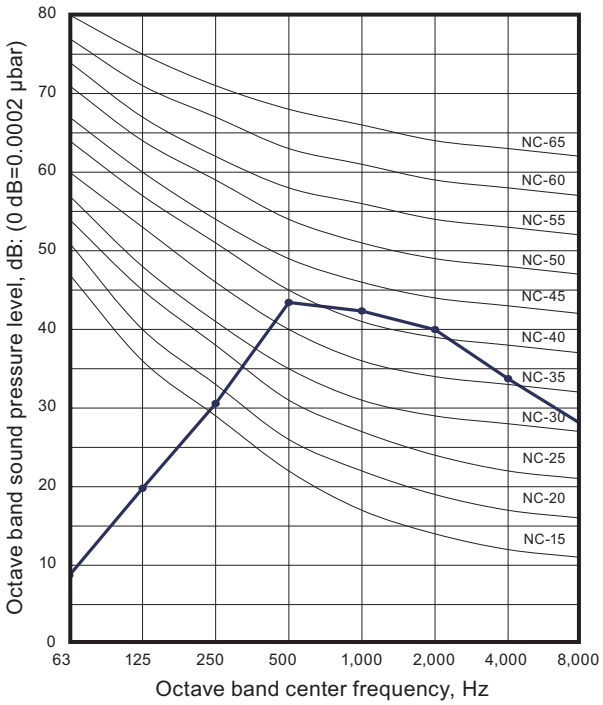
9-1. Noise level curve

■ AOU9RL2

● Cooling

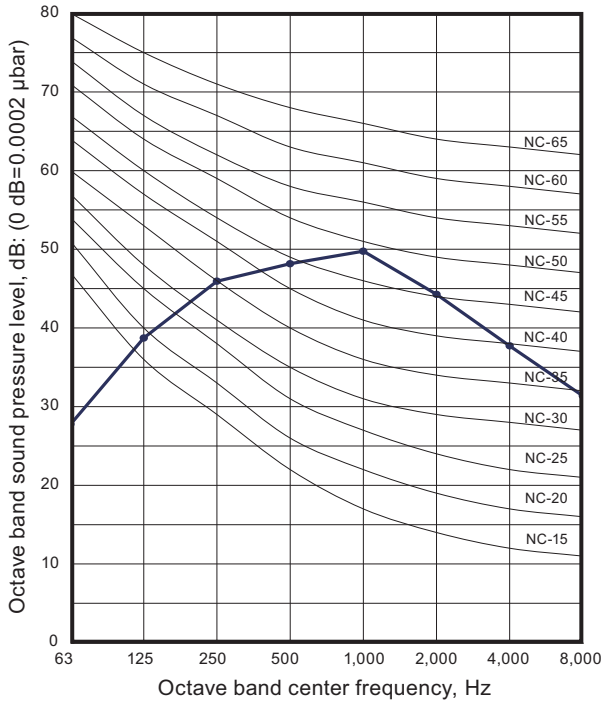


● Heating

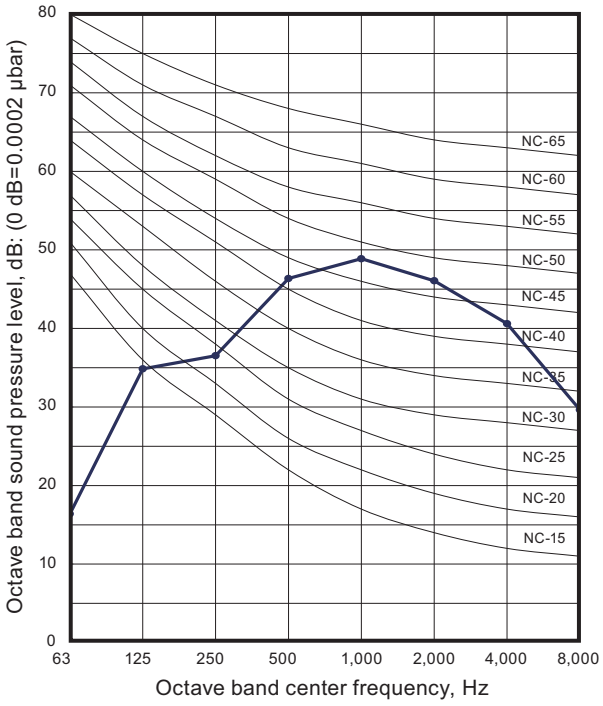


■ AOU12RL2

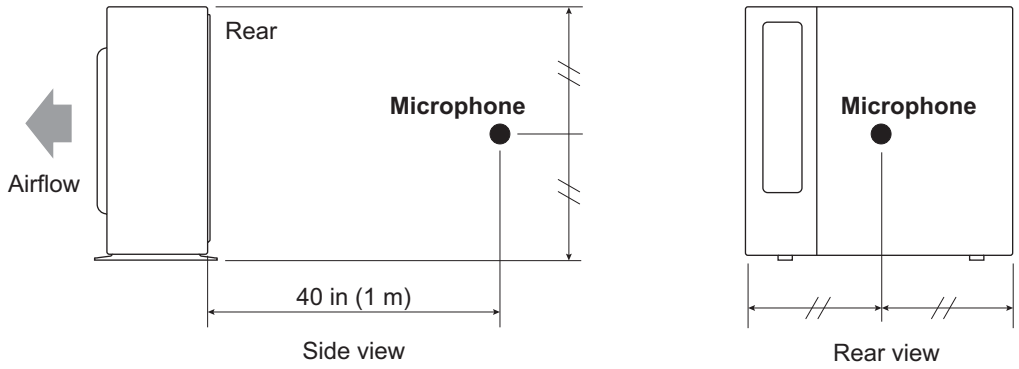
● Cooling



● Heating



9-2. Sound level check point



NOTE: Detailed shape of the actual outdoor unit might be slightly different from the one illustrated above.

10. Electrical characteristics

Model name				AOU9RL2	AOU12RL2
Power supply	Voltage		V	115~	
	Frequency		Hz	60	
MCA *1			A	13.5	15.0
Starting current			A	7.5	11.0
Wiring spec. *2	MAX. CKT. BKR *3		A	15	20
	Power cable		AWG	14	
	Connection cable *4	Size	AWG	14	
		Limited wiring length	ft (m)	69 (21)	

NOTES:

- *1: Minimum Circuit Ampacity (Calculation based on UL1995)
- *2: Selected sample based on Japan Electrotechnical Standards and Codes Committee E0005. As the regulations of wire size and circuit breaker differ in each country or region, select appropriate devices complied to the regional standard.
- *3: Maximum Circuit Breaker
- *4: Limit voltage drop to less than 2%. If voltage drop is 2% or more, increase cable conductor size.

OUTDOOR UNIT
AOU9-12RL2

11. Safety devices

Type of protection	Protection form		Model	
			AOU9RL2	AOU12RL2
Circuit protection	Current fuse (PCB*)		250 V, 25 A 250 V, 3.15 A 250 V, 3.15 A	
Fan motor protection	Terminal protection program	Activate	302°F (150°C) Fan motor stop	
		Reset	248°F (120°C) Fan motor restart	
Compressor protection	Terminal protection program (Compressor temp.)	Activate	230 °F (110 °C) Compressor stop	
		Reset	After 7 minutes Compressor restart	

*PCB: Printed Circuit Board

12. Accessories

12-1. Models: AOU9RL2 and AOU12RL2

OUTDOOR UNIT
AOU9-12RL2

Part name	Exterior	Qty	Part name	Exterior	Qty
Installation manual		1	Drain pipe		1