AIRSTAGE

AIR CONDITIONER

Wall mounted type

FUJITSU

REFRIGERANT R32

INVERTER

DESIGN & TECHNICAL MANUAL

INDOOR

ASLH09KNAS
ASLH12KNAS

OUTDOOR

AOLH09KNAS1
AOLH12KNAS1

FUJITSU GENERAL LIMITED

DR_AS238ES_04
2025.06.09

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

Trademarks

“AIRSTAGE Mobile” is a trademark of FUJITSU GENERAL LIMITED.

Google Play™ is trademark of Google LLC.

App Store® is a service mark of Apple Inc., registered in the U.S. and other countries.

CONTENTS

CONTENTS (continued)

Part 1. INDOOR UNIT

WALL MOUNTED TYPE:
ASLH09KNAS
ASLH12KNAS

WALL MOUNTED
ASLH09–12KNAS

1. Specifications

Type					Wall mounted	
					Inverter, Heat pump	
Model name					ASLH09KNAS	ASLH12KNAS
Power supply intake					Outdoor unit	
System power supply		Voltage		V	115	
		Frequency		Hz	60	
		Available voltage range		V	103.5—126.5	
Indoor unit power supply (from outdoor unit)				V	115	
Capacity	Cooling		Rated	kW	2.64	3.52
				Btu/h	9,000	12,000
			Min.—Max.	kW	0.90—3.08	0.90—3.67
				Btu/h	3,100—10,500	3,100—12,500
	Heating	47°FDB (Outdoor temp.)	Rated	kW	2.64	3.52
				Btu/h	9,000	12,000
			Min.—Max.	kW	0.90—3.63	0.90—4.07
				Btu/h	3,100—12,400	3,100—13,900
		17°FDB (Outdoor temp.)*1	Rated	kW	1.525	2.200
				Btu/h	5,200	7,500
			Max.	kW	2.505	2.960
				Btu/h	8,550	10,100
		5°FDB (Outdoor temp.)*2	Rated	kW	1.995	2.400
				Btu/h	6,800	8,200
			Max.	kW	1.995	2.400
				Btu/h	6,800	8,200
Input power	Cooling		Rated	kW	0.85	1.18
			Min.—Max.		0.24—1.44	0.23—1.44
	Heating	47°FDB (Outdoor temp.)	Rated		0.74	1.05
			Min.—Max.		0.20—1.38	0.21—1.66
		17°FDB (Outdoor temp.)*1	Rated		0.58	0.84
			Max.		1.08	1.24
		5°FDB (Outdoor temp.)*2	Rated		0.94	1.1
			Max.		0.94	1.1
	Fan		HIGH	W	20.1	20.2
			MED		11.3	11.5
			LOW		5.7	6.3
			QUIET		2.9	
Current		Cooling	Rated	A	8.2	10.9
		Heating			7.5	11.0
EER2		Cooling		kW/kW	3.09	2.97
				Btu/hW	10.55	10.15
COP2		Heating		kW/kW	3.56	3.35
				Btu/hW	12.16	11.43
SEER2		Cooling		Btu/hW	17.00	
HSPF2		Heating		Btu/hW	9.00	
Power factor		Cooling		%	90	94
		Heating			86	83
Moisture removal				pints/h (L/h)	1.9 (0.88)	3.3 (1.57)
Maximum operating current*3		Cooling		A	14.7	
		Heating			14.7	
Fan	Airflow rate	Cooling	HIGH	CFM (m^3/h)	365 (620)	
			MED		288 (490)	
			LOW		212 (360)	218 (370)
			QUIET		141 (240)	
		Heating	HIGH		365 (620)	377 (640)
			MED		300 (510)	288 (490)
			LOW		241 (410)	235 (400)
			QUIET		153 (260)	
	Type × Qty				Crossflow fan × 1	
	Motor output			W	27	
Sound pressure level*4		Cooling	HIGH	dB (A)	41	
			MED		35	
			LOW		27	28
			QUIET		20	
		Heating	HIGH		41	
			MED		35	
			LOW		30	
			QUIET		22	
Heat exchanger		Dimensions (H × W × D)		in (mm)	Main 1: 3-5/16 × 23-1/4 × 1/2 (84 × 590 × 13.3) Main 2: 3-5/16 × 23-1/4 × 1-1/16 (84 × 590 × 26.6) Main 3: 3-5/16 × 23-1/4 × 1/2 (84 × 590 × 13.3)	Main 1: 6-5/8 × 23-1/4 × 1-1/16 (168 × 590 × 26.6) Main 2: 3-5/16 × 23-1/4 × 1/2 (84 × 590 × 13.3)
		Fin pitch		FPI	Main 1: 21 Main 2: 20 Main 3: 21	Main 1: 20 Main 2: 21
		Rows × Stages			Main 1: 1 × 4 Main 2: 2 × 4 Main 3: 1 × 4	Main 1: 2 × 8 Main 2: 1 × 4
		Pipe type			Copper tube	
		Fin type			Aluminum	
Enclosure		Material			Polystyrene	
		Color			White Approximate color of Munsell 9PB 9.1/0.2	
Dimensions (H × W × D)		Net		in (mm)	9-13/16 × 30-5/16 × 8-9/16 (250 × 770 × 218)	
		Gross			10-13/16 × 33-1/16 × 12-3/16 (274 × 840 × 310)	
Weight		Net		lb (kg)	15 (7.0)	17 (7.5)
		Gross			20 (9.0)	21 (9.5)

WALL MOUNTED
ASLH09–12KNAS

Type				Wall mounted	
				Inverter, Heat pump	
Model name				ASLH09KNAS	ASLH12KNAS
Connection pipe	Size	Liquid	in (mm)	Ø1/4 (Ø6.35)	
		Gas		Ø3/8 (Ø9.52)	
	Method			Flare	
Drain hose	Material			Polypropylene + High-density polyethylene	
	Tip diameter		in (mm)	I.D.: Ø17/32 (Ø13.8) O.D.: Ø19/32 to 21/32 (Ø15 to 16.8)	
Operation range	Cooling		°F (°C)	64 to 90 (18 to 32)	
			%RH	80 or less	
	Heating		°F (°C)	60 to 86 (16 to 30)	
Remote controller type				Wireless (Option: Mobile app*5 [AIRSTAGE Mobile])	

NOTES:

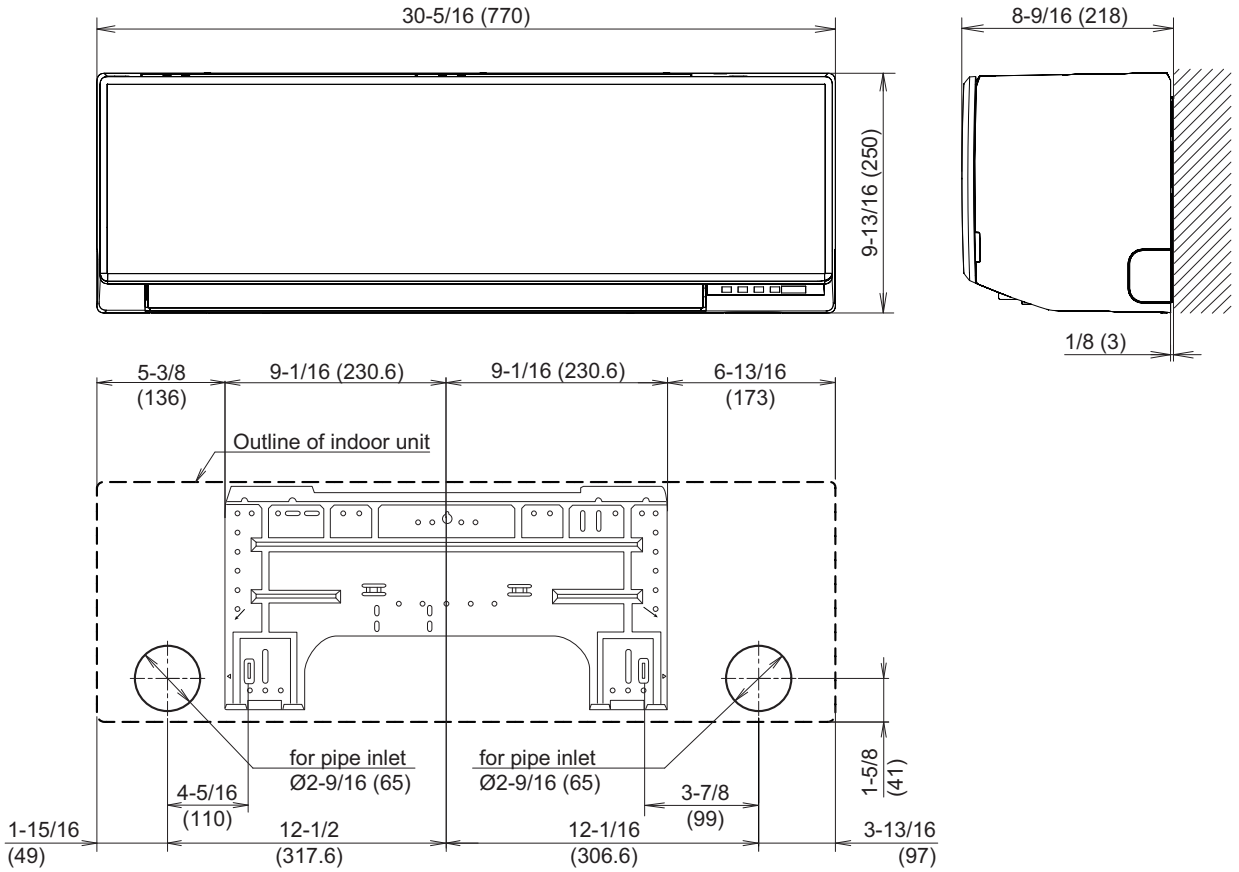
- Specifications are based on the following conditions:
  - Cooling: Indoor temperature of 80°FDB/67°FWB (26.67°CDB/19.44°CWB), and outdoor temperature of 95°FDB/75°FWB (35°CDB/23.9°CWB).
  - Heating: Indoor temperature of 70°FDB/60°FWB (21.11°CDB/15.56°CWB), and outdoor temperature of 47°FDB/43°FWB (8.33°CDB/6.11°CWB).
  - *1: Heating (17°F): Indoor temperature of 70°FDB/60°FWB (21.11°CDB/15.56°CWB), and outdoor temperature of 17°FDB/15°FWB (-8.33°CDB/-9.44°CWB).
  - *2: Heating (5°F): Indoor temperature of 70°FDB/60°FWB (21.11°CDB/15.56°CWB), and outdoor temperature of 5°FDB/4°FWB (-15.0°CDB/-15.56°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.
- *3: Maximum current:
  - The maximum value when operated within the operation range.
  - The total current of indoor unit and outdoor unit.
- *4: 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.
- *5: Available on Google Play™ store or on App Store®. Optional WLAN Adapter is also required. For details, refer to the setting manual.

WALL MOUNTED
ASLH09~12KNAS

2. Dimensions

2-1. Models: ASLH09KNAS and ASLH12KNAS

Unit: in (mm)

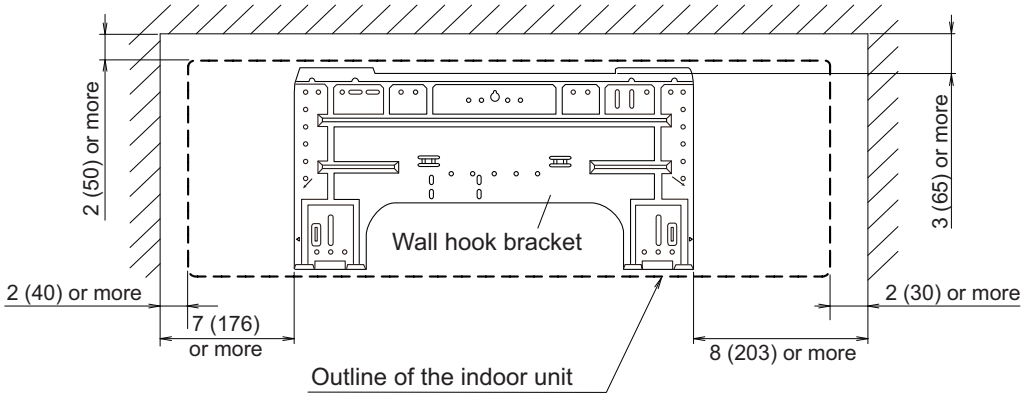


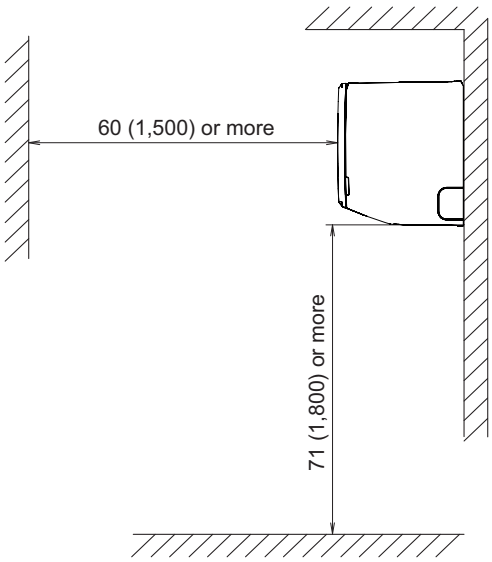
WALL MOUNTED
ASLH09–12KNAS

■ Installation space requirement

Provide sufficient installation space for product safety.

Unit: in (mm)





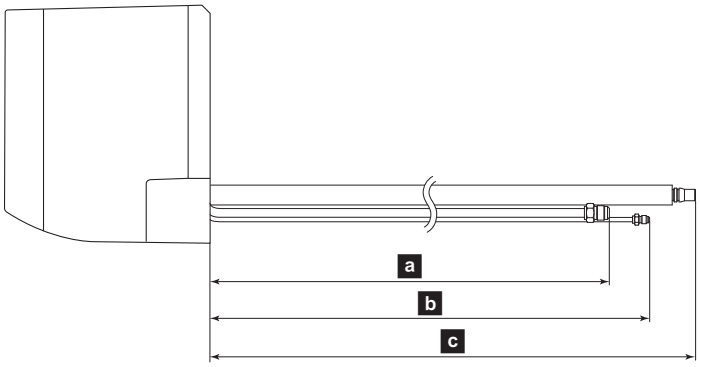
WALL MOUNTED
ASLH09–12KNAS

2-2. Pipe exit length from the rear

Design the system considering the length of the pipes or hose exiting from the rear of the indoor unit.

NOTE: Detailed shapes of the indoor unit and the tip of each pipe or hose may vary depending on the model.

Unit: in (mm)

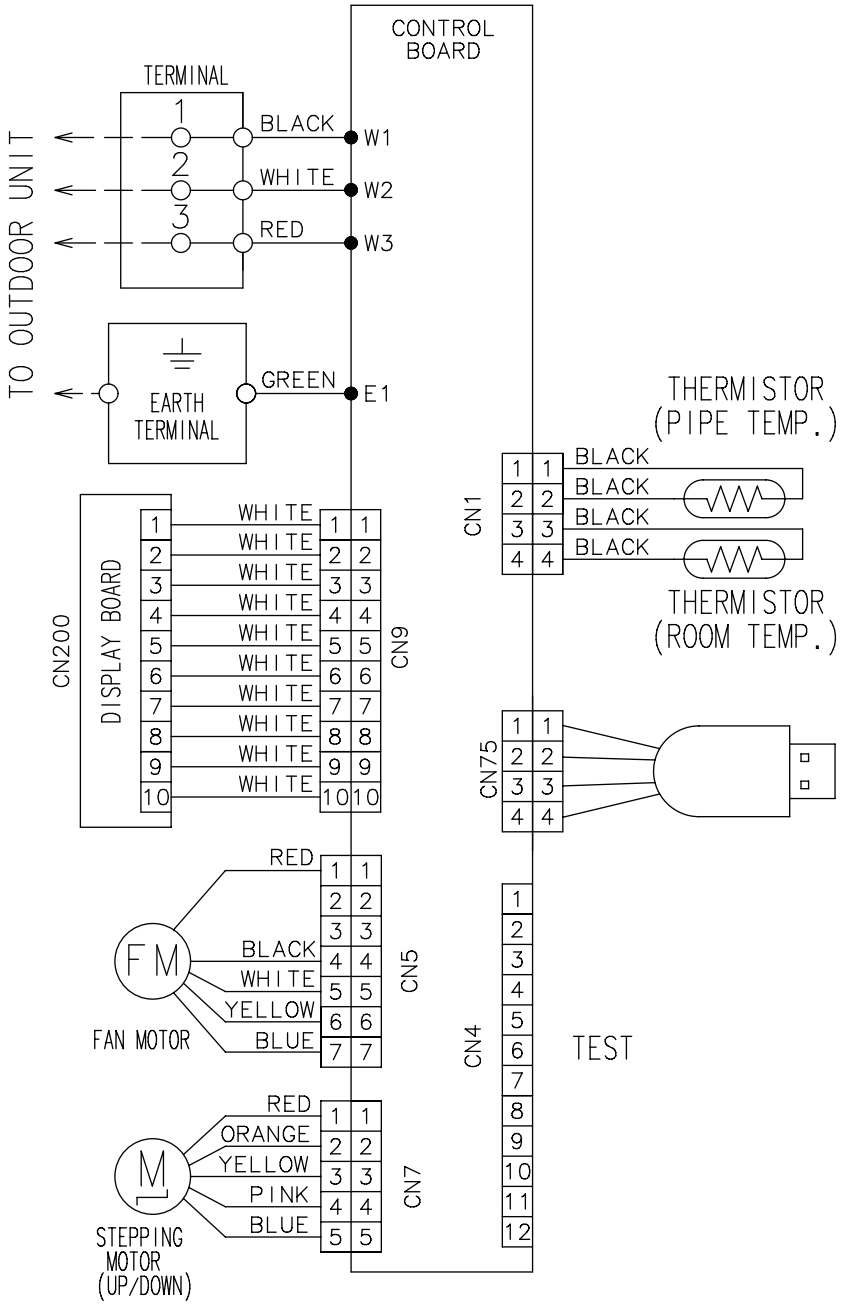


Model name	Approximate length		
	a Gas pipe	b Liquid pipe	c Drain hose
ASLH09–12KNAS	13 (330)	14-3/4 (375)	15-9/16 (395)

WALL MOUNTED
ASLH09~12KNAS

3. Wiring diagrams

3-1. Models: ASLH09KNAS and ASLH12KNAS



WALL MOUNTED
ASLH09~12KNAS

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: ASLH09KNAS

AFR	CFM	365

		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
	50	4.83	4.83	0.11	7.23	6.22	0.26	7.61	6.65	0.26	7.95	6.64	0.27	8.73	6.93	0.28	9.18	7.68	0.28
	59	4.73	4.73	0.13	6.96	6.09	0.30	7.33	6.51	0.31	7.66	6.51	0.32	8.40	6.78	0.32	8.84	7.52	0.33
	67	5.34	5.34	0.18	8.57	6.88	0.44	9.03	7.35	0.44	9.44	7.35	0.45	10.35	7.66	0.46	10.89	8.49	0.47
	77	5.18	5.18	0.21	8.18	6.66	0.49	8.62	7.13	0.50	9.01	7.12	0.51	9.88	7.42	0.52	10.39	8.23	0.53
	87	5.07	5.07	0.25	8.15	6.53	0.61	8.58	6.98	0.62	8.97	6.97	0.64	9.84	7.27	0.65	10.35	8.06	0.66
	95	5.06	5.06	0.34	8.18	6.51	0.82	8.62	6.97	0.83	9.01	6.96	0.85	9.88	7.26	0.87	10.39	8.05	0.88
	104	4.87	4.87	0.36	7.67	6.26	0.87	8.08	6.70	0.88	8.45	6.69	0.90	9.27	6.98	0.92	9.75	7.73	0.93
	115	4.42	4.42	0.28	6.16	5.68	0.68	6.48	6.08	0.69	6.77	6.07	0.71	7.43	6.33	0.72	7.82	7.02	0.73
	122	3.95	3.95	0.22	5.08	5.08	0.52	5.44	5.44	0.53	5.43	5.43	0.54	5.69	5.66	0.55	6.28	6.28	0.56
	126	3.40	3.40	0.17	4.07	4.07	0.41	4.68	4.68	0.42	4.68	4.68	0.43	4.87	4.87	0.44	5.40	5.40	0.44

AFR	m^3/h	620

		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	1.42	1.42	0.11	2.12	1.82	0.26	2.23	1.95	0.26	2.33	1.95	0.27	2.56	2.03	0.28	2.69	2.25	0.28
	15.0	1.39	1.39	0.13	2.04	1.78	0.30	2.15	1.91	0.31	2.24	1.91	0.32	2.46	1.99	0.32	2.59	2.20	0.33
	19.4	1.57	1.57	0.18	2.51	2.02	0.44	2.65	2.16	0.44	2.77	2.15	0.45	3.03	2.24	0.46	3.19	2.49	0.47
	25.0	1.52	1.52	0.21	2.40	1.95	0.49	2.53	2.09	0.50	2.64	2.09	0.51	2.90	2.18	0.52	3.05	2.41	0.53
	30.6	1.49	1.49	0.25	2.39	1.91	0.61	2.51	2.05	0.62	2.63	2.04	0.64	2.88	2.13	0.65	3.03	2.36	0.66
	35.0	1.48	1.48	0.34	2.40	1.91	0.82	2.53	2.04	0.83	2.64	2.04	0.85	2.90	2.13	0.87	3.05	2.36	0.88
	40.0	1.43	1.43	0.36	2.25	1.84	0.87	2.37	1.96	0.88	2.48	1.96	0.90	2.72	2.04	0.92	2.86	2.27	0.93
	46.0	1.29	1.29	0.28	1.80	1.67	0.68	1.90	1.78	0.69	1.99	1.78	0.71	2.18	1.86	0.72	2.29	2.06	0.73
	50.0	1.16	1.16	0.22	1.49	1.49	0.52	1.59	1.59	0.53	1.59	1.59	0.54	1.67	1.66	0.55	1.84	1.84	0.56
	52.0	1.00	1.00	0.17	1.19	1.19	0.41	1.37	1.37	0.42	1.37	1.37	0.43	1.43	1.43	0.44	1.58	1.58	0.44

WALL MOUNTED
ASLH09~12KNAS

■ Model: ASLH12KNAS

AFR	CFM	365

		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
	50	5.74	5.55	0.18	8.96	6.65	0.35	9.40	7.19	0.35	9.99	7.36	0.36	10.74	7.46	0.37	11.19	8.20	0.37
	59	6.11	5.90	0.21	9.53	7.06	0.42	10.00	7.64	0.43	10.63	7.82	0.44	11.42	7.92	0.45	11.90	8.71	0.45
	67	7.15	6.46	0.33	11.15	7.74	0.66	11.71	8.37	0.67	12.43	8.57	0.68	13.36	8.68	0.69	13.93	9.55	0.70
	77	7.09	6.44	0.38	11.06	7.71	0.76	11.61	8.34	0.77	12.33	8.54	0.79	13.25	8.65	0.80	13.81	9.51	0.81
	87	7.03	6.40	0.47	10.97	7.66	0.94	11.51	8.29	0.95	12.23	8.48	0.97	13.14	8.59	0.99	13.70	9.45	1.00
	95	6.91	6.30	0.58	10.77	7.55	1.14	11.31	8.17	1.16	12.01	8.36	1.18	12.91	8.47	1.20	13.45	9.31	1.21
	104	6.68	6.24	0.62	10.42	7.47	1.24	10.94	8.09	1.25	11.62	8.28	1.28	12.49	8.38	1.30	13.01	9.22	1.32
	115	5.57	5.57	0.60	8.70	6.69	1.20	9.13	7.24	1.21	9.70	7.41	1.24	10.42	7.51	1.26	10.86	8.26	1.27
	122	4.71	4.71	0.53	7.34	6.18	1.05	7.71	6.69	1.07	8.19	6.85	1.09	8.80	6.93	1.11	9.17	7.63	1.12
	126	3.78	3.78	0.39	5.89	5.38	0.78	6.18	6.04	0.79	6.57	6.19	0.81	7.06	6.27	0.82	7.35	6.89	0.83

AFR	m^3/h	620

		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	1.68	1.63	0.18	2.63	1.95	0.35	2.76	2.11	0.35	2.93	2.16	0.36	3.15	2.19	0.37	3.28	2.40	0.37
	15.0	1.79	1.73	0.21	2.79	2.07	0.42	2.93	2.24	0.43	3.11	2.29	0.44	3.35	2.32	0.45	3.49	2.55	0.45
	19.4	2.10	1.89	0.33	3.27	2.27	0.66	3.43	2.45	0.67	3.64	2.51	0.68	3.92	2.54	0.69	4.08	2.80	0.70
	25.0	2.08	1.89	0.38	3.24	2.26	0.76	3.40	2.44	0.77	3.61	2.50	0.79	3.88	2.54	0.80	4.05	2.79	0.81
	30.6	2.06	1.87	0.47	3.21	2.24	0.94	3.37	2.43	0.95	3.58	2.49	0.97	3.85	2.52	0.99	4.01	2.77	1.00
	35.0	2.02	1.85	0.58	3.16	2.21	1.14	3.31	2.39	1.16	3.52	2.45	1.18	3.78	2.48	1.20	3.94	2.73	1.21
	40.0	1.96	1.83	0.62	3.05	2.19	1.24	3.20	2.37	1.25	3.40	2.43	1.28	3.66	2.46	1.30	3.81	2.70	1.32
	46.0	1.63	1.63	0.60	2.55	1.96	1.20	2.68	2.12	1.21	2.84	2.17	1.24	3.05	2.20	1.26	3.18	2.42	1.27
	50.0	1.38	1.38	0.53	2.15	1.81	1.05	2.26	1.96	1.07	2.40	2.01	1.09	2.58	2.03	1.11	2.69	2.23	1.12
	52.0	1.11	1.11	0.39	1.73	1.58	0.78	1.81	1.77	0.79	1.92	1.81	0.81	2.07	1.84	0.82	2.16	2.02	0.83

WALL MOUNTED
ASLH09~12KNAS

4-2. Heating capacity

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

■ Model: ASLH09KNAS

AFR	CFM	365

			Indoor temperature									
		°FDB	60		65		70		72		75	
Outdoor temperature	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW
	5	3	7.10	0.92	6.90	0.96	6.86	1.01	6.48	0.90	6.35	0.91
	14	12	8.32	1.00	8.09	1.04	8.04	1.09	7.60	0.98	7.44	0.99
	23	19	9.51	1.05	9.24	1.09	9.20	1.15	8.68	1.03	8.51	1.04
	32	28	10.78	1.14	10.47	1.19	10.42	1.25	9.84	1.12	9.64	1.13
	41	37	11.35	1.16	11.03	1.21	10.97	1.27	10.36	1.14	10.15	1.15
	47	43	12.81	1.26	12.45	1.31	12.39	1.38	11.70	1.24	11.46	1.25
	50	47	13.36	1.26	12.99	1.31	12.92	1.38	12.20	1.24	11.95	1.25
	59	50	13.45	1.21	13.07	1.26	13.01	1.33	12.28	1.19	12.03	1.20
	68	59	13.11	1.01	12.74	1.05	12.67	1.10	11.96	0.99	11.72	1.00
	75	64	12.94	0.89	12.58	0.92	12.51	0.97	11.81	0.87	11.57	0.88

AFR	m^3/h	620

			Indoor temperature									
		°CDB	15.6		18.3		21.1		22.2		23.9	
Outdoor temperature	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
	-15.0	-16.1	2.08	0.92	2.02	0.96	2.01	1.01	1.90	0.90	1.86	0.91
	-10.0	-11.1	2.44	1.00	2.37	1.04	2.36	1.09	2.23	0.98	2.18	0.99
	-5.0	-7.2	2.79	1.05	2.71	1.09	2.70	1.15	2.55	1.03	2.49	1.04
	0.0	-2.2	3.16	1.14	3.07	1.19	3.05	1.25	2.88	1.12	2.82	1.13
	5.0	2.8	3.33	1.16	3.23	1.21	3.22	1.27	3.04	1.14	2.97	1.15
	8.3	6.1	3.75	1.26	3.65	1.31	3.63	1.38	3.43	1.24	3.36	1.25
	10.0	8.3	3.92	1.26	3.81	1.31	3.79	1.38	3.58	1.24	3.50	1.25
	15.0	10.0	3.94	1.21	3.83	1.26	3.81	1.33	3.60	1.19	3.53	1.20
	20.0	15.0	3.84	1.01	3.73	1.05	3.71	1.10	3.51	0.99	3.43	1.00
	24.0	18.0	3.79	0.89	3.69	0.92	3.67	0.97	3.46	0.87	3.39	0.88

■ Model: ASLH12KNAS

AFR	CFM	377

			Indoor temperature									
		°FDB	60		65		70		72		75	
Outdoor temperature	°FDB	°FWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW	kBtu	kW
	5	3	7.97	0.92	7.90	0.97	7.73	1.01	7.68	1.02	6.67	0.81
	14	12	9.25	1.01	9.16	1.06	8.97	1.10	8.91	1.11	7.73	0.89
	23	19	10.75	1.06	10.64	1.11	10.42	1.16	10.36	1.17	8.99	0.94
	32	28	12.10	1.15	11.99	1.20	11.73	1.25	11.66	1.26	10.12	1.01
	41	37	13.08	1.21	12.95	1.26	12.68	1.32	12.61	1.33	10.94	1.06
	47	43	14.32	1.27	14.19	1.33	13.89	1.39	13.81	1.40	11.98	1.12
	50	47	14.19	1.16	14.06	1.21	13.76	1.27	13.68	1.28	11.87	1.02
	59	50	14.45	1.14	14.31	1.19	14.01	1.24	13.93	1.25	12.08	1.00
	68	59	14.56	1.05	14.42	1.09	14.11	1.14	14.03	1.15	12.17	0.92
	75	64	13.62	0.82	13.49	0.86	13.20	0.90	13.13	0.91	11.39	0.73

AFR	m^3/h	640

			Indoor temperature									
		°CDB	15.6		18.3		21.1		22.2		23.9	
Outdoor temperature	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
	-15.0	-16.1	2.34	0.92	2.31	0.97	2.27	1.01	2.25	1.02	1.95	0.81
	-10.0	-11.1	2.71	1.01	2.68	1.06	2.63	1.10	2.61	1.11	2.27	0.89
	-5.0	-7.2	3.15	1.06	3.12	1.11	3.05	1.16	3.04	1.17	2.63	0.94
	0.0	-2.2	3.55	1.15	3.51	1.20	3.44	1.25	3.42	1.26	2.97	1.01
	5.0	2.8	3.83	1.21	3.80	1.26	3.72	1.32	3.69	1.33	3.20	1.06
	8.3	6.1	4.20	1.27	4.16	1.33	4.07	1.39	4.05	1.40	3.51	1.12
	10.0	8.3	4.16	1.16	4.12	1.21	4.03	1.27	4.01	1.28	3.48	1.02
	15.0	10.0	4.23	1.14	4.19	1.19	4.11	1.24	4.08	1.25	3.54	1.00
	20.0	15.0	4.27	1.05	4.23	1.09	4.14	1.14	4.11	1.15	3.57	0.92
	24.0	18.0	3.99	0.82	3.95	0.86	3.87	0.90	3.85	0.91	3.34	0.73

WALL MOUNTED
ASLH09~12KNAS

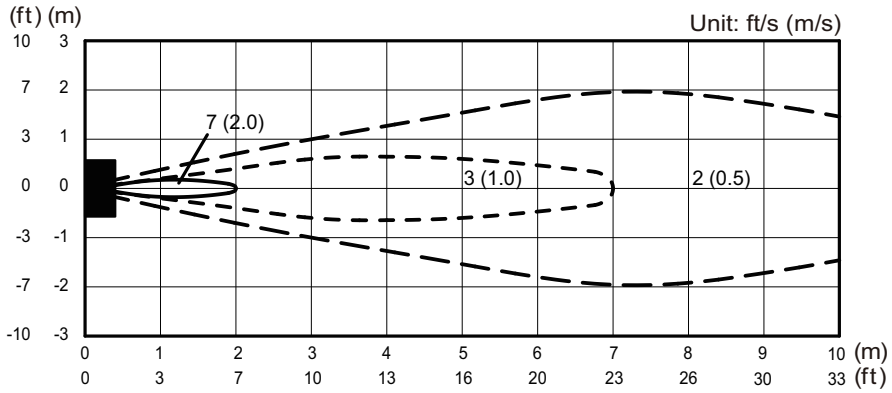
5. Fan performance

5-1. Air velocity distributions

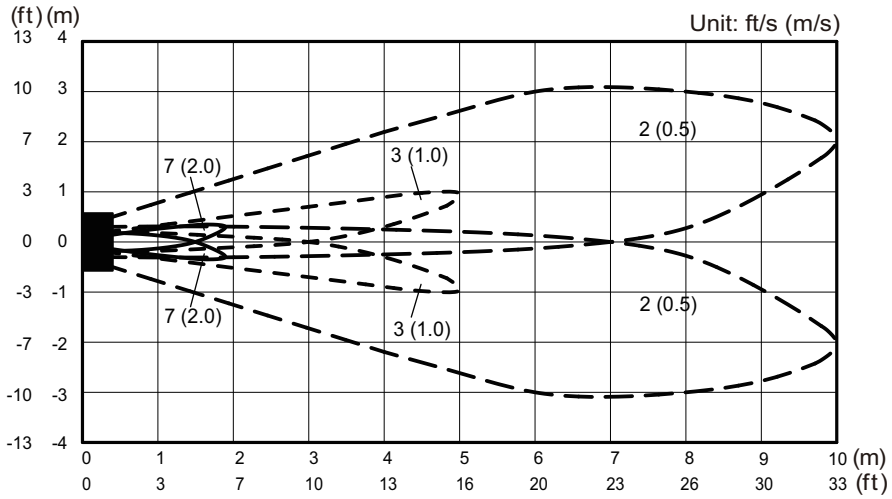
■ Model: ASLH09KNAS

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

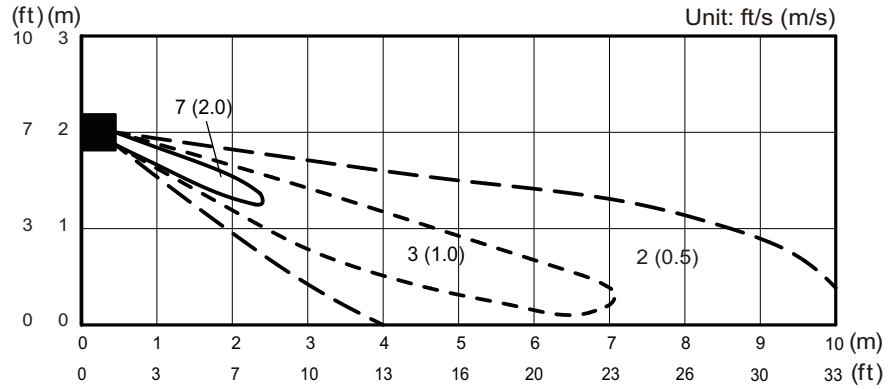
Top view
Horizontal louver: Up
Vertical louver: Center



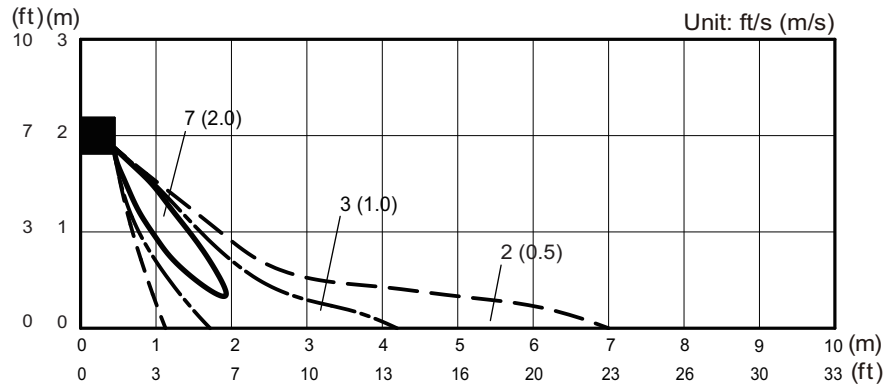
Top view
Horizontal louver: Up
Vertical louver: Left & Right



Side view
Horizontal louver: Up
Vertical louver: Center



Side view
Horizontal louver: Down
Vertical louver: Center

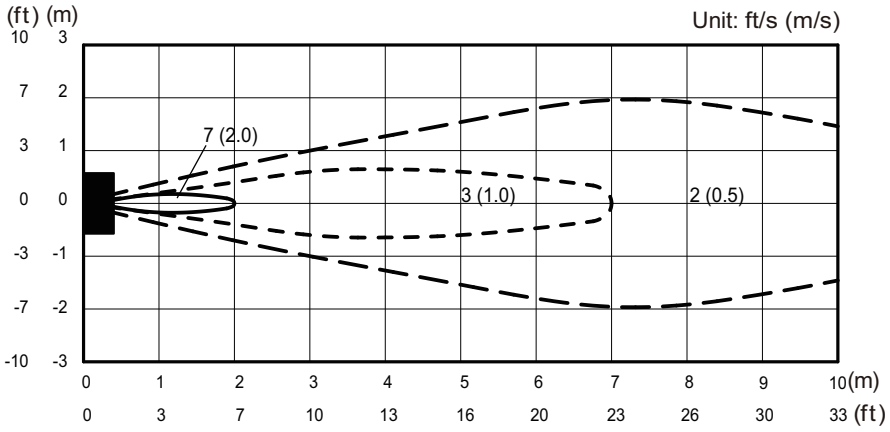


WALL MOUNTED
ASLH09~12KNAS

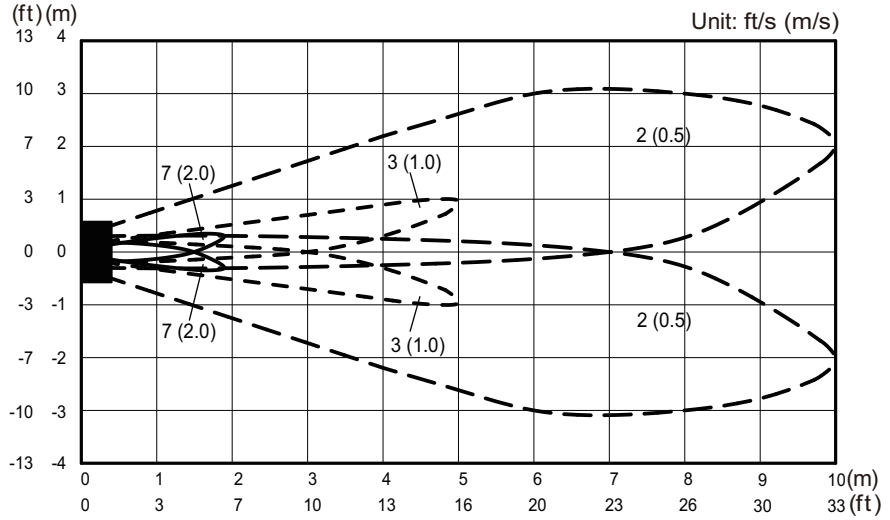
■ Model: ASLH12KNAS

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

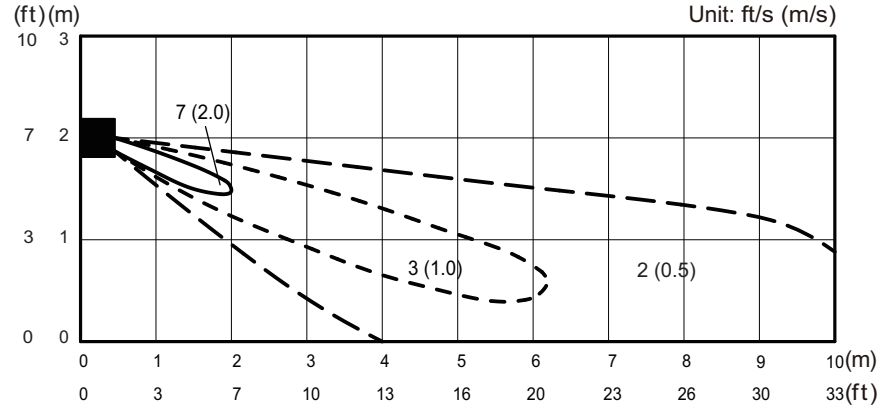
Top view
Horizontal louver: Up
Vertical louver: Center



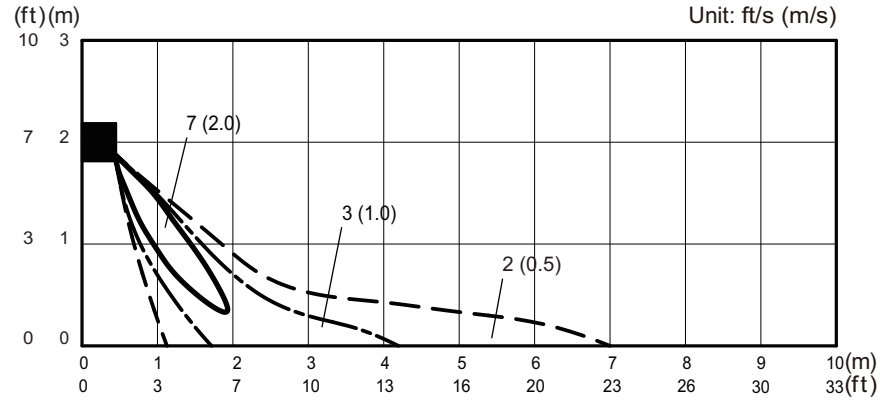
Top view
Horizontal louver: Up
Vertical louver: Left & Right



Side view
Horizontal louver: Up
Vertical louver: Center



Side view
Horizontal louver: Down
Vertical louver: Center



WALL MOUNTED
ASLH09~12KNAS

5-2. Airflow

■ Model: ASLH09KNAS

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	620
	l/s	172
	CFM	365
MED	m^3/h	490
	l/s	136
	CFM	288
LOW	m^3/h	360
	l/s	100
	CFM	212
QUIET	m^3/h	240
	l/s	67
	CFM	141

● Heating

Fan speed	Airflow	
HIGH	m^3/h	620
	l/s	172
	CFM	365
MED	m^3/h	510
	l/s	142
	CFM	300
LOW	m^3/h	410
	l/s	114
	CFM	241
QUIET	m^3/h	260
	l/s	72
	CFM	153

WALL MOUNTED
ASLH09~12KNAS

■ Model: ASLH12KNAS

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	620
	l/s	172
	CFM	365
MED	m^3/h	490
	l/s	136
	CFM	288
LOW	m^3/h	370
	l/s	103
	CFM	218
QUIET	m^3/h	240
	l/s	67
	CFM	141

● Heating

Fan speed	Airflow	
HIGH	m^3/h	640
	l/s	178
	CFM	377
MED	m^3/h	490
	l/s	136
	CFM	288
LOW	m^3/h	400
	l/s	111
	CFM	235
QUIET	m^3/h	260
	l/s	72
	CFM	153

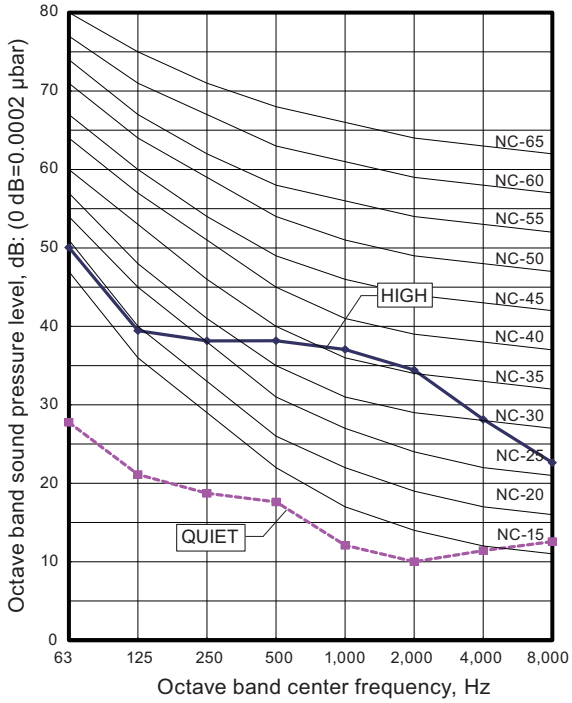
WALL MOUNTED
ASLH09~12KNAS

6. Operation noise (sound pressure)

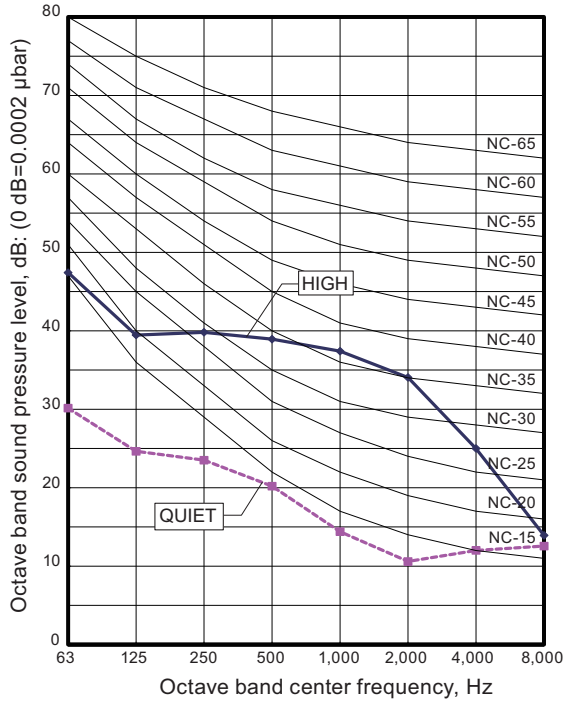
6-1. Noise level curve

■ Model: ASLH09KNAS

● Cooling

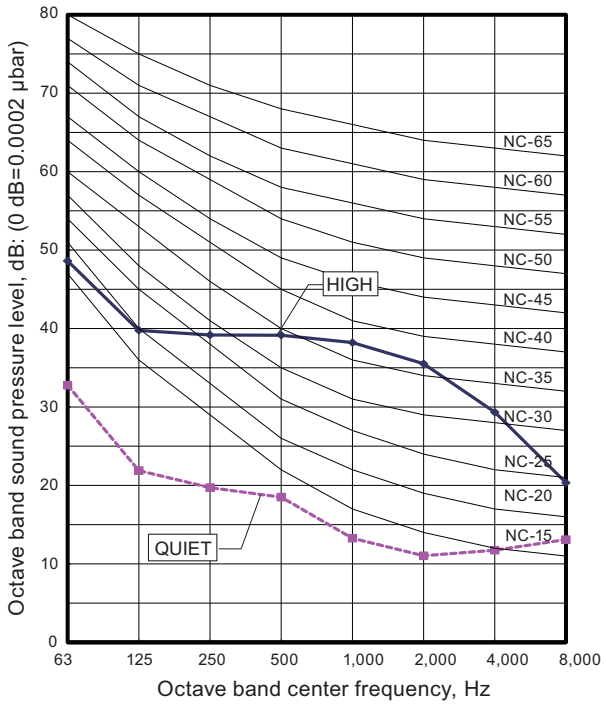


● Heating

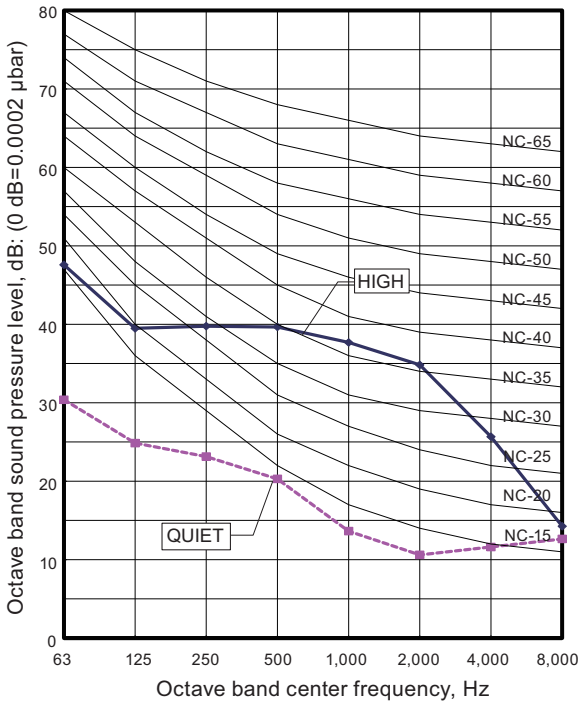


■ Model: ASLH12KNAS

● Cooling

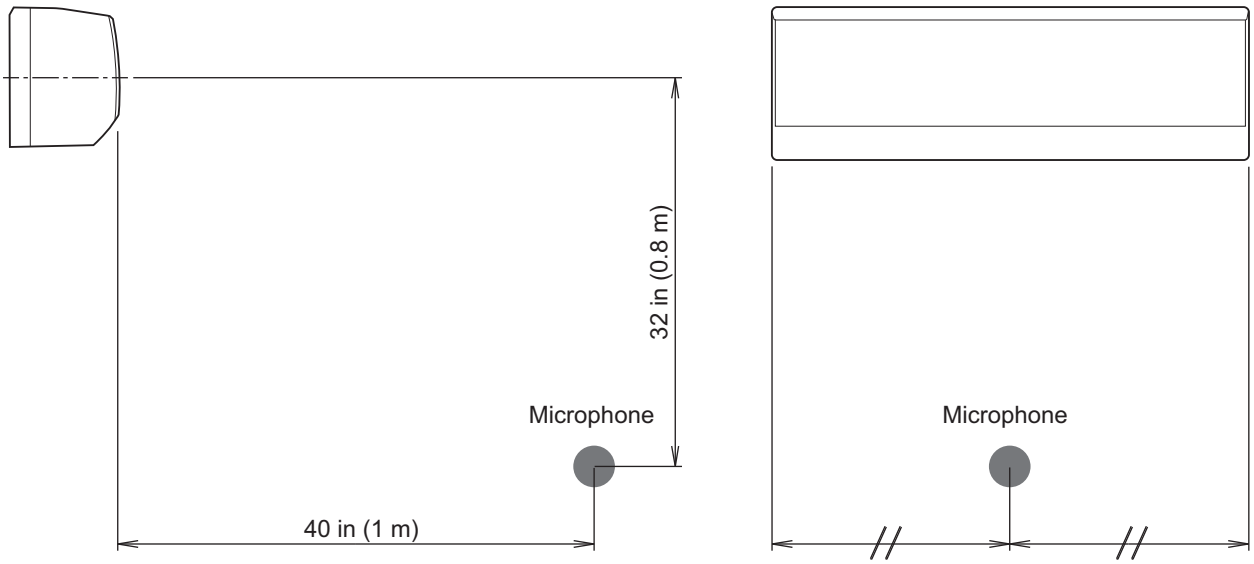


● Heating



WALL MOUNTED
ASLH09–12KNAS

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
ASLH09~12KNAS

7. Safety devices

Type of protection	Protection form		Model	
			ASLH09KNAS	ASLH12KNAS
Circuit protection	Current fuse (PCB*)		250 V, 3.15 A	
Fan motor protection	Thermistor protection	Activate	More than 176°F (80°C) Fan motor speed down	
		Reset	176°F (80°C) or less Fan motor speed recover	

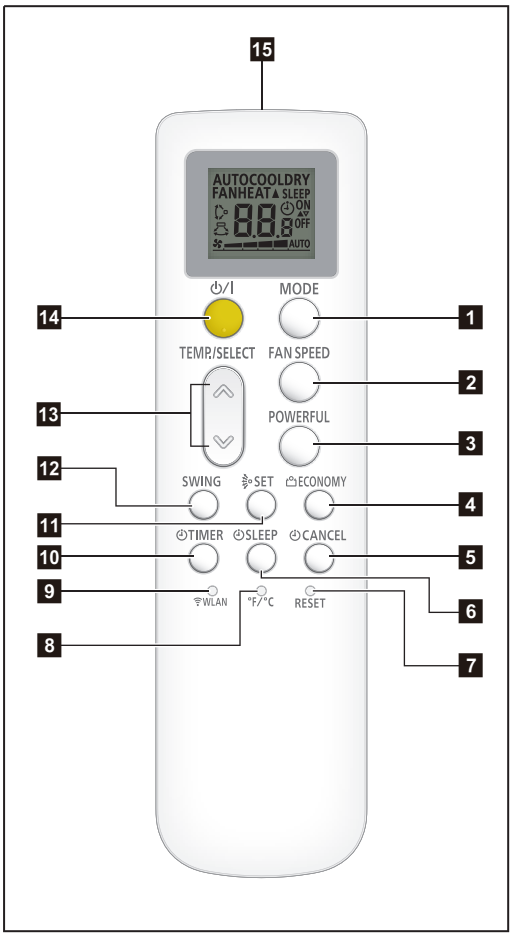
*PCB: Printed Circuit Board

WALL MOUNTED
ASLH09–12KNAS

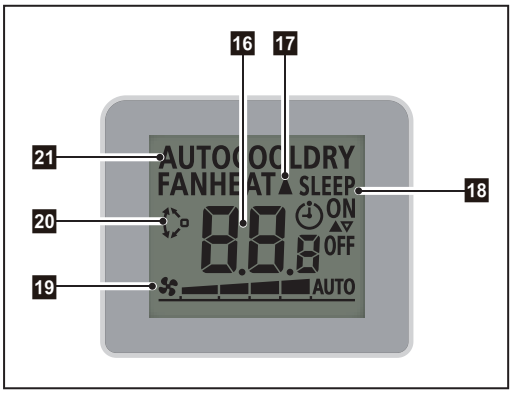
8. Remote controller

8-1. Wireless remote controller

■ Overview



Display panel



NOTES:

- Functions may differ by type of the indoor unit. For details, refer to the operation manual.
- To facilitate explanation, the accompanying illustration has been drawn to show all possible indicators; in actual operation, however, the display will only show those indicators appropriate to the current operation.

1 MODE button

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

2 FAN SPEED button

- Press the FAN SPEED button while the air conditioner is operating, to control fan speed.
- Press and hold the FAN SPEED button for more than 5 seconds while the air conditioner is stopped, switch the energy saving fan control.

3 POWERFUL button

4 ECONOMY button

5 CANCEL button

6 SLEEP TIMER button

7 RESET button

8 °F/°C button

- Switches the temperature unit on the remote controller display.
- Press and hold the °F/°C button for more than 5 seconds to enter Service check mode.
  - Do not use Service check mode in normal use.
  - If there seems to be a problem, check the error code by referring to the Operation manual.

9 WLAN button

- Starts the wireless LAN setting.
- Press and hold the WLAN button for more than 5 seconds while the air conditioner is operating, to enter test run mode.

10 TIMER button

11 SET button (Up/down airflow)

12 SWING button

13 TEMP./SELECT button

- Adjusts the setting temperature.
- Adjusts the value of the timer settings.
- Sets the remote controller code.

14 START/STOP button

15 Signal transmitter

16 Temperature and time indicator

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

17 Signal transmit indicator

18 Timer mode indicator

19 Fan speed indicator

20 Swing indicator

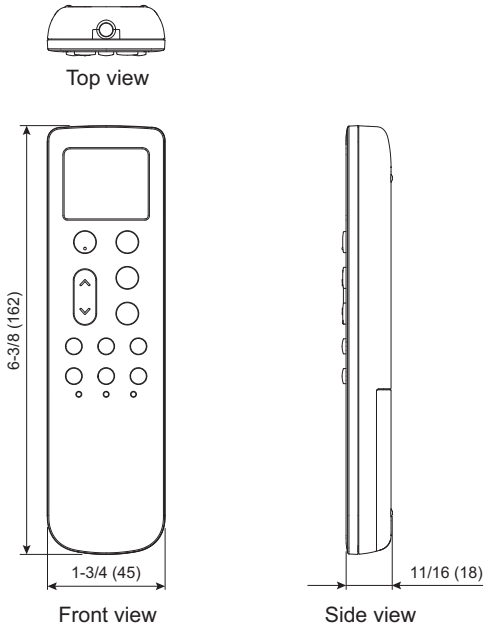
21 Operating mode indicator

WALL MOUNTED
ASLH09–12KNAS

■ Specifications

● Controller

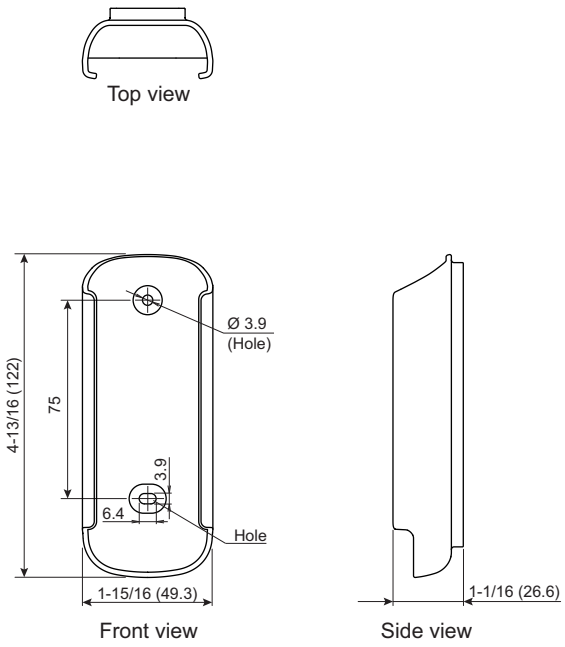
Unit: in (mm)



Size (H × W × D)	in (mm)	6-3/8 × 1-3/4 × 11/16 (162 × 45 × 17)
Weight	oz (g)	2.3 (65.5) (without batteries)

● Holder

Unit: in (mm)



Size (H × W × D)	in (mm)	4-13/16 × 1-15/16 × 1-1/16 (122 × 49.3 × 26.6)
Weight	oz (g)	1 (23.5)

WALL MOUNTED
ASLH09~12KNAS

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 tight test and vacuuming have been performed firmly.
- There is no wiring mistake.

Then, connect the power supply of the indoor unit.

Entering function setting mode:

While pressing the FAN SPEED button and TEMP./SELECT (∧) 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. (The signal is correctly sent and received only when the custom codes of the air conditioner and the remote controller match.)

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 25.

1. Press the TEMP./SELECT (∧) (∨) 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**.

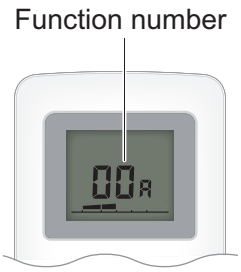
NOTES:

- The air conditioner custom code is set to A prior to shipment.
- 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.

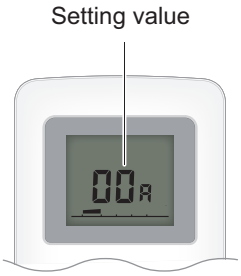
WALL MOUNTED
ASLH09–12KNAS

STEP 2: Selecting the function number and setting value

1. Press the TEMP./SELECT (∧) (∨) buttons to select the function number. To switch between the left and right digits, press the MODE button.
2. Press the FAN SPEED button to proceed the setting value. To return the function number selection, press the FAN SPEED button again.



3. Press the TEMP./SELECT (∧) (∨) buttons to select the setting value. To switch between the left and right digits, press the MODE button.
4. Press the TIMER button, and ⏻/I (START/STOP) button, in the order listed 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.



⚠ CAUTION

After disconnecting 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
ASLH09~12KNAS

■ 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)	49	Indoor unit fan control for energy saving for cooling
6)	94	Fixed operation mode switching
7)	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
ASLH09~12KNAS

2) Room temperature control for indoor unit sensor

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
ASLH09~12KNAS

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) Indoor unit fan control for energy saving for cooling

Enables or disables the power-saving function by controlling the indoor unit fan rotation when the outdoor unit is stopped during cooling operation.

Function number	Setting value	Setting description	Factory setting
49	00	Disable	
	01	Enable	
	02	Remote controller	♦

00: When the outdoor unit is stopped, the indoor unit fan operates continuously following the setting on the remote controller.

01: When the outdoor unit is stopped, the indoor unit fan operates intermittently at a very low speed.

02: Enable or disable this function by remote controller setting.

6) Fixed operation mode switching

Sets the operation mode to heat pump, heating only, or cooling only.

Function number	Setting value	Setting description	Factory setting
94	00	Heat pump	♦
	01	Heating only	
	02	Cooling only	

7) 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.

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

WALL MOUNTED
ASLH09–12KNAS

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 signal if the air conditioner has not been set for the custom code.

When 2 or more air conditioners are installed in a room, and the remote controller is operating an air conditioner other than the one you wish to set, change the custom code of the remote controller to operate only the air conditioner you wish to set. (4 selections possible.)

Confirm the setting of the remote controller custom code and the function setting. If these do not match, the remote controller cannot be used to operate for the air conditioner.

1. Press the ⏻/I (START/STOP) button until the indicators on the remote controller turn off.
2. Press the MODE button for at least 5 seconds to display the current custom code. (Initially set to A.)
3. Press the TEMP./SELECT (∧) (∨) 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.)
4. Press the MODE button again to return to the original display. The custom code will be changed.

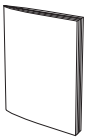
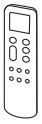
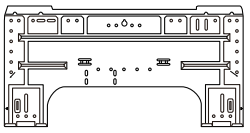
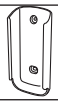
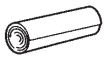
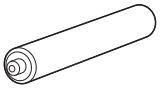
NOTES:

- If no button is pressed within 30 seconds after the custom code is displayed, the system returns to the original display. 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.
- 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.

WALL MOUNTED
ASLH09–12KNAS

10. Accessories

10-1. Models: ASLH09KNAS and ASLH12KNAS

Part name	Exterior	Qty	Part name	Exterior	Qty
Operation manual		1	Self-tapping screw (Large)		5
Installation manual		1	Self-tapping screw (Small)		2
Remote controller		1	Wall hook bracket		1
Remote controller holder		1	Cloth tape		1
Battery		2			

WALL MOUNTED
ASLH09–12KNAS

11. Optional parts

11-1. Others

Exterior	Part name	Model name	Summary
	WLAN Adapter	UTY-TFSXH4	Remotely manage an air conditioning system using mobile devices such as smartphones and tablets. Appropriate application for each region is required to use this option. For details, contact FGL sales company. Connecting point: CN75 on Main PCB via USB connector

WALL MOUNTED
ASLH09~12KNAS

Part 2. OUTDOOR UNIT

SINGLE TYPE:

AOLH09KNAS1
AOLH12KNAS1

1. Specifications

Type				Inverter, Heat pump	
Model name				**AOLH09KNAS1**	**AOLH12KNAS1**
Power supply				115 V~ 60 Hz	
Power supply intake				Outdoor unit	
Available voltage range				103.5—126.5 V	
Starting current			A	8.2	11.0
Fan	Airflow rate	Cooling	CFM (m^3/h)	971 (1,650)	1,001 (1,700)
		Heating		853 (1,450)	865 (1,470)
	Type × Qty			Propeller fan × 1	
	Motor output		W	23	
Sound pressure level *1		Cooling	dB (A)	45	48
		Heating		46	48
Heat exchanger type		Dimensions (H × W × D)	in (mm)	19-13/16 × 25-9/16 × 11/16 (504 × 650 × 18.19)	19-13/16 × 24-13/16 × 1-7/16 (504 × 630 × 36.38)
		Fin pitch	FPI	20	
		Rows × Stages		1 × 24	2× 24
		Pipe type		Copper tube	
		Fin type	Type (Material)	Aluminum	
			Surface treatment	PC fin	
Compressor	Type			DC rotary	
	Motor output		W	550	
Refrigerant		Type		R32	
		Charge	lb oz	1 lb 3 oz	1 lb 7 oz
			g	530	650
Refrigerant oil		Type		RB74AF	
		Amount	in^3 (cm^3)	14.6 (240)	
Enclosure		Material		Steel sheet	
		Color		Beige Approximate color of Munsell 10YR 7.5/1.0	
Dimensions (H × W × D)	Net		in (mm)	21-5/16 × 26-1/8 × 11-7/16 (541 × 663 × 290)	
	Gross			23-11/16 × 31-5/8 × 14-3/4 (602 × 804 × 375)	
Weight	Net		lb (kg)	51 (23)	55 (25)
	Gross			57 (26)	62 (28)
Connection pipe	Size	Liquid	in (mm)	Ø1/4 (Ø6.35)	
		Gas		Ø3/8 (Ø9.52)	
	Method			Flare	
	Pre-charge length		ft (m)	49 (15)	
	Min. length			10 (3)	
	Max. length			66 (20)	
	Max. height difference			49 (15)	
	Additional charge		oz/ft (g/m)	0.22 (20)	
Operation range		Cooling	°F (°C)	50 to 126 (10 to 52)	
		Heating		5 to 75 (-15 to 24)	
Drain hose		Material		Polypropylene	
		Tip diameter	in (mm)	Ø1/2 (Ø13.0) (I. D.) Ø5/8 to Ø11/16 (Ø16.0 to Ø16.8) (O. D.)	

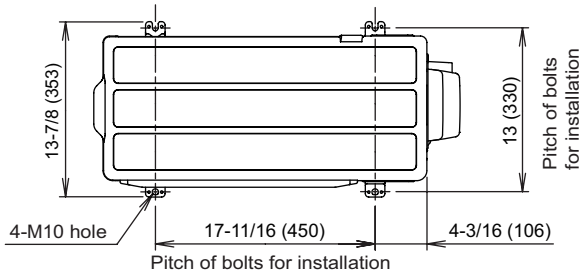
NOTES:

- 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 semi-anechoic chamber.
  - Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.

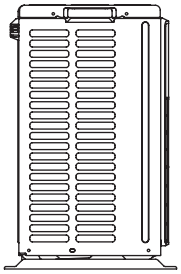
2. Dimensions

2-1. Models: AOLH09KNAS1 and AOLH12KNAS1

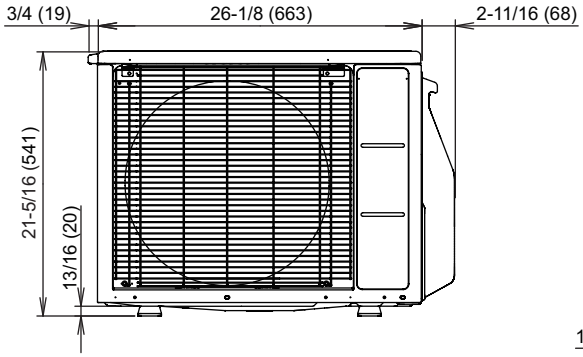
Unit: in (mm)



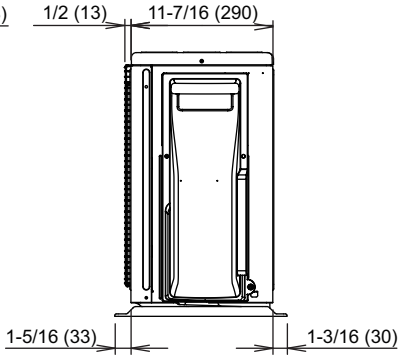
Top view



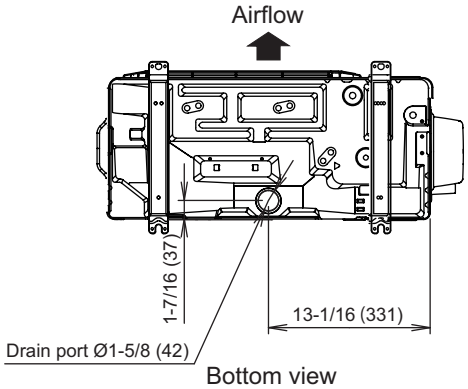
Side view



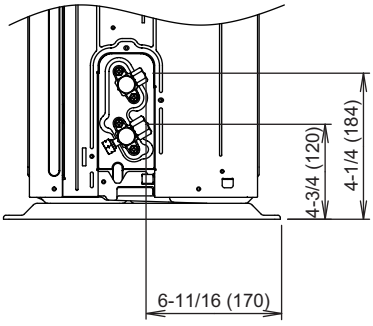
Front view



Side view



Bottom view



Side view (Valve part)

3. Installation space

3-1. Models: AOLH09KNAS1 and AOLH12KNAS1

OUTDOOR UNIT
AOLH09–12KNAS1

■ Space requirement

Provide sufficient installation space for product safety.

⚠ CAUTION

Keep the space shown in the installation examples.

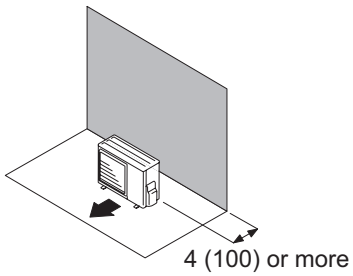
If the installation is not performed accordingly, it could cause a short circuit and result in a lack of operating performance.

● Single outdoor unit installation

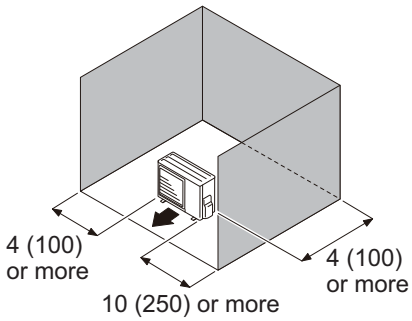
- **When the upper space is open:**

Unit: in (mm)

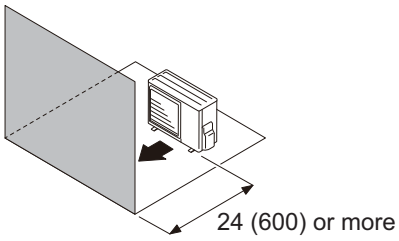
Obstacles at rear only



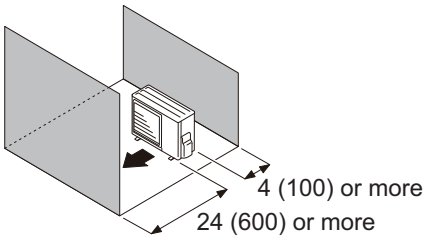
Obstacles at rear and sides



Obstacles at front



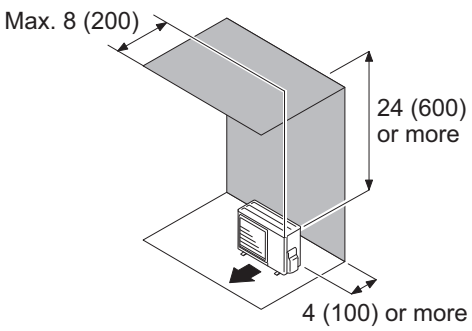
Obstacles at front and rear



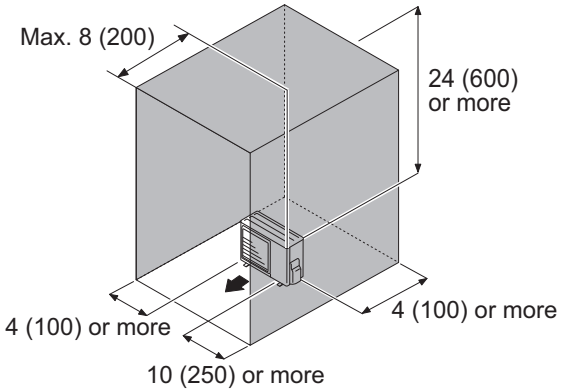
- **When an obstruction in the upper space:**

Unit: in (mm)

Obstacles at rear and above



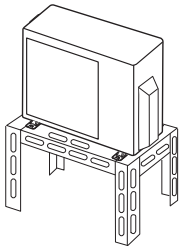
Obstacles at rear, sides, and above



OUTDOOR UNIT
AOLH09–12KNAS1

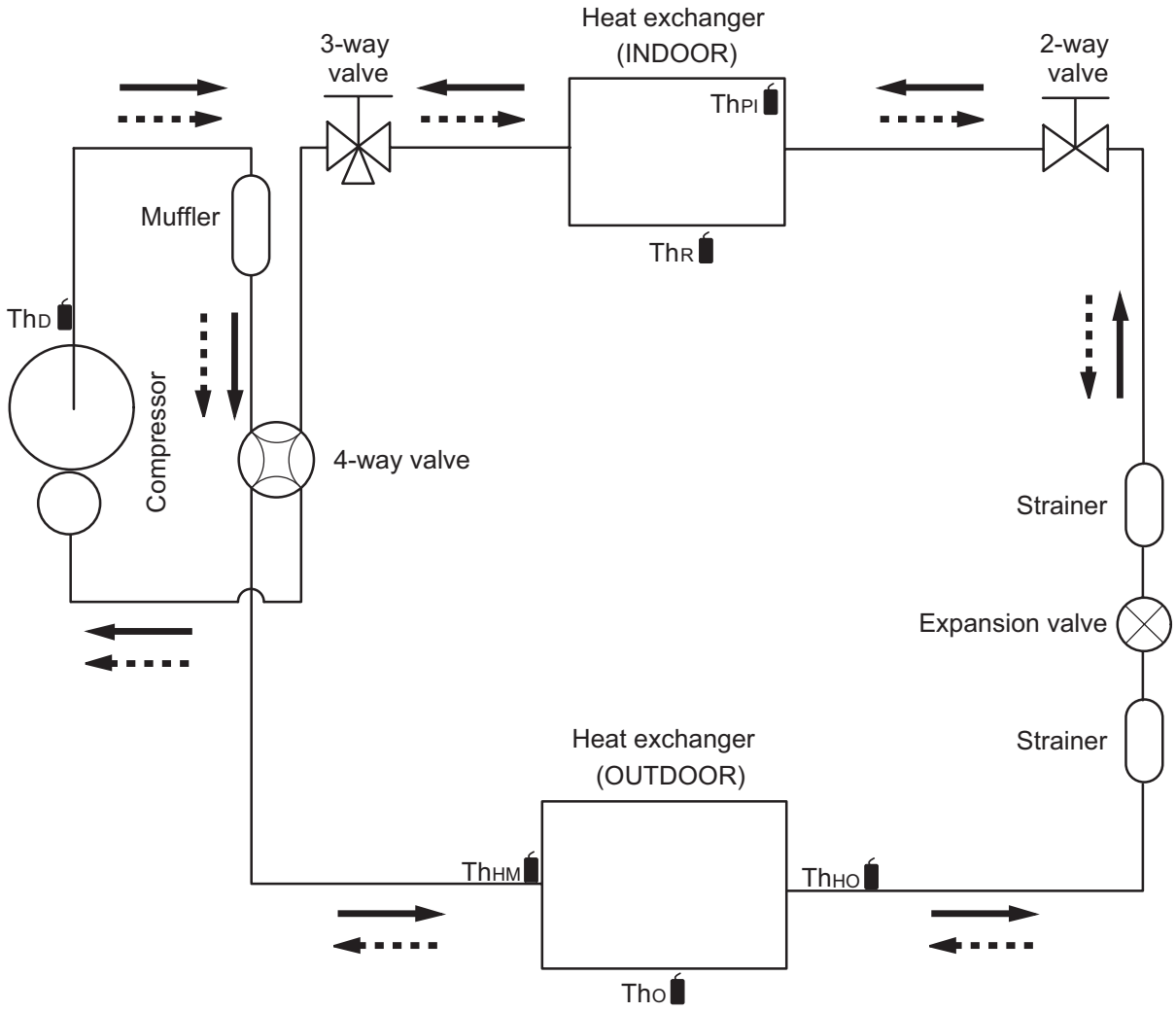
⚠ CAUTION

- 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: AOLH09KNAS1 and AOLH12KNAS1



ThD : Thermistor (Discharge temperature)

ThHM : Thermistor (Heat exchanger middle temperature)

ThO : Thermistor (Outdoor temperature)

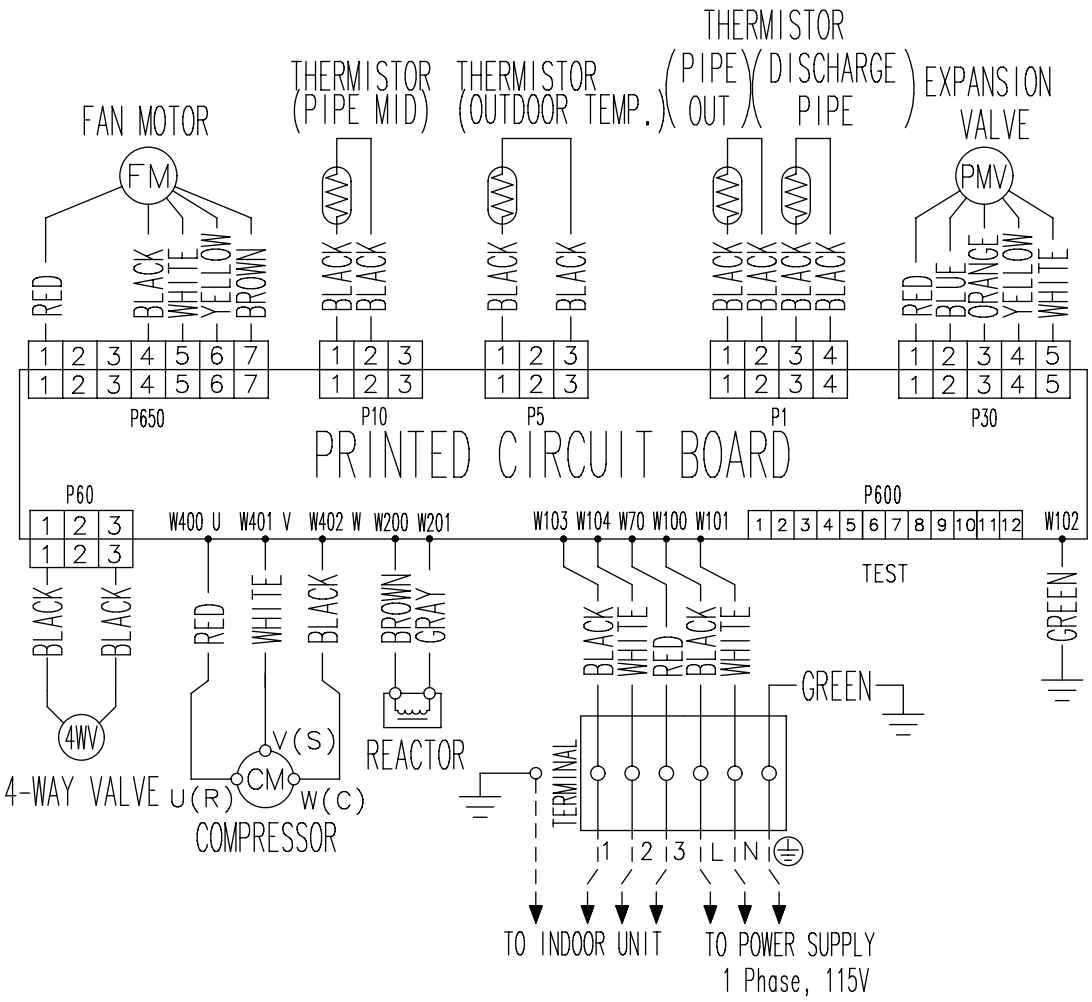
ThHO : Thermistor (Heat exchanger out temperature)

ThPI : Thermistor (Pipe temperature)

ThR : Thermistor (Room temperature)

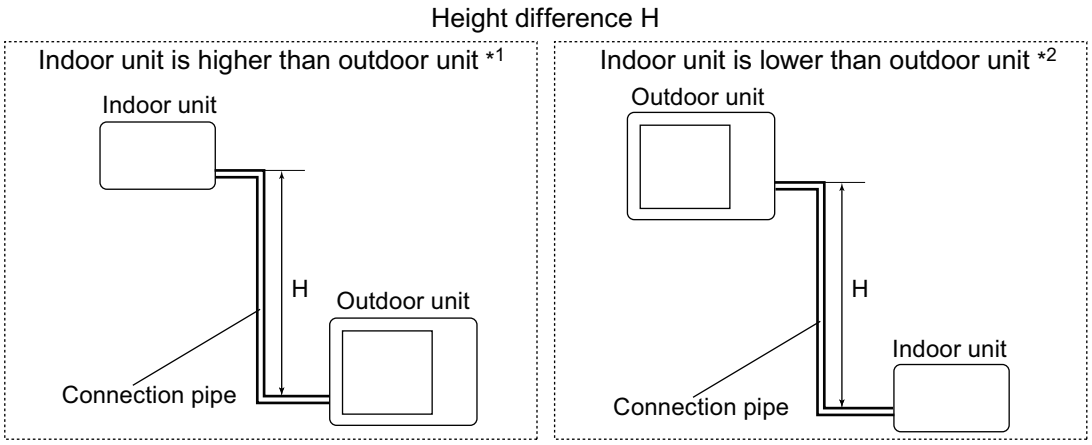
5. Wiring diagrams

5-1. Models: AOLH09KNAS1 and AOLH12KNAS1



OUTDOOR UNIT
AOLH09-12KNAS1

6. Capacity compensation rate for pipe length and height difference



6-1. Model: AOLH09KNAS1

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

COOLING		Pipe length							
		m		3	5	7.5	10	15	20
			ft	10	16	25	33	49	66
Height difference H	Indoor unit is higher than outdoor unit *1	15	49	—	—	—	—	0.926	0.911
		10	33	—	—	—	0.970	0.940	0.926
		7.5	25	—	—	0.988	0.974	0.944	0.930
		5	16	—	1.007	0.992	0.978	0.947	0.934
		3	10	1.018	1.010	0.995	0.981	0.950	0.937
		0	0	1.022	1.015	1.000	0.985	0.955	0.941
	Indoor unit is lower than outdoor unit *2	-3	-10	1.022	1.015	1.000	0.985	0.955	0.941
		-5	-16	—	1.015	1.000	0.985	0.955	0.941
		-7.5	-25	—	—	1.000	0.985	0.955	0.941
		-10	-33	—	—	—	0.985	0.955	0.941
		-15	-49	—	—	—	—	0.955	0.941

HEATING		Pipe length							
		m		3	5	7.5	10	15	20
			ft	10	16	25	33	49	66
Height difference H	Indoor unit is higher than outdoor unit *1	15	49	—	—	—	—	0.899	0.893
		10	33	—	—	—	0.966	0.899	0.893
		7.5	25	—	—	1.000	0.966	0.899	0.893
		5	16	—	1.034	1.000	0.966	0.899	0.893
		3	10	1.042	1.034	1.000	0.966	0.899	0.893
		0	0	1.042	1.034	1.000	0.966	0.899	0.893
	Indoor unit is lower than outdoor unit *2	-3	-10	1.025	1.007	0.997	0.963	0.897	0.891
		-5	-16	—	0.989	0.995	0.961	0.895	0.889
		-7.5	-25	—	—	0.993	0.959	0.893	0.887
		-10	-33	—	—	—	0.957	0.891	0.885
		-15	-49	—	—	—	—	0.882	0.876

6-2. Model: AOLH12KNAS1

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

COOLING		Pipe length						
		m		3	5	7.5	10	15	20
			ft	10	16	25	33	49	66
Height difference H	Indoor unit is higher than outdoor unit *1	15	49	—	—	—	—	0.883	0.893
		10	33	—	—	—	0.956	0.897	0.907
		7.5	25	—	—	0.988	0.960	0.901	0.910
		5	16	—	1.021	0.992	0.964	0.904	0.915
		3	10	1.027	1.024	0.995	0.967	0.908	0.918
		0	0	1.032	1.029	1.000	0.971	0.913	0.922
	Indoor unit is lower than outdoor unit *2	-3	-10	1.032	1.029	1.000	0.971	0.913	0.922
		-5	-16	—	1.029	1.000	0.971	0.913	0.922
		-7.5	-25	—	—	1.000	0.971	0.913	0.922
		-10	-33	—	—	—	0.971	0.913	0.922
		-15	-49	—	—	—	—	0.913	0.922

HEATING		Pipe length						
		m		3	5	7.5	10	15	20
			ft	10	16	25	33	49	66
Height difference H	Indoor unit is higher than outdoor unit *1	15	49	—	—	—	—	0.901	0.884
		10	33	—	—	—	0.974	0.901	0.884
		7.5	25	—	—	1.000	0.974	0.901	0.884
		5	16	—	1.006	1.000	0.974	0.901	0.884
		3	10	1.031	1.006	1.000	0.974	0.901	0.884
		0	0	1.031	1.006	1.000	0.974	0.901	0.884
	Indoor unit is lower than outdoor unit *2	-3	-10	1.028	1.003	0.997	0.971	0.898	0.882
		-5	-16	—	1.001	0.995	0.969	0.896	0.880
		-7.5	-25	—	—	0.993	0.967	0.894	0.878
		-10	-33	—	—	—	0.965	0.892	0.876
		-15	-49	—	—	—	—	0.883	0.867

7. Additional charge calculation

7-1. Model: AOLH09KNAS1

Refrigerant type		R32
Factory charge amount	lb oz	1 lb 3 oz
	g	530

■ 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: AOLH12KNAS1

Refrigerant type		R32
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	

OUTDOOR UNIT
AOLH09–12KNAS1

8. Airflow

8-1. Model: AOLH09KNAS1

● Cooling

m^3/h	1,650
l/s	458
CFM	971

● Heating

m^3/h	1,450
l/s	403
CFM	853

8-2. Model: AOLH12KNAS1

● Cooling

m^3/h	1,700
l/s	472
CFM	1,001

● Heating

m^3/h	1,470
l/s	408
CFM	865

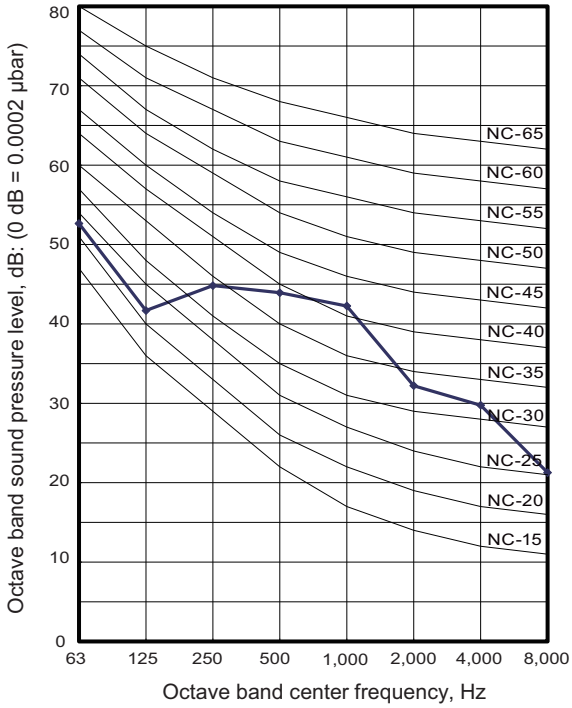
OUTDOOR UNIT
AOLH09–12KNAS1

9. Operation noise (sound pressure)

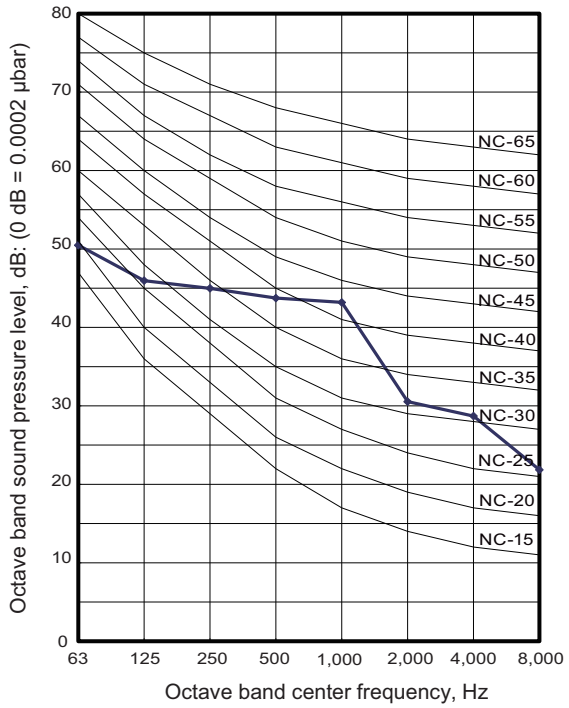
9-1. Noise level curve

■ AOLH09KNAS1

● Cooling

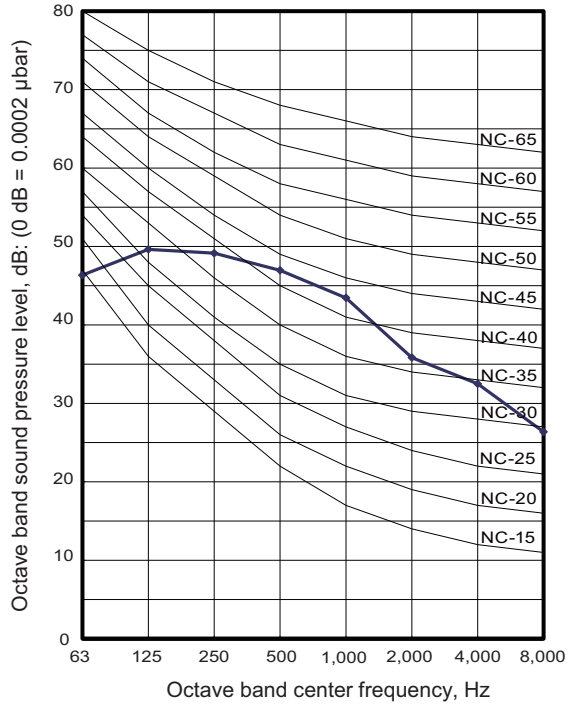


● Heating

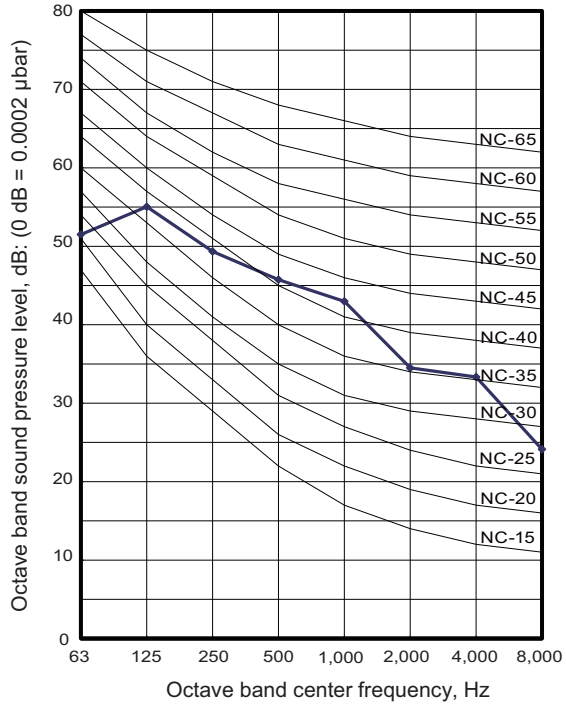


■ AOLH12KNAS1

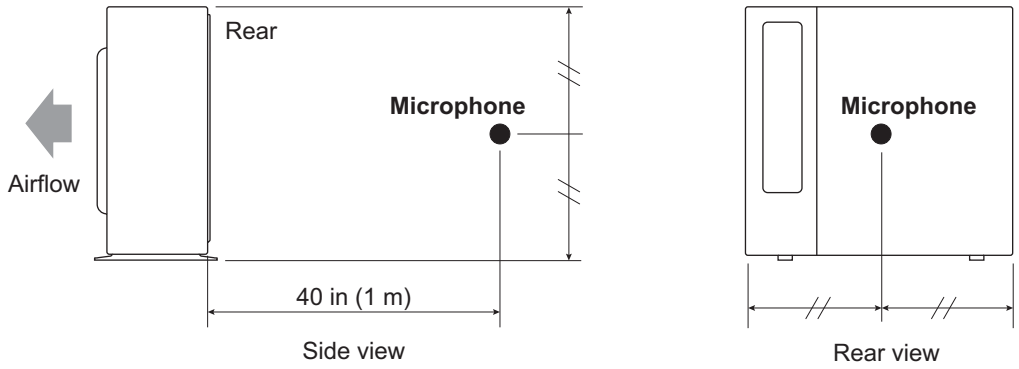
● Cooling



● 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				AOLH09KNAS1	AOLH12KNAS1
Power supply	Voltage		V	115	
	Frequency		Hz	60	
MCA*1			A	18.3	
Starting current			A	8.2	11.0
Wiring spec.*2	MAX. CKT. BKR*3		A	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 UL60335-2-40)
- *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
AOLH09–12KNAS1

11. Safety devices

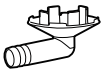
Type of protection	Protection form		Model	
			AOLH09KNAS1	AOLH12KNAS1
Circuit protection	Current fuse (PCB*)		250 V, 25 A	
Fan motor protection	Thermal protection program	Activate	185—252°F (85—122°C) Fan motor stop	
		Reset	171—237°F (77—114°C) Fan motor restart	
Compressor protection	Terminal protection program (Discharge temp.)	Activate	230°F (110°C) Compressor stop	
		Reset	After 7 minutes Compressor restart	
	Thermal protection program (Outdoor temp.) (Only in COOL and DRY mode)	Activate	5°F (-15°C) Compressor stop	
		Reset	14°F (-10°C) Compressor restart	

*PCB: Printed Circuit Board

12. Accessories

12-1. Models: AOLH09KNAS1 and AOLH12KNAS1

OUTDOOR UNIT
AOLH09–12KNAS1

Part name	Exterior	Qty	Part name	Exterior	Qty
Protection label		1	Cable tie		2
Drain pipe		1			