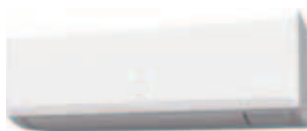


AIR CONDITIONER

Wall mounted type

DESIGN & TECHNICAL MANUAL

INDOOR



ASHG07KPCA
ASHG09KPCA
ASHG12KPCA

OUTDOOR



AOHG07KPCA
AOHG09KPCA
AOHG12KPCA

FUJITSU GENERAL LIMITED

Notices:

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

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Part 1. INDOOR UNIT

WALL MOUNTED TYPE:

ASHG07KPCA

ASHG09KPCA

ASHG12KPCA

1. Specifications

Type				Wall mounted			
				Inverter heat pump			
Model name				ASHG07KPCA	ASHG09KPCA	ASHG12KPCA	
Power supply				230 V ~ 50 Hz			
Power supply intake				Outdoor unit			
Available voltage range				198—264 V			
Capacity	Cooling	Rated	kW	2.00	2.50	3.40	
			Btu/h	6,800	8,500	11,600	
		Min.—Max.	kW	0.9—2.8	0.9—3.0	0.9—3.7	
			Btu/h	3,100—9,600	3,100—10,200	3,100—12,600	
	Heating	Rated	kW	2.50	2.80	3.80	
			Btu/h	8,500	9,500	13,000	
		Min.—Max.	kW	0.9—3.4	0.9—3.8	0.9—4.80	
			Btu/h	3,100—11,600	3,100—12,900	3,100—16,400	
Input power	Cooling	Rated	kW	0.48	0.71	1.00	
				Min.—Max.	0.25—1.03	0.25—1.05	0.25—1.14
	Heating	Rated		0.63	0.79	1.14	
				Min.—Max.	0.25—1.39	0.25—1.39	0.25—1.60
	Fan	HIGH		W	21.5	26.9	
		MED			12.5	14.5	
		LOW	6.3		7.1		
		QUIET	3.0		3.0		
Current	Cooling	Rated	A	2.7	3.5	4.7	
	Heating			3.2	3.8	5.6	
EER	Cooling		kW/kW	4.17	3.52	3.40	
COP	Heating			3.97	3.54	3.33	
Sensible capacity	Cooling		kW	1.9	2.1	2.6	
Power factor	Cooling		%	77	87	92	
	Heating			85	90	89	
Moisture removal			L/h (pints/h)	1.0 (1.8)	1.3 (2.30)	1.8 (3.20)	
Maximum operating current *1		Cooling		A	6.5	6.5	
		Heating			9.0	9.0	
Fan	Airflow rate	Cooling	HIGH	m³/h	580	580	630
			MED		460	460	490
			LOW		340	340	360
			QUIET		240	240	240
		Heating	HIGH		580	580	630
			MED		460	460	490
			LOW		380	380	380
			QUIET		260	260	260
	Type × Q'ty		Cross flow fan × 1				
	Motor output		W	27	27	27	
Sound pressure level *2	Cooling	HIGH	dB (A)	45	45	46	
				MED	38	38	40
				LOW	31	31	33
				QUIET	22	22	22
		Heating		HIGH	45	45	46
				MED	40	40	40
				LOW	36	36	35
				QUIET	26	26	27
Heat exchanger type	Dimensions (H × W × D)		mm	210 × 600 × 26.6			
	Fin pitch			1.3			
	Rows × Stages			2 × 10			
	Pipe type			Copper tube			
	Fin type			Aluminum			
Enclosure	Material			Polystyrene			
	Color			White Approximate color of Munsell N 9.25/			
Dimensions (H × W × D)	Net		mm	270 × 784 × 224			
	Gross			279× 864 × 334			
Weight	Net		kg	8.0			
	Gross			11.0			
Connection pipe	Size	Liquid	mm (in)	Ø 6.35 (1/4)			
		Gas		Ø 9.52 (3/8)			
Drain hose	Method			Flare			
	Material			PP+HDPE			
Operation range	Size		mm	Ø 11.8 (I.D.), Ø 15 to Ø 16.8 (O.D.)			
	Cooling	°C		18 to 32			
Remote controller type	Cooling		°RH	80 or less			
	Heating		°C	16 to 30			
				Wireless			

NOTES:

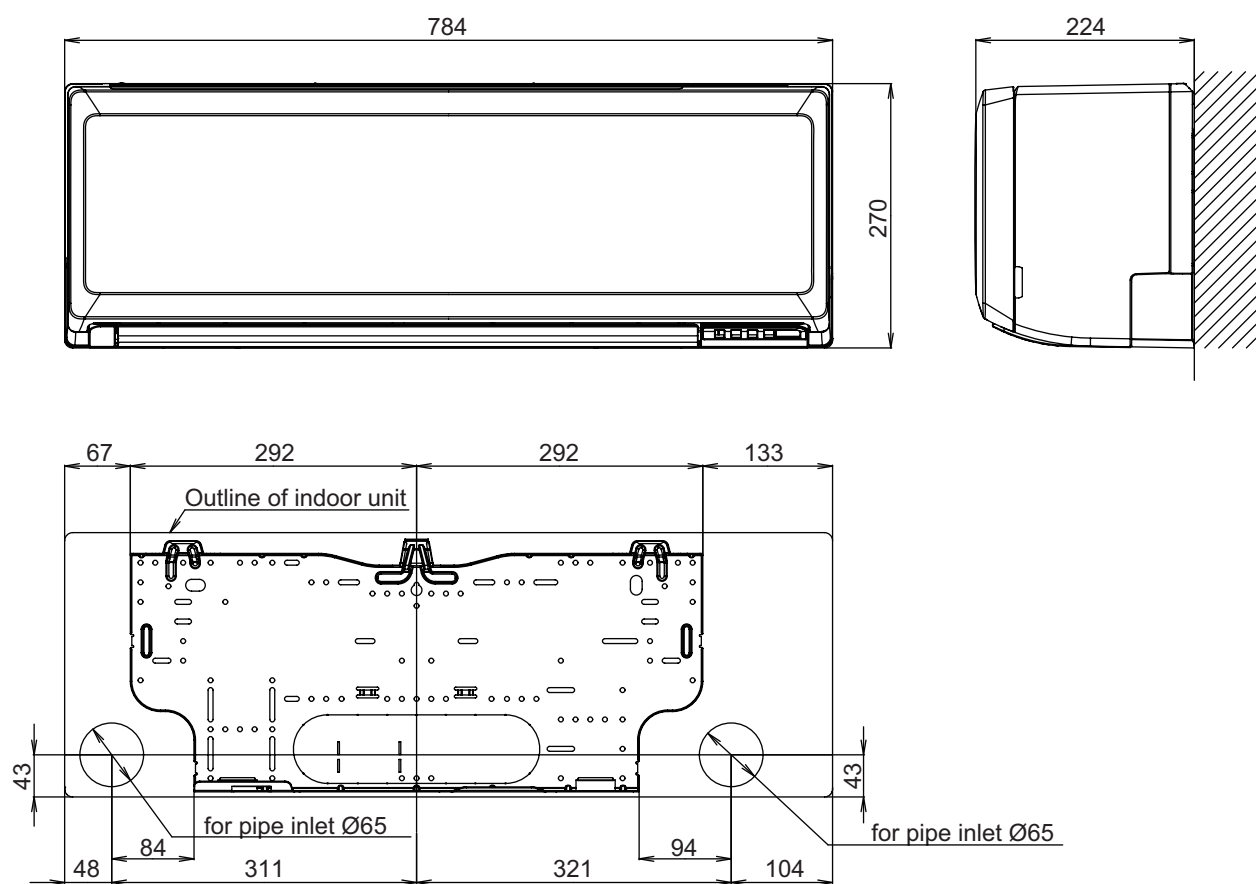
- Specifications are based on the following conditions:
 - Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB.
 - Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB.
 - Pipe length: 5 m, Height difference: 0 m. (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- *1: Maximum current is maximum value when operated within the operation range.
- *2: 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.

Specifications for Lot10										
Model name				ASHG07KPCA		ASHG09KPCA		ASHG12KPCA		
Energy efficiency class		Cooling		A++						
		Heating (Average)		A+						
P design		Cooling		kW	2.0 (35 °C)		2.5 (35 °C)		3.4 (35 °C)	
		Heating (Average)			2.2 (-10 °C)		2.4 (-10 °C)		2.5 (-10 °C)	
SEER		Cooling		kWh/kWh	6.7		6.7		6.3	
SCOP		Heating (Average)			4.0		4.0		4.1	
Annual energy consumption		QCE		kWh/a	104		131		189	
		QHE (Average)			769		840		853	
Sound power level		Cooling	HIGH	dB (A)	57		58		59	
		Heating			58		58		59	

2. Dimensions

2-1. Models: ASHG07KPCA, ASHG09KPCA, and ASHG12KPCA

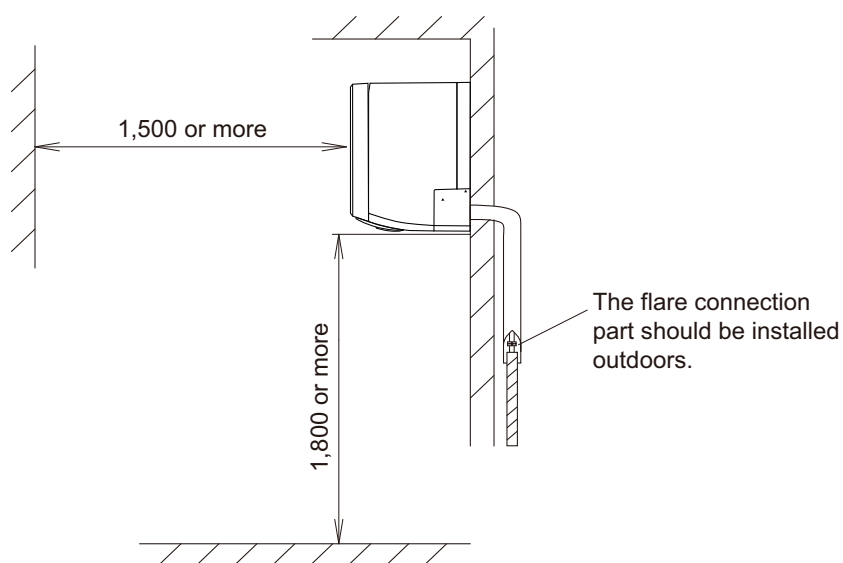
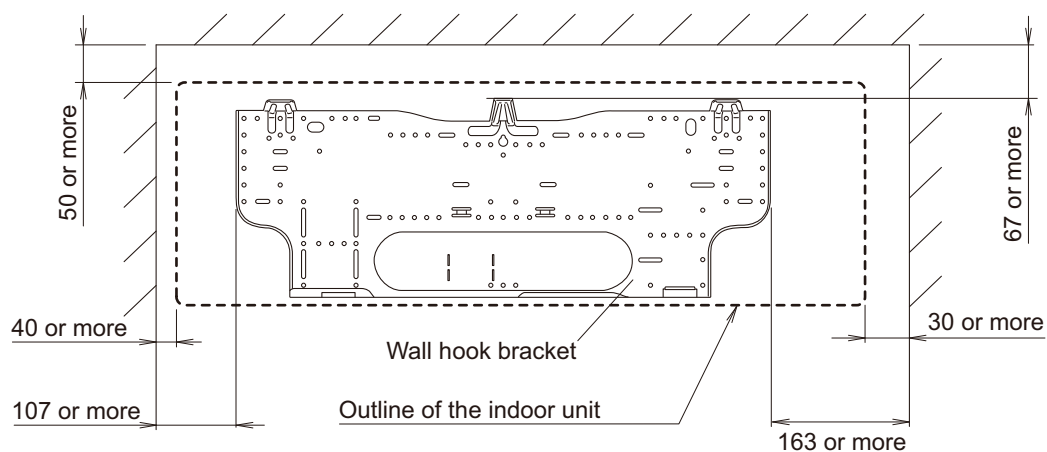
Unit: mm



■ Installation space requirement

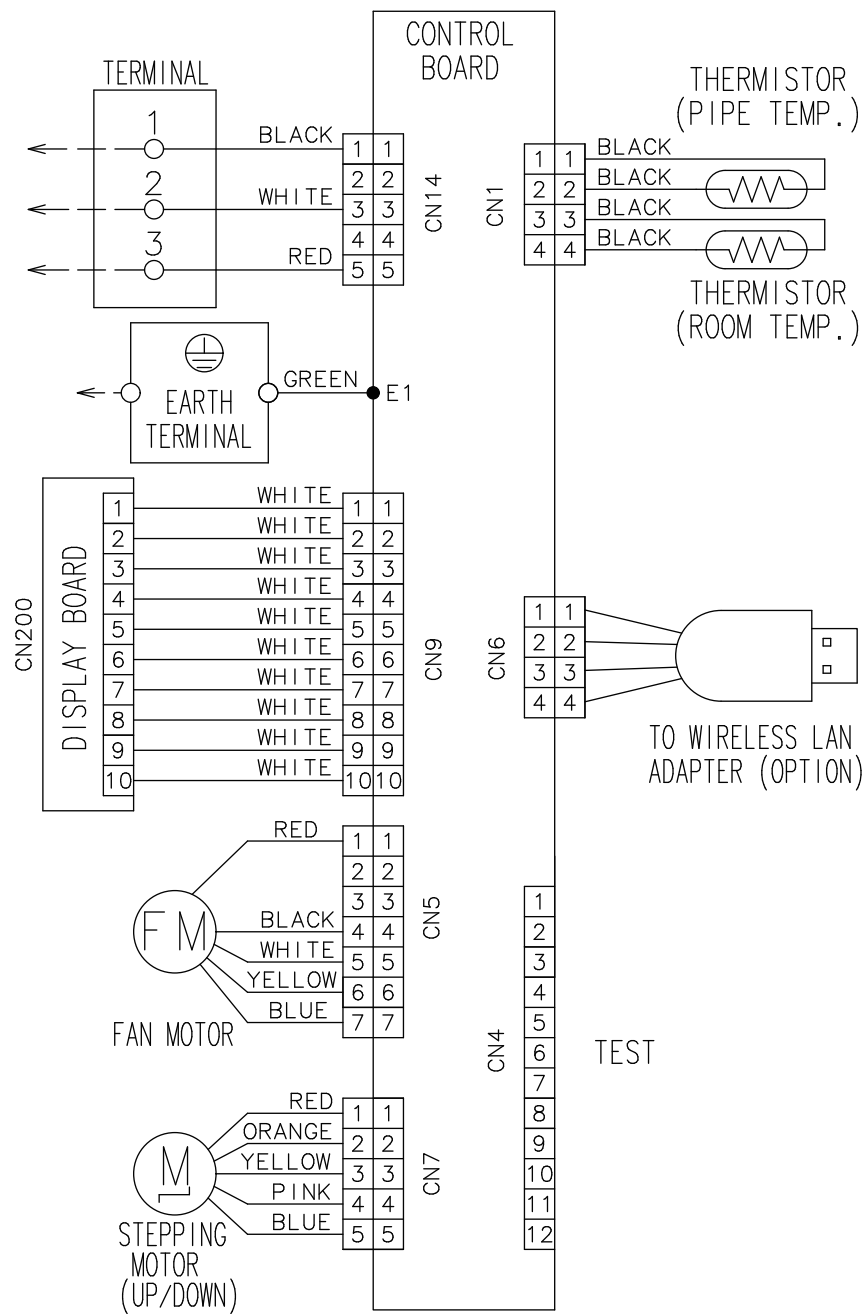
Provide sufficient installation space for product safety.

Unit: mm



3. Wiring diagrams

3-1. Models: ASHG07KPCA, ASHG09KPCA, and ASHG12KPCA



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: ASHG07KPCA

AFR		m ³ /h									580											
Outdoor temperature	°CDB	18			21			23			25			27			29			32		
	°CWB	12			15			16			18			19			21			23		
	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	°CDB	kW			kW			kW			kW			kW			kW			kW		
	-10	1.49	1.03	0.22	1.65	1.04	0.23	1.71	1.13	0.23	1.82	1.13	0.23	1.88	1.22	0.23	1.99	1.22	0.23	2.11	1.30	0.23
	0	1.56	1.09	0.28	1.74	1.09	0.28	1.80	1.19	0.29	1.92	1.19	0.29	1.98	1.29	0.29	2.10	1.28	0.29	2.22	1.37	0.30
Outdoor temperature	5	1.57	1.09	0.28	1.75	1.10	0.28	1.81	1.19	0.28	1.93	1.20	0.28	1.99	1.29	0.29	2.11	1.29	0.29	2.23	1.37	0.29
	10	1.58	1.10	0.27	1.76	1.10	0.27	1.82	1.20	0.28	1.94	1.20	0.28	2.00	1.30	0.28	2.12	1.29	0.28	2.24	1.38	0.29
	15	1.73	1.22	0.30	1.92	1.22	0.31	1.99	1.33	0.31	2.12	1.34	0.31	2.18	1.44	0.31	2.32	1.44	0.32	2.45	1.53	0.32
	20	1.87	1.32	0.34	2.09	1.33	0.34	2.16	1.45	0.34	2.30	1.45	0.35	2.37	1.57	0.35	2.51	1.56	0.35	2.65	1.66	0.36
	25	1.78	1.26	0.38	1.98	1.26	0.38	2.05	1.37	0.39	2.18	1.38	0.39	2.25	1.49	0.39	2.39	1.48	0.40	2.52	1.58	0.40
	30	1.68	1.19	0.42	1.87	1.19	0.43	1.94	1.30	0.43	2.06	1.30	0.43	2.13	1.41	0.44	2.25	1.40	0.44	2.38	1.49	0.44
	35	1.58	1.12	0.46	1.76	1.12	0.47	1.82	1.22	0.47	1.94	1.23	0.48	2.00	1.32	0.48	2.12	1.32	0.48	2.24	1.40	0.49
	40	1.52	1.00	0.46	1.70	1.00	0.47	1.75	1.09	0.47	1.87	1.09	0.48	1.93	1.18	0.48	2.04	1.17	0.48	2.16	1.25	0.49
	46	1.47	0.92	0.46	1.64	0.93	0.47	1.69	1.01	0.47	1.80	1.01	0.48	1.86	1.09	0.48	1.97	1.09	0.48	2.08	1.16	0.49

■ Model: ASHG09KPCA

AFR		m ³ /h									580											
Outdoor temperature	°CDB	18			21			23			25			27			29			32		
	°CWB	12			15			16			18			19			21			23		
	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	°CDB	kW			kW			kW			kW			kW			kW			kW		
	-10	1.82	1.25	0.25	2.03	1.26	0.25	2.10	1.36	0.25	2.24	1.37	0.26	2.31	1.48	0.26	2.45	1.47	0.26	2.59	1.57	0.26
	0	1.91	1.31	0.34	2.13	1.31	0.35	2.20	1.43	0.35	2.35	1.43	0.35	2.42	1.55	0.36	2.57	1.54	0.36	2.71	1.64	0.36
Outdoor temperature	5	1.88	1.28	0.33	2.09	1.29	0.33	2.16	1.40	0.33	2.30	1.41	0.34	2.38	1.52	0.34	2.52	1.51	0.34	2.66	1.61	0.34
	10	1.84	1.26	0.31	2.05	1.27	0.31	2.12	1.38	0.32	2.26	1.38	0.32	2.33	1.49	0.32	2.47	1.49	0.32	2.61	1.58	0.33
	15	2.09	1.21	0.40	2.33	1.21	0.41	2.41	1.32	0.41	2.57	1.32	0.42	2.65	1.43	0.42	2.80	1.43	0.42	2.96	1.52	0.43
	20	2.34	1.63	0.50	2.61	1.63	0.51	2.70	1.78	0.51	2.87	1.78	0.51	2.96	1.93	0.52	3.14	1.92	0.52	3.32	2.04	0.53
	25	2.22	1.54	0.56	2.48	1.55	0.57	2.56	1.69	0.57	2.73	1.69	0.58	2.81	1.83	0.58	2.98	1.82	0.59	3.15	1.94	0.59
	30	2.10	1.45	0.62	2.34	1.46	0.63	2.42	1.59	0.63	2.58	1.60	0.64	2.66	1.72	0.64	2.82	1.72	0.65	2.98	1.83	0.66
	35	1.98	1.37	0.69	2.20	1.38	0.70	2.28	1.50	0.70	2.43	1.50	0.71	2.50	1.62	0.71	2.65	1.61	0.72	2.80	1.72	0.72
	40	1.90	1.22	0.68	2.12	1.23	0.70	2.19	1.33	0.70	2.34	1.34	0.71	2.41	1.44	0.71	2.55	1.44	0.72	2.70	1.53	0.72
	46	1.84	1.13	0.68	2.04	1.14	0.69	2.11	1.24	0.70	2.25	1.24	0.70	2.32	1.34	0.71	2.46	1.33	0.71	2.60	1.42	0.72

■ Model: ASHG12KPCA

AFR		m ³ /h									630											
Outdoor temperature	°CDB	18			21			23			25			27			29			32		
	°CWB	12			15			16			18			19			21			23		
	°CDB	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
	°CDB	kW			kW			kW			kW			kW			kW			kW		
	-10	2.65	1.79	0.41	2.96	1.80	0.41	3.06	1.95	0.41	3.26	1.96	0.42	3.36	2.12	0.42	3.56	2.11	0.43	3.76	2.25	0.43
	0	2.57	1.73	0.43	2.87	1.74	0.44	2.97	1.89	0.44	3.16	1.90	0.44	3.26	2.05	0.45	3.45	2.04	0.45	3.65	2.18	0.46
Outdoor temperature	5	2.54	1.71	0.48	2.83	1.72	0.49	2.93	1.87	0.49	3.12	1.88	0.50	3.21	2.03	0.50	3.41	2.02	0.50	3.60	2.15	0.51
	10	2.50	1.69	0.53	2.79	1.70	0.54	2.88	1.84	0.54	3.07	1.85	0.55	3.17	2.00	0.55	3.36	1.99	0.56	3.55	2.12	0.56
	15	2.84	1.63	0.62	3.17	1.64	0.63	3.28	1.78	0.63	3.49	1.78	0.64	3.60	1.93	0.64	3.82	1.92	0.65	4.03	2.04	0.65
	20	3.18	2.18	0.70	3.55	2.19	0.71	3.67	2.39	0.72	3.91	2.39	0.72	4.03	2.59	0.73	4.27	2.57	0.73	4.51	2.74	0.74
	25	3.02	2.07	0.79	3.37	2.08	0.80	3.48	2.27	0.81	3.71	2.27	0.81	3.83	2.45	0.82	4.06	2.44	0.83	4.28	2.60	0.83
	30	2.86	1.96	0.88	3.18	1.97	0.89	3.29	2.14	0.89	3.51	2.15	0.90	3.62	2.32	0.91	3.83	2.31	0.92	4.05	2.46	0.93
	35	2.69	1.84	0.97	2.99	1.85	0.98	3.09	2.01	0.99	3.30	2.02	1.00	3.40	2.18	1.00	3.60	2.17	1.01	3.81	2.31	1.02
	40	2.39	1.64	0.96	2.67	1.65	0.98	2.76	1.79	0.98	2.94	1.80	0.99	3.03	1.94	1.00	3.21	1.94	1.01	3.39	2.06	1.02
	46	2.22	1.52	0.96	2.47	1.53	0.98	2.56	1.66	0.98	2.73	1.67	0.99	2.81	1.80	1.00	2.98	1.80	1.01	3.15	1.91	1.02

4-2. Heating capacity

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

■ Model: ASHG07KPCA

AFR	m ³ /h	580
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			Indoor temperature									
			16		18		20		22		24	
			TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
Outdoor temperature	°CDB	°CWB	1.84	0.88	1.83	0.90	1.79	0.92	1.75	0.94	1.70	0.96
	-15	-16	2.14	0.93	2.09	0.95	2.04	0.97	1.98	0.99	1.93	1.01
	-10	-11	2.47	1.01	2.41	1.03	2.36	1.06	2.30	1.08	2.24	1.10
	-5	-7	2.93	1.15	2.86	1.17	2.79	1.20	2.72	1.22	2.65	1.24
	0	-2	3.31	1.28	3.31	1.31	3.23	1.33	3.15	1.36	3.06	1.39
	5	3	3.47	1.33	3.44	1.36	3.40	1.39	3.32	1.42	3.23	1.45
	7	6	3.74	1.38	3.65	1.41	3.56	1.44	3.47	1.47	3.38	1.50
	10	8	3.81	1.39	3.72	1.42	3.63	1.45	3.54	1.48	3.45	1.51
	15	10	3.68	1.09	3.59	1.12	3.50	1.14	3.41	1.16	3.33	1.18
	20	15	3.89	1.09	3.79	1.12	3.70	1.14	3.61	1.16	3.52	1.18
	24	18										

■ Model: ASHG09KPCA

AFR	m ³ /h	580
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			Indoor temperature									
			16		18		20		22		24	
			TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
Outdoor temperature	°CDB	°CWB	2.12	0.88	2.12	0.90	2.09	0.92	2.10	0.94	2.08	0.96
	-15	-16	2.53	0.89	2.47	0.91	2.41	0.93	2.34	0.95	2.28	0.96
	-10	-11	2.85	0.96	2.78	0.98	2.71	1.00	2.65	1.02	2.58	1.04
	-5	-7	3.33	1.11	3.25	1.14	3.17	1.16	3.09	1.18	3.01	1.21
	0	-2	3.80	1.27	3.71	1.30	3.62	1.32	3.53	1.35	3.44	1.38
	5	3	3.99	1.33	3.90	1.36	3.80	1.39	3.71	1.42	3.61	1.45
	7	6	4.13	1.38	4.03	1.41	3.94	1.44	3.84	1.47	3.74	1.50
	10	8	4.16	1.39	4.06	1.42	3.96	1.45	3.86	1.48	3.77	1.51
	15	10	3.99	1.09	3.90	1.12	3.80	1.14	3.71	1.16	3.61	1.18
	20	15	4.10	1.09	4.00	1.12	3.90	1.14	3.80	1.16	3.71	1.18
	24	18										

■ Model: ASHG12KPCA

AFR	m ³ /h	630
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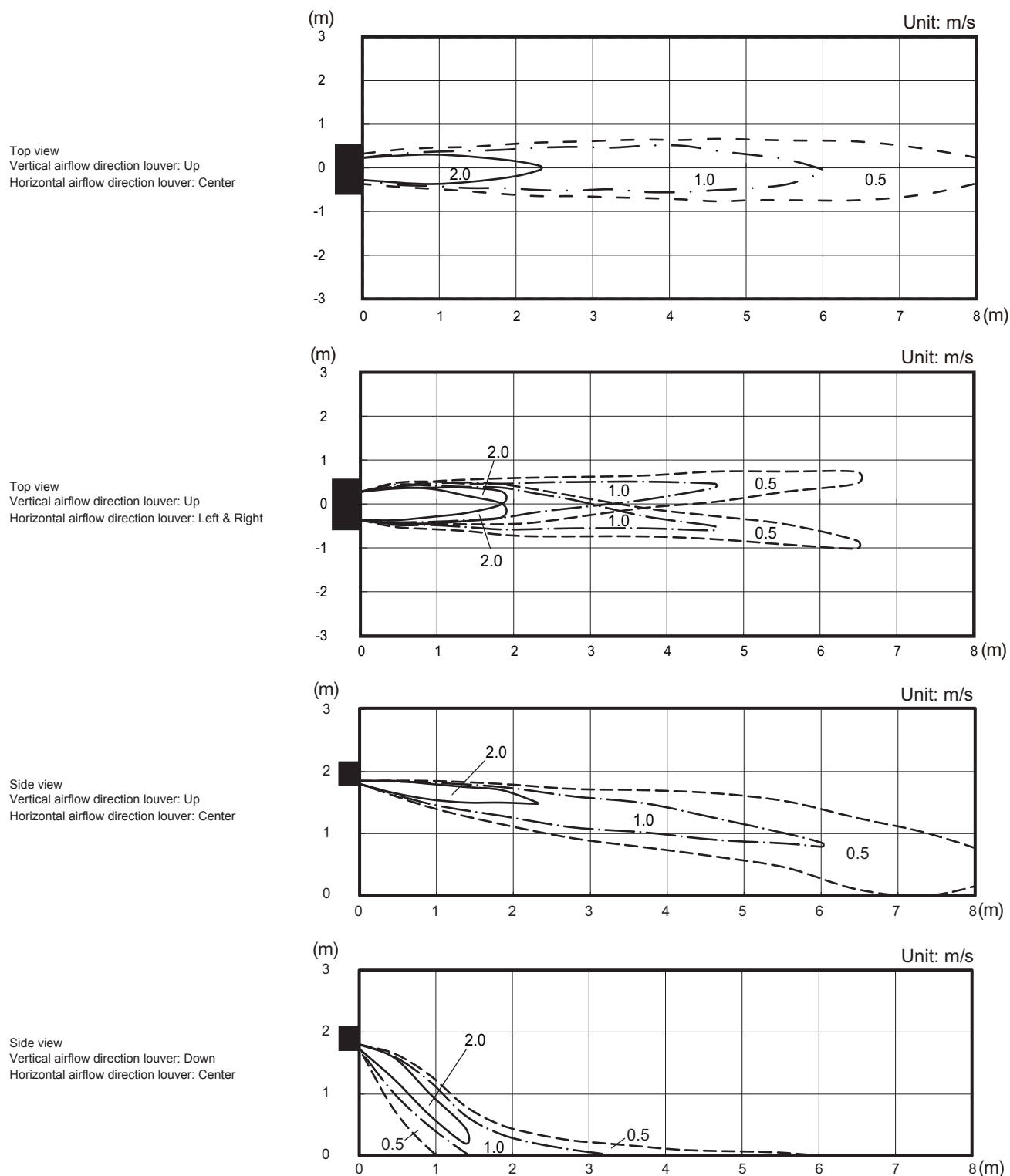
			Indoor temperature									
			16		18		20		22		24	
			TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
Outdoor temperature	°CDB	°CWB	2.73	1.03	2.67	1.05	2.60	1.07	2.54	1.10	2.47	1.12
	-15	-16	2.91	1.08	2.85	1.10	2.78	1.12	2.71	1.14	2.64	1.17
	-10	-11	3.31	1.17	3.23	1.19	3.15	1.21	3.08	1.24	3.00	1.26
	-5	-7	4.03	1.32	3.94	1.35	3.84	1.38	3.74	1.40	3.65	1.43
	0	-2	4.75	1.47	4.64	1.51	4.53	1.54	4.41	1.57	4.30	1.60
	5	3	5.04	1.54	4.92	1.57	4.80	1.60	4.68	1.63	4.56	1.66
	7	6	4.61	1.38	4.50	1.41	4.39	1.44	4.28	1.47	4.17	1.50
	10	8	4.73	1.39	4.62	1.42	4.50	1.45	4.39	1.48	4.28	1.51
	15	10	4.52	1.30	4.41	1.32	4.30	1.35	4.19	1.38	4.09	1.40
	20	15	4.62	1.28	4.51	1.30	4.40	1.33	4.29	1.36	4.18	1.38
	24	18										

5. Fan performance

5-1. Air velocity distributions

■ Models: ASHG07KPCA and ASHG09KPCA

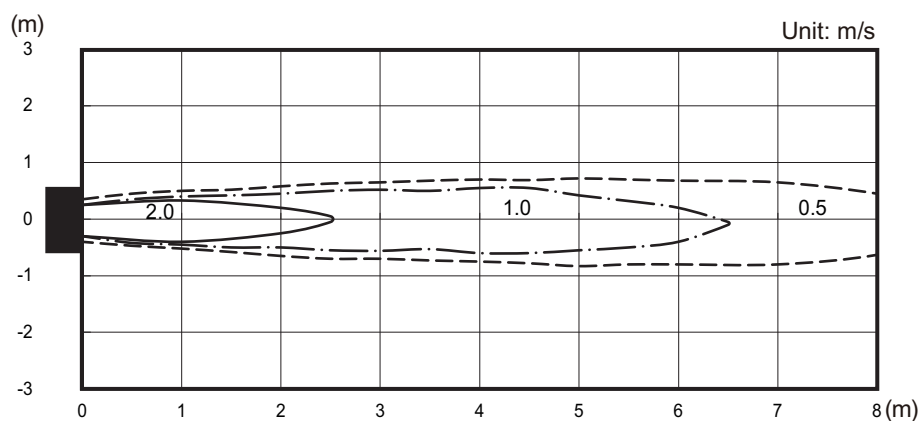
Measuring conditions	Fan speed	Operation mode
	HIGH	FAN



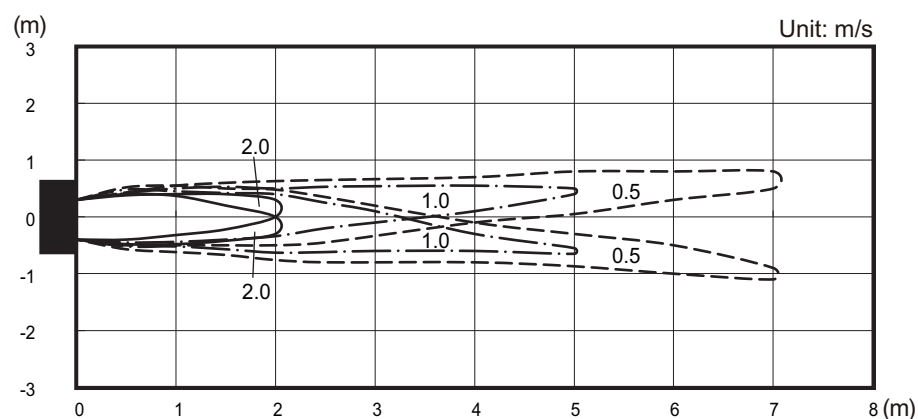
Model: ASHG12KPCA

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

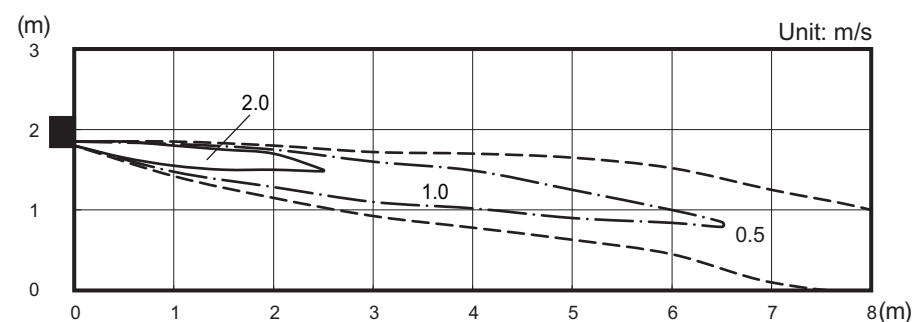
Top view
Vertical airflow direction louver: Up
Horizontal airflow direction louver: Center



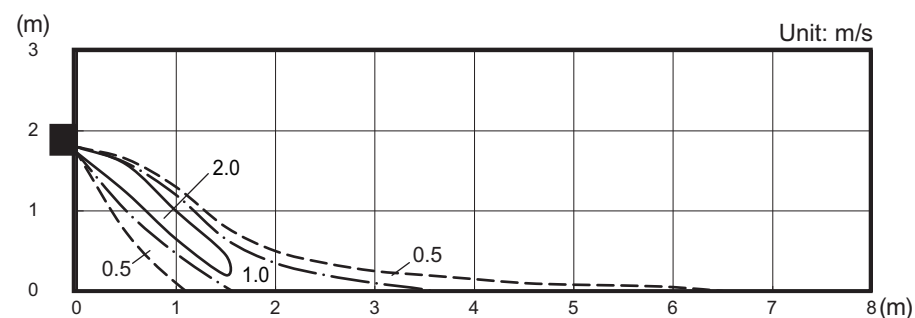
Top view
Vertical airflow direction louver: Up
Horizontal airflow direction louver: Left & Right



Side view
Vertical airflow direction louver: Up
Horizontal airflow direction louver: Center



Side view
Vertical airflow direction louver: Down
Horizontal airflow direction louver: Center



5-2. Airflow

■ Models: ASHG07KPCA and ASHG09KPCA

● Cooling

Fan speed	Airflow	
HIGH	m ³ /h	580
	l/s	161
	CFM	341
MED	m ³ /h	460
	l/s	128
	CFM	271
LOW	m ³ /h	340
	l/s	94
	CFM	200
QUIET	m ³ /h	240
	l/s	67
	CFM	141

● Heating

Fan speed	Airflow	
HIGH	m ³ /h	580
	l/s	161
	CFM	341
MED	m ³ /h	460
	l/s	128
	CFM	271
LOW	m ³ /h	380
	l/s	106
	CFM	224
QUIET	m ³ /h	260
	l/s	72
	CFM	153

■ Model: ASHG12KPCA

● Cooling

Fan speed	Airflow	
HIGH	m ³ /h	630
	l/s	175
	CFM	371
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

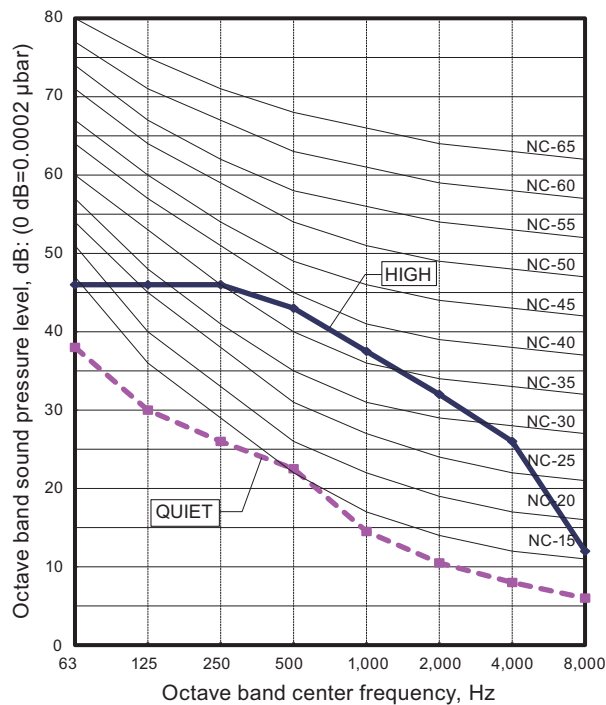
Fan speed	Airflow	
HIGH	m ³ /h	630
	l/s	175
	CFM	371
MED	m ³ /h	490
	l/s	136
	CFM	288
LOW	m ³ /h	380
	l/s	106
	CFM	224
QUIET	m ³ /h	260
	l/s	72
	CFM	153

6. Operation noise (sound pressure)

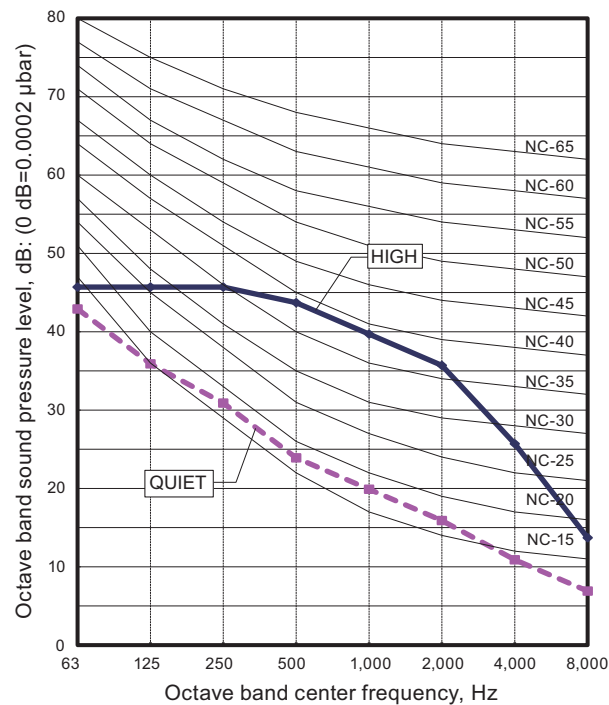
6-1. Noise level curve

Models: ASHG07KPCA and ASHG09KPCA

● Cooling

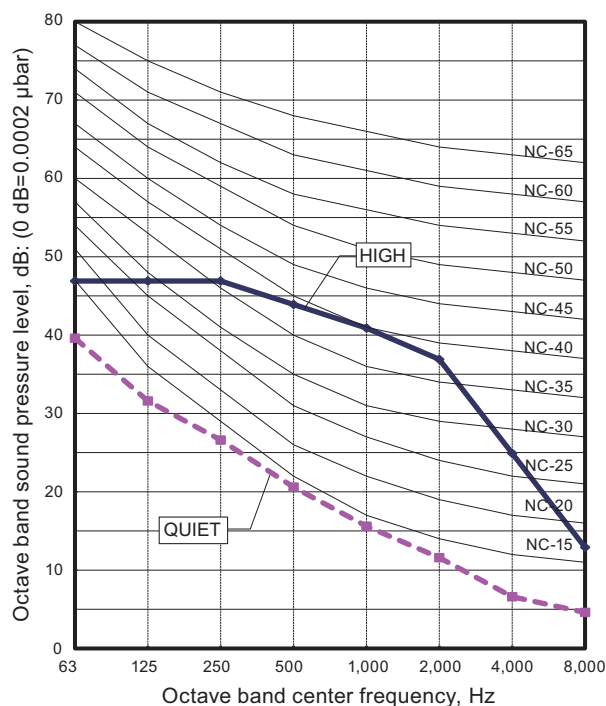


● Heating

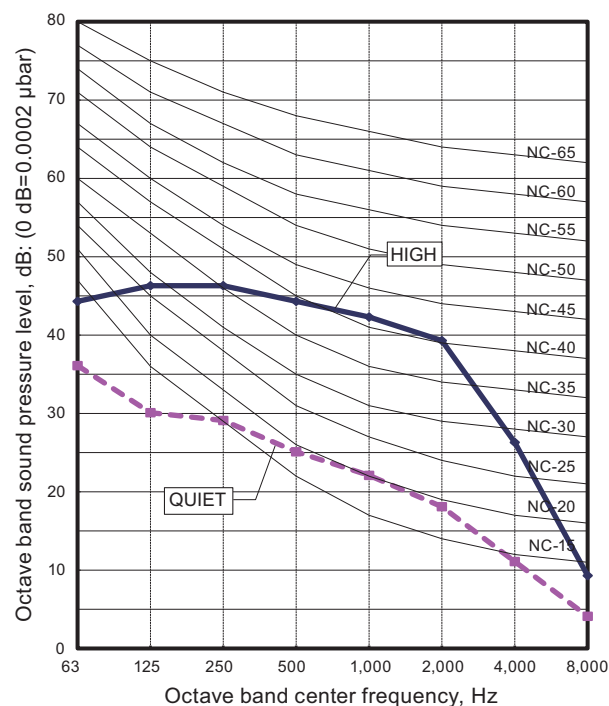


Model: ASHG12KPCA

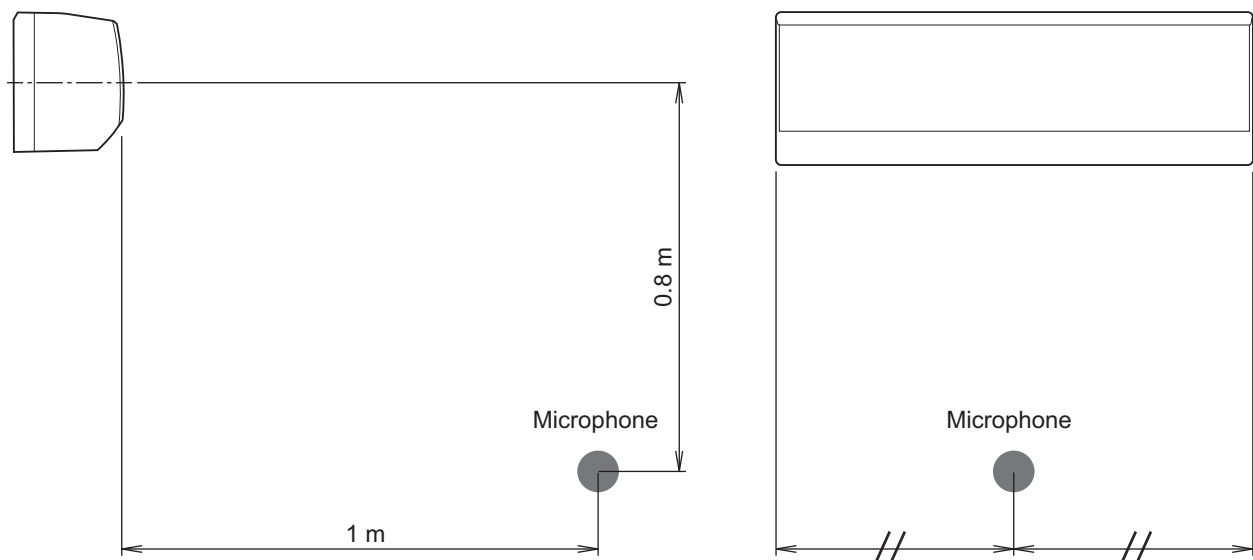
● Cooling



● Heating



6-2. Sound level check point



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

7. Safety devices

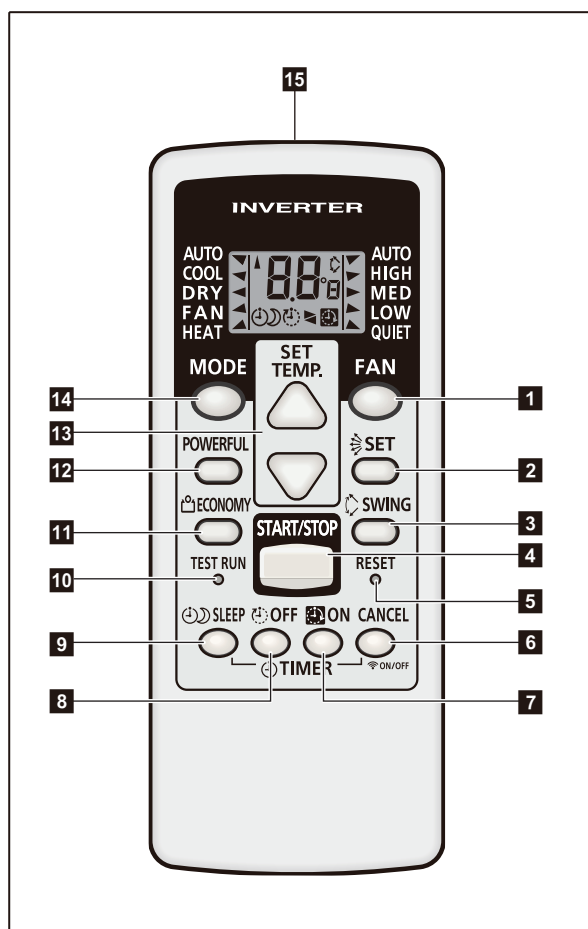
Type of protection	Protection form		Model		
			ASHG07KPCA	ASHG09KPCA	ASHG12KPCA
Circuit protection	Current fuse (PCB*)		250 V, 3.15 A		
Fan motor protection	Thermistor protection	Activate	More than 170 °C Fan motor stop		
		Reset	145 °C or less Fan motor restart		

*PCB: Printed Circuit Board

8. Remote controller

8-1. Wireless remote controller

Overview



- 1 FAN button
- 2 SET button
- 3 SWING button
- 4 START/STOP button
- 5 RESET button
- 6 TIMER CANCEL/W-LAN ON/OFF button
- 7 ON TIMER/W-LAN SET button
- 8 OFF TIMER button
- 9 SLEEP TIMER button
- 10 TEST RUN button

- Used only when installing the air conditioner, and should not be used under normal conditions, as it will cause the indoor unit's thermostat malfunction.
- If this button is pressed during normal operation, the indoor unit will switch to test operation mode, and the operation indicator lamp and the timer indicator lamp on the indoor unit will begin to flash simultaneously.
- To stop the test operation mode, press the START/STOP button. Then, the air conditioner stops the operation.

- 11 ECONOMY button
- 12 POWERFUL button
- 13 SET TEMP. (temperature) (▲ / ▼) button
- 14 MODE button

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

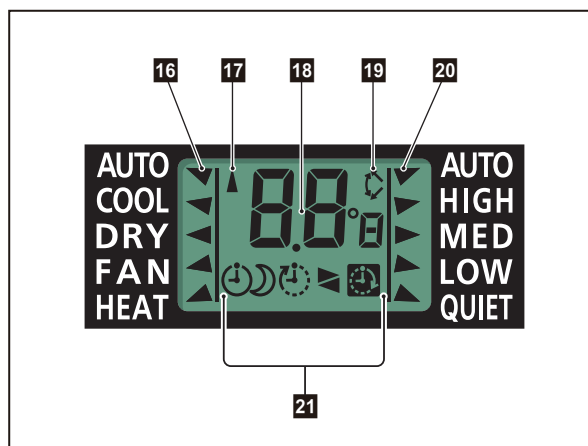
- 15 Signal transmitter
- 16 Operating mode indicator
- 17 Signal transmit indicator
- 18 Temperature and time indicator

- 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

Display panel

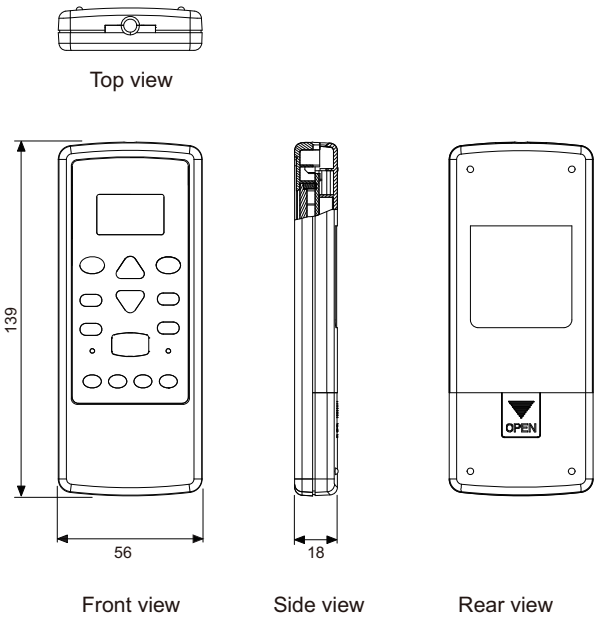


NOTE: Functions may differ by type of the indoor unit. For details, refer to the operation manual.

■ Specifications

● Controller

Unit: mm



Size (H × W × D)	mm	139 × 56 × 18
Weight	g	70 (without batteries)

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 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.

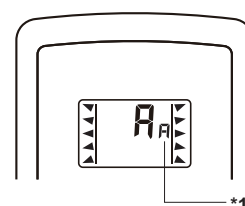
STEP 1: Setting the remote controller custom code

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"](#) on page 23.

1. Press the SET TEMP. (▲) (▼) buttons to change the custom code between $\text{A} \rightarrow \text{b} \rightarrow \text{c} \rightarrow \text{d}$. 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**.



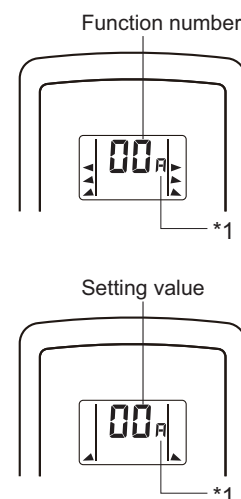
***1:** Small A is displayed on the right of the custom code during the function setting.

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 ($\text{A} \rightarrow \text{b} \rightarrow \text{c} \rightarrow \text{d}$) until you find the code that operates the air conditioner.

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  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.

■ 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)	42	Room temperature sensor switching
5)	44	Remote controller custom code
6)	46	External input control
7)	48	Room temperature sensor switching (Aux.)
8)	49	Indoor unit fan control for energy saving for cooling

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	◆

2) Room temperature control for indoor unit sensor

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 correction values show the difference from the Standard setting "00" (manufacturer's recommended value).

Function number		Setting value	Setting description	Factory setting
30 (For cooling)	31 (For heating)	00	Standard setting	◆
		01	No correction 0.0 °C	
		02	-0.5 °C	More cooling Less heating
		03	-1.0 °C	
		04	-1.5 °C	
		05	-2.0 °C	
		06	-2.5 °C	
		07	-3.0 °C	
		08	-3.5 °C	
		09	-4.0 °C	
		10	+0.5 °C	Less cooling More heating
		11	+1.0 °C	
		12	+1.5 °C	
		13	+2.0 °C	
		14	+2.5 °C	
		15	+3.0 °C	
		16	+3.5 °C	
		17	+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.

4) Room temperature sensor switching

(Only for wired remote controller)

When using the wired remote controller temperature sensor, change the setting to "Both" (01).

Function number	Setting value	Setting description	Factory setting
42	00	Indoor unit	◆
	01	Both	

00: Sensor on the indoor unit is active.

01: Sensors on both indoor unit and wired remote controller are active.

NOTE: Remote controller sensor must be turned on by using the remote controller.

5) 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	

6) External input control

"Operation/Stop" mode or "Forced stop" mode can be selected.

Function number	Setting value	Setting description	Factory setting
46	00	Operation/Stop mode 1	◆
	01	(Setting prohibited)	
	02	Forced stop mode	
	03	Operation/Stop mode 2	

7) Room temperature sensor switching (Aux.)

To use the temperature sensor on the wired remote controller only, change the setting to "Wired remote controller" (01).

This function will only work if the function setting 42 is set at "Both" (01).

When the setting value is set to "Both" (00), more suitable control of the room temperature is possible by setting function setting 30 and 31 too.

Function number	Setting value	Setting description	Factory setting
48	00	Both	◆
	01	Wired remote controller	

8) 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.

NOTES:

- As the factory setting, this setting is initially activated.
- Set to "00" or "01" when connecting a remote controller that cannot set the Fan control for energy saving function or connecting a network converter.
To confirm if the remote controller has this setting, refer to the operating manual of each remote controller.

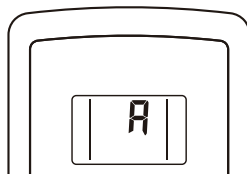
9-2. Custom code setting for wireless remote controller

■ Custom code setting

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 $\overline{A}$.)

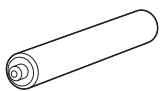
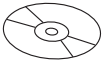
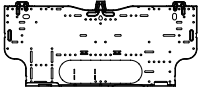
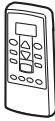


2. Press the SET TEMP. ($\blacktriangle$ or $\blacktriangledown$) button to change the custom code between $\overline{A} \rightarrow \overline{b} \rightarrow \overline{c} \rightarrow \overline{d}$. Match the code on the display to the air conditioner custom code.
3. Press the MODE button again. The custom 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 $\overline{A}$ prior to shipment. To change the custom code, contact your retailer.
- The remote controller resets to custom code $\overline{A}$ when the batteries in the remote controller are replaced. If you use a custom code other than code $\overline{A}$, 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 ($\overline{A} \rightarrow \overline{b} \rightarrow \overline{c} \rightarrow \overline{d}$) until you find the code which operates the air conditioner.

10. Accessories

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Operating manual		1	Battery		2
Operating manual (CD-ROM)		1	Cloth tape		1
Installation manual		1	Tapping screw		5
Wall hook bracket		1	Remote controller		1

11. Optional parts

11-1. Others

Exterior	Part name	Model name	Summary
	Remote controller holder	UTZ-RXLA	Wall or pillar mountable, and holds the wireless remote controller.
	Wireless LAN adapter	UTY-TFSXF2	Remotely manage an air conditioning system using mobile devices such as smartphones and tablets.

Part 2. OUTDOOR UNIT

SINGLE TYPE:

AOHG07KPCA

AOHG09KPCA

AOHG12KPCA

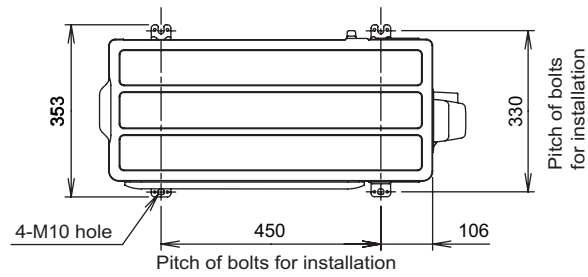
1. Specifications

Type				Inverter heat pump			
Model name				AOHG07KPCA	AOHG09KPCA	AOHG12KPCA	
Power supply				230 V ~ 50 Hz			
Power supply intake				Outdoor unit			
Available voltage range				198—264 V			
Starting current			A	3.2	3.8	5.6	
Fan	Airflow rate	Cooling	m³/h	1,650	1,650	1,700	
		Heating		1,450	1,450	1,470	
	Type × Q'ty			Propeller fan × 1			
Motor output			W	23			
Sound pressure level *1		Cooling	dB (A)	45	47	49	
		Heating		46	47	51	
Sound power level		Cooling	dB (A)	57	59	62	
		Heating		58	59	62	
Heat exchanger type		Dimensions (H × W × D)	mm	504 × 650 × 18.2		504 × 630 × 36.4	
		Fin pitch		1.3			
		Rows × Stages			1 × 24	2 × 24	
		Pipe type			Copper		
		Fin type		Type (Material)	Corrugate (Aluminum)		
				PC Fin			
Compressor	Type × Q'ty			DC Rotary × 1			
	Motor output		W	850			
Refrigerant		Type (Global warming potential)		R32 (675)			
		Charge	g	550		590	
Refrigerant oil		Type		POE			
		Amount	cm³	240			
Enclosure		Material		Steel sheet			
		Color		Beige			
				Approximate color of Munsell 10YR 7.5/1.0			
Dimensions (H × W × D)	Net		mm	541 × 663 × 290			
	Gross			596 × 798 × 369			
Weight	Net		kg	23		25	
	Gross			25		27	
Connection pipe	Size	Liquid	mm (in)	Ø 6.35 (1/4)			
		Gas		Ø 9.52 (3/8)			
	Method			Flare			
	Pre-charge length		m	15			
	Max. length			20			
	Max. height difference			15			
Operation range		Cooling	°C	-10 to 46			
		Heating		-15 to 24			
Drain hose		Material		PP			
		Size	mm	Ø 13.0 (I. D.), Ø 16.0 to Ø 16.8 (O. D.)			
NOTES:							
• Specifications are based on the following conditions:							
– Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB.							
– Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB.							
– Pipe length: 5 m, Height difference: 0 m.							
• 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.							

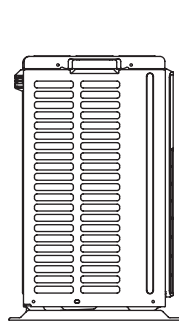
2. Dimensions

2-1. Models: AOHG07KPCA, AOHG09KPCA, and AOHG12KPCA

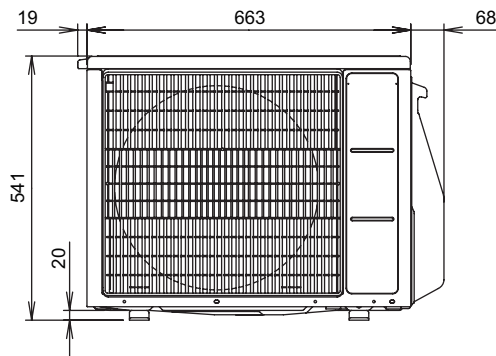
Unit: mm



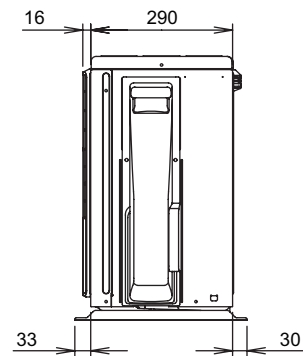
Top view



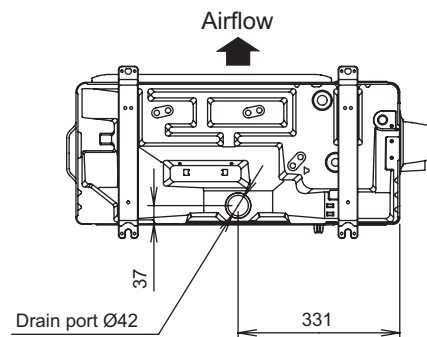
Side view



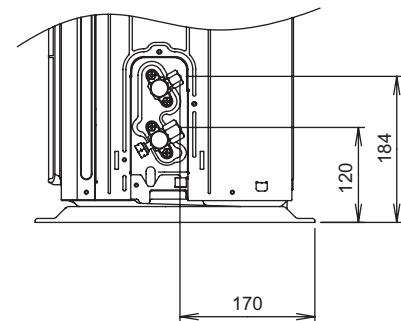
Front view



Side view



Bottom view



Side view (Valve part)

3. Installation space

3-1. Models: AOHG07KPCA, AOHG09KPCA, and AOHG12KPCA

■ Space requirement

Provide sufficient installation space for product safety.

⚠ CAUTION

Keep the space shown in the installation examples.

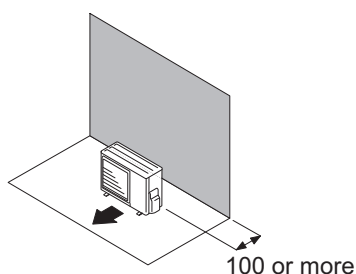
If the installation is not performed accordingly, it could cause a short circuit and result in a lack of operating performance.

● Single outdoor unit installation

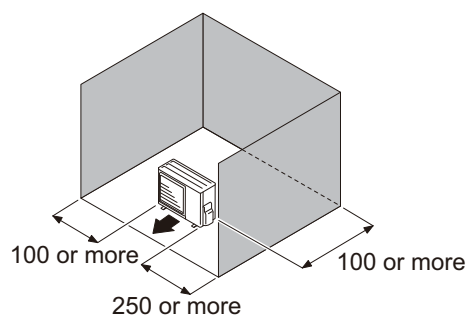
- When the upper space is open:

Unit: mm

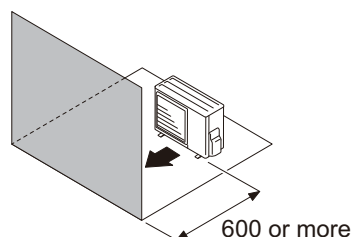
Obstacles at rear only



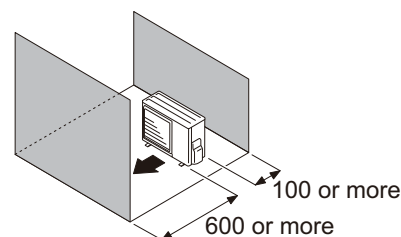
Obstacles at rear and sides



Obstacles at front



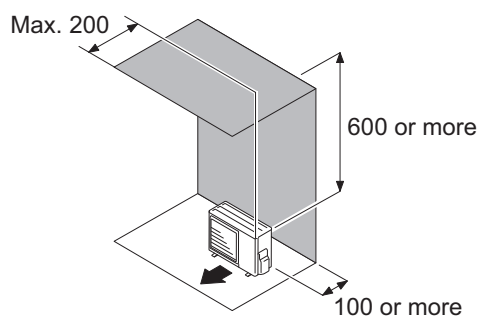
Obstacles at front and rear



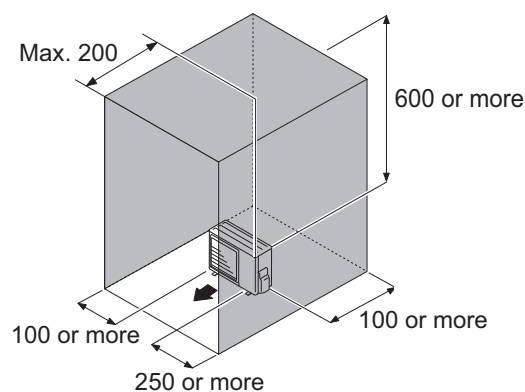
- When there is an obstruction in the upper space:

Unit: mm

Obstacles at rear and above



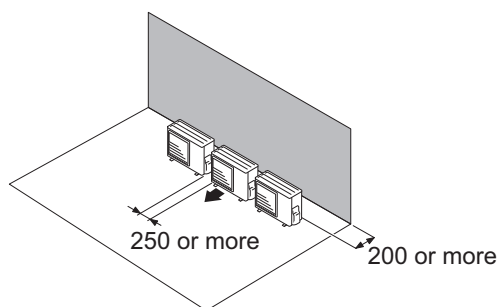
Obstacles at rear, sides, and above



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

Obstacles at rear only



A 3D rectangular prism is shown with three dimensions labeled: "250 or more" for the width, "1,000 or more" for the depth, and "1,000 or more" for the height.

The diagram shows a sequence of three steps for determining the number of units to be sold. Each step is represented by a rectangular box with a unit icon. The first box is labeled '250 or more' with a double-headed arrow indicating the range. The second box is labeled '200 or more' with a double-headed arrow. The third box is labeled '1,000 or more' with a double-headed arrow. Arrows indicate the flow from the first box to the second, and from the second to the third.

- Unit: mm

Max. 300

250 or more

1,500 or more

250 or more

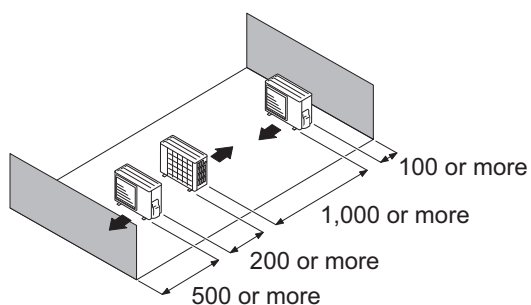
200 or more

1,500 or more

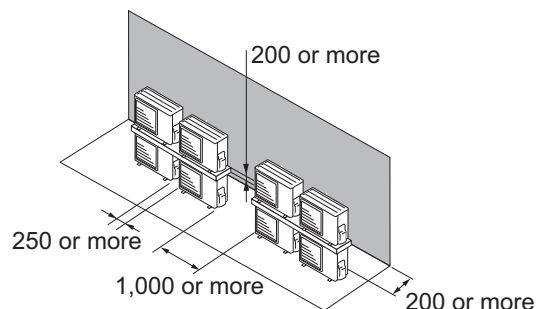
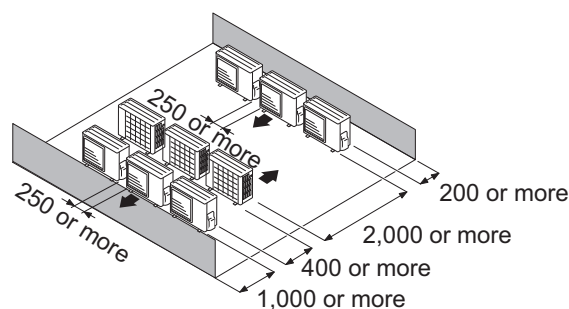
● Outdoor units installation in multi-row

Unit: mm

Single parallel unit arrangement



Multiple parallel unit arrangement

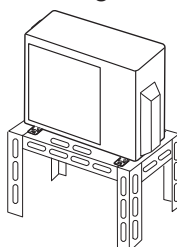


NOTES:

- If the space is larger than stated above, the condition will be the same as when there is no obstacle.
- When installing the outdoor unit, be sure to open the front and left side to obtain better operation efficiency.

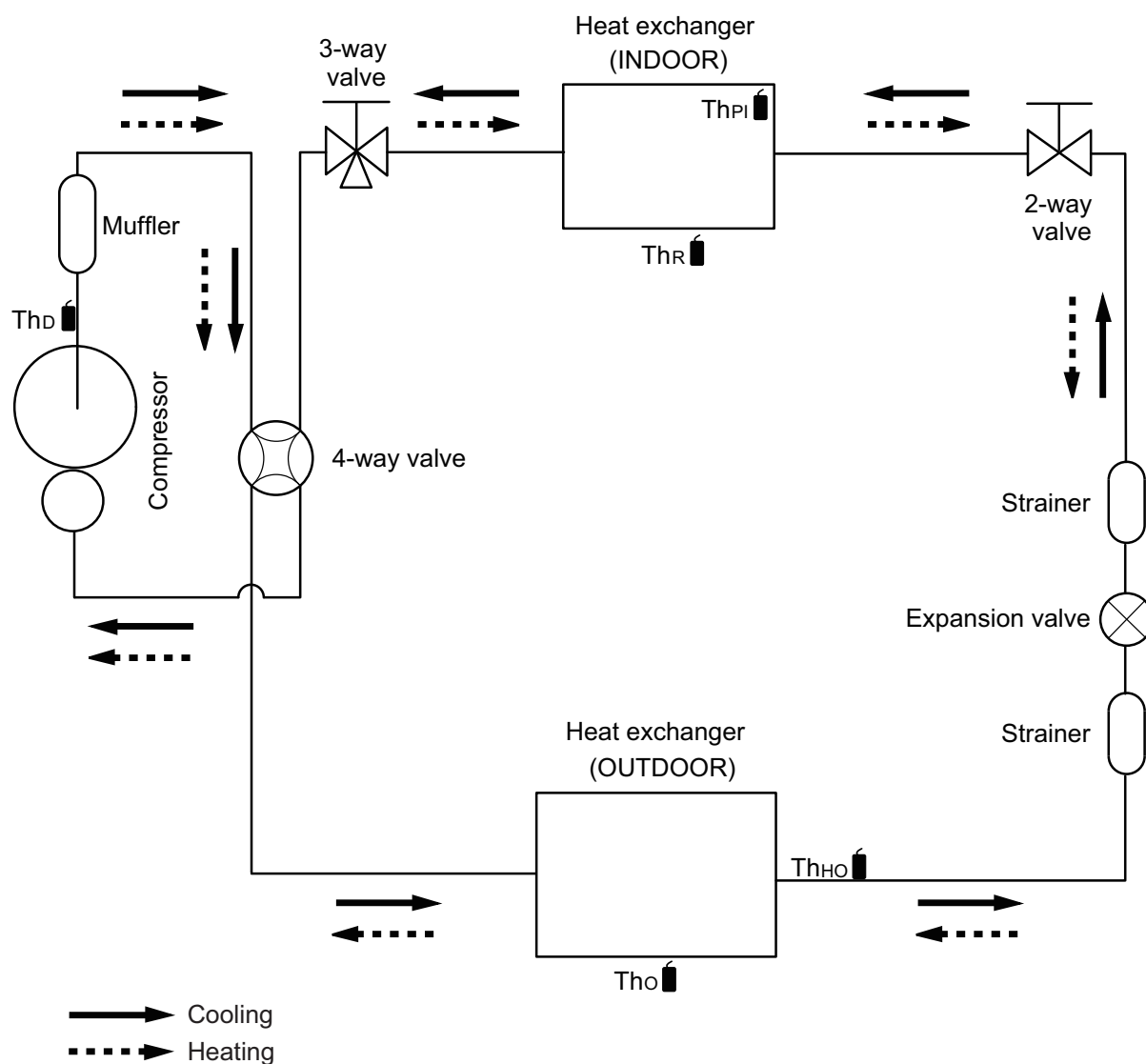
⚠ CAUTION

- 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 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: AOHG07KPCA, AOHG09KPCA, and AOHG12KPCA



Th_D : Thermistor (Discharge temperature)

Th_O : Thermistor (Outdoor temperature)

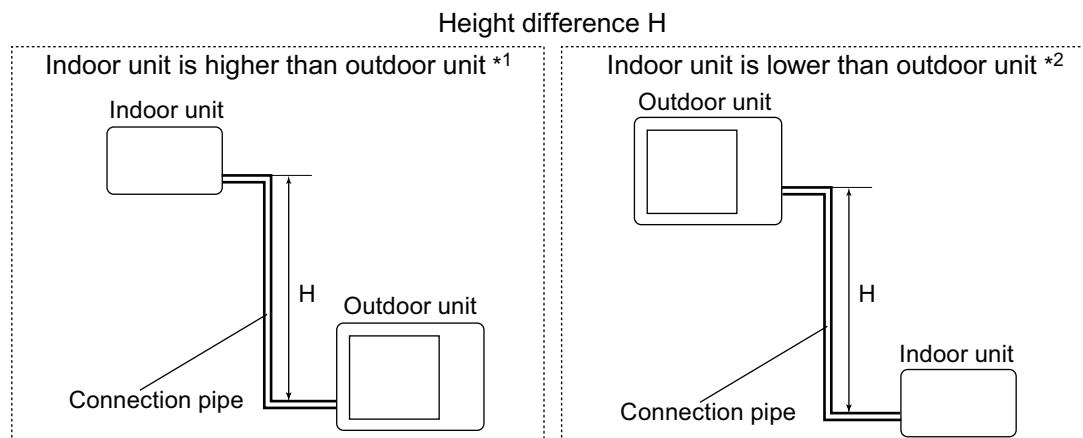
Th_{HO} : Thermistor (Heat exchanger out temperature)

Th_R : Thermistor (Room temperature)

Th_{PI} : Thermistor (Pipe temperature)

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AOHG07-12KPCA

6. Capacity compensation rate for pipe length and height difference



6-1. Models: AOHG07KPCA and AOHG09KPCA

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

COOLING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	—	—	—	0.872	0.910
		10	—	—	0.961	0.886	0.925
		7.5	—	0.979	0.965	0.890	0.929
		5	0.992	0.983	0.969	0.893	0.933
		0	1.000	0.991	0.976	0.901	0.940
	Indoor unit is lower than outdoor unit *2	-5	1.000	0.991	0.976	0.901	0.940
		-7.5	—	0.991	0.976	0.901	0.940
		-10	—	—	0.976	0.901	0.940
		-15	—	—	—	0.901	0.940

HEATING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	—	—	—	0.832	0.822
		10	—	—	0.917	0.832	0.822
		7.5	—	0.961	0.917	0.832	0.822
		5	1.000	0.961	0.917	0.832	0.822
		0	1.000	0.961	0.917	0.832	0.822
	Indoor unit is lower than outdoor unit *2	-5	0.955	0.956	0.912	0.828	0.818
		-7.5	—	0.954	0.910	0.826	0.816
		-10	—	—	0.908	0.824	0.814
		-15	—	—	—	0.815	0.805

6-2. Model: AOHG12KPCA

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

COOLING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	—	—	—	0.858	0.868
		10	—	—	0.929	0.872	0.882
		7.5	—	0.960	0.933	0.876	0.885
		5	0.992	0.964	0.937	0.879	0.889
	Indoor unit is lower than outdoor unit *2	0	1.000	0.972	0.944	0.887	0.896
		-5	1.000	0.972	0.944	0.887	0.896
		-7.5	—	0.972	0.944	0.887	0.896
		-10	—	—	0.944	0.887	0.896
		-15	—	—	—	0.887	0.896

HEATING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	—	—	—	0.896	0.879
		10	—	—	0.968	0.890	0.879
		7.5	—	0.994	0.968	0.896	0.879
		5	1.000	0.994	0.968	0.896	0.879
	Indoor unit is lower than outdoor unit *2	0	1.000	0.994	0.968	0.896	0.879
		-5	0.995	0.989	0.963	0.891	0.875
		-7.5	—	0.987	0.961	0.889	0.873
		-10	—	—	0.959	0.887	0.871
		-15	—	—	—	0.878	0.862

7. Additional charge calculation

7-1. Models: AOHG07KPCA and AOHG09KPCA

Refrigerant type		R32
Refrigerant amount	g	550

■ Refrigerant charge

Total pipe length	m	15 or less	20 (Max.)	20 g/m
Additional charge	g	0	100	

7-2. Model: AOHG12KPCA

Refrigerant type		R32
Refrigerant amount	g	590

■ Refrigerant charge

Total pipe length	m	15 or less	20 (Max.)	20 g/m
Additional charge	g	0	100	

8. Airflow

8-1. Model: AOHG07KPCA

● Cooling

Airflow	
m ³ /h	1,650
l/s	458
CFM	971

● Heating

Airflow	
m ³ /h	1,450
l/s	403
CFM	853

8-2. Model: AOHG09KPCA

● Cooling

Airflow	
m ³ /h	1,650
l/s	458
CFM	971

● Heating

Airflow	
m ³ /h	1,450
l/s	403
CFM	853

8-3. Model: AOHG12KPCA

● Cooling

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

● Heating

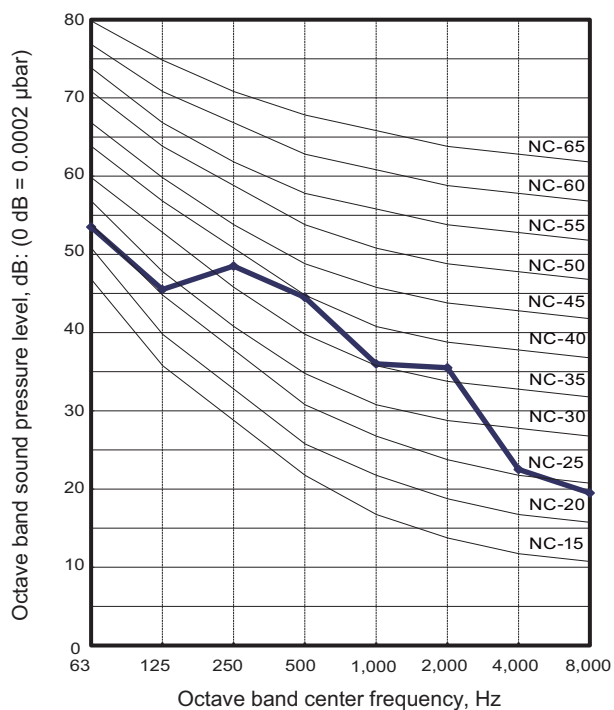
Airflow	
m ³ /h	1,470
l/s	408
CFM	865

9. Operation noise (sound pressure)

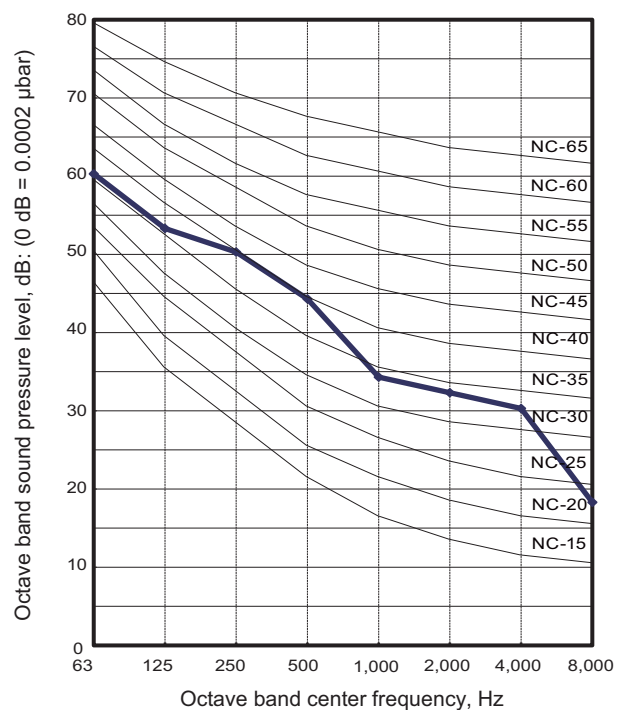
9-1. Noise level curve

Model: AOHG07KPCA

● Cooling

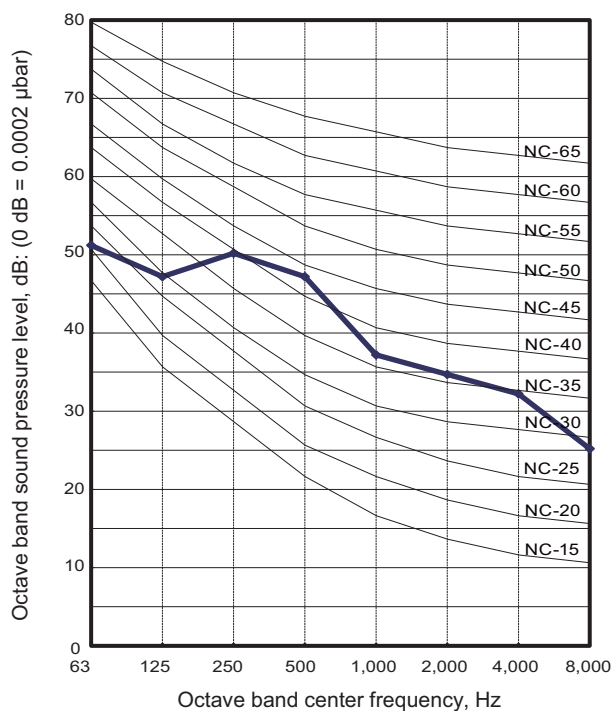


● Heating

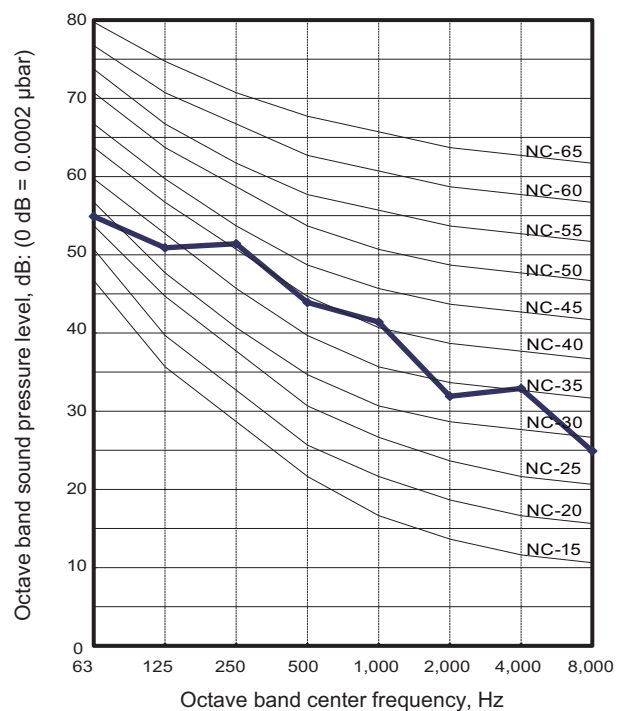


Model: AOHG09KPCA

● Cooling

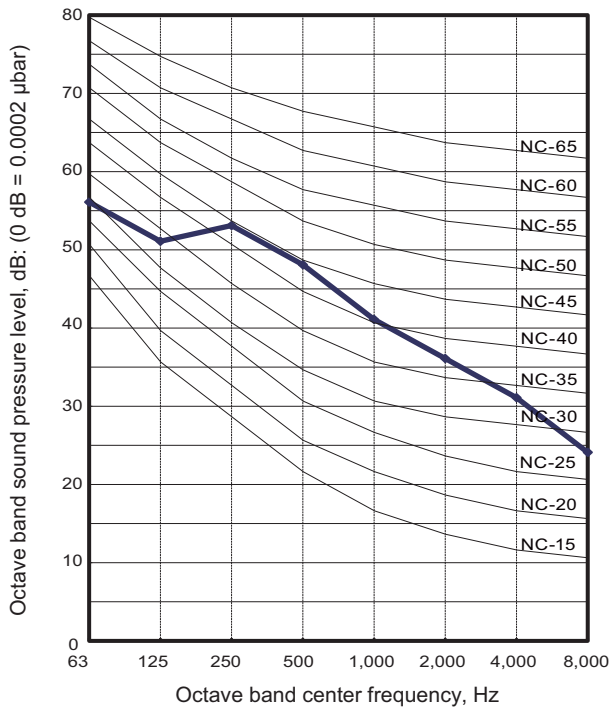


● Heating

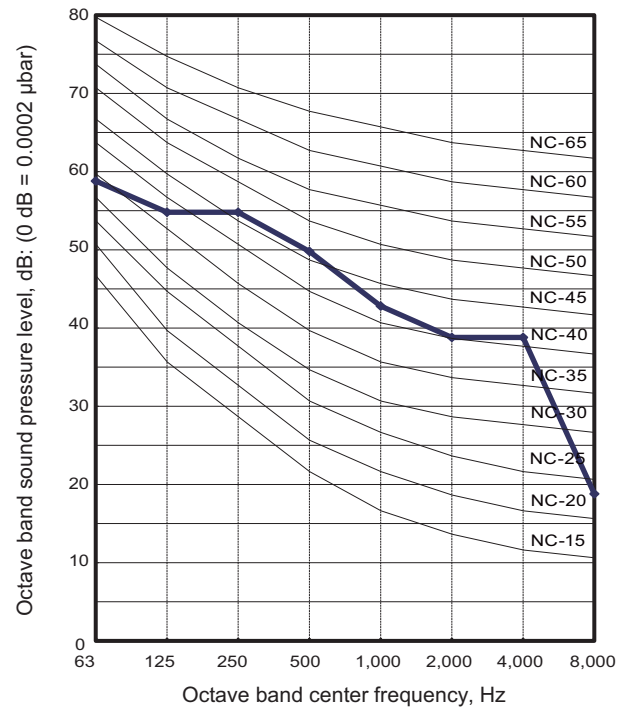


Model: AOHG12KPCA

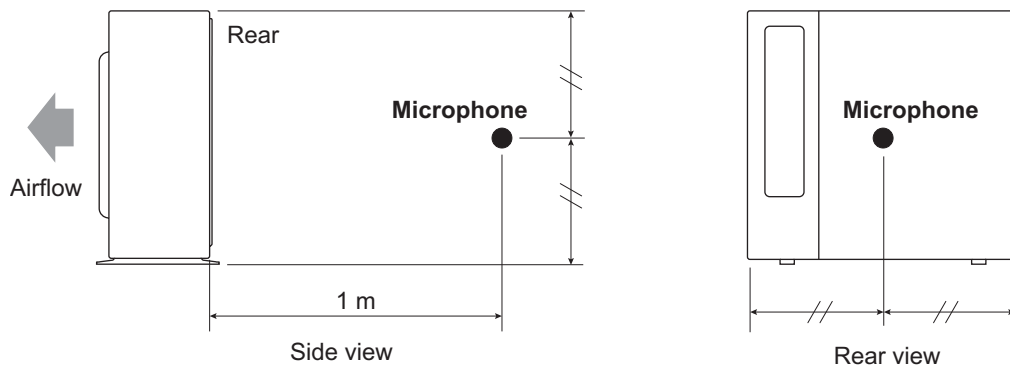
Cooling



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			AOHG07KPCA	AOHG09KPCA	AOHG12KPCA
Power supply	Voltage		V	230 ~	
	Frequency		Hz	50	
Max operating current *1			A	9.0	9.0
Starting current			A	3.2	3.8
Wiring spec. *2	Circuit breaker current		A	15	
	Power cable		mm ²	1.5	
	Connection cable *3	Cross-sectional area	mm ²	1.5	
		Limited wiring length	m	21	

*1: Maximum operating current is the total current of the indoor unit and the outdoor unit.

*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: Limit voltage drop to less than 2%. If voltage drop is 2% or more, increase cable conductor size.

11. Safety devices

Type of protection	Protection form		Model		
			AOHG07KPCA	AOHG09KPCA	AOHG12KPCA
Circuit protection	Current fuse (Main PCB)		250 V, 20 A 250 V, 5 A		
Fan motor protection	Thermistor protection	Activate	85—122 °C Fan motor stop		
		Reset	77—114 °C Fan motor restart		
Compressor protection	Terminal protection program (Discharge temp.)	Activate	110 °C Compressor stop		
		Reset	After 7 minutes Compressor restart		
	Thermal protection program (Outdoor temp.)	Activate	COOL or DRY: -15 °C HEAT: -20 °C Compressor stop		
		Reset	COOL or DRY: -10 °C HEAT: -15 °C Compressor restart		

12. Accessories

12-1. Models: AOHG07KPCA, AOHG09KPCA, and
AOHG12KPCA

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Drain pipe		1			

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