

AIR CONDITIONER

Wall mounted type

DESIGN & TECHNICAL MANUAL

INDOOR



ASYG07KPCE
ASYG09KPCE
ASYG12KPCE

OUTDOOR



AOYG07KPCA
AOYG09KPCA
AOYG12KPCA

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Part 1. INDOOR UNIT

WALL MOUNTED TYPE:

ASYG07KPCE

ASYG09KPCE

ASYG12KPCE

1. Specifications

Type				Wall mounted				
				Inverter heat pump				
Model name				ASYG07KPCE	ASYG09KPCE	ASYG12KPCE		
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		
	Heating	Rated	Btu/h	3,100—9,600	3,100—10,200	3,100—12,600		
			kW	2.50	2.80	3.80		
		Min.—Max.	Btu/h	8,500	9,500	13,000		
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	kW	0.63	0.79	1.14		
				Min.—Max.	0.25—1.39	0.25—1.39	0.25—1.60	
	Fan	HIGH	MED	LOW	QUIET	W	21.5	26.9
							12.5	14.5
							6.3	7.1
							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	kW/kW		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 (1.80)	1.3 (2.30)	1.8 (3.20)			
Maximum operating current *1	Cooling	A		6.5				
	Heating	A		9.0				
Fan	Cooling	HIGH	MED	LOW	QUIET	m ³ /h	580	630
							460	490
							340	360
							240	240
	Heating	HIGH	MED	LOW	QUIET	m ³ /h	580	630
							460	490
							380	380
							260	260
	Type × Q'ty		W		Crossflow fan × 1			
	Motor output		W		27			
Sound pressure level *2	Cooling	HIGH	MED	LOW	QUIET	dB (A)	45	46
							38	40
							31	33
							22	22
	Heating	HIGH	MED	LOW	QUIET	dB (A)	45	46
							40	40
							36	35
							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)	Ø6.35 (Ø1/4)				
		Gas		Ø9.52 (Ø3/8)				
Drain hose	Method		Flare					
	Material	PP+HDPE						
Operation range	Tip diameter		mm	Ø13.8 (I.D.), Ø15 to Ø16.8 (O.D.)				
	Cooling	°C		18 to 32				
Remote controller type	Heating		%RH		80 or less			
	°C		°C		16 to 30			

NOTES:

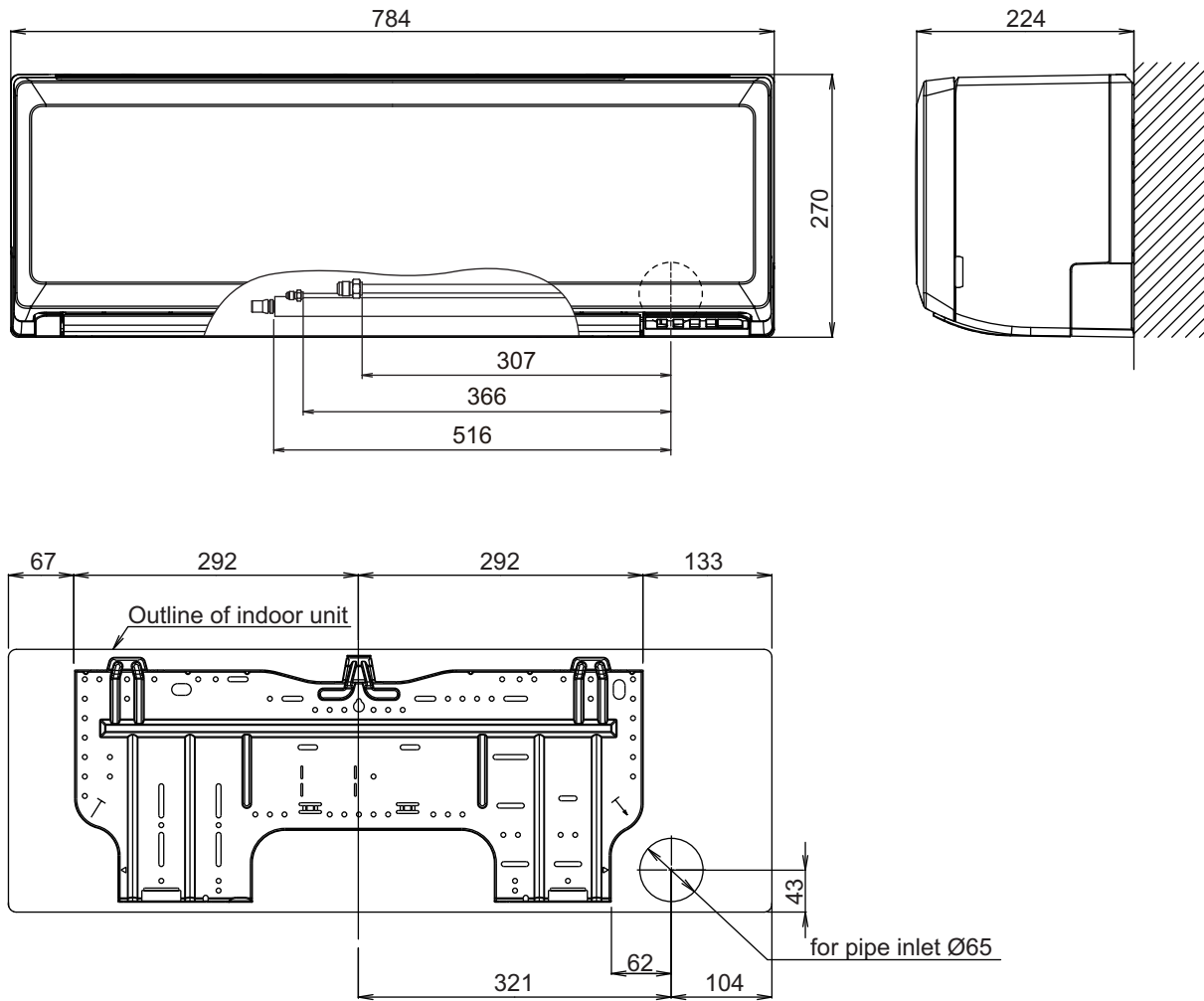
- Specifications are based on the following conditions:
 - Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB.
 - Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB.
 - Pipe length: 5 m, Height difference: 0 m. (Between outdoor 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.
- *3: Available on Google Play™ store or on App Store®. Optional WLAN adapter is also required. For details, refer to the setting manual.

Specifications for Lot10				ASYG07KPCE	ASYG09KPCE	ASYG12KPCE
Model name						
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		6.3
SCOP	Heating (Average)			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: ASYG07KPCE, ASYG09KPCE, and ASYG12KPCE

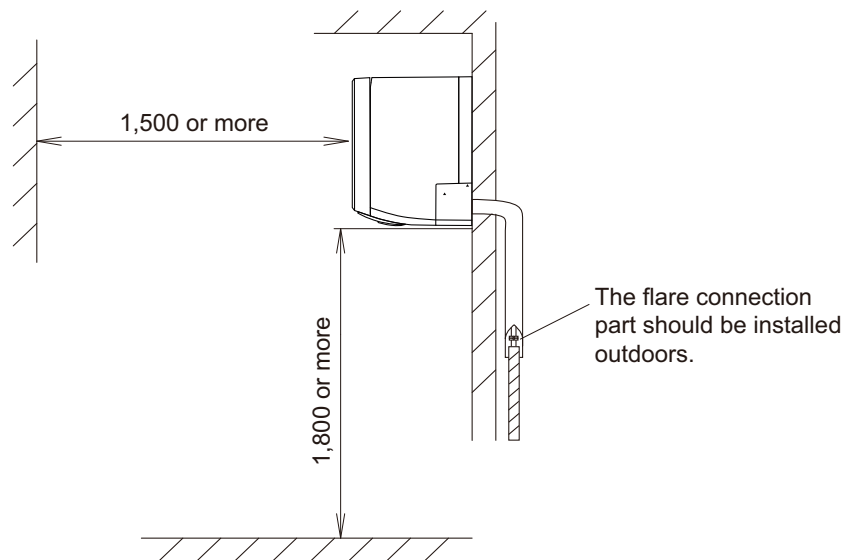
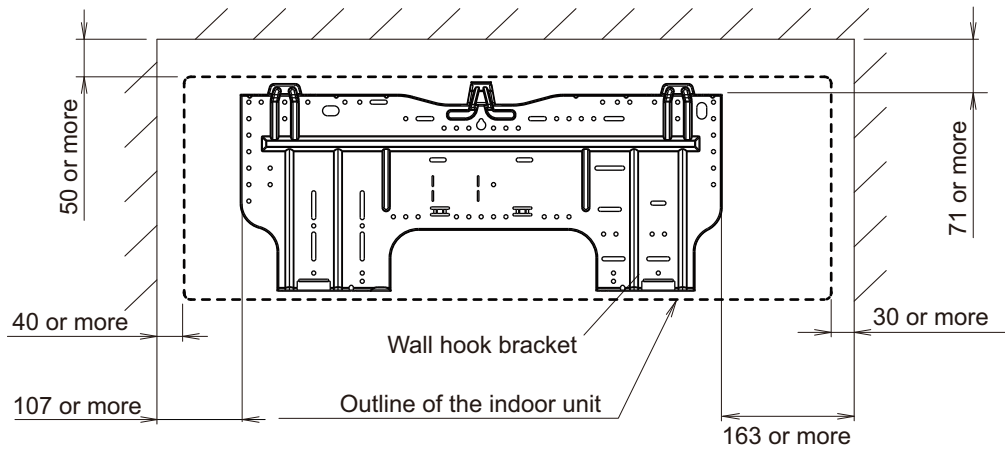
Unit: mm



■ Installation space requirement

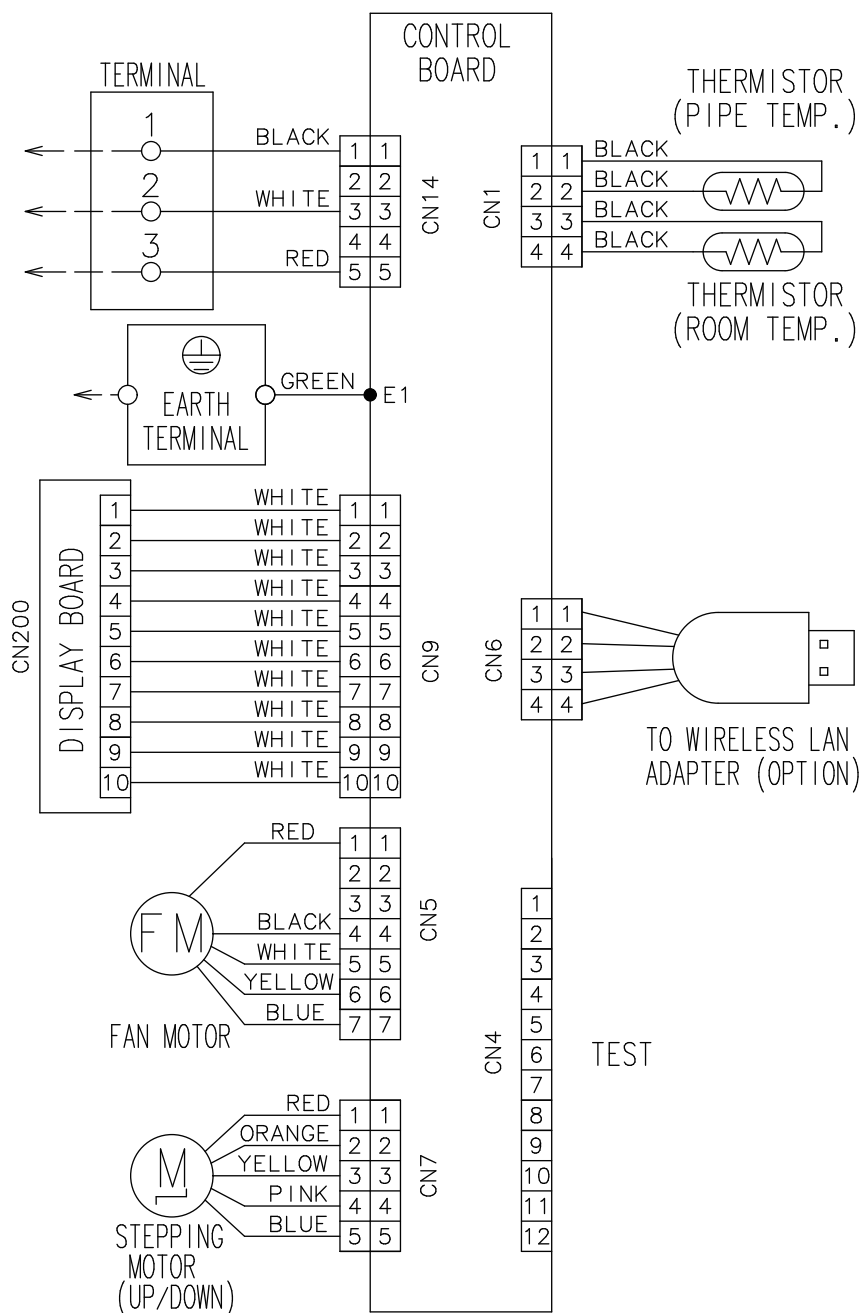
Provide sufficient installation space for product safety.

Unit: mm



3. Wiring diagrams

3-1. Models: ASYG07KPCE, ASYG09KPCE, and ASYG12KPCE



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: ASYG07KPCE

AFR		m ³ /h																		580		
Outdoor temperature	Indoor 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
		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	
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: ASYG09KPCE

AFR		m ³ /h																		580		
Outdoor temperature	Indoor 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
		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	
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: ASYG12KPCE

AFR		m ³ /h																		630		
Outdoor temperature	Indoor 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
		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	
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: ASYG07KPCE

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

Model: ASYG09KPCE

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

Model: ASYG12KPCE

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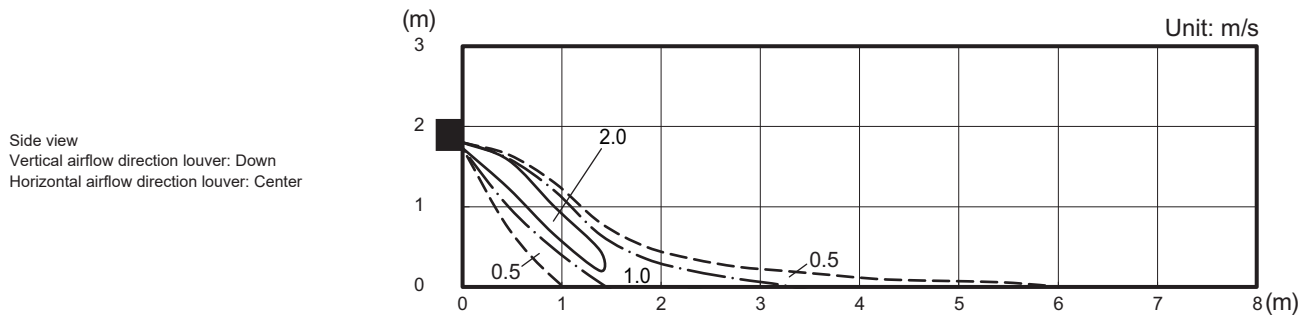
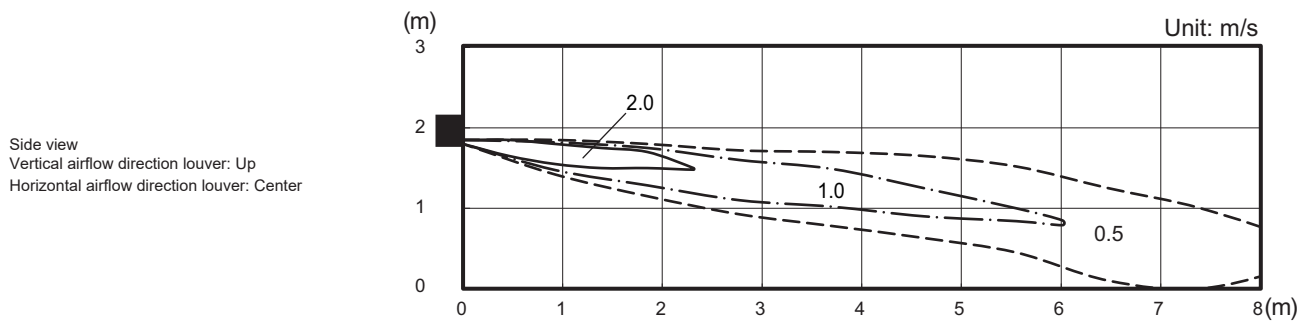
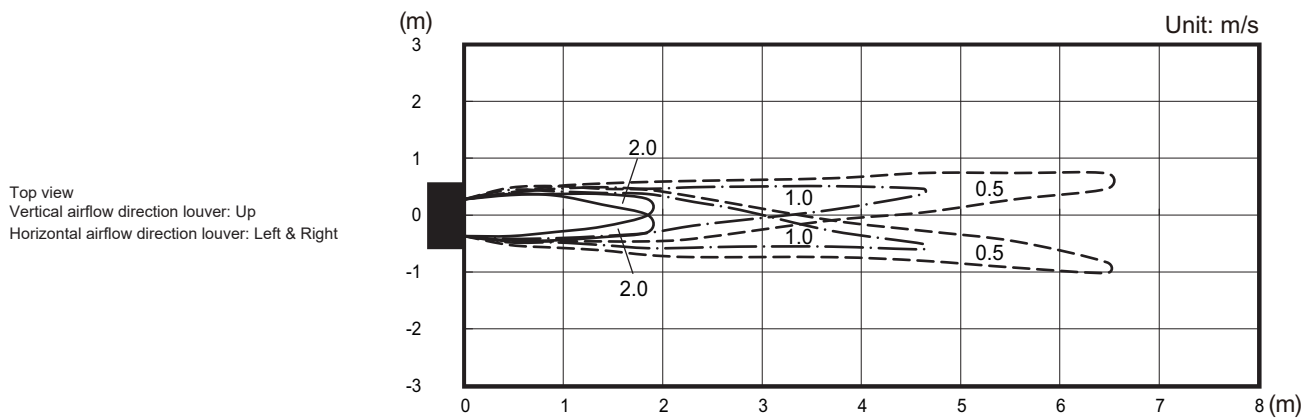
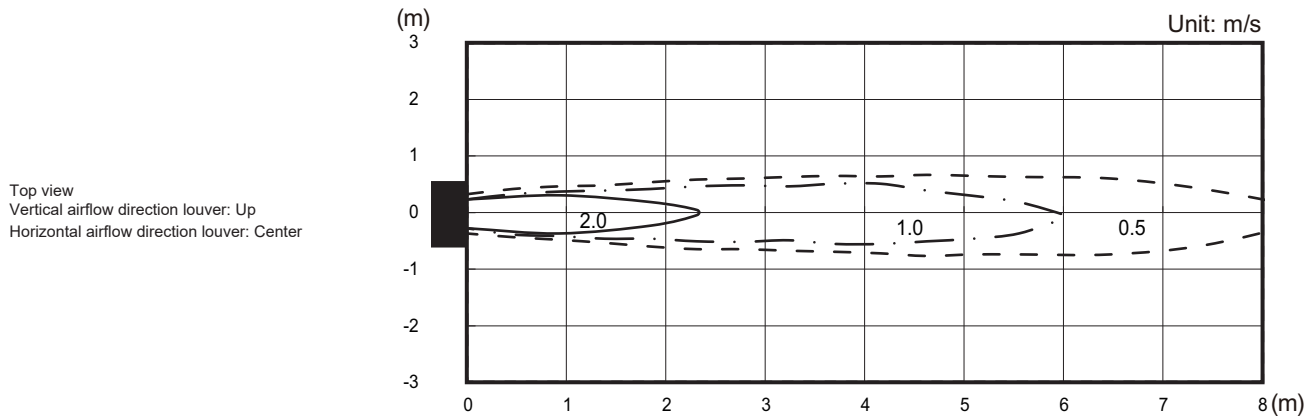
			Indoor temperature														
			16			18			20			22			24		
			TC	IP		TC	IP		TC	IP		TC	IP		TC	IP	
Outdoor temperature	°CDB	°CWB	kW			kW			kW			kW			kW		
	-15	-16	2.73	1.03		2.67	1.05		2.60	1.07		2.54	1.10		2.47	1.12	
	-10	-11	2.91	1.08		2.85	1.10		2.78	1.12		2.71	1.14		2.64	1.17	
	-5	-7	3.31	1.17		3.23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

5. Fan performance

5-1. Air velocity distributions

■ Models: ASYG07KPCE and ASYG09KPCE

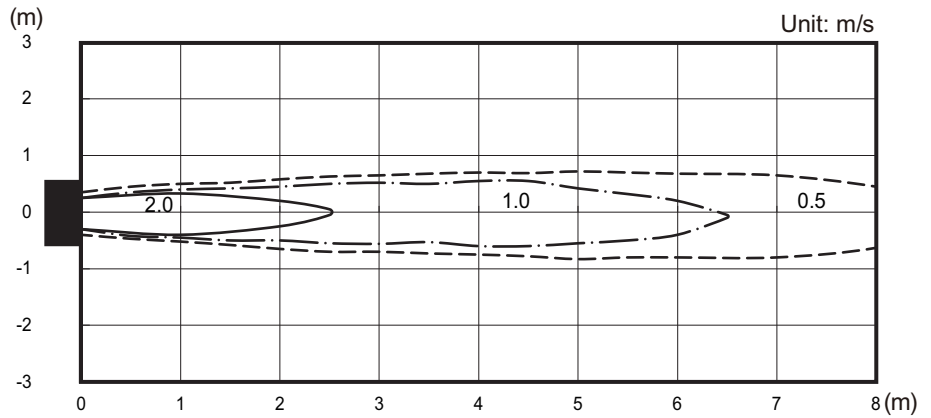
Measuring conditions	Fan speed	Operation mode
	HIGH	FAN



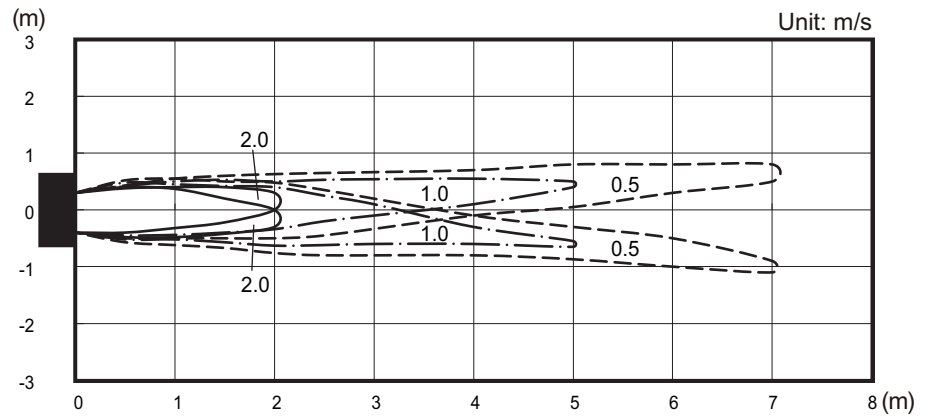
Model: ASYG12KPCE

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

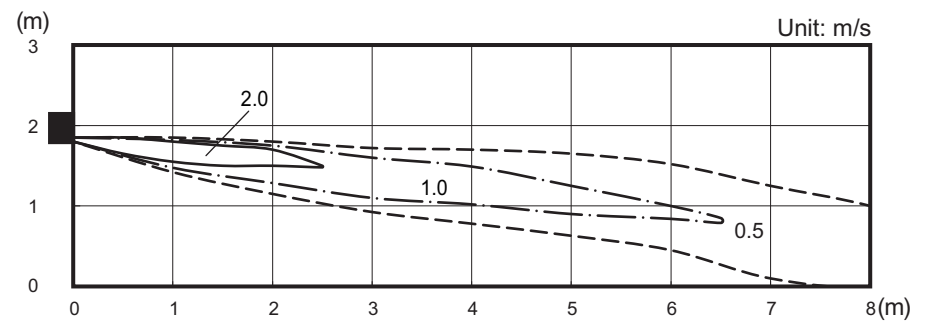
Top view
Vertical airflow direction louver: Up
Horizontal airflow direction louver: Center



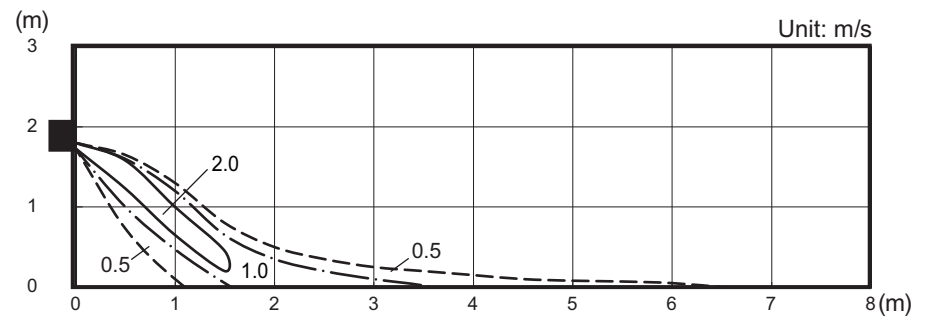
Top view
Vertical airflow direction louver: Up
Horizontal airflow direction louver: Left & Right



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: ASYG07KPCE and ASYG09KPCE

● 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: ASYG12KPCE

● 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

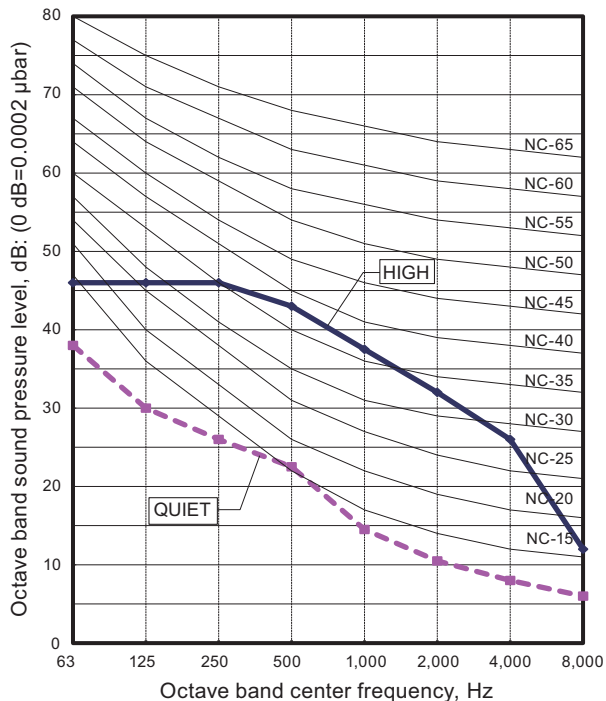
Fan speed	Airflow	
HIGH	m ³ /h	630
	l/s	175
	CFM	371
MED	m ³ /h	490
	l/s	136
	CFM	288
LOW	m ³ /h	380
	l/s	106
	CFM	224
QUIET	m ³ /h	260
	l/s	72
	CFM	153

6. Operation noise (sound pressure)

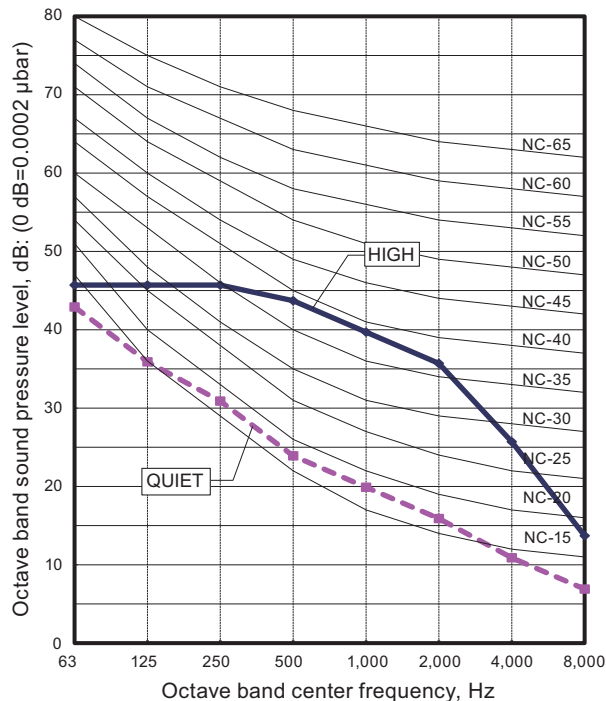
6-1. Noise level curve

Models: ASYG07KPCE and ASYG09KPCE

Cooling

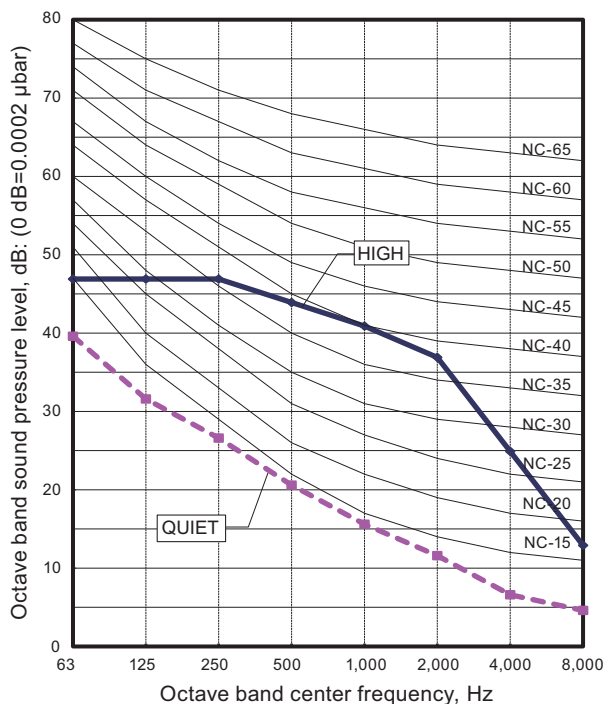


Heating

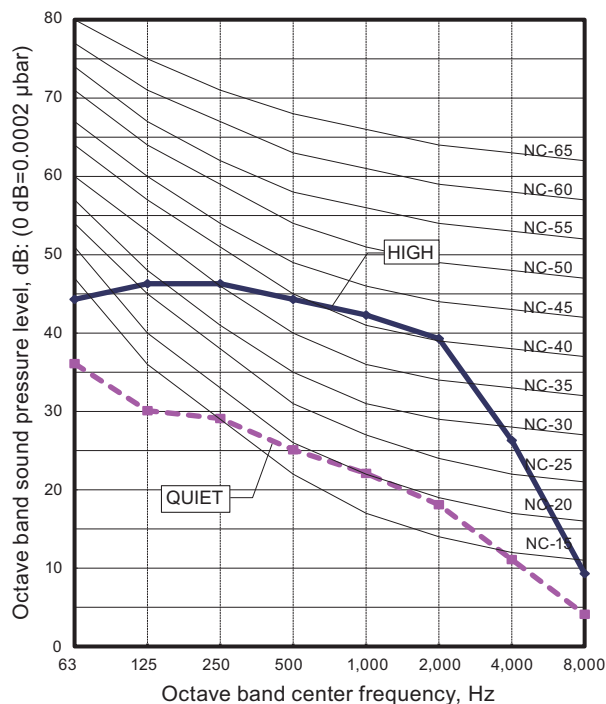


Model: ASYG12KPCE

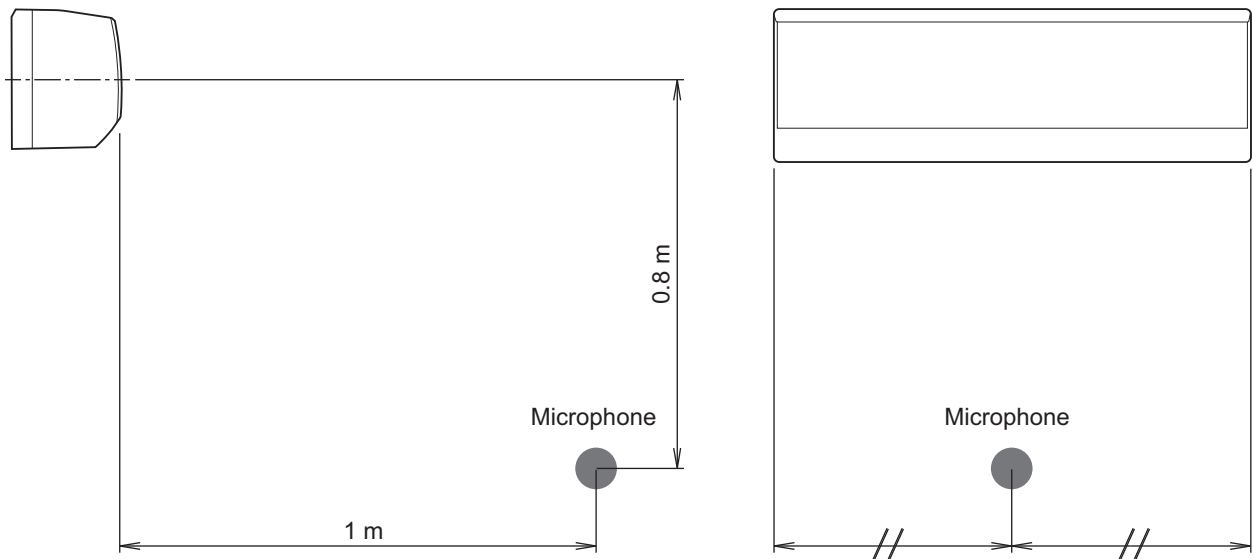
Cooling



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

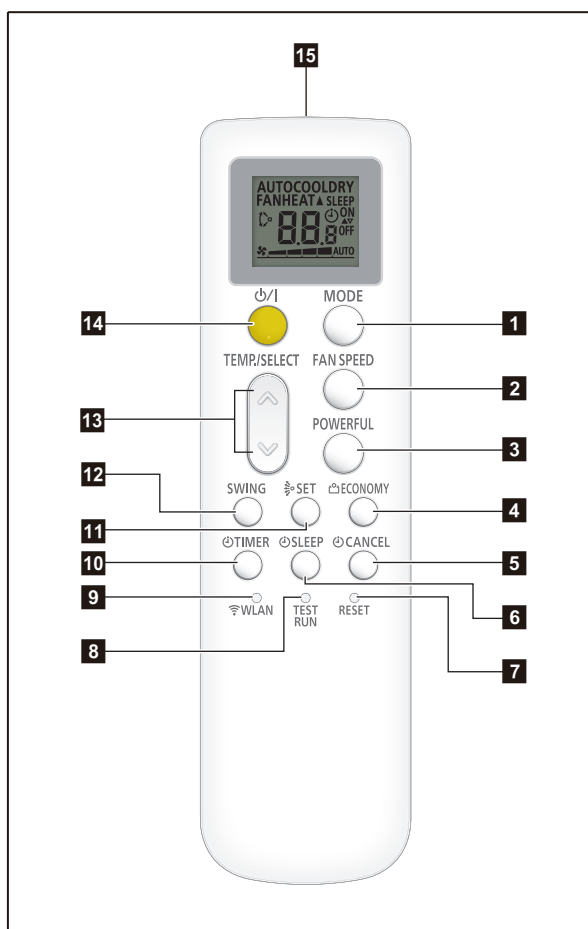
Type of protection	Protection form		Model		
			ASYG07KPCE	ASYG09KPCE	ASYG12KPCE
Circuit protection	Current fuse (PCB*)		250 V, 3.15 A		
Fan motor protection	Thermistor protection	Activate	More than 170 °C Fan motor stop		
		Reset	145 °C or less Fan motor restart		

*PCB: Printed Circuit Board

8. Remote controller

8-1. Wireless remote controller

Overview



1 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

3 POWERFUL button

4 ECONOMY button

5 CANCEL button

6 SLEEP TIMER button

7 RESET button

8 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.

NOTE: If the service check mode starts unintentionally and “-” appears on the remote controller display, press the START/STOP button to end this operation.

9 WLAN button

- Starts the wireless LAN setting.

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 ϕ /I (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

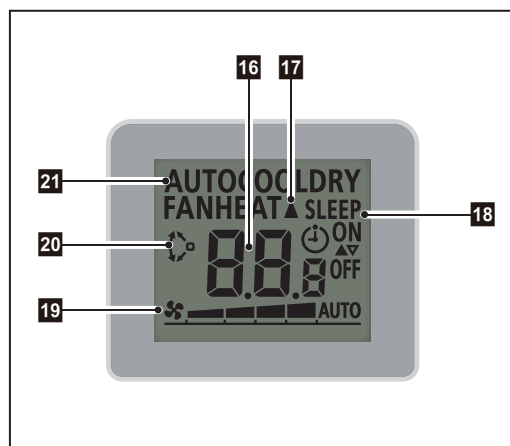
18 Timer mode indicator

19 Fan speed indicator

20 Swing indicator

21 Operating mode indicator

Display panel



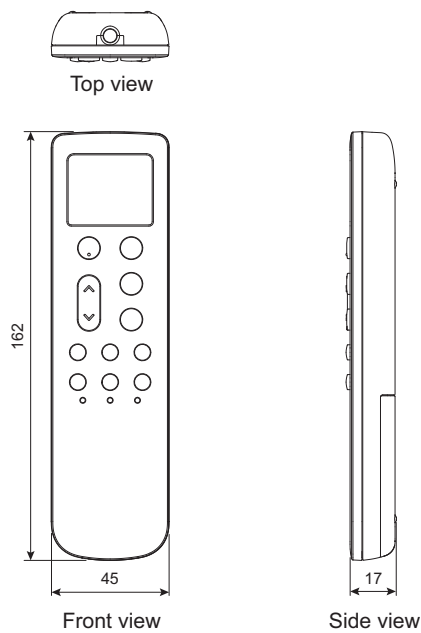
NOTES:

- Functions may differ by type of the indoor unit. For details, refer to the operation manual.
- This figure depicts all indicators that the remote controller can display on the screen for the functional explanation. In actual operation, the remote controller shows only the indicators that are appropriate for the current process.

■ Specifications

● Controller

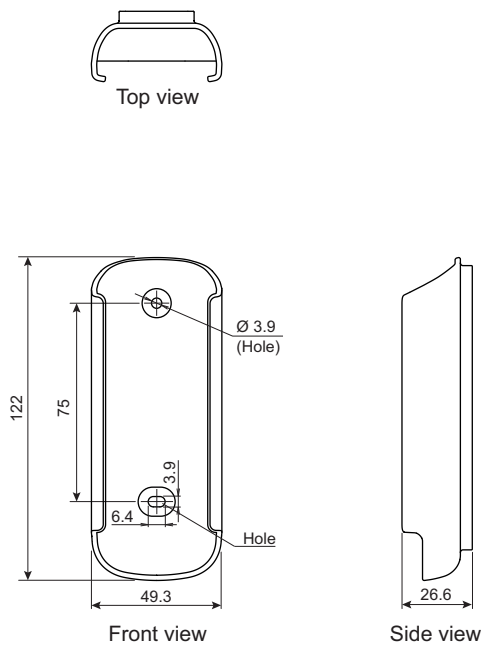
Unit: mm



Size (H × W × D)	mm	162 × 45 × 17
Weight	g	65.5 (without batteries)

● Holder

Unit: mm



Size (H × W × D)	mm	122 × 49.3 × 26.6
Weight	g	23.5

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. (Note that the air conditioner cannot receive a custom code if the air conditioner has not been set for the custom code.)

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

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

1. Press the TEMP./SELECT (^) (v) 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**.



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 ($\text{A} \rightarrow \text{B} \rightarrow \text{C} \rightarrow \text{D}$) until you find the code that operates the air conditioner.

STEP 2: Selecting the function number and setting value

1. Press the TEMP./SELECT (^) (v) 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 (^) (v) buttons to select the setting value. To switch between the left and right digits, press the MODE button.
4. Press the TIMER button, and ϕ /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.

Function number



Setting value

**⚠ 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.

■ 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

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 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 26°C and the setting value is "03" (-1.0°C), corrected temp. will be 27°C (26°C - [-1.0°C]).

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) 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	◆

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.

9-2. Custom code setting for wireless remote controller

■ 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 $\phi/1$ (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 \overline{A} .)
3. Press the TEMP./SELECT (\wedge) (\vee) buttons 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. (Initially set to \overline{A} .)
4. Press the MODE button again to return to the original display. The custom code will be changed.


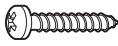
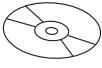


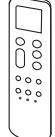
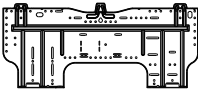

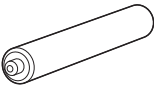



NOTES:

- 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 \overline{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 ($\overline{A} \rightarrow \overline{B} \rightarrow \overline{C} \rightarrow \overline{D}$) until you find the code which operates the air conditioner.

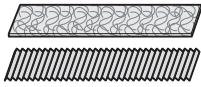

10. Accessories

10-1. Models: ASYG07KPCE, ASYG09KPCE, and ASYG12KPCE

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

11. Optional parts

11-1. Others

Exterior	Part name	Model name	Summary
	Air cleaning filter	UTR-FA16-5	Air cleaning filter can be mounted to the indoor unit.
	Wireless LAN adapter	UTY-TFSXF2	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.

Part 2. OUTDOOR UNIT

SINGLE TYPE:

AOYG07KPCA

AOYG09KPCA

AOYG12KPCA

1. Specifications

Type			Inverter heat pump		
Model name			AOYG07KPCA	AOYG09KPCA	AOYG12KPCA
Power supply			230 V ~ 50 Hz		
Power supply intake			Outdoor unit		
Available voltage range			198—264 V		
Starting current			3.2	3.8	5.6
Fan	Airflow rate	Cooling	1,650		1,700
		Heating	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
Sound power level	Cooling	dB (A)	57	59	62
			Heating	58	59
Heat exchanger type	Dimensions (H × W × D)		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)		
Surface treatment		PC Fin			
Compressor	Type × Q'ty		DC Rotary × 1		
	Motor output		850		
Refrigerant	Type (Global warming potential)		R32 (675)		
	Charge		g	550	590
Refrigerant oil	Type		POE		
	Amount		cm ³	240	
Enclosure	Material		Steel sheet		
	Color		Beige Approximate color of Munsell 10YR 7.5/1.0		
Dimensions (H × W × D)	Net		541 × 663 × 290		
	Gross		596 × 798 × 369		
Weight	Net		kg	23	25
	Gross		kg	25	27
Connection pipe	Size	Liquid	Ø6.35 (Ø1/4)		
		Gas	Ø9.52 (Ø3/8)		
	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		
	Tip diameter		mm Ø13.0 (I. D.), Ø16.0 to Ø16.8 (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.

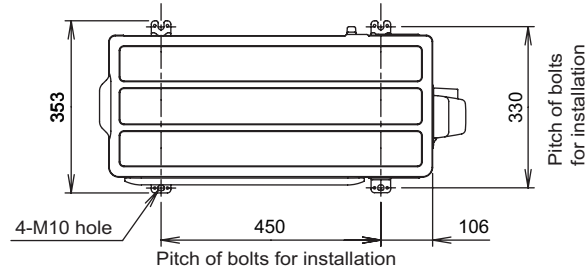
2. Dimensions

2-1. Models: AOYG07KPCA, AOYG09KPCA, and AOYG12KPCA

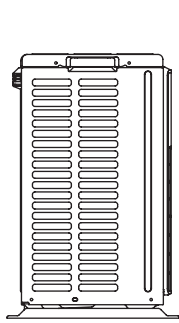
Unit: mm

OUTDOOR UNIT
AOYG07-12KPCA

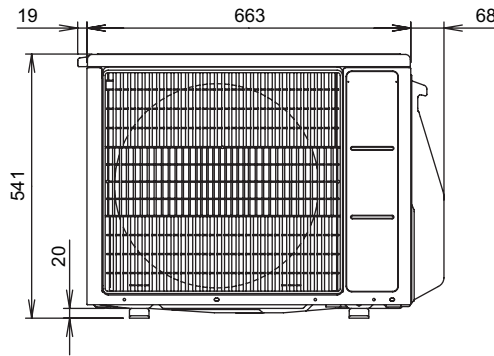
OUTDOOR UNIT
AOYG07-12KPCA



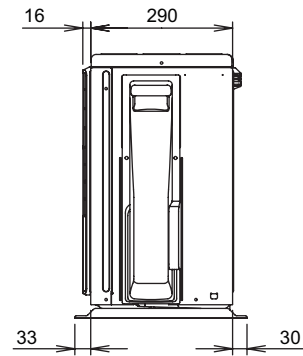
Top view



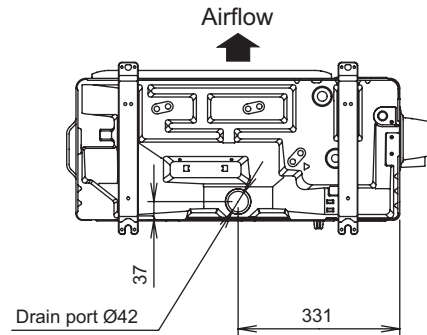
Side view



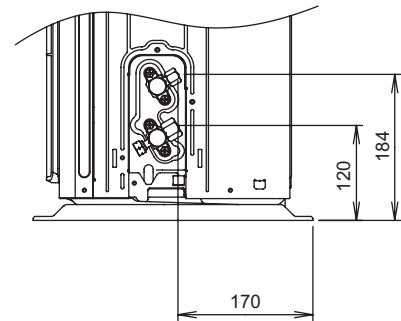
Front view



Side view



Bottom view



Side view (Valve part)

3. Installation space

3-1. Models: AOYG07KPCA, AOYG09KPCA, and AOYG12KPCA

■ Space requirement

Provide sufficient installation space for product safety.

⚠ CAUTION

Keep the space shown in the installation examples.

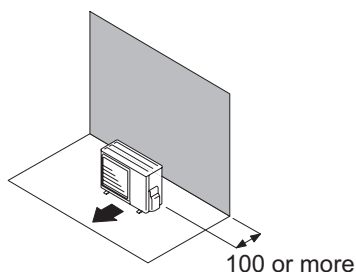
If the installation is not performed accordingly, it could cause a short circuit and result in a lack of operating performance.

● Single outdoor unit installation

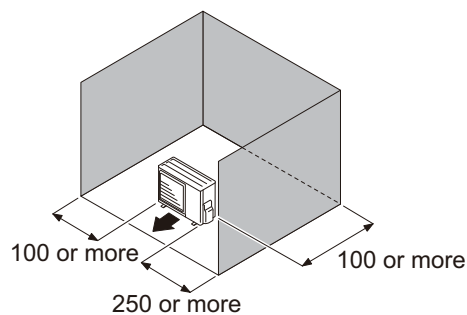
- When the upper space is open:

Unit: mm

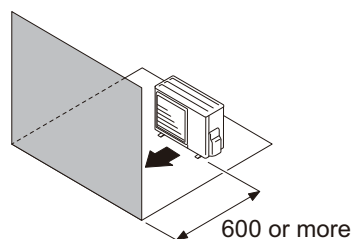
Obstacles at rear only



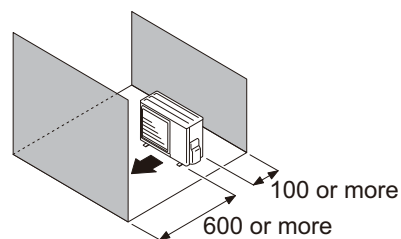
Obstacles at rear and sides



Obstacles at front



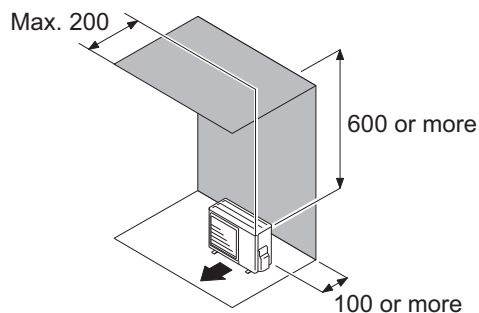
Obstacles at front and rear



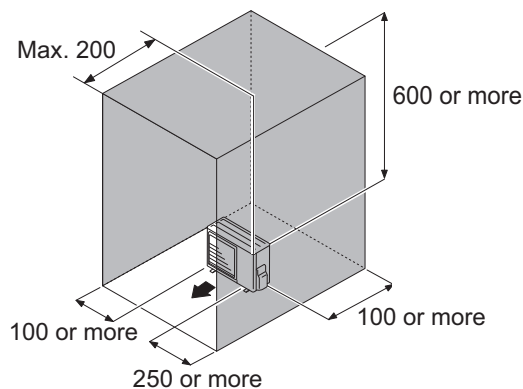
- When an obstruction in the upper space:

Unit: mm

Obstacles at rear and above



Obstacles at rear, sides, and above



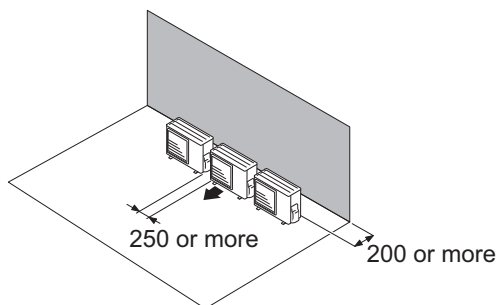
● Multiple outdoor unit installation

- Provide at least 250 mm of space between the outdoor units if multiple units are installed.
- When routing the piping from the side of an outdoor unit, provide space for piping.
- No more than 3 units must be installed side by side.
When 4 units or more are arranged in a line, provide the space as shown in the following example **“When an obstruction in the upper space:”**.

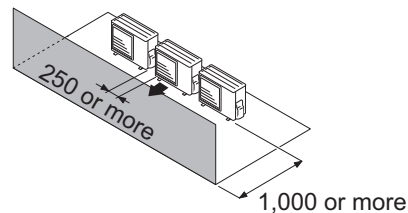
- **When the upper space is open:**

Unit: mm

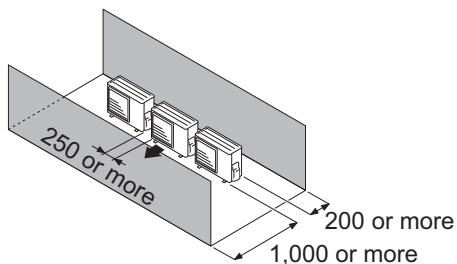
Obstacles at rear only



Obstacles at front only



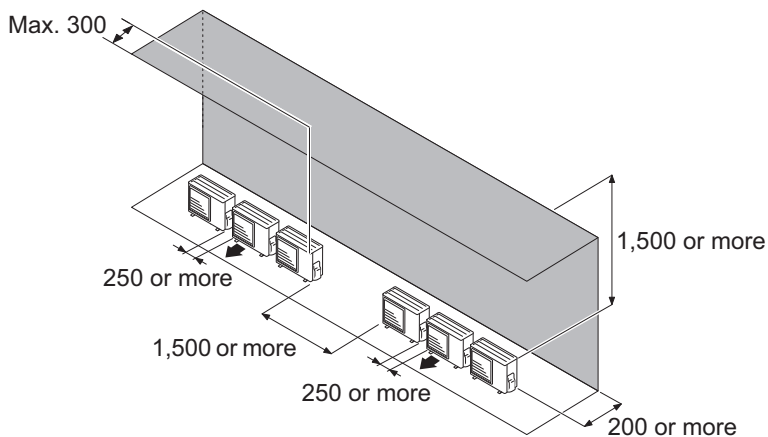
Obstacles at front and rear



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

Unit: mm

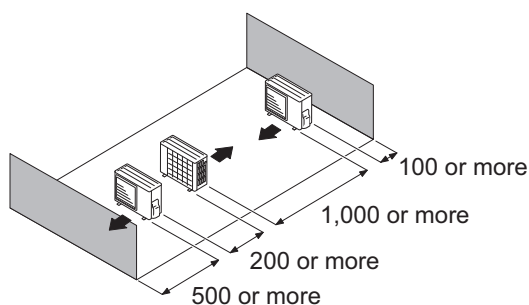
Obstacles at rear and above.



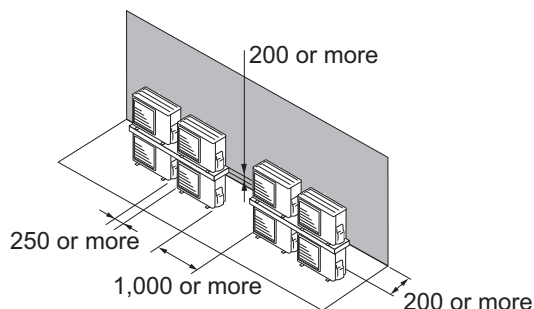
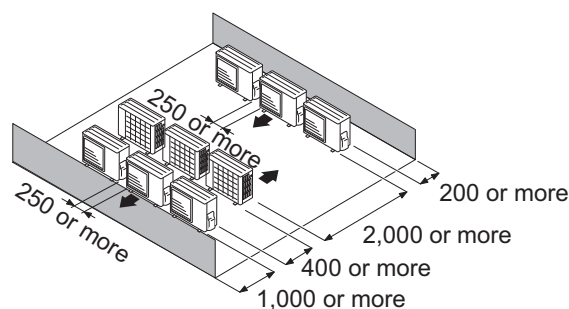
● Outdoor units installation in multi-row

Unit: mm

Single parallel unit arrangement



Multiple parallel unit arrangement

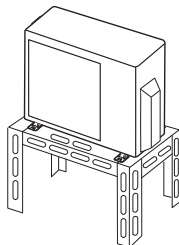


NOTES:

- 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.

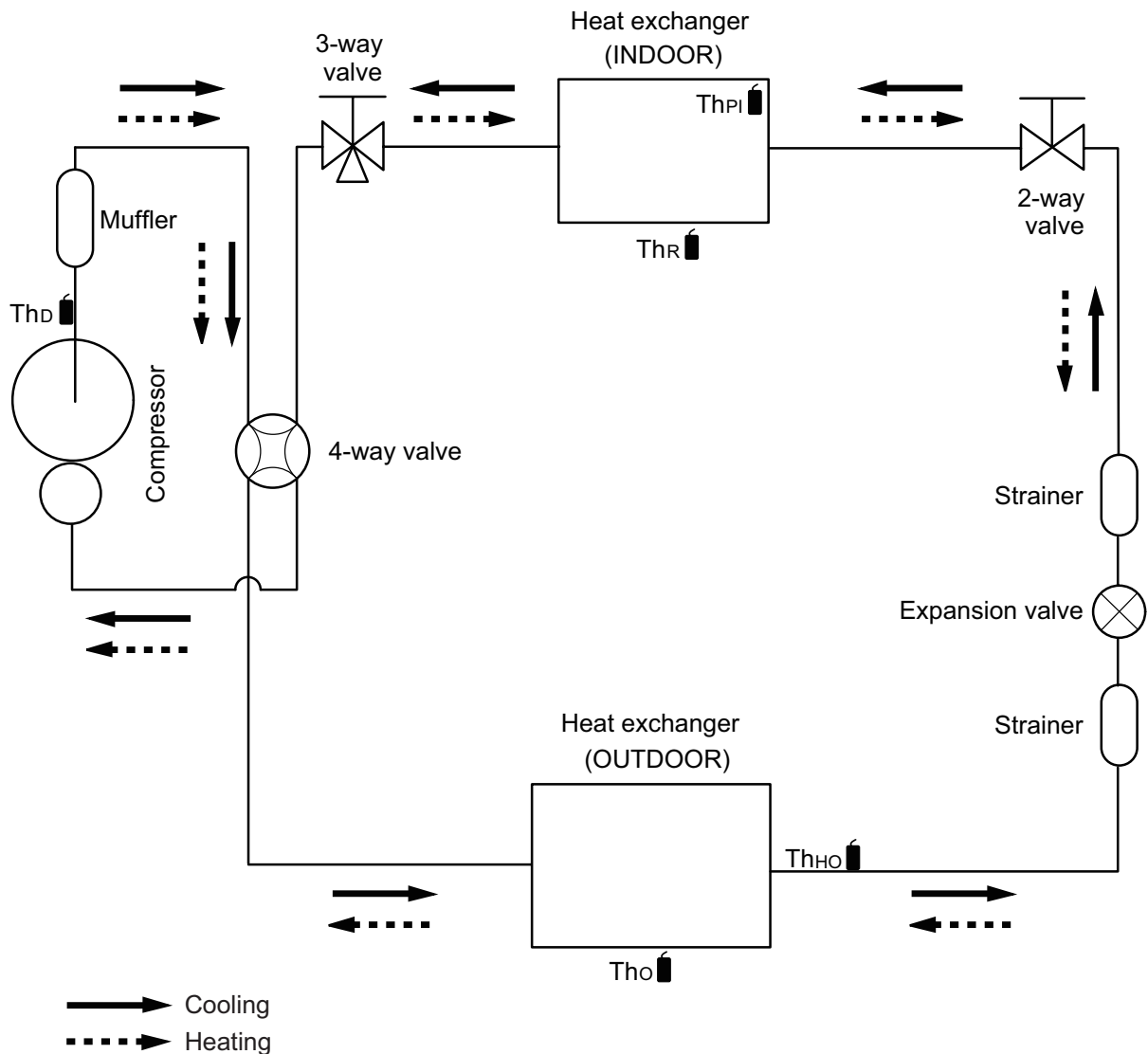
⚠ CAUTION






- 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: AOYG07KPCA, AOYG09KPCA, and AOYG12KPCA



- ThD  : Thermistor (Discharge temperature)
- ThO  : Thermistor (Outdoor temperature)
- ThHO  : Thermistor (Heat exchanger out temperature)
- ThR  : Thermistor (Room temperature)
- ThPI  : Thermistor (Pipe temperature)

OUTDOOR UNIT
AOYG07-12KPCA

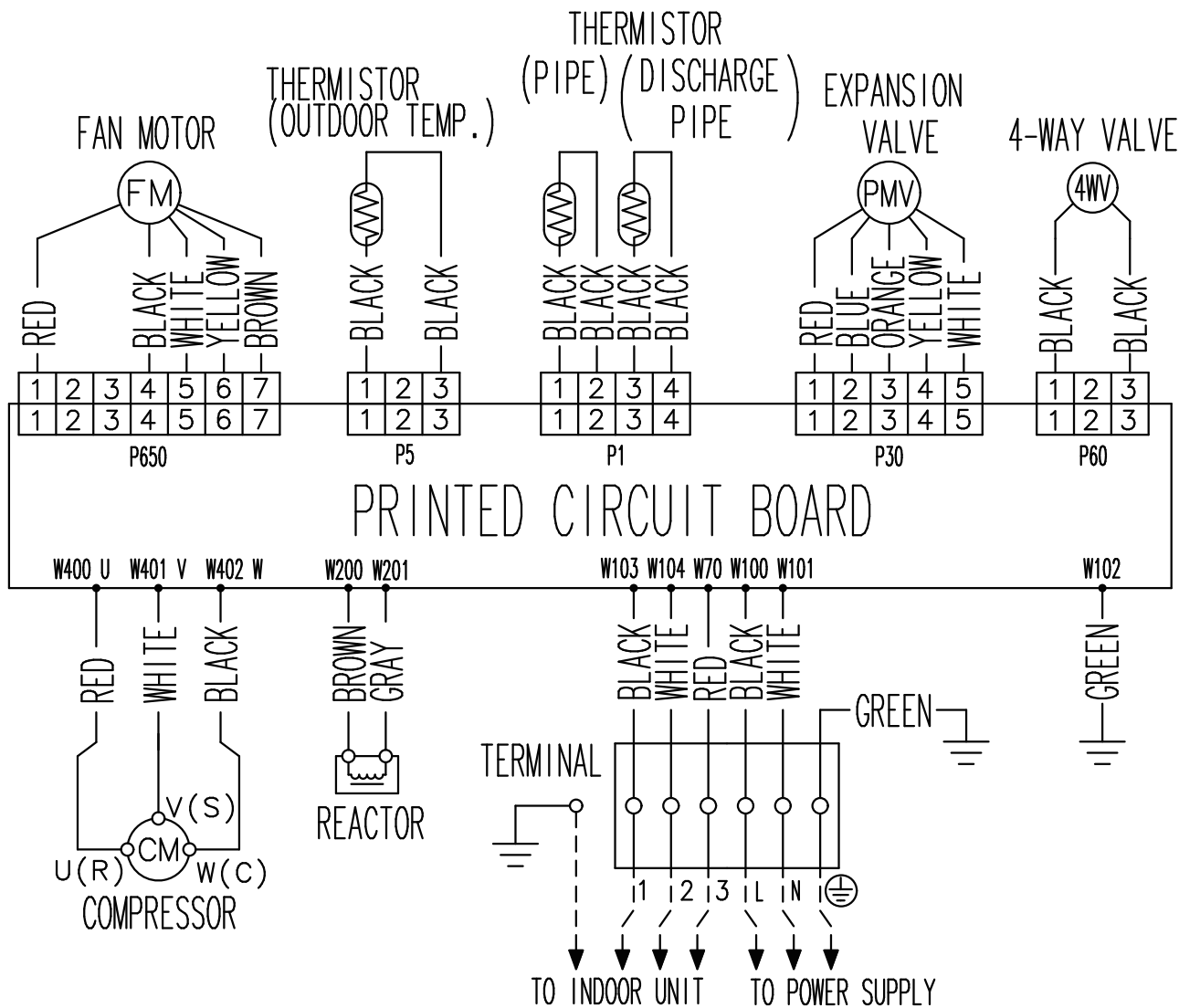
OUTDOOR UNIT
AOYG07-12KPCA

5. Wiring diagrams

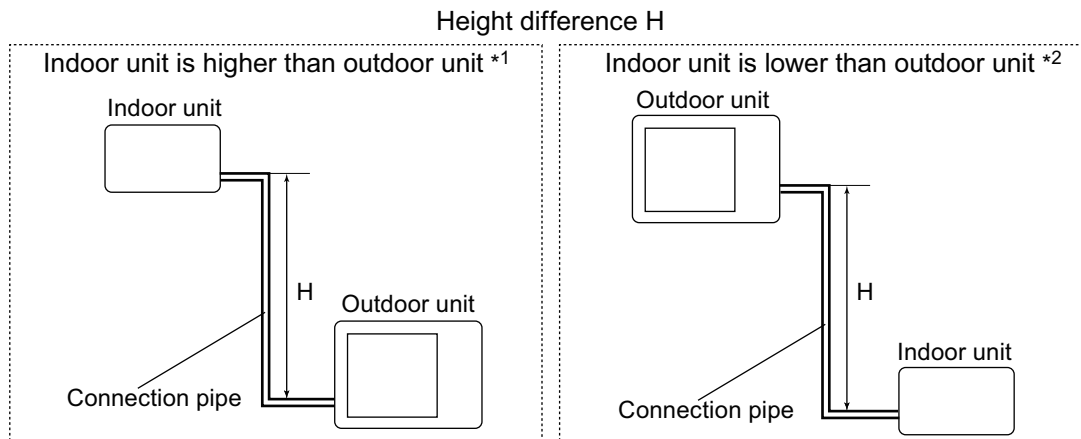
5-1. Models: AOYG07KPCA, AOYG09KPCA, and AOYG12KPCA

OUTDOOR UNIT
AOYG07-12KPCA

OUTDOOR UNIT
AOYG07-12KPCA



6. Capacity compensation rate for pipe length and height difference



6-1. Models: AOYG07KPCA and AOYG09KPCA

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
	Indoor unit is lower than outdoor unit *2	0	1.000	0.991	0.976	0.901	0.940
		-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
	Indoor unit is lower than outdoor unit *2	0	1.000	0.961	0.917	0.832	0.822
		-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: AOYG12KPCA

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: AOYG07KPCA and AOYG09KPCA

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: AOYG12KPCA

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. Models: AOYG07KPCA and AOYG09KPCA

● 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: AOYG12KPCA

● Cooling

m ³ /h	1,700
l/s	472
CFM	1,001

● Heating

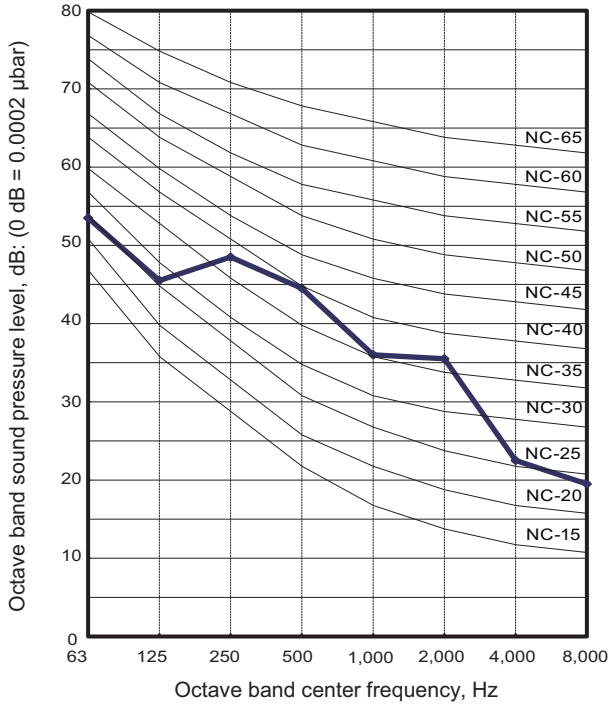
m ³ /h	1,470
l/s	408
CFM	865

9. Operation noise (sound pressure)

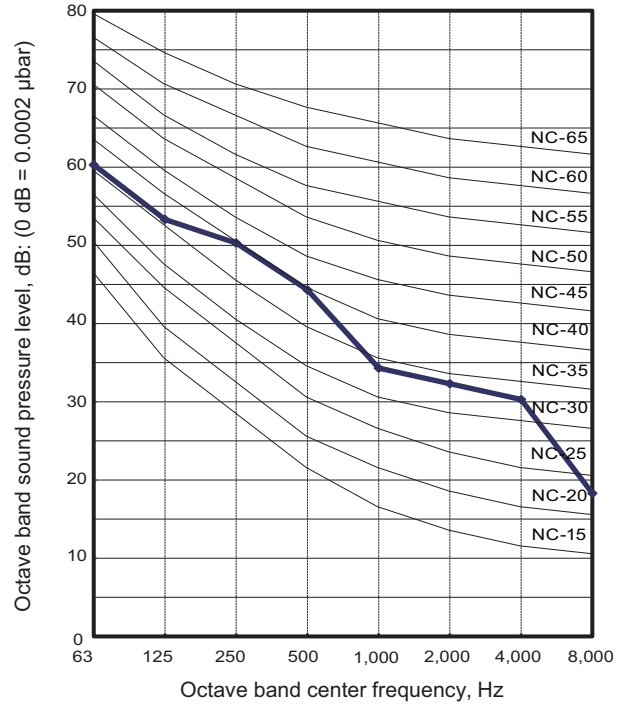
9-1. Noise level curve

Model: AOYG07KPCA

● Cooling

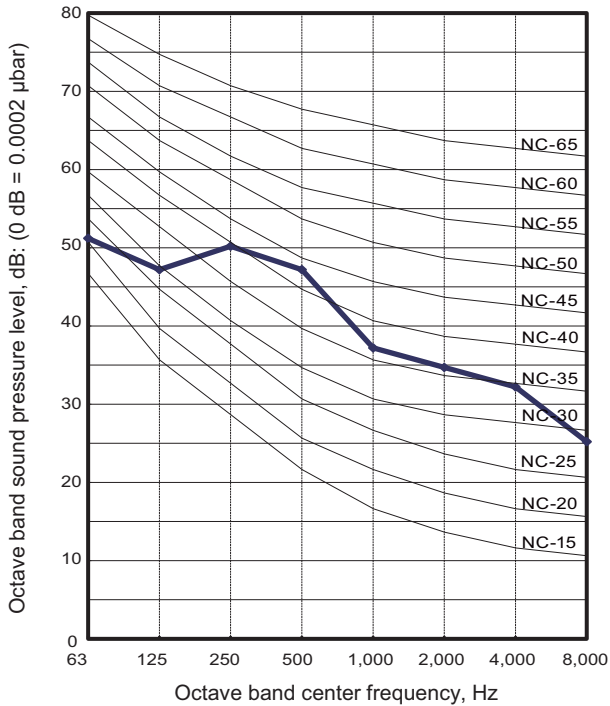


● Heating

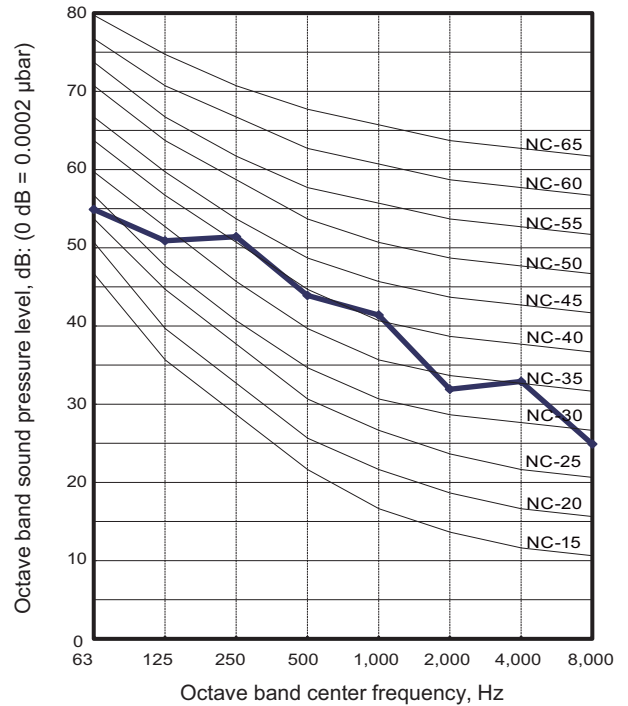


Model: AOYG09KPCA

● Cooling



● Heating



OUTDOOR UNIT
AOYG07-12KPCA

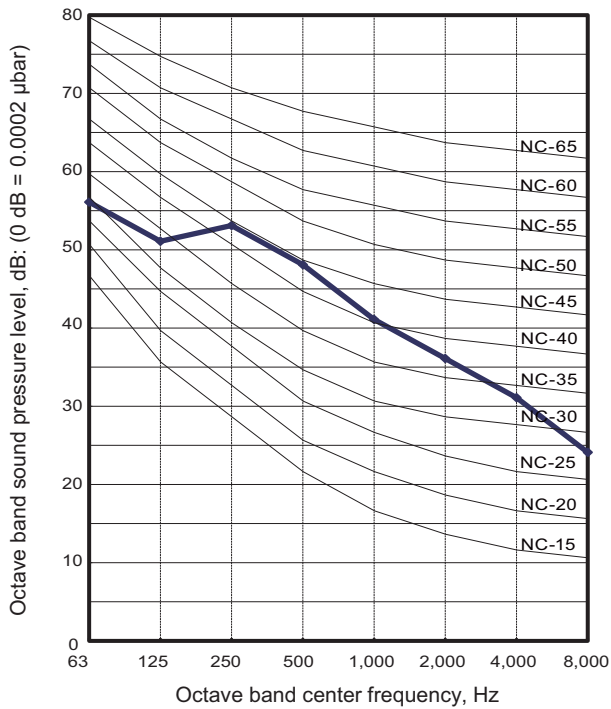
OUTDOOR UNIT
AOYG07-12KPCA

Model: AOYG12KPCA

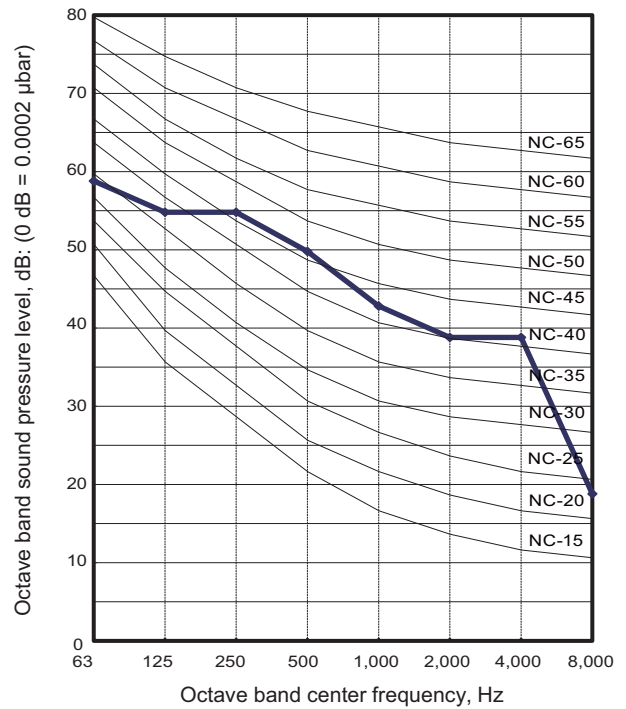
OUTDOOR UNIT
AOYG07-12KPCA

OUTDOOR UNIT
AOYG07-12KPCA

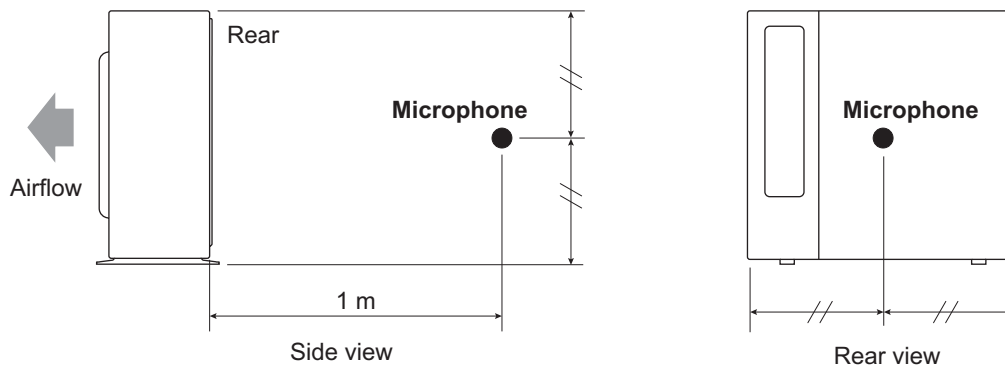
● Cooling



● 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			AOYG07KPCA	AOYG09KPCA	AOYG12KPCA
Power supply	Voltage	V	230 ~		
	Frequency	Hz	50		
Max operating current *1		A	9.0		
Starting current		A	3.2	3.8	5.6
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.

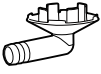
*3: Limit voltage drop to less than 2%. If voltage drop is 2% or more, increase cable conductor size.

11. Safety devices

Type of protection	Protection form		Model		
			AOYG07KPCA	AOYG09KPCA	AOYG12KPCA
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: AOYG07KPCA, AOYG09KPCA, and AOYG12KPCA

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