

AIR CONDITIONER

**Wall mounted type**

## DESIGN & TECHNICAL MANUAL

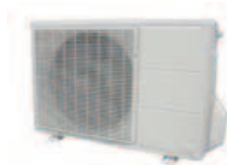
---

INDOOR



ASYG09KMCB  
ASYG12KMCB  
ASYG14KMCB

OUTDOOR



AOYG09KMCCBN  
AOYG12KMCCBN  
AOYG14KMCCBN

**Notices:**

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

**Trademarks**

FGLair™ is trademark of Fujitsu General Limited in the United States, other countries or both.

Google Play™ is trademark of Google Inc.

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

# CONTENTS

---

<b>Part 1. INDOOR UNIT</b> .....	<b>1</b>
<b>1. Specifications</b> .....	<b>2</b>
<b>2. Dimensions</b> .....	<b>3</b>
2-1. Models: ASYG09KMCB, ASYG12KMCB, and ASYG14KMCB.....	3
<b>3. Wiring diagrams</b> .....	<b>5</b>
3-1. Models: ASYG09KMCB, ASYG12KMCB, and ASYG14KMCB.....	5
<b>4. Capacity table</b> .....	<b>6</b>
4-1. Cooling capacity.....	6
4-2. Heating capacity.....	7
<b>5. Fan performance</b> .....	<b>8</b>
5-1. Air velocity distributions.....	8
5-2. Airflow.....	10
<b>6. Operation noise (sound pressure)</b> .....	<b>12</b>
6-1. Noise level curve.....	12
6-2. Sound level check point.....	14
<b>7. Safety devices</b> .....	<b>15</b>
<b>8. External input and output</b> .....	<b>16</b>
8-1. External input.....	16
8-2. External output.....	18
<b>9. Group connection</b> .....	<b>20</b>
9-1. Precautions on creating a group connection.....	20
9-2. Remote controller address setting procedure for wireless remote controllers.....	21
<b>10. Remote controller</b> .....	<b>22</b>
10-1. Wireless remote controller.....	22
<b>11. Function settings</b> .....	<b>24</b>
11-1. Function settings by using remote controller.....	24
11-2. Custom code setting for wireless remote controller.....	29
<b>12. Accessories</b> .....	<b>30</b>
12-1. Models: ASYG09KMCB, ASYG12KMCB, and ASYG14KMCB.....	30
<b>13. Optional parts</b> .....	<b>31</b>
13-1. Controllers.....	31
13-2. Others.....	32

## CONTENTS (continued)

---

<b>Part 2. OUTDOOR UNIT</b> .....	<b>33</b>
<b>1. Specifications</b> .....	<b>34</b>
<b>2. Dimensions</b> .....	<b>35</b>
2-1. Models: AOYG09KMCBN, AOYG12KMCBN, and AOYG14KMCBN.....	35
<b>3. Installation space</b> .....	<b>36</b>
3-1. Models: AOYG09KMCBN, AOYG12KMCBN, and AOYG14KMCBN.....	36
<b>4. Refrigerant circuit</b> .....	<b>39</b>
4-1. Models: AOYG09KMCBN, AOYG12KMCBN, and AOYG14KMCBN.....	39
<b>5. Wiring diagrams</b> .....	<b>40</b>
5-1. Models: AOYG09KMCBN, AOYG12KMCBN, and AOYG14KMCBN.....	40
<b>6. Capacity compensation rate for pipe length and height difference</b> .....	<b>41</b>
6-1. Model: AOYG09KMCBN.....	41
6-2. Model: AOYG12KMCBN.....	42
6-3. Model: AOYG14KMCBN.....	42
<b>7. Additional charge calculation</b> .....	<b>43</b>
7-1. Models: AOYG09KMCBN, AOYG12KMCBN, and AOYG14KMCBN.....	43
<b>8. Airflow</b> .....	<b>44</b>
8-1. Model: AOYG09KMCBN.....	44
8-2. Model: AOYG12KMCBN.....	44
8-3. Model: AOYG14KMCBN.....	44
<b>9. Operation noise (sound pressure)</b> .....	<b>45</b>
9-1. Noise level curve.....	45
9-2. Sound level check point.....	46
<b>10. Electrical characteristics</b> .....	<b>47</b>
<b>11. Safety devices</b> .....	<b>48</b>
<b>12. Accessories</b> .....	<b>49</b>
12-1. Models: AOYG09KMCBN, AOYG12KMCBN, and AOYG14KMCBN.....	49

# **Part 1. INDOOR UNIT**

---

**WALL MOUNTED TYPE:**

**ASYG09KMCB**

**ASYG12KMCB**

**ASYG14KMCB**

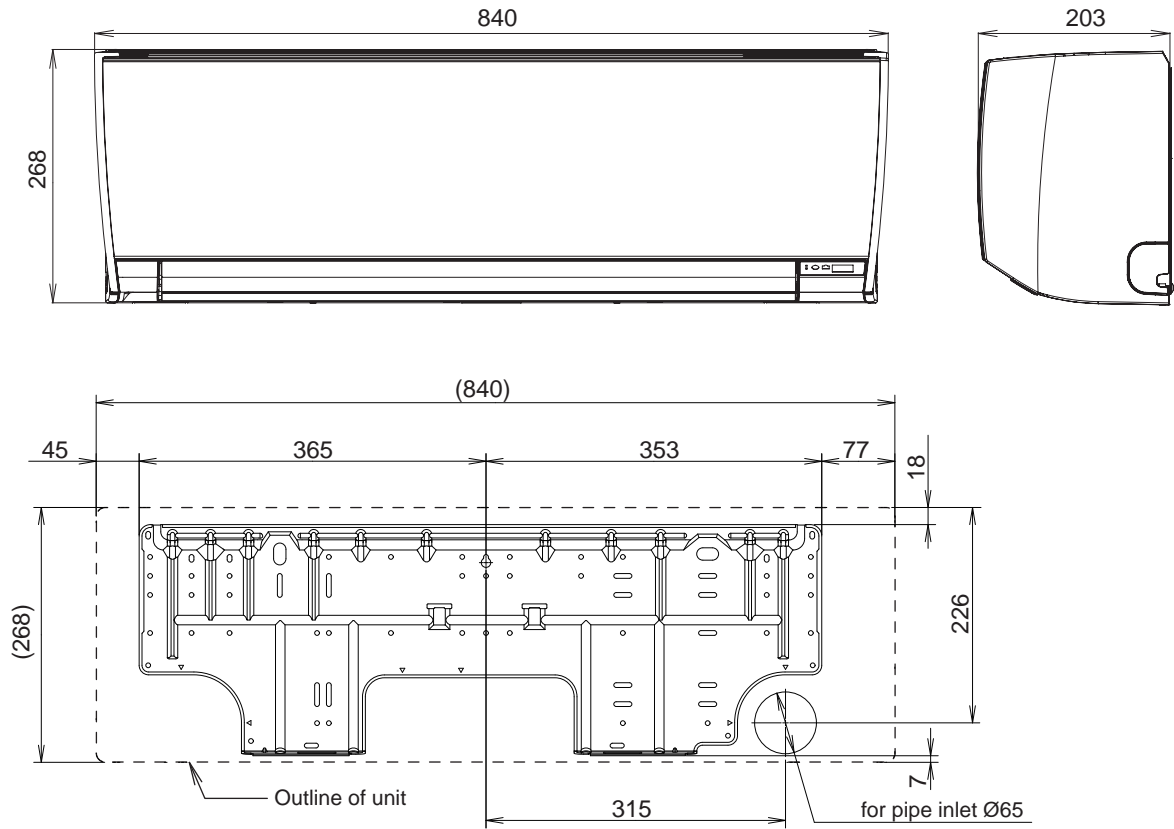
# 1. Specifications

Type				Wall mounted			
				Inverter heat pump			
Model name				ASYG09KMCB	ASYG12KMCB	ASYG14KMCB	
Power supply				230 V ~ 50 Hz			
Power supply intake				Outdoor unit			
Available voltage range				198—264 V			
Capacity	Cooling	Rated	kW	2.50	3.40	4.20	
			Btu/h	8,500	11,600	14,300	
		Min.—Max.	kW	1.00—3.20	1.00—4.15	1.10—4.80	
	Heating	Rated	Btu/h	3,400—10,900	3,400—14,100	3,700—16,300	
			kW	3.20	4.00	5.40	
			Btu/h	10,900	13,600	18,400	
Min.—Max.		kW	0.90—5.20	0.90—5.70	1.10—6.00		
		Btu/h	3,100—17,700	3,100—19,400	3,700—20,400		
Input power	Cooling	Rated	kW	0.630	0.925	1.205	
				Min.—Max.	0.21—0.85	0.21—1.33	0.21—1.61
	Heating	Rated	kW	0.730	0.990	1.560	
			Min.—Max.	0.18—1.80	0.18—1.80	0.17—1.85	
	Fan		W	30	32	32	
Current	Cooling	Rated	A	3.2	4.4	5.6	
	Heating		A	3.7	4.7	7.1	
EER	Cooling		kW/kW	3.97	3.68	3.49	
COP	Heating		kW/kW	4.38	4.04	3.46	
Sensible capacity	Cooling		kW	1.60	2.20	2.80	
Power factor	Cooling		%	87	91	93	
	Heating		%	89	92	95	
Moisture removal			L/h (pints/h)	1.3 (2.3)	1.8 (3.2)	2.1 (3.7)	
Maximum operating current *1	Cooling		A	6.0	7.0	9.0	
	Heating		A	9.5	11.0	11.5	
Fan	Airflow rate	Cooling	HIGH	208 (750)	208 (750)	214 (770)	
			MED	178 (640)	178 (640)	189 (680)	
			LOW	133 (480)	133 (480)	147 (530)	
			QUIET	86 (310)	86 (310)	100 (360)	
		Heating	HIGH	208 (750)	208 (750)	214 (770)	
			MED	178 (640)	178 (640)	189 (680)	
			LOW	144 (520)	144 (520)	156 (560)	
			QUIET	92 (330)	92 (330)	106 (380)	
	Type × Q'ty			W	Cross flow fan × 1		
	Motor output			W	35		
Sound pressure level *2	Cooling	HIGH	dB (A)	43	43	44	
				MED	40	40	40
				LOW	32	32	33
				QUIET	21	21	25
	Heating	HIGH	dB (A)	43	43	44	
				MED	38	38	40
				LOW	33	33	35
				QUIET	22	22	27
Heat exchanger type	Dimensions (H × W × D)		mm	Main: 320 × 630 × 20 Sub: 84 × 630 × 13.3			
	Fin pitch			Main: 1.1, Sub: 1.4			
	Rows × Stages			Main: 2 × 20, Sub: 1 × 4			
	Pipe type			Copper			
	Fin type			Aluminum			
Enclosure	Material		Polystyrene				
	Color		White Approximate color of Munsell N 9.25/				
Dimensions (H × W × D)	Net	mm	268 × 840 × 203				
	Gross		270 × 884 × 336				
Weight	Net	kg	8.5				
	Gross		10.5				
Connection pipe	Size	Liquid	Ø 6.35 (Ø 1/4)				
		Gas	Ø 9.52 (Ø 3/8)				
	Method	Flare					
Drain hose	Material		PP + HDPE				
	Size		Ø 13.8 (I.D.), Ø 15.8 to Ø 16.7 (O.D.)				
Operation range	Cooling	°C	18 to 32				
		%RH	80 or less				
	Heating	°C	16 to 30				
Remote control	Wireless remote controller (Option: Wired remote controller, Mobile app*3 [FG Lair™])						
International Protection rating	IPX0						
<b>NOTES:</b>							
<ul style="list-style-type: none"> <li>Specifications are based on the following conditions: <ul style="list-style-type: none"> <li>Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB.</li> <li>Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB.</li> <li>Pipe length: 5 m, Height difference: 0 m. (Between outdoor unit and indoor unit.)</li> </ul> </li> <li>Protective function might work when using it outside the operation range.</li> <li>*1: Maximum operating current is the total current of the indoor unit and the outdoor unit.</li> <li>*2: Sound pressure level: <ul style="list-style-type: none"> <li>Measured values in manufacturer's anechoic chamber.</li> <li>Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.</li> </ul> </li> <li>*3: Available on Google Play™ store or on App Store®. Optional WLAN adapter is also required. For details, refer to the setting manual.</li> </ul>							

## 2. Dimensions

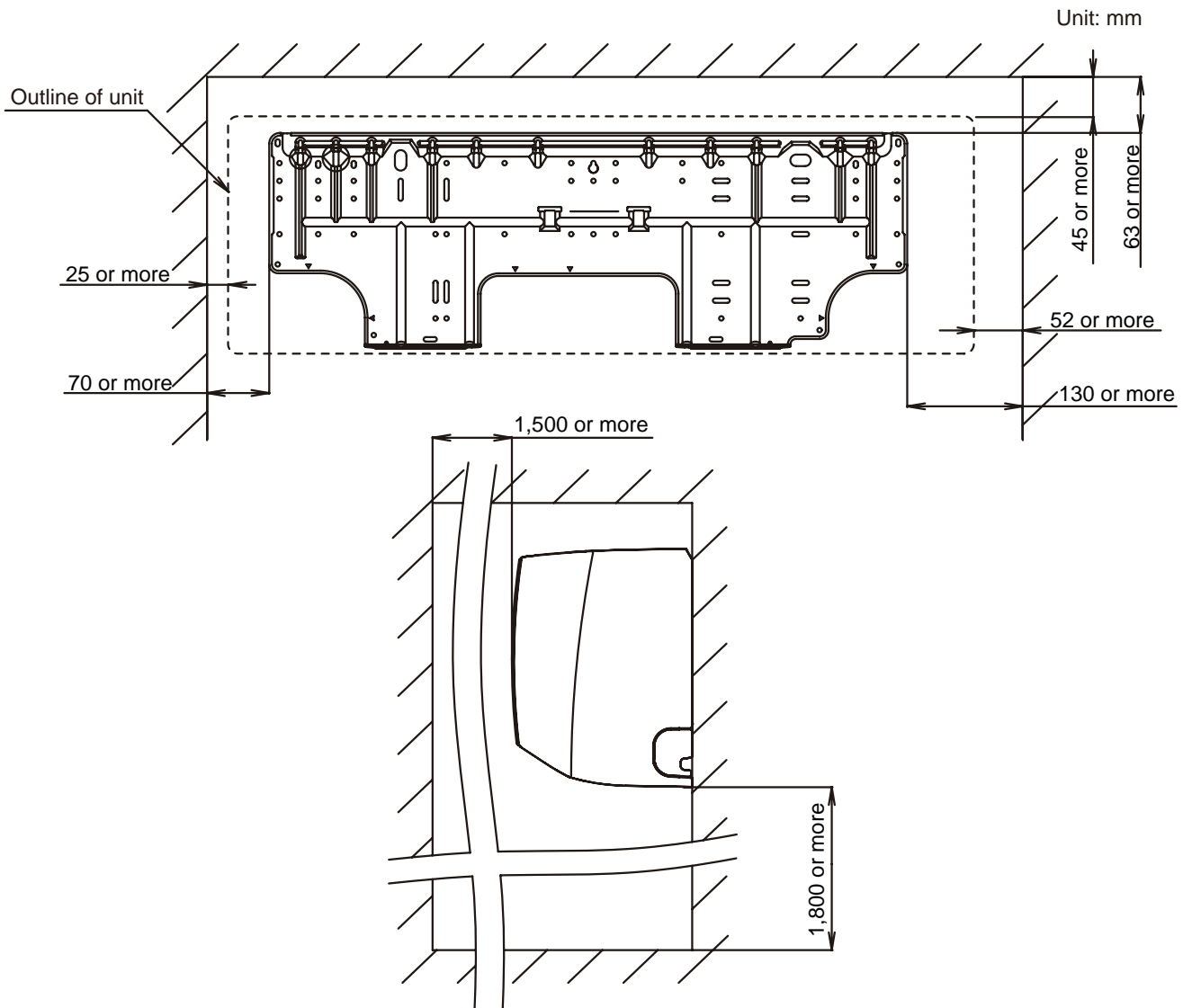
### 2-1. Models: ASYG09KMCB, ASYG12KMCB, and ASYG14KMCB

Unit: mm



## Installation space requirement

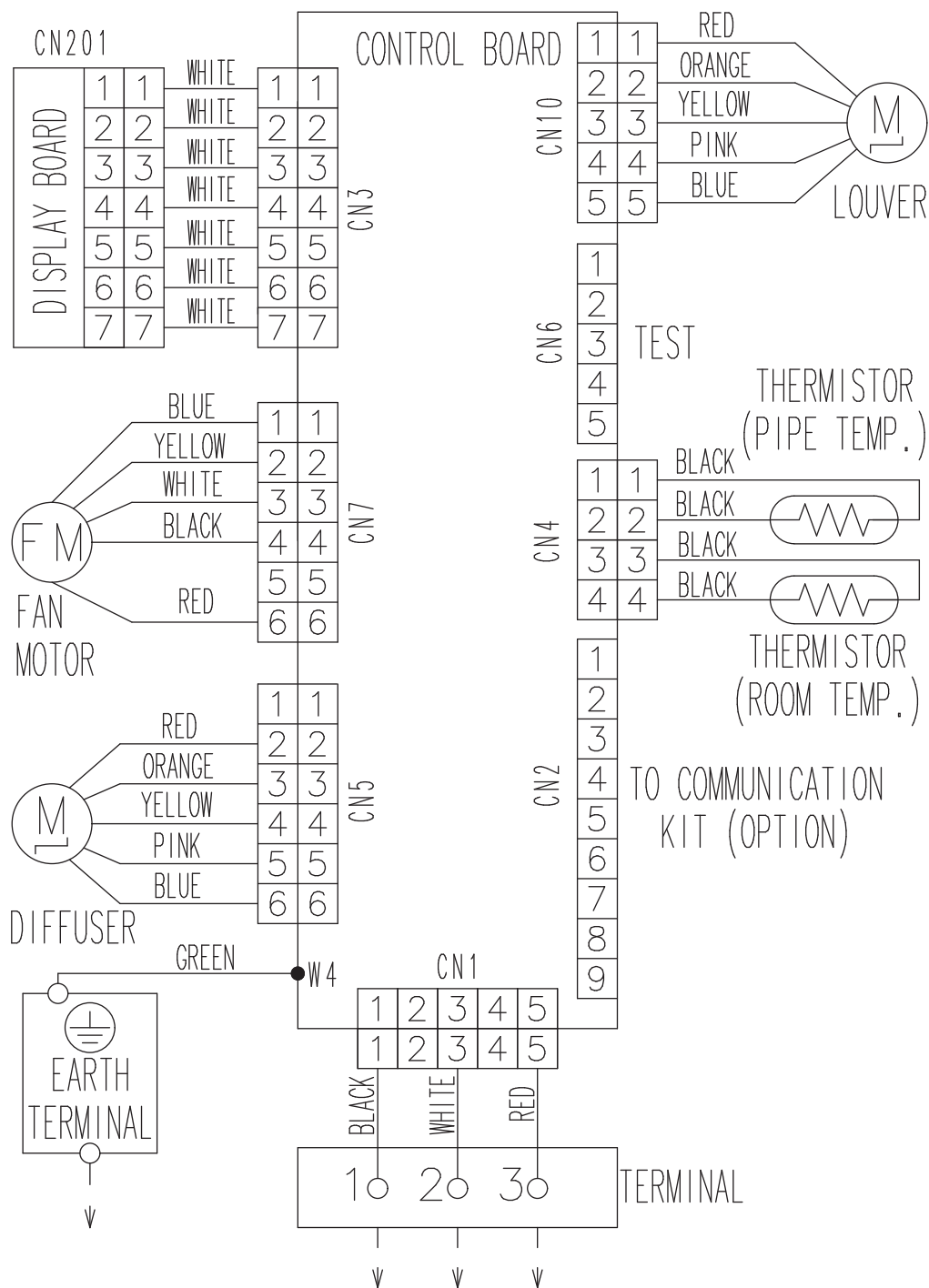
Provide sufficient installation space for product safety.





### 3. Wiring diagrams

#### 3-1. Models: ASYG09KMCB, ASYG12KMCB, and ASYG14KMCB



## 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: ASYG09KMCB

AFR		m <sup>3</sup> /h									750										
Outdoor temperature	Indoor temperature																				
	18			21			23			25			27			29			32		
	°CDB			°CWB			°CDB			°CWB			°CDB			°CWB			°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	2.10	1.30	0.26	2.34	1.31	0.27	2.41	1.42	0.27	2.57	1.43	0.27	2.65	1.54	0.27	2.81	1.53	0.28	2.97	1.63	0.28
15	2.21	1.35	0.28	2.47	1.36	0.29	2.55	1.48	0.29	2.72	1.48	0.29	2.80	1.60	0.29	2.97	1.59	0.30	3.14	1.70	0.30
20	2.33	1.43	0.43	2.59	1.44	0.43	2.68	1.57	0.44	2.86	1.57	0.44	2.95	1.70	0.44	3.12	1.69	0.45	3.30	1.80	0.45
25	2.21	1.40	0.49	2.46	1.40	0.49	2.54	1.53	0.50	2.71	1.53	0.50	2.79	1.65	0.50	2.96	1.65	0.51	3.13	1.76	0.51
30	2.09	1.35	0.55	2.33	1.36	0.56	2.41	1.48	0.56	2.57	1.48	0.56	2.65	1.60	0.57	2.81	1.60	0.57	2.97	1.70	0.58
35	1.98	1.35	0.61	2.20	1.36	0.62	2.28	1.48	0.62	2.43	1.48	0.63	2.50	1.60	0.63	2.65	1.59	0.64	2.80	1.70	0.64
40	1.72	1.30	0.67	1.92	1.30	0.68	1.98	1.42	0.68	2.11	1.42	0.69	2.18	1.54	0.69	2.31	1.53	0.70	2.44	1.63	0.71
43	1.58	1.28	0.71	1.76	1.29	0.72	1.82	1.40	0.72	1.94	1.41	0.73	2.00	1.52	0.73	2.12	1.51	0.74	2.24	1.61	0.75

#### ■ Model: ASYG12KMCB

AFR		m <sup>3</sup> /h									750										
Outdoor temperature	Indoor temperature																				
	18			21			23			25			27			29			32		
	°CDB			°CWB			°CDB			°CWB			°CDB			°CWB			°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	2.49	2.09	0.25	2.78	2.10	0.26	2.87	2.28	0.26	3.06	2.29	0.26	3.16	2.47	0.26	3.35	2.46	0.27	3.54	2.63	0.27
15	2.84	1.87	0.33	3.16	1.88	0.33	3.27	2.04	0.34	3.49	2.05	0.34	3.59	2.21	0.34	3.81	2.21	0.34	4.03	2.35	0.35
20	3.15	2.02	0.61	3.51	2.03	0.62	3.63	2.20	0.63	3.87	2.21	0.63	3.99	2.39	0.64	4.23	2.38	0.64	4.47	2.53	0.65
25	3.01	1.95	0.71	3.35	1.96	0.72	3.47	2.14	0.72	3.69	2.14	0.73	3.81	2.31	0.73	4.04	2.30	0.74	4.26	2.45	0.75
30	2.85	1.94	0.80	3.18	1.95	0.81	3.28	2.12	0.82	3.50	2.13	0.82	3.61	2.30	0.83	3.83	2.29	0.84	4.04	2.44	0.84
35	2.69	1.86	0.89	2.99	1.87	0.91	3.09	2.03	0.91	3.30	2.04	0.92	3.40	2.20	0.93	3.60	2.19	0.93	3.81	2.33	0.94
40	2.50	1.71	0.84	2.79	1.72	0.86	2.89	1.87	0.86	3.08	1.88	0.87	3.17	2.03	0.87	3.36	2.02	0.88	3.55	2.15	0.89
43	2.31	1.66	0.83	2.57	1.67	0.84	2.66	1.82	0.85	2.83	1.83	0.85	2.92	1.97	0.86	3.10	1.96	0.87	3.27	2.09	0.88

#### ■ Model: ASYG14KMCB

AFR		m <sup>3</sup> /h									770										
Outdoor temperature	Indoor temperature																				
	18			21			23			25			27			29			32		
	°CDB			°CWB			°CDB			°CWB			°CDB			°CWB			°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	3.00	1.66	0.59	3.34	1.67	0.60	3.46	1.82	0.61	3.68	1.83	0.61	3.80	1.97	0.62	4.02	1.96	0.62	4.25	2.09	0.63
15	3.75	2.55	0.58	4.18	2.57	0.59	4.32	2.79	0.59	4.61	2.80	0.60	4.75	3.03	0.60	5.04	3.01	0.61	5.32	3.21	0.61
20	3.81	2.61	0.83	4.25	2.63	0.84	4.39	2.86	0.84	4.68	2.87	0.85	4.83	3.09	0.86	5.12	3.08	0.86	5.41	3.28	0.87
25	3.56	2.52	0.94	3.96	2.53	0.95	4.10	2.75	0.96	4.37	2.76	0.97	4.50	2.98	0.97	4.77	2.97	0.98	5.04	3.16	0.99
30	3.40	2.41	1.05	3.79	2.42	1.06	3.92	2.64	1.07	4.18	2.64	1.08	4.31	2.86	1.09	4.57	2.84	1.10	4.83	3.03	1.11
35	3.32	2.36	1.16	3.70	2.38	1.18	3.82	2.58	1.19	4.07	2.59	1.20	4.20	2.80	1.21	4.45	2.79	1.22	4.70	2.97	1.23
40	2.83	2.31	1.28	3.15	2.32	1.30	3.26	2.52	1.31	3.47	2.53	1.32	3.58	2.73	1.33	3.79	2.72	1.34	4.01	2.90	1.35
43	2.61	2.25	1.35	2.91	2.27	1.37	3.01	2.46	1.38	3.21	2.47	1.40	3.31	2.67	1.40	3.51	2.66	1.42	3.70	2.83	1.43

## 4-2. Heating capacity

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

### Model: ASYG09KMCB

AFR	m <sup>3</sup> /h	750
-----	-------------------	-----

			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			
	-25	-26	2.91	1.46	2.84	1.49	2.77	1.52	2.70	1.55	2.63	1.58		
	-20	-21	3.21	1.58	3.14	1.61	3.06	1.65	2.98	1.68	2.91	1.71		
	-15	-16	3.52	1.67	3.43	1.70	3.35	1.74	3.27	1.77	3.18	1.81		
	-10	-11	4.03	1.78	3.94	1.82	3.84	1.86	3.74	1.89	3.65	1.93		
	-5	-7	4.37	1.87	4.26	1.91	4.16	1.95	4.06	1.99	3.95	2.03		
	0	-2	4.68	1.90	4.57	1.94	4.46	1.98	4.34	2.02	4.23	2.06		
	5	3	5.13	1.78	5.01	1.81	4.88	1.85	4.76	1.89	4.64	1.92		
	7	6	5.46	1.71	5.33	1.75	5.20	1.79	5.07	1.82	4.94	1.86		
	10	8	5.59	1.60	5.46	1.64	5.33	1.67	5.19	1.70	5.06	1.74		
15	10	5.77	1.46	5.64	1.50	5.50	1.53	5.36	1.56	5.22	1.59			

### Model: ASYG12KMCB

AFR	m <sup>3</sup> /h	750
-----	-------------------	-----

			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			
	-25	-26	3.10	1.44	3.03	1.47	2.96	1.50	2.88	1.53	2.81	1.56		
	-20	-21	3.40	1.56	3.32	1.59	3.23	1.62	3.15	1.66	3.07	1.69		
	-15	-16	3.77	1.70	3.68	1.74	3.59	1.77	3.50	1.81	3.41	1.84		
	-10	-11	4.25	1.81	4.14	1.84	4.04	1.88	3.94	1.92	3.84	1.96		
	-5	-7	4.73	1.95	4.62	1.99	4.51	2.03	4.40	2.07	4.28	2.11		
	0	-2	5.06	2.05	4.94	2.09	4.82	2.13	4.70	2.18	4.58	2.22		
	5	3	5.70	1.70	5.57	1.73	5.43	1.77	5.30	1.81	5.16	1.84		
	7	6	5.99	1.73	5.84	1.77	5.70	1.80	5.56	1.84	5.42	1.87		
	10	8	6.29	1.70	6.14	1.74	5.99	1.77	5.84	1.81	5.69	1.85		
15	10	6.44	1.59	6.28	1.62	6.13	1.65	5.98	1.69	5.82	1.72			

### Model: ASYG14KMCB

AFR	m <sup>3</sup> /h	770
-----	-------------------	-----

			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			
	-25	-26	3.55	2.26	3.46	2.30	3.38	2.35	3.30	2.40	3.21	2.44		
	-20	-21	3.97	2.27	3.87	2.31	3.78	2.36	3.69	2.41	3.59	2.45		
	-15	-16	4.42	2.28	4.32	2.32	4.21	2.37	4.10	2.42	4.00	2.47		
	-10	-11	5.15	2.28	5.03	2.33	4.91	2.37	4.79	2.42	4.66	2.47		
	-5	-7	5.64	2.27	5.50	2.32	5.37	2.37	5.23	2.42	5.10	2.46		
	0	-2	5.81	2.28	5.67	2.33	5.54	2.37	5.40	2.42	5.26	2.47		
	5	3	6.03	2.08	5.89	2.12	5.75	2.16	5.60	2.21	5.46	2.25		
	7	6	6.30	2.01	6.15	2.06	6.00	2.10	5.85	2.14	5.70	2.18		
	10	8	6.41	1.97	6.26	2.01	6.11	2.05	5.95	2.09	5.80	2.13		
15	10	6.57	1.75	6.41	1.79	6.25	1.83	6.10	1.86	5.94	1.90			

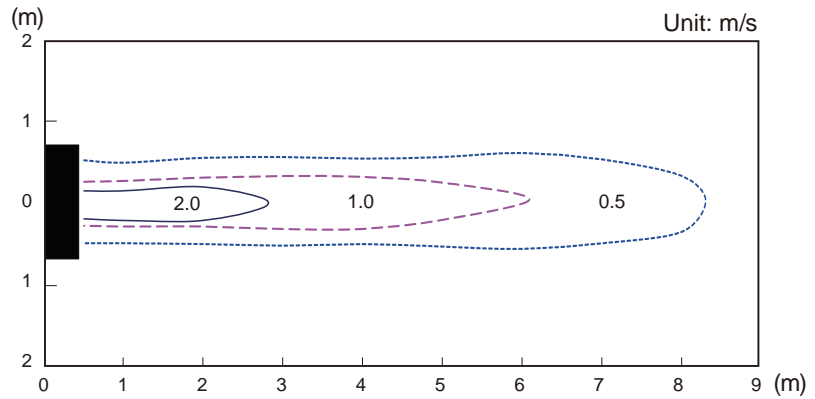
# 5. Fan performance

## 5-1. Air velocity distributions

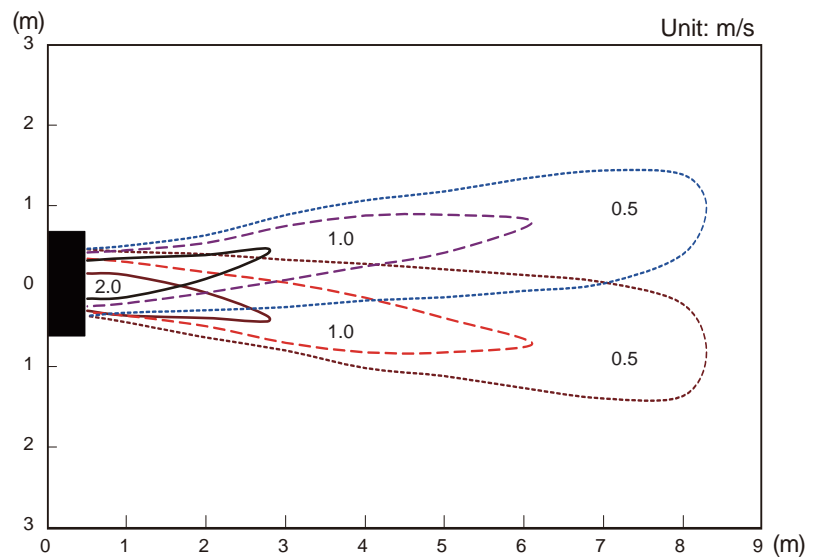
### ■ Models: ASYG09KMCB and ASYG12KMCB

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

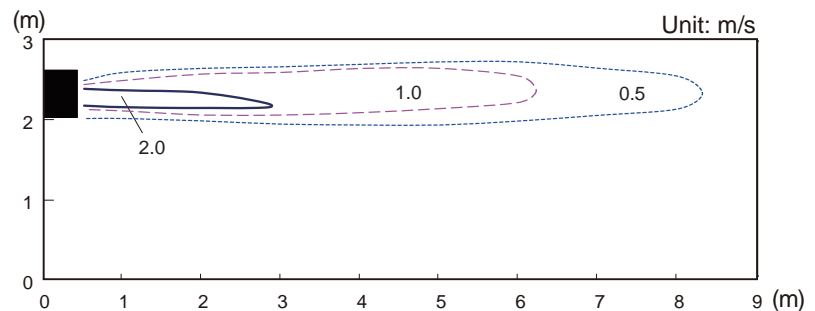
Top view  
Vertical airflow direction louver: Up  
Horizontal airflow direction louver: Center



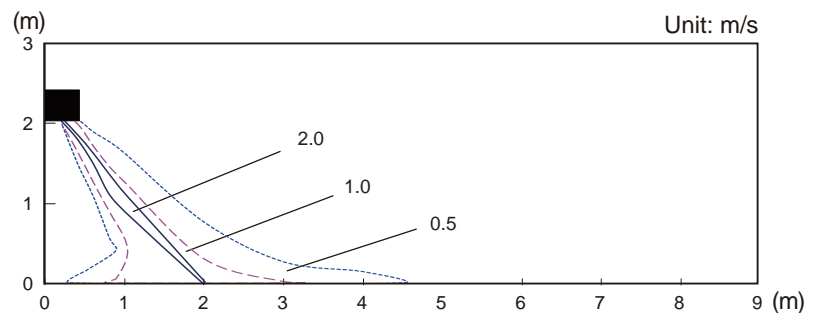
Top view  
Vertical airflow direction louver: Up  
Horizontal airflow direction louver: Left & Right



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



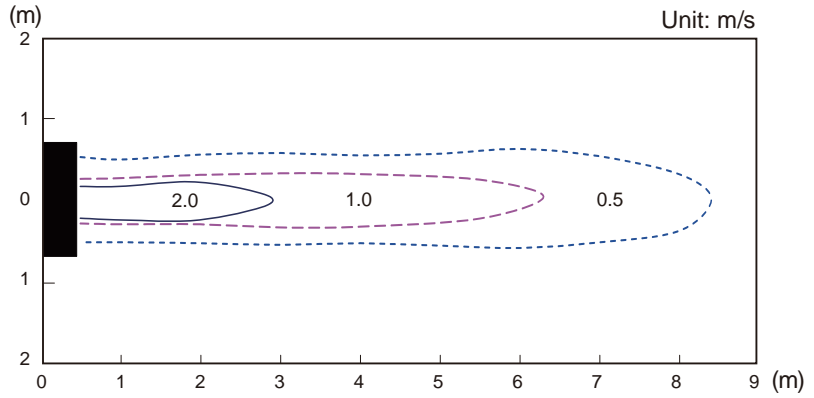
Side view  
Vertical airflow direction louver: Down  
Horizontal airflow direction louver: Center



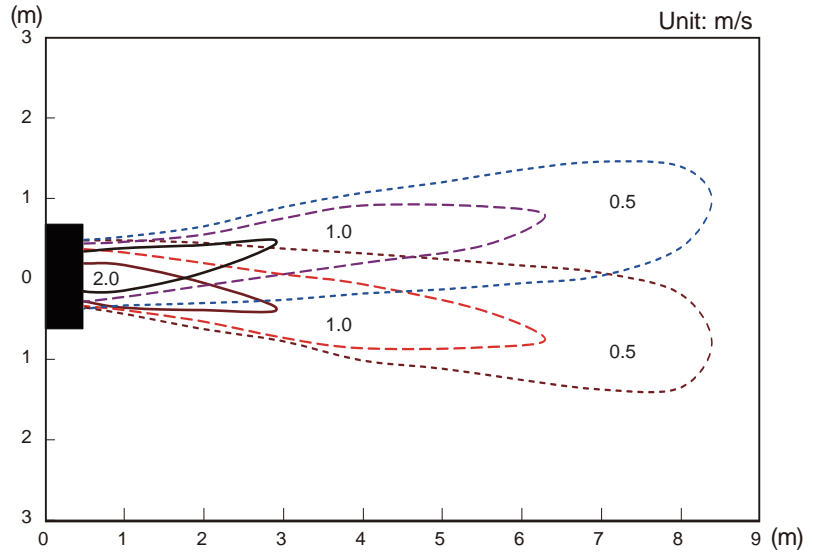
# Model: ASYG14KMCB

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

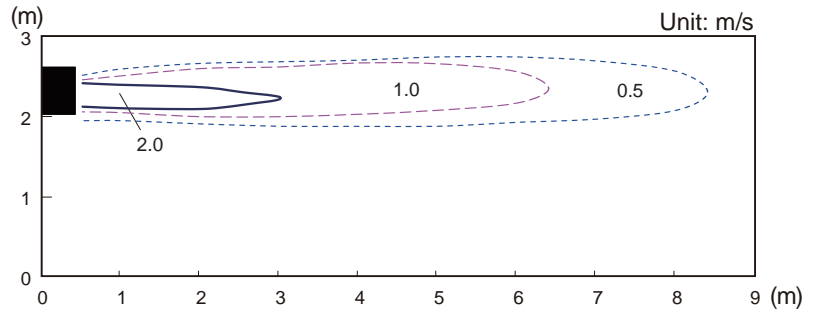
Top view  
Vertical airflow direction louver: Up  
Horizontal airflow direction louver: Center



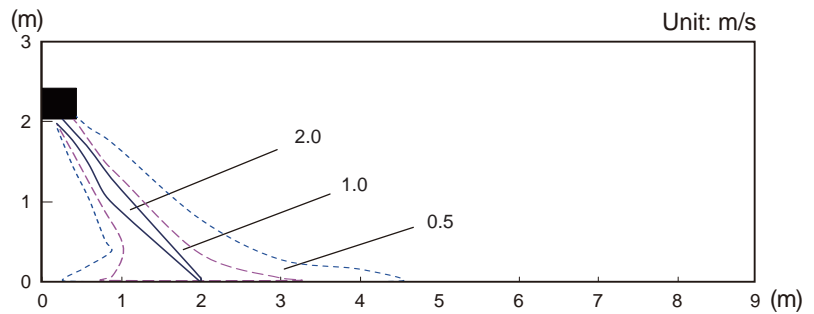
Top view  
Vertical airflow direction louver: Up  
Horizontal airflow direction louver: Left & Right



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: ASYG09KMCB and ASYG12KMCB

#### ● Cooling

Fan speed	Airflow	
HIGH	m <sup>3</sup> /h	750
	l/s	208
	CFM	441
MED	m <sup>3</sup> /h	640
	l/s	178
	CFM	377
LOW	m <sup>3</sup> /h	480
	l/s	133
	CFM	283
QUIET	m <sup>3</sup> /h	310
	l/s	86
	CFM	182

#### ● Heating

Fan speed	Airflow	
HIGH	m <sup>3</sup> /h	750
	l/s	208
	CFM	441
MED	m <sup>3</sup> /h	640
	l/s	178
	CFM	377
LOW	m <sup>3</sup> /h	520
	l/s	144
	CFM	306
QUIET	m <sup>3</sup> /h	330
	l/s	92
	CFM	194

## ■ Model: ASYG14KMCB

### ● Cooling

Fan speed	Airflow	
HIGH	m <sup>3</sup> /h	770
	l/s	214
	CFM	453
MED	m <sup>3</sup> /h	680
	l/s	189
	CFM	400
LOW	m <sup>3</sup> /h	530
	l/s	147
	CFM	312
QUIET	m <sup>3</sup> /h	360
	l/s	100
	CFM	212

### ● Heating

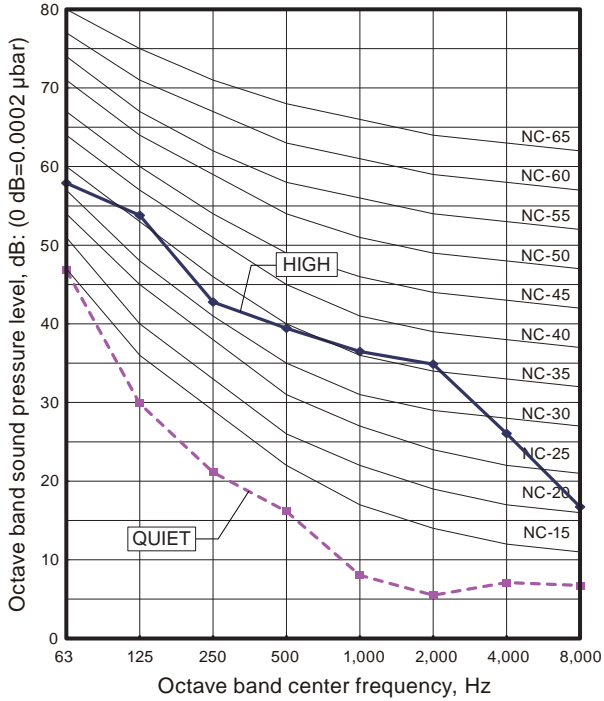
Fan speed	Airflow	
HIGH	m <sup>3</sup> /h	770
	l/s	214
	CFM	453
MED	m <sup>3</sup> /h	680
	l/s	189
	CFM	400
LOW	m <sup>3</sup> /h	560
	l/s	156
	CFM	330
QUIET	m <sup>3</sup> /h	380
	l/s	106
	CFM	224

# 6. Operation noise (sound pressure)

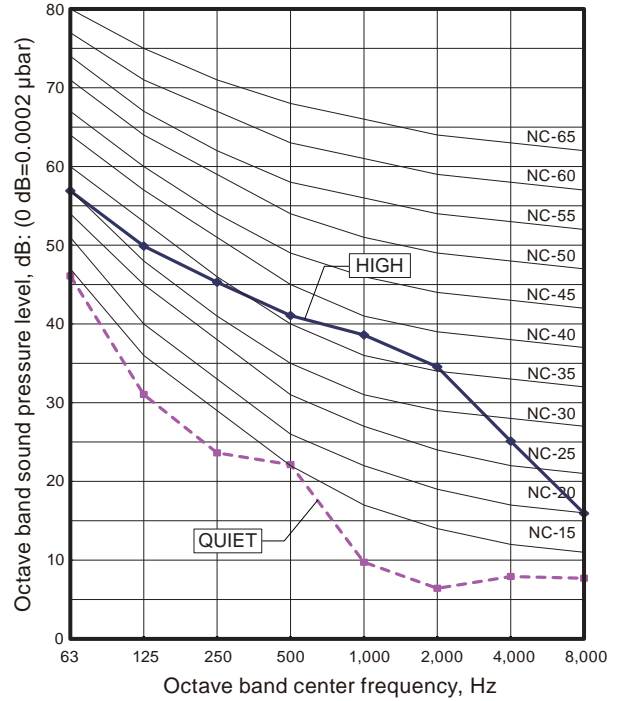
## 6-1. Noise level curve

### Model: ASYG09KMCB

#### ● Cooling

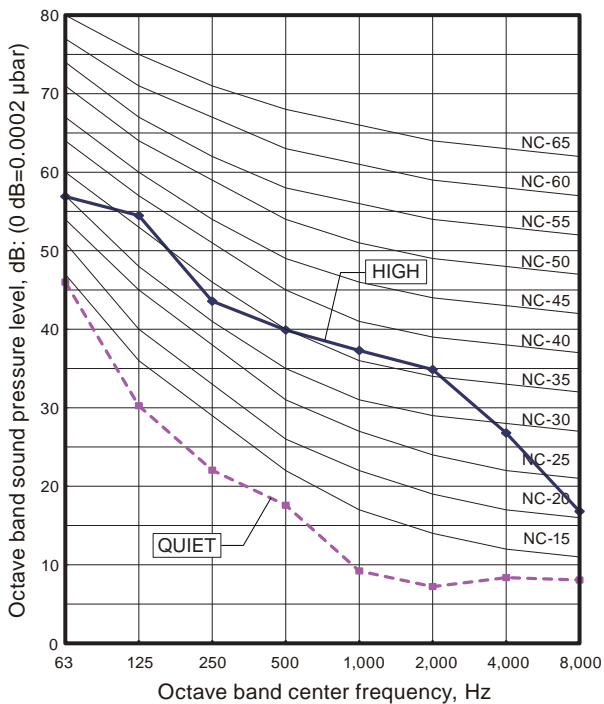


#### ● Heating

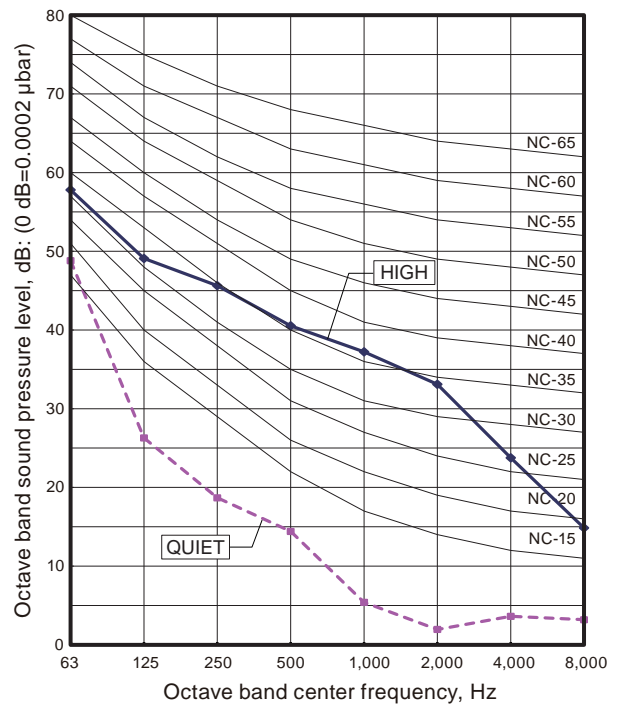


### Model: ASYG12KMCB

#### ● Cooling



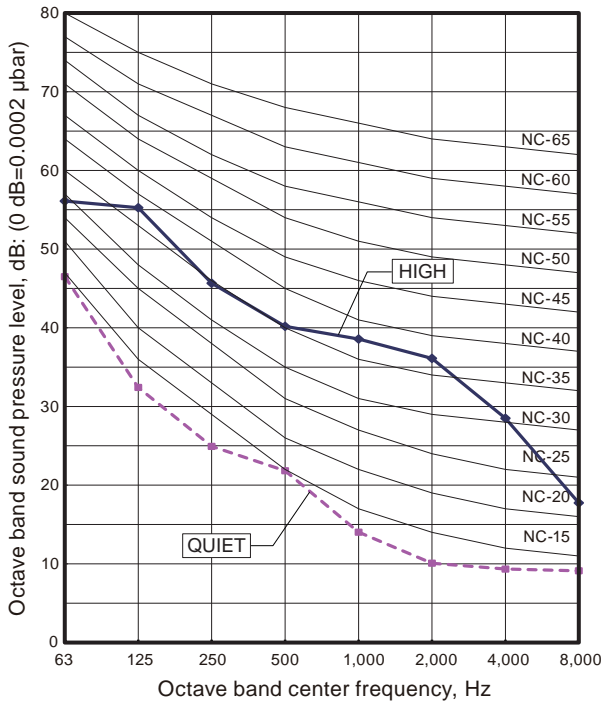
#### ● Heating



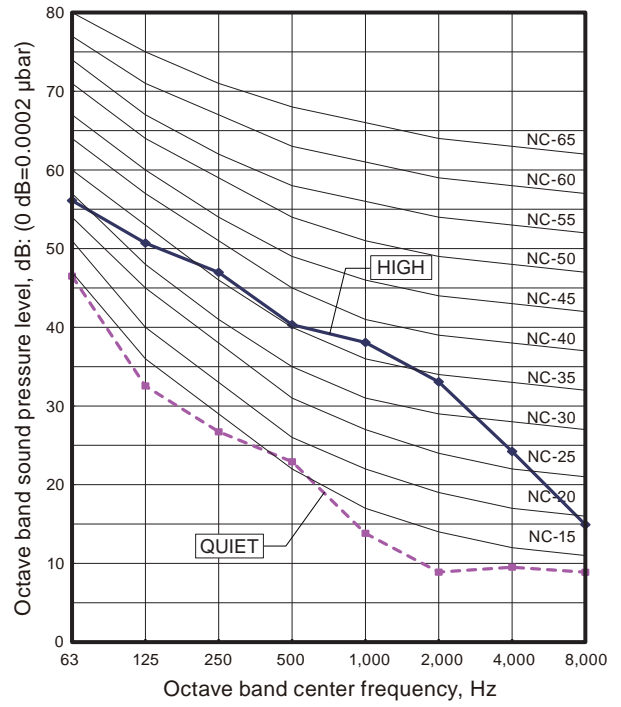


# Model: ASYG14KMCB

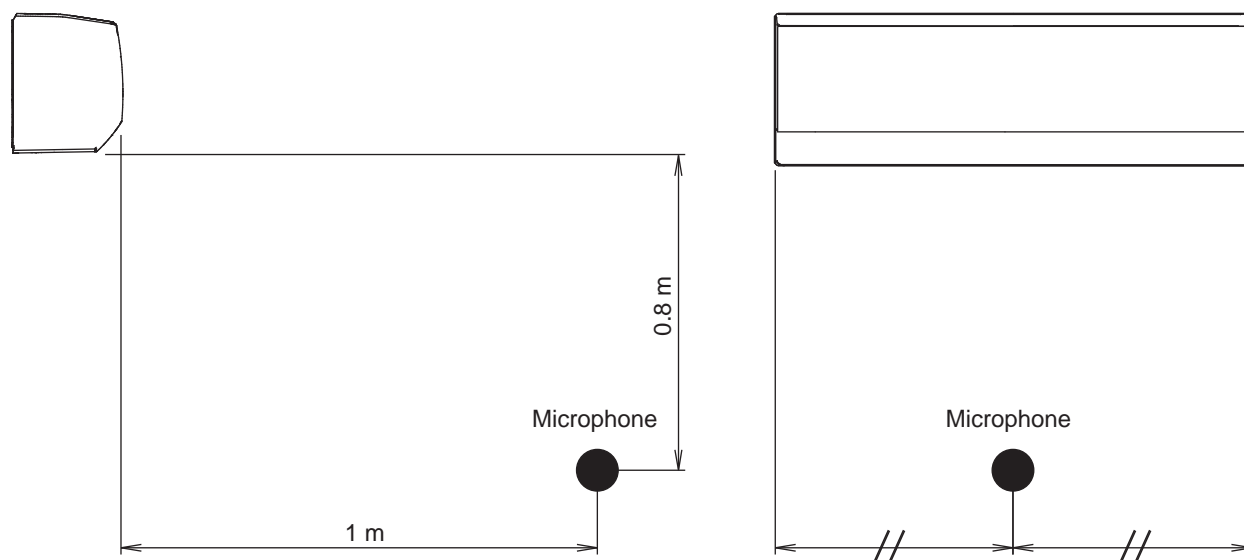
## ● Cooling



## ● 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		
			ASYG09KMCB	ASYG12KMCB	ASYG14KMCB
Circuit protection	Current fuse (PCB*)		250 V, 3.15 A		
Fan motor protection	Thermal protector program	Activate	170 <sup>+25</sup> <sub>-30</sub> °C Fan motor stop		
		Reset	145 ±25°C Fan motor restart		

\*PCB: Printed Circuit Board

## 8. External input and output

With using external input and output functions, this product can be operated inter-connectedly with an external device.

Connector	Input	Output	Remarks
CNA01	Control input	—	See external input/output settings for details.
CNB01	—	Operation status output	
CNB02	—	Error status output	

### 8-1. External input

With using external input function, some functions on this product can be controlled from an external device.

- “Operation/Stop” mode or “Forced stop” mode can be selected with function setting of indoor unit.
- A twisted pair cable (22AWG) should be used. Maximum length of cable is 150 m.
- The wire connection should be separate from the power cable line.

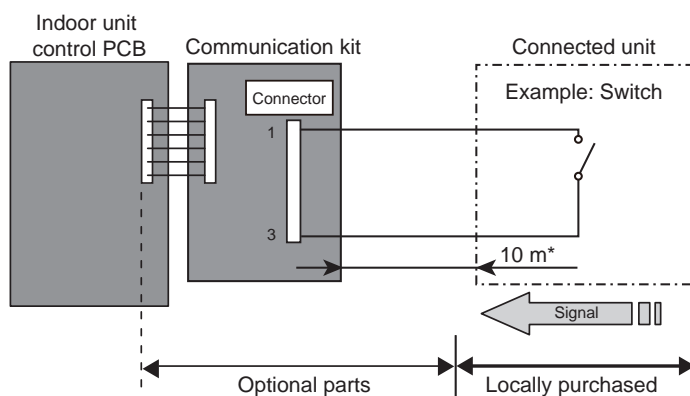
#### ■ Control input (Operation/Stop or Forced stop)

The air conditioner can be remotely operated by means of the following on-site work.

Unit operation is started at the following contents by adding the contact input of a commercial on/off switch to a connector on the external control PCB and turning it on.

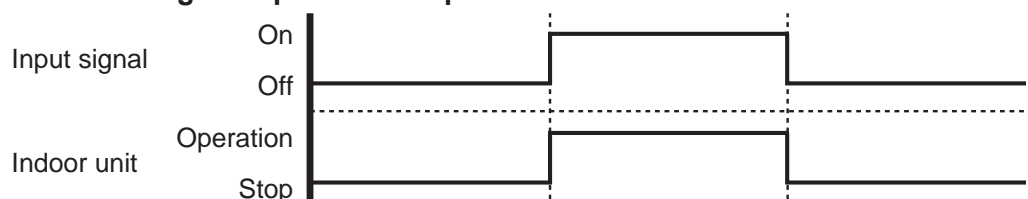
Unit operation	Initial setting after power is on	Starting mode other than initial setting
Operation mode	Auto changeover	Mode at previous operation
Set temperature	24 °C	Temperature at previous operation
Airflow mode	AUTO	Mode at previous operation
Air direction (swing)	Standard air direction (swing OFF)	Air direction at previous operation

#### • Circuit diagram example:

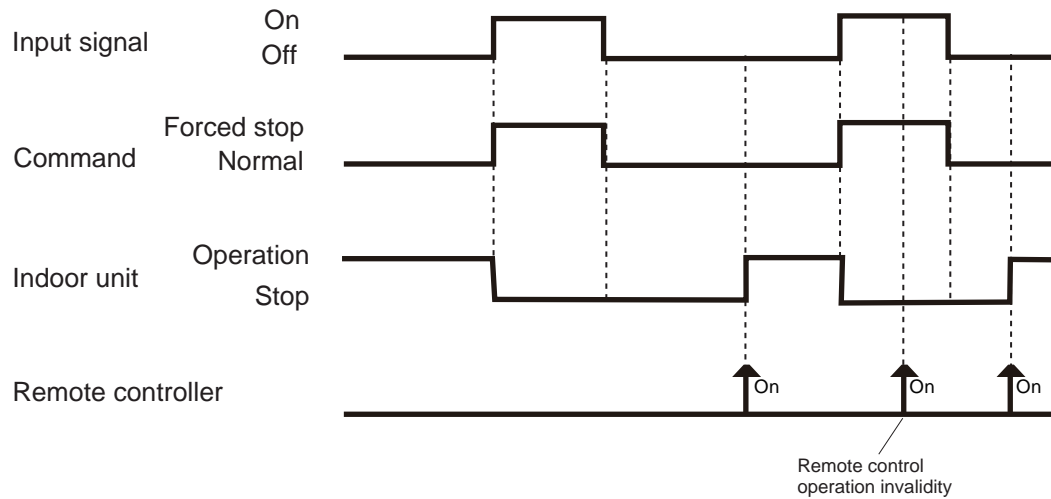


- Contact capacity: DC 24 V or more, 10 mA or more.
- \*: Make the distance from the PCB to the connected unit within 10 m.
- Use non-polar relays and switches.

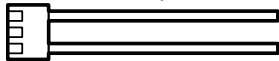
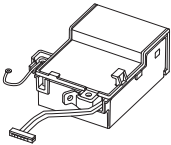
#### • When function setting is “Operation/Stop” mode:



• When function setting is “Forced stop” mode:



• Optional part:

Part name	Model name	Exterior
External connect kit	UTY-XWZXZ5	 <p>External input wire</p>
Communication kit	UTY-XCBXZ2	

\* For operating the external function, the wall mounted type requires the communication kit in addition to the wire (UTY-XWZXZ5).

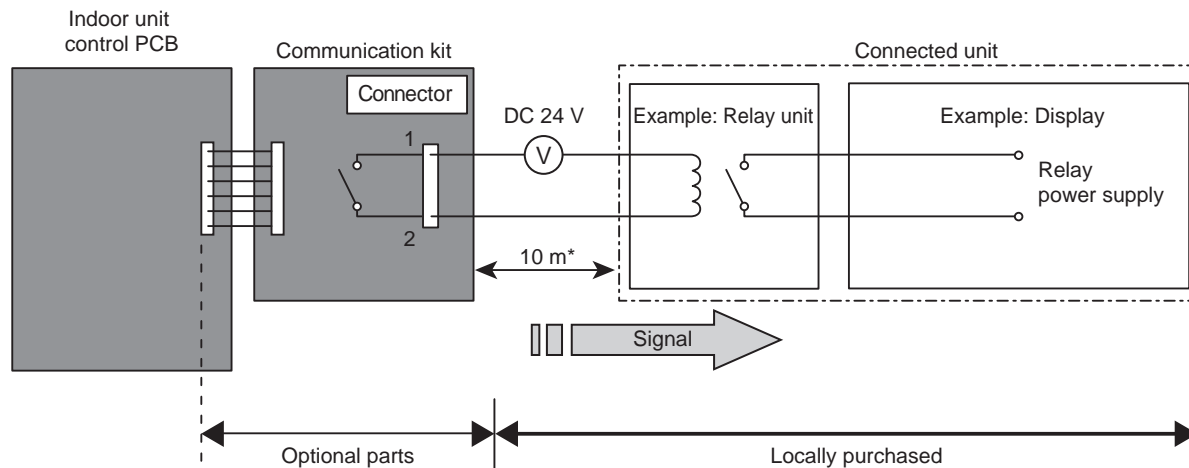
## 8-2. External output

With using external output function, operating status of this product can be transmitted to the external device, and also, this product can be inter-connected with the external device.

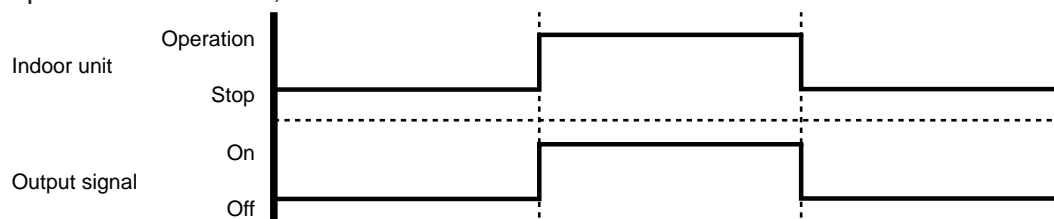
### ■ Operation status output

Air conditioner operation status signal can be output.


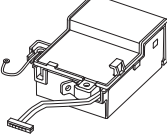
• **Circuit diagram example:**



- \*: Make the distance from the PCB to the connected unit within 10 m.
- Relay spec: Max. DC 24 V, 10 mA to less than 500 mA.



• **Optional part:**

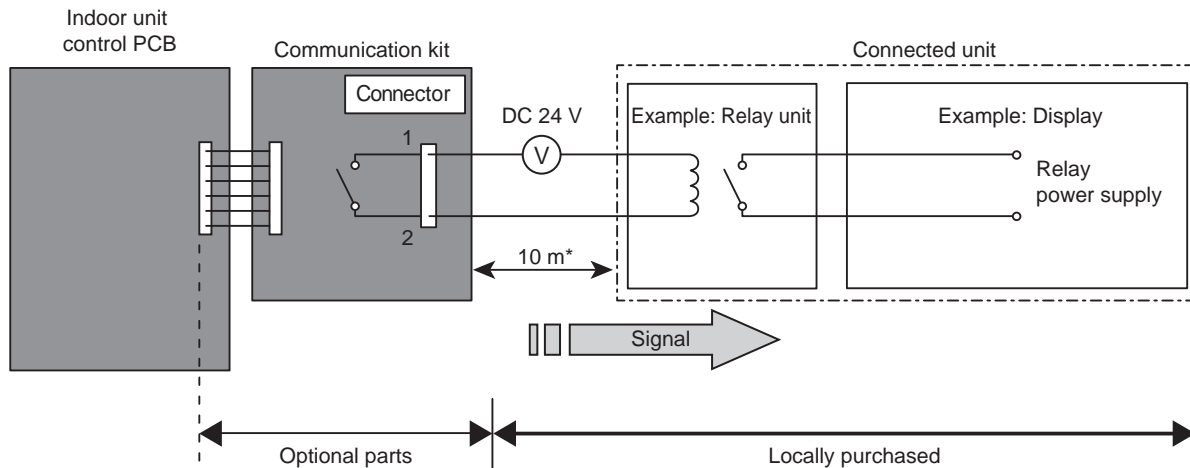
Part name	Model name	Exterior
External connect kit	UTY-XWZXZ5	External output wire 
Communication kit	UTY-XCBXZ2	

\* For operating the external function, the wall mounted type requires the communication kit in addition to the wire (UTY-XWZXZ5).

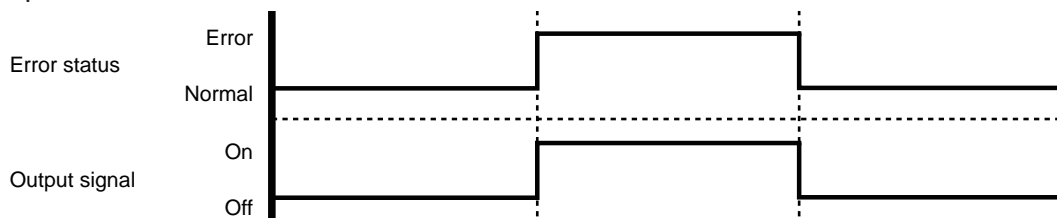
## ■ Error status output

Air conditioner error status signal can be output.


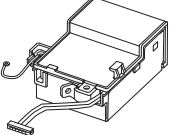
### • Circuit diagram example:



- \*: Make the distance from the PCB to the connected unit within 10 m.
- Relay spec: Max. DC 24 V, 10 mA to less than 500 mA.



### • Optional part:

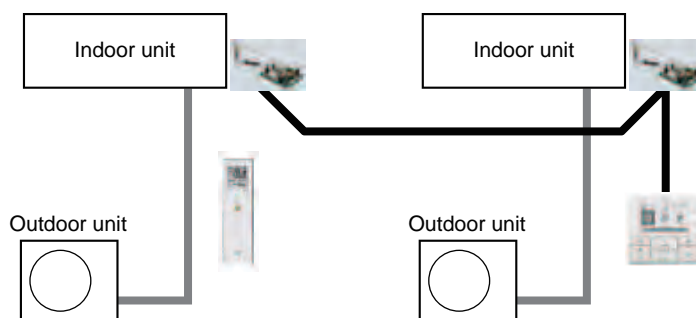
Part name	Model name	Exterior
External connect kit	UTY-XWZXZ5	External output wire 
Communication kit	UTY-XCBXZ2	

\* For operating the external function, the wall mounted type requires the communication kit in addition to the wire (UTY-XWZXZ5).

## 9. Group connection

Wiring regulation on the remote controllers in the multi split models are reviewed and allowed for group connection.

### Example of group connection



\*Exterior of each device shown above might be different from the actual one.

### NOTES:

- Group connection is applicable for models that are produced in 2013 or later in following products:
  - KM/KG/LT/LU/LM/LF series in wall mounted type
  - Floor type
- Up to 16 indoor units can be controlled by using one wired remote controller.

## 9-1. Precautions on creating a group connection

Take precautions on items described in this section when creating a group connection.

- **Maximum wiring length of the remote controller cable:** 300 m  
Even if the maximum wiring length of the product itself is specified as longer than 300 m, the maximum length of the remote controller cable will be 300 m if the system is group-connected.  
When total wiring length is longer than 100 m, the cable diameter needs to be changed as follows:

Total wiring length of remote controller cable Unit: m	Cross section of cable Unit: mm <sup>2</sup>
100 or less	0.3—0.8
100—200	0.5—0.8
200—300	0.8



- **Required parts for group connection**

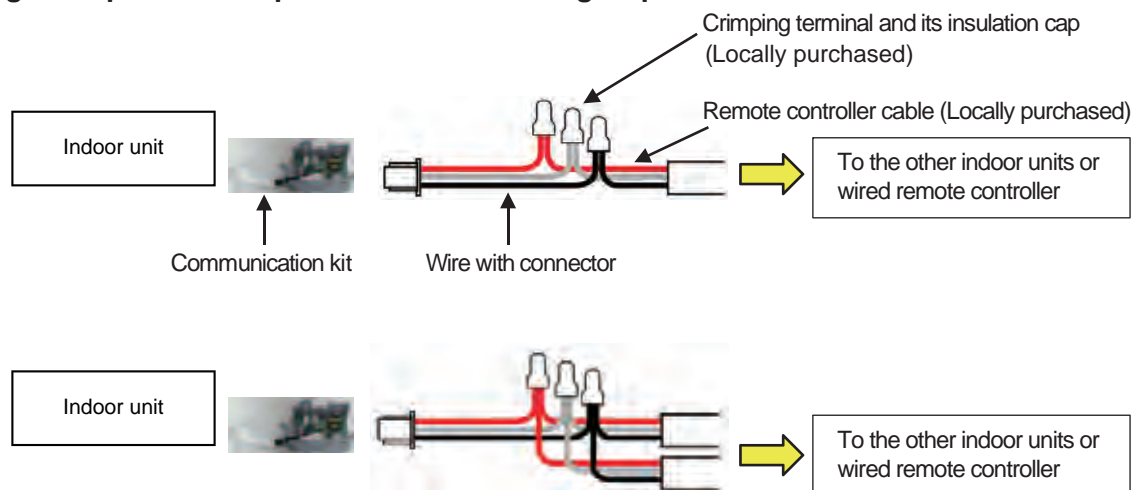
- Optional part:

Indoor unit type	Communication kit
Wall mounted	UTY-XCBXZ2

As for the optional parts, refer to Chapter 13-2. "Others" on page 32.

- Service part: Wire with connector (Service part no. 9705932012)

**Wiring example for multiple remote control or group control:**



**NOTES:**

- Conceal the wirings of the group connection inside of the wall or by means of trunking at the thickness of 1-mm or more to prevent electrical shocks when getting in touch with the cables under certain circumstances.
- When using the Communication kit for wall mounted type, store the crimping terminals inside the Communication kit.
- In the wireless remote controllers for the group connection, its remote controller address can be set by its own. For the details, refer to following section "Remote controller address setting procedure for wireless remote controllers".  
An error is displayed immediately just turning on the power to effect the settings of the group connection. However the error will automatically disappear when the subsequent function setting is completed.
- Bundle the wires with a cable tie to prevent external pressures apply on the crimping terminals. (Ensure that the tensile strength for the splicing position is 10 N or above.)

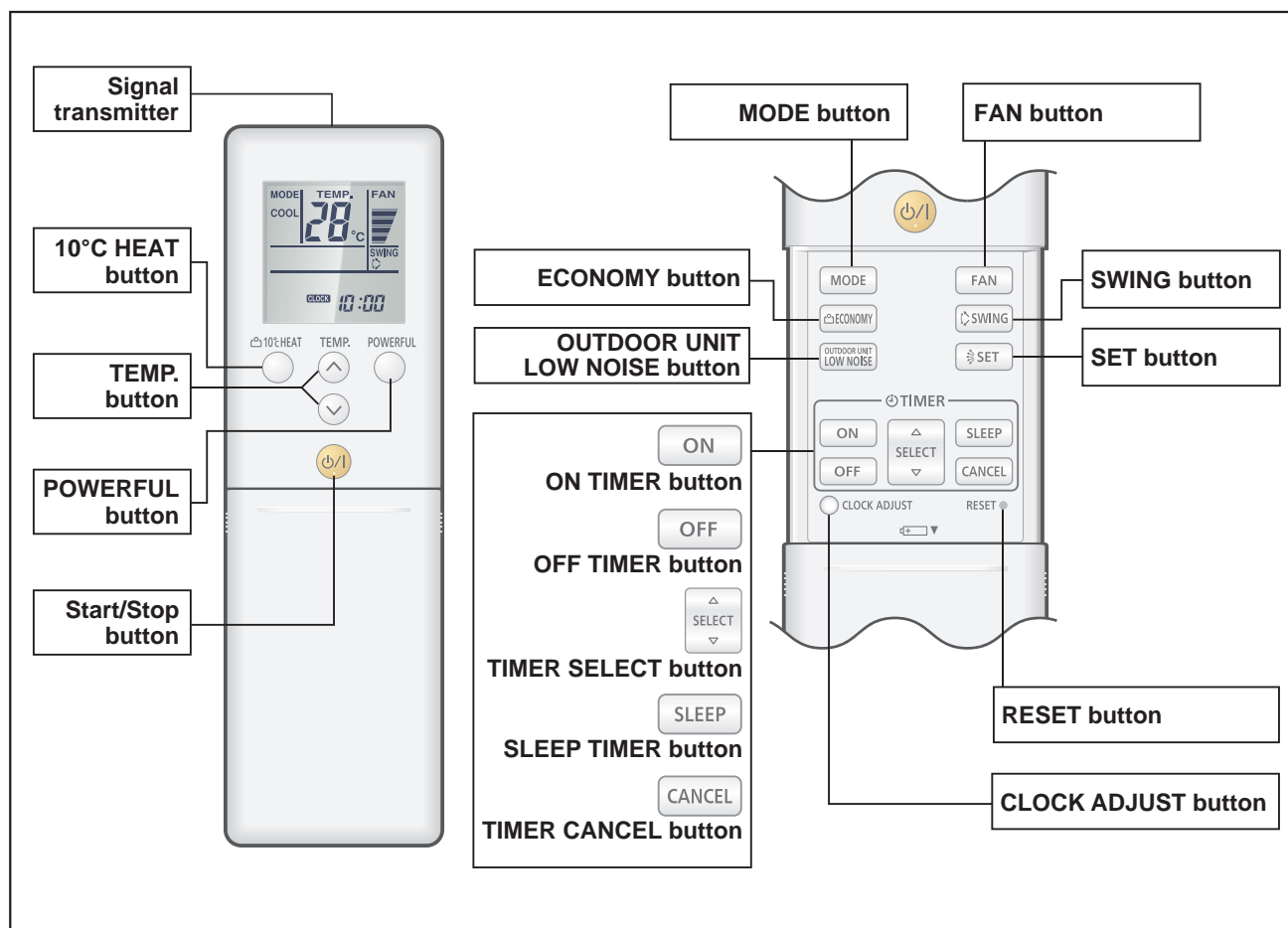
## 9-2. Remote controller address setting procedure for wireless remote controllers

1. Enter the function setting mode of the wireless remote controller. For details, refer to "[Function settings](#)" on page 24.
2. Select the function number "00" (Remote controller address setting), and then select any of the number (Setting value) from 00 to 15. (Factory setting: 00)

# 10. Remote controller

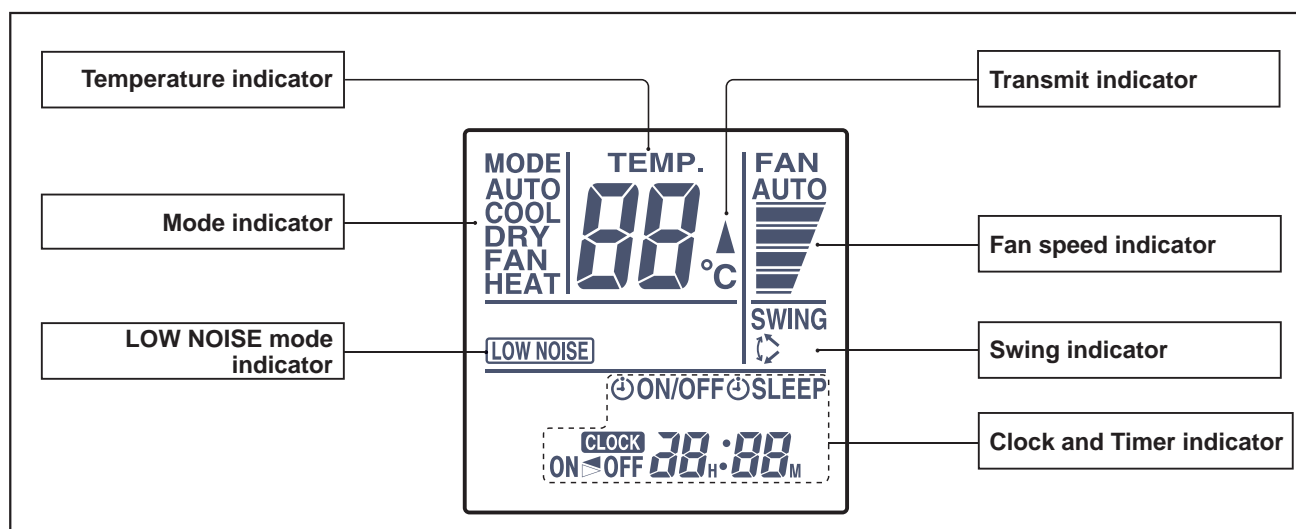
## 10-1. Wireless remote controller

### Overview



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

### Display panel

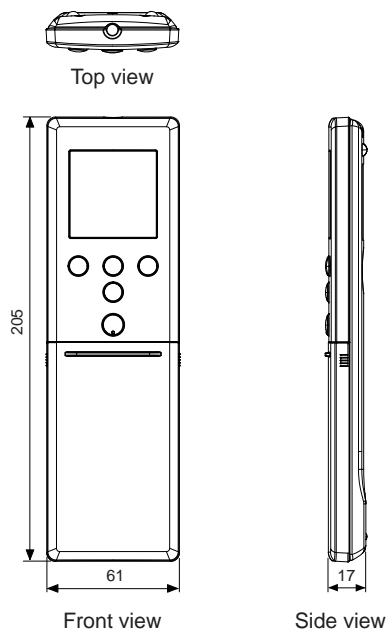


To facilitate explanation, the accompanying illustration has been drawn to show all possible indicators; in actual operation, however, the display will only show those indicators appropriate to the current operation.

## ■ Specifications

### ● Controller

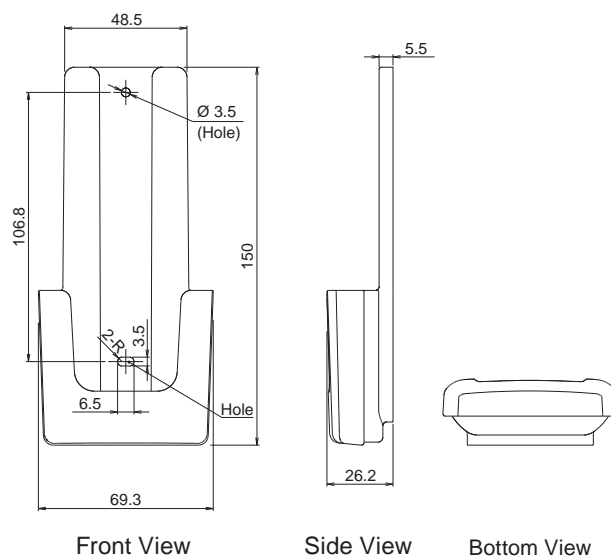
Unit: mm



Size (H × W × D)	mm	205 × 61 × 17
Weight	g	124 (without batteries)

### ● Holder

Unit: mm



Size (H × W × D)	mm	150 × 69.3 × 26.2
Weight	g	27

## 11. 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.

### 11-1. 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 POWERFUL button and TEMP. (∧) button simultaneously, press the RESET button to enter the function setting mode.

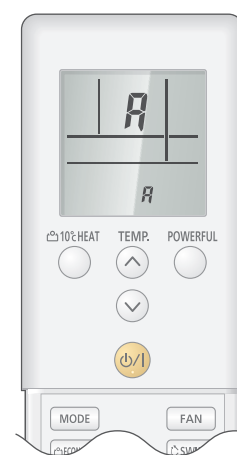
#### STEP 1: Setting the remote controller custom code

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

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

For details on how to set the custom codes through the normal process, refer to "[Custom code setting for wireless remote controller](#)" on page 29.

1. Press the TEMP. (∧) (∨) 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  $\overline{A}$ .) If the custom code does not need to be selected, press the 10 °C HEAT button, and proceed to **STEP 2**.
2. Press the MODE button and check that the indoor unit can receive signals at the displayed custom code.
3. Press the 10 °C HEAT button to accept the custom code, and proceed to **STEP 2**.
4. After completing the function setting, be sure to disconnect the power supply and then reconnect it.



**NOTES:**

- The air conditioner custom code is set to  $\overline{A}$  prior to shipment.
- The remote controller resets to custom code  $\overline{A}$  when the batteries on the remote controller are replaced. If you use a custom code other than code  $\overline{A}$ , 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 ( $\overline{A} \rightarrow \overline{b}$   $\rightarrow \overline{c} \rightarrow \overline{d}$ ) until you find the code that operates the air conditioner.

**STEP 2: Selecting the function number and setting value**

1. Press the TEMP. ( $\wedge$ ) ( $\vee$ ) buttons to select the function number. To switch between the left and right digits, press the 10 °C HEAT button.
2. Press the POWERFUL button to proceed the setting value. To return the function number selection, press the POWERFUL button again.
3. Press the TEMP. ( $\wedge$ ) ( $\vee$ ) buttons to select the setting value. To switch between the left and right digits, press the 10 °C HEAT button.
4. Press the MODE button, and START/STOP button, in the order listed to confirm the settings.
5. Press the RESET button to cancel the function setting mode.
6. After completing the function setting, be sure to disconnect the power supply and then reconnect it.

**⚠ CAUTION**

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

## ■ 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	Room temperature sensor control for cooling
3)	31	Room temperature sensor control for heating
4)	40	Auto restart
5)	42	Room temperature sensor switching
6)	44	Remote controller custom code
7)	46	External input control
8)	48	Room temperature sensor switching (Aux.)
9)	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 sensor control for cooling

Depending on the installed environment, correction of the room temperature sensor may be required. Select the appropriate control setting according to the installed environment.

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

#### 3) Room temperature sensor control for heating

Depending on the installed environment, correction of the room temperature sensor may be required. Select the appropriate control setting according to the installed environment.

Function number	Setting value	Setting description	Factory setting
31	00	Standard	◆
	01	Lower control	
	02	Slightly higher control	
	03	Higher control	

**4) 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.

**5) 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.

**6) 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	

**7) 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	◆
	01	(Setting prohibited)	
	02	Forced stop mode	

**8) 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	

**9) 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.



## 11-2. Custom code setting for wireless remote controller

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

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

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

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

1. Press the START/STOP button until only the clock is displayed on the remote controller display.
2. Press the MODE button for at least 5 seconds to display the current custom code. (Initially set to  $\text{A}$ .)
3. Press the TEMP. ( $\wedge$ ) ( $\vee$ ) 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  $\text{A}$ .)
4. Press the MODE button again to return to the clock display. The custom code will be changed.


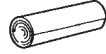
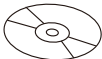
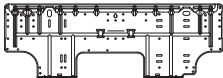


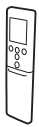


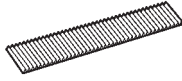

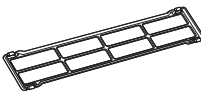


### NOTES:

- If no button is pressed within 30 seconds after the custom code is displayed, the system returns to the original clock indicator. In this case, start again from step 1.
- The air conditioner custom code is set to  $\text{A}$  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 ( $\text{A} \rightarrow \text{b} \rightarrow \text{c} \rightarrow \text{d}$ ) until you find the code which operates the air conditioner.


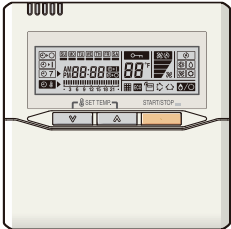

## 12. Accessories

### 12-1. Models: ASYG09KMCB, ASYG12KMCB, and ASYG14KMCB

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

## 13. Optional parts


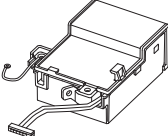

### 13-1. Controllers

Exterior	Part name	Model name	Summary
	Wired remote controller	UTY-RVNYM	Large and full-dot liquid crystal screen, wide and large keys easy to press, user-intuitive arrow key. Wire type: Polar 3-wire Optional communication kit is necessary for installation.
	Wired remote controller	UTY-RNNYM	Room temperature can be controlled by detecting the temperature accurately with built-in thermo sensor. Wire type: Polar 3-wire Optional communication kit is necessary for installation.
	Simple remote controller	UTY-RSNYM	Compact remote controller concentrates on the basic functions such as Start/Stop, fan control, temperature setting, and operation mode. Wire type: Polar 3-wire Optional communication kit is necessary for installation.

#### NOTES:

- Available functions may differ by the remote controller. For details, refer to the operation manual.
- In this product, group controlling system of the wired remote controller is prohibited.

## 13-2. Others

Exterior	Part name	Model name	Summary
	External connect kit	UTY-XWZXZ5	Required when external device is connected. Optional communication kit is necessary for installation.
	Communication kit	UTY-XCBXZ2	Use to connect with optional devices and air conditioner PCB.
	Wireless LAN adapter	UTY-TFNXZ1	Remotely manage an air conditioning system using mobile devices such as smartphones and tablets.

# **Part 2. OUTDOOR UNIT**

---

**SINGLE TYPE:**

**AOYG09KMCBN**

**AOYG12KMCBN**

**AOYG14KMCBN**

# 1. Specifications

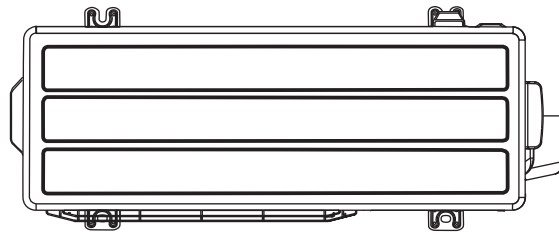
Type				Inverter heat pump			
Model name				AOYG09KMCBN	AOYG12KMCBN	AOYG14KMCBN	
Power supply				230 V ~ 50 Hz			
Power supply intake				Outdoor unit			
Available voltage range				198—264 V			
Starting current				A	3.7	4.7	7.1
Fan	Airflow rate	Cooling	m <sup>3</sup> /h	2,020	2,020	2,020	
		Heating		1,440	1,620	1,620	
	Type × Q'ty		Propeller fan × 1				
	Motor output		W	49			
Sound pressure level *	Cooling	Heating	dB (A)	48	49	49	
				43	47	47	
Sound power level	Cooling	Heating	dB (A)	63	65	65	
				59	63	63	
Heat exchanger type	Dimensions (H × W × D)		mm	588 × 881 × 18.2			
	Fin pitch			588 × 851 × 18.2			
	Rows × Stages		1.3				
	Pipe type		1 × 28				
	Pipe type		Copper				
	Fin type		Type (Material)	Corrugate (Aluminum)			
		Surface treatment	PC fin				
Compressor	Type × Q'ty		DC rotary × 1				
	Motor output		W	900			
Refrigerant	Type (Global warming potential)		R32 (675)				
	Charge		g	850			
Refrigerant oil	Type		FW68S				
	Amount		cm <sup>3</sup>	350			
Enclosure	Material		Steel sheet				
	Color		Beige Approximate color of Munsell 10YR 7.5/1.0				
Dimensions (H × W × D)	Net		mm	620 × 790 × 290			
	Gross			713 × 945 × 395			
Weight	Net		kg	35			
	Gross			40			
Connection pipe	Size	Liquid	mm (in)	Ø 6.35 (Ø 1/4)			
		Gas		Ø 9.52 (Ø 3/8)			
	Method		Flare				
	Pre-charge length		15				
Max. length		m	20				
Max. height difference			15				
Operation range	Cooling		°C	10 to 43			
	Heating			-25 to 24			
<b>NOTES:</b>							
<ul style="list-style-type: none"> <li>• Specifications are based on the following conditions: <ul style="list-style-type: none"> <li>– Cooling: Indoor temperature of 27 °CDB/ 19 °CWB, and outdoor temperature of 35 °CDB/ 24 °CWB.</li> <li>– Heating: Indoor temperature of 20 °CDB/ 15 °CWB, and outdoor temperature of 7 °CDB/ 6 °CWB.</li> <li>– Pipe length: 5 m, Height difference: 0 m.</li> </ul> </li> <li>• Protective function might work when using it outside the operation range.</li> <li>• *: Sound pressure level <ul style="list-style-type: none"> <li>– Measured values in manufacturer's anechoic chamber.</li> <li>– Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.</li> </ul> </li> </ul>							

## 2. Dimensions

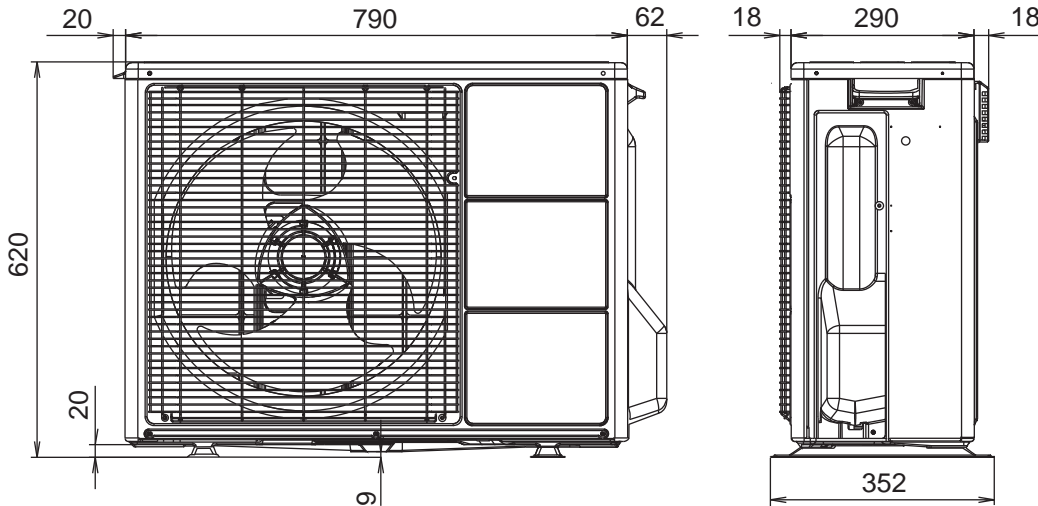
### 2-1. Models: AOYG09KMCBN, AOYG12KMCBN, and AOYG14KMCBN

OUTDOOR UNIT  
AOYG09-14KMCBN

OUTDOOR UNIT  
AOYG09-14KMCBN

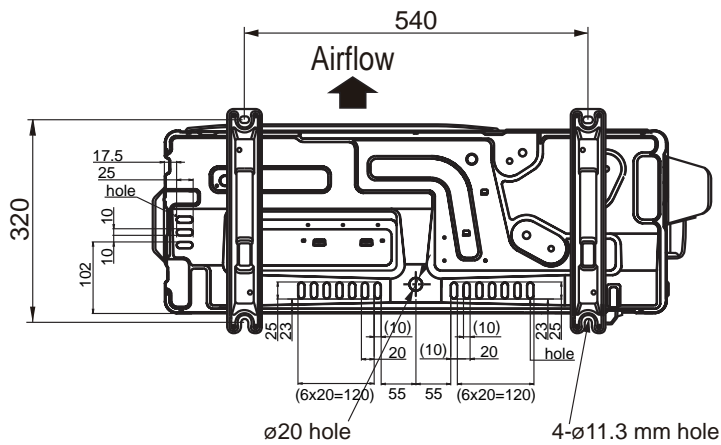


Top view

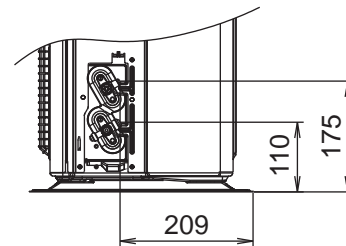


Front view

Side view



Bottom view



### 3. Installation space

#### 3-1. Models: AOYG09KMCBN, AOYG12KMCBN, and AOYG14KMCBN

##### ■ Space requirement

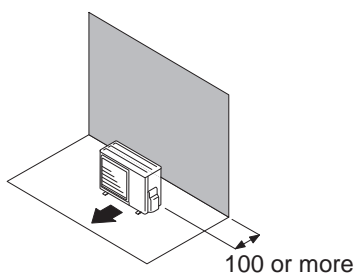
Provide sufficient installation space for product safety.

##### ● Single outdoor unit installation

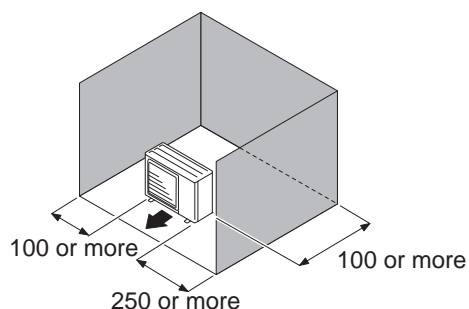
- When the upper space is open:

Unit: mm

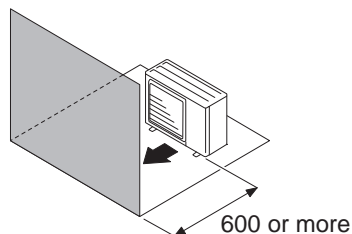
When there are obstacles at the rear only.



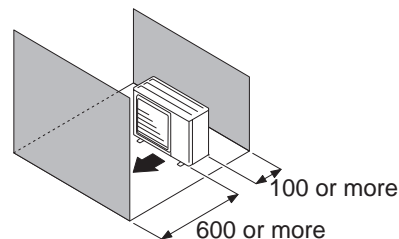
When there are obstacles at the rear and sides.



When there are obstacles at the front only.



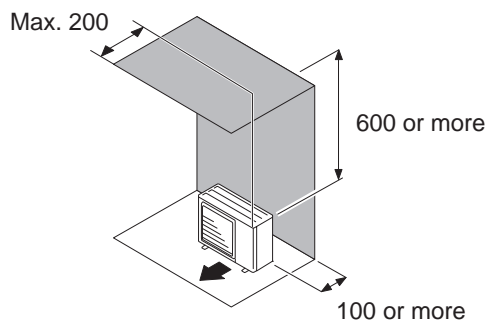
When there are obstacles at the front and rear.



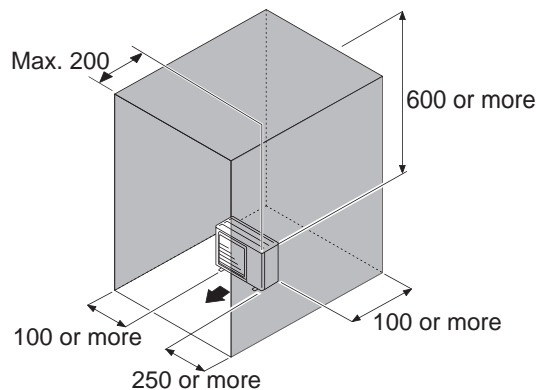
- When there is an obstruction in the upper space:

Unit: mm

When there are obstacles at the rear and above.



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



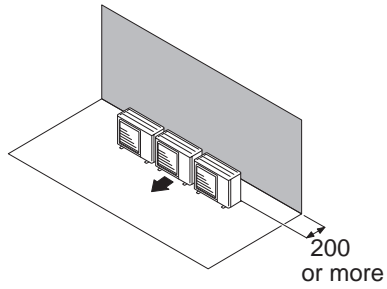


## ● Multiple outdoor unit installation

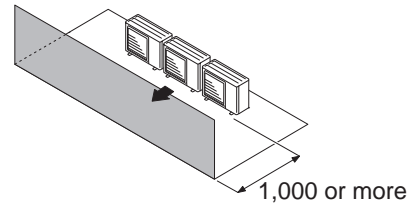
- When the upper space is open:

Unit: mm

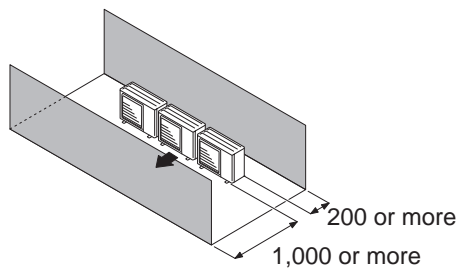
When there are obstacles at the rear only.



When there are obstacles at the front only.



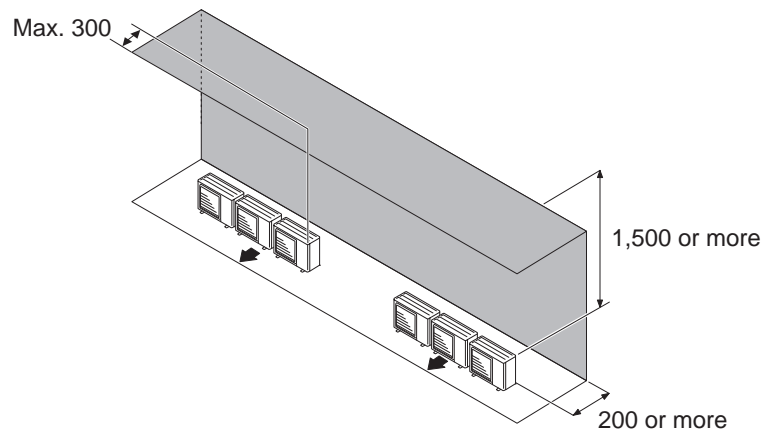
When there are obstacles at the front and rear.



- When there is an obstruction in the upper space:

Unit: mm

When there are obstacles at the rear and above.



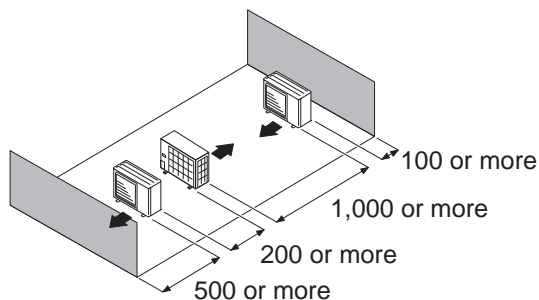
OUTDOOR UNIT  
AOYG09-14KMCBN

OUTDOOR UNIT  
AOYG09-14KMCBN

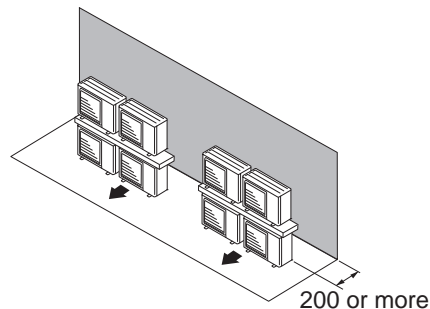
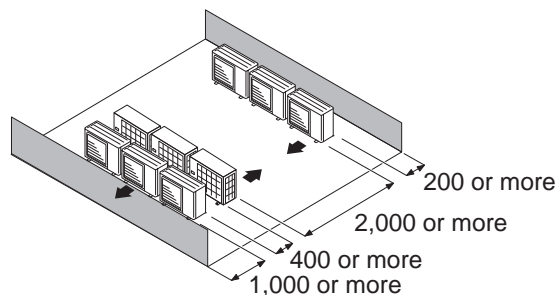
## ● Outdoor unit installation in multi-row

Unit: mm

Single parallel unit arrangement



Multiple parallel unit arrangement

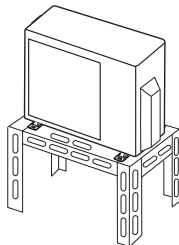


### NOTES:

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

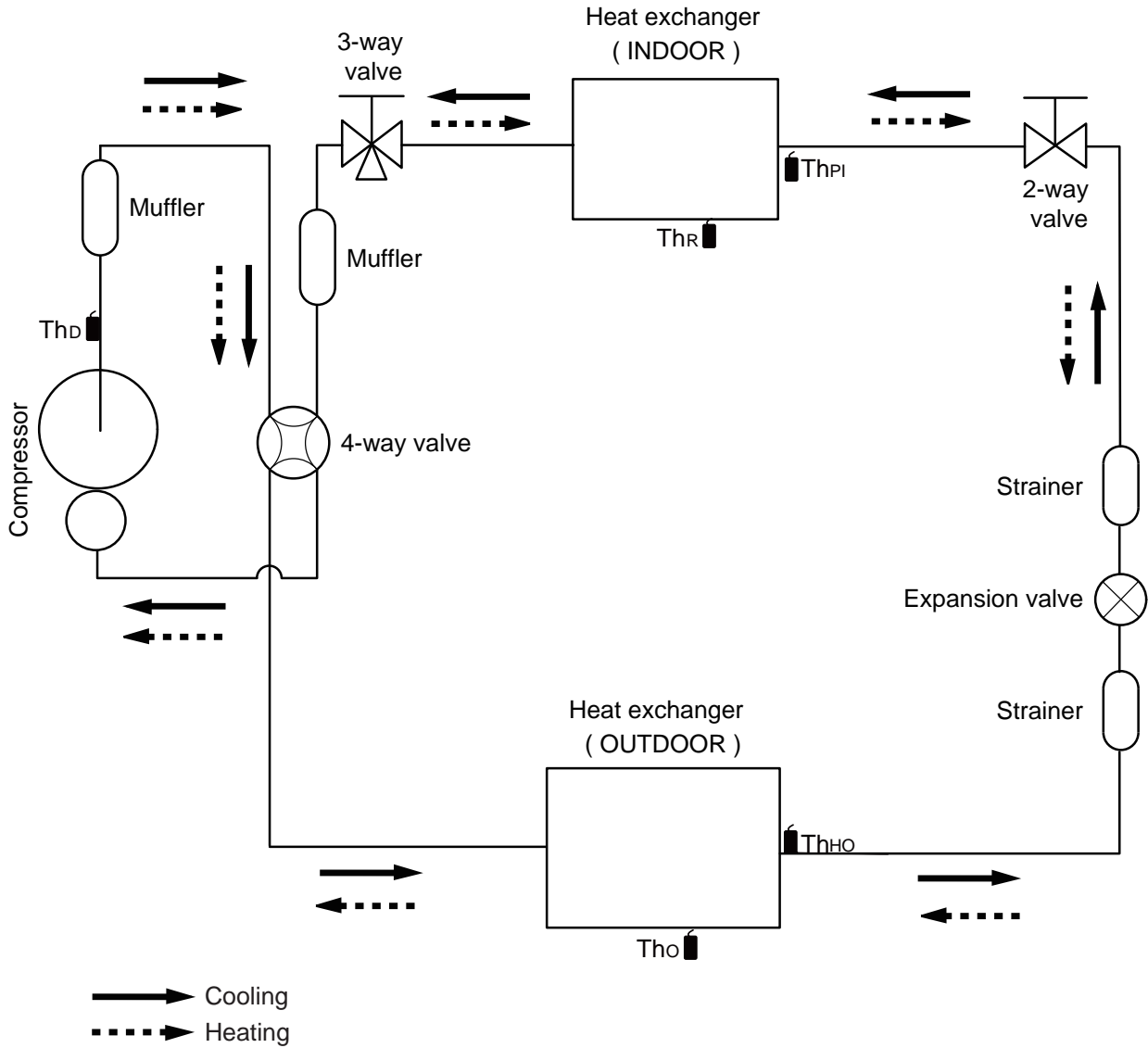
### ⚠ CAUTION

- Do not install the outdoor unit in two-stage where the drain water could freeze. Otherwise the drainage from the upper unit may form ice and cause a malfunction of the lower unit.
- When the outdoor temperature is 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: AOYG09KMCBN, AOYG12KMCBN, and AOYG14KMCBN



- Th<sub>D</sub> : Thermistor (Discharge temp.)
- Th<sub>O</sub> : Thermistor (Outdoor temp.)
- Th<sub>HO</sub> : Thermistor (Heat exchanger out temp.)
- Th<sub>R</sub> : Thermistor (Room temp.)
- Th<sub>PI</sub> : Thermistor (Pipe temp.)

OUTDOOR UNIT  
AOYG09-14KMCBN

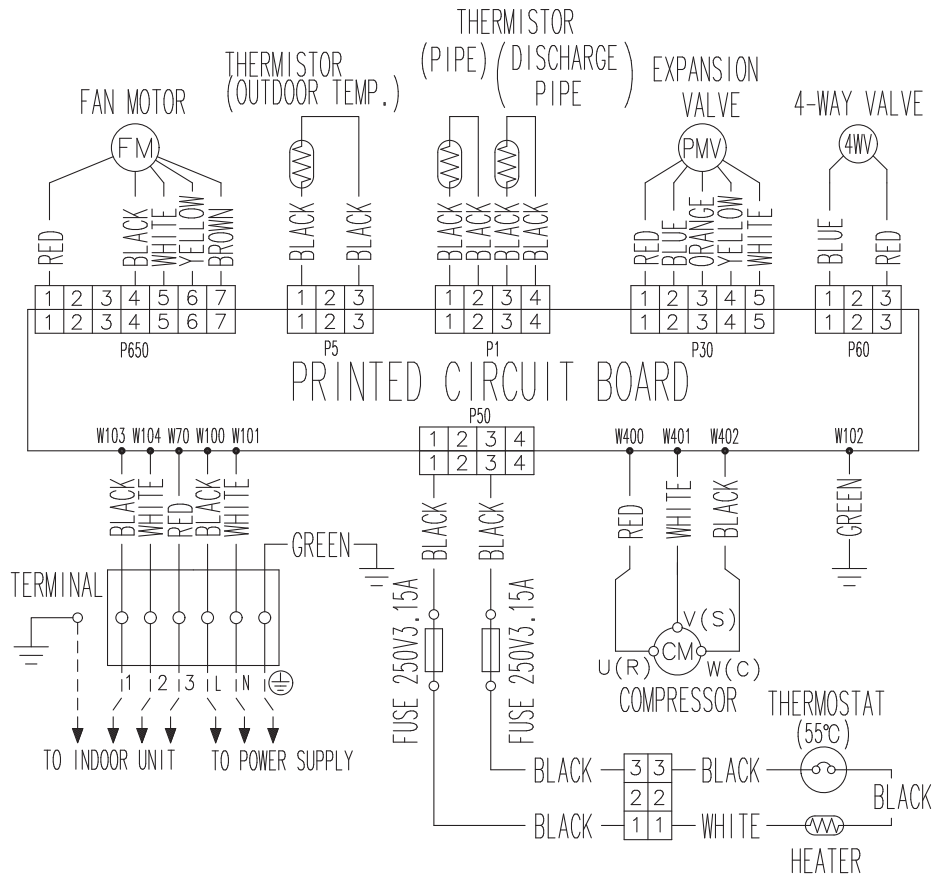
OUTDOOR UNIT  
AOYG09-14KMCBN

## 5. Wiring diagrams

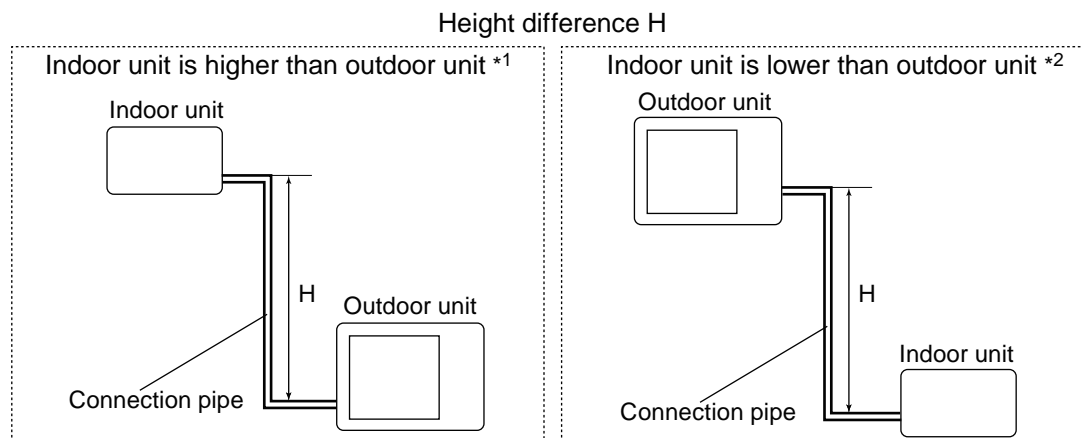
### 5-1. Models: AOYG09KMCBN, AOYG12KMCBN, and AOYG14KMCBN

OUTDOOR UNIT  
AOYG09-14KMCBN

OUTDOOR UNIT  
AOYG09-14KMCBN



## 6. Capacity compensation rate for pipe length and height difference



### 6-1. Model: AOYG09KMCBN

**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	—	—	—	0.913	0.922
		10	—	—	0.963	0.928	0.937
		7.5	—	0.980	0.967	0.932	0.941
		5	0.992	0.984	0.971	0.936	0.945
	Indoor unit is lower than outdoor unit *2	0	1.000	0.992	0.979	0.943	0.953
		-5	1.000	0.992	0.979	0.943	0.953
		-7.5	—	0.992	0.979	0.943	0.953
		-10	—	—	0.979	0.943	0.953
		-15	—	—	—	0.943	0.953

HEATING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	—	—	—	0.990	0.969
		10	—	—	1.002	0.990	0.969
		7.5	—	1.001	1.002	0.990	0.969
		5	1.000	1.001	1.002	0.990	0.969
	Indoor unit is lower than outdoor unit *2	0	1.000	1.001	1.002	0.990	0.969
		-5	0.995	0.996	0.997	0.985	0.964
		-7.5	—	0.994	0.995	0.983	0.962
		-10	—	—	0.992	0.980	0.960
		-15	—	—	—	0.970	0.950

## 6-2. Model: AOYG12KMCBN

**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	—	—	—	0.882	0.880
		10	—	—	0.943	0.896	0.894
		7.5	—	0.968	0.947	0.900	0.898
		5	0.992	0.972	0.951	0.903	0.901
	Indoor unit is lower than outdoor unit *2	0	1.000	0.980	0.958	0.911	0.909
		-5	1.000	0.980	0.958	0.911	0.909
		-7.5	—	0.980	0.958	0.911	0.909
		-10	—	—	0.958	0.911	0.909
		-15	—	—	—	0.911	0.909

HEATING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	—	—	—	0.952	0.932
		10	—	—	1.002	0.952	0.932
		7.5	—	1.010	1.002	0.952	0.932
		5	1.000	1.010	1.002	0.952	0.932
		0	1.000	1.010	1.002	0.952	0.932
	Indoor unit is lower than outdoor unit *2	-5	0.995	1.005	0.997	0.947	0.927
		-7.5	—	1.002	0.994	0.945	0.925
		-10	—	—	0.992	0.942	0.923
		-15	—	—	—	0.933	0.913

## 6-3. Model: AOYG14KMCBN

**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	—	—	—	0.866	0.869
		10	—	—	0.926	0.867	0.876
		7.5	—	0.959	0.929	0.871	0.880
		5	0.992	0.963	0.933	0.874	0.883
	Indoor unit is lower than outdoor unit *2	0	1.000	0.970	0.941	0.881	0.890
		-5	1.000	0.970	0.941	0.881	0.890
		-7.5	—	0.970	0.941	0.881	0.890
		-10	—	—	0.941	0.881	0.890
		-15	—	—	—	0.881	0.890

HEATING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	Indoor unit is higher than outdoor unit *1	15	—	—	—	0.956	0.938
		10	—	—	1.004	0.956	0.938
		7.5	—	1.013	1.004	0.956	0.938
		5	1.000	1.013	1.004	0.956	0.938
		0	1.000	1.013	1.004	0.956	0.938
	Indoor unit is lower than outdoor unit *2	-5	0.995	1.008	0.999	0.951	0.933
		-7.5	—	1.005	0.997	0.948	0.931
		-10	—	—	0.994	0.946	0.929
		-15	—	—	—	0.937	0.919

## 7. Additional charge calculation

### 7-1. Models: AOYG09KMCBN, AOYG12KMCBN, and AOYG14KMCBN

Refrigerant type		R32
Refrigerant amount	g	850

#### ■ Refrigerant charge

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

## 8. Airflow

### 8-1. Model: AOYG09KMCBN

#### ● Cooling

m <sup>3</sup> /h	2,020
l/s	561
CFM	1,189

#### ● Heating

m <sup>3</sup> /h	1,440
l/s	400
CFM	848

### 8-2. Model: AOYG12KMCBN

#### ● Cooling

m <sup>3</sup> /h	2,020
l/s	561
CFM	1,189

#### ● Heating

m <sup>3</sup> /h	1,620
l/s	450
CFM	954

### 8-3. Model: AOYG14KMCBN

#### ● Cooling

m <sup>3</sup> /h	2,020
l/s	561
CFM	1,189

#### ● Heating

m <sup>3</sup> /h	1,620
l/s	450
CFM	954

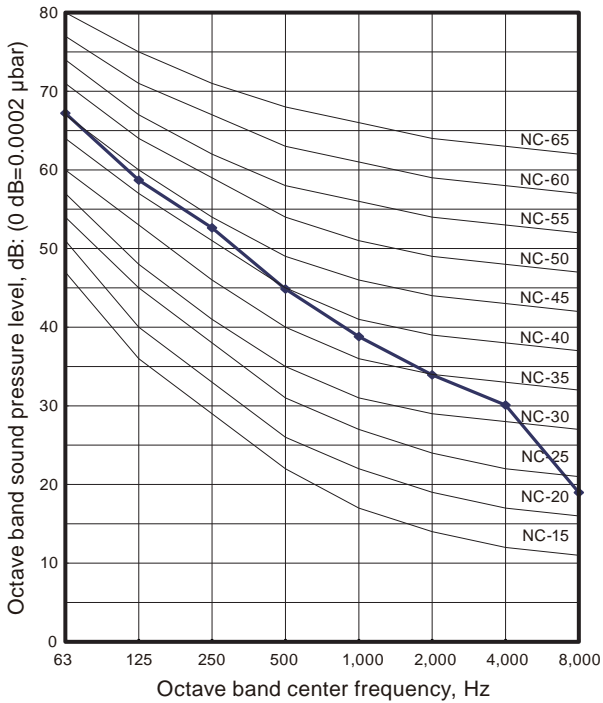


# 9. Operation noise (sound pressure)

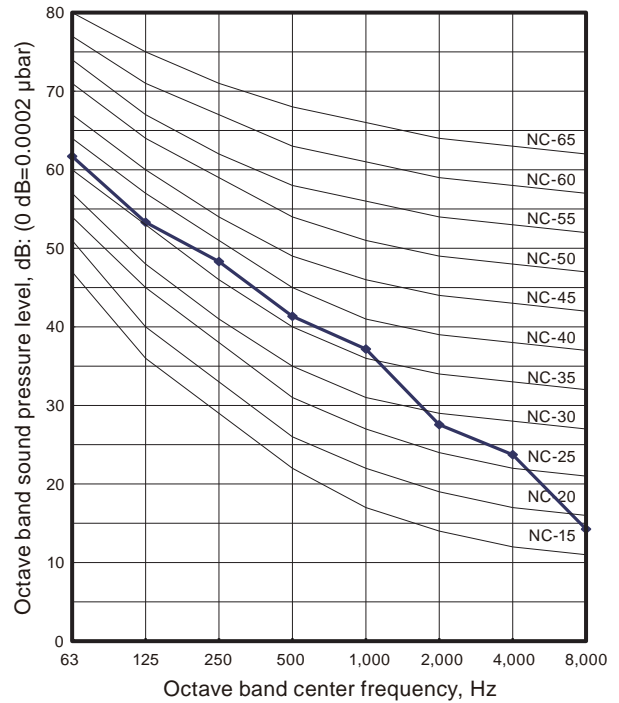
## 9-1. Noise level curve

### Model: AOYG09KMCBN

#### ● Cooling

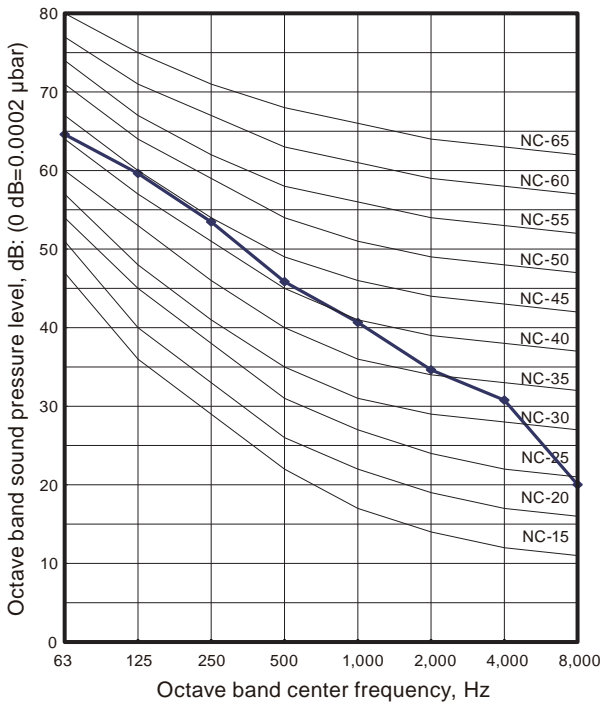


#### ● Heating

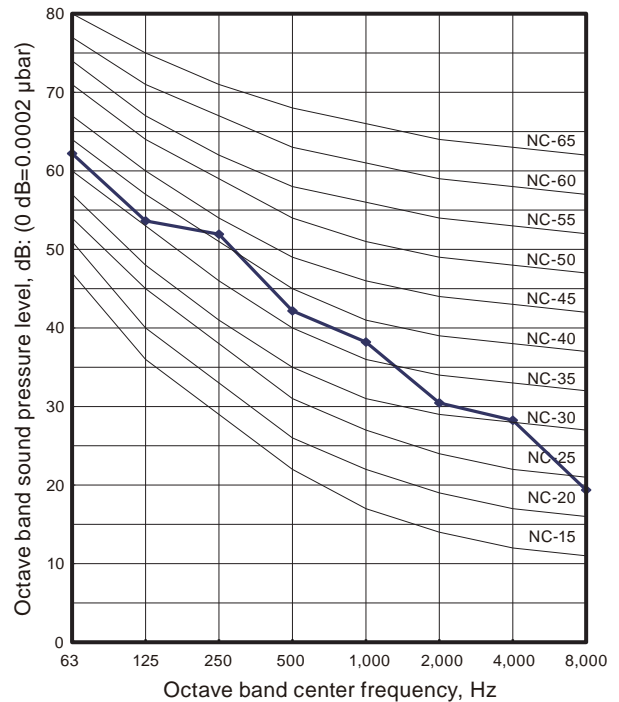


### Model: AOYG12KMCBN

#### ● Cooling



#### ● Heating

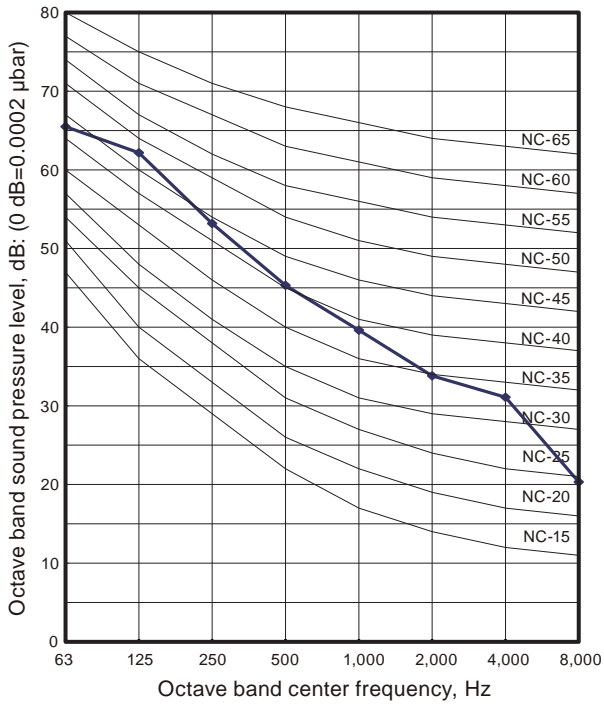


OUTDOOR UNIT  
AOYG09-14KMCBN

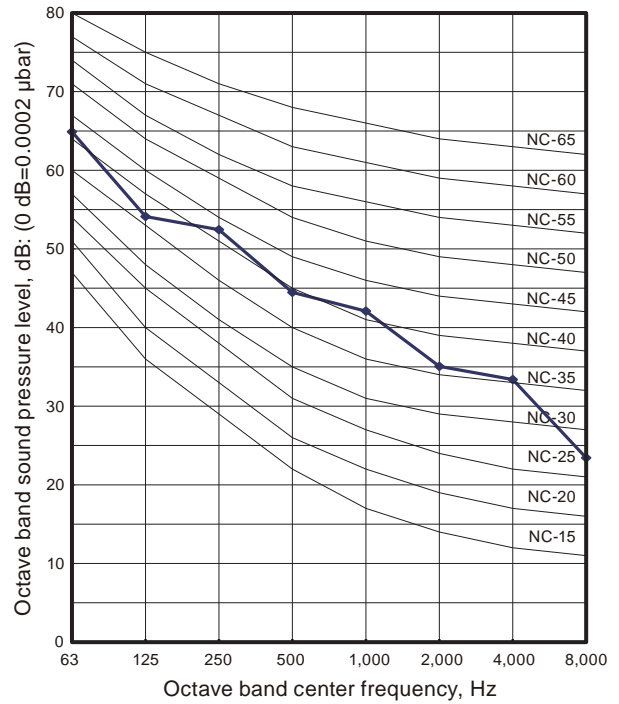
OUTDOOR UNIT  
AOYG09-14KMCBN

■ Model: AOYG14KMCBN

● Cooling



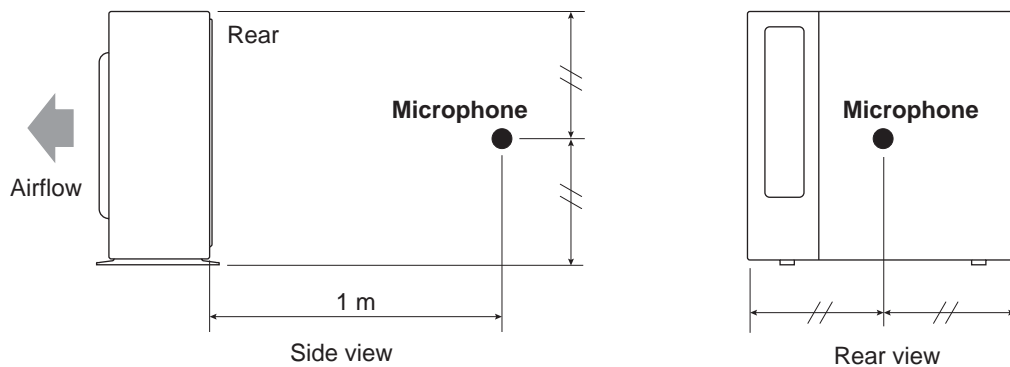
● Heating



OUTDOOR UNIT  
AOYG09-14KMCBN

OUTDOOR UNIT  
AOYG09-14KMCBN

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			AOYG09KMCBN	AOYG12KMCBN	AOYG14KMCBN
Power supply	Voltage	V	230~		
	Frequency	Hz	50		
Max operating current *1		A	9.5	11.0	11.5
Starting current		A	3.7	4.7	7.1
Wiring spec. *2	Circuit breaker current		A	15	
	Power cable		mm <sup>2</sup>	1.5	
	Connection cable *3	Cross-sectional area	mm <sup>2</sup>	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		
			AOYG09KMCBN	AOYG12KMCBN	AOYG14KMCBN
Circuit protection	Current fuse (Main PCB)		250 V, 25 A		
			250 V, 5 A		
			250 V, 3.15 A		
	Current fuse (Wire)		250 V, 3.15 A		
Fan motor protection	Thermal protection program	Activate	100 ±15 °C Fan motor stop		
		Reset	95 ±10 °C Fan motor restart		
Compressor protection	Thermal protection program (Discharge temp.)	Activate	110 °C Compressor stop		
		Reset	After 7 minutes Compressor restart		
	Thermal protection program (Outdoor temp.) (Only in COOL or DRY mode)	Activate	-15 °C Compressor stop		
		Reset	-10 °C Compressor restart		

## 12. Accessories

### 12-1. Models: AOYG09KMCBN, AOYG12KMCBN, and AOYG14KMCBN

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Installation manual		1			