Refrigerant
R410A

INVERTER

AIR CONDITIONER

Wall Mounted type

DESIGN & TECHNICAL MANUAL

INDOOR

AS✳G18LFCA
AS✳G24LFCC
AS✳G30LFCA

OUTDOOR

AO✳G18LFC
AO✳G24LFCC

AO✳G30LFT

FUJITSU GENERAL LIMITED

1. INDOOR UNIT

WALL MOUNTED TYPE :

AS∗G18LFCA
AS∗G24LFCC
AS∗G30LFCA

CONTENTS

1. INDOOR UNIT

1. FEATURES

■ MODEL
AS∗G18LFCA
AS∗G24LFCC
AS∗G30LFCA

AO∗G18LFC
AO∗G24LFCC

AO∗G30LFT

■ FEATURES

● Energy efficiency class

	MODEL		
	AS∗G18LFCA	AS∗G24LFCC	AS∗G30LFCA
Cooling	A++	A++	A+
Heating	A	A	A

● All DC

DC fan motor

DC compressor

High efficiency layout

Large air flow and quiet operation by new air flow path
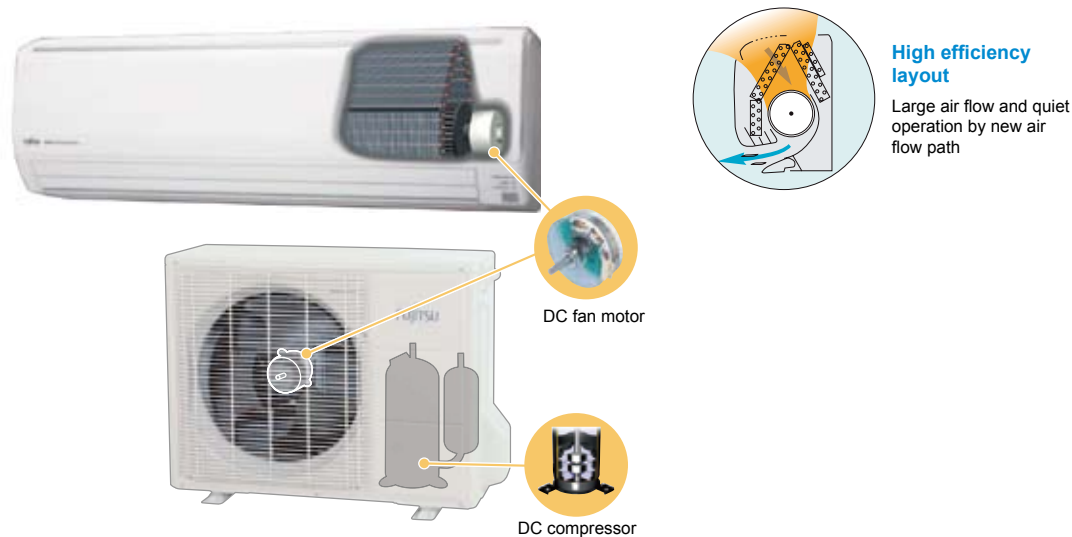
● Super quiet

Airflow mode can be set in 4 steps and more detailed airflow setting is possible.

● Easy maintenance

Easy maintenance and always clean. Troublesome maintenance has been made easy.

Since the front panel is easy to remove, maintenance is also easy.

● 10°C HEAT Operation

The room temperature can be set to go no lower than 10 °C,
thus ensuring that the room does not get too cold when not occupied

Caution)
• When the room temperature is higher than 10 °C, "10°C HEAT" operation will not start. Operation starts and maintains the room temperature at 10 °C when the temperature drops below 10 °C.

"10°C HEAT"
Button ON

"10°C HEAT"
Button ON

20°C

Indoor unit operation START

10°C
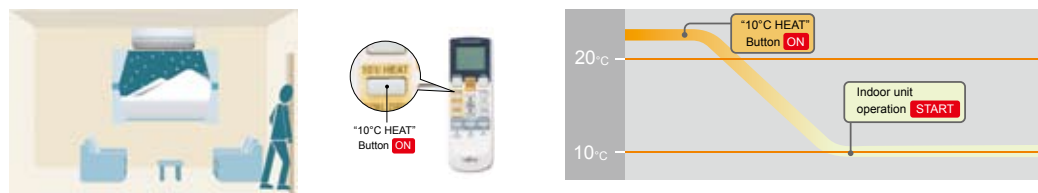
● Power diffuser

Adoption of large power diffuser

"Strong vertical airflow" provides powerful
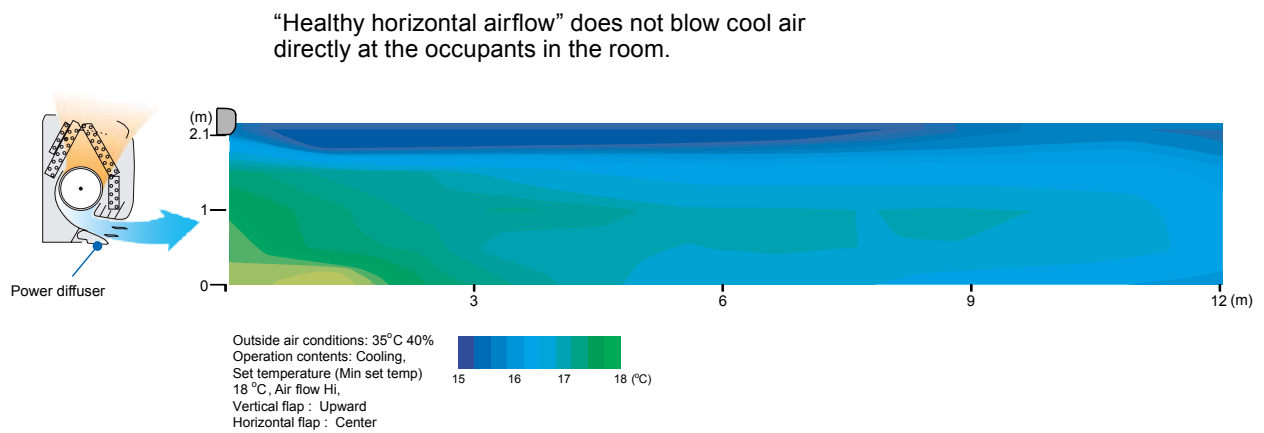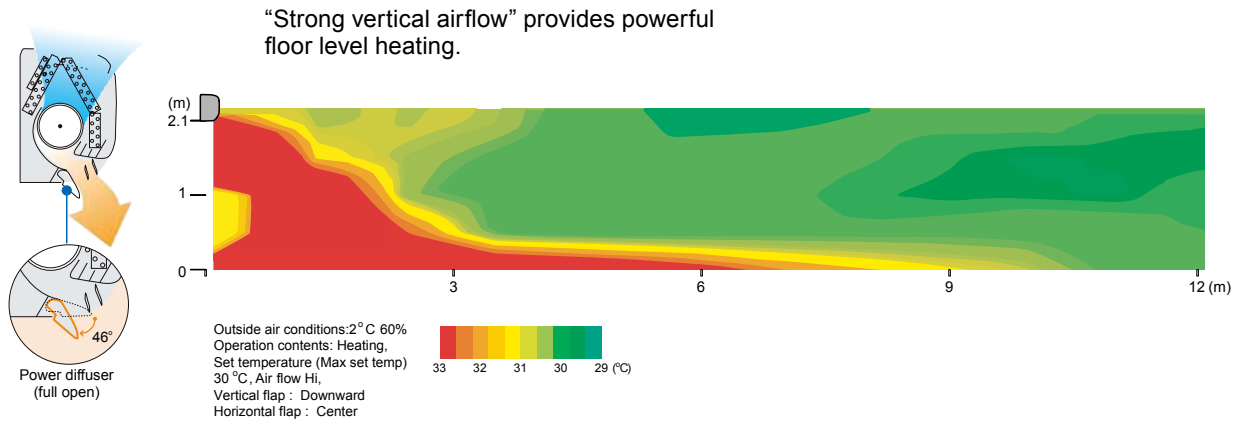floor level heating.

(m)
2.1
1
0

3   6   9   12 (m)

Outside air conditions:2°C 60%
Operation contents: Heating,
Set temperature (Max set temp)
30 °C, Air flow Hi,
Vertical flap : Downward
Horizontal flap : Center

33   32   31   30   29 (°C)

46°

Power diffuser
(full open)

"Healthy horizontal airflow" does not blow cool air
directly at the occupants in the room.

(m)
2.1
1
0

3   6   9   12 (m)

Outside air conditions: 35°C 40%
Operation contents: Cooling,
Set temperature (Min set temp)
18 °C, Air flow Hi,
Vertical flap : Upward
Horizontal flap : Center
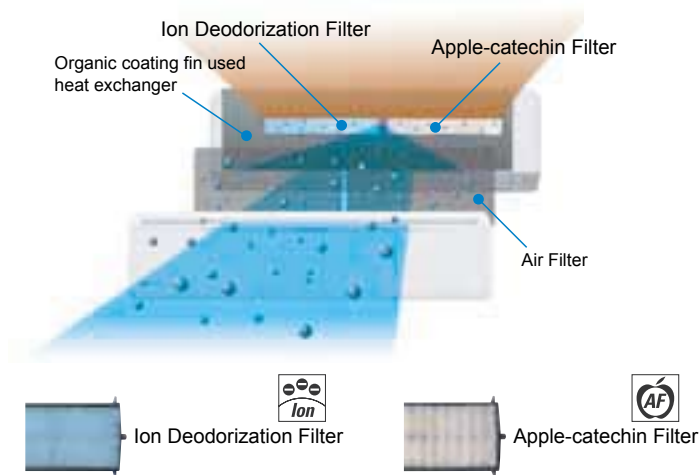
15   16   17   18 (°C)

Power diffuser

● Low outdoor air temperature cooling and heating correspondence

Corresponds to cooling operation at -10 °C and heating operation at -15 °C outdoor air
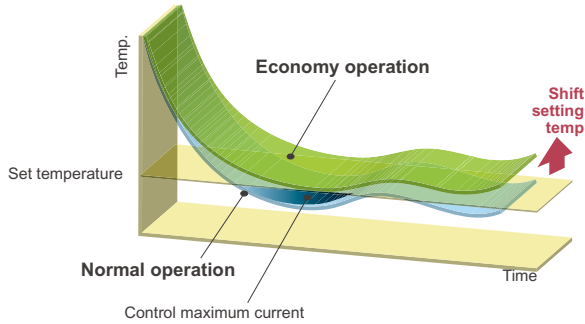temperature

Cooling	-10 °C
Heating	-15 °C

● Corresponds to maximum 50m-long piping (30 type)

● Air conditioner filter features

Ion Deodorization Filter
Apple-catechin Filter
Organic coating fin used heat exchanger
Air Filter

Ion Deodorization Filter
Apple-catechin Filter

● Economy operation

Example: Cooling operation

Temp.
Economy operation
Shift setting temp
Set temperature
Normal operation
Control maximum current
Time

● Economy operation is energy saving, as the set temperature of indoor unit is shifted by 1 °C and the maximum electric value of the outdoor unit is suppressed.

● Blue fin heat exchanger (30 type)

Corrosion-resistance of the heat exchanger even in coastal areas has been improved by blue fin treatment of the outdoor unit heat exchanger.

Blue fin heat exchanger

Cobalt Blue protection
Standard chromate protection
Aluminium base material
Hydrophilic coating
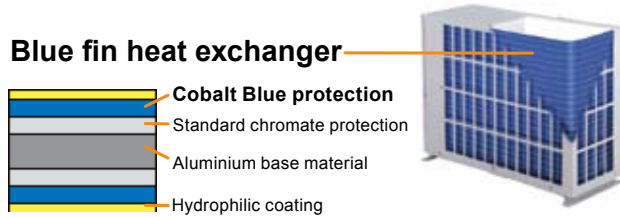
2. WIRELESS REMOTE CONTROLLER

■ FEATURES

- 4 mode timer setup available (ON / OFF / PROGRAM / SLEEP).
- Can be used jointly with wired remote controllers .
- Easy to change signal code (max. 4 units) by button operation.

● Simple function setting

Setting of the air conditioner selection function is performed by remote controller.
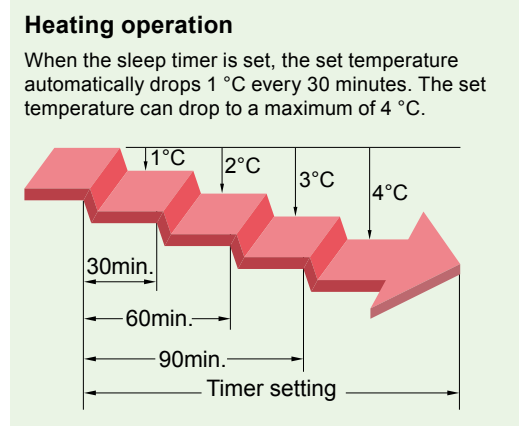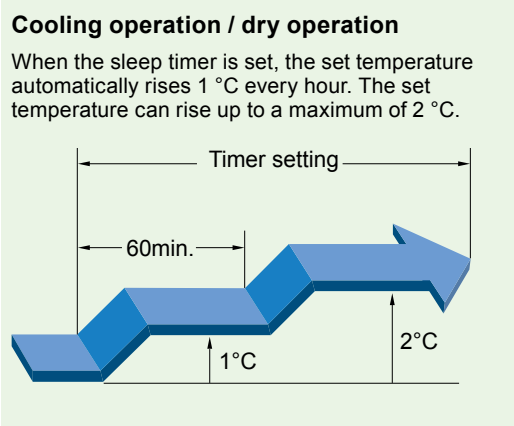
● Built-in timers

Select from 4 different timer programs (ON / OFF / PROGRAM / SLEEP).
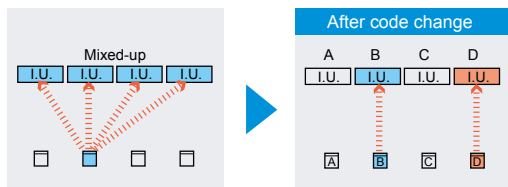
● Program timer

The program timer operates the on and off timer once within a 24-hour period.

● Sleep timer

The sleep timer function automatically corrects the temperature thermostat setting according to the time setting to prevent excessive cooling and heating while sleeping.

Cooling operation / dry operation

When the sleep timer is set, the set temperature automatically rises 1 °C every hour. The set temperature can rise up to a maximum of 2 °C.

Timer setting
60min.
1°C
2°C

Heating operation

When the sleep timer is set, the set temperature automatically drops 1 °C every 30 minutes. The set temperature can drop to a maximum of 4 °C.

1°C 2°C 3°C 4°C
30min.
60min.
90min.
Timer setting

● Switching remote controller signal code

Mixed-up
I.U. I.U. I.U. I.U.

After code change
A   B   C   D
I.U. I.U. I.U. I.U.
Ⓐ   Ⓑ   Ⓒ   Ⓓ

• Code selector switch eliminates unit being wrongly switched.
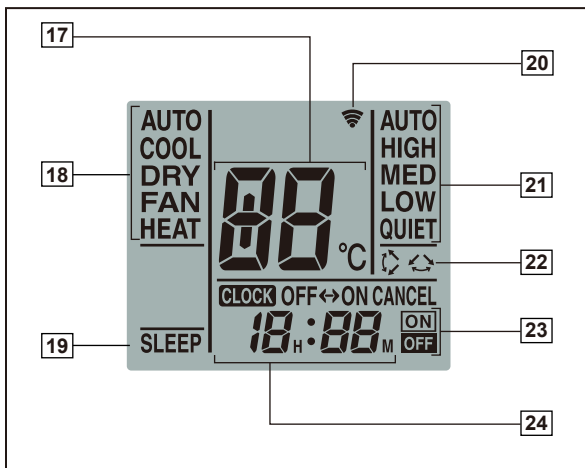 (Up to 4 codes can be set.)

*I.U.=Indoor unit

■ FUNCTIONS

Display panel
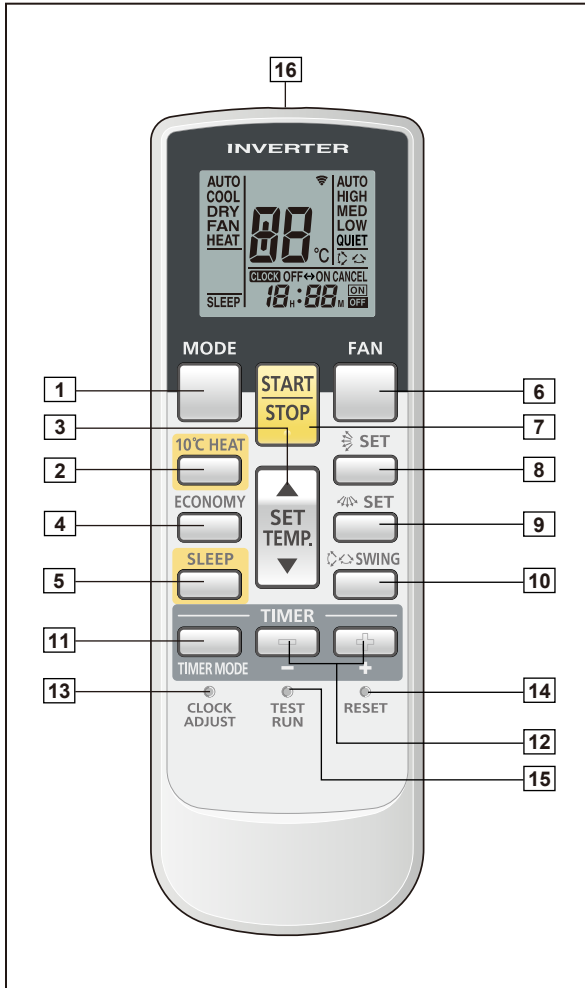
| 1 | MODE button |
| Selects the operating mode (AUTO, COOL, DRY, FAN, HEAT). /Start / end R.C. custom code change. (Max 4 types) |

| 2 | 10°C HEAT button |

| 3 | SET TEMP. button (▲ / ▼) |
| Set remote controller custom code buttons Sets the indoor temp./ Sets R.C. custom code. |

| 4 | ECONOMY button |

| 5 | SLEEP button |
| Pressed to select sleep timer. |

| 6 | FAN button |
| Selects the fan speed (AUTO, HIGH, MED, LOW, QUIET). |

| 7 | START/STOP button |
| Pressed to start and stop operation. |

| 8 | SET button (Vertical) |
| Airflow direction vertical set button. |

| 9 | SET button (Horizontal) |
| Airflow direction horizontal set button. |

| 10 | SWING button |
| Airflow direction swing button. |

| 11 | TIMER MODE button |
| Pressed to select the timer mode. (OFF TIMER, ON TIMER, PROGRAM TIMER, TIMER RESET) |

| 12 | TIMER set (+ / -) button |
| Sets the current time and on-off time. |

| 13 | CLOCK ADJUST button |
| Sets the current time. |

| 14 | RESET button |
| Used when replacing batteries. |

| 15 | TEST RUN button |
| Used when testing the air conditioner after installation. |

| 16 | Signal transmitter |

| 17 | Temperature set indicator |

| 18 | Operating mode indicator |

| 19 | Sleep indicator |

| 20 | Transmit indicator |

| 21 | Fan speed indicator |

| 22 | Swing indicator |

| 23 | Timer mode indicator |

| 24 | Clock indicator |

NOTE: Functions will be different due to type of indoor unit. For details, refer to the operation manual.

■ SPECIFICATION

SIZE	(H × W × D mm)	170 × 56 × 19
WEIGHT	(g)	85 (w/o batteries)
ACCESSORY		Holder

3. SPECIFICATIONS

Type					WALL MOUNTED INVERTER HEAT PUMP		
Model name					AS✴G18LFCA	AS✴G24LFCC	AS✴G30LFCA
Power source					230 V~ 50 Hz		
Available voltage range					198–264V		
Capacity	Cooling	Rated		kW	5.20	7.10	8.00
				Btu/h	17,700	24,200	27,300
		Min.–Max.		kW	0.9–6.0	0.9–8.0	2.9–9.0
				Btu/h	3,100–20,500	3,100–27,300	9,900–30,700
	Heating	Rated		kW	6.30	8.00	8.80
				Btu/h	21,500	27,300	30,000
		Min.–Max.		kW	0.9–9.1	0.9–10.6	2.2–11.0
				Btu/h	3,100–31,000	3,100–36,200	7,500–37,600
Input power	Cooling	Rated	kW		1.52	2.20	2.49
		Min.–Max.			0.09–2.07	0.30–3.07	0.58–3.87
	Heating	Rated			1.71	2.21	2.44
		Min.–Max.			0.09–2.87	0.28–4.21	0.50–4.33
Current	Cooling	Rated	A		6.8	9.7	10.9
	Heating				7.6	9.7	10.7
EER	Cooling		kW/kW		3.42	3.23	3.21
COP	Heating				3.68	3.61	3.61
Sensible capacity	Cooling		kW		3.45	5.25	6.00
Power factor	Cooling		%		97	99	99
	Heating				98	99	99
Moisture removal			l/h (pints/h)		2.6(4.6)	2.7(4.8)	3.2(5.6)
Maximum operating current *	Cooling	Max.	A		9.0	13.5	17.0
	Heating				12.5	18.5	19.0
Fan	Airflow rate	Cooling	High	m³/h	900	1120	1100
			Med		740	900	900
			Low		620	740	740
			Quiet		550	580	620
		Heating	High		900	1120	1150
			Med		740	900	900
			Low		620	740	740
			Quiet		550	580	620
	Type × Q'ty				Cross flow fan × 1		
	Motor output		W		42	65	42
Sound pressure level	Cooling	High	dB (A)		43	49	48
		Med			37	42	42
		Low			33	37	37
		Quiet			26	32	33
	Heating	High			42	48	49
		Med			37	42	42
		Low			33	37	37
		Quiet			25	32	33
Heat exchanger type	Dimensions (H × W × D)	mm			Main : 378 × 832 × 26.6 Sub : 84 × 382 × 13.3	Main : 378 × 832 × 26.6 Sub1 : 84 × 832 × 13.3, Sub2 : 84 × 832 × 13.3	
	Fin pitch				Main :1.2, Sub :1.4	Main : 1.2, Sub1 : 1.4, Sub2 : 1.4	
	Rows × stages				Main : 2 × 18, Sub :1 × 4	Main : 2 × 18, Sub1 : 1 × 4, Sub2 : 1 × 4	
	Pipe type				Copper		
	Fin type				Aluminium		
Enclosure	Material				Polystyrene		
	Colour				White Approximate colour of MUNSELL N9.25/		
Dimensions (H × W × D)	Net	mm			320 × 998 × 238		
	Gross				329 × 1090 × 420		
Weight	Net	kg			14		
	Gross				18		
Connection pipe	Size	Liquid	mm		Ø 6.35 (Ø 1/4 in.)	Ø 6.35 (Ø 1/4 in.)	Ø 9.52 (Ø 3/8 in.)
		Gas			Ø 12.70 (Ø 1/2 in.)	Ø 15.88 (Ø 5/8 in.)	Ø 15.88 (Ø 5/8 in.)
	Method				Flare		
Operation range	Cooling	°C			18 to 32		
		%RH			80 or less		
	Heating	°C			30 or less		
Remote controller type					Wireless		
Drain hose	Material				PVC		
	Size	mm			Ø 12 (I.D.), Ø 16 (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 (Outdoor unit–Indoor unit)

● The protective function might work when using it in environment out of the temperature range mentioned above.

* : The maximum current is the maximum value when operated within the operation range.

Model name				AS✽G18LFCA	AS✽G24LFCC	AS✽G30LFCA
Energy efficiency class	Cooling			A++	A++	A+
	Heating (Average)			A	A	A
Pdesign	Cooling		kW	5.2 (35 °C)	7.1 (35 °C)	8.0 (35 °C)
	Heating (Average)			5.9 (-10 °C)	7.1 (-10 °C)	8.0 (-10 °C)
SEER	Cooling		kWh/kWh	6.94	6.11	5.69
SCOP	Heating (Average)			3.87	3.80	3.80
Annual energy consumption	QCE		kWh/a	262	406	492
	QHE (Average)			2130	2610	2941
Sound power level	Cooling	High	dB (A)	58	64	64
	Heating			58	64	64

4. DIMENSIONS

■ MODEL : AS∗G18LFCA, AS∗G24LFCC, AS∗G30LFCA

(Unit : mm)
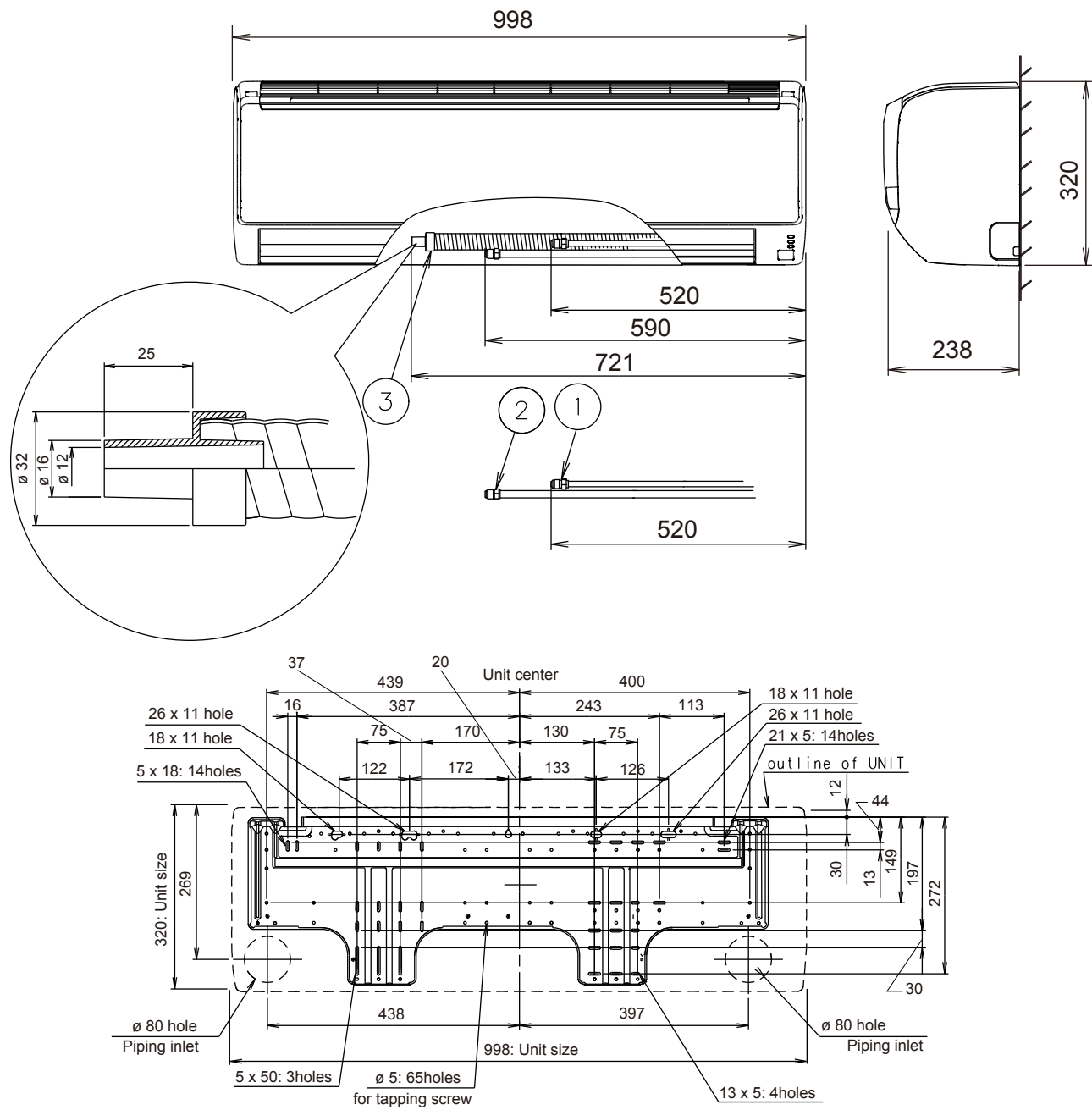
			AS∗G18LF	AS∗G24LF	AS∗G30LF
①	Refrigerant pipe flare connection	Liquid	ø 6.35 mm (1/4 in.)		ø 9.52 mm (3/8 in.)
②		Gas	ø 12.7 mm (1/2 in.)	ø 15.88 mm (5/8 in.)	
③	Drain hose connection	Drain hose	Ø12 (I.D.), Ø16 (O.D.) Drain hose : L=670 mm		

■ INSTALLATION PLACE

(Unit : mm)

63 or more

80 or more

Outline of unit

52 or more

80 or more

53 or more

120 or more

1500 or more

1800 or more
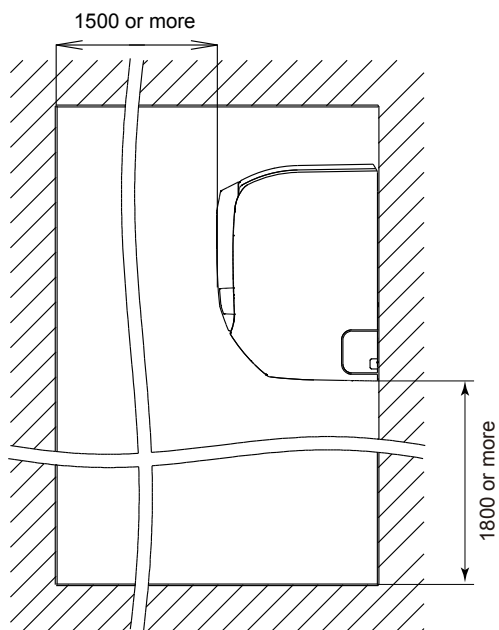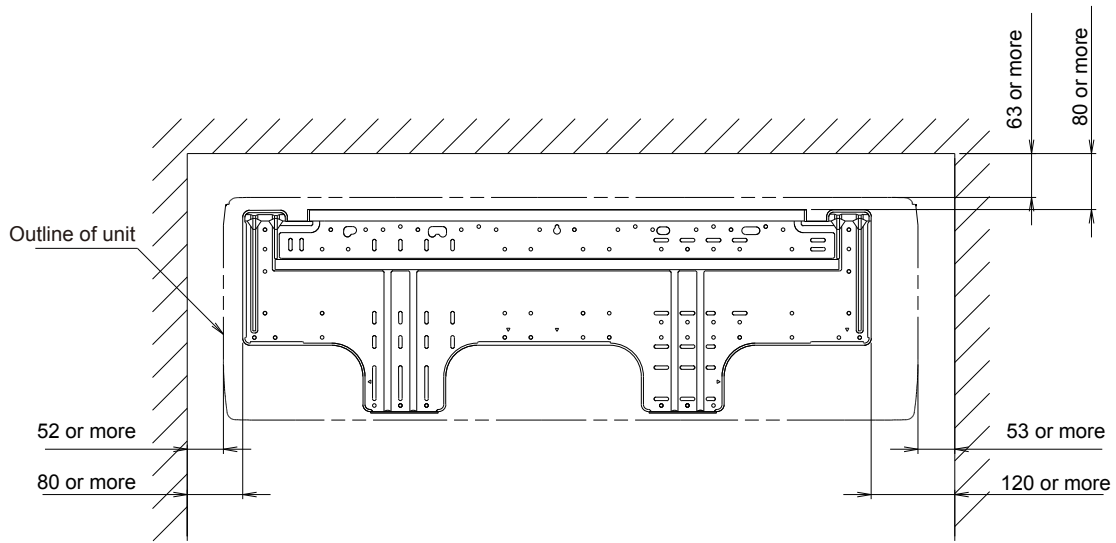
5. WIRING DIAGRAMS

■ MODEL : AS✳G18LFCA, AS✳G24LFCC, AS✳G30LFCA

TEST

| 1 | 2 | 3 | 4 | 5 |

CN13

EX.OUT (OPTION) — CN16

EX.IN (OPTION) — CN14

THERMISTOR (PIPE TEMP.)

BLACK
BLACK

WHITE — CN3
RED

CONTROOL BOARD

CN10

1 1 BLUE
2 2 YELLOW
3 3 WHITE
4 4 BLACK
5 5
6 6 RED

FM
FAN MOTOR

CN8

6 6 BLUE
5 5 PINK
4 4 YELLOW
3 3 ORANGE
2 2
1 1 RED

M
STEPPING MOTOR (DIFFUSER)

THERMISTOR (ROOM TEMP.)

BLACK
BLACK — CN1

REMOTE CONTROL UNIT (OPTION)

CN6

3 BLACK
2 WHITE
1 RED

CN5

6 6 BLUE
5 5 PINK
4 4 YELLOW
3 3 ORANGE
2 2
1 1 RED

M
STEPPING MOTOR (UP/DOWN)

CN201

DISPLAY BOARD

7 WHITE
6 WHITE
5 WHITE
4 WHITE
3 WHITE
2 WHITE
1 RED

CN11

CN2

5 5 BLUE
4 4 PINK
3 3 YELLOW
2 2 ORANGE
1 1 RED

M
STEPPING MOTOR (RIGHT/LEFT)

WHITE — TM1

BLACK — TM4

TM2 — RED

W5 — GREEN

THERMAL FUSE 102℃

TERMINAL

1 2 3

TO OUTDOOR UNIT

6. CAPACITY TABLE

6-1. COOLING CAPACITY

■ MODEL : AS✴G18LFCA

AFR	15.0

		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
20		4.62	3.14	1.03	5.15	3.15	1.05	5.33	3.43	1.05	5.68	3.44	1.06	5.85	3.71	1.07	6.20	3.70	1.08	6.56	3.94	1.09
25		4.63	3.14	1.17	5.16	3.16	1.19	5.34	3.43	1.20	5.69	3.45	1.21	5.86	3.72	1.22	6.21	3.71	1.23	6.57	3.95	1.24
30		4.38	2.97	1.32	4.88	2.99	1.34	5.04	3.25	1.35	5.38	3.26	1.36	5.54	3.52	1.37	5.87	3.50	1.38	6.21	3.73	1.39
35		4.11	2.91	1.47	4.58	2.93	1.49	4.73	3.18	1.50	5.04	3.19	1.51	5.20	3.45	1.52	5.51	3.44	1.54	5.82	3.66	1.55
40		3.56	2.41	1.35	3.96	2.43	1.38	4.10	2.64	1.38	4.37	2.65	1.40	4.50	2.86	1.40	4.78	2.85	1.42	5.05	3.03	1.43
46		3.08	2.09	1.65	3.43	2.10	1.68	3.55	2.28	1.68	3.78	2.29	1.70	3.90	2.48	1.71	4.13	2.47	1.73	4.37	2.63	1.74

■ MODEL : AS✴G24LFCC

AFR	18.7

		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
20		5.72	4.53	1.17	6.37	4.56	1.19	6.59	4.96	1.19	7.02	4.97	1.20	7.24	5.37	1.21	7.67	5.35	1.22	8.11	5.70	1.23
25		6.41	4.90	1.84	7.15	4.93	1.87	7.39	5.36	1.88	7.88	5.38	1.90	8.12	5.81	1.91	8.61	5.79	1.93	9.09	6.16	1.95
30		6.19	4.71	2.02	6.90	4.74	2.05	7.13	5.15	2.06	7.60	5.17	2.08	7.84	5.58	2.09	8.31	5.56	2.11	8.78	5.92	2.13
35		5.61	4.43	2.09	6.25	4.46	2.13	6.46	4.85	2.14	6.89	4.86	2.16	7.10	5.25	2.21	7.53	5.23	2.19	7.95	5.57	2.21
40		5.08	4.11	2.08	5.66	4.13	2.12	5.85	4.50	2.13	6.24	4.51	2.15	6.43	4.87	2.16	6.82	4.85	2.18	7.20	5.17	2.20
46		4.62	3.88	2.24	5.15	3.91	2.27	5.32	4.25	2.29	5.68	4.26	2.31	5.85	4.60	2.32	6.20	4.58	2.34	6.55	4.88	2.37

■ MODEL : AS✴G30LFCA

AFR	18.3

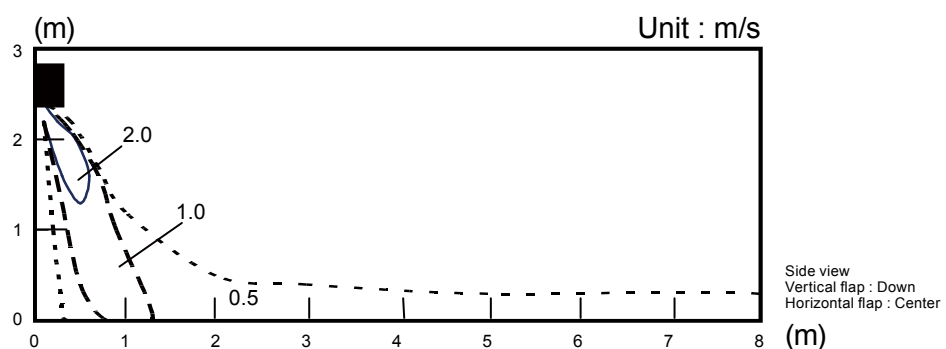|		Indoor temperature																			
	°CDB	18			21			23			25			27			29			32		
	°CWB	12			15			16			18			19			21			23		
°CDB		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
20		6.31	5.01	1.29	7.03	5.04	1.31	7.27	5.48	1.32	7.75	5.50	1.33	7.99	5.94	1.34	8.47	5.92	1.35	8.95	6.30	1.37
25		6.99	5.45	2.03	7.79	5.48	2.06	8.05	5.96	2.07	8.58	5.98	2.09	8.85	6.46	2.10	9.38	6.43	2.12	9.91	6.85	2.14
30		6.66	5.23	2.26	7.42	5.26	2.29	7.67	5.72	2.30	8.18	5.74	2.33	8.43	6.20	2.34	8.94	6.18	2.36	9.44	6.58	2.39
35		6.32	5.06	2.40	7.04	5.09	2.44	7.28	5.54	2.45	7.76	5.56	2.48	8.00	6.00	2.49	8.48	5.98	2.51	8.96	6.37	2.54
40		5.68	4.63	2.68	6.33	4.66	2.72	6.54	5.07	2.74	6.97	5.08	2.77	7.19	5.49	2.78	7.62	5.47	2.81	8.05	5.82	2.84
46		5.17	4.22	2.89	5.76	4.25	2.93	5.96	4.62	2.95	6.35	4.63	2.98	6.55	5.00	2.99	6.94	4.98	3.02	7.34	5.31	3.05

AFR : Airflow Rate (m³/min)
TC : Total Capacity (kW)
SHC : Sensible Heat Capacity (kW)
IP : Input Power (kW)

6-2. HEATING CAPACITY

■ MODEL : AS∗G18LFCA

AFR	15.0

			Indoor temperature								
			16		18		20		22		24
	(°CDB)	(°CWB)	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
Outdoor temperature	-15	-16	5.08	2.19	4.96	2.24	4.84	2.30	4.72	2.33	4.60	2.37
	-10	-11	6.04	2.36	5.89	2.42	5.75	2.47	5.61	2.52	5.47	2.57
	-5	-7	6.81	2.48	6.64	2.54	6.48	2.59	6.32	2.64	6.16	2.69
	0	-2	7.86	2.65	7.67	2.72	7.48	2.77	7.29	2.83	7.11	2.89
	5	3	8.94	2.83	8.72	2.90	8.51	2.96	8.30	3.01	8.09	3.08
	7	6	9.56	2.75	9.33	2.82	9.10	2.87	8.87	2.92	8.65	2.99
	10	8	9.91	2.75	9.66	2.82	9.43	2.87	9.19	2.92	8.97	2.99
	15	10	9.59	2.38	9.36	2.44	9.13	2.49	8.90	2.54	8.68	2.59

■ MODEL : AS∗G24LFCC

AFR	18.7

			Indoor temperature								
			16		18		20		22		24
	(°CDB)	(°CWB)	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
Outdoor temperature	-15	-16	6.41	2.81	6.26	2.87	6.11	2.93	5.95	2.99	5.80	3.05
	-10	-11	7.30	3.00	7.13	3.06	6.96	3.12	6.78	3.18	6.61	3.25
	-5	-7	8.23	3.23	8.04	3.29	7.84	3.36	7.64	3.43	7.45	3.49
	0	-2	9.05	3.50	8.84	3.58	8.62	3.65	8.40	3.72	8.19	3.80
	5	3	10.05	3.82	9.81	3.90	9.57	3.98	9.33	4.06	9.09	4.14
	7	6	11.13	3.89	10.87	3.97	10.60	4.06	10.34	4.14	10.07	4.22
	10	8	11.19	3.38	10.93	3.45	10.66	3.52	10.39	3.59	10.13	3.66
	15	10	10.71	2.90	10.46	2.96	10.20	3.02	9.95	3.08	9.69	3.13

■ MODEL : AS∗G30LFCA

AFR	19.2

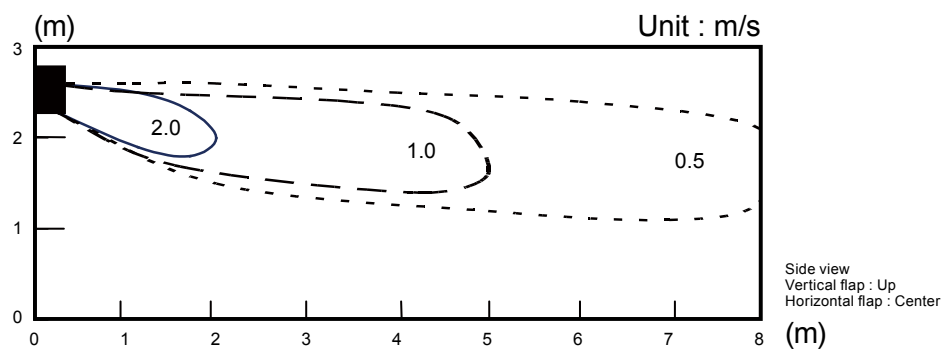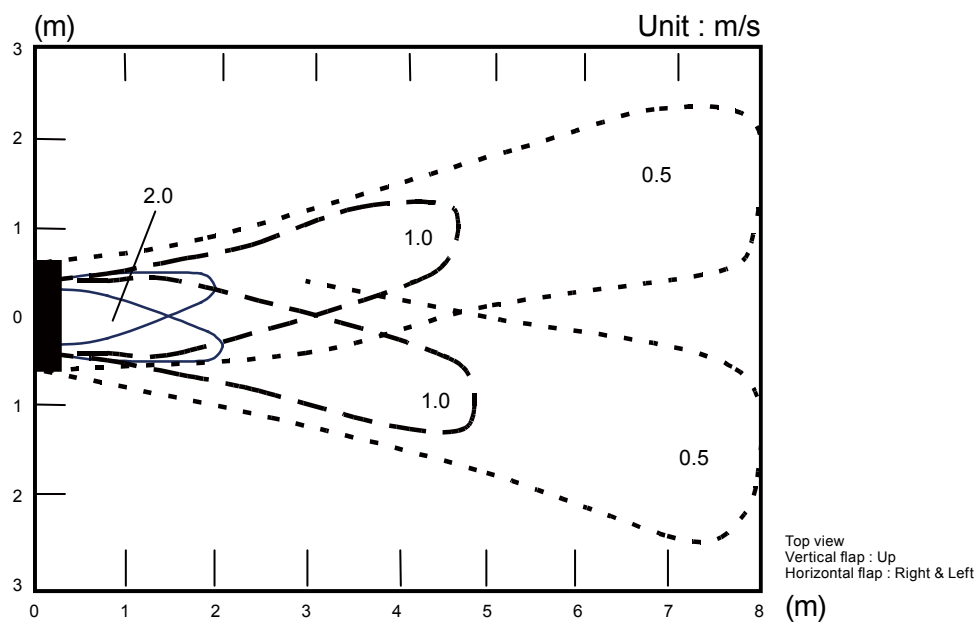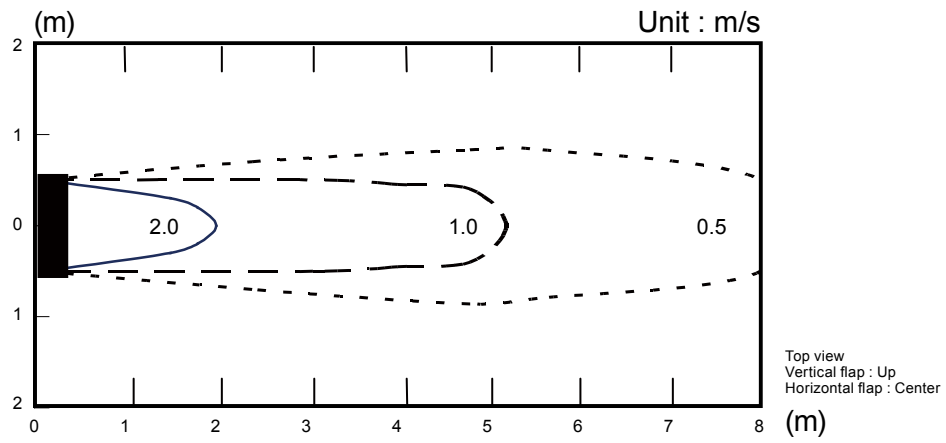|			Indoor temperature								
			16		18		20		22		24
	(°CDB)	(°CWB)	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
Outdoor temperature	-15	-16	7.75	4.07	7.56	4.16	7.38	4.24	7.20	4.32	7.01	4.41
	-10	-11	8.34	4.06	8.14	4.15	7.94	4.23	7.74	4.31	7.54	4.40
	-5	-7	9.61	4.08	9.38	4.17	9.15	4.25	8.92	4.34	8.69	4.42
	0	-2	10.54	4.04	10.29	4.13	10.04	4.21	9.79	4.29	9.54	4.38
	5	3	11.53	4.09	11.25	4.17	10.98	4.26	10.71	4.35	10.43	4.43
	7	6	11.55	3.39	11.28	3.46	11.00	3.53	10.73	3.60	10.45	3.67
	10	8	11.90	3.38	11.61	3.45	11.33	3.52	11.05	3.59	10.76	3.66
	15	10	11.48	2.95	11.20	3.01	10.93	3.07	10.66	3.13	10.38	3.19

AFR: Airflow Rate (m^3/min)
TC : Total Capacity (kW)
IP : Input Power (kW)

7. FAN PERFORMANCE
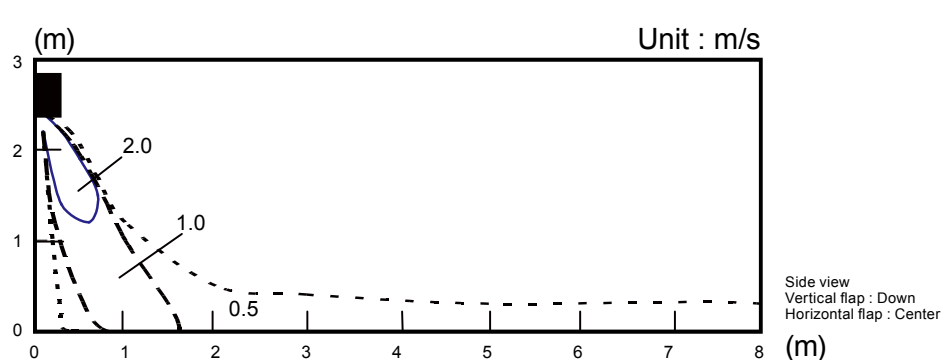
7-1. AIR VELOCITY DISTRIBUTION

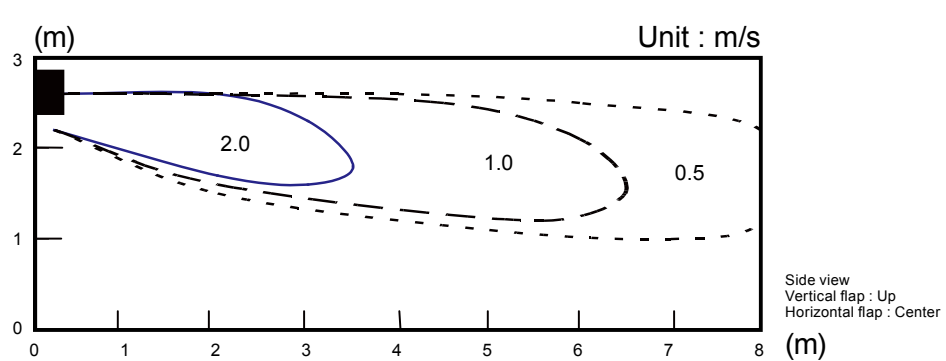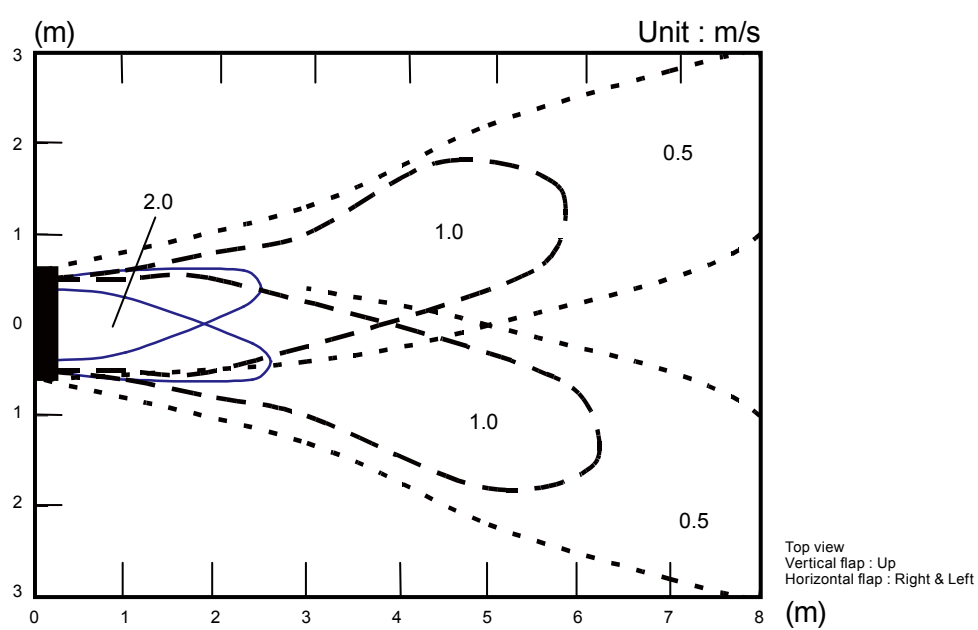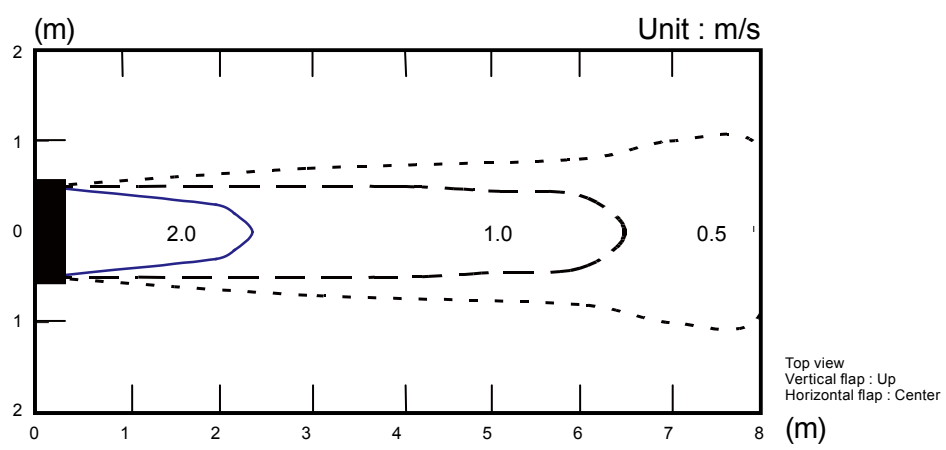## ■ MODEL : AS✳G18LFCA

Conditions:
Fan speed : HIGH
Operation mode : FAN
Voltage : 230 V

Top view
Vertical flap : Up
Horizontal flap : Center

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

Side view
Vertical flap : Up
Horizontal flap : Center

Side view
Vertical flap : Down
Horizontal flap : Center

■ MODEL : AS∗G24LFCC, AS∗G30LFCA

Conditions:
Fan speed : HIGH
Operation mode : FAN
Voltage : 230 V

(m) Unit : m/s

2.0　　1.0　　0.5

Top view
Vertical flap : Up
Horizontal flap : Center

(m) Unit : m/s

2.0　　1.0　　0.5

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

(m) Unit : m/s

2.0　　1.0　　0.5

Side view
Vertical flap : Up
Horizontal flap : Center

(m) Unit : m/s

2.0　　1.0　　0.5

Side view
Vertical flap : Down
Horizontal flap : Center

7-2. AIRFLOW

■ MODEL : AS✳G18LFCA

● Cooling

Fan speed	Number of rotations (r.p.m.)	Airflow	
HIGH	1220	m^3/h	900
		l/s	250
		CFM	530
MED	1020	m^3/h	740
		l/s	206
		CFM	435
LOW	900	m^3/h	620
		l/s	172
		CFM	365
QUIET	710	m^3/h	550
		l/s	153
		CFM	324

● Heating

Fan speed	Number of rotations (r.p.m.)	Airflow	
HIGH	1220	m^3/h	900
		l/s	250
		CFM	530
MED	1020	m^3/h	740
		l/s	206
		CFM	435
LOW	900	m^3/h	620
		l/s	172
		CFM	365
QUIET	710	m^3/h	550
		l/s	153
		CFM	324

■ MODEL: AS∗G24LFCC

● Cooling

Fan speed	Number of rotations (r.p.m.)	Airflow	
HIGH	1480	m^3/h	1120
		l/s	311
		CFM	659
MED	1220	m^3/h	900
		l/s	250
		CFM	530
LOW	1020	m^3/h	740
		l/s	206
		CFM	435
QUIET	860	m^3/h	580
		l/s	161
		CFM	341

● Heating

Fan speed	Number of rotations (r.p.m.)	Airflow	
HIGH	1480	m^3/h	1120
		l/s	311
		CFM	659
MED	1220	m^3/h	900
		l/s	250
		CFM	530
LOW	1020	m^3/h	740
		l/s	206
		CFM	435
QUIET	860	m^3/h	580
		l/s	161
		CFM	341

■ MODEL : AS✻G30LFCA

● Cooling

Fan speed	Number of rotations (r.p.m.)	Airflow	
HIGH	1430	m^3/h	1100
		l/s	306
		CFM	647
MED	1220	m^3/h	900
		l/s	250
		CFM	530
LOW	1020	m^3/h	740
		l/s	206
		CFM	435
QUIET	900	m^3/h	620
		l/s	172
		CFM	365

● Heating

Fan speed	Number of rotations (r.p.m.)	Airflow	
HIGH	1530	m^3/h	1150
		l/s	319
		CFM	677
MED	1220	m^3/h	900
		l/s	250
		CFM	530
LOW	1020	m^3/h	740
		l/s	206
		CFM	435
QUIET	900	m^3/h	620
		l/s	172
		CFM	365

8. OPERATION NOISE (SOUND PRESSURE)

8-1. NOISE LEVEL CURVE

■ MODEL : AS∗G18LFCA

● Cooling
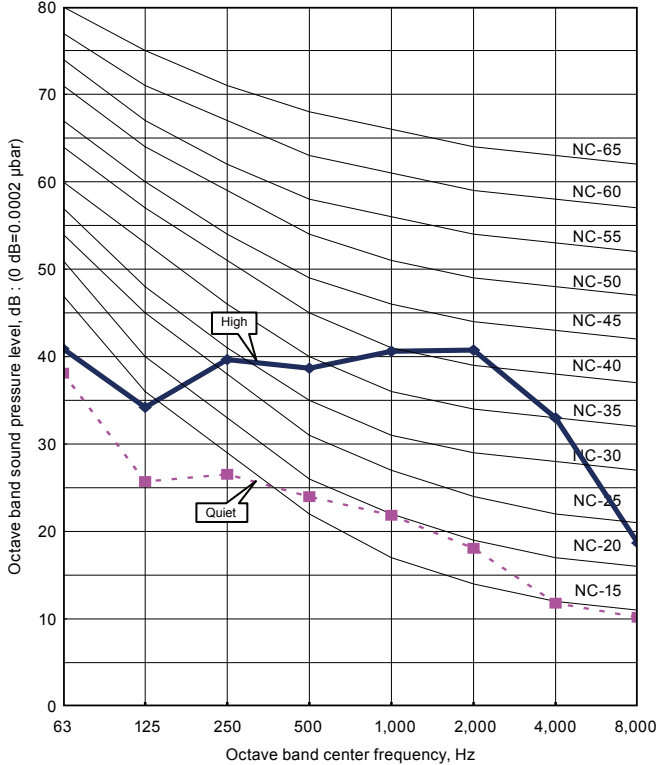
● Heating
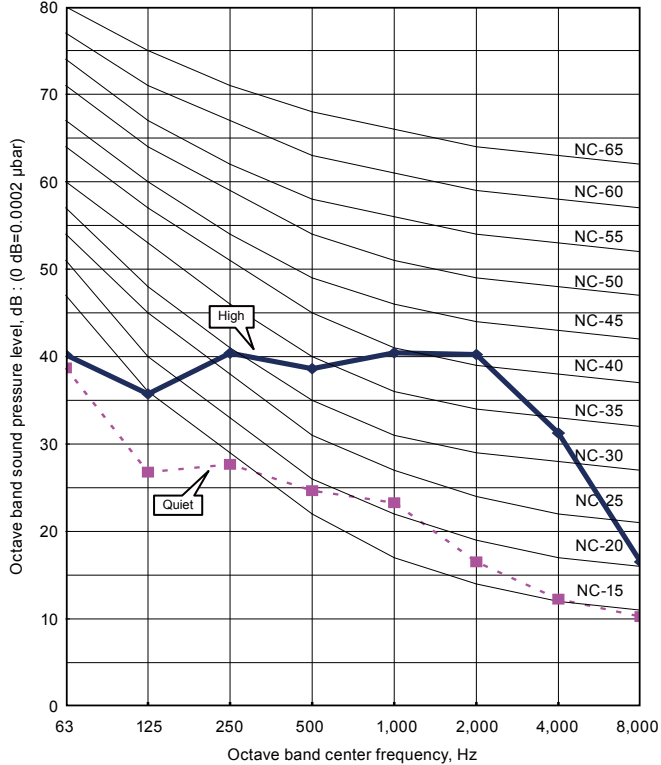
■ MODEL : AS∗G24LFCC

● Cooling
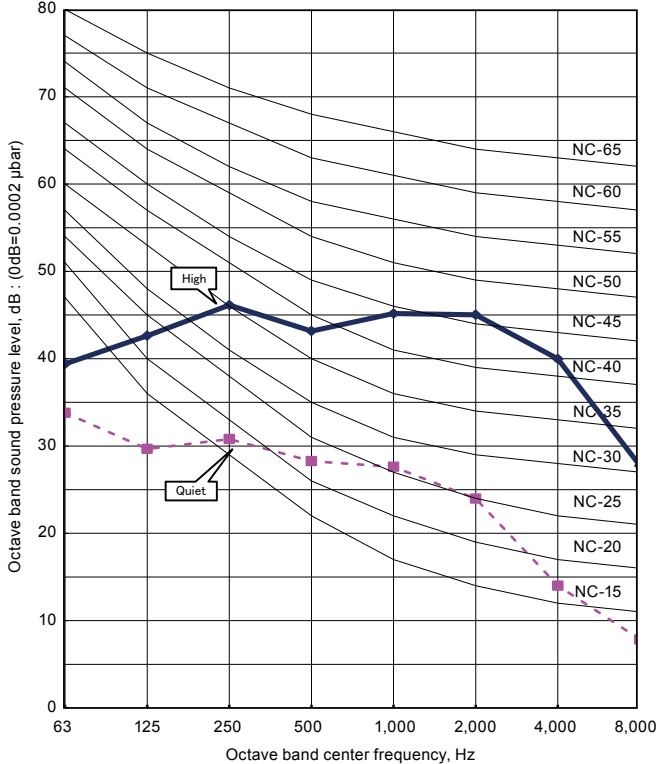
● Heating
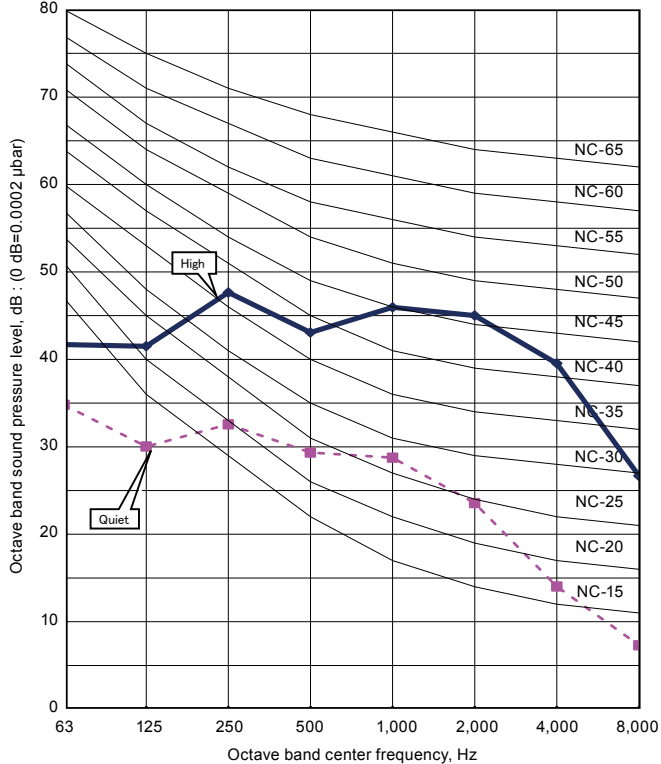
■ MODEL : AS∗G30LFCA

● Cooling
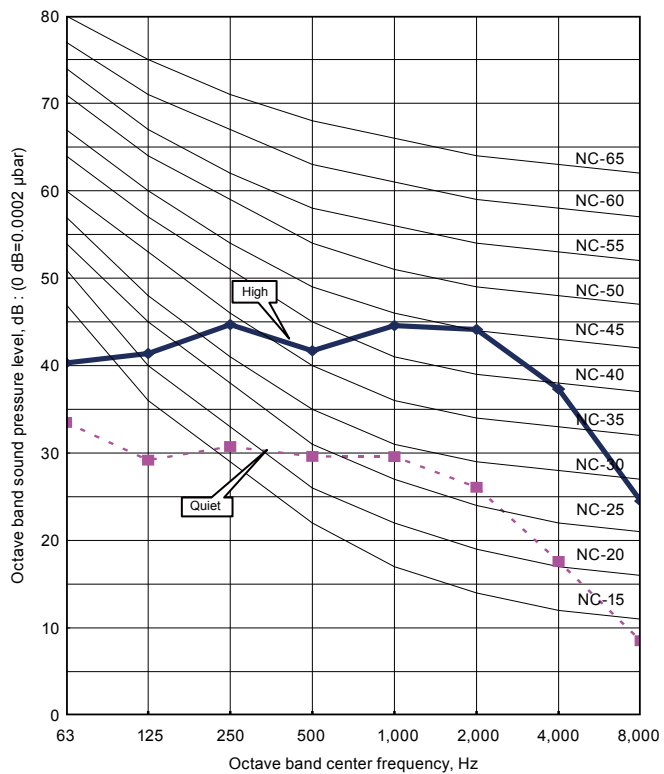
● Heating

8-2. SOUND LEVEL CHECK POINT

0.8m

MIC

1m

MIC
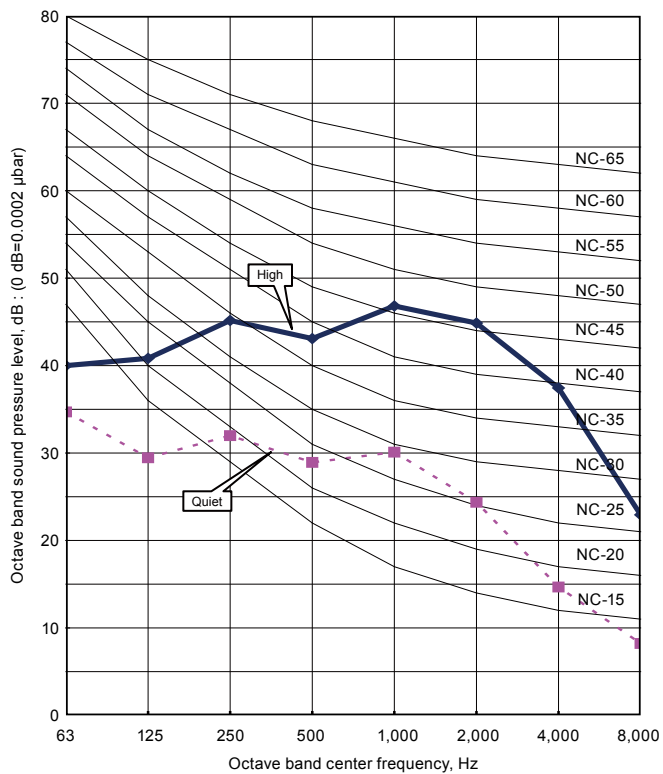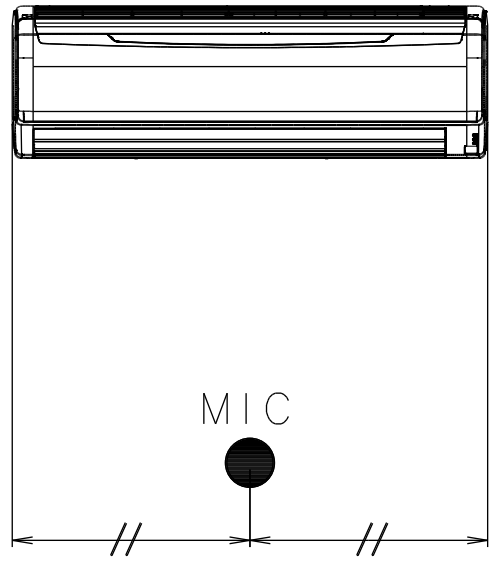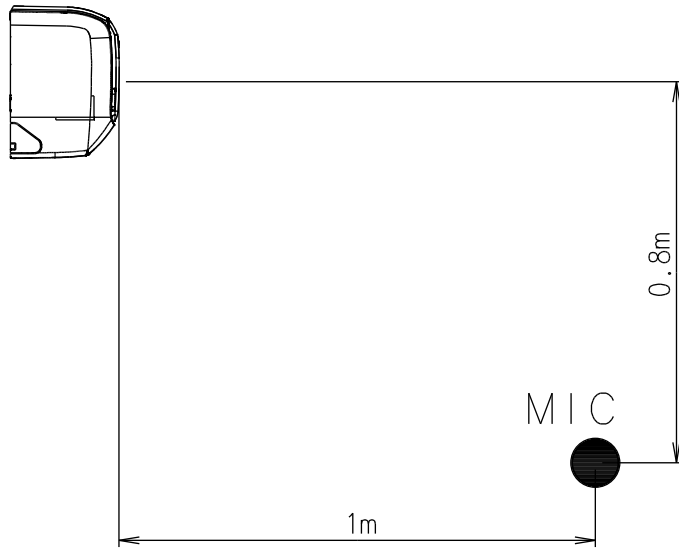
9. ELECTRIC CHARACTERISTICS

Model name			AS✳G18LFCA	AS✳G24LFCC	AS✳G30LFCA
Power supply	Voltage	V	230 ~		
	Frequency	Hz	50		
Max. operating current		A	0.3		
Wiring Spec. *1	Connection cable	mm^2	1.5–2.5		
	Limited wiring length	m	26	31	51

*1: Selected sample based on Japan Electrotechnical Standards and Codes Committee E0005.

10. SAFETY DEVICES

	Protection form	Model	
		AS✽G18LFCA AS✽G30LFCA	AS✽G24LFCC
Circuit protection	Current fuse (PC board)	250 V 3.15 A	
Terminal protection	Current (thermal) fuse	250 V 3 A	
Fan motor protection	Thermal protector program	OFF : 150 ± 15 °C ON : 120 ± 15 °C	OFF : 120 ± 15 °C ON : 95 ± 10 °C

11. EXTERNAL INPUT & OUTPUT

Connector	INPUT	OUTPUT	REMARKS
CN14	Control input	-	See external input/output settings for details.
CN16	-	Operation status output	

11-1. EXTERNAL INPUT

■ CONTROL INPUT (Operation/Stop or Forced stop)

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

"Operation/Stop" mode or "Forced stop" mode can be selected with function setting of indoor unit.

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 PC board 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
Up-down air direction (swing)	Standard air direction (swing OFF)	Air direction at previous operation
Left-right air direction (swing)	Standard air direction (swing OFF)	Air direction at previous operation

● Circuit diagram example

Indoor unit control PC board
Connected unit
Connector
Ex.) Switch
1
3
10 m*
Signal
Field supply
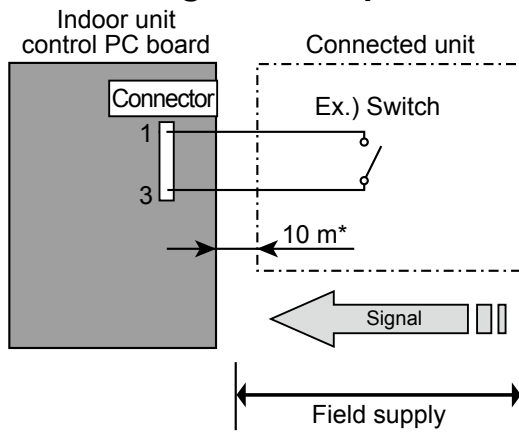
*: Make the distance from the PC board to the connected unit within 10 m.
Contact capacity : DC 24 V or more, 10 mA or more.
Use non-polar relays and switches.
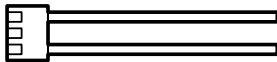
● When function setting is in "Operation/Stop" mode

Input signal — ON / OFF
Indoor unit — Operation / Stop
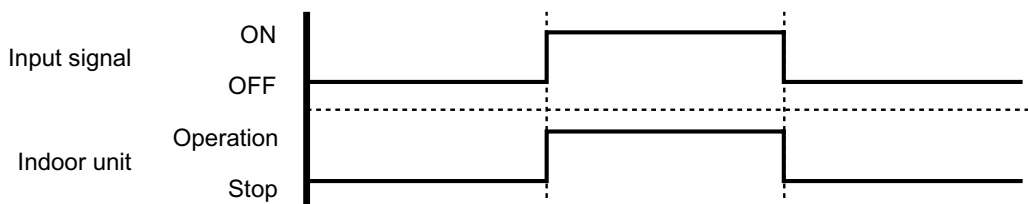
● When function setting is in "Forced stop" mode

Input signal	ON / OFF	
Command	Forced stop / Normal	
Indoor unit	Operation / Stop	
Remote controller		ON ON ON

Remote control
operation invalidity
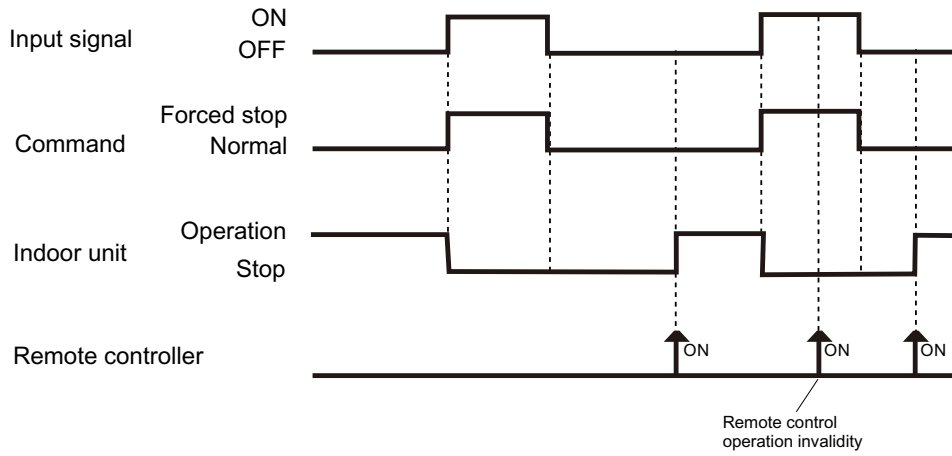
● Parts (Optional)

Parts name	Model name
External connect kit	UTY-XWZX

11-2. EXTERNAL OUTPUT

■ OPERATION STATUS OUTPUT

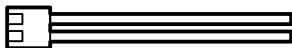An air conditioner operation status signal can be output.

● Circuit diagram example
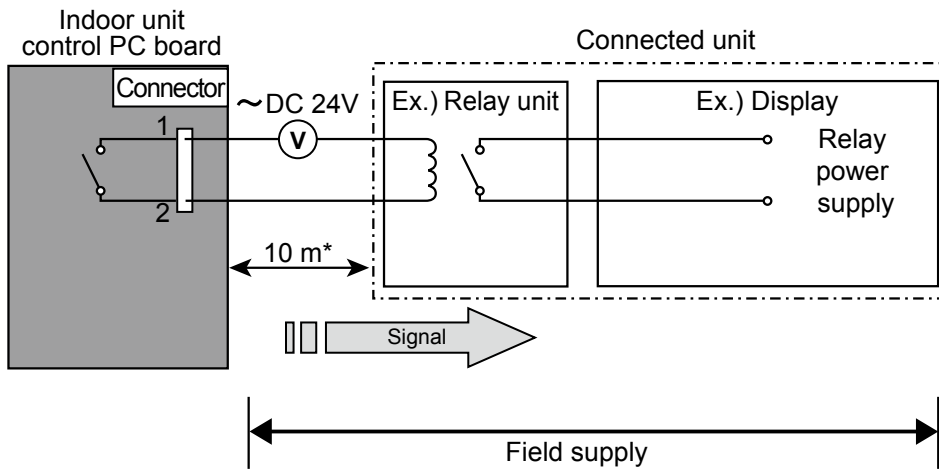
*: Make the distance from the PC board to the connected unit within 10 m.
Relay spec. : Max. DC 24 V, 10 mA to less than 500 mA.
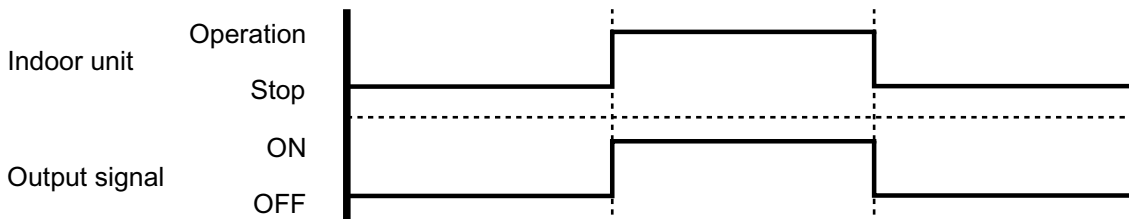
● Parts (Optional)

Parts name	Model name
External connect kit	UTY-XWZX

12. FUNCTION SETTINGS

12-1. INDOOR UNIT (Setting by remote controller)

- The function settings of the control of the indoor unit can be changed by this procedure according to the installation conditions. Incorrect settings can cause the indoor unit to malfunction.
- After the power is turned on, perform the Function Setting according to the installation conditions using the remote controller.
- The settings may be selected between the following two: Function Number or Setting Value.
- Settings will not be changed if invalid numbers or setting values are selected.

■ FUNCTION SETTING METHOD (for Wireless remote controller)

Entering the Function Setting Mode

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

STEP 1

Setting the Remote controller Signal Code

Use the following steps to select the signal code of the remote controller. (Note that the air conditioner cannot receive a signal code if the air conditioner has not been set for the signal code.) The signal codes that are set through this process are applicable only to the signals in the Function Setting. For details on how to set the signal codes through the normal process, refer to REMOTE CONTROLLER SIGNAL CODE SETTING.
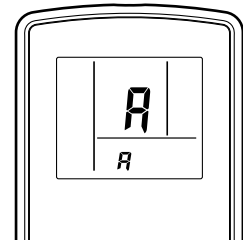
1. Press the SET TEMP. (▲) (▼) button to change the signal code between $A \rightarrow b$ $\rightarrow c \rightarrow d$ Match the code on the display to the air conditioner signal code. (initially set to A)
   (If the signal code does not need to be selected, press the MODE button and proceed to STEP 2.)

2. Press the TIMER MODE button and check that the indoor unit can receive signals at the displayed signal code.

3. Press the MODE button to accept the signal code, and proceed to STEP 2.

The air conditioner signal code is set to A prior to shipment.

The remote controller resets to signal code A when the batteries in the remote controller are replaced. If you use a signal code other than signal code A, reset the signal code after replacing the batteries.
If you do not know the air conditioner signal code setting, try each of the signal codes ($A \rightarrow b \rightarrow c \rightarrow d$) until you find the code which operates the air conditioner.

STEP 2

Selecting the Function Number and Setting Value

1. Press the SET TEMP. (▲) (▼) buttons to select the function number.
   (Press the MODE button to switch between the left and right digits.)

2. Press the FAN button to proceed to setting the value.
   Press the FAN button again to return to the function number selection.)

3. Press the SET TEMP. (▲) (▼) buttons to select the setting value.
   (Press the MODE button to switch between the left and right digits.)

4. Press the TIMER 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 turn off the power and turn it on again.

Function number

Setting value
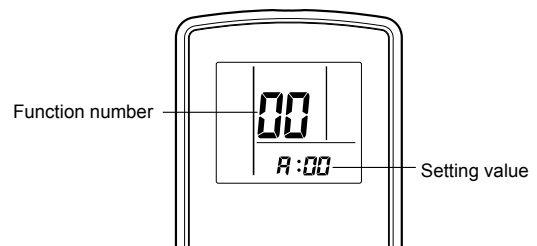
⚠CAUTION
After turning off the power, wait 30 seconds or more before turning on it again. The Function Setting will not become active unless the power is turned off then on again.

■ FUNCTION DETAILS

• Follow the instructions in the Local Setup Procedure, which is supplied with the remote controller, in accordance with the installed condition.
  After turning on the power, perform the Function Setting by using the remote controller.
• The settings may be selected between the following two: Function Number or Setting Value.
• Settings will not be changed if invalid numbers or setting values are selected.

1)	Filter sign
2)	Room temperature control for cooling
3)	Room temperature control for heating
4)	Auto restart
5)	Room temperature sensor switching
6)	Remote controller signal code
7)	External input control
8)	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).

(◆. . .Factory setting)

Setting Description	Function Number	Setting Value
Standard (400 hours)		00
Long interval (1,000 hours)	11	01
Short interval (200 hours)		02
◆ No indication		03

2) Room temperature 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.

(◆. . .Factory setting)

Setting Description	Function Number	Setting Value
◆ Standard		00
Slightly lower control	30	01
Lower control		02
Higher control		03

3) Room temperature control for heatling

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

(◆. . .Factory setting)

Setting Description	Function Number	Setting Value
◆ Standard		00
Slightly lower control	31	01
Lower control		02
Higher control		03

4) Auto restart

Enable or disable automatic restart after a power interruption.

(◆. . .Factory setting)

	Setting Description	Function Number	Setting Value
◆	Enable	40	00
	Disable		01

*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 other external input device.

5) Room temperature sensor switching

(Only for wired remote controller)

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

(◆. . .Factory setting)

	Setting Description	Function Number	Setting Value
◆	Indoor unit	42	00
	Both		01

00: Sensor on the indoor unit is active.

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

6) Remote controller signal code

(Only for wireless remote controller)

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

(◆. . .Factory setting)

	Setting Description	Function Number	Setting Value
◆	A		00
	B	44	01
	C		02
	D		03

7) External input control

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

(◆. . .Factory setting)

	Setting Description	Function Number	Setting Value
◆	Operation/Stop mode		00
	(Setting prohibited)	46	01
	Forced stop mode		02

8) Indoor unit fan control for energy saving for cooling

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

(◆. . .Factory setting)

	Setting Description	Function Number	Setting Value
	Disable	49	00
◆	Enable		01

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.

■ REMOTE CONTROLLER SIGNAL CODE SETTING

Use the following steps to select the signal code of the remote controller.

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

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 five seconds to display the current signal code (initially set to A).

3. Press the SET TEMP. (▲) (▼) button to change the signal code between $A \rightarrow b$ $\rightarrow c \rightarrow d$.
   Match the code on the display to the air conditioner signal code.

4. Press the MODE button again to return to the clock display. The signal code will be changed.
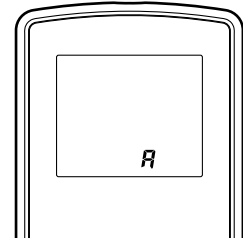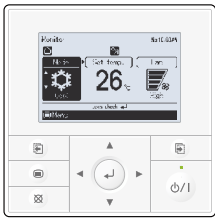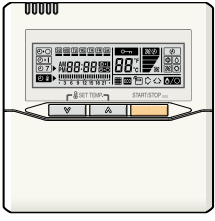
If no buttons are pressed within 30 seconds after the signal code is displayed, the system returns to the original clock display. In this case, start again from step 1.

The air conditioner signal code is set to A prior to shipment.
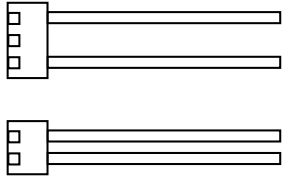Contact your retailer to change the signal code.

The remote controller resets to signal code A when the batteries in the remote controller are replaced. If you use a signal code other than signal code A, reset the signal code after replacing the batteries. If you do not know the air conditioner signal code setting, try each of the signal codes ($A \rightarrow b \rightarrow c \rightarrow d$) until you find the code which operates the air conditioner.

13. OPTIONAL PARTS

13-1. CONTROLLERS

Exterior	Parts name	Model No.	Summary
	Wired remote controller	UTY-RVN✻M	Large and full-dot liquid crystal screen, wide and large keys easy to press, user-intuitive arrow key.
	Wired remote controller	UTY-RNN✻M	The room temperature can be controlled by detecting the temperature accurately with built-in thermo sensor.
	Simple remote controller	UTY-RSN✻M	Compact remote controller concentrates on the basic functions such as Start/Stop, Fan Control, Temperature Setting and Operation mode.

13-2. OTHERS

Exterior	Parts name	Model No.	Summary
	External connect kit	UTY-XWZX	Use to connect with various peripheral devices and air conditioner PC board.

2. OUTDOOR UNIT

SINGLE TYPE :

AO✳G18LFC
AO✳G24LFCC
AO✳G30LFT

CONTENTS

2. OUTDOOR UNIT

1. SPECIFICATIONS

| Type				INVERTER HEAT PUMP		
Model name				AO✱G18LFC	AO✱G24LFCC	AO✱G30LFT
Power source				230 V~ 50 Hz		
Available voltage range				198–264 V		
Starting current			A	7.6	9.7	10.9
Fan	Airflow rate	Cooling	m³/h	2,150	2,460	3,600
		Heating		2,070	2,340	3,600
	Type × Q'ty			Propeller fan × 1		
	Motor output		W	49	49	100
Sound pressure level	Cooling		dB(A)	50	55	53
	Heating			51	56	55
Sound power level	Cooling		dB(A)	65	68	68
	Heating			66	69	71
Heat exchanger type	Dimensions (H × W × D)		mm	588 × 881 × 36.4	Main : 588 × 881 × 36.4 Sub : 546 × 580 × 18.2	798 × 900 × 36.4
	Fin pitch			1.3	1.45	1.3
	Rows × Stages			2 × 28	Main : 2 × 28, Sub : 1 × 26	2 × 38
	Pipe type			Copper		
	Fin	Type (Material)		Corrugate (Aluminium)		
		Surface treatment		Corrosion resistance		Corrosion resistance (Blue fin)
Compressor	Type × Q'ty			Rotary ×1		
	Motor output		W	900	1,100	2,100
Refrigerant	Type (Global Warming Potential)			R410A (1975)		
	Charge		g	1,200	1,800	2,100
Refrigerant oil	Type			FREOLα68SZ	POE (RB68)	
Enclosure	Material			Steel		
	Colour			Beige Approximate colour of MUNSELL 10YR7.5/1.0		
Dimensions (H × W × D)	Net		mm	620 × 790 × 290		830 × 900 × 330
	Gross			713 × 945 × 395		970 × 1050 × 445
Weight	Net		kg	41		61
	Gross			45		68
Connection pipe	Size	Liquid	mm	Ø 6.35 (Ø 1/4 in.)		Ø 9.52 (Ø 3/8 in.)
		Gas		Ø 12.7 (Ø 1/2 in.)		Ø 15.88 (Ø 5/8 in.)
	Method			Flare		
	Pre-charge length		m	15	15	20
	Max. length			25	30	50
	Max. height difference			20	20	30
Operation range	Cooling		°C	-10 to 46		
	Heating			-15 to 24		

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 (Outdoor unit–Indoor unit)
- The protective function might work when using it in environment out of the temperature range mentioned above.

2. DIMENSIONS

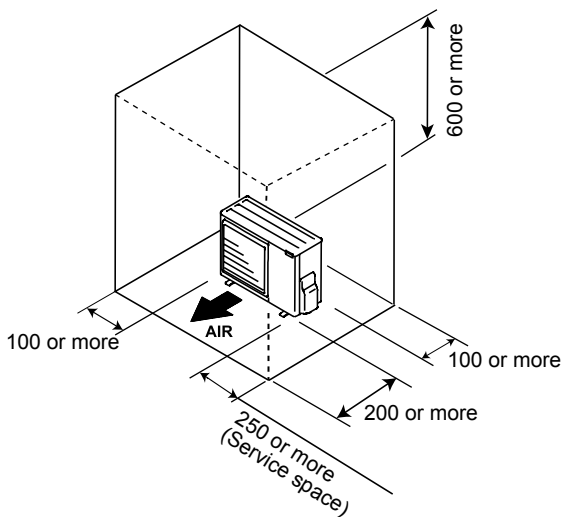## ■ MODEL : AO∗G18LFC, AO∗G24LFCC

(Unit : mm)

Pitch of bolts for installation
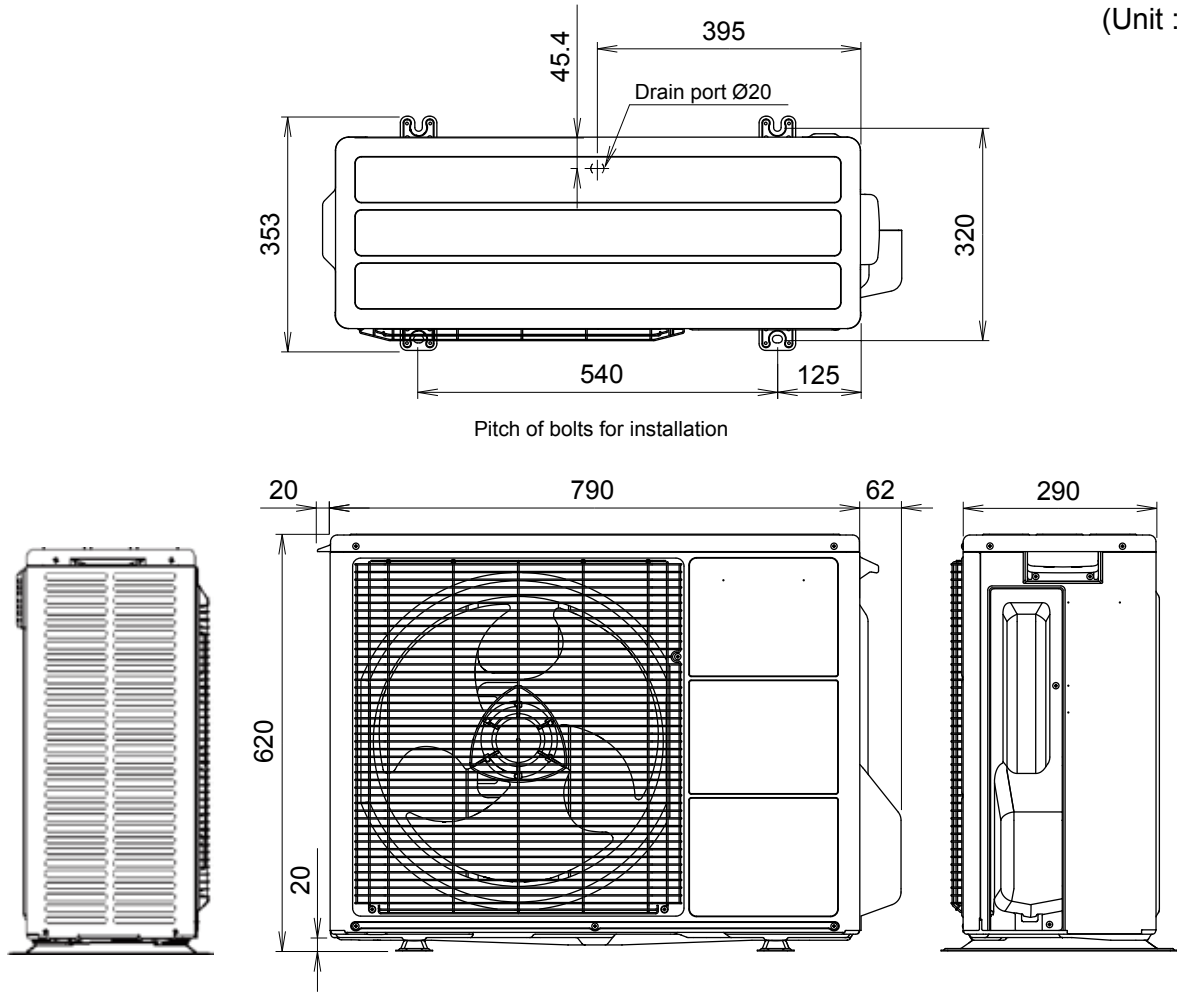
■ INSTALLATION PLACE

(Unit : mm)

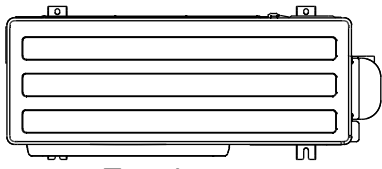If the space is larger than stated, the condition will be the same as those without any obstacles.
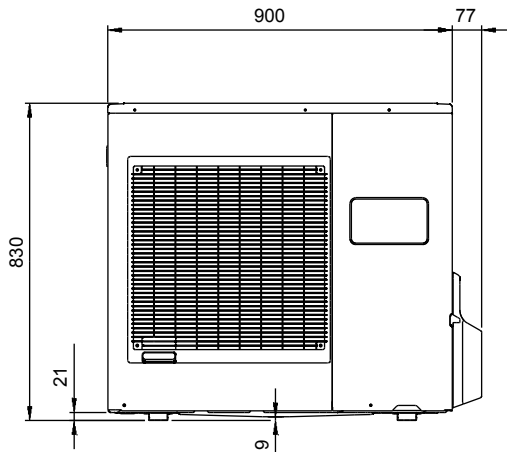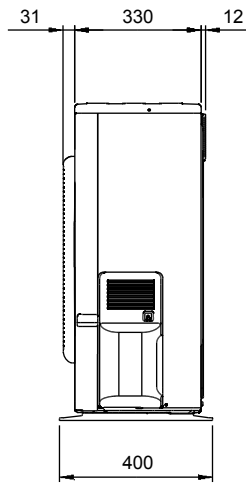
■ MODEL : AO∗G30LFT

(Unit : mm)

Top view

900   77

31   330   12

830

21

9

Front view

400

Side view

650

Airflow

370

4-φ 12 mm hole

Drain cap
mounting places

Drain pipe
mounting place

Bottom view

196

99

147

170
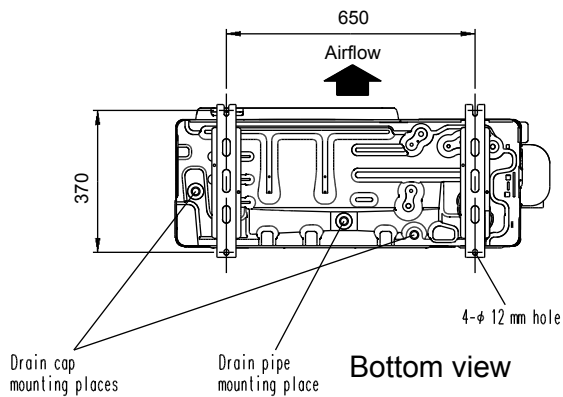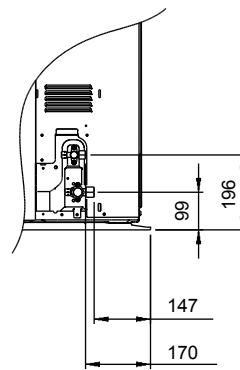
■ INSTALLATION PLACE

When there are obstacles at
the back or front sides.
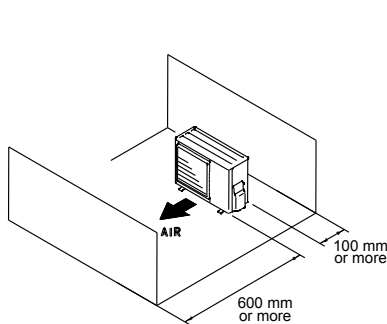
When there are obstacles at
the back, side(s), and top.
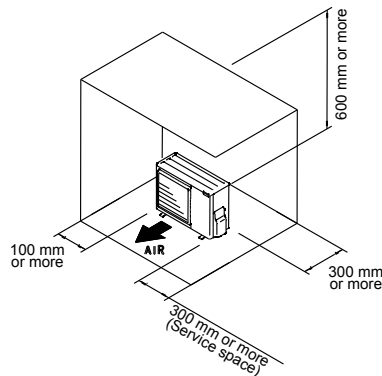
When there are obstacles at the
back, side with the installation of
more than one unit.

AIR

100 mm
or more

600 mm
or more

600 mm or more

100 mm
or more

AIR

300 mm or more
(Service space)

300 mm
or more

AIR

250 mm
or more

250 mm
or more

300 mm
or more
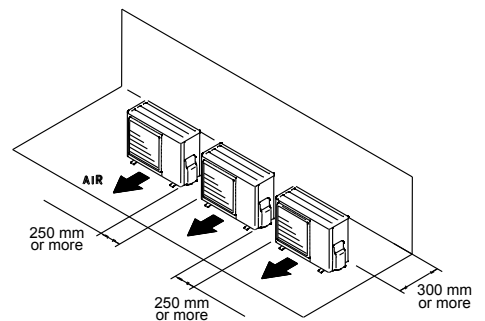
3. REFRIGERANT CIRCUIT

■ MODEL: AO*G18LFC
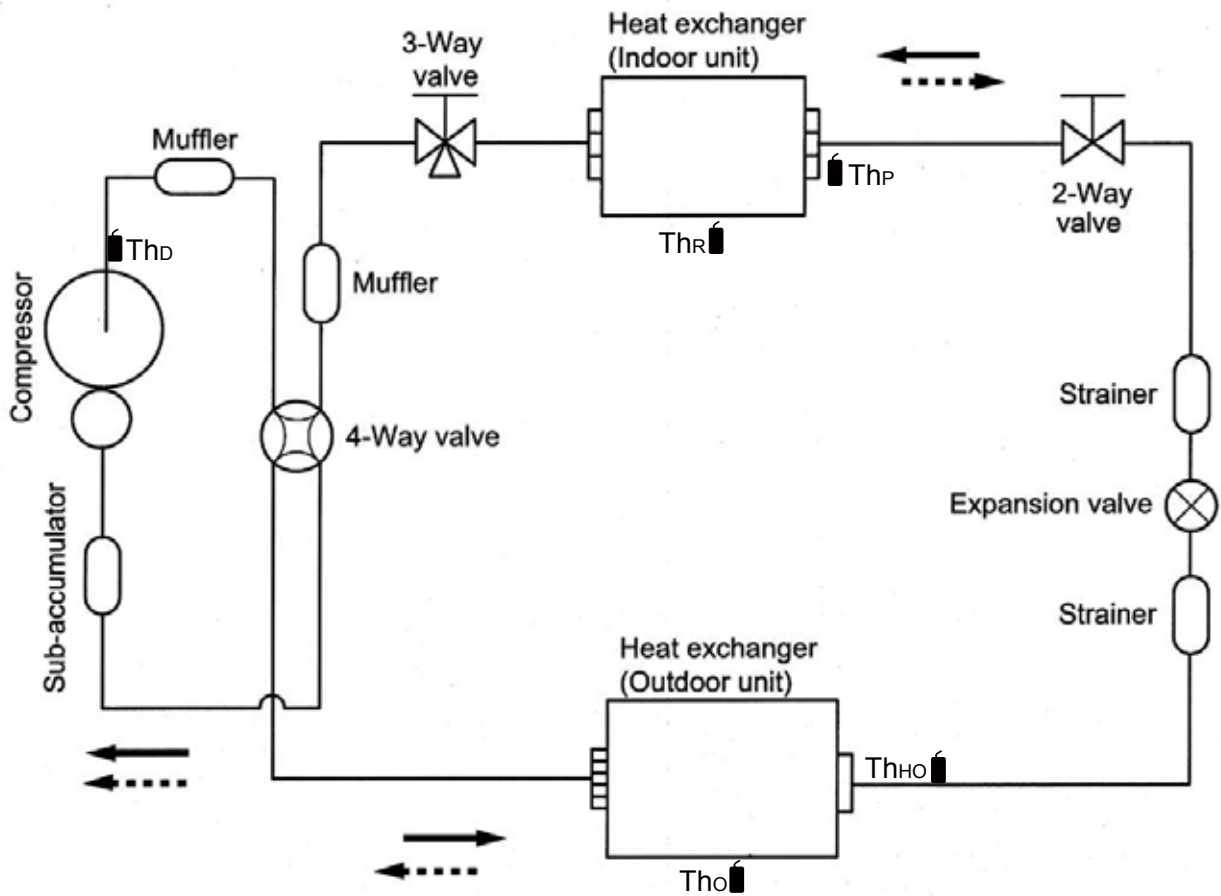
Refrigerant direction

⟶ : Cooling

▪▪▪▪▶ : Heating

Th_D ▮ : Thermistor (Discharge Temp.)

Th_O ▮ : Thermistor (Outdoor Temp.)

Th_{HO} ▮ : Thermistor (Heat Exchanger Out Temp.)

Th_R ▮ : Thermistor (Room Temp.)

Th_P ▮ : Thermistor (Pipe Temp.)

Refrigerant pipe diameter
Liquid : 1/4" (6.35 mm)
Gas : 1/2" (12.7 mm)

■MODEL: AO＊G24LFCC

3-Way valve

Heat exchanger (INDOOR)

ThP

ThR

2-Way valve

Muffler

Pressure switch

Muffler

ThD

ThC

Compressor

4-Way valve

Strainer

Expansion valve

Strainer

Sub-accumulator

Heat exchanger (OUTDOOR)

ThHO

Tho

───────▶ : Cooling

▪▪▪▪▪▶ : Heating

ThC ▮ : Thermistor (Compressor Temp.)

ThD ▮ : Thermistor (Discharge Temp.)

Tho ▮ : Thermistor (Outdoor Temp.)

ThHO ▮ : Thermistor (Heat Exchanger Out Temp.)

ThR ▮ : Thermistor (Room Temp.)

ThP ▮ : Thermistor (Pipe Temp.)

Refrigerant pipe diameter
Liquid : 1/4" (6.35 mm)
Gas : 5/8" (15.88 mm)

■MODEL：AO＊G30LFT

3-Way valve (Large)

Heat exchanger (INDOOR)

3-Way valve (Small)

Muffler

Pressure switch

ThD

ThC

Compressor

4-Way valve

Sub-accumulator

Th P

Th R

Strainer

Expansion valve

Strainer

Heat exchanger (OUTDOOR)

ThHO

Th O

⟶ : Cooling

┄┄▶ : Heating

ThC ▮ : Thermistor (Compressor Temp.)

ThD ▮ : Thermistor (Discharge Temp.)

ThO ▮ : Thermistor (Outdoor Temp.)

ThHO ▮ : Thermistor (Heat Exchanger Out Temp.)

ThR ▮ : Thermistor (Room Temp.)
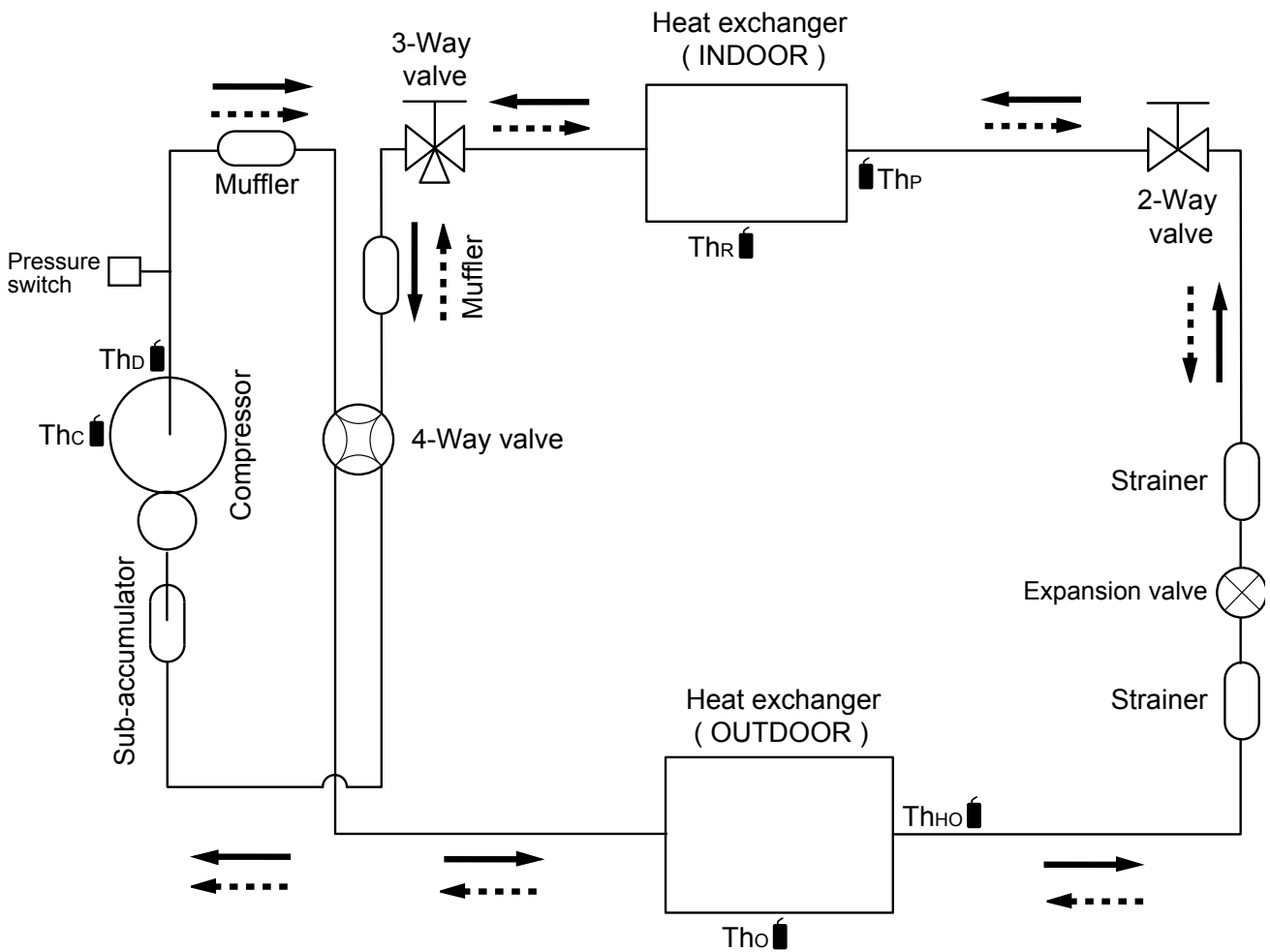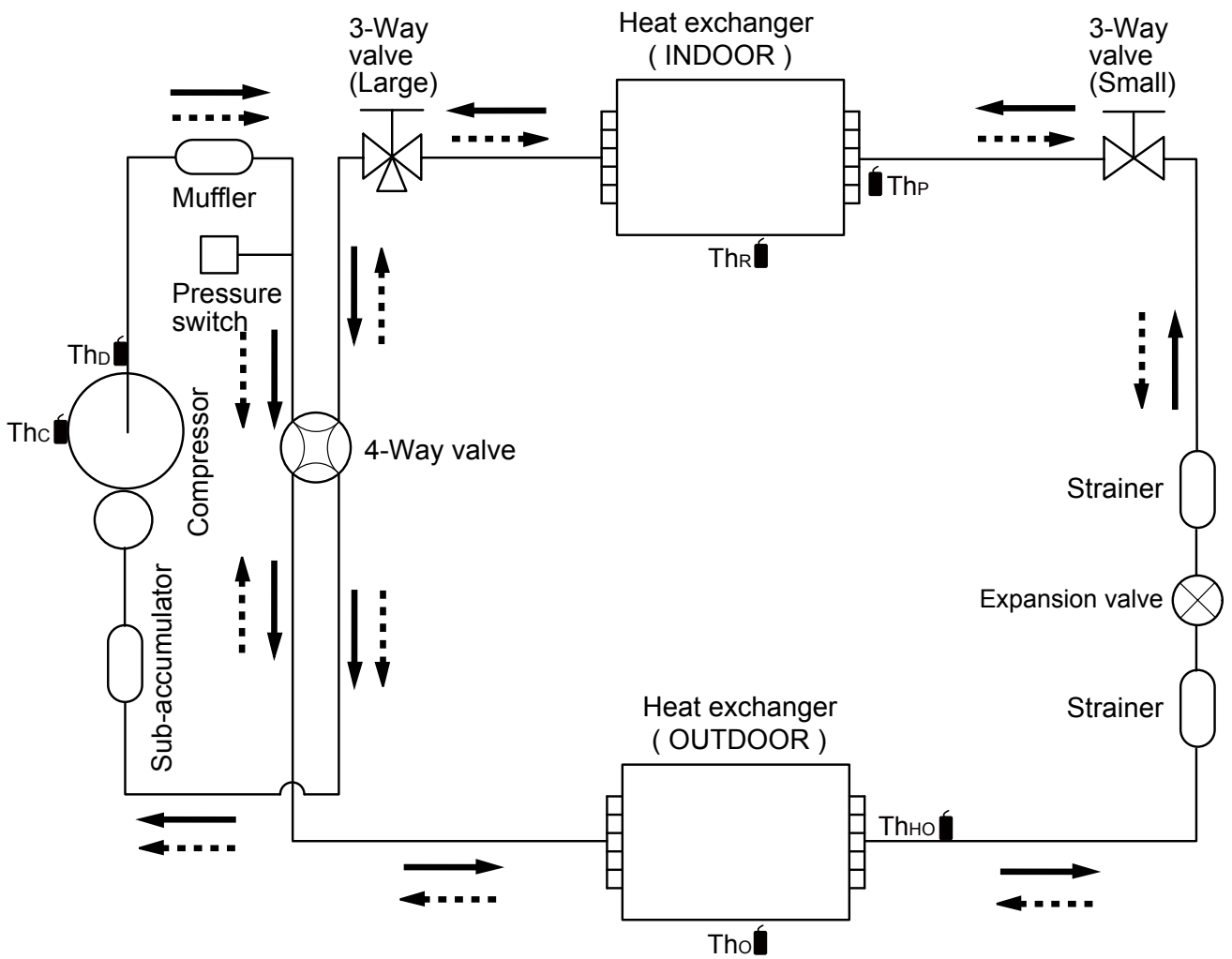
ThP ▮ : Thermistor (Pipe Temp.)

Refrigerant pipe diameter
Liquid : 3/8" (9.52 mm)
Gas : 5/8" (15.88 mm)

4. WIRING DIAGRAMS

■ MODEL: AO*G18LFC

■ MODEL: AO*G24LFCC

EXPANSION VALVE (PMV)
RED BLUE ORANGE YELLOW WHITE

HIGH PRESSURE SW
RED RED

FAN MOTOR (FM)
RED BLACK WHITE YELLOW BROWN or BLUE

THERMISTOR (COMPRESSOR TEMP.)
BLACK BLACK

CN40 | 1 2 3 4 5 | 1 2 3 4 5
CN74 | 1 2 | 1 2
CN800 | 1 2 3 4 5 6 7 | 1 2 3 4 5 6 7
CN600 | 1 2 3 4 5 6 7
CN73 | 1 2 3 | 1 2 3

COMPRESSOR R
CM S
T

RED — W7 U
WHITE — W8 V
BLACK — W9 W

4-WAY VALVE (4WV)
BLACK BLACK
CN30 | 1 1 | 2 2

PRINTED CIRCUIT BOARD(MAIN)

BLACK — W101
WHITE — W102
RED — W4
BLACK — W1
WHITE — W2
W3 GREEN

CN71 | 1 2 3 4 | 1 2 3 4
CN70 | 1 2 3 | 1 2 3

TERMINAL
1 2 3 L N ⊕
GREEN

TO INDOOR UNIT   TO POWER SUPPLY

EARTH

BLACK BLACK BLACK BLACK
BLACK BLACK

THERMISTOR (PIPE)   THERMISTOR (DISCHARGE PIPE)   THERMISTOR (OUTDOOR TEMP.)

■MODEL: AO∗G30LFT

CN42 CN40 CN200 CN400

HIGH PRESSURE SW
CN90 | 2 2 RED | 1 1 RED

THERMISTOR(COMPRESSOR TEMP.)
CN64 | 3 3 BROWN | 2 2 | 1 1 BROWN

THERMISTOR(OUTDOOR TEMP.)
CN62 | 3 3 BLUE | 2 2 | 1 1 BLUE

THERMISTOR(PIPE)
CN65 | 3 3 BLACK | 2 2 | 1 1 BLACK

THERMISTOR(DISCHARGE PIPE)
CN63 | 3 3 BROWN | 2 2 | 1 1 BROWN

CN500 | 2 2 BLACK | 1 1 BLACK — 4WV 4-WAY VALVE

CN700 | 5 5 WHITE | 4 4 YELLOW | 3 3 ORANGE | 2 2 BLUE | 1 1 RED — PMV EXPANSION VALVE

CN800 | 7 7 BROWN | 6 6 YELLOW | 5 5 WHITE | 4 4 BLACK | 3 3 | 2 2 | 1 1 RED — FM FAN MOTOR

MAIN PWB

WHITE WHITE (CN42)
WHITE (CN40)
WHITE BLACK (CN200)
BROWN RED ORANGE YELLOW (CN400)

CN303 CN301 CN11

W306 W307

CAPACITOR PWB

TM302 BLUE W8 W13 VIOLET N ACTPM
TM301 YELLOW W7 W12 WHITE P

IPM PWB

W17 BLACK -IN
W16 RED +IN

CHOKE COIL

L2 L1
WHITE WHITE

TM303 W
TM304 V
TM305 U

TM102 BROWN
TM101 ORANGE

CN1 TM600 TM601 CN110
1 2 1 2
1 2 1 2

W4 RED

BLACK WHITE GRAY BLACK WHITE BLACK
CN100 W21 W9 W20 W19

FILTER PWB

W3 GREEN
W18 WHITE
W17 BLACK
W2 WHITE
W1 BLACK

FUSE 250V 25A

W28 W29 W25 W26

ORANGE
ORANGE
POSISTOR

RED
WHITE
BLACK
COMPRESSOR
CM R S T

BLACK

TERMINAL 1 2 3 L N

TO INDOOR UNIT TO POWER SUPPLY

5. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE

■ MODEL : AO∗G18LFC

COOLING			Pipe length (m)				
			5	10	15	20	25
Height difference H (m)	∗1 Indoor unit is higher than outdoor unit.	20	-	-	-	0.869	0.867
		10	-	0.973	0.911	0.885	0.883
		5	0.992	0.981	0.919	0.893	0.891
		0	1.000	0.989	0.927	0.901	0.899
	∗2 Indoor unit is lower than outdoor unit	-5	1.000	0.989	0.927	0.901	0.899
		-10	-	0.989	0.927	0.901	0.899
		-20	-	-	-	0.901	0.899

HEATING			Pipe length (m)				
			5	10	15	20	25
Height difference H (m)	∗1 Indoor unit is higher than outdoor unit.	20	-	-	-	0.901	0.879
		10	-	0.989	0.927	0.901	0.879
		5	1.000	0.989	0.927	0.901	0.879
		0	1.000	0.989	0.927	0.901	0.879
	∗2 Indoor unit is lower than outdoor unit	-5	0.995	0.984	0.922	0.896	0.874
		-10	-	0.979	0.917	0.892	0.869
		-20	-	-	-	0.876	0.853

Height difference H
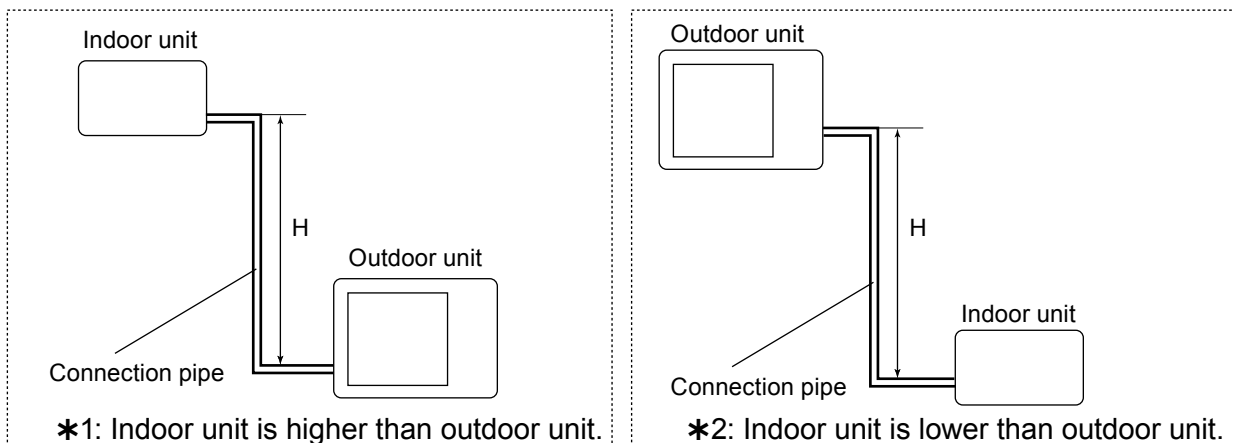
∗1: Indoor unit is higher than outdoor unit.

∗2: Indoor unit is lower than outdoor unit.

■ MODEL : AO✳G24LFCC

COOLING			Pipe length (m)						
			5	7.5	10	15	20	25	30
Height difference H (m)	✳1 Indoor unit is higher than outdoor unit.	20	-	-	-	-	0.952	0.951	0.951
		10	-	-	0.980	0.966	0.968	0.967	0.966
		7.5	-	0.988	0.984	0.970	0.972	0.971	0.970
		5	0.992	0.992	0.988	0.974	0.976	0.975	0.974
		0	1.000	1.000	0.996	0.982	0.983	0.983	0.982
	✳2 Indoor unit is lower than outdoor unit	-5	1.000	1.000	0.996	0.982	0.983	0.983	0.982
		-7.5	-	1.000	0.996	0.982	0.983	0.983	0.982
		-10	-	-	0.996	0.982	0.983	0.983	0.982
		-20	-	-	-	-	0.983	0.983	0.982

HEATING			Pipe length (m)						
			5	7.5	10	15	20	25	30
Height difference H (m)	✳1 Indoor unit is higher than outdoor unit.	20	-	-	-	-	0.954	0.932	0.908
		10	-	-	0.998	0.975	0.954	0.932	0.908
		7.5	-	1.000	0.998	0.975	0.954	0.932	0.908
		5	1.000	1.000	0.998	0.975	0.954	0.932	0.908
		0	1.000	1.000	0.998	0.975	0.954	0.932	0.908
	✳2 Indoor unit is lower than outdoor unit	-5	0.995	0.995	0.993	0.970	0.950	0.927	0.903
		-7.5	-	0.993	0.991	0.968	0.947	0.925	0.901
		-10	-	-	0.988	0.965	0.945	0.923	0.899
		-20	-	-	-	-	0.935	0.914	0.890

Height difference H
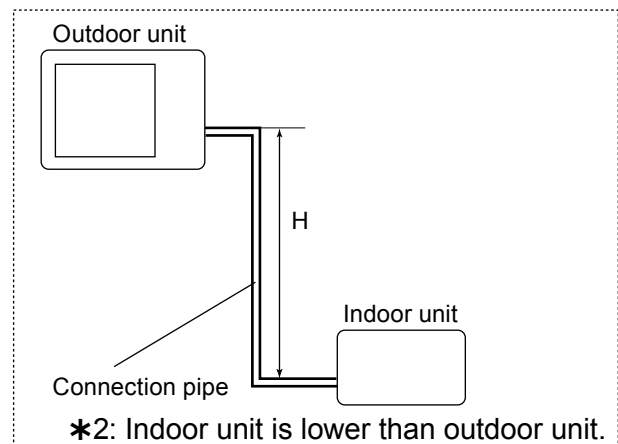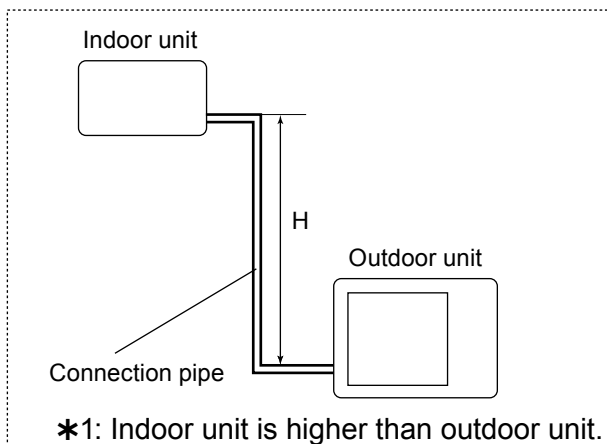
✳1: Indoor unit is higher than outdoor unit.

✳2: Indoor unit is lower than outdoor unit.

■ MODEL : AO✳G30LFT

COOLING			Pipe length (m)						
			5	7.5	10	20	30	40	50
Height difference H (m)	✳1 Indoor unit is higher than outdoor unit.	30	-	-	-	-	0.932	0.929	0.924
		20	-	-	-	0.945	0.947	0.945	0.940
		10	-	-	0.984	0.961	0.963	0.960	0.956
		7.5	-	0.988	0.988	0.965	0.967	0.964	0.959
		5	0.992	0.992	0.992	0.968	0.971	0.968	0.963
		0	1.000	1.000	1.000	0.976	0.979	0.976	0.971
	✳2 Indoor unit is lower than outdoor unit	-5	1.000	1.000	1.000	0.976	0.979	0.976	0.971
		-7.5	-	1.000	1.000	0.976	0.979	0.976	0.971
		-10	-	-	1.000	0.976	0.979	0.976	0.971
		-20	-	-	-	0.976	0.979	0.976	0.971
		-30	-	-	-	-	0.979	0.976	0.971

HEATING			Pipe length (m)						
			5	7.5	10	20	30	40	50
Height difference H (m)	✳1 Indoor unit is higher than outdoor unit.	30	-	-	-	-	0.816	0.756	0.686
		20	-	-	-	0.872	0.816	0.756	0.686
		10	-	-	0.991	0.872	0.816	0.756	0.686
		7.5	-	1.000	0.991	0.872	0.816	0.756	0.686
		5	1.000	1.000	0.991	0.872	0.816	0.756	0.686
		0	1.000	1.000	0.991	0.872	0.816	0.756	0.686
	✳2 Indoor unit is lower than outdoor unit	-5	0.995	0.995	0.986	0.868	0.812	0.752	0.683
		-7.5	-	0.993	0.983	0.866	0.810	0.750	0.681
		-10	-	-	0.981	0.864	0.808	0.748	0.679
		-20	-	-	-	0.855	0.799	0.740	0.672
		-30	-	-	-	-	0.791	0.733	0.665

Height difference H

✳1: Indoor unit is higher than outdoor unit.　　✳2: Indoor unit is lower than outdoor unit.
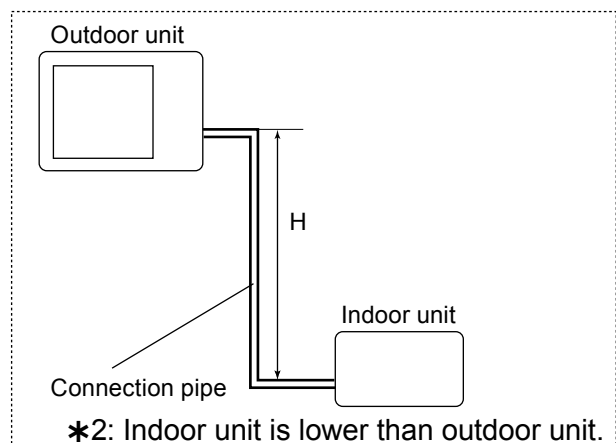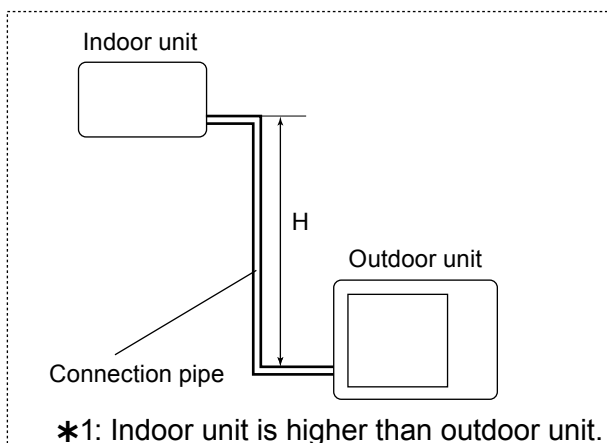
6. ADDITIONAL CHARGE CALCULATION

■ MODEL: AO∗G18LFC

Refrigerant type		R410A
Refrigerant amount	g	1200

● Refrigerant charge

Total pipe length	m	15 or less	20	25 (Max.)	20 g/m
Additional charge	g	0	100	200	

■ MODEL: AO∗G24LFCC

Refrigerant type		R410A
Refrigerant amount	g	1800

● Refrigerant charge

Total pipe length	m	15 or less	20	25	30 (Max.)	20 g/m
Additional charge	g	0	100	200	300	

■ MODEL: AO∗G30LFT

Refrigerant type		R410A
Refrigerant amount	g	2100

● Refrigerant charge

Total pipe length	m	20 or less	30	40	50 (Max.)	40 g/m
Additional charge	g	0	400	800	1200	

7. AIRFLOW

■ MODEL : AO✳G18LFC

● Cooling

Number of rotations (r.p.m.)	Airflow	
920	m³/h	2150
	l/s	597
	CFM	1265

● Heating

Number of rotations (r.p.m.)	Airflow	
870	m³/h	2070
	l/s	575
	CFM	1218

■ MODEL : AO✳G24LFCC

● Cooling

Number of rotations (r.p.m.)	Airflow	
1100	m³/h	2460
	l/s	683
	CFM	1448

● Heating

Number of rotations (r.p.m.)	Airflow	
1050	m³/h	2340
	l/s	650
	CFM	1377

■ MODEL : AO✳G30LFT

● Cooling

Number of rotations (r.p.m.)	Airflow	
	m^3/h	3600
850	l/s	1000
	CFM	2119

● Heating

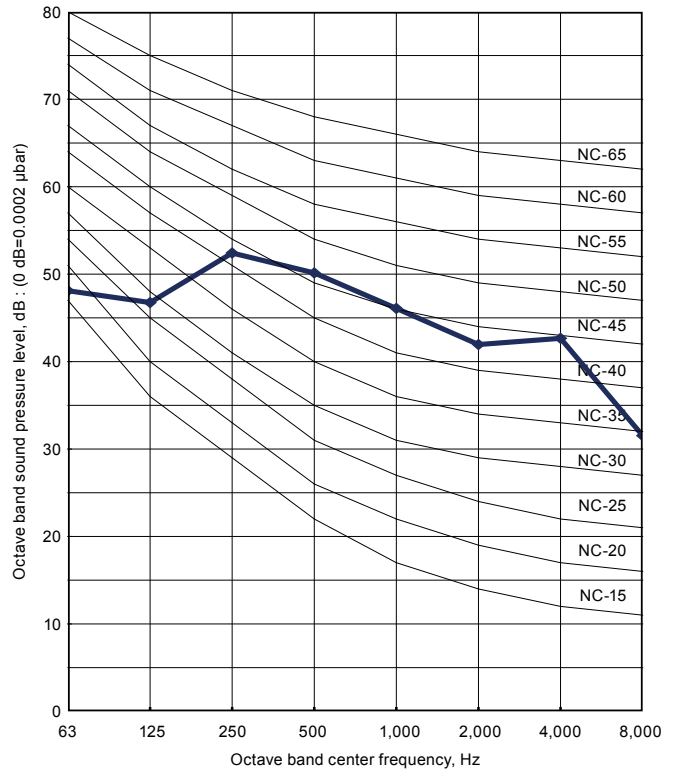| Number of rotations (r.p.m.)	Airflow	
	m^3/h	3600
850	l/s	1000
	CFM	2119

8. OPERATION NOISE (SOUND PRESSURE)

8-1. NOISE LEVEL CURVE

■MODEL : AO＊G18LFC

●Cooling
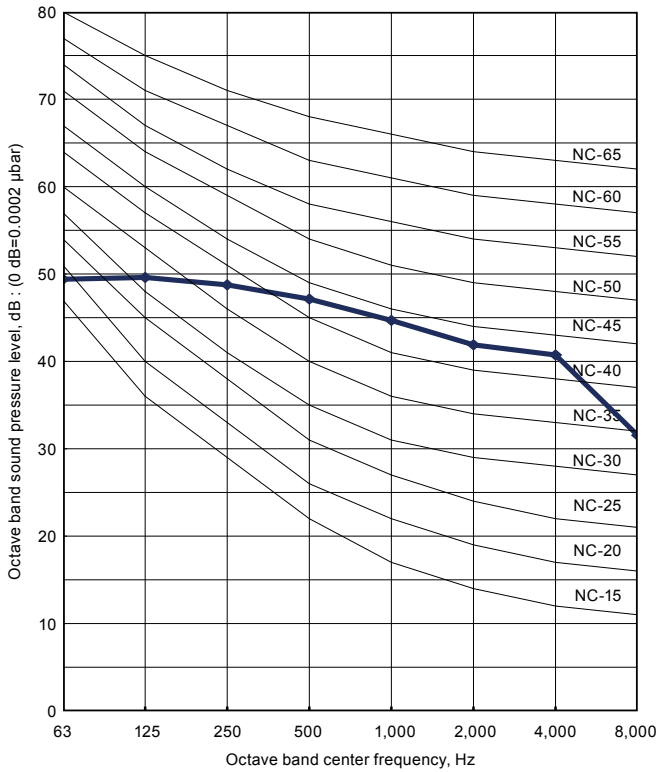
●Heating

■MODEL : AO＊G24LFCC

●Cooling
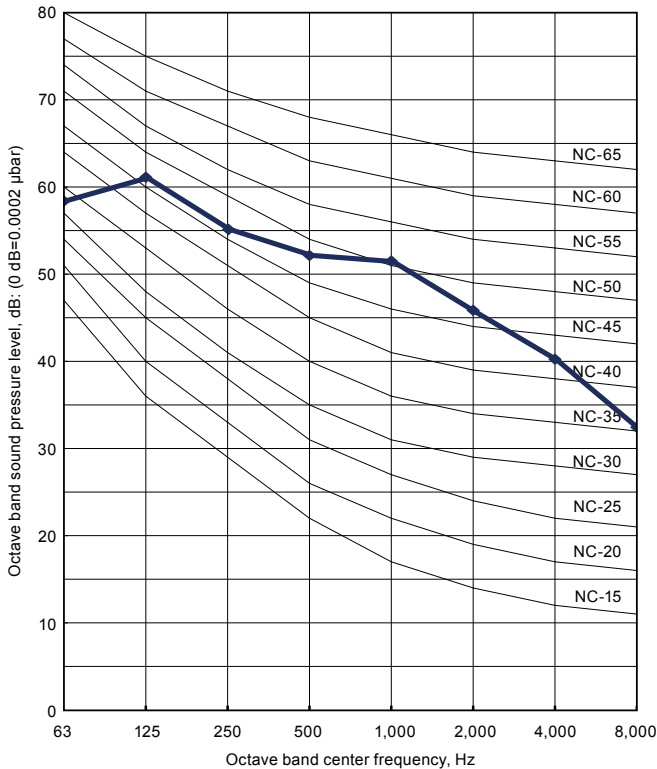
●Heating
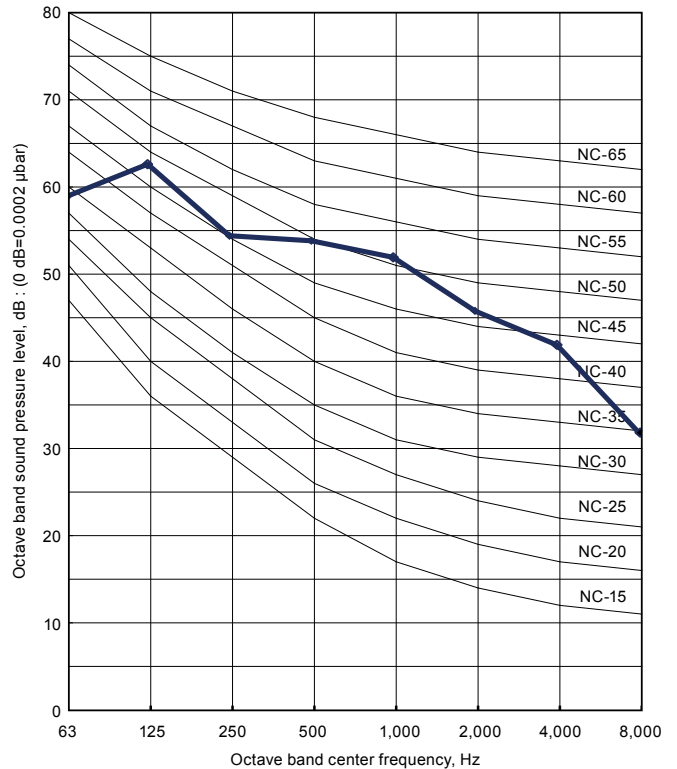
■ MODEL : AO✳G30LFT

● Cooling

Octave band sound pressure level, dB : (0 dB=0.0002 μbar)

NC-65
NC-60
NC-55
NC-50
NC-45
NC-40
NC-35
NC-30
NC-25
NC-20
NC-15

Octave band center frequency, Hz

● Heating

Octave band sound pressure level, dB : (0 dB=0.0002 μbar)

NC-65
NC-60
NC-55
NC-50
NC-45
NC-40
NC-35
NC-30
NC-25
NC-20
NC-15

Octave band center frequency, Hz

8-2. SOUND LEVEL CHECK POINT

Airflow

Microphone

1 m

Microphone
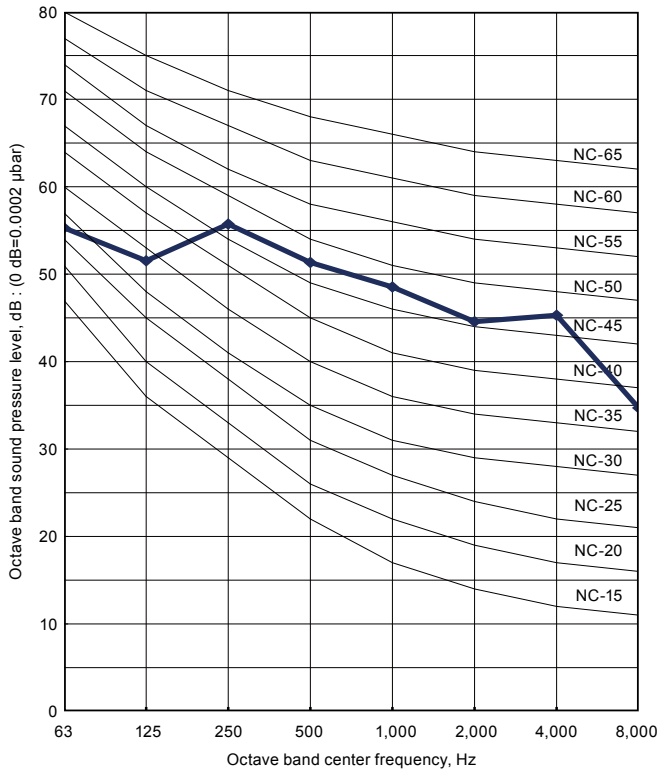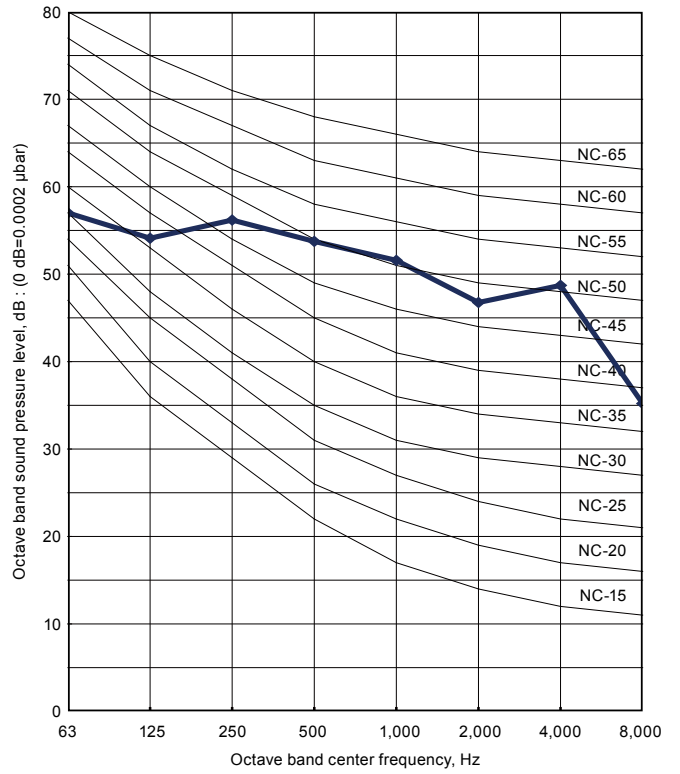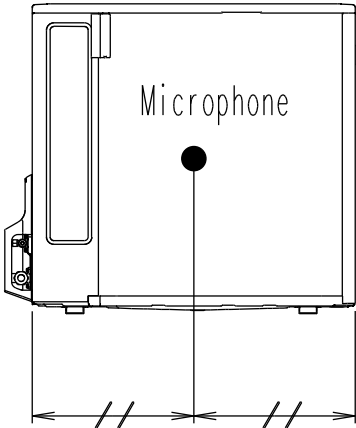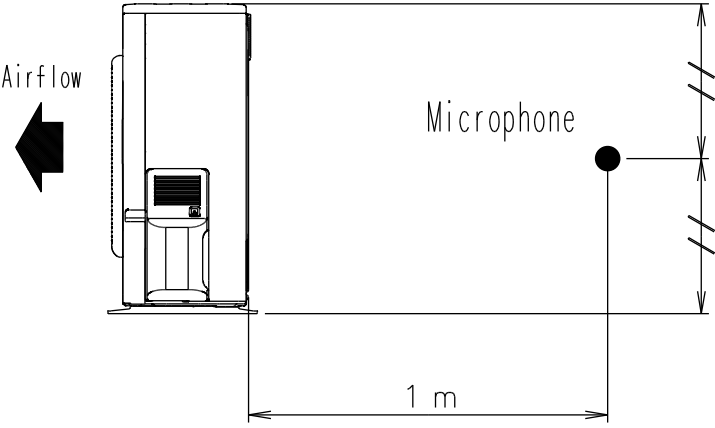
9. ELECTRICAL CHARACTERISTICS

Model name			AO✳G18LFC	AO✳G24LFCC	AO✳G30LFT
Power supply	Voltage	V	230 V ~		
	Frequency	Hz	50		
Max. operating current *1		A	12.5	18.5	19.0
Starting current		A	7.6	9.7	10.9
Wiring spec. *2	Main fuse (Circuit breaker) current	A	20	30	
	Power cable	mm^2	3.5–4.0		
	Limited wiring length *3	m	20		

*1: The maximum current is the total current of indoor unit and outdoor unit.

*2: Selected sample based on Japan Electrotechnical Standards and Codes Committee E0005.

*3: This is the wiring length in case voltage descent is less than 2 %.

When the wiring length becomes long, select a wire with larger diameter.

10. SAFETY DEVICES

	Protection form	Model		
		AO∗G18LFC	AO∗G24LFCC	AO∗G30LFT
Circuit protection	Current fuse (Near the terminal)	250 V 20 A	—	250 V 20 A
		250 V 5 A	—	250 V 5 A
	Current fuse (Main PC board)	250 V 15 A	250 V 20 A	250 V 15 A
		250 V 3.15 A	250 V 5 A	250 V 3.15 A
Fan motor protection	Thermal protection program	OFF : 100 ± 15 °C ON : 95 ± 10 °C	OFF : 100 ± 15 °C ON : 95 ± 10 °C	OFF : 150 ± 15 °C ON : 120 ± 15 °C
Compressor protection	Thermal protection program (Compressor temp.)	—	OFF : 108 °C ON : After 40 minutes	OFF : 108 °C ON : After 40 minutes
	Thermal protection program (Discharge temp.)	OFF : 110 °C ON : After 7 minutes	OFF : 110 °C ON : After 7 minutes	OFF : 110 °C ON : After 7 minutes
High pressure protection	Pressure switch	—	OFF : 4.2 ± 0.1 MPa ON : 3.2 ± 0.15 MPa	OFF : 4.2 ± 0.1 MPa ON : 3.2 ± 0.15 MPa