



AIR CONDITIONER

Wall Mounted type

DESIGN & TECHNICAL MANUAL

INDOOR



AS*G18LFCA
AS*G24LFCA
AS*G30LFCA

OUTDOOR



AO*G18LFC



AO*G24LFL



AO*G30LFT

FUJITSU GENERAL LIMITED

1. INDOOR UNIT

WALL MOUNTED TYPE :

AS*G18LFCA

AS*G24LFCA

AS*G30LFCA

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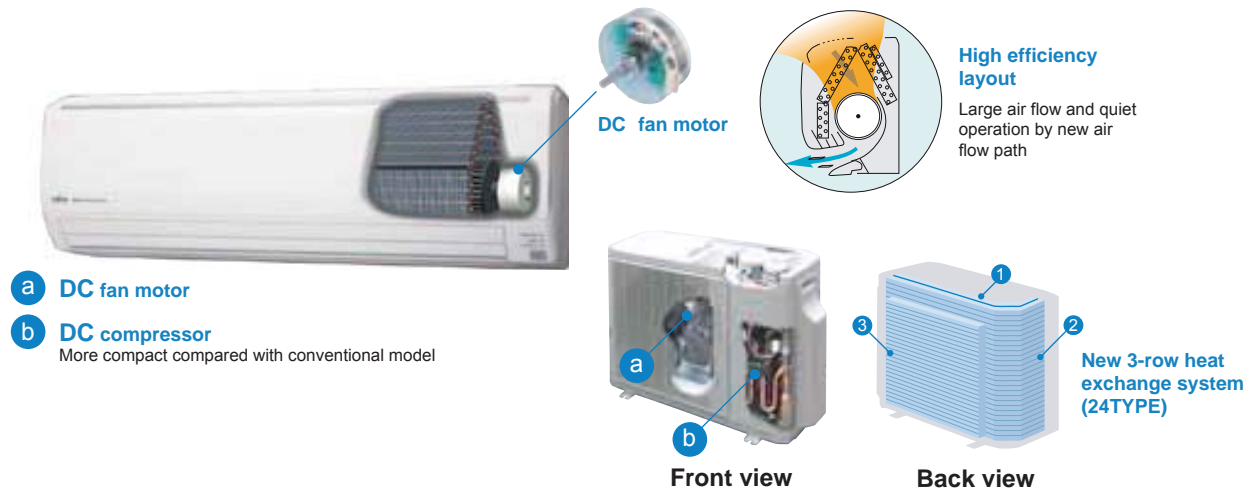
1. FEATURE

- **MODEL**
- AS*G18LFCA
- AS*G24LFCA
- AS*G30LFCA



■ FEATURES

● ALL DC



● Super quiet

Air flow mode can be set in 4 steps and more detailed air flow setting is possible.

● Easy maintenance

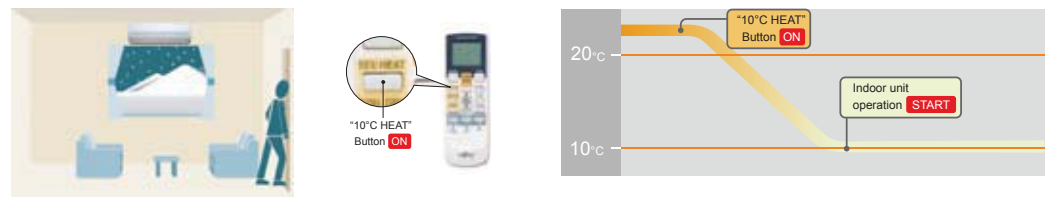
Easy maintenance and always clean. Troublesome maintenance has been made easy. Since the front panel is easy to remove, maintenance is also easy.

● 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

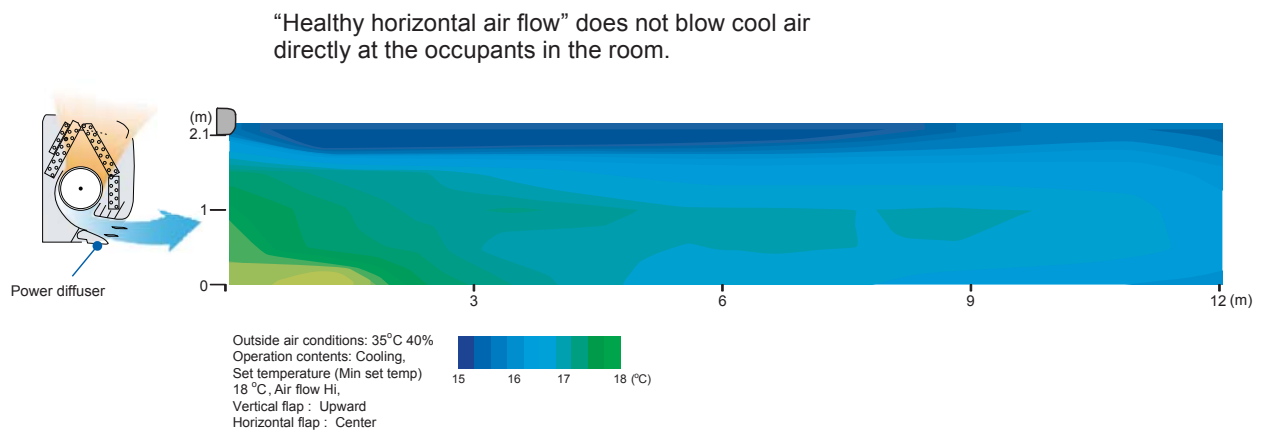
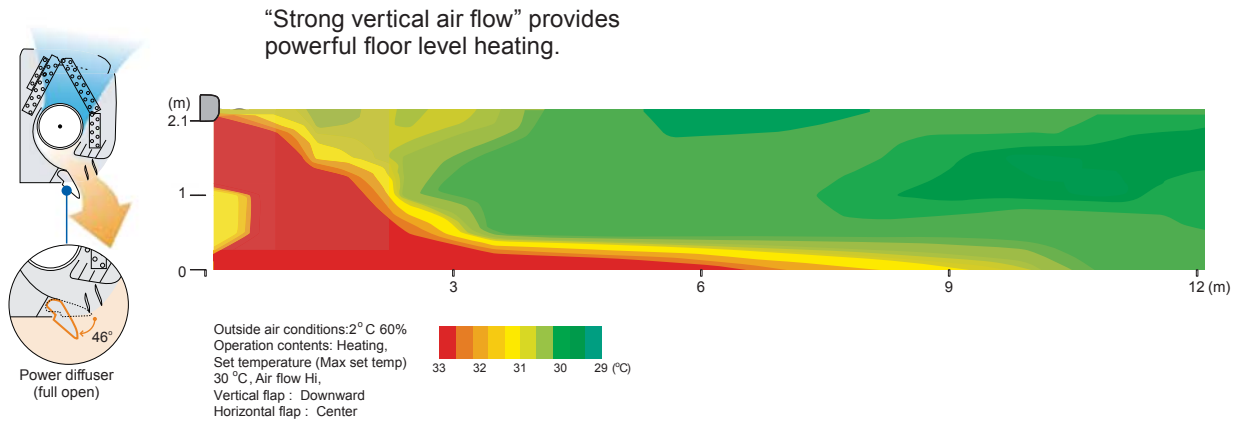
Caution)

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



● Power diffuser

Adoption of large power diffuser



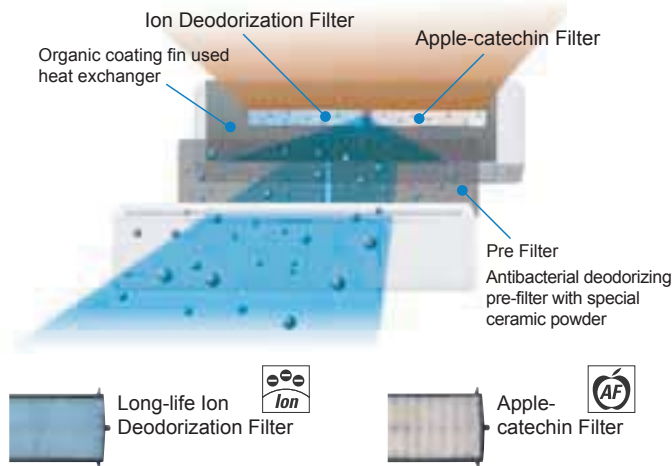
● Low outdoor air temperature cooling and heating correspondence

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

Cooling	-10°C
Heating	-15°C

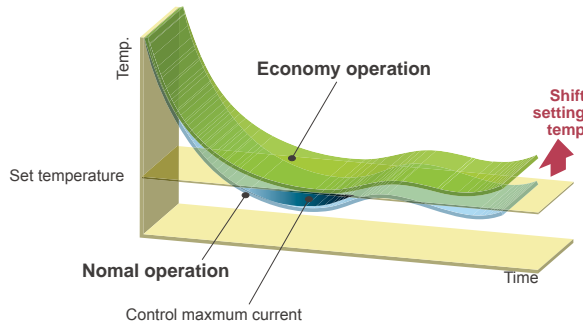
● Corresponds to maximum 50m long piping (30type)

● Air conditioner filter features



● Economy operation

Example : Cooling operation



- 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 (30type)

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



2. WIRELESS REMOTE CONTROLLER

FEATURES



- Four kinds of timer setup (ON / OFF / PROGRAM / SLEEP) are possible.
- Can be used jointly with wired remote controllers .
- Easy to change custom code (4 patterns).

● Built-in timers

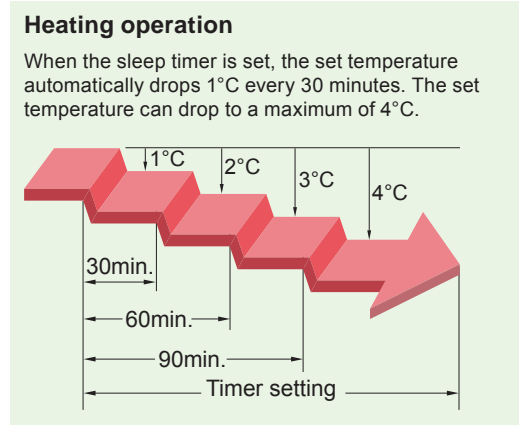
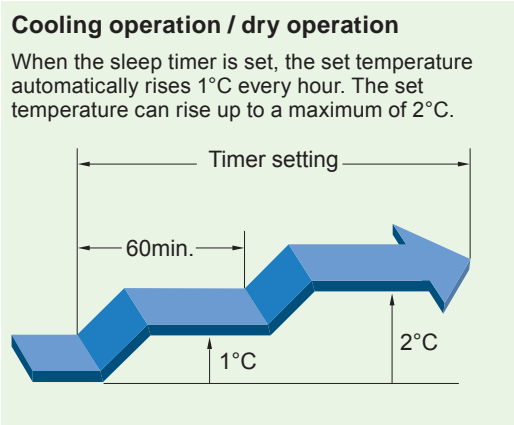
Select from four different timer programs (On / Off / Program / Sleep).

● Program timer

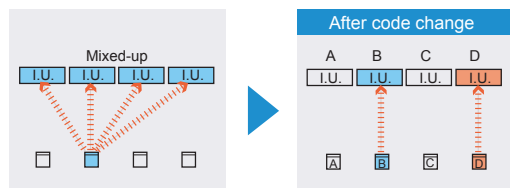
The program timer operates the ON and OFF timer once within a 24 hour period.

● 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.



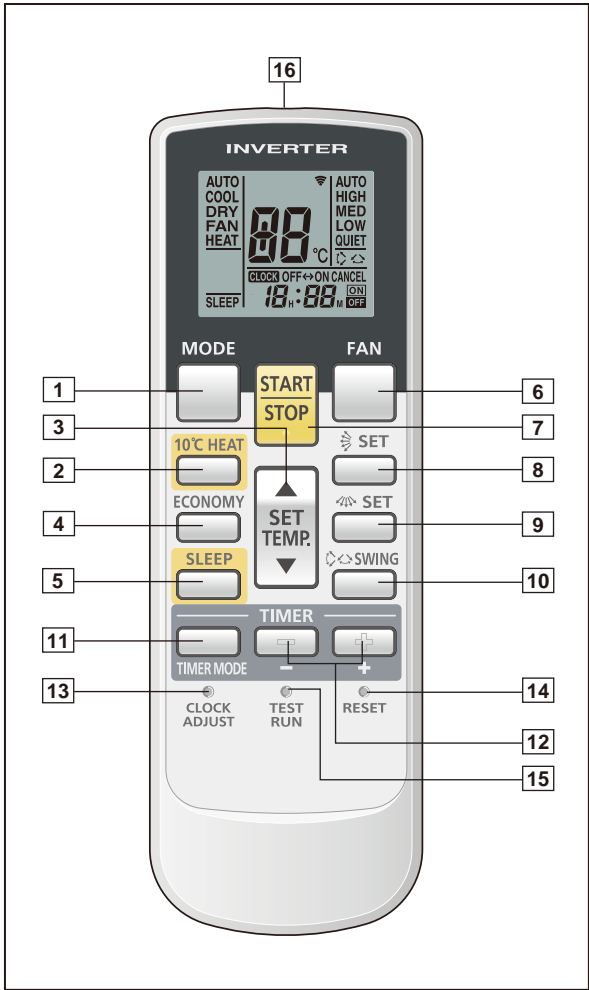
● Easy installation and operation



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

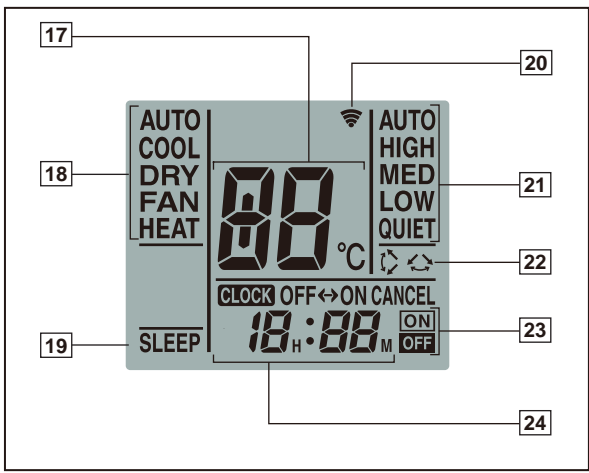
*I.U.=Indoor unit

FUNCTIONS



- 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)
Air flow direction vertical set button.
- 9 SET button (Horizontal)
Air flow direction horizontal set button.
- 10 SWING button
Air flow 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.

Display panel



- 16 Signal transmitter
- 17 Temperature set display
- 18 Operating mode display
- 19 Sleep display
- 20 Transmit indicator
- 21 Fan speed display
- 22 Swing display
- 23 Timer mode display
- 24 Clock display

Note: Functions will be different due to type of indoor unit.
For details, please see operation manual.

3. SPECIFICATIONS

Type				WALL MOUNTED INVERTER HEAT PUMP			
Model name		AS*G18LFCA		AS*G24LFCA	AS*G30LFCA		
Power source				230V~ 50Hz			
Available voltage range				198-264V ~ 50Hz			
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	
	Heating		BTU/h	3,100~20,500	3,100-27,300	9,900-30,700	
		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	
	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	
		Max.*		9.0	13.5	17.0	
	Rated	7.6		9.7	10.7		
	Max.*	12.5		18.5	19.0		
EER	Cooling	kW/kW	3.42	3.23	3.21		
	Heating		3.68	3.61	3.61		
COP							
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)	
Fan	Airflow rate	Cooling	High	m ³ /h	900	1100	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 x Q'ty			Cross flow fan x 1			
	Motor output			W	42	42	42
Sound pressure level	Cooling	High	dB(A)	43	47	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 x W x D)		mm	Main:378 x 832 x 26.6 Sub:84 x 382 x 13.3	Main : 378 x 832 x 26.6 Sub1 : 84 x 832 x 13.3, Sub2 : 84 x 832 x 13.3		
	Fin pitch			Main:1.2 Sub:1.4	Main : 1.2, Sub1 : 1.4, Sub2 : 1.4		
	Rows x Stages		Main:2 x 18 Sub:1 x 4	Main : 2 x 18, Sub1 : 1 x 4, Sub2 : 1 x 4			
	Pipe type		Copper				
	Fin type		Aluminium				
Enclosure	Material		Polystyrene				
	Colour		WHITE Approximate colour of MUNSELL N 9.25/				
Dimensions (HxWxD)	Net		mm	320 x 998 x 238			
	Gross			329 x 1090 x 420			
Weight	Net		kg(lbs.)	14 (30.8)			
	Gross			18 (39.6)			
Connection pipe	Size	Liquid	mm	Ø6.35 (Ø1/4 in)	Ø6.35 (Ø1/4 in.)	Ø9.52 (Ø3/8 in.)	
		Gas		Ø12.7 (Ø1/2in)	Ø15.88 (Ø5/8 in.)	Ø15.88 (Ø5/8 in.)	
	Method			Flare			
Operation range	Cooling	°C	18 to 32				
		%RH	80 or less				
	Heating	°C	30 or less				
Remote controller type				Wireless			
Drain pipe	Material		PVC				
	Size		mm Outer diameter : 28 / Inner diameter : 16				

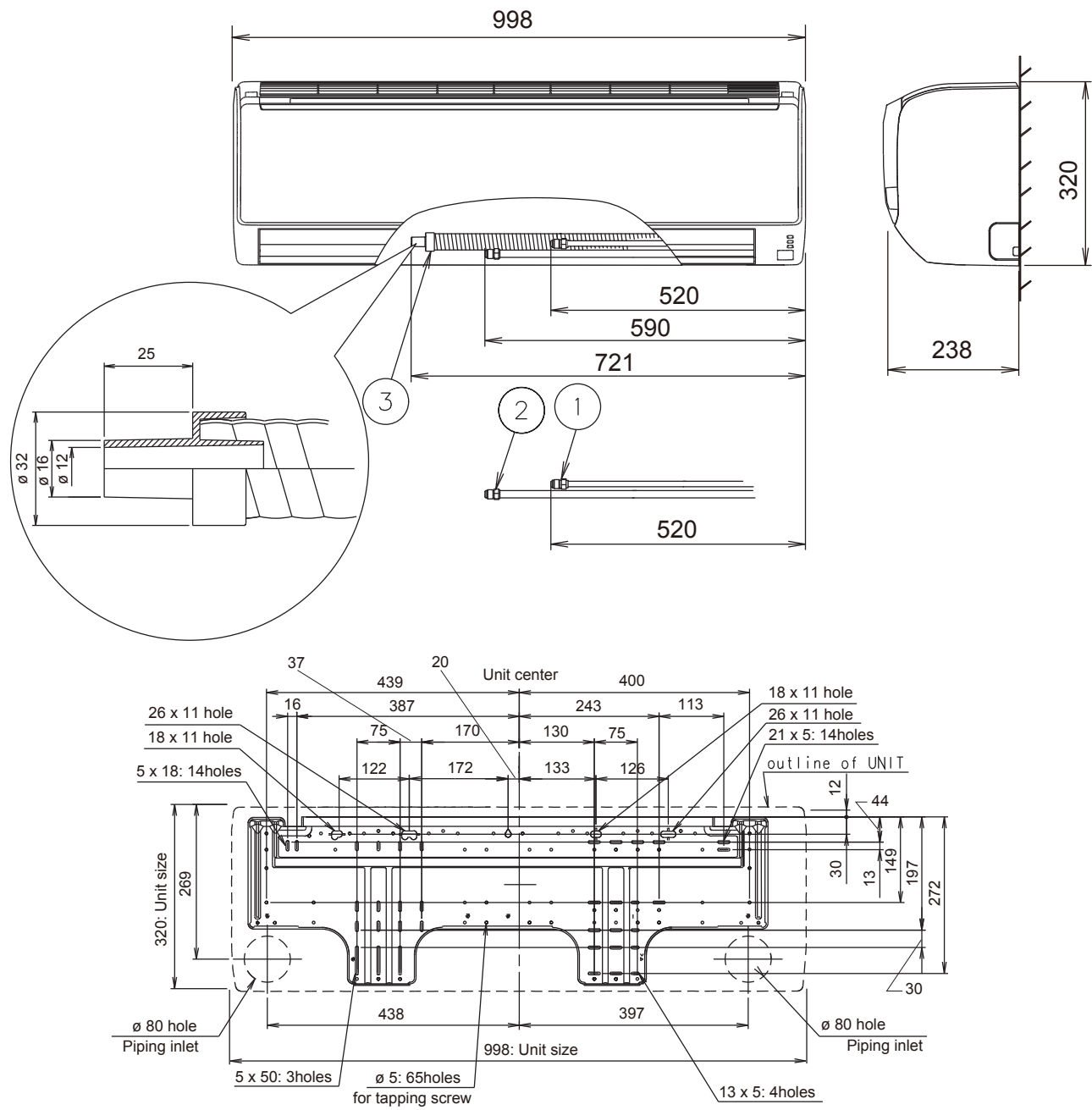
Note :

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 : 5/7.5 m (*1), Height difference : 0 m. (Outdoor unit - Indoor unit)
 The maximum current is the maximum value when operated within the operation range(temperature)
 * The maximum current is the total current of indoor unit and outdoor unit.
 *1 18LFCA:5m, 24/30LFCA:7.5m

4. DIMENSIONS

■ MODEL: AS*G18LF, AS*G24LF, AS*G30LF

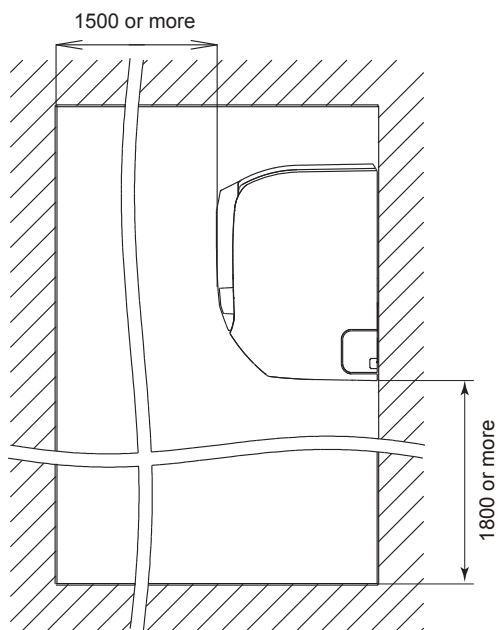
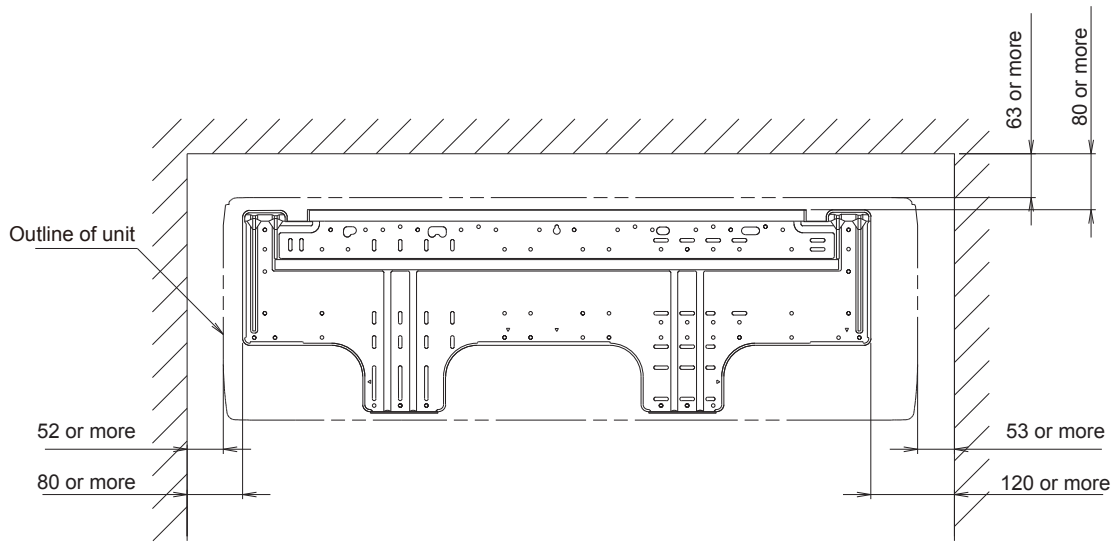
(Unit : mm)



		AS*G18LF	AS*G24LF	AS*G30LF
①	Refrigerant pipe flare connection	Liquid	ø 6.35 mm (1/4 in.)	
②		Gas	ø 12.7 mm(1/2 in.)	ø 15.88 mm(5/8 in.)
③	Drain hose connection	Drain hose	I.D. 12 mm , O.D. 16 mm Drain hose : L=670mm	

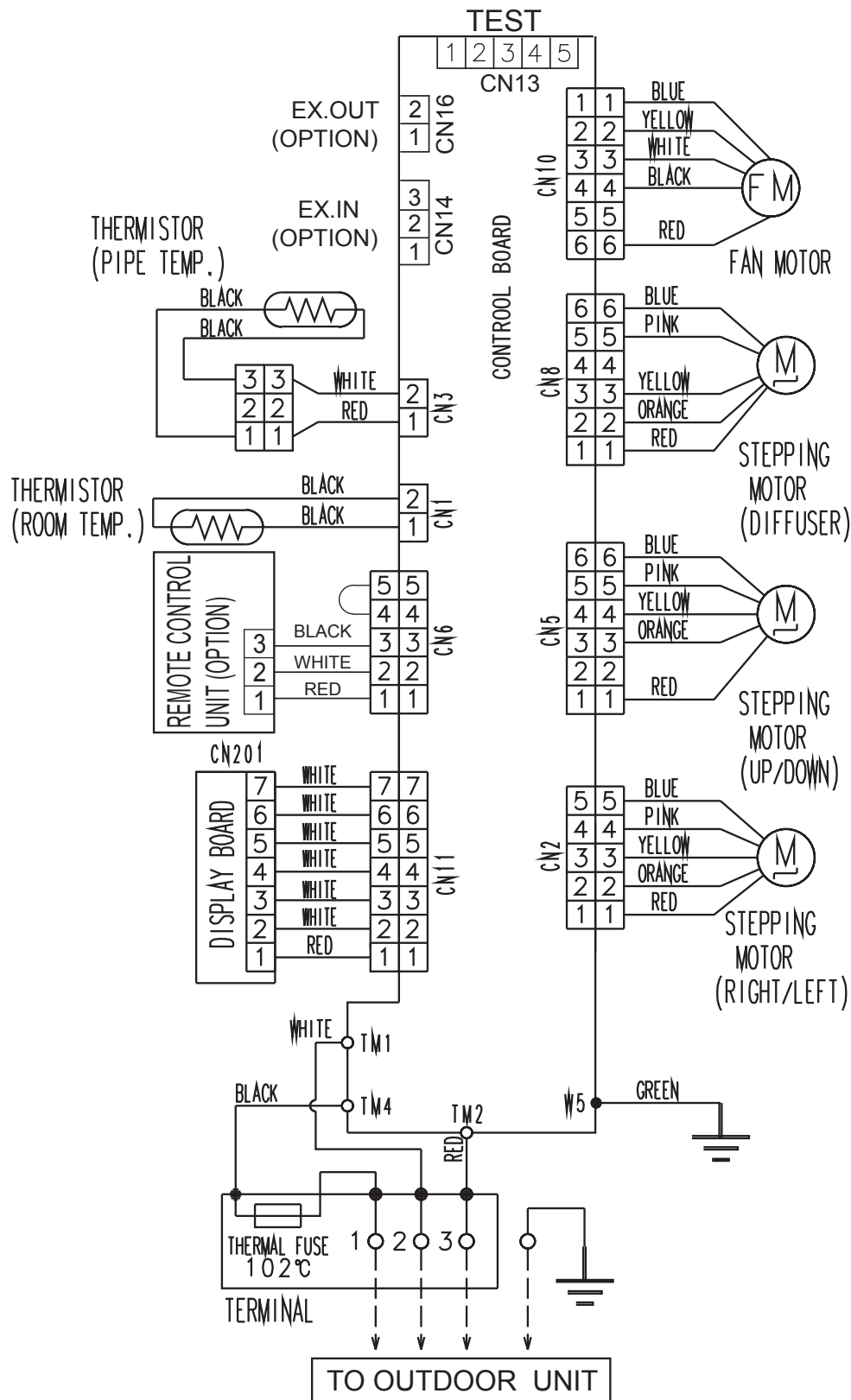
■ INSTALLATION PLACE

(Unit : mm)



5. WIRING DIAGRAMS

■ MODEL: AS*G18LF, AS*G24LF, AS*G30LF



6. CAPACITY TABLE

6-1. COOLING CAPACITY

■ MODEL: AS*G18LF

AFR	15.0
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		Indoor temperature																							
		18			21			23			25			27			29			32					
		12			15			16			18			19			21			23					
Outdoor temperature	°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*G24LF

AFR	18.3
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		Indoor temperature																							
		18			21			23			25			27			29			32					
		12			15			16			18			19			21			23					
Outdoor temperature	°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*G30LF

AFR	18.3
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		Indoor temperature																							
		18			21			23			25			27			29			32					
		12			15			16			18			19			21			23					
Outdoor temperature	°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 : Air flow rate (m³/min)
 TC : Total capacity (kW)
 SHC : Sensible Heat capacity (kW)
 IP : Input Power (kW)

6-2. HEATING CAPACITY

■ MODEL: AS*G18LF

AFR	15.0
-----	------

			Indoor temperature									
			16		18		20		22		24	
Outdoor temperature	(°CDB)	(°CWB)	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
	-15	-16	5.09	2.16	4.96	2.21	4.84	2.26	4.72	2.30	4.60	2.35
	-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*G24LF

AFR	18.7
-----	------

			Indoor temperature									
			16		18		20		22		24	
Outdoor temperature	(°CDB)	(°CWB)	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
	-15	-16	6.20	2.75	6.05	2.80	5.90	2.86	5.75	2.92	5.61	2.97
	-10	-11	7.06	2.94	6.89	3.00	6.72	3.06	6.55	3.12	6.38	3.18
	-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	3.20	8.84	3.26	8.62	3.33	8.40	3.40	8.19	3.46
	5	3	10.05	3.34	9.81	3.41	9.57	3.48	9.33	3.55	9.09	3.62
	7	6	11.13	3.38	10.87	3.45	10.60	3.52	10.34	3.59	10.07	3.66
	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*G30LF

AFR	19.2
-----	------

			Indoor temperature									
			16		18		20		22		24	
Outdoor temperature	(°CDB)	(°CWB)	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
	-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

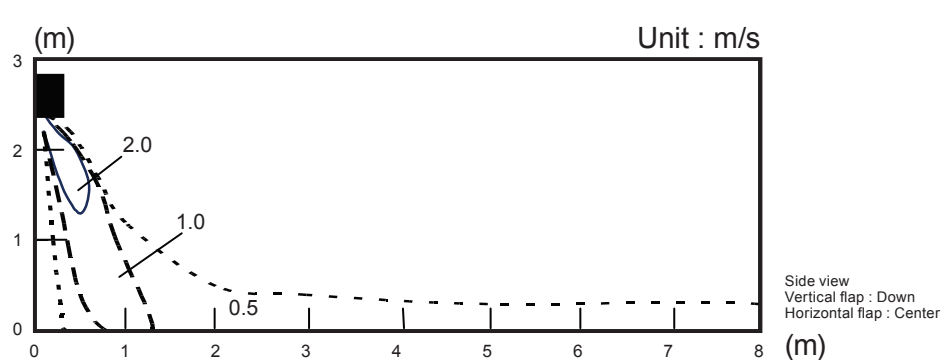
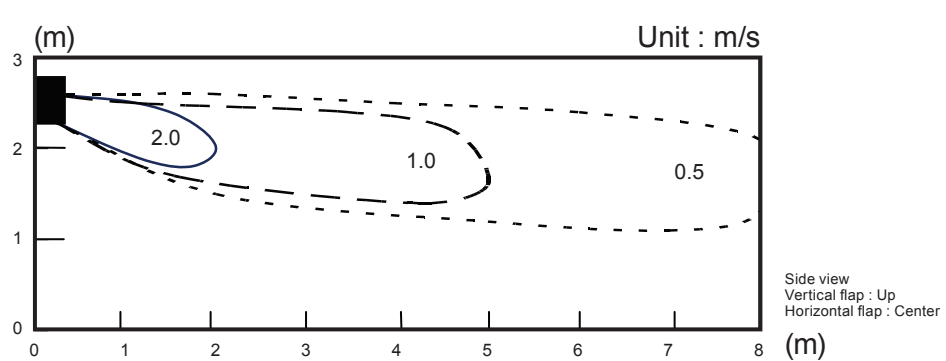
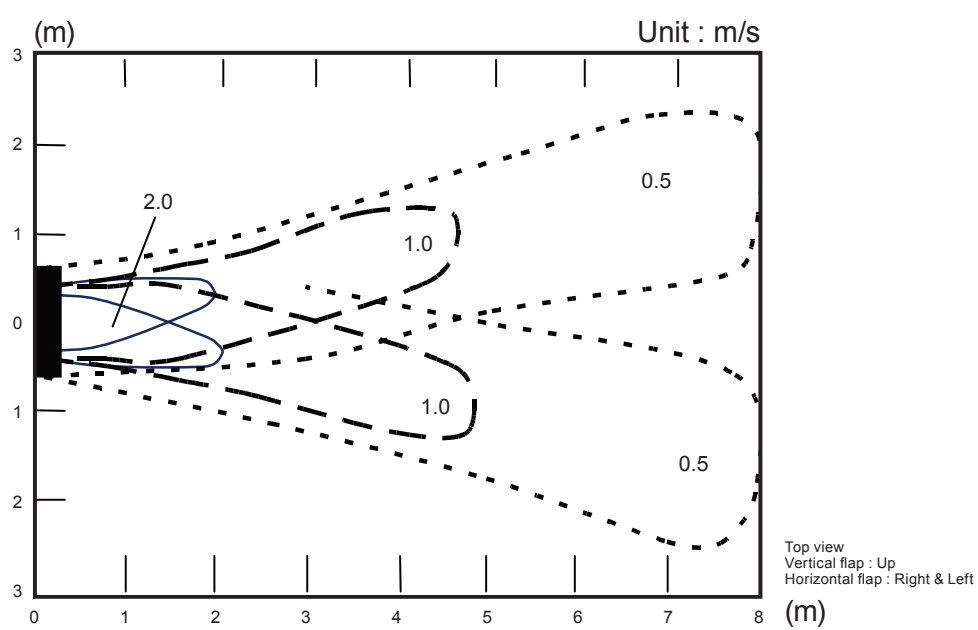
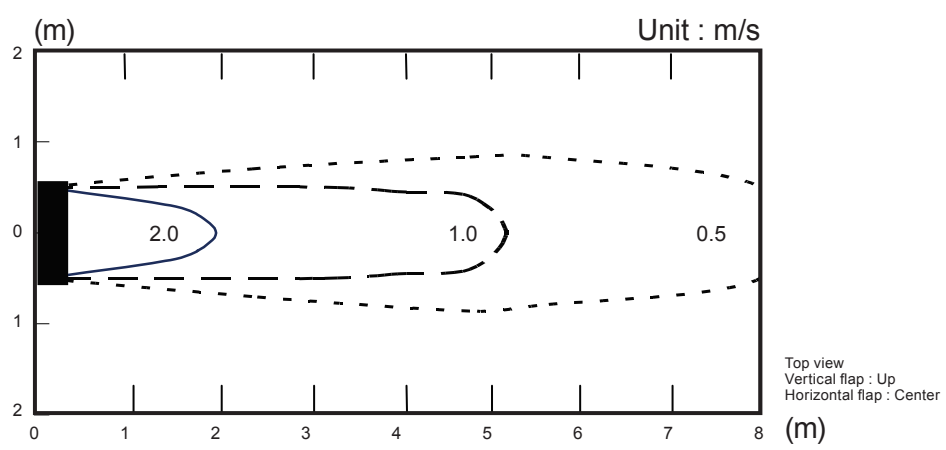
AFR: Air flow rate (m³/min)
 TC : Total capacity (kW)
 IP : Input Power (kW)

7. FAN PERFORMANCE

7-1. AIR VELOCITY DISTRIBUTION

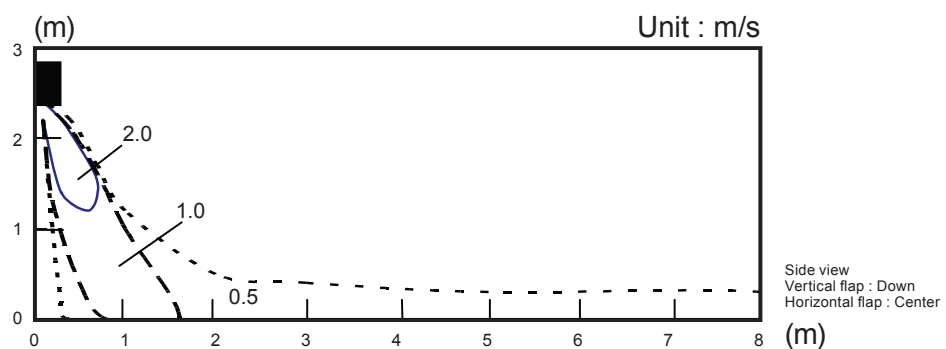
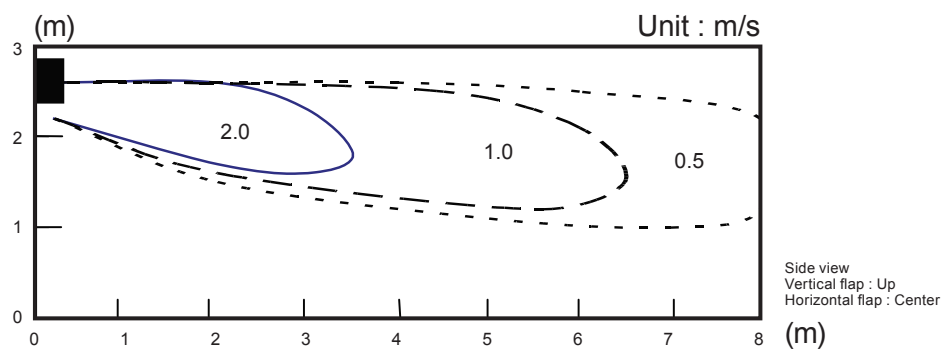
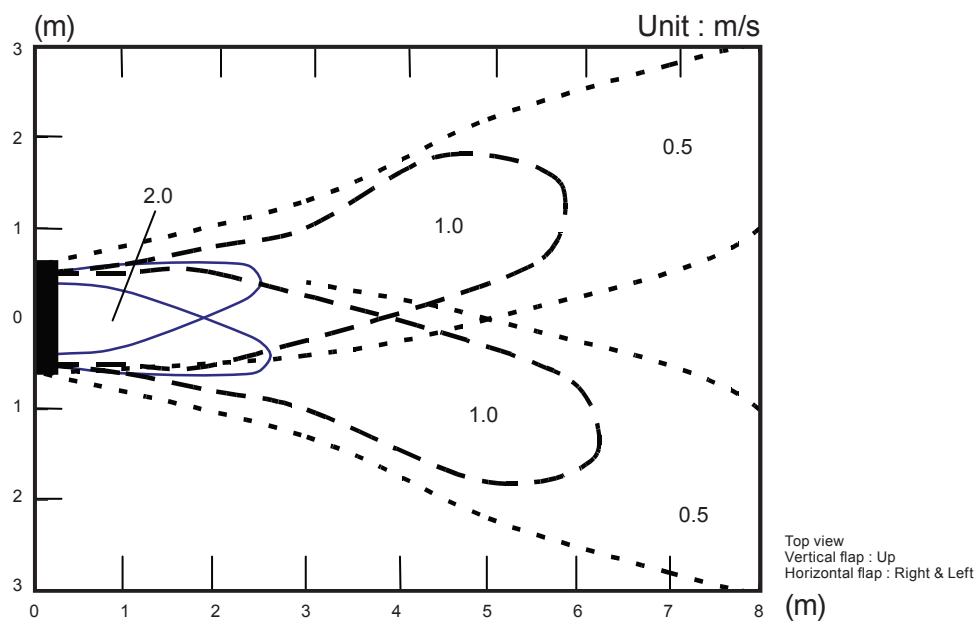
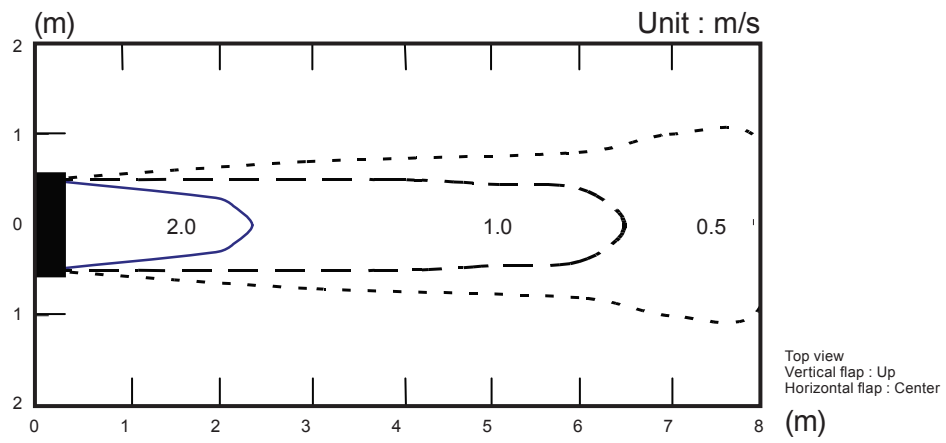
Note:
 Fan speed : High
 Operation mode : FAN
 Voltage : 230V

■ MODEL: AS*G18LF



■ MODEL: AS*G24LF, AS*G30LF

Note:
Fan speed : High
Operation mode : FAN
Voltage : 230V



7-2. AIR FLOW

■ MODEL: AS*G18LF

● Cooling / Heating

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

■ MODEL: AS*G24LF

● Cooling

Fan speed	Number of rotations (r.p.m.)	Air flow	
HIGH	1430	1100	m ³ /h
		306	l/s
		647	CFM
MED	1220	900	m ³ /h
		250	l/s
		530	CFM
LOW	1020	740	m ³ /h
		206	l/s
		435	CFM
QUIET	860	580	m ³ /h
		161	l/s
		341	CFM

● Heating

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

■ **MODEL: AS*G30LF**

● **Cooling**

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

● **Heating**

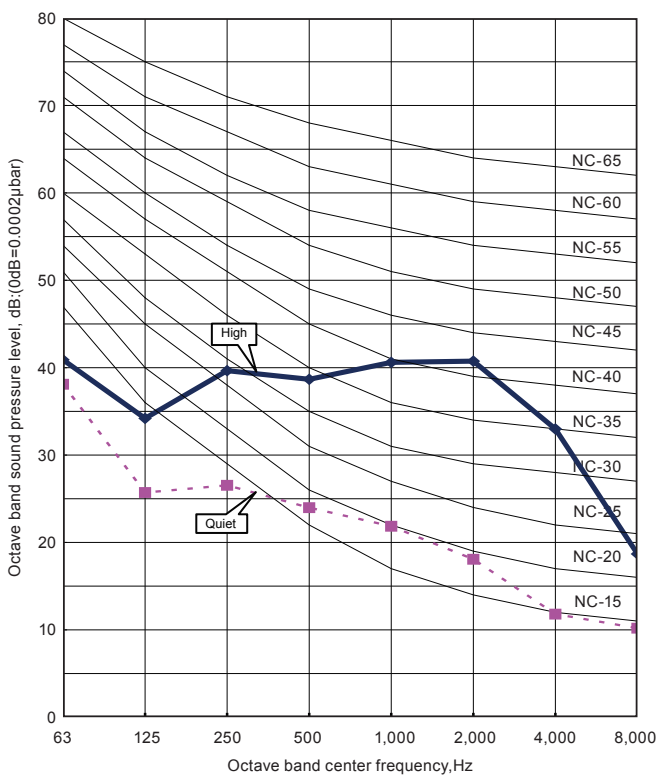
Fan speed	Number of rotations (r.p.m.)	Air flow	
HIGH	1530	1150	m ³ /h
		319	l/s
		677	CFM
MED	1220	900	m ³ /h
		250	l/s
		530	CFM
LOW	1020	740	m ³ /h
		206	l/s
		435	CFM
QUIET	900	620	m ³ /h
		172	l/s
		365	CFM

8. OPERATION NOISE

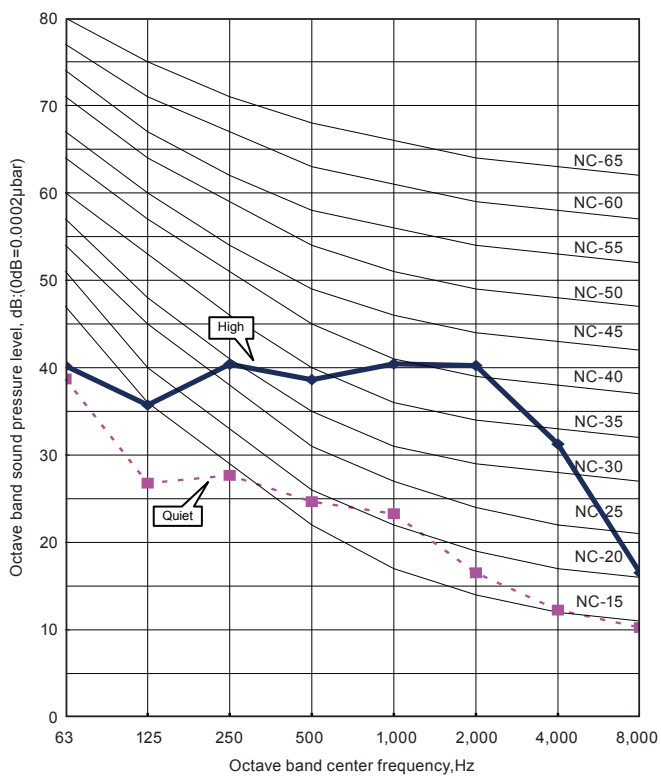
8-1. NOISE LEVEL CURVE

MODEL: AS*G18LF

● Cooling

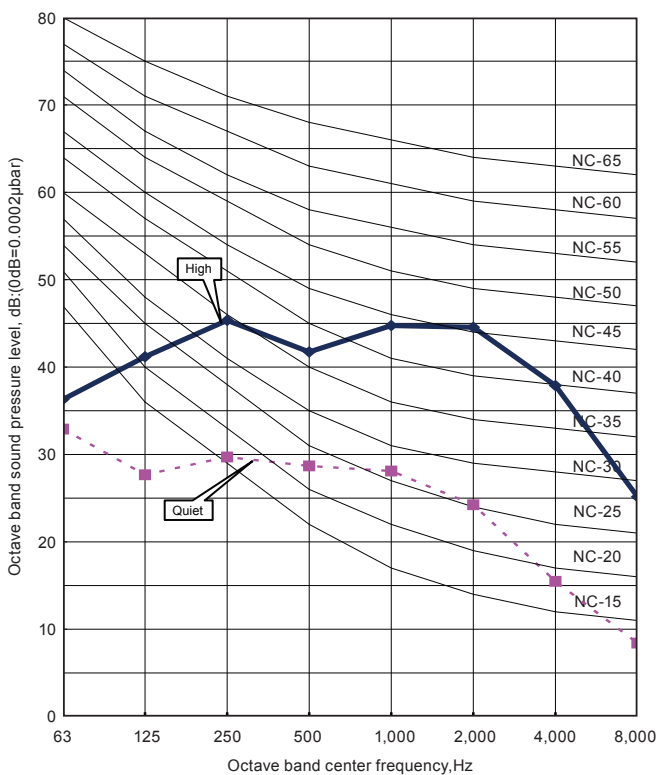


● Heating

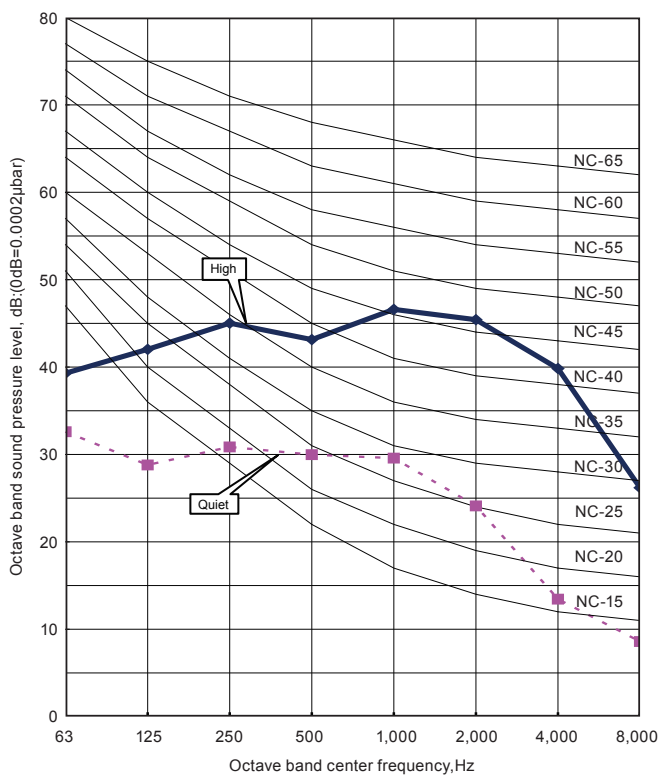


MODEL: AS*G24LF

● Cooling

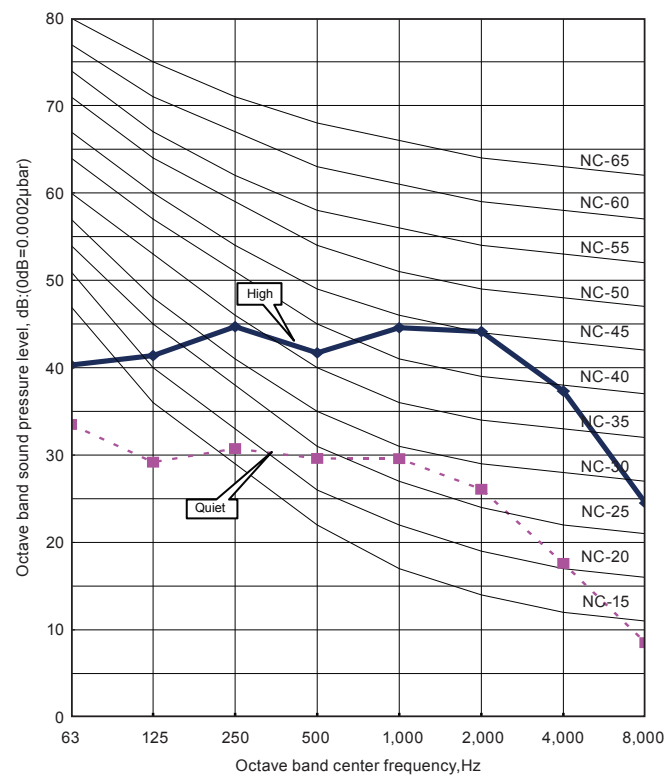


● Heating

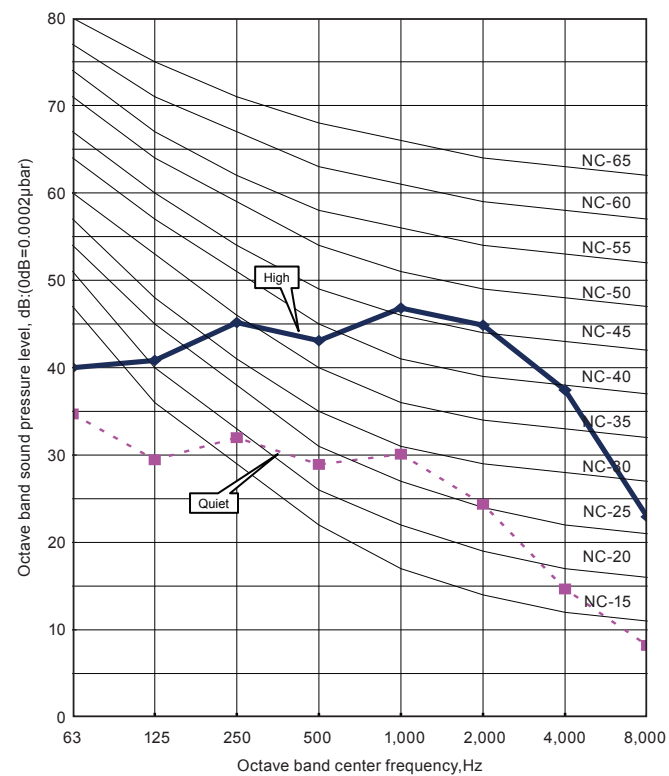


MODEL: AS*G30LF

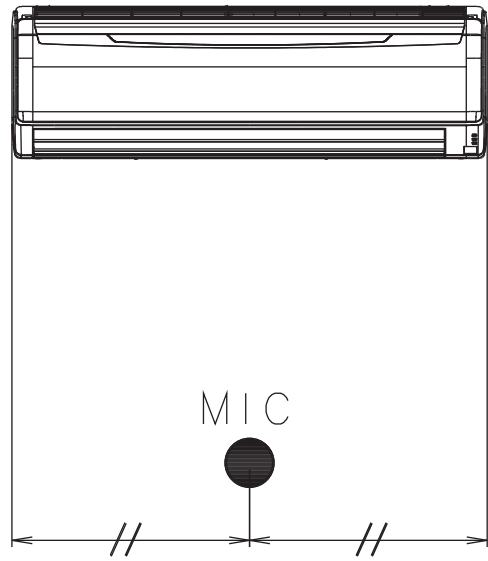
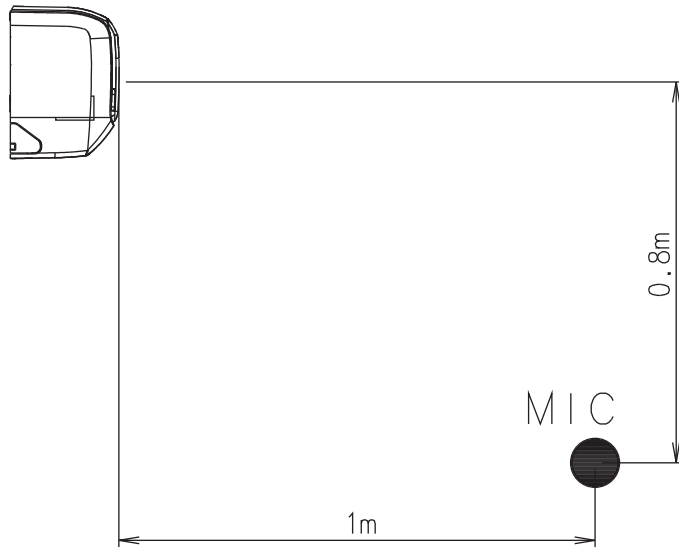
● Cooling



● Heating



8-2. SOUND LEVEL CHECK POINT



9. ELECTRIC CHARACTERISTICS

Model name			AS*G18LF	AS*G24LF	AS*G30LF
Power supply	Voltage	V	230 ~		
	Frequency	Hz	50		
Max. operating current		A	0.3		
*1)Wiring Spec.	Connection cable	mm ²	1.5 - 2.5		
	Limited wiring length	m	26	31	51

*1) Wiring Spec.

Selected Sample

(Selected based on Japan Electrotechnical Standard and Codes Committee E0005)

10. SAFETY DEVICES

	Protection form	Model
		AS*G18LF, AS*G24LF, AS*G30LF
Circuit protection	Current fuse (PCB)	3.15A 250V
Terminal protection	Current (thermal) fuse	3A 250V
Fan motor protection	Thermal protector program	100 ⁺¹⁵ ₋₁₀ °C OFF 95 ⁺⁵ ₋₁₀ °C ON

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)

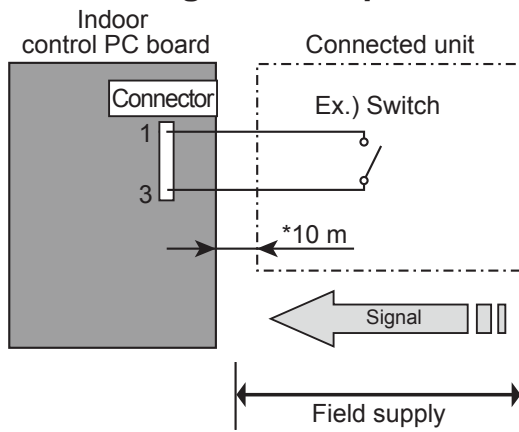
The air conditioner can be remotely operated by means of the following on-site work.

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

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.

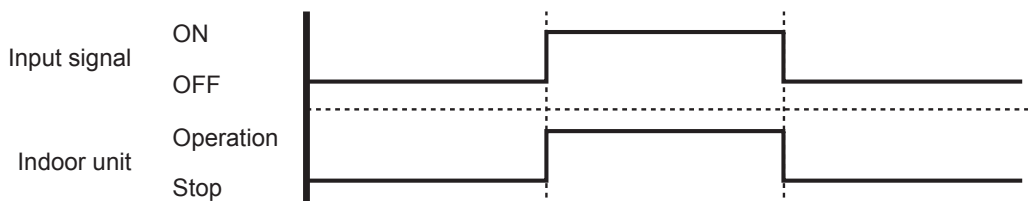
	Initial starting after power turned on	Starting other than at the left
Operation mode	Auto changeover	Mode at previous operation
Set temperature	24°C	Temperature at previous operation
Air flow mode	AUTO	Mode at previous operation
Up-down air direction (swing)	Standard air direction (swing OFF)	Air direction at previous operation
Left-right air direction (swing)	Standard air direction (swing OFF)	Air direction at previous operation

● Circuit diagram example

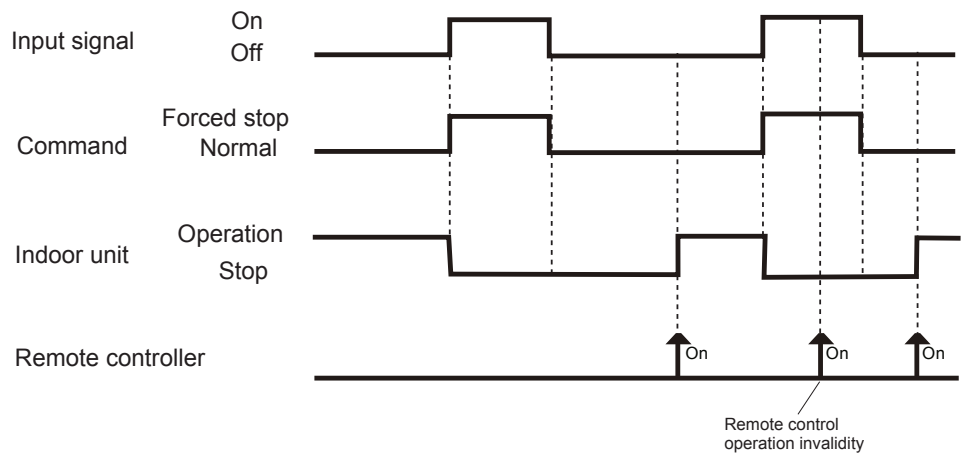


* Make the distance from the PC board to the connected unit within 10m.
Contact capacity : 24VDC or more, 10mA or more.
Please use the non-polar relays and switches.

● When function setting is "Operation/Stop" mode



● When function setting is "Forced stop" mode



● Parts (Optional)

Parts name	Model name
External connect kit	UTY-XWZX

Wire (External input) : UTY-XWZX

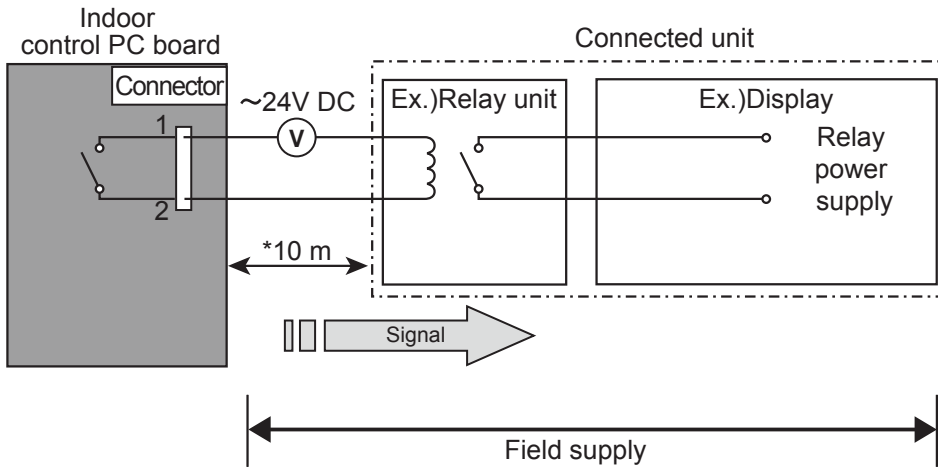


11-2. EXTERNAL OUTPUT

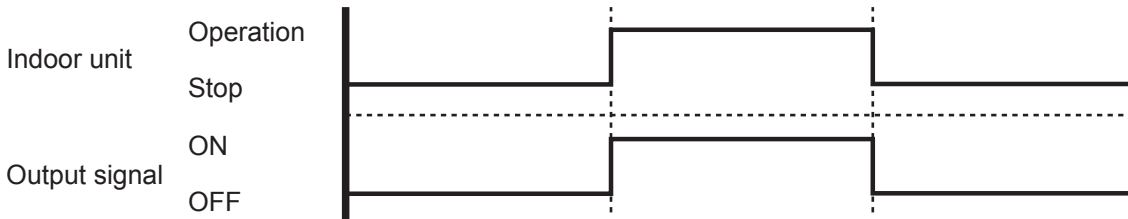
■ OPERATION STATUS OUTPUT

An air conditioner operation status signal can be output.

● Circuit diagram example



* Make the distance from the PC board to the connected unit within 10m.
Relay spec. : Max.24VDC, 10mA to less than 500mA.



● Parts (Optional)

Parts name	Model name
External connect kit	UTY-XWZX

Wire (External input) : UTY-XWZX



12. FUNCTION SETTING

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 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

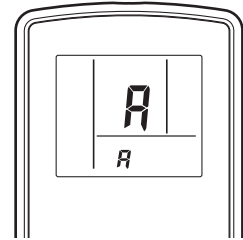
- While pressing the FAN button and SET TEMP. (▲) simultaneously, press the RESET button to enter the function setting mode.

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 SELECTING THE REMOTE CONTROLLER SIGNAL CODE.

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.



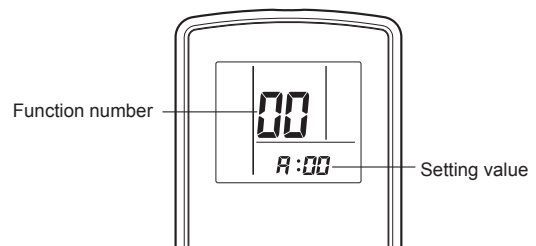
The air conditioner signal code is set to A prior to shipment.

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.



⚠ CAUTION

After turning off the power, wait 10 seconds or more before turning on it again. The FUNCTION SETTING doesn't become effective if it doesn't do so.

FUNCTION DETAILS

	Functions	Wall mounted
1)	Filter sign	●
2)	Cooler room temperature correction	●
3)	Heater room temperature correction	●
4)	Auto restart	●
5)	Indoor room temperature sensor switching function	●
6)	Remote controller signal code	●
7)	External input control	●

1) Filter sign

The indoor unit has a sign to inform the user that it is time to clean the filter. Select the time setting for the filter sign display interval in the table below according to the amount of dust or debris in the room. If you do not wish the filter sign to be displayed, select the setting value for "No indication".

(◆... Factory setting)

	Setting description	Function number	Setting value
◆	Standard	11	00
	Long interval		01
	Short interval		02
	No indication		03

The filter sign interval time is different according to Indoor unit type as follows.

Setting description	Wall mounted
Standard	400 hours
Long interval	1000 hours
Short interval	200 hours

2) Cooler room temperature correction

Depending on the installed environment, the room temperature sensor may require a correction.

The settings may be selected as shown in the table below.

(◆... Factory setting)

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

3) Heater room temperature correction

Depending on the installed environment, the room temperature sensor may require a correction.

The settings may be changed as shown in the table below.

(◆... Factory setting)

	Setting description	Function number	Setting value
◆	Standard	31	00
	Lower control		01
	Slightly warmer control		02
	Warmer control		03

4) Auto restart

Enable or disable automatic system restart after a power outage.

(◆... Factory setting)

Setting description	Function number	Setting value
◆ Yes	40	00
No		01

*Auto restart is an emergency function such as for power failure etc.
Do not start and stop the indoor unit by this function in normal operation.
Be sure to operate by the control unit, or external input device.

5) Indoor room temperature sensor switching function

(Only for Wired remote controller)

The following settings are needed when use the control by Wired remote controller temperature sensor.

(◆... Factory setting)

Setting description	Function number	Setting value
◆ No	42	00
Yes		01

*If setting value is "00" :
Room temperature is controlled by the indoor unit temperature sensor.

*If setting value is "01" :
Room temperature is controlled by either indoor unit temperature sensor or remote controller unit sensor.

6) Remote controller signal code

Change the indoor unit Signal Code, depending on the remote controllers.

(◆... Factory setting)

Setting description	Function number	Setting value
◆ A	44	00
B		01
C		02
D		03

7) External input control

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

(◆... Factory setting)

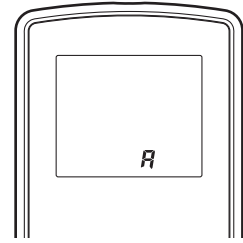
Setting description	Function number	Setting value
◆ Operation/Stop mode	46	00
(Setting forbidden)		01
Forced stop mode		02

■ 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** → **B** → **C** → **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.

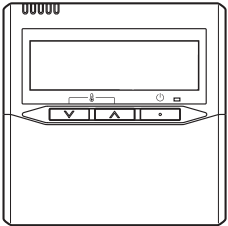


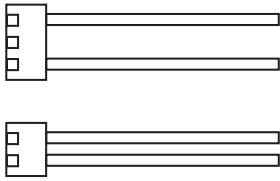


If no buttons are pressed within 30 seconds after the signal code is displayed, the system returns to the original clock display. In this case, start again from step 1.

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** → **B** → **C** → **D**) until you find the code which operates the air conditioner.

13. OPTIONAL PARTS

Exterior	Parts name	Model No.	Summary
	Wired remote controller	UTY-RNNYM	Unit control is performed by wired remote controller.
	Apple-catechin filter	UTR-FA13-1	Fine dust, invisible mold spores, and harmful microorganisms are absorbed onto the filter by static electricity, and further growth is inhibited and deactivated by the polyphenol ingredient extracted from apples.
	Ion deodorisation filter	UTR-FA13-2	The filter deodorizes by powerfully decomposing absorbed odors using the oxidizing and reducing effects of ions generated by the ultra fine-particle ceramic.
	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*G24LFL

AO*G30LFT

CONTENTS

2. OUTDOOR UNIT

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4. WIRING DIAGRAMS.....	02 - 08
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6. ADDITIONAL CHARGE CALCULATION.....	02 - 14
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1. SPECIFICATIONS

OUTDOOR UNIT
AO*G18-30LF

OUTDOOR UNIT
AO*G18-30LF

Type				INVERTER HEAT PUMP		
Model name				AO*G18LFC	AO*G24LFL	AO*G30LFT
Power source				230V~ 50Hz		
Available voltage range				198-264V ~ 50Hz		
Starting current			A	7.6	9.7	10.9
Fan	Airflow rate	Cooling	m ³ /h	2,150	2,340	3,600
		Heating		2,070	2,570	3,600
	Type × Q'ty		Propeller fan×1			
	Motor output		W	40	115	100
Sound pressure level	Cooling		dB(A)	50	53	53
	Heating			51	56	55
Heat exchanger type	Dimensions (H × W × D)		mm	588 × 881 × 36.4	Main : 546 × 866 × 36.4 Sub : 504 × 589 × 18.2	798×900×36.4
	Fin pitch			1.3	Main:1.4, Sub:1.4	1.3
	Rows x Stages		2 × 28	Main:2 × 26, Sub:1 × 24	2×38	
	Pipe type		Copper			
	Fin		Type(Material) Surface treat-ment	Corrugate (Aluminum) Corrosion resistance Corrosion resistance (Blue fin)		
Compressor	Type × Q'ty		Rotary ×1			
	Motor output		W	900	1,000	2,100
Refrigerant	Type		R410A			
	Charge		g	1,200	1,650	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	578×790×315	830×900×330
	Gross			712 × 935 × 400	648×910×380	970×1050×445
Weight	Net		kg(lbs.)	41 (90)	43 (95)	61 (135)
	Gross			45 (99)	47 (104)	68 (150)
Connection pipe	Size	Liquid	mm	Ø6.35 (Ø1/4 in.)		Ø9.52 (Ø3/8 in.)
		Gas		Ø12.7 (Ø1/2 in.)	Ø15.88 (Ø5/8 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		

Note :

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.

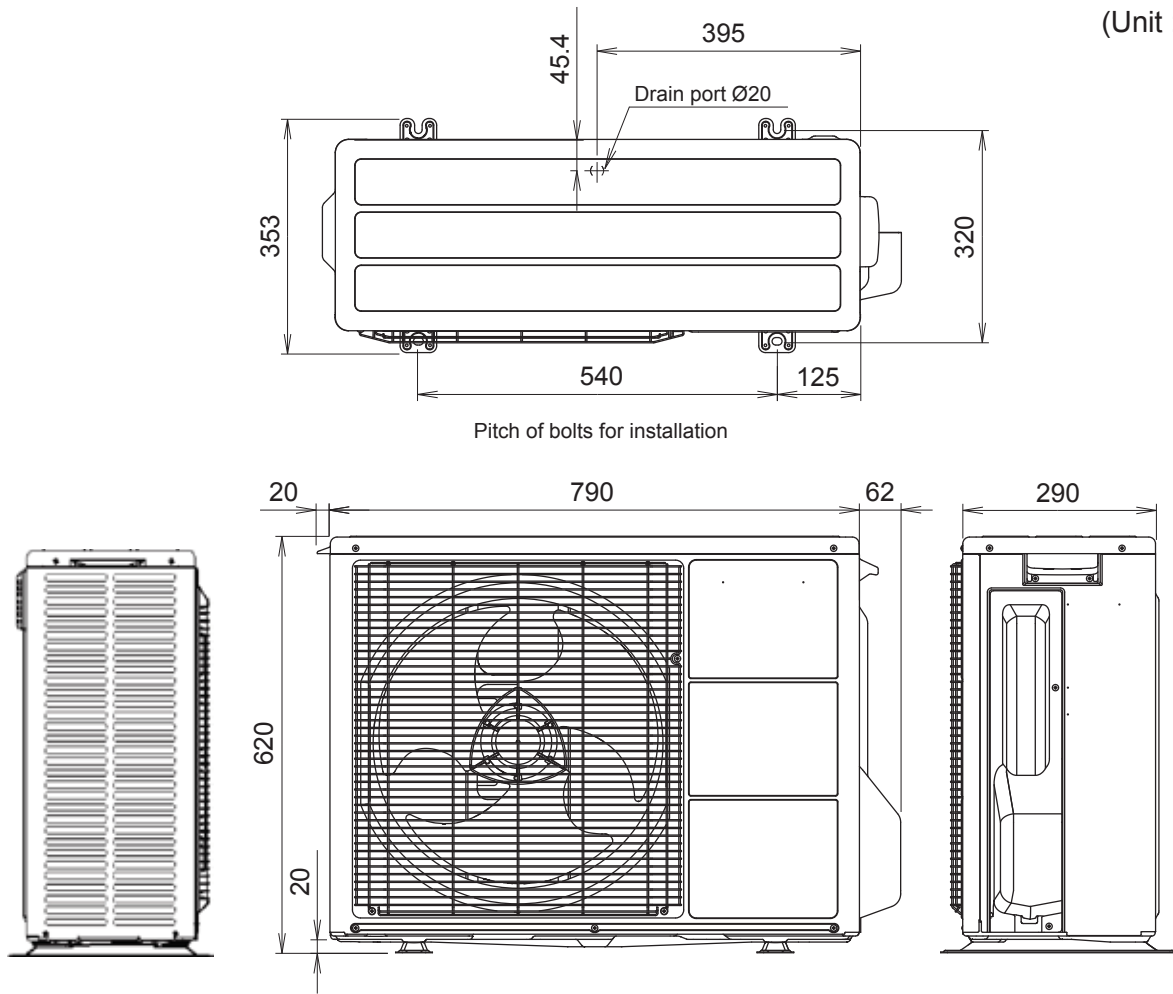
Pipe length : 5/7.5 m (*1), Height difference : 0 m.(Outdoor unit - Indoor unit)

*1 18LFC : 5m, 24 /30LFT : 7.5m

2. DIMENSIONS

■ MODEL: AO*G18LF

(Unit : mm)

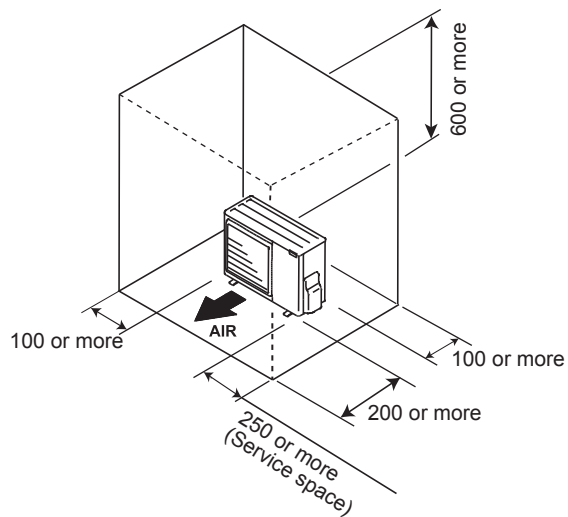


OUTDOOR UNIT
AO*G18-30LF

OUTDOOR UNIT
AO*G18-30LF

■ INSTALLATION PLACE

(Unit : mm)



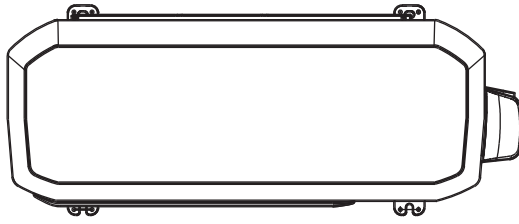
If the space is larger than that is stated, the condition will be the same as that are no obstacles.

MODEL: AO*G24LF

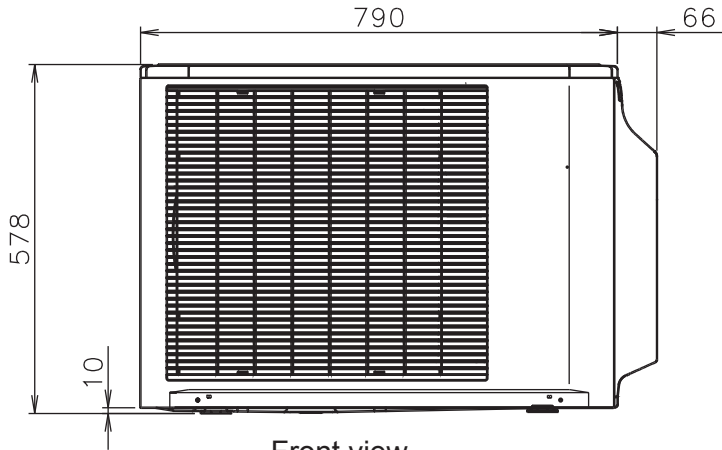
(Unit : mm)

OUTDOOR UNIT
AO*G18-30LF

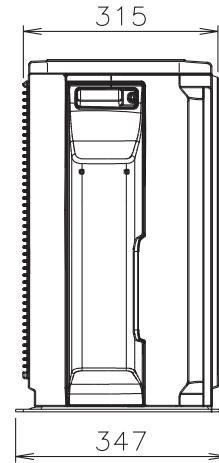
OUTDOOR UNIT
AO*G18-30LF



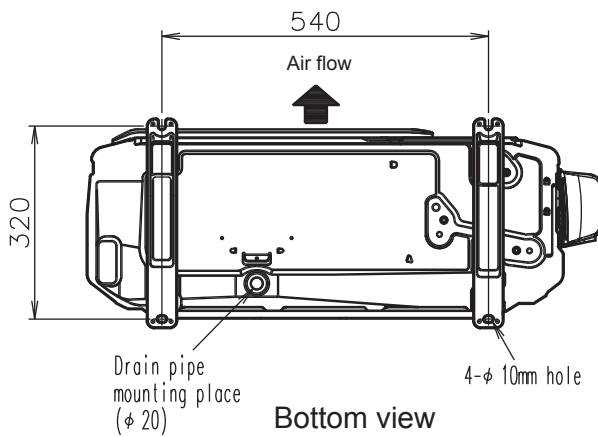
Top view



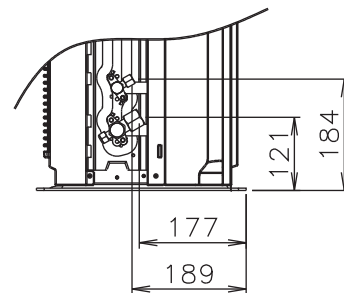
Front view



Side view

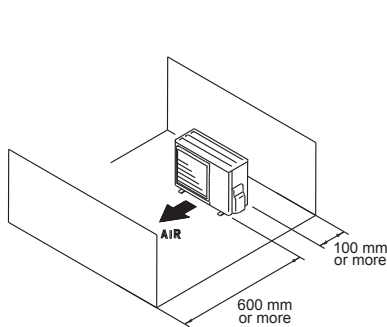


Bottom view

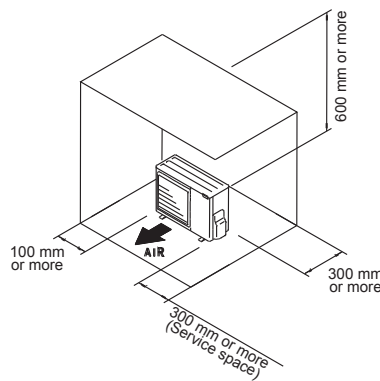


INSTALLATION PLACE

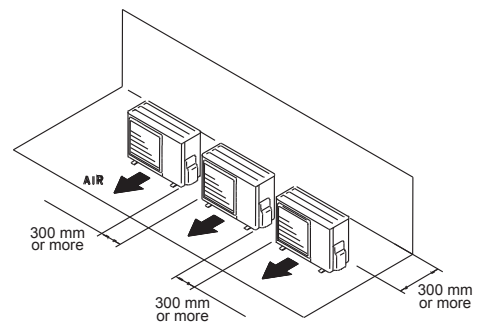
When there are obstacles at the back or front sides.



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.

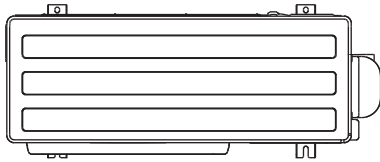


MODEL: AO*G30LF

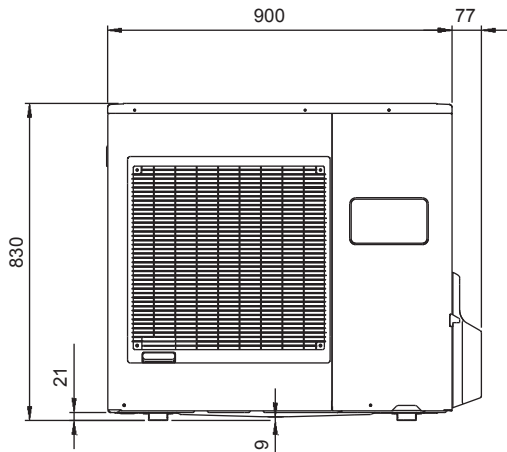
(Unit : mm)

OUTDOOR UNIT
AO*G18-30LF

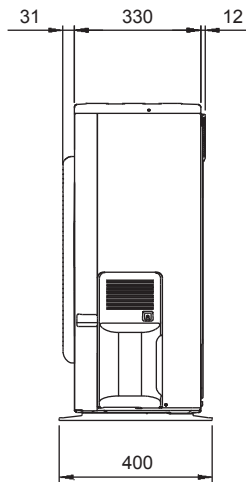
OUTDOOR UNIT
AO*G18-30LF



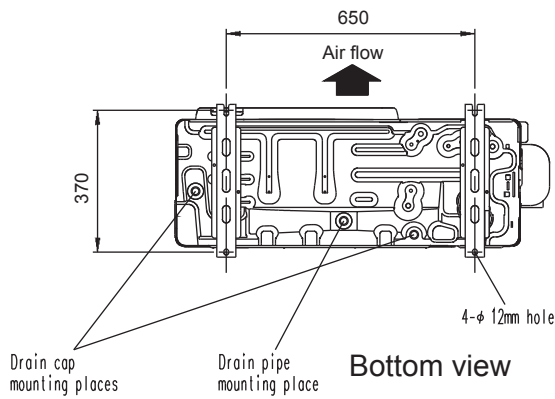
Top view



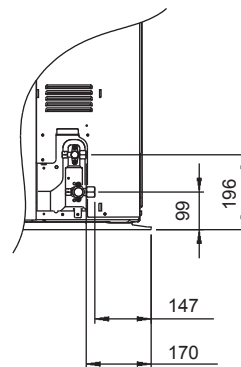
Front view



Side view

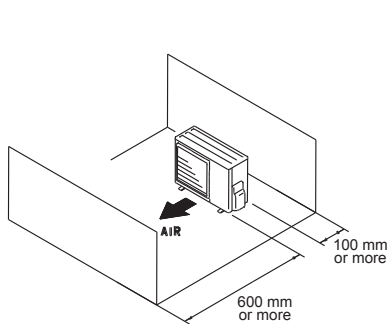


Bottom view

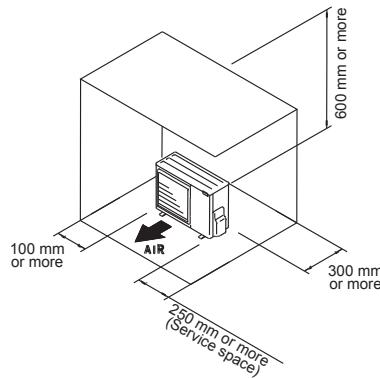


INSTALLATION PLACE

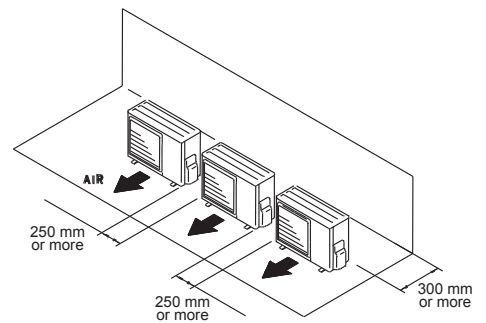
When there are obstacles at the back or front sides.



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.

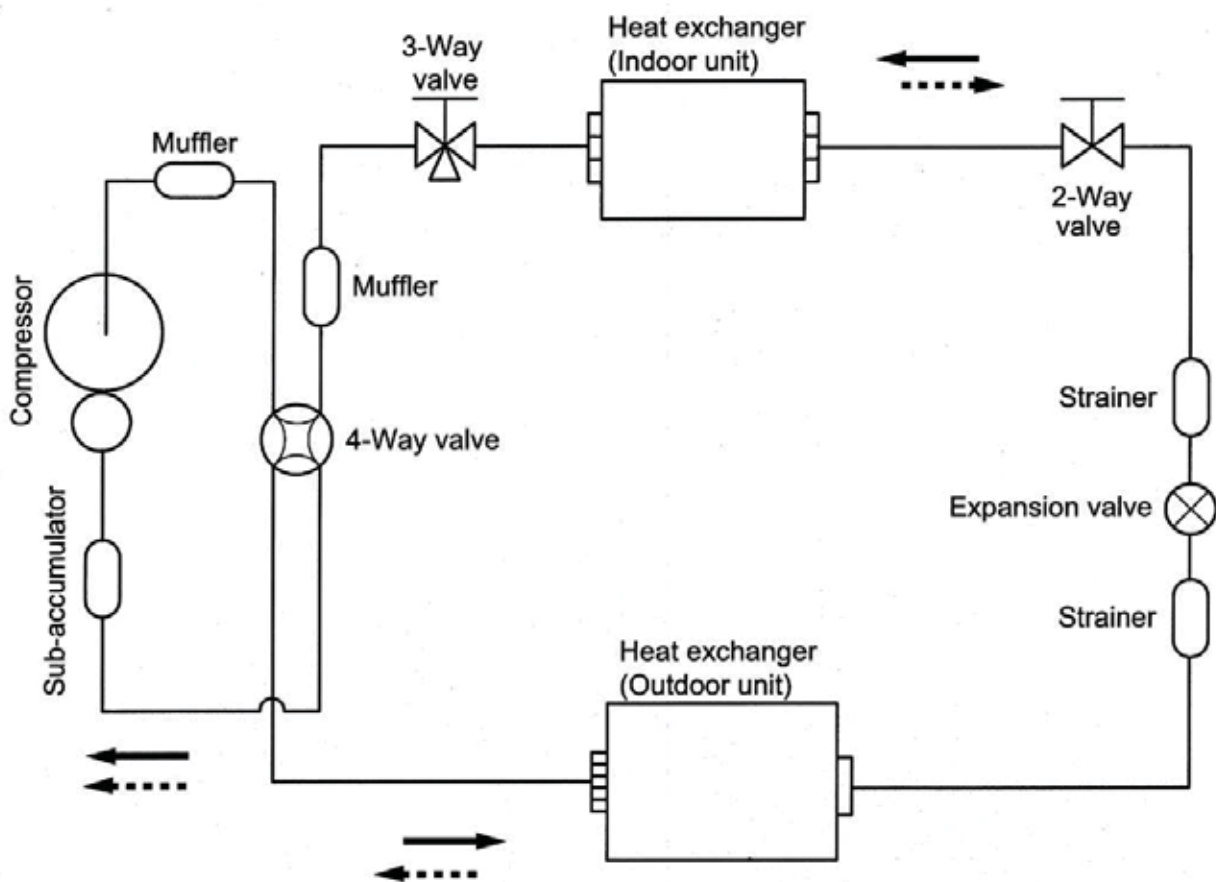


3. REFRIGERANT CIRCUIT

■ MODEL: AO*G18LF

OUTDOOR UNIT
AO*G18-30LF

OUTDOOR UNIT
AO*G18-30LF



Refrigerant direction

————> Cooling

.....> Heating

Refrigerant pipe diameter

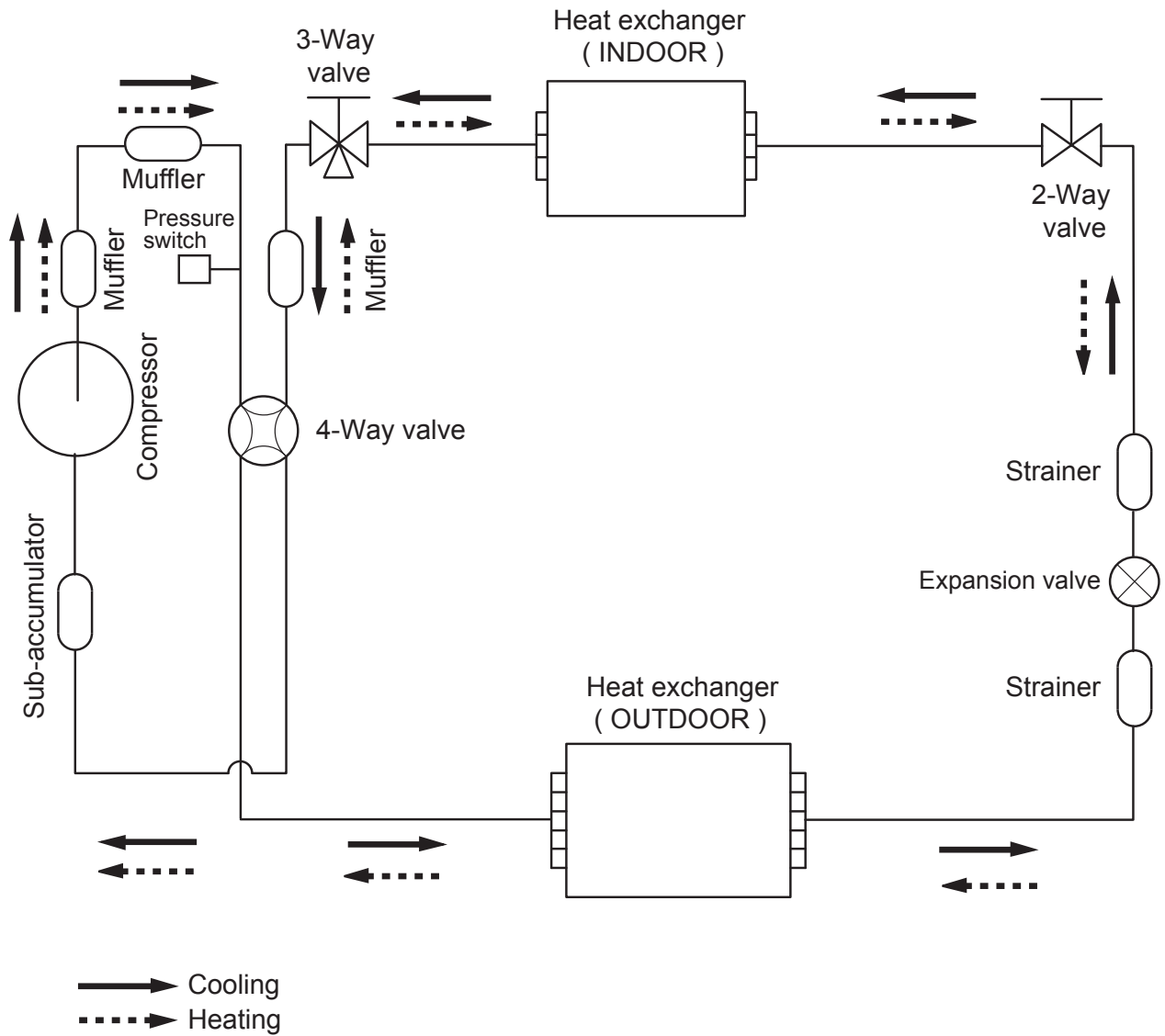
Liquid : 1/4" (6.35 mm)

Gas : 1/2" (12.7 mm)

■ MODEL: AO*G24LF

OUTDOOR UNIT
AO*G18-30LF

OUTDOOR UNIT
AO*G18-30LF

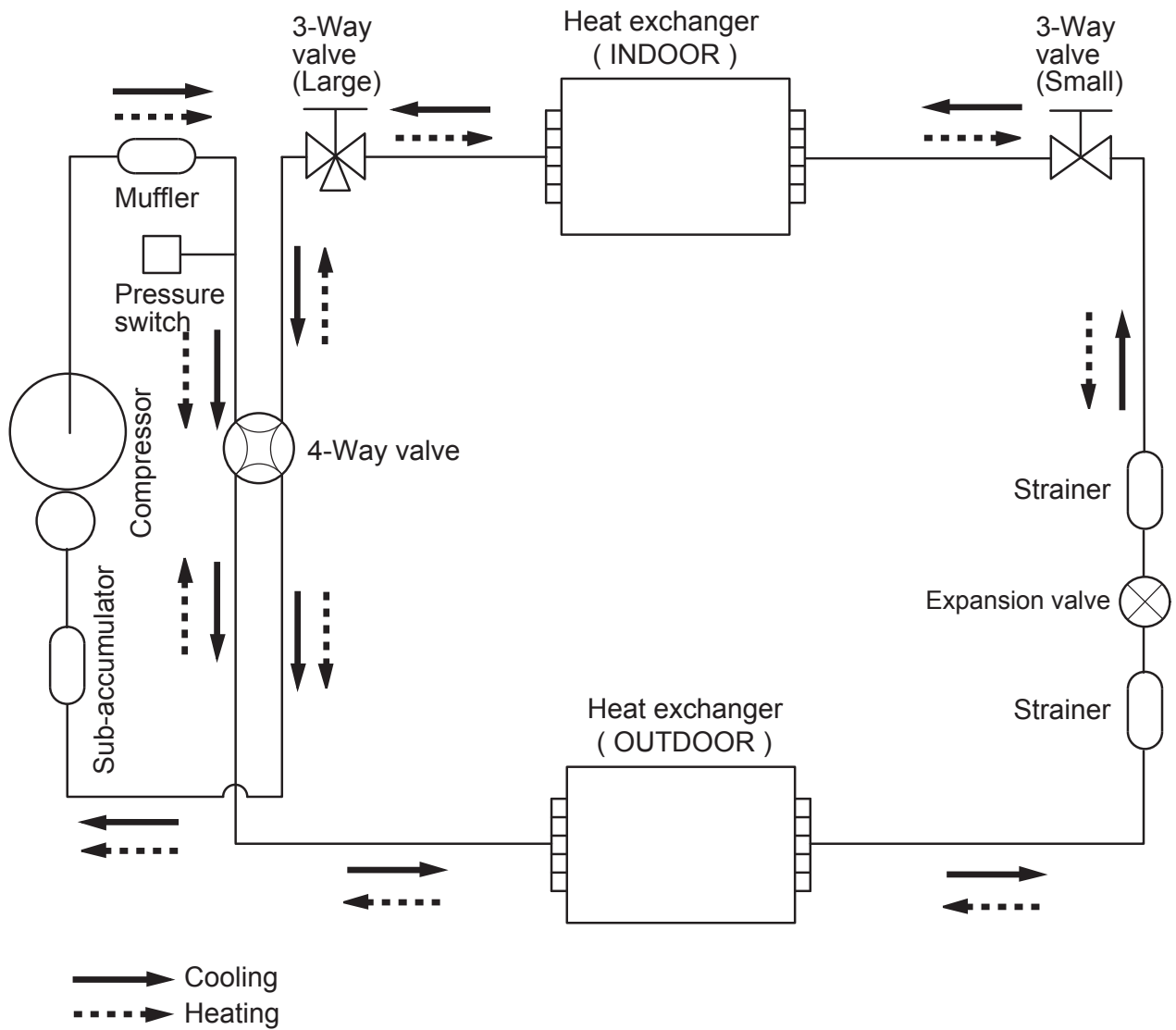


Refrigerant pipe diameter
 Liquid : 1/4" (6.35 mm)
 Gas : 5/8" (15.88 mm)

■ MODEL: AO*G30LF

OUTDOOR UNIT
AO*G18-30LF

OUTDOOR UNIT
AO*G18-30LF



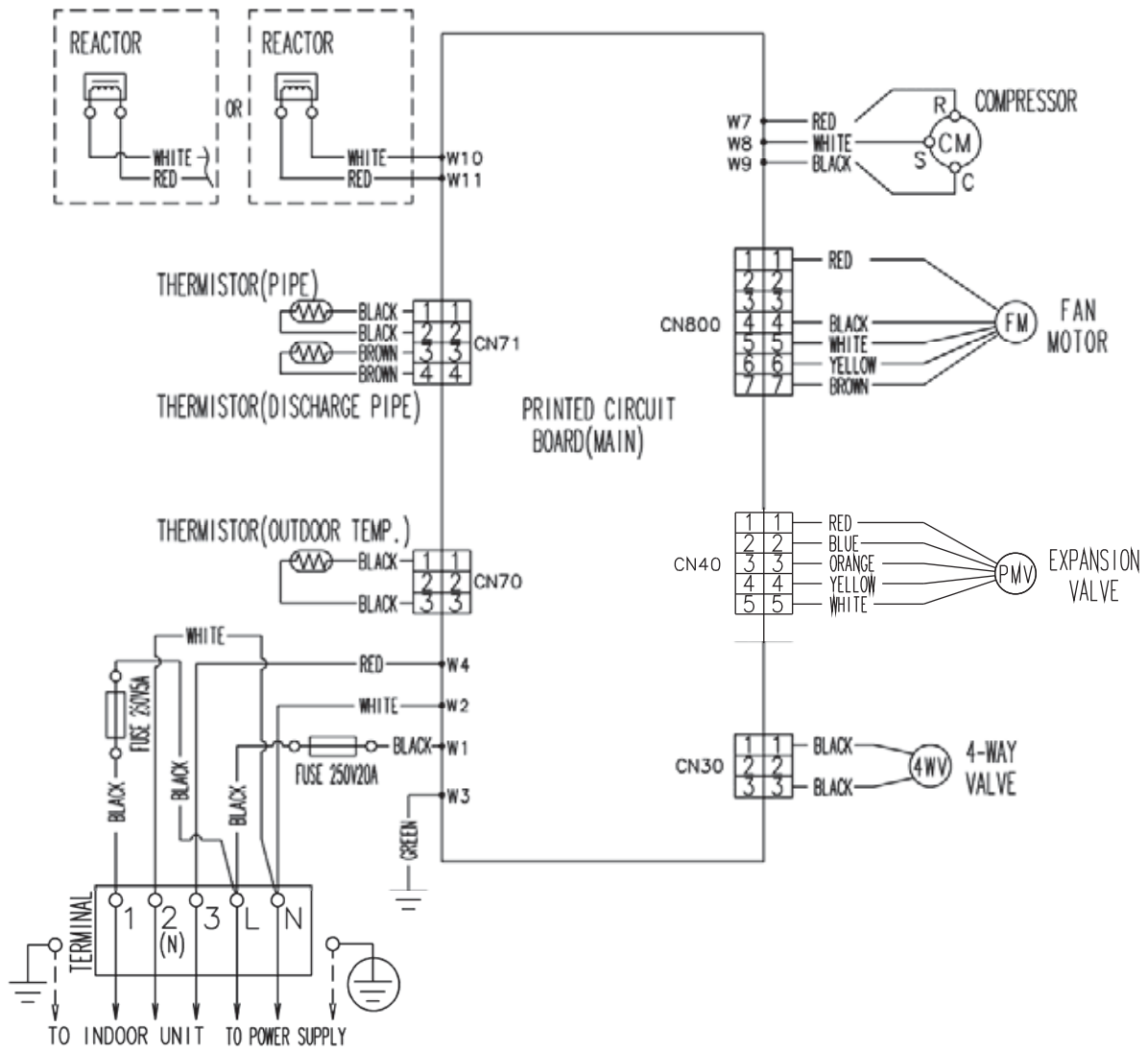
Refrigerant pipe diameter
 Liquid : 3/8" (9.52 mm)
 Gas : 5/8" (15.88 mm)

4. WIRING DIAGRAMS

MODEL: AO*G18LF

OUTDOOR UNIT
AO*G18-30LF

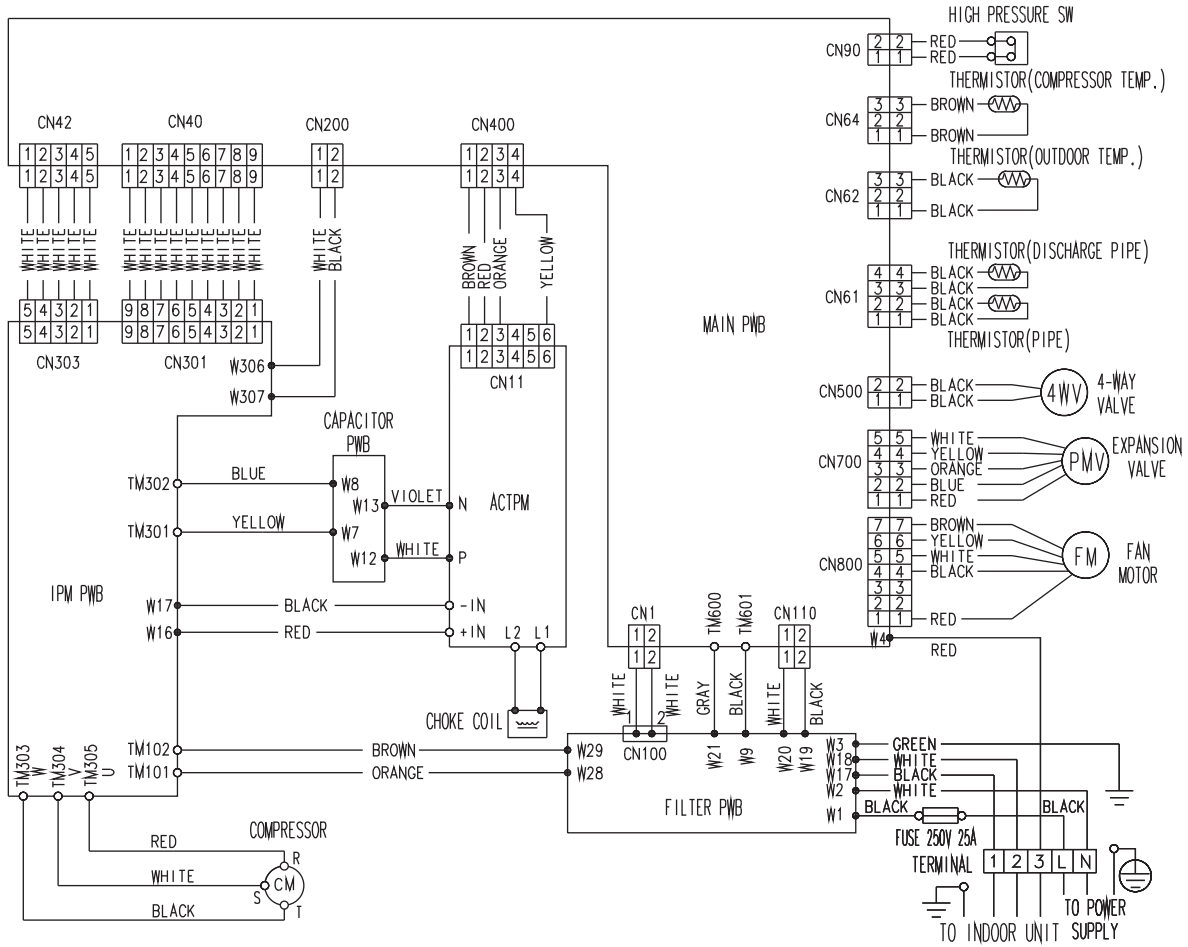
OUTDOOR UNIT
AO*G18-30LF



MODEL: AO*G24LF

OUTDOOR UNIT
AO*G18-30LF

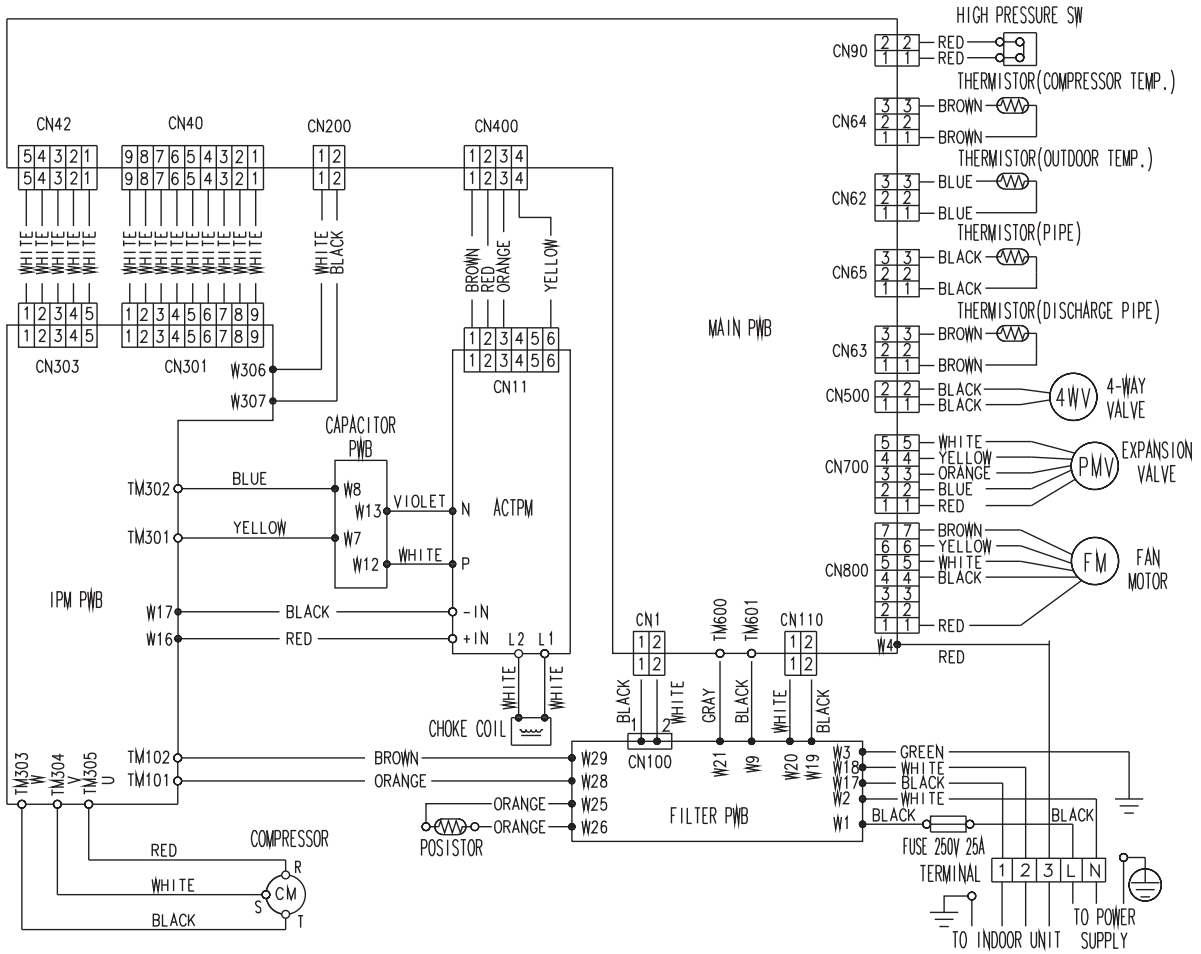
OUTDOOR UNIT
AO*G18-30LF



MODEL: AO*G30LF

OUTDOOR UNIT
AO*G18-30LF

OUTDOOR UNIT
AO*G18-30LF



5. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE

MODEL: AO*G18LF

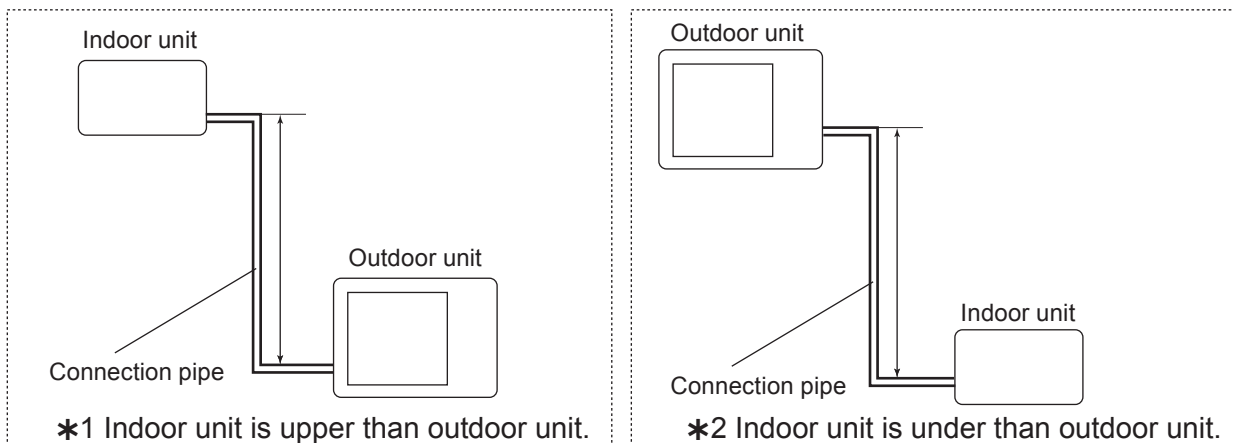
OUTDOOR UNIT
AO*G18-30LF

OUTDOOR UNIT
AO*G18-30LF

COOLING			Pipe length (m)				
			5	10	15	20	25
Height difference H (m)	*1 Indoor unit is upper 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 under 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 upper 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 under 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



MODEL: AO*G24LF

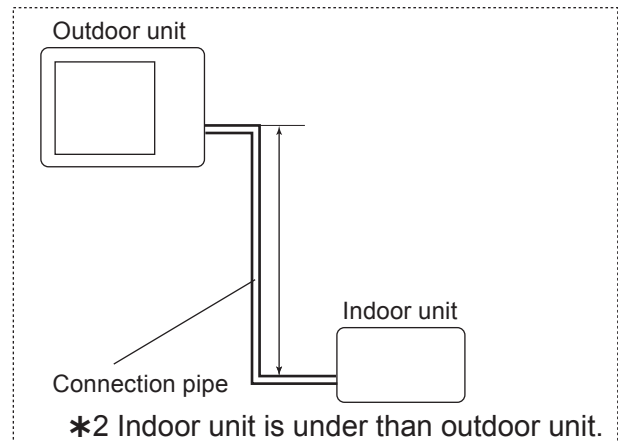
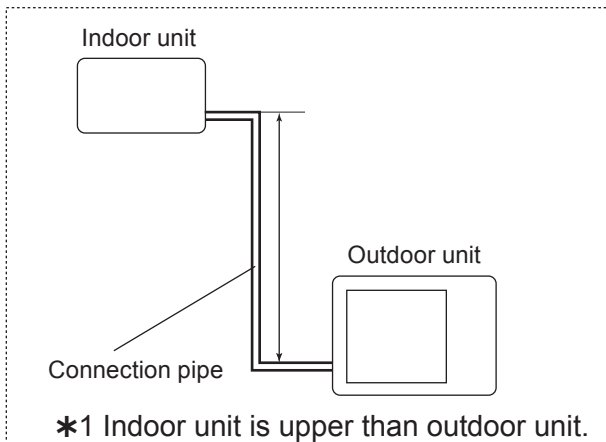
OUTDOOR UNIT
AO*G18-30LF

OUTDOOR UNIT
AO*G18-30LF

COOLING			Pipe length (m)							
			5	7.5	10	15	20	25	30	
Height difference H (m)	*1 Indoor unit is upper 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	0.995	0.992	0.988	0.974	0.976	0.975	0.974	
			0	1.003	1.000	0.996	0.982	0.983	0.983	0.982
	*2 Indoor unit is under than outdoor unit	-5	1.003	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 upper 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	0.989	1.000	0.998	0.975	0.954	0.932	0.908	
			0	0.989	1.000	0.998	0.975	0.954	0.932	0.908
	*2 Indoor unit is under than outdoor unit	-5	0.984	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



MODEL: AO*G30LF

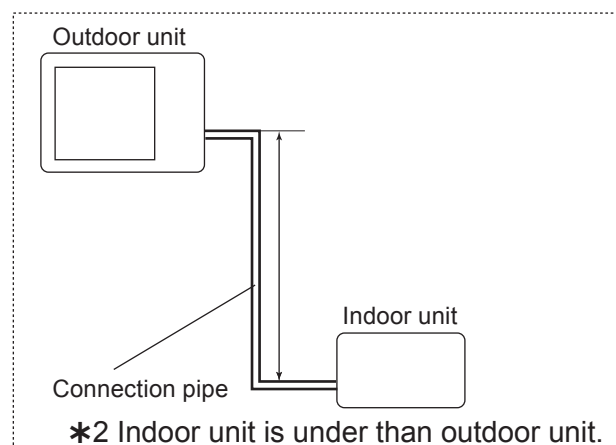
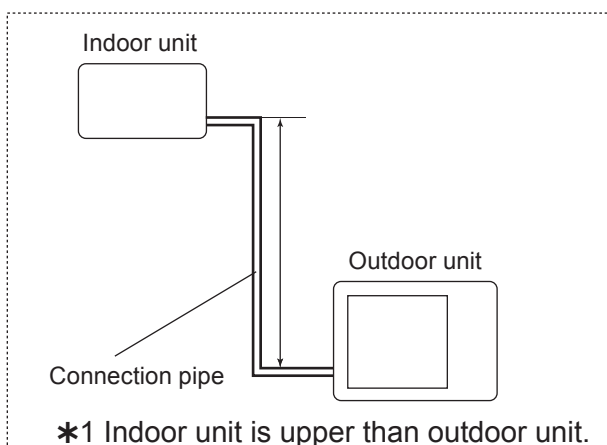
OUTDOOR UNIT
AO*G18-30LF

OUTDOOR UNIT
AO*G18-30LF

COOLING			Pipe length (m)						
			5	7.5	10	20	30	40	50
Height difference H (m)	*1 Indoor unit is upper 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	0.990	0.992	0.992	0.968	0.971	0.968	0.963
	*2 Indoor unit is under than outdoor unit	0	0.998	1.000	1.000	0.976	0.979	0.976	0.971
		-5	0.998	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 upper 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	0.986	1.000	0.991	0.872	0.816	0.756	0.686
	*2 Indoor unit is under than outdoor unit	0	0.986	1.000	0.991	0.872	0.816	0.756	0.686
		-5	0.981	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



6. ADDITIONAL CHARGE CALCULATION

■ MODEL: AO*G18LF

Refrigerant type		R410A
Refrigerant amount	g	1200

● Refrigerant charge

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

■ MODEL: AO*G24LF

Refrigerant type		R410A
Refrigerant amount	g	1650

● Refrigerant charge

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

■ MODEL: AO*G30LF

Refrigerant type		R410A
Refrigerant amount	g	2100

● Refrigerant charge

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

7. AIR FLOW

■ MODEL: AO*G18LF

● Cooling

Number of rotations (r.p.m.)	Air flow	
920	2150	m ³ /h
	597	l/s
	1265	CFM

● Heating

Number of rotations (r.p.m.)	Air flow	
870	2070	m ³ /h
	575	l/s
	1218	CFM

■ MODEL: AO*G24LF

● Cooling

Number of rotations (r.p.m.)	Air flow	
1050	2470	m ³ /h
	686	l/s
	1454	CFM

● Heating

Number of rotations (r.p.m.)	Air flow	
1100	2570	m ³ /h
	714	l/s
	1512	CFM

■ MODEL: AO*G30LF

● Cooling

Number of rotations (r.p.m.)	Air flow	
	850	3600
1000		l/s
2119		CFM

● Heating

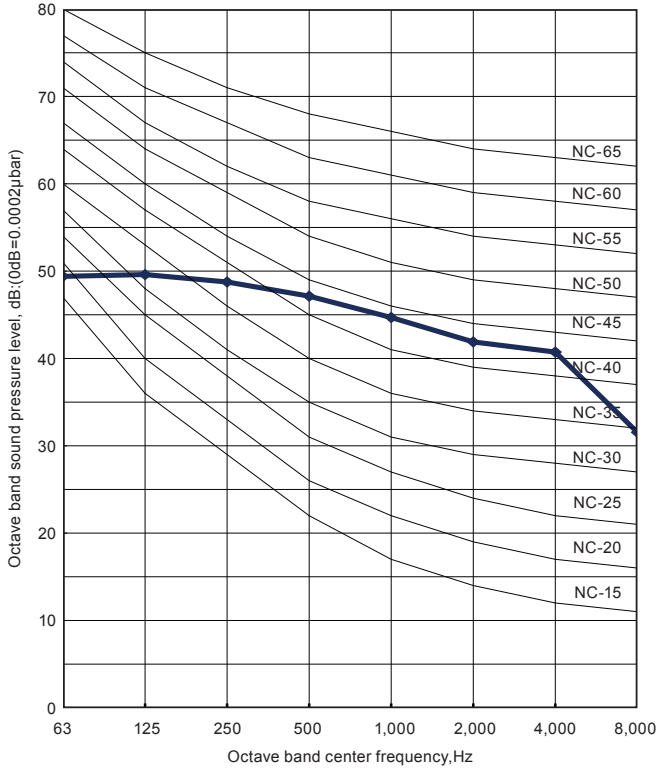
Number of rotations (r.p.m.)	Air flow	
	850	3600
1000		l/s
2119		CFM

8. OPERATION NOISE

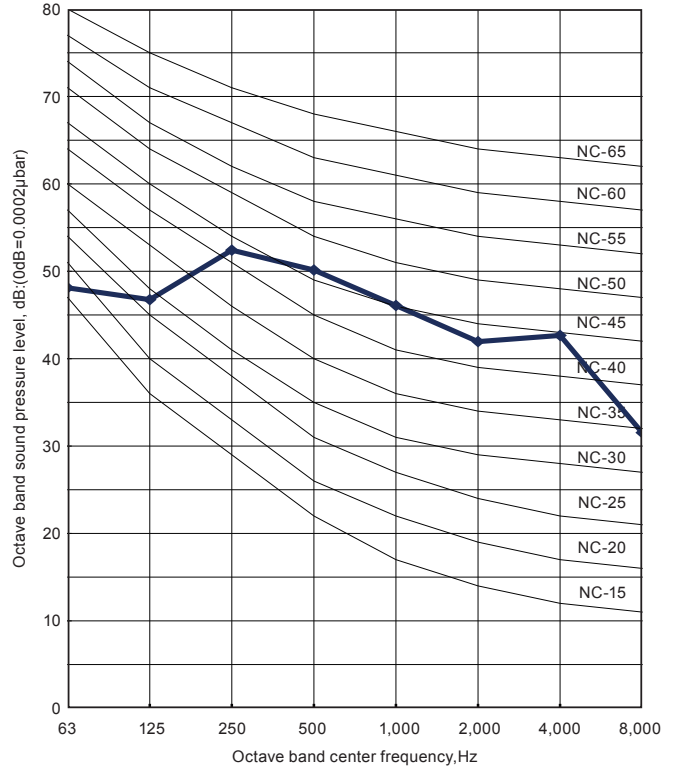
8-1. NOISE LEVEL CURVE

MODEL: AO*G18LF

● Cooling

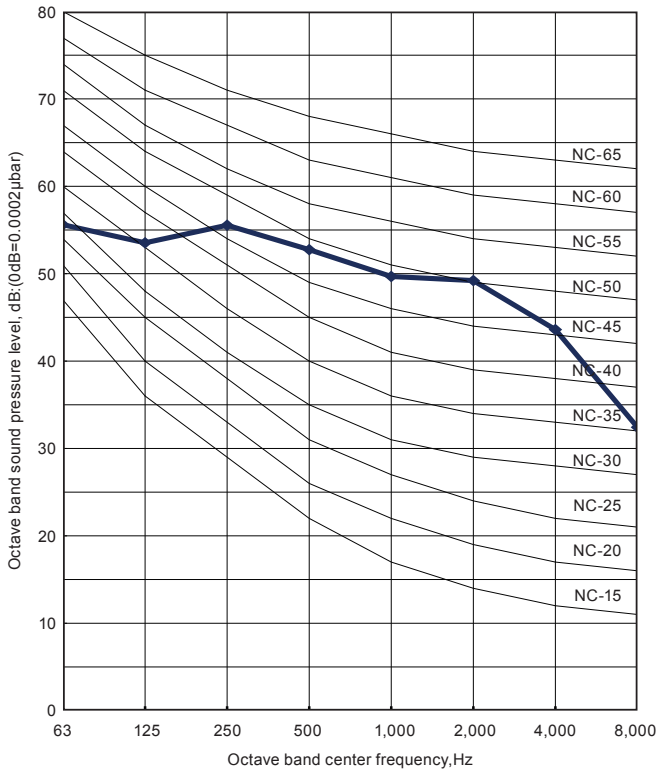


● Heating

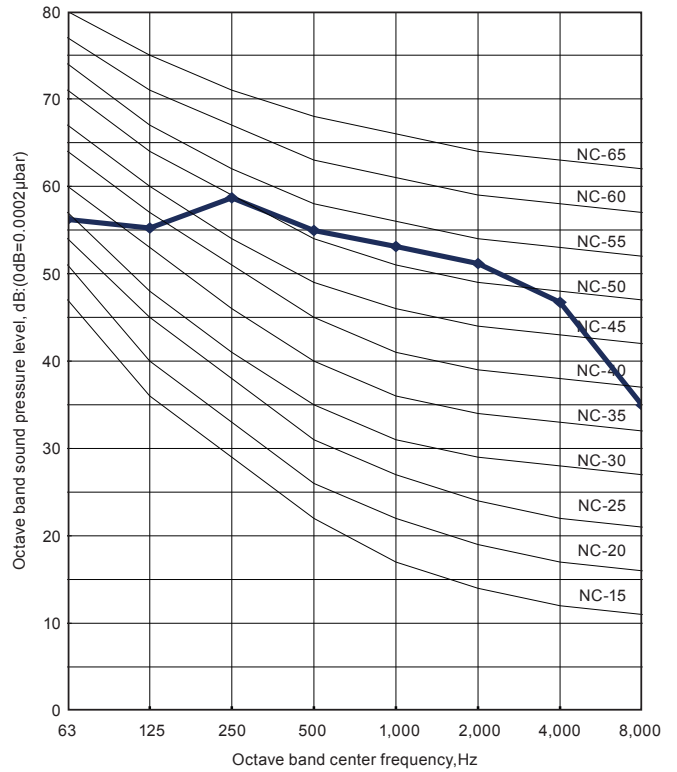


MODEL: AO*G24LF

● Cooling



● Heating

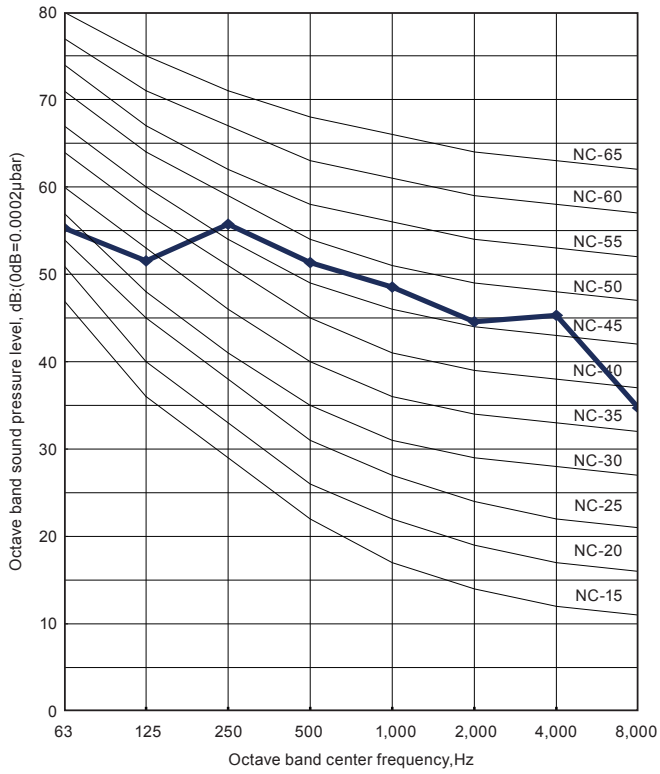


OUTDOOR UNIT
AO*G18-30LF

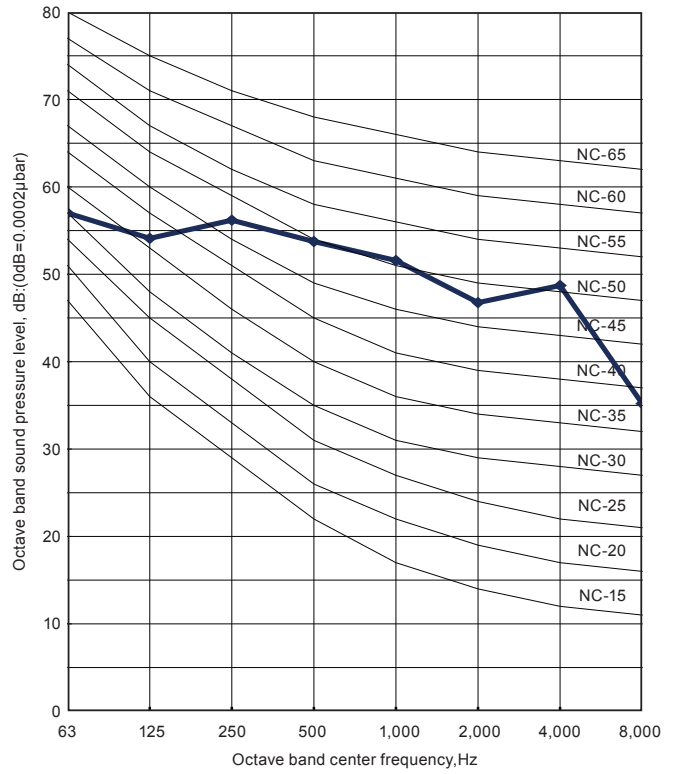
OUTDOOR UNIT
AO*G18-30LF

MODEL: AO*G30LF

● Cooling

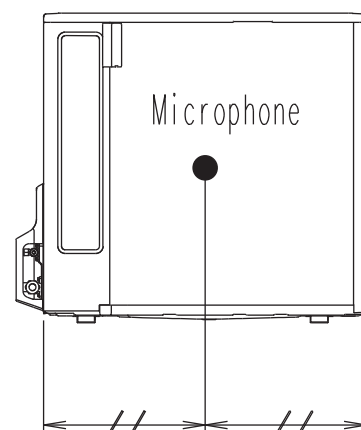
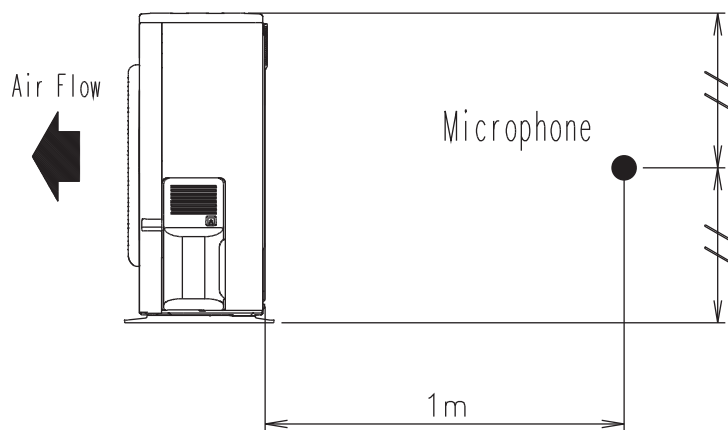


● Heating



8-2. SOUND LEVEL CHECK POINT

OUTDOOR UNIT
AO*G18-30LF



OUTDOOR UNIT
AO*G18-30LF

9. ELECTRIC CHARACTERISTICS

Model name			AO*G18LF	AO*G24LF	AO*G30LF
Power supply	Voltage	V	230V ~		
	Frequency	Hz	50		
*1) Max operating current		A	12.5	18.5	19.0
Starting Current		A	7.6	9.7	10.9
*2) Wiring spec.	Main Fuse (Circuit breaker) Current	A	20	30	
	Power Cable	mm ²	3.5-4.0	3.5-4.5	
	*3) Limited wiring length	m	20		

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

*2) Wiring Spec.

Selected Sample

(Selected based on Japan Electrotechnical Standard and Codes Committee E0005)

*3) Limited Wiring length :

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

When the wiring length becomes long, please select the wiring of a more larger diameter.

10. SAFETY DEVICES

	Protection form	Model		
		AO*G18LF	AO*G24LF	AO*G30LF
Circuit protection	Current fuse (NEAR THE TERMINAL)	20A 250V	20A 250V	20A 250V
		5A 250V	10A 250V	5A 250V
	Current fuse (MAIN PRINTED CIRCUIT BOARD)	15A 250V	3.15A 250V	15A 250V
		3.15A 250V		3.15A 250V
Fan motor protection	Thermal protection program	OFF : 100±10°C ON : 95±10°C	OFF : 100±10°C ON : 95±10°C	OFF : 130±20°C ON : 100±20°C
Compressor protection	Thermal protection program (COMPRESSOR TEMP.)	—	OFF : 110°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±0.1MPa ON : 3.2±0.15MPa	OFF : 4.2±0.1MPa ON : 3.2±0.15MPa