Refrigerant R410A

AIR CONDITIONER

Duct type

DESIGN & TECHNICAL MANUAL

INDOOR

ARGA18FMTA
ARGA25FMTA

OUTDOOR

AOGA18FBTAH

AOGA25FBTAH

FUJITSU GENERAL LIMITED

1. INDOOR UNIT

DUCT TYPE:

ARGA18FMTA
ARGA25FMTA

DTR_AR087E_02
2015.02.05

DUCT TYPE
ARGA18-25FMTA

CONTENTS

1. INDOOR UNIT

DUCT TYPE
ARGA18-25FMTA

1. FEATURES

■ MODELS

ARGA18FMTA / AOGA18FBTAH
ARGA25FMTA / AOGA25FBTAH

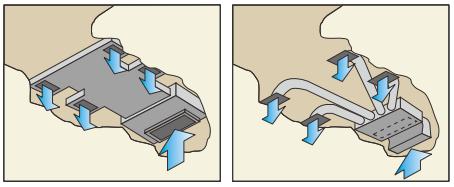
AOGA18FBTAH

AOGA25FBTAH

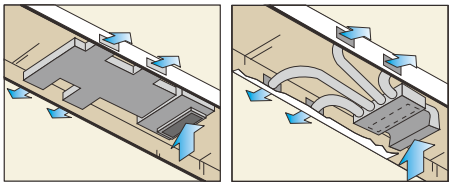
■ FEATURES

● Installation styles

Embedded in Ceiling

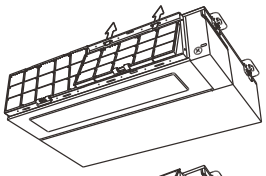


Hanging from Ceiling

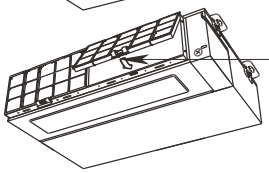


● Slim & compact design

In the case of rear suction type, as seen from lower rear part.



Control Box united with main unit

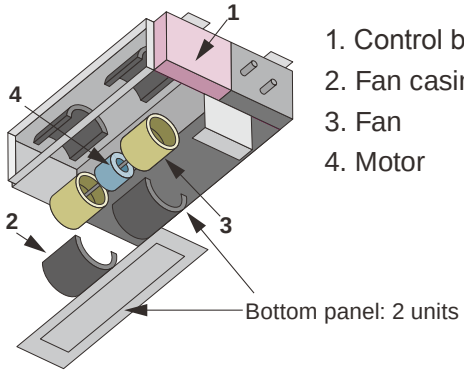


One-touch operating and easy-to-install long-life filter (optional)

In addition to the slim height of 270 mm, further compactification is attained by reducing 65 mm from the width with the flanking control box embedded inside the chassis.

● Easy maintenance

The fan and motor is easily accessible by the divided panel structure.



1. Control box
2. Fan casing
3. Fan
4. Motor

Structural improvement is attained by making the bottom panel in two pieces, front and rear.

The internal fan casing is also manufactured in two pieces, namely upper and lower. The maintenance of the motor and fan can be easily carried out by removing the rear panel and the lower part of the casing while leaving the main chassis installed.

DUCT TYPE
ARGA18-25FMTA

● Quiet operation

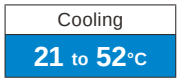
Quiet operation at 25 dB (A) is possible in quiet mode.

● Economy operation

The power consumption can be reduced.

● Operation in high ambient temp

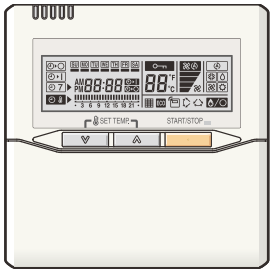
The operation is secured under the ambient temperature of up to 52 degrees celsius.



DUCT TYPE
ARGA18-25FMTA

2. WIRED REMOTE CONTROLLER

■ FEATURES



- Various timer setup (ON / OFF / WEEKLY) are possible.
- Equipped with weekly timer as standard function.(Start/Stop function is twice per day for a week)
- When setting up the timer, start/stop and a temperature setup can be changed.
- When a failure occurs, the error code is displayed.
- Error history.(Last 16 error codes can be accessed.)
- Up to 16 indoor units can be simultaneously controlled.
- The room temperature can be controlled by being detective the temperature accurately with Built-in thermo sensor.

● Simple function setting

Setting of the air conditioner selection function is performed by remote controller.

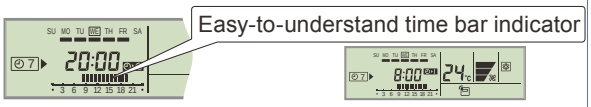
● High performance and compact size

Individual control + Thermo sensor + Weekly timer + Setback timer = Wired remote controller

Built-in timers

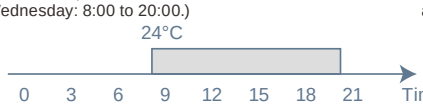
Weekly timer

Possible to set ON/OFF time to operate twice each day of the week.



Setup screen example
(Set to Wednesday: 8:00 to 20:00.)

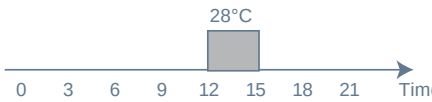
Screen after setup



Setback timer

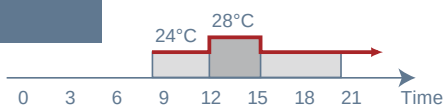
Possible to set temperature for two time spans and for each day of the week.

Setup screen example
(Set from Sunday to Saturday: 12:00 to 15:00, 28 °C.)

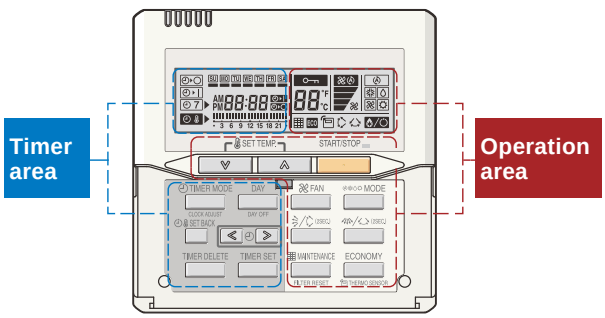


At "Weekly timer" + "Set back timer" setup

24°C → 28°C → 24°C



● Easy-to-understand operation

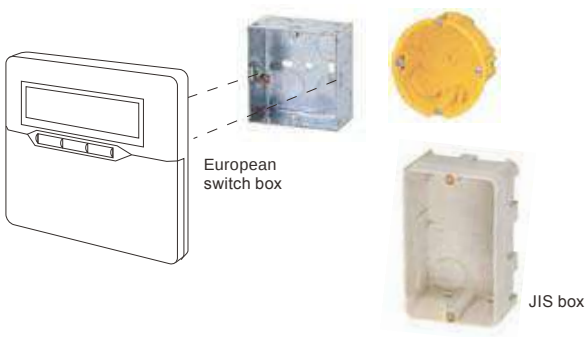


[Variable timer control]

The operation/display sections are zoned according to time and operation, enabling variable programming to match application.

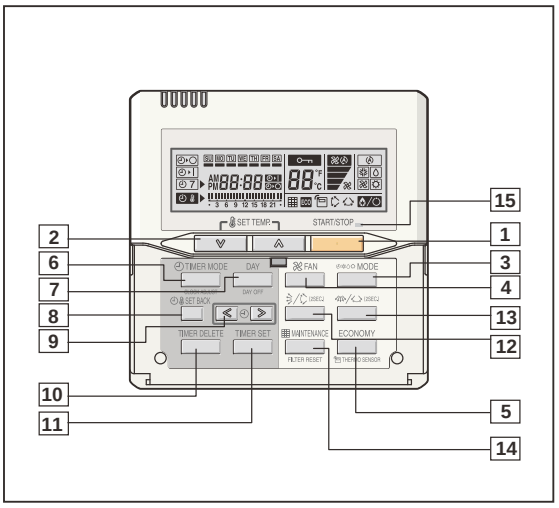
● Simple installation

Components are compatible with standard switch boxes. Flat back construction allows equipment to be installed wherever it is needed.

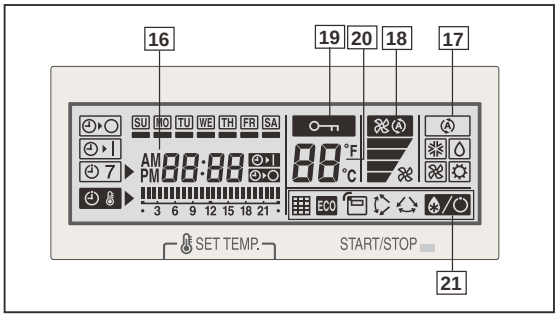


DUCT TYPE
ARGA18-25FMTA

■ FUNCTIONS



Display panel



1 **START/STOP button**
Pressed to start and stop operation.

2 **SET TEMP. button**
Selects the setting temperature.

3 **MODE button**
Selects the operating mode (AUTO, COOL, DRY, FAN).

4 **FAN button**
Selects the fan speed (AUTO, HIGH, MED, LOW, QUIET).

5 **ECONOMY button**
Turns the economy efficient mode on and off.

6 **TIMER MODE (CLOCK ADJUST) button**
Selects the timer mode (OFF TIMER, ON TIMER, WEEKLY TIMER). Set the current time.

7 **DAY (DAY OFF) button**
Temporarily cancels of one day timer.

8 **SET BACK button**
Pressed to select the set back timer.

9 **Set time button**
Pressed to set time.

10 **TIMER DELETE button**
The schedule of a weekly timer is deleted.

11 **TIMER SET button**
Sets the date, hour, minute and on-off time.

12 **Vertical airflow direction and swing button**
Push for two seconds to change the swing mode.

13 **Horizontal airflow direction and swing button**
Push for two seconds to change the swing mode.

14 **FILTER RESET button**

15 **Operation lamp**
Lights during operation and when the timer is on.

16 **Timer and clock indicator**

17 **Operation mode indicator**

18 **Fan speed indicator**

19 **Operation lock indicator**

20 **Temperature indicator**

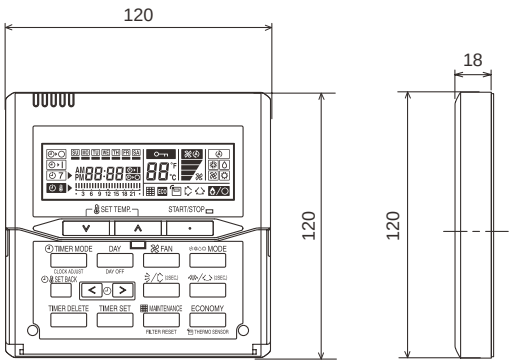
21 **Function indicator**

- Defrost indicator
- Thermo sensor indicator
- Economy indicator
- Vertical swing indicator
- Horizontal swing indicator
- Filter indicator

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

■ DIMENSION

[Unit: mm]



Front View Side View

■ SPECIFICATION

SIZE	(H x W x D mm)	120 x 120 x 18
WEIGHT	(g)	160
CABLE LENGTH	(m)	10
POWER	(V)	12

■ WIRING SPECIFICATIONS

Use	Size	Wire type	Remarks
Remote controller cable	0.33 mm^2 (22 AWG)	Polar 3 core	Use sheathed PVC cable

DUCT TYPE
ARGA18-25FMTA

3. SPECIFICATIONS

Type					DUCTED MODEL	
					COOLING ONLY	
Model name					ARGA18FMTA	ARGA25FMTA
Power source					220 / 240 V ~ 50 Hz	
Available voltage range					198 to 264 V	
COOLING (T1 condition)						
	Capacity			kW	5.20 / 5.20	6.45 / 6.45
				Btu/h	17,800 / 17,800	22,000 / 22,000
	Input power			kW	1.51 / 1.53	1.88 / 1.91
	Current			A	7.0 / 6.5	8.8 / 8.5
	EER			Btu/hW	11.79 / 11.63	11.70 / 11.52
	Sensible capacity			kW	4.10 / 4.10	5.08 / 5.08
	Power factor			%	98.1 / 98.1	97.1 / 93.6
	Moisture removal			l/h (pints/h)	1.6 (2.8)	1.9 (3.3)
Maximum operating current *1		Cooling		A	13.5	16.7
Fan	Airflow rate	Cooling	High	m^3/h	1,050	1,200
			Med		860	960
			Low		740	820
			Quiet		670	750
	Type × Q'ty				Sirocco × 2	
	Motor output			W	106	
Recommended static pressure				Pa	30 to 150	
Sound pressure level *2		Cooling	High	dB(A)	29	31
			Med		27	29
			Low		26	27
			Quiet		25	25
Heat exchanger type		Dimensions (H × W × D)		mm	294 × 1000 × 39.9	
		Fin pitch			1.4	
		Rows x Stages			3 × 14	
		Pipe type			Copper	
		Fin type			Aluminium	
Enclosure		Material			Steel	
		Colour			-	
Dimensions (H×W ×D)	Net			mm	270 × 1,135 × 700	
	Gross				300 × 1,320 × 790	
Weight	Net			kg	38	
	Gross				45	
Connection pipe	Size	Liquid		mm	Ø 6.35 (Ø 1/4 in.)	
		Gas			Ø 15.88 (Ø 5/8 in.)	
	Method				Flare	
Operation range		Cooling		°C	18 to 32	
				%RH	80 or less	
Remote controller type					Wired	
Drain port	Material				Steel	
	Size			mm	Ø 36.0 (I.D.), Ø 38.0 (O.D.)	

NOTES :

- Specifications are based on the following conditions:
  Cooling (T1) : Indoor temperature of 27 °CDB / 19 °CWB, and outdoor temperature of 35 °CDB / 24 °CWB.
  Standard static pressure : 35 Pa
  Pipe length : 7.5 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.
- Drain hose should be locally purchased.

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

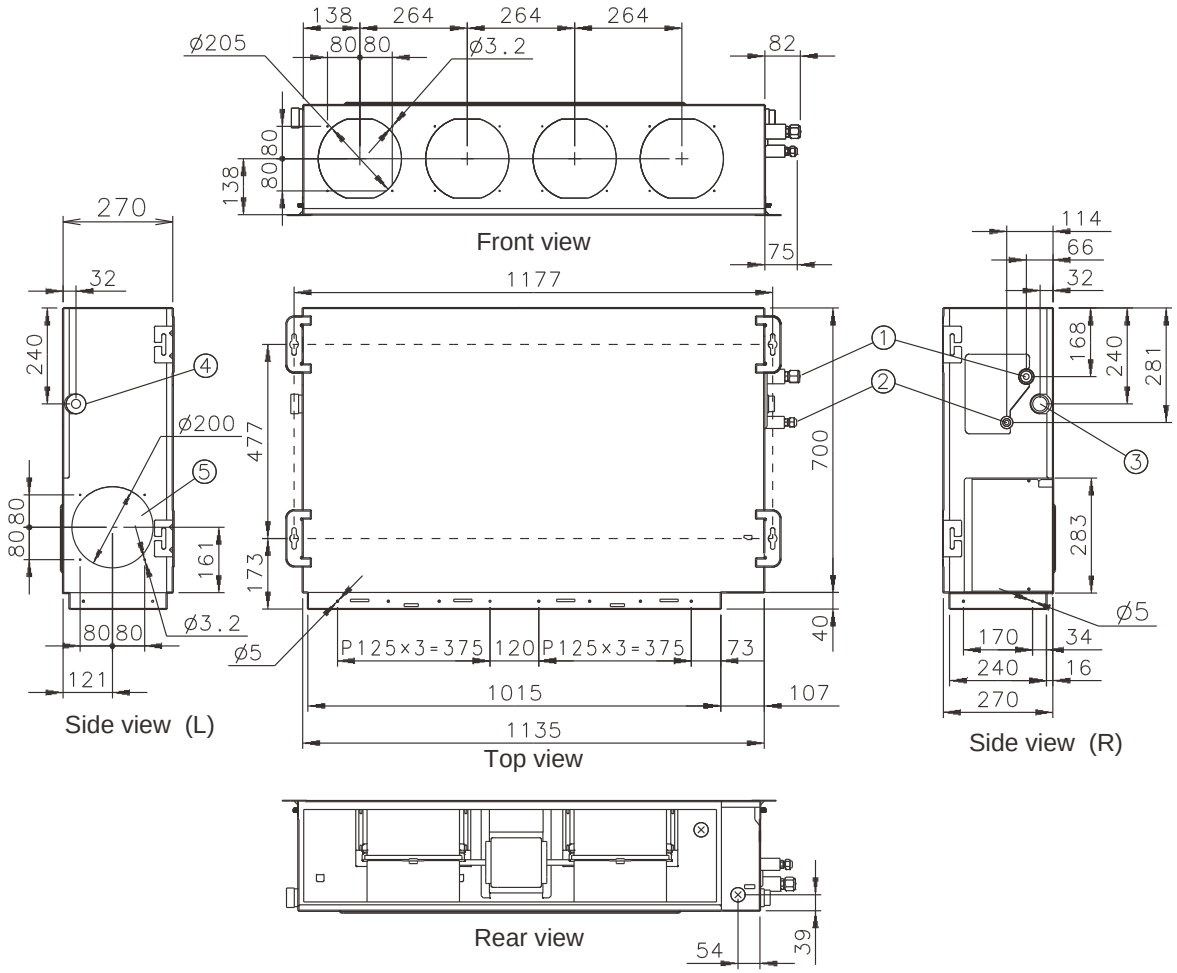
*2: These are the measured values in the manufacturer's anechoic chamber.
Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.

DUCT TYPE
ARGA18-25FMTA

4. DIMENSIONS

■ MODEL: ARGA18FMTA, ARGA25FMTA

(Unit: mm)

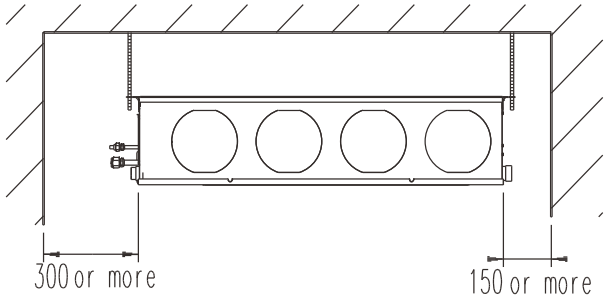


① Refrigerant piping flare connection (Gas)
② Refrigerant piping flare connection (Liquid)
③ Drain piping connection
④ Drain piping connection with cap.
⑤ Knock out hole for fresh air.

DUCT TYPE
ARGA18-25FMTA

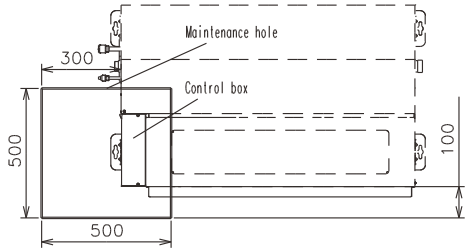
■ INSTALLATION PLACE

(Unit: mm)

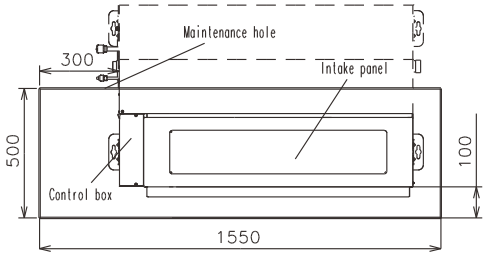


■ MAINTENANCE HOLE

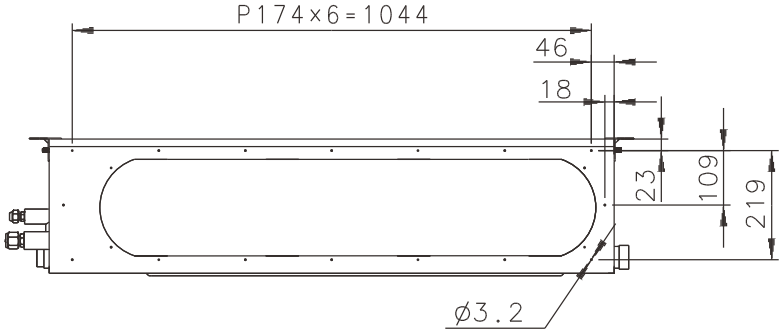
It shall be possible to install and remove the control box.



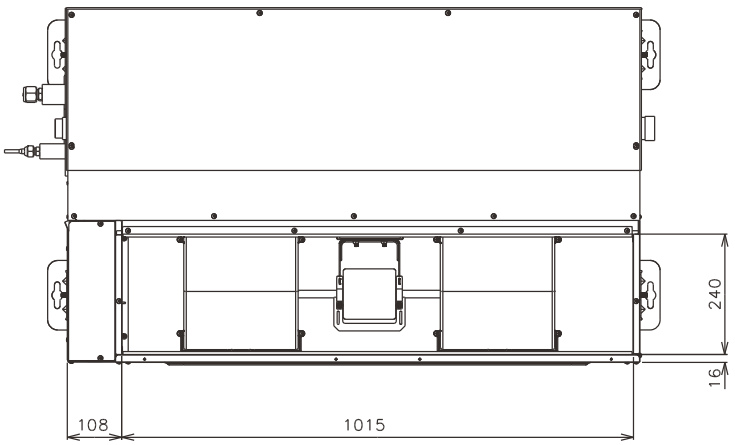
It shall be possible to install and remove the control box, fan units and filter.



■ WHEN USING A SQUARE DUCT



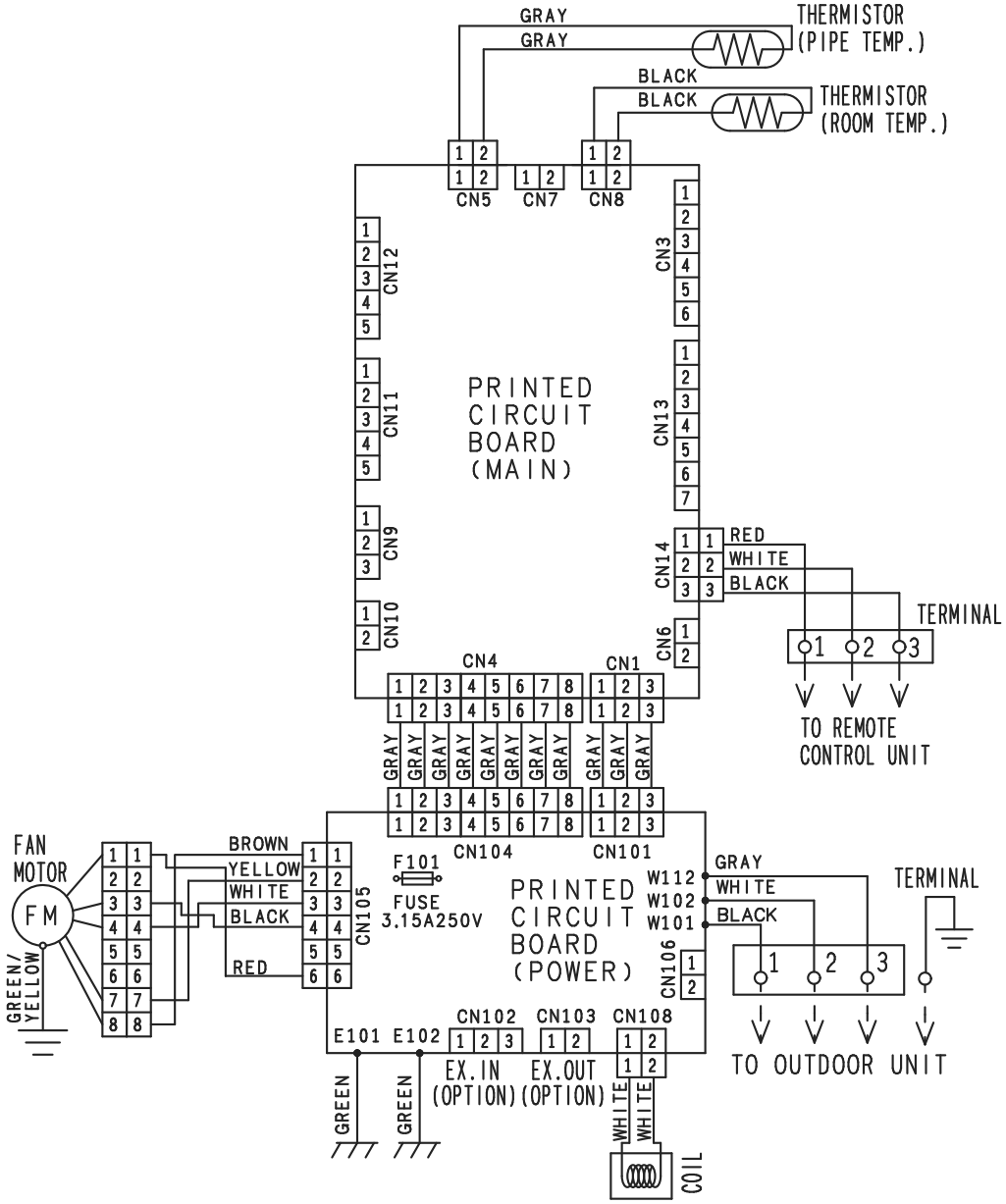
■ BOTTOM AIR INTAKE HOLE



DUCT TYPE
ARGA18-25FMTA

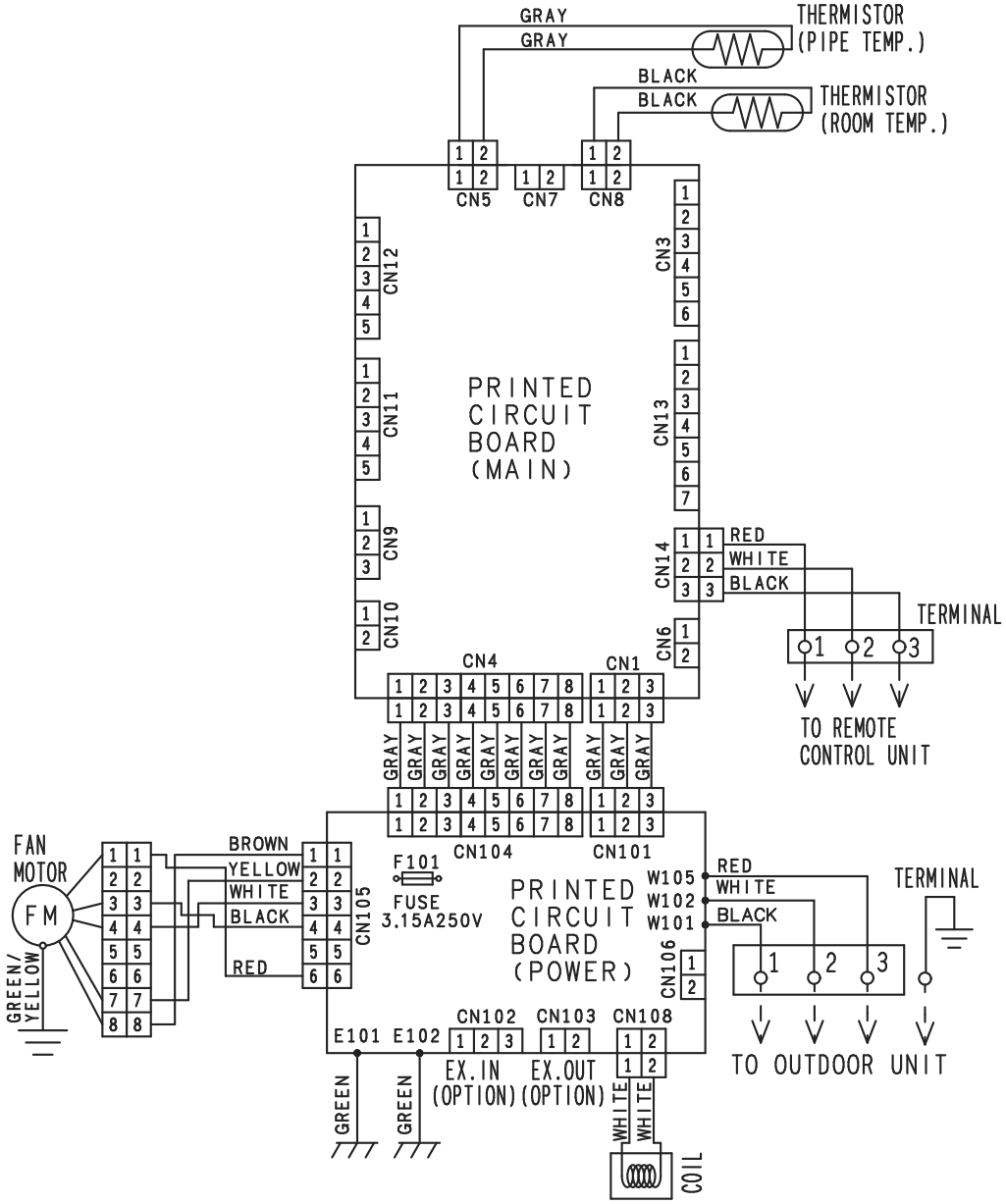
5. WIRING DIAGRAMS

■ MODEL: ARGA18FMTA



DUCT TYPE
ARGA18-25FMTA

■ MODEL: ARGA25FMTA



DUCT TYPE
ARGA18-25FMTA

6. CAPACITY TABLE

6-1. COOLING CAPACITY

This table is created using the maximum capacity.

■ MODEL: ARGA18FMTA

AFR	17.5

		Indoor temperature																			
	°CDB	18			21			23			25			27			29			32		
	°CWB	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
	21	4.48	3.84	1.15	4.99	3.86	1.17	5.16	4.20	1.17	5.50	4.21	1.19	5.67	4.54	1.19	6.01	4.53	1.21	6.35	4.82	1.21
	25	4.45	3.79	1.24	4.95	3.81	1.27	5.12	4.14	1.27	5.45	4.16	1.29	5.62	4.49	1.29	5.96	4.47	1.31	6.29	4.76	1.32
	30	4.32	3.67	1.37	4.82	3.69	1.39	4.98	4.01	1.39	5.30	4.03	1.41	5.47	4.35	1.42	5.80	4.33	1.43	6.12	4.62	1.44
	35	4.11	3.46	1.47	4.58	3.48	1.50	4.73	3.78	1.51	5.04	3.80	1.52	5.20	4.10	1.53	5.51	4.08	1.54	5.82	4.35	1.56
	40	3.89	3.26	1.98	4.33	3.28	2.01	4.48	3.56	2.02	4.78	3.58	2.04	4.93	3.86	2.05	5.22	3.84	2.07	5.52	4.10	2.09
	45	3.57	3.09	2.11	3.98	3.11	2.15	4.12	3.38	2.15	4.39	3.39	2.18	4.59	3.66	2.19	4.79	3.65	2.21	5.07	3.88	2.23
	52	3.06	2.86	2.33	3.41	2.87	2.37	3.52	3.13	2.38	3.76	3.13	2.40	3.87	3.39	2.42	4.11	3.37	2.44	4.34	3.59	2.46

■ MODEL: ARGA25FMTA

AFR	20.0

		Indoor temperature																			
	°CDB	18			21			23			25			27			29			32		
	°CWB	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
	21	5.55	4.76	1.43	6.18	4.78	1.46	6.39	5.20	1.47	6.82	5.22	1.48	7.03	5.63	1.49	7.45	5.61	1.50	7.87	5.98	1.51
	25	5.51	4.70	1.55	6.14	4.73	1.58	6.35	5.13	1.59	6.76	5.15	1.61	6.97	5.56	1.61	7.40	5.54	1.63	7.81	5.90	1.64
	30	5.36	4.55	1.71	5.97	4.58	1.73	6.17	4.97	1.74	6.58	4.99	1.76	6.78	5.39	1.77	7.19	5.37	1.79	7.60	5.72	1.80
	35	5.09	4.29	1.84	5.68	4.31	1.87	5.87	4.69	1.88	6.26	4.71	1.90	6.45	5.08	1.91	6.84	5.06	1.93	7.22	5.40	1.95
	40	4.83	4.04	2.47	5.37	4.06	2.51	5.56	4.41	2.52	5.93	4.43	2.55	6.11	4.78	2.56	6.48	4.76	2.59	6.85	5.08	2.61
	45	4.43	3.82	2.64	4.94	3.85	2.68	5.11	4.19	2.69	5.45	4.20	2.72	5.69	4.53	2.73	5.94	4.52	2.76	6.29	4.81	2.79
	52	3.80	3.54	2.91	4.23	3.56	2.96	4.37	3.87	2.97	4.66	3.88	3.00	4.80	4.20	3.02	5.10	4.18	3.05	5.38	4.45	3.08

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

DUCT TYPE
ARGA18-25FMTA

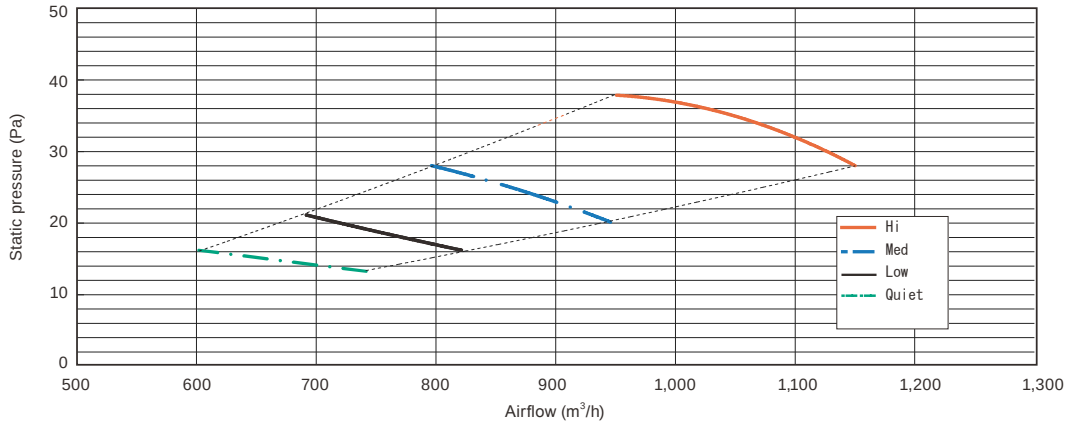
7. FAN PERFORMANCE AND CAPACITY

7-1. NORMAL MODE

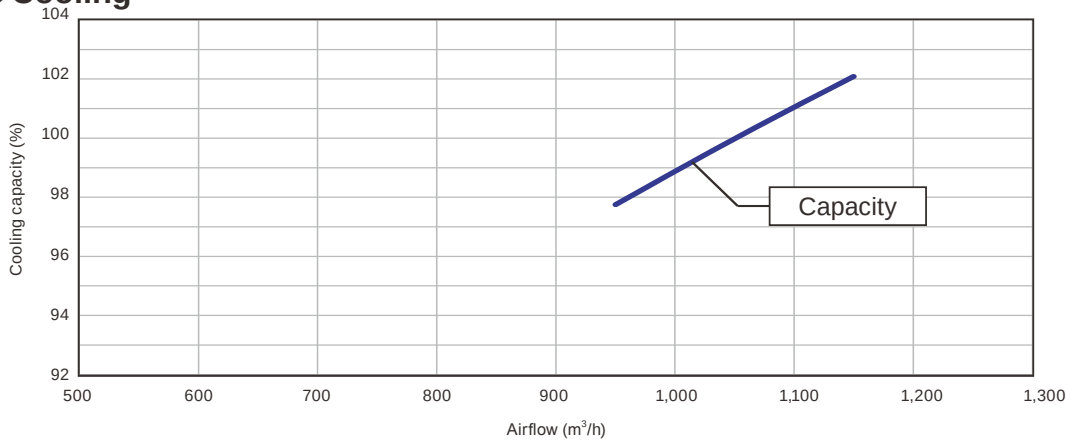
■ MODEL: ARGA18FMTA

			Static pressure (Pa)									
			13	16	20	22	25	28	30	34	35	38
FAN SPEED	Hi	m^3/h	-	-	-	-	-	1150	1120	1070	1050	950
		l/s	-	-	-	-	-	319	311	297	292	264
		CFM	-	-	-	-	-	677	659	630	618	559
	Med	m^3/h	-	-	-	860	795	-	-	-	-	-
		l/s	-	-	-	239	221	-	-	-	-	-
		CFM	-	-	-	506	468	-	-	-	-	-
	Low	m^3/h	-	820	740	690	-	-	-	-	-	-
		l/s	-	228	206	192	-	-	-	-	-	-
		CFM	-	483	436	406	-	-	-	-	-	-
	Quiet	m^3/h	740	600	-	-	-	-	-	-	-	-
		l/s	206	167	-	-	-	-	-	-	-	-
		CFM	436	353	-	-	-	-	-	-	-	-

Q-h Characteristic curve



● Cooling

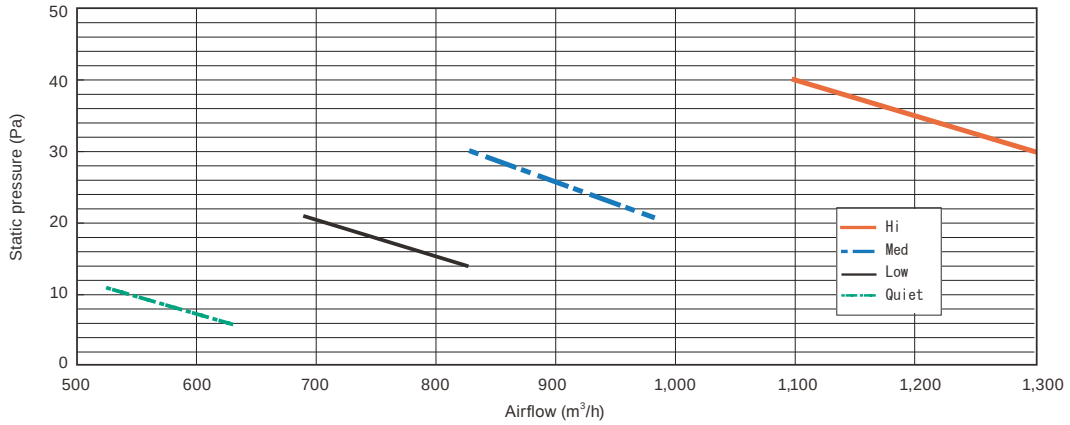


DUCT TYPE
ARGA18-25FMTA

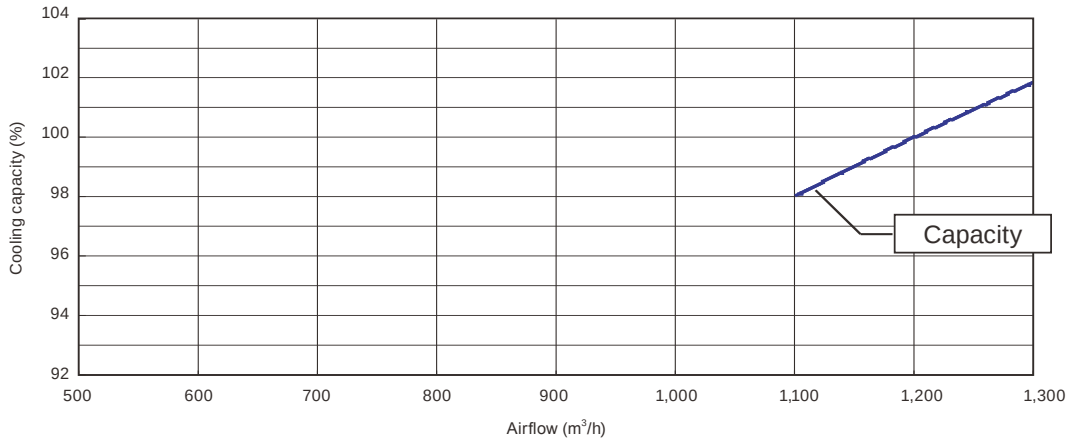
■ MODEL: ARGA25FMTA

			Static pressure (Pa)							
			6	11	14	21	25	30	35	40
FAN SPEED	Hi	m^3/h	-	-	-	-	-	1300	1200	1100
		l/s	-	-	-	-	-	361	333	306
		CFM	-	-	-	-	-	765	706	647
	Med	m^3/h	-	-	-	980	910	830	-	-
		l/s	-	-	-	272	254	231	-	-
		CFM	-	-	-	577	539	489	-	-
	Low	m^3/h	-	-	825	690	-	-	-	-
		l/s	-	-	229	192	-	-	-	-
		CFM	-	-	486	406	-	-	-	-
	Quiet	m^3/h	630	525	-	-	-	-	-	-
		l/s	175	146	-	-	-	-	-	-
		CFM	371	309	-	-	-	-	-	-

Q-h Characteristic curve



● Cooling



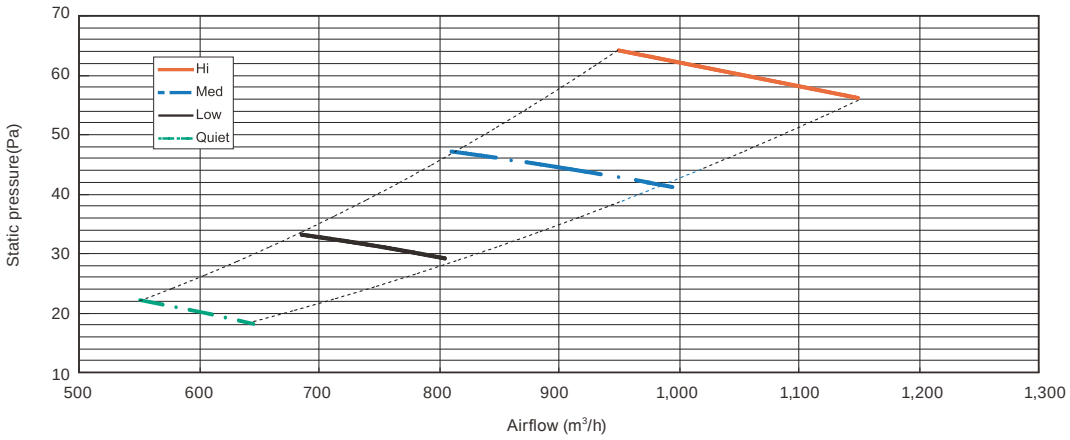
DUCT TYPE
ARGA18-25FMTA

7-2. STATIC PRESSURE MODE 1

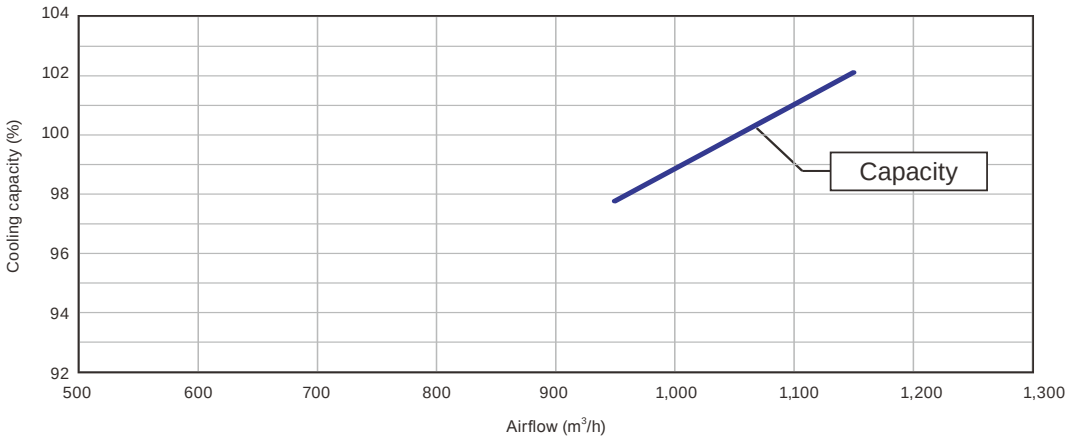
■ MODEL: ARGA18FMTA

			Static pressure (Pa)							
			18	22	29	33	41	47	56	64
FAN SPEED	Hi	m^3/h	-	-	-	-	-	-	1150	950
		l/s	-	-	-	-	-	-	319	264
		CFM	-	-	-	-	-	-	677	559
	Med	m^3/h	-	-	-	-	995	810	-	-
		l/s	-	-	-	-	276	225	-	-
		CFM	-	-	-	-	586	477	-	-
	Low	m^3/h	-	-	805	685	-	-	-	-
		l/s	-	-	224	190	-	-	-	-
		CFM	-	-	474	403	-	-	-	-
	Quiet	m^3/h	645	550	-	-	-	-	-	-
		l/s	181	153	-	-	-	-	-	-
		CFM	383	324	-	-	-	-	-	-

Q-h Characteristic curve



● Cooling

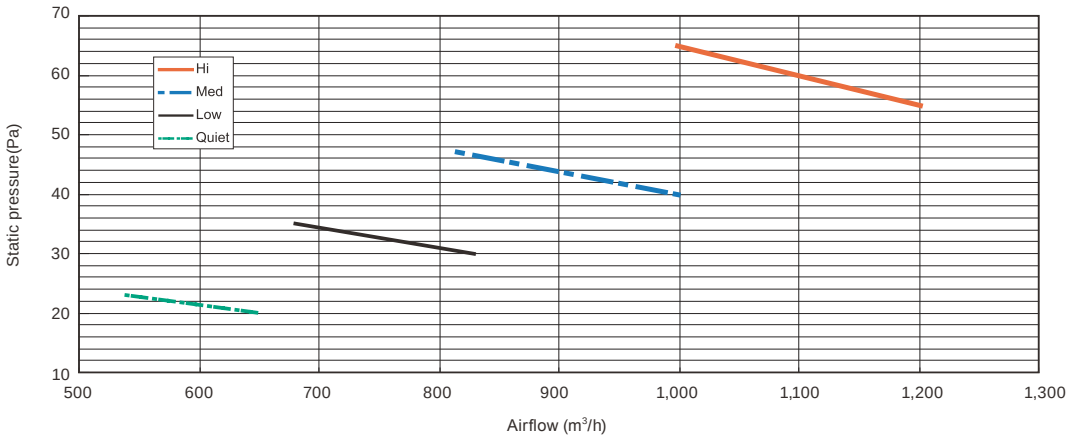


DUCT TYPE
ARGA18-25FMTA

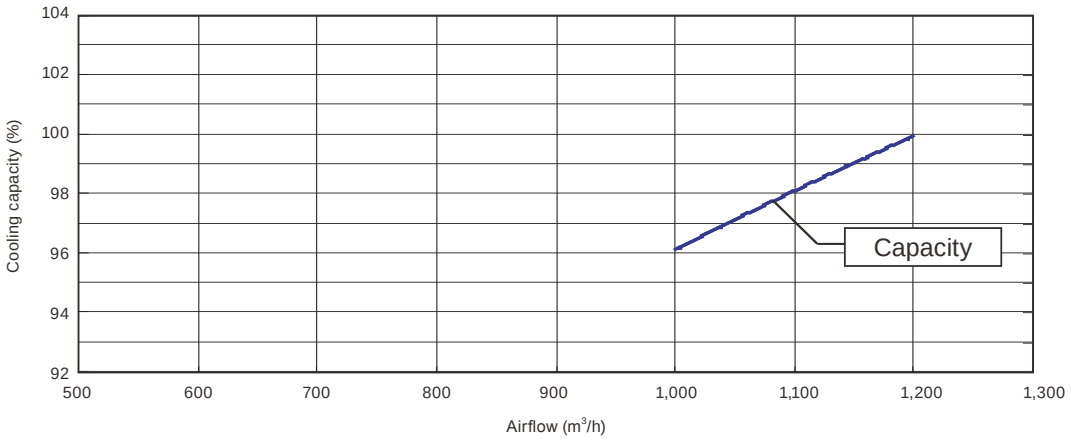
■ MODEL: ARGA25FMTA

			Static pressure (Pa)							
			20	23	30	35	40	47	55	65
FAN SPEED	Hi	m^3/h	-	-	-	-	-	-	1200	1000
		l/s	-	-	-	-	-	-	333	278
		CFM	-	-	-	-	-	-	706	589
	Med	m^3/h	-	-	-	-	1000	815	-	-
		l/s	-	-	-	-	278	226	-	-
		CFM	-	-	-	-	589	480	-	-
	Low	m^3/h	-	-	830	680	-	-	-	-
		l/s	-	-	231	189	-	-	-	-
		CFM	-	-	489	400	-	-	-	-
	Quiet	m^3/h	650	540	-	-	-	-	-	-
		l/s	181	150	-	-	-	-	-	-
		CFM	383	318	-	-	-	-	-	-

Q-h Characteristic curve



● Cooling



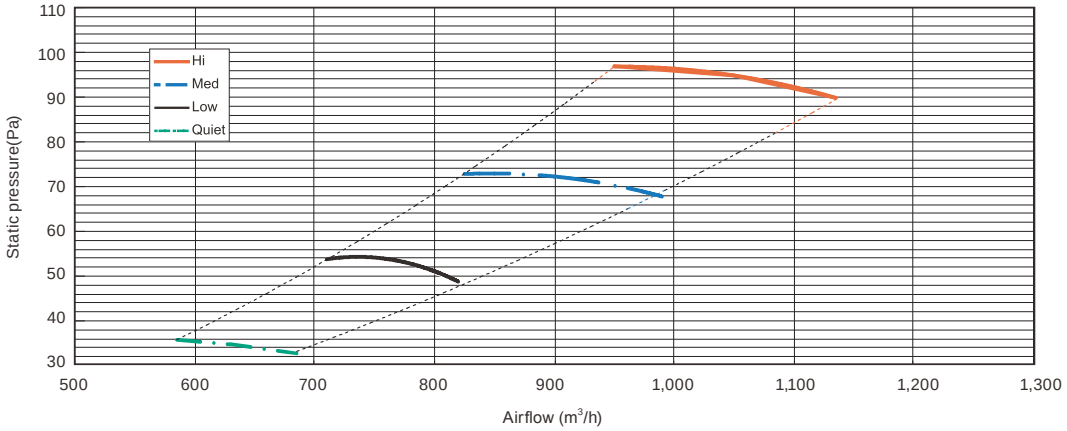
DUCT TYPE
ARGA18-25FMTA

7-3. STATIC PRESSURE MODE 2

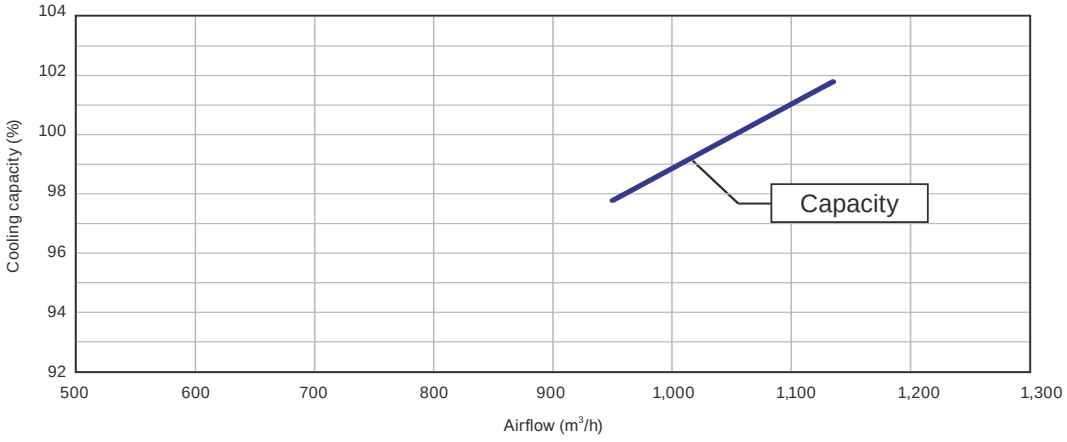
■ MODEL: ARGA18FMTA

			Static pressure (Pa)							
			33	36	49	54	69	73	90	97
FAN SPEED	Hi	m^3/h	-	-	-	-	-	-	1135	950
		l/s	-	-	-	-	-	-	315	264
		CFM	-	-	-	-	-	-	668	559
	Med	m^3/h	-	-	-	-	990	825	-	-
		l/s	-	-	-	-	275	229	-	-
		CFM	-	-	-	-	583	486	-	-
	Low	m^3/h	-	-	820	710	-	-	-	-
		l/s	-	-	228	197	-	-	-	-
		CFM	-	-	483	418	-	-	-	-
	Quiet	m^3/h	685	585	-	-	-	-	-	-
		l/s	190	163	-	-	-	-	-	-
		CFM	403	344	-	-	-	-	-	-

Q-h Characteristic curve



● Cooling

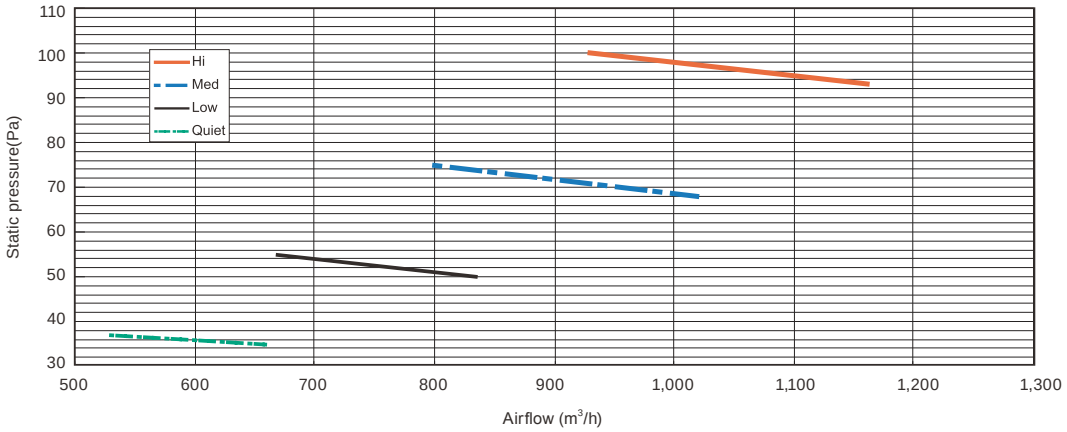


DUCT TYPE
ARGA18-25FMTA

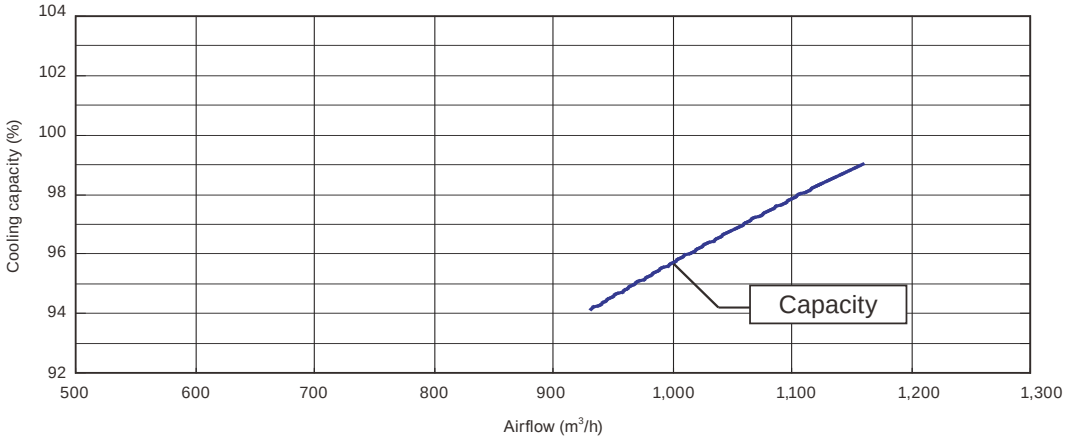
■ MODEL: ARGA25FMTA

			Static pressure (Pa)							
			35	37	50	55	68	75	93	100
FAN SPEED	Hi	m^3/h	-	-	-	-	-	-	1160	930
		l/s	-	-	-	-	-	-	322	258
		CFM	-	-	-	-	-	-	683	547
	Med	m^3/h	-	-	-	-	1020	800	-	-
		l/s	-	-	-	-	283	222	-	-
		CFM	-	-	-	-	600	471	-	-
	Low	m^3/h	-	-	835	670	-	-	-	-
		l/s	-	-	232	186	-	-	-	-
		CFM	-	-	491	394	-	-	-	-
	Quiet	m^3/h	660	530	-	-	-	-	-	-
		l/s	183	147	-	-	-	-	-	-
		CFM	388	312	-	-	-	-	-	-

Q-h Characteristic curve



● Cooling



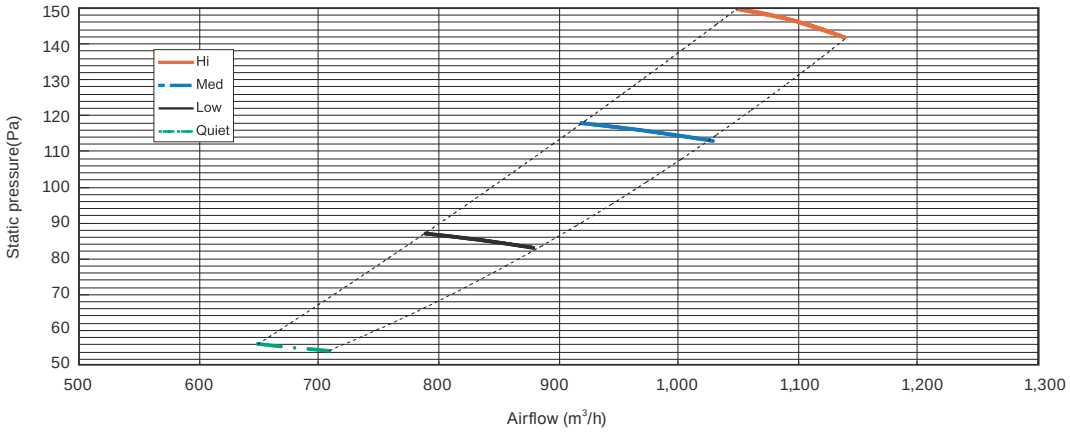
DUCT TYPE
ARGA18-25FMTA

7-4. STATIC PRESSURE MODE 3

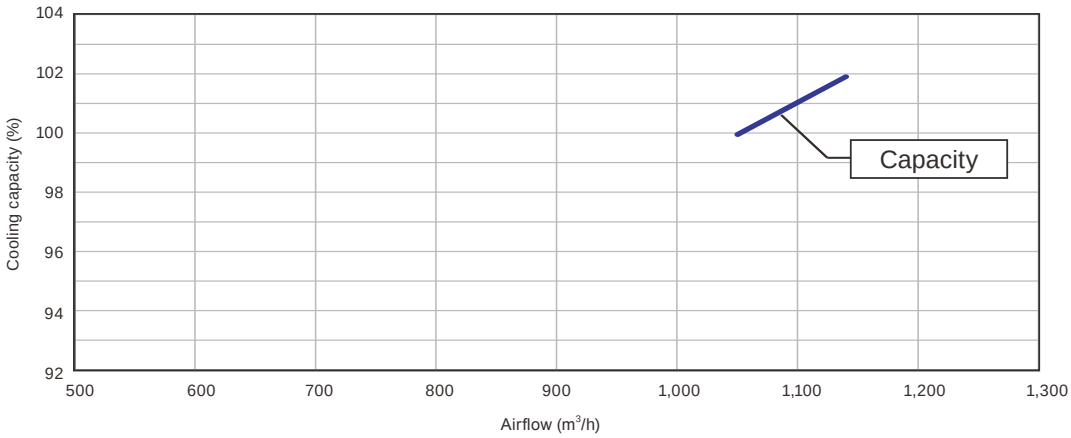
■ MODEL: ARGA18FMTA

			Static pressure (Pa)							
			54	56	83	87	113	118	142	150
FAN SPEED	Hi	m^3/h	-	-	-	-	-	-	1140	1050
		l/s	-	-	-	-	-	-	317	292
		CFM	-	-	-	-	-	-	671	618
	Med	m^3/h	-	-	-	-	1030	920	-	-
		l/s	-	-	-	-	286	256	-	-
		CFM	-	-	-	-	606	542	-	-
	Low	m^3/h	-	-	880	790	-	-	-	-
		l/s	-	-	244	219	-	-	-	-
		CFM	-	-	518	465	-	-	-	-
	Quiet	m^3/h	710	650	-	-	-	-	-	-
		l/s	197	181	-	-	-	-	-	-
		CFM	418	383	-	-	-	-	-	-

Q-h Characteristic curve



● Cooling

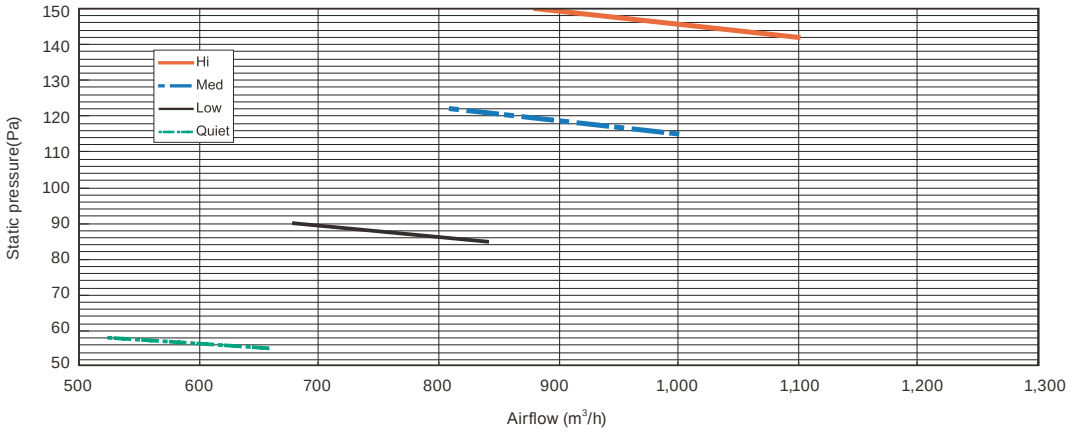


DUCT TYPE
ARGA18-25FMTA

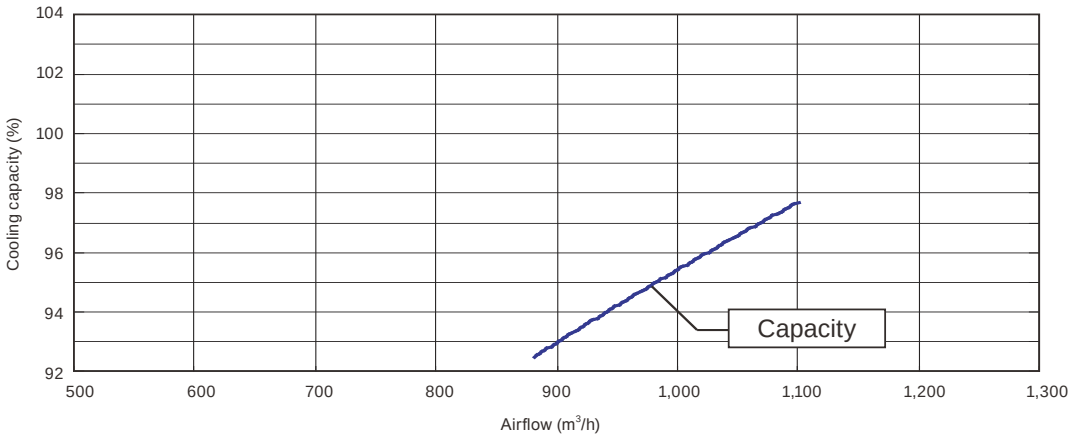
■ MODEL: ARGA25FMTA

			Static pressure (Pa)							
			55	58	85	90	115	122	142	150
FAN SPEED	Hi	m^3/h	-	-	-	-	-	-	1100	880
		l/s	-	-	-	-	-	-	306	244
		CFM	-	-	-	-	-	-	647	518
	Med	m^3/h	-	-	-	-	1000	810	-	-
		l/s	-	-	-	-	278	225	-	-
		CFM	-	-	-	-	589	477	-	-
	Low	m^3/h	-	-	840	680	-	-	-	-
		l/s	-	-	233	189	-	-	-	-
		CFM	-	-	494	400	-	-	-	-
	Quiet	m^3/h	660	525	-	-	-	-	-	-
		l/s	183	146	-	-	-	-	-	-
		CFM	388	309	-	-	-	-	-	-

Q-h Characteristic curve



● Cooling



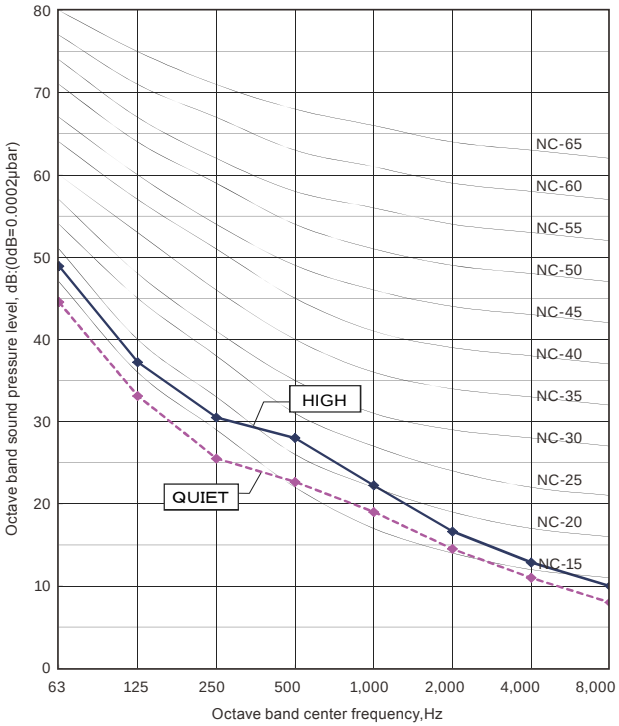
8. OPERATION NOISE (SOUND PRESSURE)

8-1. NOISE LEVEL CURVE

Conditions:
Static pressure: 35 Pa
Static pressure mode: NORMAL

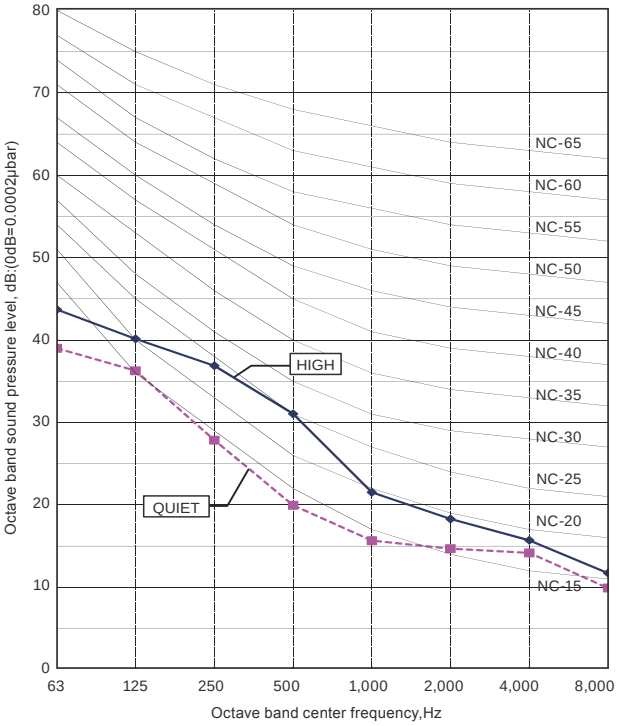
■ MODEL: ARGA18FMTA

● COOLING



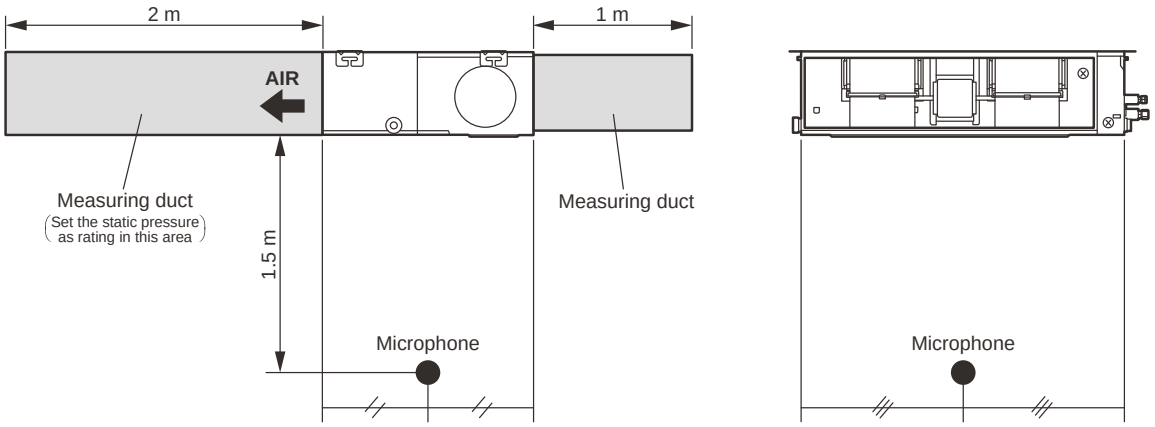
■ MODEL: ARGA25FMTA

● COOLING



DUCT TYPE
ARGA18-25FMTA

8-2. SOUND LEVEL CHECK POINT



DUCT TYPE
ARGA18-25FMTA

9. SAFETY DEVICES

	Protection form	Models
		ARGA18FMTA ARGA25FMTA
Circuit protection	Current fuse (PC board)	250 V 3.15 A
Fan motor protection	Thermal protection	OFF: 135 ± 15 °C ON: 115 ± 15 °C

DUCT TYPE
ARGA18-25FMTA

10. EXTERNAL INPUT & OUTPUT

Connector	INPUT	OUTPUT	REMARKS
CN102	Control input	—	See external input/output settings for details.
CN103	—	Operation status output	
CN6	—	Fresh air control output	

10-1. EXTERNAL INPUT

■ CONTROL INPUT (Operation/Stop or Forced stop)

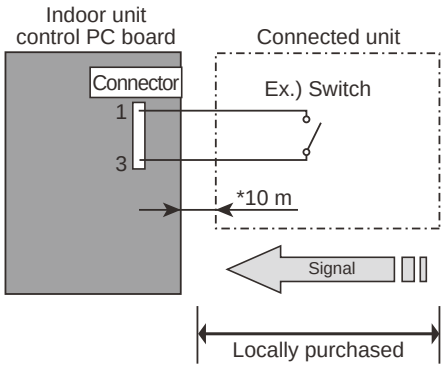
The air conditioner can be remotely operated by means of the following on-site work.

"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.

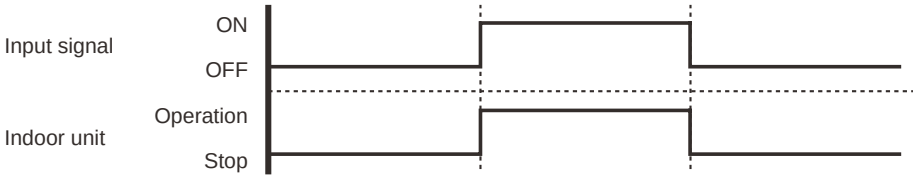
Unit operation	Initial setting after power is ON	Starting mode other than initial setting
Operation mode	Auto changeover	Mode at previous operation
Set temperature	24°C	Temperature at previous operation
Airflow mode	AUTO	Mode at previous operation
Air direction (swing)	Standard air direction (swing OFF)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

● Circuit diagram example

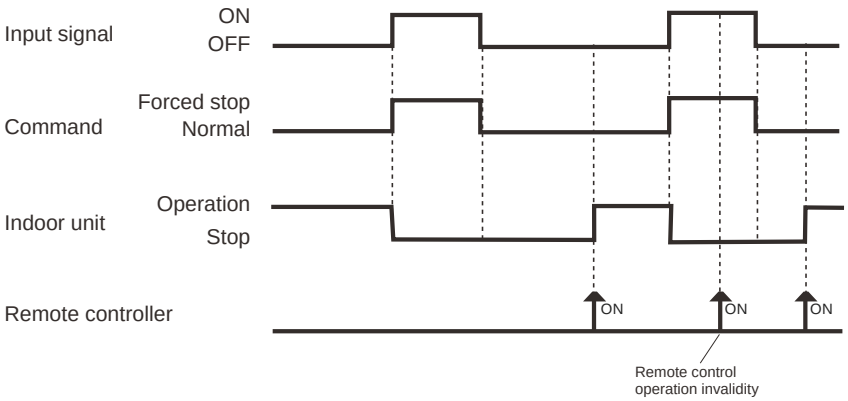


*: Make the distance from the PC board to the connected unit within 10 m.
Contact capacity: DC 24 V or more, 10 mA or more.
Please use non-polar relays and switches.

● When function setting is in "Operation/Stop" mode



● When function setting is in "Forced stop" mode



● Parts (Optional)

Model name
UTD-ECS5A

Wire (External input)

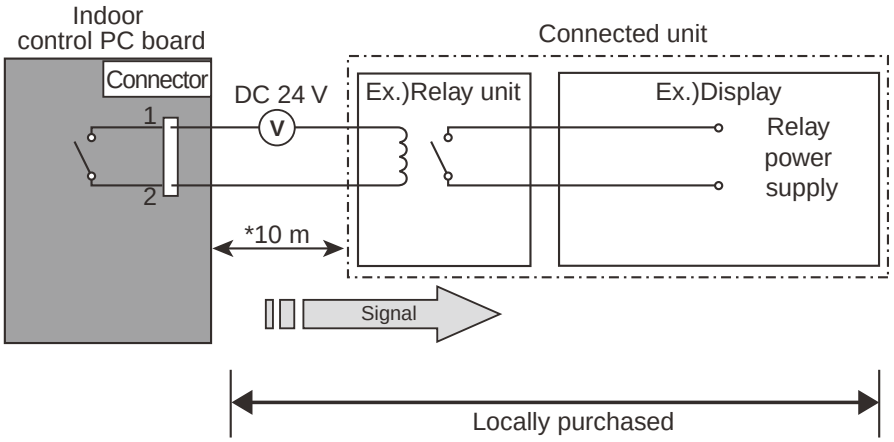
DUCT TYPE
ARGA18-25FMTA

10-2. EXTERNAL OUTPUT

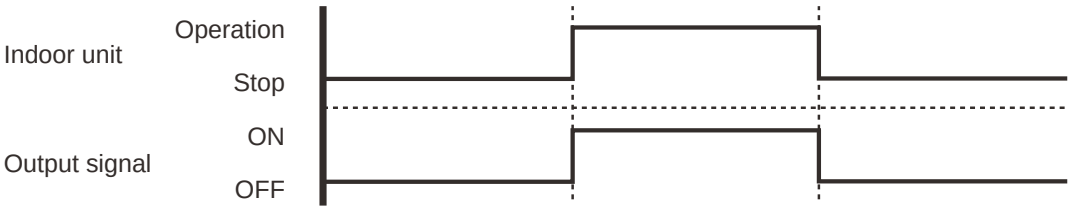
■ OPERATION STATUS OUTPUT

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)

Model name
UTD-ECS5A

Wire (External output)

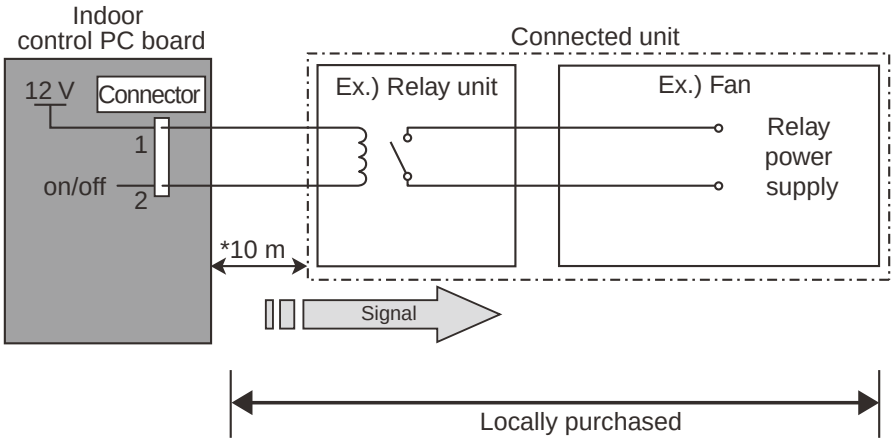
DUCT TYPE
ARGA18-25FMTA

■ FRESH AIR CONTROL OUTPUT

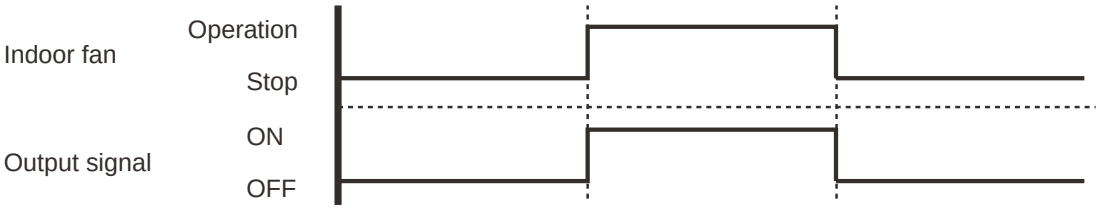
A signal linked to air conditioner indoor fan ON can be output.

* However, signal becomes OFF during cold air prevention control operation.

● Circuit diagram example



*: Make the distance from the PC board to the connected unit within 10 m.
Relay spec.: Rated DC 12 V, 50 mA or less.



● Parts (Optional)

Model name
UTD-ECS5A

Wire (Fresh air output)

DUCT TYPE
ARGA18-25FMTA

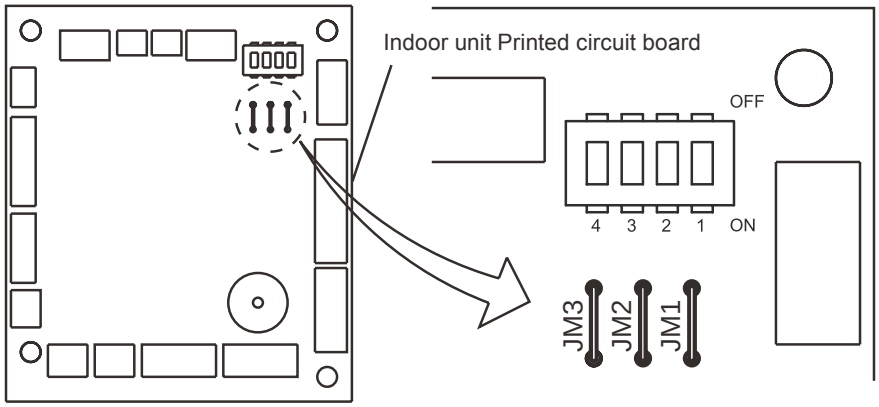
11. FUNCTION SETTINGS

11-1. INDOOR UNIT

INDOOR UNIT		
DIP SW	1	Remote controller address setting
	2	
	3	
	4	
Jumper Wire	JM1	Setting change prohibited
	JM2	
	JM3	

■ SWITCH POSITION

MAIN PCB



■ DIP-SW SETTING

● Unit number setting

A number of indoor units can be operated at the same time using a wired remote controller.
Set the unit number of each indoor unit using the DIP switches on the indoor unit circuit board.
(See the following table.)
The DIP switches are normally set to make the unit number 00.

(◆. . .Factory setting)

	Unit number	DIP switch No.			
		1	2	3	4
◆	00	OFF	OFF	OFF	OFF
	01	ON	OFF	OFF	OFF
	02	OFF	ON	OFF	OFF
	03	ON	ON	OFF	OFF
	04	OFF	OFF	ON	OFF
	05	ON	OFF	ON	OFF
	06	OFF	ON	ON	OFF
	07	ON	ON	ON	OFF
	08	OFF	OFF	OFF	ON
	09	ON	OFF	OFF	ON
	10	OFF	ON	OFF	ON
	11	ON	ON	OFF	ON
	12	OFF	OFF	ON	ON
	13	ON	OFF	ON	ON
	14	OFF	ON	ON	ON
	15	ON	ON	ON	ON

DUCT TYPE
ARGA18-25FMTA

11-2. 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 Number.
- Settings will not be changed if disable numbers or setting values are selected.

■ PREPARATION

- Turn on the power.

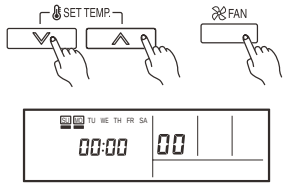
* Before turning on the power of the indoor units, make sure the piping air-tight test and vacuuming have been conducted.

* Also check again to make sure no wiring mistakes were made before turning on the power.

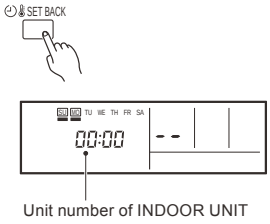
■ FUNCTION SETTING METHOD (for Wired remote controller)

● Setting method

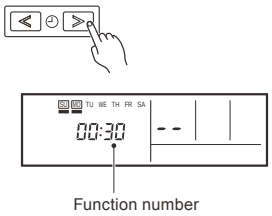
(1) Press the SET TEMP. buttons (▽) (△) and FAN button simultaneously for more than 5 seconds to enter the function setting mode.



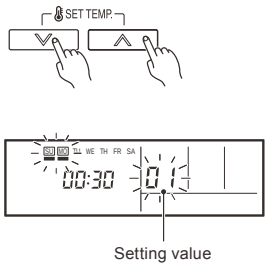
(2) Press the SET BACK button to select the indoor unit number.



(3) Press the Set time buttons to select the function number.



(4) Press the SET TEMP. buttons (▽) (△) to select the setting value. The indicator flashes during setting value selection.



DUCT TYPE
ARGA18-25FMTA

(5) Press the TIMER SET button to confirm the setting. Press the TIMER SET button for a few seconds until the setting value stops flashing. If the setting value indicator changes or if "- -" is displayed when the flashing stops, the setting value has not been set correctly. (A disable setting value may have been selected for the indoor unit.)

(6) Repeat steps 2 to 5 to perform additional settings. Press the SET TEMP. buttons (⩔) (⩓) and FAN button simultaneously again for more than 5 seconds to cancel the function setting mode. In addition, the function setting mode will be automatically canceled after 1 minute if no operation is performed.

(7) After completing the FUNCTION SETTING, be sure to turn off the power and turn it on again.

⚠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.

■ CONTENTS OF FUNCTION SETTING

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

1)	Filter sign
2)	Static pressure
3)	Room temperature sensor control for cooling
4)	Auto restart
5)	Room temperature sensor switching
6)	External input control
7)	Room temperature sensor switching (Aux.)

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)

Function Number	Setting Value	Setting Description	
11	00	Standard (2500 hours)	
	01	Long interval (4400 hours)	
	02	Short interval (1250 hours)	
	03	No indication	◆

2) Static pressure

Select the appropriate static pressure according to the installation conditions.

(◆. . .Factory setting)

Function Number	Setting Value	Setting Description	
21	00	Normal	◆
	01	High static pressure 1	
	02	High static pressure 2	
	03	High static pressure 3	

Refer to "7. FAN PERFORMANCE AND CAPACITY".

3) Room temperature sensor control for cooling

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

(◆. . .Factory setting)

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

DUCT TYPE
ARGA18-25FMTA

4) Auto restart

Enable or disable automatic restart after a power interruption.

(◆. . .Factory setting)

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

* Auto restart is an emergency function such as for power outage etc.
  Do not attempt to use this function in normal operation.
  Be sure to operate the unit by remote controller or external device.

5) Room temperature sensor switching

(Only for wired remote controller)

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

(◆. . .Factory setting)

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

00: Sensor on the indoor unit is active.

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

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

6) External input control

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

(◆. . .Factory setting)

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

7) Room temperature sensor switching (Aux.)

To use the temperature sensor on the wired remote controller only, change the setting to "Wired remote controller" (01). This function will only work if the function setting 42 is set at "Both" (01).

(◆. . .Factory setting)

Function Number	Setting Value	Setting Description	
48	00	Both	◆
	01	Wired remote controller	

DUCT TYPE
ARGA18-25FMTA

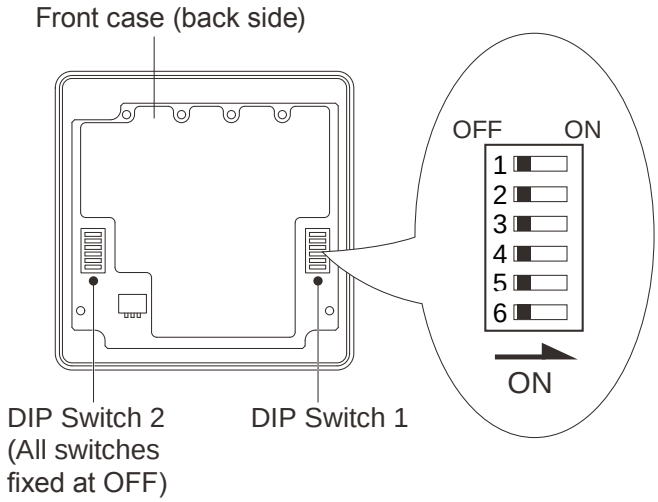
11-3. WIRED REMOTE CONTROLLER

DIP Switch 1	SW1	Setting change prohibited
	SW2	Setting change prohibited
	SW3	Setting change prohibited
	SW4	Setting change prohibited
	SW5	Setting change prohibited
	SW6	Memory backup setting

* Do not use DIP Switch 2

■ SWITCH POSITION

● Wired remote controller



DUCT TYPE
ARGA18-25FMTA

■ DIP SWITCH 1 SETTING

● SW6 setting

● Memory backup setting

Set to ON to use batteries for the memory backup.

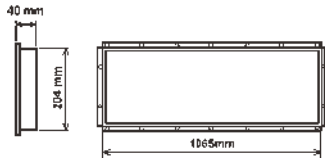
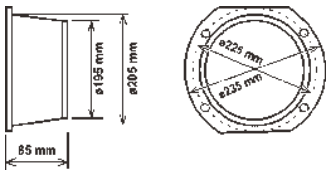
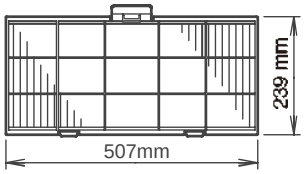
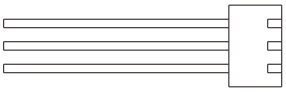
If batteries are not used, all of settings stored in memory will be deleted if there is a power failure.

(◆...Factory setting)

	SW6	Memory backup
◆	OFF	Disable
	ON	Enable

DUCT TYPE
ARGA18-25FMTA

12. OPTIONAL PARTS

Exterior	Parts name	Model No.	Summary
	Square flange	UTD-SF045T	Both the **Square flange** and the **Round flange** can be selected. **Round flange** is also used when the fresh air duct is installed.
	Round flange	UTD-RF204	
	Long-life filter	UTD-LF25NA	**Long-life filter** can be mounted to the indoor unit.
	Remote sensor	UTY-XSZX	New amenity space can be offered by installing the **Remote sensor** in the remote controller.
	External control set	UTD-ECS5A	Use to connect with various peripheral devices and air conditioner PC board.

2. OUTDOOR UNIT

SINGLE TYPE:

AOGA18FBTAH
AOGA25FBTAH

DTR_AO202E_01
2015.01.19

CONTENTS

2. OUTDOOR UNIT

OUTDOOR UNIT
AOGA18-25FBTAH

1. SPECIFICATIONS

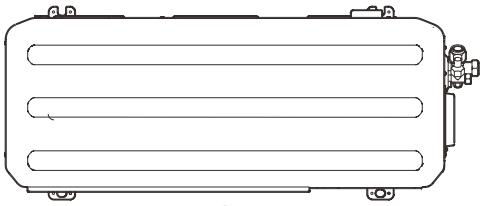
Type				COOLING ONLY	
Model name				AOGA18FBTAH	AOGA25FBTAH
Power source				220 / 240 V ~ 50 Hz	
Available voltage range				198 to 264 V	
Starting current			A	42	55
Fan	Airflow rate		m^3/h	3,200	3,300
	Type × Q'ty			Propeller × 1	
	Motor output		W	75	59
Sound pressure level *		Cooling	dB(A)	54	54
Heat exchanger type		Dimensions (H × W × D)	mm	630 x 901 x 36.4	798 × 900 × 36.4
		Fin pitch		1.45	1.30
		Rows x Stages		2 × 30	2 × 38
		Pipe type		Copper	
		Fin type (Surface treatment)		Aluminium (Blue fin)	
Compressor	Type × Q'ty			Rotary × 1	
	Motor output		W	1,330	1,670
Refrigerant		Type		R410A	
		Charge	g	1,500	1,800
Refrigerant oil		Type		RB75EA (POE)	
Enclosure		Material		Steel sheet	
		Colour		BEIGE Approximate colour of MUNSELL 10YR 7.5/1.0	
Dimensions (H × W × D)	Net		mm	650 × 830 × 320	830 × 900 × 330
	Gross			743 × 984 × 413	970 × 1050 × 445
Weight	Net		kg	50	63
	Gross			54	70
Connection pipe	Size	Liquid	mm	Ø 6.35 (Ø 1/4 in.)	
		Gas		Ø 15.88 (Ø 5/8 in.)	
	Method			Flare	
	Pre-charge length		m	7.5	
	Max. length			20	25
	Max. height difference			8	15
Operation range		Cooling	˚C	21 to 52	

NOTES:
Specifications are based on the following conditions.
Cooling: Indoor temperature of 27 °CDB / 19 °CWB.and outdoor temperature of 35 °CDB/24 °CWB.
Pipe length: 7.5 m, Height difference: 0 m.(Outdoor unit - Indoor unit)
The protective function may work when using it outside the operation range.
*: These are the measured values in the manufacturer's anechoic chamber.
Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.

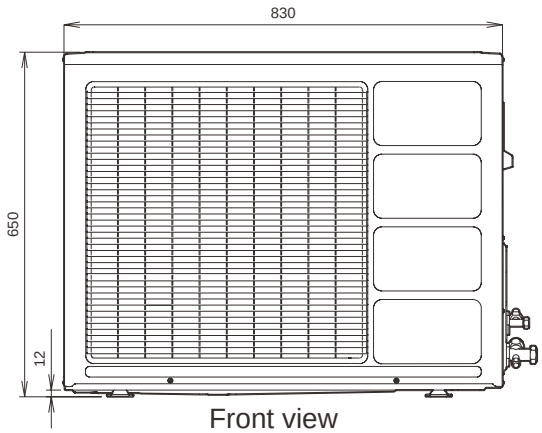
2. DIMENSIONS

■ MODEL: AOGA18FBTAH

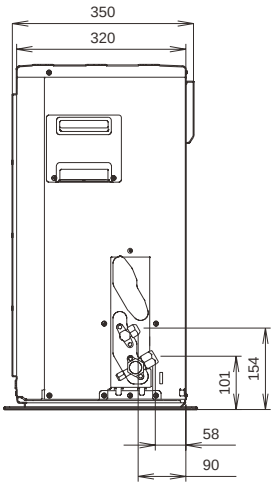
(Unit : mm)



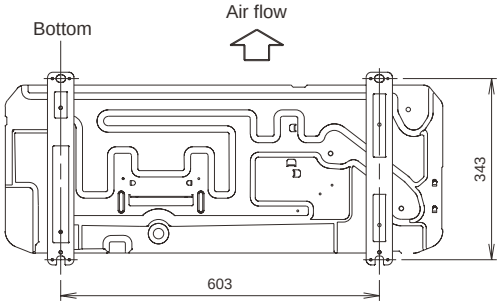
Top view



Front view



Side view

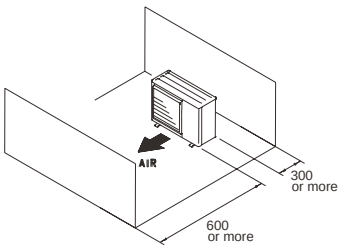


Bottom view

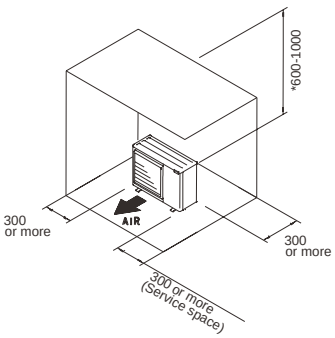
■ INSTALLATION PLACE

(Unit : mm)

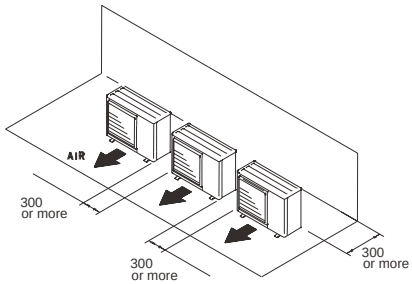
When there are obstacles at the back and front sides.



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.



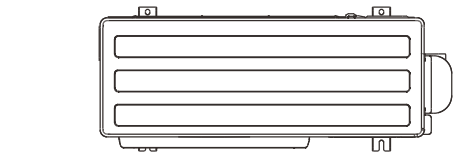
* If the space is larger than stated, the condition will be the same as those without any obstacles.

• Height above the floor level should be 50 mm or more.

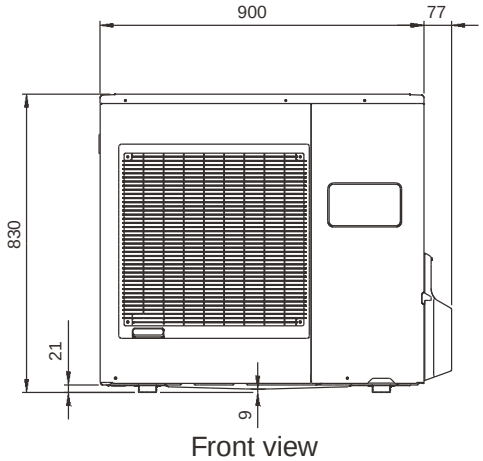
OUTDOOR UNIT
AOGA18-25FBTAH

■ MODEL: AOGA25FBTAH

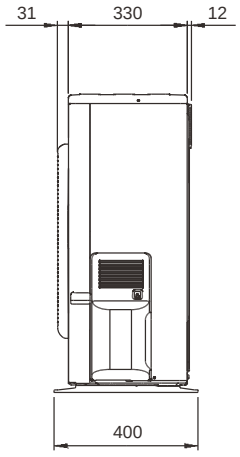
(Unit : mm)



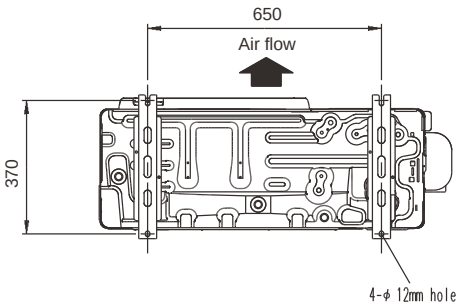
Top view



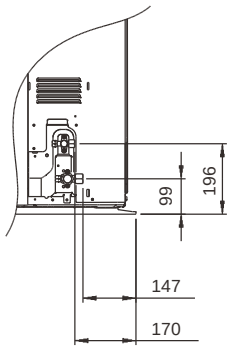
Front view



Side view



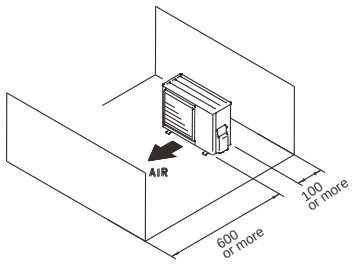
Bottom view



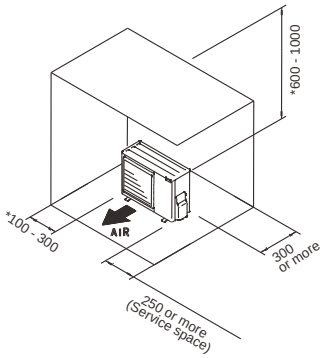
■ INSTALLATION PLACE

(Unit : mm)

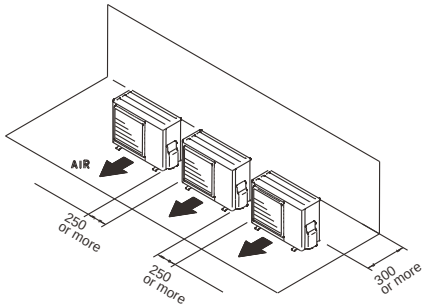
When there are obstacles at the back and front sides.



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.



* If the space is larger than stated, the condition will be the same as those without any obstacles.

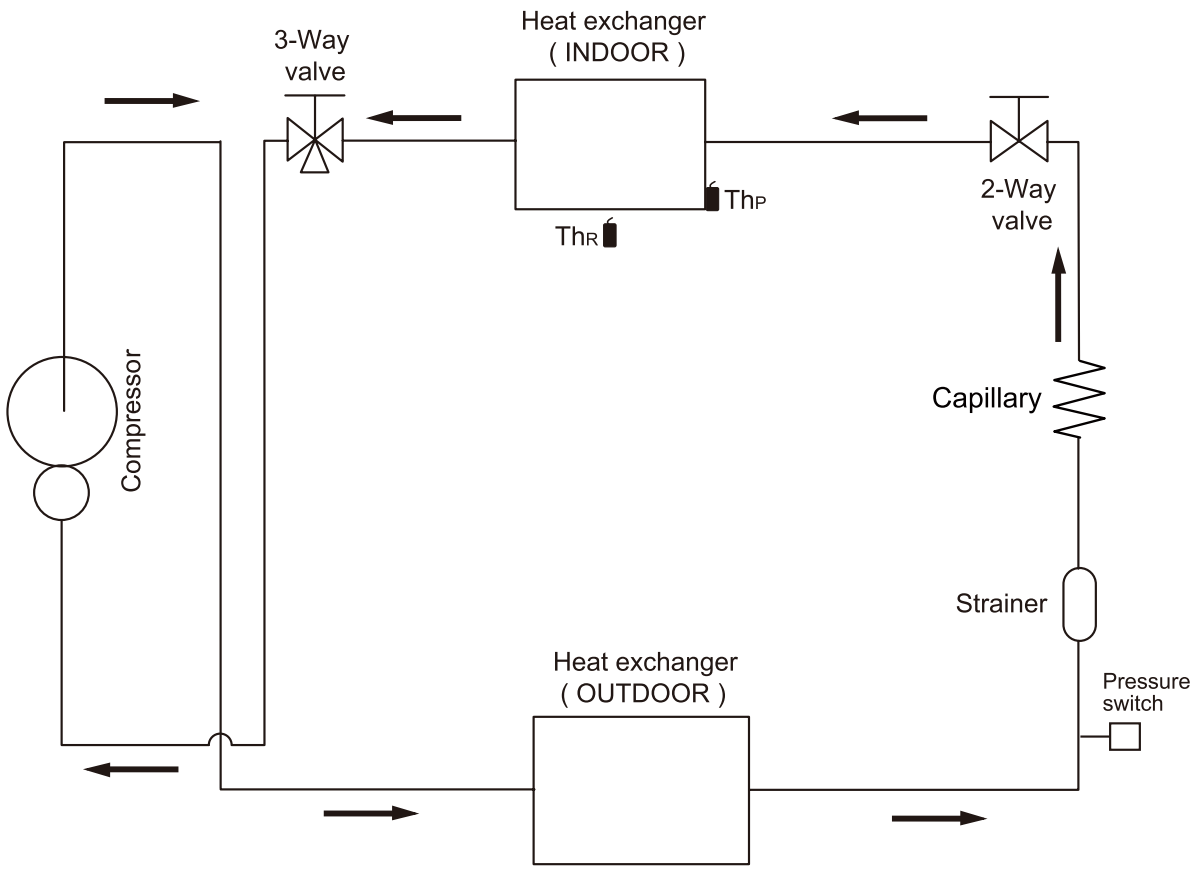
• Height above the floor level should be 50 mm or more.

3. REFRIGERANT CIRCUIT

■ MODEL: AOGA18FBTAH

OUTDOOR UNIT
AOGA18-25FBTAH

OUTDOOR UNIT
AOGA18-25FBTAH



Cooling

ThR : Thermistor (Room Temp.)

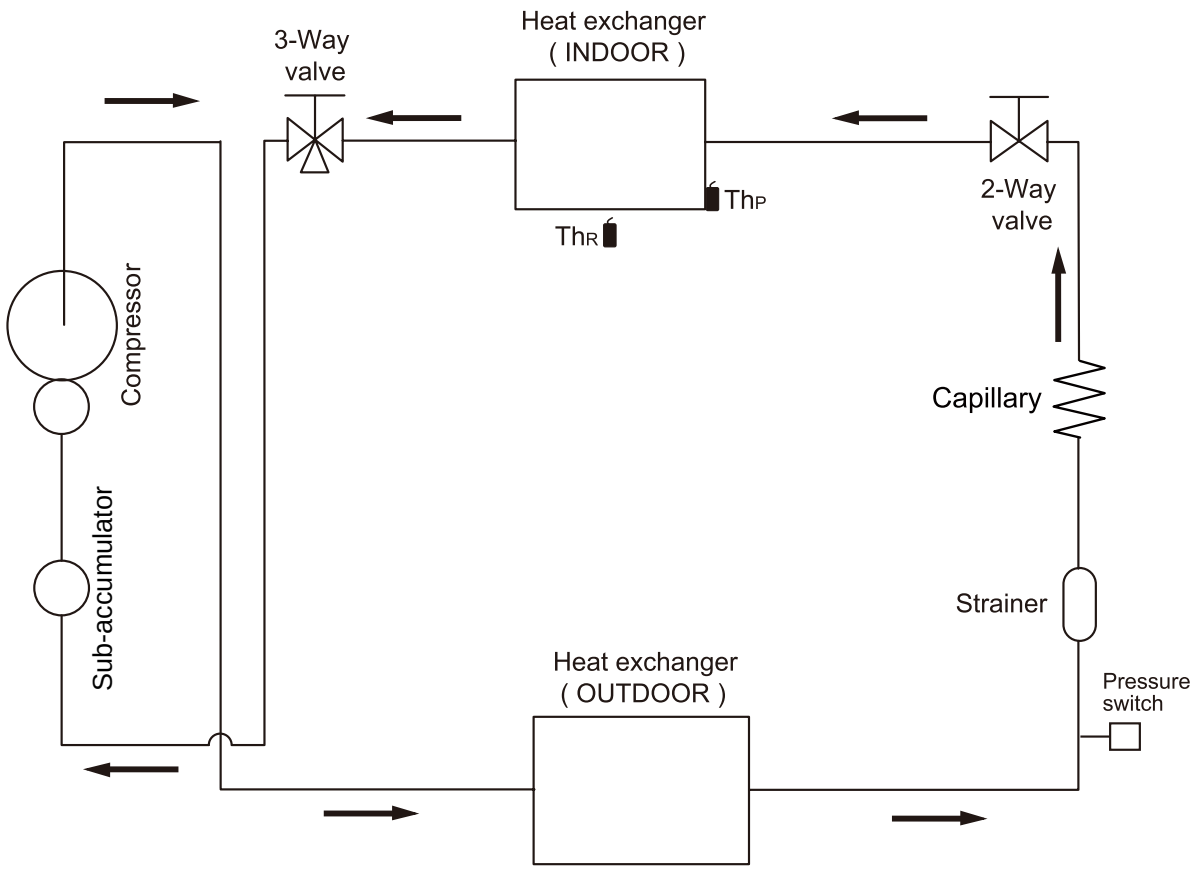
ThP : Thermistor (Pipe Temp.)

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

OUTDOOR UNIT
AOGA18-25FBTAH

OUTDOOR UNIT
AOGA18-25FBTAH

■ MODEL: AOGA25FBTAH



Cooling

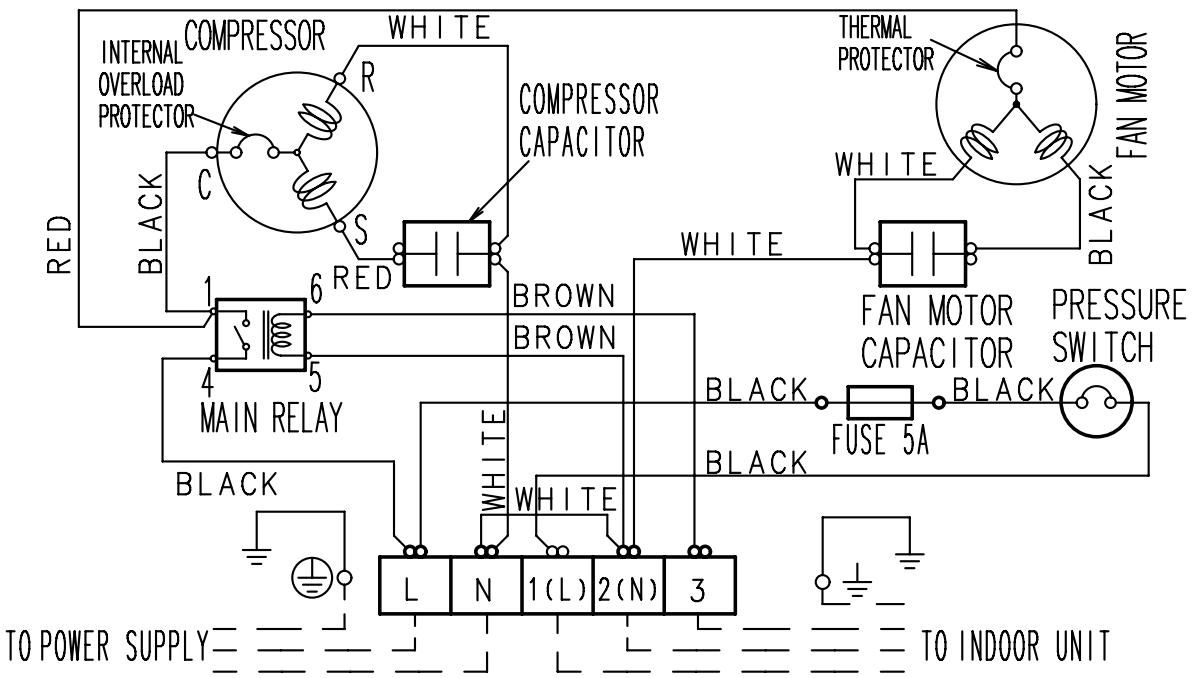
ThR : Thermistor (Room Temp.)

ThP : Thermistor (Pipe Temp.)

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

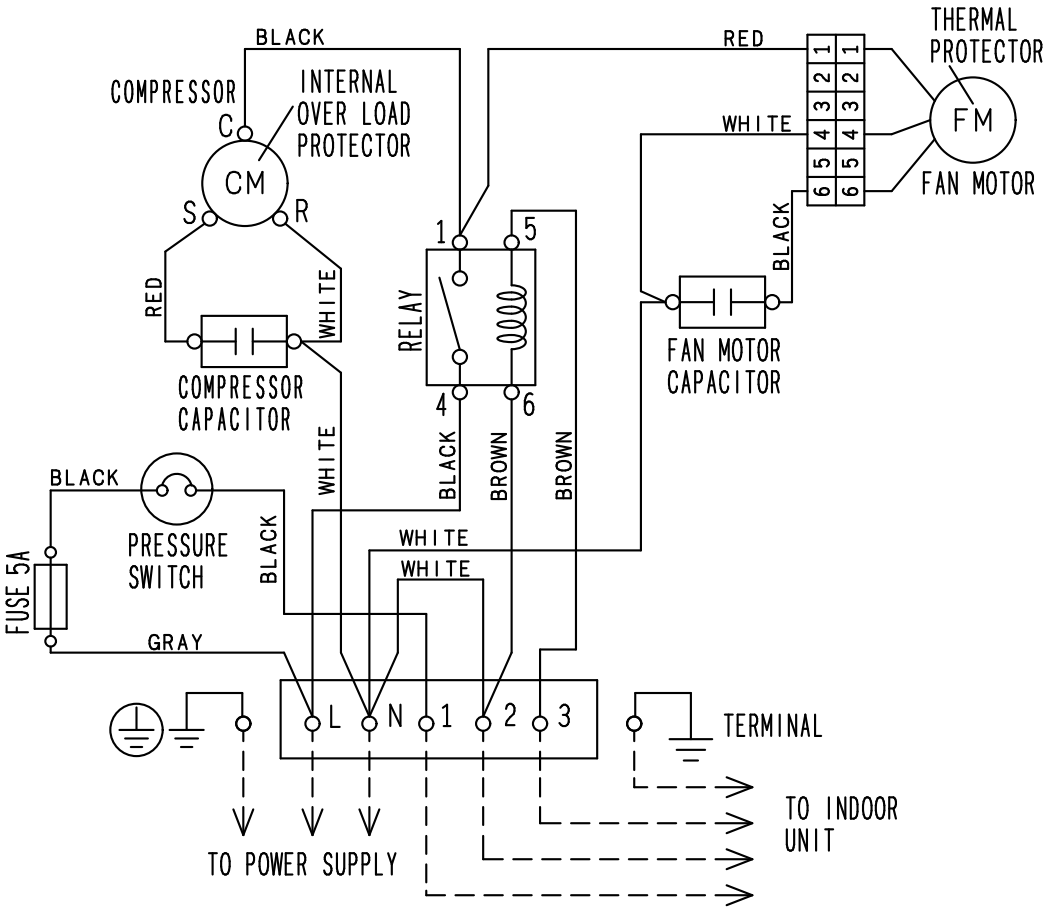
4. WIRING DIAGRAMS

■ MODEL: AOSA18FBTAH



OUTDOOR UNIT
AOGA18-25FBTAH

■ MODEL: AOGA25FBTAH



OUTDOOR UNIT
AOGA18-25FBTAH

5. CAPACITY COMPENSATION RATE FOR PIPE LENGTH AND HEIGHT DIFFERENCE

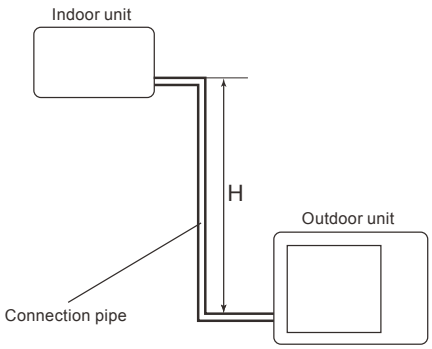
This table is created using the maximum capacity.

OUTDOOR UNIT
AOGA18-25FBTAH

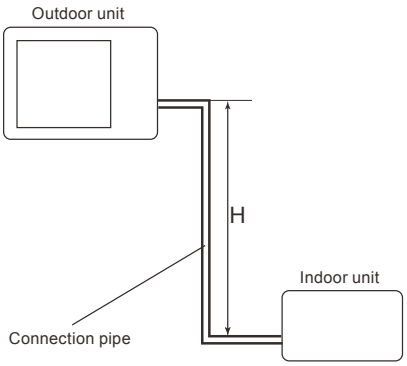
■ MODEL: AOGA18FBTAH

COOLING			Pipe length (m)				
			5	7.5	10	15	20
Height difference H (m)	∗1 Indoor unit is higher than outdoor unit	8	-	-	0.983	0.979	0.977
		5	0.997	0.992	0.988	0.984	0.982
		0	1.005	1.000	0.996	0.992	0.990
	∗2 Indoor unit is lower than outdoor unit	-5	1.005	1.000	0.996	0.992	0.990
		-8	-	-	0.996	0.992	0.990

Height difference H



∗1 Indoor unit is higher than outdoor unit.



∗2 Indoor unit is lower than outdoor unit.

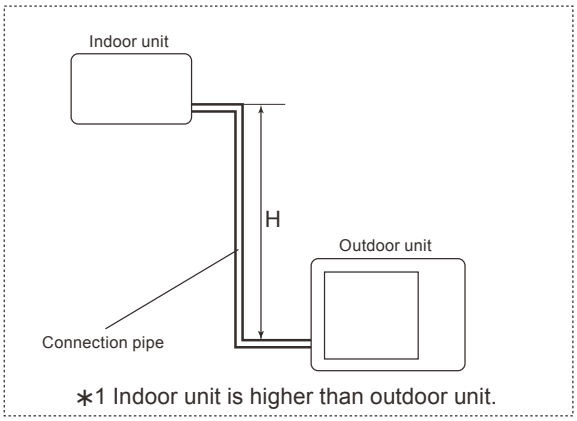
OUTDOOR UNIT
AOGA18-25FBTAH

This table is created using the maximum capacity.

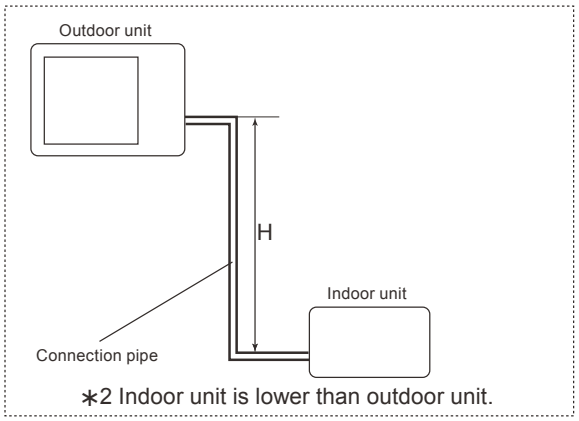
■ MODEL: AOGA25FBTAH

COOLING			Pipe length (m)					
			5	7.5	10	15	20	25
Height difference H (m)	∗1 Indoor unit is higher than outdoor unit	15	-	-	-	0.972	0.970	0.968
		10	-	-	0.979	0.975	0.973	0.971
		7.5	-	0.987	0.983	0.979	0.977	0.975
		5	0.997	0.992	0.988	0.984	0.982	0.980
		0	1.005	1.000	0.996	0.992	0.990	0.988
	∗2 Indoor unit is lower than outdoor unit	-5	1.005	1.000	0.996	0.992	0.990	0.988
		-7.5	-	1.000	0.996	0.992	0.990	0.988
		-10	-	-	0.996	0.992	0.990	0.988
		-15	-	-	-	0.992	0.990	0.988

Height difference H



∗1 Indoor unit is higher than outdoor unit.



∗2 Indoor unit is lower than outdoor unit.

OUTDOOR UNIT
AOGA18-25FBTAH

6. ADDITIONAL CHARGE CALCULATION

■ MODEL: AOGA18FBTAH

Refrigerant type		R410A
Refrigerant amount	g	1,500

● Refrigerant Charge

Total pipe length	m	7.5 or less	15	20(Max.)	20 g/m
Additional charge	g	0	150	250	

■ MODEL: AOGA25FBTAH

Refrigerant type		R410A
Refrigerant amount	g	1,800

● Refrigerant Charge

Total pipe length	m	7.5 or less	10	15	20	25 (Max.)	20g/m
Additional charge	g	0	50	150	250	350	

7. AIRFLOW

■ MODEL: AOGA18FBTAH

Airflow	
m^3/h	3,200
l/s	889
CFM	1,884

■ MODEL: AOGA25FBTAH

Airflow	
m^3/h	3,300
l/s	917
CFM	1,942

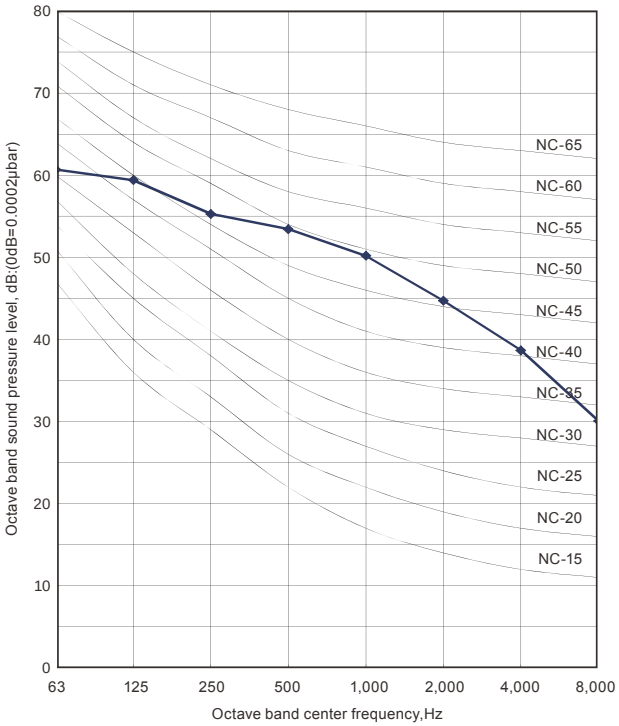
OUTDOOR UNIT
AOGA18-25FBTAH

8. OPERATION NOISE (SOUND PRESSURE)

8-1. NOISE LEVEL CURVE

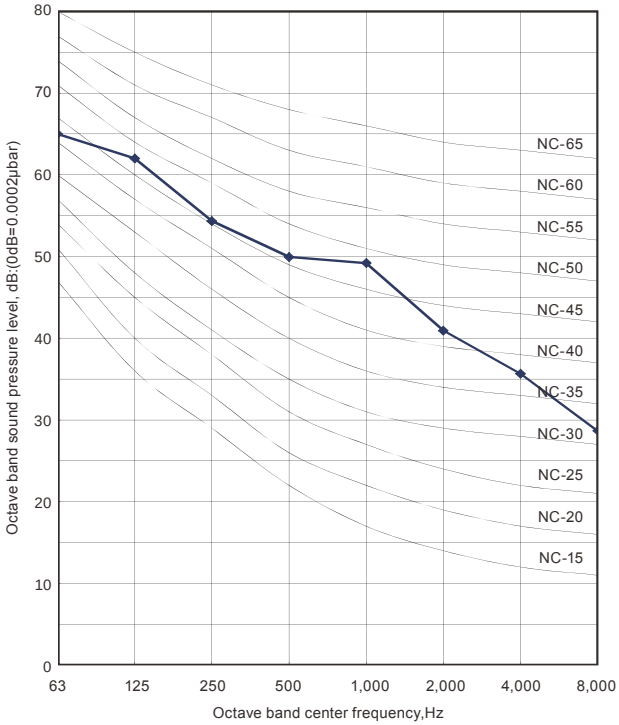
■ MODEL: AOGA18FBTAH

● Cooling



■ MODEL: AOGA25FBTAH

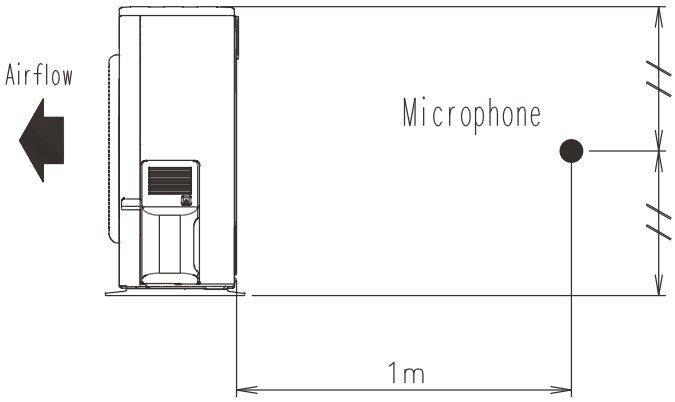
● Cooling

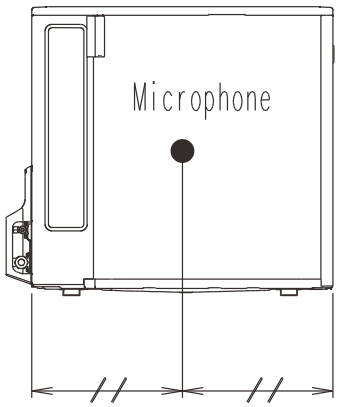


OUTDOOR UNIT
AOGA18-25FBTAH

8-2. SOUND LEVEL CHECK POINT

OUTDOOR UNIT
AOGA18-25FBTAH





OUTDOOR UNIT
AOGA18-25FBTAH

9. ELECTRIC CHARACTERISTICS

Model name				AOGA18FBTAH	AOGA25FBTAH
Power supply	Voltage		V	220 /240 ~	
	Frequency		Hz	50	
Max. operating current *1			A	13.5	16.7
Starting current			A	42	55
Wiring spec. *2	Circuit breaker current		A	20	30
	Power cable		mm^2	2.5 - 3.0	2.5 - 3.5
	Connection cable *3		mm^2	1.5 - 2.5	
		Limited wiring length	m	21	26

NOTES :

*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: Limit voltage drop to less than 2%. Increase conductor size if voltage drop is 2% or more.

OUTDOOR UNIT
AOGA18-25FBTAH

10. SAFETY DEVICES

	Protection form	Models	
		AOGA18FBTAH	AOGA25FBTAH
Fan motor protection	Thermal protection	OFF: 150 ± 5 °C ON: 96 ± 15 °C	
High pressure protection	Pressure switch	OFF: 4.9 ± 0.1 MPa ON: 3.8 ± 0.15 MPa	
Compressor protection	Over Load Protector	OFF: 160 - 165 °C ON: 90 ± 10 °C	

OUTDOOR UNIT
AOGA18-25FBTAH