GENERAL

REFRIGERANT R32
INVERTER

AIR CONDITIONER

Duct type

DESIGN & TECHNICAL MANUAL

INDOOR		ARXG45KHTB ARXG54KHTB
OUTDOOR		AOHG45KBTB AOHG54KBTB

FUJITSU GENERAL LIMITED

DR_AR063EG_03
2023.12.18

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- For further details, please check with our authorized dealer.

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Part 1. INDOOR UNIT

DUCT TYPE:

ARXG45KHTB
ARXG54KHTB

DUCT TYPE
ARXG45, 54KHTA

1. Specifications

Type					Duct	
					Inverter heat pump	
Model name					ARXG45KHTB	ARXG54KHTB
Power supply					230 V ~ 50 Hz	
Power supply intake					Outdoor unit	
Available voltage range					198—264 V	
Capacity	Cooling	Rated		kW	12.1	13.4
				Btu/h	41,300	45,700
		Min.—Max.		kW	4.0—14.0	5.0—14.5
				Btu/h	13,600—47,800	17,100—49,400
	Heating	Rated		kW	13.5	15.5
				Btu/h	46,100	52,900
		Min.—Max.		kW	5.0—16.2	5.5—18.0
				Btu/h	17,100—55,300	18,800—61,400
Input power	Cooling	Rated		kW	4.16	4.77
		Max.			5.22	5.59
	Heating	Rated			3.61	4.18
		Max.			5.07	5.67
Current	Cooling	Rated		A	18.2	20.9
	Heating	Rated			15.8	18.3
Power factor	Cooling			%	99.2	99.3
	Heating				99.2	99.3
EER		Cooling		kW/kW	2.91	2.81
COP		Heating			3.74	3.71
Moisture removal				L/h (pints/h)	1.5 (2.6)	2.0 (3.5)
Maximum operating current*1		Cooling		A	28.5	
		Heating			28.5	
Fan	Airflow rate	Cooling	HIGH	m^3/h	3,350	
			MED		2,850	
			LOW		2,430	
		Heating	HIGH		3,350	
			MED		2,850	
			LOW		2,430	
	Type × Q'ty				Sirocco fan × 2	
	Motor output			W	490	
Static pressure range				Pa	100 to 250	
Sound pressure level*2		Cooling	HIGH	dB (A)	47	
			MED		43	
			LOW		40	
		Heating	HIGH		47	
			MED		43	
			LOW		40	
Heat exchanger type		Dimensions (H × W × D)		mm	336 × 890 × 53.2	
		Fin pitch			1.3	
		Rows × Stages			4 × 16	
		Pipe type			Copper	
		Fin type			Aluminum	
Enclosure		Material			Steel sheet	
		Color			—	
Dimensions (H × W × D)		Net		mm	400 × 1,050 × 500	
		Gross			460 × 1,230 × 640	
Weight		Net		kg	46	
		Gross			51	
Connection pipe		Size	Liquid	mm (in)	Ø9.52 (3/8)	
			Gas		Ø15.88 (5/8)	
		Method			Flare	
Operation range		Cooling		°C	18 to 32	
				%RH	80 or less	
		Heating		°C	16 to 30	
Drain port		Material			Steel	
		Size		mm	Ø23.4 (I.D.), Ø25.4 (O.D.)	
Remote control (Option)					Wired remote controller, Wireless remote controller, Simple remote controller, IR Receiver Unit, Mobile app*3 (FGLair™)	

NOTES:

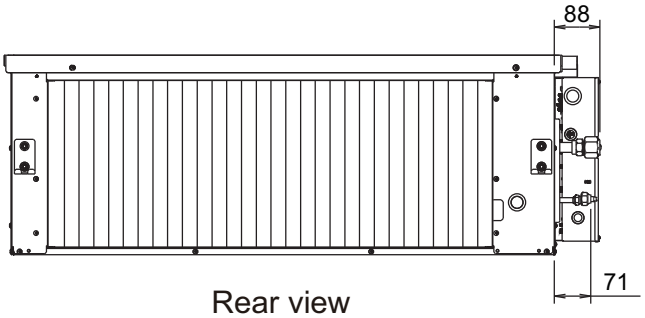
- Specifications are based on the following conditions:
  - Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB.
  - Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB.
  - Pipe length: 5 m, Height difference: 0 m. (Between outdoor unit and indoor unit.)
  - Standard static pressure: 100 Pa
- Protective function might work when using it outside the operation range.
- *1: Maximum operating current is the total current of the indoor unit and the outdoor unit.
- *2: Sound pressure level:
  - Measured values in manufacturer's anechoic chamber.
  - Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.
- *3: Available on Google Play™ store or on App Store®. Optional WLAN Adapter is also required. For details, refer to the setting manual.

DUCT TYPE
ARXG45, 54KHTA

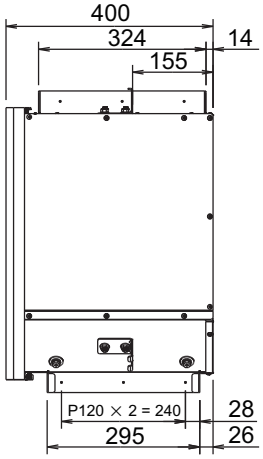
2. Dimensions

2-1. Models: ARXG45KHTB and ARXG54KHTB

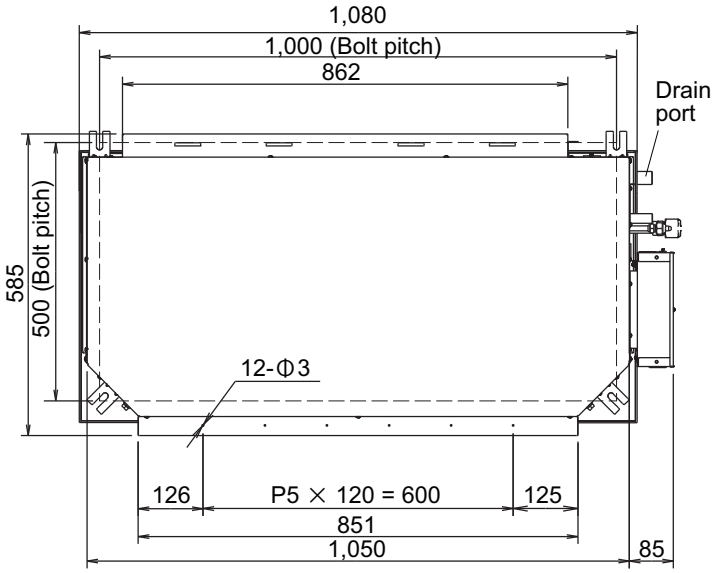
Unit: mm



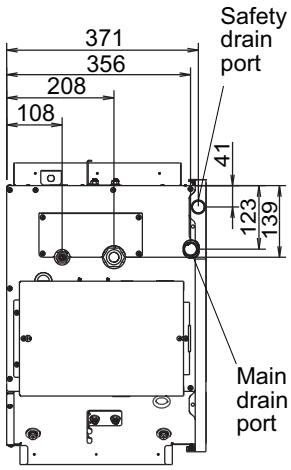
Rear view



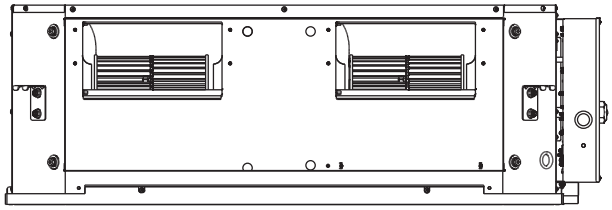
Side view (L)



Top view



Side view (R)



Front view

DUCT TYPE
ARXG45, 54KHTA

2-2. Installation space requirement

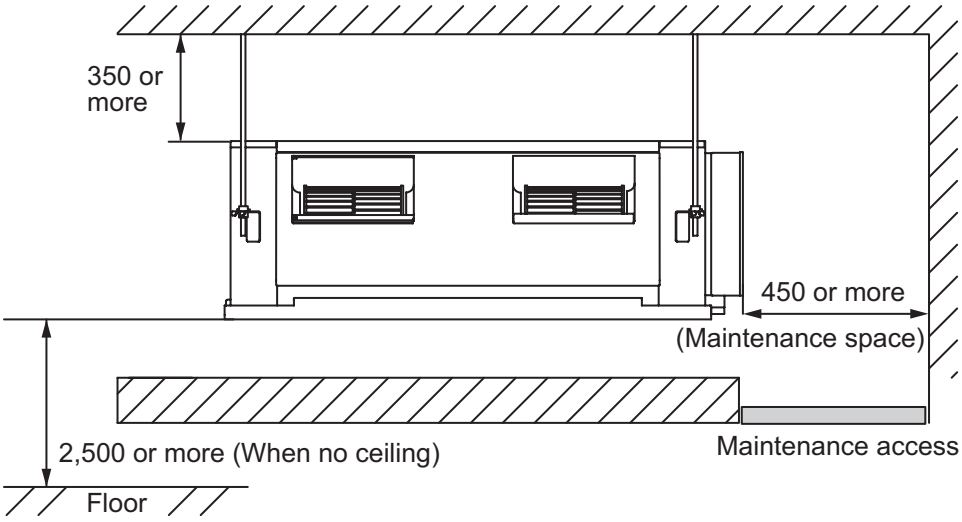
Provide sufficient installation space for product safety.

NOTE: The detailed component shape depends on the model.

■ Models: ARXG45KHTB and ARXG54KHTB

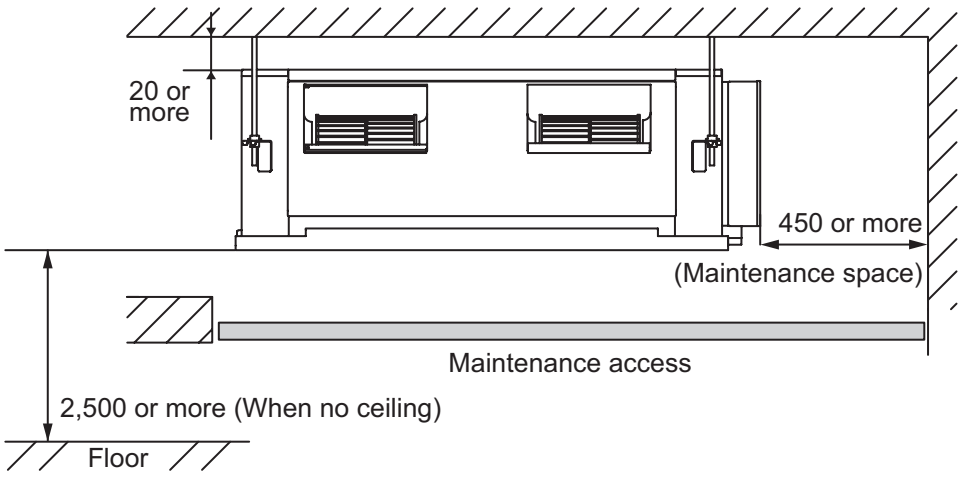
Installation by which maintenance space is mode on top of the unit (recommended).

Unit: mm



Installation by which maintenance space is carried out from the bottom of the unit.

Unit: mm



DUCT TYPE
ARXG45, 54KHTA

2-3. Maintenance space requirement

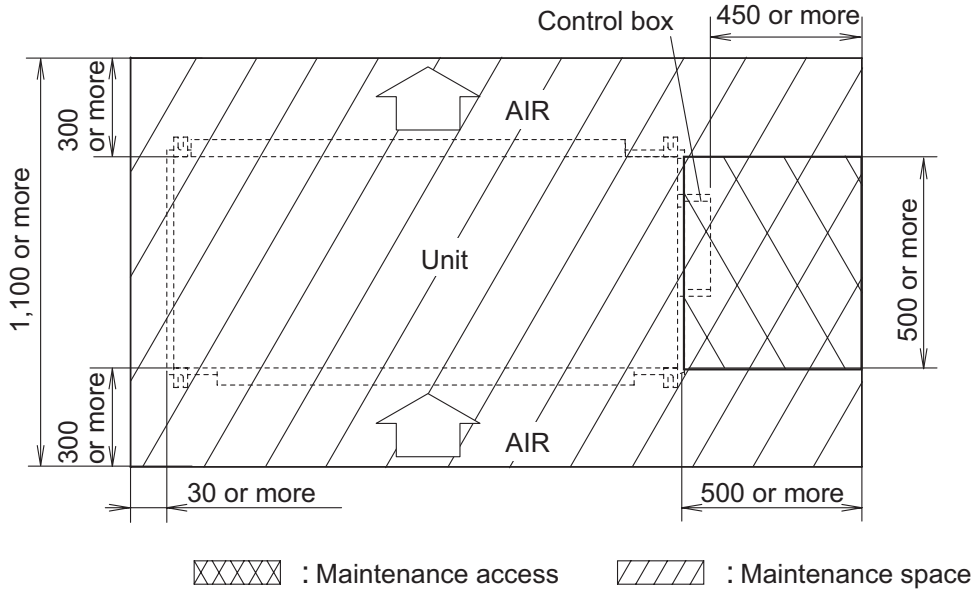
For future maintenance and maintenance access, provide sufficient maintenance space.

NOTES:

- Do not place any wiring or illumination in the maintenance space, as they will impede service.
- The detailed component shape depends on the model.

■ Models: ARXG45KHTB and ARXG54KHTB

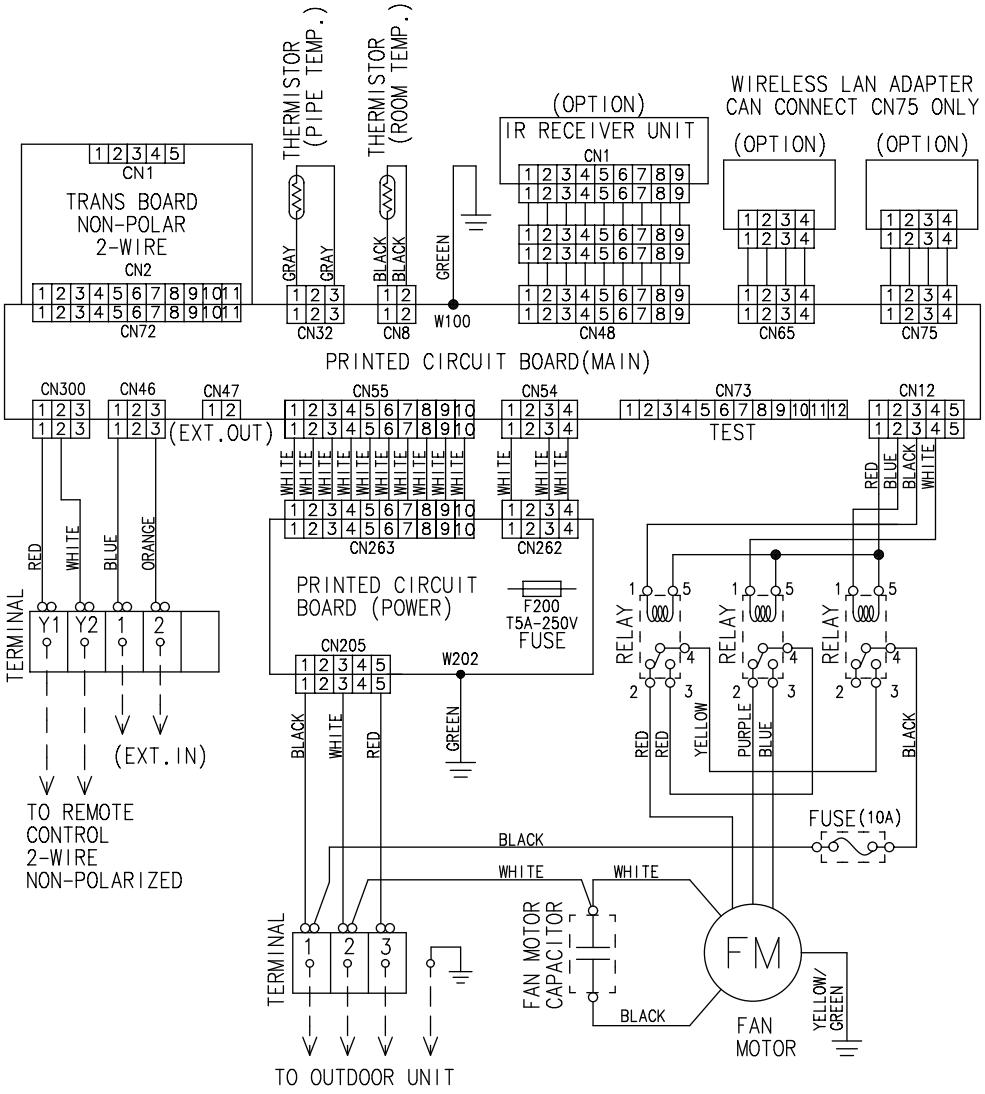
Unit: mm



: Maintenance access : Maintenance space

3. Wiring diagrams

3-1. Models: ARXG45KHTB and ARXG54KHTB



DUCT TYPE
ARXG45, 54KHTA

4. Capacity table

Capacity tables show each of following values calculated based on the outdoor temperature and the indoor temperature, under given Airflow Rate (AFR):

For cooling capacity: Total Capacity (TC), Sensible Heat Capacity (SHC), and Input Power (IP)
For heating capacity: Total Capacity (TC) and Input Power (IP)

4-1. Cooling capacity

■ ARXG45KHTB

AFR	m^3/h	3,350

		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
		kW			kW			kW			kW			kW			kW			kW		
	-15	8.48	7.52	1.67	9.20	7.90	1.71	9.68	8.15	1.74	10.16	8.49	1.76	10.64	8.83	1.78	11.08	9.00	1.78	11.75	9.24	1.78
	-10	8.56	7.56	1.70	9.29	7.94	1.74	9.77	8.19	1.76	10.26	8.53	1.79	10.74	8.88	1.81	11.19	9.04	1.81	11.86	9.29	1.81
	0	8.73	7.63	1.75	9.47	8.02	1.79	9.96	8.27	1.82	10.46	8.62	1.84	10.95	8.96	1.87	11.41	9.13	1.87	12.09	9.38	1.87
	5	8.57	7.56	1.80	9.30	7.94	1.84	9.78	8.19	1.86	10.27	8.54	1.89	10.76	8.88	1.92	11.20	9.05	1.92	11.88	9.29	1.92
	10	8.42	7.49	1.84	9.13	7.87	1.88	9.61	8.12	1.91	10.08	8.46	1.94	10.56	8.80	1.96	11.00	8.96	1.96	11.66	9.21	1.96
	15	8.27	7.37	1.89	8.98	7.74	1.94	9.45	7.99	1.96	9.91	8.32	1.99	10.38	8.66	2.02	10.82	8.82	2.02	11.47	9.05	2.02
	20	11.05	9.41	3.54	11.99	9.88	3.62	12.61	10.20	3.67	13.24	10.62	3.72	13.86	11.05	3.78	14.44	11.25	3.78	15.31	11.56	3.78
	25	10.58	9.17	3.66	11.48	9.63	3.74	12.08	9.94	3.80	12.68	10.36	3.85	13.28	10.77	3.90	13.83	10.97	3.90	14.66	11.27	3.90
	30	10.11	8.94	3.78	10.97	9.39	3.86	11.54	9.68	3.92	12.12	10.09	3.98	12.69	10.49	4.03	13.22	10.69	4.03	14.01	10.98	4.03
	35	9.64	8.70	3.90	10.46	9.14	3.99	11.01	9.43	4.04	11.55	9.82	4.10	12.10	10.22	4.16	12.61	10.40	4.16	13.36	10.69	4.16
	40	8.22	7.68	3.51	8.92	8.06	3.59	9.38	8.32	3.64	9.85	8.67	3.70	10.32	9.02	3.75	10.75	9.18	3.75	11.39	9.43	3.75
	46	6.51	6.45	3.05	7.07	6.78	3.12	7.44	6.99	3.16	7.80	7.28	3.21	8.17	7.58	3.25	8.51	7.72	3.25	9.03	7.93	3.25

■ ARXG54KHTB

AFR	m^3/h	3,350

		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
		kW			kW			kW			kW			kW			kW			kW		
	-15	9.58	8.34	1.89	10.39	8.76	1.93	10.94	9.04	1.96	11.48	9.42	1.99	12.02	9.80	2.02	12.52	9.98	2.02	13.28	10.25	2.02
	-10	9.61	8.34	1.91	10.42	8.76	1.95	10.97	9.04	1.98	11.51	9.42	2.01	12.06	9.80	2.03	12.56	9.99	2.03	13.32	10.26	2.03
	0	9.66	8.35	1.94	10.48	8.77	1.98	11.03	9.05	2.01	11.58	9.43	2.04	12.13	9.81	2.07	12.63	10.00	2.07	13.39	10.27	2.07
	5	9.49	8.23	1.99	10.30	8.65	2.03	10.84	8.93	2.06	11.37	9.30	2.09	11.91	9.68	2.12	12.41	9.86	2.12	13.15	10.13	2.12
	10	9.32	8.12	2.04	10.11	8.53	2.08	10.64	8.80	2.11	11.17	9.17	2.14	11.70	9.54	2.17	12.18	9.72	2.17	12.92	9.98	2.17
	15	9.16	7.98	2.10	9.94	8.39	2.14	10.46	8.66	2.17	10.98	9.02	2.21	11.50	9.38	2.24	11.98	9.56	2.24	12.70	9.82	2.24
	20	12.24	10.29	4.06	13.27	10.81	4.15	13.97	11.16	4.21	14.66	11.63	4.27	15.35	12.10	4.33	16.00	12.32	4.33	16.96	12.66	4.33
	25	11.72	10.03	4.20	12.71	10.54	4.29	13.38	10.88	4.35	14.04	11.33	4.41	14.70	11.79	4.48	15.32	12.01	4.48	16.24	12.34	4.48
	30	11.20	9.77	4.33	12.15	10.27	4.43	12.78	10.60	4.49	13.42	11.04	4.56	14.05	11.49	4.62	14.64	11.70	4.62	15.52	12.02	4.62
	35	10.68	9.51	4.47	11.59	9.99	4.57	12.19	10.32	4.64	12.80	10.75	4.70	13.40	11.18	4.77	13.96	11.39	4.77	14.80	11.70	4.77
	40	9.10	8.41	4.03	9.88	8.84	4.12	10.39	9.12	4.18	10.91	9.50	4.24	11.42	9.89	4.30	11.90	10.07	4.30	12.62	10.35	4.30
	46	7.21	7.09	3.50	7.83	7.45	3.57	8.23	7.69	3.63	8.64	8.01	3.68	9.05	8.34	3.73	9.43	8.49	3.73	10.00	8.72	3.73

DUCT TYPE
ARXG45, 54KHTA

4-2. Heating capacity

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

■ ARXG45KHTB

AFR	m^3/h	3,350

			Indoor temperature									
		°CDB	16		18		20		22		24	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
Outdoor temperature	-15	-16	12.04	4.43	11.75	4.45	11.46	4.48	11.19	4.48	10.53	4.48
	-10	-11	13.37	4.62	13.05	4.64	12.73	4.67	12.43	4.67	11.69	4.67
	-5	-7	14.70	4.81	14.35	4.83	14.00	4.86	13.67	4.86	12.86	4.86
	0	-2	15.48	4.99	15.11	5.02	14.74	5.05	14.40	5.05	13.54	5.05
	5	3	16.57	4.84	16.18	4.86	15.78	4.89	15.42	4.89	14.50	4.89
	7	6	17.01	4.83	16.61	4.85	16.20	4.88	15.82	4.88	14.88	4.88
	10	8	17.72	4.82	17.29	4.84	16.87	4.87	16.48	4.87	15.50	4.87
	15	10	18.89	4.80	18.44	4.83	17.99	4.85	17.57	4.85	16.53	4.85
	20	15	20.07	4.78	19.59	4.81	19.11	4.83	18.66	4.83	17.55	4.83
	24	18	21.01	4.77	20.50	4.80	20.00	4.82	19.54	4.82	18.38	4.82

■ ARXG54KHTB

AFR	m^3/h	3,350

			Indoor temperature									
		°CDB	16		18		20		22		24	
	°CDB	°CWB	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
			kW		kW		kW		kW		kW	
Outdoor temperature	-15	-16	12.95	5.16	12.65	5.19	12.34	5.22	12.05	5.22	11.33	5.22
	-10	-11	14.39	5.38	14.04	5.41	13.70	5.44	13.38	5.44	12.59	5.44
	-5	-7	15.82	5.60	15.44	5.63	15.07	5.66	14.72	5.66	13.84	5.66
	0	-2	17.20	5.82	16.79	5.85	16.38	5.88	16.00	5.88	15.05	5.88
	5	3	18.42	5.20	17.98	5.23	17.54	5.26	17.13	5.26	16.11	5.26
	7	6	18.90	5.20	18.45	5.22	18.00	5.25	17.58	5.25	16.54	5.25
	10	8	19.69	5.18	19.22	5.21	18.75	5.24	18.31	5.24	17.22	5.24
	15	10	20.99	5.17	20.49	5.19	19.99	5.22	19.52	5.22	18.36	5.22
	20	15	22.30	5.15	21.76	5.17	21.23	5.20	20.74	5.20	19.50	5.20
	24	18	23.34	5.13	22.78	5.16	22.23	5.19	21.71	5.19	20.42	5.19

DUCT TYPE
ARXG45, 54KHTA

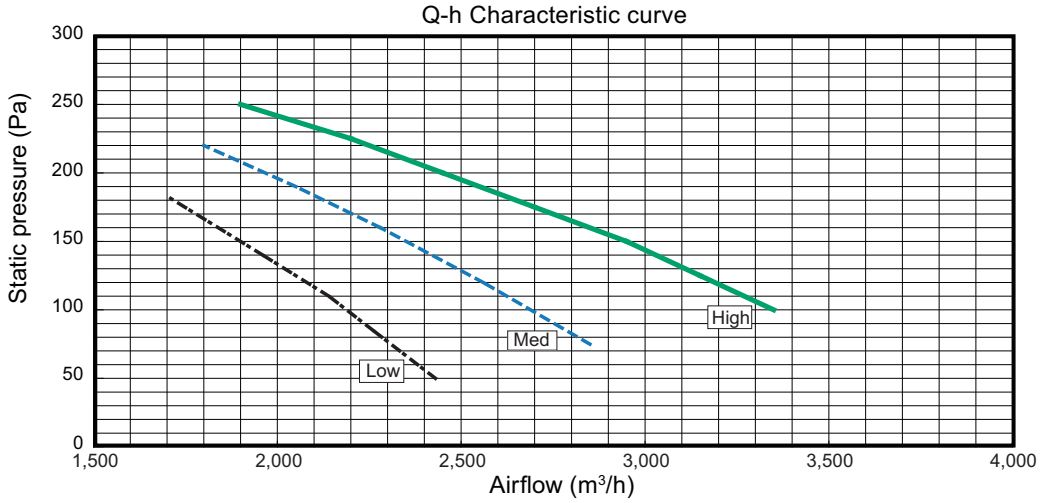
5. Fan performance

NOTE: Airflow and capacity/outlet temperature curve data are measured based on the same conditions mentioned in "Specifications".

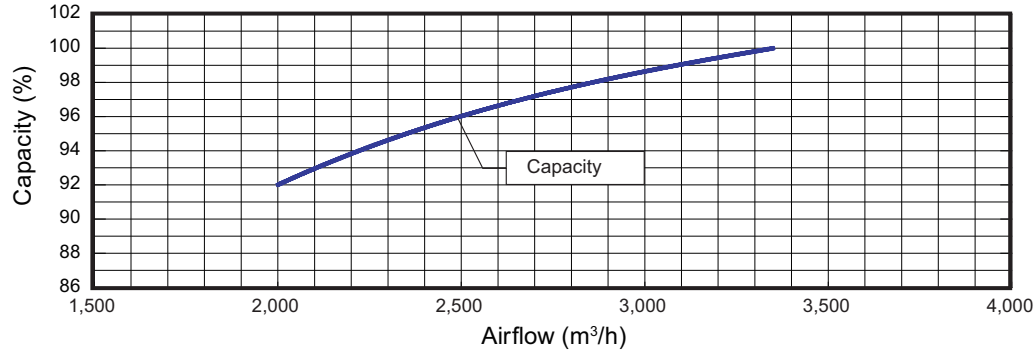
5-1. Fan performance curve

■ ARXG45KHTB

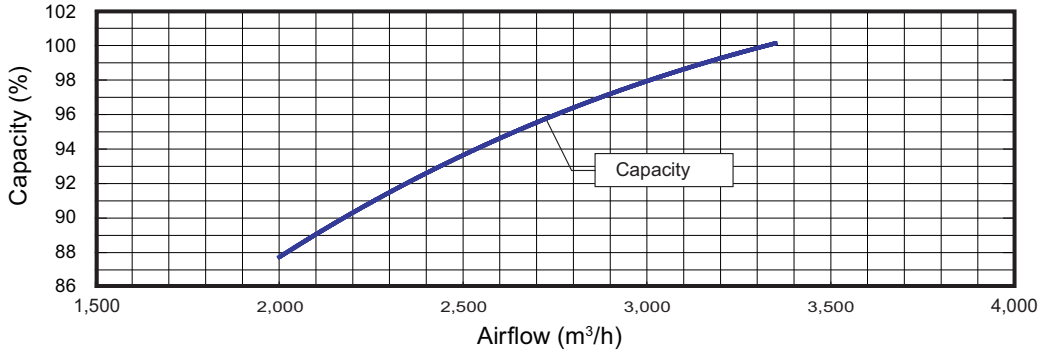
			Static pressure (Pa)								
			50	75	100	125	150	175	200	225	250
Fan speed	HIGH	m3/h	—	—	3,350	3,150	2,950	2,700	2,450	2,280	1,900
		l/s	—	—	931	875	819	750	681	633	528
		CFM	—	—	1,972	1,854	1,736	1,589	1,442	1,342	1,118
	MED	m3/h	—	2,850	2,700	2,520	2,350	2,160	1,970	1,750	—
		l/s	—	792	750	700	653	600	547	486	—
		CFM	—	1,677	1,589	1,483	1,383	1,271	1,159	1,030	—
	LOW	m3/h	2,430	2,310	2,180	2,050	1,900	1,750	—	—	—
		l/s	675	642	606	569	528	486	—	—	—
		CFM	1,430	1,360	1,283	1,207	1,118	1,030	—	—	—



- **Cooling**



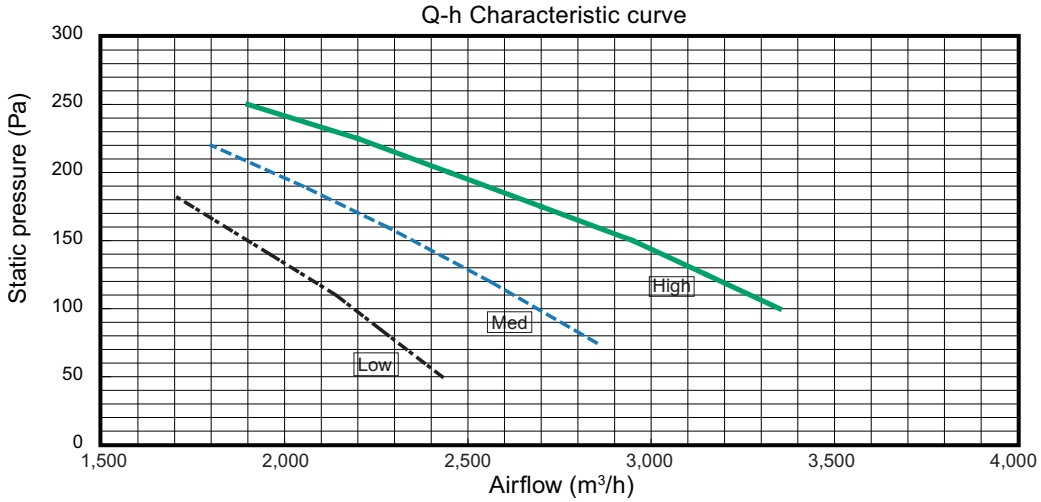
- **Heating**



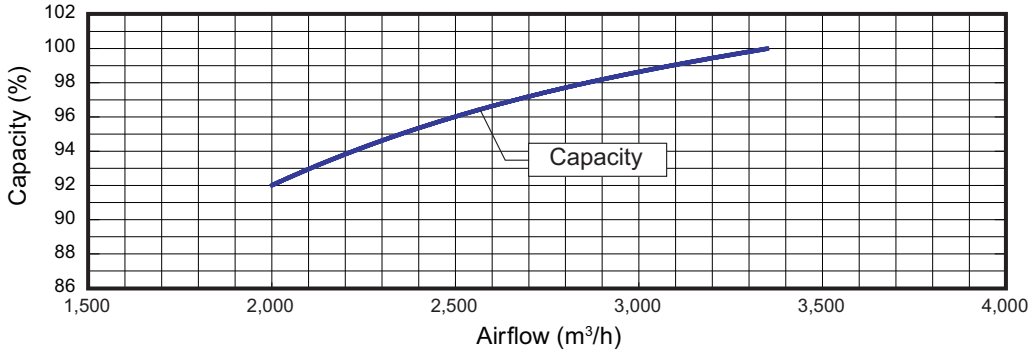
DUCT TYPE
ARXG45, 54KHTA

■ ARXG54KHTB

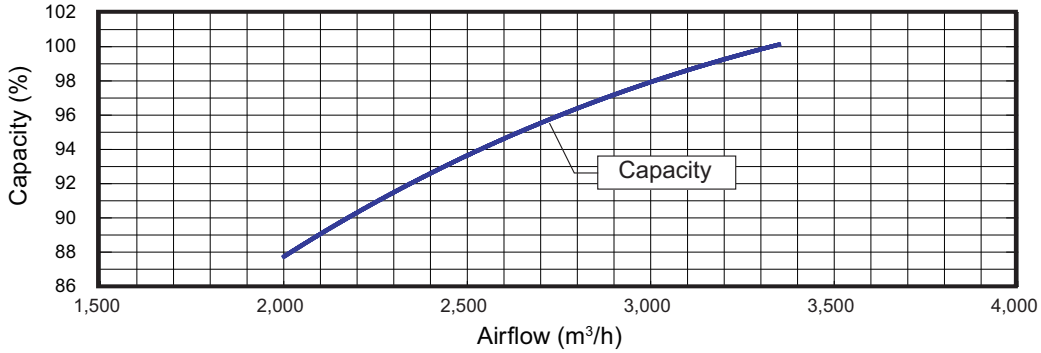
			Static pressure (Pa)								
			50	75	100	125	150	175	200	225	250
Fan speed	HIGH	m3/h	—	—	3,350	3,150	2,950	2,700	2,450	2,280	1,900
		l/s	—	—	931	875	819	750	681	633	528
		CFM	—	—	1,972	1,854	1,736	1,589	1,442	1,342	1,118
	MED	m3/h	—	2,850	2,700	2,520	2,350	2,160	1,970	1,750	—
		l/s	—	792	750	700	653	600	547	486	—
		CFM	—	1,677	1,589	1,483	1,383	1,271	1,159	1,030	—
	LOW	m3/h	2,430	2,310	2,180	2,050	1,900	1,750	—	—	—
		l/s	675	642	606	569	528	486	—	—	—
		CFM	1,430	1,360	1,283	1,207	1,118	1,030	—	—	—



- **Cooling**



- **Heating**



DUCT TYPE
ARXG45, 54KHTA

5-2. Airflow

■ Models: ARXG45KHTB and ARXG54KHTB

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	3,350
	l/s	931
	CFM	1,972
MED	m^3/h	2,850
	l/s	792
	CFM	1,678
LOW	m^3/h	2,430
	l/s	675
	CFM	1,430

● Heating

Fan speed	Airflow	
HIGH	m^3/h	3,350
	l/s	931
	CFM	1,972
MED	m^3/h	2,850
	l/s	792
	CFM	1,678
LOW	m^3/h	2,430
	l/s	675
	CFM	1,430

DUCT TYPE
ARXG45, 54KHTA

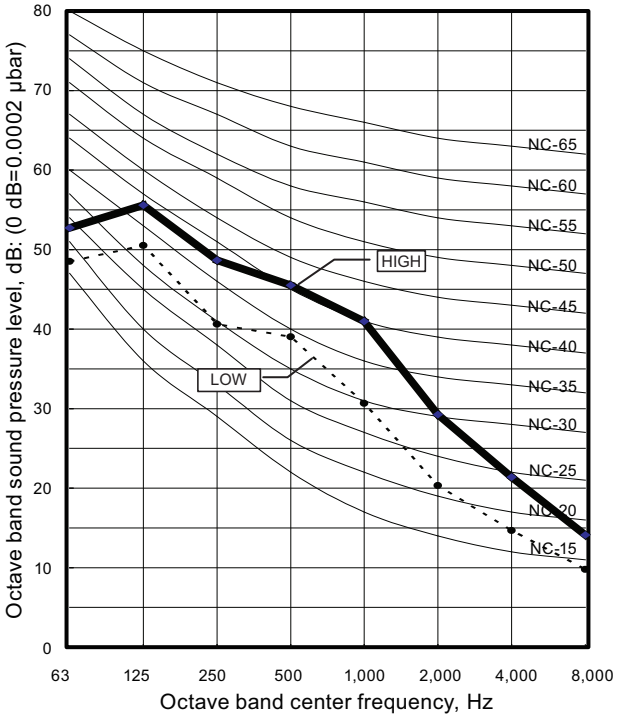
6. Operation noise (sound pressure)

6-1. Noise level curve

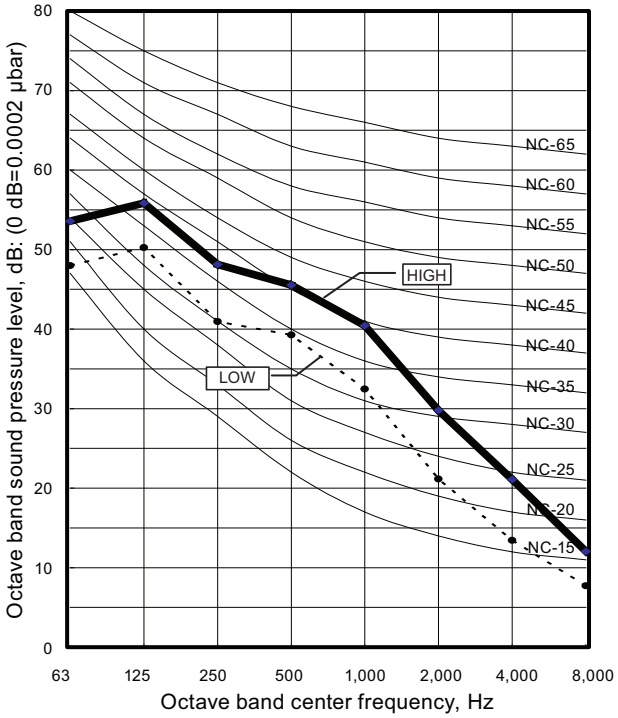
Measuring conditions	Static pressure	Static pressure mode
	100 Pa	Normal

■ Model: ARXG45KHTB

● Cooling

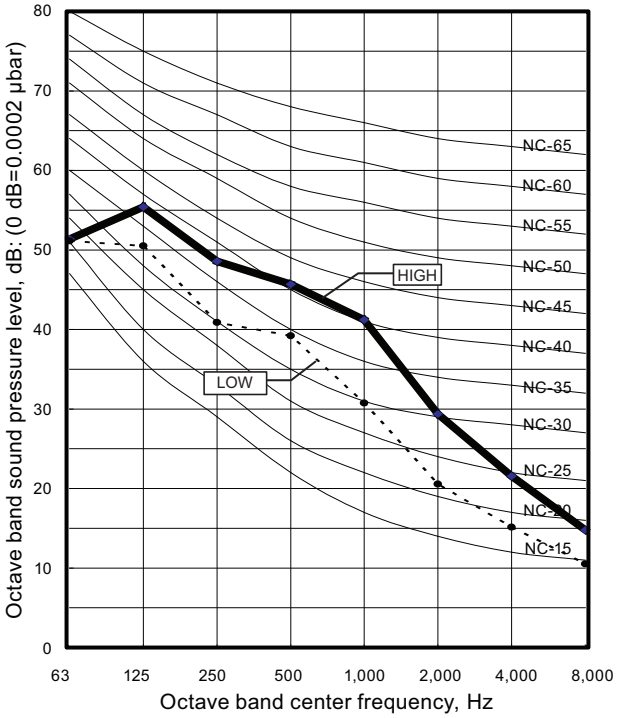


● Heating

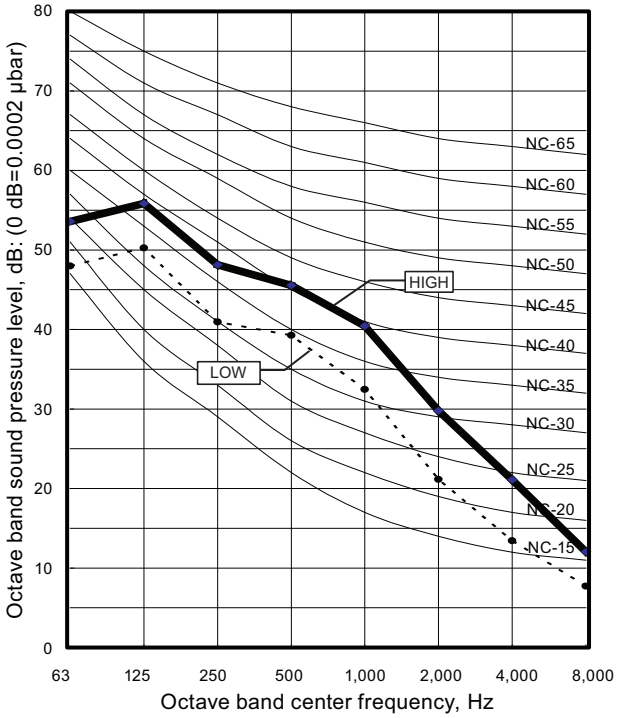


■ Model: ARXG54KHTB

● Cooling

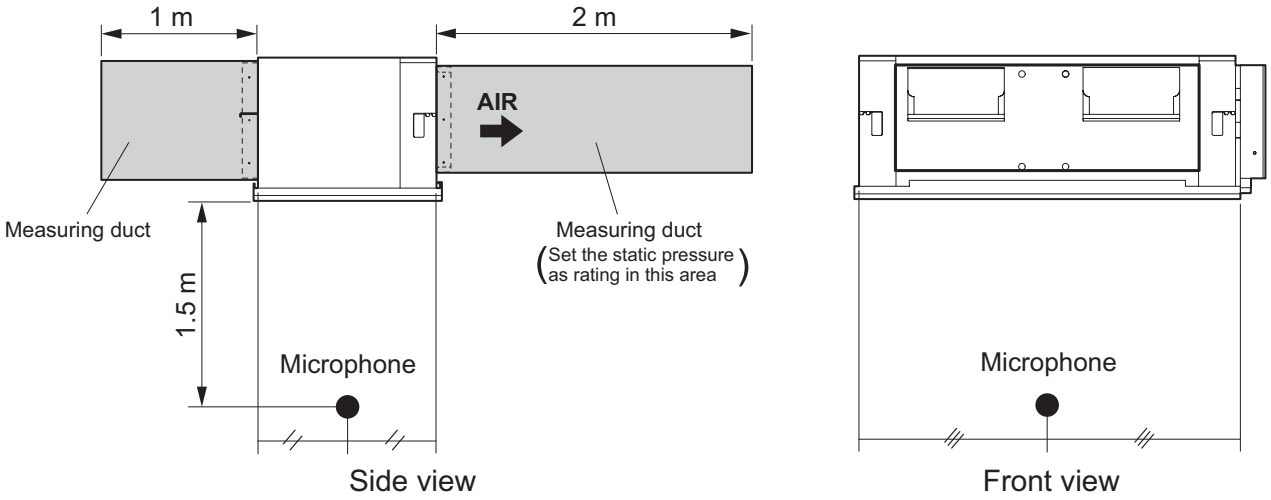


● Heating



DUCT TYPE
ARXG45, 54KHTA

6-2. Sound level check point



DUCT TYPE
ARXG45, 54KHTA

7. Safety devices

Type of protection	Protection form		Model	
			ARXG45KHTB	ARXG54KHTB
Circuit protection	Current fuse (PCB*)		250 V, 5 A	
Fan motor protection	Current fuse		250 V, 10 A	
	Thermal protector	Activate	145±5 °C Fan motor stop	
		Reset	93±15 °C Fan motor restart	

*: Printed Circuit Board

DUCT TYPE
ARXG45, 54KHTA

8. External input and output

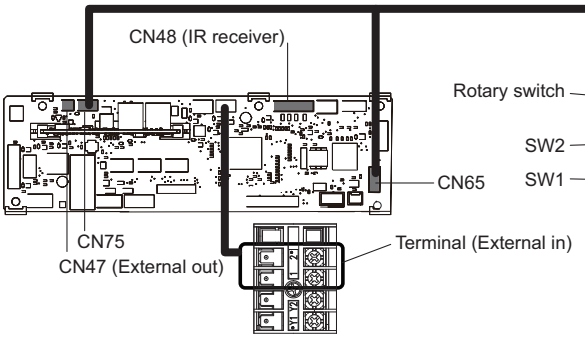


Fig. Indoor unit PCB

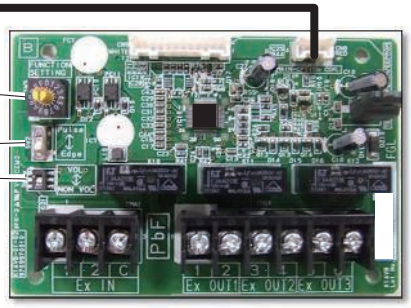


Fig. External Input and Output PCB

Connecting point		Input/Output	Function	Input select	Input signal
Indoor unit	Terminal	Input	Operation/Stop Forced stop	Dry contact	Edge
	CN47	Output	Operation status	—	—
			Error status		
			Indoor unit fan operation status		
			External heater output		
External input and output PCB (UTY-XCSX)	Ex IN 1/2	Input	Operation/Stop	Dry contact/Apply voltage	Edge/Pulse
	Ex IN 1		Forced thermostat off		Edge
	Ex OUT 1 Ex OUT 2 Ex OUT 3	Output	Operation status	—	—
			Error status		
			Indoor unit fan operation status		
			External heater output		

NOTE: For details of the switching function, refer to "Setting of external input and output" on page 19.

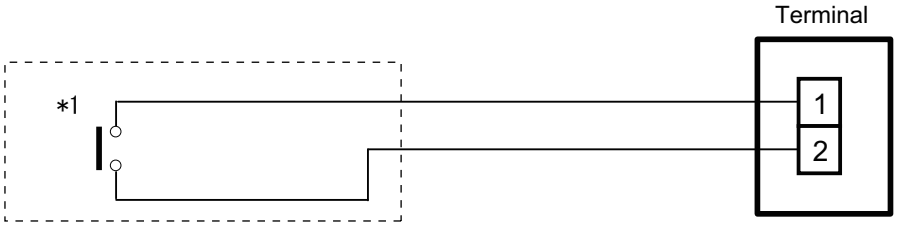
DUCT TYPE
ARXG45, 54KHTA

8-1. External input

- “Operation/Stop” mode or "Forced stop" mode can be selected with function setting of indoor unit.
- A twisted pair cable should be used. Maximum length of cable is 150 m.
- Use an external input and output cable with appropriate external dimension, depending on the number of cables to be installed.
- The wire connection should be separate from the power cable line.

■ Indoor unit

Indoor unit functions such as Operation/Stop can be done by using indoor unit terminals.

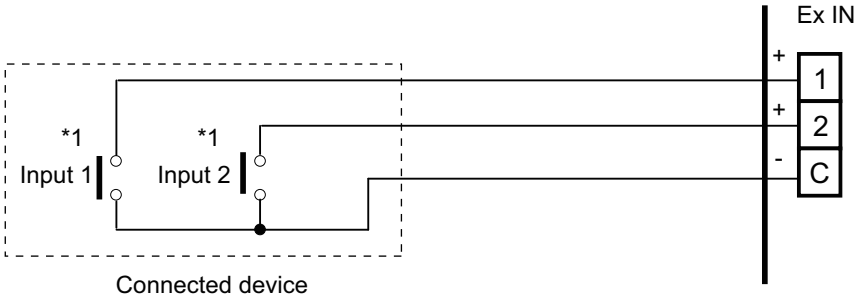


*1: The switch can be used on the following condition: DC 12 V to 24 V, 1 mA to 15 mA.

■ External input and output PCB

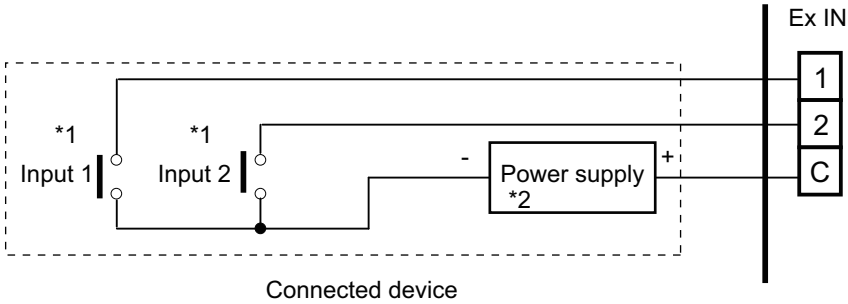
The indoor unit Operation/Stop can be set by using the input terminal on the PCB.

- **Input select**
  Use either one of these types of terminals according to the application. (Both types of terminals cannot be used simultaneously.)
  – **Dry contact**
  In case of internal power supply, set the slide switch of SW1 to "NON VOL" side.



*1: The switches can be used on the following condition: DC 12 V to 24 V, 1 mA to 15 mA.

  – **Apply voltage**
  In case of external power supply, set the slide switch of SW1 to "VOL" side.

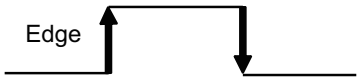


*1: The switches can be used on the following condition: DC 12 V to 24 V, 1 mA to 15 mA.
*2: Make the power supply DC 12 V to 24 V, 10 mA or more.

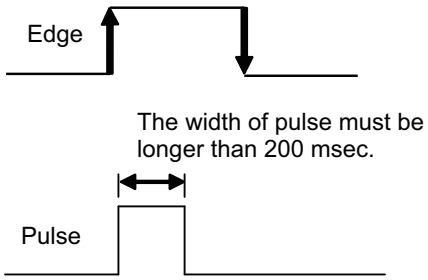
DUCT TYPE
ARXG45, 54KHTA

■ Input signal type

- **Indoor unit**
  Input signal type is only "Edge".



- **External input and output PCB**
  The input signal type can be selected.
  Signal type (edge or pulse) can be switched by the DIP switch 2 (SW2) on the External input and output PCB.



NOTE: The input signal supports the following switch type:
- Edge: Alternate type switch
- Pulse: Momentary type switch

DUCT TYPE
ARXG45, 54KHTA

8-2. External output

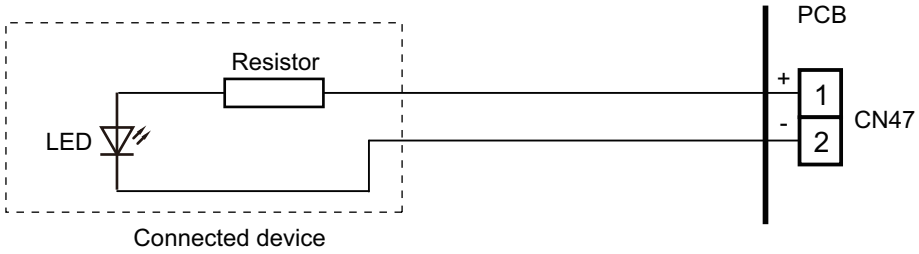
Use an external output cable with appropriate external dimension, depending on the number of cables to be installed.

■ Indoor unit

- A twisted pair cable (22 AWG) should be used. Maximum length of cable is 25 m.
- Output voltage: High DC 12 V ±2 V, Low 0 V.
- Permissible current: 50 mA
- For details, refer to "Setting of external input and output" on page 19.

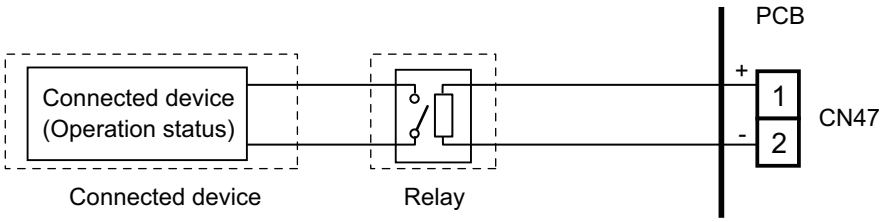
- **When indicator, etc. are connected directly**

Example: Function setting number 60 is set to "00"



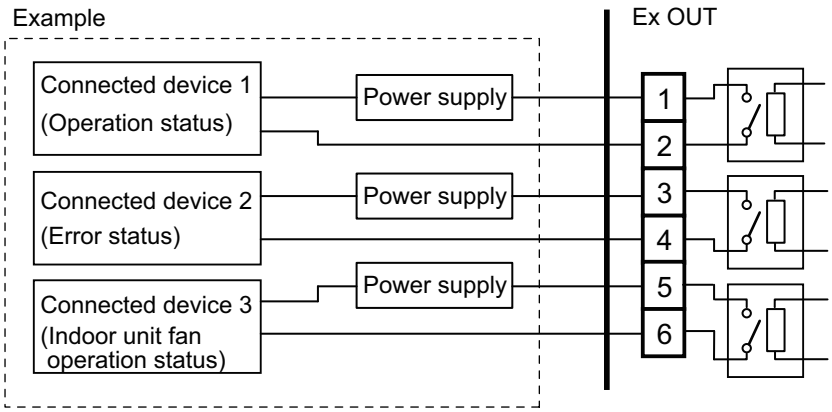
- **When connecting with a device equipped with a power supply**

Example: Function setting number 60 is set to "00"



■ External input and output PCB

- A twisted pair cable (22 AWG) should be used.
- Permissible voltage and current: DC 5 V to 30 V/3 A, AC 30 V to 250 V/3 A
- For details, refer to "Setting of external input and output" on page 19.



DUCT TYPE
ARXG45, 54KHTA

8-3. Setting of external input and output

- **Indoor unit**

Input		
Connection point	**Function setting number 46**	**Function**
Terminal	00	Operation/Stop mode 1
	01	(Setting prohibited)
	02	Forced stop mode
	03	Operation/Stop mode 2

Output		
Connection point	**Function setting number 60**	**Function**
CN47	00	Operation status
	01 to 08	(Setting prohibited)
	09	Error status
	10	Indoor unit fan status
	11	External heater output

- **External input and output PCB**

Switch setting		Input		Output		
Rotary switch	**SW2**	**Ex IN 1**	**Ex IN 2**	**Ex OUT 1**	**Ex OUT 2**	**Ex OUT 3**
1	Edge	Operation/Stop	Not available	Operation status	Error status	Indoor unit fan status
	Pulse	Operation	Stop			
2	Edge*	Forced thermostat off	Not available	Error status	Indoor unit fan operation status	External heater output
3 to 9, A		(Setting prohibited)				
B		Forced thermostat off	Not available	Operation status	Indoor unit fan operation status	External heater output
C		Forced thermostat off	Not available	Operation status	Error status	External heater output
D		Forced thermostat off	Not available	Operation status	Indoor unit fan operation status	Error status

NOTES:

- When the rotary switch is selected to “1", the operation of the terminal block input of the indoor unit and the External input and output PCB input are the same. The operation content depends on the setting of function setting number 46.
- *: The external input other than “Operation/Stop” is available only when the SW2 is set to “Edge”.

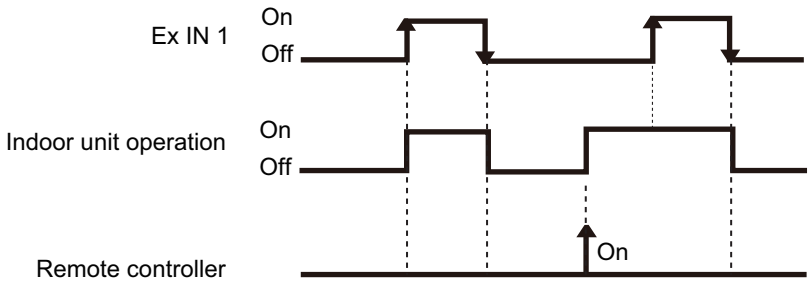
DUCT TYPE
ARXG45, 54KHTA

8-4. Details of control input function

■ Operation/Stop mode 1

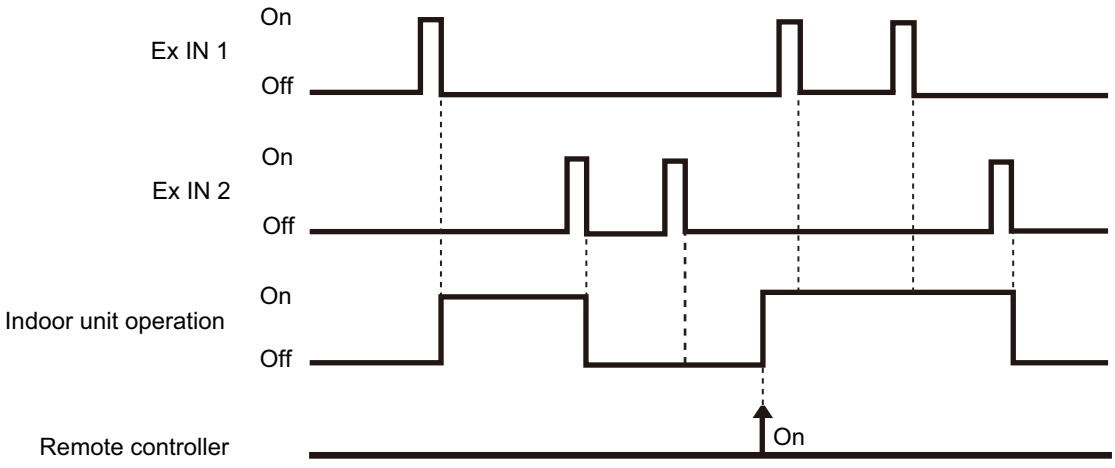
- **In the case of "Edge" input**

Function setting	External input and output PCB		External input		Input signal	Command
	Rotary switch	SW2				
46-00	—		Input of indoor unit	Terminal	Off → On	Operation
					On → Off	Stop
	1	Edge	External input and output PCB	Ex IN 1	Off → On	Operation
					On → Off	Stop



- **In the case of "Pulse" input**

Function setting	External input and output PCB		External input		Input signal	Command
	Rotary switch	SW2				
46-00	1	Pulse	External input and output PCB	Ex IN 1	Pulse	Operation
				Ex IN 2		Stop



NOTES:

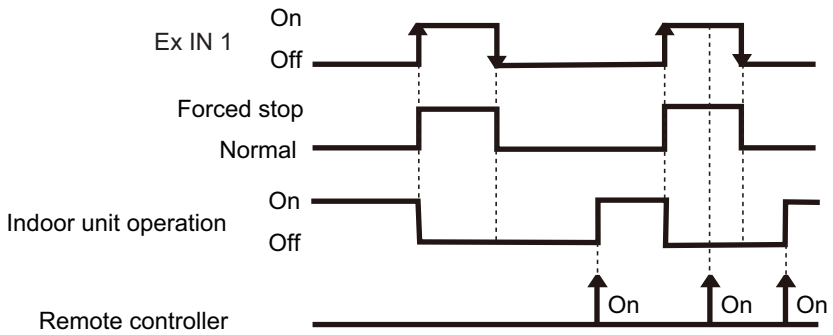
- The last command has priority.
- The indoor units within the same remote controller group operates in the same mode.

DUCT TYPE
ARXG45, 54KHTA

■ Forced stop

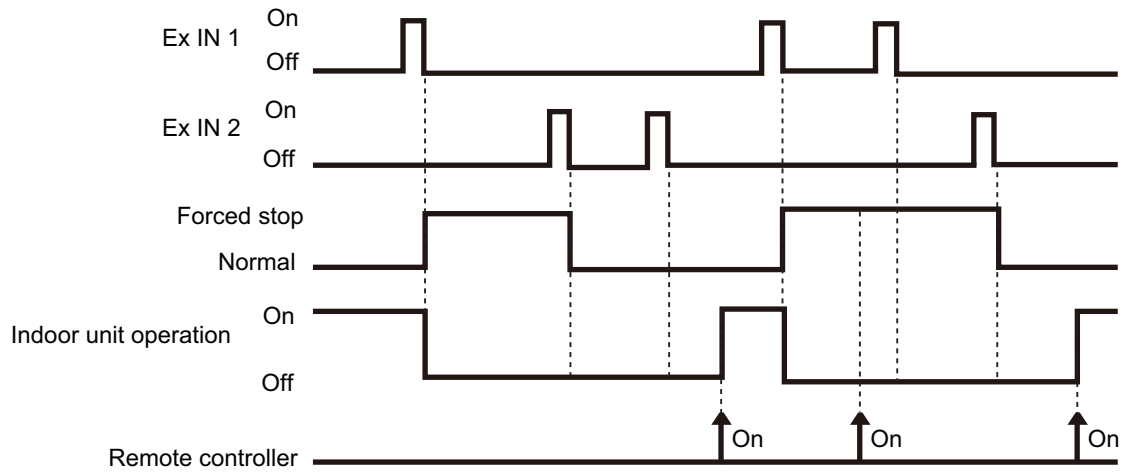
- **In the case of "Edge" input**

Function setting	External input and output PCB		External input		Input signal	Command
	Rotary switch	SW2				
46-02	—		Input of indoor unit	Terminal	Off → On	Forced stop (R.C. disabled)
					On → Off	Normal (R.C. enabled)
	1	Edge	External input and output PCB	Ex IN 1	Off → On	Forced stop (R.C. disabled)
					On → Off	Normal (R.C. enabled)



- **In the case of "Pulse" input**

Function setting	External input and output PCB		External input		Input signal	Command
	Rotary switch	SW2				
46-02	1	Pulse	External input and output PCB	Ex IN 1	Pulse	Forced stop (R.C. disabled)
				Ex IN 2		Normal (R.C. enabled)



NOTES:

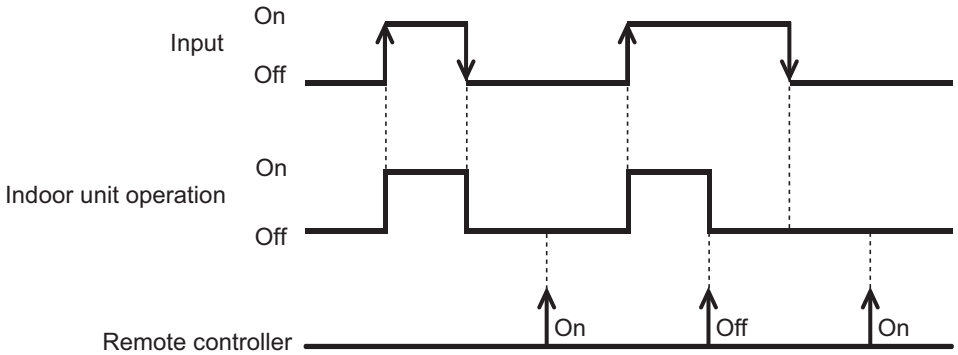
- When the forced stop is triggered, indoor unit stops and Operation/Stop operation by the remote controller is restricted.
- When forced stop function is used with forming a remote controller group, connect the same equipment to each indoor unit within the group.

DUCT TYPE
ARXG45, 54KHTA

■ Operation/Stop mode 2

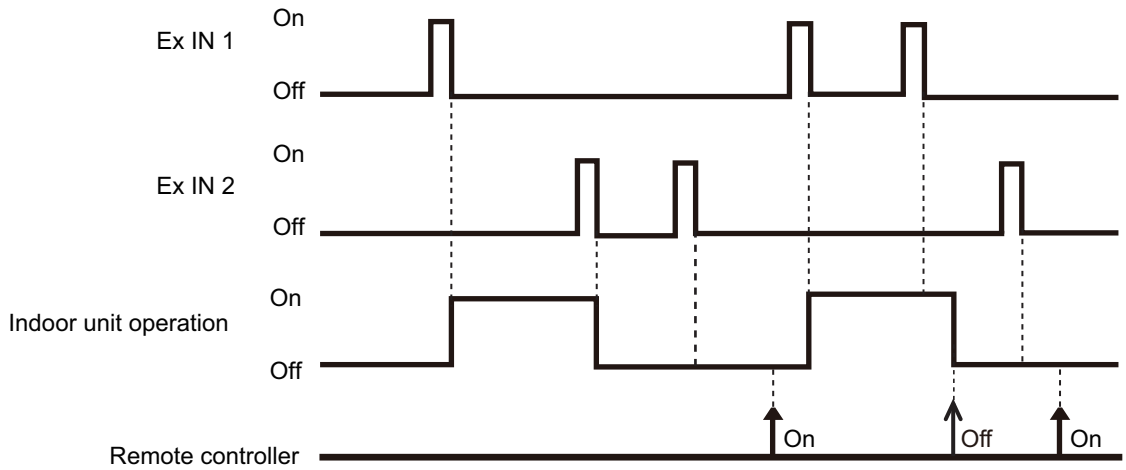
- **In the case of "Edge" input**

Function setting	External input and output PCB		External input		Input signal	Command
	Rotary switch	SW2				
46-03	—		Input of indoor unit	Terminal	Off → On	Operation (R.C. enabled)
					On → Off	Stop (R.C. disabled)
	1	Edge	External input and output PCB	Ex IN 1	Off → On	Operation (R.C. enabled)
					On → Off	Stop (R.C. disabled)



- **In the case of "Pulse" input**

Function setting	External input and output PCB		External input		Input signal	Command
	Rotary switch	SW2				
46-03	1	Pulse	External input and output PCB	Ex IN 1	Pulse	Operation (R.C. enabled)
				Ex IN 2		Stop (R.C. disabled)

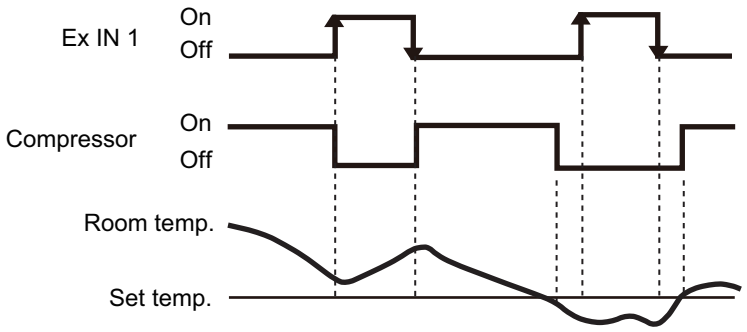


NOTE: When "Operation/Stop" mode 2 function is used with forming a remote controller group, connect the same equipment to each indoor unit within the group.

DUCT TYPE
ARXG45, 54KHTA

■ Forced thermostat off

External input and output PCB Rotary switch	External input		Input signal	Command
2, B, C, D	External input and output PCB	Ex IN 1	Off → On	Thermostat off
			On → Off	Normal operation



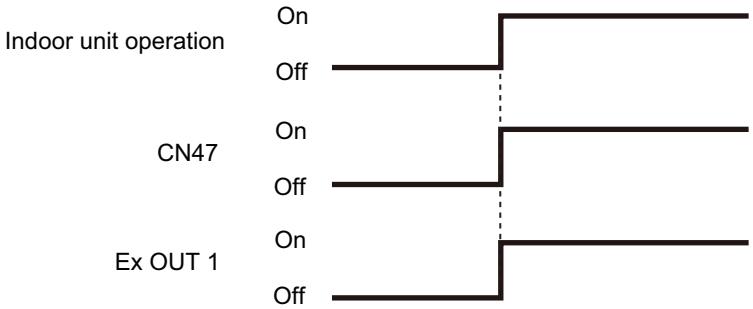
DUCT TYPE
ARXG45, 54KHTA

8-5. Details of control output function

■ Operation status

Function setting	External input and output PCB Rotary switch	External output		Output signal	Status
60-00	—	Output of indoor unit	CN47	Off → On	Operation
				On → Off	Stop
—	1, B, C, D	External input and output PCB	Ex OUT 1	Off → On	Operation
				On → Off	Stop

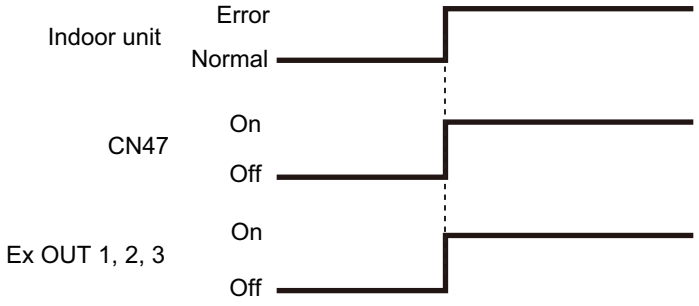
The output is low when the unit is stopped.



■ Error status

Function setting	External input and output PCB Rotary switch	External output		Output signal	Status
60-09	—	Output of indoor unit	CN47	Off → On	Error
				On → Off	Normal
—	2	External input and output PCB	Ex OUT 1	Off → On	Error
				On → Off	Normal
—	1, C	External input and output PCB	Ex OUT 2	Off → On	Error
				On → Off	Normal
—	D	External input and output PCB	Ex OUT 3	Off → On	Error
				On → Off	Normal

The output is on when an error is generated for the indoor unit.

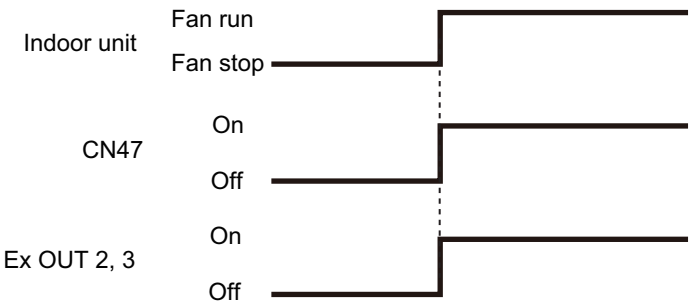


DUCT TYPE
ARXG45, 54KHTA

■ Indoor unit fan operation status

Function setting	External input and output PCB Rotary switch	External output		Output signal	Status
60-10	—	Output of indoor unit	CN47	Off → On	Fan run
				On → Off	Fan stop
—	2, B, D	External input and output PCB	Ex OUT 2	Off → On	Fan run
				On → Off	Fan stop
—	1	External input and output PCB	Ex OUT 3	Off → On	Fan run
				On → Off	Fan stop

Output signal	Condition
On	The indoor unit fan is operating.
Off	The fan is stopped or during cold air prevention. During thermostat off when in dry mode operation.



DUCT TYPE
ARXG45, 54KHTA

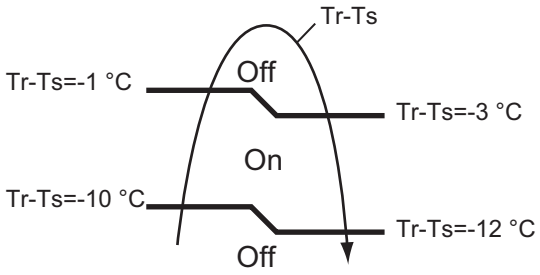
■ External heater output

Function setting	External input and output PCB Rotary switch	External output		Output signal	Control
60-11	—	Output of indoor unit	CN47	Off → On	Heater on
				On → Off	Heater off
—	2, B, C	External input and output PCB	Ex OUT 3	Off → On	Heater on
				On → Off	Heater off

Output signal	Condition
Off → On	Heater turns on as shown in diagram of heating temperature
On → Off	Heater turns off as shown in diagram of heating temperature • Other than Heating mode • Error occurred • Forced thermo off • Fan stop protection

Specifications of the signal output performance are as shown as follows:

Example: When set temperature (Ts) is set at 22°C;
- And room temperature (Tr) increase above 12°C, signal output is on.
- And Tr increase above 21°C, signal output is off.
- And Tr decrease below 19°C, signal output is on.
- And Tr decrease below 10°C, signal output is off.



The output also turns off in defrost operation.

DUCT TYPE
ARXG45, 54KHTA

9. Function settings

To adjust the functions of this product according to the installation environment, various types of function settings are available.

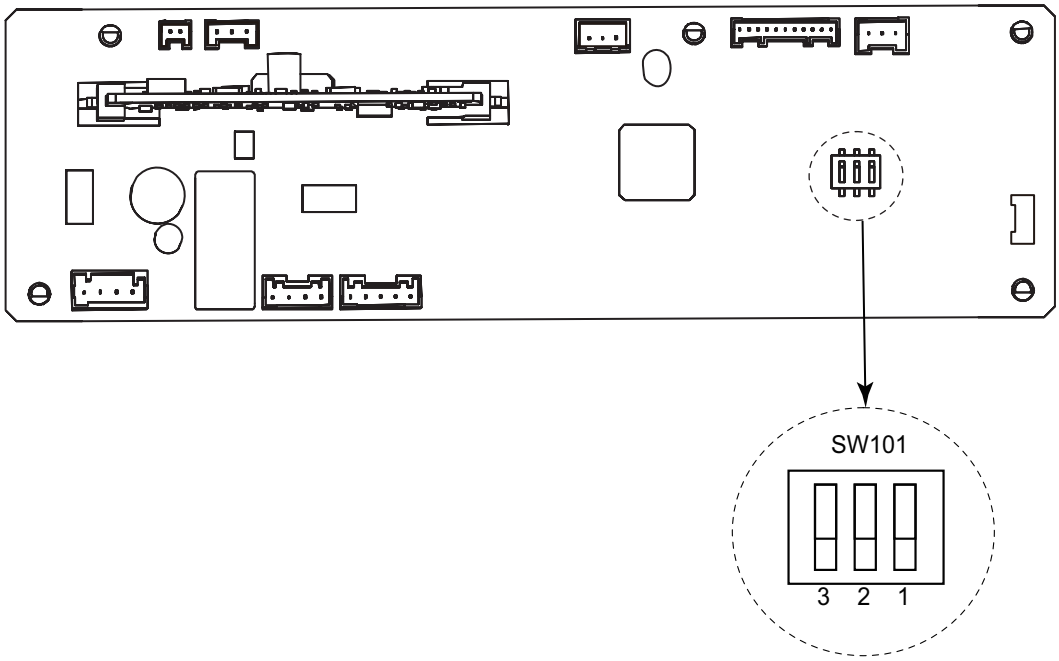
NOTE: Incorrect settings can cause a product malfunction.

9-1. Function settings on indoor unit

By using some components on the PCB, you can change the function settings.

■ Component location

Components on the indoor unit main PCB used for the function settings are located as shown in the following figure.



■ DIP switch setting

- **Switch 1: Drainage function setting (SW101)**

Switch 1	Drainage function	Factory setting
ON	Disabled	
OFF	Enabled	♦

- **Switch 2: Setting change prohibited (SW101)**

- **Switch 3: Fan delay setting (SW101)**
  When the indoor unit is stopped while operating in conjunction with auxiliary heater, the indoor unit fan operation will continue for 1 minute.

Switch 3	Fan delay	Factory setting
ON	Enabled	
OFF	Disabled	♦

DUCT TYPE
ARXG45, 54KHTA

9-2. Function settings by using remote controller

Some function settings can be changed on the remote controller. After confirming the setting procedure and the content of each function setting, select appropriate functions for your installation environment.

■ Setting procedure by using remote controller

Remote controller is not attached for this product. For details of the installing remote controller, refer to following information.

- Overview information: Operating manual of the remote controller
- Setting procedure: Installation manual of the remote controller

■ Contents of function setting

Each function setting listed in this section is adjustable in accordance with the installation environment.

NOTE: Setting will not be changed if invalid numbers or setting values are selected.

● Function setting list

	Function no.	Functions
1)	11	Filter sign
2)	30/31	Room temperature control for indoor unit sensor
3)	35/36	Room temperature control for wired remote controller sensor
4)	40	Auto restart
5)	42	Room temperature sensor switching
6)	44	Remote controller custom code
7)	46	External input control
8)	48	Room temperature sensor switching (Aux.)
9)	49	Indoor unit fan control for energy saving for cooling
10)	60	Switching functions for external output terminal

1) Filter sign

Select appropriate intervals for displaying the filter sign on the indoor unit according to the estimated amount of dust in the air of the room.

If the indication is not required, select "No indication" (03).

Function number	Setting value	Setting description	Factory setting
11	00	Standard (2,500 hours)	
	01	Long interval (5,000 hours)	
	02	Short interval (1,250 hours)	
	03	No indication	♦

DUCT TYPE
ARXG45, 54KHTA

2) Room temperature control for indoor unit sensor

NOTE: If the remote sensor unit option is selected, perform this setting.

Depending on the installed environment, correction of the room temperature sensor may be required. Select the appropriate control setting according to the installed environment.
The temperature of the room temperature sensor is corrected as follows:

Corrected temp. = Temp. of the room temp. sensor - Correction temp. value

Example of correction:

When the temperature of the room temp. sensor is 26°C and the setting value is “03” (-1.0°C), corrected temp. will be 27°C (26°C - [-1.0°C]).

The temperature correction values show the difference from the Standard setting "00" (manufacturer’s recommended value).

Function number		Setting value	Setting description		Factory setting
30 (For cooling)	31 (For heating)	00	Standard setting		♦
		01	No correction 0.0 °C		
		02	-0.5 °C	More cooling Less heating	
		03	-1.0 °C		
		04	-1.5 °C		
		05	-2.0 °C		
		06	-2.5 °C		
		07	-3.0 °C		
		08	-3.5 °C		
		09	-4.0 °C		
		10	+0.5 °C	Less cooling More heating	
		11	+1.0 °C		
		12	+1.5 °C		
		13	+2.0 °C		
		14	+2.5 °C		
		15	+3.0 °C		
		16	+3.5 °C		
		17	+4.0 °C		

DUCT TYPE
ARXG45, 54KHTA

3) Room temperature control for wired remote controller sensor

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

To change this setting, set Function 42 to Both “01”.

Ensure that the Thermo Sensor icon is displayed on the remote controller screen.

Function number		Setting value	Setting description		Factory setting
35 (For cooling)	36 (For heating)	00	Standard setting		♦
		01	No correction 0.0°C		
		02	-0.5 °C	More cooling Less heating	
		03	-1.0 °C		
		04	-1.5 °C		
		05	-2.0 °C		
		06	-2.5 °C		
		07	-3.0 °C		
		08	-3.5 °C		
		09	-4.0 °C		
		10	+0.5 °C	Less cooling More heating	
		11	+1.0 °C		
		12	+1.5 °C		
		13	+2.0 °C		
		14	+2.5 °C		
		15	+3.0 °C		
		16	+3.5 °C		
		17	+4.0 °C		

4) Auto restart

Enables or disables automatic restart after a power interruption.

Function number	Setting value	Setting description	Factory setting
40	00	Enable	♦
	01	Disable	

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

5) Room temperature sensor switching

(Only for wired remote controller)

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

Function number	Setting value	Setting description	Factory setting
42	00	Indoor unit	♦
	01	Both	

00: Sensor on the indoor unit is active.

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

NOTES:

- Remote controller sensor must be turned on by using the remote controller.
- When using the remote sensor unit, set to "00" or set to "01" and then select "indoor unit sensor" from wired remote controller.

DUCT TYPE
ARXG45, 54KHTA

6) Remote controller custom code

(Only for wireless remote controller)

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

Function number	Setting value	Setting description	Factory setting
44	00	A	♦
	01	B	
	02	C	
	03	D	

7) External input control

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

Function number	Setting value	Setting description	Factory setting
46	00	Operation/Stop mode 1	♦
	01	(Setting prohibited)	
	02	Forced stop mode	
	03	Operation/Stop mode 2	

8) Room temperature sensor switching (Aux.)

To use the temperature sensor on the wired remote controller only, change the setting to "Wired remote controller" (01).

This function will only work if the function setting 42 is set at "Both" (01).

When the setting value is set to "Both" (00), more suitable control of the room temperature is possible by setting function setting 30 and 31 too.

Function number	Setting value	Setting description	Factory setting
48	00	Both	♦
	01	Wired remote controller	

9) Indoor unit fan control for energy saving for cooling

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

Function number	Setting value	Setting description	Factory setting
49	00	Disable	
	01	Enable	
	02	Remote controller	♦

00: When the outdoor unit is stopped, the indoor unit fan operates continuously following the setting on the remote controller.

01: When the outdoor unit is stopped, the indoor unit fan operates intermittently at a very low speed.

02: Enable or disable this function by remote controller setting.

NOTE: Set to "00" or "01" when connecting a remote controller that cannot set the Fan control for energy saving function or connecting a network converter. To confirm if the remote controller has this setting, refer to the operating manual of each remote controller.

DUCT TYPE
ARXG45, 54KHTA

10) Switching functions for external output terminal

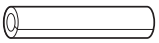
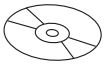
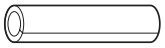
Functions of the external output terminal can be switched. For details, refer to “External input and output”.

Function number	Setting value	Setting description	Factory setting
60	00	Operation status	♦
	01—08	(Setting prohibited)	
	09	Error status	
	10	Indoor unit fan operation status	
	11	External heater	

DUCT TYPE
ARXG45, 54KHTA

10. Accessories

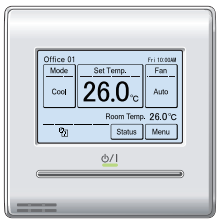
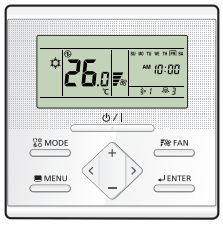
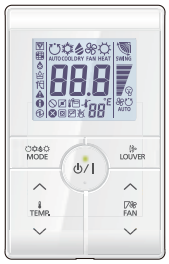
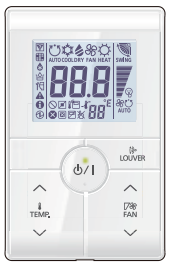
10-1. Models: ARXG45KHTB and ARXG54KHTB

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Operation manual		1	Coupler heat insulation (small)		1
Operation manual (CD-ROM)		1	Washer		8
Installation manual		1	Cable tie		1
Coupler heat insulation (large)		1			

DUCT TYPE
ARXG45, 54KHTA

11. Optional parts

11-1. Controllers

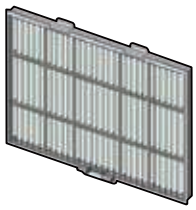
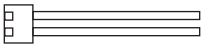
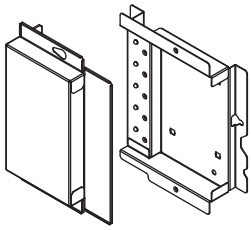
Exterior	Part name	Model name	Summary
	Wired Remote Controller	UTY-RNRGZ*	Easy finger touch operation with LCD panel. Backlit LCD enables easy operation in a dark room. Wire type: Non-polar 2-wire
	Wired Remote Controller	UTY-RLRG	High visibility and easy operation. Room temperature can be accurately controlled using the thermo sensor. Wire type: Non-polar 2-wire
	Compact Wired Remote Controller	UTY-RCRGZ1	Compact body and easy operation. Room temperature can be accurately controlled using the thermo sensor. Wire type: Non-polar 2-wire
	Simple Remote Controller	UTY-RSRG	Compact remote controller concentrates on the basic functions such as Start/Stop, fan control, temperature setting, and operation mode. Wire type: Non-polar 2-wire
	Simple Remote Controller	UTY-RHRG	Compact remote controller concentrates on the basic functions such as Start/Stop, fan control, and temperature setting. Wire type: Non-polar 2-wire
	IR Receiver Kit with Wireless Remote Controller	UTY-LBTGM	Unit control is performed by Wireless Remote Controller Connecting point: CN48 on Main PCB

NOTES:

- Available functions may differ by the remote controller. For details, refer to the operation manual.
- When using the group controlling system of the Wired Remote Controller, using WLAN Adapter is prohibited.

DUCT TYPE
ARXG45, 54KHTA

11-2. Others

Exterior	Part name	Model name	Summary
	Remote Sensor Unit	UTY-XSZX	Thermo-sensor for sensing the temperature of arbitrary place in the room.
	Long-life Filter	UTD-LF60KA	Long-life Filter can be mounted to the indoor unit.
	External Connect Kit	UTY-XWZXZG	Use to connect with various peripheral devices and air conditioner PCB. For control output port. Connecting point: CN47 on Main PCB
	External Input and Output PCB	UTY-XCSX	Use to connect with external devices and air conditioner PCB. Optional External Connect Kit is necessary for installation. Connecting point: CN65 or CN75 on Main PCB
	External Input and Output PCB Box	UTZ-GXEA	For installing the External input and output PCB.
	WLAN Adapter	UTY-TFSXZ1	Remotely manage an air conditioning system using mobile devices such as smartphones and tablets. For connection indoor unit with UART interface. Appropriate application for each region is required to use this option. For details, contact FGL sales company. Connecting point: CN75 on Main PCB
	Modbus Converter	UTY-VMSX	For connection between indoor unit with UART interface and a Modbus open network. Connecting point: CN65 or CN75 on Main PCB
	KNX Convertor	UTY-VKSX	For connection between indoor unit with UART interface and a KNX open network. Connecting point: CN65 or CN75 on Main PCB
	Network Converter	UTY-VTGX	This converter is required when connecting single split system to VRF network system. Connecting point: CN65 or CN75 on Main PCB

Exterior	Part name	Model name	Summary
	Network Converter (AC power supply)	UTY-VTGXV	This converter is required when connecting single split system to VRF network system. Connecting point: CN65 or CN75 on Main PCB
	External Switch Controller	UTY-TERX	Air conditioner switching can be controlled by connecting other external sensor switches. Use the terminal for wired remote controller.

DUCT TYPE
ARXG45, 54KHTA

Part 2. OUTDOOR UNIT

SINGLE TYPE:

AOHG45KBTB
AOHG54KBTB

1. Specifications

Type				Inverter heat pump	
Model name				**AOHG45KBTB**	**AOHG54KBTB**
Power supply				230 V ~ 50 Hz	
Power supply intake				Outdoor unit	
Available voltage range				198—264 V	
Starting current			A	18.2	19.5
Fan	Airflow rate	Cooling	m^3/h	4,450	4,450
		Heating		4,450	4,450
	Type × Qty			Propeller × 1	
	Motor output		W	120	
Sound pressure level *1		Cooling	dB (A)	57	57
		Heating		57	59
Sound power level		Cooling	dB (A)	71	73
		Heating		71	73
Heat exchanger type		Dimensions (H × W × D)	mm	Main1: 966 × 905 × 18.2 Main2: 966 × 905 × 18.2 Sub: 966 × 543 × 18.2	
		Fin pitch		1.45	
		Rows × Stages		1 × 46	
		Pipe type		Copper	
		Fin	Type (Material)	Aluminum	
			Surface treatment	Blue fin	
Compressor	Type			DC Twin rotary	
	Motor output		W	2,180	
Refrigerant		Type (Global warming potential)		R32 (675)	
		Factory charge	g	2,700	
Refrigerant oil		Type		RmM68AF	
		Amount	cm^3	800	
Enclosure		Material		Steel sheet	
		Color		Beige Approximate color of Munsell 10YR 7.5/1.0	
Dimensions (H × W × D)	Net		mm	998 × 940 × 320	
	Gross			1,176 × 1,027 × 445	
Weight	Net		kg	67	
	Gross			75	
Connection pipe	Size	Liquid	mm (in)	Ø9.52 (3/8)	
		Gas		Ø15.88 (5/8)	
	Method			Flare	
	Pre-charge length		m	30	
	Max. length			50	
	Max. height difference			30	
Operation range		Cooling	°C	-15 to 46	
		Heating		-15 to 24	
Drain hose		Material		Low-density polyethylene	
		Tip diameter	mm	Ø13.0 (I. D.), Ø16.0 to Ø16.7 (O. D.)	

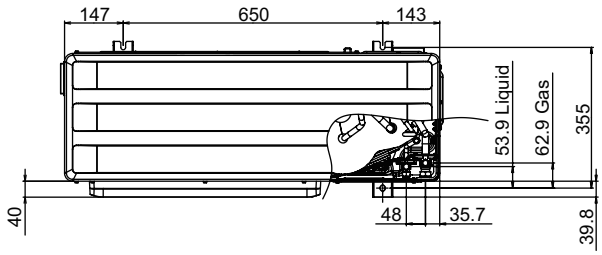
NOTES:

- Specifications are based on the following conditions:
  - Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB.
  - Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB.
  - Pipe length: 5 m, Height difference: 0 m. (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- *1: Sound pressure level
  - Measured values in manufacturer's semi-anechoic chamber.
  - Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.

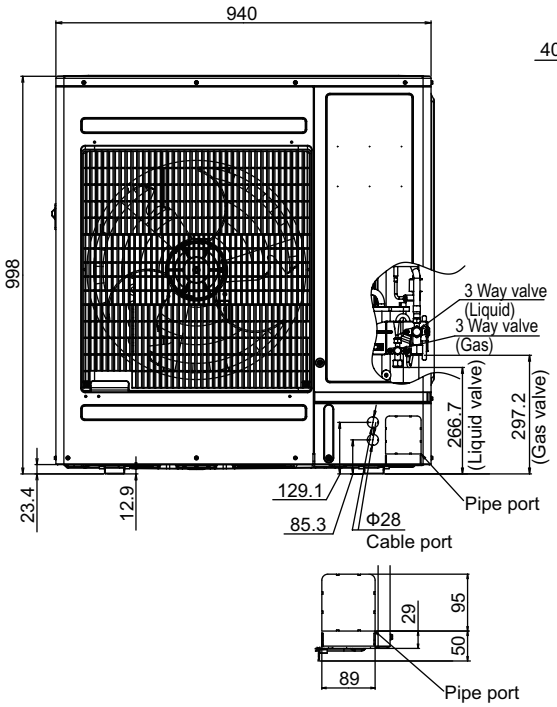
2. Dimensions

2-1. Models: AOHG45KBTB and AOHG54KBTB

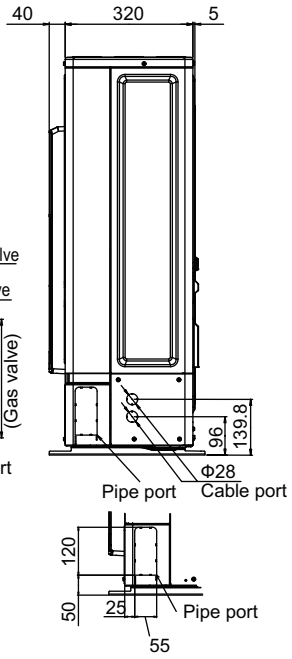
Unit: mm



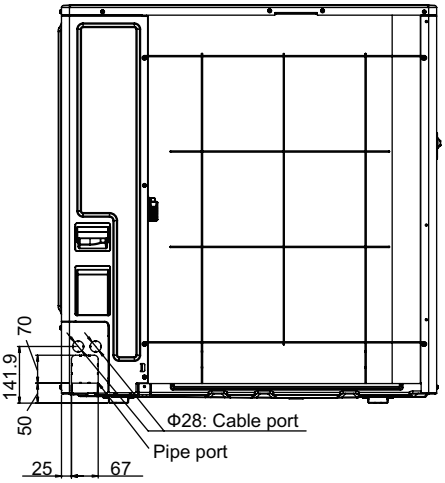
Top view



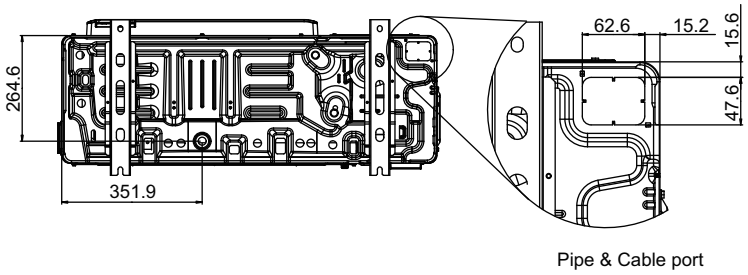
Front view



Side view



Rear view



Bottom view

3. Installation space

3-1. Models: AOHG45KBTB and AOHG54KBTB

OUTDOOR UNIT
AOHG45, 54KBTB

■ Space requirement

Provide sufficient installation space for product safety.

⚠ CAUTION

Keep the space shown in the installation examples.

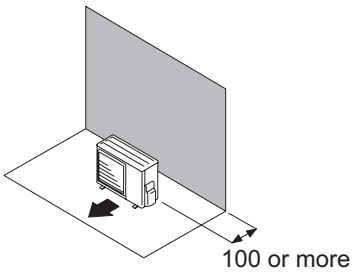
If the installation is not performed accordingly, it could cause a short circuit and result in a lack of operating performance.

● Single outdoor unit installation

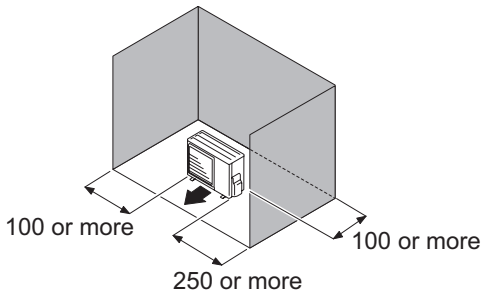
- **When the upper space is open:**

Unit: mm

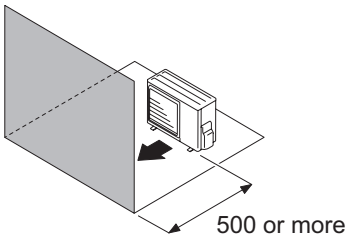
When there are obstacles at the rear only.



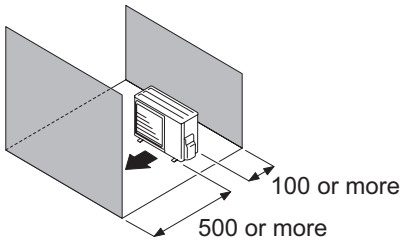
When there are obstacles at the rear and sides.



When there are obstacles at the front only.



When there are obstacles at the front and rear.

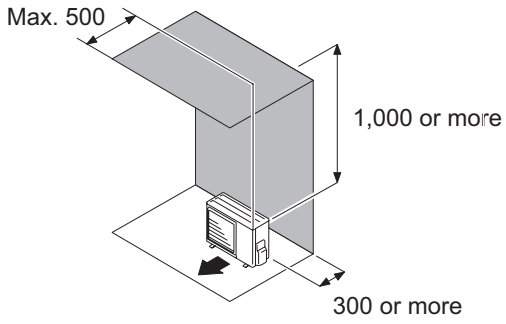


OUTDOOR UNIT
AOHG45, 54KBTB

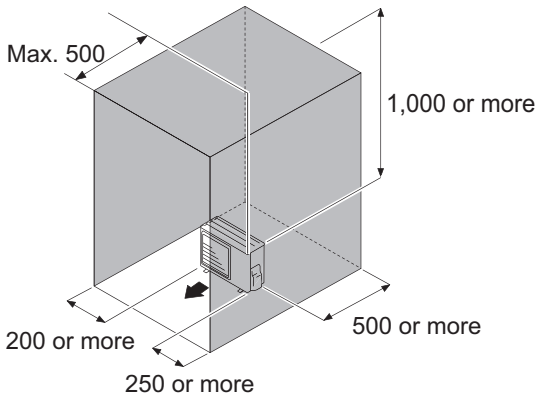
- **When an obstruction in the upper space:**

Unit: mm

When there are obstacles at the rear and above.



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



OUTDOOR UNIT
AOHG45, 54KBTB

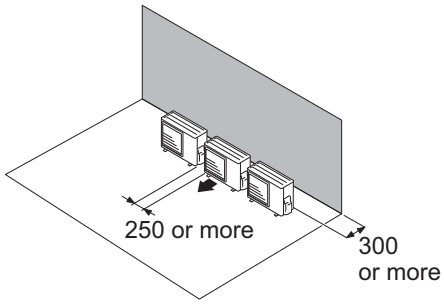
● Multiple outdoor unit installation

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

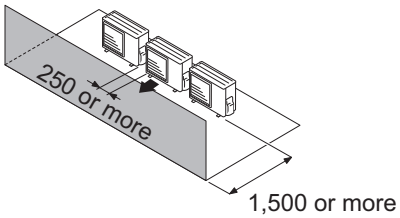
- **When the upper space is open:**

Unit: mm

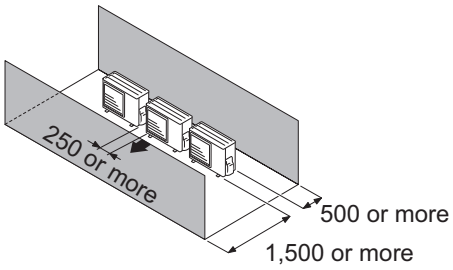
When there are obstacles at the rear only.



When there are obstacles at the front only.



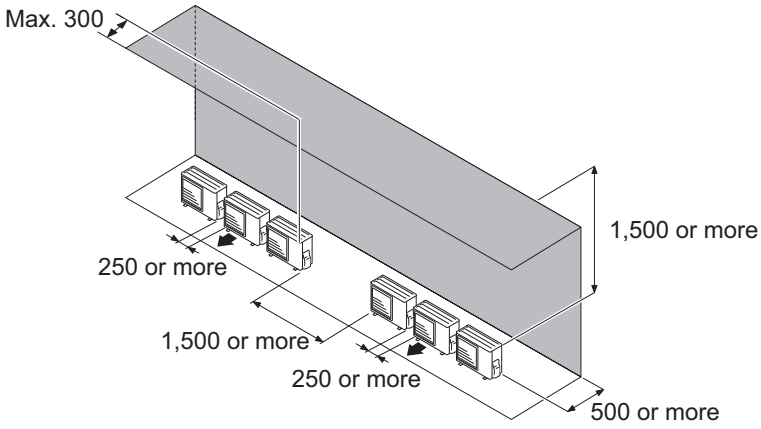
When there are obstacles at the front and rear.



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

Unit: mm

When there are obstacles at the rear and above.

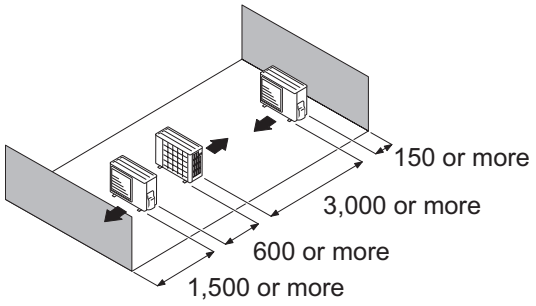


OUTDOOR UNIT
AOHG45, 54KBTB

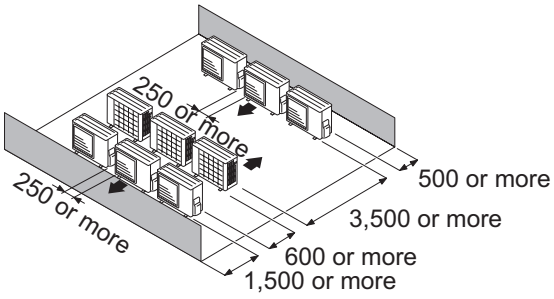
● Outdoor unit installation in multi-row

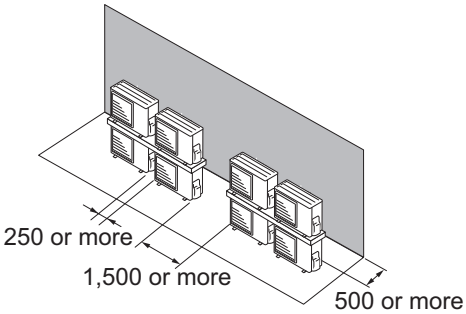
Unit: mm

Single parallel unit arrangement



Multiple parallel unit arrangement



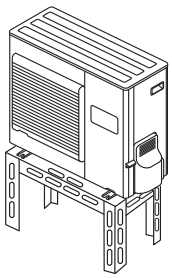


NOTES:

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

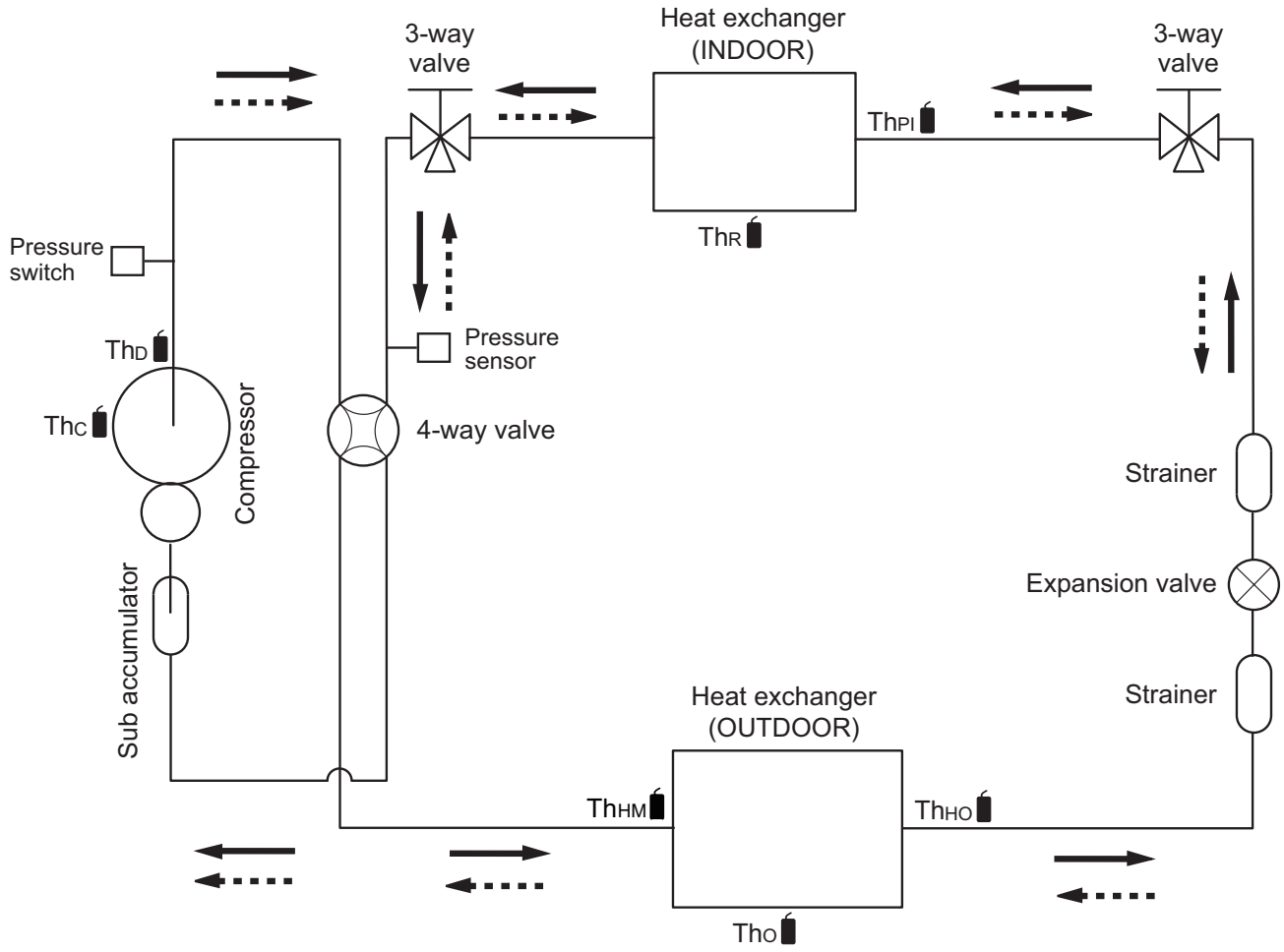
⚠ CAUTION

- Do not install the outdoor unit in two-stage where the drain water could freeze. Otherwise the drainage from the upper unit may form ice and cause a malfunction of the lower unit.
- When the outdoor temperature is 0 °C or less, do not use the accessory drain pipe and drain cap. If the drain pipe and drain cap are used, the drain water in the pipe may freeze in extremely cold climate. (For reverse cycle model only.)
- In area with heavy snowfall, if the inlet and outlet of the outdoor unit is blocked with snow, it might become difficult to get warm, and it is likely to cause product malfunction. Construct a canopy and a pedestal, or place the unit on a high stand that is locally installed.



4. Refrigerant circuit

4-1. Models: AOHG45KBTB and AOHG54KBTB



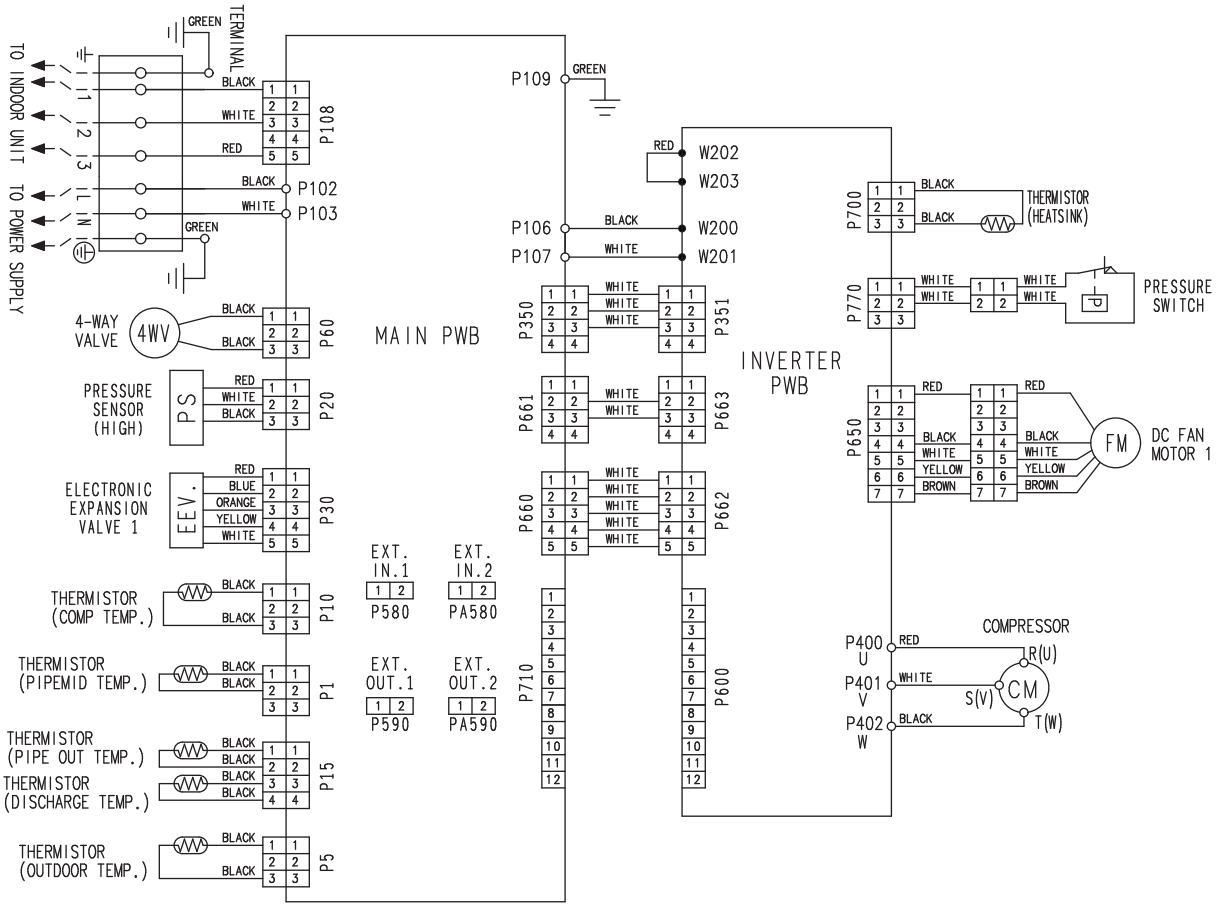
: Cooling
: Heating

ThC : Thermistor (Compressor temperature)
ThD : Thermistor (Discharge temperature)
ThHM: Thermistor (Heat exchanger middle temperature)
ThO : Thermistor (Outdoor temperature)
ThHO: Thermistor (Heat exchanger out temperature)
ThPI : Thermistor (Pipe temperature)
ThR : Thermistor (Room temperature)

OUTDOOR UNIT
AOHG45, 54KBTB

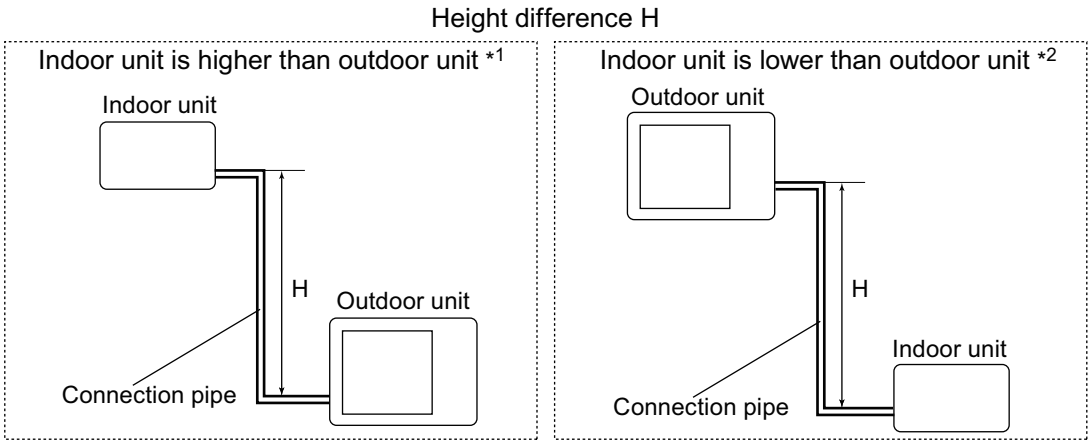
5. Wiring diagrams

5-1. Models: AOHG45KBTB and AOHG54KBTB



OUTDOOR UNIT
AOHG45, 54KBTB

6. Capacity compensation rate for pipe length and height difference



6-1. Models: AOHG45KBTB and AOHG54KBTB

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

COOLING			Pipe length (m)						
			5	7.5	10	20	30	40	50
Height difference H (m)	Indoor unit is higher than outdoor unit *1	30	—	—	—	—	0.900	0.879	0.858
		20	—	—	—	0.937	0.915	0.894	0.872
		10	—	—	0.973	0.952	0.931	0.908	0.887
		7.5	—	0.988	0.977	0.956	0.934	0.913	0.891
		5	0.992	0.992	0.981	0.960	0.938	0.916	0.894
		0	1.000	1.000	0.989	0.967	0.945	0.923	0.901
	Indoor unit is lower than outdoor unit *2	-5	1.000	1.000	0.989	0.967	0.945	0.923	0.901
		-7.5	—	1.000	0.989	0.967	0.945	0.923	0.901
		-10	—	—	0.989	0.967	0.945	0.923	0.901
		-20	—	—	—	0.967	0.945	0.923	0.901
		-30	—	—	—	—	0.945	0.923	0.901

HEATING			Pipe length (m)						
			5	7.5	10	20	30	40	50
Height difference H (m)	Indoor unit is higher than outdoor unit *1	30	—	—	—	—	0.978	0.968	0.958
		20	—	—	—	0.988	0.978	0.968	0.958
		10	—	—	0.998	0.988	0.978	0.968	0.958
		7.5	—	1.000	0.998	0.988	0.978	0.968	0.958
		5	1.000	1.000	0.998	0.988	0.978	0.968	0.958
		0	1.000	1.000	0.998	0.988	0.978	0.968	0.958
	Indoor unit is lower than outdoor unit *2	-5	0.995	0.995	0.993	0.983	0.973	0.963	0.953
		-7.5	—	0.993	0.991	0.981	0.971	0.961	0.951
		-10	—	—	0.988	0.978	0.968	0.958	0.948
		-20	—	—	—	0.968	0.958	0.949	0.939
		-30	—	—	—	—	0.949	0.939	0.929

7. Additional charge calculation

7-1. Models: AOHG45KBTB and AOHG54KBTB

OUTDOOR UNIT
AOHG45, 54KBTB

Refrigerant type		R32
Factory charge amount	g	2,700

■ Refrigerant charge

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

8. Airflow

8-1. Models: AOHG45KBTB and AOHG54KBTB

OUTDOOR UNIT
AOHG45, 54KBTB

● Cooling

m^3/h	4,450
l/s	1,236
CFM	2,619

● Heating

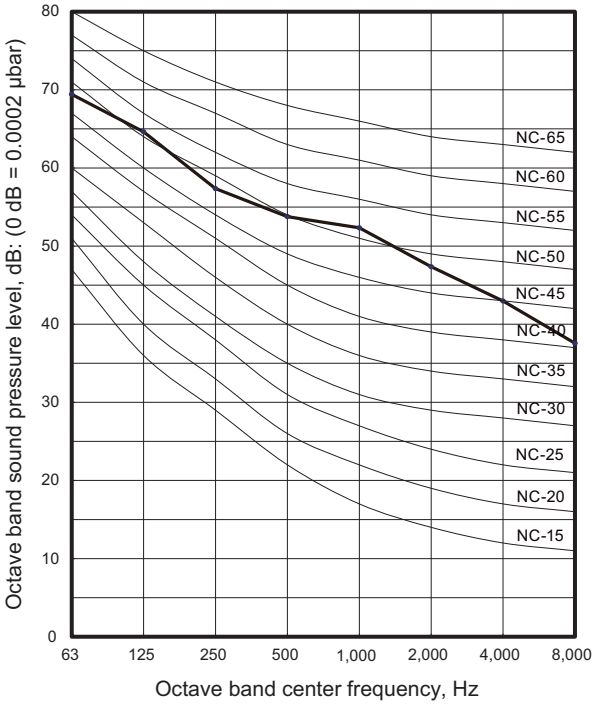
m^3/h	4,450
l/s	1,236
CFM	2,619

9. Operation noise (sound pressure)

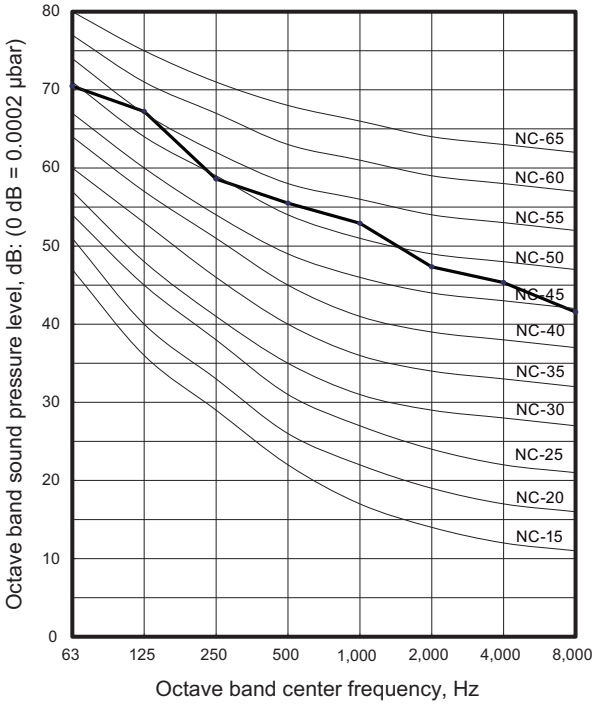
9-1. Noise level curve

■ Model: AOHG45KBTB

● Cooling

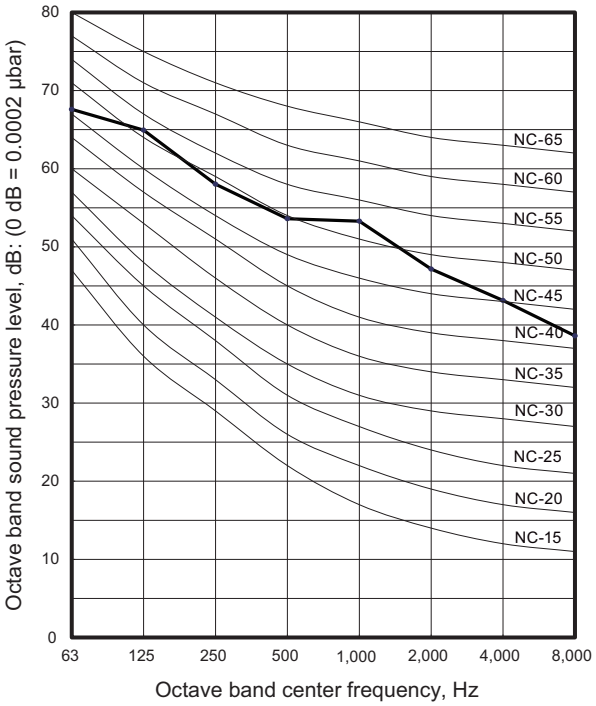


● Heating

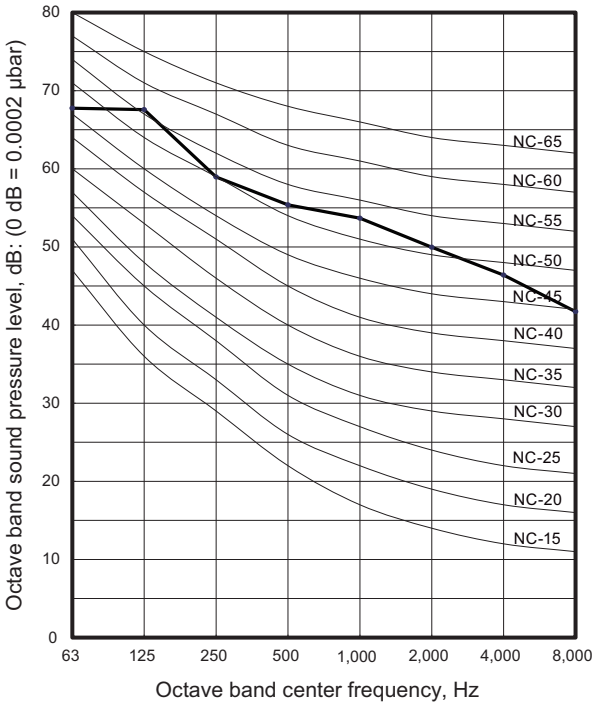


■ Model: AOHG54KBTB

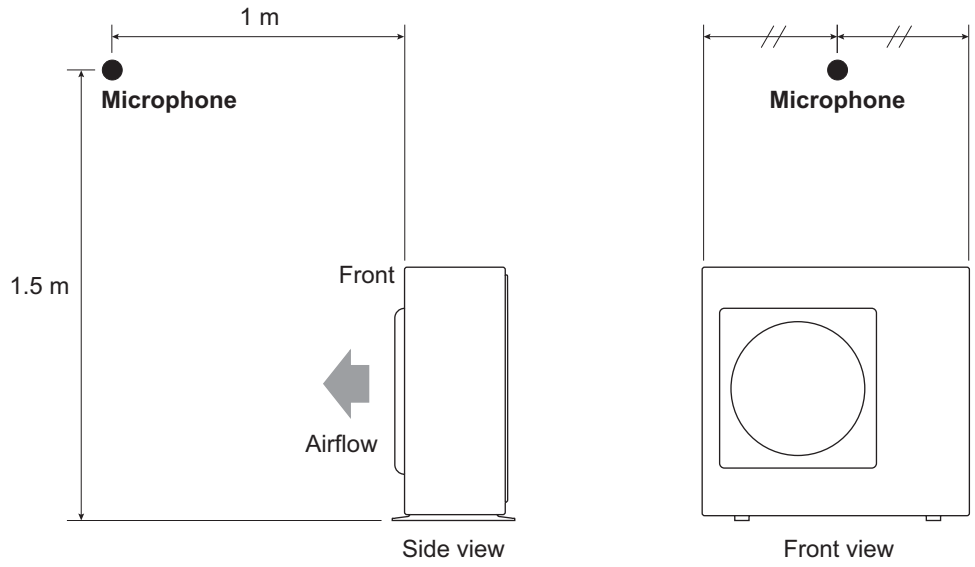
● Cooling



● Heating



9-2. Sound level check point



NOTE: Detailed shape of the actual outdoor unit might be slightly different from the one illustrated above.

10. Electrical characteristics

Model name				AOHG45KBTB	AOHG54KBTB
Power supply	Voltage		V	230 ~	
	Frequency		Hz	50	
Max operating current *1			A	28.5	
Starting current			A	18.2	19.5
Wiring spec. *2	Circuit breaker current		A	32	
	Power cable		mm^2	4.0	
	Connection cable *3	Cross-sectional area	mm^2	1.5	
		Limited wiring length	m	51	

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

*2: Selected sample based on Japan Electrotechnical Standards and Codes Committee E0005. As the regulations of wire size and circuit breaker differ in each country or region, select appropriate devices complied to the regional standard.

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

OUTDOOR UNIT
AOHG45, 54KBTB

11. Safety devices

Type of protection	Protection form		Model
			AOHG45KBTB AOHG54KBTB
Circuit protection	Current fuse (Main PCB)		250 V, 30 A or 35.5 A 250 V, 3.15 A 250 V, 10 A × 2
Fan motor protection	Thermal protection program	Activate	150 ±15 °C Fan motor stop
		Reset	120 ±15 °C Fan motor restart
Compressor protection	Thermal protection program (Discharge temp.)	Activate	110 °C Compressor stop
		Reset	After 7 minutes Compressor restart
	Thermal protection program (Compressor temp.)	Activate	108 °C Compressor stop
		Reset	80 °C or less Compressor restart
	Thermal protection program (Outdoor temp.) (Only in COOL or DRY mode)	Activate	-20 °C Compressor stop
		Reset	-15 °C Compressor restart

OUTDOOR UNIT
AOHG45, 54KBTB

12. External input and output

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

Connector	Input	Output	Remarks
P580	Low noise mode	—	See external input/output settings for details.
PA580	Peak cut mode	—	
P590	—	Error status	
PA590	—	Compressor status	

12-1. External input

With using external input function, on/off status of “Low noise mode” and “Peak cut mode” can be specified by the external signal.

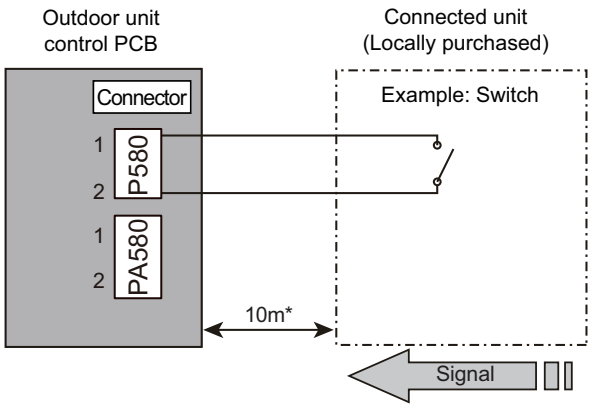
■ Low noise mode

In following condition, the operating noise of the outdoor unit reduces comparing from the one in normal operating condition:

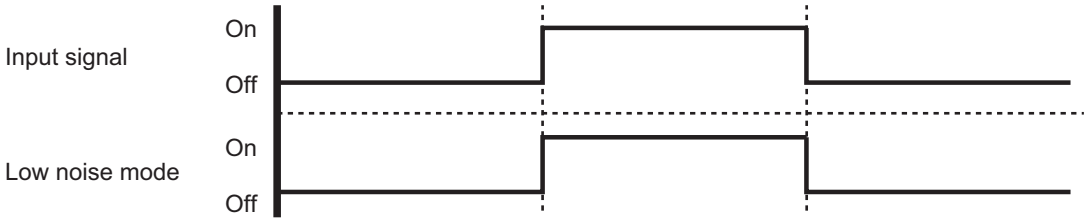
The air conditioner is set to the “Low noise mode” when closing the contact input of a commercial timer or on/off switch to a connector on the control PCB of the outdoor unit.

NOTE: Product performance may drop depending on some conditions such as the outdoor temperature.

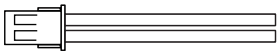
- **Circuit diagram example**



- Contact capacity: DC 24 V or more, 10 mA or more.
- *: Make the distance from the PCB to the connected unit within 10 m.
- Construct a circuit as shown in this figure with using optional parts mentioned below.
- Input signal: On in “Low noise mode”
- Input signal: Off in normal operation
- To set the level of “Low noise mode”, refer to “Low noise mode” in "Local setting procedure" on page 59.



- **Optional part**

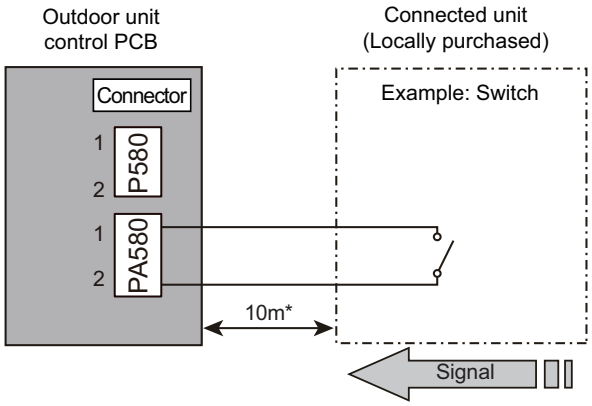
Part name	Model name	Exterior
External Connect Kit	UTY-XWZXZ3	External input wire 

OUTDOOR UNIT
AOHG45, 54KBTB

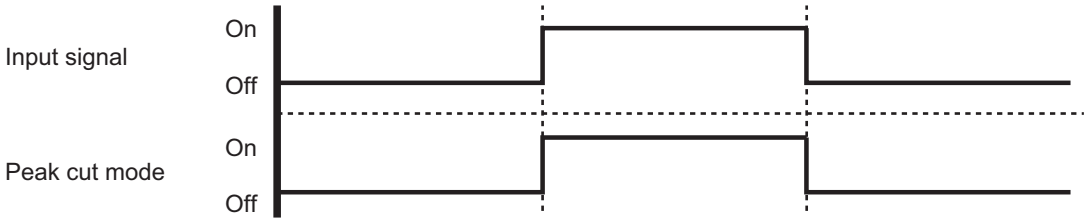
■ Peak cut mode

By performing following on-site work, operation that suppresses the current value can be enabled:
The air conditioner is set to the “Peak cut mode” when closing the contact input of a commercial timer or on/off switch to a connector on the control PCB of the outdoor unit.

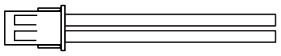
- **Circuit diagram example**



- Contact capacity: DC 24 V or more, 10 mA or more.
- *: Make the distance from the PCB to the connected unit within 10 m.
- Construct a circuit as shown in this figure with using optional parts mentioned below.
- Input signal: On in “Peak cut mode”
- Input signal: Off in normal operation
- To set the level of “Peak cut mode”, refer to “Peak cut mode” in "Local setting procedure" on page 59.



- **Optional part**

Part name	Model name	Exterior
External Connect Kit	UTY-XWZXZ3	External input wire 

OUTDOOR UNIT
AOHG45, 54KBTB

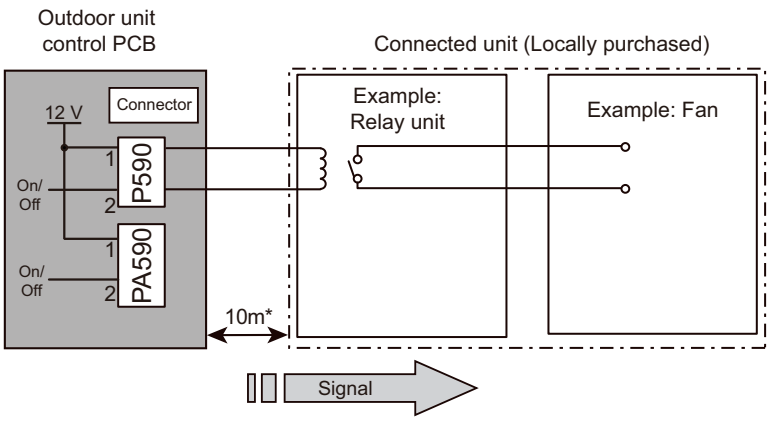
12-2. External output

With using external output function, some status signals are transmitted to the control PCB, and the related LED lamp indicates the status of this product.

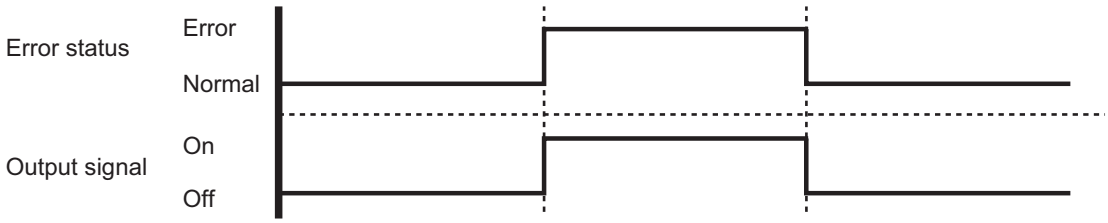
■ Error status output

Signal on air conditioner error status is generated when a malfunction occurs.

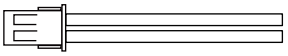
- **Circuit diagram example**



- Output voltage (Vcc): DC 12 V 50 mA or less
- *: Make the distance from the PCB to the connected unit within 10 m.



- **Optional part**

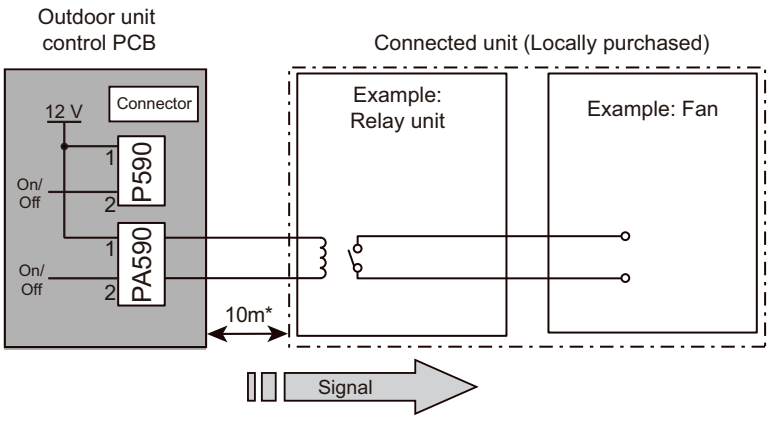
Part name	Model name	Exterior
External Connect Kit	UTY-XWZXZ3	External output wire 

OUTDOOR UNIT
AOHG45, 54KBTB

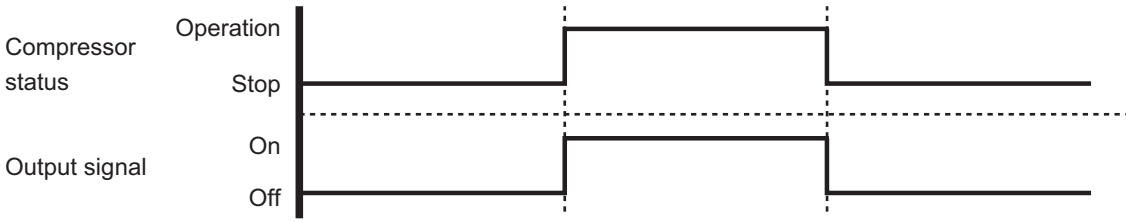
■ Compressor status output

Signal on compressor operation status is generated when the compressor is running.

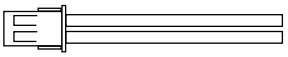
- **Circuit diagram example**



- Output voltage (Vcc): DC 12 V 50 mA or less
- *: Make the distance from the PCB to the connected unit within 10 m.



- **Optional part**

Part name	Model name	Exterior
External Connect Kit	UTY-XWZXZ3	External output wire 

OUTDOOR UNIT
AOHG45, 54KBTB

13. Function settings

Perform appropriate function setting locally according to the installation environment.

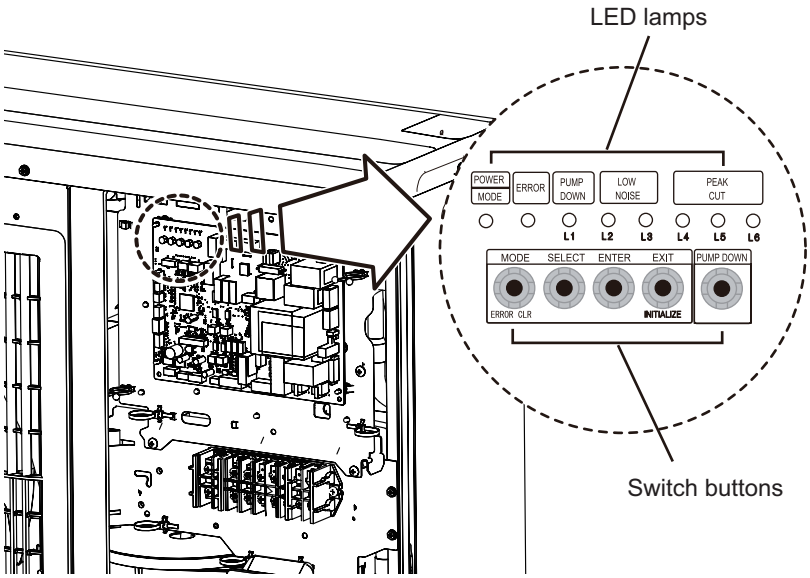
NOTE: Incorrect settings can cause a product malfunction.

⚠ CAUTION

- Before setting up the switch buttons, discharge the static electricity from your body.
- Never touch the terminals or the patterns on the parts that are mounted on the PCB.

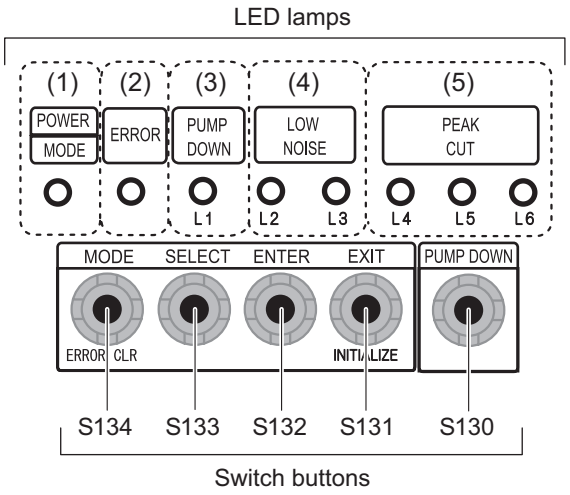
13-1. Control PCB and switch buttons location

Control PCB of the outdoor unit is located as shown in the following figure.



OUTDOOR UNIT
AOHG45, 54KBTB

■ Switch buttons and the functions



LED lamp			Function or operation method
(1)	POWER/MODE	Green	Lights on while power on. Blinks to show the local setting on the outdoor unit or the error code.
(2)	ERROR	Red	Blinks during error operation.
(3)	PUMP DOWN (L1)	Orange	Lights on during pump down operation.
(4)	LOW NOISE MODE (L2 and L3)	Orange	Lights on during “Low noise mode” when local setting is activated. (Light pattern of L2 and L3 indicates the low noise level.)
(5)	PEAK CUT MODE (L4, L5, and L6)	Orange	Lights on during “Peak cut mode” when local setting is activated. (Light pattern of L4, L5, and L6 indicates the peak cut level.)

Switch button		Function or operation method
S134	MODE	Switches between “Local setting” and “Error code display”.
S133	SELECT	Switches between the individual “Local settings” and the “Error code displays”.
S132	ENTER	Switches between the individual “Local settings” and the “Error code displays”.
S131	EXIT	Returns to “Operation status display”.
S130	PUMP DOWN	Starts the pump down operation.

OUTDOOR UNIT
AOHG45, 54KBTB

13-2. Local setting procedure

NOTE: Before performing the function setting, be sure to stop the operation of the air conditioner.

■ Low noise mode

1. Press the MODE switch button (S134) for 3 seconds or more to switch to “Local setting mode”.
2. After confirming the LED lamp of POWER/MODE blinks 9 times, press the ENTER switch button (S132).

POWER / MODE	ERROR	PUMP DOWN (L1)	LOW NOISE (L2)	LOW NOISE (L3)	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
Blinks (9 times)	○	○	○	○	○	○	○

Sign “ ○ ”: Lights off

3. Press the SELECT switch button (S133), and adjust the LED lamp as shown below. Then the LED lamp indicates the current setting.

	LOW NOISE (L2)	LOW NOISE (L3)
LOW NOISE MODE	○	Blink

4. Press the ENTER switch button (S132).

	LOW NOISE (L2)	LOW NOISE (L3)
LOW NOISE MOD E	○	●

Sign “ ● ”: Lights on

5. Press the SELECT switch button (S133), and adjust the LED lamps as shown below.

	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
MODE 1: Low	○	○	Blink
MODE 2: Lower	○	Blink	○

6. Press the ENTER switch button (S132) and fix it.

	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
MODE 1: Low	○	○	●
MODE 2: Lower	○	●	○

7. To return to “Operating status display (Normal operation)”, press the EXIT switch button (S131).

In case of missing how many times you pressed the SELECT and ENTER switch buttons:

1. To return to “Operation status display (Normal operation)”, press the EXIT switch button once.
2. Restart from the beginning of setting procedure.

OUTDOOR UNIT
AOHG45, 54KBTB

■ Peak cut mode

1. Press the MODE switch button (S134) for 3 seconds or more to switch to “Local setting mode”.
2. After confirming the LED lamp of POWER/MODE blinks 9 times, press the ENTER switch button (S132).

POWER / MODE	ERROR	PUMP DOWN (L1)	LOW NOISE (L2)	LOW NOISE (L3)	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
Blinks (9 times)	○	○	○	○	○	○	○

Sign “ ○ ”: Lights off

3. Press the SELECT switch button (S133), and adjust the LED lamp as shown below. Then the LED lamp indicates the current setting.

	LOW NOISE (L2)	LOW NOISE (L3)
PEAK CUT MOD E	Blink	○

4. Press the ENTER switch button (S132).

	LOW NOISE (L2)	LOW NOISE (L3)
PEAK CUT MODE	●	○

Sign “ ● ”: Lights on

5. Press the SELECT switch button (S133), and adjust the LED lamps as shown below.

	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
0 % of rated input ratio	○	○	Blink
50 % of rated input ratio	○	Blink	○
75 % of rated input ratio	○	Blink	Blink
100 % of rated input ratio	Blink	○	○

6. Press the ENTER switch button (S132) and fix it.

	PEAK CUT (L4)	PEAK CUT (L5)	PEAK CUT (L6)
0 % of rated input ratio	○	○	●
50 % of rated input ratio	○	●	○
75 % of rated input ratio	○	●	●
100 % of rated input ratio	●	○	○

7. To return to “Operating status display (Normal operation)”, press the EXIT switch button (S131).

NOTE: When pressed number is lost during setting, you must redo the setting procedure. Return to “Operation status display (Normal operation)” by pressing the EXIT switch button once, and restart from the beginning of the setting procedure.

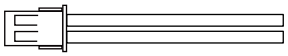
14. Accessories

14-1. Models: AOHG45KBTB and AOHG54KBTB

OUTDOOR UNIT
AOHG45, 54KBTB

Part name	Exterior	Qty	Part name	Exterior	Qty
Installation manual		1	Drain cap		3
Drain pipe		1	One-touch bush		2

15. Optional parts

Exterior	Part name	Model name	Summary
	External Connect Kit	UTY-XWZXZ3	Use to operate the external input and output functions of outdoor unit.

OUTDOOR UNIT
AOHG45, 54KBTB