AIRSTAGE

AIR CONDITIONER

Duct type

FUJITSU

REFRIGERANT R32

INVERTER

DESIGN & TECHNICAL MANUAL

INDOOR

ARXH22KMTAP
ARXH24KMTAP

OUTDOOR

AOEG22KBTB

AOEG24KBTB

FUJITSU GENERAL LIMITED

DR_AR095ES_02
2023.12.18

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Part 1. INDOOR UNIT

DUCT TYPE:

ARXH22KMTAP
ARXH24KMTAP

DUCT TYPE
ARXH22-24KMTAP

1. Specifications

Type					Duct	
					Inverter, Heat pump	
Model name					ARXH22KMTAP	ARXH24KMTAP
Power supply intake					Outdoor unit	
System power supply	Voltage			V	230	
	Frequency			Hz	50	
	Available voltage range			V	198—264	
Indoor unit power supply (from outdoor unit)				V	230	
Capacity	Cooling	Rated		kW	6.0	6.8
				Btu/h	20,500	23,200
		Min.—Max.		kW	0.9—6.7	0.9—8.0
				Btu/h	3,100—22,900	3,100—27,300
	Heating	Rated		kW	7.0	7.5
				Btu/h	23,900	25,600
		Min.—Max.		kW	0.9—8.0	0.9—9.1
				Btu/h	3,100—27,300	3,100—31,000
Input power	Cooling	Rated		kW	1.67	1.89
		Max.			2.44	3.03
	Heating	Rated			1.84	1.87
		Max.			2.60	2.65
	Fan	HIGH		W	79	97
		MED			45	52
		LOW			33	39
		QUIET			23	28
Current	Cooling	Rated		A	7.3	8.3
	Heating				8.1	8.2
Energy efficiency class	Cooling				A^{++}	
	Heating (Average)				A^{+}	
Pdesign	Cooling			kW	6.0	6.8
	Heating (Average)				4.8	6.0
SEER	Cooling			kWh/kWh	6.50	6.40
SCOP	Heating (Average)				4.20	
Annual energy consumption	QCE			kWh/a	331	380
	QHE (Average)				1,598	1,999
EER	Cooling			kW/kW	3.60	
COP	Heating				3.80	4.01
Sensible capacity	Cooling			kW	4.98	5.30
Power factor	Cooling			%	99.5	99.0
	Heating				98.8	99.2
Moisture removal				L/h (pints/h)	1.5 (2.6)	2.2 (3.9)
Maximum operating current*1	Cooling			A	12.6	13.6
	Heating				12.6	13.6
Fan	Airflow rate	Cooling	HIGH	m^3/h	1,150	1,230
			MED		920	980
			LOW		800	860
			QUIET		700	740
		Heating	HIGH		1,150	1,230
			MED		920	980
			LOW		800	860
			QUIET		700	740
	Type × Qty				Sirocco fan × 2	
	Motor output			W	197	
Static pressure range				Pa	30 to 150	
Sound pressure level*2	Cooling	HIGH		dB (A)	32	34
		MED			28	30
		LOW			25	28
		QUIET			24	26
	Heating	HIGH			32	34
		MED			28	30
		LOW			25	28
		QUIET			24	26
Sound power level	Cooling	HIGH		dB (A)	58	60
	Heating				58	60
Heat exchanger	Dimensions (H × W × D)			mm	336 × 790 × 39.9	
	Fin pitch				1.4	
	Rows × Stages				3 × 16	
	Pipe type				Copper tube	
	Fin type				Aluminum	
Enclosure	Material				Steel sheet	
	Color				—	
Dimensions (H × W × D)	Net			mm	240 × 1,000 × 700	
	Gross				334 × 1,226 × 863	
Weight	Net			kg	31	
	Gross				37	
Connection pipe	Size	Liquid		mm (in)	Ø6.35 (Ø1/4)	
		Gas			Ø12.70 (Ø1/2)	
	Method				Flare	
Drain port	Material				Polyvinyl chloride	
	Tip diameter			mm	Ø26 (I.D.), Ø32 (O.D.)	
Drain hose	Material				Polyvinyl chloride	
	Tip diameter			mm	Ø25 (I.D.), Ø32 (O.D.)	
Operation range	Cooling			°C	18 to 32	
				%RH	80 or less	
	Heating			°C	16 to 30	
Remote controller (Option)					Wireless, Wired, Mobile app*3 [FGLair™, AIRSTAGE Mobile]	

DUCT TYPE
ARXH22-24KMTAP

Type	Duct	
	Inverter, Heat pump	
Model name	ARXH22KMTAP	ARXH24KMTAP

NOTES:

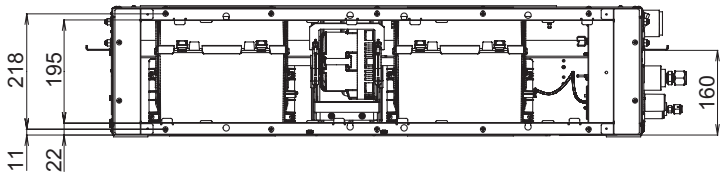
- Specifications are based on the following conditions:
  - Cooling: Indoor temperature of 27°CDB/19°CWB, and outdoor temperature of 35°CDB/24°CWB.
  - Heating: Indoor temperature of 20°CDB/15°CWB, and outdoor temperature of 7°CDB/6°CWB.
  - Pipe length: 5.0 m, Height difference: 0 m. (Between outdoor unit and indoor unit.)
  - Standard static pressure: 22 model: 40 Pa, 24 model: 50 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.
- This data is based on EN 14511 standard.

DUCT TYPE
ARXH22-24KMTAP

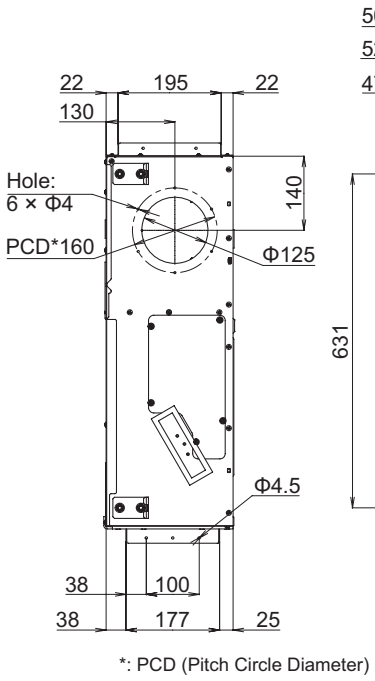
2. Dimensions

2-1. Models: ARXH22KMTAP and ARXH24KMTAP

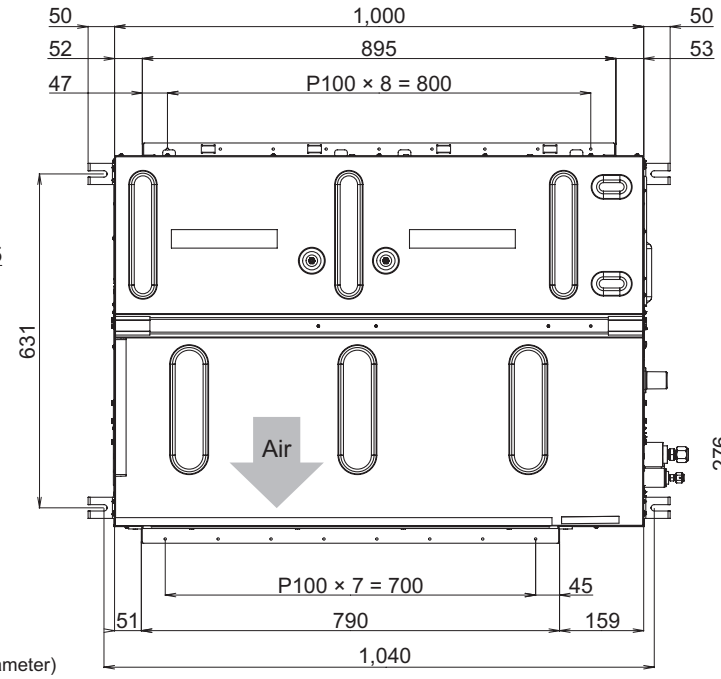
Unit: mm



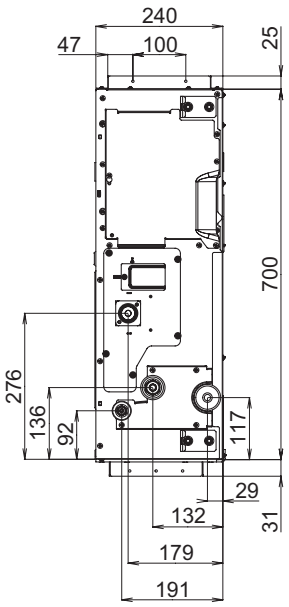
Rear view



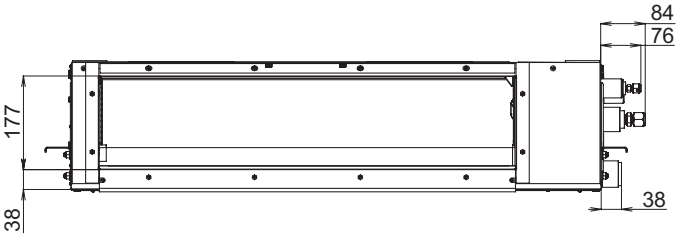
Side view (L)



Top view



Side view (R)



Front view

DUCT TYPE
ARXH22-24KMTAP

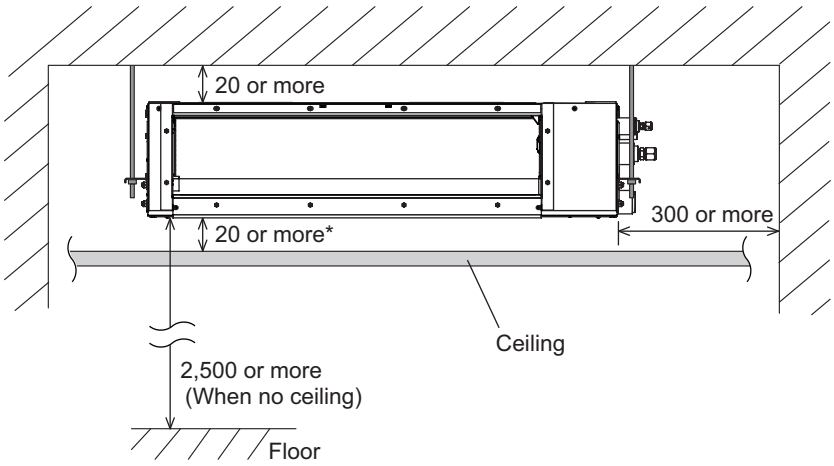
2-2. Installation space requirement

Provide sufficient installation space for product safety.

NOTE: The detailed component shape depends on the model.

■ Models: ARXH22KMTAP and ARXH24KMTAP

Unit: mm



*: According to the distance between the ceiling and the unit, the construction plan of the maintenance access differs. For details, refer to "Maintenance space requirement" on page 6.

DUCT TYPE
ARXH22-24KMTAP

2-3. Maintenance space requirement

Provide sufficient maintenance space for efficient maintenance.

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.

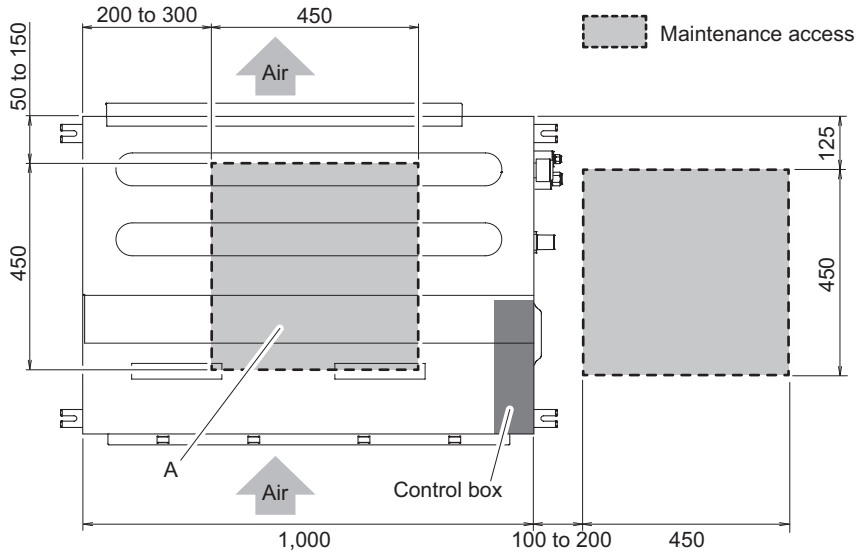
■ Models: ARXH22KMTAP and ARXH24KMTAP

Provide one or two maintenance accesses for the fan units and the filters or the inspections of the control box, drain pump, and the other parts.

Numbers and the sizes of the maintenance accesses differ according to the distance between the ceiling and the unit as follows.

Unit: mm

- Distance between the ceiling and the unit is 300 or more:



Bottom view

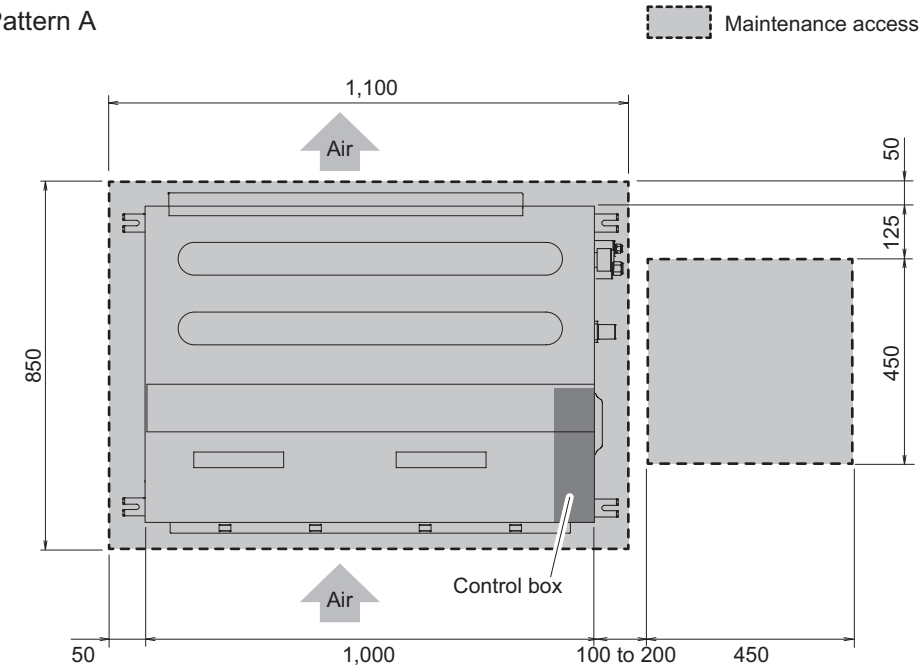
NOTE: If there is sufficient working space between the indoor unit and the ceiling plate, the maintenance access under the unit (A) is not necessary.

DUCT TYPE
ARXH22-24KMTAP

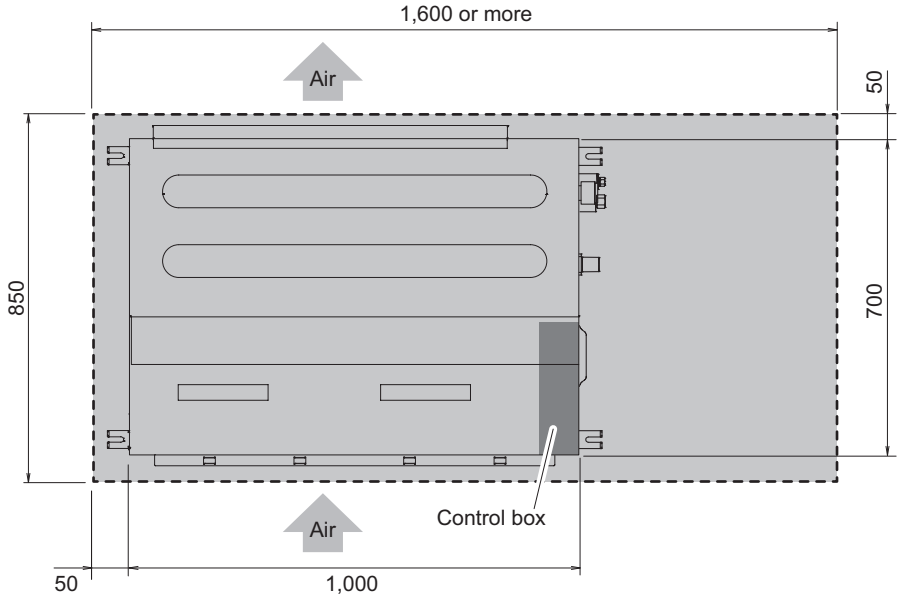
Unit: mm

- Distance between the ceiling and the unit is from 20 to 300:
  Choose one of these methods to set up the maintenance access.

Pattern A



Pattern B

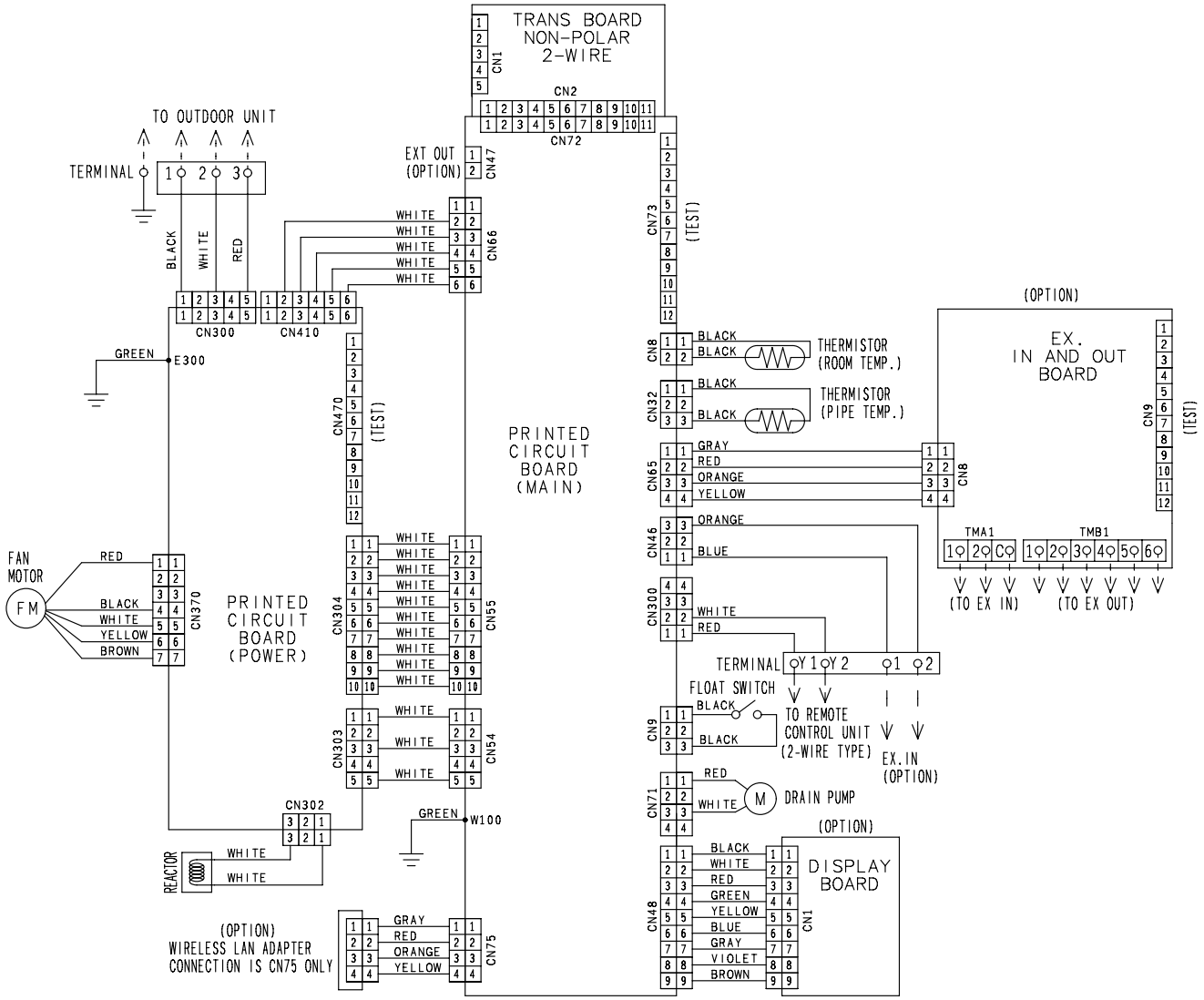


Bottom view

DUCT TYPE
ARXH22-24KMTAP

3. Wiring diagrams

3-1. Models: ARXH22KMTAP and ARXH24KMTAP



DUCT TYPE
ARXH22-24KMTAP

4. Capacity table

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

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

4-1. Cooling capacity

■ Model: ARXH22KMTAP

AFR	m^3/h	1,150

		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	4.99	4.27	0.53	5.56	4.29	0.54	5.75	4.66	0.54	6.13	4.68	0.55	6.32	5.05	0.55	6.70	5.03	0.56	7.08	5.36	0.56
	-10	5.03	4.27	0.45	5.61	4.30	0.46	5.80	4.67	0.46	6.18	4.70	0.47	6.37	5.07	0.47	6.75	5.04	0.48	7.13	5.37	0.48
	0	4.91	4.22	0.46	5.46	4.24	0.47	5.65	4.61	0.47	6.02	4.62	0.48	6.21	4.99	0.48	6.58	4.97	0.49	6.96	5.29	0.49
	5	4.77	4.15	0.59	5.32	4.18	0.60	5.50	4.54	0.60	5.86	4.56	0.61	6.04	4.92	0.61	6.40	4.90	0.62	6.76	5.23	0.62
	10	4.74	4.15	0.57	5.28	4.17	0.58	5.46	4.53	0.58	5.82	4.55	0.59	6.00	4.91	0.59	6.36	4.89	0.60	6.72	5.22	0.60
	15	4.59	4.07	0.68	5.11	4.10	0.69	5.29	4.46	0.70	5.64	4.47	0.71	5.81	4.83	0.71	6.16	4.80	0.72	6.51	5.12	0.73
	20	5.77	4.65	1.22	6.43	4.68	1.24	6.65	5.09	1.25	7.09	5.11	1.26	7.31	5.51	1.27	7.75	5.49	1.28	8.19	5.85	1.29
	25	5.43	4.51	1.36	6.05	4.53	1.38	6.25	4.92	1.39	6.66	4.95	1.40	6.87	5.34	1.41	7.28	5.32	1.43	7.69	5.66	1.44
	30	5.08	4.35	1.48	5.66	4.38	1.51	5.85	4.76	1.52	6.24	4.77	1.53	6.43	5.15	1.54	6.82	5.13	1.56	7.20	5.47	1.57
	35	4.74	4.21	1.61	5.28	4.23	1.63	5.46	4.60	1.64	5.82	4.61	1.66	6.00	4.98	1.67	6.36	4.96	1.69	6.72	5.28	1.71
	40	4.50	4.07	1.75	5.01	4.10	1.77	5.18	4.46	1.78	5.52	4.47	1.80	5.69	4.83	1.81	6.03	4.80	1.83	6.37	5.12	1.85
	46	3.69	3.61	1.50	4.11	3.63	1.53	4.25	3.94	1.54	4.53	3.95	1.55	4.67	4.27	1.56	4.95	4.25	1.58	5.23	4.53	1.59

■ Model: ARXH24KMTAP

AFR	m^3/h	1,230

		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	5.66	4.54	0.60	6.30	4.57	0.62	6.52	4.96	0.62	6.95	4.98	0.63	7.16	5.38	0.63	7.59	5.36	0.64	8.02	5.70	0.64
	-10	5.70	4.55	0.51	6.35	4.58	0.52	6.57	4.97	0.52	7.00	4.99	0.53	7.22	5.39	0.53	7.65	5.37	0.54	8.09	5.72	0.54
	0	5.56	4.48	0.52	6.19	4.50	0.53	6.40	4.90	0.53	6.83	4.91	0.54	7.04	5.31	0.54	7.46	5.28	0.55	7.88	5.63	0.56
	5	5.41	4.42	0.66	6.02	4.44	0.68	6.23	4.84	0.68	6.64	4.85	0.69	6.85	5.23	0.69	7.26	5.21	0.70	7.67	5.56	0.71
	10	5.37	4.41	0.64	5.98	4.43	0.65	6.19	4.83	0.66	6.60	4.84	0.66	6.80	5.22	0.67	7.21	5.20	0.67	7.62	5.54	0.68
	15	5.20	4.33	0.78	5.79	4.36	0.79	5.99	4.73	0.79	6.39	4.75	0.80	6.58	5.13	0.80	6.98	5.11	0.81	7.37	5.45	0.82
	20	6.54	4.95	1.39	7.29	4.97	1.40	7.54	5.41	1.41	8.04	5.43	1.42	8.28	5.87	1.43	8.78	5.84	1.45	9.28	6.22	1.47
	25	6.15	4.80	1.54	6.85	4.82	1.56	7.09	5.24	1.57	7.55	5.25	1.58	7.79	5.68	1.59	8.25	5.66	1.61	8.72	6.02	1.63
	30	5.76	4.63	1.68	6.41	4.65	1.70	6.63	5.06	1.71	7.07	5.08	1.73	7.29	5.48	1.74	7.72	5.46	1.76	8.16	5.82	1.78
	35	5.37	4.47	1.83	5.98	4.49	1.85	6.19	4.89	1.86	6.60	4.90	1.88	6.80	5.30	1.89	7.21	5.27	1.91	7.62	5.62	1.93
	40	5.09	4.33	1.98	5.67	4.36	2.00	5.87	4.73	2.02	6.26	4.75	2.04	6.45	5.13	2.05	6.84	5.11	2.07	7.22	5.45	2.09
	46	4.18	3.83	1.70	4.66	3.86	1.73	4.82	4.19	1.74	5.13	4.20	1.76	5.29	4.55	1.77	5.61	4.53	1.78	5.93	4.82	1.80

DUCT TYPE
ARXH22-24KMTAP

4-2. Heating capacity

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

■ Model: ARXH22KMTAP

AFR	m^3/h	1,150

			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	5.60	2.18	5.46	2.23	5.33	2.27	5.20	2.32	5.06	2.36
	-10	-11	6.14	2.27	6.00	2.31	5.85	2.36	5.70	2.41	5.56	2.45
	-5	-7	6.70	2.34	6.54	2.39	6.38	2.44	6.22	2.49	6.06	2.54
	0	-2	7.26	2.42	7.08	2.47	6.91	2.52	6.74	2.57	6.56	2.62
	5	3	7.81	2.50	7.63	2.55	7.44	2.60	7.25	2.65	7.07	2.70
	7	6	8.40	2.50	8.20	2.55	8.00	2.60	7.80	2.65	7.60	2.70
	10	8	8.05	2.36	7.86	2.41	7.67	2.46	7.48	2.51	7.29	2.56
	15	10	7.49	2.13	7.31	2.18	7.13	2.22	6.95	2.26	6.77	2.30
	20	15	7.04	1.81	6.87	1.84	6.70	1.88	6.53	1.92	6.37	1.96
	24	18	7.32	1.79	7.14	1.82	6.97	1.86	6.80	1.90	6.62	1.93

■ Model: ARXH24KMTAP

AFR	m^3/h	1,230

			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	6.37	2.22	6.21	2.26	6.06	2.31	5.91	2.36	5.76	2.40
	-10	-11	6.99	2.31	6.82	2.36	6.65	2.40	6.49	2.45	6.32	2.50
	-5	-7	7.62	2.39	7.44	2.44	7.26	2.49	7.08	2.54	6.89	2.59
	0	-2	8.25	2.47	8.06	2.52	7.86	2.57	7.66	2.62	7.47	2.67
	5	3	8.89	2.54	8.67	2.60	8.46	2.65	8.25	2.70	8.04	2.76
	7	6	9.56	2.54	9.33	2.60	9.10	2.65	8.87	2.70	8.65	2.76
	10	8	9.16	2.41	8.94	2.46	8.72	2.51	8.51	2.56	8.29	2.61
	15	10	8.52	2.17	8.31	2.21	8.11	2.26	7.91	2.30	7.70	2.34
	20	15	8.00	1.84	7.81	1.88	7.62	1.92	7.43	1.96	7.24	1.99
	24	18	8.32	1.82	8.13	1.86	7.93	1.90	7.73	1.94	7.53	1.97

DUCT TYPE
ARXH22-24KMTAP

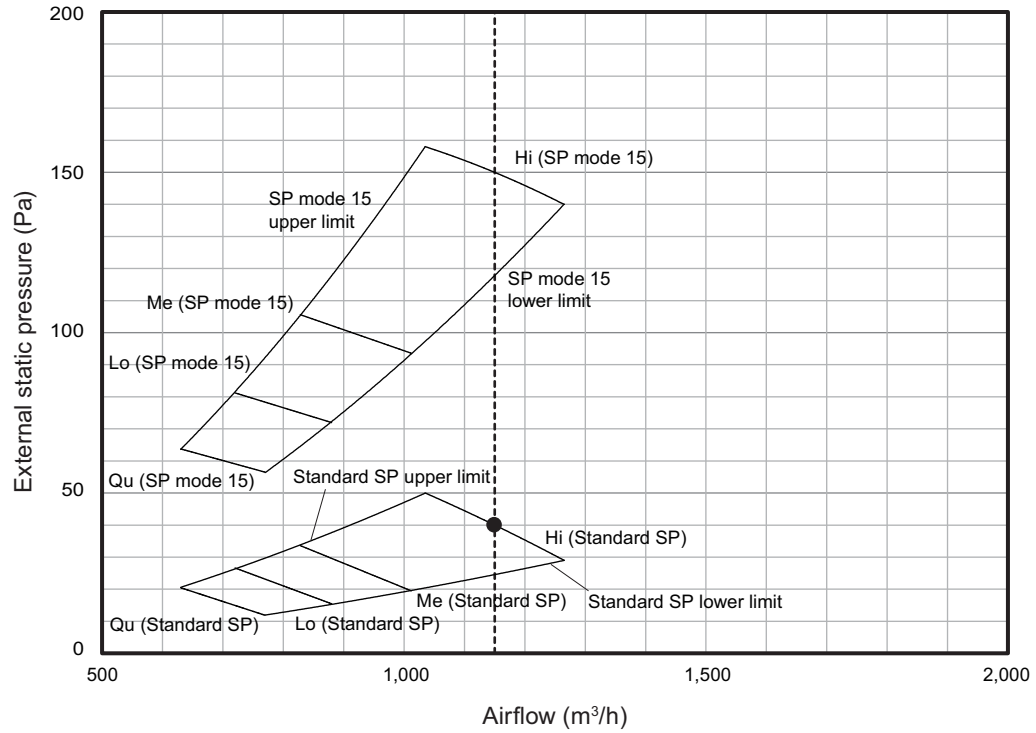
5. Fan performance

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

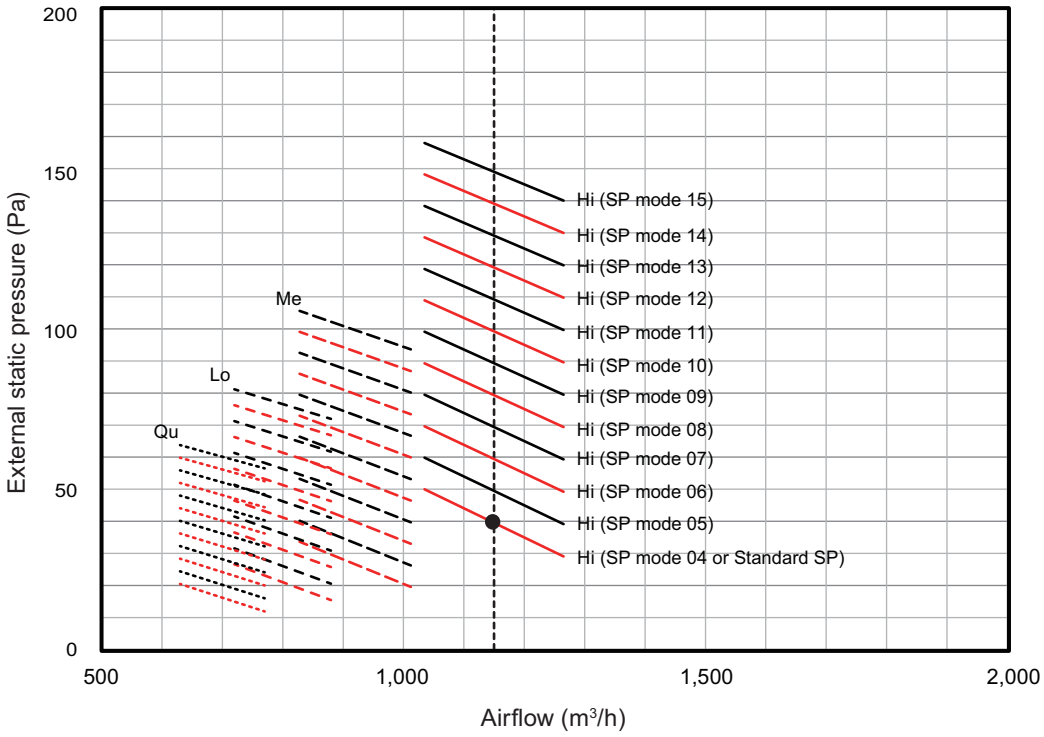
5-1. Fan performance curve

■ Model: ARXH22KMTAP

Fan performance curve 1



Fan performance curve 2
(For function setting by remote controller)



DUCT TYPE
ARXH22-24KMTAP

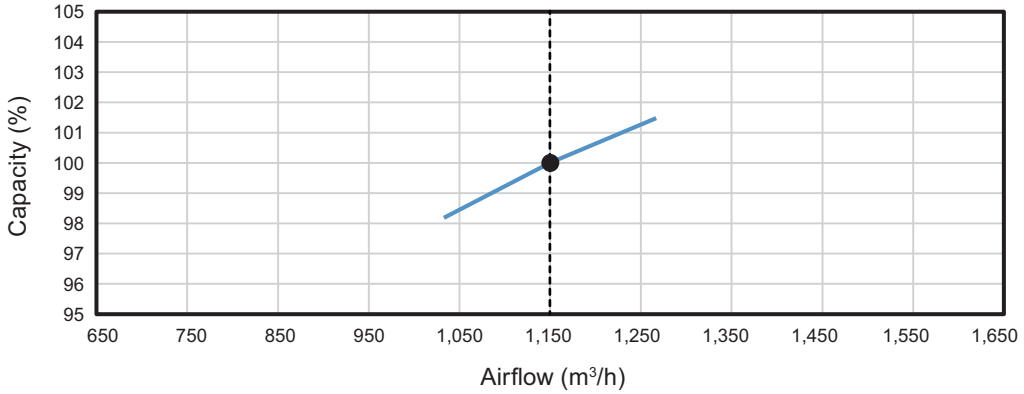
NOTES:

- Setting of the external static pressure is switchable into modes by using the remote controller.
- According to the resistance of the connecting duct, perform the setting of the external static pressure with referring “Fan performance curve 2” above.
- The default setting is set at “Standard SP”.

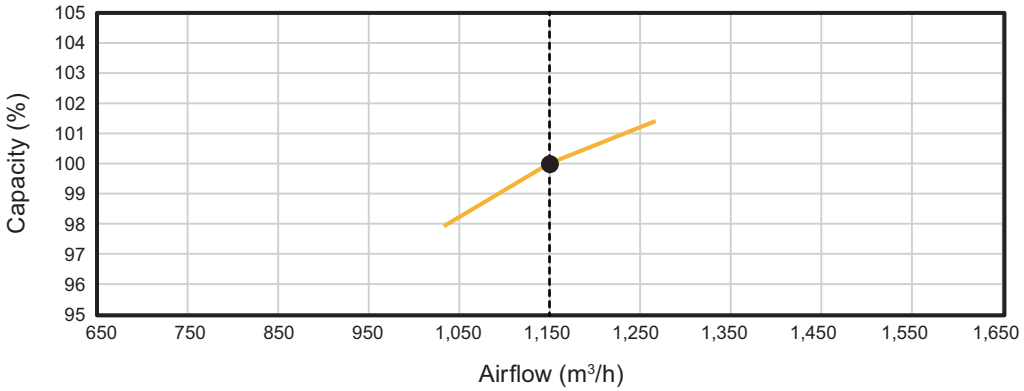
DUCT TYPE
ARXH22-24KMTAP

● Characteristics of air volume and capacity

- **Cooling**



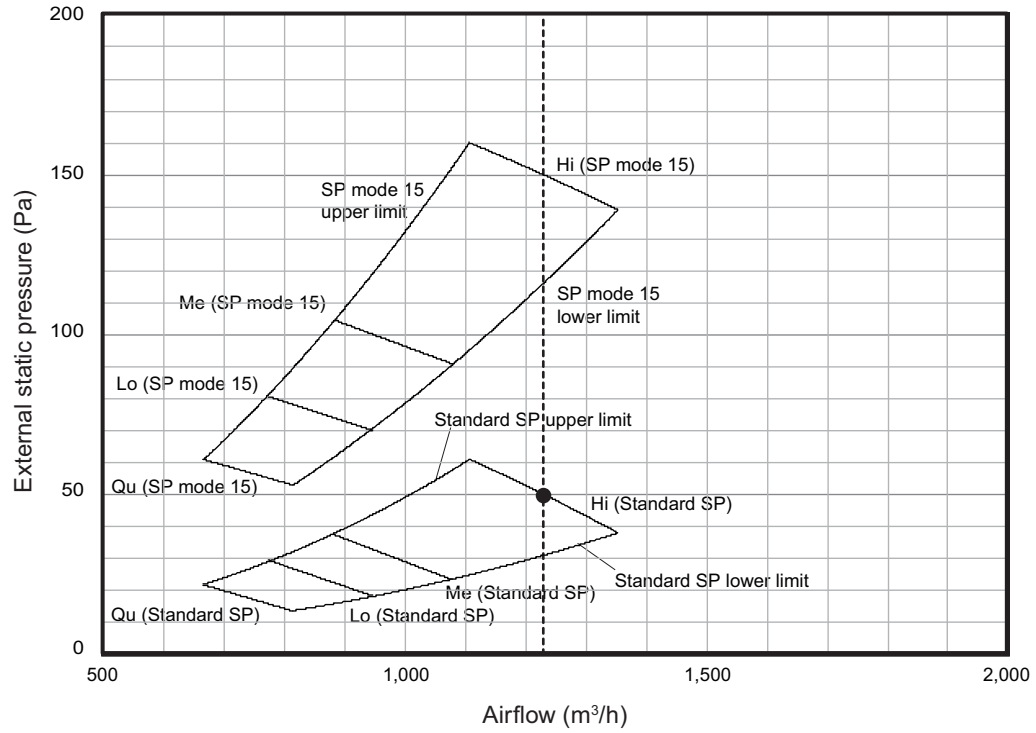
- **Heating**



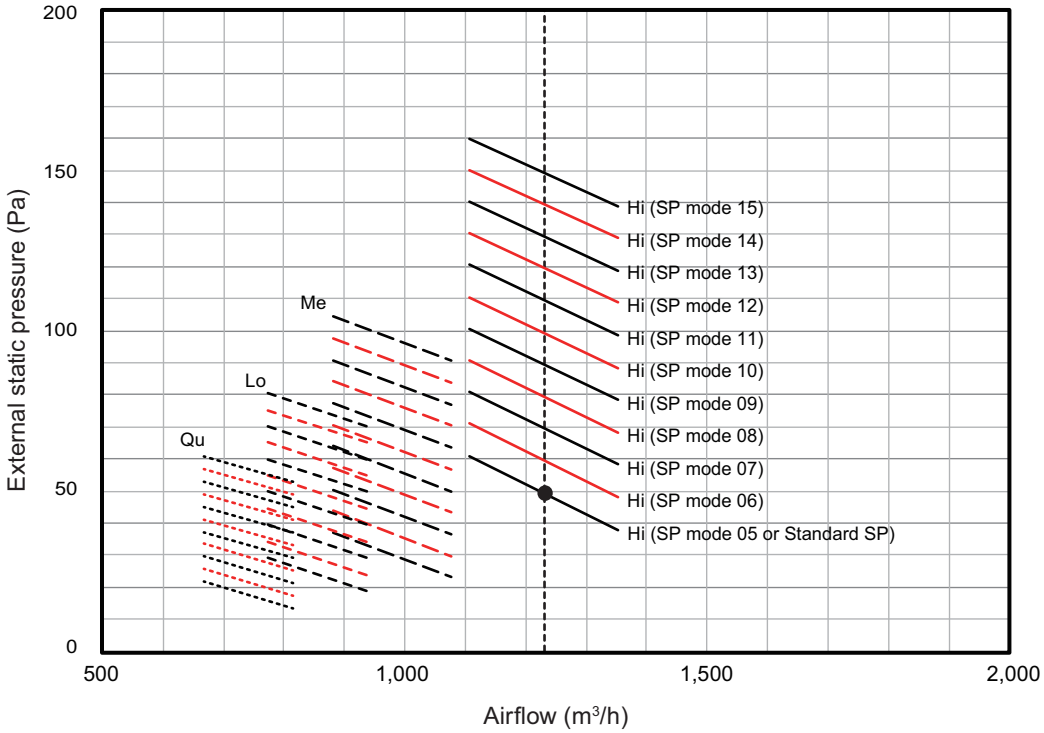
DUCT TYPE
ARXH22-24KMTAP

■ Model: ARXH24KMTAP

Fan performance curve 1



Fan performance curve 2
(For function setting by remote controller)



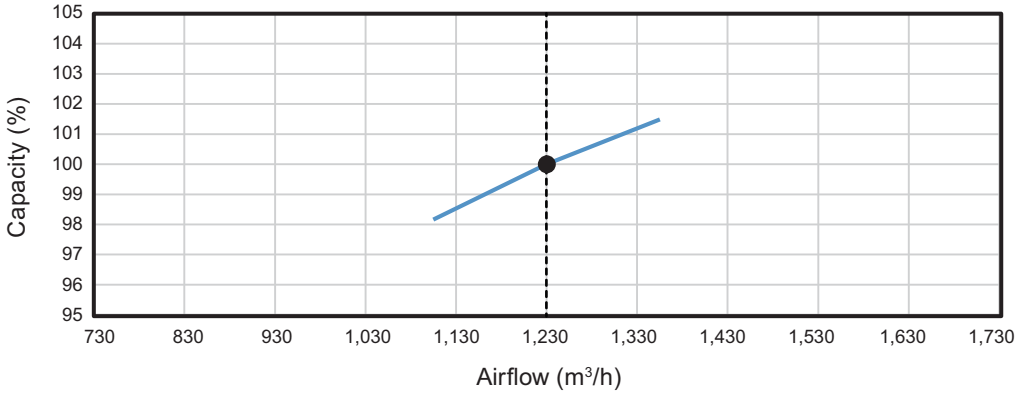
NOTES:

- Setting of the external static pressure is switchable into modes by using the remote controller.
- According to the resistance of the connecting duct, perform the setting of the external static pressure with referring “Fan performance curve 2” above.
- The default setting is set at “Standard SP”.

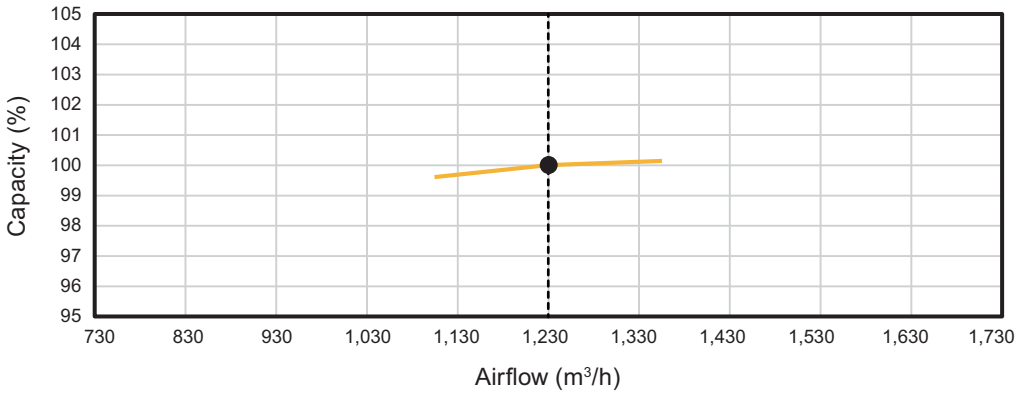
DUCT TYPE
ARXH22-24KMTAP

● Characteristics of air volume and capacity

- **Cooling**



- **Heating**



■ Automatic airflow adjustment procedures

1. To start the auto setting, use setting value 32 in function number 26.
2. Run the air conditioner on fan mode (High).
   * For instructions on how to operate the air conditioner, refer to the operation manual of the remote controller.

   During automatic airflow adjustment, the mode will be fixed at fan (High).

   When this function is active, do not operate the outdoor unit.
3. The air conditioner will run for about 1 to 8 min then stop automatically.
   * Do not change the throttles of the inlet and outlet ports during operation.

   When used in a group control system, the setting will take about 10 min.
4. Turn the air conditioner off and on again.
5. Check the setting value of function number 26.
   * If the setting value has not changed, repeat the procedure from step 2.

⚠ CAUTION

When the duct or outlet installations are changed after the Automatic airflow adjustment is completed, repeat the procedure from step 1.

DUCT TYPE
ARXH22-24KMTAP

5-2. Airflow

■ Model: ARXH22KMTAP

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	1,150
	l/s	319
	CFM	677
MED	m^3/h	920
	l/s	256
	CFM	542
LOW	m^3/h	800
	l/s	222
	CFM	471
QUIET	m^3/h	700
	l/s	194
	CFM	412

● Heating

Fan speed	Airflow	
HIGH	m^3/h	1,150
	l/s	319
	CFM	677
MED	m^3/h	920
	l/s	256
	CFM	542
LOW	m^3/h	800
	l/s	222
	CFM	471
QUIET	m^3/h	700
	l/s	194
	CFM	412

DUCT TYPE
ARXH22-24KMTAP

■ Model: ARXH24KMTAP

● Cooling

Fan speed	Airflow	
HIGH	m^3/h	1,230
	l/s	342
	CFM	724
MED	m^3/h	980
	l/s	272
	CFM	577
LOW	m^3/h	860
	l/s	239
	CFM	506
QUIET	m^3/h	740
	l/s	206
	CFM	436

● Heating

Fan speed	Airflow	
HIGH	m^3/h	1,230
	l/s	342
	CFM	724
MED	m^3/h	980
	l/s	272
	CFM	577
LOW	m^3/h	860
	l/s	239
	CFM	506
QUIET	m^3/h	740
	l/s	206
	CFM	436

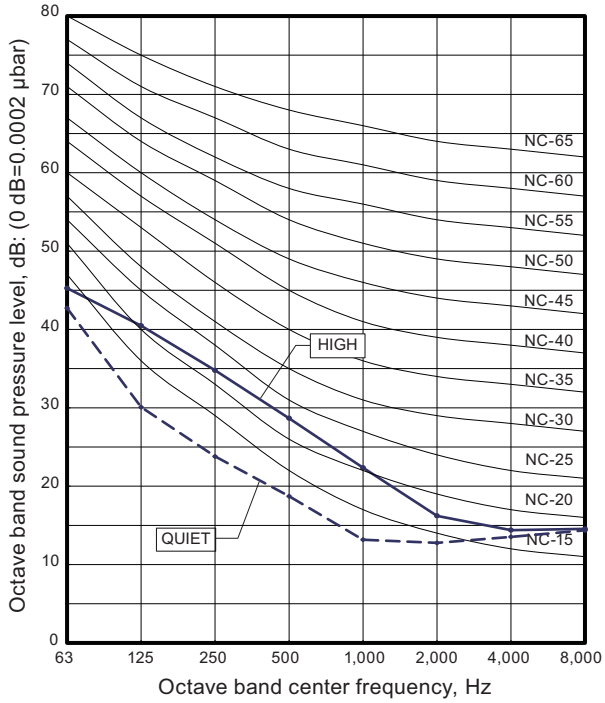
DUCT TYPE
ARXH22-24KMTAP

6. Operation noise (sound pressure)

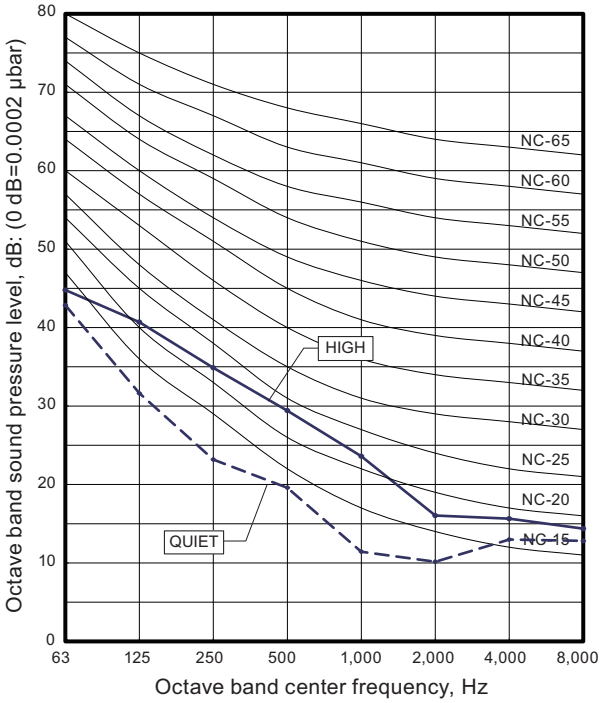
6-1. Noise level curve

■ Model: ARXH22KMTAP

● Cooling

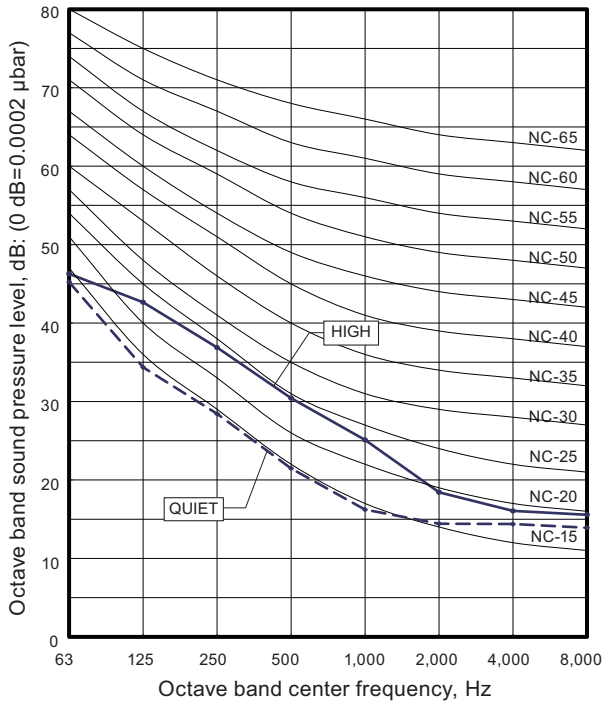


● Heating

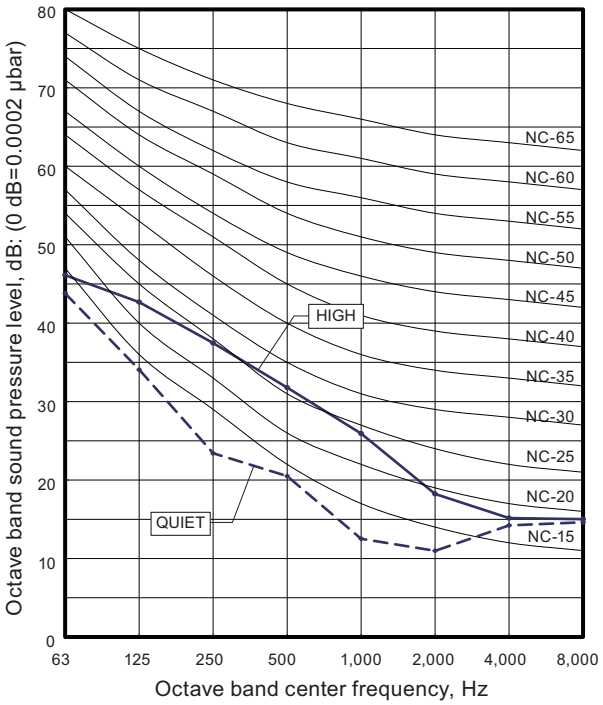


■ Model: ARXH24KMTAP

● Cooling

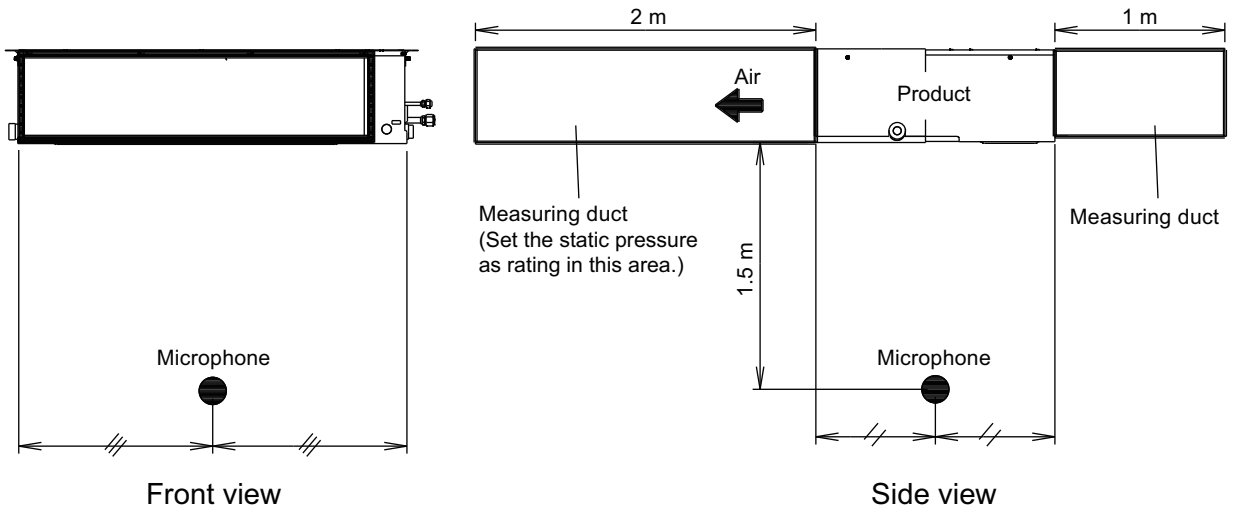


● Heating



DUCT TYPE
ARXH22-24KMTAP

6-2. Sound level check point



DUCT TYPE
ARXH22-24KMTAP

7. Safety devices

Type of protection	Protection form		Model
			ARXH22KMTAP ARXH24KMTAP
Circuit protection	Current fuse (PCB*)		250 V, 5 A
Fan motor protection	Thermal protection program	Activate	115 ±15°C Fan motor stop
		Reset	70°C Fan motor restart

*PCB: Printed Circuit Board

DUCT TYPE
ARXH22-24KMTAP

8. External input and output

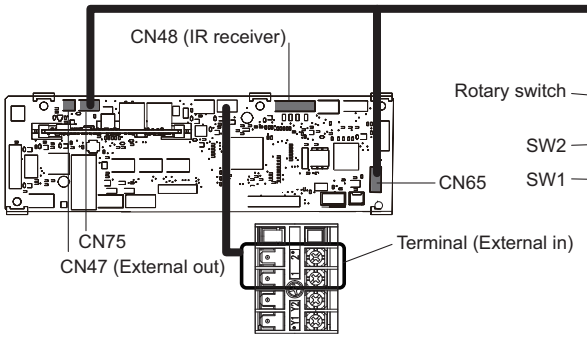


Fig. Indoor unit PCB

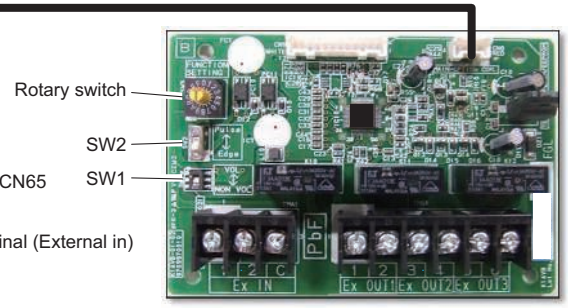


Fig. External Input and Output PCB

Connecting point		Input/Output	Function	Input select	Input signal
Indoor unit	Terminal	Input	Operation/Stop	Dry contact	Edge
			Forced stop		
	CN47	Output	Operation/Stop	—	—
			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/Stop	—	—
			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 25.

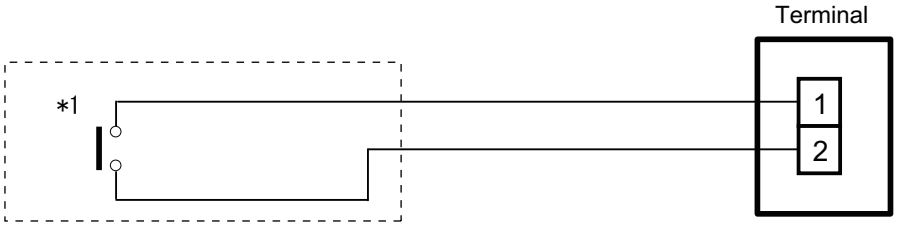
DUCT TYPE
ARXH22-24KMTAP

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 terminal.

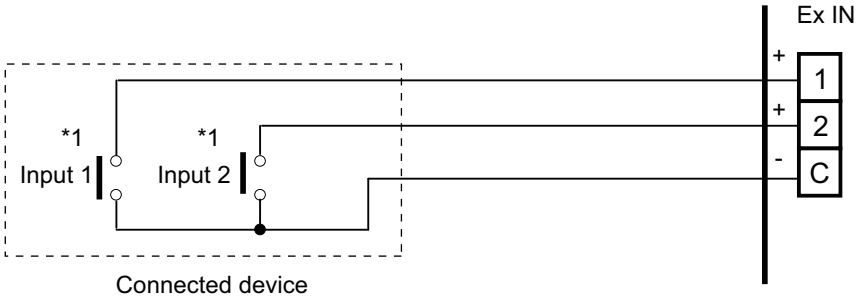


*1: The switch can be used on the following condition: DC 12 V to 24 V, 1 mA to 15 mA.

■ External Input and Output PCB

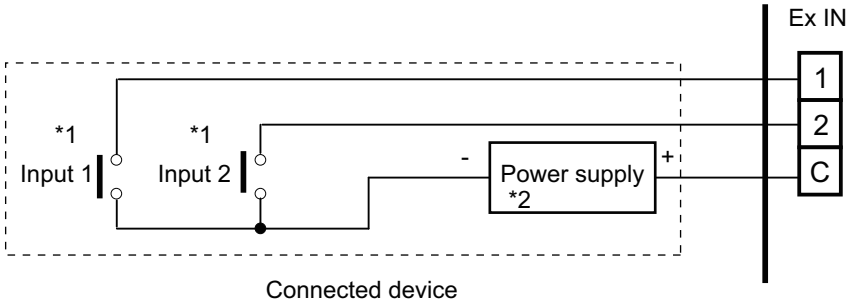
The indoor unit Operation/Stop can be set by using the input terminal on the PCB.

- **Input select**
  Use either one of these types of terminal according to the application. (Both types of terminal 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.

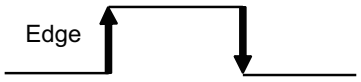


*1: The switches can be used on the following condition: DC 12 V to 24 V, 1 mA to 15 mA.
*2: Make the power supply DC 12 V to 24 V, 10 mA or more.

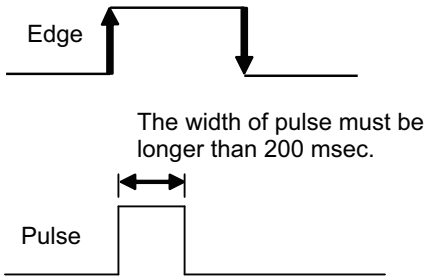
DUCT TYPE
ARXH22-24KMTAP

■ 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
ARXH22-24KMTAP

8-2. External output

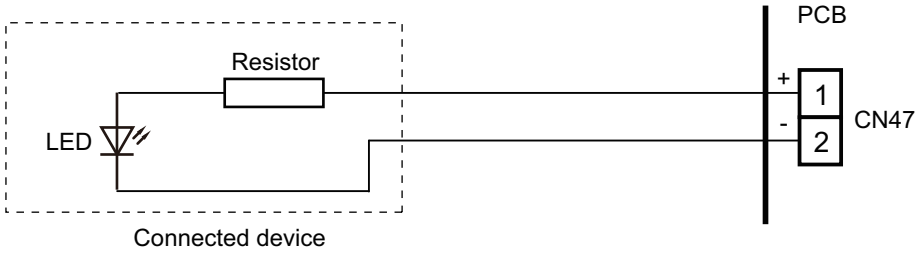
Use an external output cable with appropriate external dimension, depending on the number of cables to be installed.

■ 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 25.

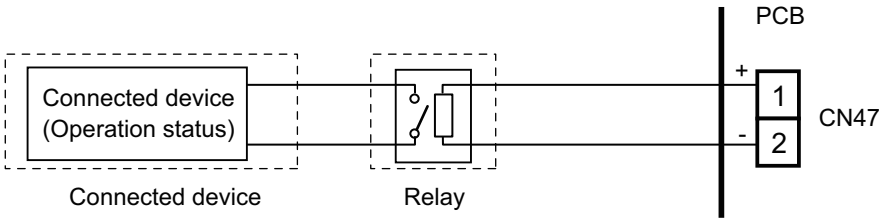
- **When indicator, etc. are connected directly**

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



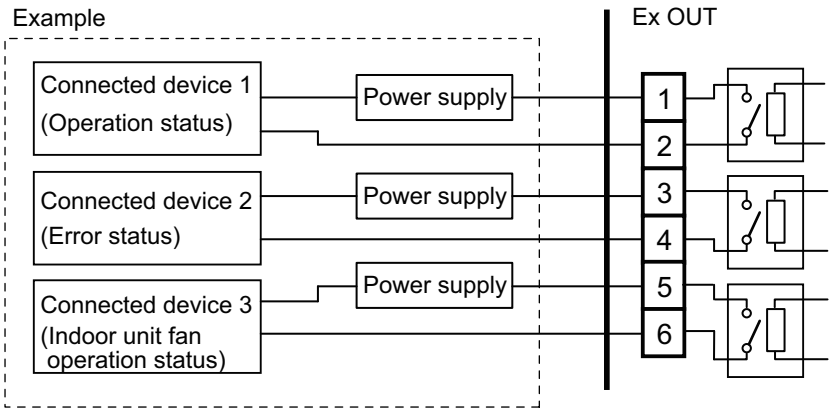
- **When connecting with a device equipped with a power supply**

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 25.



DUCT TYPE
ARXH22-24KMTAP

8-3. Setting of external input and output

- **Indoor unit**

Input		
Connecting 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		
Connecting point	**Function setting number 60**	**Function**
CN47	00	Operation/Stop
	01 to 08	(Setting prohibited)
	09	Error status
	10	Indoor unit fan operation 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/Stop	Error status	Indoor unit fan operation 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/Stop	Indoor unit fan operation status	External heater output
C		Forced thermostat off	Not available	Operation/Stop	Error status	External heater output
D		Forced thermostat off	Not available	Operation/Stop	Indoor unit fan operation status	Error status

NOTES:

- When the rotary switch is selected to “1", the operation of the terminal 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”.

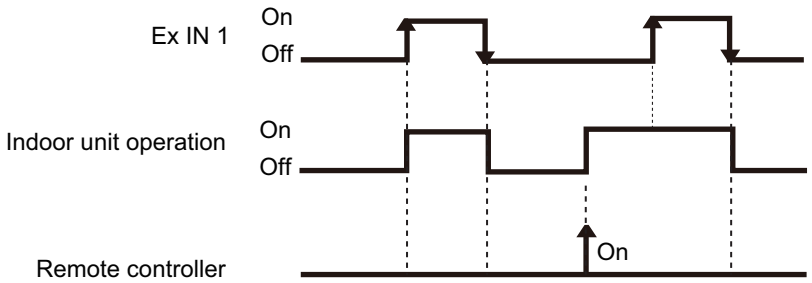
DUCT TYPE
ARXH22-24KMTAP

8-4. Details of control input function

■ Operation/Stop mode 1

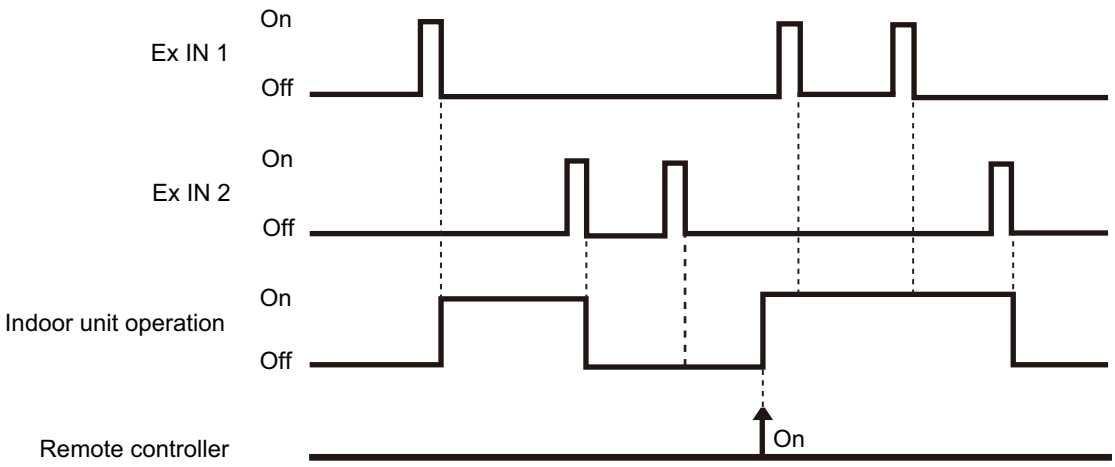
- **In the case of "Edge" input**

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:

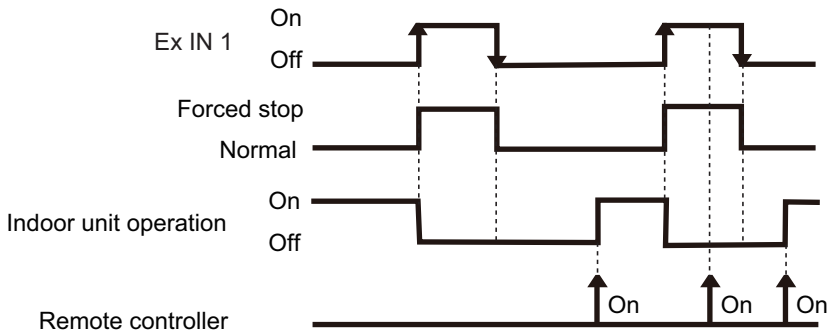
- The last command has priority.
- The indoor units within the same remote controller group operates in the same mode.

DUCT TYPE
ARXH22-24KMTAP

■ Forced stop

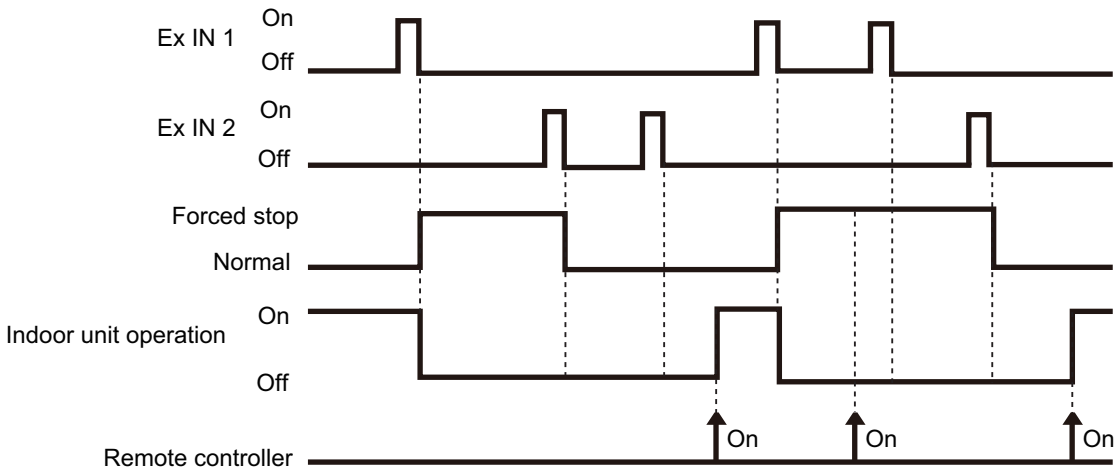
- **In the case of "Edge" input**

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:

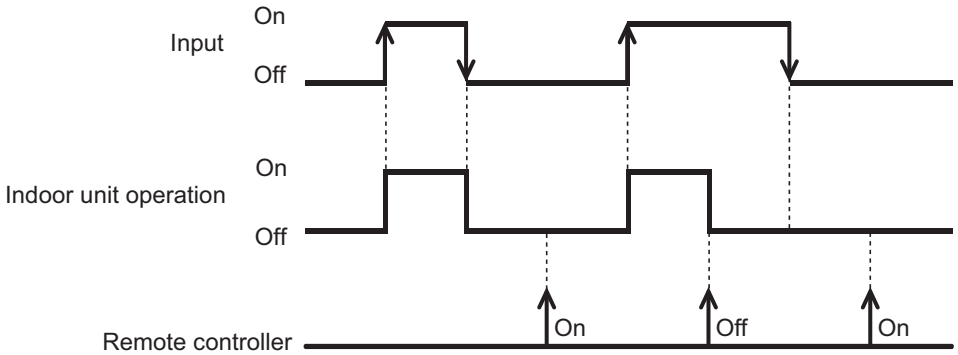
- When the forced stop is triggered, indoor unit stops and Operation/Stop operation by the remote controller is restricted.
- When forced stop function is used with forming a remote controller group, connect the same equipment to each indoor unit within the group.

DUCT TYPE
ARXH22-24KMTAP

■ Operation/Stop mode 2

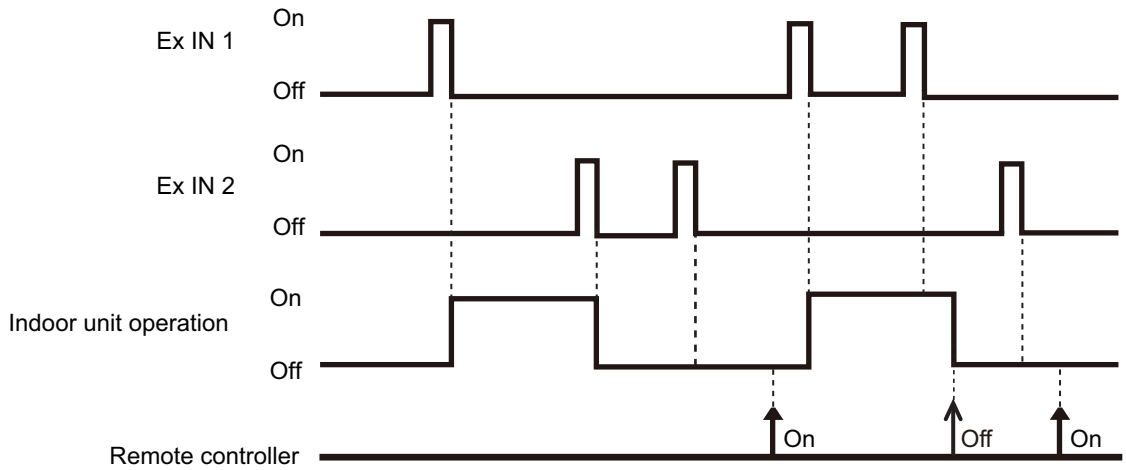
- **In the case of "Edge" input**

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)

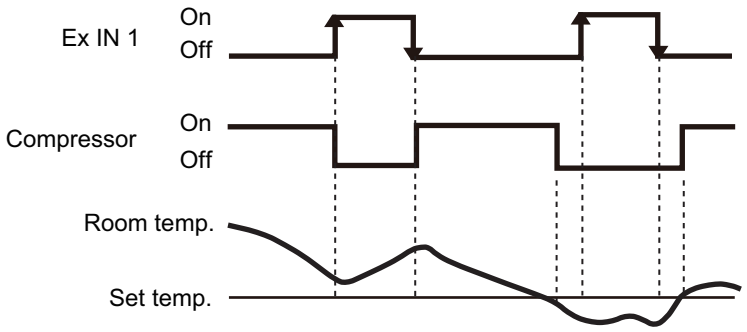


NOTE: When "Operation/Stop" mode 2 function is used with forming a remote controller group, connect the same equipment to each indoor unit within the group.

DUCT TYPE
ARXH22-24KMTAP

■ Forced thermostat off

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



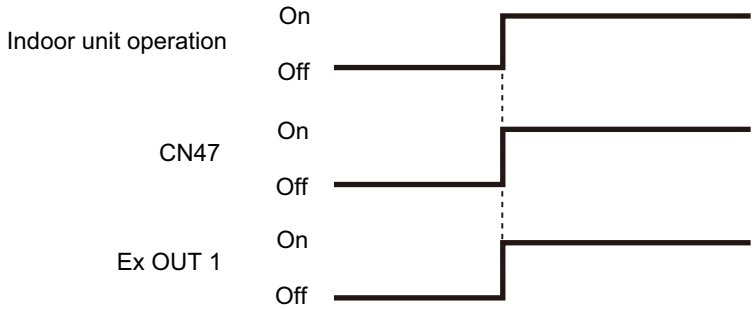
DUCT TYPE
ARXH22-24KMTAP

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

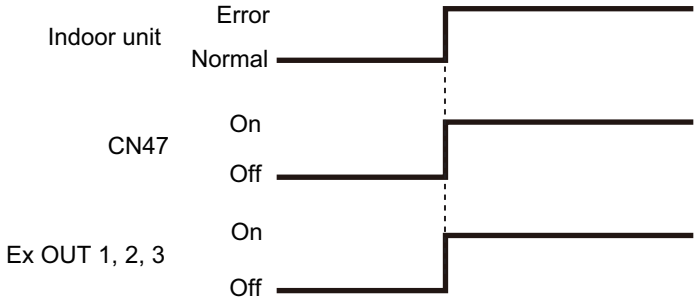
The output is low when the unit is stopped.



■ 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.

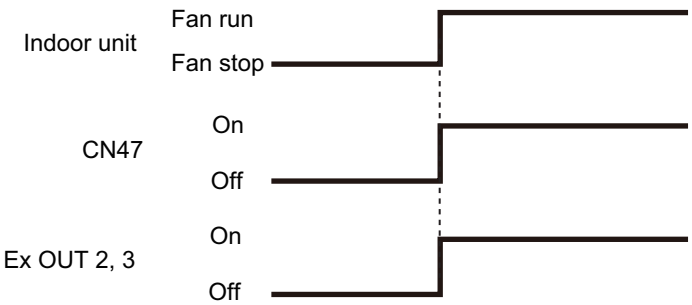


DUCT TYPE
ARXH22-24KMTAP

■ 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
ARXH22-24KMTAP

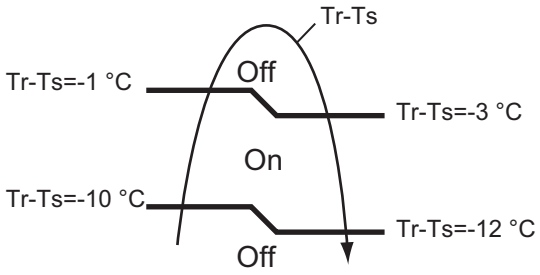
■ External heater output

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
ARXH22-24KMTAP

9. Group connection

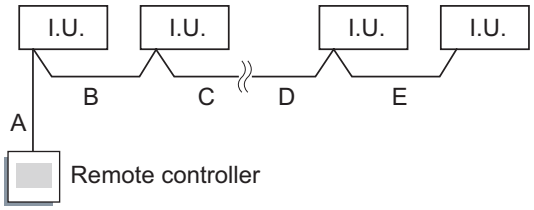
NOTE: Group control cannot be used together with WLAN Adapter.

Installation procedure for group control system:

A number of indoor units can be operated at the same time using a single remote controller.

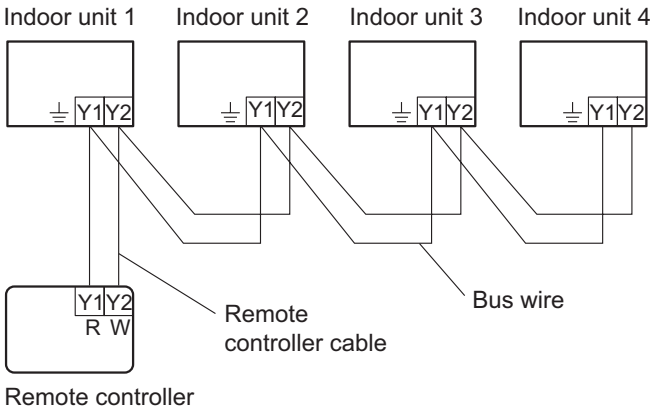
NOTE: When different type of indoor units (such as wall-mounted type and cassette type, cassette type and duct type, or other combinations) are connected using group control system, some functions may no longer be available.

1. Connect up to 16 indoor units in a system.



A, B, C, D, E: Remote controller cable	
Wiring length limitation	A + B + C + D + E ≤ 500 m

Example of wiring method



2. Automatic address setting
   After the remote controller connection in the system, the automatic address setting runs in the initial starting up. Do not change the remote controller address for the indoor unit.

DUCT TYPE
ARXH22-24KMTAP

10. 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.

10-1. Function settings on indoor unit

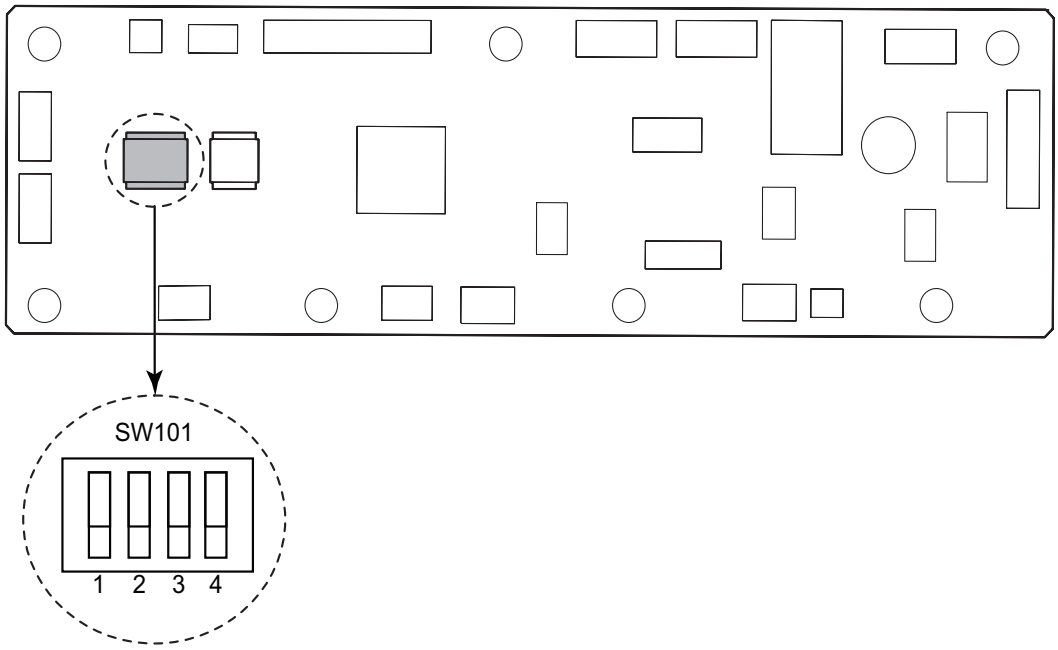
By using some components on the PCB, you can change the function settings.

Related components on the PCB and the applicable settings

Component		Setting content
DIP switch101	1	Drainage function setting
	2	Setting change prohibited
	3	Fan delay setting
	4	Setting change prohibited

● 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)**

DUCT TYPE
ARXH22-24KMTAP

- **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	♦

- **Switch 4: Setting change prohibited (SW101)**

DUCT TYPE
ARXH22-24KMTAP

10-2. 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)	26	Static pressure
3)	30/31	Room temperature control for indoor unit sensor
4)	35/36	Room temperature control for wired remote controller sensor
5)	40	Auto restart
6)	42	Room temperature sensor switching
7)	43	Cold air prevention
8)	46	External input control
9)	48	Room temperature sensor switching (Aux.)
10)	49	Indoor unit fan control for energy saving for cooling
11)	60	Switching functions for external output terminal
12)	68	Auto mode type
13)	69	Deadband value

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 (4,400 hours)	
	02	Short interval (1,250 hours)	
	03	No indication	♦

DUCT TYPE
ARXH22-24KMTAP

2) Static pressure

Select the appropriate static pressure according to the installation conditions.

Function number	Setting value	Setting description	Factory setting
26	03	30 Pa	
	04	40 Pa	
	05	50 Pa	
	06	60 Pa	
	07	70 Pa	
	08	80 Pa	
	09	90 Pa	
	10	100 Pa	
	11	110 Pa	
	12	120 Pa	
	13	130 Pa	
	14	140 Pa	
	15	150 Pa	
	31	Standard (40 Pa: 22 model, 50 Pa: 24 model)	♦
	32	Automatic airflow adjustment	

NOTE: If the static pressure is set above maximum range, the setting is same as the maximum.

Example:

The setting “160 Pa” (16) to “300 Pa” (30) is same as “150 Pa” (15).

Model	Setting of static pressure range
22 and 24	30 to 150 Pa

DUCT TYPE
ARXH22-24KMTAP

3) 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
ARXH22-24KMTAP

4) 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		

5) 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.

6) 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
ARXH22-24KMTAP

7) Cold air prevention

This setting is to disable the cold air prevention function during heating operation. When disabled, the fan setting will always follow the setting on the remote controller. (Excluding defrost mode)

Function number	Setting value	Setting description	Factory setting
43	00	Enable	♦
	01	Disable	

8) 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 (Remote controller enabled)	♦
	01	(Setting prohibited)	
	02	Forced stop mode	
	03	Operation/Stop mode 2 (Remote controller disabled)	

9) 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	♦

10) 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
ARXH22-24KMTAP

11) 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	Fresh air control	
	11	External heater	

12) Auto mode type

Switches the setting method of the auto mode between single or dual (cooling and heating.)
Set the primary indoor unit using a wired remote controller for heat pump systems.

Function number	Setting value	Setting description	Factory setting
68	00	Single setpoint auto mode	♦
	01	Dual setpoint auto mode	

NOTE: The auto mode type setting is available only if a compatible operating device is connected.

13) Deadband value

Sets the minimum temperature of the deadband in the dual setpoint auto mode (the setting value 01 of the function setting number 68: Auto mode type.)

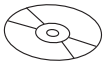
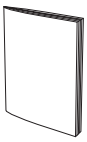
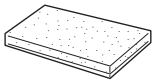
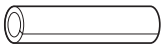
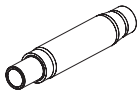
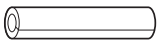
Function number	Setting value	Setting description	Factory setting
69	00	0°C	♦
	01	0.5°C	
	02	1.0°C	
	03	1.5°C	
	04	2.0°C	
	05	2.5°C	
	06	3.0°C	
	07	3.5°C	
	08	4.0°C	
	09	4.5°C	

NOTE: The deadband setting is available only if a compatible operating device is connected.

DUCT TYPE
ARXH22-24KMTAP

11. Accessories

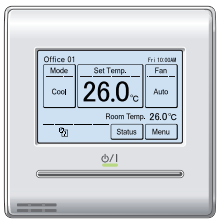
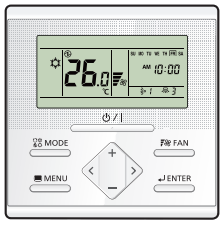
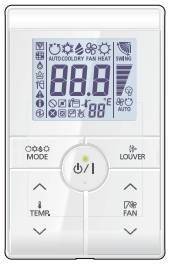
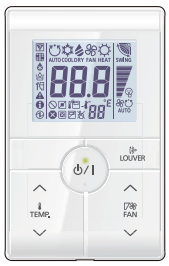
11-1. Models: ARXH22KMTAP and ARXH24KMTAP

Part name	Exterior	Qty	Part name	Exterior	Qty
Operation manual		1	Cable tie (large)		4
Operation manual (CD-ROM)		1	Cable tie (medium)		1
Installation manual		1	Cable tie (small)		1
Washer		8	Drain hose insulation		1
Coupler heat insulation (large)		1	Drain hose		1
Coupler heat insulation (small)		1	Hose band		1

DUCT TYPE
ARXH22-24KMTAP

12. Optional parts

12-1. Controllers

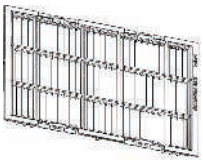
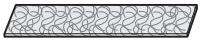
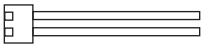
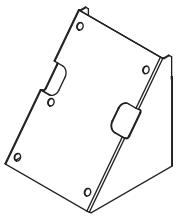
Exterior	Part name	Model name	Summary
	Wired Remote Controller	UTY-RNRYZ*	Easy finger touch operation with LCD panel. Backlit LCD enables easy operation in a dark room. Wire type: Non-polar 2-wire
	Wired Remote Controller	UTY-RLRY	High visibility and easy operation. Room temperature can be accurately controlled using the thermo sensor. Wire type: Non-polar 2-wire
	Compact Wired Remote Controller	UTY-RCRYZ1	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-RSRY	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-RHRY	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-LBTYM	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
ARXH22-24KMTAP

12-2. Others

Exterior	Part name	Model name	Summary
	Remote Sensor Unit	UTY-XSZX	Thermo-sensor for sensing the temperature of arbitrary place in the room. Connecting point: CN8 on Main PCB
	Remote Sensor Unit	UTY-XSZXZ*	Thermo-sensor for sensing the temperature of arbitrary place in the room. Connecting point: CN8 on Main PCB
	Long-life Filter	UTD-LFDB	Long-life Filter can be mounted to the indoor unit.
	Air Cleaning Filter	UTD-HFNB	Air Cleaning 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-GXDA	For installing the External input and output PCB.
	WLAN Adapter	UTY-TFSXZ1 UTY-TFSXJ3	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

Exterior	Part name	Model name	Summary
	Network Converter	UTY-VTGX	This converter is required when connecting single split system to VRF network system. Connecting point: Terminal block (Y1, Y2) on Main PCB
	Network Converter (AC power supply)	UTY-VTGXV	This converter is required when connecting single split system to VRF network system. Connecting point: Terminal block (Y1, Y2) on Main PCB
	External Switch Controller	UTY-TERX	Air conditioner switching can be controlled by connecting other external sensor switches. Connecting point: Terminal block (Y1, Y2) on Main PCB

DUCT TYPE
ARXH22-24KMTAP

DUCT TYPE
ARXH22-24KMTAP

Part 2. OUTDOOR UNIT

SINGLE TYPE:

AOEG22KBTB
AOEG24KBTB

OUTDOOR UNIT
AOEG22-24KBTB

1. Specifications

Type				Inverter, Heat pump	
Model name				**AOEG22KBTB**	**AOEG24KBTB**
Power supply				230 V~ 50 Hz	
Power supply intake				Outdoor unit	
Available voltage range				198—264 V	
Starting current			A	8.1	8.3
Fan	Airflow rate	Cooling	m^3/h	2,240	2,700
		Heating		1,960	2,700
	Type × Qty			Propeller fan × 1	
	Motor output		W	49	
Sound pressure level*		Cooling	dB (A)	51	53
		Heating		51	54
Sound power level		Cooling	dB (A)	63	65
		Heating		63	66
Heat exchanger type		Dimensions (H × W × D)	mm	Main 1: 588 × 881 × 18.19 Main 2: 588 × 851 × 18.19	Main 1: 672 × 881 × 18.19 Main 2: 672 × 851 × 18.19
		Fin pitch		Main 1: 1.3 Main 2: 1.3	
		Rows × Stages		Main 1: 1 × 28 Main 2: 1 × 28	Main 1: 1 × 32 Main 2: 1 × 32
		Pipe type		Copper tube	
		Fin type	Type (Material)	Aluminum	
			Surface treatment	PC fin	
Compressor		Type		DC twin rotary	
		Motor output	W	1,060	
Refrigerant		Type (Global warming potential)		R32 (675)	
		Charge	g	1,250	
Refrigerant oil		Type		RmM68AF	
		Amount	cm^3	400	
Enclosure		Material		Steel sheet	
		Color		Beige Approximate color of Munsell 10YR 7.5/1.0	
Dimensions (H × W × D)		Net	mm	632 × 799 × 290	716 × 820 × 315
		Gross		692 × 940 × 375	776 × 961 × 450
Weight		Net	kg	38	42
		Gross		42	46
Connection pipe	Size	Liquid	mm (in)	Ø6.35 (Ø1/4)	
		Gas		Ø12.70 (Ø1/2)	
	Method			Flare	
	Pre-charge length		m	20	
	Max. length			30	
	Max. height difference			25	
Operation range		Cooling	°C	-15 to 46	
		Heating		-15 to 24	
Drain hose		Material		Polypropylene	
		Tip diameter	mm	Ø13.0 (I.D.), Ø16.0 to Ø16.8 (O.D.)	

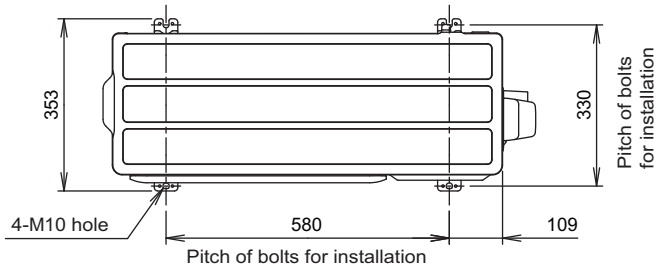
NOTES:

- 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: 5.0 m, Height difference: 0 m. (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- *: 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.

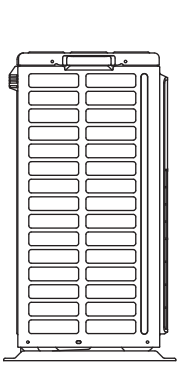
2. Dimensions

2-1. Model: AOEG22KBTB

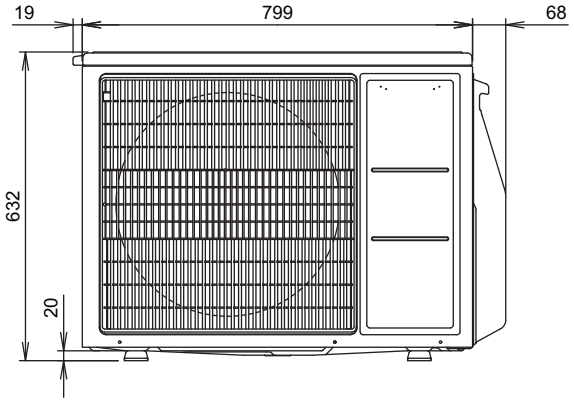
Unit: mm



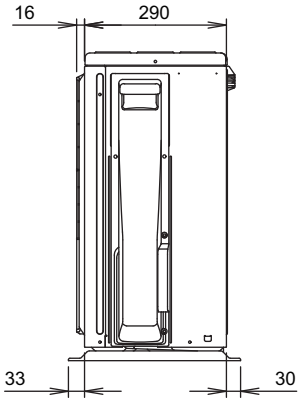
Top view



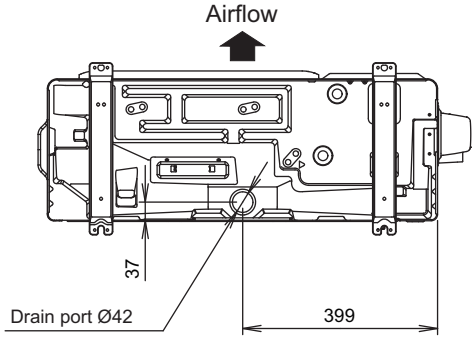
Side view



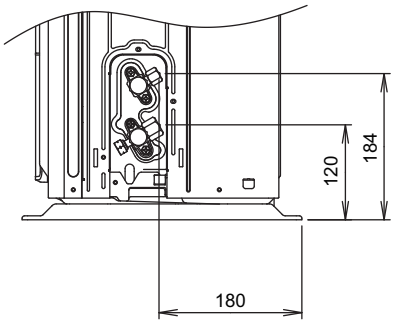
Front view



Side view



Bottom view

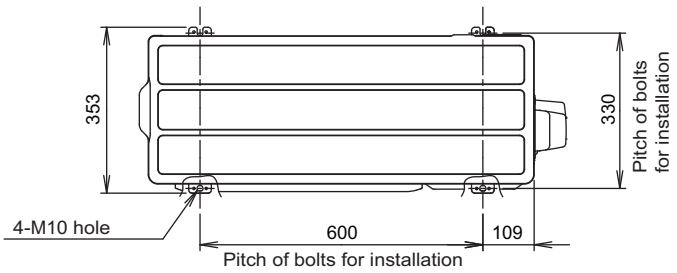


Side view (Valve part)

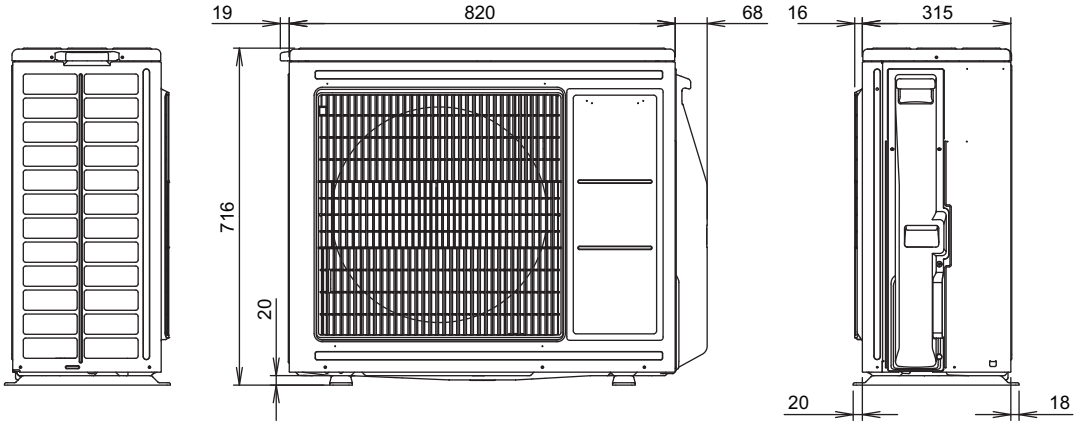
OUTDOOR UNIT
AOEG22-24KBTB

2-2. Model: AOEG24KBTB

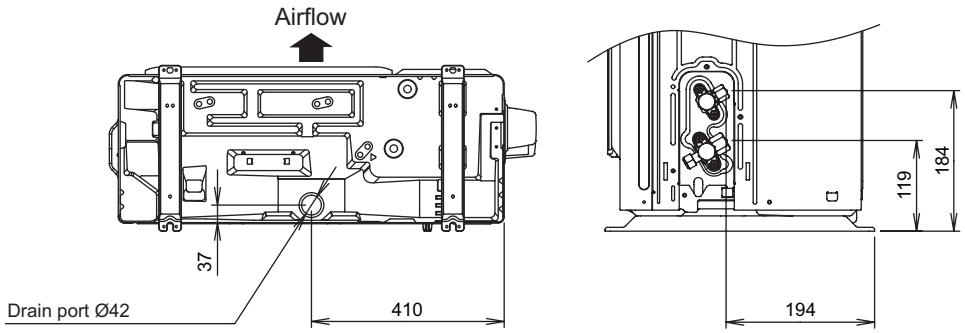
Unit: mm



Top view



Side view　　Front view　　Side view



Bottom view　　Side view (Valve part)

OUTDOOR UNIT
AOEG22-24KBTB

3. Installation space

3-1. Models: AOEG22KBTB and AOEG24KBTB

■ Space requirement

Provide sufficient installation space for product safety.

⚠ CAUTION

Keep the space shown in the installation examples.

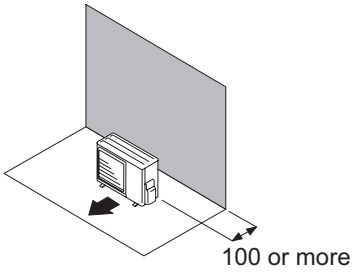
If the installation is not performed accordingly, it could cause a short circuit and result in a lack of operating performance.

● Single outdoor unit installation

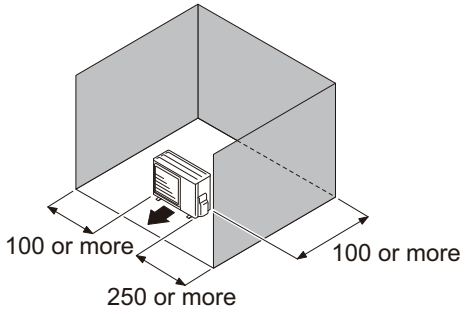
- **When the upper space is open:**

Unit: mm

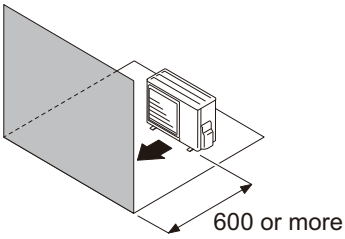
Obstacles at rear only



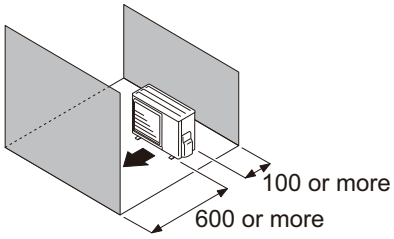
Obstacles at rear and sides



Obstacles at front



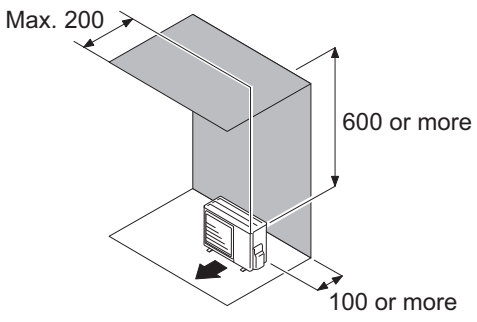
Obstacles at front and rear



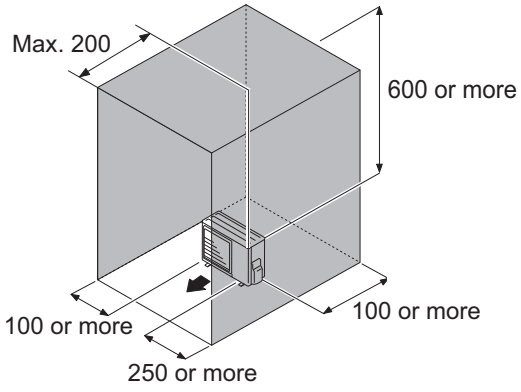
- **When an obstruction in the upper space:**

Unit: mm

Obstacles at rear and above



Obstacles at rear, sides, and above



OUTDOOR UNIT
AOEG22-24KBTB

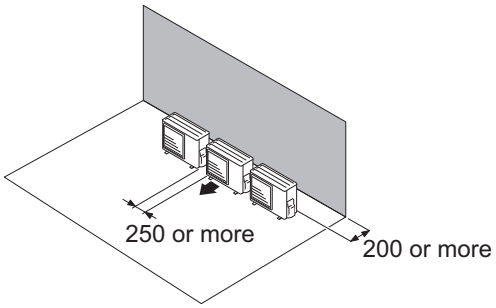
● Multiple outdoor unit installation

- 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:**".

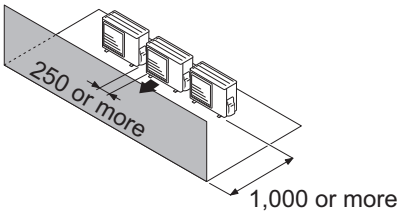
- **When the upper space is open:**

Unit: mm

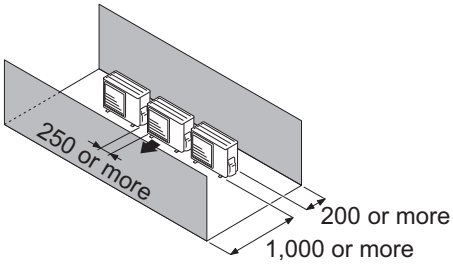
Obstacles at rear only



Obstacles at front only



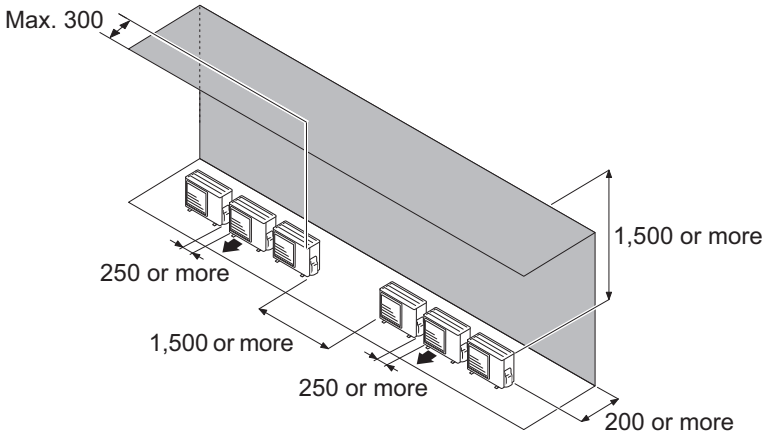
Obstacles at front and rear



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

Unit: mm

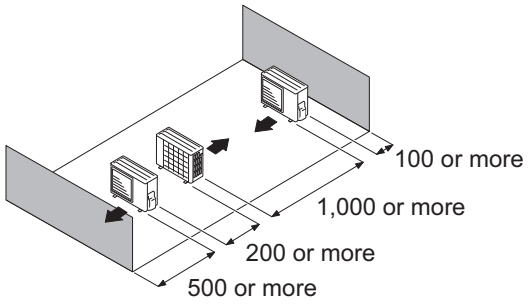
Obstacles at rear and above.



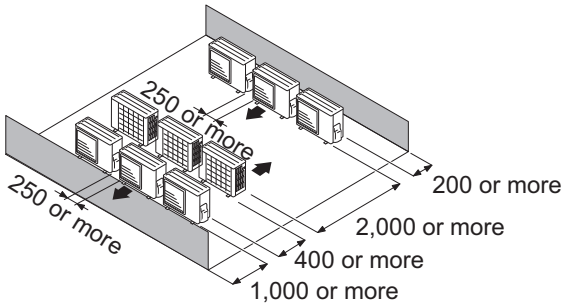
● Outdoor units installation in multi-row

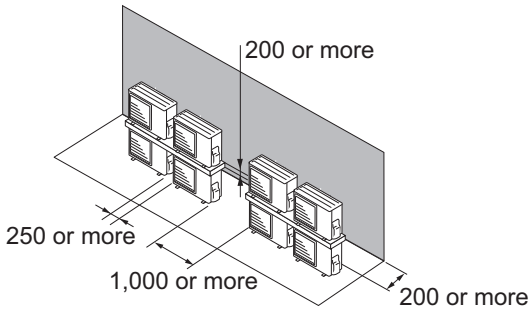
Unit: mm

Single parallel unit arrangement



Multiple parallel unit arrangement



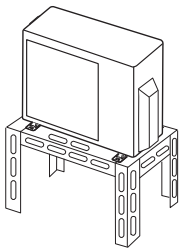


NOTES:

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

⚠ CAUTION

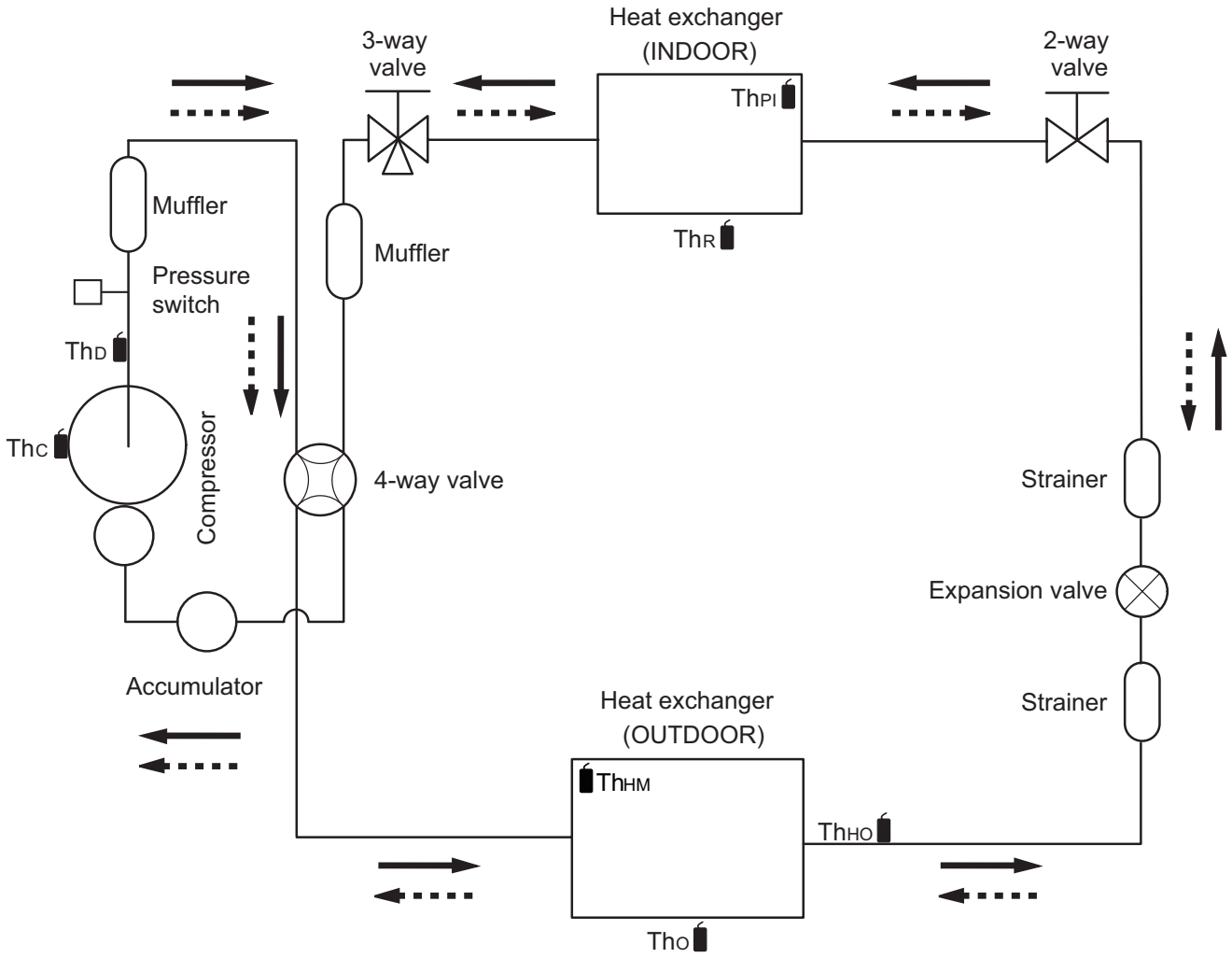
- Do not install the outdoor unit in two-stage where the drain water could freeze. Otherwise the drainage from the upper unit may form ice and cause a malfunction of the lower unit.
- When the outdoor temperature is 0 °C or less, do not use the accessory drain pipe and drain cap. If the drain pipe and 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

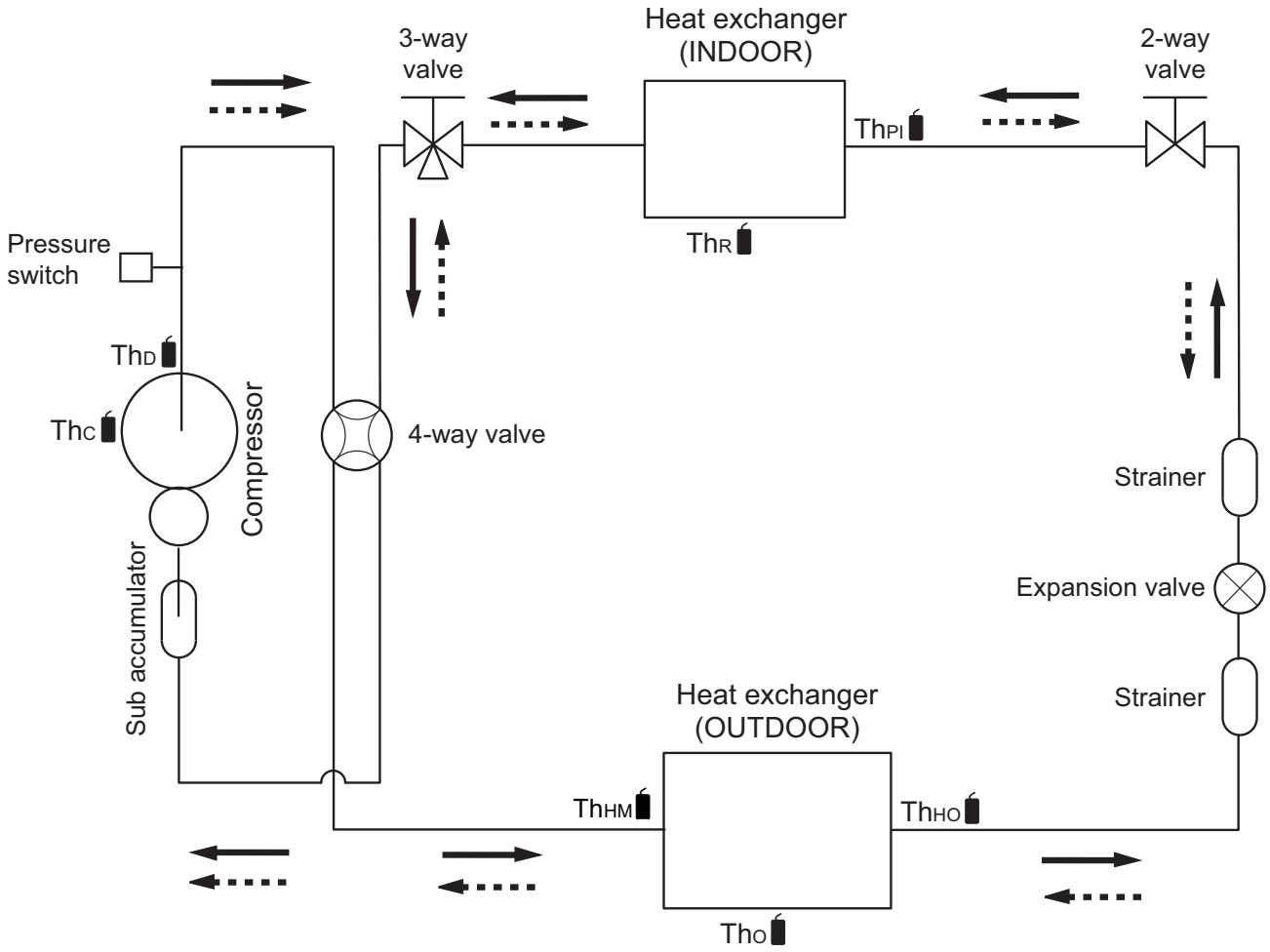
4-1. Model: AOEG22KBTB

OUTDOOR UNIT
AOEG22-24KBTB



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)

4-2. Model: AOEG24KBTB

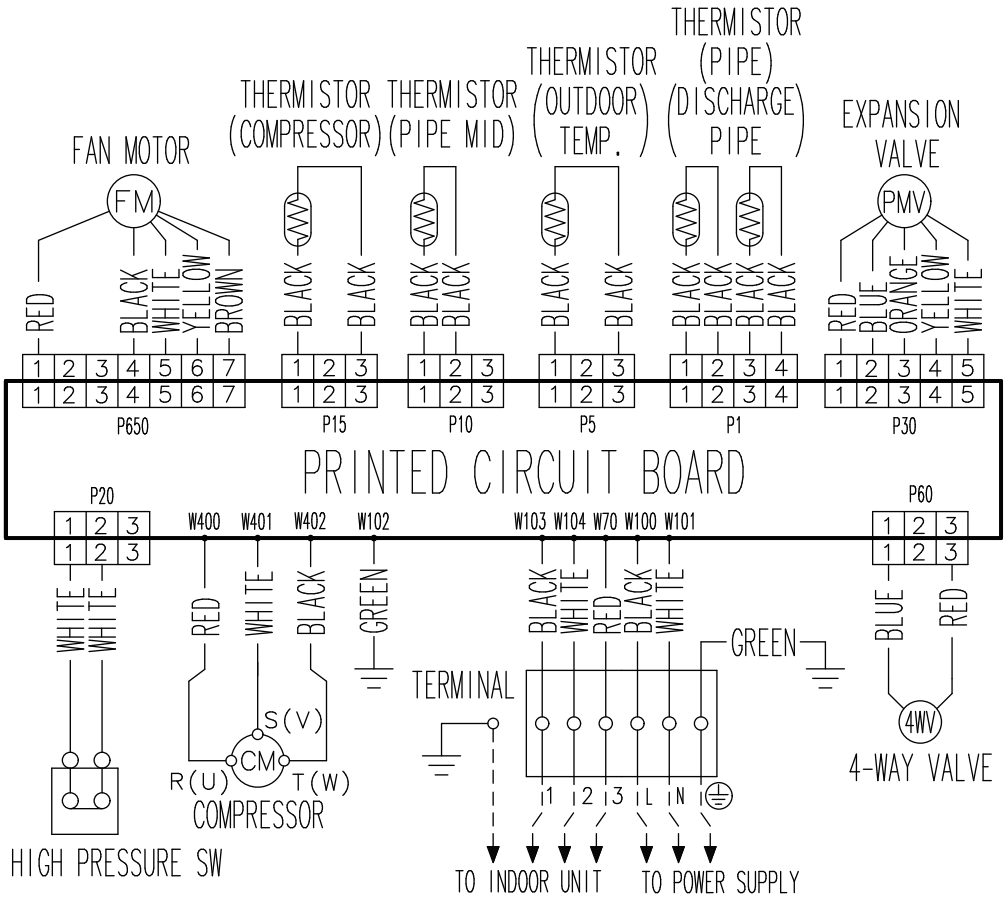


: Cooling
: Heating

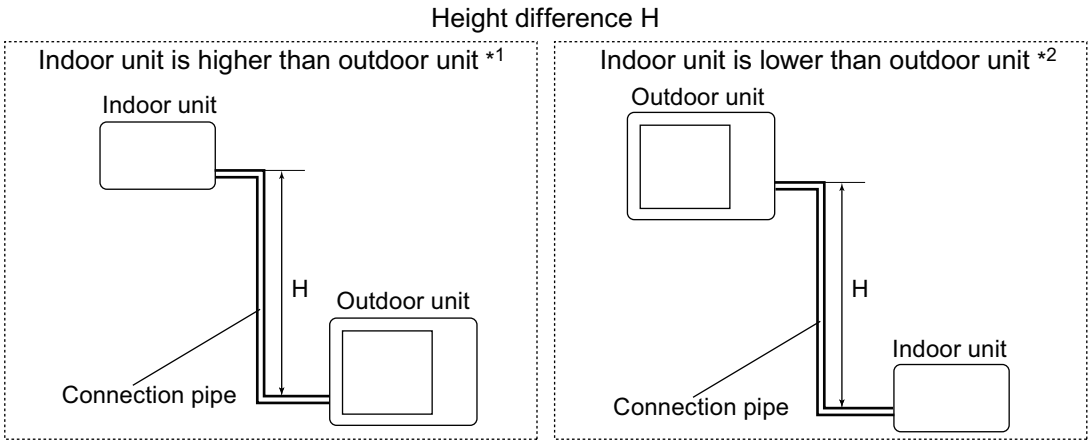
ThC : Thermistor (Compressor temperature)
ThD : Thermistor (Discharge temperature)
ThHM : Thermistor (Heat exchanger middle temperature)
ThO : Thermistor (Outdoor temperature)
ThHO : Thermistor (Heat exchanger out temperature)
ThPI : Thermistor (Pipe temperature)
ThR : Thermistor (Room temperature)

5. Wiring diagrams

5-1. Models: AOEG22KBTB and AOEG24KBTB



6. Capacity compensation rate for pipe length and height difference



6-1. Model: AOEG22KBTB

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

COOLING			Pipe length (m)						
			5	7.5	10	15	20	25	30
Height difference H (m)	Indoor unit is higher than outdoor unit *1	25	—	—	—	—	0.909	0.909	0.903
		15	—	—	—	0.953	0.950	0.947	0.941
		10	—	—	0.983	0.968	0.966	0.962	0.956
		7.5	—	0.988	0.987	0.972	0.970	0.966	0.960
		5	0.992	0.992	0.991	0.976	0.974	0.970	0.964
		0	1.000	1.000	0.999	0.984	0.982	0.978	0.972
	Indoor unit is lower than outdoor unit *2	-5	1.000	1.000	0.999	0.984	0.982	0.978	0.972
		-7.5	—	1.000	0.999	0.984	0.982	0.978	0.972
		-10	—	—	0.999	0.984	0.982	0.978	0.972
		-15	—	—	—	0.984	0.982	0.978	0.972
		-25	—	—	—	—	0.982	0.978	0.972

HEATING			Pipe length (m)						
			5	7.5	10	15	20	25	30
Height difference H (m)	Indoor unit is higher than outdoor unit *1	25	—	—	—	—	0.894	0.867	0.839
		15	—	—	—	0.920	0.894	0.867	0.839
		10	—	—	0.982	0.920	0.894	0.867	0.839
		7.5	—	1.000	0.982	0.920	0.894	0.867	0.839
		5	1.000	1.000	0.982	0.920	0.894	0.867	0.839
		0	1.000	1.000	0.982	0.920	0.894	0.867	0.839
	Indoor unit is lower than outdoor unit *2	-5	0.995	0.995	0.977	0.916	0.889	0.862	0.836
		-7.5	—	0.993	0.975	0.913	0.887	0.860	0.832
		-10	—	—	0.972	0.911	0.885	0.858	0.830
		-15	—	—	—	0.902	0.876	0.849	0.821
		-25	—	—	—	—	0.851	0.821	0.795

6-2. Model: AOEG24KBTB

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

COOLING			Pipe length (m)						
			5	7.5	10	15	20	25	30
Height difference H (m)	Indoor unit is higher than outdoor unit *1	25	—	—	—	—	—	0.893	0.877
		20	—	—	—	—	0.917	0.900	0.885
		10	—	—	0.966	0.947	0.932	0.914	0.899
		7.5	—	0.979	0.970	0.951	0.936	0.918	0.903
		5	0.992	0.983	0.974	0.955	0.939	0.922	0.906
		0	1.000	0.991	0.981	0.963	0.946	0.930	0.914
	Indoor unit is lower than outdoor unit *2	-5	1.000	0.991	0.981	0.963	0.946	0.930	0.914
		-7.5	—	0.991	0.981	0.963	0.946	0.930	0.914
		-10	—	—	0.981	0.963	0.946	0.930	0.914
		-20	—	—	—	—	0.946	0.930	0.914
		-25	—	—	—	—	—	0.930	0.914

HEATING			Pipe length (m)						
			5	7.5	10	15	20	25	30
Height difference H (m)	Indoor unit is higher than outdoor unit *1	25	—	—	—	—	—	0.871	0.855
		20	—	—	—	—	0.887	0.871	0.855
		10	—	—	0.952	0.903	0.887	0.871	0.855
		7.5	—	0.976	0.952	0.903	0.887	0.871	0.855
		5	1.000	0.976	0.952	0.903	0.887	0.871	0.855
		0	1.000	0.976	0.952	0.903	0.887	0.871	0.855
	Indoor unit is lower than outdoor unit *2	-5	0.995	0.971	0.947	0.899	0.883	0.866	0.850
		-7.5	—	0.969	0.945	0.897	0.881	0.865	0.849
		-10	—	—	0.942	0.894	0.879	0.863	0.847
		-20	—	—	—	—	0.869	0.854	0.838
		-25	—	—	—	—	—	0.850	0.834

7. Additional charge calculation

7-1. Model: AOEG22KBTB

Refrigerant type		R32
Factory charge amount	g	1,250

■ Refrigerant charge

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

7-2. Model: AOEG24KBTB

Refrigerant type		R32
Factory charge amount	g	1,250

■ Refrigerant charge

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

OUTDOOR UNIT
AOEG22-24KBTB

8. Airflow

8-1. Model: AOEG22KBTB

● Cooling

m^3/h	2,240
l/s	622
CFM	1,318

● Heating

m^3/h	1,960
l/s	544
CFM	1,154

8-2. Model: AOEG24KBTB

● Cooling

m^3/h	2,700
l/s	750
CFM	1,589

● Heating

m^3/h	2,700
l/s	750
CFM	1,589

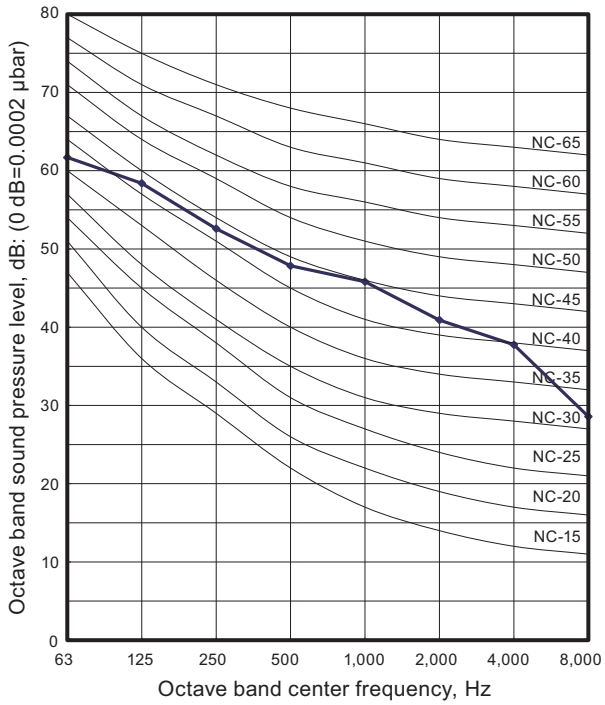
OUTDOOR UNIT
AOEG22-24KBTB

9. Operation noise (sound pressure)

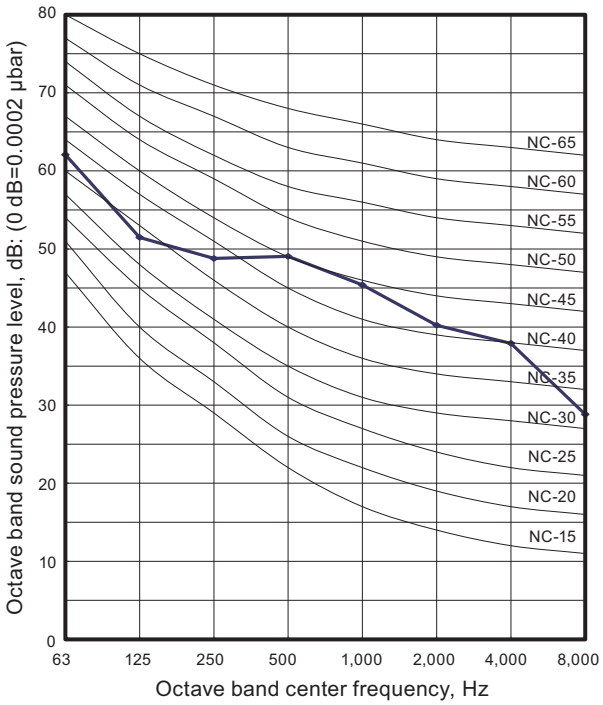
9-1. Noise level curve

■ Model: AOEG22KBTB

● Cooling

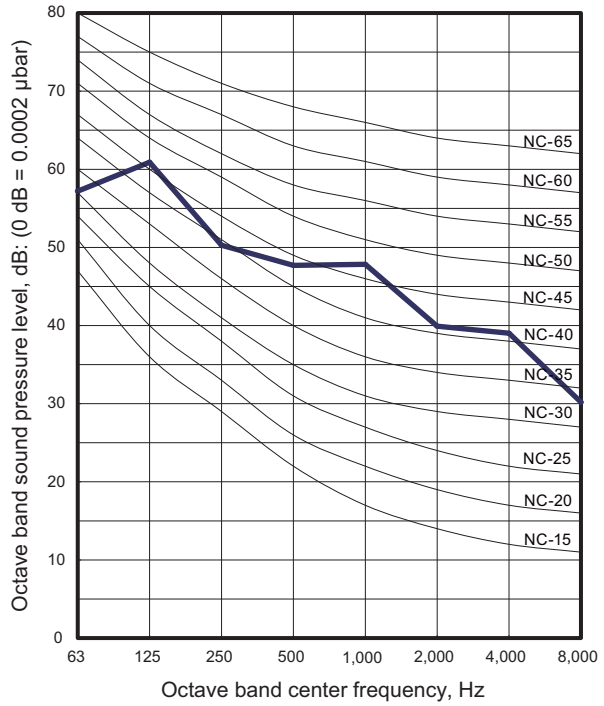


● Heating

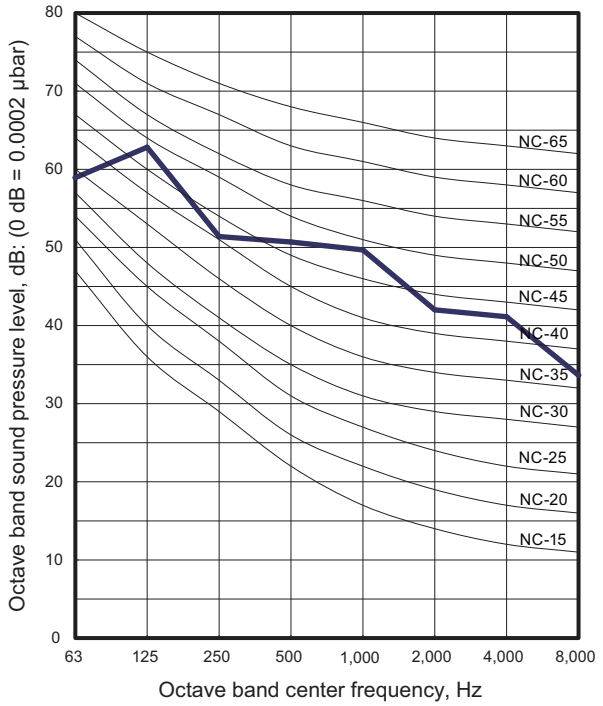


■ Model: AOEG24KBTB

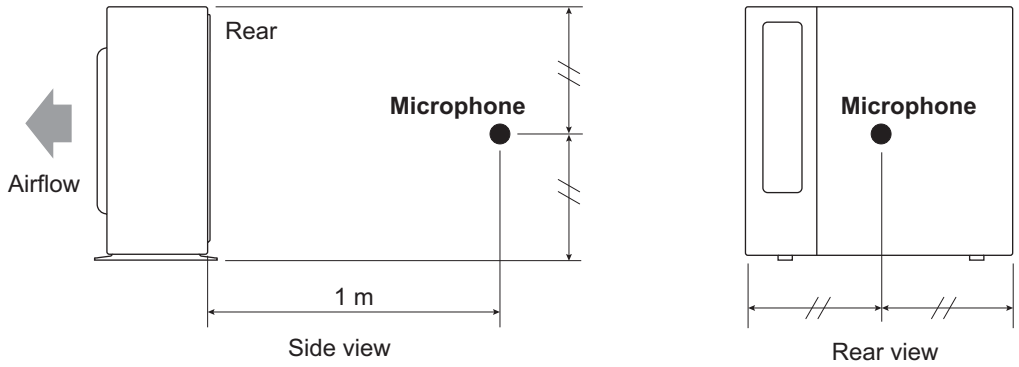
● Cooling



● 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				AOEG22KBTB	AOEG24KBTB
Power supply	Voltage		V	230~	
	Frequency		Hz	50	
Max operating current*1			A	12.6	13.6
Starting current			A	8.1	8.3
Wiring spec.*2	Circuit breaker current		A	16	20
	Power cable		mm^2	1.5	2.5
	Connection cable*3	Cross-sectional area	mm^2	1.5	
		Limited wiring length	m	31	

NOTES:

- *1: Maximum operating current is the total current of the indoor unit and the outdoor unit.
- *2: Selected sample based on Japan Electrotechnical Standards and Codes Committee E0005. As the regulations of wire size and circuit breaker differ in each country or region, select appropriate devices complied to the regional standard.
- *3: Limit voltage drop to less than 2%. If voltage drop is 2% or more, increase cable conductor size.

OUTDOOR UNIT
AOEG22-24KBTB

11. Safety devices

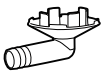
Type of protection	Protection form		Model	
			AOEG22KBTB	AOEG24KBTB
Circuit protection	Current fuse (Main PCB*)		250 V, 25 A 250 V, 5 A 250 V, 3.15 A	
Fan motor protection	Terminal protection program	Activate	125 ±10°C Fan motor stop	
		Reset	120 ±10°C Fan motor restart	
Compressor protection	Terminal 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	After 3 minutes, and 80°C or less Compressor restart	80°C or less Compressor restart
	Thermal protection program (Outdoor temp.) (Only in COOL and DRY mode)	Activate	-20°C Compressor stop	
		Reset	-15°C Compressor restart	
High pressure protection	Pressure switch	Activate	$4.2\ ^{+0}_{-0.15}$ MPa Compressor stop	
		Reset	3.2 ±0.15 MPa Compressor restart	

*PCB: Printed Circuit Board

12. Accessories

12-1. Models: AOEG22KBTB and AOEG24KBTB

OUTDOOR UNIT
AOEG22-24KBTB

Part name	Exterior	Qty	Part name	Exterior	Qty
Installation manual		1	Drain pipe		1