GENERAL

REFRIGERANT R32
INVERTER

AIR CONDITIONER

Cassette type

DESIGN & TECHNICAL MANUAL

INDOOR

AUXG18KRLB
AUXG22KRLB

OUTDOOR

AOHG18KBTB
AOHG22KBTB

FUJITSU GENERAL LIMITED

DR_AU021EG_06
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CONTENTS

CONTENTS (continued)

Part 1. INDOOR UNIT

CASSETTE TYPE:

AUXG18KRLB
AUXG22KRLB

CASSETTE TYPE
AUXG18, 22KRLB

1. Specifications

Type					Cassette	
					Inverter heat pump	
Model name					AUXG18KRLB	AUXG22KRLB
Power supply					230 V ~ 50 Hz	
Power supply intake					Outdoor unit	
Available voltage range					198—264 V	
Capacity		Cooling	Rated	kW	5.2	6.0
				Btu/h	17,700	20,500
			Min.—Max.	kW	0.90—5.90	0.90—6.70
				Btu/h	3,100—20,100	3,100—22,900
		Heating	Rated	kW	6.0	7.0
				Btu/h	20,500	23,900
			Min.—Max.	kW	0.90—7.50	0.90—8.00
				Btu/h	3,100—25,600	3,100—27,300
Input power		Cooling	Rated	kW	1.36	1.71
			Max.		2.79	2.90
		Heating	Rated		1.58	1.82
			Max.		2.79	2.90
Current		Cooling	Rated	A	6.0	7.5
		Heating			6.9	8.0
Power factor		Cooling		%	98.6	99.1
		Heating			99.6	98.9
EER		Cooling		kW/kW	3.82	3.51
COP		Heating			3.80	3.85
Moisture removal				L/h (pints/h)	1.5 (2.6)	2.2 (3.9)
Maximum operating current *1		Cooling		A	12.1	12.6
		Heating			12.1	12.6
Fan	Airflow rate	Cooling	HIGH	m^3/h	1,050	
			MED		960	
			LOW		900	
			QUIET		780	
		Heating	HIGH		1,050	
			MED		960	
			LOW		900	
			QUIET		780	
	Type × Q'ty				Turbo fan × 1	
	Motor output			W	81	
Sound pressure level *2		Cooling	HIGH	dB (A)	33	
			MED		32	
			LOW		31	
			QUIET		28	
		Heating	HIGH		33	
			MED		32	
			LOW		31	
			QUIET		28	
Heat exchanger type		Dimensions (H × W × D)		mm	210 × 2,127 × 13.3 210 × 2,061 × 13.3	
		Fin pitch			1.2	
		Rows × Stages			2 × 10	
		Pipe type			Copper tube	
		Fin type			Aluminum	
Dimensions (H × W × D)		Net		mm	246 × 840 × 840	
		Gross			298 × 960 × 950	
Weight		Net		kg	23	
		Gross			28	
Connection pipe		Size	Liquid	mm (in)	Ø 6.35 (Ø 1/4)	
			Gas		Ø 12.70 (Ø 1/2)	
		Method			Flare	
Drain hose		Material			PVC(VP25)	
		Size		mm	Ø 25 (I.D.), Ø 32 (O.D.)	
Operation range		Cooling		°C	18 to 32	
				%RH	80 or less	
		Heating		°C	16 to 30	
Cassette grille (Option)		Material			Polystyrene	
		Color			White Approximate color of MUNSELL N 9.25/	
		Dimensions (H × W × D)	Net	mm	53 × 950 × 950	
			Gross		110 × 1,000 × 1,010	
		Weight	Net	kg	6.0	
			Gross		10.0	
Remote control (Option)					Wired remote controller, Wireless remote controller, 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.)
- 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.

CASSETTE TYPE
AUXG18, 22KRLB

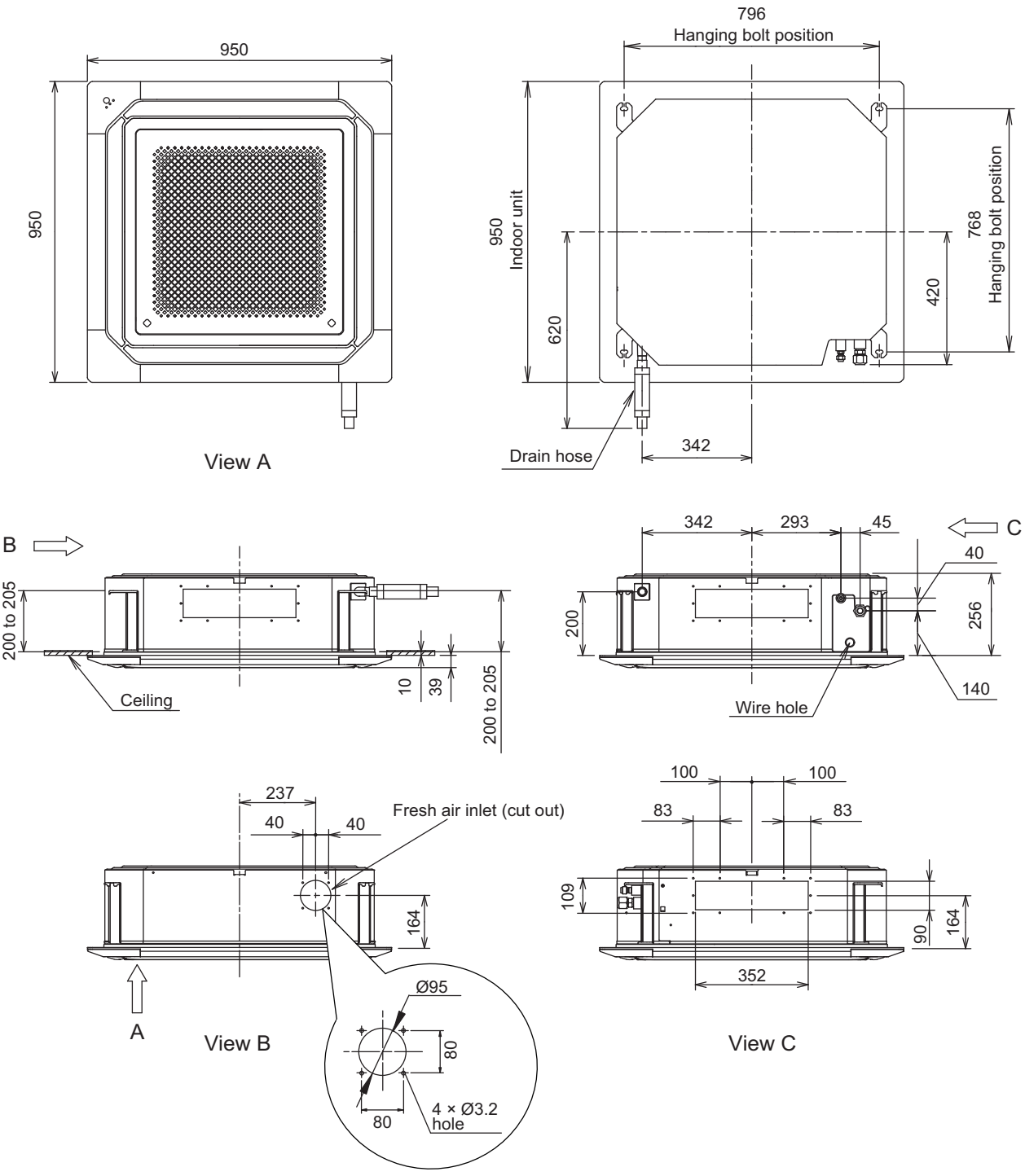
Specifications for ErP Lot10					
Model name				**AUXG18KRLB**	**AUXG22KRLB**
Energy efficiency class	Cooling			A^{++}	
	Heating (Average)			A^{+}	
Pdesign	Cooling		kW	5.2 (35°C)	6.0 (35°C)
	Heating (Average)			4.4 (-10°C)	4.8 (-10°C)
SEER	Cooling		kWh/kWh	7.00	7.00
SCOP	Heating (Average)			4.30	4.40
Annual energy consumption	QCE		kWh/a	260	300
	QHE (Average)			1,431	1,527
Sound power level	Cooling	HIGH	dB (A)	47	49
	Heating			47	49

CASSETTE TYPE
AUXG18, 22KRLB

2. Dimensions

2-1. Models: AUXG18KRLB and AUXG22KRLB

Unit: mm



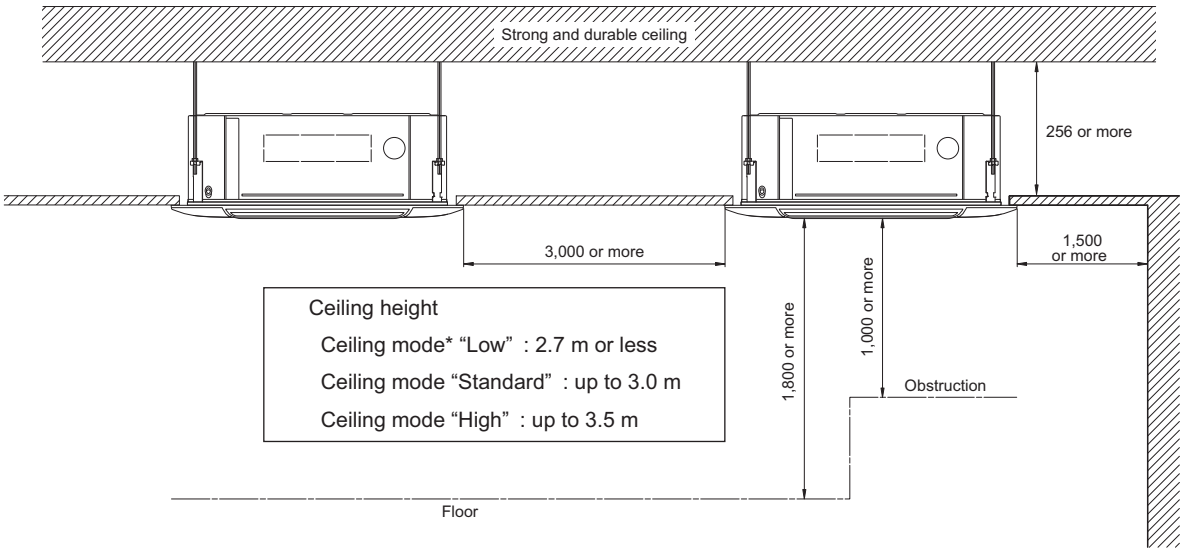
CASSETTE TYPE
AUXG18, 22KRLB

2-2. Installation space requirement

Provide sufficient installation space for product safety.

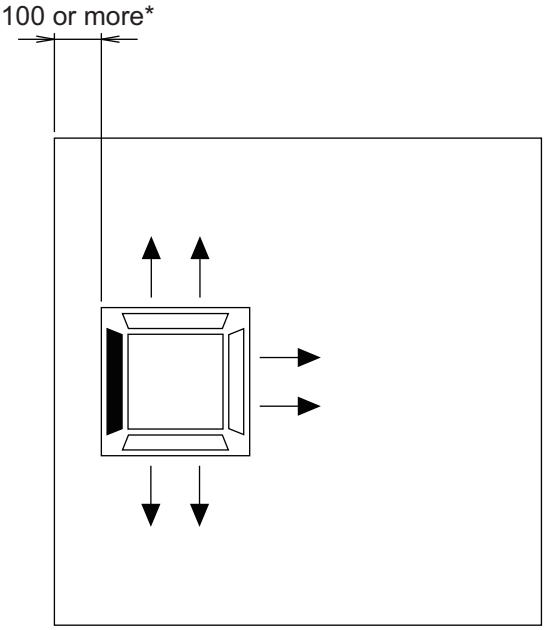
- **For 4-direction setting:**

Unit: mm



*: For switching the ceiling mode, refer to "Contents of function setting" on page 35.

- **For 3-direction setting:**



NOTES:

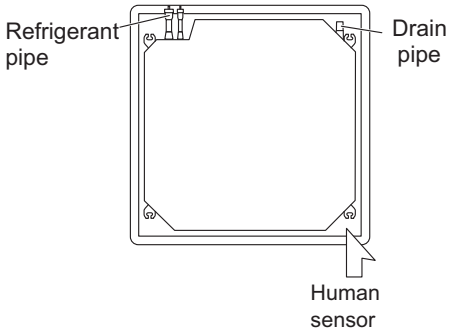
- To set “3-direction”, optional Air Outlet Shutter Plate (UTR-YDZK) must be installed, and the “outlet-direction” need to be switched to “3-way” by remote controller.
  *: When installing the indoor unit, be careful about the maintenance space.
- The ceiling height cannot be set in the 3-way outlet mode. Therefore, ceiling height setting change by function setting 20 is prohibited. For details, refer to "Contents of function setting" on page 35.

CASSETTE TYPE
AUXG18, 22KRLB

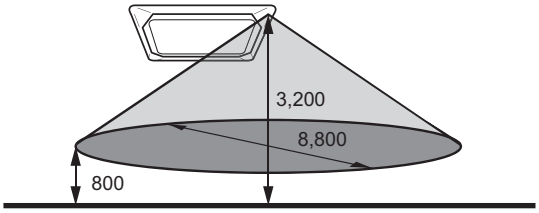
- **Human sensor (Option)**

NOTE: A separate device capable of controlling the human sensor (energy saving) function, such as the Touch Panel Controller, is required for use.

Top view



Example of sensitivity range:



Equal sensitivity range of temperature	Ceiling height	3,200 mm
	Detecting position	800 mm from floor surface

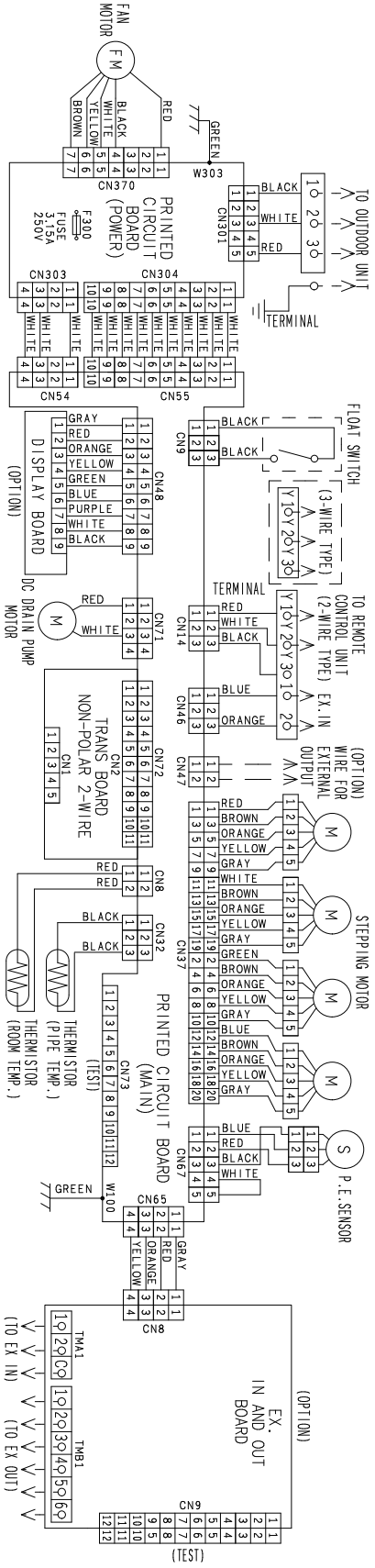
NOTE: When the installation height gets higher, the temperature sensitivity decreases.

⚠ CAUTION

Do not place large objects near the human sensor. Also keep heating units outside the sensor's detection area.

3. Wiring diagram

3-1. Models: AUXG18KRLB and AUXG22KRLB



CASSETTE TYPE
AUXG18, 22KRLB

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: AUXG18KRLB

AFR	m^3/h	1,050

		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	4.17	3.69	0.41	4.65	3.71	0.42	4.80	4.03	0.42	5.12	4.05	0.43	5.28	4.37	0.43	5.60	4.35	0.43	5.91	4.64	0.44
	-10	4.20	3.71	0.36	4.68	3.74	0.36	4.84	4.06	0.36	5.16	4.07	0.37	5.32	4.40	0.37	5.64	4.38	0.37	5.96	4.67	0.38
	0	3.99	3.62	0.55	4.44	3.64	0.56	4.60	3.96	0.56	4.90	3.97	0.57	5.05	4.29	0.57	5.35	4.27	0.58	5.66	4.55	0.58
	5	3.91	3.60	0.59	4.36	3.62	0.60	4.50	3.93	0.60	4.80	3.94	0.61	4.95	4.26	0.61	5.25	4.24	0.62	5.54	4.52	0.62
	10	4.05	3.65	0.40	4.51	3.68	0.40	4.67	4.00	0.40	4.98	4.01	0.41	5.13	4.33	0.41	5.44	4.31	0.41	5.75	4.59	0.42
	15	3.92	3.61	0.49	4.36	3.63	0.50	4.51	3.95	0.50	4.81	3.96	0.51	4.96	4.28	0.51	5.26	4.26	0.52	5.56	4.54	0.52
	20	4.83	3.99	0.94	5.39	4.02	0.95	5.57	4.37	0.96	5.94	4.38	0.97	6.12	4.73	0.97	6.49	4.71	0.98	6.85	5.02	0.99
	25	4.59	3.83	1.07	5.11	3.85	1.09	5.29	4.19	1.09	5.64	4.20	1.10	5.81	4.54	1.11	6.16	4.52	1.12	6.51	4.82	1.13
	30	4.35	3.69	1.20	4.84	3.71	1.22	5.01	4.03	1.22	5.34	4.05	1.23	5.50	4.37	1.24	5.83	4.35	1.25	6.16	4.64	1.26
	35	4.11	3.53	1.31	4.58	3.55	1.33	4.73	3.86	1.34	5.04	3.87	1.35	5.20	4.18	1.36	5.51	4.16	1.37	5.82	4.43	1.39
	40	3.68	3.44	1.21	4.10	3.46	1.23	4.24	3.77	1.23	4.52	3.78	1.24	4.66	4.08	1.25	4.94	4.06	1.26	5.22	4.33	1.28
	46	2.58	2.58	0.90	2.87	2.77	0.91	2.97	2.97	0.92	3.16	3.02	0.93	3.26	3.26	0.93	3.46	3.25	0.94	3.65	3.46	0.95

■ Model: AUXG22KRLB

AFR	m^3/h	1,050

		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	3.86	0.55	5.56	3.88	0.56	5.75	4.22	0.56	6.13	4.23	0.57	6.32	4.57	0.57	6.70	4.55	0.58	7.08	4.85	0.58
	-10	5.03	3.87	0.46	5.61	3.89	0.47	5.80	4.23	0.47	6.18	4.24	0.48	6.37	4.58	0.48	6.75	4.56	0.48	7.13	4.86	0.49
	0	4.91	3.81	0.47	5.46	3.83	0.48	5.65	4.16	0.48	6.02	4.18	0.49	6.21	4.51	0.49	6.58	4.49	0.49	6.96	4.79	0.50
	5	4.77	3.76	0.60	5.32	3.78	0.61	5.50	4.11	0.61	5.86	4.12	0.62	6.04	4.45	0.62	6.40	4.43	0.63	6.76	4.72	0.63
	10	4.74	3.75	0.59	5.28	3.77	0.60	5.46	4.10	0.60	5.82	4.11	0.61	6.00	4.44	0.61	6.36	4.42	0.62	6.72	4.71	0.62
	15	4.59	3.68	0.70	5.11	3.70	0.72	5.29	4.02	0.72	5.64	4.04	0.73	5.81	4.36	0.73	6.16	4.34	0.74	6.51	4.63	0.74
	20	5.77	4.20	1.25	6.43	4.23	1.27	6.65	4.60	1.28	7.09	4.61	1.29	7.31	4.98	1.30	7.75	4.96	1.31	8.19	5.28	1.33
	25	5.43	4.07	1.39	6.05	4.09	1.41	6.25	4.45	1.42	6.66	4.46	1.43	6.87	4.82	1.44	7.28	4.80	1.45	7.69	5.11	1.47
	30	5.08	3.93	1.52	5.66	3.96	1.55	5.85	4.30	1.56	6.24	4.32	1.57	6.43	4.66	1.58	6.82	4.64	1.60	7.20	4.94	1.61
	35	4.74	3.80	1.65	5.28	3.82	1.68	5.46	4.15	1.68	5.82	4.17	1.70	6.00	4.50	1.71	6.36	4.48	1.73	6.72	4.77	1.74
	40	4.50	3.68	1.79	5.01	3.70	1.81	5.18	4.02	1.82	5.52	4.04	1.84	5.69	4.36	1.85	6.03	4.34	1.87	6.37	4.63	1.89
	46	3.69	3.26	1.54	4.11	3.28	1.57	4.25	3.56	1.57	4.53	3.57	1.59	4.67	3.86	1.60	4.95	3.84	1.61	5.23	4.10	1.63

CASSETTE TYPE
AUXG18, 22KRLB

4-2. Heating capacity

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

■ Model: AUXG18KRLB

AFR	m^3/h	1,050

			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	5.05	1.66	4.93	1.70	4.81	1.73	4.69	1.76	4.57	1.80
	-10	-11	5.69	1.77	5.56	1.80	5.42	1.84	5.28	1.88	5.15	1.91
	-5	-7	6.33	1.87	6.18	1.91	6.03	1.95	5.88	1.99	5.73	2.03
	0	-2	6.97	1.99	6.81	2.03	6.64	2.07	6.47	2.11	6.31	2.15
	5	3	7.61	2.08	7.43	2.13	7.25	2.17	7.07	2.21	6.89	2.26
	7	6	7.88	2.12	7.69	2.17	7.50	2.21	7.31	2.25	7.13	2.30
	10	8	8.51	2.21	8.30	2.25	8.10	2.30	7.90	2.35	7.70	2.39
	15	10	8.46	1.95	8.26	1.99	8.06	2.03	7.86	2.07	7.66	2.10
	20	15	7.96	1.54	7.77	1.57	7.58	1.60	7.39	1.63	7.20	1.66
	24	18	8.40	1.53	8.20	1.56	8.00	1.59	7.80	1.62	7.60	1.65

■ Model: AUXG22KRLB

AFR	m^3/h	1,050

			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	2.10	5.46	2.15	5.33	2.19	5.20	2.23	5.06	2.28
	-10	-11	6.14	2.19	6.00	2.23	5.85	2.28	5.70	2.33	5.56	2.37
	-5	-7	6.70	2.27	6.54	2.31	6.38	2.36	6.22	2.41	6.06	2.45
	0	-2	7.26	2.33	7.08	2.38	6.91	2.43	6.74	2.48	6.56	2.53
	5	3	7.81	2.41	7.63	2.46	7.44	2.51	7.25	2.56	7.07	2.61
	7	6	8.40	2.41	8.20	2.46	8.00	2.51	7.80	2.56	7.60	2.61
	10	8	8.05	2.28	7.86	2.32	7.67	2.37	7.48	2.42	7.29	2.46
	15	10	7.49	2.05	7.31	2.10	7.13	2.14	6.95	2.18	6.77	2.21
	20	15	7.04	1.75	6.87	1.78	6.70	1.82	6.53	1.86	6.37	1.88
	24	18	7.32	1.73	7.14	1.76	6.97	1.80	6.80	1.84	6.62	1.86

CASSETTE TYPE
AUXG18, 22KRLB

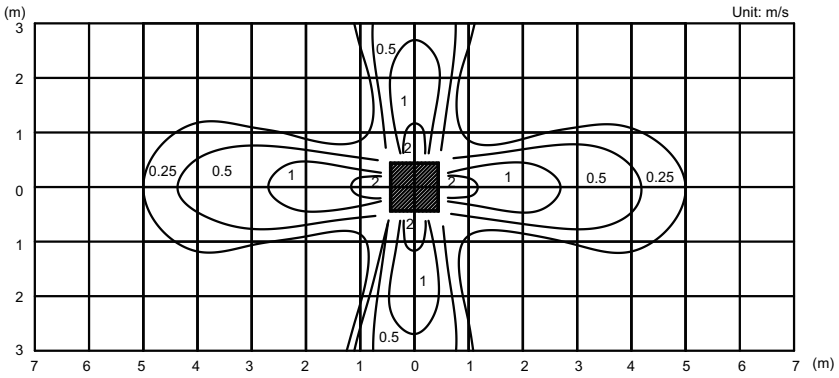
5. Fan performance

5-1. Air velocity distributions

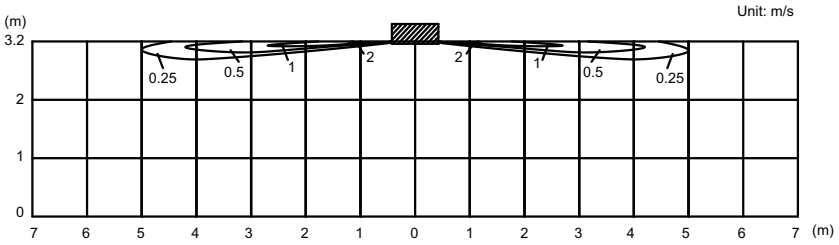
■ Model: AUXG18KRLB (4-way air outlet)

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

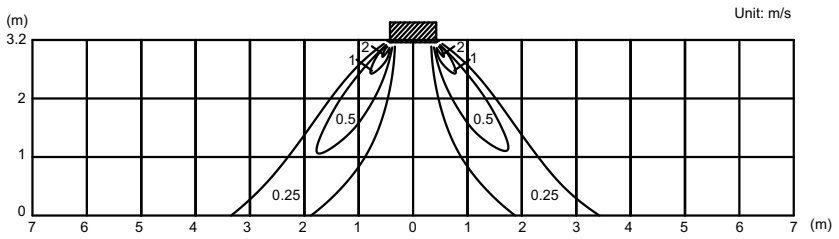
Top view
Horizontal louver: position 1



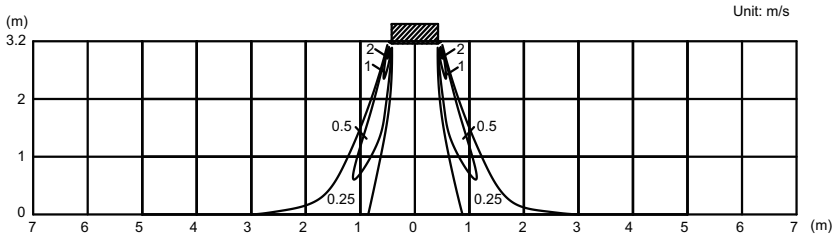
Side view
Horizontal louver: position 1



Side view
Horizontal louver: position 2



Side view
Horizontal louver: position 4

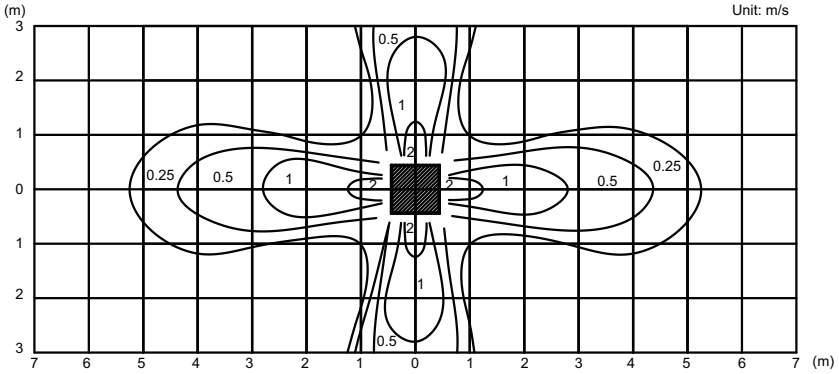


CASSETTE TYPE
AUXG18, 22KRLB

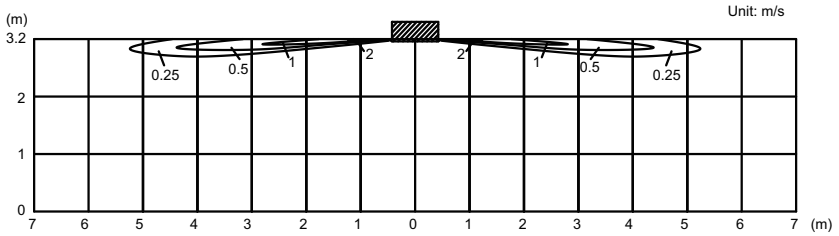
■ Model: AUXG22KRLB (4-way air outlet)

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

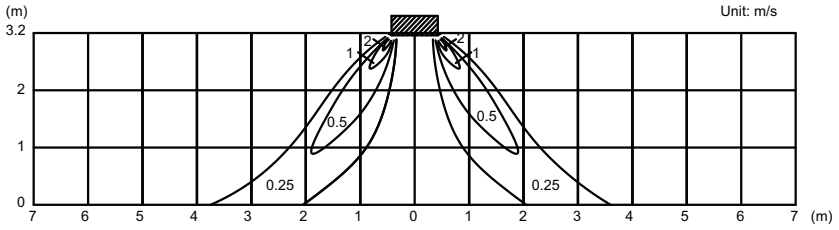
Top view
Horizontal louver: position 1



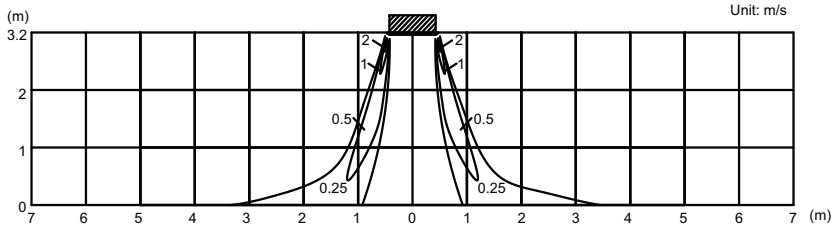
Side view
Horizontal louver: position 1



Side view
Horizontal louver: position 2



Side view
Horizontal louver: position 4

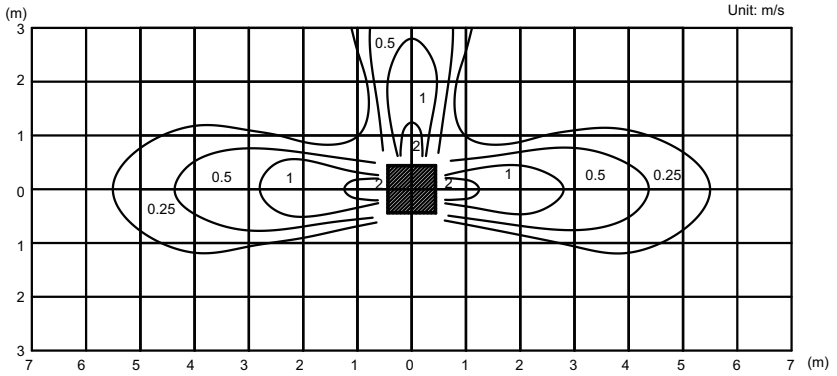


CASSETTE TYPE
AUXG18, 22KRLB

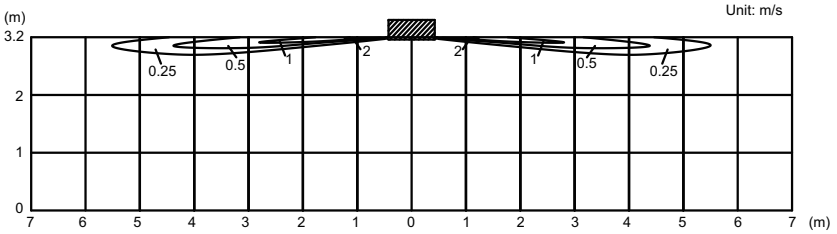
■ Model: AUXG18KRLB (3-way air outlet)

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

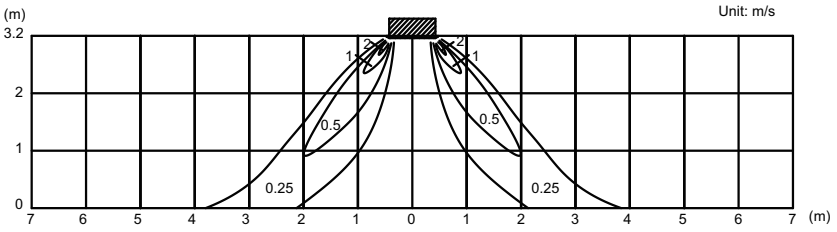
Top view
Horizontal louver: position 1



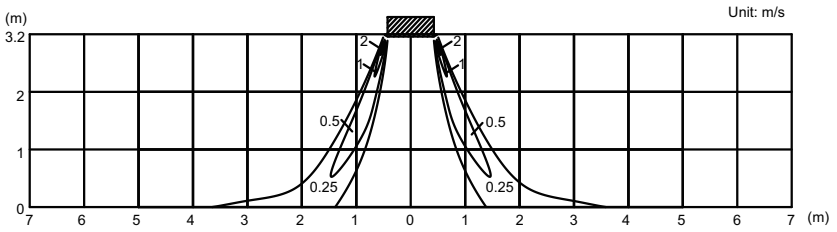
Side view
Horizontal louver: position 1



Side view
Horizontal louver: position 2



Side view
Horizontal louver: position 4

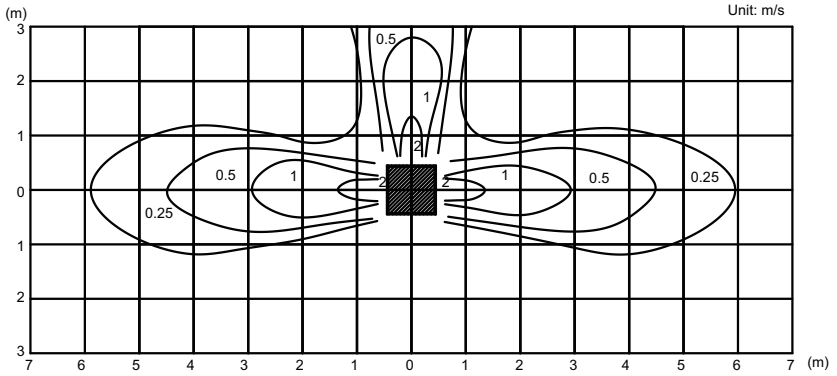


CASSETTE TYPE
AUXG18, 22KRLB

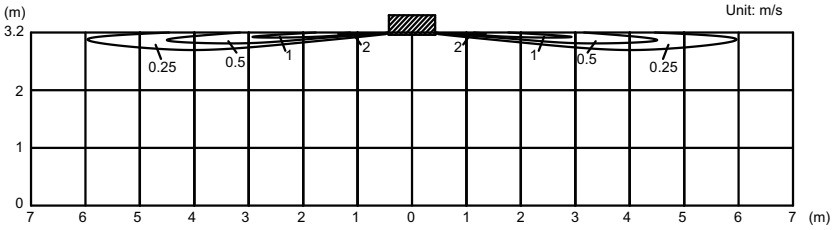
■ Model: AUXG22KRLB (3-way air outlet)

Measuring conditions	Fan speed	Operation mode
	HIGH	FAN

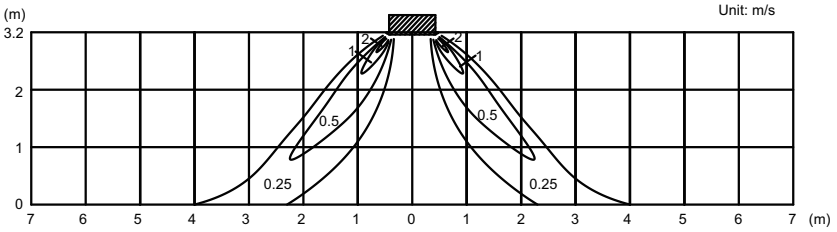
Top view
Horizontal louver: position 1



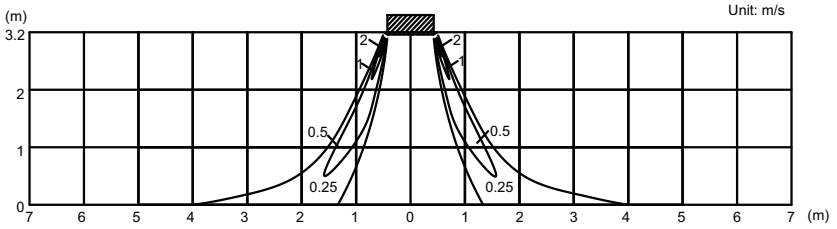
Side view
Horizontal louver: position 1



Side view
Horizontal louver: position 2



Side view
Horizontal louver: position 4



CASSETTE TYPE
AUXG18, 22KRLB

5-2. Airflow

■ Models: AUXG18KRLB and AUXG22KRLB (4-way air outlet)

● Cooling/Heating

Fan speed	Airflow	
HIGH	m^3/h	1,050
	l/s	292
	CFM	618
MED	m^3/h	960
	l/s	267
	CFM	565
LOW	m^3/h	900
	l/s	250
	CFM	530
QUIET	m^3/h	780
	l/s	217
	CFM	459

■ Models: AUXG18KRLB and AUXG22KRLB (3-way air outlet)

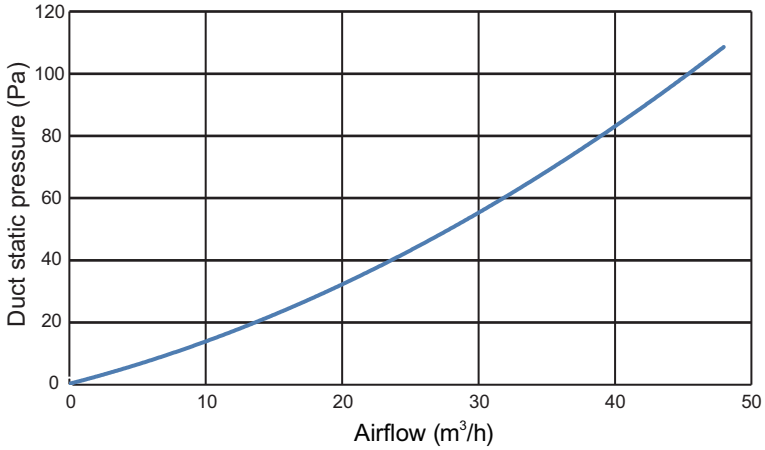
● Cooling/Heating

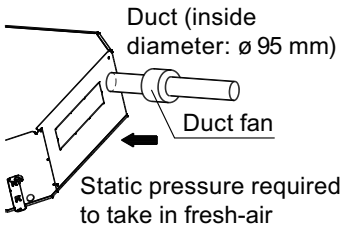
Fan speed	Airflow	
HIGH	m^3/h	915
	l/s	254
	CFM	539
MED	m^3/h	835
	l/s	232
	CFM	491
LOW	m^3/h	785
	l/s	218
	CFM	462
QUIET	m^3/h	680
	l/s	189
	CFM	400

CASSETTE TYPE
AUXG18, 22KRLB

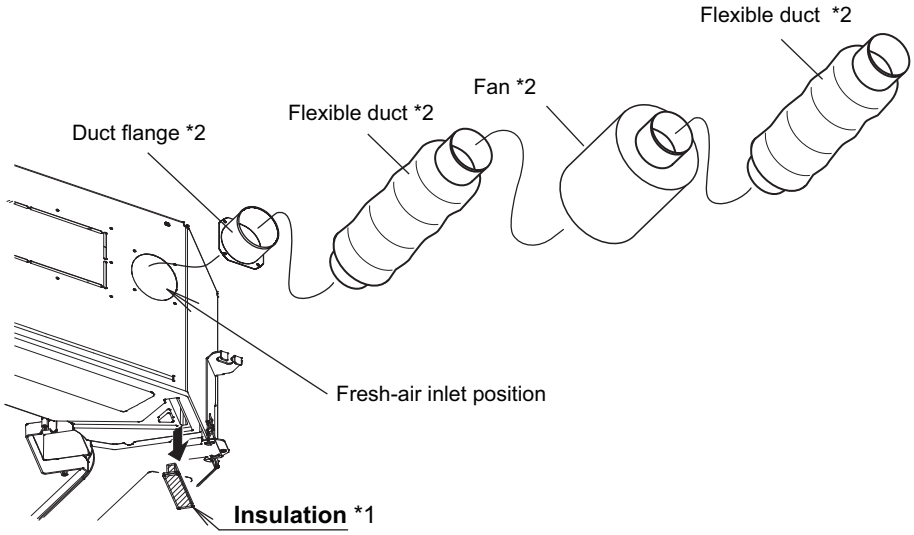
5-3. Fresh-air characteristics

■ Airflow volume: static pressure of fresh-air intake characteristics





■ Installation



*1: In case of fresh-air intake, remove the insulation.

*2: Locally-purchased parts

For the fresh-air inlet position, refer to "Dimensions" on page 4.

CASSETTE TYPE
AUXG18, 22KRLB

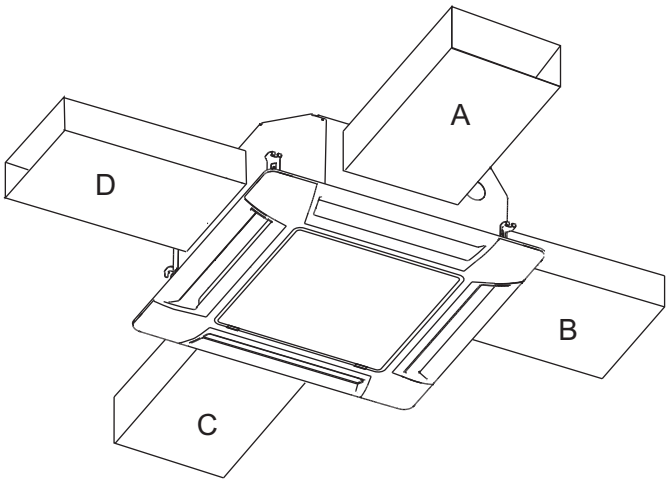
■ Air-outlet duct connection

● Precautions

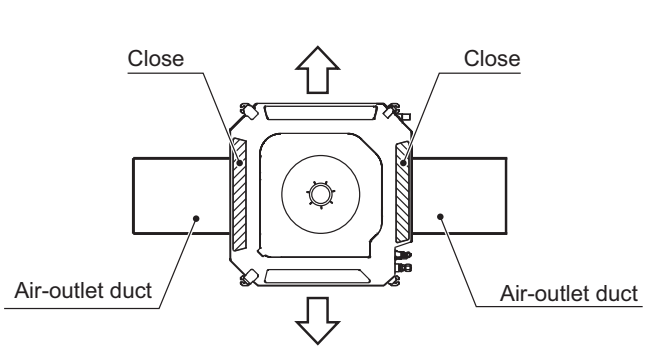
- Connect the air-outlet duct to maximum 2 directions among the 4-duct connecting directions.

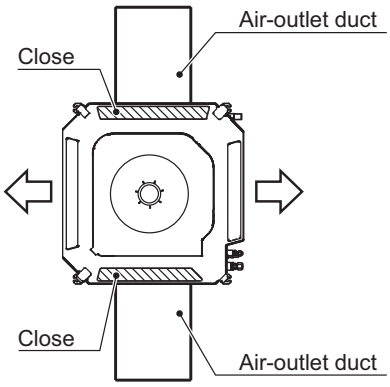
⚠ CAUTION

Do not connect ducts at 3 or more directions.

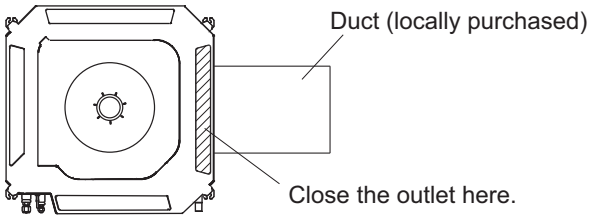


- When installing air-outlet duct in 2 directions, connect the ducts in a straight line.

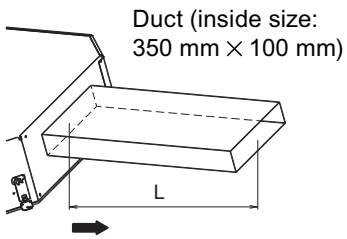




- Once the ducted direction is decided, be sure to close the outlet in the direction.
  Use optional Air Outlet Shutter Plate (UTR-YDZK) to close the outlet.

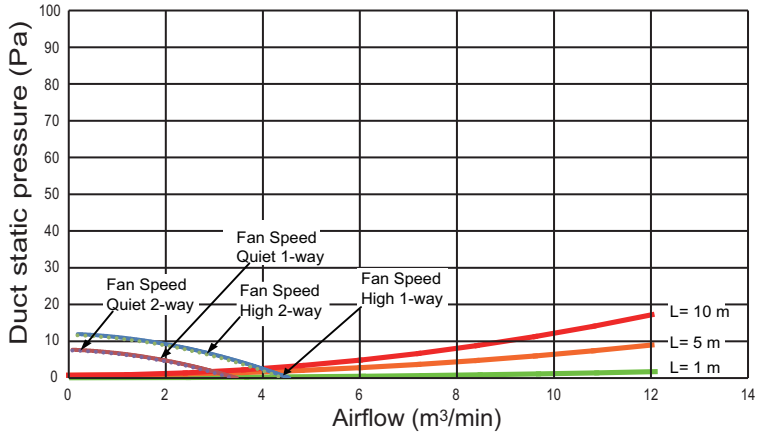


- The inside size of the duct is as follows:



CASSETTE TYPE
AUXG18, 22KRLB

● Models: AUXG18KRLB and AUXG22KRLB



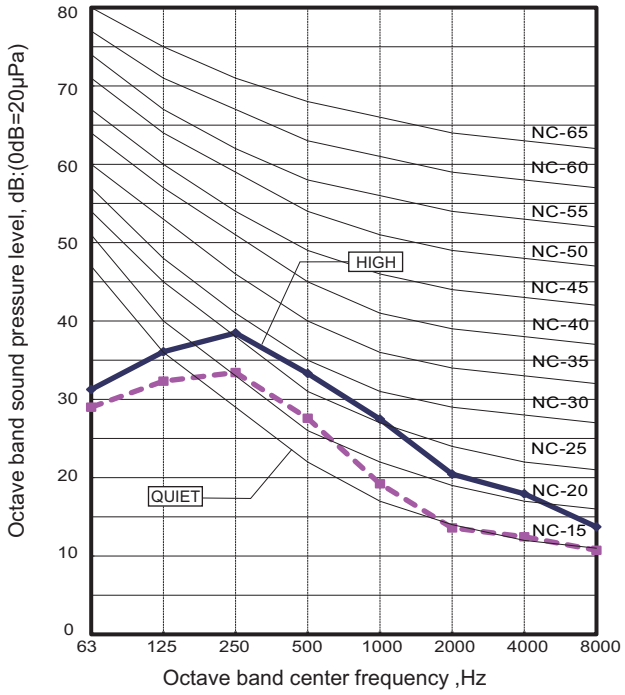
CASSETTE TYPE
AUXG18, 22KRLB

6. Operation noise (sound pressure)

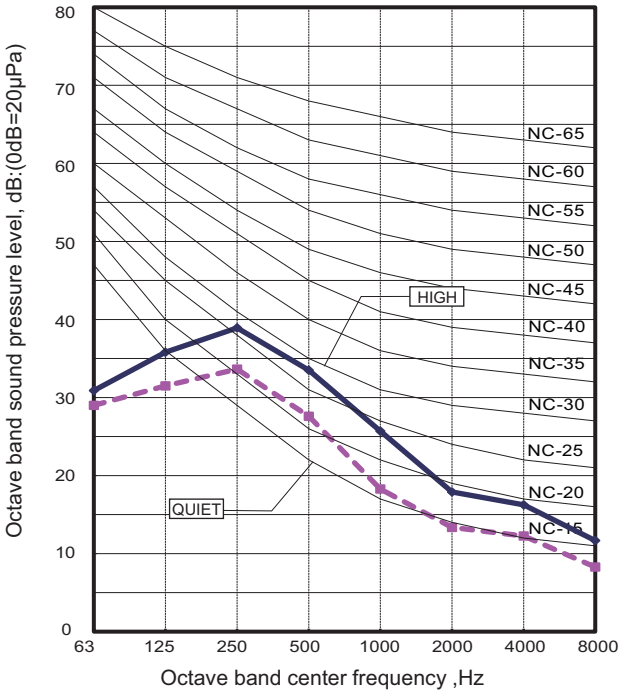
6-1. Noise level curve

■ Models: AUXG18KRLB and AUXG22KRLB

● Cooling

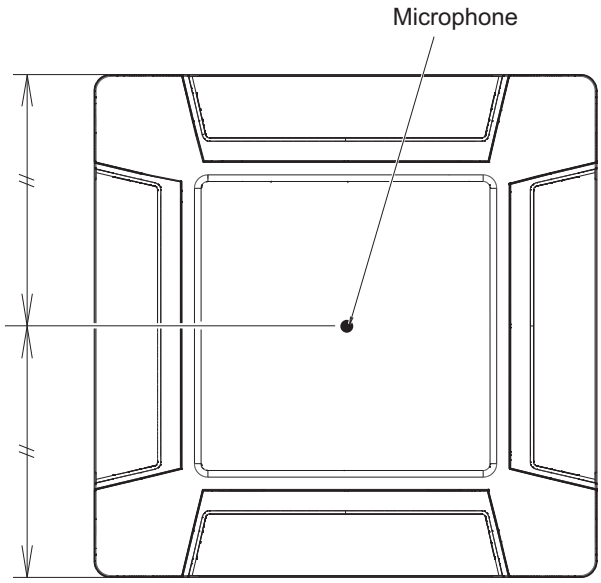


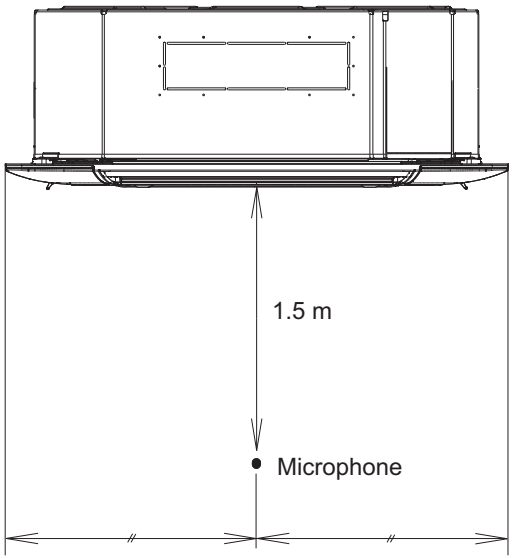
● Heating



CASSETTE TYPE
AUXG18, 22KRLB

6-2. Sound level check point





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

CASSETTE TYPE
AUXG18, 22KRLB

7. Safety devices

Type of protection	Protection form		Model	
			AUXG18KRLB	AUXG22KRLB
Circuit protection	Current fuse (PCB*)		250 V, 3.15 A	
Fan motor protection	Thermal protection program	Activate	125 ± 10 °C Fan motor stop	
		Reset	120 ± 10 °C Fan motor restart	

*: Printed Circuit Board

CASSETTE TYPE
AUXG18, 22KRLB

8. External input and output

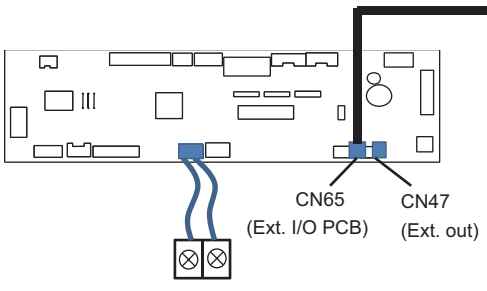


Fig. Indoor unit PCB

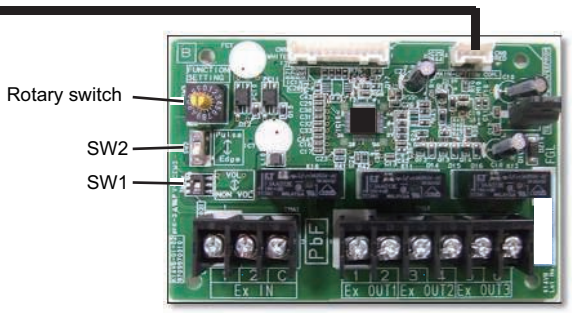


Fig. External Input and Output PCB

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.

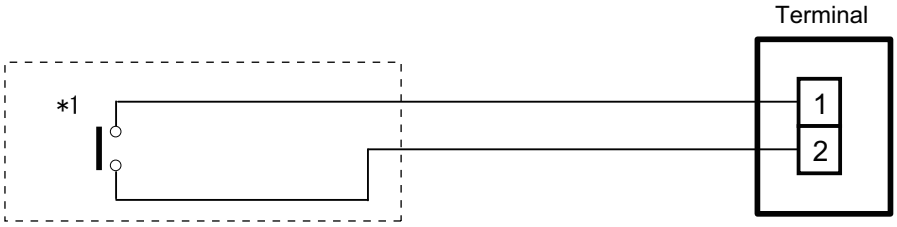
CASSETTE TYPE
AUXG18, 22KRLB

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.

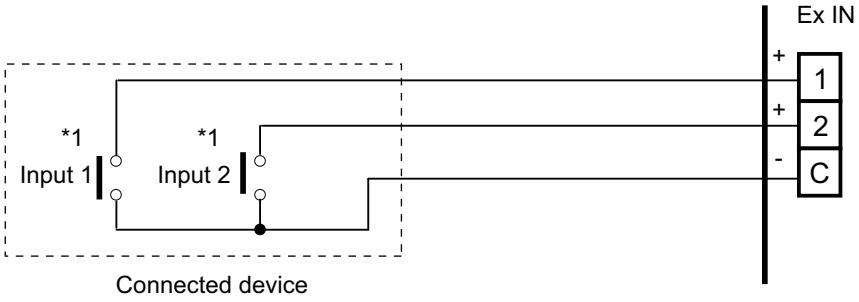


*1: The switch can be used on the following condition: DC 12 V to 24 V, 1 mA to 15 mA.

■ External Input and Output PCB

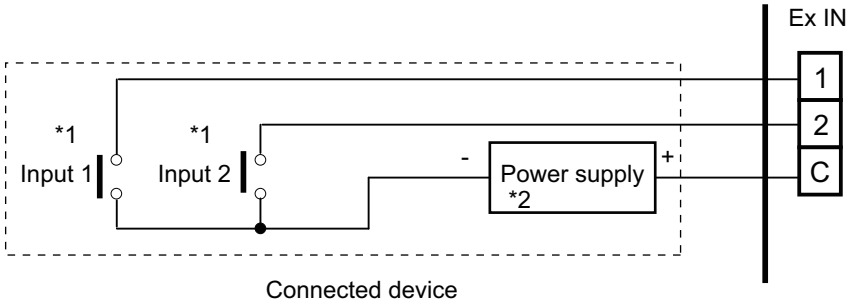
The indoor unit Operation/Stop can be set by using the input terminal on the PCB.

- **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.

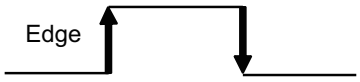


*1: The switches can be used on the following condition: DC 12 V to 24 V, 1 mA to 15 mA.
*2: Make the power supply DC 12 V to 24 V, 10 mA or more.

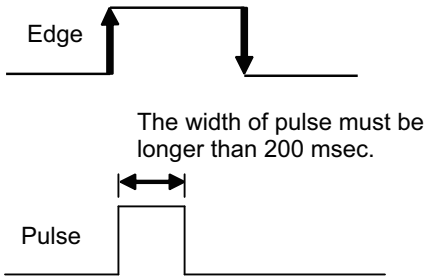
CASSETTE TYPE
AUXG18, 22KRLB

■ 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

CASSETTE TYPE
AUXG18, 22KRLB

8-2. External output

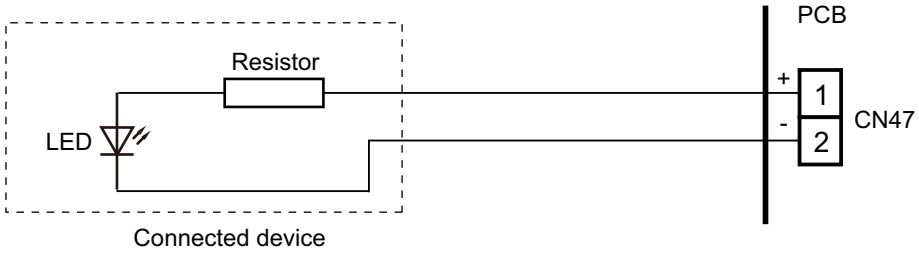
Use an external output cable with appropriate external dimension, depending on the number of cables to be installed.

■ 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.

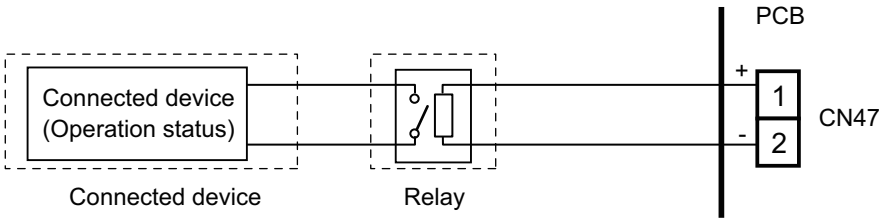
- **When indicator, etc. are connected directly**

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



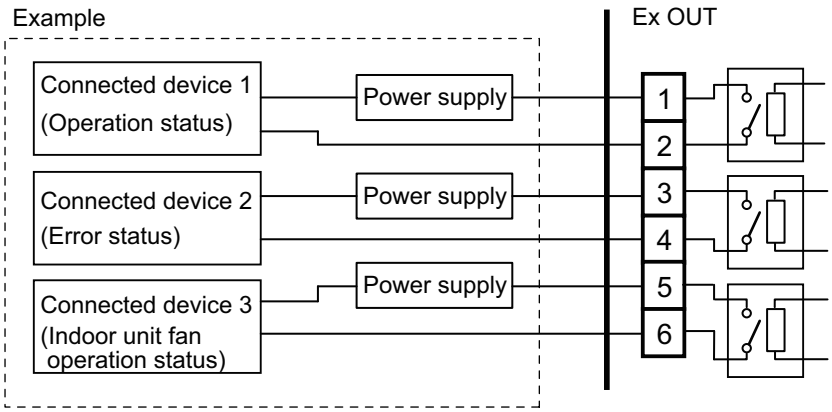
- **When connecting with a device equipped with a power supply**

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.



CASSETTE TYPE
AUXG18, 22KRLB

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”.

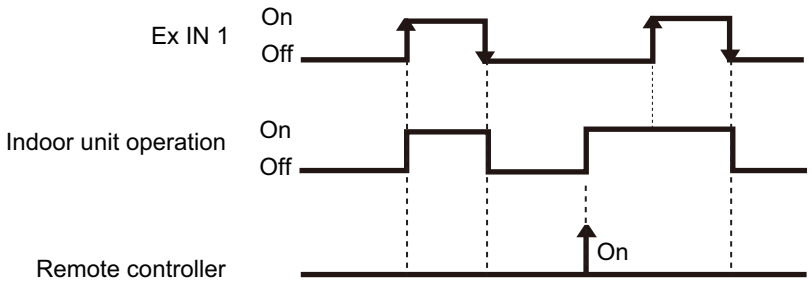
CASSETTE TYPE
AUXG18, 22KRLB

8-4. Details of control input function

■ Operation/Stop mode 1

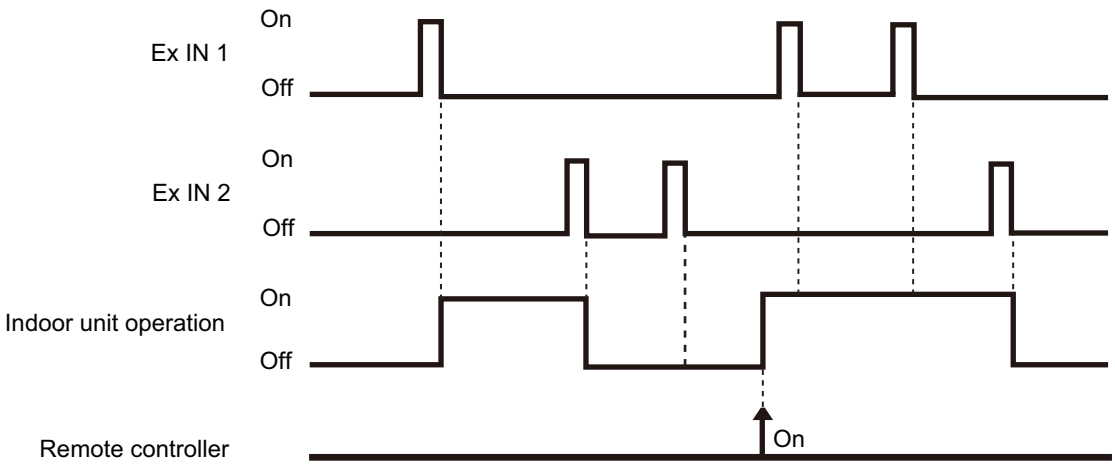
- **In the case of "Edge" input**

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:

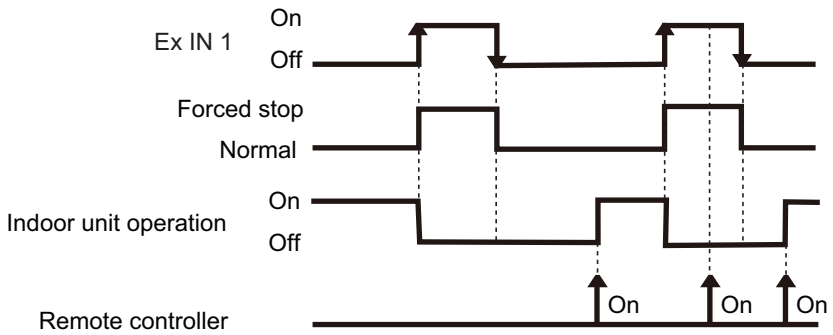
- The last command has priority.
- The indoor units within the same remote controller group operates in the same mode.

CASSETTE TYPE
AUXG18, 22KRLB

■ Forced stop

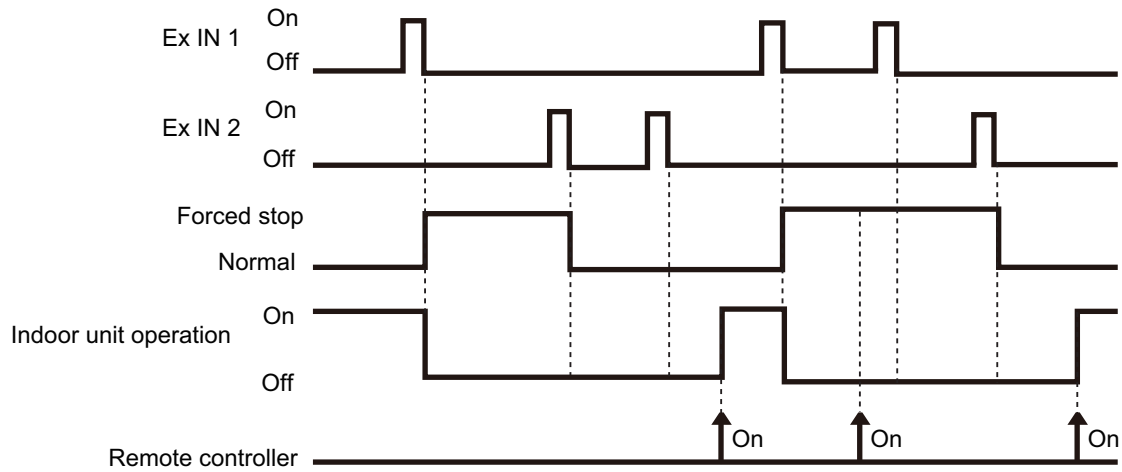
- **In the case of "Edge" input**

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:

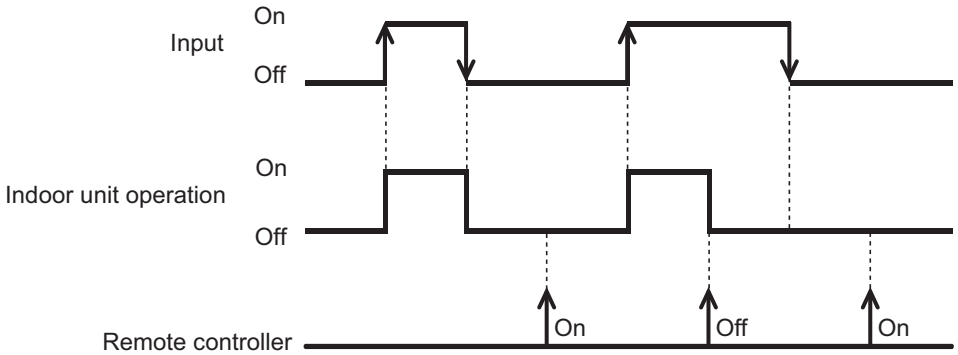
- When the forced stop is triggered, indoor unit stops and Operation/Stop operation by the remote controller is restricted.
- When forced stop function is used with forming a remote controller group, connect the same equipment to each indoor unit within the group.

CASSETTE TYPE
AUXG18, 22KRLB

■ Operation/Stop mode 2

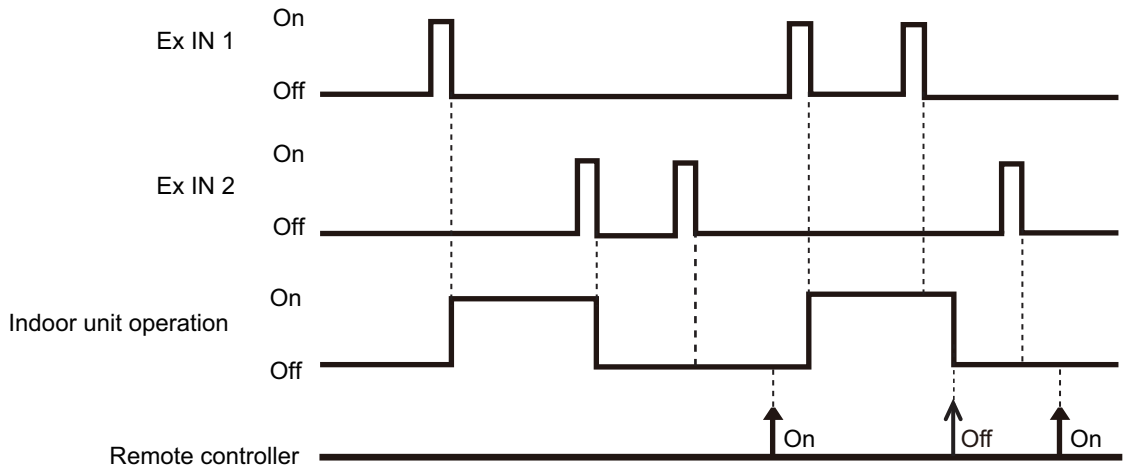
- **In the case of "Edge" input**

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)

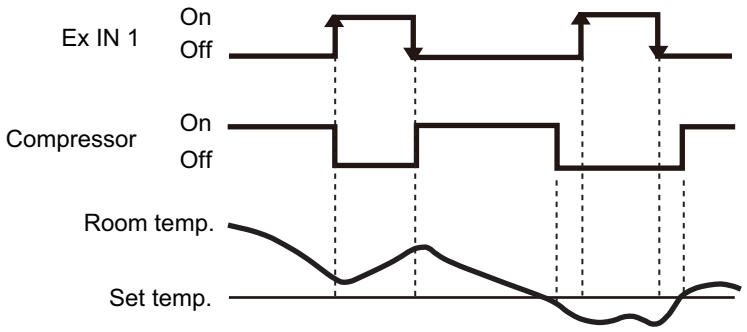


NOTE: When "Operation/Stop" mode 2 function is used with forming a remote controller group, connect the same equipment to each indoor unit within the group.

CASSETTE TYPE
AUXG18, 22KRLB

■ 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



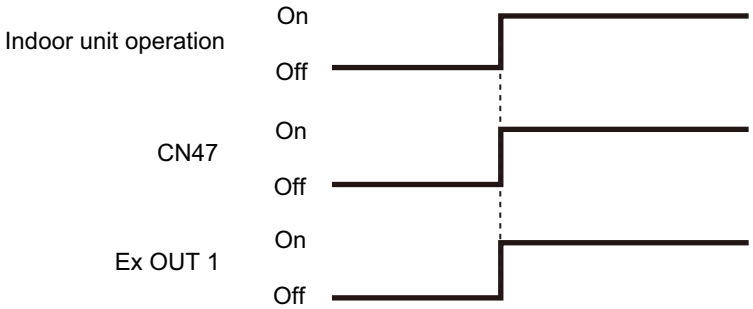
CASSETTE TYPE
AUXG18, 22KRLB

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

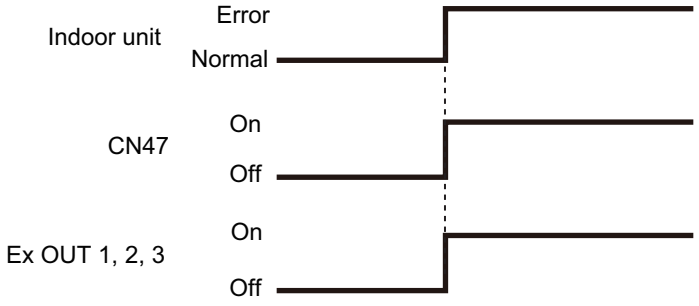
The output is low when the unit is stopped.



■ 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.

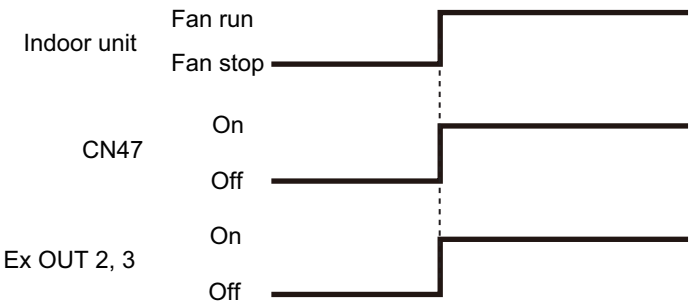


CASSETTE TYPE
AUXG18, 22KRLB

■ 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.



CASSETTE TYPE
AUXG18, 22KRLB

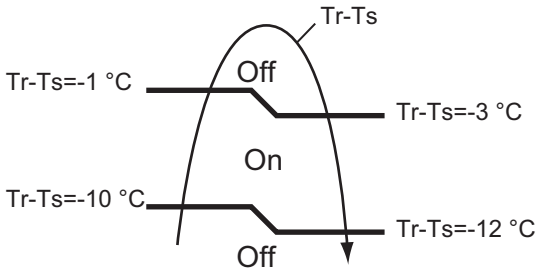
■ External heater output

Function setting	External Input and Output PCB	External output		Output signal	Control
	Rotary switch				
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.

CASSETTE TYPE
AUXG18, 22KRLB

9. Function settings

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

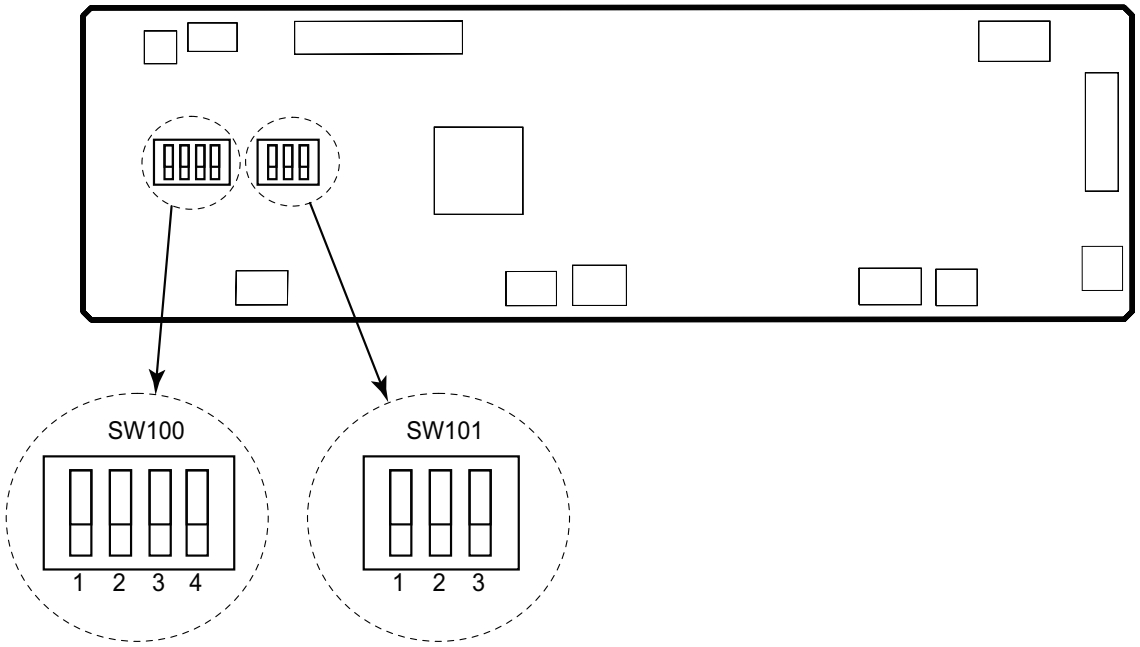
NOTE: Incorrect settings can cause a product malfunction.

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.



CASSETTE TYPE
AUXG18, 22KRLB

■ DIP switch setting

- **SW100: Remote controller address setting**

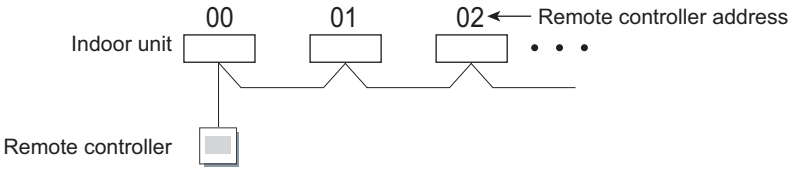
  NOTE: Because this setting is normally done automatically when 2-core wired remote controller is installed, setting is unnecessary.

Multiple indoor units can be operated by using one wired remote controller.
Set the unit number of each indoor unit.

Remote controller address	DIP switch number				Factory setting
	1	2	3	4	
00	OFF	OFF	OFF	OFF	♦
01	ON	OFF	OFF	OFF	
02	OFF	ON	OFF	OFF	
03	ON	ON	OFF	OFF	
04	OFF	OFF	ON	OFF	
05	ON	OFF	ON	OFF	
06	OFF	ON	ON	OFF	
07	ON	ON	ON	OFF	
08	OFF	OFF	OFF	ON	
09	ON	OFF	OFF	ON	
10	OFF	ON	OFF	ON	
11	ON	ON	OFF	ON	
12	OFF	OFF	ON	ON	
13	ON	OFF	ON	ON	
14	OFF	ON	ON	ON	
15	ON	ON	ON	ON	

NOTES:

- When connecting Polar 3-core wired remote controller, set the remote controller address in the order of 0, 1, 2, ..., and 15.
- 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.



- **SW101: Setting change prohibited**

CASSETTE TYPE
AUXG18, 22KRLB

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)	20	Ceiling height
3)	22	Outlet directions
4)	23	Vertical airflow direction range control
5)	30/31	Room temperature control for indoor unit sensor
6)	35/36	Room temperature control for wired remote controller sensor
7)	40	Auto restart
8)	42	Room temperature sensor switching
9)	44	Remote controller custom code
10)	46	External input control
11)	48	Room temperature sensor switching (Aux.)
12)	49	Indoor unit fan control for energy saving for cooling
13)	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 (4,400 hours)	
	02	Short interval (1,250 hours)	
	03	No indication	♦

CASSETTE TYPE
AUXG18, 22KRLB

2) Ceiling height

Select the appropriate ceiling height according to the place of installation.

Function number	Setting value	Setting description	Factory setting
20	00	Standard	♦
	01	High ceiling	
	02	Low ceiling	

For the specific height for each setting value, refer to “Installation space” in Chapter 2. "Dimensions" on page 4.

In case of cassette type models:
The ceiling height values are for the 4-way outlet. Do not change this setting in the 3-way outlet mode.

3) Outlet directions

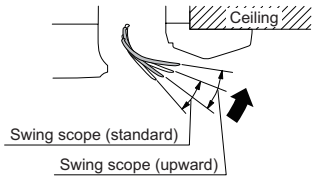
Select the appropriate number of outlet directions according to the installation conditions.

Function number	Setting value	Setting description	Factory setting
22	00	4-way	♦
	01	3-way	

4) Vertical airflow direction range control

To prevent draft, change the setting to "Upward" (01).
Note that the airflow in certain usage conditions may leave the ceiling dirty. In such cases, the use of the optional Panel Spacer is recommended.

Function number	Setting value	Setting description	Factory setting
23	00	Standard	♦
	01	Upward	



CASSETTE TYPE
AUXG18, 22KRLB

5) Room temperature control for indoor unit sensor

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		

CASSETTE TYPE
AUXG18, 22KRLB

6) 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		

7) 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.

8) 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.

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

CASSETTE TYPE
AUXG18, 22KRLB

9) 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	

10) 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)	

11) 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	

12) 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.

CASSETTE TYPE
AUXG18, 22KRLB

13) Switching functions for external output terminal

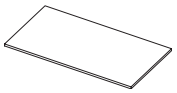
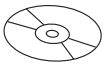
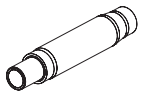
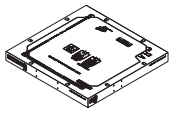
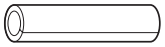
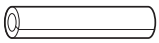
Functions of the external output terminal can be switched. For details, refer to “External input and output”.

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	

CASSETTE TYPE
AUXG18, 22KRLB

10. Accessories

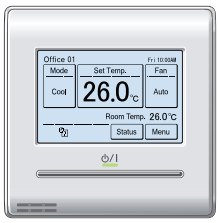
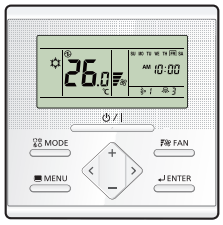
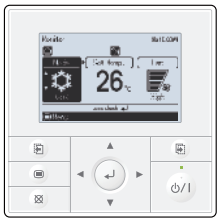
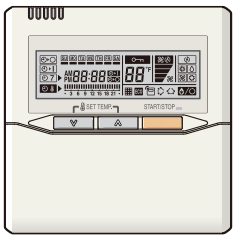
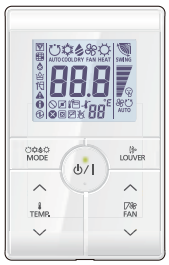
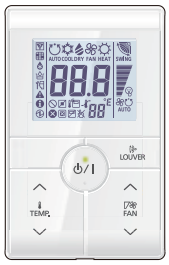
10-1. Models: AUXG18KRLB and AUXG22KRLB

Part name	Exterior	Q'ty	Part name	Exterior	Q'ty
Operating manual		1	Insulation		1
Operating manual (CD-ROM)		1	Drain hose		1
Installation manual		1	Hose band		1
Template (Carton top)		1	Drain hose heat insulation		1
Washer		8	Cable tie (large)		4
Coupler heat insulation (large)		1	Cable tie (small)		2
Coupler heat insulation (small)		1			

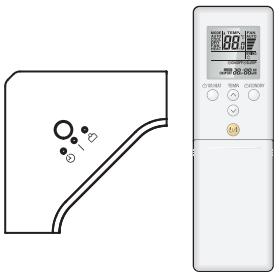
CASSETTE TYPE
AUXG18, 22KRLB

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
	Wired Remote Controller	UTY-RVNGM	Large and full-dot liquid crystal screen, wide and large keys easy to press, user-intuitive arrow key. Wire type: Polar 3-wire
	Wired Remote Controller	UTY-RNNGM	Room temperature can be controlled by detecting the temperature accurately with thermo sensor. Wire type: Polar 3-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
	Simple Remote Controller	UTY-RSNGM	Compact remote controller concentrates on the basic functions such as Start/Stop, fan control, temperature setting, and operation mode. Wire type: Polar 3-wire

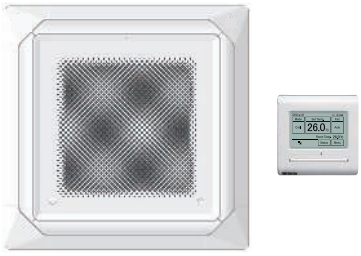
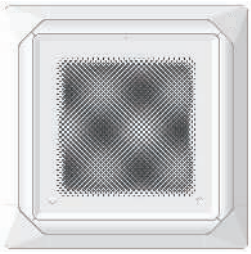
CASSETTE TYPE
AUXG18, 22KRLB

Exterior	Part name	Model name	Summary
	IR Receiver Kit with Wireless Remote Controller	UTY-LBTGC1	Unit control is performed by Wireless Remote Controller.

NOTES:

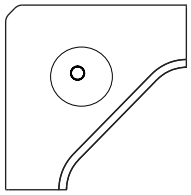
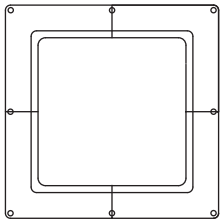
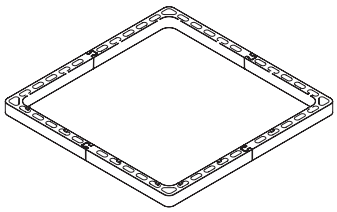
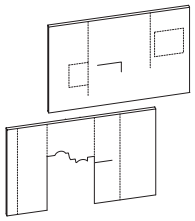
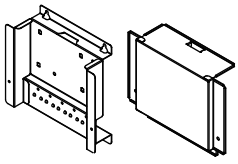
- Available functions may differ by the remote controller. For details, refer to the operation manual.
- When using the group controlling system of the Wired Remote Controller, using WLAN Adapter is prohibited.

11-2. Cassette grille

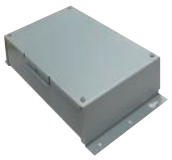
Exterior	Part name	Model name	Summary
	Cassette Grille	UTG-UKGA-W	This cassette grille to blow airflow in 360º direction by unique seamless airflow louver design. Wired remote controller (UTY-RNRGZ*) is included.
	Cassette Grille	UTG-UKGC-W	This cassette grille to blow airflow in 360º direction by unique seamless airflow louver design.
	Cassette Grille	UTG-UKGA-B	This cassette grille to blow airflow in 360º direction by unique seamless airflow louver design. Black color model.

CASSETTE TYPE
AUXG18, 22KRLB

11-3. Others

Exterior	Part name	Model name	Summary
	Human Sensor Kit	UTY-SHZXC	For circular flow cassette type.
	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
	Air Outlet Shutter Plate	UTR-YDZK	Installed at the air outlet when 3-directions mode is performed.
	Wide Panel	UTG-AKXA-W	Hides the gap between the ceiling hole and the cassette grille.
	Panel Spacer	UTG-BKXA-W	If there is not enough height in the ceiling space, by inserting this spacer between the cassette grille and the ceiling surface, the height of the unit body goes into the ceiling space become 50-mm lower.
	Fresh Air Intake Kit	UTZ-VXRA	By attaching Fresh Air Intake Kit to the indoor unit, it can be taken in fresh air of up to 10% of “high” air volume of the indoor unit.
	Insulation Kit for High Humidity	UTZ-KXRA	Install when the under-roof condition is expected to be the humidity of over 80% and the temperature of over 30 °C.
	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 on Main PCB
	External Input and Output PCB Box	UTZ-GXRA	For installing the External input and output PCB.

CASSETTE TYPE
AUXG18, 22KRLB

Exterior	Part name	Model name	Summary
	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: CN65 on Main PCB
	Modbus Converter	UTY-VMSX	For connection between indoor unit with UART interface and a Modbus open network. Connecting point: CN65 on Main PCB
	KNX Convertor	UTY-VKSX	For connection between indoor unit with UART interface and a KNX open network. Connecting point: CN65 on Main PCB
	Network Converter	UTY-VTGX	This converter is required when connecting single split system to VRF network system.
	Network Converter (AC power supply)	UTY-VTGXV	This converter is required when connecting single split system to VRF network system.
	External Switch Controller	UTY-TERX	Air conditioner switching can be controlled by connecting other external sensor switches. Use the terminal for wired remote controller.

NOTE: Combined use of following optional parts and WLAN Adapter (UTY-TFSXZ1) is not allowed.

- External Input and Output PCB (UTY-XCSX)
- Modbus Converter
- KNX Convertor

CASSETTE TYPE
AUXG18, 22KRLB

Part 2. OUTDOOR UNIT

SINGLE TYPE:

AOHG18KBTB
AOHG22KBTB

1. Specifications

Type				Inverter heat pump	
Model name				**AOHG18KBTB**	**AOHG22KBTB**
Power supply				230 V ~ 50 Hz	
Available voltage range				198—264 V	
Starting current			A	7.1	8.2
Fan	Airflow rate	Cooling	m^3/h	2,160	2,240
		Heating		1,830	1,960
	Type × Q'ty			Propeller fan × 1	
	Motor output		W	49	
Sound pressure level *1		Cooling	dB (A)	50	51
		Heating		50	51
Sound power level		Cooling	dB (A)	62	63
		Heating		62	63
Heat exchanger type		Dimensions (H × W × D)	mm	588 × 881 × 18.19 588 × 851 × 18.19	588 × 881 × 18.19 588 × 851 × 18.19
		Fin pitch		1.3	
		Rows × Stages		2 × 28	2 × 28
		Pipe type		Copper tube	
		Fin type	Type (Material)	Aluminum	
			Surface treatment	PC fin	
Compressor	Type × Q'ty			DC Twin rotary × 1	
	Motor output		W	900	1,060
Refrigerant		Type (Global warming potential)		R32 (675)	
		Charge	g	1,020	1,250
Refrigerant oil		Type		FW68S	RmM68AF
		Amount	cm^3	350	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	
	Gross			692 × 940 × 375	
Weight	Net		kg	36	38
	Gross			40	42
Connection pipe	Size	Liquid	mm (in)	Ø 6.35 (Ø 1/4)	
		Gas		Ø 12.70 (Ø 1/2)	
	Method			Flare	
	Pre-charge length		m	20	
	Max. length			30	
	Max. height difference			20	25
Operation range		Cooling	°C	-15 to 46	
		Heating		-15 to 24	
Drain hose		Material		PP	
		Size	mm	Ø 13.0 (I. D.), Ø 16.0 to Ø 16.8 (O. D.)	

NOTES:

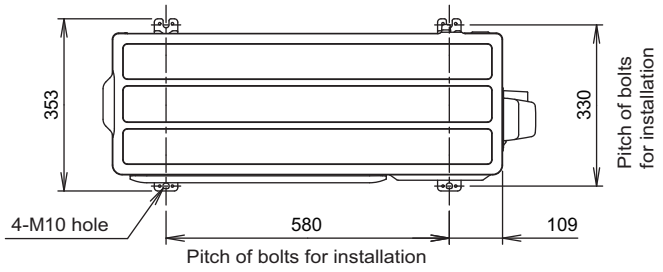
- Specifications are based on the following conditions:
  - Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB.
  - Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB.
  - Pipe length: 5 m, Height difference: 0 m.
- Protective function might work when using it outside the operation range.
- *1: 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.
- This data is based on EN 14511 standard.

OUTDOOR UNIT
AOHG18, 22KBTB

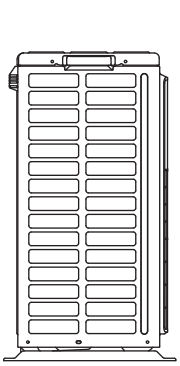
2. Dimensions

2-1. Models: AOHG18KBTB and AOHG22KBTB

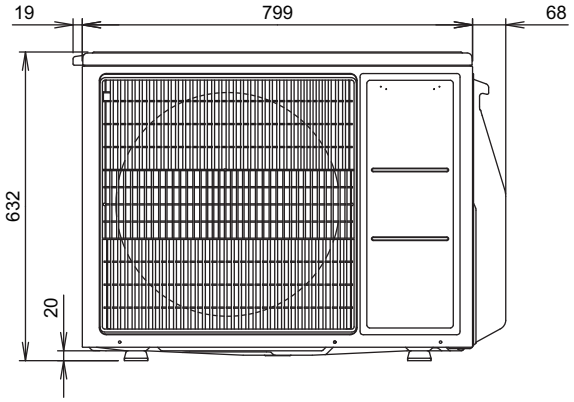
Unit: mm



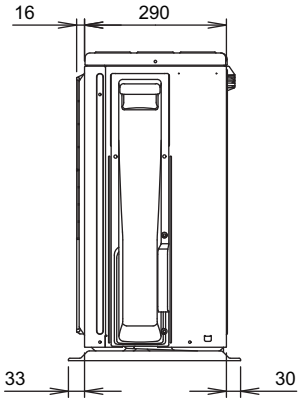
Top view



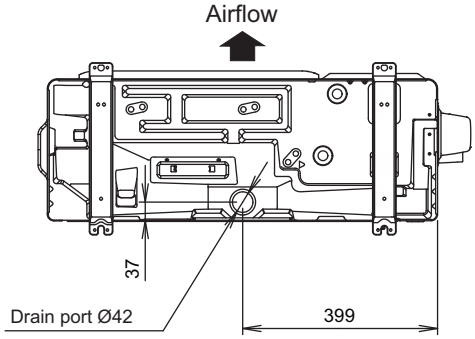
Side view



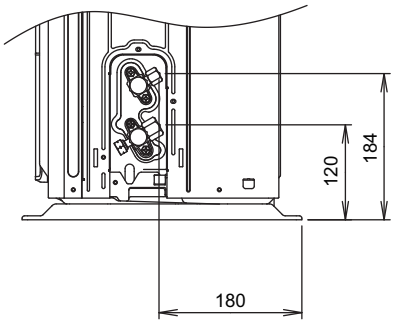
Front view



Side view



Bottom view



Side view (Valve part)

OUTDOOR UNIT
AOHG18, 22KBTB

3. Installation space

3-1. Models: AOHG18KBTB and AOHG22KBTB

■ Space requirement

Provide sufficient installation space for product safety.

⚠ CAUTION

Keep the space shown in the installation examples.

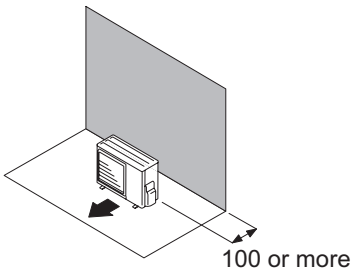
If the installation is not performed accordingly, it could cause a short circuit and result in a lack of operating performance.

● Single outdoor unit installation

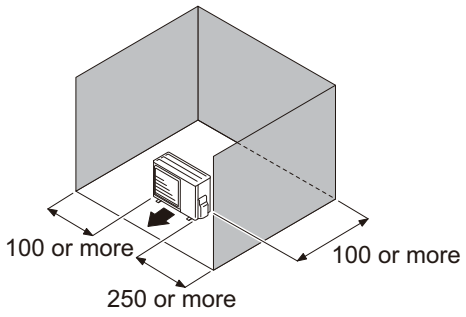
- **When the upper space is open:**

Unit: mm

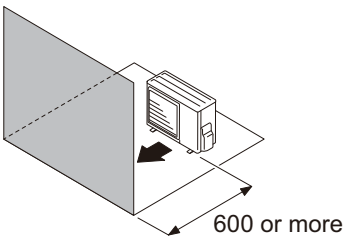
Obstacles at rear only



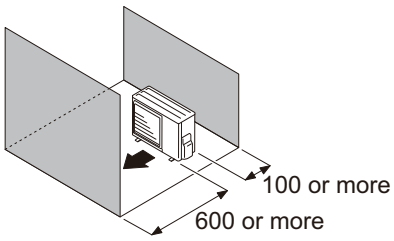
Obstacles at rear and sides



Obstacles at front



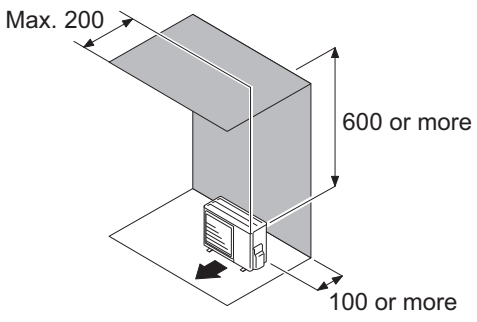
Obstacles at front and rear



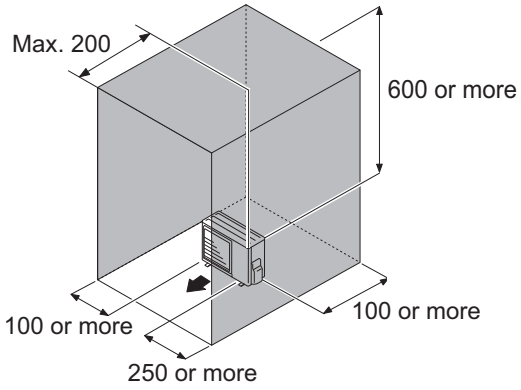
- **When an obstruction in the upper space:**

Unit: mm

Obstacles at rear and above



Obstacles at rear, sides, and above



OUTDOOR UNIT
AOHG18, 22KBTB

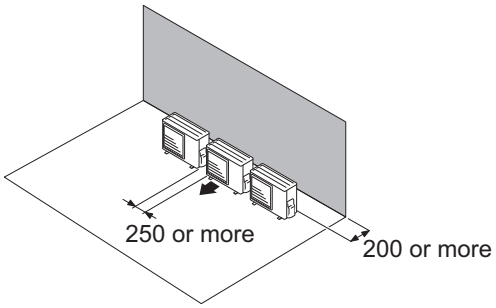
● Multiple outdoor unit installation

- 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:**".

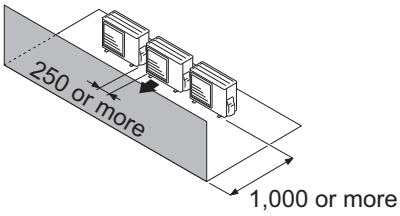
- **When the upper space is open:**

Unit: mm

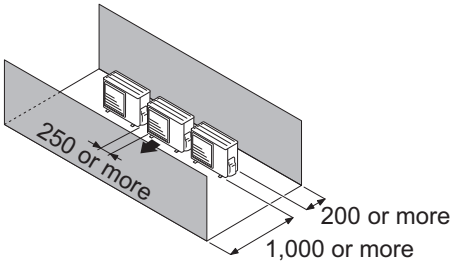
Obstacles at rear only



Obstacles at front only



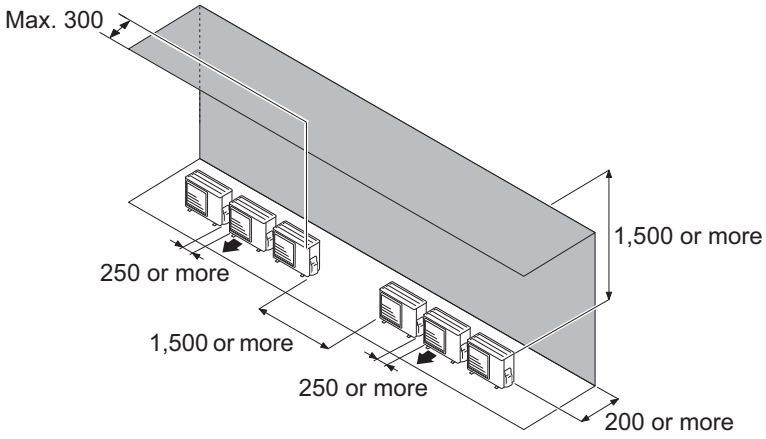
Obstacles at front and rear



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

Unit: mm

Obstacles at rear and above.

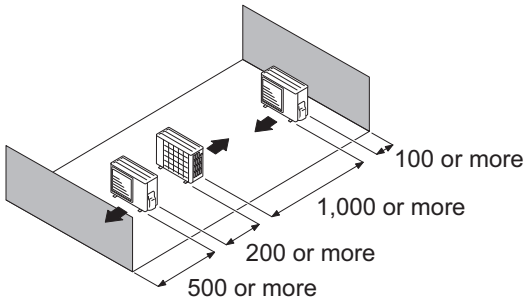


OUTDOOR UNIT
AOHG18, 22KBTB

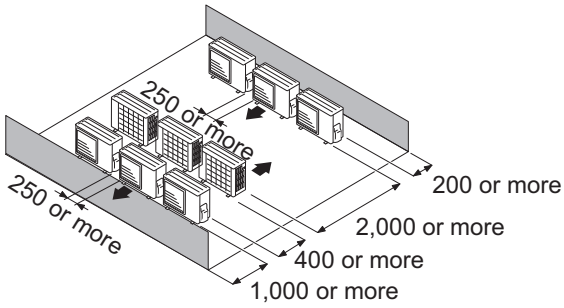
● Outdoor units installation in multi-row

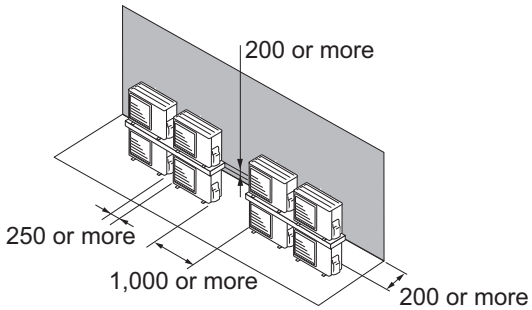
Unit: mm

Single parallel unit arrangement



Multiple parallel unit arrangement



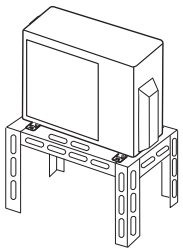


NOTES:

- 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

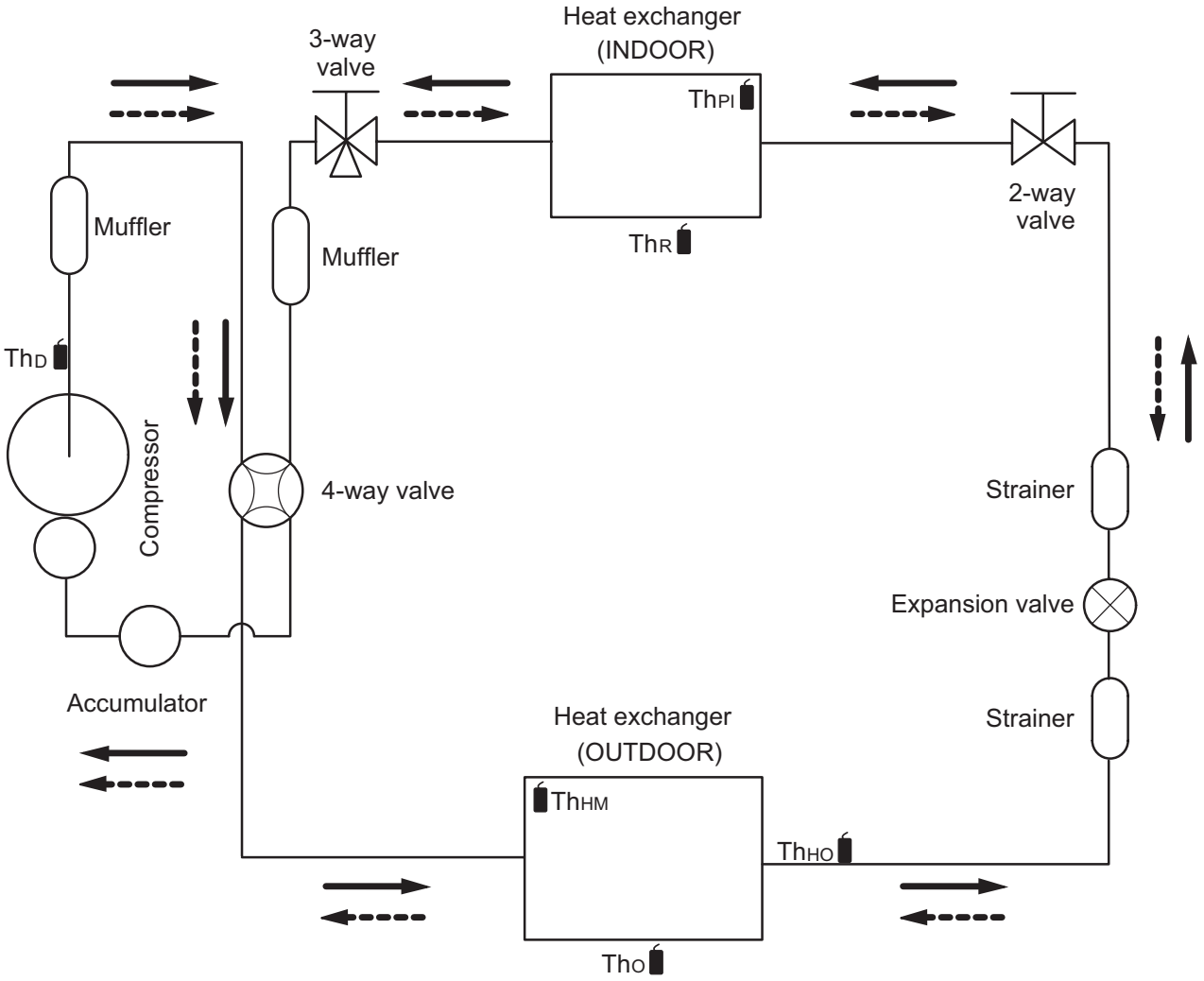
- Do not install the outdoor unit in two-stage where the drain water could freeze. Otherwise the drainage from the upper unit may form ice and cause a malfunction of the lower unit.
- When the outdoor temperature is 0 °C or less, do not use the accessory drain pipe and drain cap. If the drain pipe and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



OUTDOOR UNIT
AOHG18, 22KBTB

4. Refrigerant circuit

4-1. Model: AOHG18KBTB



ThD : Thermistor (Discharge temperature)

ThHM: Thermistor (Heat exchanger middle temperature)

ThO : Thermistor (Outdoor temperature)

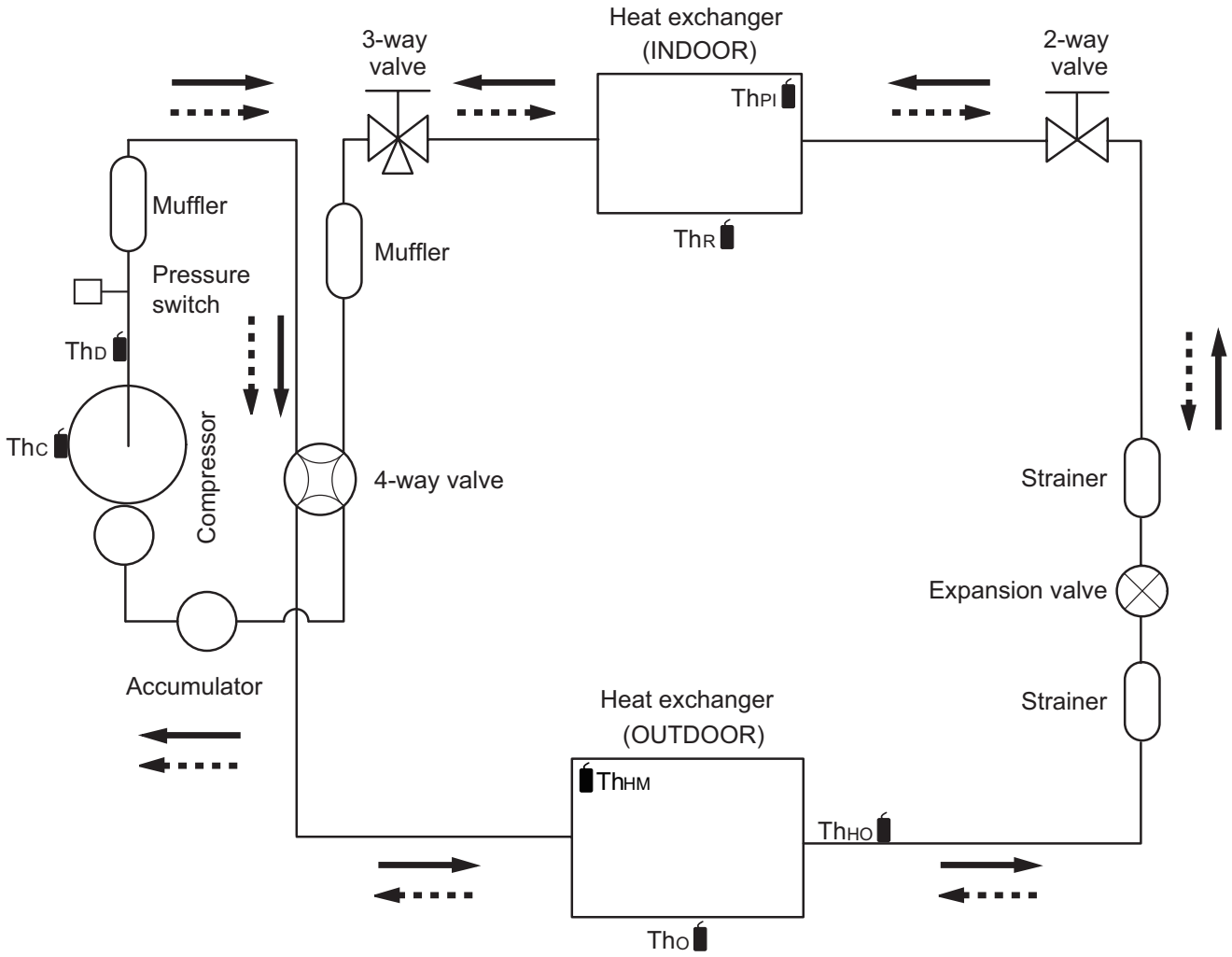
ThHO: Thermistor (Heat exchanger out temperature)

ThPI : Thermistor (Pipe temperature)

ThR : Thermistor (Room temperature)

OUTDOOR UNIT
AOHG18, 22KBTB

4-2. Model: AOHG22KBTB



ThC : Thermistor (Compressor temperature)

ThD : Thermistor (Discharge temperature)

ThHM: Thermistor (Heat exchanger middle temperature)

ThO : Thermistor (Outdoor temperature)

ThHO: Thermistor (Heat exchanger out temperature)

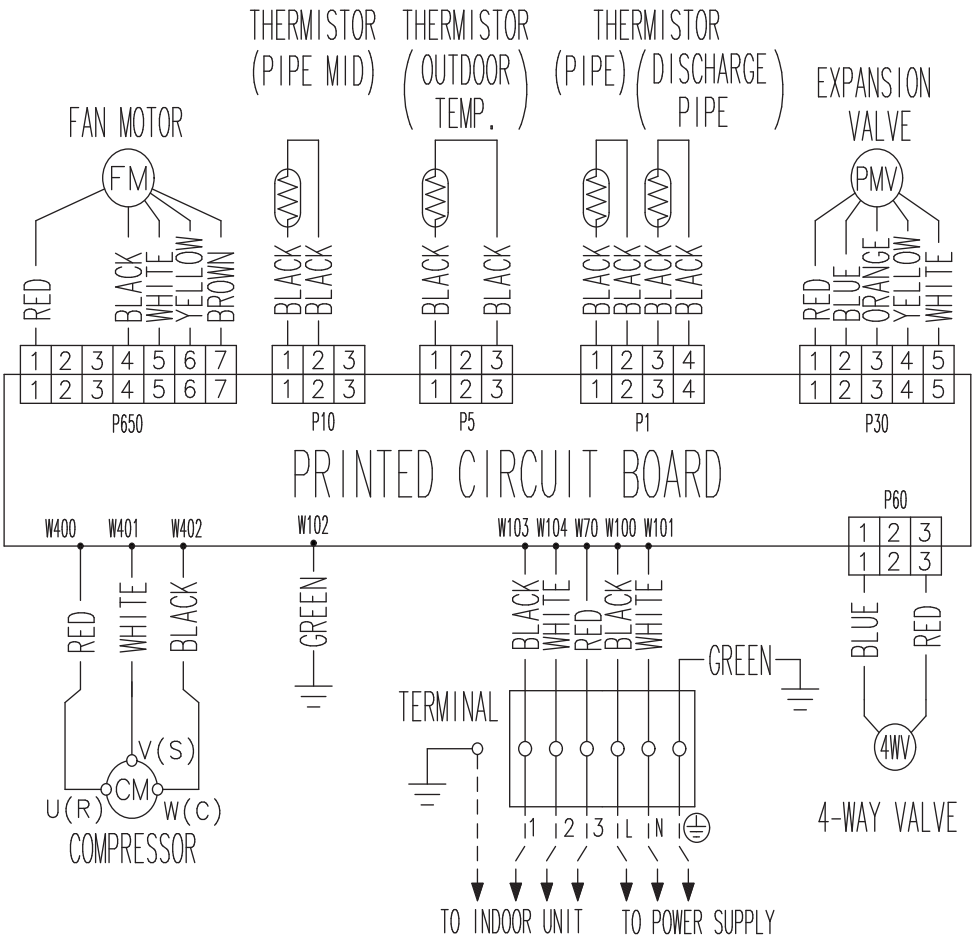
ThPI : Thermistor (Pipe temperature)

ThR : Thermistor (Room temperature)

OUTDOOR UNIT
AOHG18, 22KBTB

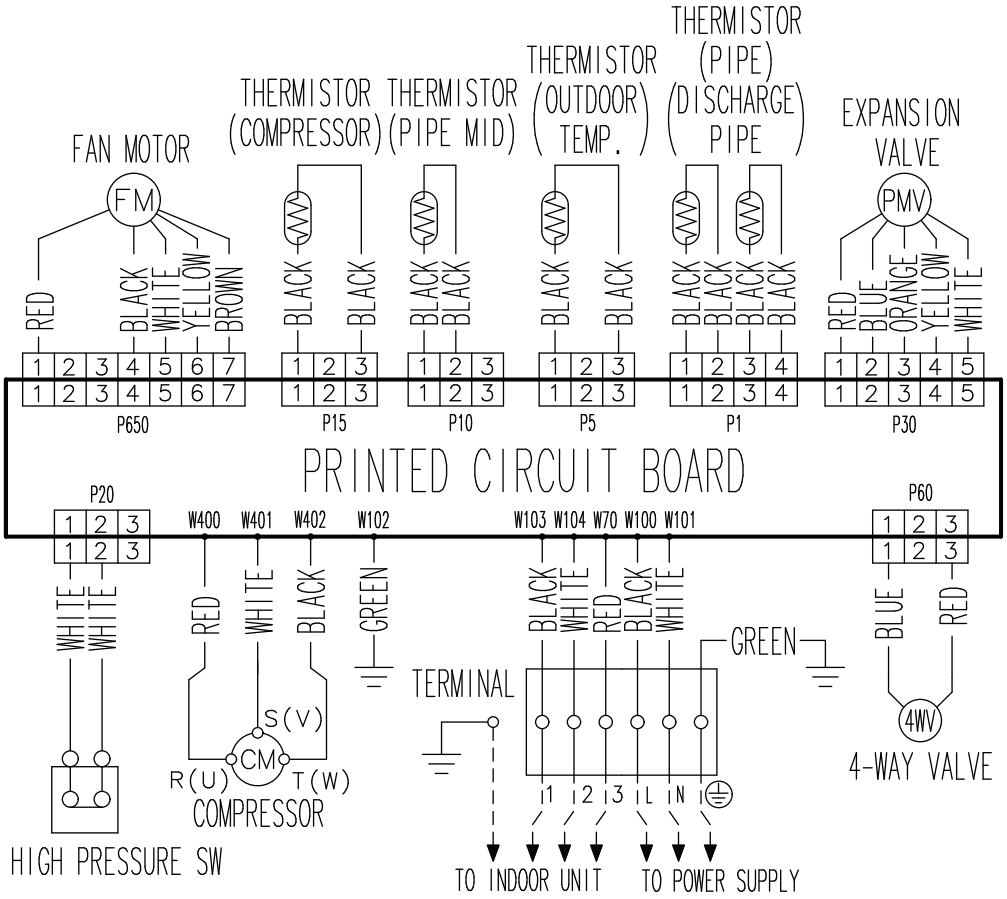
5. Wiring diagrams

5-1. Model: AOHG18KBTB



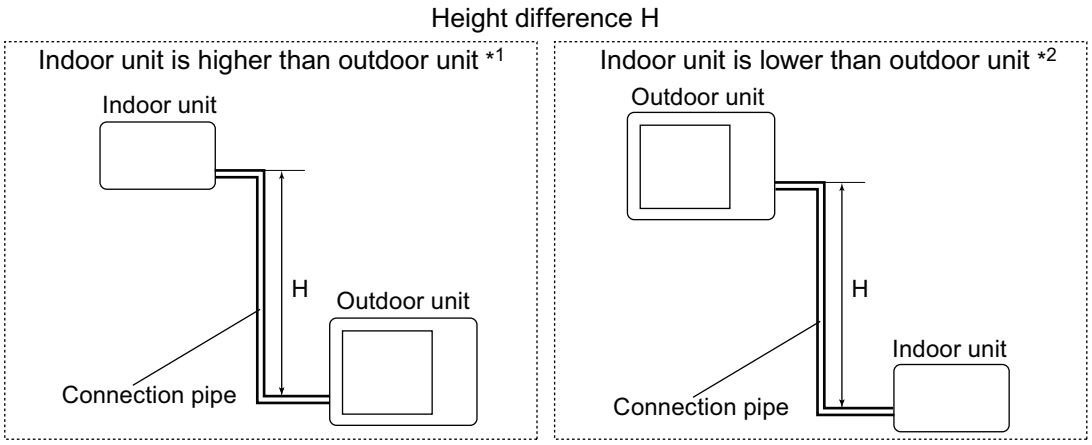
OUTDOOR UNIT
AOHG18, 22KBTB

5-2. Model: AOHG22KBTB



OUTDOOR UNIT
AOHG18, 22KBTB

6. Capacity compensation rate for pipe length and height difference



6-1. Model: AOHG18KBTB

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	20	—	—	—	—	0.932	0.930	0.924
		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
		-20	—	—	—	—	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	20	—	—	—	—	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
		-20	—	—	—	—	0.863	0.834	0.809

6-2. Model: AOHG22KBTB

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

OUTDOOR UNIT
AOHG18, 22KBTB

7. Additional charge calculation

7-1. Model: AOHG18KBTB

Refrigerant type		R32
Factory charge amount	g	1,020

■ 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: AOHG22KBTB

Refrigerant type		R32
Refrigerant amount	g	1,250

■ Refrigerant charge

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

OUTDOOR UNIT
AOHG18, 22KBTB

8. Airflow

8-1. Model: AOHG18KBTB

● Cooling

m^3/h	2,160
l/s	600
CFM	1,271

● Heating

m^3/h	1,830
l/s	508
CFM	1,077

8-2. Model: AOHG22KBTB

● Cooling

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

● Heating

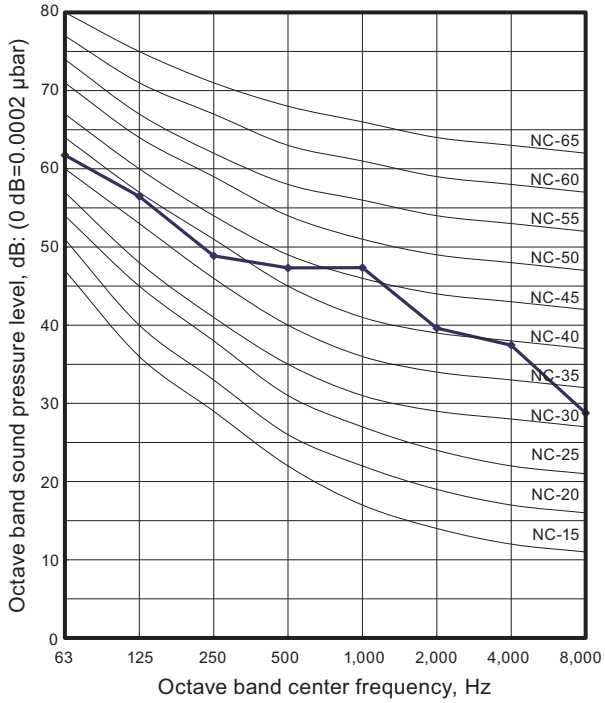
m^3/h	1,960
l/s	544
CFM	1,154

9. Operation noise (sound pressure)

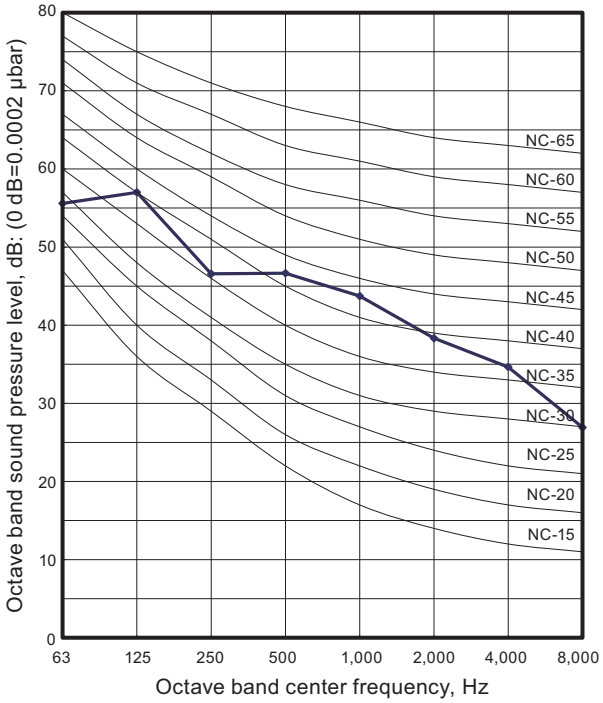
9-1. Noise level curve

■ Model: AOHG18KBTB

● Cooling

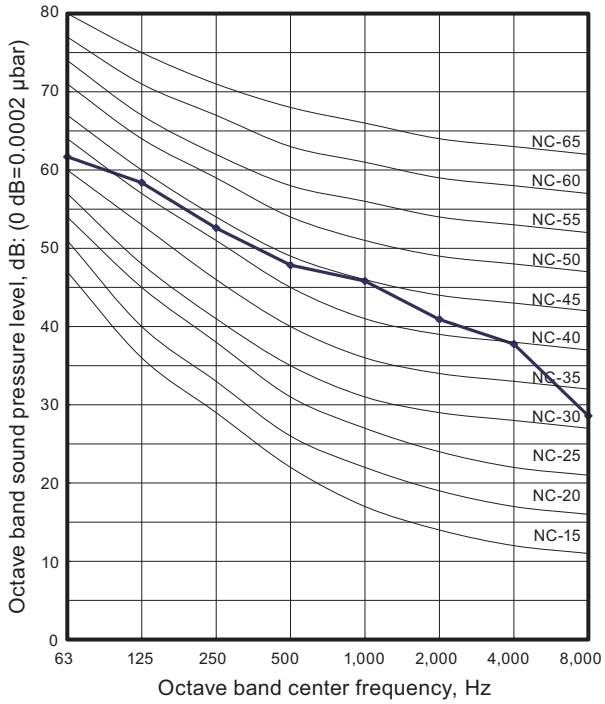


● Heating

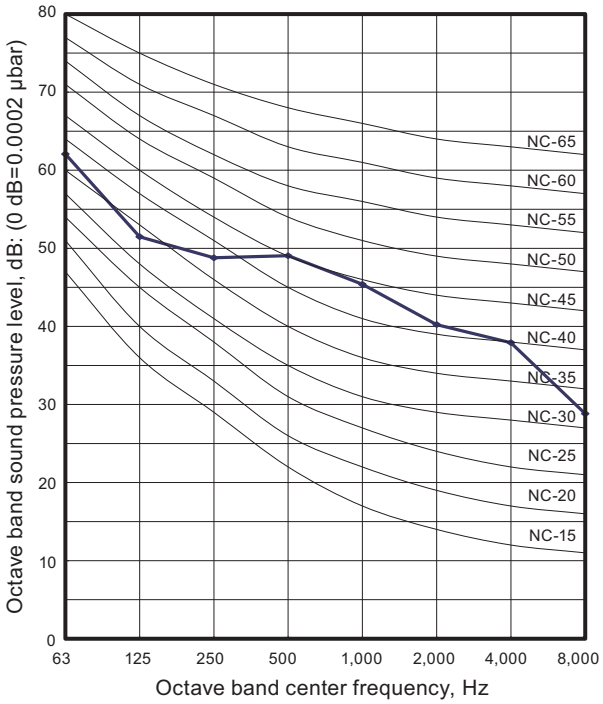


■ Model: AOHG22KBTB

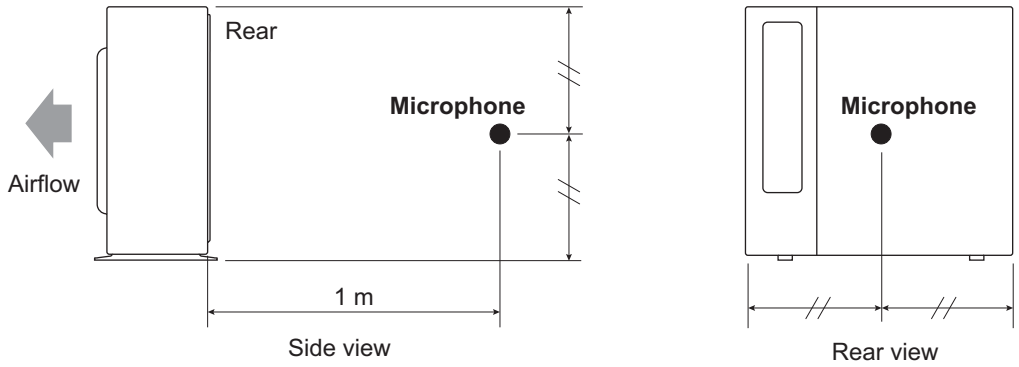
● Cooling



● Heating



9-2. Sound level check point



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

OUTDOOR UNIT
AOHG18, 22KBTB

10. Electrical characteristics

Model name				AOHG18KBTB	AOHG22KBTB
Power supply	Voltage		V	230 ~	
	Frequency		Hz	50	
Max operating current *1			A	12.1	12.6
Starting current			A	7.1	8.2
Wiring spec. *2	Circuit breaker current		A	16	
	Power cable		mm^2	1.5	
	Connection cable *3	Cross-sectional area	mm^2	1.5	
		Limited wiring length	m	31	

*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.

OUTDOOR UNIT
AOHG18, 22KBTB

11. Safety devices

Type of protection	Protection form		Model	
			AOHG18KBTB	AOHG22KBTB
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	
	Terminal protection program (Compressor temp.)	Activate	—	108 °C Compressor stop
		Reset	—	After 3 minutes, and 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	
High pressure protection	Pressure switch	Activate	—	$4.2\ ^{+0}_{-0.15}$ MPa Compressor stop
		Reset	—	3.2 ±0.15 MPa Compressor restart

12. Accessories

12-1. Models: AOHG18KBTB and AOHG22KBTB

OUTDOOR UNIT
AOHG18, 22KBTB

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