DAIKIN

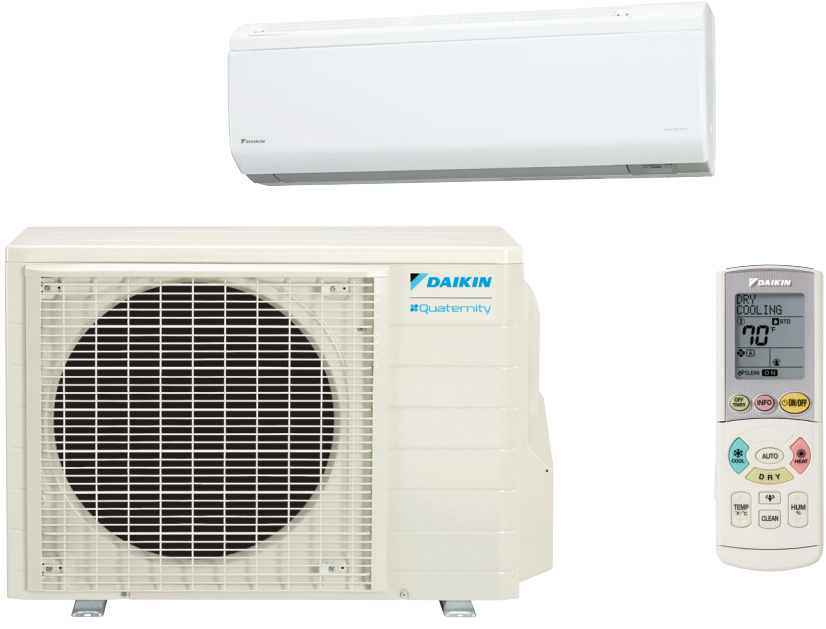
EDUS04-906_b

Engineering Data

Quaternity™ by DAIKIN

- Heat Pump -

H-Series



INVERTER

DAIKIN AC (AMERICAS), INC.

Split-System Room Air Conditioners H-Series

Heat Pump		
Quaternity	FTXG09HVJU FTXG12HVJU FTXG15HVJU	RXG09HVJU RXG12HVJU RXG15HVJU

Cautions

1. Air conditioners should not be installed in areas where corrosive gases, such as acid gas or alkaline gas, are produced.
2. If the outdoor unit is to be installed close to the sea shore, direct exposure to the sea breeze should be avoided and choose an outdoor unit with anti-corrosion treatment.

1. Power Supply

	Indoor Units	Outdoor Units	Power Supply
Quaternity	FTXG09HVJU	RXG09HVJU	1ϕ, 208-230V, 60Hz
	FTXG12HVJU	RXG12HVJU	
	FTXG15HVJU	RXG15HVJU	

Note:

Power Supply Intake ; Outdoor Unit

2. Functions

Category	Functions	FTXG09/12/15HVJU RXG09/12/15HVJU	Category	Functions	FTXG09/12/15HVJU RXG09/12/15HVJU
Basic Function	Inverter (with Inverter Power Control)	○	Health & Clean	Air-Purifying Filter	—
	Operation Limit for Cooling (°FDB)	14~109		Photocatalytic Deodorizing Filter	—
	Operation Limit for Heating (°FWB)	–4~75		Air-Purifying Filter with Photocatalytic Deodorizing Function	—
	PAM Control	○		Titanium Apatite Photocatalytic Air-Purifying Filter	○
	Energy Saving During Operation Standby	—			
Compressor	Oval Scroll Compressor	—		Deodorizing Filter for Streamer	○
	Swing Compressor	○		Flash Streamer Air-Purifying	○
	Rotary Compressor	—		Air Filter (Prefilter)	○
	Reluctance DC Motor	○		Wipe-clean Flat Panel	○
Comfortable Airflow	Power-Airflow Flap	—		Washable Upper Grille	○
	Power-Airflow Dual Flaps	○		Filter Cleaning Indicator (Remote Controller)	○
	Wide-Angle Louvers	○		Mold Proof Operation	—
	Vertical Auto-Swing (Up and Down)	○		Mold Shock Operation	—
	Horizontal Auto-Swing (Right and Left)	○		Mold Proof Stick	○
	3-D Airflow	○		Comfort Sleep Operation	○★2
	Comfort Airflow Mode	○		Fresh Air Supply Ventilation	—
	COOLING BREEZE Operation	○		Home Leave Ventilation	—
Comfort Control	Auto Fan Speed	○	Timer	Weekly Timer	—
	Indoor Unit Quiet Operation	○		24-Hour ON/OFF Timer	○
	Night Quiet Mode (Automatic)	—		Count Up-down ON/OFF Timer	OFF only
	Outdoor Unit Quiet Operation (Manual)	—		Night Set Mode	○
	INTELLIGENT EYE	—	Worry Free “Reliability & Durability”	Auto-Restart (after Power Failure)	○
	2-Area INTELLIGENT EYE	—		Self-Diagnosis (Remote Controller) Display	○
	Quick Warming Function	○		Wiring Error Check	—
	Hot-Start Function	○		Anticorrosion Treatment of Outdoor Heat Exchanger	○
	Automatic Defrosting	○	Flexibility	Multi-Split / Split Compatible Indoor Unit	—
Operation	Automatic Operation	○		H/P, C/O Compatible Indoor Unit	—
	Humidifying Operation	—		Chargeless	○
	Drying Operation	○		Either Side Drain (Right or Left)	○
	DRY COOLING Operation	○		Power Selection	—
	Programme Dry Function	—		Low Temperature Cooling Operation (5°F / -15°C)	—
	Fan Only	—		°F/°C changeover R/C temperature display (factory setting : °F)	○★3
	Air-Purifying Operation	○			
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—	Remote Control	5-Rooms Centralized Controller (Option)	○
	Inverter POWERFUL Operation	○★1 ★2		Remote Control Adaptor (Normal Open-Pulse Contact) (Option)	○
	Dry Keep	JP set			
	Priority-Room Setting	—		Remote Control Adaptor (Normal Open Contact) (Option)	○
	Cooling / Heating Mode Lock	—			
	HOME LEAVE Operation	—		DIII-NET Compatible (Adaptor) (Option)	○
	ECONO Mode	—	Remote Controller	Wireless	○
	Indoor Unit ON/OFF Switch	○		Wired	—
	Signal Reception Indicator	○			
	Multi-colored Indicator	○			
	Monitor Brightness Setting	○			
	Temperature & Humidity Level Information Display (Remote Controller)	○			
	Childproof Lock	○			
	R/C with Back Light	—			

Note: ○ : Included Functions
— : No Functions

(★1) Inverter POWERFUL operation can be used for COOLING, DRY COOLING, and HEATING.
(★2) The function setting is cancelled as it is restarted automatically.(★3) Temperature display 16~99°F (–9°C~37°C)

3. Specifications

60Hz 230V

Models	Indoor Units		FTXG09HVJU		FTXG12HVJU	
	Outdoor Units		RXG09HVJU		RXG12HVJU	
			Cooling	Heating	Cooling	Heating
Capacity Rated (Min.~Max.)		Btu/h	9,000 (5,300~12,300)	12,000 (4,400~18,000)	12,000 (5,300~15,700)	16,000 (4,400~19,100)
Moisture Removal		Pt/h	3.3	—	4.1	—
Running Current (Rated)		A	3.10	4.04	4.30	5.64
Power Consumption Rated (Min.~Max.)		W	570 (250~900)	780 (220~1,900)	860 (260~1,300)	1,160 (220~2,100)
Power Factor		%	80.0	84.0	87.0	89.5
EER (Rated)		Btu/h·W	15.8	—	14.0	—
COP (Rated)		W/W	—	4.51	—	4.04
Energy Efficiency	SEER/HSPF		26.1	11.0	24.2	10.6
Piping Connections	Liquid	inch (mm)	ϕ 1/4" (6.4 mmm)		ϕ 1/4" (6.4 mmm)	
	Gas	inch (mm)	ϕ 3/8" (9.5 mm)		ϕ 3/8" (9.5 mm)	
	Drain	inch (mm)	ϕ 11/16" (17.5 mm)		ϕ 11/16" (17.5 mm)	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Max. Interunit Piping Length		feet (m)	32 ft (10 m)		32 ft (10 m)	
Max. Interunit Height Difference		feet (m)	26 ft (8 m)		26 ft (8 m)	
Chargeless		feet (m)	—		—	
Amount of Additional Charge of Refrigerant		oz/ft	—		—	
Indoor Units			**FTXG09HVJU**		**FTXG12HVJU**	
Front Panel Color			White		White	
Airflow Rate	cfm (m³/min)	H	420 (11.9)	438 (12.4)	459 (13.0)	470 (13.3)
		M	325 (9.2)	346 (9.8)	346 (9.8)	367 (10.4)
		L	230 (6.5)	258 (7.3)	240 (6.8)	272 (7.7)
Fan	Type		Cross Flow Fan		Cross Flow Fan	
	Motor Output	W	57		57	
	Speed	Steps	5 Steps, Quiet and Auto		5 Steps, Quiet and Auto	
Air Direction Control			Right, Left, Horizontal and Downward		Right, Left, Horizontal and Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.12	0.14	0.14	0.15
Power Consumption (Rated)		W	24	26	29	31
Power Factor		%	87	80.7	90.1	89.9
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H×W×D)		inch (mm)	12 × 35-1/16 × 8-1/4" (305 x 891 x 210 mm)		12 × 35-1/16 × 8-1/4" (305 x 891 x 210 mm)	
Packaged Dimensions (H×W×D)		inch (mm)	11 × 37-5/8 × 14-7/8" (279 x 956 x 378 mm)		11 × 37-5/8 × 14-7/8" (279 x 956 x 378 mm)	
Weight		Lbs (kg)	31 lbs (14 kg)		31 lbs (14 kg)	
Gross Weight		Lbs (kg)	38 lbs (17 kg)		38 lbs (17 kg)	
Operation Sound	H/M/L	dBA	42 / 33 / 26	42 / 35 / 28	43 / 35 / 27	43 / 36 / 29
Outdoor Units			**RXG09HVJU**		**RXG12HVJU**	
Casing Color			Ivory White		Ivory White	
Compressor	Type		Hermetically Sealed Swing Type		Hermetically Sealed Swing Type	
	Model		2YC36CXD		2YC36CXD	
	Motor Output	W	1,100		1,100	
Refrigerant Oil	Type		FVC50K		FVC50K	
	Charge	oz	13.5		13.5	
Refrigerant	Type		R-410A		R-410A	
	Charge	Lbs	3.1		3.1	
Airflow Rate	cfm (m³/min)	H	1,178 (33.4)	1,095 (31.0)	1,262 (35.7)	1,111 (31.5)
		L	—	—	—	—
Fan	Type		Propeller		Propeller	
	Motor Output	W	60		60	
Running Current (Rated)		A	2.98	3.9	4.16	5.49
Power Consumption (Rated)		W	546	754	831	1,129
Power Factor		%	79.7	84.1	86.9	89.4
Dimensions (H×W×D)		inch (mm)	22-3/8 x 31-5/16 x11-1/4" (568 x 795 x 286 mm)		22-3/8 x 31-5/16 x11-1/4" (568 x 795 x 286 mm)	
Packaged Dimensions (H×W×D)		inch (mm)	25-3/16 x36-7/16 x14-7/8" (568 x 795 x 286 mm		25-3/16 x36-7/16 x14-7/8" (568 x 795 x 286 mm)	
Weight		Lbs(kg)	99 lbs (45 kg)		99 lbs (45 kg)	
Gross Weight		Lbs(kg)	104 lbs (32 kg)		104 lbs (32 kg)	
Operation Sound	H / L	dBA	46 / —	46 / —	49 / —	48 / —
Drawing No.			3D062857		3D062858	

Note:

■ The data are based on the conditions shown in the table below.

Cooling	Heating	Piping Length
Indoor ; 80°FDB/67°FWB Outdoor ; 95°FDB/75°FWB	Indoor ; 70°FDB/60°FWB Outdoor ; 47°FDB/43°FWB	25ft (7.5 m)

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m³/min×35.3

60Hz 230V

Model	Indoor Units		FTXG15HVJU	
	Outdoor Units		RXG15HVJU	
			Cooling	Heating
Capacity Rated (Min.~Max.)		Btu/h	15,000 (5,300~18,000)	18,000 (4,400~21,200)
Moisture Removal		Pt/h	4.8	—
Running Current (Rated)		A	5.64	6.36
Power Consumption Rated (Min.~Max.)		W	1,160 (260~1,930)	1,320 (230~2,120)
Power Factor		%	89.0	99.0
EER (Rated)		Btu/h·W	12.9	—
COP (Rated)		W/W	—	3.99
Energy Efficiency	SEER/HSPF		21.0	10.0
Piping Connections	Liquid	inch (mm)	ϕ 1/4" (6.4 mmm)	
	Gas	inch (mm)	ϕ 3/8" (9.5 mm)	
	Drain	inch (mm)	ϕ 11/16" (17.5 mm)	
Heat Insulation			Both Liquid and Gas Pipes	
Max. Interunit Piping Length		feet (m)	32' (10 m)	
Max. Interunit Height Difference		feet (m)	26' (8 m)	
Chargeless		feet (m)	—	
Amount of Additional Charge of Refrigerant		oz/ft	—	
Indoor Unit			FTXG15HVJU	
Front Panel Color			White	
Airflow Rate	cfm (m^3/min)	H	487 (13.8)	494 (14.0)
		M	371 (10.5)	392 (11.1)
		L	258 (7.3)	293 (8.3)
Fan	Type		Cross Flow Fan	
	Motor Output	W	57	
	Speed	Steps	5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.15	0.16
Power Consumption (Rated)		W	33	35
Power Factor		%	95.7	95.1
Temperature Control			Microcomputer Control	
Dimensions (H×W×D)		inch (mm)	12 × 35-1/16 × 8-1/4" (305 x 891 x 210 mm)	
Packaged Dimensions (H×W×D)		inch (mm)	11 × 37-5/8 × 14-7/8" (279 x 956 x 378 mm)	
Weight		Lbs(kg)	31 lbs (14 kg)	
Gross Weight		Lbs(kg)	38 lbs (17 kg)	
Operation Sound	H/M/L	dBA	45 / 37 / 29	44 / 38 / 31
Outdoor Unit			RXG15HVJU	
Casing Color			Ivory White	
Compressor	Type		Hermetically Sealed Swing Type	
	Model		2YC36CXD	
	Motor Output	W	1,100	
Refrigerant Oil	Model		FVC50K	
	Charge	oz	13.5	
Refrigerant	Model		R-410A	
	Charge	Lbs	3.1	
Airflow Rate	cfm (m^3/min)	H	1,262 (35.7)	1,195 (33.8)
		L	—	—
Fan	Type		Propeller	
	Motor Output	W	60	
Running Current (Rated)		A	5.49	6.2
Power Consumption (Rated)		W	1,127	1,285
Power Factor		%	89.3	90.1
Dimensions (H×W×D)		inch (mm)	22-3/8 × 31-5/16 ×11-1/4" (568 x 795 x 286 mm)	
Packaged Dimensions (H×W×D)		inch (mm)	25-3/16 ×36-7/16 ×14-7/8" (568 x 795 x 286 mm)	
Weight		Lbs (kg)	99	
Gross Weight		Lbs(kg)	104	
Operation Sound	H / L	dBA	50 / —	50 / —
Drawing No.			3D062859	

Note:

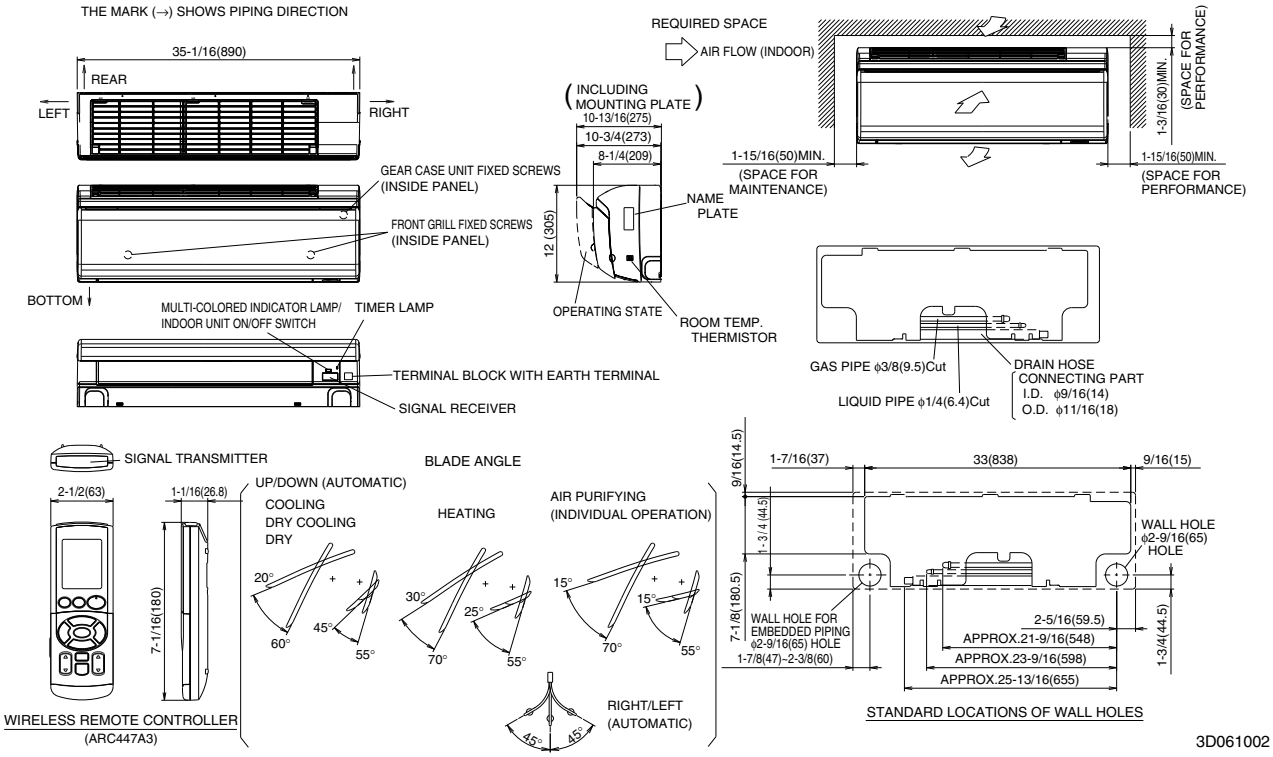
■ The data are based on the conditions shown in the table below.

Cooling	Heating	Piping Length
Indoor ; 80°FDB/67°FWB Outdoor ; 95°FDB/75°FWB	Indoor ; 70°FDB/60°FWB Outdoor ; 47°FDB/43°FWB	25 ft (7.5 m)

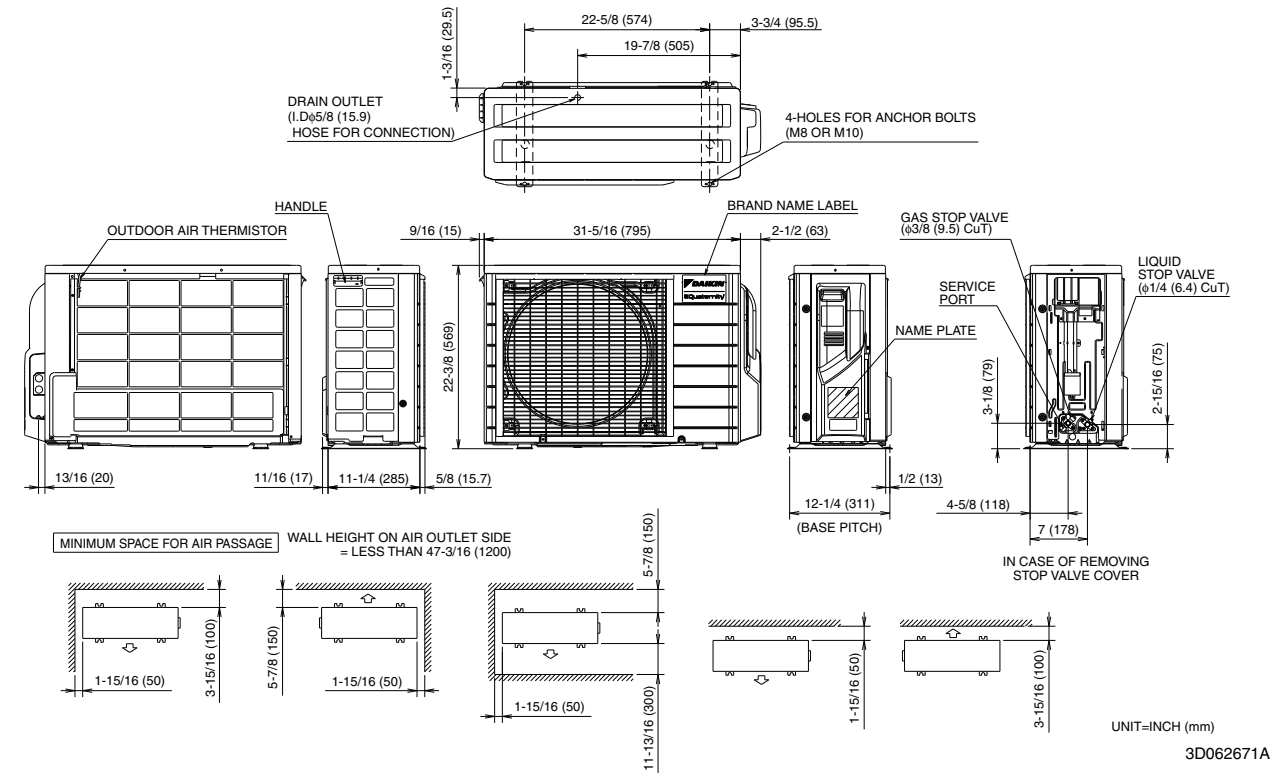
Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m^3/min×35.3

4. Dimensions

FTXG09/12/15HVJU

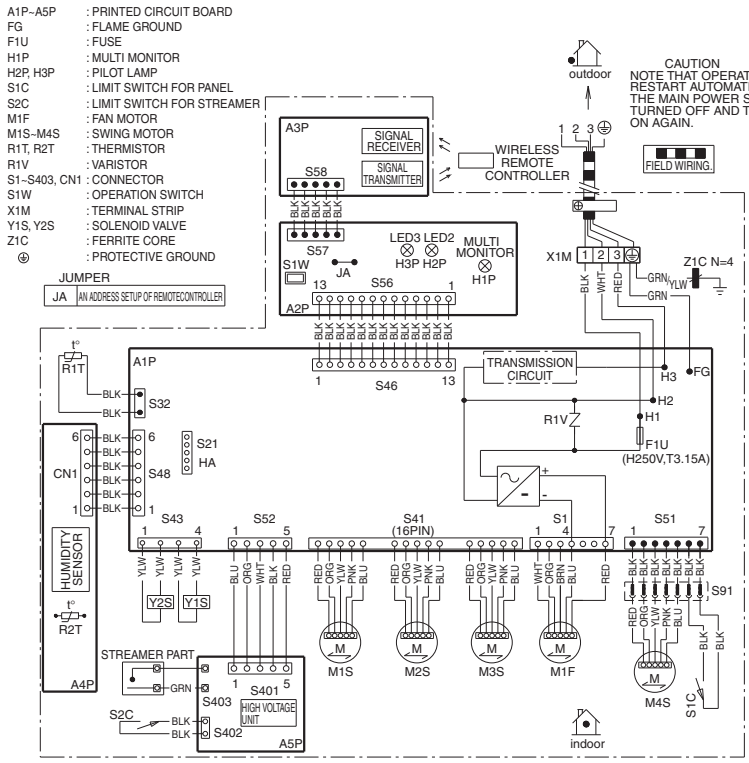


RXG09/12/15HVJU



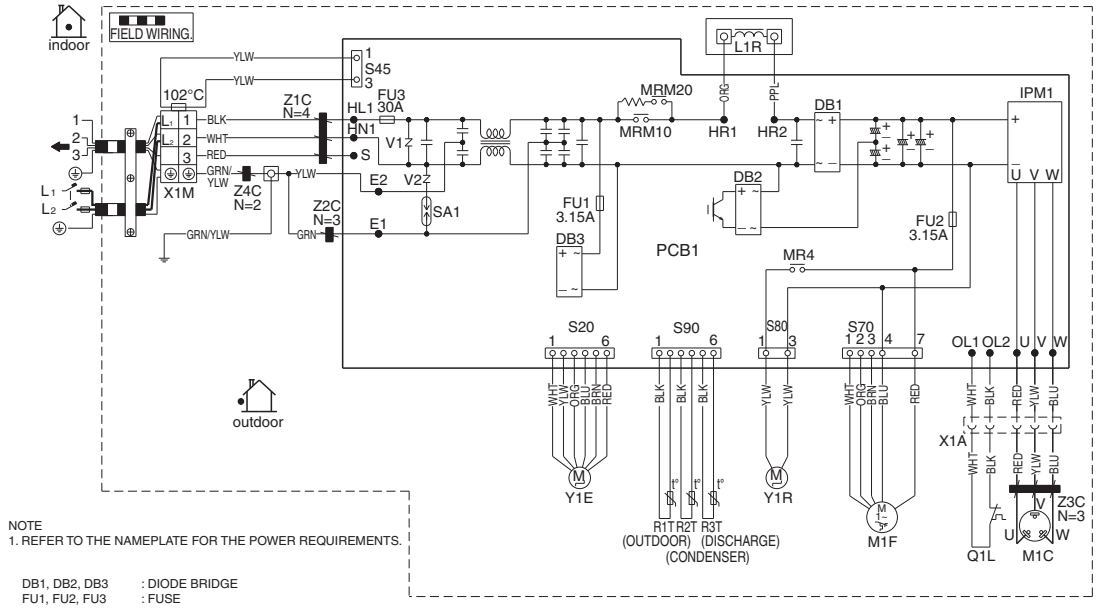
5. Wiring Diagrams

FTXG09/12/15HVJU



3D052768C

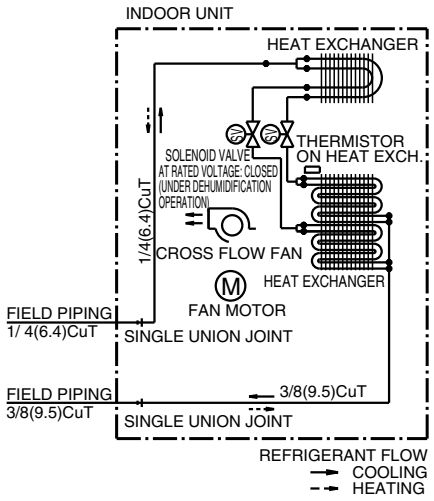
RXG09/12/15HVJU



3D061486

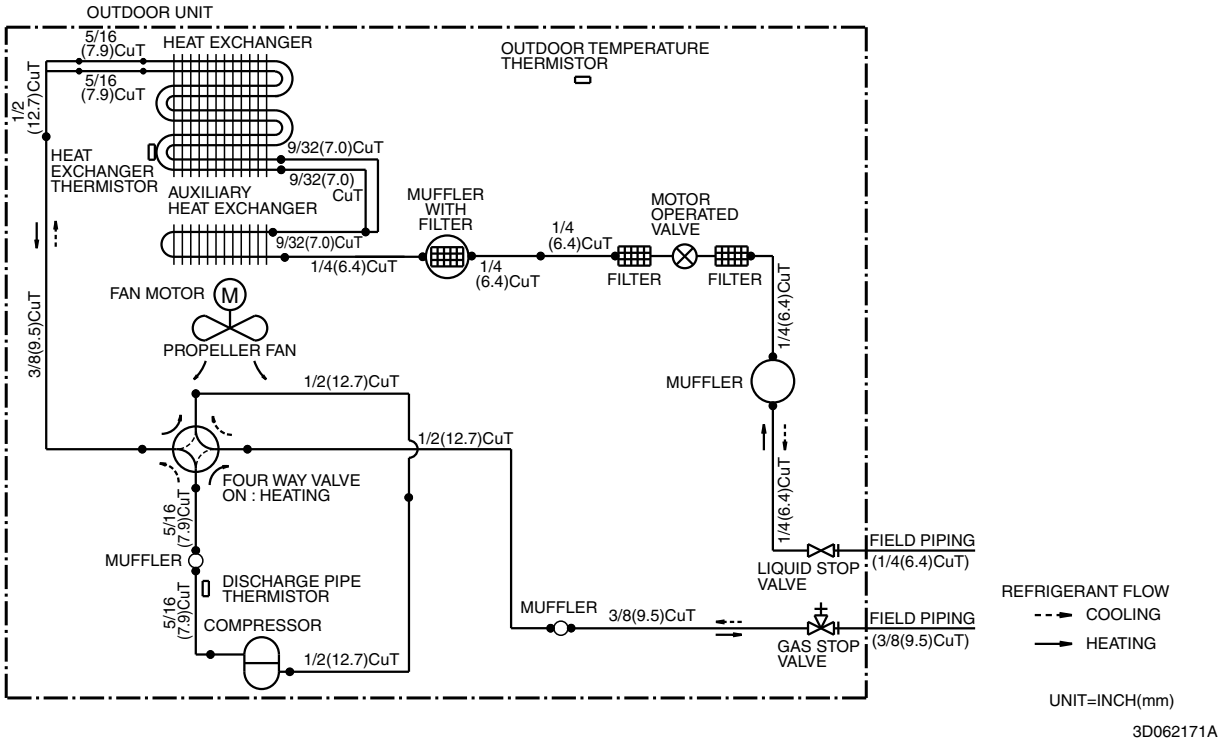
6. Piping Diagrams

FTXG09/12/15HVJU



4D061001

RXG09/12/15HVJU



3D062171A

7. Capacity Tables

7.1 Heat Pump

FTXG09HVJU + RXG09HVJU (60Hz 230V)

Cooling

AFR	11.9
BF	0.10

Temp: Celsius / TC, SHC, PI: kW

INDOOR		OUTDOOR TEMPERATURE (°CDB)																	
EWB	EDB	20.0			25.0			30.0			32.0			35.0			40.0		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	2.70	2.42	0.44	2.58	2.37	0.48	2.46	2.31	0.52	2.41	2.29	0.54	2.34	2.26	0.56	2.21	2.20	0.61
16.0	22	2.83	2.38	0.44	2.70	2.33	0.48	2.58	2.28	0.52	2.53	2.26	0.54	2.46	2.23	0.57	2.33	2.18	0.61
18.0	25	2.95	2.56	0.44	2.83	2.51	0.48	2.70	2.46	0.53	2.65	2.44	0.54	2.58	2.41	0.57	2.46	2.37	0.61
19.4	26.7	3.01	2.75	0.44	2.89	2.70	0.49	2.76	2.66	0.53	2.71	2.64	0.54	2.64	2.61	0.57	2.52	2.56	0.61
22.0	30	3.19	2.67	0.45	3.07	2.63	0.49	2.95	2.59	0.53	2.90	2.57	0.55	2.82	2.55	0.57	2.70	2.51	0.62
24.0	32	3.31	2.62	0.45	3.19	2.58	0.49	3.07	2.54	0.53	3.02	2.53	0.55	2.94	2.51	0.58	2.82	2.47	0.62

Temp: Fahrenheit / TC, SHC: kBtu / PI: kW

INDOOR		OUTDOOR TEMPERATURE (°FDB)																	
EWB	EDB	68.0			77.0			86.0			89.6			95.0			104.0		
°F	°F	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
57.2	68.0	9.23	8.27	0.44	8.81	8.08	0.48	8.39	7.89	0.52	8.22	7.81	0.54	7.97	7.70	0.56	7.55	7.52	0.61
60.8	71.6	9.64	8.14	0.44	9.22	7.96	0.48	8.80	7.78	0.52	8.64	7.71	0.54	8.39	7.61	0.57	7.97	7.44	0.61
64.4	77.0	10.06	8.72	0.44	9.64	8.56	0.48	9.22	8.39	0.53	9.05	8.33	0.54	8.80	8.23	0.57	8.38	8.07	0.61
67.0	80.0	10.27	9.37	0.44	9.85	9.22	0.49	9.43	9.06	0.53	9.26	9.00	0.54	9.01	8.90	0.57	8.59	8.75	0.61
71.6	86.0	10.89	9.11	0.45	10.47	8.97	0.49	10.05	8.83	0.53	9.88	8.78	0.55	9.63	8.70	0.57	9.21	8.56	0.62
75.2	89.6	11.30	8.93	0.45	10.88	8.81	0.49	10.46	8.68	0.53	10.30	8.63	0.55	10.05	8.56	0.58	9.63	8.43	0.62

Heating

AFR	12.4

Temp: Celsius / TC, SHC, PI: kW

INDOOR	OUTDOOR TEMPERATURE (°CWB)									
EDB	-10.0		-5.0		0		6.1		10.0	
°C	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	2.39	0.66	2.79	0.69	3.19	0.72	3.67	0.76	3.98	0.78
21.1	2.25	0.68	2.65	0.71	3.04	0.74	3.52	0.78	3.84	0.81
22.0	2.22	0.68	2.62	0.71	3.02	0.74	3.50	0.78	3.81	0.81
24.0	2.18	0.69	2.57	0.72	2.97	0.75	3.45	0.79	3.77	0.82
25.0	2.15	0.69	2.55	0.72	2.95	0.76	3.42	0.79	3.74	0.82
27.0	2.10	0.70	2.50	0.73	2.90	0.76	3.37	0.80	3.69	0.83

Temp: Fahrenheit / TC, SHC: kBtu / PI: kW

INDOOR	OUTDOOR TEMPERATURE (°FWB)									
EDB	14.0		23.0		32.0		43.0		50.0	
°F	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
59.0	8.15	0.66	9.52	0.69	10.88	0.72	12.52	0.76	13.58	0.78
70.0	7.67	0.68	9.03	0.71	10.38	0.74	12.01	0.78	13.10	0.81
71.6	7.57	0.68	8.94	0.71	10.30	0.74	11.94	0.78	13.00	0.81
75.2	7.44	0.69	8.77	0.72	10.13	0.75	11.77	0.79	12.86	0.82
77.0	7.34	0.69	8.70	0.72	10.07	0.76	11.67	0.79	12.76	0.82
80.6	7.17	0.70	8.53	0.73	9.89	0.76	11.50	0.80	12.59	0.83

Symbols

AFR	: Airflow rate	(m^3/min.)
BF	: Bypass factor	
EWB	: Entering wet bulb temp.	(°C) / (°F)
EDB	: Entering dry bulb temp.	(°C) / (°F)
TC	: Total capacity	(kW) / (kBtu/h)
SHC	: Sensible heating capacity	(kW) / (kBtu/h)
PI	: Power input	(kW)

Note:

1. Ratings shown are net capacities which include a deduction for indoor fan motor heat.
2. shows nominal (rated) capacities and power input.
3. TC, PI and SHC must be calculated by interpolation using the figures in the above tables. (Figures outof the tables should not be used for calculation.)
4. About SHC which are not mentioned on the table, please calculate them with around values in direct proportion.
5. Capacities are based on the following conditions.
   Corresponding refrigerant piping length : 25ft (7.5 m)
   Level difference : 0ft
6. Airflow rate (AFR) and Bypass factor (BF) are tabulated above table.
7. Cooling capacity at -10 degrees Celsius / 14 degrees Fahrenheit.

Temp: Celsius / TC, SHC, PI: kW

INDOOR		OUTDOOR		
EWB	EDB	-10 (°CDB)		
°C	°C	TC	SHC	PI
14.0	20	3.44	2.77	0.31

Temp: Fahrenheit / TC, SHC: kBtu / PI: kW

INDOOR		OUTDOOR		
EWB	EDB	14 (°FDB)		
°F	°F	TC	SHC	PI
57.2	68.0	11.75	9.44	0.31

3D063098A

FTXG12HVJU + RXG12HVJU (60Hz 230V)

Cooling

AFR	13.0
BF	0.14

Temp: Celsius / TC, SHC, PI: kW

INDOOR		OUTDOOR TEMPERATURE (°CDB)																	
EWB	EDB	20.0			25.0			30.0			32.0			35.0			40.0		
°C	°F	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	3.61	2.86	0.66	3.44	2.78	0.72	3.28	2.71	0.79	3.21	2.68	0.81	3.11	2.63	0.85	2.95	2.55	0.91
16.0	22	3.77	2.81	0.66	3.60	2.74	0.73	3.44	2.67	0.79	3.38	2.64	0.82	3.28	2.60	0.85	3.11	2.53	0.92
18.0	25	3.93	2.98	0.67	3.77	2.91	0.73	3.60	2.84	0.79	3.54	2.81	0.82	3.44	2.77	0.86	3.28	2.71	0.92
19.4	26.7	4.01	3.16	0.67	3.85	3.10	0.73	3.68	3.03	0.80	3.62	3.01	0.82	3.52	2.97	0.86	3.36	2.91	0.92
22.0	30	4.25	3.06	0.67	4.09	3.00	0.74	3.93	2.95	0.80	3.86	2.92	0.83	3.76	2.89	0.87	3.60	2.83	0.93
24.0	32	4.42	2.99	0.68	4.25	2.94	0.74	4.09	2.88	0.81	4.02	2.86	0.83	3.93	2.83	0.87	3.76	2.78	0.93

Temp: Fahrenheit / TC, SHC: kBtu / PI: kW

INDOOR		OUTDOOR TEMPERATURE (°FDB)																	
EWB	EDB	68.0			77.0			86.0			89.6			95.0			104.0		
°F	°F	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
57.2	68.0	12.30	9.77	0.66	11.75	9.50	0.72	11.19	9.24	0.79	10.96	9.13	0.81	10.63	8.98	0.85	10.07	8.72	0.91
60.8	71.6	12.86	9.60	0.66	12.30	9.35	0.73	11.74	9.11	0.79	11.52	9.01	0.82	11.18	8.86	0.85	10.62	8.62	0.92
64.4	77.0	13.41	10.15	0.67	12.85	9.92	0.73	12.29	9.69	0.79	12.07	9.60	0.82	11.73	9.46	0.86	11.17	9.24	0.92
66.9	80.1	13.69	10.80	0.67	13.13	10.57	0.73	12.57	10.35	0.80	12.35	10.26	0.82	12.01	10.13	0.86	11.45	9.91	0.92
71.6	86.0	14.52	10.44	0.67	13.96	10.25	0.74	13.40	10.05	0.80	13.18	9.97	0.83	12.84	9.86	0.87	12.28	9.67	0.93
75.2	89.6	15.07	10.20	0.68	14.51	10.02	0.74	13.95	9.84	0.81	13.73	9.77	0.83	13.39	9.66	0.87	12.83	9.49	0.93

Heating

AFR	13.3

Temp: Celsius / TC, SHC, PI: kW

INDOOR	OUTDOOR TEMPERATURE (°CWB)									
EDB	-10.0		-5.0		0		6.1		10.0	
°C	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	3.19	0.98	3.72	1.02	4.25	1.07	4.88	1.13	5.31	1.17
21.1	3.00	1.01	3.52	1.05	4.05	1.10	4.69	1.16	5.11	1.20
22.0	2.96	1.01	3.49	1.06	4.02	1.11	4.66	1.17	5.08	1.20
24.0	2.90	1.02	3.43	1.07	3.96	1.12	4.59	1.18	4.72	1.18
25.0	2.87	1.03	3.40	1.08	3.92	1.12	4.52	1.17	4.52	1.16
27.0	2.80	1.04	3.33	1.09	3.86	1.13	4.11	1.13	4.11	1.12

Temp: Fahrenheit / TC, SHC: kBtu / PI: kW

INDOOR	OUTDOOR TEMPERATURE (°FWB)									
EDB	14.0		23.0		32.0		43.0		50.0	
°F	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
59.0	10.88	0.98	12.69	1.02	14.50	1.07	16.65	1.13	18.12	1.17
70.0	10.22	1.01	12.03	1.05	13.83	1.10	16.00	1.16	17.45	1.20
71.6	10.10	1.01	11.91	1.06	13.72	1.11	15.90	1.17	17.33	1.20
75.2	9.89	1.02	11.70	1.07	13.51	1.12	15.66	1.18	16.11	1.18
77.0	9.79	1.03	11.60	1.08	13.38	1.12	15.41	1.17	15.41	1.16
80.6	9.55	1.04	11.36	1.09	13.17	1.13	14.01	1.13	14.01	1.12

Symbols

AFR	: Airflow rate	(m^3/min.)
BF	: Bypass factor	
EWB	: Entering wet bulb temp.	(°C) / (°F)
EDB	: Entering dry bulb temp.	(°C) / (°F)
TC	: Total capacity	(kW) / (kBtu/h)
SHC	: Sensible heating capacity	(kW) / (kBtu/h)
PI	: Power input	(kW)

Note:

1. Ratings shown are net capacities which include a deduction for indoor fan motor heat.
2. shows nominal (rated) capacities and power input.
3. TC, PI and SHC must be calculated by interpolation using the figures in the above tables. (Figures out of the tables should not be used for calculation.)
4. About SHC which are not mentioned on the table, please calculate them with around values in direct proportion.
5. Capacities are based on the following conditions.
   Corresponding refrigerant piping length : 25ft (7.5 m)
   Level difference : 0ft
6. Airflow rate (AFR) and Bypass factor (BF) are tabulated above table.
7. Cooling capacity at -10 degrees Celsius / 14 degrees Fahrenheit.

Temp: Celsius / TC, SHC, PI: kW

INDOOR		OUTDOOR		
EWB	EDB	-10 (°CDB)		
°C	°C	TC	SHC	PI
14.0	20	3.65	2.66	0.47

Temp: Fahrenheit / TC, SHC: kBtu / PI: kW

INDOOR		OUTDOOR		
EWB	EDB	14 (°FDB)		
°F	°F	TC	SHC	PI
57.2	68.0	12.45	9.08	0.47

3D063099A

FTXG15HVJU + RXG15HVJU (60Hz 230V)

Cooling

AFR	13.8
BF	0.16

Temp: Celsius / TC, SHC, PI: kW

INDOOR		OUTDOOR TEMPERATURE (°CDB)																	
EWB	EDB	20.0			25.0			30.0			32.0			35.0			40.0		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	4.51	3.36	0.89	4.30	3.26	0.98	4.10	3.15	1.06	4.02	3.11	1.10	3.89	3.05	1.15	3.69	2.96	1.23
16.0	22	4.71	3.30	0.90	4.51	3.20	0.98	4.30	3.11	1.07	4.22	3.07	1.10	4.10	3.01	1.15	3.89	2.92	1.24
18.0	25	4.91	3.46	0.90	4.71	3.37	0.99	4.50	3.28	1.07	4.42	3.24	1.11	4.30	3.19	1.16	4.09	3.11	1.24
19.4	26.7	5.01	3.65	0.90	4.81	3.56	0.99	4.60	3.48	1.07	4.52	3.44	1.11	4.40	3.39	1.16	4.20	3.31	1.25
22.0	30	5.32	3.52	0.91	5.11	3.44	1.00	4.91	3.37	1.08	4.83	3.34	1.12	4.70	3.29	1.17	4.50	3.22	1.25
24.0	32	5.52	3.43	0.92	5.32	3.36	1.00	5.11	3.29	1.09	5.03	3.26	1.12	4.91	3.22	1.17	4.70	3.15	1.26

Temp: Fahrenheit / TC, SHC: kBtu / PI: kW

INDOOR		OUTDOOR TEMPERATURE (°FDB)																	
EWB	EDB	68.0			77.0			86.0			89.6			95.0			104.0		
°F	°F	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
57.2	68.0	15.38	11.46	0.89	14.68	11.11	0.98	13.98	10.76	1.06	13.70	10.62	1.10	13.28	10.42	1.15	12.58	10.08	1.23
60.8	71.6	16.07	11.26	0.90	15.37	10.93	0.98	14.67	10.60	1.07	14.39	10.48	1.10	13.98	10.28	1.15	13.28	9.97	1.24
64.4	77.0	16.76	11.80	0.90	16.07	11.49	0.99	15.37	11.19	1.07	15.09	11.07	1.11	14.67	10.89	1.16	13.97	10.60	1.24
67.0	80.0	17.11	12.45	0.90	16.41	12.15	0.99	15.71	11.86	1.07	15.43	11.75	1.11	15.01	11.58	1.16	14.31	11.29	1.25
71.6	86.0	18.15	12.00	0.91	17.45	11.75	1.00	16.75	11.49	1.08	16.47	11.39	1.12	16.05	11.24	1.17	15.35	10.98	1.25
75.2	89.6	18.84	11.69	0.92	18.14	11.45	1.00	17.44	11.22	1.09	17.16	11.13	1.12	16.74	10.99	1.17	16.04	10.76	1.26

Heating

AFR	14.0

Temp: Celsius / TC, SHC, PI: kW

INDOOR	OUTDOOR TEMPERATURE (°CWB)									
EDB	-10.0		-5.0		0		6.1		10.0	
°C	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	3.59	1.11	4.19	1.16	4.78	1.22	5.50	1.28	5.98	1.33
21.1	3.37	1.15	3.97	1.20	4.56	1.25	5.28	1.32	5.62	1.34
22.0	3.34	1.15	3.93	1.21	4.53	1.26	5.24	1.33	5.41	1.32
24.0	3.26	1.16	3.86	1.22	4.46	1.27	4.97	1.31	4.97	1.28
25.0	3.23	1.17	3.82	1.22	4.42	1.28	4.76	1.28	4.76	1.26
27.0	3.15	1.18	3.75	1.24	4.33	1.29	4.33	1.23	4.33	1.20

Temp: Fahrenheit / TC, SHC: kBtu / PI: kW

INDOOR	OUTDOOR TEMPERATURE (°FWB)									
EDB	14.0		23.0		32.0		43.0		50.0	
°F	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
59.0	12.25	1.11	14.29	1.16	16.32	1.22	18.76	1.28	20.39	1.33
70.0	11.51	1.15	13.54	1.20	15.57	1.25	18.02	1.32	19.19	1.34
71.6	11.38	1.15	13.42	1.21	15.45	1.26	17.89	1.33	18.45	1.32
75.2	11.13	1.16	13.17	1.22	15.20	1.27	16.97	1.31	16.97	1.28
77.0	11.01	1.17	13.04	1.22	15.08	1.28	16.23	1.28	16.23	1.26
80.6	10.76	1.18	12.79	1.24	14.76	1.29	14.76	1.23	14.76	1.20

Symbols

AFR	: Airflow rate	(m^3/min.)
BF	: Bypass factor	
EWB	: Entering wet bulb temp.	(°C) / (°F)
EDB	: Entering dry bulb temp.	(°C) / (°F)
TC	: Total capacity	(kW) / (kBtu/h)
SHC	: Sensible heating capacity	(kW) / (kBtu/h)
PI	: Power input	(kW)

Note:

1. Ratings shown are net capacities which include a deduction for indoor fan motor heat.
2. shows nominal (rated) capacities and power input.
3. TC, PI and SHC must be calculated by interpolation using the figures in the above tables. (Figures out of the tables should not be used for calculation.)
4. About SHC which are not mentioned on the table, please calculate them with around values in direct proportion.
5. Capacities are based on the following conditions.
   Corresponding refrigerant piping length : 25ft (7.5 m)
   Level difference : 0ft
6. Airflow rate (AFR) and Bypass factor (BF) are tabulated above table.
7. Cooling capacity at -10 degrees Celsius / 14 degrees Fahrenheit.

Temp: Celsius / TC, SHC, PI: kW

INDOOR		OUTDOOR		
EWB	EDB	-10 (°CDB)		
°C	°C	TC	SHC	PI
14.0	20	3.66	2.70	0.46

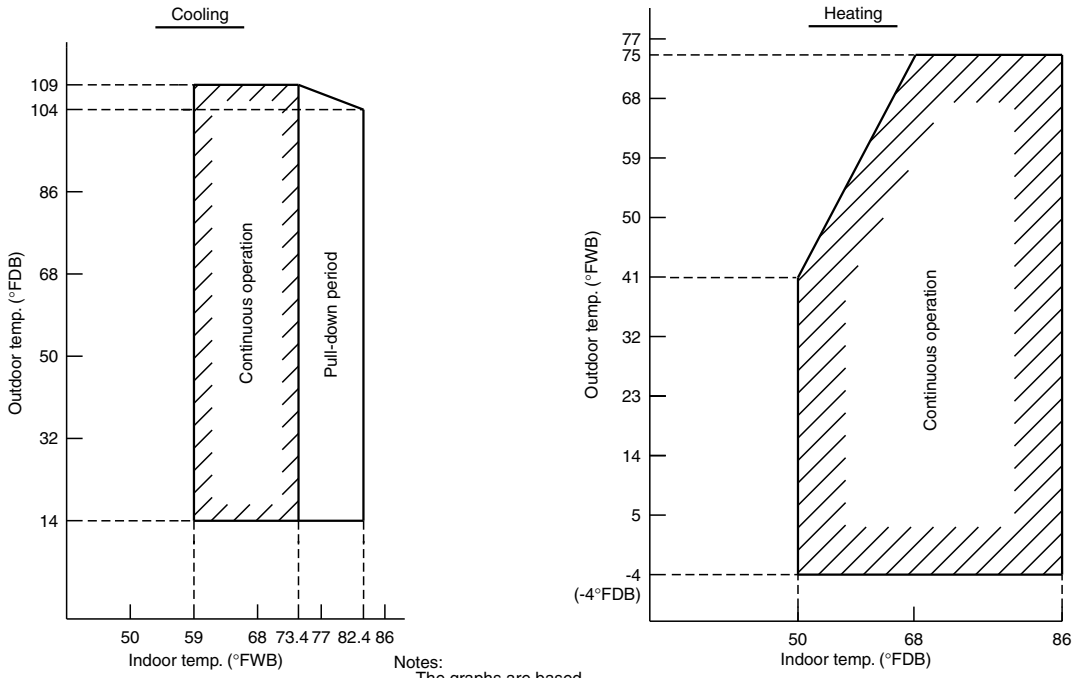
Temp: Fahrenheit / TC, SHC: kBtu / PI: kW

INDOOR		OUTDOOR		
EWB	EDB	14 (°FDB)		
°F	°F	TC	SHC	PI
57.2	68.0	12.49	9.21	0.46

3D063100A

8. Operation Limit

RXG09/12/15HVJU



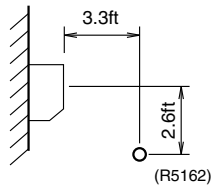
Notes:
The graphs are based on the following conditions.
- Equivalent piping length 25ft
- Level difference 0ft
- Air flow rate High

3D063096

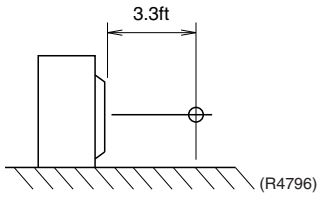
9. Sound Level

9.1 Measuring Location

Indoor Unit



Outdoor Unit



Note:

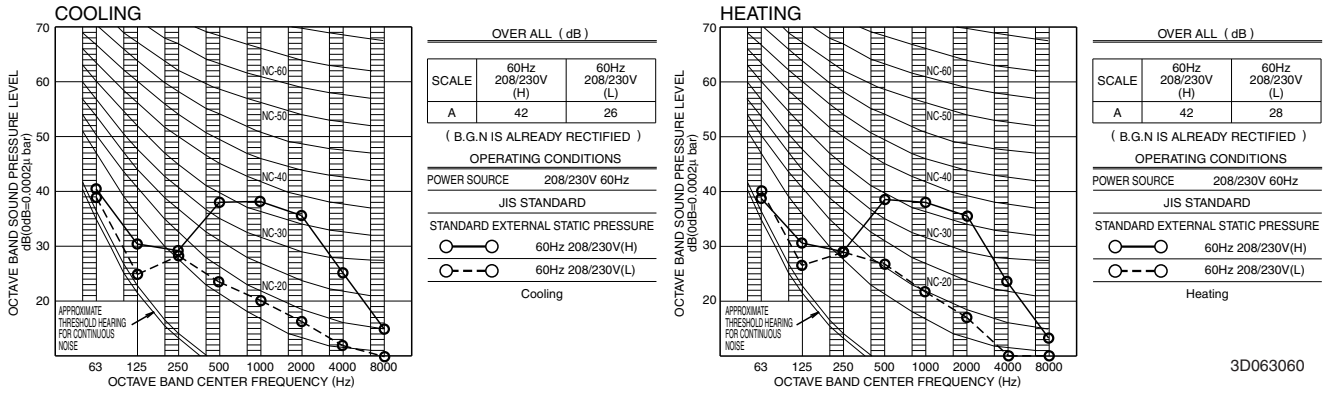
1. Operation sound is measured in an anechoic chamber.
2. The data are based on the conditions shown in the table below.

Cooling	Heating	Piping Length
Indoor ; 80°FDB/67°FWB Outdoor ; 95°FDB/75°FWB	Indoor ; 70°FDB/60°FWB Outdoor ; 47°FDB/43°FWB	16.4ft (5 m)

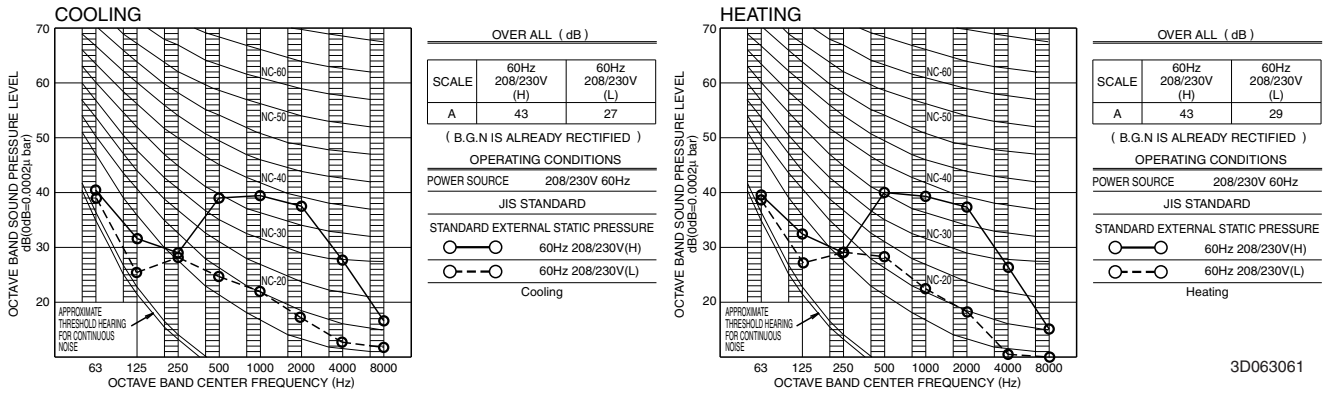
9.2 Octave Band Level

9.2.1 Indoor Units

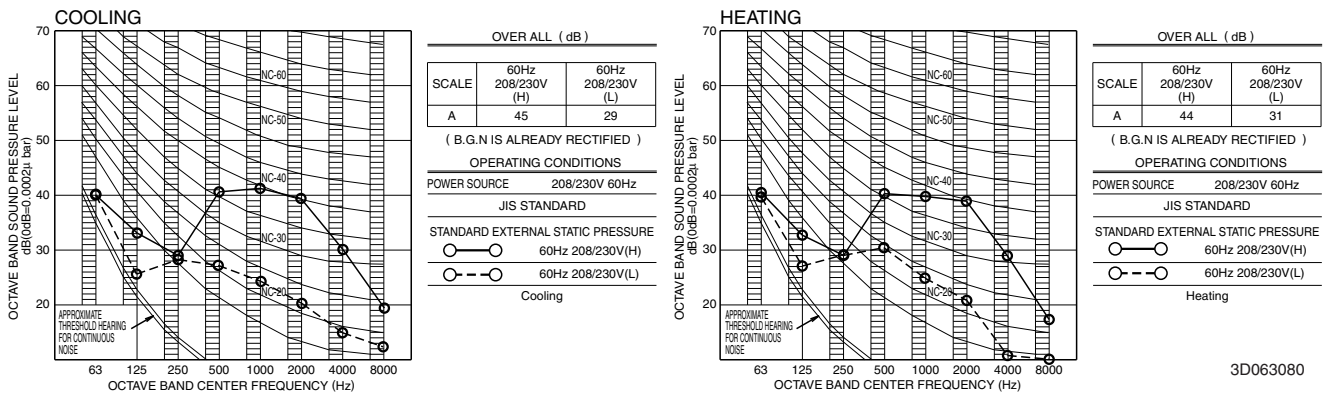
FTXG09HVJU



FTXG12HVJU

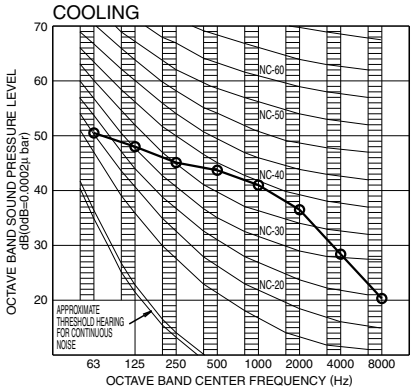


FTXG15HVJU



9.2.2 Outdoor Units

RXG09HVJU



OVER ALL (dB)

SCALE	60Hz 208-230V
A	46

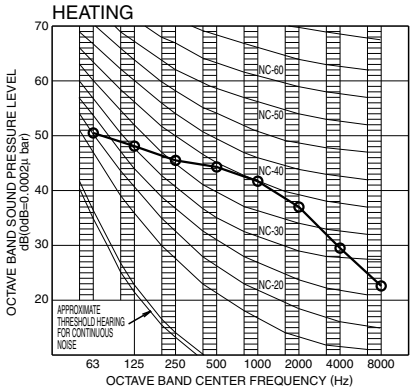
(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS

POWER SOURCE	208-230V 60Hz

JIS STANDARD (JIS9612)

Cooling



OVER ALL (dB)

SCALE	60Hz 208-230V
A	46

(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS

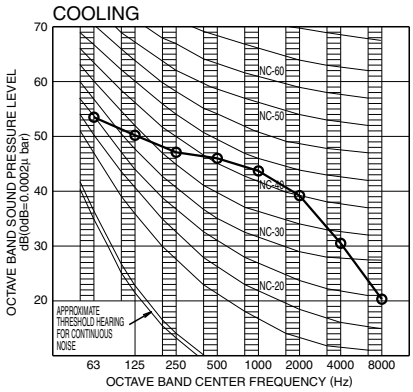
POWER SOURCE	208-230V 60Hz

JIS STANDARD (JIS9612)

Heating

3D063010

RXG12HVJU



OVER ALL (dB)

SCALE	60Hz 208-230V
A	49

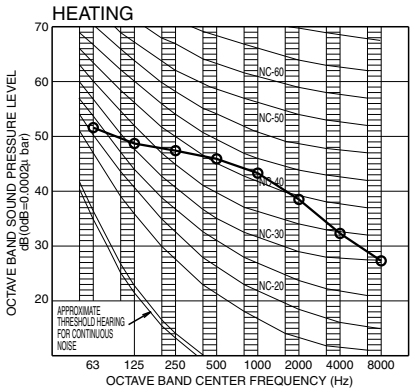
(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS

POWER SOURCE	208-230V 60Hz

JIS STANDARD (JIS9612)

Cooling



OVER ALL (dB)

SCALE	60Hz 208-230V
A	48

(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS

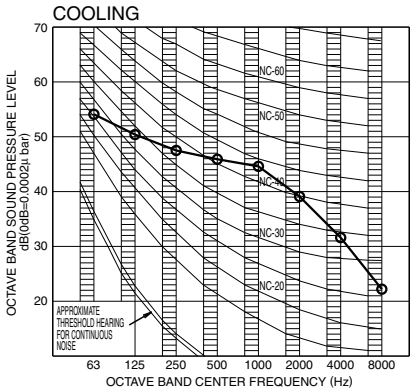
POWER SOURCE	208-230V 60Hz

JIS STANDARD (JIS9612)

Heating

3D063011

RXG15HVJU



OVER ALL (dB)

SCALE	60Hz 208-230V
A	50

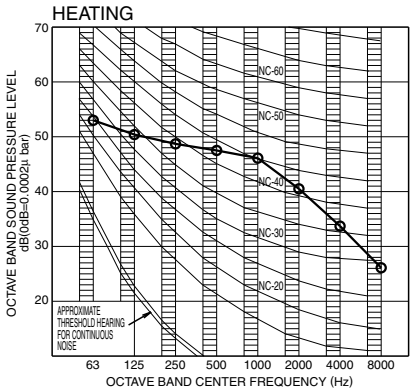
(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS

POWER SOURCE	208-230V 60Hz

JIS STANDARD (JIS9612)

Cooling



OVER ALL (dB)

SCALE	60Hz 208-230V
A	50

(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS

POWER SOURCE	208-230V 60Hz

JIS STANDARD (JIS9612)

Heating

3D063012

10. Electric Characteristics

Representative Unit Combination		Power Supply				COMP		OFM		IFM	
Indoor Unit	Outdoor Unit	Hz-Volts	Voltage Range	MCA	MOP	RHz	RLA	W	FLA	W	FLA
FTXG09HVJU	RXG09HVJU	60-208	MAX. 60Hz 253V MIN. 60Hz 187V	14.5	15	29	2.3	60	0.10	57	0.13
		60-230					2.1				0.12
FTXG12HVJU	RXG12HVJU	60-208	MAX. 60Hz 253V MIN. 60Hz 187V	14.5	15	43	3.7	60	0.13	57	0.15
		60-230					3.3				0.14
FTXG15HVJU	RXG15HVJU	60-208	MAX. 60Hz 253V MIN. 60Hz 187V	14.5	15	54	5.1	60	0.13	57	0.17
		60-230					4.6				0.15

Symbols:

MCA : MIN. CIRCUIT AMPS (A)
MOP : MAX. OVERCURRENT PROTECTION (A)
RLA : RATED LOAD AMPS (A)
OFM : OUTDOOR FAN MOTOR
IFM : INDOOR FAN MOTOR
FLA : FULL LOAD AMPS (A)
W : FAN MOTOR RATED OUTPUT (W)
RHz : RATED OPERATING FREQUENCY (Hz)

Note:

1. RLA is based on the following conditions.
   Indoor temp. : 80°FDB / 67°FWB (26.7°CDB / 19.4°CWB)
   Outdoor temp. : 95°FDB (35°CDB)
2. Maximum allowable voltage variation between phases is 2%.
3. Select wire size based on the larger value of MCA.
4. Instead of fuse, use circuit breaker.
5. Be sure to install a ground leak detector. (One that can handle higher harmonics.)
   (This unit uses an inverter, which means that it must be used a ground leak detector capable handling high harmonics in order to prevent malfunctioning of the ground leak detector itself.)

3D063013

11. Installation Manual

11.1 Indoor Units

Read these ***SAFETY CONSIDERATIONS for Installation*** carefully before installing an air conditioner or heat pump. After completing the installation, make sure that the unit operates properly during the startup operation.

Instruct the customer on how to operate and maintain the unit Inform customers that they should store this Installation Manual with the Operation Manual for future reference.

Always use a licensed installer or contractor to install this product. Improper installation can result in water or refrigeran leakage, electrical shock, fire, or explosion.

Meanings of **DANGER**, **WARNING**, **CAUTION**, and **NOTE** Symbols:

⚠ **DANGER** ..... Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ **WARNING** ..... Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ **CAUTION** ..... Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

⚠ **NOTE** ..... Indicates situations that may result ir equipment or property-damage accidents only.

- **Refrigerant gas is heavier than air and replaces oxygen A massive leak can lead to oxygen depletion, especially in basements, and an asphyxiation hazard could occur leading to serious injury or death.**
- **Do not ground units to water pipes, gas pipes, telephone wires, or lightning rods as incomplete grounding can cause a severe shock hazard resulting in severe injury or death. Additionally, grounding to gas pipes could cause a gas leak and potential explosion causing severe injury or death.**
- **If refrigerant gas leaks during installation, ventilate the area immediately. Refrigerant gas may produce toxic gas if it comes into contact with fire. Exposure to this gas could cause severe injury or death.**
- **After completing the installation work, check that the refrigerant gas does not leak throughout the system.**
- **Do not install unit in an area where flammable materials are present due to risk of explosions that can cause serious injury or death.**
- **Safely dispose all packing and transportation materials in accordance with federal/state/local laws or ordinances. Packing materials such as nails and other metal or wood parts, including plastic packing materials used for transportation may cause injuries or death by suffocation.**
- **Only qualified personnel must carry out the installation work. Installation must be done in accordance with this installation manual. Improper installation may result in water leakage, electric shock, or fire.**
- **When installing the unit in a small room, take measures to keep the refrigerant concentration from exceeding allowable safety limits. Excessive refrigerant leaks, in the event of an accident in a closed ambient space, can lead to oxygen deficiency.**
- **Use only specified accessories and parts for installation work. Failure to use specified parts may result in water leakage, electric shocks, fire, or the unit falling.**
- **Install the air conditioner or heat pump on a foundation strong enough that it can withstand the weight of the unit. A foundation of insufficient strength may result in the unit falling and causing injuries.**
- **Take into account strong winds, typhoons, or earthquakes when installing. Improper installation may result in the unit falling and causing accidents.**
- **Make sure that a separate power supply circuit is provided for this unit and that all electrical work is carried out by qualified personnel according to local. state, and national regulations. An insufficient power supply capacity or improper electrical construction may lead to electric shocks or fire.**
- **Make sure that all wiring is secured, that specified wires are used, and that no external forces act on the terminal connections or wires. Improper connections or installation may result in fire.**
- **When wiring, position the wires so that the terminal box lid can be securely fastened. Improper positioning of the terminal box lid may result in electric shocks, fire, or the terminals overheating.**
- **Before touching electrical parts, turn off the unit.**
- **It is recommended to install a ground fault circuit interrupter if one is not already available. This helps prevent electrical shocks or fire.**
- **Securely fasten the outside unit terminal cover (panel). If the terminal cover/panel is not installed properly, dust or water may enter the outside unit causing fire or electric shock.**
- **When installing or relocating the system, keep the refrigerant circuit free from substances other than the specified refrigerant (R-410A) such as air. Any presence of air or other foreign substance in the refrigerant circuit can cause an abnormal pressure rise or rupture, resulting in injury.**

- **Do not change the setting of the protection devices. If the pressure switch, thermal switch, or other protection device is shorted and operated forcibly, or parts other than those specified by Daikin are used, fire or explosion may occur.**
- **Do not touch the switch with wet fingers. Touching a switch with wet fingers can cause electric shock.**
- **Do not allow children to play on or around the unit to prevent injury.**
- **Do not touch the refrigerant pipes during and immediately after operation as the refrigerant pipes may be hot or cold, depending on the condition of the refrigerant flowing through the refrigerant piping, compressor, and other refrigerant cycle parts. Your hands may suffer burns or frostbite if you touch the refrigerant pipes. To avoid injury, give the pipes time to return to normal temperature or, if you must touch them, be sure to wear proper gloves.**
- **Install drain piping to proper drainage. Improper drain piping may result in water leakage and property damage.**
- **Insulate piping to prevent condensation.**
- **Be careful when transporting the product.**
- **Do not turn off the power immediately after stopping operation. Always wait for at least 5 minutes before turning off the power. Otherwise, water leakage may occur.**
- **Do not use a charging cylinder. Using a charging cylinder may cause the refrigerant to deteriorate.**
- **Refrigerant R-410A in the system must be kept clean, dry, and tight.**

  (a) Clean and Dry -- Foreign materials (including mineral oils such as SUNISO oil or moisture) should be prevented from getting into the system.

  (b) Tight -- R-410A does not contain any chlorine, does not destroy the ozone layer, and does not reduce the earth's protection again harmful ultraviolet radiation. R-410A can contribute to the greenhouse effect if it is released. Therefore take proper measures to check for the tightness of the refrigerant piping installation. Read the chapter *Refrigerant Piping* and follow the procedures.
- **Since R-410A is a blend, the required additional refrigerant must be charged in its liquid state. If the refrigerant is charged in a state of gas, its composition can change and the system will not work properly.**
- **The indoor unit is for R-410A. See the catalog for indoor models that can be connected. Normal operation is not possible when connected to other units.**
- **Remote controller (wireless kit) transmitting distance can be shorter than expected in rooms with electronic fluorescent lamps (inverter or rapid start types). Install the indoor unit far away from fluorescent lamps as much as possible.**
- **Indoor units are for indoor installation only. Outdoor units can be installed either outdoors or indoors. This unit is for indoor use.**
- **Do not install the air conditioner or heat pump in the following locations:**
  (a) Where a mineral oil mist or oil spray or vapor is produced, for example, in a kitchen. Plastic parts may deteriorate and fall off or result in water leakage.
  (b) Where corrosive gas, such as sulfurous acid gas, is produced. Corroding copper pipes or soldered parts may result in refrigerant leakage.
  (c) Near machinery emitting electromagnetic waves. Electromagnetic waves may disturb the operation of the control system and cause the unit to malfunction.
  (d) Where flammable gas may leak, where there is carbon fiber, or ignitable dust suspension in the air, or where volatile flammables such as thinner or gasoline are handled. Operating the unit in such conditions can cause a fire.
- **Take adequate measures to prevent the outside unit from being used as a shelter by small animals. Small animals making contact with electrical parts can cause malfunctions, smoke, or fire. Instruct the customer to keep the area around the unit clean.**
- **Install the power supply and control wires for the indoor and outdoor units at least 3.5 feet away from televisions or radios to prevent image interference or noise. Depending on the radio waves, a distance of 3.5 feet may not be sufficient to eliminate the noise.**
- **Dismantling the unit, treatment of the refrigerant, oil and additional parts must be done in accordance with the relevant local, state, and national regulations.**
- **Do not use the following tools that are used with conventional refrigerants: gauge manifold, charge hose, gas leak detector, reverse flow check valve, refrigerant charge base, vacuum gauge, or refrigerant recovery equipment.**
- **If the conventional refrigerant and refrigerator oil are mixed in R-410A, the refrigerant may deteriorate.**
- **This air conditioner or heat pump is an appliance that should not be accessible to the general public.**
- **As design pressure is 478 psi, the wall thickness of field-installed pipes should be selected in accordance with the relevant local, state, and national regulations.**

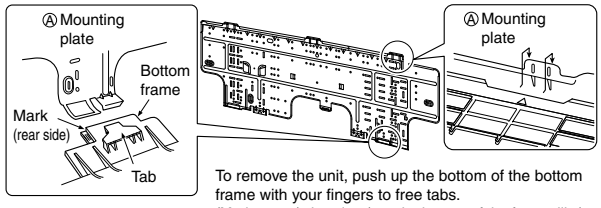
Accessories

Ⓐ Mounting plate	1	Ⓔ Wireless remote controller	1	Ⓙ Installation manual	1
Ⓑ Deodorizing filter for streamer	1	Ⓕ Remote controller holder	1	Ⓚ Mounting plate fixing screws 3/16” × 1”L (M4 × 25mm)	9
Ⓒ Titanium apatite photocatalytic air-purifying filter	1	Ⓖ Dry batteries AAA. LR03 (alkaline)	2	Ⓛ Fixing screws for remote controller holder 1/8” × 13/16”L (M3 × 20mm)	2
Ⓓ Indoor unit fixing screws 3/16” × 1/2”L (M4 × 12mm)	3	Ⓗ Operation manual	1		

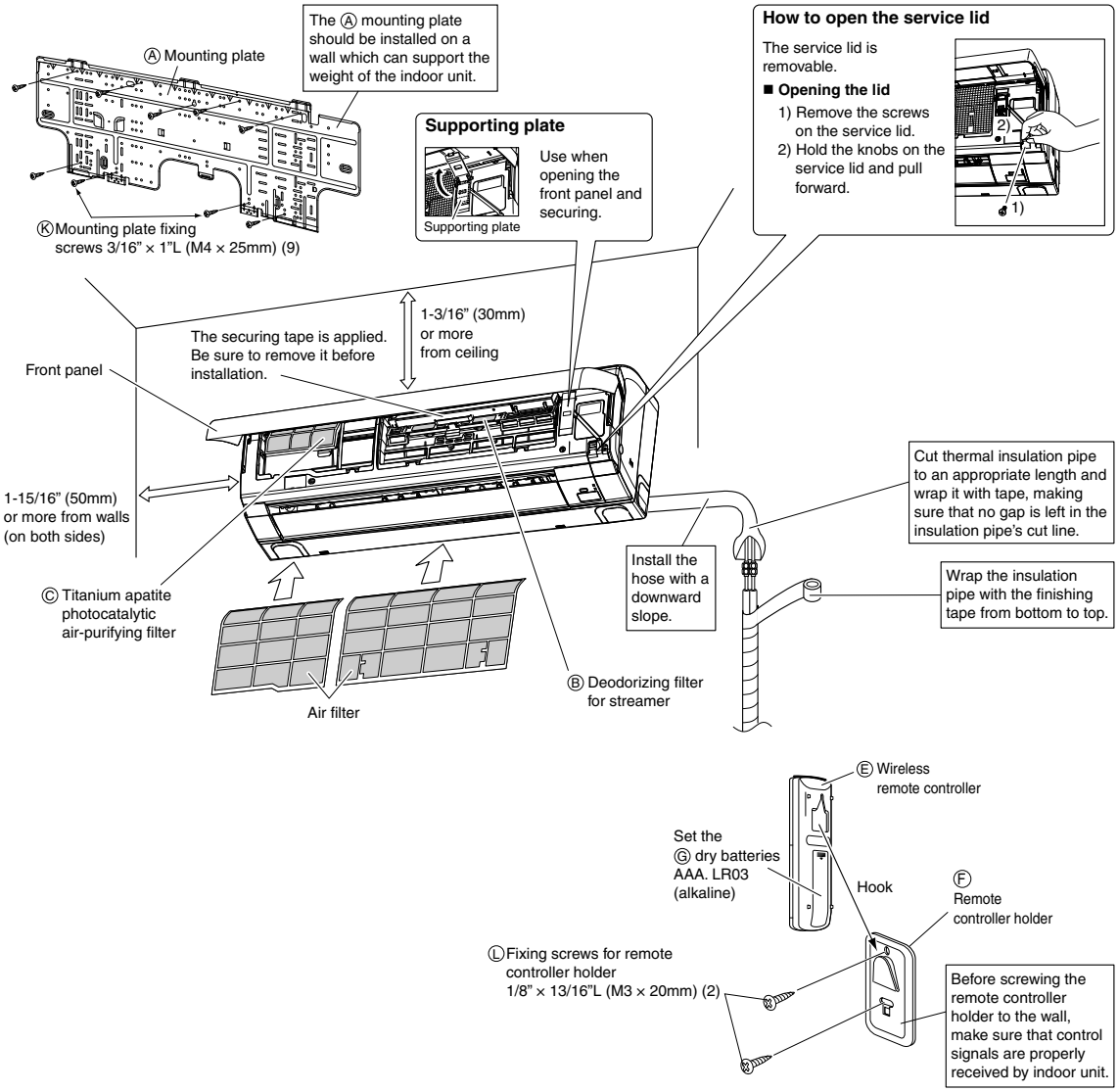
Indoor Unit Installation Drawings

1. Removing and installing indoor unit.

- **Installation method**
  1) Using the △ marks (3 locations) on top of the indoor unit, attach the Ⓐ mounting plate hooks onto the indoor unit.
  2) Attach the tabs on the bottom frame onto the Ⓐ mounting plate. If the tabs are not hooked onto the plate, remove the front grille to hook them. (Check to see if the tabs are hooked securely.)
- **Removal method**
  Push up the mark part on the bottom of the front grille, discharge the tabs, and then remove the unit while lifting it up.



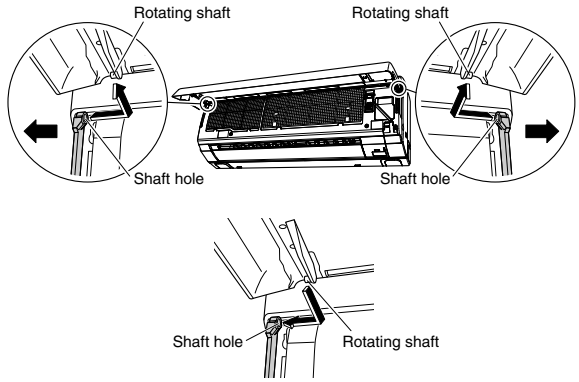
To remove the unit, push up the bottom of the bottom frame with your fingers to free tabs.
(Mark parts (2 locations) on the bottom of the front grille.)



Installation Tips

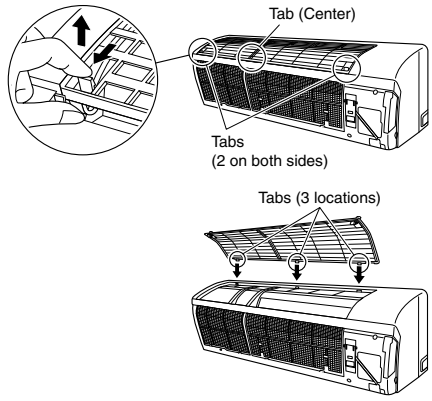
1. Removing and installing front panel.

- **Removal method**
  1) Open the front panel.
  2) Spread out the shaft hole on the left side and remove the rotating shaft.
     Spread out the shaft hole on the right side as well and remove the rotating shaft.
- **Installation method**
  Insert the right and left rotating shafts on the front panel into the shaft holes one at a time and slowly close the panel.
  (Press on both sides of the front panel.)



2. Removing and installing the upper panel.

- **Removal method**
  1) Remove the front panel and air filter.
  2) Hold and pull forward 2 tabs on both sides to discharge them, discharge the center tab, and then lift up the upper panel.
- **Installation method**
  1) Push in the upper panel along the guide on the top of the front grille and insert the 3 tabs into the slots on the front grille.
  2) Push the upper panel down until it clicks.
  3) Attach the air filter and front panel.



3. Removing and installing the front grille.

- **Removal method**
  1) Remove the front panel, air filter and upper panel.
  2) Fully open the top and bottom horizontal louvers. (See Fig. 1)
  3) Remove the 3 screws in the front grille.
  4) Lift the hooks (3 locations) on the front grille with a flathead screwdriver to discharge the tab.
     (Look for the ○○○ mark.) (See Fig. 2)
  5) Pull forward the front grille to remove.
- **Installation method**
  1) Open the top louver fully and close the bottom louver fully.
  2) Store the gear case arm in the front grille. (See Fig. 3)
  3) Attach the front grille to the lower part of the unit.
     (Use caution not to pinch the horizontal louver.)
  4) Make sure to firmly latch the top hooks (3 locations).
  5) Tighten with the 3 front grille screws.
  6) Attach the upper panel, air filter and front panel.

Fig. 1 **Horizontal louver**

When removing or attaching the front grille, pay attention to open or close of each horizontal louver.

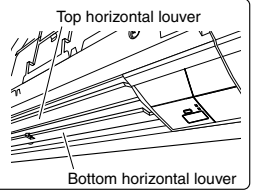


Fig. 2 **Hooks on the front grille**

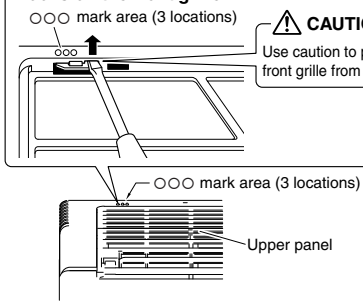
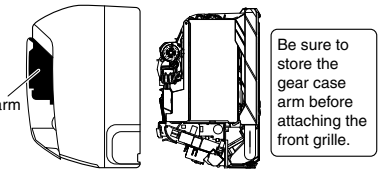
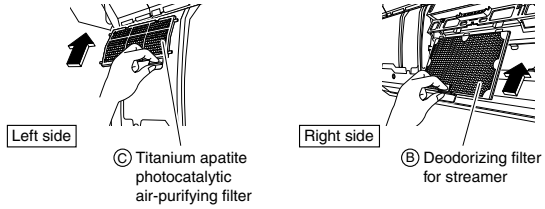


Fig. 3



4. Installing the titanium apatite photocatalytic air-purifying filter and deodorizing filter for streamer.

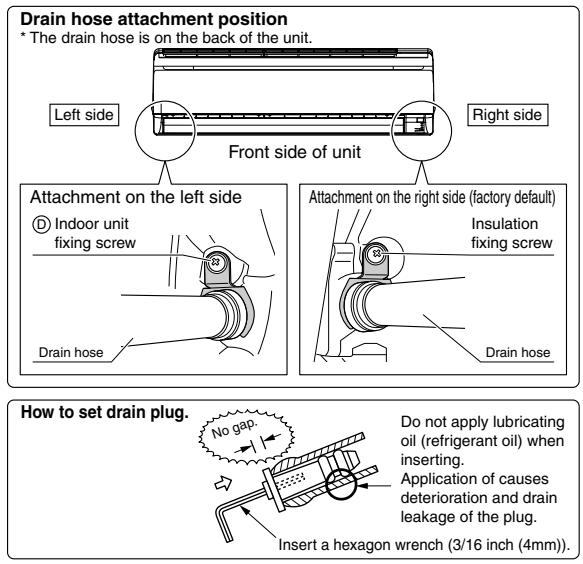
1) Open the front panel to pull out the air filter.
2) Attach the Ⓒ titanium apatite photocatalytic air-purifying filter.
3) Attach the Ⓑ deodorizing filter for streamer.
4) Replace the air filter to its original position and close the front panel.



5. How to replace the drain plug and drain hose.

- **Replacing onto the left side**

1) Remove the insulation fixing screws on the right to remove the drain hose.
2) Reattach the insulation fixing screw on the right as it was. *(Forgetting to attach this may cause water leakages.)
3) Remove the drain plug on the left side and attach it to the right side.
4) Insert the drain hose and tighten with included Ⓓ indoor unit fixing screw.

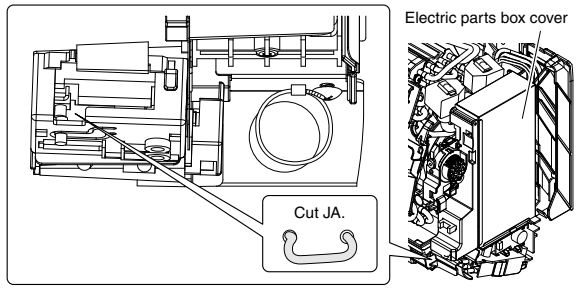


6. How to set the different addresses.

- When 2 indoor units are installed in 1 room, the 2 wireless remote controllers can be set for different addresses.

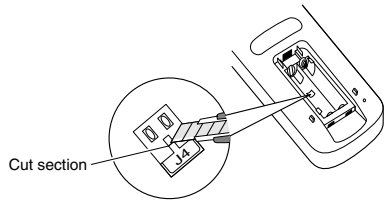
1) Remove the front grille. (3 screws)
2) Cut the address jumper “JA”. (See Fig. 1)

Fig. 1



3) Remove the remote controller lid and cut the address jumper “J4”. (See Fig. 2)

Fig. 2

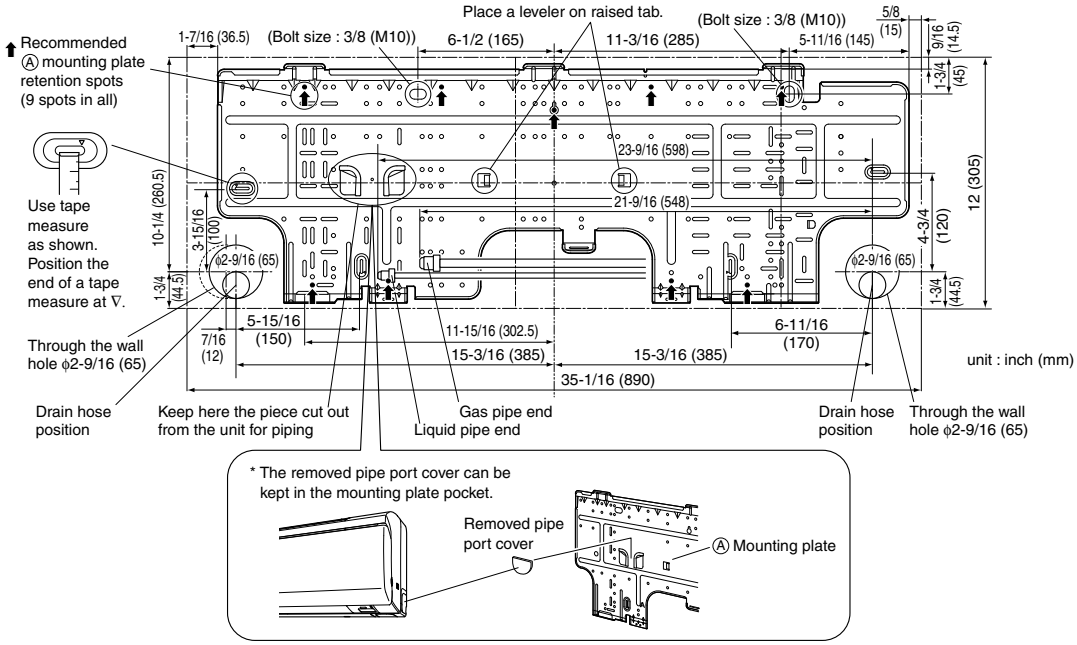


Indoor Unit Installation

1. Installing the mounting plate.

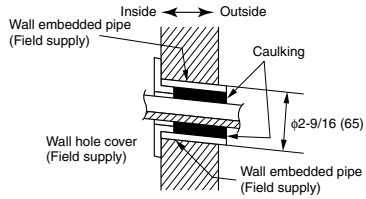
- The Ⓐ mounting plate should be installed on a wall which can support the weight of the indoor unit.
  1) Temporarily secure the Ⓐ mounting plate to the wall, make sure that the panel is completely level, and mark the boring points on the wall.
  2) Secure the Ⓐ mounting plate to the wall with screws.

Recommended mounting plate retention spots and Dimensions



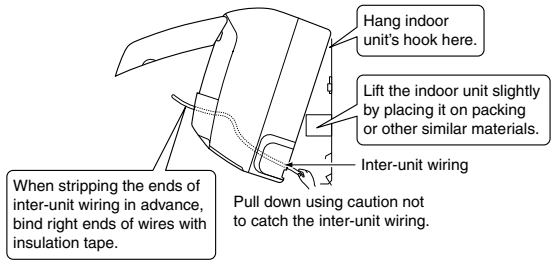
2. Boring a wall hole and installing wall embedded pipe.

- For walls containing metal frame or metal board, be sure to use a wall embedded pipe and wall cover in the feed-through hole to prevent possible heat, electrical shock, or fire.
- Be sure to caulk the gaps around the pipes with caulking material to prevent water leakage.
  1) Bore a feed-through hole of ϕ2-9/16 inch (65mm) in the wall so it has a down slope toward the outside.
  2) Insert a wall pipe into the hole.
  3) Insert a wall cover into wall pipe.
  4) After completing refrigerant piping, wiring, and drain piping, caulk pipe hole gap with putty.



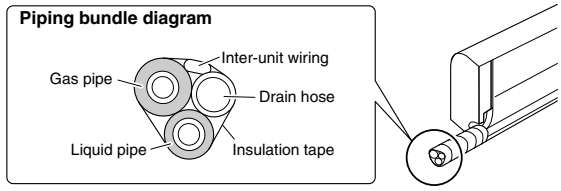
3. Installing inter-unit wiring.

1) Open the front panel and remove the service lid.
2) Pull out the inter-unit wiring from the back of the indoor unit to the front. It is easier to pull out if bending up the wire edge in advance.
3) To connect the inter-unit wiring after hooking the unit onto the Ⓐ mounting plate, connect the inter-unit wiring as shown in the figure at right.



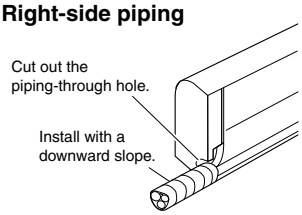
4. Laying piping and wiring.

- Lay the piping and drain hose according to the orientation of the piping coming out of the unit, as shown below.
- Make sure the drain hose is sloped downward.
- Wrap the piping and drain hose together using insulation tape.

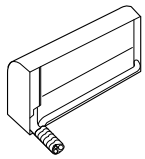


4-1. Right-side, right-back, or right-bottom piping.

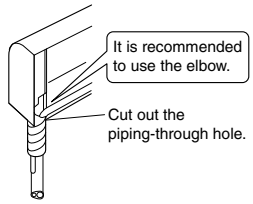
• Right-side piping



• Right-back piping



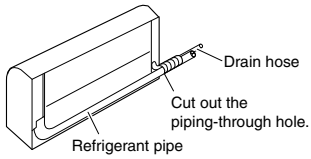
• Right-bottom piping



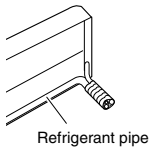
1) Wrap the piping and inter-unit wiring using insulation tape as shown in the piping bundle diagram.
2) Put all the pipes through the through-hole in the wall and hook the indoor unit onto the Ⓐ mounting plate.
3) Connect the pipes.

4-2. Left-side, left-back, or left-bottom piping.

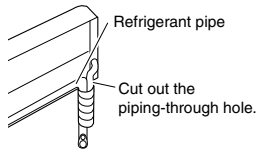
• Left-side piping



• Left-back piping



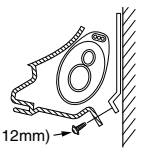
• Left-bottom piping



1) Replace the drain plug and drain hose. **(How to replace the drain plug and drain hose.)**
2) Pull in the refrigerant piping and lay it so that it matches the liquid and gas piping marked on the Ⓐ mounting plate.
3) Hook the indoor unit onto the Ⓐ mounting plate.
4) Connect the pipes. If it is difficult to do, remove the front panel first.
5) Wrap the insulation on the piping with insulation tape. If you are not replacing the drain hose, store it in the location shown below.

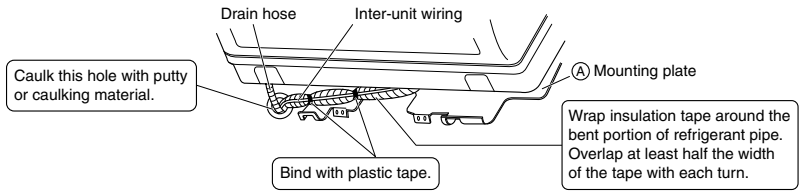
When securing the indoor unit with screws

1) Remove the front grille.
2) Secure the indoor unit with the Ⓓ indoor unit fixing screws.
3) Install the front grille.



Ⓓ 3/16" × 1/2"L (M4 × 12mm)

4-3. Left-back piping.



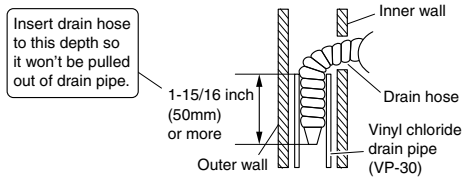
Indoor Unit Installation

4-4. Wall embedded piping.

Follow the instructions given under

Left-side, left-back, or left-bottom piping .

1) Insert the drain hose to this depth so it won't be pulled out of the drain pipe.

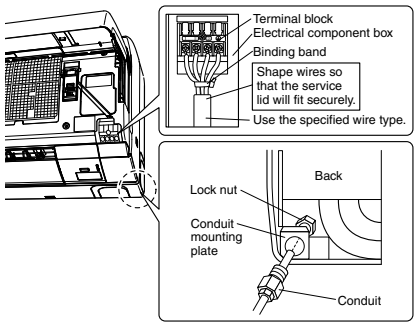


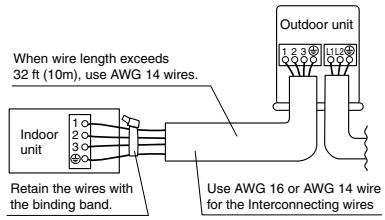
⚠ WARNING

Do not bundle the power code with a binding band, a twist tie or other method.
This may cause heat, electric shock or fire.

5. Wiring.

1) Strip the insulation from the wire (3/4 inch (20mm)).
2) Match wire colours with terminal numbers on indoor and outdoor unit's terminal blocks and firmly screw wires to the corresponding terminals.
3) Connect the earth wires to the corresponding terminals.
4) Pull the wires to make sure that they are securely connected, and retain the wires with the binding band as shown in the illustration below.
5) In case of connecting to an adapter system. Run the remote controller cable and attach the S21. (Refer to **6. Connecting to the HA system**.)
6) Shape the wires so that the service lid fits securely, then close service lid.





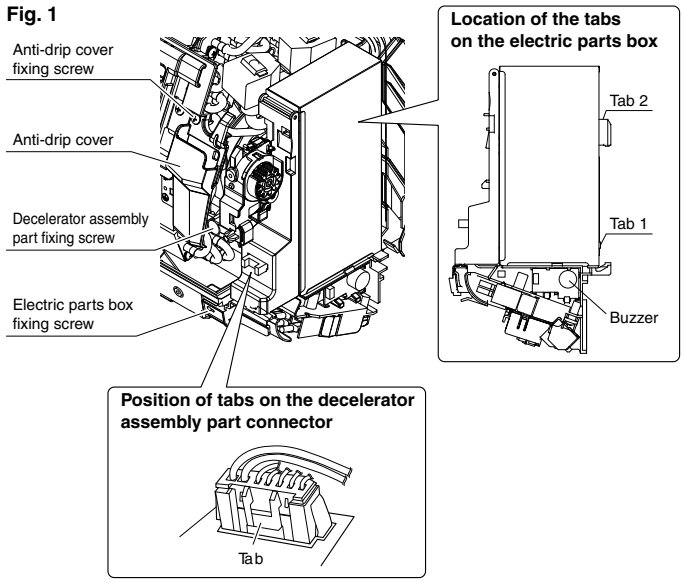
⚠ WARNING

1) Do not use tapped wires, strand wires, extension cords, or starburst connections, as they may cause overheating, electrical shock, or fire.
2) Do not use locally purchased electrical parts inside the product. (Do not branch the power for the drain pump, etc., from the terminal block.) Doing so may cause electric shock or fire.
3) When carrying out wiring connection, take care not to pull at the conduit.

6. Connecting to the HA system.

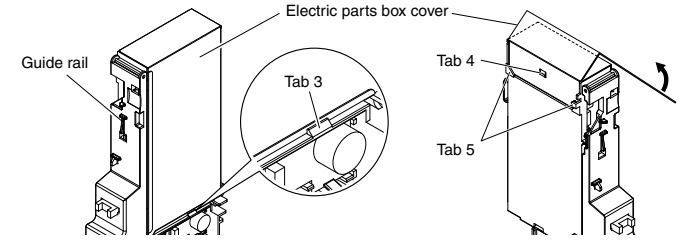
1) Remove the front grille. (3 screws)
2) Remove the decelerator assembly parts. (1 screw)
   2-1) Remove the decelerator assembly part screws. (See Fig. 1)
   2-2) Remove the decelerator assembly part connector. Remove by pressing on the tabs on the bottom of the connector.
   (See the tab position diagram 1)
3) Remove the electric parts box. (1 screw, 2 tabs)
   3-1) Remove the electric parts box fixing screw.
   3-2) Pull the electric parts box toward you and discharge the tab 2.

Fig. 1



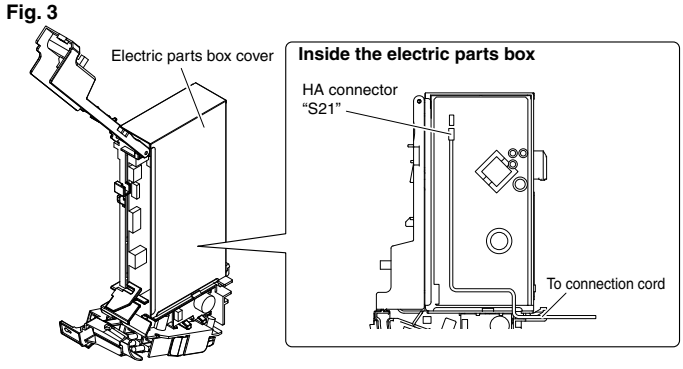
4) Remove the electric parts box cover. (3 tabs) (Refer to Fig. 2)
   4-1) Discharge the tab 3.
   4-2) Pull up the electric parts box cover slowly, discharge the tab 4, slide up, and discharge the tab 5.
5) Insert the connection cord into the HA connector “S21”.

Fig. 2



6) Lay the connection cord as shown in “Fig. 3”.
7) Replace the electric parts box cover and electric parts box as they were.
8) Attach the decelerator assembly part along with the guide rail. (Refer to Fig. 2)
9) Install the front grille.

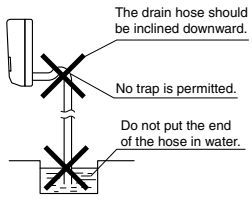
Fig. 3



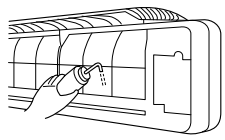
Indoor Unit Installation

7. Drain piping.

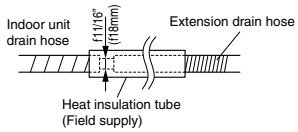
1) Connect the drain hose, as described right.



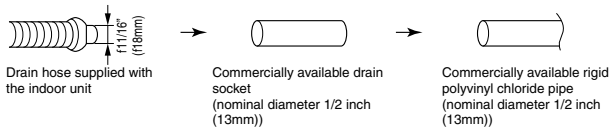
2) Remove the air filters and pour some water into the drain pan to check the water flows smoothly.



3) When drain hose requires extension, obtain an extension hose commercially available.
Be sure to thermally insulate the indoor section of the extension hose.



4) When connecting a rigid polyvinyl chloride pipe (nominal diameter 1/2 inch (13mm)) directly to the drain hose attached to the indoor unit as with embedded piping work, use any commercially available drain socket (nominal diameter 1/2 inch (13mm)) as a joint.



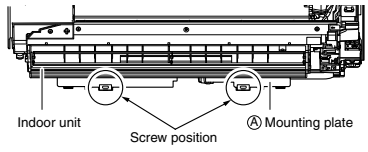
8. Improving installation strength.

- We recommend screwing the indoor unit onto a Ⓐ mounting plate in order to improve the installation strength.

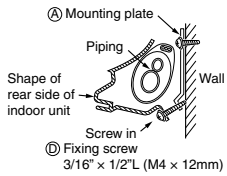
1) Remove the front grille.
2) Screw in the indoor unit with Ⓓ fixing screws.
3) Attach the front grille.

Screw position

Front diagram



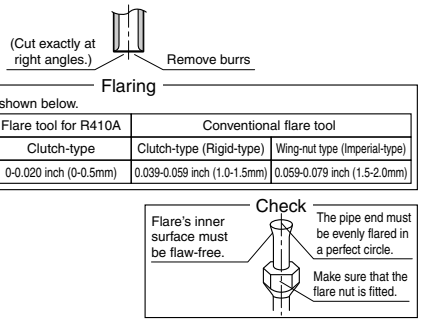
Enlarged diagram



Refrigerant Piping Work

1. Flaring the pipe end.

1) Cut the pipe end with a pipe cutter.
2) Remove burrs with the cut surface facing downward so that the chips do not enter the pipe.
3) Put the flare nut on the pipe.
4) Flare the pipe.
5) Check that the flaring is properly made.



⚠ WARNING

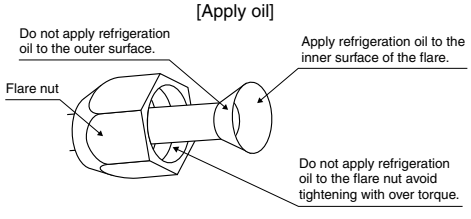
1) Do not use mineral oil on flared part.
2) Prevent mineral oil from getting into the system as this would reduce the lifetime of the units.
3) Never use piping which has been used for previous installations. Only use parts which are delivered with the unit.
4) Do never install a drier to this R410A unit in order to guarantee its lifetime.
5) The drying material may dissolve and damage the system.
6) Incomplete flaring may cause refrigerant gas leakage.

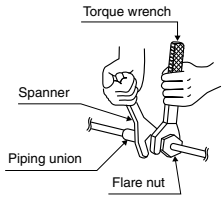
2. Refrigerant piping.

⚠ CAUTION

1) Use the flare nut fixed to the main unit to prevent aging and deterioration.
2) To prevent gas leakage, apply refrigeration oil only to the inner surface of the flare. (Use refrigeration oil for R410A.)
3) Use torque wrenches when tightening the flare nuts to prevent damage to the flare nuts and gas leakage.

Align the centers of both flares and tighten the flare nuts 3 or 4 turns by hand. Then tighten them fully with the torque wrenches.

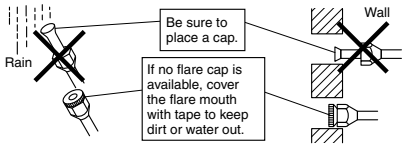




Flare nut tightening torque	
Gas side	Liquid side
3/8 inch (9.5mm)	1/4 inch (6.4mm)
24.1-29.4 ft·lbf (32.7-39.9 N·m)	10.4-12.7 ft·lbf (14.2-17.2 N·m)

2-1. Caution on piping handling.

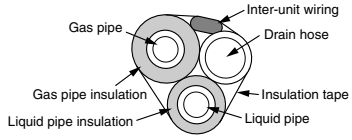
1) Protect the open end of the pipe against dust and moisture.
2) All pipe bends should be as gentle as possible. Use a pipe bender for bending.



2-2. Selection of copper and heat insulation materials.

- When using commercial copper pipes and fittings, observe the following:

1) Insulation material: Polyethylene foam
Heat transfer rate: 0.041 to 0.052W/mK (0.024 to 0.030 Btu/fth°F (0.035 to 0.045 kcal/mh°C))
Choose heat insulation materials that are designed for HVAC use.



2) Be sure to insulate both the gas and liquid piping and to provide insulation dimensions as below.

Gas side	Liquid side	Gas pipe thermal insulation	Liquid pipe thermal insulation
O.D. 3/8 inch (9.5mm)	O.D. 1/4 inch (6.4mm)	I.D. 0.472-0.590 inch (12-15mm)	I.D. 0.315-0.393 inch (8-10mm)
Minimum bend radius		Thickness 0.393 inch (10mm) Min.	
1-3/16 inch (30mm) or more			
Thickness 0.031 inch (0.8mm) (C1220T-O)			

3) Use separate thermal insulation pipes for gas and liquid refrigerant pipes.

Trial Operation and Testing

1. Trial operation and testing.

1-1. Measure the supply voltage and make sure that it falls in the specified range.

1-2. Trial operation should be carried out in either cooling or heating mode.

- In cooling mode, select the lowest programmable temperature; in heating mode, select the highest programmable temperature.
  1) Trial operation may be disabled in either mode depending on the room temperature. Use the remote controller for trial operation as described below.
  2) After trial operation is complete, set the temperature to a normal level (78°F to 82°F (26°C to 28°C) in cooling mode, 68°F to 75°F (20°C to 24°C) in heating mode).
  3) For protection, the system disables restart operation for 3 minutes after it is turned off.

1-3. Operate the unit in accordance with the operation manual to check that it operates normally.

- Even when the air conditioner is not operating, it consumes some electric power. If the customer is not going to use the unit soon after it is installed, turn off the breaker to avoid wasting electricity.

Trial operation from remote controller

1) Hold the “CLOCK button” for 5 seconds.
   (The matrix display will appear on the remote controller.)
2) Display “SETTING / I. TEST” on the matrix display of the remote controller and press the “CLOCK button”.
3) “ 7 ” will be displayed and the unit will enter test run mode.
4) Press the button for test run mode.
   - Test run mode will stop automatically after around 30 minutes. Press the ON/OFF button to force the test-run to stop.

2. Test items.

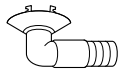
Test items	Symptom (diagnostic display on RC)	Check
Indoor and outdoor units are installed properly on solid bases.	Fall, vibration, noise	
Did you install the deodorizing filter for the streamer and the titanium apatite photocatalytic air-purifying filter?	Noise, water leakage	
Have you performed a gas leak test?	Incomplete cooling/heating function	
No refrigerant gas leaks.	Incomplete cooling/heating function	
Refrigerant gas and liquid pipes and indoor drain hose extension are thermally insulated.	Water leakage	
Draining line is properly installed.	Water leakage	
Does the drain hose produce abnormal noise (perking sound) when using the ventilation fan or others?	Use of separately sold air cut drain plug	
System is properly ground to earth.	Electrical leakage	
The specified wires are used for inter-unit wiring connections.	Inoperative or burn damage	
Indoor or outdoor unit’s air intake or exhaust has clear path of air. Stop valves are opened.	Incomplete cooling/heating function	
Indoor unit properly receives remote controller commands.	Inoperative	
Did you check the address setting?	Inoperative	

3P227261-1

11.2 Outdoor Units

Accessories

Accessories supplied with the outdoor unit:

(A) Installation manual	1	(B) Drain plug (Heat pump-Models)  There is on the bottom packing case.	1
(C) Binding band 	1		

Precautions for Selecting the Location

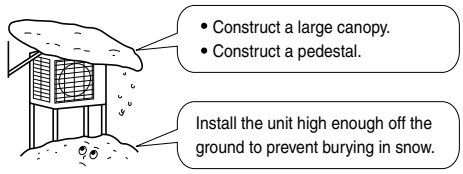
1) Choose a place strong enough to bear the weight and vibration of the unit, The location should not amplified the unit noise.
2) Choose a location where the hot air discharged from the unit and the operationing noise will not be a nuisance to the neighbors.
3) Avoid noise sensitive locations such as bedrooms to avoid future problems.
4) There must be sufficient clearance for carrying the unit into and out of the site.
5) There must be sufficient space around the air inlet and the air outlet with no obstructions to airflow.
6) The surrounding area must be free from the possibility of flammable gas leakage.
7) Install units, power cords and inter-connecting cables at least 10 feet (3m) away from television and radio sets. This is to prevent interference to images and sounds. (Noises may be heard even if they are more than 10 feet (3m) away depending on radio wave conditions.)
8) In coastal areas or other places with salty atmosphere of sulfate gas, corrosion may shorten the life of the air conditioner.
9) Do not place moisture sensitive equipment or articles under the outdoor unit condenstate drain.

NOTE: Do not install unit by hanging from a ceiling or stacking units.

⚠ CAUTION

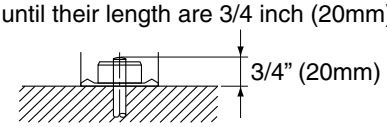
When operating the air conditioner in a outdoor temperature below, be sure to follow the instructions described below.

1) To prevent exposure to wind, install the outdoor unit with its suction side facing the wall.
2) Never install the outdoor unit at a site where the suction side may be exposed directly to wind.
3) To prevent exposure to wind, it is recommended to install a baffle plate on the air discharge side of the outdoor unit.
4) In heavy snowfall areas, select an installation site where the snow will not affect the unit.



Precautions on Installation

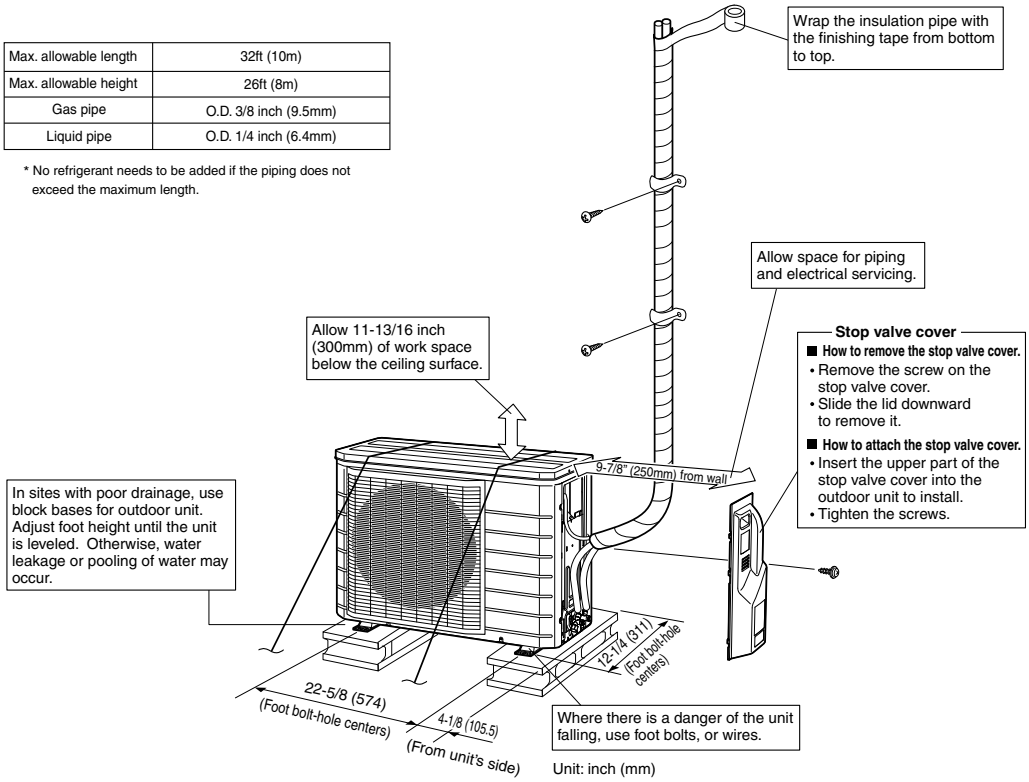
- Ensure the strength and level of the installation will not cause any operating vibration or noise after installed.
- In accordance with the foundation drawing, fix the unit securely by means of the foundation bolts. (Prepare four sets of 3/8 inch (M10) or 7/16 inch (M12) foundation bolts, nuts and washers each which are available on the market.)
- It is best to screw in the foundation bolts until their length are 3/4 inch (20mm) from the foundation surface.



Outdoor Unit Installation Drawings

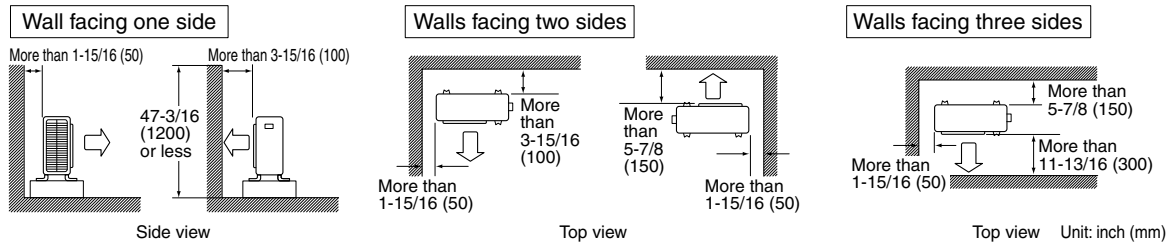
Max. allowable length	32ft (10m)
Max. allowable height	26ft (8m)
Gas pipe	O.D. 3/8 inch (9.5mm)
Liquid pipe	O.D. 1/4 inch (6.4mm)

* No refrigerant needs to be added if the piping does not exceed the maximum length.



Installation Guidelines

- Where a wall or other obstacle is in the path of outdoor unit's intake or exhaust airflow, follow the installation guidelines below.
- For any of the below installation patterns, the wall height on the exhaust side should be 47-3/16 inch (1200mm) or less.



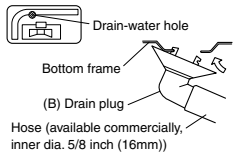
Outdoor Unit Installation (1)

1. Installing outdoor unit.

1) When installing the outdoor unit, refer to “Precautions for Selecting the Location” and the “Outdoor Unit Installation Drawings”.
2) If drain work is necessary, follow the procedures below.

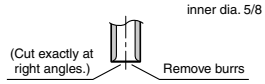
2. Drain work (heat pump-models).

1) Use drain plug for drainage.
2) If the drain port is covered by a mounting base or floor surface, place additional foot bases of at least 1-1/4 inch (30mm) height under the outdoor unit’s feet.
3) In cold areas, do not use a drain hose with the outdoor unit. (Otherwise, drain water may freeze, impairing heating performance.)



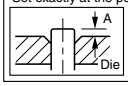
3. Flaring the pipe end.

1) Cut the pipe end with a pipe cutter.
2) Remove burrs with the cut surface facing downward so that the chips do not enter the pipe.
3) Put the flare nut on the pipe.
4) Flare the pipe.
5) Check that the flaring is properly made.



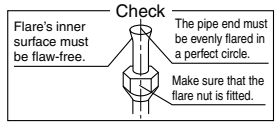
Flaring

Set exactly at the position shown below.



	Flare tool for R410A	Conventional flare tool	
	Clutch-type	Clutch-type (Rigid-type)	Wing-nut type (Imperial-type)
A	0-0.020 inch (0-0.5mm)	0.039-0.059 inch (1.0-1.5mm)	0.059-0.079 inch (1.5-2.0mm)

Check



⚠ WARNING

1) Do not use mineral oil on flared part.
2) Prevent mineral oil from getting into the system as this would reduce the lifetime of the units.
3) Never use piping which has been used for previous installations. Only use parts which are delivered with the unit.
4) Do never install a drier to this R410A unit in order to guarantee its lifetime.
5) The drying material may dissolve and damage the system.
6) Incomplete flaring may cause refrigerant gas leakage.

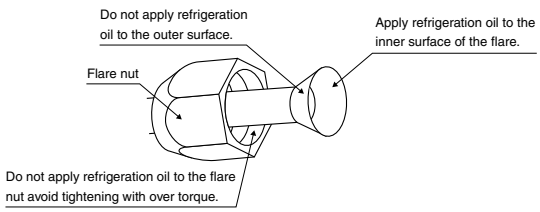
4. Refrigerant piping.

⚠ CAUTION

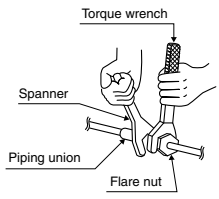
1) Use the flare nut fixed to the main unit. (To prevent cracking of the flare nut by aged deterioration.)
2) To prevent gas leakage, apply refrigeration oil only to the inner surface of the flare. (Use refrigeration oil for R410A.)
3) Use torque wrenches when tightening the flare nuts to prevent damage to the flare nuts and gas leakage.

Align the centers of both flares and tighten the flare nuts 3 or 4 turns by hand. Then tighten them fully with the torque wrenches.

[Apply oil]



[Tighten]



Flare nut tightening torque	
Gas side	Liquid side
3/8 inch (9.5mm)	1/4 inch (6.4mm)
24.1-29.4ft • lbf (32.7-39.9N • m)	10.4-12.7ft • lbf (14.2-17.2N • m)

Valve cap tightening torque	
Gas side	Liquid side
3/8 inch (9.5mm)	1/4 inch (6.4mm)
15.9-20.2ft • lbf (21.6-27.4N • m)	15.9-20.2ft • lbf (21.6-27.4N • m)

Service port cap tightening torque	7.9-10.8ft • lbf (10.8-14.7N • m)

Outdoor Unit Installation (2)

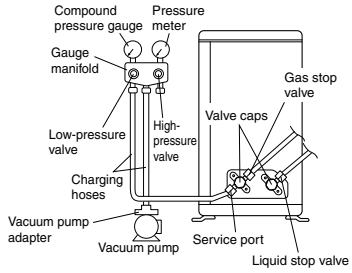
5. Purging air and checking gas leakage.

- When piping work is completed, it is necessary to purge the air and check for gas leakage.

⚠ WARNING

1) Do not mix any substance other than the specified refrigerant (R410A) into the refrigeration cycle.
2) When refrigerant gas leaks occur, ventilate the room as soon and as much as possible.
3) R410A, as well as other refrigerants, should always be recovered and never be released directly into the environment.
4) Use a vacuum pump for R410A exclusively. Using the same vacuum pump for different refrigerants may damage the vacuum pump or the unit.

- If using additional refrigerant, perform air purging from the refrigerant pipes and indoor unit using a vacuum pump, then charge additional refrigerant.
- Use a hexagonal wrench (3/16 inch (4mm)) to operate the stop valve rod.
- All refrigerant pipe joints should be tightened with a torque wrench at the specified tightening torque.



1) Connect projection side of charging hose (which comes from gauge manifold) to gas stop valve's service port.

↓

2) Fully open gauge manifold's low-pressure valve (Lo) and completely close its high-pressure valve (Hi).
(High-pressure valve subsequently requires no operation.)

↓

3) Do vacuum pumping and make sure that the compound pressure gauge reads – 29.9inHg (–0.1MPa).
(The vacuum pump should run for at least 10 min.)

↓

4) Close gauge manifold's low-pressure valve (Lo) and stop vacuum pump.
(Keep this state for a few minutes to make sure that the compound pressure gauge pointer does not swing back.)*1.

↓

5) Remove valve caps from liquid stop valve and gas stop valve.

↓

6) Turn the liquid stop valve's rod 90 degrees counterclockwise with a hexagonal wrench to open valve.
Close it after 5 seconds, and check for gas leakage.
Using soapy water, check for gas leakage from indoor unit's flare and outdoor unit's flare and valve rods.
After the check is complete, wipe all soapy water off.

↓

7) Disconnect charging hose from gas stop valve's service port, then fully open liquid and gas stop valves.
(Do not attempt to turn valve rod beyond its stop.)

↓

8) Tighten valve caps and service port cap for the liquid and gas stop valves with a torque wrench at the specified torques.

*1. If the compound pressure gauge pointer swings back, refrigerant may have water content or a loose pipe joint may exists. Check all pipe joints and retighten nuts as needed, then repeat steps 2) through 4).

Outdoor Unit Installation (3)

6. Refilling the refrigerant.

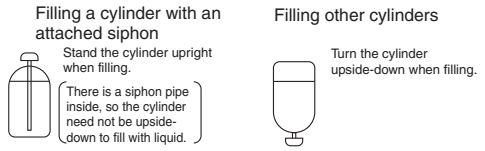
Check the type of refrigerant to be used on the machine nameplate.

Precautions when adding R410A

Fill from the liquid pipe in liquid form.

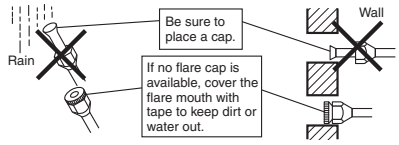
It is a mixed refrigerant, so adding it in gas form may cause the refrigerant composition to change, preventing normal operation.

1) Before filling, check whether the cylinder has a siphon attached or not.
(It should have something like "liquid filling siphon attached" displayed on it.)



- Be sure to use the R410A tools to ensure pressure and to prevent foreign objects entering.

7. Refrigerant piping work.



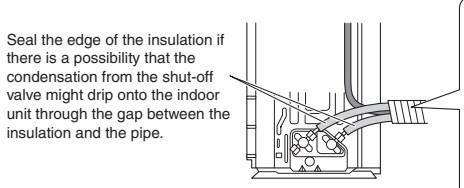
7-1 Cautions on pipe handling.

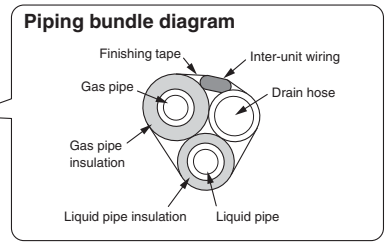
1) Protect the open end of the pipe against dust and moisture.
2) All pipe bends should be as gentle as possible. Use a pipe bender for bending.

7-2 Selection of copper and heat insulation materials.

When using commercial copper pipes and fittings, observe the following:

1) Insulation material: Polyethylene foam
Heat transfer rate: 0.041 to 0.052W/mK (0.024-0.030Btu/fth°F (0.035-0.045kcal/mh°C))
Refrigerant gas pipe's surface temperature reaches 230°F (110°C) max.
Choose heat insulation materials that will withstand this temperature.
2) Be sure to insulate both the gas and liquid piping and to provide insulation dimensions as below.





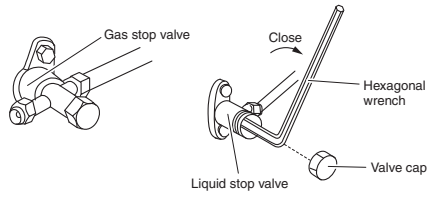
Gas side	Liquid side	Gas pipe thermal insulation	Liquid pipe thermal insulation
O.D. 3/8inch (9.5mm)	O.D. 1/4inch (6.4mm)	I.D. 0.472-0.590inch (12-15mm)	I.D. 0.315-0.393inch (8-10mm)
Minimum bend radius		Thickness 0.393inch (10mm) Min.	
1-3/16inch (30mm) or more			
Thickness 0.031inch (0.8mm) (C1220T-O)			

3) Use separate thermal insulation pipes for gas and liquid refrigerant pipes.

Pump Down Operation

In order to protect the environment, be sure to pump down when relocating or disposing of the unit.

1) Remove the valve caps from liquid stop valve and gas stop valve.
2) Carry out forced cooling operation.
3) After 5 to 10 minutes, close the liquid stop valve with a hexagonal wrench.
4) After 2 to 3 minutes, close the gas stop valve and stop forced cooling operation.



How to force cooling operation mode

■ **Using the indoor unit operation/stop button**

Press the indoor unit operation/stop button for at least 5 seconds. (Operation will start.)

- Forced cooling operation will stop automatically after around 15 minutes.
To force a test run to stop, press the indoor unit operation/stop button.

⚠ CAUTION

After closing the liquid stop valve, close the gas stop valve within 3 minutes, then stop the forced operation.

Wiring (1)

⚠ WARNING

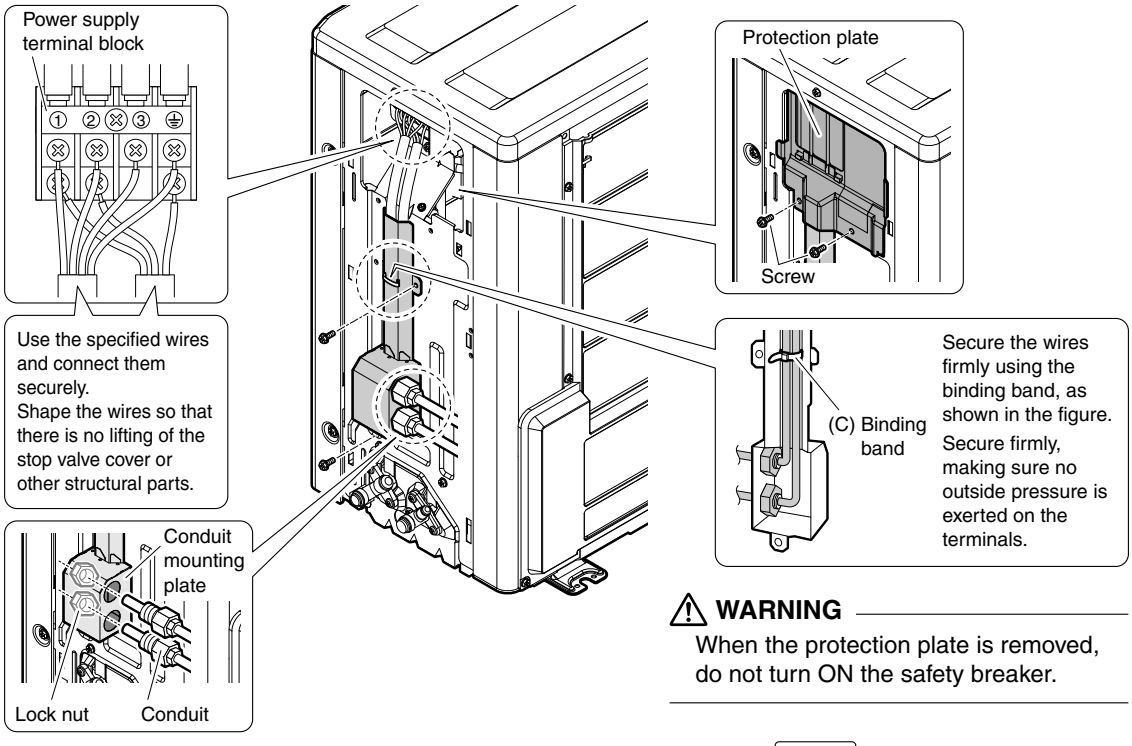
1) Do not use spliced wires, stranded wires, extension cords, or starburst connections, as they may cause overheating, electrical shock, or fire. Follow all Local, and State electrical codes.
2) Do not use locally purchased electrical parts inside the product. (Do not overload the circuit by adding drain pump or other electrical equipment to unit terminals.) Doing so may cause electric shock or fire.
3) Be sure to install an earth leak detector. (One that can handle higher harmonics.)
   (This unit uses an inverter, which means that it must be used an earth leak detector capable handling harmonics in order to prevent malfunctioning of the earth leak detector itself.)
4) Use an all-pole disconnection type breaker with at least 1/8 inch (3mm) between the contact point gaps.
5) The earth leakage circuit breaker must operate at 30mA or lower.
6) When carrying out wiring connection, take care not to pull at the conduit.

<Work before wiring>

A protection plate is fixed for protection from the high-voltage section.
Before starting wiring work, remove the 2 screws and the protection plate.

<Method of mounting conduit>

1) Pass wires through the conduit and secure them with a lock nut.
2) By removing the 2 screws to remove the conduit mounting plate, you can work without the plate.
3) Secure the wire with a binding band to the conduit mounting plate.
   After completing the work, reattach the conduit mounting plate to its original position.



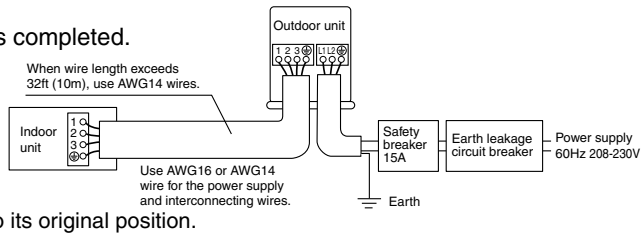
⚠ WARNING

When the protection plate is removed, do not turn ON the safety breaker.

- Do not turn ON the safety breaker until all work is completed.

<Wiring procedure>

1) Strip the insulation from the wire (3/4 inch (20mm)).
2) Connect the connection wires between the indoor and outdoor units **so that the terminal numbers match**.
3) After completing wiring, fix the protection plate to its original position.



Wiring (2)

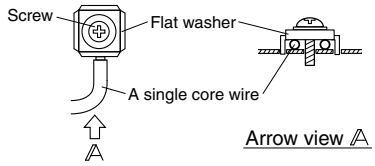
⚠ CAUTION (1)

In case using stranded wires is unavoidable for some reason, make sure to install the round crimp-style terminals on the tip.

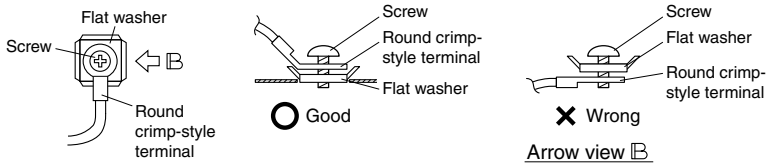
Place the round crimp-style terminals on the wires up to the covered part and secure in place.

<Ground terminal installation>

1) Use the following method when installing a single core wire.

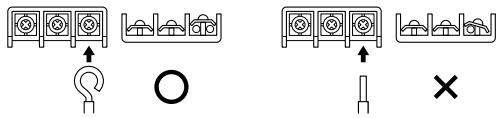


2) Use the following method when installing the round crimp-style terminal.



⚠ CAUTION (2)

When connecting the connection wires to the terminal board using a single core wire, be sure to perform curling. Problems with the work may cause heat and fires.



3) Pull the wire and make sure that it does not disconnect. Then fix the wire in place with a wire stop.

Test Run and Final Check

1. Trial operation and testing.

- Measure the supply voltage and make sure that it falls in the specified range.
- See “Test Run and Final Check” in the installation manual that came with the indoor unit for details on how to perform the test run and what to check for.

2. Test items.

Test items	Symptom (diagnostic display on RC)	Check
Outdoor unit is installed properly on a solid base.	Fall, vibration, noise	
No refrigerant gas leaks.	Incomplete cooling/heating function	
Refrigerant gas and liquid pipes and indoor drain hose extension are thermally insulated.	Water leakage	
Draining line is properly installed.	Water leakage	
Contact and check with the user whether the outdoor unit requires drainage work.	Drainage instillation from the bottom hole of the outdoor unit.	
System is properly ground to earth.	Electrical leakage	
The specified wires are used for interconnecting wire connections.	Inoperative or burn damage	
Outdoor unit’s air intake or exhaust has clear path of air. Stop valves are opened.	Incomplete cooling/heating function	

3P226011-1

12. Operation Manual

Read these ***SAFETY CONSIDERATIONS for Operations*** carefully before operating an air conditioner or heat pump. Make sure that the unit operates properly during the startup operation. Instruct the customer on how to operate and maintain the unit.

Inform customers that they should store this Operation Manual with the Installation Manual for future reference.

Meanings of **DANGER**, **WARNING**, **CAUTION**, and **NOTE** Symbols:

⚠ **DANGER** ..... Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ **WARNING** ..... Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ **CAUTION** ..... Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

⚠ **NOTE** ..... Indicates situations that may result in equipment or property-damage accidents only.

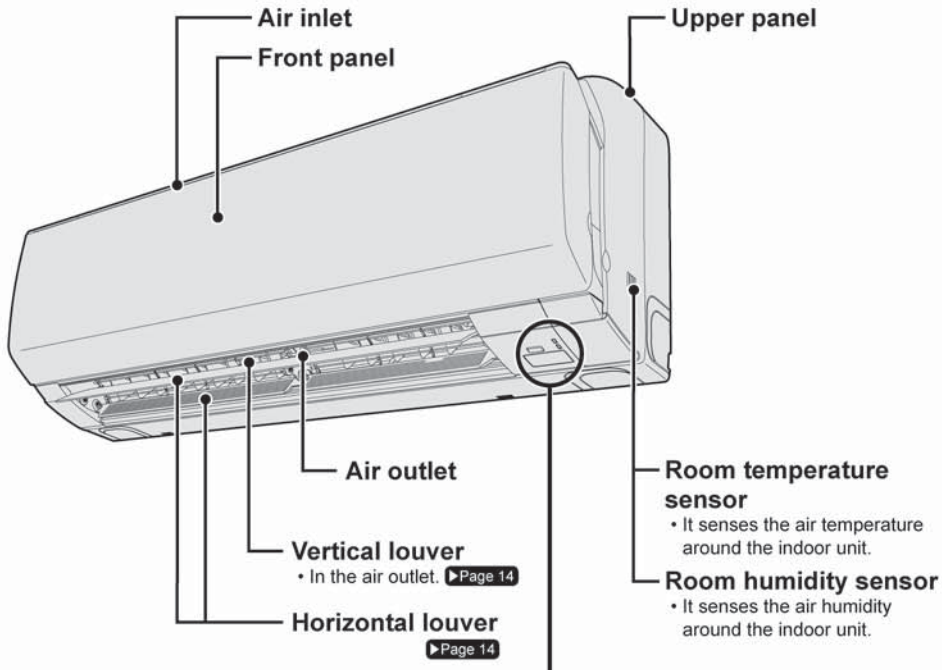
- **Do not install the unit in an area where flammable materials are present due to risk of explosion resulting in serious injury or death.**
- **Any abnormalities in the operation of the air conditioner or heat pump, such as smoke or fire, could result in severe injury or death. Turn off the power and contact your dealer immediately.**
- **Refrigerant gas may produce toxic gas if it comes into contact with fire, such as from a fan, heater, stove, or cooking device. Exposure to this gas could cause severe injury or death.**
- **For refrigerant leakage, consult your dealer. Refrigerant gas is heavier than air and replaces oxygen. A massive leak could lead to oxygen depletion, especially in basements, and an asphyxiation hazard could occur leading to serious injury or death.**
- **If equipment utilizing a burner is used in the same room as the air conditioner or heat pump, there is the danger of oxygen deficiency which could lead to an asphyxiation hazard resulting in serious injury or death. Be sure to ventilate the room sufficiently to avoid this hazard.**
- **Safely dispose of the packing materials. Packing materials, such as nails and other metal or wooden parts, may cause stabs or other injuries.**
- **Tear apart and throw away plastic packaging bags so that children will not play with them. Children playing with plastic bags face the danger of death by suffocation.**
- **Contact your dealer for repair and maintenance. Improper repair and maintenance may result in water leakage, electric shock, and fire. Only use accessories made by Daikin that are specifically designed for use with the equipment and have them installed by a professional.**
- **Contact your dealer to move and reinstall the air conditioner or heat pump. Incomplete installation may result in water leakage, electric shock, and fire.**
- **Never let the indoor unit or the remote controller get wet. Water can cause an electric shock or a fire.**
- **Never use flammable spray such as hair spray, lacquer, or paint near the unit. Flammable spray may cause a fire.**
- **When a fuse blows out, never replace it with one of incorrect ampere ratings or different wires. Always replace any blown fuse with a fuse of the same specification.**
- **Never remove the fan guard of the unit. A fan rotating at high speed without the fan guard is very dangerous.**
- **Never inspect or service the unit by yourself. Contact a qualified service person to perform this work.**
- **Turn off all electrical power before doing any maintenance to avoid the risk of serious electric shock; never sprinkle or spill water or liquids on the unit.**
- **Do not touch the switch with wet fingers. Touching a switch with wet fingers can cause electric shock.**
- **Do not allow children to play on or around the unit to prevent injury.**
- **The heat exchanger fins are sharp enough to cut. To avoid injury wear gloves or cover the fins while working around them.**
- **Do not put a finger or other objects into the air inlet or air outlet. The fan is rotating at high speed and will cause injury.**
- **Check the unit foundation for damage on a continuous basis, especially if it has been in use for a long time. If left in a damaged condition the unit may fall and cause injury.**

- **Placing a flower vase or other containers with water or other liquids on the unit could cause a shock or fire if a spill occurs.**
- **Do not touch the air outlet or horizontal blades while the swing flap is in operation because fingers could get caught and injured.**
- **Never touch the internal parts of the controller. Do not remove the front panel because some parts inside are dangerous to touch. To check and adjust internal parts, contact your dealer.**
- **Do not use the air conditioner or heat pump for any other purposes other than comfort cooling or heating. Do not use the unit for cooling precision instruments, food, plants, animals or works of art.**
- **Do not place items under the indoor unit as they may be damaged by condensates that may form if the humidity is above 80% or if the drain outlet gets blocked.**
- **Before cleaning, stop the operation of the unit by turning the power off or by pulling the supply cord out from its receptacle. Otherwise, an electric shock and injury may result.**
- **Do not wash the air conditioner or heat pump with excessive water. An electric shock or fire may result.**
- **Avoid placing the controller in a spot splashed with water. Water entering the controller may cause an electric shock or damage the internal electronic parts.**
- **Do not operate the air conditioner or heat pump when using a room-fumigation type of insecticide. Failure to observe this could cause the chemicals to be deposited in the unit and can endanger the health of those who are hypersensitive to chemicals.**
- **Do not turn off the power immediately after stopping operation. Always wait for at least five minutes before turning off the power. Otherwise, water leakage may occur.**
- **The appliance is not intended for use by young children or infirm persons without supervision.**
- **The remote controller should be kept away from children so they cannot play with it.**
- **Consult with the installation contractor for cleaning.**
- **Incorrect cleaning of the inside of the air conditioner or heat pump could make the plastics parts break and cause water leakage or electric shock.**
- **Do not touch the air inlet or aluminum fin of the air conditioner or heat pump as they can cut and cause injury.**
- **Do not place objects in direct proximity of the outside unit. Do not let leaves and other debris accumulate around the unit. Leaves are a hotbed for small animals which can enter the unit. Once inside the unit, animals can cause the unit to malfunction, and cause smoke or fire when they make contact with electrical parts.**
- **Never press the button of the remote controller with a hard, pointed object. The remote controller may be damaged.**
- **Never pull or twist the electric wire of the remote controller. It may cause the unit to malfunction.**
- **Do not place appliances that produce open flames in places that are exposed to the air flow of the unit or under the indoor unit. It may cause incomplete combustion or deformation of the unit due to the heat.**
- **Do not expose the controller to direct sunlight. The LCD display can become discolored and may fail to display the data.**
- **Do not wipe the controller operation panel with benzene, thinner, chemical dust cloth, etc. The panel may get discolored or the coating can peel off. If it is heavily dirty, soak a cloth in water-diluted neutral detergent, squeeze it well and wipe the panel clean. Then wipe it with another dry cloth.**
- **Dismantling of the unit, disposal of the refrigerant, oil, and additional parts, should be done in accordance with the relevant local, state, and national regulations.**
- **Operate the air conditioner or heat pump in a sufficiently ventilated area and not surrounded by obstacles. Do not use the air conditioner or heat pump in the following places.**
  - **a. Places with a mist of mineral oil, such as cutting oil.**
  - **b. Locations such as coastal areas where there is a lot of salt in the air.**
  - **c. Locations such as hot springs where there is a lot of sulfur in the air.**
  - **d. Locations such as factories where the power voltage varies a lot.**
  - **e. In cars, boats, and other vehicles.**
  - **f. Locations such as kitchens where oil may splatter or where there is steam in the air.**
  - **g. Locations where equipment produces electromagnetic waves.**
  - **h. Places with an acid or alkaline mist.**
  - **i. Places where fallen leaves can accumulate or where weeds can grow.**
- **Take snow protection measures. Contact your dealer for the details of snow protection measures, such as the use of a snow protection hood.**
- **Do not attempt to do electrical work or grounding work unless you are licensed to do so. Consult with your dealer for electrical work and grounding work.**

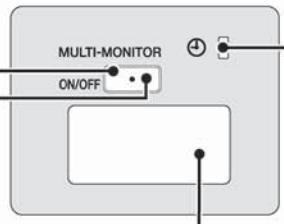
- **Pay Attention to Operating Sound. Be sure to use the following places:**
  - **a. Places that can sufficiently withstand the weight of the air conditioner or heat pump yet can suppress the operating sound and vibration.**
  - **b. Places where warm air from the air outlet of the outside unit or the operating sound of the outside unit does not annoy neighbors.**
- **Make sure that there are no obstacles close to the outside unit. Obstacles close to the outside unit may drop the performance of the outside unit or increase the operating sound of the outside unit.**
- **Consult your dealer if the air conditioner or heat pump in operation generates unusual noise.**
- **Make sure that the drainpipe is installed properly to drain water. If no water is discharged from the drainpipe while the air conditioner or heat pump is in the cooling mode, the drainpipe may be clogged with dust or dirt and water leakage from the indoor unit may occur. Stop operating the air conditioner or heat pump and contact your dealer.**

Name of Parts

Indoor Unit



Control panel



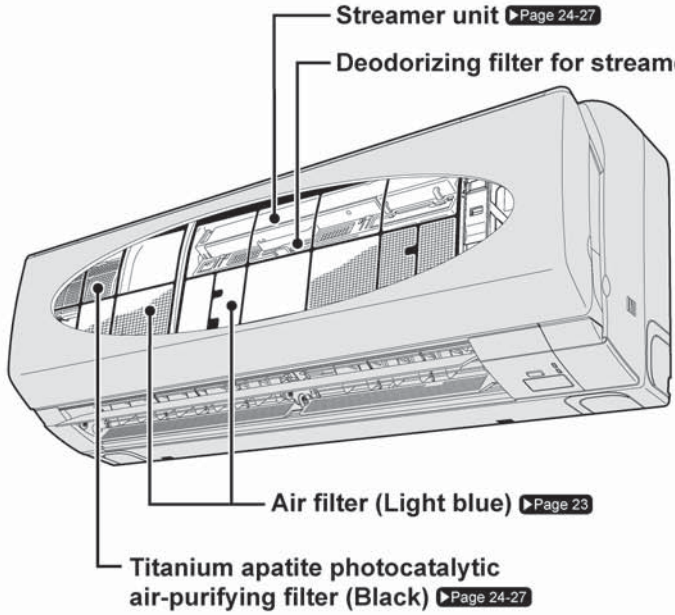
Indoor unit ON/OFF switch
- Push this switch once to start operation. Push once again to stop it.

TIMER lamp (Orange) ▶Page 16

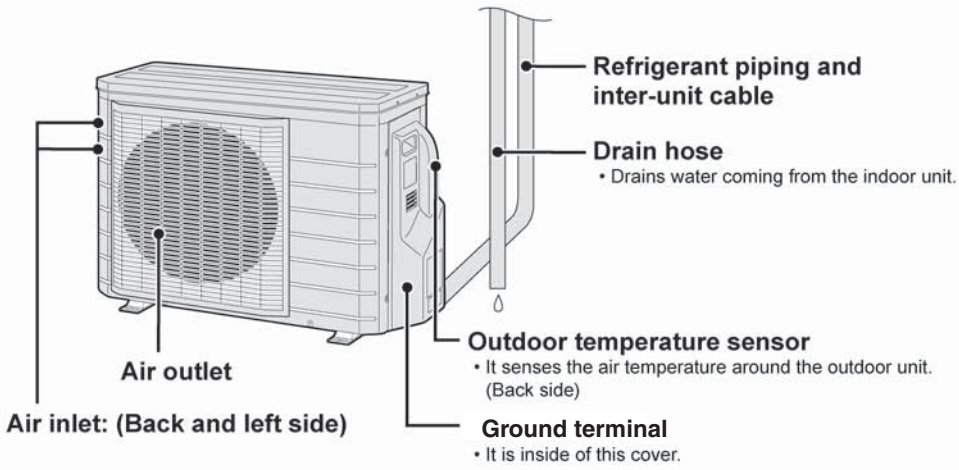
Multi-monitor lamp
- The lamp color changes according to the operation.
- HEATING ..... **RED**
- COOLING ..... **GREEN**
- ***QUATERNITY*** DRYING / DRY COOLING.....**YELLOW**
- The lamp color also changes according to the optional function
- FLASH STREAMER AIR PURIFYING .....**WHITE** (Only for the first 2 seconds during operation of the air conditioner.)

Signal receiver
- Receives / sends signals from/to the remote controller.
- The multi-monitor lamp blinks with beep sound to indicate signal reception.
- Operation start ..... two beeps
- Settings changed ..... one beep
- Operation stop ..... long beep

Open the front panel

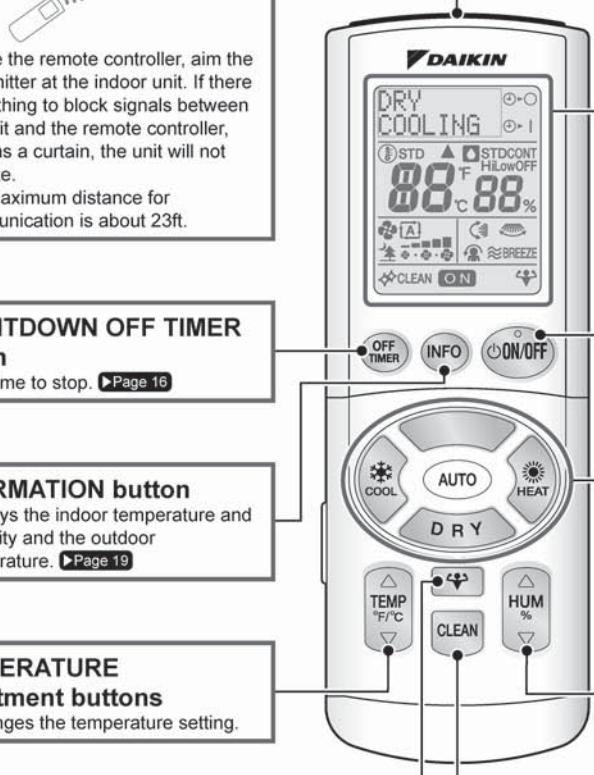


Outdoor Unit



Name of Parts

Remote Controller: ARC447A3



Transmitter / Receiver

- To use the remote controller, aim the transmitter at the indoor unit. If there is anything to block signals between the unit and the remote controller, such as a curtain, the unit will not operate.
- The maximum distance for communication is about 23ft.

DISPLAY (LCD)

- It displays the current settings. (In this illustration, each section is shown with all its displays ON for the purpose of explanation.)
- * The protection sheet is on the display to protect against scratch. Remove it before use.

COUNTDOWN OFF TIMER button

- Sets time to stop. ▶Page 16

ON/OFF button

- Stops operation selected with the direct operation button. Another press will restart the same operation.

INFORMATION button

- Displays the indoor temperature and humidity and the outdoor temperature. ▶Page 19

DIRECT operation button

- AUTO button ▶Page 12
- HEATING button ▶Page 11
- DRY button ▶Page 10
- COOLING button ▶Page 10

TEMPERATURE adjustment buttons

- It changes the temperature setting.

HUMIDITY buttons

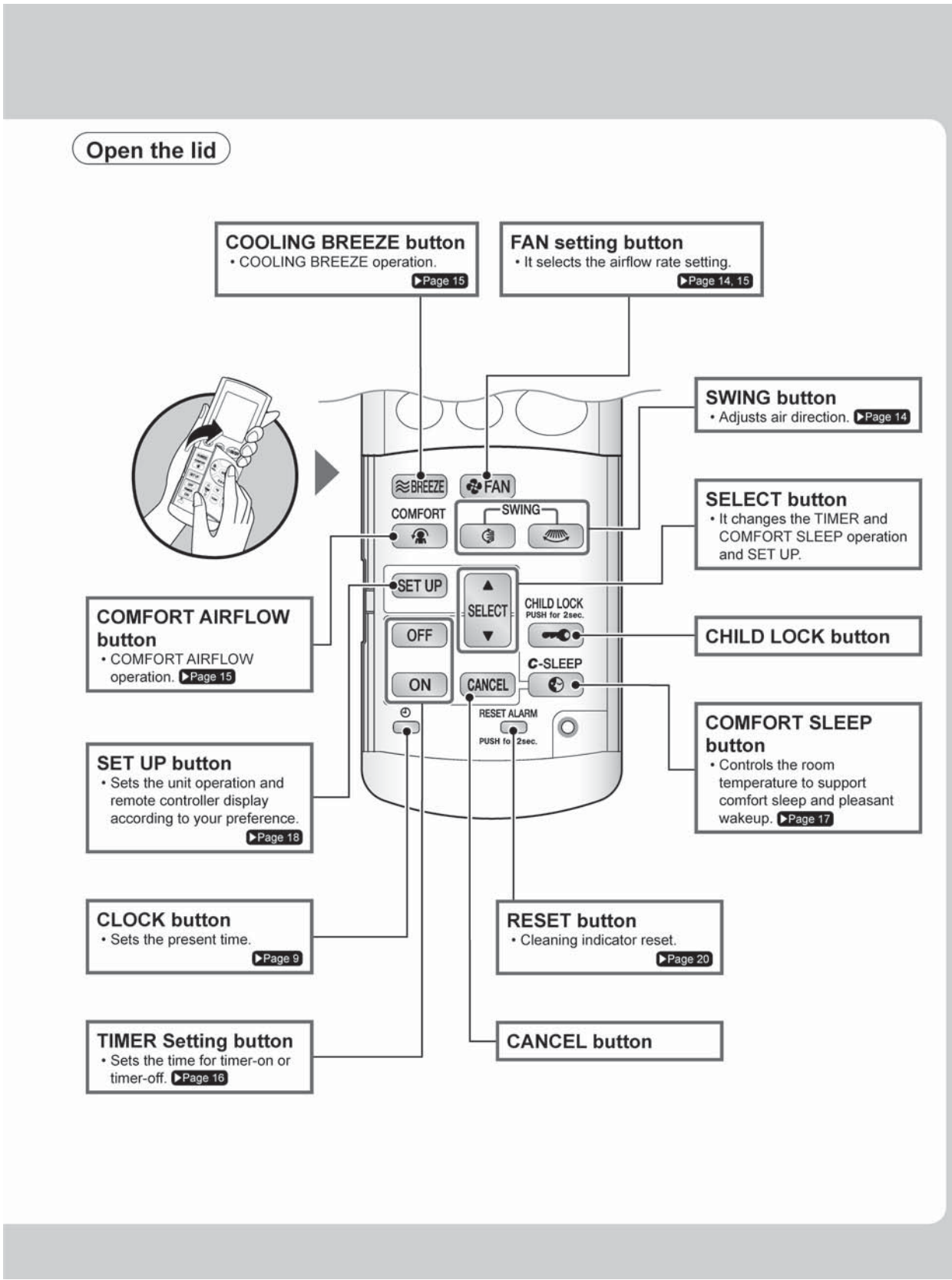
- It changes the humidity setting.

POWERFUL button

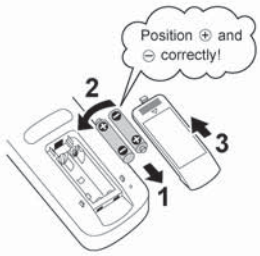
- Makes cooling or heating more powerful. (Canceled in 20 minutes.) ▶Page 13

FLASH STREAMER AIR PURIFYING button

- Cleans the room air. ▶Page 13


Open the lid
COOLING BREEZE button
• COOLING BREEZE operation.
▶Page 15
FAN setting button
• It selects the airflow rate setting.
▶Page 14, 15
SWING button
• Adjusts air direction. ▶Page 14
SELECT button
• It changes the TIMER and COMFORT SLEEP operation and SET UP.
CHILD LOCK button
COMFORT SLEEP button
• Controls the room temperature to support comfort sleep and pleasant wakeup. ▶Page 17
RESET button
• Cleaning indicator reset.
▶Page 20
CANCEL button
COMFORT AIRFLOW button
• COMFORT AIRFLOW operation. ▶Page 15
SET UP button
• Sets the unit operation and remote controller display according to your preference.
▶Page 18
CLOCK button
• Sets the present time.
▶Page 9
TIMER Setting button
• Sets the time for timer-on or timer-off. ▶Page 16
BREEZE
FAN
COMFORT
SWING
SET UP
SELECT
CHILD LOCK
PUSH for 2sec.
OFF
ON
CANCEL
C-SLEEP
RESET ALARM
PUSH for 2sec.

Preparation Before Operation



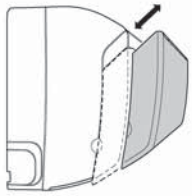
■ To set the batteries

1. Press ▭ with a finger and slide the cover to take it off.
2. Set two dry batteries AAA.LR03 (alkaline).
3. Set the cover as before.
   • Characters on the display will blink. Set the present time. Page 9
4. Change the temperature display. See SET UP. Page 18

■ To fix the remote controller holder on the wall

1. Choose a place from where the signals reach the unit.
2. Fix the remote controller holder to a wall or pillar using the included screws.
3. Hook the holes on back of the remote controller to the protruding tabs on the remote controller holder.

■ Attach the Titanium apatite photocatalytic air-purifying filter, deodorizing filter for streamer Page 25



■ Turn on the power breaker

• Turning on the power breaker will cause the front panel and horizontal louver to open once and then close again. (This is a normal procedure.)

⚠ CAUTION

• During operation (i.e. when the panel is open or being opened or closed), do not touch the panel with your hands.

ATTENTION

• Wrap the terminals with tape to insulate them before discarding batteries. Mixing with other metals or batteries may cause heat, explosion or fire.

PRECAUTION

■ About batteries

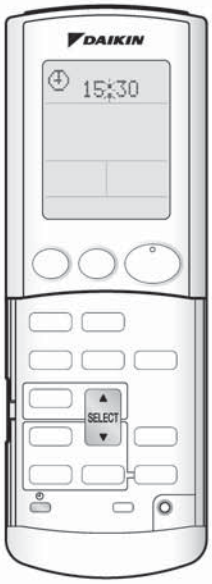
- When replacing the batteries, use batteries of the same type, and replace the two old batteries together.
- When the system is not used for a long time, take the batteries out.
- The batteries will last for approximately one year. If the remote controller display begins to fade and the degradation of reception performance occurs within a year, however, replace both two batteries with new size AAA.LR03 (alkaline).
- The attached batteries are provided for the initial use of the system.
  The usable period of the batteries may be short depending on the manufactured date of the air conditioner.

■ About remote controller

- Never expose the remote controller to direct sunlight.
- Dust on the signal transmitter or receiver will reduce the sensitivity. Wipe off dust with soft cloth.
- Signal communication may be disabled if an electronic-starter-type fluorescent lamp (such as inverter-type lamps) is in the room. Consult the service shop if that is the case.
- If the remote controller signals happen to operate another appliance, move that appliance to somewhere else, or consult the service shop.

■ Celsius/Fahrenheit display change function of remote controller

- The set temperature may increase when the display is changed to Celsius from Fahrenheit, because a fraction of 0.5°C is rounded up.
  Example: A set temperature of 65°F (equivalent to 18.5°C) will be converted into 19°C.
  When the display is changed to Fahrenheit again, the set temperature will be converted into 66°F (equivalent to 19°C) instead of the original set temperature (65°F) but a set temperature of 66°F (equivalent to 19°C) will be converted into 19°C with no temperature change.
- A reception sound will go off for the transmission of set temperature to the indoor unit at the time of setting the Celsius/Fahrenheit display change function.



■ To set the clock

* Time cannot be set during unit operation.

1. **Press** .

Do not hold the button.

0:00 is displayed.

blinks.

2. **Press** SELECT.

• Holding the button changes the time faster.

3. **Press** .

: blinks.

is displayed.

• Setting is complete.

ATTENTION

If other messages than time appear on the display with the step *1* operation, do not operate the button for about 60 seconds. The display will return to normal.

■ Tips for saving energy

- Be careful not to cool (heat) the room too much.
  Keeping the temperature setting at a moderate level helps save energy.
- Cover windows with a blind or a curtain.
  Blocking sunlight and air from outdoors increases the cooling (heating) effect.
- Clogged air filters cause inefficient operation and waste energy.
  Periodically clean the filter.

Recommended temperature setting
For cooling : 79°F – 82°F (26°C – 28°C) For heating : 68°F – 72°F (20°C – 22°C)

■ Please note

- The air conditioner consumes power even when it is not operating.
- If you are not going to use the air conditioner for a long period, for example in spring or autumn, turn the breaker OFF.
- When the outdoor temperature is below 5°F (–15°C), turn on the breaker more than 1 hour before starting the operation.
  (This is to warm up the compressor.)

■ Operating conditions

- Running the unit under conditions not listed below may cause the safety device to activate, stopping the unit. Also, condensation may form on the indoor unit and drip. (DRY / COOLING operation)

COOLING	Outdoor temperature : 14 to 109°F (–10 to 43°C) Indoor temperature : 64 to 90°F (18 to 32°C) Indoor humidity : 80% max.
HEATING	Outdoor temperature : –4 to 75°F (–20 to 24°C) Indoor temperature : 50 to 86°F (10 to 30°C) Indoor humidity : 70% max.
DRY	Outdoor temperature : 50 to 108°F (10 to 42°C) Indoor temperature : 64 to 86°F (18 to 30°C) Indoor humidity : 80% max.

COOLING • DRY Operation

COOLING operation

To lower temperture

Press COOL.

• The multi-monitor lamp of the unit will turn on **GREEN**.

To lower temperture and humidity

Press HUM.

• The multi-monitor lamp of the unit will turn on **YELLOW**.
* It is recommended to switch to COOLING operation if you want to lower temperature preferentially during DRY COOLING operation.

DRY operation

To lower humidity

Press DRY.

• The multi-monitor lamp of the unit will turn on **YELLOW**.

■ To stop operation

Press ON/OFF.

• The multi-monitor lamp of the unit will go off.

■ To change the temperature or humidity setting

	COOLING	DRY COOLING	DRY
TEMP	64°F – 90°F (18°C – 32°C)		–5°F (–3°C) – STD
HUM	Hi ⟶ Std ⟶ Lo ⟶ Constant		
MULTI-MONITOR ON/OFF	GREEN	YELLOW	

NOTE

■ **Note on ON / OFF button**
• Pressing ON/OFF will start the same operation as the last time.

■ **Note on COOLING operation**
• This air conditioner cools the room by blowing the hot air in the room outside, so if the outside temperature is high, performance drops.

■ **Note on DRY COOLING**
• Pressing the humidity button down in COOLING mode set the unit to DRY COOLING.
• Removes more humidity than the normal COOLING operation. It is recommended, however, to set temperature slightly lower than the room temperature to lower humidity because this operation mode does not heat air supplementary.

■ **Note on Dry Operation**
• Removes humidity with less lowering of the room temperature by heating air supplementary.
•The operation mode change from COOLING to DRY may raise humidity temporarily.

HEATING Operation

HEATING operation

To raise temperature

Press HEAT.

- The multi-monitor lamp of the unit will turn on **RED**.

■ To stop operation

Press ON/OFF.

- The multi-monitor lamp of the unit will go off.

■ To change the temperature

	HEATING
TEMP	50°F – 86°F (10°C – 30°C)
MULTI-MONITOR ON/OFF	RED

NOTE

■ **Note on HEATING operation**

- Since this air conditioner heats the room by taking heat from outdoor air to indoors, the HEATING capacity becomes smaller in lower outdoor temperatures. If the HEATING effect is insufficient, it is recommended to use another HEATING appliance in combination with the air conditioner.
- The heat pump system heats the room by circulating hot air around all parts of the room. After the start of HEATING operation, it takes some time before the room gets warmer.
- In HEATING operation, frost may occur on the outdoor unit and lower the HEATING capacity. In that case, the system switches into defrosting operation to take away the frost.
- During defrosting operation, hot air does not flow out of indoor unit.

AUTO Operation

After pressing the AUTO button, the air conditioner will operate according to room conditions in an automatic mode.

Press AUTO.

- **HEATING**: The multi-monitor lamp of the unit will turn on **RED**.
- **COOLING**: The multi-monitor lamp of the unit will turn on **GREEN**.
- The color of the multi-monitor lamp changes according to the actual operations.
- When the AUTO button is pressed, the color according to the operation selected by the air conditioner will light up.

■ To change the temperature setting

TEMP °F/°C	64°F – 86°F (18°C – 30°C)

■ To stop operation

Press ON/OFF.

- The multi-monitor lamp of the unit will go off.

NOTE

■ **Note on AUTO operation**

- In AUTO operation, the system selects an appropriate operation mode (COOLING or HEATING) based on the room temperature at the start of the operation.
- The system automatically reselects setting at a regular interval to bring the room temperature to user setting level.
- If you do not like AUTO operation, you can manually select the operation mode and setting you like.

FLASH STREAMER AIR PURIFYING · POWERFUL Operation

The absorption power of the Titanium apatite photocatalytic air-purifying filter and air supply filter and the resolving power of the streamer discharge reduce bad odors and viruses, cleaning the room air.

Press CLEAN.

(Can be used together with heating or cooling, or on its own.)
- Changes every time the button is pressed. (Use instead of FAN operation.)

CLEAN ON

- The multi-monitor lamp of the unit will turn on **WHITE**.
  (This will illuminate white for the first 2 seconds of operation of the air conditioner.)

ATTENTION

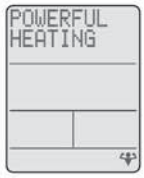
- Temperature and humidity cannot be changed during FLASH STREAMER AIR PURIFYING operation only.

POWERFUL operation quickly maximizes the cooling (heating) effect in any operation mode.

Press during operation.

- POWERFUL operation ends in 20 minutes.

- **POWREFUL COOLING**: The multi-monitor lamp of the unit will turn on **GREEN**.



- **POWREFUL HEATING**: The multi-monitor lamp of the unit will turn on **RED**.

■ To cancel POWERFUL operation

Press again.

- The operation mode goes back to the previous one. The multi-monitor lamp on the unit also goes back to the previous color.

NOTE

■ **Note on FLASH STREAMER AIR PURIFYING operation**
- The streamer discharge energy and Titanium apatite photocatalytic air-purifying filter clean the air in the room.

■ **What is streamer discharge?**
- It generates high-speed electron with high oxidizing power in the unit to resolve odor and harmful gas.
  (It is safe because the high-speed electron is generated and goes away inside the unit.)

* The streamer discharge fizzes, but this is not a malfunction.

■ **Note on POWERFUL operation**
- Can be used for COOLING, DRY COOLING and HEATING. (Cannot be used while the unit is not running.)
  Pressing during COOLING, DRY COOLING changes the operation mode to POWERFUL COOLING.
  Pressing during HEATING, change the operation mode to POWERFUL HEATING.
- The operation noise is slightly louder during POWERFUL operation.

ADJUSTING AIRFLOW DIRECTION · AIRFLOW RATE

More comfortable airflow is provided with airflow direction and airflow rate adjustment.

■ **To change vertical and horizontal airflow directions**

Press [ ] or [ ] during operation.

 (In case of vertical direction) • The airflow direction indication will display.

• The horizontal and vertical louvers respectively move vertically and horizontally automatically.

■ **If you want to fix airflow direction**

Press [ ] or [ ] again.

■ **To use 3-D AIRFLOW**

Press [ ] and then [ ] during operation.

• The vertical and horizontal airflow direction indications will display.
• The horizontal and vertical louvers move alternately.

■ **To cancel 3-D AIRFLOW**

Press [ ] or [ ] again.

■ **To change the airflow rate**

Press [FAN] during operation. (Refer to table.)

• COOLING or HEATING with "人" or other weak airflow rate may not cool or heat the room sufficiently.
• Indoor unit quiet operation
When the air flow is set to "人", the noise from the indoor unit will become quieter.

Operating mode	Airflow rate setting
DRY COOLING	A
AUTO / COOLING	A
HEATING	A
FLASH STREAMER AIR PURIFYING	A

Five levels of air flow rate setting from "" to "" plus "A" "人" are available.

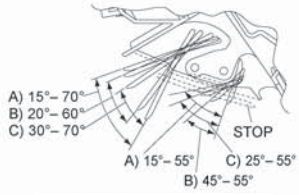
NOTE

• If the unit is operated with the horizontal louvers pointed down and stopped in COOLING or "DRY COOLING" operation, the louvers will move automatically after about one hour. (This it to prevent condensation from forming on them.)

■ **ATTENTION**
• Be sure to use the remote controller to adjust the airflow direction. Manual operation of the louvers may cause it to work improperly.

■ **Note on Adjusting the vertical airflow direction**
• The movable area for the horizontal louver is different depending on the operation mode.

■ **Note on 3-D AIRFLOW**
• Using 3-D AIRFLOW circulates cold air, which tends to be collected at the bottom of the room, and hot air, which tends to be collected near the ceiling, throughout the room, preventing areas of cold and hot from developing.



A) FLASH STEAMER AIR PURIFYING individual operation
B) "DRY COOLING" • COOLING
C) HEATING

COMFORT AIRFLOW · COOLING BREEZE Operation

■ COMFORT AIRFLOW operation

Press .

■ COMFORT AIRFLOW MODE operation

- The airflow direction and airflow rate are adjusted so that the air from the unit does not blow directly on the occupants of the room.
- < COOLING/DRYING > The flap will go up.
- < HEATING > The flap will go down.
- The airflow rate is set to "AUTO".

■ COOLING BREEZE operation

Press BREEZE.

■ COOLING BREEZE operation

* COOLING BREEZE operation is for COOLING, "DRY COOLING" AND FLASH STREAMER, AIR PURIFYING operation.

■ To change the airflow rate

Press FAN during operation. (Refer to table.)

- COOLING or HEATING with "" or other weak airflow rate may not cool or heat the room sufficiently.
- Indoor unit quiet operation
  When the air flow is set to "", the noise from the indoor unit will become quieter.

Operating mode	Airflow rate setting		BREEZE
	A	●	●
DRY COOLING		●	●
AUTO / COOLING	A	●	●
HEATING		●	
FLASH STREAMER AIR PURIFYING			●

: COMFORT AIRFLOW MODE operation is possible.

BREEZE : COOLING BREEZE operation is possible.

Five levels of air flow rate setting from "" to "" plus "A" "" are available.

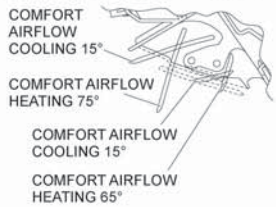
NOTE

■ **Note on COMFORT AIRFLOW MODE operation**

- The airflow direction is as figure.

■ **Note on COOLING BREEZE operation**

- The vertical movement of the horizontal louvers with "1/ f breeze" rhythm provides comfort air like natural breeze. The room temperature is felt cooler with cooling breeze.



TIMER Operation

Timer functions are useful for automatically switching the air conditioner on or off at night or in the morning.
The timer operates only one time. Set the timer for each use.

■ COUNTDOWN OFF TIMER operation

Set the time to stop.

Press (OFF TIMER).

- The displayed time, which changes in 0.5 hour increments every time the button is pressed, is set. The time from 0.5 to 9.5 hours can be set.
- TIMER lamp will light up.

■ ON/OFF TIMER operation

Set time for ON TIMER or OFF TIMER.

- Check that the clock is correct. If not, set the clock to the present time. ▶Page 9
- The present time display disappears when the time ON/OFF TIMER is reserved.

1. Press OFF for OFF TIMER and press ON for ON TIMER.

0:00 is displayed.
0:00 blinks.
* OFF TIMER

2. Press SELECT ▲▼ to set the time to be reserved.

- Pressing the button changes the time in 10 minutes. Holding the button makes the time change faster.

3. Press OFF for OFF TIMER and press ON for ON TIMER.

0:00
* OFF TIMER
- TIMER lamp will light up.

■ To cancel the TIMER operation

Press CANCEL.

- The TIMER lamp will go off and the TIMER will be canceled.

NOTE

■ In the following cases, set the timer again.
- After a breaker has turned OFF.
- After a power failure.
- After replacing batteries in the remote controller.

■ Note on TIMER operation
- Starting COUNTDOWN OFF TIMER and OFF TIMER causes the unit to automatically change the set temperature 1 hour later to prevent the room from becoming too cold or too hot. (Turns up 1°F (0.5°C) during COOLING or DRY COOLING and turns down 3.6°F (2°C) during HEATING.)
- Reserving the ON TIMER will cause the unit to start running up to 1 hour before, in order to make sure the temperature reaches the temperature set on the remote controller by the set time.
- When operating the unit via the COUNTDOWN OFF TIMER or OFF TIMER, the actual length of operation may vary from the time entered by the user.
- Once you set ON/OFF TIMER, the time setting is kept in the memory. However, the COUNTDOWN OFF TIMER does not have this memory function.
  (The memory is canceled when remote controller batteries are replaced.)
- Cannot operate with POWERFUL or COMFORT SLEEP operation.

■ To combine ON TIMER and OFF TIMER
- See the right example for reserving in combination of COUNTDOWN OFF TIMER and ON TIMER as well as OFF TIMER and ON TIMER.

■ To cancel combined reservation
- Press ON and then CANCEL to cancel the ON TIMER only.
- Press OFF and then CANCEL to cancel the OFF TIMER only.
- Press OFF TIMER several times to reach 9.5 hours and then press it one more time to cancel the COUNTDOWN OFF TIMER only.

(Example)
Present time: 23:00 (air conditioner is running).
You want to have the unit run for 1 more hour and then turn back on at 7:00 am.

Setting the COUNTDOWN OFF TIMER to 1 hour later
Setting the ON TIMER to at 7:00
1H
7:00

Setting the OFF TIMER to at 0:00
Setting the ON TIMER to at 14:00
0:00
14:00

COMFORT SLEEP Operation

Controlling the room temperature supports comfort sleep and pleasant wake-up.

- Check that the clock is correct. If not, set the clock to the present time. ▶Page 9
- The present time display disappears when the COMFORT SLEEP operation is set.

1. Press (C-SLEEP) during operation.

C-SLEEP 6:00 — C-SLEEP blinks.
C-SLEEP 6:00 — is displayed.

2. Press (SELECT) to set the time to wake up.

C-SLEEP 7:00

- Pressing the button changes the time in 10 minutes. Holding the button makes the time change faster.

3. Press (C-SLEEP).

C-SLEEP 7:00 — C-SLEEP is displayed.
7:00 is displayed.

- When settings are made while the unit is not running, press (ON/OFF) to start the operation.

■ To cancel the comfort sleep operation

Press (CANCEL).

ATTENTION

- Make the room temperature comfortable to some extent before sleep.
  <Recommended set temperature> **COOLING**.....79°F – 84°F (26°C – 29°C)
  HEATING.....68°F – 77°F (20°C – 25°C)
  * Too low set temperature may cause you to get chilled while asleep.

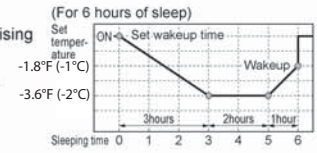
NOTE

■ Note on COMFORT SLEEP operation

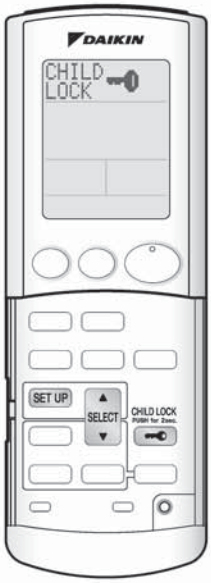
- Can be used for COOLING, DRY COOLING and HEATING.
- Cannot be used with TIMER operation.

■ How to use COMFORT SLEEP operation effectively

- Starting COMFORT SLEEP operation lowers the set temperature by 3.6°F (2°C) in 3 hours and starts raising it by 1.8°F (1°C) 1 hour before the set time, offering V-curve temperature control. (See the right figure.)
- Set the airflow direction so that the air from the unit does not directly blow on the occupants of the room.



SET UP · CHILD PROOF LOCK



■ SET UP

Sets the unit operation and remote controller display according to your preference.

1. Press (SET UP).

- The setup mode will be activated.

2. The item will change every time (SET UP) is pressed.

3. The settings will change every time (SELECT) is pressed respectively.

- Direct the remote controller toward the main unit to make settings.

□ is default.

Item	Setting	Description
CELSIUS/FAHRENHEIT change	**°F** ◀▶ °C	• Switches the temperature between Celsius and Fahrenheit.
MONITOR BRIGHTNESS	**HIGH** ◀▶ LOW ◀▶ OFF	• Changes the brightness of the indoor unit display.
BEEP volume	**LOW** ◀▶ HIGH ◀▶ OFF	• Sets the receiving tone volume.
CONTRAST setting	1 ◀▶ **6** ◀▶ 16	• Sets the grayscale for the remote controller LCD. • Selectable from contrast 1 to 16.
Setting complete	: The display on the remote control goes back to normal if no setting is made for 10 seconds.	

■ CHILD PROOF LOCK

Restrict the remote controller operates to avoid misuse by children.

Press (🔑) for about 2 seconds.

- "CHILD LOCK" **is displayed.**

■ To cancel CHILD PROOF LOCK

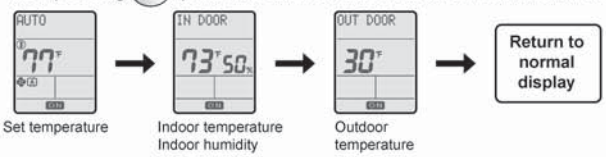
Press (🔑) for about 2 seconds again.

INFORMATION DISPLAY

Displays the room temperature and humidity and outdoor temperature.

Press (INFO).

• After pressing (INFO), point the remote controller at the air conditioner unit for 2 seconds.



■ **The display changes every time (INFO) is pressed.**

NOTE

■ **Note on INFORMATION DISPLAY**

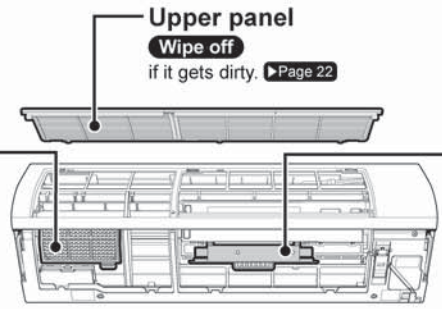
- The signal from the air conditioner is not being received properly if "RCV ERR RETRY" is displayed when you press (INFO). Repeat, aiming the remote controller at the air conditioner.
- During operation, the outdoor temperature may sometimes be displayed higher than it actually is in COOLING or "DRY COOLING" mode or lower in HEATING mode (especially if frost has accumulated on the outdoor unit), due to the effects of the air blown from the outdoor unit or the temperature of the heat exchanger.
- The lowest indoor and outdoor temperature which can be displayed is 16°F (−9°C). This will be displayed even if the actual temperature is lower. The highest temperature is 99°F (37°C). This will be displayed even if the actual temperature is higher.
- The indoor and outdoor temperatures and the humidity which are displayed are those near the sensors attached to the main air conditioner unit.
- The displayed temperature and humidity should only be taken as approximations, as they may be affected if there are objects around the sensors or due to direct sunlight, depending on where the air conditioner is installed.

Care and Cleaning

Quick reference for cleaning

⚠ CAUTION

- Before cleaning, be sure to stop the operation and turn the breaker OFF.
- Do not touch the metal parts in the indoor unit. Doing so may cause injury.



Upper panel
Wipe off
if it gets dirty. ▶Page 22

Titanium apatite photocatalytic air-purifying filter (Black)
Soak
if "CLEAN STREAMER" displays.
- **Replace** once in about 3 years.

▶Page 26

Streamer unit
Soak
if "CLEAN STREAMER" displays.
- **Replace** once in about 3 years.

▶Page 26

Deodorizing filter for streamer (Black)
Soak
if "CLEAN FILTER" display.
- **Replace** once in about 3 years.

▶Page 26

Air filter
Vacuum Rinse
if "CLEAN FILTER" displays.
▶Page 23

Front panel
Wipe off
if it gets dirty. ▶Page 21

To reset the filter cleaning indicator

While the unit is not operating, the filter cleaning indicator may be displayed on the remote controller depending the amount of time the unit had been operating. This sign indicates the cleaning timing for the air filter, Titanium apatite photocatalytic air-purifying filter, deodorizing filter for streamer or streamer unit.

After cleaning, press RESET ALARM PUSH for 2sec. for about 2 seconds directing the remote controller toward the main unit with powered off.

- Indication disappears.

NOTE

- "CLEAN FILTER" sign will appear after about 340 hours of operation.
- "CLEAN STREAMER" sign will appear after about 1800 hours of operation.
- Operating the unit without cleaning with the "CLEAN STREAMER" sign displayed will lower the deodorizing capability.
- Periodical cleaning leads to energy saving.

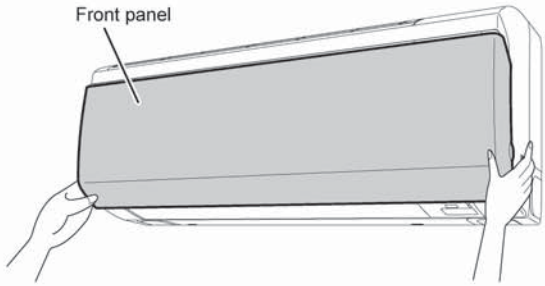
⚠ **CAUTION**

- **Only open the front panel after turning the unit off.**
  Opening the panel during operation may cause the panel to fall off.

Attaching and removing the front pane

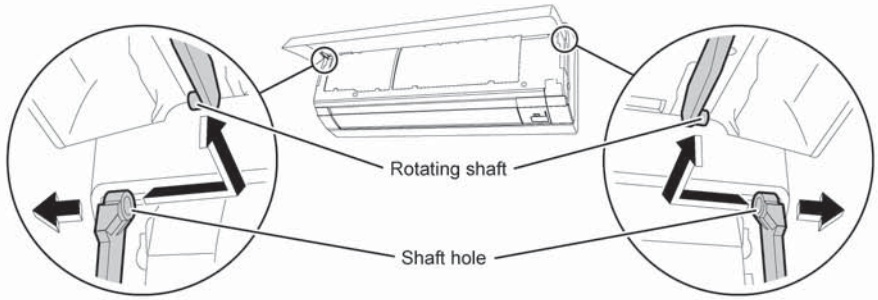
1. Open the front panel.

- Placing a finger on the panel tab on either side of the front panel.



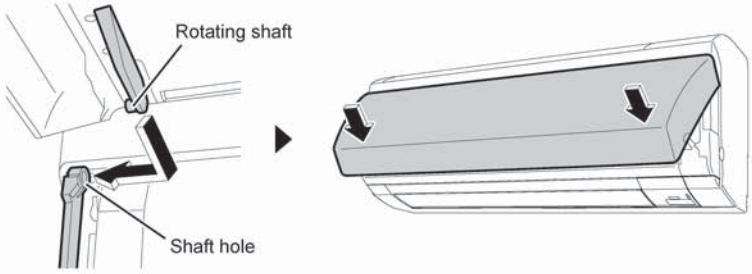
2. Remove the front panel.

- Spread out the shaft hole and remove the rotating shaft. (Both left and right sides.)



3. Attach the front panel.

- Place the revolving axes on either side of the front panel into the holes and slowly close.
  (Press either side of the front panel.)



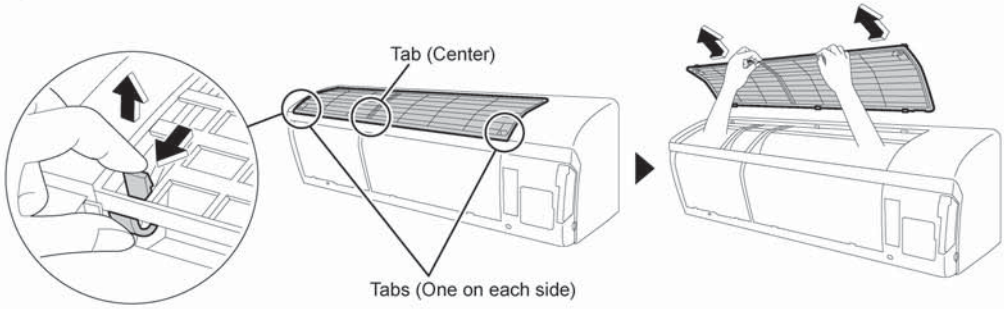
Care and Cleaning

Attaching and removing the upper pane

1. Remove the front panel and pull out the air filter. Page 23

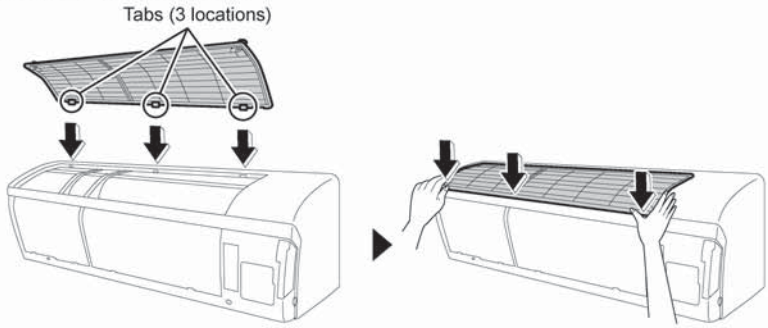
2. Remove the upper panel.

1) Hold the 2 tabs on either side of the upper panel and pull forward to remove.
2) Remove the tab in the center and lift.



3. Attach the upper panel.

- Insert the 3 tabs on back of the upper panel and then push it down.
- Push the upper panel down until it clicks.



Cleaning for each case

- Wipe it with a soft cloth soaked in water. (Only neutral detergent may be used.)
- In case of washing the front panel with water, dry it with cloth, dry it up in the shade after washing.

⚠ CAUTION

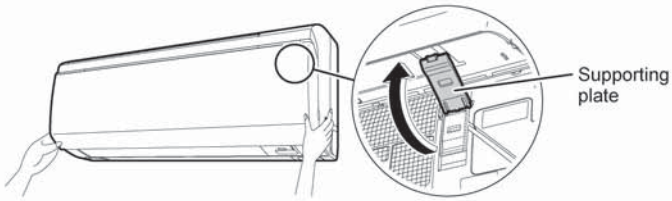
- When removing or attaching the front panel, use a robust and stable stool and watch your steps carefully.
- When removing or attaching the front panel, support the front panel securely with hand to prevent it from falling.
- For cleaning, do not use hot water above 104°F (40°C), benzine, gasoline, thinner, nor other volatile oils, polishing compound, scrubbing brushes, nor other hand stuff.
- After cleaning, make sure that the front panel is securely fixed.
- Wipe the front panel with a soft cloth. Wiping with a hard cloth may scratch it.

Cleaning the air filter

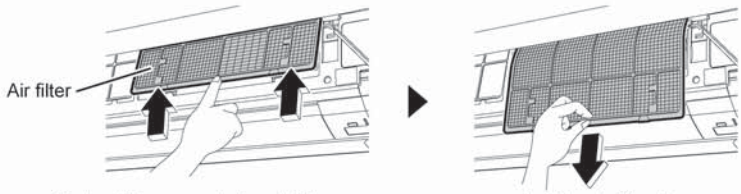
(If CLEAN FILTER is displayed on the remote controller)

1. Open the front panel.

• Open the front panel by placing a finger on the panel tab on either side of the front panel and then secure it using the supporting plate on the right.



2. Pull out the air filters.



• Push a little upwards the air filter.

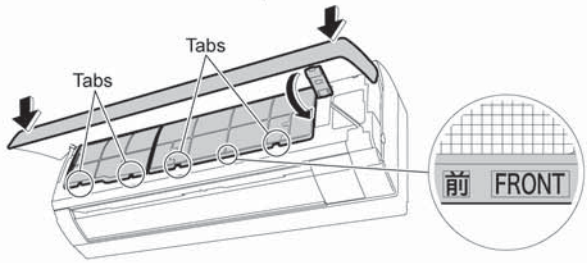
• Pull the air filter down.

3. Clean the air filter.

• Wash the air filters with water or clean them with vacuum cleaner.
• If the dust does not come off easily, wash them with neutral detergent thinned with lukewarm water, then dry them up in the shade.

4. Set the air filter as it was and close the front panel.

• Insert the air filter with the “FRONT” marking to the front.
• Be sure to insert the two tabs below.
• Return the supporting plate to its previous position.
• Press either side of the front panel.



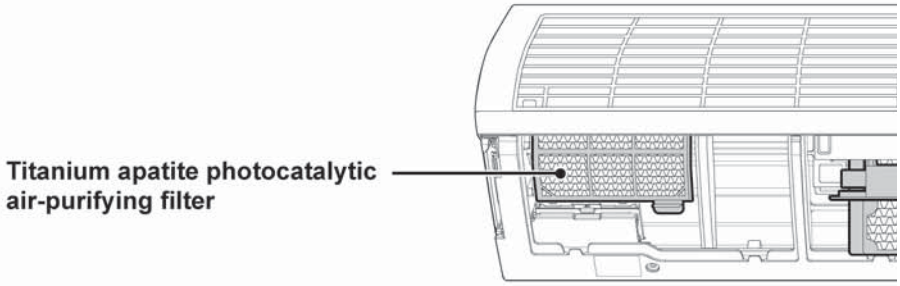
5. Reset the filter cleaning indicator. ▶Page 20

ATTENTION

• Using without cleaning will lower the COOLING or HEATING capability, wasting electricity.

Care and Cleaning

Attaching and removing the deodorizing filter for streamer, Titanium apatite photocatalytic air-purifying filter, streamer unit

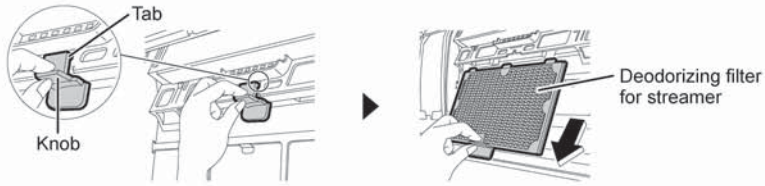


Removing

1. Open the front panel and pull out the air filter. Page 23

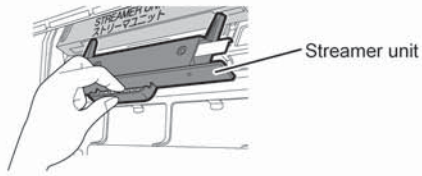
2. Remove the deodorizing filter for streamer.

- Discharge the tab and pull out the knob in a downward direction.



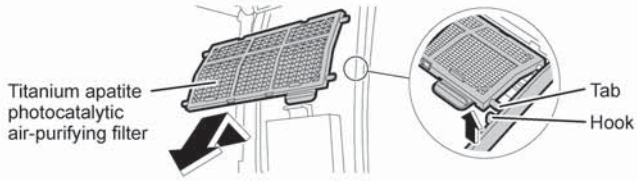
3. Pull out the streamer unit.

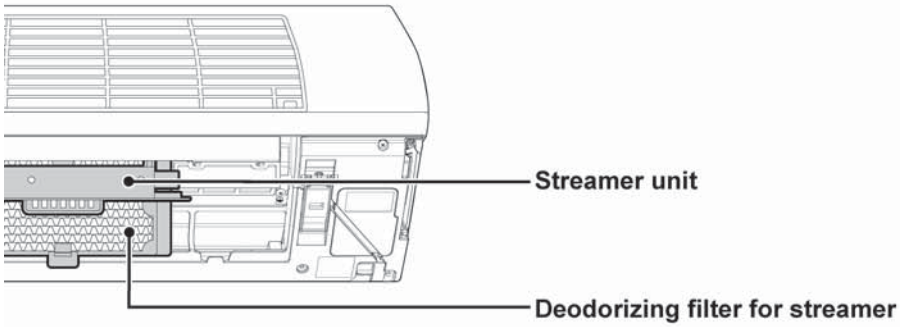
- Hold the center of the handle and pull out in a downward direction.



4. Remove the Titanium apatite photocatalytic air-purifying filter.

- Pull up the filter frame, discharge the tabs on both sides of the Titanium apatite photocatalytic air-purifying filter from the hooks, and pull down the filter in a downward direction.



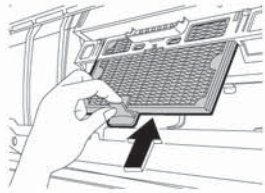


Attaching

1. Replace the streamer unit to its original position.

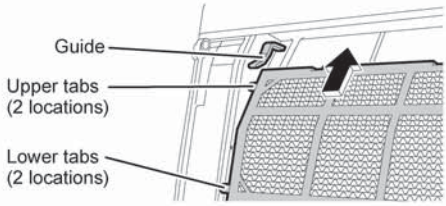
2. Attach the deodorizing filter for streamer.

- Insert the deodorizing filter for streamer until it clicks.



3. Attach the Titanium apatite photocatalytic air-purifying filter.

- Insert the 2 upper tabs on the Titanium apatite photocatalytic air-purifying filter into the guides on the main unit and then hook up the 2 lower tabs.



4. Replace the air filter to its original position and close the front panel. Page 20

Care and Cleaning

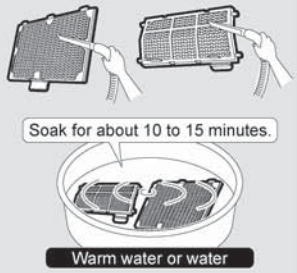
Cleaning the deodorizing filter for streamer, Titanium apatite photocatalytic air-purifying filter and streamer unit

(If CLEAN STREAMER is displayed on the remote controller)

■ Attaching and removing each part ▶Page 25

Deodorizing filter for streamer / Titanium apatite photocatalytic air-purifying filter

Vacuum dusts, and soak in warm water or water for about 10 to 15 minutes if dirt is heavy.

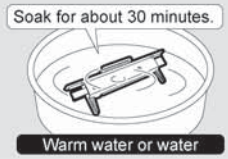


- Do not use cleaning agents. This may lower deodorizing capability.
- Do not scrub the filter while cleaning.
- Do not take the filter out of the frame while soaking.
- After soaking, drain water away and dry well in a shade.
- Do not squeeze the filter to drain away water.

Deodorizing filter for streamer / Titanium apatite photocatalytic air-purifying filter

1) Soak in warm water with mild liquid detergent for about 1 hour.

2) Rinse with running water and soak in warm water or water again.

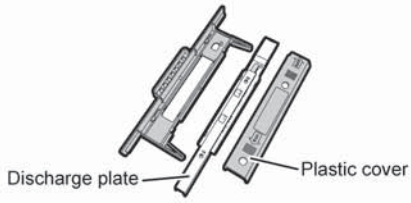


3) Rinse with running water.

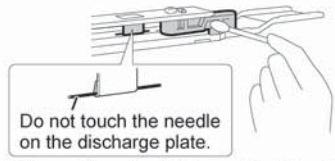
4) Drain water away and dry in a breezy shade.

- Observe the volume of mild liquid detergent specified in the instruction.
- Do not use powder or alkaline detergent.
- If very dirty, disassemble the streamer unit and clean with cotton swabs, etc.
  (Disassembly instructions: ▶Page 27)

Disassembly



Discharge plate



Do not touch the needle on the discharge plate (2 locations). Bending the needle will affect the unit's ability to deodorize.

■ Resetting the filter cleaning indicator ▶Page 20

ATTENTION

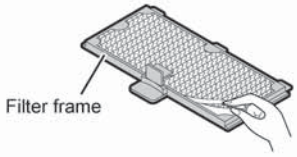
- Using without cleaning lowers the deodorizing capability.

How to replace

■ Deodorizing filter for streamer

(Once in about 3 years)

• Remove from the filter frame and replace the filter with a new one.

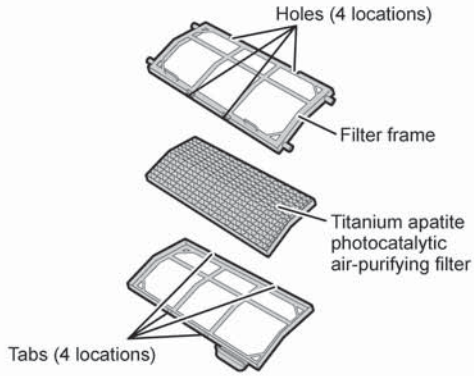


• The deodorizing filter for stream and the titanium apatite photocatalytic air-purifying filter do not have front and back sides.
• Dispose a used filter as burnable waste. (material: paper)

■ Titanium apatite photocatalytic airpurifying filter

(Once in about 3 years)

• Discharge the 4 tabs of the filter frame and replace the filter with a new one.

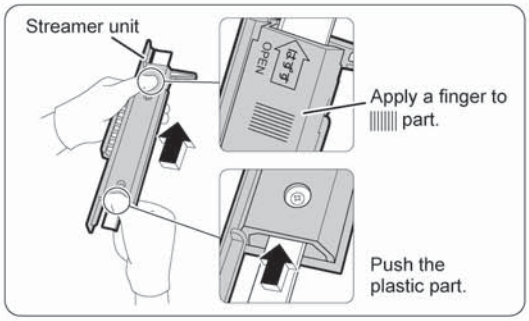


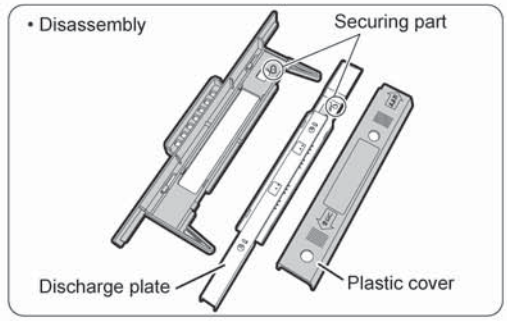
How to disassemble and assemble the streamer unit

■ Before disposing the streamer unit, disassemble it.

How to disassemble

• Use gloves for safety.
• Apply one hand to ||||||| part and push the plastic part with another hand.
• Disassemble the streamer unit into the plastic cover and the discharge plate.
• Match up the securing parts of the various parts of the streamer unit and assemble as it was.





⚠ CAUTION

• Be careful not to cut yourself when disassembling and assembling the streamer unit.

Cleaning the indoor unit and the remote controller

• Wipe with a soft dry cloth.
For cleaning, do not use hot water above 104°F(40°C), benzine, gasoline, thinner, nor other volatile oils, polishing compound, scrubbing brushes, nor other hand stuff.

NOTE

■ The deodorizing filter for stream and the titanium apatite photocatalytic air-purifying filter should be cleaned regularly. We recommend replacing the filter in the following situations.

- If it is damaged during cleaning because it is made of paper.
- If it is very dirty after long use.

Item	Part No.
Air purifying filter set	KAF974B42S

■ To order Titanium apatite photocatalytic air-purifying filter, deodorizing filter for streamer and streamer unit contact to the service shop there you bought the air conditioner.

■ Using the dirty parts will:

- Prevent proper air purification.
- Prevent proper deodorizing.
- Reduce COOLING and HEATING capacity.
- Cause the unit to produce foul odors.

Check

■ Check that the base, stand and other fittings of the outdoor unit are not decayed or corroded.

■ Check that nothing blocks the air inlets and the outlets of the indoor unit and the outdoor unit.

■ Check that the drain comes smoothly out of the drain hose during COOLING or DRY operation.

- If no drain water is seen, water may be leaking from the indoor unit. Stop operation and consult the service shop if this is the case.

■ Is the earth wire out or disconnected in the middle?

- An incomplete ground wire may cause electrical shock. Contact the service shop.

Before a long idle period

1. **Operate the "FAN only" for several hours on a fine day to dry out the inside.**

- Press CLEAN
- Press ⏻ ON/OFF and start operation

2. **After operation stops, turn off the breaker for the room air conditioner.**

3. **Clean the air filters and set them again.**

4. **Take out batteries from the remote controller.**

Trouble Shooting

These cases are not troubles.

The following cases are not air conditioner troubles but have some reasons. You may just continue using it.

Case	Explanation
Operation does not start soon. • When ON/OFF button was pressed soon after operation was stopped. • When the mode was reselected.	• This is to protect the air conditioner. You should wait for about 3 minutes.
Hot air does not flow out soon after the start of heating operation.	• The air conditioner is warming up. You should wait for 1 to 4 minutes.
Makes a noise.	■ Clicking sound can be heard either when the unit is running or stopped • This is either the sound of the valves regulating the refrigerant or the electrical parts working. ■ Sound of running water • Refrigerant is flowing through the air conditioner. ■ Blowing sound • The flow of refrigerant through the air conditioner is switching. ■ Creaking sound • The air conditioner itself is expanding or shrinking due to a change in the humidity. ■ Clopping sound • Can be heard coming from inside the air conditioner when the ventilator is on and the room is shut. Open a window or turn off the ventilator. ■ Clicking sound can be heard either when the unit is running or stopped • This is the sound of the electrical parts working when the front panel opens or closes. ■ Blowing, cracky or burning sound • This is the sound of streamer discharging.
Units stops during HEATING and the sound of running water can be heard.	• The frost on the outdoor unit is being removed. You should wait for about 3 to 10 minutes.
The outdoor unit emits water or steam.	■ In HEATING operation • The frost on the outdoor unit melts into water or steam when the air conditioner is in defrost operation. ■ In COOLING operation • Moisture in the air condenses into water on the cool surface of outdoor unit piping and drips.
Mist comes out of the indoor unit.	• This happens when the air in the room is cooled into mist by the cold air flow during COOLING operation. • This is because moisture on the heat exchanger evaporates when "SARARA" DRYING operation is run after COOLING or DRY COOLING operation.
The indoor unit gives out odor.	• This happens when smells of the room, furniture, or cigarettes are absorbed into the unit and discharged with the air flow. (If this happens, we recommend you to have the indoor unit washed by a technician. Consult the service shop where you bought the air conditioner.)
Cold air blows at the start of "SARARA" DRYING operation.	• This is because the air conditioner is not warmed up.
The outdoor fan rotates while the air conditioner is not in operation.	■ After operation is stopped: • The outdoor fan continues rotating for another 60 seconds for system protection. ■ While the air conditioner is not in operation: • When the outdoor temperature is very high, the outdoor fan starts rotating for system protection.
The operation stopped suddenly. (Multi-monitor lamp is on.)	• For system protection, the air conditioner may stop operating on a sudden large voltage fluctuation. It automatically resumes operation in about 3 minutes.
Unit stops suddenly (when in ON TIMER mode).	• Reserving the on timer will cause the unit to start running up 1 hour before, in order to make sure the temperature reaches the temperature set on the remote controller by the set time. Using the remote controller during this time (other than the operation/stop button) will stop the unit. Restart the unit with the remote controller.
Unit operates even though the multi-monitor lamp is off.	• The multi-monitor lamp will go off if "Monitor OFF" is set using the remote controller.

Check again.

Please check again before calling a repair person.

Case	Check
The air conditioner does not operate. (Multi-monitor lamp is off.)	• Hasn't a breaker turned OFF or a fuse blown? • Isn't it a power failure? • Are batteries set in the remote controller? • Is the timer setting correct?
The air conditioner does not operate. (Multi-monitor lamp flashes.)	• Turn off the breaker and then start the unit using the remote controller. • **If the lamp still flashes, consult the service shop where you bought the air conditioner. Turn off the breaker.**
Operation stops suddenly. (Multi-monitor lamp flashes.)	• Are the air filters clean? • Is there anything to block the air inlet or the outlet of the indoor and the outdoor units? Clean the air filters or take all obstacles away and turn the breaker OFF. Then turn it ON again and try operating the air conditioner with the remote controller. **If the lamp still flashes, consult the service shop where you bought the air conditioner. Turn off the breaker.**
Cooling (Heating) effect is poor.	• Are the air filters clean? • Is there anything to block the air inlet or the outlet of the indoor and the outdoor units? • Is the temperature setting appropriate? • Are the windows and doors closed? • Are the air flow rate and the air direction set appropriately? • Is the ventilator fan spinning?
An abnormal functioning happens during operation.	• Do you put your hand in the main unit while it is operating? (Do you touch inside the unit?) • Putting your hand (or touching) inside the unit may cause malfunctions due to static discharge. Do not put your hand in the main unit. • The air conditioner may malfunction with lightning or radio waves. Turn the breaker OFF, turn it ON again and try operating the air conditioner with the remote controller.
Front panel does not open. (Multi-monitor lamp flashes.)	• Is there something caught in the front panel? Remove the object and attempt operation again using the remote controller. If the panel still does not open, contact your dealer if the operation lamp is still flashing.
The multi-monitor lamp flashes for a certain amount of time (about 2 minutes) at the start of or during FLASH STREAMER AIR PURIFYING operation.	• Is the streamer unit installed securely? • Turn off the breaker, check to see if the streamer unit is installed securely, turn the power on, and then operate the unit again using the remote controller. • If the lamp still flashes, consult the service shop where you bought the air conditioner.

■ Call the service shop immediately.

⚠ CAUTION

- **When an abnormality (such as a burning smell) occurs, stop operation and turn the breaker OFF.**
  Continued operation in an abnormal condition may result in troubles, electric shocks or fire.
  Consult the service shop where you bought the air conditioner.
- **Do not attempt to repair or modify the air conditioner by yourself.**
  Incorrect work may result in electric shocks or fire.
  Consult the service shop where you bought the air conditioner.
- **If the air conditioner does not cool (or heat), leaking refrigerant is a possible cause, so please contact your dealer. Please talk to a service repairman about any repairs needed when adding refrigerant.**
  Refrigerant used for the air conditioner is safe. Refrigerant does not leak usually, but if it leaks into the room and comes in contact with any kind of flame, including those in fan heaters, gas stoves, gas heaters, etc., toxic gas may be generated.

If one of the following symptoms takes place, call the service shop immediately.

■ The power cord is abnormally hot or damaged. ■ An abnormal sound is heard during operation. ■ An object or water got into the unit. ■ The safety breaker, a fuse, or the earth leakage breaker cuts off the operation frequently. ■ A switch or a button often fails to work properly. ■ There is a burning smell. ■ Water leaks from the indoor unit.	Turn the breaker OFF and call the service shop.
■ Cool or warm air comes from the unit but the multi-monitor lamp blinks for a certain amount of time (about 2 minutes) at the start of or during operation.	This indicates the malfunction or initial failure of the humidifying unit or some sensors. The unit is operating in COOLING / HEATING mode as a temporary operation. Contact your dealer.

■ **After a power failure**
The air conditioner automatically resumes operation in about 3 minutes. You should just wait for a while.
• COMFORT SLEEP mode will be canceled. Re-set.

■ **Lightning**
If lightning may strike the neighbouring area, stop operation and turn the breaker OFF for system protection.

We recommend periodical maintenance.

In certain operating conditions, the inside of the air conditioner may get foul after several seasons of use, resulting in poor performance. It is recommended to have periodical maintenance by a specialist aside from regular cleaning by the user. For specialist maintenance, contact the service shop where you bought the air conditioner.
The maintenance cost must be born by the user.

Precautions for Interior Cleaning of Air Conditioner

Commercially available detergent for air conditioners can degrade the sterile effect of the air conditioner and exert a bad influence on the interior resin and heat exchanger of the air conditioner. Moreover, in the worst case, it may result in serious problems such as water leakage. Consult your service shop for the cleaning of the heat exchanger.

3P226009-1

13. Optional Accessories

13.1 Option List

13.1.1 Indoor Units

	Option Name	FTXG09/12/15HVJU
1	Centralized Control Board-Up to 5 Rooms ★1	KRC72
2	Wiring Adapter for Time Clock / Remote Control ★2 (Normal Open Pulse Contact / Normal Open Contact)	KRP413A1S
3	Central Remote Controller (Fahrenheit) ★1	DCS302C71
4	Central Remote Controller (Celsius) ★1	DCS302CA61
5	Unified ON/OFF Controller ★1	DCS301C71
6	Schedule Timer Controller ★1	DST301BA61
7	Interface Adapter for Room Air Conditioner	KRP928B2S
8	Titanium Apatite Photocatalytic Air-purifying & Deodorizing Filter Set ★3	KAF974B42S
9	The Remote Controller Loss Prevention with the Chain	KKF936A4

Note:

★1 Wiring adapter is also required for each indoor unit.

★2 Time clock and other devices ; obtained locally.

★3 Standard accessory

13.1.2 Outdoor Units

	Option Name	RXG09/12/15HVJU
1	Drain Plug	KKP937A4
2	Air Direction Adjustment Grille	KPW937A4

13.2 Installation Manual

13.2.1 KRP413A1S

Safety Precautions

- Read these safety precautions carefully before installing the unit, and be sure to install the unit properly.
- This manual classifies precautions to the user into the following two categories. These warnings and cautions are for your safety. Follow them.

⚠ WARNING	Faulty installation can result in death or serious injury
⚠ CAUTION	Faulty installation can result in serious injury or other serious consequences.

- Below is a key to symbols used in this manual.

ⓘ	Be sure to follow instructions.
⏚	Be sure to perform grounding work.
⊘	Never attempt.

- After installation is complete, test the unit to confirm that it is working properly, and instruct the owner its proper use.

⚠ WARNING

- Installation should be left to the dealer from whom you purchased the unit, or another qualified professionals.
- Install the unit securely according to the installation manual. Faulty installation may lead to electric shock or fire.
- Be sure to use the supplied or specified parts. Using other parts may lead to electric shock or fire.
- Install the unit securely in a location that will support its weight. If installed in a poor location or improperly installed, the unit may not work as intended.
- For electrical work, follow local electric standards and the installation manual. Faulty installation may lead to fire or electric shock.
- Do not bundle the power cord, or attempt to extend it by splicing it with another cord or by using an extension cord. Do not place any other load on the power circuit used for the unit. Improper wiring may lead to electric shock, heat generation or fire.
- Use dedicated wiring for all electrical connections, and be sure to arrange the wiring so that force applied to the wiring will not damage the terminals. Poor wiring or installation may cause electric shock, heat generation or fire.

⚠ CAUTION

- Before installation, unplug the air conditioner to ensure safety. Failure to do so may cause electric shock.
- Static electricity may damage electric components. Before connecting cables and communication lines, and operating the switches, be sure to discharge any electrical charge from your body (by, for example, touching the ground line)
- Do not install the unit in a location where it may be exposed to flammable gases. If gas leaks and build up around the unit, it may catch fire.
- Do not place the wiring close to the power cord, inter-unit cable, or pipes which generate noise. Treat the wiring with care.

1. Functions and Features

- On/Off setting
- Switching between Instantaneous Contact/Normal Contact
- Connection with five-room central controller (KRC72 for oversea model)
- Connection with fan coil remote controller
- Automatic reset after power failure
- Output of normal operation signals/malfunction signals

2. Field Wiring

For interconnecting wiring, use Daikin KDC100A12 cable (not supplied) or other similar cable. The cable should have the specifications shown below.

■ **Optional cable KDC100A12 (without connectors)**

Specifications: 0.2 mm² × 4 conductor (sheathed)
Outer diameter: ϕ5.3
Length: 328 ft (100 m)
Color: Grey

■ **Other cable (commercially available)**

Item	Outer dia.	Remarks
Cable for instrumentation (IPVV) 0.3 mm² × 4-conductor	7.2 mm	Hard sheath
Microphone cord (MVVS) 0.3 mm² × 4-conductor	8.0 mm	Shielded
Microphone cord (MVVS) 0.2 mm² × 4-conductor	6.5 mm	
Microphone cord (MVVS) 0.15 mm² × 4-conductor	4.8 mm	
Intercom cable 0.65 mm² dia. × 4-conductor		
PVC jumper wire (TJVC) (from 0.5 mm dia. × 4 pcs.)	—	Not sheathed

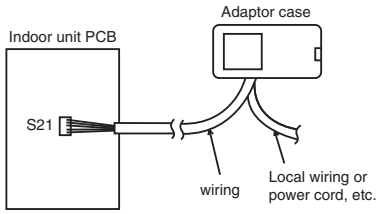
Note 1: Keep any wiring for the control unit away from the power cord to prevent electrical noise.
Note 2: Do not use cables shown above for power cord, inter-unit cord/cable or power cord for lamps.

Installation

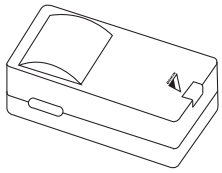
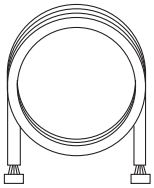
This product is available in two types. The **KRP413A1S · KRP413AA1S** is for installation in a case independent of the indoor unit, and the **KRP413A1** is for installation within the indoor unit.

1. KRP413A1S · KRP413AA1S

1 Installation diagram



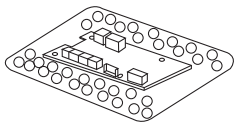
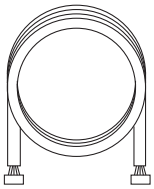
2 Components

① Adaptor case assy (Adaptor (PCB) is attached in the adaptor case.)	② Wiring (approx. 0.8 m)
	
③ Accessories • Binding band (4 pcs.) • Securing tape for attaching to the indoor unit (2 sets) • Screws for attaching the adaptor case (4 pcs.) • Screws for attaching to the wall (3 pcs.)	
④ Installation manual	

2. KRP413A1

For this type, install the adaptor PCB within the indoor unit. The method of installation and connection vary depending on the model of the air conditioner. See your air conditioner installation manual for details.

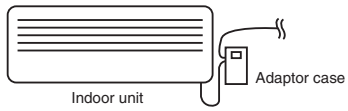
1 Components

① Adaptor PCB	② Wiring (approx. 0.25 m)
	
③ Installation manual	

3. Attaching Adaptor Case Assy (for KRP413A1S · KRP413AA1S)

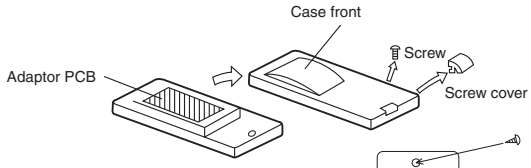
1 Using the screws (to mount on a wall, etc.)

● Use the 3 supplied screws to attach the case assy .



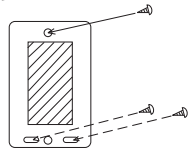
Install the adaptor case assy as close to the indoor unit as possible.

① Removing case front

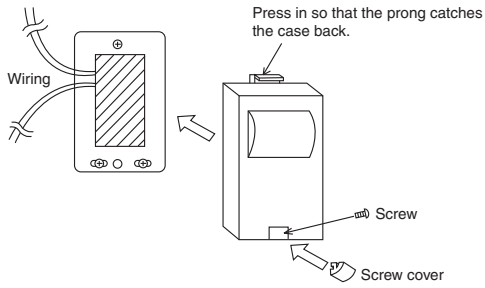


Remove the screw cover, one of the screws and then the case front.

② Attach the case back to the surface by tightening the screws through the screw holes (one round hole, two long holes).



③ After connecting the cables (refer to the following sections), replace the case front. Be careful not to damage the wiring in the case.



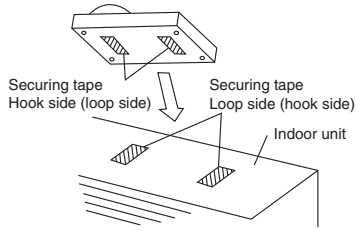
2 Using securing tape (to attach on the indoor unit)

● Attach the adaptor case with the supplied securing tape.

① Remove the case front (as for mounting on a wall).

② After connecting the cables (see the following sections), replace the case front. It can be screwed to the case back from the rear with the four supplied screws.
Be careful not to damage the wiring in the case.

③ Attach the hook side (loop side) of the included securing tape to the rear surface of the HA case, then attach the loop side (hook side) to the top of the air conditioner unit spaced at the same intervals.



To prevent the adaptor case assy from falling, do not use the securing tape for attaching it to a wall or other surface.

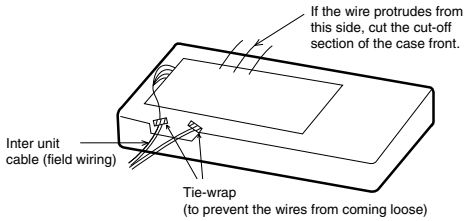
Wiring

1. Wiring

① Connect one end of the wiring to connector S21 of the PCB in the indoor unit.
② Connect the other end of the wiring to connector S6 of the adaptor PCB.
③ Connect field wiring according to the functions assigned to each connection terminal of the adaptor PCB.
④ Secure all wires.

1 Securing wires in the adaptor case assy (for KRP413A1S · KRP413AA1S)

- Fasten with a tie-wrap so that wires will not come loose even if pulled.



2 Securing wires in the indoor unit (for KRP413A1)

- The method for securing wire varies depending on the model of the air conditioner. See your air conditioner installation manual for details.

2. Automatic Reset After Power Failure

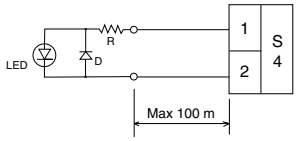
- This PCB stores the following data in the event of a power failure (common features).

① On/Off (see Note 1) ② Operation modes ③ Temperature setting
④ Air flow rate ⑤ On/Off status of remote controller
(Note 1 When SW1-2 is in Off mode, the unit will not be activated.)

3. Monitor Signal Output (normal operation and malfunction)

- Maximum length of the wiring is 100 m.

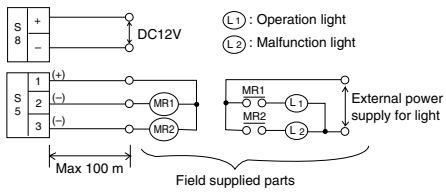
1 Monitor signal output for LED



■ **Locally procured parts**

Item	Manufacturer	Type
LED	Toshiba	TLG208 (green) TLR208 (red)
D	Rohm	1S2473
R		510 ohm 1/4W

2 Monitor signal output (normal operation and malfunction)using external relay contacts



■ **Field procured parts (Recommended external relay contacts)**

Manufacturer	Type	Coil rated voltage	Coil resistance
Omron	MY relay	12 V DC	160 ohm ± 10%
Matsushita	HC relay	12 V DC	160 ohm ± 10%

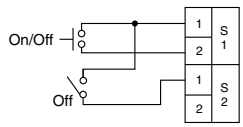
4. Connection with Remote Controller

Example connections with three kinds of remote controllers are shown bellow.
Note: These connections cannot be used in combination.

1 Generic remote controller

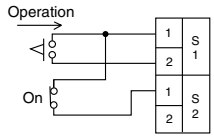
- Set SW1-1 to Off and select Operation Mode 1.

<Instantaneous Contact>



- The remote controller most recently used (local or air conditioner) takes precedence.
- Use a remote controller with a pulse width of 100 msec or more.

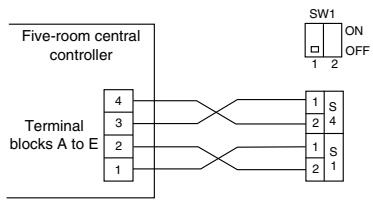
<Normal Contact>



- Power On/Off cannot be controlled from the unit's remote controller.
- When power is restored after a power failure in this mode, On or Off is determined according to the current settings of the remote controller.

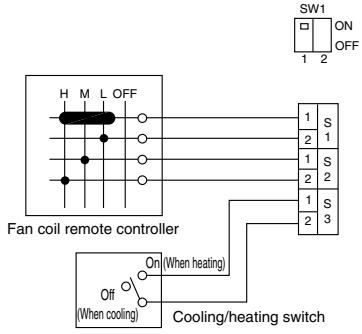
2 Five-room central controller (KRC72)

- Set SW1-1 to Off and select Operation Mode 1.
- The remote controller most recently used takes precedence.



3 Fan coil remote controller

- Set SW1-1 to On and select Operation Mode 2.
- Most settings (power On/Off, air flow rate, mode change) cannot be made using the air conditioner's remote controller.
- When power is restored after a power failure in this mode, On or Off is determined according to the current settings of the remote controller.
- When the Cooling /Heating mode is changed, use the air conditioner's remote controller to adjust the temperature.

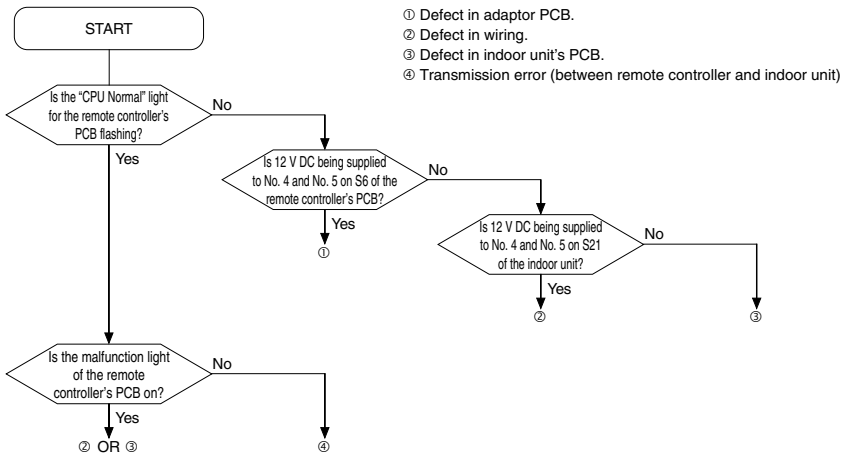


Test Operation and Confirmation

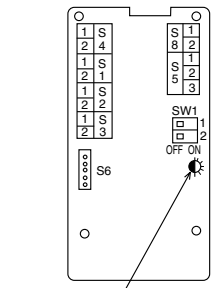
1. When the System is Not Working

☐ Is the air conditioner working properly?
☐ Are the connectors of the wiring properly connected?
☐ Are the remote controller and field wiring properly connected?
☐ Are all switch settings correct?
☐ If there is nothing apparently wrong, conduct a diagnostic check using the following procedure.

■ Diagnostic check



2. Switch Settings and Connection Terminals



CPU normal operation monitor
(Flashes when the operation is normal.)

SW1-1	Selecting the operation mode	OFF	Operation mode 1 (Used with the exception of fan coil remote controller settings)	
		ON	Operation mode 2 (Used with fan coil remote controller settings)	
SW1-2	Selecting On/Off when power is restored after a power failure	OFF	Always Off	
		ON	Off if operation was in Off mode before power failure; On if operation was in On mode before power failure	
S1 S2 S3	SW1-1: OFF (Operation mode 1)		Instantaneous contact	Normal contact
		S1 (1) - S2 (1)	OPEN	CLOSE
		S1 (1) - S1 (2)	Pulse input On/Off switching	OPEN, Not activated
				CLOSE, Activated
		S2 (2), S3	Not used	
	SW1-1: ON (Operation mode 2)	S1, S2 OPEN	Not activated	
		S1 (1) - S1 (2) CLOSE	On, airflow: L tap	
		S1 (1) - S2 (1) CLOSE	On, airflow: M tap	
		S1 (1) - S2 (2) CLOSE	On, airflow: H tap	
		S3 (With the remote controller only)	OPEN, Cooling	
			CLOSE, Heating	
S4	(1) - (2)	Voltage on (DC12 V), normal operation light output		
S5	(1) - (2)	Normal operation light output (power for light required)		
	(1) - (3)	Malfunction light output (power for light required)		
S6 connector		Connect with connector S21 on the PCB of the indoor unit		
S8	(+) - (–)	Relay DC 12 V power supply terminal (Field supplied parts)		

2P031616-1B

13.2.2 KRP928B2S

Safety Precautions

- Read these Safety Precautions carefully to ensure correct installation.

This manual classifies precautions into WARNING and CAUTION.

⚠**WARNING :** Failure to follow WARNING is very likely to result in such grave consequences as death or serious injury.

⚠**CAUTION :** Failure to follow CAUTION may result in serious injury or property damage, and in certain circumstances, may result in a grave consequence.

Be sure to follow all the precautions below ; they are all important for ensuring safety.

⚠ WARNING

- **Installation should be left to the dealer or another qualified professional.**
  Improper installation by yourself may cause malfunction, electrical shock, or fire.
- **Install the set according to the instructions given in this manual.**
  Incomplete or improper installation may cause malfunction, electrical shock, or fire.
- **Be sure to use the standard attachments or the genuine parts.**
  Use of other parts may cause malfunction, electrical shock, or fire.
- **Disconnect power to the connected equipment before starting installation.**
  Failure to do so may cause malfunction, electrical shock, or fire.

⚠ CAUTION

- **An earth leakage circuit breaker should be installed.**
  If the breaker is not installed, electrical shock may occur.
- **Do not install the set in a location where there is danger of exposure to inflammable gas.**
  Gas accumulated around the unit at the worst may cause fire.
- **To prevent damage due to electrostatic discharge, touch your hand to a nearby metal object (doorknob, aluminum sash, etc.) to discharge static electricity from your body before touching this kit.**
  Static electricity can damage this kit.
- **Lay this cable separately from other power cables to avoid external electrical noises.**

- After installation is complete, test the operation of the PCB set to check for problems, and explain how to use the set to the end-user.

1.Overview, Features and Compatible Models

This kit is the interface required when connecting the central controller and a Daikin Room Air Conditioner. Use of the central controller makes it possible to perform the following monitoring and operations. It is compatible with room air conditioners which have an HA connector S21.

1. Run / stop for the central controller and wired remote controller, operating mode selection, and temperature can be set.
2. The operating status, any errors, and the content of those errors can be monitored from the central controller and wired remote controller.
3. Run / stop for the central controller and wireless remote controller, operating mode selection, and the temperature setting can be limited by the central controller.
4. Zone control can be performed from the central controller.
5. The unit can remember the operating status of the air conditioner before a power outage and then start operating in the same status when the power comes back on.
6. Card keys, operating control panels, and other constant / instantaneous connection-compatible equipment can be connected.
7. The Operating / error signals can be read.
8. HA JEM-A-compatible equipment can be connected.
9. The indoor temperature can be monitored from the Ve-up controller.

Precaution

1. When reading the Operating / error signals, a separate external power source (DC 12V) is needed.
2. A separate timer power source (DC 16V) is needed when using the schedule timer independently, and not in conjunction with other central controllers.
3. The range of temperatures that can be set from the central controller is 18°C to 32°C in cooling and 14°C to 28°C in heating.
4. Fan operation cannot be selected from the central controller or wired remote controller.
5. Group control (i.e., control of multiple indoor units with a single remote controller) is not available.
6. Monitoring is not available of the thermo status, compressor operating status, indoor fan operating status, electric heater, or humidifier operating status.
7. Forced thermo off, filter sign display and reset, fan direction and speed settings, air conditioning fee management, energy savings instructions, low-noise instructions, and demand instructions cannot be made.

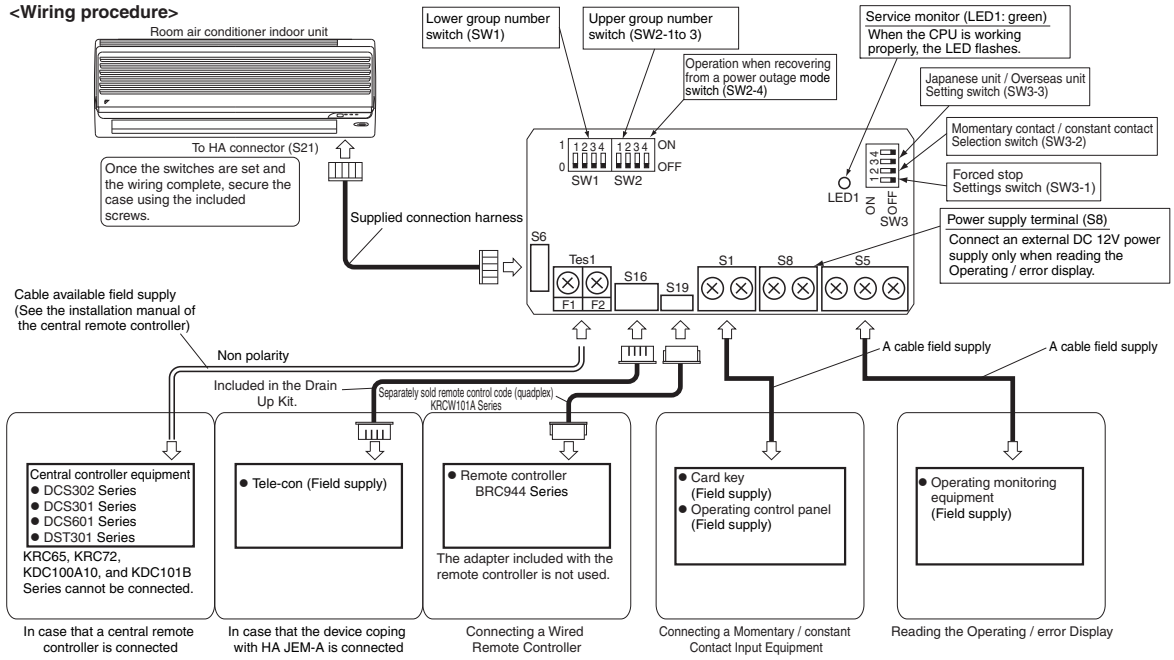
2.Component Parts and Separately-Sold Parts which are Required

This kit includes the following components. Check to ensure that none of these are missing.

Parts	Q'ty	Parts	Q'ty
Kit assy PCB is in the housing. Screw cover	1	Connection harness (about 1.6m)	1set
		Mounting screws	3pcs.
		Binding band	1pc.
		Installation manual	1set

3.Names of Parts and Electric Wiring

<Wiring procedure>



4.Switch Settings

NOTE Turn the power on after all the switches have been set.
Settings made while the power is on are invalid.

Open the Kit's case and set the switches on the circuit board.

(1) For Overseas / Japanese unit setting (SW3-3)
Room air conditioners, different methods are used for setting the temperature in automatic mode, so this switch needs to be set.

Destination	SW3-3 setting	What Happens
Japan	OFF (Factory setting)	● "Automatic" operation is not available from the central controller. When using "automatic" operation using the wireless remote controller, the central controller displays automatic cooling (heating) and 77°F(25°C). Even if the temperature is changed, it will return to 77°F (25°C) after a while.
Overseas	ON	● "Automatic" operation is available from the central controller.

(2) Group number settings (SW1 and SW2-1 to SW2-3)
Set these when using the central controller. (Set to the ■ side.) Do not set more than one unit to the same number.

However, these settings do not need to be made when using the schedule timer independently.
(The settings are needed when used in conjunction with another DCS Series central controller.)
In this case, the schedule timer performs an auto address after the power is turned on, so new group numbers are automatically set. Settings made using the switches will be overwritten.

SW2 setting	Upper group NO.
1 2 3	1—
1 2 3	2—
1 2 3	3—
1 2 3	4—
1 2 3	5—
1 2 3	6—
1 2 3	7—
1 2 3	8—

SW1 setting	Lower group NO.	SW1 setting	Lower group NO.
1 2 3 4	0 0	1 2 3 4	0 8
1 2 3 4	0 1	1 2 3 4	0 9
1 2 3 4	0 2	1 2 3 4	1 0
1 2 3 4	0 3	1 2 3 4	1 1
1 2 3 4	0 4	1 2 3 4	1 2
1 2 3 4	0 5	1 2 3 4	1 3
1 2 3 4	0 6	1 2 3 4	1 4
1 2 3 4	0 7	1 2 3 4	1 5

NOTE also that a separate timer power source is needed when using the schedule timer independently.
Power source specs: DC 16V, +10%, -15%, 200mA.
Recommended power source: Omron S82J-01015A. (Should be used with the output voltage adjusted to the center, DC 16V.)

(3) Settings when recovering from a power outage (SW2-4)
This selects whether to restart operation when the power comes back on after a power outage occurred during operation. This setting is given priority in cases where the indoor unit has an auto start ON / OFF jumper. Note also that regardless of whether switch SW2-4 is on or off, the operating mode, set temperature, fan direction and speed settings, and remote control prohibition status are stored.

SW2-4 setting	What Happens
OFF (Factory setting)	Stops after recovering from a power outage
ON	Stops if the unit was stopped before the power outage and runs if it was running.

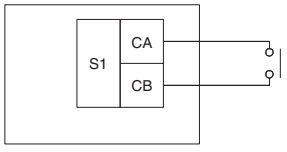
(4) Contact input function settings (SW3-1 to SW3-2)
When using contact input (S1), choose one of the following functions.

S1 operating mode	SW3-1 setting	SW3-2 setting	What Happens	Control mode
Instantaneous contact input (factory setting)	OFF	OFF	The operating status of the air conditioner is reversed by an instantaneous input of 100 msec or more.	Last command priority
Constant contact input		ON	Contact - Open to close: air condition runs. Close to open: air conditioner is stopped (NOTE 1).	ON / OFF control is rejected (operate / stop / timer prohibition) (NOTE 2).
Forced stop or remote controller permission input	ON	Invalid	Contact - Open to close: air condition stops (forced stop). Close to open: no change in operating status.	During a forced stop, all remote controller actions are prohibited.

NOTE1: Since central equipment and HA JEM-A-compatible equipment both use last command priority, the contact status and operating status of the air conditioner might not match sometimes.
Example: If the unit is run from the central controller while the air conditioner is stopped with an open contact, the contact will be open and the unit will be running.

NOTE2: Operating mode and fan direction and speed settings can be changed.

KRP928B2S



Run / stop Input
Contact specs
No-voltage minute electric current contact
(Minimum applicable load DC 12V, 1mA or lower)

Total wire length max: 328 ft (100 m)

5.Control Codes

When using a central remote controller, the operating codes can be used to limit operation from wireless remote controllers.
○ : permitted; ´ : prohibited

S1 operating mode	Control mode	Control code	Operations from the remote controller: "Run" control from the central controller: Run / timer	Stop	Operating mode temperature	Fan direction and fan speed	"Stop" control from the central controller: Run / timer	Stop	Operating mode temperaturet	Fan direction and fan speed	Operations from central controller, contact input and HA JEM-A input
Instantaneous contact mode	ON / OFF control is rejected	0,1,3	´	´	○		´	´	○		
		10,11	´	´	´		´	´	´		
	Only OFF control is accepted	2 12–19	´	○	´		´	○	´		
	Central priority	4	○	○	○		´	○	´		
		5	○	○	○		´	´	○		
	Last command priority	6,7	○	○	○		○	○	○		
	Timer operation is accepted by remote controller	8	○*	○*	○*	○	´	○	´	○	○
		9	○*	○*	○*		´	´	○		
Constant contact mode		2,10-19			´				´		
		0,1,3,5-7	´	´	○		´	´	○		
		4			○				´		
		8			○*				´		
		9			○*				○		
Forced stop			´	´	´	´	´	´	´	´	

*Only during timer operation

The remote controller permission / prohibition settings using the Ve-up controller are as follows.
○ : permitted; ´ : prohibited

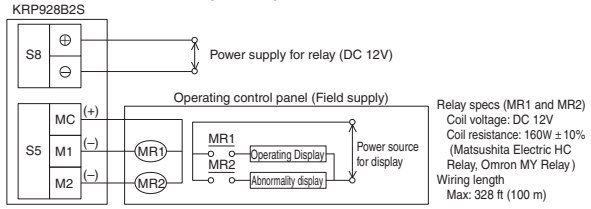
S1 pin operating mode	Ve-up controller settings: Start / stop	Change operating mode	Change set temperature	Operations from the remote controller: Run / timer	Stop	Operating mode temperature	Fan direction and fan speed	Operations from central controller, contact input and HA JEM-A input
Instantaneous contact mode ● Constant contact mode	ON / OFF control is rejected	permitted	permitted/prohibited	´	´	○	○	○
		prohibited	permitted/prohibited	´	´	´		
Instantaneous contact mode	Only OFF control is accepted	permitted	permitted	´	´	○		
		prohibited	prohibited permitted/prohibited	´	○	´		
Constant contact mode		permitted	permitted	´	´	○		
		prohibited	prohibited permitted/prohibited	´	´	´		
Instantaneous contact mode	Last command priority	permitted	permitted/prohibited	○	○	○		
		prohibited	permitted/prohibited	´	○	´		
Constant contact mode		permitted	permitted/prohibited	´	´	○		
		prohibited	permitted/prohibited	´	´	´		
Forced stop	Does not affect settings			´	´	´	´	

6.Read Operating / Error Display Signal

The Operating / error signals can be read from the contact output (S5).

Output specs
M1: Turn MR 1 ON when the air conditioner is running.
M2: Turn MR 2 when a communication error has occurred between the KRP928B2S and the air conditioner, or MR 1 is ON and the unit has stopped after an error.
MR 2 is not turned ON during a warning.

KRP928B2S



Relay specs (MR1 and MR2)
Coil voltage: DC 12V
Coil resistance: 160W ± 10%
(Matsushita Electric HC Relay, Omron MY Relay)
Wiring length
Max: 328 ft (100 m)

7.Combining Equipment

The central controller can be combined with the following devices.

	Central Remote Controller	ON / OFF controller	Schedule timer	D-BIPS	Forced stop contact input	Constant contact input	Instantaneous contact input	HA JEM-A-compatible equipment	Wired Remote Controller	Wireless Remote Controller
Central Remote Controller	○	○	○	○	○	○	○	○	○	○
ON / OFF controller	○	○	○	○	○	○	○	○	○	○
Schedule timer	○	○	´	´	○	○	○	○	○	○
D-BIPS	○	○	´	´	○	○	○	○	○	○
Forced stop contact input	○	○	○	○	´	´	´	○	○	○
Constant contact input	○	○	○	○	´	´	´	○	○	○
Instantaneous contact input	○	○	○	○	´	´	´	○	○	○
HA JEM-A-compatible equipment	○	○	○	○	○	○	○	´	○	○
Wired Remote Controller	○	○	○	○	○	○	○	○	´	´
Wireless Remote Controller	○	○	○	○	○	○	○	○	´	○

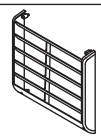
3P157704-2B

13.2.3 KPW937A4

■ Before Installation

Checking the parts

Check the following parts

Name	Louver	Installation manual
Shape	 With 4 screws	
Quantity	1piece	1piece

■ Installation Procedure

Selection of Installation Location

Use when installing in a location that meets the following conditions.

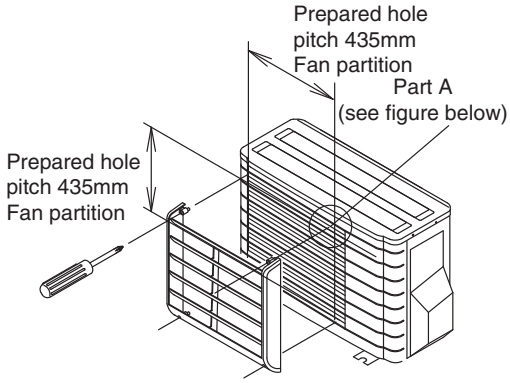
- When installing near the border to a neighbor's house
- If exhaust blows directly on passers-by because outdoor unit is installed facing a road.
- Changing the fan direction of the outdoor unit to prevent it blowing directly on shrubbery, etc.

Installation of Louver

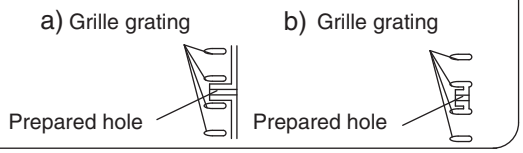
- Installation is possible in the four directions: upward, downward, rightward, and leftward.
- The installation screws are attached to the louver.
- First temporarily attach the louver with 4 screws, then check that the angle is correct, and finally tighten the screws fully.

⚠CAUTION

1. Install so that a short circuit is prevented.
2. For the use in snowy regions, avoid installation with the air outlet facing upward. Install so that the air outlet faces leftward, rightward, or downward.
   Snow accumulates in the air outlet of the outdoor unit, causing malfunction of the main body of the outdoor unit.
3. Be advised that if the fan direction is up, dead leaves and other foreign matter easily accumulates in the exhaust vent.



The prepared hole is in between the grating of the grille. Part A (prepared hole) cross section (the shape of either a or b)



4P104499-1A

Warning

- Daikin Industries, Ltd.'s products are manufactured for export to numerous countries throughout the world. Daikin Industries, Ltd. does not have control over which products are exported to and used in a particular country. Prior to purchase, please therefore confirm with your local authorized importer, distributor and/or retailer whether this product conforms tot he applicable standards, and is suitable for use, in the region where the product will be used. This statement does not purport to exclude, restrict or modify the application of any local legislation.
- Ask a qualified installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire, or explosion.
- Use only those parts and accessories supplied or specified by Daikin. Ask a qualified installer or contractor to install those parts and accessories. Use of unauthorized parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire, or explosion.
- Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

If you have any inquiries, please contact your local importer, distributor, or retailer.

C ETL LISTED US
Intertek

JMI-0107

JQA-1452

About ISO 9001

ISO 9001 is a plant certification system defined by the International Organization for Standardization (ISO) relating to quality assurance. ISO 9001 certification covers quality assurance aspects related to the "design, development, manufacture, installation, and supplementary service" of products manufactured at the plant.

EC99J2044

About ISO 14001

ISO 14001 is the standard defined by the International Organization for Standardization (ISO) relating to environmental management systems. Our group has been acknowledged by an internationally accredited program of environmental protection procedures and activities to meet the requirements of ISO 14001.

Dealer

DAIKIN AC (AMERICAS), INC.
1645 Wallace Drive, Suite 110
Carrollton, TX75006
info@daikinac.com
www.daikinac.com

- Specifications, designs and other content appearing in this brochure are current as of October 2010 but subject to change without notice.

EDUS04-906_b
Printed in U.S.A. 10/2010 B AK