DAIKIN

EDUS091128

R-410A

Engineering Data
SPLIT

- Heat Pump -

FTXS-L / FDXS-L Series

INVERTER

DAIKIN AC (AMERICAS), INC.

Split Type Air Conditioners FTXS-L / FDXS-L Series

Heat Pump		
Single Split Wall Mounted System	FTXS09LVJU FTXS12LVJU FTXS15LVJU FTXS18LVJU FTXS24LVJU	RXS09LVJU RXS12LVJU RXS15LVJU RXS18LVJU RXS24LVJU
Slim Duct Built-in System	FDXS09LVJU FDXS12LVJU	RXS09LVJU RXS12LVJU

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 Unit	Outdoor Unit	Power Supply
Single Split Duct-Free System	FTXS09LVJU	RXS09LVJU	1 ϕ, 208 - 230 V, 60 Hz
	FTXS12LVJU	RXS12LVJU	
	FTXS15LVJU	RXS15LVJU	
	FTXS18LVJU	RXS18LVJU	
	FTXS24LVJU	RXS24LVJU	
Slim Duct Built-in System	FDXS09LVJU	RXS09LVJU	
	FDXS12LVJU	RXS12LVJU	

Note:
Power Supply Intake ; Outdoor Unit

2. Functions

Category	Functions	FTXS09/12/15/18LVJU RXS09/12/15/18LVJU	FTXS24LVJU RXS24LVJU	Category	Functions	FTXS09/12/15/18LVJU RXS09/12/15/18LVJU	FTXS24LVJU RXS24LVJU
Basic Function	Inverter (with Inverter Power Control)	●	●	Health & Clean	Air-Purifying Filter	—	—
	Operation Limit for Cooling (°FDB)	14 ~ 114.8	14 ~ 114.8		Photocatalytic Deodorizing Filter	—	—
	Operation Limit for Heating (°FWB)	5 ~ 64.4	5 ~ 64.4		Air-Purifying Filter with Photocatalytic Deodorizing Function	—	—
	PAM Control	●	●		Titanium Apatite Photocatalytic Air-Purifying Filter	●	●
Compressor	Oval Scroll Compressor	—	—				
	Swing Compressor	●	●		Air Filter (Prefilter)	●	●
	Rotary Compressor	—	—		Wipe-clean Flat Panel	●	●
	Reluctance DC Motor	●	●		Washable Grille	—	—
Comfortable Airflow	Power-Airflow Louver (Horizontal Blade)	—	—		Filter Cleaning Indicator	—	—
	Power-Airflow Dual Louvers	●	●		MOLD PROOF Operation	—	—
	Power-Airflow Diffuser	—	—		Heating Dry Operation	—	—
	Wide-Angle Fins (Vertical Blades)	●	●		Good-Sleep Cooling Operation	—	—
	Vertical Auto-Swing (Up and Down)	●	●	Timer	WEEKLY TIMER Operation	●	●
	Horizontal Auto-Swing (Right and Left)	●	●		24-Hour ON/OFF TIMER	●	●
	3-D Airflow	●	●		NIGHT SET Mode	●	●
	COMFORT AIRFLOW Operation	●	●	Worry Free “Reliability & Durability”	Auto-Restart (after Power Failure)	●	●
Comfort Control	Auto Fan Speed	●	●		Self-Diagnosis (Digital, LED) Display	●	●
	Indoor Unit Quiet Operation	●	●		Wiring Error Check Function	—	—
	NIGHT QUIET Mode (Automatic)	—	—		Anticorrosion Treatment of Outdoor Heat Exchanger	●	●
	OUTDOOR UNIT QUIET Operation (Manual)	●	●	Flexibility	Multi-Split / Split Type Compatible Indoor Unit	●	—
	INTELLIGENT EYE Operation	●	●		Flexible Power Supply Correspondence	—	—
	Quick Warming Function	●	●		High Ceiling Application	—	—
	Hot-Start Function	●	●		Chargeless	33 ft	33 ft
	Automatic Defrosting	●	●		Either Side Drain (Right or Left)	●	●
Operation	Automatic Operation	●	●		Power Selection	—	—
	Program Dry Function	●	●		°F/°C Changeover R/C Temperature Display (factory setting: °F)	●	●
	Fan Only	●	●	Remote Control	5-Room Centralized Controller (Option)	●	●
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—	—		Remote Control Adaptor (Normal Open-Pulse Contact) (Option)	●	●
	Inverter POWERFUL Operation	●	●		Remote Control Adaptor (Normal Open Contact) (Option)	●	●
	Priority-Room Setting	—	—				
	COOL / HEAT Mode Lock	—	—		DIII-NET Compatible (Adaptor) (Option)	●	●
	HOME LEAVE Operation	—	—	Remote Controller	Wireless	●	●
	ECONO Operation	●	●		Wired (Option)	—	—
	Indoor Unit ON/OFF Button	●	●				
	Signal Receiving Sign	●	●				
	R/C with Back Light	●	●				
	Temperature Display	—	—				

Note: ● : Holding Functions
— : No Functions

Category	Functions	FDXS09/12LVJU RXS09/12LVJU	Category	Functions	FDXS09/12LVJU RXS09/12LVJU
Basic Function	Inverter (with Inverter Power Control)	●	Health & Clean	Air-Purifying Filter	—
	Operation Limit for Cooling (°FDB)	14 ~ 114.8		Photocatalytic Deodorizing Filter	—
	Operation Limit for Heating (°FWB)	5 ~ 64.4		Air-Purifying Filter with Photocatalytic Deodorizing Function	—
	PAM Control	●		Titanium Apatite Photocatalytic Air-Purifying Filter	—
Compressor	Oval Scroll Compressor	—			
	Swing Compressor	●		Air Filter (Prefilter)	●
	Rotary Compressor	—		Wipe-clean Flat Panel	—
	Reluctance DC Motor	●		Washable Grille	—
Comfortable Airflow	Power-Airflow Louver (Horizontal Blade)	—		Filter Cleaning Indicator	—
	Power-Airflow Dual Louvers	—		MOLD PROOF Operation	—
	Power-Airflow Diffuser	—		Heating Dry Operation	—
	Wide-Angle Fins (Vertical Blades)	—		Good-Sleep Cooling Operation	—
	Vertical Auto-Swing (Up and Down)	—	Timer	WEEKLY TIMER Operation	—
	Horizontal Auto-Swing (Right and Left)	—		24-Hour ON/OFF TIMER	●
	3-D Airflow	—		NIGHT SET Mode	●
	COMFORT AIRFLOW Operation	—	Worry Free “Reliability & Durability”	Auto-Restart (after Power Failure)	●
Comfort Control	Auto Fan Speed	●		Self-Diagnosis (Digital, LED) Display	●
	Indoor Unit Quiet Operation	●		Wiring Error Check Function	—
	NIGHT QUIET Mode (Automatic)	—		Anticorrosion Treatment of Outdoor Heat Exchanger	●
	OUTDOOR UNIT QUIET Operation (Manual)	●	Flexibility	Multi-Split / Split Type Compatible Indoor Unit	●
	INTELLIGENT EYE Operation	—		Flexible Power Supply Correspondence	—
	Quick Warming Function	●		High Ceiling Application	—
	Hot-Start Function	●		Chargeless	33 ft
	Automatic Defrosting	●		Either Side Drain (Right or Left)	—
Operation	Automatic Operation	●		Power Selection	—
	Program Dry Function	●		°F/°C Changeover R/C Temperature Display (factory setting: °F)	●
	Fan Only	●	Remote Control	5-Room Centralized Controller (Option)	●
Lifestyle Convenience	New POWERFUL Operation (Non-Inverter)	—		Remote Control Adaptor (Normal Open-Pulse Contact) (Option)	●
	Inverter POWERFUL Operation	●		Remote Control Adaptor (Normal Open Contact) (Option)	●
	Priority-Room Setting	—			
	COOL / HEAT Mode Lock	—		DIII-NET Compatible (Adaptor) (Option)	●
	HOME LEAVE Operation	—	Remote Controller	Wireless	●
	ECONO Operation	●		Wired (Option)	●
	Indoor Unit ON/OFF Button	●			
	Signal Receiving Sign	●			
	R/C with Back Light	●			
	Temperature Display	—			

Note: ● : Holding Functions

— : No Functions

3. Specifications

Single Split Duct-Free System

60 Hz, 208 - 230 V

Model	Indoor Unit		FTXS09LVJU		FTXS12LVJU	
	Outdoor Unit		RXS09LVJU		RXS12LVJU	
			Cooling	Heating	Cooling	Heating
Capacity Rated (Min.~Max.)		kW	2.64 (1.3 ~ 2.64)	3.52 (1.3 ~ 3.52)	3.52 (1.4 ~ 3.52)	4.22 (1.4 ~ 4.22)
		Btu/h	9,000 (4,400 ~ 9,000)	12,000 (4,400 ~ 12,000)	12,000 (4,800 ~ 12,000)	14,400 (4,800 ~ 14,400)
		kcal/h	2,300 (1,120 ~ 2,270)	3,030 (1,120 ~ 3,030)	3,000 (1,200 ~ 3,030)	3,630 (1,200 ~ 3,630)
Moisture Removal		gal/h (L/h)	0.3 (1.1)	—	0.5 (1.9)	—
Running Current (Rated)		A	3.6 - 3.3	4.4 - 3.9	4.9 - 4.4	4.9 - 4.5
Power Consumption Rated (Min.~Max.)		W	590 (320 ~ 590)	790 (310 ~ 790)	940 (350 ~ 940)	970 (340 ~ 970)
Power Factor		%	78.8 - 77.7	86.3 - 88.1	92.2 - 92.9	95.2 - 93.7
COP (Rated)		W/W	4.47 (4.06 ~ 4.47)	4.46 (4.20 ~ 4.46)	3.74 (4.00 ~ 3.74)	4.35 (4.10 ~ 4.35)
EER (Rated)		Btu/h·W	15.3 (13.8 ~ 15.3)	15.2 (14.2 ~ 15.2)	12.8 (13.7 ~ 12.8)	14.8 (14.1 ~ 14.8)
Energy Efficiency	SEER/HSPF		24.5	12.5	23.0	12.5
Piping Connections	Liquid	in. (mm)	ϕ 1/4 (6.4)		ϕ 1/4 (6.4)	
	Gas	in. (mm)	ϕ 3/8 (9.5)		ϕ 3/8 (9.5)	
	Drain	in. (mm)	ϕ 5/8 (16.0)		ϕ 5/8 (16.0)	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Max. Interunit Piping Length		ft (m)	65.6 (20)		65.6 (20)	
Max. Interunit Height Difference		ft (m)	49.2 (15)		49.2 (15)	
Chargeless		ft (m)	32.8 (10)		32.8 (10)	
Amount of Additional Charge of Refrigerant		oz/ft (g/m)	0.21 (20)		0.21 (20)	
Indoor Unit			**FTXS09LVJU**		**FTXS12LVJU**	
Front Panel Color			White		White	
Airflow Rate	H	m³/min (cfm)	10.8 (381)	11.9 (420)	11.4 (403)	12.4 (438)
	M		7.9 (279)	9.1 (321)	8.7 (307)	9.5 (335)
	L		5.5 (194)	6.6 (233)	5.8 (205)	6.8 (240)
	SL		4.1 (145)	6.2 (219)	4.4 (155)	6.0 (212)
Fan	Type		Cross Flow Fan		Cross Flow Fan	
	Motor Output	W	23		23	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.09 - 0.08	0.11 - 0.10	0.13 - 0.12	0.14 - 0.13
Power Consumption (Rated)		W	18 - 18	21 - 21	26 - 26	28 - 28
Power Factor (Rated)		%	96.2 - 97.8	91.8 - 91.3	96.2 - 94.2	96.2 - 93.6
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		in. (mm)	11-5/8 × 31-1/2 × 8-7/16 (295 × 800 × 215)		11-5/8 × 31-1/2 × 8-7/16 (295 × 800 × 215)	
Packaged Dimensions (H × W × D)		in. (mm)	14-7/16 × 34-1/4 ×10-13/16 (366 × 870 × 274)		14-7/16 × 34-1/4 ×10-13/16 (366 × 870 × 274)	
Weight (Mass)		Lbs (kg)	20 (9)		22 (10)	
Gross Weight (Gross Mass)		Lbs (kg)	29 (13)		31 (14)	
Sound Pressure Level (H / M / L / SL)		dB(A)	41 / 33 / 25 / 22	42 / 35 / 28 / 25	45 / 37 / 29 / 23	45 / 39 / 29 / 26
Sound Power Level		dB	57	58	61	61
Outdoor Unit			**RXS09LVJU**		**RXS12LVJU**	
Casing Color			Ivory White		Ivory White	
Compressor	Type		Hermetically Sealed Swing Type		Hermetically Sealed Swing Type	
	Model		1YC23AEXD		1YC23AEXD	
	Motor Output	W	600		600	
Refrigerant Oil	Type		FVC50K		FVC50K	
	Charge	oz (L)	12.5 (0.375)		12.5 (0.375)	
Refrigerant	Type		R-410A		R-410A	
	Charge	Lbs (kg)	2.43 (1.1)		2.65 (1.2)	
Airflow Rate	H	m³/min (cfm)	31.2 (1,102)	28.1 (992)	33.5 (1,183)	28.1 (992)
	L		28.0 (989)	23.8 (840)	28.0 (989)	23.8 (840)
Fan	Type		Propeller		Propeller	
	Motor Output	W	23		23	
Running Current (Rated)		A	3.5 - 3.2	4.3 - 3.8	4.8 - 4.3	4.8 - 4.4
Power Consumption (Rated)		W	572 - 572	769 - 769	914 - 914	942 - 942
Power Factor (Rated)		%	78.6 - 77.7	86.0 - 88.0	91.5 - 92.4	94.4 - 93.1
Starting Current		A	4.4		4.9	
Dimensions (H × W × D)		in. (mm)	21-5/8 × 30-1/8 × 11-1/4 (550 × 765 × 285)		21-5/8 × 30-1/8 × 11-1/4 (550 × 765 × 285)	
Packaged Dimensions (H × W × D)		in. (mm)	25 × 34-5/8 × 14-3/16 (635 × 880 × 360)		25 × 34-5/8 × 14-3/16 (635 × 880 × 360)	
Weight (Mass)		Lbs (kg)	75 (34)		75 (34)	
Gross Weight (Gross Mass)		Lbs (kg)	89 (41)		89 (41)	
Sound Pressure Level (H / L)		dB(A)	47 / 43	48 / 44	49 / 44	49 / 45
Sound Power Level (H)		dB	61	62	63	63
Drawing No.			3D075491		3D075492	

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

Cooling	Heating	Piping Length
Indoor ; 80°FDB (26.7°CDB) / 67°FWB (19.4°CWB) Outdoor ; 95°FDB (35°CDB) / 75°FWB (24°CWB)	Indoor ; 70°FDB (21°CDB) / 60°FWB (15.6°CWB) Outdoor ; 47°FDB (8.3°CDB) / 43°FWB (6°CWB)	25 ft (7.5 m)

Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m³/min × 35.3

60 Hz, 208 - 230 V

Model	Indoor Unit		FTXS15LVJU		FTXS18LVJU	
	Outdoor Unit		RXS15LVJU		RXS18LVJU	
			Cooling	Heating	Cooling	Heating
Capacity Rated (Min.~Max.)		kW	4.4 (1.7 ~ 4.4)	5.28 (1.7 ~ 5.28)	5.28 (1.7 ~ 5.28)	6.33 (1.7 ~ 6.33)
		Btu/h	15,000 (5,800 ~ 15,000)	18,000 (5,800 ~ 18,000)	18,000 (5,800 ~ 18,000)	21,600 (5,800 ~ 21,600)
		kcal/h	3,780 (1,460 ~ 3,780)	4,540 (1,460 ~ 4,540)	4,540 (1,460 ~ 4,540)	5,440 (1,460 ~ 5,440)
Moisture Removal		gal/h (L/h)	0.8 (3.0)	—	1.0 (3.8)	—
Running Current (Rated)		A	5.2 - 4.7	6.5 - 5.9	7.1 - 6.4	8.4 - 7.6
Power Consumption Rated (Min.~Max.)		W	1,040 (450 ~ 1,040)	1,320 (450 ~ 1,320)	1,420 (450 ~ 1,420)	1,710 (450 ~ 1,710)
Power Factor		%	96.2 - 96.2	97.6 - 97.3	96.2 - 96.5	97.9 - 97.8
COP (Rated)		W/W	4.23 (3.78 ~ 4.23)	4.00 (3.78 ~ 4.00)	3.72 (3.78 ~ 3.72)	3.70 (3.78 ~ 3.70)
EER (Rated)		Btu/h·W	14.4 (12.9 ~ 14.4)	13.6 (12.9 ~ 13.6)	12.7 (12.9 ~ 12.7)	12.6 (12.9 ~ 12.6)
Energy Efficiency	SEER/HSPF		20.6	11.6	20.3	11.0
Piping Connections	Liquid	in. (mm)	ϕ 1/4 (6.4)		ϕ 1/4 (6.4)	
	Gas	in. (mm)	ϕ 1/2 (12.7)		ϕ 1/2 (12.7)	
	Drain	in. (mm)	ϕ 5/8 (16.0)		ϕ 5/8 (16.0)	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Max. Interunit Piping Length		ft (m)	98.4 (30)		98.4 (30)	
Max. Interunit Height Difference		ft (m)	65.6 (20)		65.6 (20)	
Chargeless		ft (m)	32.8 (10)		32.8 (10)	
Amount of Additional Charge of Refrigerant		oz/ft (g/m)	0.21 (20)		0.21 (20)	
Indoor Unit			**FTXS15LVJU**		**FTXS18LVJU**	
Front Panel Color			White		White	
Airflow Rate	H	m^3/min (cfm)	16.1 (568)	16.8 (593)	16.5 (583)	17.7 (625)
	M		13.5 (477)	14.3 (505)	13.7 (484)	14.9 (526)
	L		10.9 (385)	11.8 (417)	10.9 (385)	12.2 (431)
	SL		10.2 (360)	10.5 (371)	10.2 (360)	11.3 (399)
Fan	Type		Cross Flow Fan		Cross Flow Fan	
	Motor Output	W	48		48	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward		Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.31 - 0.29	0.31 - 0.29	0.32 - 0.30	0.32 - 0.30
Power Consumption (Rated)		W	38 - 38	38 - 38	38 - 38	38 - 38
Power Factor (Rated)		%	58.9 - 57.0	58.9 - 57.0	57.1 - 55.1	57.1 - 55.1
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		in. (mm)	13-3/8 × 41-5/16 × 9-3/4 (340 × 1,050 × 248)		13-3/8 × 41-5/16 × 9-3/4 (340 × 1,050 × 248)	
Packaged Dimensions (H × W × D)		in. (mm)	16-7/8 × 45-11/16 × 13 (429 × 1,160 × 331)		16-7/8 × 45-11/16 × 13 (429 × 1,160 × 331)	
Weight (Mass)		Lbs (kg)	31 (14)		31 (14)	
Gross Weight (Gross Mass)		Lbs (kg)	44 (20)		44 (20)	
Sound Pressure Level (H / M / L / SL)		dB(A)	45 / 40 / 35 / 32	43 / 38 / 33 / 30	46 / 41 / 36 / 33	45 / 40 / 35 / 32
Sound Power Level		dB	61	59	62	61
Outdoor Unit			**RXS15LVJU**		**RXS18LVJU**	
Casing Color			Ivory White		Ivory White	
Compressor	Type		Hermetically Sealed Swing Type		Hermetically Sealed Swing Type	
	Model		2YC36BXD		2YC36BXD	
	Motor Output	W	1,100		1,100	
Refrigerant Oil	Type		FVC50K		FVC50K	
	Charge	oz (L)	21.8 (0.650)		21.8 (0.650)	
Refrigerant	Type		R-410A		R-410A	
	Charge	Lbs (kg)	3.97 (1.8)		3.97 (1.8)	
Airflow Rate	H	m^3/min (cfm)	48.5 (1,713)	39.8 (1,405)	50.4 (1,780)	40.9 (1,444)
	L		41.6 (1,469)	37.0 (1,306)	42.3 (1,494)	37.6 (1,328)
Fan	Type		Propeller		Propeller	
	Motor Output	W	53		53	
Running Current (Rated)		A	5.0 - 4.5	6.3 - 5.7	6.9 - 6.2	8.2 - 7.4
Power Consumption (Rated)		W	1,002 - 1,002	1,282 - 1,282	1,382 - 1,382	1,672 - 1,672
Power Factor (Rated)		%	96.3 - 96.8	97.8 - 97.8	96.3 - 96.9	98.0 - 98.2
Starting Current		A	6.5		8.4	
Dimensions (H × W × D)		in. (mm)	28-15/16 × 32-1/2 × 11-13/16 (735 × 825 × 300)		28-15/16 × 32-1/2 × 11-13/16 (735 × 825 × 300)	
Packaged Dimensions (H × W × D)		in. (mm)	31-7/16 × 37-15/16 × 15-3/8 (798 × 964 × 390)		31-7/16 × 37-15/16 × 15-3/8 (798 × 964 × 390)	
Weight (Mass)		Lbs (kg)	104 (47)		104 (47)	
Gross Weight (Gross Mass)		Lbs (kg)	117 (53)		117 (53)	
Sound Pressure Level (H / L)		dB(A)	47 / 44	48 / 45	49 / 46	49 / 46
Sound Power Level (H)		dB	61	62	63	63
Drawing No.			3D075043		3D075044	

Note:

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

Cooling	Heating	Piping Length
Indoor ; 80°FDB (26.7°CDB) / 67°FWB (19.4°CWB) Outdoor ; 95°FDB (35°CDB) / 75°FWB (24°CWB)	Indoor ; 70°FDB (21°CDB) / 60°FWB (15.6°CWB) Outdoor ; 47°FDB (8.3°CDB) / 43°FWB (6°CWB)	25 ft (7.5 m)

Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m^3/min × 35.3

60 Hz, 208 - 230 V

Model	Indoor Unit		FTXS24LVJU	
	Outdoor Unit		RXS24LVJU	
			Cooling	Heating
Capacity Rated (Min.~Max.)		kW	6.30 (2.3 ~ 6.30)	7.44 (2.3 ~ 7.44)
		Btu/h	21,500 (7,800 ~ 21,500)	25,400 (7,800 ~ 25,400)
		kcal/h	5,400 (1,980 ~ 5,420)	6,400 (1,980 ~ 6,400)
Moisture Removal		gal/h (L/h)	1.2 (4.5)	—
Running Current (Rated)		A	8.4 ~ 7.6	10.7 ~ 9.7
Power Consumption Rated (Min.~Max.)		W	1,720 (570 ~ 1,720)	2,210 (520 ~ 2,210)
Power Factor		%	98.4 - 98.4	99.3 - 99.1
COP (Rated)		W/W	3.66 (4.04 ~ 3.66)	3.37 (4.40 ~ 3.37)
EER (Rated)		Btu/h·W	12.5 (13.7 ~ 12.5)	11.5 (15.0 ~ 11.5)
Energy Efficiency	SEER/HSPF		20.0	10.6
Piping Connections	Liquid	in. (mm)	ϕ 1/4 (6.4)	
	Gas	in. (mm)	ϕ 5/8 (15.9)	
	Drain	in. (mm)	ϕ 5/8 (16.0)	
Heat Insulation			Both Liquid and Gas Pipes	
Max. Interunit Piping Length		ft (m)	98.4 (30)	
Max. Interunit Height Difference		ft (m)	65.6 (20)	
Chargeless		ft (m)	32.8 (10)	
Amount of Additional Charge of Refrigerant		oz/ft (g/m)	0.21 (20)	
Indoor Unit			FTXS24LVJU	
Front Panel Color			White	
Airflow Rate	H	m^3/min (cfm)	18.2 (643)	19.8 (699)
	M		14.0 (494)	16.2 (572)
	L		9.9 (350)	12.6 (445)
	SL		9.3 (328)	11.4 (403)
Fan	Type		Cross Flow Fan	
	Motor Output	W	48	
	Speed	Steps	5 Steps, Quiet, Auto	
Air Direction Control			Right, Left, Horizontal, Downward	
Air Filter			Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.57 - 0.51	0.57 - 0.51
Power Consumption (Rated)		W	69 - 68	69 - 68
Power Factor (Rated)		%	58.2 - 58.0	58.2 - 58.0
Temperature Control			Microcomputer Control	
Dimensions (H × W × D)		in. (mm)	13-3/8 × 41-5/16 × 9-3/4 (340 × 1,050 × 248)	
Packaged Dimensions (H × W × D)		in. (mm)	16-7/8 x 45-11/16 × 13 (429 x 1,160 × 331)	
Weight (Mass)		Lbs (kg)	31 (14)	
Gross Weight (Gross Mass)		Lbs (kg)	46 (21)	
Sound Pressure Level (H / M / L / SL)		dB(A)	51 / 44 / 37 / 34	48 / 42 / 37 / 34
Sound Power Level		dBA	67	64
Outdoor Unit			RXS24LVJU	
Casing Color			Ivory White	
Compressor	Type		Hermetically Sealed Swing Type	
	Model		2YC63BXD	
	Motor Output	W	1,920	
Refrigerant Oil	Type		FVC50K	
	Charge	oz (L)	25.2 (0.750)	
Refrigerant	Type		R-410A	
	Charge	Lbs (kg)	5.07 (2.3)	
Airflow Rate	H	m^3/min (cfm)	54.5 (1,924)	52.5 (1,854)
	L		46.0 (1,624)	46.0 (1,624)
Fan	Type		Propeller	
	Motor Output	W	66	
Running Current (Rated)		A	8.1 - 7.3	10.4 - 9.4
Power Consumption (Rated)		W	1,651 - 1,652	2,141 - 2,142
Power Factor (Rated)		%	98.0 - 98.4	99.0 - 99.1
Starting Current		A	10.7	
Dimensions (H × W × D)		in. (mm)	30-5/16 × 35-7/16 × 12-5/8 (770 × 900 × 320)	
Packaged Dimensions (H × W × D)		in. (mm)	35-7/16 × 36-7/16 × 15-3/8 (900 × 925 × 390)	
Weight (Mass)		Lbs (kg)	159 (72)	
Gross Weight (Gross Mass)		Lbs (kg)	178 (81)	
Sound Pressure Level (H / L)		dB(A)	52 / 49	52 / 49
Sound Power Level (H)		dBA	66	66
Drawing No.			3D075045	

Note:

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

Cooling	Heating	Piping Length
Indoor ; 80°FDB (26.7°CDB) / 67°FWB (19.4°CWB) Outdoor ; 95°FDB (35°CDB) / 75°FWB (24°CWB)	Indoor ; 70°FDB (21°CDB) / 60°FWB (15.6°CWB) Outdoor ; 47°FDB (8.3°CDB) / 43°FWB (6°CWB)	25 ft (7.5 m)

Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m^3/min × 35.3

Slim Duct Built-in System

60 Hz, 208 - 230 V

Model	Indoor Unit		FDXS09LVJU		FDXS12LVJU	
	Outdoor Unit		RXS09LVJU		RXS12LVJU	
			Cooling	Heating	Cooling	Heating
Capacity Rated (Min.~Max.)		kW	2.49 (1.30 ~ 2.49)	2.93 (1.30 ~ 2.93)	3.37 (1.40 ~ 3.37)	3.37 (1.40 ~ 3.37)
		Btu/h	8,500 (4,400 ~ 8,500)	10,000 (4,400 ~ 10,000)	11,500 (4,800 ~ 11,500)	11,500 (4,800 ~ 11,500)
		kcal/h	2,140 (1,120 ~ 2,140)	2,520 (1,120 ~ 2,520)	2,900 (1,200 ~ 2,900)	2,900 (1,200 ~ 2,900)
Moisture Removal		gal/h (L/h)	2.5 (9.5)	—	4.0 (15.1)	—
Running Current (Rated)		A	4.6 - 4.2	4.5 - 4.1	6.4 - 5.8	4.9 - 4.4
Power Consumption Rated (Min.~Max.)		W	760 (300 ~ 760)	850 (290 ~ 850)	1,260 (300 ~ 1,260)	960 (290 ~ 960)
Power Factor		%	79.4 - 78.7	90.8 - 90.1	94.7 - 94.5	94.2 - 94.9
COP (Rated)		W/W	3.28 (4.33 ~ 3.28)	3.45 (4.48 ~ 3.45)	2.67 (4.67 ~ 2.67)	3.51 (4.83 ~ 3.51)
EER (Rated)		Btu/h·W	11.2 (14.7 ~ 11.2)	11.8 (15.2 ~ 11.8)	9.1 (16.0 ~ 9.1)	12.0 (16.6 ~ 12.0)
Energy Efficiency	SEER/HSPF		15.1	10.3	15.5	10.4
Piping Connections	Liquid	in. (mm)	ϕ 1/4 (6.4)		ϕ 1/4 (6.4)	
	Gas	in. (mm)	ϕ 3/8 (9.5)		ϕ 3/8 (9.5)	
	Drain	in. (mm)	ϕ 25/32 (20.0)		ϕ 25/32 (20.0)	
Heat Insulation			Both Liquid and Gas Pipes		Both Liquid and Gas Pipes	
Max. Interunit Piping Length		ft (m)	65.6 (20)		65.6 (20)	
Max. Interunit Height Difference		ft (m)	49.2 (15)		49.2 (15)	
Chargeless		ft (m)	32.8 (10)		32.8 (10)	
Amount of Additional Charge of Refrigerant		oz/ft (g/m)	0.21 (20)		0.21 (20)	
Indoor Unit			**FDXS09LVJU**		**FDXS12LVJU**	
External Static Pressure		"Wg (Pa)	0.12 (30)		0.12 (30)	
Airflow Rate	H	m³/min (cfm)	8.6 (305)	8.6 (305)	8.6 (305)	8.6 (305)
	M		7.9 (280)	7.9 (280)	7.9 (280)	7.9 (280)
	L		7.4 (260)	7.4 (260)	7.4 (260)	7.4 (260)
	SL		6.7 (235)	6.7 (235)	6.7 (235)	6.7 (235)
Fan	Type		Sirocco Fan		Sirocco Fan	
	Motor Output	W	62		62	
	Speed	Steps	5 Steps, Quiet, Auto		5 Steps, Quiet, Auto	
Air Filter			Removable / Washable / Mildew Proof		Removable / Washable / Mildew Proof	
Running Current (Rated)		A	0.58 - 0.52	0.58 - 0.52	0.58 - 0.52	0.58 - 0.52
Power Consumption (Rated)		W	72 - 72	72 - 72	72 - 72	72 - 72
Power Factor (Rated)		%	59.7 - 60.2	59.7 - 60.2	59.7 - 60.2	59.7 - 60.2
Temperature Control			Microcomputer Control		Microcomputer Control	
Dimensions (H × W × D)		in. (mm)	7-7/8 × 27-9/16 × 24-7/16 (200 × 700 × 620)		7-7/8 × 27-9/16 × 24-7/16 (200 × 700 × 620)	
Packaged Dimensions (H × W × D)		in. (mm)	10-13/16 × 36-5/16 × 30-1/4 (274 × 923 × 768)		10-13/16 × 36-5/16 × 30-1/4 (274 × 923 × 768)	
Weight (Mass)		Lbs (kg)	47 (21)		47 (21)	
Gross Weight (Gross Mass)		Lbs (kg)	64 (29)		64 (29)	
Sound Pressure Level (H / M / L)		dB(A)	35 / 33 / 31	35 / 33 / 31	35 / 33 / 31	35 / 33 / 31
Sound Power Level		dBA	51	51	51	51
Outdoor Unit			**RXS09LVJU**		**RXS12LVJU**	
Casing Color			Ivory White		Ivory White	
Compressor	Type		Hermetically Sealed Swing Type		Hermetically Sealed Swing Type	
	Model		1YC23AEXD		1YC23AEXD	
	Motor Output	W	600		600	
Refrigerant Oil	Type		FVC50K		FVC50K	
	Charge	oz (L)	12.5 (0.375)		12.5 (0.375)	
Refrigerant	Type		R-410A		R-410A	
	Charge	Lbs (kg)	2.43 (1.1)		2.65 (1.2)	
Airflow Rate	H	m³/min (cfm)	31.2 (1,102)	28.1 (992)	33.5 (1,183)	28.1 (992)
	L		28.0 (989)	23.8 (840)	28.0 (989)	23.8 (840)
Fan	Type		Propeller		Propeller	
	Motor Output	W	23		23	
Running Current (Rated)		A	4.2 - 3.8	4.1 - 3.8	6.0 - 5.5	4.5 - 4.1
Power Consumption (Rated)		W	688 - 688	778 - 778	1,188 - 1,188	888 - 888
Power Factor (Rated)		%	78.8 - 78.7	91.2 - 89.0	95.2 - 93.9	94.9 - 94.2
Starting Current		A	4.6		6.4	
Dimensions (H × W × D)		in. (mm)	21-5/8 × 30-1/8 × 11-1/4 (550 × 765 × 285)		21-5/8 × 30-1/8 × 11-1/4 (550 × 765 × 285)	
Packaged Dimensions (H × W × D)		in. (mm)	25 × 34-5/8 × 14-3/16 (635 × 880 × 360)		25 × 34-5/8 × 14-3/16 (635 × 880 × 360)	
Weight (Mass)		Lbs (kg)	75 (34)		75 (34)	
Gross Weight (Gross Mass)		Lbs (kg)	89 (41)		89 (41)	
Sound Pressure Level (H / L)		dB(A)	47 / 43	48 / 44	49 / 44	49 / 45
Sound Power Level (H)		dBA	61	62	63	63
Drawing No.			3D075493		3D075494	

Note:

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

Cooling	Heating	Piping Length
Indoor ; 80°FDB (26.7°CDB) / 67°FWB (19.4°CWB) Outdoor ; 95°FDB (35°CDB) / 75°FWB (24°CWB)	Indoor ; 70°FDB (21°CDB) / 60°FWB (15.6°CWB) Outdoor ; 47°FDB (8.3°CDB) / 43°FWB (6°CWB)	25 ft (7.5 m)

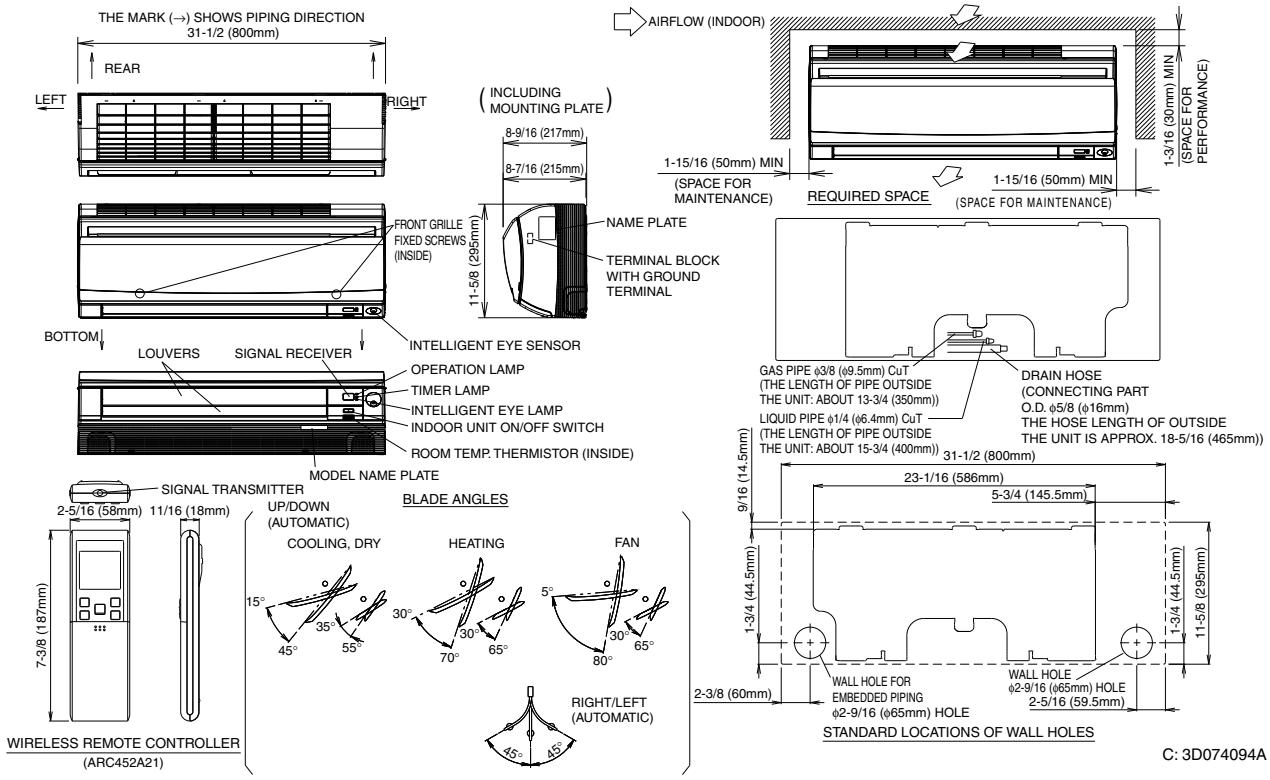
Conversion Formulae
kcal/h = kW × 860 Btu/h = kW × 3412 cfm = m³/min × 35.3

4. Dimensions

4.1 Indoor Unit

4.1.1 Single Split Duct-Free System

FTXS09/12LVJU



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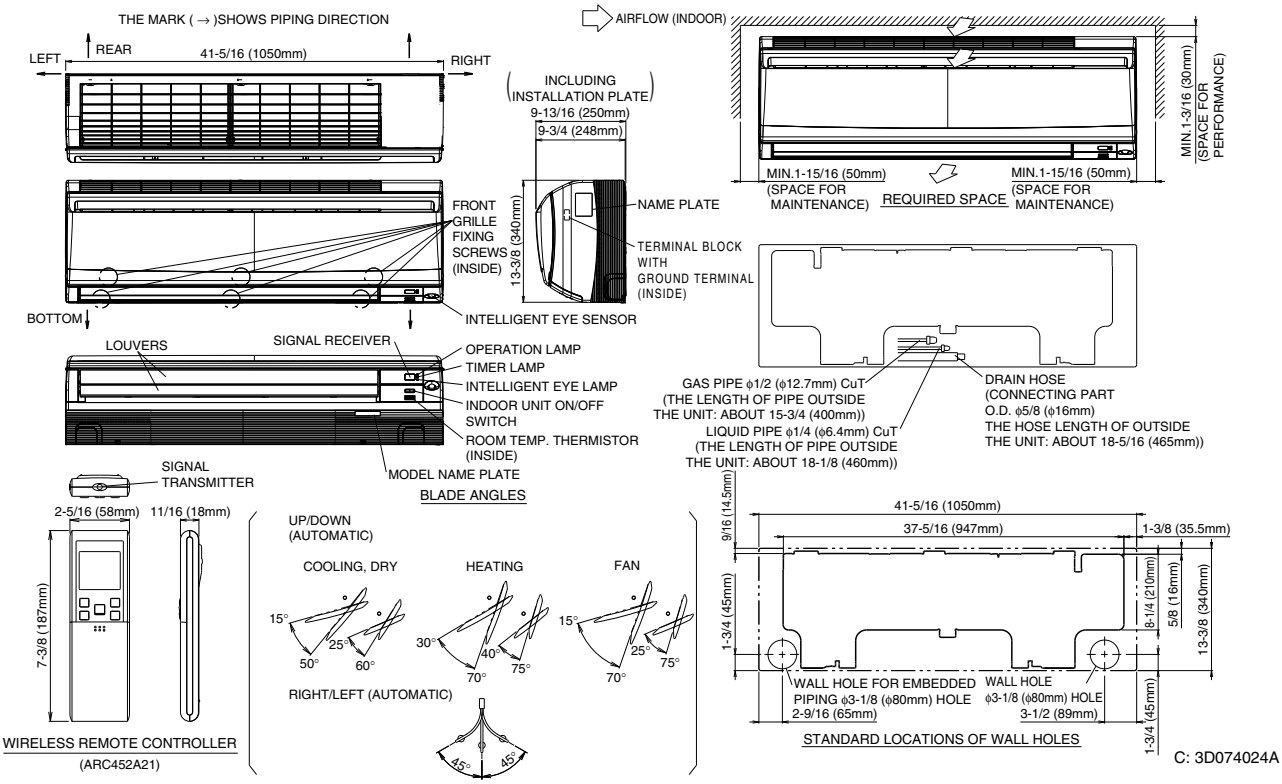
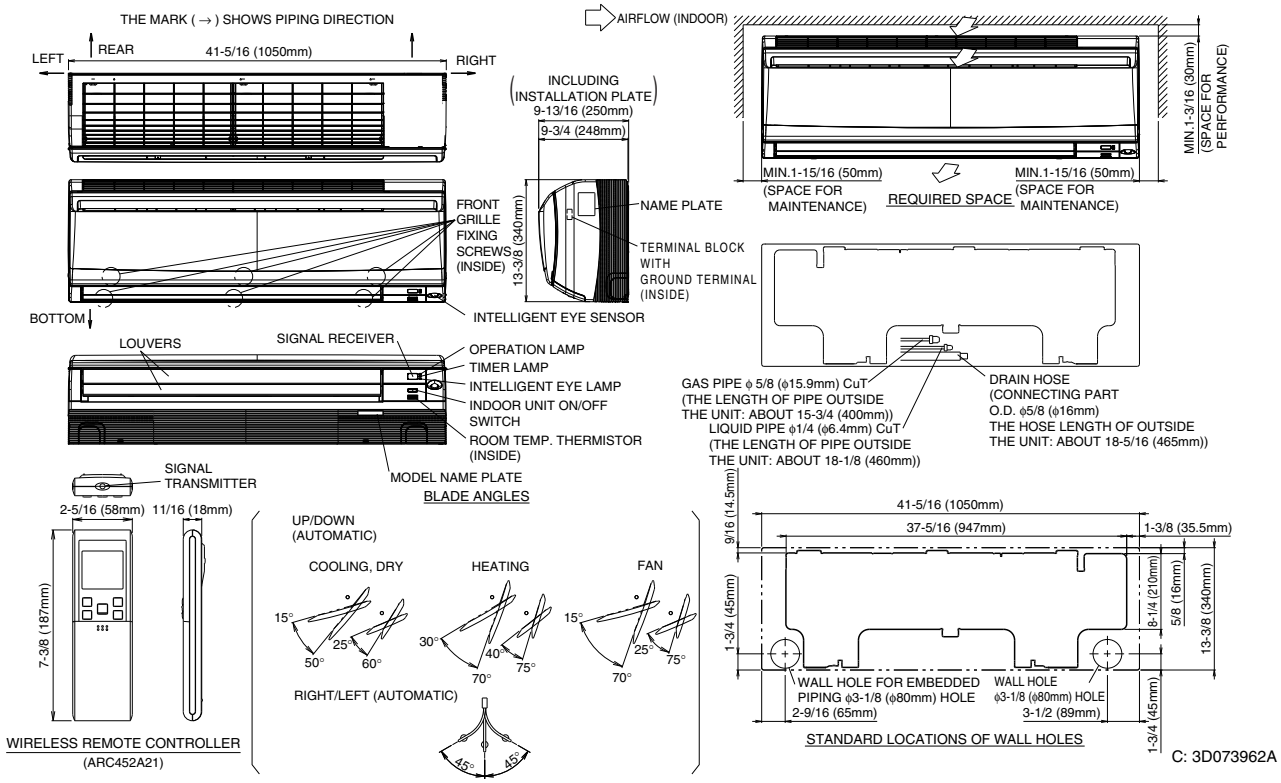
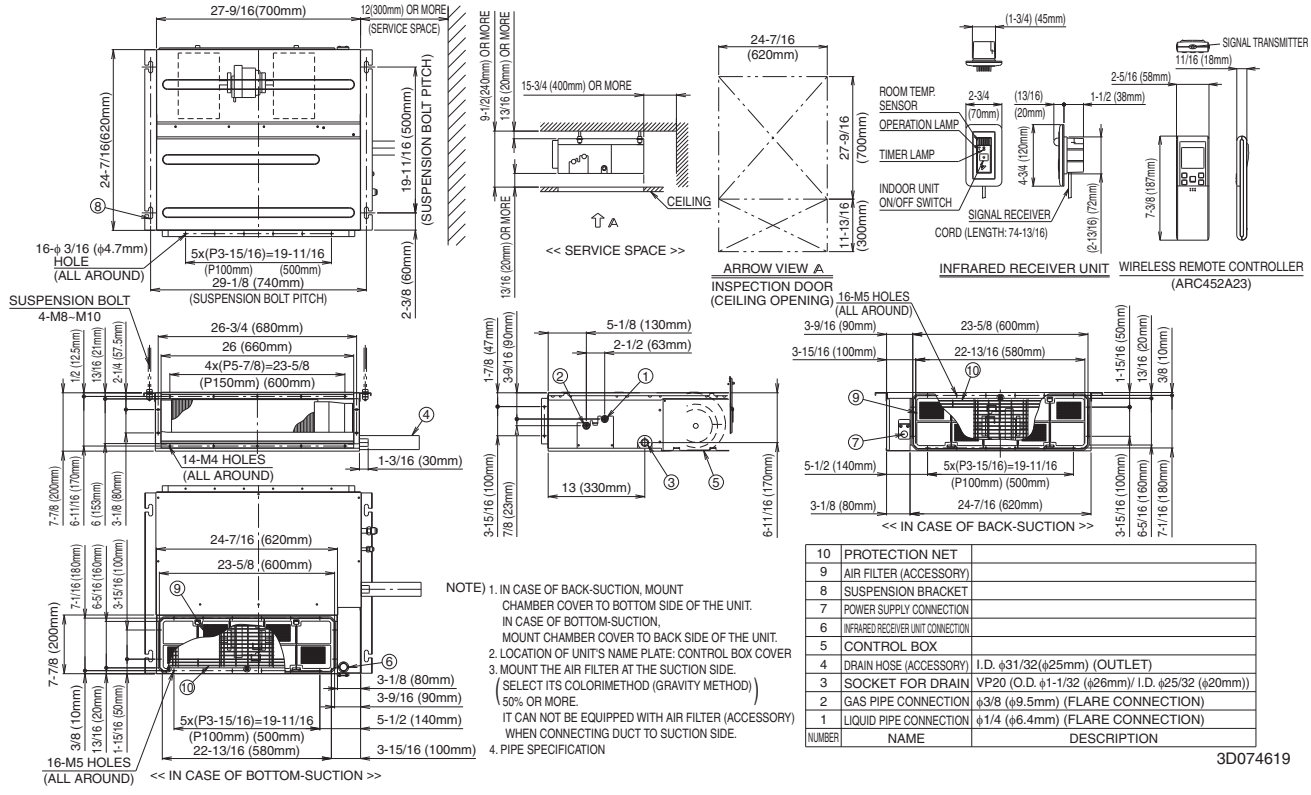


FTXS24LVJU



4.1.2 Slim Duct Built-in System

FDXS09/12LVJU



NOTE)
1. IN CASE OF BACK-SUCTION, MOUNT CHAMBER COVER TO BOTTOM SIDE OF THE UNIT. IN CASE OF BOTTOM-SUCTION, MOUNT CHAMBER COVER TO BACK SIDE OF THE UNIT.
2. LOCATION OF UNIT'S NAME PLATE: CONTROL BOX COVER
3. MOUNT THE AIR FILTER AT THE SUCTION SIDE. (SELECT ITS COLORIMETHOD (GRAVITY METHOD) 50% OR MORE. IT CAN NOT BE EQUIPPED WITH AIR FILTER (ACCESSORY) WHEN CONNECTING DUCT TO SUCTION SIDE.
4. PIPE SPECIFICATION

NUMBER	NAME	DESCRIPTION
10	PROTECTION NET	
9	AIR FILTER (ACCESSORY)	
8	SUSPENSION BRACKET	
7	POWER SUPPLY CONNECTION	
6	INFRARED RECEIVER UNIT CONNECTION	
5	CONTROL BOX	
4	DRAIN HOSE (ACCESSORY)	I.D. ϕ31/32(ϕ25mm) (OUTLET)
3	SOCKET FOR DRAIN	VP20 (O.D. ϕ1-1/32 (ϕ26mm)/ I.D. ϕ25/32 (ϕ20mm))
2	GAS PIPE CONNECTION	ϕ3/8 (ϕ9.5mm) (FLARE CONNECTION)
1	LIQUID PIPE CONNECTION	ϕ1/4 (ϕ6.4mm) (FLARE CONNECTION)

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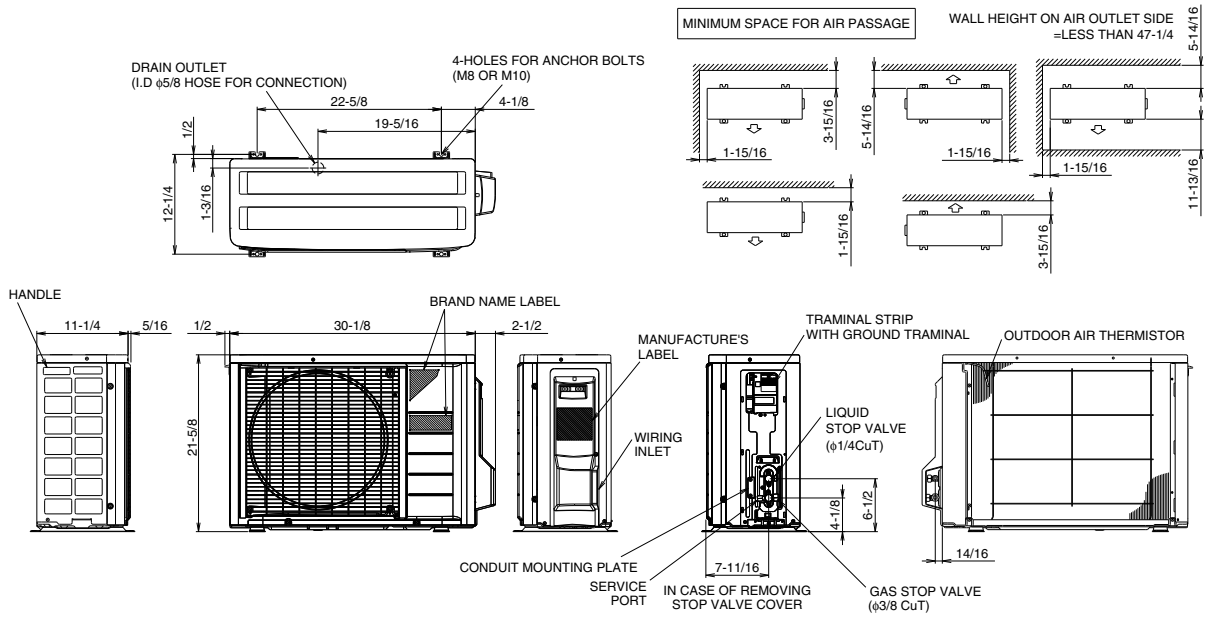
4.2 Outdoor Unit

RXS09/12LVJU



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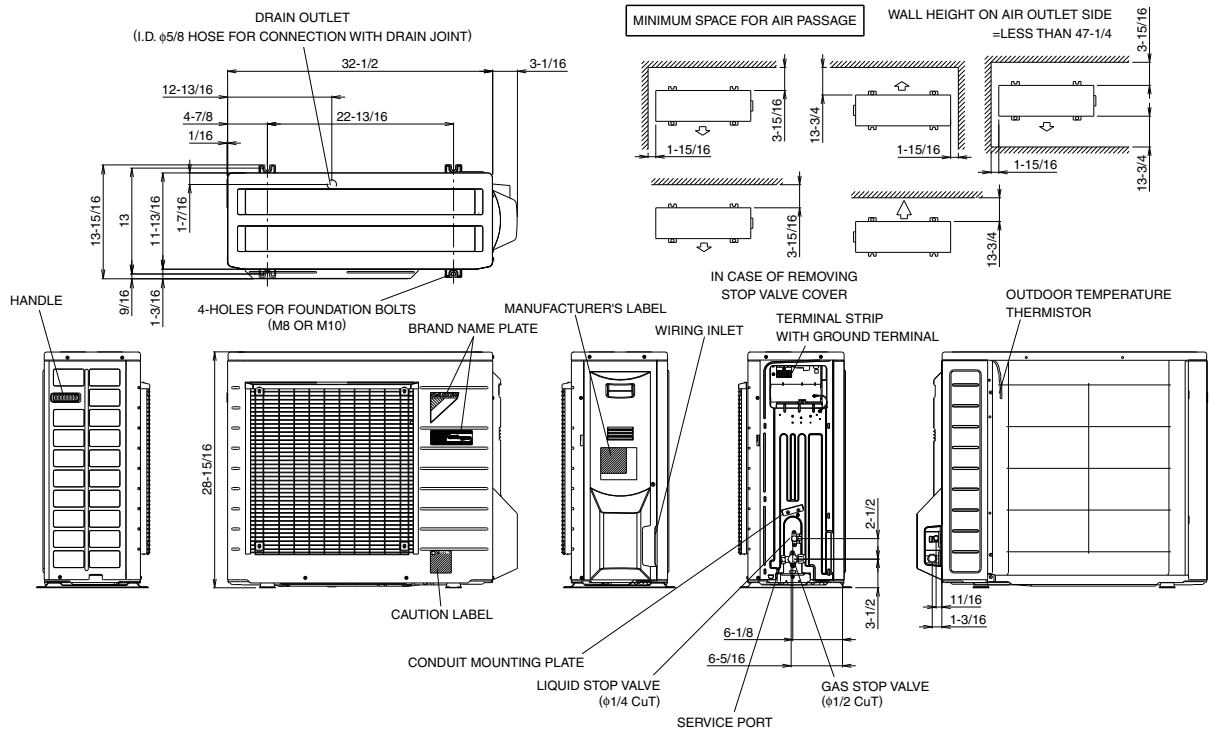

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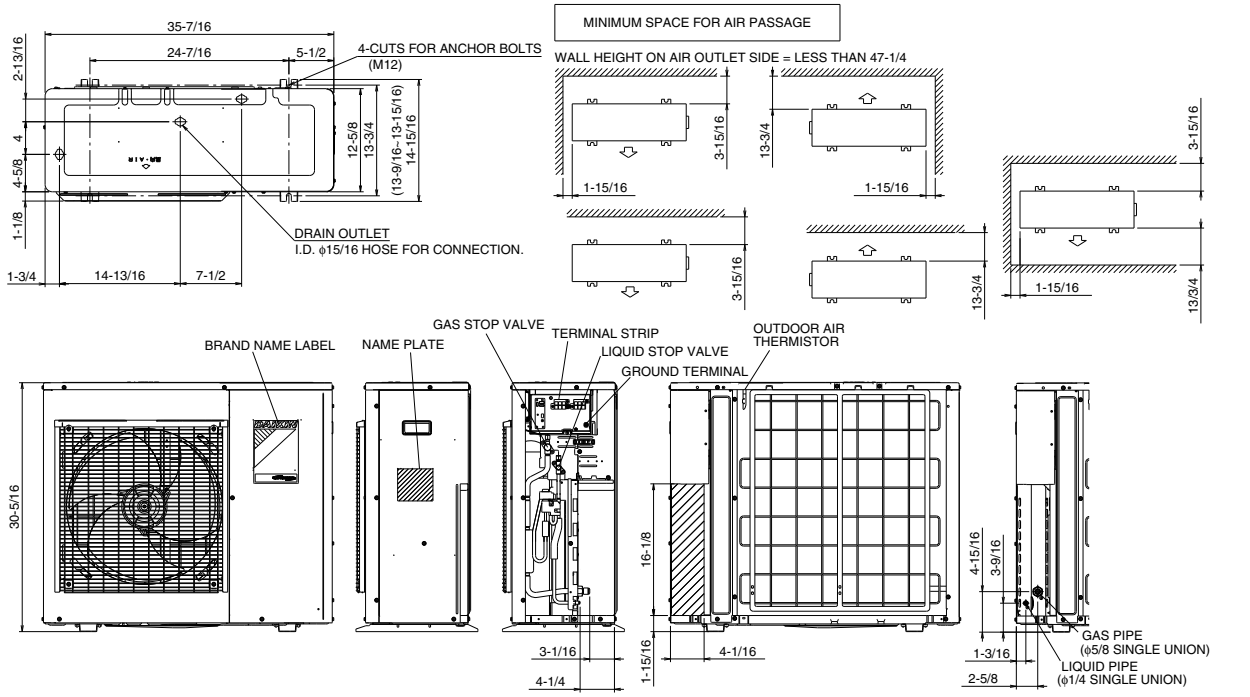

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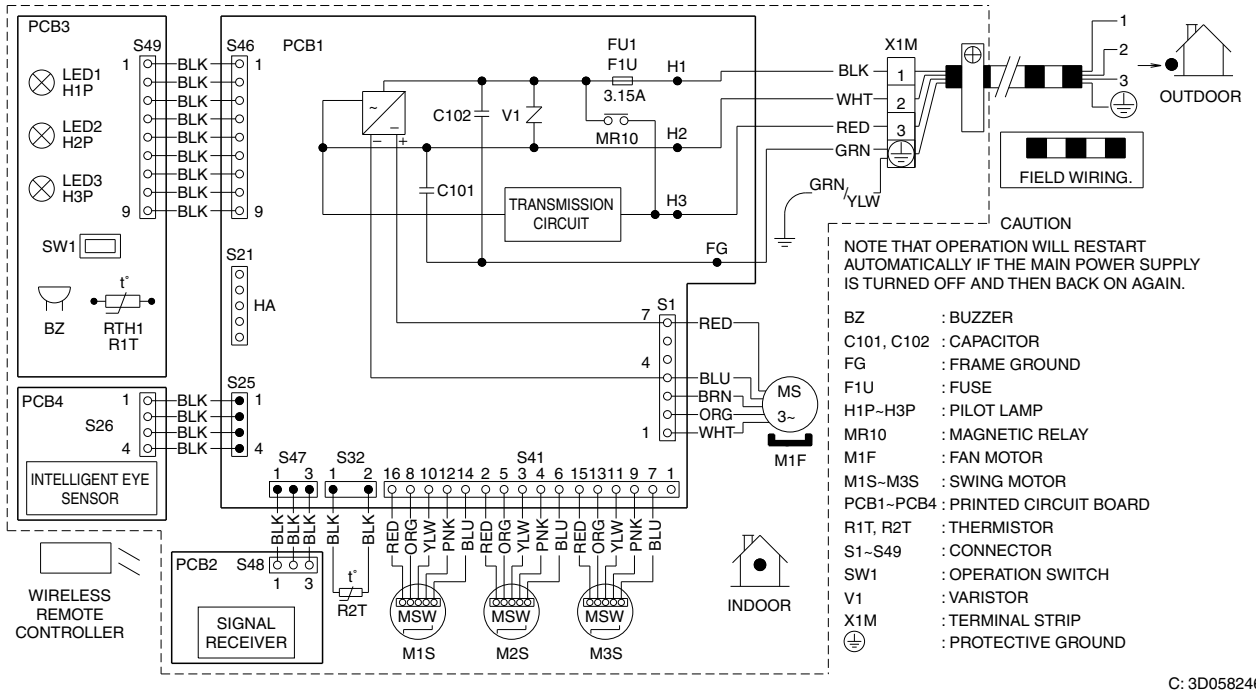
5. Wiring Diagrams

5.1 Indoor Unit

5.1.1 Single Split Duct-Free System

FTXS09/12LVJU



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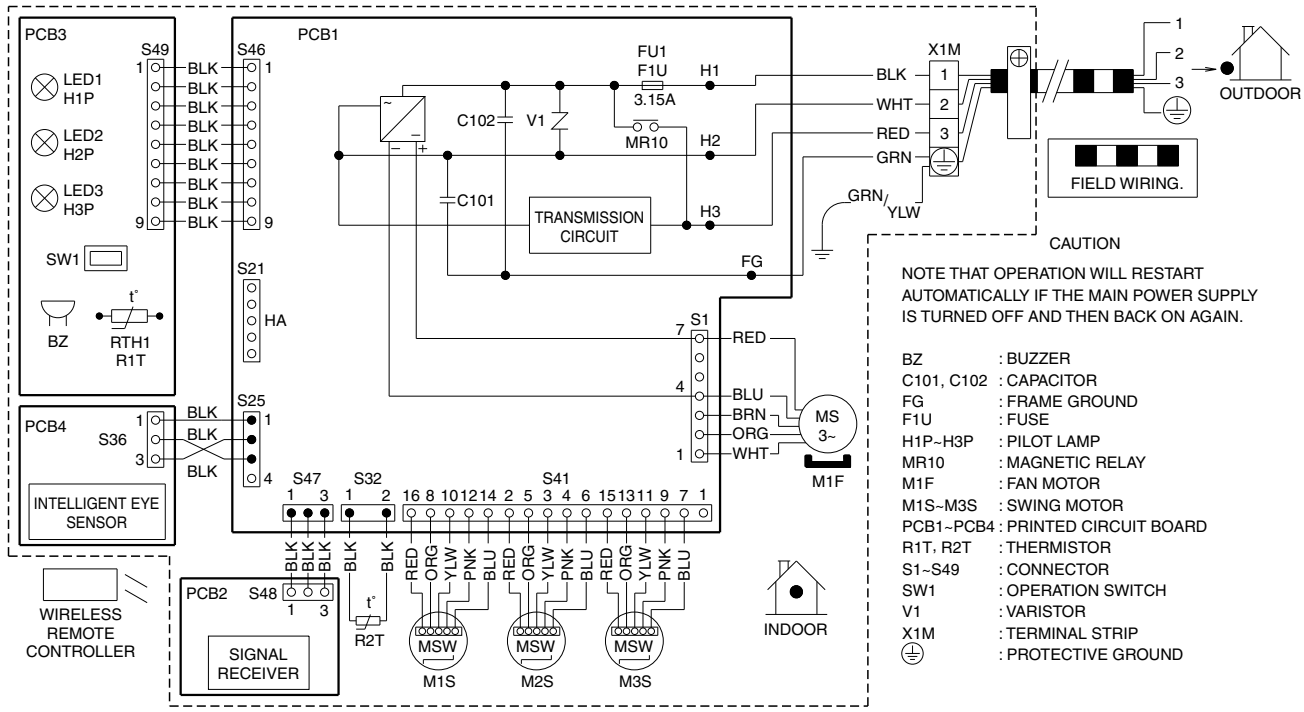
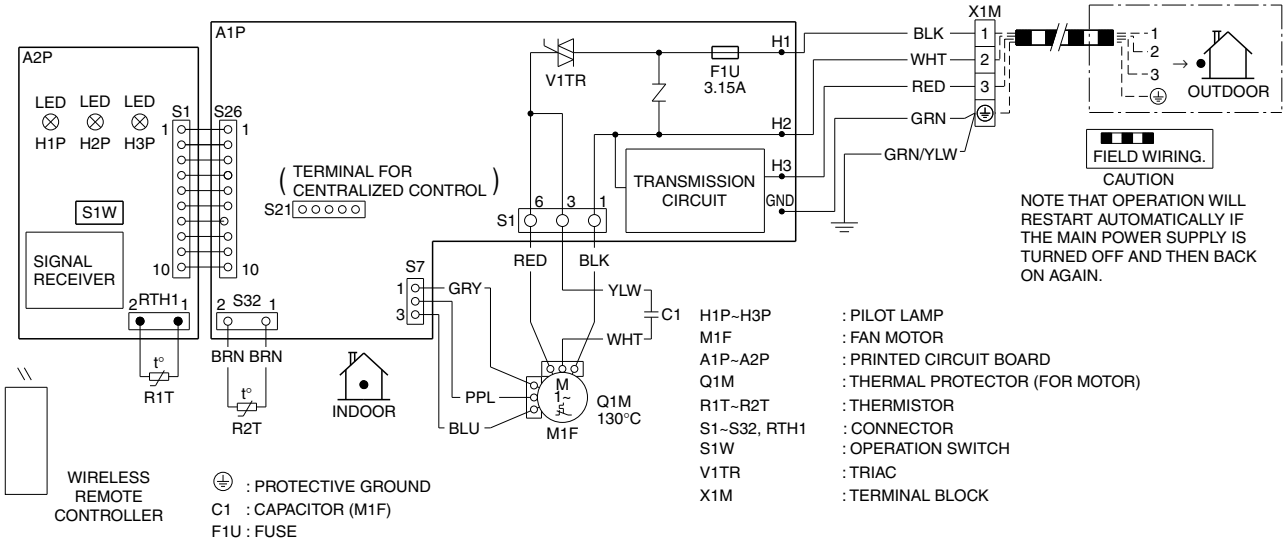


C: 3D060942H

5.1.2 Slim Duct Built-in System

FDXS09/12LVJU



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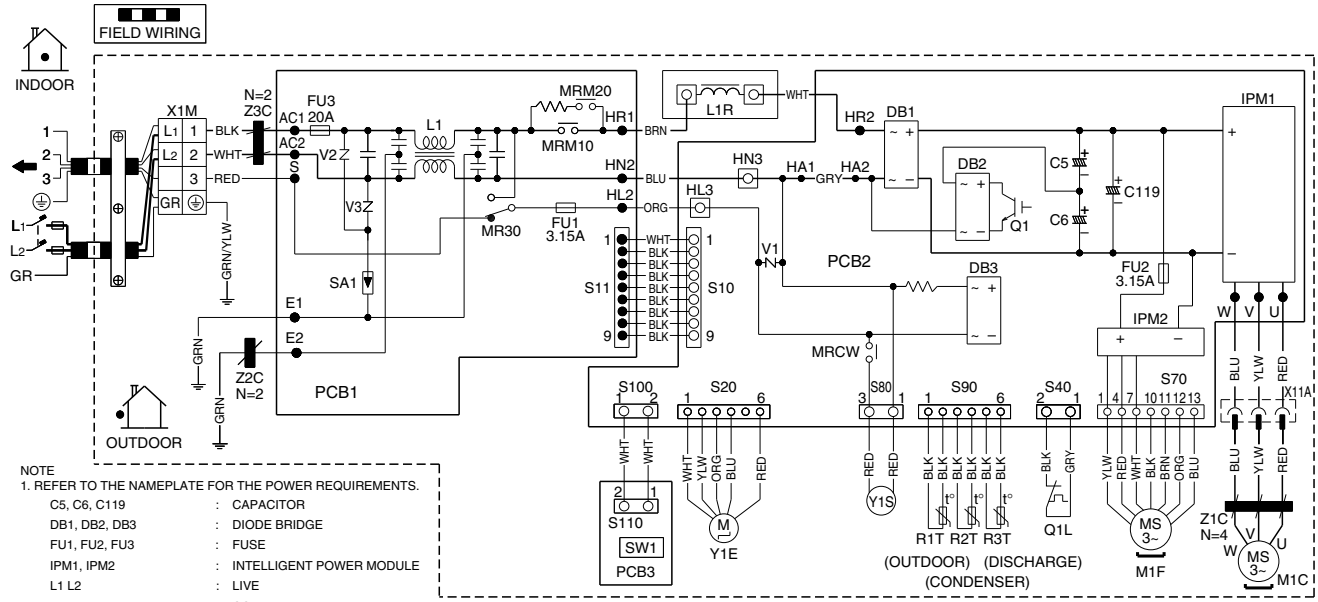
5.2 Outdoor Unit

RXS09/12LVJU



NOTE
1. REFER TO THE NAMEPLATE FOR THE POWER REQUIREMENTS.

C5, C6, C119	:	CAPACITOR
DB1, DB2, DB3	:	DIODE BRIDGE
FU1, FU2, FU3	:	FUSE
IPM1, IPM2	:	INTELLIGENT POWER MODULE
L1 L2	:	LIVE
L1	:	COIL
L1R	:	REACTOR
M1C	:	COMPRESSOR MOTOR
M1F	:	FAN MOTOR
MRCW, MR30, MRM10, MRM20	:	MAGNETIC RELAY
Q1L	:	OVERLOAD PROTECTOR
PCB1, PCB2, PCB3	:	PRINTED CIRCUIT BOARD
S10, S11, S20, S40 S70, S80, S90, S100		
S110, HL3, HN3, X11A	:	CONNECTOR
R1T, R2T, R3T	:	THERMISTOR
SA1	:	SURGE ABSORBER
SW1	:	FORCED COOLING OPERATION SWITCH (SW1)
V1, V2, V3	:	VARISTOR
X1M	:	TERMINAL STRIP
Y1E	:	ELECTRONIC EXPANSION VALVE COIL
Y1S	:	REVERSING SOLENOID VALVE COIL
Z1C, Z2C, Z3C	:	FERRITE CORE
GR	:	PROTECTIVE GROUND
⏚	:	GROUND

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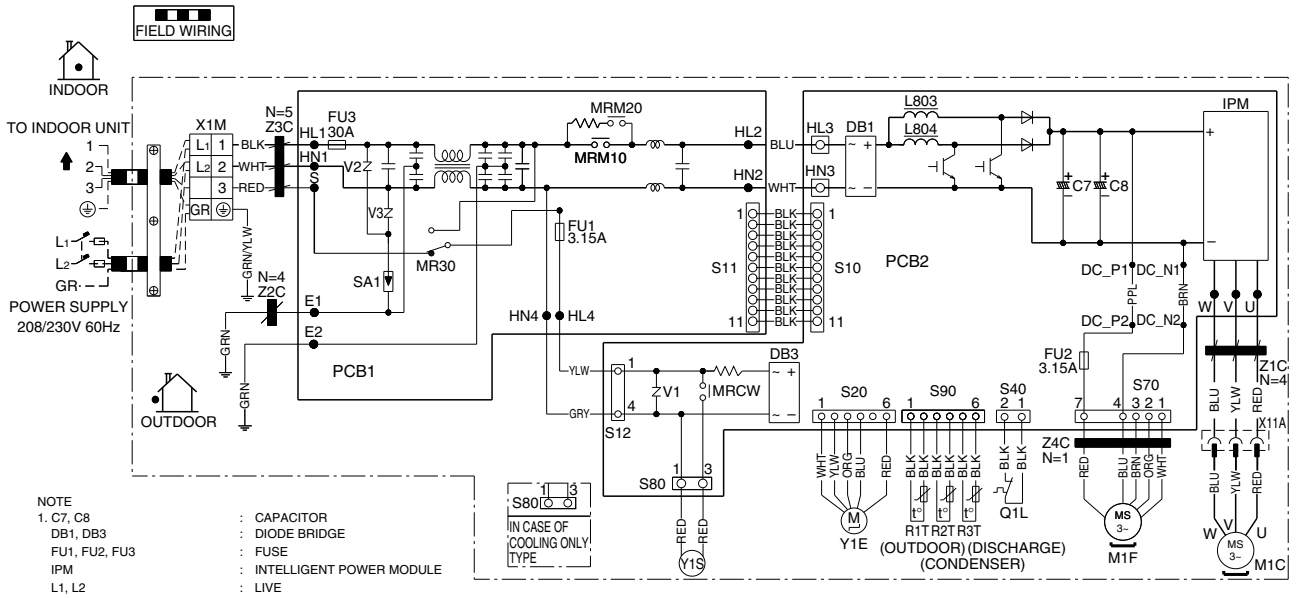
RXS15/18LVJU



NOTE
1. C7, C8

C7, C8	:	CAPACITOR
DB1, DB3	:	DIODE BRIDGE
FU1, FU2, FU3	:	FUSE
IPM	:	INTELLIGENT POWER MODULE
L1, L2	:	LIVE
L803, L804	:	REACTOR
M1C	:	COMPRESSOR MOTOR
M1F	:	FAN MOTOR
MRCW, MRM10, MRM20, MR30	:	MAGNETIC RELAY
Q1L	:	OVERLOAD PROTECTOR
PCB1, PCB2	:	PRINTED CIRCUIT BOARD
S10, S11, S12, S20 S40, S70, S80, S90		
HL3, HN3, X11A	:	CONNECTOR
R1T, R2T, R3T	:	THERMISTOR
SA1	:	SURGE ABSORBER
V1, V2, V3	:	VARISTOR
X1M	:	TERMINAL STRIP
Y1E	:	ELECTRONIC EXPANSION VALVE COIL
Y1S	:	REVERSING SOLENOID VALVE COIL
Z1C, Z2C, Z3C, Z4C	:	FERRITE CORE
GR	:	PROTECTIVE GROUND
⏚, ⏚	:	GROUND

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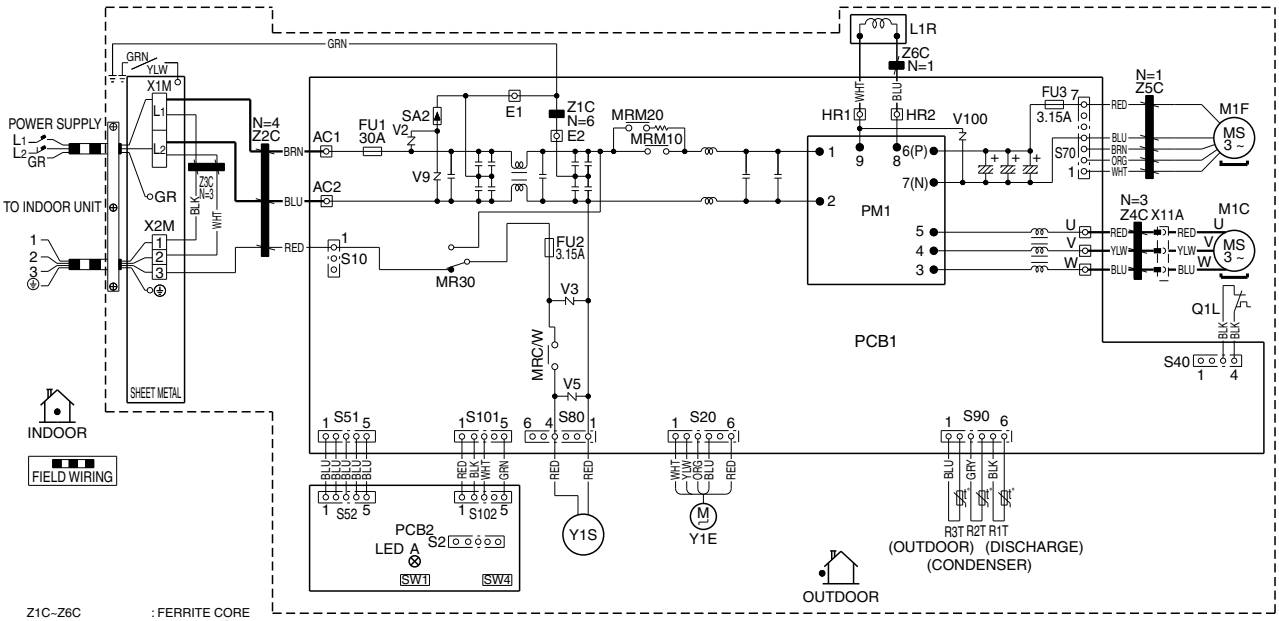
RXS24LVJU



Z1C~Z6C	: FERRITE CORE	MRM10, MRM20		L_1, L_2	: LIVE	M1C	: COMPRESSOR MOTOR
X1M, X2M	: TERMINAL STRIP	MRC/W, MR30	: MAGNETIC RELAY	SW1	: FORCED COOLING OPERATION SWITCH (SW1)	M1F	: FAN MOTOR
Y1E	: ELECTRONIC EXPANSION VALVE COIL	R1T~R3T	: THERMISTOR	SW4	: LOCAL SETTING SW (SW4)	L1R	: REACTOR
V2, V3, V5, V9, V100	: VARISTOR	S2~S102	: CONNECTOR			Q1L	: OVERLOAD PROTECTOR
SA2	: SURGE ABSORBER	LED A	: PILOT LAMP			PM1	: POWER MODULE
FU1, FU2, FU3	: FUSE					PCB1, 2	: PRINTED CIRCUIT BOARD
AC1, AC2						Y1S	: REVERSING SOLENOID VALVE COIL
U, V, W, X11A						SHEET METAL	: TERMINAL STRIP FIXED PLATE
E1, E2						GR	: PROTECTIVE GROUND
HR1, HR2	: CONNECTOR					⏚	: GROUND

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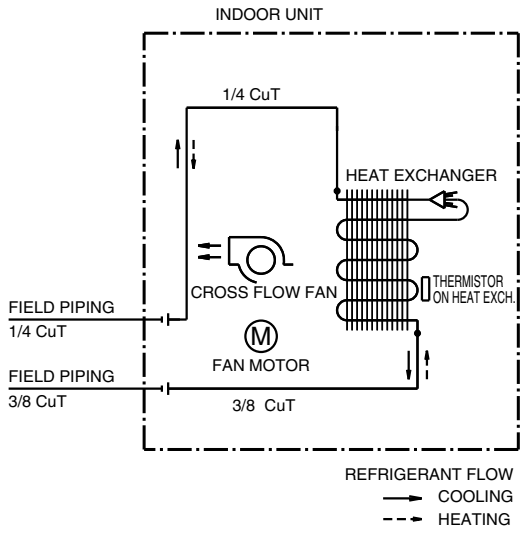
6. Piping Diagrams

6.1 Indoor Unit

6.1.1 Single Split Duct-Free System

FTXS09/12LVJU



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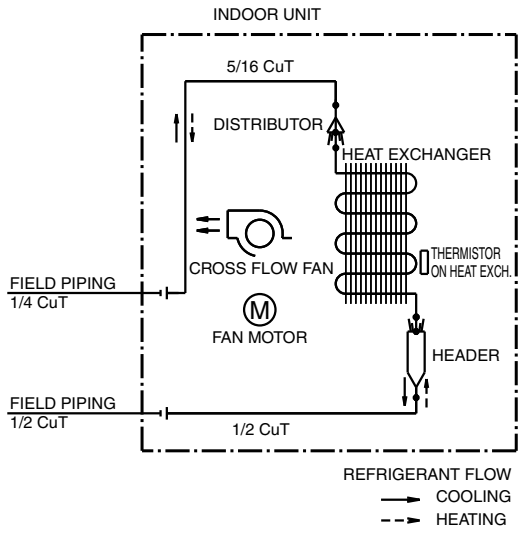

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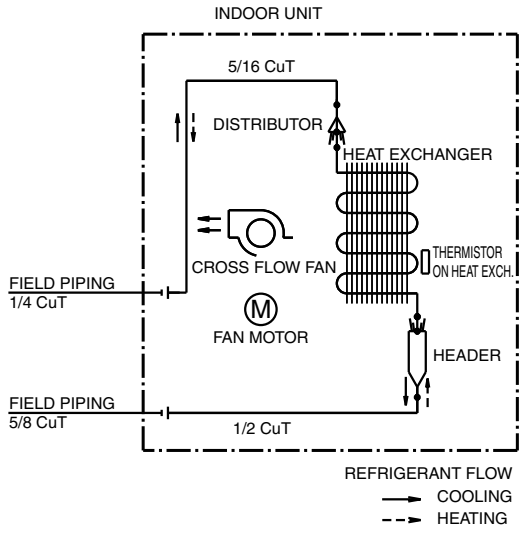

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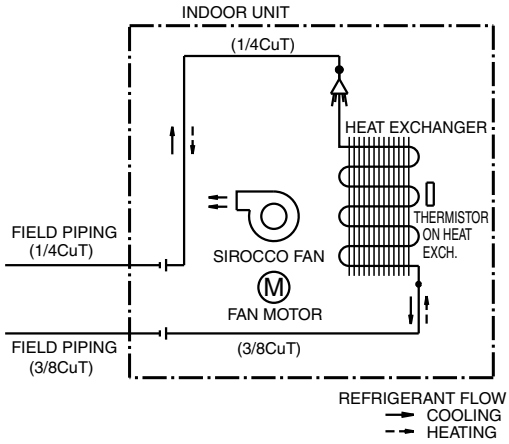
6.1.2 Slim Duct Built-in System

FDXS09/12LVJU



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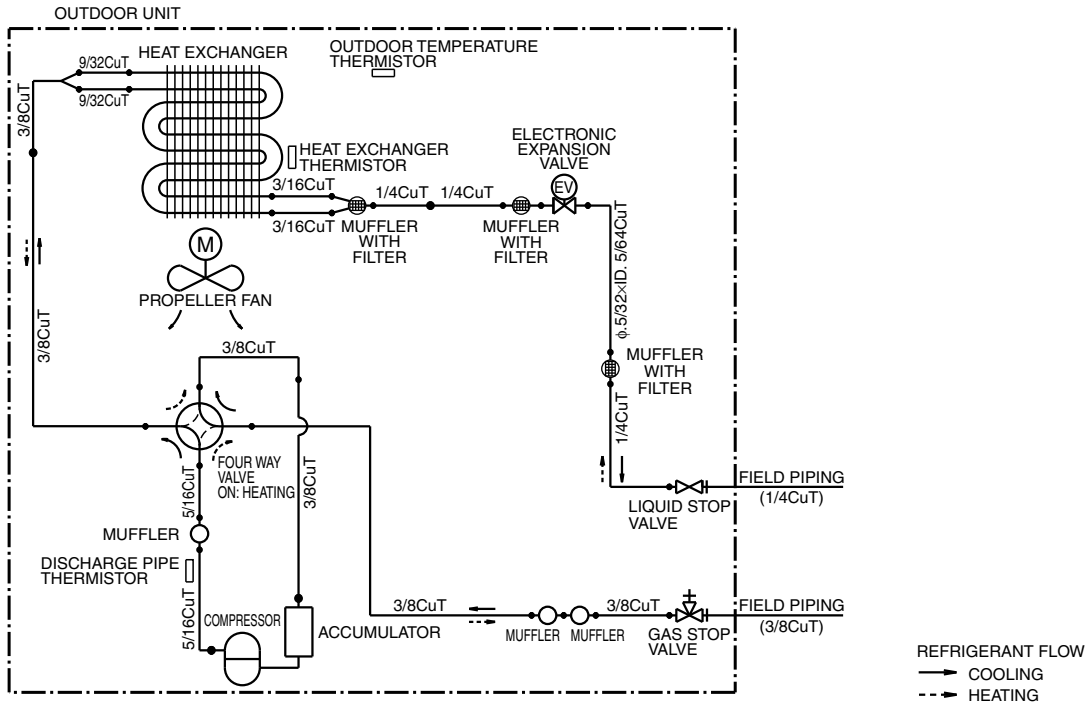
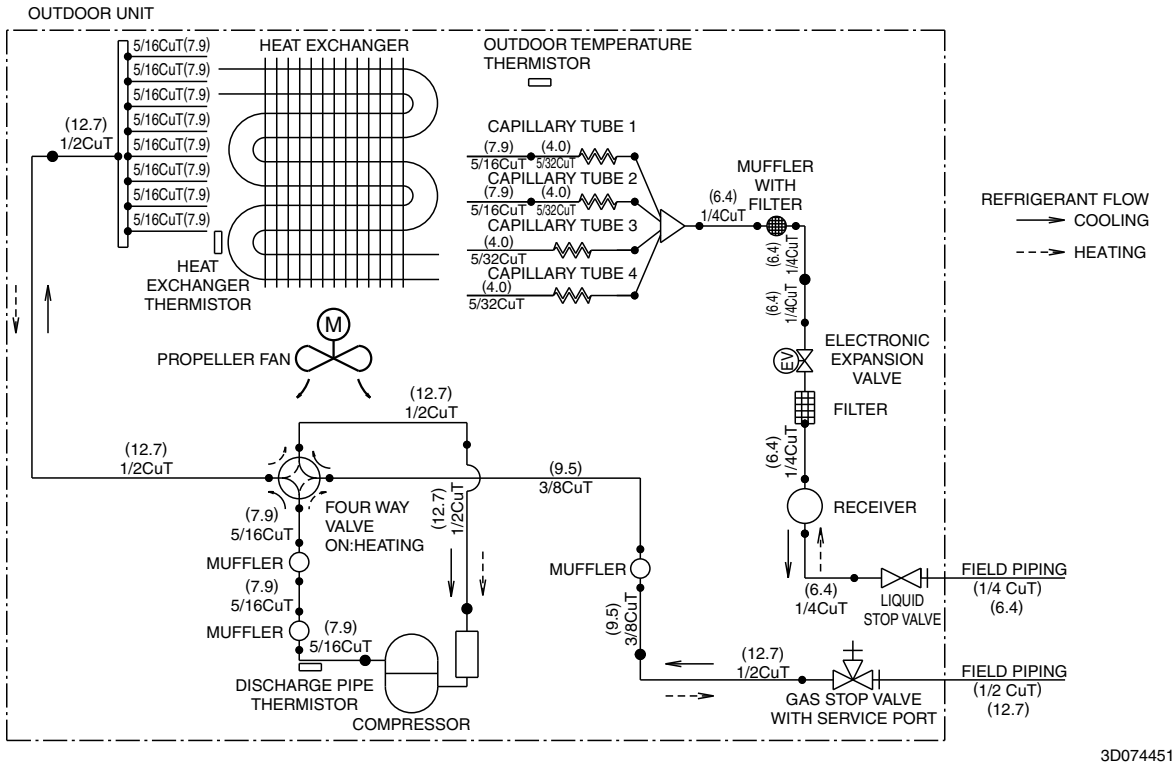
6.2 Outdoor Unit

RXS09/12LVJU



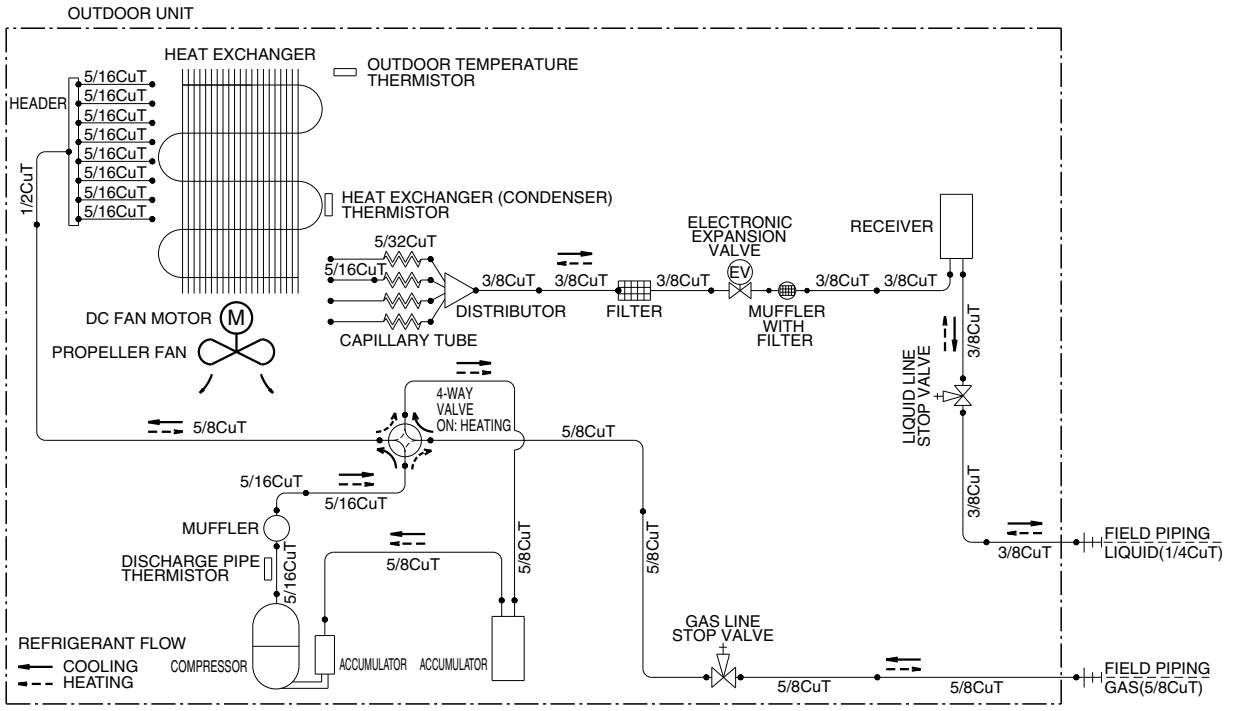
3D074282

RXS15/18LVJU



3D074451

RXS24LVJU



3D074442

7. Capacity Tables

7.1 Heat Pump

7.1.1 Single Split Duct-Free System

FTXS09LVJU + RXS09LVJU
<60 Hz, 208 V>

Cooling

AFR	10.8
BF	0.16

Temp: Celsius
TC, SHC, PI: kW

INDOOR		OUTDOOR TEMPERATURE (°CDB)																	
EWB	EDB	20			25			30			32			35			40		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	2.70	2.25	0.45	2.58	2.19	0.50	2.46	2.14	0.54	2.41	2.12	0.56	2.34	2.08	0.58	2.21	2.03	0.59
16.0	22.0	2.83	2.21	0.46	2.70	2.16	0.50	2.58	2.11	0.54	2.53	2.09	0.56	2.46	2.06	0.59	2.33	2.00	0.59
18.0	25.0	2.95	2.36	0.46	2.83	2.31	0.50	2.70	2.26	0.55	2.65	2.24	0.56	2.58	2.21	0.59	2.46	2.16	0.59
19.4	26.7	3.01	2.52	0.46	2.89	2.47	0.50	2.76	2.42	0.55	2.71	2.40	0.56	2.64	2.37	0.59	2.52	2.33	0.60
22.0	30.0	3.19	2.44	0.46	3.07	2.40	0.51	2.95	2.35	0.55	2.90	2.34	0.57	2.82	2.31	0.59	2.70	2.27	0.60
24.0	32.0	3.31	2.39	0.47	3.19	2.35	0.51	3.07	2.31	0.55	3.02	2.29	0.57	2.94	2.27	0.60	2.82	2.23	0.60

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

INDOOR		OUTDOOR TEMPERATURE (°FDB)																	
EWB	EDB	68			77			86			90			95			104		
°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	7.68	0.45	8.81	7.49	0.50	8.39	7.29	0.54	8.22	7.22	0.56	7.97	7.10	0.58	7.55	6.91	0.59
60.8	71.6	9.64	7.56	0.46	9.22	7.37	0.50	8.80	7.19	0.54	8.64	7.12	0.56	8.39	7.01	0.59	7.97	6.84	0.59
64.4	77.0	10.06	8.04	0.46	9.64	7.87	0.50	9.22	7.70	0.55	9.05	7.63	0.56	8.80	7.53	0.59	8.38	7.37	0.59
67.0	80.0	10.27	8.58	0.46	9.85	8.42	0.50	9.43	8.26	0.55	9.26	8.19	0.56	9.00	8.10	0.59	8.59	7.94	0.60
71.6	86.0	10.89	8.32	0.46	10.47	8.18	0.51	10.05	8.03	0.55	9.88	7.98	0.57	9.63	7.89	0.59	9.21	7.75	0.60
75.2	89.6	11.30	8.14	0.47	10.88	8.01	0.51	10.46	7.88	0.55	10.30	7.83	0.57	10.05	7.75	0.60	9.63	7.62	0.60

Heating

AFR	11.9

Temp: Celsius
TC, PI: kW

INDOOR	OUTDOOR TEMPERATURE(°CWB)											
EDB	–15		–10		–5		0		6		10	
°C	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	1.68	0.51	2.01	0.53	2.35	0.56	3.16	0.73	3.64	0.77	3.96	0.80
21.1	1.57	0.52	1.91	0.55	2.25	0.57	3.04	0.75	3.52	0.79	3.84	0.82
22.0	1.53	0.53	1.87	0.55	2.21	0.58	2.99	0.76	3.47	0.80	3.79	0.82
24.0	1.49	0.53	1.83	0.56	2.17	0.59	2.95	0.77	3.42	0.80	3.74	0.83
25.0	1.47	0.54	1.81	0.56	2.15	0.59	2.92	0.77	3.40	0.81	3.72	0.83
27.0	1.43	0.54	1.77	0.57	2.10	0.59	2.87	0.78	3.35	0.81	3.67	0.84

Temp: Fahrenheit
TC: kBtu/h
PI: kW

INDOOR	OUTDOOR TEMPERATURE (°FWB)											
EDB	5		14		23		32		43		50	
°F	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
59.0	5.72	0.51	6.87	0.53	8.03	0.56	10.80	0.73	12.42	0.77	13.51	0.80
70.0	5.37	0.52	6.52	0.55	7.67	0.57	10.38	0.75	12.00	0.79	13.10	0.82
71.6	5.23	0.53	6.38	0.55	7.53	0.58	10.22	0.76	11.84	0.80	12.93	0.82
75.2	5.09	0.53	6.24	0.56	7.39	0.59	10.05	0.77	11.68	0.80	12.76	0.83
77.0	5.01	0.54	6.17	0.56	7.32	0.59	9.97	0.77	11.60	0.81	12.68	0.83
80.6	4.87	0.54	6.03	0.57	7.18	0.59	9.80	0.78	11.43	0.81	12.51	0.84

<60 Hz, 230 V>

Cooling

AFR	10.8
BF	0.16

Temp: Celsius
TC, SHC, PI: kW

INDOOR		OUTDOOR TEMPERATURE (°CDB)																	
EWB	EDB	20			25			30			32			35			40		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	2.70	2.25	0.45	2.58	2.19	0.50	2.46	2.14	0.54	2.41	2.12	0.56	2.34	2.08	0.58	2.21	2.03	0.59
16.0	22.0	2.83	2.21	0.46	2.70	2.16	0.50	2.58	2.11	0.54	2.53	2.09	0.56	2.46	2.06	0.59	2.33	2.00	0.59
18.0	25.0	2.95	2.36	0.46	2.83	2.31	0.50	2.70	2.26	0.55	2.65	2.24	0.56	2.58	2.21	0.59	2.46	2.16	0.59
19.4	26.7	3.01	2.52	0.46	2.89	2.47	0.50	2.76	2.42	0.55	2.71	2.40	0.56	2.64	2.37	0.59	2.52	2.33	0.60
22.0	30.0	3.19	2.44	0.46	3.07	2.40	0.51	2.95	2.35	0.55	2.90	2.34	0.57	2.82	2.31	0.59	2.70	2.27	0.60
24.0	32.0	3.31	2.39	0.47	3.19	2.35	0.51	3.07	2.31	0.55	3.02	2.29	0.57	2.94	2.27	0.60	2.82	2.23	0.60

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

INDOOR		OUTDOOR TEMPERATURE (°FDB)																	
EWB	EDB	68			77			86			90			95			104		
°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	7.68	0.45	8.81	7.49	0.50	8.39	7.29	0.54	8.22	7.22	0.56	7.97	7.10	0.58	7.55	6.91	0.59
60.8	71.6	9.64	7.56	0.46	9.22	7.37	0.50	8.80	7.19	0.54	8.64	7.12	0.56	8.39	7.01	0.59	7.97	6.84	0.59
64.4	77.0	10.06	8.04	0.46	9.64	7.87	0.50	9.22	7.70	0.55	9.05	7.63	0.56	8.80	7.53	0.59	8.38	7.37	0.59
67.0	80.0	10.27	8.58	0.46	9.85	8.42	0.50	9.43	8.26	0.55	9.26	8.19	0.56	9.00	8.10	0.59	8.59	7.94	0.60
71.6	86.0	10.89	8.32	0.46	10.47	8.18	0.51	10.05	8.03	0.55	9.88	7.98	0.57	9.63	7.89	0.59	9.21	7.75	0.60
75.2	89.6	11.30	8.14	0.47	10.88	8.01	0.51	10.46	7.88	0.55	10.30	7.83	0.57	10.05	7.75	0.60	9.63	7.62	0.60

Heating

AFR	11.9

Temp: Celsius
TC, PI: kW

INDOOR	OUTDOOR TEMPERATURE (°CWB)											
EDB	–15		–10		–5		0		6		10	
°C	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	1.68	0.51	2.01	0.53	2.35	0.56	3.16	0.73	3.64	0.77	3.96	0.80
21.1	1.57	0.52	1.91	0.55	2.25	0.57	3.04	0.75	3.52	0.79	3.84	0.82
22.0	1.53	0.53	1.87	0.55	2.21	0.58	2.99	0.76	3.47	0.80	3.79	0.82
24.0	1.49	0.53	1.83	0.56	2.17	0.59	2.95	0.77	3.42	0.80	3.74	0.83
25.0	1.47	0.54	1.81	0.56	2.15	0.59	2.92	0.77	3.40	0.81	3.72	0.83
27.0	1.43	0.54	1.77	0.57	2.10	0.59	2.87	0.78	3.35	0.81	3.67	0.84

Temp: Fahrenheit
TC: kBtu/h
PI: kW

INDOOR	OUTDOOR TEMPERATURE (°FWB)											
EDB	5		14		23		32		43		50	
°F	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
59.0	5.72	0.51	6.87	0.53	8.03	0.56	10.80	0.73	12.42	0.77	13.51	0.80
70.0	5.37	0.52	6.52	0.55	7.67	0.57	10.38	0.75	12.00	0.79	13.10	0.82
71.6	5.23	0.53	6.38	0.55	7.53	0.58	10.22	0.76	11.84	0.80	12.93	0.82
75.2	5.09	0.53	6.24	0.56	7.39	0.59	10.05	0.77	11.68	0.80	12.76	0.83
77.0	5.01	0.54	6.17	0.56	7.32	0.59	9.97	0.77	11.60	0.81	12.68	0.83
80.6	4.87	0.54	6.03	0.57	7.18	0.59	9.80	0.78	11.43	0.81	12.51	0.84

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 heat 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. SHC values not included in the table must be calculated using interpolation with values of direct proportion.
5. Capacities are based on the following conditions.
   Corresponding refrigerant piping length : 25 ft
   Level difference : 0 ft
6. Airflow rate (AFR) and Bypass factor (BF) are tabulated above table.
7. Cooling capacity at –15°C / 5°F

Temp: Celsius
TC, SHC, PI: kW
60 Hz, 208 - 230 V

INDOOR		OUTDOOR		
EWB	EDB	–15 (°CDB)		
°C	°C	TC	SHC	PI
14.0	20.0	3.54	2.66	0.23

Temp: Fahrenheit
TC, SHC: kBtu/h
PI: kW
60 Hz, 208 - 230 V

INDOOR		OUTDOOR		
EWB	EDB	5 (°FDB)		
°F	°F	TC	SHC	PI
57.2	68.0	12.08	9.08	0.23

3D074636

FTXS12LVJU + RXS12LVJU
<60 Hz, 208 V>

Cooling

AFR	11.4
BF	0.21

Temp: Celsius
TC, SHC, PI: kW

INDOOR		OUTDOOR TEMPERATURE (°CDB)																	
EWB	EDB	20			25			30			32			35			40		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	3.52	2.64	0.72	3.44	2.60	0.79	3.28	2.52	0.86	3.21	2.49	0.89	3.11	2.44	0.93	2.95	2.36	0.94
16.0	22.0	3.77	2.64	0.73	3.60	2.56	0.79	3.44	2.48	0.86	3.38	2.45	0.89	3.28	2.41	0.93	3.11	2.34	0.94
18.0	25.0	3.93	2.76	0.73	3.77	2.69	0.80	3.60	2.62	0.87	3.54	2.59	0.90	3.44	2.55	0.94	3.28	2.48	0.95
19.4	26.7	4.01	2.92	0.73	3.85	2.85	0.80	3.68	2.78	0.87	3.62	2.75	0.90	3.52	2.71	0.94	3.36	2.64	0.95
22.0	30.0	4.25	2.81	0.74	4.09	2.75	0.81	3.93	2.69	0.88	3.86	2.67	0.90	3.76	2.63	0.95	3.60	2.57	0.95
24.0	32.0	4.42	2.74	0.74	4.25	2.68	0.81	4.09	2.63	0.88	4.02	2.61	0.91	3.93	2.57	0.95	3.76	2.52	0.96

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

INDOOR		OUTDOOR TEMPERATURE (°FDB)																	
EWB	EDB	68			77			86			90			95			104		
°F	°F	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
57.2	68.0	12.00	9.01	0.72	11.75	8.88	0.79	11.19	8.60	0.86	10.96	8.49	0.89	10.63	8.33	0.93	10.07	8.06	0.94
60.8	71.6	12.86	9.00	0.73	12.30	8.73	0.79	11.74	8.48	0.86	11.52	8.37	0.89	11.18	8.22	0.93	10.62	7.97	0.94
64.4	77.0	13.41	9.43	0.73	12.85	9.18	0.80	12.29	8.94	0.87	12.07	8.85	0.90	11.73	8.70	0.94	11.17	8.47	0.95
67.0	80.0	13.69	9.95	0.73	13.13	9.71	0.80	12.57	9.48	0.87	12.35	9.39	0.90	12.00	9.25	0.94	11.45	9.02	0.95
71.6	86.0	14.52	9.59	0.74	13.96	9.39	0.81	13.40	9.18	0.88	13.18	9.10	0.90	12.84	8.98	0.95	12.28	8.78	0.95
75.2	89.6	15.07	9.34	0.74	14.51	9.15	0.81	13.95	8.97	0.88	13.73	8.89	0.91	13.39	8.78	0.95	12.83	8.60	0.96

Heating

AFR	12.4

Temp: Celsius
TC, PI: kW

INDOOR	OUTDOOR TEMPERATURE (°CWB)											
EDB	–15		–10		–5		0		6		10	
°C	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	2.01	0.62	2.41	0.66	2.82	0.69	3.79	0.90	4.37	0.95	4.75	0.98
21.1	1.89	0.64	2.29	0.67	2.70	0.71	3.65	0.92	4.22	0.97	4.60	1.00
22.0	1.84	0.65	2.24	0.68	2.65	0.71	3.59	0.93	4.16	0.98	4.54	1.01
24.0	1.79	0.66	2.19	0.69	2.60	0.72	3.53	0.94	4.10	0.99	4.48	1.02
25.0	1.76	0.66	2.17	0.69	2.57	0.72	3.50	0.94	4.07	0.99	4.46	1.02
27.0	1.71	0.67	2.12	0.70	2.52	0.73	3.44	0.95	4.02	1.00	4.40	1.03

Temp: Fahrenheit
TC: kBtu/h
PI: kW

INDOOR	OUTDOOR TEMPERATURE (°FWB)											
EDB	5		14		23		32		43		50	
°F	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
59.0	6.86	0.62	8.24	0.66	9.62	0.69	12.94	0.90	14.90	0.95	16.20	0.98
70.0	6.43	0.64	7.82	0.67	9.20	0.71	12.45	0.92	14.40	0.97	15.70	1.00
71.6	6.27	0.65	7.65	0.68	9.03	0.71	12.25	0.93	14.20	0.98	15.50	1.01
75.2	6.10	0.66	7.48	0.69	8.86	0.72	12.05	0.94	14.00	0.99	15.30	1.02
77.0	6.01	0.66	7.39	0.69	8.78	0.72	11.95	0.94	13.90	0.99	15.20	1.02
80.6	5.84	0.67	7.23	0.70	8.61	0.73	11.75	0.95	13.70	1.00	15.00	1.03

<60 Hz, 230 V>

Cooling

AFR	11.4
BF	0.21

Temp: Celsius
TC, SHC, PI: kW

INDOOR		OUTDOOR TEMPERATURE (°CDB)																	
EWB	EDB	20			25			30			32			35			40		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	3.52	2.64	0.72	3.44	2.60	0.79	3.28	2.52	0.86	3.21	2.49	0.89	3.11	2.44	0.93	2.95	2.36	0.94
16.0	22.0	3.77	2.64	0.73	3.60	2.56	0.79	3.44	2.48	0.86	3.38	2.45	0.89	3.28	2.41	0.93	3.11	2.34	0.94
18.0	25.0	3.93	2.76	0.73	3.77	2.69	0.80	3.60	2.62	0.87	3.54	2.59	0.90	3.44	2.55	0.94	3.28	2.48	0.95
19.4	26.7	4.01	2.92	0.73	3.85	2.85	0.80	3.68	2.78	0.87	3.62	2.75	0.90	3.52	2.71	0.94	3.36	2.64	0.95
22.0	30.0	4.25	2.81	0.74	4.09	2.75	0.81	3.93	2.69	0.88	3.86	2.67	0.90	3.76	2.63	0.95	3.60	2.57	0.95
24.0	32.0	4.42	2.74	0.74	4.25	2.68	0.81	4.09	2.63	0.88	4.02	2.61	0.91	3.93	2.57	0.95	3.76	2.52	0.96

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

INDOOR		OUTDOOR TEMPERATURE (°FDB)																	
EWB	EDB	68			77			86			90			95			104		
°F	°F	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
57.2	68.0	12.00	9.01	0.72	11.75	8.88	0.79	11.19	8.60	0.86	10.96	8.49	0.89	10.63	8.33	0.93	10.07	8.06	0.94
60.8	71.6	12.86	9.00	0.73	12.30	8.73	0.79	11.74	8.48	0.86	11.52	8.37	0.89	11.18	8.22	0.93	10.62	7.97	0.94
64.4	77.0	13.41	9.43	0.73	12.85	9.18	0.80	12.29	8.94	0.87	12.07	8.85	0.90	11.73	8.70	0.94	11.17	8.47	0.95
67.0	80.0	13.69	9.95	0.73	13.13	9.71	0.80	12.57	9.48	0.87	12.35	9.39	0.90	12.00	9.25	0.94	11.45	9.02	0.95
71.6	86.0	14.52	9.59	0.74	13.96	9.39	0.81	13.40	9.18	0.88	13.18	9.10	0.90	12.84	8.98	0.95	12.28	8.78	0.95
75.2	89.6	15.07	9.34	0.74	14.51	9.15	0.81	13.95	8.97	0.88	13.73	8.89	0.91	13.39	8.78	0.95	12.83	8.60	0.96

Heating

AFR	12.4

Temp: Celsius
TC, PI: kW

INDOOR	OUTDOOR TEMPERATURE (°CWB)											
EDB	–15		–10		–5		0		6		10	
°C	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	2.01	0.62	2.41	0.66	2.82	0.69	3.79	0.90	4.37	0.95	4.75	0.98
21.1	1.89	0.64	2.29	0.67	2.70	0.71	3.65	0.92	4.22	0.97	4.60	1.00
22.0	1.84	0.65	2.24	0.68	2.65	0.71	3.59	0.93	4.16	0.98	4.54	1.01
24.0	1.79	0.66	2.19	0.69	2.60	0.72	3.53	0.94	4.10	0.99	4.48	1.02
25.0	1.76	0.66	2.17	0.69	2.57	0.72	3.50	0.94	4.07	0.99	4.46	1.02
27.0	1.71	0.67	2.12	0.70	2.52	0.73	3.44	0.95	4.02	1.00	4.40	1.03

Temp: Fahrenheit
TC: kBtu/h
PI: kW

INDOOR	OUTDOOR TEMPERATURE (°FWB)											
EDB	5		14		23		32		43		50	
°F	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
59.0	6.86	0.62	8.24	0.66	9.62	0.69	12.94	0.90	14.90	0.95	16.20	0.98
70.0	6.43	0.64	7.82	0.67	9.20	0.71	12.45	0.92	14.40	0.97	15.70	1.00
71.6	6.27	0.65	7.65	0.68	9.03	0.71	12.25	0.93	14.20	0.98	15.50	1.01
75.2	6.10	0.66	7.48	0.69	8.86	0.72	12.05	0.94	14.00	0.99	15.30	1.02
77.0	6.01	0.66	7.39	0.69	8.78	0.72	11.95	0.94	13.90	0.99	15.20	1.02
80.6	5.84	0.67	7.23	0.70	8.61	0.73	11.75	0.95	13.70	1.00	15.00	1.03

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 heat 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. SHC values not included in the table must be calculated using interpolation with values of direct proportion.
5. Capacities are based on the following conditions.
   Corresponding refrigerant piping length : 25 ft
   Level difference : 0 ft
6. Airflow rate (AFR) and Bypass factor (BF) are tabulated above table.
7. Cooling capacity at –15°C / 5°F

Temp: Celsius
TC, SHC, PI: kW
60 Hz, 208 - 230 V

INDOOR		OUTDOOR		
EWB	EDB	–15 (°CDB)		
°C	°C	TC	SHC	PI
14.0	20.0	3.52	2.64	0.31

Temp: Fahrenheit
TC, SHC: kBtu/h
PI: kW
60 Hz, 208 - 230 V

INDOOR		OUTDOOR		
EWB	EDB	5 (°FDB)		
°F	°F	TC	SHC	PI
57.2	68.0	12.01	9.01	0.31

3D074635

FTXS15LVJU + RXS15LVJU
<60 Hz, 208 V>

Cooling

AFR	16.1
BF	0.07

Temp: Celsius
TC, SHC, PI: kW

INDOOR		OUTDOOR TEMPERATURE (°CDB)																	
EWB	EDB	20			25			30			32			35			40		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	4.51	3.74	0.80	4.30	3.64	0.87	4.10	3.55	0.95	4.02	3.51	0.98	3.89	3.45	1.03	3.69	3.36	1.04
16.0	22.0	4.71	3.68	0.80	4.51	3.59	0.88	4.30	3.50	0.96	4.22	3.46	0.99	4.10	3.41	1.03	3.89	3.32	1.04
18.0	25.0	4.91	3.91	0.81	4.71	3.82	0.88	4.50	3.74	0.96	4.42	3.71	0.99	4.30	3.66	1.04	4.09	3.58	1.05
19.4	26.7	5.01	4.17	0.81	4.81	4.09	0.89	4.60	4.01	0.96	4.52	3.98	0.99	4.40	3.93	1.04	4.20	3.86	1.05
22.0	30.0	5.32	4.04	0.82	5.11	3.97	0.89	4.91	3.90	0.97	4.83	3.87	1.00	4.70	3.83	1.05	4.50	3.76	1.06
24.0	32.0	5.52	3.95	0.82	5.32	3.89	0.90	5.11	3.83	0.97	5.03	3.80	1.01	4.91	3.76	1.05	4.70	3.70	1.06

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

INDOOR		OUTDOOR TEMPERATURE (°FDB)																	
EWB	EDB	68			77			86			90			95			104		
°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	12.75	0.80	14.68	12.42	0.87	13.98	12.10	0.95	13.70	11.97	0.98	13.28	11.78	1.03	12.58	11.46	1.04
60.8	71.6	16.07	12.54	0.80	15.37	12.23	0.88	14.67	11.93	0.96	14.39	11.81	0.99	13.98	11.63	1.03	13.28	11.33	1.04
64.4	77.0	16.76	13.33	0.81	16.07	13.04	0.88	15.37	12.76	0.96	15.09	12.65	0.99	14.67	12.48	1.04	13.97	12.21	1.05
67.0	80.0	17.11	14.23	0.81	16.41	13.96	0.89	15.71	13.69	0.96	15.43	13.58	0.99	15.00	13.42	1.04	14.31	13.15	1.05
71.6	86.0	18.15	13.79	0.82	17.45	13.55	0.89	16.75	13.31	0.97	16.47	13.22	1.00	16.05	13.08	1.05	15.35	12.84	1.06
75.2	89.6	18.84	13.49	0.82	18.14	13.27	0.90	17.44	13.05	0.97	17.16	12.97	1.01	16.74	12.84	1.05	16.04	12.63	1.06

Heating

AFR	16.8

Temp: Celsius
TC, PI: kW

INDOOR	OUTDOOR TEMPERATURE (°CWB)											
EDB	–15		–10		–5		0		6		10	
°C	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	2.51	0.85	3.02	0.89	3.53	0.94	4.75	1.23	5.46	1.29	5.94	1.33
21.1	2.36	0.87	2.87	0.92	3.37	0.96	4.56	1.25	5.28	1.32	5.76	1.36
22.0	2.30	0.88	2.80	0.93	3.31	0.97	4.49	1.27	5.21	1.33	5.68	1.38
24.0	2.24	0.89	2.74	0.94	3.25	0.98	4.42	1.28	5.13	1.34	5.61	1.39
25.0	2.20	0.90	2.71	0.94	3.22	0.98	4.38	1.28	5.10	1.35	5.57	1.39
27.0	2.14	0.91	2.65	0.95	3.16	0.99	4.31	1.30	5.02	1.36	5.50	1.41

Temp: Fahrenheit
TC: kBtu/h
PI: kW

INDOOR	OUTDOOR TEMPERATURE (°FWB)											
EDB	5		14		23		32		43		50	
°F	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
59.0	8.58	0.85	10.31	0.89	12.04	0.94	16.20	1.23	18.64	1.29	20.26	1.33
70.0	8.05	0.87	9.78	0.92	11.51	0.96	15.57	1.25	18.00	1.32	19.64	1.36
71.6	7.84	0.88	9.57	0.93	11.30	0.97	15.33	1.27	17.77	1.33	19.39	1.38
75.2	7.63	0.89	9.36	0.94	11.09	0.98	15.08	1.28	17.52	1.34	19.15	1.39
77.0	7.52	0.90	9.25	0.94	10.98	0.98	14.95	1.28	17.39	1.35	19.02	1.39
80.6	7.31	0.91	9.04	0.95	10.77	0.99	14.70	1.30	17.14	1.36	18.77	1.41

<60 Hz, 230 V>

Cooling

AFR	16.1
BF	0.07

Temp: Celsius
TC, SHC, PI: kW

INDOOR		OUTDOOR TEMPERATURE (°CDB)																	
EWB	EDB	20			25			30			32			35			40		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	4.51	3.74	0.80	4.30	3.64	0.87	4.10	3.55	0.95	4.02	3.51	0.98	3.89	3.45	1.03	3.69	3.36	1.04
16.0	22.0	4.71	3.68	0.80	4.51	3.59	0.88	4.30	3.50	0.96	4.22	3.46	0.99	4.10	3.41	1.03	3.89	3.32	1.04
18.0	25.0	4.91	3.91	0.81	4.71	3.82	0.88	4.50	3.74	0.96	4.42	3.71	0.99	4.30	3.66	1.04	4.09	3.58	1.05
19.4	26.7	5.01	4.17	0.81	4.81	4.09	0.89	4.60	4.01	0.96	4.52	3.98	0.99	4.40	3.93	1.04	4.20	3.86	1.05
22.0	30.0	5.32	4.04	0.82	5.11	3.97	0.89	4.91	3.90	0.97	4.83	3.87	1.00	4.70	3.83	1.05	4.50	3.76	1.06
24.0	32.0	5.52	3.95	0.82	5.32	3.89	0.90	5.11	3.83	0.97	5.03	3.80	1.01	4.91	3.76	1.05	4.70	3.70	1.06

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

INDOOR		OUTDOOR TEMPERATURE (°FDB)																	
EWB	EDB	68			77			86			90			95			104		
°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	12.75	0.80	14.68	12.42	0.87	13.98	12.10	0.95	13.70	11.97	0.98	13.28	11.78	1.03	12.58	11.46	1.04
60.8	71.6	16.07	12.54	0.80	15.37	12.23	0.88	14.67	11.93	0.96	14.39	11.81	0.99	13.98	11.63	1.03	13.28	11.33	1.04
64.4	77.0	16.76	13.33	0.81	16.07	13.04	0.88	15.37	12.76	0.96	15.09	12.65	0.99	14.67	12.48	1.04	13.97	12.21	1.05
67.0	80.0	17.11	14.23	0.81	16.41	13.96	0.89	15.71	13.69	0.96	15.43	13.58	0.99	15.00	13.42	1.04	14.31	13.15	1.05
71.6	86.0	18.15	13.79	0.82	17.45	13.55	0.89	16.75	13.31	0.97	16.47	13.22	1.00	16.05	13.08	1.05	15.35	12.84	1.06
75.2	89.6	18.84	13.49	0.82	18.14	13.27	0.90	17.44	13.05	0.97	17.16	12.97	1.01	16.74	12.84	1.05	16.04	12.63	1.06

Heating

AFR	16.8

Temp: Celsius
TC, PI: kW

INDOOR	OUTDOOR TEMPERATURE (°CWB)											
EDB	–15		–10		–5		0		6		10	
°C	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	2.51	0.85	3.02	0.89	3.53	0.94	4.75	1.23	5.46	1.29	5.94	1.33
21.1	2.36	0.87	2.87	0.92	3.37	0.96	4.56	1.25	5.28	1.32	5.76	1.36
22.0	2.30	0.88	2.80	0.93	3.31	0.97	4.49	1.27	5.21	1.33	5.68	1.38
24.0	2.24	0.89	2.74	0.94	3.25	0.98	4.42	1.28	5.13	1.34	5.61	1.39
25.0	2.20	0.90	2.71	0.94	3.22	0.98	4.38	1.28	5.10	1.35	5.57	1.39
27.0	2.14	0.91	2.65	0.95	3.16	0.99	4.31	1.30	5.02	1.36	5.50	1.41

Temp: Fahrenheit
TC: kBtu/h
PI: kW

INDOOR	OUTDOOR TEMPERATURE (°FWB)											
EDB	5		14		23		32		43		50	
°F	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
59.0	8.58	0.85	10.31	0.89	12.04	0.94	16.20	1.23	18.64	1.29	20.26	1.33
70.0	8.05	0.87	9.78	0.92	11.51	0.96	15.57	1.25	18.00	1.32	19.64	1.36
71.6	7.84	0.88	9.57	0.93	11.30	0.97	15.33	1.27	17.77	1.33	19.39	1.38
75.2	7.63	0.89	9.36	0.94	11.09	0.98	15.08	1.28	17.52	1.34	19.15	1.39
77.0	7.52	0.90	9.25	0.94	10.98	0.98	14.95	1.28	17.39	1.35	19.02	1.39
80.6	7.31	0.91	9.04	0.95	10.77	0.99	14.70	1.30	17.14	1.36	18.77	1.41

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 heat 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. SHC values not included in the table must be calculated using interpolation with values of direct proportion.
5. Capacities are based on the following conditions.
   Corresponding refrigerant piping length : 25 ft
   Level difference : 0 ft
6. Airflow rate (AFR) and Bypass factor (BF) are tabulated above table.
7. Cooling capacity at –15°C / 5°F

Temp: Celsius
TC, SHC, PI: kW
60 Hz, 208 - 230 V

INDOOR		OUTDOOR		
EWB	EDB	–15 (°CDB)		
°C	°C	TC	SHC	PI
14.0	20.0	5.94	4.43	0.45

Temp: Fahrenheit
TC, SHC: kBtu/h
PI: kW
60 Hz, 208 - 230 V

INDOOR		OUTDOOR		
EWB	EDB	5 (°FDB)		
°F	°F	TC	SHC	PI
57.2	68.0	20.27	15.13	0.45

3D074968

FTXS18LVJU + RXS18LVJU
<60 Hz, 208 V>

Cooling

AFR	16.5
BF	0.07

Temp: Celsius
TC, SHC, PI: kW

INDOOR		OUTDOOR TEMPERATURE (°CDB)																	
EWB	EDB	20			25			30			32			35			40		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	5.41	4.21	1.09	5.16	4.09	1.19	4.92	3.98	1.30	4.82	3.93	1.34	4.67	3.86	1.40	4.43	3.74	1.42
16.0	22.0	5.65	4.14	1.10	5.41	4.03	1.20	5.16	3.92	1.31	5.06	3.87	1.35	4.92	3.81	1.41	4.67	3.70	1.42
18.0	25.0	5.90	4.37	1.10	5.65	4.26	1.21	5.40	4.16	1.31	5.31	4.12	1.35	5.16	4.06	1.42	4.91	3.96	1.43
19.4	26.7	6.02	4.63	1.11	5.77	4.53	1.21	5.53	4.43	1.32	5.43	4.39	1.36	5.28	4.34	1.42	5.03	4.24	1.43
22.0	30.0	6.38	4.48	1.11	6.14	4.39	1.22	5.89	4.30	1.32	5.79	4.27	1.37	5.64	4.22	1.43	5.40	4.13	1.44
24.0	32.0	6.63	4.37	1.12	6.38	4.29	1.23	6.13	4.21	1.33	6.04	4.18	1.37	5.89	4.13	1.44	5.64	4.05	1.45

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

INDOOR		OUTDOOR TEMPERATURE (°FDB)																	
EWB	EDB	68			77			86			90			95			104		
°F	°F	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
57.2	68.0	18.46	14.37	1.09	17.62	13.97	1.19	16.78	13.56	1.30	16.44	13.40	1.34	15.94	13.17	1.40	15.10	12.77	1.42
60.8	71.6	19.29	14.12	1.10	18.45	13.74	1.20	17.61	13.37	1.31	17.27	13.22	1.35	16.77	13.00	1.41	15.93	12.63	1.42
64.4	77.0	20.12	14.90	1.10	19.28	14.54	1.21	18.44	14.19	1.31	18.10	14.06	1.35	17.60	13.85	1.42	16.76	13.51	1.43
67.0	80.0	20.53	15.80	1.11	19.69	15.46	1.21	18.85	15.13	1.32	18.52	14.99	1.36	18.00	14.79	1.42	17.18	14.46	1.43
71.6	86.0	21.78	15.28	1.11	20.94	14.98	1.22	20.10	14.68	1.32	19.76	14.56	1.37	19.26	14.38	1.43	18.42	14.09	1.44
75.2	89.6	22.61	14.91	1.12	21.77	14.63	1.23	20.93	14.36	1.33	20.59	14.25	1.37	20.09	14.09	1.44	19.25	13.83	1.45

Heating

AFR	17.7

Temp: Celsius
TC, PI: kW

INDOOR	OUTDOOR TEMPERATURE (°CWB)											
EDB	–15		–10		–5		0		6		10	
°C	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	3.01	1.10	3.62	1.16	4.23	1.21	5.69	1.59	6.55	1.67	7.12	1.73
21.1	2.83	1.13	3.44	1.19	4.04	1.24	5.47	1.63	6.33	1.71	6.90	1.77
22.0	2.75	1.14	3.36	1.20	3.97	1.26	5.38	1.64	6.24	1.73	6.81	1.78
24.0	2.68	1.16	3.29	1.21	3.90	1.27	5.30	1.66	6.16	1.74	6.73	1.80
25.0	2.64	1.16	3.25	1.22	3.86	1.27	5.25	1.66	6.11	1.75	6.68	1.80
27.0	2.57	1.17	3.18	1.23	3.78	1.29	5.17	1.68	6.02	1.76	6.60	1.82

Temp: Fahrenheit
TC: kBtu/h
PI: kW

INDOOR	OUTDOOR TEMPERATURE (°FWB)											
EDB	5		14		23		32		43		50	
°F	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
59.0	10.29	1.10	12.36	1.16	14.43	1.21	19.42	1.59	22.34	1.67	24.29	1.73
70.0	9.65	1.13	11.72	1.19	13.80	1.24	18.67	1.63	21.60	1.71	23.55	1.77
71.6	9.40	1.14	11.47	1.20	13.54	1.26	18.37	1.64	21.30	1.73	23.25	1.78
75.2	9.14	1.16	11.22	1.21	13.29	1.27	18.07	1.66	21.00	1.74	22.95	1.80
77.0	9.02	1.16	11.09	1.22	13.16	1.27	17.93	1.66	20.85	1.75	22.80	1.80
80.6	8.76	1.17	10.84	1.23	12.91	1.29	17.63	1.68	20.55	1.76	22.51	1.82

<60 Hz, 230 V>

Cooling

AFR	16.5
BF	0.07

Temp: Celsius
TC, SHC, PI: kW

INDOOR		OUTDOOR TEMPERATURE (°CDB)																	
EWB	EDB	20			25			30			32			35			40		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	5.41	4.21	1.09	5.16	4.09	1.19	4.92	3.98	1.30	4.82	3.93	1.34	4.67	3.86	1.40	4.43	3.74	1.42
16.0	22.0	5.65	4.14	1.10	5.41	4.03	1.20	5.16	3.92	1.31	5.06	3.87	1.35	4.92	3.81	1.41	4.67	3.70	1.42
18.0	25.0	5.90	4.37	1.10	5.65	4.26	1.21	5.40	4.16	1.31	5.31	4.12	1.35	5.16	4.06	1.42	4.91	3.96	1.43
19.4	26.7	6.02	4.63	1.11	5.77	4.53	1.21	5.53	4.43	1.32	5.43	4.39	1.36	5.28	4.34	1.42	5.03	4.24	1.43
22.0	30.0	6.38	4.48	1.11	6.14	4.39	1.22	5.89	4.30	1.32	5.79	4.27	1.37	5.64	4.22	1.43	5.40	4.13	1.44
24.0	32.0	6.63	4.37	1.12	6.38	4.29	1.23	6.13	4.21	1.33	6.04	4.18	1.37	5.89	4.13	1.44	5.64	4.05	1.45

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

INDOOR		OUTDOOR TEMPERATURE (°FDB)																	
EWB	EDB	68			77			86			90			95			104		
°F	°F	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
57.2	68.0	18.46	14.37	1.09	17.62	13.97	1.19	16.78	13.56	1.30	16.44	13.40	1.34	15.94	13.17	1.40	15.10	12.77	1.42
60.8	71.6	19.29	14.12	1.10	18.45	13.74	1.20	17.61	13.37	1.31	17.27	13.22	1.35	16.77	13.00	1.41	15.93	12.63	1.42
64.4	77.0	20.12	14.90	1.10	19.28	14.54	1.21	18.44	14.19	1.31	18.10	14.06	1.35	17.60	13.85	1.42	16.76	13.51	1.43
67.0	80.0	20.53	15.80	1.11	19.69	15.46	1.21	18.85	15.13	1.32	18.52	14.99	1.36	18.00	14.79	1.42	17.18	14.46	1.43
71.6	86.0	21.78	15.28	1.11	20.94	14.98	1.22	20.10	14.68	1.32	19.76	14.56	1.37	19.26	14.38	1.43	18.42	14.09	1.44
75.2	89.6	22.61	14.91	1.12	21.77	14.63	1.23	20.93	14.36	1.33	20.59	14.25	1.37	20.09	14.09	1.44	19.25	13.83	1.45

Heating

AFR	17.7

Temp: Celsius
TC, PI: kW

INDOOR	OUTDOOR TEMPERATURE (°CWB)											
EDB	–15		–10		–5		0		6		10	
°C	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	3.01	1.10	3.62	1.16	4.23	1.21	5.69	1.59	6.55	1.67	7.12	1.73
21.1	2.83	1.13	3.44	1.19	4.04	1.24	5.47	1.63	6.33	1.71	6.90	1.77
22.0	2.75	1.14	3.36	1.20	3.97	1.26	5.38	1.64	6.24	1.73	6.81	1.78
24.0	2.68	1.16	3.29	1.21	3.90	1.27	5.30	1.66	6.16	1.74	6.73	1.80
25.0	2.64	1.16	3.25	1.22	3.86	1.27	5.25	1.66	6.11	1.75	6.68	1.80
27.0	2.57	1.17	3.18	1.23	3.78	1.29	5.17	1.68	6.02	1.76	6.60	1.82

Temp: Fahrenheit
TC: kBtu/h
PI: kW

INDOOR	OUTDOOR TEMPERATURE (°FWB)											
EDB	5		14		23		32		43		50	
°F	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
59.0	10.29	1.10	12.36	1.16	14.43	1.21	19.42	1.59	22.34	1.67	24.29	1.73
70.0	9.65	1.13	11.72	1.19	13.80	1.24	18.67	1.63	21.60	1.71	23.55	1.77
71.6	9.40	1.14	11.47	1.20	13.54	1.26	18.37	1.64	21.30	1.73	23.25	1.78
75.2	9.14	1.16	11.22	1.21	13.29	1.27	18.07	1.66	21.00	1.74	22.95	1.80
77.0	9.02	1.16	11.09	1.22	13.16	1.27	17.93	1.66	20.85	1.75	22.80	1.80
80.6	8.76	1.17	10.84	1.23	12.91	1.29	17.63	1.68	20.55	1.76	22.51	1.82

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 heat 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. SHC values not included in the table must be calculated using interpolation with values of direct proportion.
5. Capacities are based on the following conditions.
   Corresponding refrigerant piping length : 25 ft
   Level difference : 0 ft
6. Airflow rate (AFR) and Bypass factor (BF) are tabulated above table.
7. Cooling capacity at –15°C / 5°F

Temp: Celsius
TC, SHC, PI: kW
60 Hz, 208 - 230 V

INDOOR		OUTDOOR		
EWB	EDB	–15 (°CDB)		
°C	°C	TC	SHC	PI
14.0	20.0	7.13	5.08	0.45

Temp: Fahrenheit
TC, SHC: kBtu/h
PI: kW
60 Hz, 208 - 230 V

INDOOR		OUTDOOR		
EWB	EDB	5 (°FDB)		
°F	°F	TC	SHC	PI
57.2	68.0	24.33	17.35	0.45

3D074998

FTXS24LVJU + RXS24LVJU
<60 Hz, 208 V>

Cooling

AFR	18.2
BF	0.08

Temp: Celsius
TC, SHC, PI: kW

INDOOR		OUTDOOR TEMPERATURE (°CDB)																	
EWB	EDB	20			25			30			32			35			40		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	6.45	4.87	1.32	6.16	4.72	1.45	5.87	4.58	1.57	5.75	4.52	1.62	5.57	4.44	1.70	5.28	4.30	1.72
16.0	22.0	6.74	4.78	1.33	6.45	4.65	1.45	6.16	4.51	1.58	6.04	4.46	1.63	5.86	4.38	1.71	5.57	4.25	1.73
18.0	25.0	7.03	5.02	1.33	6.74	4.90	1.46	6.45	4.77	1.59	6.33	4.72	1.64	6.15	4.65	1.72	5.86	4.52	1.73
19.4	26.7	7.18	5.31	1.34	6.89	5.19	1.47	6.59	5.07	1.59	6.48	5.02	1.64	6.30	4.95	1.72	6.01	4.83	1.74
22.0	30.0	7.62	5.12	1.35	7.32	5.01	1.48	7.03	4.91	1.60	6.91	4.87	1.66	6.74	4.80	1.73	6.44	4.70	1.75
24.0	32.0	7.91	4.99	1.36	7.61	4.89	1.48	7.32	4.80	1.61	7.20	4.76	1.66	7.03	4.70	1.74	6.73	4.61	1.75

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

INDOOR		OUTDOOR TEMPERATURE (°FDB)																	
EWB	EDB	68			77			86			90			95			104		
°F	°F	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
57.2	68.0	22.02	16.61	1.32	21.02	16.11	1.45	20.02	15.62	1.57	19.62	15.43	1.62	19.02	15.14	1.70	18.02	14.66	1.72
60.8	71.6	23.01	16.32	1.33	22.01	15.86	1.45	21.01	15.40	1.58	20.61	15.21	1.63	20.01	14.94	1.71	19.01	14.50	1.73
64.4	77.0	24.00	17.14	1.33	23.00	16.70	1.46	22.00	16.28	1.59	21.60	16.11	1.64	21.00	15.85	1.72	20.00	15.44	1.73
67.0	80.0	24.50	18.11	1.34	23.50	17.69	1.47	22.50	17.28	1.59	22.10	17.12	1.64	21.50	16.88	1.72	20.49	16.47	1.74
71.6	86.0	25.98	17.48	1.35	24.98	17.11	1.48	23.98	16.75	1.60	23.58	16.60	1.66	22.98	16.39	1.73	21.98	16.03	1.75
75.2	89.6	26.97	17.03	1.36	25.97	16.70	1.48	24.97	16.36	1.61	24.57	16.23	1.66	23.97	16.04	1.74	22.97	15.71	1.75

Heating

AFR	19.8

Temp: Celsius
TC, PI: kW

INDOOR	OUTDOOR TEMPERATURE (°CWB)											
EDB	–15		–10		–5		0		6		10	
°C	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	3.54	1.42	4.26	1.50	4.97	1.57	6.69	2.05	7.70	2.16	8.37	2.23
21.1	3.32	1.46	4.04	1.54	4.75	1.61	6.43	2.10	7.44	2.21	8.11	2.28
22.0	3.24	1.48	3.95	1.55	4.67	1.62	6.33	2.12	7.34	2.23	8.01	2.30
24.0	3.15	1.49	3.86	1.57	4.58	1.64	6.23	2.14	7.23	2.25	7.91	2.32
25.0	3.11	1.50	3.82	1.57	4.53	1.65	6.18	2.15	7.18	2.26	7.86	2.33
27.0	3.02	1.52	3.73	1.59	4.45	1.66	6.07	2.17	7.08	2.28	7.75	2.35

Temp: Fahrenheit
TC: kBtu/h
PI: kW

INDOOR	OUTDOOR TEMPERATURE (°FWB)											
EDB	5		14		23		32		43		50	
°F	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
59.0	12.09	1.42	14.53	1.50	16.96	1.57	22.82	2.05	26.26	2.16	28.55	2.23
70.0	11.34	1.46	13.78	1.54	16.22	1.61	21.95	2.10	25.40	2.21	27.68	2.28
71.6	11.05	1.48	13.48	1.55	15.92	1.62	21.60	2.12	25.03	2.23	27.33	2.30
75.2	10.75	1.49	13.18	1.57	15.62	1.64	21.24	2.14	24.68	2.25	26.98	2.32
77.0	10.60	1.50	13.04	1.57	15.47	1.65	21.07	2.15	24.51	2.26	26.80	2.33
80.6	10.30	1.52	12.74	1.59	15.17	1.66	20.72	2.17	24.16	2.28	26.45	2.35

<60 Hz, 230 V>

Cooling

AFR	18.2
BF	0.08

Temp: Celsius
TC, SHC, PI: kW

INDOOR		OUTDOOR TEMPERATURE (°CDB)																	
EWB	EDB	20			25			30			32			35			40		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	6.45	4.87	1.32	6.16	4.72	1.45	5.87	4.58	1.57	5.75	4.52	1.62	5.57	4.44	1.70	5.28	4.30	1.72
16.0	22.0	6.74	4.78	1.33	6.45	4.65	1.45	6.16	4.51	1.58	6.04	4.46	1.63	5.86	4.38	1.71	5.57	4.25	1.73
18.0	25.0	7.03	5.02	1.33	6.74	4.90	1.46	6.45	4.77	1.59	6.33	4.72	1.64	6.15	4.65	1.72	5.86	4.52	1.73
19.4	26.7	7.18	5.31	1.34	6.89	5.19	1.47	6.59	5.07	1.59	6.48	5.02	1.64	6.30	4.95	1.72	6.01	4.83	1.74
22.0	30.0	7.62	5.12	1.35	7.32	5.01	1.48	7.03	4.91	1.60	6.91	4.87	1.66	6.74	4.80	1.73	6.44	4.70	1.75
24.0	32.0	7.91	4.99	1.36	7.61	4.89	1.48	7.32	4.80	1.61	7.20	4.76	1.66	7.03	4.70	1.74	6.73	4.61	1.75

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

INDOOR		OUTDOOR TEMPERATURE (°FDB)																	
EWB	EDB	68			77			86			90			95			104		
°F	°F	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
57.2	68.0	22.02	16.61	1.32	21.02	16.11	1.45	20.02	15.62	1.57	19.62	15.43	1.62	19.02	15.14	1.70	18.02	14.66	1.72
60.8	71.6	23.01	16.32	1.33	22.01	15.86	1.45	21.01	15.40	1.58	20.61	15.21	1.63	20.01	14.94	1.71	19.01	14.50	1.73
64.4	77.0	24.00	17.14	1.33	23.00	16.70	1.46	22.00	16.28	1.59	21.60	16.11	1.64	21.00	15.85	1.72	20.00	15.44	1.73
67.0	80.0	24.50	18.11	1.34	23.50	17.69	1.47	22.50	17.28	1.59	22.10	17.12	1.64	21.50	16.88	1.72	20.49	16.47	1.74
71.6	86.0	25.98	17.48	1.35	24.98	17.11	1.48	23.98	16.75	1.60	23.58	16.60	1.66	22.98	16.39	1.73	21.98	16.03	1.75
75.2	89.6	26.97	17.03	1.36	25.97	16.70	1.48	24.97	16.36	1.61	24.57	16.23	1.66	23.97	16.04	1.74	22.97	15.71	1.75

Heating

AFR	19.8

Temp: Celsius
TC, PI: kW

INDOOR	OUTDOOR TEMPERATURE (°CWB)											
EDB	–15		–10		–5		0		6		10	
°C	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	3.54	1.42	4.26	1.50	4.97	1.57	6.69	2.05	7.70	2.16	8.37	2.23
21.1	3.32	1.46	4.04	1.54	4.75	1.61	6.43	2.10	7.44	2.21	8.11	2.28
22.0	3.24	1.48	3.95	1.55	4.67	1.62	6.33	2.12	7.34	2.23	8.01	2.30
24.0	3.15	1.49	3.86	1.57	4.58	1.64	6.23	2.14	7.23	2.25	7.91	2.32
25.0	3.11	1.50	3.82	1.57	4.53	1.65	6.18	2.15	7.18	2.26	7.86	2.33
27.0	3.02	1.52	3.73	1.59	4.45	1.66	6.07	2.17	7.08	2.28	7.75	2.35

Temp: Fahrenheit
TC: kBtu/h
PI: kW

INDOOR	OUTDOOR TEMPERATURE (°FWB)											
EDB	5		14		23		32		43		50	
°F	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
59.0	12.09	1.42	14.53	1.50	16.96	1.57	22.82	2.05	26.26	2.16	28.55	2.23
70.0	11.34	1.46	13.78	1.54	16.22	1.61	21.95	2.10	25.40	2.21	27.68	2.28
71.6	11.05	1.48	13.48	1.55	15.92	1.62	21.60	2.12	25.03	2.23	27.33	2.30
75.2	10.75	1.49	13.18	1.57	15.62	1.64	21.24	2.14	24.68	2.25	26.98	2.32
77.0	10.60	1.50	13.04	1.57	15.47	1.65	21.07	2.15	24.51	2.26	26.80	2.33
80.6	10.30	1.52	12.74	1.59	15.17	1.66	20.72	2.17	24.16	2.28	26.45	2.35

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 heat 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. SHC values not included in the table must be calculated using interpolation with values of direct proportion.
5. Capacities are based on the following conditions.
   Corresponding refrigerant piping length : 25 ft
   Level difference : 0 ft
6. Airflow rate (AFR) and Bypass factor (BF) are tabulated above table.
7. Cooling capacity at –15°C / 5°F

Temp: Celsius
TC, SHC, PI: kW
60 Hz, 208 - 230 V

INDOOR		OUTDOOR		
EWB	EDB	–15 (°CDB)		
°C	°C	TC	SHC	PI
14.0	20.0	8.17	5.75	0.43

Temp: Fahrenheit
TC, SHC: kBtu/h
PI: kW
60 Hz, 208 - 230 V

INDOOR		OUTDOOR		
EWB	EDB	5 (°FDB)		
°F	°F	TC	SHC	PI
57.2	68.0	27.88	19.63	0.43

3D074634

7.1.2 Slim Duct Built-in System

FDXS09LVJU + RXS09LVJU
<60 Hz, 208 V>

Cooling

AFR	8.6
BF	0.12

Temp: Celsius
TC, SHC, PI: kW

INDOOR		OUTDOOR TEMPERATURE (°CDB)																	
EWB	EDB	20			25			30			32			35			40		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	2.55	2.02	0.58	2.44	1.96	0.64	2.32	1.91	0.70	2.27	1.89	0.72	2.20	1.85	0.75	2.09	1.80	0.76
16.0	22.0	2.67	1.98	0.59	2.55	1.93	0.64	2.43	1.88	0.70	2.39	1.86	0.72	2.32	1.83	0.75	2.20	1.78	0.76
18.0	25.0	2.78	2.10	0.59	2.66	2.05	0.65	2.55	2.00	0.70	2.50	1.98	0.72	2.43	1.95	0.76	2.32	1.91	0.77
19.4	26.7	2.84	2.23	0.59	2.72	2.18	0.65	2.61	2.14	0.70	2.56	2.12	0.73	2.49	2.09	0.76	2.37	2.05	0.77
22.0	30.0	3.01	2.16	0.60	2.89	2.12	0.65	2.78	2.07	0.71	2.73	2.06	0.73	2.66	2.03	0.77	2.55	1.99	0.77
24.0	32.0	3.12	2.11	0.60	3.01	2.07	0.66	2.89	2.03	0.71	2.85	2.02	0.73	2.78	1.99	0.77	2.66	1.96	0.78

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

INDOOR		OUTDOOR TEMPERATURE (°FDB)																	
EWB	EDB	68			77			86			90			95			104		
°F	°F	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
57.2	68.0	8.70	6.89	0.58	8.31	6.70	0.64	7.91	6.51	0.70	7.75	6.44	0.72	7.52	6.33	0.75	7.12	6.14	0.76
60.8	71.6	9.10	6.77	0.59	8.70	6.59	0.64	8.30	6.42	0.70	8.15	6.35	0.72	7.91	6.25	0.75	7.51	6.07	0.76
64.4	77.0	9.49	7.16	0.59	9.09	6.99	0.65	8.70	6.83	0.70	8.54	6.76	0.72	8.30	6.67	0.76	7.90	6.51	0.77
67.0	80.0	9.68	7.61	0.59	9.29	7.45	0.65	8.89	7.29	0.70	8.73	7.23	0.73	8.50	7.13	0.76	8.10	6.98	0.77
71.6	86.0	10.27	7.36	0.60	9.87	7.22	0.65	9.48	7.08	0.71	9.32	7.02	0.73	9.08	6.94	0.77	8.69	6.81	0.77
75.2	89.6	10.66	7.18	0.60	10.27	7.06	0.66	9.87	6.93	0.71	9.71	6.88	0.73	9.47	6.81	0.77	9.08	6.68	0.78

Heating

AFR	8.6

Temp: Celsius
TC, PI: kW

INDOOR	OUTDOOR TEMPERATURE (°CWB)											
EDB	–15		–10		–5		0		6		10	
°C	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	1.40	0.55	1.68	0.58	1.96	0.60	2.63	0.79	3.03	0.83	3.30	0.86
21.1	1.31	0.56	1.59	0.59	1.87	0.62	2.53	0.81	2.93	0.85	3.19	0.88
22.0	1.27	0.57	1.56	0.60	1.84	0.62	2.49	0.82	2.89	0.86	3.15	0.89
24.0	1.24	0.57	1.52	0.60	1.80	0.63	2.45	0.82	2.85	0.87	3.11	0.89
25.0	1.22	0.58	1.50	0.61	1.79	0.63	2.43	0.83	2.83	0.87	3.09	0.90
27.0	1.19	0.58	1.47	0.61	1.75	0.64	2.39	0.83	2.79	0.88	3.05	0.90

Temp: Fahrenheit
TC: kBtu/h
PI: kW

INDOOR	OUTDOOR TEMPERATURE (°FWB)											
EDB	5		14		23		32		43		50	
°F	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
59.0	4.76	0.55	5.72	0.58	6.68	0.60	8.99	0.79	10.34	0.83	11.25	0.86
70.0	4.47	0.56	5.43	0.59	6.39	0.62	8.64	0.81	10.00	0.85	10.90	0.88
71.6	4.35	0.57	5.31	0.60	6.27	0.62	8.50	0.82	9.86	0.86	10.76	0.89
75.2	4.23	0.57	5.19	0.60	6.15	0.63	8.37	0.82	9.72	0.87	10.62	0.89
77.0	4.17	0.58	5.13	0.61	6.09	0.63	8.30	0.83	9.65	0.87	10.56	0.90
80.6	4.06	0.58	5.02	0.61	5.98	0.64	8.16	0.83	9.51	0.88	10.42	0.90

<60 Hz, 230 V>

Cooling

AFR	8.6
BF	0.12

Temp: Celsius
TC, SHC, PI: kW

INDOOR		OUTDOOR TEMPERATURE (°CDB)																	
EWB	EDB	20			25			30			32			35			40		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	2.55	2.02	0.58	2.44	1.96	0.64	2.32	1.91	0.70	2.27	1.89	0.72	2.20	1.85	0.75	2.09	1.80	0.76
16.0	22.0	2.67	1.98	0.59	2.55	1.93	0.64	2.43	1.88	0.70	2.39	1.86	0.72	2.32	1.83	0.75	2.20	1.78	0.76
18.0	25.0	2.78	2.10	0.59	2.66	2.05	0.65	2.55	2.00	0.70	2.50	1.98	0.72	2.43	1.95	0.76	2.32	1.91	0.77
19.4	26.7	2.84	2.23	0.59	2.72	2.18	0.65	2.61	2.14	0.70	2.56	2.12	0.73	2.49	2.09	0.76	2.37	2.05	0.77
22.0	30.0	3.01	2.16	0.60	2.89	2.12	0.65	2.78	2.07	0.71	2.73	2.06	0.73	2.66	2.03	0.77	2.55	1.99	0.77
24.0	32.0	3.12	2.11	0.60	3.01	2.07	0.66	2.89	2.03	0.71	2.85	2.02	0.73	2.78	1.99	0.77	2.66	1.96	0.78

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

INDOOR		OUTDOOR TEMPERATURE (°FDB)																	
EWB	EDB	68			77			86			90			95			104		
°F	°F	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
57.2	68.0	8.70	6.89	0.58	8.31	6.70	0.64	7.91	6.51	0.70	7.75	6.44	0.72	7.52	6.33	0.75	7.12	6.14	0.76
60.8	71.6	9.10	6.77	0.59	8.70	6.59	0.64	8.30	6.42	0.70	8.15	6.35	0.72	7.91	6.25	0.75	7.51	6.07	0.76
64.4	77.0	9.49	7.16	0.59	9.09	6.99	0.65	8.70	6.83	0.70	8.54	6.76	0.72	8.30	6.67	0.76	7.90	6.51	0.77
67.0	80.0	9.68	7.61	0.59	9.29	7.45	0.65	8.89	7.29	0.70	8.73	7.23	0.73	8.50	7.13	0.76	8.10	6.98	0.77
71.6	86.0	10.27	7.36	0.60	9.87	7.22	0.65	9.48	7.08	0.71	9.32	7.02	0.73	9.08	6.94	0.77	8.69	6.81	0.77
75.2	89.6	10.66	7.18	0.60	10.27	7.06	0.66	9.87	6.93	0.71	9.71	6.88	0.73	9.47	6.81	0.77	9.08	6.68	0.78

Heating

AFR	8.6

Temp: Celsius
TC, PI: kW

INDOOR	OUTDOOR TEMPERATURE (°CWB)											
EDB	–15		–10		–5		0		6		10	
°C	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	1.40	0.55	1.68	0.58	1.96	0.60	2.63	0.79	3.03	0.83	3.30	0.86
21.1	1.31	0.56	1.59	0.59	1.87	0.62	2.53	0.81	2.93	0.85	3.19	0.88
22.0	1.27	0.57	1.56	0.60	1.84	0.62	2.49	0.82	2.89	0.86	3.15	0.89
24.0	1.24	0.57	1.52	0.60	1.80	0.63	2.45	0.82	2.85	0.87	3.11	0.89
25.0	1.22	0.58	1.50	0.61	1.79	0.63	2.43	0.83	2.83	0.87	3.09	0.90
27.0	1.19	0.58	1.47	0.61	1.75	0.64	2.39	0.83	2.79	0.88	3.05	0.90

Temp: Fahrenheit
TC: kBtu/h
PI: kW

INDOOR	OUTDOOR TEMPERATURE (°FWB)											
EDB	5		14		23		32		43		50	
°F	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
59.0	4.76	0.55	5.72	0.58	6.68	0.60	8.99	0.79	10.34	0.83	11.25	0.86
70.0	4.47	0.56	5.43	0.59	6.39	0.62	8.64	0.81	10.00	0.85	10.90	0.88
71.6	4.35	0.57	5.31	0.60	6.27	0.62	8.50	0.82	9.86	0.86	10.76	0.89
75.2	4.23	0.57	5.19	0.60	6.15	0.63	8.37	0.82	9.72	0.87	10.62	0.89
77.0	4.17	0.58	5.13	0.61	6.09	0.63	8.30	0.83	9.65	0.87	10.56	0.90
80.6	4.06	0.58	5.02	0.61	5.98	0.64	8.16	0.83	9.51	0.88	10.42	0.90

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 heat 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. SHC values not included in the table must be calculated using interpolation with values of direct proportion.
5. Capacities are based on the following conditions.
   Corresponding refrigerant piping length : 25 ft
   Level difference : 0 ft
6. Airflow rate (AFR) and Bypass factor (BF) are tabulated above table.
7. Cooling capacity at –15°C / 5°F

Temp: Celsius
TC, SHC, PI: kW
60 Hz, 208 - 230 V

INDOOR		OUTDOOR		
EWB	EDB	–15 (°CDB)		
°C	°C	TC	SHC	PI
14.0	20.0	2.96	2.22	0.26

Temp: Fahrenheit
TC, SHC: kBtu/h
PI: kW
60 Hz, 208 - 230 V

INDOOR		OUTDOOR		
EWB	EDB	5 (°FDB)		
°F	°F	TC	SHC	PI
57.2	68.0	10.10	7.57	0.26

3D075432

FDXS12LVJU + RXS12LVJU
<60 Hz, 208 V>

Cooling

AFR	8.6
BF	0.14

Temp: Celsius
TC, SHC, PI: kW

INDOOR		OUTDOOR TEMPERATURE (°CDB)																	
EWB	EDB	20			25			30			32			35			40		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	2.89	2.17	0.96	2.89	2.17	1.06	2.89	2.17	1.15	2.89	2.17	1.19	2.89	2.17	1.25	2.82	2.14	1.26
16.0	22.0	3.61	2.41	0.97	3.45	2.34	1.07	3.29	2.26	1.16	3.23	2.23	1.20	3.14	2.19	1.25	2.98	2.11	1.26
18.0	25.0	3.76	2.51	0.98	3.61	2.44	1.07	3.45	2.37	1.16	3.39	2.34	1.20	3.29	2.30	1.26	3.14	2.23	1.27
19.4	26.7	3.84	2.63	0.98	3.68	2.56	1.07	3.53	2.49	1.17	3.46	2.47	1.20	3.37	2.43	1.26	3.21	2.36	1.27
22.0	30.0	4.07	2.53	0.99	3.92	2.47	1.08	3.76	2.41	1.18	3.70	2.39	1.21	3.60	2.35	1.27	3.45	2.29	1.28
24.0	32.0	4.23	2.46	0.99	4.07	2.40	1.09	3.92	2.35	1.18	3.85	2.33	1.22	3.76	2.29	1.27	3.60	2.24	1.29

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

INDOOR		OUTDOOR TEMPERATURE (°FDB)																	
EWB	EDB	68			77			86			90			95			104		
°F	°F	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
57.2	68.0	9.86	7.40	0.96	9.86	7.40	1.06	9.86	7.40	1.15	9.86	7.40	1.19	9.86	7.40	1.25	9.64	7.29	1.26
60.8	71.6	12.31	8.24	0.97	11.77	7.97	1.07	11.24	7.71	1.16	11.03	7.61	1.20	10.70	7.46	1.25	10.17	7.20	1.26
64.4	77.0	12.84	8.57	0.98	12.30	8.32	1.07	11.77	8.08	1.16	11.55	7.98	1.20	11.23	7.84	1.26	10.70	7.60	1.27
67.0	80.0	13.10	8.98	0.98	12.57	8.74	1.07	12.03	8.51	1.17	11.82	8.42	1.20	11.50	8.28	1.26	10.96	8.05	1.27
71.6	86.0	13.90	8.64	0.99	13.36	8.43	1.08	12.83	8.22	1.18	12.61	8.14	1.21	12.29	8.02	1.27	11.76	7.82	1.28
75.2	89.6	14.43	8.39	0.99	13.89	8.20	1.09	13.36	8.01	1.18	13.14	7.94	1.22	12.82	7.83	1.27	12.29	7.64	1.29

Heating

AFR	8.6

Temp: Celsius
TC, PI: kW

INDOOR	OUTDOOR TEMPERATURE (°CWB)											
EDB	–15		–10		–5		0		6		10	
°C	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	1.60	0.62	1.93	0.65	2.25	0.68	3.03	0.89	3.49	0.94	3.79	0.97
21.1	1.51	0.64	1.83	0.67	2.15	0.70	2.91	0.91	3.37	0.96	3.67	0.99
22.0	1.47	0.64	1.79	0.67	2.11	0.71	2.87	0.92	3.32	0.97	3.63	1.00
24.0	1.43	0.65	1.75	0.68	2.07	0.71	2.82	0.93	3.28	0.98	3.58	1.01
25.0	1.41	0.65	1.73	0.68	2.05	0.72	2.80	0.93	3.25	0.98	3.56	1.01
27.0	1.37	0.66	1.69	0.69	2.01	0.72	2.75	0.94	3.21	0.99	3.51	1.02

Temp: Fahrenheit
TC: kBtu/h
PI: kW

INDOOR	OUTDOOR TEMPERATURE (°FWB)											
EDB	5		14		23		32		43		50	
°F	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
59.0	5.48	0.62	6.58	0.65	7.68	0.68	10.34	0.89	11.90	0.94	12.93	0.97
70.0	5.14	0.64	6.24	0.67	7.35	0.70	9.94	0.91	11.50	0.96	12.54	0.99
71.6	5.00	0.64	6.11	0.67	7.21	0.71	9.78	0.92	11.34	0.97	12.38	1.00
75.2	4.87	0.65	5.97	0.68	7.08	0.71	9.62	0.93	11.18	0.98	12.22	1.01
77.0	4.80	0.65	5.90	0.68	7.01	0.72	9.54	0.93	11.10	0.98	12.14	1.01
80.6	4.67	0.66	5.77	0.69	6.87	0.72	9.38	0.94	10.94	0.99	11.98	1.02

<60 Hz, 230 V>

Cooling

AFR	8.6
BF	0.14

Temp: Celsius
TC, SHC, PI: kW

INDOOR		OUTDOOR TEMPERATURE (°CDB)																	
EWB	EDB	20			25			30			32			35			40		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20.0	2.89	2.17	0.96	2.89	2.17	1.06	2.89	2.17	1.15	2.89	2.17	1.19	2.89	2.17	1.25	2.82	2.14	1.26
16.0	22.0	3.61	2.41	0.97	3.45	2.34	1.07	3.29	2.26	1.16	3.23	2.23	1.20	3.14	2.19	1.25	2.98	2.11	1.26
18.0	25.0	3.76	2.51	0.98	3.61	2.44	1.07	3.45	2.37	1.16	3.39	2.34	1.20	3.29	2.30	1.26	3.14	2.23	1.27
19.4	26.7	3.84	2.63	0.98	3.68	2.56	1.07	3.53	2.49	1.17	3.46	2.47	1.20	3.37	2.43	1.26	3.21	2.36	1.27
22.0	30.0	4.07	2.53	0.99	3.92	2.47	1.08	3.76	2.41	1.18	3.70	2.39	1.21	3.60	2.35	1.27	3.45	2.29	1.28
24.0	32.0	4.23	2.46	0.99	4.07	2.40	1.09	3.92	2.35	1.18	3.85	2.33	1.22	3.76	2.29	1.27	3.60	2.24	1.29

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

INDOOR		OUTDOOR TEMPERATURE (°FDB)																	
EWB	EDB	68			77			86			90			95			104		
°F	°F	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
57.2	68.0	9.86	7.40	0.96	9.86	7.40	1.06	9.86	7.40	1.15	9.86	7.40	1.19	9.86	7.40	1.25	9.64	7.29	1.26
60.8	71.6	12.31	8.24	0.97	11.77	7.97	1.07	11.24	7.71	1.16	11.03	7.61	1.20	10.70	7.46	1.25	10.17	7.20	1.26
64.4	77.0	12.84	8.57	0.98	12.30	8.32	1.07	11.77	8.08	1.16	11.55	7.98	1.20	11.23	7.84	1.26	10.70	7.60	1.27
67.0	80.0	13.10	8.98	0.98	12.57	8.74	1.07	12.03	8.51	1.17	11.82	8.42	1.20	11.50	8.28	1.26	10.96	8.05	1.27
71.6	86.0	13.90	8.64	0.99	13.36	8.43	1.08	12.83	8.22	1.18	12.61	8.14	1.21	12.29	8.02	1.27	11.76	7.82	1.28
75.2	89.6	14.43	8.39	0.99	13.89	8.20	1.09	13.36	8.01	1.18	13.14	7.94	1.22	12.82	7.83	1.27	12.29	7.64	1.29

Heating

AFR	8.6

Temp: Celsius
TC, PI: kW

INDOOR	OUTDOOR TEMPERATURE (°CWB)											
EDB	–15		–10		–5		0		6		10	
°C	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	1.60	0.62	1.93	0.65	2.25	0.68	3.03	0.89	3.49	0.94	3.79	0.97
21.1	1.51	0.64	1.83	0.67	2.15	0.70	2.91	0.91	3.37	0.96	3.67	0.99
22.0	1.47	0.64	1.79	0.67	2.11	0.71	2.87	0.92	3.32	0.97	3.63	1.00
24.0	1.43	0.65	1.75	0.68	2.07	0.71	2.82	0.93	3.28	0.98	3.58	1.01
25.0	1.41	0.65	1.73	0.68	2.05	0.72	2.80	0.93	3.25	0.98	3.56	1.01
27.0	1.37	0.66	1.69	0.69	2.01	0.72	2.75	0.94	3.21	0.99	3.51	1.02

Temp: Fahrenheit
TC: kBtu/h
PI: kW

INDOOR	OUTDOOR TEMPERATURE (°FWB)											
EDB	5		14		23		32		43		50	
°F	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
59.0	5.48	0.62	6.58	0.65	7.68	0.68	10.34	0.89	11.90	0.94	12.93	0.97
70.0	5.14	0.64	6.24	0.67	7.35	0.70	9.94	0.91	11.50	0.96	12.54	0.99
71.6	5.00	0.64	6.11	0.67	7.21	0.71	9.78	0.92	11.34	0.97	12.38	1.00
75.2	4.87	0.65	5.97	0.68	7.08	0.71	9.62	0.93	11.18	0.98	12.22	1.01
77.0	4.80	0.65	5.90	0.68	7.01	0.72	9.54	0.93	11.10	0.98	12.14	1.01
80.6	4.67	0.66	5.77	0.69	6.87	0.72	9.38	0.94	10.94	0.99	11.98	1.02

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 heat 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. SHC values not included in the table must be calculated using interpolation with values of direct proportion.
5. Capacities are based on the following conditions.
   Corresponding refrigerant piping length : 25 ft
   Level difference : 0 ft
6. Airflow rate (AFR) and Bypass factor (BF) are tabulated above table.
7. Cooling capacity at –15°C / 5°F

Temp: Celsius
TC, SHC, PI: kW
60 Hz, 208 - 230 V

INDOOR		OUTDOOR		
EWB	EDB	–15 (°CDB)		
°C	°C	TC	SHC	PI
14.0	20.0	2.89	2.17	0.34

Temp: Fahrenheit
TC, SHC: kBtu/h
PI: kW
60 Hz, 208 - 230 V

INDOOR		OUTDOOR		
EWB	EDB	5 (°FDB)		
°F	°F	TC	SHC	PI
57.2	68.0	9.86	7.40	0.34

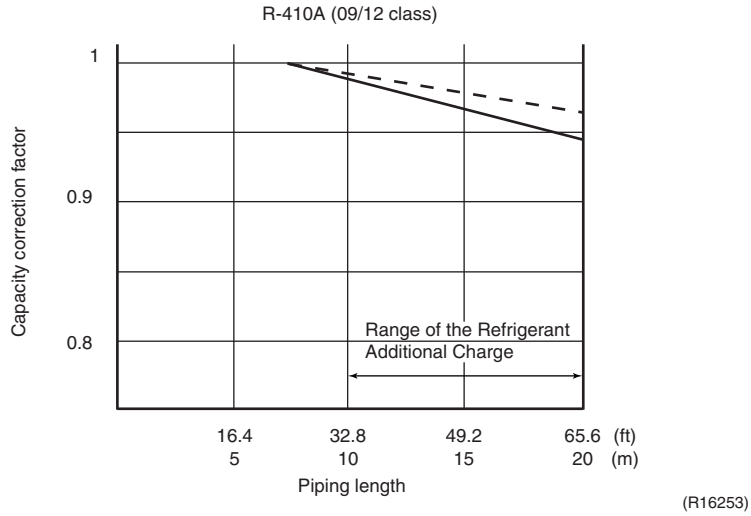
3D075433

7.2 Capacity correction factor by the length of refrigerant piping (Reference)

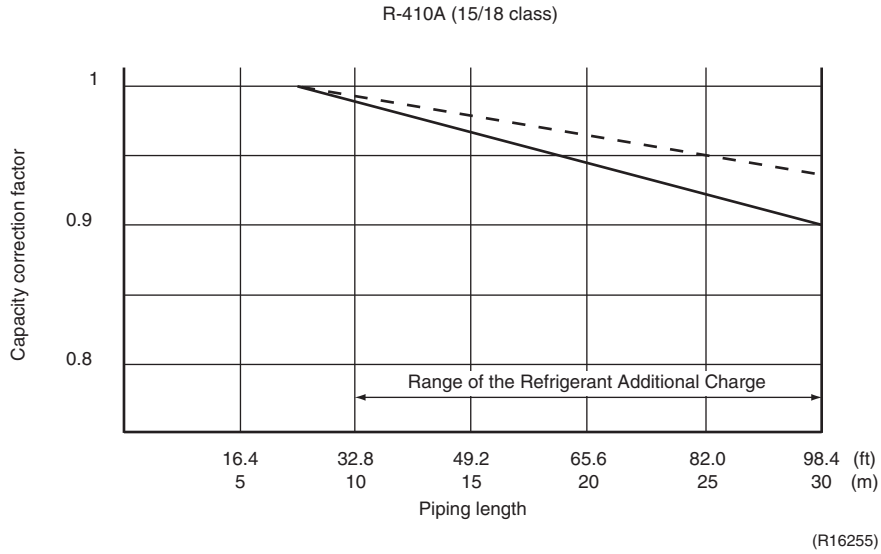
The cooling capacity and the heating capacity of the unit have to be corrected in accordance with the length of refrigerant piping — the distance between the indoor unit and the outdoor unit.

<— line : cooling capacity>
<--- line : heating capacity>

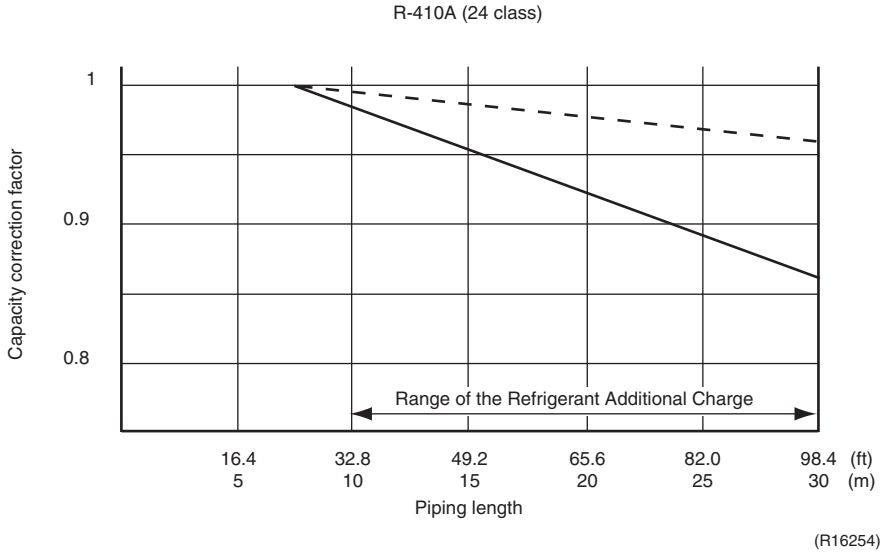
7.2.1 09/12 Class



7.2.2 15/18 Class



7.2.3 24 Class

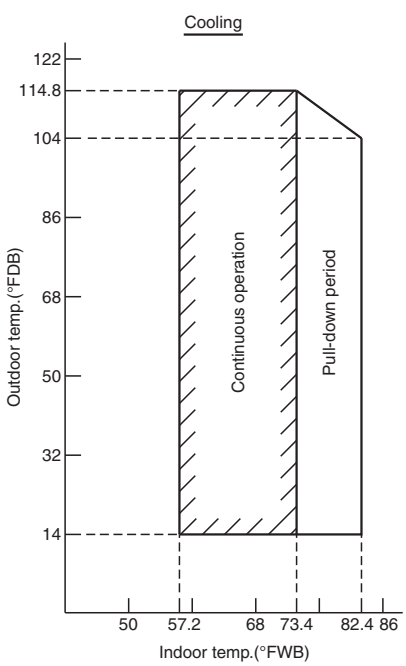


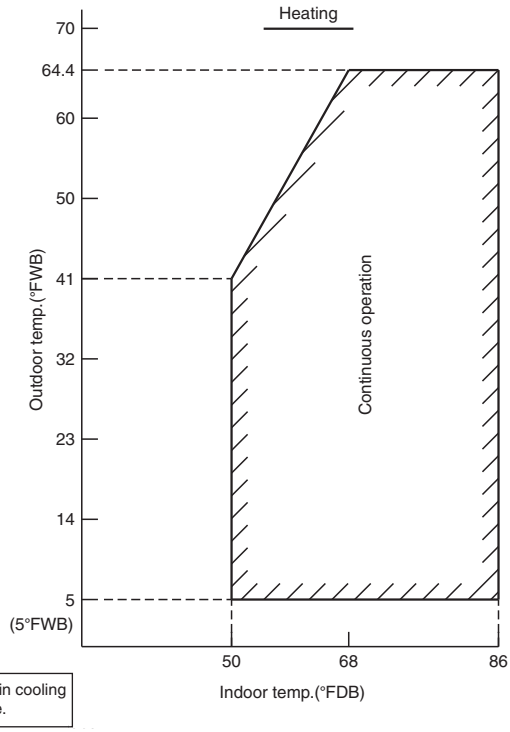
Note:

The graphs show the factor when additional refrigerant of the proper quantity is charged.

8. Operation Limit

RXS09/12/15/18/24LVJU



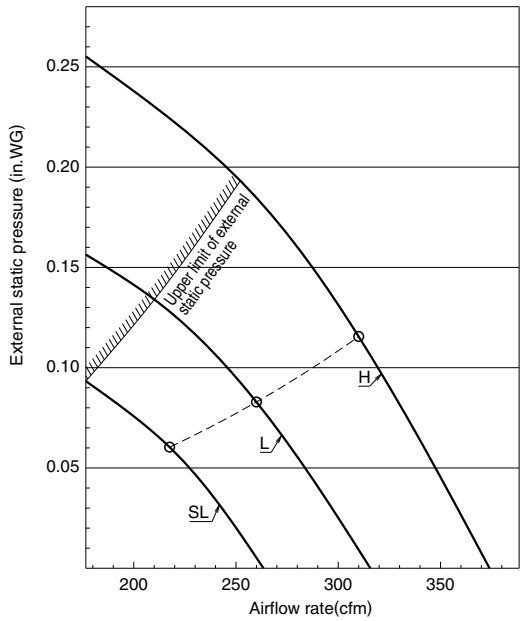


The graphs are based on the following conditions.
- Equivalent piping length 25ft
- Level difference 0m
- Air flow rate High

Note: Operation can be extended to 0°F in cooling with use of the optional wind baffle.

9. Fan Characteristics

FDXS09/12LVJU



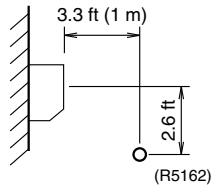
3D074625

10. Sound Level

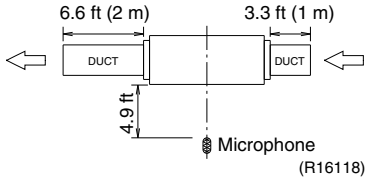
10.1 Measuring Location

Indoor Unit

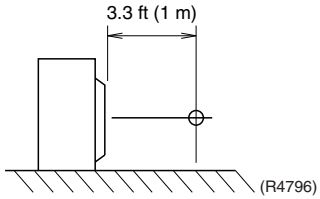
Single Split Duct-Free System



Slim Duct Built-in System



Outdoor Unit



Note:

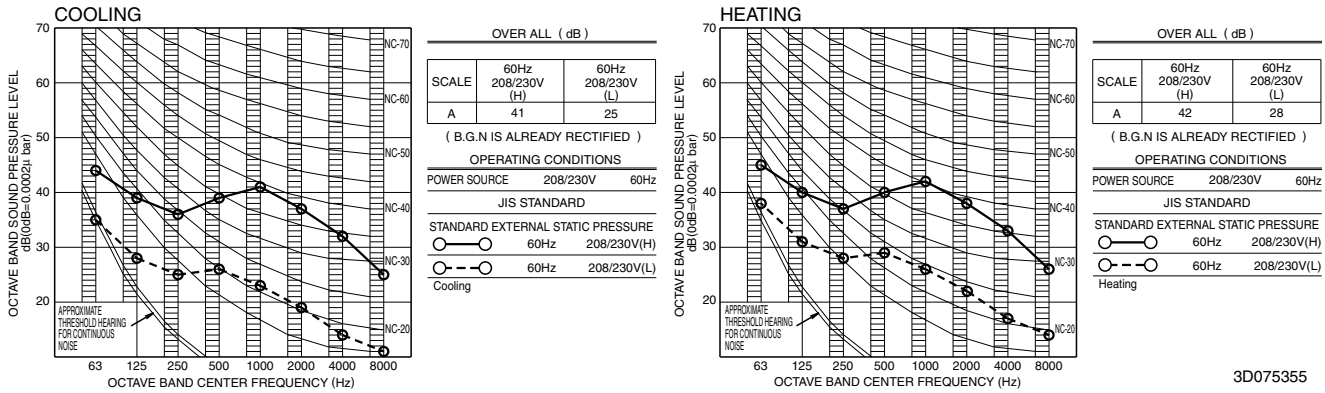
1. Operation sound is measured in an anechoic chamber.
2. The data are based on the conditions shown in the table below.

Cooling	Heating	Piping Length
Indoor ; 80°FDB (26.7°CDB) / 67°FWB (19.4°CWB) Outdoor ; 95°FDB (35°CDB) / 75°FWB (24°CWB)	Indoor ; 70°FDB (21°CDB) / 60°FWB (15.6°CWB) Outdoor ; 47°FDB (8.3°CDB) / 43°FWB (6°CWB)	25 ft (7.5 m)

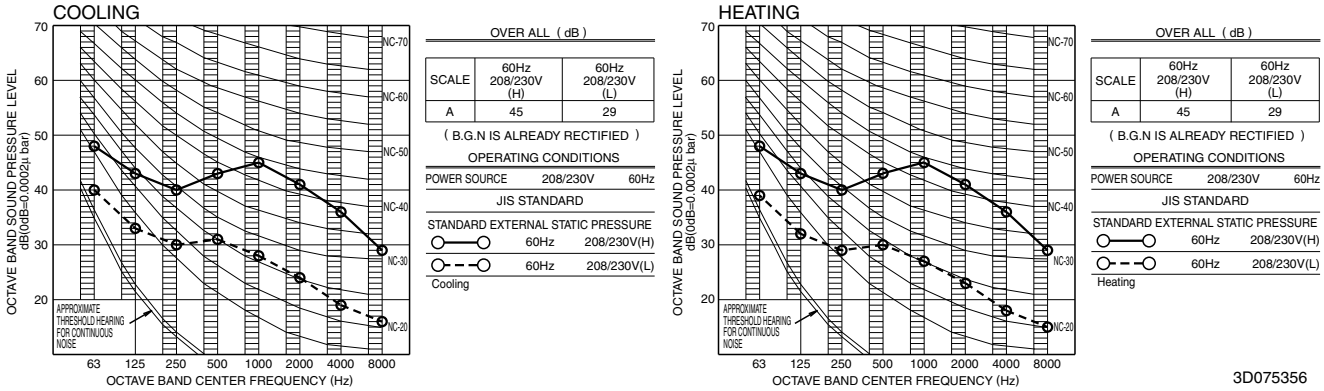
10.2 Octave Band Level

10.2.1 Indoor Unit

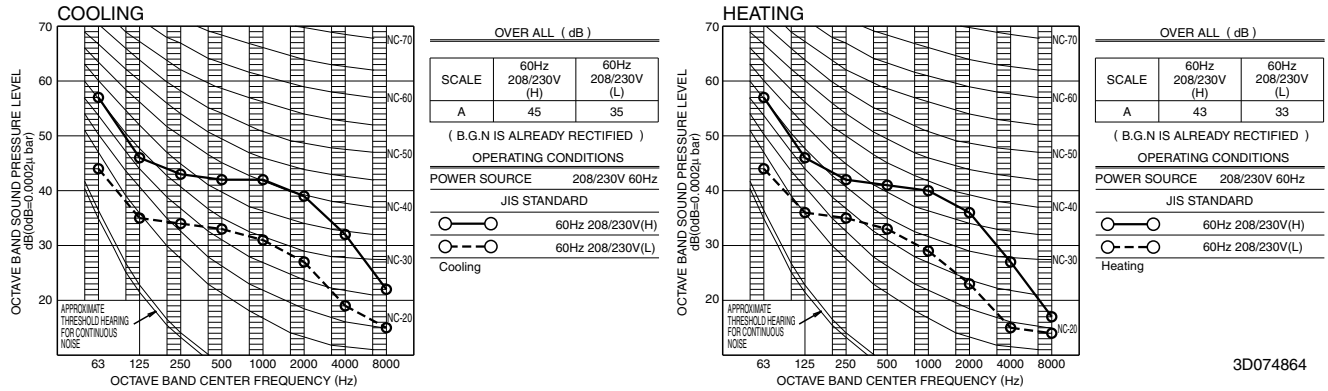
FTXS09LVJU



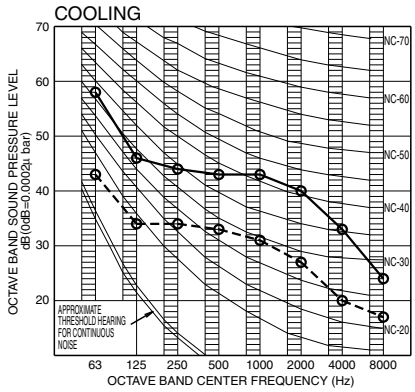
FTXS12LVJU



FTXS15LVJU



FTXS18LVJU



OVER ALL (dB)

SCALE	60Hz 208/230V (H)	60Hz 208/230V (L)
A	46	36

(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS

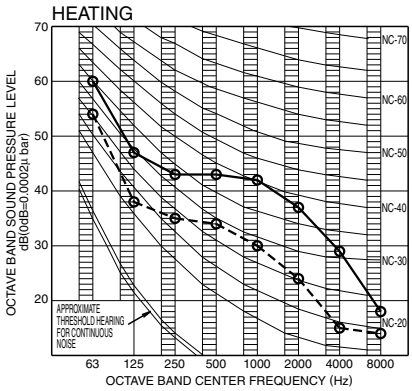
POWER SOURCE 208/230V 60Hz

JIS STANDARD

60Hz 208/230V(H)

60Hz 208/230V(L)

Cooling



OVER ALL (dB)

SCALE	60Hz 208/230V (H)	60Hz 208/230V (L)
A	45	35

(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS

POWER SOURCE 208/230V 60Hz

JIS STANDARD

60Hz 208/230V(H)

60Hz 208/230V(L)

Heating

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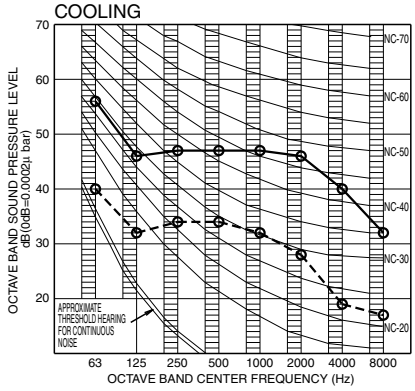
FTXS24LVJU



OVER ALL (dB)

SCALE	60Hz 208/230V (H)	60Hz 208/230V (L)
A	51	37

(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS

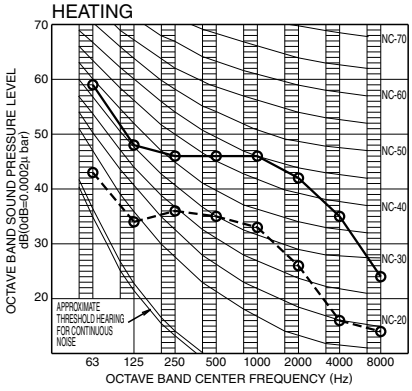
POWER SOURCE 208/230V 60Hz

JIS STANDARD

60Hz 208/230V(H)

60Hz 208/230V(L)

Cooling



OVER ALL (dB)

SCALE	60Hz 208/230V (H)	60Hz 208/230V (L)
A	48	37

(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS

POWER SOURCE 208/230V 60Hz

JIS STANDARD

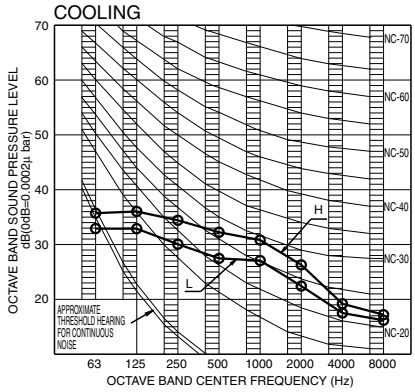
60Hz 208/230V(H)

60Hz 208/230V(L)

Heating

3D074866

FDXS09/12LVJU



OVER ALL (dB)

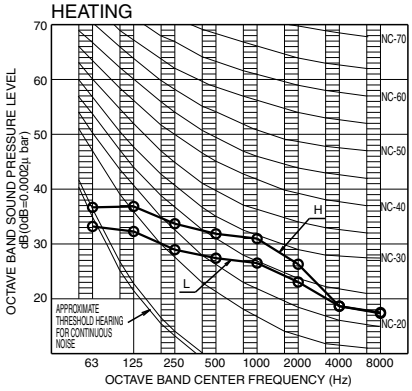
SCALE	HI	LOW
A	35	31

(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS

POWER SOURCE 208-230V/60Hz

COOLING RETURN AIR TEMPERATURE: 80˚FDB, 67˚FWB
OUTDOOR TEMPERATURE: 95˚FDB, 75˚FWB



OVER ALL (dB)

SCALE	HI	LOW
A	35	31

(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS

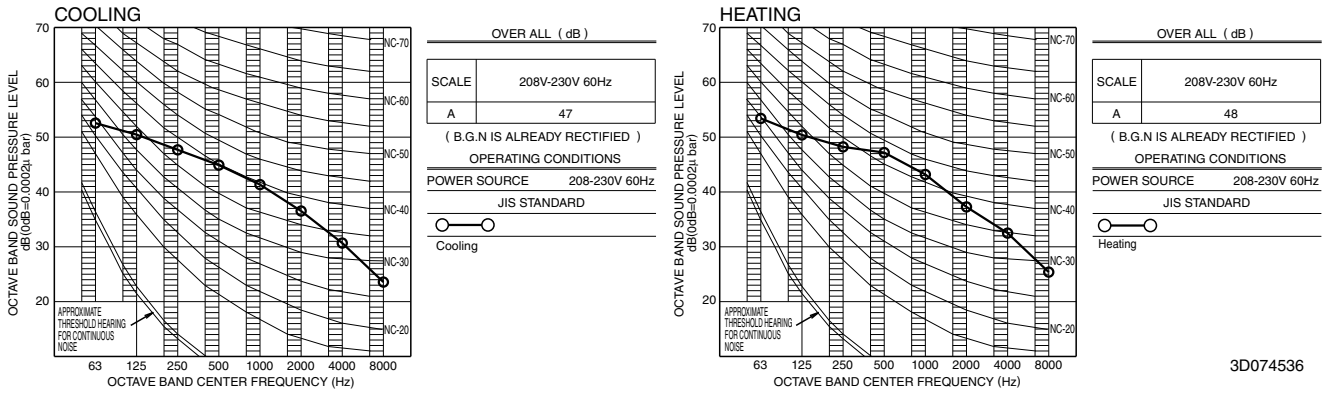
POWER SOURCE 208-230V/60Hz

HEATING RETURN AIR TEMPERATURE: 70˚FDB, 60˚FWB
OUTDOOR TEMPERATURE: 47˚FDB, 43˚FWB

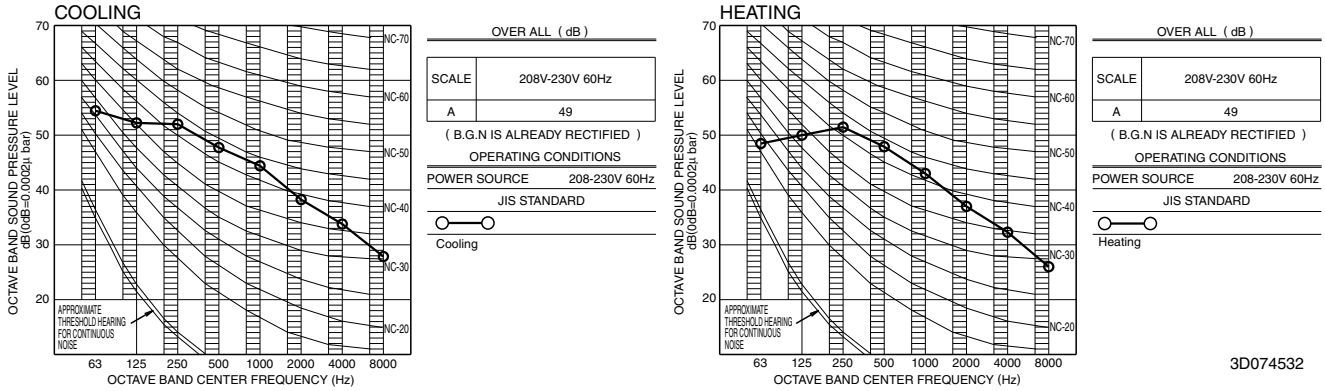
3D074623

10.2.2 Outdoor Unit

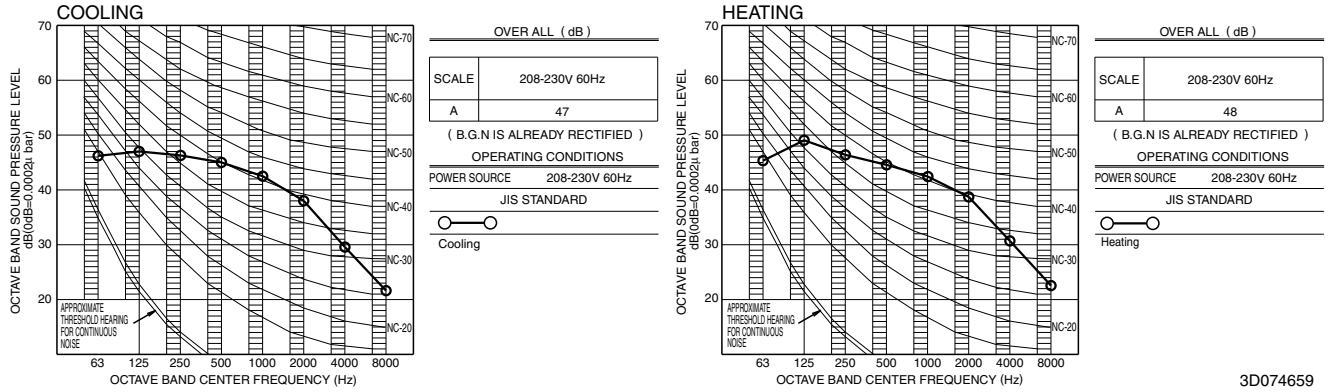
RXS09LVJU



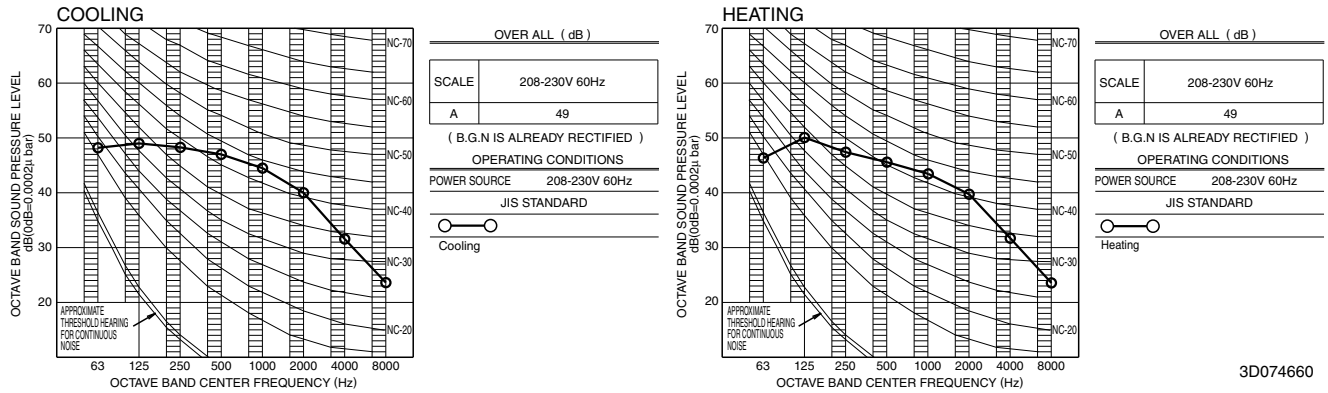
RXS12LVJU



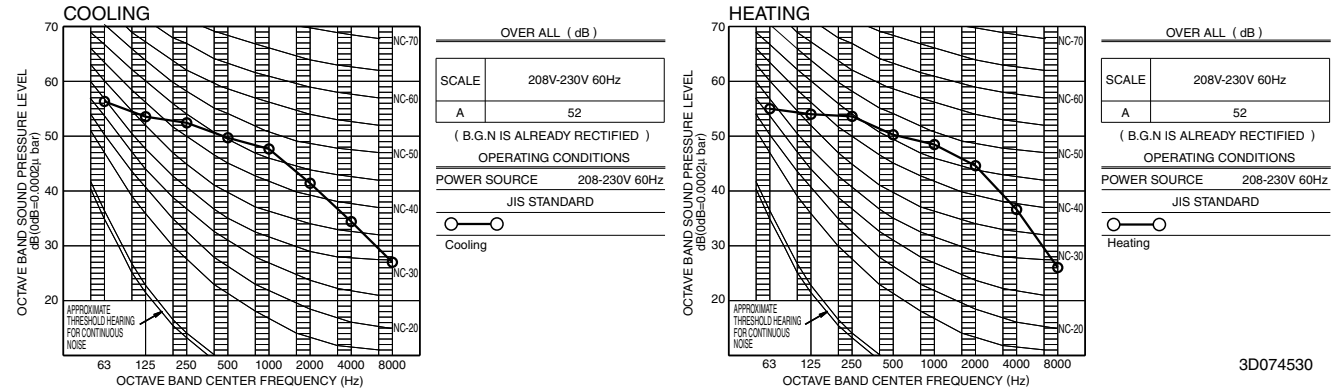
RXS15LVJU



RXS18LVJU



RXS24LVJU



11. Electric Characteristics

Indoor Unit	Outdoor Unit	Power Supply				COMP		OFM		IFM	
		Hz - Volts	Voltage Range	MCA	MOP	RHz	RLA	W	FLA	W	FLA
FTXS09LVJU	RXS09LVJU	60 - 208	MAX. 60 Hz, 253 V MIN. 60 Hz, 187 V	8.00	15	46	3.2	23	0.22	23	0.15
		60 - 230					2.9				
FTXS12LVJU	RXS12LVJU	60 - 208	MAX. 60 Hz, 253 V MIN. 60 Hz, 187 V	8.75	15	68	4.4	23	0.22	23	0.15
		60 - 230					3.9				
FTXS15LVJU	RXS15LVJU	60 - 208	MAX. 60 Hz, 253 V MIN. 60 Hz, 187 V	13.75	20	50	4.7	53	0.32	48	0.31
		60 - 230					4.2				
FTXS18LVJU	RXS18LVJU	60 - 208	MAX. 60 Hz, 253 V MIN. 60 Hz, 187 V	13.75	20	65	6.6	53	0.32	48	0.32
		60 - 230					5.9				
FTXS24LVJU	RXS24LVJU	60 - 208	MAX. 60 Hz, 253 V MIN. 60 Hz, 187 V	17.50	20	42.6	7.9	66	0.40	48	0.57
		60 - 230					7.1				
FDXS09LVJU	RXS09LVJU	60 - 208	MAX. 60 Hz, 253 V MIN. 60 Hz, 187 V	8.00	15	57	4.1	23	0.22	62	0.52
		60 - 230					3.7				
FDXS12LVJU	RXS12LVJU	60 - 208	MAX. 60 Hz, 253 V MIN. 60 Hz, 187 V	8.75	15	82	5.9	23	0.22	62	0.52
		60 - 230					5.3				

Symbols:

MCA : Min. circuit amps (A)
MOP : Max. overcurrent protection (A)
RHz : Rated operating frequency (Hz)
RLA : Rated load amps (A)
OFM : Outdoor fan motor
IFM : Indoor fan motor
W : Fan motor rated output (W)
FLA : Full load amps (A)

Note:

1. RLA is based on the following conditions.
   Indoor temp. 80°FDB / 67°FDB (26.7°CDB / 19.4°CDB)
   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 a fuse, use a circuit breaker.
5. Be sure to install a Ground Fault Circuit Interrupter / Earth Leakage Circuit Breaker that can handle higher harmonics because this unit uses an inverter, and therefore must be capable of handling high harmonics in order to prevent malfunction.

12. Installation Manual

Safety Considerations

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 refrigerant 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 in 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 / earth leakage circuit breaker 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.**
- **The heat exchanger fins are sharp enough to cut. To avoid injury wear gloves or cover the fins while working around them.**
- **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.**

12.1 FTXS09/12LVJU

Accessories

Indoor unit Ⓐ – Ⓛ,

Ⓐ Mounting plate	1	Ⓔ Remote controller holder	1	Ⓙ Tube	1
Ⓑ Mounting plate fixing screw 3/16” × 1” (M4 × 25mm)	5	Ⓕ Fixing screw for remote controller holder 1/8” × 13/16” (M3 × 20mm)	2	Ⓚ Operation manual	1
Ⓒ Titanium apatite photocatalytic air-purifying filter	2	Ⓖ Dry battery AAA. LR03 (alkaline)	2	Ⓛ Installation manual	1
Ⓓ Wireless remote controller	1	Ⓗ Indoor unit fixing screw 3/16” × 1/2” (M4 × 12mm)	2		

Choosing an Installation Site

• Before choosing the installation site, obtain user approval.

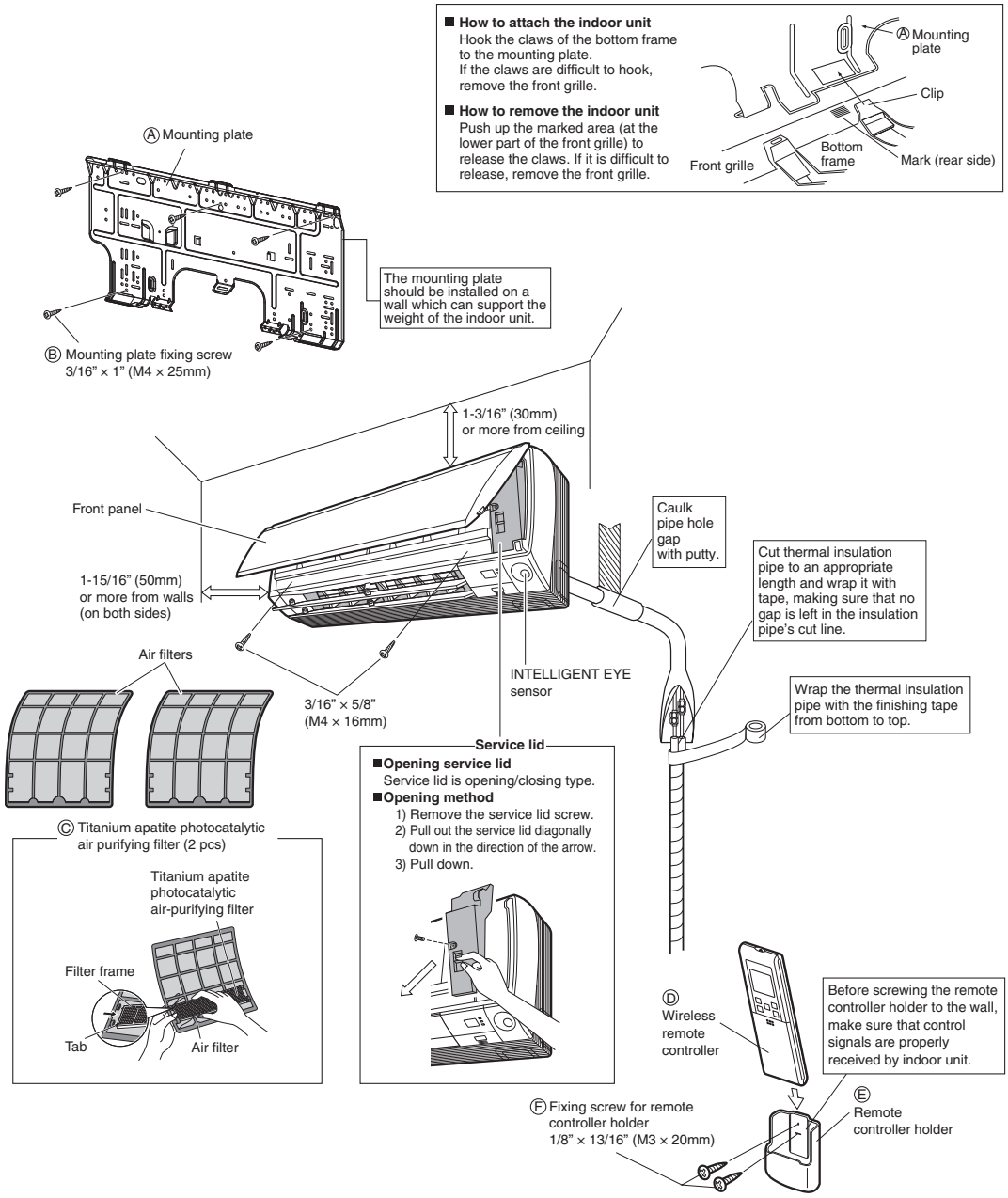
1. Indoor unit

• The indoor unit should be sited in a place where:
1) the restrictions on installation specified in the indoor unit installation drawings are met,
2) both air inlet and air outlet have clear paths met,
3) the unit is not in the path of direct sunlight,
4) the unit is away from the source of heat or steam,
5) there is no source of machine oil vapour (this may shorten indoor unit life),
6) cool (warm) air is circulated throughout the room,
7) the unit is away from electronic ignition type fluorescent lamps (inverter or rapid start type) as they may shorten the remote controller range,
8) the unit is at least 3.5ft (1m) away from any television or radio set (unit may cause interference with the picture or sound),
9) install at the recommended height 6ft (1.8m),
10) no laundry equipment is located in the space.

2. Wireless remote controller

1) Turn on all the fluorescent lamps in the room, if any, and find the site where remote control signals are properly received by the indoor unit (within 23ft/7m).

Indoor Unit Installation Drawings



INTELLIGENT EYE sensor

⚠ CAUTION

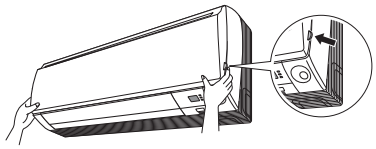
- Do not hit or forcefully push the INTELLIGENT EYE sensor. This can lead to damage and malfunction.
- Do not place large objects near the sensor. Also keep heating units or humidifiers outside the sensor's detection area.

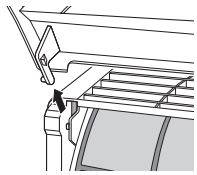
Preparation before Installation

1. Removing and installing front panel

• Removal method

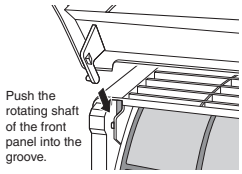
Hook fingers on the tabs on the left and right of the main body, and open until the panel stops. Slide the front panel sideways to disengage the rotating shaft. Then pull the front panel toward you to remove it.





• Installation method

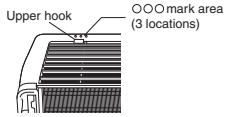
Align the tabs of the front panel with the grooves, and push all the way in. Then close slowly. Push the center of the lower surface of the panel firmly to engage the tabs.

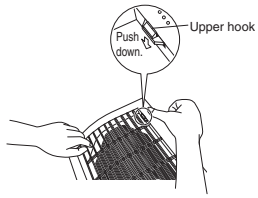


2. Removing and installing front grille

• Removal method

1) Remove front panel to remove the air filter.
2) Remove 2 screws from the front grille.
3) In front of the ○○○ mark of the front grille, there are 3 upper hooks. Lightly pull the front grille toward you with one hand, and push down on the hooks with the fingers of your other hand.





When there is no work space because the unit is close to ceiling

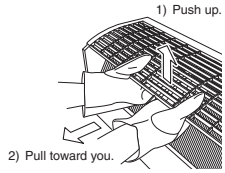
⚠ CAUTION

• Be sure to wear protection gloves.

Place both hands under the center of the front grille, and while pushing up, pull it toward you.

• Installation method

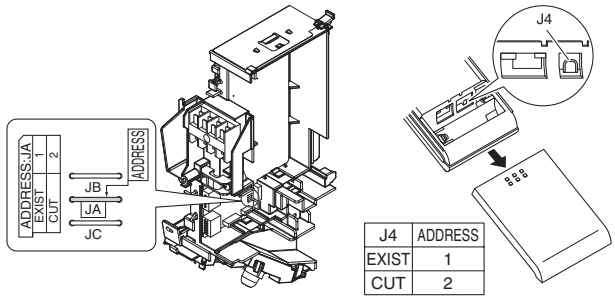
1) Install the front grille and firmly engage the upper hooks (3 locations).
2) Install 2 screws of the front grille.
3) Install the air filter and then mount the front panel.



3. How to set the different addresses

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

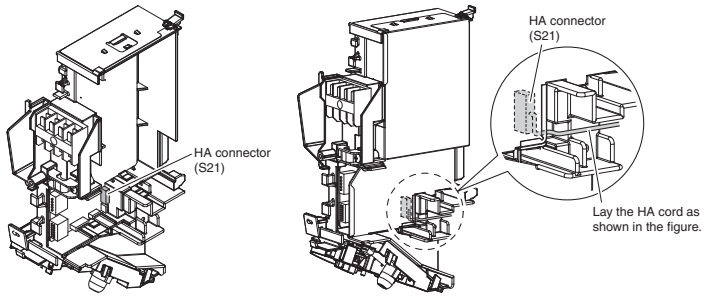
1) Remove the metal plate electrical wiring cover.
   (Refer to the **When connecting to an HA system**.)
2) Cut the address jumper (JA) on the printed circuit board.
3) Cut the address jumper (J4) in the remote controller.



J4	ADDRESS
EXIST	1
CUT	2

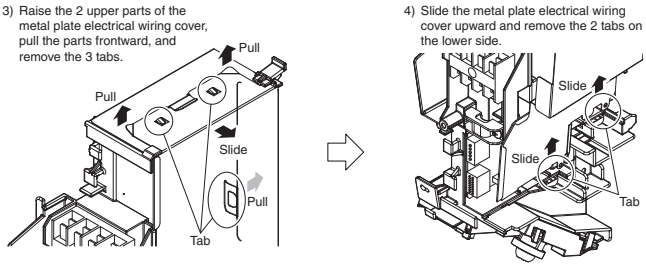
4. When connecting to an HA system (wired remote controller, central remote controller etc.)

1) Remove the metal plate electrical wiring cover.
   (Refer to the **Removal/attachment methods of metal plate electrical wiring covers**.)
2) Attach the connection cord to the S21 connector and pull the harness out through the notched part in the figure.
3) Replace the electrical wiring cover as it was, and pull the harness around, as shown in the figure.



• Removal methods of metal plate electrical wiring cover

1) Remove the front grille.
2) Remove the electrical wiring box. (1 screw)
3) Raise the 2 upper parts of the metal plate electrical wiring cover, pull the parts frontward, and remove the 3 tabs.
4) Slide the metal plate electrical wiring cover upward and remove the 2 tabs on the lower side.

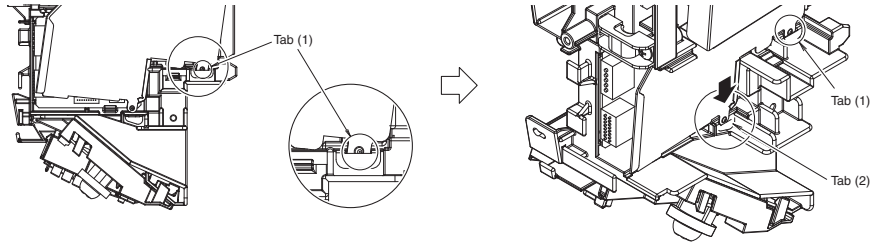


Preparation before Installation

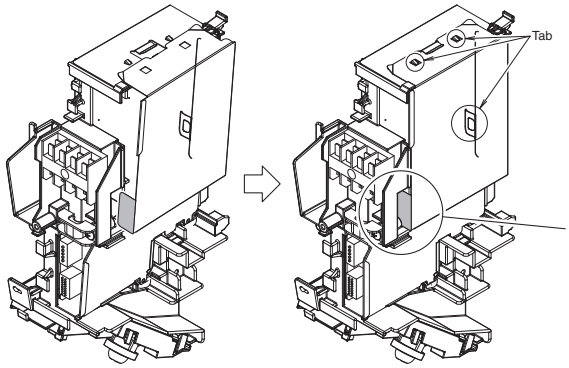
- **Attachment methods of metal plate electrical wiring cover**

  Attach the metal plate electrical wiring cover as shown below.

  1) Lean the metal plate electrical wiring cover as shown in the figure and attach tab (1) on the lower side to the electrical wiring box.
  2) Attach tab (2) on the lower side of the metal plate electrical wiring cover.



3) Push in the upper part of the metal plate electrical wiring cover and attach the 3 tabs.



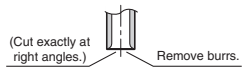
⚠ CAUTION

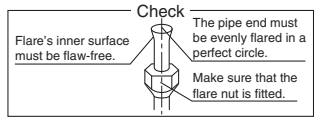
- Make sure that the shaded part ( ) will not go inside the electrical wiring box.

Refrigerant Piping Work

1. Flaring the pipe end

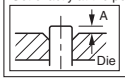
1) Cut the pipe end with a pipe cutter.
2) Remove burrs with the cut surface facing downward so that the chips do not enter the pipe.
3) Put the flare nut on the pipe.
4) Flare the pipe.
5) Check that the flaring is properly made.





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)

⚠ WARNING

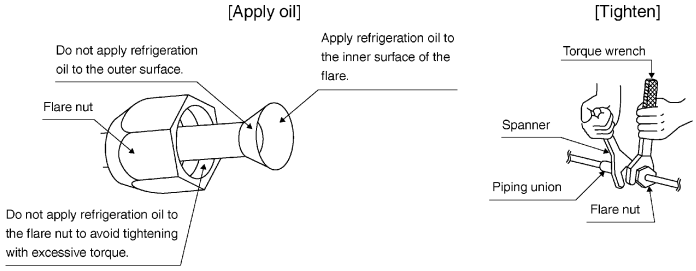
- Do not use mineral oil on flared part.
- Prevent mineral oil from getting into the system as this would reduce the lifetime of the units.
- Never use piping which has been used for previous installations. Only use parts which are delivered with the unit.
- Never install a drier to this R410A unit in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

2. Refrigerant piping

⚠ CAUTION

- Use the flare nut fixed to the main unit to prevent it from cracking and deteriorating from age.
- To prevent gas leakage, apply refrigeration oil only to the inner surface of the flare. (Use refrigeration oil for R410A.)
- Use torque wrenches when tightening the flare nuts to prevent damage to the flare nuts and gas leakage.

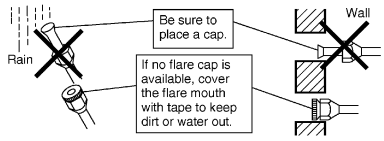
Align the centers of both flares and tighten the flare nuts 3 or 4 turns by hand. Then tighten them fully with the torque wrenches.



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

2-1. Caution on piping handling

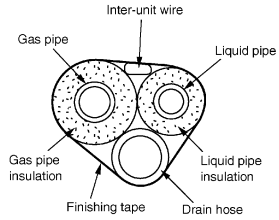
1) Protect the open end of the pipe against dust and moisture.
2) All pipe bends should be as gentle as possible. Use a pipe bender for bending.



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 0.030Btu/fth°F (0.035 to 0.045kcal/mh°C))
   Be sure to use insulation that is designed for use with HVAC Systems.



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. 15/32-19/32 inch (12-15mm)	I.D. 5/16-13/32 inch (8-10mm)
Minimum bend radius		Thickness 13/32 inch (10mm) Min.	
1-3/16 inch (30mm) or more			
Thickness 0.031 inch (0.8mm) (C1220T-O)			

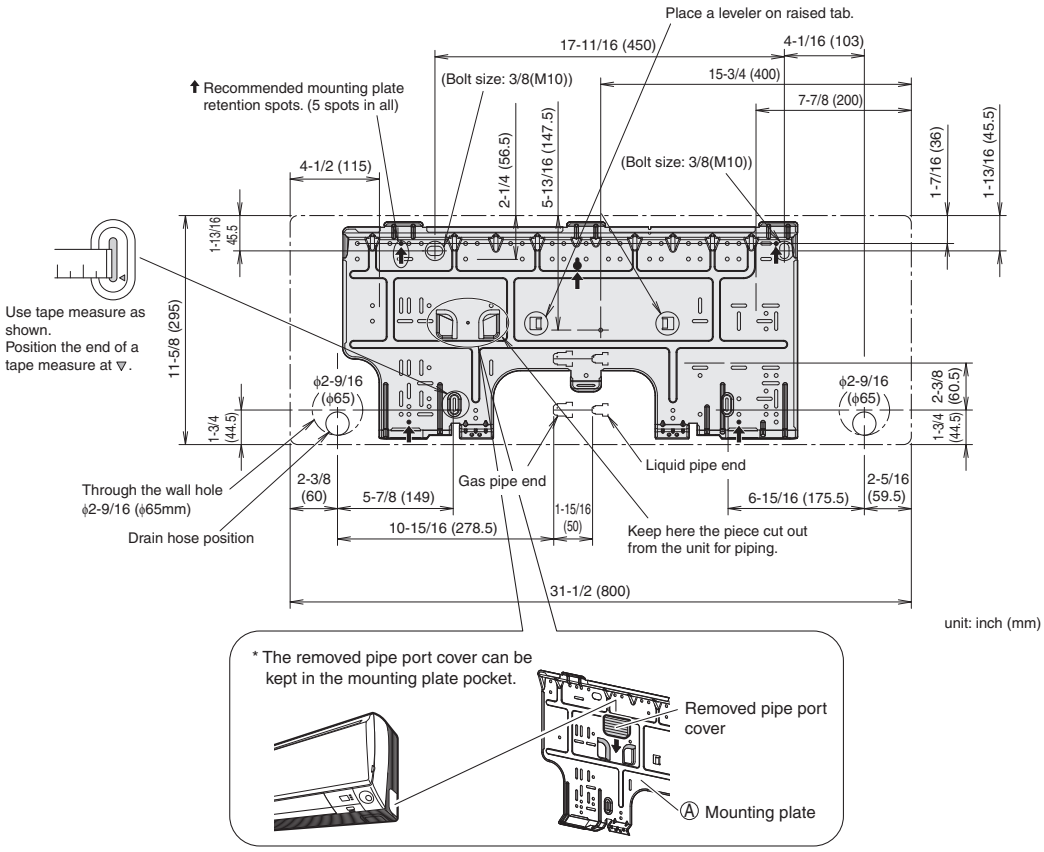
3) Use separate thermal insulation pipes for gas and liquid refrigerant pipes.

Indoor Unit Installation

1. Installing the mounting plate

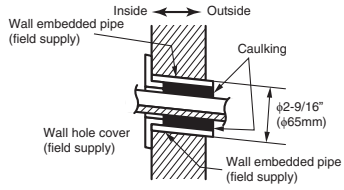
- The mounting plate should be installed on a wall which can support the weight of the indoor unit.
  1) Temporarily secure the mounting plate to the wall, make sure that the plate is completely level, and mark the boring points on the wall.
  2) Secure the mounting plate to the wall with screws.

Recommended mounting plate retention spots and dimensions



2. Boring a wall hole and installing wall embedded pipe

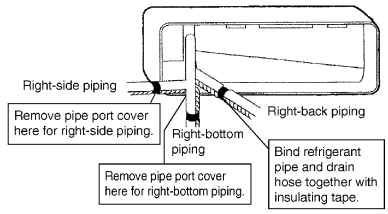
- For walls containing metal frame or metal board, be sure to use a wall embedded pipe and wall cover in the feed-through hole to prevent possible heat, electrical shock, or fire.
- Be sure to caulk the gaps around the pipes with caulking material to prevent water leakage.
  1) Bore a feed-through hole of 2-9/16 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.



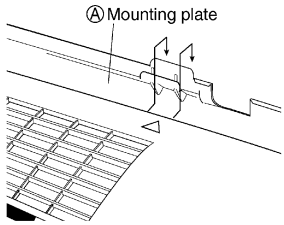
3. Laying piping, hoses, and wiring

3-1. Right-side, right-back, or right-bottom piping

1) Attach the drain hose to the underside of the refrigerant pipes with an adhesive vinyl tape.
2) Wrap the refrigerant pipes and drain hose together with insulation tape.

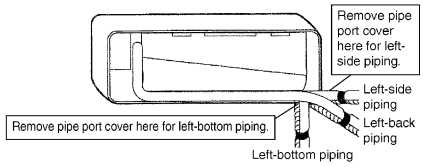


3) Pass the drain hose and refrigerant pipes through the wall hole, then set the indoor unit on the mounting plate hooks by using the △ markings at the top of the indoor unit as a guide.

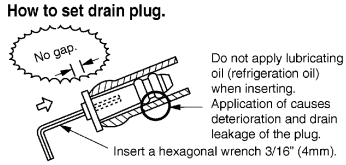


3-2. Left-side, left-back, or left-bottom piping

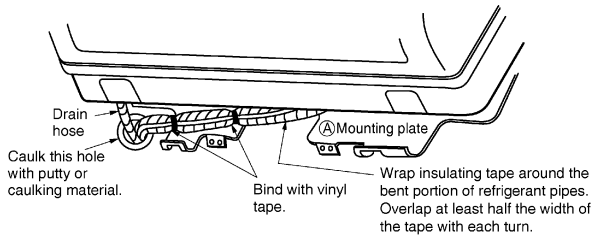
1) Replace the drain plug and drain hose.
2) Attach the drain hose to the underside of the refrigerant pipes with adhesive vinyl tape.



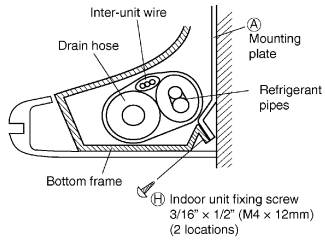
3) Be sure to connect the drain hose to the drain port in place of a drain plug.



4) Shape the refrigerant pipes along the pipe path marking on the mounting plate.
5) Pass drain hose and refrigerant pipes through the wall hole, then set the indoor unit on mounting plate hooks, using the △ markings at the top of indoor unit as a guide.
6) Pull in the inter-unit wire.
7) Connect the inter-unit pipes.



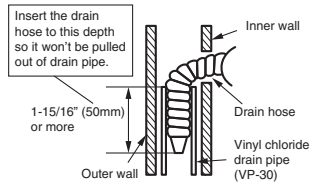
8) Wrap the refrigerant pipes and drain hose together with insulation tape as right figure, in case of setting the drain hose through the back of the indoor unit.
9) While exercising care so that the inter-unit wire do not catch indoor unit, press the bottom edge of indoor unit with both hands until it is firmly caught by the mounting plate hooks. Secure indoor unit to the mounting plate with indoor unit fixing screws 3/16 × 1/2 inch (M4 × 12mm).



Indoor Unit Installation

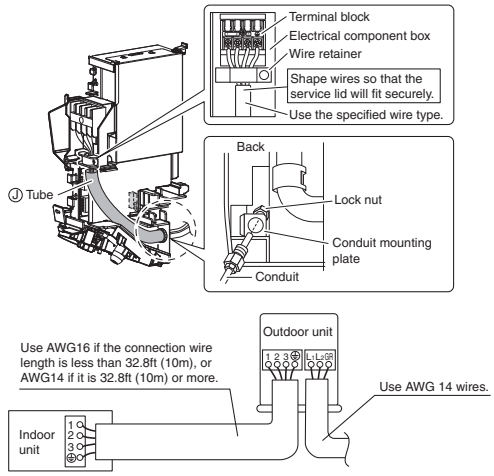
3-3. Wall embedded piping

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



4. Wiring

1) As shown in the illustration on the right-hand side, insert the wires including the ground wire into the conduit and secure them with lock nut onto the conduit mounting plate.
2) Insert the wires including the ground wire into Ⓙ tube.
   • Cut Ⓙ tube when Ⓙ tube is too long.
3) Strip wire ends (9/16 inch (15mm)).
4) Match wire colors with terminal numbers on indoor and outdoor unit's terminal blocks and firmly screw wires to the corresponding terminals.
5) Connect the ground wires to the corresponding terminals.
6) Pull the wires and check that the wires are securely fixed to the terminal block.
7) In case of connecting to an adapter system, run the remote controller cable and attach the S21. (Refer to P5 when connecting to an HA system.)
8) Shape the wires so that the service lid fits securely, then close service lid.

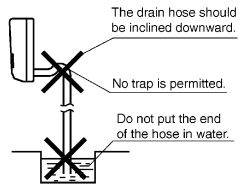


⚠ WARNING

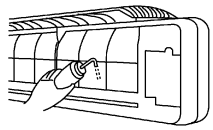
- Do not use tapped wires, stranded wires, extension cords, or starburst connections, as they may cause overheating, electrical shock, or fire.
- Do not use locally purchased electrical parts inside the product. (Do not branch the power for the drain pump, etc., from the terminal block.) Doing so may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

5. Drain piping

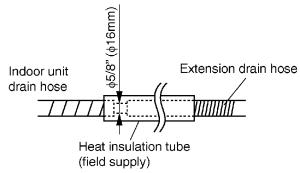
1) Connect the drain hose, as described right.



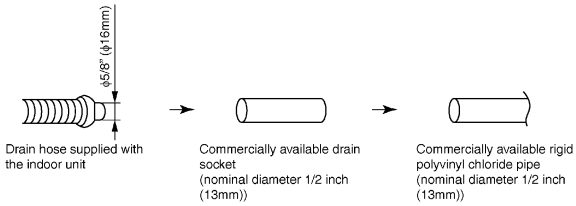
2) Remove the air filters and pour some water into the drain pan to check the water flows smoothly.



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.



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 Carry out the test operation in accordance with the operation manual to ensure that all functions and parts, such as fin movement, are working properly.
- The air conditioner requires a small amount of power in its standby mode. If the system is not to be used for some time after installation, shut off the circuit breaker to eliminate unnecessary power consumption.
- If the circuit breaker trips to shut off the power to the air conditioner, the system will restore the original operation mode when the circuit breaker is opened again.

Trial operation from remote controller

1) Press “ON/OFF” button to turn on the system.
2) Press “TEMP” button (2 locations) and “MODE” button at the same time.
3) Press “MODE” button twice.
   (“ ” will appear on the display to indicate that trial operation mode is selected.)
4) Trial operation terminates in approx. 30 minutes and switches into normal mode. To quit a trial operation, press “ON/OFF” button.

2. Test items

Test items	Symptom (diagnostic display on RC)	Check
Indoor and outdoor units are installed properly on solid bases.	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	
System is properly grounded.	Electrical leakage	
The specified wires are used for inter-unit wiring.	Inoperative or burn damage	
Indoor or outdoor unit’s air inlet or air outlet has clear path of air. Stop valves are opened.	Incomplete cooling/heating function	
Indoor unit properly receives remote control commands.	Inoperative	
The heat pump or cooling only mode is selectable with the DIP switch of the remote controller.	Remote controller malfunctioning	

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12.2 FTXS15/18/24LVJU

Accessories

Indoor unit Ⓐ – Ⓜ,

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

Choosing an Installation Site

• Before choosing the installation site, obtain user approval.

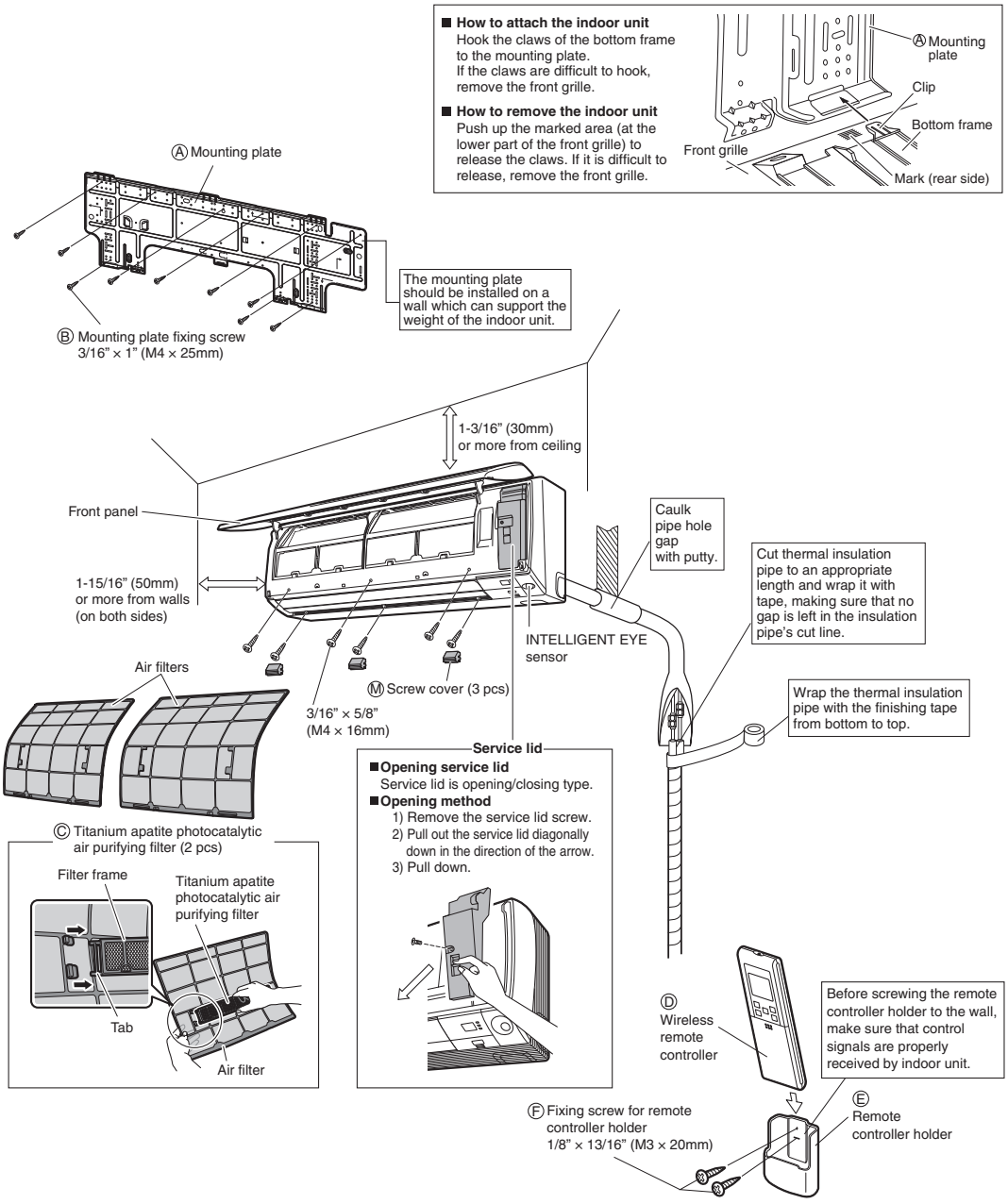
1. Indoor unit

• The indoor unit should be sited in a place where:
1) the restrictions on installation specified in the indoor unit installation drawings are met,
2) both air inlet and air outlet have clear paths met,
3) the unit is not in the path of direct sunlight,
4) the unit is away from the source of heat or steam,
5) there is no source of machine oil vapour (this may shorten indoor unit life),
6) cool (warm) air is circulated throughout the room,
7) the unit is away from electronic ignition type fluorescent lamps (inverter or rapid start type) as they may shorten the remote controller range,
8) the unit is at least 3.5ft (1m) away from any television or radio set (unit may cause interference with the picture or sound),
9) install at the recommended height 6ft (1.8m),
10) no laundry equipment is located in the space.

2. Wireless remote controller

1) Turn on all the fluorescent lamps in the room, if any, and find the site where remote control signals are properly received by the indoor unit (within 23ft/7m).

Indoor Unit Installation Drawings



INTELLIGENT EYE sensor

⚠ CAUTION

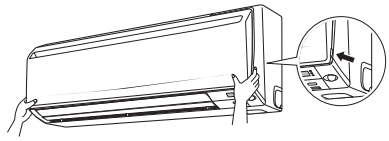
- Do not hit or forcefully push the INTELLIGENT EYE sensor. This can lead to damage and malfunction.
- Do not place large objects near the sensor. Also keep heating units or humidifiers outside the sensor's detection area.

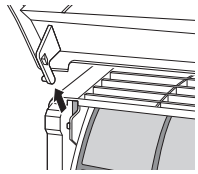
Preparation before Installation

1. Removing and installing front panel

• Removal method

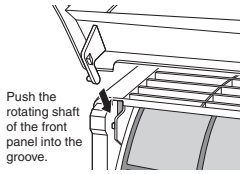
Hook fingers on the tabs on the left and right of the main body, and open until the panel stops. Slide the front panel sideways to disengage the rotating shaft. Then pull the front panel toward you to remove it.





• Installation method

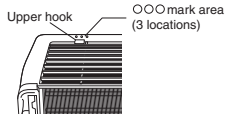
Align the tabs of the front panel with the grooves, and push all the way in. Then close slowly. Push the center of the lower surface of the panel firmly to engage the tabs.

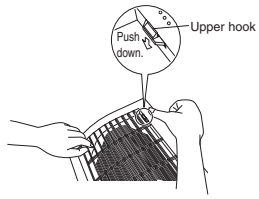


2. Removing and installing front grille

• Removal method

1) Remove front panel to remove the air filter.
2) Remove 6 screws from the front grille.
3) In front of the ○○○ mark of the front grille, there are 3 upper hooks. Lightly pull the front grille toward you with one hand, and push down on the hooks with the fingers of your other hand.





When there is no work space because the unit is close to ceiling

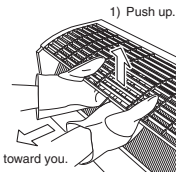
⚠ CAUTION

• Be sure to wear protection gloves.

Place both hands under the center of the front grille, and while pushing up, pull it toward you.

• Installation method

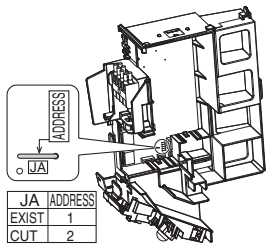
1) Install the front grille and firmly engage the upper hooks (3 locations).
2) Install 6 screws of the front grille.
3) Install the air filter and then mount the front panel.



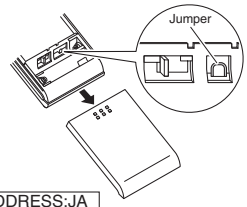
3. How to set the different addresses

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

1) Remove the metal plate electrical wiring cover.
   (Refer to the **When connecting to an HA system**.)
2) Cut the address jumper (JA) on the printed circuit board.
3) Cut the address jumper (JA) in the remote controller.



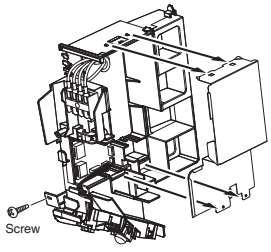
JA	ADDRESS
EXIST	1
CUT	2



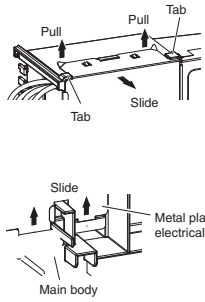
ADDRESS:JA	
EXIST	1
CUT	2

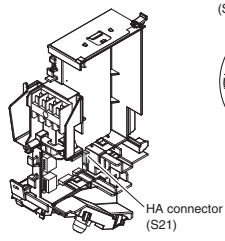
4. When connecting to an HA system (wired remote controller, central remote controller etc.)

1) Remove the front grille. (6 screws)
2) Remove the electrical wiring box. (1 screw)
3) Remove the metal plate electrical wiring cover. (4 tabs)
4) Attach the connection cord to the S21 connector and pull the harness out through the notched part in the figure.
5) Replace the electrical wiring cover as it was, and pull the harness around, as shown in the figure.

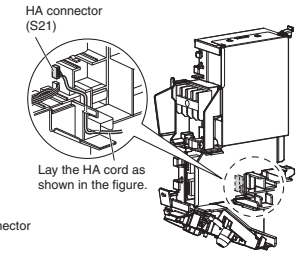


3) Remove the metal plate electrical wiring cover.





4) Attach the connection cord to the S21 connector and pull the harness out through the notched part in the figure.

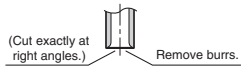


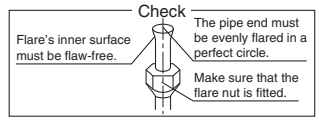
5) Replace the electrical wiring cover as it was, and pull the harness around, as shown in the figure.

Refrigerant Piping Work

1. Flaring the pipe end

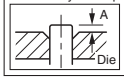
1) Cut the pipe end with a pipe cutter.
2) Remove burrs with the cut surface facing downward so that the chips do not enter the pipe.
3) Put the flare nut on the pipe.
4) Flare the pipe.
5) Check that the flaring is properly made.





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)

⚠ WARNING

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

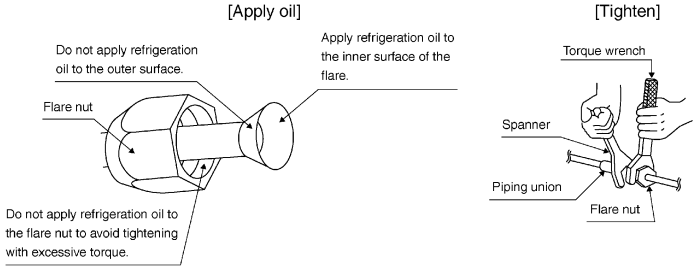
Refrigerant Piping Work

2. Refrigerant piping

⚠ CAUTION

- Use the flare nut fixed to the main unit to prevent it from cracking and deteriorating from age.
- To prevent gas leakage, apply refrigeration oil only to the inner surface of the flare. (Use refrigeration oil for R410A.)
- Use torque wrenches when tightening the flare nuts to prevent damage to the flare nuts and gas leakage.

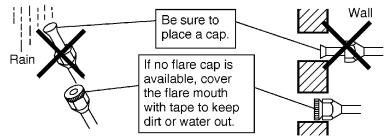
Align the centers of both flares and tighten the flare nuts 3 or 4 turns by hand. Then tighten them fully with the torque wrenches.



Flare nut tightening torque		
Gas side		Liquid side
15,18 class	24 class	
1/2 inch (12.7mm)	5/8 inch (15.9mm)	1/4 inch (6.4mm)
36.5-44.5ft • lbf (49.5-60.3N • m)	45.6-55.6ft • lbf (61.8-75.4N • m)	10.4-12.7ft • lbf (14.2-17.2N • m)

2-1. Caution on piping handling

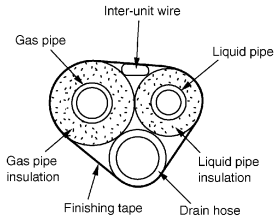
1) Protect the open end of the pipe against dust and moisture.
2) All pipe bends should be as gentle as possible. Use a pipe bender for bending.



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 0.030Btu/fth°F (0.035 to 0.045kcal/mh°C))
Be sure to use insulation that is designed for use with HVAC Systems.



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
15,18 class	24 class		15,18 class	24 class	
O.D. 1/2 inch (12.7mm)	O.D. 5/8 inch (15.9mm)	O.D. 1/4 inch (6.4mm)	I.D. 9/16-5/8 inch (14-16mm)	I.D. 5/8-25/32 inch (16-20mm)	I.D. 5/16-13/32 inch (8-10mm)
Minimum bend radius			Thickness 13/32 inch (10mm) Min.		
1-9/16 inch (40mm) or more		1-3/16 inch (30mm) or more			
Thickness 0.031 inch (0.8mm) (C1220T-O)					

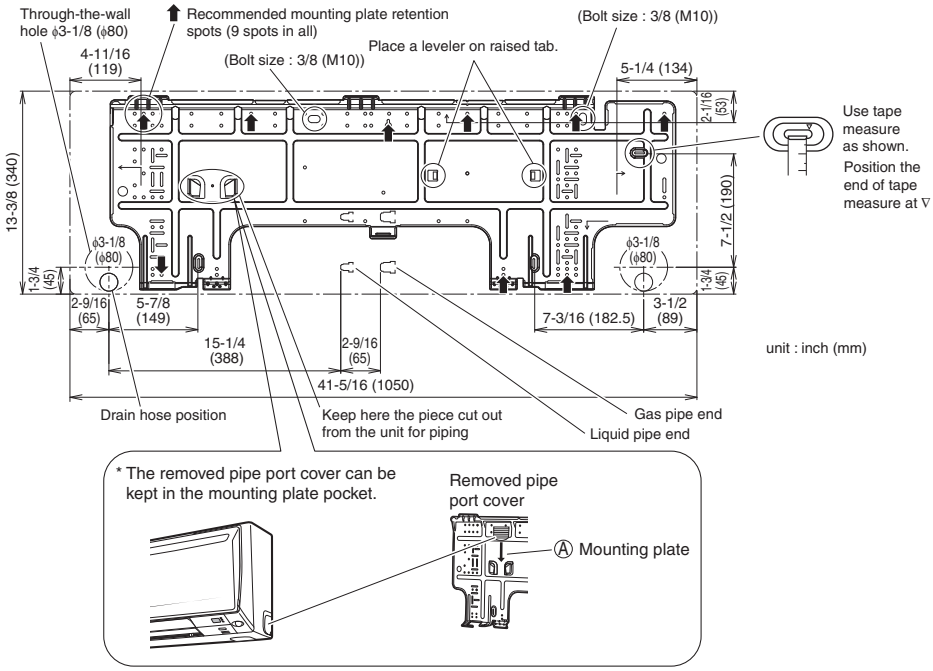
3) Use separate thermal insulation pipes for gas and liquid refrigerant pipes.

Indoor Unit Installation

1. Installing the mounting plate

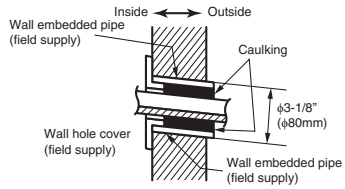
- The mounting plate should be installed on a wall which can support the weight of the indoor unit.
  1) Temporarily secure the mounting plate to the wall, make sure that the plate is completely level, and mark the boring points on the wall.
  2) Secure the mounting plate to the wall with screws.

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 3-1/8 inch (80mm) 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.

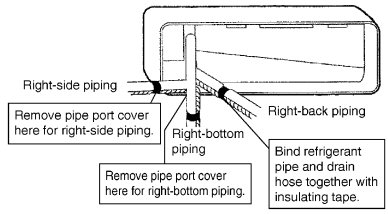


Indoor Unit Installation

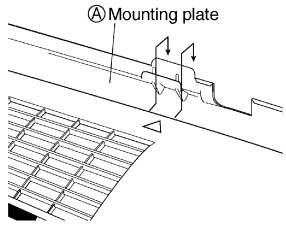
3. Laying piping, hoses, and wiring

3-1. Right-side, right-back, or right-bottom piping

1) Attach the drain hose to the underside of the refrigerant pipes with an adhesive vinyl tape.
2) Wrap the refrigerant pipes and drain hose together with insulation tape.

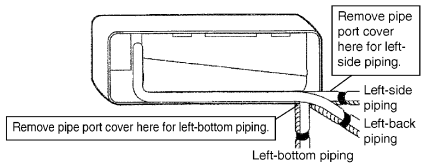


3) Pass the drain hose and refrigerant pipes through the wall hole, then set the indoor unit on the mounting plate hooks by using the △ markings at the top of the indoor unit as a guide.

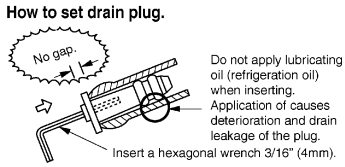


3-2. Left-side, left-back, or left-bottom piping

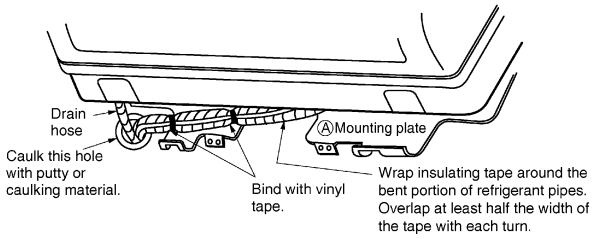
1) Replace the drain plug and drain hose.
2) Attach the drain hose to the underside of the refrigerant pipes with adhesive vinyl tape.



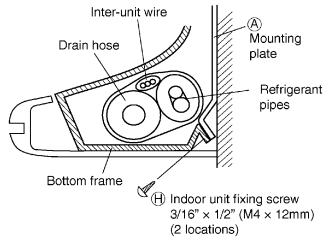
3) Be sure to connect the drain hose to the drain port in place of a drain plug.



4) Shape the refrigerant pipes along the pipe path marking on the mounting plate.
5) Pass drain hose and refrigerant pipes through the wall hole, then set the indoor unit on mounting plate hooks, using the △ markings at the top of indoor unit as a guide.
6) Pull in the inter-unit wire.
7) Connect the inter-unit pipes.

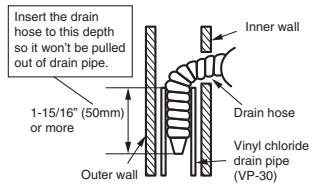


8) Wrap the refrigerant pipes and drain hose together with insulation tape as right figure, in case of setting the drain hose through the back of the indoor unit.
9) While exercising care so that the inter-unit wire do not catch indoor unit, press the bottom edge of indoor unit with both hands until it is firmly caught by the mounting plate hooks. Secure indoor unit to the mounting plate with indoor unit fixing screws 3/16 × 1/2 inch (M4 × 12mm).



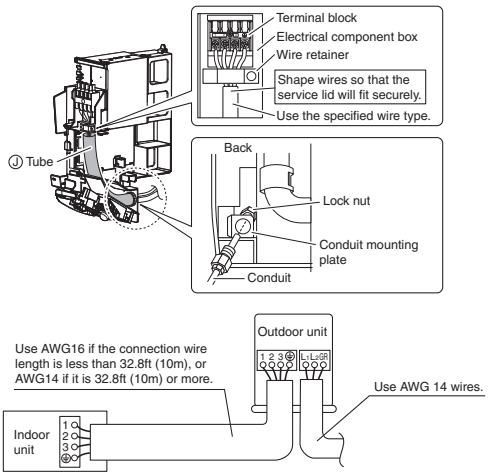
3-3. Wall embedded piping

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



4. Wiring

1) As shown in the illustration on the right-hand side, insert the wires including the ground wire into the conduit and secure them with lock nut onto the conduit mounting plate.
2) Insert the wires including the ground wire into (J) tube.
3) Strip wire ends (9/16 inch (15mm)).
4) Match wire colors with terminal numbers on indoor and outdoor unit's terminal blocks and firmly screw wires to the corresponding terminals.
5) Connect the ground wires to the corresponding terminals.
6) Pull the wires and check that the wires are securely fixed to the terminal block.
7) In case of connecting to an adapter system, run the remote controller cable and attach the S21. (Refer to P5 when connecting to an HA system.)
8) Shape the wires so that the service lid fits securely, then close service lid.



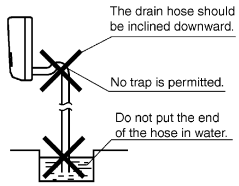
⚠ WARNING

- Do not use tapped wires, stranded wires, extension cords, or starburst connections, as they may cause overheating, electrical shock, or fire.
- 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.
- When carrying out wiring connection, take care not to pull at the conduit.
- Do not connect the power wire to the indoor unit. Doing so may cause electric shock or fire.

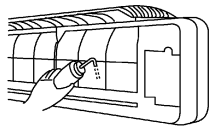
Indoor Unit Installation

5. Drain piping

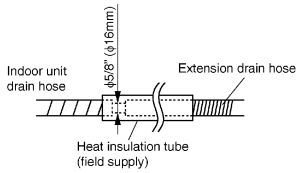
1) Connect the drain hose, as described right.



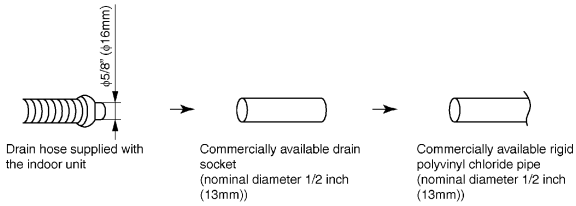
2) Remove the air filters and pour some water into the drain pan to check the water flows smoothly.



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.



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 Carry out the test operation in accordance with the operation manual to ensure that all functions and parts, such as fin movement, are working properly.
- The air conditioner requires a small amount of power in its standby mode. If the system is not to be used for some time after installation, shut off the circuit breaker to eliminate unnecessary power consumption.
- If the circuit breaker trips to shut off the power to the air conditioner, the system will restore the original operation mode when the circuit breaker is opened again.

Trial operation from remote controller

1) Press “ON/OFF” button to turn on the system.
2) Press “TEMP” button (2 locations) and “MODE” button at the same time.
3) Press “MODE” button twice.
   (“ ” will appear on the display to indicate that trial operation mode is selected.)
4) Trial operation terminates in approx. 30 minutes and switches into normal mode. To quit a trial operation, press “ON/OFF” button.

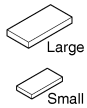
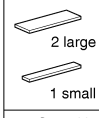
2. Test items

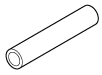
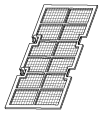
Test items	Symptom (diagnostic display on RC)	Check
Indoor and outdoor units are installed properly on solid bases.	Fall, vibration, noise	
No refrigerant gas leaks.	Incomplete cooling/heating function	
Refrigerant gas and liquid pipes and indoor drain hose extension are thermally insulated.	Water leakage	
Draining line is properly installed.	Water leakage	
System is properly grounded.	Electrical leakage	
The specified wires are used for inter-unit wiring.	Inoperative or burn damage	
Indoor or outdoor unit’s air inlet or air outlet has clear path of air. Stop valves are opened.	Incomplete cooling/heating function	
Indoor unit properly receives remote control commands.	Inoperative	
The heat pump or cooling only mode is selectable with the DIP switch of the remote controller.	Remote controller malfunctioning	

3P297301-2

12.3 FDXS09/12LVJU

Accessories

Clamp metal	Insulation for fitting	Sealing pad			Drain hose	Washer for hanger bracket	Sealing material	Clamp	Washer fixing plate	Screws for duct flanges
1 pc.	1 each	Large and small 1 each	3 pcs. (only for 15-18 class)	1 pc.	1 pc.	8 pcs.	2 pcs.	6 pcs.	1 set	1 set
	 for gas pipe for liquid pipe	 Large Small	 2 large 1 small	 Hanger (right) insulation				 One is spare	 4 pcs.	 24 pcs.
			Stored in outlet vent							

Conduit mounting plate	Screws for conduit mounting plate	Insulation tube	Air filter	Wireless remote controller	Remote controller holder	Dry battery AAA. LR03 (alkaline)	Receiver kit		
1 pc.	2 pcs.	1 pc.	1 pc.	1 pc.	1 pc.	1 set	1 pc.	1 pc.	2 pcs.
						 2 pcs.	Mounting frame 	Decorative cover 	Screws M4 × 25

[Other]	• Operation manual • Installation manual

Choosing an Installation Site

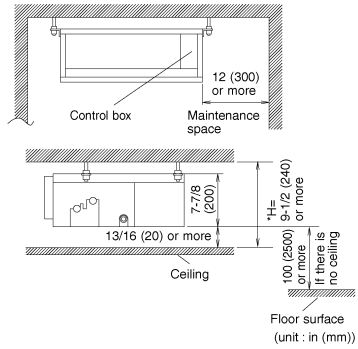
• Before choosing the installation site, obtain user approval.

1. Indoor unit

⚠ CAUTION

- When moving the unit during or after unpacking, make sure to lift it by holding its lifting lugs. Do not exert any pressure on other parts, especially the refrigerant piping, drain piping and flange parts.
  Wear protective gear (such as gloves) when installing the unit.
- If you think the humidity inside the ceiling might exceed 86°F (30°C) and RH80%, reinforce the insulation on the unit body. Use glass wool or polyethylene foam as insulation so that the thickness is more than 0.4in (10mm) and fits inside the ceiling opening.

- Optimum air distribution is ensured.
- The air passage is not blocked.
- Condensate can drain properly.
- The ceiling is strong enough to bear the weight of the indoor unit.
- A false ceiling does not seem to be at an incline.
- Sufficient clearance for maintenance and servicing is ensured.
- Piping between the indoor and outdoor units is within the allowable limits. (Refer to the installation manual for the outdoor unit.)
- The indoor unit, outdoor unit, power supply wiring and transmission wiring is at least 3.3ft (1m) away from televisions and radios. This prevents image interference and noise in electrical appliances. (Noise may be generated depending on the conditions under which the electric wave is generated, even if a 3.3ft (1m) allowance is maintained.)

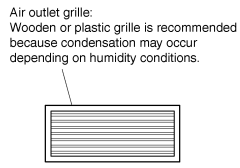


■ **Use suspension bolts to install the unit. Check whether or not the ceiling is strong enough to support the weight of the unit. If there is a risk that the ceiling is not strong enough, reinforce the ceiling before installing the unit.**
(Installation pitch is marked on the carton box for installation. Refer to it to check for points requiring reinforcing.) Select the *H dimension such that a downward slope of at least 1/100 is ensured as indicated in "**Drain Piping Work**".

- The installation pitch is listed on the packing material, and should be checked when deciding whether to reinforce the location or not.

■ **Select the signal receiver mounting location according to the following conditions:**

- Install the signal receiver, which has a built-in temperature sensor, near the intake vent where there is convection of air and it can get an accurate reading of the room's temperature. If the intake vent is in another room or the unit cannot be installed near the intake vent for any other reason, install it 5ft (1.5mm) above the floor on a wall where there is convection.
- In order to get an accurate reading of the room's temperature, install the signal receiver in a location where it is not exposed directly to cold or hot air from the air discharge grille or to direct sunlight.
- Since the receiver has a built-in light receptor to receive signals from the wireless remote controller, do not mount it in a location where the signal may be blocked by a curtain, etc.



⚠ CAUTION

If the signal receiver is not installed in a location where there is convection of air, it may be unable to get an accurate reading of the room's temperature.

Choosing an Installation Site

2. Wireless remote controller

- Turn on all the fluorescent lamps in the room, if any, and find the site where remote controller signals are properly received by the indoor unit (within 13ft (4m)).

3. Outdoor unit

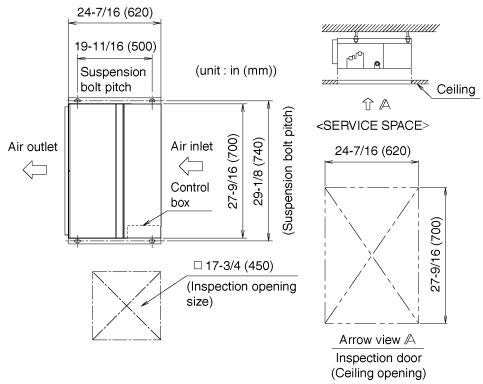
- For outdoor unit installation, see the installation manual supplied with the outdoor unit.

Preparations before Installation

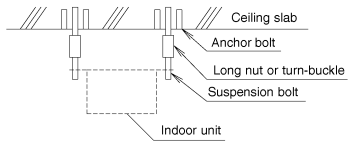
■ **Relation of the unit to the suspension bolt positions.**
- Install the inspection opening on the control box side where maintenance and inspection of the control box are easy. Install the inspection opening also in the lower part of the unit.

■ **Make sure the range of the unit's external static pressure is not exceeded.**
(See the technical documentation for the range of the external static pressure setting.)

■ **Open the installation hole. (Pre-set ceilings)**
- Once the installation hole is opened in the ceiling where the unit is to be installed, pass refrigerant piping, drain piping, transmission wiring, and remote controller wiring (unneeded if using a wireless remote controller) to the unit's piping and wiring holes. See "**Refrigerant Piping Work**", "**Drain Piping Work**", and "**Wiring**".
- After opening the ceiling hole, make sure ceiling is level if needed. It might be necessary to reinforce the ceiling frame to prevent shaking. Consult an architect or carpenter for details.

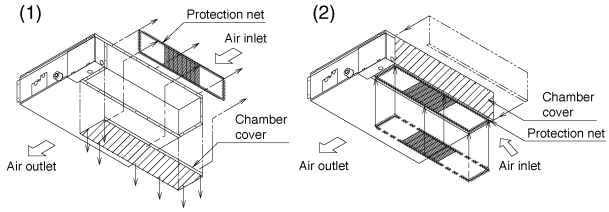


■ **Install the suspension bolts.**
(Use W3/8 to M10 suspension bolts.)
- Use a hole-in-anchor, sunken insert, sunken anchor for existing ceilings, and a sunken insert, sunken anchor or other part to be procured in the field to reinforce the ceiling to bearing the weight of the unit. (Refer to Fig.)



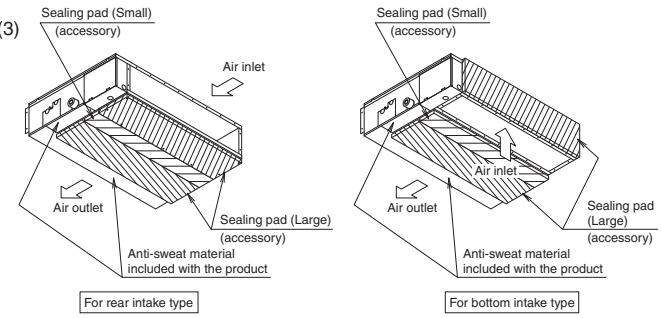
Note: All the above parts are field supplied.

■ **Mount chamber cover and air filter (accessory).**
For bottom intake, replace the chamber cover and the protection net (only for 09-12 class) in the procedure listed in Fig.
(1) Remove the protection net. (only for 09-12 class, 6 locations)
Remove the chamber cover. (7 locations)
(2) Reattach the removed chamber cover in the orientation shown in Fig. (7 locations)
Reattach the removed protection net in the orientation shown in Fig. (only for 09-12 class, 6 locations)
Refer to Fig. for the direction of the protection net.

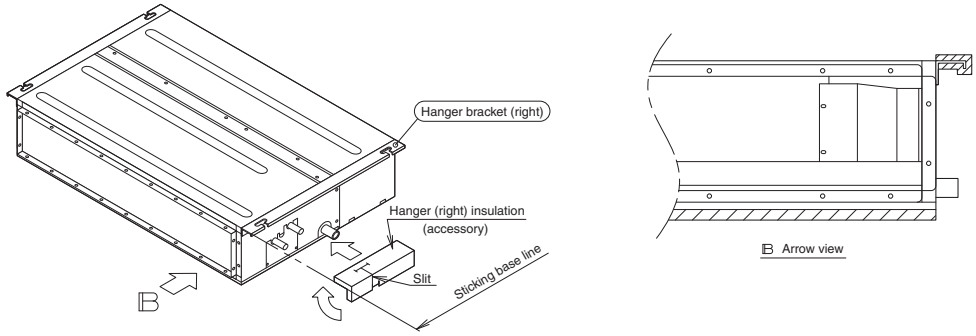


(3) Attach sealing pad as shown in the right figure. (Stored in outlet vent) (only for 15-18 class)
(In order to take in the air inside the ceiling, and when not taking in air from outdoor air, it is not necessary to stick.)
- Attach the sealing pad (accessory) to the plate metal sections which are not covered by anti-sweat material.
- Make sure there are no gaps between the different pieces of sealing pad.

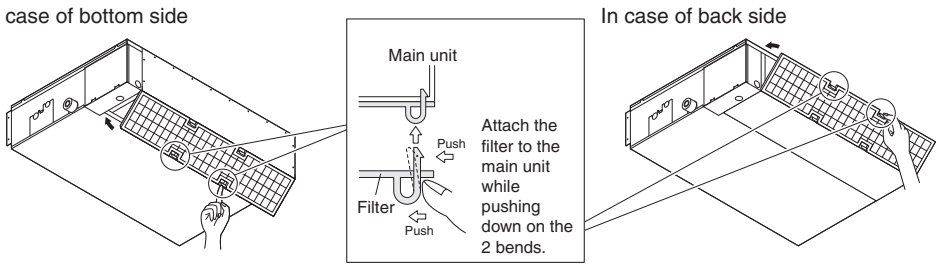
(3)



(4) Attach the hanger (right) insulation to the right hanger. (Stored in outlet vent)
(See the below figure for the sticking base line.)

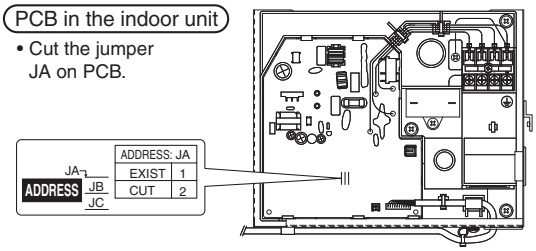


(5) Attach the air filter (accessory) in the manner shown in the diagram.

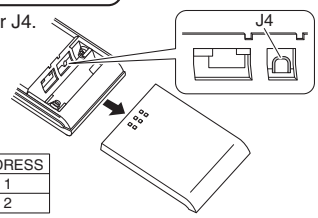


■ **When two indoor units are installed in one room, one of the two wireless remote controllers can be easily set for another addresses.**

PCB in the indoor unit
- Cut the jumper JA on PCB.



Wireless remote controller
- Cut the jumper J4.



J4	ADDRESS
EXIST	1
CUT	2

Indoor Unit Installation

<< As for the parts to be used for installation work, be sure to use the provided accessories and specified parts designated by our company. >>

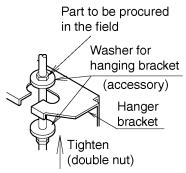
■ **Install the indoor unit temporarily.**

• Attach the hanger bracket to the suspension bolt. Be sure to fix it securely by using a nut and washer from the upper and lower sides of the hanger bracket. (Refer to Fig.)

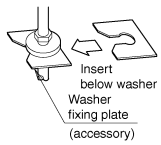
[PRECAUTION]

Since the unit uses a plastic drain pan, prevent welding spatter and other foreign substances from entering the outlet hole during installation.

[Securing the hanger bracket]

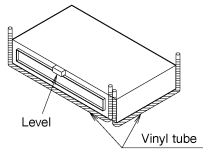


[How to secure washers]



■ **Adjust the height of the unit.**

■ **Check the unit is horizontally level.**



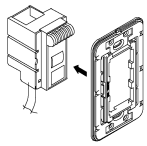
⚠ CAUTION

• Make sure the unit is installed level using a level or a plastic tube filled with water. In using a plastic tube instead of a level, adjust the top surface of the unit to the surface of the water at both ends of the plastic tube and adjust the unit horizontally. (One thing to watch out for in particular is if it is installed so that the slope is not in the direction of the drain piping, as this might cause leaking.)

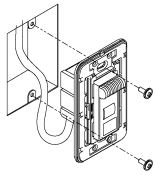
■ **Tighten the upper nut.**

■ **Mounting the receiver.**

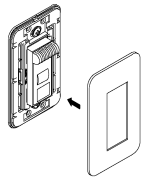
Mount the receiver as shown below.



① Press the receiver into the mounting frame.



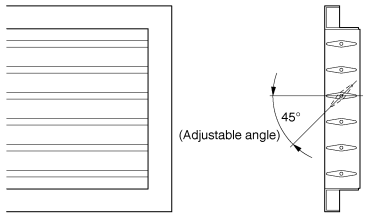
② Mount the completed assembly using two screws.



③ Press the decorative cover into the mounting frame.

Note) Mount the Remote controller cord far enough away from strong electrical wires (such as distribution wires for electrical lights, air conditioners, etc.) and from weak electrical wires (such as wires for telephones, intercoms, etc.).

For heat pump: If your feet feel cold when using the heating function, it is recommended that the air outlet grille shown at below be attached.



Outdoor unit Installation

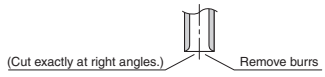
Install as described in the installation manual supplied with the outdoor unit.

Refrigerant Piping Work

See the installation manual supplied with the outdoor unit.

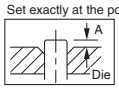
1. Flaring the pipe end

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.



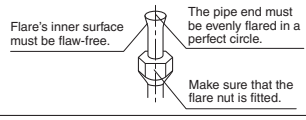
Flaring

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	0-0.02in (0-0.5mm)	0.04-0.06in (1.0-1.5mm)	0.06-0.08in (1.5-2.0mm)

Check



⚠ WARNING

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

2. Refrigerant piping

1) To prevent gas leakage, apply refrigeration machine oil on both inner and outer surfaces of the flare. (Use refrigeration oil for R410A)

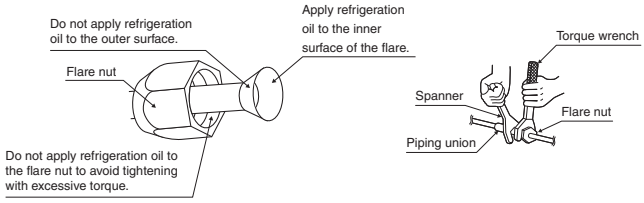
2) Align the centers of both flares and tighten the flare nuts 3 or 4 turns by hand. Then tighten them fully with the torque wrenches.
   - Use torque wrenches when tightening the flare nuts to prevent damage to the flare nuts and escaping gas.

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

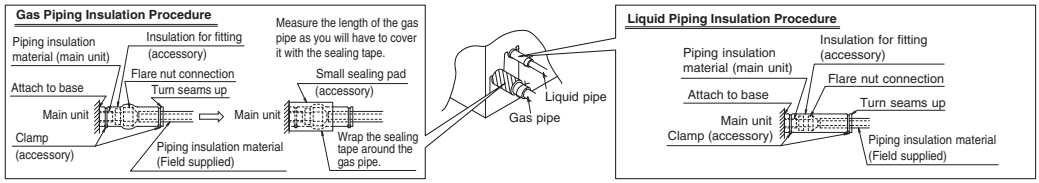
⚠ CAUTION

- **Overtightening may damage the flare and cause leaks.**

3) After the work is finished, make sure to check that there is no gas leak.



4) After checking for gas leaks, be sure to insulate the pipe connections.
- Insulate using the insulation for fitting included with the liquid and gas pipes. Besides, make sure the insulation for fitting on the liquid and gas piping has its seams facing up.
  (Tighten both edges with clamp.)
- For the gas piping, wrap the medium sealing pad over the insulation for fitting (flare nut part).



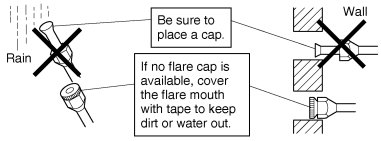
Refrigerant Piping Work

⚠ CAUTION

Be sure to insulate any field piping all the way to the piping connection inside the unit. Any exposed piping may cause condensation or burns if touched.

Cautions on Pipe Handling

- Protect the open end of the pipe against dust and moisture.
  (Tighten both edges with clamp.)
- All pipe bends should be as gentle as possible. Use a pipe bender for bending.
  (Bending radius should be 1-1/4 inch (32mm) or larger.)



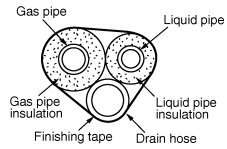
Selection of Copper and Heat Insulation materials

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

- Insulation material: Polyethylene foam
  Heat transfer rate: 0.041 to 0.052W/mK (0.024 to 0.030Btu/fth°F (0.035 to 0.045kcal/mh°C))
  Be sure to use insulation that is designed for use with HVAC Systems.
- 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. 15/32-19/32 inch (12-15mm)	I.D. 5/16-13/32 inch (8-10mm)
Minimum bend radius		Thickness 13/32 inch (10mm) Min.	
1-3/16 inch (30mm) or more			
Thickness 0.031 inch (0.8mm) (C1220T-O)			

Also, when subject to high humidity, heat insulation of the refrigerant piping (the unit piping and branch piping) must be further reinforced.
Reinforce the insulation when installing the unit near bathrooms, kitchens, and other similar locations.
Refer to the following:
• 86°F (30°C), more than 75% RH: 13/16 inch (20mm) Min. in thickness
If the insulation is not sufficient, condensation may form on the surface of the insulation.



- Use separate thermal insulation pipes for gas and liquid refrigerant pipes.

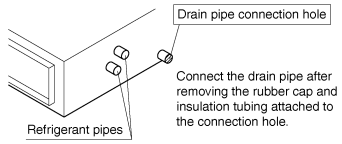
Drain Piping Work

⚠ CAUTION

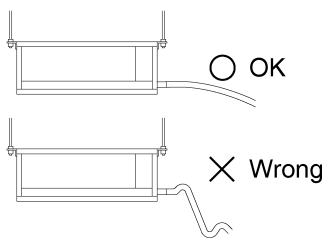
Make sure all water is out before making the duct connection.

■ Install the drain piping.

- Make sure the drain works properly.
- The diameter of the drain pipe should be greater than or equal to the diameter of the connecting pipe (vinyl tube; pipe size: 25/32 inch (20mm); outer dimension: 1-1/32 inch (26mm)).



- Keep the drain pipe short and sloping downwards at a gradient of at least 1/100 to prevent air pockets from forming.

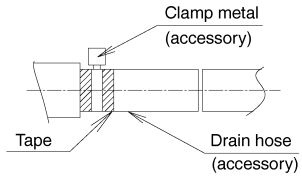


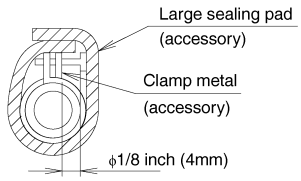
⚠ CAUTION

- **Water accumulating in the drain piping can cause the drain to clog.**

- To keep the drain tube from sagging, space hanging wires every 3 (1) to 5ft (1.5m).
- Use the drain hose and the metal clamp. Insert the drain hose fully into the drain socket and firmly tighten the metal clamp with the upper part of the tape on the hose end. Tighten the metal clamp until the screw head is less than 1/8 inch (4mm) from the hose.
- The two areas below should be insulated because condensation may form there causing water to leak.
  - Drain piping passing indoors
  - Drain sockets

Referring the figure below, insulate the metal clamp and drain hose using the included large sealing pad.





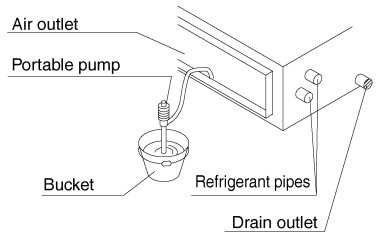
<PRECAUTIONS>

Drain piping connections

- Do not connect the drain piping directly to sewage pipes that smell of ammonia. The ammonia in the sewage might enter the indoor unit through the drain pipes and corrode the heat exchanger.
- Do not twist or bend the drain hose, so that excessive force is not applied to it. (This type of treatment may cause leaking.)

■ After piping work is finished, check drainage flows smoothly.

- Gradually insert approximately 1L of water into the drain pan to check drainage in the manner described below.
  - Gradually pour approximately 1L of water from the outlet hole into the drain pan to check drainage.
  - Check the drainage.



Installing the Duct

Connect the duct supplied in the field.
Air inlet side

- Attach the duct and intake-side flange (field supply).
- Connect the flange to the main unit with accessory screws (in 16, 20 or 24 positions).
- Wrap the intake-side flange and duct connection area with aluminum tape or something similar to prevent air escaping.

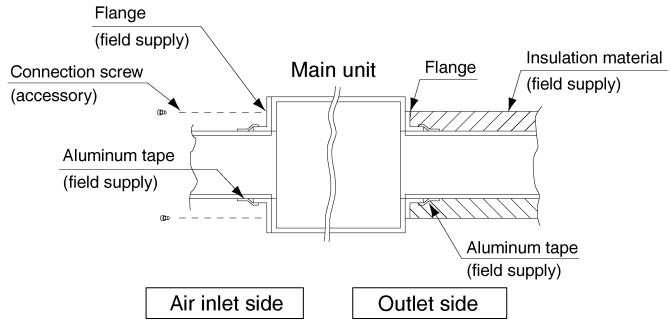
⚠ CAUTION

- When attaching a duct to the intake side, be sure also to attach an air filter inside the air passage on the intake side. (Use an air filter whose dust collecting efficiency is at least 50% in a gravimetric technique.)

Installing the Duct

Outlet side

- Connect the duct according to the inside of the outlet-side flange.
- Wrap the outlet-side flange and the duct connection area with aluminum tape or something similar to prevent air escaping.



⚠ CAUTION

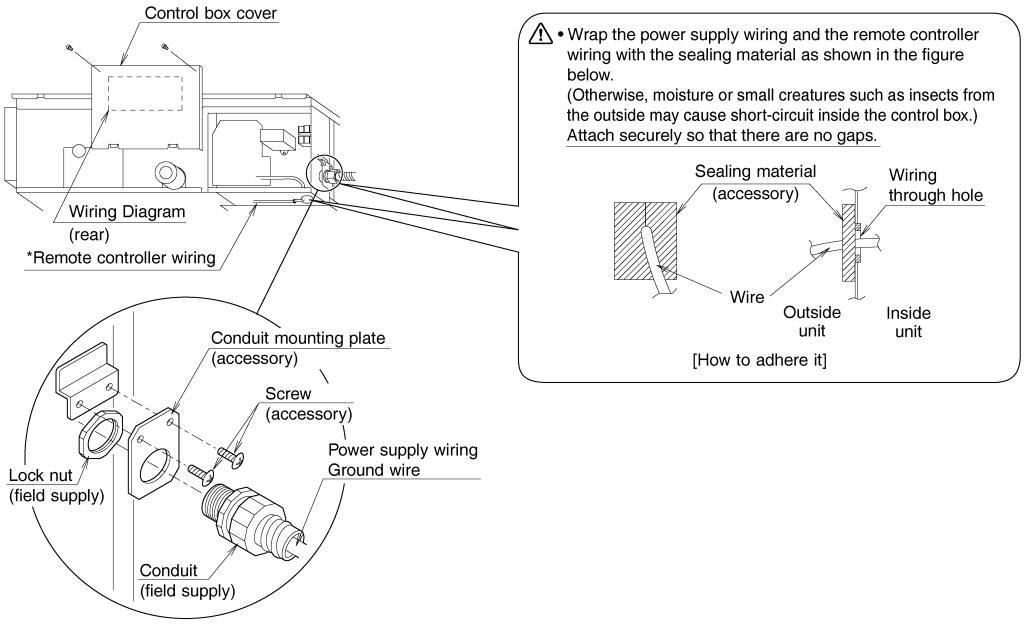
- Be sure to insulate the duct to prevent condensation from forming. (Material: glass wool or polyethylene foam, 1 inch (25mm) thick)
- Use electric insulation between the duct and the wall when using metal ducts to pass metal laths of the net or fence shape or metal plating into wooden buildings.

Wiring

See the installation manual supplied with the outdoor unit.

■ HOW TO CONNECT WIRINGS.

- Wire only after removing the control box cover as shown in the Fig.



⚠ CAUTION

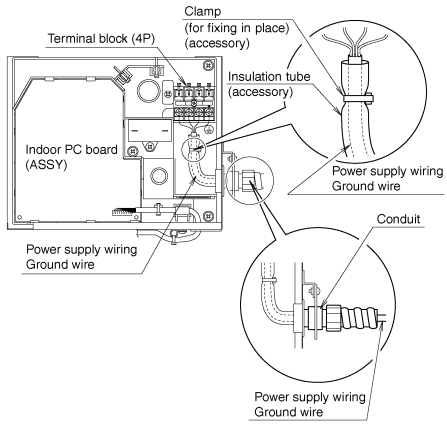
- When doing the wiring, make sure the wiring is neat and does not cause the control box cover to stick up, then close the cover firmly. When attaching the control box cover, make sure you do not pinch any wires.
- Outside the unit, separate the low voltage wiring (remote controller wiring) and high voltage wiring (ground wire and power supply wiring) at least 5in so that they do not pass through the same place together. Proximity may cause electrical interference, malfunctions, and breakage.

[PRECAUTION]

- See also the “Electrical Wiring Diagram Label” when wiring the unit for power supply.

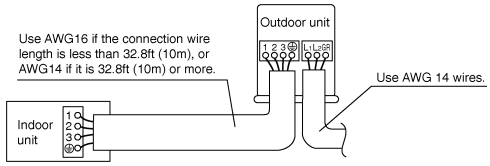
[Connecting electrical wiring]

- **Power supply wiring and ground wire**
  Remove the control box cover.
  Next, pull the wires into the unit through the conduit and thread them through the insulation tube (accessory), then connect to the power wiring terminal block (4P).
  Secure the wires covered by the insulation tube with the clamp (accessory).
  Be sure to put the part of the sheathed vinyl into the control box.



⚠ WARNING

- **Do not use tapped wires, stranded wires, extension cords, or starburst connections, as they may cause overheating, electrical shock, or fire.**



Trial Operation and Testing

1. Trial operation and testing

(1) Measure the supply voltage and make sure that it falls in the specified range.
(2) Trial operation should be carried out in either cooling or heating mode.

Trial operation from remote controller
(1) Press ON/OFF button to turn on the system. (2) Simultaneously press center of TEMP button and MODE button. (3) Press MODE button twice. (“ ” will appear on the display to indicate that Trial Operation mode is selected.) (4) Trial operation mode terminates in approx. 30 minutes and switches into normal mode. To quit the trial operation, press ON/OFF button.

In cooling mode, select the lowest programmable temperature; in heating mode, select the highest programmable temperature.
- Trial operation may be disabled in either mode depending on the room temperature.
- After trial operation is complete, set the temperature to a normal level (79°F (26°C) to 82°F (28°C) in cooling mode, 68°F (20°C) to 75°F (24°C) in heating mode).
- For protection, the system disables restart operation for 3 minutes after it is turned off.

(3) Carry out the test operation in accordance with the Operation Manual to ensure that all functions and parts, are working properly.
* The air conditioner requires a small amount of power in its standby mode. If the system is not to be used for some time after installation, shut off the circuit breaker to eliminate unnecessary power consumption.
* If the circuit breaker trips to shut off the power to the air conditioner, the system will restore the original operation mode when the circuit breaker is turned on again.

2. Test items

Test items	Symptom (diagnostic display on RC)	Check
Indoor and outdoor units are installed properly on solid bases.	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	
Drain pipe is properly installed.	Water leakage	
System is properly grounded.	Electrical leakage	
The specified wires are used for interconnecting wire connections.	Inoperative or burn damage	
Indoor or outdoor unit’s air inlet or discharge has clear path of air. Shut-off valves are opened.	Incomplete cooling/heating function	
Indoor unit properly receives remote controller commands.	Inoperative	

3P297301-3A

Safety Considerations

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 refrigerant 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 in 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 / earth leakage circuit breaker 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.**
- **The heat exchanger fins are sharp enough to cut. To avoid injury wear gloves or cover the fins while working around them.**
- **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.**

12.4 RXS09/12LVJU

Accessories

Accessories supplied with the outdoor unit:

Ⓐ Installation manual	1	Ⓑ Drain plug  The drain plug is located in the bottom of the packing case.	1

Precautions for Selecting the Location

1) Choose a place solid enough to bear the weight and vibration of the unit, where the operation sounds will not be amplified.
2) Choose a location where the hot air discharged from the unit or the operation sounds will not disturb the neighbors of the user.
3) Avoid installing near bedrooms so that operation sounds will not be a problem.
4) There must be sufficient space for carrying the unit into and out of the site.
5) There must be sufficient space for air passage and no obstructions around the air inlet and the air outlet.
6) The site must be free from the possibility of flammable gas leakage in a nearby place.
7) Install units, power cords and inter-unit wire at least 10ft (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 10ft (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) Since drain flows out of the outdoor unit, do not place anything under the unit which must be kept away from moisture.

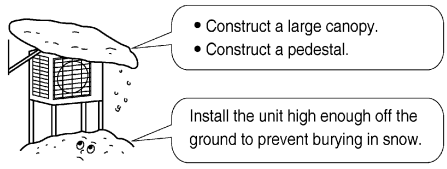
NOTE

Cannot be installed hanging from ceiling or stacked.

⚠ CAUTION

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

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

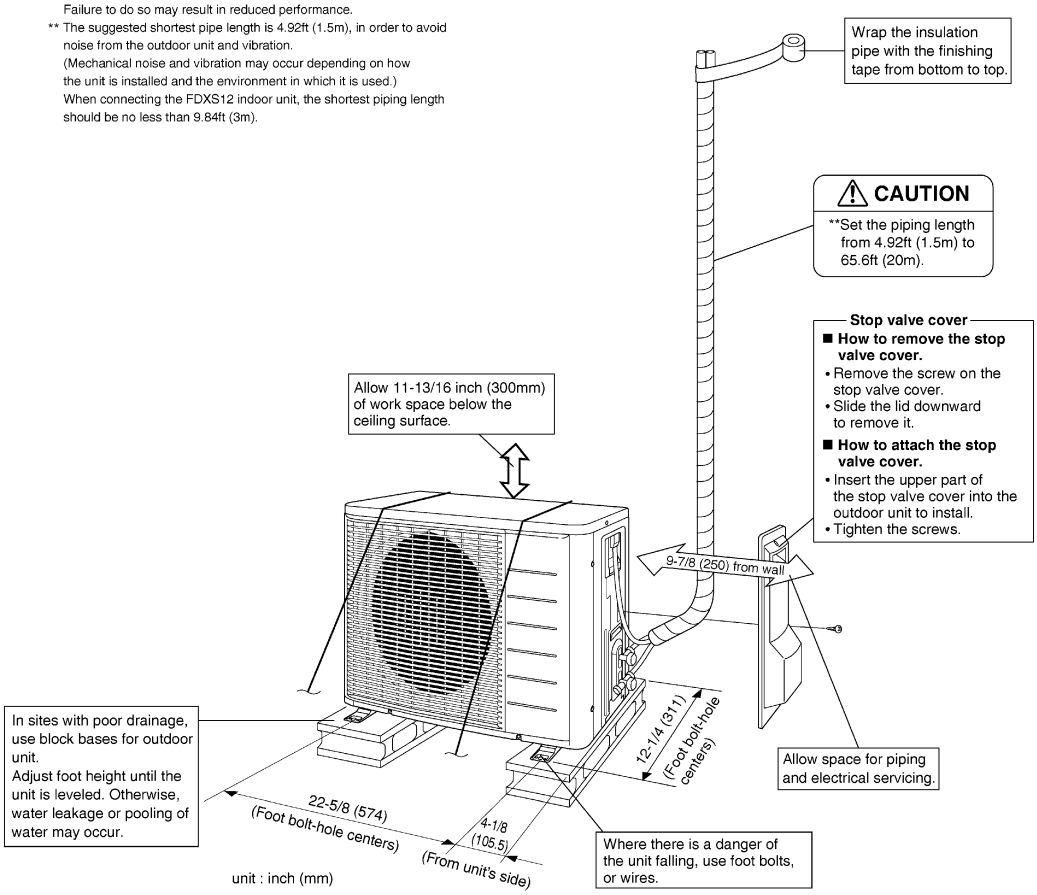


Outdoor Unit Installation Drawings

	Max. allowable piping length	65.6ft (20m)
**	Min. allowable piping length	4.92ft (1.5m)
	Max. allowable piping height	49.2ft (15m)
*	Additional refrigerant required for refrigerant pipe exceeding 32.8ft (10m) in length.	0.21oz/ft (20g/m)
	Gas pipe	O.D. 3/8 inch (9.5mm)
	Liquid pipe	O.D. 1/4 inch (6.4mm)

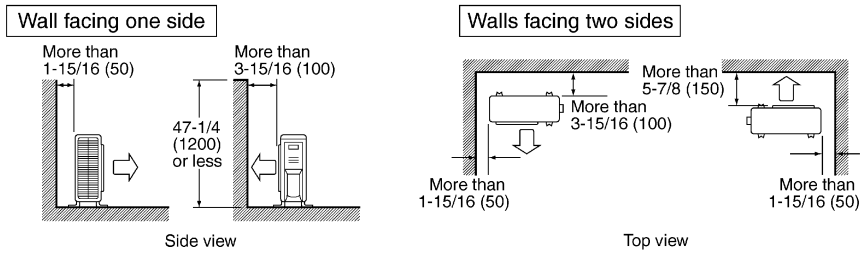
* Be sure to add the proper amount of additional refrigerant. Failure to do so may result in reduced performance.

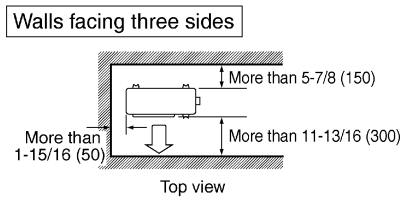
** The suggested shortest pipe length is 4.92ft (1.5m), in order to avoid noise from the outdoor unit and vibration. (Mechanical noise and vibration may occur depending on how the unit is installed and the environment in which it is used.) When connecting the FDXS12 indoor unit, the shortest piping length should be no less than 9.84ft (3m).



Installation Guidelines

- Where a wall or other obstacle is in the path of outdoor unit's inlet or outlet airflow, follow the installation guidelines below.
- For any of the below installation patterns, the wall height on the outlet side should be 47-1/4 inch (1200mm) or less.

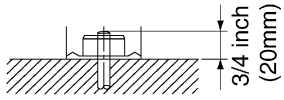




unit: inch (mm)

Precautions on Installation

- Check the strength and level of the installation ground so that the unit 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 4 sets of M8 or M10 foundation bolts, nuts and washers each which are available on the market.)
- It is best to screw in the foundation bolts until their ends are 3/4 inch (20mm) from the foundation surface.



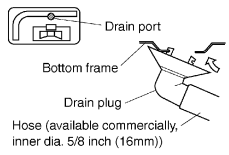
Outdoor Unit Installation

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

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) in 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.)



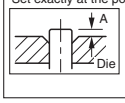
Outdoor Unit Installation

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.

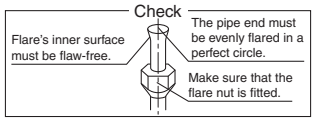
Flaring

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

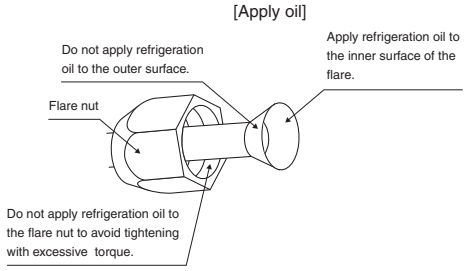
- Do not use mineral oil on flared part.
- Prevent mineral oil from getting into the system as this would reduce the lifetime of the units.
- Never use piping which has been used for previous installations. Only use parts which are delivered with the unit.
- Never install a drier to this R410A unit in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

4. Refrigerant piping

⚠ CAUTION

- Use the flare nut fixed to the main unit to prevent it from cracking and deteriorating from age.
- To prevent gas leakage, apply refrigeration oil only to the inner surface of the flare. (Use refrigeration oil for R410A.)
- 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)
24.1-29.4ft • 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)

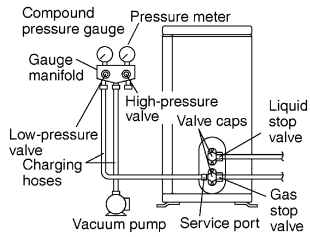
Service port cap tightening torque
7.9-10.8ft • lbf (10.8-14.7N • m)

5. Purging air and checking gas leakage

⚠WARNING

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

- When piping work is completed, it is necessary to purge the air and check for gas leakage.
- 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).*1

↓

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.)*2

↓

5) Remove 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 caps for the liquid and gas stop valves with a torque wrench at the specified torques.

*1. Pipe length vs. vacuum pump run time

Pipe length	Up to 49.2ft (15m)	More than 49.2ft (15m)
Run time	Not less than 10 min.	Not less than 15 min

*2. 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).

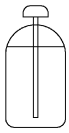
Outdoor Unit Installation

6. Refilling the refrigerant

Check the type of refrigerant to be used on the machine nameplate.
Precautions when adding R410A
Fill from the gas 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.)

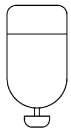
Filling a cylinder with an attached siphon



Stand the cylinder upright when filling.

There is a siphon pipe inside, so the cylinder need not be upside-down to fill with liquid.

Filling other cylinders



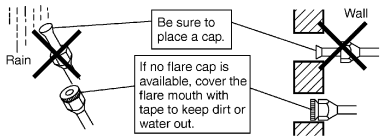
Turn the cylinder upside-down when filling.

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

7. Refrigerant piping work

7-1 Caution on pipe handling

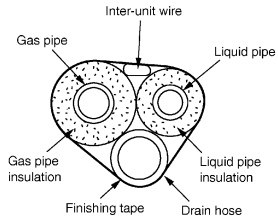
1) Protect the open end of the pipe against dust and moisture.
2) All pipe bends should be as gentle as possible. Use a pipe bender for bending.



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 to 0.030Btu/fth°F (0.035 to 0.045kcal/mh°C))
   Be sure to use insulation that is designed for use with HVAC Systems.
2) Be sure to insulate both the gas and liquid piping and to provide insulation dimensions as below.



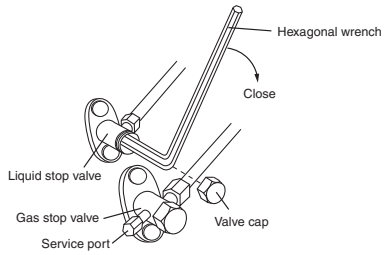
Gas side	Liquid side	Gas pipe thermal insulation	Liquid pipe thermal insulation
O.D. 3/8 inch (9.5mm)	O.D. 1/4 inch (6.4mm)	I.D. 15/32-19/32 inch (12-15mm)	I.D. 5/16-13/32 inch (8-10mm)
Minimum bend radius		Thickness 13/32 inch (10mm) Min.	
1-3/16 inch (30mm) or more			
Thickness 0.031 inch (0.8mm) (C1220T-O)			

• 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 cap 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.



Forced cooling operation

■ **Using the indoor unit ON/OFF switch**

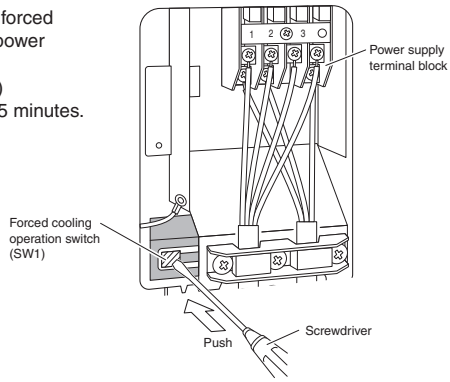
Press the indoor unit ON/OFF switch for at least 5 seconds. (The operation will start.)
- Forced cooling operation will stop automatically after around 15 minutes. To stop the operation, press the indoor unit ON/OFF switch.

■ **Using the indoor unit's remote controller**

1) Press "MODE" button and select the cooling mode.
2) Press "ON/OFF" button to turn on the system.
3) Press both of "TEMP" button and "MODE" button at the same time.
4) Press "MODE" button twice. (冷 will be displayed and the unit will enter forced cooling operation.)
- Forced cooling operation will stop automatically after around 30 minutes. To stop the operaion, press "ON/OFF" button.

■ **Using the outdoor unit forced cooling operation switch**

Forced cooling operation can be performed when the outdoor unit forced cooling operation switch is pressed within around 3 minutes after power is supplied.
Push on " ▨ " (SW1) with a screwdriver. (The operation will start.)
- Forced cooling operation will stop automatically after around 15 minutes. To stop the operation, press the switch (SW1).



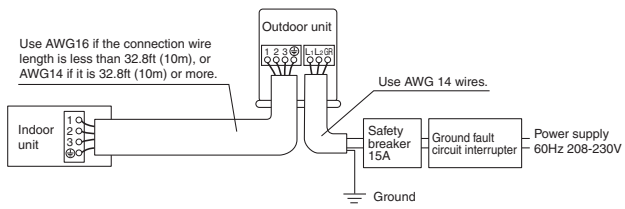
Wiring

⚠WARNING

- Do not use tapped wires, stranded wires, extension cords, or starburst connections, as they may cause overheating, electrical shock, or fire.
- 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.
- Be sure to install a ground fault circuit interrupter breaker. (One that can handle higher harmonics.) (This unit uses an inverter, which means that it must be used a ground fault circuit interrupter breaker capable handling harmonics in order to prevent malfunctioning of the ground fault circuit interrupter breaker itself.)
- Use an all-pole disconnection type breaker with at least 1/8 inch (3mm) between the contact point gaps.
- When carrying out wiring connection, take care not to pull at the conduit.
- Do not connect the power wire to the indoor unit. Doing so may cause electric shock or fire.

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

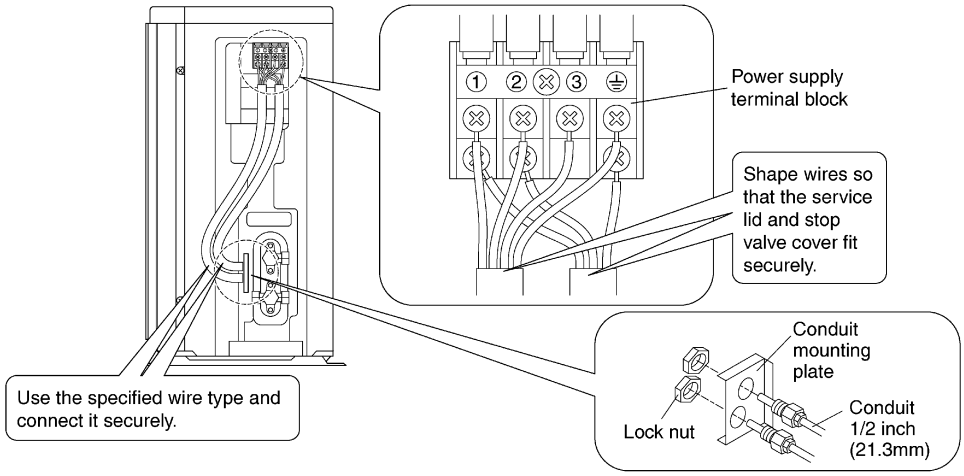
1) Strip the insulation from the wire (3/4inch (20mm)).
2) Connect the connection wires between the indoor and outdoor units so that the terminal numbers match. Tighten the terminal screws securely. We recommend a flathead screwdriver be used to tighten the screws.



Wiring

<Method of mounting conduit>

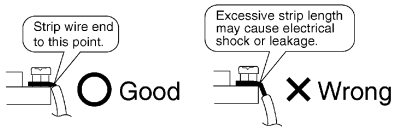
1) Pass wires through the conduit and secure them with a lock nut.
2) After completing the work, reattach the conduit mounting cover and the protection plate to its original position.

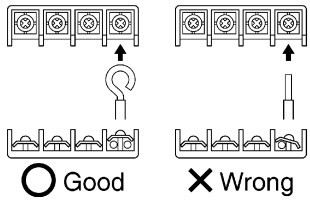


Observe the notes mentioned following when wiring to the power supply terminal block.
Precautions to be taken for power supply wiring.

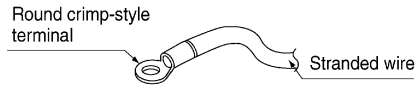
⚠ CAUTION

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





- If the stranded wires must be used, make sure to use the round crimp-style terminal for connection to the power supply terminal block. Place the round crimp-style terminals on the wires up to the covered part and secure in place.

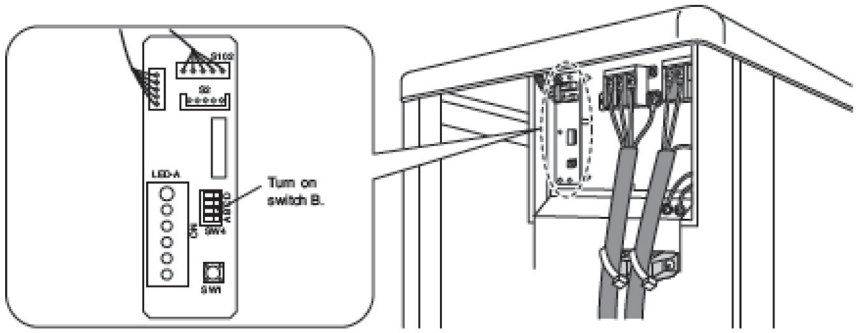


3) Pull the wire and make sure that it does not disconnect. Then fix the wire in place with a wire stop.

Facility Setting (cooling at low outdoor temperature)

This function is designed for facilities such as equipment or computer rooms. It is never to be used in a residence or office where people occupy the space.

1) You can expand the operation range to 14°F (–10°C) by turning on switch B (SW4) on the PCB. If the outdoor temperature falls to –0.4°F (–18°C) or lower, the operation will stop. If the outdoor temperature rises, the operation will start again.



⚠ CAUTION

- If the outdoor unit is installed where the heat exchanger of the unit is exposed to direct wind, provide a windbreak wall.
- Intermittent noises may be produced by the indoor unit due to the outdoor fan turning on and off when using facility settings.
- Do not place humidifiers or other items which might raise the humidity in rooms where facility settings are being used. A humidifier might cause dew condensation from the indoor unit outlet vent.
- Use the indoor unit at the highest level of airflow rate.

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.
  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 Carry out the test operation in accordance with the operation manual to ensure that all functions and parts, such as fin movement, are working properly.

- The air conditioner requires a small amount of power in its standby mode. If the system is not to be used for some time after installation, shut off the circuit breaker to eliminate unnecessary power consumption.
- If the circuit breaker trips to shut off the power to the air conditioner, the system will restore the original operation mode when the circuit breaker is opened again.

2. Test items

Test items	Symptom	Check
Indoor and outdoor units are installed properly on solid bases.	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	
System is properly grounded.	Electrical leakage	
The specified wires are used for inter-unit wiring.	Inoperative or burn damage	
Indoor or outdoor unit's air inlet or air outlet has clear path of air. Stop valves are opened.	Incomplete cooling/heating function	
Indoor unit properly receives remote control commands.	Inoperative	

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12.5 RXS15/18LVJU

Accessories

Accessories supplied with the outdoor unit:

Ⓐ Installation manual	1	Ⓑ Drain plug  The drain plug is located in the bottom of the packing case.	1

Precautions for Selecting the Location

1) Choose a place solid enough to bear the weight and vibration of the unit, where the operation sounds will not be amplified.
2) Choose a location where the hot air discharged from the unit or the operation sounds will not disturb the neighbors of the user.
3) Avoid installing near bedrooms so that operation sounds will not be a problem.
4) There must be sufficient space for carrying the unit into and out of the site.
5) There must be sufficient space for air passage and no obstructions around the air inlet and the air outlet.
6) The site must be free from the possibility of flammable gas leakage in a nearby place.
7) Install units, power cords and inter-unit wire at least 10ft (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 10ft (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) Since drain flows out of the outdoor unit, do not place anything under the unit which must be kept away from moisture.

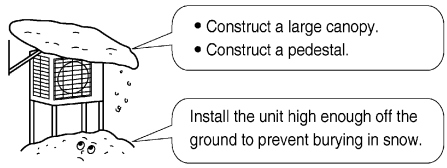
NOTE

Cannot be installed hanging from ceiling or stacked.

⚠ CAUTION

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

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

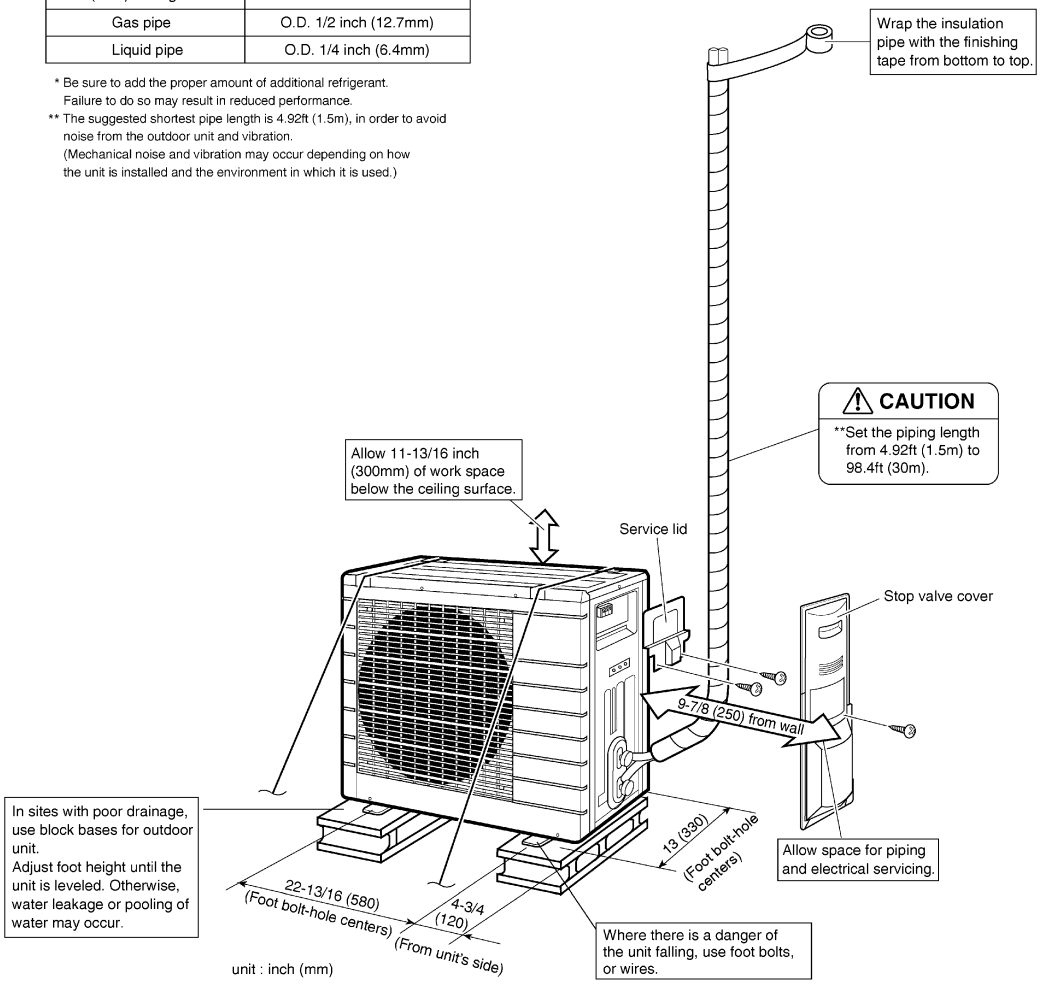


Outdoor Unit Installation Drawings

Max. allowable piping length	98.4ft (30m)
** Min. allowable piping length	4.92ft (1.5m)
Max. allowable piping height	65.6ft (20m)
* Additional refrigerant required for refrigerant pipe exceeding 32.8ft (10m) in length.	0.21oz/ft (20g/m)
Gas pipe	O.D. 1/2 inch (12.7mm)
Liquid pipe	O.D. 1/4 inch (6.4mm)

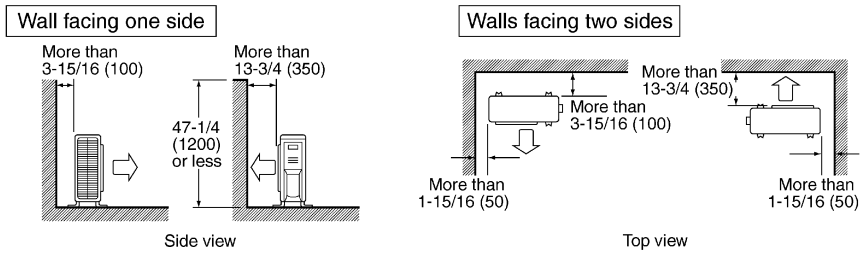
* Be sure to add the proper amount of additional refrigerant. Failure to do so may result in reduced performance.

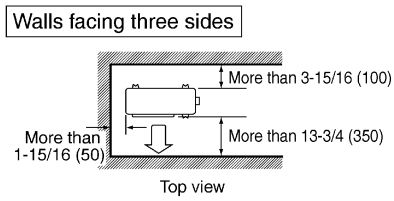
** The suggested shortest pipe length is 4.92ft (1.5m), in order to avoid noise from the outdoor unit and vibration. (Mechanical noise and vibration may occur depending on how the unit is installed and the environment in which it is used.)



Installation Guidelines

- Where a wall or other obstacle is in the path of outdoor unit's inlet or outlet airflow, follow the installation guidelines below.
- For any of the below installation patterns, the wall height on the outlet side should be 47-1/4 inch (1200mm) or less.

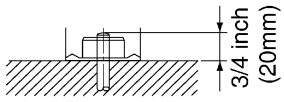




unit: inch (mm)

Precautions on Installation

- Check the strength and level of the installation ground so that the unit 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 4 sets of M8 or M10 foundation bolts, nuts and washers each which are available on the market.)
- It is best to screw in the foundation bolts until their ends are 3/4 inch (20mm) from the foundation surface.



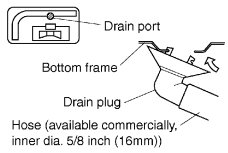
Outdoor Unit Installation

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

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) in 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.)



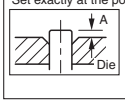
Outdoor Unit Installation

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.

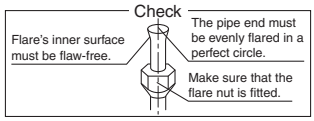
Flaring

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

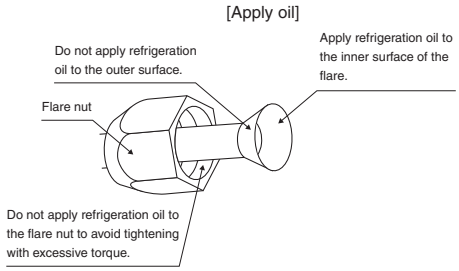
- Do not use mineral oil on flared part.
- Prevent mineral oil from getting into the system as this would reduce the lifetime of the units.
- Never use piping which has been used for previous installations. Only use parts which are delivered with the unit.
- Never install a drier to this R410A unit in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

4. Refrigerant piping

⚠ CAUTION

- Use the flare nut fixed to the main unit to prevent it from cracking and deteriorating from age.
- To prevent gas leakage, apply refrigeration oil only to the inner surface of the flare. (Use refrigeration oil for R410A.)
- 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
1/2 inch (12.7mm)	1/4 inch (6.4mm)
36.5-44.5ft • lbf (49.5-60.3N • m)	10.4-12.7ft • lbf (14.2-17.2N • m)

Valve cap tightening torque	
Gas side	Liquid side
1/2 inch (12.7mm)	1/4 inch (6.4mm)
35.5-44.0ft • lbf (48.1-59.7N • m)	15.9-20.2ft • lbf (21.6-27.4N • m)

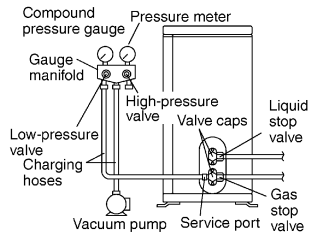
Service port cap tightening torque
7.9-10.8ft • lbf (10.8-14.7N • m)

5. Purging air and checking gas leakage

⚠WARNING

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

- When piping work is completed, it is necessary to purge the air and check for gas leakage.
- 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).*1

↓

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.)*2

↓

5) Remove 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 caps for the liquid and gas stop valves with a torque wrench at the specified torques.

*1. Pipe length vs. vacuum pump run time

Pipe length	Up to 49.2ft (15m)	More than 49.2ft (15m)
Run time	Not less than 10 min.	Not less than 15 min

*2. 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).

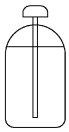
Outdoor Unit Installation

6. Refilling the refrigerant

Check the type of refrigerant to be used on the machine nameplate.
Precautions when adding R410A
Fill from the gas 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.)

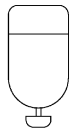
Filling a cylinder with an attached siphon



Stand the cylinder upright when filling.

There is a siphon pipe inside, so the cylinder need not be upside-down to fill with liquid.

Filling other cylinders



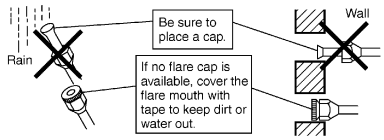
Turn the cylinder upside-down when filling.

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

7. Refrigerant piping work

7-1 Caution on pipe handling

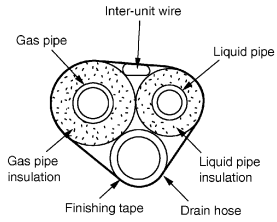
1) Protect the open end of the pipe against dust and moisture.
2) All pipe bends should be as gentle as possible. Use a pipe bender for bending.



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 to 0.030Btu/fth°F (0.035 to 0.045kcal/mh°C))
   Be sure to use insulation that is designed for use with HVAC Systems.
2) Be sure to insulate both the gas and liquid piping and to provide insulation dimensions as below.



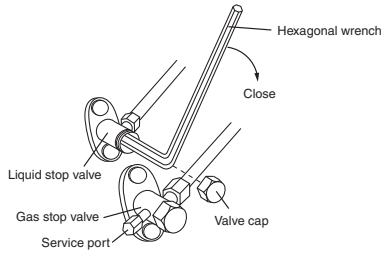
Gas side	Liquid side	Gas pipe thermal insulation	Liquid pipe thermal insulation
O.D. 1/2 inch (12.7mm)	O.D. 1/4 inch (6.4mm)	I.D. 9/16-5/8 inch (14-16mm)	I.D. 5/16-13/32 inch (8-10mm)
Minimum bend radius		Thickness 13/32 inch (10mm) Min.	
1-9/16 inch (40mm) or more	1-3/16 inch (30mm) or more		
Thickness 0.031 inch (0.8mm) (C1220T-O)			

• 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 cap 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.



Forced cooling operation

■ **Using the indoor unit ON/OFF switch**

Press the indoor unit ON/OFF switch for at least 5 seconds. (The operation will start.)

- Forced cooling operation will stop automatically after around 15 minutes. To stop the operation, press the indoor unit ON/OFF switch.

■ **Using the indoor unit's remote controller**

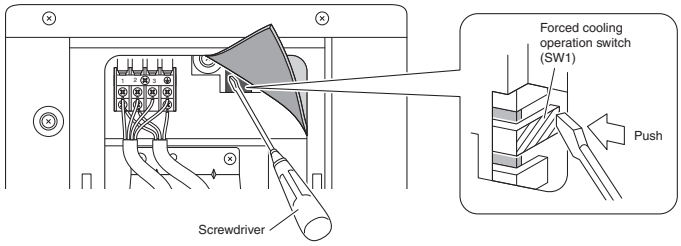
1) Press "MODE" button and select the cooling mode.
2) Press "ON/OFF" button to turn on the system.
3) Press both of "TEMP" button and "MODE" button at the same time.
4) Press "MODE" button twice. (7 will be displayed and the unit will enter forced cooling operation.)

- Forced cooling operation will stop automatically after around 30 minutes. To stop the operation, press "ON/OFF" button.

■ **Using the outdoor unit forced cooling operation switch**

Forced cooling operation can be performed when the outdoor unit forced cooling operation switch is pressed within around 3 minutes after power is supplied.

- Push on " ▨ " with a screwdriver. (The operation will start.)
- Forced cooling operation will stop automatically after around 15 minutes. To stop the operation, press the switch (SW1).



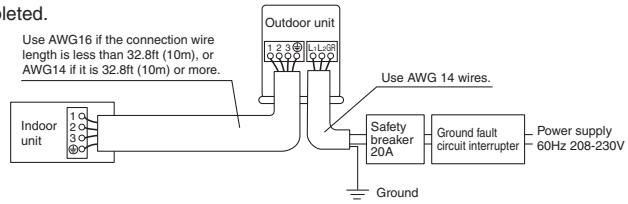
Wiring

⚠ WARNING

- Do not use tapped wires, stranded wires, extension cords, or starburst connections, as they may cause overheating, electrical shock, or fire.
- 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.
- Be sure to install a ground fault circuit interrupter breaker. (One that can handle higher harmonics.) (This unit uses an inverter, which means that it must be used a ground fault circuit interrupter breaker capable handling harmonics in order to prevent malfunctioning of the ground fault circuit interrupter breaker itself.)
- Use an all-pole disconnection type breaker with at least 1/8 inch (3mm) between the contact point gaps.
- When carrying out wiring connection, take care not to pull at the conduit.
- Do not connect the power wire to the indoor unit. Doing so may cause electric shock or fire.

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

1) Strip the insulation from the wire (3/4inch (20mm)).
2) Connect the connection wires between the indoor and outdoor units so that the terminal numbers match. Tighten the terminal screws securely. We recommend a flathead screwdriver be used to tighten the screws.



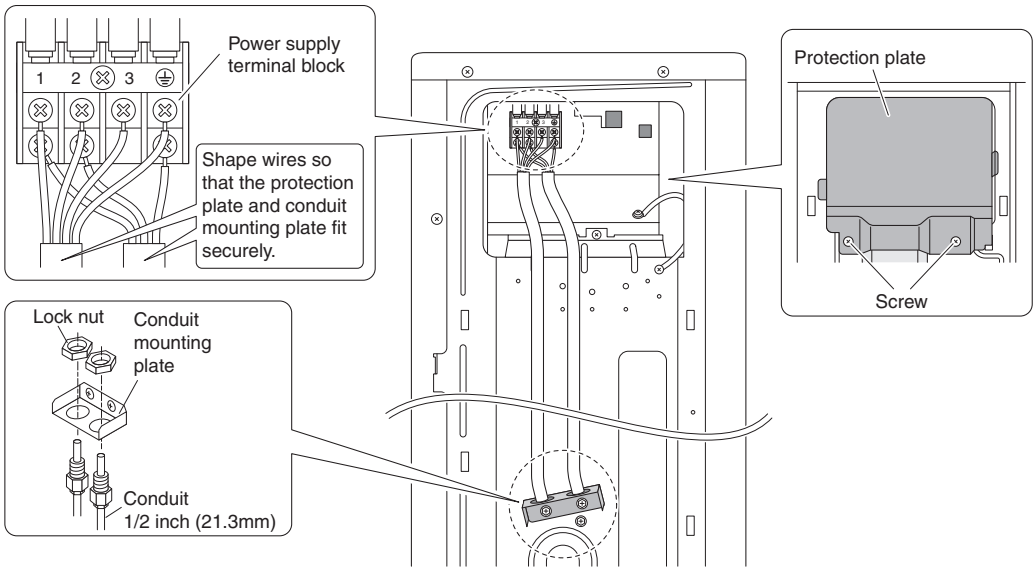
Wiring

<Work before wiring>

A protection plate is fixed for protection from the high-voltage section.
Before staring wiring work, dismount the protection plate by removing the 2 screws and dismount the conduit mounting cover by removing the 2 screws.

<Method of mounting conduit>

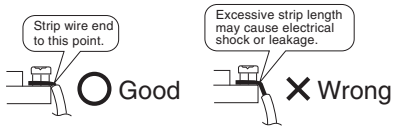
1) Pass wires through the conduit and secure them with a lock nut.
2) After completing the work, reattach the conduit mounting cover and the protection plate to its original position.

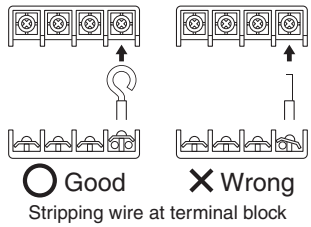


Observe the notes mentioned following when wiring to the power supply terminal board.
Precautions to be taken for power supply wiring.

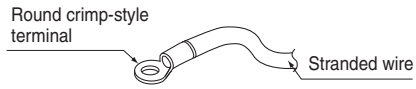
⚠ CAUTION

- 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.





- If the stranded wires must be used, make sure to use the round crimp-style terminal for connection to the power supply terminal block. Place the round crimp-style terminals on the wires up to the covered part and secure in place.

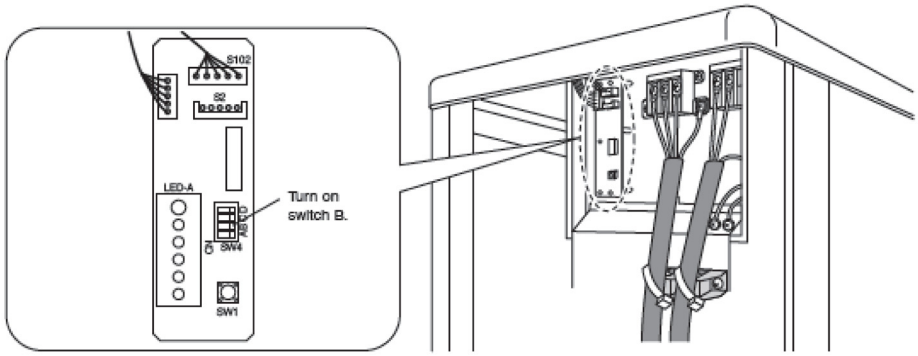


3) Pull the wire and make sure that it does not disconnect. Then fix the wire in place with a wire stop.

Facility Setting (cooling at low outdoor temperature)

This function is designed for facilities such as equipment or computer rooms. It is never to be used in a residence or office where people occupy the space.

1) You can expand the operation range to 14°F (–10°C) by turning on switch B (SW4) on the PCB. If the outdoor temperature falls to –0.4°F (–18°C) or lower, the operation will stop. If the outdoor temperature rises, the operation will start again.



⚠ CAUTION

- If the outdoor unit is installed where the heat exchanger of the unit is exposed to direct wind, provide a windbreak wall.
- Intermittent noises may be produced by the indoor unit due to the outdoor fan turning on and off when using facility settings.
- Do not place humidifiers or other items which might raise the humidity in rooms where facility settings are being used. A humidifier might cause dew condensation from the indoor unit outlet vent.
- Use the indoor unit at the highest level of airflow rate.

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.
  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 Carry out the test operation in accordance with the operation manual to ensure that all functions and parts, such as fin movement, are working properly.

- The air conditioner requires a small amount of power in its standby mode. If the system is not to be used for some time after installation, shut off the circuit breaker to eliminate unnecessary power consumption.
- If the circuit breaker trips to shut off the power to the air conditioner, the system will restore the original operation mode when the circuit breaker is opened again.

2. Test items

Test items	Symptom	Check
Indoor and outdoor units are installed properly on solid bases.	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	
System is properly grounded.	Electrical leakage	
The specified wires are used for inter-unit wiring.	Inoperative or burn damage	
Indoor or outdoor unit's air inlet or air outlet has clear path of air. Stop valves are opened.	Incomplete cooling/heating function	
Indoor unit properly receives remote control commands.	Inoperative	

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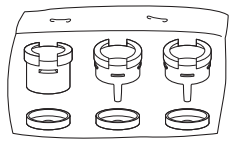
Accessories

Accessories supplied with the outdoor unit:

Ⓐ Installation manual		1	Ⓑ Drain socket assembly 	1
Ⓒ Tube		2		
Ⓓ Binding band		2		

Precautions for Selecting the Location

1) Choose a place solid enough to bear the weight and vibration of the unit, where the operation sounds will not be amplified.
2) Choose a location where the hot air discharged from the unit or the operation sounds will not disturb the neighbors of the user.
3) Avoid installing near bedrooms so that operation sounds will not be a problem.
4) There must be sufficient space for carrying the unit into and out of the site.
5) There must be sufficient space for air passage and no obstructions around the air inlet and the air outlet.
6) The site must be free from the possibility of flammable gas leakage in a nearby place.
7) Install units, power cords and inter-unit wire at least 10ft (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 10ft (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) Since drain flows out of the outdoor unit, do not place anything under the unit which must be kept away from moisture.

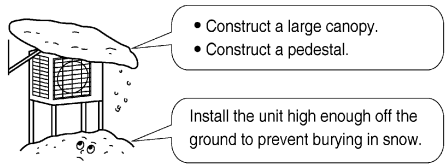
NOTE

Cannot be installed hanging from ceiling or stacked.

⚠ CAUTION

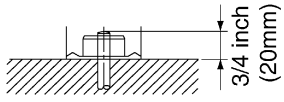
When operating the air conditioner in a low outdoor ambient temperature, be sure to follow the instructions described below.

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



Precautions on Installation

- Check the strength and level of the installation ground so that the unit 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 4 sets of 5/16 or 3/8 inch (M8 or M10) foundation bolts, nuts and washers each which are available on the market.)
- It is best to screw in the foundation bolts until their ends are 3/4 inch (20mm) from the foundation surface.

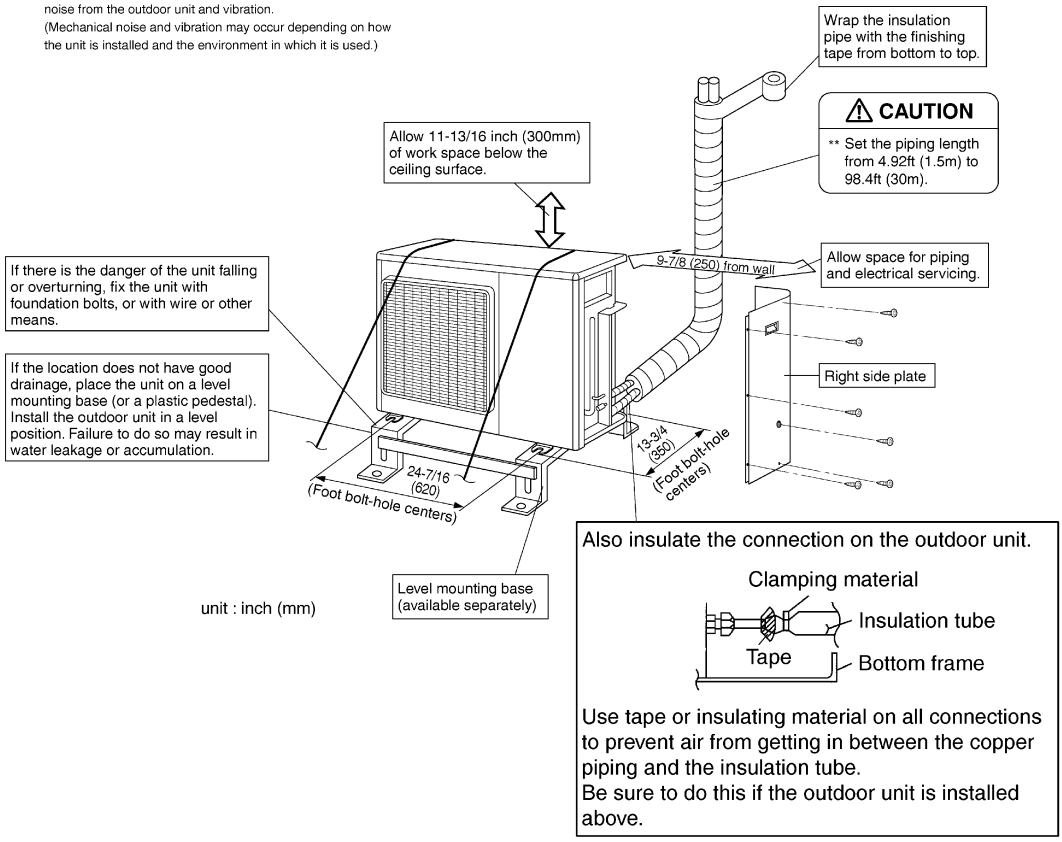


Outdoor Unit Installation Drawings

Max. allowable piping length	98.4ft (30m)
** Min. allowable piping length	4.92ft (1.5m)
Max. allowable piping height	65.6ft (20m)
* Additional refrigerant required for refrigerant pipe exceeding 32.8ft (10m) in length.	0.21oz/ft (20g/m)
Gas pipe	O.D. 5/8 inch (15.9mm)
Liquid pipe	O.D. 1/4 inch (6.4mm)

* Be sure to add the proper amount of additional refrigerant. Failure to do so may result in reduced performance.

** The suggested shortest pipe length is 4.92ft (1.5m), in order to avoid noise from the outdoor unit and vibration. (Mechanical noise and vibration may occur depending on how the unit is installed and the environment in which it is used.)

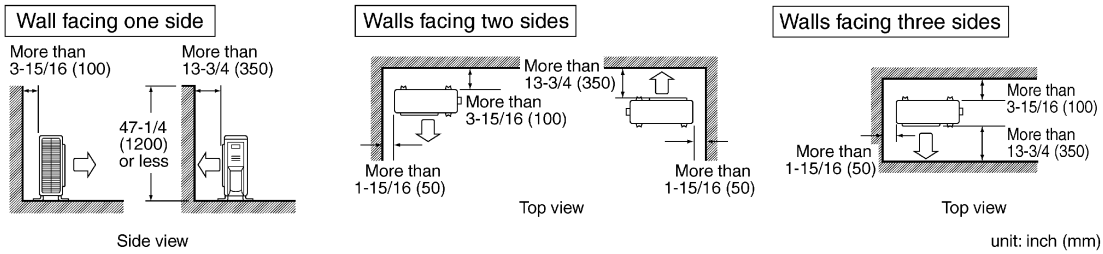


Also insulate the connection on the outdoor unit.

Use tape or insulating material on all connections to prevent air from getting in between the copper piping and the insulation tube.
Be sure to do this if the outdoor unit is installed above.

Installation Guidelines

- Where a wall or other obstacle is in the path of outdoor unit's inlet or outlet airflow, follow the installation guidelines below.
- For any of the below installation patterns, the wall height on the outlet side should be 47-1/4 inch (1200mm) or less.



unit: inch (mm)

Outdoor Unit Installation

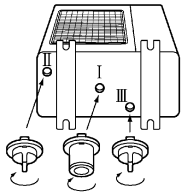
1. Installing outdoor unit

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

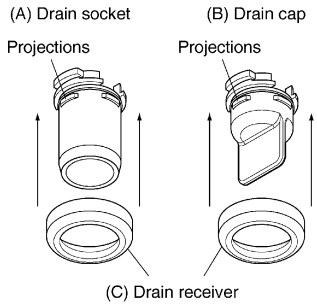
- Use drain plug for drainage.
- If the drain port is covered by a mounting base or floor surface, place additional foot bases of at least 3-15/16 inch (100mm) in height under the outdoor unit's feet.
- In cold areas, do not use a drain socket (A), drain caps (B) and a drain hose with the outdoor unit. (Otherwise, drain water may freeze, impairing heating performance.)

1) Insert drain receiver (C) onto drain socket (A) and drain cap (B) beyond 4 projections around drain socket and drain cap.
2) Insert drain socket and drain caps into their matching drain hole; Drain socket (A) into drain hole I and drain caps (B) into drain hole II and III. After insertion, turn them about 40° clockwise.



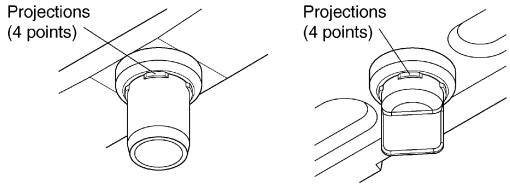
(Be sure not to insert them into wrong drain holes, or there causes water leakage.)

(View from bottom)



NOTE

Check that the drain receiver (C) is correctly engaged with the projections of the drain socket (A) and drain cap (B). Otherwise, water leakage may result.



3) Connect vinyl hose on the market (internal diameter of 1 inch (25mm)) to drain socket (A). (If the hose is too long and hangs down, fix it carefully to prevent the kinks.)
4) Make sure that there is no water leakage from portion I, II, or III.

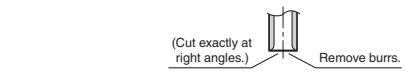
NOTE

If the drain holes of the outdoor unit are covered with the mounting bracket or the floor, raise the unit to provide the space of more than 3-15/16 inch (100mm) under the leg of the outdoor unit.

Outdoor Unit Installation

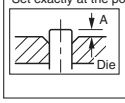
3. Flaring the pipe end

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.



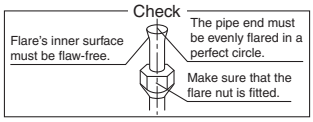
Flaring

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

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

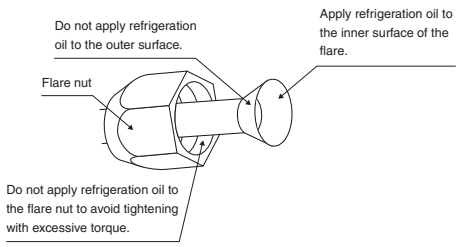
4. Refrigerant piping

⚠ CAUTION

- Use the flare nut fixed to the main unit to prevent it from cracking and deteriorating from age.
- To prevent gas leakage, apply refrigeration oil only to the inner surface of the flare. (Use refrigeration oil for R410A.)
- 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]



Flare nut tightening torque	
Gas side	Liquid side
5/8 inch (15.9mm)	1/4 inch (6.4mm)
45.6-55.6ft • lbf (61.8-75.4N • m)	10.4-12.7ft • lbf (14.2-17.2N • m)

Valve cap tightening torque	
Gas side	Liquid side
5/8 inch (15.9mm)	1/4 inch (6.4mm)
35.5-44.0ft • lbf (48.1-59.7N • m)	15.9-20.2ft • lbf (21.6-27.4N • m)

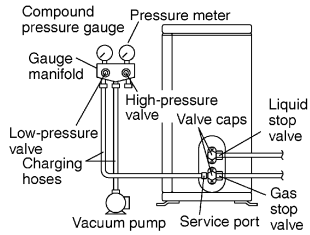
Service port cap tightening torque
7.9-10.8ft • lbf (10.8-14.7N • m)

5. Purging air and checking gas leakage

⚠WARNING

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

- When piping work is completed, it is necessary to purge the air and check for gas leakage.
- 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).*1

↓

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.)*2

↓

5) Remove 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 caps for the liquid and gas stop valves with a torque wrench at the specified torques.

*1. Pipe length vs. vacuum pump run time

Pipe length	Up to 49.2ft (15m)	More than 49.2ft (15m)
Run time	Not less than 10 min.	Not less than 15 min

*2. 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).

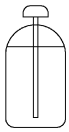
Outdoor Unit Installation

6. Refilling the refrigerant

Check the type of refrigerant to be used on the machine nameplate.
Precautions when adding R410A
Fill from the gas 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.)

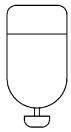
Filling a cylinder with an attached siphon



Stand the cylinder upright when filling.

There is a siphon pipe inside, so the cylinder need not be upside-down to fill with liquid.

Filling other cylinders



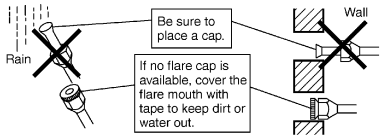
Turn the cylinder upside-down when filling.

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

7. Refrigerant piping work

7-1 Caution on pipe handling

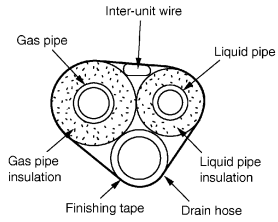
1) Protect the open end of the pipe against dust and moisture.
2) All pipe bends should be as gentle as possible. Use a pipe bender for bending.



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 to 0.030Btu/fth°F (0.035 to 0.045kcal/mh°C))
   Be sure to use insulation that is designed for use with HVAC Systems.
2) Be sure to insulate both the gas and liquid piping and to provide insulation dimensions as below.



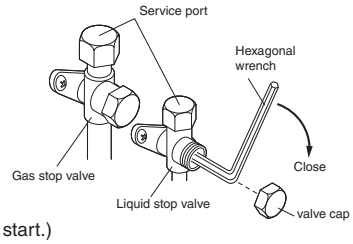
Gas side	Liquid side	Gas pipe thermal insulation	Liquid pipe thermal insulation
O.D. 5/8 inch (15.9mm)	O.D. 1/4 inch (6.4mm)	I.D. 5/8-25/32 inch (16-20mm)	I.D. 5/16-13/32 inch (8-10mm)
Minimum bend radius		Thickness 13/32 inch (10mm) Min.	
1-15/16 inch (50mm) or more	1-3/16 inch (30mm) or more		
Thickness 0.039 inch (1.0mm) (C1220T-O)	Thickness 0.031 inch (0.8mm) (C1220T-O)		

• 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 cap 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.



Forced cooling operation

■ **Using the indoor unit ON/OFF switch**

Press the indoor unit ON/OFF switch for at least 5 seconds. (The operation will start.)

- Forced cooling operation will stop automatically after around 15 minutes. To stop the operation, press the indoor unit ON/OFF switch.

■ **Using the indoor unit's remote controller**

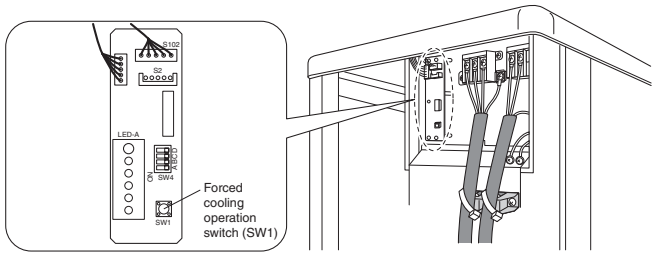
1) Press "MODE" button and select the cooling mode.
2) Press "ON/OFF" button to turn on the system.
3) Press both of "TEMP" button and "MODE" button at the same time.
4) Press "MODE" button twice. (冷 will be displayed and the unit will enter forced cooling operation.)

- Forced cooling operation will stop automatically after around 30 minutes. To stop the operaion, press "ON/OFF" button.

■ **Using the outdoor unit forced cooling operation switch**

Forced cooling operation can be performed when the outdoor unit forced cooling operation switch is pressed within around 3 minutes after power is supplied.
Press the switch (SW1). (The operation will start.)

- Forced cooling operation will stop automatically after around 15 minutes. To stop the operation, press the switch (SW1).



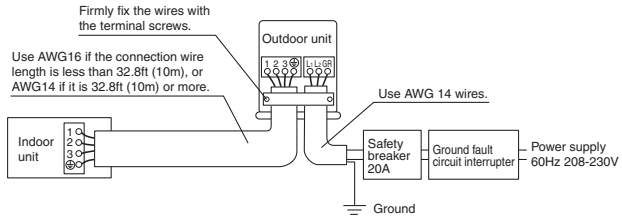
Wiring

⚠WARNING

- Do not use tapped wires, stranded wires, extension cords, or starburst connections, as they may cause overheating, electrical shock, or fire.
- 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.
- Be sure to install a ground fault circuit interrupter breaker. (One that can handle higher harmonics.) (This unit uses an inverter, which means that it must be used a ground fault circuit interrupter breaker capable handling harmonics in order to prevent malfunctioning of the ground fault circuit interrupter breaker itself.)
- Use an all-pole disconnection type breaker with at least 1/8 inch (3mm) between the contact point gaps.
- When carrying out wiring connection, take care not to pull at the conduit.
- Do not connect the power wire to the indoor unit. Doing so may cause electric shock or fire.

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

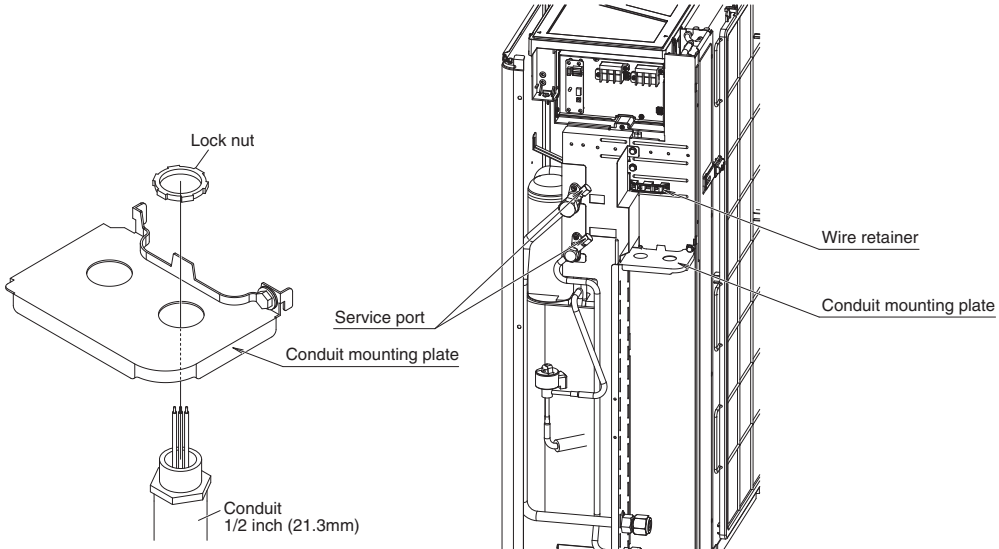
1) Strip the insulation from the wire (3/4inch (20mm)).
2) Connect the connection wires between the indoor and outdoor units so that the terminal numbers match. Tighten the terminal screws securely. We recommend a flathead screwdriver be used to tighten the screws.

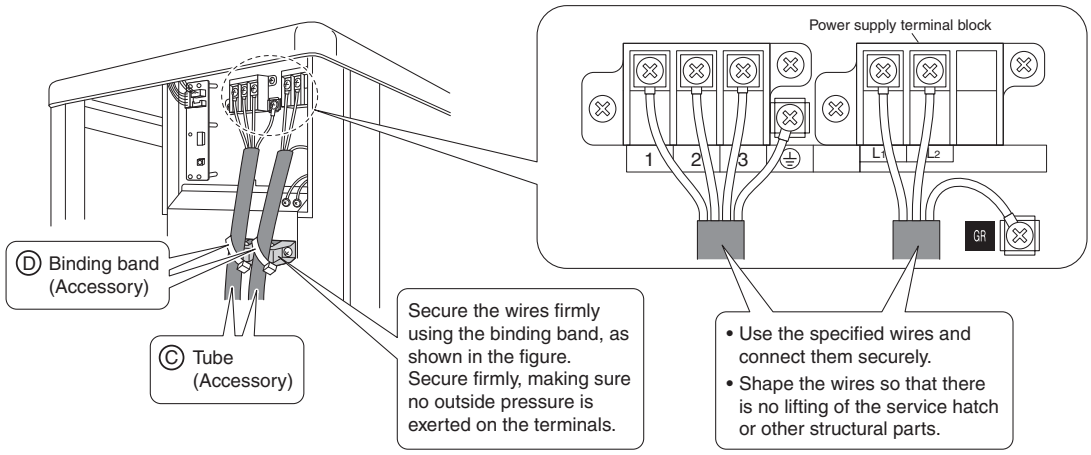


Wiring

<Method of mounting conduit>

Pass wires through the conduit and secure them with a lock nut.

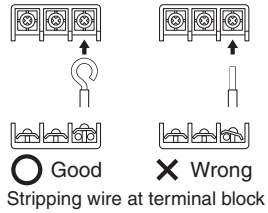




Observe the notes mentioned following when wiring to the power supply terminal block.
Precautions to be taken for power supply wiring.

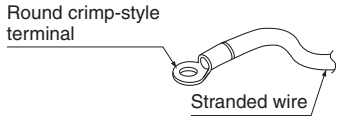
⚠ CAUTION

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

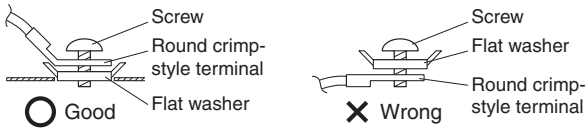


Stripping wire at terminal block

- If the stranded wires must be used, make sure to use the round crimp-style terminal for connection to the power supply terminal block. Place the round crimp-style terminals on the wires up to the covered part and secure in place.



- Ground terminal installation
  Use the following method when installing the round crimp-style terminal.

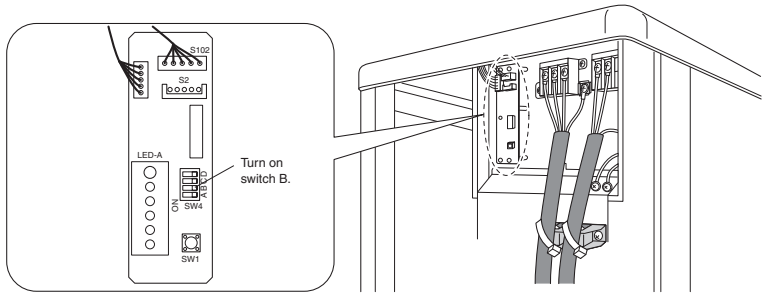


3) Pull the wire and make sure that it does not disconnect. Then fix the wire in place with a wire stop.

Facility Setting (cooling at low outdoor temperature)

This function is designed for facilities such as equipment or computer rooms. It is never to be used in a residence or office where people occupy the space.

1) You can expand the operation range to 14°F (–10°C) by turning on switch B (SW4) on the PCB. If the outdoor temperature falls to –0.4°F (–18°C) or lower, the operation will stop. If the outdoor temperature rises, the operation will start again.



⚠ CAUTION

- If the outdoor unit is installed where the heat exchanger of the unit is exposed to direct wind, provide a windbreak wall.
- Intermittent noises may be produced by the indoor unit due to the outdoor fan turning on and off when using facility settings.
- Do not place humidifiers or other items which might raise the humidity in rooms where facility settings are being used. A humidifier might cause dew condensation from the indoor unit outlet vent.
- Use the indoor unit at the highest level of airflow rate.

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.
  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 Carry out the test operation in accordance with the operation manual to ensure that all functions and parts, such as fin movement, are working properly.

- The air conditioner requires a small amount of power in its standby mode. If the system is not to be used for some time after installation, shut off the circuit breaker to eliminate unnecessary power consumption.
- If the circuit breaker trips to shut off the power to the air conditioner, the system will restore the original operation mode when the circuit breaker is opened again.

2. Test items

Test items	Symptom	Check
Indoor and outdoor units are installed properly on solid bases.	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	
System is properly grounded.	Electrical leakage	
The specified wires are used for inter-unit wiring.	Inoperative or burn damage	
Indoor or outdoor unit's air inlet or air outlet has clear path of air. Stop valves are opened.	Incomplete cooling/heating function	
Indoor unit properly receives remote control commands.	Inoperative	

3P300674-2

13. Operation Manual

Safety Considerations

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.

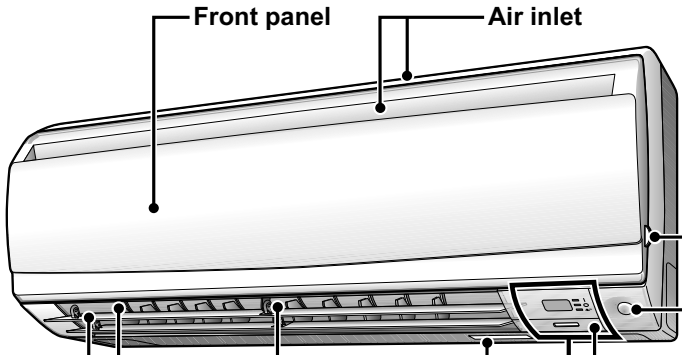
- **Do not install the unit in an area where flammable materials are present due to risk of explosion resulting in serious injury or death.**
- **Any abnormalities in the operation of the air conditioner or heat pump, such as smoke or fire, could result in severe injury or death. Turn off the power and 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 sounds.
- 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.

13.1 Single Split Duct-Free System

Names of Parts

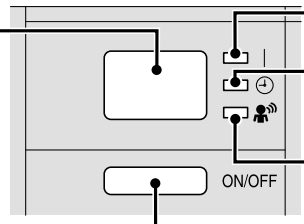
Indoor Unit



- It detects the movements of people and automatically switches between normal operation and energy saving operation. Page 15
- The fins are inside of the air outlet. Page 13
- It detects the air temperature around the unit.

Page 13

Display



Signal receiver
- It receives signals from the remote controller.
- When the unit receives a signal, you will hear a beep sound.

Case	Sound type
Operation start	beep-beep
Setting changed	beep
Operation stop	long beep

OPERATION lamp (green)

TIMER lamp (yellow) Page 20,21

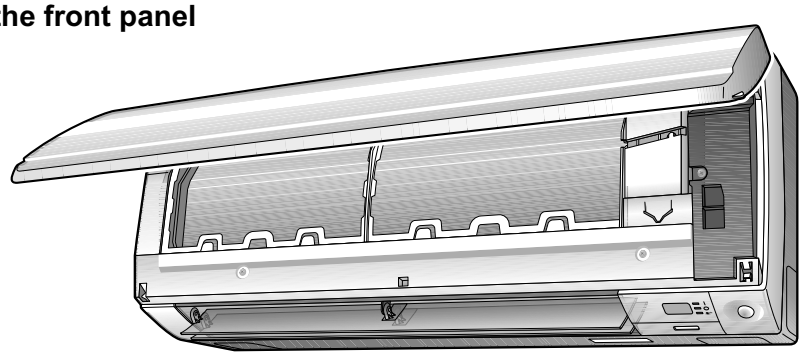
INTELLIGENT EYE lamp (green) Page 15,16

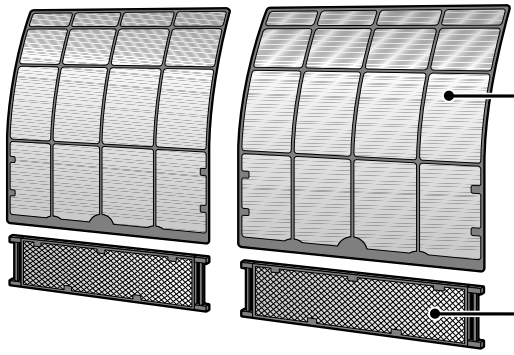
Indoor unit ON/OFF switch
- Press this switch once to start operation. Press once again to stop it.
- The operation mode refer to the following table.

Mode	Temperature setting	Airflow rate
AUTO	77°F (25°C)	AUTO

- This switch is useful when the remote controller is missing.

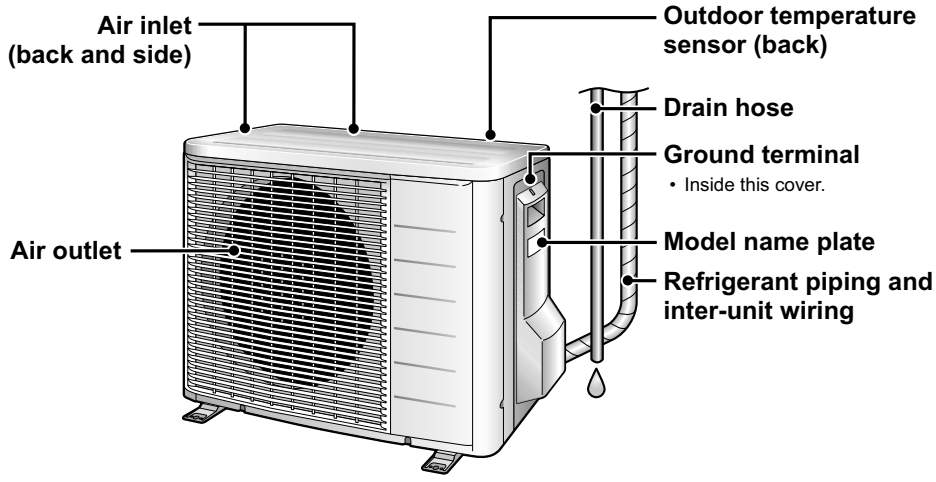
■ Open the front panel





Outdoor Unit

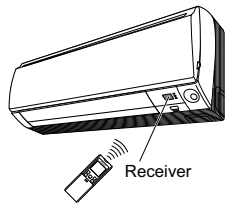
• Appearance of the outdoor unit may differ from some models.



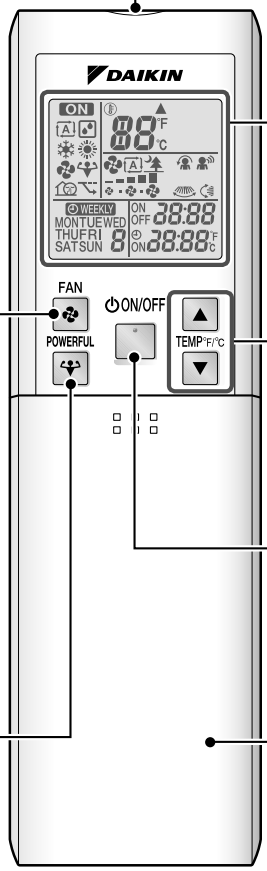
Names of Parts

Remote Controller

Signal transmitter



- 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.
- Do not drop the remote controller. Do not get it wet.
- The maximum distance for communication is approximately 23ft (7m).



Display (LCD)

- Displays the current settings. (In this illustration, each section is shown with all its displays on for the purpose of explanation.)

TEMPERATURE adjustment buttons

- Changes the temperature setting. ▶Page 12

FAN setting button

- Selects the airflow rate setting. ▶Page 14

ON/OFF button

- Press this button once to start operation. Press once again to stop it. ▶Page 11

POWERFUL button

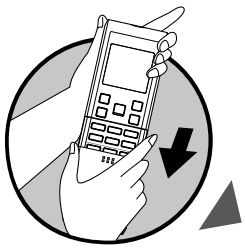
- POWERFUL operation. ▶Page 17

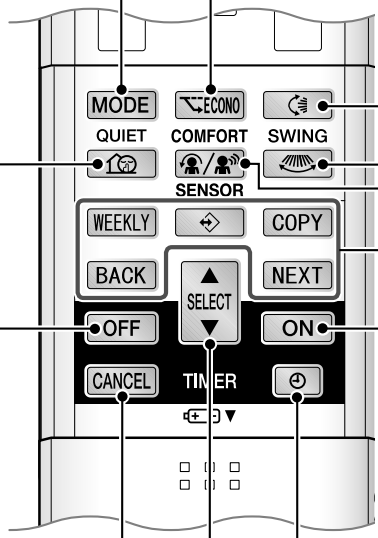
Front cover

- Open the front cover. ▶Page 8

<ARC452A21>

■ Open the front cover





MODE selector button
- Selects the operation mode. (AUTO/DRY/COOL/HEAT/FAN) ▶Page 11

ECONO button
- ECONO operation. ▶Page 19

SWING button
- Adjusting the airflow direction. ▶Page 13

QUIET button
- OUTDOOR UNIT QUIET operation. ▶Page 18

COMFORT/SENSOR button
- COMFORT AIRFLOW and INTELLIGENT EYE operation. ▶Page 15,16

OFF TIMER button ▶Page 20

WEEKLY : WEEKLY button
: PROGRAM button
COPY : COPY button
BACK : BACK button
NEXT : NEXT button
- WEEKLY TIMER operation. ▶Page 22

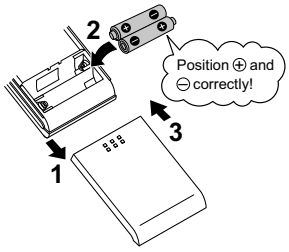
TIMER CANCEL button
- Cancels the timer setting. ▶Page 20,21
- It cannot be used for the WEEKLY TIMER operation.

ON TIMER button ▶Page 21

SELECT button
- Changes the ON/OFF TIMER and WEEKLY TIMER settings. ▶Page 20,21,22

CLOCK button ▶Page 10

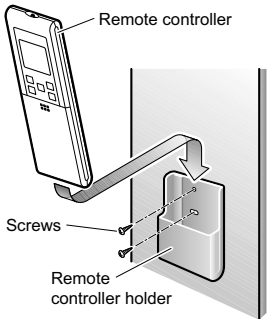
Preparation before Operation



■ To set the batteries

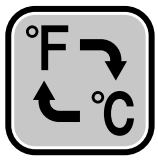
1. **Slide the front cover to take it off.**
2. **Set two dry batteries AAA.LR03 (alkaline).**
3. **Set the front cover as before.**

■ To fix the remote controller holder on the wall



1. **Choose a place from where the signals reach the unit.**
2. **Fix the holder to a wall, a pillar, etc. with the screws supplied with the holder.**
3. **Place the remote controller in the remote controller holder.**

■ Celsius/Fahrenheit display switch



- The Celsius or Fahrenheit display is selectable with the following buttons.

Press ▲ (TEMP °F/°C) and ▼ (TEMP °F/°C) simultaneously for 5 seconds.

- The temperature will be displayed in Fahrenheit if it is presently displayed in Celsius, and vice versa.

NOTE

■ Notes on batteries

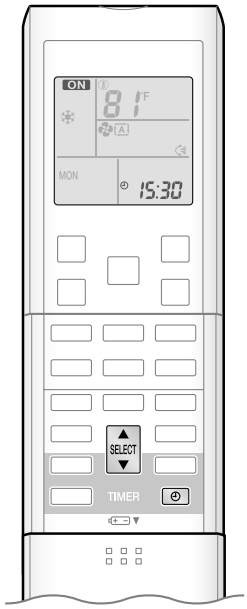
- When replacing the batteries, use batteries of the same type, and replace both batteries at the same time.
- When the system is not used for a long time, take the batteries out.
- The batteries will last for approximately 1 year. If the remote controller display begins to fade and the degradation of reception performance occurs within a year, however, replace both 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.

■ Notes on 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 a 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 shop if that is the case.
- If the remote controller signals happen to operate another appliance, move that appliance 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.

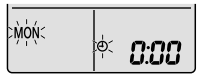


■ Turn the breaker on

• After the power is turned on, the louvers of the indoor unit open and close once to set the reference position.

■ To set the clock

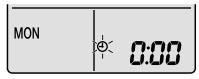
1. Press ⏲.



"0:00" is displayed.
"MON" and "⏲" blink.

2. Press SELECT to set the current day of the week.

3. Press ⏲.



"⏲" blinks.

4. Press SELECT to set the clock to the present time.

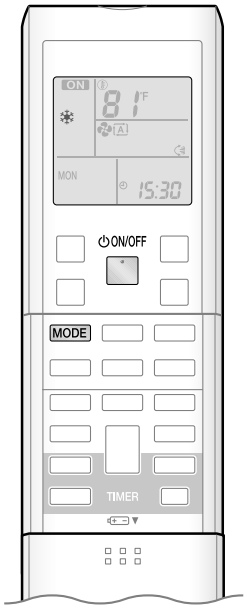
• Holding down ▲ or ▼ rapidly increases or decreases the time display.

5. Press ⏲.

• Point the remote controller at the indoor unit when pressing the buttons.

":" blinks.

AUTO · DRY · COOL · HEAT · FAN Operation

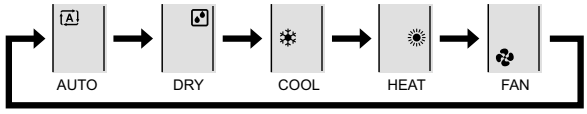


The air conditioner operates with the operation mode of your choice.
From the next time on, the air conditioner will operate with the same operation mode.

■ To start operation

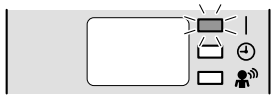
1. Press MODE and select an operation mode.

- Each pressing of the button advances the mode setting in sequence.



2. Press ON/OFF .

- "ON" is displayed on the LCD.
- The OPERATION lamp lights green.



Display

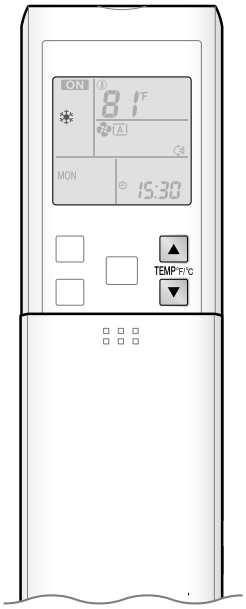
■ To stop operation

Press ON/OFF again.

- "ON" is no longer displayed on the LCD.
- The OPERATION lamp goes off.

NOTE

MODE	Notes on each operation mode
HEAT	• 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 HEAT operation, it takes some time before the room gets warmer. • In HEAT 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.
COOL	• This air conditioner cools the room by releasing the heat in the room outside. Therefore, the cooling performance of the air conditioner may be degraded if the outdoor temperature is high.
DRY	• The computer chip works to rid the room of humidity while maintaining the temperature as much as possible. It automatically controls temperature and airflow rate, so manual adjustment of these functions is unavailable.
AUTO	• In AUTO operation, the system selects an appropriate operation mode (COOL or HEAT) based on the room and outside temperatures and starts the operation. • The system automatically reselects setting at a regular interval to bring the room temperature to user-setting level.
FAN	• This mode is valid for fan only.



■ To change the temperature setting

Press ▲ TEMP°F/°C or TEMP°F/°C ▼.

- The displayed items on the LCD will change whenever either one of the buttons is pressed.

COOL operation	HEAT operation	AUTO operation	DRY or FAN operation
64-90°F (18-32°C)	50-86°F (10-30°C)	64-86°F (18-30°C)	The temperature setting is not variable.
Press ▲ to raise the temperature and press ▼ to lower the temperature.			

■ Operating conditions

■ Recommended temperature setting

- For cooling: 78-82°F (26-28°C)
- For heating: 68-75°F (20-24°C)

■ 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. Clean them once in about every 2 weeks. ▶Page 32

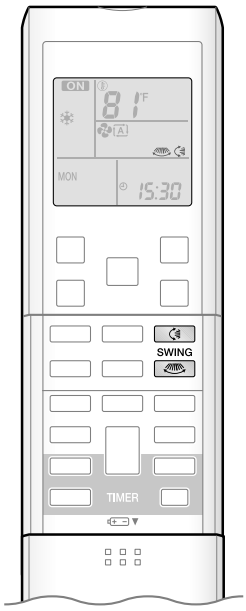
■ Notes on the operating conditions

- The air conditioner always consumes a small amount of electricity even while 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.
- Use the air conditioner in the following conditions.

MODE	Operating conditions	If operation is continued out of this range
COOL	Outdoor temperature : 14-115°F (10-46°C) Indoor temperature : 64-90°F (18-32°C) Indoor humidity : 80% max.	• A safety device may work to stop the operation. • Condensation may occur on the indoor unit and drip.
HEAT	Outdoor temperature : 5-75°F (–15-24°C) Indoor temperature : 50-86°F (10-30°C)	• A safety device may work to stop the operation.
DRY	Outdoor temperature : 14-115°F (10-46°C) Indoor temperature : 64-90°F (18-32°C) Indoor humidity : 80% max.	• A safety device may work to stop the operation. • Condensation may occur on the indoor unit and drip.

- Operation outside this humidity or temperature range may cause a safety device to disable the system.

Adjusting the Airflow Direction and Rate



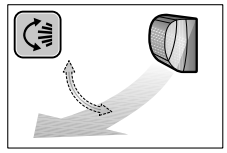
You can adjust the airflow direction to increase your comfort.

■ To start auto swing

Upper and lower airflow direction

Press [↻] .

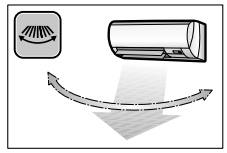
- "↻" is displayed on the LCD.
- The louvers (horizontal blades) will begin to swing.



Right and left airflow direction

Press [≋] .

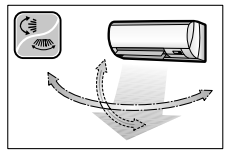
- "≋" is displayed on the LCD.
- The fins (vertical blades) will begin to swing.



The 3-D airflow direction

Press [↻] and [≋] .

- "↻" and "≋" are displayed on the LCD.
- The louvers and fins move in turn.
- To cancel 3-D airflow, press either [↻] or [≋] again. The louvers or fins will stop moving.



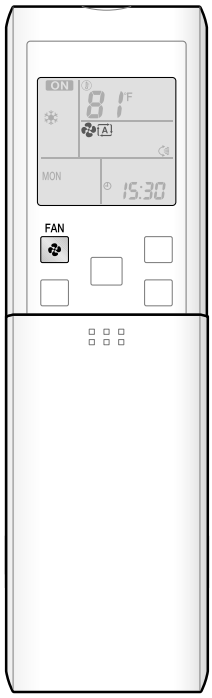
■ To set the louvers or fins at desired position

- This function is effective while louvers or fins are in auto swing mode.

Press [↻] and [≋] when the louvers or fins have reached the desired position.

- In the 3-D airflow, the louvers and fins move in turn.
- "↻" or "≋" is no longer displayed on the LCD.

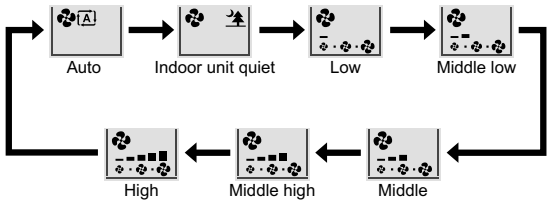
FTXS09/12LVJU



■ To adjust the airflow rate setting

Press .

• Each pressing of advances the airflow rate setting in sequence.

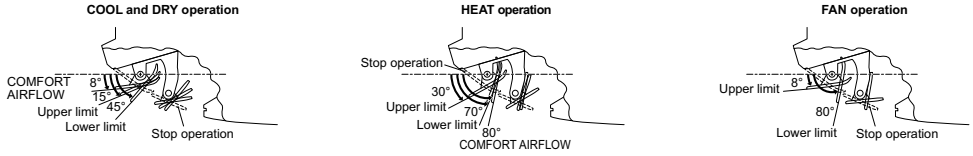


• When the airflow is set to " ", indoor unit quiet operation will start and the noise from the unit will become quieter.
• In indoor unit quiet operation, the airflow rate is set to a weak level.
• In DRY operation, the airflow rate setting is not variable.

NOTE

■ Notes on the angles of the louvers

• The louvers swinging range depends on the operation. (See the figure.)



■ Note on 3-D airflow

• Using 3-D airflow circulates cold air, which tends to collected at the bottom of the room, and hot air, which tends to collect near the ceiling, throughout the room, preventing areas of cold and hot developing.

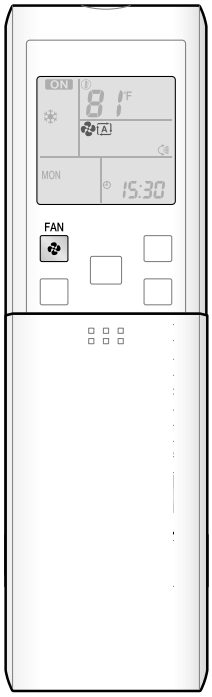
■ Note on airflow rate setting

• At smaller airflow rates, the cooling (heating) effect is also smaller.

⚠ CAUTION

• Always use a remote controller to adjust the angles of the louvers and fins. If you attempt to move the louvers and fins forcibly with hand when they are swinging, the mechanism may be broken.
• Always use a remote controller to adjust the fins angles. Inside the air outlet, a fan is rotating at a high speed.

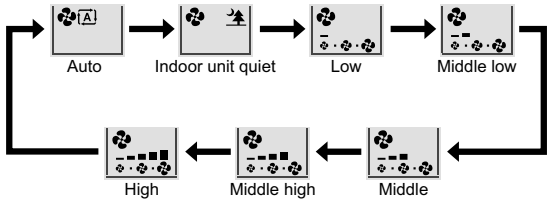
FTXS15/18/24LVJU



■ To adjust the airflow rate setting

Press .

• Each pressing of advances the airflow rate setting in sequence.



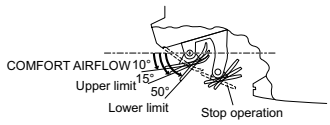
• When the airflow is set to " ", indoor unit quiet operation will start and the noise from the unit will become quieter.
• In indoor unit quiet operation, the airflow rate is set to a weak level.
• In DRY operation, the airflow rate setting is not variable.

NOTE

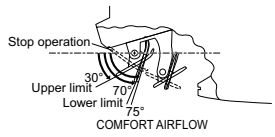
■ Notes on the angles of the louvers

• The louvers swinging range depends on the operation. (See the figure.)

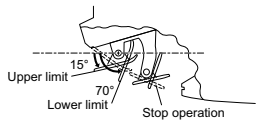
COOL and DRY operation



HEAT operation



FAN operation



■ Note on 3-D airflow

• Using 3-D airflow circulates cold air, which tends to collected at the bottom of the room, and hot air, which tends to collect near the ceiling, throughout the room, preventing areas of cold and hot developing.

■ Note on airflow rate setting

• At smaller airflow rates, the cooling (heating) effect is also smaller.

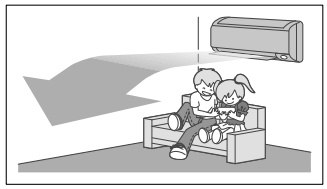
⚠ CAUTION

• Always use a remote controller to adjust the angles of the louvers and fins. If you attempt to move the louvers and fins forcibly with hand when they are swinging, the mechanism may be broken.
• Always use a remote controller to adjust the fins angles. Inside the air outlet, a fan is rotating at a high speed.

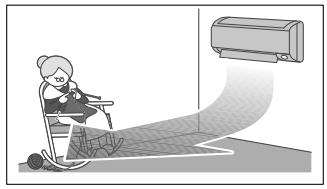
COMFORT AIRFLOW / INTELLIGENT EYE Operation

■ COMFORT AIRFLOW operation

The flow of air will be in the upward direction while in COOL operation and in the downward direction while in HEAT operation, which will provide a comfortable wind that will not come in direct contact with people.



COOL operation

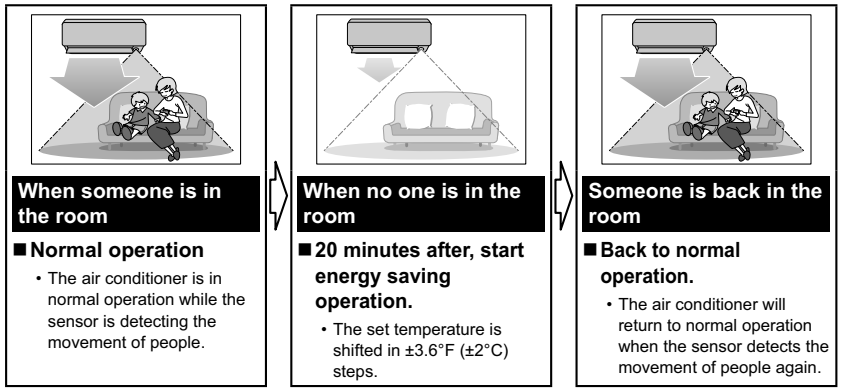


HEAT operation

■ INTELLIGENT EYE operation

"INTELLIGENT EYE" is the infrared sensor which detects the human movement.
If no one is in the room for more than 20 minutes, the operation automatically changes to energy saving operation.

[Example]



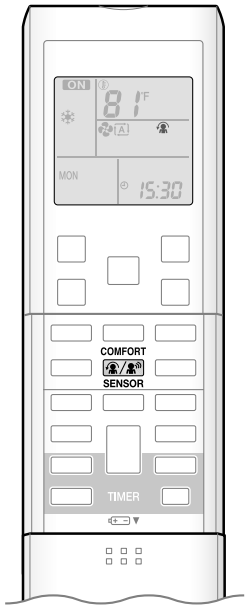
INTELLIGENT EYE operation is useful for energy saving

■ **Energy saving operation**

- If no presence detected in the room for 20 minutes, the energy saving operation will start.
- This operation changes the temperature –3.6°F (–2°C) in HEAT / +3.6°F (+2°C) in COOL / +3.6°F (+2°C) in DRY operation from set temperature. When the room temperature exceeds 86°F (30°C), the operation changes the temperature +1.8°F (+1°C) in COOL / +1.8°F (+1°C) in DRY operation from set temperature.
- This operation decreases the airflow rate slightly in FAN mode only.

■ Combination COMFORT AIRFLOW and INTELLIGENT EYE operation

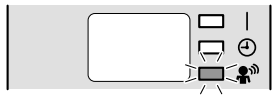
The air conditioner can go into operation with the COMFORT AIRFLOW and INTELLIGENT EYE functions combined.



■ To start operation

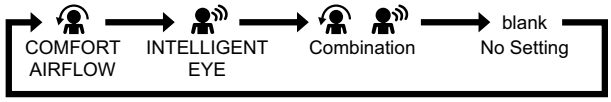
Press [sensor] and select the desired mode.

- Each time the [sensor] is pressed a different setting option is displayed on the LCD.
- The INTELLIGENT EYE lamp lights green.



Display

- By selecting "[comfort] [eye]" from the following icons, the air conditioner will be in COMFORT AIRFLOW operation combined with INTELLIGENT EYE operation.



- When the louvers (horizontal blades) are swinging, the operating as above will stop movement of them.
- The lamp will be lit while human movements are detected.

■ To cancel operation

Press [sensor] and select "blank" on the LCD.

- The INTELLIGENT EYE lamp goes off.

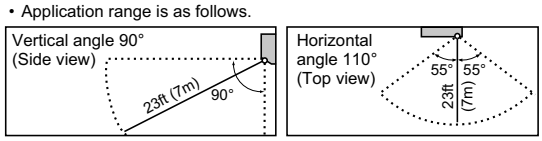
NOTE

■ Notes on COMFORT AIRFLOW operation

- The louver position will change, preventing air from blowing directly on the occupants of the room.
- POWERFUL operation and COMFORT AIRFLOW operation cannot be used at the same time. Priority is given to the function of whichever button is pressed last.
- The airflow rate will be set to AUTO. If the upper and lower airflow direction is selected, the COMFORT AIRFLOW function will be canceled.

■ Notes on INTELLIGENT EYE operation

- Application range is as follows.



- Sensor may not detect moving objects further than 23ft (7m) away. (Check the application range)
- Sensor detection sensitivity changes according to indoor unit location, the speed of passersby, temperature range, etc.
- The sensor also mistakenly detects pets, sunlight, fluttering curtains and light reflected off of mirrors as passersby.
- INTELLIGENT EYE operation will not go on during POWERFUL operation.
- NIGHT SET mode ▶Page 20 will not go on during use of INTELLIGENT EYE operation.

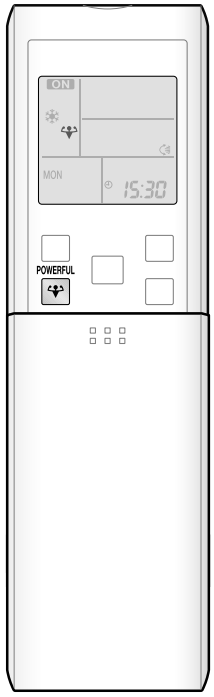
■ Notes on combination of COMFORT AIRFLOW operation and INTELLIGENT EYE operation

- The airflow rate will be set to AUTO. If the upper and lower airflow direction is selected, the COMFORT AIRFLOW operation will be canceled. Priority is given to the function of whichever button is pressed last.

⚠ CAUTION

- Do not place large objects near the sensor.
  Also keep heating units or humidifiers outside the sensor's detection area. This sensor can detect undesirable objects.
- Do not hit or forcefully push the INTELLIGENT EYE sensor. This can lead to damage and malfunction.

POWERFUL Operation



POWERFUL operation quickly maximizes the cooling (heating) effect in any operation mode. You can get the maximum capacity.

■ To start POWERFUL operation

Press [POWERFUL] during operation.

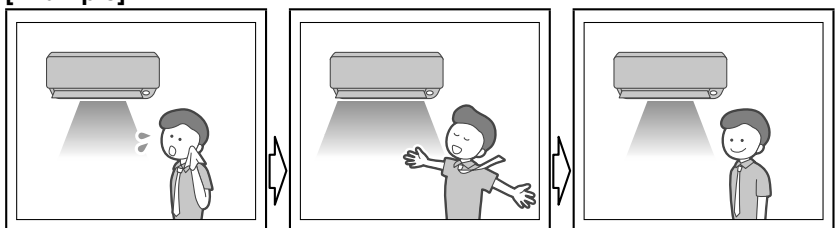
- POWERFUL operation ends in 20 minutes. Then the system automatically operates again with the previous settings which were used before POWERFUL operation.
- "POWERFUL" is displayed on the LCD.

■ To cancel POWERFUL operation

Press [POWERFUL] again.

- "POWERFUL" is no longer displayed on the LCD.

[Example]



■ **Normal operation**
- When you want to get the cooling effect quickly, start the POWERFUL operation.

■ **POWERFUL operation**
- POWERFUL operation will work for 20 minutes.

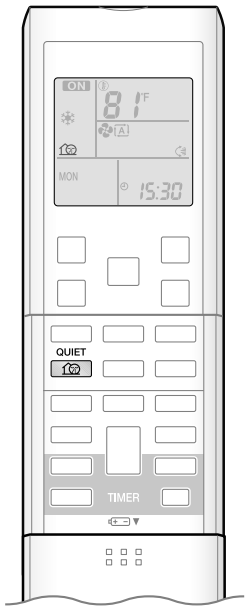
■ **Back to normal operation**

NOTE

■ **Notes on POWERFUL operation**

- When using POWERFUL operation, there are some functions which are not available.
- POWERFUL operation cannot be used together with ECONO, COMFORT AIRFLOW or OUTDOOR UNIT QUIET operation. Priority is given to the function of whichever button is pressed last.
- POWERFUL operation can only be set when the unit is running. Pressing [ON/OFF] causes the settings to be canceled, and "POWERFUL" is no longer displayed on the LCD.
- POWERFUL operation will not increase the capacity of the air conditioner if the air conditioner is already in operation with its maximum capacity demonstrated.
- **In COOL, HEAT and AUTO operation**
  To maximize the cooling (heating) effect, the capacity of outdoor unit is increased and the airflow rate is fixed to the maximum setting.
  The temperature and airflow settings are not variable.
- **In DRY operation**
  The temperature setting is lowered by 4.5°F (2.5°C) and the airflow rate is slightly increased.
- **In FAN operation**
  The airflow rate is fixed to the maximum setting.

OUTDOOR UNIT QUIET Operation



OUTDOOR UNIT QUIET operation lowers the sound level of the outdoor unit by changing the frequency and fan speed on the outdoor unit. This function is convenient during the night.

■ To start OUTDOOR UNIT QUIET operation

Press [QUIET].

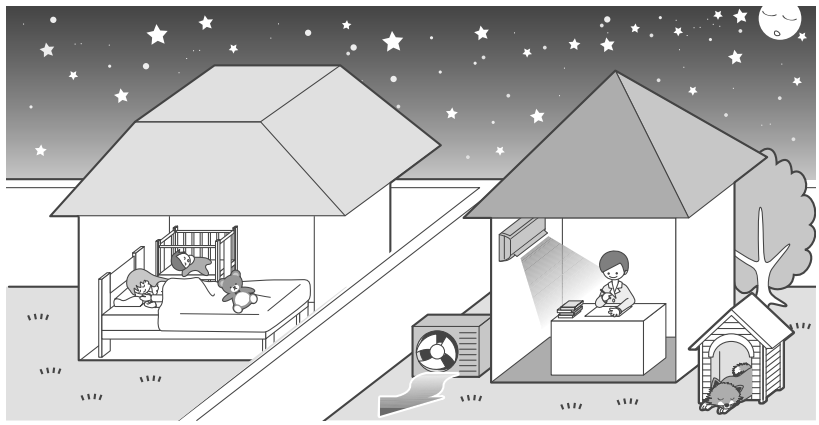
- "QUIET" is displayed on the LCD.

■ To cancel OUTDOOR UNIT QUIET operation

Press [QUIET] again.

- "QUIET" is no longer displayed on the LCD.

[Example] Using the OUTDOOR UNIT QUIET operation during the night.



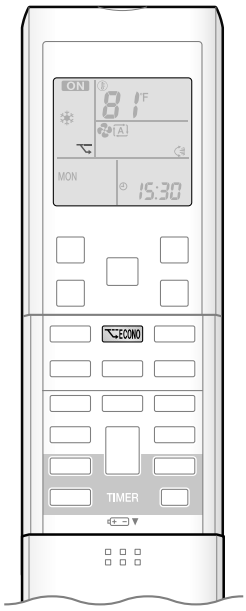
•The sound level of the outdoor unit will be lower.
This is convenient in consideration of your neighbors.

NOTE

■ **Notes on OUTDOOR UNIT QUIET operation**

- This function is available in COOL, HEAT, and AUTO operation.
  This is not available in FAN and DRY operation.
- POWERFUL operation and OUTDOOR UNIT QUIET operation cannot be used at the same time.
  Priority is given to the function of whichever button is pressed last.
- Even the operation is stopped using the remote controller or the indoor unit ON/OFF switch when using OUTDOOR UNIT QUIET operation, "QUIET" will remain on the remote controller display.
- OUTDOOR UNIT QUIET operation will drop neither the frequency nor fan speed if they have been already dropped low enough.

ECONO Operation



ECONO operation is a function which enables efficient operation by limiting the maximum power consumption value.
This function is useful for cases in which attention should be paid to ensure a circuit breaker will not trip when the product runs alongside other appliances.

■ To start ECONO operation

Press ECONO during operation.

- "ECONO" is displayed on the LCD.

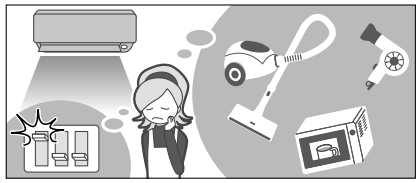
■ To cancel ECONO operation

Press ECONO again.

- "ECONO" is no longer displayed on the LCD.

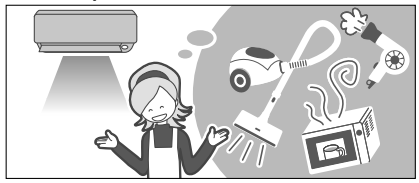
[Example]

Normal operation

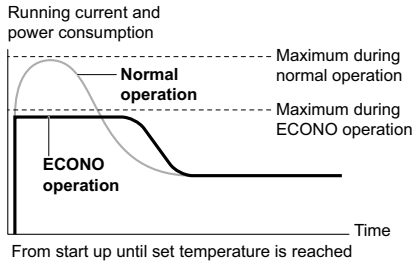


- In case the air conditioner and other appliances which require high power consumption are used at same time, a circuit breaker may trip if the air conditioner operate with its maximum capacity.

ECONO operation



- The maximum power consumption of the air conditioner is limited by using ECONO operation. The circuit breaker is unlikely to trip even if the air conditioner and other appliances are used at same time.



From start up until set temperature is reached

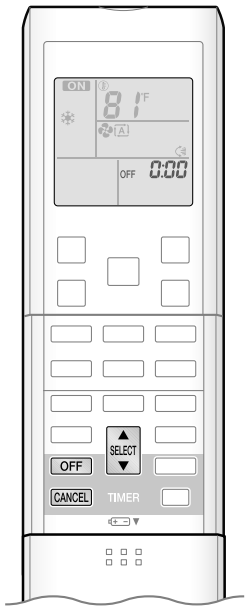
- This diagram is a representation for illustrative purposes only.
  The maximum running current and power consumption of the air conditioner in ECONO operation vary with the connecting outdoor unit.

NOTE

■ Notes on ECONO operation

- ECONO operation can only be set when the unit is running. Pressing ON/OFF causes the settings to be canceled, and "ECONO" is no longer displayed on the LCD.
- ECONO operation functions in AUTO, COOL, DRY, and HEAT operation.
- POWERFUL and ECONO operation cannot be used at the same time.
  Priority is given to the function of whichever button is pressed last.
- If the level of power consumption is already low, ECONO operation will not drop the power consumption.

OFF TIMER Operation



Timer functions are useful for automatically switching the air conditioner on or off at night or in the morning. You can also use OFF TIMER and ON TIMER in combination.

■ To use OFF TIMER operation

- Check that the clock is correct.
  If not, set the clock to the present time. ▶Page 10

1. Press OFF.

" 0:00 " is displayed on the LCD.
" OFF " blinks.

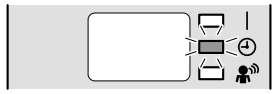
- " ⏲ " is no longer displayed on the LCD.

2. Press SELECT until the time setting reaches the point you like.

- Each pressing of either button increases or decreases the time setting by 10 minutes. Holding down either button changes the time setting rapidly.

3. Press OFF again.

- " OFF " and setting time are displayed on the LCD.
- The TIMER lamp lights yellow.



Display

■ To cancel OFF TIMER operation

Press CANCEL.

- " OFF " and setting time are no longer displayed on the LCD.
- " ⏲ " and day of the week are displayed on the LCD.
- The TIMER lamp goes off.

NOTE

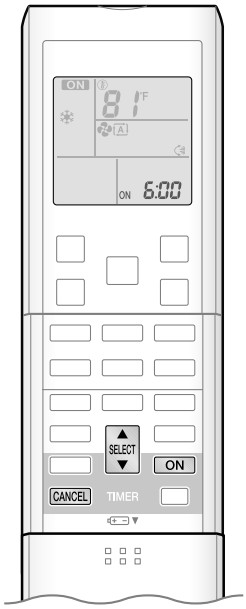
■ Notes on TIMER operation

- When TIMER is set, the present time is not displayed.
- Once you set ON/OFF TIMER, the time setting is kept in the memory. The memory is canceled when remote controller batteries are replaced.
- When operating the unit via the ON/OFF TIMER, the actual length of operation may vary from the time entered by the user. (Maximum approximately 10 minutes)

■ NIGHT SET mode

- When the OFF TIMER is set, the air conditioner automatically adjusts the temperature setting (0.9°F (0.5°C) up in COOL, 3.6°F (2.0°C) down in HEAT) to prevent excessive cooling (heating) for your pleasant sleep.

ON TIMER Operation



■ To use ON TIMER operation

• Check that the clock is correct.
If not, set the clock to the present time. ▶Page 10

1. Press ON.

" 6:00 " is displayed on the LCD.
" ON " blinks.

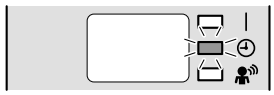
• " ◴ " and day of the week are no longer displayed on the LCD.

2. Press SELECT until the time setting reaches the point you like.

• Each pressing of either button increases or decreases the time setting by 10 minutes. Holding down either button changes the setting rapidly.

3. Press ON again.

• " ON " and setting time are displayed on the LCD.
• The TIMER lamp lights yellow.



Display

■ To cancel ON TIMER operation

Press CANCEL.

• " ON " and setting time are no longer displayed on the LCD.
• " ◴ " and day of the week are displayed on the LCD.
• The TIMER lamp goes off.

■ To combine ON TIMER and OFF TIMER

• A sample setting for combining the 2 timers is shown below.

(Example)
Present time: 23:00 (The unit operating)
OFF TIMER at 0:00) Combined
ON TIMER at 14:00)

NOTE

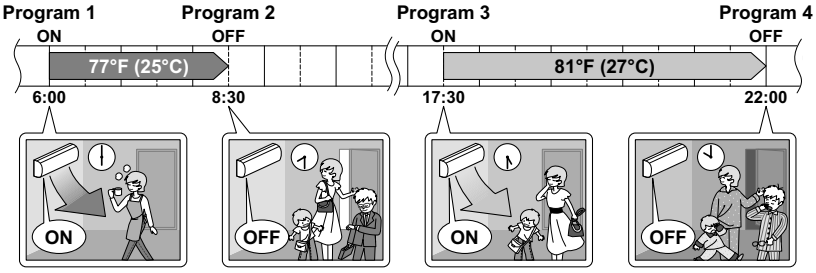
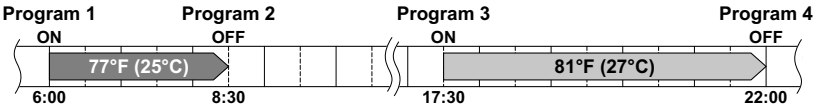
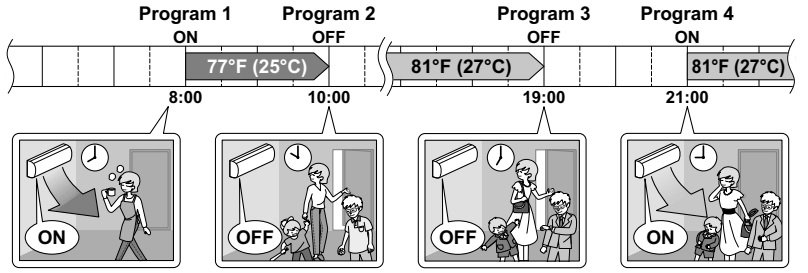
■ **In the following cases, set the timer again.**
• After a breaker has turned off.
• After a power failure.
• After replacing batteries in the remote controller.

WEEKLY TIMER Operation

Up to 4 timer settings can be saved for each day of the week. It is convenient if the WEEKLY TIMER is set according to the family's life style.

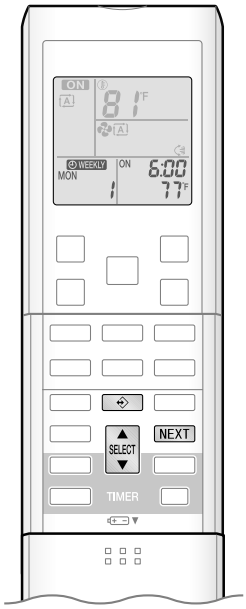
■ Using in these cases of WEEKLY TIMER

Example: The same timer settings are made for the week from Monday through Friday while different timer settings are made for the weekend.

[Monday]	Make timer settings up to programs 1-4. ▶Page 23 
[Tuesday] to [Friday]	Use the copy mode to make settings for Tuesday to Friday, because these settings are the same as those for Monday. ▶Page 25 
[Saturday]	No timer settings
[Sunday]	Make timer settings up to programs 1-4. ▶Page 23 

- Up to 4 reservations per day and 28 reservations per week can be set in the WEEKLY TIMER. The effective use of the copy mode ensures ease of making reservations.
- The use of ON-ON-ON-ON settings, for example, makes it possible to schedule operating mode and set temperature changes. Furthermore, by using OFF-OFF-OFF-OFF settings, only the turn off time of each day can be set. This will turn off the air conditioner automatically if the user forgets to turn it off.

WEEKLY TIMER Operation

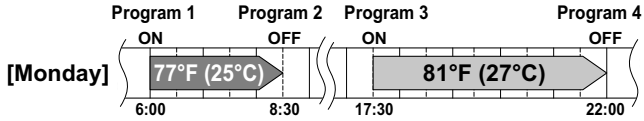


■ To use WEEKLY TIMER operation

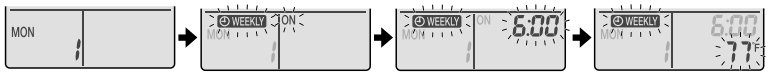
Setting mode

• Make sure the day of the week and time are set. If not, set the day of the week and time.

▶Page 10



Setting Displays



Day and number settings | ON/OFF settings | Time settings | Temperature settings

1. Press ⏎.

• The day of the week and the reservation number of the current day will be displayed.
• 1 to 4 settings can be made per day.

2. Press SELECT to select the desired day of the week and reservation number.

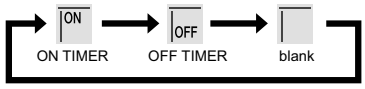
• Pressing SELECT changes the reservation number and the day of the week.

3. Press NEXT.

• The day of the week and reservation number will be set.
• "WEEKLY" and "ON" blink.

4. Press SELECT to select the desired mode.

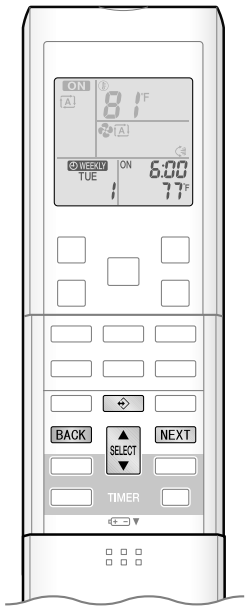
• Pressing SELECT changes "ON" or "OFF" setting in sequence.



• In case the reservation has already been set, selecting "blank" deletes the reservation.
• Go to **STEP *9*** if "blank" is selected.

5. Press NEXT.

• The ON/OFF TIMER mode will be set.
• "WEEKLY" and the time blink.



6. Press SELECT to select the desired time.

- The time can be set between 0:00 and 23:50 in 10 minute intervals.
- To return to the ON/OFF TIMER mode setting, press BACK.
- Go to **STEP *9*** when setting the OFF TIMER.

7. Press NEXT.

- The time will be set.
- "WEEKLY" and the temperature blink.

8. Press SELECT to select the desired temperature.

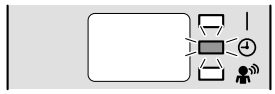
- The temperature can be set between 50°F (10°C) and 90°F (32°C).
  Cooling: The unit operates at 64°F (18°C) even if it is set at 50 (10) to 63°F (17°C).
  Heating: The unit operates at 86°F (30°C) even if it is set at 87 (31) to 90°F (32°C).
- To return to the time setting, press BACK.
- The set temperature is only displayed when the mode setting is on.

9. Press NEXT.

- The temperature will be set and go to the next reservation setting.
- To continue further settings, repeat the procedure from **STEP *4***.

10. Press ⏎ to complete the setting.

- Be sure to direct the remote controller toward the indoor unit and check for a receiving tone and flashing the OPERATION lamp.
- "WEEKLY" is displayed on the LCD and WEEKLY TIMER operation is activated.
- The TIMER lamp lights yellow.



Display

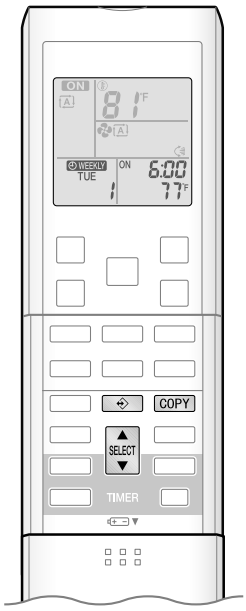
- A reservation made once can be easily copied and the same settings used for another day of the week. Refer to **Copy mode**. ▶Page 25

NOTE

■ **Notes on WEEKLY TIMER operation**

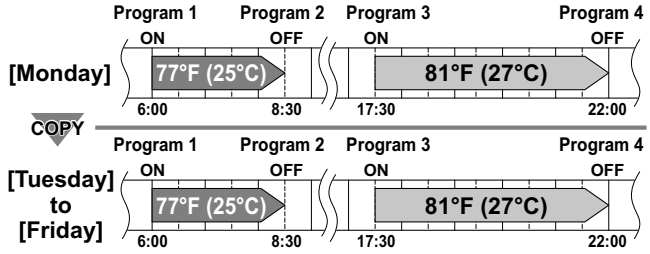
- Do not forget to set the clock on the remote controller first. ▶Page 10
- The day of the week, ON/OFF TIMER mode, time and set temperature (only for ON TIMER mode) can be set with WEEKLY TIMER. Other settings for ON TIMER are based on the settings just before the operation.
- Both WEEKLY TIMER and ON/OFF TIMER operation cannot be used at the same time. The ON/OFF TIMER operation has priority if it is set while WEEKLY TIMER is still active. The WEEKLY TIMER will go into standby state, and "WEEKLY" will be no longer displayed on the LCD. When ON/OFF TIMER is up, the WEEKLY TIMER will automatically become active.
- Only the time and set temperature with the WEEKLY TIMER are sent with the ⏎. Set the WEEKLY TIMER only after setting the operation mode, the airflow rate and the airflow direction ahead of time.
- Shutting the breaker off, power failure, and other similar events will render operation of the indoor unit's internal clock inaccurate. Reset the clock. ▶Page 10
- The BACK can be used only for the time and temperature settings. It cannot be used to go back to the reservation number.

WEEKLY TIMER Operation

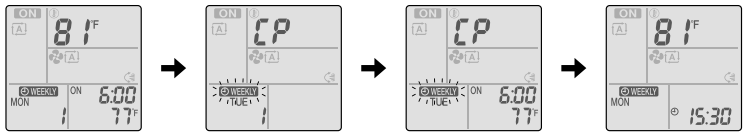


Copy mode

• A reservation made once can be copied to another day of the week. The whole reservation of the selected day of the week will be copied.



Setting Displays



1. Press .

2. Press SELECT to confirm the day of the week to be copied.

3. Press COPY.

• The whole reservation of the selected day of the week will be copied.

4. Press SELECT to select the destination day of the week.

5. Press COPY.

• The reservation will be copied to the selected day of the week. The whole reservation of the selected day of the week will be copied.

• To continue copying the settings to other days of the week, repeat **STEP *4*** and **STEP *5***.

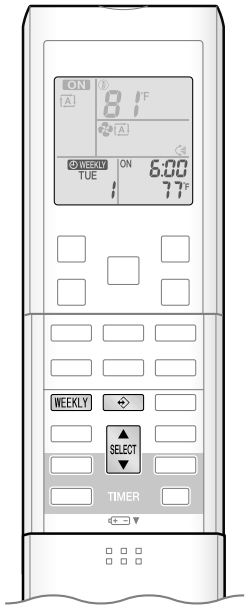
6. Press to complete the setting.

• "WEEKLY" is displayed on the LCD and WEEKLY TIMER operation is activated.

NOTE

■ **Note on COPY MODE**

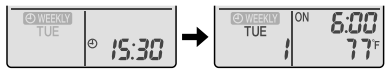
• The entire reservation of the source day of the week is copied in the copy mode.
In the case of making a reservation change for any day of the week individually after copying the content of weekly reservations, press and change the settings in the steps of **Setting mode**. ▶Page 23



■ Confirming a reservation

- The reservation can be confirmed.

Setting Displays



Normal display Confirmation display

1. Press [◈].

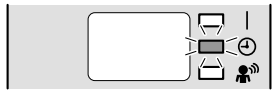
- The day of the week and the reservation number of current day will be displayed.

2. Press [SELECT] to select the day of the week and the reservation number to be confirmed.

- Pressing [SELECT] displays the reservation details.
- To change the confirmed reserved settings, select the reservation number and press [NEXT].
  The mode is switched to setting mode. Go to **Setting mode** **STEP *4***. ▶Page 23

3. Press [◈] to exit confirming mode.

- "WEEKLY" is displayed on the LCD and WEEKLY TIMER operation is activated.
- The TIMER lamp lights yellow.



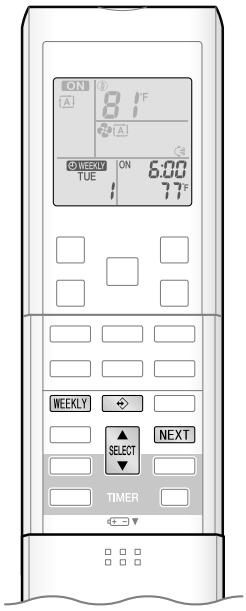
Display

■ To deactivate WEEKLY TIMER operation

Press [WEEKLY] while "WEEKLY" is displayed on the LCD.

- "WEEKLY" will be no longer displayed on the LCD.
- The TIMER lamp goes off.
- To reactivate the WEEKLY TIMER operation, press [WEEKLY] again.
- If a reservation deactivated with [WEEKLY] is activated once again, the last reservation mode will be used.

WEEKLY TIMER Operation



■ To delete reservations

The individual reservation

1. Press ⇔.

- The day of the week and the reservation number will be displayed.

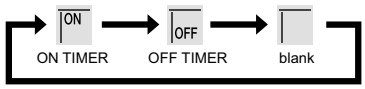
2. Press SELECT **to select the day of the week and the reservation number to be deleted.**

3. Press NEXT.

- "WEEKLY" and "ON" or "OFF" blink.

4. Press SELECT **and select "blank".**

- Pressing SELECT changes ON/OFF TIMER mode.
- The reservation will be no setting with selecting "blank".



5. Press NEXT.

- The selected reservation will be deleted.

6. Press ⇔.

- If there are still other reservations, WEEKLY TIMER operation will be activated.

The reservations for each day of the week

- This function can be used for deleting reservations for each day of the week.
- It can be used while confirming or setting reservations.

1. Press SELECT **to select the day of the week to be deleted.**

2. Hold WEEKLY **for 5 seconds.**

- The reservation of the selected day of the week will be deleted.

All reservations

Hold WEEKLY **for 5 seconds while normal display.**

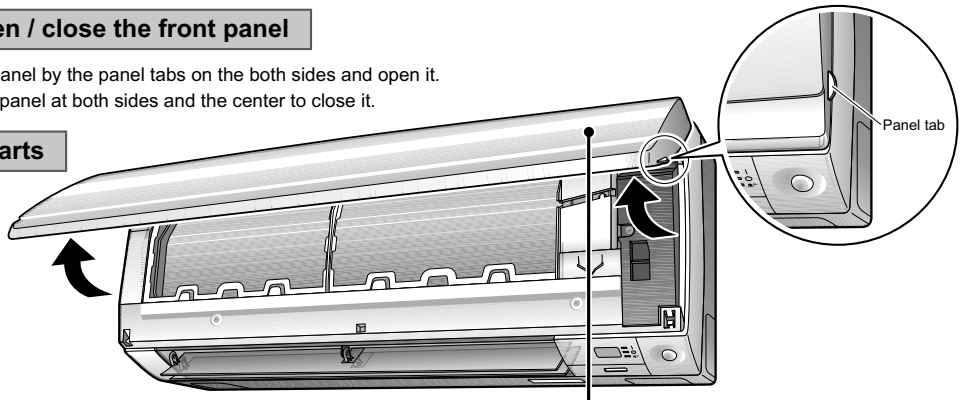
- Be sure to direct the remote controller toward the indoor unit and check for a receiving tone.
- This operation is not effective on the setting display of WEEKLY TIMER.
- All reservations will be deleted.

Care and Cleaning

■ Quick reference

How to open / close the front panel

- Hold the front panel by the panel tabs on the both sides and open it.
- Press the front panel at both sides and the center to close it.



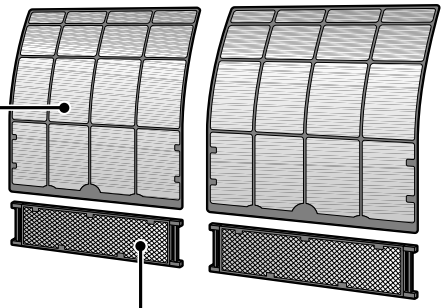
Cleaning parts

Air filter

- Vacuum dust or wash the filter.

Once every 2 weeks

Refer to ▶Page 32



Front panel

- Wipe it with soft cloth soaked in water.

If bothered by dirt

Refer to ▶Page 31

Titanium apatite photocatalytic air-purifying filter

- Vacuum dust or replace the filter.

[Cleaning]

Once every 6 months

Refer to ▶Page 33

[Replacement]

Once every 3 years

Refer to ▶Page 33

Indoor unit, Outdoor unit and Remote controller

- Wipe them with soft cloth.

If bothered by dirt

Notes on cleaning

■ For cleaning, do not use the materials as follows.

- Hot water above 104°F (40°C).
- Benzine, gasoline, thinner, other volatile oils.
- Polishing compound.
- Scrubbing brushes, other hard stuff.

⚠ CAUTION

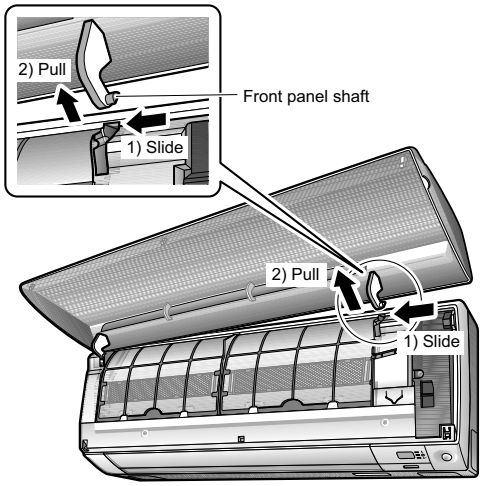
- Before cleaning, be sure to stop the operation and turn the breaker off.
- Do not touch the aluminum fins of the indoor unit. If you touch those parts, this may cause an injury.

Care and Cleaning

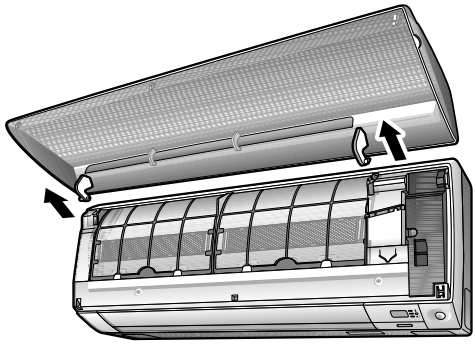
■ Front panel

1. Remove the front panel.

- Open the front panel.
- Slide the front panel to either the left or right and pulling it toward you.
  This will disconnect the front panel shaft on one side.



- Disconnect the front panel shaft on the other side in the same manner.

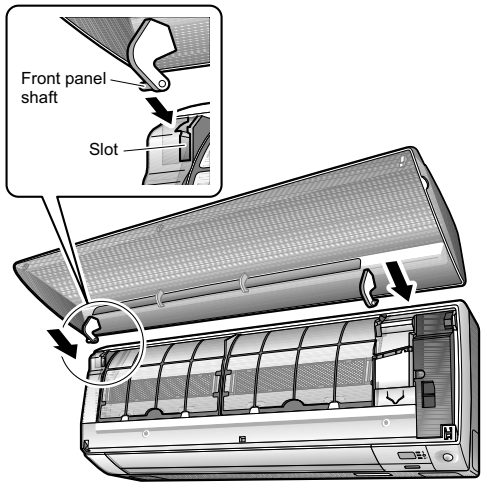


2. Clean the front panel.

- Wipe it with a soft cloth soaked in water.
- Only neutral detergent may be used.
- If you wash the panel with water, wipe it with a dry soft cloth, and allow to dry in the shade.

3. Attach the front panel.

- Align the front panel shaft on the left and right of the front panel with the slots, then push them all the way in.



- Close the front panel slowly. (Press the panel at both sides and the central area.)

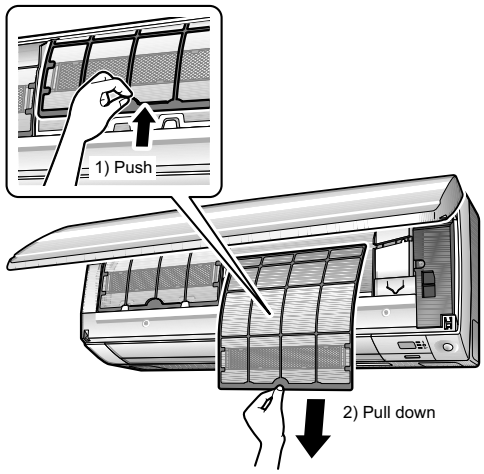
⚠ CAUTION

- 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 panel securely with hand to prevent it from falling.
- After cleaning, make sure that the front panel is securely fixed.

■ Air filter

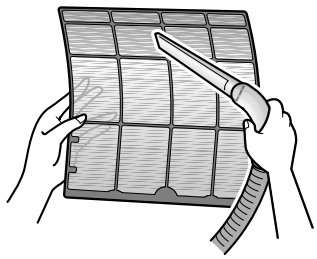
1. Pull out the air filters.

- Open the front panel.
- Push the filter tab at the center of each air filter slightly upward, then pull it down.



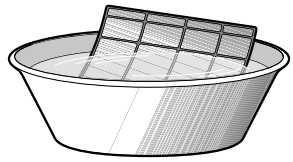
2. Wash the air filters with water or clean them with vacuum cleaner.

- It is recommended to clean the air filters every 2 weeks.



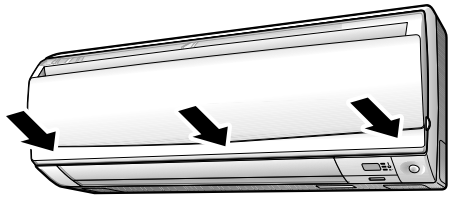
If the dust does not come off easily

- Wash the air filters with neutral detergent thinned with lukewarm water, then allow to dry in the shade.
- Be sure to remove the titanium apatite photocatalytic air-purifying filter. Refer to “Titanium apatite photocatalytic air-purifying filter” on the next page.



3. Set the filters as they were and close the front panel.

- Press the front panel at both sides and the central area.



⚠ CAUTION

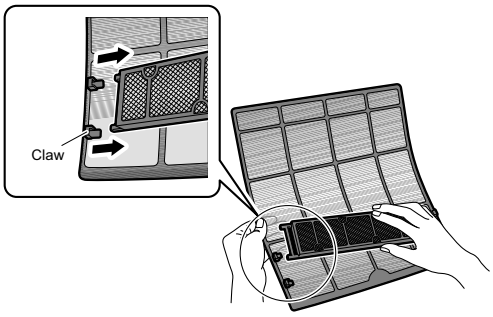
- Do not touch the aluminum fins by bare hand at the time of dismounting or mounting the filter.

Care and Cleaning

■ Titanium apatite photocatalytic air-purifying filter

1. Take off the titanium apatite photocatalytic air-purifying filter.

- Open the front panel and pull out the air filters.
- Hold the recessed parts of the frame and unhook the 4 claws.

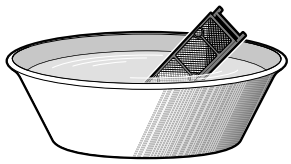


2. Clean or replace the titanium apatite photocatalytic air-purifying filter.

[Maintenance]

2-1 Vacuum dust, and soak in lukewarm water or water for about 10 to 15 minutes if dirt is heavy.

- Do not remove the filter from frame when washing with water.

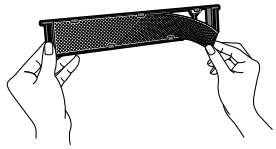


2-2 After washing, shake off remaining water and dry in the shade.

- Since the material is made out of polyester, do not wring out the filter when removing water from it.

[Replacement]

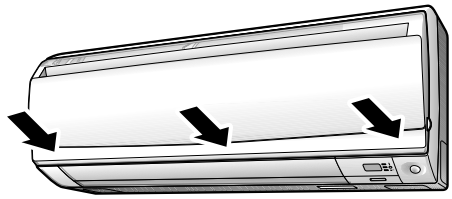
Remove the tabs on the filter frame and replace with a new filter.



- Do not throw away the filter frame. Reuse the filter frame when replacing the titanium apatite photocatalytic air-purifying filter.
- Dispose of the old filter as non-flammable waste.

3. Set the filters as they were and close the front panel.

- Press the front panel at both sides and the central area.



NOTE

- Operation with dirty filters:
  - cannot deodorize the air,
  - cannot clean the air,
  - results in poor heating or cooling,
  - may cause odor.
- Dispose of old filters as non-flammable waste.
- To order titanium apatite photocatalytic air-purifying filter contact to the service shop there you purchased the air conditioner.

Item	Titanium apatite photocatalytic air-purifying filter (without frame) 1 set
Part No.	KAF970A46

■ Check the units

■ 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 COOL 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.

■ Before a long idle period

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

- Press MODE and select "" operation.
- Press ON/OFF and start the 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.

■ We recommend periodical maintenance

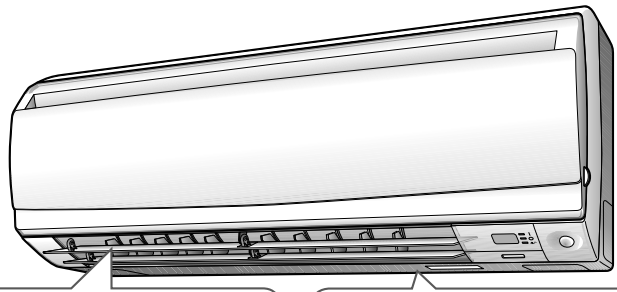
- In certain operating conditions, the inside of the air conditioner may get foul after several seasons of use, resulting in poor performance. It is recommended to have periodical maintenance by a specialist aside from regular cleaning by the user.
- For specialist maintenance, contact the service shop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

Troubleshooting

■ These incidents are not malfunctions.

• The following incidents do not indicate a malfunctioning air conditioner and have explanations. The air conditioner can continue to operate.

Indoor unit



The louvers do not immediately swing. The louvers move soon after startup.

• The air conditioner is adjusting the louver position. The louvers will start moving soon.

The HEAT operation stops suddenly and a flowing sound is heard.

• The outdoor unit is taking away the frost. The HEAT operation starts after the frost on the outdoor unit is removed. You should wait for about 4 to 12 minutes.

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.

Possible sounds.

■ **Flowing water**

• Generated because the refrigerant in the air conditioner is flowing.

• This is a pumping sound of the water in the air conditioner it is heard when the water is pumped out from the air conditioner in cooling or drying operation.

• The refrigerant flows in the air conditioner even if the air conditioner is not working when the indoor units in other rooms are in operation.

■ **Blowing**

• Generated when the flow of the refrigerant in the air conditioner is switched over.

■ **Ticking**

• Generated when the size of the air conditioner slightly expands or shrinks as a result of temperature changes.

■ **Whistling sound**

• Generated when refrigerant flows during defrosting operation.

■ **Clicking sound during operation or idle time**

• Generated when the refrigerant control valves or the electrical parts operate.

■ **Clopping sound**

• Heard from the inside of the air conditioner when the exhaust fan is activated while the room doors are closed. Open the window or turn off the exhaust fan.

Outdoor unit

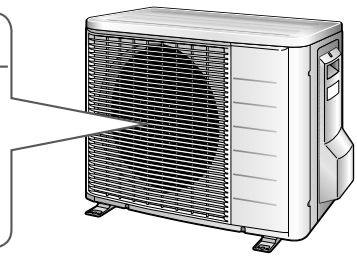
The outdoor unit emits water or steam.

■ **In HEAT operation**

• The frost on the outdoor unit melts into water or steam when the air conditioner is in defrost operation.

■ **In COOL or DRY operation**

• Moisture in the air condenses into water on the cool surface of outdoor unit piping and drips.



• Troubleshooting measures are classified into the following two types on a remedial basis.
Take an appropriate measure according to the symptom.

Not malfunction

• The following conditions do not indicate a problem with the system.

Check

• Please check again before calling a repair person.

The air conditioner does not operate. (OPERATION lamp is off.)

• Is a breaker off or a fuse blown?
• Is there a power failure?
• Are batteries set in the remote controller?
• Is the timer setting correct?

Hot air does not flow out soon after the start of HEAT operation.

• The air conditioner is warming up. You should wait for 1 to 4 minutes. (The system is designed to start discharging air only after it has reached a certain temperature.)

Operation stopped suddenly. (OPERATION 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.

Operation stopped suddenly. (OPERATION lamp flashes.)

• Are the air filters clean?
Clean the air filters.
• Is there anything to block the air inlet or the outlet of the indoor and the outdoor units?
• Turn the breaker off and take all obstacles away. Then turn it on again and try operating the air conditioner with the remote controller. If the lamp still flashes, call the service shop where you purchased the air conditioner.

Mist comes out of the indoor unit.

• This happens when the air in the room is cooled into mist by the cold airflow during COOL operation.
• This is because the air in the room is cooled by the heat exchanger and becomes mist during defrosting operation.

Troubleshooting

Cooling (Heating) effect is poor.

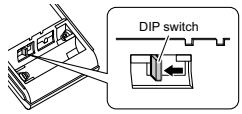
- Are the air filters clean?
- Is there anything to block the air inlet or the outlet of the indoor and the outdoor units?
- Is the temperature setting appropriate?
- Are the windows and doors closed?
- Are the airflow rate and the airflow direction set appropriately?

Remote controller does not work properly.

- **No remote controller signals are displayed.**
- **Remote controller sensitivity is low.**
- **Display is low in contrast or blacked out.**
- **Display runs out of control.**
  - The batteries are dying and the remote controller is malfunctioning. Replace all the batteries with new, size AAA.LR03 (alkaline). For details, refer to “To set the batteries” of this manual. ▶Page 9

HEAT operation cannot be selected, even though the unit is heat pump model.

- Slide the DIP switch to the left as shown in the illustration so that the HEAT operation can be selected with the “MODE” button.



The ON/OFF TIMER does not operate according to the settings.

- Check if the ON/OFF TIMER and the WEEKLY TIMER are set to the same time.
  Change or deactivate the settings in the WEEKLY TIMER. ▶Page 22

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 airflow.
  (If this happens, have the indoor unit washed by a technician from the service shop where you purchased the air conditioner.)

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.

An abnormal functioning happens during operation.

- 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.

■ Call the service shop immediately

⚠ WARNING

■ **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 malfunctioning, electric shocks or fire.
- Consult the service shop where you purchased 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 purchased the air conditioner.

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

- **The power cord is abnormally hot or damaged.**
- **An abnormal sound is heard during operation.**
- **The safety breaker, a fuse, or the ground fault circuit interrupter/earth leakage circuit 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.

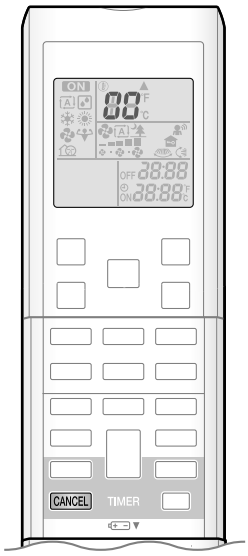
■ **After a power failure**
- The air conditioner automatically resumes operation in about 3 minutes. Wait for it to restart.

■ **Lightning**
- If lightning may strike the neighboring area, stop operation and turn the breaker off for system protection.

■ Disposal requirements

- Dismantling the unit, and treatment of refrigerant, oil, and other parts, should be done in accordance with the relevant local and national regulations.

Troubleshooting



■ Fault diagnosis by remote controller

• The remote controller can receive a corresponding error code from the indoor unit.

1. When CANCEL is held down for 5 seconds, a "00" indication blinks on the temperature display section.

2. Press CANCEL repeatedly until a continuous beep is produced.

• The code indication changes as displayed in the following table, and notifies with a long beep.

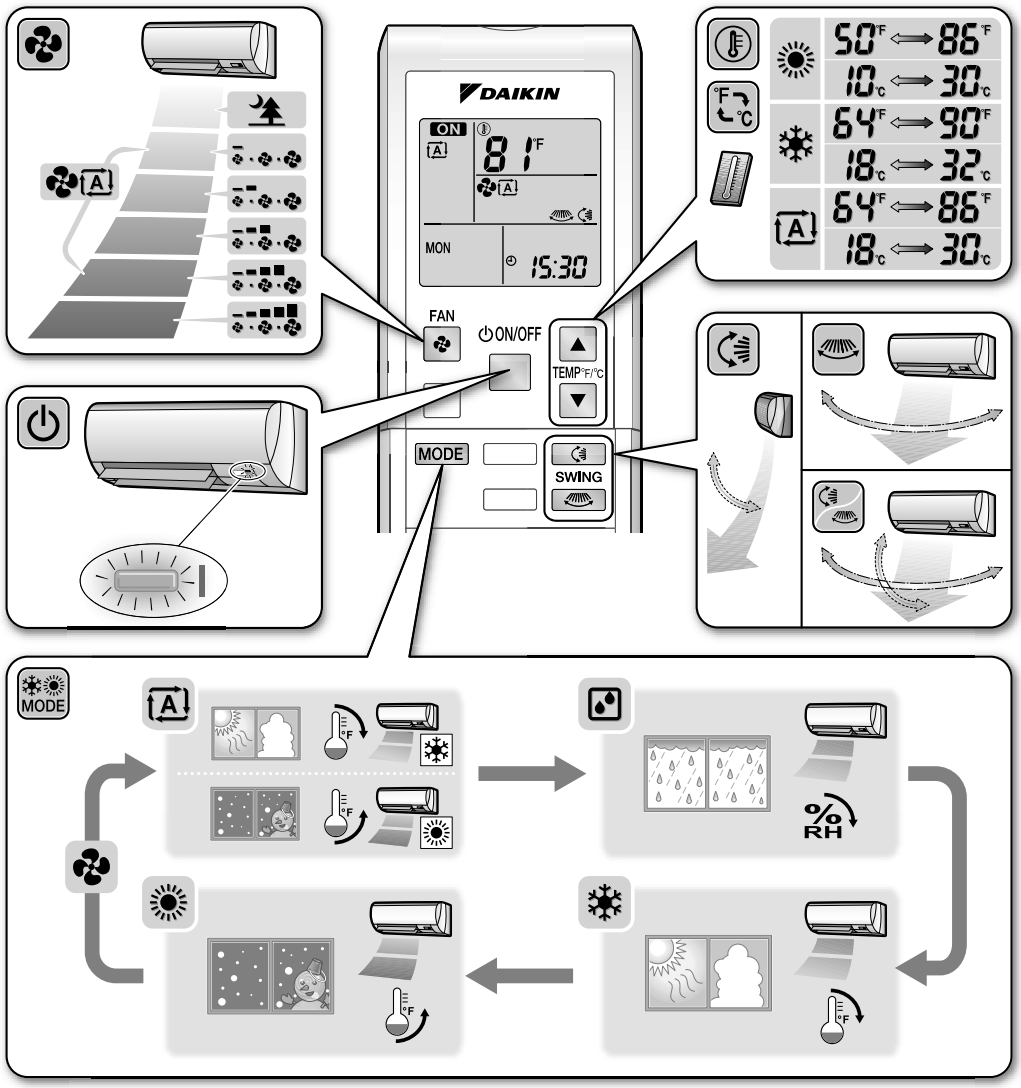
	CODE	MEANING
SYSTEM	00	NORMAL
	UA	INDOOR-OUTDOOR UNIT COMBINATION FAULT
	U0	REFRIGERANT SHORTAGE
	U2	DROP VOLTAGE OR MAIN CIRCUIT OVERVOLTAGE
	U4	FAILURE OF TRANSMISSION (BETWEEN INDOOR UNIT AND OUTDOOR UNIT)
INDOOR UNIT	A1	INDOOR PCB DEFECTIVENESS
	A5	HIGH PRESSURE CONTROL OR FREEZE-UP PROTECTOR
	A6	FAN MOTOR FAULT
	C4	FAULTY HEAT EXCHANGER TEMPERATURE SENSOR
	C9	FAULTY SUCTION AIR TEMPERATURE SENSOR
OUTDOOR UNIT	EA	COOLING-HEATING SWITCHING ERROR
	E1	CIRCUIT BOARD FAULT
	E5	OL STARTED
	E6	FAULTY COMPRESSOR START UP
	E7	DC FAN MOTOR FAULT
	E8	OVERCURRENT INPUT
	F3	HIGH TEMPERATURE DISCHARGE PIPE CONTROL
	F6	HIGH PRESSURE CONTROL (IN COOLING)
	H0	SENSOR FAULT
	H6	OPERATION HALT DUE TO FAULTY POSITION DETECTION SENSOR
	H8	DC CURRENT SENSOR FAULT
	H9	FAULTY SUCTION AIR TEMPERATURE SENSOR
	J3	FAULTY DISCHARGE PIPE TEMPERATURE SENSOR
	J6	FAULTY HEAT EXCHANGER TEMPERATURE SENSOR
	L3	ELECTRICAL PARTS HEAT FAULT
	L4	HIGH TEMPERATURE AT INVERTER CIRCUIT HEATSINK
	L5	OUTPUT OVERCURRENT
	P4	FAULTY INVERTER CIRCUIT HEATSINK TEMPERATURE SENSOR

NOTE

• A short beep and two consecutive beeps indicate non-corresponding codes.

• To cancel the code display, hold CANCEL for 5 seconds. The code display also cancel itself if the button is not pressed for 1 minute.

Quick Reference



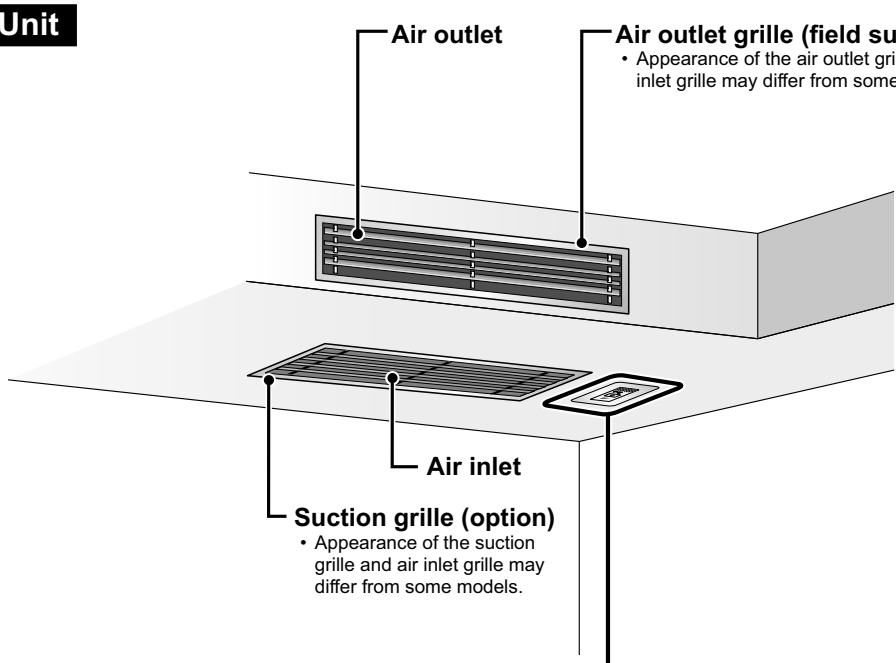
3P297290-1

3P297290-2

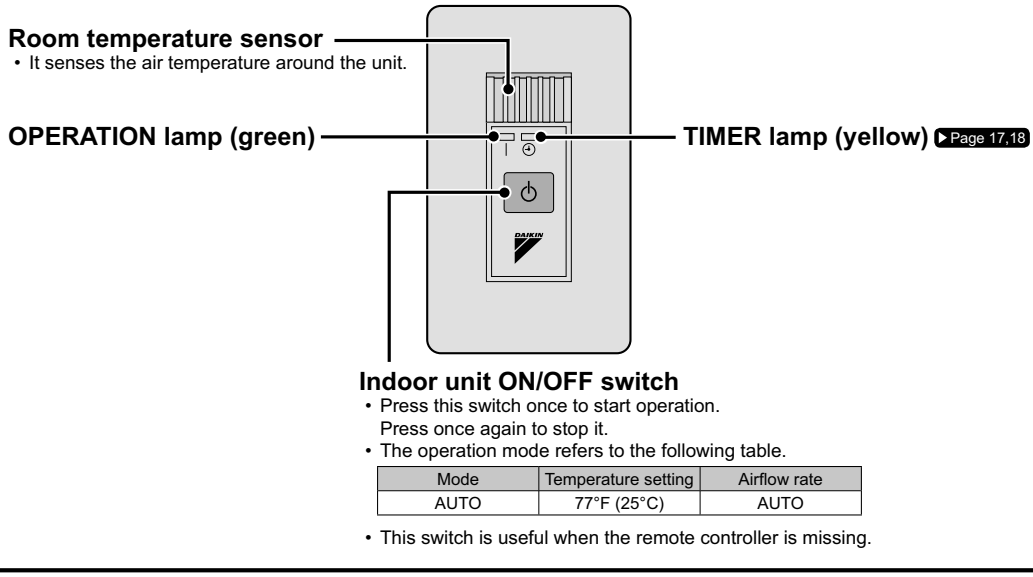
13.2 Slim Duct Built-in System

Names of Parts

Indoor Unit



Receiver



Indoor unit ON/OFF switch

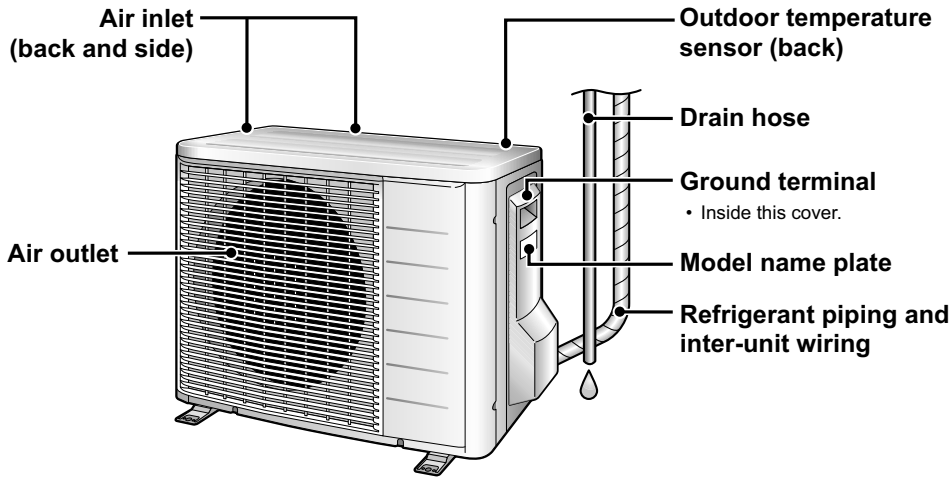
- Press this switch once to start operation. Press once again to stop it.
- The operation mode refers to the following table.

Mode	Temperature setting	Airflow rate
AUTO	77°F (25°C)	AUTO

- This switch is useful when the remote controller is missing.

Outdoor Unit

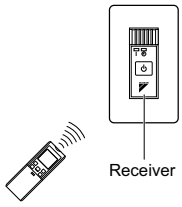
• Appearance of the outdoor unit may differ from some models.



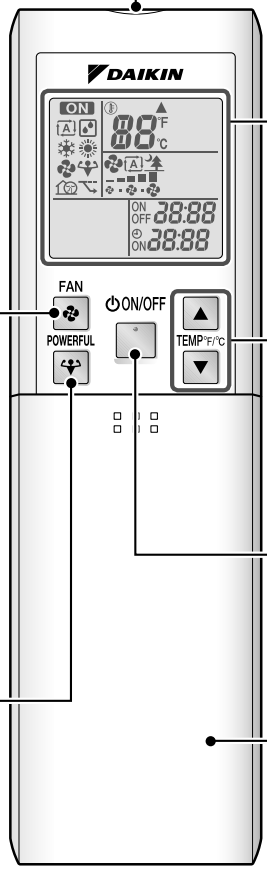
Names of Parts

Remote Controller

Signal transmitter



- 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.
- Do not drop the remote controller. Do not get it wet.
- The maximum distance for communication is approximately 13ft (4m).



Display (LCD)

- Displays the current settings. (In this illustration, each section is shown with all its displays on for the purpose of explanation.)

TEMPERATURE adjustment buttons

- Changes the temperature setting. ▶Page 12

FAN setting button

- Selects the airflow rate setting. ▶Page 13

ON/OFF button

- Press this button once to start operation. Press once again to stop it. ▶Page 11

POWERFUL button

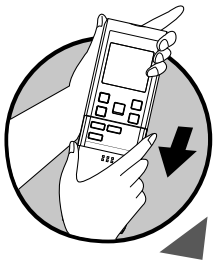
- POWERFUL operation. ▶Page 14

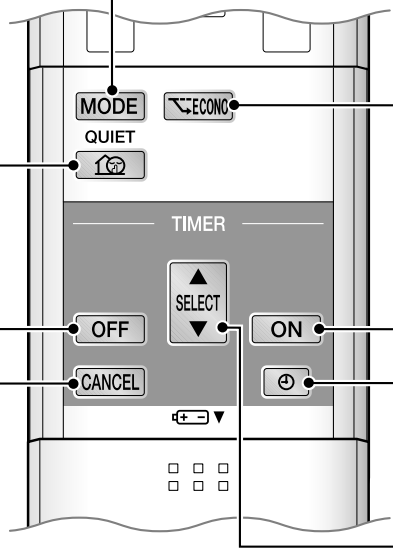
Front cover

- Open the front cover. ▶Page 8

<ARC452A23>

■ Open the front cover





MODE selector button
- Selects the operation mode. (AUTO/DRY/COOL/HEAT/FAN) ▶Page 11

QUIET button
- OUTDOOR UNIT QUIET operation. ▶Page 15

ECONO button
- ECONO operation. ▶Page 16

OFF TIMER button ▶Page 17

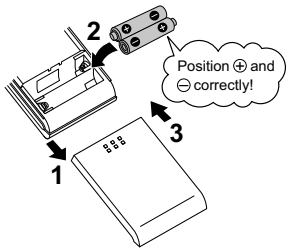
ON TIMER button ▶Page 18

TIMER CANCEL button
- Cancels the timer setting. ▶Page 17,18

CLOCK button ▶Page 10

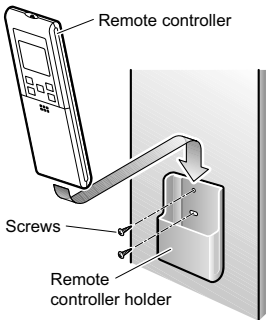
SELECT button
- Changes the ON/OFF TIMER settings. ▶Page 17,18

Preparation before Operation



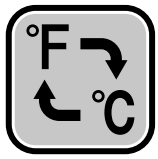
■ To set the batteries

1. **Slide the front cover to take it off.**
2. **Set two dry batteries AAA.LR03 (alkaline).**
3. **Set the front cover as before.**



■ To fix the remote controller holder on the wall

1. **Choose a place from where the signals reach the unit.**
2. **Fix the holder to a wall, a pillar, etc. with the screws supplied with the holder.**
3. **Place the remote controller in the remote controller holder.**



■ Celsius/Fahrenheit display switch

• The Celsius or Fahrenheit display is selectable with the following buttons.

Press ▲ TEMP °F/°C and ▼ TEMP °F/°C simultaneously for 5 seconds.

• The temperature will be displayed in Fahrenheit if it is presently displayed in Celsius, and vice versa.

NOTE

■ Notes on batteries

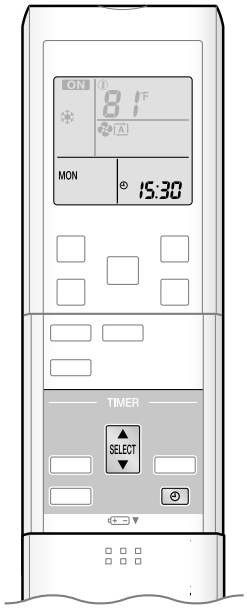
- When replacing the batteries, use batteries of the same type, and replace both batteries at the same time.
- When the system is not used for a long time, take the batteries out.
- The batteries will last for approximately 1 year. If the remote controller display begins to fade and the degradation of reception performance occurs within a year, however, replace both 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.

■ Notes on 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 a 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 shop if that is the case.
- If the remote controller signals happen to operate another appliance, move that appliance somewhere else, or consult the service shop.

■ Celsius/Fahrenheit display change function of remote controller

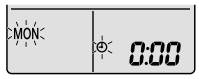
- The set temperature may increase when the display is changed to Celsius from Fahrenheit, because a fraction of 0.5°C is rounded up.
- Example: A set temperature of 65°F (equivalent to 18.5°C) will be converted into 19°C. When the display is changed to Fahrenheit again, the set temperature will be converted 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.



■ Turn the breaker on

■ To set the clock

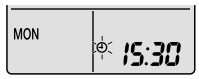
1. Press ⏲.



"0:00" is displayed.
"MON" and "⏲" blink.

2. Press SELECT to set the current day of the week.

3. Press ⏲.



"⏲" blinks.

4. Press SELECT to set the clock to the present time.

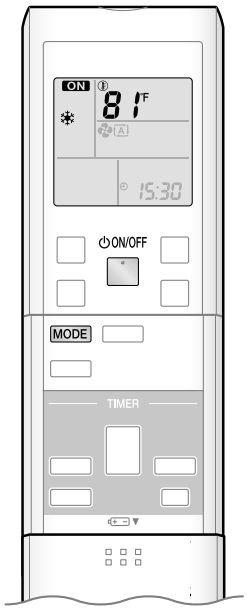
• Holding down ▲ or ▼ rapidly increases or decreases the time display.

5. Press ⏲.

• Point the remote controller at the indoor unit when pressing the buttons.

":" blinks.

AUTO · DRY · COOL · HEAT · FAN Operation

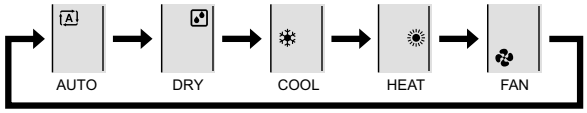


The air conditioner operates with the operation mode of your choice.
From the next time on, the air conditioner will operate with the same operation mode.

■ To start operation

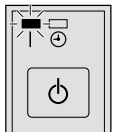
1. Press MODE and select an operation mode.

- Each pressing of the button advances the mode setting in sequence.



2. Press ON/OFF .

- "ON" is displayed on the LCD.
- The OPERATION lamp lights green.



Display

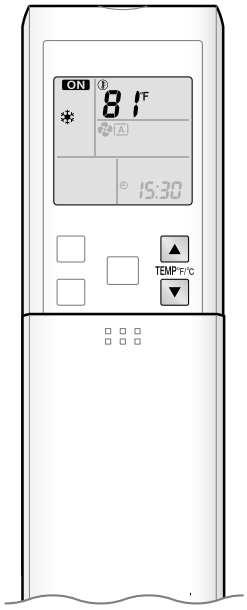
■ To stop operation

Press ON/OFF again.

- "ON" is no longer displayed on the LCD.
- The OPERATION lamp goes off.

NOTE

MODE	Notes on each operation mode
HEAT	• 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 HEAT operation, it takes some time before the room gets warmer. • In HEAT 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.
COOL	• This air conditioner cools the room by releasing the heat in the room outside. Therefore, the cooling performance of the air conditioner may be degraded if the outdoor temperature is high.
DRY	• The computer chip works to rid the room of humidity while maintaining the temperature as much as possible. It automatically controls temperature and airflow rate, so manual adjustment of these functions is unavailable.
AUTO	• In AUTO operation, the system selects an appropriate operation mode (COOL or HEAT) based on the room and outside temperatures and starts the operation. • The system automatically reselects setting at a regular interval to bring the room temperature to user-setting level.
FAN	• This mode is valid for fan only.



■ To change the temperature setting

Press ▲ TEMP°F/°C or TEMP°F/°C ▼ .

- The displayed items on the LCD will change whenever either one of the buttons is pressed.

COOL operation	HEAT operation	AUTO operation	DRY or FAN operation
64-90°F (18-32°C)	50-86°F (10-30°C)	64-86°F (18-30°C)	The temperature setting is not variable.
Press ▲ to raise the temperature and press ▼ to lower the temperature.			

■ Operating conditions

■ Recommended temperature setting

- For cooling: 78-82°F (26-28°C)
- For heating: 68-75°F (20-24°C)

■ 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. Clean them once in about every 2 weeks. ▶Page 21

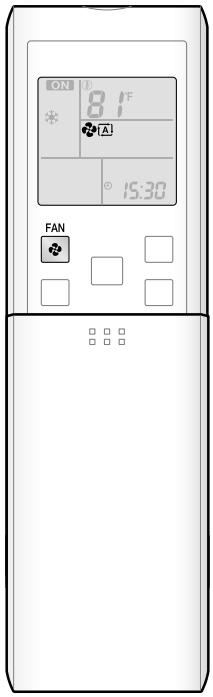
■ Notes on the operating conditions

- The air conditioner always consumes a small amount of electricity even while 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.
- Use the air conditioner in the following conditions.

MODE	Operating conditions	If operation is continued out of this range
COOL	Outdoor temperature : 50-115°F (10-46°C) Indoor temperature : 64-90°F (18-32°C) Indoor humidity : 80% max.	• A safety device may work to stop the operation. • Condensation may occur on the indoor unit and drip.
HEAT	Outdoor temperature : 5-75°F (–15-24°C) Indoor temperature : 50-86°F (10-30°C)	• A safety device may work to stop the operation.
DRY	Outdoor temperature : 50-115°F (10-46°C) Indoor temperature : 64-90°F (18-32°C) Indoor humidity : 80% max.	• A safety device may work to stop the operation. • Condensation may occur on the indoor unit and drip.

- Operation outside this humidity or temperature range may cause a safety device to disable the system.

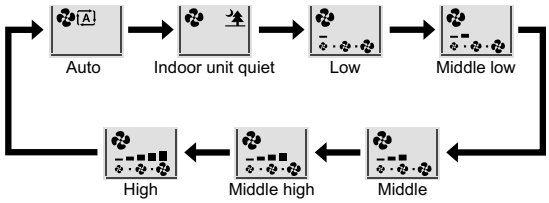
Adjusting the Airflow Rate



■ To adjust the airflow rate setting

Press .

• Each pressing of advances the airflow rate setting in sequence.

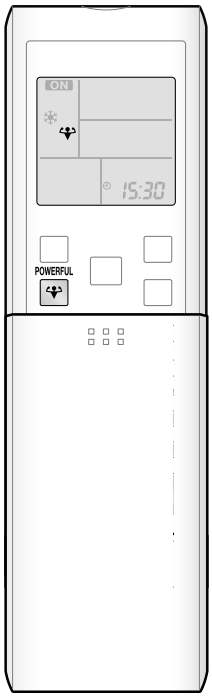


• When the airflow is set to " ", indoor unit quiet operation will start and the noise from the unit will become quieter.
• In indoor unit quiet operation, the airflow rate is set to a weak level.
• In DRY operation, the airflow rate setting is not variable.

NOTE

■ **Note on airflow rate setting**
• At smaller airflow rates, the cooling (heating) effect is also smaller.

POWERFUL Operation



POWERFUL operation quickly maximizes the cooling (heating) effect in any operation mode. You can get the maximum capacity.

■ To start POWERFUL operation

Press [POWERFUL] during operation.

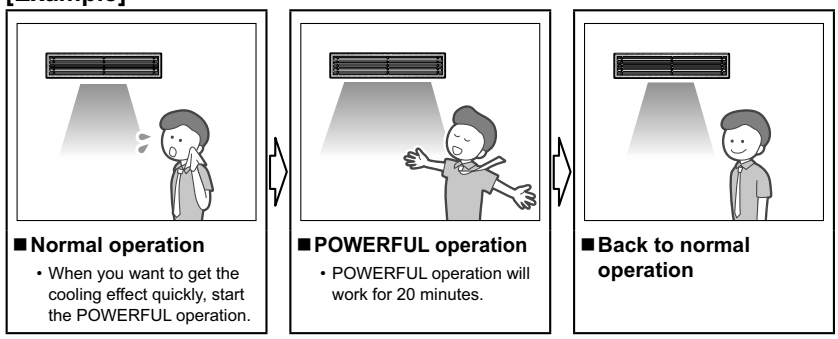
- POWERFUL operation ends in 20 minutes. Then the system automatically operates again with the previous settings which were used before POWERFUL operation.
- "POWERFUL" is displayed on the LCD.

■ To cancel POWERFUL operation

Press [POWERFUL] again.

- "POWERFUL" is no longer displayed on the LCD.

[Example]



■ Normal operation
- When you want to get the cooling effect quickly, start the POWERFUL operation.

■ POWERFUL operation
- POWERFUL operation will work for 20 minutes.

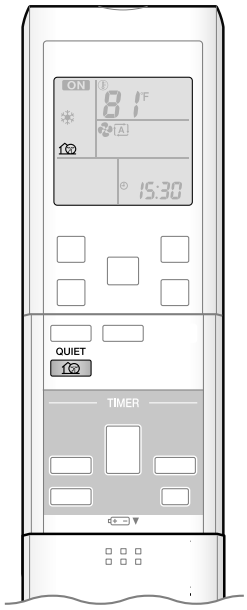
■ Back to normal operation

NOTE

■ Notes on POWERFUL operation

- When using POWERFUL operation, there are some functions which are not available.
- POWERFUL operation cannot be used together with ECONO and OUTDOOR UNIT QUIET operation. Priority is given to the function of whichever button is pressed last.
- POWERFUL Operation can only be set when the unit is running. Pressing the operation stop button causes the settings to be canceled, and "POWERFUL" is no longer displayed on the LCD.
- POWERFUL operation will not increase the capacity of the air conditioner if the air conditioner is already in operation with its maximum capacity demonstrated.
- **In COOL, HEAT and AUTO operation**
  To maximize the cooling (heating) effect, the capacity of outdoor unit is increased and the airflow rate is fixed to the maximum setting. The temperature and airflow settings are not variable.
- **In DRY operation**
  The temperature setting is lowered by 4.5°F (2.5°C) and the airflow rate is slightly increased.
- **In FAN operation**
  The airflow rate is fixed to the maximum setting.

OUTDOOR UNIT QUIET Operation



OUTDOOR UNIT QUIET operation lowers the noise level of the outdoor unit by changing the frequency and fan speed on the outdoor unit. This function is convenient during night.

■ To start OUTDOOR UNIT QUIET operation

Press [QUIET].

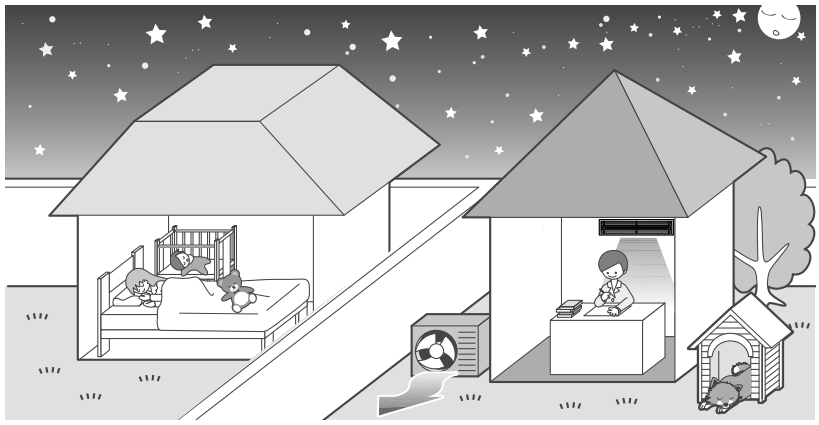
- "QUIET" is displayed on the LCD.

■ To cancel OUTDOOR UNIT QUIET operation

Press [QUIET] again.

- "QUIET" is no longer displayed on the LCD.

[Example] **Using the OUTDOOR UNIT QUIET operation during the night.**



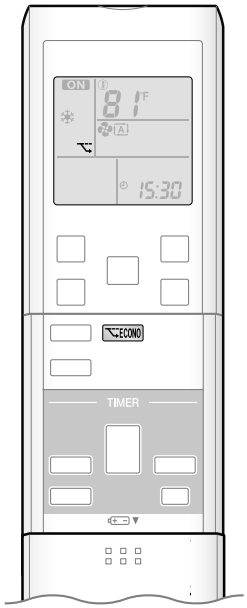
- The noise level of the outdoor unit will be lower.
  This is convenient in consideration of your neighbors.

NOTE

■ **Notes on OUTDOOR UNIT QUIET operation**

- This function is available in COOL, HEAT, and AUTO operation.
  (This is not available in FAN and DRY operation.)
- POWERFUL operation and OUTDOOR UNIT QUIET operation cannot be used at the same time.
  Priority is given to the function of whichever button is pressed last.
- If operation is stopped using the remote controller or the indoor unit ON/OFF switch when using OUTDOOR UNIT QUIET operation, "QUIET" will remain on the remote controller display.
- OUTDOOR UNIT QUIET operation will drop neither the frequency nor fan speed if the frequency and fan speed have been already dropped low enough.

ECONO Operation



ECONO operation is a function which enables efficient operation by limiting the maximum power consumption value.
This function is useful for cases in which attention should be paid to ensure a circuit breaker will not trip when the product runs alongside other appliances.

■ To start ECONO operation

Press ECONO during operation.

- "ECONO" is displayed on the LCD.

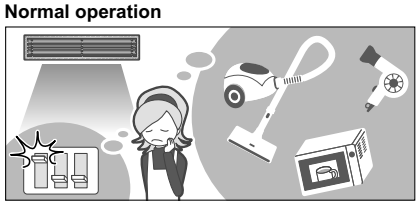
■ To cancel ECONO operation

Press ECONO again.

- "ECONO" is no longer displayed on the LCD.

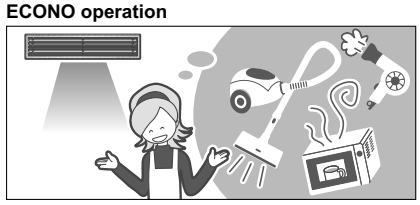
[Example]

Normal operation

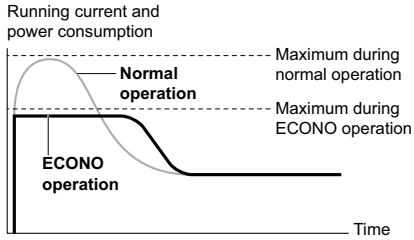


- In case the air conditioner and other appliances which require high power consumption are used at same time, a circuit breaker may trip if the air conditioner operate with its maximum capacity.

ECONO operation



- The maximum power consumption of the air conditioner is limited by using ECONO operation. The circuit breaker is unlikely to trip even if the air conditioner and other appliances are used at same time.



From start up until set temperature is reached

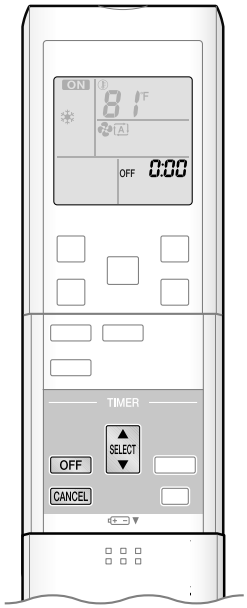
- This diagram is a representation for illustrative purposes only.
  The maximum running current and power consumption of the air conditioner in ECONO operation vary with the connecting outdoor unit.

NOTE

■ Notes on ECONO operation

- ECONO operation can only be set when the unit is running. Pressing the operation stop button causes the settings to be canceled, and the "ECONO" is no longer displayed on the LCD.
- ECONO operation is a function which enables efficient operation by limiting the power consumption of the outdoor unit (operating frequency).
- ECONO operation functions in AUTO, COOL, DRY, and HEAT operation.
- POWERFUL and ECONO operation cannot be used at the same time.
  Priority is given to the function of whichever button is pressed last.
- If the level of power consumption is already low, ECONO operation will not drop the power consumption.

OFF TIMER Operation



Timer functions are useful for automatically switching the air conditioner on or off at night or in the morning. You can also use OFF TIMER and ON TIMER in combination.

■ To use OFF TIMER operation

- Check that the clock is correct.
  If not, set the clock to the present time. ▶Page 10

1. Press OFF.

" 0:00 " is displayed on the LCD.
" OFF " blinks.

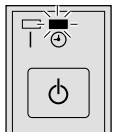
- " ⏲ " is no longer displayed on the LCD.

2. Press SELECT until the time setting reaches the point you like.

- Each pressing of either button increases or decreases the time setting by 10 minutes. Holding down either button changes the time setting rapidly.

3. Press OFF again.

- " OFF " and setting time are displayed on the LCD.
- The TIMER lamp lights yellow.



Display

■ To cancel OFF TIMER operation

Press CANCEL.

- " OFF " and setting time are no longer displayed on the LCD.
- " ⏲ " and day of the week are displayed on the LCD.
- The TIMER lamp goes off.

NOTE

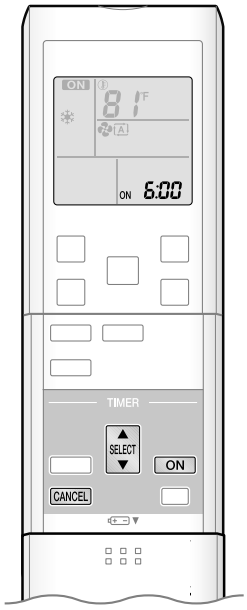
■ Notes on TIMER operation

- When TIMER is set, the present time is not displayed.
- Once you set ON/OFF TIMER, the time setting is kept in the memory. The memory is canceled when remote controller batteries are replaced.
- When operating the unit via the ON/OFF TIMER, the actual length of operation may vary from the time entered by the user. (Maximum approximately 10 minutes)

■ NIGHT SET mode

- When the OFF TIMER is set, the air conditioner automatically adjusts the temperature setting (0.9°F (0.5°C) up in COOL, 3.6°F (2.0°C) down in HEAT) to prevent excessive cooling (heating) for your pleasant sleep.

ON TIMER Operation



■ To use ON TIMER operation

• Check that the clock is correct.
If not, set the clock to the present time. ▶Page 10

1. Press ON.

" 6:00 " is displayed on the LCD.
" ON " blinks.

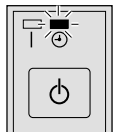
• " ⏲ " is no longer displayed on the LCD.

2. Press SELECT until the time setting reaches the point you like.

• Each pressing of either button increases or decreases the time setting by 10 minutes. Holding down either button changes the setting rapidly.

3. Press ON again.

• " ON " and setting time are displayed on the LCD.
• The TIMER lamp lights yellow.



Display

■ To cancel ON TIMER operation

Press CANCEL.

• " ON " and setting time are no longer displayed on the LCD.
• " ⏲ " and day of the week are displayed on the LCD.
• The TIMER lamp goes off.

■ To combine ON TIMER and OFF TIMER

• A sample setting for combining the 2 timers is shown below.

(Example)
Present time: 23:00 (The unit operating)
OFF TIMER at 0:00 } Combined
ON TIMER at 14:00

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.

Care and Cleaning

⚠ CAUTION

- **Only a qualified service person is allowed to perform maintenance.**
- **Before cleaning, be sure to stop the operation and turn the breaker off.**

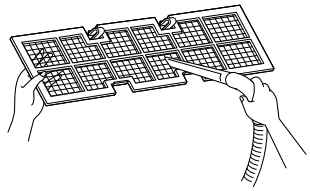
■ Air filter

1. Removing the air filter.

- Rear suction
  Pull the bottom side of the air filter backwards, over the bends.
- Bottom suction
  Pull the filter over the bends situated at the backside of the unit.

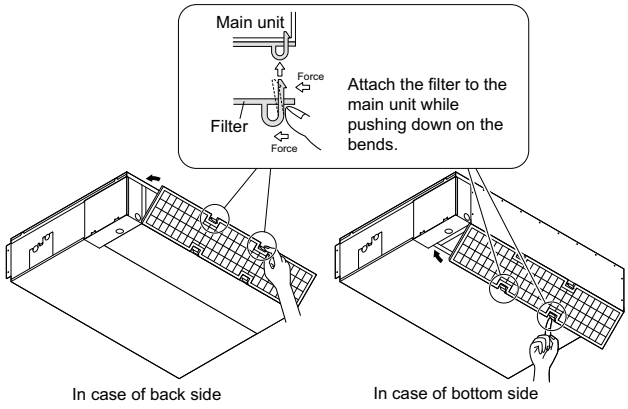
2. Cleaning the air filter.

- Remove dust from the air filter using a vacuum cleaner and gently rinse them in cool water. Do not use detergent or hot water to avoid filter shrinking or deformation. After cleaning dry them in the shade.



3. Replacing the air filter.

- Rear suction
  Hook the filter behind the flap situated at the top of the unit and push the other side gently over the bends.
- Bottom suction
  Hook the filter behind the flap situated at the middle of the unit and push the other side gently over the bends.



■ Drain pan

- Clean the drain pan periodically, or drain piping may be clogged with dust and may result in water leakage. Ask your DAIKIN dealer to clean them.
- Prepare a cover locally to prevent any dust in the air around the indoor unit from getting in the drain pan, if there is a great deal of dust present.

⚠ CAUTION

- Do not operate the air conditioner without filters, this to avoid dust accumulation inside the unit.
- Do not remove the air filter except when cleaning. Unnecessary handling may damage the filter.
- Do not use gasoline, benzene, thinner, polishing powder, liquid insecticide, It may cause discoloring or warping.
- Do not let the indoor unit get wet. It may cause an electric shock or a fire.
- Operation with dusty air filters lowers the cooling and heating capacity and wastes energy.
- The suction grille is option.
- Do not use water or air of 122°F (50°C) or higher for cleaning air filters and outside panels.
- Ask your DAIKIN dealer how to clean it.

■ Check the units

■ 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 COOL 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.

■ Before a long idle period

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

- Press MODE and select "" operation.
- Press ON/OFF and start the 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.

■ We recommend periodic maintenance

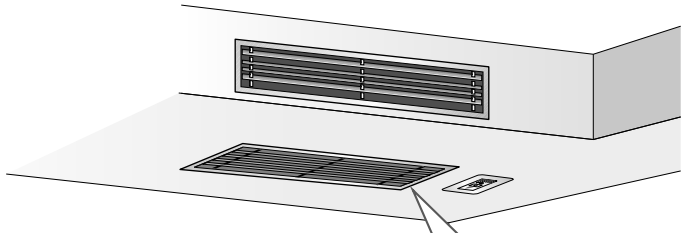
- In certain operating conditions, the inside of the air conditioner may get foul after several seasons of use, resulting in poor performance. It is recommended to have periodic maintenance by a specialist aside from regular cleaning by the user.
- For specialist maintenance, contact the service shop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

Troubleshooting

■ These incidents are not malfunctions.

• The following incidents do not indicate a malfunctioning air conditioner and have explanations. The air conditioner can continue to operate.

Indoor unit



The HEAT operation stops suddenly and a flowing sound is heard.

• The outdoor unit is taking away the frost. The HEAT operation starts after the frost on the outdoor unit is removed. You should wait for about 4 to 12 minutes.

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.

Possible sounds.

■ **Flowing water**

• Generated because the refrigerant in the air conditioner is flowing.

• This is a pumping sound of the water in the air conditioner it is heard when the water is pumped out from the air conditioner in cooling or drying operation.

• The refrigerant flows in the air conditioner even if the air conditioner is not working when the indoor units in other rooms are in operation.

■ **Blowing**

• Generated when the flow of the refrigerant in the air conditioner is switched over.

■ **Ticking**

• Generated when the size of the air conditioner slightly expands or shrinks as a result of temperature changes.

■ **Whistling sound**

• Generated when refrigerant flows during defrosting operation.

■ **Clicking sound during operation or idle time**

• Generated when the refrigerant control valves or the electrical parts operate.

■ **Clopping sound**

• Heard from the inside of the air conditioner when the exhaust fan is activated while the room doors are closed. Open the window or turn off the exhaust fan.

Outdoor unit

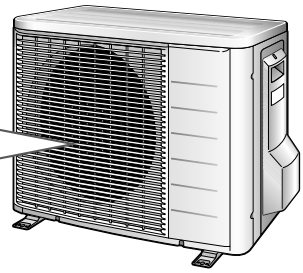
The outdoor unit emits water or steam.

■ **In HEAT operation**

• The frost on the outdoor unit melts into water or steam when the air conditioner is in defrost operation.

■ **In COOL or DRY operation**

• Moisture in the air condenses into water on the cool surface of outdoor unit piping and drips.



• Troubleshooting measures are classified into the following two types on a remedial basis.
Take an appropriate measure according to the symptom.

Not malfunction

• The following conditions do not indicate a problem with the system.

Check

• Please check again before calling a repair person.

The air conditioner does not operate. (OPERATION lamp is off.)

• Is a breaker off or a fuse blown?
• Is there a power failure?
• Are batteries set in the remote controller?
• Is the timer setting correct?

Hot air does not flow out soon after the start of HEAT operation.

• The air conditioner is warming up. You should wait for 1 to 4 minutes. (The system is designed to start discharging air only after it has reached a certain temperature.)

Operation stopped suddenly. (OPERATION 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.

Operation stopped suddenly. (OPERATION lamp flashes.)

• Are the air filters clean?
Clean the air filters.
• Is there anything to block the air inlet or the outlet of the indoor and the outdoor units?
• Turn the breaker off and take all obstacles away. Then turn it on again and try operating the air conditioner with the remote controller. If the lamp still flashes, call the service shop where you purchased the air conditioner.

Mist comes out of the indoor unit.

• This happens when the air in the room is cooled into mist by the cold airflow during COOL operation.
• This is because the air in the room is cooled by the heat exchanger and becomes mist during defrosting operation.

Troubleshooting

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 airflow rate and the airflow direction set appropriately?

Remote controller does not work properly.

■ **No remote controller signals are displayed.**

■ **Remote controller sensitivity is low.**

■ **Display is low in contrast or blacked out.**

■ **Display runs out of control.**

- The batteries are dying and the remote controller is malfunctioning. Replace all the batteries with new, size AAA.LR03 (alkaline). For details, refer to “To set the batteries” of this manual. ▶Page 9

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 airflow.
  (If this happens, have the indoor unit washed by a technician from the service shop where you purchased the air conditioner.)

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**

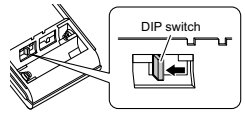
- When the outdoor temperature is very high, the outdoor fan starts rotating for system protection.

An abnormal functioning happens during operation.

- 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.

HEAT operation cannot be selected, even though the unit is heat pump model.

- Slide the DIP switch to the left as shown in the illustration so that the HEAT operation can be selected with the “MODE” button.



■ Call the service shop immediately

⚠ WARNING

■ **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 malfunctioning, electric shocks or fire.
- Consult the service shop where you purchased 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 purchased the air conditioner.

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

- **The power cord is abnormally hot or damaged.**
- **An abnormal sound is heard during operation.**
- **The safety breaker, a fuse, or the ground[illegible]ts 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.

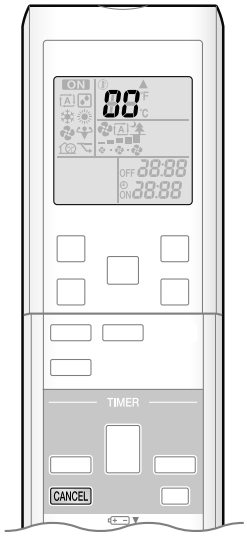
■ **After a power failure**
- The air conditioner automatically resumes operation in about 3 minutes. Wait for it to restart.

■ **Lightning**
- If lightning may strike the neighboring area, stop operation and turn the breaker off for system protection.

■ Disposal requirements

- Dismantling the unit, and treatment of refrigerant, oil, and other parts, should be done in accordance with the relevant local and national regulations.

Troubleshooting



■ Fault diagnosis by remote controller

- The remote controller can receive a corresponding error code from the indoor unit.

1. When CANCEL is held down for 5 seconds, a "00" indication blinks on the temperature display section.

2. Press CANCEL repeatedly until a continuous beep is produced.

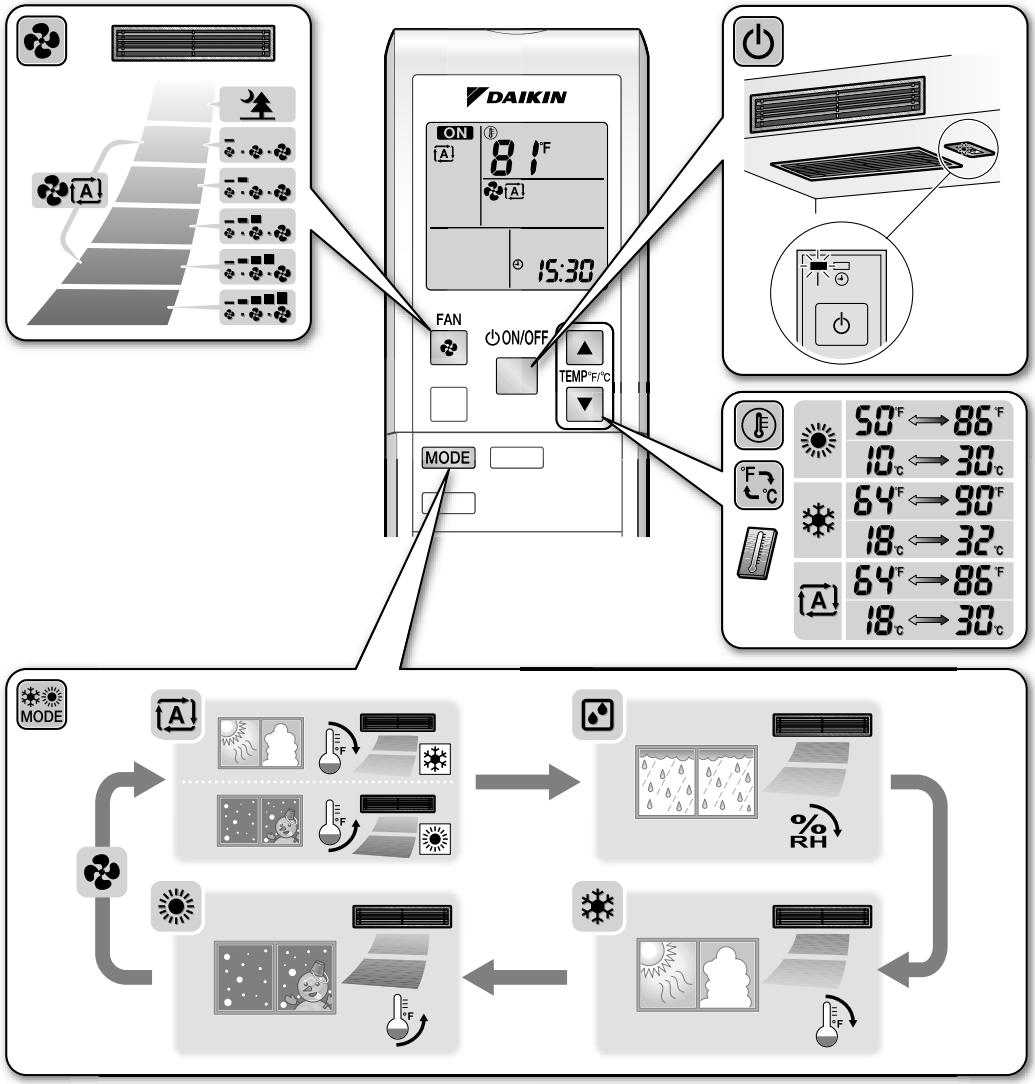
- The code indication changes as displayed in the following table, and notifies with a long beep.

	CODE	MEANING
SYSTEM	00	NORMAL
	UA	INDOOR-OUTDOOR UNIT COMBINATION FAULT
	U0	REFRIGERANT SHORTAGE
	U2	DROP VOLTAGE OR MAIN CIRCUIT OVERVOLTAGE
	U4	FAILURE OF TRANSMISSION (BETWEEN INDOOR UNIT AND OUTDOOR UNIT)
INDOOR UNIT	A1	INDOOR PCB DEFECTIVENESS
	A5	HIGH PRESSURE CONTROL OR FREEZE-UP PROTECTOR
	A6	FAN MOTOR FAULT
	C4	FAULTY HEAT EXCHANGER TEMPERATURE SENSOR
	C9	FAULTY SUCTION AIR TEMPERATURE SENSOR
OUTDOOR UNIT	EA	COOLING-HEATING SWITCHING ERROR
	E1	CIRCUIT BOARD FAULT
	E5	OL STARTED
	E6	FAULTY COMPRESSOR START UP
	E7	DC FAN MOTOR FAULT
	E8	OVERCURRENT INPUT
	F3	HIGH TEMPERATURE DISCHARGE PIPE CONTROL
	F6	HIGH PRESSURE CONTROL (IN COOLING)
	H0	SENSOR FAULT
	H6	OPERATION HALT DUE TO FAULTY POSITION DETECTION SENSOR
	H8	DC CURRENT SENSOR FAULT
	H9	FAULTY SUCTION AIR TEMPERATURE SENSOR
	J3	FAULTY DISCHARGE PIPE TEMPERATURE SENSOR
	J6	FAULTY HEAT EXCHANGER TEMPERATURE SENSOR
	L3	ELECTRICAL PARTS HEAT FAULT
	L4	HIGH TEMPERATURE AT INVERTER CIRCUIT HEATSINK
	L5	OUTPUT OVERCURRENT
	P4	FAULTY INVERTER CIRCUIT HEATSINK TEMPERATURE SENSOR

NOTE

- A short beep and two consecutive beeps indicate non-corresponding codes.
- To cancel the code display, hold CANCEL for 5 seconds. The code display also cancel itself if the button is not pressed for 1 minute.

Quick Reference



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14. Optional Accessories

14.1 Option List

14.1.1 Indoor Unit

Single Split Duct-Free System

	Option Name		09/12/15/18/24 Class
1	Wired remote controller ★1		BRC944B2
2	Wired remote controller cord	Length 3 m (shielded wire)	BRCW901A03
		Length 8 m (shielded wire)	BRCW901A08
3	Centralized Control Board-up to 5 Rooms ★2		KRC72
4	Wiring Adaptor for Timer Clock / Remote Controller ★3 (Normal Open Pulse Contact / Normal Open Contact)		KRP413AB1S
5	Central Remote Controller ★4		DCS302C71
6	Unified ON/OFF Controller ★4		DCS301C71
7	Schedule Timer ★4		DST301BA61
8	Interface Adaptor for DIII-NET (Residential Air Conditioner)		KRP928BB2S
9	Titanium Apatite Photocatalytic Air-purifying Filter (without Frame) ★5		KAF970A46
10	Remote Controller Loss Prevention with Chain		KKF910A4

Notes:

★1 3 m (BRCW901A03) or 8 m (BRCW901A08) length wired remote controller cord is necessary.

★2 A wiring adaptor (KRP413AB1S) is also required for each indoor unit.

★3 Timer clock and other devices ; obtained locally.

★4 An interface adaptor (KRP928BB2S) is also required for each indoor unit.

★5 Standard accessory

Slim Duct Built-in System

	Option Name		09/12 Class
1	Wired remote controller ★1		BRC944B2
2	Wired remote controller cord	Length 3 m (shielded wire)	BRCW901A03
		Length 8 m (shielded wire)	BRCW901A08
3	Centralized Control Board-up to 5 Rooms ★2		KRC72
4	Wiring Adaptor for Timer Clock / Remote Controller ★3 (Normal Open Pulse Contact / Normal Open Contact)		KRP413AB1S
5	Central Remote Controller ★4		DCS302C71
6	Unified ON/OFF Controller ★4		DCS301C71
7	Schedule Timer ★4		DST301BA61
8	Interface Adaptor for DIII-NET (Residential Air Conditioner)		KRP928BB2S
9	Suction Grille		KDGF19A45
10	Insulation Kit for High Humidity		KDT25N32
11	Remote Controller Loss Prevention with Chain		KKF910A4

Notes:

★1 3 m (BRCW901A03) or 8 m (BRCW901A08) length wired remote controller cord is necessary.

★2 A wiring adaptor (KRP413AB1S) is also required for each indoor unit.

★3 Timer clock and other devices ; obtained locally.

★4 An interface adaptor (KRP928BB2S) is also required for each indoor unit.

14.1.2 Outdoor Unit

	Option Name	09/12 Class	15/18 Class	24 Class
1	Air Direction Adjustment Grille	KPW937A4	KPW945A4	
2	Drain Plug	KKP937A4		KKP945A4

14.2 <BRC944B2> Wired Remote Controller

14.2.1 Installation Manual

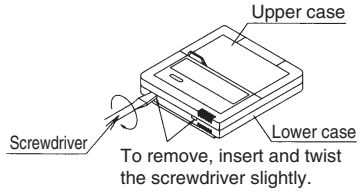
⚠ CAUTION

1. No switch box or staple is supplied. Prepare them locally.
2. No remote controller cord is supplied. Prepare the optional remote controller cord 4 wire.
3. Be sure to turn off the power to any apparatus connected prior to mounting.
4. Prior to mounting equipment, touch something metallic such as a doorknob to remove static electricity from your body. Never touch the remote controller board or the adapter board.
5. Keep the wiring away from any other power source lines to avoid electric noise (external noise).
6. Select a flat surface, wherever possible, to mount the remote controller. To prevent deformation of the cases, do not overtighten the mounting screws.

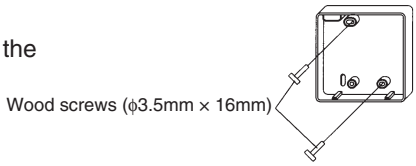
1. Securing the remote controller lower case

Insert a bladed screwdriver into the concave (凹) in the remote controller lower case to remove the upper case assembly (two locations).

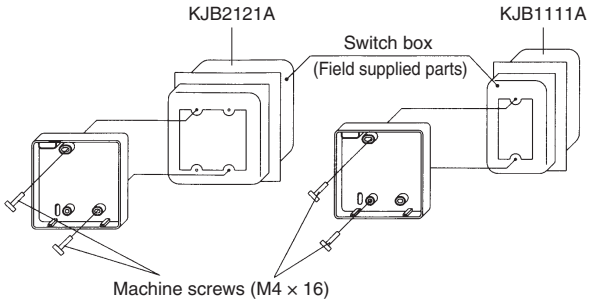
The remote controller board is located on the upper case. Take care not to scratch the board with the screwdriver.



(1) Exposed mounting
Secure the remote controller lower case with the two supplied wood screws.



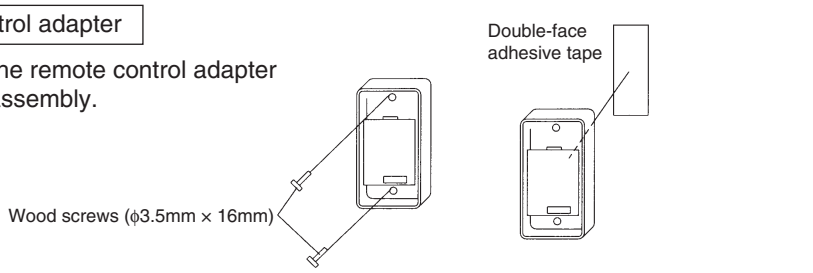
(2) Embedded mounting
Secure the remote controller lower case with the two supplied machine screws.



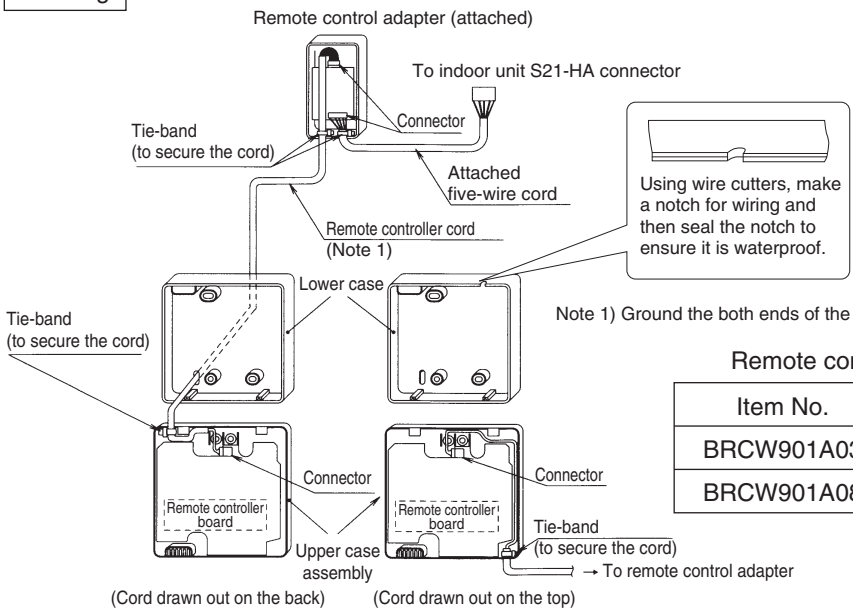
For the field supplied switch box, use optional accessories KJB1111A or KJB2121A.

2. Securing the remote control adapter

Remove the upper case of the remote control adapter and secure the lower case assembly.



3. Wiring

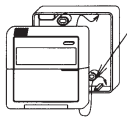


Note 1) Ground the both ends of the shielded wire.

Remote controller cord 4 wire

Item No.	Length
BRCW901A03	Approx. 3m (10ft)
BRCW901A08	Approx. 8m (26ft)

4. Placing the upper case assembly of the remote controller and the upper case of the remote controller adapter back into their original positions



During mounting of the remote controller cord, be careful not to pinch or otherwise damage the wires. (Remote controller cord 4 wire)

5. Temperature indication change

To change from Celsius temperature indication to Fahrenheit one

Press and hold down ▲ ①TEMP ▼ at the same time for 5 seconds while the Celsius temperature is indicated.

← See Operation Manual

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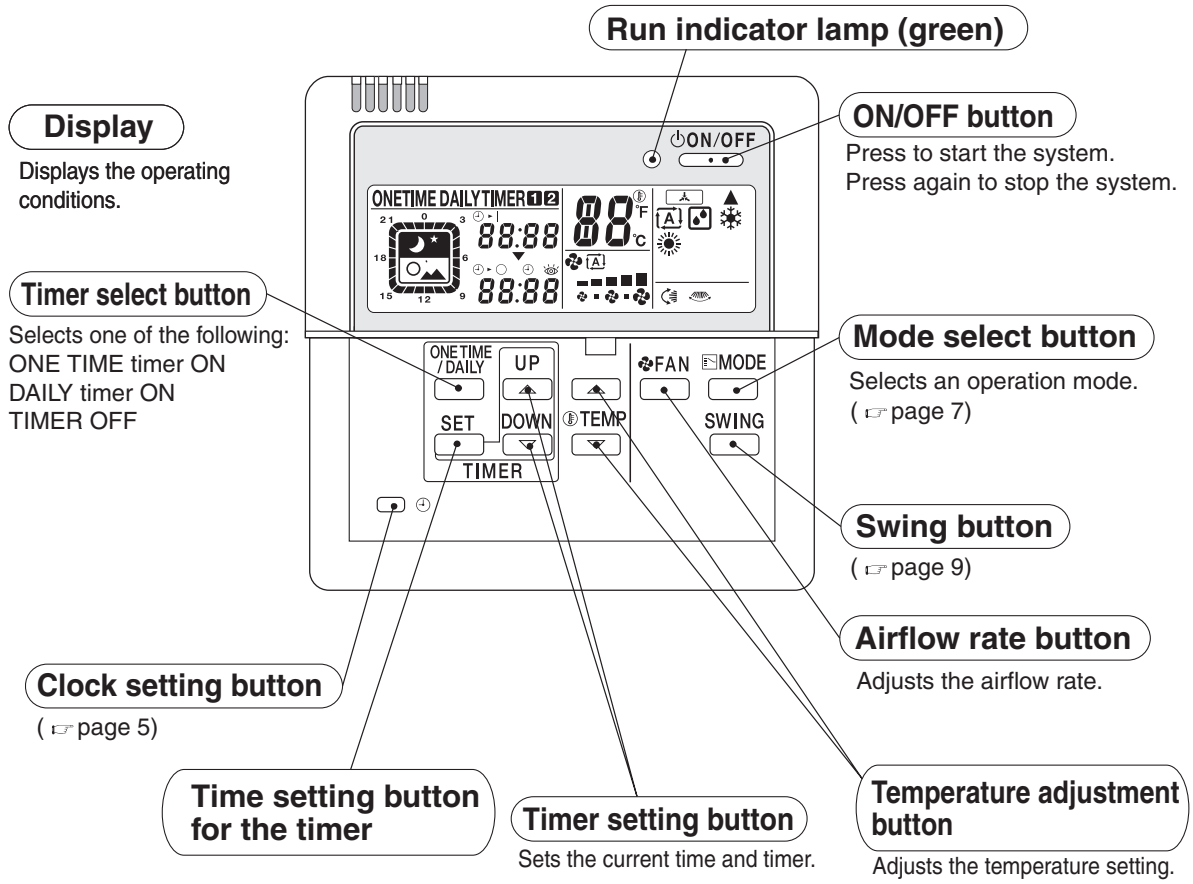
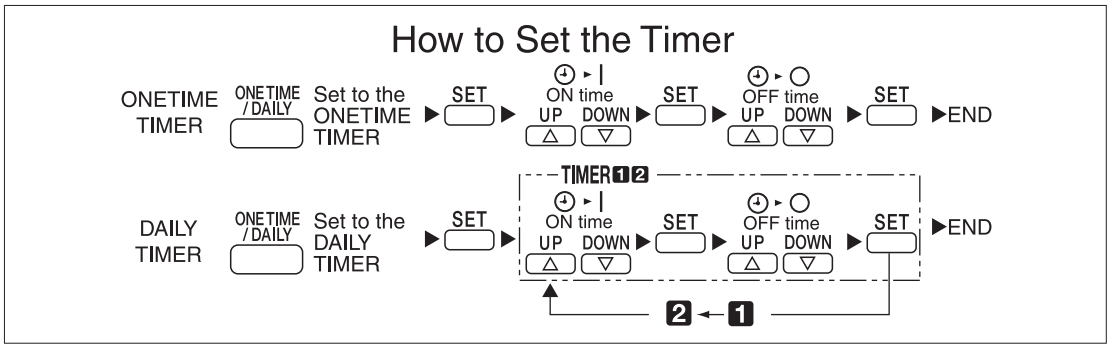
14.2.2 Operation Manual

Controller Commands and their Corresponding Functions





⚠ CAUTION

- This remote controller cannot be used together with a standard wireless remote controller. Otherwise, what appears on this remote controller's display may fail to correspond to actual operating conditions.

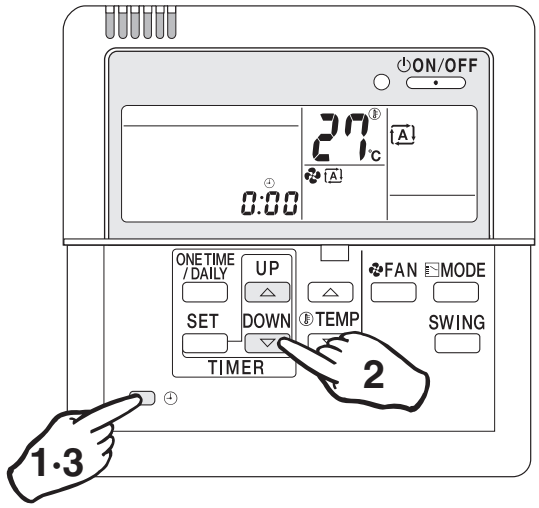
4

Preparation before Operation

■ Checking the power

If nothing appears on the remote controller's display, turn on the circuit breaker.

■ Setting the current time



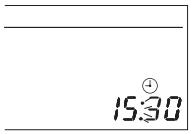
1 Press ⏲.

The current time starts blinking.
0:00 lights up.

2 Press UP / DOWN and set the current time.

- Hold the button down to rapidly advance the time.

3 Press ⏲.



: blinks.
(This completes the current time setting)

- The clock's accuracy is ±30 seconds per month.

Notes

To use the unit efficiently

- Avoid overcooling or overheating. Moderate room temperature setting contributes to power saving.

  Recommended temperature setting
  For cooling ····· 26~28˚C (79˚F~82˚F)
  For heating ····· 20~22˚C (68˚F~72˚F)

- Hang a blind or a curtain on the window. This will enhance the cooling/heating effect by intercepting direct sunlight and drafts.
- A clogged air filter reduces the cooling/heating effect and wastes energy. Clean the air filter monthly (every two weeks as required) or so.

Please take note of the following points

- Electric power is consumed even when the air conditioner is not in operation.
- When the unit is not used for a long period of time such as during off-season, turn off the breaker.

Operating conditions

- If the operation is continued under any conditions other than the following, the safety device may work to stop the operation. Also, dew may form on the indoor unit and drip from it. (Cooling/DRY)

Cooling	Outdoor temp. Room temp. Indoor humidity	-10 to 46˚C (14˚F to 115˚F) 18 to 32˚C (64˚F to 90˚F) Less than 80%
DRY	Outdoor temp. Room temp. Indoor humidity	-10 to 46˚C (14˚F to 115˚F) 18 to 32˚C (64˚F to 90˚F) Less than 80%
Heating	Outdoor temp. Room temp.	-15 to 20˚C (5˚F to 68˚F) Less than 27˚C

- Operation limit differ according to the model.

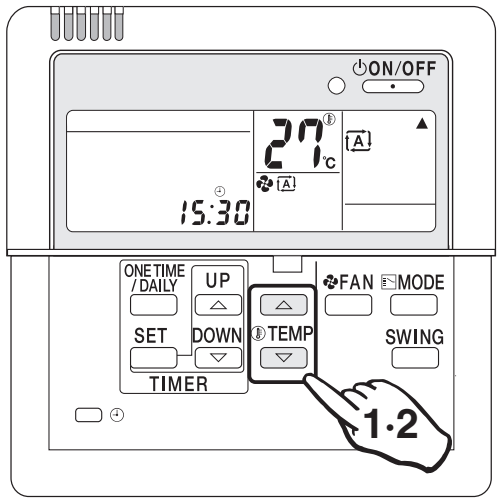
Preparation before Operation

■ Setting Temperature Indication change

Temperature indication can be changed between Celsius and Fahrenheit before use.

To change from Celsius temperature indication to Fahrenheit one

1 Press and hold down ▲TEMP▼ at the same time for 5 seconds while the Celsius temperature is indicated.



To change from Fahrenheit temperature indication to Celsius one

2 Press and hold down ▲TEMP▼ at the same time for 5 seconds while the Fahrenheit temperature is indicated.

Notes

■ **Temperature indication change between Celsius and Fahrenheit on the remote controller**

- Change the temperature indication in the modes other than the DRY mode.
  In the DRY mode, temperature indication setting cannot be changed because the temperature is not indicated.
- When the Fahrenheit temperature indication is changed to Celsius one, the temperature value (0.5˚C) will be rounded up. Thus, the preset temperature may be changed.

Example:

A preset temperature of 65˚F (equivalent to 18.5˚C) will be changed to 19˚C (66˚F) by changing the temperature indication. In this case, if you change the Celsius temperature indication again to the Fahrenheit one, the preset temperature is shown not as 65˚F but as 66˚F (equivalent to 19˚C). If the preset temperature is 66˚F (equivalent to 19˚C) and is changed to the Celsius temperature indication, the indication becomes 19˚C (66˚F). In this case, no change by the temperature indication change is observed.

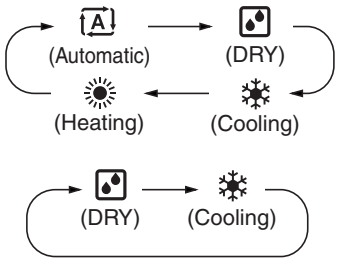
- When the temperature indication change is set, the preset temperature is transmitted to the indoor unit so that the reception sound will be heard from the indoor unit.

Automatic·DRY·Cooling·Heating Operation

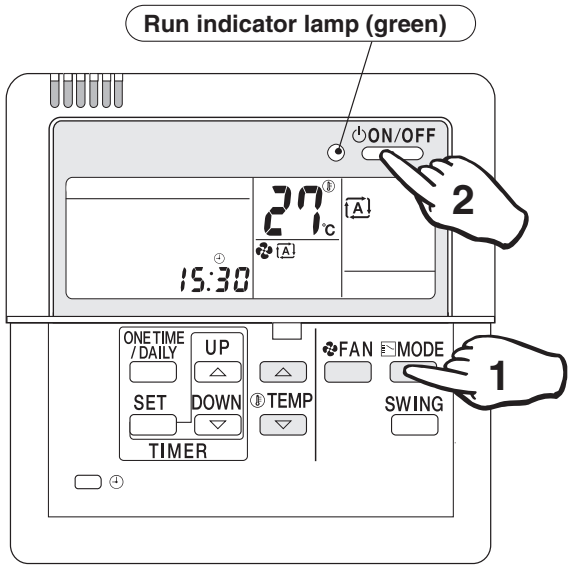
Select your desired operation mode.
Once preset, the system can get restarted in the same operation mode.

1 Press MODE to select your desired operation mode.

- Each time the button is pressed, the mode changes as follows.



- The system does not have the FAN mode.



2 Press ON/OFF .

The run indicator lamp lights up.

■ To stop the operation:

Press ON/OFF again.

The run indicator lamp goes out.

Automatic operation

- In Automatic, the temperature setting and operation mode (DRY, Cooling or Heating) are automatically selected according to the room temperature and outdoor temperature at the time of starting operation.

DRY operation

- In this mode, humidity is removed from the air.

Note

- While running in the DRY mode, you may feel cool or warm air from the air outlet. In this case, readjust the airflow direction with the vertical airflow direction louvers. (except Duct Connected type)

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■ To adjust the temperature and airflow rate:

Setting to be adjusted \ Operation mode	Automatic	Cooling	Heating	DRY
▵ TEMP ▿ (Temperature)	Temperature is adjustable. Recommended temperature: Cooling : 26˚C-28˚C (79˚F~82˚F) Heating : 20˚C-22˚C (68˚F~72˚F)			Temperature cannot be adjusted.
FAN (Airflow rate)	Five levels of airflow rate setting from " " to " " plus " A " are available. 			Airflow rate cannot be adjusted.

- When the unit runs in the cooling or heating mode at a low airflow rate, the cooling or heating effect may be insufficient.

■ To adjust the airflow direction:

(☞ page 9)

Heating operation

- Since the heating operation is performed by taking the heat from outdoor into the room, the heating capacity decreases as the outdoor temperature lowers. If the room is not heated sufficiently, it is recommended to use other heating appliance at the same time.
- Since the air conditioner heats the whole room by circulating hot air, it takes some time to heat the entire room completely.
- If the outdoor unit gets frosted during heating operation, the heating capacity is decreased. In this case, the unit starts defrosting operation.
- No hot air comes out of the indoor unit during defrosting operation.

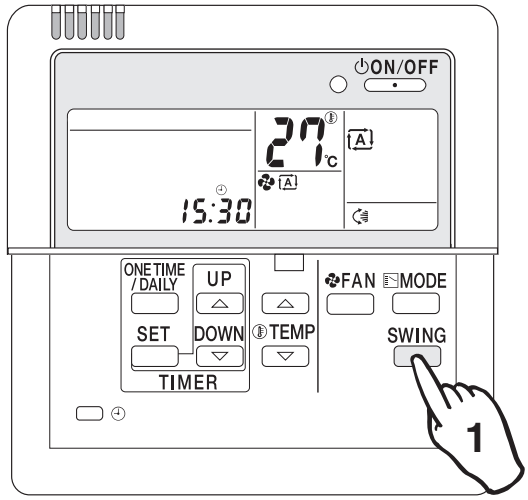
Adjusting Airflow Direction

Adjust the airflow direction for maximum comfort.

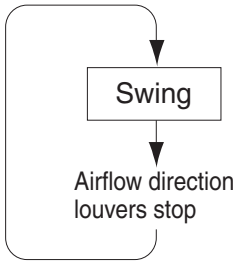
To adjust the Airflow Direction

1 Press SWING during operation.

- Each time the button is pressed, the airflow direction louvers change their movement.



■ Wall Mounted Types (without horizontal swing function)



The horizontal airflow direction louvers move up and down.

The louvers stop just when the button is pressed.

Adjustment of horizontal airflow direction

- The automatic moving range of the horizontal airflow direction louvers varies depending on the operation mode.

Notes

- In fixing the horizontal airflow direction, keep the horizontal airflow direction louvers tilted downward in the heating mode, and keep them nearly horizontal level in the cooling or DRY mode. This will enhance the cooling and heating effect.
- On the air conditioners with vertical and horizontal swing function, be sure to adjust the airflow directions using the remote controller. Do not forcibly adjust louvers by hand or a malfunction may occur.

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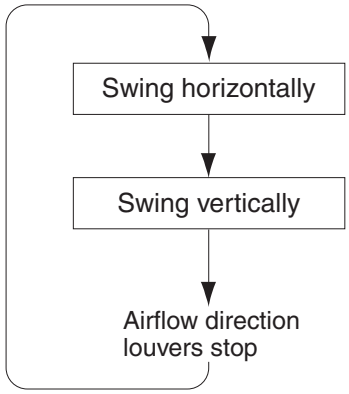
■ Wall Mounted Type (with horizontal swing function)



The horizontal airflow direction louvers move up and down.

The horizontal airflow direction louvers stop just when the button is pressed. Then the vertical ones start moving right and left.

The vertical airflow direction louvers stop just when the button is pressed.

- The vertical and horizontal louvers cannot move at the same time.

■ Duct Connected Type (without swing function)

This function cannot be used.

Note

- The operating procedure and remote controller display are different depending on the indoor unit being connected.
  Read **How to Adjust the Airflow Direction** in the air conditioner's Operation Manual.

10

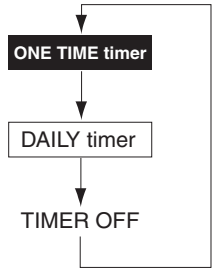
Timer Operation

The Timer Operation feature automatically turns off operation when you go to sleep and turns it back on when you wake up.
Use the DAILY Timer mode on weekdays, and the ONE TIME timer mode on weekends.

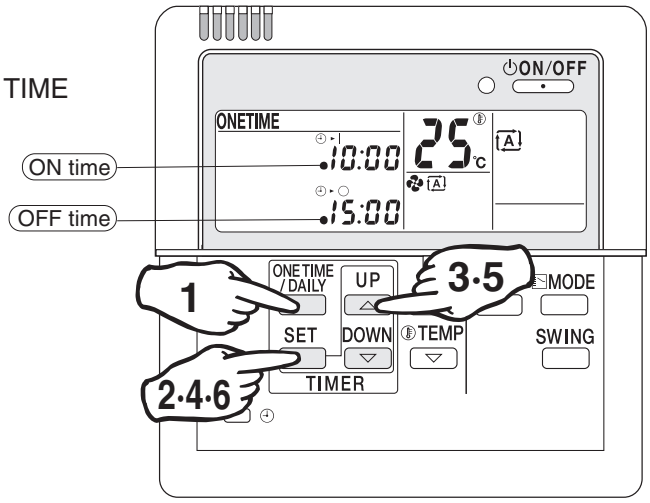
■ To select the ONE TIME timer mode:

1 Press ONE TIME / DAILY to select the ONE TIME timer mode.

- Each time the button is pressed, the modes change as follows.



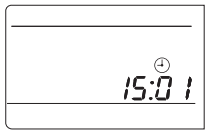
The timer lamp lights up.



(Timer settings displayed)

■ To cancel the timer settings:

1 Press ONE TIME / DAILY to clear the timer settings.



The ONE TIME or DAILY TIMER disappears from the display, and the timer lamp goes out too.

Notes

- Even when the timer has been off, its programmed settings are still in memory.
- If the system has the timer control ON but you start and stop it manually using the ON/OFF button before the designated ON time, the system will restart again at the programmed ON time.

Precautions in setting the timer

- Before starting the timer operation, make sure the current time is correct. If not, set the clock correctly. (☞ page 5)
- In making time settings, --:-- is displayed to make it easy to disable the timer too.
- If one minute has passed before making any timer setting, the previous timer settings are reintroduced and the timer is on standby.

  In this case, use the SET (time setting) button and make your desired timer settings.

Timer operation

- When the ON timer is programmed, the system starts one hour (maximum) earlier so that the temperature set by the remote controller is reached just in time.
- When the ONE TIME timer is programmed, the current time is no longer displayed.

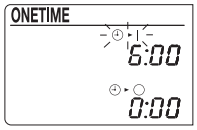
■ ONE TIME timer

Once the timer has been activated and then deactivated, it is in the OFF mode.
The ON or OFF timers can be programmed.

1 Press ONE TIME / DAILY to select the ONE TIME timer.

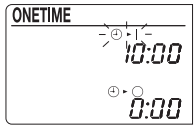
ONE TIME 6:00 light up.
0:00

2 Press SET .



blinks.

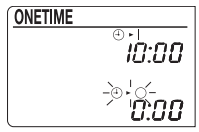
3 Press UP / DOWN to make the ON timer setting.



When the ON timer is not used, save the setting as – –:– –

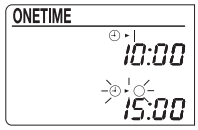
- Each time the button is pressed, the setting changes in a 10-minute increment or decrement. Hold the button down to advance quickly.

4 Press SET .



blinks.

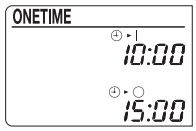
5 Press UP / DOWN to make the OFF timer setting.



When the OFF timer is not used, save the setting as – –:– –.

6 Press SET .

(The ONE TIME timer is now programmed.)



Both of the ON and OFF time cannot be set as – –:– –

Example of display with the ONE TIME timer programmed

ONE TIME timer programmed. (The set time is displayed.)
ON timer activated and system starts. (The ON timer setting no longer displays.)
OFF timer activated, and system stops. (The timer setting no longer displays.)

Notes

■ In the following cases, reset the clock (the time setting is kept in the memory).

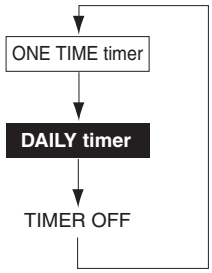
- The circuit breaker has been activated.
- The power fails.

Timer Operation

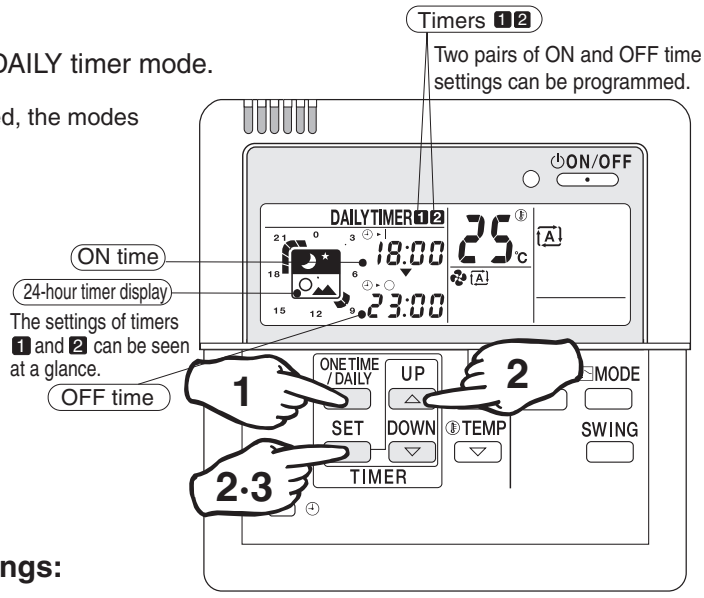
■ To select the DAILY timer mode:

1 Press ONE TIME / DAILY to select the DAILY timer mode.

● Each time the button is pressed, the modes change as follows.



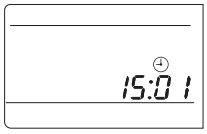
The timer lamp lights up.



(Timer settings displayed)

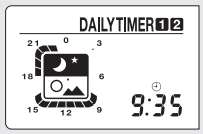
■ To cancel the timer settings:

1 Press ONE TIME / DAILY to clear the timer settings.

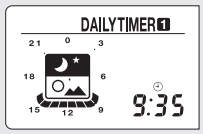


The ONE TIME or DAILY TIMER, and the timer lamp are no longer displayed.

Example of display with DAILY timer programmed



Timers 1 and 2 programmed.



Timer 1 alone programmed.

Note

● The system starts and stops repeatedly until the DAILY timer is set off. Before you leave home for a long time, set the DAILY timer off.

13

■ DAILY timer

After programming, the system starts and stops each day at the preset times. Two pairs of time settings can be programmed.

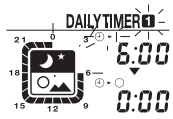
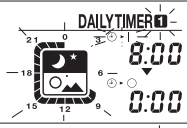
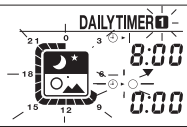
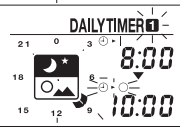
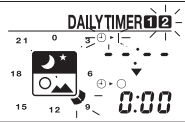
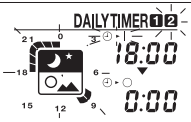
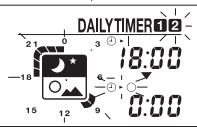
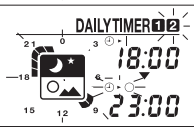
(Example: 8:00 ~ 10:00, and 18:00 ~ 23:00)

1 Press ONE TIME / DAILY to select the DAILY timer.

DAILY timer indication appears.
lights up.

2 Make the ON and OFF time settings. ● Take the steps from ① to ⑧.

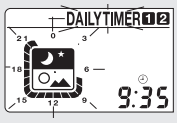
Program example: 8:00 ~ 10:00, and 18:00 ~ 23:00

Settings \ Procedure		Press SET	Press UP / DOWN to make the timer setting.
Timer 1	ON time setting ● When the timer 1 is not used, save the setting as --:--	① 	② 
	OFF time setting	③ 	④ 
Timer 2	ON time setting ● When the timer 2 is not used, save the setting as --:--	⑤ 	⑥ 
	OFF time setting	⑦ 	⑧ 

3 Press SET . The DAILY timer is now programmed.

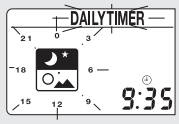
Note

● If the following appears on the display, the timer must be reprogrammed.



The 24-hour timer display is blinking.

This means that Timers 1 and 2 are programmed for the same time settings. New time settings must be made.



The 24-hour timer display is blinking.

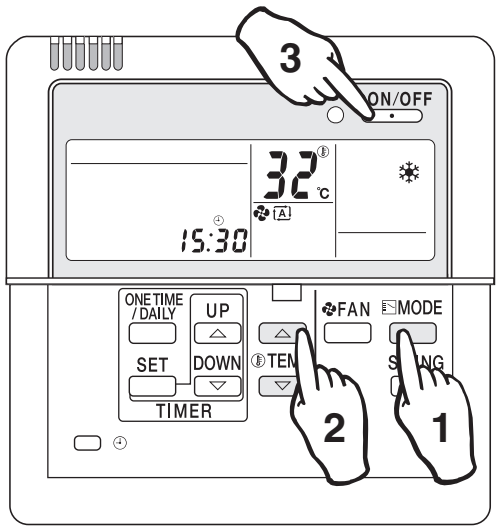
This means that the timer has not been programmed yet.

Cleaning

Cleaning the remote controller

- Wipe it clean with soft, dry cloth.
  Do not use any water hotter than 40˚C (104˚F), or volatile liquids such as benzine, gasoline and thinner, polishing powder, or anything hard such as a scrub brush.

When the unit is not used for a long time



① On a sunny day, keep the system running for half a day in the FAN mode to dry it up inside.

FAN mode

1 Press MODE to select the cooling mode.

2 Press TEMP to adjust the set temperature to 32˚C (90˚F).

3 Press ON/OFF .

- The airflow rate remains the same, and is not adjustable.
- Run the system when the room temperature is below 28˚C (82˚F).

② Finally turn off the circuit breaker dedicated for the room air conditioner.

③ Clean the air filter and place it back into position.

14.3 <KRP413AB1S> Wiring Adaptor for Timer Clock / Remote Controller

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	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.

- 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 professional.
- 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. Use a vinyl-covered wire or cable with four conductors each with a thickness of 0.2 to 1.25 mm².

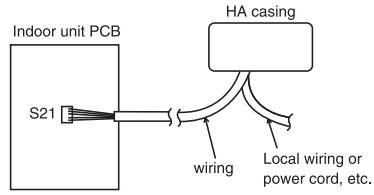
■ **Optional cable KDC100A12 (without connectors)**

Specifications: 0.2 mm² × 4 core (sheathed)
Outer diameter: ϕ5.3
Length: 100 m
Colour: Grey

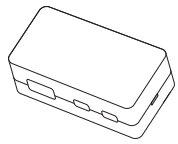
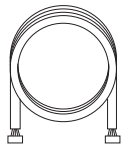
Note : Keep any wiring for the control unit away from the power cord to prevent electrical noise.

Installation ①

1 Installation diagram



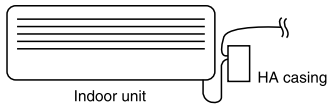
2 Components

①HA casing ASSY (Remote Control PCB is attached in the HA casing.) 	②Wiring (approx. 0.8 m) 
③Accessories Binding band (6 pcs.) ・Screws for attaching to the wall (3 pcs.)	
④Installation manual	

Installation ②

Attaching HA Case ASSY

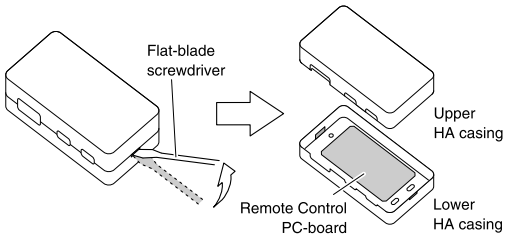
● Use the 3 supplied screws to attach the HA casing ASSY.



Install the HA casing ASSY as close to the indoor unit as possible.

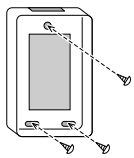
① Removal of upper HA casing

(1) Insert a flat-blade screwdriver into the groove between the upper and lower HA casings.



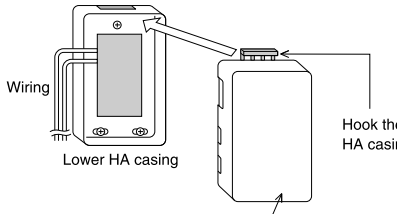
(2) Lift the handle of the screwdriver upward.

② Mount and secure the lower HA casing directly on the wall with the provided screws inserted into the screw holes (a round hole and two ellipse holes) of the casing.



NOTE	Mount the HA casing in a direction where the wiring through-holes will be hidden in order to prevent infants from putting their fingers into the HA casing and the LED light on the internal PC-board from leaking outside.

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



Press the lower part of the upper HA casing and press fit it onto the lower HA casing.
Press the upper HA casing precisely until a clicking sound is heard.

Wiring ①

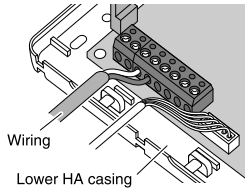
1. Wiring

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

1 Securing wires in the HA casing ASSY

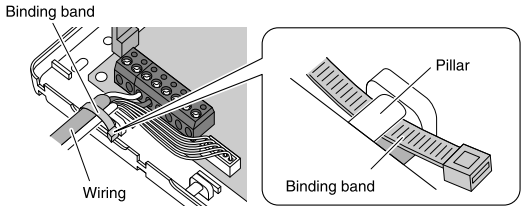
① Connection of wiring

Connect the wiring to the connector terminals.

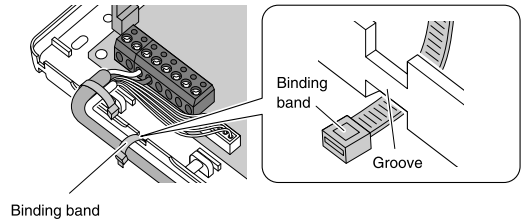


② Fixation of wiring

(1) Insert the provided binding band under the pillar of the HA casing and secure the covers of the wiring with the binding band.



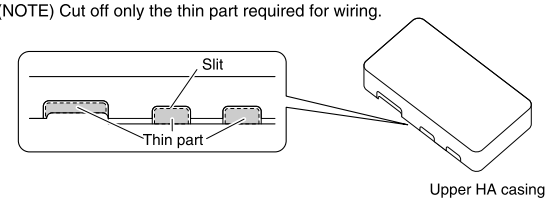
(2) Insert the second binding band into the groove on the side of the HA casing and fix the wiring securely so that the wiring will not be disconnected.



A large number of wires

Make a slit with an appropriate tool, such as a cutter knife, on the thin part of the upper HA casing along the frame. Then cut the part with an appropriate tool, such as a pair of nippers.

(NOTE) Cut off only the thin part required for wiring.



2 Securing wires in the indoor unit

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

Wiring ②

2. Automatic Reset After Power Failure

● This PCB stores the following data in the event of a power failure (the storage period is limitless).
①On/Off (see Note 1) ②Operation modes (see Note 2) ③Temperature setting
④Air flow rate ⑤On/Off status of remote controller
(Note 1 When SW1-2 is in Off mode, the unit will not be activated.)
(Note 2 The following settings apply to the models below.)

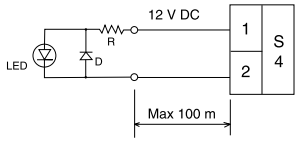
Mode before the power outage / Room air conditioner	COOLING	HEATING
Models with Humid heating and Reheating dehumidifying functions.	DRY COOLING	HUMID HEATING
Models with Reheating dehumidifying function.		HEATING

(Note 3 Not all settings will be saved (e.g., humidity or swing settings will not be saved)).

3. Monitor Signal Output (normal operation and malfunction)

● Maximum length of the wiring is 100 m. No external power supply is required.

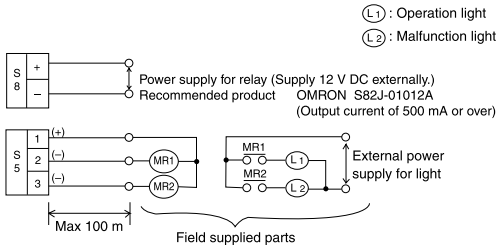
1 Monitor signal output for LED



■ **Locally procured parts**

Item	Manufacturer	Type
LED	Rohm	SLR-342
D	Rohm	1SS133
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%
Panasonic	HC relay	12 V DC	160 ohm ± 10%

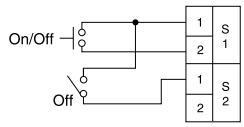
4. Connection with Remote Controller

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

1 Remote control with switch (field supply)

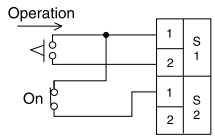
● Set SW1-1 to Off and select Operation Mode 1.

<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.

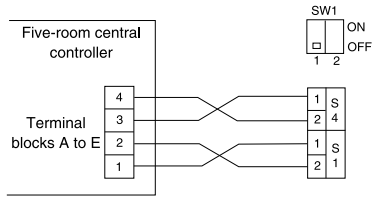
<Normal Contact>



● Power On/Off cannot be controlled from the unit's remote controller. (Three beeps for signal reception will be heard continuously when the wireless remote controller is operated.)
● 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.

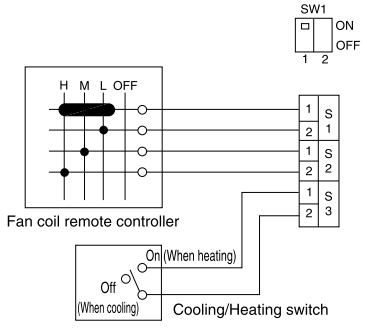
2 Five-room central controller (KRC72)

● 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.

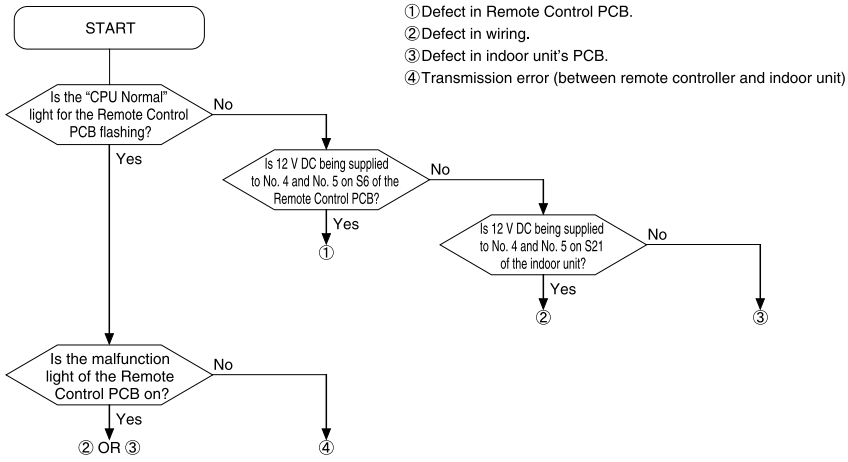


Test Operation and Confirmation

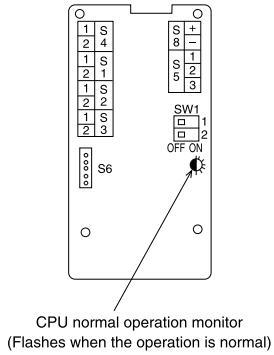
1. When the System is Not Working

□ 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



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 (12 V DC), 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 12 V DC power supply terminal (Field supplied parts)			

3P248024-2

14.4 <KRP928BB2S> Interface Adaptor for DIII-NET (Residential Air Conditioner)

Safety Precautions

- Read these Safety Precautions carefully to ensure correct installation.
  This manual classifies precautions into WARNING and CAUTION.

  ⚠ **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.

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

- **A ground fault circuit interrupter/earth leakage circuit breaker must 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 (12 V DC) is needed.
2. A separate timer power source (16 V DC) 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.

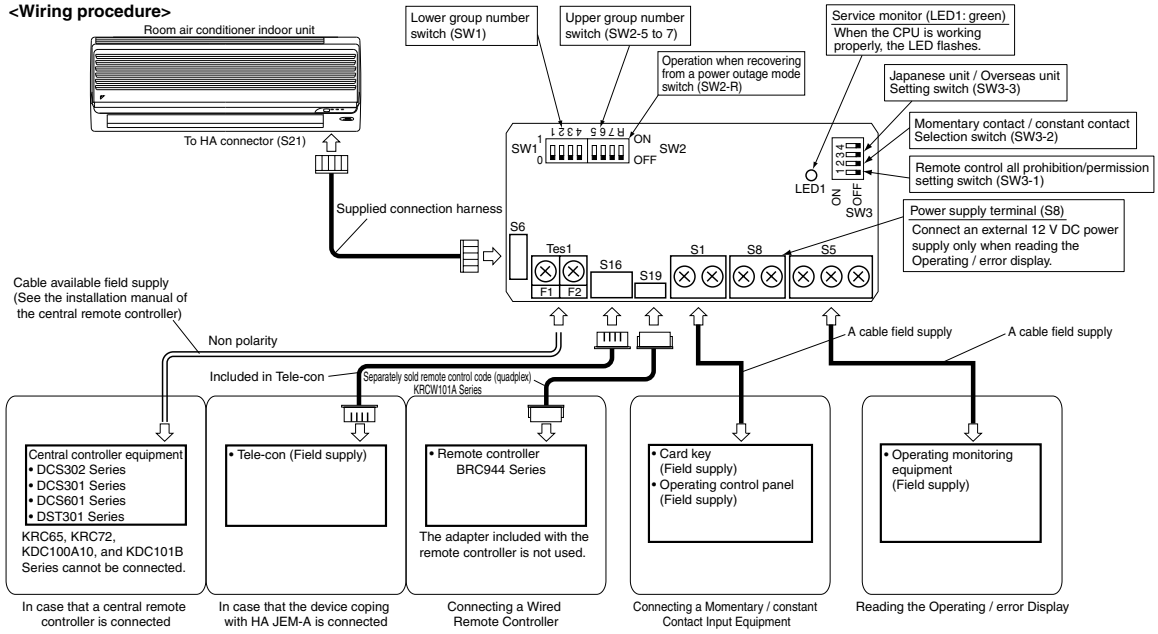
2.Component Parts

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. 	1	Connection harness (about 1.6m)	1set
		Mounting screws	3pcs.
		Binding band	6pc.
		Installation manual	2set

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 25°C. Even if the temperature is changed, it will return to 25°C after a while.
Overseas	ON	• "Automatic" operation is available from the central controller.

(2) Group number settings (SW1 and SW2-5 to SW2-7)
Set these when using the central controller. (Set to the ■side.) Do not set more than one unit to the same number.
Use SW2-R for (3) Settings when recovering from a power outage.

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.

Upper group NO.	Knob position	1—	2—	3—	4—	5—	6—	7—	8—
SW2 setting		OFF R 7 6 5	R 7 6 5	R 7 6 5	R 7 6 5	R 7 6 5	R 7 6 5	R 7 6 5	R 7 6 5

Lower group NO.	00	01	02	03	04	05	06	07
SW1 setting	OFF 4 3 2 1	4 3 2 1	4 3 2 1	4 3 2 1	4 3 2 1	4 3 2 1	4 3 2 1	4 3 2 1

Lower group NO.	08	09	10	11	12	13	14	15
SW1 setting	OFF 4 3 2 1	4 3 2 1	4 3 2 1	4 3 2 1	4 3 2 1	4 3 2 1	4 3 2 1	4 3 2 1

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

(3) Settings when recovering from a power outage (SW2-R)
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-R is on or off, the operating mode (NOTE), set temperature, fan direction and speed settings, and remote control prohibition status are stored.

SW2-R 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.

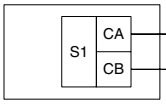
(NOTE) The following settings apply to the models below.

Mode before the power outage / Room air conditioner	COOLING	HEATING
Models with Humid heating and Reheating dehumidifying functions.	DRY COOLING	HUMID HEATING
Models with Reheating dehumidifying function.		HEATING

(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).
Remote control all prohibition/permission input	ON	Invalid	Contact - Open to close: air condition stops. Close to open: no change in operating status.	All remote controller actions are prohibited when the contact is closed. (NOTE 3)

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.
NOTE3: If the contact is closed while the ON timer is set, as the power ON timer function is still operating, the operation starts at the time specified by the timer. To prevent operation of the power ON timer, use of the ⟨KRP413AB1S⟩ remote control PC-board set is recommended. However, note that it cannot be used in tandem with the central controller.



Run / stop Input
Contact specs
No-voltage minute electric current contact
(Minimum applicable load 12 V DC, 1mA or lower)
Total wire length max: 100m

5.Control Codes

When using a central remote controller, the operating codes can be used to limit operation from wireless remote controllers. Three beeps for signal reception will be heard continuously when the wireless remote controller is operated while in central control.
○ : 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			○*				○		
All remote controller actions are prohibited			×	×	×	×	×	×	×	×	

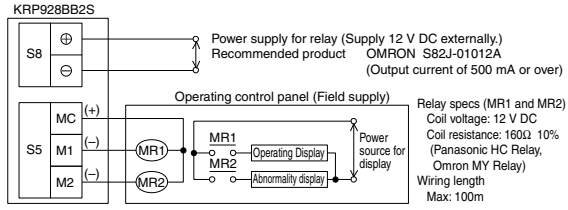
*Only during timer operation

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	×	×	×		
All remote controller actions are prohibited	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 KRP928BB2S 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.



7.Combining Equipment

The central controller can be combined with the following devices.

	Central Remote Controller	ON / OFF controller	Schedule timer	D-BIPS	Contact input	HA JEM-A-compatible equipment	Wired Remote Controller	Wireless Remote Controller
Central Remote Controller	○	○	○	○	○	○	○	○
ON / OFF controller	○	○	○	○	○	○	○	○
Schedule timer	○	○	×	×	○	○	○	○
D-BIPS	○	○	×	×	○	○	○	○
Contact input	○	○	○	○	×	○	○	○
HA JEM-A-compatible equipment	○	○	○	○	○	×	○	○
Wired Remote Controller	○	○	○	○	○	○	×	×
Wireless Remote Controller	○	○	○	○	○	○	×	○

3P248024-1A

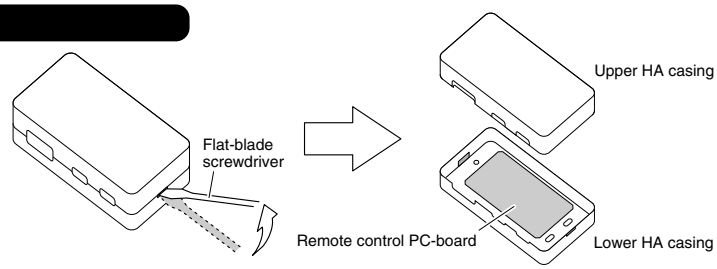
Connection to Remote Control PC-board

Connection to Remote Control PC-board

1. Removal of upper HA casing

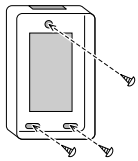
① Insert a flat-blade screwdriver into the groove between the upper and lower casings.

② Lift the handle of the screwdriver upward.



2. Securing of lower HA casing

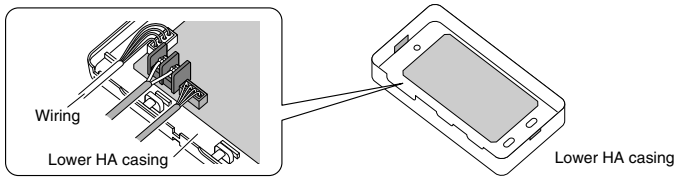
Mount and secure the lower HA casing directly on the wall with the provided screws inserted into the screw holes (a round hole and two ellipse holes) of the casing.



NOTE	Mount the HA casing in a direction where the wiring through-holes will be hidden in order to prevent infants from putting their fingers into the HA casing and the LED light on the internal PC board from leaking outside.

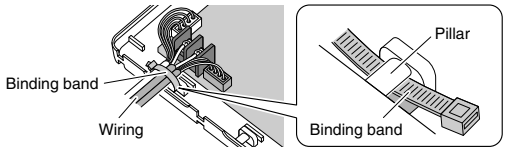
3. Connection of wiring

Connect the wiring to the connector terminals.

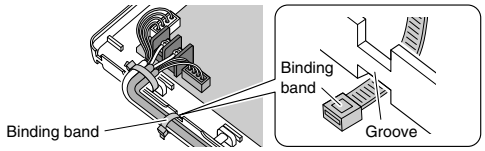


4. Fixation of wiring

① Insert the provided binding band under the pillar of the HA casing and secure the covers of the wiring with the binding band.



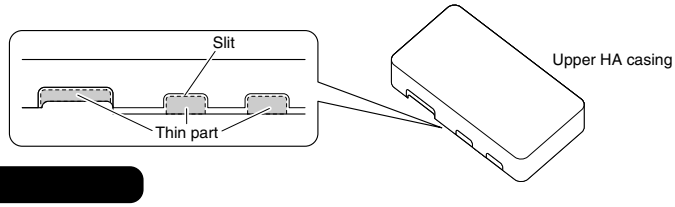
② Insert the second binding band into the groove on the side of the HA casing and fix the wiring securely so that the wiring will not be disconnected.



A large number of wires

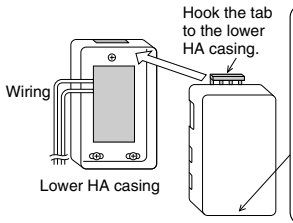
Make a slit with an appropriate tool, such as a cutter knife, on the thin part of the upper HA casing along the frame. Then cut the part with an appropriate tool, such as a pair of nippers.

(NOTE) Cut off only the thin part required for wiring.



5. Finishing

Mount the upper HA casing to the original position.



Press the lower part of the upper HA casing and press fit it onto the lower HA casing. Press the upper HA casing precisely until a clicking sound is heard.

Information	**When the contact input device (such as card keys) and central controller are used in tandem:** Even when the operating mode of the S1 pin is set to prohibit all remote controller actions, run/stop operation from the central controller or HA JEM-A-compatible devices is possible. The operation also starts when the power ON timer of the indoor unit is up while all remote controller actions are prohibited. In this case, stop the operation from the central controller. For the compatible models of the ⟨KRC944 series⟩ slim remote controller, the operation can be prohibited by using the remote controller in tandem with the central controller.

3P248024-3B

14.5 <KDT25N32> Insulation Kit for High Humidity

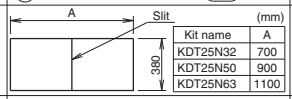
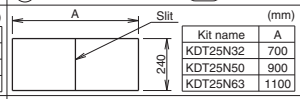
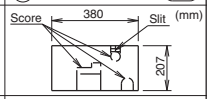
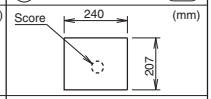
Caution

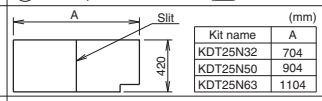
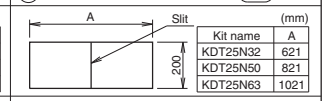
- This kit can be installed to the Ceiling mounted Built-in Type Air Conditioners.<Slim duct type>
- When the Installation box for adapter PCB(KPP1B101) is used together, mount this kit before Installation box.
- It is recommended to mount this kit before installing the indoor unit.

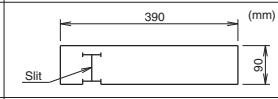
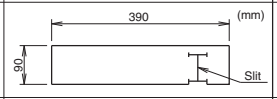
Combination table

Kit name		
KDT25N32	KDT25N50	KDT25N63
FDXS09/12LVJU		

Details of parts

Designation	① Top plate insulation (T-1)	② Top plate insulation (T-2)	③ Side plate insulation (S-1)	④ Side plate insulation (S-2)
Shape	 Kit name / A: KDT25N32 700; KDT25N50 900; KDT25N63 1100	 Kit name / A: KDT25N32 700; KDT25N50 900; KDT25N63 1100		
Number of pieces	1 pc.	1 pc.	2 pcs.	1 pc.

Designation	⑤ Bottom plate insulation (B-1)	⑥ Chamber cover insulation (C-1)
Shape	 Kit name / A: KDT25N32 704; KDT25N50 904; KDT25N63 1104	 Kit name / A: KDT25N32 621; KDT25N50 821; KDT25N63 1021
Number of pieces	1 pc.	1 pc.

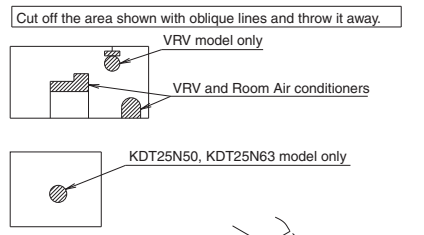
Designation	⑦ Hanger (right) insulation (H-1)	⑧ Hanger (left) insulation (H-2)	⑨ Installation manual
Shape			 (This instruction)
Number of pieces	1 pc.	1 pc.	1 pc.

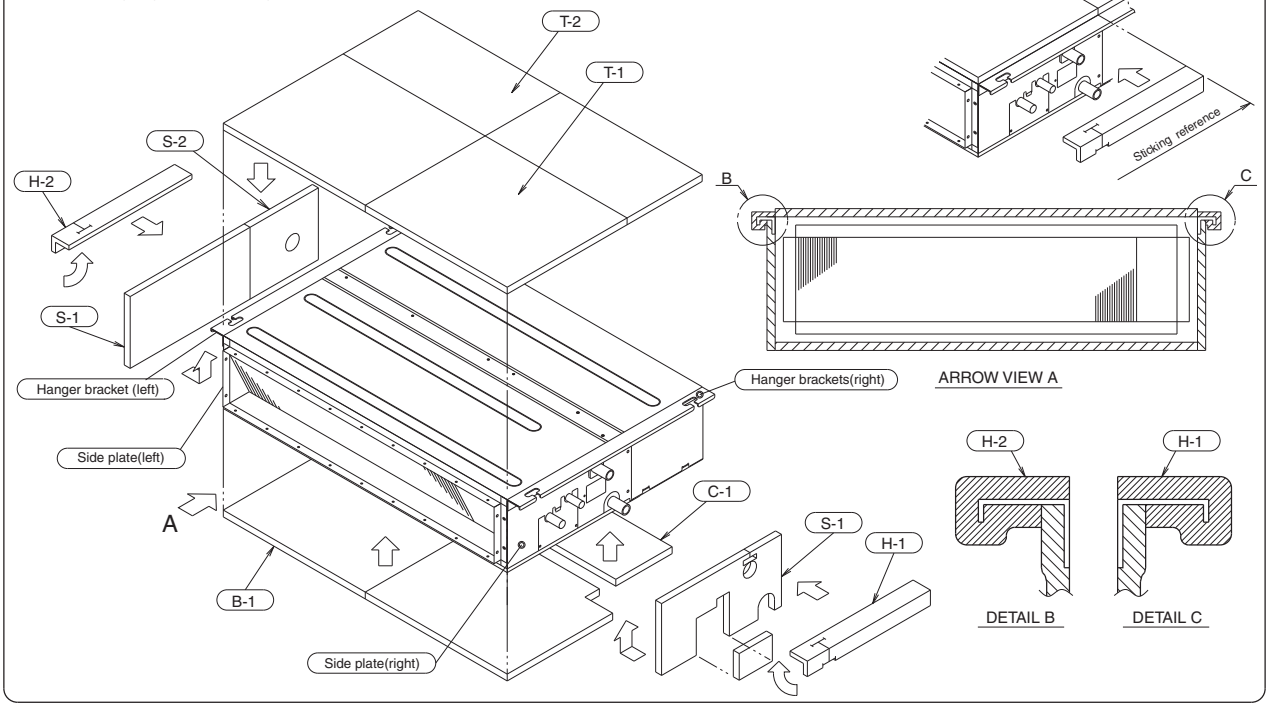
1 How to attach

<< ⚠ When moving the unit at or after opening,hold the unit by the hanger brackets. Do not apply force to the refrigernat piping, drain piping or flange parts. >>

<Procedure> Stick the insulations carefully according to the following procedures and do not make a gap betwween the adjacent thermal insulations.

(1) Stick the top plate insulation (T-1) , (T-2) to the indoor unit top plate.
(2) Cut off the side plate insulation (S-1) following the score.(See the right figure)
(3) Stick the side plate insulation (S-1) to the indoor unit right side plate.
(4) Stick the side plate insulation (S-1) to the indoor unit left side plate without cutting off the area surrounded by the score.
(5) Stick the side plate insulation (S-2) to the indoor unit left side plate.
(6) Stick the bottom plate insulation (B-1) to the indoor unit bottom plate.
(7) Stick the chamber cover insulation (C-1) to the indoor unit chamber cover.
(8) Stick the hanger (left) insulation (H-2) and the hanger (right) insulation (H-1) respectively to the left and right hangers respectively. (See the right figure for the sticking reference.)



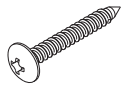
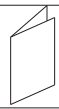


3P131323-1E

14.6 <KPW937A4> Air Direction Adjustment Grille

■ Before Installation

Component parts Be sure to check that the following parts are included before installation.

Name	① Air direction adjustment grille	② M4 x 20 Screw	③ Installation manual	④ Seal	⑤ Fixture
Shape					
Qty.	1 pc.	4 pcs.	One sheet (this sheet)	2 pcs.	2 pcs.

Selection of installation site

- Use the air direction adjustment grille for installation at a location that fits the following conditions.

1. When installing the outdoor unit near the neighboring house.
2. When changing the airflow direction to prevent exhaust blowing directly onto passersby or garden plants.

Cautions for usage

- Be sure to perform the following as installation precautions to ensure correct and safe use of the air direction adjustment grille.

1. Be sure to stop the operation before installation.
2. Avoid short-circuits during installation.
3. When using the unit in areas with snow, install the grille to create a left-right or downward airflow. Do not install the grille to create an upward airflow to prevent snow accumulating in the air outlet of the outdoor unit as this may damage the unit.
4. Be careful of foreign substances such as dead leaves, which may accumulate on the air outlet after installing the grille to create an upward airflow.
5. Do not use screws other than those provided. Tighten the screws securely without any looseness.

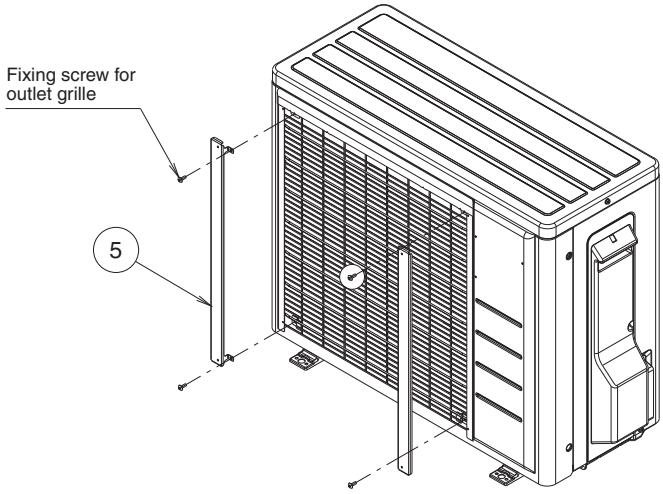
■ Installation Procedure

Installation of air direction adjustment grille

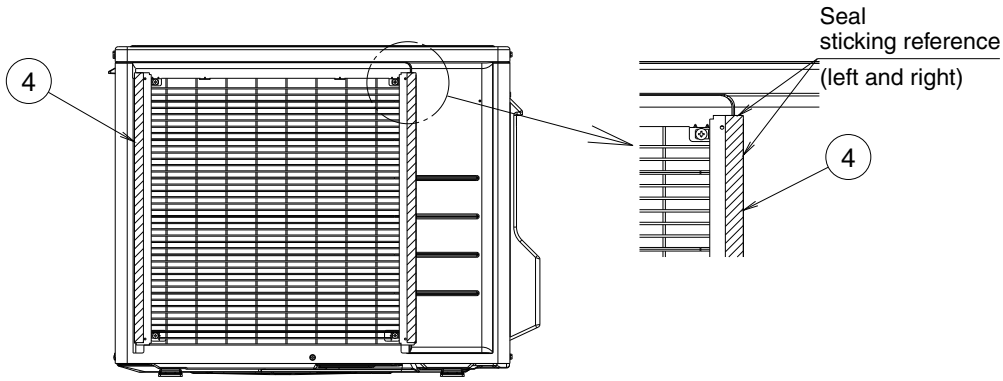
- Pitch of the installation screws for the air direction adjustment grille(①)is 434mm in the vertical and horizontal directions.
- Installation can be performed in 4 directions: top, bottom, left and right.
- Temporarily secure the air direction adjustment grille(①) using 4 screws(②),check the installation angle,and then tighten the screws.

I Attach fixtures(⑤) to the outdoor unit.

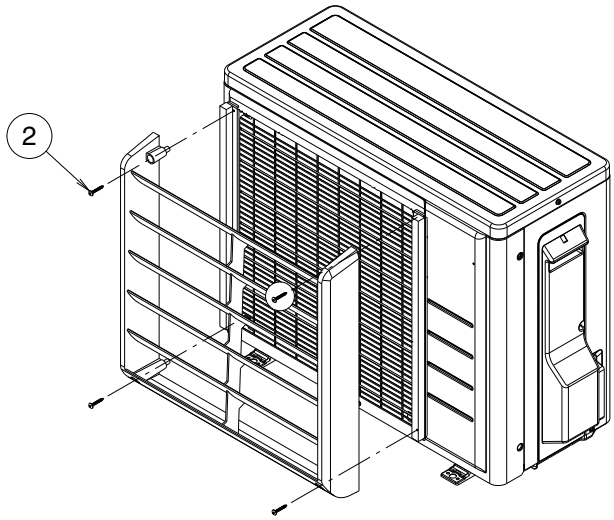
1. Remove 4 screws fixed to the outlet grille.
2. Screw the fixtures(⑤)to the outlet grille and the front panel by 4 screws that have been removed in step 1. Install them to the outdoor unit. (4 positions)



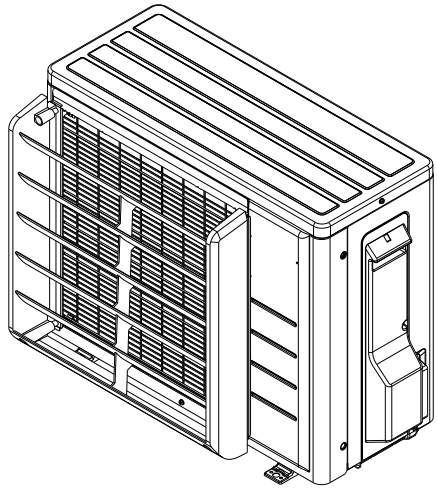
Ⅱ When only upward or downward outlet grille is installed
Stick seals(④) to the fixtures(⑤)that have been attached to the outdoor unit in step Ⅰ. (2 positions: left and right)



Ⅲ Install the air direction adjustment grille(①) by the 4 screws(②) to the prepared holes of the fixtures(⑤) that have been attached to the outdoor unit in step Ⅰ. (4 positions)



Ⅳ Finished air direction adjustment grille installation
(Installation of upward outlet grille)



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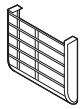
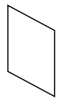
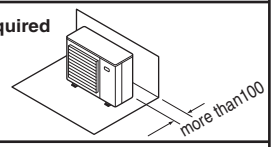
14.7 <KPW945A4> Air Direction Adjustment Grille

■ Before installation

Check the following parts

Name	Louver	Truss tapping screw	Installation manual
Shape			
Quantity	1piece	M4x4screws(max.7.5kW class) M5x4screws(8.0/9.0kW class)	1piece

■ Installation Procedure

Selection of Installation Location	Space Needed for Installation
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. ● If exhaust blows directly on vegetation	● **A minimum of 4"(100mm) is required between the back of the outdoor unit and any obstructions (walls, etc.)** 

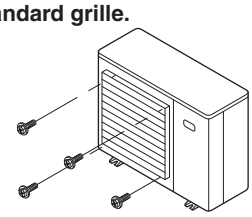
Installation of Louvers

⚠ Caution

Attach the louvers overlapping the standard grille.
Installing the louvers without the grille enables hands inside the fan area, which is dangerous, so be sure to install the standard grille.

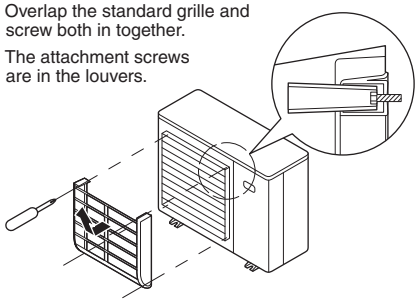
When pointing up

(1) Remove the 4 attachment screws from the standard grille.

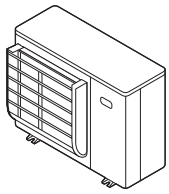


(2) Install the louver pointed up.

- Overlap the standard grille and screw both in together.
- The attachment screws are in the louvers.

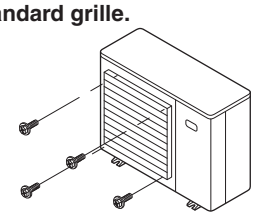


(3) Installation complete



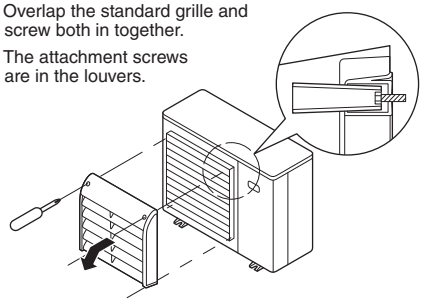
When pointing down

(1) Remove the 4 attachment screws from the standard grille.

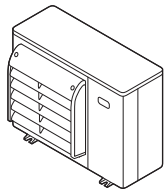


(2) Install the louver pointed down.

- Overlap the standard grille and screw both in together.
- The attachment screws are in the louvers.



(3) Installation complete



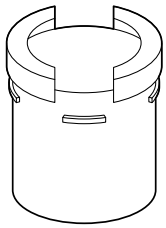
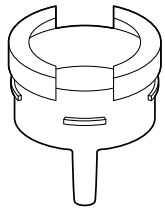
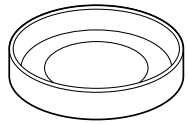
3P089958-2C

14.8 <KKP945A4> Drain Plug

- Use this socket to connect a drain hose to dispose the drain from the outdoor unit.

Before Installation

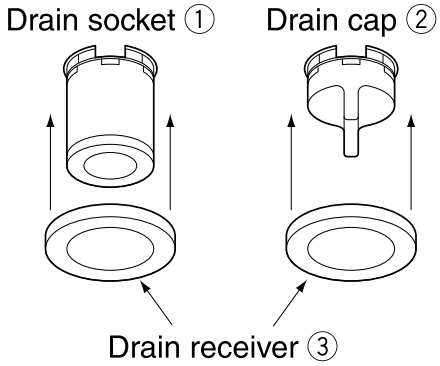
Check that this kit contains the following parts.

Name	① Drain socket	② Drain cap	③ Drain receiver
Shape			
Quantity	1 piece	2 pieces	3 pieces

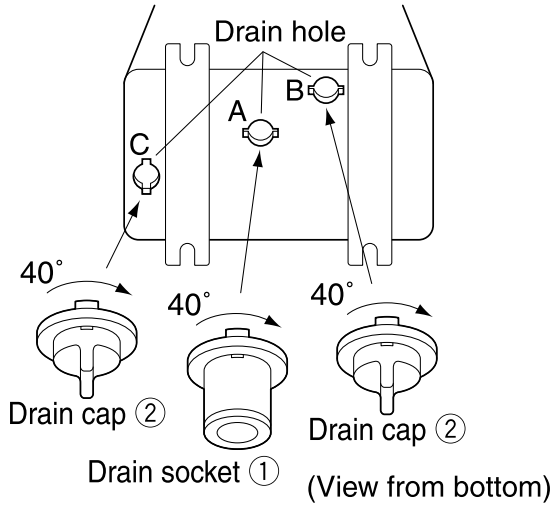
Installation Procedure

1 Check to make sure the outdoor unit drain hole is not hidden by the installation support or the floor.
Note) 1. If the drain holes of the outdoor unit are covered with the mounting bracket or the floor, raise the unit to provide the space of more than 100mm under the leg of the outdoor unit.
2. Check the installation position with the outside drawing.

2 Insert drain receiver ③ onto drain socket ① and drain cap ② beyond 4 projections around drain socket.



3 Insert drain socket ① into the drain hole A and drain caps ② into the drain hole B and C on the unit's bottom frame. After insertion, turn them about 40˚ clockwise.



4 Connect vinyl hose on the market (internal diameter of 25mm) to drain socket ① .

If the hose is too long and hangs down, fix it carefully to prevent the kinks.

3P089958-1B

Warning

- Daikin products are manufactured for export to numerous countries throughout the world. Prior to purchase, please confirm with your local authorized importer, distributor and/or retailer whether this product conforms to the 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 and/or retailer.

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Cautions on product corrosion

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. If you need to install the outdoor unit close to the sea shore, contact your local distributor.

CERTIFIED JQA MANAGEMENT SYSTEM ISO 9001
JMI-0107

Organization:
DAIKIN INDUSTRIES, LTD.
AIR CONDITIONING MANUFACTURING DIVISION

Scope of Registration:
THE DESIGN/DEVELOPMENT AND MANUFACTURE OF COMMERCIAL AIR CONDITIONING, HEATING, COOLING, REFRIGERATING EQUIPMENT, HEATING EQUIPMENT, RESIDENTIAL AIR CONDITIONING EQUIPMENT, HEAT RECLAIM VENTILATION, AIR CLEANING EQUIPMENT, COMPRESSORS AND VALVES.

CERTIFIED JQA MANAGEMENT SYSTEM ISO 9001
JQA-1452

Organization:
DAIKIN INDUSTRIES (THAILAND) LTD.

Scope of Registration:
THE DESIGN/DEVELOPMENT AND MANUFACTURE OF AIR CONDITIONERS AND THE COMPONENTS INCLUDING COMPRESSORS USED FOR THEM

ISO 14001 JACO
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All of the Daikin Group's business facilities and subsidiaries in Japan are certified under the ISO 14001 international standard for environment management.

Dealer

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