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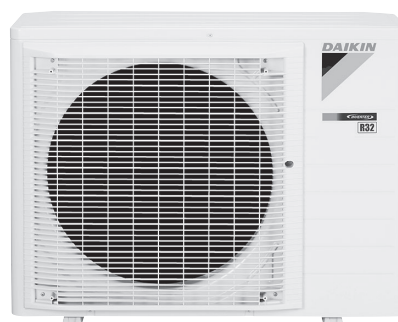
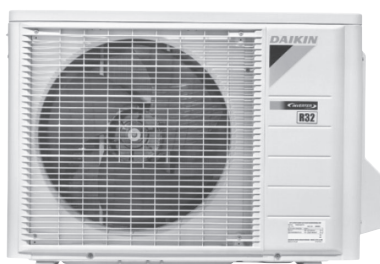
R-32

Engineering Data

Split Type Air Conditioners

- Cooling Only -

FTKF-T Series



INVERTER

Split Type Air Conditioners

FTKF-T Series

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1. Lineup

Indoor Unit	Outdoor Unit	Power Supply
FTKF12TVMVZK	RKFG12TVMVZK	1 phase, 220 - 240 V, 50/60 Hz
FTKF18TVMUZK	RKFG18TVMUZK	
FTKF24TVMTZK	RKFG24TVMTZK	

Note: Power Supply Intake ; Outdoor Unit

**Cautions**

1. Air conditioners should not be installed in areas where corrosive gasses, 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.

2. Functions

Category	Functions	FTKF-T Series		
		12 class	18 class	24 class
Technology	Inverter (with inverter power control)	●	●	●
	Operation limit	Refer to P.18		
	Swing compressor	●	●	●
	Reluctance DC motor	●	●	●
	PAM control	—	●	●
	Indoor unit DC fan motor	●	●	●
	Outdoor unit DC fan motor	●	●	●
Operation	Cooling mode	●	●	●
	Heating mode	—	—	—
	Dry mode	●	●	●
	Fan only mode	●	●	●
	POWERFUL mode	—	—	—
	POWER CHILL mode	●	●	●
	ECONO mode	●	●	●
	Intelligent eye sensor (auto energy saving)	—	—	—
Comfortable Airflow	Outdoor unit quiet operation	—	—	—
	Power-airflow single flap	—	—	●
	Power-airflow dual flap	●	●	—
	Vertical auto-swing (up and down)	●	●	●
	Horizontal auto-swing (left and right)	●	●	●
	3-D airflow	●	●	●
	New comfort airflow mode (COANDA)	●	●	●
	Wide-angle louvers	●	●	●
	Adjustable fan speed	5 steps	5 steps	5 steps
	Auto fan speed	●	●	●
Health & Cleanliness	Indoor unit quiet operation	●	●	●
	Streamer (patented)	—	—	—
	Wipe-clean flat panel (washable)	●	●	●
Timer	SMELL PROOF operation	● *	● *	● *
	24-hour ON/OFF TIMER	—	—	—
	Count up-down ON/OFF TIMER	●	●	●
	GOOD SLEEP OFF TIMER	●	●	●
Worry Free (Reliability & Durability)	Auto-restart (after power failure)	●	●	●
	Self-diagnosis	●	●	●
	Heat exchanger with copper tube and aluminum fin	●	●	●
	Anticorrosion treatment of outdoor heat exchanger	●	●	●
	Indoor/outdoor heat exchanger with oxygen free copper + BTA oil	●	●	●
	Stabiliser inside	●	●	●
Flexibility	Chargeless	10 m	10 m	10 m
	Either side drain (right or left)	●	●	●
	Installation kit (3 meter)	—	—	—
Remote control	R/C with LCD backlight	●	●	●
	R/C with Luminescent button	●	●	●
	R/C LCD backlight OFF	—	—	—
	R/C holder	●	●	●
	Indoor unit ON/OFF switch	●	●	●
	CHILD LOCK	●	—	●
	Wireless LAN connection	—	—	—

● : Available
— : Not available

* Activated only when the airflow rate is set to automatic in dry or cooling operation and OFF during POWERFUL/POWER CHILL operation.

3. Specifications

Model		Indoor Unit	FTKF12TVMVZK	FTKF18TVMUZK
		Outdoor Unit	RKFG12TVMVZK	RKFG18TVMUZK
Power Supply			1 φ, 50 / 60 Hz, 220 - 240 V	1 φ, 50 / 60 Hz, 220 - 240 V
Capacity [T1] Rated (Min. ~ Max.)		kW	3.93 (1.8 ~ 5.4)	5.28 (2.5 ~ 6.7)
		Btu/h	13,400 (6,000 ~ 18,400)	18,000 (8,500 ~ 22,900)
		kcal/h	3,380 (1,500 ~ 4,640)	4,540 (2,150 ~ 5,760)
Capacity (Rated) [T3/T4]		kW	3.93 / 3.54	4.50 / 4.24
Moisture Removal		L/h	3.2	3.2
Running Current (Rated) [T1/T3/T4]		A	4.13 / 6.13 / 5.99	6.73 / 8.17 / 7.78
Power Consumption [T1] Rated (Min. ~ Max.)		W	902 (375 ~ 1,650)	1,470 (580 ~ 1,665)
Power Consumption (Rated) [T3/T4]		W	1,340 / 1,308	1,785 / 1,700
Power Factor (Rated)		%	95	95
EER (Rated) [T1/T3/T4]		(Btu/h)/W	14.85 / 10 / 9.25	12.25 / 8.55 / 8.5
Piping Connections	Liquid	mm	φ 6.4	φ 6.4
	Gas	mm	φ 12.7	φ 12.7
	Drain	mm	φ 18	φ 18
Heat Insulation			Both Liquid and Gas Pipes	Both Liquid and Gas Pipes
Max. Interunit Piping Length		m	20	30
Max. Interunit Height Difference		m	10	20
Chargeless		m	10	10
Amount of Additional Charge of Refrigerant		g/m	20	20
Indoor Unit			FTKF12TVMVZK	FTKF18TVMUZK
Front Panel Color			White	White
Airflow Rate	H	m³/min (cfm)	14.3 (505)	14.8 (522)
	M		13.2 (466)	12.1 (427)
	L		10.5 (371)	9.8 (346)
	SL		9.4 (332)	8.0 (282)
Fan	Type		Cross Flow Fan	Cross Flow Fan
	Motor Output	W	39	38
	Speed	Steps	5 Steps, Quiet, Auto	5 Steps, Quiet, Auto
Air Direction Control			Right, Left, Upward, Downward	Right, Left, Upward, Downward
Air Filter			Removable, Washable, Mildew Proof	Removable, Washable, Mildew Proof
Running Current (Rated)		A	0.28	0.30
Power Consumption (Rated)		W	64	65
Power Factor (Rated)		%	99.1	94.2
Temperature Control			Microcomputer Control	Microcomputer Control
Dimensions (H × W × D)		mm	298 × 885 × 229	298 × 885 × 229
Packaged Dimensions (H × W × D)		mm	390 × 1,010 × 355	390 × 1,010 × 355
Weight (Mass)		kg	11	11
Gross Weight (Gross Mass)		kg	15	15
Sound Pressure Level	H / M / L / SL	dB(A)	45 / 42 / 38 / 35	47 / 45 / 40 / 38
Outdoor Unit			RKFG12TVMVZK	RKFG18TVMUZK
Casing Color			Ivory White	Ivory White
Heat Exchanger	Fin / Spec. Tube		Waffle Fin / φ 7 Hi-XD Tube	Waffle Fin / φ 7 Hi-XD Tube
Compressor	Type		Hermetically Sealed Swing Type	Hermetically Sealed Swing Type
	Model		1Y097BKAX1N	1YC36DXD
	Motor Output	W	920	1,200
Refrigerant Oil	Type		FW50DA	FW68DA
	Charge	L	0.350	0.350
Refrigerant	Type		R-32	R-32
	Charge	kg	0.85	1.00
Airflow Rate	H	m³/min (cfm)	46.0 (1,624)	43.3 (1,528)
Fan	Type		Propeller	Propeller
	Motor Output	W	68	30
Running Current (Rated)		A	3.85	6.35
Power Consumption (Rated)		W	838.3	1,356
Power Factor (Rated)		%	95.0	99.9
Starting Current		A	4.13	6.73
Dimensions (H × W × D)		mm	595 × 845 × 300	595 × 845 × 300
Packaged Dimensions (H × W × D)		mm	680 × 1,035 × 410	680 × 1,035 × 410
Weight (Mass)		kg	32	37
Gross Weight (Gross Mass)		kg	37	41
Sound Pressure Level	H	dB(A)	54	56
Conditions Based on		T1	Indoor ; 27°CDB / 19°CWB, Outdoor ; 35°CDB / 24°CWB, Piping Length: 5 m	Indoor ; 27°CDB / 19°CWB, Outdoor ; 35°CDB / 24°CWB, Piping Length: 5 m
		T3	Indoor ; 29°CDB / 19°CWB, Outdoor ; 46°CDB / 24°CWB, Piping Length: 5 m	Indoor ; 29°CDB / 19°CWB, Outdoor ; 46°CDB / 24°CWB, Piping Length: 5 m
		T4	Indoor ; 26.6°CDB / 19.4°CWB, Outdoor ; 48°CDB / 26.9°CWB, Piping Length: 5 m	Indoor ; 26.6°CDB / 19.4°CWB, Outdoor ; 48°CDB / 26.9°CWB, Piping Length: 5 m
Note(s)			Airflow rate (m³/min) during fan operation: H: 16.2, M: 15.0, L: 11.9, SL: 10.6	—
Drawing No.			3D129047E	3D121428D

Conversion Formulae

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

Model	Indoor Unit		FTKF24TVMTZK
	Outdoor Unit		RKFG24TVMTZK
Power Supply			1 ϕ , 50 / 60 Hz, 220 - 240 V
Capacity [T1] Rated (Min. ~ Max.)		kW	6.90 (2.4 ~ 7.8)
		Btu/h	23,600 (8,300 ~ 26,600)
		kcal/h	5,930 (2,090 ~ 6,710)
Capacity (Rated) [T3/T4]		kW	5.88 / 5.65
Moisture Removal		L/h	3.2
Running Current (Rated) [T1/T3/T4]		A	9.00 / 9.89 / 9.98
Power Consumption [T1] Rated (Min. ~ Max.)		W	1,966 (413 ~ 2,560)
Power Consumption (Rated) [T3/T4]		W	2,161 / 2,180
Power Factor (Rated)		%	95
EER (Rated) [T1/T3/T4]		(Btu/h)/W	12.00 / 9.30 / 8.85
Piping Connections	Liquid	mm	ϕ 6.4
	Gas	mm	ϕ 15.9
	Drain	mm	ϕ 18
Heat Insulation			Both Liquid and Gas Pipes
Max. Interunit Piping Length		m	30
Max. Interunit Height Difference		m	20
Chargeless		m	10
Amount of Additional Charge of Refrigerant		g/m	20
Indoor Unit			FTKF24TVMTZK
Front Panel Color			White
Airflow Rate	H	m³/min (cfm)	17.0 (600)
	M		13.9 (491)
	L		10.9 (385)
	SL		8.6 (304)
Fan	Type		Cross Flow Fan
	Motor Output	W	33
	Speed	Steps	5 Steps, Quiet, Auto
Air Direction Control			Right, Left, Upward, Downward
Air Filter			Removable, Washable, Mildew Proof
Running Current (Rated)		A	0.20
Power Consumption (Rated)		W	46
Power Factor (Rated)		%	99.7
Temperature Control			Microcomputer Control
Dimensions (H × W × D)		mm	310 × 1,100 × 239
Packaged Dimensions (H × W × D)		mm	330 × 1,230 × 385
Weight (Mass)		kg	12
Gross Weight (Gross Mass)		kg	17
Sound Pressure Level	H / M / L / SL	dB(A)	49 / 47 / 42 / 39
Outdoor Unit			RKFG24TVMTZK
Casing Color			Ivory White
Heat Exchanger	Fin / Spec. Tube		Waffle Fin / ϕ 7 Hi-XD Tube
Compressor	Type		Hermetically Sealed Swing Type
	Model		2Y113BKAX1N
	Motor Output	W	1,100
Refrigerant Oil	Type		FW50DA
	Charge	L	0.395
Refrigerant	Type		R-32
	Charge	kg	1.40
Airflow Rate	H	m³/min (cfm)	72.4 (2,556)
Fan	Type		Propeller
	Motor Output	W	130
Running Current (Rated)		A	8.80
Power Consumption (Rated)		W	1,920
Power Factor (Rated)		%	95.0
Starting Current		A	9.00
Dimensions (H × W × D)		mm	695 × 930 × 350
Packaged Dimensions (H × W × D)		mm	775 × 1,094 × 486
Weight (Mass)		kg	47
Gross Weight (Gross Mass)		kg	53
Sound Pressure Level	H	dB(A)	58
Conditions Based on		T1	Indoor : 27°CDB / 19°CWB, Outdoor ; 35°CDB / 24°CWB, Piping Length: 5 m
		T3	Indoor : 29°CDB / 19°CWB, Outdoor ; 46°CDB / 24°CWB, Piping Length: 5 m
		T4	Indoor : 26.6°CDB / 19.4°CWB, Outdoor ; 48°CDB / 26.9°CWB, Piping Length: 5 m
Note(s)		Airflow rate (m³/min) during fan operation: H: 20.4, M: 16.6, L: 13.0, SL: 10.3	
Drawing No.		3D131463B	

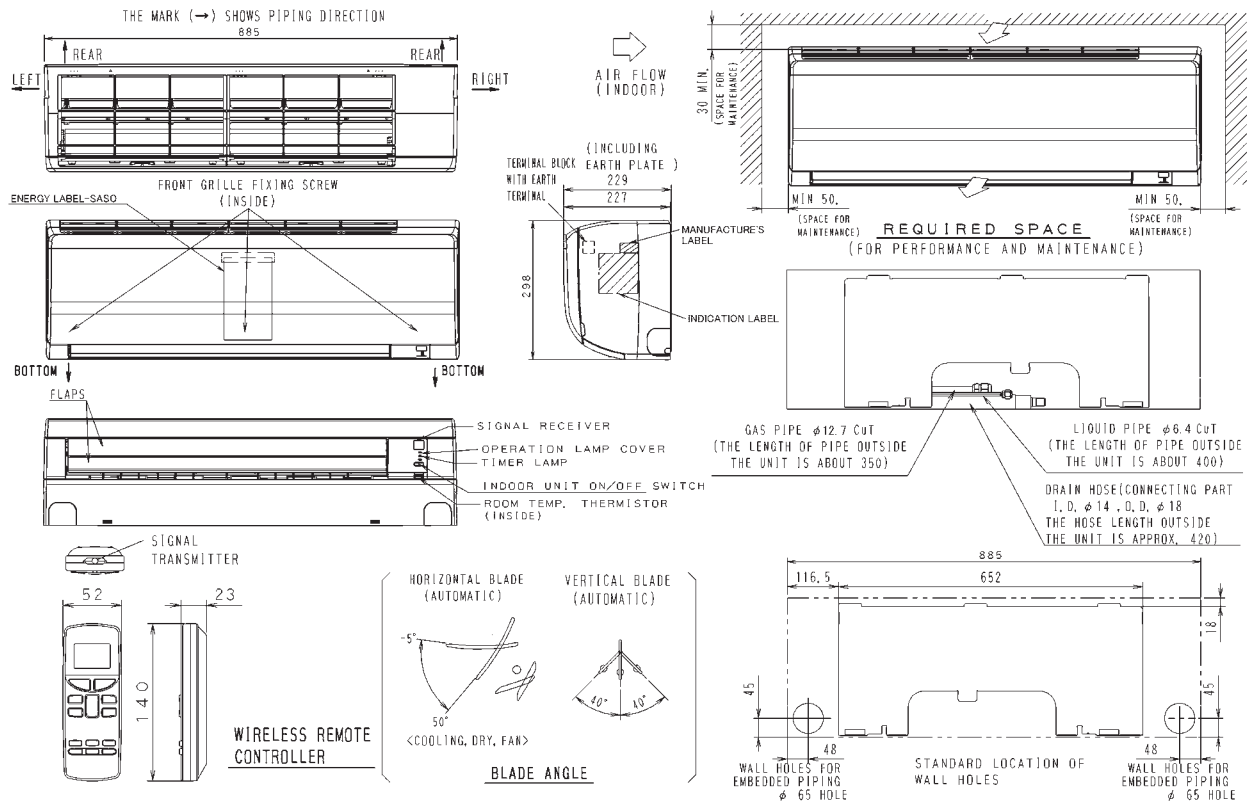
Conversion Formulae

kcal/h = kW $\times$ 860
 Btu/h = kW $\times$ 3412
 cfm = m³/min $\times$ 35.3

4. Dimensions

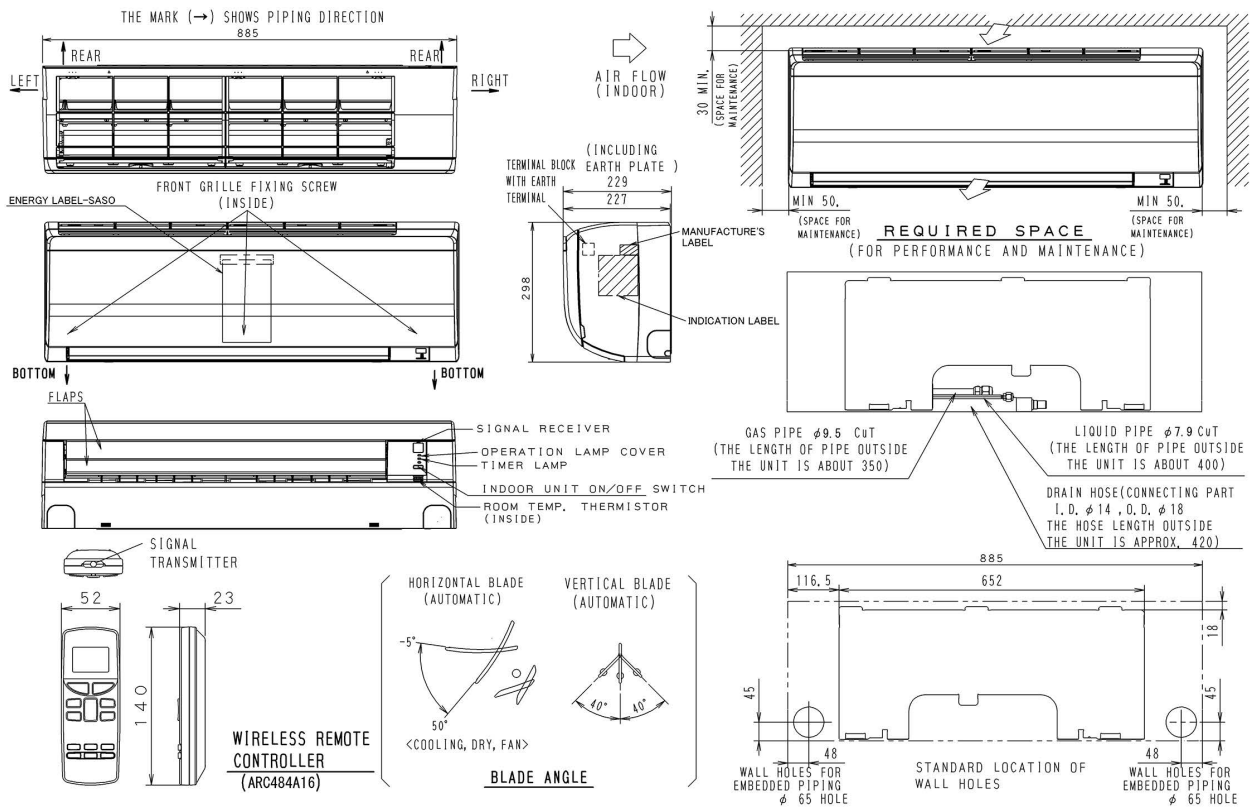
4.1 Indoor Unit

FTKF12TVMVZK



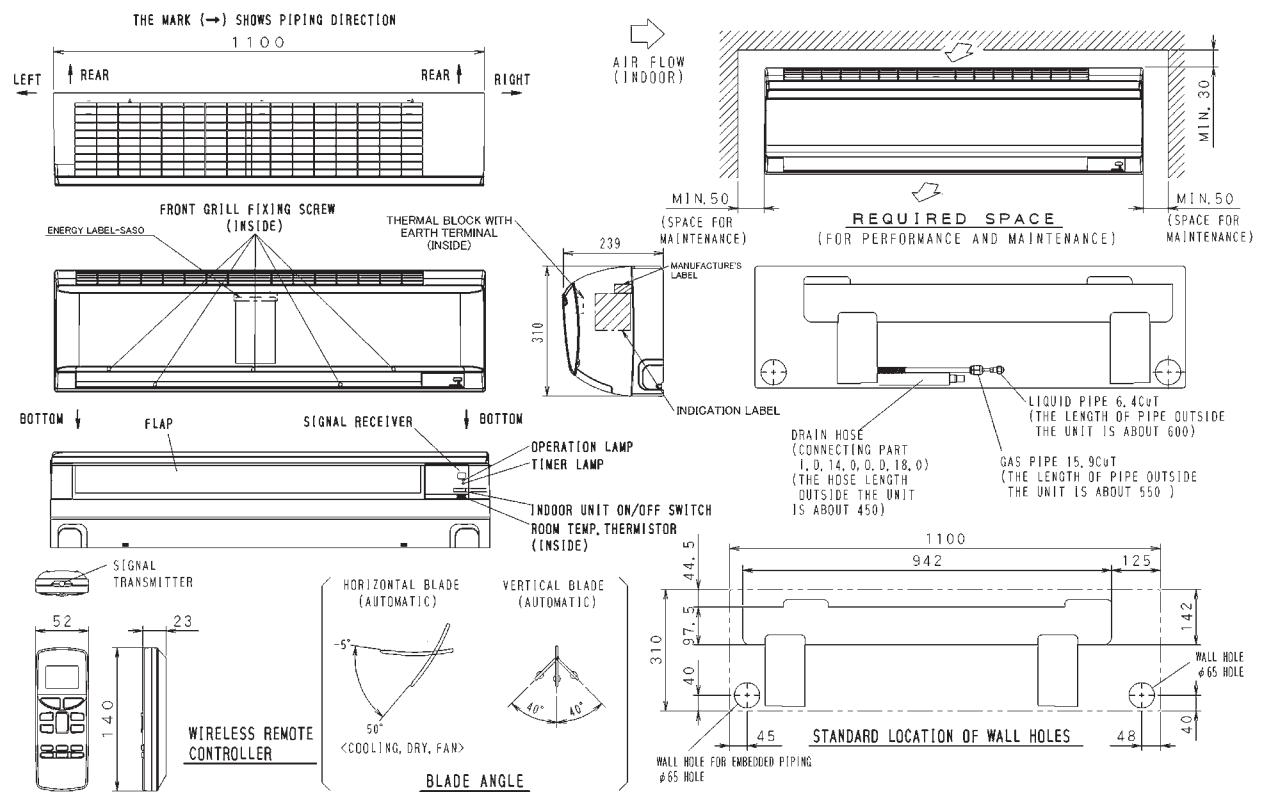
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FTKF18TVMUZK



C:3D121447

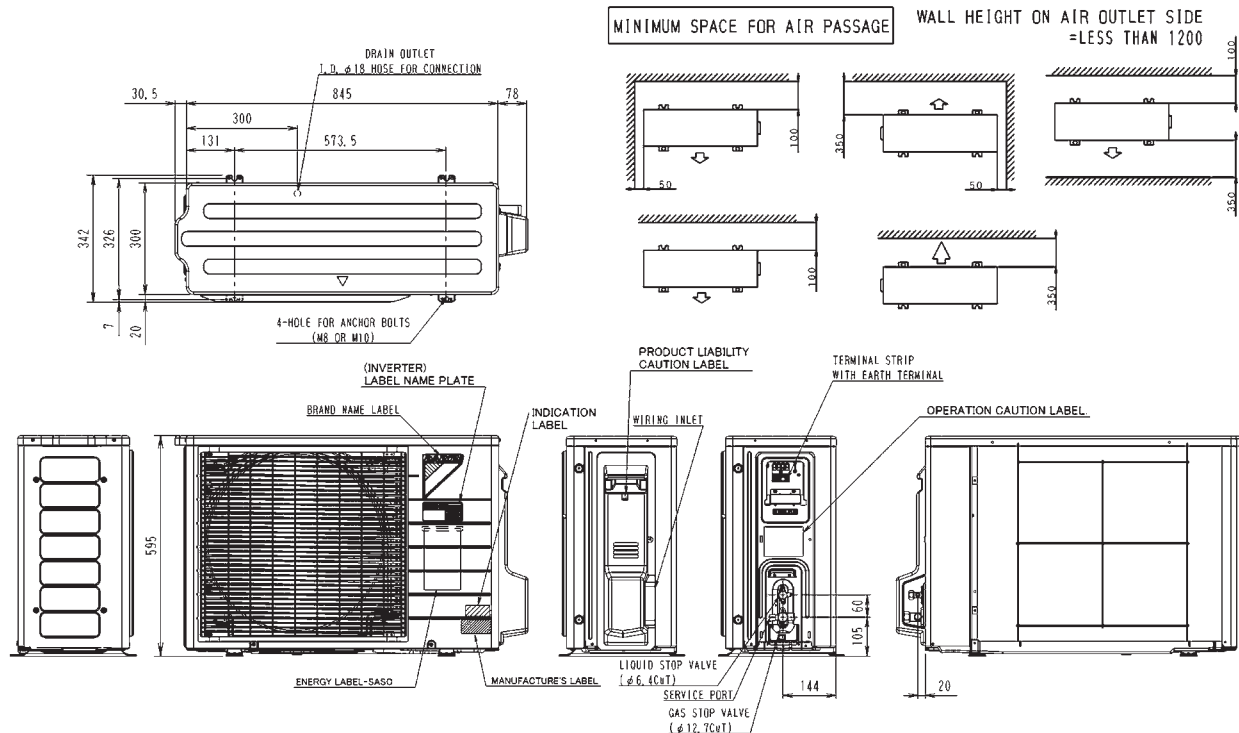
FTKF24TVMTZK



3D131420

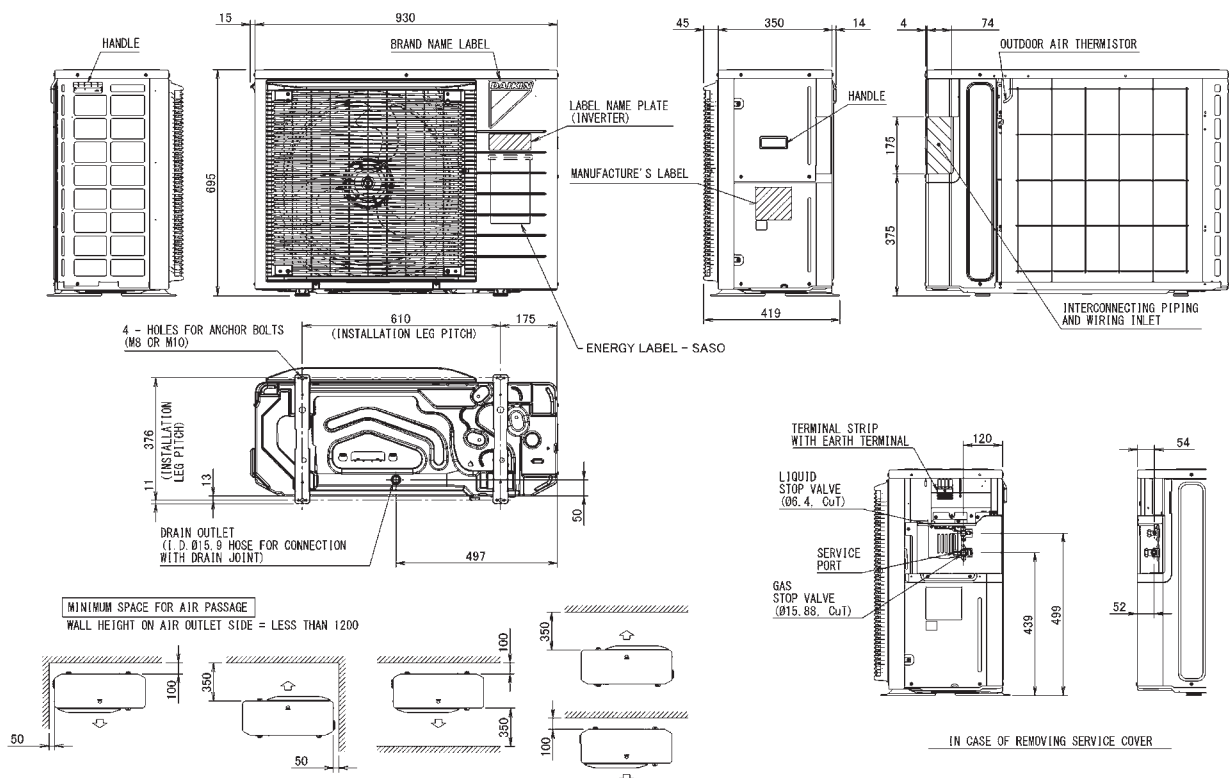
4.2 Outdoor Unit

RKFG12TVMVZK, RKFG18TVMUZK



C:3D121450C

RKFG24TVMTZK

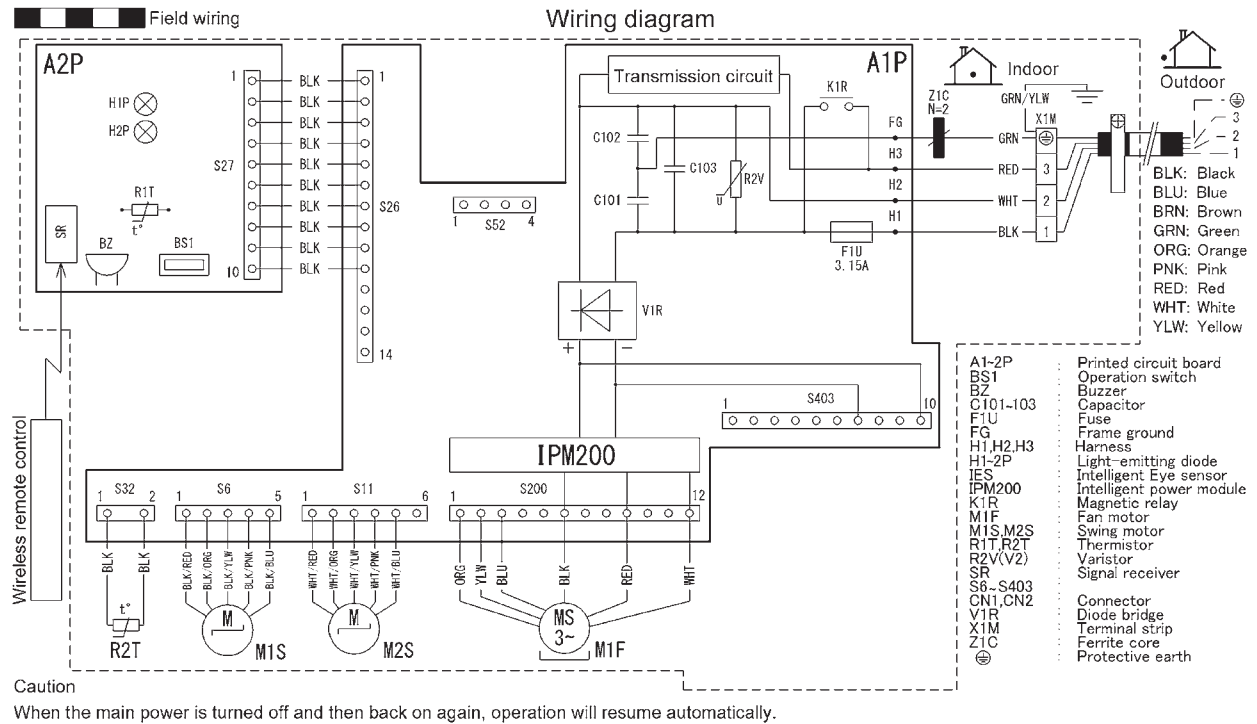


C:3D131462

5. Wiring Diagrams

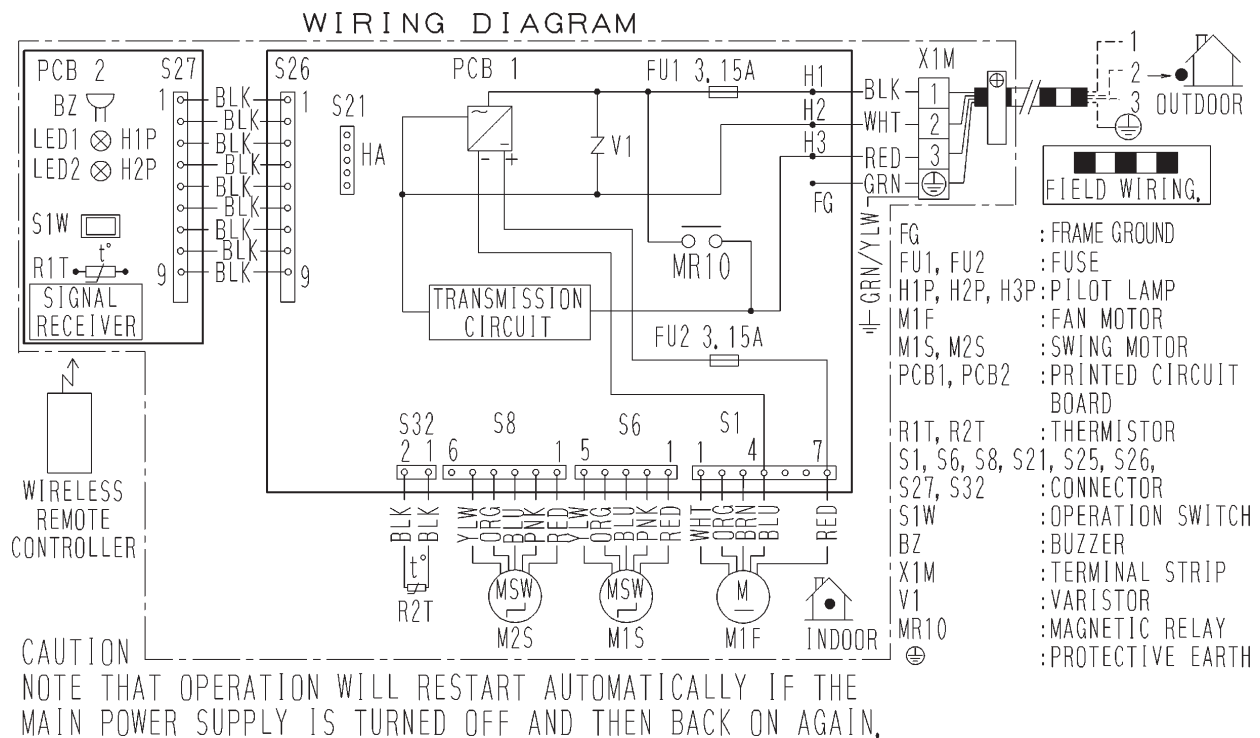
5.1 Indoor Unit

FTKF12TVMVZK, FTKF18TVMUZK



3D107577D

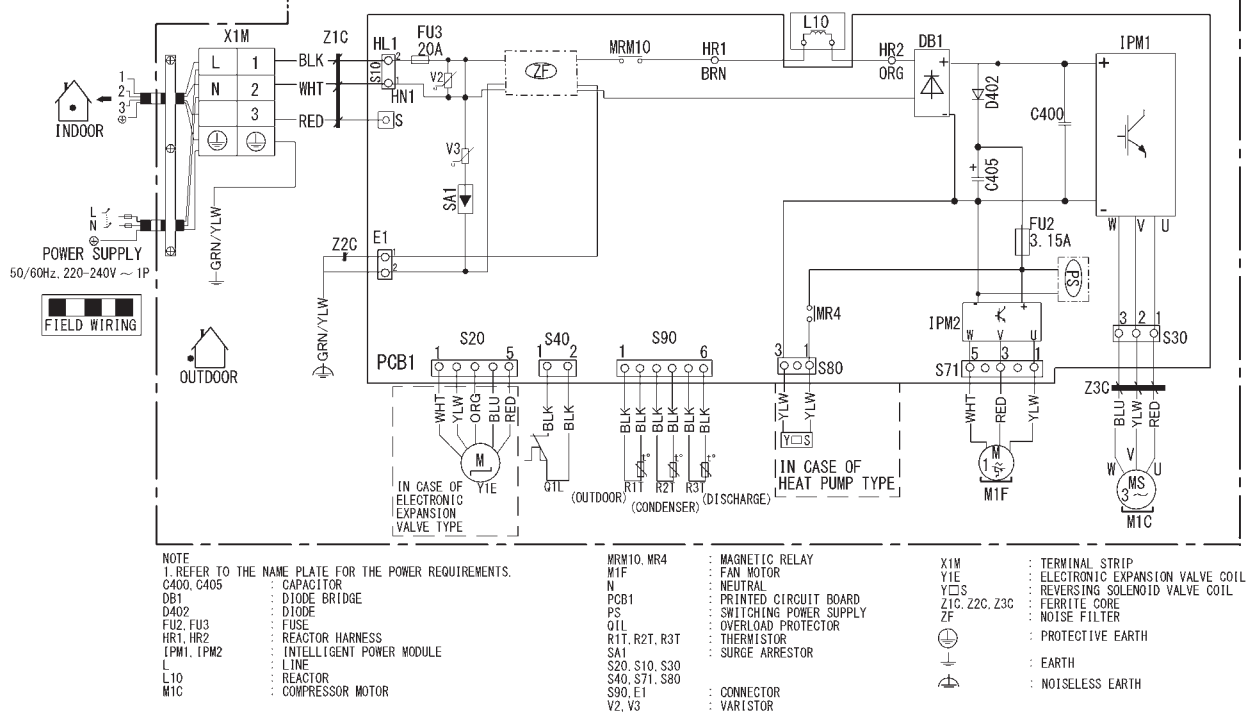
FTKF24TVMTZK



3D133429

5.2 Outdoor Unit RKFG12TVMVZK

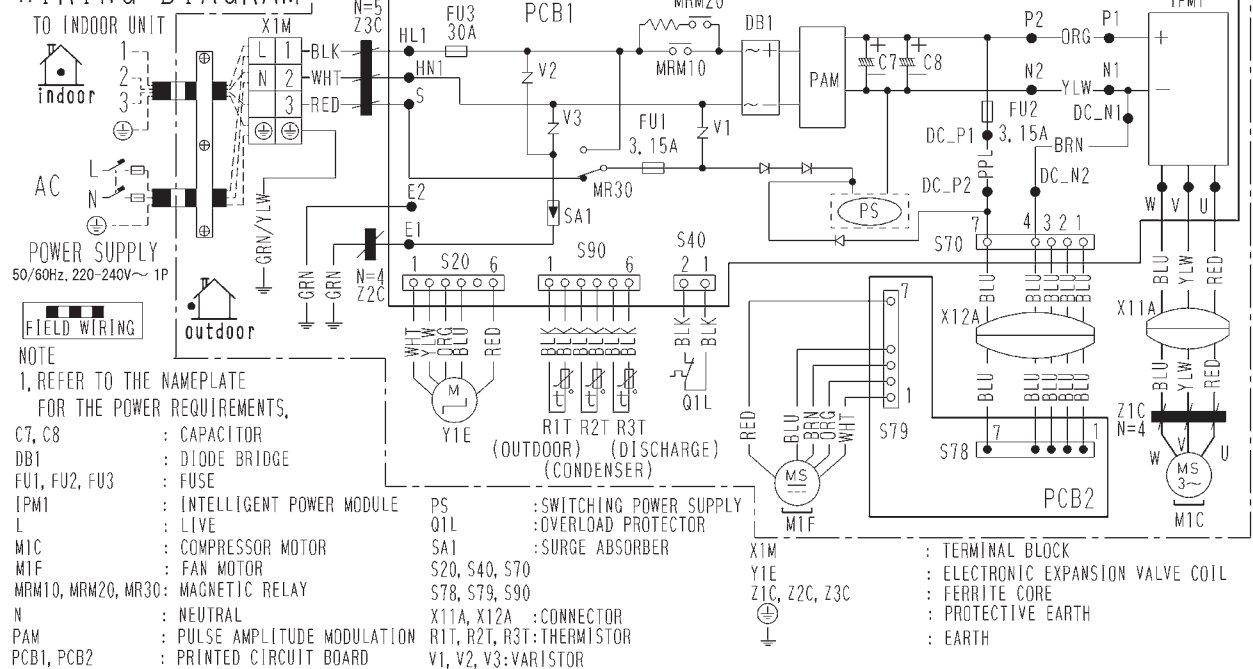
WIRING DIAGRAM



3D128989B

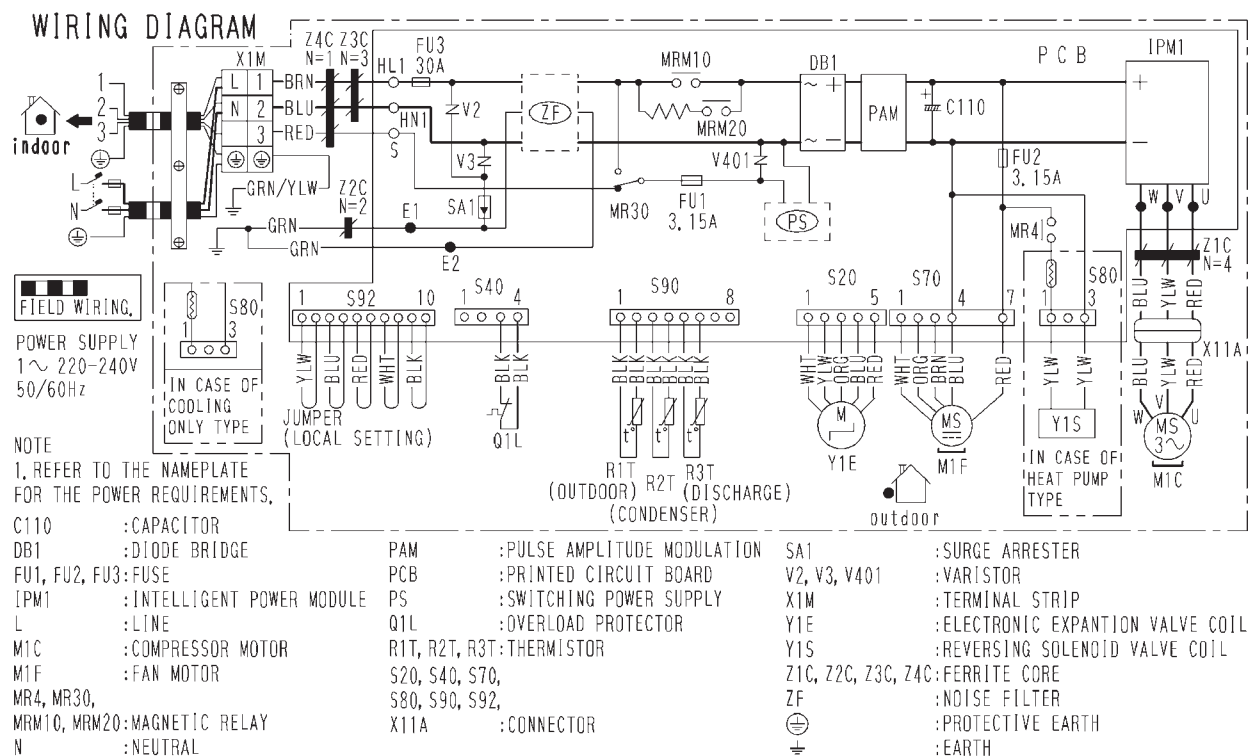
RKFG18TVMUZK

WIRING DIAGRAM



3D121872A

RKFG24TVMTZK

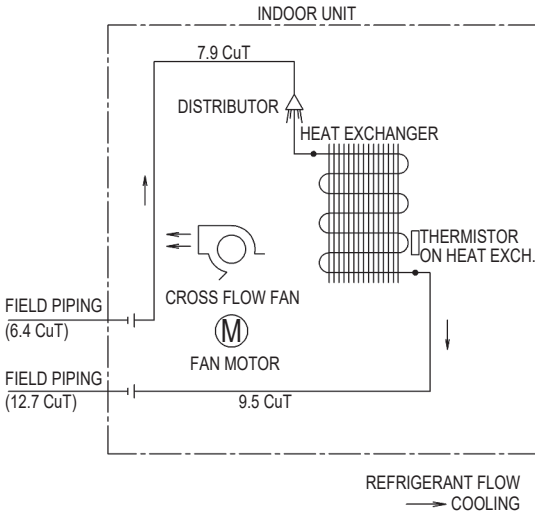
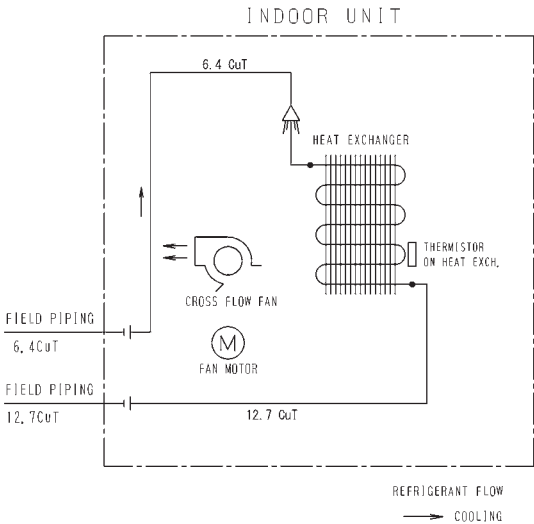


3D130856A

6. Piping Diagrams

6.1 Indoor Unit
FTKF12TVMVZK

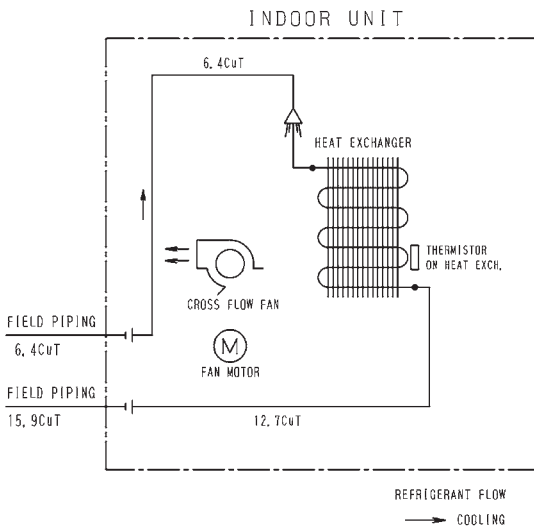
FTKF18TVMUZK



4D113909J

4D108592N

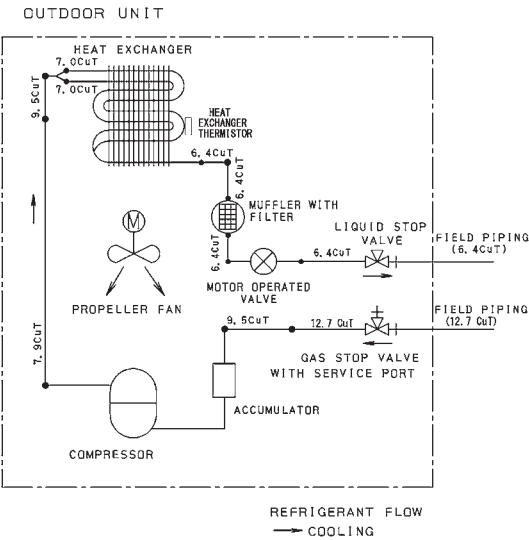
FTKF24TVMTZK



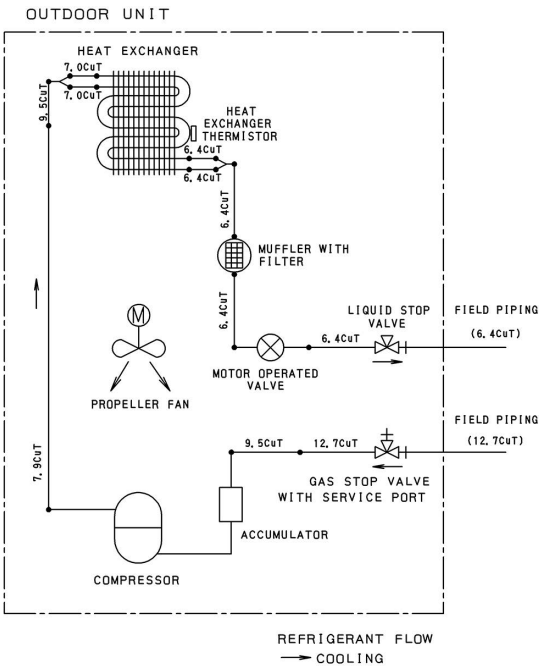
4D086308H

6.2 Outdoor Unit

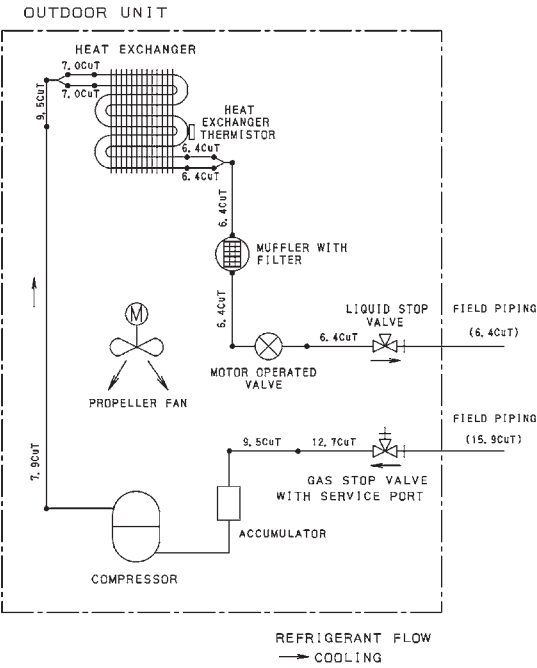
RKFG12TVMVZK



RKFG18TVMUZK



RKFG24TVMTZK



4D113913D

4D102415F

4D102418D

7. Capacity Tables

7.1 Cooling Only

FTKF12TVMVZK + RKFG12TVMVZK (50 / 60 Hz, 220 - 240 V)

AFR	14.3
BF	0.15

INDOOR		OUTDOOR TEMPERATURE (°CDB)																							
EWB	EDB	20			25			30			32			35			40			46			48		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	4.03	3.21	0.69	3.84	3.12	0.76	3.66	3.03	0.83	3.59	3.00	0.85	3.48	2.95	0.89	3.38	2.92	1.09	3.28	2.90	1.29	3.04	2.71	1.27
16.0	22	4.21	3.15	0.70	4.02	3.07	0.76	3.84	2.99	0.83	3.77	2.96	0.86	3.66	2.91	0.90	3.58	2.90	1.10	3.51	2.91	1.31	3.25	2.71	1.28
18.0	25	4.39	3.34	0.70	4.21	3.26	0.77	4.02	3.19	0.83	3.95	3.16	0.86	3.84	3.11	0.90	3.80	3.14	1.11	3.76	3.18	1.33	3.48	2.96	1.30
19.0	27	4.48	3.55	0.70	4.30	3.48	0.77	4.11	3.40	0.84	4.04	3.37	0.86	3.93	3.33	0.90	3.91	3.38	1.12	3.89	3.45	1.34	3.60	3.22	1.31
22.0	30	4.75	3.43	0.71	4.57	3.37	0.77	4.38	3.31	0.84	4.31	3.28	0.87	4.20	3.24	0.91	4.18	3.29	1.14	4.16	3.35	1.37	3.85	3.13	1.34
24.0	32	4.93	3.35	0.71	4.75	3.29	0.78	4.57	3.24	0.85	4.49	3.21	0.87	4.38	3.18	0.91	4.37	3.23	1.15	4.36	3.30	1.38	4.03	3.08	1.36

Symbols:

AFR	: Airflow rate	(m³/min.)
BF	: Bypass factor	
EWB	: Entering wet bulb temp.	(°C)
EDB	: Entering dry bulb temp.	(°C)
TC	: Total capacity	(kW)
SHC	: Sensible heat capacity	(kW)
PI	: Power input	(kW)

Notes:

1.  shows nominal (rated) capacities and power input.
2. 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.)
3. Capacities are based on the following conditions.
Corresponding refrigerant piping length : 5 m
Level difference : 0 m

3D129066B

FTKF18TVMUZK + RKFG18TVMUZK (50 / 60 Hz, 220 - 240 V)

AFR	14.8
BF	0.15

INDOOR		OUTDOOR TEMPERATURE (°CDB)																							
EWB	EDB	20			25			30			32			35			40			46			48		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	5.41	3.94	1.13	5.16	3.81	1.24	4.92	3.69	1.35	4.82	3.64	1.39	4.67	3.57	1.45	4.22	3.19	1.59	3.76	2.96	1.72	3.64	2.88	1.65
16.0	22	5.65	3.87	1.13	5.41	3.75	1.24	5.16	3.63	1.35	5.06	3.59	1.40	4.92	3.52	1.46	4.47	3.19	1.60	4.02	2.97	1.75	3.89	2.89	1.67
18.0	25	5.90	4.04	1.14	5.65	3.93	1.25	5.40	3.82	1.36	5.31	3.78	1.40	5.16	3.72	1.47	4.73	3.44	1.62	4.31	3.21	1.77	4.17	3.12	1.69
19.0	27	6.02	4.25	1.14	5.77	4.14	1.25	5.53	4.04	1.36	5.43	4.00	1.40	5.28	3.94	1.47	4.87	3.69	1.63	4.46	3.45	1.78	4.31	3.36	1.71
22.0	30	6.38	4.09	1.15	6.14	4.00	1.26	5.89	3.91	1.37	5.79	3.87	1.41	5.64	3.82	1.48	5.28	3.60	1.65	4.91	3.37	1.82	4.75	3.28	1.74
24.0	32	6.63	3.98	1.16	6.38	3.90	1.27	6.13	3.81	1.38	6.04	3.78	1.42	5.89	3.73	1.49	5.56	3.36	1.66	5.22	3.15	1.84	5.05	3.07	1.76

Symbols:

AFR	: Airflow rate	(m³/min.)
BF	: Bypass factor	
EWB	: Entering wet bulb temp.	(°C)
EDB	: Entering dry bulb temp.	(°C)
TC	: Total capacity	(kW)
SHC	: Sensible heat capacity	(kW)
PI	: Power input	(kW)

Notes:

1.  shows nominal (rated) capacities and power input.
2. 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.)
3. Capacities are based on the following conditions.
Corresponding refrigerant piping length : 5 m
Level difference : 0 m

3D121446C

FTKF24TVMTZK + RKFG24TVMTZK (50 / 60 Hz, 220 - 240 V)

AFR	17.0
BF	0.15

INDOOR		OUTDOOR TEMPERATURE (°CDB)																							
EWB	EDB	20			25			30			32			35			40			46			48		
°C	°C	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	7.04	4.95	1.51	6.75	4.80	1.65	6.43	4.63	1.80	6.30	4.57	1.86	6.11	4.47	1.94	5.39	3.99	2.00	4.91	3.69	2.08	4.85	3.66	2.11
16.0	22	7.39	4.88	1.52	7.07	4.72	1.66	6.74	4.57	1.81	6.62	4.50	1.87	6.42	4.41	1.95	5.75	3.91	2.02	5.25	3.63	2.11	5.18	3.60	2.14
18.0	25	7.70	5.07	1.53	7.38	4.92	1.67	7.06	4.77	1.82	6.93	4.71	1.87	6.74	4.63	1.96	6.15	4.27	2.05	5.63	3.97	2.14	5.55	3.94	2.17
19.0	27	7.86	5.30	1.53	7.54	5.16	1.68	7.22	5.02	1.82	7.09	4.96	1.88	6.90	4.88	1.97	6.36	4.56	2.06	5.83	4.25	2.16	5.75	4.22	2.19
22.0	30	8.34	5.10	1.54	8.02	4.97	1.69	7.70	4.84	1.83	7.57	4.79	1.89	7.38	4.72	1.98	6.99	4.44	2.10	6.41	4.15	2.20	6.33	4.12	2.23
24.0	32	8.66	4.95	1.55	8.34	4.83	1.70	8.02	4.72	1.84	7.89	4.67	1.90	7.69	4.60	1.99	7.43	4.19	2.13	6.83	3.92	2.23	6.73	3.89	2.26

Symbols:

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

Notes:

1.  shows nominal (rated) capacities and power input.
2. 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.)
3. Capacities are based on the following conditions.
Corresponding refrigerant piping length : 5 m
Level difference : 0 m

3D130917B

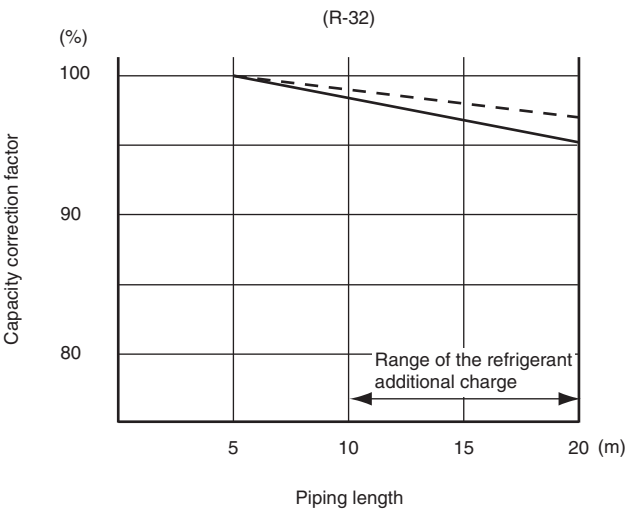
7.2 Capacity Correction Factor by the Length of Refrigerant Piping (Reference)

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

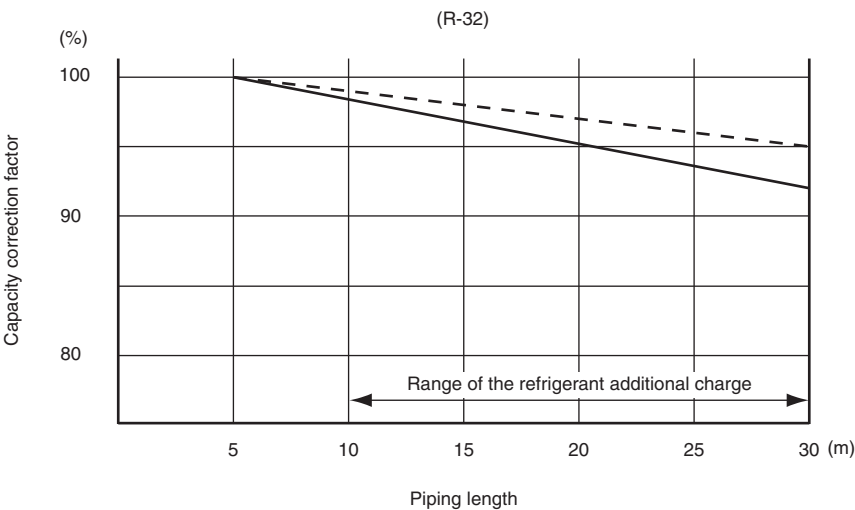
<— : cooling capacity>

<- - : heating capacity>

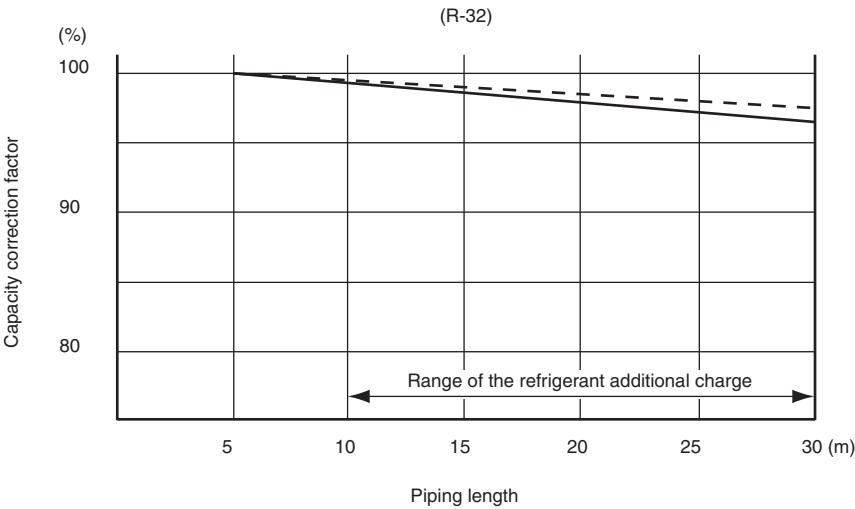
7.2.1 12 Class



7.2.2 18 Class



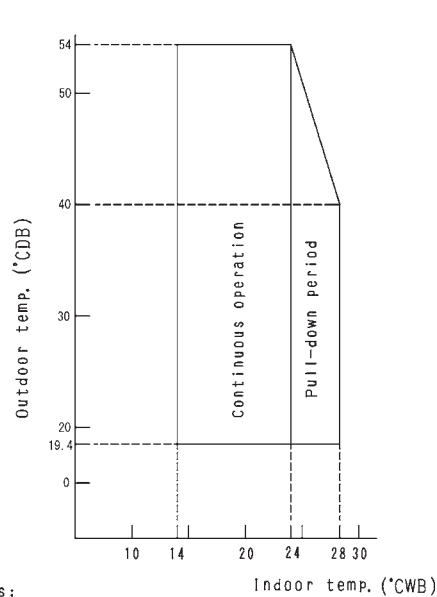
7.2.3 24 Class



Note: The graph shows the factor when additional refrigerant of the proper quantity is charged.

8. Operation Limit

RKFG12TVMVZK, RKFG24TVMTZK

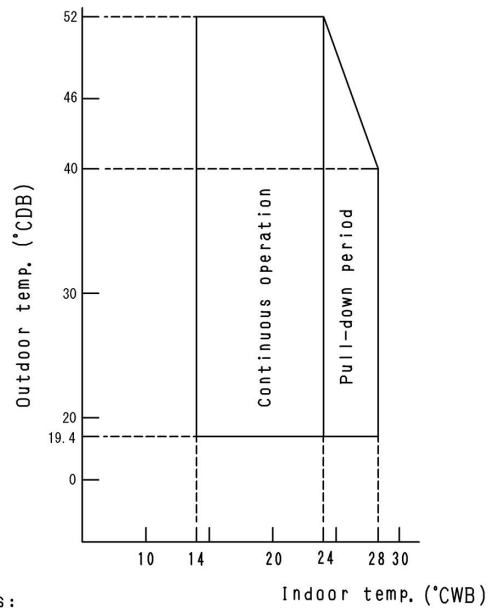


Notes:
The graph is based on the following conditions.

● Equivalent piping length	5m
● Level difference	0m
● Air flow rate	High

4D123361B

RKFG18TVMUZK



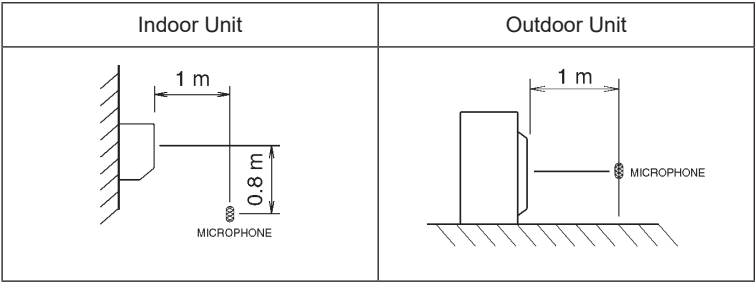
Notes:
The graph is based on the following conditions.

● Equivalent piping length	5m
● Level difference	0m
● Airflow rate	High

4D121444

9. Sound Level

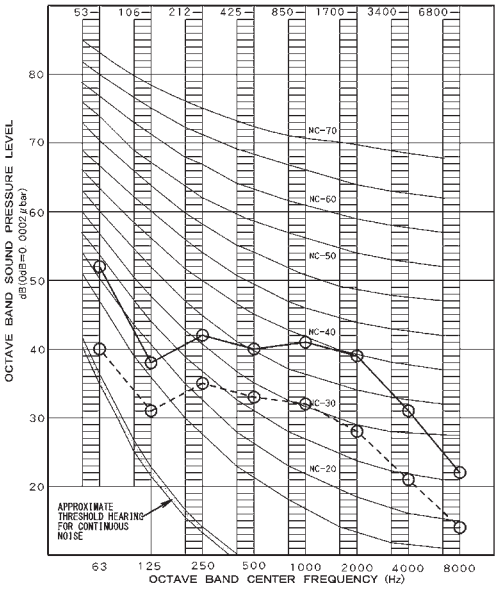
9.1 Measuring Location



Notes:

- 1. Operation sound is measured in an anechoic chamber.
- 2. The operation sound measuring method is based on JIS standard.

9.2 Indoor Unit
FTKF12TVMVZK

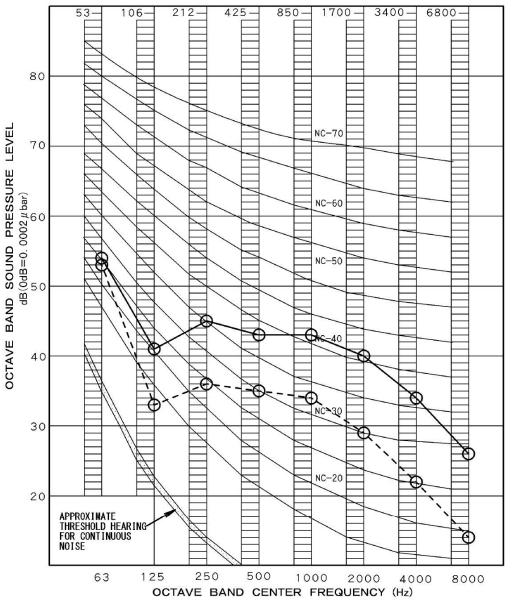


OVER ALL (dB)		
SCALE	50Hz 230V (H)	50Hz 230V (L)
A	45	38

(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS	
POWER SOURCE : 50/60Hz 220-240V ~	
JIS STANDARD	
STANDARD EXTERNAL STATIC PRESSURE	
○ — ○	50 Hz 230 V(H)
○ - - - ○	50 Hz 230 V(L)

FTKF18TVMUZK



OVER ALL (dB)		
SCALE	50Hz 230V (H)	50Hz 230V (L)
A	47	40

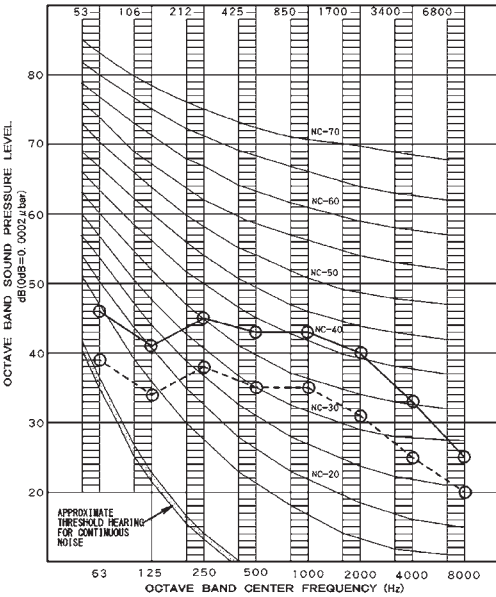
(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS	
POWER SOURCE : 50/60Hz 220-240V ~	
JIS STANDARD	
STANDARD EXTERNAL STATIC PRESSURE	
○ — ○	50 Hz 230 V(H)
○ - - - ○	50 Hz 230 V(L)

4D129044

4D121920

FTKF24TVMTZK



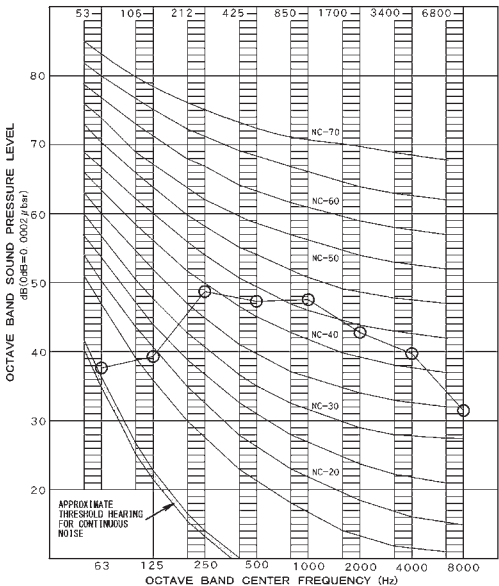
OVER ALL (dB)		
SCALE	50Hz 230V (H)	50Hz 230V (L)
A	49	42

(B.G.N IS ALREADY RECTIFIED)

OPERATING CONDITIONS	
POWER SOURCE : 230V 50Hz	
JIS STANDARD	
STANDARD EXTERNAL STATIC PRESSURE	
○ — ○	50 Hz 230 V(H)
○ - - - ○	50 Hz 230 V(L)

4D114192A

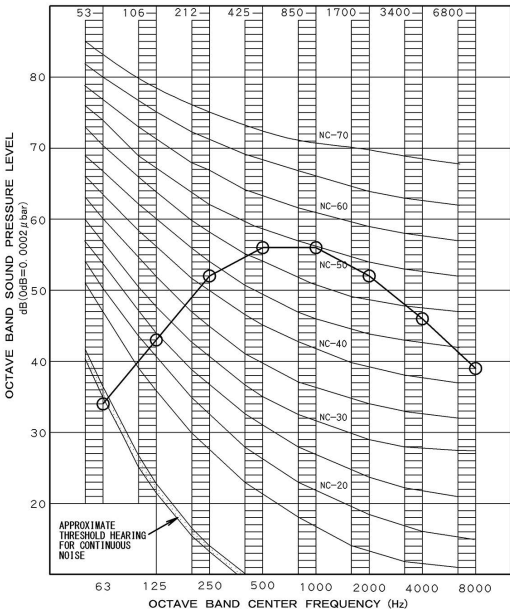
9.3 Outdoor Unit
RKFG12TVMVZK



OVER ALL (dB)		OPERATING CONDITIONS	
SCALE	50Hz 230V	POWER SOURCE : 50/60Hz 220-240V	
A	54	JIS STANDARD	
		STANDARD EXTERNAL STATIC PRESSURE	
		○ — ○ 50 Hz 230 V (H)	

(B.G.N IS ALREADY RECTIFIED)

RKFG18TVMUZK



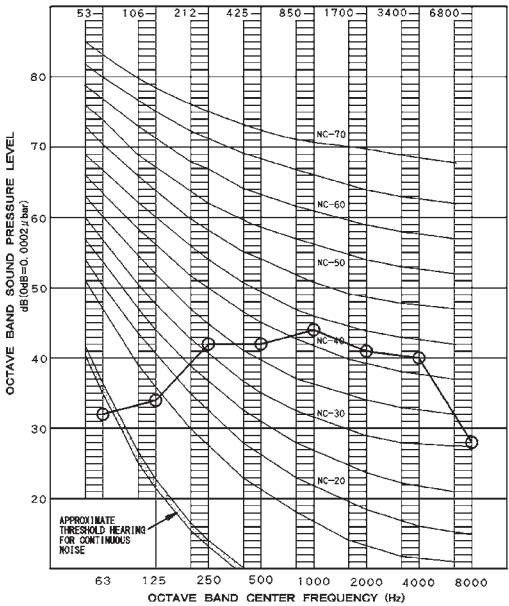
OVER ALL (dB)		OPERATING CONDITIONS	
SCALE	50Hz 230V	POWER SOURCE : 50/60Hz 220-240V ~	
A	56	JIS STANDARD	
		STANDARD EXTERNAL STATIC PRESSURE	
		○ — ○ 50 Hz 230 V (H)	

(B.G.N IS ALREADY RECTIFIED)

4D129052

4D121895

RKFG24TVMTZK



OVER ALL (dB)		OPERATING CONDITIONS	
SCALE	50Hz 230V	POWER SOURCE : 230V 50Hz	
A	58	JIS STANDARD	
		STANDARD EXTERNAL STATIC PRESSURE	
		○ — ○ 50 Hz 230 V (H)	

(B.G.N IS ALREADY RECTIFIED)

4D121863

10. Electric Characteristics

Indoor Unit	Outdoor Unit	Power Supply				Compressor		OFM		IFM	
		Hz - Volts	Voltage Range	MCA	MFA	RHz	RLA	W	FLA	W	FLA
FTKF12TVMVZK	RKFG12TVMVZK	50 Hz - 230 V	Max. 50 Hz, 264 V Min. 50 Hz, 198 V	8.2	20.0	60.0	3.37	68	0.48	39	0.28
		50 Hz - 240 V									
		60 Hz - 230 V	Max. 60 Hz, 264 V Min. 60 Hz, 198 V								
FTKF18TVMUZK	RKFG18TVMUZK	50 Hz - 230 V	Max. 50 Hz, 264 V Min. 50 Hz, 198 V	11.5	20.0	67.0	5.76	38	0.30	30	0.25
		50 Hz - 240 V									
		60 Hz - 230 V	Max. 60 Hz, 264 V Min. 60 Hz, 198 V								
FTKF24TVMTZK	RKFG24TVMTZK	50 Hz - 230 V	Max. 50 Hz, 264 V Min. 50 Hz, 198 V	13.5	20.0	104.0	7.58	130	1.25	33	0.17
		50 Hz - 240 V									
		60 Hz - 230 V	Max. 60 Hz, 264 V Min. 60 Hz, 198 V								

Symbols:

MCA	: Min. circuit amps.	(A)
MFA	: Max. fuse amps.	(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)

Notes:

1. RLA is based on the following conditions.
Indoor temp. 27°CDB / 19°CWB
Outdoor temp. 35°CDB
2. Maximum allowable voltage variation between phases is 2%.
3. Select wire size based on the larger value of MCA.
4. Instead of fuse, use circuit breaker.
5. Be sure to install an earth leak detector.
(This unit uses an inverter, which means that an earth leak detector capable of handling high harmonics must be used in order to prevent malfunctioning of the earth leak detector.)

C: 3D121440J

11. Installation Manual

11.1 FTKF12TVMVZK

Safety Precautions



Read the precautions in this manual carefully before operating the unit.



This appliance is filled with R32.

- The precautions described herein are classified as WARNING and CAUTION. They both contain important information regarding safety. Be sure to observe all precautions without fail.
- Meaning of WARNING and CAUTION notices



WARNING

Failure to follow these instructions properly may result in personal injury or loss of life.



CAUTION

Failure to follow these instructions properly may result in property damage or personal injury, which may be serious depending on the circumstances.

- The safety marks shown in this manual have the following meanings:



Be sure to follow the instructions.



Be sure to establish an earth connection.



Never attempt.

- After completing installation, conduct a trial operation to check for faults and explain to the user how to operate the air conditioner and take care of it with the aid of the operation manual.



WARNING

- Ask your dealer or qualified personnel to carry out installation work.
Do not attempt to install the air conditioner yourself. Improper installation may result in water leakage, electric shock or fire.
- Install the air conditioner in accordance with the instructions in this installation manual. Improper installation may result in water leakage, electric shock or fire.
- Be sure to use only the specified accessories and parts for installation work. Failure to use the specified parts may result in the unit falling, water leakage, electric shock or fire.
- Install the air conditioner on a foundation strong enough to hold the weight of the unit. A foundation of insufficient strength may result in the equipment falling and causing injury.
- Electrical work must be performed in accordance with relevant local and national regulations and with the instructions in this installation manual. Be sure to use a dedicated power supply circuit only. Insufficient power supply and improper workmanship may result in electric shock or fire.
- Use a cable of suitable length. Do not use tapped wires or an extension lead, as this may cause overheating, electric shock or fire.
- Make sure that all wiring is secured, the specified wires are used, and that there is no strain on the terminal connections or wires. Improper connections or securing of wires may result in abnormal heat build-up or fire.
- When wiring the power supply and connecting the wiring between the indoor and outdoor units, position the wires so that the electrical wiring box cover can be securely fastened. Improper positioning of the electrical wiring box cover may result in electric shock, fire or overheating terminals.
- If refrigerant gas leaks during installation, ventilate the area immediately.
Toxic gas may be produced if the refrigerant comes into contact with fire. 
- After completing installation, check for refrigerant gas leakage. Toxic gas may be produced if the refrigerant gas leaks into the room and comes into contact with a source of fire, such as a fan heater, stove or cooker. 
- When installing or relocating the air conditioner, do not let any other substances besides R32, such as air, enter the refrigerant circuit. The presence of air or foreign matter in the refrigerant circuit causes an abnormal pressure rise, which may result in equipment damage and even injury.
- During installation, attach the refrigerant piping securely before operating the compressor. If the refrigerant pipes are not attached and the stop valve is open when the compressor is operated, air will be sucked in, causing abnormal pressure in the refrigeration cycle, which may result in equipment damage and even injury.
- During pump down, stop the compressor before removing the refrigerant piping. If the compressor is still operating and the stop valve is open during pump down, air will be sucked in when the refrigerant piping is removed, causing abnormal pressure in the refrigeration cycle, which may result in equipment damage and even injury.
- Be sure to earth the air conditioner.
Do not earth the unit to a utility pipe, lightning conductor or telephone earth lead. Imperfect earthing may result in electric shock. 
- Be sure to install an earth leakage circuit breaker. Failure to install an earth leakage circuit breaker may result in electric shock or fire.
- Do not pump down when the refrigerant has leaked, otherwise the compressor may be damaged. 



CAUTION

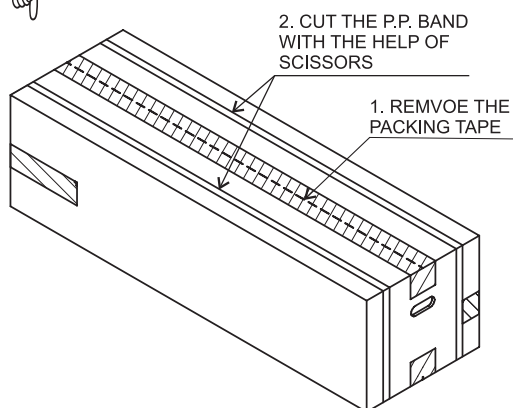
- Do not install the air conditioner at any place where there is a danger of flammable gas leakage.
In the event of a gas leakage, build-up of gas near the air conditioner may cause a fire to break out. 
- While following the instructions in this installation manual, install drain piping to ensure proper drainage and insulate the piping to prevent condensation. Improper drain piping may result in indoor water leakage and property damage.
- Tighten the flare nut as specified, such as with a torque wrench. If the flare nut is too tight, it may crack after prolonged use, causing refrigerant leakage.
- Take adequate steps to prevent the outdoor unit being used as a shelter by small animals.
If small animals or birds come into contact with electrical parts, this can cause malfunctions, smoke or fire. Please instruct the customer to always keep the area around the unit clean.
- The refrigerant circuit temperature will be high, therefore the inter-unit wire must be kept away from copper pipes that are not thermally insulated.

Unpacking Procedures

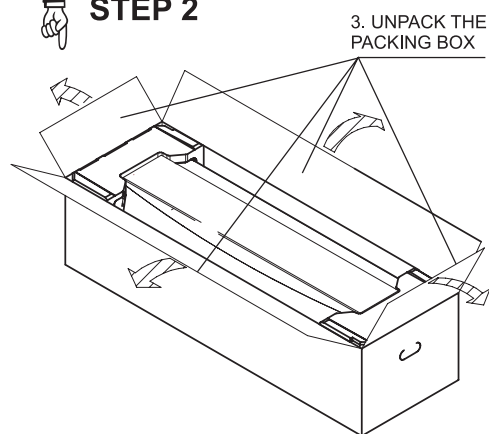
Wall Mounted Unit



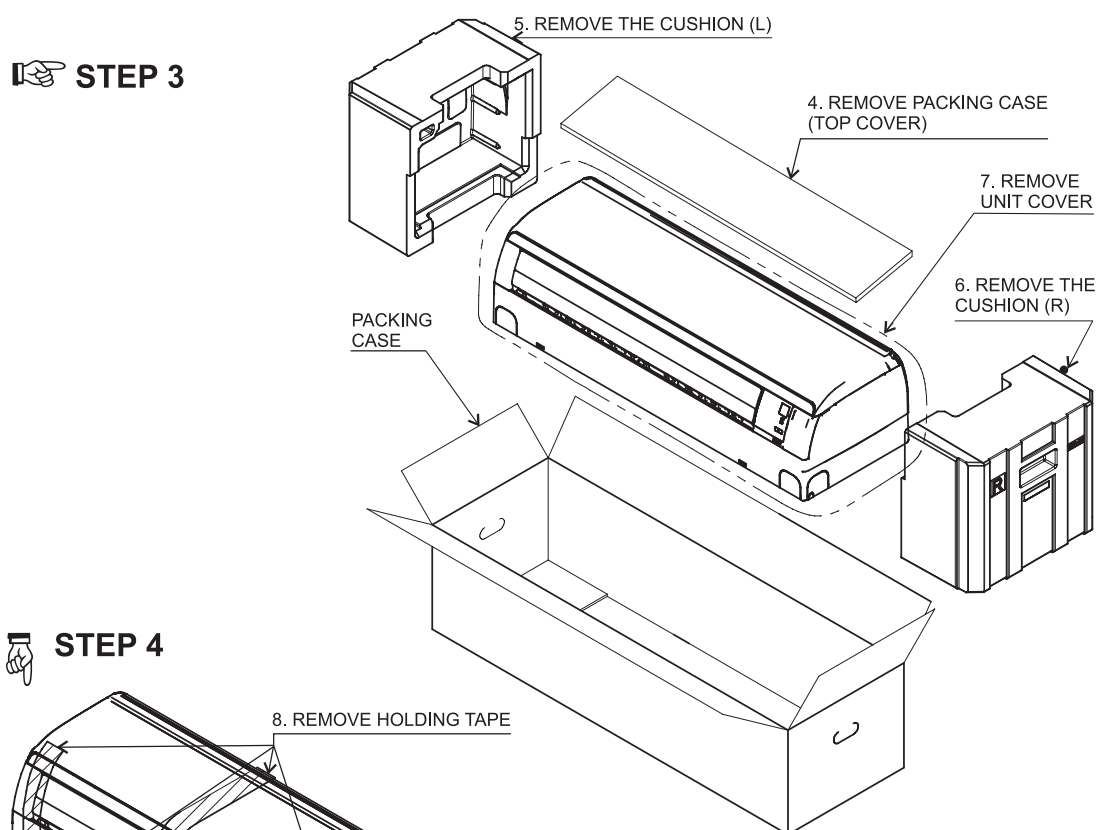
STEP 1



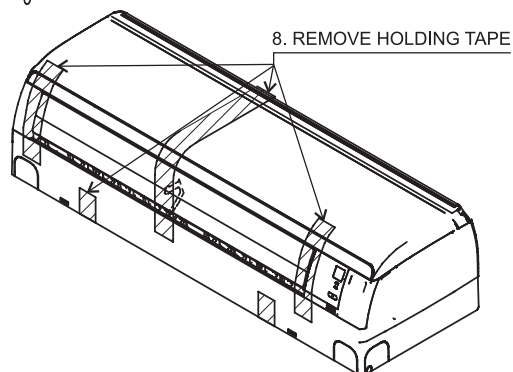
STEP 2



STEP 3



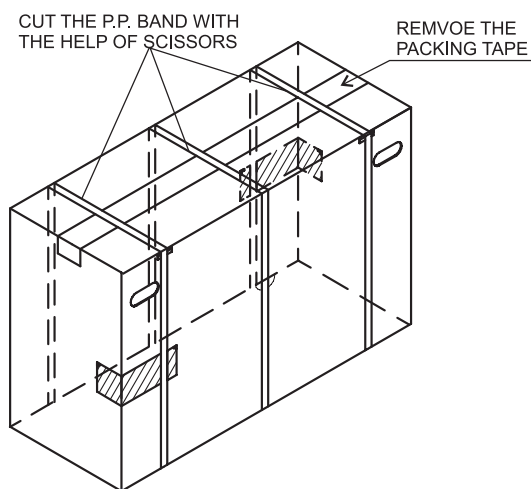
STEP 4



Unpacking Procedures

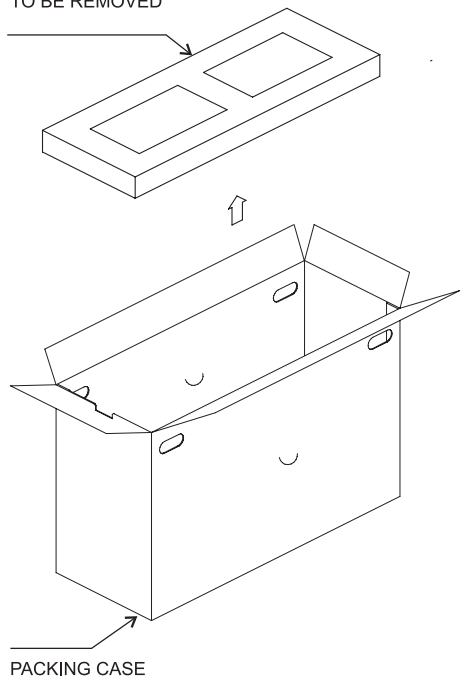
Outdoor/Split Unit

STEP 1



STEP 2

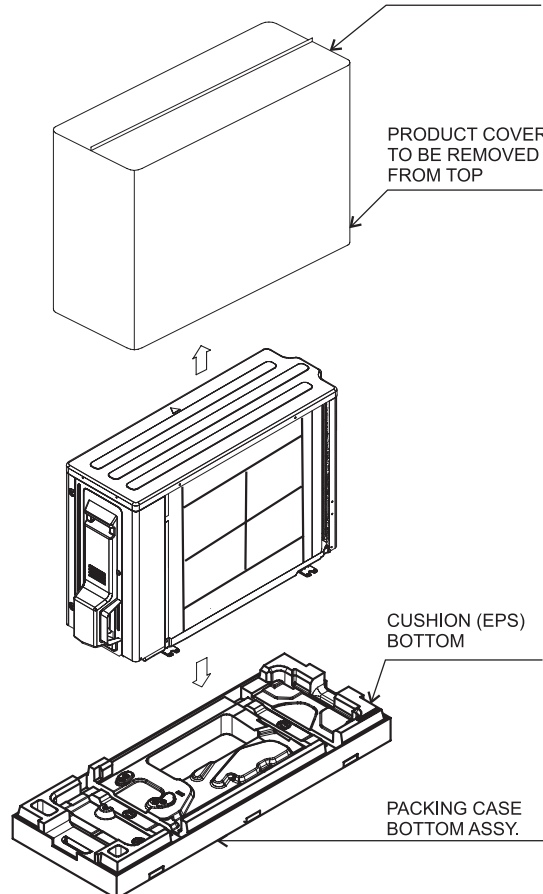
CUSHION (TOP)
TO BE REMOVED



STEP 3

PACKING CASE

PRODUCT COVER
TO BE REMOVED
FROM TOP



Accessories

(A) ~ (H)

(A) Mounting plate	1
(B) Mounting plate fixing screw M4 × 25L	7
(C) Wireless remote controller	1
(D) Dry battery (AAA)	2
(E) Indoor unit fixing screw M4 × 12L	2
(F) Operation and Installation Manual (English & Arabic) - 1 each	2
(G) Remote controller holder	1
(H) Remote controller holder fixing screw M3 X 20L	2

Precautions for Selecting a Location

- Before choosing the installation site, obtain user approval.

Indoor unit

The indoor unit should be positioned in a place where:

- the restrictions on the installation requirements specified in "Indoor/Outdoor Installation Diagram" are met,
- both the air inlet and air outlet are unobstructed,
- the unit is not exposed to direct sunlight,
- the unit is away from sources of heat or steam,
- there is no source of machine oil vapour (this may shorten the indoor unit service life),
- cool air is circulated throughout the room,
- the unit is away from electronic ignition type fluorescent lamps (inverter or rapid start type) as they may affect the remote controller range,
- the unit is at least 1m away from any television or radio set (the unit may cause interference with the picture or sound),
- the unit can be installed at the recommended height (1.8m),
- no laundry equipment is nearby.

Outdoor unit

The outdoor unit should be positioned in a place where:

- the restrictions on installation specified in "Outdoor Unit Installation Diagram" are met,
- drain water causes no trouble or problem in particular,
- both air inlet and outlet have clear paths of air (they should be free of snow in snowy districts),
- the unit is in a clear path of air but not directly exposed to strong winds,
- there is no fear of inflammable gas leakage,
- units can not be installed within 500 mm from open water body, please check with your seller to add heavy corrosion option. Doing that will void warranty,
- operating sound or hot airflow does not cause trouble to neighbours,
- the unit is at least 3m away from any television or radio antenna.

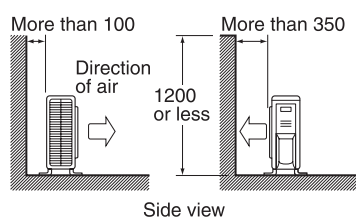
Outdoor Unit Installation Space Requirements

CAUTION

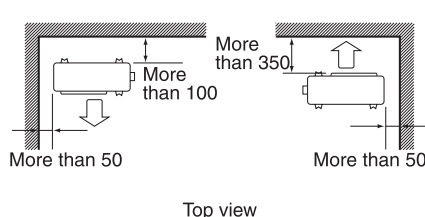
When carrying the outdoor unit during installation, wear gloves to avoid injury.

- Position the unit on a horizontal surface.
Any tilt in the unit (front to back, right to left) should be 3° or less to the horizontal.
- Where a wall or other obstacle is in the path of the outdoor unit's intake or exhaust airflow, follow the installation space requirements below.
- For any of the below installation patterns, the wall height on the outlet side should be 1200mm or less.

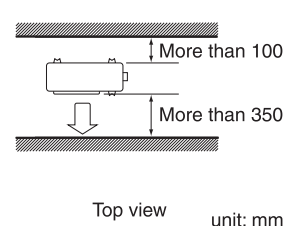
Wall facing one side



Walls facing two sides

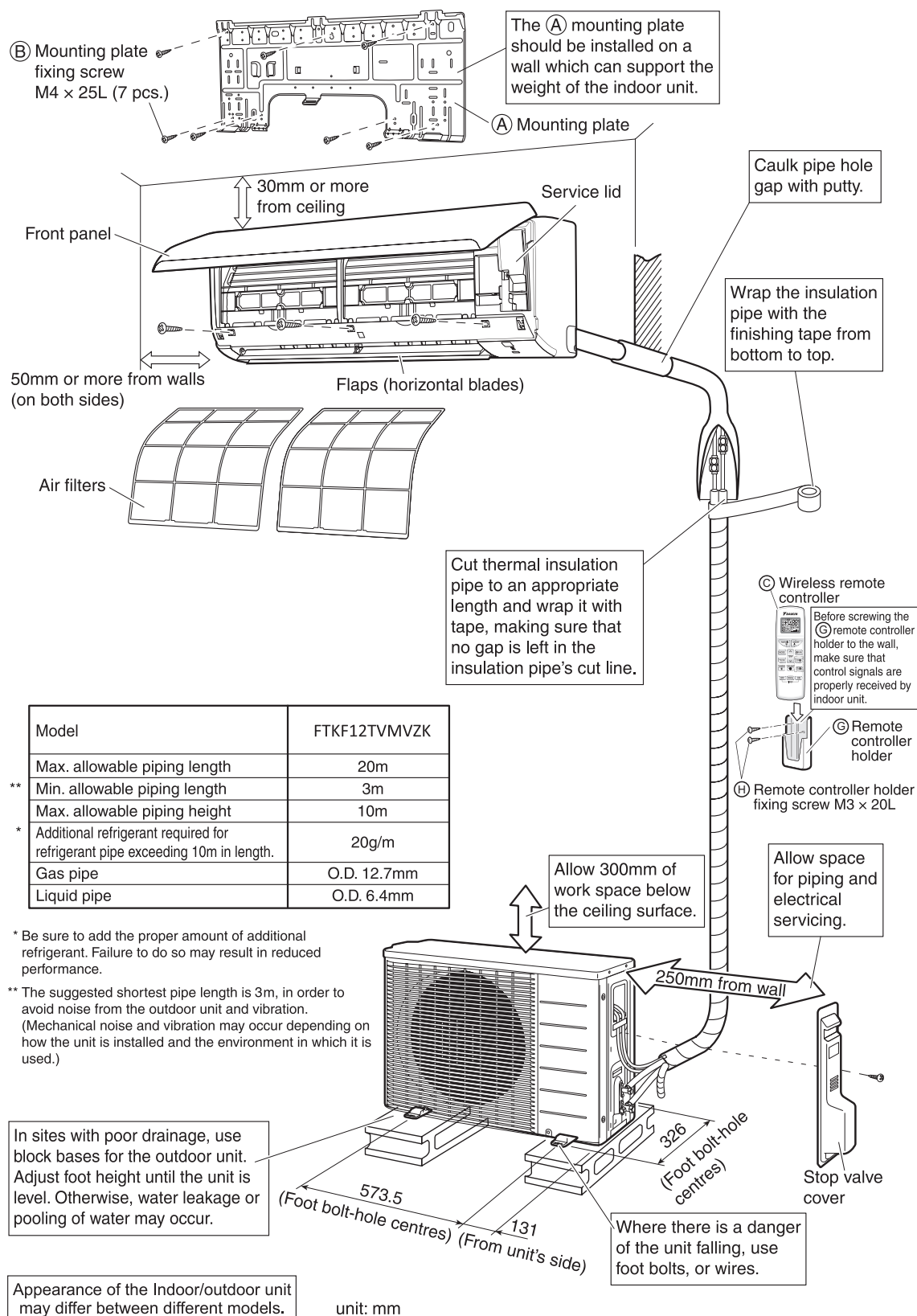


Walls facing three sides



unit: mm

Indoor/Outdoor Unit Installation Diagram



Installation Tips

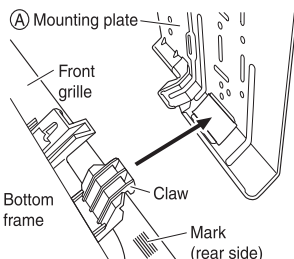
■ Installing and Removing the indoor unit.

⚠ CAUTION

Do not hold the midsection of the bottom of the front grille when carrying the indoor unit.

• Installation method

Hook the claws of the bottom frame to the (A) mounting plate. If the claws are difficult to hook, remove the front grille.



• Removal method

Push up the marked area (at the lower part of the front grille) to release the claws. If it is difficult to release, remove the front grille.

■ Removing and installing the front panel.

• Removal method

Hold the front panel by the indentations in the main unit and open the panel. Slide the front panel sideways to disengage the front panel shaft.

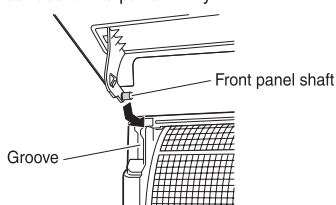
Then pull the front panel toward you to remove it.

You can also remove the front panel by pushing it open until the front panel shaft is disconnected.



• Installation method

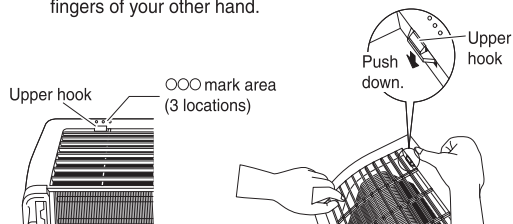
Align the front panel shaft of the front panel with the grooves, and push all the way in, then close slowly. Push the centre of the lower surface of the panel firmly.



■ Removing and installing the front grille.

• Removal method

- 1) Remove the front panel and air filters.
- 2) Remove the flap (horizontal blade).
- 3) Remove the 3 screws from the front grille.
- 4) 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.



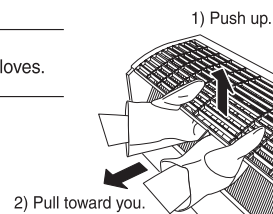
Note: Remove polythene film from front panel wherever applied.

When there is insufficient work space because the unit is close to ceiling



CAUTION

Be sure to wear protection gloves.



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

• Installation method

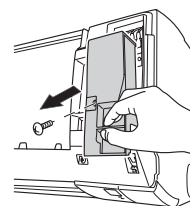
- 1) Install the front grille and firmly engage the upper hooks (3 locations).
- 2) Install 3 screws of the front grille.
- 3) Install the air filters and then mount the front panel.

■ Opening the service lid.

The service lid is removable.

• Opening method

- 1) Remove the service lid screw.
- 2) Pull out the service lid diagonally down in the direction of the arrow.
- 3) Pull down.

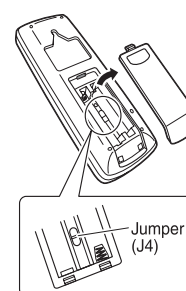


■ How to set the different addresses.

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

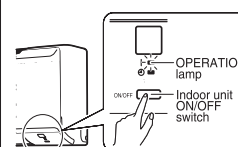
When cutting the jumper (J4) be careful not to damage any of the surrounding parts.

- 1) Remove the battery cover on the remote controller and cut the address jumper (J4).
- 2) Press **TEMP**, **TEMP**, and **MODE** at the same time.
- 3) Press **TEMP**, select **8**, press **MODE**.
(The indoor unit OPERATION lamp will blink for about 1 minute.)
- 4) Press the indoor unit ON/OFF switch while the OPERATION lamp is blinking.



J4	ADDRESS
EXIST	1
CUT	2

- If setting could not be carried out completely while the OPERATION lamp was blinking, carry out the setting process once again from the beginning.
- After setting is complete, pressing **MODE** for about 5 seconds will cause the remote controller to return to the previous display.

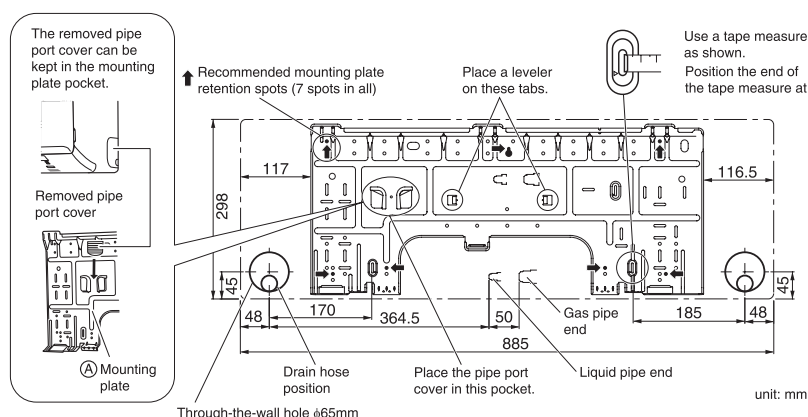


Indoor Unit

1. Installing the mounting plate

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

Recommended mounting plate retention spots and dimensions

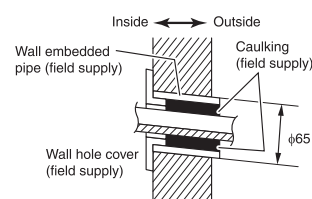


2. Drilling a wall hole and installing wall embedded pipe

⚠ WARNING

For metal frame or metal board walls, be sure to use a wall embedded pipe and wall hole cover in the feed-through hole to prevent possible heat, electrical shock, or fire.

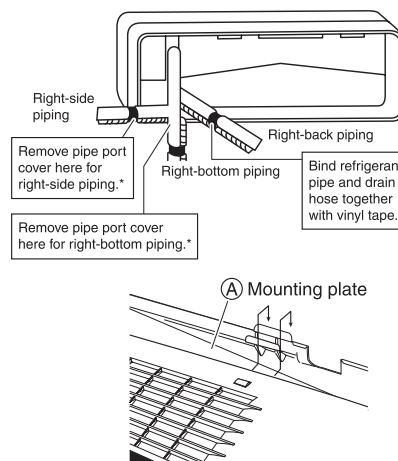
- Be sure to caulk the gaps around the pipes with caulking material to prevent water leakage.
 - Drill a feed-through hole with a 65mm diameter through the wall at a downward angle toward the outside.
 - Insert a wall embedded pipe into the hole.
 - Insert a wall hole cover into the wall pipe.
 - After completing refrigerant piping, wiring and drain piping, caulk pipe hole gap with putty.



3. Installing the indoor unit

Right-Side, Right-Back or Right-Bottom Piping

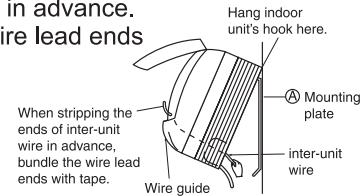
- Attach the drain hose to the underside of the refrigerant pipes with adhesive vinyl tape.
 - * Caulk the gap between the pipe and the front grille with putty.
- Pass the drain hose and refrigerant pipes through the wall hole, then set the indoor unit on the (A) mounting plate hooks.
- Open the front grille, then open the service lid. (Refer to Installation Tips.)



Indoor Unit

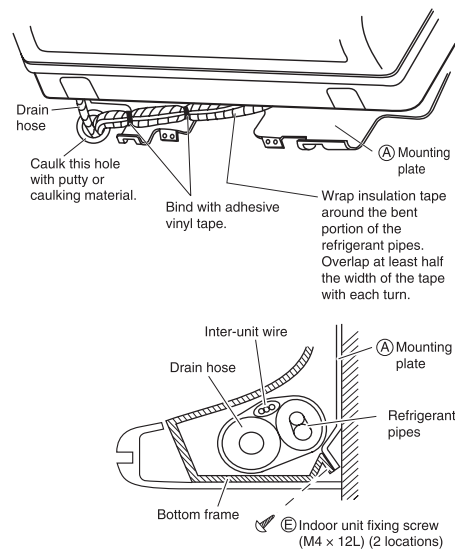
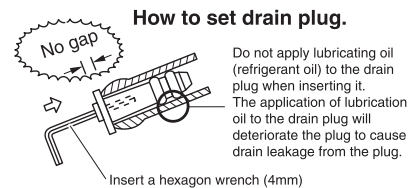
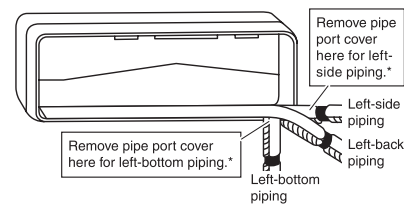
- 4) Pass the inter-unit wire from the outdoor unit through the feed-through wall hole and then through the back of the indoor unit. Pull them through the front side. Bend the ends of cable tie wires upwards for easier work in advance. (If the inter-unit wire ends are to be stripped first, bundle the wire lead ends with adhesive tape.)

- 5) Press the bottom frame of the indoor unit with both hands to set it on the (A) mounting plate hooks. Make sure the wire leads do not catch on the edge of the indoor unit.



Left-Side, Left-Back, or Left Bottom Piping

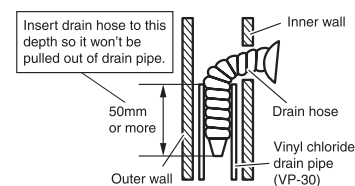
- 1) Attach the drain hose to the underside of the refrigerant pipes with adhesive vinyl tape.
*Caulk the gap between the pipe and the front grille with putty.
- 2) Be sure to connect the drain hose to the drain port in place of a drain plug.
- 3) Shape the refrigerant pipes.
- 4) Pass drain hose and refrigerant pipes through the wall hole, then position the indoor unit on the (A) mounting plate hooks.
- 5) Pull in the inter-unit wires.
- 6) Connect the refrigerant pipes.
- 7) Wrap the refrigerant pipes and drain hose together with insulation tape (field supply) as shown in figure, in case of setting the drain hose through the back of the indoor unit.
- 8) While exercising care so that the inter-unit wire does not catch indoor unit, press the bottom edge of the indoor unit with both hands until it is firmly caught by (A) the mounting plate hooks. Secure the indoor unit to the (A) mounting plate with the (E) indoor unit fixing screws (M4 x 12L).



Wall Embedded Piping

Follow the instructions given under left-side, left-back, or left bottom piping.

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



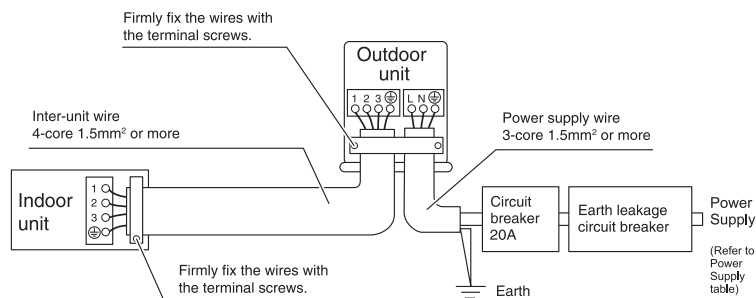
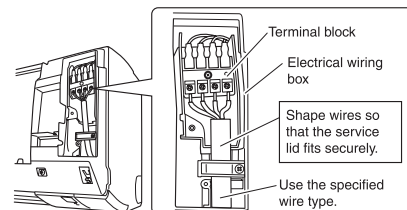
Indoor Unit

4. Wiring

⚠ WARNING

- Do not use tapped 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.
- Do not connect the power wire to the indoor unit. Doing so may cause electric shock or fire.
- "If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard."

- 1) Strip wire ends (15mm).
- 2) Match wire colours with terminal numbers on the indoor and outdoor unit's terminal blocks and firmly secure the wires in the corresponding terminals with the screws.
- 3) Connect the earth wire to the corresponding terminals. Attach the earth wire so that it is not connected to the fan motor connector.
- 4) Pull the wires lightly to make sure they are securely connected, then secure them with the wire retainer.
- 5) Shape the wires so that the service lid fits securely, then close service lid.



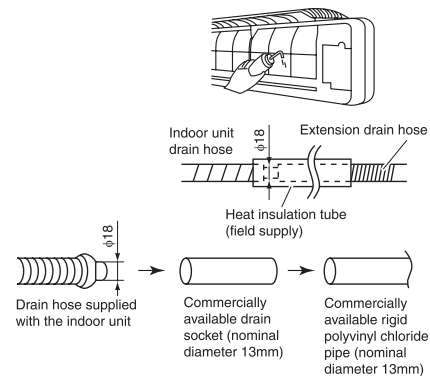
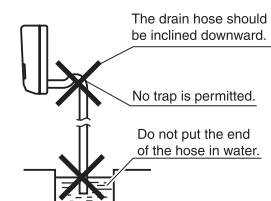
Power Supply Table

Model No.	Power Supply
FTKF12TVMVZK/ RKFG12TVMVZK	50/60Hz, 220-240V~

- A voltage stabilizer is not needed : 160V-265V Protection against fluctuation

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 13mm) directly to the drain hose attached to the indoor unit as with embedded piping work, use any commercially available drain socket (nominal diameter 13mm) as a joint.



Outdoor Unit

1. Installing the outdoor unit

- When installing the outdoor unit, refer to "Precautions for selecting a Location" and the "Outdoor Unit Installation Diagram".

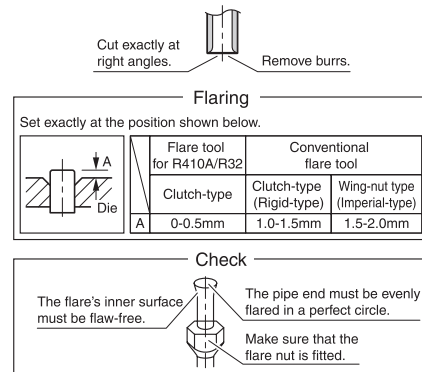
2. Flaring the pipe end



WARNING

Incomplete flaring may result refrigerant gas leakage.

- Cut the pipe end with a pipe cutter.
- Remove burrs with the cut surface facing downward, so that the fillings do not enter the pipe.
- Put the flare nut on the pipe.
- Flare the pipe.
- Check that the flaring has been done correctly.



3. Refrigerant piping

- To prevent gas leakage, apply refrigeration oil to the inner surface of the flare.
- Align the centres 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.

	Piping size	Flare nut tightening torque	Valve cap tightening torque	Service port cap tightening torque
Gas side	O. D. 12.7mm	35-43N•m (357-439kgf•cm)	25-31N•m (255-316kgf•cm)	10.8-14.7N•m (110-150kgf•cm)
Liquid side	O. D. 6.4mm	15-19N•m (153-194kgf•cm)	21-25N•m (214-255kgf•cm)	

Cautions on Pipe Handling

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

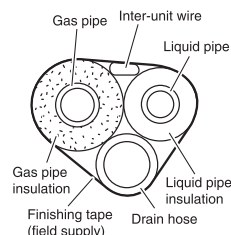


Selection of Copper and Heat Insulation materials

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

- Insulation material : Polyethylene foam
Heat transfer rate : 0.41 to 0.052W/m²K (0.035 to 0.045kcal/m²h °C)
- Be sure to insulate both the gas and liquid piping and to provide insulation dimensions as below.

	Piping size	Minimum bend radius	Piping thickness	Thermal insulation size	Thermal insulation thickness
Gas side	O.D. 12.7mm	40mm or more	Thickness 0.7mm (C1220T-O)	I.D. 14-16mm	6.5mm or above (pipe length 3.5m or less)
Liquid side	O.D. 6.4mm	30mm or more		I.D. 8-10mm	10mm (pipe length over 3.5m)



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

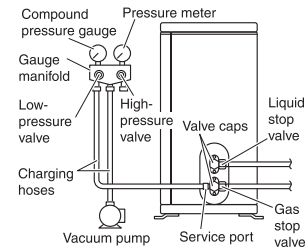
Outdoor Unit

4. Purging air and checking gas leakage

⚠ WARNING

- Make sure that air or any matter other than refrigerant (R32) does not get into the refrigeration cycle.
- If refrigerant gas leaks occur, ventilate the room as soon and as much as possible.
- To prevent air pollution, a vacuum pump should be used for air purging wherever possible.

- If using additional refrigerant, purge the air from the refrigerant pipes and indoor unit using a vacuum pump, then charge additional refrigerant.
- Use a hexagonal wrench to operate the stop valve rod.
- All refrigerant pipe joints should be tightened with a torque wrench to the specified tightening torque.



- 1) Connect projection side (on which pin is pressed) 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 will require no further operation.)
- 3) Begin vacuum pumping and make sure that the compound pressure gauge reads -0.1MPa (-76cmHg) *1.
- 4) Close the gauge manifold's low- pressure valve (Lo) and stop vacuum pumping. (Maintain this condition for a few minutes to make sure that the compound pressure gauge pointer does not swing back.) *2.
- 5) Remove the valve caps from the liquid stop valve and gas stop valve.
- 6) Turn the liquid stop valve's rod 90° counter-clockwise 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 units'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 the gas stop valve's service port, then fully open the liquid and gas stop valves. (Do not attempt to turn the valve rod further than it can go.)
- 8) Tighten the valve caps and service port caps for the liquid and gas stop valves with a torque wrench to the specified torques.

*1. Pipe length vs. vacuum pump run time

Pipe length	Up to 15m	More than 15m
Run time	At least 10 min.	At least 15 min.

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

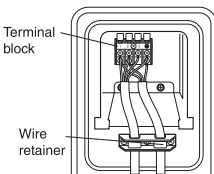
5. Wiring

⚠ WARNING

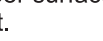
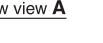
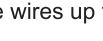
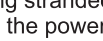
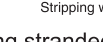
Never use short cables for connecting end of conductor to each other.

- For inter-unit wiring, refer to “4. Wiring” in the section “Indoor Unit”.

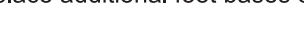
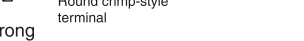
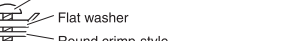
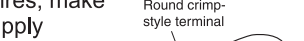
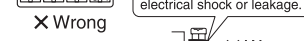
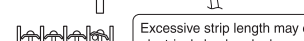
- Regarding the inter-unit wire and power supply wire.



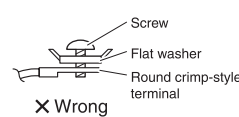
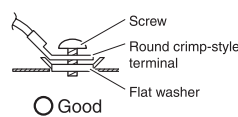
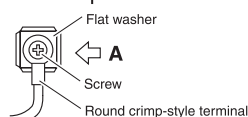
- When connecting the inter-unit wire to the terminal block using a single core wire, be sure to curl the end of the lead. Improper work may cause heat and fire.



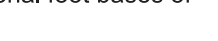
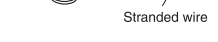
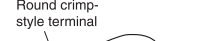
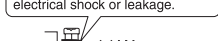
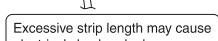
Strip wire end to this point.



- Precautions to be taken for power supply wiring. When using stranded wires, 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.



Strip wire end to this point.



6. Drain work

- If the drain port is covered by a mounting base or floor surface, place additional foot bases of at least 30mm in height under the outdoor unit's feet.

Trial Operation and Testing

1. Trial operation and testing

Check that the inter-unit wire is correctly connected.

Trial operation should be carried out in COOL operation.

1-1 Measure the supply voltage and make sure that it is within the specified range.

1-2 Select the lowest programmable temperature.

1-3 Carry out the trial operation following the instruction in the operation manual to ensure that all functions and parts, such as the movement of the flaps, are working properly.

- To protect the air conditioner, restart operation is disabled for 3 minutes after the system has been turned off.

1-4 After trial operation is complete, set the temperature to a normal level (26°C to 28°C).

- When operating the air conditioner in COOL operation in winter, set it to the trial operation mode using the following method.
 - 1) Press "ON/OFF" Button to turn on the system.
 - 2) Press both of "TEMP" button and "MODE" button at the same time.
 - 3) Press "TEMP" button, select "7", and press "MODE" button for confirmation.
- Trial operation will stop automatically after about 30 minutes. To stop the operation, press "ON/OFF" button.
- Some of the functions cannot be used in trial operation mode.
- The air conditioner draws 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. Items to Check

Test Items	Symptom	Check
Indoor and outdoor units are installed securely.	Fall, vibration, noise	
No refrigerant gas leaks.	Incomplete cooling function	
Refrigerant gas and liquid pipes and indoor drain hose extension are thermally insulated.	Water leakage	
Draining lines is properly installed.	Water leakage	
System is properly earthed.	Electrical leakage	
Only specified wires are used for all wiring, and all wires are connected correctly.	No operation or burn damage	
Indoor or outdoor unit's air intake or exhaust has clear path of air.	Incomplete cooling function	
Stop valves are opened.	Incomplete cooling function	
Indoor unit properly receives remote controller commands.	No operation	

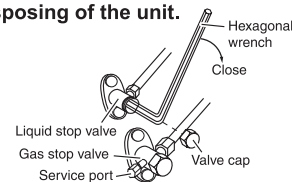
Pump Down Operation

⚠ WARNING

- Make sure that air or any matter other than refrigerant (R32) does not get into the refrigeration cycle.
- When performing a pump down, turn off the compressor before detaching the refrigerant pipes.
(if the refrigerant pipes are detached when the compressor is operating and the stop valves are open, air will be drawn in leading to abnormally high pressure in the refrigeration cycle. This may result in rupturing and bodily injury.)

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

- 1) Remove the valve cap from the liquid stop valve and gas stop valve.
- 2) Begin 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.
- 5) Attach the valve cap once procedures are complete.



Forced cooling operation

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

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

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

11.2 FTKF18TVMUZK

Safety Precautions



Read the precautions in this manual carefully before operating the unit.



This appliance is filled with R32.

- The precautions described herein are classified as WARNING and CAUTION. They both contain important information regarding safety. Be sure to observe all precautions without fail.
- Meaning of WARNING and CAUTION notices

	WARNING	Failure to follow these instructions properly may result in personal injury or loss of life.
	CAUTION	Failure to follow these instructions properly may result in property damage or personal injury, which may be serious depending on the circumstances.

- The safety marks shown in this manual have the following meanings:

	Be sure to follow the instructions.		Be sure to establish an earth connection.		Never attempt.
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- After completing installation, conduct a trial operation to check for faults and explain to the user how to operate the air conditioner and take care of it with the aid of the operation manual.



WARNING

- Ask your dealer or qualified personnel to carry out installation work.
Do not attempt to install the air conditioner yourself. Improper installation may result in water leakage, electric shock or fire.
- Install the air conditioner in accordance with the instructions in this installation manual. Improper installation may result in water leakage, electric shock or fire.
- Be sure to use only the specified accessories and parts for installation work. Failure to use the specified parts may result in the unit falling, water leakage, electric shock or fire.
- Install the air conditioner on a foundation strong enough to hold the weight of the unit. A foundation of insufficient strength may result in the equipment falling and causing injury.
- Electrical work must be performed in accordance with relevant local and national regulations and with the instructions in this installation manual. Be sure to use a dedicated power supply circuit only. Insufficient power supply and improper workmanship may result in electric shock or fire.
- Use a cable of suitable length. Do not use tapped wires or an extension lead, as this may cause overheating, electric shock or fire.
- Make sure that all wiring is secured, the specified wires are used, and that there is no strain on the terminal connections or wires. Improper connections or securing of wires may result in abnormal heat build-up or fire.
- When wiring the power supply and connecting the wiring between the indoor and outdoor units, position the wires so that the electrical wiring box cover can be securely fastened. Improper positioning of the electrical wiring box cover may result in electric shock, fire or overheating terminals.
- If refrigerant gas leaks during installation, ventilate the area immediately.
Toxic gas may be produced if the refrigerant comes into contact with fire.
- After completing installation, check for refrigerant gas leakage. Toxic gas may be produced if the refrigerant gas leaks into the room and comes into contact with a source of fire, such as a fan heater, stove or cooker.
- When installing or relocating the air conditioner, do not let any other substances besides R32, such as air, enter the refrigerant circuit. The presence of air or foreign matter in the refrigerant circuit causes an abnormal pressure rise, which may result in equipment damage and even injury.
- During installation, attach the refrigerant piping securely before operating the compressor. If the refrigerant pipes are not attached and the stop valve is open when the compressor is operated, air will be sucked in, causing abnormal pressure in the refrigeration cycle, which may result in equipment damage and even injury.
- During pump down, stop the compressor before removing the refrigerant piping. If the compressor is still operating and the stop valve is open during pump down, air will be sucked in when the refrigerant piping is removed, causing abnormal pressure in the refrigeration cycle, which may result in equipment damage and even injury.
- Be sure to earth the air conditioner.
Do not earth the unit to a utility pipe, lightning conductor or telephone earth lead. Imperfect earthing may result in electric shock.
- Be sure to install an earth leakage circuit breaker. Failure to install an earth leakage circuit breaker may result in electric shock or fire.
- Do not pump down when the refrigerant has leaked, otherwise the compressor may be damaged.



CAUTION

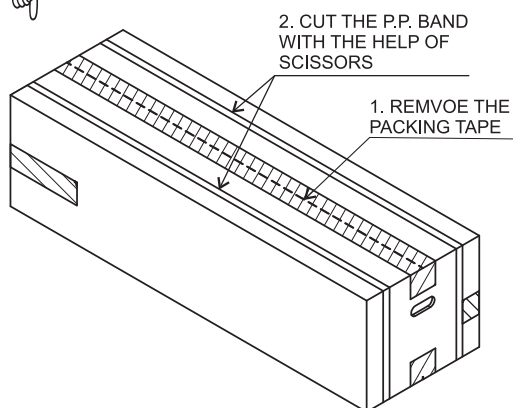
- Do not install the air conditioner at any place where there is a danger of flammable gas leakage.
In the event of a gas leakage, build-up of gas near the air conditioner may cause a fire to break out.
- While following the instructions in this installation manual, install drain piping to ensure proper drainage and insulate the piping to prevent condensation. Improper drain piping may result in indoor water leakage and property damage.
- Tighten the flare nut as specified, such as with a torque wrench. If the flare nut is too tight, it may crack after prolonged use, causing refrigerant leakage.
- Take adequate steps to prevent the outdoor unit being used as a shelter by small animals.
If small animals or birds come into contact with electrical parts, this can cause malfunctions, smoke or fire. Please instruct the customer to always keep the area around the unit clean.
- The refrigerant circuit temperature will be high, therefore the inter-unit wire must be kept away from copper pipes that are not thermally insulated.

Unpacking Procedures

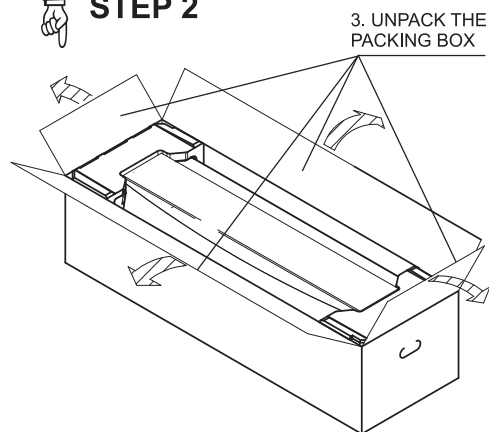
Wall Mounted Unit



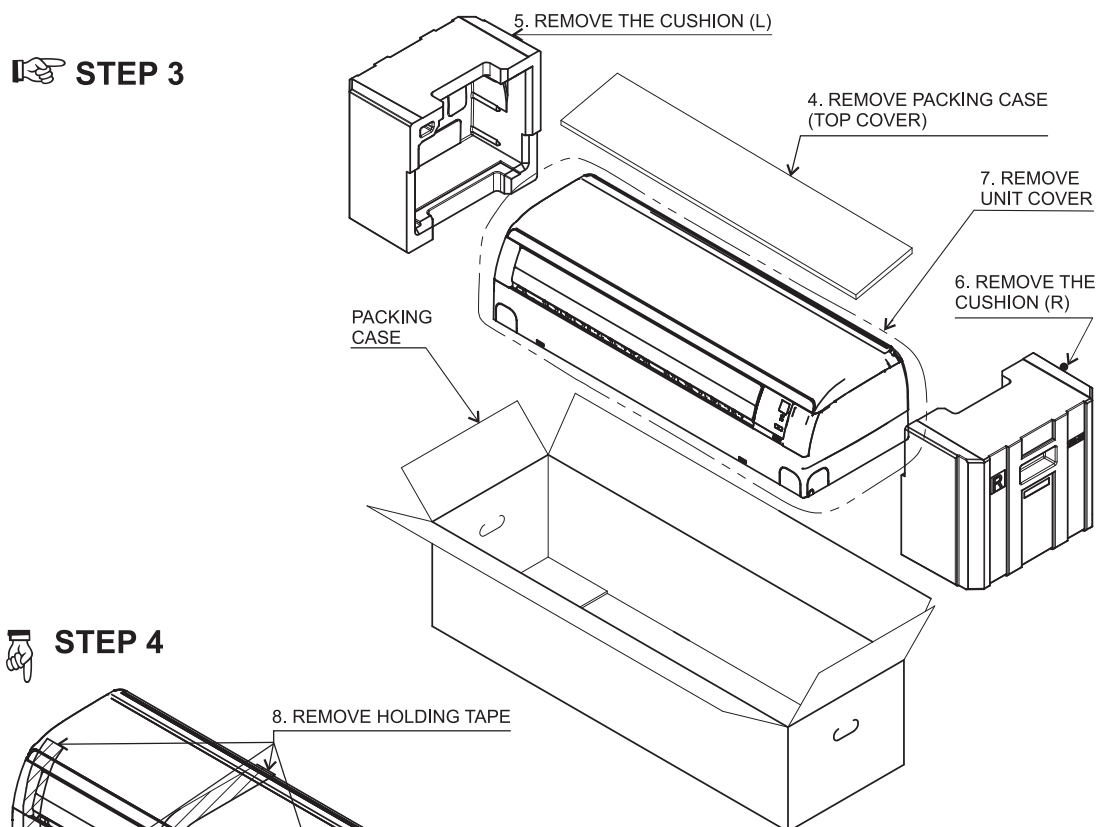
STEP 1



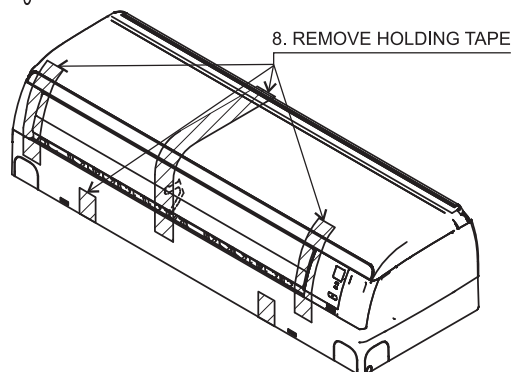
STEP 2



STEP 3



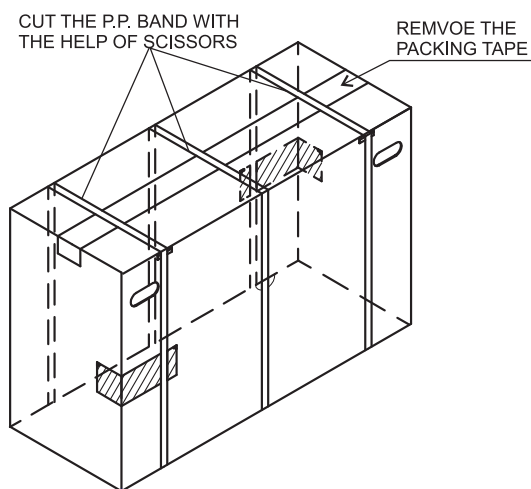
STEP 4



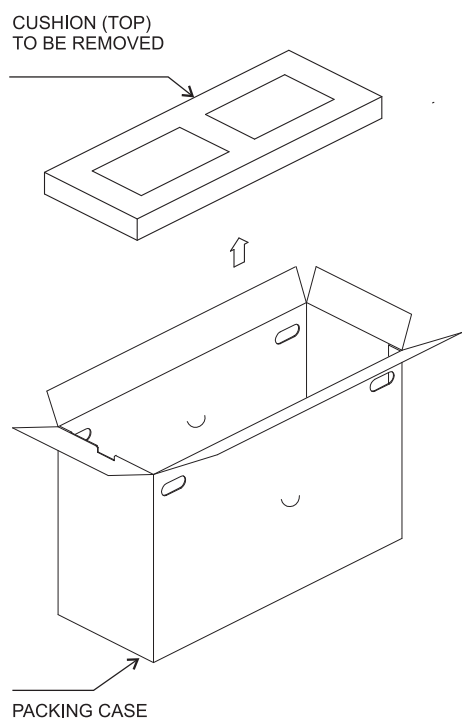
Unpacking Procedures

Outdoor/Split Unit

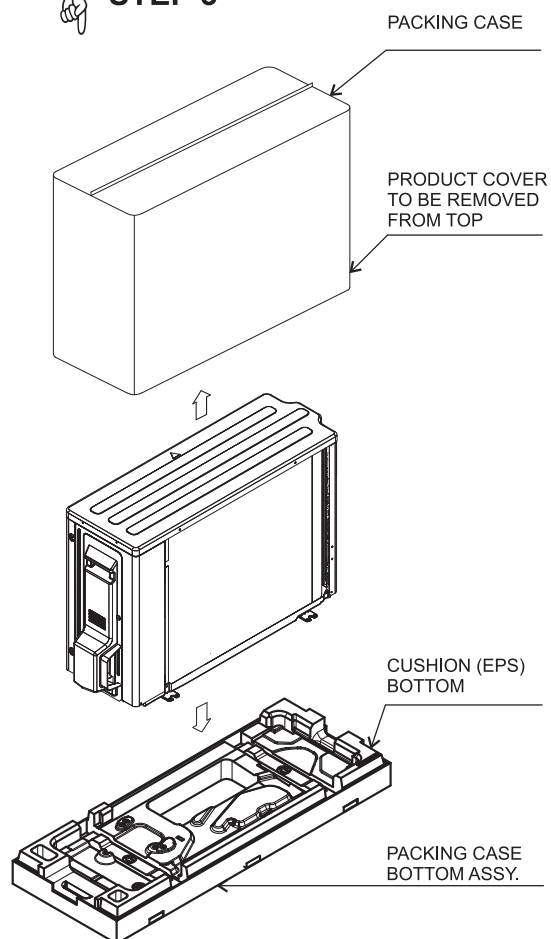
STEP 1



STEP 2



STEP 3



Accessories

Ⓐ ~ Ⓢ

Ⓐ Mounting plate	1
Ⓑ Mounting plate fixing screw M4 × 25L	7
Ⓒ Accessory filter (Optional Part)	2
Ⓓ Wireless remote controller	1
Ⓔ Dry battery (AAA)	2
Ⓕ Indoor unit fixing screw M4 × 12L	2
Ⓖ Operation and Installation Manual (English & Arabic) - 1 each	2
Ⓗ Remote controller holder	1
Ⓢ Remote controller holder fixing screw M3 X 20L	2

Precautions for Selecting a Location

- Before choosing the installation site, obtain user approval.

Indoor unit

The indoor unit should be positioned in a place where:

- the restrictions on the installation requirements specified in "Indoor/Outdoor Installation Diagram" are met,
- both the air inlet and air outlet are unobstructed,
- the unit is not exposed to direct sunlight,
- the unit is away from sources of heat or steam,
- there is no source of machine oil vapour (this may shorten the indoor unit service life),
- cool air is circulated throughout the room,
- the unit is away from electronic ignition type fluorescent lamps (inverter or rapid start type) as they may affect the remote controller range,
- the unit is at least 1m away from any television or radio set (the unit may cause interference with the picture or sound),
- the unit can be installed at the recommended height (1.8m),
- no laundry equipment is nearby.

Outdoor unit

The outdoor unit should be positioned in a place where:

- the restrictions on installation specified in "Outdoor Unit Installation Diagram" are met,
- drain water causes no trouble or problem in particular,
- both air inlet and outlet have clear paths of air (they should be free of snow in snowy districts),
- the unit is in a clear path of air but not directly exposed to strong winds,
- there is no fear of inflammable gas leakage,
- units can not be installed within 500 mm from open water body, please check with your seller to add heavy corrosion option. Doing that will void warranty,
- operating sound or hot airflow does not cause trouble to neighbours,
- the unit is at least 3m away from any television or radio antenna.

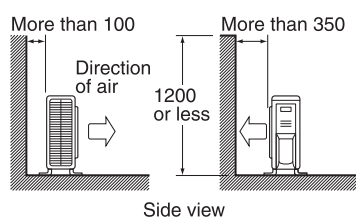
Outdoor Unit Installation Space Requirements

⚠ CAUTION

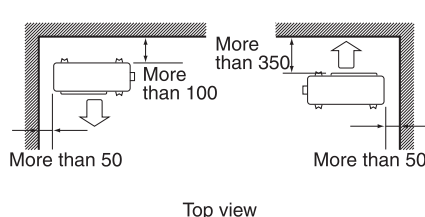
When carrying the outdoor unit during installation, wear gloves to avoid injury.

- Position the unit on a horizontal surface.
Any tilt in the unit (front to back, right to left) should be 3° or less to the horizontal.
- Where a wall or other obstacle is in the path of the outdoor unit's intake or exhaust airflow, follow the installation space requirements below.
- For any of the below installation patterns, the wall height on the outlet side should be 1200mm or less.

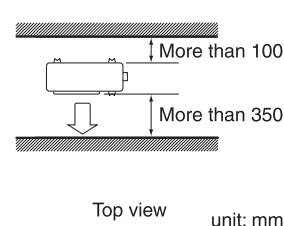
Wall facing one side



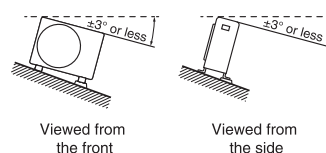
Walls facing two sides



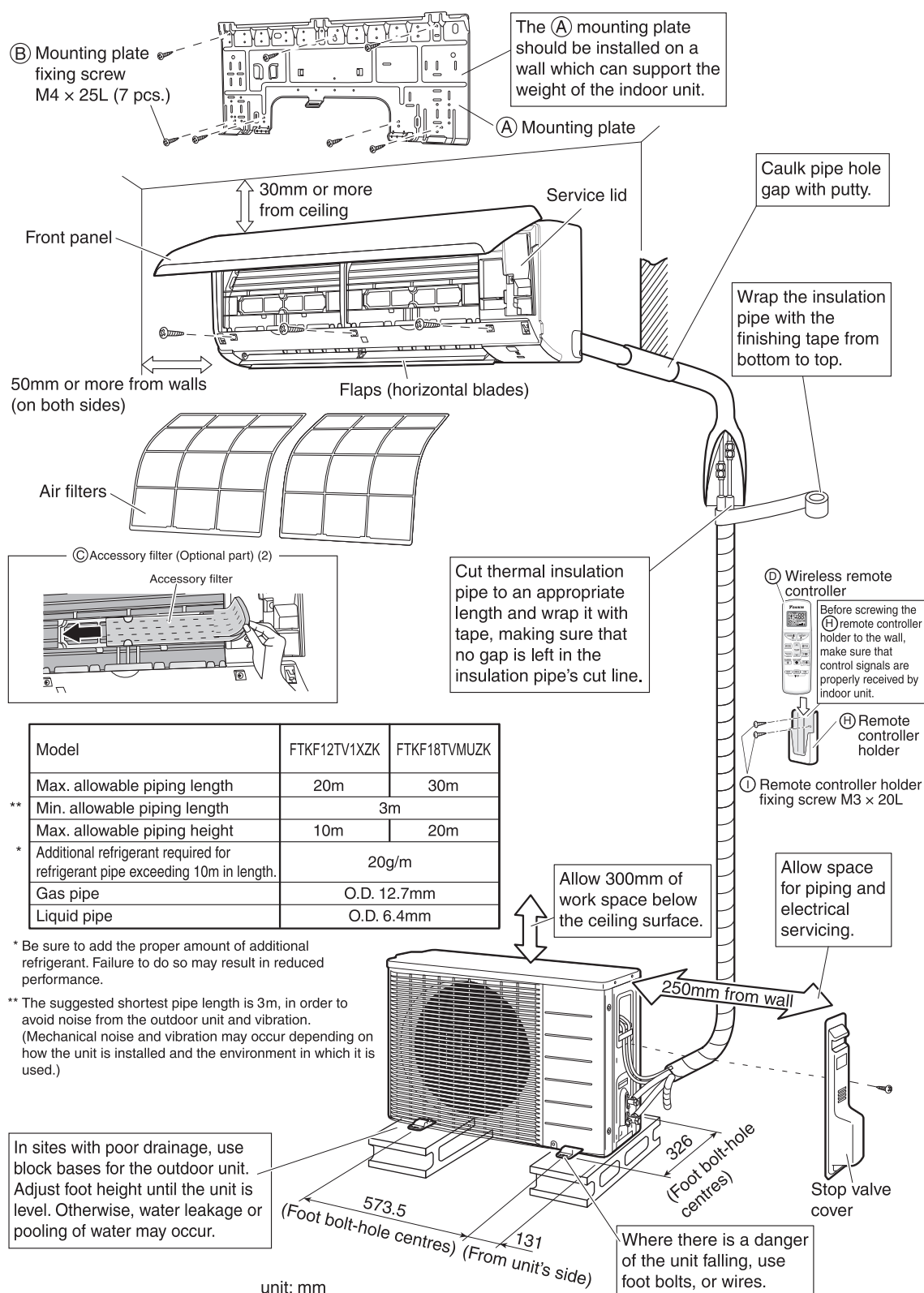
Walls facing three sides



unit: mm



Indoor/Outdoor Unit Installation Diagram



Installation Tips

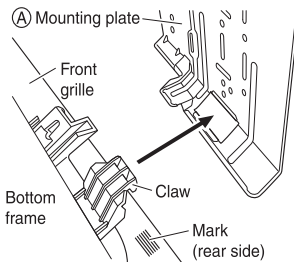
■ Installing and Removing the indoor unit.

⚠ CAUTION

Do not hold the midsection of the bottom of the front grille when carrying the indoor unit.

• Installation method

Hook the claws of the bottom frame to the (A) mounting plate. If the claws are difficult to hook, remove the front grille.



• Removal method

Push up the marked area (at the lower part of the front grille) to release the claws. If it is difficult to release, remove the front grille.

■ Removing and installing the front panel.

• Removal method

Hold the front panel by the indentations in the main unit and open the panel. Slide the front panel sideways to disengage the front panel shaft.

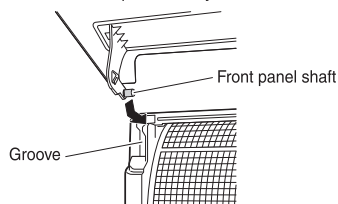
Then pull the front panel toward you to remove it.

You can also remove the front panel by pushing it open until the front panel shaft is disconnected.



• Installation method

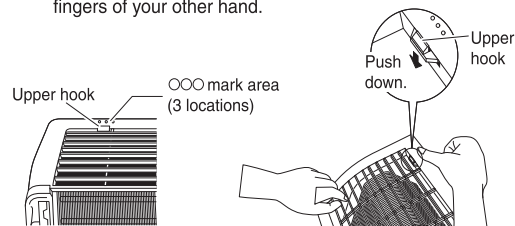
Align the front panel shaft of the front panel with the grooves, and push all the way in, then close slowly. Push the centre of the lower surface of the panel firmly.



■ Removing and installing the front grille.

• Removal method

- 1) Remove the front panel and air filters.
- 2) Remove the flap (horizontal blade).
- 3) Remove the 3 screws from the front grille.
- 4) 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.

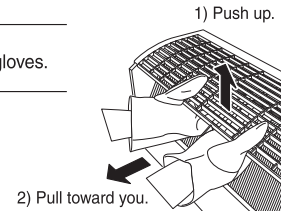


Note: Remove polythene film from front panel wherever applied.

When there is insufficient work space because the unit is close to ceiling

⚠ CAUTION

Be sure to wear protection gloves.



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

• Installation method

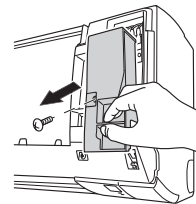
- 1) Install the front grille and firmly engage the upper hooks (3 locations).
- 2) Install 3 screws of the front grille.
- 3) Install the air filters and then mount the front panel.

■ Opening the service lid.

The service lid is removable.

• Opening method

- 1) Remove the service lid screw.
- 2) Pull out the service lid diagonally down in the direction of the arrow.
- 3) Pull down.

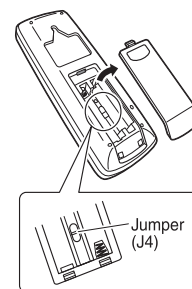


■ How to set the different addresses.

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

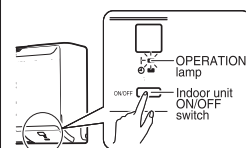
When cutting the jumper (J4) be careful not to damage any of the surrounding parts.

- 1) Remove the battery cover on the remote controller and cut the address jumper (J4).
- 2) Press **TEMP**, **TEMP**, and **MODE** at the same time.
- 3) Press **TEMP**, select **8**, press **MODE**.
(The indoor unit OPERATION lamp will blink for about 1 minute.)
- 4) Press the indoor unit ON/OFF switch while the OPERATION lamp is blinking.



J4	ADDRESS
EXIST	1
CUT	2

- If setting could not be carried out completely while the OPERATION lamp was blinking, carry out the setting process once again from the beginning.
- After setting is complete, pressing **MODE** for about 5 seconds will cause the remote controller to return to the previous display.

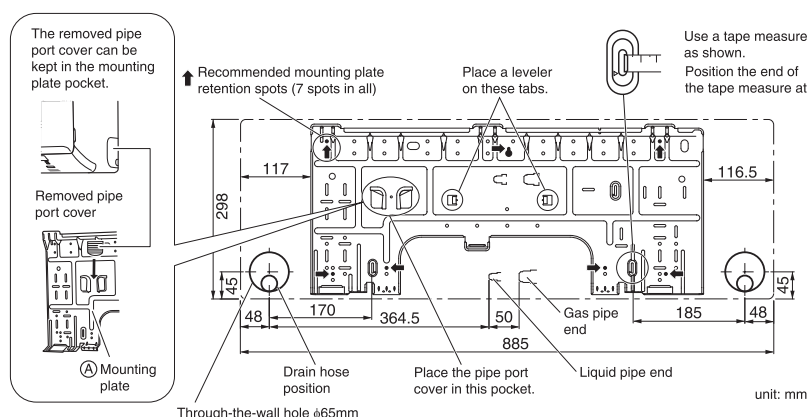


Indoor Unit

1. Installing the mounting plate

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

Recommended mounting plate retention spots and dimensions

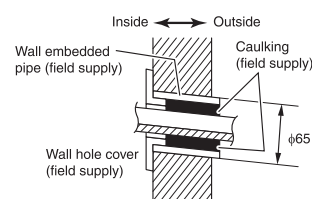


2. Drilling a wall hole and installing wall embedded pipe

⚠ WARNING

For metal frame or metal board walls, be sure to use a wall embedded pipe and wall hole cover in the feed-through hole to prevent possible heat, electrical shock, or fire.

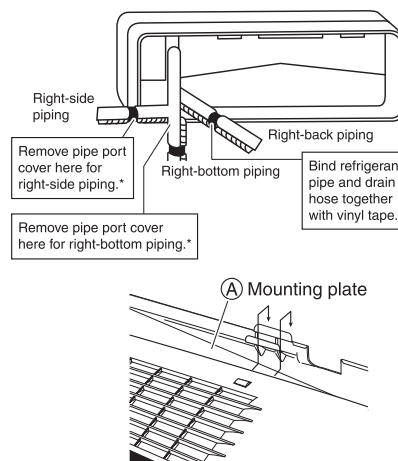
- Be sure to caulk the gaps around the pipes with caulking material to prevent water leakage.
 - Drill a feed-through hole with a 65mm diameter through the wall at a downward angle toward the outside.
 - Insert a wall embedded pipe into the hole.
 - Insert a wall hole cover into the wall pipe.
 - After completing refrigerant piping, wiring and drain piping, caulk pipe hole gap with putty.



3. Installing the indoor unit

Right-Side, Right-Back or Right-Bottom Piping

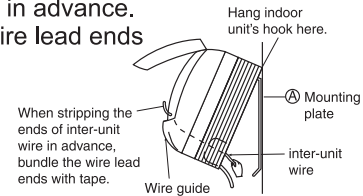
- Attach the drain hose to the underside of the refrigerant pipes with adhesive vinyl tape.
 - * Caulk the gap between the pipe and the front grille with putty.
- Pass the drain hose and refrigerant pipes through the wall hole, then set the indoor unit on the (A) mounting plate hooks.
- Open the front grille, then open the service lid. (Refer to Installation Tips.)



Indoor Unit

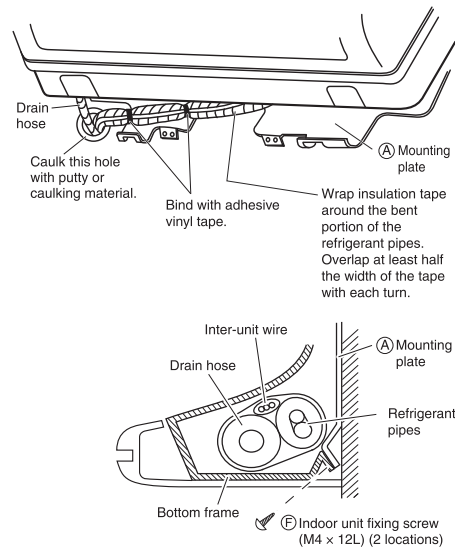
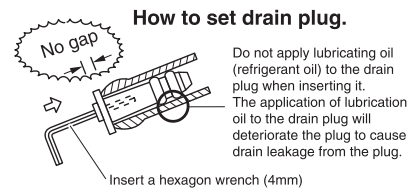
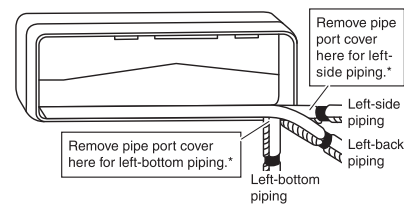
- 4) Pass the inter-unit wire from the outdoor unit through the feed-through wall hole and then through the back of the indoor unit. Pull them through the front side. Bend the ends of cable tie wires upwards for easier work in advance. (If the inter-unit wire ends are to be stripped first, bundle the wire lead ends with adhesive tape.)

- 5) Press the bottom frame of the indoor unit with both hands to set it on the (A) mounting plate hooks. Make sure the wire leads do not catch on the edge of the indoor unit.



Left-Side, Left-Back, or Left Bottom Piping

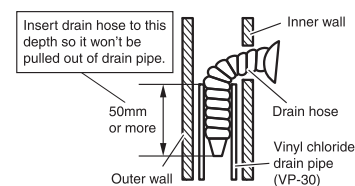
- 1) Attach the drain hose to the underside of the refrigerant pipes with adhesive vinyl tape.
*Caulk the gap between the pipe and the front grille with putty.
- 2) Be sure to connect the drain hose to the drain port in place of a drain plug.
- 3) Shape the refrigerant pipes.
- 4) Pass drain hose and refrigerant pipes through the wall hole, then position the indoor unit on the (A) mounting plate hooks.
- 5) Pull in the inter-unit wires.
- 6) Connect the refrigerant pipes.
- 7) Wrap the refrigerant pipes and drain hose together with insulation tape (field supply) as shown in figure, in case of setting the drain hose through the back of the indoor unit.
- 8) While exercising care so that the inter-unit wire does not catch indoor unit, press the bottom edge of the indoor unit with both hands until it is firmly caught by (A) the mounting plate hooks. Secure the indoor unit to the (A) mounting plate with the (F) indoor unit fixing screws (M4 x 12L).



Wall Embedded Piping

Follow the instructions given under left-side, left-back, or left bottom piping.

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



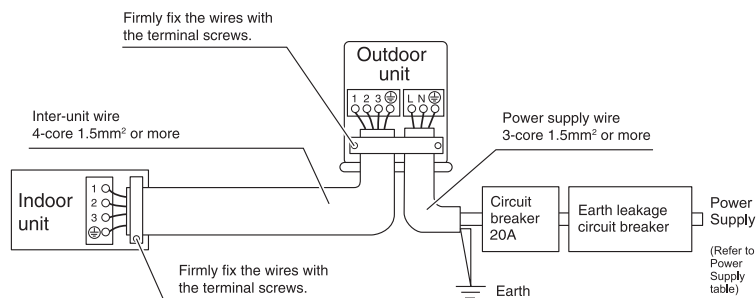
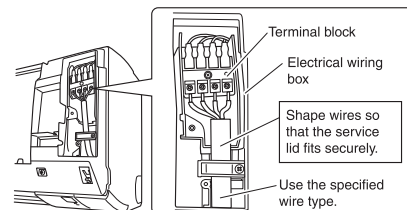
Indoor Unit

4. Wiring

⚠ WARNING

- Do not use tapped 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.
- Do not connect the power wire to the indoor unit. Doing so may cause electric shock or fire.
- "If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard."

- 1) Strip wire ends (15mm).
- 2) Match wire colours with terminal numbers on the indoor and outdoor unit's terminal blocks and firmly secure the wires in the corresponding terminals with the screws.
- 3) Connect the earth wire to the corresponding terminals. Attach the earth wire so that it is not connected to the fan motor connector.
- 4) Pull the wires lightly to make sure they are securely connected, then secure them with the wire retainer.
- 5) Shape the wires so that the service lid fits securely, then close service lid.



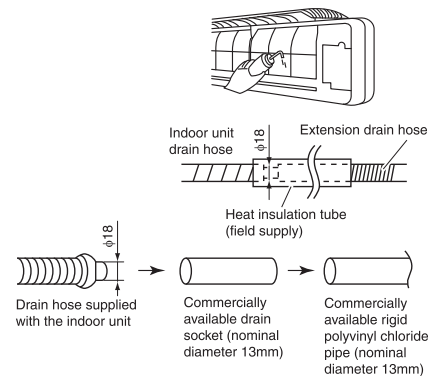
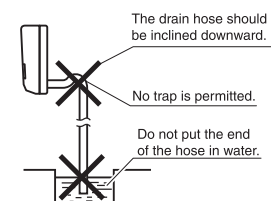
Power Supply Table

Model No.	Power Supply
FTKF12TV1XZK/ RKFG12TV1XZK	50Hz, 220-240V~
FTKF18TVMUZK/ RKFG18TVMUZK	50/60Hz, 220-240V~

- A voltage stabilizer is not needed : 160V-265V Protection against fluctuation

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 13mm) directly to the drain hose attached to the indoor unit as with embedded piping work, use any commercially available drain socket (nominal diameter 13mm) as a joint.



Outdoor Unit

1. Installing the outdoor unit

- When installing the outdoor unit, refer to "Precautions for selecting a Location" and the "Outdoor Unit Installation Diagram".

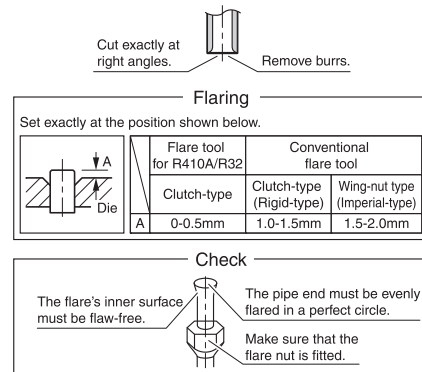
2. Flaring the pipe end



WARNING

Incomplete flaring may result refrigerant gas leakage.

- Cut the pipe end with a pipe cutter.
- Remove burrs with the cut surface facing downward, so that the fillings do not enter the pipe.
- Put the flare nut on the pipe.
- Flare the pipe.
- Check that the flaring has been done correctly.



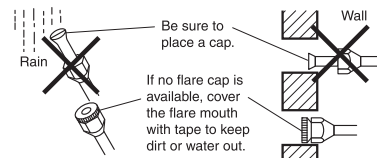
3. Refrigerant piping

- To prevent gas leakage, apply refrigeration oil to the inner surface of the flare.
- Align the centres 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.

	Piping size	Flare nut tightening torque	Valve cap tightening torque	Service port cap tightening torque
Gas side	O. D.12.7mm	35-43N•m (357-439kgf•cm)	25-31N•m (255-316kgf•cm)	10.8-14.7N•m (110-150kgf•cm)
Liquid side	O. D.6.4mm	15-19N•m (153-194kgf•cm)	21-25N•m (214-255kgf•cm)	

Cautions on Pipe Handling

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

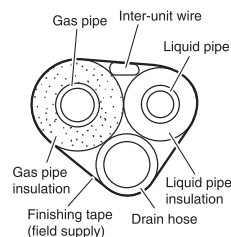


Selection of Copper and Heat Insulation materials

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

- Insulation material : Polyethylene foam
Heat transfer rate : 0.41 to 0.052W/m²K (0.035 to 0.045kcal/m²h °C)
- Be sure to insulate both the gas and liquid piping and to provide insulation dimensions as below.

	Piping size	Minimum bend radius	Piping thickness	Thermal insulation size	Thermal insulation thickness
Gas side	O.D. 12.7mm	40mm or more	Thickness 0.7mm (C1220T-O)	I.D. 14-16mm	6.5mm or above (pipe length 3.5m or less)
Liquid side	O.D. 6.4mm	30mm or more		I.D. 8-10mm	10mm (pipe length over 3.5m)



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

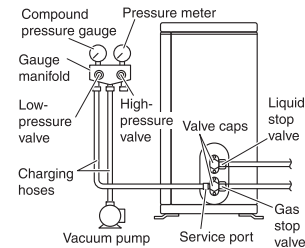
Outdoor Unit

4. Purging air and checking gas leakage

⚠ WARNING

- Make sure that air or any matter other than refrigerant (R32) does not get into the refrigeration cycle.
- If refrigerant gas leaks occur, ventilate the room as soon and as much as possible.
- To prevent air pollution, a vacuum pump should be used for air purging wherever possible.

- If using additional refrigerant, purge the air from the refrigerant pipes and indoor unit using a vacuum pump, then charge additional refrigerant.
- Use a hexagonal wrench to operate the stop valve rod.
- All refrigerant pipe joints should be tightened with a torque wrench to the specified tightening torque.



- 1) Connect projection side (on which pin is pressed) 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 will require no further operation.)
- 3) Begin vacuum pumping and make sure that the compound pressure gauge reads -0.1MPa (-76cmHg) *1.
- 4) Close the gauge manifold's low- pressure valve (Lo) and stop vacuum pumping. (Maintain this condition for a few minutes to make sure that the compound pressure gauge pointer does not swing back.) *2.
- 5) Remove the valve caps from the liquid stop valve and gas stop valve.
- 6) Turn the liquid stop valve's rod 90° counter-clockwise 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 units'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 the gas stop valve's service port, then fully open the liquid and gas stop valves. (Do not attempt to turn the valve rod further than it can go.)
- 8) Tighten the valve caps and service port caps for the liquid and gas stop valves with a torque wrench to the specified torques.

*1. Pipe length vs. vacuum pump run time

Pipe length	Up to 15m	More than 15m
Run time	At least 10 min.	At least 15 min.

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

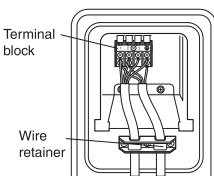
5. Wiring

⚠ WARNING

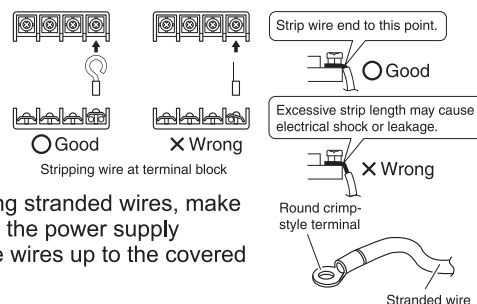
Never use short cables for connecting end of conductor to each other.

- For inter-unit wiring, refer to “4. Wiring” in the section “Indoor Unit”.

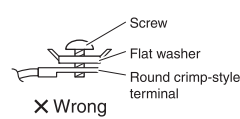
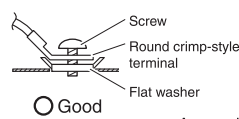
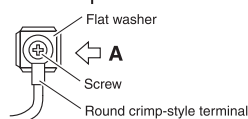
- Regarding the inter-unit wire and power supply wire.



- When connecting the inter-unit wire to the terminal block using a single core wire, be sure to curl the end of the lead. Improper work may cause heat and fire.



- Precautions to be taken for power supply wiring. When using stranded wires, 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.



Arrow view A

6. Drain work

- If the drain port is covered by a mounting base or floor surface, place additional foot bases of at least 30mm in height under the outdoor unit's feet.

Trial Operation and Testing

1. Trial operation and testing

Check that the inter-unit wire is correctly connected.

Trial operation should be carried out in COOL operation.

1-1 Measure the supply voltage and make sure that it is within the specified range.

1-2 Select the lowest programmable temperature.

1-3 Carry out the trial operation following the instruction in the operation manual to ensure that all functions and parts, such as the movement of the flaps, are working properly.

- To protect the air conditioner, restart operation is disabled for 3 minutes after the system has been turned off.

1-4 After trial operation is complete, set the temperature to a normal level (26°C to 28°C).

- When operating the air conditioner in COOL operation in winter, set it to the trial operation mode using the following method.
 - 1) Press "ON/OFF" Button to turn on the system.
 - 2) Press both of "TEMP" button and "MODE" button at the same time.
 - 3) Press "TEMP" button, select "7", and press "MODE" button for confirmation.
- Trial operation will stop automatically after about 30 minutes. To stop the operation, press "ON/OFF" button.
- Some of the functions cannot be used in trial operation mode.
- The air conditioner draws 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. Items to Check

Test Items	Symptom	Check
Indoor and outdoor units are installed securely.	Fall, vibration, noise	
No refrigerant gas leaks.	Incomplete cooling function	
Refrigerant gas and liquid pipes and indoor drain hose extension are thermally insulated.	Water leakage	
Draining lines is properly installed.	Water leakage	
System is properly earthed.	Electrical leakage	
Only specified wires are used for all wiring, and all wires are connected correctly.	No operation or burn damage	
Indoor or outdoor unit's air intake or exhaust has clear path of air.	Incomplete cooling function	
Stop valves are opened.	Incomplete cooling function	
Indoor unit properly receives remote controller commands.	No operation	

Pump Down Operation

⚠ WARNING

- Make sure that air or any matter other than refrigerant (R32) does not get into the refrigeration cycle.
- When performing a pump down, turn off the compressor before detaching the refrigerant pipes.
(if the refrigerant pipes are detached when the compressor is operating and the stop valves are open, air will be drawn in leading to abnormally high pressure in the refrigeration cycle. This may result in rupturing and bodily injury.)

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

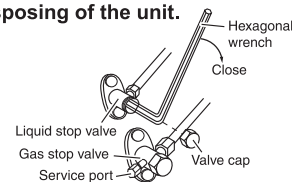
- 1) Remove the valve cap from the liquid stop valve and gas stop valve.
- 2) Begin forced cooling operation.
- 3) After 5 to 10 minutes, close the liquid stop valve with a hexagonal wrench.
- 4) After 2 to 3 minutes, close the gas stop valve and stop forced cooling operation.
- 5) Attach the valve cap once procedures are complete.

Forced cooling operation

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

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

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



11.3 FTKF24TVMTZK

Safety Precautions



Read the precautions in this manual carefully before operating the unit.



This appliance is filled with R32.

- The precautions described herein are classified as WARNING and CAUTION. They both contain important information regarding safety. Be sure to observe all precautions without fail.
- Meaning of WARNING and CAUTION notices

	WARNING	Failure to follow these instructions properly may result in personal injury or loss of life.
	CAUTION	Failure to follow these instructions properly may result in property damage or personal injury, which may be serious depending on the circumstances.

- The safety marks shown in this manual have the following meanings:

	Be sure to follow the instructions.		Be sure to establish an earth connection.		Never attempt.
--	-------------------------------------	--	---	--	----------------

- After completing installation, conduct a trial operation to check for faults and explain to the user how to operate the air conditioner and take care of it with the aid of the operation manual.



WARNING

- Ask your dealer or qualified personnel to carry out installation work.
Do not attempt to install the air conditioner yourself. Improper installation may result in water leakage, electric shock or fire.
- Install the air conditioner in accordance with the instructions in this installation manual. Improper installation may result in water leakage, electric shock or fire.
- Be sure to use only the specified accessories and parts for installation work. Failure to use the specified parts may result in the unit falling, water leakage, electric shock or fire.
- Install the air conditioner on a foundation strong enough to hold the weight of the unit. A foundation of insufficient strength may result in the equipment falling and causing injury.
- Electrical work must be performed in accordance with relevant local and national regulations and with the instructions in this installation manual. Be sure to use a dedicated power supply circuit only. Insufficient power supply and improper workmanship may result in electric shock or fire.
- Use a cable of suitable length. Do not use tapped wires or an extension lead, as this may cause overheating, electric shock or fire.
- Make sure that all wiring is secured, the specified wires are used, and that there is no strain on the terminal connections or wires. Improper connections or securing of wires may result in abnormal heat build-up or fire.
- When wiring the power supply and connecting the wiring between the indoor and outdoor units, position the wires so that the electrical wiring box cover can be securely fastened. Improper positioning of the electrical wiring box cover may result in electric shock, fire or overheating terminals.
- If refrigerant gas leaks during installation, ventilate the area immediately.
Toxic gas may be produced if the refrigerant comes into contact with fire.
- After completing installation, check for refrigerant gas leakage. Toxic gas may be produced if the refrigerant gas leaks into the room and comes into contact with a source of fire, such as a fan heater, stove or cooker.
- When installing or relocating the air conditioner, do not let any other substances besides R32, such as air, enter the refrigerant circuit. The presence of air or foreign matter in the refrigerant circuit causes an abnormal pressure rise, which may result in equipment damage and even injury.
- During installation, attach the refrigerant piping securely before operating the compressor. If the refrigerant pipes are not attached and the stop valve is open when the compressor is operated, air will be sucked in, causing abnormal pressure in the refrigeration cycle, which may result in equipment damage and even injury.
- During pump down, stop the compressor before removing the refrigerant piping. If the compressor is still operating and the stop valve is open during pump down, air will be sucked in when the refrigerant piping is removed, causing abnormal pressure in the refrigeration cycle, which may result in equipment damage and even injury.
- Be sure to earth the air conditioner.
Do not earth the unit to a utility pipe, lightning conductor or telephone earth lead. Imperfect earthing may result in electric shock.
- Be sure to install an earth leakage circuit breaker. Failure to install an earth leakage circuit breaker may result in electric shock or fire.
- Do not pump down when the refrigerant has leaked, otherwise the compressor may be damaged.



CAUTION

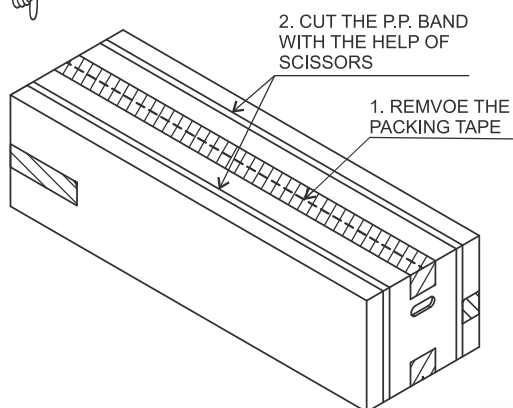
- Do not install the air conditioner at any place where there is a danger of flammable gas leakage.
In the event of a gas leakage, build-up of gas near the air conditioner may cause a fire to break out.
- While following the instructions in this installation manual, install drain piping to ensure proper drainage and insulate the piping to prevent condensation. Improper drain piping may result in indoor water leakage and property damage.
- Tighten the flare nut as specified, such as with a torque wrench. If the flare nut is too tight, it may crack after prolonged use, causing refrigerant leakage.
- Take adequate steps to prevent the outdoor unit being used as a shelter by small animals.
If small animals or birds come into contact with electrical parts, this can cause malfunctions, smoke or fire. Please instruct the customer to always keep the area around the unit clean.
- The refrigerant circuit temperature will be high, therefore the inter-unit wire must be kept away from copper pipes that are not thermally insulated.

Unpacking Procedures

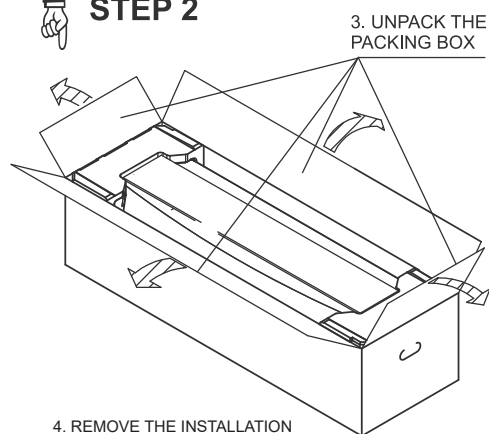
Wall Mounted Unit



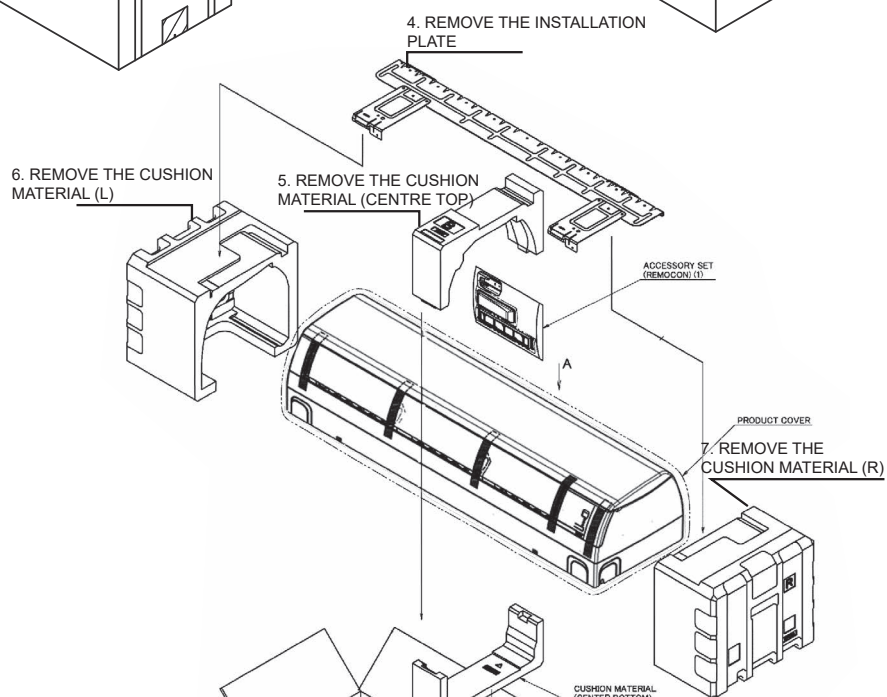
STEP 1



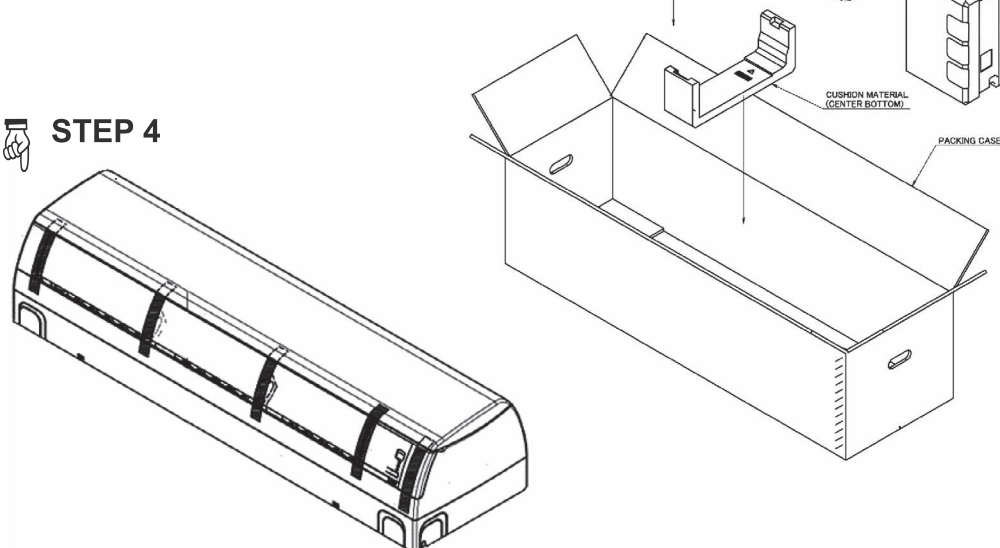
STEP 2



STEP 3



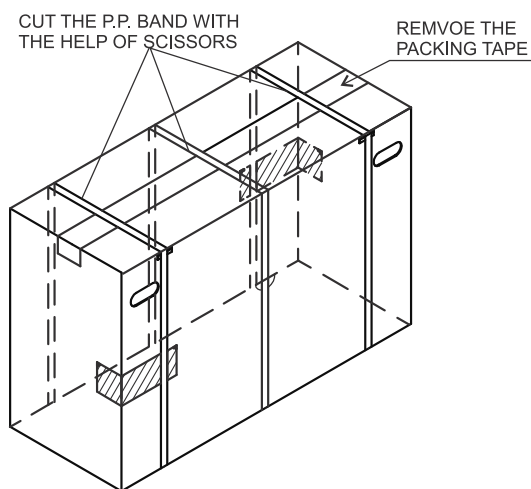
STEP 4



Unpacking Procedures

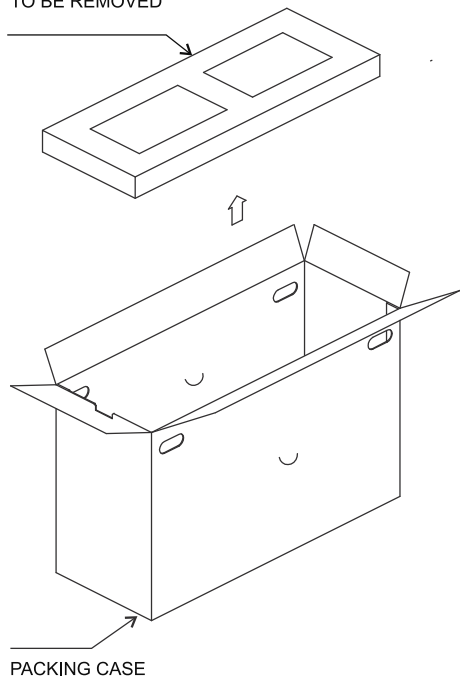
Outdoor/Split Unit

STEP 1



STEP 2

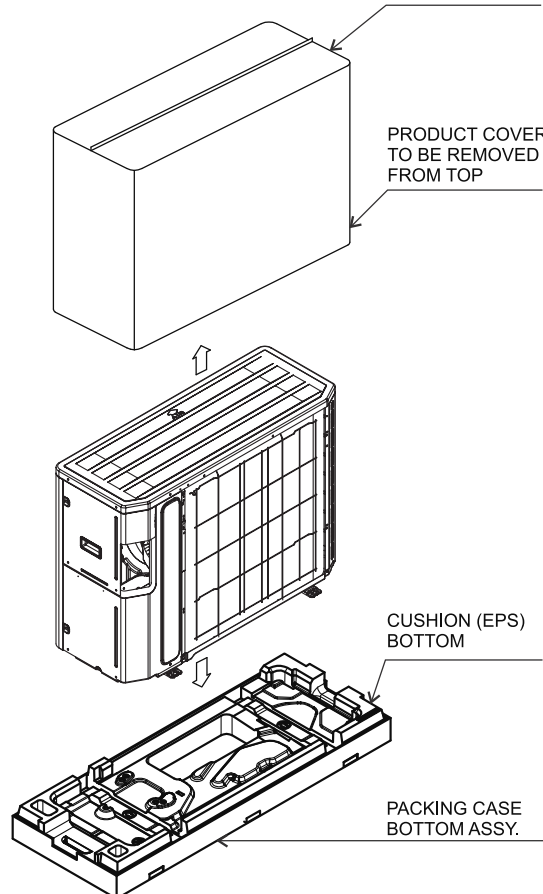
CUSHION (TOP)
TO BE REMOVED



STEP 3

PACKING CASE

PRODUCT COVER
TO BE REMOVED
FROM TOP



Accessories

(A) ~ (F)

(A) Mounting plate	1
(B) Mounting plate fixing screw M4 × 25L	7
(C) Wireless remote controller	1
(D) Dry battery (AAA)	2
(E) Indoor unit fixing screw M4 × 12L	2
(F) Operation and Installation Manual (English & Arabic) - 1 each	2

Precautions for Selecting a Location

- Before choosing the installation site, obtain user approval.

Indoor unit

The indoor unit should be positioned in a place where:

- the restrictions on the installation requirements specified in "Indoor/Outdoor Installation Diagram" are met,
- both the air inlet and air outlet are unobstructed,
- the unit is not exposed to direct sunlight,
- the unit is away from sources of heat or steam,
- there is no source of machine oil vapour (this may shorten the indoor unit service life),
- cool air is circulated throughout the room,
- the unit is away from electronic ignition type fluorescent lamps (inverter or rapid start type) as they may affect the remote controller range,
- the unit is at least 1m away from any television or radio set (the unit may cause interference with the picture or sound),
- the unit can be installed at the recommended height (1.8m),
- no laundry equipment is nearby.

Outdoor unit

The outdoor unit should be positioned in a place where:

- the restrictions on installation specified in "Outdoor Unit Installation Diagram" are met,
- drain water causes no trouble or problem in particular,
- both air inlet and outlet have clear paths of air (they should be free of snow in snowy districts),
- the unit is in a clear path of air but not directly exposed to strong winds,
- there is no fear of inflammable gas leakage,
- units can not be installed within 500 mm from open water body, please check with your seller to add heavy corrosion option. Doing that will void warranty,
- operating sound or hot airflow does not cause trouble to neighbours,
- the unit is at least 3m away from any television or radio antenna.

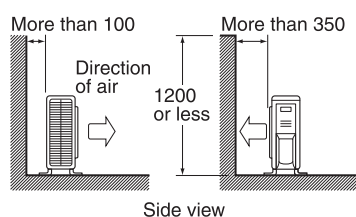
Outdoor Unit Installation Space Requirements

CAUTION

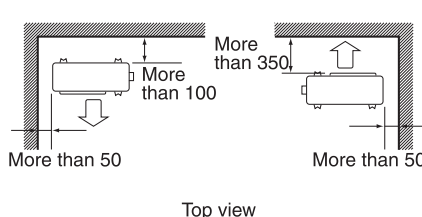
When carrying the outdoor unit during installation, wear gloves to avoid injury.

- Position the unit on a horizontal surface.
Any tilt in the unit (front to back, right to left) should be 3° or less to the horizontal.
- Where a wall or other obstacle is in the path of the outdoor unit's intake or exhaust airflow, follow the installation space requirements below.
- For any of the below installation patterns, the wall height on the outlet side should be 1200mm or less.

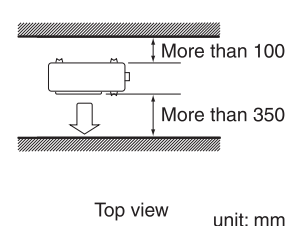
Wall facing one side



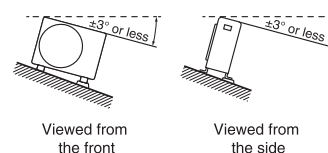
Walls facing two sides



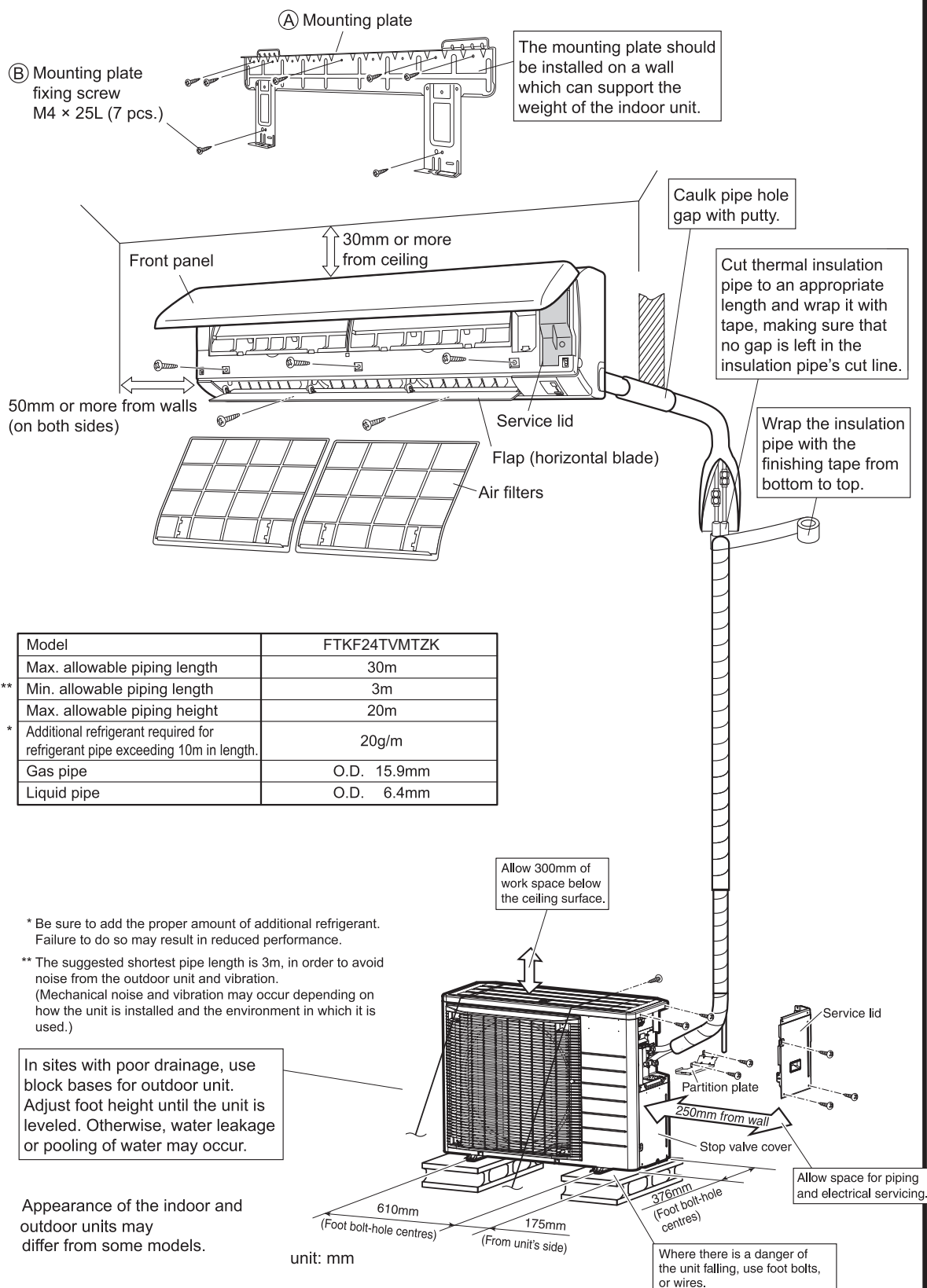
Walls facing three sides



unit: mm



INDOOR/OUTDOOR UNIT INSTALLATION DRAWINGS



Installation Tips

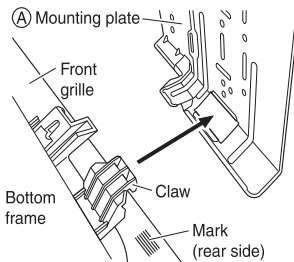
■ Installing and Removing the indoor unit.

⚠ CAUTION

Do not hold the midsection of the bottom of the front grille when carrying the indoor unit.

• Installation method

Hook the claws of the bottom frame to the (A) mounting plate. If the claws are difficult to hook, remove the front grille.



• Removal method

Push up the marked area (at the lower part of the front grille) to release the claws. If it is difficult to release, remove the front grille.

■ Removing and installing the front panel.

• Removal method

Hold the front panel by the indentations in the main unit and open the panel. Slide the front panel sideways to disengage the front panel shaft.

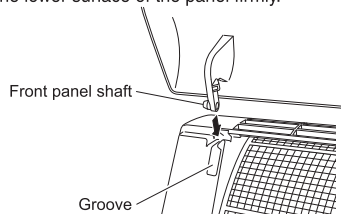
Then pull the front panel toward you to remove it.

You can also remove the front panel by pushing it open until the front panel shaft is disconnected.



• Installation method

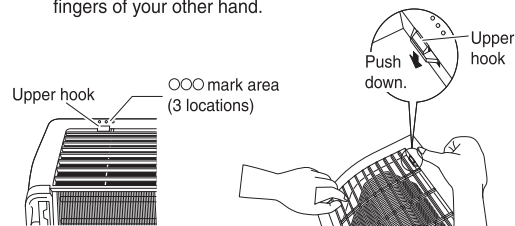
Align the front panel shaft of the front panel with the grooves, and push all the way in, then close slowly. Push the centre of the lower surface of the panel firmly.



■ Removing and installing the front grille.

• Removal method

- 1) Remove the front panel and air filters.
- 2) Remove the flap (horizontal blade).
- 3) Remove the 3 screws from the front grille.
- 4) 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.

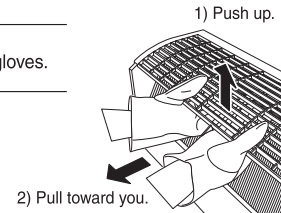


Note: Remove polythene film from front panel wherever applied.

When there is insufficient work space because the unit is close to ceiling

⚠ CAUTION

Be sure to wear protection gloves.



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

• Installation method

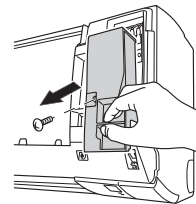
- 1) Install the front grille and firmly engage the upper hooks (3 locations).
- 2) Install 3 screws of the front grille.
- 3) Install the air filters and then mount the front panel.

■ Opening the service lid.

The service lid is removable.

• Opening method

- 1) Remove the service lid screw.
- 2) Pull out the service lid diagonally down in the direction of the arrow.
- 3) Pull down.

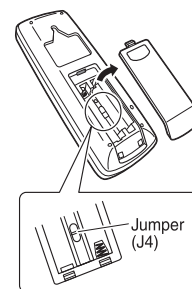


■ How to set the different addresses.

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

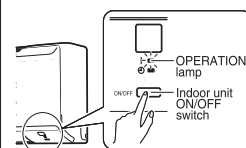
When cutting the jumper (J4) be careful not to damage any of the surrounding parts.

- 1) Remove the battery cover on the remote controller and cut the address jumper (J4).
- 2) Press **TEMP**, **TEMP**, and **MODE** at the same time.
- 3) Press **TEMP**, select **⌂**, press **MODE**.
(The indoor unit OPERATION lamp will blink for about 1 minute.)
- 4) Press the indoor unit ON/OFF switch while the OPERATION lamp is blinking.



J4	ADDRESS
EXIST	1
CUT	2

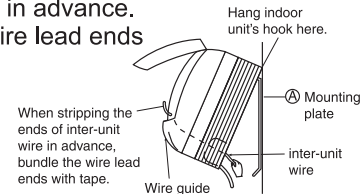
- If setting could not be carried out completely while the OPERATION lamp was blinking, carry out the setting process once again from the beginning.
- After setting is complete, pressing **MODE** for about 5 seconds will cause the remote controller to return to the previous display.



Indoor Unit

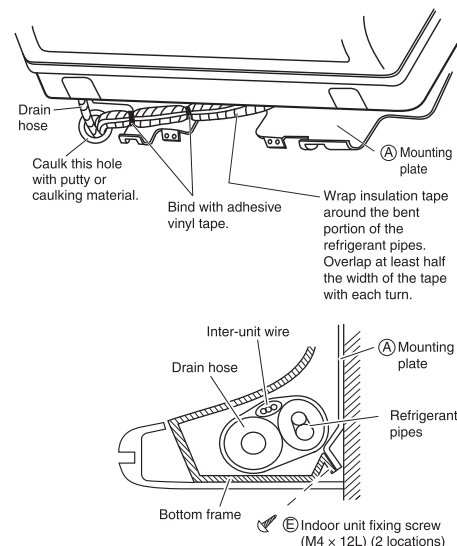
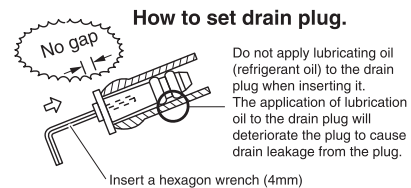
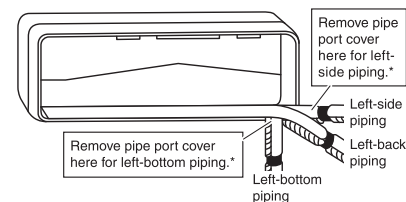
- 4) Pass the inter-unit wire from the outdoor unit through the feed-through wall hole and then through the back of the indoor unit. Pull them through the front side. Bend the ends of cable tie wires upwards for easier work in advance. (If the inter-unit wire ends are to be stripped first, bundle the wire lead ends with adhesive tape.)

- 5) Press the bottom frame of the indoor unit with both hands to set it on the (A) mounting plate hooks. Make sure the wire leads do not catch on the edge of the indoor unit.



Left-Side, Left-Back, or Left Bottom Piping

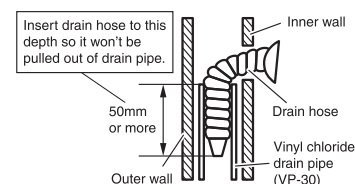
- 1) Attach the drain hose to the underside of the refrigerant pipes with adhesive vinyl tape.
*Caulk the gap between the pipe and the front grille with putty.
- 2) Be sure to connect the drain hose to the drain port in place of a drain plug.
- 3) Shape the refrigerant pipes.
- 4) Pass drain hose and refrigerant pipes through the wall hole, then position the indoor unit on the (A) mounting plate hooks.
- 5) Pull in the inter-unit wires.
- 6) Connect the refrigerant pipes.
- 7) Wrap the refrigerant pipes and drain hose together with insulation tape (field supply) as shown in figure, in case of setting the drain hose through the back of the indoor unit.
- 8) While exercising care so that the inter-unit wire does not catch indoor unit, press the bottom edge of the indoor unit with both hands until it is firmly caught by (A) the mounting plate hooks. Secure the indoor unit to the (A) mounting plate with the (E) indoor unit fixing screws (M4 x 12L).



Wall Embedded Piping

Follow the instructions given under left-side, left-back, or left bottom piping.

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



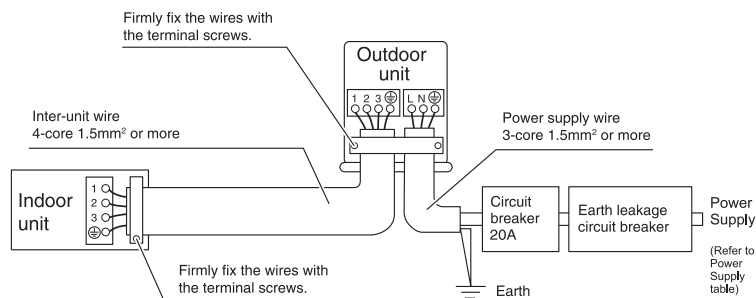
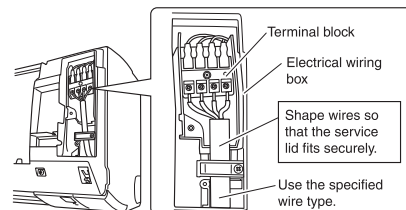
Indoor Unit

4. Wiring

⚠ WARNING

- Do not use tapped 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.
- Do not connect the power wire to the indoor unit. Doing so may cause electric shock or fire.
- "If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard."

- 1) Strip wire ends (15mm).
- 2) Match wire colours with terminal numbers on the indoor and outdoor unit's terminal blocks and firmly secure the wires in the corresponding terminals with the screws.
- 3) Connect the earth wire to the corresponding terminals. Attach the earth wire so that it is not connected to the fan motor connector.
- 4) Pull the wires lightly to make sure they are securely connected, then secure them with the wire retainer.
- 5) Shape the wires so that the service lid fits securely, then close service lid.



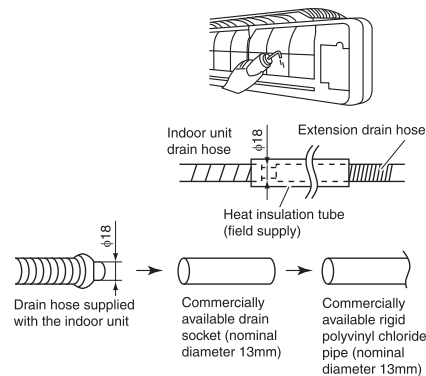
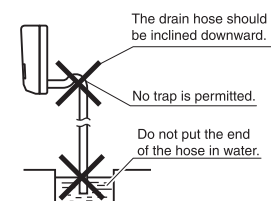
Power Supply Table

Model No.	Power Supply
FTKF24TVMTZK RKFG24TVMTZK	50/60Hz, 220-240V~

- A voltage stabilizer is not needed : 160V-265V Protection against fluctuation

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 13mm) directly to the drain hose attached to the indoor unit as with embedded piping work, use any commercially available drain socket (nominal diameter 13mm) as a joint.



Outdoor Unit

1. Installing the outdoor unit

- When installing the outdoor unit, refer to "Precautions for selecting a Location" and the "Outdoor Unit Installation Diagram".

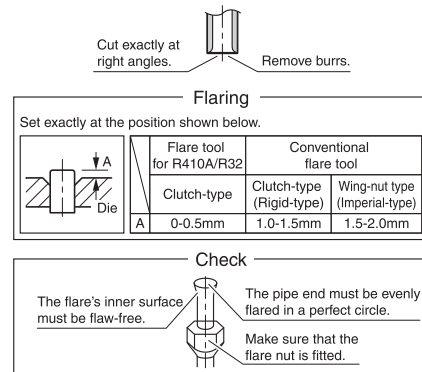
2. Flaring the pipe end



WARNING

Incomplete flaring may result refrigerant gas leakage.

- Cut the pipe end with a pipe cutter.
- Remove burrs with the cut surface facing downward, so that the fillings do not enter the pipe.
- Put the flare nut on the pipe.
- Flare the pipe.
- Check that the flaring has been done correctly.



3. Refrigerant piping

- To prevent gas leakage, apply refrigeration oil to the inner surface of the flare.
- Align the centres 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.

	Piping size	Flare nut tightening torque	Valve cap tightening torque	Service port cap tightening torque
Gas side	O.D. 15.9mm	61.8-75.4N•m (630-770kgf•cm)	48.1-59.7N•m (490-610kgf•cm)	10.8-14.7N•m (110-150kgf•cm)
Liquid side	O.D. 6.4mm	15-19N•m (153-194kgf•cm)	21-25N•m (214-255kgf•cm)	

Cautions on Pipe Handling

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

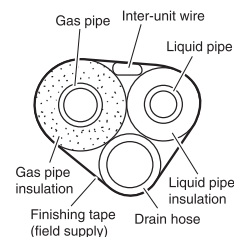


Selection of Copper and Heat Insulation materials

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

- Insulation material : Polyethylene foam
Heat transfer rate : 0.41 to 0.052W/m²K (0.035 to 0.045kcal/m²h °C)
- Be sure to insulate both the gas and liquid piping and to provide insulation dimensions as below.

	Piping size	Minimum bend radius	Piping thickness	Thermal insulation size	Thermal insulation thickness
Gas side	O.D. 15.9mm	50mm or more	Thickness 0.8mm (C1220T-O)	I.D. 14-16mm	6.5mm or above (pipe length 3.5m or less)
Liquid side	O.D. 6.4mm	30mm or more		I.D. 8-10mm	10mm (pipe length over 3.5m)



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

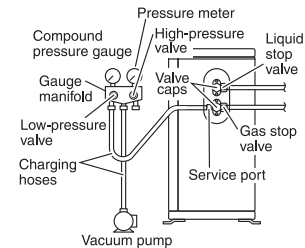
Outdoor Unit

4. Purging air and checking gas leakage

⚠ WARNING

- Make sure that air or any matter other than refrigerant (R32) does not get into the refrigeration cycle.
- If refrigerant gas leaks occur, ventilate the room as soon and as much as possible.
- To prevent air pollution, a vacuum pump should be used for air purging wherever possible.

- If using additional refrigerant, purge the air from the refrigerant pipes and indoor unit using a vacuum pump, then charge additional refrigerant.
- Use a hexagonal wrench to operate the stop valve rod.
- All refrigerant pipe joints should be tightened with a torque wrench to the specified tightening torque.



- 1) Connect projection side (on which pin is pressed) 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 will require no further operation.)
- 3) Begin vacuum pumping and make sure that the compound pressure gauge reads -0.1MPa (-76cmHg) *1.
- 4) Close the gauge manifold's low- pressure valve (Lo) and stop vacuum pumping. (Maintain this condition for a few minutes to make sure that the compound pressure gauge pointer does not swing back.) *2.
- 5) Remove the valve caps from the liquid stop valve and gas stop valve.
- 6) Turn the liquid stop valve's rod 90° counter-clockwise 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 units'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 the gas stop valve's service port, then fully open the liquid and gas stop valves. (Do not attempt to turn the valve rod further than it can go.)
- 8) Tighten the valve caps and service port caps for the liquid and gas stop valves with a torque wrench to the specified torques.

*1. Pipe length vs. vacuum pump run time

Pipe length	Up to 15m	More than 15m
Run time	At least 10 min.	At least 15 min.

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

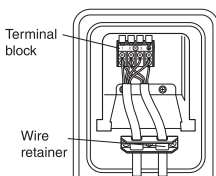
5. Wiring

⚠ WARNING

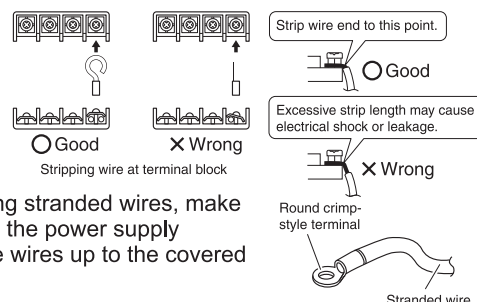
Never use short cables for connecting end of conductor to each other.

- For inter-unit wiring, refer to "4. Wiring" in the section "Indoor Unit".

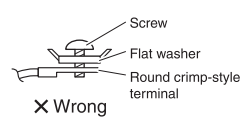
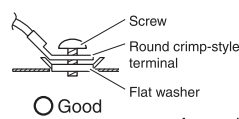
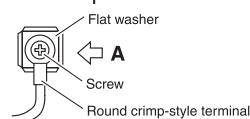
- Regarding the inter-unit wire and power supply wire.



- When connecting the inter-unit wire to the terminal block using a single core wire, be sure to curl the end of the lead. Improper work may cause heat and fire.



- Precautions to be taken for power supply wiring. When using stranded wires, 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.



6. Drain work

- If the drain port is covered by a mounting base or floor surface, place additional foot bases of at least 30mm in height under the outdoor unit's feet.

Trial Operation and Testing

1. Trial operation and testing

Check that the inter-unit wire is correctly connected.

Trial operation should be carried out in COOL operation.

1-1 Measure the supply voltage and make sure that it is within the specified range.

1-2 Select the lowest programmable temperature.

1-3 Carry out the trial operation following the instruction in the operation manual to ensure that all functions and parts, such as the movement of the flaps, are working properly.

- To protect the air conditioner, restart operation is disabled for 3 minutes after the system has been turned off.

1-4 After trial operation is complete, set the temperature to a normal level (26°C to 28°C).

- When operating the air conditioner in COOL operation in winter, set it to the trial operation mode using the following method.
 - 1) Press "ON/OFF" Button to turn on the system.
 - 2) Press both of "TEMP" button and "MODE" button at the same time.
 - 3) Press "TEMP" button, select "7", and press "MODE" button for confirmation.
- Trial operation will stop automatically after about 30 minutes. To stop the operation, press "ON/OFF" button.
- Some of the functions cannot be used in trial operation mode.
- The air conditioner draws 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. Items to Check

Test Items	Symptom	Check
Indoor and outdoor units are installed securely.	Fall, vibration, noise	
No refrigerant gas leaks.	Incomplete cooling function	
Refrigerant gas and liquid pipes and indoor drain hose extension are thermally insulated.	Water leakage	
Draining lines is properly installed.	Water leakage	
System is properly earthed.	Electrical leakage	
Only specified wires are used for all wiring, and all wires are connected correctly.	No operation or burn damage	
Indoor or outdoor unit's air intake or exhaust has clear path of air.	Incomplete cooling function	
Stop valves are opened.	Incomplete cooling function	
Indoor unit properly receives remote controller commands.	No operation	

Pump Down Operation

WARNING

- Make sure that air or any matter other than refrigerant (R32) does not get into the refrigeration cycle.
- When performing a pump down, turn off the compressor before detaching the refrigerant pipes.
(if the refrigerant pipes are detached when the compressor is operating and the stop valves are open, air will be drawn in leading to abnormally high pressure in the refrigeration cycle. This may result in rupturing and bodily injury.)

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

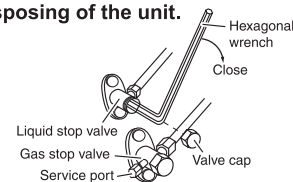
- 1) Remove the valve cap from the liquid stop valve and gas stop valve.
- 2) Begin forced cooling operation.
- 3) After 5 to 10 minutes, close the liquid stop valve with a hexagonal wrench.
- 4) After 2 to 3 minutes, close the gas stop valve and stop forced cooling operation.
- 5) Attach the valve cap once procedures are complete.

Forced cooling operation

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

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

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



12. Operation Manual

12.1 FTKF-T Series (12/24 class) (FTKF12TVMVZK as Representative)

Safety Precautions

	Read the precautions in this manual carefully before operating the unit.		This appliance is filled with R32.
---	--	---	------------------------------------

- Keep this manual where the user can easily find it.
- The precautions described herein are classified as WARNING and CAUTION. They both contain important information regarding safety. Be sure to observe all precautions without fail.

WARNING

Failure to follow these instructions properly may result in personal injury or loss of life.

CAUTION

Failure to follow these instructions properly may result in property damage or personal injury, which may be serious depending on the circumstances.



Never attempt.



Be sure to follow the instructions.



Be sure to establish an earth connection.

- After reading, keep this manual in a convenient place so that you can refer to it whenever necessary. If the equipment is transferred to a new user, be sure also to hand over the manual.

WARNING

- To avoid fire, explosion or injury, do not operate the unit when harmful gases (e.g. flammable or corrosive) are detected near the unit. 
- Be aware that prolonged, direct exposure to cool air from the air conditioner, or to air that is too cool, can be harmful to your physical condition and health.
- Do not place objects, including rods, your fingers, etc., in the air inlet or outlet. Product damage may result due to contact with the air conditioner's high-speed fan blades.
- Do not attempt to repair, dismantle, reinstall or modify the air conditioner yourself as this may result in water leakage, electric shock or fire hazards.
- Do not use flammable spray near the air conditioner, or otherwise fire may result.
- Do not use a refrigerant other than the one indicated on the outdoor unit (R32) when installing, moving or repairing. Using other refrigerants may cause trouble or damage to the unit, and personal injury.
- To avoid electric shock, do not operate with wet hands.

- Beware of fire in case of refrigerant leakage. If the air conditioner is not operating correctly, i.e. not generating cool air, refrigerant leakage could be the cause. Consult your service centre for assistance. The refrigerant within the air conditioner is safe and normally does not leak. However, in the event of a leakage, contact with a naked burner, heater or cooker may result in generation of noxious gas. Do not use the air conditioner until a qualified service person confirms that the leakage has been repaired. 
- Do not attempt to install or repair the air conditioner yourself. Improper workmanship may result in water leakage, electric shock or fire hazards. Please contact your local service centre or qualified personnel for installation and maintenance work.
- If the air conditioner is malfunctioning (giving off a burning odour, etc.), turn off power to the unit and contact your local service centre. Continued operation under such circumstances may result in a failure, electric shock or fire hazards.
- Be sure to install an earth leakage circuit breaker. Failure to install the earth leakage circuit breaker may result in electric shock or fire.

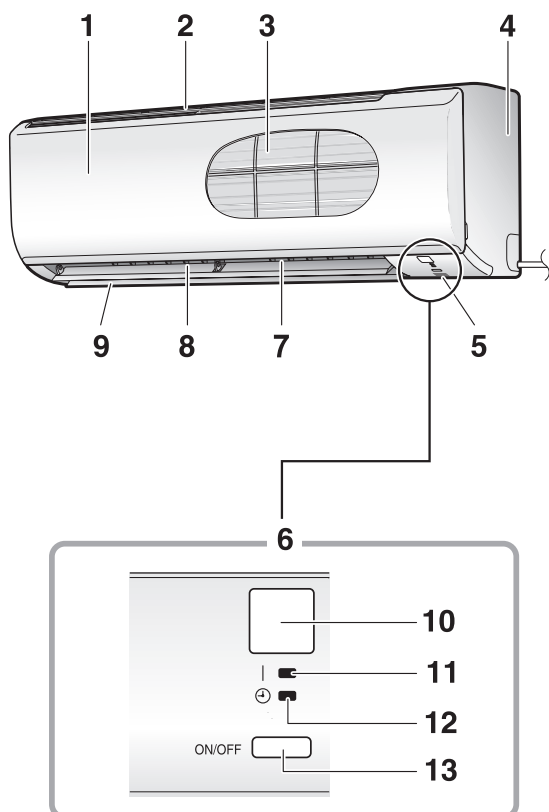
- Be sure to earth the unit. Do not earth the unit to a utility pipe, lightning conductor or telephone earth lead.  Imperfect earthing may result in electric shock.

CAUTION

- Do not use the air conditioner for purposes other than those for which it is intended. Do not use the air conditioner for cooling precision instruments, food, plants, animals or works of art as this may adversely affect the performance, quality and/or longevity of the object concerned. 
- Do not expose plants or animals directly to the airflow from the unit as this may cause adverse effects.
- Do not place appliances that produce naked flames in places exposed to the airflow from the unit as this may impair combustion of the burner.
- Do not block the air inlets or outlets. Impaired airflow may result in insufficient performance or trouble.
- Do not sit on the outdoor unit, put things on the unit, or pull the unit. Doing so may cause accidents, such as falling or toppling down, thus resulting in injury, product malfunctioning, or product damage.
- Do not place objects that are susceptible to moisture directly beneath the indoor or outdoor units. Under certain conditions, condensation on the main unit or refrigerant pipes, air filter dirt or drain blockage may cause dripping, resulting in fouling or failure of the object concerned.
- After prolonged use, check the unit stand and its mounts for damage. If they are left in a damaged condition, the unit may fall and cause injury.
- To avoid injury, do not touch the air inlet or aluminium fins of the indoor or outdoor units.
- The appliance is not intended for use by unattended young children or infirm persons. Impairment of bodily functions and harm to health may result.
- Children should be supervised to ensure that they do not play with the unit or its remote controller. Accidental operation by a child may result in impairment of bodily functions and harm health.
- Avoid impacts to the indoor and outdoor units, or otherwise product damage may result.
- Do not place flammable items, such as spray cans, within 1m of the air outlet. The spray cans may explode as a result of hot air from the indoor or outdoor units.
- Be careful not to let pets urinate on the air conditioner. Urination on the air conditioner may result in electric shock or fire.
- Do not wash the air conditioner with water, as this may result in electric shock or fire.
- Do not place water containers (vases, etc.) above the unit, as this may result in electric shock or fire hazards if they should topple over.
- Do not insert the batteries in the wrong polarity (+/-) orientation as this may result in short circuiting, fire, or battery leakage.
- To avoid oxygen depletion, ensure that the room is adequately ventilated if equipment such as a burner is used together with the air conditioner. 
- Before cleaning, be sure to stop unit operation and turn off the circuit breaker. Otherwise, an electric shock and injury may result.
- Only connect the air conditioner to the specified power supply circuit. Power supplies other than the one specified may result in electric shock, overheating and fires.
- Arrange the drain hose to ensure smooth drainage. Imperfect drainage may cause wetting of the building, furniture, etc.
- Do not place objects in direct proximity of the outdoor unit and 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, such animals can cause malfunctions, smoke or fire if they come into contact with electrical parts.
- Do not place objects around the indoor unit. Doing so may have an adverse influence on the performance, product quality, and life of the air conditioner.
- This appliance is not intended to be used by persons with reduced physical, sensory or mental capabilities, or with lack of operation knowledge, unless they have been given supervision or instruction concerning the appliance use by person responsible for their safety. Keep out of children's reach to ensure that they do not play with the appliance.

Name of Parts

■ Indoor Unit



1. Front panel

2. Air inlet

3. Air filter

4. Model name plate

5. Indoor temperature sensor:

- Detects the air temperature around the unit.

6. Display

7. Air outlet

8. Louvres (vertical blades):

- The louvres are inside of the air outlet.

9. Flaps (horizontal blades)

10. Signal receiver:

- 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
Settings changed	beep
Operation stop	long beep

11. OPERATION lamp (green)

12. TIMER lamp (orange)

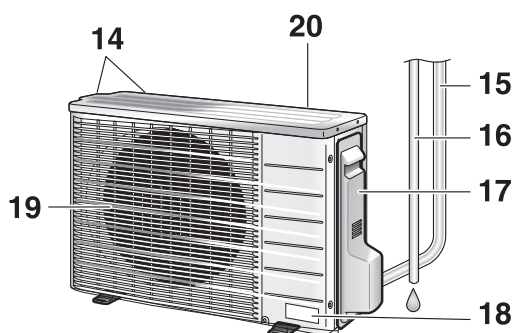
13. Indoor unit ON/OFF switch:

- Press this switch once to start operation. Press once again to stop it.
- For the operation mode setting, refer to the following table.

Mode	Temperature setting	Airflow rate
COOL	22°C	AUTO

- This switch can be used when the remote controller is missing.

■ Outdoor Unit



Appearance of the indoor/outdoor unit may differ between different models.

14. Air inlet (back and side)

15. Refrigerant pipes and inter-unit wire

16. Drain hose

17. Earth terminal (inside)

18. Model name plate

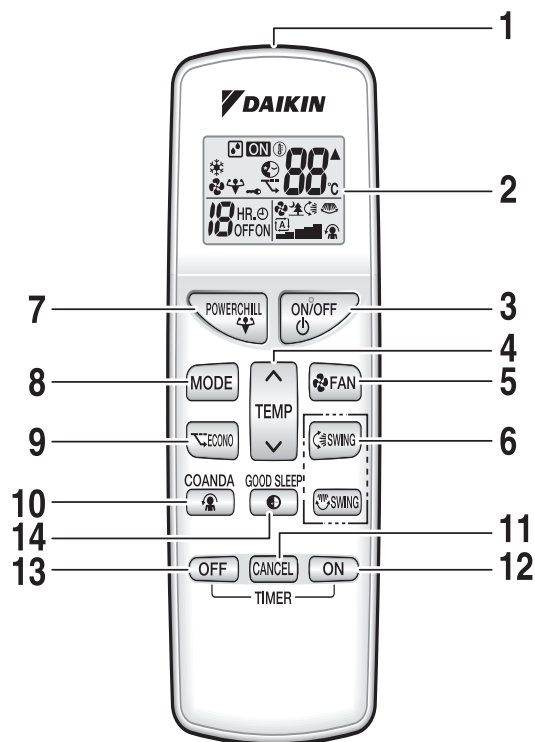
19. Air outlet

20. Outdoor temperature sensor (back)

Name of Parts

■ Remote Controller

1. **Signal transmitter:**
 - Send signals to the indoor unit.
2. **Display (LCD with Backlight):**
 - Displays the current setting.
(In this illustration, each section is shown with its display on for the purpose of explanation.)
3. **ON/OFF button:**
 - Press this button once to start operation.
Press once again to stop it.
4. **TEMPERATURE adjustment button:**
 - Changes the temperature setting.
5. **FAN setting button:**
 - Selects the airflow rate setting.
6. **SWING button:**
 - Adjusts the airflow direction.
7. **POWER CHILL button:**
 - POWER CHILL operation
8. **MODE selector button:**
 - Selects the operation mode.
(DRY/COOL/FAN)
9. **ECONO button:**
 - ECONO operation
10. **COANDA button:**
 - COANDA operation
11. **TIMER CANCEL button:**
 - Cancels the timer setting.
12. **ON TIMER button**
13. **OFF TIMER button**
14. **GOOD SLEEP button**



<ARC484A19>

NOTE

■ 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 soft cloth.
- Signal communication may be disabled if an electronic-starter-type fluorescent lamp (such as inverter-type lamp) is in the room. Consult your service centre if that is the case.
- If the remote controller activates other electric devices, move them away or consult your service centre.

Preparation Before Operation

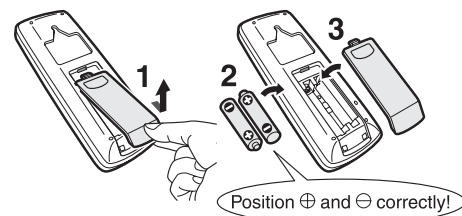
CAUTION

Incorrect handling of batteries can result in injury from battery leakage, rupturing or heating, or lead to equipment failure. Please observe the following precautions and use safely.

- If the solution from the batteries should get in the eyes, do not rub the eyes. Instead, immediately flush the eyes with tap water and seek the attention of a medical professional.
- Keep batteries out of reach of children. In the event that batteries are swallowed, seek the immediate attention of a medical professional.
- Do not expose batteries to heat or fire. Do not disassemble or modify batteries. The insulation or gas release vent inside the battery may be damaged, resulting in battery leakage, rupturing, or heating.
- Do not damage or peel off labels on the batteries.

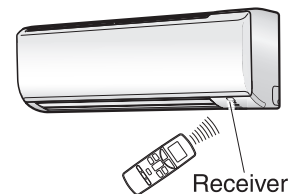
■ To insert the batteries

1. Remove the back cover by sliding and then slightly lifting it.
2. Insert 2 dry batteries (AAA).
3. Fix the back cover.



■ To operate the remote controller

- To use the remote controller, aim the transmitter at the indoor unit. If there is anything blocking the 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 transmission distance is about 7m.



■ Turn on the circuit breaker

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

NOTE

■ Tips for saving energy

- Be careful not to cool 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 effect.
- Clogged air filters cause inefficient operation and waste energy. Clean them once in about every 2 weeks.

■ Notes on batteries

- Do not use a leaking battery.
- To avoid possible injury or damage from battery leakage or rupturing, remove the batteries when not using the product for long periods of time.
- The standard replacement time is about 1 year. Both batteries should be replaced at the same time. Be sure to replace them with new size AAA dry batteries. However, if the remote controller display begins to fade and the possible transmission range becomes shorter within a year, replace both batteries as specified above.
- The batteries supplied with the remote controller are for initial operation. The batteries may run out in less than 1 year.

DRY • COOL • 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

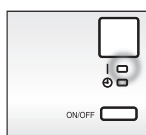
1. Press  and select an operation mode.

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



2. Press .

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



■ To stop operation

3. Press  again.

- “ON” disappears from the LCD.
- Then OPERATION lamp goes off.

■ To change the temperature setting

4. Press .

- Press  to raise the temperature and press  to lower the temperature.

COOL operation	DRY or FAN operation
20-32°C	The temperature setting cannot be changed.

NOTE

■ Note on COOL operation

- This air conditioner cools the room by releasing heat in the room outdoors. Therefore, cooling performance may fall in higher outdoor temperatures.

■ Note on DRY operation

- Eliminates humidity while maintaining the indoor temperature as much as possible. It automatically controls temperature and airflow rate, so manual adjustment of these functions is unavailable.

■ Note on FAN operation

- This mode is valid for fan only.

■ Recommended temperature setting

- For cooling: 26-28°C

Adjusting the Airflow Direction

You can adjust the airflow direction to increase your comfort.

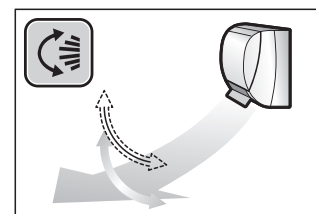
⚠ CAUTION

- Always use a remote controller to adjust the angles of the flaps. Moving the flaps forcibly by hand may cause a malfunction.
- Be careful when adjusting the louvres. Inside the air outlet, a fan is rotating at a high speed.

■ To start auto swing

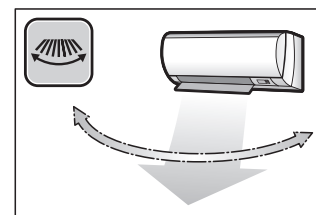
Up and down airflow direction

1. Press  .
 - “” is displayed on the LCD.
 - The Flap (horizontal blade) will begin to swing.



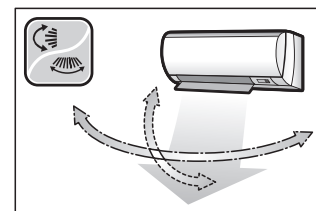
Right and left airflow direction

1. Press  .
 - “” is displayed on the LCD.
 - The Louvres (vertical blades) will begin to swing.



The 3-D airflow direction

1. Press  and  .
 - “” and “” are displayed on the LCD.
 - The Flap and Louvres move in turn.
 - To cancel 3-D airflow, press either  or  again. The Flap or Louvres will stop moving.



■ To set the Flap or Louvres at desired position

- This function is effective while the Flap or Louvres are in auto swing mode.

1. Press  and  when the Flap or Louvres reaches the desired position.
 - In the 3-D airflow, the Flap and Louvres move in turn.
 - “” or “” disappears from the LCD.

NOTE

■ Note on 3-D airflow

- Using 3-D airflow circulates cold air, which tends to collect 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.

Adjusting the Airflow Rate / SMELL PROOF Operation

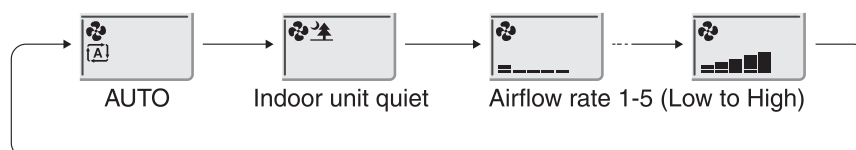
Adjusting the airflow rate

You can adjust the airflow rate to increase your comfort.

■ To change the airflow rate setting

Press .

- Each pressing of  changes the airflow rate setting in sequence.



- In DRY operation, the airflow rate setting cannot be changed.

SMELL PROOF operation

The SMELL PROOF operation prevents unpleasant odour inside the indoor unit. This function is available in both DRY and COOL operation.

■ To use SMELL PROOF operation

1. Before starting the operation, press  to set to Auto.

2. Press  to select the DRY or COOL operation.

3. Press .

- Air starts circulating about 1 minute after the operation is started. However, if the POWER CHILL operation is started, air starts circulating immediately.

NOTE

■ Note on airflow rate setting

- At smaller airflow rates, the cooling effect is also smaller.

■ Note on SMELL PROOF operation

- SMELL PROOF operation can prevent some odours, but not all.

■ 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, turn off the circuit breaker.
- Operation outside the humidity or temperature range described in the table may cause a safety device to disable the system.

Mode	Operating conditions	If operation is continued out of this range
COOL	Outdoor temperature: 19.4-54°C Indoor temperature: 20-32°C	- A safety device may activate to stop the operation. - Dew may form on the indoor unit and drip from it when COOL or DRY operation is selected.
DRY	Indoor humidity: 80% max.	

COANDA/POWER CHILL Operation

COANDA Operation

Directs airflow upward. This function prevents air from blowing directly at users.

■ To start COANDA operation

1. Press  .
 - The flaps position will change, preventing air from blowing directly on the occupants of the room.
 - “” is displayed on the LCD. The flaps will go up.

■ To cancel COANDA operation

2. Press  again.
 - The flaps will return to the memory position from COANDA mode.
 - “” disappears from the LCD.

POWER CHILL Operation

POWER CHILL operation quickly maximises the cooling effect in any operation mode. In this mode, the air conditioner operates at maximum capacity.

■ To start POWER CHILL operation

1. Press  .
 - POWER CHILL operation ends in 20 minutes. Then the system automatically operates again with the previous settings which were used before POWER CHILL operation.
 - “” is displayed on the LCD.

■ To cancel POWER CHILL operation

2. Press  again.
 - “” disappears from the LCD.

NOTE

■ Notes on COANDA operation

- The flaps position will change, preventing air from blowing directly on the occupants of the room.
- If the up and down airflow direction is selected, the COANDA operation will be cancelled.
- The airflow rate can be set to any level. However, a low airflow rate may result in the downward flow of cold air, and in air blowing at people.

■ Notes on POWER CHILL operation

- When using POWER CHILL operation, there are some functions which are not available.
- POWER CHILL operation can only be set when the unit is running.
- POWER CHILL 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 operation

To maximise the cooling effect, the capacity of outdoor unit is increased and the airflow rate becomes fixed at the maximum setting. The temperature and airflow settings cannot be changed.

• In DRY operation

The temperature setting is lowered by 2.5°C and the airflow rate is slightly increased.

• In FAN operation

The airflow rate is fixed at the maximum setting.

ECONO/TIMER Operation

TIMER Operation

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

■ To use ON TIMER operation

1. Press **ON**.



"HR.⊕" is displayed on the LCD.

Each pressing of **ON** changes the time setting by 1 hour.

The time can be set between 1 and 12 hours.

- The TIMER lamp lights orange.



■ To use GOOD SLEEP OFF TIMER operation

1. Press **OFF**.



"HR.⊕" is displayed on the LCD.

Each pressing of **OFF** changes the time setting by 1 hour.

The time can be set between 1 and 9 hours.

- The TIMER lamp lights orange.



- Once GOOD SLEEP OFF TIMER operation starts, the set temperature will increase gradually by 2°C in the next 2 hours to prevent excessive cooling during sleeping hours.

NOTE

■ Note on TIMER operation

- Once you set ON / GOOD SLEEP OFF TIMER, the time setting is kept in the memory. The memory is cleared when the remote controller batteries are replaced.

■ In the following cases, set the timer again.

- After the circuit breaker has turned off.
- After a power failure.
- After replacing the batteries in the remote controller.

■ To cancel TIMER operation

2. Press **CANCEL**.

- "HR.⊕" disappears from the LCD.
- The TIMER lamp goes off.

■ To combine ON TIMER and GOOD SLEEP OFF TIMER

- A sample setting for combining the 2 timers is shown below.
- "ON" and "OFF" are displayed on the LCD.



ECONO Operation

ECONO operation enables efficient operation by limiting the maximum power consumption. This function is useful to prevent the circuit breaker from tripping when the unit operates alongside other appliances on the same circuit.

■ To start ECONO operation

1. Press **ECONO** during operation.

- "ECONO" is displayed on the LCD.

■ To cancel ECONO operation

2. Press **ECONO** again.

- "ECONO" disappears from the LCD.

■ Notes on ECONO operation

- ECONO operation can only be set when the unit is running. Pressing **ON/OFF** causes the settings to be cancelled, and "ECONO" disappears from the LCD.
- ECONO operation functions in COOL and DRY operation.
- POWER CHILL and ECONO operation cannot be used at the same time. Priority is given to the function of whichever button is pressed last.
- This operation is performed with lower power and therefore may not provide a sufficient cooling effect.

CHILD LOCK OPERATION

Setting the CHILD LOCK disables all the buttons except the CHILD LOCK button. This function prevents children from operating the remote controller by mistake.

■ To set the CHILD LOCK :

- Press  and  together for about 5 seconds.

“  ” will be displayed on the remote LCD

- If a button is pressed while CHILD LOCK is on, “  ” blinks.

■ To CANCEL the CHILD LOCK

- Press  and  together for about 5 seconds again.

- “  ” Disappears from the LCD.

Care and Cleaning

⚠ CAUTION

- Before cleaning, be sure to stop the operation and turn off the circuit breaker.
- Do not touch the aluminium fins of the indoor unit. If you touch those parts, this may cause an injury.
- When removing or attaching the front panel, stand on a solid, stable base and take care not to fall.
- When removing or attaching the front panel, support the panel securely with your hand to prevent it from falling.

Units

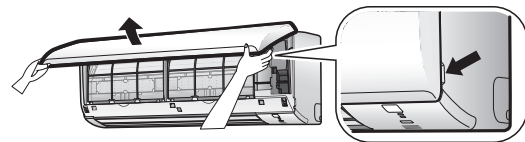
■ Indoor unit and remote controller

1. Wipe them with a dry soft cloth.

■ Front panel

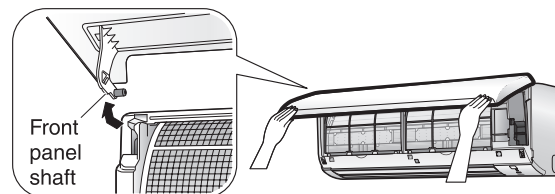
1. Open the front panel.

- Hold the front panel by the indentations in the unit and open the front panel.



2. Remove the front panel.

- 1) Slide the front panel to either the left or right and pull it toward you to disengage one of the front panel shafts.
- 2) Disengage the front panel shaft on the other side in the same manner.
- 3) After disengaging both front panel shafts, pull the front panel toward yourself and remove it.

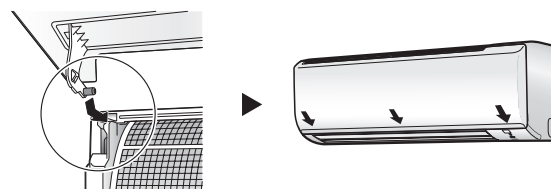


3. Clean the front panel.

- Wipe it with a soft damp cloth.
- Only neutral detergent may be used.
- In case of washing the panel with water, wipe it with a dry soft cloth, and let it dry in the shade after washing.

4. Attach the front panel.

- 1) Align the front panel shaft on the left and right of the front panel with the grooves, then push them all the way in.
- 2) Close the front panel slowly.
- 3) Press the front panel at both sides and the centre.
- After cleaning, make sure that the front panel is securely fixed.



NOTE

For cleaning, do not use any of the following:

- Water hotter than 40°C
- Polishing compounds
- Volatile liquid such as benzene, petrol and thinner
- Rough materials such as a scrubbing brush

Care and Cleaning

Air filter

1. Pull out the air filters.

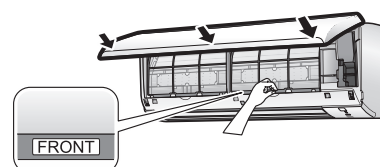
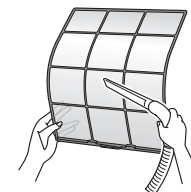
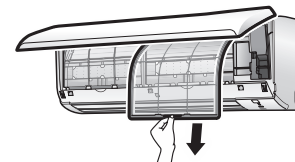
- Open the front panel.
- Push the filter tab at the centre of each air filter a little upwards, then pull it down.

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

- If the dust does not come off easily, wash them with neutral detergent thinned with lukewarm water, then let them dry in the shade.
- It is recommended to clean the air filters every 2 weeks.

3. Reattach the filters and close the front panel.

- Insert the filters into slots of the front grille. Close the front panel slowly and push the panel at the 3 points.



■ Prior to a long period of non-use

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

- 1) Press **MODE** and select FAN operation. 2) Press **ON/OFF** and start the operation.

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

3. Clean the air filters and set them again.

4. To prevent battery leakage, take out the 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 in addition to regular cleaning by the user. For specialist maintenance, please contact your service centre. The maintenance cost must be borne by the user.

Troubleshooting

Call your service centre immediately



WARNING

- When an abnormality (such as a burning smell) occurs, stop operation and turn off the circuit breaker.
Continued operation in an abnormal condition may result in problems, electric shock or fire. Consult your service centre.
- Do not attempt to repair or modify the air conditioner by yourself.
Incorrect work may result in electric shock or fire. Consult your service centre.

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

- **The power cord is abnormally hot or damaged.**
- **An abnormal sound is heard during operation.**
- **The circuit breaker, a fuse, or the 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 off the circuit breaker and call your service centre.

- **After a power failure**
The air conditioner automatically resumes operation in about 3 minutes. You should just wait for a while.

- **Lightning**
If there is a risk lightning could strike in the neighbourhood, stop operation and turn off the circuit breaker to protect the system.

Disposal requirements



Your air conditioning product is marked with this symbol. This means that electrical and electronic products shall not be mixed with unsorted household waste.

Do not try to dismantle the system yourself, the dismantling of the air conditioning system, treatment of the refrigerant, of oil and of other parts must be done by a qualified installer in accordance with relevant local and national legislation.

Air conditioners must be treated at a specialized treatment facility for re-use, recycling and recovery. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health. Please contact the installer or local authority for more information.

Batteries must be removed from the remote controller and disposed of separately in accordance with relevant local and national legislation.

Troubleshooting

Case	Explanation
The indoor unit gives out odour.	The room odour absorbed in the unit is discharged with the airflow. We recommend you to have the indoor unit cleaned. Please consult your service centre.
The outdoor fan rotates while the air conditioner is not in operation.	■ Immediately after the air conditioner is stopped: - The outdoor unit fan continues rotating for about another 1 minute to protect the system. ■ While the air conditioner is not in operation: - When the outdoor temperature is high, the outdoor unit fan may start rotating to protect the system.
Remote controller does not work properly.	■ No remote controller signals are displayed. ■ The remote controller sensitivity is low. ■ The display is low in contrast or blacked out. ■ The display runs out of control. The batteries are dying and the remote controller is malfunctioning. Replace both batteries with new, dry batteries (AAA). For details, refer to “To insert the batteries” of this manual.

Check again.

Please check again before requesting repairs.

Case	Explanation
The air conditioner does not operate. (OPERATION lamp is off.)	- Has the circuit breaker been tripped or the fuse blown? - Is there a power failure? - Are batteries set in the remote controller? - Is the timer setting correct?
The room does not cool down.	- Is the airflow rate setting appropriate? If the airflow rate setting is too low, increase it. - Is the set temperature appropriate? - Is the adjustment of the airflow direction appropriate? - Are the air filters dirty? - Is there anything blocking the air inlet or air outlet of the indoor unit or outdoor unit? - Is a window or door open? - Is the air conditioner in ECONO operation or GOOD SLEEP OFF TIMER operation?
Operation stops suddenly. (OPERATION lamp is blinking.)	- Are the air filters dirty? Clean the air filters. - Is there anything blocking the air inlet or air outlet of the indoor unit or outdoor unit? Stop operation and after turning off the circuit breaker, remove the obstruction. Then restart operation with the remote controller. If the OPERATION lamp is still blinking, check the error code and consult your service centre. - If the lamp stop blinking after the above steps, there is no malfunction.
An abnormal functioning happens during operation.	The air conditioner may malfunction with lightning or radio waves. Turn off the circuit breaker, turn it on again and try operating the air conditioner with the remote controller.

Troubleshooting

These cases are not problems

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

Case	Explanation
Operation does not start soon. - When "ON/OFF" button was pressed soon after operation was stopped. - When the mode was reselected.	This is to protect the air conditioner. You should wait for about 3 minutes.
Air does not come out.	If the operation is started when the airflow setting is "Auto", the SMELL PROOF operation starts running to prevent unpleasant odour inside the indoor unit. Wait for about 1 minute. (Except when POWER CHILL operation is set.) Refer to "Adjusting the Airflow Rate / SMELL PROOF Operation".
The flaps do not start swinging immediately.	The air conditioner is adjusting the position of the flaps. The flaps will start moving soon.
Operation stopped suddenly. (OPERATION lamp is on.)	- To protect the system, the air conditioner may stop operating after sudden large voltage fluctuations. - It automatically resumes operation in about 3 minutes. - Voltage range protection: 160V-265V
A sound is heard.	■ A sound like flowing water - This sound is generated because the refrigerant in the air conditioner is flowing. - This is a pumping sound of the water in the air conditioner and can be heard when the water is pumped out from the air conditioner during COOL or DRY operation. ■ Blowing sound - This sound is generated when the flow of the refrigerant in the air conditioner is switched over. ■ Ticking sound - This sound is generated when the cabinet and frame of the air conditioner slightly expand or shrink as a result of temperature changes. ■ Clopping sound - This sound is 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.
The outdoor unit emits water or steam.	■ In COOL or DRY operation Moisture in the air condenses into water on the cool surface of the outdoor unit piping and drips.
Mist comes out of the indoor unit.	This happens when the air in the room is cooled into mist by the cold airflow during COOL operation.

Troubleshooting

Fault diagnosis by remote controller

The remote controller can receive relevant error codes from the indoor unit.

1. When **CANCEL** is held down for about 5 seconds, “” blinks in the temperature display section.
2. Press **CANCEL** repeatedly until a long beep is produced.
 - The code indication changes as shown below, 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	FREEZE-UP PROTECTOR
	A6	FAN MOTOR FAULT
	C4	FAULTY HEAT EXCHANGER TEMPERATURE SENSOR
	C9	FAULTY SUCTION AIR TEMPERATURE SENSOR
OUTDOOR UNIT	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)
	F8	OPERATION HALT DUE TO COMPRESSOR INTERNAL TEMPERATURE ABNORMALITY
	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 indicates non-corresponding codes.
- To cancel the code display, hold down **CANCEL** for about 5 seconds.
The code display also cancels itself if the button is not pressed for 1 minute.

12.2 FTKF-T Series (18 class)

Safety Precautions

	Read the precautions in this manual carefully before operating the unit.		This appliance is filled with R32.
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- Keep this manual where the user can easily find it.
- The precautions described herein are classified as **WARNING** and **CAUTION**. They both contain important information regarding safety. Be sure to observe all precautions without fail.

WARNING

Failure to follow these instructions properly may result in personal injury or loss of life.

CAUTION

Failure to follow these instructions properly may result in property damage or personal injury, which may be serious depending on the circumstances.



Never attempt.



Be sure to follow the instructions.



Be sure to establish an earth connection.

- After reading, keep this manual in a convenient place so that you can refer to it whenever necessary. If the equipment is transferred to a new user, be sure also to hand over the manual.

WARNING

- To avoid fire, explosion or injury, do not operate the unit when harmful gases (e.g. flammable or corrosive) are detected near the unit.
- Be aware that prolonged, direct exposure to cool air from the air conditioner, or to air that is too cool, can be harmful to your physical condition and health.
- Do not place objects, including rods, your fingers, etc., in the air inlet or outlet. Product damage may result due to contact with the air conditioner's high-speed fan blades.
- Do not attempt to repair, dismantle, reinstall or modify the air conditioner yourself as this may result in water leakage, electric shock or fire hazards.
- Do not use flammable spray near the air conditioner, or otherwise fire may result.
- Do not use a refrigerant other than the one indicated on the outdoor unit (R32) when installing, moving or repairing. Using other refrigerants may cause trouble or damage to the unit, and personal injury.
- To avoid electric shock, do not operate with wet hands.

- Beware of fire in case of refrigerant leakage. If the air conditioner is not operating correctly, i.e. not generating cool air, refrigerant leakage could be the cause. Consult your service centre for assistance. The refrigerant within the air conditioner is safe and normally does not leak. However, in the event of a leakage, contact with a naked burner, heater or cooker may result in generation of noxious gas. Do not use the air conditioner until a qualified service person confirms that the leakage has been repaired.
- Do not attempt to install or repair the air conditioner yourself. Improper workmanship may result in water leakage, electric shock or fire hazards. Please contact your local service centre or qualified personnel for installation and maintenance work.
- If the air conditioner is malfunctioning (giving off a burning odour, etc.), turn off power to the unit and contact your local service centre. Continued operation under such circumstances may result in a failure, electric shock or fire hazards.
- Be sure to install an earth leakage circuit breaker. Failure to install the earth leakage circuit breaker may result in electric shock or fire.

- Be sure to earth the unit. Do not earth the unit to a utility pipe, lightning conductor or telephone earth lead. Imperfect earthing may result in electric shock.

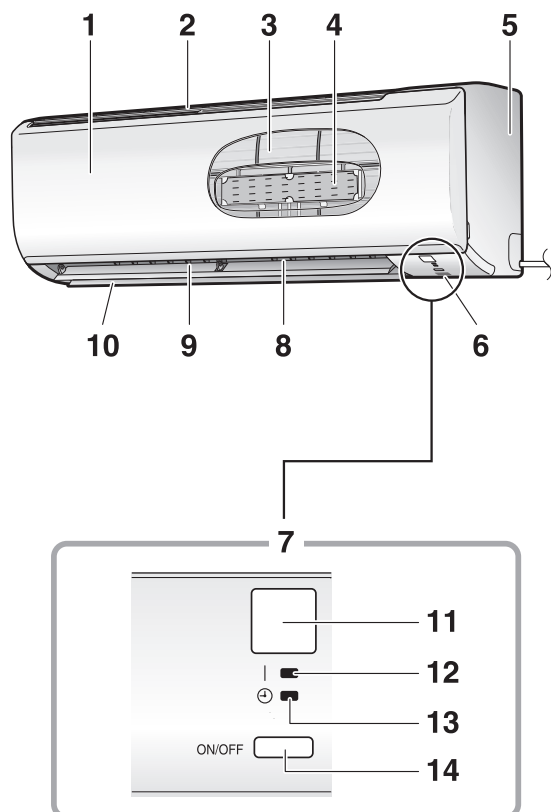
CAUTION

- Do not use the air conditioner for purposes other than those for which it is intended. Do not use the air conditioner for cooling precision instruments, food, plants, animals or works of art as this may adversely affect the performance, quality and/or longevity of the object concerned.
- Do not expose plants or animals directly to the airflow from the unit as this may cause adverse effects.
- Do not place appliances that produce naked flames in places exposed to the airflow from the unit as this may impair combustion of the burner.
- Do not block the air inlets or outlets. Impaired airflow may result in insufficient performance or trouble.
- Do not sit on the outdoor unit, put things on the unit, or pull the unit. Doing so may cause accidents, such as falling or toppling down, thus resulting in injury, product malfunctioning, or product damage.
- Do not place objects that are susceptible to moisture directly beneath the indoor or outdoor units. Under certain conditions, condensation on the main unit or refrigerant pipes, air filter dirt or drain blockage may cause dripping, resulting in fouling or failure of the object concerned.
- After prolonged use, check the unit stand and its mounts for damage. If they are left in a damaged condition, the unit may fall and cause injury.
- To avoid injury, do not touch the air inlet or aluminium fins of the indoor or outdoor units.
- The appliance is not intended for use by unattended young children or infirm persons. Impairment of bodily functions and harm to health may result.
- Children should be supervised to ensure that they do not play with the unit or its remote controller. Accidental operation by a child may result in impairment of bodily functions and harm health.
- Avoid impacts to the indoor and outdoor units, or otherwise product damage may result.
- Do not place flammable items, such as spray cans, within 1m of the air outlet. The spray cans may explode as a result of hot air from the indoor or outdoor units.
- Be careful not to let pets urinate on the air conditioner. Urination on the air conditioner may result in electric shock or fire.
- Do not wash the air conditioner with water, as this may result in electric shock or fire.
- Do not place water containers (vases, etc.) above the unit, as this may result in electric shock or fire hazards if they should topple over.
- Do not insert the batteries in the wrong polarity (+/-) orientation as this may result in short circuiting, fire, or battery leakage.

- To avoid oxygen depletion, ensure that the room is adequately ventilated if equipment such as a burner is used together with the air conditioner.
- Before cleaning, be sure to stop unit operation and turn off the circuit breaker. Otherwise, an electric shock and injury may result.
- Only connect the air conditioner to the specified power supply circuit. Power supplies other than the one specified may result in electric shock, overheating and fires.
- Arrange the drain hose to ensure smooth drainage. Imperfect drainage may cause wetting of the building, furniture, etc.
- Do not place objects in direct proximity of the outdoor unit and 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, such animals can cause malfunctions, smoke or fire if they come into contact with electrical parts.
- Do not place objects around the indoor unit. Doing so may have an adverse influence on the performance, product quality, and life of the air conditioner.
- This appliance is not intended to be used by persons with reduced physical, sensory or mental capabilities, or with lack of operation knowledge, unless they have been given supervision or instruction concerning the appliance use by person responsible for their safety. Keep out of children's reach to ensure that they do not play with the appliance.

Name of Parts

■ Indoor Unit



1. Front panel

2. Air inlet

3. Air filter

4. Accessory filter (Optional Part)

5. Model name plate

6. Indoor temperature sensor:

- Detects the air temperature around the unit.

7. Display

8. Air outlet

9. Louvres (vertical blades):

- The louvres are inside of the air outlet.

10. Flaps (horizontal blades)

11. Signal receiver:

- 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
Settings changed	beep
Operation stop	long beep

12. OPERATION lamp (green)

13. TIMER lamp (orange)

14. Indoor unit ON/OFF switch:

- Press this switch once to start operation. Press once again to stop it.
- For the operation mode setting, refer to the following table.

Mode	Temperature setting	Airflow rate
COOL	22°C	AUTO

- This switch can be used when the remote controller is missing.

15. Air inlet (back and side)

16. Refrigerant pipes and inter-unit wire

17. Drain hose

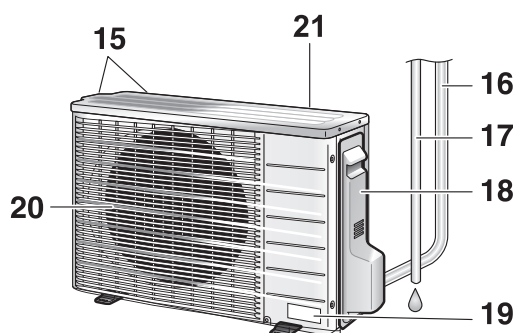
18. Earth terminal (inside)

19. Model name plate

20. Air outlet

21. Outdoor temperature sensor (back)

■ Outdoor Unit

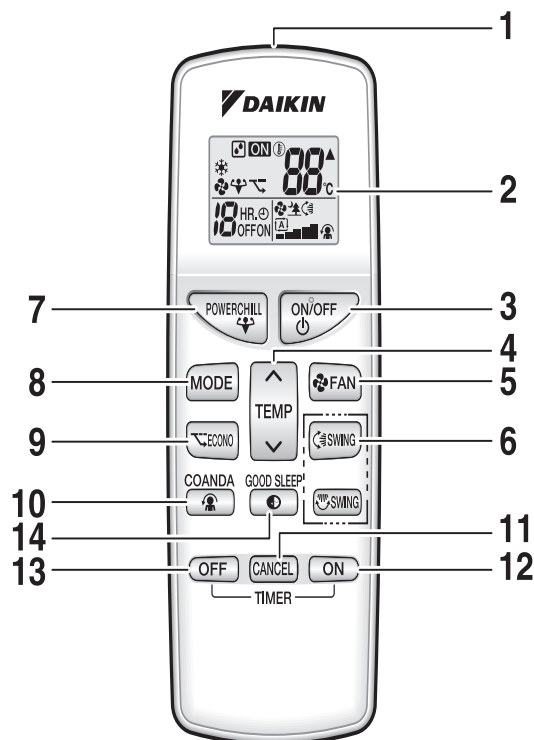


Appearance of the indoor/outdoor unit may differ between different models.

Name of Parts

■ Remote Controller

1. **Signal transmitter:**
 - Send signals to the indoor unit.
2. **Display (LCD with Backlight):**
 - Displays the current setting.
(In this illustration, each section is shown with its display on for the purpose of explanation.)
3. **ON/OFF button:**
 - Press this button once to start operation.
Press once again to stop it.
4. **TEMPERATURE adjustment button:**
 - Changes the temperature setting.
5. **FAN setting button:**
 - Selects the airflow rate setting.
6. **SWING button:**
 - Adjusts the airflow direction.
7. **POWER CHILL button:**
 - POWER CHILL operation
8. **MODE selector button:**
 - Selects the operation mode.
(DRY/COOL/FAN)
9. **ECONO button:**
 - ECONO operation
10. **COANDA button:**
 - COANDA operation
11. **TIMER CANCEL button:**
 - Cancels the timer setting.
12. **ON TIMER button**
13. **OFF TIMER button**
14. **GOOD SLEEP button**



<ARC484A16>

NOTE

■ 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 soft cloth.
- Signal communication may be disabled if an electronic-starter-type fluorescent lamp (such as inverter-type lamp) is in the room. Consult your service centre if that is the case.
- If the remote controller activates other electric devices, move them away or consult your service centre.

Preparation Before Operation

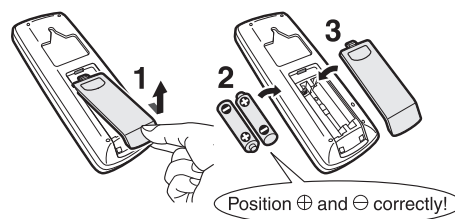
CAUTION

Incorrect handling of batteries can result in injury from battery leakage, rupturing or heating, or lead to equipment failure. Please observe the following precautions and use safely.

- If the solution from the batteries should get in the eyes, do not rub the eyes. Instead, immediately flush the eyes with tap water and seek the attention of a medical professional.
- Keep batteries out of reach of children. In the event that batteries are swallowed, seek the immediate attention of a medical professional.
- Do not expose batteries to heat or fire. Do not disassemble or modify batteries. The insulation or gas release vent inside the battery may be damaged, resulting in battery leakage, rupturing, or heating.
- Do not damage or peel off labels on the batteries.

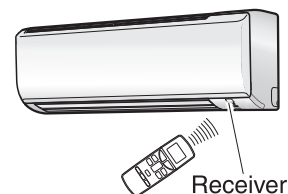
■ To insert the batteries

1. Remove the back cover by sliding and then slightly lifting it.
2. Insert 2 dry batteries (AAA).
3. Replace the back cover.



■ To operate the remote controller

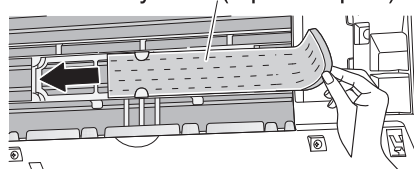
- To use the remote controller, aim the transmitter at the indoor unit. If there is anything blocking the signals between the unit and the remote controller, such as a curtain, the unit will not operate.
- Do not drop the remote controller. Do not get it wet.
- The maximum transmission distance is about 7m.



■ To attach the accessory filters (Optional part)

- Set the accessory filters under the tabs of the filter frame on the indoor unit.
Filter type: Anti microbial filter
- When attaching the accessory filters, refer to “**Care and Cleaning**”, and pull out the air filters.

Accessory filter (Optional part)



■ Turn on the circuit breaker

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

NOTE

■ Tips for saving energy

- Be careful not to cool 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 effect.
- Clogged air filters cause inefficient operation and waste energy. Clean them once in about every 2 weeks.

■ Notes on batteries

- Do not use a leaking battery.
- To avoid possible injury or damage from battery leakage or rupturing, remove the batteries when not using the product for long periods of time.
- The standard replacement time is about 1 year. Both batteries should be replaced at the same time. Be sure to replace them with new size AAA dry batteries.
However, if the remote controller display begins to fade and the possible transmission range becomes shorter within a year, replace both batteries as specified above.
- The batteries supplied with the remote controller are for initial operation. The batteries may run out in less than 1 year.

DRY • COOL • 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

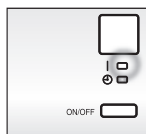
1. Press  and select an operation mode.

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



2. Press .

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



■ To stop operation

3. Press  again.

- “ON” disappears from the LCD.
- Then OPERATION lamp goes off.

■ To change the temperature setting

4. Press .

- Press  to raise the temperature and press  to lower the temperature.

COOL operation	DRY or FAN operation
20-32°C	The temperature setting cannot be changed.

NOTE

■ Note on COOL operation

- This air conditioner cools the room by releasing heat in the room outdoors. Therefore, cooling performance may fall in higher outdoor temperatures.

■ Note on DRY operation

- Eliminates humidity while maintaining the indoor temperature as much as possible. It automatically controls temperature and airflow rate, so manual adjustment of these functions is unavailable.

■ Note on FAN operation

- This mode is valid for fan only.

■ Recommended temperature setting

- For cooling: 26-28°C

Adjusting the Airflow Direction

You can adjust the airflow direction to increase your comfort.

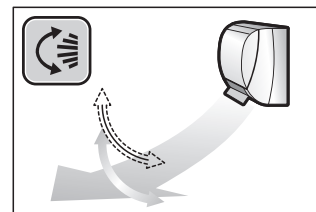
⚠ CAUTION

- Always use a remote controller to adjust the angles of the flaps. Moving the flaps forcibly by hand may cause a malfunction.
- Be careful when adjusting the louvres. Inside the air outlet, a fan is rotating at a high speed.

■ To start auto swing

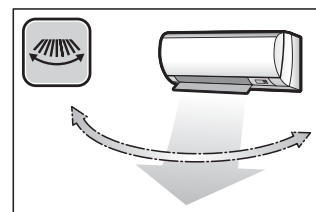
Up and down airflow direction

1. Press  .
 - “” is displayed on the LCD.
 - The flap (horizontal blade) will begin to swing.



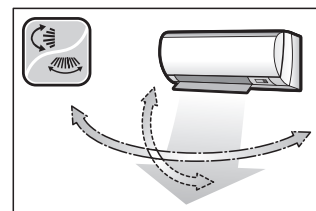
Right and left airflow direction

1. Press  .
 - “” is displayed on the LCD.
 - The Louvres (vertical blades) will begin to swing.



The 3-D airflow direction

1. Press  and  .
 - “” and “” are displayed on the LCD.
 - The flap and Louvres move in turn.
 - To cancel 3-D airflow, press either  or  again. The flap or Louvres will stop moving.



■ To set the flap or Louvres at desired position

- This function is effective while the flap or Louvres are in auto swing mode.

1. Press  and  when the flap or Louvres reaches the desired position.
 - In the 3-D airflow, the flap and Louvres move in turn.
 - “” or “” disappears from the LCD.

NOTE

■ Note on 3-D airflow

- Using 3-D airflow circulates cold air, which tends to collect 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.

Adjusting the Airflow Rate / SMELL PROOF Operation

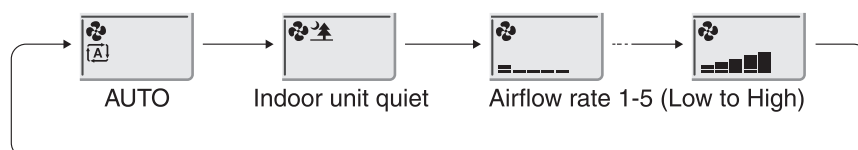
Adjusting the airflow rate

You can adjust the airflow rate to increase your comfort.

■ To change the airflow rate setting

Press .

- Each pressing of  changes the airflow rate setting in sequence.



- In DRY operation, the airflow rate setting cannot be changed.

SMELL PROOF operation

The SMELL PROOF operation prevents unpleasant odour inside the indoor unit. This function is available in both DRY and COOL operation.

■ To use SMELL PROOF operation

1. Before starting the operation, press  to set to Auto.

2. Press  to select the DRY or COOL operation.

3. Press .

- Air starts circulating about 1 minute after the operation is started. However, if the POWER CHILL operation is started, air starts circulating immediately.

NOTE

■ Note on airflow rate setting

- At smaller airflow rates, the cooling effect is also smaller.

■ Note on SMELL PROOF operation

- SMELL PROOF operation can prevent some odours, but not all.

■ 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, turn off the circuit breaker.
- Operation outside the humidity or temperature range described in the table may cause a safety device to disable the system.

Mode	Operating conditions	If operation is continued out of this range
COOL	Outdoor temperature: 19.4-50°C Indoor temperature: 20-32°C	- A safety device may activate to stop the operation. - Dew may form on the indoor unit and drip from it when COOL or DRY operation is selected.
DRY	Indoor humidity: 80% max.	

COANDA/POWER CHILL Operation

COANDA Operation

Directs airflow upward. This function prevents air from blowing directly at users.

■ To start COANDA operation

1. Press  .

- The flaps position will change, preventing air from blowing directly on the occupants of the room.
- “” is displayed on the LCD. The flaps will go up.

■ To cancel COANDA operation

2. Press  again.

- The flaps will return to the memory position before COANDA mode.
- “” disappears from the LCD.

POWER CHILL Operation

POWER CHILL operation quickly maximises the cooling effect in any operation mode. In this mode, the air conditioner operates at maximum capacity.

■ To start POWER CHILL operation

1. Press  .

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

■ To cancel POWER CHILL operation

2. Press  again.

- “” disappears from the LCD.

NOTE

■ Notes on COANDA operation

- The flaps position will change, preventing air from blowing directly on the occupants of the room.
- If the up and down airflow direction is selected, the COANDA operation will be cancelled.
- The airflow rate can be set to any level. However, a low airflow rate may result in the downward flow of cold air, and in air blowing at people.

■ Notes on POWER CHILL operation

- When using POWER CHILL operation, there are some functions which are not available.
- POWER CHILL operation can only be set when the unit is running.
- POWER CHILL 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 operation

To maximise the cooling effect, the capacity of outdoor unit is increased and the airflow rate becomes fixed at the maximum setting. The temperature and airflow settings cannot be changed.

• In DRY operation

The temperature setting is lowered by 2.5°C and the airflow rate is slightly increased.

• In FAN operation

The airflow rate is fixed at the maximum setting.

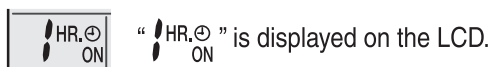
ECONO/TIMER Operation

TIMER Operation

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

■ To use ON TIMER operation

1. Press **ON**.



Each pressing of **ON** changes the time setting by 1 hour.

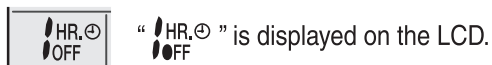
The time can be set between 1 and 12 hours.

- The TIMER lamp lights orange.



■ To use GOOD SLEEP OFF TIMER operation

1. Press **OFF**.



Each pressing of **OFF** changes the time setting by 1 hour.

The time can be set between 1 and 9 hours.

- The TIMER lamp lights orange.



- Once GOOD SLEEP OFF TIMER operation starts, the set temperature will increase gradually by 2°C in the next 2 hours to prevent excessive cooling during sleeping hours.

NOTE

■ Note on TIMER operation

- Once you set ON / GOOD SLEEP OFF TIMER, the time setting is kept in the memory. The memory is cleared when the remote controller batteries are replaced.

■ In the following cases, set the timer again.

- After the circuit breaker has turned off.
- After a power failure.
- After replacing the batteries in the remote controller.

■ To cancel TIMER operation

2. Press **CANCEL**.

- “HR. OFF” disappears from the LCD.
- The TIMER lamp goes off.

■ To combine ON TIMER and GOOD SLEEP OFF TIMER

- A sample setting for combining the 2 timers is shown below.
- “ON” and “OFF” are displayed on the LCD.



ECONO Operation

ECONO operation enables efficient operation by limiting the maximum power consumption. This function is useful to prevent the circuit breaker from tripping when the unit operates alongside other appliances on the same circuit.

■ To start ECONO operation

1. Press **ECONO** during operation.

- “ECONO” is displayed on the LCD.

■ To cancel ECONO operation

2. Press **ECONO** again.

- “ECONO” disappears from the LCD.

■ Notes on ECONO operation

- ECONO operation can only be set when the unit is running. Pressing **ON/OFF** causes the settings to be cancelled, and “ECONO” disappears from the LCD.
- ECONO operation functions in COOL and DRY operation.
- POWER CHILL and ECONO operation cannot be used at the same time. Priority is given to the function of whichever button is pressed last.
- This operation is performed with lower power and therefore may not provide a sufficient cooling effect.

Care and Cleaning

⚠ CAUTION

- Before cleaning, be sure to stop the operation and turn off the circuit breaker.
- Do not touch the aluminium fins of the indoor unit. If you touch those parts, this may cause an injury.
- When removing or attaching the front panel, stand on a solid, stable base and take care not to fall.
- When removing or attaching the front panel, support the panel securely with your hand to prevent it from falling.

Units

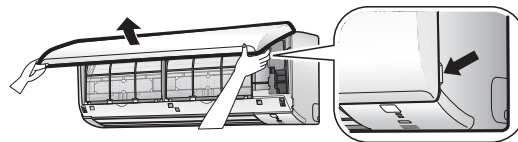
■ Indoor unit and remote controller

1. Wipe them with a dry soft cloth.

■ Front panel

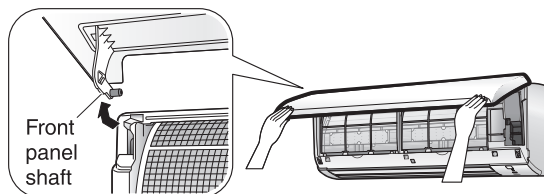
1. Open the front panel.

- Hold the front panel by the indentations in the unit and open the front panel.



2. Remove the front panel.

- 1) Slide the front panel to either the left or right and pull it toward you to disengage one of the front panel shafts.
- 2) Disengage the front panel shaft on the other side in the same manner.
- 3) After disengaging both front panel shafts, pull the front panel toward yourself and remove it.

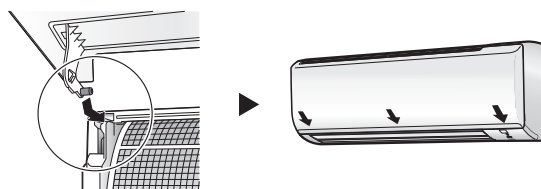


3. Clean the front panel.

- Wipe it with a soft damp cloth.
- Only neutral detergent may be used.
- In case of washing the panel with water, wipe it with a dry soft cloth, and let it dry in the shade after washing.

4. Attach the front panel.

- 1) Align the front panel shaft on the left and right of the front panel with the grooves, then push them all the way in.
 - 2) Close the front panel slowly.
 - 3) Press the front panel at both sides and the centre.
- After cleaning, make sure that the front panel is securely fixed.



NOTE

For cleaning, do not use any of the following:

- Water hotter than 40°C
- Polishing compounds
- Volatile liquid such as benzene, petrol and thinner
- Rough materials such as a scrubbing brush

Care and Cleaning

Accessory filter

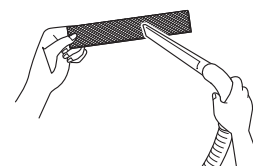
Filter type: Titanium apatite deodorizing air-purifying filter/ Anti microbial filter

[Maintenance]

The accessory filters can be renewed by washing them with water once every 6 months. We recommend replacing them once every 3 years.

1. Take off the accessory filters.

- For removal procedures, refer to “Accessory filter” on the previous page.



2. Vacuum dust and soak in lukewarm water for about 10 to 15 minutes if very dirty.

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

- Do not wring out the accessory filters to remove water from them.



[Replacement]

1. Replace the old accessory filters with new accessory filters.

NOTE

- Dispose of the old filter as non-flammable waste.
- To order an accessory filter, contact your service centre.

Item	Part No.
Titanium apatite deodorizing air-purifying filter (1 set)	KAF970A45
Ag-ion filter (1 set)	KAF057A41
Anti Microbial filter (1 set)	KAF500A504
Micro-filter - PM2.5(1 set)	KAF250A502
Micro-filter - PM0.1(1 set)	KAF010A503

- Operation with dirty filters: (1) cannot deodorise the air. (2) cannot clean the air.
(3) results in poor cooling. (4) may cause odour.

■ Prior to a long period of non-use

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

- 1) Press **MODE** and select FAN operation. 2) Press **ON/OFF** and start the operation.

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

3. Clean the air filters and set them again.

4. To prevent battery leakage, take out the 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 in addition to regular cleaning by the user. For specialist maintenance, please contact your service centre. The maintenance cost must be borne by the user.

Care and Cleaning

Air filter

1. Pull out the air filters.

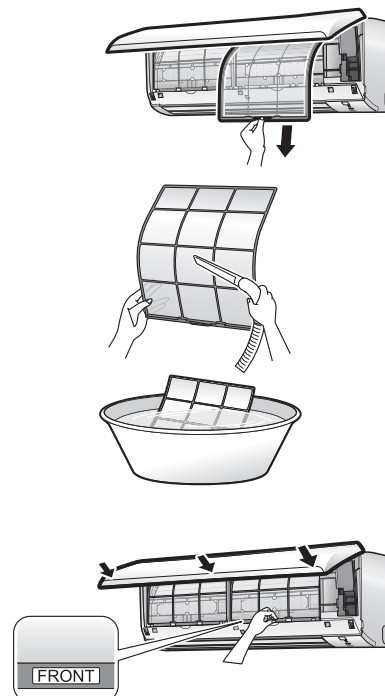
- Open the front panel.
- Push the filter tab at the centre of each air filter a little upwards, then pull it down.

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

- If the dust does not come off easily, wash them with neutral detergent thinned with lukewarm water, then let them dry in the shade.
- It is recommended to clean the air filters every 2 weeks.

3. Reattach the filters and close the front panel.

- Insert the filters into slots of the front grille. Close the front panel slowly and push the panel at the 3 points.



Accessory filter (Optional Part)

[Maintenance]

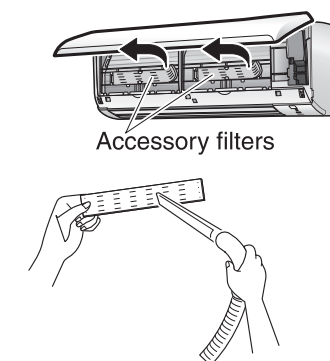
The accessory filters can be renewed by cleaning them with a vacuum cleaner once every 6 months. We recommend replacing them once every 6.5 years.

1. Take off the accessory filters.

- 1) Open the front panel and pull out the air filters.
- 2) Take off the accessory filters.
 - Remove the accessory filters from the tabs.

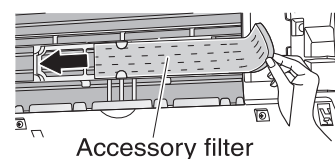
2. Vacuum dust.

- Do not wash the accessory filters as this will reduce their efficiency.



[Replacement]

1. Replace the old accessory filters with new accessory filters.



Troubleshooting

Call your service centre immediately.



WARNING

- When an abnormality (such as a burning smell) occurs, stop operation and turn off the circuit breaker.
Continued operation in an abnormal condition may result in problems, electric shock or fire. Consult your service centre.
- Do not attempt to repair or modify the air conditioner by yourself.
Incorrect work may result in electric shock or fire. Consult your service centre.

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

- **The power cord is abnormally hot or damaged.**
- **An abnormal sound is heard during operation.**
- **The circuit breaker, a fuse, or the 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 off the circuit breaker and call your service centre.

■ After a power failure

The air conditioner automatically resumes operation in about 3 minutes. You should just wait for a while.

■ Lightning

If there is a risk lightning could strike in the neighbourhood, stop operation and turn off the circuit breaker to protect the system.

Disposal requirements



Your air conditioning product is marked with this symbol. This means that electrical and electronic products shall not be mixed with unsorted household waste.

Do not try to dismantle the system yourself: the dismantling of the air conditioning system, treatment of the refrigerant, of oil and of other parts must be done by a qualified installer in accordance with relevant local and national legislation.

Air conditioners must be treated at a specialized treatment facility for re-use, recycling and recovery. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health. Please contact the installer or local authority for more information.

Batteries must be removed from the remote controller and disposed of separately in accordance with relevant local and national legislation.

Troubleshooting

Case	Explanation
The indoor unit gives out odour.	The room odour absorbed in the unit is discharged with the airflow. We recommend you to have the indoor unit cleaned. Please consult your service centre.
The outdoor fan rotates while the air conditioner is not in operation.	■ Immediately after the air conditioner is stopped: - The outdoor unit fan continues rotating for about another 1 minute to protect the system. ■ While the air conditioner is not in operation: - When the outdoor temperature is high, the outdoor unit fan may start rotating to protect the system.
Remote controller does not work properly.	■ No remote controller signals are displayed. ■ The remote controller sensitivity is low. ■ The display is low in contrast or blacked out. ■ The display runs out of control. The batteries are dying and the remote controller is malfunctioning. Replace both batteries with new, dry batteries (AAA). For details, refer to “To insert the batteries” of this manual.

Check again.

Please check again before requesting repairs.

Case	Explanation
The air conditioner does not operate. (OPERATION lamp is off.)	- Has the circuit breaker been tripped or the fuse blown? - Is there a power failure? - Are batteries set in the remote controller? - Is the timer setting correct?
The room does not cool down.	- Is the airflow rate setting appropriate? If the airflow rate setting is too low, increase it. - Is the set temperature appropriate? - Is the adjustment of the airflow direction appropriate? - Are the air filters dirty? - Is there anything blocking the air inlet or air outlet of the indoor unit or outdoor unit? - Is a window or door open? - Is the air conditioner in ECONO operation or GOOD SLEEP OFF TIMER operation?
Operation stops suddenly. (OPERATION lamp is blinking.)	- Are the air filters dirty? Clean the air filters. - Is there anything blocking the air inlet or air outlet of the indoor unit or outdoor unit? Stop operation and after turning off the circuit breaker, remove the obstruction. Then restart operation with the remote controller. If the OPERATION lamp is still blinking, check the error code and consult your service centre. - If the lamp stop blinking after the above steps, there is no malfunction.
An abnormal functioning happens during operation.	The air conditioner may malfunction with lightning or radio waves. Turn off the circuit breaker, turn it on again and try operating the air conditioner with the remote controller.

Troubleshooting

These cases are not problems.

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

Case	Explanation
Operation does not start soon. - When "ON/OFF" button was pressed soon after operation was stopped. - When the mode was reselected.	This is to protect the air conditioner. You should wait for about 3 minutes.
Air does not come out.	If the operation is started when the airflow setting is "Auto", the SMELL PROOF operation starts running to prevent unpleasant odour inside the indoor unit. Wait for about 1 minute. (Except when POWER CHILL operation is set.) Refer to "Adjusting the Airflow Rate / SMELL PROOF Operation".
The flaps do not start swinging immediately.	The air conditioner is adjusting the position of the flaps. The flaps will start moving soon.
Operation stopped suddenly. (OPERATION lamp is on.)	To protect the system, the air conditioner may stop operating after sudden large voltage fluctuations. It automatically resumes operation in about 3 minutes. Voltage range protection: 160V-265V
A sound is heard.	■ A sound like flowing water - This sound is generated because the refrigerant in the air conditioner is flowing. - This is a pumping sound of the water in the air conditioner and can be heard when the water is pumped out from the air conditioner during COOL or DRY operation. ■ Blowing sound - This sound is generated when the flow of the refrigerant in the air conditioner is switched over. ■ Ticking sound - This sound is generated when the cabinet and frame of the air conditioner slightly expand or shrink as a result of temperature changes. ■ Clipping sound - This sound is 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.
The outdoor unit emits water or steam.	■ In COOL or DRY operation - Moisture in the air condenses into water on the cool surface of the outdoor unit piping and drips.
Mist comes out of the indoor unit.	This happens when the air in the room is cooled into mist by the cold airflow during COOL operation.

Troubleshooting

Fault diagnosis by remote controller

The remote controller can receive relevant error codes from the indoor unit.

1. When **CANCEL** is held down for about 5 seconds, “**00**” blinks in the temperature display section.
2. Press **CANCEL** repeatedly until a long beep is produced.
 - The code indication changes as shown below, 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	FREEZE-UP PROTECTOR
	A6	FAN MOTOR FAULT
	C4	FAULTY HEAT EXCHANGER TEMPERATURE SENSOR
	C9	FAULTY SUCTION AIR TEMPERATURE SENSOR
OUTDOOR UNIT	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)
	F8	OPERATION HALT DUE TO COMPRESSOR INTERNAL TEMPERATURE ABNORMALITY
	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 indicates non-corresponding codes.
- To cancel the code display, hold down **CANCEL** for about 5 seconds.
The code display also cancels itself if the button is not pressed for 1 minute.

Warning

- 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 unauthorised 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 enquiries, please contact your local importer, distributor and/or retailer.

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.