Changes for the Better

MITSUBISHI ELECTRIC

SPLIT-TYPE, HEAT PUMP AIR CONDITIONERS
SPLIT-TYPE, AIR CONDITIONERS

March 2013

No. OC250
REVISED EDITION-A

TECHNICAL & SERVICE MANUAL

Series PKFY Wall Mounted R407C / R22

<Indoor unit>
[Model names]

[Service Ref.]

PKFY-P32VGM-A **PKFY-P32VGM-A**

PKFY-P40VGM-A **PKFY-P40VGM-A**

PKFY-P50VGM-A **PKFY-P50VGM-A**

Revision:
- The indicated No. of CORNER COVER (page 19) in the illustration has been corrected in REVISED EDITION-A.
- Some descriptions have been modified.

- Please void OC250.

Note:
- RoHS compliant products have <G> mark on the spec name plate.
- For servicing of RoHS compliant products, refer to the RoHS Parts List.

Indoor unit

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1 SAFETY PRECAUTION

CAUTIONS RELATED TO NEW REFRIGERANT

Cautions for units utilizing refrigerant R407C

Do not use the existing refrigerant piping.

The old refrigerant and lubricant in the existing piping contain a large amount of chlorine which may cause the lubricant deterioration of the new unit.

Use "low residual oil piping"

If there is a large amount of residual oil (hydraulic oil, etc.) inside the piping and joints, deterioration of the lubricant will result.

Store the piping indoors, and both ends sealed until just before brazing.
(Store elbows and other joints in a plastic bag.)

If dust, dirt, or water enters the refrigerant cycle, deterioration of the oil and compressor trouble may result.

Use a small amount of ESTER , ETHER or HAB as the lubricant to coat flares and flange connection parts.

If large amount of mineral oil enters, that can cause deterioration of refrigerant oil etc.

Use liquid refrigerant to charge the system.

If gas refrigerant is used to seal the system, the composition of the refrigerant in the cylinder will change and performance may drop.

Do not use a refrigerant other than R407C.

If another refrigerant (R22, etc.) is used, the chlorine in the refrigerant may cause the lubricant deterioration.

Use a vacuum pump with a reverse flow check valve.

The vacuum pump oil may flow back into the refrigerant cycle and cause the lubricant deterioration.

Use the specified refrigerant only.

Never use any refrigerant other than that specified.
Doing so may cause a burst, an explosion, or fire when the unit is being used, serviced, or disposed of.
Correct refrigerant is specified in the manuals and on the spec labels provided with our products.
We will not be held responsible for mechanical failure, system malfunction, unit breakdown or accidents caused by failure to follow the instructions.

Ventilate the room if refrigerant leaks during operation. If refrigerant comes into contact with a flame, poisonous gases will be released.

[1] Service tools

Use the below service tools as exclusive tools for R407C refrigerant.

No.	Tool name	Specifications
①	Gauge manifold	· Only for R407C
		· Use the existing fitting specifications. (UNF7/16)
		· Use high-tension side pressure of 3.43 MPa·G or over.
②	Charge hose	· Only for R407C
		· Use pressure performance of 5.10 MPa·G or over.
③	Electronic scale	—
④	Gas leak detector	· Use the detector for R134a or R407C.
⑤	Adaptor for reverse flow check	· Attach on vacuum pump.
⑥	Refrigerant charge base	—
⑦	Refrigerant cylinder	· For R407C · Top of cylinder (Brown) · Cylinder with syphon
⑧	Refrigerant recovery equipment	—

[2] Cautions for service

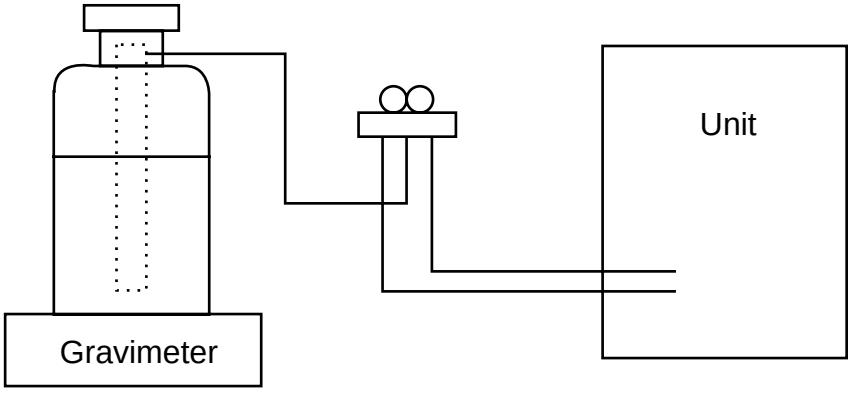
- After recovering all the refrigerant in the unit, proceed to working.
- Do not release refrigerant in the air.
- After completing the repair service, recharge the cycle with the specified amount of liquid refrigerant.

[3] Refrigerant recharging

(1) Refrigerant recharging process

① Direct charging from the cylinder.

- R407C cylinder available on the market has a syphon pipe.
- Leave the syphon pipe cylinder standing and recharge it. (By liquid refrigerant)



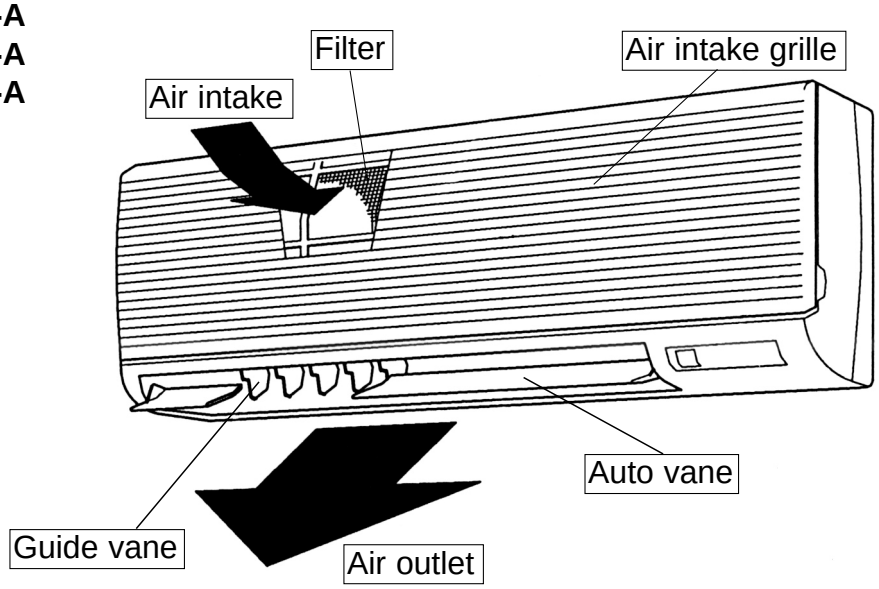
(2) Recharge in refrigerant leakage case

- After recovering all the refrigerant in the unit, proceed to working.
- Do not release the refrigerant in the air.
- After completing the repair service, recharge the cycle with the specified amount of liquid refrigerant.

2 PART NAMES AND FUNCTIONS

• Indoor Unit

PKFY-P32VGM-A
PKFY-P40VGM-A
PKFY-P50VGM-A



• Remote controller [PAR-20MAA]

● Once the controls are set, the same operation mode can be repeated by simply pressing the on / off button.

• Operation buttons

TEMP. ADJUSTMENT button

This sets the room temperature. The temperature setting can be performed in 1℃ units
Setting range
Cooler 19℃ to 30℃
Heater 17℃ to 28℃

TIME SETTING button

This sets the current time, start time and stop time.

AIR SPEED button

This sets the ventilation fan speed.

ON/OFF button

This switches between the operation and stop modes each time it is pressed. The lamp on this button lights during operation.

TIMER button

This switches between continuous operation and the timer operation.

AIR DIRECTION button

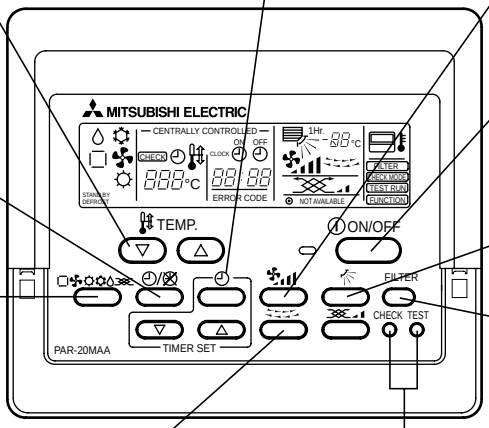
This adjusts the vertical angle of the ventilation.

OPERATION SWITCH button

Press this button to switch the cooler, electronic dry (dehumidify), automatic and heater modes.

FILTER button

This resets the filter service indication display



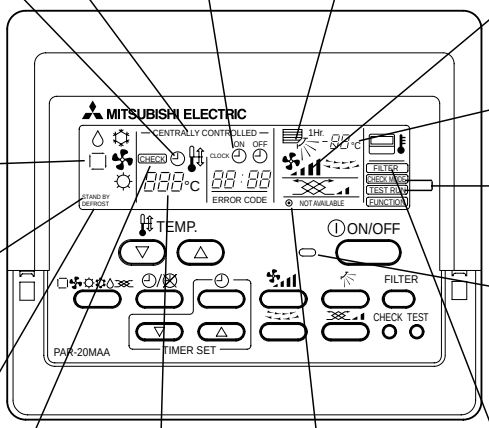
LOUVER button

This switch the horizontal fan motion ON and OFF.

CHECK-TEST RUN button

Only press this button to perform an inspection check or test operation. Do not use it for normal operation.

● Display



CENTRALLY CONTROLLED display

This indicates when the unit is controlled by optional features such as central control type remote controller.

CLOCK display

The current time , start time and stop time can be displayed in ten second intervals by pressing the time switch button. The start time or stop time is always displayed during the timer operation.

In this display example on the bottom left, a condition where all display lamps light is shown for explanation purposes although this differs from actual operation.

AIR DIRECTION display

This displays the air direction.

TIMER display

This indicates when the continuous operation and time operation modes are set.
It also display the time for the timer operation at the same time as when it is set.

AIR SPEED display

The selected fan speed is displayed.

ROOM TEMPERATURE display

The temperature of the suction air is displayed during operation. The display range is 8°C to 39°C. The display flashes 8°C when the actual temperature is less than 8°C and flashes 39°C when the actual temperature is greater than 39°C.

OPERATION MODE display

This indicates the operation mode.

STANDBY display

The [STANDBY] symbol is only displayed from the time the heating operation starts unit the heated air begins to blow.

Operation lamp

This lamp lights during operation, goes off when the unit stops and flashes when a malfunction occurs.

CHECK MODE / TEST RUN display

This display lights in the check mode or when a test operation is performed.

DEFROST display

This indicates when the defrost operation is performed.

FILTER display

This lamp lights when the filter need to be cleaned.

CHECK display

This indicates when a malfunction has occurred in the unit which should be checked.

SET TEMPERATURE display

This displays the selected setting temperature.

POWER display

This lamp lights when electricity is supplied to the unit.

Caution

- Only the Power display lights when the unit is stopped and power supplied to the unit.
- When the central control remote control unit, which is sold separately, is used the ON-OFF button, operation switch button and TEMP. adjustment button do not operate.
- “NOT AVAILABLE” is displayed when the Air speed button are pressed. This indicates that this room unit is not equipped with the fan direction adjustment function and the louver function.
- When power is turned ON for the first time, it is normal that “H0” is displayed on the room temperature indication (For max. 2 minutes). Please wait until this “H0” indication disappear then start the operation.

3 SPECIFICATIONS

3-1. SPECIFICATION

Item				PKFY-P32VGM-A	PKFY-P40VGM-A	PKFY-P50VGM-A
Power			V•Hz	Single phase 220V-230V-240V · 50Hz / 220V · 60Hz		
Cooling capacity			kW	3.6	4.5	5.6
Heating capacity			kW	4.0	5.0	6.3
Electric characteristic	Input	Cooling	kW	0.07		
		Heating	kW	0.07		
	Current	Cooling	A	0.32		
		Heating	A	0.32		
Exterior (munsell symbol)			—	Plastic , white : <0.70Y 8.59/0.97>		
Dimensions		Height	mm	340		
		Width	mm	990		
		Depth	mm	235		
Heat exchanger			—	Cross fin (Aluminum plate fin and copper tube)		
Fan	Fan × No		—	Linflow fan × 1		
	Air flow *2		m³/min	11.5-10.5-9.5-8		12-11-10-9
	External static pressure		Pa	0		
	Fan motor output		kW	0.03		
Insulator			—	Polyethylene sheet		
Air filter			—	PP honey comb		
Pipe dimensions		Gas side	ϕmm(in.)	12.7(1/2")		15.88(5/8")
		Liquid side	ϕmm(in.)	6.35(1/4")		9.52(3/8")
Unit drain pipe size			ϕmm	O.D.20 (PVC pipe VP-20 connectable)		
Noise level *2			dB	41-38-36-33		43-40-37-34
Product weight			kg	16		

Note 1. Rating conditions
Cooling : Indoor D.B. 27°C W.B. 19.0°C
Outdoor D.B. 35°C W.B. 24°C
Heating : Indoor D.B. 20°C
Outdoor D.B. 7°C W.B. 6°C

*2. Air flow and the noise level are indicated as High - Medium1 - Medium2 - Low .

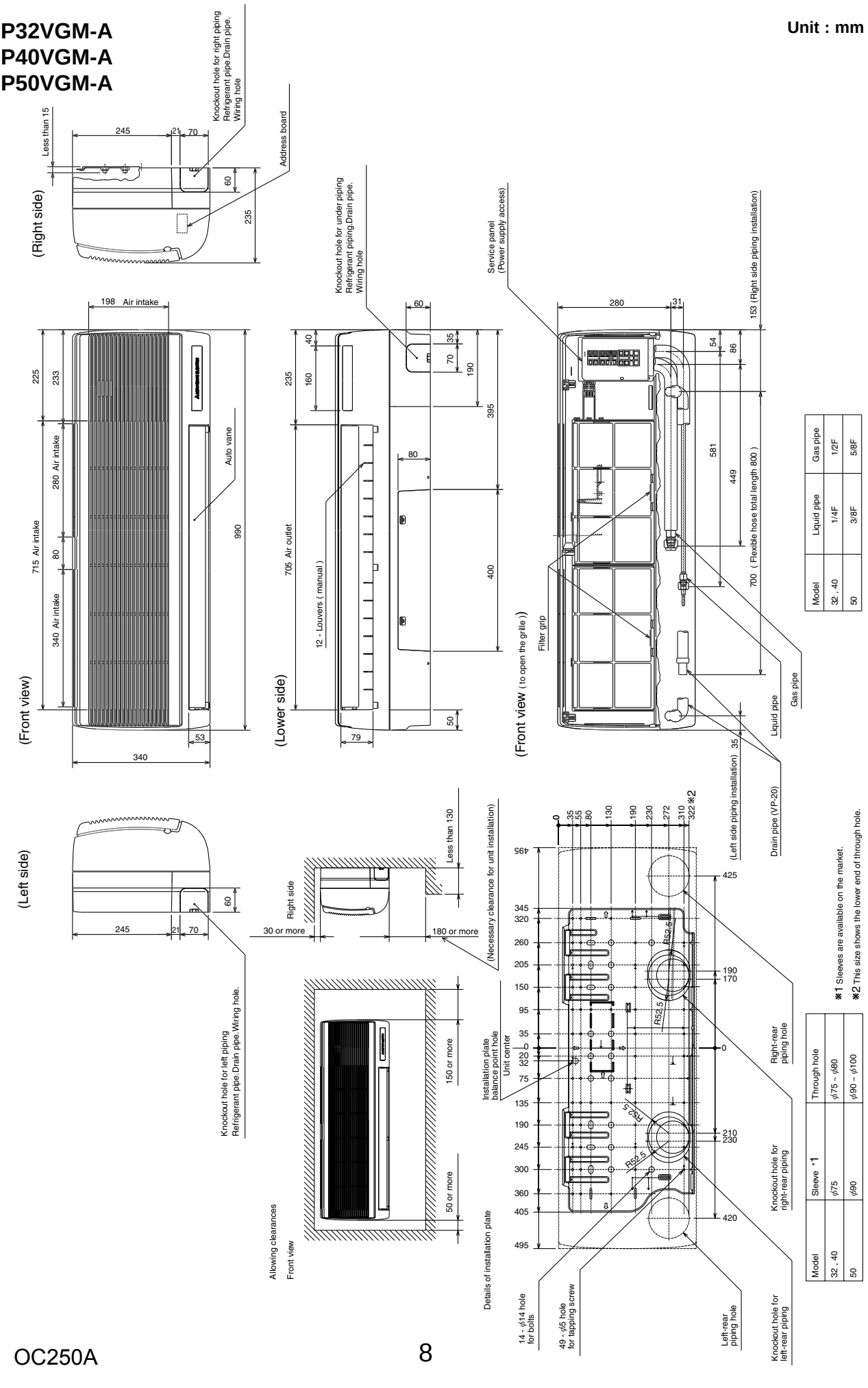
3-2. ELECTRICAL PARTS SPECIFICATIONS

Parts name \ Model	Symbol	PKFY-P32VGM-A	PKFY-P40VGM-A	PKFY-P50VGM-A
Room temperature thermistor	TH21	Resistance 0°C/15kΩ, 10°C/9.6kΩ, 20°C/6.3kΩ, 25°C/5.2kΩ, 30°C/4.3kΩ, 40°C/3.0kΩ		
Liquid pipe temperature thermistor	TH22	Resistance 0°C/15kΩ, 10°C/9.6kΩ, 20°C/6.3kΩ, 25°C/5.2kΩ, 30°C/4.3kΩ, 40°C/3.0kΩ		
Gas pipe temperature thermistor	TH23	Resistance 0°C/15kΩ, 10°C/9.6kΩ, 20°C/6.3kΩ, 25°C/5.2kΩ, 30°C/4.3kΩ, 40°C/3.0kΩ		
Fuse (Indoor controller board)	FUSE	250V 6.3A		
Fan motor (with inner-thermostat)	MF	PM4V30-K 220-240V/220V , 50/60Hz 4 pole Output 30W		
		Inner-thermostat: OFF 1255°C		
Fan motor capacitor	C1	2.0F 440V		
Vane motor	MV	MP 35 EA DC12V		
Linear expansion valve	LEV	DC12V Stepping motor drive Port dimension ϕ3.2 (0 ~ 2000pulse)		
Power supply terminal block	TB2	(L, N, ⏚) 330V 30A		
Transmission terminal block	TB5	(M1, M2, S) 250V 20A		
MA remote controller terminal block	TB15	(1,2) 250V 10A		

4 OUTLINES AND DIMENSIONS

PKFY-P32VGM-A
PKFY-P40VGM-A
PKFY-P50VGM-A

Unit : mm



Model	Liquid pipe	Gas pipe
32 , 40	1/4F	1/2F
50	3/8F	5/8F

Model	Sleeve ※1	Through hole
32 , 40	φ75	φ75 ~ φ80
50	φ90	φ90 ~ φ100

※1 Sleeves are available on the market.
※2 This size shows the lower end of through hole.

5 WIRING DIAGRAM

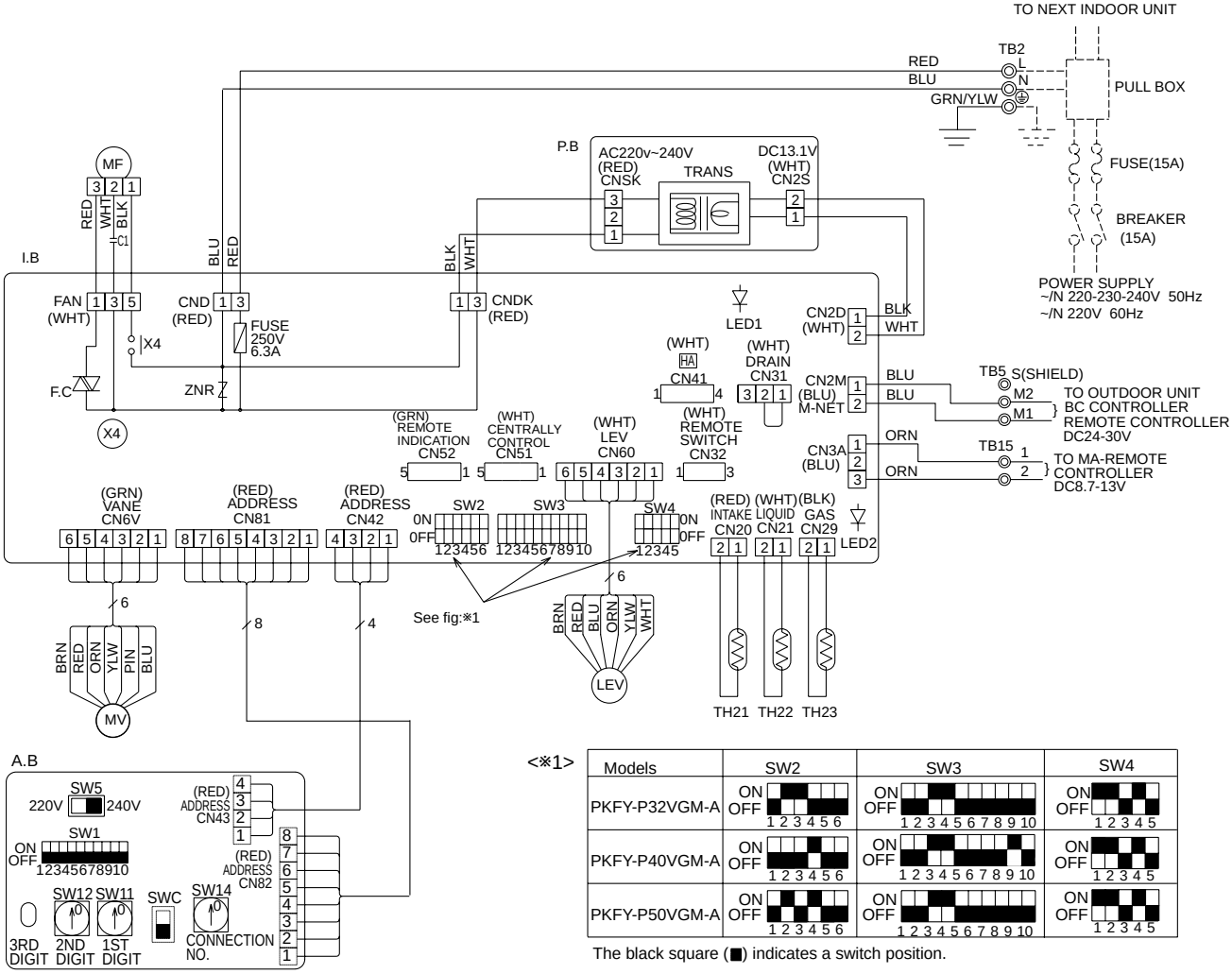
PKFY-P32VGM-A , PKFY-P40VGM-A , PKFY-P50VGM-A

Symbol		Name		Symbol	Name	
I.B		Indoor controller board		C1	Capacitor(fan motor)	
	CN32	Connector	Remote switch	LEV	Linear expansion valve	
	CN41		HA terminal-A	MF	Fan motor(with inner thermo)	
	CN51		Centrally control	MV	Vane motor	
	CN52		Remote indication	TH21	Thermistor	Room temperature ,detection (0°C/15kΩ, 25°C/5.4kΩ)
	F.C	Fan phase control				
	FUSE	FUSE (6.3A)		TH22		Pipe temperature,detection/Liguid (0°C/15kΩ, 25°C/5.4kΩ)
	SW2	Switch	Capacity code			
	SW3		Mode selection	TH23		Pipe temperature,detection/Gas (0°C/15kΩ, 25°C/5.4kΩ)
	SW4		Model selection			
	X4	Aux.Relay	Aux.Relay(Fan motor)	TB2	Terminal	Power supply
	ZNR	Varistor		TB5	block	Transmission
P.B		Indoor power board		TB15		MA-remote controller

Symbol		Name	
A.B		Circuit board (Address)	
	SW1	Switch	Mode selection
	SW5		Voltage selection
	SW11		Address setting 1st digit
	SW12		Address setting 2nd digit
	SW14		Connection No.
	SWC	Option selector	

LED on indoor board for service

Mark	Meaning	Function
LED1	Main power supply	Main power supply(Indoor unit:220-240V) power on → lamp is lit
LED2	Power supply for MA-Remote controller	Power supply for MA-Remote controller on → lamp is lit



<※1>

Models	SW2	SW3	SW4
PKFY-P32VGM-A	ON OFF 1 2 3 4 5 6	ON OFF 1 2 3 4 5 6 7 8 9 10	ON OFF 1 2 3 4 5
PKFY-P40VGM-A	ON OFF 1 2 3 4 5 6	ON OFF 1 2 3 4 5 6 7 8 9 10	ON OFF 1 2 3 4 5
PKFY-P50VGM-A	ON OFF 1 2 3 4 5 6	ON OFF 1 2 3 4 5 6 7 8 9 10	ON OFF 1 2 3 4 5

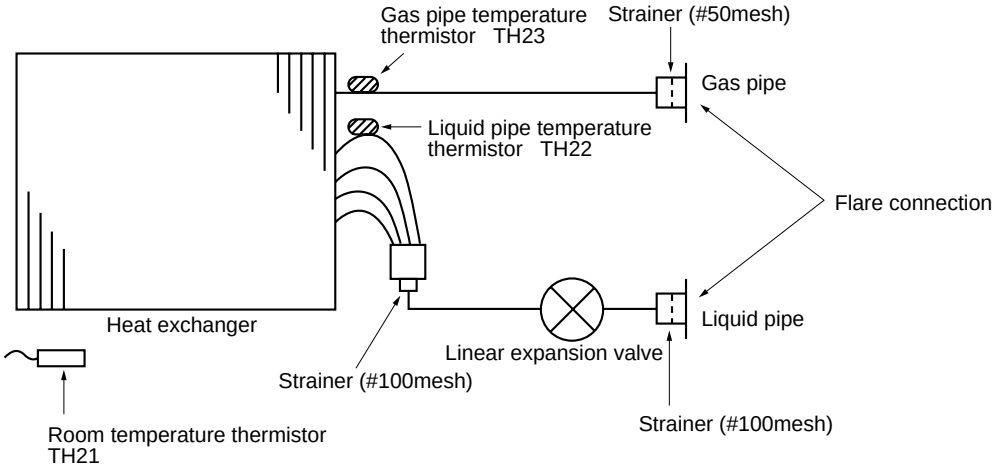
The black square (■) indicates a switch position.

Note

1. At servicing for outdoor unit,always follow the wiring diagram of outdoor unit.
2. In case of using MA-Remote controller,please connect to TB15. (Remote controller wire is non-polar.)
3. In case of using M-NET,please connect to TB5.(Transmission line is non-polar.)
4. Symbol[S] of TB5 is the shield wire connection.
5. Symbols used in wiring diagram above are, ◎: terminal block, □□□ :connector.
6. The setting of the SW2 dip switches differs in the capacity for the detail,refer to the fig:※1.
7. Please set the switch SW5 according to the power supply voltage.
   Set SW5 to 240V side when the power supply is 230 and 240 volts.
   When the power supply is 220 volts,set SW5 to 220V side.

6 REFRIGERANT SYSTEM DIAGRAM

PKFY-P32VGM-A
PKFY-P40VGM-A
PKFY-P50VGM-A



Item \ Capacity	PKFY-P32VGM-A, PKFY-P40VGM-A	PKFY-P50VGM-A
Gas pipe	ϕ12.7 (1/2”)	ϕ15.88(5/8”)
Liquid pipe	ϕ6.35 (1/4”)	ϕ9.52(3/8”)

7 TROUBLE SHOOTING

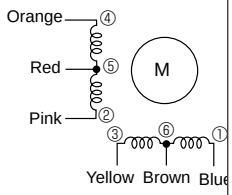
7-1. HOW TO CHECK THE PARTS
PKFY-P32VGM-A , PKFY-P40VGM-A, PKFY-P50VGM-A

<table>
<tr><th>Parts name</th><th>Check method</th></tr>
<tr><td>Room temperature thermistor (TH21)

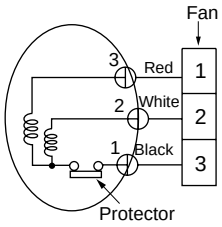
Liquid pipe temperature thermistor (TH22)

Gas pipe temperature thermistor (TH23)</td><td>Disconnect the connector then measure the resistance with a tester.
(Surrounding temperature 10°C~30°C)

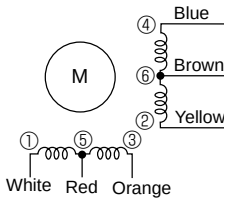
<table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>4.3kΩ~9.6kΩ</td><td>Open or short</td></tr></table>
(Refer to the next page for a detail.)</td></tr>
<tr><td>Vane motor

 
</td><td>Measure the resistance between the terminals with a tester.
(Surrounding temperature 20°C~30°C)

<table><tr><th>Connector</th><th>Normal</th><th>Abnormal</th></tr><tr><td>Brown - Yellow</td><td rowspan="4">186Ω ~ 214Ω</td><td rowspan="4">Open or short</td></tr><tr><td>Brown - Blue</td></tr><tr><td>Red - Orange</td></tr><tr><td>Red - Pink</td></tr></table></td></tr>
<tr><td>Fan motor

 
</td><td>Measure the resistance between the terminals with a tester.
(Surrounding temperature 20°C)

<table><tr><th>Motor terminal or relay connector</th><th>Normal</th><th>Abnormal</th></tr><tr><td>Red - Black</td><td>141.2Ω</td><td rowspan="2">Open or short</td></tr><tr><td>White - Black</td><td>131.5Ω</td></tr></table></td></tr>
<tr><td>Linear expansion valve

 
</td><td>Disconnect the connector then measure the resistance with a tester.
(Surrounding temperature 20°C)

<table><tr><th colspan="4">Normal</th><th>Abnormal</th></tr><tr><td>(1)-(5)
White-Red</td><td>(2)-(6)
Yellow-Brown</td><td>(3)-(5)
Orange-Red</td><td>(4)-(6)
Blue-Brown</td><td rowspan="2">Open or short</td></tr><tr><td colspan="4">150Ω ±10%</td></tr></table>
(Refer to the next page for a detail.)</td></tr>
</table>

<Thermistor Characteristic graph>

Thermistor for lower temperature

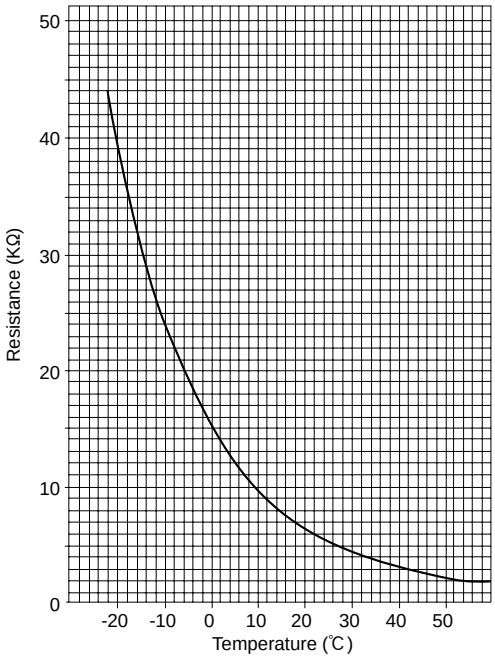
Room temperature thermistor(TH21)
Liquid pipe temperature thermistor (TH22)
Gas pipe temperature thermistor (TH23)

Thermistor R_0=15kΩ ± 3%
Fixed number of B=3480 ± 2%

$$Rt=15\exp\{3480(\frac{1}{273+t}-\frac{1}{273})\}$$

0℃	15kΩ
10℃	9.6kΩ
20℃	6.3kΩ
25℃	5.2kΩ
30℃	4.3kΩ
40℃	3.0kΩ

< Thermistor for lower temperature >

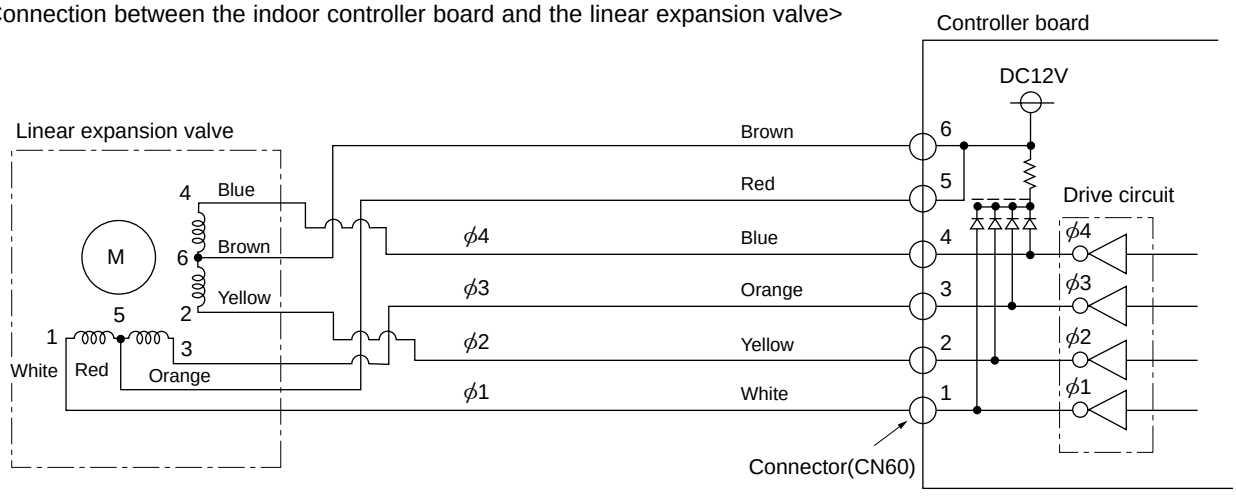


Linear expansion valve

① Operation summary of the linear expansion valve

• Linear expansion valve open/close through stepping motor after receiving the pulse signal from the indoor controller board.
• Valve position can be changed in proportion to the number of pulse signal.

<Connection between the indoor controller board and the linear expansion valve>



<Output pulse signal and the valve operation>

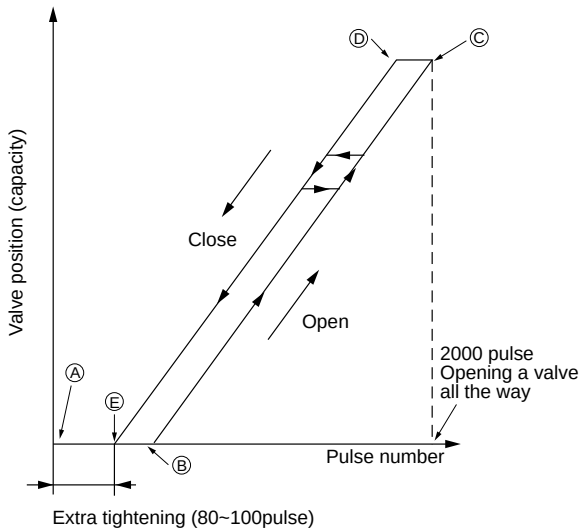
Output (Phase)	Output			
	1	2	3	4
ϕ1	ON	OFF	OFF	ON
ϕ2	ON	ON	OFF	OFF
ϕ3	OFF	ON	ON	OFF
ϕ4	OFF	OFF	ON	ON

Closing a valve : 1 → 2 → 3 → 4 → 1
Opening a valve : 4 → 3 → 2 → 1 → 4

The output pulse shifts in above order.

* 1. When linear expansion valve operation stops, all output phase become OFF.
  2. At phase interruption or when phase does not shift in order, motor does not rotate smoothly and motor locks and vibrates.

② Linear expansion valve operation

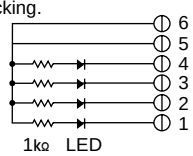
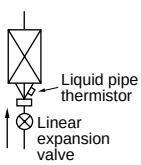


* When the switch is turned on, 2200 pulse closing valve signal will be send till it goes to Ⓐ point in order to define the valve position.

When the valve move smoothly, there is no noise or vibration occurring from the linear expansion valve : however, when the pulse number moves from Ⓔ to Ⓐ or when the valve is locked, more noise can be heard than normal situation.

* Noise can be detected by placing the ear against the screw driver handle while putting the screw driver to the linear expansion valve.

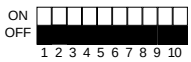
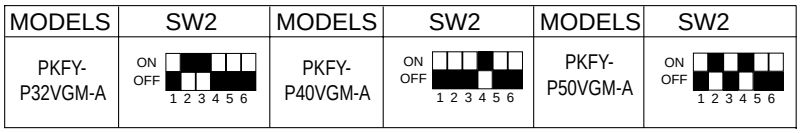
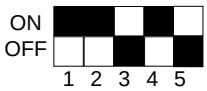
③ Troubleshooting

Symptom	Check points	Countermeasures
Operation circuit failure of the micro processor.	Disconnect the connector on the controller board, then connect LED for checking.  Pulse signal will be sent out for 10 seconds as soon as the main switch is turned on. If there is LED with lights on or lights off, it means the operation circuit is abnormal.	Exchange the indoor controller board at drive circuit failure.
Linear expansion valve mechanism is locked.	Motor will idle and make ticking noise when motor is operated while the linear expansion valve is locked. This ticking sound is the sign of the abnormality.	Exchange the linear expansion vale.
Short or breakage of the motor coil of the linear expansion valve.	Measure the resistance between the each coil (red-white, red-orange, brown-yellow, brown-blue) using a tester. It is normal if the resistance is in the range of 150Ω+10%.	Exchange the linear expansion valve.
Valve doesn't close completely (thermistor leaking).	To check the linear expansion valve, operate the indoor unit in fan mode and at the same time operate other indoor units in cooling mode, then check the pipe temperature <liquid pipe temperature> of the indoor unit by the outdoor multi controller board operation monitor. During fan operation, linear expansion valve is closed completely and if there are some leaking, detecting temperature of the thermistor will go lower. If the detected temperature is much lower than the temperature indicated in the remote controller, it means the valve is not closed all the way.  It is not necessary to exchange the linear expansion valve, if the leakage is small and not making any trouble.	If large amount of thermistor is leaked, exchange the linear expansion valve.
Wrong connection of the connector or contact failure.	Check the color of lead wire and missing terminal of the connector.	Disconnect the connector at the controller board, then check the continuity.

7-2. FUNCTION OF DIPSWITCH

PKFY-P32VGM-A , PKFY-P40VGM-A , PKFY-P50VGM-A

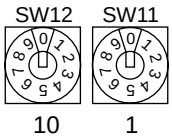
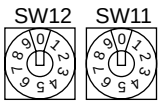
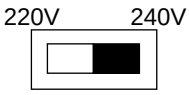
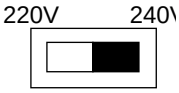
The black square (■) indicates a switch position.

Switch	Pole	Function	Operation by switch		Remarks
			ON	OFF	
SW1 Mode Selection	1	Thermistor<Intake temperature detection>position	Built-in remote controller	Indoor unit	Address board <Initial setting> 
	2	Filter clogging detection	Provided	Not provided	
	3	Filter cleaning sign	2500 hr	100 hr	
	4	Air intake	Effective	Not effective	
	5	Remote indication switching	Thermostat ON signal indication	Fan output indication	
	6	Humidifier control	Always operated while the heating mode ※1	Operated depends on the condition ※2	
	7	Air flow set in case of	Fix to LOW ※3	Fix to EXTRA LOW ※3	
	8	Heat thermostat OFF	Depends on setting Remote controller ※3	Depends on SW1-7	
	9	Auto restart	Effective	Not effective	
	10	Power source ON/OFF	Effective	Not effective	
SW2 Capacity code setting	1~6	 			Indoor controller board Set while the unit is off. <Initial setting> Set for each capacity.
SW3 Function Selection	1	Heat pump/Cooling only	Cooling only models	Heat pump models	Indoor controller board Set while the unit is off. <Initial setting> 
	2	Louver	Available	Not available	
	3	Vane	Available	Not available	
	4	Vane swing function	Available	Not available	
	5	Vane horizontal angle	Second setting	First setting	
	6	Vane cooling limit angle setting ※4	Horizontal angle	Down B,C	
	7	Indoor linear expansion valve opening	Effective	Not effective	
	8	Heater 4 deg up	Not effective	Effective	
	9	Target Superheat setting ※5	9 degrees	6 degrees	
	10	Target Sub cool setting	15 degrees	10 degrees	
SW4 Unit Selection	1~5	 			Indoor controller board Set while the unit is off. <Initial setting> 

NOTE:
※1 At Heating mode, fan operating.
※2 At Heating mode, operating heat thermostat ON.
※3 SW1-7=OFF, SW1-8=ON →Setting air flow.
SW1-7=ON, SW1-8=ON →Indoor fan stop.

NOTE:
※4 At cooling mode, each angle can be used only 1 hour.
※5 SW3-9 setting
PKFY-P32VGM-A = OFF
PKFY-P40VGM-A = ON
PKFY-P50VGM-A = OFF

The black square (■) indicates a switch position.

Switch	Pole	Operation by switch	Remarks
SW11 1st digit address setting SW12 2nd digit address setting	Rotary switch	 Address setting should be done when M-NET remote controller is being used.	Address board Address can be set while the unit is stopped. <Initial setting> 
SW14 Connection No. setting	Rotary switch	 This is the switch to be used when the indoor unit is operated with R2 series outdoor unit as a set.	Address board <Initial setting> 
SW5 Voltage Selection	2	 If the unit is used at the 230V or 240V area, set the voltage to 240V. If the unit is used at the 220V, set the voltage to 220V.	Address board <Initial setting> 

8 DISASSEMBLY PROCEDURE

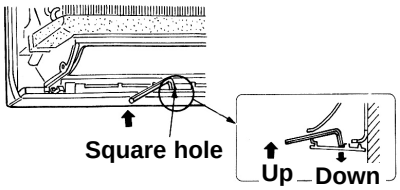
PKFY-P32/40/50VGM-A

OPERATION PROCEDURE

1. REMOVING THE LOWER SIDE OF THE INDOOR UNIT FROM THE INSTALLATION PLATE

(1) Remove the left / right corner box of the indoor unit.
(2) Hold and pull down the lower and both ends of the indoor unit, and remove the ▼ section from the square hole. (Refer to Figure 2.1)
Or remove the front panel and push the ▼ section down by using alankey, etc. from the front side. (Refer to Figure 2.2).
(3) Unhook the top of the indoor unit from the back plate catch.

(Figure 2.2)



2. REMOVING THE FRONT PANEL

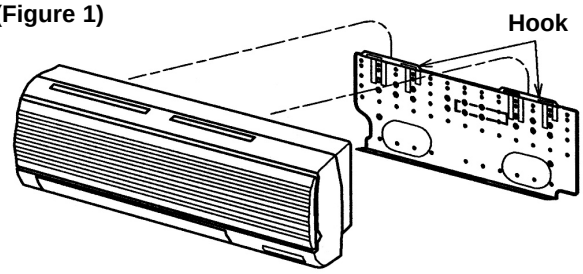
(1) Open the front grille.
(2) Remove the terminal block cover with a screw.
(3) Remove the screw 3 caps then remove the set 3 screws.
(4) After removing the lower side of the front panel a little, remove it as pulling toward upper.

3. REMOVING THE INDOOR CONTROLLER BOARD

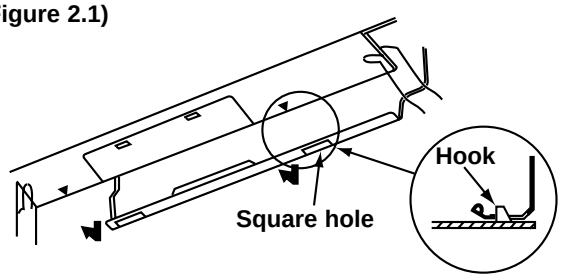
(1) Remove the terminal block cover.
(2) Remove the front panel. (see Photo 1)
(3) Remove the electrical parts box (2 screws).
(4) Remove the electrical parts box cover (1 screw).
(5) Disconnect the connector on the indoor controller board and remove the controller board by pulling up the hook of the controller case.
* For a smooth work, hang the side hooks of the electrical box on the hook of the motor cover. (see Photo 3)

PHOTOS & ILLUSTRATION

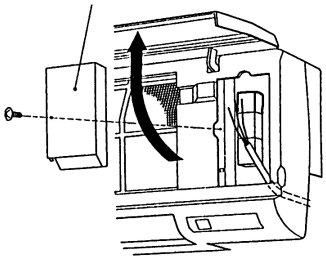
(Figure 1)



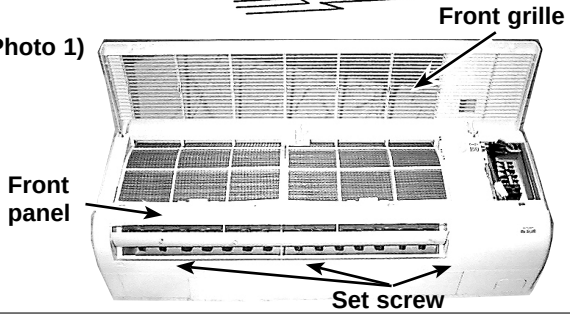
(Figure 2.1)



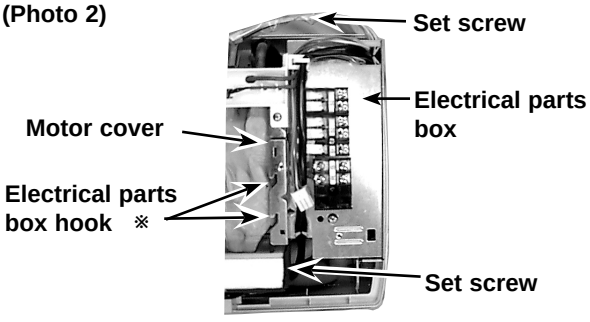
(Figure 3)



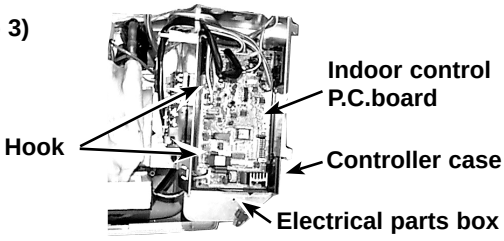
(Photo 1)

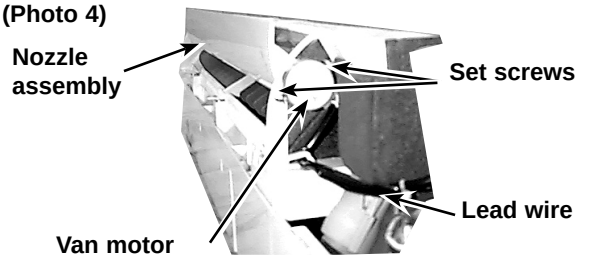
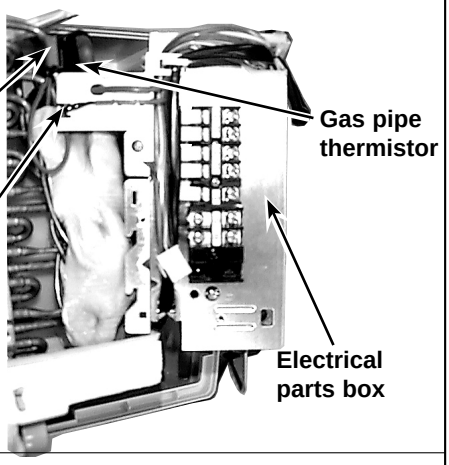
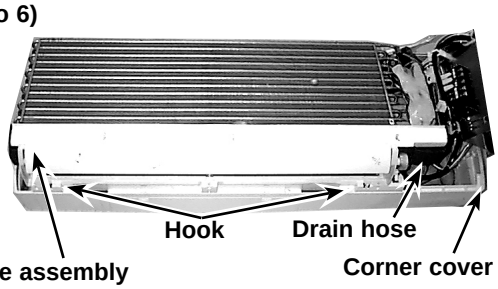
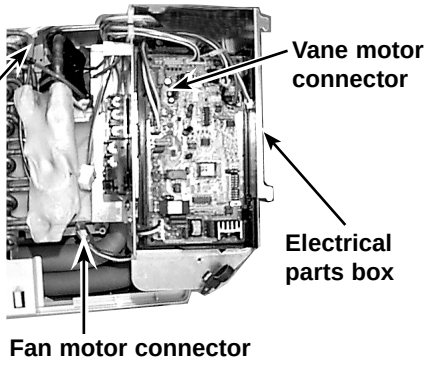
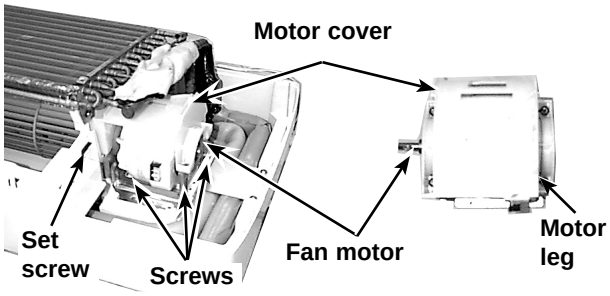


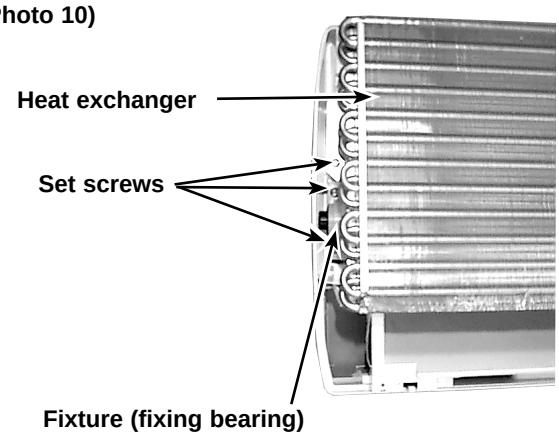
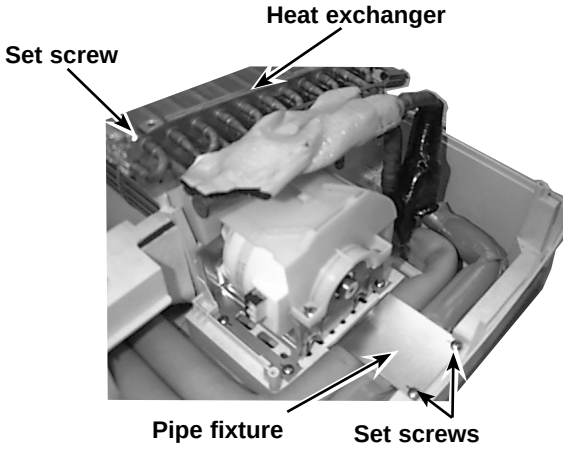
(Photo 2)



(Photo 3)

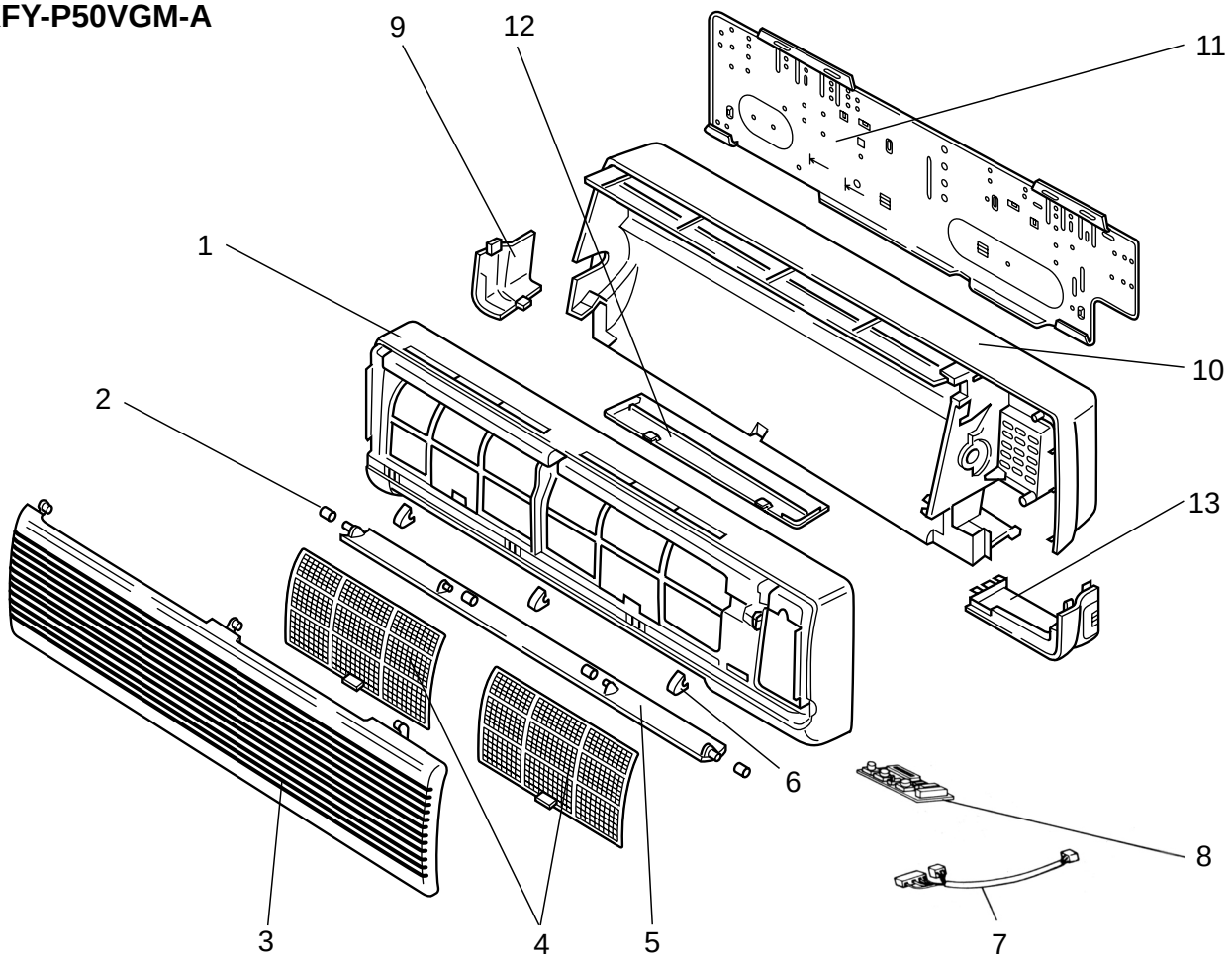


OPERATION PROCEDURE	PHOTOS & ILLUSTRATION
4. REMOVING THE VANE MOTOR (1) Disconnect the connector CN6V on the indoor controller board. (2) Remove the 2 screws of the vane motor, disconnect the lead wire and remove the vane motor from the shaft.	(Photo 4) 
5. REMOVING THE THERMISTOR (1) Removing the room thermistor TH21. ① Disconnect the connector CN20<red> on the indoor controller board. ② Remove the room thermistor from the holder. (2) Removing the liquid pipe thermistor TH22. ① Disconnect the connector CN21<white> on indoor controller board. ② Remove the liquid pipe thermistor with set to the pipe. (3) Removing the gas pipe thermistor TH23. ① Disconnect the connector CN29<black> on indoor controller board. ② Remove the gas pipe thermistor with set to the pipe.	(Photo 5) 
6. REMOVING THE NOZZLE ASSEMBLY (1) Disconnect the connector CN6V on the indoor controller board. (2) Disconnect the lead wire of the vane motor. (3) Remove the corner cover. (4) Pull the drain hose out from the nozzle assembly. (5) Unhook the hook of the lower nozzle assembly and pull the nozzle assembly toward you, then remove the nozzle assembly by sliding it down.	(Photo 6) 
7. REMOVING THE ELECTRICAL PARTS BOX (1) Remove the terminal block cover. (2) Remove the front panel. (see Photo 1) (3) Disconnect the vane motor connector. (4) Disconnect the fan motor connector from the fan motor. (5) Remove the liquid / gas pipe thermistor. (see Photo 5) (6) Remove the electrical parts box (2 screws).	(Photo 7) 
8. REMOVING THE FAN MOTOR (1) Remove the terminal block cover. (2) Remove the front panel. (see Photo 1) (3) Remove the electrical parts box. (see Photo 7) (4) Remove the nozzle assembly. (see Photo 6) (5) Remove the fan motor leg fixing 3 screws. (6) Unscrew the set screws using by alankey and remove it by sliding the fan motor to right. (7) Remove the 4 screws and remove the motor cover from the fan motor leg.	(Photo 8) (Photo 9) 

OPERATION PROCEDURE	PHOTOS & ILLUSTRATION
9. REMOVING THE LINE FLOW FAN (1) Remove the terminal block cover. (2) Remove the front panel. (see Photo 1) (3) Remove the electrical parts box. (see Photo 7) (4) Remove the nozzle assembly. (see Photo 6) (5) Remove the fan motor. (see Photo 8) (6) Remove the pipe fixture with 2 screws. (see Photo 11) (7) Remove the left / right screws of the heat exchanger and pull the left-hand side up. (8) Remove the 2 screws by sliding it toward you remove the fixture (fixing bearing). * When the fan is hard to remove, remove the fan motor first. * When resetting the fan to the fan motor, locate and fix the shaft after installing the fan.	**(Photo 10)** 
10. REMOVING THE HEAT EXCHANGER (1) Remove the terminal block cover. (2) Remove the front panel. (see Photo 1) (3) Remove the electrical parts box. (see Photo 7) (4) Remove the corner box. (5) Remove the nozzle assembly. (see Photo 6) (6) Remove the 2 screws and the pipe fixture. (7) Remove the 2 screws and heat exchanger.	**(Photo 11)** 

9 RoHS PARTS LIST

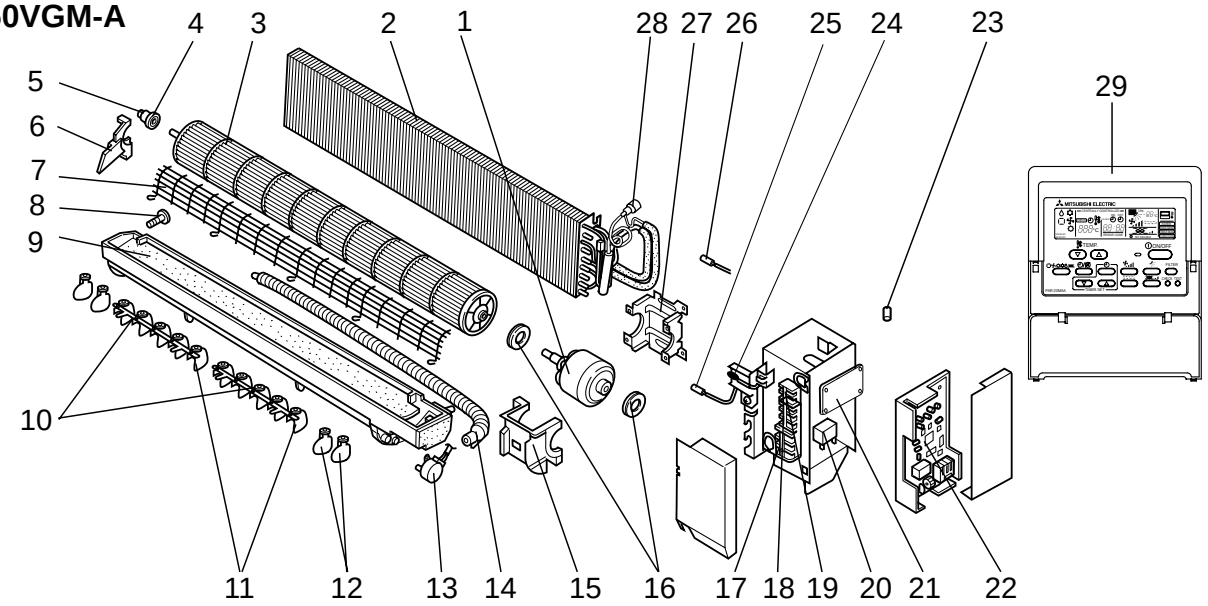
STRUCTURAL PARTS
PKFY-P32VGM-A
PKFY-P40VGM-A
PKFY-P50VGM-A



No.	RoHS	Parts No.	Parts Name	Specifications	PKFY-P32VGM-A PKFY-P40VGM-A PKFY-P50VGM-A	Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty
1	G	R01 89Y 651	FRONT PANEL		1			
2	G	R01 08Y 092	VANE SLEEVE		1			
3	G	R01 08Y 691	FRONT GRILLE		1			
4	G	R01 A32 500	AIR FILTER		2			
5	G	R01 08Y 002	AUTO VANE		1			
6	G	R01 08Y 096	SCREW CAP		3			
7	G	R01 A00 304	ADDRESS CABLE		1			
8	G	T7W E01 294	ADDRESS BOARD		1		A.B	
9	G	R01 08Y 658	CORNER COVER - L		1			
10	G	R01 08Y 635	BOX ASSEMBLY		1			
11	G	R01 08Y 808	BACK PLATE		1			
12	G	R01 08Y 623	UNDER COVER		1			
13	G	R01 10Y 658	CORNER COVER - R		1			

PoHS PARTS LIST

ELECTRICAL PARTS
PKFY-P32VGM-A
PKFY-P40VGM-A
PKFY-P50VGM-A



No.	RoHS	Parts No.	Parts Name	Specifications	PKFY-			Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty
					P32VGM-A	P40VGM-A	P50VGM-A			
1	G	T7W A02 762	FAN MOTOR		1	1	1	MF		
2	G	R01 J53 480	HEAT EXCHANGER		1					
		R01 E26 480	HEAT EXCHANGER			1				
		R01 E27 480	HEAT EXCHANGER				1			
3	G	R01 E22 114	LINE FLOW FAN		1	1	1			
4	G	R01 E04 103	SLEEVE BEARING		1	1	1			
5	G	R01 08Y 102	BEARING MOUNT		1	1	1			
6	G	R01 08Y 106	BEARING SUPPORT		1	1	1			
7	G	T7W A01 675	FAN GUARD		1	1	1			
8	G	R01 07Y 524	DRAIN PLUG		1	1	1			
9	G	R01 08Y 530	NOZZLE ASSY		1	1	1			
10	G	R01 08Y 059	ARM		2	2	2			
11	G	R01 08Y 038	GUIDE VANE		10	10	10			
12	G	R01 10Y 038	GUIDE VANE		4	4	4			
13	G	R01 E13 223	VANE MOTOR		1	1	1	MV		
14	G	R01 08Y 527	DRAIN HOSE		1	1	1			
15	G	R01 08Y 135	MOTOR COVER		1	1	1			
16	G	R01 08Y 105	RUBBER MOUNT		2	2	2			
17	G	T7W E32 716	TERMINAL BLOCK	3P(L , N ,⏚)	1	1	1	TB2		
18	G	T7W E35 716	TERMINAL BLOCK	3P(M1,M2,S)	1	1	1	TB5		
19	G	R01 E21 246	TERMINAL BLOCK	2P(1,2)	1	1	1	TB15		
20	G	R01 E13 255	RUN CAPACITOR	2.0μF 440V	1	1	1	C1		
21	G	R01 E38 313	POWER BOARD		1	1	1	P.B		
22	G	T7W E53 310	CONTROLLER BOARD		1	1	1	I.B		
23	G	R01 E06 239	FUSE	250V 6.3A	1	1	1	FUSE		
24	G	R01 H08 202	ROOM THERMISTOR		1	1	1	TH21		
25	G	R01 H13 202	LIQUID PIPE THERMISTOR		1	1	1	TH22		
26	G	R01 H17 202	GAS PIPE THERMISTOR		1	1	1	TH23		
27	G	R01 08Y 130	MOTOR SUPPORT		1	1	1			
28	G	R01 H11 401	LINEAR EXPANSION VALVE		1	1	1	LEV		
29	G	—	REMOTE CONTROLLER	PAR-20MAA	1	1	1			

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