MITSUBISHI ELECTRIC

Changes for the Better

SPLIT-TYPE,HEAT PUMP AIR CONDITIONERS

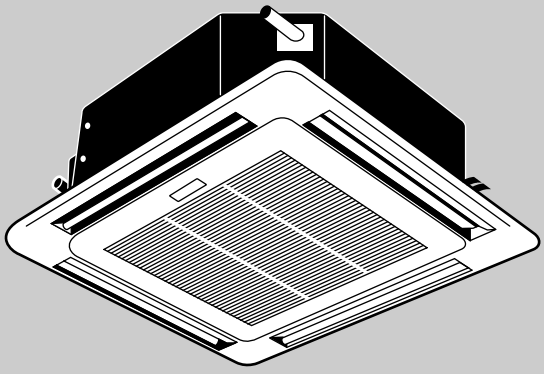
No. OC259

TECHNICAL & SERVICE MANUAL

Series PLFY Ceiling Cassettes R407C / R22

Indoor unit

[Model names]	[Service Ref.]
PLFY-P32VKM-A	PLFY-P32VKM-A.UK
PLFY-P40VKM-A	PLFY-P40VKM-A.UK
PLFY-P50VKM-A	PLFY-P50VKM-A.UK
PLFY-P63VKM-A	PLFY-P63VKM-A.UK



INDOOR UNIT

CONTENTS

1 SAFETY PRECAUTION

Cautions for using with the outdoor unit which adopts R407C refrigerant.

· **Do not use the existing refrigerant piping.**
-The old refrigerant and lubricant in the existing piping contains a large amount of chlorine which may cause the lubricant of the new unit to deteriorate.

· 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 to be used during installation indoors and keep both ends of the piping 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 ESTR , ETHER or HAB as the lubricant to coat flares and flange connection parts.**

Use liquid refrigerant to seal 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 to deteriorate.

· **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 to deteriorate.

[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 3.43MPa·G or over.
②	Charge hose	·Only for R407C.
		·Use pressure performance of 5.10MPa·G or over.
③	Electronic scale	
④	Gas leak detector	·Use the detector for R134a or R407C.
⑤	Adapter 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.	

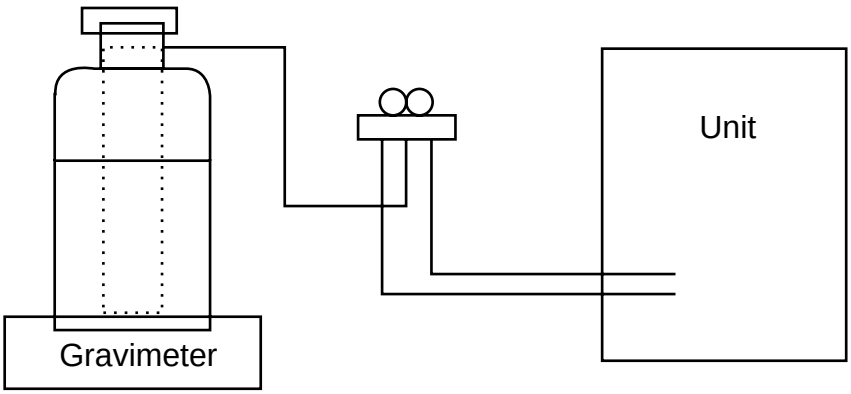
[2] Notice on repair service

·After recovering the all 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

①Direct charging from the cylinder.
·R407C cylinder are available on the market has a syphon pipe.
·Leave the syphon pipe cylinder standing and recharge it.
(By liquid refrigerant)

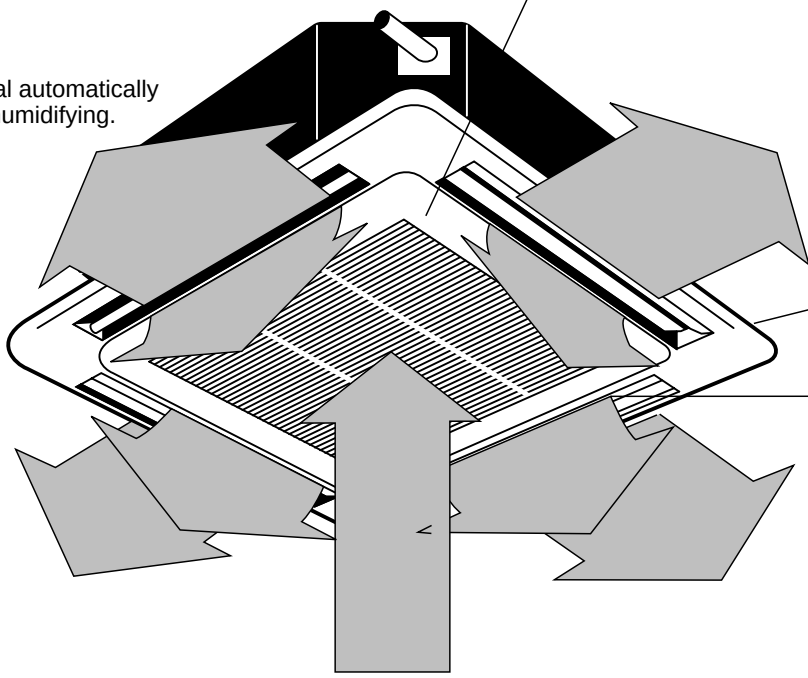


(2) Recharge in refrigerant leakage case

·After recovering the all 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 (Main) Unit**



Filters
Remove dust and pollutants from return air

Horizontal Air Outlet
Sets airflow horizontal automatically during cooling or dehumidifying.

Grille

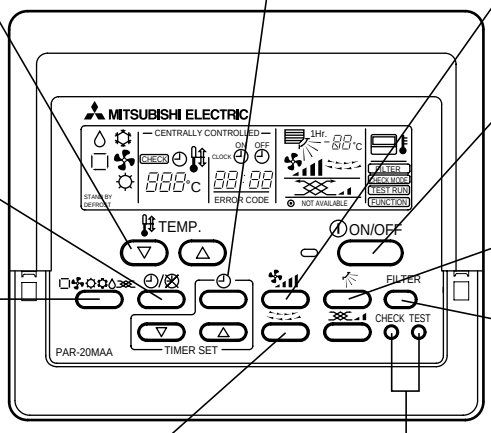
Auto Air Swing Vane
Disperses airflow up and down and adjusts the angle of airflow direction.

Air Intake
Returns air from room.

● **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

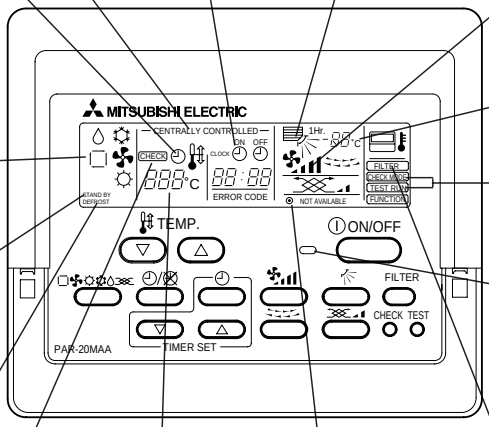
This switch the horizontal fan motion ON and OFF.

(Not available for this model.)

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. 2minutes). Please wait until this “H0” indication disappear then start the operation.

3 SPECIFICATION

3-1. Specification

Item				PLFY-P32VKM-A.UK	PLFY-P40VKM-A.UK	PLFY-P50VKM-A.UK	PLFY-P63VKM-A.UK
Power			ϕ,V,Hz	Single phase , 220-230-240V , 50Hz			
Cooling capacity			kW	3.6	4.5	5.6	7.1
Heating capacity			kW	4.0	5.0	6.3	8.0
Electric characteristic	Input	Cooling	kW	0.13	0.13	0.14	0.15
		Heating	kW	0.13	0.13	0.14	0.15
	Current	Cooling	A	0.60	0.60	0.64	0.68
		Heating	A	0.60	0.60	0.64	0.68
Exterior (munsell symbol)			—	Unit : Galvanized sheets · Standard grills : ABS resin acrylic coating Munsell<0.70Y 8.59/0.97>			
Dimensions		Height	mm	298<30>			
		Width	mm	660<760>			
		Depth	mm	660<760>			
Heat exchanger			—	Cross fin			
Fan	Fan × No		—	Turbo fan × 1			
	Air flow ※3		m^3/min	15-14.5-14-13		16-15-14-13	17-16-15-14
	External static pressure		Pa	0			
	Fan motor output		kW	0.030			
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")	
Cond. drain pipe size			ϕmm	O.D.32 (PVC pipe VP-25 connectable)			
Noise level ※3			dB	35-34-32.5-31		37-35.5-34-32	39-38-36.5-35
Product weight			kg	19<3.7>			20<3.7>

Note 1. Rating conditions(JIS B 8616)
Cooling : Indoor : D.B. 27°C W.B. 19.0°C
outdoor : D.B. 35°C
Heating : Indoor : D.B. 20°C
outdoor : D.B. 7°C W.B. 6°C

Note 2. The number indicated in < > is just for the grill.

※ 3. Air flow and the noise level are indicated as High-Middium 1-Middium 2-Low.

3-2. Electrical parts specifications

Parts name \ Model	Symbol	PLFY-P32VKM-A.UK	PLFY-P40VKM-A.UK	PLFY-P50VKM-A.UK	PLFY-P63VKM-A.UK
Room temperature thermistor	TH21	Resistance 0℃/15kΩ, 10℃/9.6kΩ, 20℃/6.3kΩ, 25℃/5.2kΩ, 30℃/4.3kΩ, 40℃/3.0kΩ			
Liquid pipe thermistor	TH22	Resistance 0℃/15kΩ, 10℃/9.6kΩ, 20℃/6.3kΩ, 25℃/5.2kΩ, 30℃/4.3kΩ, 40℃/3.0kΩ			
Gas pipe thermistor	TH23	Resistance 0℃/15kΩ, 10℃/9.6kΩ, 20℃/6.3kΩ, 25℃/5.2kΩ, 30℃/4.3kΩ, 40℃/3.0kΩ			
Fuse (Indoor controller board)	FUSE	250V 6.3A			
Fan motor (with Inner-thermostat)	MF	6-pole OUTPUT 30W PA1-V30F			
		Inner-thermostat	OFF 125℃±5℃ ON 85℃±20℃		
Fan motor capacitor	C	2.5μF x 400V			
Vane motor (with limit switch)	MV	MC8 200V-240V 2.5/2W 5/6R.P.M			
Drain-up mechanism	DP	PJV-1002 INPUT 8/7.5W 24 ℓ/Hr			
Drain sensor	DS	Heater resistance 0℃/6kΩ, 10℃/3.9kΩ, 20℃/2.6kΩ, 25℃/2.2kΩ, 30℃/1.8kΩ, 40℃/1.3kΩ			
Linear expansion valve	LEV	DC12V Stepping motor drive port dimension 3.2 Ω (0~2000pulse) EDM-402ME			
Electric heater (Condensation proof)	H2	240V 28.8W			
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

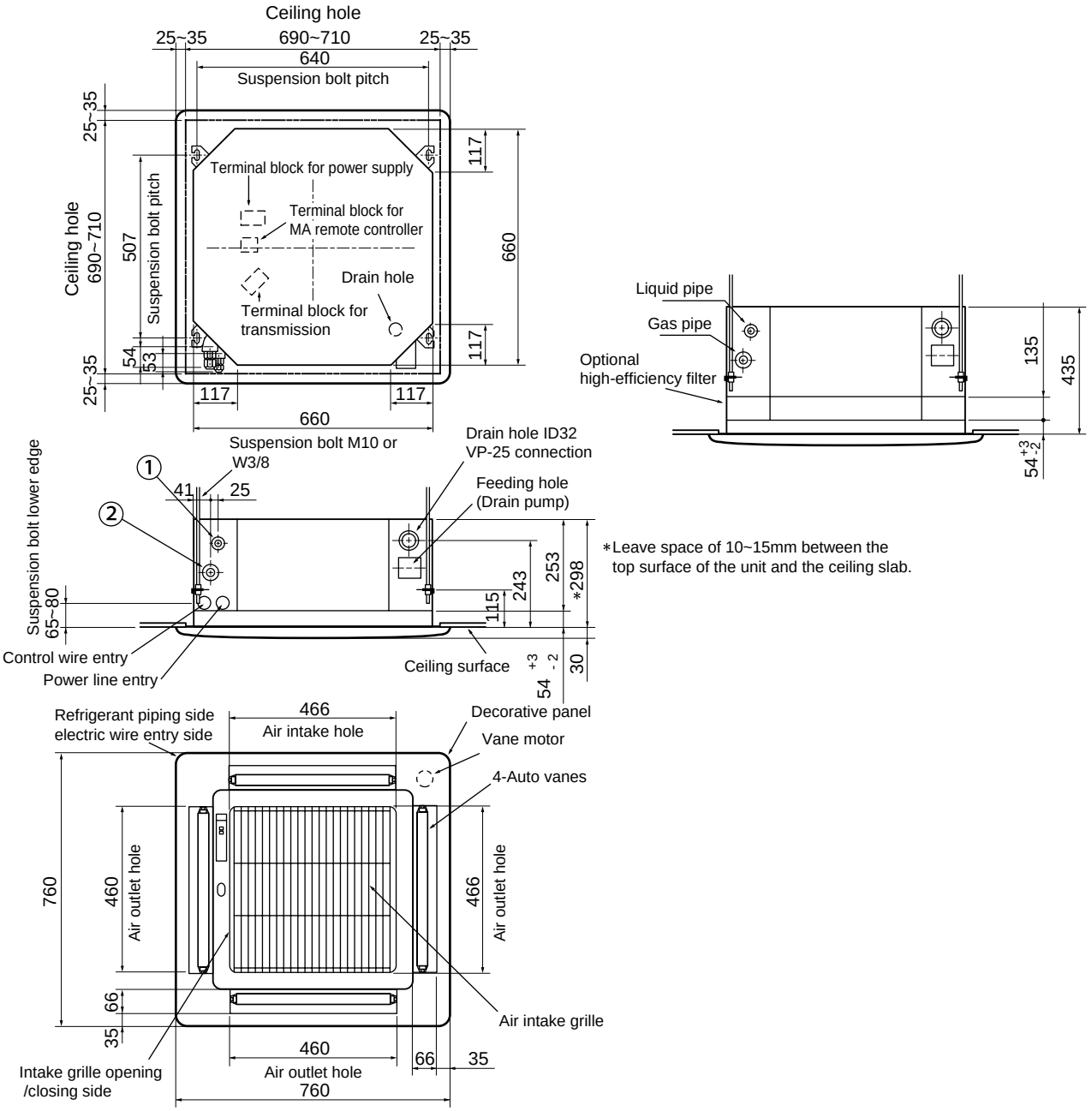
PLFY-P32VKM-A.UK
PLFY-P40VKM-A.UK
PLFY-P50VKM-A.UK
PLFY-P63VKM-A.UK

Unit : mm

NOTE 1.The electrical parts box may be removed during servicing. When connecting the power line and the control wire, provide enough length to the electric wires.

NOTE 2.When installing the optional high-efficiency filter, the space inside the ceiling should be 440mm or more. Also, when installing the optional the multi-functional casement (fresh air intake casement), the dimension between the transom and ceiling shall be more than 440mm. (The optional high-efficiency filter can also be installed.)

Models	①	②
PLFY-P32VKM-A.UK PLFY-P40VKM-A.UK	Refrigerant pipe (6.35mmdia) flared connection 1/4F	Refrigerant pipe (12.7mmdia) flared connection 1/2F
PLFY-P50VKM-A.UK PLFY-P63VKM-A.UK	Refrigerant pipe (9.52mmdia) flared connection 3/8F	Refrigerant pipe (15.88mmdia) flared connection 5/8F



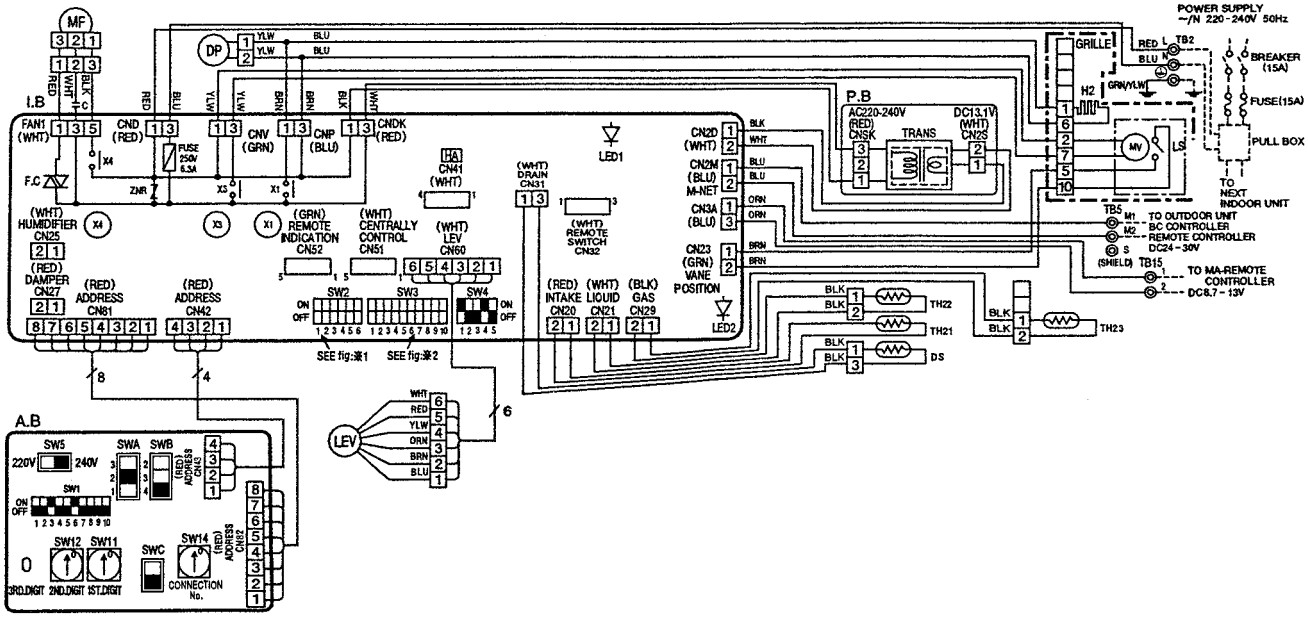
*Leave space of 10~15mm between the top surface of the unit and the ceiling slab.

5 WIRING DIAGRAM

PLFY-P32VKM-A.UK, PLFY-P40VKM-A.UK
PLFY-P50VKM-A.UK, PLFY-P63VKM-A.UK

LEGEND

SYMBOL	NAME		SYMBOL	NAME		SYMBOL	NAME	
I.B	INDOOR CONTROLLER BOARD		TH21	THERMISTOR	ROOM TEMPERATURE DETECTION (0℃/15kΩ,25℃/ 5.4kΩ)	A.B	CIRCUIT BOARD (ADDRESS)	
CN25	CONNECTOR	HUMIDIFIER	TH22		PIPE TEMPERATURE DETECTION/ LIQUID (0℃/15kΩ,25℃/ 5.4kΩ)	SW1	SWITCH	MODE SELECTION
CN27		DAMPER				SW5		VOLTAGE SELECTION
CN32		REMOTE SWITCH				SW11		ADDRESS SETTING 1ST DIGIT
CN41		HA TERMINAL-A	TH23		PIPE TEMPERATURE DETECTION / GAS (0℃/15kΩ,25℃/ 5.4kΩ)	SW12		ADDRESS SETTING 2ND DIGIT
CN51		CENTRALLY CONTROL				SW14		CONNECTION No.
CN52		REMOTE INDICATION	P.B	INDOOR POWER BOARD		SWA		CEILING HEIGHT SELECTOR
SW2	SWITCH	CAPACITY CODE	DS	DRAIN SENSOR		SWB		DISCHARGE OUTLET NUMBER SELECTOR
SW3		MODE SELECTION	DP	DRAIN WATER LIFTING-UP MACH.		SWC		OPTION SELECTOR
SW4		MODEL SELECTION	MF	FAN MOTOR (WITH INNER THERMO.)				
ZNR	VARISTOR		C	CAPACITOR (FAN MOTOR)				
FUSE	FUSE (6.3A)		MV	VANE MOTOR				
F.C	FAN PHASE CONTROL		LS	LIMIT SWITCH				
X1	AUX. RELAY	DRAIN WATER LIFTING-UP MACH.	H2	DEW PREVENTION HEATER				
X3		VANE	LEV	LINEAR EXPANSION VALVE				
X4		FAN MOTOR	TB2	TERMINAL BLOCK	POWER SUPPLY			
LED1	POWER SUPPLY (I.B)		TB5		TRANSMISSION			
LED2	POWER SUPPLY (I.B)		TB15		MA-REMOTE CONTROLLER			

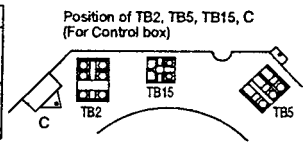


〈fig : ※1〉

MODELS	SW2	MODELS	SW2
P32	ON OFF 1 2 3 4 5 6	P50	ON OFF 1 2 3 4 5 6
P40	ON OFF 1 2 3 4 5 6	P63	ON OFF 1 2 3 4 5 6

〈fig : ※2〉

MODELS	SW3
P32,P40	ON OFF 1 2 3 4 5 6 7 8 9 10
P50,P63	ON OFF 1 2 3 4 5 6 7 8 9 10



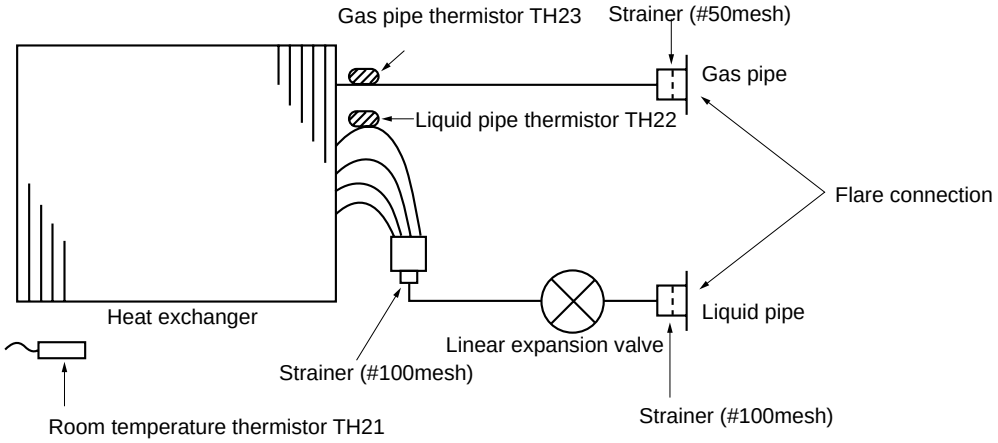
NOTES:
1.At servicing for outdoor unit,always follow the wiring diagram of outdoor unit.
2.In case of using MA-Remote controller, please connect to TB15. (Remote controller wire is non-polar.)
3.In case of using M-NET, please connect to TB5. (Transmission line is non-polar.)
4.Symbol [S]of TB5 is the shield wire connection.
5.Symbols used in wiring diagram above are, ◎: terminal block, □□□:connecter.
6.The setting of the SW2 dip switches differs in the capacity. For the detail, refer to the table below.
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.

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

6 REFRIGERANT SYSTEM DIAGRAM

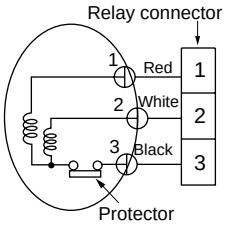
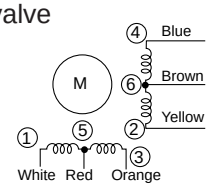
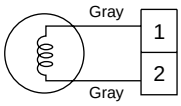
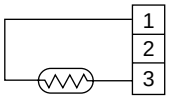
PLFY-P32VKM-A.UK
PLFY-P40VKM-A.UK
PLFY-P50VKM-A.UK
PLFY-P63VKM-A.UK



Item \ Capacity	PLFY-P32VKM-A.UK PLFY-P40VKM-A.UK	PLFY-P50VKM-A.UK PLFY-P63VKM-A.UK
Gas pipe	ϕ12.7(1/2'')	ϕ15.88(5/8'')
Liquid pipe	ϕ6.35(1/4'')	ϕ9.52(3/8'')

7 TROUBLE SHOOTING

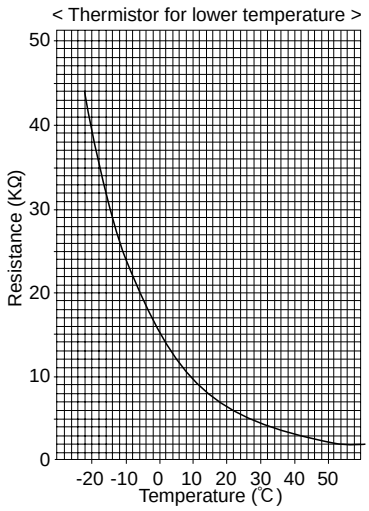
7-1. How to check the parts PLFY-P32/P40/P50/P63VKM-A.UK

<table>
<tr><th>Parts name</th><th>Check points</th></tr>
<tr><td>Room temperature thermistor (TH21)
Liquid pipe thermistor (TH22)
Gas pipe thermistor (TH23)</td><td>Disconnect the connector, then measure the resistance using 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 using a tester.
(Surrounding temperature 20℃~30℃)
<table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>Approx.14kΩ</td><td>Open or short</td></tr></table></td></tr>
<tr><td>Fan motor
  </td><td>Measure the resistance between the terminals using a tester.
<table><tr><td rowspan="2">Motor terminal
or
Relay connector</td><td>Normal</td><td rowspan="2">Abnormal</td></tr><tr><td>PLFY- • VKM-A.UK
P32,P40,P50,P63</td></tr><tr><td>Red-Black</td><td>136.2Ω</td><td rowspan="2">Open or short</td></tr><tr><td>White-Black</td><td>197.5Ω</td></tr></table></td></tr>
<tr><td>Linear expansion valve
  </td><td>Disconnect the connector then measure the resistance valve using a tester.
(Refer to the next page for a detail.)
<table><tr><th colspan="4">Normal</th><th>Abnormal</th></tr><tr><td>(1)-(5)
White-Red</td><td>(2)-(6)
Yellow-Blown</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></td></tr>
<tr><td>Drain-up mechanism
  </td><td>Measure the resistance between the terminals using a tester.(Surrounding temperature : 20℃~30℃)
<table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>327Ω</td><td>Open or short</td></tr></table></td></tr>
<tr><td>Drain sensor
  </td><td>Measure the resistance after 3 minutes have passed since the power supply was intercepted.
(Surrounding temperature : 0℃ ~ 60℃)
<table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>0.6kΩ~6.0kΩ</td><td>Open or short</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 thermistor(TH22)
Gas pipe thermistor(TH23)

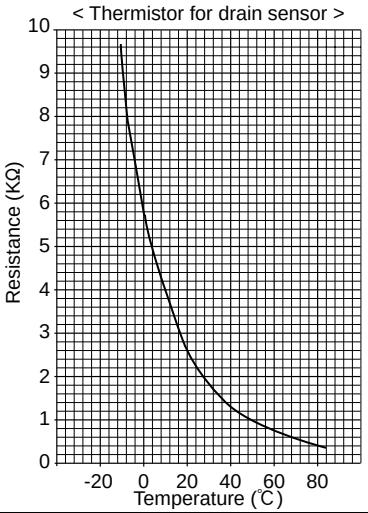


Thermistor R_0=15kΩ ± 3%
Fixed number of B=3480kΩ ± 2%

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

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

Thermistor for drain sensor



Thermistor R_0=6.0kΩ ±5%
Fixed number of B=3390kΩ ±2%

$$Rt=6\exp\{3390(\frac{1}{273+t}-\frac{1}{273})\}$$

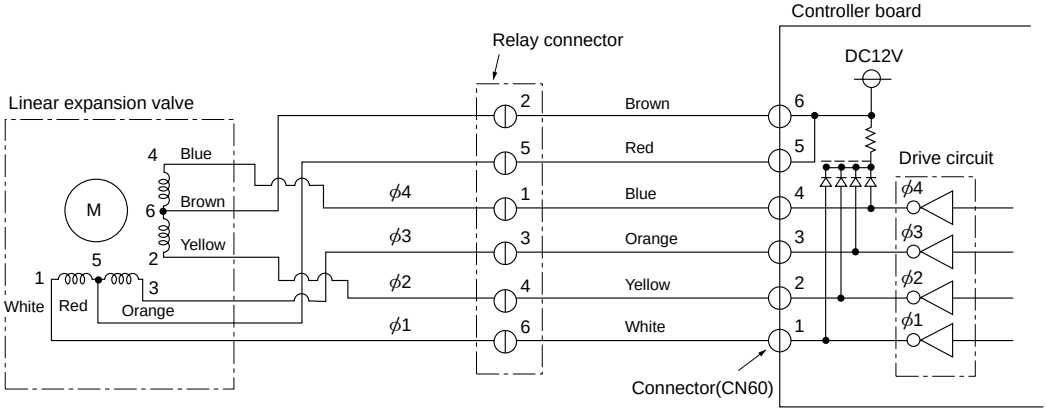
0℃	6.0kΩ
10℃	3.9kΩ
20℃	2.6kΩ
25℃	2.2kΩ
30℃	1.8kΩ
40℃	1.3kΩ

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>



Note : Since the number of the connector at the controller board side and the relay connector are different, follow the color of the lead wire.

<Output pulse signal and the valve operation>

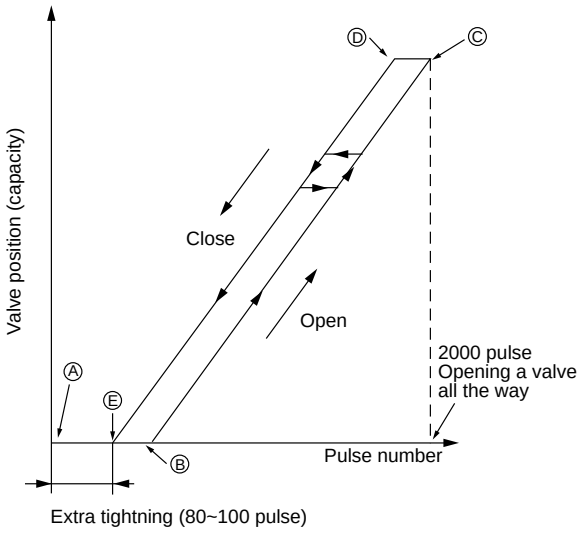
Output (Phase)	Output			
	1	2	3	4
ϕ1	ON	OFF	OFF	ON
ϕ2	ON	ON	OFF	OFF
ϕ3	OFF	ON	ON	OFF
ϕ4	OFF	OFF	ON	ON

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 will locks and vibrates.

② Linear expansion valve operation

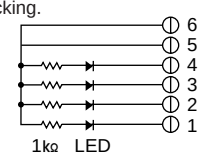
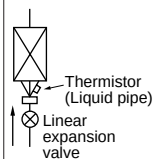


✵ When the switch is turned on, 2200 pulse closing valve signal will be send till it goes to Ⓐ point in order to define the valve position.

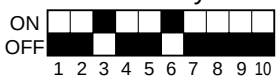
When the valve move smoothly, there is no noise or vibration occurring from the linear expansion valve : however, when the pulse number moves from Ⓔ to Ⓐ or when the valve is locked, more noise can be heard than normal situation.

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

③ Trouble shooting

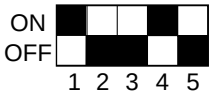
Symptom	Check points	Countermeasures
Operation circuit failure of the micro processor.	Disconnect the connector on the controller board, then connect LED for checking.  Pulse signal will be sent out for 10 seconds as soon as the main switch is turn on. If there is LED with lights on or lights off, it 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.

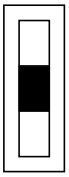
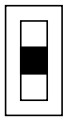
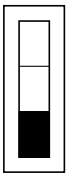
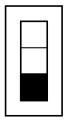
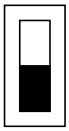
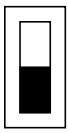
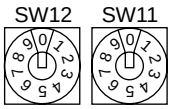
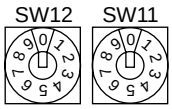
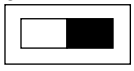
7-2. FUNCTION OF DIP SWITCH

<table>
<tr><th rowspan="2">Switch</th><th rowspan="2">Pole</th><th rowspan="2">Function</th><th colspan="2">Operation by switch</th><th rowspan="2">Remarks</th></tr>
<tr><th>ON</th><th>OFF</th></tr>
<tr><td rowspan="10">SW1
Mode
Selection</td><td>1</td><td>Thermistor <intake temperature detection> position</td><td>Built-in remote controller</td><td>Indoor unit</td><td rowspan="10">Address board
<At delivery>
 

Note :
※1 Fan operation at Heating mode.
※2 Heater thermo ON is operating.
※3 SW 1-7=OFF, SW 1-8=ON → Setting air flow.
SW 1-7=ON, SW 1-8=ON → Indoor fan stop.</td></tr>
<tr><td>2</td><td>Filter clogging detection</td><td>Provided</td><td>Not provided</td></tr>
<tr><td>3</td><td>Filter cleaning</td><td>2,500hr</td><td>100hr</td></tr>
<tr><td>4</td><td>Fresh air intake</td><td>Effective</td><td>Not effective</td></tr>
<tr><td>5</td><td>Remote indication switching</td><td>Thermostat ON signal indication</td><td>Fan output indication</td></tr>
<tr><td>6</td><td>Humidifier control</td><td>Always operated while the heat in ON ※1</td><td>Operated depends on the condition ※2</td></tr>
<tr><td>7</td><td rowspan="2">Air flow set in case of Heat thermostat OFF</td><td>Low ※3</td><td>Extra low ※3</td></tr>
<tr><td>8</td><td>Setting air flow ※3</td><td>Depends on SW1-7</td></tr>
<tr><td>9</td><td>Auto restart function</td><td>Effective</td><td>Not effective</td></tr>
<tr><td>10</td><td>Power ON/OFF</td><td>Effective</td><td>Not effective</td></tr>
<tr><td>SW2
Capacity code setting</td><td>1~6</td><td colspan="3"><table><tr><th>MODELS</th><th>SW 2</th><th>MODELS</th><th>SW 2</th></tr><tr><td>PLFY-P32
VKM-A.UK</td><td>  </td><td>PLFY-P50
VKM-A.UK</td><td>  </td></tr><tr><td>PLFY-P40
VKM-A.UK</td><td>  </td><td>PLFY-P63
VKM-A.UK</td><td>  </td></tr></table></td><td>Indoor controller board
Set while the unit is off.
<At delivery>
Set for each capacity.</td></tr>
<tr><td rowspan="10">SW3
Function Selection</td><td>1</td><td>Heat pump / Cooling only</td><td>Cooling only</td><td>Heat pump</td><td rowspan="10">Indoor controller board
Set while the unit is off.
<At delivery>
PLFY-P32VKM-A.UK
PLFY-P40VKM-A.UK
 

PLFY-P50VKM-A.UK
PLFY-P63VKM-A.UK
 

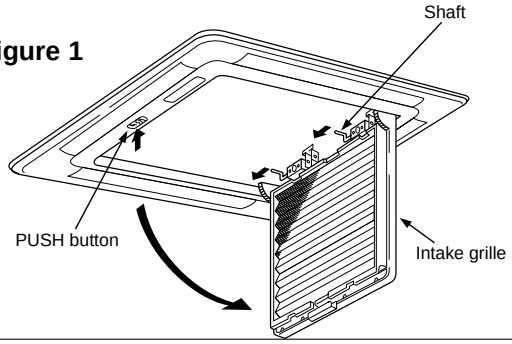
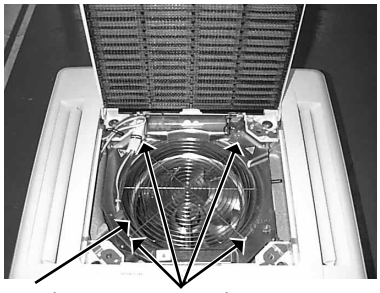
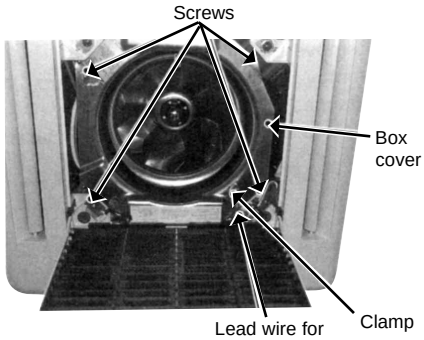
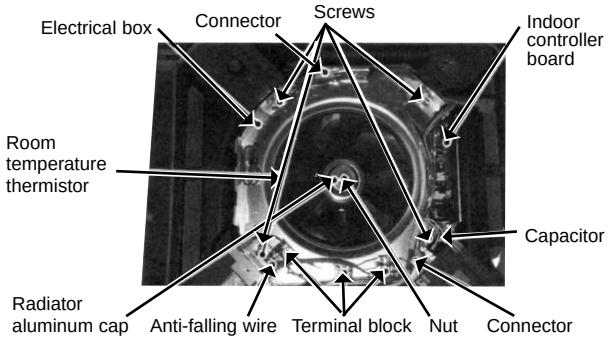
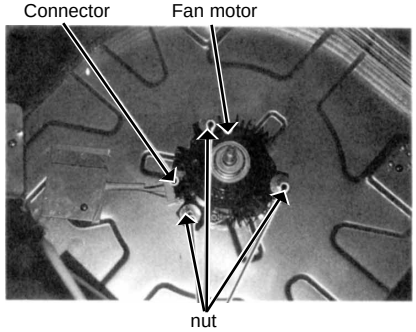
Note :
※4 At cooling mode, each angle can be used only 1 hour.
※5 The numerical valve in the parentheses shows the case which the R22 outdoor unit is connected.</td></tr>
<tr><td>2</td><td>Louver</td><td>Available</td><td>Not available</td></tr>
<tr><td>3</td><td>Vane</td><td>Available</td><td>Not available</td></tr>
<tr><td>4</td><td>Vane swing function</td><td>Available</td><td>Not available</td></tr>
<tr><td>5</td><td>Vane horizontal angle</td><td>Second setting</td><td>First setting</td></tr>
<tr><td>6</td><td>Vane cooling limit angle setting ※4</td><td>Horizontal angle</td><td>Down B, C</td></tr>
<tr><td>7</td><td>Indoor linear expansion valve opening</td><td>Effective</td><td>Not effective</td></tr>
<tr><td>8</td><td>Heat 4degrees up</td><td>Not effective</td><td>Effective</td></tr>
<tr><td>9</td><td>Superheat setting temperature ※5</td><td>9(5)degrees</td><td>6(2)degrees</td></tr>
<tr><td>10</td><td>Sub cool setting temperature</td><td>15degrees</td><td>10degrees</td></tr>
<tr><td>SW4
Unit Selection</td><td>1~5</td><td colspan="3">  </td><td>Indoor controller board
Set while the unit is off.
<At delivery>
  </td></tr>
</table>

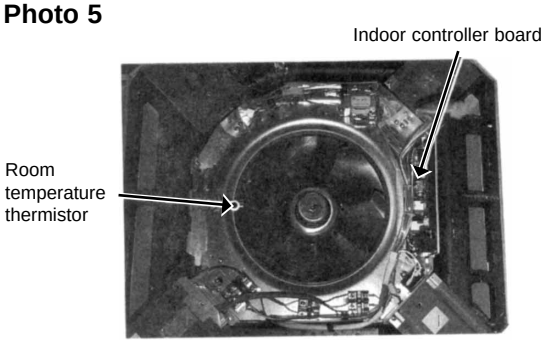
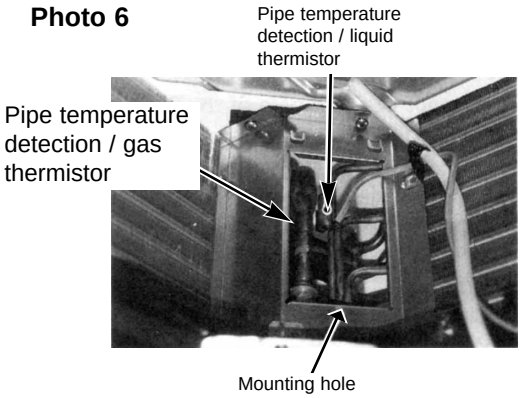
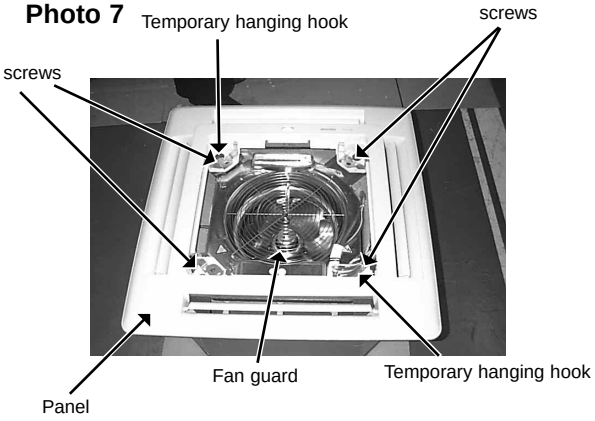
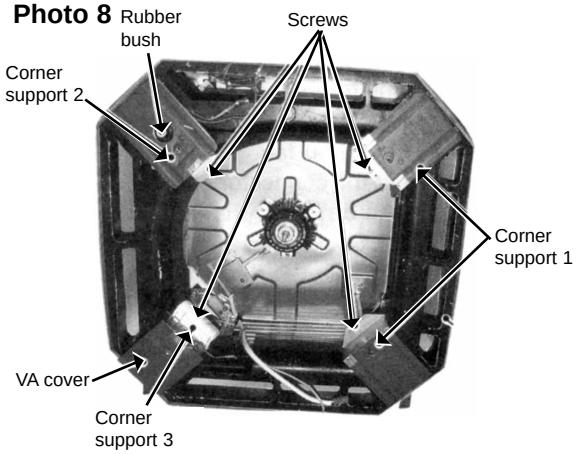
Switch	Pole	Operation by switch	Remarks
SWA Ceiling height selector	1~3	(High ceiling) 3 (Standard) 2 (Silent) 1  ✻ Ceiling height can be changed depends on SWB setting. SWA / SWB: 1 Silent; 2 Standard; 3 High ceiling 4 4 direction: 2.7m; 2.8m; 3.0m 3 3 direction: 2.4m; 3.0m; 3.3m	Address board <At delivery>  3 2 1
SWB Discharge outlet number selector	3	(Not used) 2 (3 direction) 3 (4 direction) 4 	Address board <At delivery>  2 3 4
SWC Option selector	2	Option Standard  When attach the optional high performance filter elements (multi function casement) to the unit, be sure to attach it to the option side in order to prevent the airflow reducing.	Address board <At delivery> Option Standard 
SW11 1st digit address setting SW12 2nd digit address setting	Rotary switch	 SW12 SW11 10 1 Address setting should be done when M-NET Remote controller is being used.	Address board Address can be set while the unit is stopped. <At delivery>  SW12 SW11
SW14 Connection No. setting	Rotary switch	 SW14 This is the switch to be used when the indoor unit is operated with R2 series outdoor unit as a set.	Address board <At delivery>  SW14
SW5 Voltage Selection	2	 220V 240V 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 <At delivery>  220V 240V

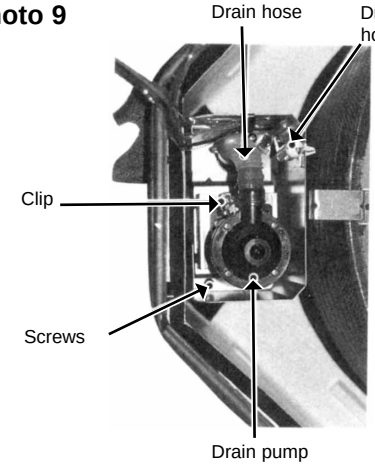
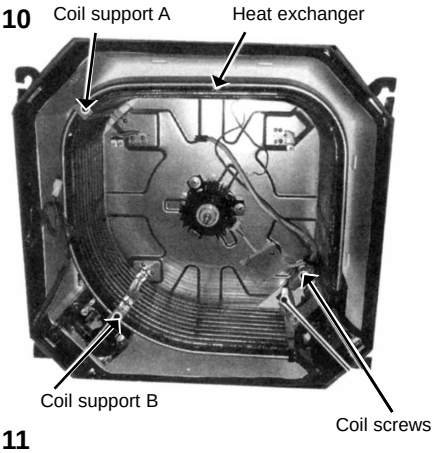
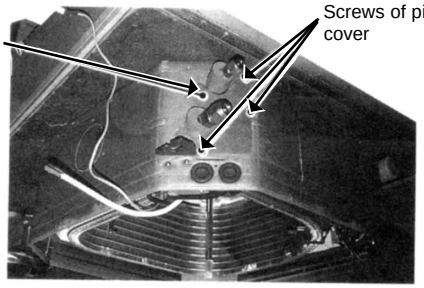
8 DISASSEMBLY PROCEDURE

INDOOR UNIT
PLFY-P63VKM-A.UK

Be careful on removing heavy parts.

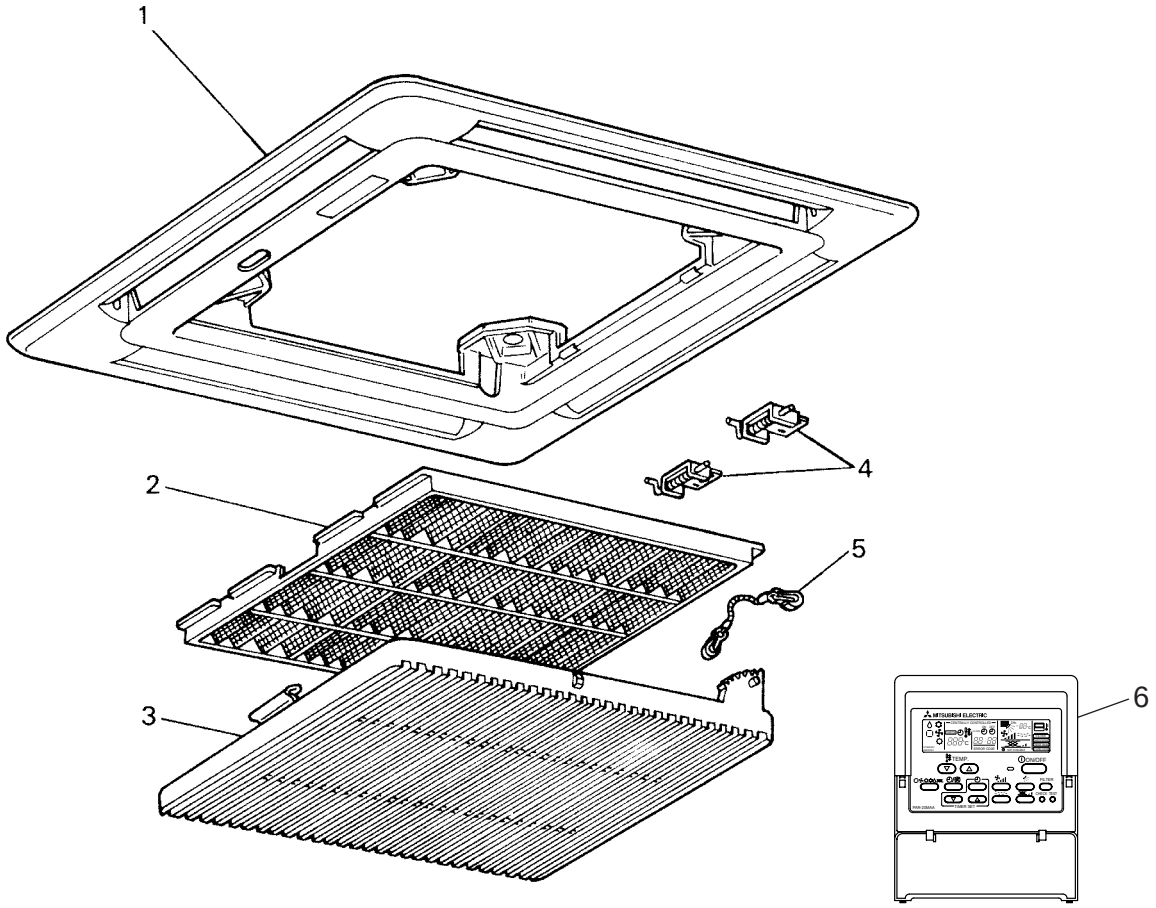
OPERATING PROCEDURE	PHOTOS&ILLUSTRATIONS
1. Removing the air intake grille (1) Press the PUSH button. (2) Open the intake grille 90°. (3) Remove the chip. (4) Slide the shaft in the hinge to the left and remove the intake grille.	**Figure 1** 
2. Removing the fan guard (1) Open the intake grille. (2) Remove the 4 screws of the fan guard.	**Photo 1** 
3. Removing the electrical parts box (1) Remove the fan guard. (2) Disconnect the lead wire of the vane motor from the clamp, and disconnect the red connector (10P). (3) Remove 2 of 4 screws from the electrical parts cover. (4) Remove the electrical parts cover. (5) Disconnect the following connectors from the box. Red (3P) for the fan motor White (2P) for the indoor coil thermistor Blue (2P) for the drain pump White (3P) for the drain sensor (6) Disconnect the green anti-falling wire of the electrical parts box. (7) Remove 3 of 4 screws from the electrical parts box, and loosen the other screw. (8) Pull out the electrical parts box. Electrical parts inside the box Terminal block Indoor fan capacitor Room temperature thermistor Indoor controller board	**Photo 2**  **Photo 3** 
4. Removing the fan motor (1) Remove the fan guard. (2) Remove the turbo-fan nut and radiator aluminum cap. (3) Pull out the turbo fan. (4) Disconnect the connector of the fan motor lead wire. (5) Remove the 3nuts of fan motor.	**Photo 4** 

OPERATING PROCEDURE	PHOTOS&ILLUSTRATIONS
5. Removing the room temperature thermistor (1) Remove the fan guard. (2) Remove the electrical box cover (3) Remove the holder and the room temperature thermistor by pulling the catch. (4) Disconnect the red connector, CN20, on the indoor controller board.	**Photo 5** 
6. Removing the pipe temperature detection / liquid thermistor and the pipe temperature detection / gas thermistor (1) Remove the fan guard. (2) Remove the electrical box cover. (3) Remove the electrical box. (4) Remove the turbo fan. (5) Remove the screw of the service panel. (6) Remove the service panel. (7) Remove the pipe temperature detection / liquid thermistor and the pipe temperature detection / gas thermistor which is inserted into the holder installed to the thin copper pipe. (8) Disconnect the each 2-pin white(liquid) and black(gas) connector.	**Photo 6** 
7. Removing the panel (1) Open the intake grille. (2) Disconnect the connector the vane motor. (3) Remove 4 screws of the panel. (4) Pulling the temporary hanging hook, remove the panel.	**Photo 7** 
8. Removing the drain pan (1) Remove the panel. (2) Remove the fan guard. (3) Remove the rubber bushing. (4) Drain the remaining water in the drain pan. (5) Remove the electrical box cover. (6) Remove the electrical box. (7) Remove the screw of the V.A. cover, and remove the V.A. cover. (8) Remove each screw of the corner supports 1,2, and 3, and remove the corner supports 1,2 and 3. (9) Pull out the drain pan. ※Pull the left and right of the pan gradually. Be careful not to crack or damage the pan.	**Photo 8** 

OPERATING PROCEDURE	PHOTOS&ILLUSTRATIONS
9. Removing the drain pump and drain sensor (1) Remove the panel. (2) Remove the fan guard. (3) Remove the electrical parts cover. (4) Remove the electrical parts box. (5) Remove the drain pan. (6) Remove 4 screws of the drain pump. (7) Pulling the clip of the drain hose, pull out the drain hose from the drain pump. (8) Remove the drain sensor and the holder. (9) Pull out the drain pump.	**Photo 9** 
10. Removing the heat exchanger (1) Remove the panel. (2) Remove the fan guard. (3) Remove the electrical parts cover. (4) Remove the electrical parts box. (5) Remove the drain pan. (6) Remove the turbo fan. (7) Remove the screw of the coil support A. (8) Remove 2 screws of the coil support B. (9) Remove 2 screws of the coil. (10) Remove 4 screws of the piping cover of the outer wall, and pull out the piping cover.	**Photo 10**  **Photo 11** 

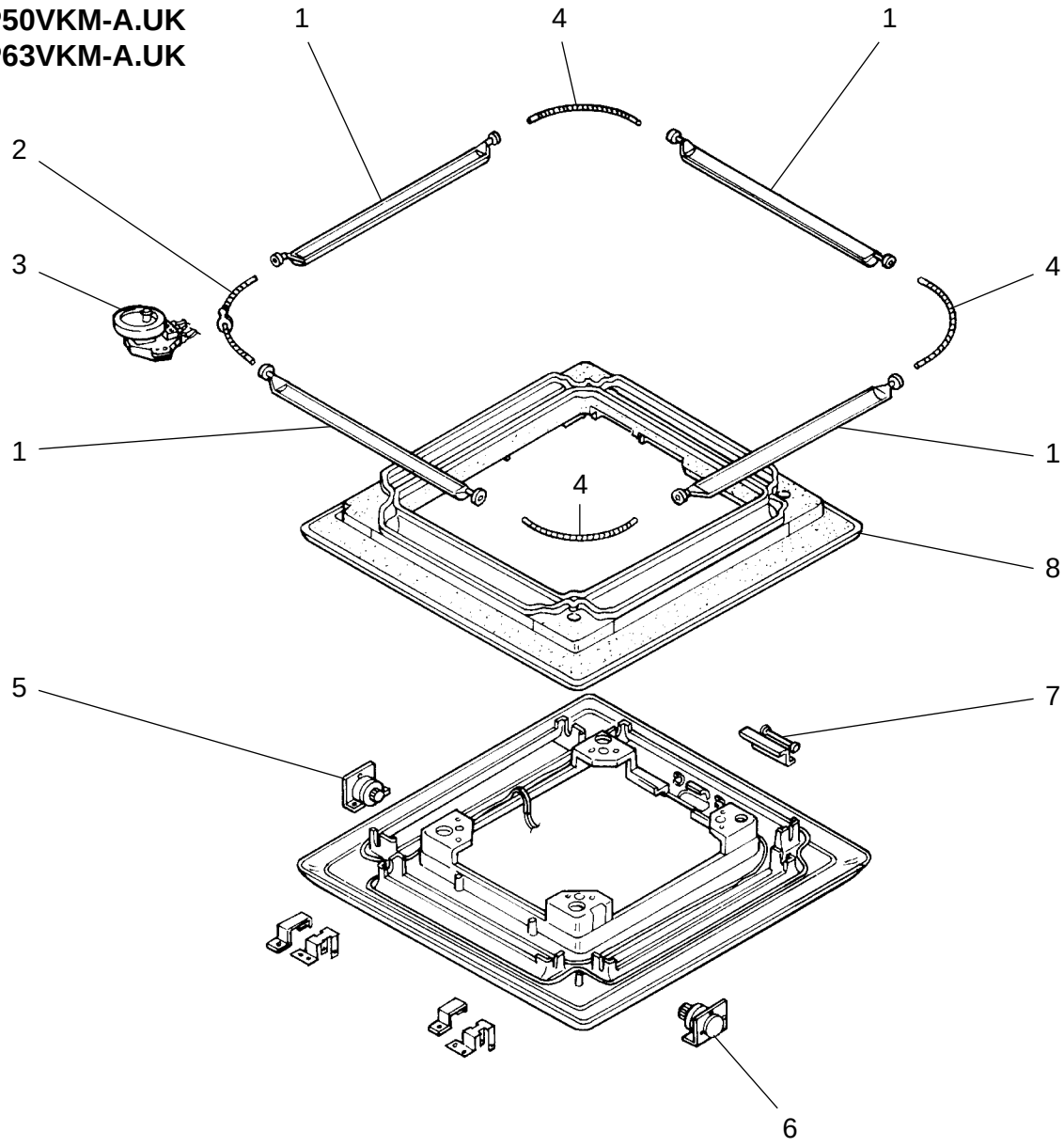
9 PARTS LIST

PANEL PARTS
PLFY-P32VKM-A.UK
PLFY-P40VKM-A.UK
PLFY-P50VKM-A.UK
PLFY-P63VKM-A.UK



No.	Part No.	Part Name	Specification	Q'ty/set	Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price	
				PLFY-P32/P40/P50/P63 VKM-A.UK				Unit	Amount
1	S70 29H 003	AIR OUTLET GRILLE		1					
2	S70 29H 500	AIR FILTER		1					
3	S70 29H 691	INTAKE GRILLE		1					
4	S70 29H 061	HINGE		2					
5	S70 29H 098	GRILLE HANGER		1					
6	S70 030 713	MA-REMOTE CONTROLLER	65WRC5	1	<PAR-20MAA>	R.B			

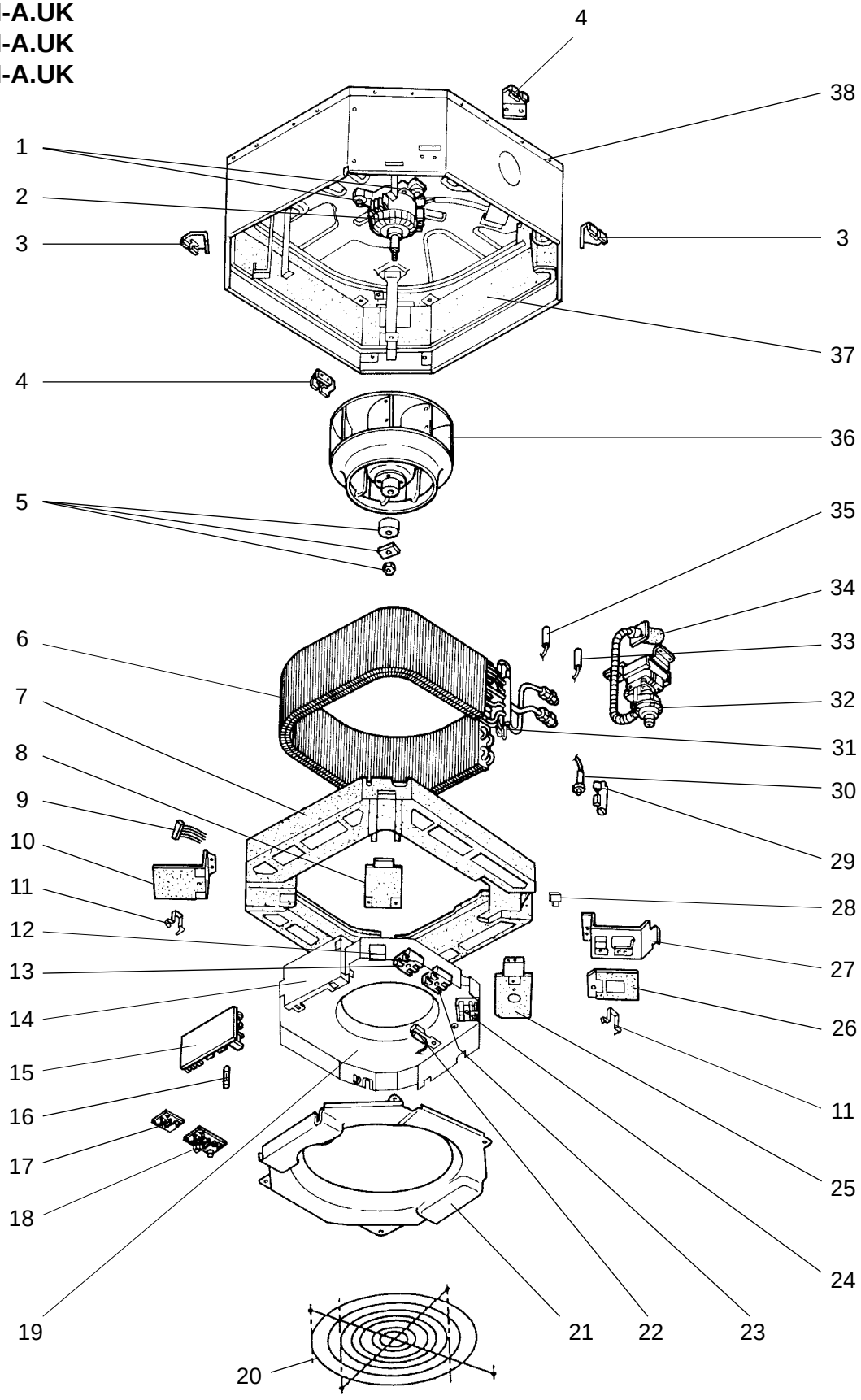
PANEL PARTS
PLFY-P32VKM-A.UK
PLFY-P40VKM-A.UK
PLFY-P50VKM-A.UK
PLFY-P63VKM-A.UK



Part number that is circled is not shown in the figure.

No.	Part No.	Part Name	Specification	Q'ty/set PLFY-P32/P40 /P50/P63 VKM-A.UK	Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price Unit	Price Amount
1	S70 29H 002	AUTO VANE		4					
2	S70 31H 063	SPRING JOINT 2		1					
3	S70 29H 223	VANE MOTOR		1		MV			
4	S70 29H 063	SPRING JOINT 1		1	<3/SET>				
5	S70 29H 041	GRILLE GEAR LEFT		1					
6	S70 29H 040	GRILLE GEAR RIGHT		1					
7	S70 29H 056	PUSH BUTTON		1					
8	S70 29H 085	AIR GUIDE		1					
(9)	S70 29H 049	LID (UP)		1					

FUNCTIONAL PARTS
PLFY-P32VKM-A.UK
PLFY-P40VKM-A.UK
PLFY-P50VKM-A.UK
PLFY-P63VKM-A.UK



No.	Part No.	Part Name	Specification	Q'ty/set PLFY-・VKM-A.UK				Remarks (Drawing No.)	Wiring Diagram Symbol	Recom-mended Q'ty	Price	
				P32	P40	P50	P63				Unit	Amount
1	S70 001 133	MOTOR MOUNT		3	3	3	3					
2	S70 E00 762	FAN MOTOR	PA1-30VF	1	1	1	1		MF			
3	S70 100 130	LEG		2	2	2	2					
4	S70 101 130	LEG		2	2	2	2					
5	S70 001 097	NUT/WASHER/CAP		1	1	1	1					
6	S70 12B 480	HEAT EXCHANGER		1	1							
	S70 14B 480	HEAT EXCHANGER				1						
	S70 15B 480	HEAT EXCHANGER					1					
7	S70 A00 529	DRAIN PAN		1	1	1	1					
8	S70 002 660	CORNER SUPPORT(2)		1	1	1	1					
9	S70 E02 304	ADDRESS CABLE		1	1	1	1					
10	S70 001 660	CORNER SUPPORT(1)		1	1	1	1					
11	S70 001 099	PANEL HOOKS		2	2	2	2	(PART OF GRILLE)				
12	S70 29H 255	FAN MOTOR CAPACITOR	2.5μF 400V	1	1	1	1		C			
13	S70 521 716	POWER SUPPLY TERMINAL BLOCK	(L, N, ⏚)	1	1	1	1		TB2			
14	S70 001 656	B.BOX PLATE ASSY		1	1	1	1					
15	S70 080 310	INDOOR CONTROLLER BOARD		1					I.B			
	S70 090 310	INDOOR CONTROLLER BOARD			1				I.B			
	S70 100 310	INDOOR CONTROLLER BOARD				1			I.B			
	S70 110 310	INDOOR CONTROLLER BOARD					1		I.B			
16	S70 001 239	FUSE	250V 6.3A	1	1	1	1	(PART OF BOARD)	FUSE			
17	S70 05B 294	ADDRESS BOARD		1	1	1	1		A.B			
18	S70 E02 313	POWER BOARD		1	1	1	1		P.B			
19	S70 003 501	ELECTRICAL PARTS COVER		1	1	1	1					
20	S70 A00 675	FAN GUARD		1	1	1	1					
21	S70 002 502	BELL MOUTH		1	1	1	1					
22	S70 E10 202	ROOM TEMPERATURE THERMISTOR		1	1	1	1		TH21			
23	S70 512 716	REMOTE CONTROLLER TERMINAL BLOCK	P2 (1,2)	1	1	1	1		TB15			
24	S70 B02 716	TRANSMISSION TERMINAL BLOCK	(M1, M2, S)	1	1	1	1		TB5			
25	S70 003 660	CORNER SUPPORT(3)		1	1	1	1					
26	S70 001 657	VA COVER ASSY		1	1	1	1					
27	S70 004 660	CORNER SUPPORT(4)		1	1	1	1					
28	S70 A48 524	DRAIN PLUG		1	1	1	1					
29	S70 006 533	SENSOR HOLDER		1	1	1	1					
30	S70 31K 266	DRAIN SENSOR		1	1	1	1		DS			
31	S70 12A 401	LINEAR EXPANSION VALVE		1	1	1	1		LEV			
32	S70 55K 355	DRAIN PUMP		1	1	1	1		DP			
33	S70 060 202	GAS PIPE THERMISTOR		1	1	1	1		TH23			
34	S70 29H 523	DRAIN SOCKET		1	1	1	1					
35	S70 12B 202	LIQUID PIPE THERMISTOR		1	1	1	1		TH22			
36	S70 41N 114	TURBO FAN		1	1	1	1					
37	S70 001 659	INNER COVER		1	1	1	1					
38	S70 002 687	BASE		1	1	1	1					

10 OPTIONAL PARTS

10-1. Multi function casement

Part No.	PAC-SE21TM-E

10-2. Air outlet shutter plate

Part No.	PAC-SE14SP-E

10-3. High efficiency filter (PAC-SE21TM-E is required in using this optional part.)

Part No.	PAC-SE13KF-E

10-4. Wide panel

Part No.	PAC-SE06WP-E

10-5. Space panel

Part No.	PAC-SE01AS-E

MITSUBISHI ELECTRIC CORPORATION
HEAD OFFICE : MITSUBISHI DENKI BLDG.,2-2-3, MARUNOUCHI,CHIYODA-KU TOKYO 100-8310, JAPAN

Distributed in Jul. 2001. No. OC259 250
Made in Japan

New publication, effective Jul. 2001
Specifications subject to change without notice