

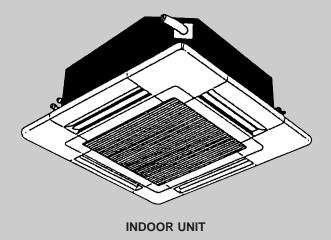


No. OC313 REVISED EDITION-A

TECHNICAL & SERVICE MANUAL

Series PLFY Ceiling Cassettes R410A / R407C / R22

Indoor unit [Model names] [Service Ref.] PLFY-P32VAM-E.UK PLFY-P32VAM-E PLFY-P40VAM-E.UK PLFY-P40VAM-E PLFY-P50VAM-E.UK PLFY-P50VAM-E PLFY-P63VAM-E.UK PLFY-P63VAM-E PLFY-P80VAM-E.UK PLFY-P80VAM-E PLFY-P100VAM-E.UK PLFY-P100VAM-E PLFY-P125VAM-E.UK PLFY-P125VAM-E



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Revision:

• " 10. PARTS LIST " has been modified.

Revision:

1. " 10. PARTS LIST " has been modified on page 30 and 31.

| Page | Revise point | Service Ref. | Incorrect | Correct |
|------|---|--|-------------|-------------|
| 28 | 10. PART LIST FUNCTIONAL PARTS No.10 MOTOR CAP | PLFY-P32VAM-E.UK PLFY-P40VAM-E.UK | _ | S70 E50 129 |
| 30 | 10. PART LIST FUNCTIONAL PARTS No.7 POWER BOARD | PLFY-P50VAM-E.UK PLFY-P63VAM-E.UK | S70 E20 313 | S70 E02 313 |
| 31 | 10. PART LIST FUNCTIONAL PARTS No.1 DRAIN PAN | PLFY-P100VAM-E.UK PLFY-P125VAM-E.UK | S70 E00 529 | S70 E01 529 |

2. The description "The part name of symbol "I.B" is "SPCB" " is added on both pages of wiring diagram and part list.

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 contains 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 to be used during installation indoors with keep 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 ESTR, ETHER or HAB as the lubricant to coat flares and flange connection parts.

If large amount of mineral oil enter, 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.

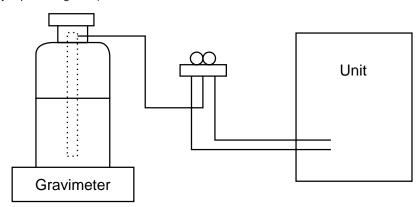
Ventilate the room if refrigerant leaks during operation. If refrigerant comes into contact with a flame, poisonous gases will be released.

[1] Cautions for 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.

[2] 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.

[3] 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. | | | |

Cautions for units utilizing refrigerant R410A

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 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 to be used during installation indoors and keep both ends of the piping sealed until just before brazing. (Leave elbow joints, etc. in their packaging.)

If dirt, dust or moisture enter into refrigerant cycle, that can cause deterioration of refrigerant oil or malfunction of compressor.

Use ester oil, ether oil or alkylbenzene oil (small amount) as the refrigerant oil applied to flares and flange connections.

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

Charge refrigerant from liquid phase of gas cylinder.

If the refrigerant is charged from gas phase, composition change may occur in refrigerant and the efficiency will be lowered.

Do not use refrigerant other than R410A.

If other refrigerant (R22 etc.) is used, chlorine in refrigerant can cause deterioration of refrigerant oil etc.

Use a vacuum pump with a reverse flow check valve.

Vacuum pump oil may flow back into refrigerant cycle and that can cause deterioration of refrigerant oil etc.

Use the following tools specifically designed for use with R410A refrigerant.

The following tools are necessary to use R410A refrigerant.

| Tools for R410A | | | | |
|-------------------|------------------------|--|--|--|
| Gauge manifold | Flare tool | | | |
| Charge hose | Size adjustment gauge | | | |
| Gas leak detector | Vacuum pump adaptor | | | |
| Torque wrench | Electronic refrigerant | | | |
| | charging scale | | | |

Keep the tools with care.

If dirt, dust or moisture enter into refrigerant cycle, that can cause deterioration of refrigerant oil or malfunction of compressor.

Do not use a charging cylinder.

If a charging cylinder is used, the composition of refrigerant will change and the efficiency will be lowered.

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

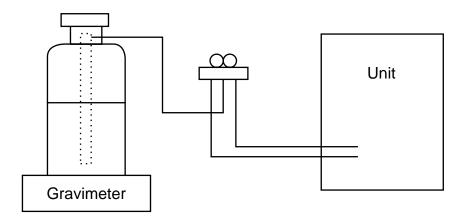
[1] Cautions for service

- (1) Perform service after collecting the refrigerant left in unit completely.
- (2) Do not release refrigerant in the air.
- (3) After completing service, charge the cycle with specified amount of refrigerant.
- (4) When performing service, install a filter drier simultaneously. Be sure to use a filter drier for new refrigerant.

[2] Additional refrigerant charge

When charging directly from cylinder

- · Check that cylinder for R410A on the market is syphon type.
- · Charging should be performed with the cylinder of syphon stood vertically. (Refrigerant is charged from liquid phase.)



[3] Service tools

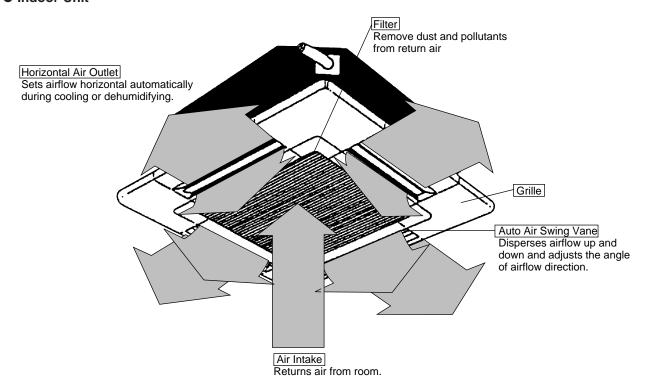
Use the below service tools as exclusive tools for R410A refrigerant.

| No. | | Specifications | | |
|-----|--------------------------------|--|--|--|
| 1 | Gauge manifold | Only for R410A | | |
| | | ·Use the existing fitting specifications. (UNF1/2) | | |
| | | ·Use high-tension side pressure of 5.3MPa·G or over. | | |
| 2 | Charge hose | Only for R410A | | |
| | | ·Use pressure performance of 5.09MPa·G or over. | | |
| 3 | Electronic scale | — | | |
| 4 | Gas leak detector | ·Use the detector for R134a, R407C or R410A. | | |
| 5 | Adaptor for reverse flow check | ·Attach on vacuum pump. | | |
| 6 | Refrigerant charge base | | | |
| 7 | Refrigerant cylinder | Only for R410A Top of cylinder (Pink) | | |
| | | Cylinder with syphon | | |
| 8 | Refrigerant recovery equipment | | | |

2

PART NAMES AND FUNCTIONS

Indoor Unit

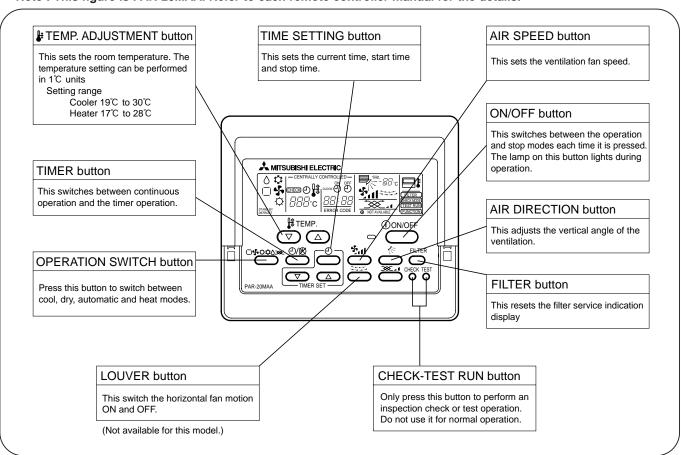


Remote controller

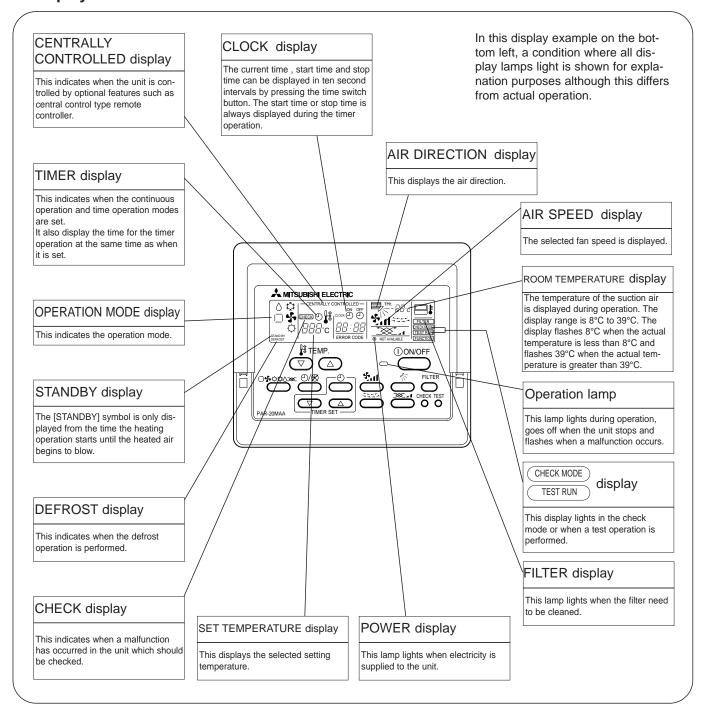
Once the controls are set, the same operation mode can be repeated by simply pressing the ON/OFF button.

Operation buttons

Note: This figure is PAR-20MAA. Refer to each remote controller manual for the details.



Display



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 is 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.

SPECIFICATIONS

3-1. Specifications

3

| Item | | | PLFY-P32VAM-E.UK | PLFY-P40VAM-E.UK | PLFY-P50VAM-E.UK | PLFY-P63VAM-E.UK | | | |
|-------------------------|------------------------|---------------|------------------|--------------------------|---|---|-------------------------|--|--|
| Power V•Hz | | | V•Hz | | Single phase 220-230-240V 50Hz Single phase 220V 60Hz | | | | |
| Co | oling ca | apacity | kW | 3.6 | 4.5 | 5.6 | 7.1 | | |
| He | ating ca | apacity | kW | 4.0 | 5.0 | 6.3 | 8.0 | | |
| ristic | la a cat | Cooling | kW | 0.12 | 0. | 14 | 0.16 | | |
| aracte | Input | Heating | kW | 0.12 | 0. | 14 | 0.16 | | |
| Electric characteristic | Current | Cooling | Α | 0.59 | 0. | 68 | 0.78 | | |
| Elect | Current | Heating | А | 0.59 | 0. | 68 | 0.78 | | |
| (m | Exterionunsell sy | r mbol) | _ | Unit : Galvanized sheets | with gray heat insulation | Grills : ABS resin Mu | unsell<0.70Y 8.59/0.97> | | |
| | | Height | mm | | 258- | <30> | | | |
| Dim | ensions | Width | mm | 840<950> | | | | | |
| | | Depth | mm | 840<950> | | | | | |
| Не | at exch | anger | _ | | Cros | ss fin | | | |
| | Fan 2 | × No | _ | | Turbo | fan X 1 | | | |
| F | Air flo | w * 3 | m³/min | 14-13-12-11 16-14-13-12 | | 18-16-15-14 | | | |
| n | Exte static p | | Pa | | (| 0 | | | |
| | | motor tput | kW | | 0.0 | 070 | | | |
| | Insula | tor | _ | | Polyethyl | ene sheet | | | |
| | Air filt | er | _ | | PP honey | comb fabric | | | |
| | Pipe Gas omm(in.) | | ϕ mm(in.) | | | φ12.7(1/2") / φ15.88(5/8") (Compatible) | φ15.88(5/8") | | |
| dim | dimensions Liquid side | | ϕ mm(in.) | | | ϕ 6.35(1/4")/ ϕ 9.52(3/8") (Compatible) | φ9.52(3/8") | | |
| Un | it drain pi | pe size | ømm | | O.D.32 (PVC pipe VP-25 connectable) | | | | |
| No | ise lev | el * 3 | dB | 31-29-28-27 | 32-30 | -28-27 | 33-31-29-28 | | |
| Pr | oduct v | veight | kg | | 22<5> | | 24<5> | | |

Note 1. Rating conditions(JIS B 8616)

Cooling: Indoor: D.B. 27°C W.B. 19.0°C

outdoor: D.B. 35°C

Indoor : D.B. 20°C outdoor : D.B. 7°C Heating:

The number indicated in <> is just for the grille.

Note 2. Air flow and the noise level are indicated as High-Medium1-Medium2-Low. ***** 3.

| Item | | | PLFY-P80VAM-E.UK | PLFY-P100VA | M-E.UK | PLFY-P125VAM-E.UK | | |
|-------------------------|----------------------|------------------|------------------|---|--|-------------------|-----------------------------|--|
| Power V•Hz | | | V•Hz | | Single phase 220-230-240V 50Hz Single phase 220V 60Hz | | | |
| Co | oling ca | apacity | kW | 9.0 | 11.2 | | 14.0 | |
| Hea | ating ca | apacity | kW | 10.0 | 12.5 | | 16.0 | |
| ristic | Input | Cooling | kW | 0.18 | 0.30 | | 0.34 | |
| Electric characteristic | input | Heating | kW | 0.18 | 0.30 | | 0.34 | |
| ric ch | Current | Cooling | А | 0.86 | 1.43 | | 1.64 | |
| Elect | Current | Heating | Α | 0.86 | 1.43 | | 1.64 | |
| (m | Exterio unsell sy | | _ | Unit : Galvanized sheets with gra | y heat insulation | Grills : ABS res | in Munsell<0.70Y 8.59/0.97> | |
| | | Height | mm | 258<30> | | 298<3 | 30> | |
| Dim | ensions | Width | mm | 840<950> | | | | |
| | | Depth | mm | 840<950> | | | | |
| He | at exch | anger | _ | Cross fin | | | | |
| | Fan 2 | X No | _ | Turbo fan X 1 | | | | |
| F | Air flo | w * 3 | m³/min | 22-20-18-16 | 27-25-22 | -19 | 29-27-24-21 | |
| n | Exte | ernal ressure | Pa | | 0 | | | |
| | | motor tput | kW | 0.070 | 0.070 0.120 | | | |
| | Insula | tor | _ | Polyethylene sheet | | | | |
| | Air filt | ter | _ | | PP honey comb fabric | | | |
| | Pipe | Gas side | ϕ mm(in.) | φ15.88(5/8") φ15.88(5/8") / φ19.05(3/4") (Compatible) | | | φ19.05(3/4") | |
| dim | ensions | Liquid side | ϕ mm(in.) | 9.52(3/8") | | | | |
| Un | t drain pi | pe size | ømm | 1.0 | D.32 (PVC pipe VP | 2-25 connectabl | e) | |
| No | ise lev | el * 3 | dB | 37-35-32-30 | 41-39-36 | -33 | 43-41-38-35 | |
| Pr | oduct v | veight | kg | 24<5> | :5> 32<5> | | 5> | |

Note 1. Rating conditions(JIS B 8616)

Note 2.

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

outdoor: D.B. 7°C W.B. 6°C The number indicated in < > is just for the grille.

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

3-2. Electrical parts specifications

| Model | Symbol | PLFY-P32VAM-E.UK | PLFY-P40VAM-E.UK | PLFY-P50VAM-E.UK | PLFY-P63VAM-E.UK | |
|--------------------------------------|--------|---|---------------------------------|--------------------------|-----------------------|--|
| Parts name | | | | | | |
| Room temperature thermistor | TH21 | Resistance 0°C/15 | škΩ, 10°C/9.6kΩ, 20°C/6 | .3kΩ, 25°C/5.4kΩ, 30°C, | /4.3kΩ, 40°C/3.0kΩ | |
| Liquid pipe thermistor | TH22 | Resistance 0°C/15 | škΩ, 10℃/9.6kΩ, 20℃/6 | .3kΩ, 25°C/5.4kΩ, 30°C, | /4.3kΩ, 40°C/3.0kΩ | |
| Gas pipe thermistor | TH23 | Resistance 0°C/15 | škΩ, 10℃/9.6kΩ, 20℃/6 | .3kΩ, 25°C/5.4kΩ, 30°C, | /4.3kΩ, 40°C/3.0kΩ | |
| Fuse (Indoor controller board) | FUSE | | 250V | 6.3A | | |
| Fan motor | MF | | 6-pole OU ⁻ D17B6 | | | |
| (with inner-thermostat) | | | | | | |
| Fan motor capacitor | С | 3.0 <i>µ</i> F × 440∨ | | | | |
| Vane motor | MV | MSBPC20M04 DC12V 300Ω/phase | | | | |
| Drain-up mechanism | DP | PLD-12230ME-1 INPUT 12/10.8W 24 <i>l</i> /Hr | | | | |
| Drain sensor | DS | Thermistor resistance (| Ͻ°C/6kΩ, 10°C/3.9kΩ, 20° | °C/2.6kΩ, 25°C/2.2kΩ, 30 | Ͻ°C/1.8kΩ, 40°C/1.3kΩ | |
| Linear expansion valve | LEV | DC12V Stepping motor drive port dimension 5.2Ω (0~2000pulse) EDM-40YGME | | | | |
| Electric heater (Condensation proof) | H2 | 240V 21.8W | | | | |
| Power supply terminal block | TB2 | (L, N, ⊕) Rated to 330V 30A * | | | | |
| Transmission terminal block | TB5 | (M1, M2, S) Rated to 250V 20A * | | | | |
| MA remote controller terminal block | TB15 | (1, 2) Rated to 250V 10A * | | | | |

^{*} Note : Refer to WIRING DIAGRAM for the supplied voltage.

| Model Parts name | Symbol | PLFY-P80VAM-E.UK | PLFY-P100VAM-E.UK | PLFY-P125VAM-E.UK | | | |
|--------------------------------------|--------|---|---|---------------------------|--|--|--|
| Room temperature thermistor | TH21 | Resistance 0°C/15kΩ, 10°C | Resistance 0°C/15kΩ, 10°C/9.6kΩ, 20°C/6.3kΩ, 25°C/5.4kΩ, 30°C/4.3kΩ, 40°C/3.0kΩ | | | | |
| Liquid pipe thermistor | TH22 | Resistance 0°C/15kΩ, 10°C | C/9.6kΩ, 20°C/6.3kΩ, 25°C/5.4k | Ω, 30°C/4.3kΩ, 40°C/3.0kΩ | | | |
| Gas pipe thermistor | TH23 | Resistance 0°C/15kΩ, 10°C | C/9.6kΩ, 20°C/6.3kΩ, 25°C/5.4k | Ω, 30°C/4.3kΩ, 40°C/3.0kΩ | | | |
| Fuse (Indoor controller board) | FUSE | | 250V 6.3A | | | | |
| Fan motor | MF | 6-pole OUTPUT 70W D17B6P70MS | | TPUT 120W 120MS | | | |
| (with inner-thermostat) | IVIF | Inner-thermostat OFF 130°C ± 5°C ON 90°C ± 20°C | | | | | |
| Fan motor capacitor | С | $3.5\mu\text{F} \times 440\text{V}$ $7.0\mu\text{F} \times 440\text{V}$ | | | | | |
| Vane motor | MV | MSBPC20M04 DC12V 300Ω/phase | | | | | |
| Drain-up mechanism | DP | PLD-12230ME-1 INPUT 12/10.8W 24 ℓ /Hr | | | | | |
| Drain sensor | DS | Thermistor resistance 0°C/6kΩ, 10°C/3.9kΩ, 20°C/2.6kΩ, 25°C/2.2kΩ, 30°C/1.8kΩ, 40°C/1.3kΩ | | | | | |
| Linear expansion valve | LEV | DC12V Stepping motor drive port dimension 5.2Ω (0~2000pulse) EDM-80YGME | | | | | |
| Electric heater (Condensation proof) | H2 | 240V 21.8W | | | | | |
| Power supply terminal block | TB2 | (L, N, ⊕) Rated to 330V 30A * | | | | | |
| Transmission terminal block | TB5 | (M1, M2, S) Rated to 250V 20A * | | | | | |
| MA remote controller terminal block | TB15 | (1, 2) Rated to 250V 10A * | | | | | |

^{*} Note: Refer to WIRING DIAGRAM for the supplied voltage.

4

4-WAY AIR FLOW SYSTEM

4-1. Placement of the air outlets

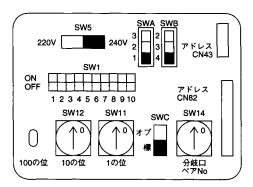
- For this grille, the blowout direction comes in 11 patterns.

 Also, by setting the dip switches (SWA and SWB) on the circuit board to the appropriate settings, you can adjust the air flow and speed. Select the settings from Table according to the location in which you want to install the unit.
 - 1) Decide on the pattern of the airflow direction.

| <table 1=""></table> | 4-direction | 3-direction | 2-direction |
|---------------------------|---------------------------|---------------------------------------|---------------------------------------|
| Blowout direction pattern | Pattern 1 Factory setting | Pattern 4 One air outlet fully closed | Pattern 6 Two air outlet fully closed |

Note1. For 3 and 2-directional, please use the air outlet shutter plate (option).

- 2) According to the number of air outlets and height of the ceiling to install the unit, be sure to set the up switches (SWA, SWB) on the circuit board to the appropriate setting.
 - Correspondence of ceiling heights to numbers of air outlets.



PLFY-P32-P40-P50-P63-P80VAM-E

| SWA | ① | 2 | 3 |
|-------------|----------|----------------|----------------|
| SWB | Standard | High ceiling ① | High ceiling ② |
| 4 direction | 2.7m | 3.0m | 3.5m |
| 3 direction | 3.0m | 3.3m | 3.5m |
| 2 direction | 3.3m | 3.5m | _ |

PLFY-P100-P125VAM-E

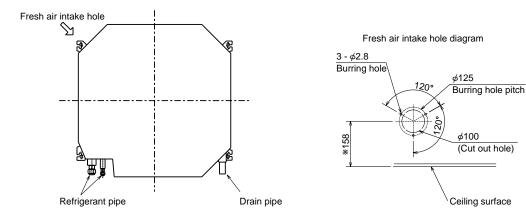
| SWA | ① | 2 | 3 |
|-------------|----------|----------------|----------------|
| SWB | Standard | High ceiling ① | High ceiling ② |
| 4 direction | 3.2m | 3.6m | 4.2m |
| 3 direction | 3.6m | 4.0m | 4.2m |
| 2 direction | 4.0m | 4.2m | _ |

4-2. Fresh air intake (Installation of site)

• At the time of installation, use the duct holes (cutout) located at the positions shown in following diagram, as and when required.

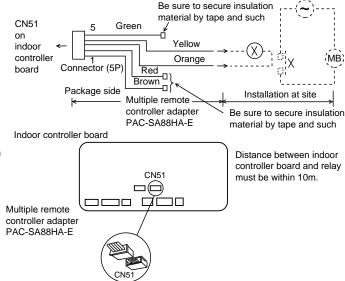
Note:

Be sure to add135mm to the dimensions in the diagram that are marked with a "*" if installing a multi function casement (Option)



4-3. Interlocking operation method with duct fan (Booster fan)

- Whenever the indoor unit is operating, the duct fun also operates.
 - (1)Connect the optional multiple remote controller adapter(PAC-SA88HA-E)to the connector CN51 on the indoor controller board.
 - (2)Drive the relay after connecting the 12V DC relay between the Yellow and Orange connector lines.
 - MB: Electromagnetic switch power relay for duct fan.
 - X: Auxiliary relay (For DC 12V, coil rating : 1.0W or below)



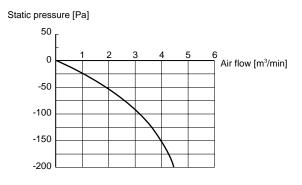
4-4. Fresh air intake amount & static pressure characteristics

□ PLFY-P32 · P40 · P50 · P63 · P80VAM-E

Multifunction casement + Standard filter

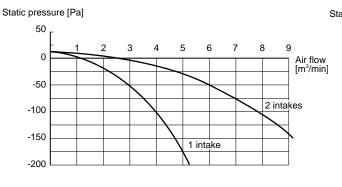
Static pressure [Pa] 50 1 2 3 4 5 6 Air flow [m³/min] -50 -100 -150 -100 -1 intake

Taking air into the unit

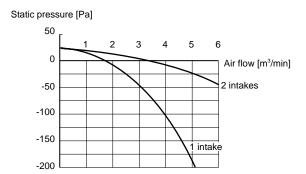


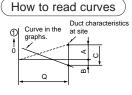
2 PLFY-P100 · P125VAM-E

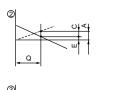
Multifunction casement + Standard filter



Multifunction casement + High efficiency filter



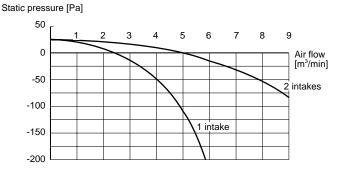




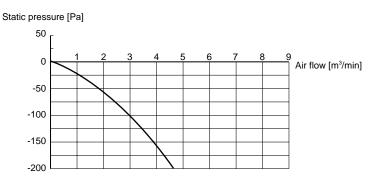


- Q···Planned amount of fresh air intake <m³/min>
- A···Static pressure loss of fresh air intake duct system with air flow amount Q <Pa>
- B···Forced static pressure at air conditioner inlet with air flow amount Q <Pa>
- C···Static pressure of booster fan with air flow amount Q <Pa>
- air flow amount Q <Pa>
 D···Static pressure loss increase amount of fresh air intake dust system for air flow amount Q <Pa>
- E···Static pressure of indoor unit with air flow amount Q <Pa>
- Qa...Estimated amount of fresh air intake with out D <m³/min>

Multifunction casement + High efficiency filter



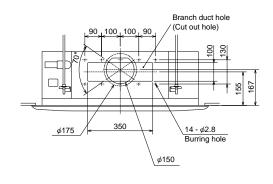
Taking air into the unit

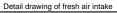


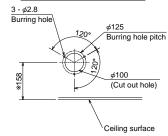
OUTLINES AND DIMENSIONS

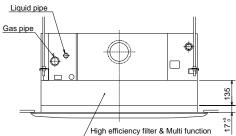
PLFY-P32VAM-E.UK PLFY-P40VAM-E.UK PLFY-P50VAM-E.UK PLFY-P63VAM-E.UK PLFY-P80VAM-E.UK PLFY-P100VAM-E.UK PLFY-P125VAM-E.UK

Unit: mm







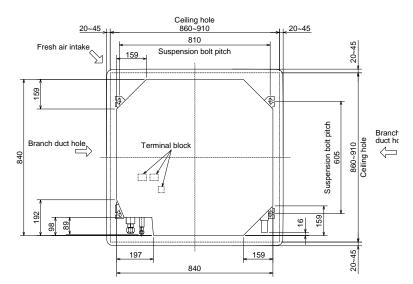


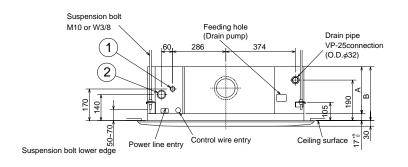
NOTES:

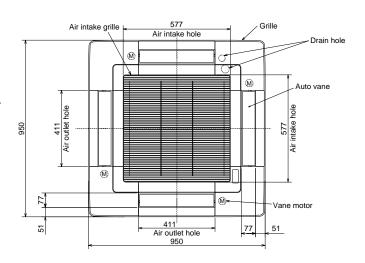
- 1. When servicing, electrical parts box may be disassembled. Make the wires loose enough when connecting heater power supply wire, remote controller wire, and indoor/outdoor unit connecting wire
- 2. Detaching corner panel makes it possible to adjust the height of body with the grille attached.
- 3. Caution for attaching optional Muliti function casement and optional High efficiency filter :
 - 1) Space behind the ceiling shall be high enough as specified in the table below.

| P32-P80 | 400 |
|-----------|-----|
| P100-P125 | 440 |

- 2) Add extra 135mm to the dimensions of * in the figure.
- 3) Mount both High efficiency filter and Multi function casement together.
- 4. When connecting branch duct, be sure to insulate the heat. (Otherwise, it causes dew to from or drop.)







| Models | ① Liquid Pipe | ② Gas Pipe | Α | В |
|-------------------|-------------------------------|--------------------------------|-----|-----|
| PLFY-P32VAM-E.UK | 40.05 | φ12.7 | | |
| PLFY-P40VAM-E.UK | ϕ 6.35 | φ12.7 | | |
| PLFY-P50VAM-E.UK | φ6.35 / φ9.52 (Compatible) | φ12.7 / φ15.88 (Compatible) | 241 | 258 |
| PLFY-P63VAM-E.UK | | φ15.88 | | |
| PLFY-P80VAM-E.UK | 40.50 | φ15.66 | | |
| PLFY-P100VAM-E.UK | φ9.52 | φ15.88/φ19.05 | 281 | 298 |
| PLFY-P125VAM-E.UK | | (Compatible) | 201 | 290 |

WIRING DIAGRAM

PLFY-P32VAM-E.UK PLFY-P40VAM-E.UK PLFY-P50VAM-E.UK PLFY-P63VAM-E.UK

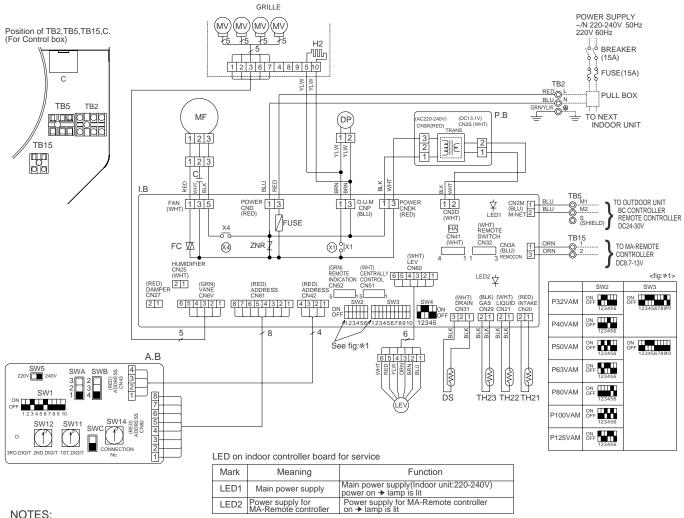
LED2 POWER SUPPLY(I.B)

6

PLFY-P80VAM-E.UK PLFY-P100VAM-E.UK PLFY-P125VAM-E.UK

* The part name of symbol "I.B" is "SPCB".

| ļ | LEG | FIND | | | | | | | | • | - | |
|---|-----|-------------|-------------------|------------------------------|--------|--------------------------------|----------------------------|-----|------|-------------|---------------------------|--|
| | SYN | IBOL | | NAME | SYMBOL | | NAME | SY | MBOL | . NAME | | |
| l | P.B | | INDOOR POW | ER BOARD | С | CAPACITOR(F | AN MOTOR) | A.B | | CIRCUIT BOA | RD | |
| * | I.B | | INDOOR CON | TROLLER BOARD | MF | FAN MOTOR(\ | VITH INNER THERMO.) | | SW1 | SWITCH | FUNCTION SETTING | |
| | | CN25 | CONNECTOR | HUMIDIFIER | MV | VANE MOTOR | | | SW5 | | VOLTAGE SELECTION | |
| | | CN27 | | DAMPER | DP | DRAIN PUMP | | | SW11 | | ADDRESS SETTING 1ST DIGIT | |
| | | CN32 | | REMOTE SWITCH | DS | DRAIN SENSOR | | | SW12 | | ADDRESS SETTING 2ND DIGIT | |
| | | CN41 | | HA TERMINAL-A | H2 | DEW PREVEN | ENTION HEATER | | SW14 | | CONNECTION NO. | |
| | | CN51 | CENTRALLY CONTROL | | TB2 | TERMINAL | POWER SUPPLY | | SWA | | CEILING HEIGHT SELECTOR | |
| | | CN52 | 1 | REMOTE INDICATION | TB5 | BLOCK | TRANSMISSION | | SWB | | DISCHARGE OUTLET NUMBER | |
| | | SW2 | SWITCH | CAPACITY CODE | TB15 | | MA-REMOTE CONTROLLER | | | | SELECTOR | |
| | | SW3 | | FUNCTION SETTING | TH21 | THERMISTOR ROOM TEMP.DETECTION | | | SWC | | OPTION SELECTOR | |
| | | SW4 | | MODEL SELECTION | | | (0°C/15kΩ,25°C/5.4kΩ) | | | | | |
| | | ZNR | VARISTOR | | TH22 | | PIPE TEMP.DETECTION/LIQUID | | | | | |
| | | FUSE | FUSE(6.3A/25 | OV) | | | (0°C/15kΩ,25°C/5.4kΩ) | | | | | |
| | | F.C | FAN PHASE C | ONTROL | TH23 | | PIPE TEMP.DETECTION/GAS | | | | | |
| | | X1 | AUX.RELAY | DRAIN WATER LIFTING-UP MACH. | | | (0°C/15kΩ,25°C/5.4kΩ) | | | | | |
| | | X4 | FAN MOTOR | | LEV | LINEAR EXPA | NSION VALVE | | | | | |
| | | LED1 | POWER SUP | PLY(I.B) | | | | _ | | | | |

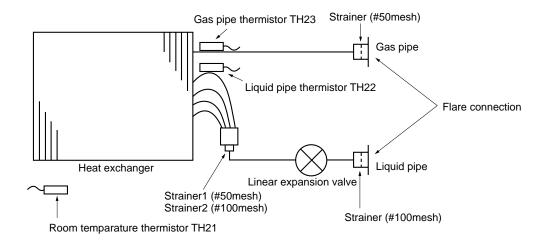


- 1.At servicing for outdoor unit, always follow the wiring diagram of outdoor unit.
- 2.In case of using MA-Remote controller, please connect to TB15.(Remote controller wire is non-polar.)
- 3.In case of using M-NET, please connect to TB5.(Transmission line is non-polar.)
- 4.Symbol[S] of TB5 is the 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.

7

REFRIGERANT SYSTEM DIAGRAM

PLFY-P32VAM-E.UK PLFY-P80VAM-E.UK PLFY-P40VAM-E.UK PLFY-P100VAM-E.UK PLFY-P50VAM-E.UK PLFY-P63VAM-E.UK



| Capacity | PLFY-P32, P40VAM-E | PLFY-P50VAM-E | PLFY-P63, P80VAM-E | PLFY-P100, P125VAM-E |
|-------------|--------------------|--|-----------------------|---------------------------------------|
| Gas pipe | φ12.7(1/2") | \$\phi\$12.7(1/2")\$\rightarrow\$15.88(5/8")\$ | <i>φ</i> 15.88(5/8'') | \$\phi\$15.88(5/8")/\phi\$19.05(5/8") |
| Liquid pipe | φ6.35(1/4") | φ6.35(1/4")/φ9.52(3/8") | φ9.52(3/8") | φ9.52(3/8'') |

TROUBLE SHOOTING

8-1. How to check the parts

PLFY-P32VAM-E.UK PLFY-P80VAM-E.UK PLFY-P40VAM-E.UK PLFY-P100VAM-E.UK PLFY-P50VAM-E.UK

PLFY-P63VAM-E.UK

| Parts name | | | C | heck points | | | | | | |
|---|-----------------------------------|-------------------|-------------------------|------------------|---|------------|-----------------------|--|--|--|
| Room temperature thermistor (TH21) Liquid pipe thermistor | Disconnect the (Surrounding te | | | resistance usin | g a tester. | | | | | |
| (TH22) | Normal | | Abnormal | Defer to th | Refer to the next page for the details. | | | | | |
| Gas pipe thermistor (TH23) | 4.3kΩ~9.6k | Ω Οι | oen or short | ge for the | details. | | | | | |
| Vane motor | Measure the re | | | ls using a teste | r. | | | | | |
| White — | Connecto | r N | ormal | Abnormal | | | | | | |
| Orange (M) | Red — Yello | W | | | | | | | | |
| Red Red | Red — Blue | | 300Ω | Open or she | ort | | | | | |
| Blue Yellow | Red — Oran | ige | 50032 | Opon or on | | | | | | |
| | Red — White | е | | | | | | | | |
| Fan motor | Measure the re | esistance between | een the termina | ls using a teste | r. | | | | | |
| Relay connector | Motor termin | Noi | mal | | | | | | | |
| 1 Red 1 | or Dalay sannas | ntor. | | /AM-E.UK | | F | Abnormal | | | |
| White 2 | Relay connec | 1 32, 1 40 | P32, P40, P50, P63, P80 | | 125 | | | | | |
| 3 Black 3 | Red-Black | | 87.2Ω | | Σ | Op | en or short | | | |
| Protector | White-Blac | K | 104.1Ω | 41.6Ω | 2 | | | | | |
| Linear expansion | Disconnect the | connector the | n measure the | resistance valve | e using a t | ester. | | | | |
| valve | | | | | I | | ╗ | | | |
| M) Brown | | No | rmal | | Abno | rmal | Refer to the next | | | |
| 9 Yellow | White-Red | Yellow-Brown | Orange-Red | Blue-Brown | Open c | r short | page for the details. | | | |
| White Red Orange | | 150kg | 2 ±10% | | Openic | ii Siloit | | | | |
| White Red Orange | | | | | | | | | | |
| Drain pump Relay connector | Measure the re (Surrounding te | | | ls using a teste | r. | | | | | |
| Yellow 1 | Normal | | Abnormal | | | | | | | |
| Yellow 2 | 290Ω Open or short | | | | | | | | | |
| Drain sensor | Measure the re (Surrounding te | | | passed since t | he power | supply wa | s intercepted. | | | |
| 1 2 | Normal | Normal Abnormal | | | | | | | | |
| 3 | 0.6kΩ~6.0k | Ω Ο | oen or short | Refer to th | ne next pa | ge for the | details. | | | |
| | | | | _ | | | | | | |

<Thermistor characteristic graph>

Thermistor for lower temperature

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

Thermistor R₀=15k Ω ± 3% Fixed number of B=3480K ± 2%

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

0°C 15kΩ

10°C 9.6kΩ

20°C 6.3kΩ25°C 5.4kΩ

30°C 4.3kΩ

 40° C 4.3kΩ 40° C 3.0kΩ



Thermistor R₀=6.0k Ω ±5% Fixed number of B=3390K ±2%

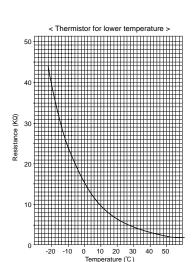
Rt=6exp { 3390(
$$\frac{1}{273+t} - \frac{1}{273}$$
) }

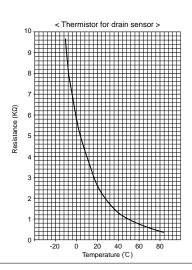
0°C 6.0kΩ
 10°C 3.9kΩ
 20°C 2.6kΩ
 35°C 3.3kΩ

25°C 2.2kΩ 30°C 1.8kΩ

40℃ 1.3kΩ

60°C 0.6kΩ

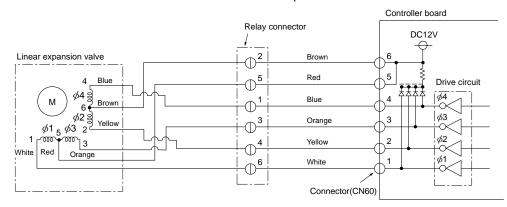




Linear expansion valve

① Operation summary of the linear expansion valve.

- Linear expansion valves open/close through the use of a stepping motor after receiving the pulse signal from the indoor controller board.
- Valve position can be changed in proportion to the number of pulse signals.
- <Connection between the indoor controller board and the linear expansion valve>

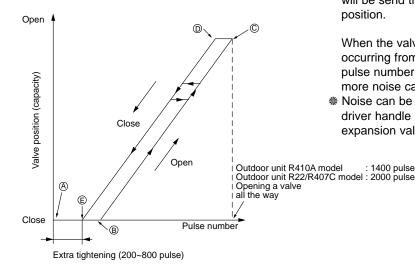


Note: Since the number of the connector at the controller board side and the relay connector are different, follow the color of the lead wire.

<Output pulse signal and the valve operation>

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

2 Linear expansion valve operation



Closing a valve : $1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow 1$ Opening a valve : $4 \rightarrow 3 \rightarrow 2 \rightarrow 1 \rightarrow 4$

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.
 - 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 moves smoothly, there is no noise or vibration occurring from the linear expansion valves : however, when the pulse number moves from e to e or when the valve is locked, more noise can be heard than in a normal situation.

Noise can be detected by placing the ear against the screw driver handle while putting the screw driver tip 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. | Exchange the indoor controller board at drive circuit failure. |
| Linear expansion valve mechanism is locked. | Motor will idle and make a ticking noise when the 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 each coil (white-red, yellow-brown, orange-red, blue-brown) using a tester. It is normal if the resistance is in the range of 150 Ω ±10%. | Exchange the linear expansion valve. |
| Valve doesn't close completely. | 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 is any 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 affecting normal operation. | 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. |

8-2. FUNCTION OF DIP SWITCH

| Curitob | Operation by switch | | | | | | | Effective | Domorko | | | |
|---|---------------------|---------------------------|--|------------------------------------|-------------------------------|-------------------|-----------------------------|---------------------------------|--|--|--|--|
| Switch | Pole | F | unction | | ON OFF | | | | Remarks | | | |
| | 1 | Thermistor detection> | <room position<="" td="" temperature=""><td>Built-in r</td><td>emote controller</td><td colspan="3"></td><td>Address board</td></room> | Built-in r | emote controller | | | | Address board | | | |
| | 2 | Filter clo | ging detection | Provided | d | Not pro | vided | | <at delivery=""></at> | | | |
| | 3 | Filter clea | aning | 2,500hr | | 100hr | | | ON DE | | | |
| | 4 | Fresh air | | Effective | | Not effe | | | OFF 1 2 3 4 5 6 7 8 9 10 | | | |
| SW1 Function | 5 | Switching controller | g remote · display | Indicating if the thermostat is ON | | Indicati ON/OF | ing fan operation F | Under | Note: | | | |
| setting | 6 | Humidifie | er control | Always opera | ated while the heat in ON *1 | Operated of | depends on the condition */ | suspension | mode. | | | |
| | 7 | | et in case of | Low *3 | | Extra lo | ow *3 | | *2 Heater thermostat ON is operating. | | | |
| | 8 | Heat ther | mostat OFF | Setting a | air flow *3 | Depend | ds on SW1-7 | | *3 SW 1-7=OFF, SW 1-8=ON → Setting air flow. | | | |
| | 9 | Auto rest | art function | Effective |) | Not effe | ective | _ | SW 1-7=ON, SW 1-8=ON → Indoor fan stop. | | | |
| | 10 | Power ON | /OFF by breaker | Effective | ; | Not effe | ective | | , | | | |
| | | Capacity | SW 2 | Capacity | SW 2 | Capacity | SW 2 | | Indoor controller board | | | |
| SW2 | | P32 | ON OFF 1 2 3 4 5 6 | P63 | ON OFF 1 2 3 4 5 6 | P125 | ON OFF 1 2 3 4 5 6 | Before | Set while the unit is off. <at delivery=""></at> | | | |
| Capacity code setting | 1~6 | P40 | ON | P80 | ON OFF 1 2 3 4 5 6 | | | power supply ON | Set for each capacity. | | | |
| | | P50 | ON | P100 | ON OFF 1 2 3 4 5 6 | | | | | | | |
| | 1 | Heat pum | np / Cooling only | Cooling | only | Heat pu | ump | | Indoor controller board | | | |
| | 2 | Louver / I | numidifier *6 | Available | | Not ava | ailable | | Set while the unit is off. <at delivery=""></at> | | | |
| | 3 | Vane | | Available | | Not ava | ailable | | ON OFF | | | |
| | 4 | Vane swi | ng function | Available |) | Not ava | ailable | | 1 2 3 4 5 6 7 8 9 10 P32, P40 : SW3-9 = ON SW3-10 = OFF | | | |
| SW3 Function | 5 | Vane hor | izontal angle | Second s | setting | First se | etting | Under | P50~P125 : SW3-9 = OFF SW3-10 = OFF | | | |
| setting | 6 | Vane cooling | g limit angle setting *4 | Horizonta | al angle | Down E | 3, C | suspension | *4 At cooling mode, each angle can be used only 1 hour. | | | |
| | 7 | Changing the expansion va | e opening of linear alve when the s OFF | Effective | | Not effe | ective | | *5 The numerical valve in the parentheses shows the case which the R22 outdoor | | | |
| | 8 | Heat 4de | | Not effec | tive | Effectiv | re | | unit is connected. *6 SW3-2 setting | | | |
| | 9 | Superheat s | etting temperature *5 | 9(5)degr | ees | 6(2)deg | grees | | Only for PLFY-P-VAM, SW is used to change whether the humidifier functions or not. | | | |
| | 10 | Sub cool set | tting temperature | 15degree | es | 10degr | ees | | (Fixed the louver function less.) | | | |
| SW4 Model Selection (Setting for PLFY series) | | | ON OFF | | er board, make su n below. | ure to set | the switch to the | Before power supply ON | Indoor controller board | | | |

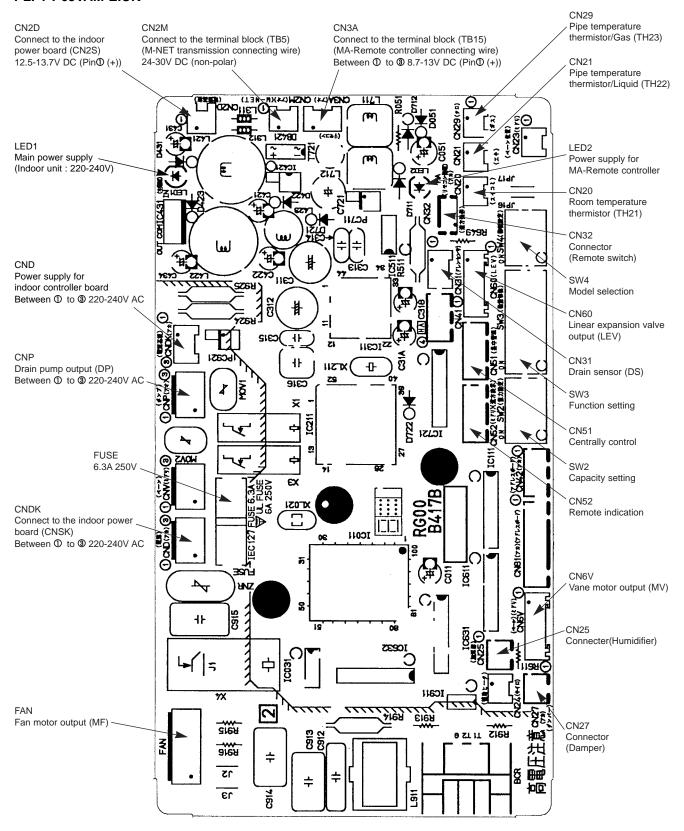
| Switch | Pole | | Operation by switch | Effective timing | Remarks |
|--|---------------|---|--|--|--|
| SWA Ceiling height selector | 1~3 | (High ceiling@) 3 (High ceiling①) 2 (Standard) 1 | * Ceiling height can be changed depends on SWB setting. PLFY-P32,P40,P50,P63,P80VAM-E SWA 1 2 3 High High ceiling High ceiling ceiling ceiling 2 4 4 direction 2.7m 3.0m 3.5m | | Address board <at delivery=""> 3 2 1</at> |
| SWB Discharge outlet number selector | 3 | (2 direction) 2 (3 direction) 3 (4 direction) 4 | 3 3 direction 3.0m 3.3m 3.5m 2 2 direction 3.3m 3.5m — PLFY-P100, P125VAM-E SWA 1 2 3 SWB High ceiling() ceiling() ceiling() ceiling() 4 4 direction 3.2m 3.6m 4.2m 3 3 direction 3.6m 4.0m 4.2m 2 2 direction 4.0m 4.2m — | Under operation or suspension | Address board <at delivery=""> 2 3 4</at> |
| 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</at> |
| SW11 1st digit address setting SW12 2nd digit address setting | ary sw | SW12 SW11 | 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 SW11 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. | Before power supply ON | Address board <at delivery=""> SW14</at> |
| 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</at> |

8-3. TEST POINT DIAGRAM

8-3-1. Indoor controller board

PLFY-P32VAM-E.UK PLFY-P80VAM-E.UK PLFY-P40VAM-E.UK PLFY-P100VAM-E.UK PLFY-P125VAM-E.UK

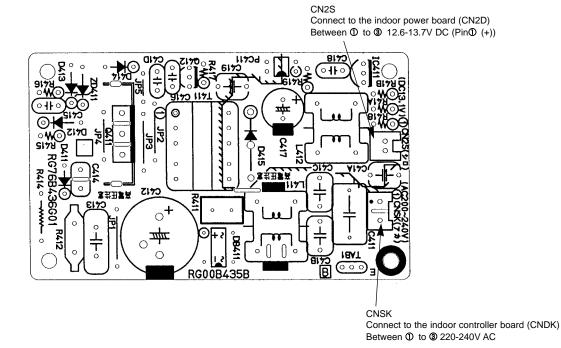
PLFY-P63VAM-E.UK



8-3-2. Indoor power board

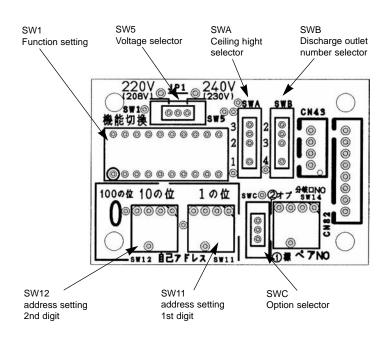
PLFY-P32VAM-E.UK PLFY-P80VAM-E.UK PLFY-P40VAM-E.UK PLFY-P100VAM-E.UK PLFY-P125VAM-E.UK

PLFY-P63VAM-E.UK



8-3-3. Circuit board PLFY-P32VAM-E.UK PLFY-P40VAM-E.UK PLFY-P50VAM-E.UK PLFY-P63VAM-E.UK

PLFY-P80VAM-E.UK PLFY-P100VAM-E.UK PLFY-P125VAM-E.UK



DISASSEMBLY PROCEDURE

PLFY-P80VAM-E.UK

Be careful on removing heavy parts.

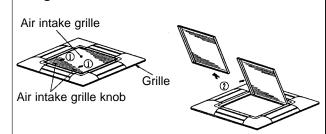
OPERATING PROCEDURE

1. Removing the air intake grille

- (1) Slide the knob of air intake grille to the direction of the arrow ① to open the air intake grille.
- (2) Remove the string hook from the panel to prevend the grille from dropping.
- (3) Slide the shaft in the hinge to the direction of the arrow@ and remove the air intake grille.

PHOTOS&ILLUSTRATIONS

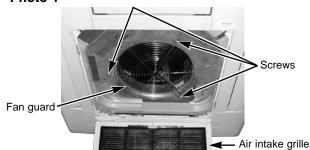
Figure 1



2. Removing the fan guard

- (1) Open the air intake grille.
- (2) Remove the 3 screws of fan guard.

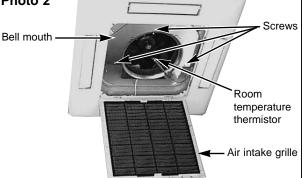
Photo 1



3. Removing the room temperature thermistor

- (1)Remove the fan guard.(See photo 1)
- (2) Remove the screw(X1) in the room temperature thermistor holder to remove the holder and the room temperature thermistor.
- (3) Remove the 1 screw from the bell mouth, and unscrew the another 2 screws (fixed to the oval hole which has different diameter) to remove the bell mouth.
- (4) Hold the holder claw, and remove the room temperature thermistor and holder.
- (5) Disconnect the connector (red) in the indoor control board.

Photo 2



4. Removing the electrical box

- (1) Remove the fan guard. (See photo 1)
- (2) Remove the lead wire of the vane motor from the clamp, and disconnect the white connector (10P).
- (3) Remove the room temperature thermistor with the holder.
- (4) Remove the bell mouth. (See photo 2)
- (5) Disconnect the relay connector in the electrical box. Red (3P) for fan motor power supply

White (2P) for pipe temperature detection / liquid thermistor Black (2P) for pipe temperature detection / gas thermistor Blue (2P) for drain pump

White (3P) for drain sensor

- (6) Remove the 3 screws from the electrical box, loosen another 2 screws to remove the box.
 - <Electrical parts in the electrical box>

Indoor controller board

power supply board

Terminal block (Power supply)

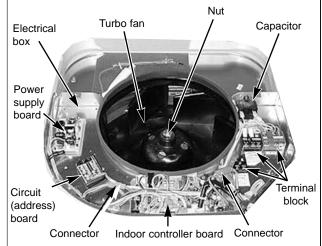
Terminal block (Transmission)

Terminal block (MA remote controller)

Capacitor

Circuit(address) board

Photo 3

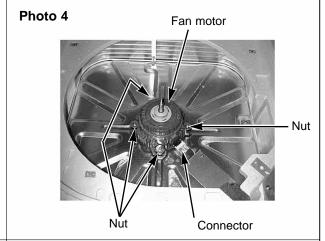


OPERATING PROCEDURE

5. Removing the fan motor

- (1) Remove the fan guard.(See photo 1)
- (2) Remove the bell mouth.(See photo 2)
- (3) Remove the electrical box. (See photo 3)
- (4) Remove the turbo fan nut, washer and radiation cap(P100, P125).
- (5) Pull out the turbo fan.
- (6) Disconnect the connector of the fan motor lead wire.
- (7) Remove the 4 nuts of the fan motor.

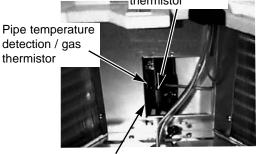
PHOTOS&ILLUSTRATIONS



6. Removing the pipe temperature detection / liquid thermistor and the pipe temperature detection / gas thermistor

- (1) Remove the fan guard.(See photo 1)
- (2) Remove the bell mouth.(See photo 2)
- (3) Remove the electrical box. (See photo 3)
- (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 are inserted into the holder installed to the thin copper pipe.
- (8) Disconnect the each 2-pin white(liquid) and black(gas) connector.

Photo 5 Pipe temperature detection / liquid thermistor



Service entrance

7. Removing the panel

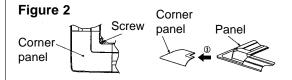
(1) Remove the air intake grille.(See figure 1)

Corner panel (See figure 2)

- (1) Remove the screw of the corner.
- (2) Slide the corner panel to the direction of the arrow ③, and remove the corner panel.

Panel (See photo 6)

- (1) Disconnect the connector that connects with the unit.
- (2) Remove the 2 screws from the panel and loose another 2 screws, which fixed to the oval hole, have different diameter.
- (3) Rotate the panel a little to remove the panel. (Slide the panel so that the screw comes to a large diameter of the oval hole, which has two different diameters.)

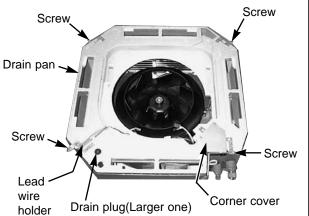




8. Removing the drain pan

- (1) Remove the panel. (See photo 6)
- (2) Remove the drain plug (Larger one), drain the remaining water in the drain pan.
- (3) Remove the corner cover. (2 screws)
- (4) Remove the bell mouth. (See photo 2)
- (5) Remove the electrical box. (See photo 3)
- (6) Remove the lead wire holder. (1 screw)
- (7) Remove the 4 screws and pull out the drain pan.
 - * Pull out the left and right of the pan gradually. Be careful not to crack or damage the pan.

Photo 7



OPERATING PROCEDURE

9. Removing the drain pump and drain sensor

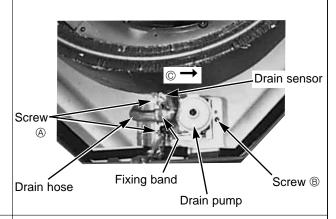
- (1) Remove the panel. (See photo 6)
- (2) Remove the fan guard. (See photo 1)
- (3) Remove the bell mouth. (See photo 2)
- (4) Remove the electrical box. (See photo 3)
- (5) Remove the drain pan. (See photo 7)
- (6) Cut the drain hose band with scissors and pull out the drain hose from the drain pump.
- (7) Loosen the screw

 (2) screws) and remove the screw

 (3) (1 screw). Slide the drain pump in the direction of the arrow
 (3) and remove it.
- (8) Remove the drain sensor with its holder from the drain pump.

PHOTOS&ILLUSTRATIONS

Photo 8



10. Removing the heat exchanger

- (1) Remove the panel. (See photo 6)
- (2) Remove the fan guard. (See photo 1)
- (3) Remove the bell mouth. (See photo 2)
- (4) Remove the electrical box. (See photo 3)
- (5) Remove the drain pan. (See photo 7)
- (6) Remove the turbo fan. (See photo 4)
- (7) Remove the 3 screws of the piping cover, and pull out piping cover.
- (8) Remove the 4 screws of the outer wall cover, and pull out the outer wall cover.
- (9) Remove the screw of the coil support.
- (10) Remove the 2 screws of the coil.
- (11) Pull out the heat exchanger.

Photo 9

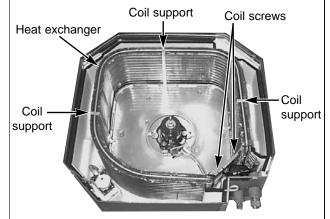
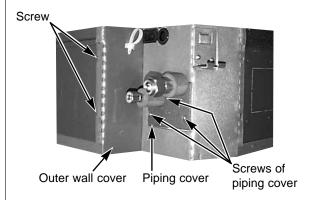
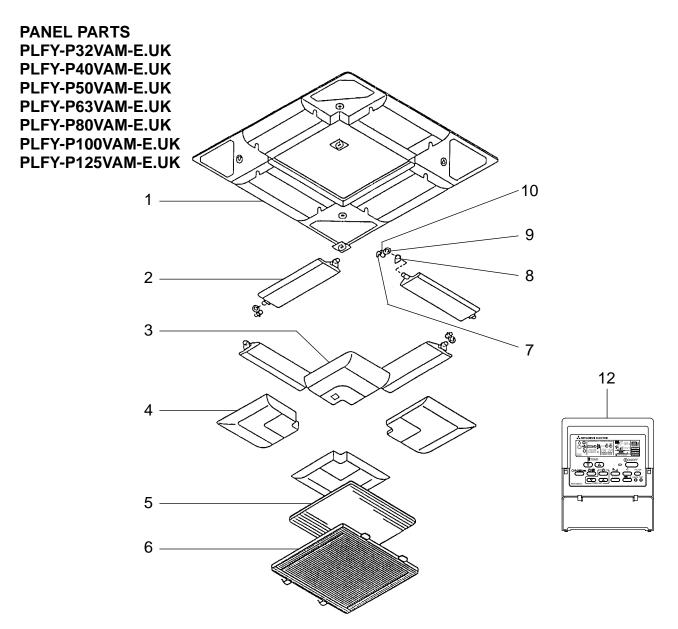


Photo 10

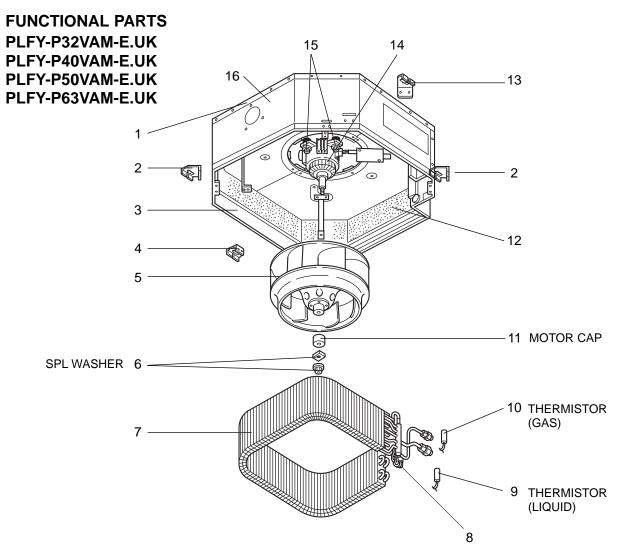


PARTS LIST

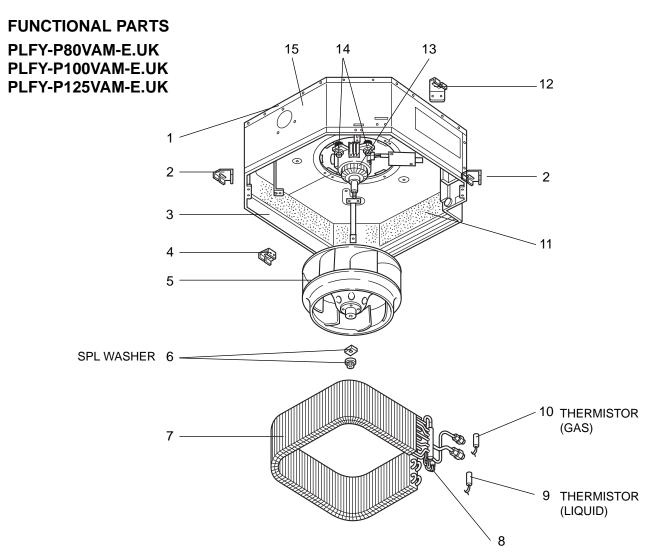


Part number that is circled is not shown in the figure.

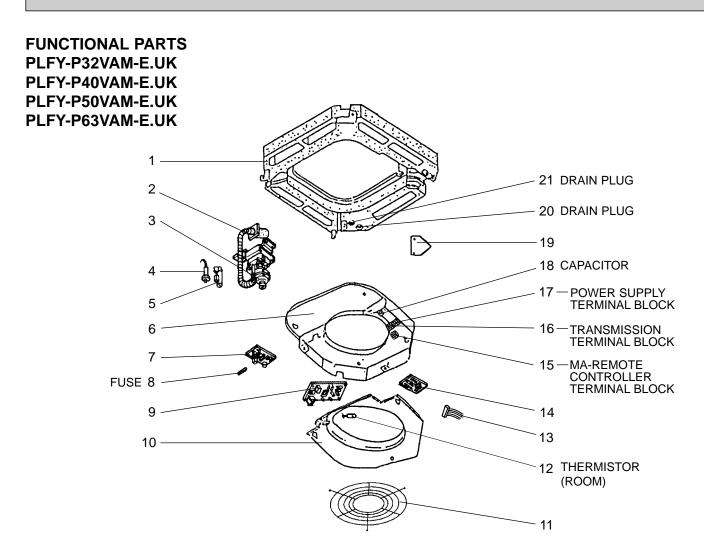
| | | | | Q'ty/set PLFY- | Remarks | Wiring | | Pr | rice |
|----------|-------------|-------------------|---------------|---------------------------------------|---------------|-------------------|----------------|------|--------|
| No. | Part No. | Part Name | Specification | P32, P40, P50, P63 P80, P100, P125 | (Drawing No.) | Diagram Symbol | mended Q'ty | Unit | Amount |
| <u> </u> | | | | VAM-E.UK | | | | | |
| 1 | S70 E10 003 | AIR OUTLET GRILLE | | 1 | Including H2 | | | | |
| 2 | S70 E00 002 | AUTO VANE | | 4 | | | | | |
| 3 | S70 E01 638 | CORNER PANEL | | 1 | | | | | |
| 4 | S70 E00 638 | CORNER PANEL | | 3 | | | | | |
| 5 | S70 E00 500 | L.L FILTER | | 1 | | | | | |
| 6 | S70 E00 691 | GRILLE ASSY | | 1 | | | | | |
| 7 | S70 E00 223 | VANE MOTOR | | 4 | | MV | | | |
| 8 | S70 E00 063 | VANE BUSH | | 8 | | | | | |
| 9 | S70 E00 040 | GEAR (VANE) | | 4 | | | | | |
| 10 | S70 E01 040 | GEAR (MOTOR) | | 4 | | | | | |
| 11 | S70 E01 673 | SCREW ASSY | | 1 | | | | | |
| 12 | S70 030 713 | REMOTE CONTROLLER | PAR-20MAA | 1 | | | | | |



| | | | | | | | Q'ty | / set | | Remarks | Wiring | Pagam | Pr | ice |
|----------|------------|-----------|-----|------------------------|--------------------|------------------|------|-------|-----|----------|---------|--------|------|--------|
| No. | Pa | Parts No. | | Parts Name | Specifi- cation | PLFY- · VAM-E.UK | | | | (Drawing | Diagram | mended | | |
| | | | | | Cation | P32 | P40 | P50 | P63 | No.) | Symbol | Q'ty | Unit | Amount |
| 1 | S70 | 003 | 687 | BASE DWG | | 1 | 1 | 1 | 1 | | | | | |
| 2 | S70 | E01 | 130 | LEG | | 2 | 2 | 2 | 2 | | | | | |
| 3 | S70 | 005 | 688 | DRUM 1 ASSY | | 1 | 1 | 1 | 1 | | | | | |
| 4 | S70 | E00 | 130 | LEG | | 1 | 1 | 1 | 1 | | | | | |
| 5 | S70 | E00 | 114 | TURBO FAN | | 1 | 1 | 1 | 1 | | | | | |
| 6 | S70 | 08K | 097 | SPL WASHER | | 1 | 1 | 1 | 1 | | | | | |
| | S70 | E60 | 480 | HEAT EXCHANGER | | 1 | | | | | | | | |
| 7 | S70 | E61 | 480 | HEAT EXCHANGER | | | 1 | | | | | | | |
| ' | S70 | E62 | 480 | HEAT EXCHANGER | | | | 1 | | | | | | |
| | S70 | E63 | 480 | HEAT EXCHANGER | | | | | 1 | | | | | |
| 8 | S70 | E60 | 401 | LINEAR EXPANSION VALVE | | 1 | 1 | 1 | 1 | | LEV | | | |
| 9 | S70 | 17J | 202 | THERMISTOR (LIQUID) | | 1 | 1 | 1 | 1 | | TH22 | | | |
| 10 | S70 | E50 | 129 | MOTOR CAP | | 1 | 1 | 1 | 1 | | | | | |
| 11 | S70 | 79N | 202 | THERMISTOR (GAS) | | 1 | 1 | 1 | 1 | | TH23 | | | |
| 12 | S70 | E00 | 659 | INNER COVER ASSY | | 1 | 1 | 1 | 1 | | | | | |
| 13 | S70 | E02 | 130 | LEG | | 1 | 1 | 1 | 1 | | | | | |
| 14 | S70 | E06 | 762 | FAN MOTOR | D17B6P70MS | 1 | 1 | 1 | 1 | | MF | | | |
| 15 | S70 | A41 | 105 | MOTOR MOUNT | | 4 | 4 | 4 | 4 | | | | | |
| 16 | S70 | 006 | 688 | DRUM 2 ASSY | | 1 | 1 | 1 | 1 | | | | | |



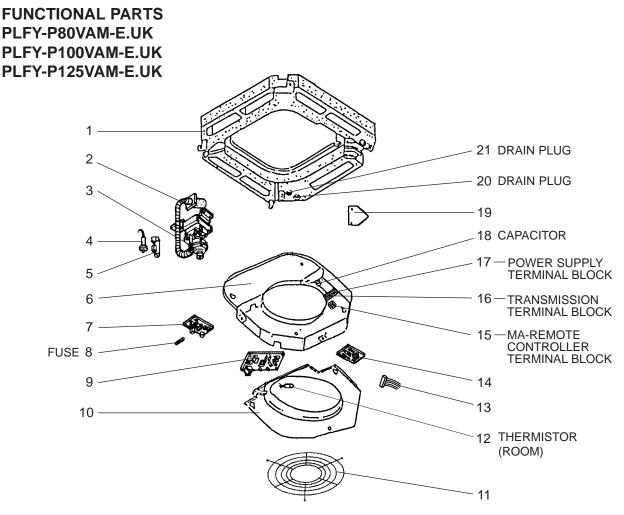
| | | | | | | | Q'ty / set | : | Remarks | Wiring | Recom- | Pr | ice |
|-----|-----|-------|-----|------------------------|--------------------|------|------------|------|----------|-------------------|--------|------|--------|
| No. | Pa | rts N | ο. | Parts Name | Specifi- cation | PLF' | Y- · VAM- | E.UK | (Drawing | Diagram Symbol | mended | | |
| | | | | | Cation | P80 | P100 | P120 | No.) | | | Unit | Amount |
| 1 | S70 | 003 | 687 | BASE DWG | | 1 | 1 | 1 | | | | | |
| 2 | S70 | E01 | 130 | LEG | | 2 | 2 | 2 | | | | | |
| 2 | S70 | 005 | 688 | DRUM 1 ASSY | | 1 | | | | | | | |
| | S70 | 007 | 688 | DRUM 1 ASSY | | | 1 | 1 | | | | | |
| 4 | S70 | E00 | 130 | LEG | | 1 | 1 | 1 | | | | | |
| 5 | S70 | E00 | 114 | TURBO FAN | | 1 | | | | | | | |
| | S70 | E01 | 114 | TURBO FAN | | | 1 | 1 | | | | | |
| 6 | S70 | 08K | 097 | SPL WASHER | | 1 | 1 | 1 | | | | | |
| 7 | S70 | E64 | 480 | HEAT EXCHANGER | | 1 | | | | | | | |
| Ľ | S70 | E65 | 480 | HEAT EXCHANGER | | | 1 | 1 | | | | | |
| 8 | S70 | E70 | 401 | LINEAR EXPANSION VALVE | | 1 | 1 | 1 | | LEV | | | |
| 9 | S70 | 17J | 202 | THERMISTOR (LIQUID) | | 1 | 1 | 1 | | TH22 | | | |
| 10 | S70 | 79N | 202 | THERMISTOR (GAS) | | 1 | 1 | 1 | | TH23 | | | |
| 11 | S70 | E00 | 659 | INNER COVER ASSY | | 1 | | | | | | | |
| | S70 | E02 | 659 | INNER COVER ASSY | | | 1 | 1 | | | | | |
| 12 | S70 | E02 | 130 | LEG | | 1 | 1 | 1 | | | | | |
| 13 | S70 | E06 | 762 | FAN MOTOR | D17B6P70MS | 1 | | | | MF | | | |
| | S70 | E07 | 762 | FAN MOTOR | D176P120MS | | 1 | 1 | | MF | | | |
| 14 | S70 | A41 | 105 | MOTOR MOUNT | | 4 | 4 | 4 | | | | | |
| 15 | S70 | 006 | 688 | DRUM 2 ASSY | | 1 | | | | | | | |
| L | S70 | 800 | 688 | DRUM 2 ASSY | | | 1 | 1 | | | | | |



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

| | | | | | Q'ty / set | Remarks | Wirin | D | Price | | |
|-----|-----------|-----|-----|-------------------------------------|----------------------------|--------------------|----------|---------|--------|------|--------|
| No. | Parts No. | | ο. | Parts Name | Specifi- cation | PLFY- · VAM-E.UK | (Drawing | Diagram | mended | | |
| | | | | | Cation | P32, P40, P50, P63 | No.) | Symbol | Q'ty | Unit | Amount |
| 1 | S70 | E02 | 529 | DRAIN PAN | | 1 | | | | | |
| 2 | S70 | A41 | 523 | DRAIN SOCKET | | 1 | | | | | |
| 3 | S70 | E01 | 355 | DRAIN PUMP | | 1 | | DP | | | |
| 4 | S70 | E00 | 266 | DRAIN SENSOR | | 1 | | DS | | | |
| 5 | S70 | 31K | 241 | DRAIN SENSOR HOLDER | | 1 | | | | | |
| 6 | S70 | E00 | 503 | CONTROL BOX | | 1 | | | | | |
| 7 | S70 | E02 | 313 | POWER BOARD | | 1 | | P.B | | | |
| 8 | S70 | 520 | 239 | FUSE | 6.3A 250V | 1 | | FUSE | | | |
| 9 | S70 | E35 | 310 | INDOOR CONTROLLER BOARD | | 1 | | I.B 🔆 | | | |
| 10 | S70 | 003 | 503 | CONTROL COVER ASSY | | 1 | | | | | |
| 11 | S70 | E10 | 675 | FAN GUARD | | 1 | | | | | |
| 12 | S70 | E00 | 202 | THERMISTOR (ROOM) | | 1 | | TH21 | | | |
| 13 | S70 | E00 | 304 | ADDRESS CABLE | | 1 | | | | | |
| 14 | S70 | B02 | 294 | ADDRESS BOARD | | 1 | | A.B | | | |
| 15 | S70 | 512 | 716 | MA-REMOTE CONTROLLER TERMINAL BLOCK | 2P(1, 2) | 1 | | TB15 | | | |
| 16 | S70 | B02 | 716 | TRANSMISSION TERMINAL BLOCK | | 1 | | TB5 | | | |
| 17 | S70 | 521 | 716 | POWER SUPPLY TERMINAL BLOCK | (L, N, E) | 1 | | TB2 | | | |
| 18 | S70 | 576 | 255 | FAN MOTOR CAPACITOR | 3.0 μ F 440V | 1 | | С | | | |
| 19 | S70 | 001 | 663 | CORNER COVER | | 1 | | | | | |
| 20 | S70 | A48 | 524 | DRAIN PLUG | | 1 | | | | | |
| 21 | S70 | A41 | 524 | DRAIN PLUG | | 1 | | | | | |

^{*} The part name of symbol "I.B" is "SPCB".



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

| No. | Parts No. | | | Parts Name | Specifi- cation | Q'ty / set | | Remarks | Wiring | Danam | Price | |
|----------|-----------|-----|-----|-------------------------------------|---------------------|------------|------------|---------------|-------------------|--------|--------|--------|
| | | | э. | | | PLFY- · \ | VAM-E.UK | (Drawing No.) | Diagram Symbol | mended | l lmi4 | A |
| | | | | | | P80 | P100, P125 | | | | Unit | Amount |
| 1 | S70 | E02 | 529 | DRAIN PAN | | 1 | | | | | | |
| ' | S70 | E01 | 529 | DRAIN PAN | | | 1 | | | | | |
| 2 | S70 | A41 | 523 | DRAIN SOCKET | | 1 | 1 | | | | | |
| 3 | S70 | E01 | 355 | DRAIN PUMP | | 1 | 1 | | DP | | | |
| 4 | S70 | E00 | 266 | DRAIN SENSOR | | 1 | 1 | | DS | | | |
| 5 | S70 | 31K | 241 | DRAIN SENSOR HOLDER | | 1 | 1 | | | | | |
| 6 | S70 | E00 | 503 | CONTROL BOX | | 1 | 1 | | | | | |
| 7 | S70 | E02 | 313 | POWER BOARD | | 1 | 1 | | P.B | | | |
| 8 | S70 | 520 | 239 | FUSE | 6.3A 250V | 1 | 1 | | FUSE | | | |
| 9 | S70 | E35 | 310 | INDOOR CONTROLLER BOARD | | 1 | 1 | | I.B 🔆 | | | |
| 10 | S70 | 003 | 503 | CONTROL COVER ASSY | | 1 | 1 | | | | | |
| 11 | S70 | E10 | 675 | FAN GUARD | | 1 | 1 | | | | | |
| 12 | S70 | E00 | 202 | THERMISTOR (ROOM) | | 1 | 1 | | TH21 | | | |
| 13 | S70 | E00 | 304 | ADDRESS CABLE | | 1 | 1 | | | | | |
| 14 | S70 | B02 | 294 | ADDRESS BOARD | | 1 | 1 | | A.B | | | |
| 15 | S70 | 512 | 716 | MA-REMOTE CONTROLLER TERMINAL BLOCK | 2P(1, 2) | 1 | 1 | | TB15 | | | |
| 16 | S70 | B02 | 716 | TRANSMISSIONTERMINAL BLOCK | (M1, M2, S) | 1 | 1 | | TB5 | | | |
| 17 | S70 | 521 | 716 | POWER SPPLY TERMINAL BLOCK | (L, N, E) | 1 | 1 | | TB2 | | | |
| 18 | S70 | 17T | 255 | FAN MOTOR CAPACITOR | 3.5 <i>µ</i> F 440V | 1 | | | С | | | |
| 10 | S70 | E02 | 255 | FAN MOTOR CAPACITOR | 7.0μF 440V | | 1 | | С | | | |
| 19 | S70 | 001 | 663 | CORNER COVER | | 1 | 1 | | | | | |
| 20 | S70 | A48 | 524 | DRAIN PLUG | | 1 | 1 | | | | | |
| 21 | S70 | A41 | 524 | DRAIN PLUG | | 1 | 1 | | | | | |

11 OPTIONAL PARTS

11-1. Multi function casement

| PAC-SG031M-E | Part No. | PAC-SG03TM-E |
|--------------|----------|--------------|
|--------------|----------|--------------|

11-2. Air outlet shutter plate (20 sets)

| Part No. PAC-SG06SP-E |
|-----------------------|
|-----------------------|

11-3. High efficiency filter (PAC-SG03TM-E is required in using this optional part.)

| Part No. PAC-SG01KF |
|---------------------|
|---------------------|

