Changes for the Better

MITSUBISHI ELECTRIC

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

May 2008
No. OC332
REVISED EDITION-B

# SERVICE MANUAL

## Series PSA Floor Standing R407C/R410A

| Indoor unit [Model names] | [Service Ref.] |
|---|---|
| PSA-RP71GA | PSA-RP71GA<br>PSA-RP71GA#1 |
| PSA-RP100GA | PSA-RP100GA<br>PSA-RP100GA#1 |
| PSA-RP125GA | PSA-RP125GA<br>PSA-RP125GA#1 |
| PSA-RP140GA | PSA-RP140GA<br>PSA-RP140GA#1 |

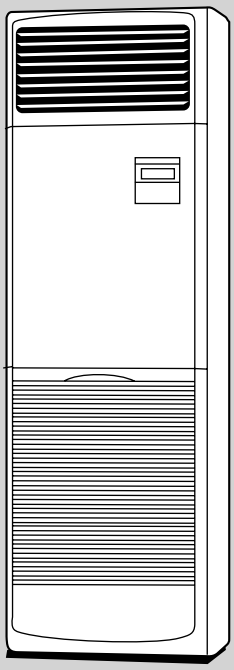
Revision:
- PSA-RP71~140GA#1 are added in REVISED EDITION-B.
- Some descriptions have been modified.

- Please void OC332 REVISED EDITION-A.

Note:
- This manual describes only service data of the indoor units.
- RoHS compliant products have <G> mark on the spec name plate.
- For servicing of RoHS compliant products, refer to the RoHS Parts List.

## Series PSH R407C

| | |
|---|---|
| PSH-P71GAH | PSH-P71GAH |
| PSH-P100GAH | PSH-P100GAH |
| PSH-P125GAH | PSH-P125GAH |
| PSH-P140GAH | PSH-P140GAH |



INDOOR UNIT

CONTENTS



Mr.SLIM™

# 1 TECHNICAL CHANGES

**PSA-RP71GA ➔ PSA-RP71GA#1**
**PSA-RP100GA ➔ PSA-RP100GA#1**
**PSA-RP125GA ➔ PSA-RP125GA#1**
**PSA-RP140GA ➔ PSA-RP140GA#1**

INDOOR CONTROLLER BOARD(I.B.) has been changed.

# 2 REFERENCE MANUAL

## 2-1. OUTDOOR UNIT'S SERVICE MANUAL

| Service Ref. | Service Manual No. |
|---|---|
| PUHZ-RP71/100/125/140VHA(1)<br>PUHZ-RP100/125/140YHA | OC334 |
| PUHZ-RP71/100/125/140VHA(1)-A | OC337 |
| PUHZ-RP200/250YHA(1)(2) | OC338 |
| PUHZ-RP200/250YHA(1)-A | OC339 |
| PU(H)-P • VGAA.UK<br>PU(H)-P • YGAA.UK | OC336 |
| PUHZ-P100/125/140VHA.UK | OC359 |
| PUHZ-RP71/100/125/140VHA2(1)<br>PUHZ-RP100/125/140YHA2(1)<br>PUHZ-RP71/100VHA3<br>PUHZ-RP100YHA3 | OC374 |
| PU(H)-P71/100VHA(1).UK<br>PU(H)-P100/125/140YHA(1).UK | OC379 |
| PUHZ-P100/125/140VHA2(1).UK | OCH415 / OCB415 |
| PUHZ-RP71/100/125/140VHA2-A<br>PUHZ-RP100/125/140YHA2-A | OCH422 / OCB422 |
| PUHZ-BP100/125/140VHA-A<br>PUHZ-BP200/250YHA-A | OCH423 / OCB423 |
| PUHZ-P200/250YHA2 | OCH424 / OCB424 |
| PUHZ-HRP71/100VHA<br>PUHZ-HRP100/125YHA | OCH425 / OCB425 |
| PUHZ-RP200/250YHA2 | OCH428 / OCB428 |

## 2-2. TECHNICAL DATA BOOK

| Series (Outdoor unit) | Manual No. |
|---|---|
| PUHZ-RP • HA(-A) | OCS01 |
| PU(H)-P • GAA.UK | OCS02 |
| PUHZ-RP • HA2 | OCS05 |
| PUHZ-P • HA | OCS06 |
| PU(H)-P • HA | OCS07 |
| PUHZ-P • VHA2, PUHZ-P • YHA | OCS08 |
| PUHZ-RP • HA2-A | OCS09 |
| PUHZ-BP • HA | OCS10 |
| PUHZ-HRP • HA | OCS11 |

# 3 SAFETY PRECAUTION

## 3-1. ALWAYS OBSERVE FOR SAFETY

**Before obtaining access to terminal, all supply circuits must be disconnected.**

## 3-2. CAUTIONS RELATED TO NEW REFRIGERANT

**Cautions for units utilising 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 ESTER , 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.

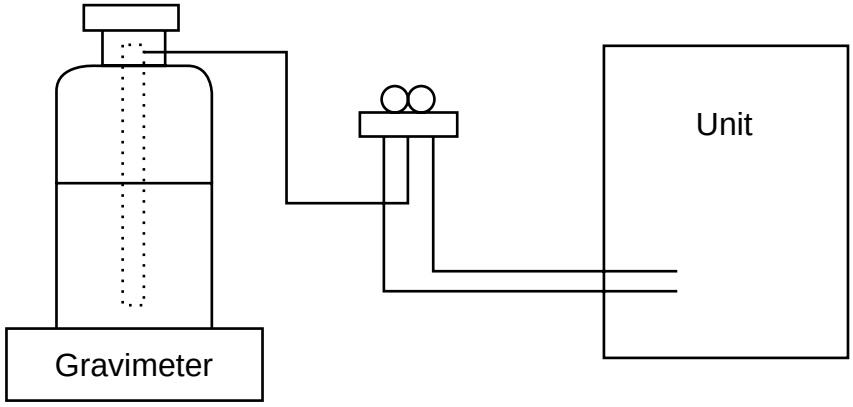
**Ventilate the room if refrigerant leaks during operation. If refrigerant comes into contact with a flame, poisonous gases will be released.**

## [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)<br>·Cylinder with syphon |
| ⑧ | Refrigerant recovery equipment. | —— |

## CAUTIONS RELATED TO NEW REFRIGERANT

**Cautions for units utilising refrigerant R410A**

**Use new refrigerant pipes.**

In case of using the existing pipes for R22, be careful with the followings.
· For RP71VHA3 and RP100, 125 and 140, be sure to perform replacement operation before test run.
· Change flare nut to the one provided with this product. Use a newly flared pipe.
· Avoid using thin pipes.

**Make sure that the inside and outside of refrigerant piping is clean and it has no contamination such as sulfur hazardous for use, oxides, dirt, shaving particles, etc.**
**In addition, use pipes with specified thickness.**

Contamination inside refrigerant piping can cause deterioration of refrigerant oil etc.

**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.**

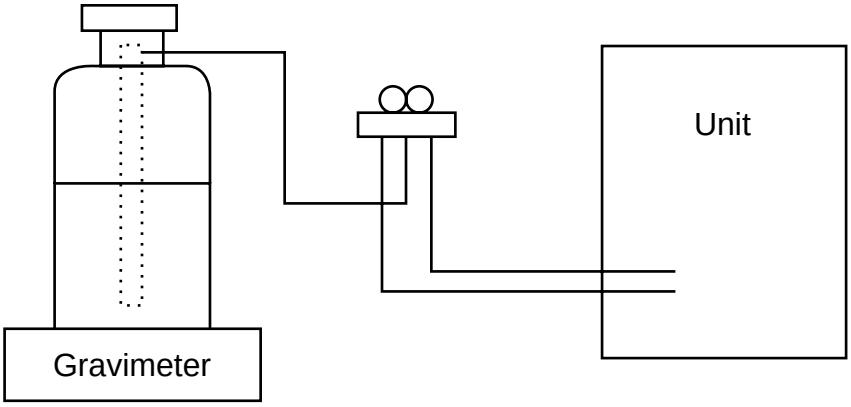
## [1] Cautions for service

**(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.)



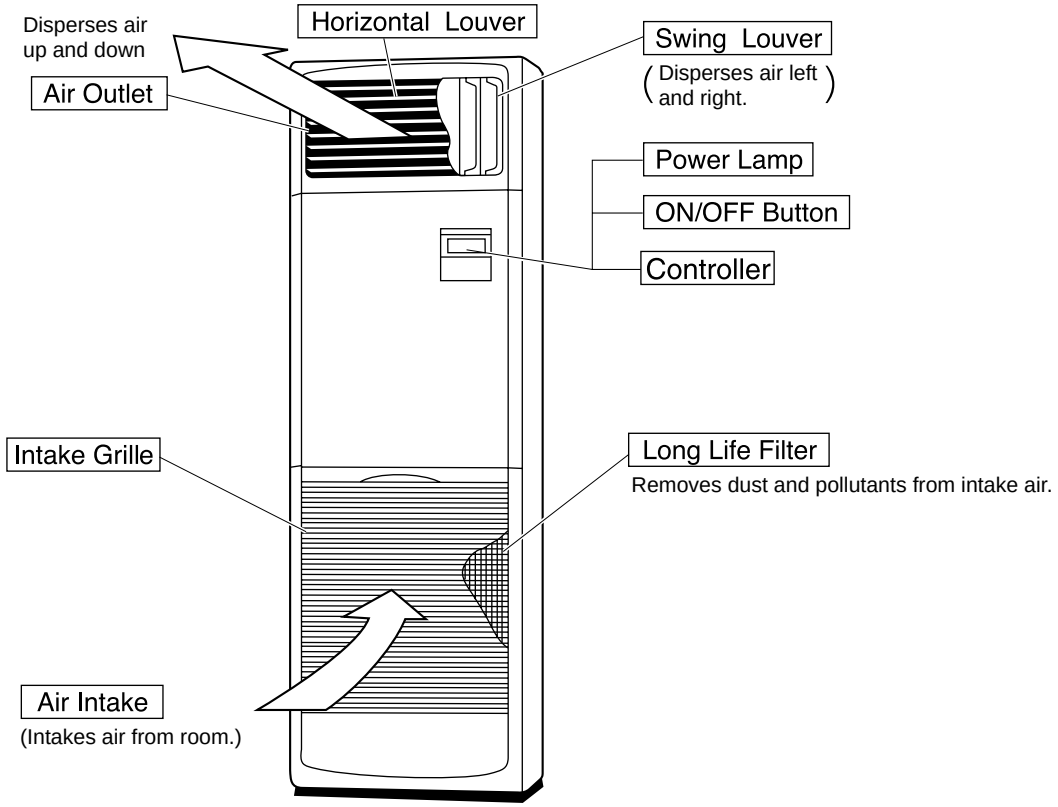

## [3] Service tools

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

| No. | Tool name | 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)<br>Cylinder with syphon |
| ⑧ | Refrigerant recovery equipment | —— |

# 4 PART NAMES AND FUNCTIONS

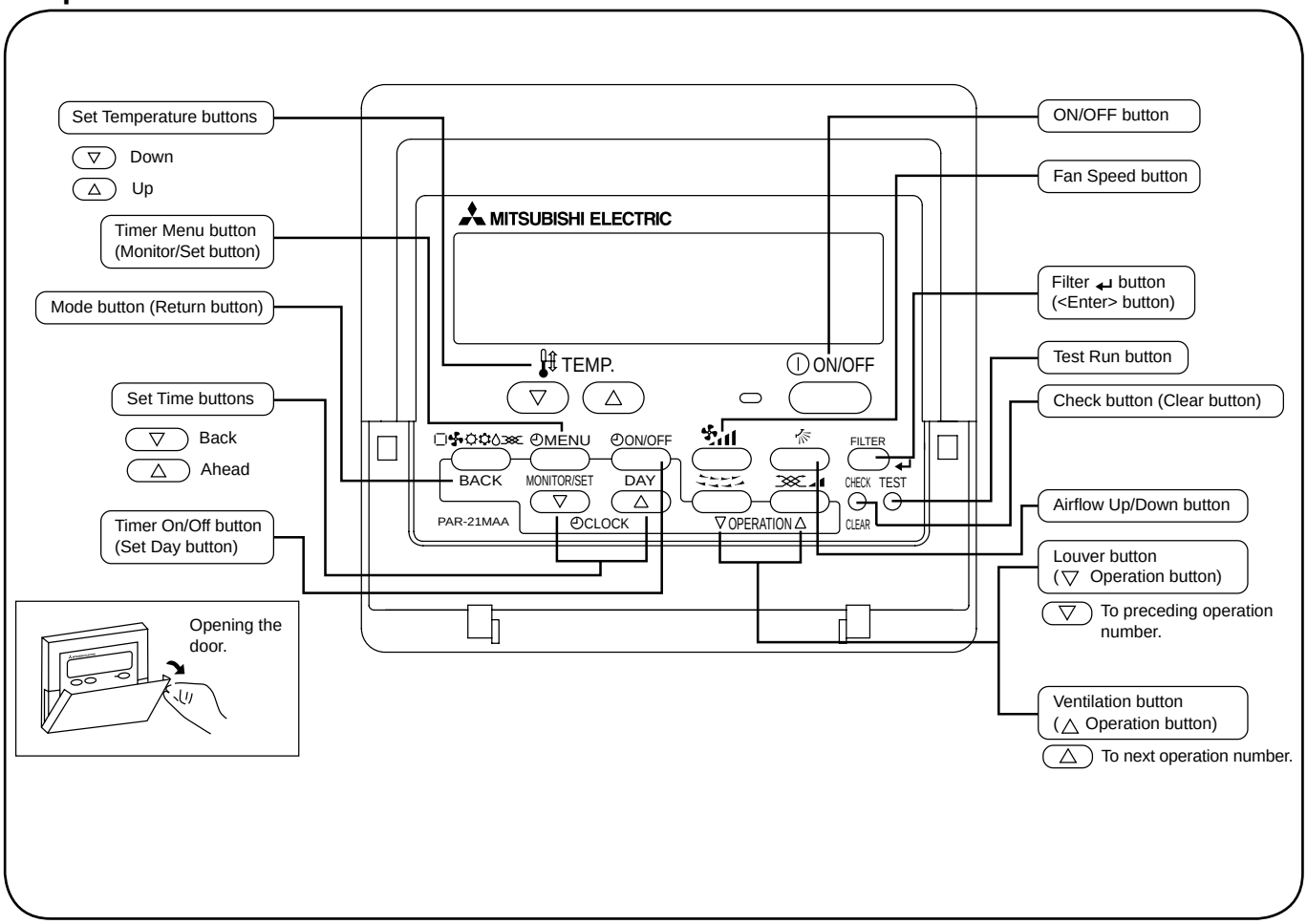
## ● Indoor Unit



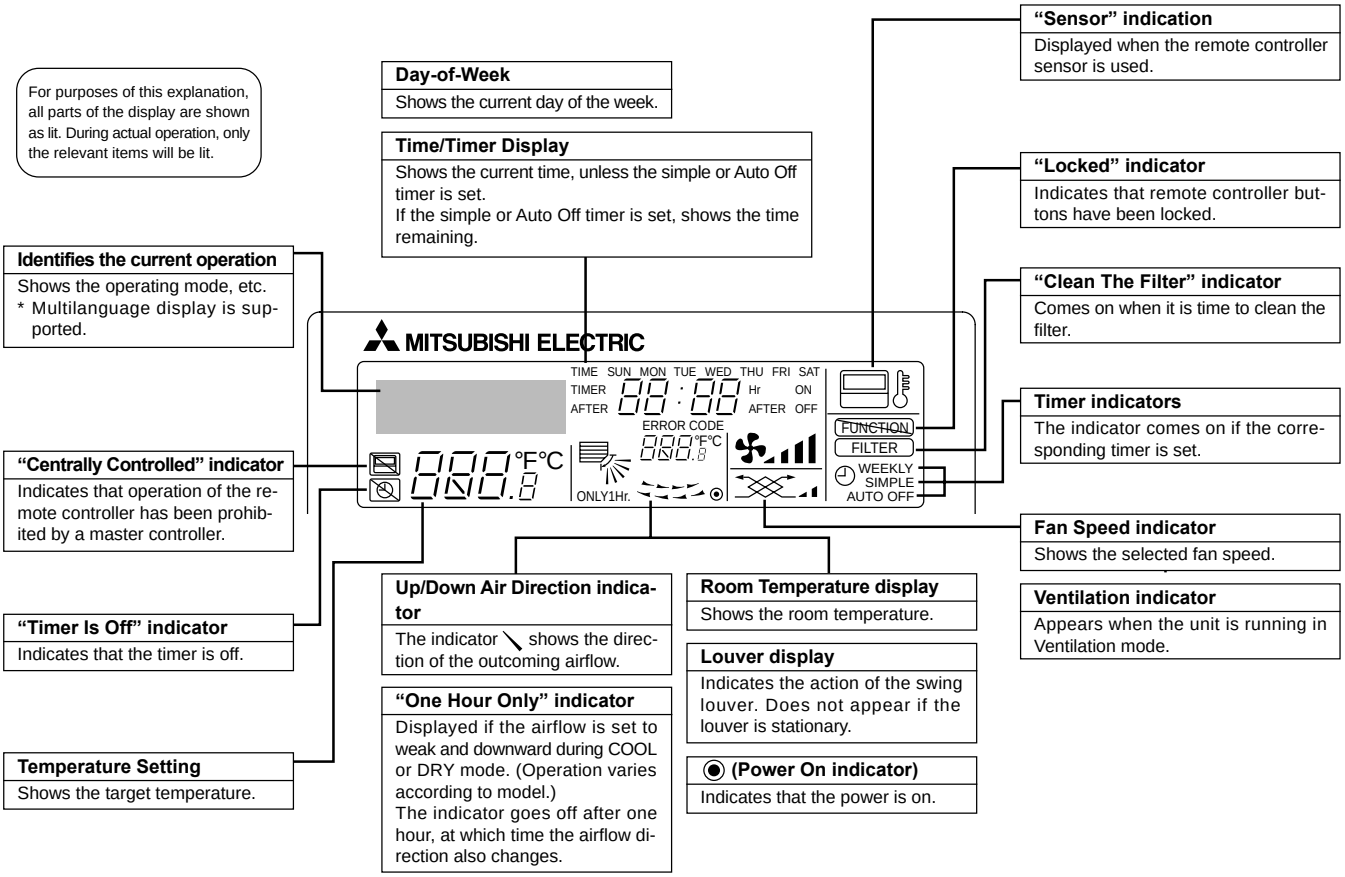

## ● Controller

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

## ● Operation buttons



## ● Display




**Caution**

Only the Power on indicator lights when the unit is stopped and power supplied to the unit.

If you press a button for a feature that is not installed at the indoor unit, the remote controller will display the "Not Available" message.

If you are using the remote controller to drive multiple indoor units, this message will appear only if he feature is not present at the parent unit.

When power is turned ON for the first time, it is normal that "PLEASE WAIT" is displayed on the room temperature indication (For max. 2minutes). Please wait until this "PLEASE WAIT" indication disappear then start the operation.

# 5 SPECIFICATIONS

| | | | | | | |
|---|---|---|---|---|---|---|
| INDOOR UNIT | **Service Ref.** | | | | **PSA-RP71GA, PSA-RP71GA#1** | |
| | Mode | | | | Cooling | Heating |
| | Power supply(phase, cycle, voltage) | | | | Single phase, 50Hz, 230V | |
| | | Input | | kW | 0.15 | 0.15 |
| | | Running current | | A | 0.66 | 0.66 |
| | | Starting current | | A | 0.80 | 0.80 |
| | External finish | | | | Munsell 0.70Y 8.59/0.97 | |
| | Heat exchanger | | | | Plate fin coil | |
| | Fan | Fan(drive) × No. | | | Centrifugal (direct) × 1 | |
| | | Fan motor output | | kW | 0.03 | |
| | | Airflow(Low-High) | | m³/min(CFM) | 15-18(530-635) | |
| | | External static pressure | | Pa(mmAq) | 0(direct blow) | |
| | Booster heater | | | kW | Ñ | |
| | Operation control & Thermostat | | | | Remote controller & built-in | |
| | Noise level(Low-High) | | | dB | 40-45 | |
| | Unit drain pipe O.D. | | | mm(in.) | 20(13/16) | |
| | Dimensions | | W | mm(in.) | 600(23-5/8) | |
| | | | D | mm(in.) | 270(10-5/8) | |
| | | | H | mm(in.) | 1,900(74-13/16) | |
| | Weight | | | kg(lbs) | 43(98) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| INDOOR UNIT | **Service Ref.** | | | | **PSA-RP100GA, PSA-RP100GA#1** | |
| | Mode | | | | Cooling | Heating |
| | Power supply(phase, cycle, voltage) | | | | Single phase, 50Hz, 230V | |
| | | Input | | kW | 0.24 | 0.24 |
| | | Running current | | A | 1.06 | 1.06 |
| | | Starting current | | A | 1.50 | 1.50 |
| | External finish | | | | Munsell 0.70Y 8.59/0.97 | |
| | Heat exchanger | | | | Plate fin coil | |
| | Fan | Fan(drive) × No. | | | Centrifugal (direct) × 1 | |
| | | Fan motor output | | kW | 0.070 | |
| | | Airflow(Low-High) | | m³/min(CFM) | 24-31(850-1,060) | |
| | | External static pressure | | Pa(mmAq) | 0(direct blow) | |
| | Booster heater | | | kW | Ñ | |
| | Operation control & Thermostat | | | | Remote controller & built-in | |
| | Noise level(Low-High) | | | dB | 44-49 | |
| | Unit drain pipe O.D. | | | mm(in.) | 20(13/16) | |
| | Dimensions | | W | mm(in.) | 600(23-5/8) | |
| | | | D | mm(in.) | 350(13-3/4) | |
| | | | H | mm(in.) | 1,900(74-13/16) | |
| | Weight | | | kg(lbs) | 51(112) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| INDOOR UNIT | **Service Ref.** | | | | **PSA-RP125GA, PSA-RP125GA#1** | |
| | Mode | | | | Cooling | Heating |
| | Power supply(phase, cycle, voltage) | | | | Single phase, 50Hz, 230V | |
| | | Input | | kW | 0.28 | 0.28 |
| | | Running current | | A | 1.23 | 1.23 |
| | | Starting current | | A | 1.50 | 1.50 |
| | External finish | | | | Munsell 0.70Y 8.59/0.97 | |
| | Heat exchanger | | | | Plate fin coil | |
| | Fan | Fan(drive) × No. | | | Centrifugal (direct) × 1 | |
| | | Fan motor output | | kW | 0.11 | |
| | | Airflow(Low-High) | | m³/min(CFM) | 26-33(920-1,165) | |
| | | External static pressure | | Pa(mmAq) | 0(direct blow) | |
| | Booster heater | | | kW | Ñ | |
| | Operation control & Thermostat | | | | Remote controller & built-in | |
| | Noise level(Low-High) | | | dB | 46-51 | |
| | Unit drain pipe O.D. | | | mm(in.) | 20(13/16) | |
| | Dimensions | | W | mm(in.) | 600(23-5/8) | |
| | | | D | mm(in.) | 350(13-3/4) | |
| | | | H | mm(in.) | 1,900(74-13/16) | |
| | Weight | | | kg(lbs) | 51(112) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| INDOOR UNIT | **Service Ref.** | | | | **PSA-RP140GA, PSA-RP140GA#1** | |
| | Mode | | | | Cooling | Heating |
| | Power supply(phase, cycle, voltage) | | | | Single phase, 50Hz, 230V | |
| | | Input | | kW | 0.36 | 0.36 |
| | | Running current | | A | 1.59 | 1.59 |
| | | Starting current | | A | 2.10 | 2.10 |
| | External finish | | | | Munsell 0.70Y 8.59/0.97 | |
| | Heat exchanger | | | | Plate fin coil | |
| | Fan | Fan(drive) x No. | | | Centrifugal (direct) × 1 | |
| | | Fan motor output | | kW | 0.11 | |
| | | Airflow(Low-High) | | m³/min(CFM) | 27-35(955-1,240) | |
| | | External static pressure | | Pa(mmAq) | 0(direct blow) | |
| | Booster heater | | | kW | Ñ | |
| | Operation control & Thermostat | | | | Remote controller & built-in | |
| | Noise level(Low-High) | | | dB | 47-52 | |
| | Unit drain pipe O.D. | | | mm(in.) | 20(13/16) | |
| | Dimensions | | W | mm(in.) | 600(23-5/8) | |
| | | | D | mm(in.) | 350(13-3/4) | |
| | | | H | mm(in.) | 1,900(74-13/16) | |
| | Weight | | | kg(lbs) | 53(117) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| INDOOR UNIT | **Service Ref.** | | | | **PSH-P71GAH** | |
| | Mode | | | | Cooling | Heating |
| | Power supply(phase, cycle, voltage) | | | | Single phase, 50Hz, 230V | |
| | | Input | ※1 | kW | 0.15 | 0.15<1.93> |
| | | Running current | ※1 | A | 0.66 | 0.66<8.39> |
| | | Starting current | ※1 | A | 0.80 | 0.80<8.39> |
| | External finish | | | | Munsell 0.70Y 8.59/0.97 | |
| | Heat exchanger | | | | Plate fin coil | |
| | Fan | Fan(drive) × No. | | | Centrifugal (direct) × 1 | |
| | | Fan motor output | | kW | 0.03 | |
| | | Airflow(Low-High) | | m³/min(CFM) | 15-18(530-635) | |
| | | External static pressure | | Pa(mmAq) | 0(direct blow) | |
| | Booster heater | | ※1 | kW | <1.93> | |
| | Operation control & Thermostat | | | | Remote controller & built-in | |
| | Noise level(Low-High) | | | dB | 40-45 | |
| | Unit drain pipe O.D. | | | mm(in.) | 20(13/16) | |
| | Dimensions | | W | mm(in.) | 600(23-5/8) | |
| | | | D | mm(in.) | 270(10-5/8) | |
| | | | H | mm(in.) | 1,900(74-13/16) | |
| | Weight | | | kg(lbs) | 45(99) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| INDOOR UNIT | **Service Ref.** | | | | **PSH-P100GAH** | |
| | Mode | | | | Cooling | Heating |
| | Power supply(phase, cycle, voltage) | | | | Single phase, 50Hz, 230V | |
| | | Input | ※1 | kW | 0.24 | 0.24<2.48> |
| | | Running current | ※1 | A | 1.06 | 1.06<10.78> |
| | | Starting current | ※1 | A | 1.50 | 1.50<10.78> |
| | External finish | | | | Munsell 0.70Y 8.59/0.97 | |
| | Heat exchanger | | | | Plate fin coil | |
| | Fan | Fan(drive) × No. | | | Centrifugal (direct) × 1 | |
| | | Fan motor output | | kW | 0.07 | |
| | | Airflow(Low-High) | | m³/min(CFM) | 24-31(850-1,060) | |
| | | External static pressure | | Pa(mmAq) | 0(direct blow) | |
| | Booster heater | | ※1 | kW | <2.48> | |
| | Operation control & Thermostat | | | | Remote controller & built-in | |
| | Noise level(Low-High) | | | dB | 44-49 | |
| | Unit drain pipe O.D. | | | mm(in.) | 20(13/16) | |
| | Dimensions | | W | mm(in.) | 600(23-5/8) | |
| | | | D | mm(in.) | 350(13-3/4) | |
| | | | H | mm(in.) | 1,900(74-13/16) | |
| | Weight | | | kg(lbs) | 53(117) | |

※1 : < > Shows the only booster heater rating.

| | | | | | | |
|---|---|---|---|---|---|---|
| INDOOR UNIT | **Service Ref.** | | | | **PSH-P125GAH** | |
| | Mode | | | | Cooling | Heating |
| | Power supply(phase, cycle, voltage) | | | | Single phase, 50Hz, 230V | |
| | | Input | ※1 | kW | 0.28 | 0.28<2.76> |
| | | Running current | ※1 | A | 1.23 | 1.23<12.00> |
| | | Starting current | ※1 | A | 1.50 | 1.50<12.00> |
| | External finish | | | | Munsell 0.70Y 8.59/0.97 | |
| | Heat exchanger | | | | Plate fin coil | |
| | Fan | Fan(drive) x No. | | | Centrifugal (direct) × 1 | |
| | | Fan motor output | | kW | 0.11 | |
| | | Airflow(Low-High) | | m³/min(CFM) | 26-33(920-1,165) | |
| | | External static pressure | | Pa(mmAq) | 0(direct blow) | |
| | Booster heater | | ※1 | kW | <2.76> | |
| | Operation control & Thermostat | | | | Remote controller & built-in | |
| | Noise level(Low-High) | | | dB | 46-51 | |
| | Unit drain pipe O.D. | | | mm(in.) | 20(13/16) | |
| | Dimensions | | W | mm(in.) | 600(23-5/8) | |
| | | | D | mm(in.) | 350(13-3/4) | |
| | | | H | mm(in.) | 1,900(74-13/16) | |
| | Weight | | | kg(lbs) | 53(117) | |

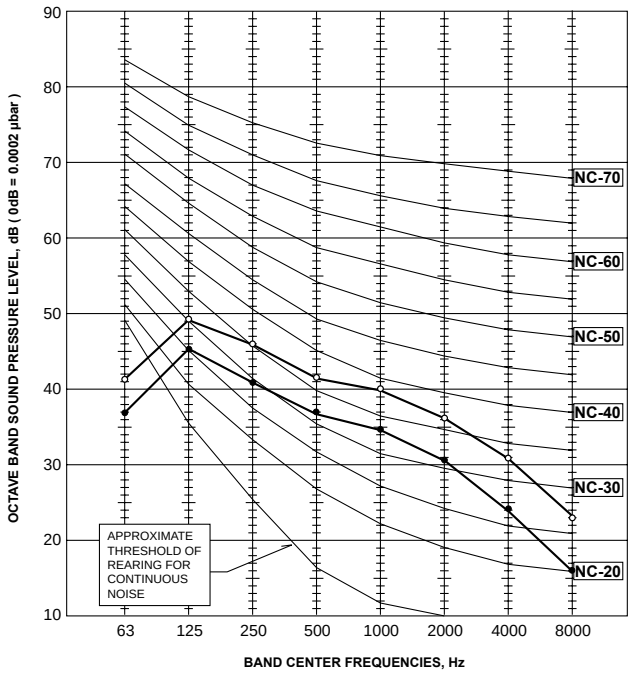
| | | | | | | |
|---|---|---|---|---|---|---|
| INDOOR UNIT | **Service Ref.** | | | | **PSH-P140GAH** | |
| | Mode | | | | Cooling | Heating |
| | Power supply(phase, cycle, voltage) | | | | Single phase, 50Hz, 230V | |
| | | Input | ※1 | kW | 0.36 | 0.36<2.76> |
| | | Running current | ※1 | A | 1.59 | 1.59<12.00> |
| | | Starting current | ※1 | A | 2.10 | 2.10<12.00> |
| | External finish | | | | Munsell 0.70Y 8.59/0.97 | |
| | Heat exchanger | | | | Plate fin coil | |
| | Fan | Fan(drive) x No. | | | Centrifugal (direct) × 1 | |
| | | Fan motor output | | kW | 0.11 | |
| | | Airflow(Low-High) | | m³/min(CFM) | 27-35(955-1,240) | |
| | | External static pressure | | Pa(mmAq) | 0(direct blow) | |
| | Booster heater | | ※1 | kW | <2.76> | |
| | Operation control & Thermostat | | | | Remote controller & built-in | |
| | Noise level(Low-High) | | | dB | 47-52 | |
| | Unit drain pipe O.D. | | | mm(in.) | 20(13/16) | |
| | Dimensions | | W | mm(in.) | 600(23-5/8) | |
| | | | D | mm(in.) | 350(13-3/4) | |
| | | | H | mm(in.) | 1,900(74-13/16) | |
| | Weight | | | kg(lbs) | 55(121) | |

※1 : < > Shows the only booster heater rating.

# 6 NOISE CRITERION CURVES

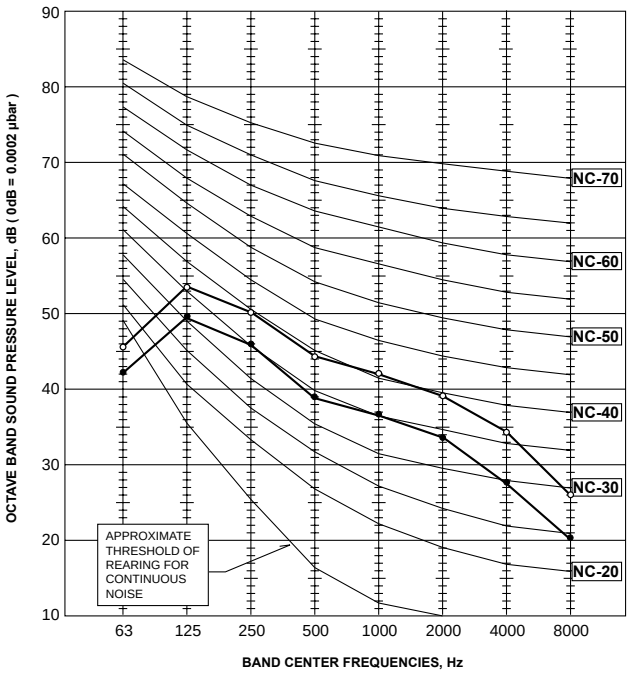
## PSA-RP71GA
## PSA-RP71GA#1
## PSH-P71GAH

| NOTCH | SPL(dB) | LINE |
|---|---|---|
| High | 45 | ○—○ |
| Low | 40 | ●—● |



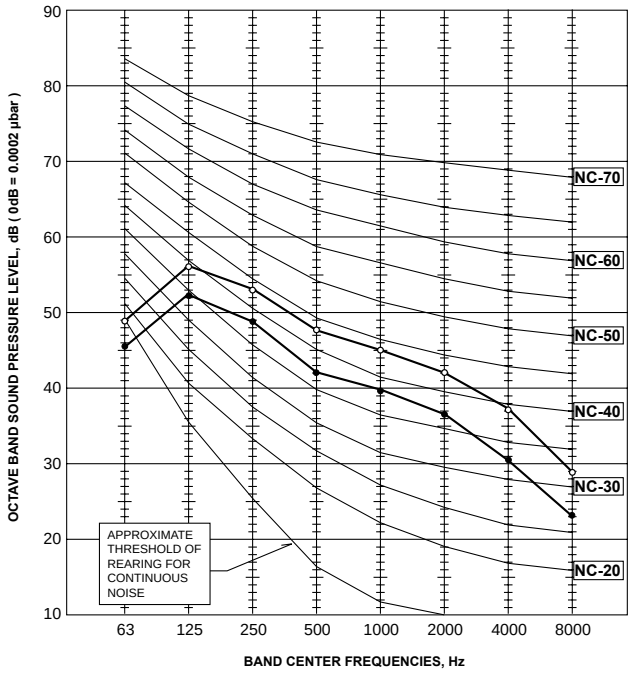

## PSA-RP100GA
## PSA-RP100GA#1
## PSH-P100GAH

| NOTCH | SPL(dB) | LINE |
|---|---|---|
| High | 49 | ○—○ |
| Low | 44 | ●—● |



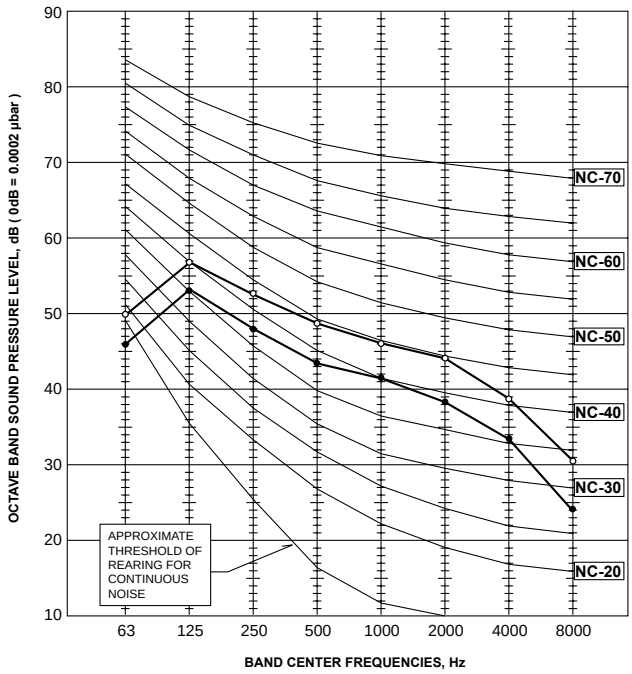

## PSA-RP125GA
## PSA-RP125GA#1
## PSH-P125GAH

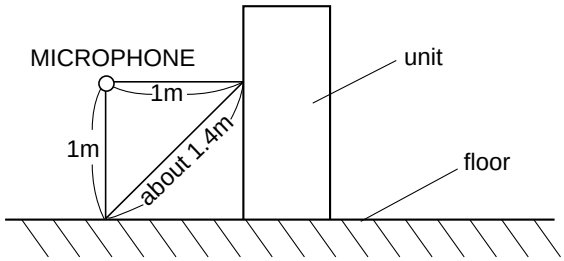
| NOTCH | SPL(dB) | LINE |
|---|---|---|
| High | 51 | ○—○ |
| Low | 46 | ●—● |



**PSA-RP140GA**
**PSA-RP140GA#1**
**PSH-P140GAH**

| NOTCH | SPL(dB) | LINE |
|---|---|---|
| High | 52 | ○—○ |
| Low | 47 | ●—● |

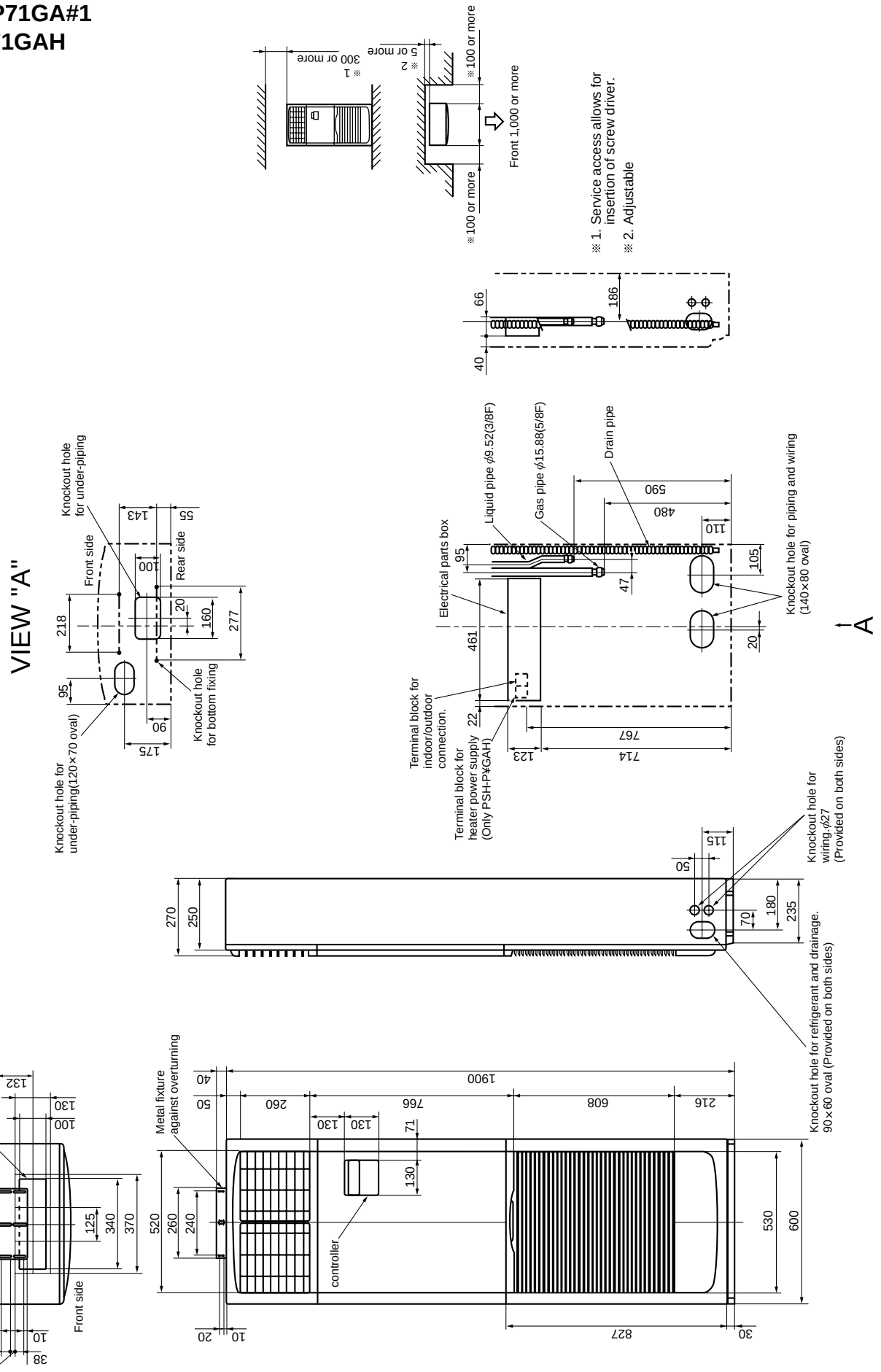


# 7 OUTLINES AND DIMENTIONS

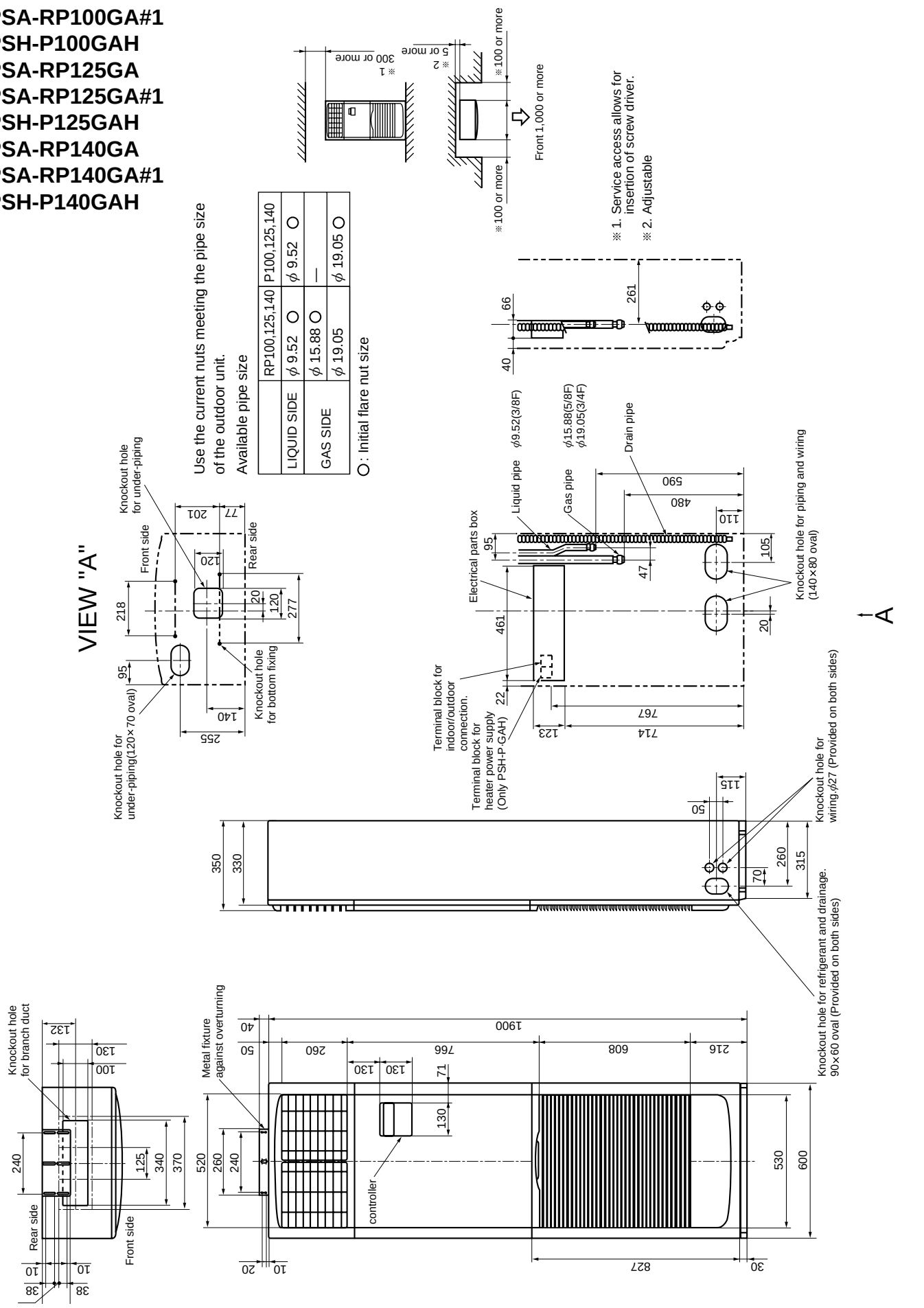
**PSA-RP71GA**
**PSA-RP71GA#1**
**PSH-P71GAH**

**Unit : mm**



**PSA-RP100GA**
**PSA-RP100GA#1**
**PSH-P100GAH**
**PSA-RP125GA**
**PSA-RP125GA#1**
**PSH-P125GAH**
**PSA-RP140GA**
**PSA-RP140GA#1**
**PSH-P140GAH**

**Unit : mm**



# 8 WIRING DIAGRAM

**PSA-RP71GA PSA-RP100GA PSA-RP125GA PSA-RP140GA**
**PSA-RP71GA#1 PSA-RP100GA#1 PSA-RP125GA#1 PSA-RP140GA#1**
**PSH-P71GAH PSH-P100GAH PSH-P125GAH PSH-P140GAH**

| SYMBOL | NAME | SYMBOL | NAME | SYMBOL | NAME |
|---|---|---|---|---|---|
| P.B | INDOOR POWER BOARD | I.B SW1 | SWITCH (MODEL SELECTION) ※See Table 1. | C | CAPACITOR (FAN MOTOR) |
| I.B | INDOOR CONTROLLER BOARD | SW2 | SWITCH (CAPACITY CODE) ※See Table 2. | MF | FAN MOTOR |
| FUSE | FUSE (T6.3AL250V) | SWE | SWITCH (EMERGENCY OPERATION) | ML | LOUVER MOTOR |
| ZNR | VARISTOR | X2 | RELAY (LOUVER) | TB2 | TERMINAL BLOCK (HEATER) ※PSH-P.GAH models only or option for PSA-RP.GA models. |
| CN2L | CONNECTOR (LOSSNAY) | X4 | RELAY (FAN MOTOR) | | |
| CN32 | CONNECTOR (REMOTE SWITCH) | X5 | RELAY (FAN MOTOR) | TB4 | TERMINAL BLOCK (INDOOR/OUTDOOR CONNECTING LINE) |
| CN41 | CONNECTOR (HA TERMINAL-A) | X6 | RELAY (FAN MOTOR) | | |
| CN51 | CONNECTOR (CENTRALLY CONTROL) | R.B | WIRED REMOTE CONTROLLER BOARD | TH1 | ROOM TEMP.THERMISTOR (0°C/15kΩ, 25°C/5.4kΩ DETECT) |
| LED1 | POWER SUPPLY (I.B) | TB6 | TERMINAL BLOCK (REMOTE CONTROLLER TRANSMISSION LINE) | | |
| LED2 | POWER SUPPLY (R.B) | | | TH2 | PIPE TEMP.THERMISTOR/LIQUID (0°C/15kΩ, 25°C/5.4kΩ DETECT) |
| LED3 | TRANSMISSION (INDOOR-OUTDOOR) | HEATER | | | |
| | | FS1,2 | THERMAL FUSE (110°C16A) | TH5 | COND./EVA.TEMP.THERMISTOR (0°C/15kΩ, 25°C/5.4kΩ DETECT) |
| | | H | HEATER | | |
| | | 26H | HEATER THERMAL SWITCH | | |
| | | 88H | HEATER CONTACTOR | | |

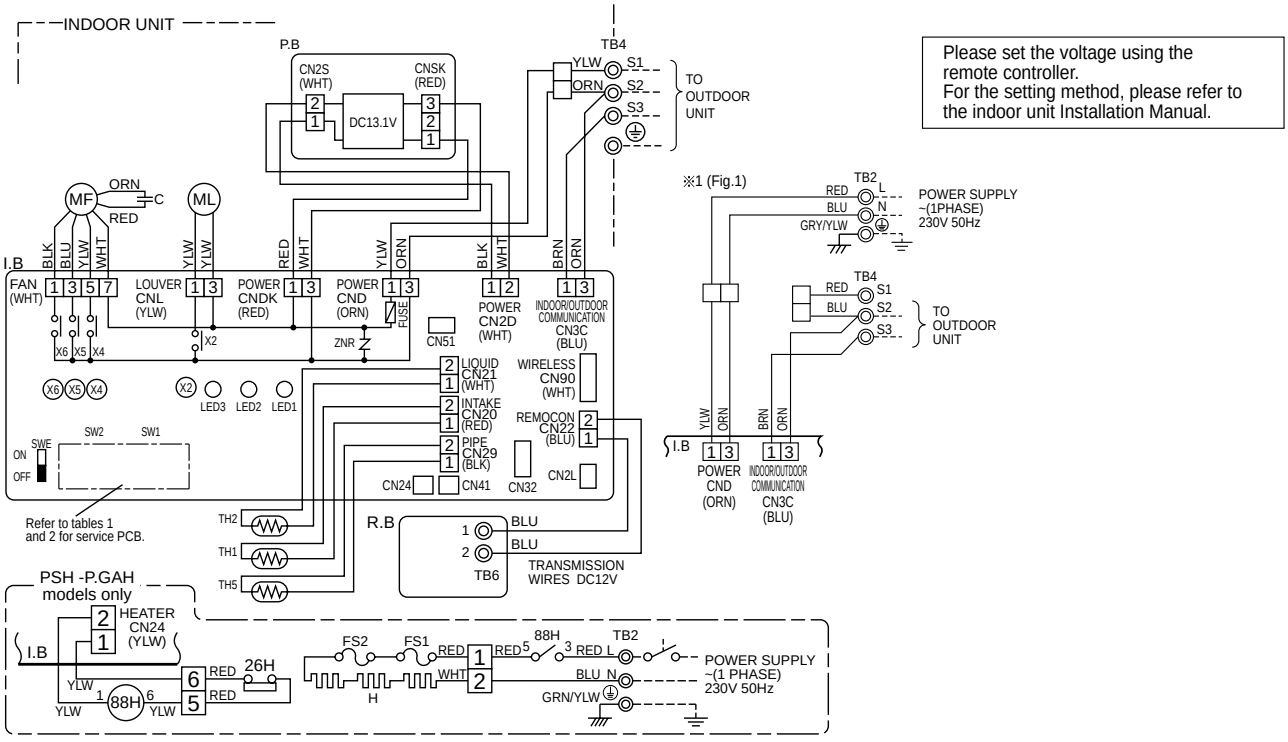



Table 1

| SW2 | |
|---|---|
| MODELS | Service board |
| PSA-RP.GA PSH-P.GAH | 1 2 3 4 5 ON OFF |

Table 2

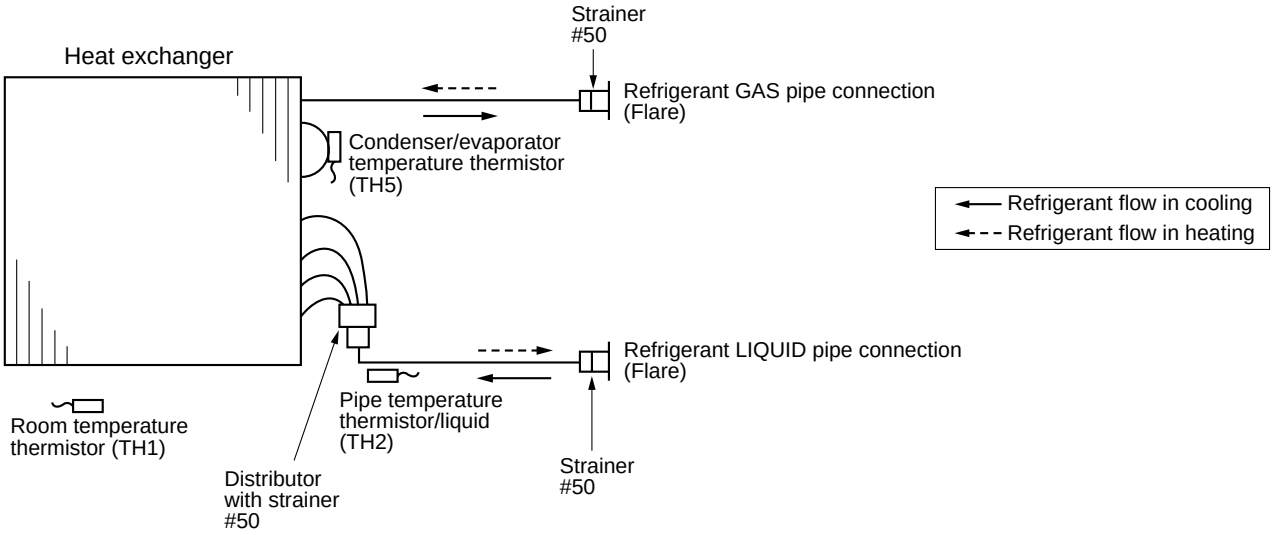
| SW2 | |
|---|---|
| MODELS | Service board |
| PSA-RP71GA PSH-P71GAH | 1 2 3 4 5 ON OFF |
| PSA-RP100GA PSH-P100GAH | 1 2 3 4 5 ON OFF |
| PSA-RP125GA PSH-P125GAH | 1 2 3 4 5 ON OFF |
| PSA-RP140GA PSH-P140GAH | 1 2 3 4 5 ON OFF |

※ 1 ; When work to supply power separately to Indoor and Outdoor unit was applied, refer to Fig1.
※ 2 ; For power supply system of this unit, refer to the caution label located near this diagram.

[NOTES]
1.Symbols used in wiring diagram above are, □□□ : Connector, ◎: Terminal (block).
2.Indoor and outdoor connecting wires are made with polarities, make wiring matching terminal numbers (S1,S2,S3).
3.Since the outdoor side electric wiring may change be sure to check the outdoor unit electric wiring for servicing.
4.This diagram shows the wiring of Indoor and Outdoor connecting wires (specification of 230V), adopting superimposed system of power and signal.

# 9 REFRIGERANT SYSTEM DIAGRAM

**PSA-RP71GA** **PSA-RP100GA** **PSA-RP125GA** **PSA-RP140GA**
**PSA-RP71GA#1** **PSA-RP100GA#1** **PSA-RP125GA#1** **PSA-RP140GA#1**
**PSH-P71GAH** **PSH-P100GAH** **PSH-P125GAH** **PSH-P140GAH**



# 10 TROUBLESHOOTING

## 10-1. TROUBLESHOOTING

**<Error code display by self-diagnosis and actions to be taken for service (summary)>**

Present and past error codes are logged and displayed on the wired remote controller or controller board of outdoor unit. Actions to be taken for service and the trouble reoccurrence at field are summarized in the table below. Check the contents below before investigating details.

| Unit conditions at service | Error code | Actions to be taken for service (summary) |
|---|---|---|
| The trouble is reoccurring. | Displayed | Judge what is wrong and take a corrective action according to “SELF-DIAGNOSIS ACTION TABLE” (10-2). |
| | Not displayed | Conduct troubleshooting and ascertain the cause of the trouble according to “TROUBLESHOOTING BY INFERIOR PHENOMENA ” (10-3). |
| The trouble is not reoccurring. | Logged | ①Consider the temporary defects such as the work of protection devices in the refrigerant circuit including compressor, poor connection of wiring, noise and etc. Re-check the symptom, and check the installation environment, refrigerant amount, weather when the trouble occurred, and wiring related.<br>②Reset error code logs and restart the unit after finishing service.<br>③There is no abnormality in electrical components, controller boards, and remote controller. |
| | Not logged | ①Recheck the abnormal symptom.<br>②Identify the cause of the trouble and take a corrective action according to “TROUBLESHOOTING BY INFERIOR PHENOMENA ” (10-3).<br>③Continue to operate unit for the time being if the cause is not ascertained.<br>④There is no abnormality in electrical components, controller boards, remote controller etc. |

## 10-2. SELF-DIAGNOSIS ACTION TABLE

Note: Refer to the manual of outdoor unit for the details of display such as F, U, and other E.

| Error Code | Abnormal point and detection method | Cause | Countermeasure |
|---|---|---|---|
| P1 | **Room temperature thermistor (TH1)**<br>① The unit is in 3-minute resume prevention mode if short/open of thermistor is detected. Abnormal if the unit does not reset normally after 3 minutes. (The unit returns to normal operation, if it has been reset normally.)<br>② Constantly detected during cooling, drying, and heating operation.<br>Short: -90℃ or more<br>Open: -40℃ or less | ① Defective thermistor characteristics<br>② Contact failure of connector (CN20) on the indoor controller board (Insert failure)<br>③ Breaking of wire or contact failure of thermistor wiring<br>④ Defective indoor controller board | ①–③ Check resistance value of thermistor.<br>0℃····15.0kΩ<br>10℃···· 9.6kΩ<br>20℃···· 6.3kΩ<br>30℃···· 4.3kΩ<br>40℃···· 3.0kΩ<br>If you put force on (draw or bend) the lead wire with measuring resistance value of thermistor, breaking of wire or contact failure can be detected.<br>② Check contact failure of connector (CN20) on the indoor controller board. Refer to 10-6. Turn the power on again and check restart after inserting connector again.<br>④ Check room temperature display on remote controller.<br>Replace indoor controller board if there is abnormal difference with actual room temperature.<br><br>Turn the power off, and on again to operate after check. |
| P2 | **Pipe temperature thermistor/Liquid (TH2)**<br>① The unit is in 3-minute resume prevention mode if short/open of thermistor is detected. Abnormal if the unit does not reset normally after 3 minutes. (The unit returns to normal operation, if it has been reset normally.)<br>② Constantly detected during cooling, drying, and heating (except defrosting) operation<br>Short: 90℃ or more<br>Open: -40℃ or less | ①Defective thermistor characteristics<br>②Contact failure of connector (CN44) on the indoor controller board (Insert failure)<br>③Breaking of wire or contact failure of thermistor wiring<br>④Defective refrigerant circuit is causing thermistor temperature of 90℃ or more or -40℃ or less.<br>⑤Defective indoor controller board | ①–③ Check resistance value of thermistor.<br>For characteristics, refer to (P1) above.<br>② Check contact failure of connector (CN44) on the indoor controller board. Refer to 10-6. Turn the power on and check restart after inserting connector again.<br>④ Check pipe <liquid> temperature with remote controller in test run mode. If pipe <liquid> temperature is extremely low (in cooling mode) or high (in heating mode), refrigerant circuit may have defective.<br>⑤ Check pipe <liquid> temperature with remote controller in test run mode. If there is extremely difference with actual pipe <liquid> temperature, replace indoor controller board.<br><br>Turn the power off, and on again to operate after check. |
| P4 | **Drain sensor (DS)**<br>① Suspensive abnormality, if short/open of thermistor is detected for 30 seconds continuously.Compressor and indoor fan will be turned off<br>② Short/open is detected for 30 seconds continuously during suspensive abnormality.<br>(The unit returns to normal operation, if it has normally reset.)<br>③ Detect the following condition.<br>• During cooling and drying operation.<br>• In case that pipe <liquid> temperature - room temperature <-10deg (Except defrosting)<br>• When pipe <liquid> temperature or room temperature is short/open temperature.<br>• During drain pomp operation. | ① Defective thermistor characteristics<br>② Contact failure of connector (CN31) on the indoor controller board. (Insert failure).<br>③ Breaking of wire or contact failure of drain sensor wiring.<br>④ Defective indoor controller board. | ①–③ Check resistance value of thermistor.<br>0℃·····6.0kΩ<br>10℃····3.9kΩ<br>20℃····2.6kΩ<br>30℃····1.8kΩ<br>40℃····1.3kΩ<br>② Check contact failure of connector (CN31) on the indoor controller board. Refer to 10-6. Turn the power on again and check restart after inserting connector again.<br>④ Replace indoor controller board if drain pump operates with the line of drain sensor connector CN31-① and ② is short-circuited, and abnormality reappears.<br><br>Turn the power off, and on again to operate after check. |
| P5 | **Malfunction of drain pump (DP)**<br>① Suspensive abnormality, if thermistor of drain sensor is let heat itself and temperature rises slightly. Compressor and indoor fan will be turned off.<br>② Drain pomp is abnormal if the condition above is detected during suspensive abnormality.<br>③ Constantly detected during drain pump operation. | ① Malfunction of drain pump<br>② Defective drain<br>Clogged drain pump<br>Clogged drain pipe<br>③ Attached drop of water at the drain sensor<br>• Drops of drain trickles from lead wire.<br>• Clogged filter is causing wave of drain.<br>④ Defective indoor controller board. | ① Check if drain-up machine works.<br>② Check drain function.<br>③ Check the setting of lead wire of drain sensor and check clogs of the filter.<br>④ Replace indoor controller board if drain pump operates with the line of drain sensor connector CN31-① and ② is short-circuited and abnormality reappears.<br>Refer to 10-6.<br><br>Turn the power off, and on again to operate after check. |

| Error Code | Abnormal point and detection method | Cause | Countermeasure |
|---|---|---|---|
| P6 | **Freezing/overheating protection is working**<br>① Freezing protection (Cooling mode)<br>The unit is in 6-minute resume prevention mode if pipe <liquid or condenser/evaporator> temperature stays under -15℃ for 3 minutes, 3 minutes after the compressor started. Abnormal if it stays under -15℃ for 3 minutes again within 16 minutes after 6-minute resume prevention mode.<br><br>② Overheating protection (Heating mode)<br>The units is in 6 minute resume prevention mode if pipe <condenser / evaporator> temperature is detected as over 70℃ after the compressor started. Abnormal if the temperature of over 70℃ is detected again within 30 minutes after 6 minute resume prevention mode. | (Cooling or drying mode)<br>① Clogged filter (reduced airflow)<br>② Short cycle of air path<br>③ Low-load (low temperature) operation out of the tolerance range<br>④ Defective indoor fan motor<br>• Fan motor is defective.<br>• Indoor controller board is defective.<br>⑤ Defective outdoor fan control<br>⑥ Overcharge of refrigerant<br>⑦ Defective refrigerant circuit (clogs)<br><br>(Heating mode)<br>① Clogged filter (reduced airflow)<br>② Short cycle of air path<br>③ Over-load (high temperature) operation out of the tolerance range<br>④ Defective indoor fan motor<br>• Fan motor is defective.<br>• Indoor controller board is defective.<br>⑤ Defective outdoor fan control<br>⑥ Overcharge of refrigerant<br>⑦ Defective refrigerant circuit (clogs)<br>⑧ Bypass circuit of outdoor unit is defective. | (Cooling or drying mode)<br>① Check clogs of the filter.<br>② Remove shields.<br>④ Refer to 10-6.<br>⑤ Check outdoor fan motor.<br>⑥⑦ Check operating condition of refrigerant circuit.<br><br>(Heating mode)<br>① Check clogs of the filter.<br>② Remove shields.<br>④ Refer to 10-6.<br>⑤ Check outdoor fan motor.<br>⑥~⑧Check operating condition of refrigerant circuit. |
| P8 | **Pipe temperature**<br><Cooling mode><br>Detected as abnormal when the pipe temperature is not in the cooling range 3 minutes after compressor start and 6 minutes after the liquid or condenser/evaporator pipe is out of cooling range.<br>Note 1) It takes at least 9 minutes to detect.<br>Note 2) Abnormality P8 is not detected in drying mode.<br>Cooling range : -3 °C ≧ (TH-TH1)<br>TH: Lower temperature between: liquid pipe temperature (TH2) and condenser/evaporator temperature (TH5)<br>TH1: Intake temperature<br><br><Heating mode><br>When 10 seconds have passed after the compressor starts operation and the hot adjustment mode has finished, the unit is detected as abnormal when condenser/evaporator pipe temperature is not in heating range within 20 minutes.<br><br>Note 3) It takes at least 27 minutes to detect abnormality.<br>Note 4) It excludes the period of defrosting. (Detection restarts when defrosting mode is over.)<br>Heating range : 3 °C ≦ (TH5-TH1) | ① Slight temperature difference between indoor room temperature and pipe <liquid or condenser / evaporator> temperature thermistor<br>• Shortage of refrigerant<br>• Disconnected holder of pipe <liquid or condenser / evaporator> thermistor<br>• Defective refrigerant circuit<br>② Converse connection of extension pipe (on plural units connection)<br>③ Converse wiring of indoor/outdoor unit connecting wire (on plural units connection)<br>④ Defective detection of indoor room temperature and pipe <condenser / evaporator> temperature thermistor<br>⑤ Stop valve is not opened completely. | ①~④ Check pipe <liquid or condenser / evaporator> temperature with room temperature display on remote controller and outdoor controller circuit board.<br>Pipe <liquid or condenser / evaporator> temperature display is indicated by setting SW2 of outdoor controller circuit board as follows.<br><br>(Conduct temperature check with outdoor controller circuit board after connecting 'A-Control Service Tool(PAC-SK52ST)'.)<br><br>②③Check converse connection of extension pipe or converse wiring of indoor/outdoor unit connecting wire. |

| Error Code | Abnormal point and detection method | Cause | Countermeasure |
|---|---|---|---|
| P9 | **Pipe temperature thermistor / Condenser-Evaporator (TH5)**<br>① The unit is in 3-minute resume protection mode if short/open of thermistor is detected. Abnormal if the unit does not get back to normal within 3 minutes. (The unit returns to normal operation, if it has been reset normally.)<br>② Constantly detected during cooling, drying, and heating operation (except defrosting)<br>Short: 90℃ or more<br>Open: -40℃ or less | ① Defective thermistor characteristics<br>② Contact failure of connector (CN44) on the indoor controller board (Insert failure)<br>③ Breaking of wire or contact failure of thermistor wiring<br>④ Temperature of thermistor is 90℃ or more or -40℃ or less caused by defective refrigerant circuit.<br>⑤ Defective indoor controller board | ①–③ Check resistance value of thermistor. For characteristics, refer to (P1) above.<br>② Check contact failure of connector (CN44) on the indoor controller board. Refer to 10-7. Turn the power on and check restart after inserting connector again.<br>④ Operate in test run mode and check pipe <condenser / evaporator> temperature with outdoor controller circuit board. If pipe <condenser / evaporator> temperature is extremely low (in cooling mode) or high (in heating mode), refrigerant circuit may have defect.<br>⑤ Operate in test run mode and check pipe <condenser / evaporator> temperature with outdoor control circuit board. If there is extreme difference with actual pipe <condenser / evaporator> temperature, replace indoor controller board. There is no abnormality if none of above comes within the unit. Turn the power off and on again to operate.<br>( In case of checking pipe temperature with outdoor controller circuit board, be sure to connect A-control service tool (PAC-SK52ST). ) |
| E0<br>or<br>E4 | **Remote controller transmission error(E0)/signal receiving error(E4)**<br>① Abnormal if main or sub remote controller cannot receive any transmission normally from indoor unit of refrigerant address “0” for 3 minutes. (Error code : E0)<br>② Abnormal if sub remote controller could not receive any signal for 2 minutes. (Error code: E0)<br><br>① Abnormal if indoor controller board can not receive any data normally from remote controller board or from other indoor controller board for 3 minutes. (Error code: E4)<br>② Indoor controller board cannot receive any signal from remote controller for 2 minutes. (Error code: E4) | ① Contact failure at transmission wire of remote controller<br>② All remote controllers are set as “sub” remote controller. In this case, E0 is displayed on remote controller, and E4 is displayed at LED (LED1, LED2) on the outdoor controller circuit board.<br>③ Miswiring of remote controller<br>④ Defective transmitting receiving circuit of remote controller<br>⑤ Defective transmitting receiving circuit of indoor controller board of refrigerant addresses “0”.<br>⑥ Noise has entered into the transmission wire of remote controller. | ① Check disconnection or looseness of indoor unit or transmission wire of remote controller.<br>② Set one of the remote controllers “main” if there is no problem with the action above.<br>③ Check wiring of remote controller.<br>• Total wiring length: max. 500m (Do not use cable x 3 or more.)<br>• The number of connecting indoor units: max. 16 units<br>• The number of connecting remote controller: max. 2 units<br><br>When it is not the above-mentioned problem of ①~③<br>④ Diagnose remote controllers.<br>a) When “RC OK” is displayed, Remote controllers have no problem. Turn the power off, and on again to check. If abnormality generates again, replace indoor controller board.<br>b) When “RC NG” is displayed, Replace remote controller.<br>c)When “RC E3” or “ERC 00-66” is displayed, noise may be causing abnormality.<br>* If the unit is not normal after replacing indoor controller board in group control, indoor controller board of address “0” may be abnormal. |
| E3<br>or<br>E5 | **Remote controller transmission error(E3)/signal receiving error(E5)**<br>① Abnormal if remote controller could not find blank of transmission path for 6 seconds and could not transmit. (Error code: E3)<br>② Remote controller receives transmitted data at the same time and compares the received and transmitted data. Abnormal if these data are judged to be different 30 continuous times. (Error code: E3)<br><br>① Abnormal if indoor controller board could not find blank of transmission path. (Error code: E5)<br>② Indoor controller board receives transmitted data at the same time and compares the received and transmitted data. Abnormal if these data are judged to be different 30 continuous times. (Error code: E5) | ① 2 remote controllers are set as “main.” (In case of 2 remote controllers)<br>② Remote controller is connected with 2 indoor units or more.<br>③ Repetition of refrigerant address<br>④ Defective transmitting receiving circuit of remote controller<br>⑤ Defective transmitting receiving circuit of indoor controller board<br>⑥ Noise has entered into transmission wire of remote controller. | ① Set a remote controller to main, and the other to sub.<br><br>② Remote controller is connected with only one indoor unit.<br>③ The address changes to a separate setting.<br><br>④~⑥ Diagnose remote controller.<br>a) When “RC OK” is displayed, remote controllers have no problem. Turn the power off,and on again to check. When becoming abnormal again, replace indoor controller board.<br>b)When “RC NG” is displayed, replace remote controller.<br>c)When “RC E3” or “ERC 00-66” is displayed, noise may be causing abnormality. |

| Error Code | Abnormal point and detection method | Cause | Countermeasure |
|---|---|---|---|
| E6 | **Indoor/outdoor unit communication error (Signal receiving error)**<br>① Abnormal if indoor controller board cannot receive any signal normally for 6 minutes after turning the power on.<br>② Abnormal if indoor controller board cannot receive any signal normally for 3 minutes.<br>③ Consider the unit abnormal under the following condition: When 2 or more indoor units are connected to an outdoor unit, indoor controller board cannot receive a signal for 3 minutes from outdoor controller circuit board, a signal which allows outdoor controller circuit board to transmit signals. | ① Contact failure, short circuit or, miswiring (converse wiring) of indoor/outdoor unit connecting wire<br>② Defective transmitting receiving circuit of indoor controller board<br>③ Defective transmitting receiving circuit of indoor controller board<br>④ Noise has entered into indoor/ outdoor unit connecting wire. | * Check LED display on the outdoor control circuit board. (Connect A-control service tool, PAC-SK52ST.) Refer to outdoor unit service manual.<br>① Check disconnection or looseness of indoor/ outdoor unit connecting wire of indoor unit or outdoor unit. Check all the units in case of twin triple indoor unit system.<br>②-④ Turn the power off, and on again to check. If abnormality generates again, replace indoor controller board or outdoor controller circuit board.<br>* Other indoor controller board may have defect in case of twin triple indoor unit system. |
| E7 | **Indoor/outdoor unit communication error (Transmitting error)**<br>Abnormal if "1" receiving is detected 30 times continuously though indoor controller board has transmitted "0". | ① Defective transmitting receiving circuit of indoor controller board<br>② Noise has entered into power supply.<br>③ Noise has entered into outdoor control wire. | ①-③ Turn the power off, and on again to check. If abnormality generates again, replace indoor controller board. |
| Fb | **Indoor controller board**<br>Abnormal if data cannot be read normally from the nonvolatile memory of the indoor controller board. | ① Defective indoor controller board | ① Replace indoor controller board. |
| E1<br>or<br>E2 | **Remote controller control board**<br>① Abnormal if data cannot be read normally from the nonvolatile memory of the remote controller control board. (Error code: E1)<br>② Abnormal if the clock function of remote controller cannot be operated normally. (Error code: E2) | ① Defective remote controller | ① Replace remote controller. |
| PA | **Forced compressor stop (due to water leakage abnormality)**<br>① When the intake temperature subtracted with liquid pipe temperature is less than -10℃, drain sensor is detected whether it is soaked in the water or not at the interval of 90 seconds. (Drain pump will start operating when the drain sensor is detected to be soaked in the water.)<br>② The unit has a water leakage abnormality when the following conditions, a and b, are satisfied while the above-mentioned detection is performed.<br>a) The drain sensor is detected to be soaked in the water 10 times in a row.<br>b) The intake temperature subtracted with liquid pipe temperature is detected to be less than -10℃ for a total of 30 minutes. (When the drain sensor is detected to be NOT soaked in the water, the detection record of a and b will be cleared.)<br>③ The drain sensor detection is performed in operations other than cooling. (When the unit stops operating, during heating or fan operation, when the unit stops because of some abnormality)<br>*Once the water leakage abnormality is detected, abnormality state will not be released until the main power is reset. | ① Drain pump trouble<br>② Drain defective<br>· Drain pump clogging<br>· Drain pipe clogging<br>③ Open circuit of drain sensor side heater<br>④ Contact failure of drain sensor connector<br>⑤ Dew condensation on drain sensor<br>· Drain water descends along lead wire.<br>· Drain water waving due to filter clogging.<br>⑥ Extension piping connection difference at twin, triple, quadruple system.<br>⑦ Mis-wiring of indoor/ outdoor connecting at twin, triple, quadruple system.<br>⑧ Room temperature thermistor / liquid pipe temperature thermistor detection is defective. | ① Check the drain pump.<br>② Please confirm whether water can be drained.<br>③ Confirm the resistance of the drain sensor.<br>④ Check the connector contact failure.<br>⑤ Check the drain sensor leadwire mounted. Check the filter clogging<br>⑥ Check the piping connection.<br>⑦ Check the indoor/ outdoor connecting wires.<br>⑧ Check the room temperature display of remote controller. Check the indoor liquid pipe temperature display of outdoor controller board. |

## 10-3. TROUBLESHOOTING BY INFERIOR PHENOMENA

Note: Refer to the manual of outdoor unit for the detail of remote controller.

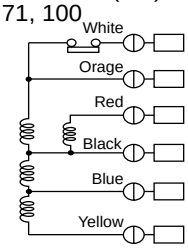
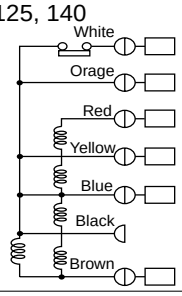
| Phenomena | Cause | Countermeasure |
|---|---|---|
| **(1)LED2 on indoor controller board is off.** | • When LED1 on indoor controller board is also off.<br>① Power supply of rated voltage is not supplied to outdoor unit. | ① Check the voltage of outdoor power supply terminal block (L, N) or (L3, N).<br>• When AC 220~240V is not detected. Check the power wiring to outdoor unit and the breaker.<br>• When AC 220~240V is detected. —Check ② (below). |
| | ② Defective outdoor controller circuit board. | ② Check the voltage between outdoor terminal block S1 and S2.<br>• When AC 220~240V is not detected. Check the fuse on outdoor controller circuit board. Check the wiring connection.<br>• When AC 220~240V is detected. —Check ③ (below). |
| | ③ Power supply of 220~240V is not supplied to indoor unit. | ③ Check the voltage between indoor terminal block S1 and S2.<br>• When AC 220~240V is not detected. Check indoor/outdoor unit connecting wire for mis-wiring.<br>• When AC 220~240V is detected. —Check ④ (below). |
| | ④ Defective indoor power board. | ④ Check voltage output from CN2S on indoor power board (DC13.1V). Refer to 10-6-1.<br>• When no voltage is output. Check the wiring connection.<br>• When output voltage is between DC12.5V and DC13.7V. —Check ⑤ (below). |
| | ⑤ Defective indoor controller board. | ⑤ Check the wiring connection between indoor controller board and indoor power board. Check the fuse on indoor controller board. If no problems are found, indoor controller board is defective. |
| | **(For the separate indoor/outdoor unit power supply system)**<br>① Power supply of 220~240V AC is not supplied to indoor unit. | ① Check the voltage of indoor power supply terminal block (L,N).<br>• When AC220~240V is not detected. Check the power supply wiring.<br>• When AC220~240V is detected. -Check ② (below). |
| | ② The connectors of the optional replacement kit are not used. | ② Check that there is no problem in the method of connecting the connectors.<br>• When there are problems in the method of connecting the connectors. Connect the connector correctly referring to installation manual of an optional kit.<br>• When there is no problem in the method of connecting the connectors. -Check ③ (below). |
| | ③ Defective indoor controller board. | ③ Check voltage output from CNDK on indoor controller board.<br>• When AC220~240V is not detected. Check the fuse on indoor controller board. Check the wiring connection between indoor power supply terminal block and CND on indoor controller board.<br>• When AC220~240V is detected. -Check ④ (below). |
| | ④ Defective indoor power board. | ④ Check voltage output from CN2S on indoor power board.<br>• When no voltage output. Check the wiring connection between CNDK on indoor controller board and CNSK on indoor power board. If no problem are found,indoor power board is defective.<br>• When DC12.5~13.7V is detected. Check the wiring connection between CN2S on indoor power board and CN2D on indoor power board. If no problem are found,indoor controller board is defective. |
| | • When LED1 on indoor controller board is lit.<br>① Mis-setting of refrigerant address for outdoor unit (There is no unit corresponding to refrigerant address “0”.) | ① Reconfirm the setting of refrigerant address for outdoor unit<br>Set the refrigerant address to “0”. (For grouping control system under<br>which 2 or more outdoor units are connected, set one of the units to “0”.)<br>Set refrigerant address using SW1 (3-6) on outdoor controller circuit board. |

Note: Refer to the manual of outdoor unit for the detail of remote controller.

| Phenomena | Cause | Countermeasure |
|---|---|---|
| **(2)LED2 on indoor controller board is blinking.** | • When LED1 on indoor controller board is also blinking. Connection failure of indoor/outdoor unit connecting wire | Check indoor/outdoor unit connecting wire for connection failure. |
| | • When LED1 is lit.<br>① Mis-wiring of remote controller wires<br>Under twin triple indoor unit system, 2 or more indoor units are wired together.<br>② Refrigerant address for outdoor unit is wrong or not set.<br>Under grouping control system, there are some units whose refrigerant address is 0.<br>③ Short-cut of remote controller wires<br>④ Defective remote controller | ① Check the connection of remote controller wires in case of twin triple indoor unit system. When 2 or more indoor units are wired in one refrigerant system, connect remote controller wires to one of those units.<br>② Check the setting of refrigerant address in case of grouping control system.<br>If there are some units whose refrigerant addresses are 0 in one group, set one of the units to 0 using SW1 (3-6) on outdoor controller circuit board.<br>③④ Remove remote controller wires and check LED2 on indoor controller board.<br>• When LED2 is blinking, check the short-cut of remote controller wires.<br>• When LED2 is lit, connect remote controller wires again and:<br>if LED2 is blinking, remote controller is defective; if LED2 is lit, connection failure of remote controller terminal block etc. has returned to normal. |
| **(3)Upward/downward vane performance failure** | ① The vane is not downward during defrosting and heat preparation and when the thermostat is OFF in HEAT mode. (Working of COOL protection function)<br>② Vane motor does not rotate.<br>• Defective vane motor<br>• Breaking of wire or connection failure of connector<br>• Up/down vane setting is “No vanes”.<br>③ Upward/downward vane does not work.<br>• The vane is set to fixed position. | ① Normal operation (The vane is set to horizontal regardless of remote control.)<br>② Check ② (left).<br>• Check the vane motor. (Refer to “How to check the parts”.)<br>• Check for breaking of wire or connection failure of connector.<br>• Check “Up/down vane setting”. (Unit function selection by remote controller).<br>③ Normal operation (Each connector on vane motor side is disconnected.) |
| **(4)Receiver for wireless remote controller** | ① Weak batteries of wireless remote controller.<br>② Contact failure of connector (CNB) on wireless remote controller board.<br>(Insert failure)<br>③ Contact failure of connector (CN90) on indoor controller board.(Insert failure)<br>④ Contact failure of connector between wireless remote controller board and indoor controller board. | ① Replace batteries of wireless remote controller.<br>②~④<br>Check contact failure of each connector. If no problems are found of connector, replace indoor controller board.<br>When the same trouble occurs even if indoor controller board is replaced, replace wireless remote controller board. |

## 10-5. HOW TO CHECK THE PARTS

**PSA-RP71GA PSA-RP100GA PSA-RP125GA PSA-RP140GA**
**PSA-RP71GA#1 PSA-RP100GA#1 PSA-RP125GA#1 PSA-RP140GA#1**
**PSH-P71GAH PSH-P100GAH PSH-P125GAH PSH-P140GAH**

<table>
<tr><th>Parts name</th><th>Check points</th></tr>
<tr><td>Room temperature thermistor (TH1)<br>Pipe temperature thermistor (TH2)<br>Condenser/evaporator temperature thermistor (TH5)</td><td>Disconnect the connector then measure the resistance using a tester.<br>(Surrounding temperature 10℃~30℃)<br><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 <Thermistor Characteristic graph> for a detail.)</td></tr>
<tr><td>Fan motor(MF)<br>71, 100<br> 
<br>125, 140<br> 
</td><td>Measure the resistance between the terminals using a tester.<br>(Winding temperature 20℃)<br><table><tr><th rowspan="2">Motor terminal<br>or<br>Relay connector</th><th colspan="2">Normal</th><th rowspan="2">Abnormal</th></tr><tr><th>71</th><th>100</th></tr><tr><td>White–Black</td><td>112.1Ω</td><td>91.5Ω</td><td rowspan="4">Open or short</td></tr><tr><td>Black–Blue</td><td>22.1Ω</td><td>18.0Ω</td></tr><tr><td>Blue–Yellow</td><td>41.0Ω</td><td>29.6Ω</td></tr><tr><td>Black–Red</td><td>178.5Ω</td><td>174.9Ω</td></tr></table><table><tr><th rowspan="2">Motor terminal<br>or<br>Relay connector</th><th colspan="2">Normal</th><th rowspan="2">Abnormal</th></tr><tr><th>125</th><th>140</th></tr><tr><td>White–Brown</td><td>28.0Ω</td><td>21.7Ω</td><td rowspan="5">Open or short</td></tr><tr><td>Brown–Black</td><td>6.9Ω</td><td>7.8Ω</td></tr><tr><td>Black–Blue</td><td>13.3Ω</td><td>14.3Ω</td></tr><tr><td>Blue–Yellow</td><td>8.4Ω</td><td>7.7Ω</td></tr><tr><td>Yellow–Red</td><td>53.6Ω</td><td>54.4Ω</td></tr></table></td></tr>
<tr><td>Louver motor(ML)</td><td>Measure the resistance between the terminals using a tester.<br>(Surrounding temperature 25℃)<br><table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>11000~13000Ω</td><td>Open or short</td></tr></table></td></tr>
<tr><td>Heater(H)<br>(Only PSH)</td><td>Measure the resistance of each heater element by using a tester.<br><table><tr><th colspan="3">Normal</th><th>Abnormal</th></tr><tr><td>71</td><td>100</td><td>125, 140</td><td rowspan="3">Open or short</td></tr><tr><td>18.9Ω</td><td>14.7Ω</td><td>13.2Ω</td></tr><tr><td>0.7kW 80V</td><td>0.9kW 80V</td><td>1kW 80V</td></tr></table></td></tr>
</table>

<Thermistor Characteristic graph>

Thermistor for lower temperature

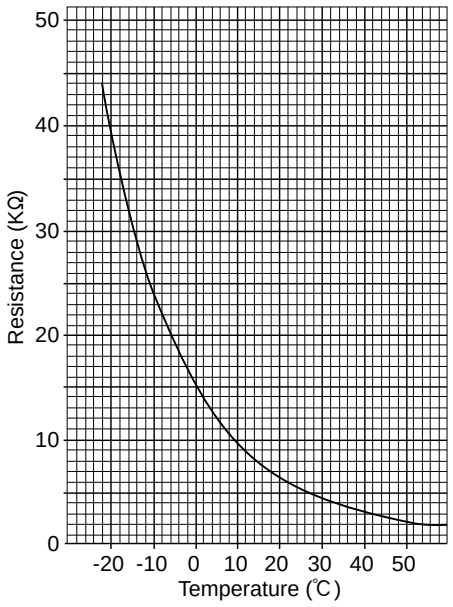
Room temperature thermistor(TH1)
Pipe temperature thermistor(TH2)
Condenser/evaporator temperature thermistor(TH5)

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

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

0℃ 15kΩ
10℃ 9.6kΩ
20℃ 6.3kΩ
25℃ 5.4kΩ
30℃ 4.3kΩ
40℃ 3.0kΩ

< Thermistor for lower temperature >

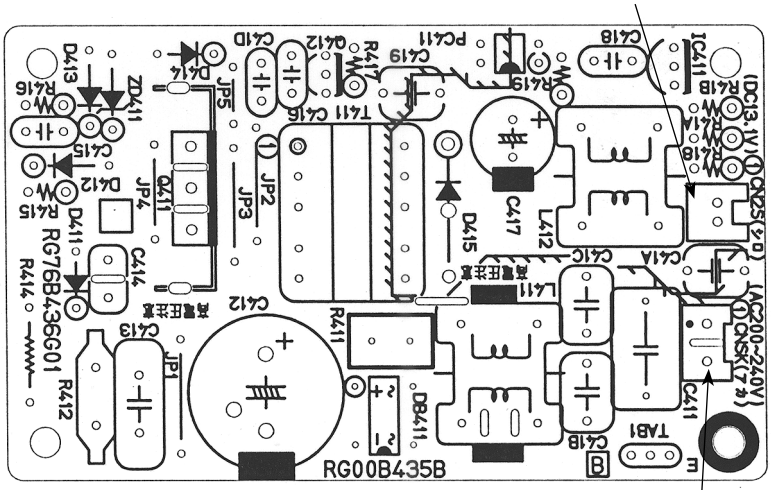


## 10-6. TEST POINT DIAGRAM

### 10-6-1. Power board

| | | | |
|---|---|---|---|
| **PSA-RP71GA** | **PSA-RP100GA** | **PSA-RP125GA** | **PSA-RP140GA** |
| **PSA-RP71GA#1** | **PSA-RP100GA#1** | **PSA-RP125GA#1** | **PSA-RP140GA#1** |
| **PSH-P71GAH** | **PSH-P100GAH** | **PSH-P125GAH** | **PSH-P140GAH** |

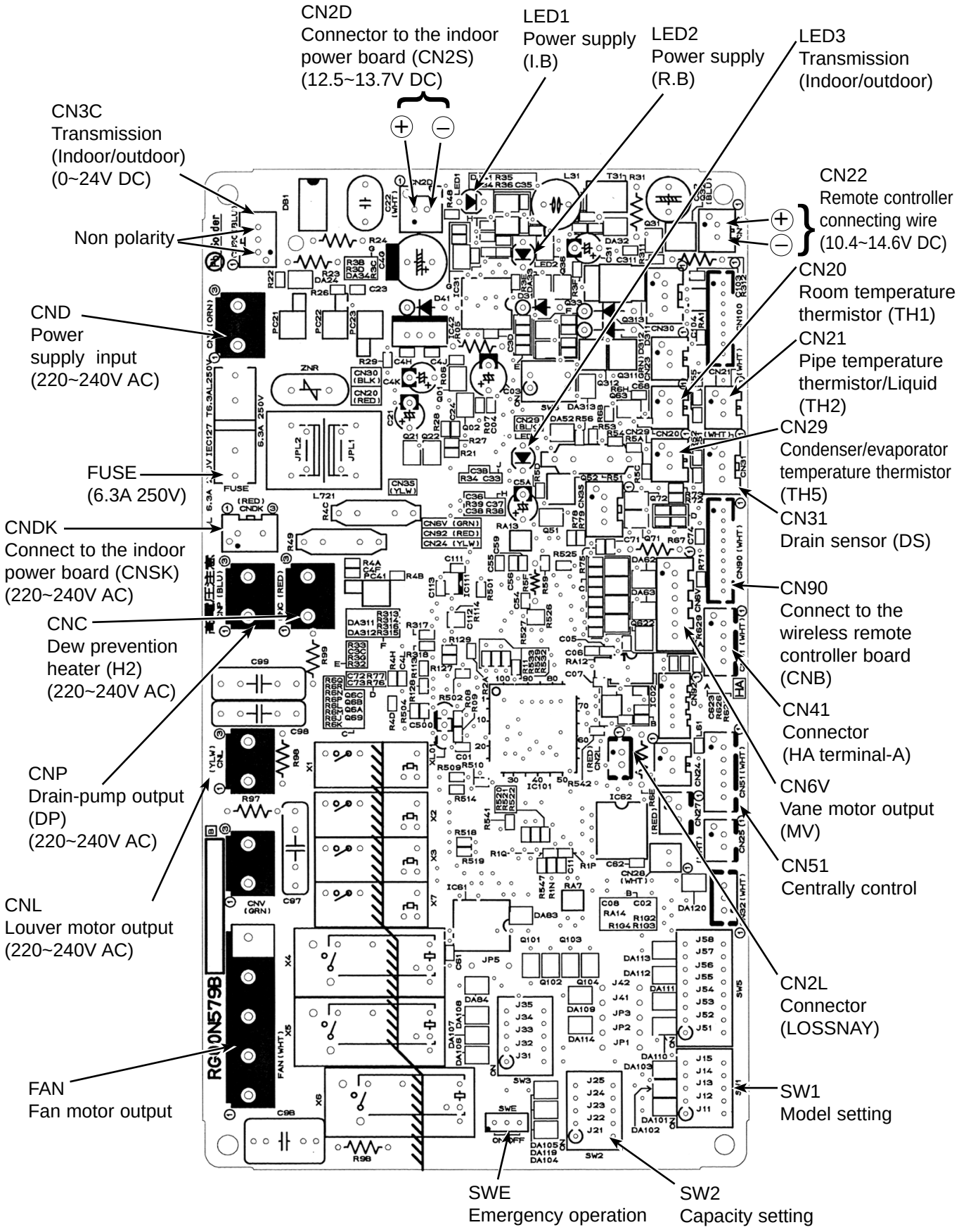
CN2S
Connect to the indoor controller board (CN2D)
Between ① to ③ 12.6-13.7V DC (Pin① (+))




CNSK
Connect to the indoor controller board (CNDK)
Between ① to ③ 220-240V AC

**10-6-2. Indoor controller board**

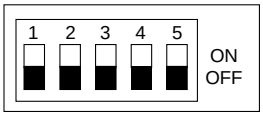
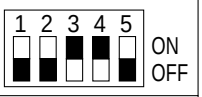
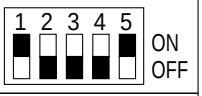
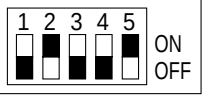
| | | | |
|---|---|---|---|
| **PSA-RP71GA** | **PSA-RP100GA** | **PSA-RP125GA** | **PSA-RP140GA** |
| **PSA-RP71GA#1** | **PSA-RP100GA#1** | **PSA-RP125GA#1** | **PSA-RP140GA#1** |
| **PSH-P71GAH** | **PSH-P100GAH** | **PSH-P125GAH** | **PSH-P140GAH** |



## 10-7. FUNCTIONS OF DIP SWITCH AND JUMPER WIRE

**Each function is controlled by the dip switch and the jumper wire on control P.C. board.**
**SW1 and SW2 are equipped only for service parts.**
**Model setting and capacity setting are memorized in the nonvolatile memory of the control P.C. board of the unit.**

(Marks in the table below) Jumper wire (○ : Short × : Open)

<table>
<tr><th>Jumper wire</th><th>Functions</th><th>Setting by the dip switch and jumper wire</th><th>Remarks</th></tr>
<tr><td>SW1</td><td>Model settings</td><td>For service board<br> 
</td><td></td></tr>
<tr><td>SW2</td><td>Capacity settings</td><td>
<table>
<tr><th>MODELS</th><th>Service board</th></tr>
<tr><td>PSA-RP71GA<br>PSH-P71GAH</td><td> 
</td></tr>
<tr><td>PSA-RP100GA<br>PSH-P100GAH</td><td> 
</td></tr>
<tr><td>PSA-RP125GA<br>PSH-P125GAH</td><td> 
</td></tr>
<tr><td>PSA-RP140GA<br>PSH-P140GAH</td><td> 
</td></tr>
</table>
</td><td></td></tr>
<tr><td>J41<br>J42</td><td>Pair number setting with wireless remote controller</td><td>
<table>
<tr><th rowspan="2">Wireless remote controller setting</th><th colspan="2">Control PCB setting</th></tr>
<tr><th>J41</th><th>J42</th></tr>
<tr><td>0</td><td>○</td><td>○</td></tr>
<tr><td>1</td><td>×</td><td>○</td></tr>
<tr><td>2</td><td>○</td><td>×</td></tr>
<tr><td>3 ~ 9</td><td>×</td><td>×</td></tr>
</table>
</td><td><Initial setting><br>Wireless remote controller: 0<br>Control PCB:○ (for both J41 and J42)<br>Four pair number settings are supported.<br>The pair number settings of the wireless remote controller and indoor control PCB (J41/J42) are given in the table on the left.<br>('×' in the table indicates the jumper line is disconnected.)</td></tr>
<tr><td>JP1</td><td>Unit type setting</td><td>
<table>
<tr><th>Model</th><th>JP1</th></tr>
<tr><td>Without TH5</td><td>○</td></tr>
<tr><td>With TH5</td><td>×</td></tr>
</table>
</td><td>There is no jumper (JP1) because these models have the cond./eva. temperature thermistor (TH5).</td></tr>
<tr><td>JP3</td><td>Indoor controller board type setting</td><td>
<table>
<tr><th>Indoor controller board type</th><th>JP3</th></tr>
<tr><td>For product</td><td>×</td></tr>
<tr><td>Service parts</td><td>○</td></tr>
</table>
</td><td></td></tr>
</table>

# 11 SPECIAL FUNCTION

## 11-1. ROTATION FUNCTION(AND BACK-UP FUNCTION, 2ND STAGE CUT-IN FUNCTION)

**For PSA-RP71/100/125/140GA#1**

### 11-1-1. Operation

**(1) Rotation function (and Back-up function)**

**• Outline of functions**

· Main and sub unit operate alternately according to the interval of rotation setting.

※ Main and sub unit should be set by refrigerant address.(Outdoor Dip switch setting)
Refrigerant address"00"⟶ Main unit
Refrigerant address"01"⟶ Sub unit

· When error occurrs to one unit, another unit will start operation.(Back-up function)

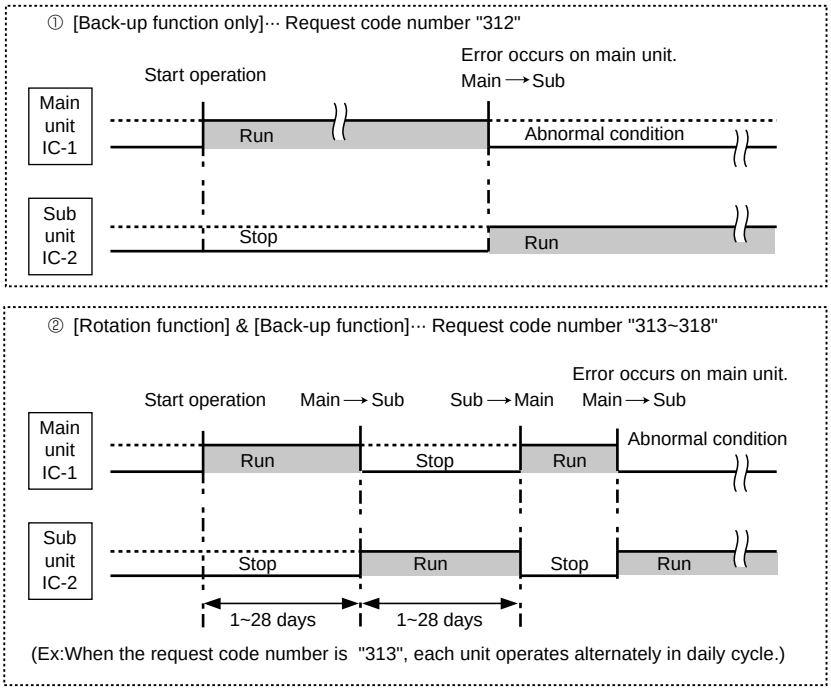
**• System constraint**

· This function is available only by the grouping control system(INDOOR UNIT : OUTDOOR UNIT=1:1) of 2 refrigerant groups.(Refer to Fig. 1)

· Main indoor unit should be connected for wired remote controller and the transmission line(TB5) for main and sub unit should also be connected. (Refer to Fig. 1)
(This function cannot be set by wireless remote controller.)

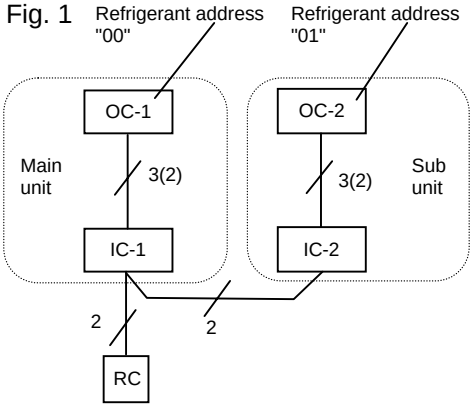
· Set refrigerant address of each unit.(Dip switch on the outdoor unit···Refrigerant address 00/01)

Operation pattern




(Ex:When the request code number is "313", each unit operates alternately in daily cycle.)

Fig. 1




OC : Outdoor unit
IC : Indoor unit
RC : Wired remote controller

Note:

· When the uint is restarted to operate after turning off the power or OFF operation, the unit which was operating will start operation.

· To operate the main unit, refer to the 11-1-2. and set the requet code No. which is not the same as the current one, and set again the former request code No.

**(2) 2nd stage cut-in function**

**• Outline of functions**

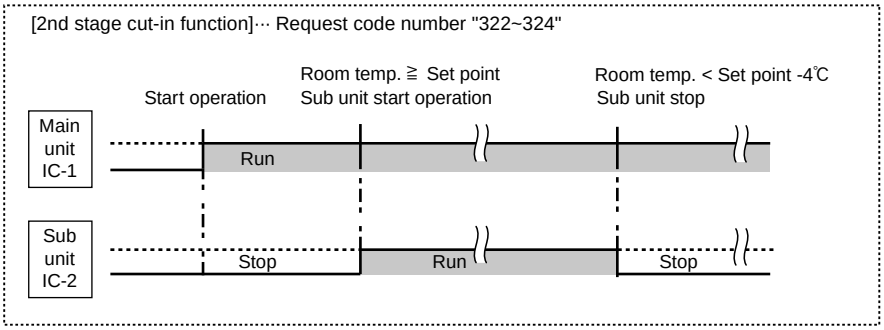
· Number of operating units is determined according to the room temperature and set point.

· When room temperature becomes higher than set point, standby unit starts.(2 units operation)

· When room temperature falls below set point -4℃, standby unit stops.(1 unit operation)

**• System constraint**

· This function is available only in rotation operation and back-up function in cooling mode.



**11-1-2. How to set rotation function(Back-up function, 2nd stage cut-in function)**
You can set these functions by wired remote controller.(Maintenance monitor)

NOTICE

Both main and sub unit should be set in same setting.
Every time replacing indoor controller board for servicing, the function should be set again.

**(1) Request Code List**

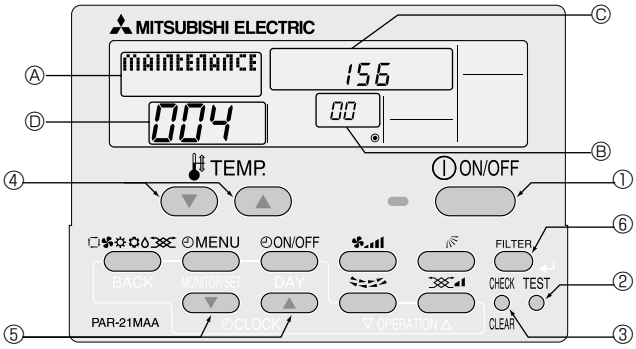
Rotation setting

| Setting No. (Request code) | Setting contents | Initial setting |
|---|---|---|
| No.1 (310) | Monitoring the request code of current setting. | |
| No.2 (311) | Rotation and Back-up OFF (Normal group control operation) | ◎ |
| No.3 (312) | Back-up function only | |
| No.4 (313) | Rotation ON (Alternating interval = 1day) and back up function | |
| No.5 (314) | Rotation ON (Alternating interval = 3day) and back up function | |
| No.6 (315) | Rotation ON (Alternating interval = 5day) and back up function | |
| No.7 (316) | Rotation ON (Alternating interval = 7day) and back up function | |
| No.8 (317) | Rotation ON (Alternating interval = 14day) and back up function | |
| No.9 (318) | Rotation ON (Alternating interval = 28day) and back up function | |

2nd stage cut-in setting

| Setting No. (Request code) | Setting contents | Initial setting |
|---|---|---|
| No.1 (320) | Monitoring the request code of current setting. | |
| No.2 (321) | Cut-in function OFF | ◎ |
| No.3 (322) | Cut-in Function ON(Set point = Set temp.+ 4°C(7.2°F)) | |
| No.4 (323) | Cut-in Function ON(Set point = Set temp.+ 6°C(10.8°F)) | |
| No.5 (324) | Cut-in Function ON(Set point = Set temp.+ 8°C(14.4°F)) | |

**(2) Setting method of each function by wired remote controller**




B: Refrigerant address
C: Data display area
D: Request code display area

1. Stop operation(①).

2. Press the (TEST) button (②) for 3 seconds so that [Maintenance mode] appears on the screen (Ⓐ).
   After a while, [00] appears in the refrigerant address number display area.(at Ⓑ )

3. Press the (CHECK) button (③) for 3 seconds to switch to [Maintenance monitor].
   Note) It is not possible to switch to [Maintenance monitor] during data request in maintenance mode
   (i.e., while "----" is blinking) since no buttons are operative.

   [----] appears on the screen (Ⓓ) when [Maintenance monitor] is activated.
   (The display (Ⓓ) now allows you to set a request code No.)

4. Press the [TEMP ( ▽ and △ )] buttons (④) to select the desired refrigerant address.

   [ScreenB] 00 ⟷ 01 ⟷ ····· ⟷ 15

5. Press the [CLOCK ( ▽ and △ )] buttons (⑤) to set the desired request code No.("311~318", "321~324")

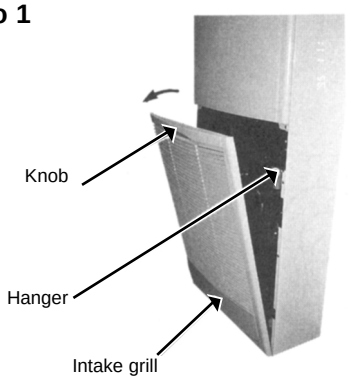
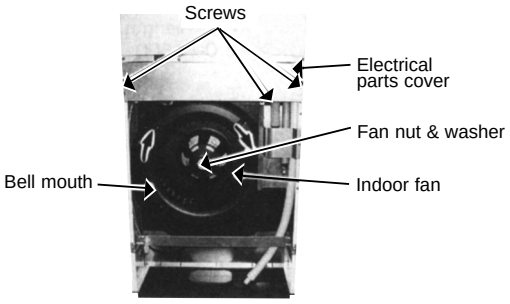
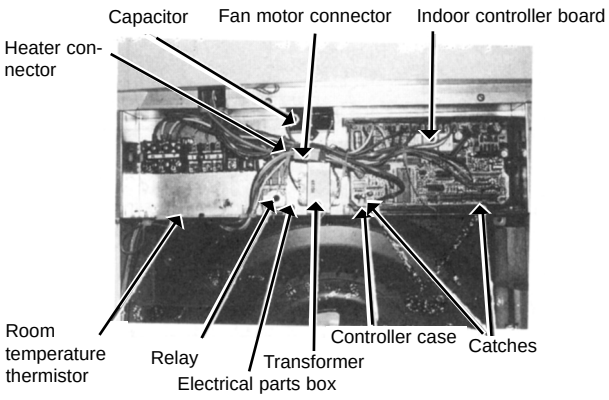
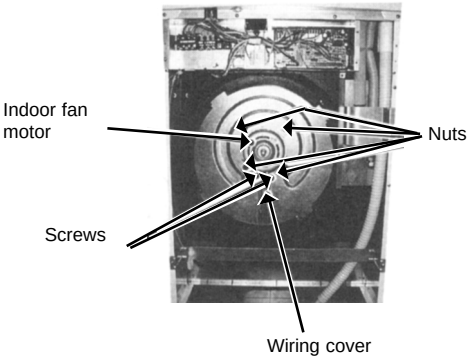
6. Press the (FILTER) button (⑥) to perform function setting.
   If above setting operations are done correctly, "Request code number" will appear in data display area.(Ⓒ)
   [Example: When the "311" of "Request code number" is set, [311] appears on the screen.(Ⓒ)]

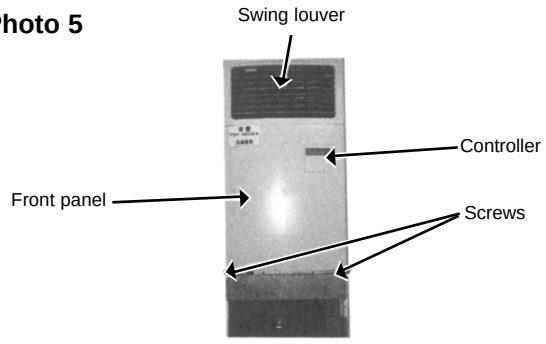
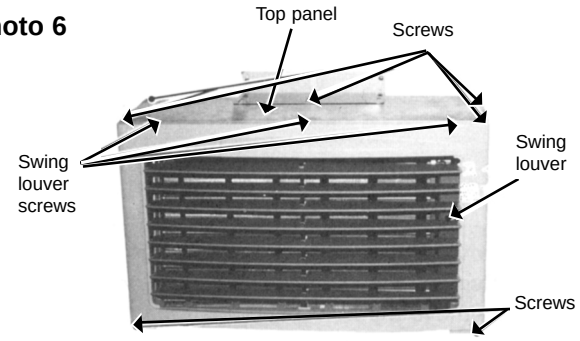
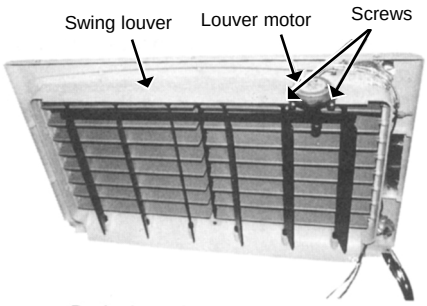
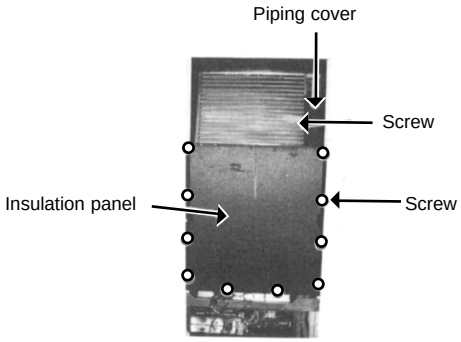
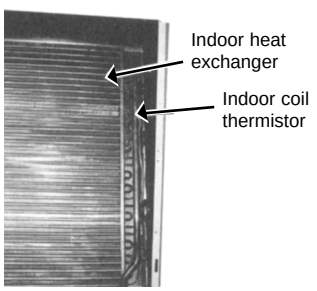
[Refererence]
You can check current "request code number" setting by setting the "request code number"("310" or "320") and pressing the (FILTER) button.(⑥)
[Example: When the current setting is "Setting No.2(Request code 311)", [311] appears on the screen.(Ⓒ)]

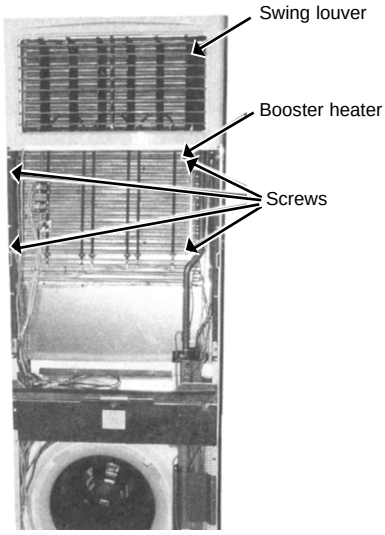
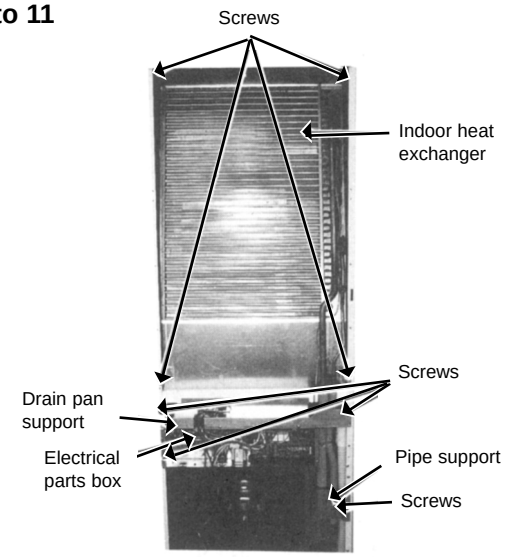
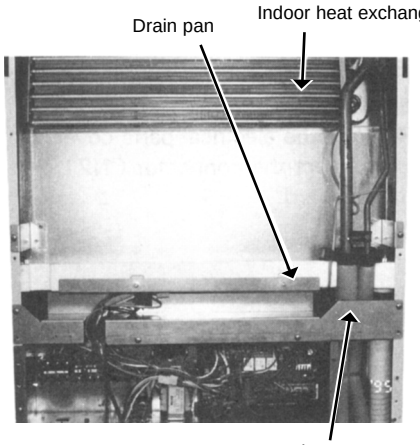
7. To return to normal mode, press the (ON/OFF) button (①).

# 12 DISASSEMBLY PROCEDURE

**PSH-P71GAH PSH-P100GAH PSH-P125GAH PSH-P140GAH**
**PSA-RP71GA PSA-RP100GA PSA-RP125GA PSA-RP140GA**
**PSA-RP71GA#1 PSA-RP100GA#1 PSA-RP125GA#1 PSA-RP140GA#1**

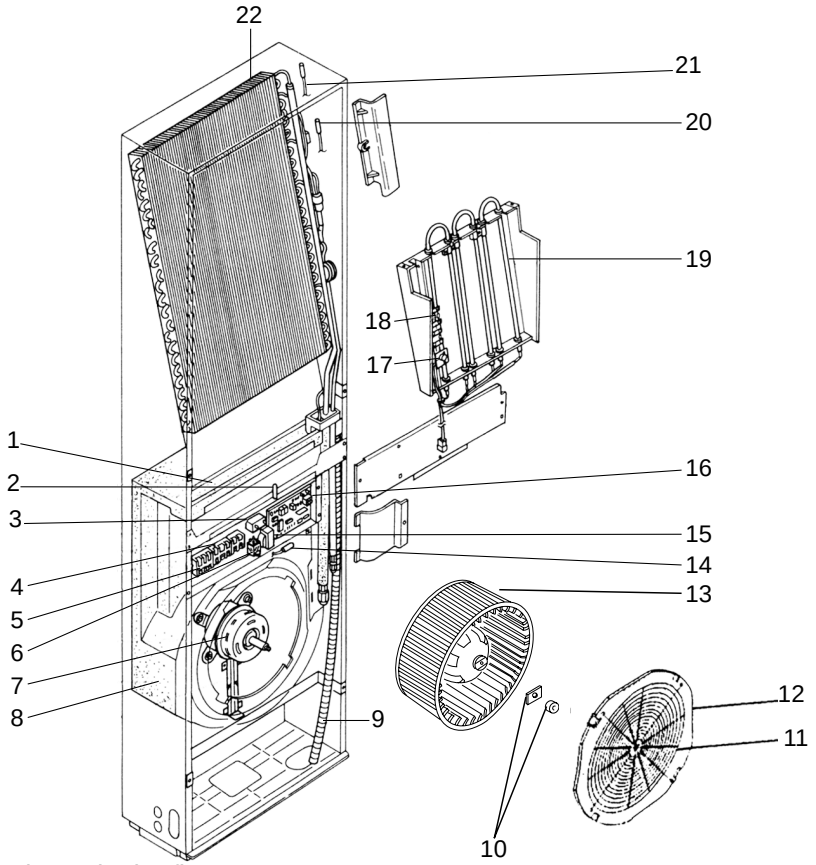
| OPERATING PROCEDURE | PHOTOS |
|---|---|
| **1. Removing the intake grille**<br>(1) Remove the screw at the centre of the knob of the intake grille.<br>(2) Pull the knob of the intake grille toward you.<br>(3) Remove the 2 hangers.<br>(4) Lift the intake grille to remove. | **Photo 1**<br>  <br> |
| **2. Removing the indoor controller board**<br>(1) Remove the intake grille.<br>(2) Remove the 3 screws of the electrical parts cover and remove the electrical parts cover.<br>(3) Disconnect the fan motor connector and the connectors on the indoor controller board.<br>(4) Unhook the catch of the controller case by opening, and remove the indoor controller board. | **Photo 2**<br>  <br> |
| **3. Removing the room temperature thermistor**<br>(1) Remove the intake grille.<br>(2) Remove the electrical parts cover.<br>(3) Take out the room temperature thermistor with the holder. (See Photo 3.)<br>(4) Pull the room temperature thermistor out of the holder.<br>(5) Disconnect the red connector CN20 on the indoor controller board. | **Photo 3**<br>  <br> |
| **4. Removing the indoor fan and the indoor fan motor**<br>(1) Remove the intake grille.<br>(2) Remove the fan GUARD.<br>(3) Turn the bell mouth clockwise to remove.<br>(4) Remove the fan nut and the washer.<br>(5) Pull out the indoor fan. (See Photo 2.)<br>(6) Remove the 2 screws of the wiring cover and remove the wiring cover.<br>(7) Remove the 4 fan-motor nuts and remove the indoor fan motor.<br>(8) Remove the electrical parts cover.<br>(9) Disconnect the fan motor connector. (See Photo 3.) | **Photo 4**<br>  <br> |

| OPERATING PROCEDURE | PHOTOS |
|---|---|
| **5. Removing the front panel**<br>(1) Remove the intake grille.<br>(2) Remove the 2 screws at the lower part of the front panel.<br>(3) Pull the front panel down to remove.<br>(4) Disconnect the blue connector of the controller. | **Photo 5**<br>  <br> |
| **6. Removing the louver motor**<br>(1) Remove the intake grille.<br>(2) Remove the front panel.<br>(3) Remove the 5 screws of the swing louver and remove the swing louver.<br>(4) Remove the 2 screws of the louver motor and remove the louver motor.<br>(5) Remove the electrical parts cover.<br>(6) Disconnect the yellow connector CNL (LOUVER) on the indoor controller board. | **Photo 6**<br>  <br><br>**Photo 7**<br>  <br><br><Back view of swing louver> |
| **7. Removing the indoor coil thermistor**<br>(1) Remove the intake grille.<br>(2) Remove the front panel.<br>(3) Remove the 10 screws of the insulation panel and remove the insulation panel .<br>(4) Remove the swing louver.<br>(5) Remove the screw of the piping cover and remove the piping cover.<br>(6) Remove the indoor coil thermistor from the holder on the copper pipe.<br>(7) Remove the electrical parts cover.<br>(8) Disconnect the connector CN21 on the indoor controller board. | **Photo 8**<br>  <br><br>**Photo 9**<br>  <br> |

| OPERATING PROCEDURE | PHOTOS |
|---|---|
| **8. Removing the booster heater**<br>(1) Remove the intake grille.<br>(2) Remove the front panel.<br>(3) Remove the insulation panel.<br>(4) Remove the green connector of the heater. | **Photo 10**<br>  <br> |
| **9. Removing the indoor heat exchanger**<br>(1) Remove the intake grille.<br>(2) Remove the front panel.<br>(3) Remove the insulation panel.<br>(4) Remove the 6 screws of the top panel and remove the top panel.<br>(5) Remove the swing louver.<br>(6) Remove the electrical parts box.<br>(7) Remove the 3 screws of the drain pan support and remove the drain pan support.<br>(8) Remove the 4 screws of the indoor heat exchanger to remove it. | **Photo 11**<br>  <br> |
| **10. Removing the drain pan**<br>(1) Remove the intake grille.<br>(2) Remove the front panel.<br>(3) Remove the insulation panel.<br>(4) Remove the top panel.<br>(5) Remove the swing louver.<br>(6) Remove the electrical parts box and the drain pan support.<br>(7) Remove the pipe support.<br>(8) Remove the drain pan. | **Photo 12**<br>  <br> |

# 13 PARTS LIST (non-RoHS compliant)

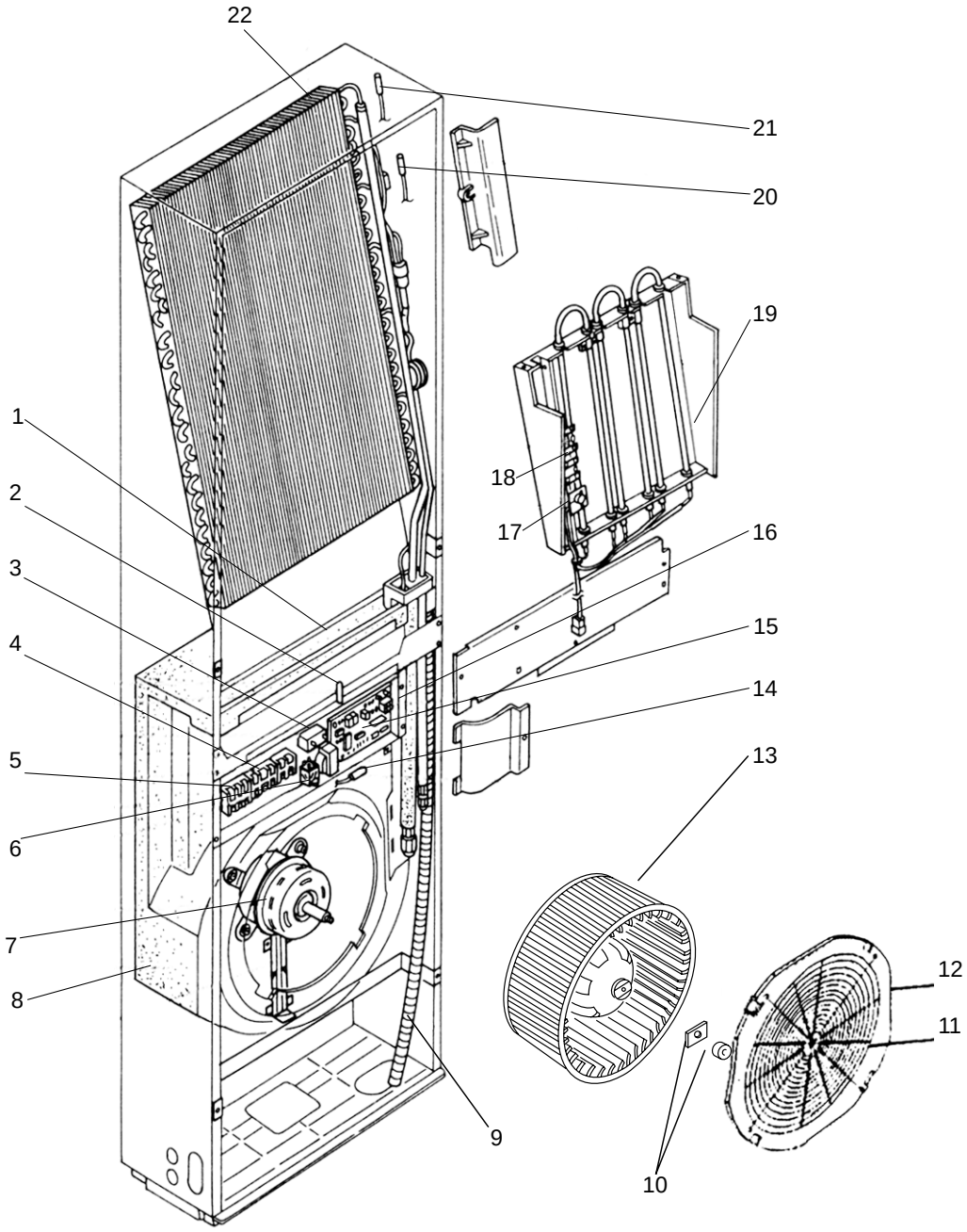
**FUNCTIONAL PARTS**
**PSH-P71GAH**
**PSH-P100GAH**
**PSA-RP71GA**
**PSA-RP100GA**




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

| No. | Part No. | Part Name | Specification | PSH-P | | PSA-RP | | Remarks (Drawing No.) | Wiring Diagram Symbol | Recommended Q'ty |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 71 | 100 | 71 | 100 | | | |
| | | | | GAH | | GA | | | | |
| 1 | R01 A28 529 | DRAIN PAN | | 1 | 1 | 1 | 1 | | | |
| 2 | R01 E02 239 | FUSE | 250V 6.3A | 1 | 1 | 1 | 1 | | FUSE | |
| 3 | R01 580 255 | FAN MOTOR CAPACITOR | 3.5μF 440V | 1 | | 1 | | | C | |
| | R01 E01 255 | FAN MOTOR CAPACITOR | 4.0μF 440V | | 1 | | 1 | | C | |
| 4 | T7W E23 716 | TERMINAL BLOCK | (S1,S2,S3) | 1 | 1 | 1 | 1 | | TB4 | |
| 5 | T7W A14 716 | TERMINAL BLOCK | (L,N,⏚) | 1 | 1 | | | | TB2 | |
| 6 | R01 71G 215 | HEATER RELAY | LY-3F 12VDC | 1 | 1 | | | | 88H | |
| 7 | T7W 551 762 | FAN MOTOR | PA8V30-SB | 1 | | 1 | | | MF | |
| | T7W 552 762 | FAN MOTOR | PA8V70-SB | | 1 | | 1 | | MF | |
| 8 | R01 71G 117 | SCROLL | | 1 | | 1 | | | | |
| | R01 85G 117 | SCROLL | | | 1 | | 1 | | | |
| 9 | R01 71G 527 | DRAIN HOSE | | 1 | 1 | 1 | 1 | | | |
| 10 | R01 08K 097 | SPL WASHER | | 1 | 1 | 1 | 1 | | | |
| 11 | R01 A28 675 | FAN GUARD | | 1 | 1 | 1 | 1 | | | |
| 12 | R01 E00 119 | BELL MOUTH | | 1 | 1 | 1 | 1 | | | |
| 13 | R01 71G 114 | SIROCCO FAN | | 1 | | 1 | | | | |
| | R01 85G 114 | SIROCCO FAN | | | 1 | | 1 | | | |
| 14 | R01 E41 202 | THERMISTOR (ROOM TEMPERATURE) | | 1 | 1 | 1 | 1 | | TH1 | |
| 15 | R01 E02 313 | POWER BOARD | | 1 | 1 | 1 | 1 | | P.B | |
| 16 | T7W E41 310 | INDOOR CONTROLLER BOARD | | 1 | 1 | 1 | 1 | | I.B | |
| 17 | R01 110 700 | HEATER THERMAL SWITCH | OFF80℃ ON60℃ | 1 | 1 | | | | 26H | |
| 18 | T7W 23J 706 | THERMAL FUSE | 110℃ 16A 250V | 1 | 1 | | | | FS1,2 | |
| 19 | T7W E02 300 | HEATER ELEMENT | 700W 80V | 3 | | | | | H | |
| | T7W E14 300 | HEATER ELEMENT | 900W 80V | | 3 | | | | H | |
| 20 | R01 E44 202 | THERMISTOR (PIPE TEMPERATURE) | | 1 | 1 | 1 | 1 | | TH2 | |
| 21 | T7W E23 202 | THERMISTOR (COND TEMPERATURE) | | 1 | 1 | 1 | 1 | | TH5 | |
| 22 | T7W E32 480 | HEAT EXCHANGER | | 1 | | 1 | | | | |
| | T7W E33 480 | HEAT EXCHANGER | | | 1 | | | | | |
| | T7W E59 480 | HEAT EXCHANGER | | | | | 1 | | | |
| ㉓ | T7W E00 675 | HEATER GUARD | | 1 | | | | | | |
| ㉔ | R01 20J 303 | INSULATOR | | 1 | 1 | | | | | |
| ㉕ | R01 18J 303 | INSULATOR | | 6 | 6 | | | | | |

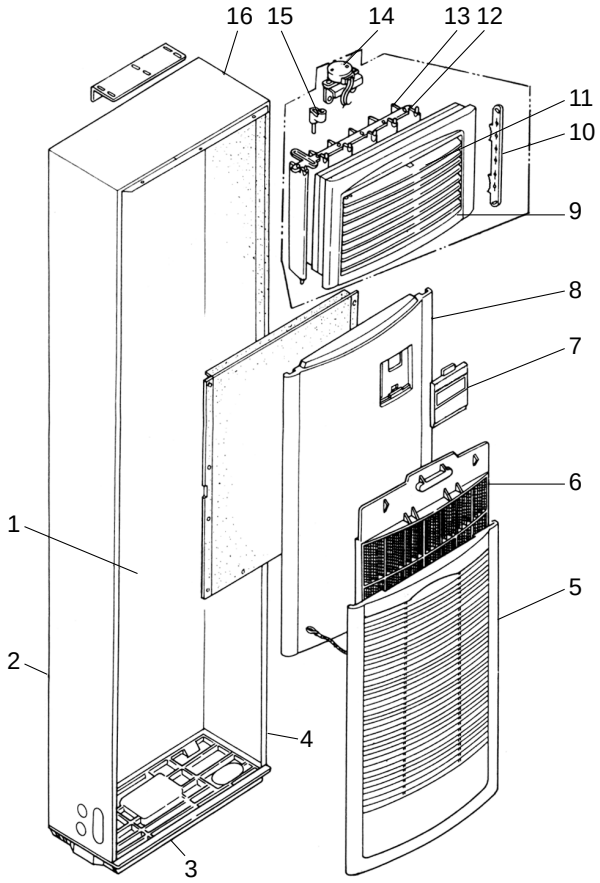
**FUNCTIONAL PARTS**
**PSH-P125GAH**
**PSH-P140GAH**
**PSA-RP125GA**
**PSA-RP140GA**



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

| No. | Part No. | Part Name | Specification | PSH-P | | PSA-RP | | Remarks (Drawing No.) | Wiring Diagram Symbol | Recommended Q'ty |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 125 | 140 | 125 | 140 | | | |
| | | | | GAH | | GA | | | | |
| 1 | R01 A28 529 | DRAIN PAN | | 1 | 1 | 1 | 1 | | | |
| 2 | R01 E02 239 | FUSE | 250V 6.3A | 1 | 1 | 1 | 1 | | FUSE | |
| 3 | R01 736 255 | FAN MOTOR CAPACITOR | 5.0μF 440V | 1 | 1 | 1 | 1 | | C | |
| 4 | T7W E23 716 | TERMINAL BLOCK | (S1,S2,S3) | 1 | 1 | 1 | 1 | | TB4 | |
| 5 | T7W A14 716 | TERMINAL BLOCK | (L,N,⏚) | 1 | 1 | | | | TB2 | |
| 6 | R01 71G 215 | HEATER RELAY | LY-3F 12VDC | 1 | 1 | | | | 88H | |
| 7 | T7W 553 762 | FAN MOTOR | PA8V110-SB | 1 | | 1 | | | MF | |
| | T7W 554 762 | FAN MOTOR | PA8V120-SB | | 1 | | 1 | | MF | |
| 8 | R01 85G 117 | SCROLL | | 1 | 1 | 1 | 1 | | | |
| 9 | R01 71G 527 | DRAIN HOSE | | 1 | 1 | 1 | 1 | | | |
| 10 | R01 08K 097 | SPL WASHER | | 1 | 1 | 1 | 1 | | | |
| 11 | R01 A28 675 | FAN GUARD | | 1 | 1 | 1 | 1 | | | |
| 12 | R01 E00 119 | BELL MOUTH | | 1 | 1 | 1 | 1 | | | |
| 13 | R01 85G 114 | SIROCCO FAN | | 1 | 1 | 1 | 1 | | | |
| 14 | R01 E41 202 | THERMISTOR (ROOM TEMPERATURE) | | 1 | 1 | 1 | 1 | | TH1 | |
| 15 | R01 E02 313 | POWER BOARD | | 1 | 1 | 1 | 1 | | P.B | |
| 16 | T7W E41 310 | INDOOR CONTROLLER BOARD | | 1 | 1 | 1 | 1 | | I.B | |
| 17 | R01 110 700 | HEATER THERMAL SWITCH | OFF80℃ ON60℃ | 1 | 1 | | | | 26H | |
| 18 | T7W 23J 706 | THERMAL FUSE | 110℃ 16A 250V | 1 | 1 | | | | FS1,2 | |
| 19 | T7W 553 300 | HEATER ELEMENT | 1000W 80V | 3 | 3 | | | | H | |
| 20 | R01 E44 202 | THERMISTOR (PIPE TEMPERATURE) | | 1 | 1 | 1 | 1 | | TH2 | |
| 21 | T7W E23 202 | THERMISTOR (COND TEMPERATURE) | | 1 | 1 | 1 | 1 | | TH5 | |
| 22 | T7W E34 480 | HEAT EXCHANGER | | 1 | | | | | | |
| | T7W E35 480 | HEAT EXCHANGER | | | 1 | | | | | |
| | T7W E60 480 | HEAT EXCHANGER | | | | 1 | | | | |
| | T7W E61 480 | HEAT EXCHANGER | | | | | 1 | | | |
| ㉓ | R01 20J 303 | INSULATOR | | 1 | 1 | | | | | |
| ㉔ | R01 18J 303 | INSULATOR | | 6 | 6 | | | | | |

## STRUCTURAL PARTS
**PSH-P71GAH**
**PSH-P100GAH**
**PSH-P125GAH**
**PSH-P140GAH**
**PSA-RP71GA**
**PSA-RP100GA**
**PSA-RP125GA**
**PSA-RP140GA**

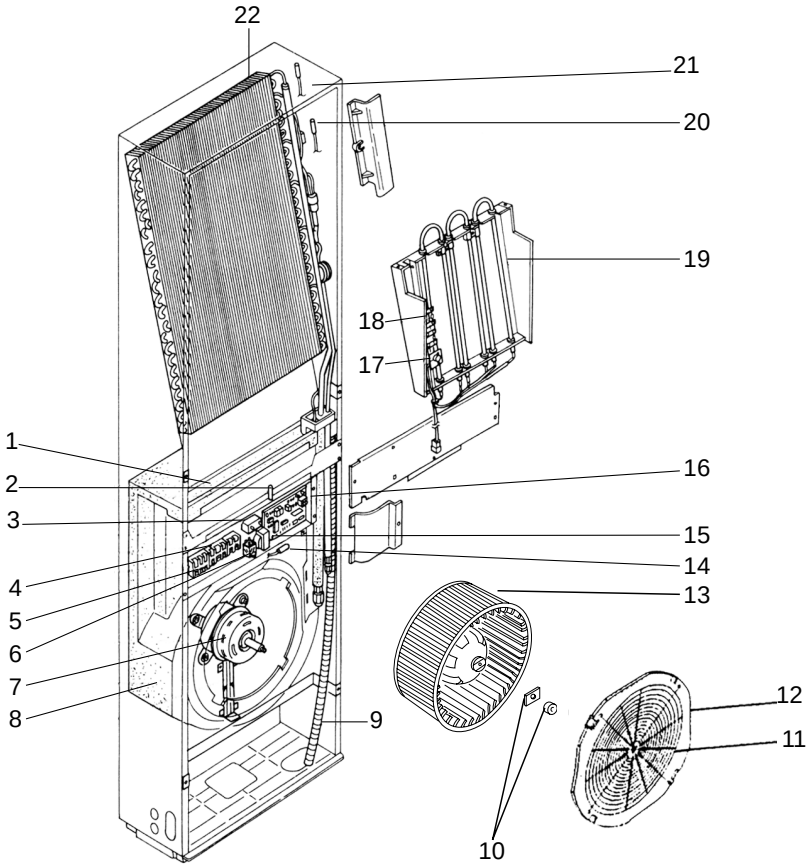



Part numbers that are circled are not shown in the figure.

| No. | Part No. | Part Name | Specification | PSH-P | | PSA-RP | | Remarks (Drawing No.) | Wiring Diagram Symbol | Recommended Q'ty |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 71 | 100 125,140 | 71 | 100 125,140 | | | |
| | | | | GAH | | GA | | | | |
| 1 | R01 71G 676 | REAR PANEL | | 1 | | 1 | | | | |
| | R01 85G 676 | REAR PANEL | | | 1 | | 1 | | | |
| 2 | T7W E00 662 | SIDE PANEL L | | 1 | | 1 | | | | |
| | T7W E01 662 | SIDE PANEL L | | | 1 | | 1 | | | |
| 3 | R01 71G 686 | BASE | | 1 | | 1 | | | | |
| | R01 85G 686 | BASE | | | 1 | | 1 | | | |
| 4 | R01 71G 661 | SIDE PANEL R | | 1 | | 1 | | | | |
| | R01 85G 661 | SIDE PANEL R | | | 1 | | 1 | | | |
| 5 | R01 E12 691 | INTAKE GRILLE | | 1 | 1 | 1 | 1 | | | |
| 6 | R01 A28 500 | AIR FILTER | | 1 | 1 | 1 | 1 | | | |
| 7 | T7W E09 713 | REMOTE CONTROLLER | | 1 | 1 | 1 | 1 | | R.B | |
| 8 | R01 71G 651 | FRONT PANEL | | 1 | 1 | 1 | 1 | | | |
| 9 | R01 71G 035 | GUIDE VANE (H) | | 8 | 8 | | | | | |
| | T7W E00 035 | GUIDE VANE (H) | | | | 8 | 8 | | | |
| 10 | R01 71G 019 | VANE ARM (H) | | 1 | 1 | 1 | 1 | | | |
| 11 | T7W 87J 003 | SWING LOUVER | | 1 | 1 | | | | | |
| | T7W E00 003 | SWING LOUVER | | | | 1 | 1 | | | |
| 12 | R01 71G 021 | VANE ARM (V) | | 1 | 1 | 1 | 1 | | | |
| 13 | R01 71G 038 | GUIDE VANE (V) | | 6 | 6 | | | | | |
| | T7W E00 038 | GUIDE VANE (V) | | | | 6 | 6 | | | |
| 14 | T7W 87J 222 | LOUVER MOTOR | | 1 | 1 | 1 | 1 | | ML | |
| 15 | R01 71G 060 | CRANK | | 1 | 1 | 1 | 1 | | | |
| 16 | R01 71G 641 | TOP PANEL | | 1 | | 1 | | | | |
| | R01 85G 641 | TOP PANEL | | | 1 | | 1 | | | |
| ⑰ | R01 12G 523 | DRAIN SOCKET | | 1 | 1 | 1 | 1 | | | |
| ⑱ | R01 87J 097 | KNOB SCREW | | 1 | 1 | 1 | 1 | | | |

# 14 RoHS PARTS LIST

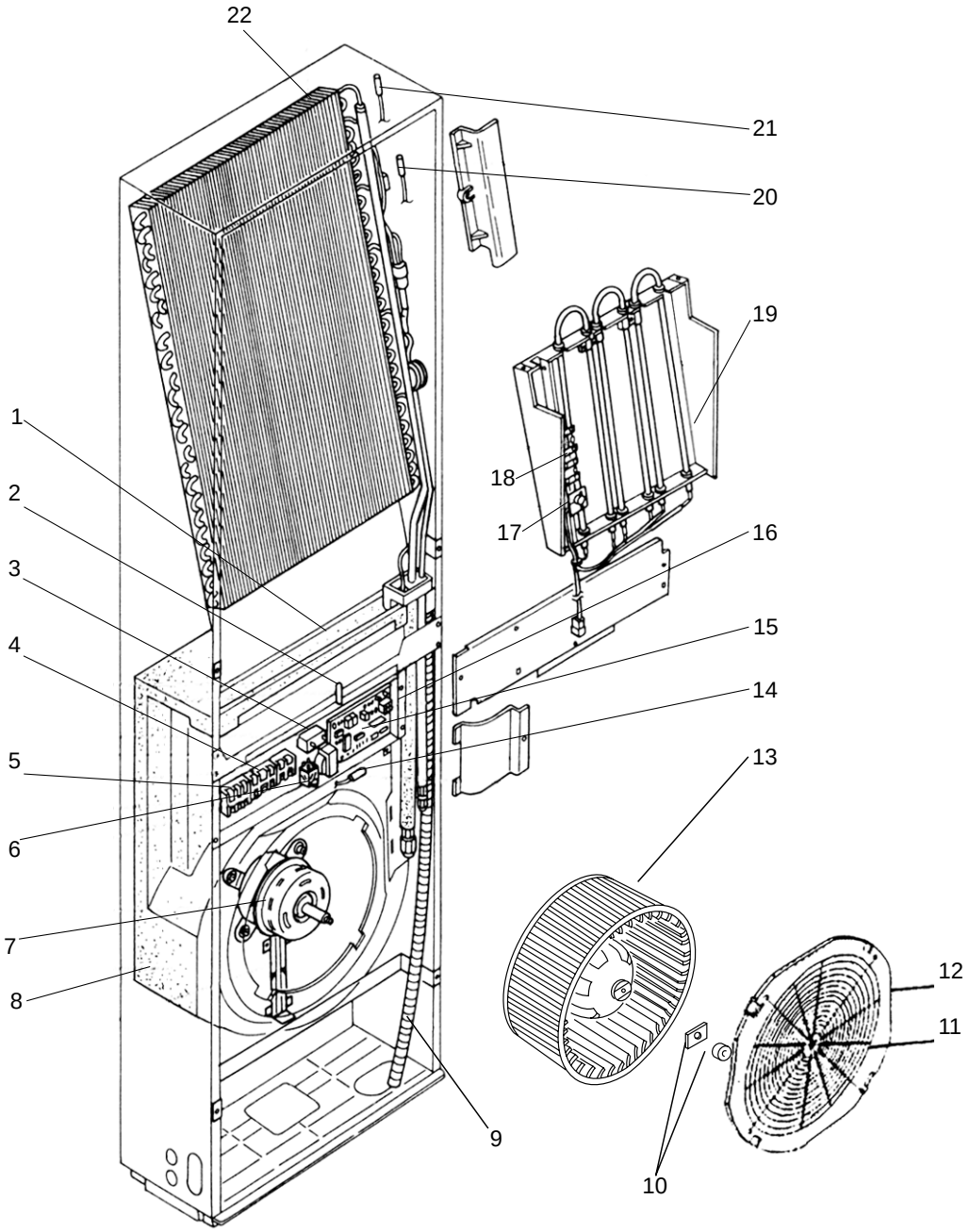
**FUNCTIONAL PARTS**
**PSH-P71GAH**
**PSA-RP71GA**
**PSA-RP71GA#1**
**PSH-P100GAH**
**PSA-RP100GA**
**PSA-RP100GA#1**




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

| No. | RoHS | Part No. | Part Name | Specifications | PSH-P | | PSA-RP | | | | Remarks (Drawing No.) | Wiring Diagram Symbol | Recommended Q'ty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 71 | 100 | 71 | 100 | 71 | 100 | | | |
| | | | | | GAH | | GA | | GA#1 | | | | |
| 1 | G | R01 A30 529 | DRAIN PAN | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 2 | G | R01 E06 239 | FUSE | 250V 6.3A | 1 | 1 | 1 | 1 | 1 | 1 | | FUSE | |
| 3 | G | R01 902 255 | FAN MOTER CAPACITOR | 3.5μF 440V | 1 | | 1 | | 1 | | | C | |
| | G | R01 901 255 | FAN MOTER CAPACITOR | 4.0μF 440V | | 1 | | 1 | | 1 | | C | |
| 4 | G | T7W E32 716 | TERMINAL BLOCK | (L, N, ⏚) | 1 | 1 | | | | | | TB2 | |
| 5 | G | R01 E20 246 | TERMINAL BLOCK | (S1, S2, S3) | 1 | 1 | 1 | 1 | 1 | 1 | | TB4 | |
| 6 | G | R01 E03 215 | HEATER RELAY | LY-3F 12VDC | 1 | 1 | | | | | | 88H | |
| 7 | G | T7W 650 762 | FAN MOTOR | PA8V30-SB | 1 | | 1 | | 1 | | | MF | |
| | G | T7W 651 762 | FAN MOTOR | PA8V70-SC | | 1 | | 1 | | 1 | | MF | |
| 8 | G | R01 90G 117 | SCROLL | | 1 | | 1 | | 1 | | | | |
| | G | R01 91G 117 | SCROLL | | | 1 | | 1 | | 1 | | | |
| 9 | G | R01 80G 527 | DRAIN HOSE | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 10 | G | R01 09K 097 | SPL WASHER | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 11 | G | R01 A30 675 | FAN GUARD | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 12 | G | R01 E04 119 | BELL MOUTH | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 13 | G | R01 E31 114 | SIROCCO FAN | | 1 | | 1 | | 1 | | | | |
| | G | R01 E27 114 | SIROCCO FAN | | | 1 | | 1 | | 1 | | | |
| 14 | G | R01 901 202 | THERMISTOR(ROOM TEMPERATURE) | | 1 | 1 | 1 | 1 | 1 | 1 | | TH1 | |
| 15 | G | R01 E38 313 | POWER BOARD | | 1 | 1 | 1 | 1 | 1 | 1 | | P.B | |
| 16 | G | T7W E51 310 | INDOOR CONTROLLER BOARD | | 1 | 1 | 1 | 1 | | | | I.B | |
| | G | T7W E74 310 | INDOOR CONTROLLER BOARD | | | | | | 1 | 1 | | I.B | |
| 17 | G | R01 E12 700 | HEATER THERMAL SWITCH | OFF80°C ON60°C | 1 | 1 | | | | | | 26H | |
| 18 | G | T7W 25J 706 | THERMAL FUSE | 110°C 16A 250V | 1 | 1 | | | | | | FS 1, 2 | |
| 19 | G | T7W E19 300 | HEATER ELEMENT | 700W 80V | 3 | | | | | | | H | |
| | G | T7W E20 300 | HEATER ELEMENT | 900W 80V | | 3 | | | | | | H | |
| 20 | G | R01 902 202 | THERMISTOR(PIPE TEMPERATURE) | | 1 | 1 | 1 | 1 | 1 | 1 | | TH2 | |
| 21 | G | T7W 900 202 | THERMISTOR(COND TEMPERATURE) | | 1 | 1 | 1 | 1 | 1 | 1 | | TH5 | |
| 22 | G | T7W H48 480 | HEAT EXCHANGER | | 1 | | 1 | | 1 | | | | |
| | G | T7W H49 480 | HEAT EXCHANGER | | | 1 | | | | | | | |
| | G | T7W H52 480 | HEAT EXCHANGER | | | | | 1 | | 1 | | | |
| (23) | G | T7W E17 675 | HEATER GUARD | | 1 | | | | | | | | |
| (24) | G | R01 31J 303 | INSULATOR | | 1 | 1 | | | | | | | |
| (25) | G | R01 21J 303 | INSULATOR | | 6 | 6 | | | | | | | |

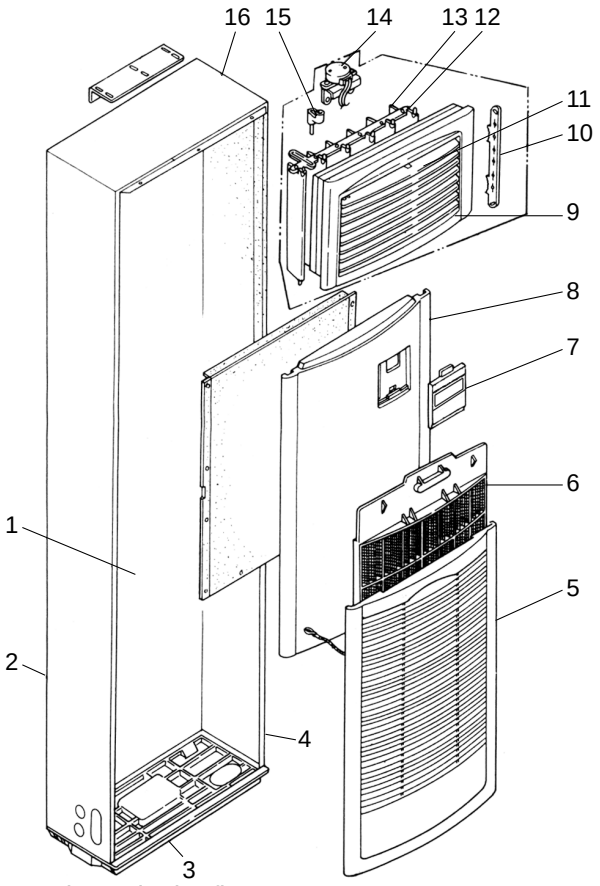
**FUNCTIONAL PARTS**
**PSH-P125GAH**
**PSA-RP125GA**
**PSA-RP125GA#1**
**PSH-P140GAH**
**PSA-RP140GA**
**PSA-RP140GA#1**



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

| No. | RoHS | Part No. | Part Name | Specifications | PSH-P | | PSA-RP | | | | Remarks (Drawing No.) | Wiring Diagram Symbol | Recommended Q'ty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 125 | 140 | 125 | 140 | 125 | 140 | | | |
| | | | | | GAH | | GA | | GA#1 | | | | |
| 1 | G | R01 A30 529 | DRAIN PAN | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 2 | G | R01 E06 239 | FUSE | 250V 6.3A | 1 | 1 | 1 | 1 | 1 | 1 | | FUSE | |
| 3 | G | R01 900 255 | FAN MOTER CAPACITOR | 5.0μF 440V | 1 | 1 | 1 | 1 | 1 | 1 | | C | |
| 4 | G | T7W E32 716 | TERMINAL BLOCK | (L, N, ⏚) | 1 | 1 | | | | | | TB2 | |
| 5 | G | R01 E20 246 | TERMINAL BLOCK | (S1, S2, S3) | 1 | 1 | 1 | 1 | 1 | 1 | | TB4 | |
| 6 | G | R01 E03 215 | HEATER RELAY | LY-3F 12VDC | 1 | 1 | | | | | | 88H | |
| 7 | G | T7W 652 762 | FAN MOTOR | PA8V110-SD | 1 | | 1 | | 1 | | | MF | |
| | G | T7W 653 762 | FAN MOTOR | PA8V120-SC | | 1 | | 1 | | 1 | | MF | |
| 8 | G | R01 91G 117 | SCROLL | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 9 | G | R01 80G 527 | DRAIN HOSE | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 10 | G | R01 09K 097 | SPL WASHER | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 11 | G | R01 A30 675 | FAN GUARD | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 12 | G | R01 E04 119 | BELL MOUTH | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 13 | G | R01 E27 114 | SIROCCO FAN | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 14 | G | R01 901 202 | THERMISTOR(ROOM TEMPERATURE) | | 1 | 1 | 1 | 1 | 1 | 1 | | TH1 | |
| 15 | G | R01 E38 313 | POWER BOARD | | 1 | 1 | 1 | 1 | 1 | 1 | | P.B | |
| 16 | G | T7W E51 310 | INDOOR CONTROLLER BOARD | | 1 | 1 | 1 | 1 | | | | I.B | |
| | G | T7W E74 310 | INDOOR CONTROLLER BOARD | | | | | | 1 | 1 | | I.B | |
| 17 | G | R01 E12 700 | HEATER THERMAL SWITCH | OFF80°C ON60°C | 1 | 1 | | | | | | 26H | |
| 18 | G | T7W 25J 706 | THERMAL FUSE | 110°C 16A 250V | 1 | 1 | | | | | | FS 1, 2 | |
| 19 | G | T7W E10 300 | HEATER ELEMENT | 700W 80V | 3 | 3 | | | | | | H | |
| 20 | G | R01 902 202 | THERMISTOR(PIPE TEMPERATURE) | | 1 | 1 | 1 | 1 | 1 | 1 | | TH2 | |
| 21 | G | T7W 900 202 | THERMISTOR(COND TEMPERATURE) | | 1 | 1 | 1 | 1 | 1 | 1 | | TH5 | |
| 22 | G | T7W H50 480 | HEAT EXCHANGER | | 1 | | | | | | | | |
| | G | T7W H51 480 | HEAT EXCHANGER | | | 1 | | | | | | | |
| | G | T7W H53 480 | HEAT EXCHANGER | | | | 1 | | 1 | | | | |
| | G | T7W H54 480 | HEAT EXCHANGER | | | | | 1 | | 1 | | | |
| ㉓ | G | R01 31J 303 | INSULATOR | | 1 | 1 | | | | | | | |
| ㉔ | G | R01 21J 303 | INSULATOR | | 6 | 6 | | | | | | | |

**STRUCTURAL PARTS**
**PSH-P71GAH**
**PSA-RP71GA**
**PSA-RP71GA#1**
**PSH-P100GAH**
**PSA-RP100GA**
**PSA-RP100GA#1**
**PSH-P125GAH**
**PSA-RP125GA**
**PSA-RP125GA#1**
**PSH-P140GAH**
**PSA-RP140GA**
**PSA-RP140GA#1**




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

| No. | RoHS | Part No. | Part Name | Specification | PSH-P | | PSA-RP | | | | Remarks (Drawing No.) | Wiring Diagram Symbol | Recommended Q'ty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 71 | 100 125,140 | 71 | 100 125,140 | 71 | 100 125,140 | | | |
| | | | | | GAH | | GA | | GA#1 | | | | |
| 1 | G | R01 90G 676 | REAR PANEL | | 1 | | 1 | | 1 | | | | |
| | G | R01 91G 676 | REAR PANEL | | | 1 | | 1 | | 1 | | | |
| 2 | G | T7W E04 662 | SIDE PANEL L | | 1 | | 1 | | 1 | | | | |
| | G | T7W E05 662 | SIDE PANEL L | | | 1 | | 1 | | 1 | | | |
| 3 | G | R01 90G 686 | BASE | | 1 | | 1 | | 1 | | | | |
| | G | R01 91G 686 | BASE | | | 1 | | 1 | | 1 | | | |
| 4 | G | R01 90G 661 | SIDE PANEL R | | 1 | | 1 | | 1 | | | | |
| | G | R01 91G 661 | SIDE PANEL R | | | 1 | | 1 | | 1 | | | |
| 5 | G | R01 E34 691 | INTAKE GRILLE | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 6 | G | R01 A31 500 | AIR FILTER | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 7 | G | T7W E13 713 | REMOTE CONTROLLER | | 1 | 1 | 1 | 1 | 1 | 1 | | R.B | |
| 8 | G | R01 90G 651 | FRONT PANEL | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 9 | G | R01 90G 035 | GUIDE VANE (H) | | 8 | 8 | | | | | | | |
| | G | T7W E01 035 | GUIDE VANE (H) | | | | 8 | 8 | 8 | 8 | | | |
| 10 | G | R01 90G 019 | VANE ARM (H) | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 11 | G | T7W E14 003 | SWING LOUVER | | 1 | 1 | | | | | | | |
| | G | T7W E15 003 | SWING LOUVER | | | | 1 | 1 | 1 | 1 | | | |
| 12 | G | R01 90G 021 | VANE ARM (V) | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 13 | G | R01 90G 038 | GUIDE VANE (V) | | 6 | 6 | | | | | | | |
| | G | T7W E01 038 | GUIDE VANE (V) | | | | 6 | 6 | 6 | 6 | | | |
| 14 | G | T7W E03 222 | LOUVER MOTOR | | 1 | 1 | 1 | 1 | 1 | 1 | | ML | |
| 15 | G | R01 90G 060 | CRANK | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 16 | G | R01 90G 641 | TOP PANEL | | 1 | | 1 | | 1 | | | | |
| | G | R01 91G 641 | TOP PANEL | | | 1 | | 1 | | 1 | | | |
| (17) | G | R01 E02 523 | DRAIN SOCKET | | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| (18) | G | R01 88J 097 | KNOB SCREW | | 1 | 1 | 1 | 1 | 1 | 1 | | | |

Mr.SLIM™

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