

# SERVICE MANUAL

**SAP-FT126QS5 + SAP-C126Q5  
SAP-FT126QS5 + SAP-C126QL5  
SAP-FT165QS5 + SAP-C165Q5  
SAP-FT185QS5 + SAP-C185Q5  
SAP-FT185QS5 + SAP-C185QL5  
SAP-FT225QS5 + SAP-C225Q5**

**SANYO**

FILE NO.

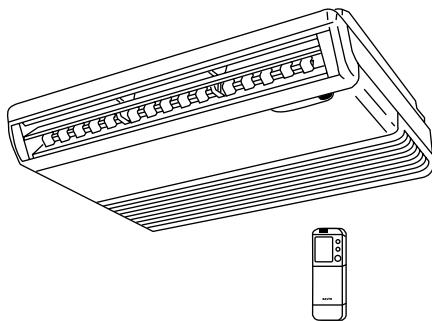
## SPLIT SYSTEM AIR CONDITIONER

| Indoor Model No. | Product Code No. |
|------------------|------------------|
| SAP-FT126QS5-E   | 1 852 658 78     |
| SAP-FT165QS5-E   | 1 852 658 79     |
| SAP-FT185QS5-E   | 1 852 658 80     |
| SAP-FT225QS5-E   | 1 852 658 81     |

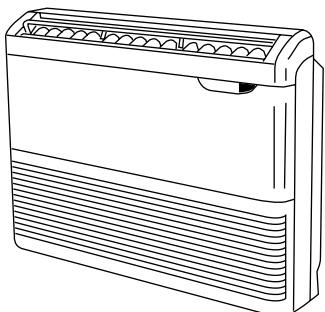
| Outdoor Model No. | Product Code No. |
|-------------------|------------------|
| SAP-C126Q5-E      | 1 852 752 48     |
| SAP-C126QL5-E     | 1 852 752 49     |
| SAP-C165Q5-E      | 1 852 752 41     |
| SAP-C185Q5-E      | 1 852 752 42     |
| SAP-C185QL5-E     | 1 852 752 43     |
| SAP-C225Q5-E      | 1 852 753 58     |

Indoor Unit

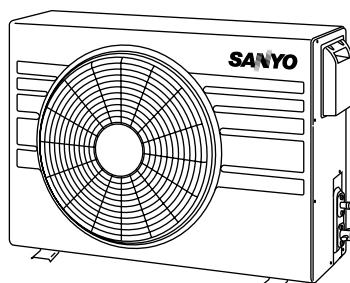
● Ceiling-Mounted



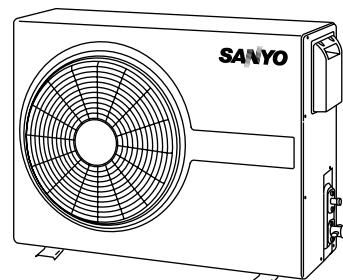
● Floor-Mounted



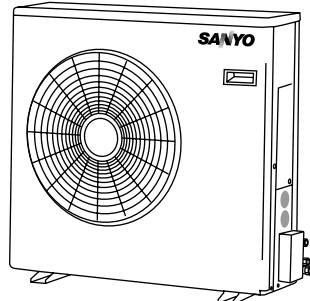
**SAP-FT126QS5  
SAP-FT165QS5  
SAP-FT185QS5  
SAP-FT225QS5**



**SAP-C126Q5  
SAP-C126QL5**



**SAP-C165Q5  
SAP-C185Q5  
SAP-C185QL5**



**SAP-C225Q5**

# **IMPORTANT!**

## **Please Read Before Starting**

This air conditioning system meets strict safety and operating standards. As the installer or service person, it is an important part of your job to install or service the system so it operates safely and efficiently.

### **For safe installation and trouble-free operation, you must:**

- Carefully read this instruction booklet before beginning.
- Follow each installation or repair step exactly as shown.
- Observe all local, state, and national electrical codes.
- Pay close attention to all warning and caution notices given in this manual.



**WARNING**

This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.



**CAUTION**

This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

### **If Necessary, Get Help**

These instructions are all you need for most installation sites and maintenance conditions. If you require help for a special problem, contact our sales/service outlet or your certified dealer for additional instructions.

### **In Case of Improper Installation**

The manufacturer shall in no way be responsible for improper installation or maintenance service, including failure to follow the instructions in this document.

## **SPECIAL PRECAUTIONS**

### **WARNING When Wiring**



**ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY A QUALIFIED, EXPERIENCED ELECTRICIAN SHOULD ATTEMPT TO WIRE THIS SYSTEM.**

- Do not supply power to the unit until all wiring and tubing are completed or reconnected and checked.
- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause **accidental injury or death**.
- **Ground the unit** following local electrical codes.
- Connect all wiring tightly. Loose wiring may cause overheating at connection points and a possible fire hazard.

### **When Transporting**

Be careful when picking up and moving the indoor and outdoor units. Get a partner to help, and bend your knees when lifting to reduce strain on your back. Sharp edges or thin aluminum fins on the air conditioner can cut your fingers.

### **When Installing...**

#### **...In a Ceiling or Wall**

Make sure the ceiling/wall is strong enough to hold the unit's weight. It may be necessary to construct a strong wood or metal frame to provide added support.

#### **...In a Room**

Properly insulate any tubing run inside a room to prevent "sweating" that can cause dripping and water damage to walls and floors.

#### **...In Moist or Uneven Locations**

Use a raised concrete pad or concrete blocks to provide a solid, level foundation for the outdoor unit. This prevents water damage and abnormal vibration.

#### **...In an Area with High Winds**

Securely anchor the outdoor unit down with bolts and a metal frame. Provide a suitable air baffle.

#### **...In a Snowy Area (for Heat Pump-type Systems)**

Install the outdoor unit on a raised platform that is higher than drifting snow. Provide snow vents.

### **When Connecting Refrigerant Tubing**

- Use the flare method for connecting tubing.
- Apply refrigerant lubricant to the matching surfaces of the flare and union tubes before connecting them, then tighten the nut with a torque wrench for a leak-free connection.
- Check carefully for leaks before starting the test run.

### **When Servicing**

- Turn the power OFF at the main power box (mains) before opening the unit to check or repair electrical parts and wiring.
- Keep your fingers and clothing away from any moving parts.
- Clean up the site after you finish, remembering to check that no metal scraps or bits of wiring have been left inside the unit being serviced.

### **Others**



**CAUTION**

- Ventilate any enclosed areas when installing or testing the refrigeration system. Escaped refrigerant gas, on contact with fire or heat, can produce dangerously toxic gas.
- Confirm upon completing installation that no refrigerant gas is leaking. If escaped gas comes in contact with a stove, gas water heater, electric room heater or other heat source, it can produce dangerously toxic gas.

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# 1. OPERATING RANGE

For Cooling Only Models : SAP-CxxxQ5

|         | Temperature | Indoor Air Intake Temp. | Outdoor Air Intake Temp. |
|---------|-------------|-------------------------|--------------------------|
| Cooling | Maximum     | 35°C DB / 22.5°C WB     | 52°C DB                  |
|         | Minimum     | 19°C DB / 14°C WB       | 19°C DB                  |

For Low Ambient Cooling Models : SAP-CxxxQL5

|         | Temperature | Indoor Air Intake Temp. | Outdoor Air Intake Temp. |
|---------|-------------|-------------------------|--------------------------|
| Cooling | Maximum     | 35°C DB / 22°C WB       | 50°C DB                  |
|         | Minimum     | 19°C DB / 14°C WB       | -15°C DB                 |

## 2. SPECIFICATIONS

### 2-1. Unit Specifications

Indoor Unit      SAP-FT126QS5  
 Outdoor Unit    SAP-C126Q5

|  |                       |                |                                   |
|--|-----------------------|----------------|-----------------------------------|
| Power Source                             |                       |                | 220 – 240 V ~ 50 Hz               |
| Voltage rating                           |                       |                | 220 / 230 / 240                   |
| Performance                              |                       |                | Cooling                           |
| Capacity                                 | kW                    |                | 3.45 / 3.45 / 3.50                |
|  | BTU/h                 |                | 11,800 / 11,800 / 11,900          |
| Air circulation (High)                   | m <sup>3</sup> /h     |                | 700                               |
| Moisture removal (High)                  | Liters/h              |                | 1.5                               |
| Electrical Rating                        |                       |                |                                   |
| Available voltage range                  | V                     |                | 198 to 264                        |
| Running amperes                          | A                     |                | 5.8 / 5.8 / 5.9                   |
| Power input                              | W                     |                | 1,240 / 1,250 / 1,290             |
| Power factor                             | %                     |                | 97 / 94 / 91                      |
| C.O.P.                                   | W/W                   |                | 2.8 / 2.8 / 2.7                   |
| Compressor locked rotor amperes          | A                     |                | 32 / 33 / 35                      |
| Features                                 |                       |                |                                   |
| Controls / Temperature control           |                       |                | Microprocessor / I.C. thermostat  |
| Control unit                             |                       |                | Wireless remote control unit      |
| Timer                                    |                       |                | ON / OFF 24-hours & Daily Program |
| Fan speeds                               | Indoor / Outdoor      |                | 3 and Auto / Auto (Hi, Lo)        |
| Airflow direction (Indoor )              | Horizontal            |                | Manual                            |
|  | Vertical              |                | Auto                              |
| Air filter                               |                       |                | Washable, Anti-Mold               |
| Compressor                               |                       |                | Rotary (Hermetic)                 |
| Refrigerant / Amount charged at shipment | g                     |                | R22 / 860                         |
| Refrigerant control                      |                       |                | Capillary tube                    |
| Operation sound                          | Indoor – Hi / Me / Lo | dB-A           | 44 / 40 / 35                      |
|  | Outdoor – Hi          | dB-A           | 48                                |
| Refrigerant tubing connections           |                       |                | Flare type                        |
| Max. allowable tubing length at shipment | m                     |                | 10                                |
| Refrigerant tube diameter                | Narrow tube           | mm (in.)       | 6.35 (1/4)                        |
|  | Wide tube             | mm (in.)       | 12.7 (1/2)                        |
| Refrigerant tube kit                     |                       |                | Optional                          |
| Dimensions & Weight                      |                       |                |                                   |
|  |                       | Indoor Unit    | Outdoor Unit                      |
| Unit dimensions                          | Height                | mm             | 680                               |
|  | Width                 | mm             | 900                               |
|  | Depth                 | mm             | 190                               |
| Package dimensions                       | Height                | mm             | 296                               |
|  | Width                 | mm             | 1,011                             |
|  | Depth                 | mm             | 813                               |
| Weight                                   | Net                   | kg             | 23.5                              |
|  | Shipping              | kg             | 30.0                              |
| Shipping volume                          |                       | m <sup>3</sup> | 0.24                              |
| DATA SUBJECT TO CHANGE WITHOUT NOTICE.   |                       |                |                                   |

**Remarks:** Rating conditions are:

Cooling: Indoor air temperature 27°C DB / 19°C WB  
 Outdoor air temperature 35°C DB / 24°C WB

Indoor Unit      **SAP-FT126QS5**  
 Outdoor Unit    **SAP-C126QL5**

|  |                       |             |                                      |
|--|-----------------------|-------------|--------------------------------------|
| Power Source                             |                       |             | 220 – 240 V ~ 50 Hz                  |
| Voltage rating                           |                       |             | V<br>220 / 230 / 240                 |
| Performance                              |                       |             | Cooling                              |
| Capacity                                 | kW                    |             | 3.45 / 3.45 / 3.50                   |
|  | BTU/h                 |             | 11,800 / 11,800 / 11,900             |
| Air circulation (High)                   | m <sup>3</sup> /h     |             | 700                                  |
| Moisture removal (High)                  | Liters/h              |             | 1.5                                  |
| Electrical Rating                        |                       |             |                                      |
| Available voltage range                  | V                     |             | 198 to 264                           |
| Running amperes                          | A                     |             | 5.8 / 5.8 / 5.9                      |
| Power input                              | W                     |             | 1,240 / 1,250 / 1,290                |
| Power factor                             | %                     |             | 97 / 94 / 91                         |
| C.O.P.                                   | W/W                   |             | 2.8 / 2.8 / 2.7                      |
| Compressor locked rotor amperes          | A                     |             | 32 / 33 / 35                         |
| Features                                 |                       |             |                                      |
| Controls / Temperature control           |                       |             | Microprocessor / I.C. thermostat     |
| Control unit                             |                       |             | Wireless remote control unit         |
| Timer                                    |                       |             | ON / OFF 24-hours & Daily Program    |
| Fan speeds                               | Indoor / Outdoor      |             | 3 and Auto / Auto (Hi, Lo, Variable) |
| Airflow direction (Indoor )              | Horizontal            |             | Manual                               |
|  | Vertical              |             | Auto                                 |
| Air filter                               |                       |             | Washable, Anti-Mold                  |
| Compressor                               |                       |             | Rotary (Hermetic)                    |
| Refrigerant / Amount charged at shipment | g                     |             | R22 / 860                            |
| Refrigerant control                      |                       |             | Capillary tube                       |
| Operation sound                          | Indoor – Hi / Me / Lo | dB-A        | 44 / 40 / 35                         |
|  | Outdoor – Hi          | dB-A        | 48                                   |
| Refrigerant tubing connections           |                       |             | Flare type                           |
| Max. allowable tubing length at shipment | m                     |             | 10                                   |
| Refrigerant tube diameter                | Narrow tube           | mm (in.)    | 6.35 (1/4)                           |
|  | Wide tube             | mm (in.)    | 12.7 (1/2)                           |
| Refrigerant tube kit                     |                       |             | Optional                             |
| Dimensions & Weight                      |                       |             |                                      |
|  |                       | Indoor Unit | Outdoor Unit                         |
| Unit dimensions                          | Height                | mm          | 680                                  |
|  | Width                 | mm          | 900                                  |
|  | Depth                 | mm          | 190                                  |
| Package dimensions                       | Height                | mm          | 296                                  |
|  | Width                 | mm          | 1,011                                |
|  | Depth                 | mm          | 813                                  |
| Weight                                   | Net                   | kg          | 23.5                                 |
|  | Shipping              | kg          | 30.0                                 |
| Shipping volume                          | m <sup>3</sup>        |             | 0.24                                 |
| DATA SUBJECT TO CHANGE WITHOUT NOTICE.   |                       |             |                                      |

**Remarks:** Rating conditions are:

Cooling: Indoor air temperature 27°C DB / 19°C WB  
 Outdoor air temperature 35°C DB / 24°C WB

Indoor Unit **SAP-FT165QS5**  
 Outdoor Unit **SAP-C165Q5**

|  |                       |             |                                   |
|--|-----------------------|-------------|-----------------------------------|
| Power Source                             |                       |             | 220 – 240 V ~ 50 Hz               |
| Voltage rating                           |                       |             | 220 / 230 / 240                   |
| Performance                              |                       |             | Cooling                           |
| Capacity                                 | kW                    |             | 4.60 / 4.60 / 4.60                |
|  | BTU/h                 |             | 15,700 / 15,700 / 15,700          |
| Air circulation (High)                   | m <sup>3</sup> /h     |             | 800                               |
| Moisture removal (High)                  | Liters/h              |             | 2.3                               |
| Electrical Rating                        |                       |             |                                   |
| Available voltage range                  | V                     |             | 198 to 264                        |
| Running amperes                          | A                     |             | 8.1 / 8.1 / 8.1                   |
| Power input                              | W                     |             | 1,730 / 1,770 / 1,800             |
| Power factor                             | %                     |             | 97 / 95 / 93                      |
| C.O.P.                                   | W/W                   |             | 2.7 / 2.6 / 2.6                   |
| Compressor locked rotor amperes          | A                     |             | 41 / 43 / 45                      |
| Features                                 |                       |             |                                   |
| Controls / Temperature control           |                       |             | Microprocessor / I.C. thermostat  |
| Control unit                             |                       |             | Wireless remote control unit      |
| Timer                                    |                       |             | ON / OFF 24-hours & Daily Program |
| Fan speeds                               | Indoor / Outdoor      |             | 3 and Auto / 1 (Hi)               |
| Airflow direction (Indoor )              | Horizontal            |             | Manual                            |
|  | Vertical              |             | Auto                              |
| Air filter                               |                       |             | Washable, Anti-Mold               |
| Compressor                               |                       |             | Rotary (Hermetic)                 |
| Refrigerant / Amount charged at shipment | g                     |             | R22 / 1,760                       |
| Refrigerant control                      |                       |             | Capillary tube                    |
| Operation sound                          | Indoor – Hi / Me / Lo | dB-A        | 48 / 44 / 39                      |
|  | Outdoor – Hi          | dB-A        | 50                                |
| Refrigerant tubing connections           |                       |             | Flare type                        |
| Max. allowable tubing length at shipment | m                     |             | 10                                |
| Refrigerant tube diameter                | Narrow tube           | mm (in.)    | 6.35 (1/4)                        |
|  | Wide tube             | mm (in.)    | 12.7 (1/2)                        |
| Refrigerant tube kit                     |                       |             | Optional                          |
| Dimensions & Weight                      |                       |             |                                   |
|  |                       | Indoor Unit | Outdoor Unit                      |
| Unit dimensions                          | Height                | mm          | 680                               |
|  | Width                 | mm          | 900                               |
|  | Depth                 | mm          | 190                               |
| Package dimensions                       | Height                | mm          | 296                               |
|  | Width                 | mm          | 1,011                             |
|  | Depth                 | mm          | 813                               |
| Weight                                   | Net                   | kg          | 23.5                              |
|  | Shipping              | kg          | 30.0                              |
| Shipping volume                          | m <sup>3</sup>        |             | 0.24                              |
| DATA SUBJECT TO CHANGE WITHOUT NOTICE.   |                       |             |                                   |

**Remarks:** Rating conditions are:

Cooling: Indoor air temperature 27°C DB / 19°C WB  
 Outdoor air temperature 35°C DB / 24°C WB

Indoor Unit **SAP-FT185QS5**  
 Outdoor Unit **SAP-C185Q5**

|  |                       |             |                                   |
|--|-----------------------|-------------|-----------------------------------|
| Power Source                             |                       |             | 220 – 240 V ~ 50 Hz               |
| Voltage rating                           |                       |             | 220 / 230 / 240                   |
| Performance                              |                       |             | Cooling                           |
| Capacity                                 | kW                    |             | 5.15 / 5.15 / 5.15                |
|  | BTU/h                 |             | 17,600 / 17,600 / 17,600          |
| Air circulation (High)                   | m <sup>3</sup> /h     |             | 800                               |
| Moisture removal (High)                  | Liters/h              |             | 2.7                               |
| Electrical Rating                        |                       |             |                                   |
| Available voltage range                  | V                     |             | 198 to 264                        |
| Running amperes                          | A                     |             | 9.6 / 9.5 / 9.5                   |
| Power input                              | W                     |             | 2,030 / 2,060 / 2,110             |
| Power factor                             | %                     |             | 96 / 94 / 93                      |
| C.O.P.                                   | W/W                   |             | 2.5 / 2.5 / 2.4                   |
| Compressor locked rotor amperes          | A                     |             | 45 / 46 / 48                      |
| Features                                 |                       |             |                                   |
| Controls / Temperature control           |                       |             | Microprocessor / I.C. thermostat  |
| Control unit                             |                       |             | Wireless remote control unit      |
| Timer                                    |                       |             | ON / OFF 24-hours & Daily Program |
| Fan speeds                               | Indoor / Outdoor      |             | 3 and Auto / Auto (Hi, Lo)        |
| Airflow direction (Indoor )              | Horizontal            |             | Manual                            |
|  | Vertical              |             | Auto                              |
| Air filter                               |                       |             | Washable, Anti-Mold               |
| Compressor                               |                       |             | Rotary (Hermetic)                 |
| Refrigerant / Amount charged at shipment | g                     |             | R22 / 1,750                       |
| Refrigerant control                      |                       |             | Capillary tube                    |
| Operation sound                          | Indoor – Hi / Me / Lo | dB-A        | 48 / 44 / 39                      |
|  | Outdoor – Hi          | dB-A        | 51                                |
| Refrigerant tubing connections           |                       |             | Flare type                        |
| Max. allowable tubing length at shipment | m                     |             | 10                                |
| Refrigerant tube diameter                | Narrow tube           | mm (in.)    | 6.35 (1/4)                        |
|  | Wide tube             | mm (in.)    | 12.7 (1/2)                        |
| Refrigerant tube kit                     |                       |             | Optional                          |
| Dimensions & Weight                      |                       |             |                                   |
|  |                       | Indoor Unit | Outdoor Unit                      |
| Unit dimensions                          | Height                | mm          | 680                               |
|  | Width                 | mm          | 900                               |
|  | Depth                 | mm          | 190                               |
| Package dimensions                       | Height                | mm          | 296                               |
|  | Width                 | mm          | 1,011                             |
|  | Depth                 | mm          | 813                               |
| Weight                                   | Net                   | kg          | 23.5                              |
|  | Shipping              | kg          | 30.0                              |
| Shipping volume                          | m <sup>3</sup>        |             | 0.24                              |
| DATA SUBJECT TO CHANGE WITHOUT NOTICE.   |                       |             |                                   |

**Remarks:** Rating conditions are:

Cooling: Indoor air temperature 27°C DB / 19°C WB  
 Outdoor air temperature 35°C DB / 24°C WB

Indoor Unit **SAP-FT185QS5**  
 Outdoor Unit **SAP-C185QL5**

|  |                       |             |                                   |
|--|-----------------------|-------------|-----------------------------------|
| Power Source                             |                       |             | 220 – 240 V ~ 50 Hz               |
| Voltage rating                           |                       |             | 220 / 230 / 240                   |
| Performance                              |                       |             | Cooling                           |
| Capacity                                 | kW                    |             | 5.15 / 5.15 / 5.15                |
|  | BTU/h                 |             | 17,600 / 17,600 / 17,600          |
| Air circulation (High)                   | m <sup>3</sup> /h     |             | 800                               |
| Moisture removal (High)                  | Liters/h              |             | 2.7                               |
| Electrical Rating                        |                       |             |                                   |
| Available voltage range                  | V                     |             | 198 to 264                        |
| Running amperes                          | A                     |             | 9.6 / 9.5 / 9.5                   |
| Power input                              | W                     |             | 2,030 / 2,060 / 2,110             |
| Power factor                             | %                     |             | 96 / 94 / 93                      |
| C.O.P.                                   | W/W                   |             | 2.5 / 2.5 / 2.4                   |
| Compressor locked rotor amperes          | A                     |             | 45 / 46 / 48                      |
| Features                                 |                       |             |                                   |
| Controls / Temperature control           |                       |             | Microprocessor / I.C. thermostat  |
| Control unit                             |                       |             | Wireless remote control unit      |
| Timer                                    |                       |             | ON / OFF 24-hours & Daily Program |
| Fan speeds                               | Indoor / Outdoor      |             | 3 and Auto / Auto (Hi, Variable)  |
| Airflow direction (Indoor )              | Horizontal            |             | Manual                            |
|  | Vertical              |             | Auto                              |
| Air filter                               |                       |             | Washable, Anti-Mold               |
| Compressor                               |                       |             | Rotary (Hermetic)                 |
| Refrigerant / Amount charged at shipment | g                     |             | R22 / 1,750                       |
| Refrigerant control                      |                       |             | Capillary tube                    |
| Operation sound                          | Indoor – Hi / Me / Lo | dB-A        | 48 / 44 / 39                      |
|  | Outdoor – Hi          | dB-A        | 51                                |
| Refrigerant tubing connections           |                       |             | Flare type                        |
| Max. allowable tubing length at shipment | m                     |             | 10                                |
| Refrigerant tube diameter                | Narrow tube           | mm (in.)    | 6.35 (1/4)                        |
|  | Wide tube             | mm (in.)    | 12.7 (1/2)                        |
| Refrigerant tube kit                     |                       |             | Optional                          |
| Dimensions & Weight                      |                       |             |                                   |
|  |                       | Indoor Unit | Outdoor Unit                      |
| Unit dimensions                          | Height                | mm          | 680                               |
|  | Width                 | mm          | 900                               |
|  | Depth                 | mm          | 190                               |
| Package dimensions                       | Height                | mm          | 296                               |
|  | Width                 | mm          | 1,011                             |
|  | Depth                 | mm          | 813                               |
| Weight                                   | Net                   | kg          | 23.5                              |
|  | Shipping              | kg          | 30.0                              |
| Shipping volume                          | m <sup>3</sup>        |             | 0.24                              |
| DATA SUBJECT TO CHANGE WITHOUT NOTICE.   |                       |             |                                   |

**Remarks:** Rating conditions are:

Cooling: Indoor air temperature 27°C DB / 19°C WB  
 Outdoor air temperature 35°C DB / 24°C WB

Indoor Unit **SAP-FT225QS5**  
 Outdoor Unit **SAP-C225Q5**

|  |                       |             |                                   |
|--|-----------------------|-------------|-----------------------------------|
| Power Source                             |                       |             | 220 – 240 V ~ 50 Hz               |
| Voltage rating                           |                       |             | 220 / 230 / 240                   |
| Performance                              |                       |             | Cooling                           |
| Capacity                                 | kW                    |             | 6.40 / 6.45 / 6.45                |
|  | BTU/h                 |             | 21,800 / 22,000 / 22,000          |
| Air circulation (High)                   | m <sup>3</sup> /h     |             | 900                               |
| Moisture removal (High)                  | Liters/h              |             | 3.3                               |
| Electrical Rating                        |                       |             |                                   |
| Available voltage range                  | V                     |             | 198 to 264                        |
| Running amperes                          | A                     |             | 12.5 / 12.5 / 12.7                |
| Power input                              | W                     |             | 2,600 / 2,630 / 2,700             |
| Power factor                             | %                     |             | 95 / 91 / 89                      |
| C.O.P.                                   | W/W                   |             | 2.5 / 2.5 / 2.4                   |
| Compressor locked rotor amperes          | A                     |             | 67 / 70 / 73                      |
| Features                                 |                       |             |                                   |
| Controls / Temperature control           |                       |             | Microprocessor / I.C. thermostat  |
| Control unit                             |                       |             | Wireless remote control unit      |
| Timer                                    |                       |             | ON / OFF 24-hours & Daily program |
| Fan speeds                               | Indoor / Outdoor      |             | 3 and Auto / Auto (Hi, Lo)        |
| Airflow direction (Indoor )              | Horizontal            |             | Manual                            |
|  | Vertical              |             | Auto                              |
| Air filter                               |                       |             | Washable, Anti-Mold               |
| Compressor                               |                       |             | Rotary (Hermetic)                 |
| Refrigerant / Amount charged at shipment | g                     |             | R22 / 2,090                       |
| Refrigerant control                      |                       |             | Capillary tube                    |
| Operation sound                          | Indoor – Hi / Me / Lo | dB-A        | 50 / 47 / 44                      |
|  | Outdoor – Hi          | dB-A        | 55                                |
| Refrigerant tubing connections           |                       |             | Flare type                        |
| Max. allowable tubing length at shipment | m                     |             | 10                                |
| Refrigerant tube diameter                | Narrow tube           | mm (in.)    | 6.35 (1/4)                        |
|  | Wide tube             | mm (in.)    | 15.88 (5/8)                       |
| Refrigerant tube kit                     |                       |             | Optional                          |
| Dimensions & Weight                      |                       |             |                                   |
|  |                       | Indoor Unit | Outdoor Unit                      |
| Unit dimensions                          | Height                | mm          | 680                               |
|  | Width                 | mm          | 900                               |
|  | Depth                 | mm          | 190                               |
| Package dimensions                       | Height                | mm          | 296                               |
|  | Width                 | mm          | 1,011                             |
|  | Depth                 | mm          | 813                               |
| Weight                                   | Net                   | kg          | 23.5                              |
|  | Shipping              | kg          | 30.0                              |
| Shipping volume                          | m <sup>3</sup>        |             | 0.24                              |
| DATA SUBJECT TO CHANGE WITHOUT NOTICE.   |                       |             |                                   |

**Remarks:** Rating conditions are:

Cooling: Indoor air temperature 27°C DB / 19°C WB  
 Outdoor air temperature 35°C DB / 24°C WB

## 2-1. Major Component Specifications

### 2-2-1. Indoor Unit

Indoor Unit

**SAP-FT126QS5**

|                     |                                      |                                  |  |                     |  |  |
|---------------------|--------------------------------------|----------------------------------|--|---------------------|--|--|
| Controller PCB      | Part No.                             | POW-K185GS-N                     |  |                     |  |  |
|                     | Controls                             | Microprocessor                   |  |                     |  |  |
|                     | Control circuit fuse                 | 250 V – 3 A                      |  |                     |  |  |
| Remote Control Unit |                                      | RCS – 2S1                        |  |                     |  |  |
| Fan & Fan Motor     | Type                                 | Centrifugal                      |  |                     |  |  |
|                     | Number ... Dia. and length           | mm                               | 2 ... ø 130 / L 180  |                     |  |  |
|                     | Fan motor model ... Number           |                                  | K48407-M01416 ... 1  |                     |  |  |
|                     | No. of poles ... rpm (230 V, High)   |                                  | 4 ... 1,000  |                     |  |  |
|                     | Nominal output                       | W                                | 17   |                     |  |  |
|                     | Coil resistance (Ambient temp. 20°C) | Ω                                | GRY – WHT : 311 ± 7%<br>WHT – VLT : 98 ± 7%<br>VLT – YEL : 98 ± 7%<br>WHT – PNK : 425 ± 7% |                     |  |  |
|                     | Safety devices                       | Type                             | Internal thermal fuse  |                     |  |  |
|                     | Operating temp.                      | Open                             | °C   | 145 ± 5             |  |  |
|                     |                                      | Close                            |  | Automatic reclosing |  |  |
|                     | Run capacitor                        | μF                               |  | 1.5                 |  |  |
|                     |                                      | VAC                              |  | 440                 |  |  |
| Flap Motor          | Model                                | M2LJ24ZE31                       |  |                     |  |  |
|                     | Rating                               | AC 208 / 230 V, 50 / 60 Hz       |  |                     |  |  |
|                     | No. of poles ... rpm                 | 8 ... 2.5 / 3.0                  |  |                     |  |  |
|                     | Nominal output                       | W                                | 3 / 2.5  |                     |  |  |
|                     | Coil resistance (Ambient temp. 20°C) | kΩ                               | 16.45 ± 15%  |                     |  |  |
| Heat Exch. Coil     | Coil                                 | Aluminum plate fin / Copper tube |  |                     |  |  |
|                     | Rows                                 | 2                                |  |                     |  |  |
|                     | Fin pitch                            | mm                               | 1.8  |                     |  |  |
|                     | Face area                            | m <sup>2</sup>                   | 0.192  |                     |  |  |

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Indoor Unit

**SAP-FT165QS5****SAP-FT185QS5**

|                     |                                      |                |  |  |
|---------------------|--------------------------------------|----------------|--|--|
| Controller<br>PCB   | Part No.                             | POW-K185GS-N   |  |  |
|                     | Controls                             | Microprocessor |  |  |
|                     | Control circuit fuse                 | 250 V – 3 A    |  |  |
| Remote Control Unit |                                      | RCS – 2S1      |  |  |
| Fan & Fan Motor     | Type                                 | Centrifugal    |  |  |
|                     | Number ... Dia. and length           | mm             | 2 ... ø 130 / L 180  |  |
|                     | Fan motor model ... Number           |                | K48410-M01417 ... 1  |  |
|                     | No. of poles ... rpm (230 V, High)   |                | 4 ... 1,140  |  |
|                     | Nominal output                       | W              | 27   |  |
|                     | Coil resistance (Ambient temp. 20°C) | Ω              | GRY – WHT : 215 ± 7%<br>WHT – VLT : 87 ± 7%<br>VLT – YEL : 87 ± 7%<br>WHT – PNK : 273 ± 7% |  |
|                     | Safety devices                       | Type           | Internal thermal fuse  |  |
|                     | Operating temp.                      | Open °C        | 145 ± 5  |  |
|                     |                                      | Close          | Automatic reclosing  |  |
|                     | Run capacitor                        | µF             | 2.0  |  |
|                     |                                      | VAC            | 440  |  |
| Flap Motor          | Model                                |                | M2LJ24ZE31   |  |
|                     | Rating                               |                | AC 208 / 230 V, 50 / 60 Hz   |  |
|                     | No. of poles ... rpm                 |                | 8 ... 2.5 / 3.0  |  |
|                     | Nominal output                       | W              | 3 / 2.5  |  |
|                     | Coil resistance (Ambient temp. 20°C) | kΩ             | 16.45 ± 15%  |  |
| Heat<br>Exch. Coil  | Coil                                 |                | Aluminum plate fin / Copper tube   |  |
|                     | Rows                                 |                | 2  |  |
|                     | Fin pitch                            | mm             | 1.8  |  |
|                     | Face area                            | m <sup>2</sup> | 0.192  |  |

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Indoor Unit

**SAP-FT225QS5**

|                     |                                      |                                  |  |  |  |  |
|---------------------|--------------------------------------|----------------------------------|--|--|--|--|
| Controller<br>PCB   | Part No.                             | POW-K185GS-N                     |  |  |  |  |
|                     | Controls                             | Microprocessor                   |  |  |  |  |
|                     | Control circuit fuse                 | 250 V – 3 A                      |  |  |  |  |
| Remote Control Unit |                                      | RCS – 2S1                        |  |  |  |  |
| Fan & Fan Motor     | Type                                 | Centrifugal                      |  |  |  |  |
|                     | Number ... Dia. and length           | mm                               | 2 ... ø 130 / L 180  |  |  |  |
|                     | Fan motor model ... Number           |                                  | K48410-M01418 ... 1  |  |  |  |
|                     | No. of poles ... rpm (230 V, High)   |                                  | 4 ... 1,280  |  |  |  |
|                     | Nominal output                       | W                                | 41   |  |  |  |
|                     | Coil resistance (Ambient temp. 20°C) | Ω                                | GRY – WHT : 95 ±7%<br>WHT – VLT : 73 ± 7%<br>VLT – YEL : 73 ± 7%<br>WHT – PNK : 207 ± 7% |  |  |  |
|                     | Safety devices                       | Type                             | Internal thermal fuse  |  |  |  |
|                     | Operating temp.                      | Open °C                          | 145 ± 5  |  |  |  |
|                     |                                      | Close                            | Automatic reclosing  |  |  |  |
|                     | Run capacitor                        | µF                               | 2.0  |  |  |  |
|                     |                                      | VAC                              | 440  |  |  |  |
| Flap Motor          | Model                                | M2LJ24ZE31                       |  |  |  |  |
|                     | Rating                               | AC 208 / 230 V, 50 / 60 Hz       |  |  |  |  |
|                     | No. of poles ... rpm                 |                                  | 8 ... 2.5 / 3.0  |  |  |  |
|                     | Nominal output                       | W                                | 3 / 2.5  |  |  |  |
|                     | Coil resistance (Ambient temp. 20°C) | kΩ                               | 16.45 ± 15%  |  |  |  |
| Heat<br>Exch. Coil  | Coil                                 | Aluminum plate fin / Copper tube |  |  |  |  |
|                     | Rows                                 | 2                                |  |  |  |  |
|                     | Fin pitch                            | mm                               | 1.8  |  |  |  |
|                     | Face area                            | m <sup>2</sup>                   | 0.192  |  |  |  |

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

## 2-2-2. Outdoor Unit

Outdoor Unit

**SAP-C126Q5**

|                 |                                      |                                    |  |                                 |  |  |
|-----------------|--------------------------------------|------------------------------------|--|---------------------------------|--|--|
| Compressor      | Type                                 | Rotary (Hermetic)                  |  |                                 |  |  |
|                 | Compressor model                     | C-R112H5V 80614445-S               |  |                                 |  |  |
|                 | Nominal output                       | W                                  | 1,075  |                                 |  |  |
|                 | Compressor oil ... Amount            | cc                                 | 4GSD-T ... 550   |                                 |  |  |
|                 | Coil resistance (Ambient temp. 25°C) | Ω                                  | C - R : 1.96<br>C - S : 5.38   |                                 |  |  |
|                 | Safety devices                       | Type                               | External (OLR A)   | External (OLR T)                |  |  |
|                 |                                      | Overload relay                     | MRA98596-9201  | CS-7C115                        |  |  |
|                 |                                      | Operating temp.                    | Open °C<br>Close °C  | 145 ± 5<br>69 ± 11<br>95 ± 5    |  |  |
|                 |                                      | Operating amp.(Ambient temp. 25°C) | Trip in 6 to 16 sec. at 21 A   |                                 |  |  |
|                 | Run capacitor                        | μF<br>VAC                          | 25.0<br>400  |                                 |  |  |
| Fan & Fan Motor | Type                                 | Propeller                          |  |                                 |  |  |
|                 | Number ... Dia.                      | mm                                 | 1 ... ø 400  |                                 |  |  |
|                 | Fan motor model ... Number           | K35610-M01402 ... 1                |  |                                 |  |  |
|                 | No. of poles ... rpm (230 V, High)   | 6 ... 760                          |  |                                 |  |  |
|                 | Nominal output                       | W                                  | 25   |                                 |  |  |
|                 | Coil resistance (Ambient temp. 20°C) | Ω                                  | BRN - WHT : 256 ± 7%<br>YEL - WHT : 227 ± 7%<br>PNK - YEL : 103 ± 7% |                                 |  |  |
|                 | Safety devices                       | Type                               | Internal thermal fuse  |                                 |  |  |
|                 |                                      | Operating temp.                    | Open °C<br>Close   | 150 ± 10<br>Automatic reclosing |  |  |
|                 |                                      | Run capacitor                      | μF<br>VAC  | 2.0<br>440                      |  |  |
|                 |                                      |                                    |  |                                 |  |  |
| Heat Exch. Coil | Coil                                 | Aluminum plate fin / Copper tube   |  |                                 |  |  |
|                 | Rows                                 | 1                                  |  |                                 |  |  |
|                 | Fin pitch                            | mm                                 | 1.3  |                                 |  |  |
|                 | Face area                            | m <sup>2</sup>                     | 0.379  |                                 |  |  |
| External Finish |                                      | Acrylic baked-on enamel finish     |  |                                 |  |  |

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Outdoor Unit SAP-C126QL5

|                                      |                      |  |                    |                     |
|--------------------------------------|----------------------|--|--------------------|---------------------|
| Controller PCB                       | Part No.             | POW-C126GL   |                    |                     |
|                                      | Control circuit fuse | 250 V - 5 A  |                    |                     |
| Compressor                           |                      | Type<br>Rotary (Hermetic)  |                    |                     |
| Compressor model                     |                      | C-R112H5V 80614445-S   |                    |                     |
| Nominal output                       |                      | W<br>1,075   |                    |                     |
| Compressor oil ... Amount            |                      | cc<br>4GSD-T ... 550   |                    |                     |
| Coil resistance (Ambient temp. 25°C) |                      | $\Omega$<br>C - R : 1.96<br>C - S : 5.38   |                    |                     |
| Safety devices                       | Type                 | External (OLR A)   |                    | External (OLR T)    |
|                                      | Overload relay       | MRA98596-9201  |                    | CS-7C115            |
|                                      | Operating temp.      | Open   | $^{\circ}\text{C}$ | 145 ± 5             |
|                                      |                      | Close  | $^{\circ}\text{C}$ | 69 ± 11             |
| Operating amp.(Ambient temp. 25°C)   |                      | Trip in 6 to 16 sec. at 21A  |                    |                     |
| Run capacitor                        |                      | $\mu\text{F}$<br>25.0  |                    |                     |
| Crank case heater                    |                      | VAC<br>400   |                    |                     |
| Crank case heater                    |                      | 240V 20W   |                    |                     |
| Fan & Fan Motor                      |                      | Type<br>Propeller  |                    |                     |
| Number ... Dia.                      |                      | mm<br>1 ... ø400   |                    |                     |
| Fan motor model ... Number           |                      | K35610-M01402 ... 1  |                    |                     |
| No. of poles ... rpm (230 V, High)   |                      | 6 ... 760  |                    |                     |
| Nominal output                       |                      | W<br>25  |                    |                     |
| Coil resistance (Ambient temp. 20°C) |                      | $\Omega$<br>BRN - WHT : 256 ± 7%<br>YEL - WHT : 227 ± 7%<br>PNK - YEL : 103 ± 7% |                    |                     |
| Safety devices                       | Type                 | Internal thermal fuse  |                    |                     |
|                                      | Operating temp.      | Open   | $^{\circ}\text{C}$ | 150 ± 10            |
|                                      |                      | Close  |                    | Automatic reclosing |
|                                      | Run capacitor        | $\mu\text{F}$  |                    | 2.0                 |
| Run capacitor                        |                      | VAC<br>440   |                    |                     |
| Heat Exch. Coil                      |                      | Coil<br>Aluminum plate fin / Copper tube   |                    |                     |
| Rows                                 |                      | 1  |                    |                     |
| Fin pitch                            |                      | mm<br>1.3  |                    |                     |
| Face area                            |                      | m <sup>2</sup><br>0.379  |                    |                     |
| External Finish                      |                      | Acrylic baked-on enamel finish   |                    |                     |

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Outdoor Unit

**SAP-C165Q5**

|                 |                                      |                                  |                                       |                     |  |  |
|-----------------|--------------------------------------|----------------------------------|---------------------------------------|---------------------|--|--|
| Compressor      | Type                                 | Rotary (Hermetic)                |                                       |                     |  |  |
|                 | Compressor model                     | C-2R150H5T 80815845              |                                       |                     |  |  |
|                 | Nominal output                       | W                                | 1,500                                 |                     |  |  |
|                 | Compressor oil ... Amount            | cc                               | 4GSD-T ... 800                        |                     |  |  |
|                 | Coil resistance (Ambient temp. 25°C) | Ω                                | C - R : 1.43<br>C - S : 4.12          |                     |  |  |
|                 | Type                                 | Internal type                    |                                       |                     |  |  |
|                 | Overload relay                       | —                                |                                       |                     |  |  |
|                 | Safety devices                       | Operating temp.                  | Open °C                               | 160 ± 5             |  |  |
|                 |                                      | Close °C                         |                                       | 100 ± 11            |  |  |
| Fan & Fan Motor | Operating amp.(Ambient temp. 25°C)   | —                                |                                       |                     |  |  |
|                 | Run capacitor                        | μF                               | 35.0                                  |                     |  |  |
|                 |                                      | VAC                              | 400                                   |                     |  |  |
|                 | Type                                 | Propeller                        |                                       |                     |  |  |
|                 | Number ... Dia.                      | mm                               | 1 ... ø 400                           |                     |  |  |
|                 | Fan motor model ... Number           | SG6-51B5P ... 1                  |                                       |                     |  |  |
|                 | No. of poles ... rpm (230 V, High)   | 6 ... 910                        |                                       |                     |  |  |
|                 | Nominal output                       | W                                | 50                                    |                     |  |  |
| Heat Exch. Coil | Coil resistance (Ambient temp. 20°C) | Ω                                | WHT – BRN : 92.1<br>WHT – PNK : 196.4 |                     |  |  |
|                 | Type                                 | Internal thermal fuse            |                                       |                     |  |  |
|                 | Safety devices                       | Operating temp.                  | Open °C                               | 130 ± 8             |  |  |
|                 |                                      | Close                            |                                       | Automatic reclosing |  |  |
|                 | Run capacitor                        | μF                               | 2.0                                   |                     |  |  |
|                 |                                      | VAC                              | 440                                   |                     |  |  |
|                 | Coil                                 | Aluminum plate fin / Copper tube |                                       |                     |  |  |
|                 | Rows                                 | 2                                |                                       |                     |  |  |
| Fin pitch       |                                      | mm                               | 1.8                                   |                     |  |  |
| Face area       |                                      | m <sup>2</sup>                   | 0.508                                 |                     |  |  |
| External Finish |                                      |                                  | Acrylic baked-on enamel finish        |                     |  |  |

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Outdoor Unit

**SAP-C185Q5**

|                 |                                      |                                  |   |                                |  |
|-----------------|--------------------------------------|----------------------------------|---|--------------------------------|--|
| Compressor      | Type                                 | Rotary (Hermetic)                |   |                                |  |
|                 | Compressor model                     | C-2R170H5V 80817545              |   |                                |  |
|                 | Nominal output                       | W                                | 1,700   |                                |  |
|                 | Compressor oil ... Amount            | cc                               | 4GSD-T ... 800  |                                |  |
|                 | Coil resistance (Ambient temp. 25°C) | Ω                                | C - R : 1.35<br>C - S : 3.42                              |                                |  |
|                 | Type                                 | Internal type                    |   |                                |  |
| Safety devices  | Overload relay                       | —                                |   |                                |  |
|                 | Operating temp.                      | Open<br>Close                    | °C<br>°C  | 170 ± 5<br>105 ± 11            |  |
|                 | Operating amp.(Ambient temp. 25°C)   | —                                |   |                                |  |
|                 | Run capacitor                        | μF                               |   | 40.0                           |  |
|                 |                                      | VAC                              |   | 400                            |  |
|                 | Type                                 | Propeller                        |   |                                |  |
| Fan & Fan Motor | Number ... Dia.                      | mm                               |   |                                |  |
|                 | Fan motor model ... Number           | SG6S-51B5P ... 1                 |   |                                |  |
|                 | No. of poles ... rpm (230 V, High)   | 6 ... 910                        |   |                                |  |
|                 | Nominal output                       | W                                | 50  |                                |  |
|                 | Coil resistance (Ambient temp. 20°C) | Ω                                | WHT - BRN : 89.1<br>WHT - YEL : 111.8<br>YEL - PNK : 55.9 |                                |  |
|                 | Type                                 | Internal thermal fuse            |   |                                |  |
| Safety devices  | Operating temp.                      | Open<br>Close                    | °C<br>°C  | 130 ± 8<br>Automatic reclosing |  |
|                 | Run capacitor                        | μF                               |   | 2.0                            |  |
|                 |                                      | VAC                              |   | 440                            |  |
|                 | Coil                                 | Aluminum plate fin / Copper tube |   |                                |  |
|                 | Rows                                 | 2                                |   |                                |  |
|                 | Fin pitch                            | mm                               | 1.8   |                                |  |
| Heat Exch. Coil | Face area                            | m <sup>2</sup>                   | 0.508   |                                |  |
|                 | External Finish                      | Acrylic baked-on enamel finish   |   |                                |  |

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Outdoor Unit SAP-C185QL5

|                 |                                      |                                  |                                       |                     |  |  |
|-----------------|--------------------------------------|----------------------------------|---------------------------------------|---------------------|--|--|
| Controller PCB  | Part No.                             | POW-C181BL                       |                                       |                     |  |  |
|                 | Control circuit fuse                 | 250V - 5 A                       |                                       |                     |  |  |
| Compressor      | Type                                 | Rotary (Hermetic)                |                                       |                     |  |  |
|                 | Compressor model                     | C-2R170H5V 80817545              |                                       |                     |  |  |
|                 | Nominal output                       | W                                | 1,700                                 |                     |  |  |
|                 | Compressor oil ... Amount            | cc                               | 4GSD-T ... 800                        |                     |  |  |
|                 | Coil resistance (Ambient temp. 25°C) | Ω                                | C - R : 1.35<br>C - S : 3.42          |                     |  |  |
| Safety devices  | Type                                 | Internal type                    |                                       |                     |  |  |
|                 | Overload relay                       | —                                |                                       |                     |  |  |
|                 | Operating temp.                      | Open °C                          | 170 ± 5                               |                     |  |  |
|                 |                                      | Close °C                         | 105 ± 11                              |                     |  |  |
|                 | Operating amp.(Ambient temp. 25°C)   | —                                |                                       |                     |  |  |
| Fan & Fan Motor | Run capacitor                        | μF                               | 40.0                                  |                     |  |  |
|                 |                                      | VAC                              | 400                                   |                     |  |  |
|                 | Crank case heater                    | 240V 30W                         |                                       |                     |  |  |
|                 | Type                                 | Propeller                        |                                       |                     |  |  |
|                 | Number ... Dia.                      | mm                               | 1 ... ø400                            |                     |  |  |
| Heat Exch. Coil | Fan motor model ... Number           | SG6-51B5P ... 1                  |                                       |                     |  |  |
|                 | No. of poles ... rpm (230 V, High)   | 6 ... 910                        |                                       |                     |  |  |
|                 | Nominal output                       | W                                | 50                                    |                     |  |  |
|                 | Coil resistance (Ambient temp. 20°C) | Ω                                | WHT - BRN : 92.1<br>WHT - PNK : 196.4 |                     |  |  |
|                 | Safety devices                       | Type                             | Internal thermal fuse                 |                     |  |  |
|                 |                                      | Operating temp.                  | Open °C                               | 130 ± 8             |  |  |
|                 |                                      |                                  | Close                                 | Automatic reclosing |  |  |
|                 |                                      | Run capacitor                    | μF                                    | 2.0                 |  |  |
|                 |                                      |                                  | VAC                                   | 440                 |  |  |
| External Finish | Coil                                 | Aluminum plate fin / Copper tube |                                       |                     |  |  |
|                 | Rows                                 | 2                                |                                       |                     |  |  |
|                 | Fin pitch                            | mm                               | 1.8                                   |                     |  |  |
|                 | Face area                            | m <sup>2</sup>                   | 0.508                                 |                     |  |  |
| External Finish |                                      |                                  | Acrylic baked-on enamel finish        |                     |  |  |

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Outdoor Unit

**SAP-C225Q5**

|                   |                                      |                                  |   |                                |  |  |
|-------------------|--------------------------------------|----------------------------------|---|--------------------------------|--|--|
| Compressor        | Type                                 | Rotary (Hermetic)                |   |                                |  |  |
|                   | Compressor model                     | C-R221H5S 80687145               |   |                                |  |  |
|                   | Nominal output                       | W                                | 2,200   |                                |  |  |
|                   | Compressor oil ... Amount            | cc                               | 4GSD-T ... 1,350  |                                |  |  |
|                   | Coil resistance (Ambient temp. 25°C) | Ω                                | C – R : 0.78<br>C – S : 2.41                            |                                |  |  |
|                   | Type                                 | External (OLR)                   |   |                                |  |  |
|                   | Overload relay                       | OL-D24                           |   |                                |  |  |
|                   | Operating temp.                      | Open<br>Close                    | °C<br>°C  | 150 ± 5<br>63 ± 10             |  |  |
|                   | Operating amp.(Ambient temp. 25°C)   | Trip in 6 to 16 sec. at 59A      |   |                                |  |  |
|                   | Run capacitor                        | μF                               | 40.0  |                                |  |  |
|                   |                                      | VAC                              | 400   |                                |  |  |
| Crank case heater |                                      |                                  |   | 240V 30W                       |  |  |
| Fan & Fan Motor   | Type                                 | Propeller                        |   |                                |  |  |
|                   | Number ... Dia.                      | mm                               | 1 ... ø 460   |                                |  |  |
|                   | Fan motor model ... Number           | KFC6S-51B5P ... 1                |   |                                |  |  |
|                   | No. of poles ... rpm (230 V, High)   | 6...860                          |   |                                |  |  |
|                   | Nominal output                       | W                                | 50  |                                |  |  |
|                   | Coil resistance (Ambient temp. 20°C) | Ω                                | WHT – BRN : 95.9<br>WHT – YEL : 55.4<br>YEL – PNK : 7.2 |                                |  |  |
|                   | Type                                 | Internal thermal fuse            |   |                                |  |  |
|                   | Operating temp.                      | Open<br>Close                    | °C<br>°C  | 130 ± 8<br>Automatic reclosing |  |  |
|                   | Run capacitor                        | μF                               | 5.0   |                                |  |  |
|                   |                                      | VAC                              | 440   |                                |  |  |
| Heat Exch. Coil   | Coil                                 | Aluminum plate fin / Copper tube |   |                                |  |  |
|                   | Rows                                 | 2                                |   |                                |  |  |
|                   | Fin pitch                            | mm                               | 1.9   |                                |  |  |
|                   | Face area                            | m <sup>2</sup>                   | 0.610   |                                |  |  |
| External Finish   |                                      |                                  |   | Acrylic baked-on enamel finish |  |  |

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

## 2-3. Other Component Specifications

|             |                     |                     |
|-------------|---------------------|---------------------|
| Indoor Unit | <b>SAP-FT126QS5</b> | <b>SAP-FT165QS5</b> |
|             | <b>SAP-FT185QS5</b> | <b>SAP-FT225QS5</b> |

| <b>Thermistor (Room sensor TH2)</b> |    | <b>KTEC-35-S6</b> |           |      |          |
|-------------------------------------|----|-------------------|-----------|------|----------|
| Resistance                          | kΩ | 10°C              | 10.0 ± 4% | 30°C | 4.0 ± 4% |
|                                     |    | 15°C              | 7.9 ± 4%  | 35°C | 3.3 ± 4% |
|                                     |    | 20°C              | 6.3 ± 4%  | 40°C | 2.7 ± 4% |
|                                     |    | 25°C              | 5.0 ± 4%  | 50°C | 1.8 ± 4% |

| <b>Thermistor (Coil sensor TH1)</b> |    | <b>PBC-41E-S14</b> |           |      |          |
|-------------------------------------|----|--------------------|-----------|------|----------|
| Resistance                          | kΩ | -20°C              | 40.1 ± 5% | 20°C | 6.5 ± 5% |
|                                     |    | -10°C              | 24.4 ± 5% | 30°C | 4.4 ± 5% |
|                                     |    | 0°C                | 15.3 ± 5% | 40°C | 3.0 ± 5% |
|                                     |    | 10°C               | 9.9 ± 5%  | 50°C | 2.1 ± 5% |

| <b>Transformer (TR)</b> |             | <b>ATR-H85</b>       |                 |                        |            |
|-------------------------|-------------|----------------------|-----------------|------------------------|------------|
| Rating                  | Primary     | AC                   | 230V, 50/60Hz   |                        |            |
|                         | Secondary   |                      | 11V, 0.727A     |                        |            |
|                         | Capacity    |                      | 8VA             |                        |            |
| Coil resistance         | Ω (at 21°C) | Primary (WHT – WHT): | 214 ± 10%       | Secondary (BRN – BRN): | 1.58 ± 10% |
| Thermal cut-off temp.   |             |                      | 145°C, 2A, 250V |                        |            |

Outdoor Unit      **SAP-C126Q5**      **SAP-C165Q5**      **SAP-C185Q5**

| <b>Power Relay (PR)</b> |             | <b>G7L-2A-TUB</b> |                   |  |  |
|-------------------------|-------------|-------------------|-------------------|--|--|
| Coil rating             |             | AC                | 200–240V, 50/60Hz |  |  |
| Coil resistance         | Ω (at 23°C) |                   | 21 ± 15%          |  |  |
| Contact rating          |             | AC                | 220V, 25A         |  |  |

| <b>Thermostat (Fan Speed Control 23S)</b> |    | <b>MQT5S-27YZJ</b> |      |                 |  |
|---|----|--------------------|------|-----------------|--|
| Switching temp.                           | °C | high               | LOW  | 23.5°C ± 1.5    |  |
|   |    | low                | HIGH | 27.0°C +0<br>-3 |  |
| Contact rating                            |    |                    |      | AC 220V, 3A     |  |

< Only for SAP-C126Q5 and C185Q5 >

Outdoor Unit      SAP-C126QL5      SAP-C185QL5

|  |             |   |
|--|-------------|---|
| <b>Solid State Relay (SSR)</b>                       |             | <b>G3L-205TL-TS1</b>  |
| Input  |             |   |
| Rated voltage  |             | DC 12V  |
| Control voltage range                                |             | DC 0V to 6.4V   |
| Load voltage range                                   |             | AC 75V to 264V, 50Hz  |
| <b>Relay (1X)</b>                                    |             | <b>MY2F-T1-USTS</b>   |
| Coil rating  |             | DC 24V  |
| Coil resistance                                      | Ω (at 25°C) | 650 ± 15%   |
| Contact rating                                       |             | AC 240V, 5A   |
| <b>Thermistor (Coil sensor TH3 / Air sensor TH4)</b> |             | <b>PBC-41E-S4 / PBC-41E-S8</b>                                      |
| Resistance   | kΩ          | -20°C 40.1 ± 5%      20°C 6.5 ± 5%                                  |
|  |             | -10°C 24.4 ± 5%      30°C 4.4 ± 5%                                  |
|  |             | 0°C 15.3 ± 5%      40°C 3.0 ± 5%                                    |
|  |             | 10°C 9.9 ± 5%      50°C 2.1 ± 5%                                    |
| <b>Transformer (TR2)</b>                             |             | <b>ATR-J65</b>  |
| Rating   | Primary     | AC 230V, 50Hz   |
|  | Secondary   | 19V, 0.315A   |
|  | Capacity    | 6VA   |
| Coil resistance                                      | Ω (at 22°C) | Primary (WHT – WHT): 455 ± 10%<br>Secondary (BRN – BRN): 2.85 ± 10% |
| Thermal cut-off temp.                                |             | 145°C   |
| <b>Power Relay (PR)</b>                              |             | <b>G7L-2A-TUB</b>   |
| Coil rating  |             | AC 200–240V, 50/60Hz  |
| Coil resistance                                      | Ω (at 23°C) | 21 ± 15%  |
| Contact rating                                       |             | AC 220V, 25A  |
| <b>Thermostat (Fan Speed Control 23S)</b>            |             | <b>MQT5S</b>  |
| Switching temp.                                      | °C          | high LOW 28.5°C ± 1.5<br>low HIGH 31.5°C ± 2                        |
| Contact rating                                       |             | AC 220V, 3A   |

< Only for SAP-C126QL5 >

Outdoor Unit      SAP-C225Q5

|   |             |  |
|---|-------------|--|
| <b>Thermostat (Fan Speed Control 23S)</b> |             | <b>YTB-S383</b>                          |
| Switching temp.                           | °C          | high LOW 28.5°C ± 1<br>low HIGH 31°C ± 1 |
| <b>Magnetic Contactor (MG)</b>            |             | <b>HE-20FT31B</b>                        |
| Coil rating                               |             | AC 220/240V, 50Hz                        |
| Coil resistance                           | Ω (at 25°C) | 1,050 ± 15%                              |
| Contact rating (Main)                     |             | AC 220V, 20A                             |

### 3. DIMENSIONAL DATA

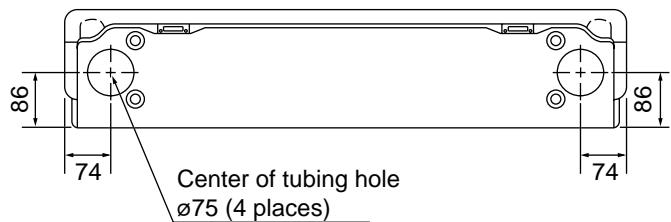
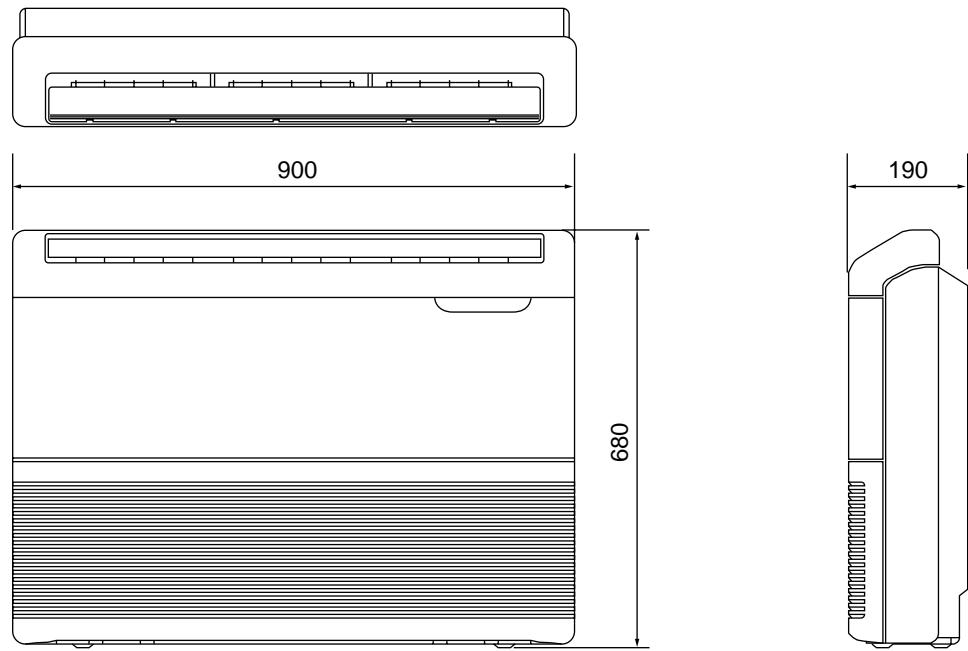
Indoor Unit

SAP-FT126QS5

SAP-FT185QS5

SAP-FT165QS5

SAP-FT225QS5

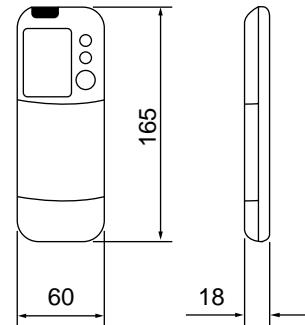
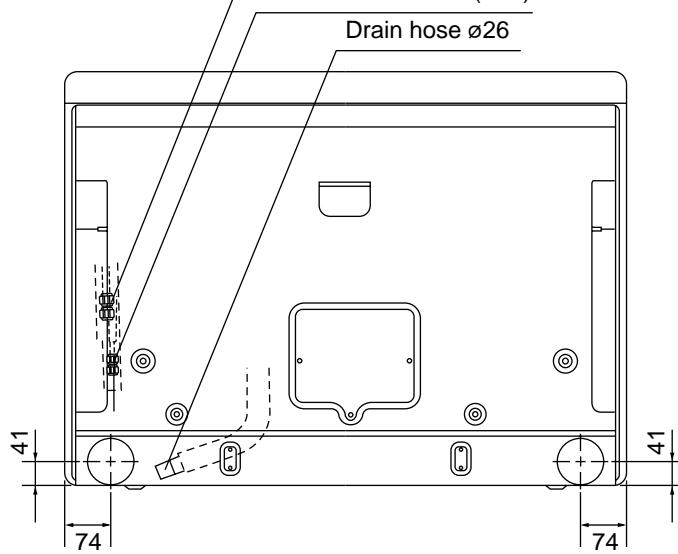


Remote control unit

Wide tube ø12.7 (1/2") ..... FT126, 165, 185  
Wide tube ø15.88 (5/8") ..... FT225

Narrow tube ø6.35 (1/4")

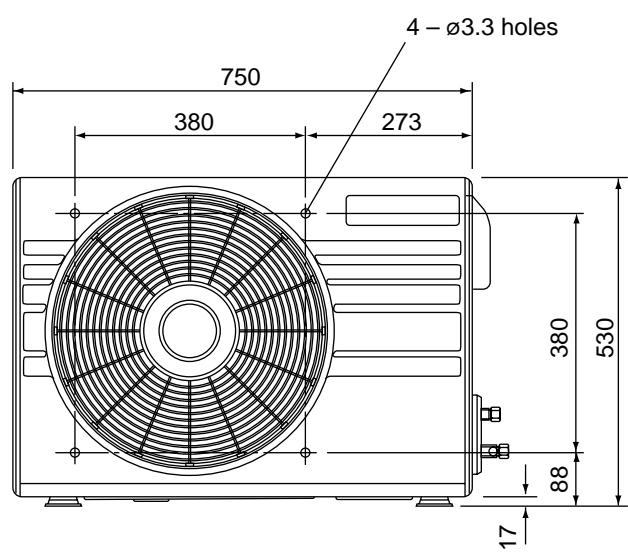
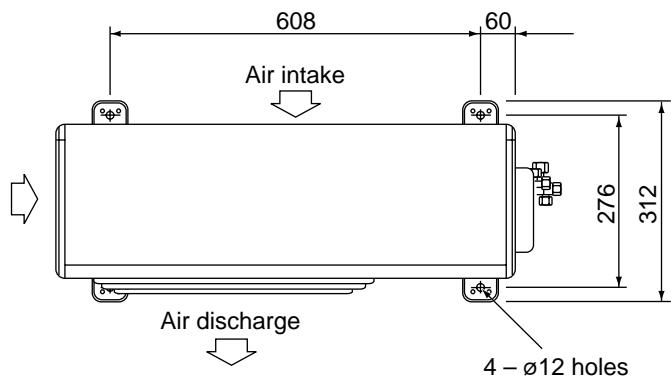
Drain hose ø26



Dimensions : mm

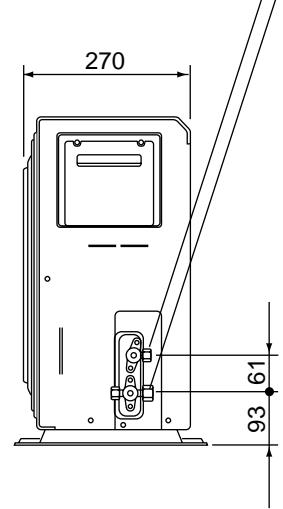
Outdoor Unit

**SAP-C126Q5**



Wide tube service valve  
 $\varnothing 12.7$  (1/2")

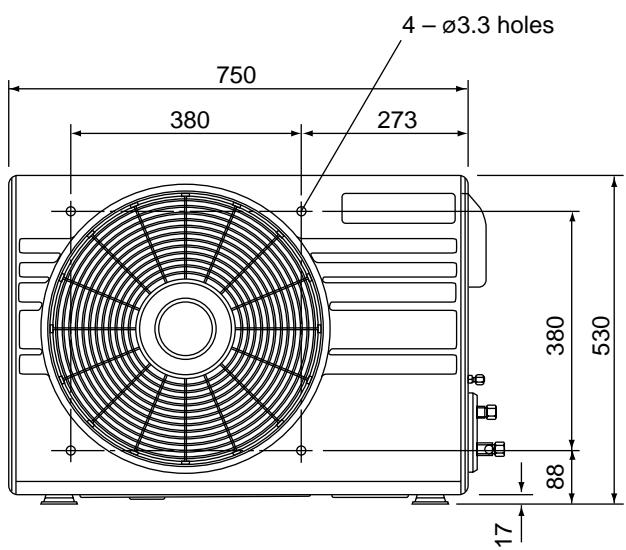
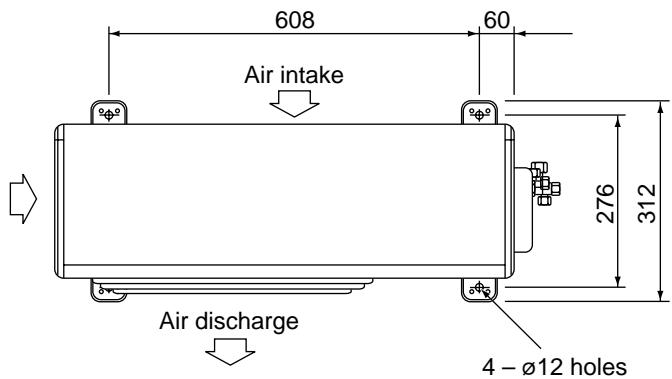
Narrow tube service valve  
 $\varnothing 6.35$  (1/4")



**Dimensions : mm**

Outdoor Unit

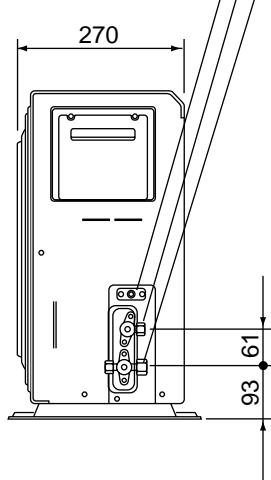
**SAP-C126QL5**



Wide tube service valve  
ø12.7 (1/2")

Narrow tube service valve  
ø6.35 (1/4")

Check port ø6.35 (1/4")

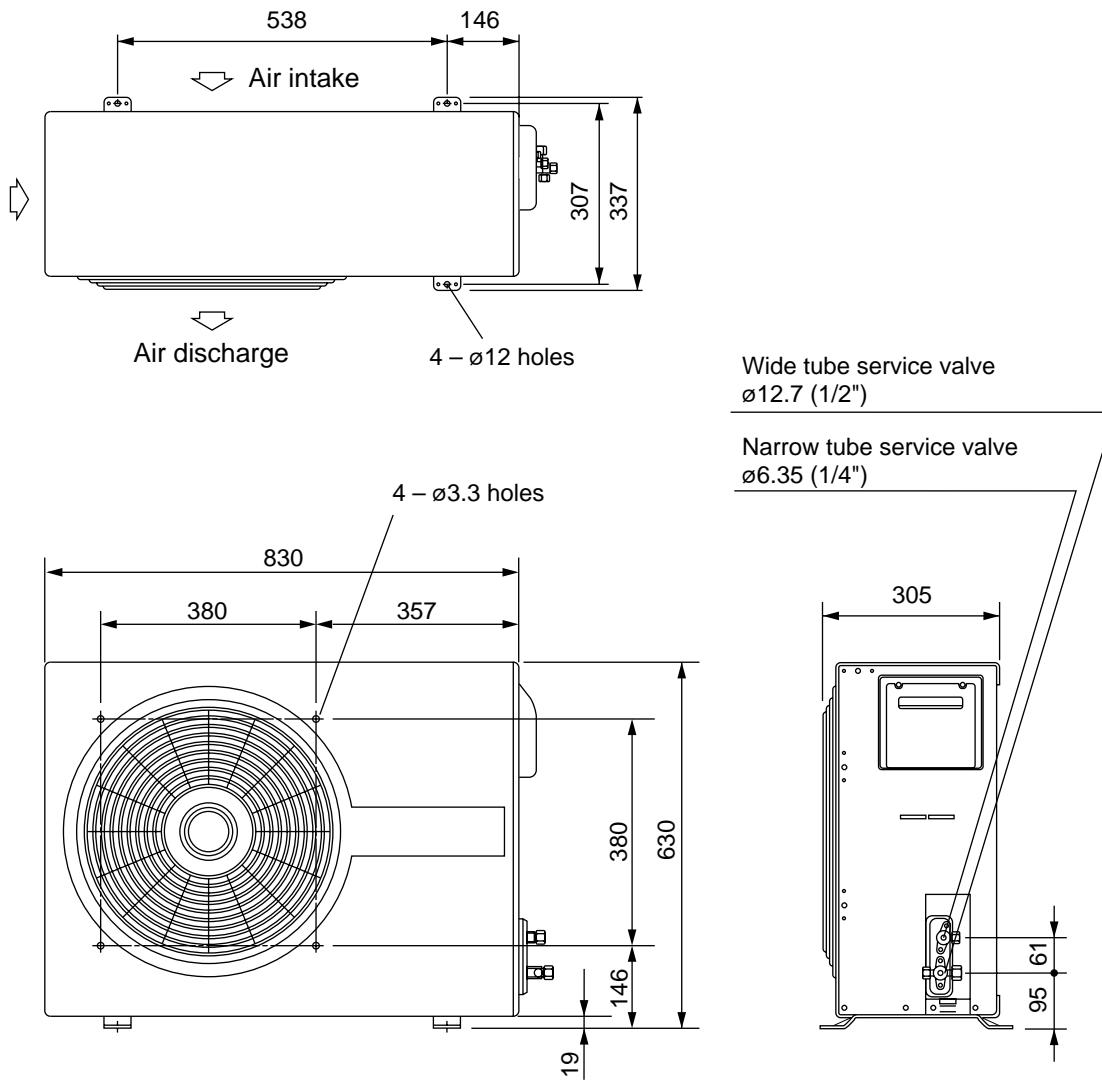


**Dimensions : mm**

Outdoor Unit

**SAP-C165Q5**

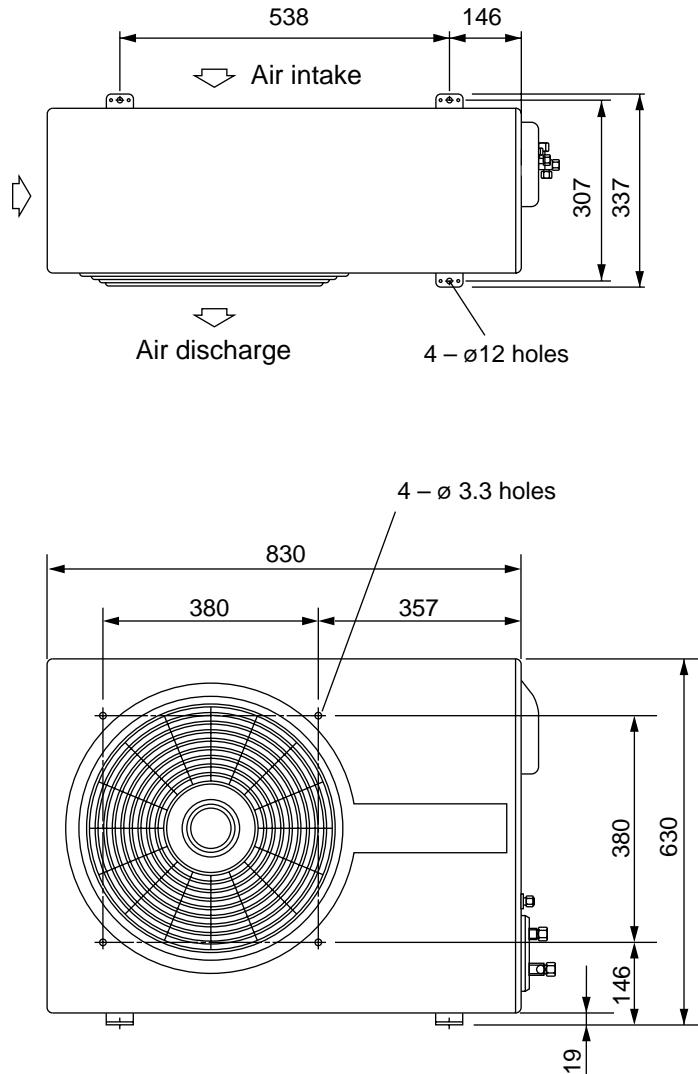
**SAP-C185Q5**



**Dimensions : mm**

Outdoor Unit

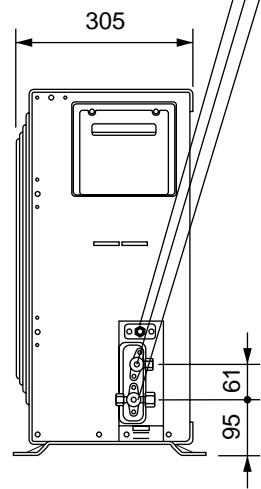
**SAP-C185QL5**



Wide tube service valve  
 $\varnothing 12.7$  (1/2")

Narrow tube service valve  
 $\varnothing 6.35$  (1/4")

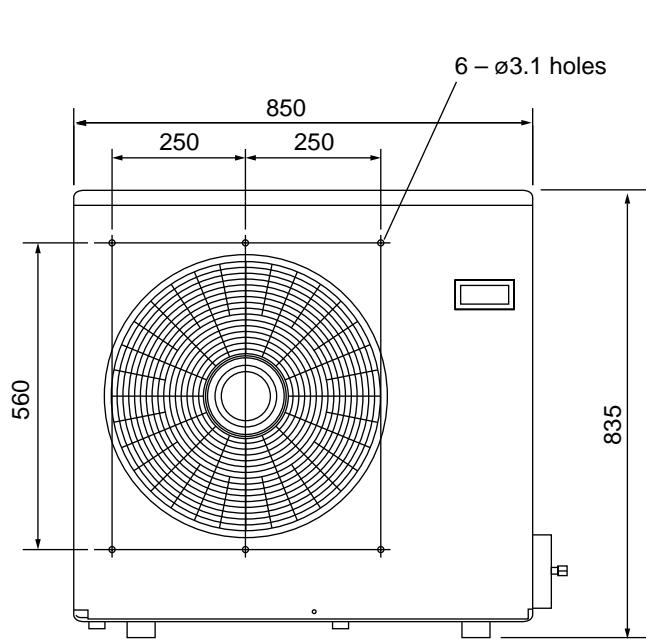
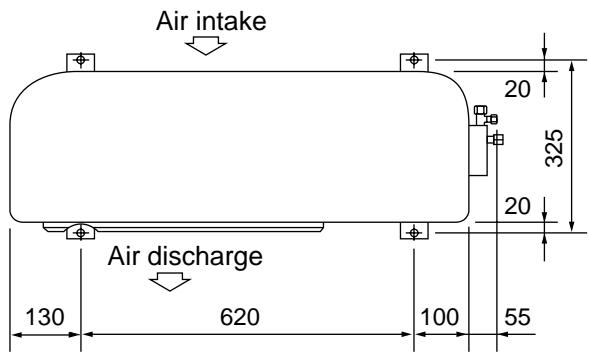
Check port  $\varnothing 6.35$  (1/4")



**Dimensions : mm**

Outdoor Unit

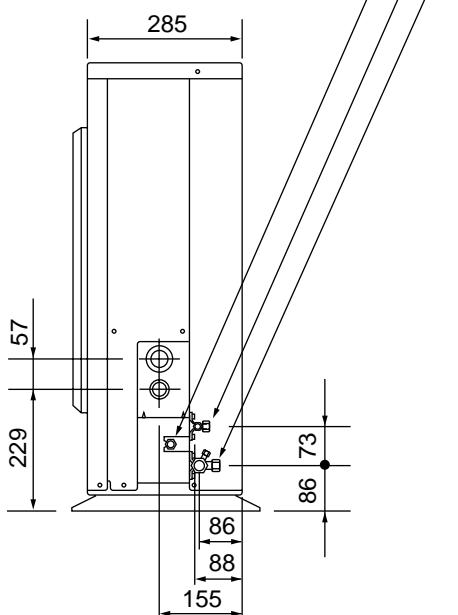
**SAP-C225Q5**



Wide tube service valve ø15.88 (5/8")

Narrow tube service valve ø6.35 (1/4")

Check port ø6.35 (1/4")



**Dimensions : mm**

## 4. PERFORMANCE CHARTS

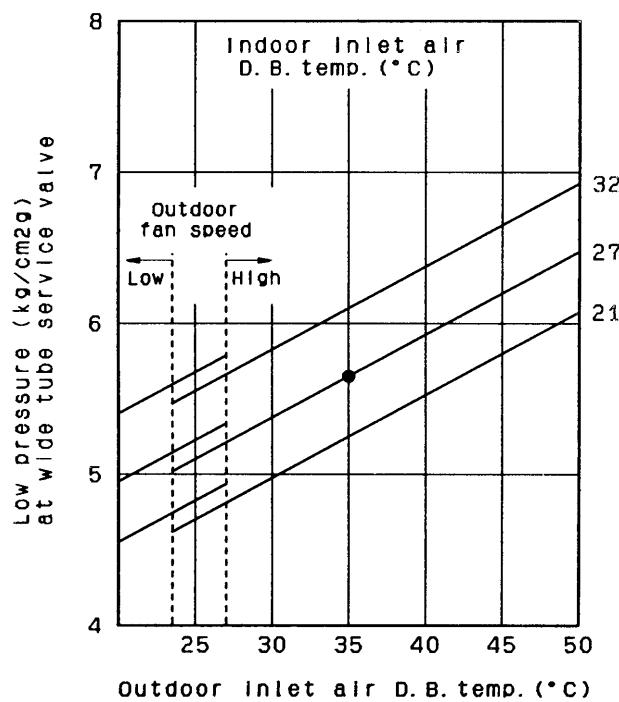
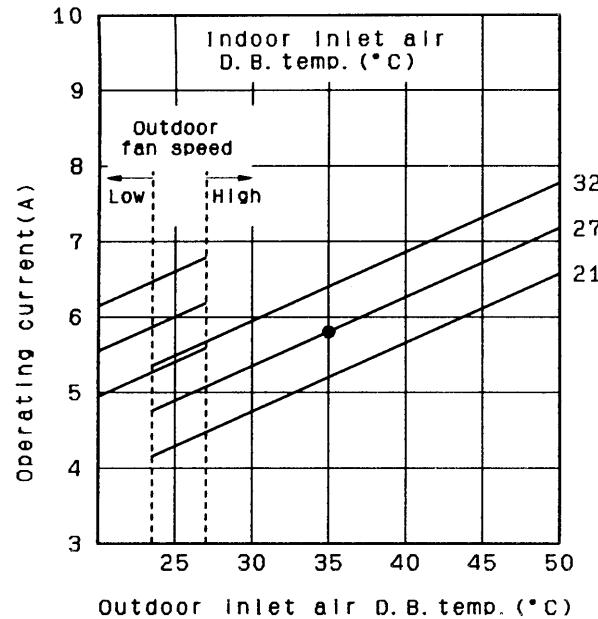
Indoor Unit

SAP-FT126QS5

Outdoor Unit

SAP-C126Q5

### ● Cooling characteristics



### NOTE

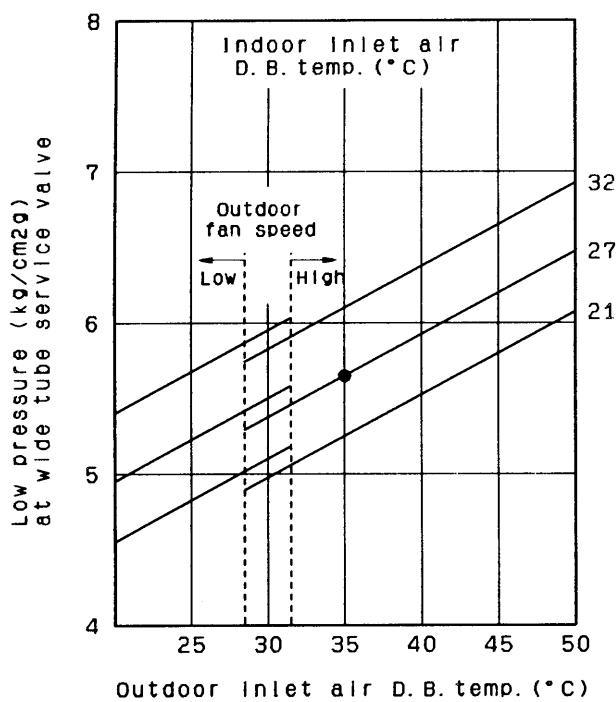
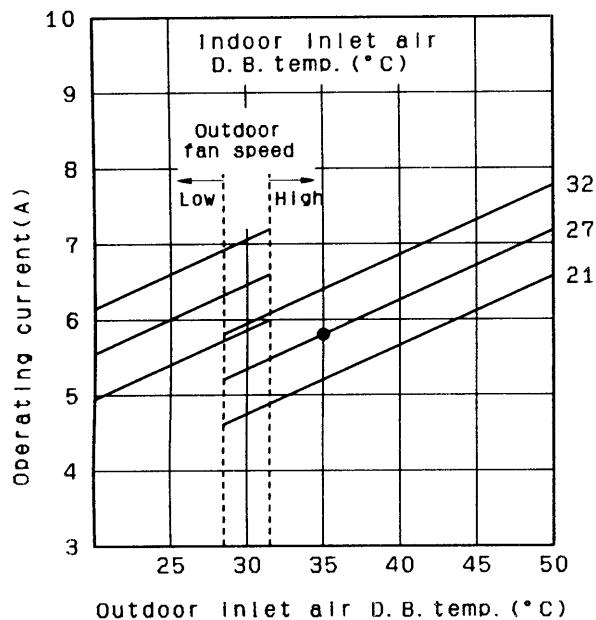
- .....Points of Rating condition

Black dots in above charts indicate the following rating conditions.

Indoor air temperature 27°C DB/19°C WB

Outdoor air temperature 35°C DB/24°C WB

## ● Cooling characteristics



### NOTE

- .....Points of Rating condition  
Black dots in above charts indicate the following rating conditions.  
Indoor air temperature 27°C DB/19°C WB  
Outdoor air temperature 35°C DB/24°C WB

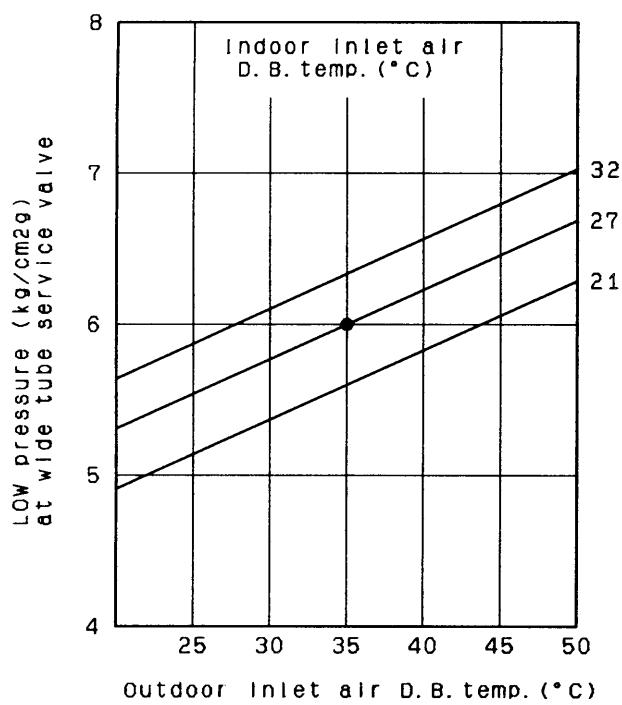
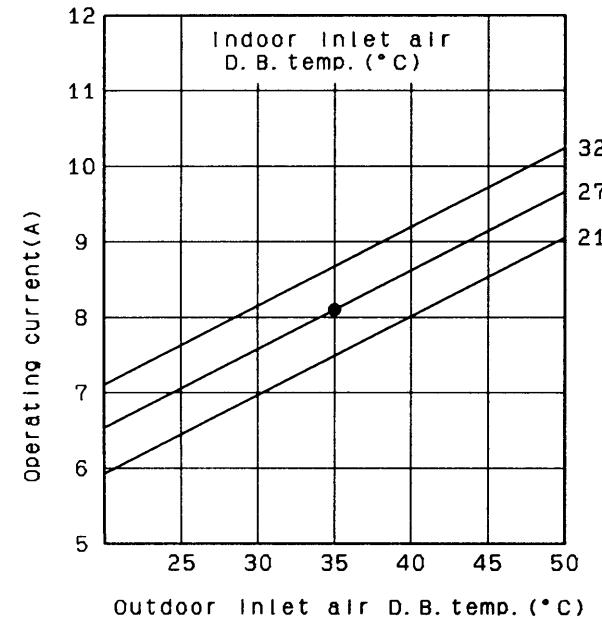
Indoor Unit

SAP-FT165QS5

Outdoor Unit

SAP-C165Q5

## ● Cooling characteristics



### NOTE

- .....Points of Rating condition

Black dots in above charts indicate the following rating conditions.

Indoor air temperature 27°C DB/19°C WB

Outdoor air temperature 35°C DB/24°C WB

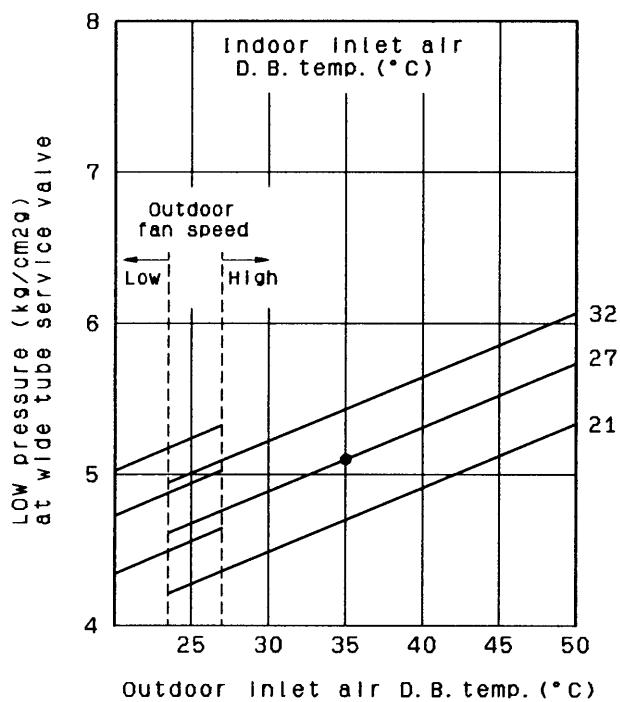
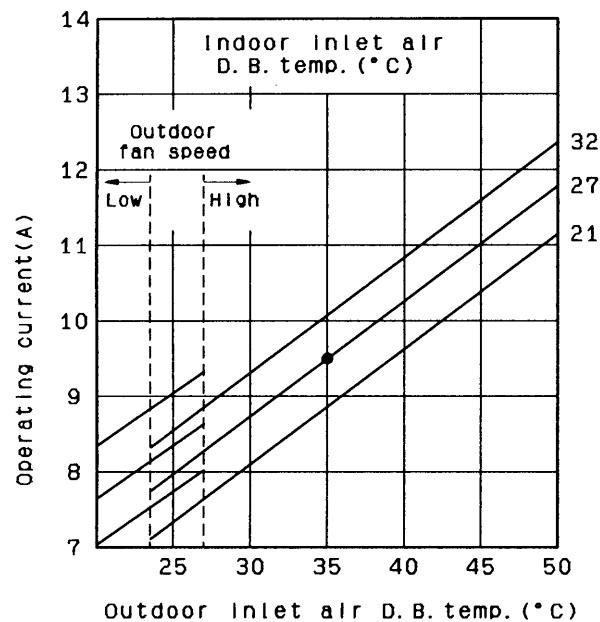
Indoor Unit

SAP-FT185QS5

Outdoor Unit

SAP-C185Q5

## ● Cooling characteristics



### NOTE

- .....Points of Rating condition

Black dots in above charts indicate the following rating conditions.

Indoor air temperature 27°C DB/19°C WB

Outdoor air temperature 35°C DB/24°C WB

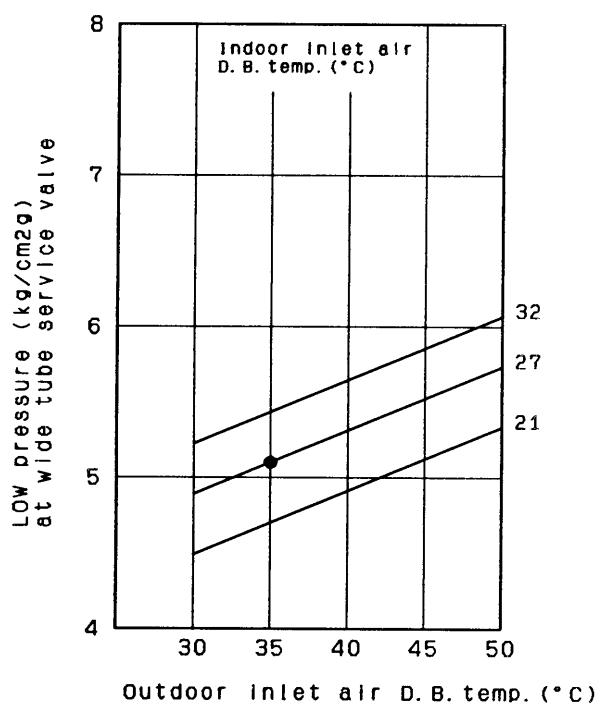
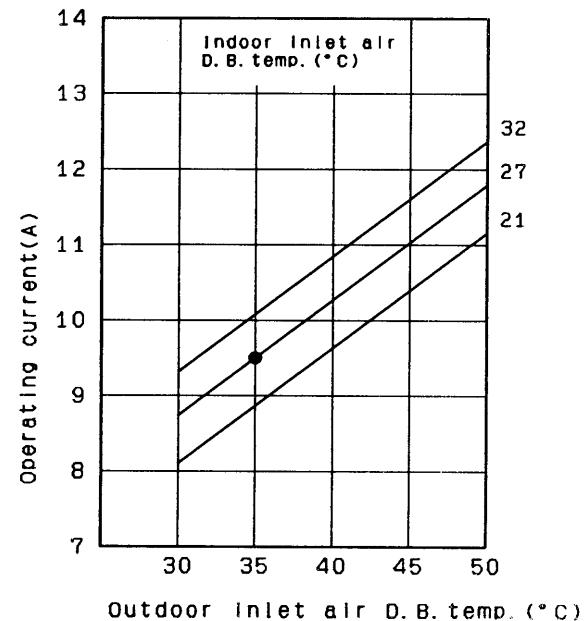
Indoor Unit

SAP-FT185QS5

Outdoor Unit

SAP-C185QL5

## ● Cooling characteristics



### NOTE

- .....Points of Rating condition

Black dots in above charts indicate the following rating conditions.

Indoor air temperature 27°C DB/19°C WB

Outdoor air temperature 35°C DB/24°C WB

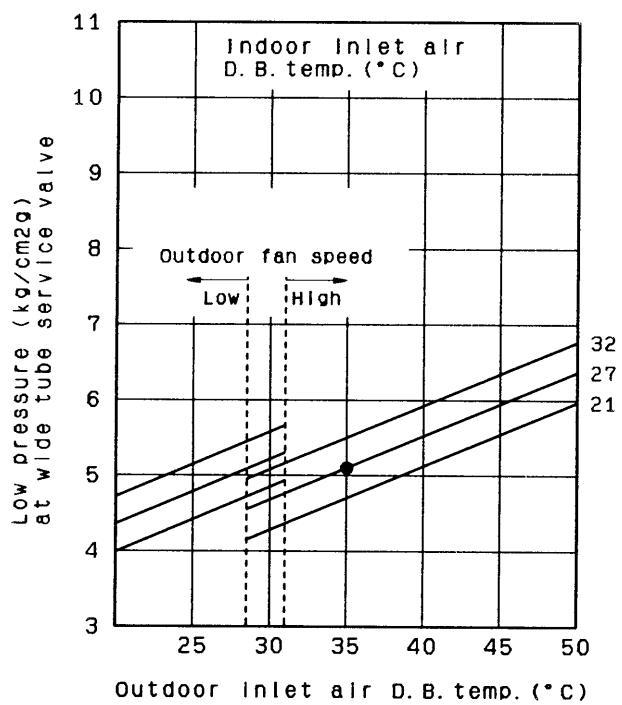
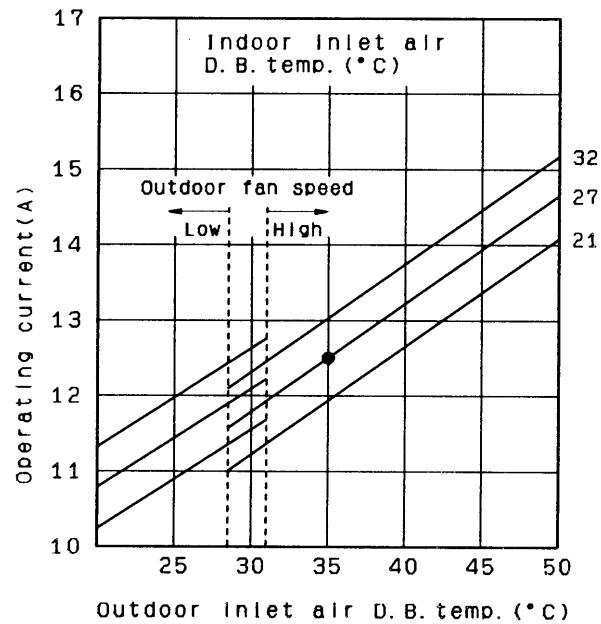
Indoor Unit

**SAP-FT225QS5**

Outdoor Unit

**SAP-C225Q5**

## ● Cooling characteristics



### NOTE

- .....Points of Rating condition

Black dots in above charts indicate the following rating conditions.

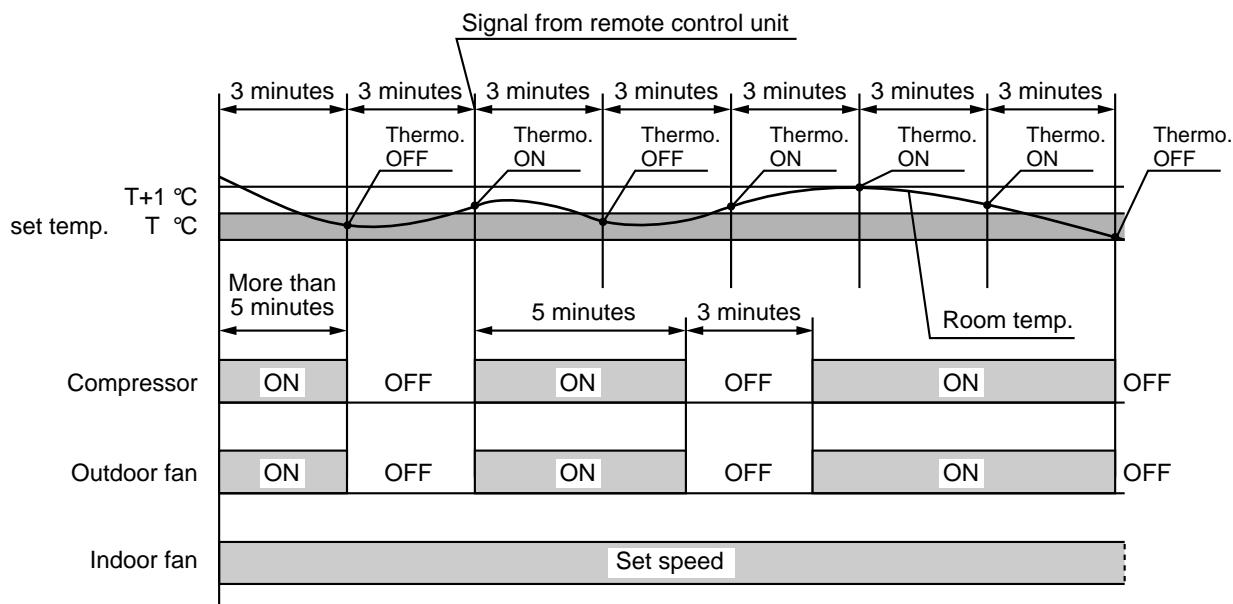
Indoor air temperature 27°C DB/19°C WB

Outdoor air temperature 35°C DB/24°C WB

## 5. FUNCTION

### 5-1. Room Temperature Control

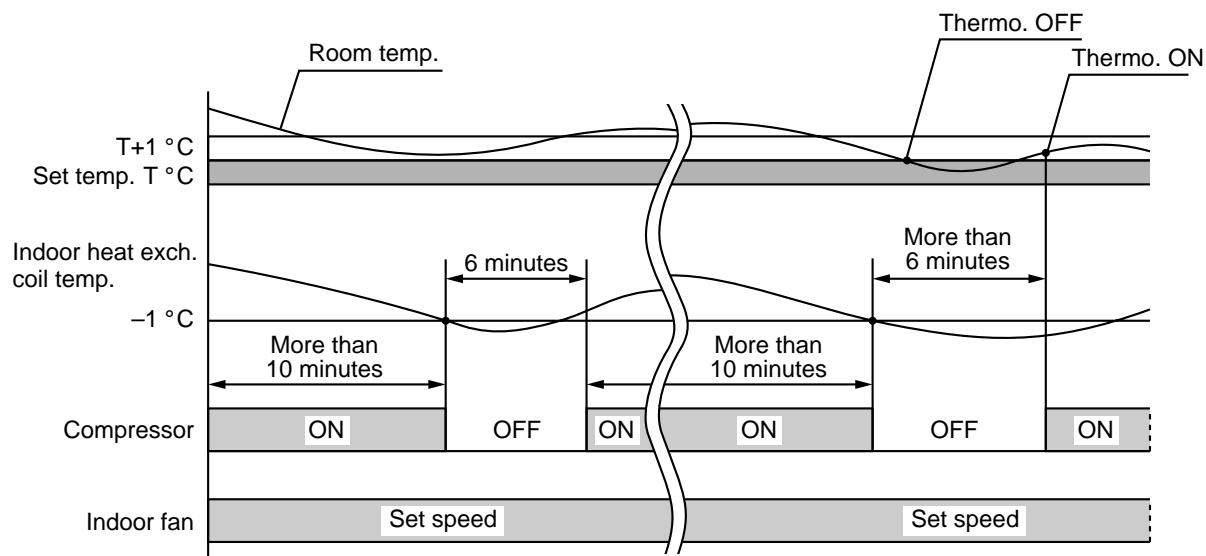
- Room temperature control is obtained by cycling the compressor ON and OFF under control of the room temperature sensor in the remote control unit.
- The room temperature (and other information) is transmitted every 3 minutes by the remote control unit to the controller in the indoor unit.



- The control circuit will not attempt to turn the compressor ON until the compressor has been OFF for at least 3 minutes. To protect the compressor from stalling out when trying to start against the high side refrigerant pressure, the control circuit has a built-in automatic time delay to allow the internal pressure to equalize.
- As a protective measure, the control circuit switches the compressor OFF after 5 minutes or more of compressor operation.
- Thermo. ON : When the room temperature is above  $T + 1^{\circ}\text{C}$  ( $T^{\circ}\text{C}$  is set temperature).  
Compressor ★ ON
- Thermo. OFF : When the room temperature is equal to or below set temperature  $T^{\circ}\text{C}$ .  
Compressor ★ OFF

## 5-2. Freeze Prevention

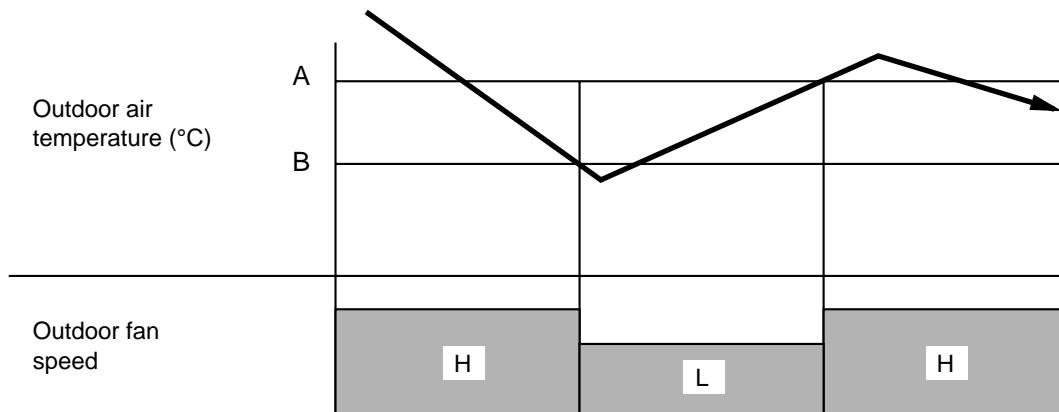
- This function prevents freezing of the indoor heat exchange coil.
- When the compressor has been running for 10 minutes or more and the temperature of the indoor heat exchange coil falls below  $-1^{\circ}\text{C}$ , the control circuit stops the compressor for at least 6 minutes. The compressor does not start again until the temperature rises above  $8^{\circ}\text{C}$  or 6 minutes has elapsed.



## 5-3. Outdoor Fan Speed Control

### 5-3-1. Switching to either HIGH or LOW speed (Except SAP-C165Q5 and C185QL5)

- To optimize performance of the air conditioner, the outdoor fan speed is switched automatically either to HIGH or LOW speed according to the outdoor temperature detected by the thermostat (23S).
- If the outdoor air temperature falls below **B°C**, the fan speed switches to LOW.
- If the outdoor air temperature rises above **A°C**, the fan speed switches to HIGH.



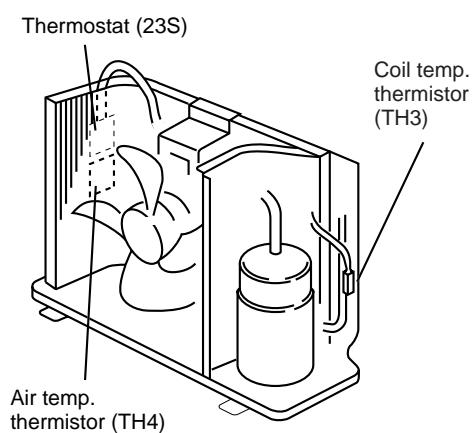
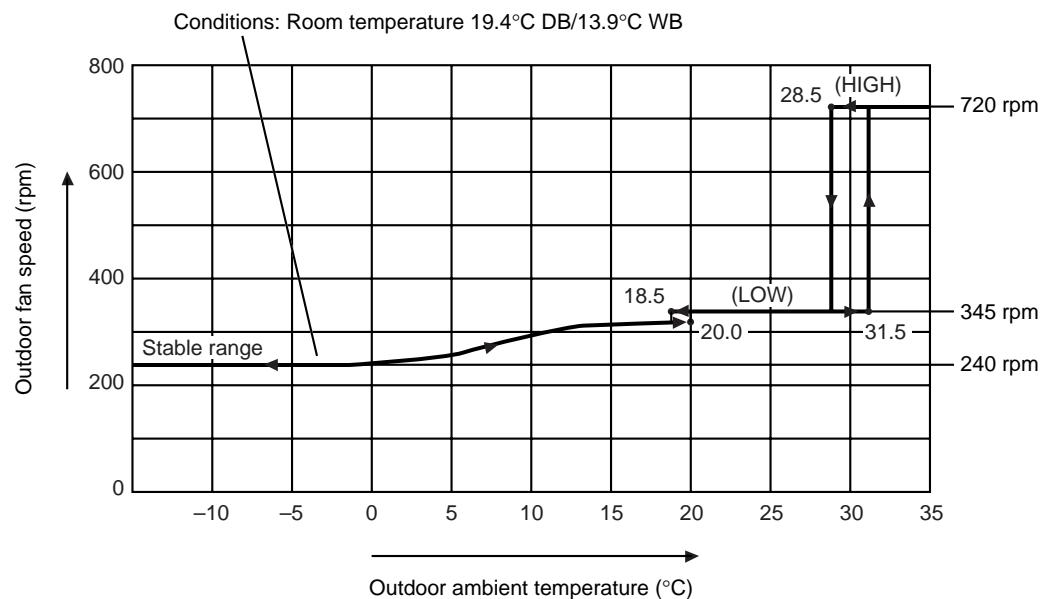
**NOTE** The operating temperature shown as **A** and **B** in the chart differ by models.

| Models              | A      | B      |
|---------------------|--------|--------|
| SAP-C126Q5, C185Q5, | 27.0°C | 23.5°C |
| SAP-C126QL5         | 31.5°C | 28.5°C |
| SAP-C225Q5          | 31.0°C | 28.5°C |

### 5-3-2. Low ambient fan speed control

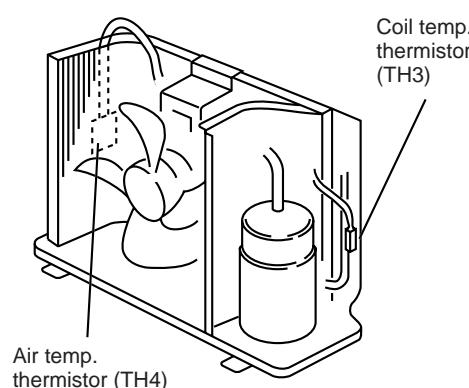
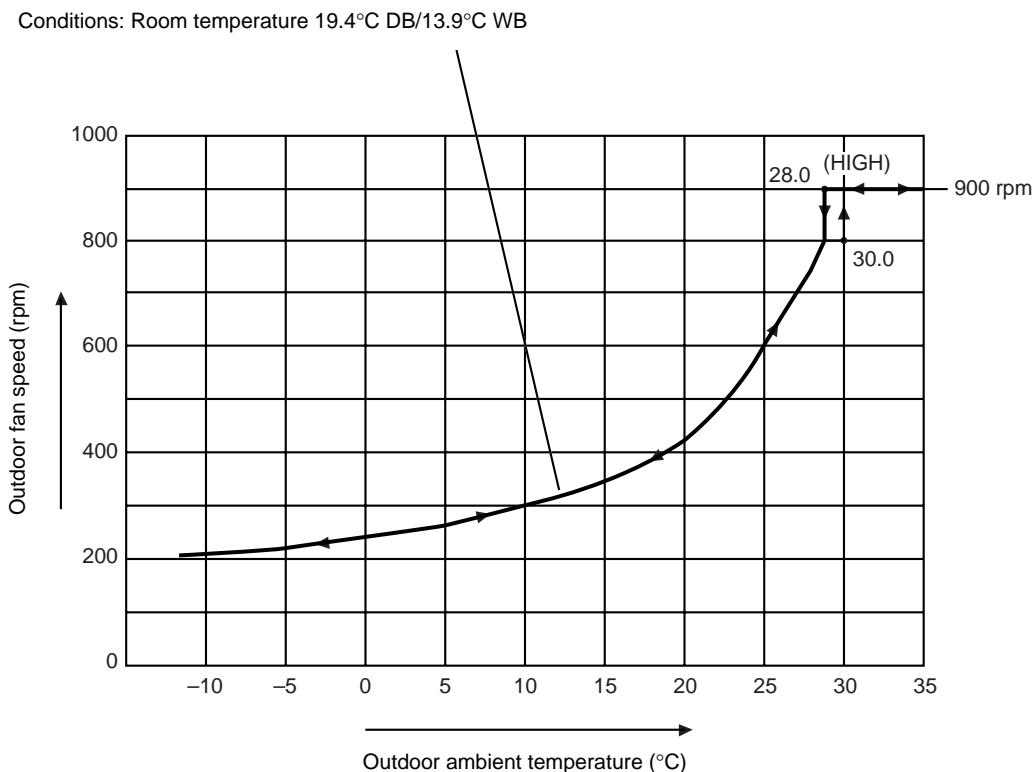
#### < For SAP-C126QL5 >

- This function protects the compressor from being damaged due to flowback of the liquid refrigerant to the compressor when the outdoor temperature is very low.
- When the air temp. thermistor (TH4) on the outdoor units detects a change in temperature, the solid state relay (SSR) inside the electrical component box activates to control the fan speed accordingly.
- As the outdoor temperature decreases and drops below 18.5°C, the outdoor fan speed starts to gradually slow down following an oblique line as in the diagram below.
- Outdoor fan speed changes more or less according to the room temperature.
- When the outdoor temperature goes above 20°C, the outdoor fan speed changes to LOW and will maintain the LOW condition until 31.5°C is reached.



< For SAP-C185QL5 >

- This function protects the compressor from being damaged due to flowback of the liquid refrigerant to the compressor when the outdoor temperature is very low.
- When the air temp. thermistor (TH4) on the outdoor units detects a change in temperature, the solid state relay (SSR) inside the electrical component box activates to control the fan speed accordingly.
- As the outdoor temperature decreases and drops below 28.0°C, the outdoor fan speed starts to gradually slow down following an oblique line as in the diagram below.
- Outdoor fan speed changes more or less according to the room temperature.
- When the outdoor temperature goes above 30.0°C, this fan speed control does not work.



## 6. REFRIGERANT FLOW DIAGRAM

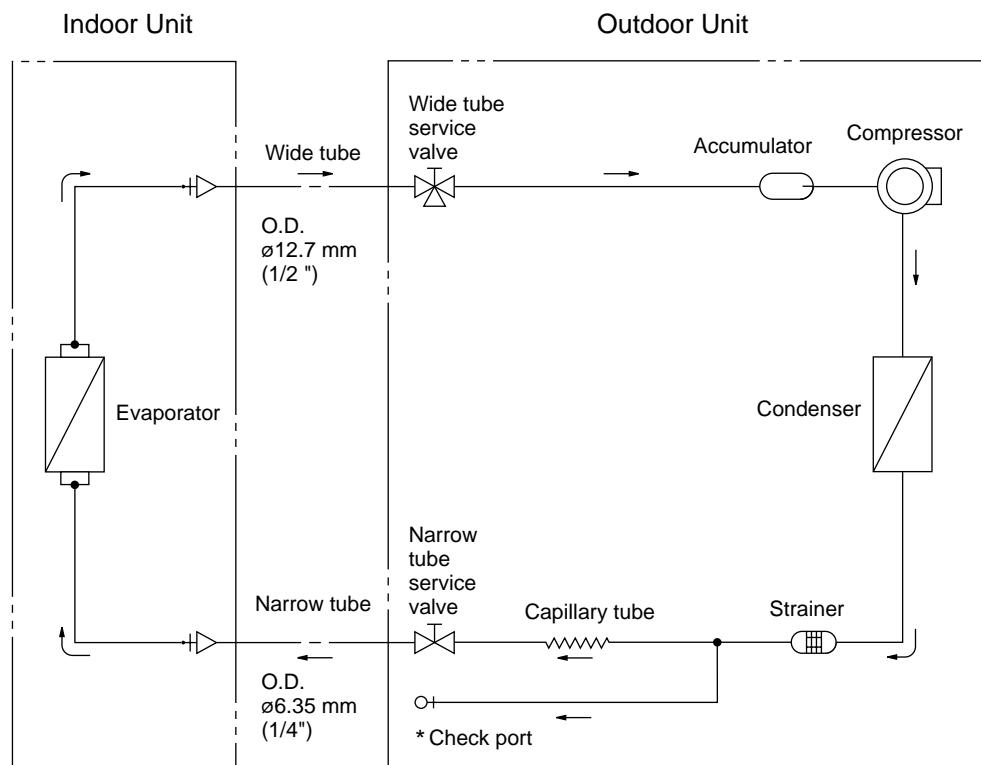
Indoor Unit

**SAP-FT126QS5**

Outdoor Unit

**SAP-C126Q5**

**SAP-C126QL5**



\* Only for SAP-C126QL5

Indoor Unit

**SAP-FT165QS5**

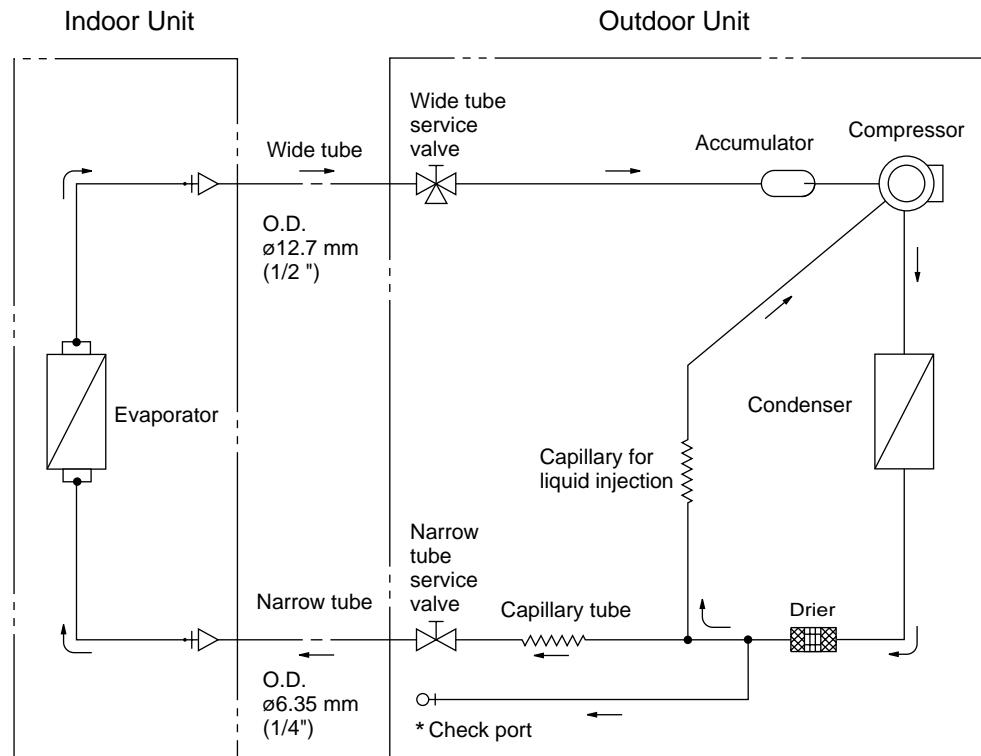
**SAP-FT185QS5**

Outdoor Unit

**SAP-C165Q5**

**SAP-C185Q5**

**SAP-C185QL5**

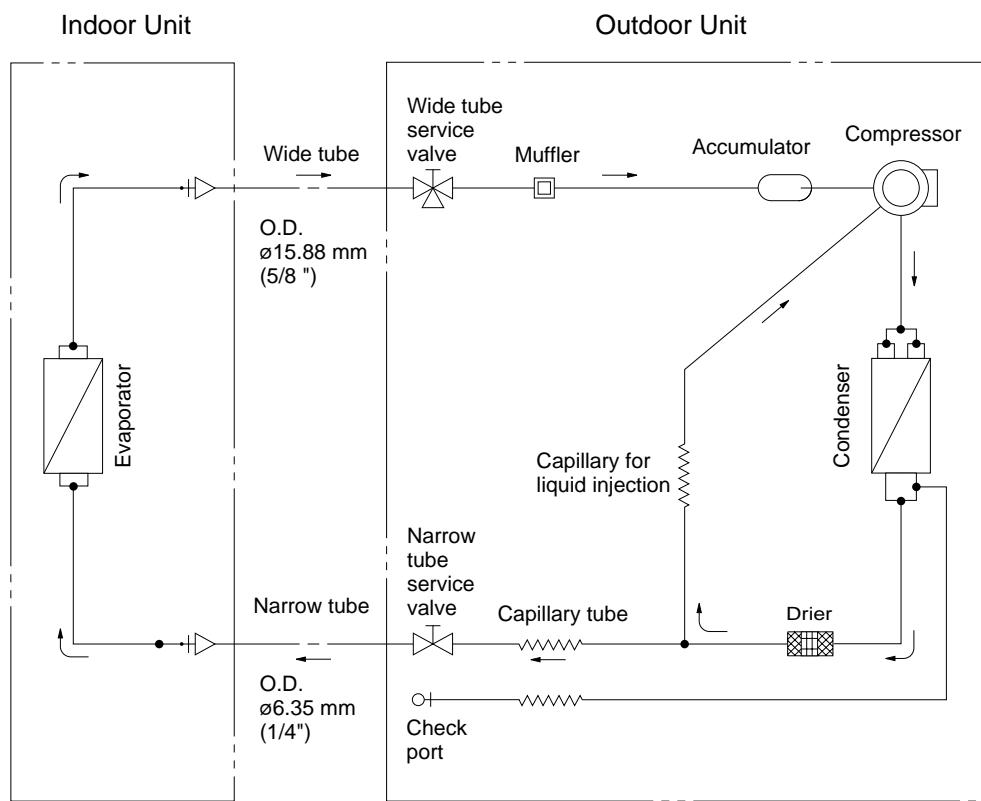


\* Only for SAP-C185QL5

Indoor Unit

**SAP-FT225QS5**

Outdoor Unit

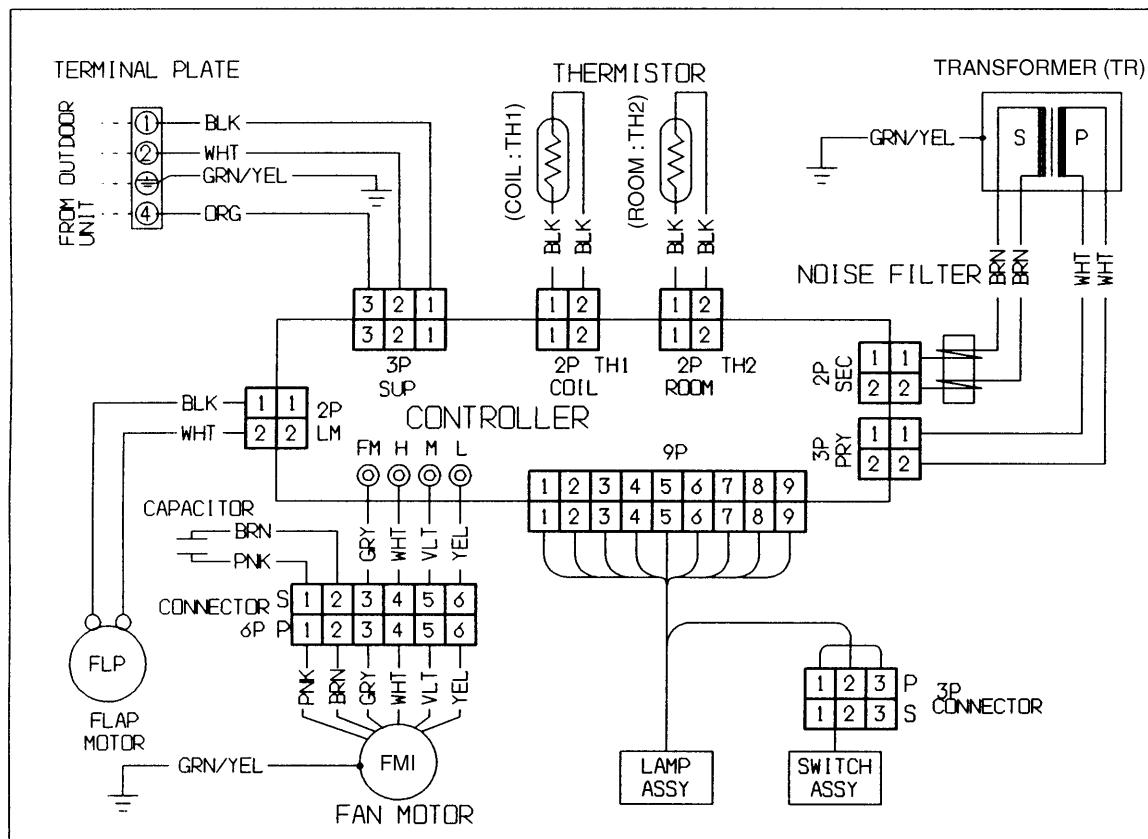
**SAP-C225Q5**

## **7. ELECTRIC WIRING DIAGRAMS**

|             |  |
|-------------|--|
| Indoor unit | SAP-FT126QS5<br>SAP-FT165QS5<br>SAP-FT185QS5<br>SAP-FT225QS5 |
|-------------|--|

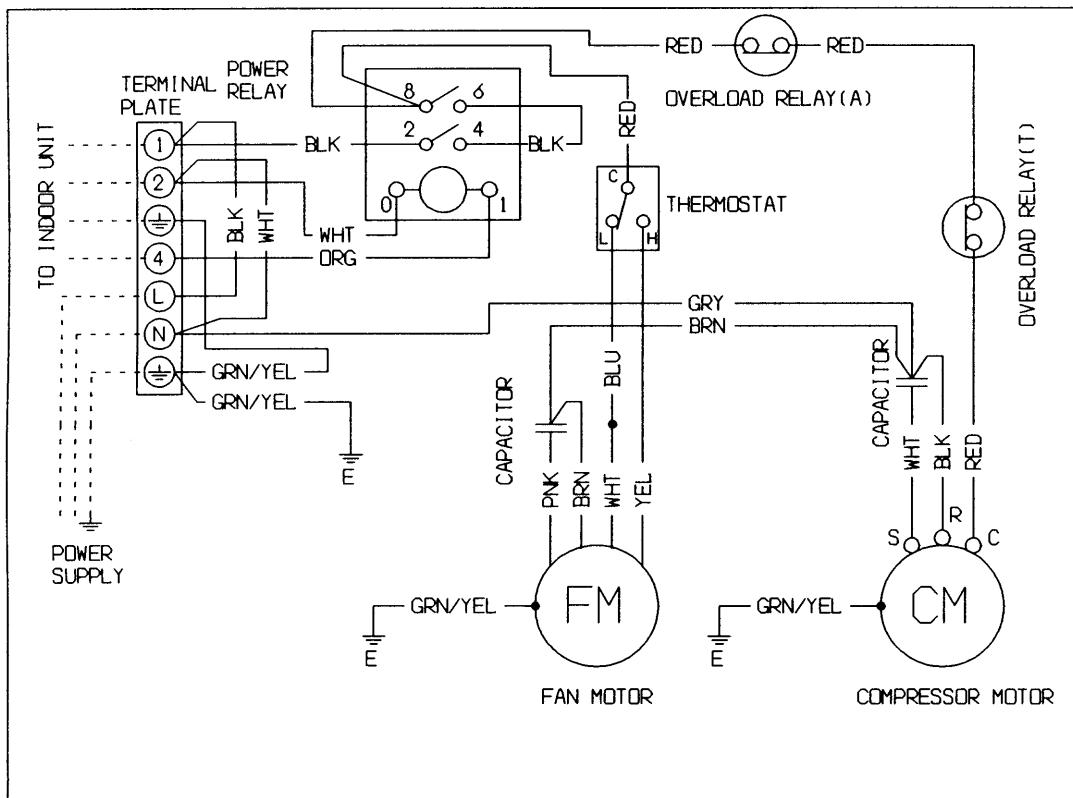


**To avoid electrical shock hazard, be sure to disconnect power before checking, servicing and/or cleaning any electrical parts.**



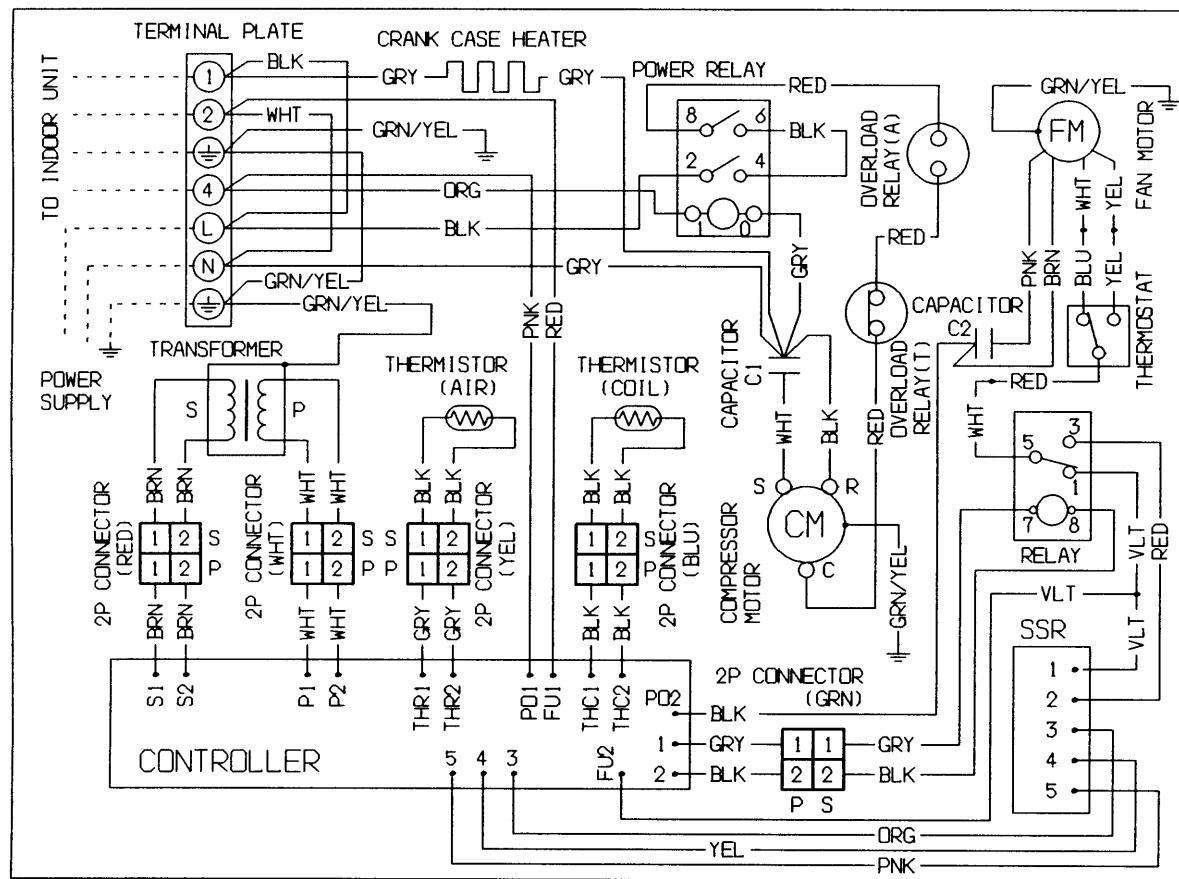
**WARNING**

*To avoid electrical shock hazard, be sure to disconnect power before checking, servicing and/or cleaning any electrical parts.*



**WARNING**

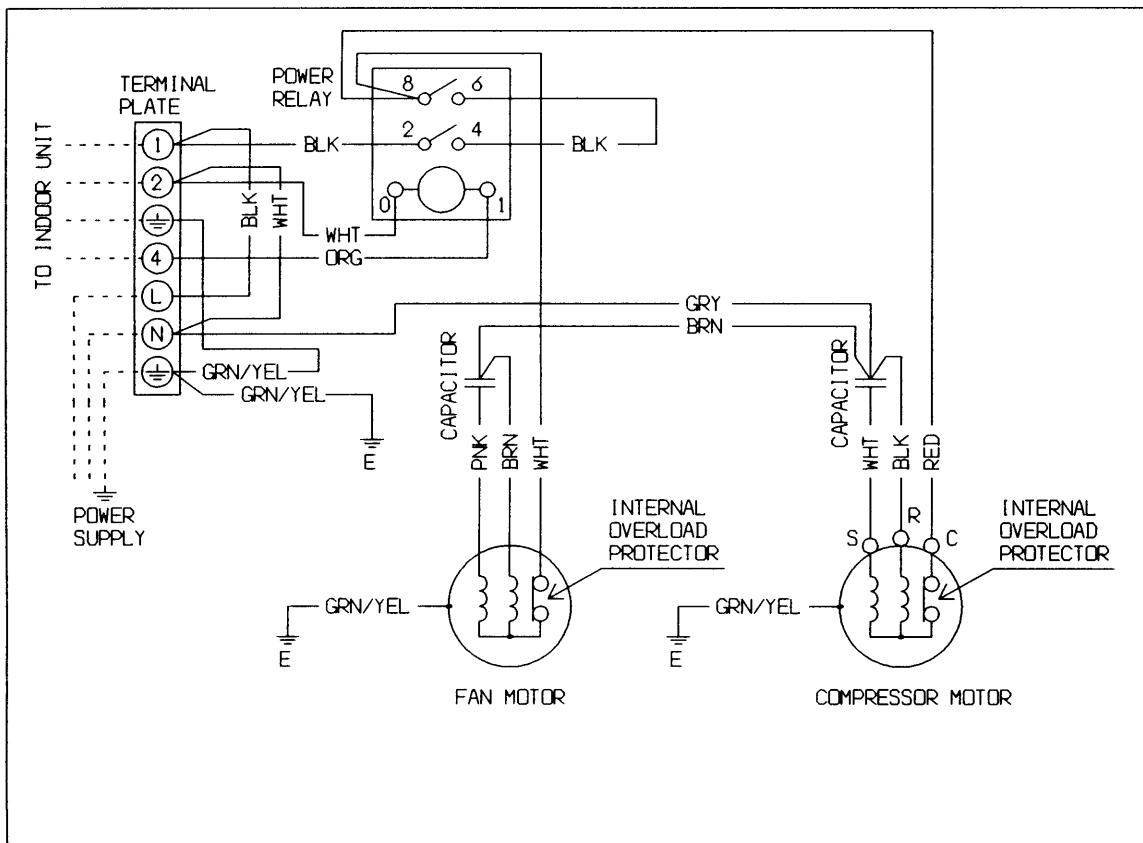
*To avoid electrical shock hazard, be sure to disconnect power before checking, servicing and/or cleaning any electrical parts.*





WARNING

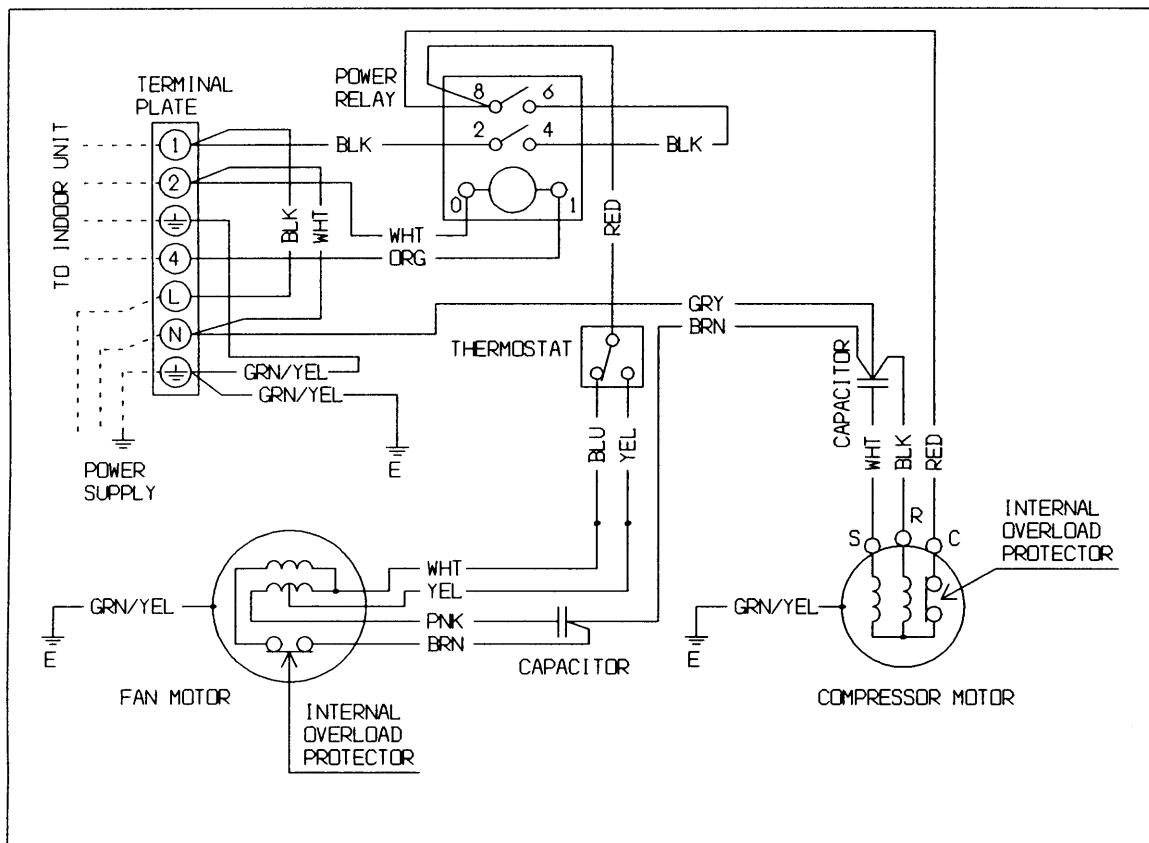
To avoid electrical shock hazard, be sure to disconnect power before checking, servicing and/or cleaning any electrical parts.





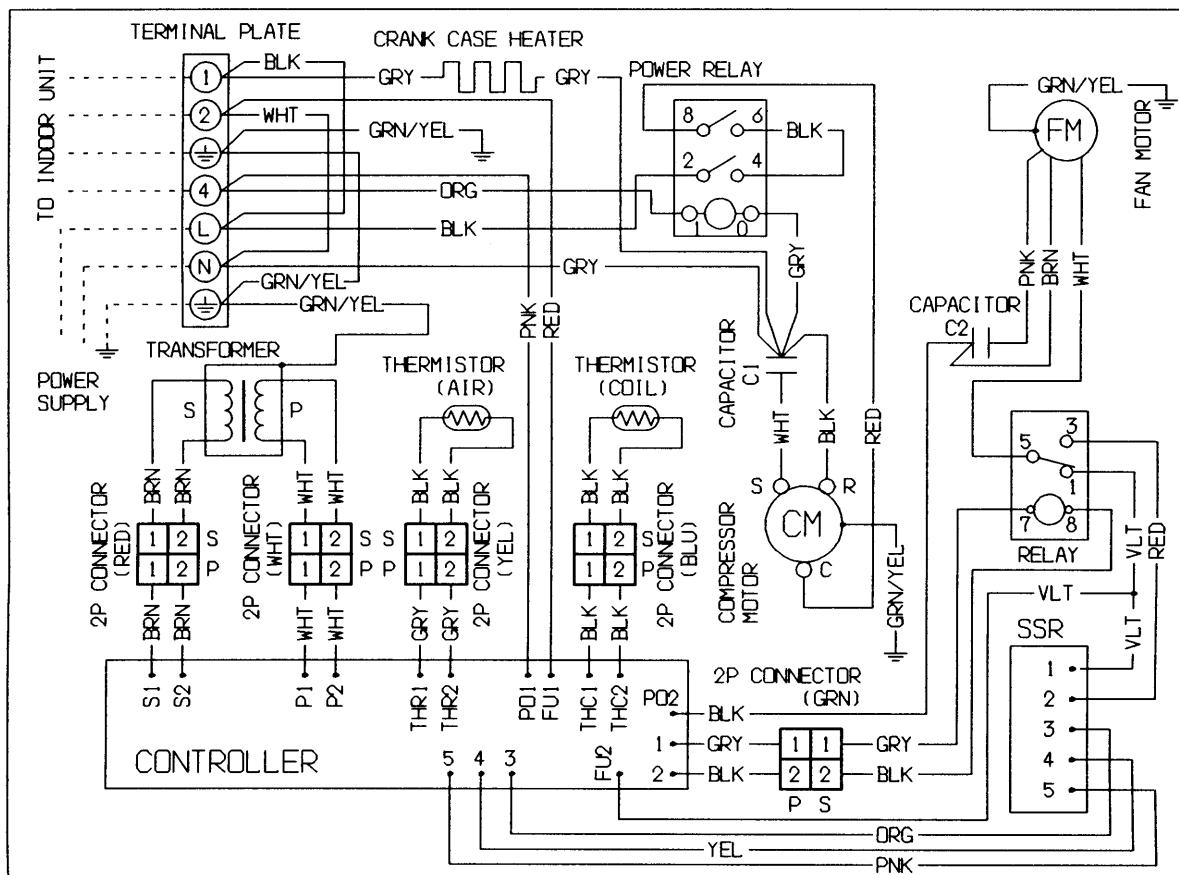
WARNING

*To avoid electrical shock hazard, be sure to disconnect power before checking, servicing and/or cleaning any electrical parts.*



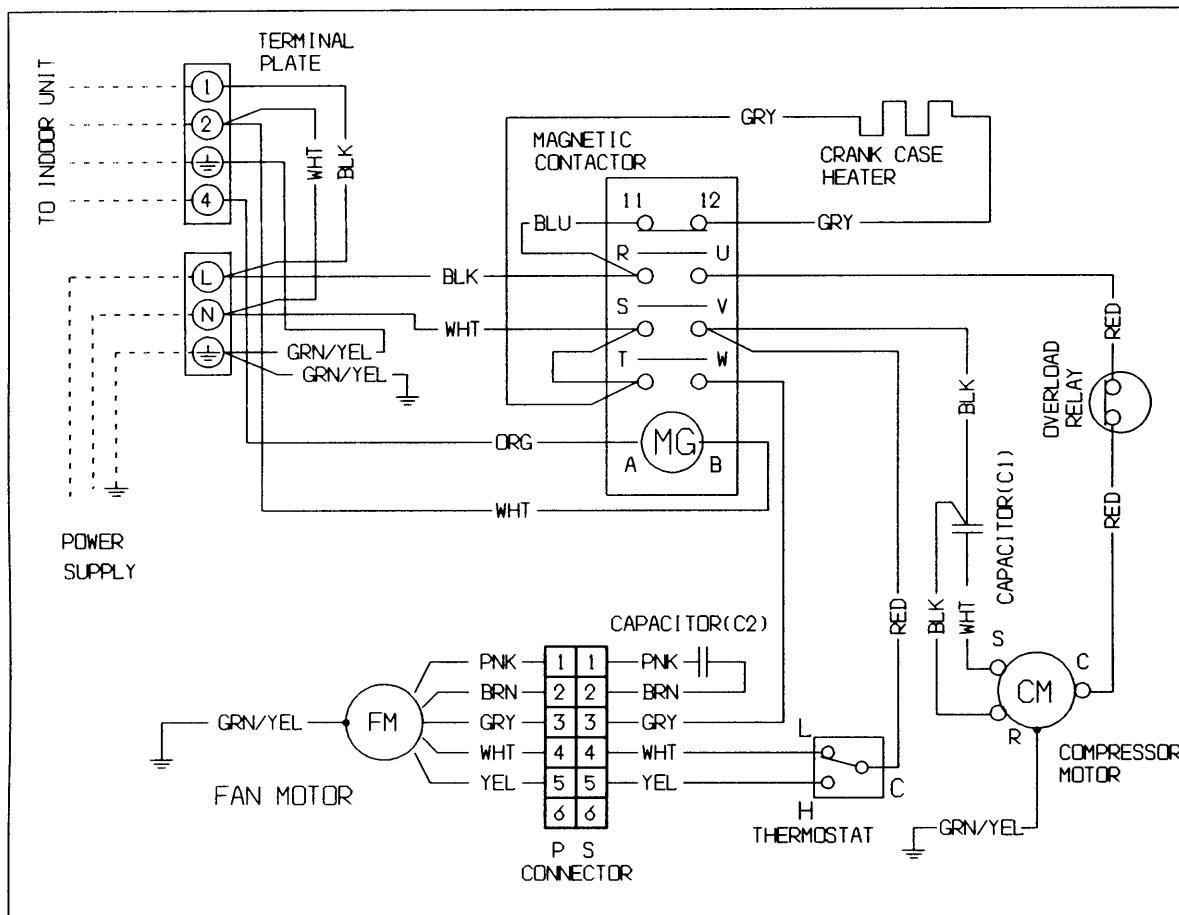
**WARNING**

To avoid electrical shock hazard, be sure to disconnect power before checking, servicing and/or cleaning any electrical parts.



**WARNING**

*To avoid electrical shock hazard, be sure to disconnect power before checking, servicing and/or cleaning any electrical parts.*



## 8. TROUBLESHOOTING

### 8-1. Check before and after troubleshooting



#### WARNING

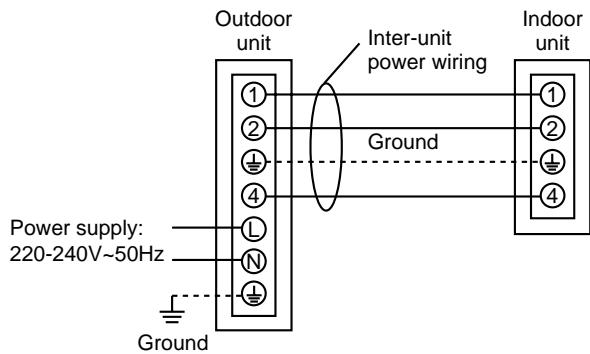
Hazardous voltage can cause ELECTRIC SHOCK or DEATH. Disconnect power or turn off circuit breaker before you start checking or servicing.

SAP-C126Q5, QL5  
SAP-C165Q5  
SAP-C185Q5, QL5

SAP-FT126QS5  
SAP-FT165QS5  
SAP-FT185QS5

#### 8-1-1. Check power supply wiring.

- Check that power supply wires are correctly connected to terminals **L** and **N** on the terminal plate in the outdoor unit.



#### 8-1-2. Check inter-unit wiring.

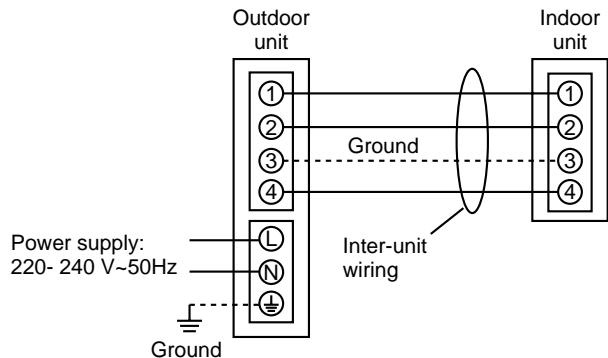
- Check that inter-unit wiring is correctly connected to the indoor unit from the outdoor unit.

SAP-C225Q5

SAP-FT225QS5

#### 8-1-3. Check power supply.

- Check that voltage is in specified range ( $\pm 10\%$  of the rating).
- Check that power is being supplied.



#### 8-1-4. Check lead wires and connectors in indoor and outdoor units.

- Check that coating of lead wires is not damaged.
- Check that lead wires and connectors are firmly connected.
- Check that wiring is correct.

## 8-2. Air conditioner does not operate.

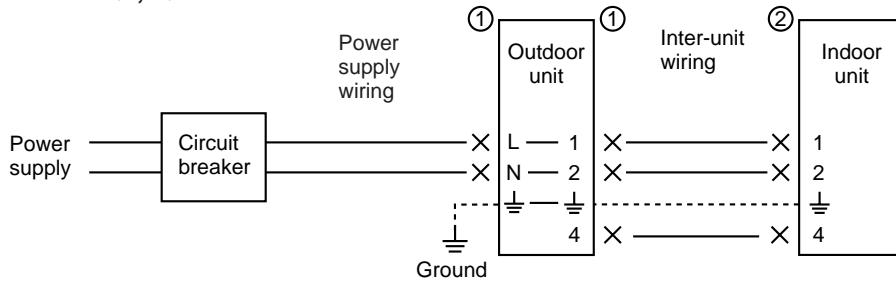
### 8-2-1. Circuit breaker trips (or fuse blows).

#### A. When the circuit breaker is set to ON, it is tripped soon. (Resetting is not possible.)

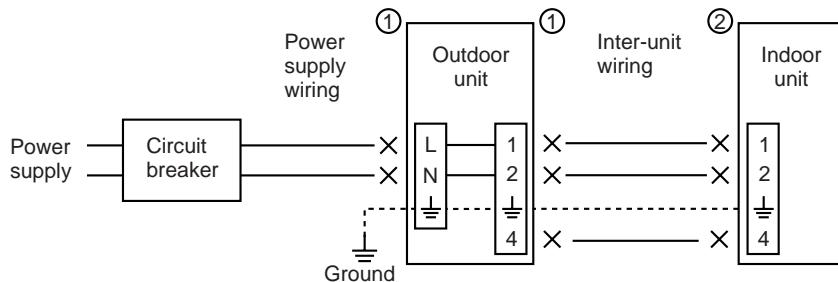
- There is a possibility of ground fault.
- Check insulation resistance.

If resistance value is  $2M\Omega$  or less, insulation is defective ("NO").

SAP-C126Q5, QL5  
SAP-C165Q5  
SAP-C185Q5, QL5



SAP-C225Q5



\* Set circuit breaker to OFF.

- ① Remove both power supply wires and inter-unit wires from terminal plate in outdoor unit.  
• Measure insulation resistance of outdoor unit.

NO

Insulation of outdoor unit is defective.

- Measure insulation resistance of electrical parts in outdoor unit.

- ② Remove inter-unit wires from terminal plate in indoor unit.  
• Measure insulation resistance of indoor unit.

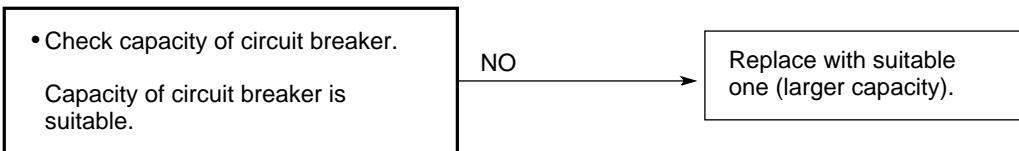
NO

Insulation of indoor unit is defective.

- Measure insulation resistance of electrical parts in indoor unit.

**B. Circuit breaker trips in several minutes after turning the air conditioner on.**

- There is a possibility of short circuit.



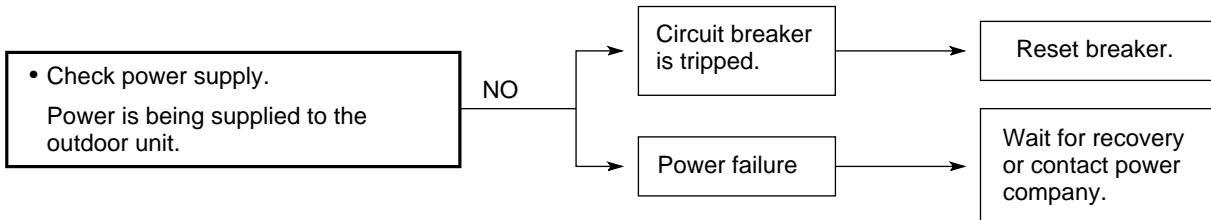
(Except for models SAP-CxxxQL5)

- Measure resistance of outdoor fan motor winding.

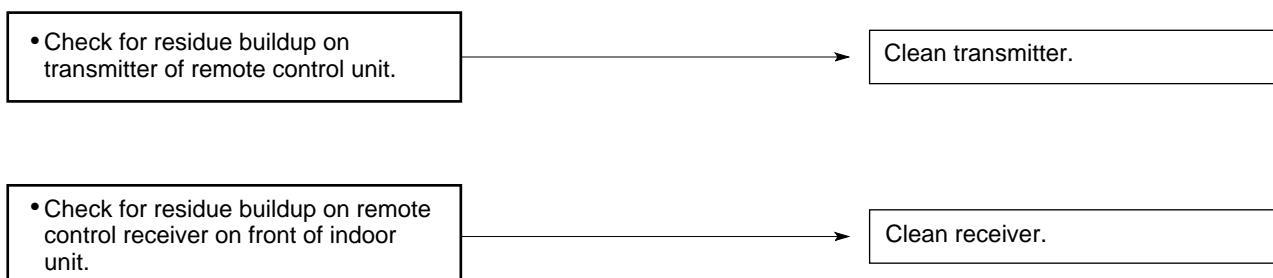
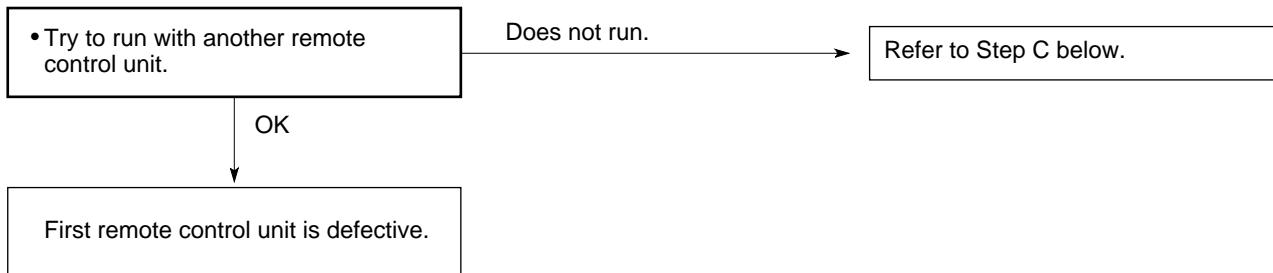
- Measure resistance of compressor motor winding.

## 8-2-2. Neither indoor nor outdoor unit runs.

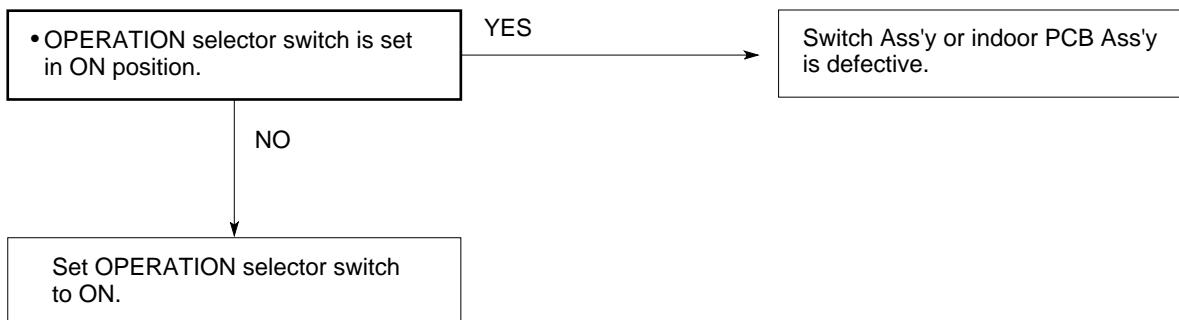
### A. Power is not supplied.



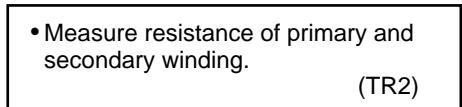
### B. Check remote control unit.



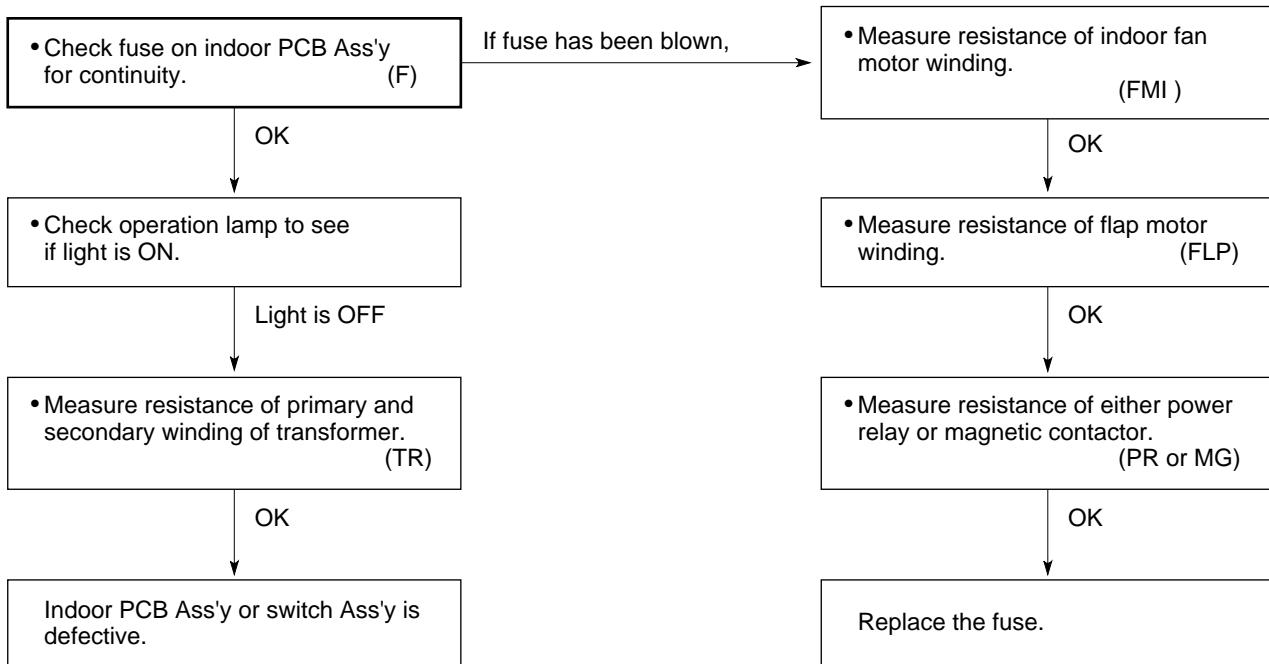
### C. Check "OPERATION selector" switch in the indoor unit.



### D. Check transformer in indoor unit.



#### E. Check fuse on the indoor PCB Ass'y.



#### F. Check TIMER on the remote control unit.



### 8-2-3. Only outdoor unit does not run.

#### A. Check MODE selector switch of remote control unit.

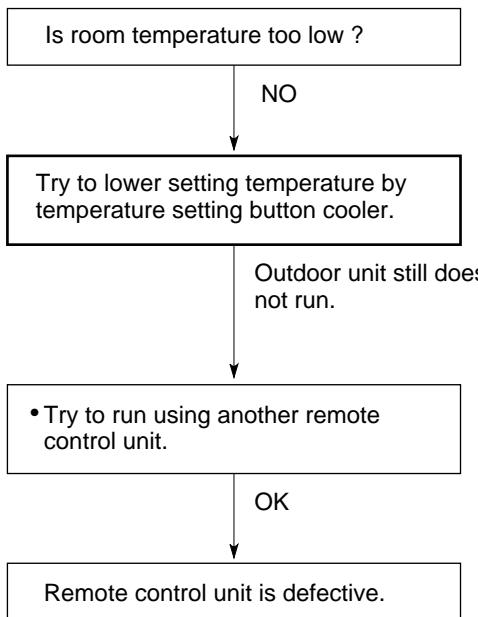


#### NOTE

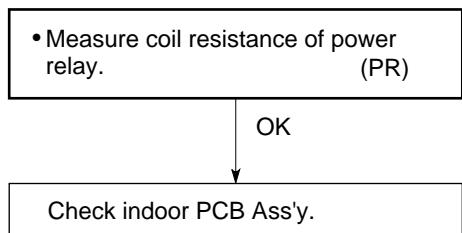
Outdoor unit does not run when air conditioner is in following conditions.

- During thermo OFF (when the room temperature is below the set temperature).
- During freeze prevention (for at least 6 minutes).

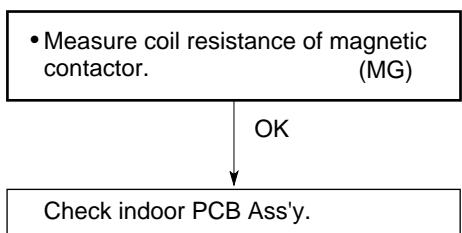
#### B. Check setting temperature.



#### C. Check power relay in outdoor unit. (For SAP-C126, C165 and C185)

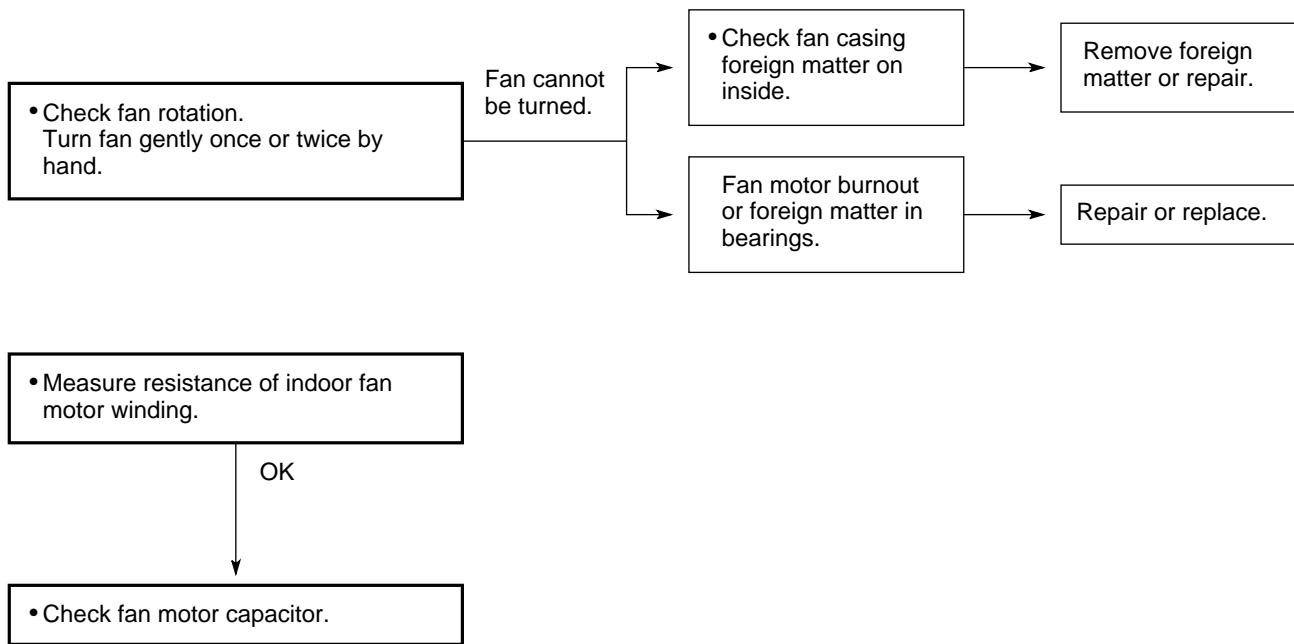


#### D. Check magnetic contactor in outdoor unit. (For SAP-C225)

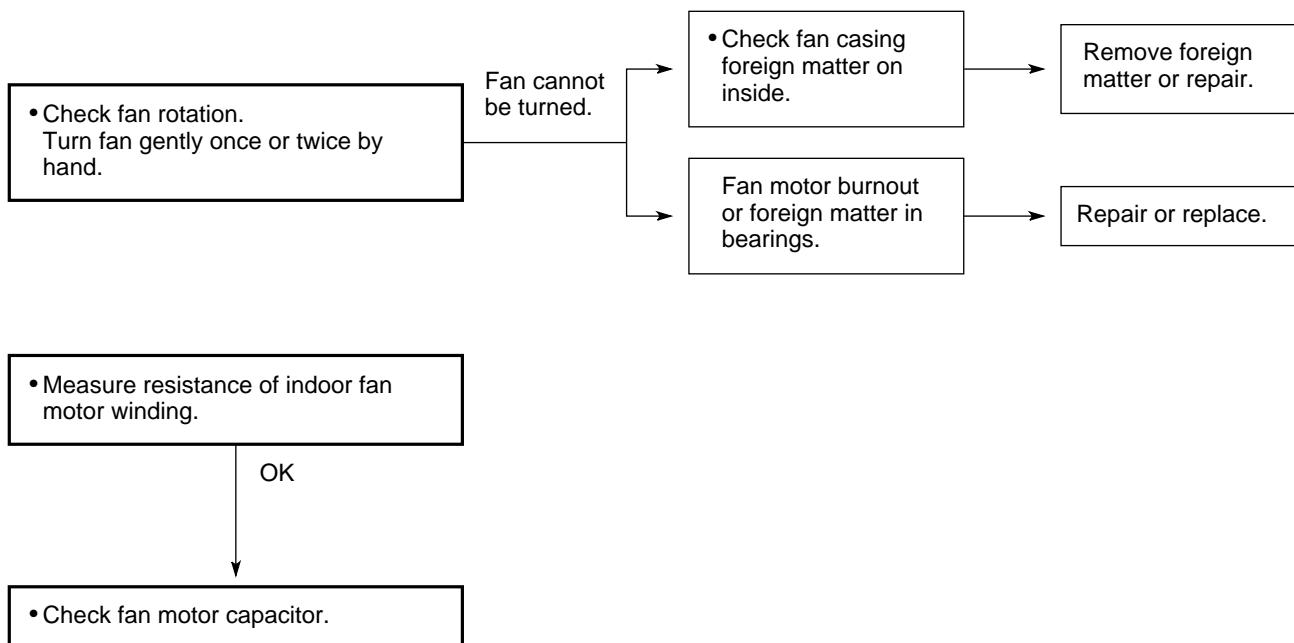


## 8-3. Some part of air conditioner does not operate.

### 8-3-1. Only indoor fan does not run.



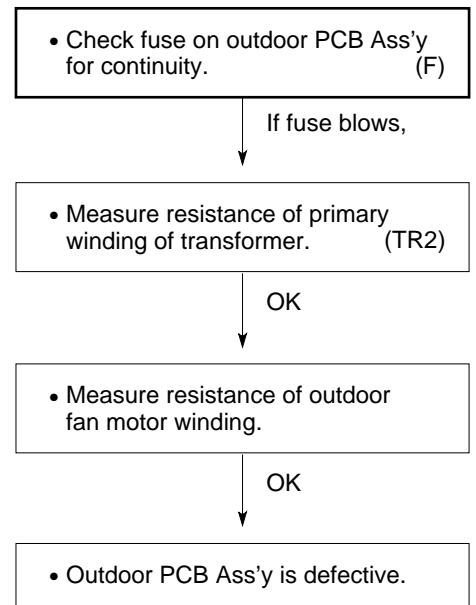
### 8-3-2. Only outdoor fan does not run.



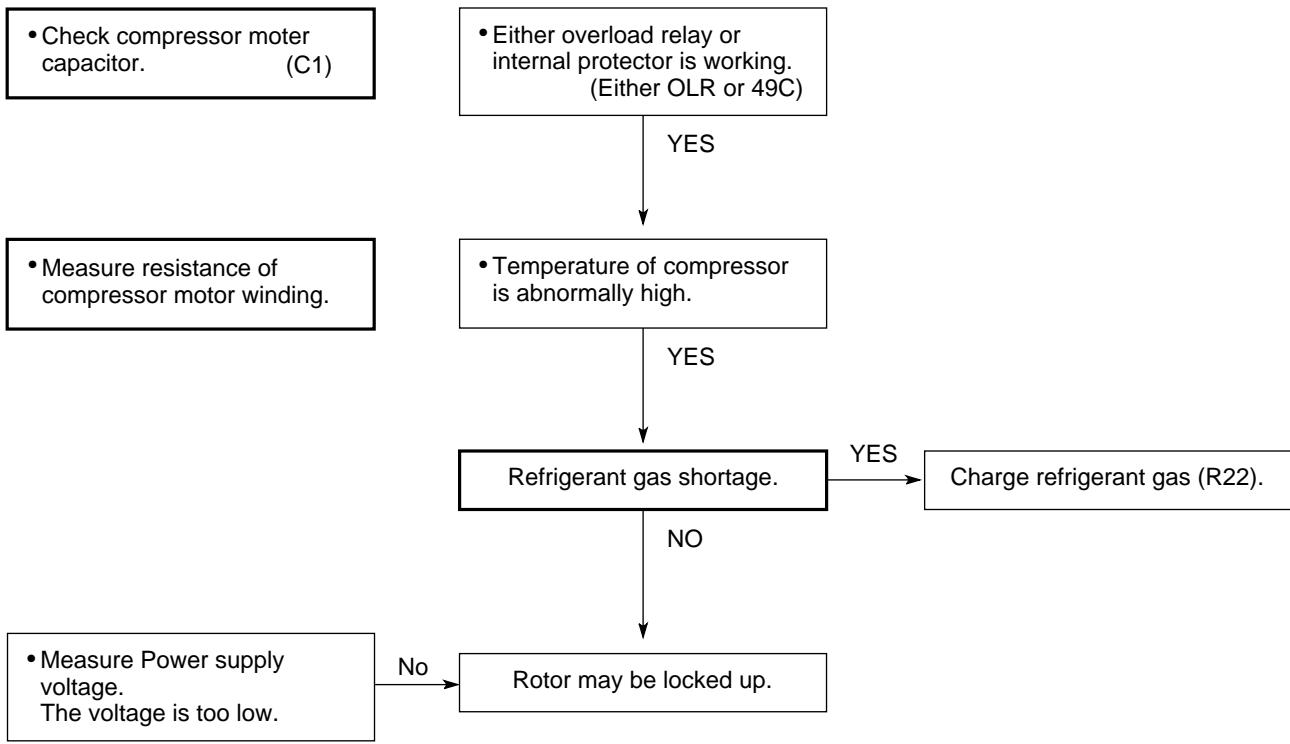
● **Check transformer in outdoor unit.** (SAP-CxxxQL5 Only)

- Measure resistance of primary and secondary winding.  
(TR2)

● **Check fuse on outdoor PCB Ass'y.** (SAP-CxxxQL5 Only)



### 8-3-3. Only compressor does not run.



(SAP-C225Q5 Only)

- Check continuity between terminals on the magnetic contactor. (MG)

### 8-3-4. Only flap motor does not run.

- Measure resistance of flap motor winding. (FLP)

### 8-3-5. Function of outdoor fan speed control does not work properly.

(Except SAP-C165Q5)

(For SAP-C185Q38 and C225Q38)

- Check thermostat in outdoor unit. (23S)

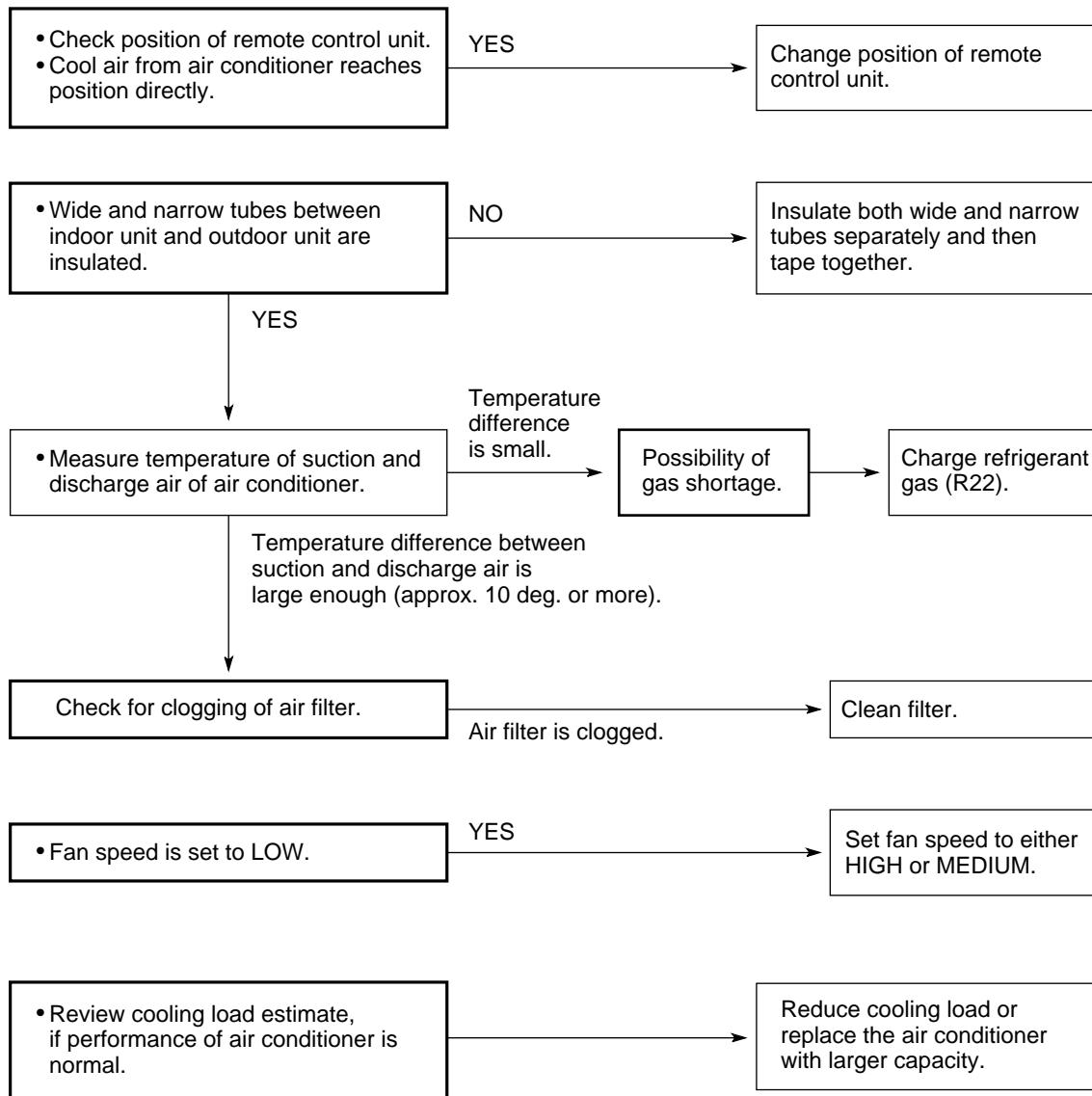
(For SAP-C185QL38)

- Check solid state relay in outdoor unit. (SSR)

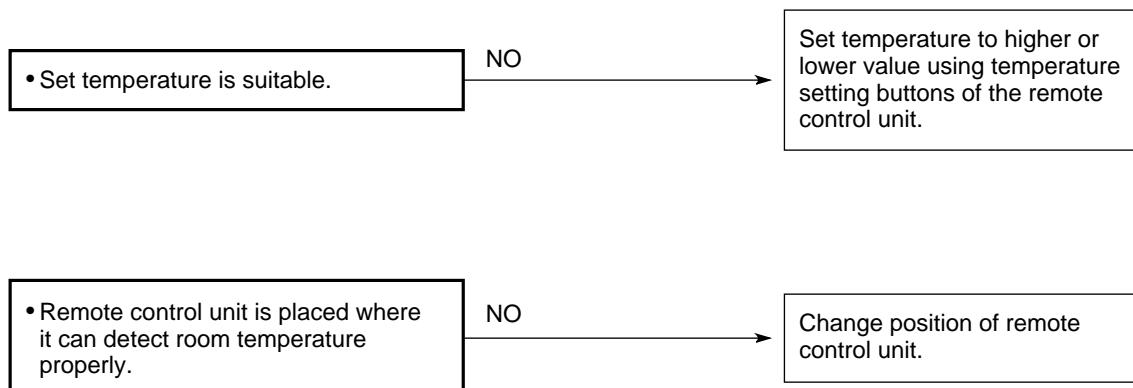
Refer to "5-3 outdoor Fan Speed Control."

## 8-4. Air conditioner operates, but abnormalities are observed.

### 8-4-1. Poor cooling.



### 8-4-2. Excessive cooling.



## 8-5. If a sensor is defective.

### 8-5-1. Indoor coil temp. thermistor (TH1) is defective.

#### A. Open

When thermistor opens, the air conditioner will be in the following conditions as the controller tries to detect extremely low indoor coil temperature.

In Cooling mode: Function of freeze prevention continues to work. That is, the controller turns both compressor and outdoor fan motor periodically ON and OFF for several minutes.  
(Refer to "5-2. Freeze Prevention")

#### B. Short

When thermistor is short, the air conditioner will be in the following conditions as the controller tries to detect extremely high indoor coil temperature.

In Cooling mode: Function of freeze prevention will not work even when the frost builds up on indoor heat exchanger coil

### 8-5-2. Room temp. thermistor (TH2) is defective.

#### A. Open

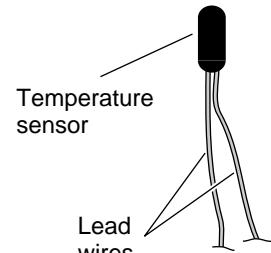
When thermistor opens, the air conditioner will be in the following conditions as the controller tries to detect extremely low room temperature.

In Cooling mode: The air conditioner soon stops and will not start again.  
(Thermo.OFF)  
Neither outdoor fan nor compressor runs.

#### B. Short

When thermistor is short, the air conditioner will be in the following conditions as the controller tries to detect extremely high room temperature.

In Cooling mode: The air conditioner continues to operate. (Thermo.ON)  
Both the outdoor fan and compressor do not stop.  
As a result, the room becomes too cold.



Thermistor Structure

#### NOTE    Definition of Open or Short Circuit of Sensor (Thermistor)

Open... A lead wire is broken or disconnected or the circuit inside the temperature sensor is open .

Short... The protective cover of a lead wire has been damaged, and the exposed wire is touching another metal part, or both lead wires have become exposed and are touching each other. Alternatively, the circuit inside the temperature sensor is closed.

# 9. CHECKING ELECTRICAL COMPONENTS

## 9-1. Measurement of Insulation Resistance

- The insulation is in good condition if the resistance exceeds  $2M\Omega$ .

### 9-1-1. Power Supply Wires

Clamp the ground wire of the power supply wires with the lead clip of the insulation resistance tester and measure the resistance by placing a probe on either of the power wires. (Fig. 1)

Then measure the resistance between the ground wire and the other power wire. (Fig. 1)

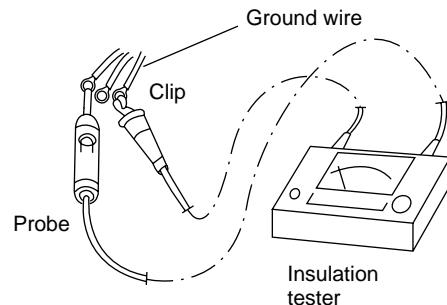


Fig. 1

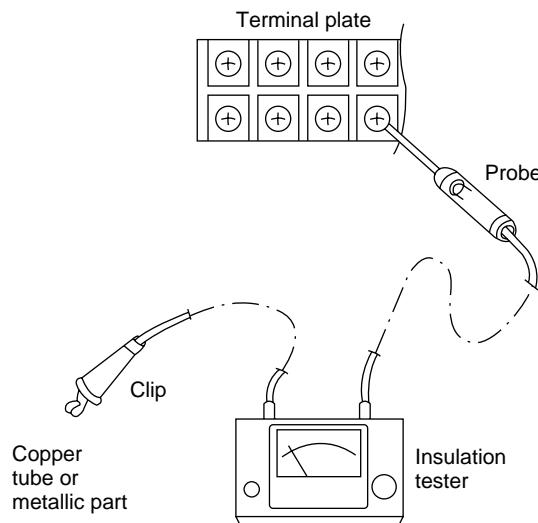


Fig. 2

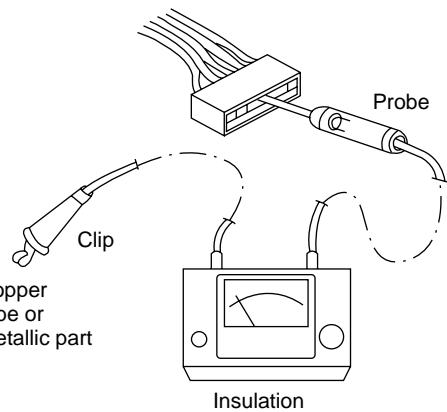


Fig. 3

### 9-1-3. Outdoor Unit

Clamp a metallic part of the unit with the lead clip of the insulation resistance tester and measure the resistance by placing a probe on each terminal screw where power supply lines are connected on the terminal plate. (Fig. 2)

### 9-1-4. Measurement of Insulation Resistance for Electrical Parts

Disconnect the lead wires of the desired electric part from terminal plate, capacitor, etc. Similarly disconnect the connector. Then measure the insulation resistance. (Figs. 1 to 4)

Refer to Electric Wiring Diagram.

#### NOTE

If the probe cannot enter the poles because the hole is too narrow then use a probe with a thinner pin.

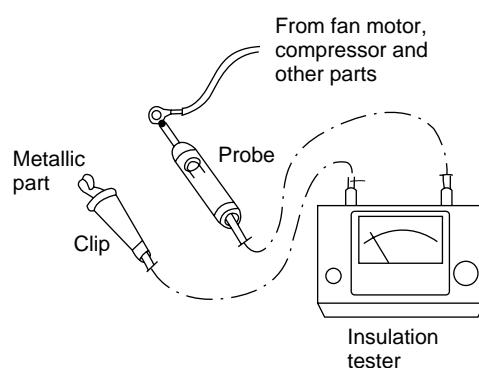


Fig. 4

## 9-2. Checking continuity of Fuse on PCB Assty

- Remove the PCB Ass'y from the electrical component box. Then pull out the fuse from the PCB Ass'y. (Fig. 5)
- Check for continuity using a multimeter as shown in Fig. 6.

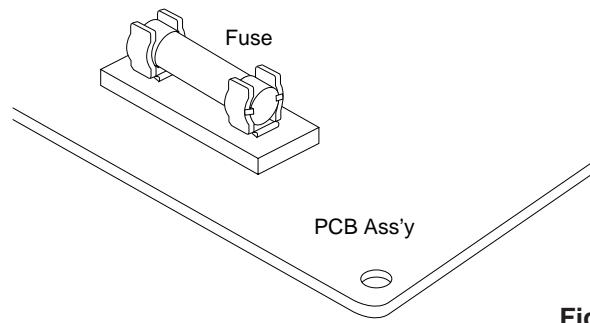


Fig. 5

## 9-3. Checking Motor Capacitor

Remove the lead wires from the capacitor terminals, and then place a probe on the capacitor terminals as shown in Fig. 7. Observe the deflection of the pointer, setting the resistance measuring range of the multimeter to the maximum value.

The capacitor is “good” if the pointer bounces to a great extent and then gradually returns to its original position.

The range of deflection and deflection time differ according to the capacity of the capacitor.

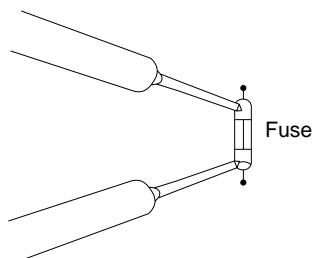


Fig. 6

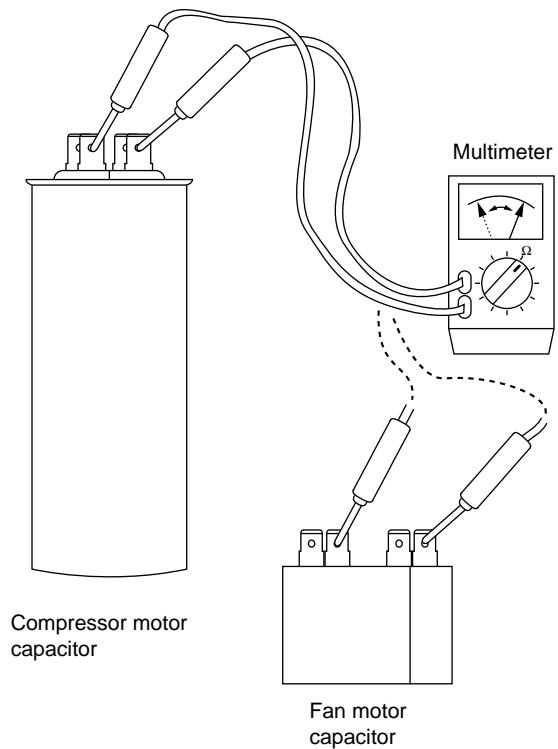


Fig. 7

# 10. DISASSEMBLY PROCEDURE FOR INDOOR UNIT



## IMPORTANT! Please Read Before Starting

### Safety precautions for servicing the CEILING-MOUNTED indoor unit

- Before attempting to replace heavy and bulky parts such as the evaporator and fan motor, disconnect the indoor unit from the system and place it on the floor. Refer to the steps given below.
- When checking or servicing the air intake grille, side panels, or electrical component box, first check that power is completely disconnected. Pay utmost care that your working platform is stable enough. Also, do not drop any replaced parts and tools on the floor.

### For Floor Installation

#### 10-1. Removing Air Intake Grille

- (1) Hold both ends and pull forward to open the air intake grille. (Fig. 1)
- (2) Remove the metal clips connecting the unit and the grille. First, with a screwdriver, loosen the \* marked screw a little at the right side clip (DO NOT loosen it too much, otherwise, the screw and small metal parts will fall off inside.), then press on the stopper and pull off. (Fig. 2)
- (3) Do the same procedure for the left metal clip.
- (4) Unlatch the 2 tabs on the lower part of the grille to take it off completely.

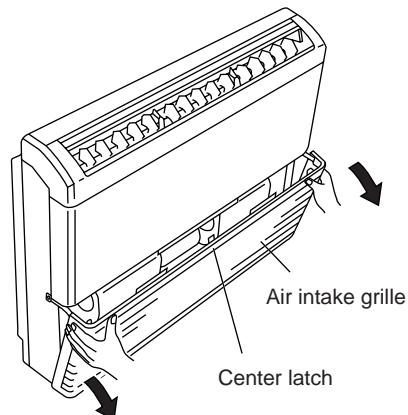


Fig.1

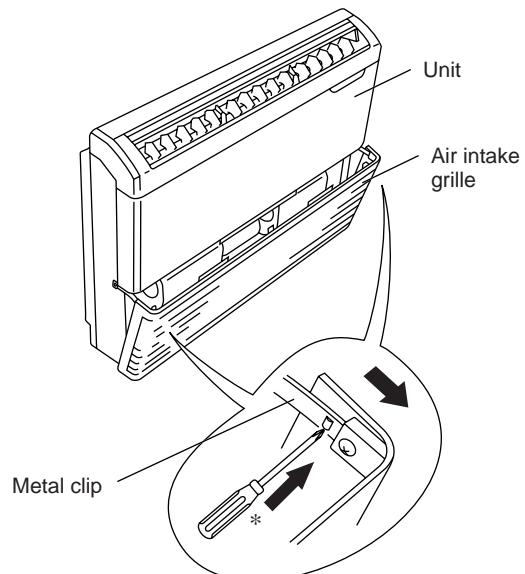


Fig.2

## 10-2. Removing Side Panels

- (1) Remove the 3 screws attaching the left side panel. (Fig. 3)
- (2) Note the position of the hook on the inside of the left side panel. To disengage the hook from the slot, slide down the panel for removal. (Fig. 3)
- (3) Do the same procedure for the right side panel.

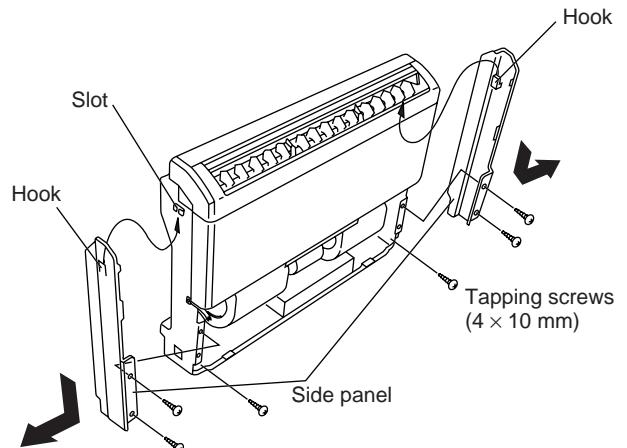


Fig.3

## 10-3. Access and Removal of Electrical Component Box



### WARNING

Hazardous voltage can cause ELECTRIC SHOCK or DEATH. Disconnect the power or turn off circuit breaker before you start checking or servicing.

- (1) Remove the front screw with a screwdriver. (Fig. 4)
- (2) Slide the lid out and up. (Fig. 4)
- (3) Disconnect the wiring as necessary.
- (4) Remove the 4 screws, then pull out the electrical component box. (Fig. 5)

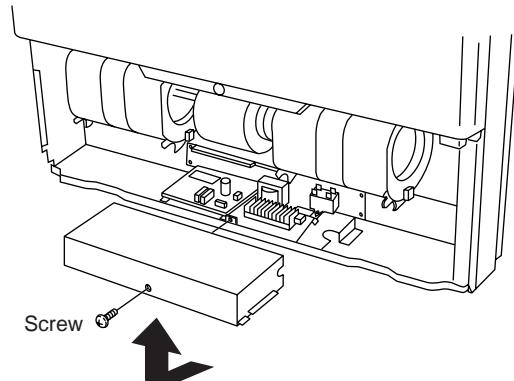


Fig.4

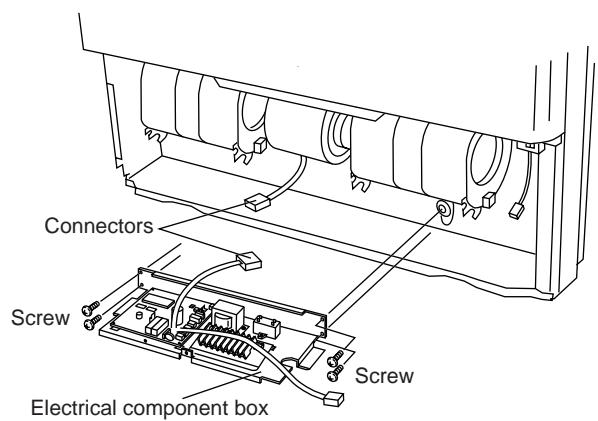


Fig.5

## 10-4. Removing Flap Motor

- (1) Remove the 3 screws used to mount the top panel.  
(Fig. 6)
- (2) While unlatching the 2 tabs inside the back of the top panel, lift the top panel diagonally in the direction of the arrow.(Fig. 6)
- (3) Remove the 2 screws to pull off the flap motor.  
The arm and cam come off together with the motor.  
(Fig. 7)

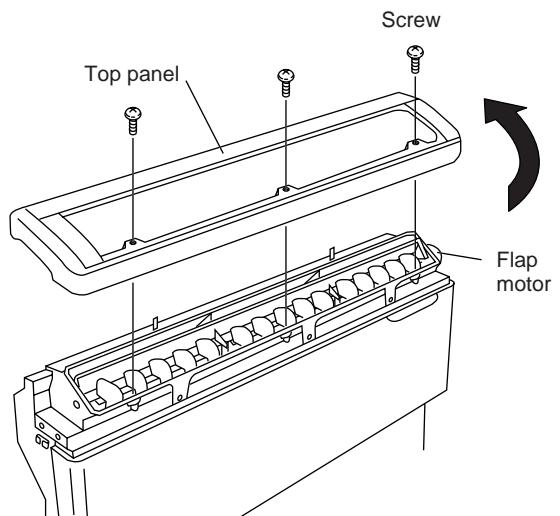


Fig.6

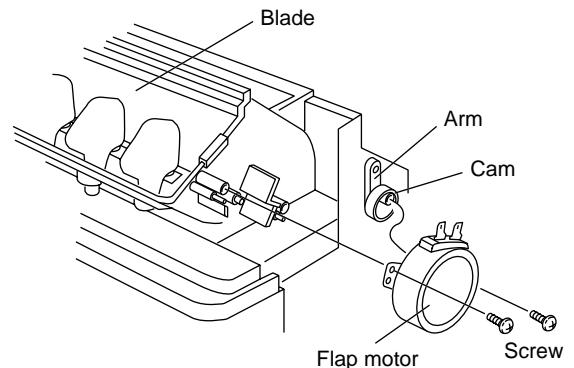


Fig.7

## 10-5. Removing Evaporator (=Indoor Heat Exchange Coil)

- (1) Remove the 7 screws used to mount the blades.  
(Fig. 8)
- (2) Lift the blades in the direction of the arrow.(Fig. 8)

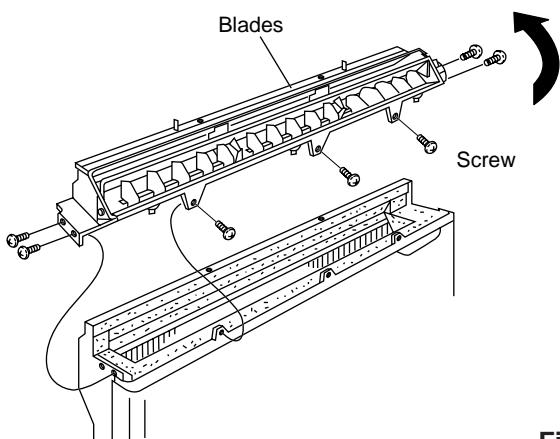
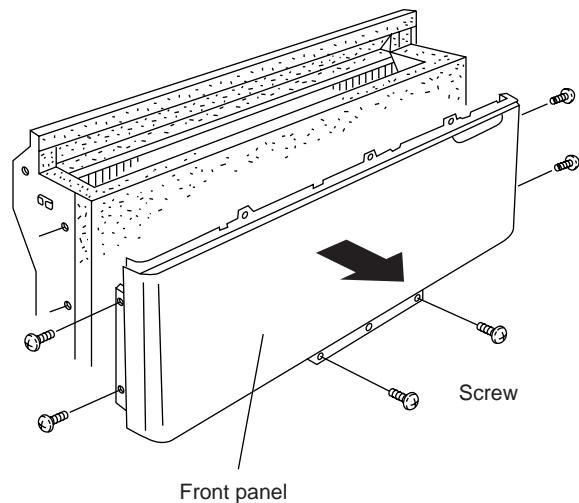


Fig.8

- (3) Remove the 6 screws of the front panel and pull it toward you. (Fig. 9)



- (4) Remove the 2 screws used to mount the evaporator. (Fig. 10)  
 (5) Remove the rubber cap to pull the thermistor out of the evaporator. (Fig. 10)  
 (6) Cut the plastic clamp securing the drain hose to the front fan casing. (Fig. 10)  
 (7) The evaporator is built into the drain pan. Pull out the drain pan together with the evaporator in the direction of the arrow. (Fig. 10)

**IMPORTANT**

The foamed polystyrene drain pan is fragile: DO NOT apply excessive force when removing it.

- (8) The evaporator can be removed by sliding it out from the drain pan in the direction of the arrow. (Fig. 11)

Fig.9

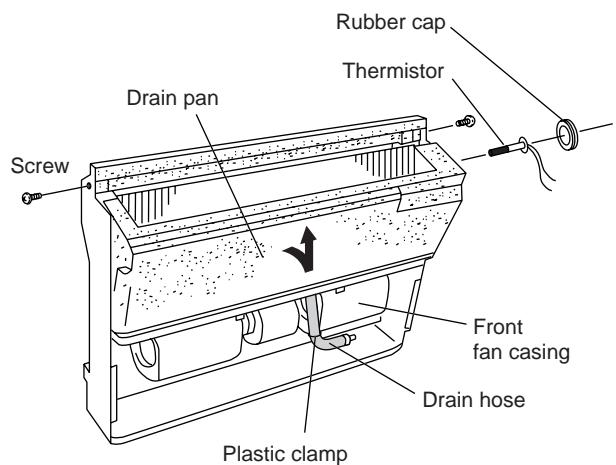


Fig.10

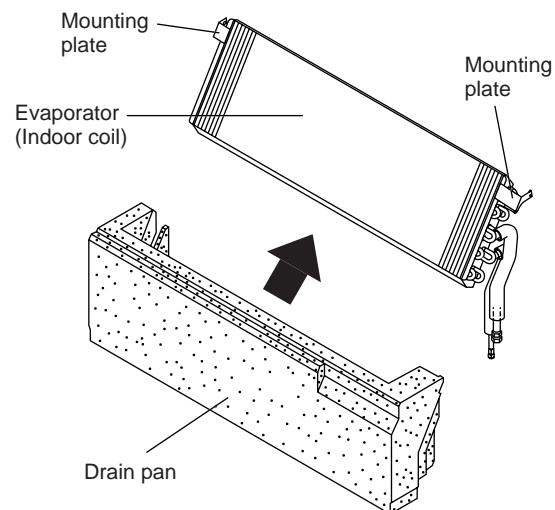


Fig.11

## 10-6. Removing Fan and Fan Motor

- (1) Unlatch the 2 hooks on each side to take off the front fan casing. (Fig. 12)

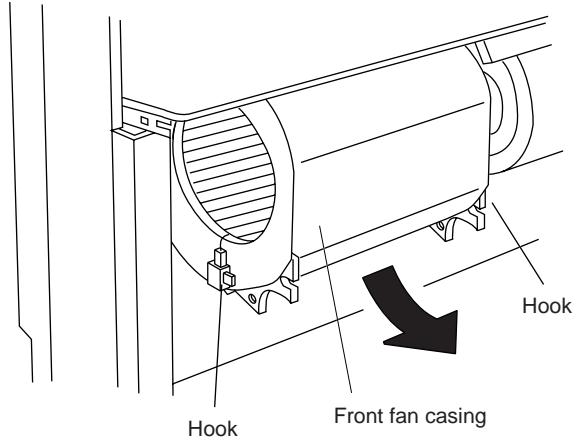


Fig.12

- (2) Remove the 2 screws attaching the rear fan casing and then pull the fan casing out.

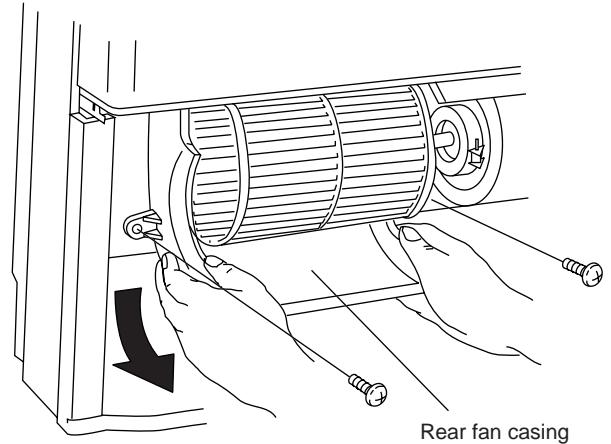


Fig.13

- (3) Insert a hex wrench in the fan boss and turn it counterclockwise to loosen the centrifugal fan.

The fan can be removed by sliding it to the left. (Fig. 14)

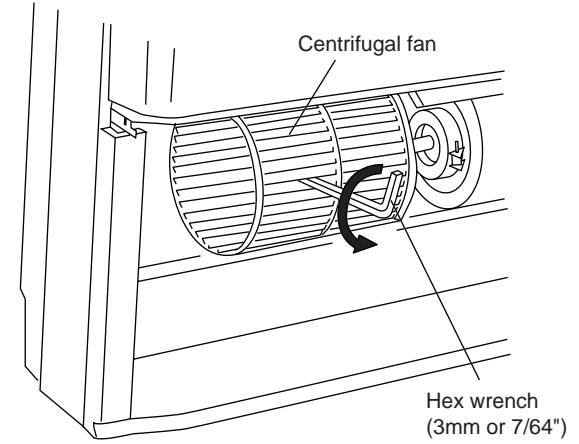


Fig.14

- (4) Remove the 4 bolts to remove the fan motor from the frame. (Fig. 15)

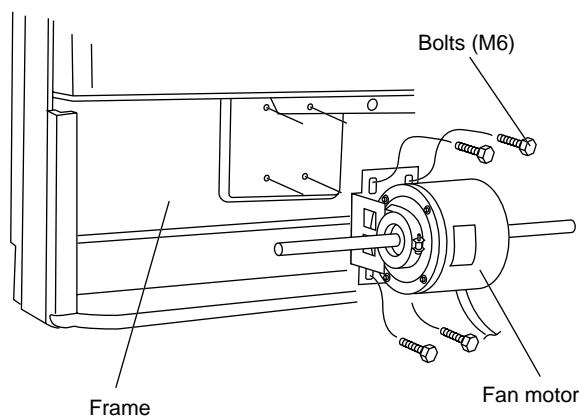


Fig.15

# **APPENDIX INSTRUCTION MANUAL**

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|  | Page         |
|--|--------------|
| Installation Location.....                     | <b>IM-4</b>  |
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