

AIR CONDITIONER

Duct type

SERVICE MANUAL

INDOOR



ARXG45KHTA
ARXG54KHTA

OUTDOOR



AOYG45KRTA
AOYG54KRTA

FUJITSU GENERAL LIMITED

Notices:

- Product specifications and design are subject to change without notice for future improvement.
- For further details, please check with our authorized dealer.

Trademarks

FGLair™ is trademark of Fujitsu General Limited in the United States, other countries or both.

Google Play™ is trademark of Google Inc.

App Store® is a service mark of Apple Inc., registered in the U.S. and other countries.

CONTENTS

1. GENERAL INFORMATION

2. TECHNICAL DATA AND PARTS LIST

1. GENERAL INFORMATION

CONTENTS

1. GENERAL INFORMATION

| | |
|--------------------------------|-------------|
| 1. Specifications | 01-1 |
| 1-1. Indoor unit | 01-1 |
| 1-2. Outdoor unit..... | 01-2 |
| 2. Dimensions | 01-3 |
| 2-1. Indoor unit | 01-3 |
| 2-2. Outdoor unit..... | 01-5 |

1. Specifications

1-1. Indoor unit

| Type | | | | Duct | | |
|-----------------------------|------------------------|-----------------|-------------------|---|---------------|---------------|
| | | | | Inverter heat pump | | |
| Model name | | | | ARXG45KHTA | ARXG54KHTA | |
| Power supply | | | | 3N 400 V ~ 50 Hz | | |
| Power supply intake | | | | Outdoor unit | | |
| Available voltage range | | | | 342—457 V | | |
| Capacity | Cooling | Rated | | kW | 12.1 | 13.4 |
| | | | | Btu/h | 41,300 | 45,700 |
| | | Min.—Max. | | kW | 4.0—14.0 | 5.0—14.5 |
| | Heating | | | Btu/h | 13,600—47,800 | 17,100—49,400 |
| | | Rated | | kW | 13.5 | 15.5 |
| | | Min.—Max. | | kW | 5.0—16.2 | 5.5—18.0 |
| | | | Btu/h | 17,100—55,300 | 18,800—61,400 | |
| Input power | Cooling | Rated | kW | 4.16 | 4.77 | |
| | | Max. | | 5.22 | 5.59 | |
| | Heating | Rated | | 3.61 | 4.18 | |
| | | Max. | | 5.07 | 5.67 | |
| Current | Cooling | Rated | A | 7.6 | 8.5 | |
| | Heating | Rated | 6.8 | 7.6 | | |
| Power factor | Cooling | | % | 79.4 | 81.7 | |
| | Heating | | 77.4 | 79.5 | | |
| EER | Cooling | | kW/kW | 2.91 | 2.81 | |
| COP | Heating | | 3.74 | 3.71 | | |
| Moisture removal | | | L/h (pints/h) | 1.5 (2.6) | 2.0 (3.5) | |
| Maximum operating current*1 | | Cooling | A | 14 | | |
| | | Heating | 14 | | | |
| Fan | Airflow rate | Cooling | HIGH | m ³ /h | 3,350 | |
| | | | MED | | 2,850 | |
| | | | LOW | | 2,430 | |
| | | Heating | HIGH | | 3,350 | |
| | | | MED | | 2,850 | |
| | | | LOW | | 2,430 | |
| | Type × Q'ty | Sirocco fan × 2 | | | | |
| Motor output | | W | 490 | | | |
| Static pressure range | | | Pa | 100 to 250 | | |
| Sound pressure level*2 | Cooling | HIGH | dB (A) | 47 | | |
| | | MED | | 43 | | |
| | | LOW | | 40 | | |
| | Heating | HIGH | | 47 | | |
| | | MED | | 43 | | |
| | | LOW | | 40 | | |
| Heat exchanger type | Dimensions (H × W × D) | | mm | 336 × 890 × 53.2 | | |
| | Fin pitch | | 1.3 | | | |
| | Rows × Stages | | 4 × 16 | | | |
| | Pipe type | | Copper | | | |
| | Fin type | | Aluminum | | | |
| Enclosure | | Material | Steel sheet | | | |
| Color | | | — | | | |
| Dimensions (H × W × D) | Net | | mm | 400 × 1,050 × 500 | | |
| | Gross | | 460 × 1,230 × 640 | | | |
| Weight | Net | | kg | 46 | | |
| | Gross | | 51 | | | |
| Connection pipe | Size | Liquid | mm (in) | Ø9.52 (3/8) | | |
| | | Gas | | Ø15.88 (5/8) | | |
| | Method | | Flare | | | |
| Operation range | Cooling | | °C | 18 to 32 | | |
| | | | %RH | 80 or less | | |
| | Heating | | °C | 16 to 30 | | |
| Drain port | Material | | Steel | | | |
| | Size | | mm | Ø23.4 (I.D.), Ø25.4 (O.D.) | | |
| Remote control (Option) | | | | Wired remote controller, Wireless remote controller, Mobile app*3 (FGLair™) | | |

NOTES:

- Specifications are based on the following conditions:
 - Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB.
 - Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB.
 - Pipe length: 5 m, Height difference: 0 m. (Between outdoor unit and indoor unit.)
 - Standard static pressure: 100 Pa
- Protective function might work when using it outside the operation range.
- *1: Maximum operating current is the total current of the indoor unit and the outdoor unit.
- *2: Sound pressure level:
 - Measured values in manufacturer's anechoic chamber.
 - Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.
- *3: Available on Google Play™ store or on App Store®. Optional WLAN adapter is also required. For details, refer to the setting manual.

1-2. Outdoor unit

| Type | | | Inverter heat pump | | |
|-------------------------|---------------------------------|---------|--|--|------------|
| Model name | | | AOYG45KRTA | | AOYG54KRTA |
| Power supply | | | 3N 400 V ~ 50 Hz | | |
| Power supply intake | | | Outdoor unit | | |
| Available voltage range | | | 342—457 V | | |
| Starting current | | | 7.6 | | 8.5 |
| Fan | Airflow rate | Cooling | m ³ /h | 4,450 | |
| | | Heating | | 4,450 | |
| | Type × Q'ty | | | Propeller × 1 | |
| | Motor output | | W | 120 | |
| Sound pressure level *1 | Cooling | dB (A) | 57 | | |
| | Heating | | 57 | | 59 |
| Sound power level | Cooling | dB (A) | 71 | | |
| | Heating | | 71 | | 73 |
| Heat exchanger type | Dimensions (H × W × D) | | mm | Main1: 966 × 905 × 18.20 Main2: 966 × 905 × 18.20 Sub: 966 × 543 × 18.20 | |
| | Fin pitch | | | Main1: 1.45 Main2: 1.45 Sub: 1.45 | |
| | Rows × Stages | | | Main1: 1 × 46 Main2: 1 × 46 Sub: 1 × 46 | |
| | Pipe type | | | Copper | |
| | Fin | | Type (Material) | Aluminum | |
| | | | Surface treatment | Blue fin | |
| Compressor | Type × Q'ty | | DC Twin rotary × 1 | | |
| | Motor output | | W | 2,180 | |
| Refrigerant | Type (Global warming potential) | | R32 (675) | | |
| | Factory charge | | g | 2,700 | |
| Refrigerant oil | Type | | RmM68AF | | |
| | Amount | | cm ³ | 800 | |
| Enclosure | Material | | Steel sheet | | |
| | Color | | Beige Approximate color of Munsell 10YR 7.5/1.0 | | |
| Dimensions (H × W × D) | Net | | mm | 998 × 940 × 320 | |
| | Gross | | | 1,176 × 1,027 × 445 | |
| Weight | Net | | kg | 67 | |
| | Gross | | | 77 | |
| Connection pipe | Size | Liquid | mm (in) | Ø 9.52 (3/8) | |
| | | Gas | | Ø 15.88 (5/8) | |
| | Method | | | Flare | |
| | Pre-charge length | | m | 30 | |
| | Max. length | | | 50 | |
| Max. height difference | | 30 | | | |
| Operation range | Cooling | °C | -15 to 46 | | |
| | Heating | | -15 to 24 | | |
| Drain hose | Material | | LDPE | | |
| | Size | | mm Ø 13.0 (I. D.), Ø 16.0 to Ø 16.7 (O. D.) | | |

NOTES:

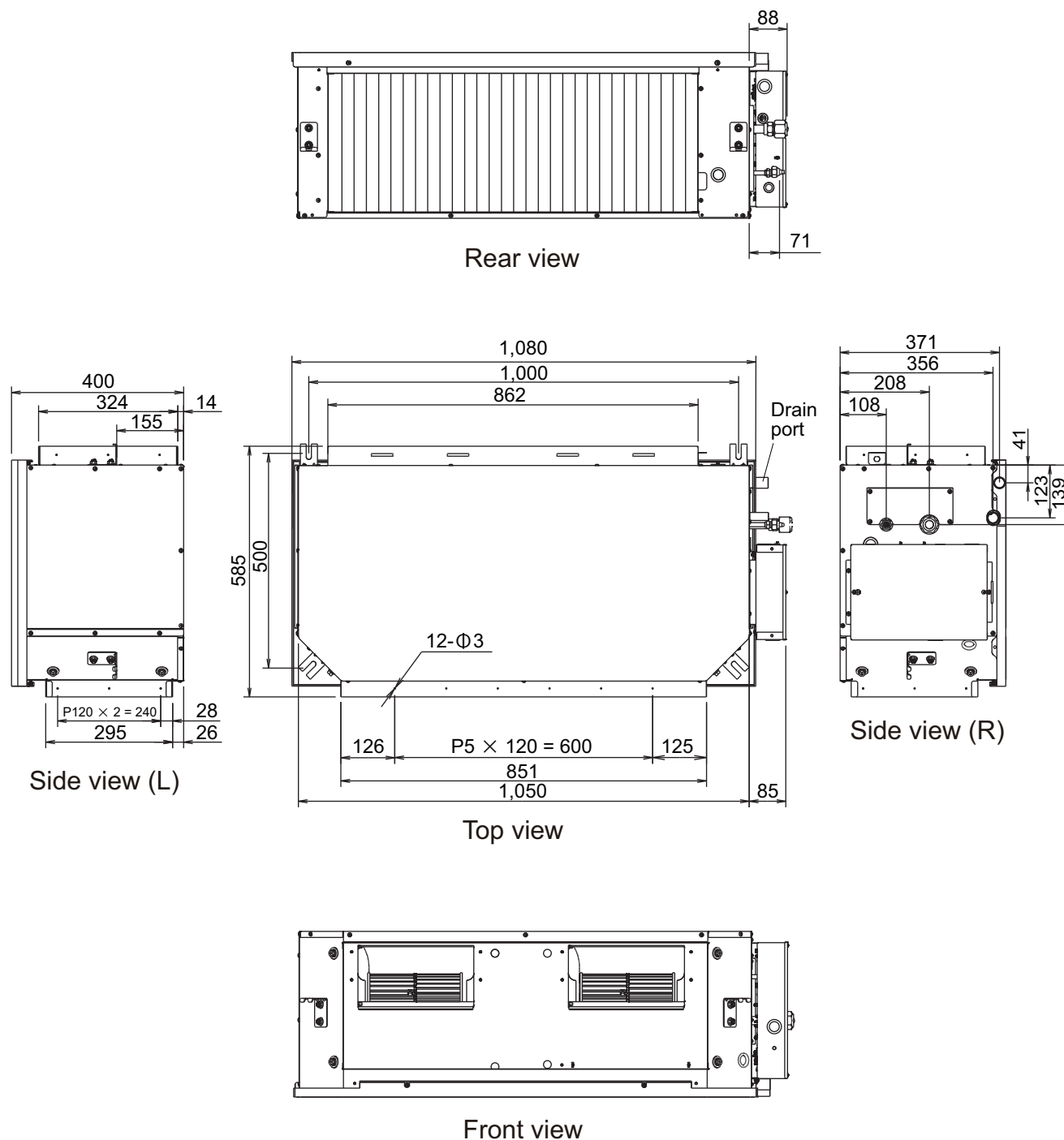
- Specifications are based on the following conditions:
 - Cooling: Indoor temperature of 27 °CDB/19 °CWB, and outdoor temperature of 35 °CDB/24 °CWB.
 - Heating: Indoor temperature of 20 °CDB/15 °CWB, and outdoor temperature of 7 °CDB/6 °CWB.
 - Pipe length: 5.0 m, Height difference: 0 m. (Between outdoor unit and indoor unit.)
- Protective function might work when using it outside the operation range.
- *1: Sound pressure level
 - Measured values in manufacturer's anechoic chamber.
 - Because of the surrounding sound environment, the sound levels measured in actual installation conditions might be higher than the specified values here.

2. Dimensions

2-1. Indoor unit

■ Models: ARXG45KHTA and ARXG54KHTA

Unit: mm



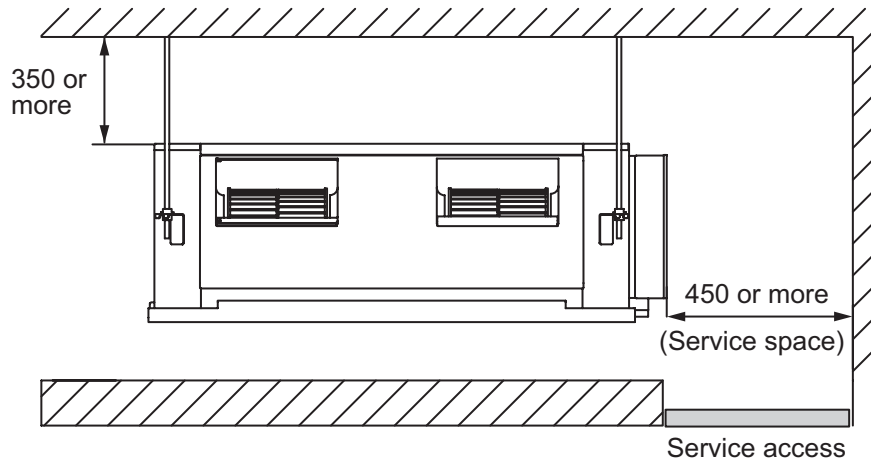
■ Installation space requirement

Provide sufficient installation space for product safety.

● Models: ARXG45KHTA and ARXG54KHTA

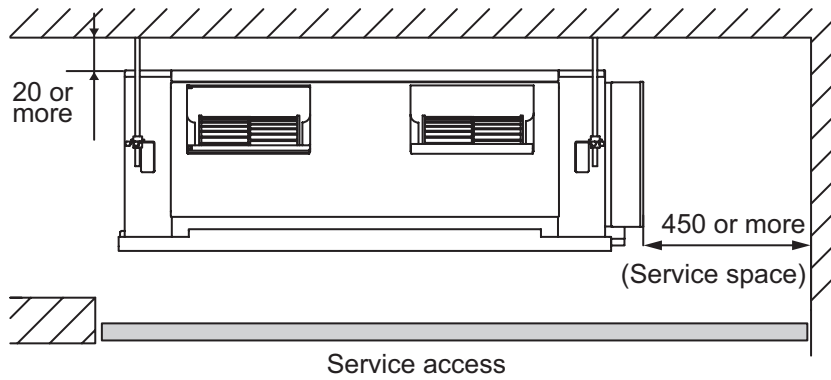
Installation by which service space is made on top of the unit (recommended).

Unit: mm



Installation by which service space is carried out from the bottom of the unit.

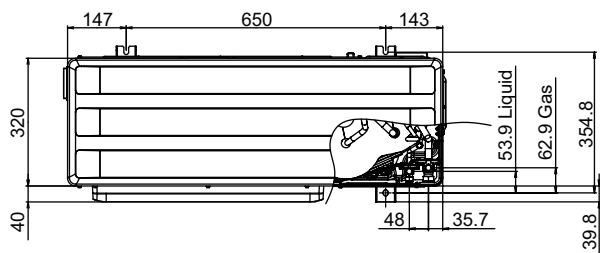
Unit: mm



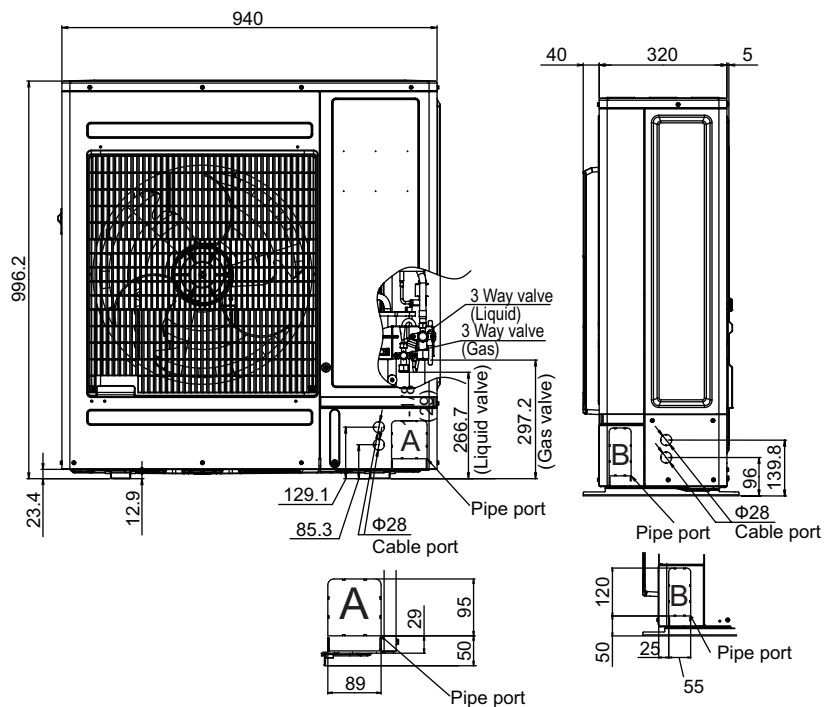
2-2. Outdoor unit

■ Models: AOYG45KRTA and AOYG54KRTA

Unit: mm

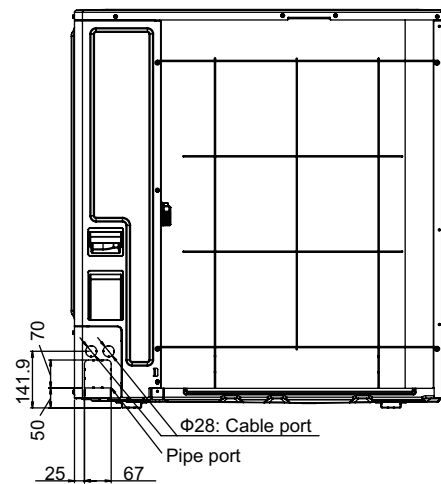


Top view

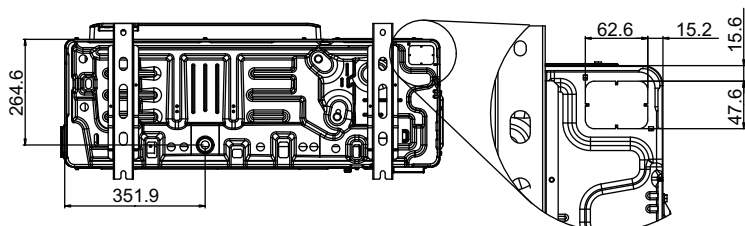


Front view

Side view



Rear view



Bottom view

Pipe & Cable port

2. TECHNICAL DATA AND PARTS LIST

CONTENTS

2. TECHNICAL DATA AND PARTS LIST

| | |
|--|--------------|
| 1. Precautions | 02-1 |
| 2. Indoor unit parts list | 02-2 |
| 2-1. Models: ARXG45KHTA and ARXG54KHTA..... | 02-2 |
| 3. Outdoor unit parts list | 02-4 |
| 3-1. Models: AOYG45KRTA and AOYG54KRTA | 02-4 |
| 4. Accessories | 02-8 |
| 4-1. Indoor unit | 02-8 |
| 4-2. Outdoor unit..... | 02-8 |
| 5. Optional parts | 02-9 |
| 5-1. Indoor unit | 02-9 |
| 5-2. Outdoor unit..... | 02-10 |
| 6. Refrigerant system diagrams | 02-11 |
| 6-1. Models: AOYG45KRTA and AOYG54KRTA | 02-11 |
| 7. PC board diagrams | 02-12 |
| 7-1. Models: ARXG45KHTA and ARXG54KHTA..... | 02-12 |
| 7-2. Models: AOYG45KRTA and AOYG54KRTA | 02-13 |

1. Precautions

When you start servicing, pay attention to the following points. For detailed precautions, refer to the installation manual of the products.

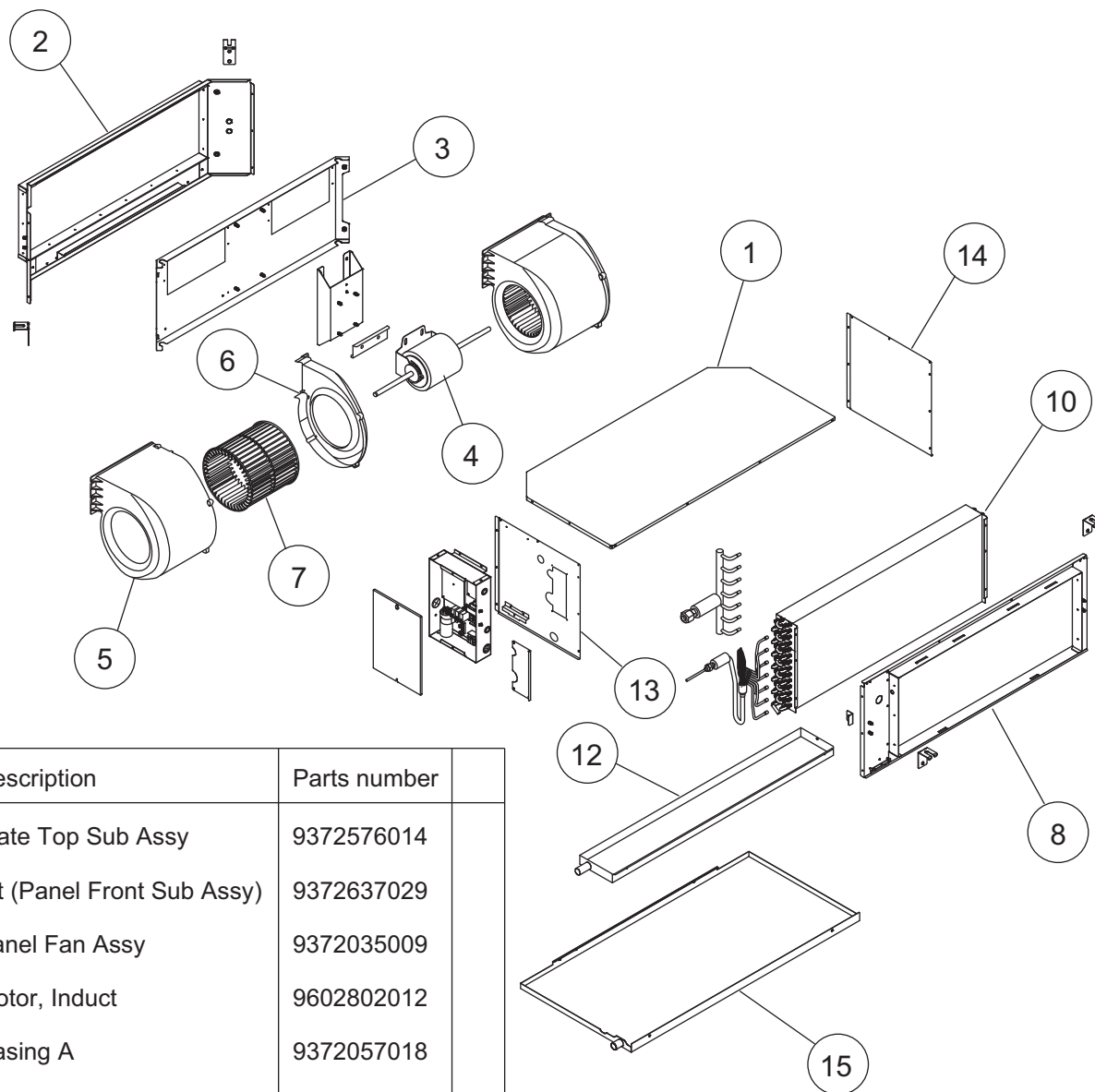
⚠ CAUTION

- Service personnel
 - Any person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorizes their competence to handle refrigerants safely in accordance with an industry recognized assessment specification.
 - Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.
 - Servicing shall be performed only as recommended by the manufacturer.
 - Work
 - Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimized. When repairing the refrigerant system, refer to the precautions written in the installation manual of the products before you start servicing.
 - Work shall be undertaken under a controlled procedure so as to minimize the risk of a flammable gas or vapor being present while the work is being performed.
 - All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out.
 - Work in confined spaces shall be avoided.
 - The area around the workspace shall be sectioned off.
 - Ensure that the conditions within the area have been made safe by control of flammable material.
 - Checking for presence of refrigerant
 - The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres.
 - Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.
-
- Service parts information and design are subject to change without notice for product improvement.
 - For the latest information of the service parts, refer to our Service Portal.
<https://fujitsu-general.force.com/portal/>
 - Precise figure of the service parts listed in this manual may differ from the actual service parts.

2. Indoor unit parts list

2-1. Models: ARXG45KHTA and ARXG54KHTA

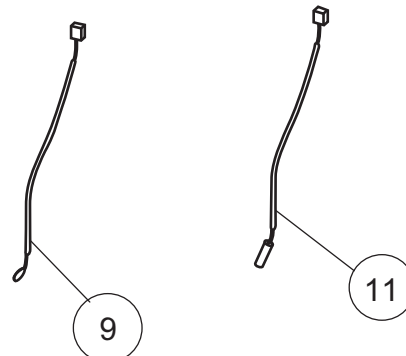
■ Casing and fan



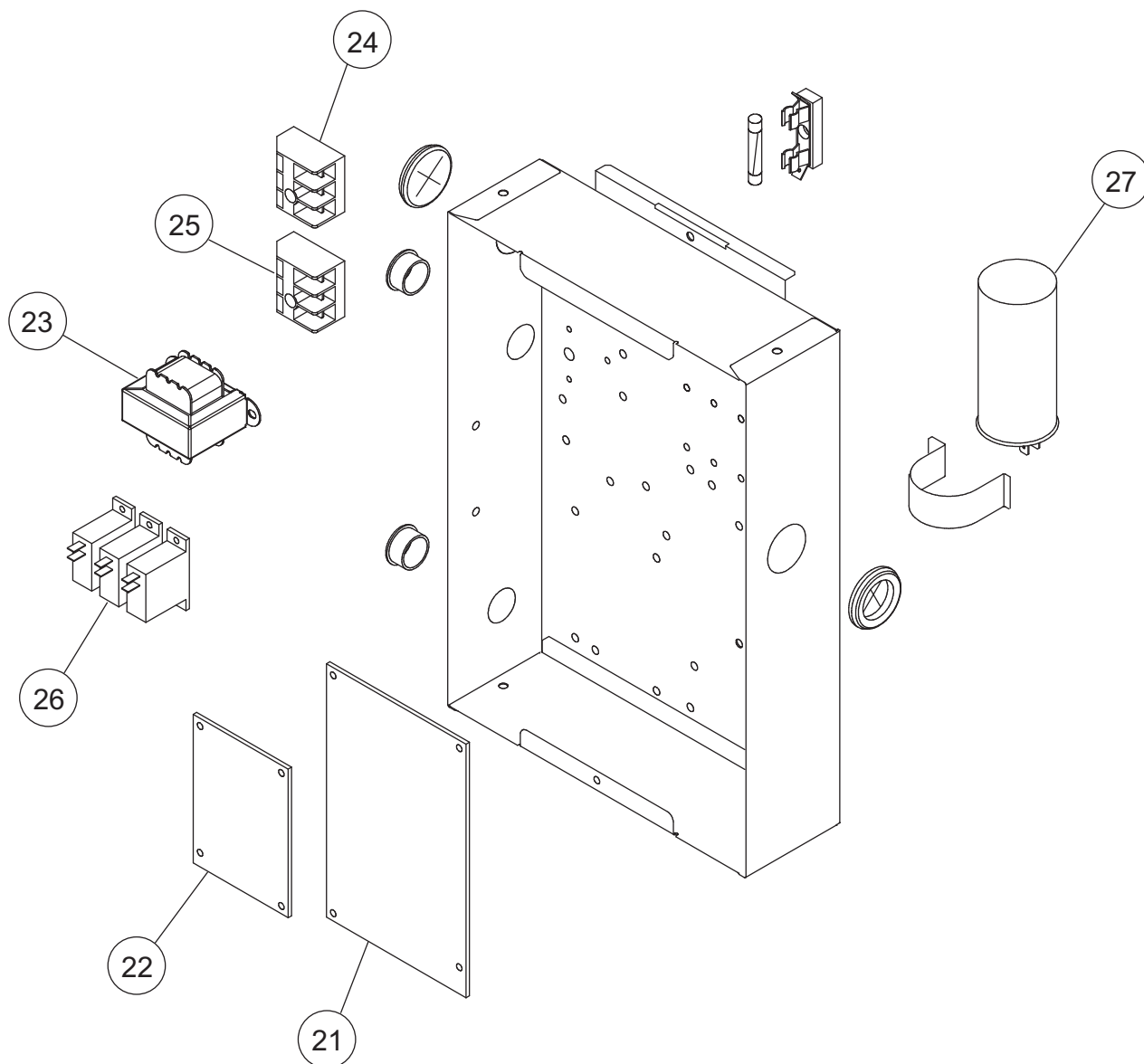
| Ref. | Description | Parts number |
|------|----------------------------|--------------|
| 1 | Plate Top Sub Assy | 9372576014 |
| 2 | Kit (Panel Front Sub Assy) | 9372637029 |
| 3 | Panel Fan Assy | 9372035009 |
| 4 | Motor, Induct | 9602802012 |
| 5 | Casing A | 9372057018 |
| 6 | Casing B | 9372058015 |
| 7 | Sirocco Fan | 9372059029 |
| 8 | Kit (Panel Rear Sub Assy) | 9372636022 |
| 9 | Room Thermistor | 9703299216 |
| 10 | Evaporator Sub Assy | 9372584248 |
| 11 | Pipe Thermistor | 9900814069 |
| 12 | Drain Pan Assy | 9372579015 |
| 13 | Kit (Panel Right Sub Assy) | 9372916025 |
| 14 | Kit (Panel Left Sub Assy) | 9372581018 |
| 15 | Drain Pan S Sub Assy | 9372582015 |

(Connector : white)

(Connector : black)



■ Main PC board

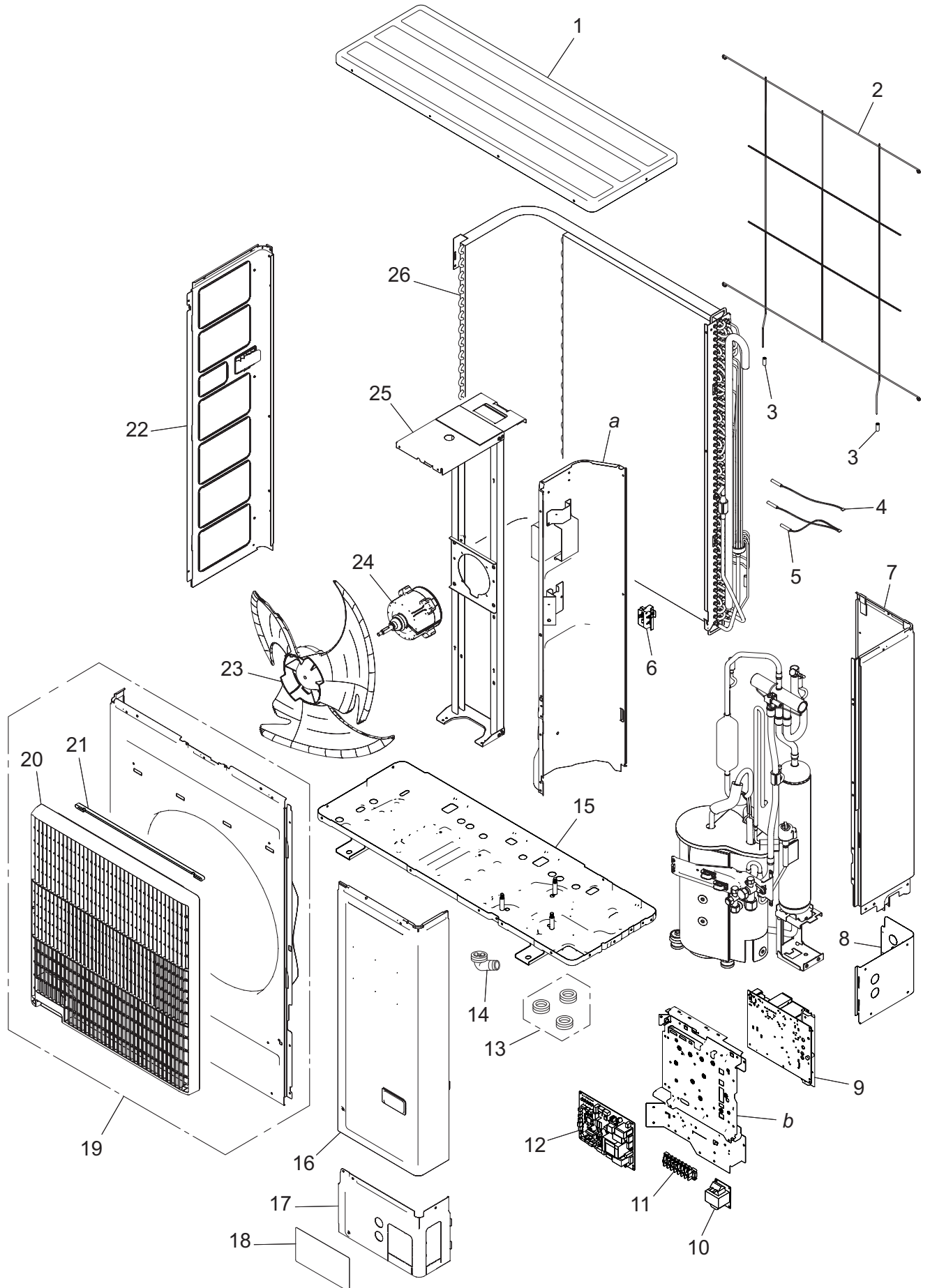


| Ref. | Description | Parts number |
|------|---------------------|--------------|
| 21 | Power Supply PCB | 9705668119 |
| 22 | Main PCB (45) | 9705246355 |
| 22 | Main PCB (54) | 9705246348 |
| 23 | Transformer (Power) | 9704129017 |
| 24 | Terminal 3P | 9703345012 |
| 25 | Terminal 3P | 9306489045 |
| 26 | Relay | 9900294014 |
| 27 | Capacitor, Plastic | 9900269111 |

3. Outdoor unit parts list

3-1. Models: AOYG45KRTA and AOYG54KRTA

■ Exterior parts and chassis



TECHNICAL DATA
AND PARTS LIST

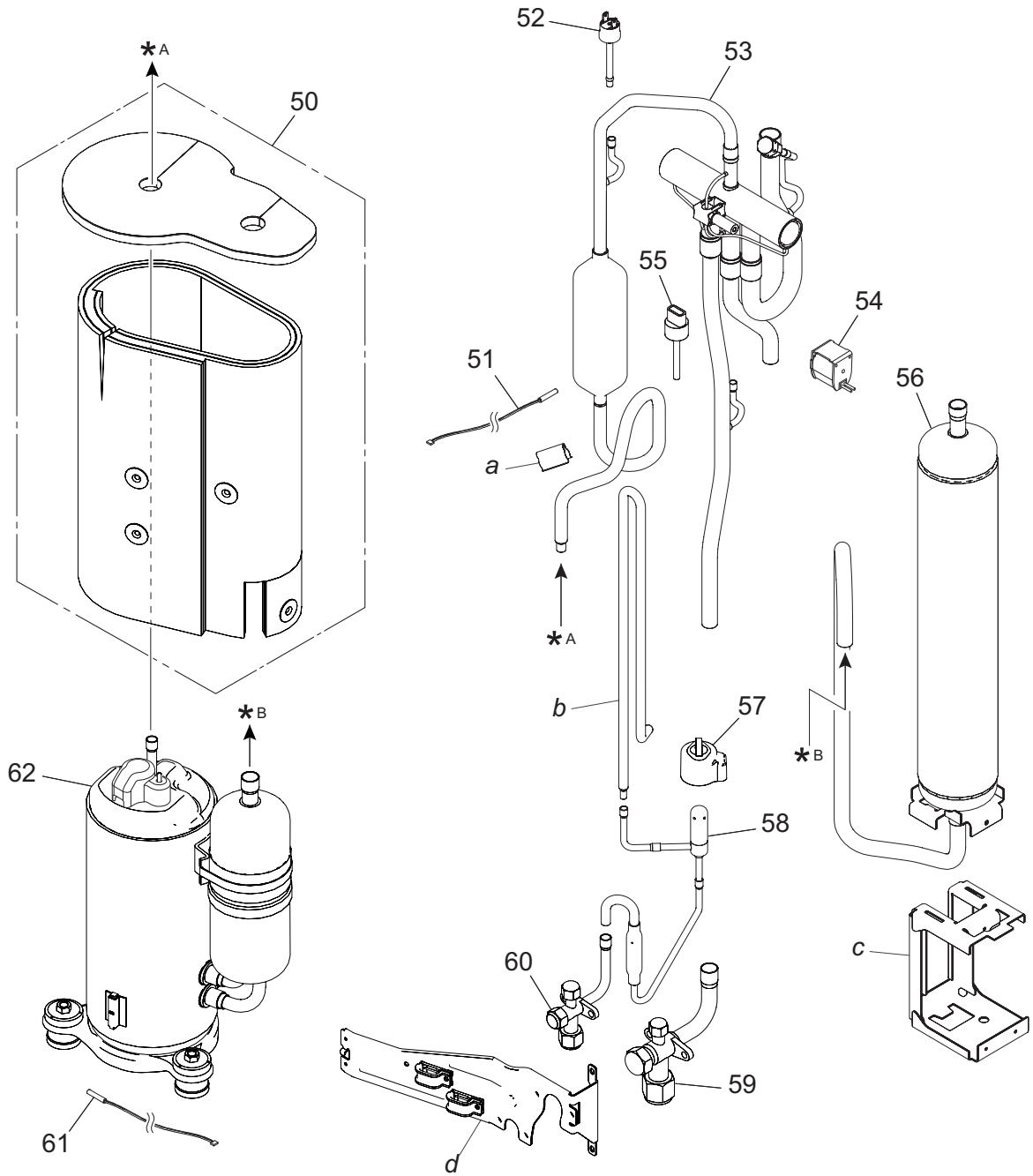
TECHNICAL DATA
AND PARTS LIST

| Item no. | Part no. | Part name | Service part |
|----------|--------------|-----------------------------------|--------------|
| 1 | 9383880001 | Top panel assy | ◆ |
| 2 | 9381013005 | Protective net | ◆ |
| 3 | 9375361013 | Net rubber | ◆ |
| 4 | 9900984038 | Thermistor (Heat exchanger) | ◆ |
| 5 | 9900727154 | Thermistor assy | ◆ |
| 6 | 9383607004 | Thermo holder | ◆ |
| 7 | 9383874017 | Right panel sub assy | ◆ |
| 8 | 9383879005 | Rear pipe cover | ◆ |
| 9 | 9711424013 | Inverter PCB | ◆ |
| 10 | 9900634025 | Reactor assy | ◆ |
| 11 | 9901053016 | Terminal | ◆ |
| 12 | 9711431097 | Main PCB (Service) (for 45 model) | ◆ |
| | 9711431103 | Main PCB (Service) (for 54 model) | ◆ |
| 13 | 313166024302 | Drain cap | ◆ |
| 14 | 9303029015 | Drain assy | ◆ |
| 15 | 9383871009 | Base assy | ◆ |
| 16 | 9383876011 | Service panel sub assy | ◆ |
| 17 | 9383878008 | Front pipe cover | ◆ |
| 18 | 9351355005 | Emblem rear | ◆ |
| 19 | 9383863011 | Front panel assy | ◆ |
| 20 | 9383604003 | Blow grille | ◆ |
| 21 | 9383689000 | Blow grille insulation | ◆ |
| 22 | 9383882012 | Left panel sub assy | ◆ |
| 23 | 9383336003 | Propeller fan | ◆ |
| 24 | 9603733018 | Brushless motor | ◆ |
| 25 | 9383862014 | Motor bracket assy | ◆ |
| 26 | 9374420605 | Condenser sub assy | ◆ |
| <i>a</i> | — | Separate wall assy | — |
| <i>b</i> | — | Control box unit | — |

Compressor

TECHNICAL DATA
AND PARTS LIST

TECHNICAL DATA
AND PARTS LIST


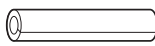
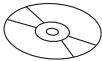



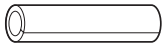


| Item no. | Part no. | Part name | Service part |
|----------|------------|----------------------------|--------------|
| 50 | 9383858017 | Sound insulation unit | ◆ |
| 51 | 9900565091 | Thermistor (Outdoor temp.) | ◆ |
| 52 | 9900186029 | Pressure switch | ◆ |
| 53 | 9374425624 | 4-way valve assy | ◆ |
| 54 | 9970194016 | Solenoid | ◆ |
| 55 | 9970158018 | Sensor | ◆ |
| 56 | 9375250133 | Accumulator assy | ◆ |
| 57 | 9970209000 | Expansion valve coil | ◆ |
| 58 | 9370947311 | Expansion valve assy | ◆ |
| 59 | 9379079013 | 3-way valve assy | ◆ |
| 60 | 9377958037 | 3-way valve assy | ◆ |
| 61 | 9900985028 | Thermistor (Compressor) | ◆ |
| 62 | 9383851025 | Compressor unit | ◆ |
| <i>a</i> | — | Thermistor spring | — |
| <i>b</i> | — | Joint pipe D | — |
| <i>c</i> | — | Accumulator holder A | — |
| <i>d</i> | — | Wiring fixation unit | — |

4. Accessories





4-1. Indoor unit

■ Models: ARXG45KHTA and ARXG54KHTA

| Part name | Exterior | Q'ty | Part name | Exterior | Q'ty |
|---------------------------------|---|------|---------------------------------|---|------|
| Operating manual |  | 1 | Coupler heat insulation (small) |  | 1 |
| Operating manual (CD-ROM) |  | 1 | Special nut A (large flange) |  | 4 |
| Installation manual |  | 1 | Special nut B (small flange) |  | 4 |
| Coupler heat insulation (large) |  | 1 | | | |

4-2. Outdoor unit

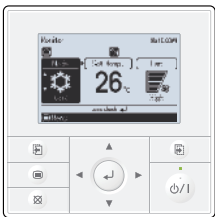
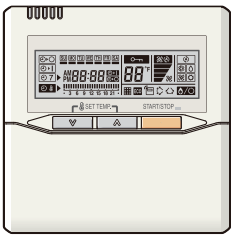

■ Models: AOYG45KRTA and AOYG54KRTA

| Part name | Exterior | Q'ty | Part name | Exterior | Q'ty |
|---------------------|---|------|----------------|---|------|
| Installation manual |  | 1 | Drain cap |  | 3 |
| Drain pipe |  | 1 | One-touch bush |  | 2 |

5. Optional parts

5-1. Indoor unit

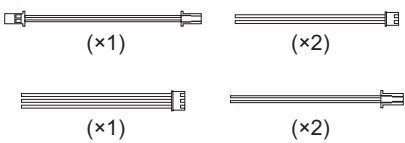


■ Controllers


| Exterior | Part name | Model name | Summary |
|--|--------------------------|------------|--|
|  | Wired remote controller | UTY-RVNYM | Large and full-dot liquid crystal screen, wide and large keys easy to press, user-intuitive arrow key. Wire type: Polar 3-wire |
|  | Wired remote controller | UTY-RNNYM | Room temperature can be controlled by detecting the temperature accurately with built-in thermo sensor. Wire type: Polar 3-wire |
|  | Simple remote controller | UTY-RSNYM | Compact remote controller concentrates on the basic functions such as Start/Stop, fan control, temperature setting, and operation mode. Wire type: Polar 3-wire |

NOTES:

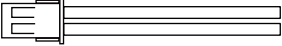
- Available functions may differ by the remote controller. For details, refer to the operation manual.
- When using a Wireless LAN adapter, group controlling system of the wired remote controller is prohibited.

■ Others

| Exterior | Part name | Model name | Summary |
|---|----------------------|------------|--|
|  | External connect kit | UTD-ECS5A | Use to connect with various peripheral devices and air conditioner PCB. (Set of 6) |
|  | Remote sensor unit | UTY-XSZX | Thermo-sensor for sensing the temperature of arbitrary place in the room. |
|  | Long-life filter | UTD-LF60KA | Long-life filter can be mounted to the indoor unit. |

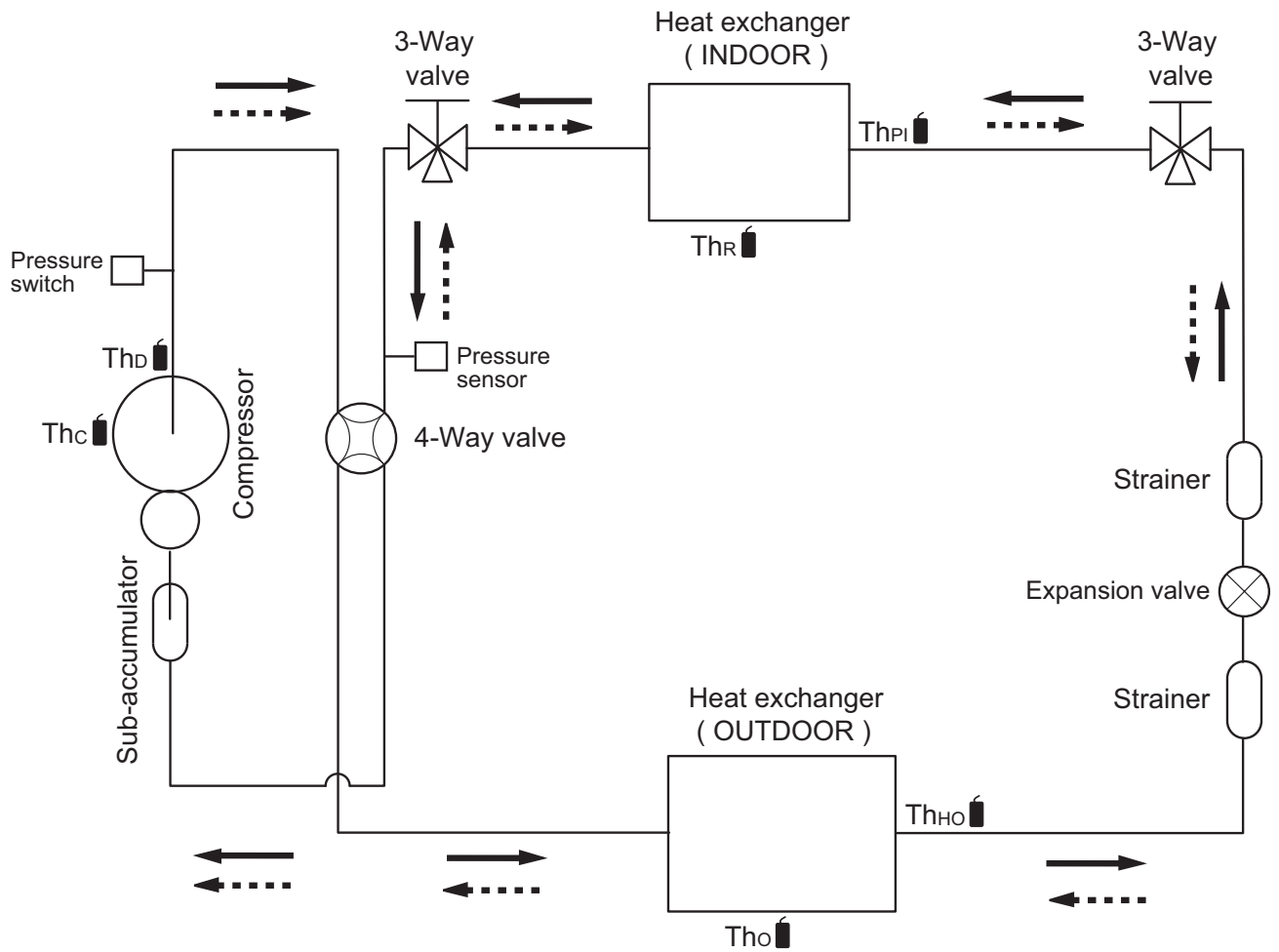
| Exterior | Part name | Model name | Summary |
|---|----------------------|------------|--|
|  | Wireless LAN adapter | UTY-TFNXZ1 | Remotely manage an air conditioning system using mobile devices such as smartphones and tablets. |

5-2. Outdoor unit

| Exterior | Part name | Model name | Summary |
|---|----------------------|------------|---|
|  | External connect kit | UTY-XWZXZ3 | Use to operate the external input and output functions of outdoor unit. |

6. Refrigerant system diagrams

6-1. Models: AOYG45KRTA and AOYG54KRTA



—→ : Cooling
 - - - - -→ : Heating

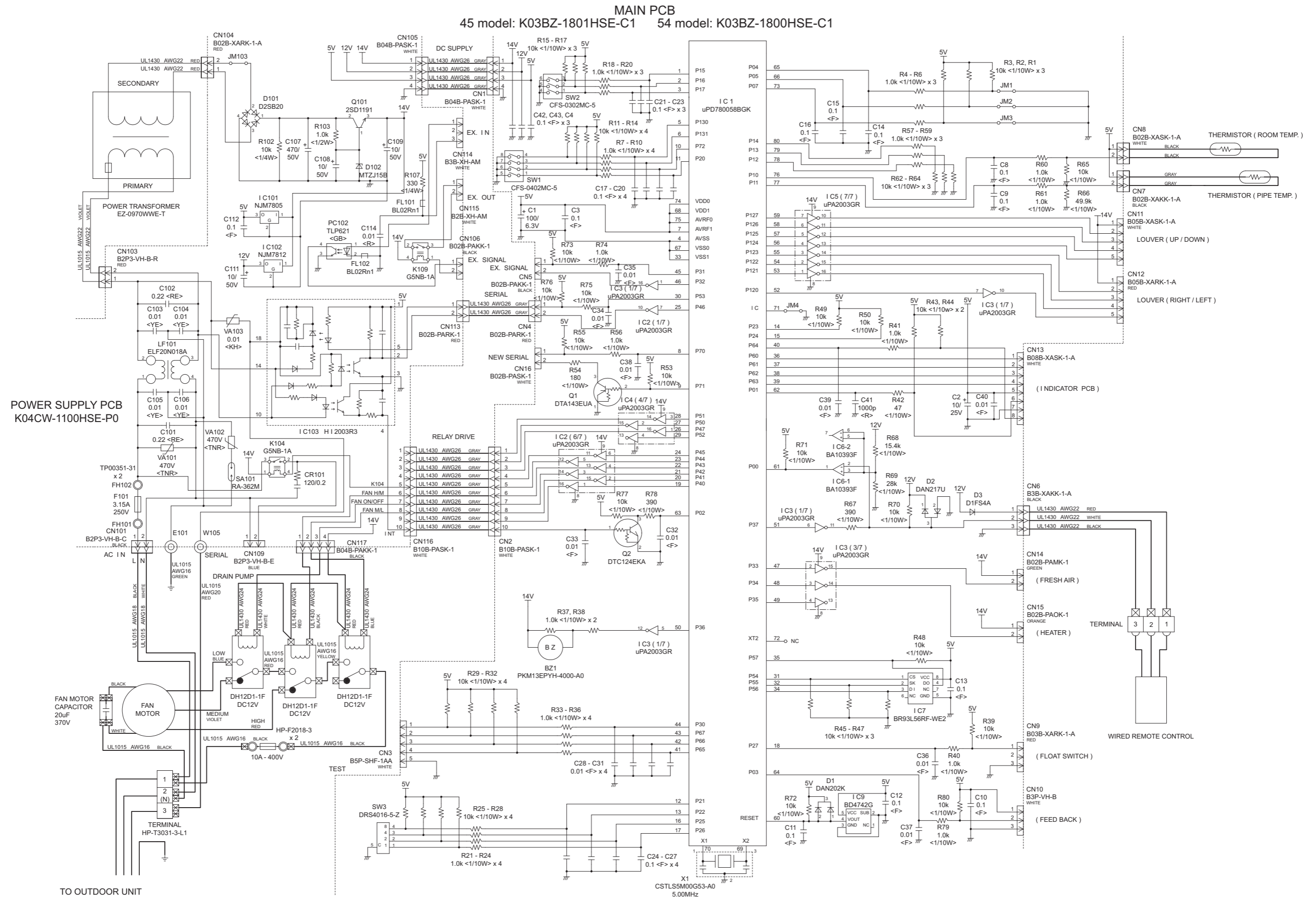
- Th_c : Thermistor (Compressor temperature)
- Th_D : Thermistor (Discharge temperature)
- Th_O : Thermistor (Outdoor temperature)
- Th_{HO} : Thermistor (Heat Exchanger Out temperature)
- Th_R : Thermistor (Room temperature)
- Th_{PI} : Thermistor (Pipe temperature)

TECHNICAL DATA
AND PARTS LIST

TECHNICAL DATA
AND PARTS LIST

7. PC board diagrams

7-1. Models: ARXG45KHTA and ARXG54KHTA



7-2. Models: AOYG45KRTA and AOYG54KRTA

TECHNICAL DATA AND PARTS LIST

TECHNICAL DATA AND PARTS LIST

INVERTER ASSEMBLY
 36 model: EZ-0190HUE
 45 model: EZ-0193HUE
 54 model: EZ-0191HUE

