

SPLIT TYPE  
AIR CONDITIONER  
DUCT TYPE (50Hz)

# SERVICE MANUAL



|             |              |
|-------------|--------------|
| Indoor unit | Outdoor unit |
| ARYG30LHTBP | AOYG30LBTA   |

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# SPECIFICATIONS

## ELECTRICAL DATA

|              |                         |                        |
|--------------|-------------------------|------------------------|
| INDOOR UNIT  |                         | ARYG30LHTBP            |
| OUTDOOR UNIT |                         | AOYG30LBTA             |
| TYPE         |                         | Cooling & Heating      |
| POWER SOURCE |                         | Single phase 230V 50Hz |
| COOLING      | Capacity                | 8.50 kW                |
|              | Power consumption       | 2.65 kW                |
|              | EER                     | 3.21 kW/kW             |
|              | Rated operating current | 11.6 A                 |
|              | Max operating current   | 17.0 A                 |
|              | Moisture removal        | 2.3 L/h                |
| HEATING      | Capacity                | 10.0 kW                |
|              | Power consumption       | 2.70 kW                |
|              | COP                     | 3.70 kW/kW             |
|              | Rated operating current | 11.8 A                 |
|              | Max operating current   | 17.0 A                 |

## FAN MOTOR AND FAN REVOLUTION

|              |                |             |
|--------------|----------------|-------------|
| INDOOR UNIT  | Discrimination | MFG-ZC8KC2P |
|              | High           | 1,060 rpm   |
|              | Medium         | 880 rpm     |
|              | Low            | 780 rpm     |
| OUTDOOR UNIT | Quiet          | 720 rpm     |
|              | Discrimination | MFE-60TVT   |
|              | Cooling        | 850 rpm     |
|              | Heating        | 850 rpm     |

## AIR CIRCULATION

|              |         |                         |
|--------------|---------|-------------------------|
| INDOOR UNIT  | High    | 1,700 m <sup>3</sup> /h |
|              | Medium  | 1,360 m <sup>3</sup> /h |
|              | Low     | 1,190 m <sup>3</sup> /h |
|              | Quiet   | 1,070 m <sup>3</sup> /h |
| OUTDOOR UNIT | Cooling | 3,600 m <sup>3</sup> /h |
|              | Heating | 3,600 m <sup>3</sup> /h |

## NOISE LEVEL

|              |         |       |
|--------------|---------|-------|
| INDOOR UNIT  | High    | 36 dB |
|              | Medium  | 33 dB |
|              | Low     | 30 dB |
|              | Quiet   | 29 dB |
| OUTDOOR UNIT | Cooling | 53 dB |
|              | Heating | 55 dB |

Static pressure : 47Pa

Duct length : Inlet 1m, Outlet 2m

## COMPRESSOR AND REFRIGERANT

|                              |   |      |         |
|------------------------------|---|------|---------|
| COMPRESSOR TYPE              | Hermetic type, Inverter, 6 poles, DC motor, Twin Rotary |      |         |
| DISCRIMINATION               | N-TF30ND1A  |      |         |
| WEIGHT (with oil)            | 15.3 kg   |      |         |
| PRECHARGED REFRIGERANT       | 2,100 g   |      |         |
| REFRIGERANT TYPE             | R410A   |      |         |
| FULL CHARGE                  | Pipe length   | 20 m | 2,100 g |
|                              |   | 30 m | 2,500 g |
|                              |   | 40 m | 2,900 g |
|                              |   | 50 m | 3,300 g |
| ADDITIONAL CHARGE            | 40 g/m  |      |         |
| MAX PIPING HEIGHT DIFFERENCE | 30 m  |      |         |

## DIMENSIONS

|              |           |                      |
|--------------|-----------|----------------------|
| INDOOR UNIT  | H x W x D | 300 x 1,000 x 700 mm |
| OUTDOOR UNIT | H x W x D | 830 x 900 x 330 mm   |

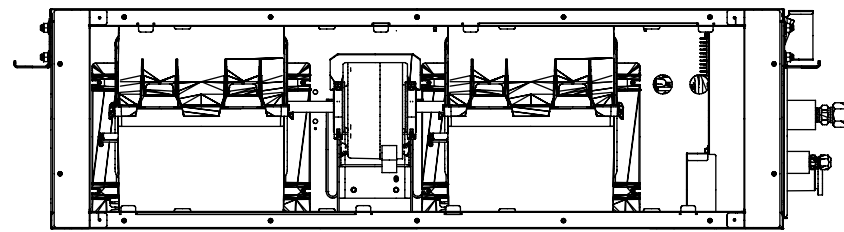
## WEIGHT

|              |                |               |
|--------------|----------------|---------------|
| INDOOR UNIT  | Net / Shipping | 36 kg / 44 kg |
| OUTDOOR UNIT | Net / Shipping | 61 kg / 68 kg |

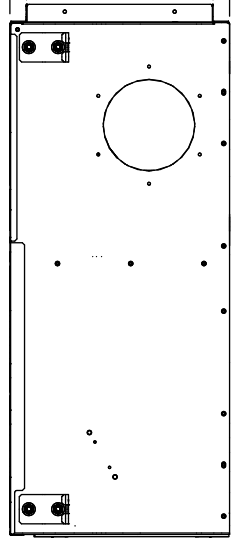
# DIMENSIONS

INDOOR UNIT

Unit : mm

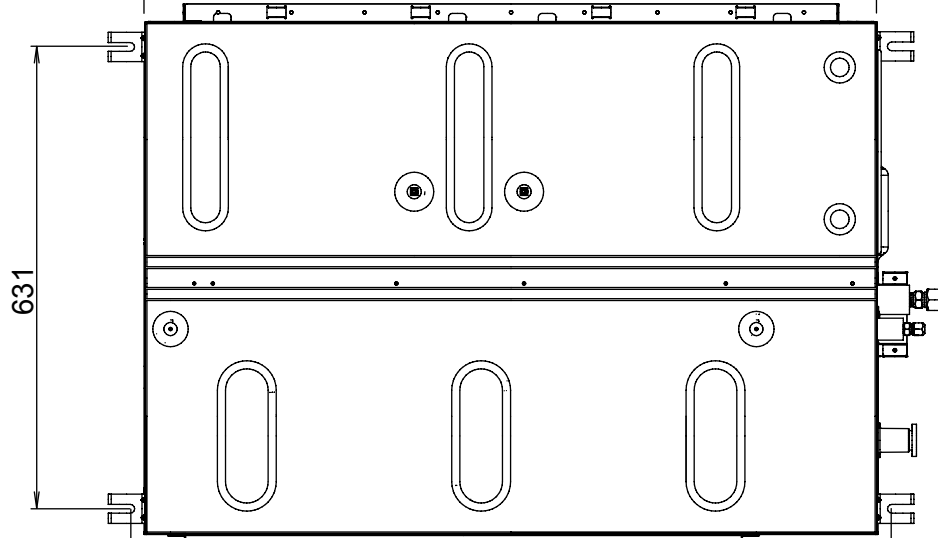


22.5 255 22.5



57.5 217 25.5

52.5 895 52.5

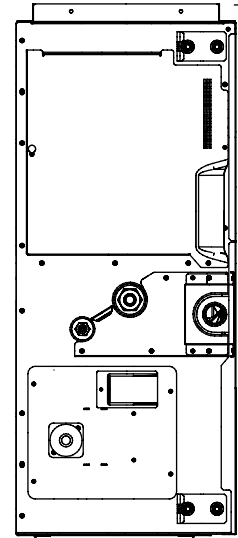


631

54 762 184

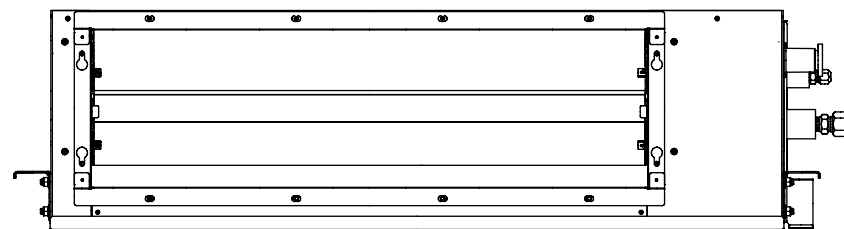
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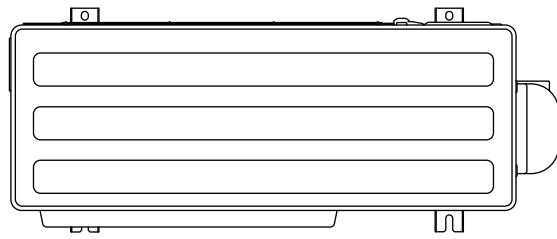
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700

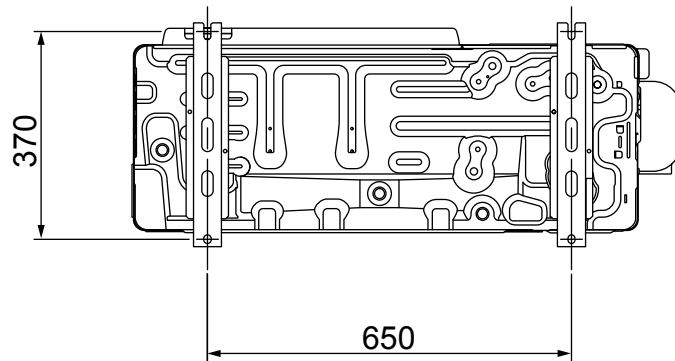
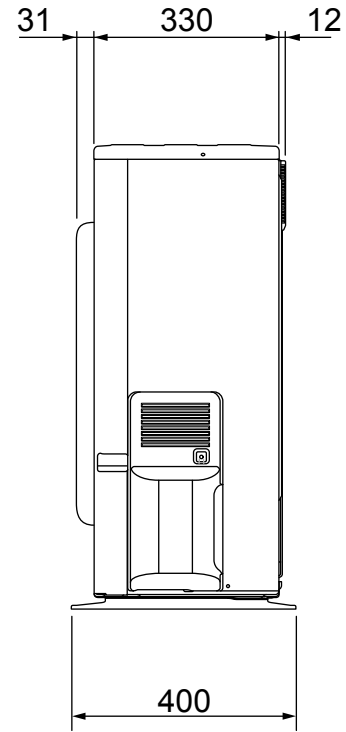
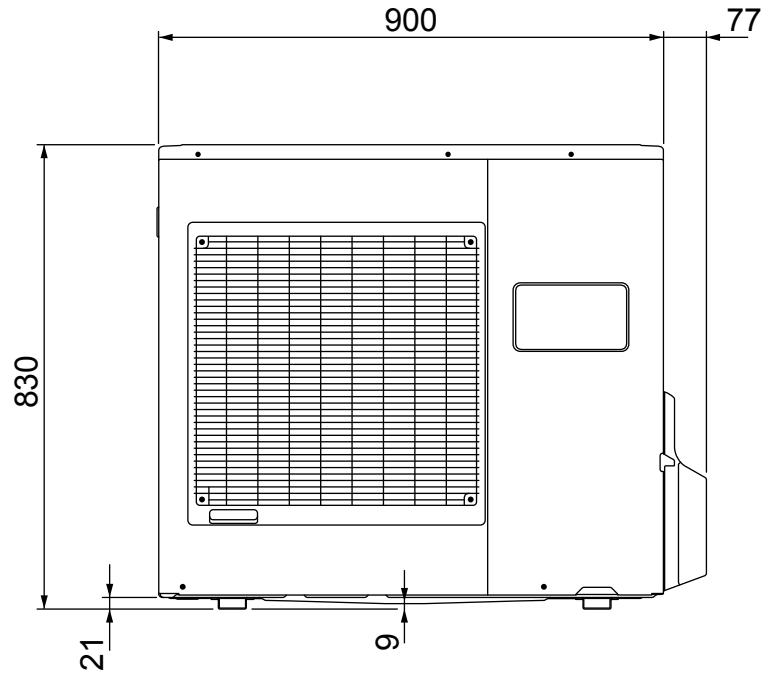
25





OUTDOOR UNIT

Unit : mm



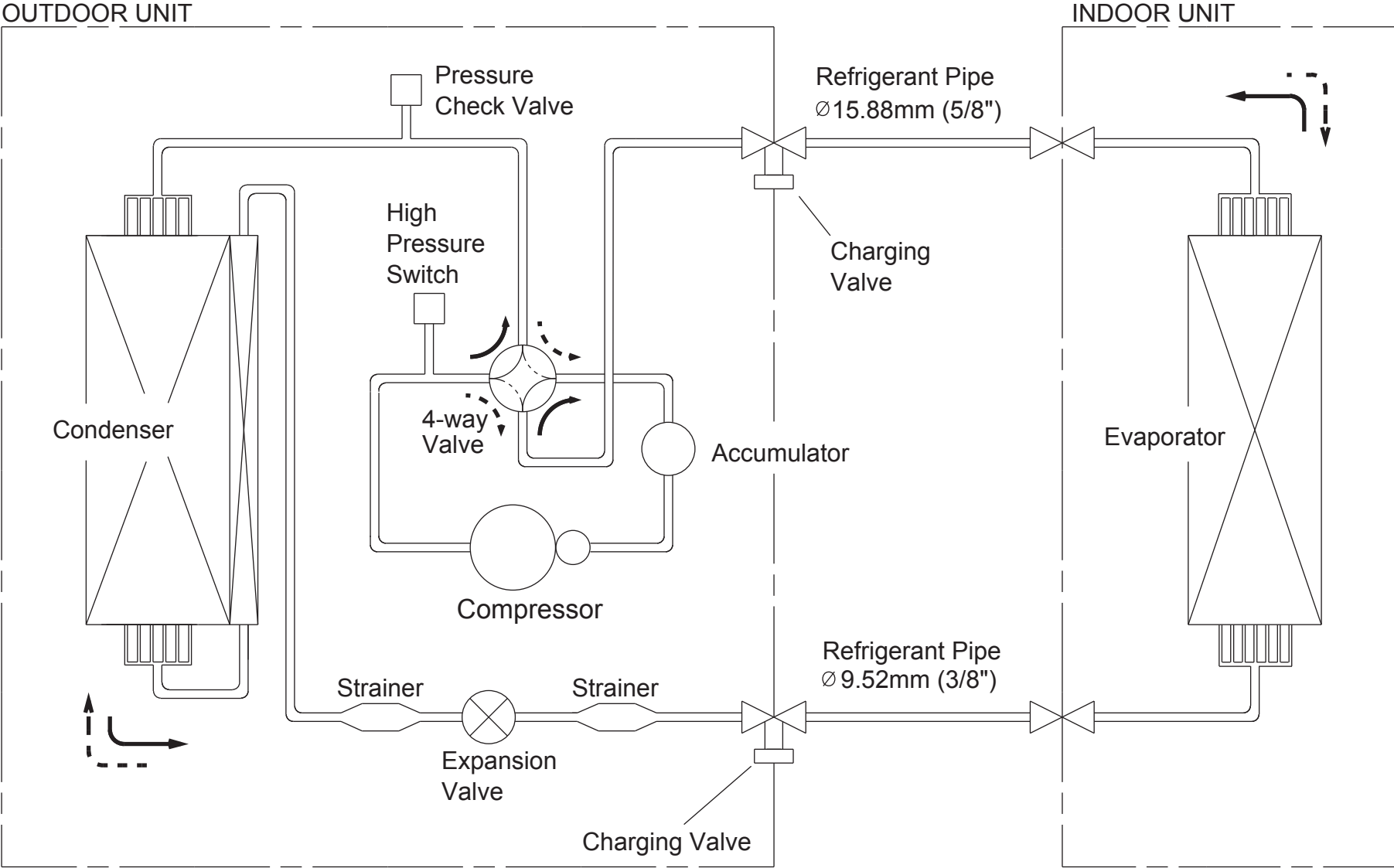


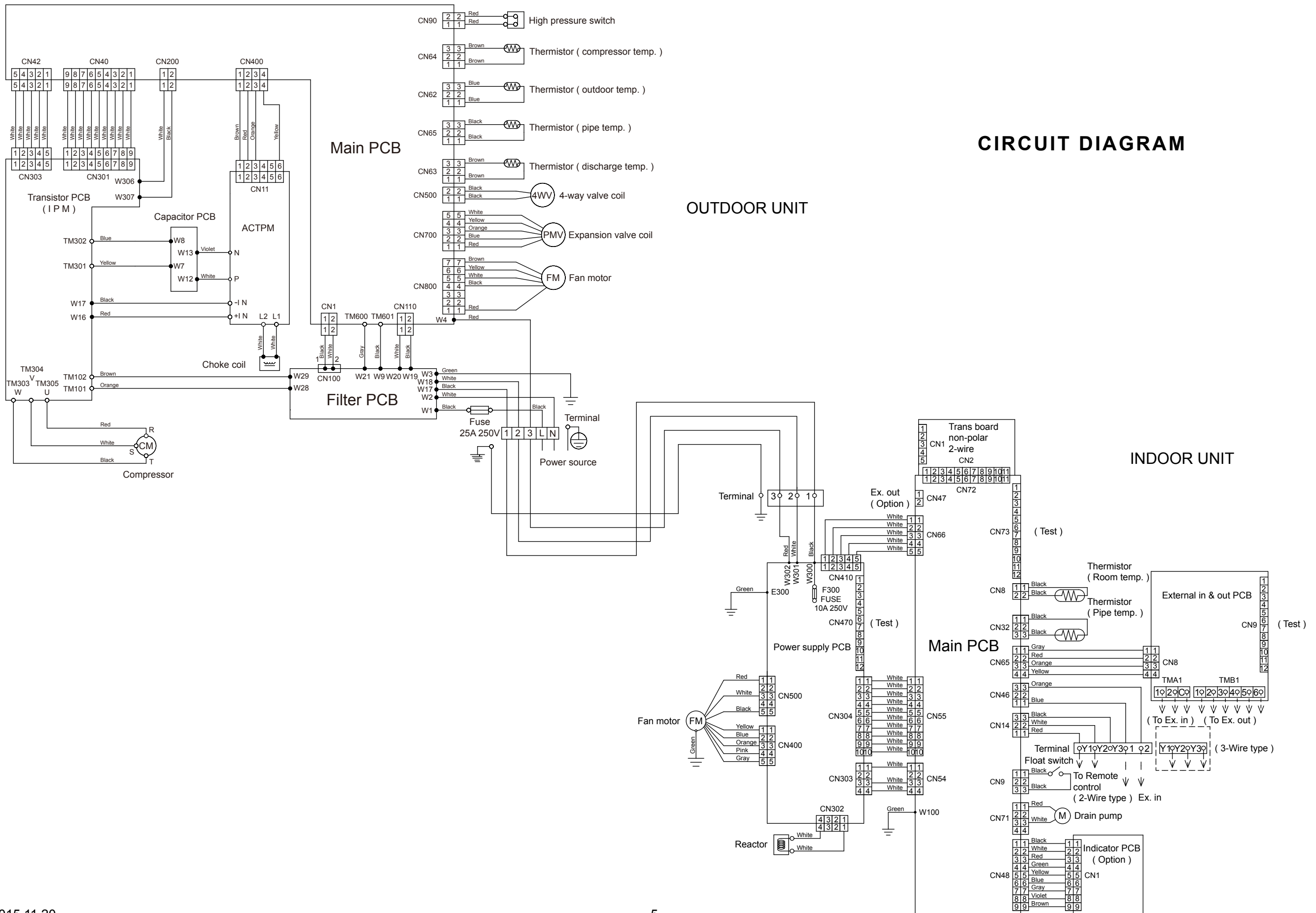
# REFRIGERANT SYSTEM DIAGRAM

Refrigerant direction

—→ : Cool

- - -→ : Heat



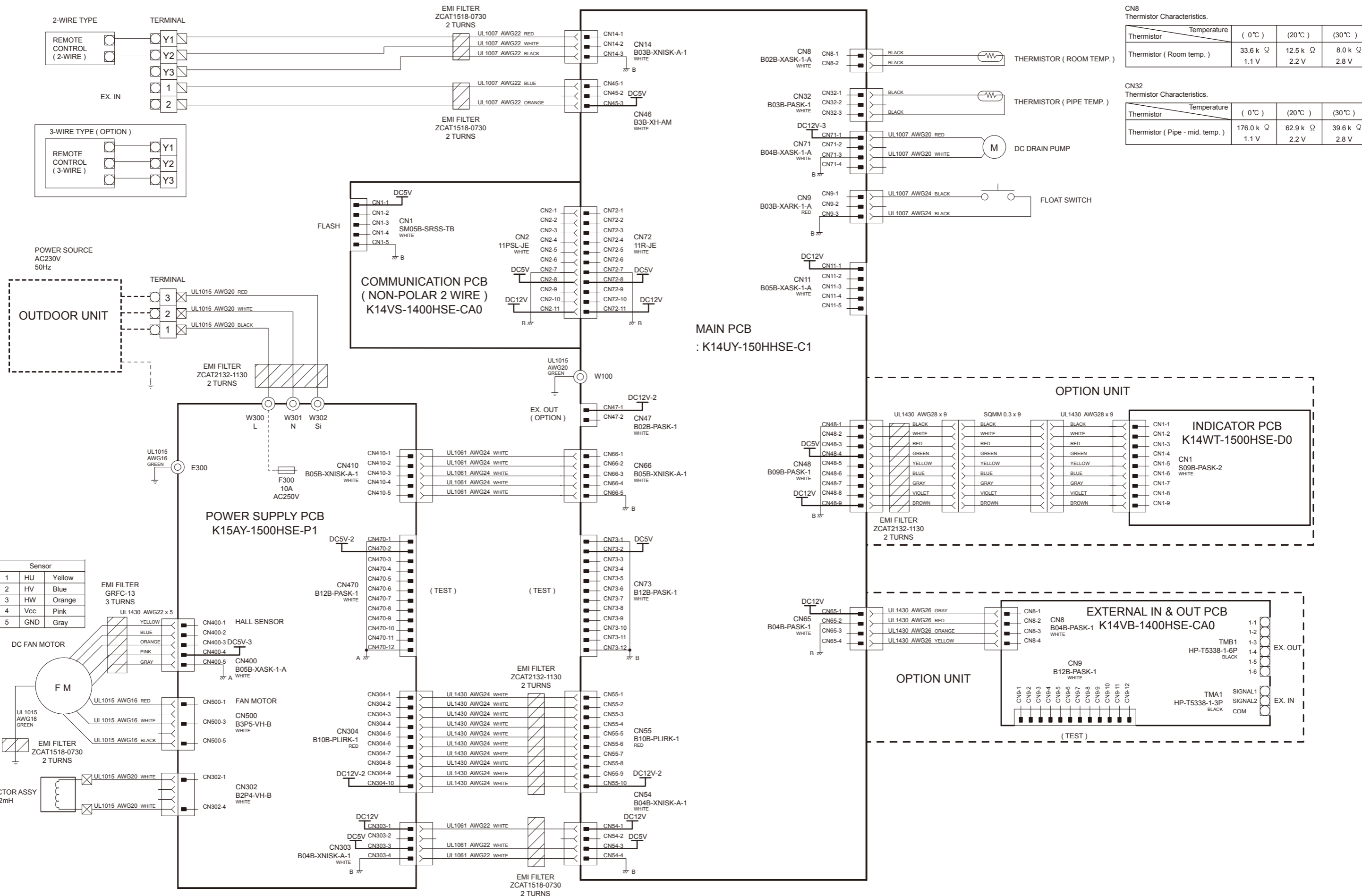


# PCB CIRCUIT DIAGRAM

## INDOOR UNIT

## CONTROL UNIT

: EZ-01506HSE



CN8 Thermistor Characteristics.

| Thermistor                | Temperature | ( 0°C )  | (20°C )  | (30°C ) |
|---------------------------|-------------|----------|----------|---------|
| Thermistor ( Room temp. ) |             | 33.6 k Ω | 12.5 k Ω | 8.0 k Ω |
|                           |             | 1.1 V    | 2.2 V    | 2.8 V   |

CN32 Thermistor Characteristics.

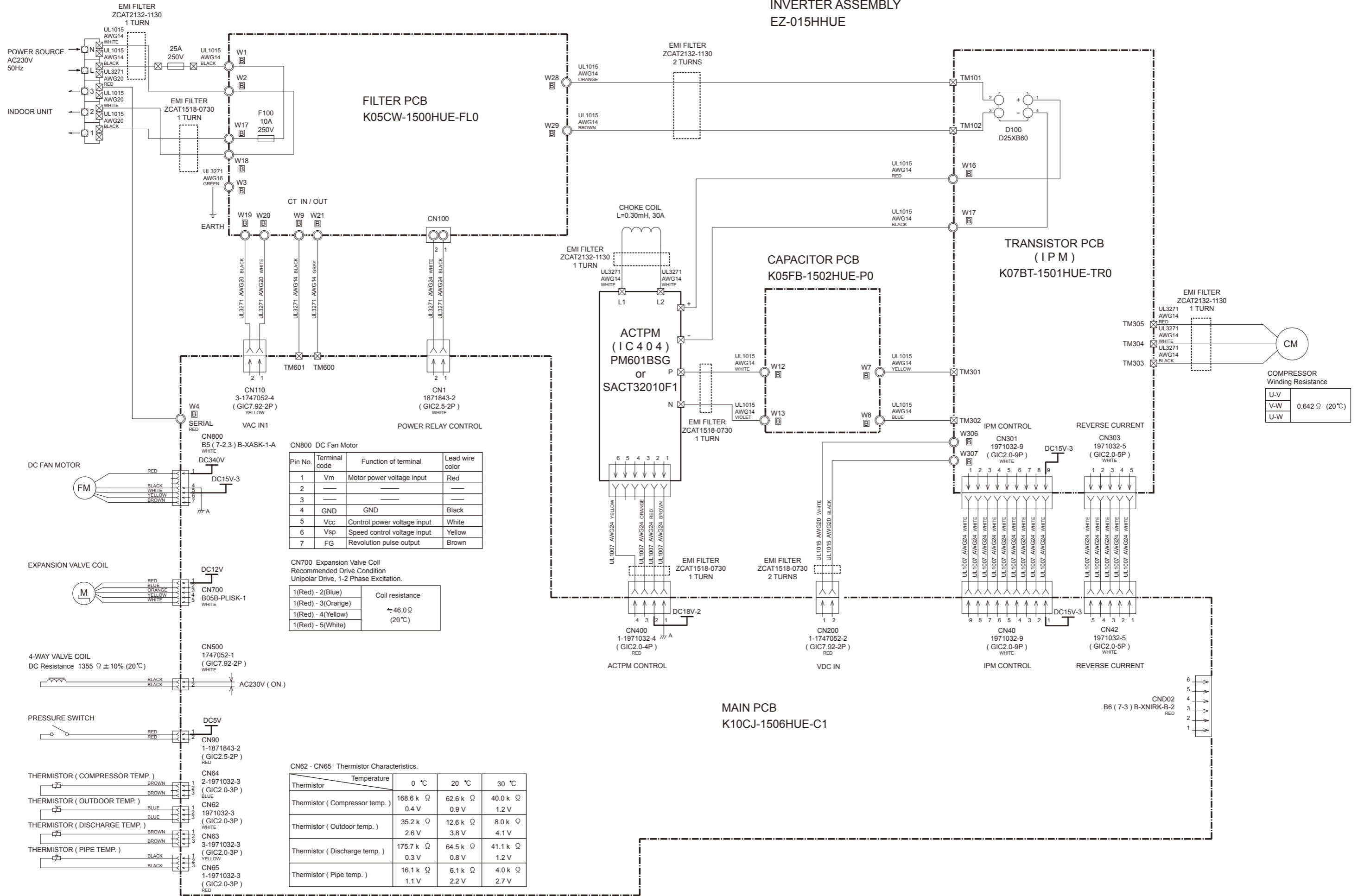
| Thermistor                       | Temperature | ( 0°C )   | (20°C )  | (30°C )  |
|----------------------------------|-------------|-----------|----------|----------|
| Thermistor ( Pipe - mid. temp. ) |             | 176.0 k Ω | 62.9 k Ω | 39.6 k Ω |
|                                  |             | 1.1 V     | 2.2 V    | 2.8 V    |

CN400, CN500 DC Fan motor

| Power |   |       | Sensor |     |        |
|-------|---|-------|--------|-----|--------|
| 1     | U | Red   | 1      | HU  | Yellow |
| 2     | — | —     | 2      | HV  | Blue   |
| 3     | V | White | 3      | HW  | Orange |
| 4     | — | —     | 4      | Vcc | Pink   |
| 5     | W | Black | 5      | GND | Gray   |

# OUTDOOR UNIT

# INVERTER ASSEMBLY EZ-015HHUE



# ERROR DETECTION

## INDOOR UNIT

If you use a wired type remote control, error codes will appear on the remote control display. If you use a wireless remote control, the lamps on the IR receiver unit will output error codes by way of blinking patterns. See the lamp blinking patterns and error codes in the table below. An error display is displayed only during operation. For more details, refer to the installation manual of the remote control.

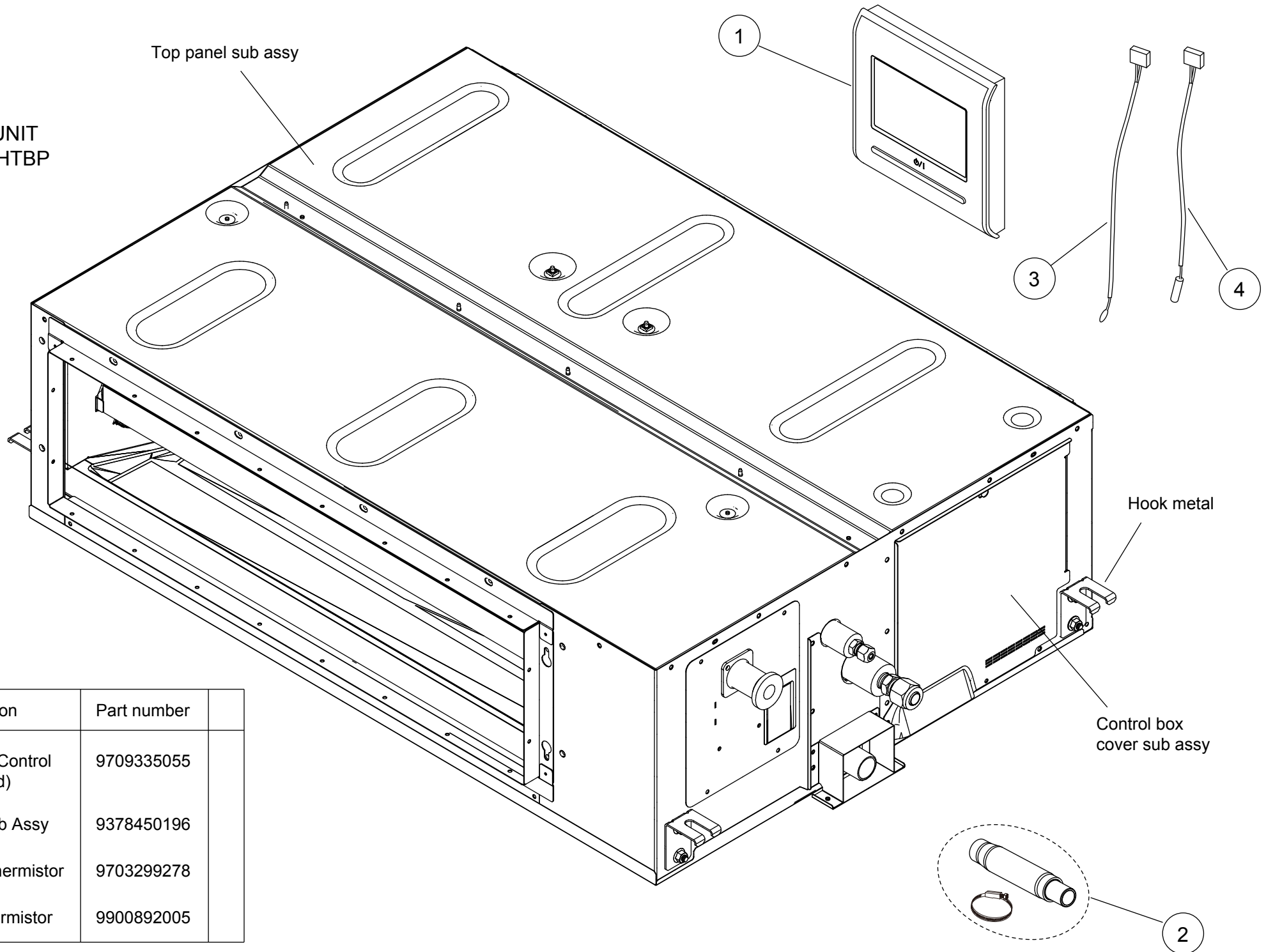
| Error display          |                     |                      | Wired remote control Error code | Description   |
|------------------------|---------------------|----------------------|---------------------------------|---|
| OPERATION lamp (green) | TIMER lamp (orange) | ECONOMY lamp (green) |                                 |   |
| ●(1)                   | ●(1)                | ◇                    | 11                              | Serial communication error  |
| ●(1)                   | ●(2)                | ◇                    | 12                              | Wired remote control communication error  |
| ●(1)                   | ●(5)                | ◇                    | 15                              | Check run unfinished Automatic airflow adjustment error   |
| ●(1)                   | ●(6)                | ◇                    | 16                              | Peripheral unit transmission PCB connection error   |
| ●(1)                   | ●(8)                | ◇                    | 18                              | External communication error  |
| ●(2)                   | ●(1)                | ◇                    | 21                              | Unit number or Refrigerant circuit address setting error [Simultaneous Multi]   |
| ●(2)                   | ●(2)                | ◇                    | 22                              | Indoor unit capacity error  |
| ●(2)                   | ●(3)                | ◇                    | 23                              | Combination error   |
| ●(2)                   | ●(4)                | ◇                    | 24                              | • Connection unit number error (indoor secondary unit) [Simultaneous Multi]<br>• Connection unit number error (indoor unit or branch unit) [Flexible Multi] |
| ●(2)                   | ●(6)                | ◇                    | 26                              | Indoor unit address setting error   |
| ●(2)                   | ●(7)                | ◇                    | 27                              | Primary unit, secondary unit setup error [Simultaneous Multi]   |
| ●(2)                   | ●(9)                | ◇                    | 29                              | Connection unit number error in wired remote controller system  |
| ●(3)                   | ●(1)                | ◇                    | 31                              | Power supply interruption error   |
| ●(3)                   | ●(2)                | ◇                    | 32                              | Indoor unit PCB model information error   |
| ●(3)                   | ●(3)                | ◇                    | 33                              | Indoor unit motor electricity consumption detection error   |
| ●(3)                   | ●(5)                | ◇                    | 35                              | Manual auto switch error  |
| ●(3)                   | ●(9)                | ◇                    | 39                              | Indoor unit power supply error for fan motor  |
| ●(3)                   | ●(10)               | ◇                    | 3A                              | Indoor unit communication circuit (wired remote controller) error   |
| ●(4)                   | ●(1)                | ◇                    | 41                              | Room temp. sensor error   |
| ●(4)                   | ●(2)                | ◇                    | 42                              | Indoor unit heat ex. middle temp. sensor error  |
| ●(4)                   | ●(4)                | ◇                    | 44                              | Human sensor error  |
| ●(5)                   | ●(1)                | ◇                    | 51                              | Indoor unit fan motor error   |
| ●(5)                   | ●(3)                | ◇                    | 53                              | Drain pump error  |
| ●(5)                   | ●(7)                | ◇                    | 57                              | Damper error  |
| ●(5)                   | ●(15)               | ◇                    | 5U                              | Indoor unit error   |
| ●(6)                   | ●(1)                | ◇                    | 61                              | Outdoor unit reverse/missing phase and wiring error   |
| ●(6)                   | ●(2)                | ◇                    | 62                              | Outdoor unit main PCB model information error or communication error  |
| ●(6)                   | ●(3)                | ◇                    | 63                              | Inverter error  |
| ●(6)                   | ●(4)                | ◇                    | 64                              | Active filter error, PFC circuit error  |
| ●(6)                   | ●(5)                | ◇                    | 65                              | Trip terminal L error   |

| Error display          |                     |                      | Wired remote control Error code | Description   |
|------------------------|---------------------|----------------------|---------------------------------|---|
| OPERATION lamp (green) | TIMER lamp (orange) | ECONOMY lamp (green) |                                 |   |
| ●(6)                   | ●(8)                | ◇                    | 68                              | Outdoor unit rush current limiting resistor temp. rise error  |
| ●(6)                   | ●(10)               | ◇                    | 6A                              | Display PCB microcomputers communication error  |
| ●(7)                   | ●(1)                | ◇                    | 71                              | Discharge temp. sensor error  |
| ●(7)                   | ●(2)                | ◇                    | 72                              | Compressor temp. sensor error   |
| ●(7)                   | ●(3)                | ◇                    | 73                              | Outdoor unit Heat Ex. liquid temp. sensor error   |
| ●(7)                   | ●(4)                | ◇                    | 74                              | Outdoor temp. sensor error  |
| ●(7)                   | ●(5)                | ◇                    | 75                              | Suction Gas temp. sensor error  |
| ●(7)                   | ●(6)                | ◇                    | 76                              | • 2-way valve temp. sensor error<br>• 3-way valve temp. sensor error                                  |
| ●(7)                   | ●(7)                | ◇                    | 77                              | Heat sink temp. sensor error  |
| ●(8)                   | ●(2)                | ◇                    | 82                              | • Sub-cool Heat Ex. gas inlet temp. sensor error<br>• Sub-cool Heat Ex. gas outlet temp. sensor error |
| ●(8)                   | ●(3)                | ◇                    | 83                              | Liquid pipe temp. sensor error  |
| ●(8)                   | ●(4)                | ◇                    | 84                              | Current sensor error  |
| ●(8)                   | ●(6)                | ◇                    | 86                              | • Discharge pressure sensor error<br>• Suction pressure sensor error<br>• High pressure switch error  |
| ●(9)                   | ●(4)                | ◇                    | 94                              | Trip detection  |
| ●(9)                   | ●(5)                | ◇                    | 95                              | Compressor rotor position detection error (permanent stop)  |
| ●(9)                   | ●(7)                | ◇                    | 97                              | Outdoor unit fan motor 1 error  |
| ●(9)                   | ●(8)                | ◇                    | 98                              | Outdoor unit fan motor 2 error  |
| ●(9)                   | ●(9)                | ◇                    | 99                              | 4-way valve error   |
| ●(9)                   | ●(10)               | ◇                    | 9A                              | Coil (expansion valve) error  |
| ●(10)                  | ●(1)                | ◇                    | A1                              | Discharge temp. error   |
| ●(10)                  | ●(3)                | ◇                    | A3                              | Compressor temp. error  |
| ●(10)                  | ●(4)                | ◇                    | A4                              | High pressure error   |
| ●(10)                  | ●(5)                | ◇                    | A5                              | Low pressure error  |
| ●(13)                  | ●(2)                | ◇                    | J2                              | Branch boxes error [Flexible Multi]   |

Display mode ● : 0.5s ON / 0.5s OFF  
◇ : 0.1s ON / 0.1s OFF  
) (of flashing Number

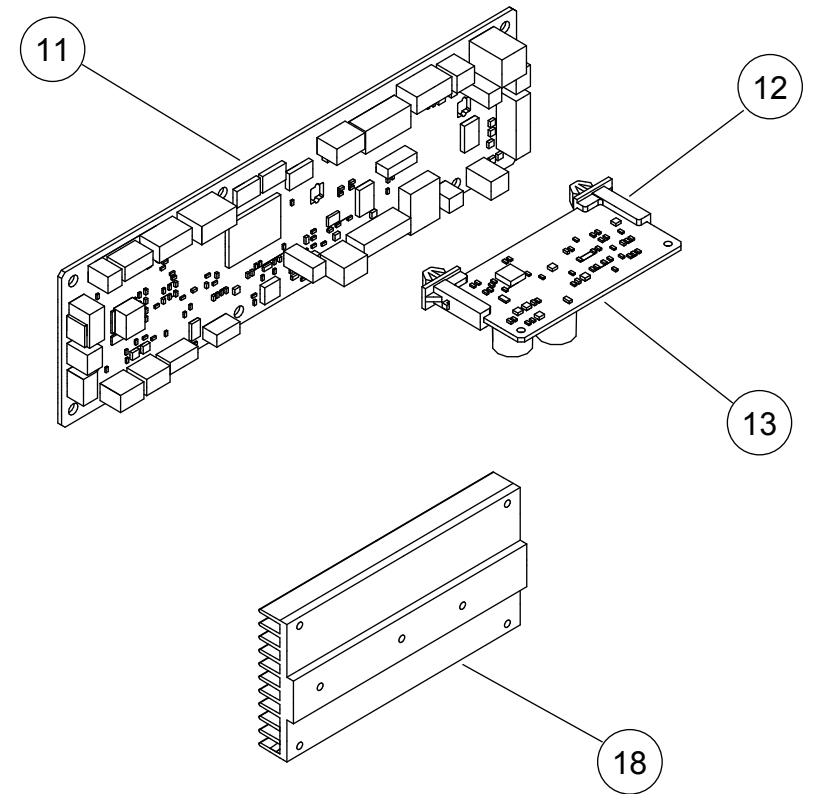
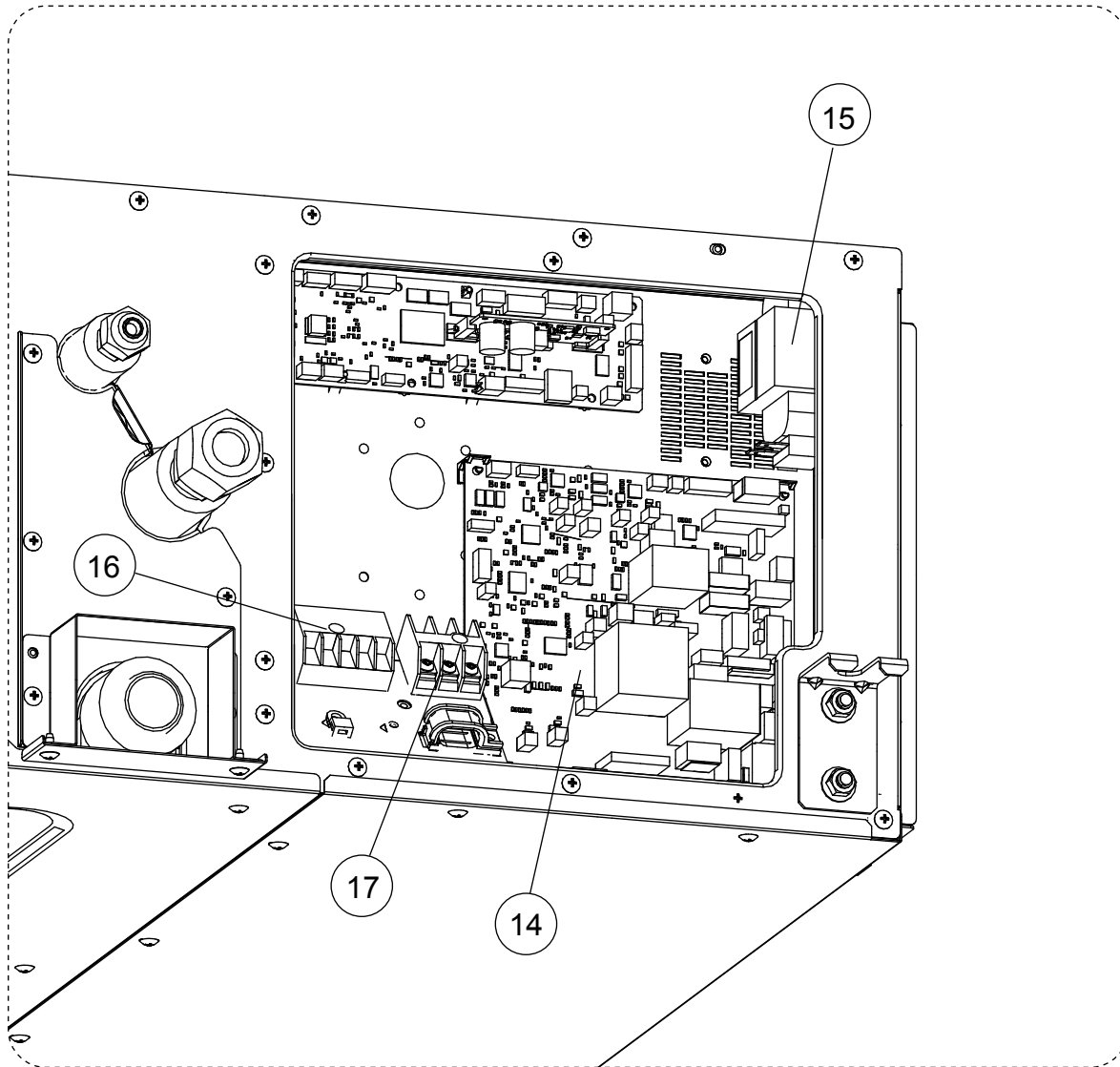
# PARTS

INDOOR UNIT  
ARYG30LHTBP



| Ref. | Description                  | Part number |
|------|------------------------------|-------------|
| 1    | Remote Control<br>(no brand) | 9709335055  |
| 2    | Hose Sub Assy                | 9378450196  |
| 3    | Room Thermistor              | 9703299278  |
| 4    | Pipe Thermistor              | 9900892005  |

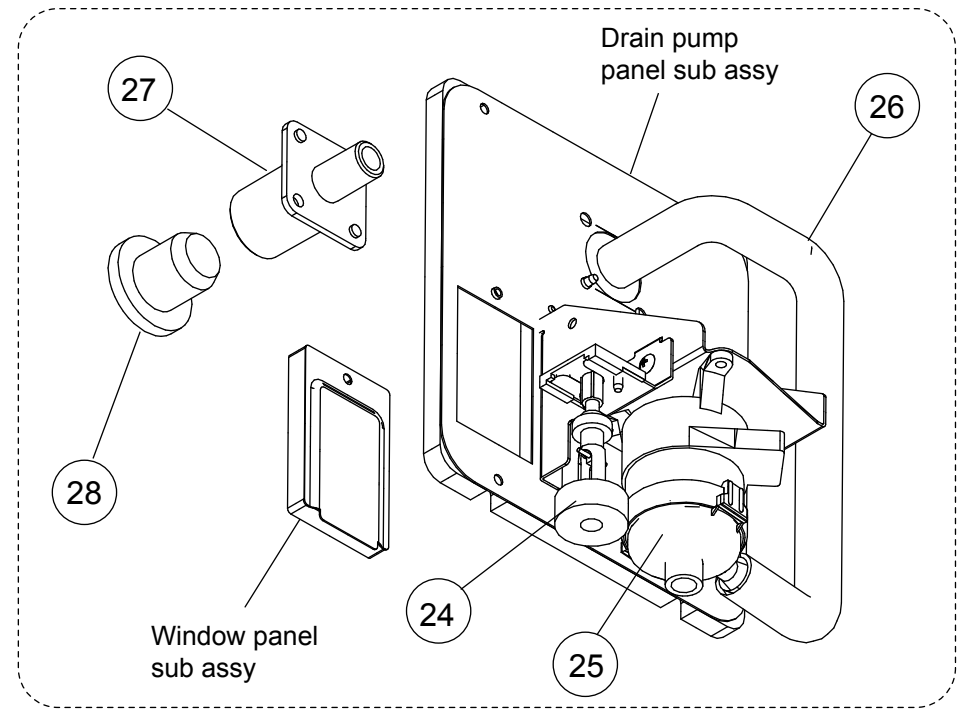
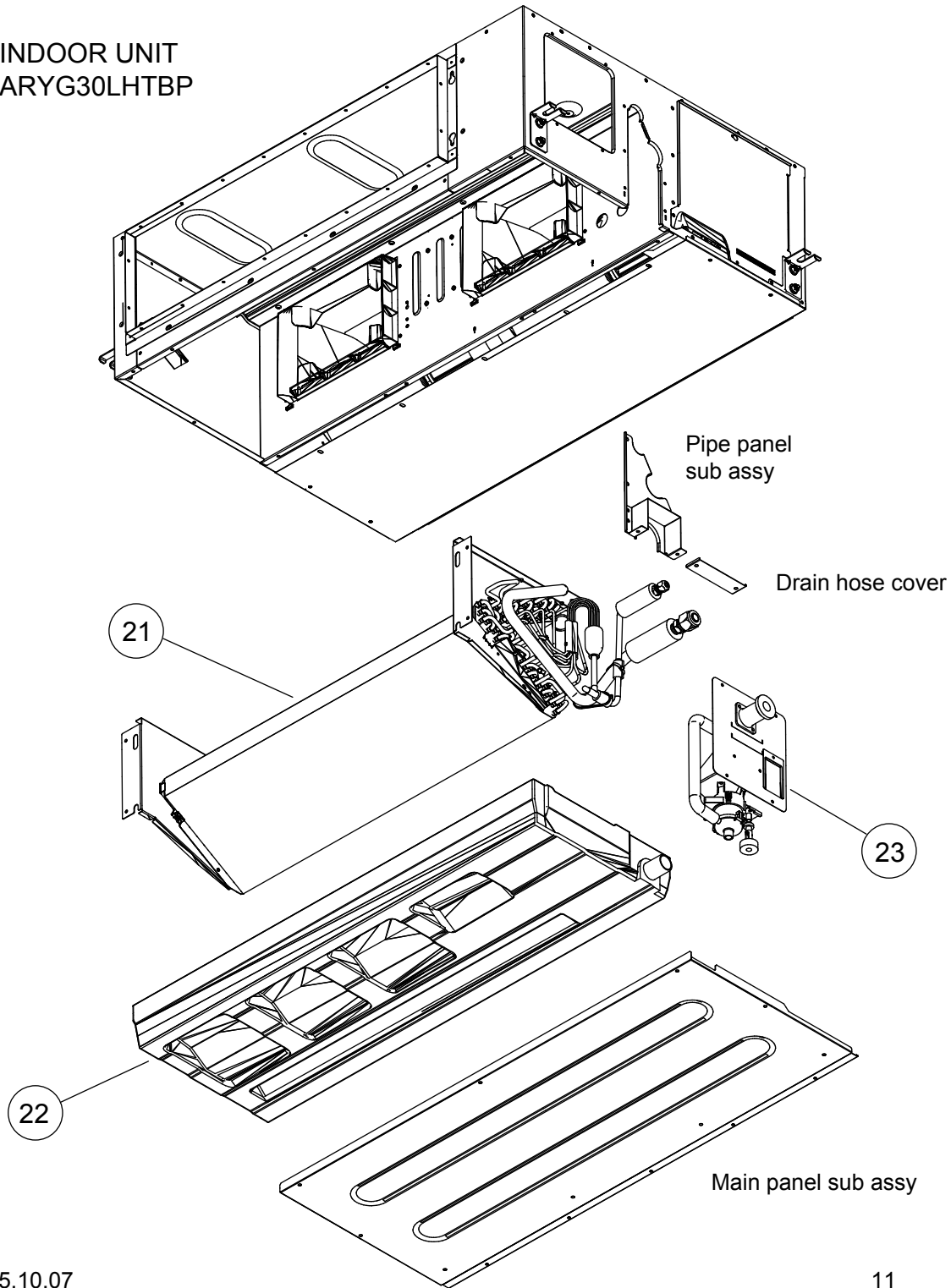
INDOOR UNIT  
ARYG30LHTBP



| Ref. | Description       | Part number |
|------|-------------------|-------------|
| 11   | Main PCB          | 9710016240  |
| 12   | Holder            | 0600063023  |
| 13   | Communication PCB | 9710019005  |
| 14   | Power Supply PCB  | 9710261008  |
| 15   | Reactor Assy      | 9900898014  |
| 16   | Terminal (Remote) | 9900896003  |
| 17   | Terminal (Power)  | 9900568009  |
| 18   | Heatsink          | 9381518005  |

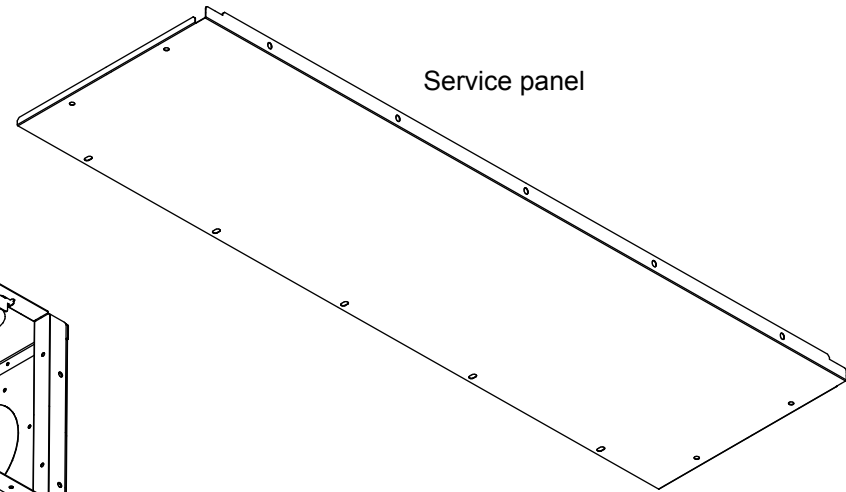
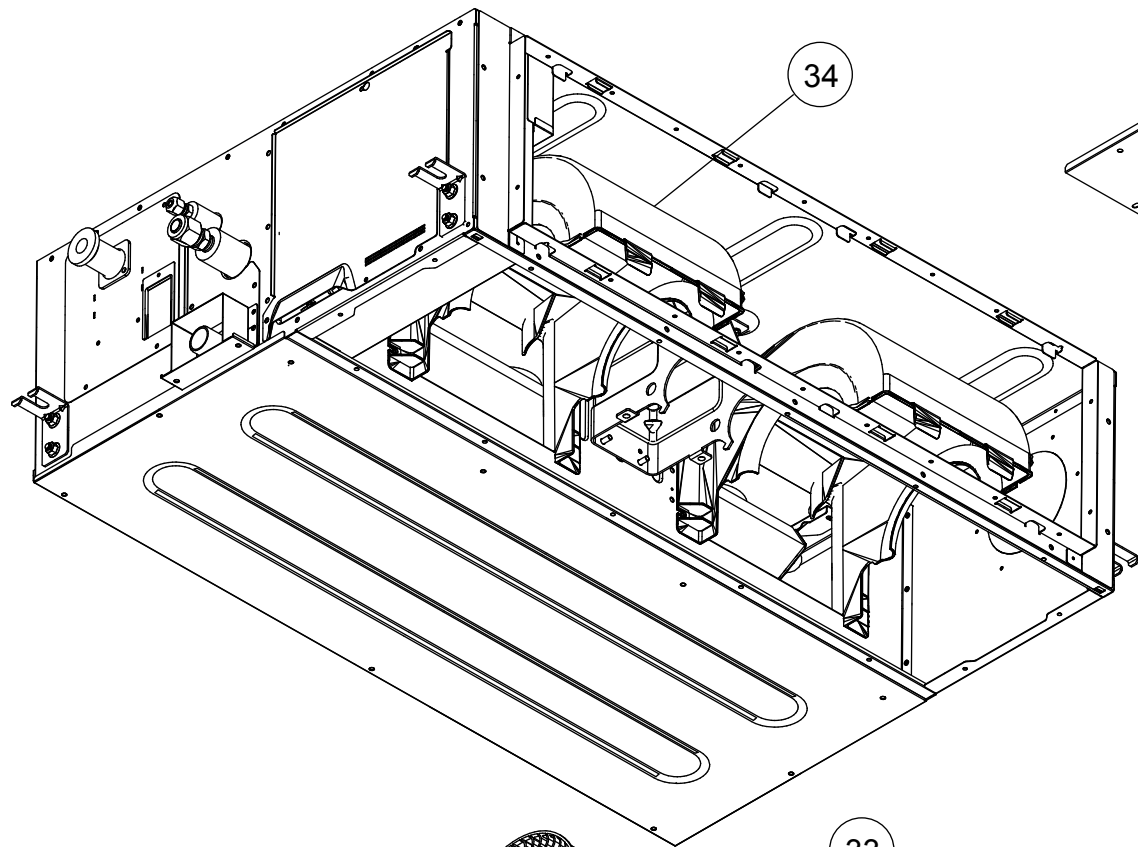


INDOOR UNIT  
ARYG30LHTBP



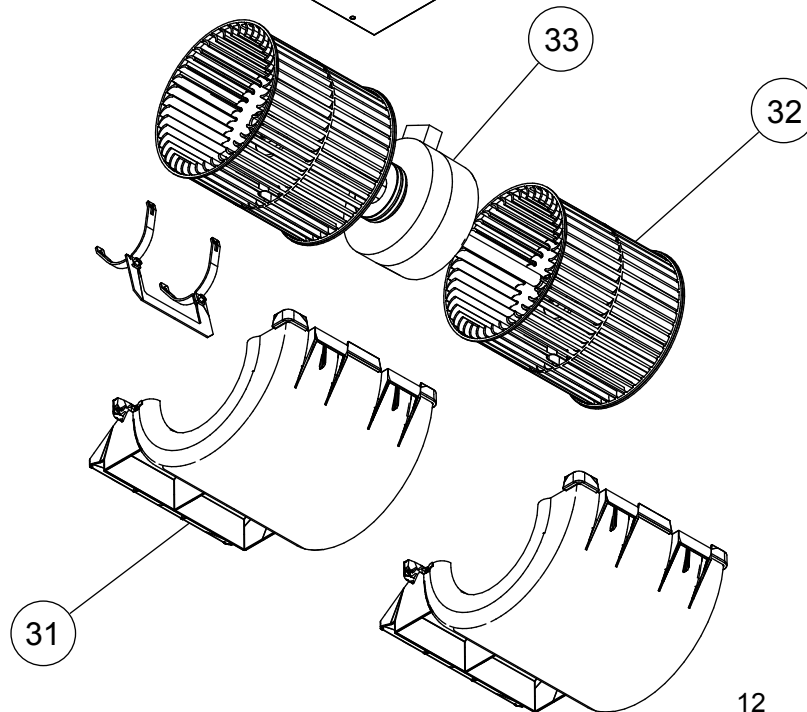
| Ref. | Description           | Part number |
|------|-----------------------|-------------|
| 21   | Evaporator Total Assy | 9374517367  |
| 22   | Drain Pan Sub Assy    | 9381752027  |
| 23   | Drain Pump Sub Assy   | 9381766017  |
| 24   | Float Switch          | 9900465070  |
| 25   | Pump Assy             | 9900890018  |
| 26   | Drain Hose            | 9381576005  |
| 27   | Drain Port            | 9381565009  |
| 28   | Drain Cap             | 9381578009  |





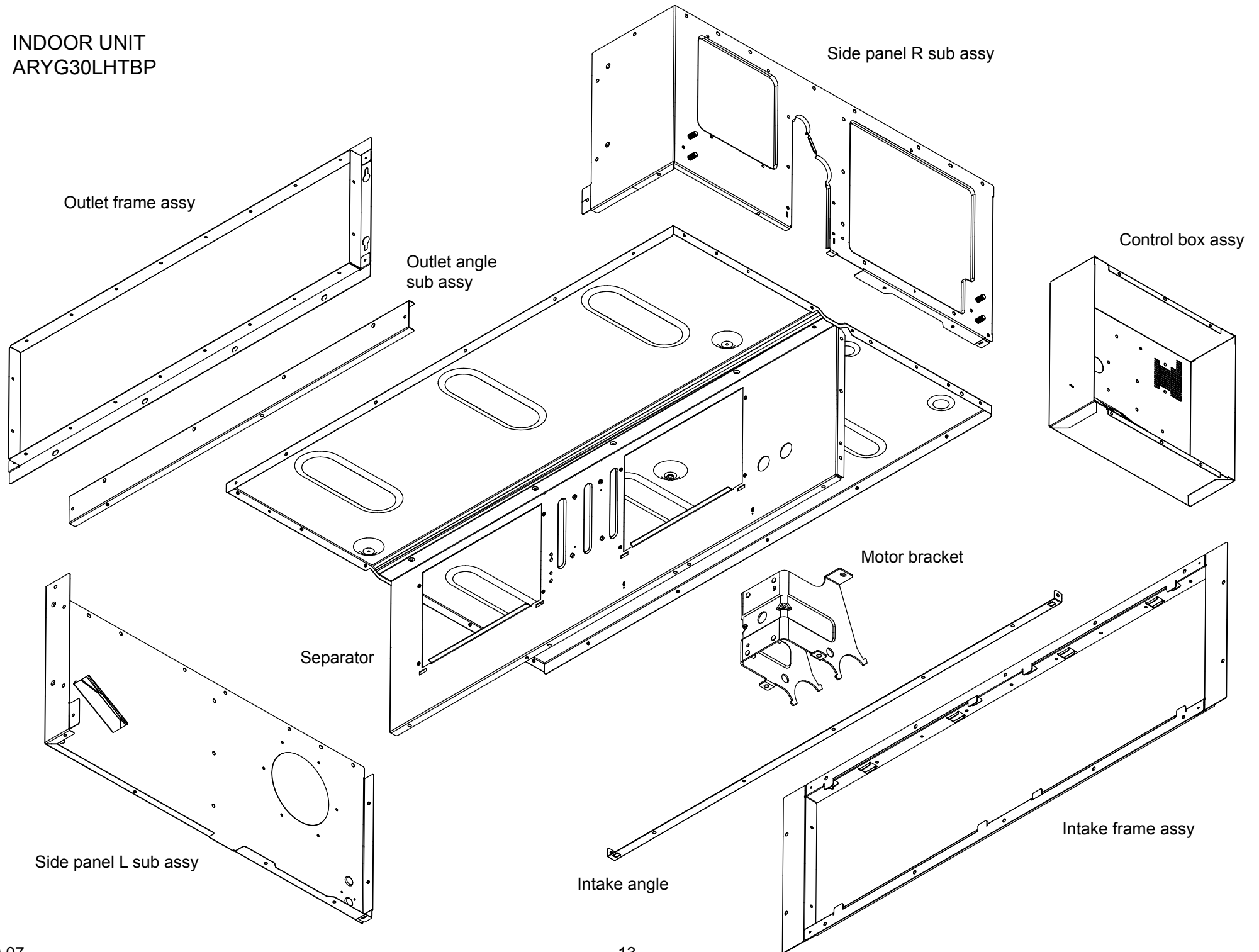
Service panel

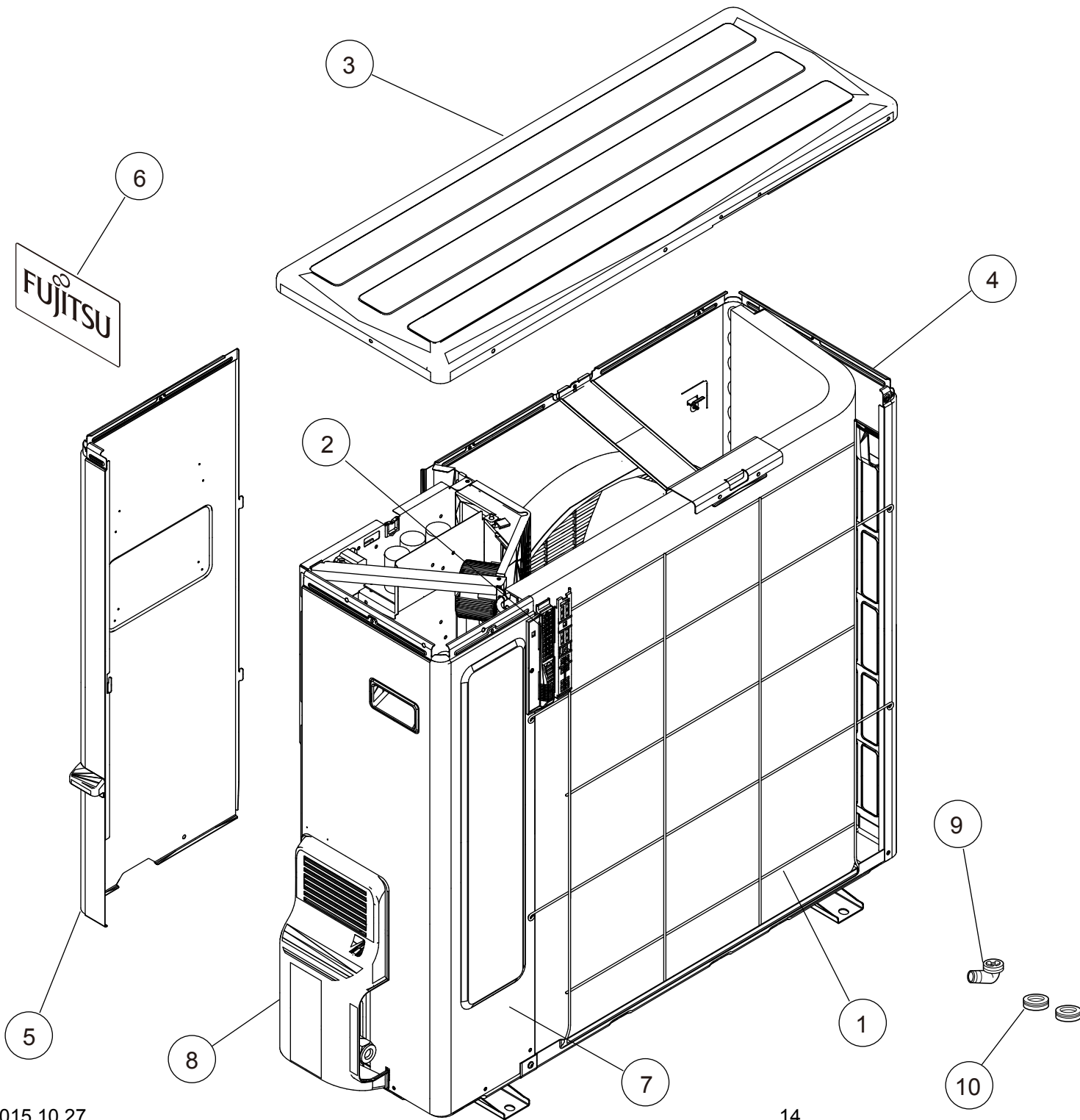
INDOOR UNIT  
ARYG30LHTBP



| Ref. | Description       | Part number |
|------|-------------------|-------------|
| 31   | Casing B Sub Assy | 9381829002  |
| 32   | Sirocco Fan Assy  | 9381302000  |
| 33   | Fan Motor         | 9603481018  |
| 34   | Casing A          | 9381587001  |

INDOOR UNIT  
ARYG30LHTBP





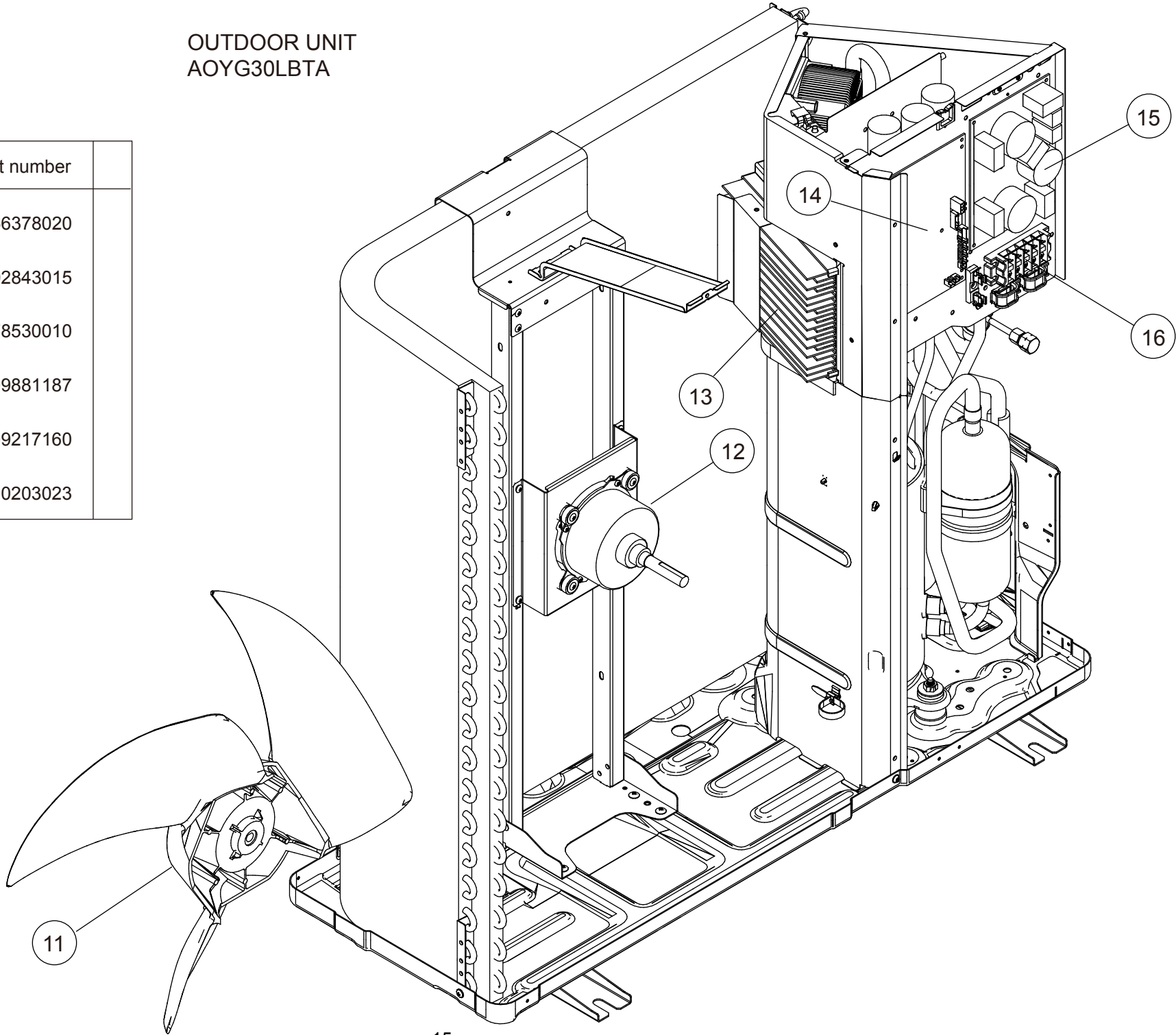
## PARTS

OUTDOOR UNIT  
AOYG30LBTA

| Ref. | Description            | Part number  |
|------|------------------------|--------------|
| 1    | Protective Net         | 9375381011   |
| 2    | Thermo Holder          | 9375211011   |
| 3    | Top Panel Sub Assy     | 9374417032   |
| 4    | Front Panel Sub Assy   | 9374414079   |
| 5    | Service Panel Sub Assy | 9374415052   |
| 6    | Emblem Rear            | 9351355005   |
| 7    | Right Panel Sub Assy   | 9374416127   |
| 8    | Valve Cover            | 9374174010   |
| 9    | Drain Assy             | 9303029015   |
| 10   | Drain Cap              | 313166024302 |

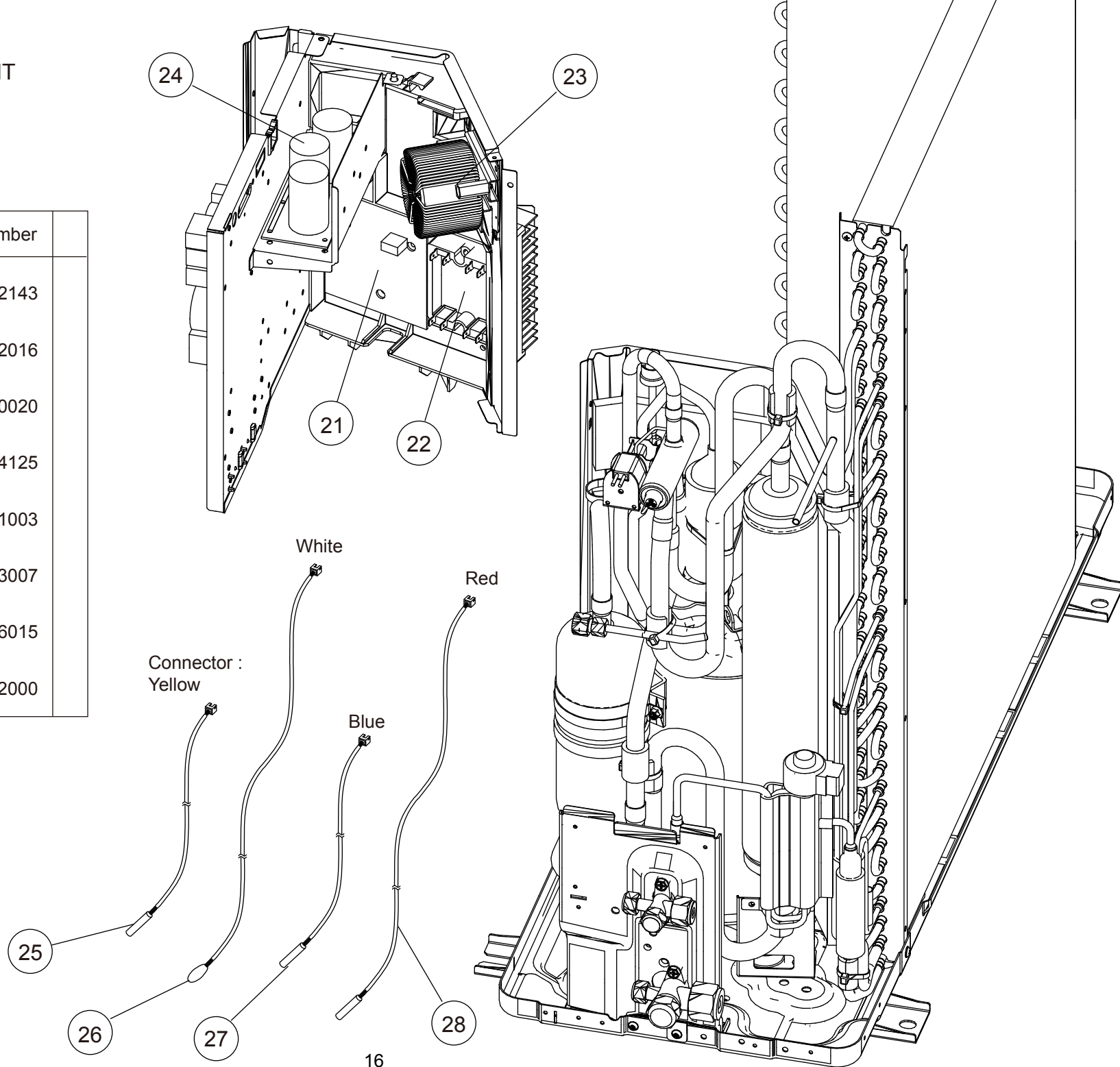
OUTDOOR UNIT  
AOYG30LBTA

| Ref. | Description        | Part number |
|------|--------------------|-------------|
| 11   | Propeller Fan Assy | 9366378020  |
| 12   | Fan Motor          | 9602843015  |
| 13   | Heatsink           | 9378530010  |
| 14   | Main PCB           | 9709881187  |
| 15   | Filter PCB         | 9709217160  |
| 16   | Terminal 5P        | 9900203023  |

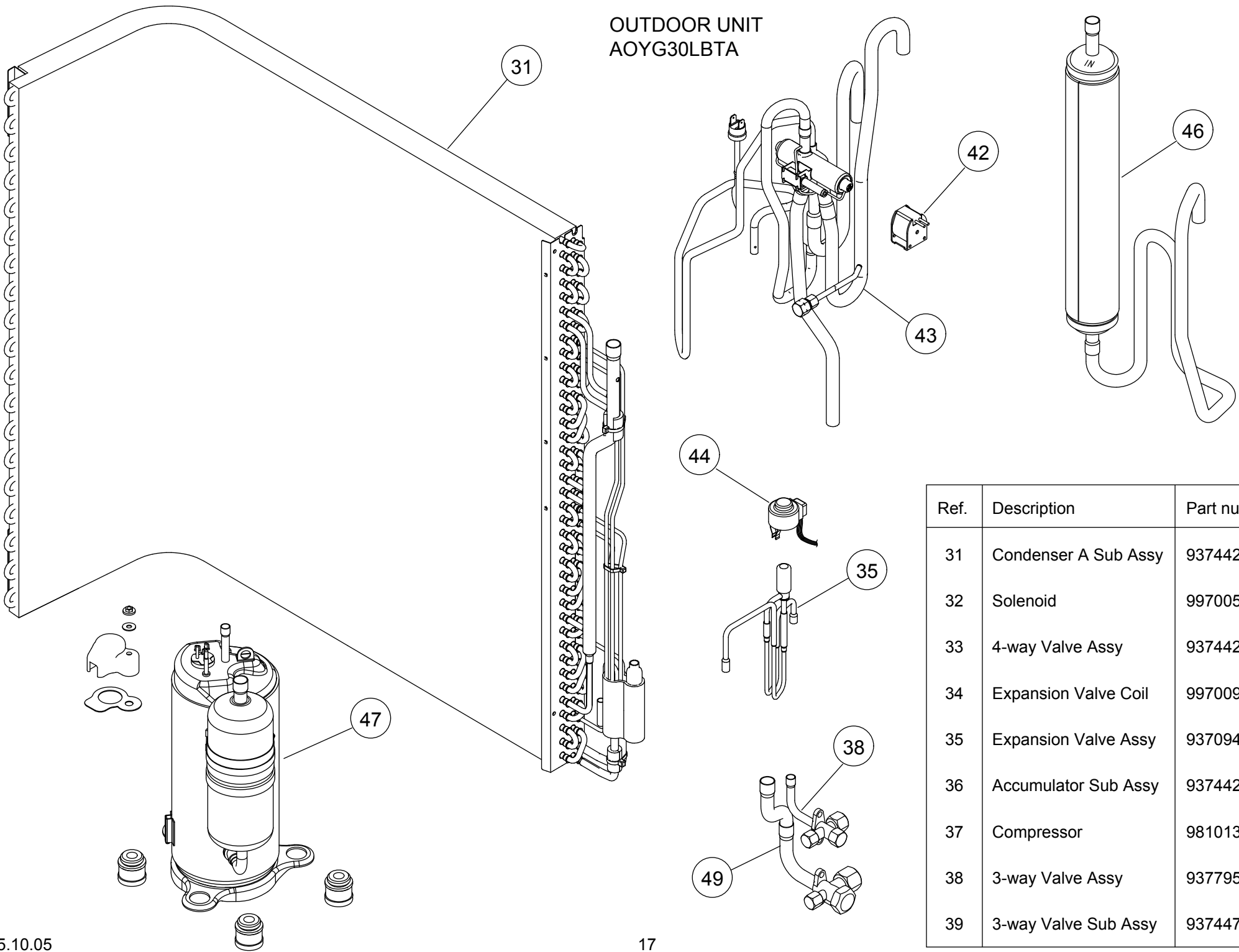


OUTDOOR UNIT  
AOYG30LBTA

| Ref. | Description               | Part number |
|------|---------------------------|-------------|
| 21   | Transistor PCB            | 9708512143  |
| 22   | ACTPM                     | 9707592016  |
| 23   | Choke Coil                | 9900390020  |
| 24   | Capacitor PCB             | 9709894125  |
| 25   | Discharge Thermistor      | 9900461003  |
| 26   | Thermistor (Outdoor)      | 9900463007  |
| 27   | Compressor Thermistor     | 9900466015  |
| 28   | Heat Exchanger Thermistor | 9900462000  |















OUTDOOR UNIT  
AOYG30LBTA





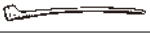



| Ref. | Description          | Part number |
|------|----------------------|-------------|
| 31   | Condenser A Sub Assy | 9374420308  |
| 32   | Solenoid             | 9970055034  |
| 33   | 4-way Valve Assy     | 9374425198  |
| 34   | Expansion Valve Coil | 9970095030  |
| 35   | Expansion Valve Assy | 9370947144  |
| 36   | Accumulator Sub Assy | 9374426133  |
| 37   | Compressor           | 9810135001  |
| 38   | 3-way Valve Assy     | 9377958013  |
| 39   | 3-way Valve Sub Assy | 9374470044  |

# ACCESSORIES



## INDOOR UNIT

| Name and Shape   | Q'ty  | Description                                     |
|--|-------|---|
| Special nut A<br>(large flange)<br> | 4     | For suspending the indoor unit from ceiling     |
| Special nut B<br>(small flange)<br> | 4     |   |
| Washer<br>                          | 8     |   |
| Coupler heat insulation (large)<br> | 1     | For indoor side pipe joint (gas pipe)           |
| Coupler heat insulation (small)<br> | 1     | For indoor side pipe joint (liquid pipe)        |
| Cable tie (large)<br>               | 4     | For fixing the heat insulation                  |
| Cable tie (medium)<br>              | 1     | For fixing the remote control cable             |
| Cable tie (small)<br>               | 1     | For fixing the remote control cable             |
| Remote control<br>                | 1     | For air conditioner operation                   |
| Remote control accessories   | 1 set | See Installation manual for remote control      |
| Drain hose insulation<br>         | 1     | Insulates the drain hose and vinyl hose         |
| Drain hose<br>                    | 1     | For installing drain pipe VP25 (O.D.32, I.D.25) |
| Hose Band<br>                     | 1     | For installing drain hose                       |

## REMOTE CONTROL

| Name and Shape  | Q'ty | Application   |
|---|------|---|
| Screw<br>(M4 × 16 mm)<br> | 2    | For installing the remote controller                          |
| Cable tie (medium)<br>    | 1    | For fixing the remote controller cable                        |
| Cable tie (small)<br>     | 1    | For fixing the remote controller cable                        |
| Tube<br>                  | 1    | To protect wiring   |
| Screw<br>(M4 × 14 mm)<br> | 1    | For installing the remote controller cable to the indoor unit |
| Cable clammer<br>         | 1    | For installing the remote controller cable to the indoor unit |

## OUTDOOR UNIT

| Name and shape  | Q'ty | Description                        |
|---|------|------------------------------------|
| Drain pipe<br> | 1    | For outdoor unit drain piping work |
| Drain cap<br>  | 2    |                                    |

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