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Summary and features



| Models             |                   | Remarks                    |
|--------------------|-------------------|----------------------------|
| KF-20 × 2GW/A12    | KFR-20 × 2GW/A12  | 1PH 220V-230V 50Hz<br>R22  |
| KF-25 × 2GW/A12    | KFR-25 × 2GW/A12  |                            |
| KF-32 × 2GW/A12    | KFR-32 × 2GW/A12  |                            |
| KF-20 × 2GW/NA12   | KFR-20 × 2GW/NA12 | 1PH 220V-230V 50Hz<br>407C |
| KF-25 × 2GW/NA12   | KFR-25 × 2GW/NA12 |                            |
| KF-32 × 2GW/NA12   | KFR-32 × 2GW/NA12 |                            |
| GSW (9 × 2)-22L/A  | GSW (9 × 2)-22R/A |                            |
| GSW (12 × 2)-22L/A |                   |                            |

## 2 Technical and specifications

| Model                                 |                                    |             |      | KF-20×2GW/A12                     |  | KFR-20×2GW/A12 |         |
|---------------------------------------|------------------------------------|-------------|------|-----------------------------------|--|----------------|---------|
| Function                              |                                    |             |      | Cooling                           |  | Cooling        | Heating |
| Power supply(Phase-Frequency-Voltage) |                                    |             |      | 1Ph 230V 50Hz                     |  |                |         |
| Capaicty                              |                                    | (W)         |      | 2000×2                            |  | 2000×2         | 2300×2  |
| Rated power                           |                                    | (W)         |      | 770×2                             |  | 770×2          | 750×2   |
| Rated current                         |                                    | (A)         |      | 3.4×2                             |  | 3.4×2          | 3.33×2  |
| Dehumidify volume                     |                                    | (L/h)       |      | 0.7                               |  | 0.76           | -       |
| C. O. P/EER                           |                                    | (W/W)       |      | 2.6                               |  | 2.8            | 3.07    |
| Indoor unit                           | Model                              |             |      | KF-20×2G/A12                      |  | KFR-20×2G/A12  |         |
|                                       | Fan speed (r/min) (H/M/L)          |             |      | 960/900/850                       |  |                |         |
|                                       | Output power (W)                   |             |      | 8                                 |  |                |         |
|                                       | Fan type-piece                     |             |      | Cross flow fan —1                 |  |                |         |
|                                       | Diameter-length(mm)                |             |      | φ 97×585                          |  |                |         |
|                                       | Evaporator                         |             |      | Aluminum fin-copper tube          |  |                |         |
|                                       | Pipe diameter                      |             |      | φ 7×0.41                          |  |                |         |
|                                       | Row- fin distance(mm)              |             |      | 2-1.6                             |  |                |         |
|                                       | Working area (m <sup>2</sup> )     |             |      | 0.14                              |  |                |         |
|                                       | Stepping motor                     |             |      | MP24GA                            |  |                |         |
|                                       | Motor power (W)                    |             |      | 2                                 |  |                |         |
|                                       | Control method/Fuse(A)             |             |      | Controller 3.15A Transformer 0.2A |  |                |         |
|                                       | Running capacity ( μ F)            |             |      | 1                                 |  |                |         |
|                                       | Noise dB (A)                       |             |      | 36                                |  |                |         |
|                                       | Outline dimension (W/D/H) (mm)     |             |      | 770×250×180                       |  |                |         |
|                                       | Package dimension (W/D/H) (mm)     |             |      | 855×366×272                       |  |                |         |
|                                       | Net weight/Gross weight(kg)        |             |      | 8.5/-                             |  |                |         |
| Outdoor unit                          | Model                              |             |      | KF-20×2W/A12                      |  | KFR-20×2W/A12  |         |
|                                       | Rated power (W)                    |             |      | 760                               |  | 760            | 740     |
|                                       | Rated current (A)                  |             |      | 3.2                               |  | 3.2            | 2.87    |
|                                       | Throttling method                  |             |      | Capillary                         |  |                |         |
|                                       | Compressor type                    |             |      | -                                 |  |                |         |
|                                       | Starting method                    |             |      | Capacity                          |  |                |         |
|                                       | Working temperature (℃)            |             |      | 2-43℃                             |  |                |         |
|                                       | Condensor                          |             |      | Aluminum fin-copper tube          |  |                |         |
|                                       | Pipe diameter                      |             |      | φ 9.52                            |  |                |         |
|                                       | Row- fin distance(mm)              |             |      | 1-1.8                             |  |                |         |
|                                       | Working area (m <sup>2</sup> )     |             |      | 0.4                               |  |                |         |
|                                       | Fan motor power (W)/ speed (rpm)   |             |      | 25/780                            |  |                |         |
|                                       | Fan type-piece                     |             |      | Axial flow fan —1                 |  |                |         |
|                                       | Fan blade diameter (mm)            |             |      | 450                               |  |                |         |
|                                       | Defrost method                     |             |      | Auto defrost                      |  |                |         |
|                                       | Noise dB (A)                       |             |      | 57                                |  |                |         |
|                                       | Outline dimension (W/D/H) (mm)     |             |      | 950×710×412                       |  |                |         |
|                                       | Package dimension (W/D/H) (mm)     |             |      | -                                 |  |                |         |
|                                       | Net weight/Gross weight(kg)        |             |      | 65/-                              |  |                |         |
|                                       | Refrigerant/refrigerant charge(kg) |             |      | R22/0.65×2                        |  | R22/0.9×2      |         |
| Connection pipe                       | Length                             |             | (m)  | 4                                 |  |                |         |
|                                       | Outer diameter                     | Liquid pipe | (mm) | φ 6(1/4")                         |  |                |         |
|                                       |                                    | Gas pipe    | (mm) | φ 9.52(3/8")                      |  |                |         |
|                                       | Max. distance                      | Height      | (m)  | 5                                 |  |                |         |
|                                       |                                    | Length      | (m)  | 10                                |  |                |         |

# Bird Dual-Split Type

|                                       |                                |                 |      |                          |                                   |              |                |               |      |
|---------------------------------------|--------------------------------|-----------------|------|--------------------------|-----------------------------------|--------------|----------------|---------------|------|
| Model                                 |                                |                 |      |                          | KF-25×2GW/A12                     |              | KFR-25×2GW/A12 |               |      |
| Function                              |                                |                 |      |                          | Cooling                           |              | Cooling        | Heating       |      |
| Power supply(Phase-Frequency-Voltage) |                                |                 |      |                          | 1Ph 230V 50Hz                     |              |                |               |      |
| Capaicty                              |                                | (W)             |      | 2500×2                   |                                   | 2500×2       |                | 2900×2        |      |
| Rated power                           |                                | (W)             |      | 790×2                    |                                   | 990×2        |                | 1040×2        |      |
| Rated current                         |                                | (A)             |      | 4.3×2                    |                                   | 4.3×2        |                | 4.55×2        |      |
| Dehumidify volume                     |                                | (L/h)           |      | 1.2                      |                                   | 1.2          |                | -             |      |
| C. O. P/EER                           |                                | (W/W)           |      | 2.53                     |                                   | 2.53         |                | 2.79          |      |
| Indoor unit                           | Model                          |                 |      |                          | KF-20×2G/A12                      |              | KFR-20×2G/A12  |               |      |
|                                       | Fan speed (r/min) (H/M/L)      |                 |      |                          | 1060/990/910                      |              |                |               |      |
|                                       | Output power (W)               |                 |      |                          | 13                                |              |                |               |      |
|                                       | Fan type-piece                 |                 |      |                          | Cross flow fan —1                 |              |                |               |      |
|                                       | Diameter-length(mm)            |                 |      |                          | φ 97×583                          |              |                |               |      |
|                                       | Evaporator                     |                 |      |                          | Aluminum fin-copper tube          |              |                |               |      |
|                                       | Pipe diameter                  |                 |      |                          | φ 7×0.41                          |              |                |               |      |
|                                       | Row- fin distance(mm)          |                 |      |                          | 2-1.6                             |              |                |               |      |
|                                       | Working area (m <sup>2</sup> ) |                 |      |                          | 0.14                              |              |                |               |      |
|                                       | Stepping motor                 |                 |      |                          | MP24GA                            |              |                |               |      |
|                                       | Motor power (W)                |                 |      |                          | 2                                 |              |                |               |      |
|                                       | Control method/Fuse(A)         |                 |      |                          | Controller 3.15A Transformer 0.2A |              |                |               |      |
|                                       | Running capacity( μ F)         |                 |      |                          | 1                                 |              |                |               |      |
|                                       | Noise dB(A)                    |                 |      |                          | ≤38                               |              |                |               |      |
|                                       | Outline dimension (W/D/H) (mm) |                 |      |                          | 770×250×180                       |              |                |               |      |
|                                       | Package dimension (W/D/H) (mm) |                 |      |                          | -                                 |              |                |               |      |
|                                       | Net weight/Gross weight(kg)    |                 |      |                          | 8.5/-                             |              |                |               |      |
|                                       | Outdoor unit                   | Model           |      |                          |                                   | KF-20×2W/A12 |                | KFR-20×2W/A12 |      |
|                                       |                                | Rated power (W) |      |                          |                                   | 975          |                | 975           | 1025 |
| Rated current (A)                     |                                |                 |      | 4.165                    |                                   | 4.15         | 4.35           |               |      |
| Throttling method                     |                                |                 |      | Capillary                |                                   |              |                |               |      |
| Compressor type                       |                                |                 |      | 855×366×272              |                                   |              |                |               |      |
| Starting method                       |                                |                 |      | Capacity                 |                                   |              |                |               |      |
| Working temperature (℃)               |                                |                 |      | 2-43℃                    |                                   |              |                |               |      |
| Condensor                             |                                |                 |      | Aluminum fin-copper tube |                                   |              |                |               |      |
| Pipe diameter                         |                                |                 |      | φ 9.52                   |                                   |              |                |               |      |
| Row- fin distance(mm)                 |                                |                 |      | 1-2.0                    |                                   | 1-1.6        |                |               |      |
| Working area (m <sup>2</sup> )        |                                |                 |      | 0.4                      |                                   |              |                |               |      |
| Fan motor power (W)/ speed (rpm)      |                                |                 |      | 38/700                   |                                   | 60/780       |                |               |      |
| Fan type-piece                        |                                |                 |      | Axial flow fan —1        |                                   |              |                |               |      |
| Fan blade diameter (mm)               |                                |                 |      | 450                      |                                   |              |                |               |      |
| Defrost method                        |                                |                 |      | Auto defrost             |                                   |              |                |               |      |
| Noise dB(A)                           |                                |                 |      | 58                       |                                   |              |                |               |      |
| Outline dimension (W/D/H) (mm)        |                                |                 |      | 920×710×412              |                                   |              |                |               |      |
| Package dimension (W/D/H) (mm)        |                                |                 |      | -                        |                                   |              |                |               |      |
| Net weight/Gross weight(kg)           |                                |                 |      | 65/-                     |                                   |              |                |               |      |
| Refrigerant/refrigerant charge(kg)    |                                |                 |      | R22/0.8×2                |                                   | R22/0.9×2    |                |               |      |
| Connection pipe                       | Length                         |                 | (m)  |                          | 4                                 |              |                |               |      |
|                                       | Outer diameter                 | Liquid pipe     | (mm) |                          | φ 6(1/4")                         |              |                |               |      |
|                                       |                                | Gas pipe        | (mm) |                          | φ 9.52(3/8")                      |              |                |               |      |
|                                       | Max. distance                  | Height          | (m)  |                          | 5                                 |              |                |               |      |
|                                       |                                | Length          | (m)  |                          | 10                                |              |                |               |      |

|                                       |                                    |                  |                                   |
|---------------------------------------|------------------------------------|------------------|-----------------------------------|
|                                       |                                    |                  |                                   |
| Model                                 |                                    | KF-32×2GW/A12    | KFR-32×2GW/A12                    |
| Function                              |                                    | Cooling          | Cooling Heating                   |
| Power supply(Phase-Frequency-Voltage) |                                    | 1Ph 230V 50Hz    |                                   |
| Capacity                              | (W)                                | 3200 ×2          | 3200x2 3600x2                     |
| Rated power                           | (W)                                | 1360x2           | 1339x2 1426x2                     |
| Rated current                         | (A)                                | 6.27x2           | 8.2x2 7.3x2                       |
| Dehumidify volume                     | (L/h)                              | 1.2              | 1.2 -                             |
| C. O. P/EER                           | (W/W)                              | 2.35             | 2.31 2.76                         |
| Indoor unit                           | Model                              |                  | KF-32×2G/A12 KFR-32×2G/A12        |
|                                       | Fan speed (r/min) (H/M/L)          |                  | 1190/1090/990                     |
|                                       | Output power (W)                   |                  | 14                                |
|                                       | Fan type-piece                     |                  | Cross flow fan —1                 |
|                                       | Diameter-length(mm)                |                  | φ 97×583                          |
|                                       | Evaporator                         |                  | Aluminum fin-copper tube          |
|                                       | Pipe diameter                      |                  | φ 7×0.41                          |
|                                       | Row- fin distance(mm)              |                  | 2-1.6                             |
|                                       | Working area (m <sup>2</sup> )     |                  | 0.14                              |
|                                       | Stepping motor                     |                  | MP24GA                            |
|                                       | Motor power (W)                    |                  | 2                                 |
|                                       | Control method/Fuse(A)             |                  | Controller 3.15A Transformer 0.2A |
|                                       | Running capacity (μ F)             |                  | 1                                 |
|                                       | Noise dB (A)                       |                  | ≤42                               |
|                                       | Outline dimension (W/D/H) (mm)     |                  | 770×250×180                       |
|                                       | Package dimension (W/D/H) (mm)     |                  | 855x366x272                       |
|                                       | Net weight/Gross weight(kg)        |                  | 8.5/-                             |
| Outdoor unit                          | Model                              |                  | KF-20×2W/A12 KFR-20×2W/A12        |
|                                       | Rated power (W)                    |                  | 1344 1323 1410                    |
|                                       | Rated current (A)                  |                  | 6.07 8 7.1                        |
|                                       | Throttling method                  |                  | Capillary                         |
|                                       | Compressor type                    |                  | -                                 |
|                                       | Starting method                    |                  | Capacity                          |
|                                       | Working temperature (°C)           |                  | T15                               |
|                                       | Condensor                          |                  | Aluminum fin-copper tube          |
|                                       | Pipe diameter                      |                  | φ 9.52                            |
|                                       | Row- fin distance(mm)              |                  | 2-1.8                             |
|                                       | Working area (m <sup>2</sup> )     |                  | 0.4                               |
|                                       | Fan motor power (W)/ speed (rpm)   |                  | 60/780                            |
|                                       | Fan type-piece                     |                  | Axial flow fan —1                 |
|                                       | Fan blade diameter (mm)            |                  | 450                               |
|                                       | Defrost method                     |                  | Auto defrost                      |
|                                       | Noise dB (A)                       |                  | 60                                |
|                                       | Outline dimension (W/D/H) (mm)     |                  | 950×840×412                       |
|                                       | Package dimension (W/D/H) (mm)     |                  | -                                 |
|                                       | Net weight/Gross weight(kg)        |                  | 72/-                              |
|                                       | Refrigerant/refrigerant charge(kg) |                  | R22/1.2×2 R22/1.25×2              |
| Connection pipe                       | Length (m)                         |                  | 4                                 |
|                                       | Outer diameter                     | Liquid pipe (mm) | φ 6(1/4")                         |
|                                       |                                    | Gas pipe (mm)    | φ 12(1/2")                        |
|                                       | Max. distance                      | Height (m)       | 5                                 |
|                                       |                                    | Length (m)       | 10                                |

# Bird Dual-Split Type

|                                       |                                    |             |                                   |              |                 |         |
|---------------------------------------|------------------------------------|-------------|-----------------------------------|--------------|-----------------|---------|
| Model                                 |                                    |             | KF-20×2GW/NA12                    |              | KFR-20×2GW/NA12 |         |
| Function                              |                                    |             | Cooling                           |              | Cooling         | Heating |
| Power supply(Phase-Frequency-Voltage) |                                    |             | 1Ph 220V-230V 50Hz                |              |                 |         |
| Capaicty                              | (W)                                |             | 2000x2                            |              | 2000x2          | 2400x2  |
| Rated power                           | (W)                                |             | 850x2                             |              | 850x2           | 920x2   |
| Rated current                         | (A)                                |             | 3.7x2                             |              | 3.7x2           | 4.0x2   |
| Dehumidify volume                     | (L/h)                              |             | 0.7                               |              | 0.7             | 0.7     |
| C. O. P/EER                           | (W/W)                              |             | 2.5                               |              | 2.8             | 2.8     |
| Indoor unit                           | Model                              |             | KF-20×2G/NA12                     |              | KFR-20×2G/NA12  |         |
|                                       | Fan speed (r/min) (H/M/L)          |             | 1060/900/910                      |              |                 |         |
|                                       | Output power(W)                    |             | 13                                |              |                 |         |
|                                       | Fan type-piece                     |             | Cross flow fan —1                 |              |                 |         |
|                                       | Diameter-length(mm)                |             | φ 97×583                          |              |                 |         |
|                                       | Evaporator                         |             | Aluminum fin-copper tube          |              |                 |         |
|                                       | Pipe diameter                      |             | φ 7×0.41                          |              |                 |         |
|                                       | Row- fin distance(mm)              |             | 2-1.6                             |              |                 |         |
|                                       | Working area (m <sup>2</sup> )     |             | 0.14                              |              |                 |         |
|                                       | Stepping motor                     |             | MP24GA                            |              |                 |         |
|                                       | Motor power (W)                    |             | 1.5                               |              |                 |         |
|                                       | Control method/Fuse(A)             |             | Controller 3.15A Transformer 0.2A |              |                 |         |
|                                       | Running capacity( μ F)             |             | 1                                 |              |                 |         |
|                                       | Noise dB (A)                       |             | 38                                |              |                 |         |
|                                       | Outline dimension (W/D/H) (mm)     |             | 770×250×180                       |              |                 |         |
|                                       | Package dimension (W/D/H) (mm)     |             | 855x366x272                       |              |                 |         |
| Net weight/Gross weight(kg)           |                                    | 8.5/-       |                                   |              |                 |         |
| Outdoor unit                          | Model                              |             | KF-20×2W/NA12                     |              | KFR-20×2W/NA12  |         |
|                                       | Rated power (W)                    |             | 810                               |              | 810             | 860     |
|                                       | Rated current (A)                  |             | 3.53                              |              | 3.53            | 3.41    |
|                                       | Throttling method                  |             | Capillary                         |              |                 |         |
|                                       | Compressor type                    |             | -                                 |              |                 |         |
|                                       | Starting method                    |             | Capacity                          |              |                 |         |
|                                       | Working temperature (℃)            |             | 2-43                              |              |                 |         |
|                                       | Condensor                          |             | Aluminum fin-copper tube          |              |                 |         |
|                                       | Pipe diameter                      |             | φ 9.52                            |              |                 |         |
|                                       | Row- fin distance(mm)              |             | 1-1.8                             |              |                 |         |
|                                       | Working area (m <sup>2</sup> )     |             | 0.4                               |              |                 |         |
|                                       | Fan motor power (W)/ speed (rpm)   |             | 80/790                            |              |                 |         |
|                                       | Fan type-piece                     |             | Axial flow fan —1                 |              |                 |         |
|                                       | Fan blade diameter (mm)            |             | 450                               |              |                 |         |
|                                       | Defrost method                     |             | Auto defrost                      |              |                 |         |
|                                       | Noise dB (A)                       |             | 58                                |              |                 |         |
|                                       | Outline dimension (W/D/H) (mm)     |             | 950×710×412                       |              |                 |         |
|                                       | Package dimension (W/D/H) (mm)     |             | -                                 |              |                 |         |
|                                       | Net weight/Gross weight(kg)        |             | 65/-                              |              |                 |         |
|                                       | Refrigerant/refrigerant charge(kg) |             | R407C/0.7×2                       |              | R407C/0.82×2    |         |
| Connection pipe                       | Length                             |             | (m)                               | 4            |                 |         |
|                                       | Outer diameter                     | Liquid pipe | (mm)                              | φ 6(1/4")    |                 |         |
|                                       |                                    | Gas pipe    | (mm)                              | φ 9.52(3/8") |                 |         |
|                                       | Max. distance                      | Height      | (m)                               | 5            |                 |         |
|                                       |                                    | Length      | (m)                               | 10           |                 |         |

|                                       |                                    |             |                                   |                 |
|---------------------------------------|------------------------------------|-------------|-----------------------------------|-----------------|
|                                       |                                    |             |                                   |                 |
| Model                                 |                                    |             | KF-25×2GW/NA12                    |                 |
| Function                              |                                    |             | Cooling                           | Cooling Heating |
| Power supply(Phase-Frequency-Voltage) |                                    |             | 1Ph 230V 50Hz                     |                 |
| Capacity                              | (W)                                |             | 2500×2                            | 2500×2 2900×2   |
| Rated power                           | (W)                                |             | 1100×2                            | 1080×2 1100×2   |
| Rated current                         | (A)                                |             | 4.78×2                            | 4.70×2 4.78×2   |
| Dehumidify volume                     | (L/h)                              |             | 1.2                               |                 |
| C. O. P/EER                           | (W/W)                              |             | 2.5                               | 2.8             |
| Indoor unit                           | Model                              |             | KF-25×2G/NA12                     |                 |
|                                       | Fan speed (r/min) (H/M/L)          |             | 1060/900/910                      |                 |
|                                       | Output power(W)                    |             | 13                                |                 |
|                                       | Fan type-piece                     |             | Cross flow fan —1                 |                 |
|                                       | Diameter-length(mm)                |             | φ 97×583                          |                 |
|                                       | Evaporator                         |             | Aluminum fin-copper tube          |                 |
|                                       | Pipe diameter                      |             | φ 7×0.41                          |                 |
|                                       | Row- fin distance(mm)              |             | 2-1.6                             |                 |
|                                       | Working area (m2)                  |             | 0.14                              |                 |
|                                       | Stepping motor                     |             | MP24GA                            |                 |
|                                       | Motor power (W)                    |             | 2                                 |                 |
|                                       | Control method/Fuse(A)             |             | Controller 3.15A Transformer 0.2A |                 |
|                                       | Running capacity (μ F)             |             | 1                                 |                 |
|                                       | Noise dB(A)                        |             | 38                                |                 |
|                                       | Outline dimension(W/D/H) (mm)      |             | 770×250×180                       |                 |
|                                       | Package dimension(W/D/H) (mm)      |             | 855×360×272                       |                 |
|                                       | Net weight/Gross weight(kg)        |             | 8.5/-                             |                 |
| Outdoor unit                          | Model                              |             | KF-25×2W/NA12                     |                 |
|                                       | Rated power (W)                    |             | 1030                              | 1030 1020       |
|                                       | Rated current (A)                  |             | 4.2                               | 4.4             |
|                                       | Throttling method                  |             | Capillary                         |                 |
|                                       | Compressor type                    |             | -                                 |                 |
|                                       | Starting method                    |             | Capacity                          |                 |
|                                       | Working temperature (°C)           |             | 2-43°C                            |                 |
|                                       | Condensor                          |             | Aluminum fin-copper tube          |                 |
|                                       | Pipe diameter                      |             | φ 9.52                            |                 |
|                                       | Row- fin distance(mm)              |             | 1-1.8                             |                 |
|                                       | Working area (m2)                  |             | 0.4                               |                 |
|                                       | Fan motor power (W)/ speed (rpm)   |             | 38/700                            | 60/780          |
|                                       | Fan type-piece                     |             | Axial flow fan —1                 |                 |
|                                       | Fan blade diameter (mm)            |             | 400                               |                 |
|                                       | Defrost method                     |             | Auto defrost                      |                 |
|                                       | Noise dB(A)                        |             | 58                                |                 |
|                                       | Outline dimension (W/D/H) (mm)     |             | 950×710×412                       |                 |
|                                       | Package dimension (W/D/H) (mm)     |             | -                                 |                 |
|                                       | Net weight/Gross weight(kg)        |             | 65/-                              |                 |
|                                       | Refrigerant/refrigerant charge(kg) |             | R407C/0.85×2                      | R407C/0.92×2    |
| Connection pipe                       | Length                             |             | (m)                               | 4               |
|                                       | Outer diameter                     | Liquid pipe | (mm)                              | φ 6(1/4")       |
|                                       |                                    | Gas pipe    | (mm)                              | φ 9.52(3/8")    |
|                                       | Max distance                       | Height      | (m)                               | 5               |
|                                       |                                    | Length      | (m)                               | 10              |

# Bird Dual-Split Type

|                                       |                                    |                  |                              |
|---------------------------------------|------------------------------------|------------------|------------------------------|
|                                       |                                    |                  |                              |
| Model                                 |                                    | KF-32×2GW/NA12   |                              |
| Function                              |                                    | Cooling          | Cooling Heating              |
| Power supply(Phase-Frequency-Voltage) |                                    | 1Ph 230V 50Hz    |                              |
| Capacity                              | (W)                                | 3200×2           | 3200×2 3800×2                |
| Rated power                           | (W)                                | 1390×2           | 1390×2 1490×2                |
| Rated current                         | (A)                                | 13.5             | 13.5 14                      |
| Dehumidify volume                     | (L/h)                              | /                |                              |
| C. O. P/EER                           | (W/W)                              | 2.3              | 2.3 2.55                     |
| Indoor unit                           | Model                              |                  | KF-32×2G/NA12 KFR-32×2G/NA12 |
|                                       | Fan speed (r/min) (H/M/L)          |                  | 1190/1090/990                |
|                                       | Output power (W)                   |                  | 8W                           |
|                                       | Fan type-piece                     |                  | Cross flow fan —1            |
|                                       | Diameter-length(mm)                |                  | φ 97×583                     |
|                                       | Evaporator                         |                  | Aluminum fin-copper tube     |
|                                       | Pipe diameter                      |                  | φ 0.7×0.41                   |
|                                       | Row- fin distance(mm)              |                  | 2-1.4                        |
|                                       | Working area (m2)                  |                  | /                            |
|                                       | Stepping motor                     |                  | MP24GA                       |
|                                       | Motor power (W)                    |                  | 2                            |
|                                       | Control method/Fuse(A)             |                  | —/3.15A                      |
|                                       | Running capacity (μ F)             |                  | 1                            |
|                                       | Noise dB (A)                       |                  | 40                           |
|                                       | Outline dimension (W/D/H) (mm)     |                  | 770×250×180                  |
|                                       | Package dimension (W/D/H) (mm)     |                  | 855×362×272                  |
|                                       | Net weight/Gross weight(kg)        |                  | 8.5/-                        |
| Outdoor unit                          | Model                              |                  | KF-32×2W/NA12 KFR-32×2W/NA12 |
|                                       | Rated power (W)                    |                  | 1440 1280 1420               |
|                                       | Rated current (A)                  |                  | 6 5.8 6.3                    |
|                                       | Throttling method                  |                  | Capillary                    |
|                                       | Compressor type                    |                  | -                            |
|                                       | Starting method                    |                  | Capacity                     |
|                                       | Working temperature (°C)           |                  | 2-43°C                       |
|                                       | Condensor                          |                  | Aluminum fin-copper tube     |
|                                       | Pipe diameter                      |                  | φ 9.52                       |
|                                       | Row- fin distance(mm)              |                  | 1-1.6                        |
|                                       | Working area (m2)                  |                  | 0.4                          |
|                                       | Fan motor power (W)/ speed (rpm)   |                  | 60/780                       |
|                                       | Fan type-piece                     |                  | Axial flow fan —1            |
|                                       | Fan blade diameter (mm)            |                  | 400                          |
|                                       | Defrost method                     |                  | Auto defrost                 |
|                                       | Noise dB (A)                       |                  | 62                           |
|                                       | Outline dimension (W/D/H) (mm)     |                  | 950×710×412                  |
|                                       | Package dimension (W/D/H) (mm)     |                  | -                            |
|                                       | Net weight/Gross weight(kg)        |                  | 70/-                         |
|                                       | Refrigerant/refrigerant charge(kg) |                  | R407C/1.20×2 R407C/1.25×2    |
| Connection pipe                       | Length (m)                         |                  | 4                            |
|                                       | Outer diameter                     | Liquid pipe (mm) | φ 6(1/4")                    |
|                                       |                                    | Gas pipe (mm)    | φ 12(1/2")                   |
|                                       | Max. distance                      | Height (m)       | 5                            |
|                                       |                                    | Length (m)       | 10                           |

|                                       |                                    |             |                                   |              |                |         |
|---------------------------------------|------------------------------------|-------------|-----------------------------------|--------------|----------------|---------|
|                                       |                                    |             |                                   |              |                |         |
| Model                                 |                                    |             | GSW(9×2)-22L/A                    |              | GSW(9×2)-22R/A |         |
| Function                              |                                    |             | Cooling                           |              | Cooling        | Heating |
| Power supply(Phase-Frequency-Voltage) |                                    |             | 1Ph 220V 50Hz                     |              |                |         |
| Capaicty                              |                                    | (W)         | 2500×2                            |              | 2500×2         | 2900×2  |
| Rated power                           |                                    | (W)         | 870×2                             |              | 970×2          | 1050×2  |
| Rated current                         |                                    | (A)         | 4.03×2                            |              | 4.2×2          | 4.3×2   |
| Dehumidify volume                     |                                    | (L/h)       | 1.2                               |              | 1.2            | -       |
| C. O. P/EER                           |                                    | (W/W)       | 2.78                              |              | 2.9            | 3.3     |
| Indoor unit                           | Model                              |             | GSW(9×2)-22L/A                    |              | GSW(9×2)-22R/A |         |
|                                       | Fan speed(r/min) (H/M/L)           |             | 1050/960/900                      |              |                |         |
|                                       | Output power(W)                    |             | 20                                |              |                |         |
|                                       | Fan type-piece                     |             | Cross flow fan—1                  |              |                |         |
|                                       | Diameter-length(mm)                |             | φ 97×583                          |              |                |         |
|                                       | Evaporator                         |             | Aluminum fin-copper tube          |              |                |         |
|                                       | Pipe diameter                      |             | φ 7×0.41                          |              |                |         |
|                                       | Row- fin distance(mm)              |             | 2-1.6                             |              |                |         |
|                                       | Working area (m2)                  |             | 0.14                              |              |                |         |
|                                       | Stepping motor                     |             | MP24GA                            |              |                |         |
|                                       | Motor power (W)                    |             | 2                                 |              |                |         |
|                                       | Control method/Fuse(A)             |             | Controller 3.15A Transformer 0.2A |              |                |         |
|                                       | Running capacity ( μ F)            |             | 1                                 |              |                |         |
|                                       | Noise dB (A)                       |             | ≤36                               |              | ≤37            |         |
|                                       | Outline dimension (W/D/H) (mm)     |             | 770×250×180                       |              |                |         |
|                                       | Package dimension (W/D/H) (mm)     |             | 855×362×272                       |              |                |         |
|                                       | Net weight/Gross weight(kg)        |             | 8.5/-                             |              |                |         |
| Outdoor unit                          | Model                              |             | GSW(9×2)-22L/A                    |              | GSW(9×2)-22R/A |         |
|                                       | Rated power (W)                    |             | 908                               |              | 919            |         |
|                                       | Rated current (A)                  |             | 4.17                              |              | 4.18           |         |
|                                       | Throttling method                  |             | Capillary                         |              |                |         |
|                                       | Compressor type                    |             | -                                 |              |                |         |
|                                       | Starting method                    |             | Capacity                          |              |                |         |
|                                       | Working temperature (°C)           |             | 2-43℃                             |              |                |         |
|                                       | Condensor                          |             | Aluminum fin-copper tube          |              |                |         |
|                                       | Pipe diameter                      |             | φ 9.52                            |              |                |         |
|                                       | Row- fin distance(mm) (mm)         |             | 2-1.8                             |              |                |         |
|                                       | Working area (m <sup>2</sup> )     |             | 0.4                               |              |                |         |
|                                       | Fan motor power (W)/ speed (rpm)   |             | 60/780                            |              |                |         |
|                                       | Fan type-piece                     |             | Axial flow fan —1                 |              |                |         |
|                                       | Fan blade diameter (mm)            |             | 450                               |              |                |         |
|                                       | Defrost method                     |             | Auto defrost                      |              |                |         |
|                                       | Noise dB (A)                       |             | 56                                |              | 58             |         |
|                                       | Outline dimension (W/D/H) (mm)     |             | 950×710×412                       |              |                |         |
|                                       | Package dimension (W/D/H) (mm)     |             | -                                 |              |                |         |
|                                       | Net weight/Gross weight(kg)        |             | 65/-                              |              |                |         |
|                                       | Refrigerant/refrigerant charge(kg) |             | R22/0.85×2                        |              | R22/0.95×2     |         |
| Connection pipe                       | Length                             |             | (m)                               | 4            |                |         |
|                                       | Outer diameter                     | Liquid pipe | (mm)                              | φ 6(1/4")    |                |         |
|                                       |                                    | Gas pipe    | mm)                               | φ 9.52(3/8") |                |         |
|                                       | Max. distance                      | Height      | (m)                               | 5            |                |         |
|                                       |                                    | Length      | (m)                               | 10           |                |         |

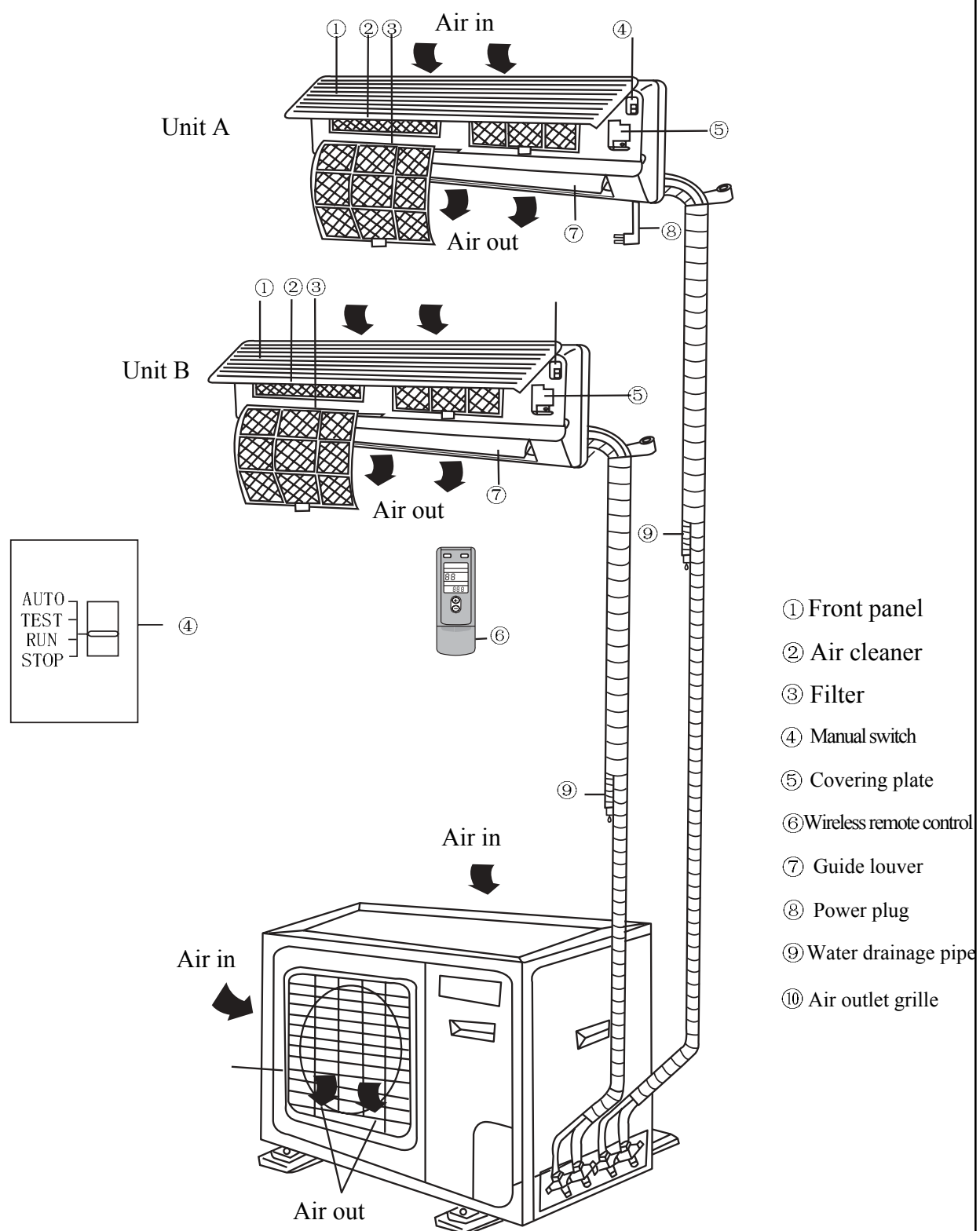


# Bird Dual-Split Type

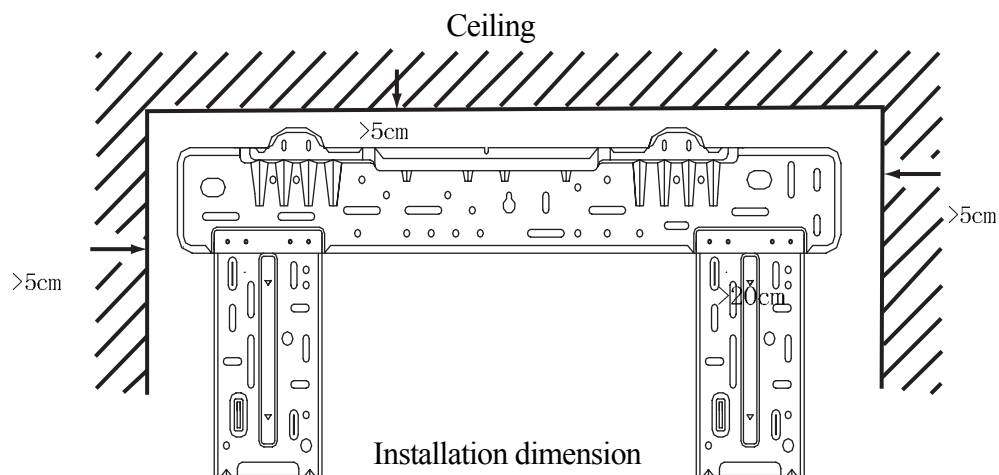
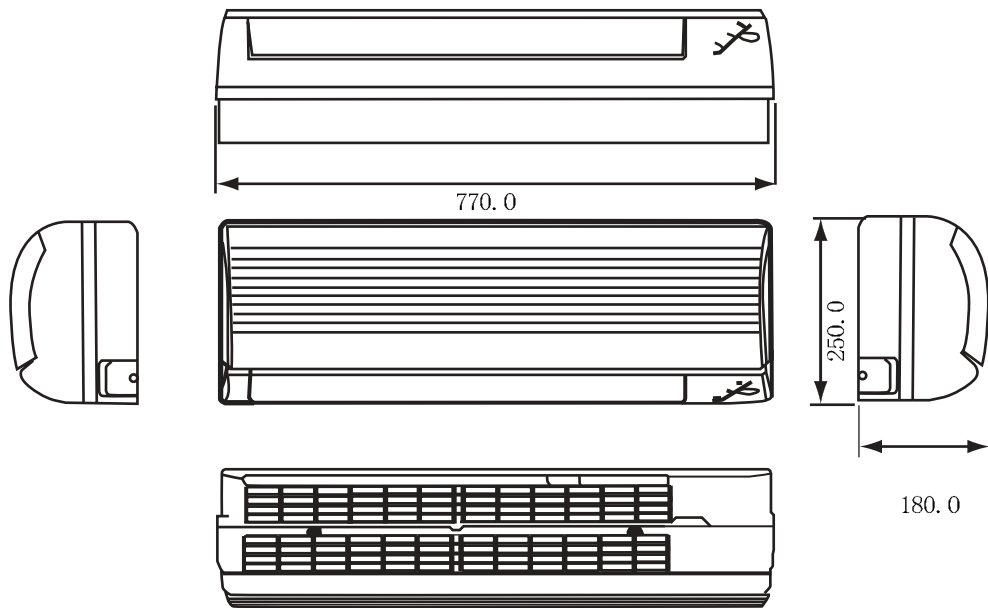
|                                       |  |                 |                            |            |
|---------------------------------------|--|-----------------|----------------------------|------------|
| Model                                 |  | GSW(12X2)-22L/A |                            |            |
| Function                              |  | Cooling         |                            |            |
| Power supply(Phase-Frequency-Voltage) |  | 1Ph 220V 50Hz   |                            |            |
| Capaicty                              | (W)  | 32000×2         | 2500×2                     | 2900×2     |
| Rated power                           | (W)  | 1555.5          | 970×2                      | 1050×2     |
| Rated current                         | (A)  | 8.015           | 4.2×2                      | 4.3×2      |
| Dehumidify volume                     | (L/h)  | 1.2             | 1.2                        | -          |
| C. O. P/EER                           | (W/W)  | 2.6             | 2.9                        | 3.3        |
| Indoor unit                           | Model  |                 | GSW(12×2)-22L/A            |            |
|                                       | Fan speed (r/min) (H/M/L)                        |                 | 1200/1100/1000             |            |
|                                       | Output power(W)                                  |                 | 14                         |            |
|                                       | Fan type-piece                                   |                 | Cross flow fan—1           |            |
|                                       | Diameter-length(mm)                              |                 | φ 97×538                   |            |
|                                       | Evaporator                                       |                 | Aluminum fin-copper tube   |            |
|                                       | Pipe diameter                                    |                 | φ 7                        |            |
|                                       | Row- fin distance(mm)                            |                 | 2-1.4                      |            |
|                                       | Working area (m <sup>2</sup> )                   |                 | 0.14                       |            |
|                                       | Stepping motor                                   |                 | MP24GA                     |            |
|                                       | Motor power (W)                                  |                 | 2                          |            |
|                                       | Control method/Fuse(A)                           |                 | PCB 3.15A Transformer 0.2A |            |
|                                       | Running capacity(μ F)                            |                 | 1                          |            |
|                                       | Noise dB (A)                                     |                 | 41/36(H/L)                 |            |
|                                       | Outline dimension (W/D/H) (mm)                   |                 | 770×180×250                |            |
|                                       | Package dimension(W/D/H) (mm)                    |                 | 855×362×272                |            |
|                                       | Net weight/Gross weight(kg)                      |                 | 8.5/12.5                   |            |
| Outdoor unit                          | Model  |                 | GSW(12×2)-22L/A            |            |
|                                       | Rated power (W)                                  |                 | -                          |            |
|                                       | Rated current (A)                                |                 | -                          |            |
|                                       | Throttling method                                |                 | Capillary                  |            |
|                                       | Compressor type                                  |                 | -                          |            |
|                                       | Starting method                                  |                 | Capacity                   |            |
|                                       | Working temperature (°C)                         |                 | 2~43°C                     |            |
|                                       | Condensor  |                 | Aluminum fin-copper tube   |            |
|                                       | Pipe diameter                                    |                 | φ 9.52                     |            |
|                                       | Row- fin distance(mm)                            |                 | 2-1.8                      |            |
|                                       | Working area (m <sup>2</sup> ) (m <sup>2</sup> ) |                 | 0.482                      |            |
|                                       | Fan motor power (W)/ speed (rpm)                 |                 | 38/720                     |            |
|                                       | Fan type-piece                                   |                 | Axial flow fan —1          |            |
|                                       | Fan blade diameter (mm)                          |                 | 450                        |            |
|                                       | Defrost method                                   |                 |                            |            |
|                                       | Noise dB (A)                                     |                 | 56                         |            |
|                                       | Outline dimension (W/D/H) (mm)                   |                 | 950×412×710                |            |
|                                       | Package dimension (W/D/H) (mm)                   |                 | 1100×450×775               |            |
|                                       | Net weight/Gross weight(kg)                      |                 | 65/70                      |            |
|                                       | Refrigerant/refrigerant charge(kg)               |                 | R22/0.85×2                 |            |
| Connection pipe                       | Length   |                 | (m)                        |            |
|                                       |  |                 | 4                          |            |
|                                       | Outer diameter                                   | Liquid pipe     | (mm)                       | φ 6(1/4")  |
|                                       |  | Gas pipe        | (mm)                       | φ 12(1/2") |
|                                       | Max. distance                                    | Height          | (m)                        | 5          |
|                                       |  | Length          | (m)                        | 10         |

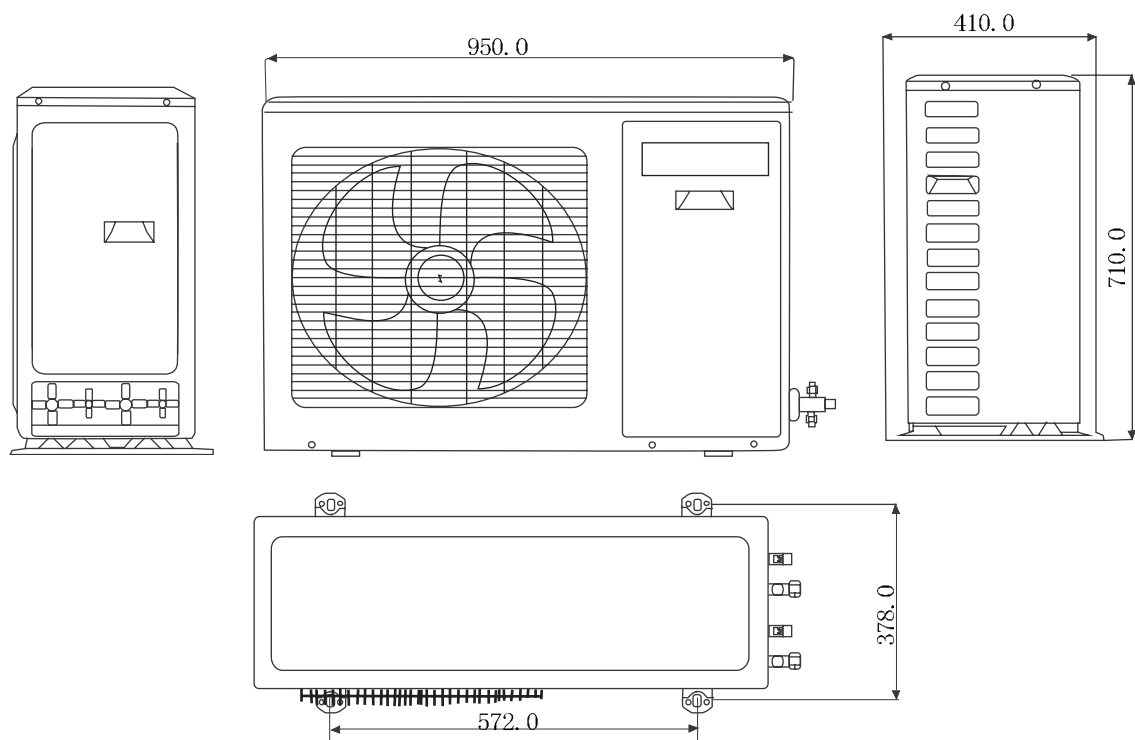
The technical data are subject to change without notice. Please refer to the nameplate of the unit.

3 Spare part name

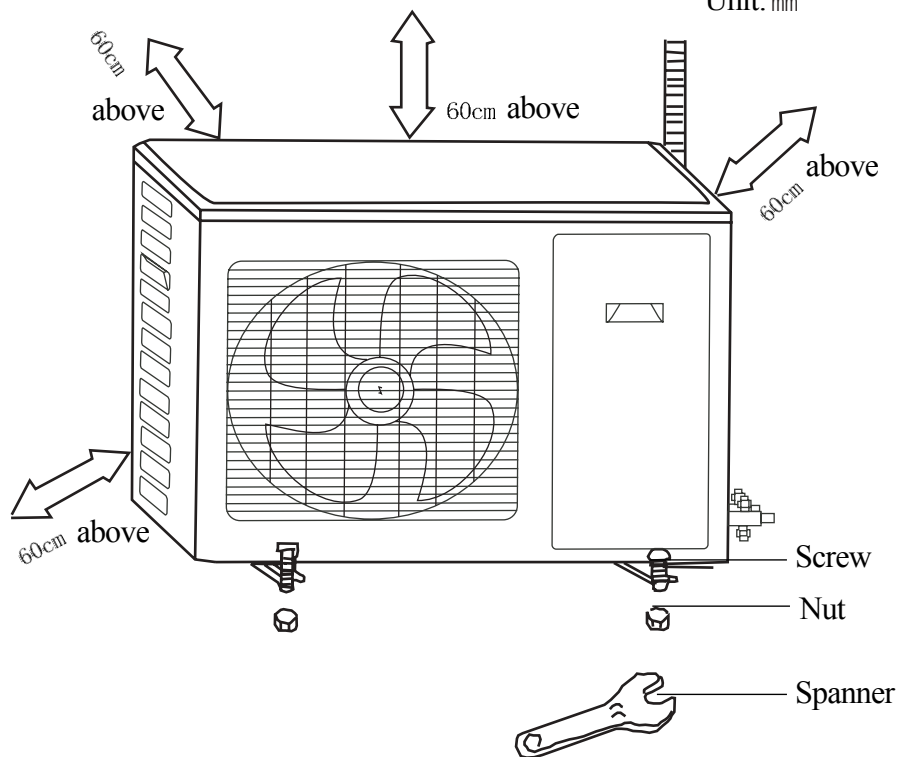


#### 4 Outline and installation dimension



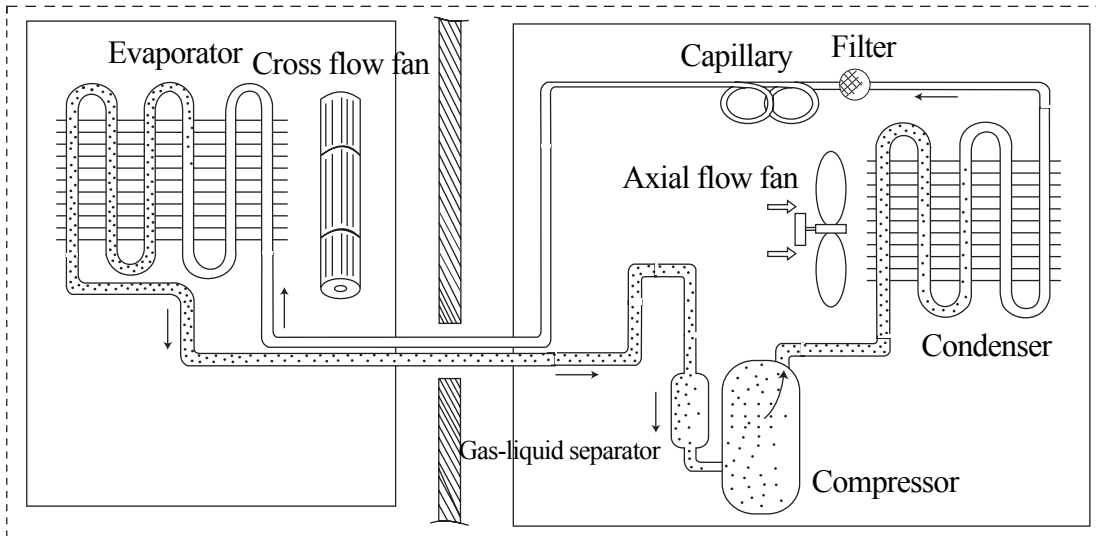


Unit: mm



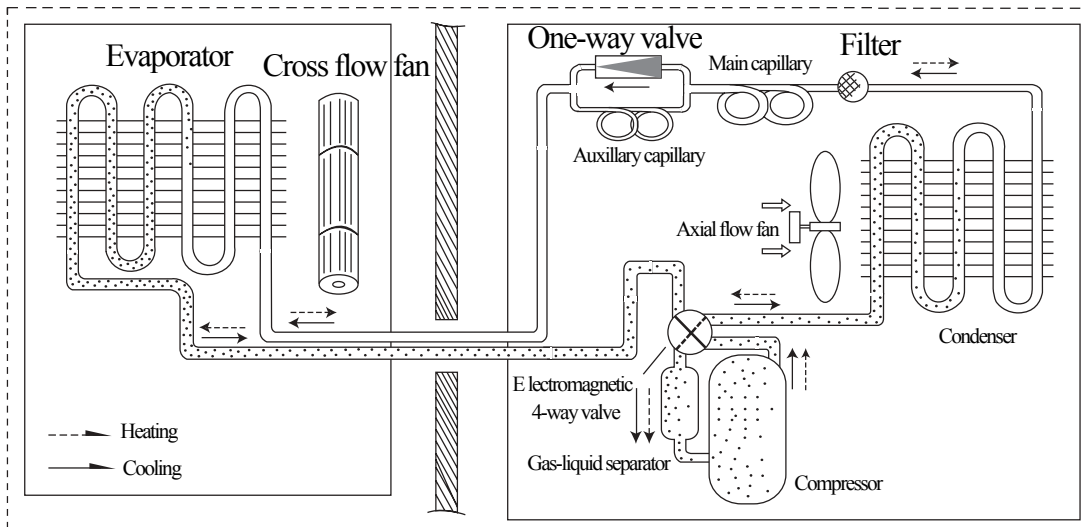
## 5 Cooling system diagram

### 5.1 Cooling system diagram for cooling only type



When the power is on, indoor and outdoor units will start to run. The compressor sucks low-pressure refrigerant gas from the evaporator of indoor unit and then discharges high-temperature, high-pressure refrigerant gas into outdoor condenser. Then air exchanges the heat with outdoor air and becomes refrigerant liquid. The liquid is throttled by the capillary and changes into low-temperature and low-pressure liquid and then flows into indoor evaporator. Then liquid exchanges the heat with the required air and changes into low-temperature and low-pressure refrigerant gas. The cycle introduced above goes on and on, and the demanded low temperature environment is maintained.

### 5.2 Cooling system diagram for cooling/heating type

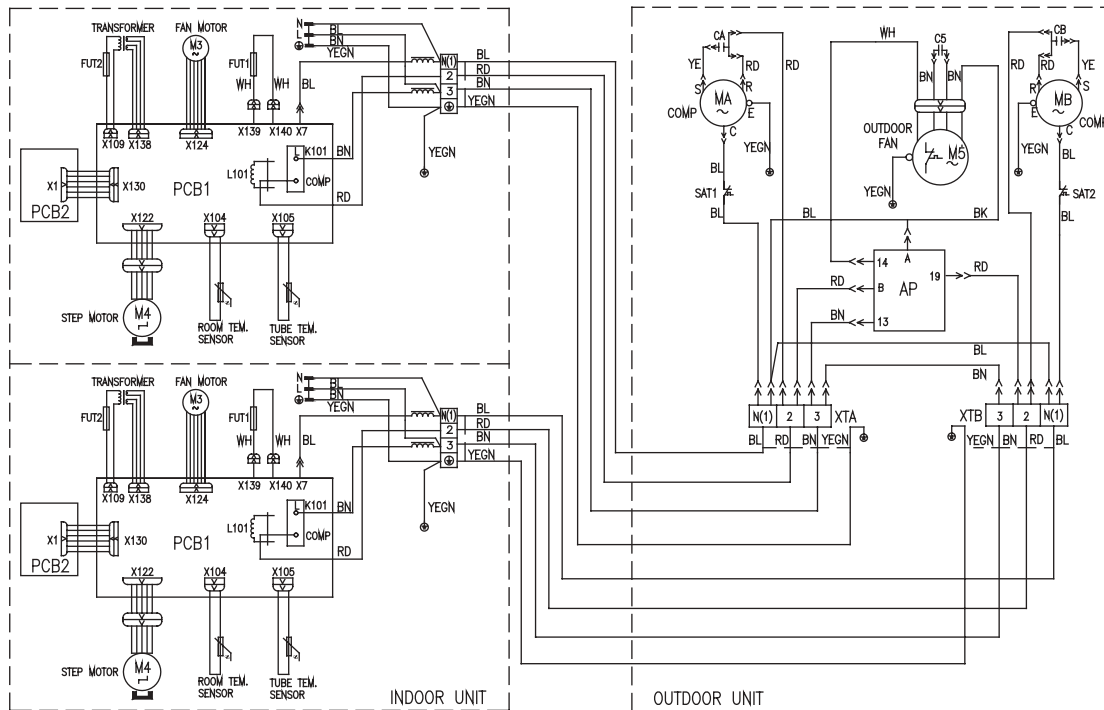


When the power is on, indoor and outdoor units will start to run. When the system operates in cool mode, the compressor sucks low-temperature, low-pressure refrigerant gas from indoor evaporator and then discharges high-temperature, high-pressure refrigerant gas into outdoor heat exchanger. With the help of axial flow fan, the gas transfers its latent heat into outdoor air and becomes high-pressure refrigerant liquid. The liquid is throttled by the capillary and changes into low-temperature and low-pressure liquid and then flows into indoor heat exchanger. With the help of centrifugal fan, the liquid evaporates into low-temperature refrigerant gas and indoor air is cooled down. The refrigerant gas is sucked into the compressor and the cycle introduced above goes on and on, and the demanded low temperature environment is maintained.

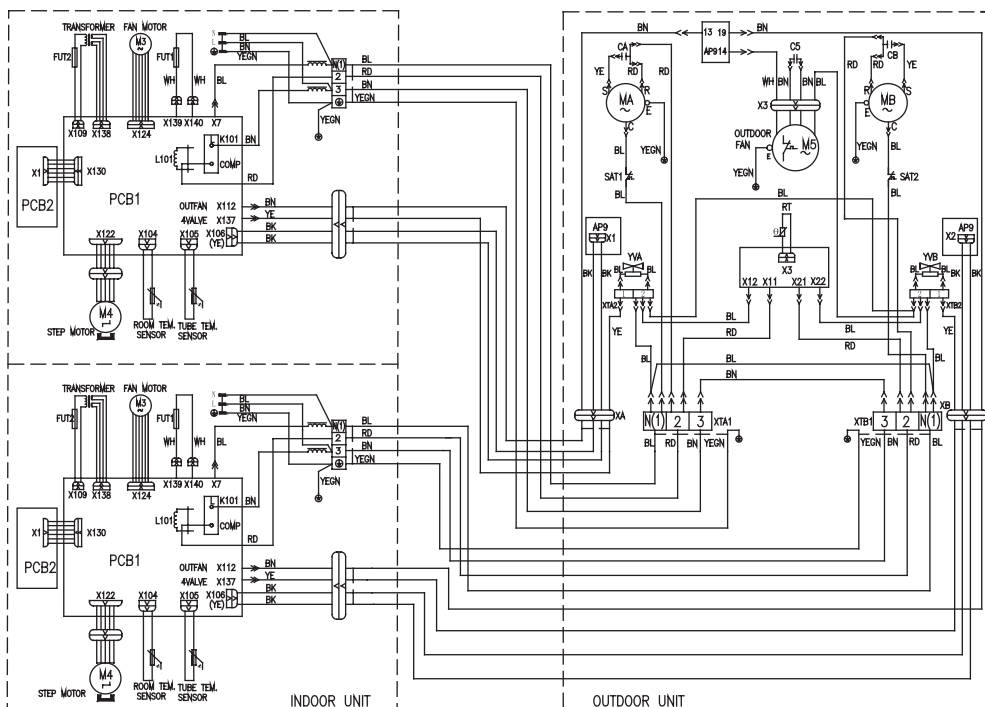
When the system operates in heat mode, 4-way valve changes its way and the refrigerant flows into the reversible cycle as the cool mode. The refrigerant discharges its latent heat in the indoor heat exchanger, and sucks heat from outdoor heat exchanger and forms the heat pump cycle. This cycle goes on and on, and the demanded high temperature environment is maintained.

## 6 Circuit diagram

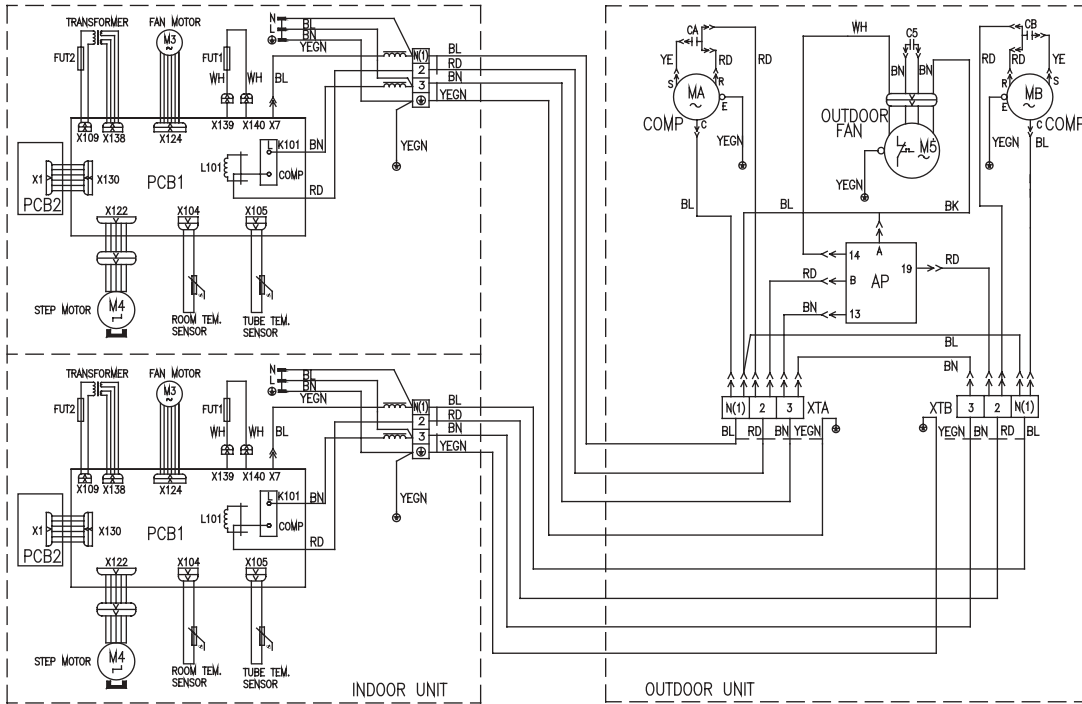
KF-20X2GW/A12 KF-20X2GW/NA12 KF-32X2GW/NA12



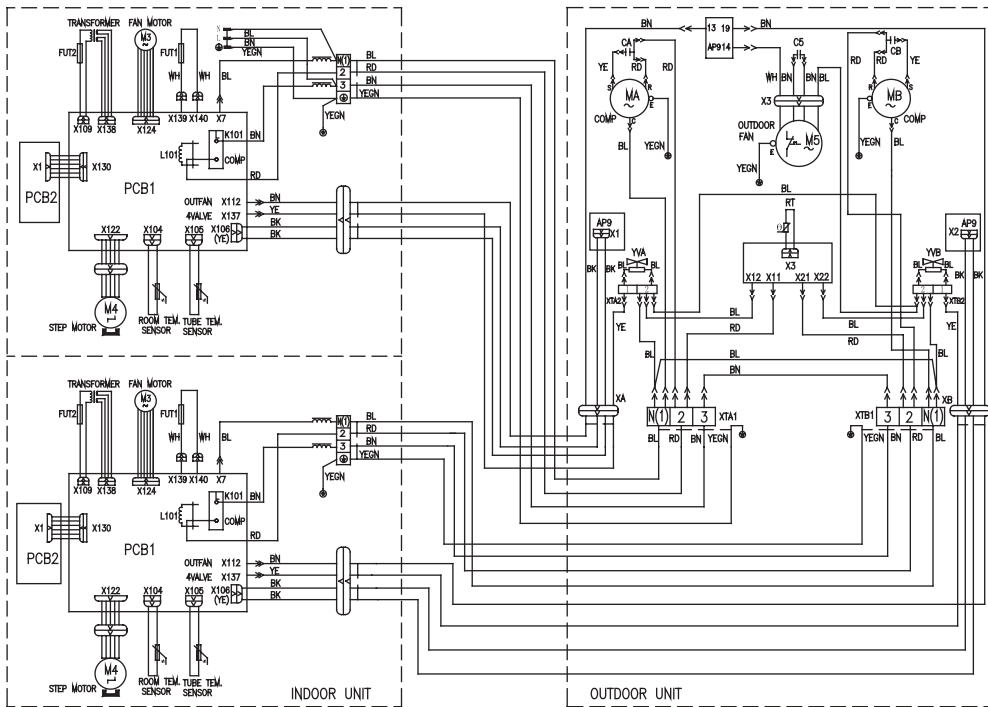
KFR-20X2GW/A12 KFR-32X2GW/A12



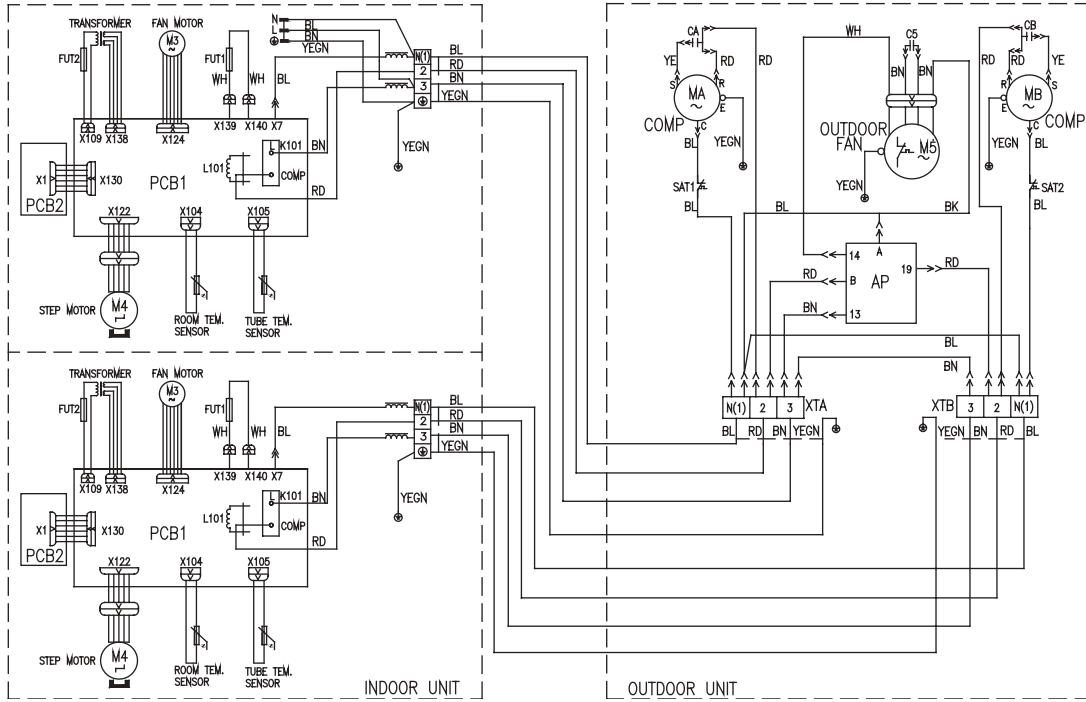
## KF-25X2GW/A12



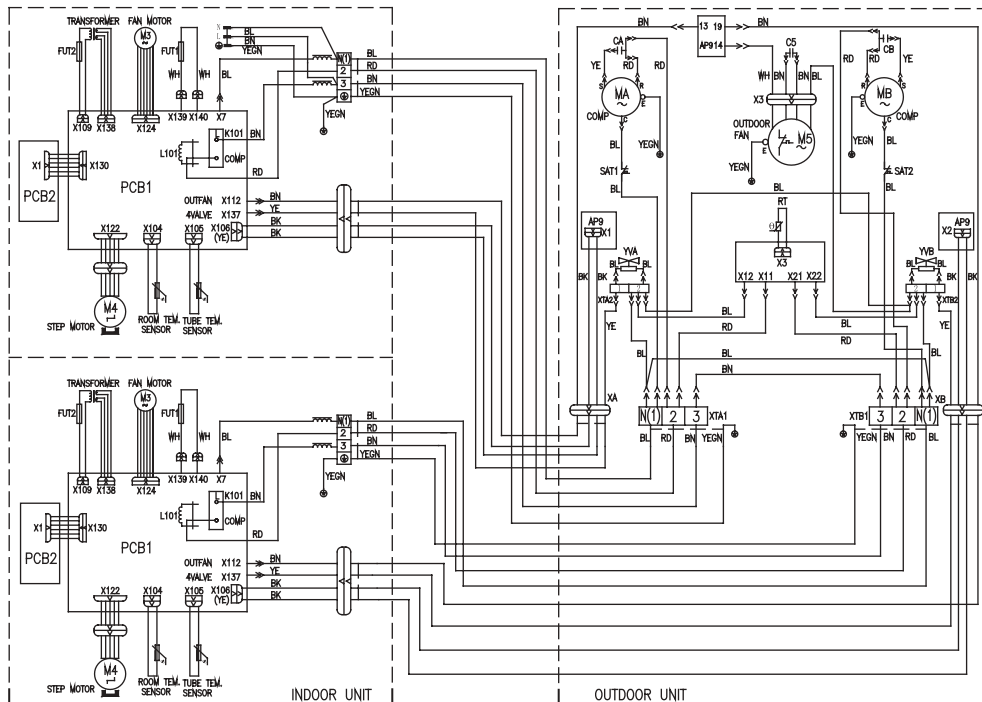
## KFR-25X2GW/A12



KF-32X2GW/A12 KF-25X2GW/NA12 GSW (9X2) -22L/A

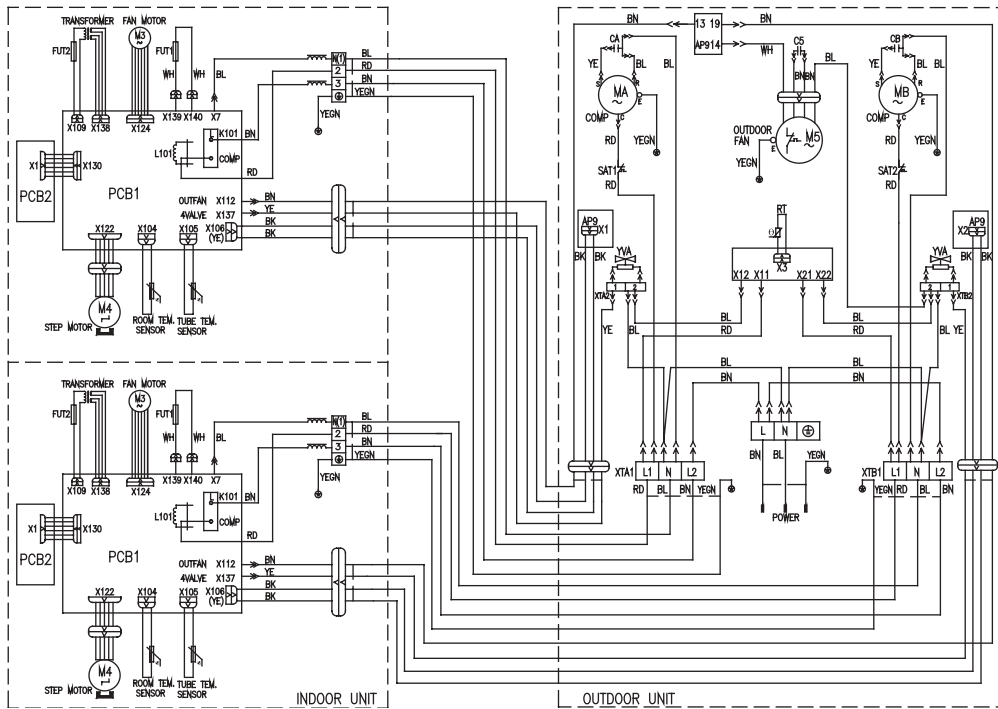


KFR-30X2GW/NA12 KFR-32X2GW/NA12 GSW (9X2) -22R/L

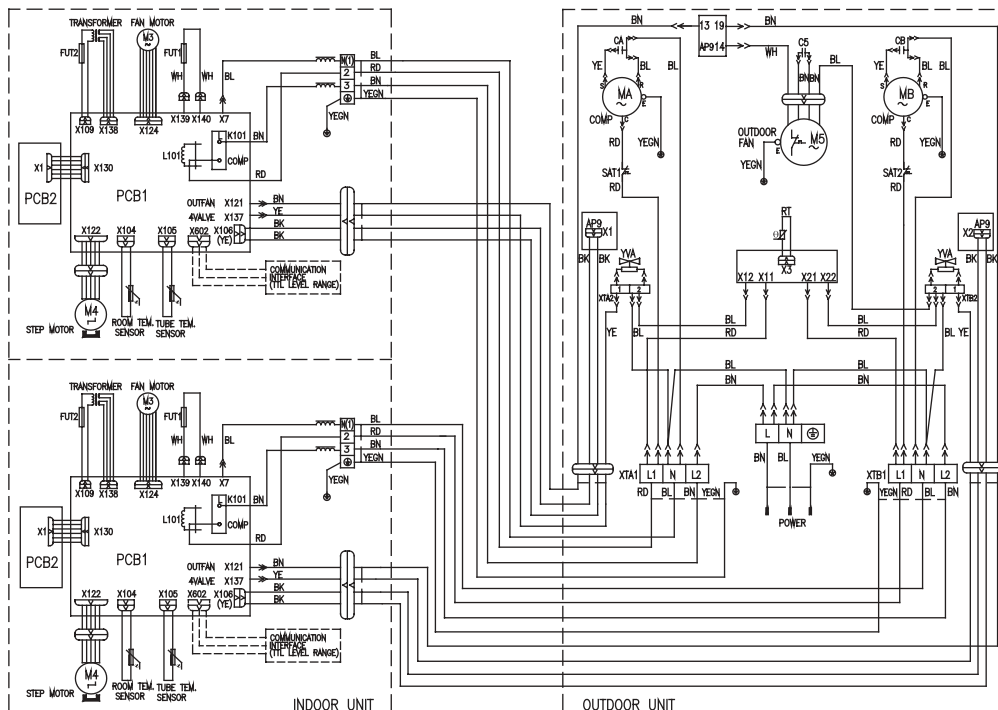




## KFR-25X2GW/NA12S1

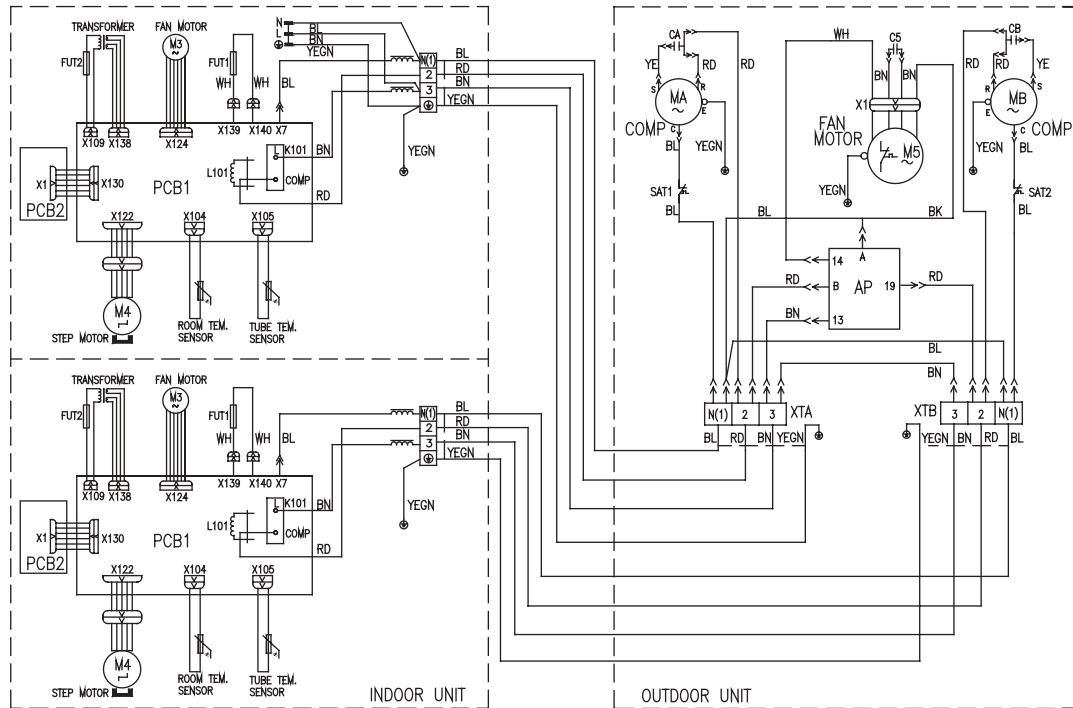


## KFR-25X2GW/NA12S2



These circuit diagrams are subject to change without notice. Please refer to the ones stuck on the machines.

# GSW (12X2) -22L/A



These circuit diagrams are subject to change without notice. Please refer to the ones stuck on the machines.

## 7 PCB function manual and operation method

### 7.1 PCB function manual

#### 7.1.1 Temperature parameter

- ◆ The room set temperature: (Tset)
- ◆ The room ambient temperature: (Tamb)
- ◆ The evaporator tube temperature: (Ttube)
- ◆ The condenser tube temperature: (Tdefrost)

#### 7.1.2 Fundamental functions

After power is on, no matter when compressor is started, the time span between the startups cannot be less than 3 minutes.

##### 7.1.2.1 COOL mode

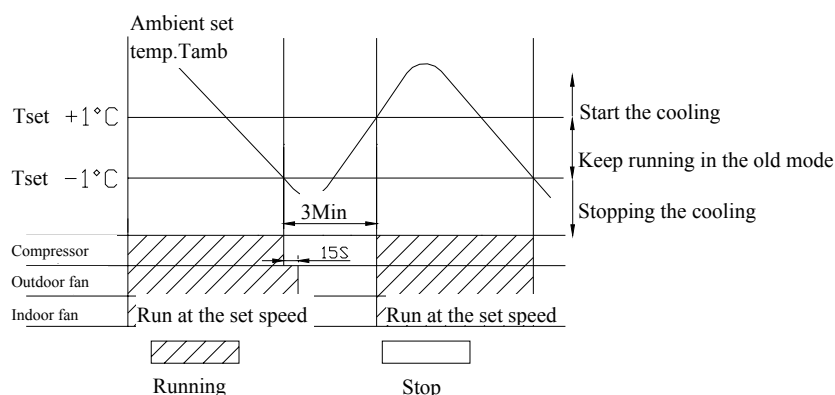
##### 7.1.2.1.1 Cooling condition

If  $T_{amb} \geq T_{set} + 1^\circ\text{C}$ , COOL mode will act, compressor and outdoor fan will run, indoor fan will run at the set speed.

If  $T_{amb} \leq T_{set} - 1^\circ\text{C}$ , unit will stop, compressor will stop and then outdoor fan will delay 15sec and stop.

If  $T_{set} - 1^\circ\text{C} < T_{amb} < T_{set} + 1^\circ\text{C}$ , the unit will keep running in the old mode.

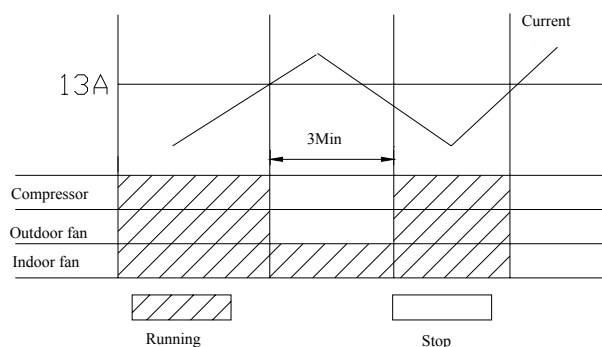
- In this mode, the reversal valve will not power on, the setting temp. range:  $16 \sim 30$



##### 7.1.2.1.2 Protection Functions

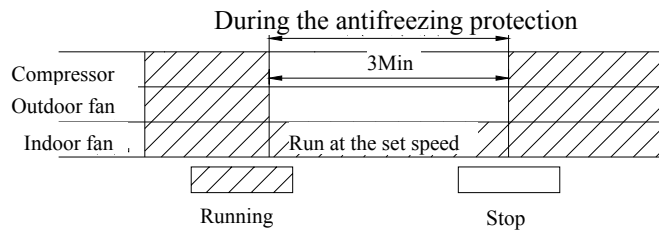
##### ◆ Overcurrent Protection

When the system current is tested higher than 13A, only fan will run. After 3 minutes, the whole unit will run in the old mode, if the overcurrent cannot be eliminated, the whole unit will stop, and can be restarted by the wireless remote control.



##### ◆ Antifreezing Protection

When the system is tested, the compressor and outdoor fan will stop, indoor fan will run at the set speed; when the antifreezing protection is and the compressor has stopped for 3min, the unit will return to the old mode.



### 7.1.2.2 DRY Mode

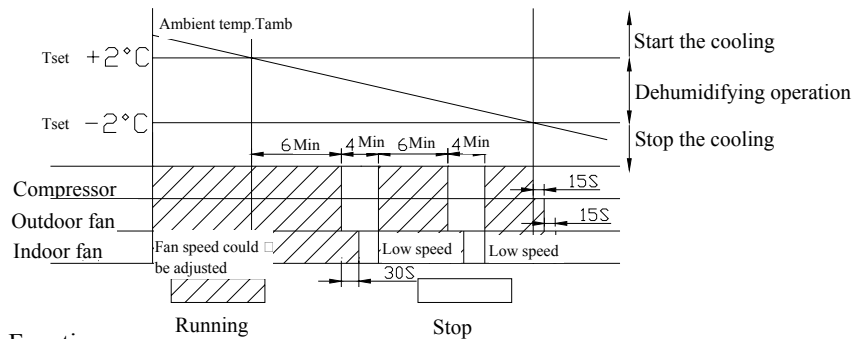
#### 7.1.2.2.1 The conditions and processes of dehumidifying:

If  $T_{amb} > T_{set} + 2$ , the cooling mode will act, indoor fan speed could be adjusted, outdoor fan will run.

If  $T_{set} - 2 < T_{room} < T_{set} + 2$ , DRY mode will act, the indoor fan will run at the low speed after running for 6mins, outdoor fan and compressor will stop, but indoor fan will delay 30secs and stop, after 3.5mins, compressor and outdoor fan will run, and indoor fan will run at the low low speed. The processes of dehumidifying are shown as the above cycle.

If  $T_{amb} < T_{set} - 2$ , the unit will stop, the compressor will stop, after 15sec latter, outdoor fan will stop, after another 15sec, indoor fan will stop.

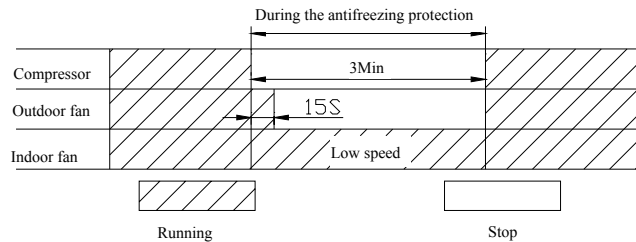
- In this mode, the reversal valve will not power on, the setting temp. range:  $16 \sim 30$ .



### 7.1.2.2.2 Protection Functions

#### ◆ Antifreezing Protection

When running in COOL mode, antifreezing protection is the same as the cooling. The DRY mode act, when the antifreezing protection is detected, the compressor will stop, but outdoor fan will delay 15secs and stop, indoor fan will run at low speed; when antifreezing protection is eliminated and compressor has stopped for 3min, the whole unit will run at the original status.



### 7.1.2.3 HEAT Mode

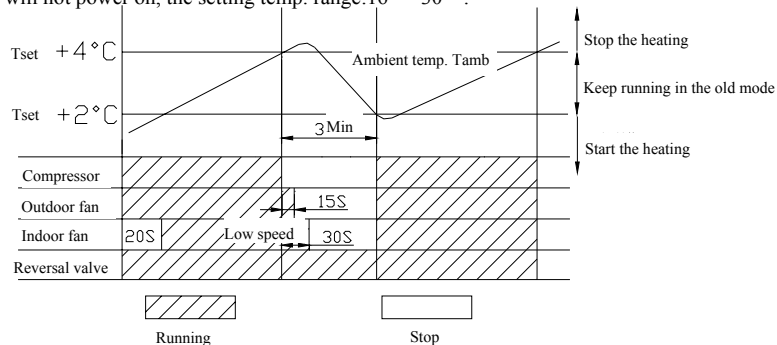
#### 7.1.2.3.1 The conditions and processes of heating

If  $T_{amb} < T_{set} + 2$ , HEAT mode will act, compressor, outdoor fan and reversing valve will run, but indoor fan will after 20sec delayed and run.

If  $T_{amb} > T_{set} + 4$ , Compressor will stop first, outdoor fan will delay 15s and stop, reversing valve will keep working, after 30secs indoor fan will blow the surplus heat, after 30secs it will stop.

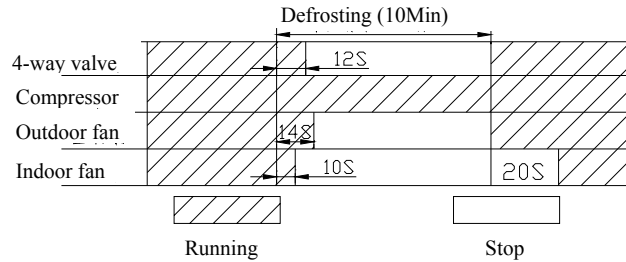
If  $T_{set} + 2 < T_{set} < T_{set} + 4$ , the unit will keep running in the old mode.

- In this mode, the reversal valve will not power on, the setting temp. range:  $16 \sim 30$ .



## 7. 1. 2. 3. 2 The conditions and processes of defrosting

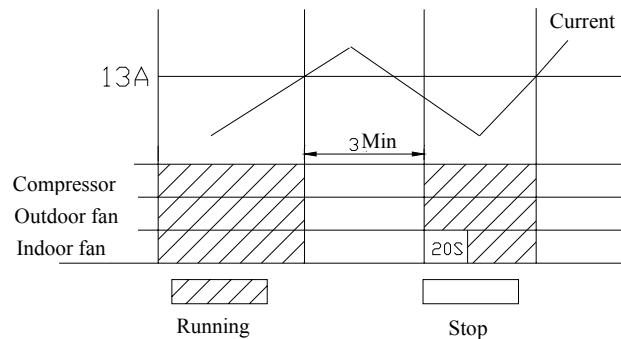
When detecting there is frost on the condenser, system enter into defrosting state, 10sec later, indoor fan stops running, reversing valve delay 2sec and stop, outdoor fan delay another 2sec will stop, when detecting the defrosting has been finished or has frosted for 10min, outdoor fan and reversing valve are turned on, 20sec later, indoor fan will start to run, and start heat circulation.



## 7. 1. 2. 3. 3 Protection function

### ◆ Overcurrent protection

When the system current is tested higher than 13A, the compressor, outdoor fan and indoor fan stop running; 3min later, whole unit will run in old mode, indoor fan will delay 20sec and start to run.



### ◆ Avoiding high temp.

In HEAT mode, when detecting Ttube is very high, outdoor fan will stop running; when detecting Ttube is normal, outdoor fan will return to run.

### ◆ Noise cancellation protection

When turning off the unit or exchanging the mode, the reversing valve will delay 2min to stop.

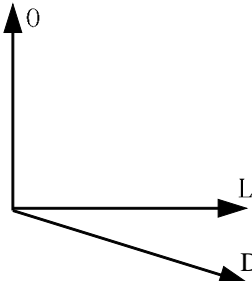
## 7. 1. 2. 4 AUTO mode

According to the ambient temperature to select COOL or HEAT mode automatically. The protection function as HEAT/COOL mode

## 7. 1. 3 Other control

### 7. 1. 3. 1 Swing motor

When it is powered on, the swing motor turn to position O, to turn off the air outlet vent; when the unit is turned on, turn to position D, then return to position L; in swing state, the louver swings between position L and D. When the unit is turned off, will return to position O.



### 7. 1. 3. 2 Buzzer

When PCB is power on or receives the signal from the wireless remote control, the buzzer will send out the sound once.

### 7. 1. 3. 3 Run indicator

Run indicator, it will light when starting the unit and extinguish when defrosting.

#### 7.1.3.4 Manual switch function (under indoor unit front panel)

##### 7.1.3.4.1 Auto function

When setting the switch to "AUTO", it will run in AUTO mode. If receiving the signal, it will run according to the remote signal.

##### 7.1.3.4.2 Test function

When setting the switch to "TEST", the unit will run in COOL mode, indoor fan will run at high speed, louver will run in SWING mode.

If receiving remote signal, the unit will run according to remote signal. If the sensor is open-circuited or short-circuited, buzzer will alarm.

##### 7.1.3.4.3 Run function

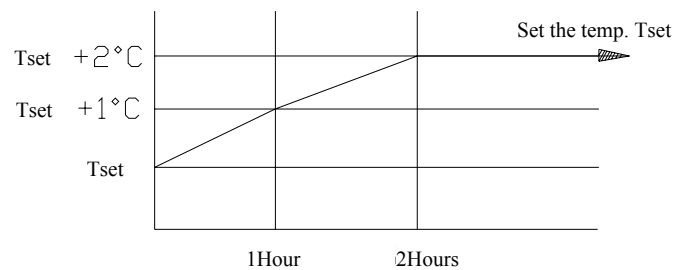
When setting the switch to "RUN", the unit will run according to remote signal.

##### 7.1.3.4.4 Stop function

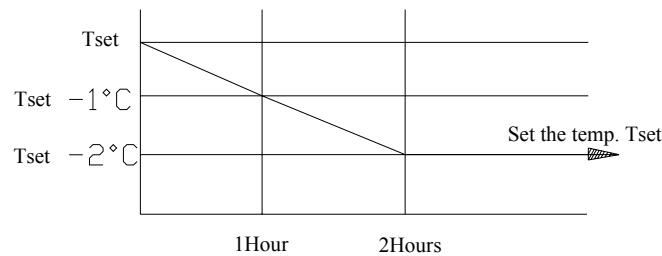
When setting the switch to "STOP", the unit will stop running.

##### 7.1.3.5 Sleep function

In COOL or DRY mode, when the set sleeping has run for 1 hour, Tset will rise 1 ; 2 hours later, Tset will rise 2 . Indoor fan will run at low speed



In HEAT mode, when the set sleeping has run for 1 hour, Tset will fall 1 ; 2 hours later, Tset will fall 2 Indoor fan will run at low speed



##### 7.1.3.6 Auto FAN

In this mode, according to ambient temperature, indoor fan will select High, Middle, Low fan speed.

##### 7.1.3.7 Timing Function

###### 7.1.3.7.1 Time on

The unit is stopped when the timer for turning on acts. When it is time to turn on, the PCB will act in the set mode.

The distance of setting twice is 0.5hour and time range is 0.5-24hours.

###### 7.1.3.7.2 Time off

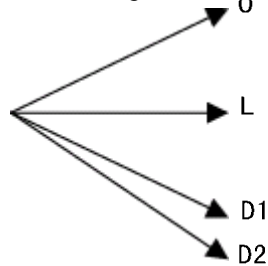
Set the timer for turning off function when the unit is turned on, when it is time to turn off, the unit will be switched off. The distance of setting twice is 0.5 hour and time range is 0.5-24hours.

##### 7.1.3.8 Memory Function

The unit will restart in the old mode with memory function after power is turned off.

## 7. 2. 3. Swing motor

- When it is powered on, the swing motor turns to position O, to turn off the air outlet vent.
- When the unit is turned on, firstly will turn to the largest air outlet vent position D2, then it will return to position L and wait.
- If in the swing state, the louver will swing between L and D1; When in heat, will swing between L and D2
- When the unit is turned off, will return to position O



## 7. 2. 3. 2 Buzzer

When PCB is powered on or received the signal from the wireless remote control, the buzzer will send out the sound.

## 7. 2. 3. 3 Run indicator

When defrosting, the Run and Heat indicator lights will flash, when anti-freezing, the Run and Cool indicator lights will flash.

## 7. 2. 3. 4 Auto button

When PCB is turned on, press this button to turn off the unit. When PCB is turned off, press this button, it will run in AUTO mode.

## 7. 2. 3. 5 TIMER button

When use wireless remote control to turn on, turn off the unit, the interval of setting is 0.5h, the setting range of turning on, turning off is 0.5-24 hours.

## 7. 2. 3. 6 Auto fan control (Model Y502 wireless remote control)

According to the changes of ambient temp., it will decide the fan speed: Low, Med, High. In DRY and AUTO fan mode, it will run in Low.

## 7. 2. 3. 7 SLEEP

- In COOL or DRY mode, after setting the SLEEP for 1 hour, Tset will rise up 1 °C; 2 hours later, Tset will rise up 2 °C. Within 2 hours, it has been risen up 2 °C totally, and the unit will keep running in this temperature.
- When in HEAT mode, after setting the sleep for 1 hour, Tset will be declined 1 °C; 2 hours later, Tset will be declined 2 °C. Within 2 hours, it has been declined 2 °C totally, and the unit will keep running in this temperature.
- In AUTO mode, the setting temp. of sleep function will not change.

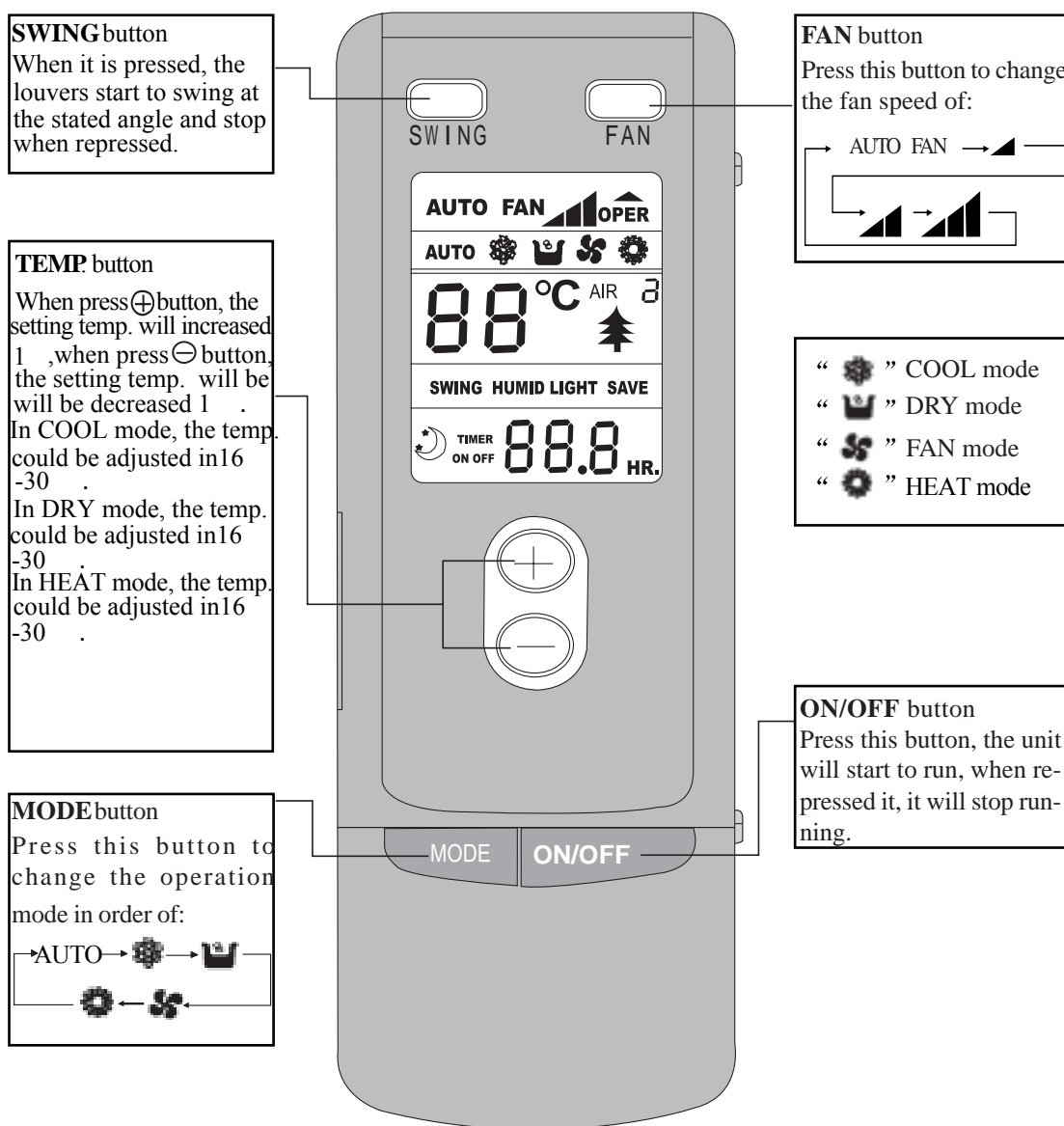
## 7. 2. 3. 8 Compelling defrosting function

When send the compelling defrosting order by wireless remote control, PCB will enter into DEFROSTING mode.

## 7.3 Names and functions of wireless remote control of each part

Note:

- Be sure that there are no obstructions between receiver and wireless remote control.
- Don't drop or throw the wireless remote control.
- Don't let any liquid in the wireless remote control and put it directly under the sunlight or any place where is very hot.
- The wireless remote control signal can be received at the distance of up to about 10m.

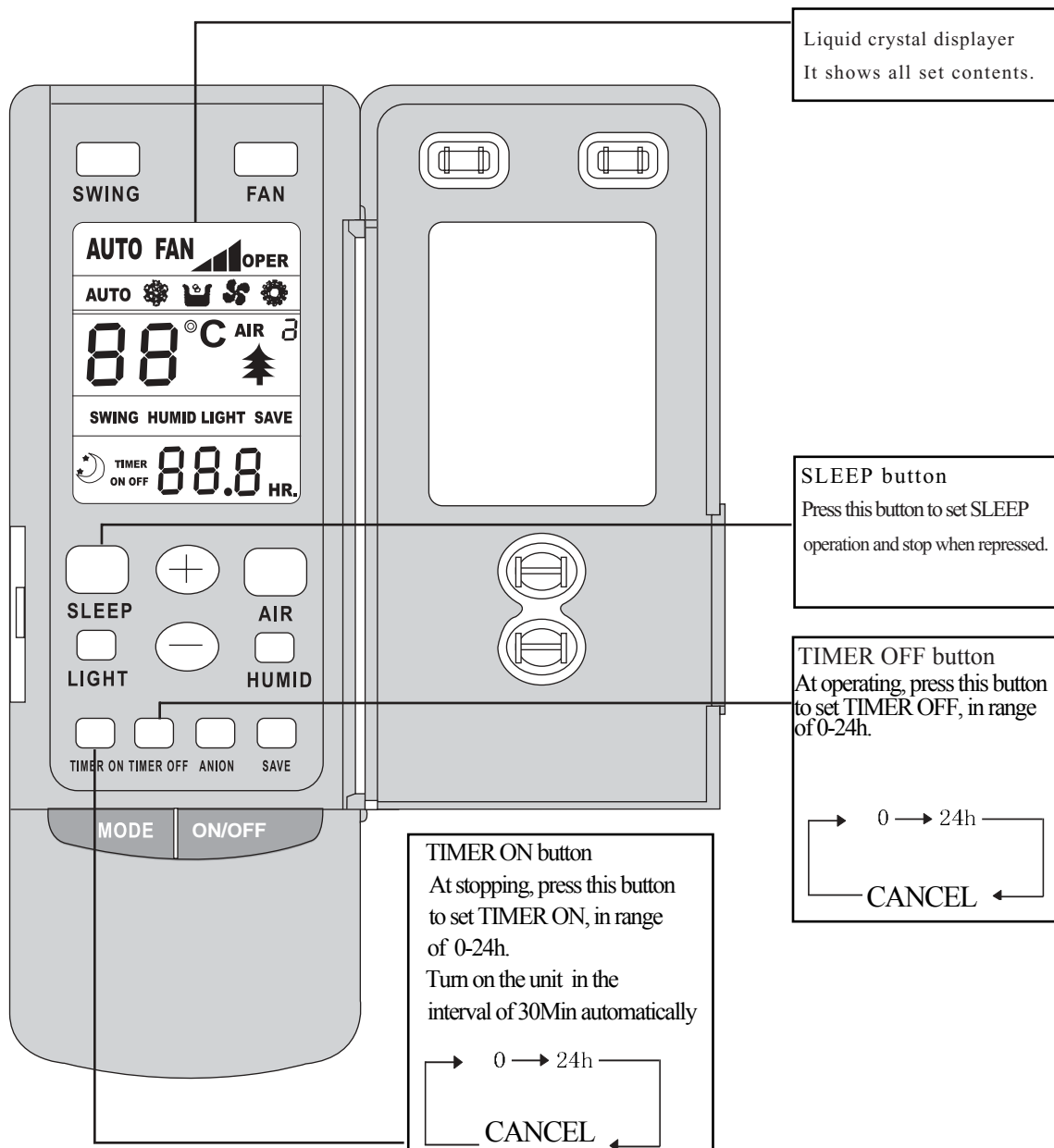




## 7. 4 Names and functions of wireless remote control(Remove the cover)

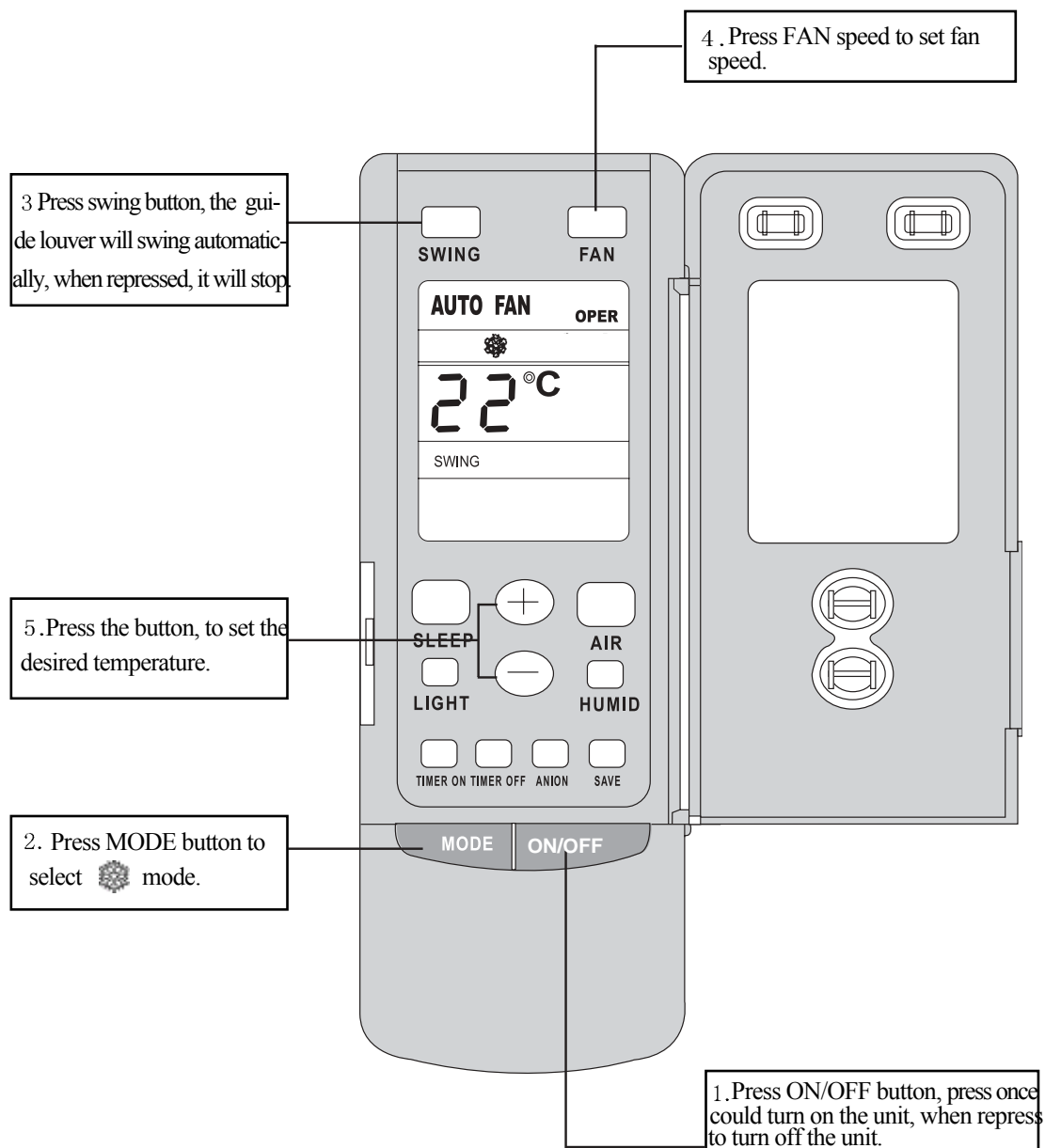
Note: This type of wireless remote control is a kind of new current control.

Some buttons of the control which are not available to this air conditioner will not be described below.



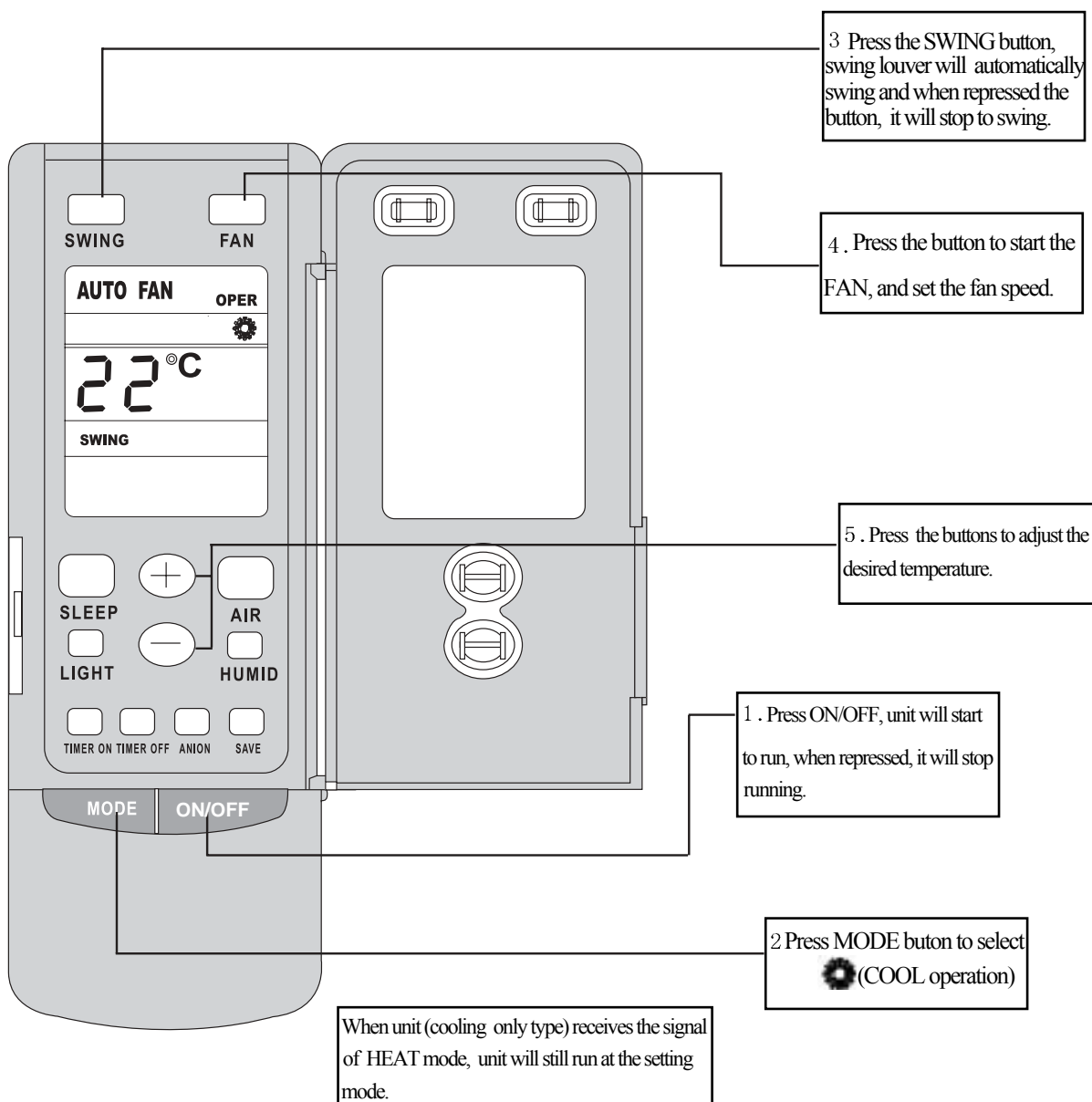
## 7.5 COOL mode operation

- According to the indoor temp., setting temp., and the changes of indoor temp., the wireless remote control could control the outdoor compressor, and output cooling capacity.
- If the indoor temp. is equal to or higher than the setting temp., compressor will run in COOL mode.
- If indoor temp. is lower than the setting temp., compressor stops running and indoor fan is running.
- Under this mode, the temp. setting range is 16 ~ 30 .



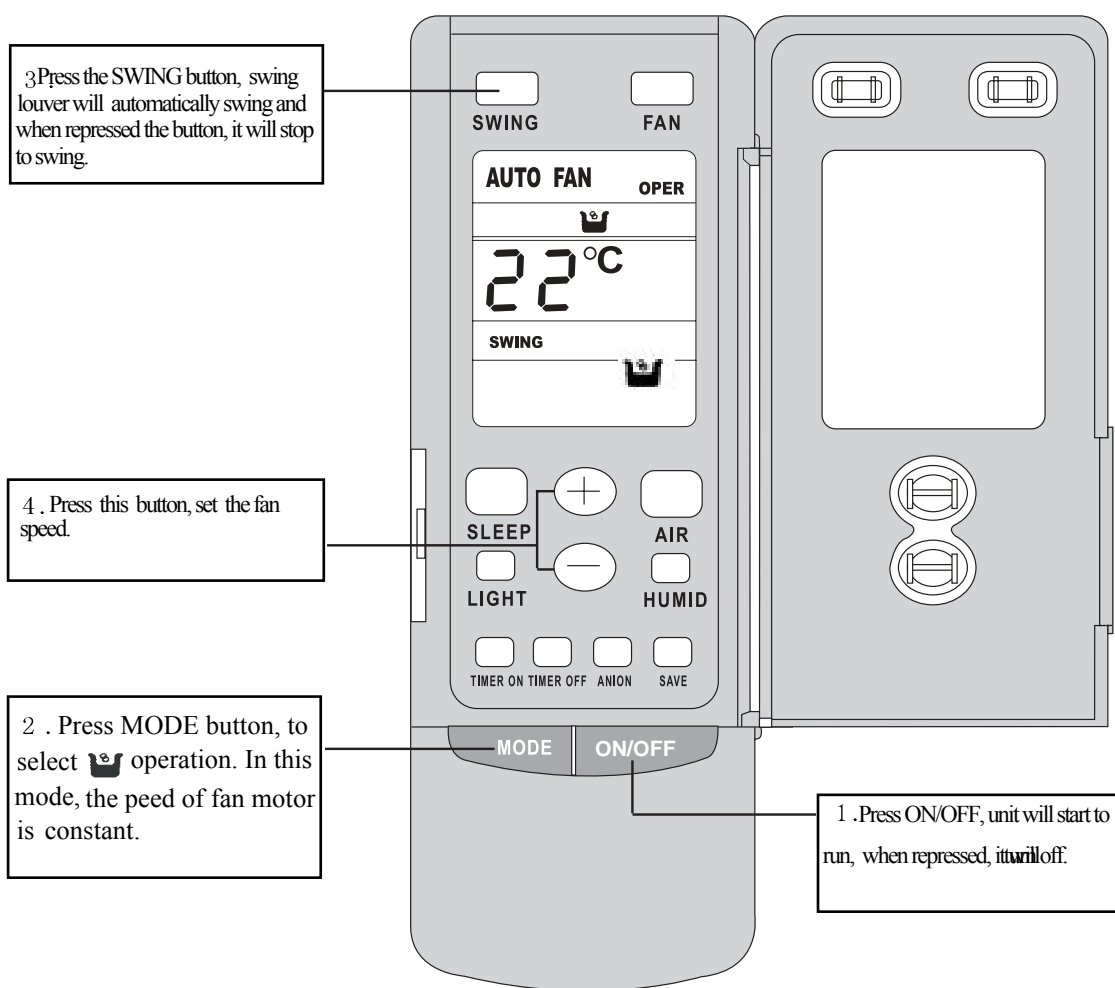
## 7. 6 HEAT mode operation

- If indoor temp. is equal to or higher than setting temp., compressor will run in COOL mode.
- If indoor temp. is higher than setting temp., compressor and outdoor fan motor will stop, only indoor unit run at low speed. Guide louver will swing horizontally.
- The range of indoor temp. setting in COOL mode: 16 -30 .



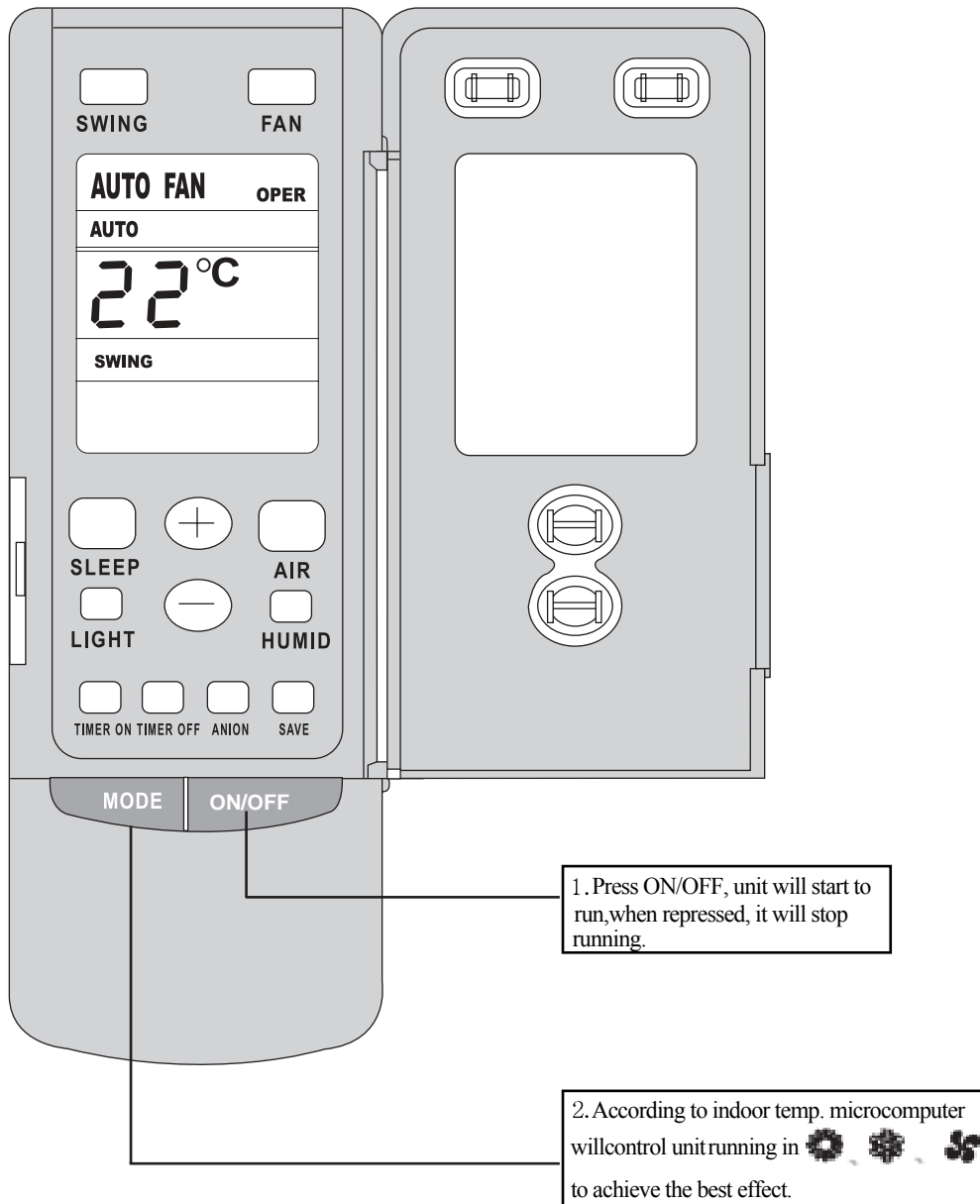
## 7.7 DRY mode operation

- If indoor temp. is lower than setting temp., 2 , compressor, outdoor fan will stop running. If indoor temp. and setting temp. are about 2 , unit will enter into DRY mode. If higher than setting temp. 2 , unit will enter into COOL mode.
- The range of indoor temp. setting in DRY mode: 16 -30 .

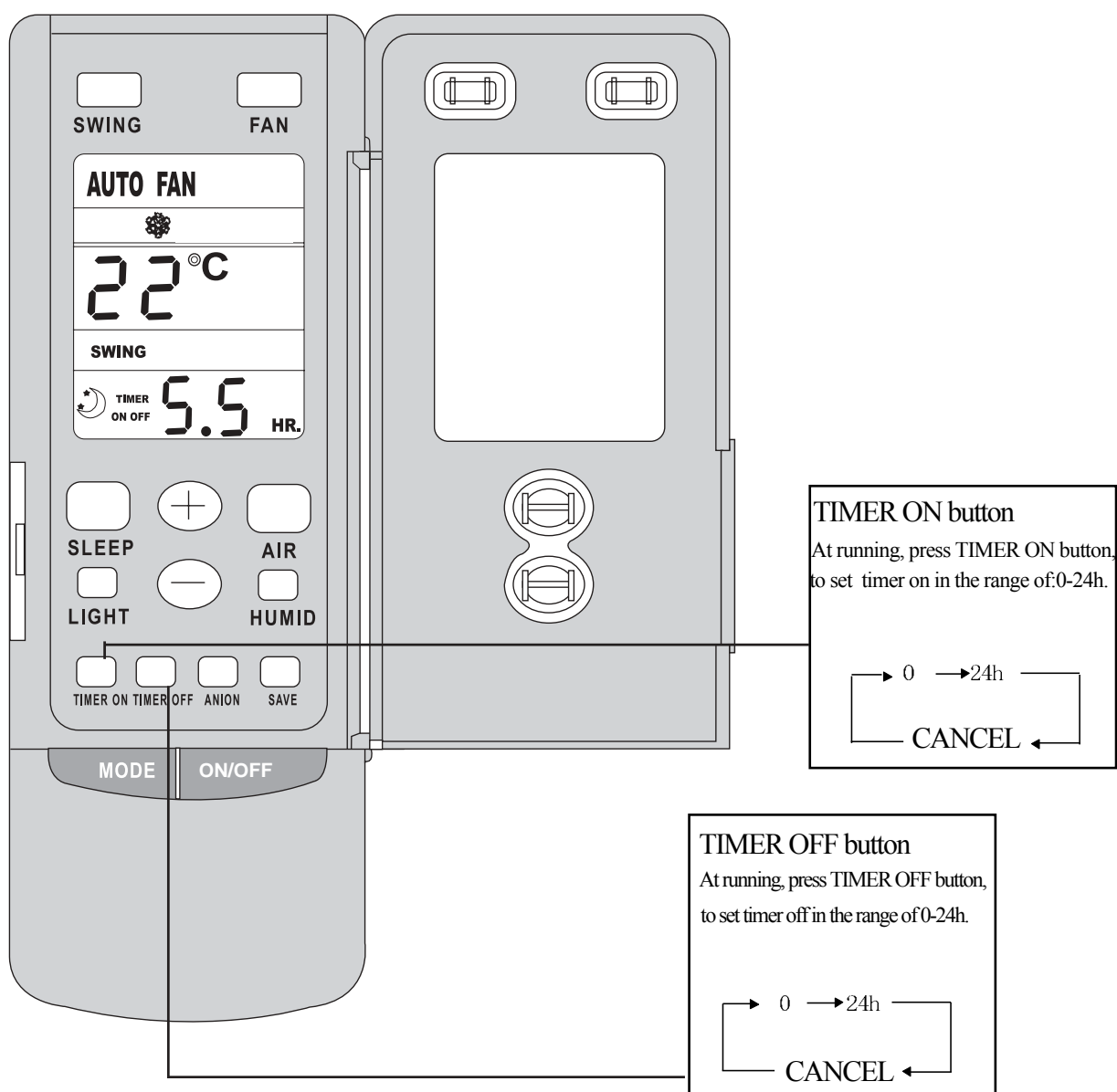


## 7. 8 AUTO mode operation

- In AUTO mode, the setting temp. range of COOL mode is 25 , the setting temp.range of standard HEAT is 20 .

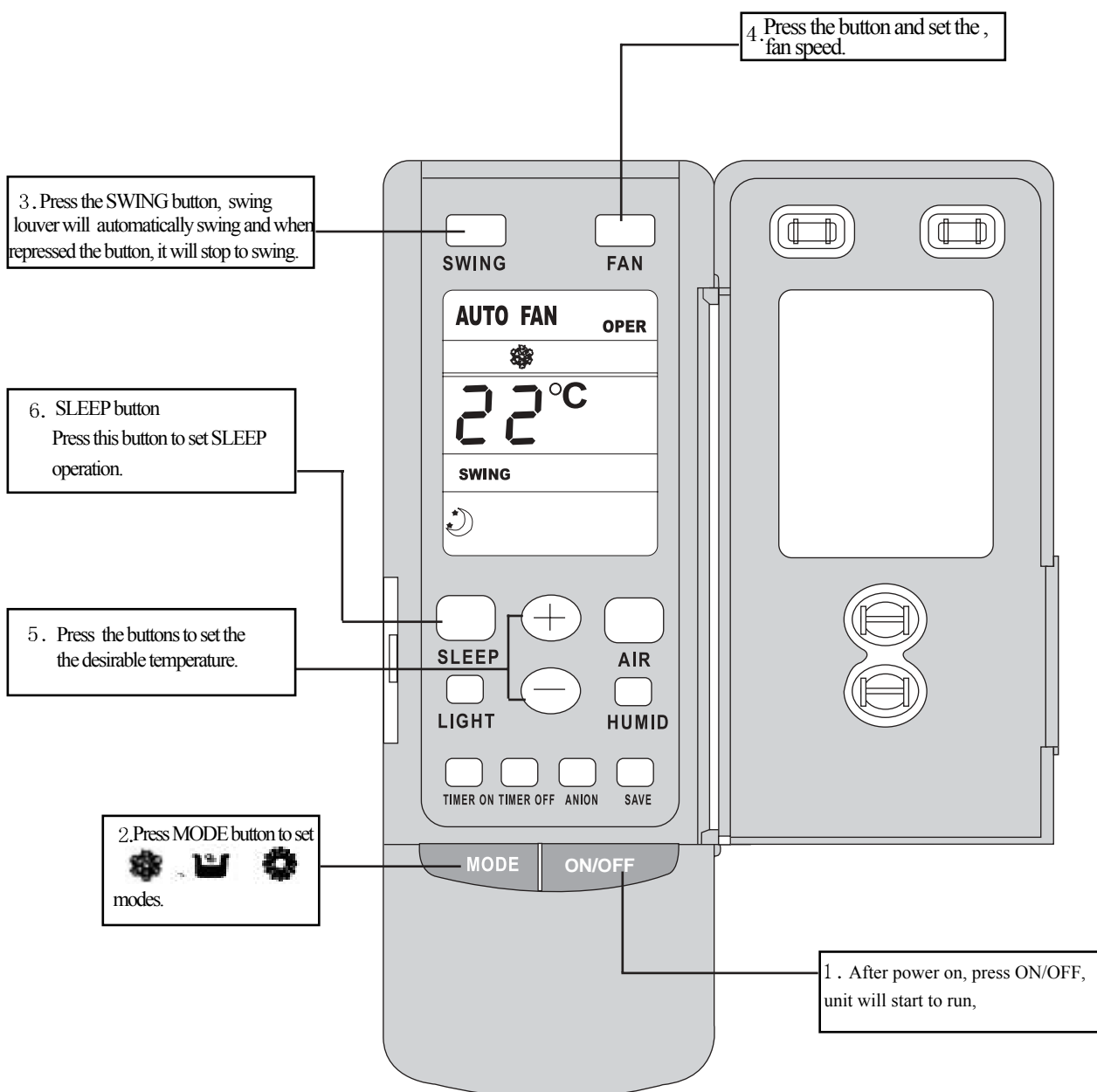


## 7.9 TIMER operation mode



## 7. 10 SLEEP mode operation

- In COOL and HEAT mode, setting the sleep procedure running for 1 hour, the setting temp. will be increased 1  
2 hours later, the setting temp. will rise 2 , then it will run at this setting temp. When the SLEEP and TIMER  
have been set, after running for 1 hour, the temp. will rise 1 , 2 hours later, the setting temp. will rise 2 .
- In HEAT mode, after setting SLEEP and run for 1 hour, the setting temp. will be declined 1 , 2 hours later, the  
setting temp. will be declined 2 .



## 7. 11 Guide for operation procedure

### ① The general procedure:

Plug to power supply and press ON/OFF button to start the unit.  
Press MODE button to select the suitable operation mode.  
Press SWING button, swing louver will swing automatically, repressed it , it will stop swing.  
Press FAN button to set fan speed.  
Press +/- button, to set the desired temperature.

### ② The selected procedure:

Press SLEEP button to set the sleep.  
Press TIMER button, then press +/- button, to set scheduled time.

## 7. 12 Inserting batteries

1. Remove the cover from the back, and take out of the batteries.
2. Insert two batteries(two 7# dry-cell batteries.)then press ACL button.
3. Re-attach the cover.

#### NOTE:

Don't mix new and used or different types of two batteries to insert.

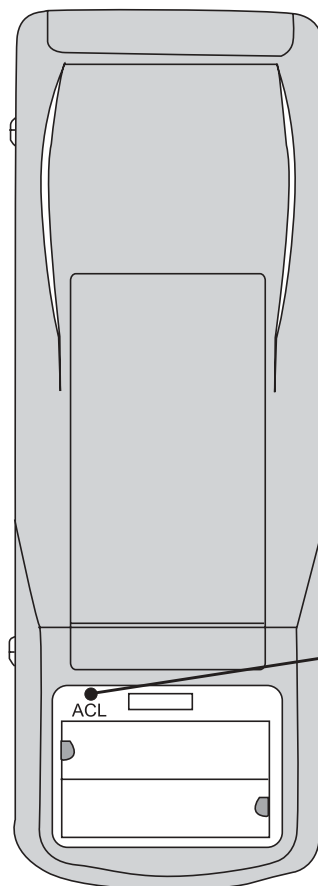
Remove batteries away when wireless remote control is not in use.

The max. receiving distance of wireless remote controll is 10m.

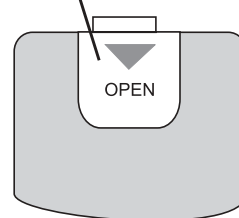
The lifespan of the batteries is about 1 year.

The remote controller should be placed about 1m or more away from the TV or any other electric appliances.

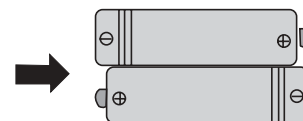
Bad batteries are forbidden.



1. Remove the cover from the back.
3. Re-attach the cover.



2. Insert two 7# batteries





## 8 Dissassembly Procedures

### 8.1 Disassembly procedures for indoor unit

#### Operation procedures/pictures

##### 8.1.1 Remove the front case

Open the front panel, along the slots which is fixing the front panel to pull it out, and then could take out the front panel.(As shown in Fig.8-1)



Fig. 8 — 1

Take out 3pcs bolt cover, and 3pcs tapping screw, and ram the clasp which is in the rear of front case inward with screw driver, then take out the front case assy.(As shown in Fig.8-2, 8-3).

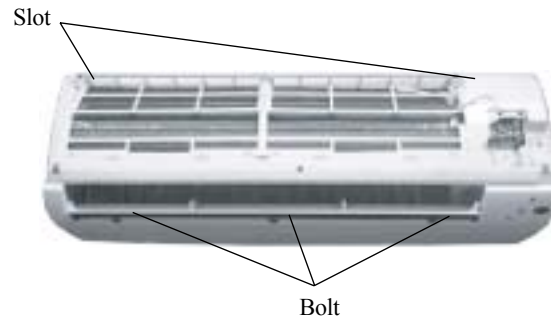


Fig. 8 — 2

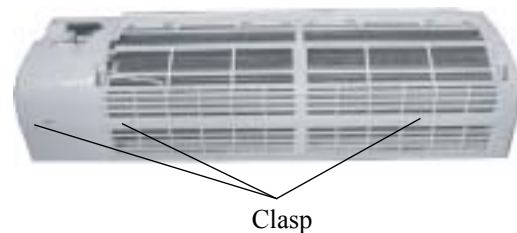


Fig. 8 — 3

## Operation procedures/pictures

### 8. 1. 2 ||||| Disassemble electric box

To push the left clasp of the electric box cover with screw driver, and take out the electric box cover, and loose the earth bolts on the evaporator. Take out the tube sensor.  
(As shown in Fig.8-5, 8-6).

Electric box cover

Earth wire



Fig. 8 - 4

Take off the indoor motor of the electric box, the connector of swing motor. And take out of the electric box. Pull out of the connection wire and power cord which are on the connection wire terminal. To screw off 3pcs bolts which fix on the board of indicator light, and take the board of indicator light, wireless receiver, and indoor sensors, out of the electric box. Prize up electric box clasp. (As shown in Fig.8-5, 8-6)

Tube sensor

Room sensor

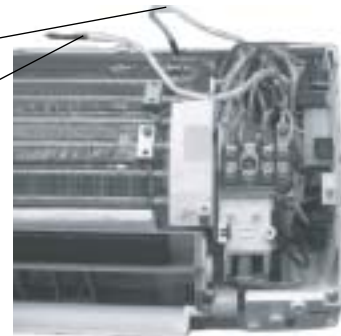


Fig. 8 - 5

Power cable terminal

Indoor unit  
motor connector

Board of indicator light

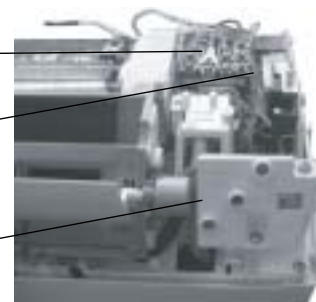


Fig. 8 - 6

## Operation procedures/pictures

Take out the control panel with hands(As shown in Fig.8-7)

Control panel

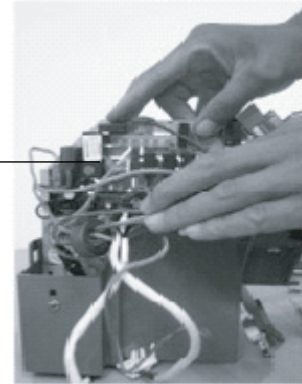


Fig. 8 - 7

### 8. 1. 3 ||||| Disassemble water-tray

Draw out the rear case clasp from the water tray clasp forcibly at full tilt, and take out the water-tray assy. Because of the drainage pipe, so pay more attention. (As shown in Fig.8-8)

Clasp



Fig. 8 - 8

### 8. 1. 4 ||||| Disassemble the water-tray assy

Press the drainage pipe joint tightly, and take off the drainage pipe anticlockwise. Disassemble the guide louver, bend it with your fingers at full tilt, and pull out the guide louver. Screw off 2pcs bolt which fix the stepping motor, and take off the stepping motor.

Guide louver

Bolts

Stepping motor



Fig. 8 - 9

## Operation procedures/pictures

### 8. 1. 5 ||||| Disassemble evaporator

To screw off the tapping screws from the back of rear case, which fix the rear plate, and push up the clasp of rear case, and pull out the connection pipe.(As shown in Fig.8-10).

Screws

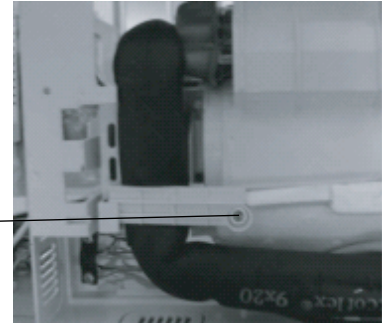


Fig. 8 – 10

To screw off 1pc screw which is in the left side of evaporator, and 3pcs screw in the right side of evaporator, press the lowleft of the evaporator, and move it, and take out the side-board clasp from the groove and take out the evaporator, carefully, and pay attention to protect connection pipe. (As shown in Fig.8-11 and Fig.8-12)

Screws

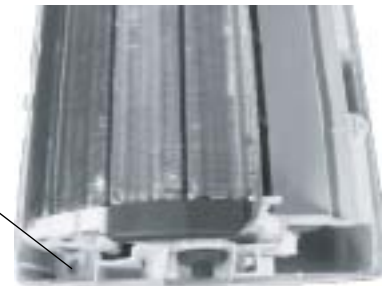


Fig. 8 – 11

Screws



Fig. 8 – 12

## Operation procedures/pictures

### **8. 1. 6** ||||| Disassemble cross flow fan and motor

Use screw driver to loose the bolts of motor clamp, and take off the motor clamp.(As shown in Fig.8-13)

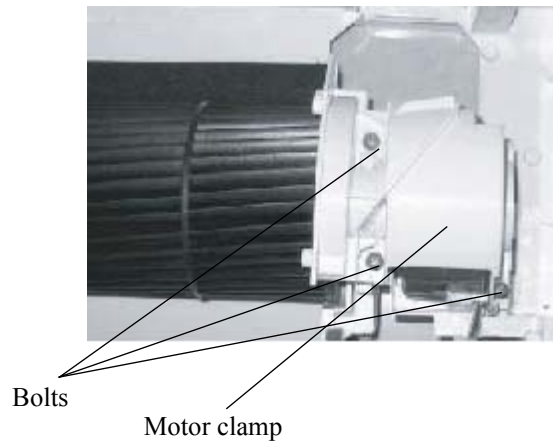


Fig. 8-13

Loose 1pc M4 fixing bolt of right bearing of cross flow fan, and then take out the motor, fan blade. (As shown in Fig.8-14)

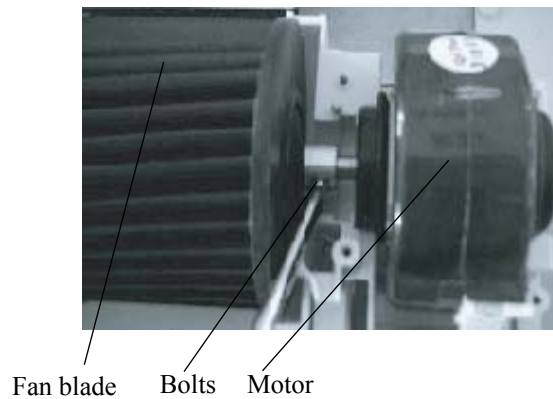


Fig. 8-14

## 8. 2 The disassembly procedure for 2300W,2600W outdoor units

### Operation procedures/pictures

#### 8. 2. 1 ||||| Disassemble front side plate

Screw off 4pcs fixing screw of front side plate, then pull it downward, can take off it.

(As shown in Fig.8-15)

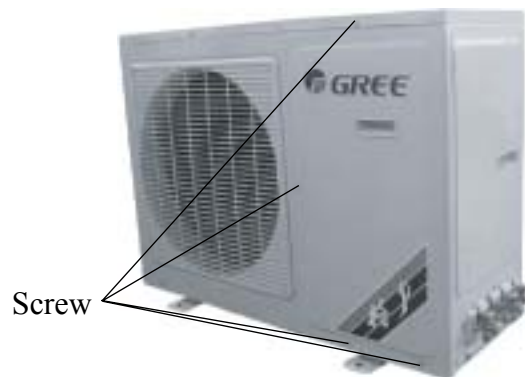


Fig. 8 – 15

#### 8. 2. 2 ||||| Disassemble the top cover

Screw off the screws which fix the top cover around, take off the top cover.(As shown in Fig.8-16)

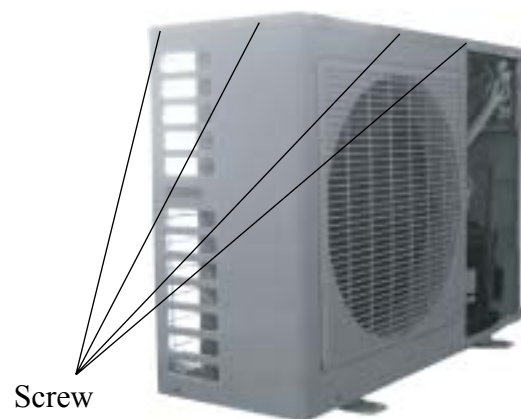


Fig. 8 – 16

#### 8. 2. 3 ||||| Disassemble the rear grill

Screw off 4pcs bolt of rear grill, lift it upward, could take off the rear grill.(As shown in Fig. 8-17)

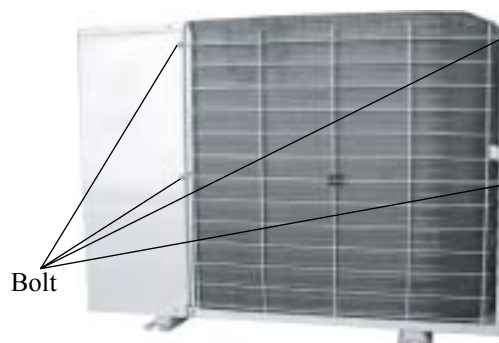


Fig. 8 – 17

## Operation procedures/pictures

### **8.2.4** ||||| Disassemble the cabinet

Screw off the surrounding bolts of the cabinet,  
and take off the cabinet.  
(As shown in Fig.8-18)

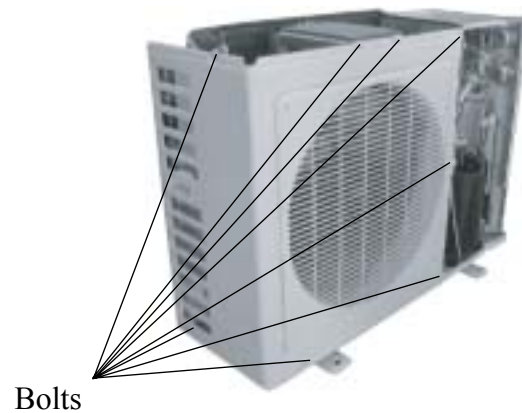


Fig. 8 - 18

### **8.2.5** ||||| Disassemble the electric box

Screw off 2pcs bolt of electric box, and  
disassemble the electric box assy.  
(As shown in Fig.8-19)

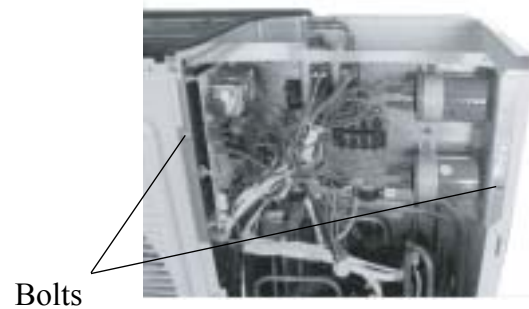


Fig. 8 - 19

### **8.2.6** ||||| Disassemble right side plate

Screw off the surrounding bolts of the right side plate,  
and take off the right side plate.  
(As shown in Fig.8-20)

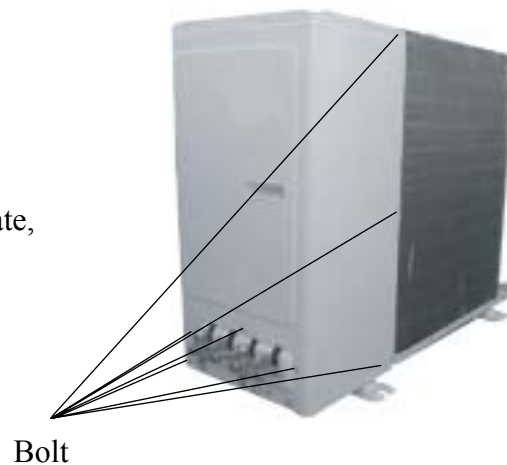


Fig. 8 - 20

## Operation procedures/pictures

### 8.2.7 ||||| Disassemble axial flow fan

Screw off the nuts of fan blade by spanner, and could take off the fan blade.(As shown in Fig.8-21)

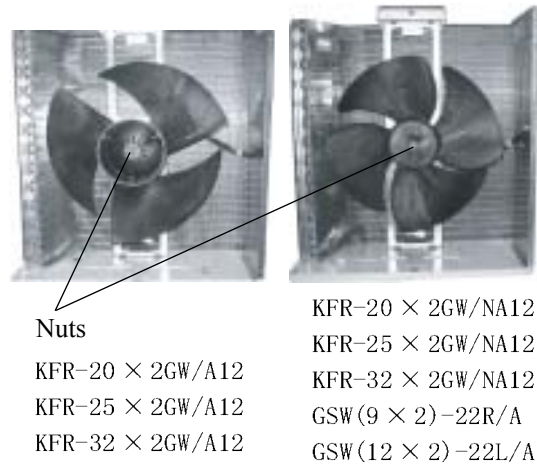


Fig.8-21

### 8.2.8 ||||| Disassemble the outdoor motor

Screw off 4pcs tapping screw which fixing the motor, and pull out the motor lead wire connection insert, and disassemble the motor. To screw off 2pcs tapping screw from the motor support, and lift it upward, disassemble the motor support.(As shown in Fig.8-22)

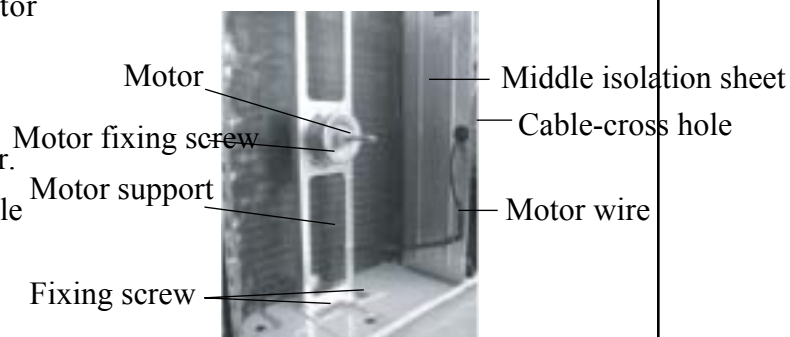
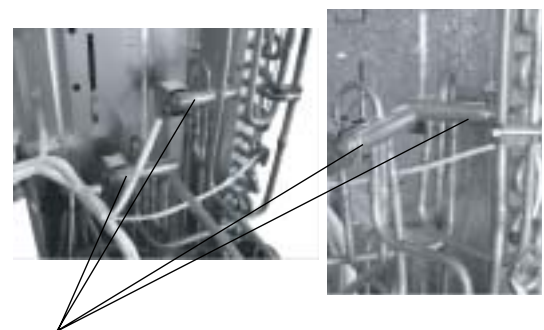


Fig. 8 - 22

### 8.2.9 ||||| Disassemble 4-way valve

(Only for cooling and heating unit)  
Unsolder 8pcs solder joint of two pcs 4-way valve, then remove the connection wire of 4-way valve wire loop, and take off the 4-way valve.(As shown in Fig.8-23)



|                  |                   |
|------------------|-------------------|
| KFR-20 × 2GW/A12 | KFR-20 × 2GW/NA12 |
| KFR-25 × 2GW/A12 | KFR-25 × 2GW/NA12 |
| KFR-32 × 2GW/A12 | KFR-32 × 2GW/NA12 |
|                  | GSW(9 × 2)-22R/A  |

Fig. 8 - 23



## Operation procedures/pictures

### 8.2.10 ||||| Disassemble the valve gate

Screw off 2pcs bolt of each valve gate, and unsolder their connection pipe, and take off the valve gate.(As shown in Fig. 8-24)

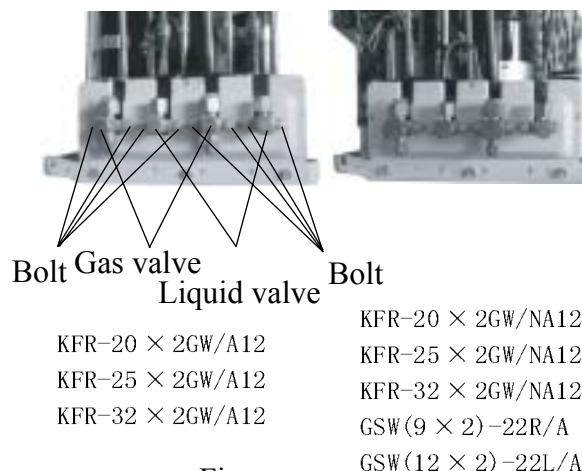


Fig. 8 — 24

### 8.2.11 ||||| Disassemble the capillary

Unsolder both sides solder joints of capillary, and can take off the capillary.  
(As shown in Fig.8-25)

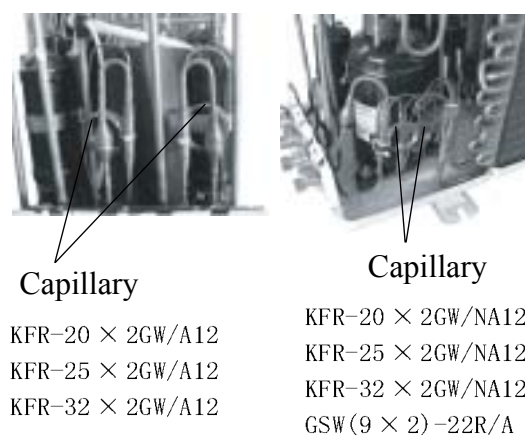


Fig. 8 — 25

### 8.2.12 ||||| Disassemble the compressor

Screw off 6pcs bottom nut from two compressors and unsolder the connection pipe, and take off the compressor.(As shown in Fig.8-26)

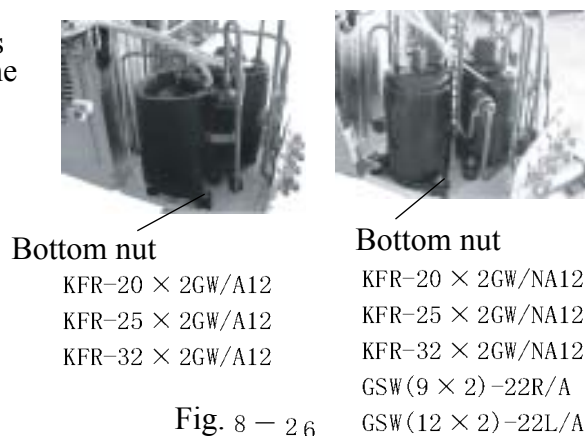
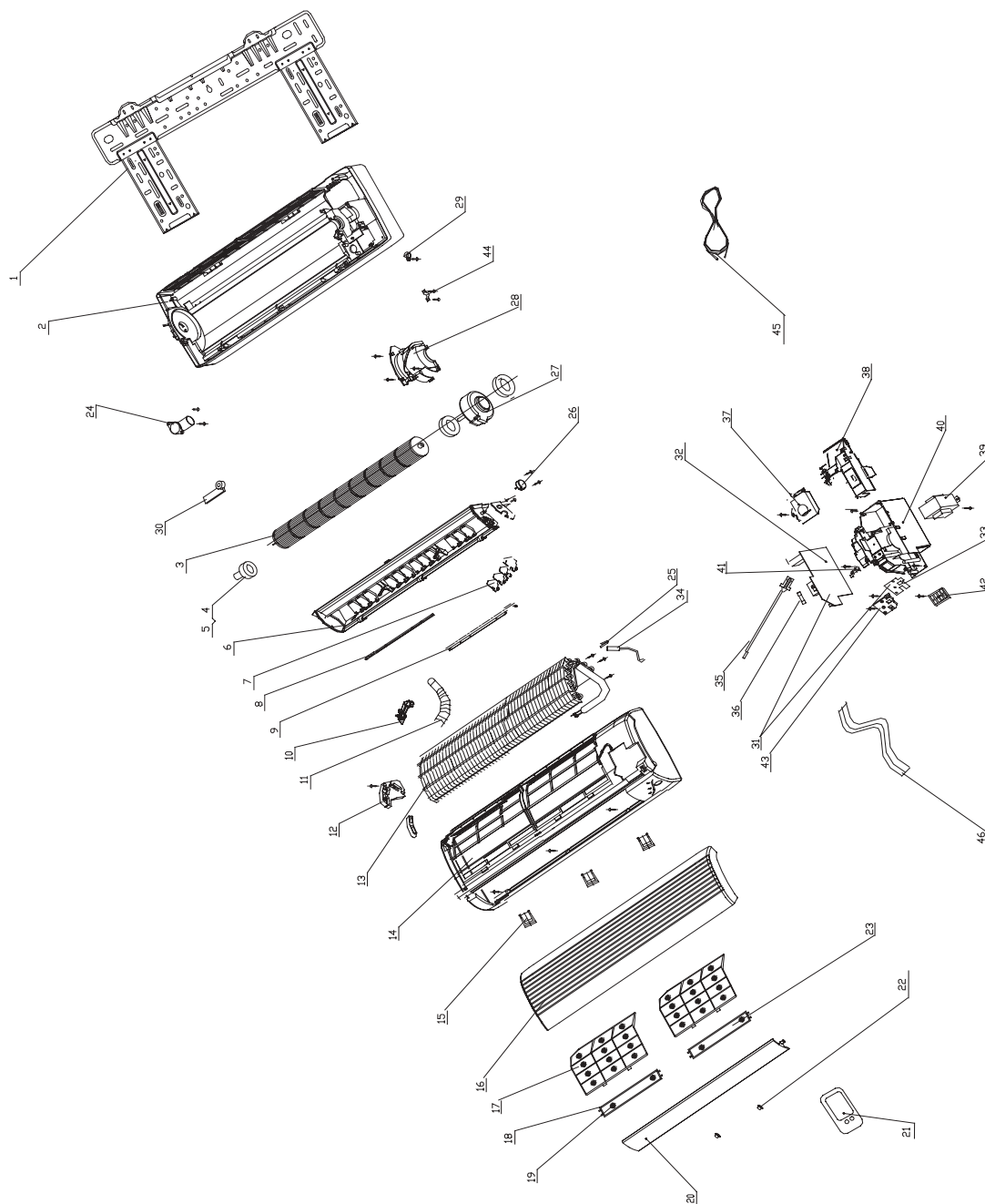


Fig. 8 — 26

## 9 Explosive view and spare parts list

### 9.1 Explosive view of indoor unit

Models: KF-20 × 2GW/A12    KF-20 × 2GW/NA12    KF-25 × 2GW/A12  
 KF-25 × 2GW/NA12    KF-32 × 2GW/A12    KF-32 × 2GW/NA12  
 GSW (9 × 2) -22LA    GSW (12 × 2) -22LA



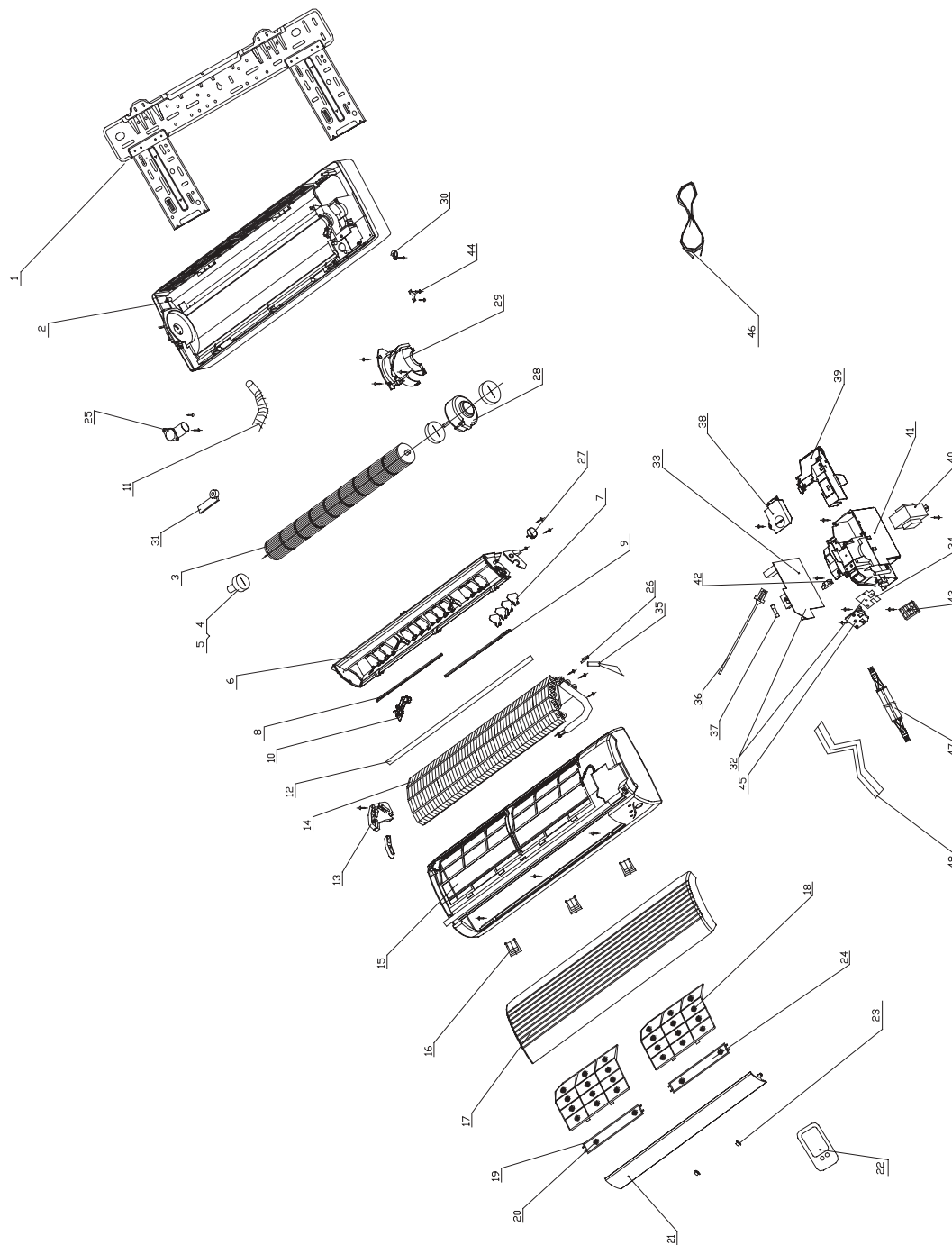
## 9. 2 Spare parts list of indoor unit

| No. | Description                  | Part No.     |               |              |               | Qty. |
|-----|------------------------------|--------------|---------------|--------------|---------------|------|
|     |                              | KF-20×2G/A12 | KF-20×2G/NA12 | KF-25×2G/A12 | KF-25×2G/NA12 |      |
| 1.  | Wall mounting frame          | 01252220     | 01252220      | 01252220     | 01252220      | 1    |
| 2.  | Rear case                    | 22202306     | 20002306      | 22202305     | 20002306      | 1    |
| 3.  | Crossflow fan                | 10352001     | 10352001      | 10352001     | 10352001      | 1    |
| 4.  | Fan bearing                  | 76512210     | 76512210      | 76512210     | 76512210      | 1    |
| 5.  | Ring of bearing              | 76512203     | 76512203      | 76512203     | 76512203      | 1    |
| 6.  | Water tray assy              | 20182012     | 20182012      | 20182012     | 20182012      | 1    |
| 7.  | Swing louver                 | 10512002     | 10512002      | 10512002     | 10512002      | 1    |
| 8.  | Swing connecting rod 1       | 10582002     | 10582002      | 10582002     | 10582002      | 12   |
| 9.  | Swing connecting rod 2       | 10582003     | 10582003      | 10582003     | 10582003      | 1    |
| 10. | Manual lever                 | 10582001     | 10582001      | 10582001     | 10582001      | 2    |
| 11. | Water drainage pipe          | 05232411     | 05232411      | 05232411     | 05232411      | 1    |
| 12. | Evaporator gate              | 24212016     | 24212016      | 24212016     | 24212016      | 1    |
| 13. | Evaporator assy              | 01002012     | 01002042      | 01002042     | 01002042      | 1    |
| 14. | Front case assy              | 20002608     | 20002608      | 20002608     | 20002608      | 1    |
| 15. | Screw cover                  | 24252001     | 24252001      | 24252001     | 24252001      | 3    |
| 16. | Front panel                  | 20002001     | 20002001      | 20002001     | 20002001      | 1    |
| 17. | Filter                       | 11122002     | 11122002      | 11122002     | 11122002      | 2    |
| 18. | Air cleaner holder           | 24222001     | 24222001      | 24222001     | 24222001      | 2    |
| 19. | Air cleaner screen A         | 11012002     | 11012002      | 11012002     | 11012002      | 1    |
| 20. | Guide louver                 | 10512001     | 10512001      | 10512001     | 10512001      | 1    |
| 21. | Wireless remote control Y512 | 30512506     | 30512506      | 30512506     | 30512506      | 1    |
| 22. | Guide louver bearing         | 10542011     | 10542011      | 10542011     | 10542011      | 3    |
| 23. | Air cleaner screen B         | 11012003     | 11012003      | 11012003     | 11012003      | 1    |
| 24. | Evaporator Tray              | 06122001     | 06122001      | 06122001     | 06122001      | 1    |
| 25. | Sensor insert B              | 42020063     | 42020063      | 42020063     | 42020063      | 1    |
| 26. | Stepping motor Mp 24GA       | 15212102     | 15212102      | 15212102     | 15212102      | 1    |
| 27. | Motor FN8G                   | 15012037     | /             | /            | /             | 1    |
|     | Motor FN14A                  | /            | 15012108      | /            | 15012108      | 1    |
|     | Motor FN13B                  | /            | /             | 15012038     | /             | 1    |
| 28. | Motor clamp                  | 26112014     | 26112014      | 26112014     | 26112014      | 1    |
| 29. | Motor clamp                  | 71010103     | 71010103      | 71010103     | 71010103      | 1    |
| 30. | Connecting pipe clamp        | 24242001     | 24242001      | 24242001     | 24242001      | 1    |
| 31. | PCB 5K512J                   | 300255691    | 300255691     | 300255691    | 300255691     | 1    |
| 32. | Main board 5K512J            | 300557211    | 300557211     | 300557211    | 300557211     | 1    |
| 33. | Receiving board JD           | 30046034     | 30046034      | 30046034     | 30046034      | 1    |
| 34. | Tube sensor                  | 390000594    | 390000594     | 390000594    | 390000594     | 1    |
| 35. | Room sensor                  | 390000453    | 390000453     | 390000453    | 390000453     | 1    |
| 36. | Fuse                         | 46010014     | 46010014      | 46010014     | 46010014      | 1    |
| 37. | Top cover of electric box 2  | 01412007     | 01412007      | 01412007     | 01412007      | 1    |
| 38. | Top cover of electric box    | 20102114     | 20102114      | 20102114     | 20102114      | 1    |
| 39. | Transformer SC28B1           | 43110170     | 43110170      | 43110170     | 43110170      | 1    |
| 40. | Electric box                 | 20102001     | 20102001      | 20102001     | 20102001      | 1    |
| 41. | Cable groove                 | 70482001     | 70482001      | 70482001     | 70482001      | 1    |
| 42. | Terminal board GT4B3A2       | 42010184     | 42010184      | 42010184     | 42010184      | 1    |
| 43. | Wire clip                    | 42012415     | 42012415      | 42012415     | 42012415      | 1    |
| 44. | LED holder                   | 24212005     | 24212005      | 24212005     | 24212005      | 1    |
| 45. | Power connecting cable       | 40020428     | 40020428      | 40020428     | 40020428      | 1    |
| 46. | Power cable                  | 40020262     | 40020262      | 40020262     | 40020262      | 1    |

| No. | Description                  | Part No.     |               |                |                 | Qty. |
|-----|------------------------------|--------------|---------------|----------------|-----------------|------|
|     |                              | KF-32×2G/A12 | KF-32×2G/NA12 | GSW(9×2)-22L/A | GSW(12×2)-22L/A |      |
| 1.  | Wall mounting frame          | 01252220     | 01252220      | 01252220       | 01252220        | 1    |
| 2.  | Rear case                    | 22202304     | 222023032     | 22202019       | 20002306        | 1    |
| 3.  | Crossflow fan                | 10352001     | 10352001      | 10352001       | 10352001        | 1    |
| 4.  | Fan bearing                  | 76512210     | 76512210      | 76512210       | 76512210        | 1    |
| 5.  | Ring of bearing              | 76512203     | 76512203      | 76512203       | 76512203        | 1    |
| 6.  | Water tray assy              | 20182012     | 20182012      | 20182012       | 20182012        | 1    |
| 7.  | Swing louver                 | 10512002     | 10512002      | 10512002       | 10512002        | 1    |
| 8.  | Swing connecting rod 1       | 10582002     | 10582002      | 10582002       | 10582002        | 12   |
| 9.  | Swing connecting rod 2       | 10582003     | 10582003      | 10582003       | 10582003        | 1    |
| 10. | Manual lever                 | 10582001     | 10582001      | 10582001       | 10582001        | 2    |
| 11. | Water drainage pipe          | 05232411     | 05232411      | 05232411       | 05232411        | 1    |
| 12. | Evaporator gate              | 24212016     | 24212016      | 24212016       | 24212001        | 1    |
| 13. | Evaporator assy              | 01002022     | 01002022      | 010020424      | 01002042        | 1    |
| 14. | Front case assy              | 20002608     | 20002608      | 20002608       | 20002608        | 1    |
| 15. | Screw cover                  | 24252001     | 24252001      | 24252001       | 24252001        | 3    |
| 16. | Front panel                  | 20002001     | 20002001      | 20002001       | 20002001        | 1    |
| 17. | Filter                       | 11122002     | 11122002      | 11122002       | 11122002        | 2    |
| 18. | Air cleaner holder           | 24222001     | 24222001      | 24222001       | 24222001        | 2    |
| 19. | Air cleaner screen A         | 11012002     | 11012002      | 11012002       | 11012002        | 1    |
| 20. | Guide louver                 | 10512001     | 10512001      | 10512001       | 10512001        | 1    |
| 21. | Wireless remote control Y512 | 30512506     | 30512506      | 30512506       | 30512506        | 1    |
| 22. | Guide louver bearing         | 10542011     | 10542011      | 10542011       | 10542011        | 3    |
| 23. | Air cleaner screen B         | 11012003     | 11012003      | 11012003       | 11012003        | 1    |
| 24. | Evaporator Tray              | 06122001     | 06122001      | 06122001       | 06122001        | 1    |
| 25. | Sensor insert B              | 42020063     | 42020063      | 42020063       | 42020063        | 1    |
| 26. | Stepping motor Mp 24GA       | 15212102     | 15212102      | 15212102       | 15212102        | 1    |
| 27. | Motor FN14A                  | 15012108     | 15012108      |                | 15012108        | 1    |
|     | Motor FN13F                  | /            |               | 15012055       |                 | 1    |
| 28. | Motor clamp                  | 26112014     | 26112014      | 26112014       | 26112014        | 1    |
| 29. | Motor clamp                  | 71010103     | 71010103      | 71010103       | 71010103        | 1    |
| 30. | Connecting pipe clamp        | 24242001     | 24242001      | 24242001       | 24242001        | 1    |
| 31. | PCB 5K512J                   | 300255691    | 300255691     | 300255691      | 300255691       | 1    |
| 32. | Main board 5K512J            | 300557211    | 300557211     | 300557211      | 300557211       | 1    |
| 33. | Receiving board JD           | 30046034     | 30046034      | 30046034       | 30046034        | 1    |
| 34. | Tube sensor                  | 390000594    | 390000594     | 390000594      | 390000591       | 1    |
| 35. | Room sensor                  | 390000453    | 390000453     | 390000453      | 390000451       | 1    |
| 36. | Fuse                         | 46010014     | 46010014      | 46010014       | 46010014        | 1    |
| 37. | Top cover of electric box 2  | 01412007     | 01412007      | 01412007       | 01412007        | 1    |
| 38. | Top cover of electric box    | 20102114     | 20102114      | 20102114       | 20102114        | 1    |
| 39. | Transformer SC28B1           | 43110170     | 43110170      | 43110170       | 43110170        | 1    |
| 40. | Electric box                 | 20102001     | 20102001      | 20102001       | 20102001        | 1    |
| 41. | Cable groove                 | 70482001     | 70482001      | 70482001       | 70482001        | 1    |
| 42. | Terminal board GT4B3A2       | 42010184     | 42010184      | 42010184       | 42010184        | 1    |
| 43. | Wire clip                    | 42012415     | 42012415      | 42012415       | 42012415        | 1    |
| 44. | LED holder                   | 24212005     | 24212005      | 24212005       | 24212005        | 1    |
| 45. | Power connecting cable       | 40020428     | 40020428      | 40020505       | 40020428        | 1    |
| 46. | Power cable                  | 40020262     | 40020262      | 40020262       | 40020262        | 1    |

### 9.3 Explosive view and spare parts list of indoor unit

Models: KFR-20 × 2GW/A12    KFR-20 × 2GW/NA12    KFR-25 × 2GW/A12  
 KFR-25 × 2GW/NA12    KFR-32 × 2GW/A12    KFR-32 × 2GW/NA12  
 GSW (9 × 2) -22RA



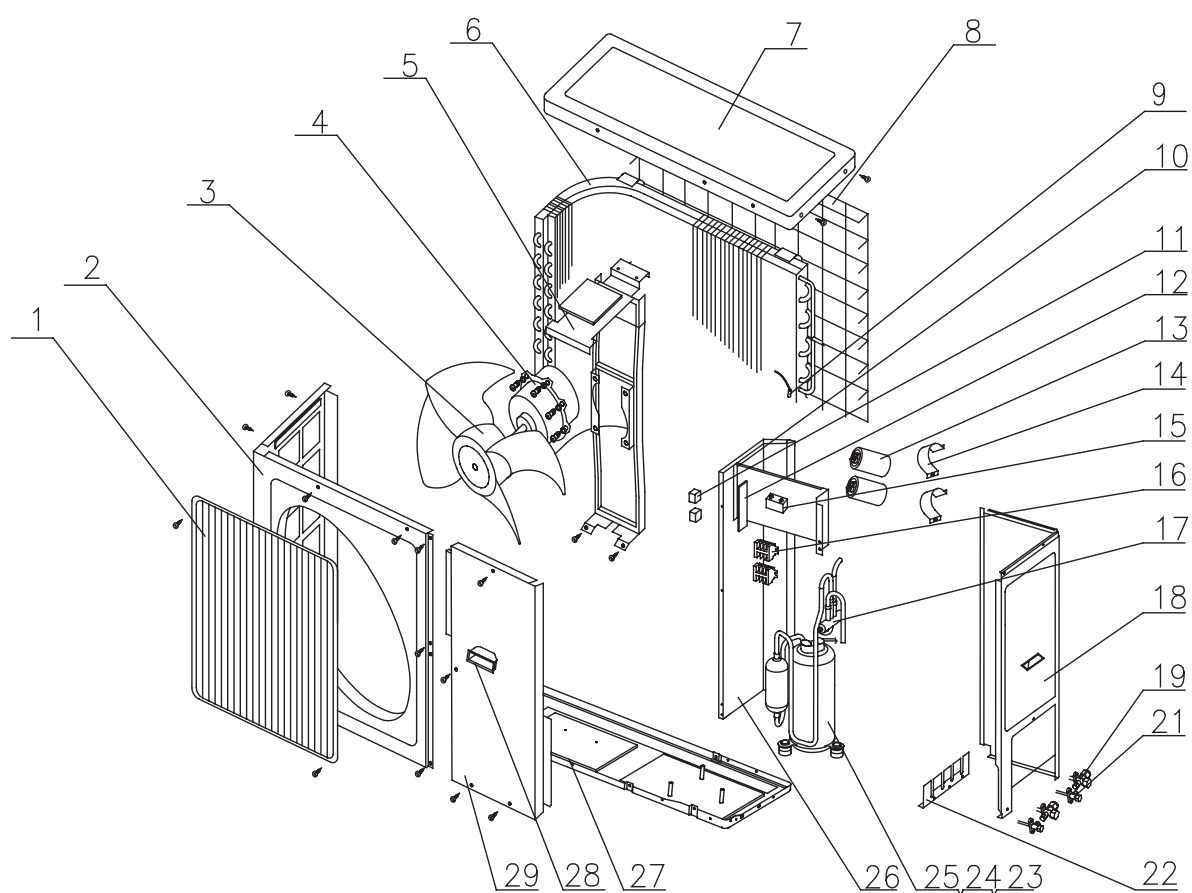
## 9.4 Spare parts list of indoor unit

| No. | Description                  | Part No.      |                |               |                | Qty. |
|-----|------------------------------|---------------|----------------|---------------|----------------|------|
|     |                              | KFR-20×2G/A12 | KFR-20×2G/NA12 | KFR-25×2G/A12 | KFR-25×2G/NA12 |      |
| 1.  | Wall mounting frame          | 01252220      | 01252220       | 01252220      | 01252220       | 1    |
| 2.  | Rear case                    | 22202306      | 20002306       | 22202305      | 20002306       | 1    |
| 3.  | Crossflow fan                | 10352001      | 10352001       | 10352001      | 10352001       | 1    |
| 4.  | Fan bearing                  | 76512210      | 76512210       | 76512210      | 76512210       | 1    |
| 5.  | Ring of bearing              | 76512203      | 76512203       | 76512203      | 76512203       | 1    |
| 6.  | Water tray assy              | 20182012      | 20182012       | 20182012      | 20182012       | 1    |
| 7.  | Swing louver                 | 10512002      | 10512002       | 10512002      | 10512002       | 1    |
| 8.  | Swing connecting rod 1       | 10582002      | 10582002       | 10582002      | 10582002       | 12   |
| 9.  | Swing connecting rod 2       | 10582003      | 10582003       | 10582003      | 10582003       | 1    |
| 10. | Manual lever                 | 10582001      | 10582001       | 10582001      | 10582001       | 2    |
| 11. | Water drainage pipe          | 05232411      | 05232411       | 05232411      | 05232411       | 1    |
| 12. | Evaporator gate              | —             | —              | —             | —              | 1    |
| 13. | Evaporator supporter         | 24212016      | 24212016       | 24212016      | 24212016       | 1    |
| 14. | Evaporator assy              | 01002042      | 01002042       | 01002042      | 01002042       | 1    |
| 15. | Front case                   | 20002608      | 20002608       | 20002608      | 20002608       | 1    |
| 16. | Screw cover                  | 24252001      | 24252001       | 24252001      | 24252001       | 3    |
| 17. | Front panel                  | 20002001      | 20002001       | 20002001      | 20002001       | 1    |
| 18. | Filter                       | 11122002      | 11122002       | 11122002      | 11122002       | 2    |
| 19. | Air cleaner holder           | 24222001      | 24222001       | 24222001      | 24222001       | 2    |
| 20. | Air cleaner screen A         | 11012002      | 11012002       | 11012002      | 11012002       | 1    |
| 21. | Guide louver                 | 10512001      | 10512001       | 10512001      | 10512001       | 1    |
| 22. | Wireless remote control Y512 | 30512506      | 30512506       | 30512506      | 30512506       | 1    |
| 23. | Guide louver bearing         | 10542011      | 10542011       | 10542011      | 10542011       | 3    |
| 24. | Air cleaner screen B         | 11012003      | 11012003       | 11012003      | 11012003       | 1    |
| 25. | Evaporator Tray              | 06122001      | 06122001       | 06122001      | 06122001       | 1    |
| 26. | Sensor insert B              | 42020063      | 42020063       | 42020063      | 42020063       | 1    |
| 27. | Stepping motor Mp 24GA       | 15212102      | 15212102       | 15212102      | 15212102       | 1    |
| 28. | Motor FN8G                   | 15012037      | /              | /             | /              | 1    |
|     | Motor FN13B                  | /             | 15012038       | 15012038      | 15012038       | 1    |
| 29. | Motor clamp                  | 26112014      | 26112014       | 26112014      | 26112014       | 1    |
| 30. | Wire clamp                   | 71010103      | 71010103       | 71010103      | 71010103       | 1    |
| 31. | Connecting pipe clamp        | 24242001      | 24242001       | 24242001      | 24242001       | 1    |
| 32. | PCB 5K512J                   | 30025570      | 30025570       | 30025570      | 30025570       | 1    |
| 33. | Main board 5K522J            | 30055720      | 30055720       | 30055720      | 30055720       | 1    |
| 34. | Receiving board JD           | 30046034      | 30046034       | 30046034      | 30046034       | 1    |
| 35. | Tube sensor                  | 39000159      | 39000159       | 39000159      | 39000159       | 1    |
| 36. | Room sensor                  | 39000155      | 39000155       | 39000155      | 39000155       | 1    |
| 37. | Fuse                         | 46010014      | 46010014       | 46010014      | 46010014       | 1    |
| 38. | Top cover of electric box 2  | 01412007      | 01412007       | 01412007      | 01412007       | 1    |
| 39. | Top cover of electric box    | 20102114      | 20102114       | 20102114      | 20102114       | 1    |
| 40. | Transformer SC28B1           | 43110170      | 43110170       | 43110170      | 43110170       | 1    |
| 41. | Electric box                 | 20102001      | 20102001       | 20102001      | 20102001       | 1    |
| 42. | Cable groove                 | 70482001      | 70482001       | 70482001      | 70482001       | 1    |
| 43. | Terminal board GT4B3A2       | 42010184      | 42010184       | 42010184      | 42010184       | 1    |
| 44. | Wire clip                    | 42012415      | 42012415       | 42012415      | 42012415       | 1    |
| 45. | LED holder                   | 24212005      | 24212005       | 24212005      | 24212005       | 1    |
| 46. | Power connecting cable       | 40020428      | 40020428       | 40020428      | 40020428       | 1    |
| 47. | Signal control cable         | 40032150      | 40032150       | 40032150      | 40032150       | 1    |
| 48. | Power cable                  | 40020262      | 40020262       | 40020262      | 40020262       | 1    |

| No. | Description                   | Part No.      |               |                |               | Qty. |
|-----|-------------------------------|---------------|---------------|----------------|---------------|------|
|     |                               | KFR-25×2G/A12 | KFR-32×2G/A12 | KFR-32×2G/NA12 | GSW(9X2)-22/A |      |
| 1.  | Wall mounting frame           | 01252220      | 01252220      | 01252220       | 01252220      | 1    |
| 2.  | Rear case                     | 20002306      | 20002306      | 22202304       | 20002306      | 1    |
| 3.  | Crossflow fan                 | 10352001      | 10352001      | 10352001       | 10352001      | 1    |
| 4.  | Fan bearing                   | 76512210      | 76512210      | 76512210       | 76512210      | 1    |
| 5.  | Ring of bearing               | 76512203      | 76512203      | 76512203       | 76512203      | 1    |
| 6.  | Water tray assy               | 20182012      | 20182012      | 20182012       | 20182012      | 1    |
| 7.  | Swing louver                  | 10512002      | 10512002      | 10512002       | 10512002      | 1    |
| 8.  | Swing connecting rod 1        | 10582002      | 10582002      | 10582002       | 10582002      | 12   |
| 9.  | Swing connecting rod 2        | 10582003      | 10582003      | 10582003       | 10582003      | 1    |
| 10. | Manual lever                  | 10582001      | 10582001      | 10582001       | 10582001      | 2    |
| 11. | Water drainage pipe           | 05232411      | 05232411      | 05232411       | 05232411      | 1    |
| 12. | Evaporator gate               | -             | -             | -              | -             | 1    |
| 13. | Evaporator supporter          | 24212016      | 24212016      | 24212016       | 24212016      | 1    |
| 14. | Evaporator assy               | 01002042      | 01002033      | 01002101       | 01002042      | 1    |
| 15. | Front case assy               | 20002232      | 20002608      | 20002608       | 200026081     | 1    |
| 16. | Screw cover                   | 24252001      | 24252001      | 24252001       | 24252001      | 3    |
| 17. | Front panel                   | 20002230      | 20002001      | 20002001       | 20002001      | 1    |
| 18. | Filter                        | 11122002      | 11122002      | 11122002       | 11122002      | 2    |
| 19. | Air cleaner holder            | 24222001      | 24222001      | 24222001       | 24222001      | 2    |
| 20. | Air cleaner screen A          | 11012002      | 11012002      | 11012002       | 11012002      | 1    |
| 21. | Guide louver                  | 10512001      | 10512001      | 10512001       | 10512001      | 1    |
| 22. | Wireless remote control Y512  | /             | 30512506      | 30512506       | 30512506      | 1    |
|     | Wireless remote control Y512N | 30515018      | /             | /              | /             |      |
| 23. | Guide louver bearing          | 10542011      | 10542011      | 10542011       | 10542011      | 3    |
| 24. | Air cleaner screen B          | 11012003      | 11012003      | 11012003       | 11012003      | 1    |
| 25. | Evaporator Tray               | 06122001      | 06122001      | 06122001       | 06122001      | 1    |
| 26. | Sensor insert B               | 42020063      | 42020063      | 42020063       | 42020063      | 1    |
| 27. | Stepping motor Mp 24GA        | 15212102      | 15212102      | 15212102       | 15212102      | 1    |
| 28. | Motor FN13B                   | 15012038      | /             | /              | /             | 1    |
|     | Motor FN14A                   | /             | 15012108      | 15012108       | /             | 1    |
|     | Motor FN20B-PG                | /             | /             | /              | 15012035      | 1    |
| 29. | Motor clamp                   | 26112014      | 26112014      | 26112014       | 26112014      | 1    |
| 30. | Wire clamp                    | 71010103      | 71010103      | 71010103       | 71010103      | 1    |
| 31. | Connecting pipe clamp         | 24242001      | 24242001      | 24242001       | 24242001      | 1    |
| 32. | PCB                           | /             | /             | /              | /             |      |
|     | PCB 5K512J                    | /             | 30025570      | 30025570       | /             | 1    |
|     | PCB 5C52-0A                   | /             | /             | /              | 30025134      | 1    |
| 33. | Mainboard 5K522J              | /             | 30055720      | 30055720       | /             | 1    |
|     | Mainboard 5C52                | /             | /             | /              | 30055207      | 1    |
|     | Mainboard 5K52F               | 30055763      | /             | /              | /             |      |
| 34. | Receiving board JD            | 30046062      | 30046034      | 30046034       | 30046019      | 1    |
| 35. | Tube sensor                   | 39000058      | 39000159      | 39000159       | 39000159      | 1    |
| 36. | Room sensor                   | 39000155      | 39000155      | 39000155       | 39000043      | 1    |
| 37. | Fuse                          | 42030011      | 46010014      | 46010014       | 46010014      | 1    |
| 38. | Top cover of electric box 2   | 01412007      | 01412007      | 01412007       | 01412007      | 1    |
| 39. | Top cover of electric box     | 20102114      | 20102114      | 20102114       | 20102084      | 1    |
| 40. | Transformer SC28B1            | 43110170      | 43110170      | 43110170       | 43110170      | 1    |
| 41. | Electric box                  | 20102001      | 20102001      | 20102001       | 20102001      | 1    |
| 42. | Cable groove                  | 70482001      | 70482001      | 70482001       | 70482001      | 1    |
| 43. | Terminal board GT4B3A2        | 42010184      | 42010184      | 42010184       | 42010184      | 1    |
| 44. | Wire clip                     | 42012415      | 42012415      | 42012415       | 42012415      | 1    |
| 45. | LED holder                    | 24212005      | 24212005      | 24212005       | 24212005      | 1    |
| 46. | Power connecting cable        | 40020441      | 40020428      | 40020428       | 40020505      | 1    |
| 47. | Signal control cable          | 40032150      | 40032150      | 40032150       | 40032119      | 1    |
| 48. | Power cable                   | /             | 40020262      | 40020262       | 40020262      | 1    |

## 9.5 Outdoor unit explosive view of 2000W, 2500W and 3200W units

Models:    KF-20 × 2GW/A12    KFR-20 × 2GW/A12    KF-25 × 2GW/A12  
               KFR-25 × 2GW/A12    KF-32 × 2GW/A12    KFR-32 × 2GW/A12





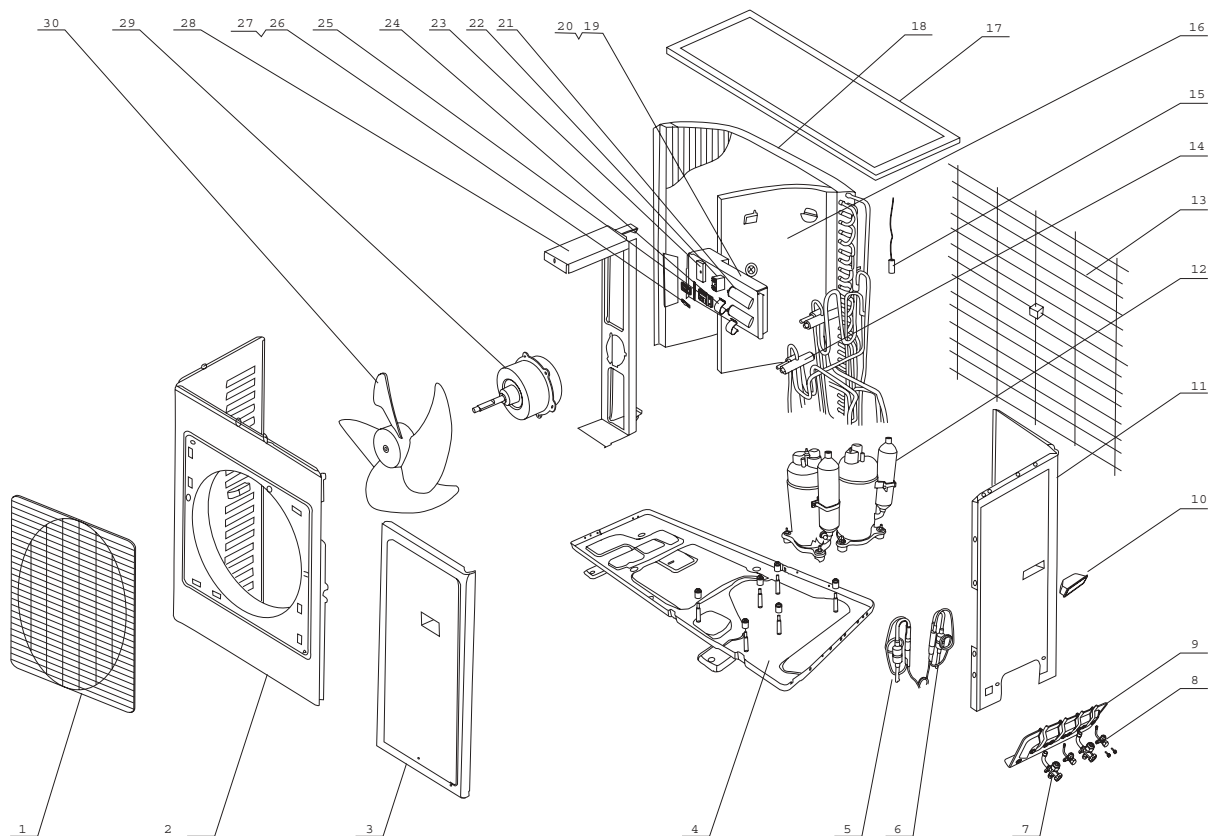
**9.6 Outdoor unit spare parts list of 2300W and 2600W units**

| No. | Description                          | Part No.     |               |              |               | Qty. |
|-----|--------------------------------------|--------------|---------------|--------------|---------------|------|
|     |                                      | KF-20×2W/A12 | KFR-20×2W/A13 | KF-25×2W/A12 | KFR-25×2W/A12 |      |
| 1.  | Front grill                          | 22265251     | 22265251      | 22265251     | 22265251      | 1    |
| 2.  | Cabinet                              | 01433028     | 01433028      | 01433028     | 01433028      | 1    |
| 3.  | Axial flow fan                       | 10335253     | 10335253      | 10335253     | 10335253      | 1    |
| 4   | Motor FW 38A                         | 15013032     | /             | 15013032     | /             | 1    |
|     | Motor FW 60J                         | /            | 15013038      | /            | 15013038      | 1    |
| 5.  | Motor support                        | 01703027     | 01703027      | 01703027     | 01703027      | 1    |
| 6.  | Condenser sub-assy                   | 01103349     | 01103079      | 01103349     | 01103109      | 1    |
| 7.  | Top cover                            | 01255262     | 01255262      | 01255256     | 01255262      | 1    |
| 8.  | Rear grill                           | 01473028     | 01473028      | 01473028     | 01473028      | 1    |
| 9.  | Outdoor tube sensor                  | /            | 39000009      | /            | 39000009      | 1    |
| 10. | Electric box sub-assy                | 01413047     | 014030541     | 01403037     | 014032343     | 1    |
| 11. | Terminal board 2-8                   | /            | 42011103      | /            | 42011103      | 1    |
| 12. | Dual defrost board 2F16HS            | /            | 30112003      | /            | 30112003      | 1    |
| 13  | Capacitor 30uF/450V                  | 33000018     | 33000018      | /            | /             | 1    |
|     | Capacitor 25uF/450V                  | /            | /             | 33000017     | 33000017      |      |
| 14. | Capacitor clamp                      | 02141375     | 02143401      | 02140001     | 02140001      | 2    |
| 15. | Capacitor 3uF/450V                   | 33010027     | 33010027      | 33010027     | 33010027      | 1    |
| 16. | Three-bit terminal board A           | 42011113     | 42011113      | 42011113     | 42011113      | 1    |
| 17. | 4-way valve fittings                 | /            | 430004002     | /            | 430004002     | 1    |
| 18. | Rear side plate                      | 01303046     | 01303103      | 01303103     | 01303103      | 1    |
| 19. | 4-way valve                          | /            | 43000402      | /            | 43000402      | 2    |
| 20. | Valve 3/8"                           | 07100108     | 07100108      | 07100018     | 07100018      | 2    |
| 21. | Valve 1/4"                           | 07100115     | 07100014      | 07100114     | 07100017      | 2    |
| 22. | Valve support                        | 01713028     | 01713028      | 01713028     | 07100028      | 1    |
| 23  | Compressor and fittings SG433EB2     | 00100123     | 00100123      | /            | \             | 2    |
|     | Compressor and fittings RH174VHAC    | /            | /             | 00120078     | 00120078      | 2    |
|     | Compressor and fittings C-RV232BH1AA |              | /             | /            | \             | 2    |
| 24. | Compressor gasket                    | 76710204     | 76710204      | 76710207     | 76710207      | 6    |
| 25. | Compressor overload                  | 98000013     | 98000013      | 内置           | 内置            | 2    |
| 26. | Mid. isolation sheet                 | 01233023     | 01233023      | 01233023     | 01233023      | 1    |
| 27. | Chassis sub-assy                     | 01203270     | 01203270      | 01203016     | 01203016      | 1    |
| 28. | Handle                               | 26235253     | 26235253      | 26235253     | 26235253      | 2    |
| 29. | Front side plate sub-assy            | 01303031     | 01303033      | 01303041     | 01303031      | 1    |

| No. | Description                          | Part No.     |               | Qty. |
|-----|--------------------------------------|--------------|---------------|------|
|     |                                      | KF-32×2W/A12 | KFR-32×2W/A12 |      |
| 1.  | Front grill                          | 22265251     | 22265251      | 1    |
| 2.  | Cabinet                              | 01435254     | 01435254      | 1    |
| 3.  | Axial flow fan                       | 10335253     | 10335253      | 1    |
| 4   | Motor FW 38A                         | /            | /             | 1    |
|     | Motor FW 60J                         | 15013038     | 15013038      | 1    |
| 5.  | Motor support                        | 01705253     | 01705253      | 1    |
| 6.  | Condenser sub-assy                   | 01103045     | 01103122      | 1    |
| 7.  | Top cover                            | 01255262     | 01255262      | 1    |
| 8.  | Rear grill                           | 01475252     | 01475252      | 1    |
| 9.  | Outdoor tube sensor                  | /            | 39000009      | 1    |
| 10. | Electric box sub-assy                | 014050194    | 014032341     | 1    |
| 11. | Terminal board 2-8                   | /            | 014050194     | 1    |
| 12. | Dual defrost board 2F16HS            | /            | 30112003      | 1    |
| 13  | Capacitor 30uF/450V                  | /            | 33000018      | 1    |
|     | Capacitor 25uF/450V                  | /            | /             |      |
|     | Capacitor 50uF/450V                  | 33000001     | /             |      |
| 14. | Capacitor clamp                      | 02143401     | 02143401      | 2    |
| 15. | Capacitor 3uF/450V                   | /            | 33010027      | 1    |
| 16. | Three-bit terminal board A           | 42011113     | 42011113      | 1    |
| 17. | 4-way valve fittings                 | /            | 430004002     | 1    |
| 18. | Rear side plate                      | 01303004     | 01303103      | 1    |
| 19. | 4-way valve                          | /            | 43000402      | 2    |
| 20. | Valve 1/2"                           | 07100113     | 07100113      | 2    |
| 21. | Valve 1/4"                           | 07100115     | 07100017      | 2    |
| 22. | Valve support                        | 07113027     | 07100028      | 1    |
| 23  | Compressor and fittings SG433EB2     | /            | /             | 2    |
|     | Compressor and fittings RH174VHAC    | /            | /             | 2    |
|     | Compressor and fittings C-RV232BH1AA | 00100339     | 00100339      | 2    |
| 24. | Compressor gasket                    | 76710228     | 76710228      | 6    |
| 25. | Compressor overload                  | 00180006     | 00180006      | 2    |
| 26. | Mid. isolation sheet                 | 01235253     | 01235252      | 1    |
| 27. | Chassis sub-assy                     | 01203013     | 01203013      | 1    |
| 28. | Handle                               | 26235253     | 26235253      | 2    |
| 29. | Front side plate sub-assy            | 01303043     | 01303108      | 1    |
|     |                                      |              |               |      |

## 9.7 Outdoor unit explosive view of 3200W and 3500W units

Models:    KF-20 × 2GW/NA12    KFR-20 × 2GW/NA12    KF-25 × 2GW/NA12  
               KFR-25 × 2GW/NA12    KF-32 × 2GW/NA12    KFR-32 × 2GW/NA12  
               KFR-25 × 2GW/NA12 (Export DeLonghi)    GSW (9 × 2) -22L/A  
               GSW (9 × 2) -22R/A    GSW (12 × 2) -22L/A



## 9.8 Outdoor unit spare parts list of 3200W and 3500W units

| No. | Description                          | Part No.      |                |               |                | Qty. |
|-----|--------------------------------------|---------------|----------------|---------------|----------------|------|
|     |                                      | KF-20×2W/NA12 | KFR-20×2W/NA12 | KF-25×2W/NA12 | KFR-25×2W/NA12 |      |
| 1.  | Front grill                          | 22265251      | 22265251       | 22265251      | 22265251       | 1    |
| 2.  | Cabinet                              | 01433031      | 01433031       | 01433031      | 01433031       | 1    |
| 3.  | Front side plate                     | 01303023      | 01303023       | 01303023      | 01303023       | 1    |
| 4.  | Chassis sub-assy                     | 01203137      | 01203137       | 01203181      | 01203181       | 1    |
| 5.  | Capillary sub-assy I                 | 03003166      | 03003166       | 03003128      | 03003270       | 1    |
| 6.  | Capillary sub-assy II                | 03003167      | 03003167       | 03003165      | 03003274       | 1    |
| 7.  | Valve 3/8"                           | 07100132      | 07100132       | 07100132      | 07100132       | 2    |
| 8.  | Valve 1/4"                           | 07100131      | 07100131       | 07100131      | 07100131       | 2    |
| 9.  | Valve support                        | 01713028      | 01713028       | 01713028      | 01713028       | 1    |
| 10. | Handle                               | 26235253      | 26235252       | 26235252      | 26235252       | 2    |
| 11. | Rear side plate                      | 01303103      | 01303103       | 01303103      | 01303103       | 1    |
| 12. | Compressor and fittings C-1RN70H5C   | 00100354      | 00100354       | /             | /              | 2    |
|     | Compressor and fittings C-RV167H01AA | /             | /              | 00100355      | 00100355       |      |
| 13. | Rear grill                           | 01473028      | 01473028       | 01473028      | 01473028       | 1    |
| 14. | 4-way valve                          | /             | 430004021      | /             | 430004021      | 2    |
| 15. | Outdoor tube sensor                  | /             | 39000009       | /             | 39000009       | 1    |
| 16. | Mid. isolation sheet                 | 01233022      | 012330242      | 01233022      | 01233024       | 1    |
| 17. | Top cover sub-assy                   | 01255260      | 01255260       | 01255260      | 01255260       | 1    |
| 18. | Condensor sub-assy                   | 01103116      | 01103076       | 01103116      | 01103076       | 1    |
| 19. | Electric box                         | 01413042      | 01413042       | 01413042      | 01413042       | 1    |
| 20. | Electric box cover plate             | 01413047      | 01413047       | 01413047      | 01413047       | 1    |
| 21. | Capacitor 22.5uF/450                 | 33000002      | 33000002       | 33010026      | 33000002       | 2    |
| 22. | Capacitor 2.5uF/450                  | 33010026      | 33010026       | 33010026      | 33010026       | 2    |
| 23. | Dual defrost board 2F16HS            | /             | 30112003       | /             | 30112003       | 1    |
| 24. | Capacitor clamp                      | 02140003      | /              | 02140003      | /              | 2    |
| 25. | Three-bit terminal board A           | 42011113      | /              | 42011113      | 42011113       | 2    |
| 26. | Insulation gasket D                  | 70410525      | 70410525       | 70410525      | 70410525       | 2    |
| 27. | Earth copper plate                   | /             | /              | /             | /              | 1    |
| 28. | Motor support                        | 01703027      | 01703027       | 01703027      | 01703027       | 1    |
| 29. | Motor LW80D                          | 15015054      | 15015054       | 15015054      | 15015054       | 1    |
| 30. | Axial flow fan                       | 10335257      | 10335257       | 10335257      | 10335257       | 1    |

| No. | Description                          | Part No.                               |               |                |                 | Qty. |
|-----|--------------------------------------|--|---------------|----------------|-----------------|------|
|     |                                      | KF-25×<br>2W/NA12 (Export<br>delonghi) | KF-32×2W/NA12 | KFR-32×2W/NA12 | GSW (9×2)-22L/A |      |
| 1.  | Front grill                          | 22265251                               | 22265251      | 22265251       | 22265251        | 1    |
| 2.  | Cabinet                              | 01433031                               | 01435254      | 01435254       | 01433028        | 1    |
| 3.  | Front side plate                     | 01303023                               | 01305247      | 01305247       | 01305247        | 1    |
| 4.  | Chassis sub-assy                     | 01203181                               | 01203181      | 01203181       | 01203342        | 1    |
| 5.  | Capillary sub-assy I                 | 03003270                               | 03003271      | 03003272       | 03003051        | 1    |
| 6.  | Capillary sub-assy II                | 03003274                               | 03003275      | 03003276       | /               | 1    |
| 7   | Valve <sup>3/8"</sup>                | 07100132                               | /             | /              | 07100108        | 2    |
|     | Valve <sup>1/2"</sup>                | /                                      | 07100130      | 07100130       |                 | 2    |
| 8.  | Valve <sup>1/4"</sup>                | 07100131                               | 07100131      | 07100131       | 07100017        | 2    |
| 9.  | Valve support                        | 01713028                               | 01713028      | 01713028       | 01713028        | 1    |
| 10. | Handle                               | 26235252                               | 26235253      | 26235253       | 26235253        | 2    |
| 11. | Rear side plate                      | 01303103                               | 01303004      | 01303004       | 01303007        | 1    |
| 12  | Compressor and fittings C-RV167H01AA | 00100355                               | /             | /              | /               | 2    |
|     | Compressor and fittings C-RV237H01AA | /                                      | 00100353      | 00100353       | /               | 2    |
|     | Compressor and fittings 2P14S236A11  |  |               |                | 00100253        | 2    |
| 13. | Rear grill                           | 01473028                               | 01475252      | 01475252       | 01475252        | 1    |
| 14. | 4-way valve                          | 430004021                              | /             | 430004021      | /               | 2    |
| 15. | Outdoor tube sensor                  | 39000009                               | /             | 39000009       | /               | 1    |
| 16. | Mid. isolation sheet                 | 01233024                               | 01235253      | 01235253       | 01235253        | 1    |
| 17. | Top cover sub-assy                   | 01255260                               | 01255260      | 01255260       | 01255260        | 1    |
| 18. | Condensor sub-assy                   | 01103076                               | 01103037      | 011030981      | 01103349        | 1    |
| 19. | Electric box                         | 01413003                               | 01413042      | 01413042       | 01413043        | 1    |
| 20. | Electric box cover plate             | 01413049                               | 01413047      | 01413047       | 01413049        | 1    |
| 21  | Capacitor 22. 5uF/450                | 33000002                               | /             | /              | /               | 2    |
|     | Capacitor 30uF/450                   | /                                      | 33000018      | 33000018       | 33000018        | 2    |
| 22  | Capacitor 2. 5uF/450                 | 33010026                               | 33010026      | 33010026       | /               | 2    |
|     | Capacitor 3. 5uF/450                 |  |               |                | 33010010        | 2    |
| 23. | Dual defrost board 2F16HS            | 30112003                               | /             | 30112003       | /               | 1    |
| 24. | Capacitor clamp                      | 02143013                               | 02143175      | 02143401       | 02143411        | 2    |
| 25. | Three-bit terminal board A           | /                                      | 42011113      | 42011113       | 42011113        | 2    |
| 26. | Insulation gasket D                  | 70413432                               | 70410525      | 70410525       | 70413432        | 2    |
| 27. | Earth copper plate                   | /                                      | /             | /              | /               | 1    |
| 28. | Motor support                        | 01703027                               | 01705253      | 01705253       | 01703027        | 1    |
| 29  | Motor L W80D                         | 15015054                               | /             | /              | 15015054        | 1    |
|     | Motor F W60B                         | /                                      | 15015205      | 15015205       | /               | 1    |
|     | Motor F W38A                         |  | /             | /              | 15013032        | 1    |
| 30. | Axial flow fan                       | 10335257                               | 10335253      | 10335253       | 10335253        | 1    |

| No.   | Description                          | Part No.         |                   | Qty. |
|---|--------------------------------------|------------------|-------------------|------|
|   |                                      | GSW (9×2) -22R/A | GSW (12×2) -22R/A |      |
| 1.  | Front grill                          | 22265251         | 22265251          | 1    |
| 2.  | Cabinet                              | 01433031         | 01433031          | 1    |
| 3.  | Front side plate                     | 01303023         | 01303023          | 1    |
| 4.  | Chassis sub-assy                     | 01203342         | 01203342          | 1    |
| 5.  | Capillary sub-assy I                 | 03003060         | 03003622          | 1    |
| 6.  | Capillary sub-assy II                | 03003075         | 03003621          | 1    |
| 7.  | Valve 3/8"                           | 07100018         | 07100113          | 2    |
| 8.  | Valve 1/4"                           | 07100017         | 07100017          | 2    |
| 9.  | Valve support                        | 01713028         | 01713028          | 1    |
| 10.   | Handle                               | 26235253         | 26235252          | 2    |
| 11.   | Rear side plate                      | 01303102         | 01303103          | 1    |
| 12.   | Compressor and fittings 2PS146H5DA02 | 00100264         | /                 | 2    |
|   | Compressor and fittings 2P14S236A1J  | /                | 00100123          | 2    |
| 13.   | Rear grill                           | 01473028         | 01473028          | 1    |
| 14.   | 4-way valve                          | 43000402         | /                 | 2    |
| 15.   | Outdoor tube sensor                  | 39000009         | /                 | 1    |
| 16.   | Mid. isolation sheet                 | 01233024         | 01233024          | 1    |
| 17.   | Top cover sub-assy                   | 01255260         | 01255260          | 1    |
| 18.   | Condensor sub-assy                   | 01103019         | 01103341          | 1    |
| 19.   | Electric box                         | 01413004         | 01413042          | 1    |
| 20.   | Electric box cover plate             | 01413047         | 01413047          | 1    |
| 21.   | Capacitor 35uF/450                   | 33010743         | /                 | 2    |
|   | Capacitor 30uF/450                   | /                | 33000018          | 2    |
| 22.   | Capacitor 3.5uF/450                  | 33010010         | 33010010          | 2    |
| 23.   | Dual defrost board 2F16HS            | 30112003         | /                 | 1    |
| 24.   | Capacitor clamp                      | 02143401         | 02140001          | 2    |
| 25.   | Three-bit terminal board A           | 42011113         | 42011113          | 2    |
| 26.   | Insulation gasket D                  | 70410525         | 70410525          | 2    |
| 27.   | Earth copper plate                   | /                | /                 | 1    |
| 28.   | Motor support                        | 01703027         | 01703027          | 1    |
| 29.   | Motor FW80A                          | 15013037         | /                 | 1    |
|   | Motor FW38A                          | /                | 15013032          |      |
| 30.   | Axial flow fan                       | 10335257         | 10335253          | 1    |
| The technical data are subject to change without notice. Please refer to the nameplate of the unit. |                                      |                  |                   |      |

## 10 Care and maintenance

### Warning:

- Turn power off and pull out the power plug before cleaning air conditioner. Or it may cause the electric shock.
- Never dampen the air conditioner, it can cause the electric shock. And never sprinkle water on the unit.
- Wipe the units with a dry soft cloth, or a cloth slightly moistened with water or cleanser.

### 10.1 Clean the surface panel

#### ① Take down the surface panel

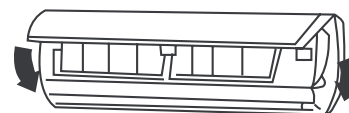
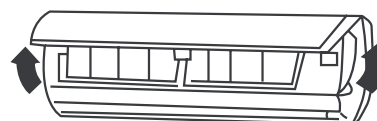
Along the direction of arrows to pull of the front pannel an angle from the slots of the front pannel, then pull down the air filter and take it out.

#### ② Cleaning

Use brush, water and neutral detergent to clean, then dry it in the shadow.

#### ③ Reinsert the front panel

Along the direction of arrows to cover the front panel and clasp it.



### 10.2 Cleaning the air filters

#### ① Take down the air filter

Along the direction of arrows to pull of the front pannel an angle from the slots of the front pannel,then pull down the air filter and take it out. As shown in right Fig.

#### ② Cleaning

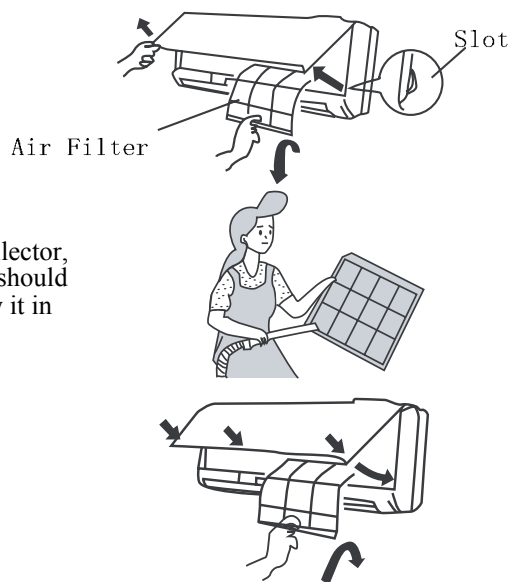
To clear the dust adhering to the filters, you can either use a dust collector, or wash them with warm water(the water with the neutral detergent should below 45 ℃)when the filters are very dirty(such as oil stain), and dry it in the shadow.As shown in right Fig.

#### ③ Reinsert the filter.

Reinsert the filters with side marked “FRONT” facing forward. Then cover the surface panel and clasp it.

### NOTE:

Never use water above 45 ℃ to wash the filters, or it could cause deformation or discoloration. Never parch it by fire, or it could cause a fire or deformation.



## 10.3 Replace the air cleaner

- It is suggested that the air cleaner should be replaced once every three years, please buy the new one at the nearby dealer of GREE air conditioner.

### 1. Take off the filter

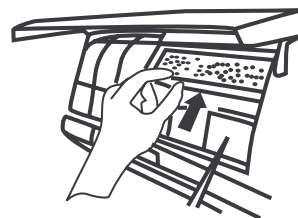
As the same as the step 1 of "Cleaning the air filter"

### 2. Install the air cleaner

Open the package of air cleaner filter, then along the arrow direction insert the filter of air cleaner into the air cleaner frame.

NOTE: please pay attention to the evaporator, don't let it hurt your hands.

Air cleaner

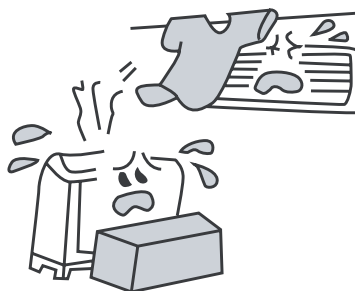


### 3. Install the filter

As the same as the step 3 of "Cleaning the air filter"

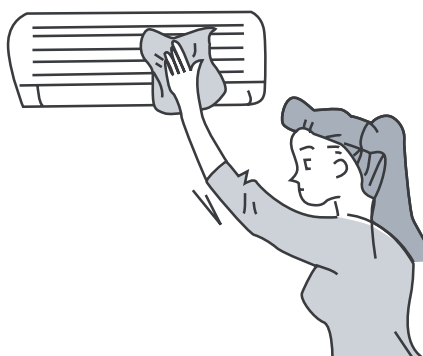
## 10.4 Check before use

1. Be sure that nothing obstructs the air outlet and intake vents.
2. Check that whether ground wire is properly connected or not.
3. Check that whether the batteries of air conditioner are changed or not.
4. Check that whether the installation stand of the outdoor unit is damaged or not. if damaged, please contact the dealer.



## 10.5 Maintenance after use

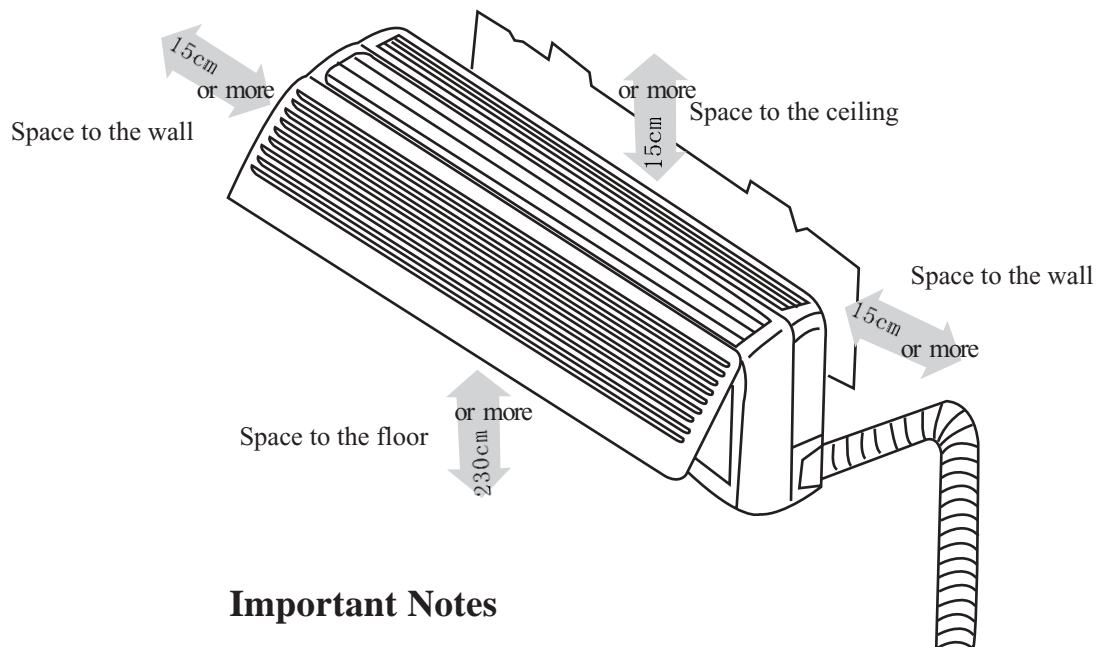
1. Clean filters and indoor and outdoor units body.
2. Turn main power off.
3. Clear dust from the outdoor unit.
4. Repaint the rubiginous place on the outdoor unit to prevent it from spreading.





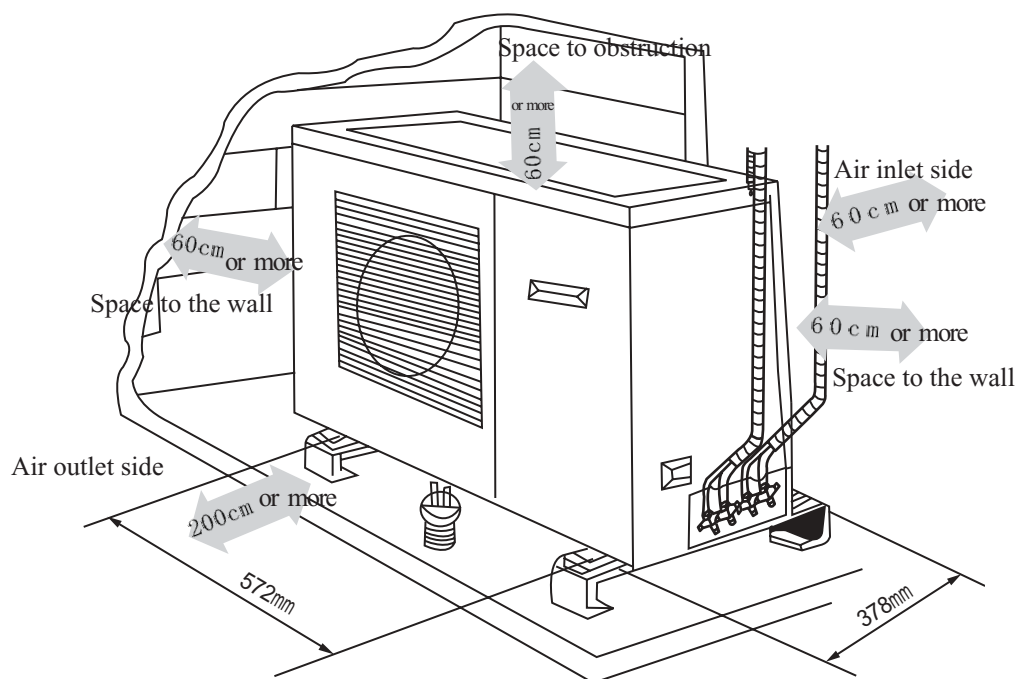
## 11 Guide for installation

### 11.1 Installation dimension diagram



### Important Notes

- ★ The installation must be done by trained and qualified service personnel with reliability according to this manual.
- ★ Contact with the local air conditioner service center before installation to avoid the malfunction due to unprofessional installation. otherwise the malfunction will not be solved.
- ★ When picking up and moving the units, you must be guided by trained and qualified personnel.



## 11.2 Installation location selection

### 1 Indoor unit

- The inlet and outlet should be far from the obstructions so that the outflow air can reach all parts of the room;
- A location from which the condensation water can be drained out conveniently;
- A location easily connect with the outdoor unit;
- Avoid a location where there is heat source, steam and inflammable gas;
- Install in a location where is strong enough to withstand the full weight and vibration of the unit and will not increase the operation noise.
- Be sure that the installation conforms to the installation dimension diagram.
- Be sure to leave enough space to allow access for routine maintenance. The height of the indoor unit location should be more than 230cm from the floor.
- Install in a location where is 1m or more away from other electric appliances such as television, audio devices, etc.
- Select location where is easy to remove and clean the filter.
- Do not use the unit in the immediate surroundings of a laundry, a bath, a shower or a swimming pool.

### 2 Outdoor unit

- Select location from which noise and outflow air emitted by unit will not disturb neighbors.
- Select location where ventilate freely.
- The inlet and outlet should not be covered.
- The location should be able to withstand the full weight and vibration of the outdoor unit.
- There should be no danger of flammable gas or corrosive gas leaks.
- Be sure that the installation conforms to the installation dimension diagram.

#### NOTE:

Install in the following place may cause malfunction. If it is unavoidable, contact with service center please.

- Place where oil(machine oil) is used.
- The place where a lot of salinities such as coast exists.
- Place where a sulfured gas such as the hot spring zones is generated.
- Place where high-frequency waves are generated by radio equipment, welders and medical equipment.
- Other place with special circumstance.



## 11.3 Install the indoor unit

### ① Install the rear panel

1. Use the seton to find the horizontal place, because the draiange hose nozzle is in the left side, when adjusting the rear panel, should lower down the left side a little.
2. Fix the rear panel on the selected location with screws supplied with the unit.
3. Be sure that the rear panel has been fixed firmly enough to withstand the weight of an adult of 60kg, furthermore, the weight should be enenly shared by each screw.

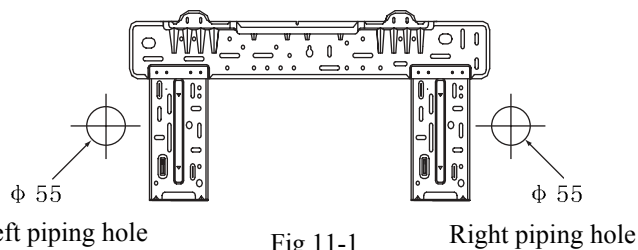


Fig.11-1

### ② Install the piping hole

1. The direction of piping can be chosen from six directions as shown in Fig.11-2.
2. Make the piping hole(  $\phi 55$  ) in the wall at a slight downward slant to the outdoor side.
3. Insert the piping-hole sleeve into the hole to prevent the connection piping and wiring from being damaged when passing through the hole.

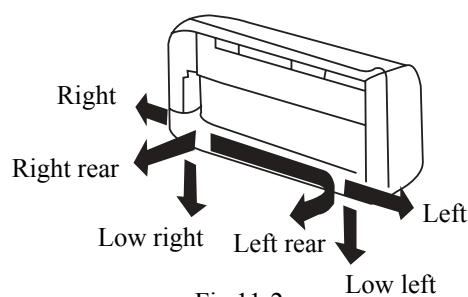


Fig.11-2

### ③ Install the drainage hole

1. For well draining, the drain hose should be placed at a downward slant.
2. Do not wrench or bend the drain hose or flood its end by water. (As shown in Fig.11-3)
3. When the long drainage hose passing through indoor, should wrap the insulation materials.

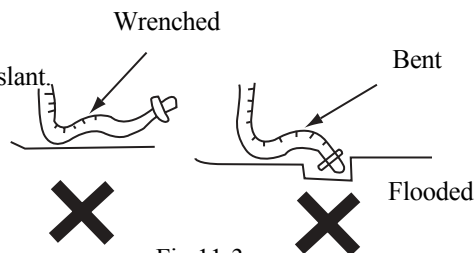


Fig.11-3

### ④ Install the connection pipes

Connect the connection pipes with the relevant union pipes of the indoor unit.tighten the nut of the connection pipe jonit.(Please refer to "Installation the connection pipe")

#### NOTE:

- Connect the connection pipes with the indoor unit firstly and the outdoor unit secondly.
- Be careful in bending the connection pipes, or you will damage the pipes.
- If the tightening torque is too great in tightening the flare nuts, leakage will happen.

## ⑤ Electrical wiring

1. Open the surface panel upward.
2. Screw off the fixing screw of wiring cover. (As shown in Fig.11-4)
3. Route the power connection cord from the back of the indoor unit and pull it toward the front through the wiring hole for connection.
4. Connect the blue wire of the power connection cord to the terminal "N(1)", the red one to "2", brown one to "3", and the yellow-green one (earth wire) to "⊥" (as shown in Fig.11-4); and use the wire clamp to fix the wire.
5. For the heat pump type, connect the control cord (4x0.75) to the indoor unit through the connector (see Fig.11-4), and fix it with the wire clamp.
6. Reassemble the wire covering plate, and screw down the screws.
7. Recover the surface panel.

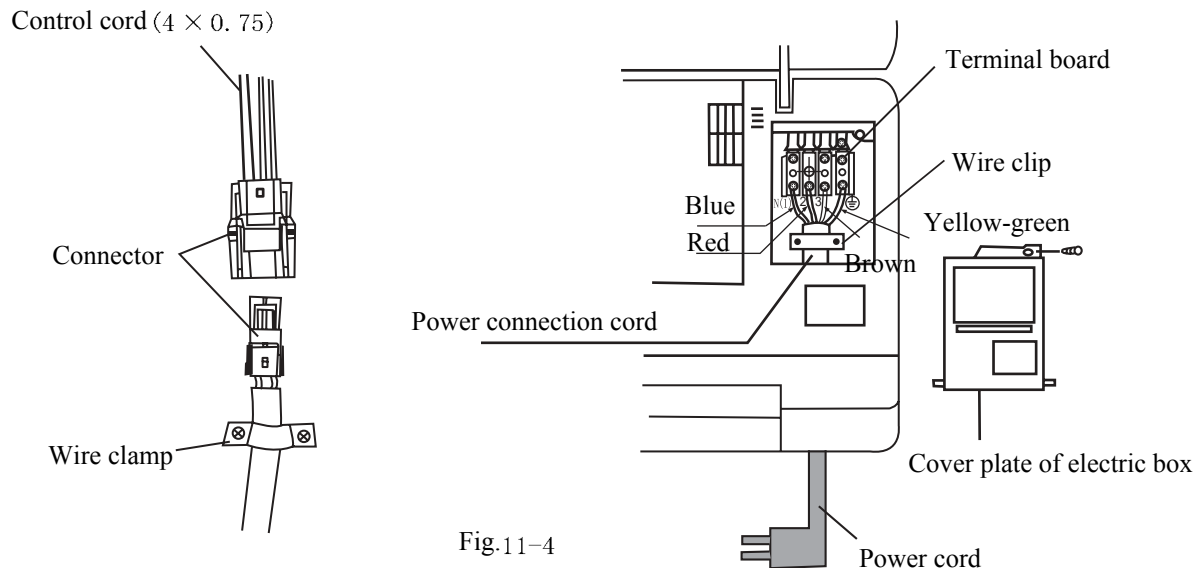


Fig.11-4

### NOTE:

- All the electrical work must be done by qualified personnel according to the local rules and this manual.
- The rated voltage and the exclusive circuit must be used.
- Electricity leakage protection switch must be installed.
- Please adopt the qualified fuse.
- If the power connection cord of unit is damaged, it should be replaced by the professional who came from the dealer or technical service organization, in order to avoid the harm.
- The diameter of power cord should be large enough. Use the exclusive wire to replace the damage wire.
- Wiring work should conform to national standard.

## ⑥ Install the indoor unit

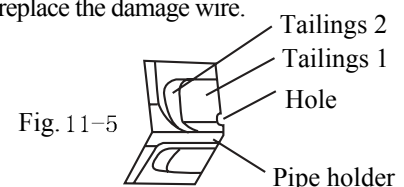


Fig. 11-5

1. When routing the piping and wiring from the left or right side of the indoor unit, cut off the tailings from the pipe holder in necessary (shown in Fig.11-5)

- ① Through the tailings 1 when routing the wiring only;
- ② Cut off the tailing 1 when routing both the wiring and piping. (Heat pump type only)
2. Wrap the piping and wiring and pull them through the cut-off tailings hole (shown in Fig.11-6).
3. Hang the mounting slots of the indoor unit on the upper tabs of the rear panel and check if it is firm enough.
4. The height of the installed location should be 2.3m or more from the floor.

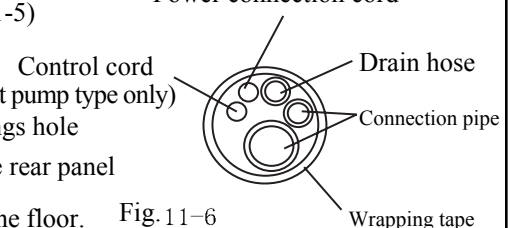


Fig. 11-6

## 11.1 Install the outdoor unit

### ① Install the connection pipe

- Align the center of the piping flare with the relevant valve.
- Screw in the flare nut by hand and then tighten the nut with spanner and torque wrench refer to right figure.

Note: Exceeding tightening torque will damage the flare nut.

Tightening torque table.

| Hex nut diameter (mm) | Tightening torque (N.m) |
|-----------------------|-------------------------|
| φ 6                   | 15~20                   |
| φ 9.5                 | 31~35                   |
| φ 12                  | 50~55                   |

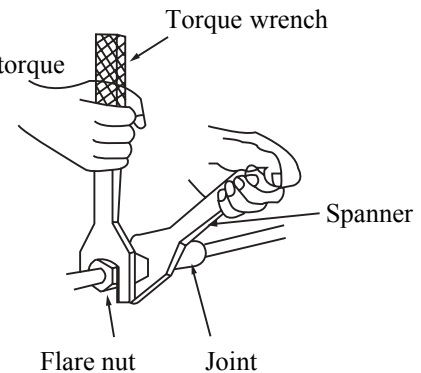


Fig. 11-7

### ② Electric wiring connection

- Disassemble the front side plate of outdoor unit.
- Get through the wire hole of outdoor unit, cover the cable-cross loop.
- Disassemble the wire clamp, fixing the power connection cord on the terminal of line bank.
- Use the wire clamp to fix the power connection cord and control cord, then connect the corresponding connector.
- Make sure that the wiring has been connected firmly
- Reassemble the front side plate.

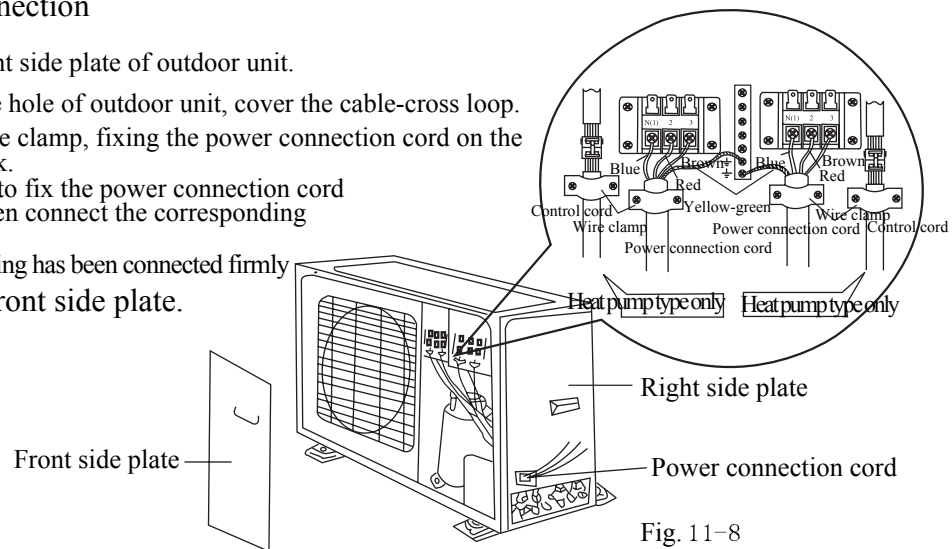
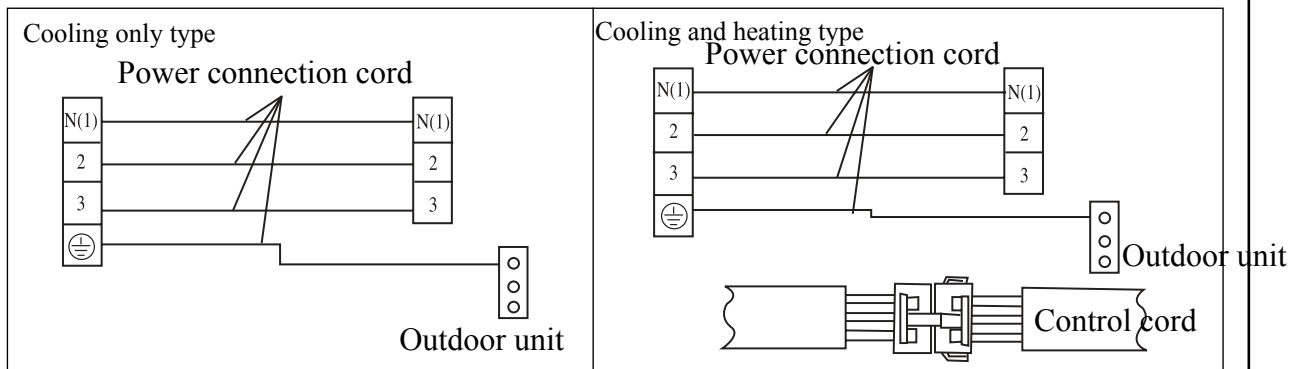


Fig. 11-8



NOTE:

- Wrong wiring connection will cause electrical malfunction.
- The lead between the connecting and the fixed should be a little free when fixing it with wire clamp.

### ③ Air purging and leakage test

- Remove the nut cap from the cut-off valves of the outdoor unit.
- Align the center of the piping flare with the relevant valve, and screw in the flare nut by hands.
- Tighten the flare nut with spanner.
- Remove the valve caps of the gas valve and liquid valve and the service port nut.
- Loosen the valve stem of the liquid valve with a hex wrench. Push the check valve core of the gas valve to discharge air and moisture remaining in refrigerant system.
- After 15 seconds, stop pushing the valve core as soon as the refrigerant starts to be discharged, and reinstall the service port nut.
- Open the liquid valve and gas valve entirely (Shown in Fig.11-9).
- Tighten the valve caps and test leakage at all joints of the piping (both indoor and outdoor) by liquid soap or leak detector.
- If possible, discharge air and moisture remaining in the refrigerant system with a vacuum pump. (Shown in Fig.11-10)

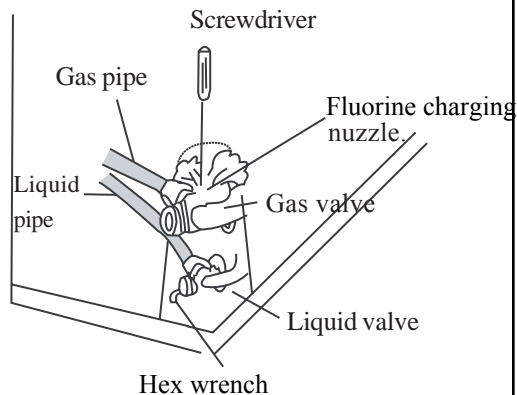


Fig.11-9

### ④ Outdoor condensation drainage (Heat pump type only)

- When the unit is heating or defrosting, the condensing water and defrosting water formed in the outdoor unit can be drained out reliably through the drain hose.

#### Installation:

- Install the outdoor drain elbow in the  $\varnothing 25$  hole on the base plate as shown in Fig.11-11, and joint the drain hose to the elbow, so that the wastewater formed can be drained out to a proper place.

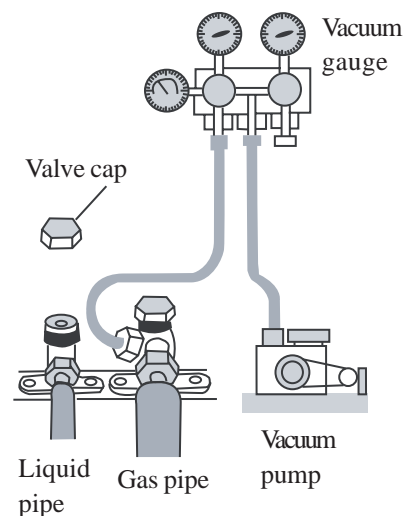


Fig.11-10

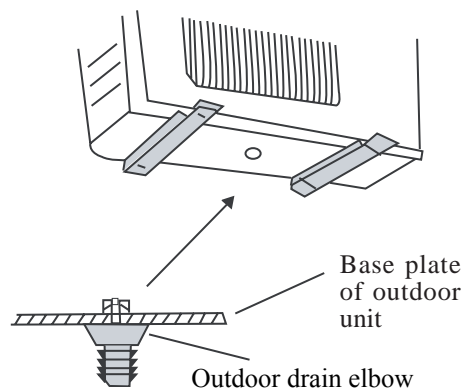


Fig.11-11

## 11. 4 Test operation and check after installation

### ① Check after installation

| Items to be checked  | Possible malfunction                                  |
|--|---|
| Has it been fixed firmly?  | The unit may drop, shake or emit noise.               |
| Have you done the refrigerant leakage test?                                    | It may cause insufficient cooling (heating) capacity  |
| Is heat insulation sufficient?   | It may cause condensation and dripping.               |
| Does the unit drain well?  | It may cause condensation and dripping.               |
| Is the voltage in accordance with the rated voltage marked on the nameplate?   | It may cause electric malfunction or damage the part. |
| Is the electric wiring and piping connection installed correctly and securely? | It may cause electric malfunction or damage the part. |
| Has the unit been connected to a secure earth connection?                      | It may cause electrical leakage.                      |
| Is the power cord specified?   | It may cause electric malfunction or damage the part. |
| Has the inlet and outlet been covered?   | It may cause insufficient cooling (heating) capacity  |
| Has the length of connection pipes and refrigerant capacity been recorded?     | The refrigerant capacity is not accurate.             |

## 12 Trouble shooting

