

# 交流空调器 AC Air Conditioner

## 使用说明书 User Manual

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在产品安装使用前请仔细阅读本手册！  
Read this manual carefully before installation and using!

# 前言 Foreword

## 概述 Summary

该手册介绍交流空调器的使用须知、声明、产品概述、安装指导以及产品维护和质保。  
The manual describes the AC air conditioner instructions, declaration, product overview, installation guide, maintenance and warranty.

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# 1 使用须知 Instructions

- 本手册适用于：185043 TA030/C/A/H10  
This manual is for: the series of 185043 TA030/C/A/H10 air conditioner
- 使用本机前请务必阅读本使用说明书。  
Be sure to read this manual before using the unit.
- 用户必须按照本手册规定的内容执行才可享受到产品正常质保服务。  
Only when the user operate the unit in accordance with the user manual in warranty period  
Can offer maintenance with free of charge.

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## 2 声明 Declaration

### **RoHS Compliance Declaration of Air conditioner**

#### **European Guidelines 2011/65/EC (RoHS)**

Legal regulation for Substances

Dear Sir/Madam,

Referring to the European guideline of 2011/65/EC, we confirmed that according to the current status of our knowledge and in accordance with the regulations, we could produce products complying with above mentioned guidelines especially for below type:

☒ 185043 TA030/C/A/H10

Yours sincerely,

Engineering Department



## Declaration of Conformity

We herewith declare the following products:

Product Name: 185043 TA030/C/A/H10

series products is in conformity with the following directives:

|                 |   |                              |
|-----------------|---|------------------------------|
| 2006/ 42 / EC   | Machine Directive                                       | EN ISO 12100, Machine Safety |
| 2006 / 95 / EC  | Low Voltage Directive                                   | EN 60 335-1:2012, Voltage    |
| 2004 / 108 / EC | EMC-Directive   | EN 60 335-2-40: 2012 Safety  |
| 2009/ 105 / EC  | Simple Pressure Vessels                                 | EN 61000-6-1:2007, Immunity  |
| 97/23/EEC       | The Pressure Equipment Directive, article 3, section 3. | EN 61000-6-4, Emission       |
|                 | The Pressure Equipment Directive, category 1            |                              |
|                 | The Pressure Equipment Directive, category 2            |                              |

and was manufactured in conformity with the following harmonised standard:

furthermore manufactured in conformity with the following disharmonised standard:

|            |   |
|------------|---|
| 2011/65/EC | RoHS Directive                                      |
| 2002/96/EC | Waste of Electrical and Electronic Equipment (WEEE) |

and furthermore declares that it is not allowed to put the machinery into service until the machinery into which it is to be incorporated or of which it is to be a component has been found and declared to be in conformity with the provisions of above-mentioned Directives and with national implementing legislation i.e. as a whole, including the machinery referred to this declaration.

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## 3 产品概述 Product Overview

### 关于本章 About this chapter

本章介绍了 **185043** 空调的应用、产品特点、工作原理、风道设计、运行逻辑、显示屏操作指导以及告警及故障处理信息。请严格按照本手册的相关规定执行！

This chapter describes the 85043 TA030/C/A/H10 applications, product features, the working principle, duct design, operation logic, monitor operation guide and alarm and fault processing of information. It is required to strictly operate the unit according to this user manual.



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## 3.1 应用 Application



### Important

- 该产品是专为空压机设备应用场合而设计的高性能空调热交换一体机，使用交流电源供电（请参考产品铭牌）。其安装的意义在于对控制柜（正常工作时为密闭状态）内部实行温度控制，将柜内温度控制在 15~35℃ 之间，以保证柜内的所有热敏元件可以正常工作，发挥其最佳工作性能。

The product is designed for air compressor equipment applications and design of high performance air conditioner , Please use the AC power (Please refer to the nameplate) , The installation is the significance of the control cabinet (normal work to a closed state ) of internal temperature control, The cabinet temperature control between 15 to 35 degrees Celsius, To ensure that the cabinet all thermal element can work normally, Play the best performance.

- 除以上说明的应用场合以外的其他任何场合使用所造成的任何损害，我方不承担责任。  
Any damage caused by any other applications outside of the application object described above, Responsibility is not assumed.



### Warning

- 运输：搬运或运输该产品过程中，请勿翻倒或过度倾斜该产品。

Transport: In the process of handling or transport of the product, do not overturn or excessive tilt of the product.

- 存放：不要露天存放，或者长时间存放在高温、高湿的环境下(70℃,95%)。

Store: Don't open storage, or stored for a long time at high temperature, high humidity environment (70,95%).

- 关机：若长时间不使用该产品，请关掉主电源。

Shutdown: If not using this product for a long time, please turn off the main power



### Warning

- 严禁未成年人、身体或心理存在严重缺陷及不具有相关该产品知识的人员操作该产品。

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

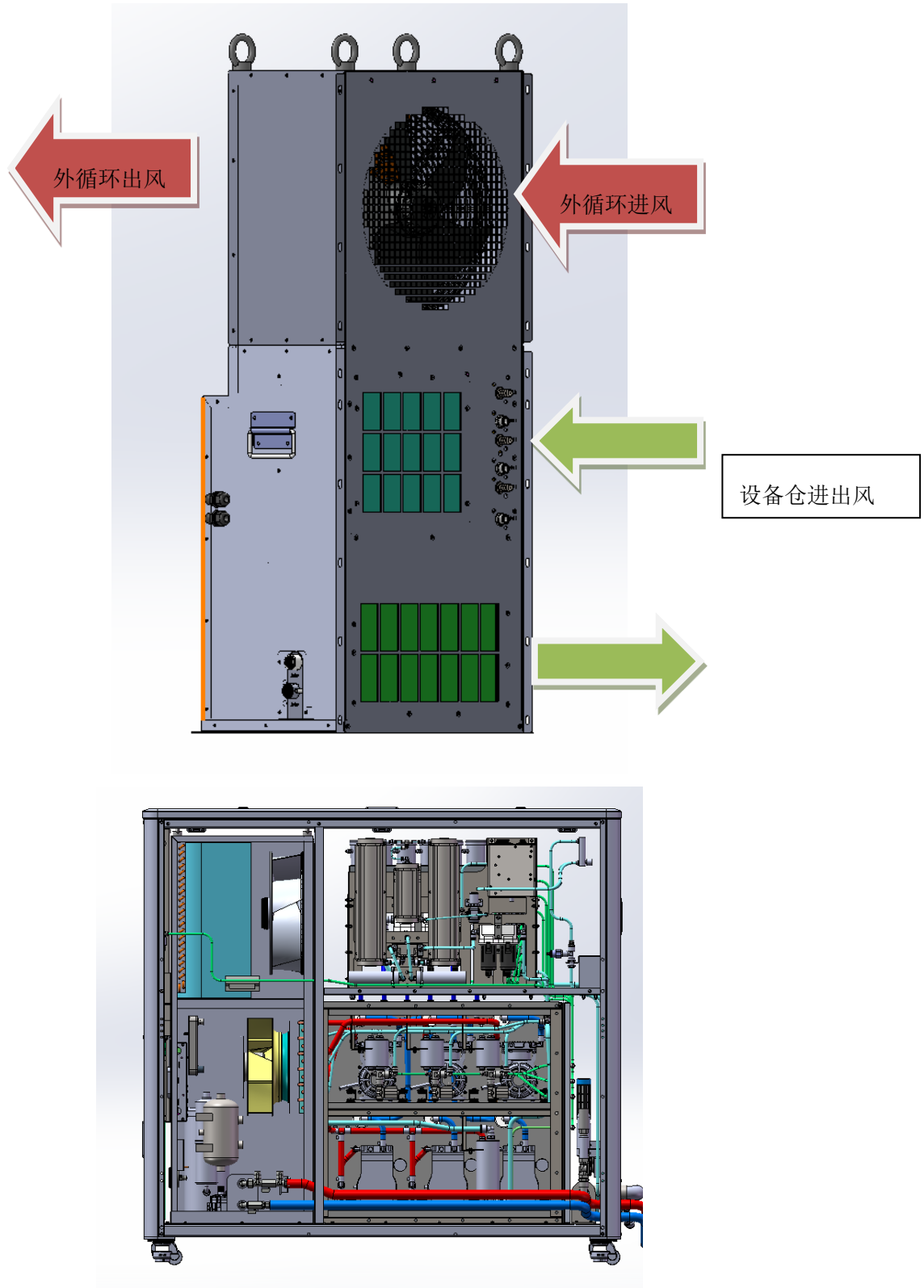
- 为了避免风险，电源线请务必使用同一公司或使用同规格的有质量认证的产品

If the power supply cord is damaged, it must be replaced by the manufacturer, or service agency or similarly qualified person in order to avoid a hazard.

- 为了更好的使用本产品，请勿在高油污、高腐蚀性环境、含爆炸易燃气体环境使用，否则，将会造成对该产品严重的损害，我们将不会提供正常的售后服务。

Don't use the product under the condition of high oil, burning gas, explosive gas, strong corrosively condition area. Otherwise the product warrantee service is not been offered by manufacture.

### 3.2 风道设计 Air flow design



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## 3.3 运行逻辑 Operation logic

3.3.1 人舱：制冷模式、制热模式、循环风模式，其中循环风模式由氧仓主控控制，不受空调系统直接控制。

3.3.2 设备舱：制冷模式，辅热模式

3.3.3 冷凝水管理：水位提升，液位自动启停（可不接入主控控制），但应有失效告警管理，可有外置报警器。

3.3.4 上电默认运行：

系统自检：对可控部件进行自检，自检完成后进入各自控制模式

自检完成后，内风机，外风机，无故障状态时，始终保持低速运行。风机调速根据控制模式进行，压缩机停止，或者达到温度条件后，不停止运行，保持低速运行

## 3.4 监控 Monitoring

机器可通过软件监控，只需连接 RS485 接口。请联系厂商以获取更多的信息。

The machine can be monitored by software through RS485 port. Please consult to the manufacture for more information.

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## 4 安装指导 Installation guide

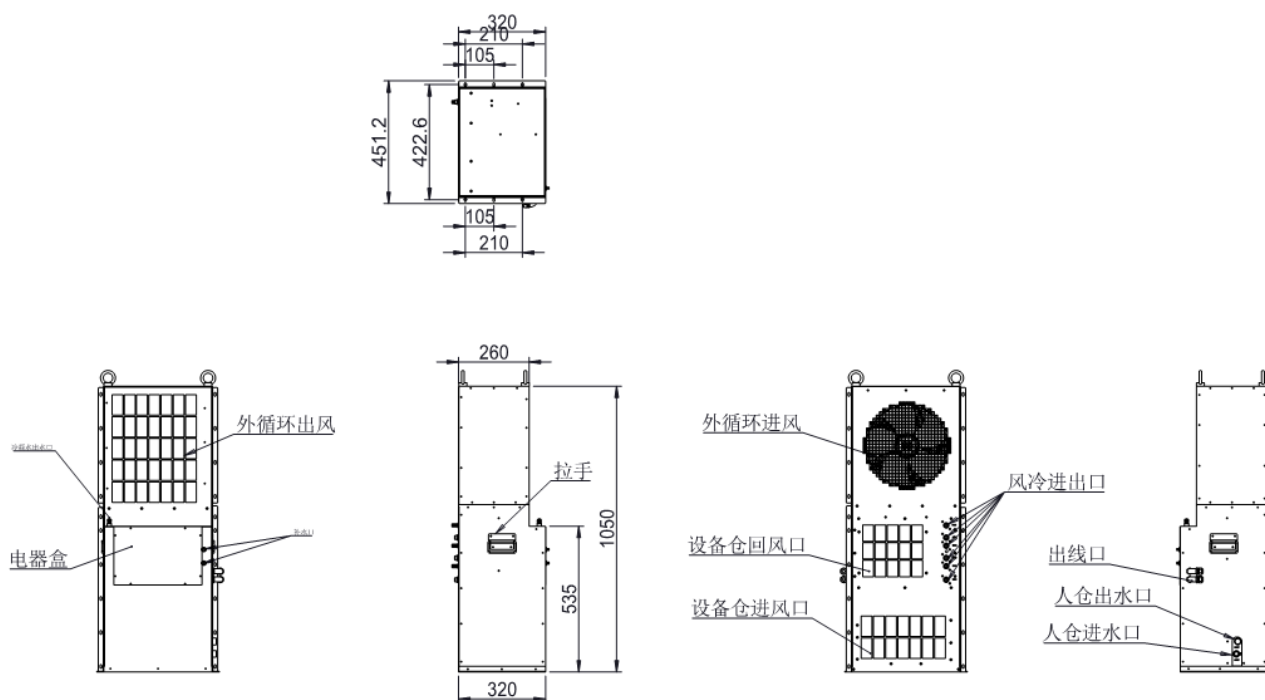
### 4.1 设备安装 Machine installation

- 安装步骤:

1. 将空调安装到要求位置;
2. 根据接线指引接线;
3. 如果需要安装水管, 请将水管安装在底部接水管处。

- Installation steps:

1. Install the air conditioner in the required position.
2. Please connect the wires according to the wiring guidance ,
3. Please to install drain pipe on drain hole if you need.



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- 安装完成后的确认检验项:

1. 请勿在高油污、易燃气体、高腐蚀性及环境温度超过 55℃、湿度超过 95%的环境下使用该产品;
2. 确保产品安装后倾斜度不大于 3°;
3. 确保控制柜密封良好以免漏入空气产生不必要的冷量损失和产生过多的冷凝水;
4. 产品安装结束后, 确保产品直立 30 分钟后再加电运行。

- Double check lists after Installation

1. Don't apply this unit in high oil, burning gas, explosive gas, strong corrosively condition, the ambient air must be under 55℃, and the humidity not higher than 95%
2. Make sure that the lean of the product no more than 3°
3. Make sure that the cabinet should be sealed well to avoid the cooling losing and avoid ambient moisture penetrate into cabinet, this will avoid produce more condensate water
4. Ensure that the product is up and running in upright 30 minutes

## 4.2 电气安装 Electrical installation

空调器在使用前需根据本手册的说明进行电气连接, 建议客户优先使用附件中的线缆。客户可以自备线缆, 如果客户不能确定所选电缆规格是否合适, 可联系酷克售后服务部门。

Does Electrical Wiring according to the manual before use the air conditioner; we suggested preferring to use cables in the attachments. You should call the After-sale Service Department of Quick, if you cannot sure the cable specification be made by your-self.

图 3-1 电源端子示意图

Figure 3-1 Schematic of power terminal

| 类型   | 对应脚位 | 线颜色 | 脚位定义   | 说明        |
|------|------|-----|--------|-----------|
| 线束 1 | 1    | 棕   | 单相电源 L | 机组输入电源接口。 |
|      | 2    | 蓝   | 单相电源 N |           |
|      | 3    | 黄绿  | 接地     |           |
| 线束 2 | 1    | 绿   | 485+   | 主机通讯接口。   |
|      | 2    | 黄   | 485-   |           |
|      | 3    | 白   | 485+   | 显示屏通讯接口。  |
|      | 4    | 黑   | 485-   |           |
|      | 5    | 红   | DC24+  | 制冷控制      |
|      | 6    | 蓝   | DC24-  | 公共端       |
|      | 7    | 棕   | DC24+  | 制热控制      |
|      | 8    |     | /      | /         |
|      | 9    |     | /      | /         |
|      | 10   |     | /      | /         |

- 用户自配电源、电源线缆及断路器应该满足以下表格要求：

The power supply, power cable and circuit breaker chosen by customers self should be recommended as below:

| 项目 // Item             | 要求 // Demand   |
|------------------------|--|
| 电源 // Power supply     | 交流电源 // AC Power :230 VAC  |
| 电压范围 // Voltage range  | AC:230V $\pm$ 15%  |
| 断路器 // Circuit breaker | 交流断路器规格不小于 20A<br>Circuit breaker for AC power must more than 10A            |
| 电缆规格// Cable size      | 建议使用不小于 12AWG 或者 3.0mm <sup>2</sup><br>more than 12AWG or 3.0mm <sup>2</sup> |

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注：建议选用的漏电保护器（RCD）动作电流不要超过 30mA。

Note: The installation of a residual current device (RCD) having a rated residual operating current not exceeding 30mA is advisable.

## ● 上电前检查 Pre-operational checks

空调的安装和电气连接完成后，请核对下列检查表：

After Air conditioner installation and the electrical connection is completed, please check the following checklist:

| 序号<br>Serial number | 检查项目<br>Check items   |
|---------------------|---|
| 1                   | 装配螺钉已经紧固。<br>Ensure the screw is fastening  |
| 2                   | 内外循环的进出风口附近无明显的阻挡物。<br>Ensure that there is enough space near the internal and external of the air condition  |
| 3                   | 电源线极性连接正确，告警信号线缆连接正确。<br>Power line to connect the right polarity<br>Alarm signal cables are connected correctly  |
| 4                   | 用万用表检查供电电压，供电电压正常，符合铭牌上的要求。<br>Using a multimeter to check the supply voltage, power supply voltage is normal, consistent with the requirements on the nameplate. |



### Warning

空调上电运行过程中，若发生异常噪音、震动，请立即切断电源，并通知专业人士进行检查。

When the air conditioner is running, if there is abnormal noise, vibration, please cut off power immediately and notify the professionals to inspect.

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# 5 产品维护和质保 Maintenance and Warranty

## 5.1 产品维护 Product maintenance

### 5.1.1 准备工具：Prepare tools

表 5-1 维护工具 Table5-1 Maintenance Tools

| 序号 Number | 工具 Tools                   |
|-----------|----------------------------|
| 1         | 万用表 Multimeter             |
| 2         | 十字螺丝刀 Phillips screwdriver |
| 3         | 一字螺丝刀 Slotted screwdriver  |

### 5.1.2 日常维护 Routine maintenance

为确保制冷系统良好运行、排水顺畅及电气系统安全稳定，维持设备正常运行与良好性能，避免因维护不当导致设备寿命缩短、运行品质下降，请严格按照以下事项进行

Purpose: To ensure the proper operation of the refrigeration system, smooth drainage, and the safety and stability of the electrical system, maintain the normal operation and good performance of the equipment, and avoid shortened equipment service life and reduced operational quality due to improper maintenance, please strictly follow the following items as specified

#### 5.1 冷凝器清洗/Condenser clearance

为了确保制冷系统良好的运行，请每年清洗一次冷凝器（如果环境比较脏建议增加清洗次数），本产品内外循环间防护等级高达 IP55，可直接用水或压缩空气对冷凝器进行清洗。

To assure the cooling system running perfectly, the condenser should be cleared once annually (if it is too dirty, the times can be increased), this unit IP grade is IP55, so can clear the condenser with water directly.

#### 5.2 排水检查并疏通/Drainage inspection and dredging

为排水顺畅，需不定期检查排水孔是否堵塞并疏通。

To ensure smooth drainage, it is necessary to check the drainage holes regularly for blockages and dredge them.

#### 5.3 电气系统检查/Electrical system check

检查供电系统电压、电缆线及通讯线是否良好。

检查产品本身运行是否正常。



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检查产品制冷效果是否良好。

至少每年检查 2 次。

Check the power supply and communication cable.

Check the unit running perfectly or not.

Check the cooling performance good or not.

Check the air conditioner at least 2 times every year.

#### 5.4 注意/Maintance attention

不要用有机溶剂清洗本产品。

检修时请注意关闭电源。

若外风机风叶上积满了灰尘，可用毛刷清除。

长时间不使用本产品时，请关闭电源。

安装螺丝牢固。用螺丝刀拧动空调的安装螺丝，观察是否有松动现象，若有松动现象，则拧紧螺丝。

Don't clear air conditioner with organic solvent.

PLS power off it before carry out maintains.

The external side fan can be cleaned with a brush if dust accumulated on fan blades.

Please power off the unit before long time stop running.

Screw firmly. Use screwdriver to screw the screws and watch whether the screw is loosening. If the screw is loosening, please tighten it. Establish a systematic maintenance ledger to achieve preventive maintenance.

#### 5.5 维护记录与数据分析/Data Record

建立系统化维护台账，实现预防性维护。

Establish a systematic maintenance ledger to achieve preventive maintenance.

### 5.1.3 告警代码及处理方法 Alarm code and handling method

表 5-3 故障信息 Table5-3 Alarm information

| 故障名称<br>Code Name                                | 故障机制<br>Principle  | 故障处理方法<br>Process Method  |
|--|--|---|
| 回风温度传感器故障<br>Return air temperature sensor alarm | 回风温度传感器短路或断路<br>Return air temperature sensor is short circuit or open circuit | 检查回风温度传感器是否有断路或者短路现象。<br>Check whether the return air temperature sensor is short circuit or open circuit.  |
| 压缩机欠流故障<br>Compressor current is too low         | 压缩机电流值不在正常范围内<br>Compressor current is not within normal range                 | 1、检查压缩机线和压缩机的连接是否松动。<br>Check whether the compressor line is loosening<br>2、压缩机本身故障，请联系专业人士维护。<br>Compressor fault, please contact professional maintenance.                                  |
| 压缩机过载故障<br>Compressor over-current               | 压缩机电流值不在正常范围<br>Compressor current is not within normal range                  | 1、检查冷凝器是否堵塞<br>Check whether the condenser is dirty block.<br>2、压缩机本身故障，请联系专业人士维护。<br>Compressor fault, please contact professional maintenance.  |
| 内风机告警<br>Internal fan alarm                      | 内风机转速不在正常范围内<br>Internal fan current is not within normal range.               | 检查内风机线和内风机的连接是否脱落或松动<br>Check Whether the internal fan line is loosening.   |
| 外风机告警<br>External fan alarm                      | 外风机转速不在正常范围内<br>External fan current is not within normal range.               | 检查外风机线和外风机的连接是否脱落或松动<br>Check Whether the external fan line is loosening.   |
| 电源电压超限告警<br>Supply voltage overload              | 电源电压不在正常范围内<br>The power supply voltage is not within normal range.            | 立即断掉空调输入电源，用万用表测量供电电压，直到供电电压在合理范围内，才能再次运行空调。<br>Turn off the power supply immediately. Use multimeter measure the voltage, power on the switch until the power supply within the normal range |

## 5.1.4 其他故障分析与处理 Other fault analysis and treatment

表 5-4 其他故障分析与处理 Table5-4 other fault analysis and processing

| 故障状态<br>Fault state  | 原因分析<br>Analysis of the reasons   | 故障排除方法<br>Solutions  |
|--|---|--|
| 电源接通后，柜内温度过高，但空调不运转<br>Power on the switch ,the cabinet temperature is too high but the air conditioner is not working | 1、停电或无电源。<br>Power failure or no power<br>2、设定温度高于柜内温度。<br>The cooling set temperature is higher than the cabinet temperature<br>3、系统故障。<br>System fault                            | 1、检查电源、电路。<br>Check the power supply and the electric circuit<br>2、根据需要设定压缩机启动温度。<br>Setting cooling temperature according to the needs<br>3、请与专业维修人员联系<br>Please contact professional maintenance.                                  |
| 设备正常运转，但制冷效果不理想<br>The air conditioner is running but the cooling effect is not good                                   | 1、该机型制冷能力与负荷不匹配。<br>The cooling capacity of the air conditioner is not match with the load.<br>2、环境温度过高。<br>The ambience temperature is too high<br>3、其他系统故障。<br>Other system fault | 1、 根据负荷大小重新选配或增配制冷设备。<br>To add or choose another air conditioner according to the load.<br>2、 请确保机器工作环境温度在正常使用范围内。<br>Ensure the machine is used in the correct range.<br>3、 请与专业维修人员联系<br>Please contact professional maintenance. |
| 正常运转中。突然停止制冷，且电器系统无故障。<br>The machine is stopping suddenly ,and the electric system is normal                          | 1、柜内温度已达到设定温度。<br>The cabinet temperature greater than or equal to the cooling set temperature.<br>2、其他系统故障<br>Other system fault   | 1、 根据需要设定压缩机启动温度。<br>Setting cooling temperature according to the needs<br>2、 请与专业维修人员联系<br>Please contact professional maintenance.   |

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## 5.2 售后服务和维修 Service and repair

- 保修期 Warranty period

产品质保 12 个月（从产品开始运行时起），或最大 18 个月（从产品发货日时起）。

The product guarantee period is 12 months from product up-running time or Max. 18 month from product delivery date.

- 质保范围 Warranty coverage

本产品 在 保修 期 内，凡 属于 产品 本身 质量 问题 而 导致 故障 的，本 公司 将 为 您 免 费 维 修，客 户 报 修 时 需 提 供 产 品 标 号。但 是 由 以 下 任 何 原 因 造 成 的 故 障 不 属 于 我 司 的 保 修 范 围。

- 1) 已 超 过 保 修 期 的；
- 2) 不 能 提 供 产 品 出 厂 编 号 的（见 机 身 贴 示 的 铭 牌）；
- 3) 由于 在 异常 条件 或 环境 中 运行，或者 用 非 本 使用 说明书 中 指定 的 不 恰 当 安 装 方 式 安 装、维 护 或 操作 导致 的 故障；
- 4) 非 本 设备 造成 的 故障，比 如 由 用户 的 设备、用户 的 软件 等 造成 的 故障；
- 5) 用户 自行 更换 或 拆 装 产 品 零 部 件 造成 损坏 的，或 由 非 授权 维 修 服 务 者 拆 修 而 造成 损坏 的；
- 6) 诸 如 火 灾、地 震、洪 水 等 不 可 抗 拒 力 而 造成 损坏 的 故障。

During the warranty period, all belong to the product itself quality problems caused by fault, the company will be free for you to repair; Household repair is required to provide the product label.

But by any of the following causes the failure does not belong to our warranty.

- 1) Out of the Warranty period
- 2) Can not provide the product label(the product label is on the nameplate);
- 3) Because of the abnormal condition or environment ,or the instructions specified in the inappropriate installation, maintenance or operation causes the fault;
- 4) Not caused by equipment failure, caused by user's other equipment or software.
- 5) User changed or disassembles by herself, or maintained by the person without authorization.
- 6) Caused by force major such as fires, earthquakes, floods and other damage to the fault.

- 免责声明 Disclaim

我 司 的 保 修 仅 限 于 已 发 送 的 产 品。我 司 对 可 能 由 设备 故障 衍 生 的 任 何 损 失 不 负 责 任。

The warranty is for the delivered products.

Irresponsible is for any loss that may be caused by equipment failure.

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## 5.3 回收处理 Reclaim



At the end of the unit working life, the produce must not be disposed of as urban waste; it must be taken to a special local authority differentiated waste collection centre or to a dealer providing this service.

到本产品使用期限或不再使用该产品时，请勿将本产品直接作为垃圾处理，请交给当地政府认可的废物收集中心进行处理。



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