

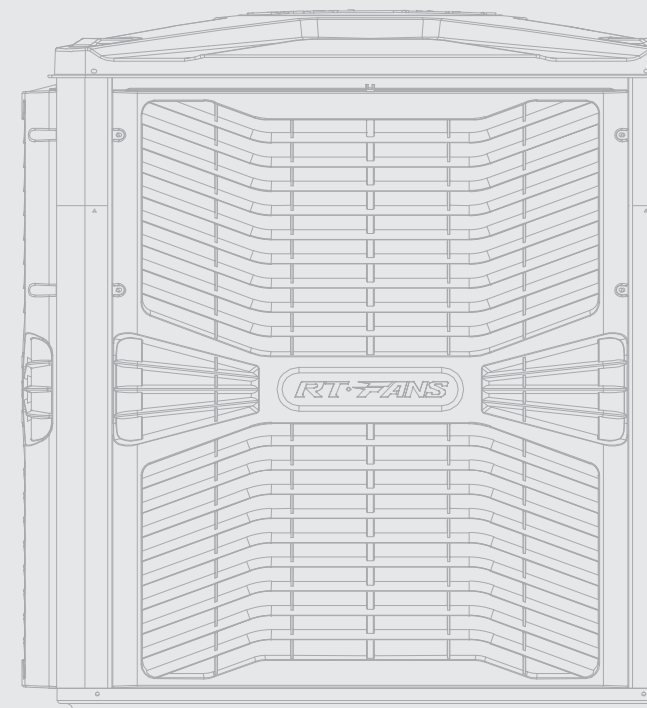
降温就选瑞泰风

蒸发式冷气机 Evaporative Air Cooler

Instruction Manual for

系列机组使用说明书

RTF-20A/20B/20C/25A/25C



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RT·FANS 瑞泰风

CCTV展播品牌 CCTV.《一亿中流》访谈企业 国家高新技术企业

前言 | Preface

感谢您对瑞泰产品的信任和支持。18年来，公司秉承“为客户创造独特价值”的核心价值观，锐意改革创新，为中国企业改善生产环境、参与节能减排事业贡献了自身的一份力量。为使本机组发挥最佳效能，请在使用产品前详细阅读本使用说明书。

本公司生产的蒸发式冷气机产品执行标准：GB/T 25860-2010

Preface:

Thank you for your trust and support for RTFANS products. Over the past 18 years, the company has been adhering to the core value of "creating unique value for customers" and has been committed to reform and innovation, and has contributed its own strength to improving the work environment and participating in energy saving ventilation and cooling solutions.

In order to get the best the performance of our product, please read this instruction manual in detail before operating.

Manufacturing standard: GB / T 25860-2010

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随机配件清单 | Spare parts list

No.	配件名称 Accessories Name	规格 Specification	数量 Quantity
1	控制盒 Control box		1
2	控制线 Control line	多功能控制器用 Multi-function controller	1
3	软水管 Water pipe	1/2" *80cm	1
4	黄铜球阀 Brass ball valve	1/2"	1
5	说明书 Instruction manual		1
6	防震脚 Shockproof feet		4
7	螺母 Nuts	Φ10	8
8	平垫 Flat pad	M10	8
9	弹垫 Spring pad	Φ10	4
10	合格证 Certificate		1

蒸发式冷风机降温原理

瑞泰风蒸发式冷风机的核心降温部件是高效蒸发式湿帘——“纯天然多层波纹纤维叠合物”。根据蒸发吸热——“水蒸发吸收热量，蒸发面积影响蒸发效率”这一自然物理现象，通过风机往室内送风，室外的空气流经浸水的湿帘后空气与水充分接触同时吸收空气中的显热，从而达到降温、换气、除尘、增加鲜风的目的，特别适用于高温及人群密集场所。

各种场合的换气次数参考

换气次数的定义：换气次数（次/小时）= 室内总送风量（m³/h）÷ [室内面积（m²）* 室内高度（m）]

一般环境要求换风量为25-30次/小时

人流密集的公共场所，要求换风量为30-40次/小时

人流密集且又高温的场所或生产车间，要求换风40-50次/小时；

高温及有严重污染的生产车间，要求换风量50-60次/小时；

在较潮湿的南方地区，换气次数应适当增加，而较炎热的北方地区则可适当减小换气次数。

应用领域

工业类：机械制造 汽车制造 摩托车制造 塑胶五金 电子电器 皮具制衣 食品饮料 纺织制鞋企业

公共商业类：车站 机场 各商业中心 网吧 学校 4S店 健身房 运动场所 户外餐厅 洗车场等

Evaporative air cooling principle

The Evaporative Air Coolers are efficient, environment-friendly and energy saving products, which will provide you with the comfort environment and fresh air.

The products work based on the principle of evaporative cooling and use high efficiency cooling pads as evaporation media. The fan drives air through the evaporative cooling pads, water driven by the pump circulates from top to bottom of evaporative pads. Heat is supplied by air to water which cause water evaporation and air cooling, water is added automatically as the water level inside the tank falls below the minimum level.

Reference data for the frequency of air exchange/ventilation in various occasions

Defined number of ventilation: ventilation frequency (times / h) = Total indoor air volume (m³ / h) ÷ [interior area (m²) * Interior height (m)]

The general environmental requirement is 25-30 times air exchange / hour

In crowded public places, the air exchange rate is 30-40 times / hour

In places or production workshops with dense crowds and high temperature, 40-50 times / hour air change is required;

High temperature and severely polluted production workshops require 50-60 air changes per hour.

In super high humidity area, air exchange rate should be higher than standard.

The product applications include:

- Manufacturing industries (machinery, textile, shoes, automobiles etc)
- Processing industries (painting, coating, plating, cooking etc)
- Commercial areas (exhibition halls, supermarkets, restaurants etc)

主要参数 | Main Parameter

型号 Model	最大风量 Maximum air volume (m³/h)	功率 Power (kW)	储水量 Water storage (L)	外形尺寸 Size L*W*H(mm)	净重 Net Weight (kg)	适用面积 Application area (m²)	噪声 Noise dB(A)
RTF-20A	20000	1.1	25	1120*1120*1030	60	100-150	68
RTF-20B	20000	1.1	35	1120*1120*1030	57	100-150	68
RTF-20C	20000	1.1	35	1120*1120*1075	60	100-150	68
RTF-25A	25000	1.5	25	1120*1120*1255	79	150-200	70
RTF-25C	25000	1.5	35	1120*1120*1300	79	150-200	70

使用注意事项

在安装使用前，务必仔细阅读本产品使用说明书，并在机组使用过程中遵守。

- 1、应在以下条件正确使用本产品：
- a.环境温度：10-45℃；
 - b.大气压：86kPa-106kPa；
 - c.供水需经软化处理，供水温度≤45℃,供水压力：0.15-0.6MPa;
 - d.电压偏差不超过额定电压的±5%；
 - e.使用环境空气质量应达到GB 3096三级(含)以上标准。
 - f.控制器及信号线安装远离强磁干扰源。

- 2、冷气机必须安装在通风、干燥的位置，保证冷气机吸入100%的室外新鲜空气，避免吸入室内排除的气体。
- 3、为保证本机的最佳效果，应保证有足够敞开的门或窗。
- 4、冷气机组安装和使用过程中，注意不得让电焊火星或其它火源靠近冷气机。
- 5、安装电源时，按国标要求进行线材选购和安装，务必接地线。

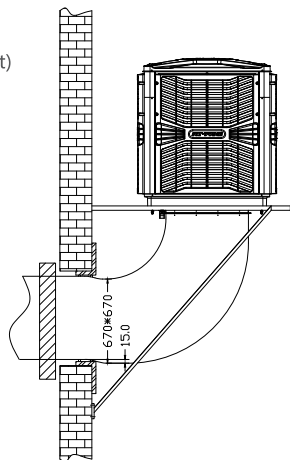
Precautions for use

Before installation and use, be sure to read the instruction manual carefully.

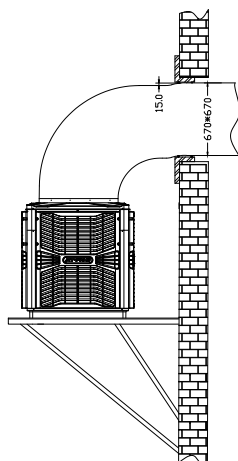
1. The product should be used correctly under the following conditions:
- a. Ambient temperature: 10-45 °C;
 - b. Atmospheric pressure: 86kPa-106kPa;
 - c. Water supply needs to be softened, water supply temperature≤45 °C, water supply pressure: 0.15-0.6MPa;
 - d. Voltage deviation does not exceed ± 5% of rated voltage;
 - e. The ambient air quality should meet the GB 3096 level 3 or above standard.
 - f. Install the controller and signal line away from strong magnetic interference.
2. The air cooler must be installed in a ventilated and dry location to ensure that the air cooler sucks in 100% of outdoor fresh air.
3. To ensure the best effect of this machine, ensure that there are enough doors or windows open.
4. During the installation and use of the air-conditioning unit, be careful not to allow welding sparks or other ignition sources to be close to the air cooler unit.
5. When installing the power supply, choose and install the wire according to the requirements of the national standard, and be sure to ground the wire.

机组安装示意图 | Installation diagram

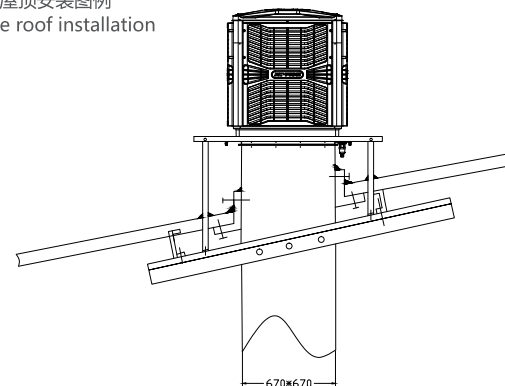
底出风机组挂墙式安装图例
Bottom air outlet cooler unit (Left)



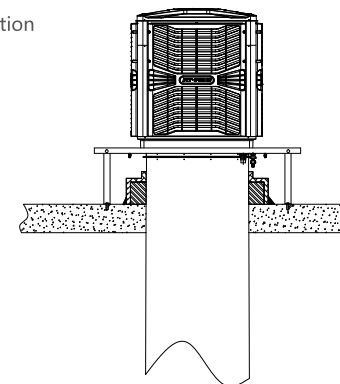
顶出风机组挂墙式安装图例
Top air outlet cooler unit (Right)



锌铁瓦屋顶安装图例
Zinc iron tile roof installation



水泥屋顶安装图例
Cement roof installation



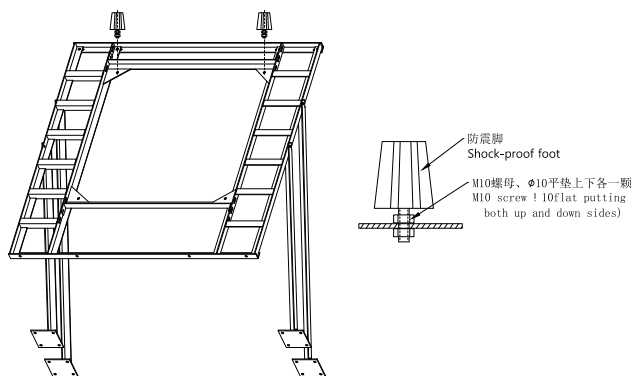
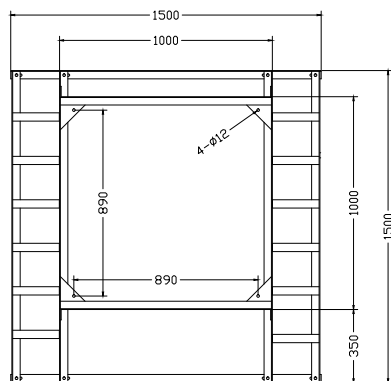
技术要求：

- 1、安装支架焊接和安装要求牢固；
- 2、检修平台必须能支撑机组和维修人员的重量；
- 3、主机安装按GB50275-2010标准要求执行，水平偏差不应大于2/1000；
- 4、主机法兰与送风弯管的截面必须平齐；
- 5、所有外墙风管都要作好防水处理；
- 6、风管弯头靠墙端要做防水弯以防止水流入室内。

Technical requirements:

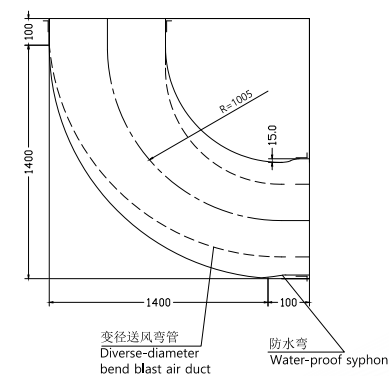
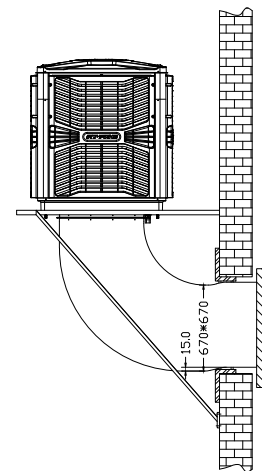
1. The welding and installation requirements of the mounting bracket are firm;
2. The maintenance platform must be able to support the weight of the unit and maintenance personnel;
3. The installation of the main unit shall be carried out according to GB50275-2010 standard, and the horizontal deviation shall not be greater than 2/1000;
4. The cross-section of the flange and the air duct must be flush;
5. All external air ducts must be waterproofed;
6. The wind pipe elbow should have waterproof bent against the wall to prevent water from flowing into the room.

安装支架及送风弯管规格示意图 | Mounting bracket and air elbow specifications



技术要求：

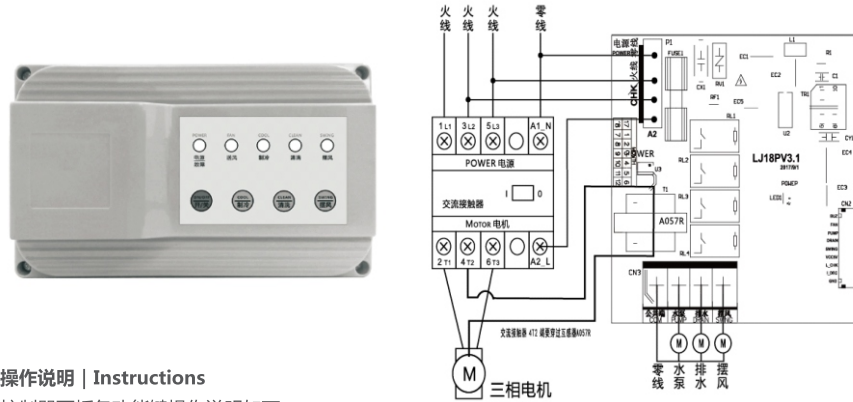
- 1、安装支架采用40#角铁制作，要求整洁、牢固。
- 2、机组安装时务必安装防震脚，一是可减少机组运行带来的震动，二是可调机组水平。
- 3、防震脚中心距务必890*890mm，以防底盘长时间运行变形。
- 4、为保证送风阻力最小，从主机接出的风管曲率半径应为管径的1.5倍，在1500*1500mm的板上开料，其它室内弯头的曲率半径同样为管径的1.5倍。依此才能达到最佳的送风效果。



Technical requirements:

1. The mounting bracket is made of 40 # angle iron, which is neat and firm.
2. Be sure to install anti-vibration feet when the unit is installed. One is to reduce the vibration caused by the operation of the unit, and the other is to make easier horizontal adjustment.
3. The center distance of shockproof feet must be 890 * 890mm to prevent the chassis from deforming.
4. In order to ensure the minimum air supply resistance, the radius curvature of the curved air pipe from the cooler should be 1.5 times of inlet duct, and the material is cut on a 1500 * 1500mm plate. Only in this way can the best air supply effect be achieved.

一体单速控制器操作说明 | Operating instructions of integrated single speed controller



操作说明 | Instructions

控制器面板各功能键操作说明如下：

操作说明：控制器面板各功能键操作说明如下：

开/关On/Off：开启和停止设备。

Start or Stop the machine.

制冷Cooling：开启制冷和送风模式Turn on cooling and supply mode (上电开机默认制冷模式 Defaulting cooling mode when turn on)。

清洗Clean：开启和关闭排水阀，排除设备的污水

Power on/ Power off the drain valve, to drain sewage from equipment

摆风Swing：开启和关闭摆叶的位置，控制不同的方向。

Adjust the position of the swinging leaf to control different directions

故障说明 | Fault description

1、380V电源输入未接好；

Power input is unconnected;

2、电机线未接好（电机过欠流）

Motor cable is unconnected(Motor overcurrent or undercurrent)；

3、电机已烧毁Motor is broken；

4、电机规格不符或风叶不匹配；The motor specifications do not match or the fan blades do not match.

5、同时点亮红色、蓝色灯且发出报警声--缺相；

Red and blue lights are on at the same time and alarm-- Phase loss

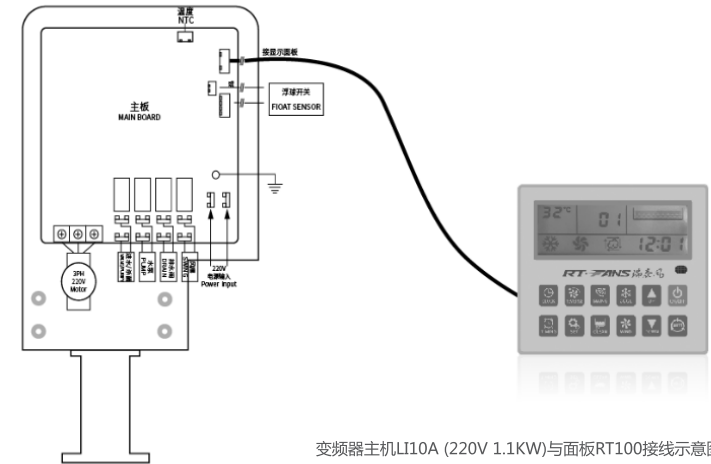
6、指示灯红色灯闪烁且发出报警声--过载；

Indicator light is flashing red and alarm—Overloading;

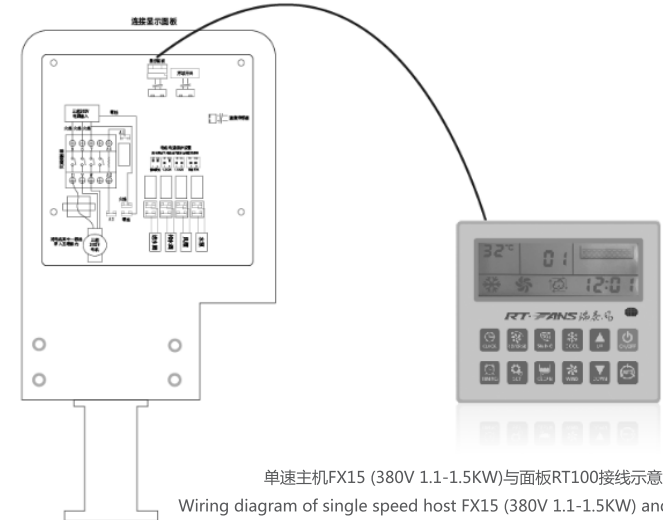
7、指示灯蓝色灯闪烁且发出报警声--欠流。

The indicator light is flashing blue and alarm—Undercurrent.

多功能控制器操作说明 | Multi-function controller operating instructions



变频器主机LI10A (220V 1.1KW)与面板RT100接线示意图
Wiring diagram of inverter host LI10A (220V 1.1KW) and panel RT100



单速主机FX15 (380V 1.1-1.5KW)与面板RT100接线示意图
Wiring diagram of single speed host FX15 (380V 1.1-1.5KW) and panel RT100

按键功能说明 | Key function descriptions

- 1.ON/OFF键：开关机键On/off。按下开机-关机-开机，如此循环。初次上电按开关键开机后默认为制冷模式。按开关键关机后，当前运行的任何模式都会被关闭。
ON/OFF: Power on/Power off, press to turn on/turn off the machine. The default is the cooling mode after the power is turned on for the first time. After pressing the key off, any mode currently running will power off.
2. AUTO键：自动模式功能，制冷+自动清洗功能。
AUTO: Auto mode, cooling and cleaning automatically.
3. COOL键：制冷模式功能，开启时预冷时间1分钟，1分钟后风机启动运行。
COOL: Cooling mode, pre-cooling for 1 minute when turned on, and the fan starts to run after then.
4. CLEAN键：独立排水功能，即执行此功能时会关闭掉其它运行的模式。排水5分钟后回待机。
CLEAN: Independent drainage. When this mode is operating, other operating modes will be turned off. After 5 minutes drainage the cooler will stand by.
- 5.WIND键：独立送风模式功能。
WIND: Independent air supply mode.
6. SWING键：摆叶功能键。只能开机状态下，自动/制冷/送风模式下方可开启，此三个模式之间切换时摆风不会被关闭。
SWING: Swinging blades. Only operates in Auto/Cool/Wind mode. Wind swinging will not be turned off when switching between these three modes.
7. CLOCK键：时钟设置键。24小时制，小时和分钟设置步进都为1。
CLOCK: Clock Set button. 24-hour clock. Hours and minutes setting stepping in 1hour/minute.
- 8.REVERSE键：抽风。
REVERS: Ventilating
- 9.UP键：上翻键，即“+”键。
UP: Page up. That is ‘+’.
- 10.DOWN键：下翻键，即“-”键。
DOWN: Page down. That is ‘-’.
11. SET键：系统工作参数的设定，只能关机状态下操作(具体请查看系统工作参数设置)
SET: System working parameter setting. Can only do this when the machine is powered off. (For details, please check the system working parameter settings)
12. TIMING键：待机或开机可设定开机和关机时间，初次上电默认无定时功能。24小时制，步进为10分钟。（定时时间到后设定时间一直保存除非用户取消定时）
TIMING: Can set the power on or off time when cooler is standby or powered on. Default no timing function in initial settings. 24 hours clock, stepping in 10 minutes.
(The set time will be saved after the timer expires unless the user cancels the timer)
- AUTO键，COOL键，CLEAN键，WIND键，REVERSE键在关机状态下可以操作显示相应的模式，但必须在开机后才可实现功能。
AUTO, COOL, CLEAN, WIND and REVERSE button can be operated and display the corresponding pattern, but only works while the machine is power on.
- CLOCK键，UP键，DOWN键，TIMING键在任何时候都可以操作实现功能。
CLOCK, UP, DOWN and TIMING button can be operated and realize the function at any time.
- SET键，只能在关机状态下操作实现功能。
SET button can only be operated and realize the function when the machine is power off.

故障检修 | Trouble shooting

故障代码 Fault code	故障状态 Failure state	可能原因 Possible cause	解决办法 Solutions
E1	过流保护，停机 Overcurrent protection, Out of service	1.电机损坏，短路；电机过热； Motor is broken, short circuit, motor overheating. 2.变频器主机电流检测电路故障； Inverter host current detection circuit fault 3.点击地线未接。 Ground wire is unconnected.	排查电机，若为异常则发回工厂检修变频器主机。 Check the motor, if it is abnormal then send back to the factory/distributor to overhaul the inverter host.
E2	过压保护，停机 Over voltage protection, Out of service	1.输入电压过高，单相220V(AC170V~270V)；三相380V(AC300V~460V)； Input voltage is too high, 1phase220V(AC170V~270V); 3 phase380V(AC300V~460V)； 2.电源输入端老化； Power input aging 3.变频器检测部分电路故障。 Detection section of the inverter malfunction	排查电机，若为异常则发回工厂检修变频器主机。 Check the motor, if it is abnormal then send back to the factory/distributor to overhaul the inverter host.
E3	过压保护，停机 Over voltage protection, Out of service	1.输入电压过低，单相220V(AC170V~270V)；三相380V(AC300V~460V)； Input voltage is too low, 1 phase 220V(AC170V~270V)； 3phase380V(AC300V~460V); 2.电源输入端老化；Power input aging 3.电源输入端老化或者电源线太小。 The power input terminal is aging or the power cord is too small.	排查电机，若为异常则发回工厂检修变频器主机。 Check the motor, if it is abnormal then send back to the factory/distributor to overhaul the inverter host.
E4	电流检测故障，停机 Current detection fault, Out of service	1.负载连接线未接好； 1. Load cable not connected; 2.变频器主机电流检测电路故障。 2. Inverter host current detection circuit fault.	排查电机，若为异常则发回工厂检修变频器主机。 Check the motor, if it is abnormal then send back to the factory/distributor to overhaul the inverter host.
E6	通讯故障停机 Communication failure shutdown	通讯线路故障 Communication line failure	检测通讯线接触和通断是否正常 Check if the communication line contact and continuity are normal
E7	过载故障 Overload fault	电机负载电流过大，堵转或水帘积尘土堵塞 Motor load current is too large, blocking or cooling pad dirt retention clogging.	检查电机规格，堵转，堵塞情况 Check the motor specifications, and clean or change cooling pad
另注：机器缺水时，面板上“开/关”键旁的指示灯亮红色。 Another note: When the machine is short of water, the indicator light next to the "On / Off" button on the panel lights red.			

注：如果面板显示以上的故障代码，请按故障原因进行排查，排查无误后故障依然存在请返回工厂进行处理，严禁非专业人员私自拆开维修。

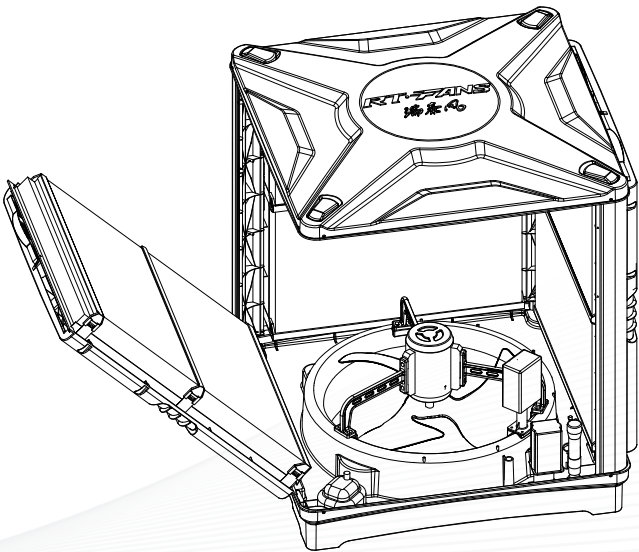
Note: If the above fault code is displayed on the panel, please check according to the cause of the fault. After the fault is checked, the fault still exists. Please contact factory/distributor for processing. Non-professionals are not allowed to open and repair it without permission.

常见故障分析 | Common failure analysis

故障现象 Fault code	常见原因 Common causes	检测方法 Detection method
冷气机不运行， 各按键无反应 Cooler does not run, no response from keys	停电或输入端不正确接线 Power failure or incorrect connection of input terminal	测量输入端电压要求连接电源 Measuring input voltage requires power supply
	电源或过流保护开路 Open circuit of power supply or overcurrent protection	更换同规格保险丝或重新打开开关；清洗过滤网。Replace the fuse of the same specification or restart; Clean the filter if blocked or too dirty.
	室内控制盒与室外机连线错误或断路 Incorrect connection or disconnection between indoor control box and outdoor unit	检查线路 Check the line
	控制器故障 Controller failure	更换同类型控制板 Replace the same type of control board
	电机过热保护 Motor overheat protection	20分钟后恢复 Recover after 20 minutes
	电机连接线松动或接触不良 The motor cable is loose or has poor contact	检查电机的各种接线方法是否正解 Check whether every wiring methods of the motor are positive solutions
	热继电器或接触器损坏 Damaged thermal relay or contactor	更换 Replace
制冷效果不好 Poor cooling effect	排风口不够大 The exhaust vent is not big enough	扩大排风口面积 Expand the exhaust area
	过滤网堵塞或肮脏 Filter is clogged or dirty	清洗过滤网，严重的予以更换 Clean the filter, replace it if necessary
	室外空气湿度过高 Outdoor air humidity is too high	夏季室外湿度太高,可关闭水泵,加强通风 The outdoor humidity is too high in summer, you can turn off the water pump and keep fan on for ventilation.
	水泵损坏 Pump damage	更换水泵 Replace the pump;
	缺水 Short of water	检查水路 Check the water line

维护与保养 | Maintenance

1. 为保证机组性能，请两星期左右进行一次漏网清洗，1-2个月对机组内部进行一次清洗。
To ensure the performance of the unit, please clean the filter net once every two weeks and clean the internal part of the unit once every 1-2 months.
2. 内部清洗步骤，注意一定要先切断机组总电源，将湿帘拆除，对水盆、水位、进水阀、排水阀、水泵、风叶等部件用柔软的布擦拭干净后，装回湿帘即可。
Internal cleaning : MUST cut off the main power supply of the unit before cleaning the internal parts. Take out cooling pad and clean it, clean the basin, water level, inlet valve, drainage valve, water pump, wind blade and other parts with soft cloth, install back to the right place.
3. 在使用季节开始前，检查机组周边及进风口有无阻碍物。
Before starting the season of use, check for obstructions around the unit and the air inlet.
4. 为防止细菌及异味发生，请每天按一至两次清洗键对机组进行清洗。
To prevent bacteria and odor, press the cleaning button once or twice a day to clean the unit.
5. 当长时间停止使用时，为防止冰结损坏机体及蚊虫滋生，请关闭水源，并按清洗键将水排干，并切断电源。
When out of season or before you stop using it for a long time, in order to prevent freezing damage to the body and breeding of mosquitoes, please turn off the water source, and press the cleaning button to drain the water before cut off the power.



瑞泰风蒸发式冷气机组保修卡 | Warranty card of RTFANS evaporative air cooler

保修条例 | Warranty Regulations

非常感谢您选择瑞泰风品牌的产品，请在使用前认真阅读使用说明书和本保修卡条例。

Thank you very much for choosing RTFANS, please read the instruction manual and this warranty card regulations carefully before use.

1. 当您选择了本产品后，请在15天内将填好的（用户回执）和发票复印件寄给本公司的当地经销商。

After you purchased this product, please send the completed (user receipt) and the invoice copy to the local distributor of the company within 15 days.

2. 经销商会对本产品实行跟踪服务，对于符合免费保修范围的瑞泰风产品，我公司提供壹年免费保修服务；保修期满及不属于免费保修范围内的故障处理均为有偿维修服务。

The dealer will carry out tracking service for the product, and manufacturer will provide one-year free warranty service for RTFANS products conforming to the free warranty scope; Warranty expiration and not free warranty within the scope of fault handling are paid maintenance services.

3. 本产品需维修，请通知经销商处，并同时出示此保修卡及发票。如对维修服务不满意，请直接与公司联系。

If the product needs to be repaired, please inform the local dealer, and show the warranty card and invoice at the same time. If you are not satisfied with the service, please contact manufacturer directly.

4. 以下情况不属于免费保修范围：

4. The following situations do not belong to the scope of free warranty:

*用户擅自更换机组内部零件造成的故障或损坏。

* The failure or damage caused by the user's unauthorized replacement of the internal parts of the unit.

*用户使用环境不符合要求造成的零件损坏或故障（如电压不稳定、水压太低、水源含杂质等）。

* Damage or malfunction of parts caused by the user's non-conforming environment (such as unstable voltage, low water pressure, and impurities in the water source).

*由于不可抗因素（如火灾、地震等）造成的故障或损坏。

* Faults or damage caused by force majeure factors (such as fire, earthquake, etc.).

*由于用户不正确安装或其他人为因素造成的故障或损坏。

* Faults or damage caused by user's incorrect installation or other human factors.

*如因客户没有保养底盘造成水泵卡死、烧坏、排水阀损坏等。

*The pump is stuck, burned and the drain valve is broken due to the customer does not make proper daily operation.

*因湿帘、黑网堵塞造成烧保险、风叶变形、电机故障、制冷效果不好等。

*Fuse burnt, Blade deformation, motor failure, bad cooling effect cause by the cooling pads and black net blocking.

用户存根 | User Copy

以下为用户存根，请您填写The following is the user copy, please fill in:

（请将此根保存好，送修时请出示此存根）

(Please save this copy, please show it when you need a repair or maintenance from distributor)

请填写如下产品信息：Please fill in the following product information:

产品型号Product model: _____ 序列号S/N: _____

注：保修期的起始日期为购买本产品的日期。

Note: the starting date of the warranty period is the date of purchase of the product.

请填写如下用户信息：Please fill in the following user information:

用户名称User name: _____ 通讯地址Address: _____

电话Tel: _____ 联系人Contact person: _____

请填写如下信息：Please fill in the following information:

经销商名称Dealer name: _____ 经销商电话 Dealer Tel: _____

联系人Contact person: _____ 购买日期Date of purchase: _____

发票号Invoice No.: _____

用户回执 | User receipt

以下为用户回执，请您填写The following is the user's receipt, please fill in:

（请将些回执沿线剪下，寄给本公司）(Please cut out some return slips and send them to us)

请填写如下产品信息：Please fill in the following product information:

产品型号Product model: _____ 序列号S/N: _____

注：保修期的起始日期为购买本产品的日期。

Note: the starting date of the warranty period is the date of purchase of the product.

请填写如下用户信息Please fill in the following user information:

用户名称User name: _____ 通讯地址Address: _____

电话Tel: _____ 联系人Contact person: _____

请填写如下信息Please fill in the following information:

经销商名称Dealer name: _____ 经销商电话Dealer Tel: _____

联系人Contact person: _____ 购买日期Date of purchase: _____