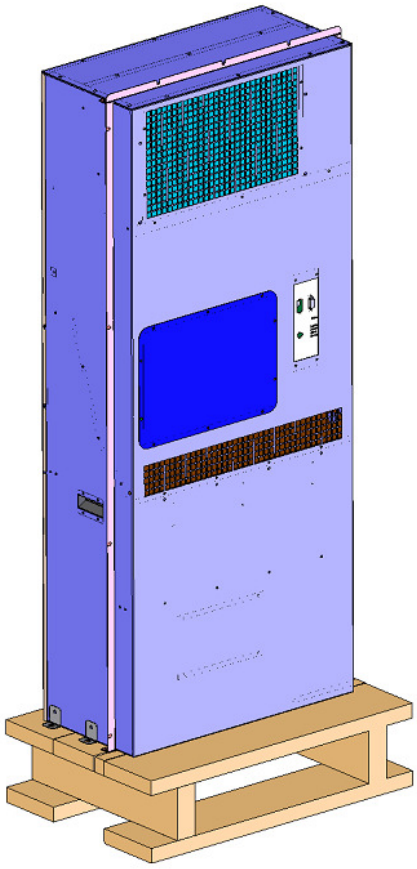
BBS2116 Service Manual

Edition A



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1. Introduction 简介

Purpose

目的

This Service Manual is addressed to the technical crew, who installs and maintains the BBS2116 air conditioner through all steps in its lifetime.

该用户/服务手册帮助工程师安装、维护和修理 BBS2116 空调.

The manual includes descriptions of functionality, replacement of parts as well as how to carry out preventive maintenance.

此手册包括功能描述，零件更换和如何进行定期维护.

Usage of the product.

产品使用

The BBS2116 is especially designed for cooling of electronic equipment and for indoor installation. The unit requires access to ambient air through slots on the backside of the unit. The unit must not be used for other purposes under any condition and should be installed and placed according to the instructions in this manual.

BBS2116 是安装在通讯设备内，使用周围空气通过机器后侧的开孔制冷设备，此机器不能用于其他目的，并且必须依照此手册的说明安装和更换。

Storage

存储

During storage and transportation the unit must be kept in an upright position.

在存储和运输中，机器必须保持向上的位置放置

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Declaration of conformity 符合性申明

Dantherm Group declares, that the BBS2116 is in accordance with the following directives and standards:

丹腾公司申明，BBS2116 依照如下指示和标准

Standard 标准	Name / Area 名称/范围
EN 292	Machine safety
EN 60 335-1	Low voltage
EN 60 335-2	Low voltage
EN 60 335	Electrical Machinery safety
EN 50 082-1	Immunity
EN 50 081-2	Emission
EN 50 106	Safety for electrical machinery
529-IP 55	IP rating according to IEC
CE	Declaration of conformity for machinery.

Michael Norgreen

General Manager, Dantherm Air handling (Suzhou) Co., Ltd.

Table of contents 内容

2. Installation and start-up 安装和启动

This section describes the procedure from unpacking to start-up.

在这部分将描述拆包启动的程序。

Package 包装

The unit can be delivered in different packages depending on shipping method, but the most common solution is each unit is wrapped with film and protected with paper corners. If that is the case, the film should carefully be cut open with a cutting tool.

机器必须按运送方式用不同包装来运输，通常解决方法是一台机器用薄膜包住并用护角纸保护好。这种情况下，薄膜必须用切割工具小心切开。

Contents in the package

包裹内容

The BBS2116 is delivered with an installation kit with the following content:

Quantity	Unit	Item description
1	Pcs.	BBS2116
1	Pcs.	Service manual
1	Pcs,	Rejection sheet metal (180922)

BBS2116 附带如下成套装置交货.

Tools

工具

For installation: 用于装置

- DC power supply (27.2VDC) 直流电源
- Small screwdriver 一个小螺丝起子

Mounting 装配

Mounting procedure

装配程序

The mounting procedure of the air condition unit should follow below steps:

1. Demount the package and mounting bracket screws (4pcs M8&M6).
2. Mount the unit on the chosen wall with 14 M5 screws with washers.
3. Mount the frame and door with M4 screws.
4. Connect the power cable and connector.

此空调必须按照如下步骤安装：

1. 卸下包装和安装支架螺丝钉（4 颗 M8 和 M6）
2. 用 14 颗有垫片的 M5 螺丝安装在选好的墙壁上
3. 用 M4 的螺丝安装框架和门
4. 连接电源线和连接器

DC power

直流电源

Place the main power cable, and connect it to the DC power supply.

放置并连接好直流电源线。

Start-up 启动

Plug and play.

插座与使用

Turn on the power and the internal fan will start running after several seconds.

开启电源，风扇将在几秒钟后运转。

Demounting 拆卸

If the unit by any need should be demounted the steps below should be followed:

1. Uninstall the main power cable from power supply. (Make sure that the power supply is powered off)
2. Demount all screws on the flanges.

在需要拆卸时，请按照下面的步骤拆卸：

1. 卸掉主电源线。（确保供电电源断掉）
2. 拆卸所有螺丝和法兰。

3. Identification of the Unit 机器的识别

All units have a silver type plate label, where all the important information about the specific unit can be found. Also the Dantherm address and phone numbers are printed here so the contact can be made on the site.

所有空调都贴有标明机器规格的重要信息的标签。在标签上也有丹腾公司的地址和电话号码。

Serial number

序列号

Especially the serial number is important, and should always be mentioned when Dantherm is contacted about issues concerning the specific unit.

序列号尤其重要，当涉及到丹腾公司机器的细节问题时都会用到该序列号。

4. Description of functionality 功能描述

General description

总体描述

The DC unit is a microprocessor controlled Heat Management System especially designed for heat management of electronic enclosures. The unit contains heater, fans as well as an active cooling section. The unit will work in extreme temperatures ranging from -33ºC to +50ºC.

直流机器是由一个微处理器控制热处理系统尤其是电器元件的热处理。此机器包括加热器，风扇和主要冷却部件。此空调的工作温度范围为-33ºC ～+50ºC。

Active parts

主要零件

The active parts that are controlled by the Control board are:

- Compressor
- Evaporator and condenser fan
- Heater element
- Inverter

控制板控制的主要零件有：

- 压缩机
- 蒸发和冷凝风扇
- 加热元件
- 逆变器

The controller manages the internal temperature based on the return air temperature.

控制板通过回风温度来控制内部温度。

Temperature

温度

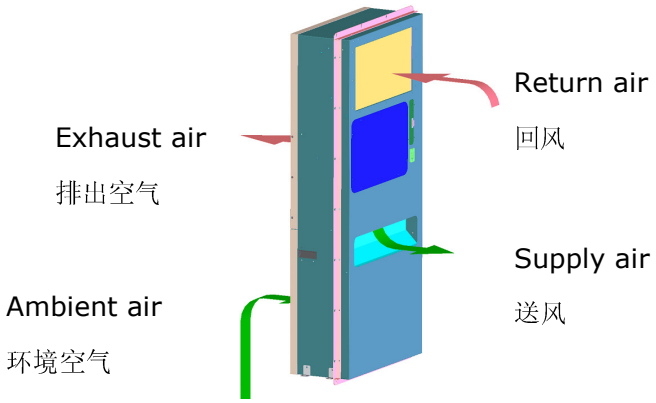
The following terms for temperatures are used in the following description (see below figure):

- Ambient temperature is the outside air temperature.
- Supply Air temperature is the temperature of the air leaving the unit to cool down the electronic equipment.
- Return air temperature is the temperature of the air entering the air conditioner from the electronic equipment.
- Condenser temperature is the temperature of the refrigerant from the condenser outlet.

下面几条是下述几种温度情况的描述（如下图）：

- 环境温度是外界的空气温度.
- 送风温度是离开空调用于冷却电器设备的风的温度

- 回风温度是从电器设备进入空调的风的温度
- 冷凝温度是从冷凝器出口制冷剂温度



Set points 设置点

The set points can be adjusted through controller software.

设置点可以通过控制板软件调整。

The table below shows all the set point related information.

下面的表格显示所有设置点的相关信息。

Standard settings 标准设置	Range 范围	Unit 单位	Description 描述	Function 功能
28	[16-30]	°C	Compressor 压缩机	If the return air exceeds set point the compressor starts. 如果回风温度超过设置点，压缩机启动。 If the return air drops to 16 °C the compressor stops. 如果回风温度低至 16 °C 压缩机停止。
7	[5-14]	°C	Heater 加热器	If the return air drops to set point the heater starts. 如果回风温度低至设置点加热器启动。 If the return air increases to set point + 14 °C the heater stops. 如果回风温度增至设置点+14°C，加热器停止工作。

Failure signal 故障信号

The following alarms will result in failure output: "Air conditioner malfunction."

Alarm items are attached in appendix1.

下列警告将导致故障输出："空调故障"警告项目附在附录 1 中

Description of functionality 功能描述

Control board operation

Designation 指示	Temp 温度	[°C]	Up 向上	Down 向下	[°C]	Temp 温度	Designation 指示
Internal fan runs 内风扇运转							
					70		
Condenser Fan starts on step III 冷凝风扇启动第 3 段	Cond. 冷凝	55			60		
High temperature alarm 高温报警	Return 回风	50			45	Cond. 冷凝	Condenser Fan starts on step II 冷凝风扇启动第 2 段
					40		
Compressor starts – minimum 3 min. 压缩机启动—最少 3 分钟 Condenser fan starts on step I 冷凝风扇启动第 1 段	Return 回风	28			30		
		22			16	Return 回风	Compressor stops 压缩机停止 Condenser fan stops 冷凝风扇停止
Heater stops 加热器停止	Return	14			10		
		7			7	Return 回风	Heater starts 加热器启动
		0			0		
		-5			-5		
		-10			-10		
		-15			-15		
		-20			-20		
		-25			-25		
		-30			-30		
		-33			-33		
Internal fan runs 内风扇工作							

Compressor operation 压缩机运转

Runtime protection

运行时间保护

A 1min forced runtime of the compressor is executed.

压缩机按每 1 分钟运行时间启动

If the HP/LP pressure switch is activated the compressor will stay off for 5 minutes.

如果高低压开关激活，压缩机将延缓 5 分钟。

Condenser fan operation 冷凝风扇运转

High / low speed

高/低速

The condenser fan is running whenever there is a need for cooling, and it is able to run at three different speeds.

冷凝风扇将在任何时候需要冷却时运转，它可以在 3 种不同速度运转

When the compressor starts it will activate the condenser fan to run for at least one minute at low speed. The condenser fan will switch into high speed if the condenser coil temperature is exceeding 55 [°C]. It will switch to medium speed again when the temperature is decreased to 45 [°C].

当压缩机启动时它将在至少一分钟后开始低速运转。当冷凝器芯温度超过 55°C 时冷凝风扇将转换为高速运转。当温度减至为 45°C 时它将转换为中速运转。

If the return air temperature decreases to 16 [°C] the compressor will stop even though it has been running less than three min. This will force the condenser fan to stop after one minute. The condenser fan will also stop if the condenser temperature drops to below 35 [°C]. This will take place until the condenser temperature exceeds 35[°C] again.

如果回风温度减至 16°C，尽管压缩机只运行了不到 3 分钟也将要停止。这时冷凝风扇将在一分钟后被迫停止运转。如果冷凝温度降至 35°C 时冷凝风扇也将停止运行。它将在温度超过 35°C 再次启动。

Both serial output and visual information will appear if the condenser temperature exceeds 55 [°C]. At the same time a trip led will be lit, which will stay on until the DC supply is switched off.

如果冷凝温度超过 55°C 时连续输出和可见信息都将出现。同时错误指示灯将继续显示，直到直流电源切断。

Heater operation 加热器运转

The heater is turned on and off by the control board according to the set point-see table above in the section: Set points.

加热器的开与关由控制板按照在“设置点”部分的表格中的设置点来控制的。

Internal fan operation 内风扇运转

Always running

持续运转

The purpose of the internal fan is to circulate the internal air, and therefore the internal fan will constantly be running when the power supply is turned on.

内风扇的目的是使内部空气循环，因此内风扇将在电源接通后持续不断的运转。

5. Functionality testing 功能测试

The control board includes a test function, which can be activated by pressing the test button on the controller for three seconds.

控制板包含测试功能，当按下控制板上的测试按钮时此功能将可激活。

Steps 步骤	Component 元件	How to do! 如何操作
1	-	Press test button in for 3 sec. 按下测试按钮 3 秒钟
2	Heater 加热器	Check heater voltage on controller or feel heat in air inlet. 检查控制板上加热器电压或在进风口感觉热度。
3	Compressor 压缩机	Check visually if the compressor turns on. 视查压缩机是否运转
4	Condenser fan (step I) 冷凝风扇（第 1 部）	Check visually if the condenser fan starts. 视查冷凝风扇是否启动

6. Technical data 技术数据

Performance: Ambient/return = 35 ℃ / 35 ℃ 性能：环境/回风＝35 °C / 35 °C			
Specification **规格**	**Unit** **单位**	**Designation** **设计**	**Value** **值**
Loads 功率			
Cooling capacity 制冷能力	W	Incl. osmotic heat and solar gain 包括渗透热量和太阳光热量	0.30-0.45 kW
Heater 加热器	W	Heat dissipation (nominal voltage-24VDC) 热量（在额定电压 24VDC）	365
Refrigerant 制冷剂	g	R134a	480
Flow 风量			
Internal 内侧的	M^3/h	Return temperature 回风温度	330
External 外侧的	M^3/h	Ambient temperature 环境温度	500
Pressure 压力			
Operation 操作	Pa	Operating pressure 操作压力	101,3 (70-106)
Disp.	Pa	Estimated pressure drop internal 估计内侧压降	75
Drop 压降	Pa	Pressure drop in climate unit (int.)	60
Temperature 温度			
T_{cool}	°C	Cooling set points 冷却设置点	27.2[+16 – +30]
$t_{operate}$	°C	Operating temperature 操作温度	-33 - +50
Noise level 噪音等级	dB(A)	Sound Power @ 45 [°C]	66
		Sound Power @ 25 [°C]	60

Technical data 技术数据

Cabinet data 机柜数据			
Specification 规格	**Unit 单位**	**Designation 指示**	**Value 值**
Dimensions.尺寸	mm	Height x Width x Depth	1229 x 510 x 249.5
Weight 重量	kg	Total	40
Metal sheet material 板金材料	mm	Aluzinc & stainless steel 覆铝锌板和不锈钢	1,0 / 2.0
Packaging 包装	-	Customer requirement 客户要求	Pallet + plastic + Corners 栈板＋塑料件＋护角
Signal 信号	-	Type signal and warnings	-

Electrical data 电气数据			
Specification 规格	**Unit 单位**	**Designation 指示**	**Value 值**
Voltage supply: 电压	VDC	Single－phase 单相	DC20.5-29V, ⎓
Rated Power consumption.额定功耗	W	Measured at specified condition 在指定条件下的标准值	381
Rated Current 额定电流	A	Measured at specified condition 在指定条件下的标准值	12,5-14,5A
Max. start current 最大启动电流	A	Compressor start-up 压缩机启动	31

7. Optional features 可选特性

This section describes the additional features, which the Danlink is prepared for in order to make the usage and operation of this thermal solution even more effective and reliable.

这部分描述一些丹兰额外特性，它是为热解决方案有效可行地使用和操作而准备的。

Dantherm Group offers a complete solution for monitoring the unit from a remote location. This feature is named Danlink, which can transfer all data from up to 30 ACU units on one site to a surveillance centre.

丹腾公司提供一个在沙尘地区监视空调的完整解决方案。这个可以将 30 个空调所有数据从一个地点传递到监视中心的特性叫做丹兰。

Main features

主要特性

Following points are the main features of the Danlink:

- Calls up a central when alarm occurs on site.
- Calls automatically the site with a flexible interval to get status info.
- Performing testing from a central point.
- Change of set-points from a remote location.
- Monitor various parameters for a given time period.

以下几点是丹兰的主要特性：

- 当某处出现报警时可召唤.
- 以灵活的时间间隔自动地调用状态信息
- 从中心点做性能测试
- 从偏远的地区改变设置点
- 在一特定时间段监视各种参数。

Danview

Another feature ， the Display called Danview. With that feature installed the product surveillance on site will be much more effective and precise with historical information.

另一种特性叫做 Danview。安装在产品监视带有这种特性将更加有效精确地获得历史信息。

Main features

Following points are the main features of the Danview:

- Relevant information can be displayed

Optional features 可选特性

- Registration of failures together with information about time.
- Registration of total runtime
- Capable of handling 16 identical units at a time.

以下几点是 Danview 的几种特性：

- 可显示相关信息
- 失败登录和信息时间
- 总的运行时间的登录
- 在同一时间处理 16 台空调的能力

8. Preventive maintenance 定期维护

This heat management system contains moving mechanical parts, and is often placed in rough environments with high temperatures, humidity and dirt. To keep the air conditioner in a shape where it will Perform according to the specifications, preventive maintenance has to be carried out.

这个热处理系统包括可移机构件，它可以在高温潮湿污垢的恶劣环境下经常更换。执行定期维护可保持空调按规格正常运行。

Caution

警告

Do not start working on the unit before the DC supply is safely switched off. Do not switch it on before all the work has been performed and the unit is ready for use. **Only trained and certified technicians are allowed to carry out replacement of parts and other maintenance tasks!**

在直流电源安全关闭前不要在空调上维护。在维护完成并准备使用前不要接通电源。仅受过培训并被鉴定的技术员才能执行零件更换或其他维护任务！

Tools

工具

Needed equipment 需要设备	To carry out...执行
Vacuum cleaner or compressed air. 真空吸尘器或压缩气	Carefully clean the unit 认真清洁机器
Soft bristle brush 柔软的鬃刷	Remove dirt that the vacuum cleaner or compressed air could not remove 去除吸尘器或压缩气体不能移走的灰尘
Screwdriver and bits. 螺丝起子和附件	Tighten loose screws 扭紧松掉的螺丝

Like a car the units need to be maintained with at regular interval to prevent an overheated situation causing the BTS to shut down. Also lack of maintenance could cause unnecessary pollution to the environment.

就像汽车一样空调也需要有规律地维护来防止过热情形下引起的 BTS 关闭。同时缺少维护将引起不必要的空气污染。

The interval between the preventive visits should not exceed 6 months. The visits should be planned so that one of the visits is done before and after the hot season. In that way the air conditioner will be ready, when the demand for cooling is high.

维护周期不要超过 6 个月。维护应该在计划好以便维护可以在炎热季节前后完成。这样空调将会在高制冷需求时准备好。

Conditions of warranty

质保

The factory warranty is only valid if documented preventive maintenance has been carried out with an interval of maximum 6 month. The documentation could be in form of a written log on the site, or a report from the computer test pro-

gram.

工厂质保只在以 6 个月为周期的定期维护执行的情况下才有效。文件必须是书面登录或计算机测试报告的形式。

Recommended maintenance approach 推荐维护方法

The recommended approach when performing a preventive maintenance visit is:

执行定期维护的推荐方法：

Step 步骤	Action 动作
1	Make sure that the power to the unit is safely switched off. 确保电源已安全切断。
2	Clean the unit carefully for dust especially at: Air ducts, Fans, Condenser and evaporator coils. 认真清洁机器上的灰尘，特别是在空气输送管，风扇，冷凝器芯和蒸发器芯
3	Perform a test simulating all temperatures within the specified temperature range. 在规定温度范围内执行模拟温度测试。

Checklist

检查清单

Checklist	Yes	No
Are the fans, and the compressor clean and free of corrosion? 风扇和压缩机是否干净并没有腐蚀？		
Are the fans and the compressor mounted securely and free of excessive vibration? 风扇和压缩机是否安全地安装并且没有过多的摇动？		
Is the compressor free of excessive noise? 压缩机是否没有过大的噪音？		
Are the coolant pipes free of obstructions, damage, corrosion and show no obvious signs of leakage? 冷却管是否没有堵塞、损坏、腐蚀和明显可见的泄漏？		
Are the coil lamellas clean and undamaged? 芯片是否干净和无损坏？		
Are all fan blades free of obstructions, cracks, missing blades and in balance? 风扇的叶片是否无堵塞、裂缝、缺少叶片和平衡？		
Do the fans rotate freely and are they free from excessive vibration or noise? 风扇是否自由旋转，并且是否无过大振动和噪音？		
Is all wiring and insulation undamaged? 配线和绝缘材料是否无损坏？		
Are all connectors seated properly and in good conditions? 连接器是否在适当的位置，是否完好？		

Before leaving the site!

在离开前

Make sure that there are no alarms and that the BTS is in operation before leaving the site.

确保无警报并且 BTS 在离开前正常运行。

9. Replacement of spare parts 更换部分零件

When to replace

何时更换

No components in the BBS2116 are to be replaced regularly. This section is therefore only describing how to replace the spare parts if they are not running smoothly – so only replace if the component is faulty!

BBS2116 中没有零件是经常更换的。因此这部分只描述部分零件没有平缓运行时如何更换它

们－所以只更换有毛病的零件!

Before the demounting the old spare part it is very important to order the new spare part from Dantherm. To do this most effectively the product version and serial number should be checked so this information can be passed on when ordering. This information can be found on the silver type plate on the cabinet.

在拆卸旧零件前向丹腾公司订购新的零件。为了最有效的完成此过程，请检查产品的版本和序列号并在订购前传递给丹腾公司。这个信息可以在箱体上的银色型号标签上找到。

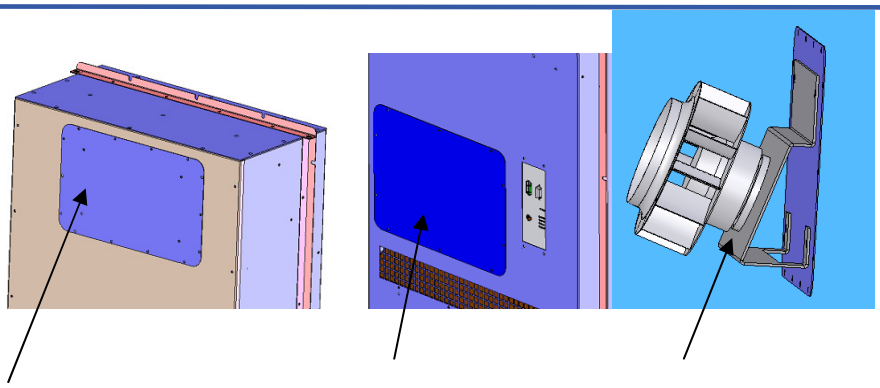
Replacing the internal fan (see below pictures)更换内风扇（如下图）

Step 步骤	Action 行动
1	Remove screws on the internal fan holder2.(see step1) 去除内风扇支架 2 上的螺丝。（如步骤 1）
2	Remove screws on the service cap and thereby unplug the cable connector. (see step2) 去除盖子上的螺丝，拔去连接线。（如步骤 2）
3	Pull out the internal fan assembly, remove 4 screws & cable ties on internal fan holder1 & 2 and replace the internal fan. (see step3) 拿出内风扇套件，去除在内风扇支架 1&2 上的 4 颗螺丝和绑带，然后更换内风扇（如步骤 3）

Replacement of spare parts 更换部分零件

Illustration

图例



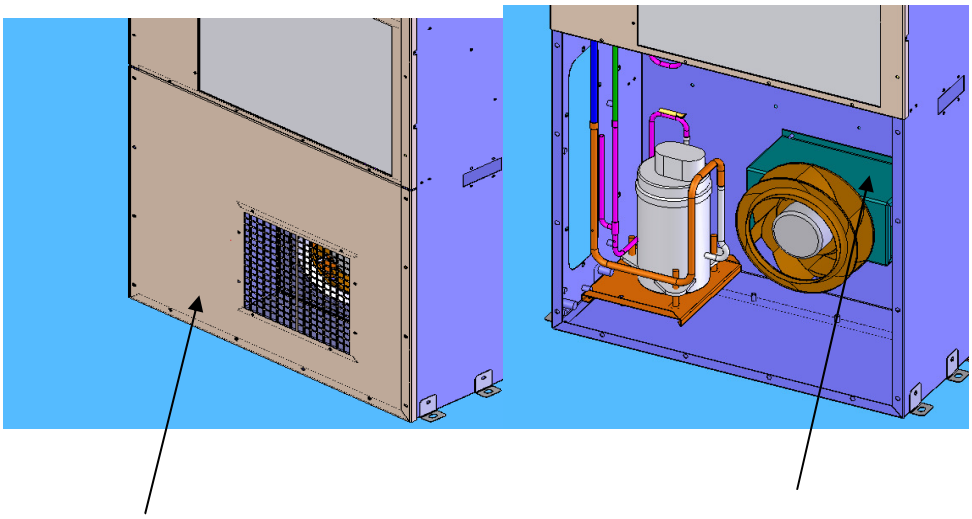
internal fan holder2
内风扇固定器 2
Step1

service cap
盖板
Step2

internal fan holder1
内风扇支架 1
Step3

Replacing the external fan(see below pictures)更换外风扇（如下图）

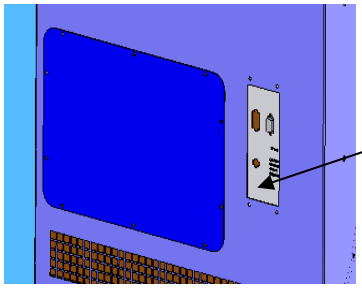
Step 步骤	Action 行动
1	Remove screws fixing the external fan cover. 去除固定外风扇盖板的螺丝
2	Unplug the connector and remove four screws on external fan cover plate. 拔掉连接头，除去外风扇盖板上的 4 颗螺丝。
3	Replace the external fan by remounting four M6 screws and power connector. 拆卸 4 颗 M6 的螺丝和电源连接器，更换外风扇。



external fan cover	external fan cover plate
外风扇盖	***外风扇盖板***

Replacing the control board (see below pictures)更换控制板（如图示）

Step 步骤	Action 行动
1	Make sure that the power to the unit is safely switched off. 确保电源已安全断开。
2	Remove service cap and disconnect all cables mounted on the control board. Pay attention to note the number relating to the control board pins. 除去外罩，拔掉所有与控制板连接的线。注意注明与控制板插脚相应的号码。
3	Unscrew the 4 machine screws on the controller supporter and pull it out. Unscrew the 4 machine screws (M3) fixing the control board. Pay attention to the screws and nylon distance washer so it is not lost. 旋开并拔出控制板支架上的 4 颗螺丝。旋开固定控制板的 4 颗螺丝。注意不要丢失这些控制板上的螺丝和尼龙垫圈。
4	Replace the control board with the new one by fixing it with the 4 screws (M3) on the nylon distance washers. 更换控制板并在尼龙垫圈上用 4 颗新的 M3 螺丝固定它。
5	Reconnect all cables according to front notes. 根据先前注明的号码重新连接线。



Replacing the heater(see below pictures)更换加热器（如图示）

The heater is located below the evaporator coil on the internal site. If the heater should be replaced the following steps should be followed:

加热器置于内侧蒸发器的下方。如果必须更换加热器按下面步骤操作：

Step 步骤	Action 行动
1	Remove screws on the service cap, and remove it from the unit. 除去盖板上的螺丝，并从机器上取下。
2	Remove two nuts on the heater bracket which fix the heater and thereby unplug the cable connector. 移除 2 个固定加热器的支架上的螺母，并拔掉线接头。
3	Take the heater bracket and heater out of the unit. 将加热器和加热器支架拿出机器。
4	Replace the heater with a new one and fix it. Remember to reconnect the cables. 更换新的加热器并固定好。记住将线连接好。

Heater bracket

加热器支架

10. Scrapping 报废

Introduction

介绍

The air conditioner is designed to last for a number of years. When the time comes that the unit needs to be scrapped the following precautions should be taken to protect our environment.

空调的寿命能持续若干年，当机器到了报废的时候，要注意以下几点以保护我们的环境。

Please note that the guidelines are general – local rules and procedures may overrule these guidelines and should be observed and followed carefully.

请注意总的指导方针是遵循当地的法规 和程序。

Main components

主要部件

The main components of the unit are:

- The cooling circuit including the compressor, coils and refrigerant liquid.
- The printed circuit boards (PCB's) with electronic components and connecting wires
- Fans
- Metal parts such as shell.

主要部件有：

- 制冷循环包括压缩机、芯和制冷剂。
- 具有电子部件的主板和电线
- 风扇
- 钣金等等。

Cooling circuit 制冷循环

Refrigerant gas

制冷气体

When scrapping an air conditioner the refrigerant needs to be removed from the unit even though the air conditioner is using a environmental friendly type of refrigerant gas named R134a.

空调报废时需要将制冷剂从机器中移除去，即使空调使用等是环保型制冷剂 R134a。

Only a certified cooling technician should carry out the evacuation by using the necessary evacuation and recycling equipment. If the refrigerant gas is not to be recycled by the evacuator it must be passed on to the local authorities for decomposition.

只有有鉴定资格的技术员才能使用必要的撤除和回收设备撤除。如果制冷气体不用撤除器回收，必须经当局许可才分解。

Compressor

压缩机

The compressor contains oil and precautions must be taken to prevent the oil from polluting our environment. The compressor should together with the copper

tubes be left at local recycling authorities.

装有油的压缩机必须被防范以防止空气污染。压缩机和铜管应该留在当地的回收机构。

PCB

In most places there are local rules for scrapping PCB's as well as for connecting wires, and these rules are to be followed. Generally it is important to separate the metal parts from the wires and PCB's before scrapping.

在大多数地方，都由当地的法规规定了 PCB 与连接线废弃方法。 一般地，在废弃前，非常重要的一点就是要将钣金件与连接线和 PCB 板分开。

Fans 风扇

The fans consist of plastic, metal and an internal PCB. They are subject to recycling and should be left to the local"scrap dealer".

风扇是由塑料，金属和内部的 PCB 组成。它们可以进行循环利用,应当送到当地的废弃物经销商.

Metal parts

The metal parts are uncritical to scrap and can be left to local"scrap dealer". A few parts might have a thin visible layer of PVC-foam insulation. In that case the PVC should be separated from the metal part and scrapped separately.

钣金件的废弃要求不高，可以送到当地的废弃物经销商，零件可能有微小的可见绝缘层，在某种 程度上，绝缘层应当与钣金和循环利用单独分开。

Appendix 1 附录 1

LED Indication List							
Seq. No.	Failure Name	LED1 (GREEN)	LED2 (RED)	LED3 (YELLOW)	LED4 (YELLOW)	Comment	Alarm
1	Controller Power Off	F	F	F	F		
2	Controller Power On	O	F	F	F		
3	Compressor Running Delay	O	F	F	B		
4	Air Conditioner Run Normally	O	F	F	O		
5	Heater Run Normally	O	F	O	F		
6	Compressor Failure Alarm (Motor Protector Open)	O	O	O	O	Air Conditioner shut down	ON
7	Compressor Failure Alarm (Motor Protector Open)	B	O	O	O	AC start again after 5 minutes delay	
8	Pressure Switch Failure Alarm	O	O	F	O	AC shut down after 6 cycles(Include low evaporating pressure protection, high condensing pressure protection and pressure switch failure)	ON
9	Pressure Switch Failure Alarm	B	O	F	O	AC start again after 5 minutes delay	
10	DLT Sensor Failure	O	O	O	B		ON
11	High Discharge Line Temperature Issue	O	O	O	F	Air conditioner will shut down and lock after DLT overheat failure 6 times within one hour	ON
12	High Discharge Line Temperature Issue	B	O	O	F	AC start again after 5 minutes delay	
13	High Enclosure Temperature Alarm	O	B	O	B	AC keep implement cooling mode	ON
14	Low Enclosure Temperature Alarm	O	B	B	O	AC keep implement heating ing mode	ON
15	External Fan Failure Alarm	O	B	B	F	AC keeps running	ON
16	Internal Fan Failure Alarm	O	B	F	B	AC keeps running	ON
17	All Enclosure Return Air, Condenser and On-board Temperature Sensor Failure	O	B	O	F	Turn on compressor and external fan run at full speed	ON
18	Enclosure Return Air Temperature Sensor Failure	O	B	F	O	AC keeps running	
19	Condenser Temperature Sensor Failure	O	B	B	B	AC keeps running	

Note: F--OFF
O--ON
B--BLINK