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Catalog YFIMF-D REV.1 January 2020

**INFINAIR®英飞**

# YFIMF-D

## 高效全混流风机

Inline mixed flow fan-wheel type F

**INFINAIR®英飞**

英飞同仁风机股份有限公司  
INFINAIR CORPORATION

地址：上海市嘉定区外冈镇清能路55号  
Add: NO. 55 Qingneng Road, Waigang Town,  
Jiading District, Shanghai  
邮编(P.C.)：201806  
电话(Tel)：86 21 39185688-6896  
售后服务电话：400 821 3316  
[Http://www.infinair.com.cn](http://www.infinair.com.cn)



- “猎风者”系列专利的全混流叶轮设计，前盘与入口文丘里管精密配合，减少气体泄漏和紊流
- 全混流噪声特性，低频安静，气流经导流栅整流后更顺畅，进一步提高静压效率，降低噪声
- 叶轮及过流部件模具成型，专机定位连续焊接，一致性好，可靠性高
- 直联多叶片角度选择，带联转速配比，性能范围更广，选型更优
- 通过多项权威认证：AMCA, CCCf, CNEX, TUV
- 平衡等级高达G2.5 (AMCA 204)



## 公司介绍

秉承绿色环保与智能互联的未来发展理念，英飞风机始终坚持在通风领域，坚持不懈投入研发，并以“可靠便利，环保节能，智能互联”作为我们试图为您创造的核心价值。

成立时间：2003年9月  
占地面积：33,000 m<sup>2</sup>  
地址：上海市嘉定区清能路55号

**服务网络：**  
公司的营销和服务网络覆盖中国和全球主要地区（包括亚太、北美、欧洲、中东等地），为客户提供及时的技术支持和可靠的售后服务。

**公司愿景：**  
成为最值得信任的专业空气运动与控制、调节品牌

**公司使命：**  
提供最可靠、便利的空气运动与控制、调节服务

**荣誉资质：**  
高新技术企业  
上海著名商标：**INFINAIR®英飞**  
上海名牌产品：英飞风机  
SGS ISO 9001、ISO 14001、OHSAS 18001管理体系认证

**技术实力：**  
英飞空气动力实验室，荣获CNAS（中国合格评定国家认可委员会）国家实验室认可  
中国大陆首家荣获AMCA（国际空气运动与控制协会）认可的实验室  
众多产品具备国际AMCA认证、TUV认证、CE认证，国家防爆及消防认证等



## Company Info

INFINAIR is committed to providing high-quality products and friendly services to our customers throughout the world. We strive to consistently meet or exceed our quality standards in the design, manufacturing and distribution of products to our customers. We are also determined to be different in caring our environment through innovative ideas.

Established: September, 2003  
Area : 33,000m<sup>2</sup>  
Company Address: No.55, Qingneng Road, Waigang Town, Jiading District, Shanghai, P.R. China

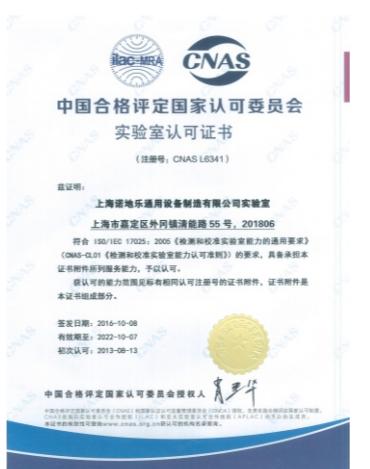
**Extensive Service Network:**  
INFINAIR's extensive marketing and service network covers China and major regions of the world (including Asia Pacific, North America, Europe, the Middle East, etc.), providing customers with timely technical support and reliable after-sales service.

**Company Vision:**  
To be the most trusted brand in ventilation industry.

**Company Mission:**  
Provide reliable, convenient air movement controls, operations and services.

**Awards and Achievements:**  
High-tech Enterprise  
Renowned Shanghai Trademark: **INFINAIR®英飞**  
Shanghai Famous Brand Product : INFINAIR FAN  
SGS ISO 9001, ISO 14001 and OHSAS 18001 Management Certificates

**Technological Strength:**  
INFINAIR's Air Movement & Sound Laboratory is the first Air Movement and Control Association (AMCA) accredited laboratory in mainland China.  
It is also certified by Chinese National Accreditation Service for Conformity Assessment (CNAS).  
Most of the INFINAIR's products are tested and certified by many international certification bodies such as AMCA, TUV , CE, CCC, CNEX, etc.



中国合格评定国家认可委员会(CNAS)  
国家实验室认可证书



Certificate Issued by Chinese National Accreditation Service for Conformity Assessment (CNAS)



AMCA ( 国际空气运动与控制协会 )  
实验室认可书  
Certificate of AMCA (Air Movement and Control Association) Accredited Laboratory

## 英飞智能通风技术

- 智能需求感知：随荷载变动、环境变化动态确定运行目标。
- 智能工况调整：变频或EC智能控制技术在智能调速软件的动态控制下，性能紧密贴近真实需求。
- 智能实时通讯：通过多种通讯技术，链接互联网或局域网，实现与中控系统及移动终端的智能通讯。
- 智能预警：可靠的传感器提供了故障的早期征兆，实现智能预警，保证系统稳定运行。

## 飞鹰服务

- 联合研发：通过与客户共同开发，以及质量的先期策划，来快速提供真正有效的解决方案。
- 配套定制：我们的定制服务通过渐进明晰的过程，帮助您找到精确的需求。
- 敏捷服务：遍布全国的英飞售后服务工程师，敏捷提供专业服务。

## 绿色智能环保技术

- 流场模拟分析技术：  
对叶轮气动模型的性能（风量，风压，功耗，声音）预测提供模拟计算，不必制作样机而预知性能，快速优化。
- 有限元分析技术：  
针对受力和材料特性进行结构可靠性分析。

## 英飞仿生技术

- 英飞节能仿生  
鹦鹉螺为什么可以轻松浮动和游走？鸟类是如何以极低的能耗翱翔千里？
- 英飞降噪仿生  
猫头鹰的静音飞行，为什么敏感的老鼠也毫无察觉？  
自然界生物在千万年进化过程中，如何节约能量进行迁徙，或者在抓捕猎物的时候做到悄无声息？  
仿生技术对于英飞风机的研发，提供了重要的灵感。

## 英飞智能制造技术

- 智能化生产流水线
- 在线测功、动平衡和通讯检测
- 机器人焊接工艺
- 敏捷的精益生产
- 6Σ体系

## 认证及检测

- 产品普遍通过国内外认证：  
CCCF, AMCA, TUV, CE, ATEX, UL, RoHS, ErP2015等。
- 产品性能及可靠性检测：  
风量，风压，功率，声音，高低温耐久，盐雾，淋雨等。

### 物联

- 矩阵互联
- 中控互联
- 终端互联



## INFINAIR's Intelligent Ventilation Technology

- **Smart Needs Identification:**  
It can dynamically adjust the operation target to the changing load and environment.
- **Intelligent Adjustment:**  
The use of inverter or EC smart control technology can make the fans achieve best results under the control of the intelligent speed regulation system.
- **Intelligent Real-time Information:**  
Individual workstations are linked to the central control system through internet or local area network.
- **Intelligent Detection System:**  
Reliable sensors can detect early symptoms and notify the user, ensuring stable operation.

## INFINAIR's After-sales Service

- **Joint Research & Development**  
The Joint R&D can provide customer the necessary support and guidance during the initial research progress.
- **Customization**  
Our products are fully customizable. We are able to satisfy customer requirements on an individual basis.

## Green Smart Technology

- **CFD Simulation & Analysis**  
A computer-aided air movement simulation model can calculate the efficiency of the fan based on the number of blades, blade angle, width, and sound level.
- **Finite Element Analysis Technology**  
To analyze and provide accurate prediction of how material is likely to respond when subjected to structural and/or thermal loads.

## INFINAIR's Bionic Technology

- **INFINAIR's Bionic Energy Conservation**  
We develop energy saving products by observing behaviors from the animal kingdom. How can birds fly thousands of miles with extremely low energy consumption?
- **INFINAIR's Bionic Sound Reduction**  
Why owls can fly so silently? Even mice are not being able to detect their approach?  
The research and development of INFINAIR's products are heavily inspired by the animal evolution over the past millennia. We have learnt how energy and sound are being able to conserve from their amazing changes.

## INFINAIR's Intelligent Fabrication

- Intelligent fabrication process
- Power test, dynamic balancing test and communication test performed on the production line
- Robotic welding technology
- Lean production
- 6Σ system

## Certifications and Tests

- **Most of the products are certificated by:**  
CCCF, AMCA, TUV, CE, ATEX, UL, RoHS and ErP2015.
- **Performance and Reliability Tests:**  
Airflow, Air Pressure, Power, Sound Level, Temperature Durability, Salt Spray and Water Proof Test, etc.

## Connectivity

- Matrix Connection
- Central Connection
- Terminal Connection

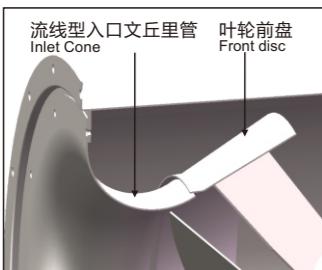


## “猎风者”系列全混流叶轮 “Wind Hunter” series Mixed Flow Impeller

### 全新的叶轮形式 Brand New Impeller Design

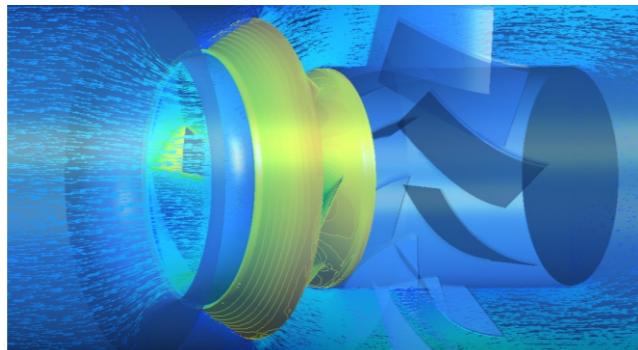
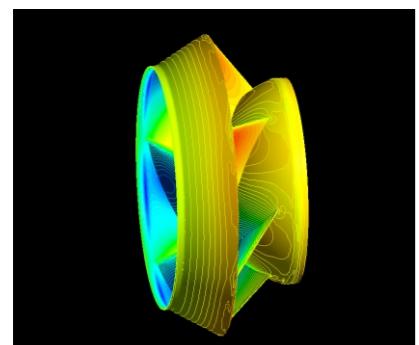
全混流叶轮自带与入口文丘里管精密配合的前盘，减少气流泄漏和紊流，提升效率、降低噪声。

The inlet bell and the shroud cover are precisely connected, minimizing the backflow and leakage caused by pressure difference.



### 先进的设计方法 Advanced Design

采用CFD流场模拟与实验验证的方法，反复优化的气体流道设计，使得该系列叶轮效率较传统混流叶轮大幅提升。  
Unique airflow characteristics. Our engineers have repeatedly optimized the wheel with countless CFD simulations.



### 先进的加工工艺 Advanced Fabrication

叶轮及过流部件采用模具成型，专机定位连续焊接，强度高，定位准确，确保加工的精度，产品性能更可靠。  
The wheel and other fixtures are made from a special designed mold and are continuously welded. Ensuring maximum strength is maintained.

### 高平衡等级 High Balancing Level

叶轮经过两次动平衡校验，分别是在焊接完工后及表面环氧喷涂处理后，其平衡等级高达G2.5 (AMCA 204标准)，远高于国标要求的G6.3等级，大幅提升叶轮运转的平稳性，降低振动和噪声。

The balancing level of the wheel is up to G2.5 (AMCA 204) which is much higher than the standard G6.3 required internationally. Stability is greatly increased thus lowering the vibrations and noise.

### 最佳的声音特性 Lowest Noise Level

性能介于轴流与离心叶轮之间的全混流叶轮，我们通过AMCA噪声实验室 ( AMCA 300标准 ) 检验发现，全混流拥有最佳的声音特性，人耳感受更轻。

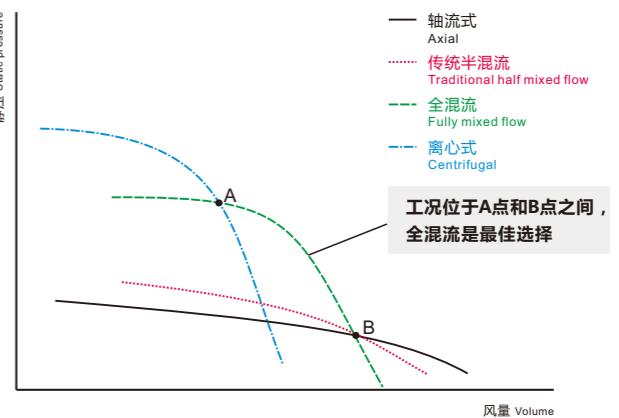
The YFIMF-D has the lowest noise level over the axial and the centrifugal fan.

### 产品特点 Product Characteristics

#### 全混流的性能特性 Performance Characteristics

全混流的性能介于轴流与管道离心风机之间，区别于传统混流偏轴流的性能特性，拥有更高的效率和更低的噪声，与管道离心式相比，风量更大，与轴流式相比，压力更高。在图示AB区间选型时，相同转速下全混流比管道离心式机号小，在相同机号下全混流比轴流式转速低。

The mixed flow fan has larger air volume over the centrifugal fan and higher air pressure over the axial fan. When placing them under the same working conditions, the mixed flow fan has more advantages over the others in terms of performance and noise level.



### 高效率，大大节省运行成本 High Efficiency

通过反复优化的叶轮以及内风筒上导流栅的设计，确保气体在输送过程中拥有最佳的流动特性，减少紊流、泄漏损失，提升效率。  
获得中国能效等级1级认证。

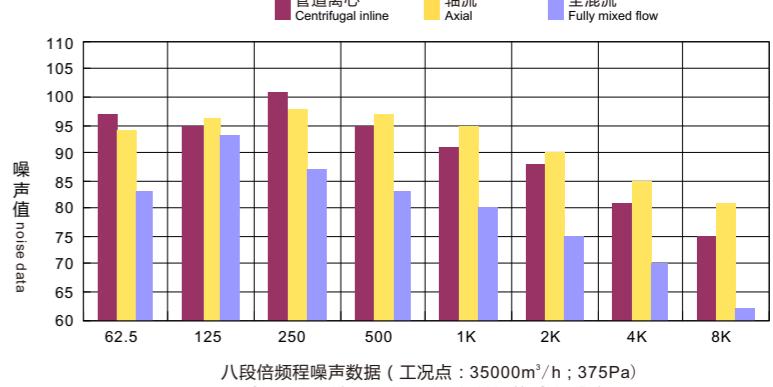
The design of the wheel and guide vane has been repeatedly optimized to assure high efficiency, leakage free and low turbulence.  
The models YFIMF-D shown herein are rating 1 of China Energy Label.



### 完美的声音品质：低频，更安静 Better Sound Proofing

全混流风机的静音品质来源于它的气动结构设计以及总声功率及的衰减。如图，基于同等出风口尺寸的工况选型，全混流风机在各个频率段噪声都远低于轴流和双进风离心风机箱，且噪声值主要集中在低频区域 ( 62.5-250Hz )，人耳感觉更柔和和安静。

The noise of the mixed flow fan is determined by its structural design and changes in acoustical power (see fig. below). The noise generated in each air volume segment is much lower than the axial and centrifugal fan with low acoustical level (62.5-250Hz).



## 直联全系列，选型更灵活 Flexible Direct drive Option

直联型每个规格有6种不同叶轮角度的叶轮可选，满足多样化参数选型的需要，且拥有更高的传动效率、无易损件，维护率低、结构紧凑、节省安装空间的特点。

Direct drive type has six different blade angles available for selection. A solid low maintenance product designed for delivering efficient air flow.

## 产品功能全、应用广 Comprehensive Functionality

功能：普通送排风、防爆送排风、消防排烟、实验室排风等。

安装：座地安装、吊装、屋顶安装。

It can be used in normal air delivery, explosion resistant, fire & smoke or static-free application.

## 专利和认证 Patent and Certifications



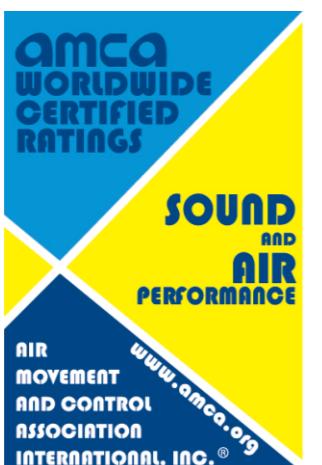
国家专利产品  
National Patented product



国家消防认证 (CCCF)  
CCCf China Compulsory certificate



国家防爆认证 (CNEX)  
CNEX China explosion resistant certificate



AMCA声音与空气动力性能印章  
AMCA Sound and Air Performance Seal



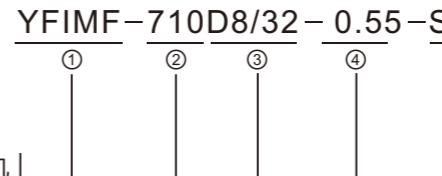
南德消防认证 (TUV)  
300°C 120分钟  
TUV SUD Fire & Smoke certificate

## 命名规范 Model Number Code

**YFIMF-710D8/32-0.55-SR**

产品名称：高效全混流风机  
Product Name:  
Inline mixed flow fan-wheel type F

叶轮名义直径：710mm  
Nominal Wheel Diameter: 710mm



应用类型：GT-普通型，  
Application Types: GT- General use  
SR-消防型，EX-防爆型  
SR- Fire & Smoke, EX- Explosion proof

电机功率：0.55kW  
Motor Power: 0.55kW

驱动方式：  
Drive Type:  
D-直联驱动，8-8极电机  
D- Direct drive,(omitted by default)  
8-Pole number of a motor

32-叶片角度 (直联驱动)  
32- Blade angle for direct drive

B-皮带驱动 (默认省略)  
B- Belt Drive (omitted by default)

## 可选附件 Optional Accessories

### ● 检修开关 Service Switch

安全检修开关可在维护风机时可靠切断电源，确保人身安全；  
It is designed like a master switch for shutting off all power when necessary.

### ● 减振器 Vibration Isolators

减振器可选吊装或座地安装型，材料可选丁氰橡胶或弹簧；  
Rubber or spring vibration isolator. It can either be base-mounted or ceiling hung.

### ● 软接头和对法兰 Flexible Connector and Companion Flange

进出风口软接头和对法兰，方便现场安装配置；  
Inlet/ outlet flexible connector and companion flange. Provide handy solution for on-site installation.

### ● 进出风口防护网 Inlet/Outlet Guard

保证风机运行安全，防止风机运转时造成人身伤害；  
Prevent accidental injuries while the fan is in operation.

### ● 全封闭皮带护罩 Totally Closed Belt Guard

保证风机运行安全，防止风机运转时造成人身伤害；  
Prevent accidental injuries while the fan is in operation.

### ● 指定颜色 Colors

可根据客户需求进行喷涂颜色的选择，与安装现场搭配更协调。  
Different color coating can be selected according to customer's installation requirement.





































## &gt;&gt; 技术规范

## YFIMF-D(直联型)技术规范

YFIMF-D Technical Specifications (Direct-Drive Type)

**风机类型 Fan Type**

风机类型应为全混流式管道风机，风机整机为圆筒型，其结构应为直联传动。  
Fan type shall be inline mixed flow fan, direct driven.

**质量标准 Quality Standards**

风机性能应按照国际空气运动与控制协会 (AMCA) 210和300标准进行检测并通过其认证，每台风机出厂时均应贴有AMCA声音与空气性能的特许认证印章。生产企业应拥有全国工业品生产许可证和ISO 9001质量体系认证。  
The fan performance shall be tested in accordance with AMCA Standard 210 and 300 in an AMCA accredited laboratory and certified for AMCA Sound and Air Performance Seal. Fans shall be licensed to bear the AMCA seal for sound and air performance. Manufacturer shall own the national manufacturing license together with internationally recognized Quality Management System (ISO 9001) standard.

**叶轮 Wheel**

叶轮应采用具有多种叶片角度可选的钢制全混流叶轮，以满足多样化工况优化选型的需要。叶轮必须配备锥形前盘、半球轮毂和后倾叶片。叶轮应经过静态和动态平衡，达到AMCA 204标准的G2.5平衡等级。叶轮处于最高允许转速时，应能保持平稳的气流和较低的噪声。叶轮特性应能有效避免因工作点滑动造成的性能下降。  
Multiple blade angles shall be available to suit various operating environment. The wheel shall contain a shroud cover and a hemispherical back plate. It shall reach the static and dynamic balancing level of G2.5 per AMCA 204 standard. The wheel and fan inlet shall be carefully matched and shall have precise running tolerances for maximum performance and operating efficiency.

**进风口 Inlet**

风机进风口应严格按照空气动力特性设计，采用优质碳钢旋压成型，表面光滑呈流线形，且具有良好的集流效果，能有效减少紊流，提高风机效率，降低噪声。  
The surface of the aerodynamically designed inlet shall be streamlined and smoothened to ensure the most economical air performance can be achieved. It shall improve the fan efficiency while reducing turbulence and noise.

**机壳 Hub**

风机应采用双筒体结构机壳，即：内风筒和外筒，两筒体之间应通过导叶连接。内风筒和外风筒都是采用优质碳钢板专机卷圆后全焊接而成，内风筒用于电机安装，两筒之间用导叶全焊接相连，一方面起到稳固内风筒的作用，另一方面提升风机气动性能和静压效率，使气流更顺畅地流动，导叶应为符合流场特性的三维曲面结构。  
3D curved steel guide vanes shall be aerodynamically placed within the hub to minimize turbulence and aid in recover the rotating energy imparted to the air. The hub shall be able to improve the air performance and static pressure efficiency.

**表面处理 Surface Coating**

风机表面应先经过打磨清理，除去凸起异物、焊渣、毛刺、锐边、铁屑、油污，然后静电喷涂环氧树脂，应无凹凸、流挂、裂纹、皱皮、脱落现象，以保证风机长期运行防腐蚀。  
The surface of the fan shall be cleaned thoroughly, free of cracks and finished with electrostatic epoxy coating. No uncoated fan parts shall be allowed.

**电机 Motor**

电机应采用B5安装结构，标配电机防护等级应为IP55，绝缘等级F级，温升等级B级。电机轴承应为滚珠式免润滑型。电机功率储备系数应按1.15选取，以提升风机使用的安全性。电机应处于内风筒之内，与气流隔绝，以避免输送介质对电机产生的影响。由于电机位于风机内部，供应商应提供将接线引至风机外部的电机接线盒，并根据消防型、普通型等应用，分别配备正确的接线盒类型。  
The B5 Motor shall be carefully matched to the fan load. It shall be mounted out of the airstream. It shall be IP55 dust and water protection class; insulation class shall be F and temperature tolerance class B. It shall be equipped with electrostatic epoxy coated rain cover for outdoor operation. Since the motor is inside the housing, manufacturer shall provide wiring connection box. It shall be made according to the operation conditions of the fan.

**选配件 Optional Accessories**

应根据每台设备的具体要求提供相关配件，例如：减振器、进出口防护网、进出口软接头、进出口弯头、电机防雨罩等。  
Accessories shall be available to suit different working conditions such as vibration isolator, inlet/outlet screen, connectors, motor cover, etc.

**消防风机及认证 (仅适用于消防排烟 )**

该风机作为消防风机应符合公安部消防产品合格评定中心关于消防防烟排烟设备产品认证实施规则CNCA-C18-02 : 2014的要求，应达到GA 211-2009《消防排烟风机耐高温试验方法》产品标准要求，在输送介质温度为280°C时风机持续运转30分钟以上无任何故障，并能提供国家授权检测机构出具的型式试验报告和中国国家强制性产品认证 ( CCCf )证书。

该风机作为消防风机应当通过 EN 12101 -《烟热控制系统部件第三部分：机械通风排烟设备技术要求》检验，应满足在输送介质温度300°C时风机持续运转120分钟以上无任何故障，确保耐高温性能满足标准要求，并提供TUV SUD认证机构出具的检测报告和Class 1A级别的一致性认可 ( CoC ) 证书。

The fire and smoke ventilation products shall be tested and certified per GA211-2009 standard under CNAC-C18-02:2014 "Heat resistance testing methods for fire and smoke exhaust fans" guidelines. The testing subject shall be able to maintain normal operation for 30 minutes under the temperature of 280°C. The test report shall be issued by the authorized laboratories and certified by the China Certification Center for Fire Products Ministry of Public Security ( CCCf ).

It shall pass the tests as described in the TUV SUD certification requirements for fire & smoke removal duty where it shall maintain normal operation for 120 minutes under the temperature of 300°C.

**铭牌 Nameplate**

永久固定的铝制标牌上应标有清晰可辨的风机编号，型号和产品序列号（即每台机器的唯一身份证明），从而可保证客户方便地查询配件的历史记录。  
A permanent nameplate shall be mounted onto the fan with its serial number (a unique number for each machine), model number and product number clearly engraved on it.

**可接受供货商 Qualified suppliers**

可接受供货商的资信等级为AAA级，英飞®或类似产品，设计基于英飞®的YFIMF型号。

Qualified suppliers shall be assigned a credit rating of "AAA". INFINAIR® or similar products supplied are designed based on YFIMF models of INFINAIR®.