

# **YFIAM**

## 高效导翼轴流风机

High Efficient Inline Vane Axial Fan

提供最可靠、便利的空气运动与控制、调节服务。

To provide the most reliable and user-friendly air movement & control and air conditioning service.

本公司保留更改样本的权利，恕不另行通知。Due to continuing research, INFINAIR CORPORATION reserves the right to change specifications without notice.  
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### 上海诺地乐通用设备制造有限公司 **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  
售后服务电话 : 400 821 3316  
传真(Fax): 86 21 69168759  
Http://www.infinair.com



工作范围：风量可达 $202,348\text{m}^3/\text{h}$ , 全压可达 $2,300\text{Pa}$   
Performance range: Volume: $202,348\text{m}^3/\text{h}$ , Total Pressure: $2,300\text{Pa}$

“大都会”系列主打产品  
COSMOPOLIS Series Principle Product

- 铸铝机翼型轴流叶轮，效率高
- 叶片角度可变，选型更精确
- 平衡等级高达G2.5，减少噪声和振动
- 大轮毂比设计，适合长距离输送
- 普通送排风、防爆送排风、消防排烟
- Cast Aluminum axial wheel with air guiding blades to increase efficiency
- Multiple blade angles make selection more accurate
- Balance up to G2.5 level to reduce noise and vibration
- Big hub ratio design to send air further
- General air supply and explosion-proof & exhaust , smoke removal duty

**G2.5**



上海诺地乐通用设备制造有限公司  
**INFINAIR CORPORATION**

## 企业介绍 Company Profile

INFINAIR is an innovative company which provides environmental and intelligence solutions for all aspects of ventilation systems in both private and public sector. They have been INFINAIR's core values and commitments to our customers over the years.

Established: September, 2003

Area :33,000 m<sup>2</sup>

Company Address: 55 Qingneng Road, Waigang Town, Jiading District, Shanghai, China PRC.

### Sales & Service Office:

Our sales and after-sale service network promise easy access to customers anywhere in mainland China. They are located in various locations: Shanghai, Beijing, Shenzhen, Jilin, Liaoning, Tianjin, Shanxi, Henan, Shanxi, Shandong, Jiangsu, Anhui, Zhejiang, Fujian, Chongqing, Sichuan, Hunan, Hubei, Guangdong, Guangxi, Hainan, Guizhou and Xinjiang.

### 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 Enterprises.

Renowned Shanghai trademark: **INFINAIR®英飞**

Famous Shanghai brand name.

SGS ISO9001、ISO14001、OHSAS18001 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 SUD, CE, CCC, CNEX, etc.

INFINAIR's has over 50 engineers involved in R&D department necessary to make innovative designs and development.



INFINAIR CORPORATION certifies that the Model YFIAM shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.



## INFINAIR's Intelligent Ventilation Technology

- **Intelligent Adaption:**  
We can quickly adapt to changes in the business environment
- **Intelligent Adjustment:**  
The combined use of Inverter and permanent magnet synchronous technologies can achieve best results with the use of logic controller
- **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 & Develop:**  
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 which can calculate the efficiency of the fan based on the number of blades, blade angle, width, and noise 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

## Connectivity

- Matrix Connection
- Central Connection
- Terminal Connection



## INFINAIR's Bionic Technology

- **INFINAIR's Bionic Energy Conservation:**  
We develop energy saving products by observing behaviors from the animal kingdom. For example, birds can glide for thousands of kilometers without flapping
- **INFINAIR's Bionic Noise 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 millenniums. We have learnt how energy and sound are being able to conserve from their amazing changes

## INFINAIR's Intelligent Fabrication

- Intelligent fabrication process
- Capable to carry out online performance, balance level and communication testing. Ensuring reliable quality
- Robotic welding technology
- Agile Manufacturing, responds quickly to customer desires
- 6ΣSystems

## Certifications and Testing

- Most of the products are certified by: CCCF, AMCA, TUV, UL, RoSH and Erp2015
- Performance and Reliability Testing: Air Volume, Air Pressure, Power, Noise Level, Temperature Deviation, Corrosion and Water Proof Test, etc

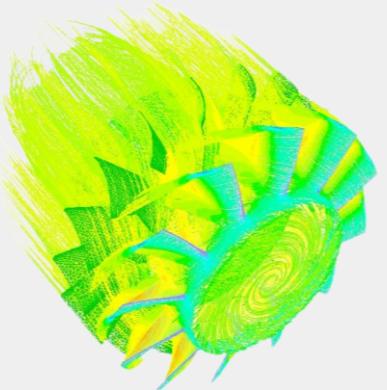


“翼行”系列机翼型叶片中高压轴流叶轮  
VANE-SOAR Series airfoil blades medium and high pressure axial impeller

### 高效的气动性能

High Efficient aerodynamic performance

- 采用气动特性最佳的机翼型叶片  
To adopt optimum aerodynamic characteristics of the wing type vanes
- 旋涡型轮毂型线设计  
Sleek turbine type hub design
- 经CFD反复优化及实验验证  
Optimized design of CFD flow field simulation and experimental verification repeatedly
- 先进工艺减少叶轮与筒体间隙  
Advanced process to reduce clearance of the wheel and cylinder
- 效率高，节约运行成本  
High efficiency saves the operation cost



### 独特的轮毂比设计

Unique hub ratio design

- 轮毂比高达0.56  
Hub ratio up to 0.56
- 高压升，提升气流输送能力  
High pressure rise to improve airflow conveying capacity
- 降低因压力不足引起的风量损失  
To reduce the air flow loss caused by insufficient pressure
- 特别适合于长距离管道输送  
Particularly suitable for long distance pipeline



### 高平衡等级

High balancing level

- 平衡等级高达G2.5  
(普通产品仅为G6.3)  
Balance level up to G2.5  
(Typical products are balanced to G6.3 only)
- 降低风机运行的振动，提升可靠性  
To reduce the vibration of the fan operation, improved reliability
- 有效降低运行噪声  
Reduced running noise

### 可靠的结构设计

Reliable structure design

- 先进的铸造工艺，确保精度与稳定性  
Advanced casting process to ensure the accuracy and stability
- CAE辅助设计，反复优化  
CAE aided design for optimizing repeatedly
- 旋涡型轮毂，强度高，运行更可靠  
High strength of the spiral wheel hub makes the operation more reliable
- 创新的轮毂联接结构，运行更安全  
Innovative hub connection mechanism, makes operation safer.

### 多角度选择

Multi-angle selection

- 315-1400mm,共计14种叶轮规格  
315-1400mm, a total of 14 kinds of wheel specifications
- 0-35°，共计8种叶片角度  
0-35 angle, a total of 8 kinds of angles
- 2/4/6/8P，共计4种转速  
2/4/6/8 poles, a total of 4 kinds speed
- 优化选型，降低前期投资和运行成本  
Optimal selection to reduce the upfront investment and running cost

### 产品特性

Product feature

### 效率高，大幅节省运行成本

High efficiency saves the operation cost greatly

- 采用气动特性最佳的机翼型叶片  
Achieved optimal aerodynamic characteristics of wing type blades.
- 流畅的旋涡型轮毂，减少紊流产生  
Sleek spiral impeller hub, reduced turbulence
- 先进工艺减小叶片与筒体间隙，提高效率  
Advanced process reduce clearance of the vanes and cylinder to improve efficiency
- 叶轮后部设置有导流叶片  
Equipped with guide vanes

### 可靠性高，使用寿命长，适合长期运转

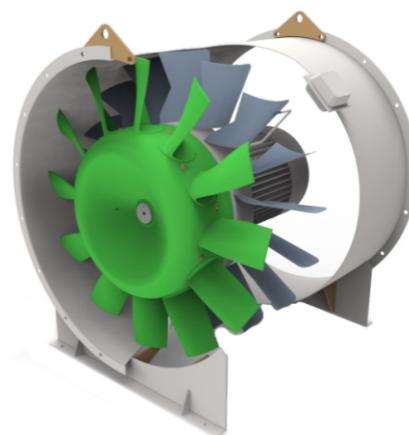
High reliability, long service life for long-term operation

- FEA反复优化与实验验证  
Iterative FEA optimization and experimental verification
- 核心部件采用铸造工艺，强度高  
Core component adopts casting process to improve the strength
- 模具一次成型，精度高、一致性好  
Accurate and consistent tooling module
- 平衡精度更高，运行更平稳  
High balancing level makes the running more smoothly

### 功能齐全

Complete functions

- 普通送排风  
General air supply& exhaust
- 防爆送排风  
Explosion-proof supply& exhaust
- 正压送风、消防排烟  
Positive pressure air supply, Smoke removal duty
- 双速送排风  
Two-speed supply& exhaust



### 安装方便，灵活多样

Convenient and flexible installation

- 座装：水平、垂直  
Ground mounted: Horizontally or vertically
- 吊装：水平、垂直  
Ceiling hung: Horizontally or vertically
- 屋顶：加“旗云™”风帽的户外安装  
Rooftop: Outdoor roof installation with flag-Cloud™ band

### 英飞盾-分子膜™涂装，历久弥新

INFI-KOAT Molecular Film™, long-lasting coating

- 酸洗、磷化、碱洗，确保表面清洁  
Pickling, phosphating and caustic washing to ensure clean surface
- 固体粉末静电吸附，涂层均匀  
Electrostatic incorporation of solid powder to obtain uniform coating
- 高温炉内熔融成膜，附着力强  
High-adhesion film melt within high temperature furnace
- 抗紫外线，耐潮湿，耐海洋性气候  
Resistance to ultraviolet, moisture and marine climate
- 耐大面积均匀腐蚀，也耐局部点状腐蚀  
Resistance to large area of uniform corrosion and local pitting corrosion





































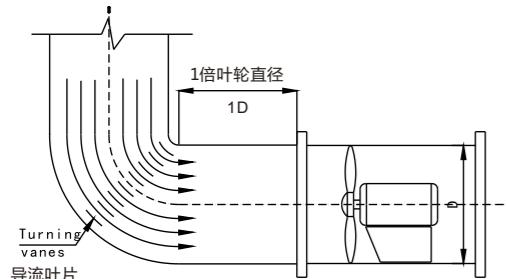




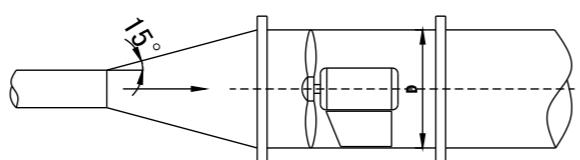


## 典型应用

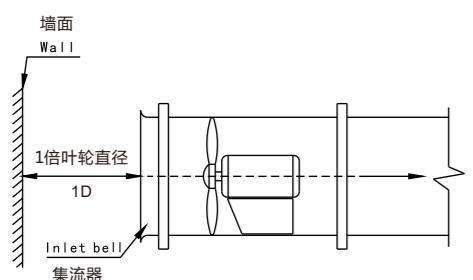
Typical application



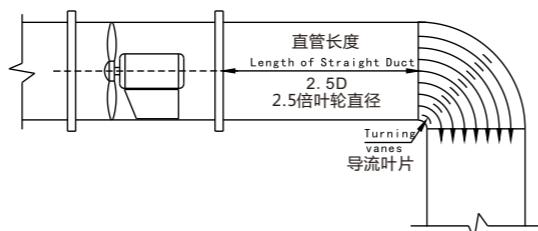
进风口接风管  
Ducted Inlet Conditions



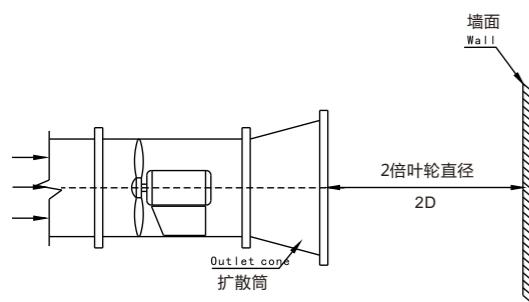
进风口接风管  
Ducted Inlet Conditions



进风口不接风管  
Non-ducted Inlet Conditions



出风口接风管  
Non-ducted Inlet Conditions



出风口不接风管  
Non-ducted Inlet Conditions

## 技术规范

Technical specifications

### • 第一节：风机类型

Section I: Fan types

风机类型应为带后导叶的机翼型轴流风机，风机应采用直联驱动方式，整机应为圆筒结构，且筒体内叶轮尾部应配备起整流作用的导流叶片，导流叶片的型线应采用符合流场特性的三维曲面，提升风机的气动性能与静压效率。  
Fan type shall be axial flow fan with cylindrical structure, direct driven. Air guiding blades shall be installed on the back of the wheel impeller to improve aerodynamic performance, static pressure efficiency and smoother airflow. The guiding vanes shall be done in three-dimensional curved surface with flow field characteristics.

### • 第二节：叶轮

Section II: Impeller

叶轮应采用具有多种叶片角度的机翼型轴流叶轮，以满足直联结构多样化工况优化选型的需要。叶轮应配备能够有效抑制涡流产生的旋涡型轮毂和气动性能最佳的机翼型叶片，确保在达到极限转速后，能保持平稳的气流和较低的噪声。轮毂和叶片应采用铸铝材质，模具一次成型，以确保其强度能够耐受120%的极限转速，确保结构的可靠性和运行的安全性。叶轮应经过动态平衡校验，达到AMCA 204标准的G2.5平衡等级，提升运行的平稳性和设备的使用寿命。  
Multiple blade angles shall be available to suit various operating environment. It shall reach the static and dynamic balancing level of G2.5 per AMCA 204 standard to ensure the structural stability and operational safety. The cast aluminium casing shall be moulded in one piece and should be able to withstand 120% of the rotation speed.

### • 第三节：风机外壳

Section III: Fan housing

风机机壳应采用优质碳钢连续焊接而成，并采用一体化翻边法兰，小于500mm规格材料厚度不得低于2mm，500~1000mm规格材料厚度不得低于2.5mm，大于1000mm规格材料厚度不得低于3mm，以保证风机长期工作的安全性和可靠性，提升设备使用寿命。  
The fan hub is continuously welded to prevent air leakage. The depth of the weld shall be at least 2mm for material thickness less than 500mm; at least 3mm for material thickness larger than 1000mm, ensuring safety and reliability are maintained during long hours of operation.

### • 第四节：表面处理

Section IV: Surface treatment

风机表面应通过打磨去除凸起异物、焊渣、毛刺、锐边、铁屑等，再经过除油、酸洗、磷化、刮腻子工序处理后静电喷涂环氧树脂，通过高温烘烤熔融成膜，提升环氧树脂的附着力，完工后的表面应无凹凸、流挂、裂纹、皱皮、脱落现象，以确保风机长期使用的耐腐蚀性能。  
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.

### • 第五节：质量标准

Section V: Quality Standards

风机性能应按照国际空气运动与控制协会（AMCA）第210和300号标准进行检测并通过其认证，每台风机出厂时均应贴有AMCA空气性能、声音与能效等级为一体的特许认证标签。生产企业应拥有全国工业品生产许可证和ISO9001、ISO14001、OHSAS18001体系认证。  
The fan performance shall be tested in accordance with AMCA Publications 210 and 300 in an AMCA accredited laboratory and certified for air and sound performance. Fans shall be licensed to bear the AMCA ratings seal for air performance (AMCA 210) and sound performance (AMCA 300). Manufacturer shall own the national manufacturing license together with internationally recognized Quality Management System (ISO 9001) standard.

#### ● 第六节：电机

Section VI: Motor

所配电机应采用B5或B14安装结构，防护等级应为IP55，绝缘等级F级（消防型绝缘等级为H级），温升等级B级。电机轴承应为滚珠式免润滑型，选配电机的功率储备系数应大于110%以确保电机运行的安全性。由于电机位于风机内部，供应商应提供外置接线装置，并根据应用类型配备正确的接线盒类型。

The B5 or B14 Motor shall be carefully matched to the fan load. It shall be IP55 dust and water protection class; insulation class shall be F and temperature tolerance class B. 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.

#### ● 第七节：防爆认证（仅适用于防爆型）

Section VII: Spark Resistant (Options)

风机应符合AMCA 99规定的Spark C防爆结构，电机应采用隔爆电机，整机应取得防爆合格证，生产企业应拥有防爆电气生产许可证。

Spark-resistant designs shall be available for applications that involve flammable gases. The fan shall be constructed per AMCA 99 Type C.

#### ● 第八节：消防认证（仅适用于消防型）

Section VIII: Fire and Smoke Certification (Fire & Smoke Extraction & Control only)

该风机作为消防风机应通过 GA211-2009《消防排烟风机耐高温试验要求》、CNCA-C18-02 : 2014《强制性产品认证实施规则 火灾防护产品》、CCCF-HZFH-03《强制性产品认证实施细则 火灾防护产品 消防防烟排烟设备产品》的认证要求，满足在输送介质温度为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欧标 EN12101-3《Smoke and heat control systems- Part 3: Specification for powered smoke and heat exhaust ventilators》的认证要求，满足在输送介质温度为300°C 时风机持续运转120分钟以上无任何故障，保证风机的耐高温性能符合标准要求，并能提供TUV SUD认证机构出具的检验报告和Class 1A 级别的CoC证书。

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.

#### ● 第九节：铭牌

Section IX: 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.

#### ● 第十节：可接受供货商

Section X: 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YFIAM型号。

Qualified suppliers shall have an AAA credit rating, providing INFINAIR® or similar products, with their design based on YFIAM models of INFINAIR®.

## 飞鹰服务 Eagle Service

