

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.



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上海诺地乐通用设备制造有限公司
SHANGHAI NAUTILUS GENERAL EQUIPMENT MANUFACTURING CO LTD

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“方程式”系列主打产品
Formula Series Principle Product

- 全铝制屋顶风机专用叶轮
- 效率大幅度提升，更节能
- 噪声大幅度降低，运行更安静
- 专利的主动冷却技术，寿命更长
- 全铝制结构，重量轻，节省投资
- Special wheel for whole Aluminum Roof Fans
- Efficiency has been greatly improved, energy saving
- Sound has been greatly improved, running quietly
- Patented positive cooling technology, longer life
- Whole aluminum alloy, light weight and save investment

G2.5



公司介绍 Company Profile

上海诺地乐通用设备制造有限公司是集研发、生产、销售为一体的中高端通风、燃气采暖及空气净化设备解决方案供应商。公司成立于2003年9月，坐落于上海市嘉定区。公司是美国绿色建筑委员会 (USGBC) 会员，国际空气运动与控制协会 (AMCA) 会员，上海市高新技术企业，**INFINAIR®** 荣获上海市著名商标。

Shanghai Nautilus General Equipment Manufacturing Co., Ltd. is a middle and high-end solution provider of air supply and gas heating and air cleaning equipment that integrates R&D, production and sales. Established in September, 2003, it is located in the Jiading District of Shanghai. The company is the member of the US Green Building Council (USGBC) and Air Movement and Control Association (AMCA) International, the high and new tech enterprise of Shanghai, **INFINAIR®** won the famous trademark in Shanghai.

英飞愿景：成为最值得信任的专业空气运动与控制、调节品牌。

Vision statement: To become the most trustworthy brand of professional air movement & control and air conditioning.

英飞使命：提供最可靠、便利的空气运动与控制、调节服务。

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



第三方认证
公司场景
专利证书

上海诺地乐通用设备制造有限公司特此证明，此处所示的RTC系列产品获得了加盖AMCA印章的授权。所示额定值系根据AMCA出版物211和AMCA出版物311所进行测试和程序确定，并符合AMCA认证额定值计划的要求。

Shanghai Nautilus General Equipment Manufacturing Co Ltd certifies that the Model RTC 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.



第四代“翔欣™”叶轮：全铝制屋顶风机专用
4G Wind-Surfer™ Wheel: Special for Aluminum Roof Fans

✓ 颠覆传统的创新设计

Novel design overturning the tradition

- 国内首款全铝制屋顶风机专用离心叶轮
The first centrifugal wheel in China for aluminum roof fans
- 国外先进的“流道全程约束”理念加以创新
With innovation based on advanced passage through constraint idea from abroad
- 领先的效率和噪声优势
Leading efficiency and noise advantage
- 高效区宽、不过载
Highly efficient area width, no overload

✓ 采用国际领先的工艺，更符合流场特性

Internationally advanced process is adopted for better conformity with characteristics of the flow field

- 过流部件旋压成型，取代传统工艺
Flow passage components are spin formed, in replacement of the traditional process
- 叶片一次冲压成型，确保加工质量
The blade is formed at one time by pressing, having ensured the processing quality
- 专机、模具、工装设计，确保成型和定位精度
Special machine, mould and tooling design have ensured the molding and positioning precision

✓ “翔欣™”叶轮已进入第四代

Wind-Surfer™ wheel comes to its fourth generation (4G)

- 持续改进，不断提升
Continuous improvement, constant promotion
- 能效提高，更节能
Higher energy efficiency, lower energy waste
- 噪声降低，更安静
Less noise, more quietness



✓ 全铝制，重量轻、天然防爆

Whole aluminum alloy, light weight and inborn explosion-proof

- 金属质感，提升品味
Metal texture promotes the taste
- 重量轻，仅有传统的1/3
Light weight accounting for only 1/3 of that of the traditional
- 达到SPACK A级防爆最高标准
Having reached the highest explosion-proof class SPACK A

✓ 选材精细，适用于消防和沿海场合

Carefully selected materials applicable to fire-fighting and coastal occasions

- 强度按最高转速的200%选取，完成满足消防要求
The strength is designed to be 200% of the highest rotating speed, and may fully satisfy the fire-fighting requirement
- 材质耐中性盐雾腐蚀，广泛应用与沿海地区
The material is resistant to neutral salt spray, and is widely used in the coastal regions
- 严谨的实验验证，值得信赖
The rigorous experimental tests win trustworthiness

产品特点
Product Feature

✓ 独立电机腔：超长寿命

Independent motor chamber:
extra long lifetime

- 驱动机构位于独立的腔体中，与气流中的污染物不接触
Drive located in an independent chamber, contamination contact free
- 适用于空气含挥发性机油、油烟、粉尘、有机溶剂等的排风
Suitable for lubrication grease, kitchen grease, dust and VOC exhaust
- 产品稳定，设计使用寿命十年以上
Stable performance and lifetime longer than 10 years

✓ 无坠落设计，提高室内人员设施安全性

Blade falling resistant, prevent condensation falling into room

- 即使叶片意外断裂，残片不会掉入室内，无需安装安全网防护
Even if blades break accidentally, blade pieces shall not fall into inside room without safety guard installation.
- 冬季凝露水沿叶片流至风机外，避免滴入室内，适合沿海潮湿地区使用
Condensation will flow along blade to the outside instead of inside, available in coastal and humid area.

✓ 专利外观设计，实用美观

Patented in design, practical & artistic

- 外形设计流畅，比例均匀，工艺精细
Elegant profile design: balanced proportion and sophisticated craftwork.
- 银色金属质感外壳：很容易与各种颜色的建筑外墙协调
Silver white metallic lustre casing: harmonious with different building colors
- 增强了建筑的现代感，提高品位。
Modernize buildings with enhanced taste



✓ 重量轻：特别适合于轻钢结构屋面

Light: suitable for steel structure roofdeck

- 外壳和叶轮：铝合金制造
Housing and wheel: aluminum alloy material
- 有效减轻屋面载荷：降低钢结构投资
Effectively reduce roof load: investment on steel structure is saved

✓ 专利主动冷却技术

Patented positive cooling technology

- 叶轮附属叶片吸入驱动腔内空气造成负压
Auxiliary blades suck in air: negative pressure in drive chamber
- 新鲜空气持续补入驱动腔冷却电机和轴承
Fresh cool air continuously pushing in to drive chamber: cool the motor bearing
- 电机和轴承寿命大大延长
Motor and bearing life extended effectively

✓ 广泛满足用户需求

Widely applied to needs

- 防爆排风，全铝结构：风机达到Spark A的防爆等级
Explosion prevention exhaust, all aluminum construction: Spark A
- 消防排烟
Smoke removal application
- 沿海、海岛地区盐雾环境
Coastal high-salt condensation

英飞研究院针对RTC 所做的试验
Experiment by Infinair Research Institute

抗强风试验照片
Wind resistant test photo



● 抗强风

经实验鉴定，在33.9m/s风速下（气象行业标准QX/T51-2007规定为12级台风），RTC风机能长期耐受且性能稳定。

Strong wind resistant

The experiment certifies that RTC fan can keep stable performance and structural strength under 33.9 m/s wind speed (The meteorological industry standard QX/T 51-2007 is 12 level typhoon).

抗暴雨试验图
rainstorm resistant photo



● 抗暴雨

经实验鉴定，在人工模拟降雨量为156mm/h（级别：特大暴雨）的极端条件下，RTC风机在开机及关机状态下的防雨性能优异，无渗水或变形现象。

Rainstorm resistant

The experiment certifies that even under extreme conditions that artificial rainfall is 156 mm/h (class: extraordinary rainfall) RTC fan performs excellently without water leakage or deformation whether the fan starts or shut downs.

铝制叶轮测试前后对照图
Aluminum wheel test comparison photo

试验前 before

试验后 after



● 耐盐雾腐蚀

根据GB/T10125-1997标准（盐雾试验方法），RTC风机经中性盐雾腐蚀试验后，未出现腐蚀现象，证明RTC风机能耐受盐雾腐蚀，适合在沿海、岛屿等环境使用。试验结果如下：

Salt spray corrosion resistant

The experiment in accordance with GB/T10125-1997 standards (salt spray test method) certifies that RTC fan doesn't rust after neutral salt spray corrosion tests and RTC fan can bear salt spray corrosion and be used under certain environments such as marine and island. Test result is as shown below:

消防测试图
smoke removal test photo



● 消防检测

已通过国家消防检验中心认证，在280°C下连续正常工作30min，达到消防风机的要求。

Smoke removal test

The company certifies that it has passed the certification by National Fire Control and Supervision Center. RTC fan can completely meet requirements of smoke removal fan, which can continuously work under temperature of 280°C for 30 minutes

可选配件
Optional Accessories

● 重力式止回风阀

Gravity back-draft damper

铝制叶片，多片联动的止回风阀可有效防止室外空气倒灌，并可防止结露。

The damper whose aluminum blades are mutually coordinated can stop the back flow of external air and prevent water vapor from condensation.



● 维修开关（不适用于防爆场合）

Service Switch(Not used for explosive-proof occasion)

装在风机内部或屋顶靠近风机的区域，维护风机时可紧急切断电源，确保人身安全。（不建议用于日常操控风机启停工作）

The service switch is mounted inside the fan or on the roof close to the fan. The power supply shall be urgently cut to ensure the personnel safety while repairing the fan. (It is not supposed to start/stop the fan for daily operation)



● 泛水转接头

Curb Adapter

用于屋顶泛水尺寸已定或完成，并且与英飞产品不符时进行转接，以避免重新制作泛水。可“大转小”或“小转大”。订货时需注明目前的泛水尺寸。

The curb adapter is ordered when roof curb is already made or the size is fixed to match “INFINAIR®” RTC fan. The adapter can be converted from big to small or small to big. However, existing roof curb size must be required in the order.



● 防火调节阀（消防用）

Fire resistant damper (for smoke removal)

平时呈常开状态，空气温度达到280°C时，熔断器动作，阀门自动关闭，同时输出信号反馈到控制系统。除防火功能外，同时具备风量调节的功能。

The regulator is normally open. Once the temperature reaches 280°C, the valve could automatically close and the signal will be sent out to the control system at the same time. Except for fire resisting, it has the function of adjusting air volume.



● 橡胶减震垫（非消防用）

Rubber isolation pad (not for smoke removal)

置于泛水与泛水帽之间，防水密封，有效减少振动，降低噪音，延长风机寿命。

The rubber isolation pad is located between curb and curb cap, which is waterproof and sealed and can effectively reduce vibration, lower noise and extend performance life of fan.

● 温度控制的自动启停开关

Temperature control auto switch

设定温度后，环境温度达到设定值时，实现自动化控制，节省能耗。

The switch could be automatically controlled to save energy when the ambient temperature reaches the setting value.

命名规范

Naming convention

RTC - 300 (D4) - 0.25 - GT

① ② ③ ④ ⑤

GT:普通型
GT:General type fan

SR:消防型
SR:Smoke removal fan

电机功率：0.25KW
Motor Power: 0.25KW

电机直联驱动,4极（无D时为皮带驱动）
Direct Drive, 4 pole(Belt-drive if without D)

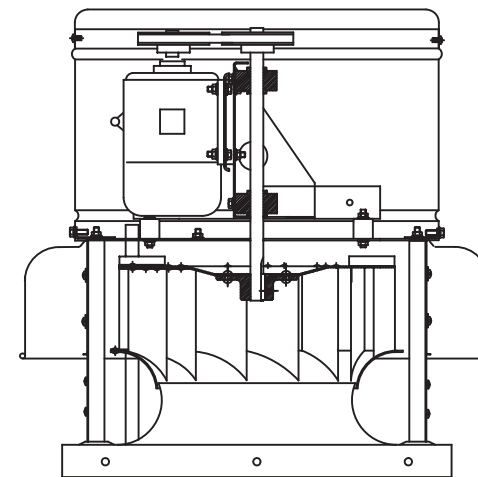
叶轮名义直径为：300mm
Nominal wheel diameter: 300mm

型号：RTC 型离心式屋顶排风机
Model: RTC (Roof Top Centrifugal Exhaust Fan)

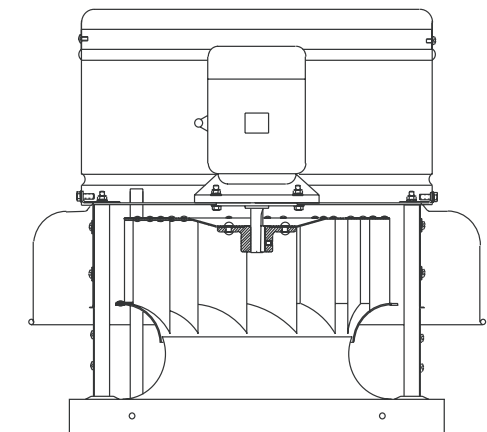
注：普通型与消防型风量风压相同。Note: General type and smoke removal type have the same volume and pressure.

RTC 外形图

RTC Outline Drawing



RTC（皮带传动）(Belt - drive)



RTC-D（直接传动）(Direct - drive)

RTC（皮带）(Belt)	
消防 smoke removal	可选 Optional
防爆 explosion proof	无此功能 No the function
叶轮环氧 wheel epoxy coated	可选 Optional
整机环氧 fan epoxy coated	可选 Optional

RTC（直联）(Direct -drive)	
消防 smoke removal	可选 Optional
防爆 explosion proof	可选 Optional
叶轮环氧 wheel epoxy coated	可选 Optional
整机环氧 fan epoxy coated	可选 Optional

实验室简介

英飞空气动力实验室通过下列方式保证结果的准确性:

- (1) 严格按照AMCA-210标准进行设计、制造;
- (2) 采用先进的流量喷嘴法取代了传统的毕托管检测, 精度进一步提高;
- (3) 实验室大量采用最新型精密的检测设备和测量装置;
- (4) 实验设施和量具经过严格的标定并定期复检。

实验室的建立, 确保了英飞有能力高精度地检测各种产品设计方案, 提高了参数的正确性和产品的可靠, 使得英飞更加值得您信赖。



Laboratory Introduction

Laboratory Introduction

Following methods are used to increase Infinair aerodynamic laboratory's test accuracy:

- (1) Strictly following AMCA-210 standards to design and fabricate
- (2) Traditional Pitot tube method is replaced by high precision nozzle matrix to increase accuracy.
- (3) State of the art instruments and equipments are widely used in the lab.
- (4) Test instruments are strictly calibrated, the calibration is repeated in time.

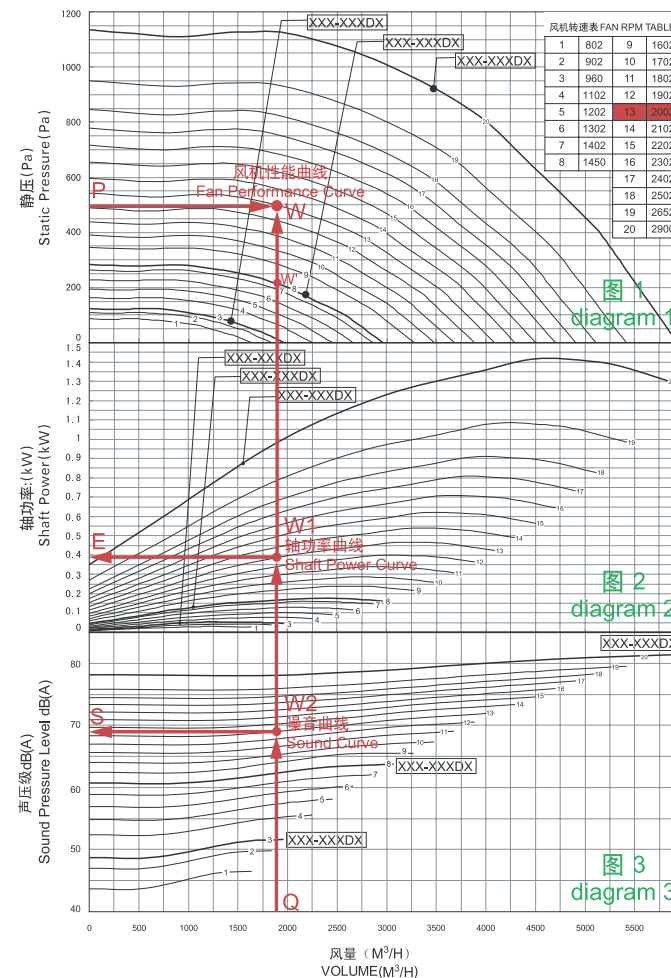
The lab assures INFINAIR is capable to test different product design, increase the accuracy and liability of products, and become a good reason why you trust INFINAIR.

样本说明

- 每个型号风机由一组曲线表示不同转速下的性能。
- 粗曲线代表风机为直联型, 即叶轮与电机直接连接(直联机型的型号已经在图中单独用箭头标出)。所有直联型号均应在叶轮直径后加字母D以及电机极数, 其风机转速与电机极数的对应关系如附表所示。
- 细曲线代表使用皮带连接, 通过选择两个皮带轮不同直径配比来得到所需转速, 电机采用2、4、6极。
- 轴功率曲线显示风机实际耗用的电能。
- 声压级曲线显示距离风机1.5米处的噪声。

Catalogue introduction

- Each fan performance is symbolized by a group of curves for different RPM.
- The bolded curves indicate the fan is direct drive which means the wheel is installed on the motor shaft directly. All direct drive models shall have a suffix letter D followed by motor pole number (which is already marked on the drawing). The attached table shows motor RPM at different number of poles.
- The not-bolded curves means the fan is belt drive. The belt drive models establish different RPM by choosing different diameter of the 2 pulleys, while the motor is 2/4/6 pole.
- Shaft Power Curve displays the fan actual power consumption.
- The sound pressure level curve indicated the noise level at 1.5 meter distance.



选型举例: 1800M³/h, 500Pa静压
 (1) 自给定风量(图Q点: 1800M³/H)出发作垂直线, 自给定静压(图P点: 500Pa)作水平线, 其交点(W)即为“工作点”。寻找离该点最近的性能曲线(应为第13号曲线), 其对应转速按照转速表应为2002转/分。
 (2) 该垂直线与图2中相同编号的曲线交点为W1, 从该点作水平线与轴功率曲线坐标轴相交, 其交点E(约为0.39kW)即为实际功耗, 代表工作所需的电能。根据该功率, 应选择0.55kW电机。
 (3) 该垂直线与图3中相同编号的曲线交点为W2, 从该点作水平线与噪声曲线坐标轴的交点S(约为69dB(A))即为声压级噪音。
 (4) 根据上述步骤, 该型号初步选定为RTC-300-0.55, 皮带驱动, 出厂转速设定2002RPM。如果希望功率或噪音更低, 可参考大一档风机进行比较, 但初投资会增加。
 (5) 进一步地, 如果需求为1800M³/h、200Pa静压, 则容易发现W'点距离8号加粗曲线(代表直连风机, 1450RPM, 4极电机)很接近, 则按照箭头标明的型号为RTC-300D4配0.37kW电机, 其性价比更高。

Example: 1800M³/h, 500Pa Static Pressure
Step 1: From given volume (Point Q: 1800M³/H) draw a vertical line upwards, from given static pressure (Point P: 500Pa) draw a horizontal line to the right, the intersection point W is the working point. Find a fan curve close to the point, which would be curve No. 13. As highlighted in the RPM table, it is 2002 RPM.
Step 2: The intersection point between the vertical line and the curve No. 13 in diagram 2 is marked as point W1. Draw a horizontal line from point W1 to the left coordinate, which makes point E. The point E (about 0.39kW) is the shaft power. According to the shaft power, a 0.55kW motor shall be equipped.
Step 3: The intersection point between the vertical line and the curve No. 13 in diagram 3 is marked as point W2. Draw a horizontal line from point W2 to the left coordinate, which makes point S (about 69dB(A)). It is the fan sound pressure level.
Step 4: According to above steps, the primary model selection would be RTC-300-0.55, belt drive, and factory set to 2002RPM. If lower shaft power or noise is expected, you may compare with another larger fan. However a larger fan would increase primary investment.
Step 5: Furthermore, if customer needs 1800M³/h at 200Pa static pressure, you would find point W' is close to curve No. 8 (bolded, indicates 1450 RPM 4 pole direct drive). Then a direct drive fan (RTC-300D4-0.37) can be selected which would be more economic.

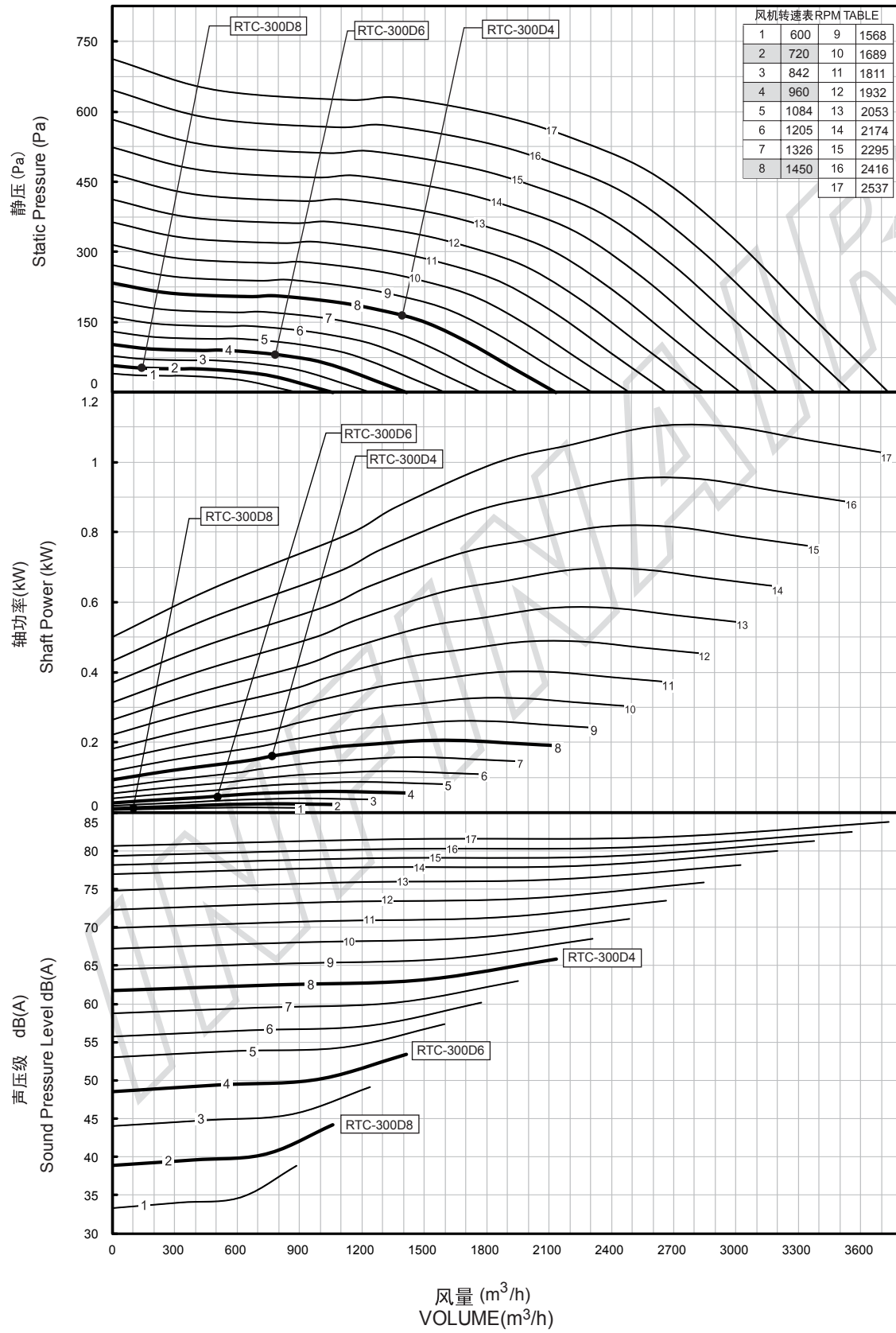
性能曲线 Performance Curve

此认证的性能是基于A类安装: 自由入口, 自由出口。额定功率(kW)包括传动损失。各项性能额定值包括防鸟网和泛水的影响。

电机转速 Motor Speed

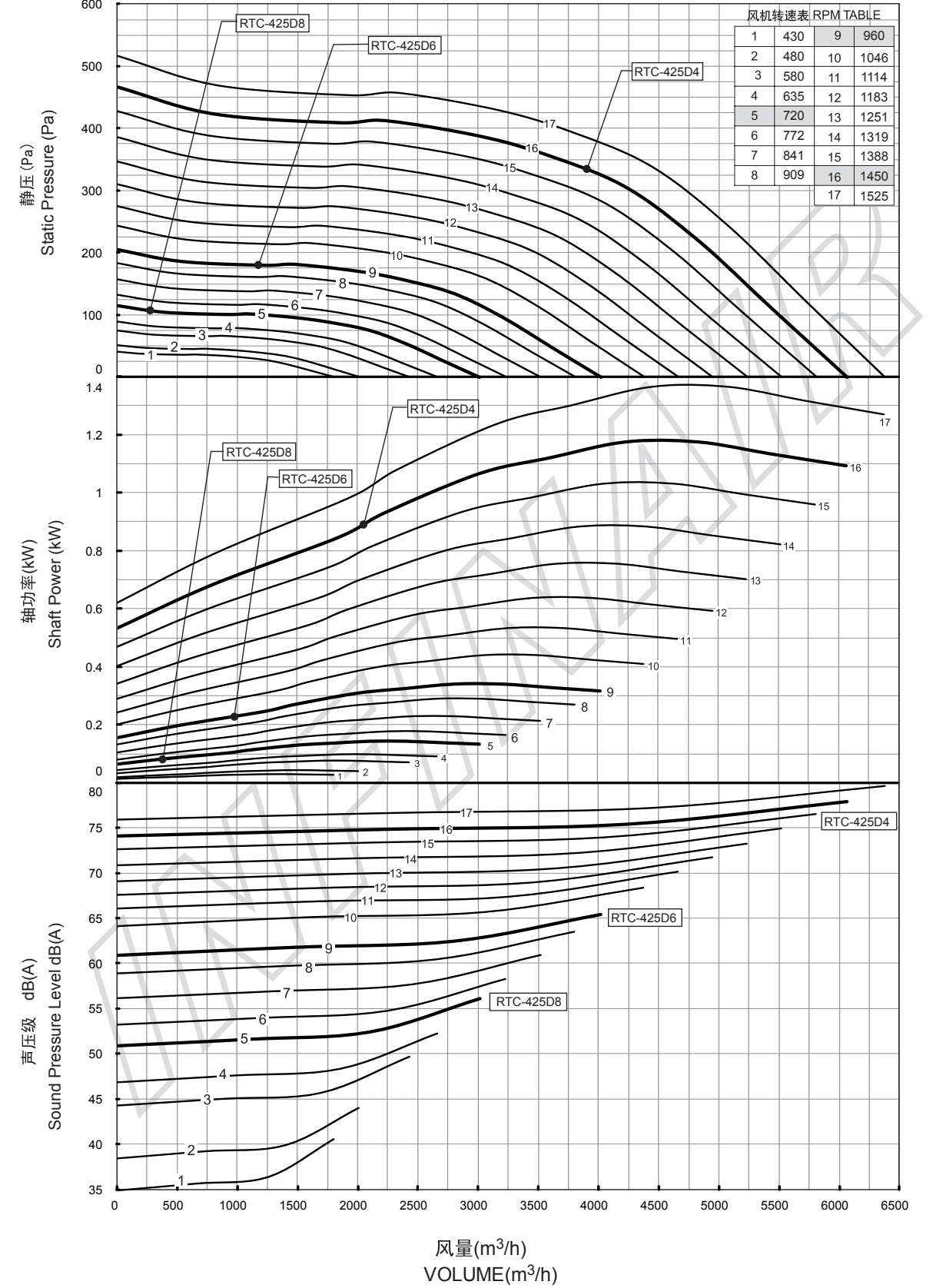
电机极数 No. of poles	电机转速(转/分) RPM (About)
2	2900
4	1450
6	960
8	720

型号: RTC-300
Model: RTC-300



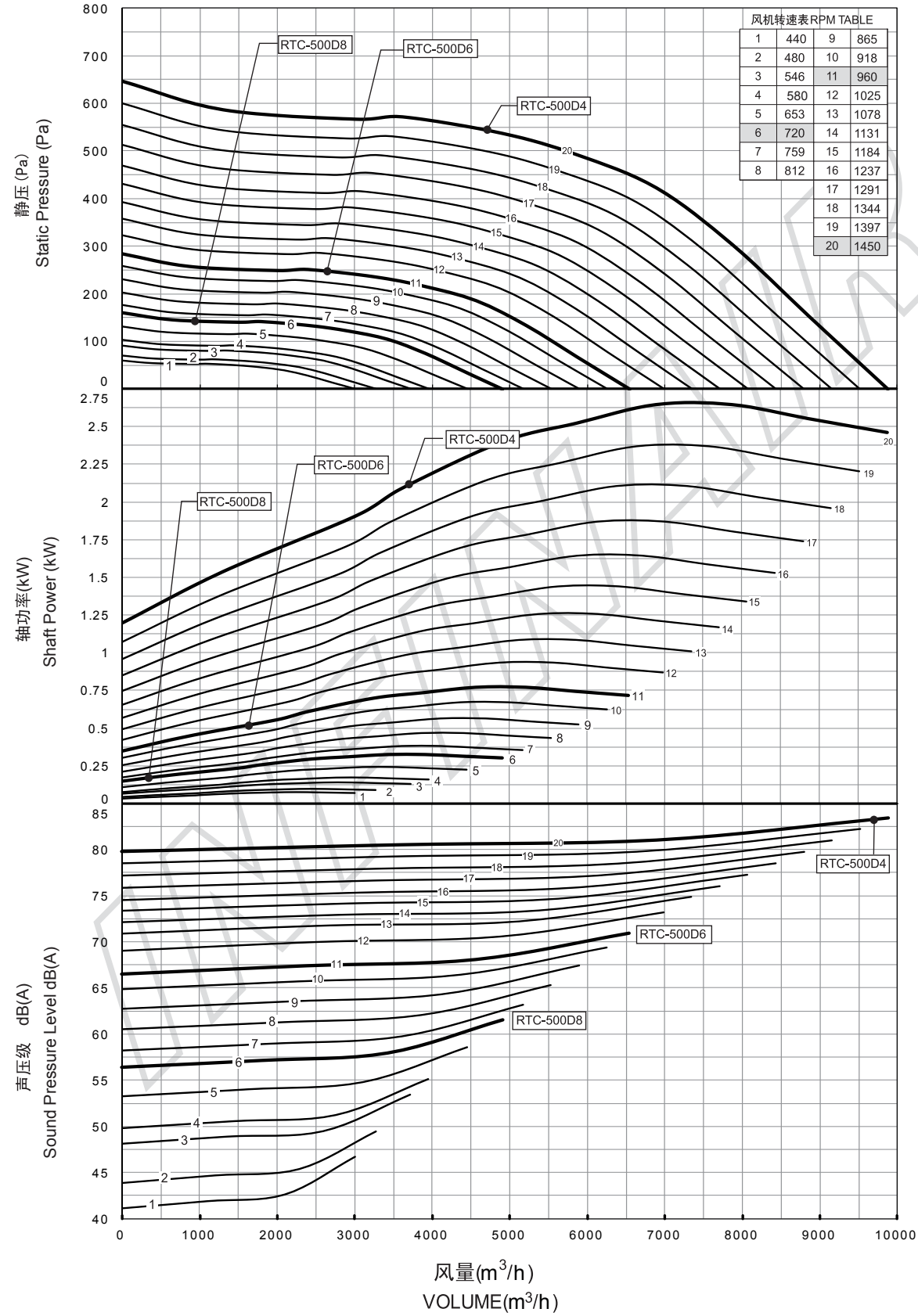
Performance certified is for installation type A - free inlet, free outlet. Power rating (kW) includes transmission losses. Values shown are for inlet LwA sound power levels for Installation Type A: Free inlet, free outlet. The sound power level ratings shown are in decibels, referred to as 10⁻¹² watts, calculated per AMCA International Standard 301. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. dB(A) A-weighted sound pressure level is based on 11.5 dB sound attenuation per octave band at 1.5 m. Note that dB(A) levels are not licensed by AMCA International.

型号: RTC-425
Model: RTC-425



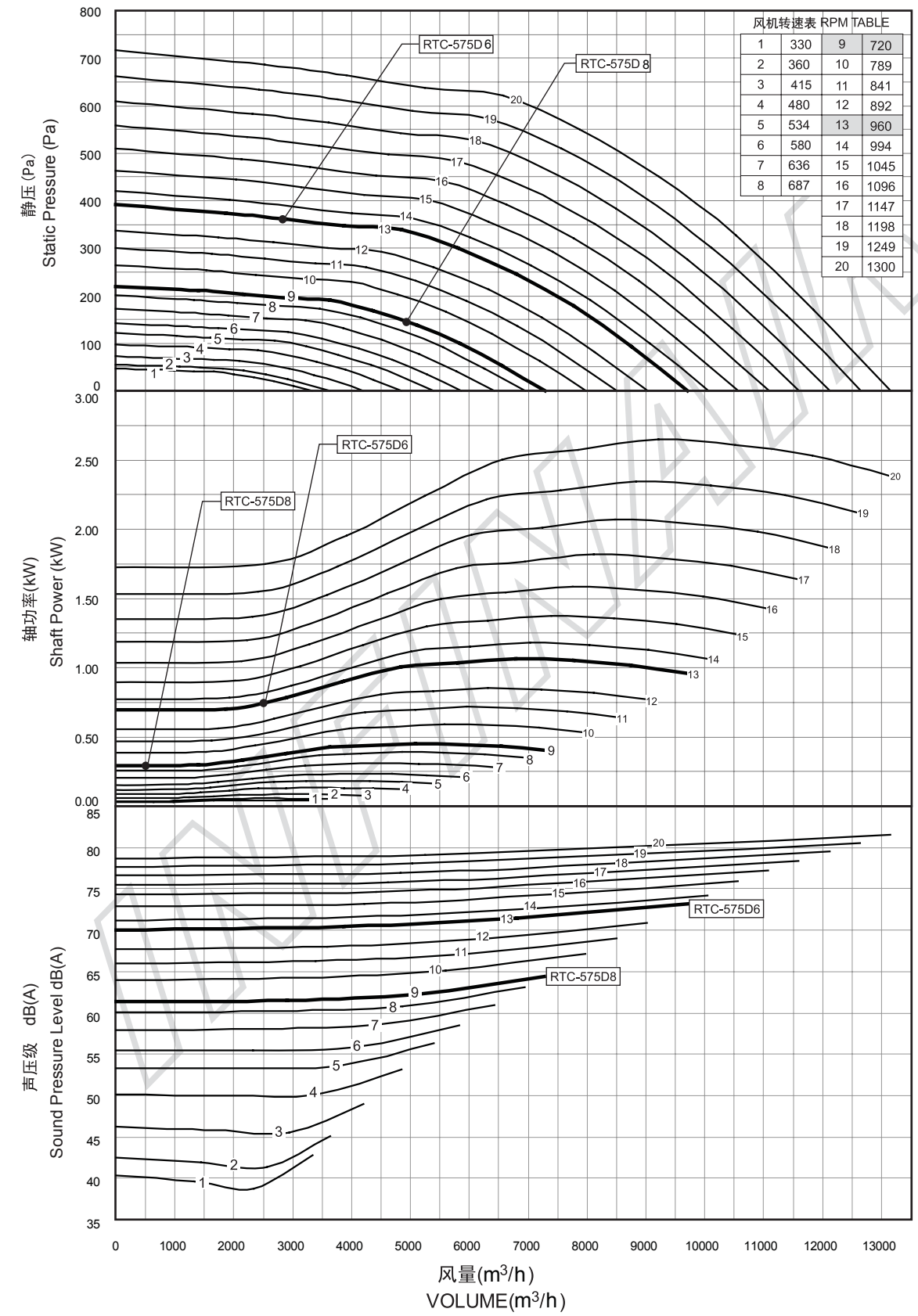
Performance certified is for installation type A - free inlet, free outlet. Power rating (kW) includes transmission losses. Values shown are for inlet LwA sound power levels for Installation Type A: Free inlet, free outlet. The sound power level ratings shown are in decibels, referred to as 10⁻¹² watts, calculated per AMCA International Standard 301. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. dB(A) A-weighted sound pressure level is based on 11.5 dB sound attenuation per octave band at 1.5 m. Note that dB(A) levels are not licensed by AMCA International.

型号: RTC-500
Model: RTC-500



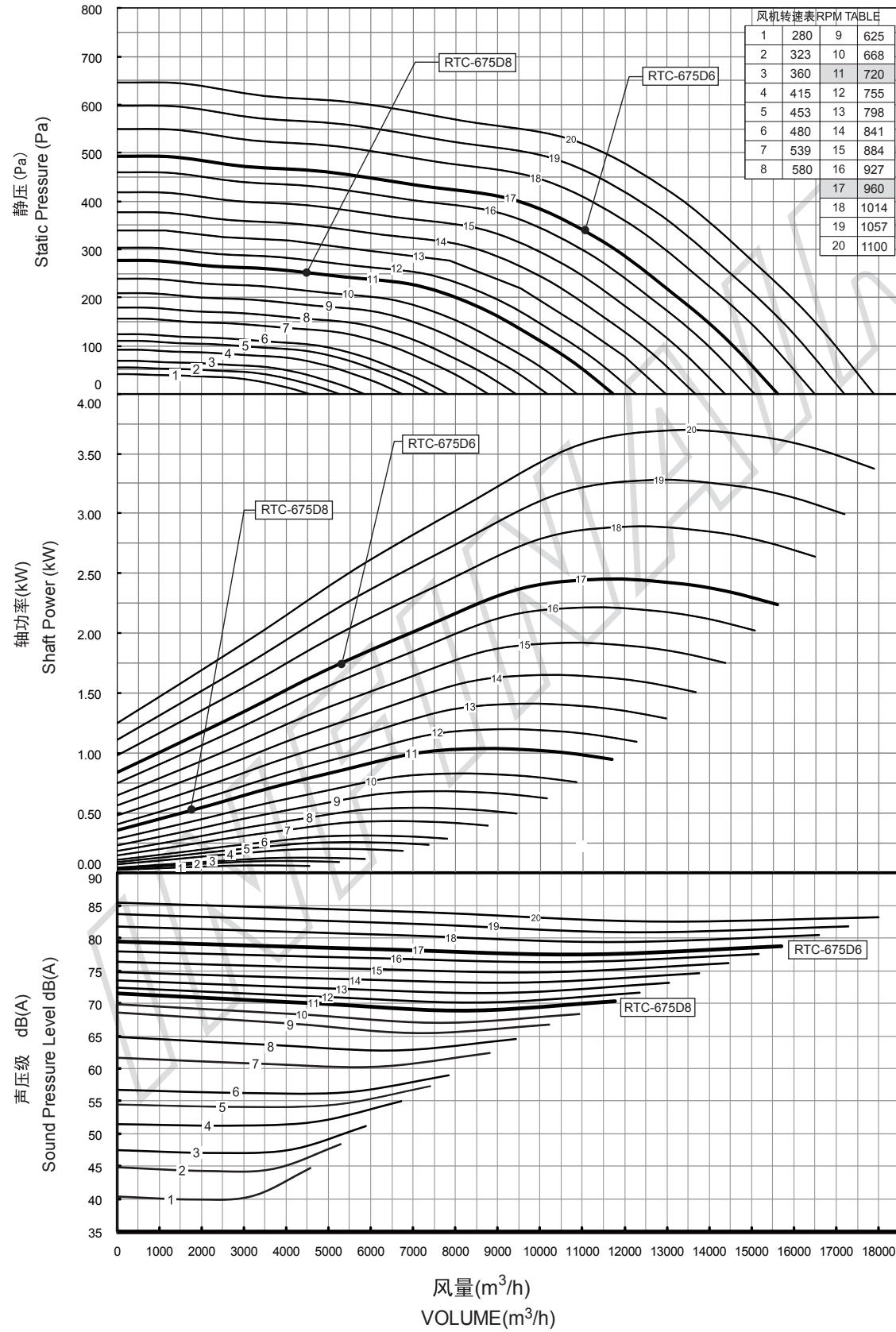
Performance certified is for installation type A - free inlet, free outlet. Power rating (kW) includes transmission losses. Values shown are for inlet LwA sound power levels for Installation Type A: Free inlet, free outlet. The sound power level ratings shown are in decibels, referred to as 10⁻¹² watts, calculated per AMCA International Standard 301. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. dB(A) A-weighted sound pressure level is based on 11.5 dB sound attenuation per octave band at 1.5 m. Note that dB(A) levels are not licensed by AMCA International.

型号: RTC-575
Model: RTC-575



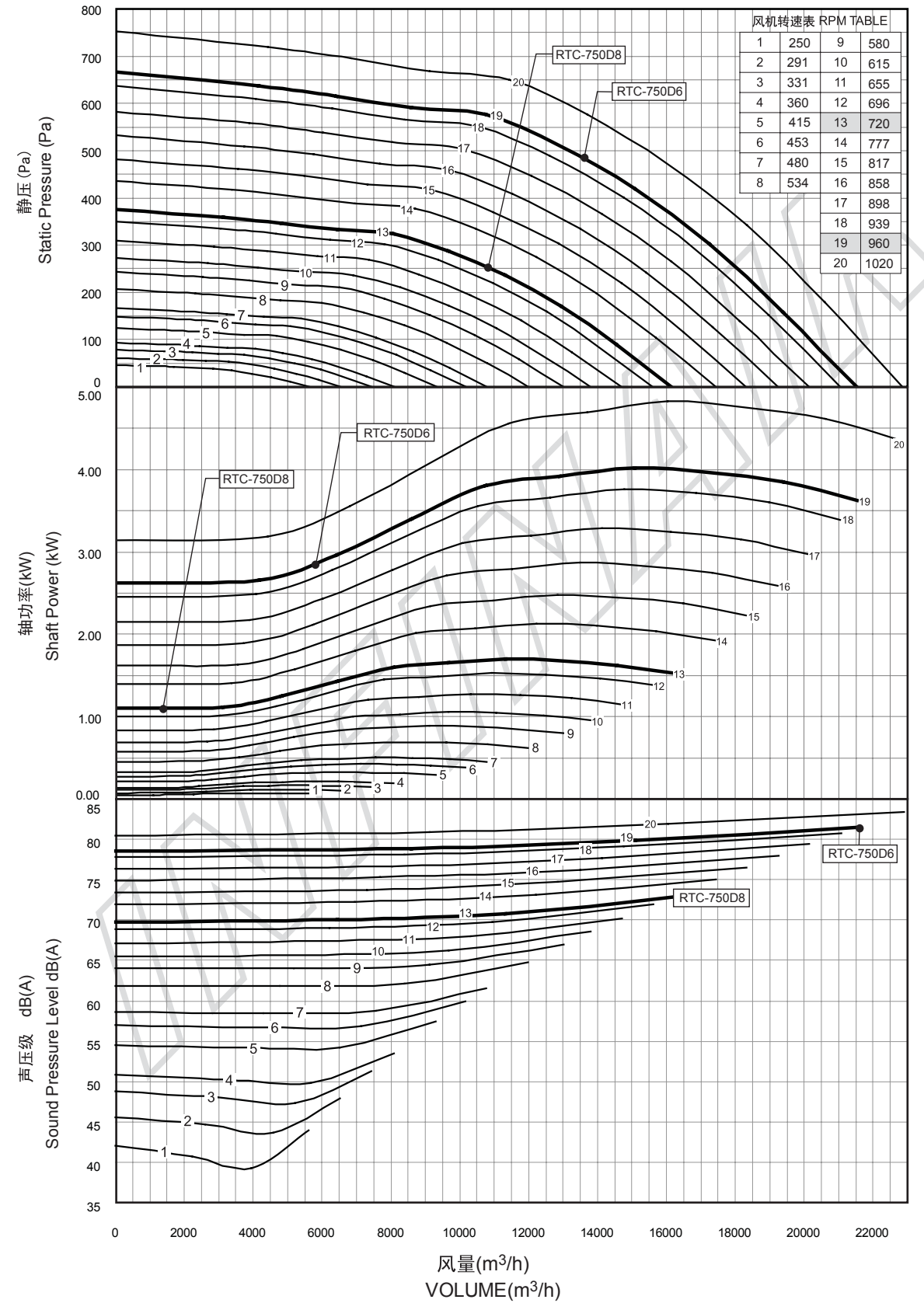
Performance certified is for installation type A - free inlet, free outlet. Power rating (kW) includes transmission losses. Values shown are for inlet LwA sound power levels for Installation Type A: Free inlet, free outlet. The sound power level ratings shown are in decibels, referred to as 10⁻¹² watts, calculated per AMCA International Standard 301. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. dB(A) A-weighted sound pressure level is based on 11.5 dB sound attenuation per octave band at 1.5 m. Note that dB(A) levels are not licensed by AMCA International.

型号: RTC-675
Model: RTC-675



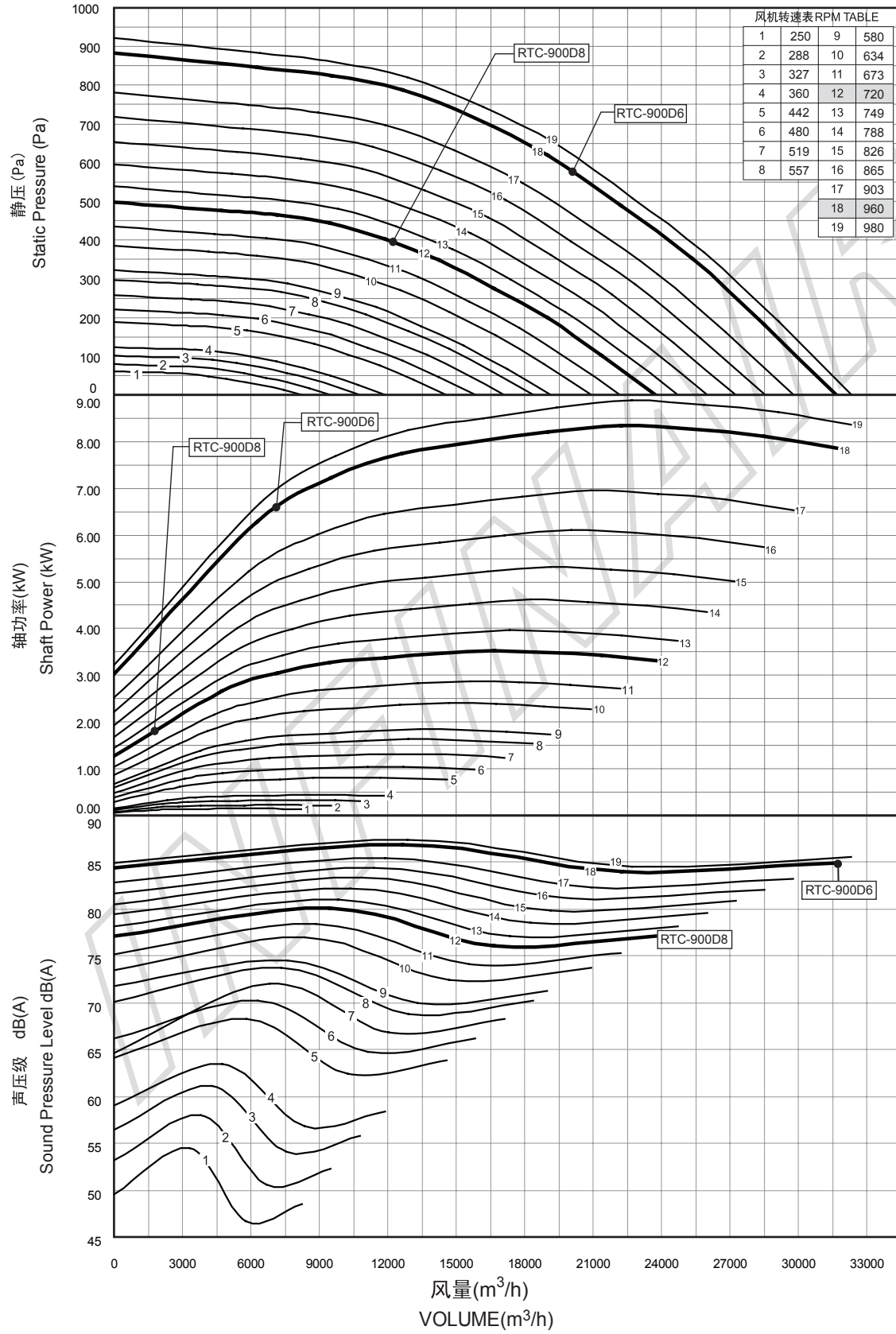
Performance certified is for installation type A - free inlet, free outlet. Power rating (kW) includes transmission losses. Values shown are for inlet LwA sound power levels for Installation Type A: Free inlet, free outlet. The sound power level ratings shown are in decibels, referred to as 10⁻¹² watts, calculated per AMCA International Standard 301. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. dB(A) A-weighted sound pressure level is based on 11.5 dB sound attenuation per octave band at 1.5 m. Note that dB(A) levels are not licensed by AMCA International.

型号: RTC-750
Model: RTC-750



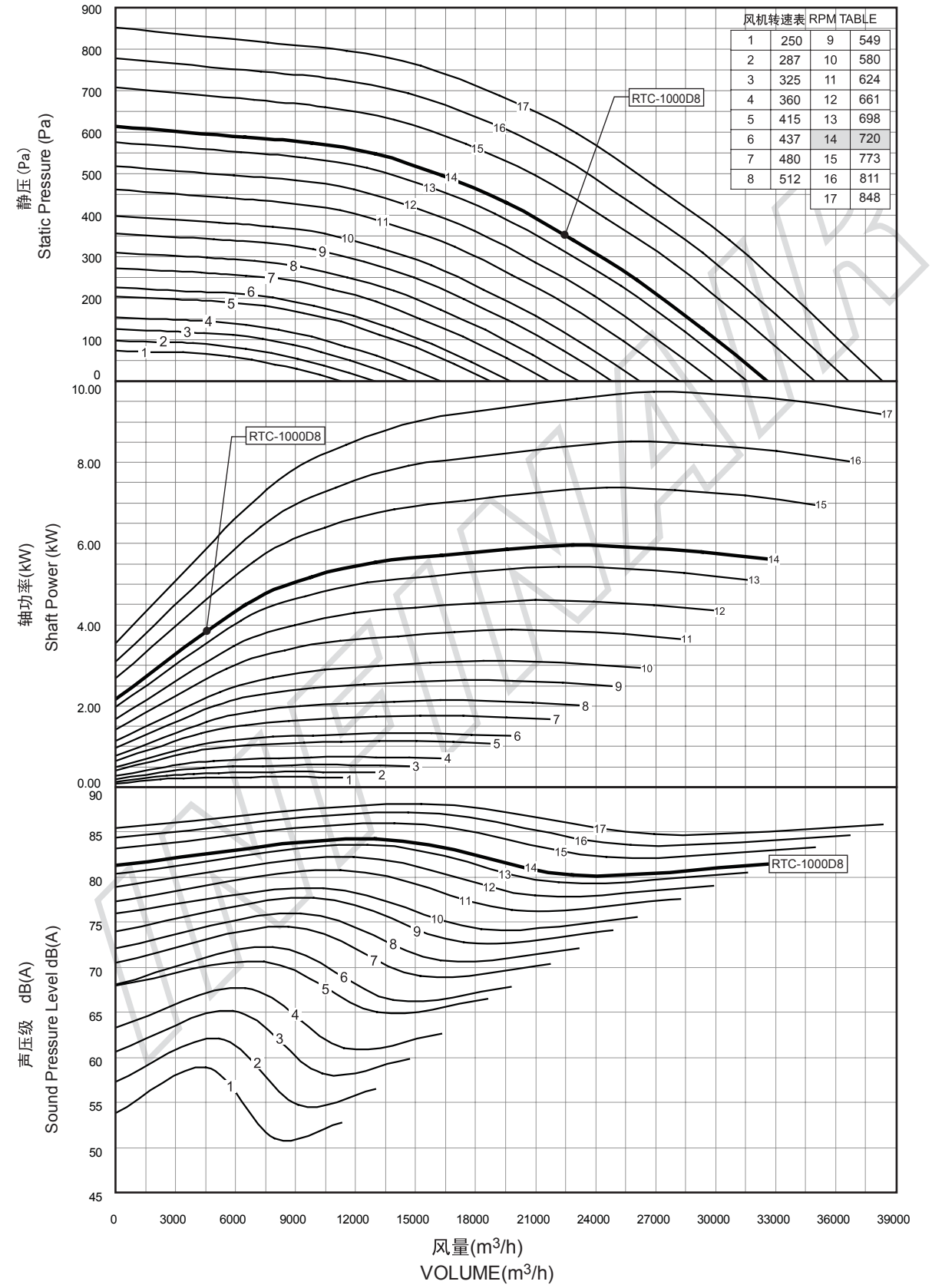
Performance certified is for installation type A - free inlet, free outlet. Power rating (kW) includes transmission losses. Values shown are for inlet LwA sound power levels for Installation Type A: Free inlet, free outlet. The sound power level ratings shown are in decibels, referred to as 10⁻¹² watts, calculated per AMCA International Standard 301. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. dB(A) A-weighted sound pressure level is based on 11.5 dB sound attenuation per octave band at 1.5 m. Note that dB(A) levels are not licensed by AMCA International.

型号: RTC-900
Model: RTC-900



Performance certified is for installation type A - free inlet, free outlet. Power rating (kW) includes transmission losses. Values shown are for inlet LwA sound power levels for Installation Type A: Free inlet, free outlet. The sound power level ratings shown are in decibels, referred to as 10⁻¹² watts, calculated per AMCA International Standard 301. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. dB(A) A-weighted sound pressure level is based on 11.5 dB sound attenuation per octave band at 1.5 m. Note that dB(A) levels are not licensed by AMCA International.

型号: RTC-1000
Model: RTC-1000



Performance certified is for installation type A - free inlet, free outlet. Power rating (kW) includes transmission losses. Values shown are for inlet LwA sound power levels for Installation Type A: Free inlet, free outlet. The sound power level ratings shown are in decibels, referred to as 10⁻¹² watts, calculated per AMCA International Standard 301. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. dB(A) A-weighted sound pressure level is based on 11.5 dB sound attenuation per octave band at 1.5 m. Note that dB(A) levels are not licensed by AMCA International.

噪音参数 Sound Data

RTC-300

Table for RTC-300 showing noise parameters (RPM, Volume, Octave Bands, LwA, dB(A)) for various fan speeds and flow rates.

RTC-425

Table for RTC-425 showing noise parameters (RPM, Volume, Octave Bands, LwA, dB(A)) for various fan speeds and flow rates.

RTC-500

Table for RTC-500 showing noise parameters (RPM, Volume, Octave Bands, LwA, dB(A)) for various fan speeds and flow rates.

RTC-575

Table for RTC-575 showing noise parameters (RPM, Volume, Octave Bands, LwA, dB(A)) for various fan speeds and flow rates.

Values shown are for inlet LwA sound power levels for Installation Type A: Free inlet, free outlet. The sound power level ratings shown are in decibels, referred to as 10-12 watts, calculated per AMCA International Standard 301.

Values shown are for inlet LwA sound power levels for Installation Type A: Free inlet, free outlet. The sound power level ratings shown are in decibels, referred to as 10-12 watts, calculated per AMCA International Standard 301.

噪音参数 Sound Data

RTC-675

Table for RTC-675 showing sound power levels (Lw/A) and sound pressure levels (dB(A)) across various RPM and octave bands (1-8).

RTC-750

Table for RTC-750 showing sound power levels (Lw/A) and sound pressure levels (dB(A)) across various RPM and octave bands (1-8).

RTC-900

Table for RTC-900 showing sound power levels (Lw/A) and sound pressure levels (dB(A)) across various RPM and octave bands (1-8).

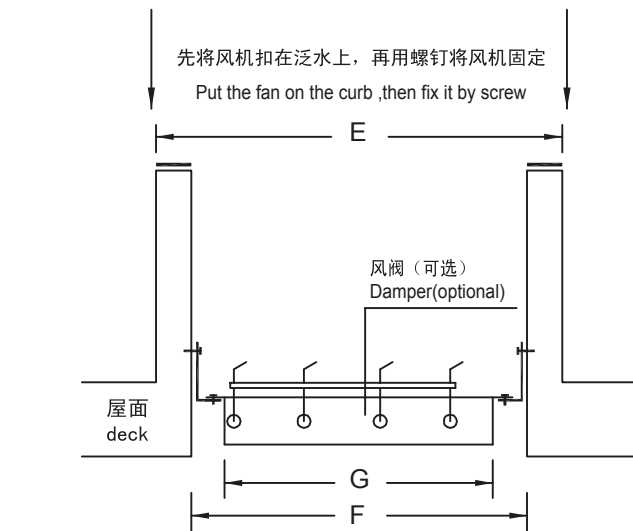
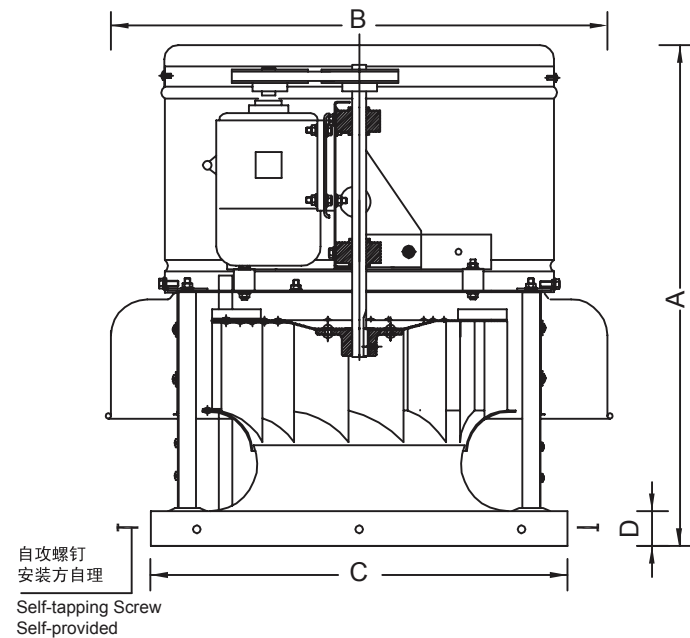
RTC-1000

Table for RTC-1000 showing sound power levels (Lw/A) and sound pressure levels (dB(A)) across various RPM and octave bands (1-8).

Values shown are for inlet Lw/A sound power levels for Installation Type A: Free inlet, free outlet. The sound power level ratings shown are in decibels, referred to as 10^-12 watts, calculated per AMCA International Standard 301. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. dB(A) A-weighted sound pressure level is based on 11.5 dB sound attenuation per octave band at 1.5 m. Note that dB(A) levels are not licensed by AMCA International.

Values shown are for inlet Lw/A sound power levels for Installation Type A: Free inlet, free outlet. The sound power level ratings shown are in decibels, referred to as 10^-12 watts, calculated per AMCA International Standard 301. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. dB(A) A-weighted sound pressure level is based on 11.5 dB sound attenuation per octave band at 1.5 m. Note that dB(A) levels are not licensed by AMCA International.

尺寸及重量
Fan size and weight



以下尺寸适用于所有类型RTC
The below dimensions apply to all RTC types.

型号 Model	泛水外沿尺寸 E(mm)	屋顶开洞尺寸 F(mm) (钢制泛水)	屋顶开洞尺寸 F(mm) (混凝土泛水)	止回风阀尺寸 G(mm) Damper Size
	Curb Edge Size	Roof Opening Size	Roof Opening Size	
RTC-300	490	390	330	300x300
RTC-425	590	490	430	400x400
RTC-500	740	640	580	550x550
RTC-575	740	640	580	550x550
RTC-675	890	790	730	650x650
RTC-750	890	790	730	650x650
RTC-900	1090	990	930	800x800
RTC-1000	1190	1090	1030	900x900

1. 屋顶泛水高度H一般由设计工程师提供。厂家建议为300mm-500mm, 依据当地的降水量而定。
2. 屋顶风机所用的减振垫及安装止回风阀所需的角钢一般由施工方现场配置; 厂家的标准产品中不包含这些材料。
3. 减振垫厚度根据风机的重量选定, 要求能够承受风机的重量而不发生大的变形, 一般厚度在5-8mm。

Installation instruction

1. The roof curb height shall be defined by design engineer. We suggest the height shall be 400mm-600mm according to local rainfall.
2. Isolation pads, steel angels and screws for roof fans in this drawing are not included in the material lists of standard products by "INFINAIR."
3. The rubber isolation pads should be chosen according to the maximum weight of the fan they can bear without any deformation. Typically, the thickness of pad is 5-8mm.

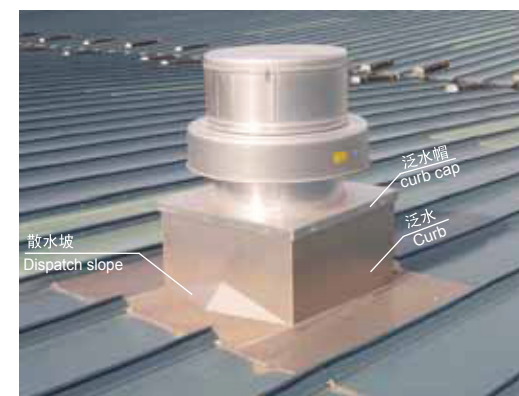
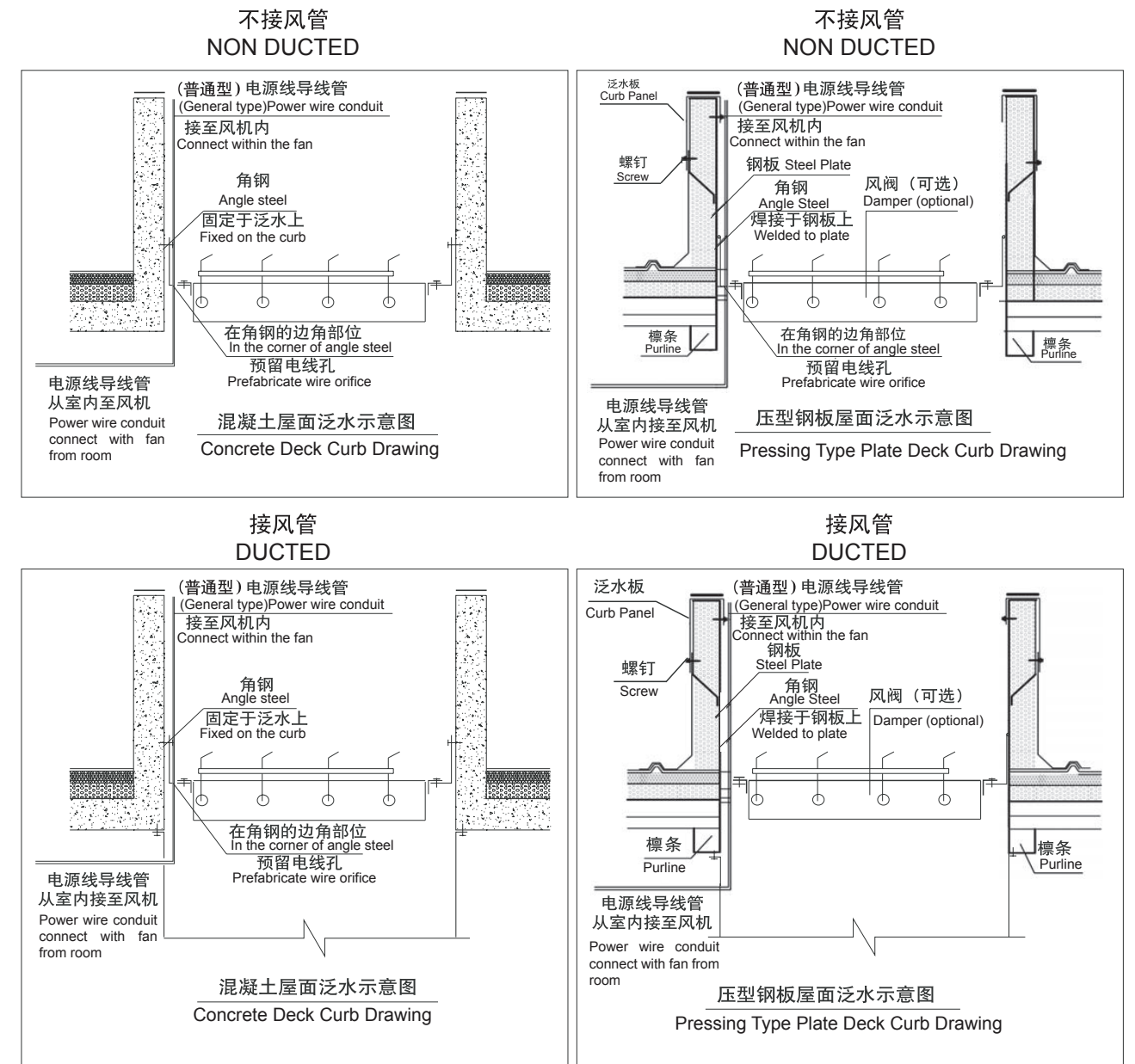
以下尺寸适用于所有类型RTC
The below dimensions apply to all RTC types.

型号 Model	A(mm)	B(mm)	C(mm)	D(mm)	重量 (kg) weight
RTC-300	597(max)	540	500	50	21
RTC-425	749(max)	765	600	50	30
RTC-500	862(max)	900	750	70	39
RTC-575	890(max)	940	750	70	46
RTC-675	995(max)	1100	900	53	67
RTC-750	1064(max)	1225	900	53	71
RTC-900	1215(max)	1438	1100	70	118
RTC-1000	1338(max)	1598	1200	70	141

*上表所列风机重量未含电机, 电机重量请参考下表。
The weight in the above table does not include that of motor. Refer motor weight to the table below.

功率 (kw)	极数 (poles)			
	2P	4P	6P	8P
0.09	4.5	4		8.5
0.12	4.5	5		9
0.18	14	13.5	14	16
0.25	14.5	14	14.5	17
0.37	15	14.5	16	24
0.55	15.5	15	17	28
0.75	16	18	23	33
1.1	17	22	25	38
1.5	22	27	33	45
2.2	25	34	45	63
3	33	38	63	79
4	45	43	73	110
5.5	64	68	84	121
7.5	70	81	121	147
11	118	124	146	182

泛水作法
Roof Curb Fabrication Detail



用于上坡面, 分流雨水, 避免雨水直接冲刷泛水。
Used on the slope for water diversion, protect curb from direct rain damage.

安装
Installation

风机尺寸及屋顶安装结构尺寸
Fan & roof installation structure dimension

请参见第17页上关于风机的尺寸以及屋顶开洞的尺寸。在施工前期必须及时向工程承包商提供正确的屋顶开洞尺寸。

Please see page 17 for fan size and opening hole size on the roof. The opening hole size on the roof shall be provided to the contractor at early stage when the roof is under construction.

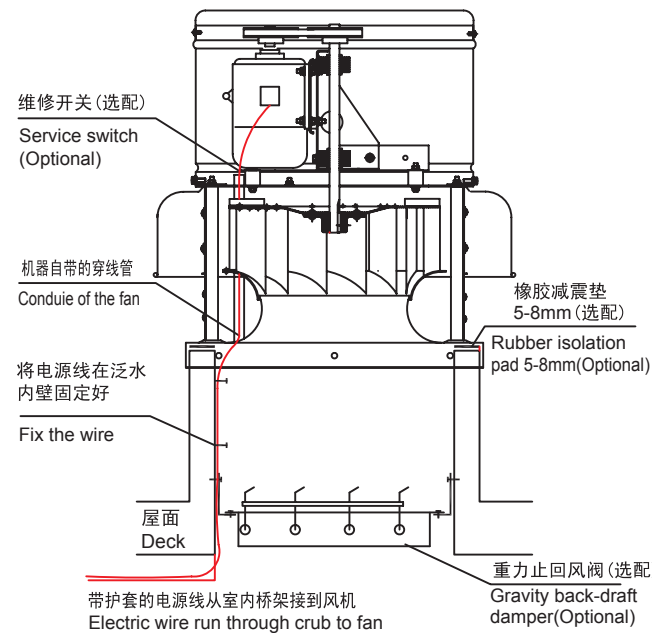
泛水施工
Roof curb fabrication

A.“泛水”是屋顶的一种建筑结构，即在屋顶开洞的外侧向上翻起的防水翻口。泛水的制作及工艺过程由工程承包商负责，图一、图二仅供参考。根据材料不同，泛水侧壁应采用不同的厚度；混凝土侧壁厚应采用70-80mm为宜，钢结构则在30-50mm即可。

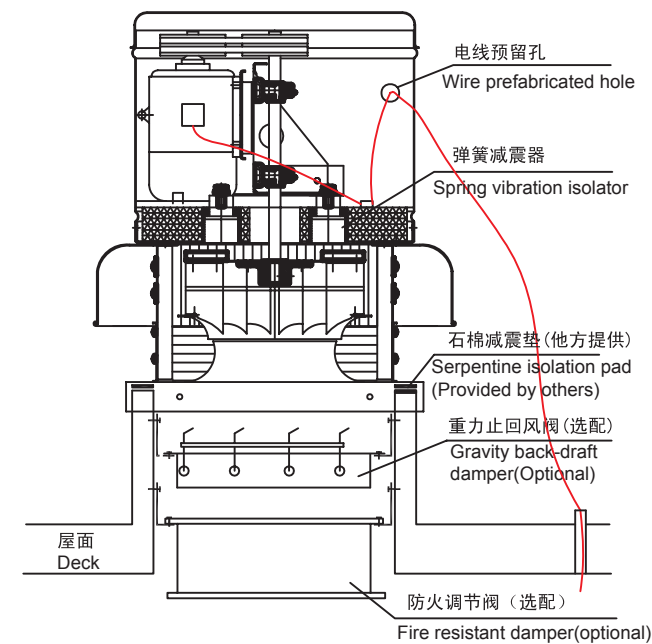
Roof curb is a kind of structure on the roof, that is, The contractor is the only party who is responsible for the fabrication and procedure of the roof curb, figure 1 and figure 2 are for reference only. The thickness of curb wall shall be different according to the material. For concrete wall the thickness shall be between 70-80mm, while for steel structure between 30-50mm

B. 对于泛水上缘与风机接触的部分，必须采用厚度适合的减震垫（消防型为石棉减震垫），同时起到密封的作用，其厚度以风机压上后仍保持弹性良好为宜。可以采用市售的减震垫裁减而成，由施工单位提供。

As to the metal where the fan contacts the curb in the top, a linear rubber vibration isolation pad (smoke removal type needs serpentine isolation pad) shall be applied and also acts as seal. The thickness of the pad shall be decided according to the thickness if it still maintains proper elasticity after fan is seated. The pad could be cut by typical carpet type isolation pads from market and shall be provided by contractors.



图一：RTC-GT非消防型风机安装图
Figure 1: RTC-GT non smoke removal fan installation drawing



图二：RTC-SR消防型风机安装图
Figure 2: RTC-SR smoke removal fan installation drawing

风机的固定
How to mount the fan

安装时将风机下部的泛水帽扣在泛水上，在侧面用自攻螺丝固定，如图一、图二所示。风机安装后必须保持水平，禁止倾斜。

Put the fan curb cap on the curb, and fix it at all four sides by self-tapping screw as shown by figure 1 and figure 2. The fan must be kept level.

电源接线
Power supply wiring

风机作普通排风和防爆排风时，接线由泛水内部向上，经过风机提供的穿线管接入电机，如图一所示。作消防排烟时，风机电源接线通过电机腔的接线预留孔从屋面接入电机，如图二所示。

As general and explosion proof exhaust fan, wiring starts inside the curb and is connected with motor through the tube provided by fan as shown by figure 1. As smoke removal fan, wiring starts on the roof and is connected with motor through provided hole in motor chamber as shown by figure 2.

接线完毕后，必须通电试转，并严格按照机器上标注的转向箭头检查转向，如果转向相反，则对换三相中任意两相。禁止风机反向运转！

The rotation must be checked by connecting the electric power strictly according to the direction mark on the machine after the wiring is done. If reverse, inter-change any 2 of the 3 phase lines. Fan reverse rotation is forbidden.

产品技术标准
Product Specifications

第一节：质量标准
Section 1: Quality Standards

离心屋顶排风机应按照空气运动与控制协会第210和300标准进行检测并通过其认证，风机参数应是以风机整机进行实验检测所得数据，每台风机出厂时均应贴有AMCA空气动力特性和噪音的特许认证标签。

Centrifugal roof exhaust fans shall be tested and certified in accordance with AMCA Standard 210 &300. Each fan shall bear AMCA Sound & Air Performance Seal.

第二节：风机类型
Section 2: Fan Type

风机类型应为离心屋顶排风机，采用铝制后倾离心式叶轮。叶轮进口文丘里管截面应呈圆弧形确保与风机入口文丘里管过渡顺畅。叶轮应经过静态和动态平衡，达到国际标准ISO1940 G2.5水平。

Fan shall be rooftop centrifugal exhaust type with aluminum backward inclined centrifugal wheel. The inlet Venturi shall have round curved section to smoothly transit the air to the wheel cone. The wheel shall be statically and dynamically balanced to Level G2.5 in accordance with ISO Standard No.1940.

第三节：风机材料

Section 3: Fan material

风机外壳，叶轮和泛水帽应采用铝合金。风机整体应为银白色以便与建筑相协调。

The fan housing, wheel and curb shall be produced by aluminum alloy. And the exterior color of the fan shall be silver white to be harmony with the building.

第四节：驱动装置（仅适用于皮带驱动的类型）

Section 4: Drive (Apply to belt drive model only)

轴：风机轴应经过均质炉进行热处理达到硬度HB250等级，其表面应进行坚膜防腐处理，并且连同叶轮进行整体动平衡。其设计运行速度应至少超过风机最大运行速度25%。

Shaft: fan shaft shall be heat treated through soaking furnace to reach the hardness level of HB250, and the surface shall be hard film corrosion treated. The fan shaft shall be balanced together with the wheel. And the shaft design speed shall at least exceed 25% of the maximum fan operation speed.

皮带轮：皮带轮的尺寸应当按照驱动功率的150%选型，皮带轮应当是铸铁的。电机皮带轮应当可调节以便进行现场的系统平衡。皮带轮应当配有退拔形式的轴套进行固定以便于拆卸。

Pulleys: Fan pulleys shall be sized for a minimum of 150% of driven power. Pulleys shall be of cast iron type. Motor pulleys shall be adjustable for final system balancing. Conical (QD) type bushings shall be equipped for easy removal of the pulleys.

轴承：应采用金属轴承支撑风机轴，以避免振动直接施加于电机之上。在样本公布的最大转速下，轴承寿命为（L-10）80,000小时。轴承类型应是永久密封的。可润滑的枕块型滚珠金属轴承。

Bearings: Bearings shall be chosen of metallic to avoid direct vibration on motor. High quality motor bearings shall be selected for a minimum (L-10) life in excess of 80,000 hours at maximum cataloged operating speed. Bearing type shall be lubricable pillow block metal ball bearings, permanently sealed.

支撑：驱动装置应当使用厚的经过粉末涂装防腐的钢板支撑，并安装在减振器之上。皮带松紧应通过可调节电机底座进行，其设计应确保风机轴与电机轴的平行度。

Drive support: Drive assemblies shall be supported by heavy gauge powder coated steel and mounted on

vibration isolators. The belt tension shall be adjusted through motor support plate, ensuring the fan shaft and motor shaft are always keeping parallel.

第五节：电机

Section 5: Motor

电机应与风机负载紧密配合，防护等级IP54，绝缘等级F级。电机轴承应为滚珠轴承并且免润滑。电机和驱动机构应置于气流之外，以避免气流中的油脂或灰尘的堆积。电机腔应当使用不锈钢搭扣固定以方便维护。

Motor shall be carefully matched to the fan load with IP 54 and insulation class F. The motor bearings shall be lubrication-free ball bearing type. Motor and drives shall be mounted on vibration isolators, and out of the air stream to avoid grease or dirt accumulation. Motor chamber shall be fixed through stainless steel clips for easy access.

第六节：结构

Section 6: Structure

风帽：应当坚固以耐受较大的风载荷，其结构形式应能够防止大雨或融雪时漏水。

The hood shall be rigid enough to bear heavy load and protect the fan from leaking of heavy rain or snow melting.

电机、驱动机构支撑板：应使用防腐处理钢板，禁止使用与外壳相同的材料以确保强度。立柱应使用铝合金棒保证支撑的稳固。

Motor, drive support panel shall use an anti-corrosion treated steel panel. Using the same material as that of the housing is prohibited. The column shall be aluminum stick to make sure the support is stable.

内部导线管：风机内部应设导线管，便于通过泛水内部将电源线引向电机腔。（限非消防型）

Internal wiring conduit: Fan shall be furnished with a conduit to lead the power supply wiring through the curb to the motor chamber. (Limited to non smoke removal type)

泛水帽带安装孔：风机泛水帽侧面应钻有安装孔。风机通过该安装孔固定。

Roof curb caps with mounting holes: the roof curb cap shall have pre-drilled holes at its side by which the fan could be fixed.

镀锌防鸟网：应使用镀锌的坚固格栅，在风机停止运行时阻止鸟兽通过出风口进入机体。

Galvanized bird screen: Galvanized bird screen shall be furnished to protect the fan's discharge from birds when the fan is not running.

第七节：消防风机及认证（仅适用于消防排烟）

Section 7: Smoke removal fan with certificate (apply to smoke removal only)

该风机作为消防风机应当通过JB/T10563-2006《一般用途离心通风机技术条件》检验，应保证常规性能符合标准要求，并提供拥有检测资质的机构出具的检测报告。同时该类型风机还必须经国家认可的消防安全检测机构按照GA211-1999《消防排烟风机耐高温试验方法》检验，在主风道介质温度为280°C时必须能够连续运行30分钟以上，保证耐高温性能符合标准要求，并提供拥有相关资质的机构出具的检测报告。

The centrifugal fan must be tested OK in accordance with the "General Usage of Centrifugal Fan Technical Specification" (China National Standard JB/T10563-2006) on terms of general performance. A test report issued by licensed authorities shall be provided. The fan must be tested according to "Fire Fighting Smoke Removal Fan High Temperature Testing Method" (China National Standard GA211-1999) by qualified fire safety testing organizations. The high temperature resistance performance—running continuously for over 30 minutes when the main duct air temperature is 280°C—must be identified by presenting an official certificate.

第八节：新鲜空气冷却电机

Section 8: Fresh air cooling motor

应从不含有所排空气的区域引入新鲜冷空气进入电机所在的腔体来冷却电机。新鲜空气应由风机附属叶轮通过电机罩下的缝隙引入。

Fresh air shall be drawn into the motor compartment from an area free of discharge contaminants to cool the motor and drive. The fresh air shall be guided into the motor chamber through auxiliary wheel blades to the gap below the motor cover.

第九节：铭牌

Section 9: 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的查询配件的历史记录。

Each fan shall bear a permanently fixed aluminum nameplate clearly containing fan number, product model and serial number. The serial number shall be a unique ID for each fan, so that customers have an easy access to finding out the records of used parts.

第十节：可接受供货商

Section 10: Acceptable manufacturers

英飞或类似产品，设计基于英飞RTC型号。

"INFINAIR®" products or equivalents which are based on "INFINAIR®" RTC Fan are acceptable.

USGBC：美国绿色建筑委员会简介

Introduction of United States Green Building Committee

1. 什么是USGBC？

USGBC全称为美国绿色建筑委员会（The U.S. Green Building Council），全美国唯一一个在环保建筑方面代表整个建筑行业的非营利性（NPO）机构。其会员都是来自于行业中各种类型公司的领袖企业。其宗旨是整合建筑业各机构、推动绿色建筑和建筑的可持续发展、引导绿色建筑的市场机制、推广并教育建筑业主、建筑师、建造师的绿色实践。

What is USGBC?

USGBC is widely known as the United States Green Building Council, the only non-profit (NPO) institution on behalf of the environmental protection construction in the whole construction industry. Its members are made up of leading enterprises from various sectors. Its purpose is to integrate the construction industry agencies, promote sustainable development of green building and construction, guide market mechanism of green building, promote and educate building owners, architects green practice.

2. 什么是LEED认证？

美国绿色建筑委员会（USGBC）在1995年建立了一套自愿性的国家标准LEED（Leadership in Energy and Environmental Design——领导型的能源与环境设计），该体系用于开发高性能的可持续性建筑，进行绿色建筑的评级。整个项目包括培训、专业人员认可、提供资源支持和进行建筑性能的第三方认证等多方面的内容。

What is LEED certificate?

United States Green Building Committee (USGBC) established a set of voluntary national standards LEED (Leadership in Energy and Environmental Design) in 1995. The system is applied to develop sustainable construction of high performance for green building ratings. The entire project includes training, professional recognition, resources support, the third-party certification of construction performance.

3. LEED认证价值

LEED属于第三方认证，在技术和管理上保持高度的权威性：LEED认证体系是根据如ASHRAE（美国采暖空调工程师学会）标准的深入定量分析，使建筑的设计和制作过程更趋于可控化、可实践性；并能提高绿色建筑在当地市场的声誉及取得优质的物业估值，从而推动市场转型，形成良性循环。

Certification Value of LEED

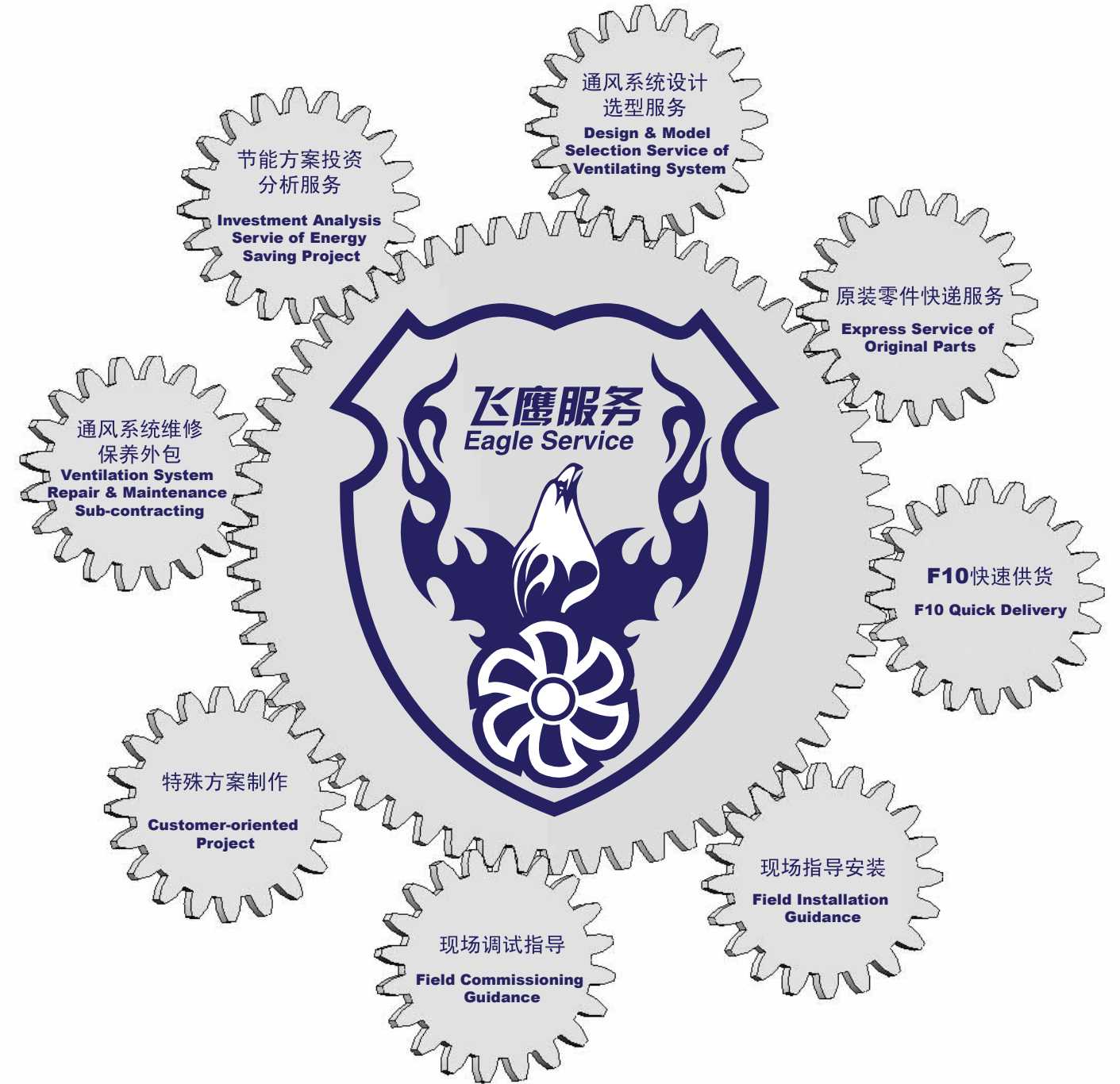
LEED is a rating system certified by third party, maintaining a high degree of authority on technology and management. LEED certification system is a kind of in-depth quantitative analysis based on such as ASHRAE (American Society of Heating Air Conditioning Engineers) standard, which makes design and construction production process tend to be more controllable and practical. That increases green buildings' reputation in the local market and gain excellent valuation of property quality, thus promoting market transition and forming a virtuous circle.

LEED评估体系

所有的子系统的评估指标均有对室内环境空气质量的评分要求。英飞作为USGBC的会员，我们生产的通风设备，可以更优质高效地解决室内空气通风问题。提升空气质量，并为客户提供整体的室内空气质量提升解决方案，帮助客户获得更高的评估得分，顺利通过LEED认证。

LEED evaluation system

All evaluation indicators in subsystems of LEED have requirements on assessment of air quality indoors. As a member of USGBC, our ventilation equipments provide better solution to the problem of air ventilation indoors. INFINAIR promises you the followings: Improve air quality, provide the overall indoor air quality enhancing solutions, and help customers get a higher assessment scores and successfully pass LEED certification.



AMCA: 空气运动与控制协会简介

1. 什么是AMCA?

AMCA是一个国际性的、非盈利性的组织，致力于风机、百叶、风阀和其他空气处理设备性能的认证工作，其成员包括了目前世界上主流生产厂家的大多数，并能够提供独立于买卖双方之外的第三方检测认证。除此之外，它还制定了行业内很多非常重要的基础性的标准。根据AMCA宣称，这个组织的任务和宗旨是令通风行业与目前公众事业的发展同步，保证行业健康而稳步地发展。AMCA是行业内部一个很有价值的资源，同时也是行业自律的重要体现。

2. AMCA认证标签

AMCA认证标签保证了一个产品系列已经在共同标准的指导下进行了检测，并签署了类似保证书的法律文件，并且生产厂家的样本在付诸印刷之前提交给AMCA的工作人员并获得其认可。

3. 噪音及空气动力特性标签

对于一个贴有认证标签的产品，必须首先在一个AMCA认可的实验室进行检测，通常是由AMCA技术人员认证过并拥有证书的但不是位于生产厂商的实验室。为了能够获得贴标签的许可，每一个生产商还必须达到如下八个主要要求：

- (1) 样本的参数一定要按照正确的标准进行检测
- (2) 所有的检测必须在AMCA认证的实验室进行
- (3) 检测结果必须交AMCA进行校核并存档
- (4) AMCA派员到工厂对生产过程进行认证前的预检
- (5) 所有的样本在印刷前必须交AMCA认可并存档
- (6) 每三年之后应重新检测
- (7) 通过认证的产品必须同意接受来自竞争对手要求的抽检
- (8) 成员应交纳适当的费用以维持AMCA组织的正常运转



并且，这并未结束，一旦获得认证，某一产品应当在任何时候必须接受竞争对手所要求、针对样本而非直接检测结果的质疑；一旦发现样本与实际产品性能有所不符，则生产商即使已获得的认证也将被收回。

因此，购买和使用风机的人，应当了解AMCA认证标签的价值。