FAIRWAY

TRZ、HRZ Series Centrifugal Fan

科技铸就品质

概　述

TRZ系列、HRZ系列双进风离心风机系引进德国Wolter先进技术，通过本公司工程技术中心进行吸收、消化、提高而研制开发的新产品。TRZ系列风机是前倾多翼式离心风机，有17种规格；HRZ系列风机是后弯式离心风机，有19种规格；其中HRZ系列离心式风机根据客户需要，可制成防爆型，有16种规格。TRZ系列、HRZ系列风机具有通用性好、互换性强、效率高、噪音低、运行可靠、安装维护方便等特点，是各类中央空调机组及其他暖通空调净化、通风等设备理想的配套产品。

OUTLINE

TRZ and HRZ series Double Inlet Centrifugal Fans are new designed products. They are developed from importing advanced technology of Wolter GmbH&Co KG and digested and improved by our company's engineering and technical center. There are 17 types of specifications for TRZ series forward multi-vane Centrifugal Fans and 19 types of specifications for HRZ series backward Centrifugal Fans. HRZ series Centrifugal Fans can be used in anti-spark protection according to user's need. There are many characteristics, Such as common using, low noise, high efficiency, strong reliability, easily installation and so on. These fans are suitable for supply or extract application in commercial, process and industrial HVAC systems.

使用环境

工作介质：清洁空气和无腐蚀性的蒸汽

介质温度：-30℃~85℃

相对湿度：50%

CONDITIONS OF USE

medium : clear air and anti- corrosive steam

medium temperature: -30℃~85℃

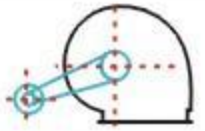
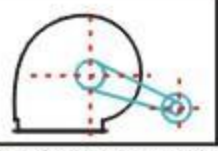
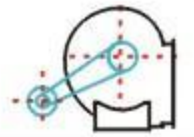
relative humidity: 50%

产品命名方式

Designation of Products

风机旋向和出风角度

FAN ROTATION AND DISCHARGE

旋向 \ 方向	0	90	180	270
右旋 RD				
左旋 LG				

从电机一端正视，叶轮顺时针旋转的称为右旋风机，逆时针旋转的称为左旋风机。

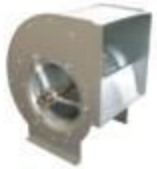
The direction of rotation is determined from view on the side of drive, clockwise rotation is Right (RD), counter-clockwise rotation is Left (LG).

结构说明

STRUCTURE SPECIFICATION

●HRZ 后弯式双进风离心风机叶轮
HRZ Backward Double Inlet Centrifugal Fans Impeller

●TRZ前倾多翼式双进风离心风机叶轮
TRZ forward Multi-vane Double Inlet Centrifugal Fans Impeller



●此结构形式称S型，适用于160-630mm规格的风机
This type is called "S TYPE" which is suitable for fan size 160 ~ 630mm

●此结构形式称C型，适用于180-630mm规格的风机
This type is called "C TYPE" which is suitable for fan size 180 ~ 630mm

●此结构形式称T型，适用于250-1400mm规格的风机
This type is called "T TYPE" which is suitable for fan size 250 ~ 1400mm

●双风机

TRZ、HRZ系列风机可制成双风机型式，由两台双进风风机装在一根轴上。
选择双风机时，用单风机性能参数乘以下系数：
风量：×2　　转速：×1.05　轴功率：×2.15　噪音：+3dB(A)
与单风机的结构型式对应，双风机的结构型式有2S，2C，2T.

TWIN FAN

TRZ、HRZ series are also available in twin fan version, with two double inlet fans mounted on the same shaft.
To select for twin fans, use the curves of single fan with the following factors:
Air flow： ×2 Speed: ×1.05 Peak absorbed power: ×2.15 Noise: +3dB(A)
The frame structure type of double inlet fans have 2s, 2c,2t.

风机部件说明：

FAN PARTS SPECIFICATION

风机机壳

机壳采用镀锌钢板制造，侧板蜗线设计符合空气动力学要求。其工艺是蜗板翻边后与侧板采用专用数控机器咬合而成。(注：HRZ1120～1400机壳采用优质钢板焊接而成)

FAN CASING

The fan casing is made from galvanized sheet metal, poll line is designed according to aerodynamics. Its edge is bent and rolled and securely clipped with the side plates by a special machine.（Remark: HRZ1120～1400 casing is welded by high quality carbon sheet metal）

叶轮

TRZ风机的叶轮采用优质镀锌钢板制成，710以上的叶轮，增加可调节杆固定，保证足够的刚度。

HRZ风机的叶轮采用优质钢板焊接制成，叶型设计符合空气动力学的特性，保证其最大轮缘速度下，叶轮具有足够的刚度。

叶轮带轴在精密设备上进行静、动平衡校验，其平衡精度达到ISO-G2.5级。

如果用户指明风机安装在有爆炸危险的场合，本公司可以采用铝合金材料制作HRZ180-1000的叶轮，以防在事故状态下摩擦引爆。

IMPELLERS

TRZ impellers are made from galvanized sheet metal. The impellers above 710 are located by adjustable pole to ensure enough intensity.

HRZ impellers are welded by high quality steel metal. The impellers are designed according to aerodynamics to ensure enough intensity at the most high impeller tip speed.

The impellers with the shaft are statically and dynamically balanced on precision machines according to quality standard ISO-G2.5.

If user confirm that the fans are meant for installation in explosion hazard areas, we can offer HRZ aluminum-made impellers from HRZ180 to 1000, so as to avoid the possibility of explosion.

集流器

集流器采用镀锌钢板模压成形，其形状符合空气动力学要求，最大限度地降低进口动压。

SHAPED INLETS

The inlets are pressed to shape from galvanized sheet metal. The aerodynamically shaped inlets are bolted in and guarantee a perfect inlet stream onto the impeller.

主轴

风机主轴采用45＃优质碳钢经粗加工、调质处理及磨削精加工制成，严格控制尺寸公差和形位公差，加工完毕后的轴均经防腐蚀处理。

SHAFTS

Shafts for the type TRZ/HRZ are made of C45. All precision shafts are trued and have a smooth finish. A wax coating provides protection against corrosion of this precision engineered shaft.

轴承

风机轴承属关键部件，本公司标准配置日本NSK和德国INA低噪声精密球轴承，设计理论寿命至少为20,000工作时。

在轴承特性曲线上注明了转速和驱动功率的限界值。按特性曲线要求来使用，就不会超过轴承允许的荷载。遵守皮带轮的安装和使用规则，可保证轴承的长期的运行质量。

BEARINGS

Bearings are important parts of the fan, We uses Japan NSK and German INA low noise precision ball bearings. The bearings are designed for a theoretical life at least 20000 working hours.

Limiting values for speed and power are indicated on the characteristic curves and should not be exceeded. Long term quality is safeguarded when general assembly and service guidelines for V-belt drives are adhered to.

性能参数说明

本产品样本设有二种系列各个规格的详细性能曲线图，在不同转速下可查得风机的风量、风压、耗功、噪声值，还设有详细的外形尺寸图（表）。

PERFORMANCE PARAMETER

This product handbook included a detailed range of performance curves for both the series with different specifications. You may check the air volume of the fan, its pressure, power and noise level under different velocity range. There is also a detailed drawing with all outer dimensions for reference.

性能曲线

本产品样本中，设有详细的性能参数坐标曲线图，在确定转速的条件下，选择风机的压力（动压、静压、全压）、轴功率及A计权声功率级。

本公司具备ISO-5801气动性能试验装置和声学试验室，样本中提供的所有性能参数均经过可靠的试验；

PERFROMANCE CURVE

There is a detailed performance parameter graph in the product handbook. When the velocity is fixed, select the fan's pressure (static, dynamic, total), shaft power and A-weighted sound power level.

The Company is equipped with air movement testing facilities to ISO-5801 standards and a noise laboratory. The performance parameters provided in this handbook are based on actual testing.

配用电机的功率

配用电机的功率可按下式计算：

$$N=Ns \cdot K$$

式中：N- 配套电机的功率
Ns- 风机的轴功率
K-电机容量安全系数，按下表选取

THE POWER OF THE MOTOR

The power of the motor to be install is determined by the following formula:

$$N=Ns \cdot K$$

Remark: N-power of the motor
Ns- absorbed power
K-required safety factor. The required safety factor is provided in the following Table.

电机功率(power of the motor)	K值(required safety factor)
≤2.2kW	1.2
≤11kW	1.15
>11kW	1.1

风机噪声

该风机A声功率级是通过详细试验测得的，在空气处理机配套和通风系统使用制作消声器时，可以按下列公式确定各个倍频带的声功率级。

$L_{Wokt}=L_{WA}+L_{Wrel}$

单一的声功率特性曲线由下列关系式来确定:

$L_{WA}=L_{WS}+10lgV+20lg\triangle pt$

特定的声功率级L_{WS}，按不同的风机尺寸和转速确定。为了确定距离1m处的A计权声压级，假定声音呈半球形扩散，可近拟采用以下公式:

$L_{PA}=L_{WA}-7dB$

但是，该公式适用的条件是，无室内声传播干扰、无管道结构、无反射以及无固有频率等的影响（自由声场条件）。所有这些都会对声压级产生明显影响，因而只能在倍频程声功率级基础上分别考虑各种因素的影响进行精确计算，才能得出有用的结果。

SOUND LEVEL

A-weighted sound power level of fan is attained through detailed tests and assessments ,When the fan is operated within the air conditioning and ventilation systems. The sound power level at the different octave band mid frequencies may be calculated by means of the following formula:

$L_{Wokt}=L_{WA}+L_{Wrel}$

The individual sound power performance curves are determined by the following formula:

$L_{WA}=L_{WS}+10lgV+20lg\triangle pt$

The specific sound power level L_{WS} is measured for different fan sizes and fan speed . In order to determine the A-weighted sound pressure level at a distance of 1 meter supposing a semispherical sound projection the formula below is valid by approximation.

$L_{PA}=L_{WA}-7dB$

However, it is very important to note that this formula is only valid under the condition that there are no influences from acoustic properties of a room, uninstalled duct systems, no reflections, no inherent frequencies etc (free sound field conditions). All these may have a significant influence。 on the sound pressure level.So that only an exact determination on the basis of the octave sound power level,taking into account these influences,can arrive at usable results.

●若使用的风机转速、风机规格、进气状态改变时，可按下列关系式换算。
Performance with different operating speeds, wheel diameter and inlet conditions can be computed by the following equations.

・在风机规格和气体密度相同条件下，转速变化时

流量与转速成正比：

$$\frac{Q_1}{Q_2}=\frac{n_1}{n_2}$$

静压、动压、全压变化与转速的平方成正比：

$$\frac{P_{st1}}{P_{st2}}=\left[\frac{n_1}{n_2}\right]^2=\left[\frac{Q_1}{Q_2}\right]^2$$

功率与转速的三次方成正比：

$$\frac{N_1}{N_2}=\left[\frac{n_1}{n_2}\right]^3=\left[\frac{Q_1}{Q_2}\right]^3$$

・在转速不变的条件下，风机规格随叶轮直径按几何相似变化时：

流量与直径的三次方成正比：

$$\frac{Q_1}{Q_2}=\left[\frac{D_{21}}{D_{22}}\right]^3$$

静压、动压、全压变化与直径的平方成正比：

$$\frac{P_{st1}}{P_{st2}}=\left[\frac{D_{21}}{D_{22}}\right]^2$$

功率与直径的五次方成正比：

$$\frac{N_1}{N_2}=\left[\frac{D_{21}}{D_{22}}\right]^5$$

・在风机速度相等、规格相同的条件下，气体（输送介质不变），温度变化时

流量无变化：

$$Q_1=Q_2$$

静压、动压、全压与密度成正比：

$$\frac{P_{st1}}{P_{st2}}=\frac{\rho_1}{\rho_2}=\frac{T_2}{T_1}$$

功率与密度成正比：

$$\frac{N_1}{N_2}=\frac{\rho_1}{\rho_2}=\frac{T_2}{T_1}$$

SPEED VARIATION AT CONSTANTANT FAN SIZE AND CONSTANT DENSITY

The volume flow changes proportionately to the speed:

$$\frac{Q_1}{Q_2}=\frac{n_1}{n_2}$$

All pressure (static, dynamic, total) change proportionately to the square of speed:

$$\frac{P_{st1}}{P_{st2}}=\left[\frac{n_1}{n_2}\right]^2=\left[\frac{Q_1}{Q_2}\right]^2$$

The power requirement changes proportionately to the third power of the speed:

$$\frac{N_1}{N_2}=\left[\frac{n_1}{n_2}\right]^3=\left[\frac{Q_1}{Q_2}\right]^3$$

IN THE CASE OF CHANGES IN THE WHEEL DIAMETER OF GEOMETRICALLY SIMILAR WHEELS AT CONSTANT SPEED

The volume flow changes proportionately to the third power of the wheel diameter :

$$\frac{Q_1}{Q_2}=\left[\frac{D_{21}}{D_{22}}\right]^3$$

The pressures (static, dynamic, total) change proportionately to the square of the wheel diameter:

$$\frac{P_{st1}}{P_{st2}}=\left[\frac{D_{21}}{D_{22}}\right]^2$$

The power requirement changes proportionately to the fifth power of the wheel diameter:

$$\frac{N_1}{N_2}=\left[\frac{D_{21}}{D_{22}}\right]^5$$

CHANGES IN THE DENSITY AT CONSTANT SPEED (OR CHANGE OF THE KELVIN TEMPERATURE AT A CONSTANT FLOW MEDIUM)

The volume flow is not affected .

$$Q_1=Q_2$$

The pressures (static, dynamic, total) change proportionately to the density:

$$\frac{P_{st1}}{P_{st2}}=\frac{\rho_1}{\rho_2}=\frac{T_2}{T_1}$$

The power requirement changes proportionately to the density:

$$\frac{N_1}{N_2}=\frac{\rho_1}{\rho_2}=\frac{T_2}{T_1}$$

皮带轮、皮带的安装与校正：

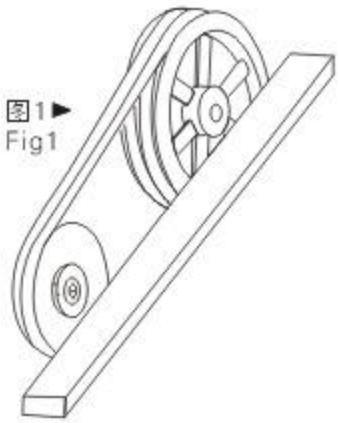


图1►
Fig1

1、拆除风机轴端的保护并检查有无缺口和毛刺。
2、检查风机和电机轴之间的平行度。
3、将皮带轮套在轴上滑进去，不要敲击，以免损伤轴承。
4、用一根直尺靠在风机和电机的带轮上，对齐并紧固，如图1。
5、把皮带套进皮带轮，不要撬、挤压，以免损伤皮带。
6、调节皮带张紧度，直至看起来松紧适度。
7、风机运行几分种后，关掉风机，移动的电机座，调整皮带至合适的张紧度。
8、当风机工作时，皮带紧的一边应是两个皮带轮连成一直线，松的一边的轻微弧形。

V-BELT DRIVEN INSTALLATION

1.Remove the protection coating from the end of the fan shaft and assure that the shaft end are free of nicks and burrs.

2.Check fan and motor shafts for parallel and angular alignment.

3.Slide sheaves on to the shafts – do not drive the sheaves onto the shafts as this may result in bearing damage.

4.Align fan and motor sheaves with a straight-edge or string, and tighten, as shown in Fig1.

5.Place belts over the sheaves. Do not pry or force the belts as this could result in damage to the cords within the belts.

6.Adjust the belt tension until the belts appear snug.

7.Switch off the fan after,running the unit for a few minutes . Adjust the belt tension by moving the motor base.

8 .When in operation, the tight side of the belts should be in a straight line from sheave to sheave and there should be a slight bow on the slack side.

皮带张紧度：

1、合适的皮带张紧度对使用寿命来说很重要。太紧，会给皮带和轴承带来额外的负载，降低它们的使用寿命；太松，皮带会因打滑而发热，并降低使用寿命。

2、皮带张紧度量具可用来判断皮带是否松紧合适。量具本身带有一个尺表，根据皮带轮中心距和皮带横截面确定皮带紧力的大小，如图2和表1；如没有皮带张紧度量具，应调整皮带松紧至风机启动时皮带不发出尖叫声为止，如发出短促的叫声是允许的。

3、每次调整皮带张紧度，都要重新检查皮带轮的对齐情况。如有必要，则重新调整对齐。

4、新皮带在开始使用时可能有点拉伸，应在运行几天后重新检查皮带张紧度。

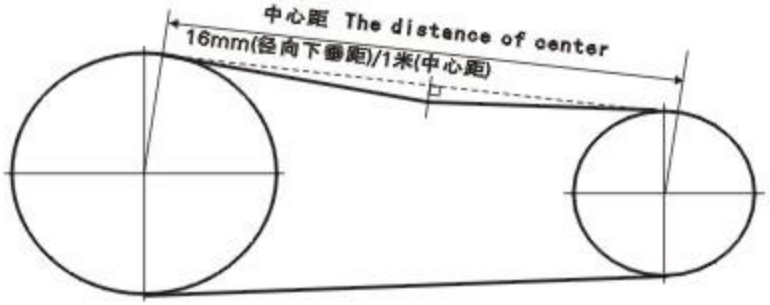
BELT TENSION

1 A proper level of belt tension is required in order to obtain a satisfactory belt life. If the belt tension level is too high, then excessive loads will be imposed on the belts and the bearings, and this will reduce the lives of both of these components. If the belt tension level is too low, then the belt will slip. Belt slippage generates a large amount of heat, and this heat will drastically reduce the life of a belt.

2 Belt-tensioning gauges can be used to determine whether the belts are tensioned properly. A chart is normally supplied with the gauge which indicates the ranges of forces required to deflect the belts by a given amount to obtain the proper belt tension level. The required forces are based upon the center distance of the sheaves and the belt cross-section. The belts are properly tensioned when the forces required to deflect the belt are within the specified range, see FIG2 and TABLE1. If a belt-tensioning gauge is not available, then the belt should be tightened just enough so that the belt does not squeal when the ventilator is started. A very short period of noise during the starting of a ventilator is allowable, but a squeal lasting several seconds or longer is not acceptable.

3 After tensioning the belts and before starting the ventilator, check to make sure that the sheaves are properly aligned. Realign the sheaves if necessary.

4 Note that new belts may stretch a little during initial use, so the belt tension level should be checked after a few days of operation.



◀图2
Fig2

▼表1
Table1

带型 Belt type	中心距为1米时使皮带向下垂16mm所需的力F The fore need to keep the belt stripping down 16mm when the distance of center is 1m.		
	张紧力 Tension force (小带轮直径mm) (Diameter of small sheave)	牛顿N Newton	千克力Kgf Kilogram force
SPZ	56-95	13-20	1.3-2.0
	100-140	20-25	2.0-2.5
SPA	80-132	25-35	2.5-3.6
	140-200	35-45	3.6-4.6
SPB	112-224	45-65	4.6-6.6
	236-615	65-85	6.6-8.7
SPC	224-335	85-115	8.7-11.7
	375-560	115-150	11.7-15.3

使 用 说 明

1、风机在运输、装卸过程中应小心轻放，防止碰撞、挤压，不得存放于潮湿、有腐蚀性物品的场合。

2、安装前，应对风机各部件进行检查，对叶轮、轴和轴承等主要部件应重点细致检查，若有损伤应修复后再安装使用。

3、检查机壳内部，不应有掉入、遗留的工具和杂物。

4、风机安装后用手拔动叶轮，检查是否有过紧或碰撞现象，确认没有这些现象方可进行试运转。

5、风机配用电机功率是指在特定工况下，风机内功率加上机械损失与电机容量安全系数而言，并非出风口全敞开时所需的功率。为防止电机超功率运转而烧毁，严禁风机出风口或进风口不接管路或未加外界任何阻力进行空运转。

6、风管与风机出风口之间应采用软连接，接头不得拉紧。

7、风机正式运转前，须检查电机的转向是否符合风机转向的要求。

8、订货时须注明风机型号、转速、风量、风压、风机旋向和出风角度、特殊要求等。

USAGE INSTRUCTIONS

1.During transportation, load and unload, it is strictly prohibited to shock the ventilators or put them in the wet and corrosive place.

2.Prior to installation, the ventilator should be subject to inspection. Special care should be taken in checking the shaft, impeller and bearings. If there is an indication of any damage, then the damaged parts should be repaired or replaced before the ventilator is installed or operated.

3.Inside the casing, there should not be foreign objects remained, such as tools or loose parts.

4.After installation of ventilator, rotate the impeller by hand or with the use of a wrench to make sure that it turns freely. If it is ensured that there is no tightness and impact then the trial run can be carried out.

5.The rated motor power as calculated herein is not sufficient to drive the ventilator with an unrestricted discharge flow path. Operating the ventilator with an unrestricted discharge flow path will result in flow rates that exceed the ventilator flow rate capabilities, and such operation will quickly burn out the motor. So care must be taken in operating the ventilator to make sure that the maximum rated flows, as provided on the performance charts in this brochure, are not exceeded.

6. A flexible connector should be used between the ventilator outlet flange and its mating pipe. The bolts used to fasten the outlet flange to the pipe should not be over-tightened.

7. Prior to official operation, the rotating directions of both motor and ventilator should be checked to assure that they are consistent with each other.

8. During ordering it is necessary to state the type of ventilator, the operating speed, air volume, air pressure, fan rotation and discharge, especial requirements.

风机的维护与保养

1、轴承需定期保养，加注SKF: LGMT2-1润滑脂。加注时应缓慢转动风机轴，直至轴承封盖两侧有少量润滑脂渗出为止。禁止在轴承静止时加注，以免润滑脂过量，导致轴承过热。

2、风机每运行1500小时，须检查并调整皮带张紧力。

3、风机的维护保养须由专业的设备维护人员操作。

4、若有疑问，请联络我们。

MAINTENANCE OF THE VENTILATOR

1.The bearings need to be maintained periodically, replenish the SKF: LGMT2-1 lubrication grease. Continue to insert grease until a little oozes out from between the outer ring raceway and the periphery of the slinger. To avoid too high temperature of the bears, prohibit to inject lubrication grease when keep the ventilator still.

2. Must check and adopt the tension of the belts every 1500 hour’ s work of the ventilator.

3. The maintenance of the ventilator must be supported by professional person.

4. If you have any questions, please contact us to obtain further information.

风机查阅性能曲线（产品选型）例子

EXAMPLE OFPERFORAMNCE CURVE SELECTION

（所有性能曲线图中的各性能参数按ISO-5801标准测试）

(All parameters in the performance curves are tested to ISO-5801 standard)

风量： **Q=17000m³/h**
Air Volume

出口风速： **V=9.37m/s**
Outlet Velocity

动压： **P_d=52.7Pa**
Dynamic Pressure

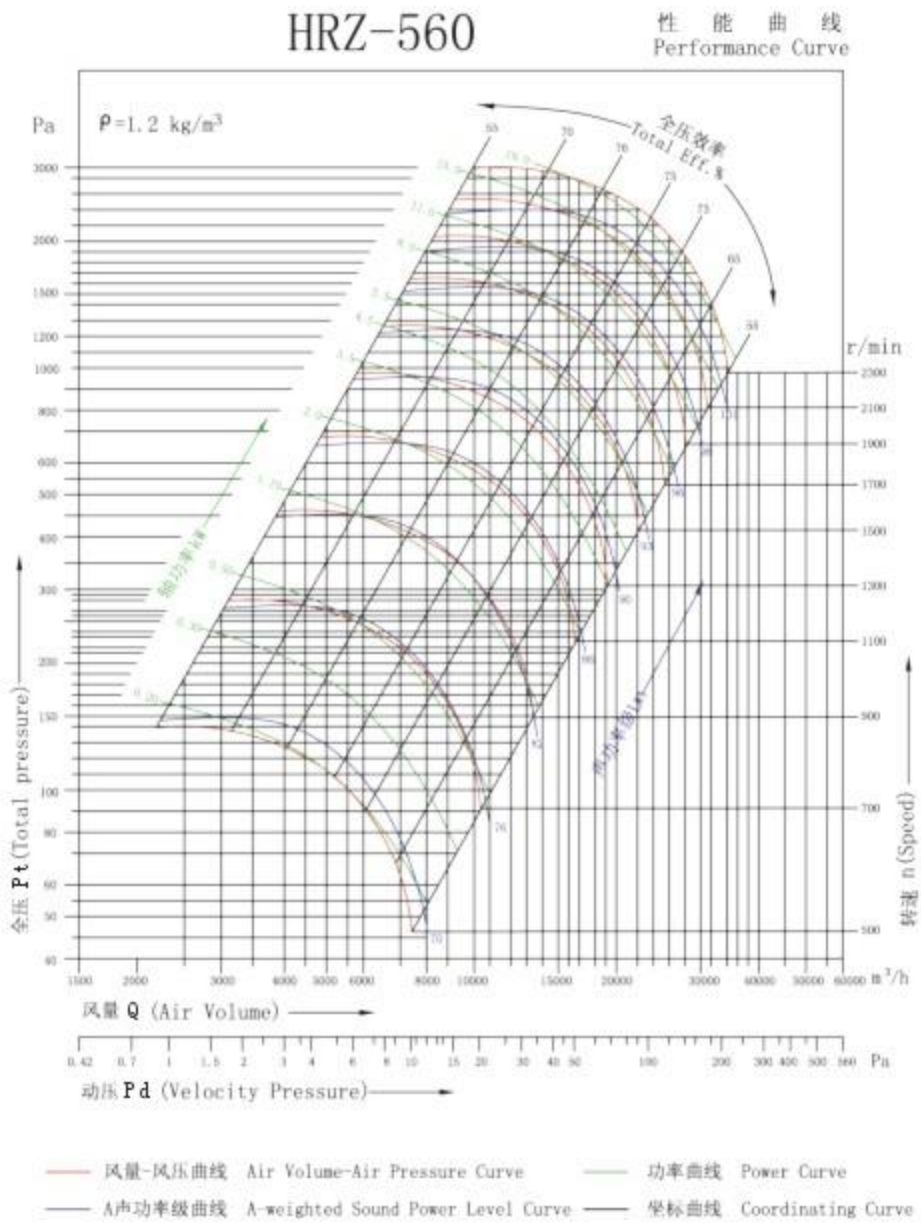
全压： **P_t=1050Pa**
Total Pressure

转速： **N=1500rpm**
Fan Speed

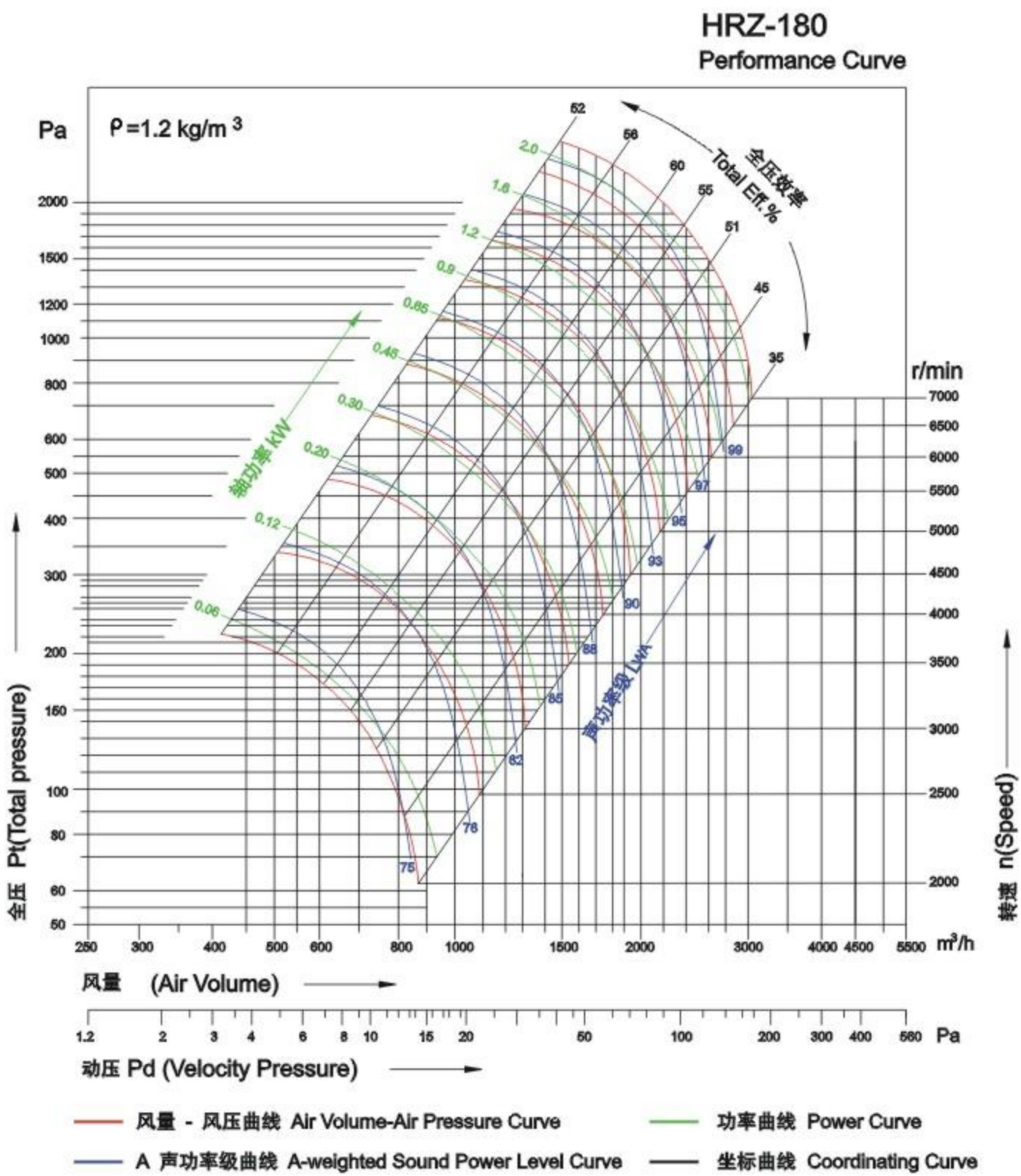
输入功率： **W=6.0kw**
Input Power

全压效率： **η=81%**
Total Efficiency

A声功率级： **L_{WA}=91dB(A)**
A-weighted Sound Power Level



HRZ双进风离心风机性能曲线（HRZ-180）



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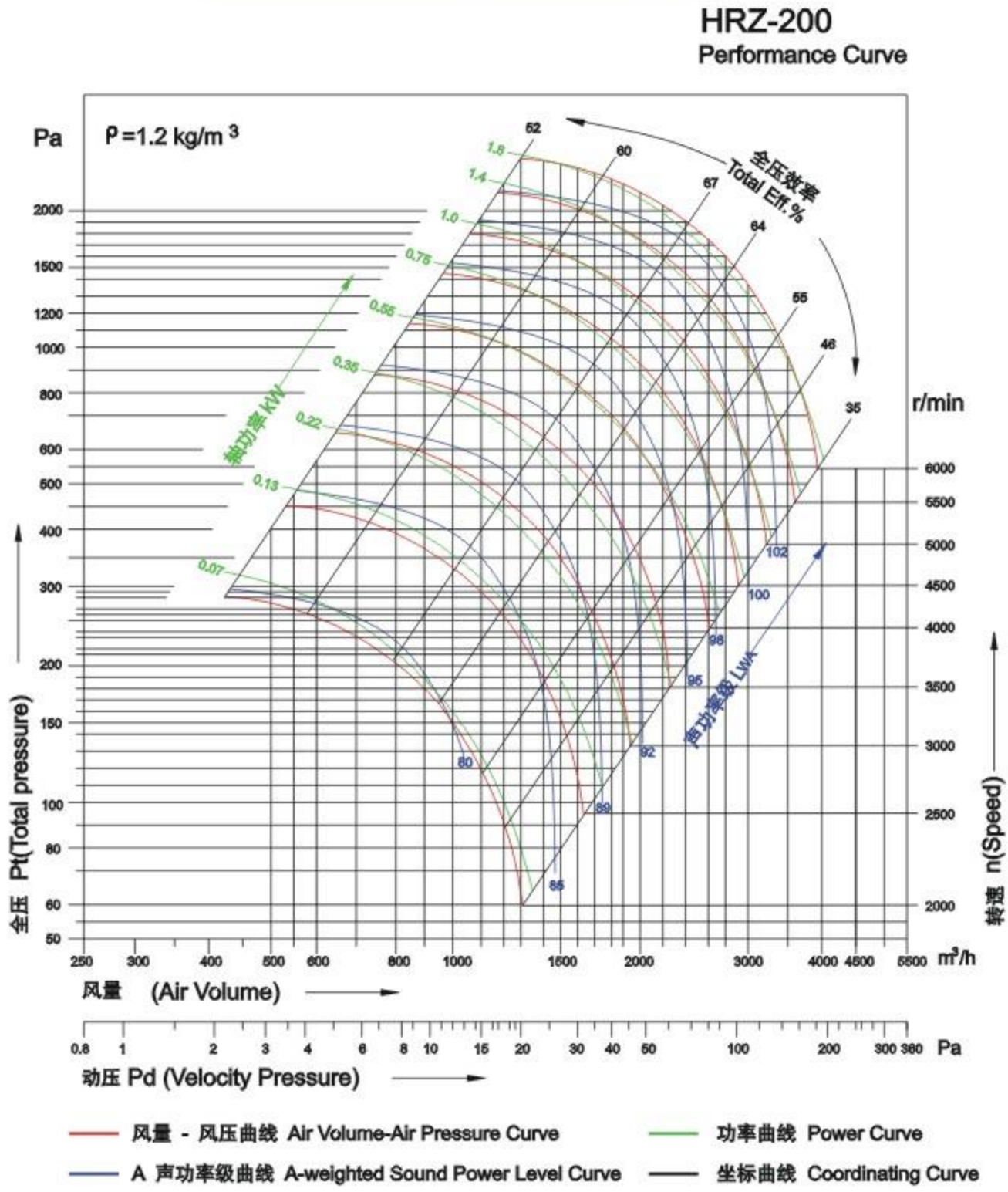

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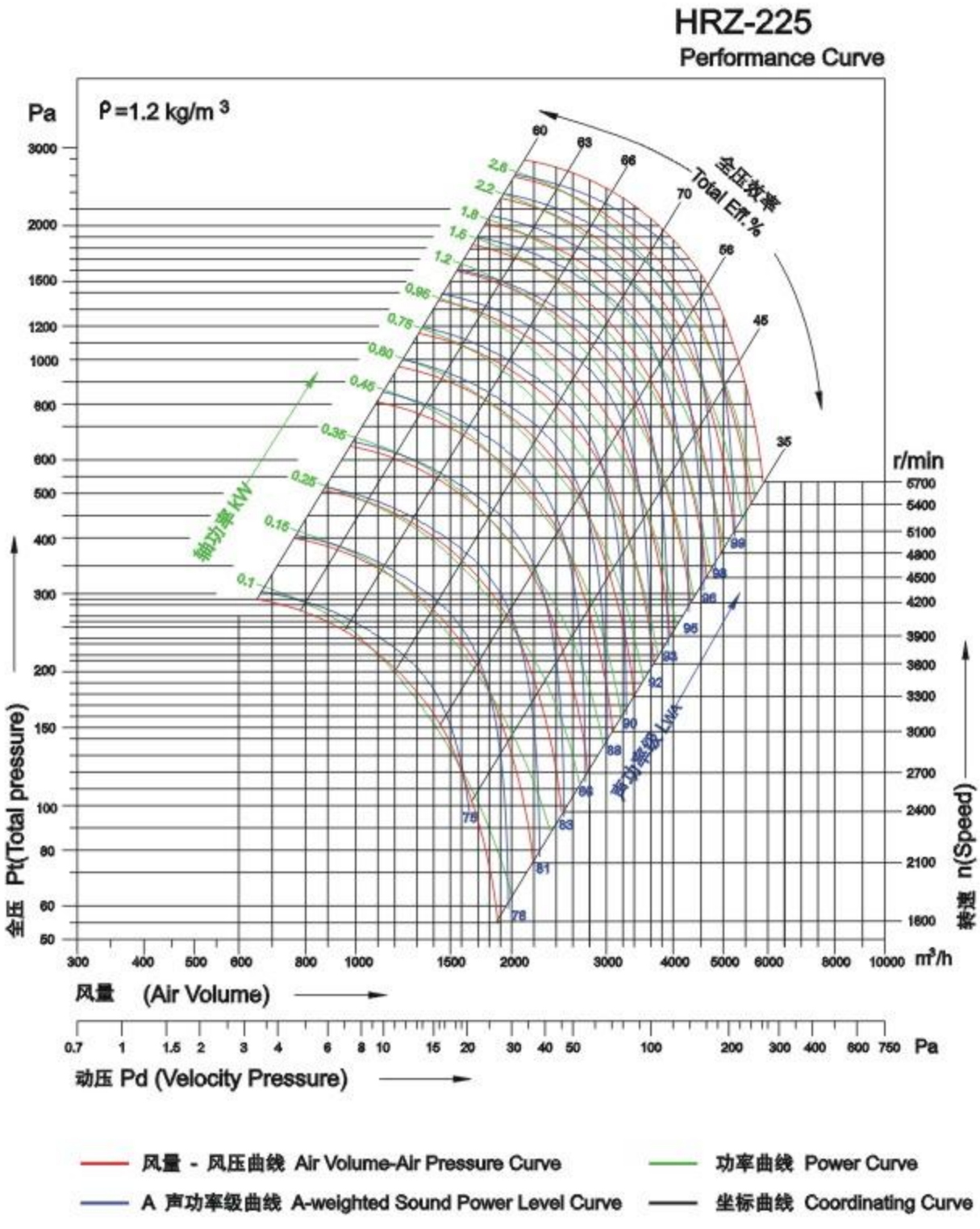

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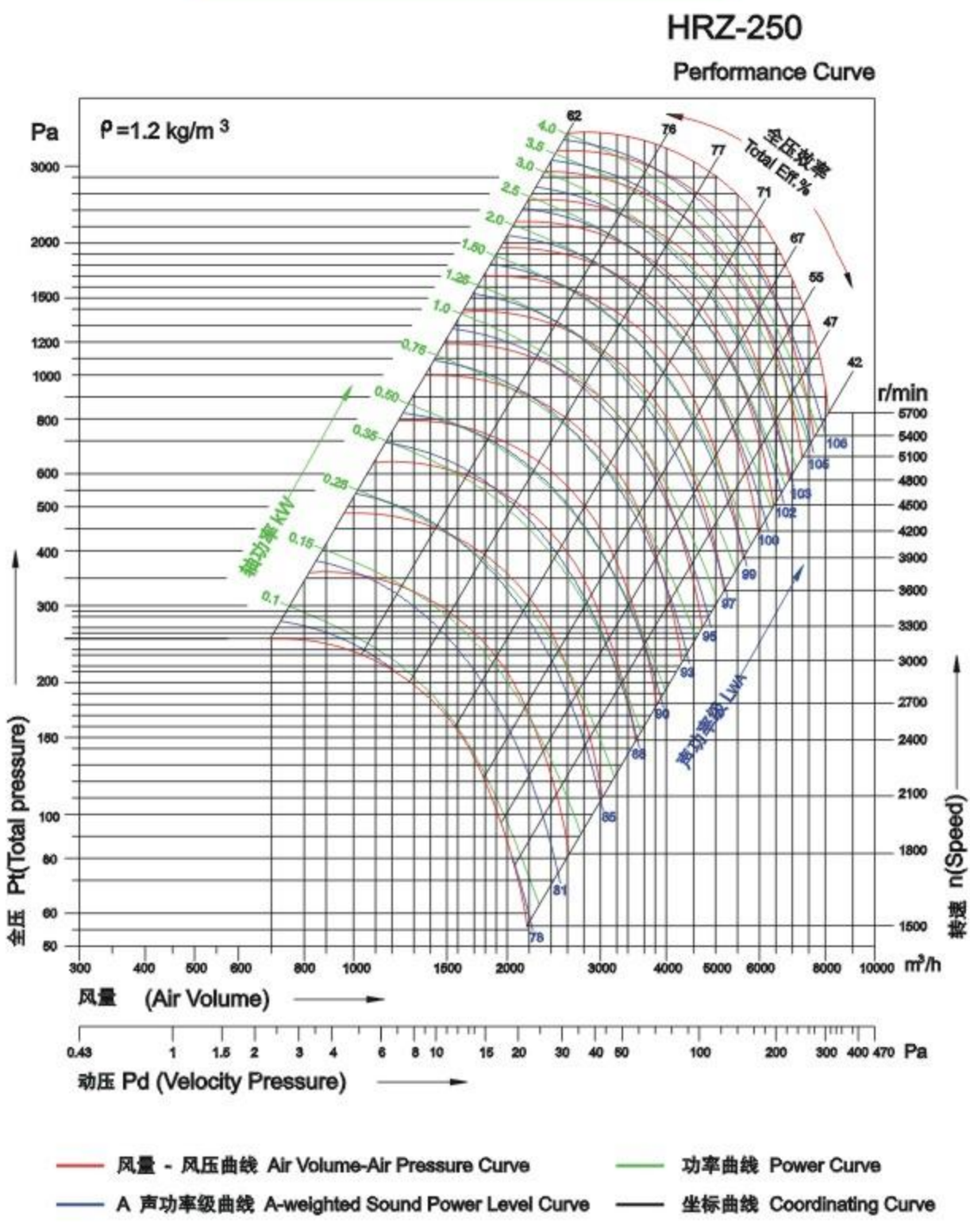

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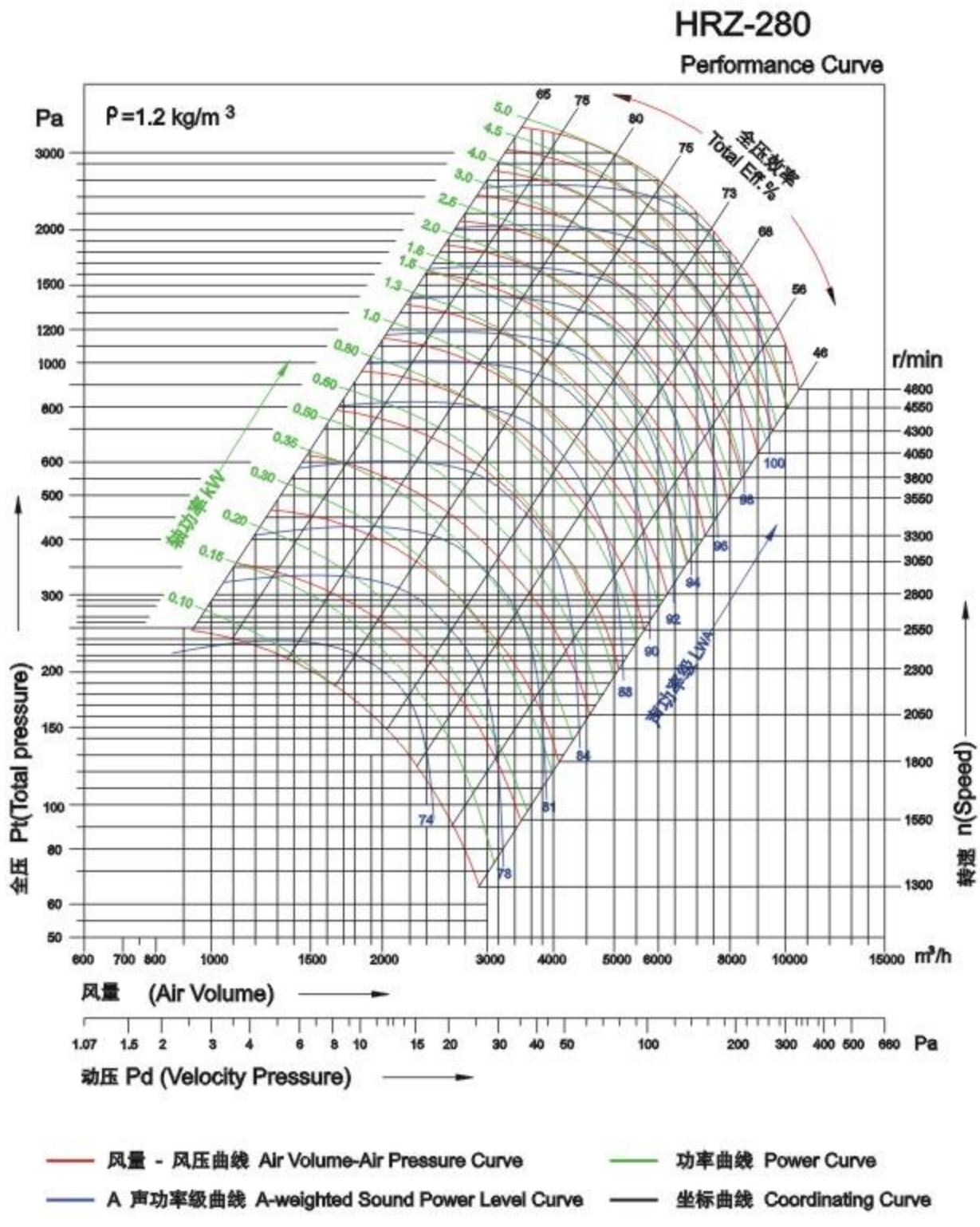
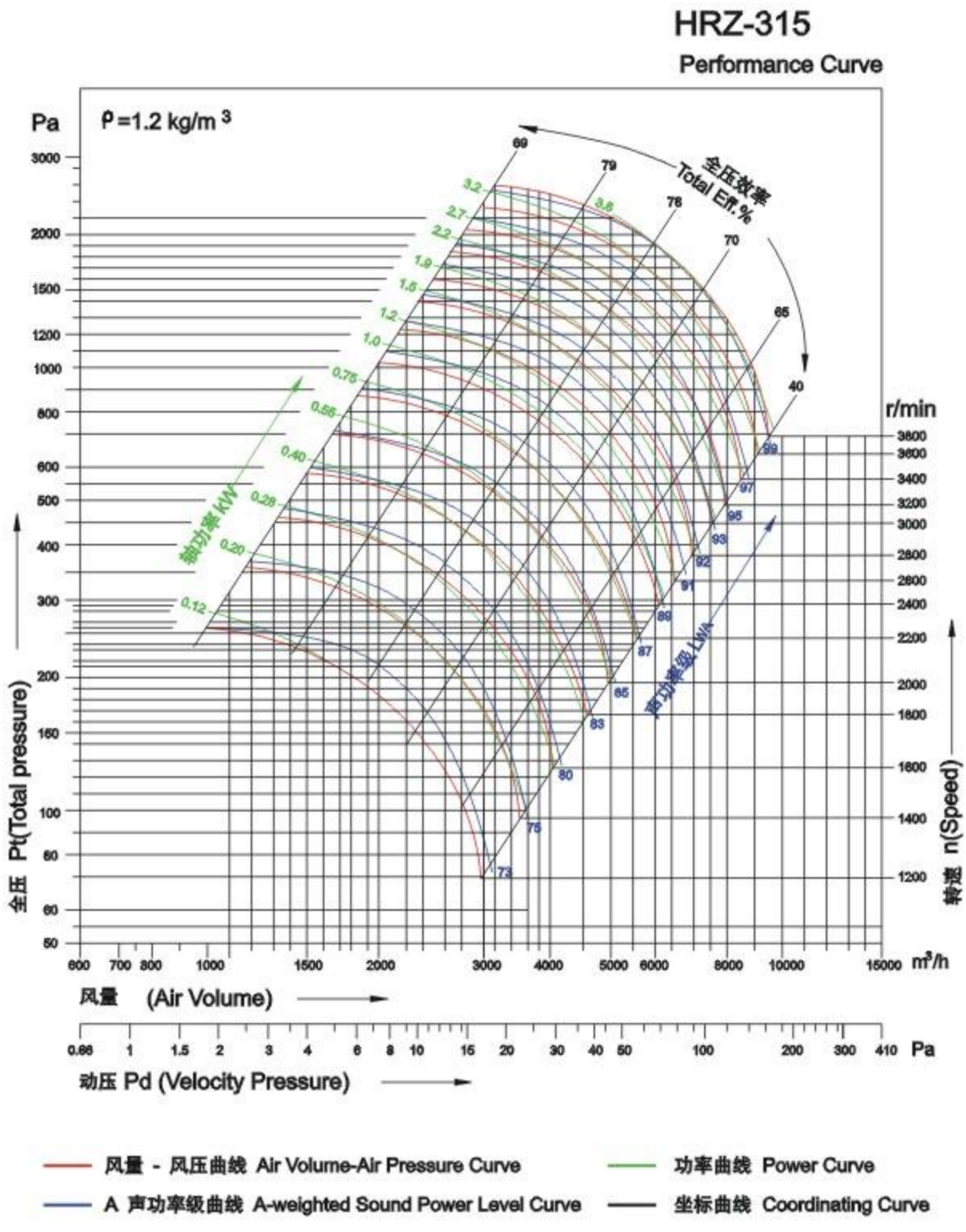
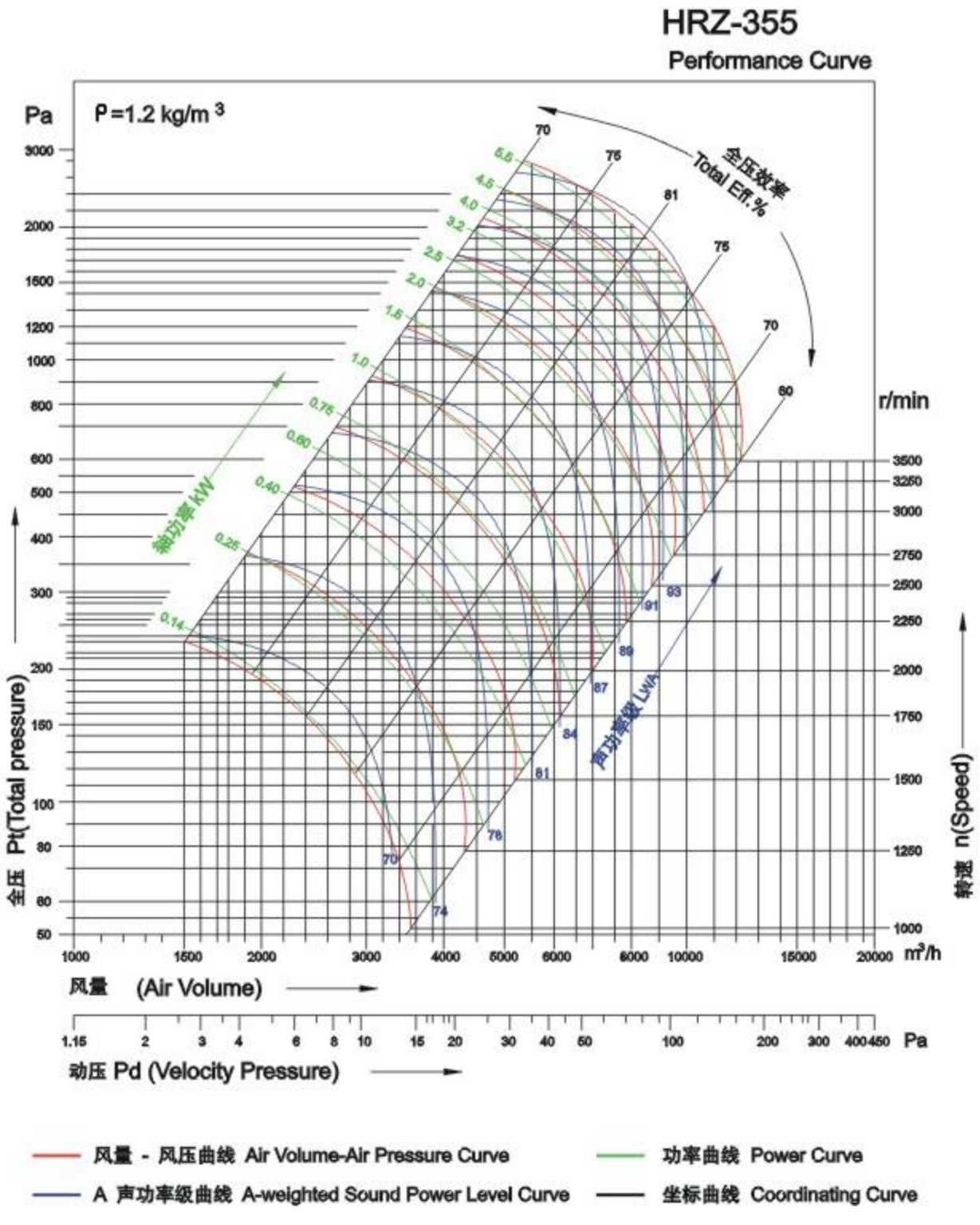


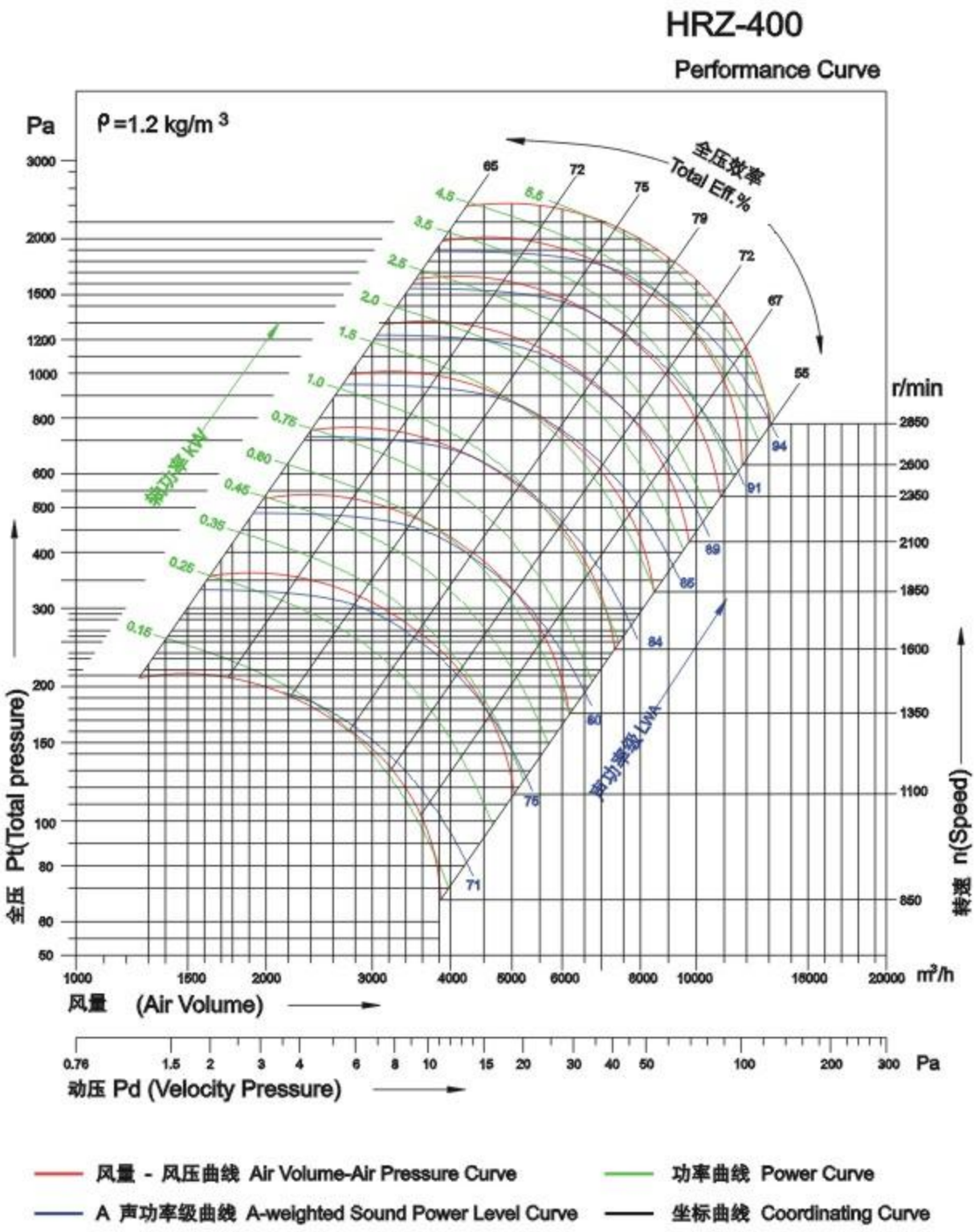
HRZ双进风离心风机性能曲线（HRZ-315）



HRZ双进风离心风机性能曲线（HRZ-355）



HRZ双进风离心风机性能曲线（HRZ-400）



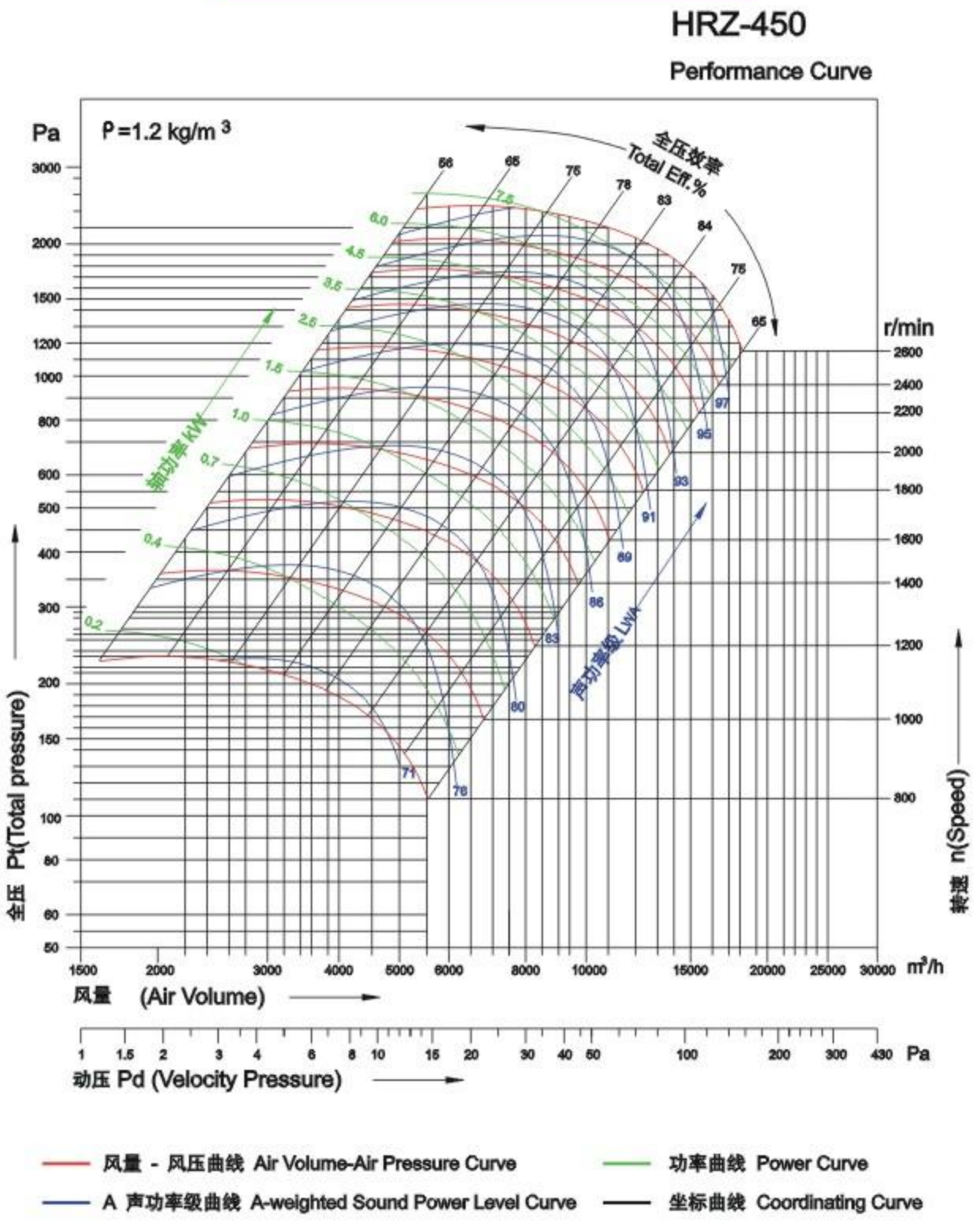
风量 - 风压曲线 Air Volume-Air Pressure Curve

功率曲线 Power Curve

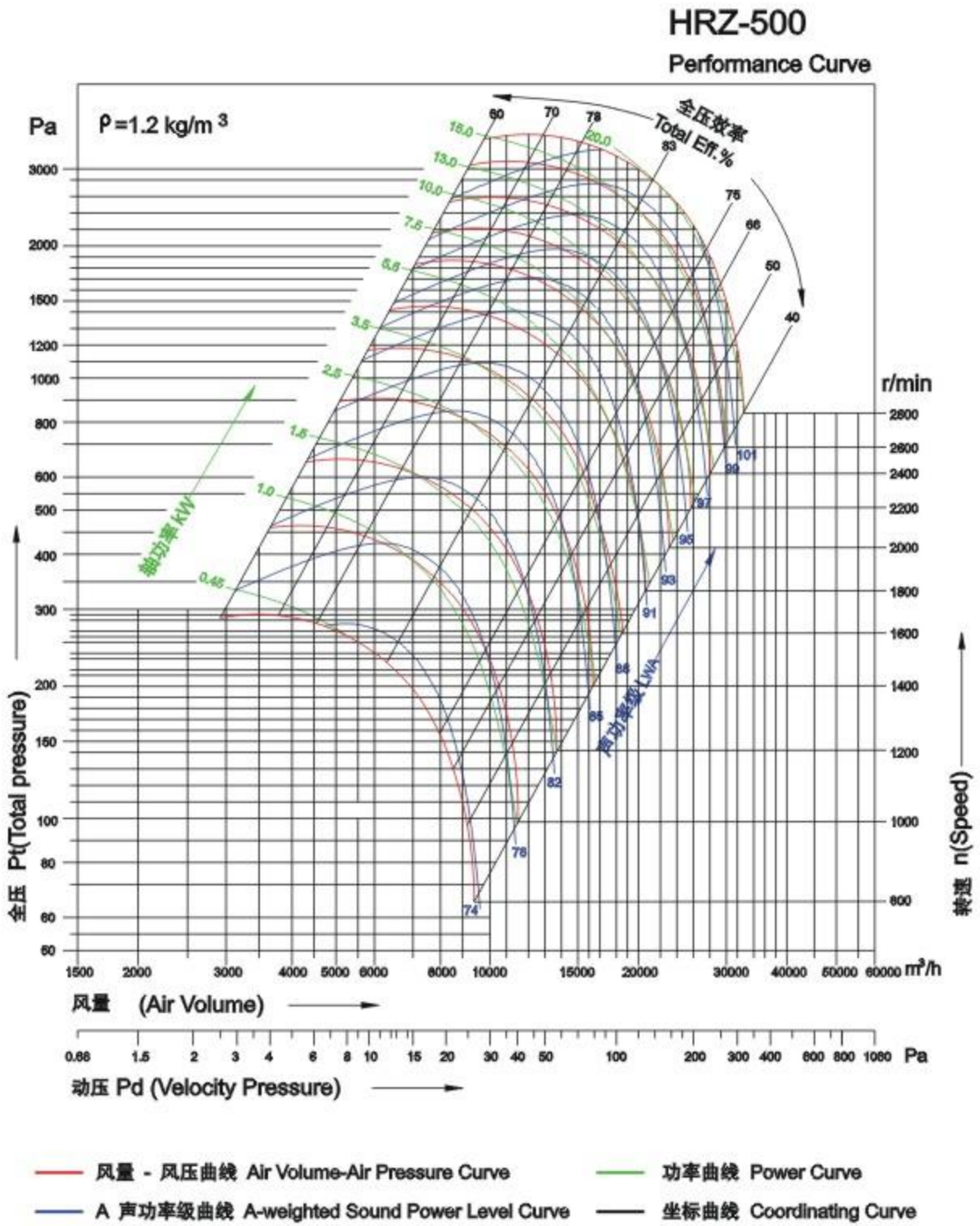
A 声功率级曲线 A-weighted Sound Power Level Curve

坐标曲线 Coordinating Curve

HRZ双进风离心风机性能曲线（HRZ-450）



HRZ双进风离心风机性能曲线（HRZ-500）



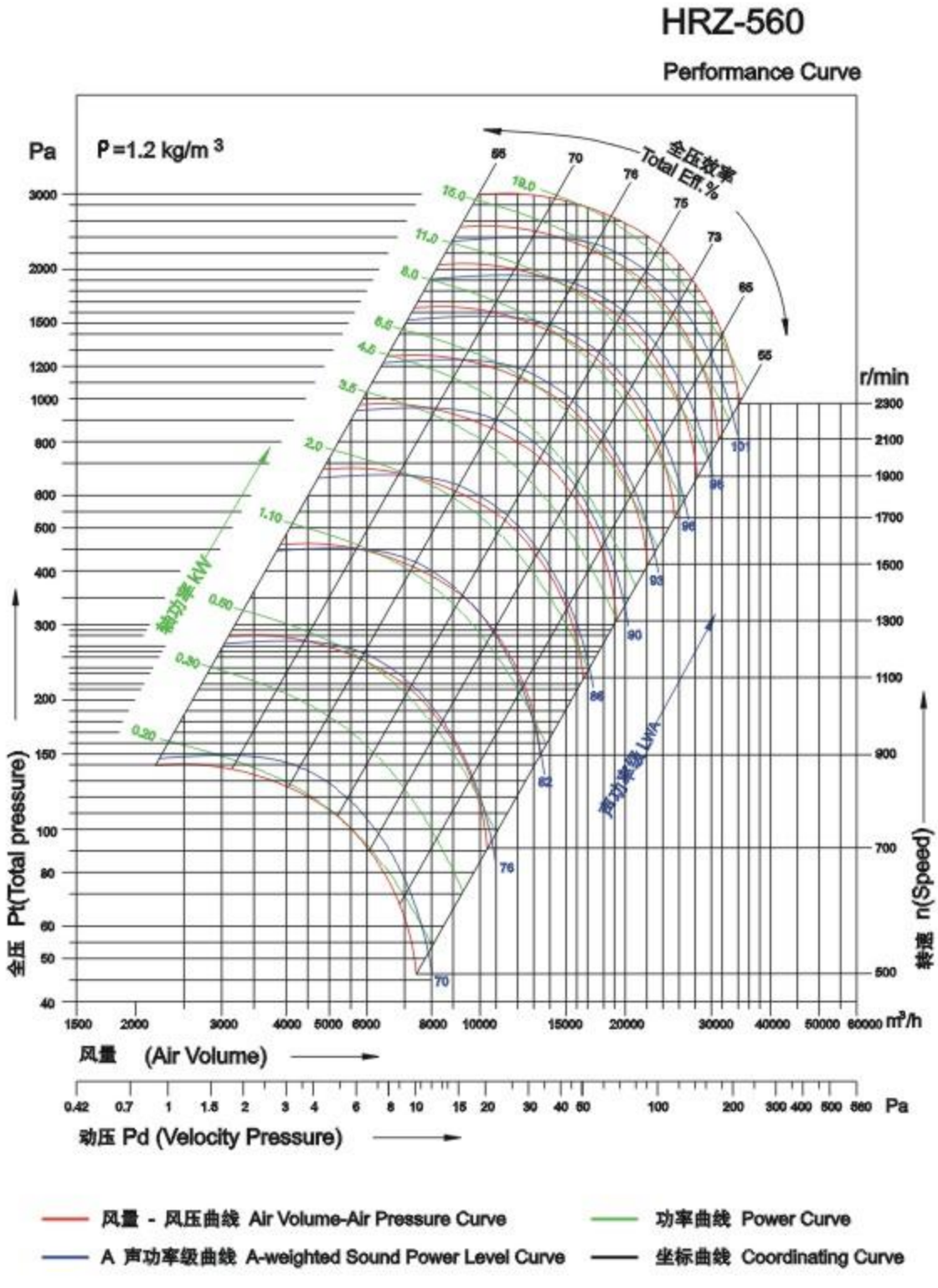
风量 - 风压曲线 Air Volume-Air Pressure Curve

功率曲线 Power Curve

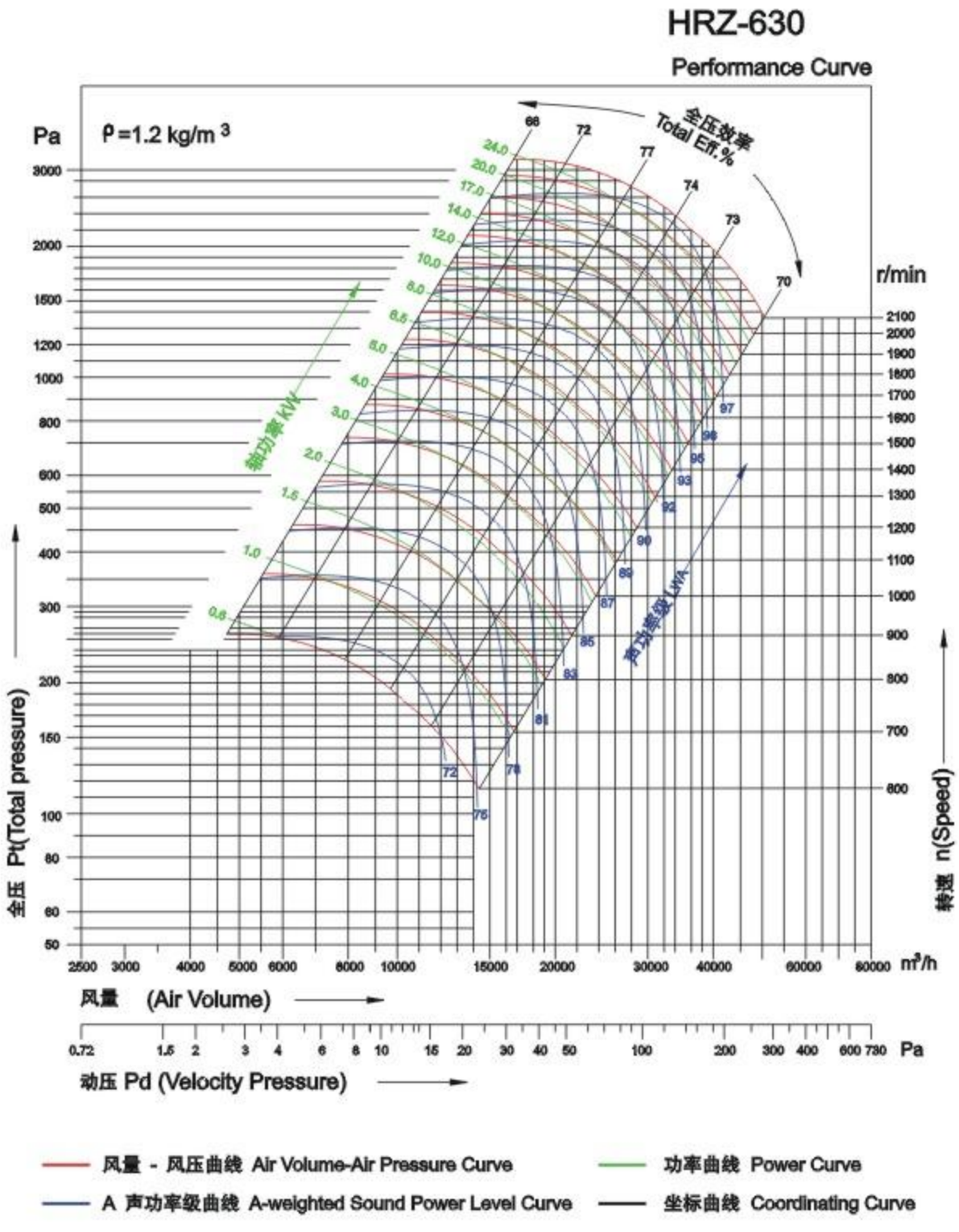
A 声功率级曲线 A-weighted Sound Power Level Curve

坐标曲线 Coordinating Curve

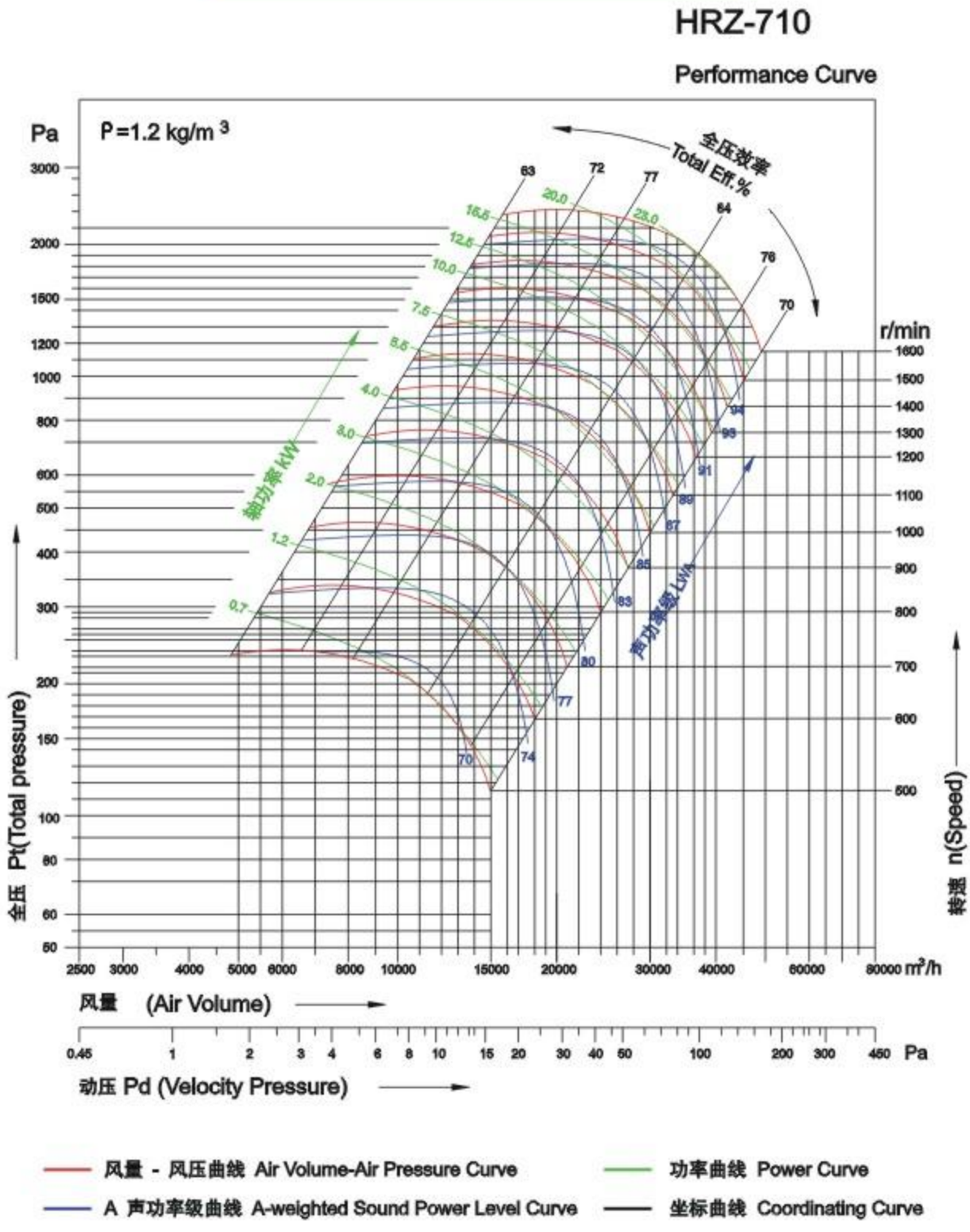
HRZ双进风离心风机性能曲线（HRZ-560）



HRZ双进风离心风机性能曲线（HRZ-630）

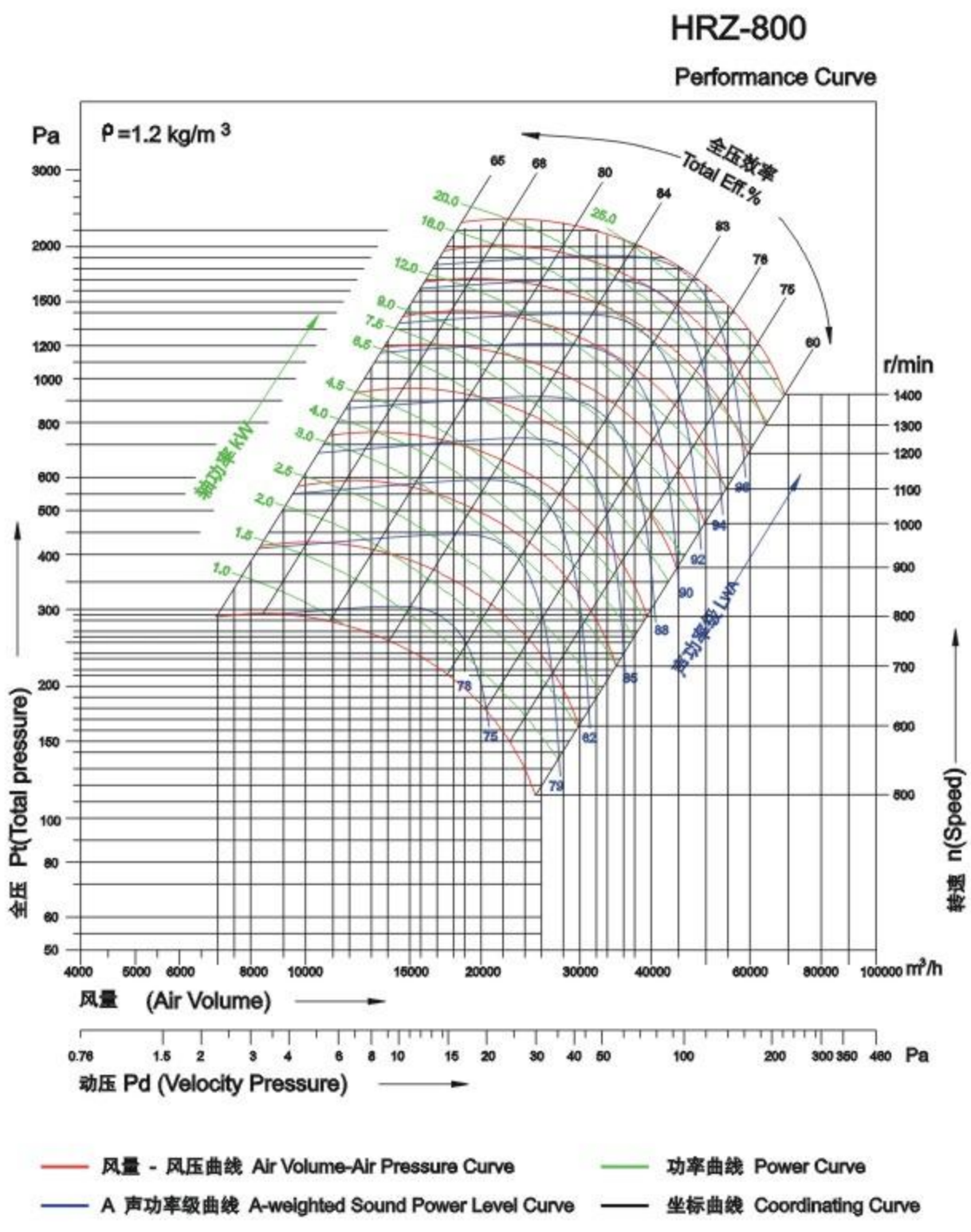


HRZ双进风离心风机性能曲线（HRZ-710）



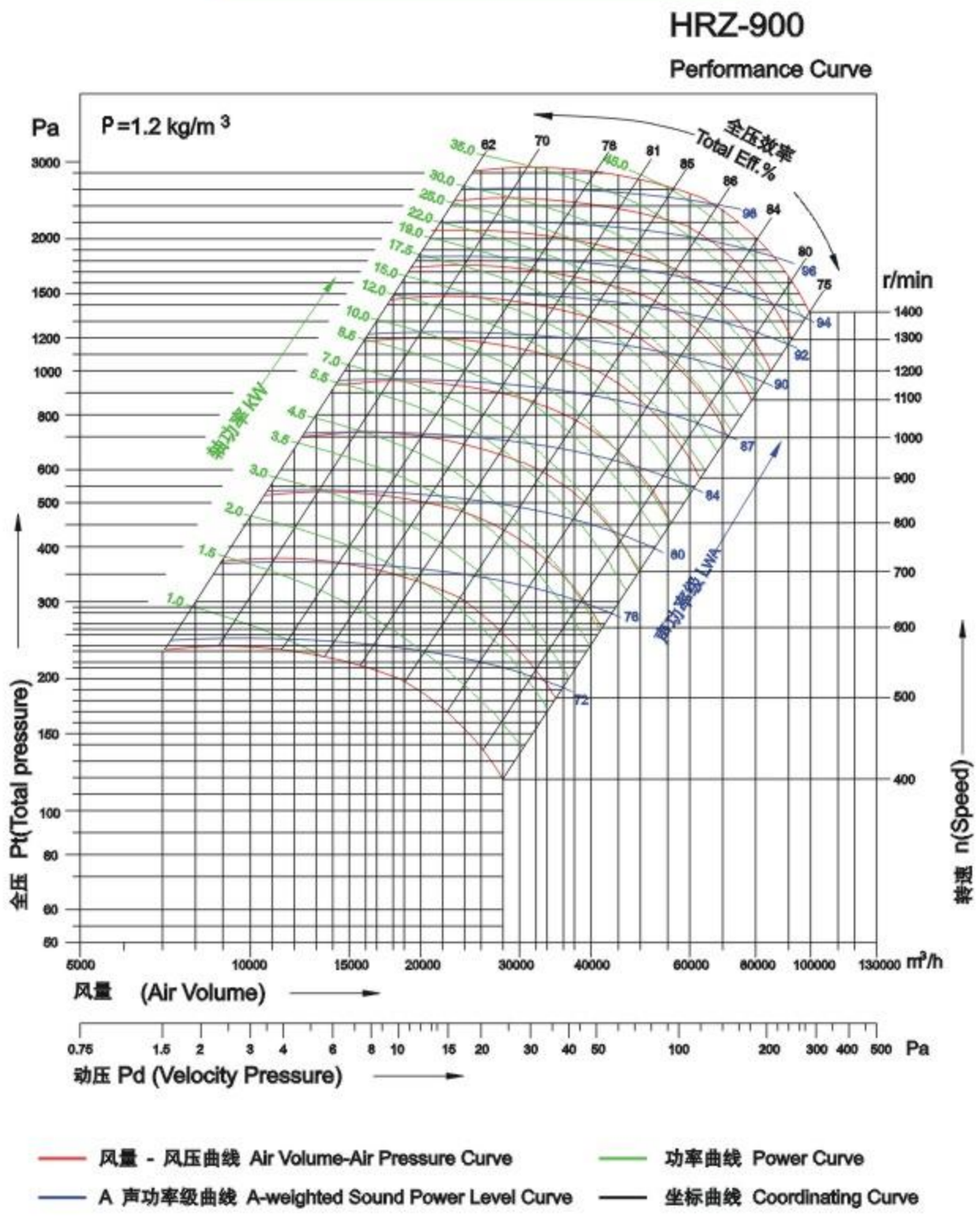
风量 - 风压曲线 Air Volume-Air Pressure Curve
功率曲线 Power Curve
A 声功率级曲线 A-weighted Sound Power Level Curve
坐标曲线 Coordinating Curve

HRZ双进风离心风机性能曲线（HRZ-800）



风量 - 风压曲线 Air Volume-Air Pressure Curve
功率曲线 Power Curve
A 声功率级曲线 A-weighted Sound Power Level Curve
坐标曲线 Coordinating Curve

HRZ双进风离心风机性能曲线（HRZ-900）



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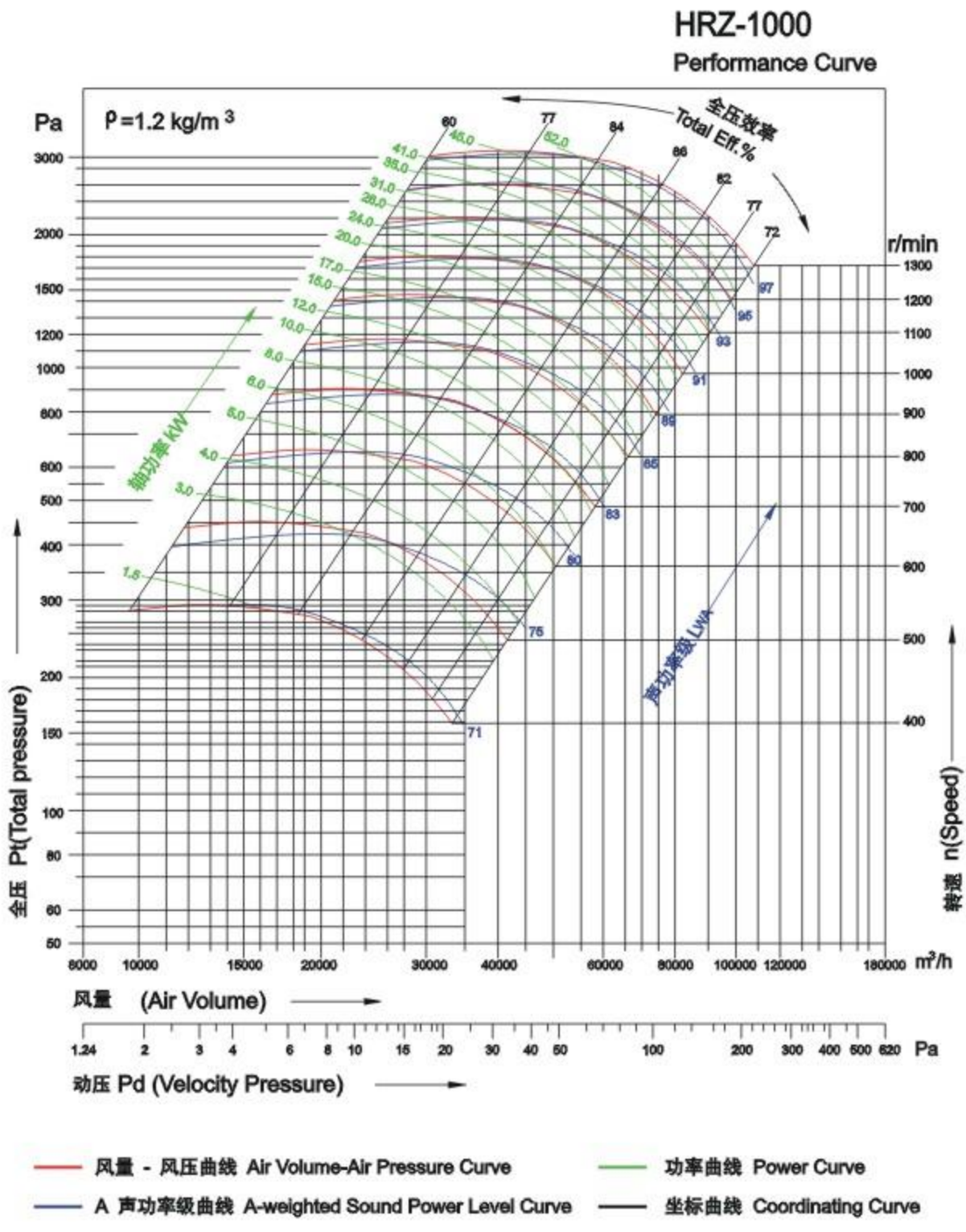

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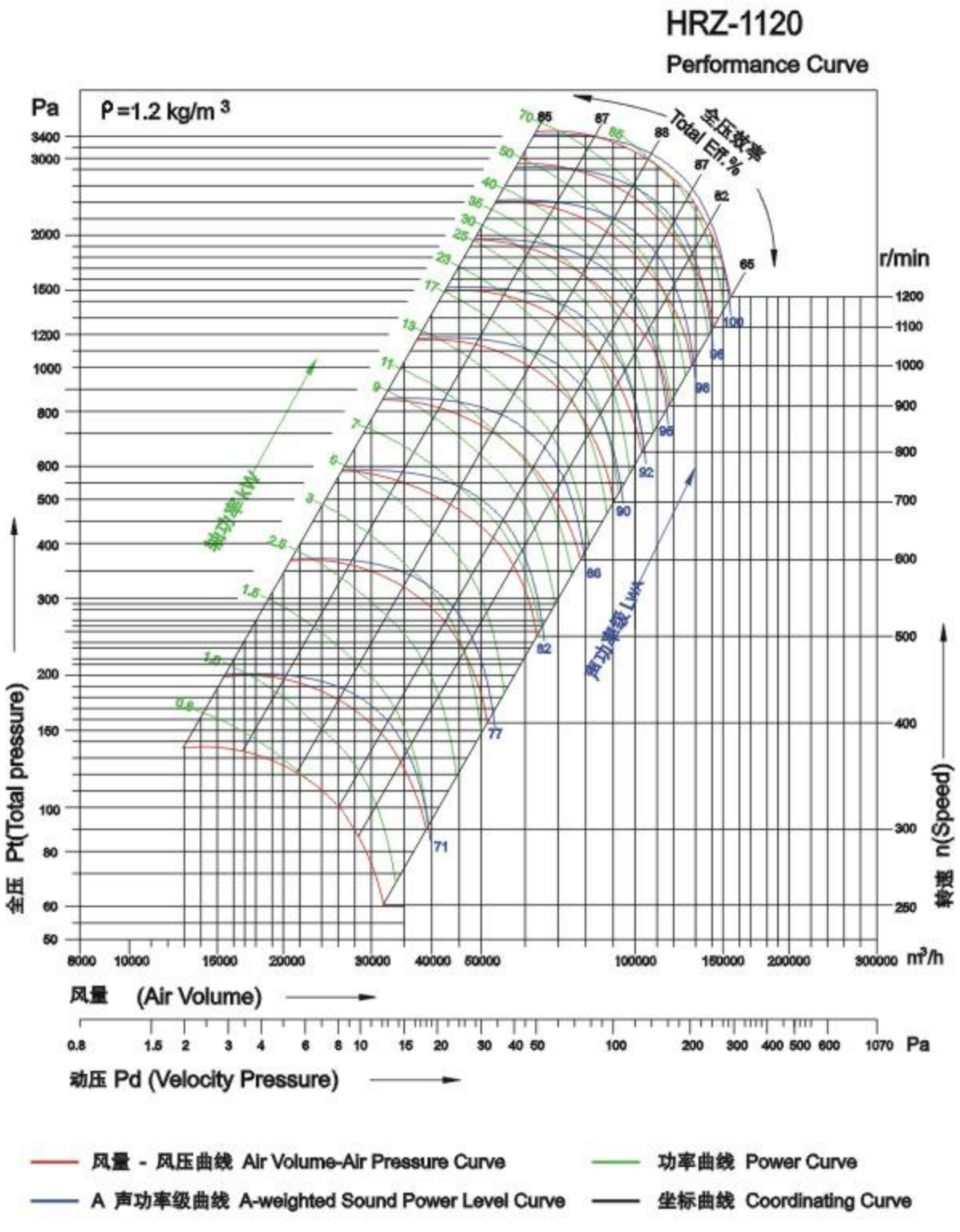

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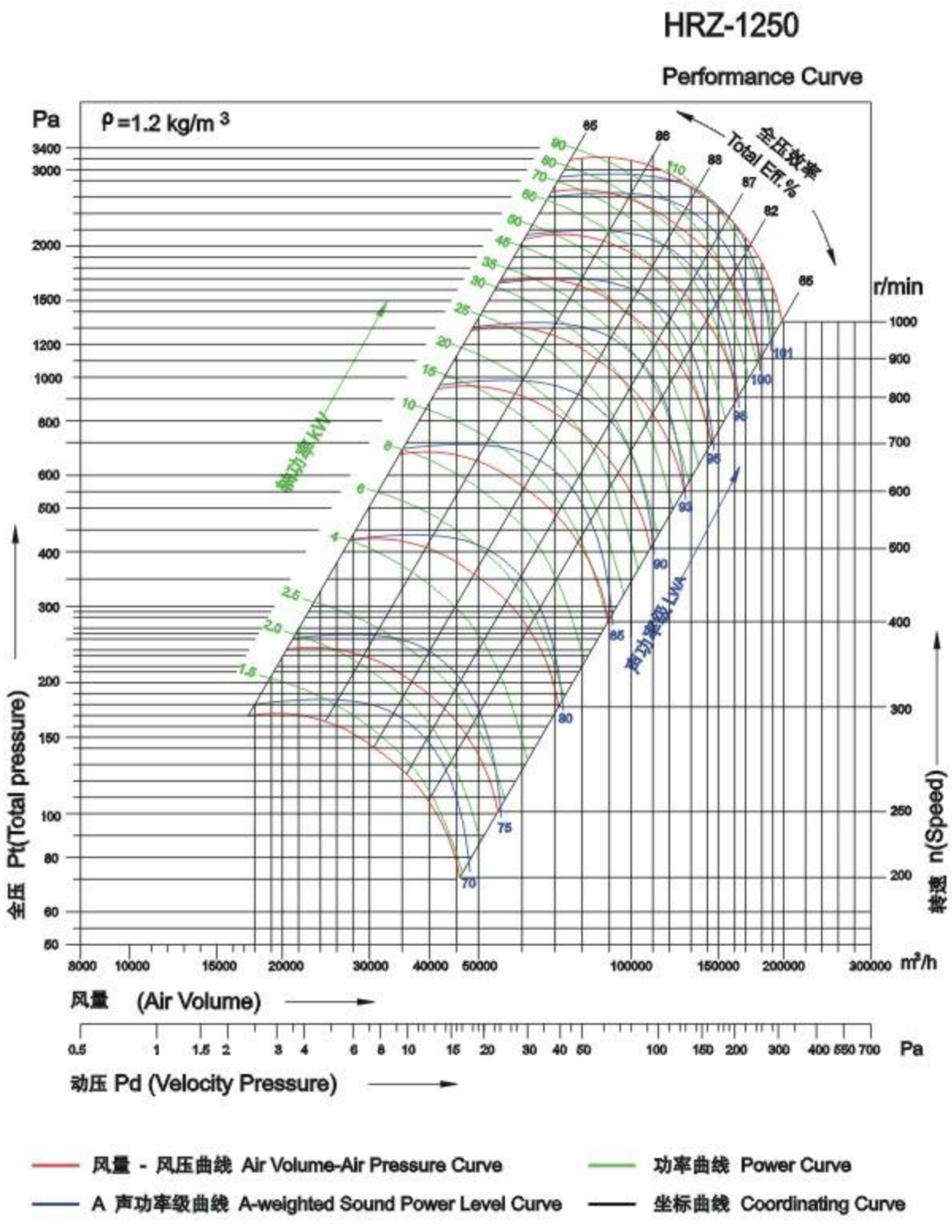

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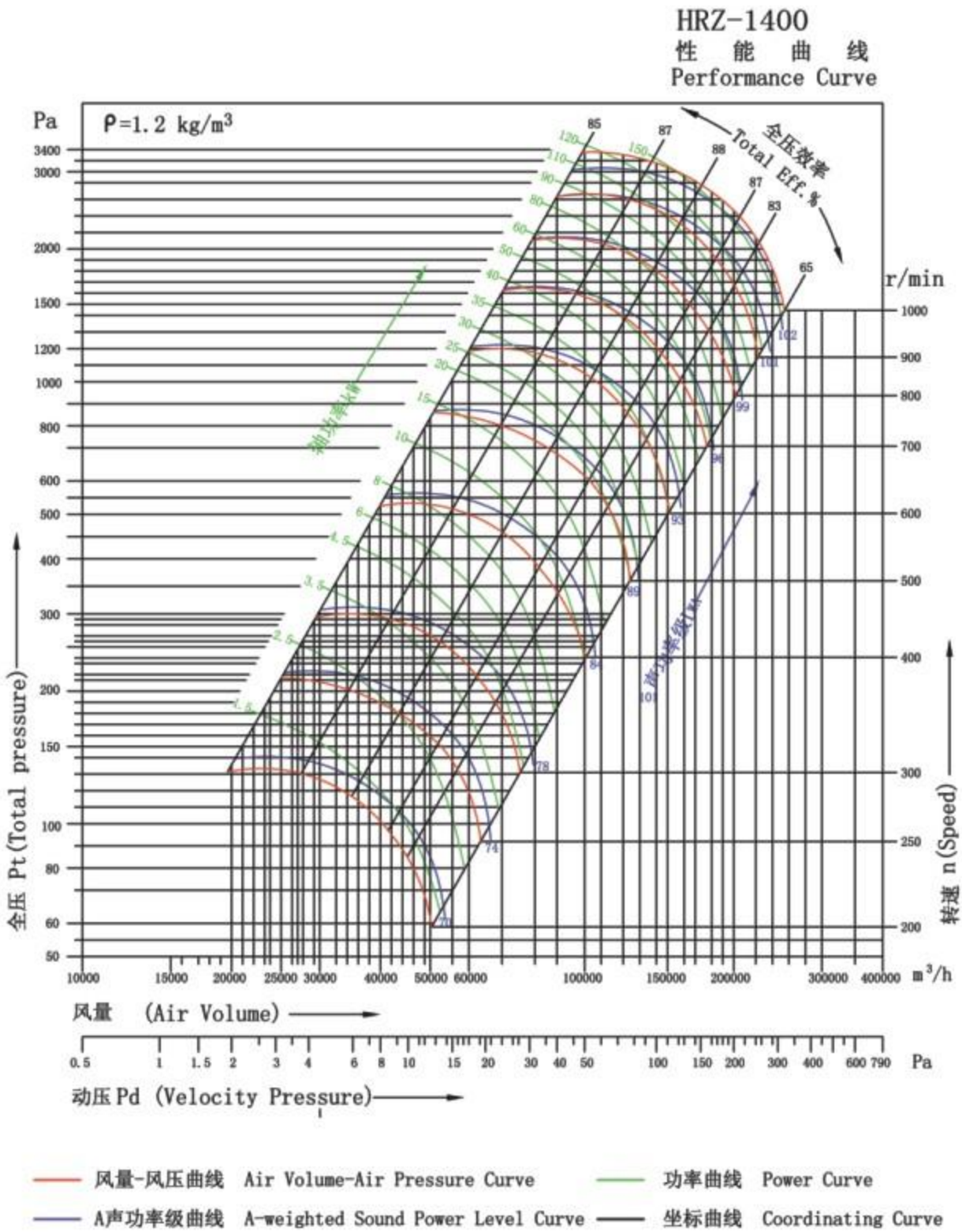
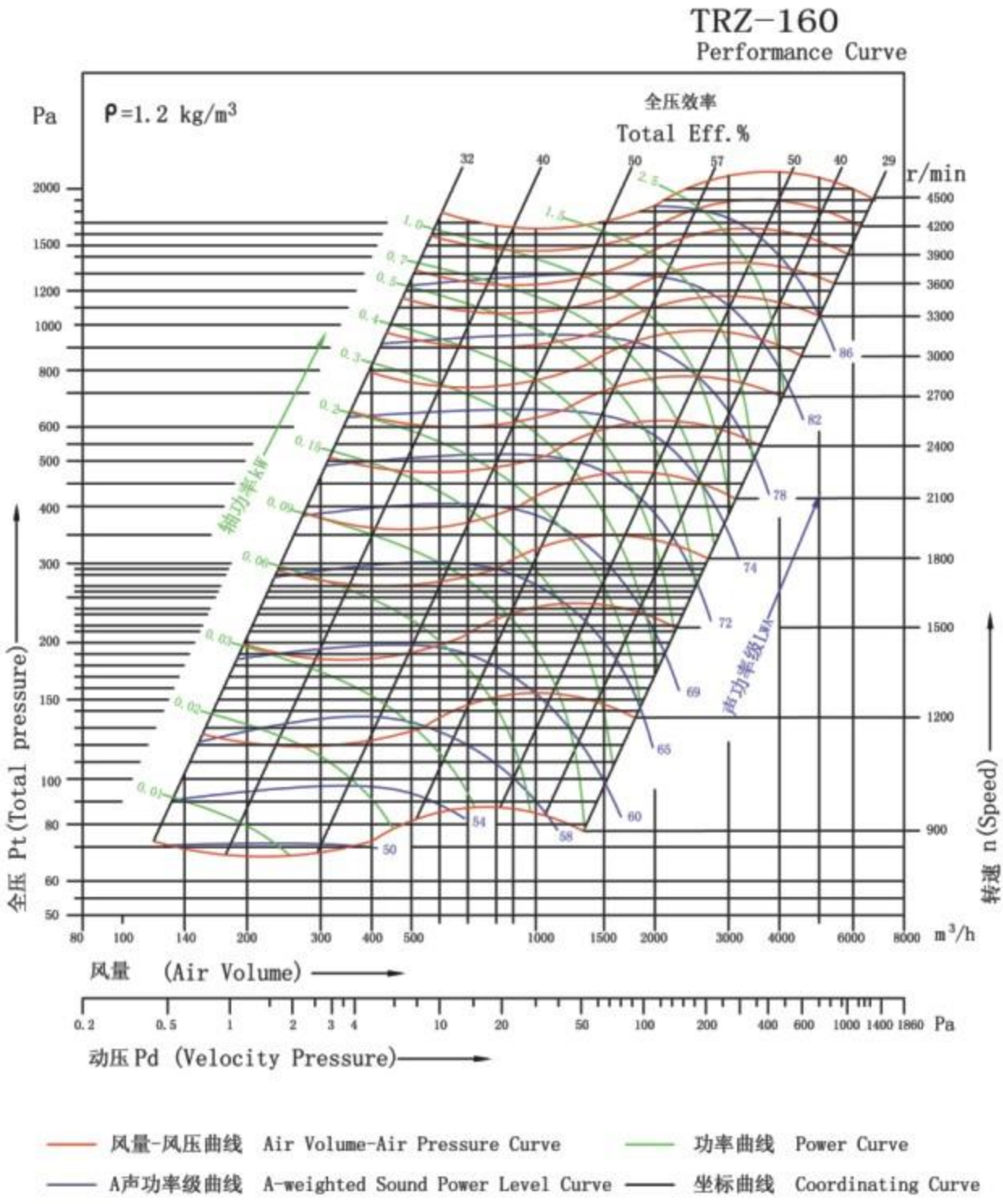
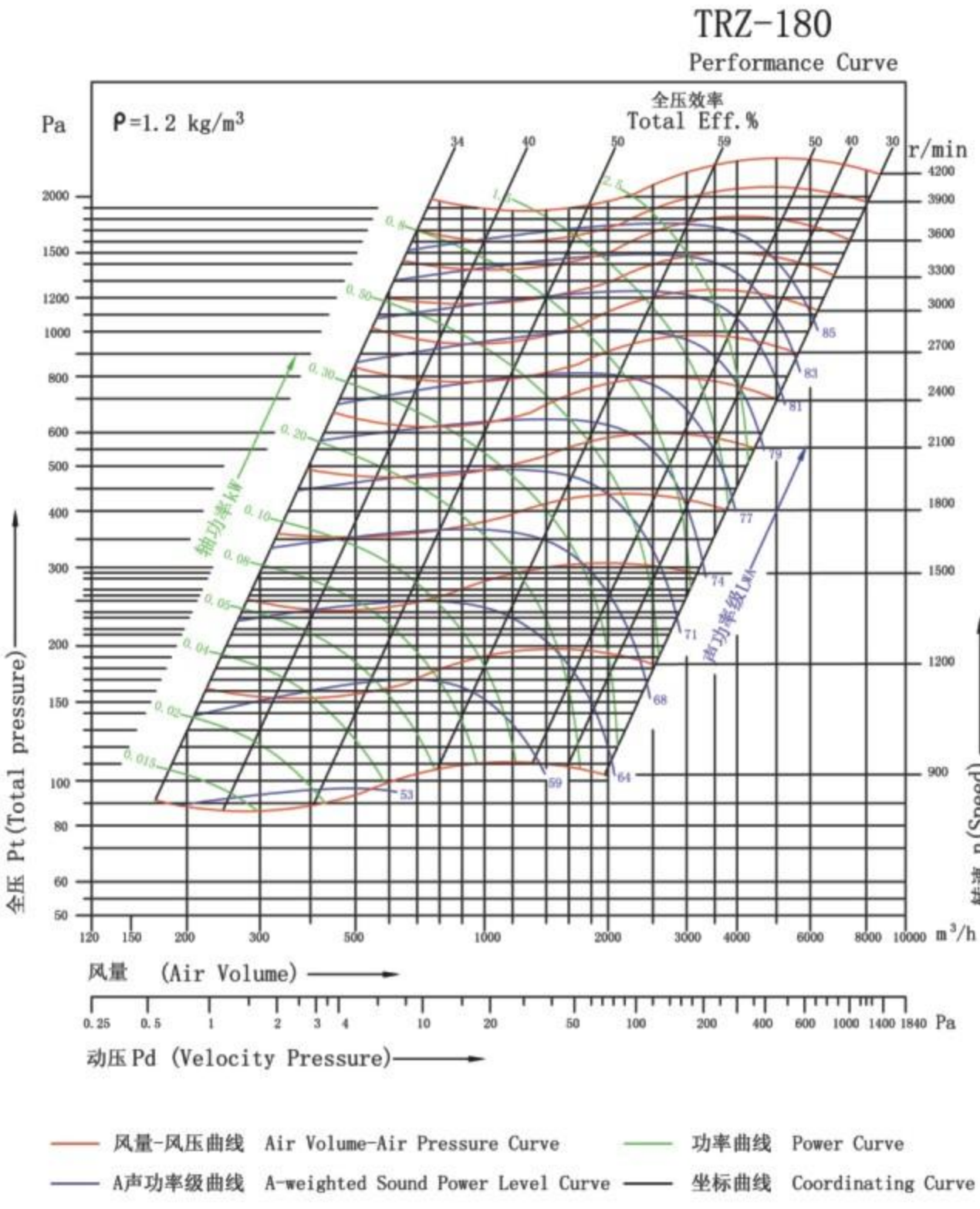


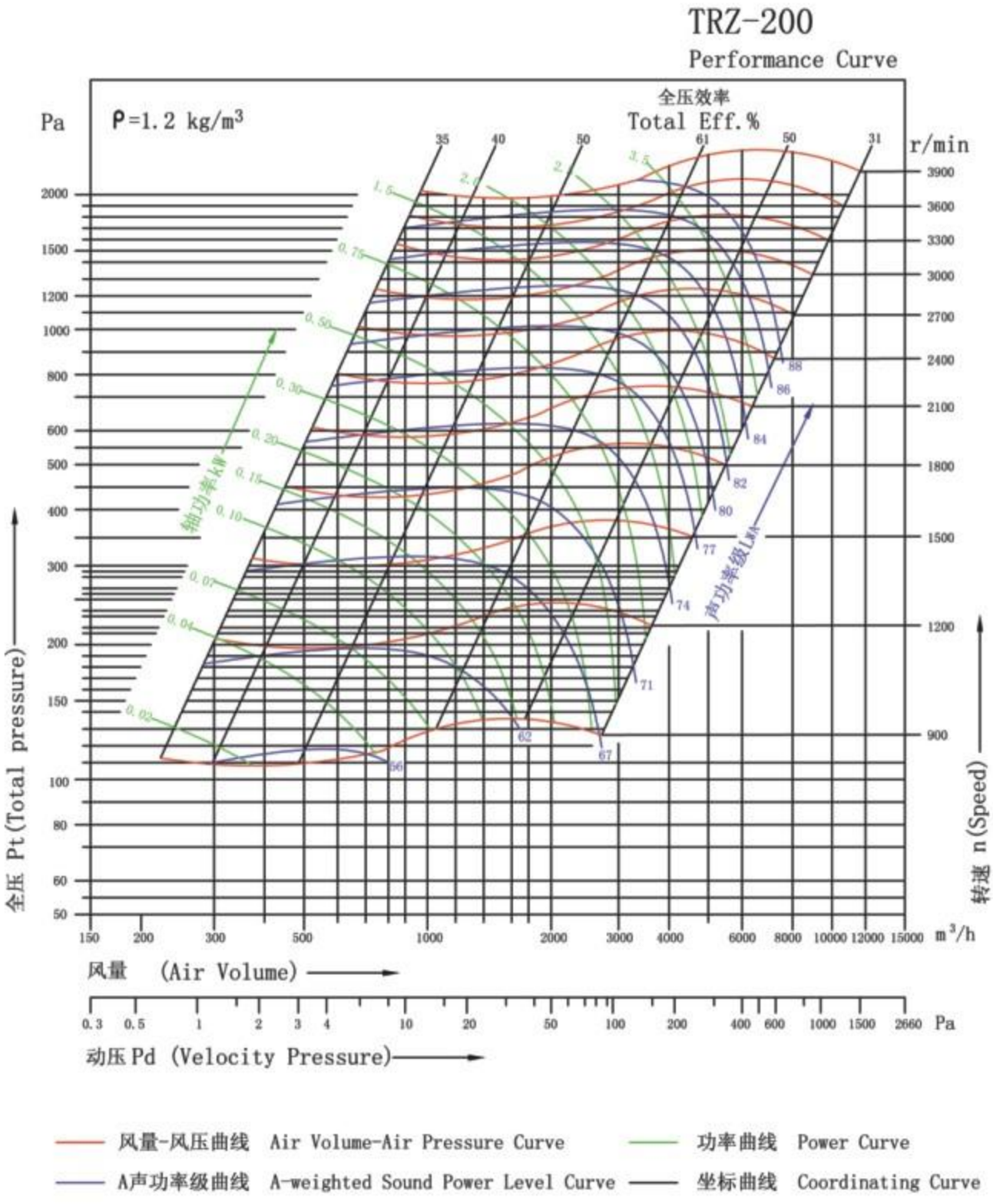
TRZ双进风离心风机性能曲线（TRZ-160）



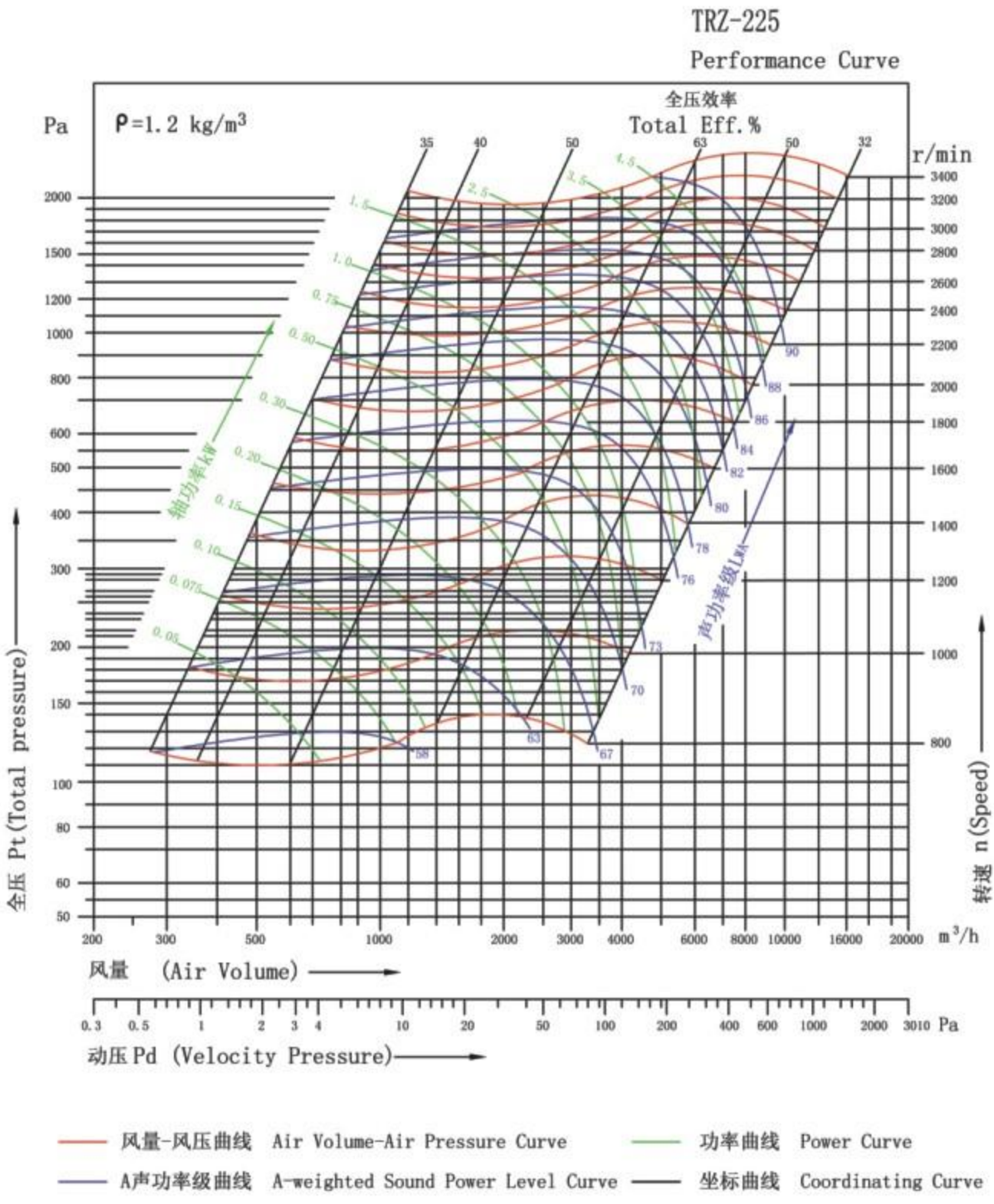
TRZ双进风离心风机性能曲线（TRZ-180）



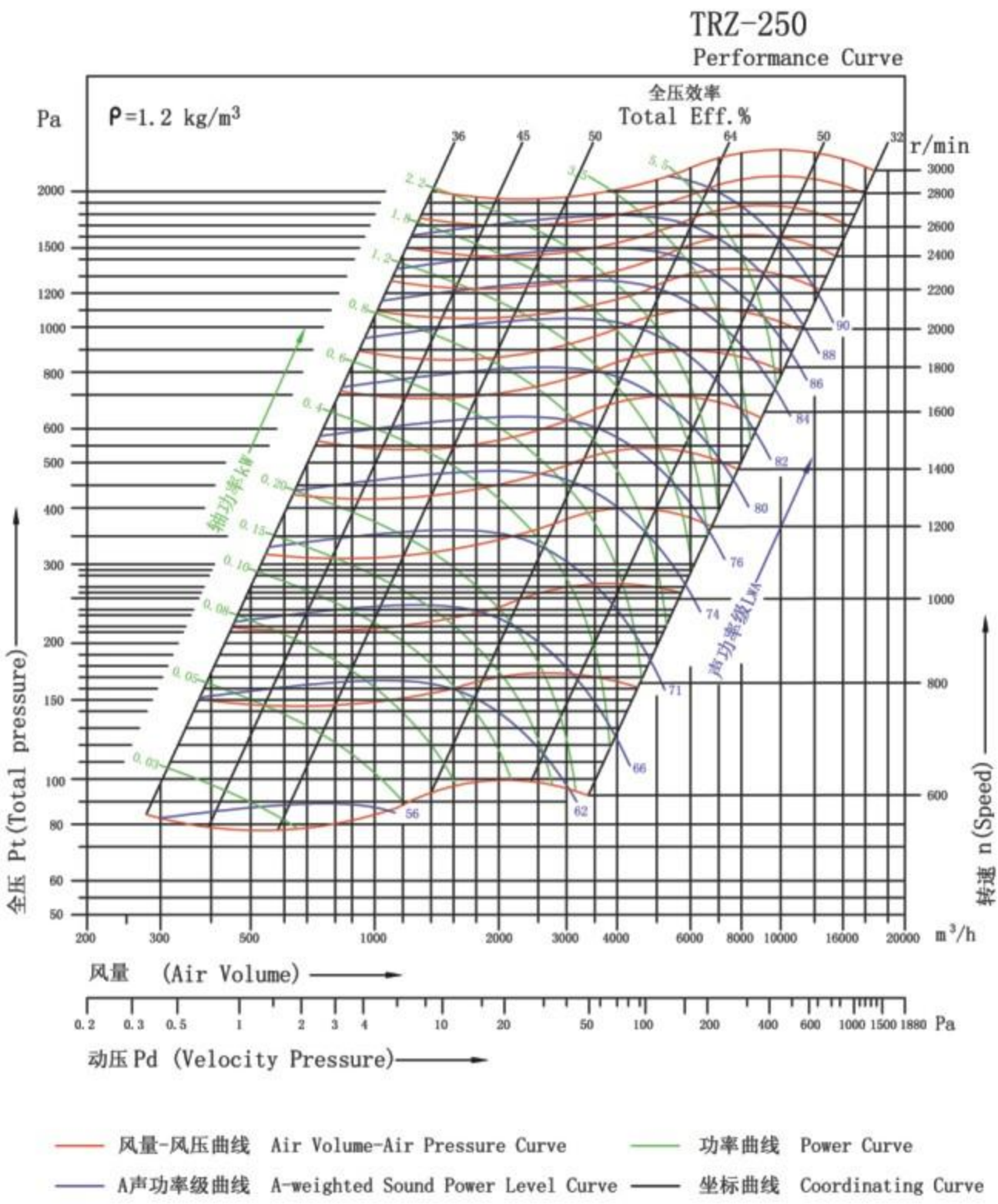
TRZ双进风离心风机性能曲线（TRZ-200）



TRZ双进风离心风机性能曲线（TRZ-225）



TRZ双进风离心风机性能曲线（TRZ-250）



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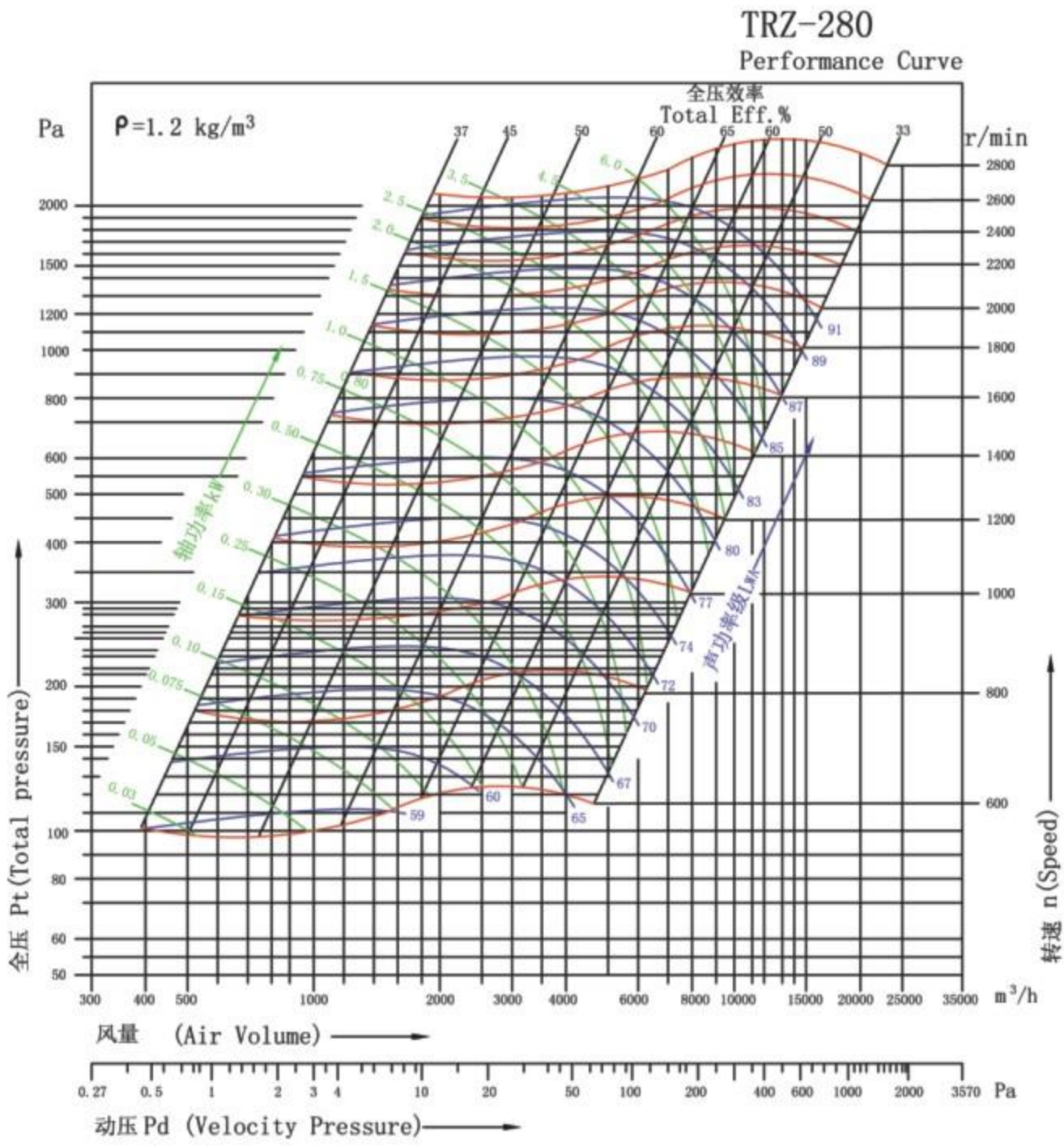
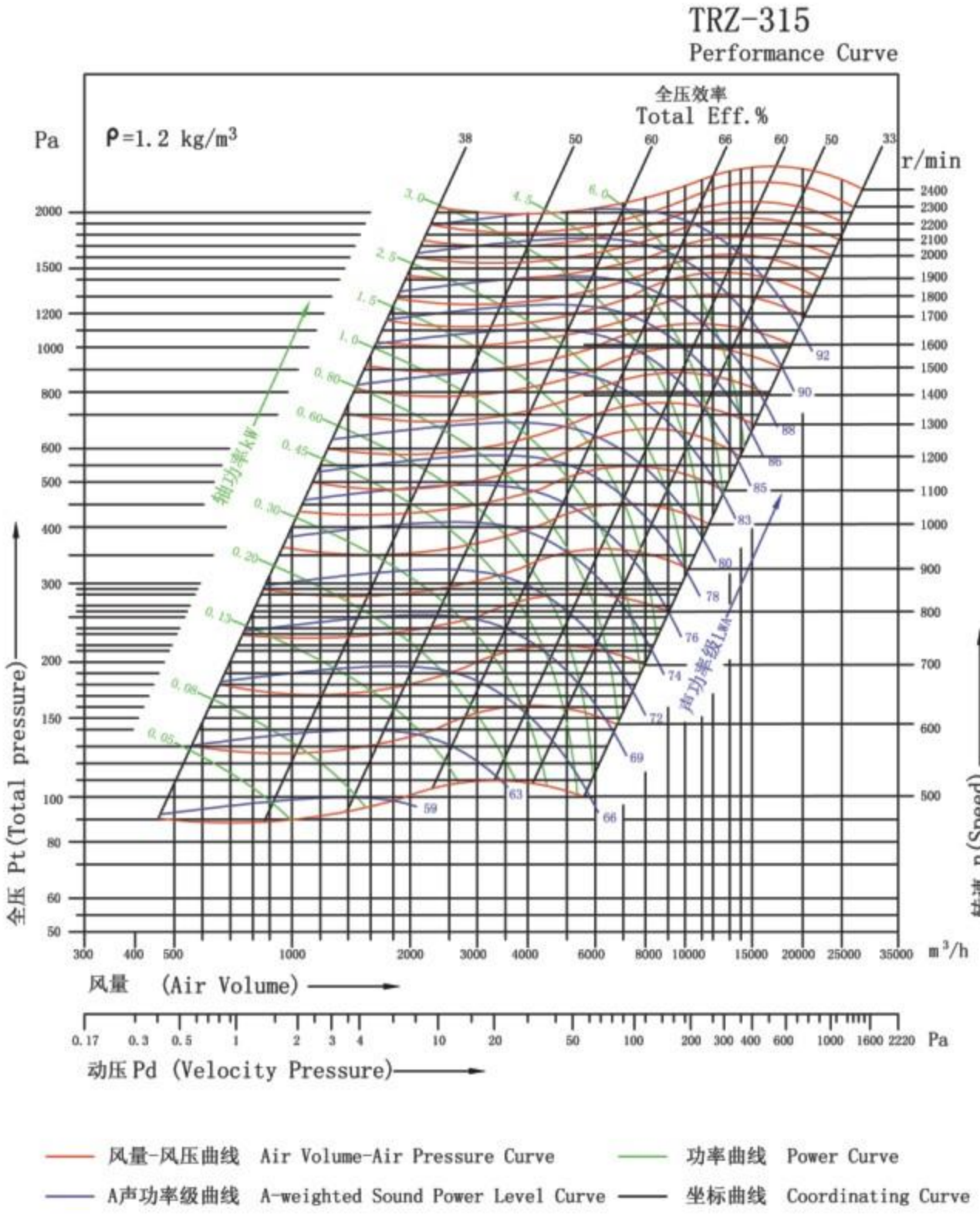
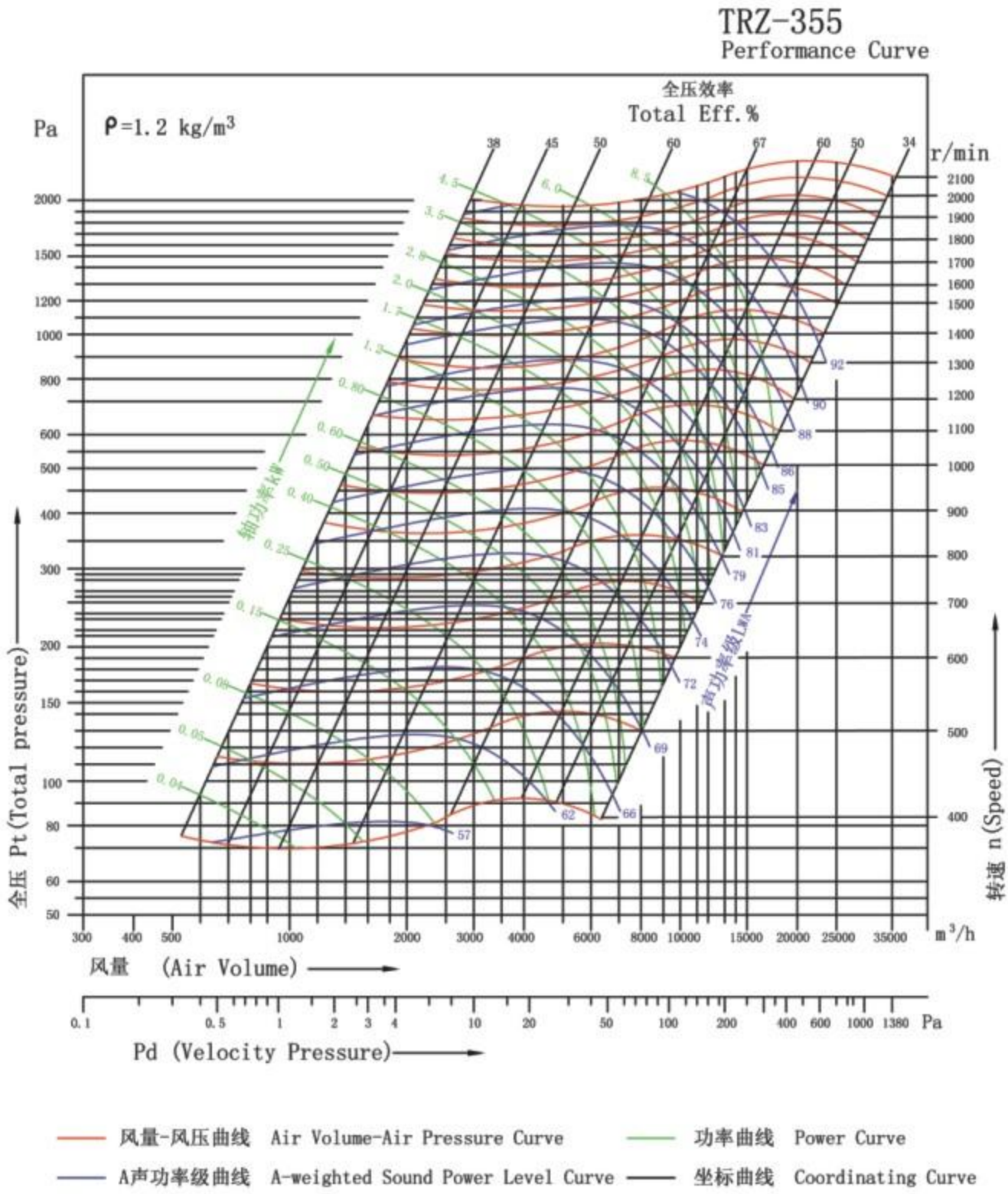


TRZ双进风离心风机性能曲线（TRZ-315）



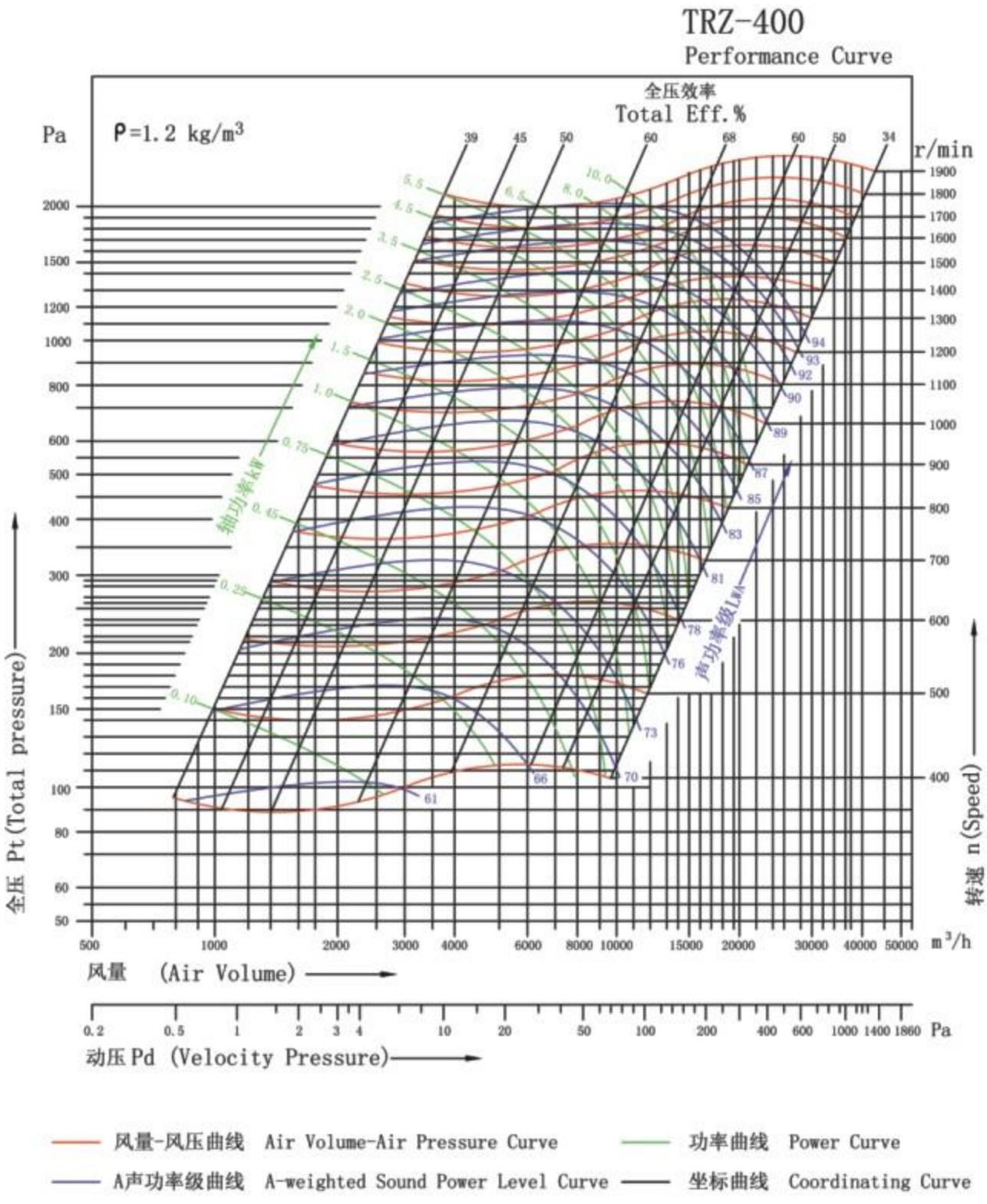
TRZ双进风离心风机性能曲线（TRZ-355）



风量-风压曲线 Air Volume-Air Pressure Curve　　功率曲线 Power Curve

A声功率级曲线 A-weighted Sound Power Level Curve　　坐标曲线 Coordinating Curve

TRZ双进风离心风机性能曲线（TRZ-400）



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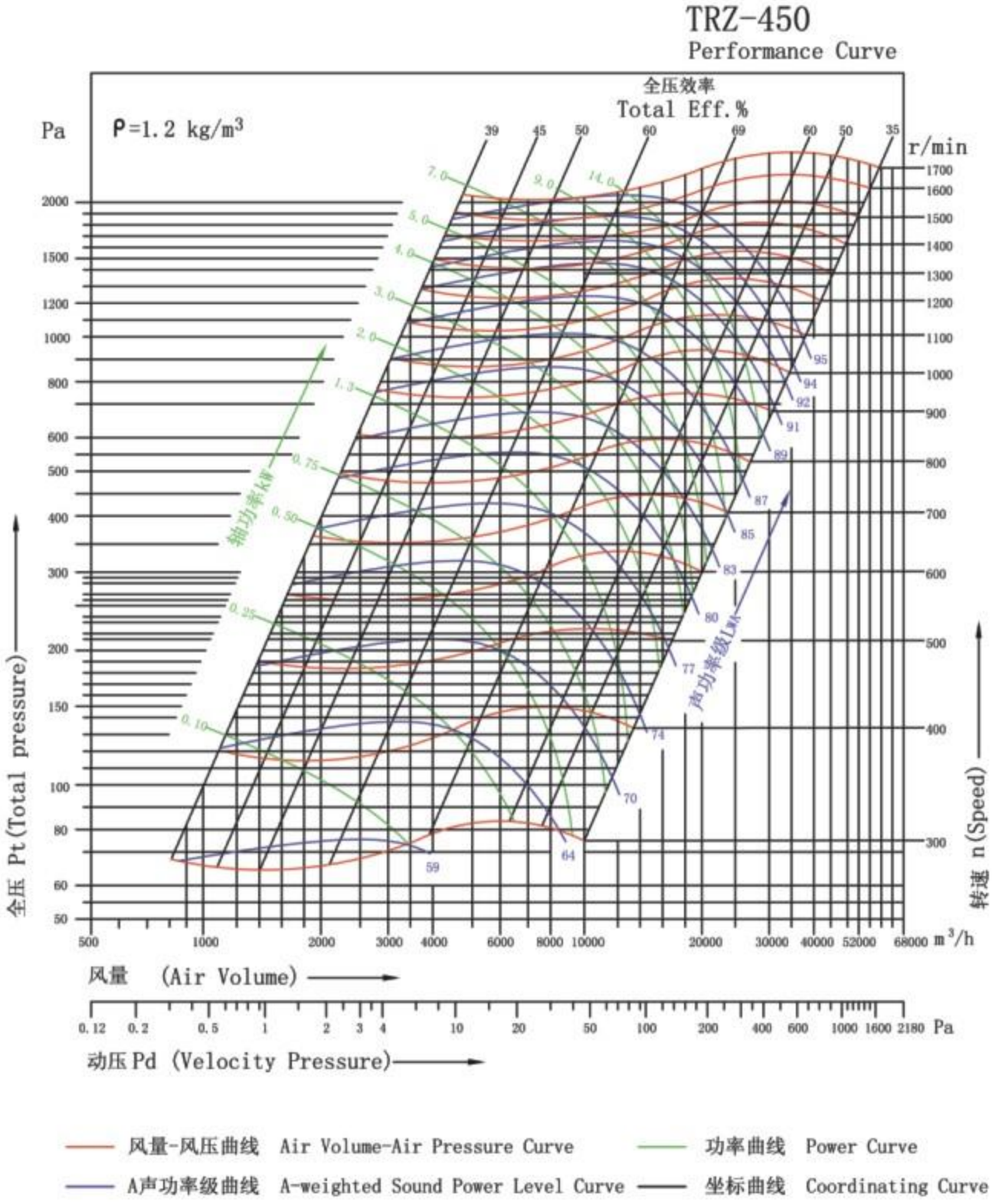

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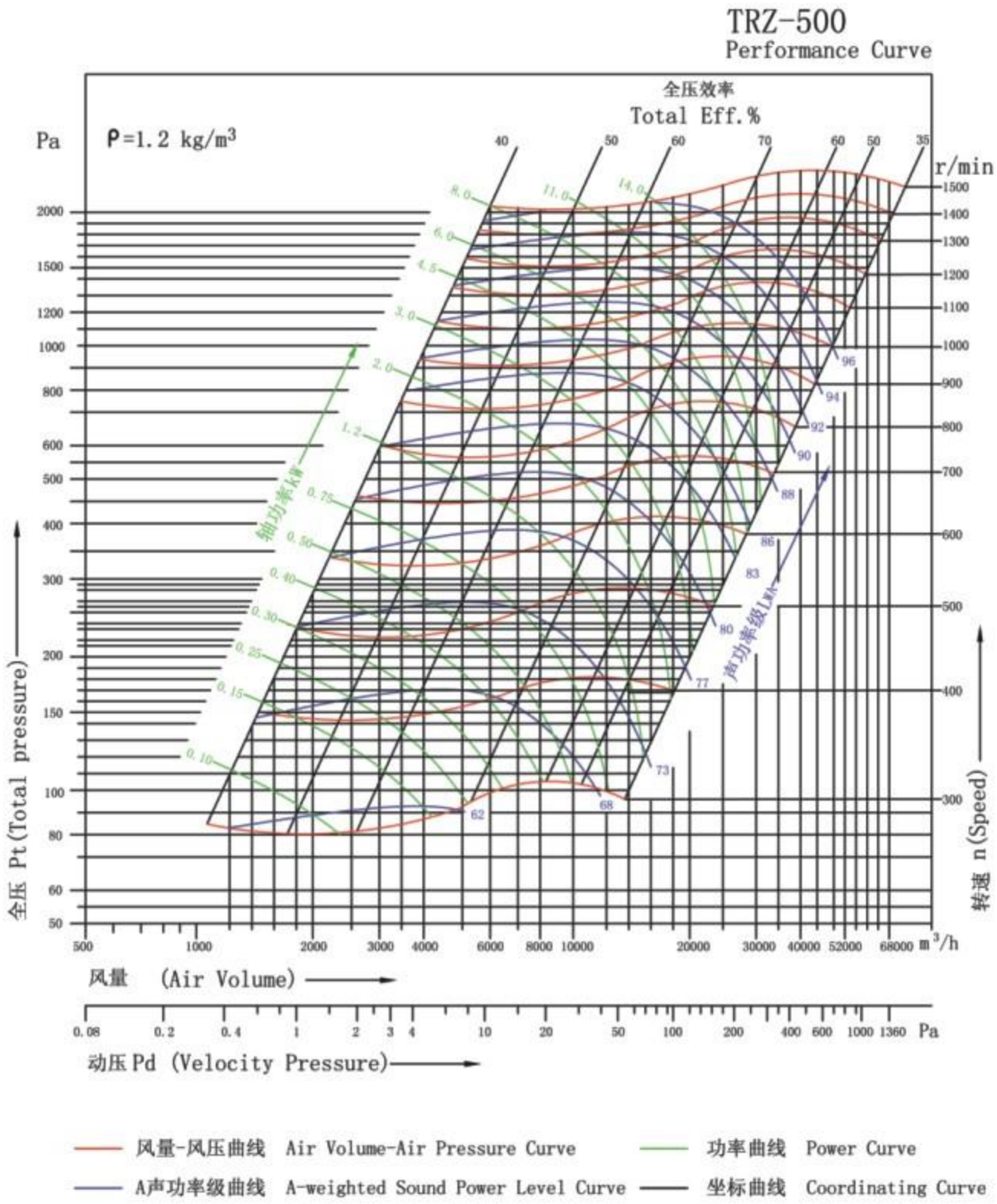

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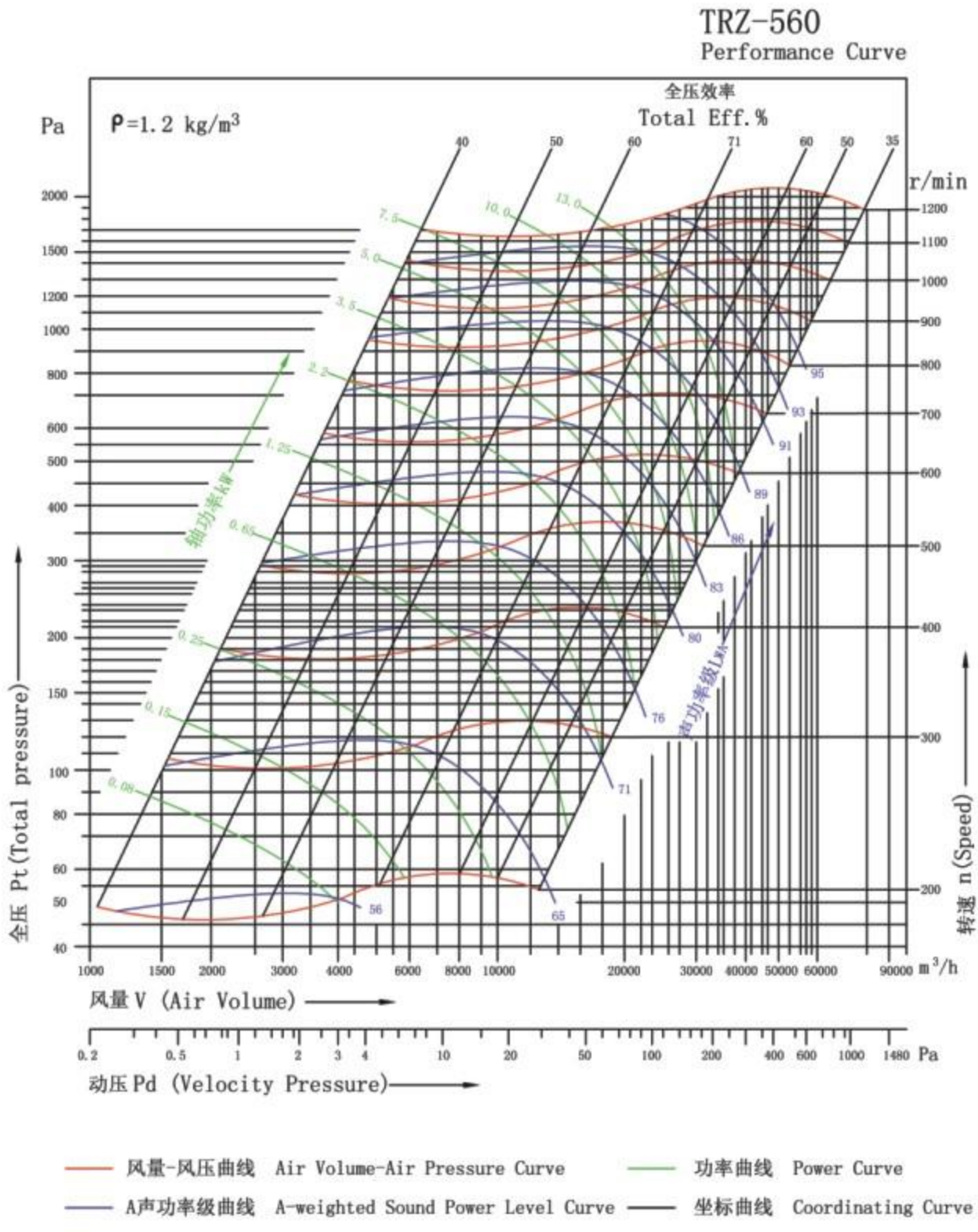
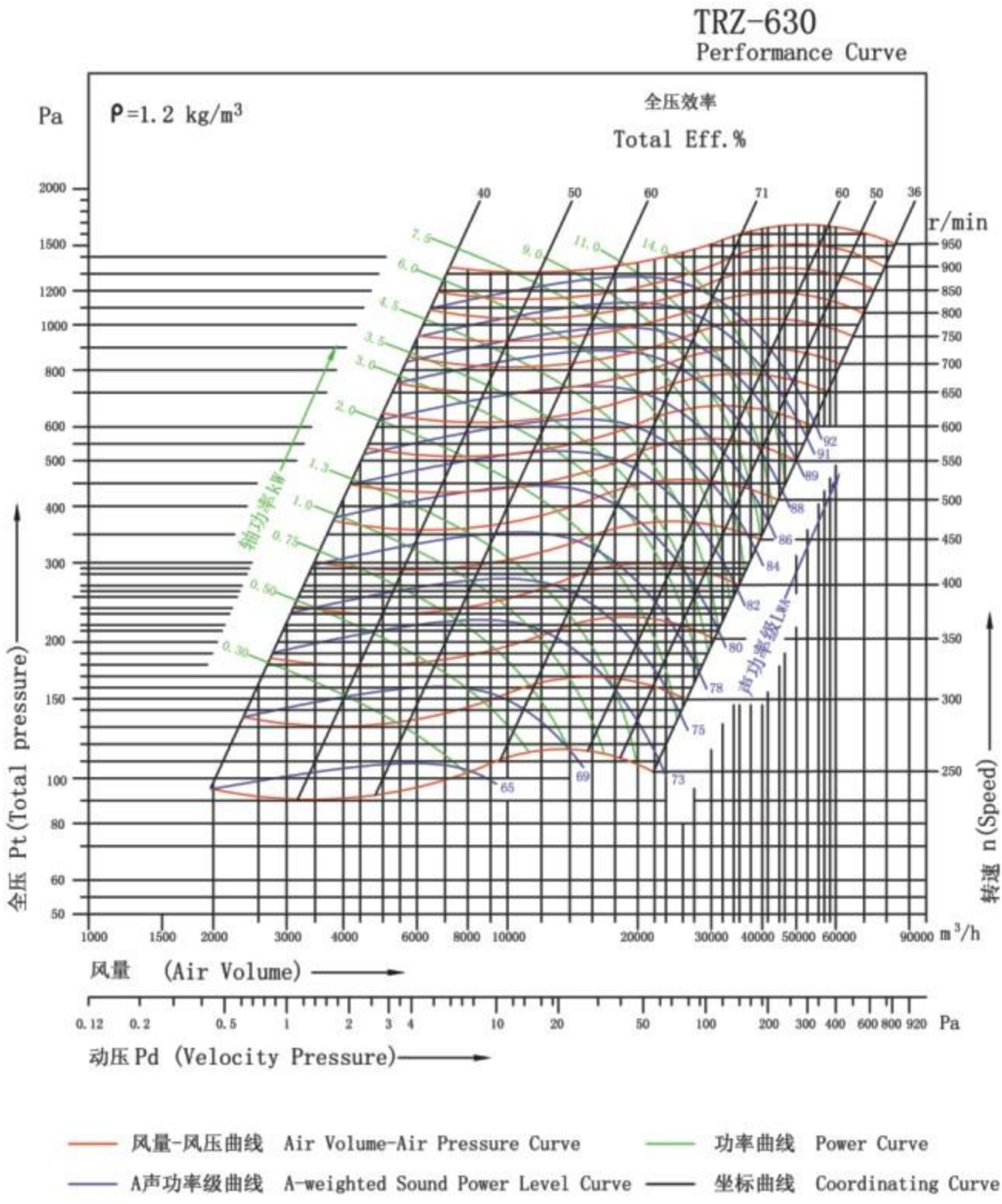
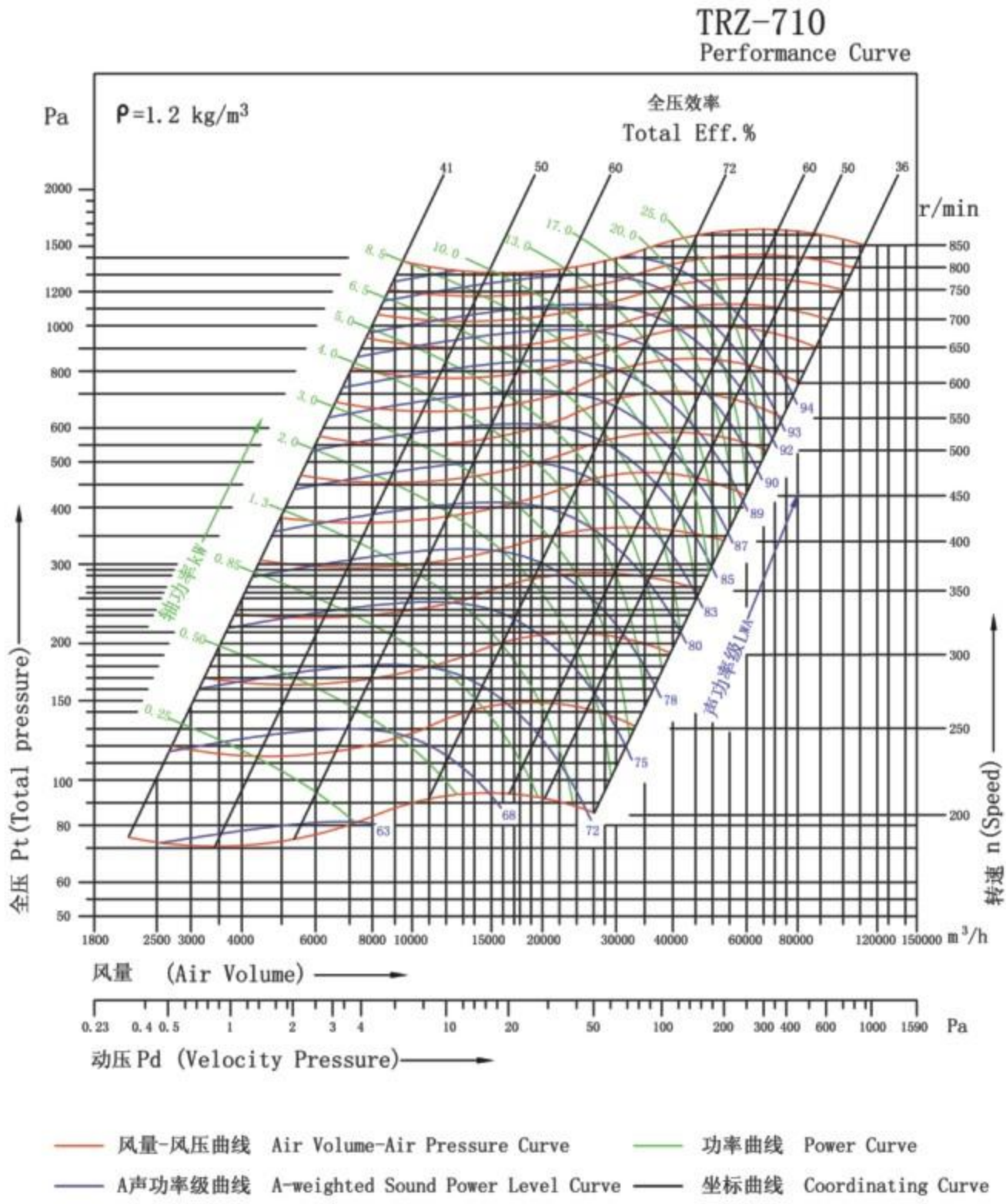


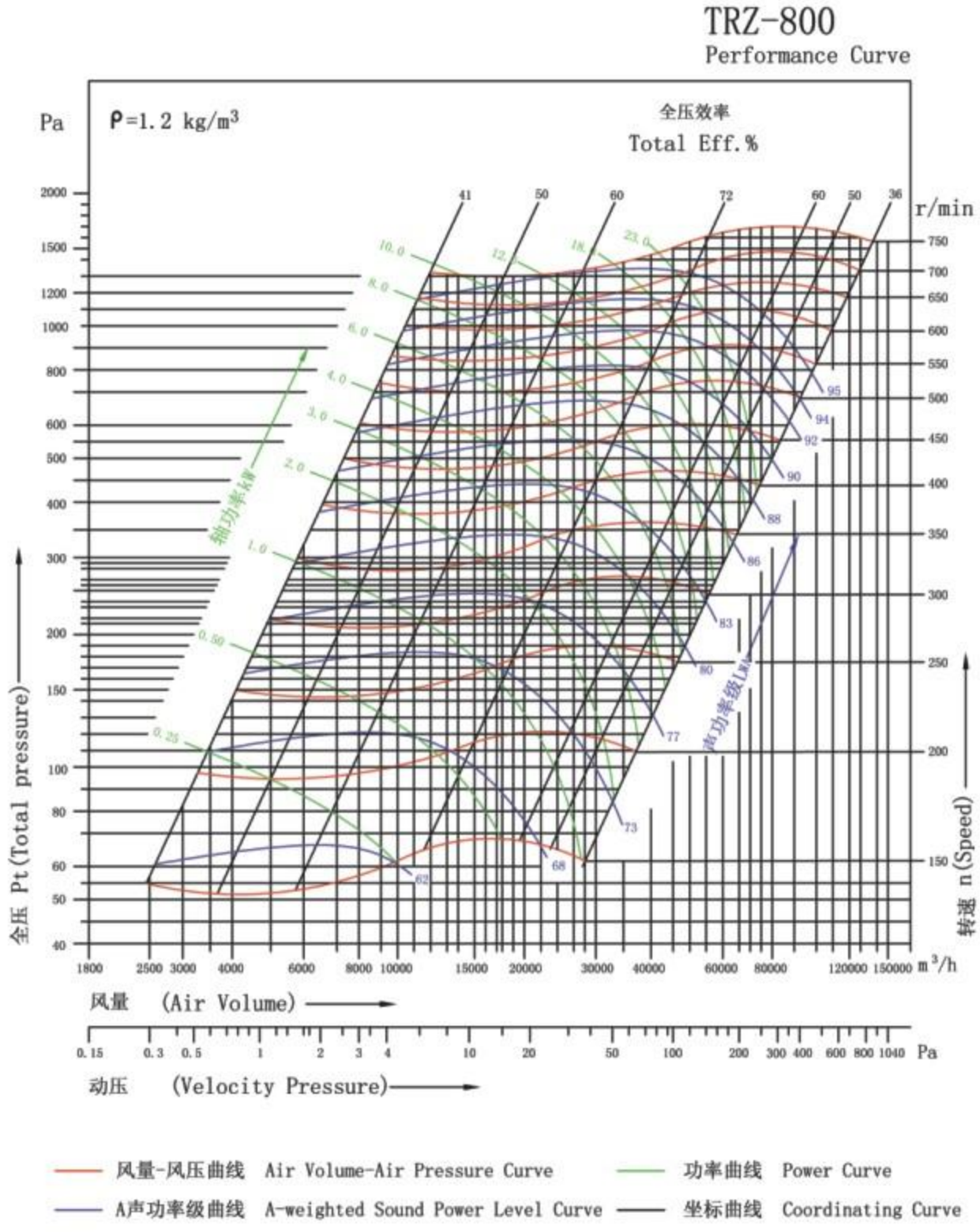
TRZ双进风离心风机性能曲线（TRZ-630）



TRZ双进风离心风机性能曲线（TRZ-710）



TRZ双进风离心风机性能曲线（TRZ-800）



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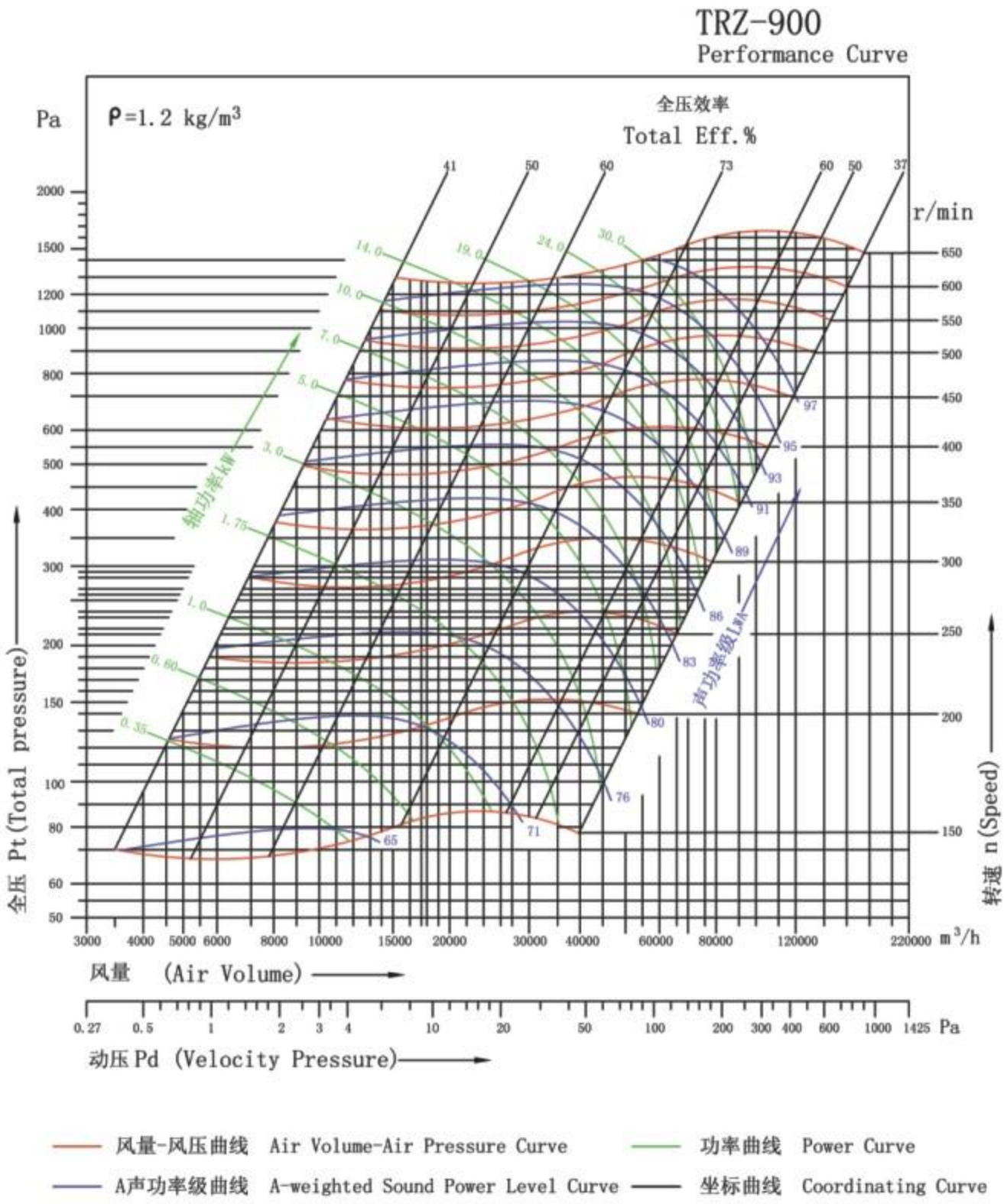

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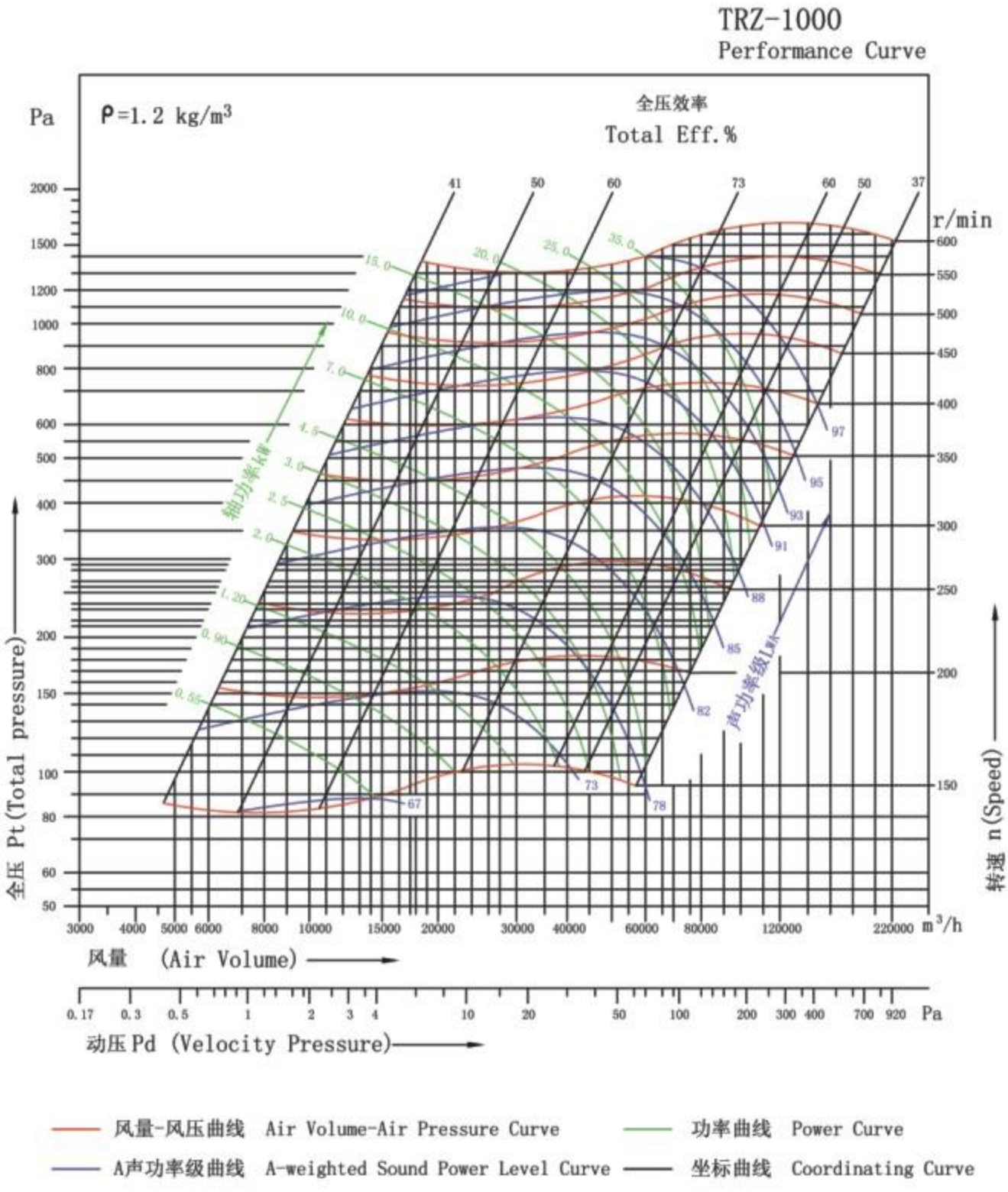
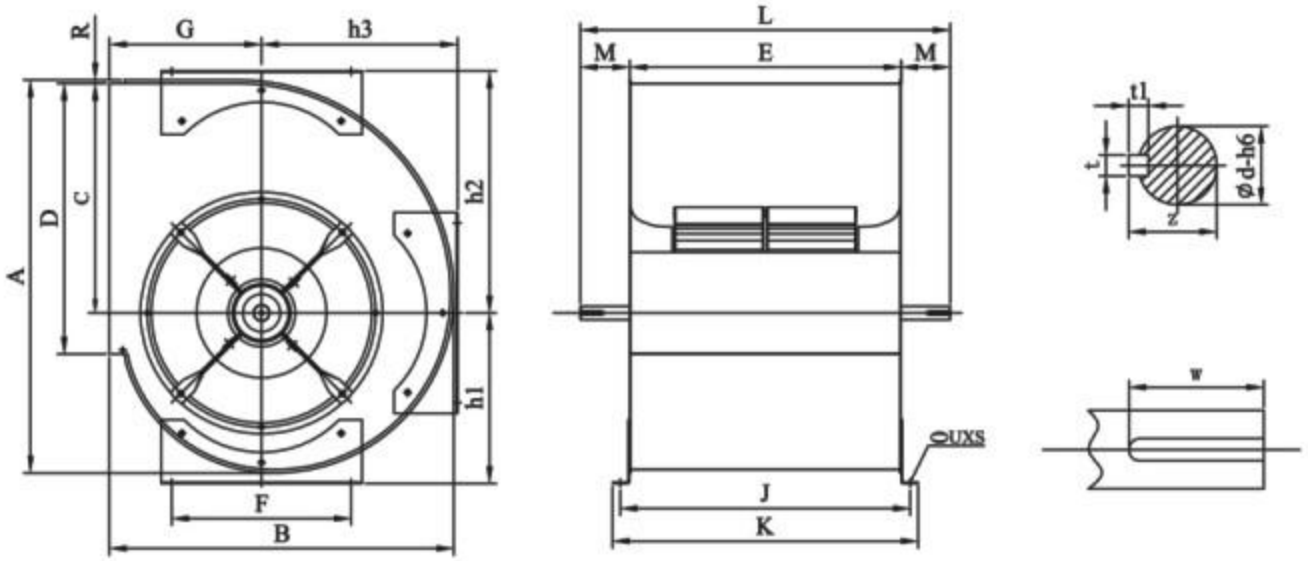


TRZ双进风离心风机外形尺寸图(160~630)'S'

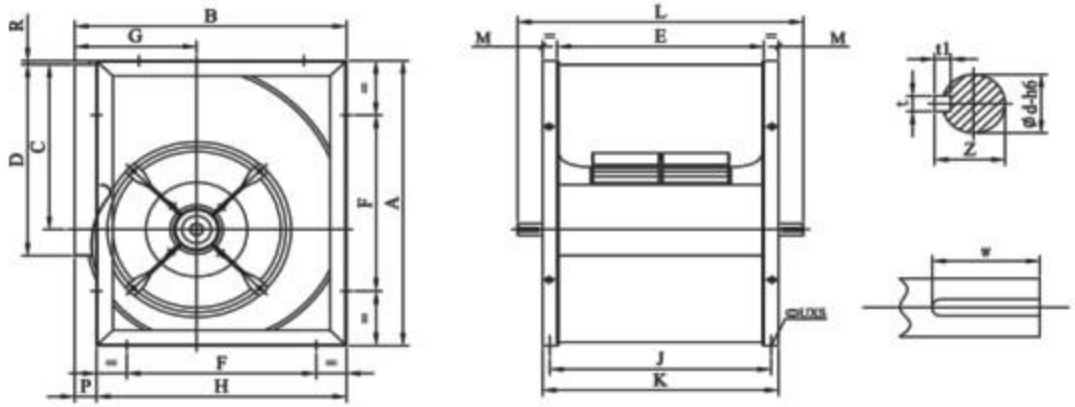
TRZ Overall dimension for type S (160–630)



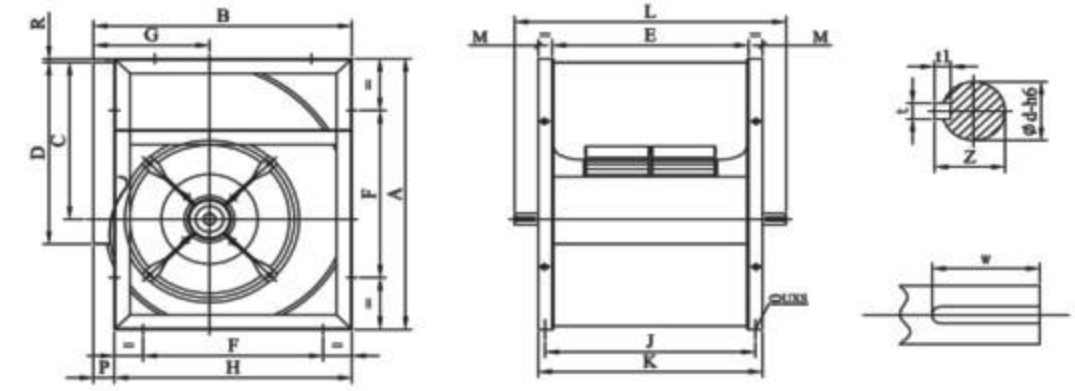
Modle	A	B	C	D	E	F	G	h1	h2	h3	J	K	L	M	R	t	t1	w	z	Ød	uxs
160	310	302	172	204	204	180	152	158	212	158	232	256	368	82	10	6	6	40	22.5	20	11X16
180	346	333	194	228	228	180	163	172	232	172	256	280	392	82	10	6	6	40	22.5	20	11X16
200	382	362	215	256	256	224	175	190	254	193	284	308	420	82	10	6	6	40	22.5	20	11X16
225	428	401	242	288	288	224	191	206	283	213	316	340	452	82	10	6	6	40	22.5	20	11X16
250	473	438	269	322	322	224	207	219	308	236	350	374	486	82	10	6	6	40	22.5	20	11X16
280	527	483	302	360	360	280	225	243	338	262	394	422	556	98	10	8	7	40	28	25	13X18
315	591	536	339	404	404	280	247	268	377	290	438	466	600	98	10	8	7	40	28	25	13X18
355	663	596	382	452	452	355	272	281	418	327	498	534	672	110	10	8	7	40	33	30	13X18
400	744	666	431	506	506	355	302	309	469	368	552	588	726	110	10	8	7	40	33	30	13X18
450	836	741	485	568	568	530	333	346	528	415	614	650	814	123	10	10	8	50	38	35	13X18
500	925	815	538	638	638	530	363	385	578	458	684	720	924	143	10	10	8	50	38	35	13X18
560	1034	910	603	714	714	530	405	424	642	510	770	816	1000	143	10	12	8	70	43	40	13X18
630	1161	1017	678	800	800	530	449	476	715	579	856	902	1092	146	10	12	8	70	43	40	13X18

TRZ双进风离心风机外形尺寸图(180~630)'C'

TRZ Overall dimension for type C (180–630)



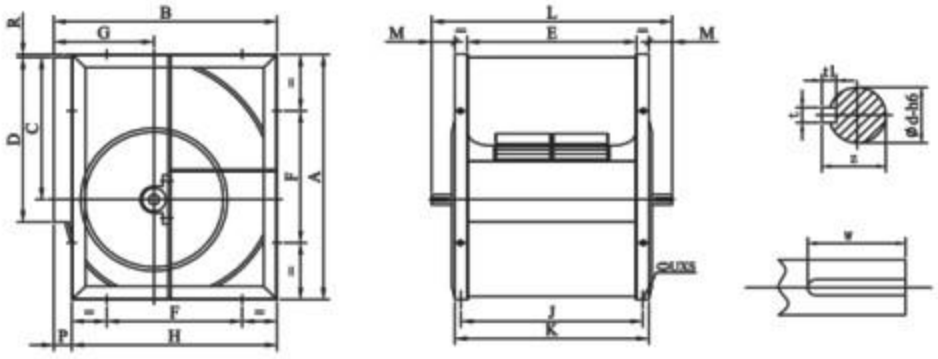
Modle	A	B	C	D	E	F	G	H	J	K	L	M	P	R	t	t1	w	z	Ød	uxs
180	350	334	194	228	228	180	163	296	256	280	392	56	38	12	6	6	40	22.5	20	11X16
200	387	365	215	256	256	224	175	322	284	308	420	56	43	13	6	6	40	22.5	20	11X16
225	433	403	242	288	288	224	191	358	316	340	452	56	45	13	6	6	40	22.5	20	11X16
250	478	441	269	322	322	224	207	394	350	374	486	56	47	13	6	6	40	22.5	20	11X16
280	532	485	302	360	360	280	225	445	394	422	556	67	40	12	8	7	40	28	25	13X18
315	596	538	339	404	404	280	247	495	438	466	600	67	43	13	8	7	40	28	25	13X18
355	669	599	382	452	452	355	272	554	498	534	672	69	45	13	8	7	40	33	30	13X18
400	750	670	431	506	506	355	302	617	552	588	726	69	53	12	8	7	40	33	30	13X18
450	841	744	485	568	568	530	333	684	614	650	814	82	60	13	10	8	50	38	35	13X18



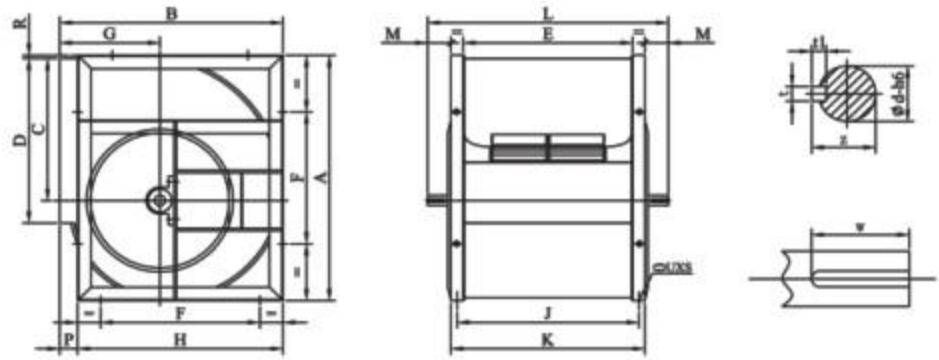
Modle	A	B	C	D	E	F	G	H	J	K	L	M	P	R	t	t1	w	z	Ød	uxs
500	930	817	538	638	638	530	363	754	684	720	924	102	63	13	10	8	50	38	35	13X18
560	1038	913	603	714	714	530	405	845	770	816	1000	92	68	12	12	8	70	43	40	15X25
630	1166	1019	678	800	800	530	449	942	856	902	1092	95	77	13	12	8	70	43	40	15X25

TRZ双进风离心风机外形尺寸图(250~1000)'T'

TRZ Overall dimension for type T (250–1000)



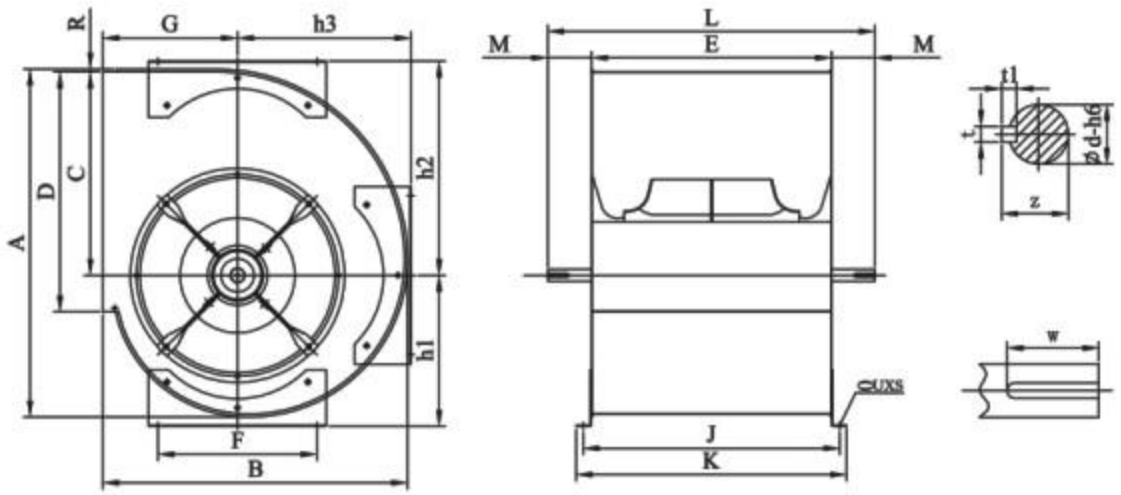
Modle	A	B	C	D	E	F	G	H	J	K	L	M	P	R	t	t1	w	z	Ød	uxs
250	478	441	269	322	322	224	207	394	350	374	508	67	47	13	6	6	40	22.5	20	11X16
280	532	485	302	360	360	280	225	445	394	422	588	83	40	12	8	7	40	28	25	13X18
315	596	538	339	404	404	280	247	495	438	466	632	83	43	13	8	7	40	28	25	13X18
355	669	599	382	452	452	355	272	554	498	534	718	92	45	13	8	7	40	33	30	13X18
400	750	670	431	506	506	355	302	617	552	588	772	92	53	12	8	7	40	33	30	13X18



Modle	A	B	C	D	E	F	G	H	J	K	L	M	P	R	t	t1	w	z	Ød	uxs
450	841	744	485	568	568	530	333	684	614	650	878	114	60	13	10	8	50	38	35	13X18
500	930	817	538	638	638	530	363	754	684	720	956	118	63	13	10	8	50	38	35	13X18
560	1038	913	603	714	714	530	405	845	770	816	1080	132	68	12	12	8	70	43	40	15X25
630	1166	1019	678	800	800	530	449	942	856	902	1166	132	77	13	12	8	70	43	40	15X25
710	1311	1140	764	898	898	630	499	1054	954	1000	1280	140	86	13	14	9	90	53.5	50	18X28
800	1474	1278	861	1006	1006	710	558	1174	1062	1108	1388	140	104	13	14	9	90	53.5	50	18X28
900	1656	1431	970	1130	1130	800	622	1311	1186	1232	1566	167	120	12	18	11	90	64	60	18X28
1000	1817	1563	1066	1266	1266	900	675	1444	1322	1368	1724	178	119	12	18	11	90	64	60	18X28

HRZ双进风离心风机外形尺寸图(180~630)'S'

HRZ Overall dimension for type S (180–630)



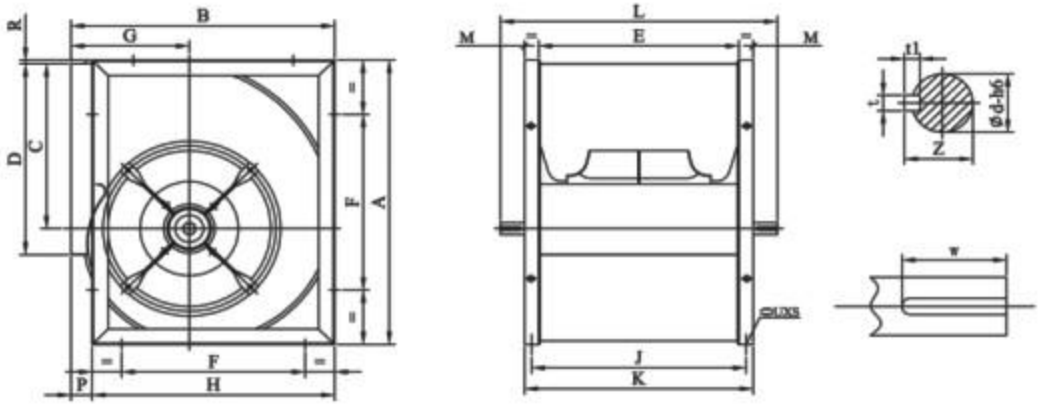
Modle	A	B	C	D	E	F	G	h1	h2	h3	J	K	L	M	R	t	t1	w	z	Ød	uxs
180	346	333	194	228	228	180	163	172	232	172	256	280	392	82	10	6	6	40	22.5	20	11X16
200	382	362	215	256	256	224	175	190	254	193	284	308	420	82	10	6	6	40	22.5	20	11X16
225	428	401	242	288	288	224	191	206	283	213	316	340	452	82	10	6	6	40	22.5	20	11X16
250	473	438	269	322	322	224	207	219	308	236	350	374	486	82	10	6	6	40	22.5	20	11X16
280	527	483	302	360	360	280	225	243	338	262	394	422	556	98	10	8	7	40	28	25	13X18
315	591	536	339	404	404	280	247	268	377	290	438	466	600	98	10	8	7	40	28	25	13X18
355	663	596	382	452	452	355	272	281	418	327	498	534	672	110	10	8	7	40	33	30	13X18
400	744	666	431	506	506	355	302	309	469	368	552	588	726	110	10	8	7	40	33	30	13X18
450	836	741	485	568	568	530	333	346	528	415	614	650	814	123	10	10	8	50	38	35	13X18
500	925	815	538	638	638	530	363	385	578	458	684	720	924	143	10	10	8	50	38	35	13X18
560	1034	910	603	714	714	530	405	424	642	510	770	816	1000	143	10	12	8	70	43	40	13X18
630	1161	1017	678	800	800	530	449	476	715	579	856	902	1092	146	10	12	8	70	43	40	13X18

注 ： 以上机号为铝合金叶轮。

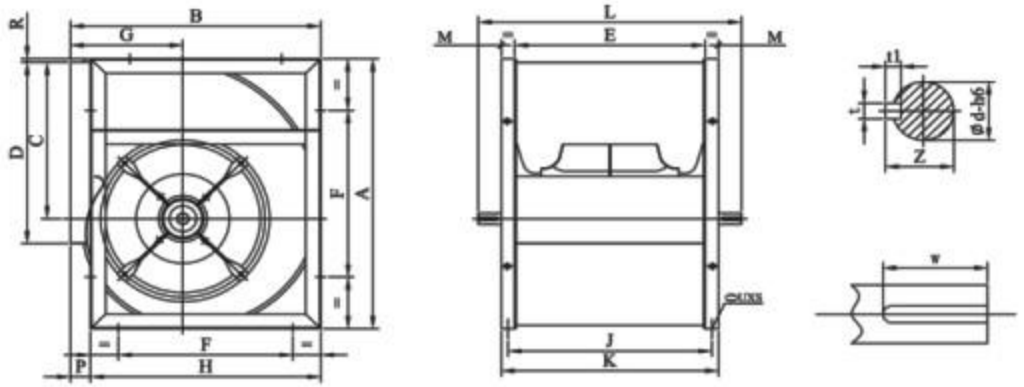
Renark:The table is suitable for the fans with impellers made of aluminium alloy.

HRZ双进风离心风机外形尺寸图(180~630)'C'

HRZ Overall dimension for type C (180–630)



Modle	A	B	C	D	E	F	G	H	J	K	L	M	P	R	t	t1	w	z	Ød	uxs
180	350	334	194	228	228	180	163	296	256	280	392	56	38	12	6	6	40	22.5	20	11X16
200	387	365	215	256	256	224	175	322	284	308	420	56	43	13	6	6	40	22.5	20	11X16
225	433	403	242	288	288	224	191	358	316	340	452	56	45	13	6	6	40	22.5	20	11X16
250	478	441	269	322	322	224	207	394	350	374	486	56	47	13	6	6	40	22.5	20	11X16
280	532	485	302	360	360	280	225	445	394	422	556	67	40	12	8	7	40	28	25	13X18
315	596	538	339	404	404	280	247	495	438	466	600	67	43	13	8	7	40	28	25	13X18
355	669	599	382	452	452	355	272	554	498	534	672	69	45	13	8	7	40	33	30	13X18
400	750	670	431	506	506	355	302	617	552	588	726	69	53	12	8	7	40	33	30	13X18
450	841	744	485	568	568	530	333	684	614	650	814	82	60	13	10	8	50	38	35	13X18



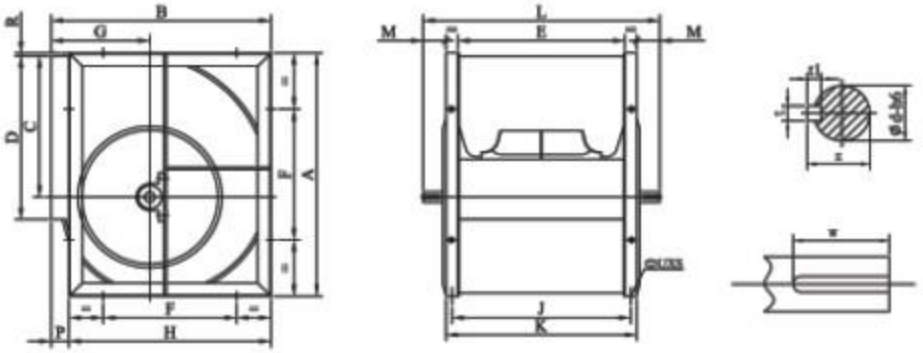
Modle	A	B	C	D	E	F	G	H	J	K	L	M	P	R	t	t1	w	z	Ød	uxs
500	930	817	538	638	638	530	363	754	684	720	924	102	63	13	10	8	50	38	35	13X18
560	1038	913	603	714	714	530	405	845	770	816	1000	92	68	12	12	8	70	43	40	15X25
630	1166	1019	678	800	800	530	449	942	856	902	1092	95	77	13	12	8	70	43	40	15X25

注 ： 以上机号为铝合金叶轮。

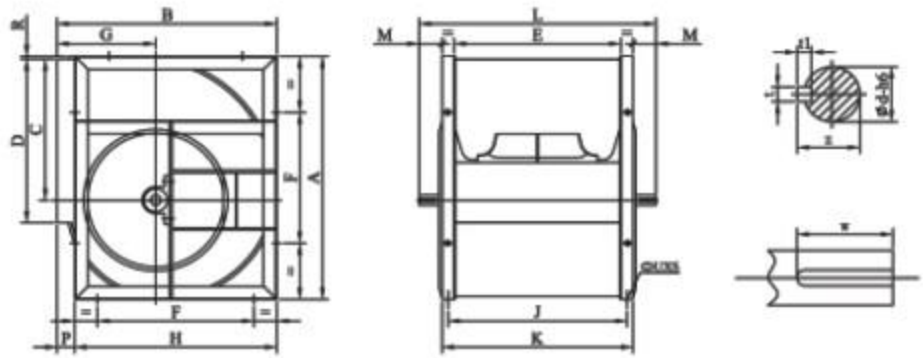
Renark:The table is suitable for the fans with impellers made of aluminium alloy.

HRZ双进风离心风机外形尺寸图(250~1000)'T'

HRZ Overall dimension for type T (250–1000)



Modle	A	B	C	D	E	F	G	H	J	K	L	M	P	R	t	t1	w	z	ød	uxs
250	478	441	269	322	322	224	207	394	350	374	508	67	47	13	6	6	40	22.5	20	11X16
280	532	485	302	360	360	280	225	445	394	422	588	83	40	12	8	7	40	28	25	13X18
315	596	538	339	404	404	280	247	495	438	466	632	83	43	13	8	7	40	28	25	13X18
355	669	599	382	452	452	355	272	554	498	534	718	92	45	13	8	7	40	33	30	13X18
400	750	670	431	506	506	355	302	617	552	588	772	92	53	12	8	7	40	33	30	13X18



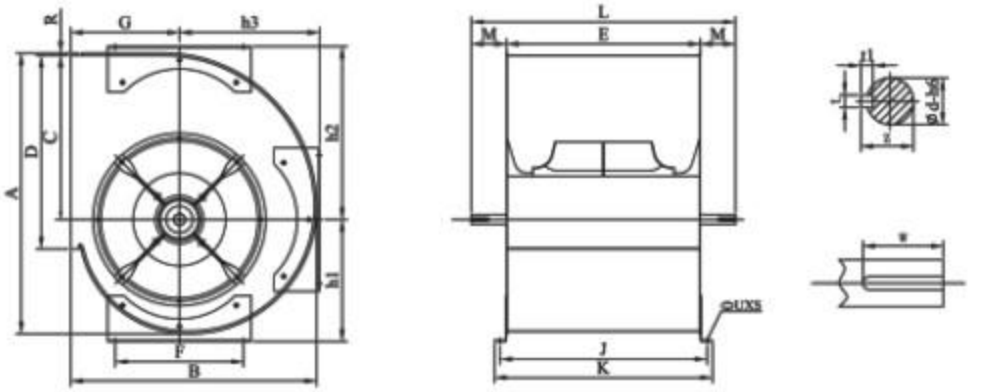
Modle	A	B	C	D	E	F	G	H	J	K	L	M	P	R	t	t1	w	z	ød	uxs
450	841	744	485	568	568	530	333	684	614	650	878	114	60	13	10	8	50	38	35	13X18
500	930	817	538	638	638	530	363	754	684	720	956	118	63	13	10	8	50	38	35	13X18
560	1038	913	603	714	714	530	405	845	770	816	1080	132	68	12	12	8	70	43	40	15X25
630	1166	1019	678	800	800	530	449	942	856	902	1166	132	77	13	12	8	70	43	40	15X25
710	1311	1140	764	898	898	630	499	1054	954	1000	1280	140	86	13	14	9	90	53.5	50	18X28
800	1474	1278	861	1006	1006	710	558	1174	1062	1108	1388	140	104	13	14	9	90	53.5	50	18X28
900	1656	1431	970	1130	1130	800	622	1311	1186	1232	1566	167	120	12	18	11	90	64	60	18X28
1000	1817	1563	1066	1266	1266	900	675	1444	1322	1368	1724	178	119	12	18	11	90	64	60	18X28

注 ： 以上机号为铝合金叶轮。

Renark:The table is suitable for the fans with impellers made of aluminium alloy.

HRZ 双进风离心风机外形尺寸图（400-630）'S I'

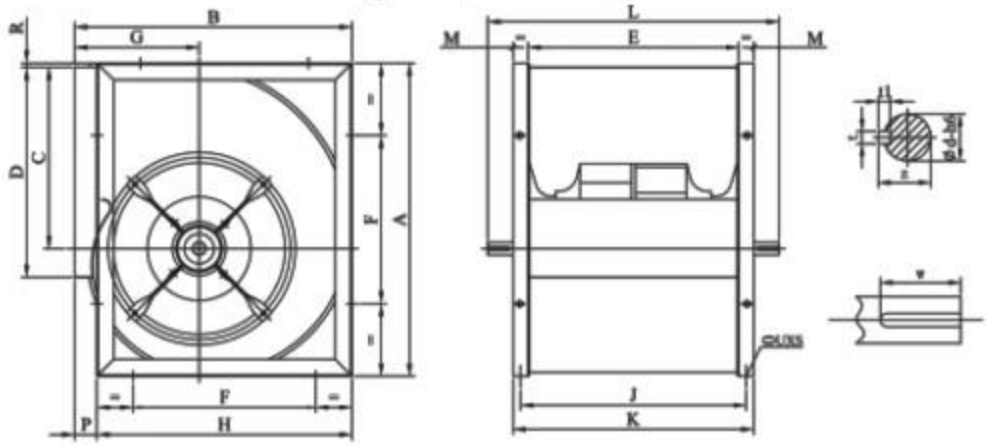
HRZ Overall dimension for type SI (400-630)



Modle	A	B	C	D	E	F	G	h1	h2	h3	J	K	L	M	R	t	t1	w	z	Ød	uxs
400	744	666	431	506	506	355	302	309	469	368	552	588	726	110	10	8	7	40	33	30	13X18
450	836	741	485	568	568	450	333	346	528	415	614	650	814	123	10	10	8	50	38	35	13X18
500	925	815	538	638	638	450	363	385	578	458	684	720	924	143	10	12	8	50	43	40	13X18
560	1034	910	603	714	714	500	405	424	642	510	770	816	1000	143	10	12	8	70	43	40	13X18
630	1161	1017	678	800	800	560	449	476	715	579	856	902	1092	146	10	14	9	70	53.5	50	13X18

HRZ 双进风离心风机外形尺寸图（400-630）'C I'

HRZ Overall dimension for type CI (400-630)



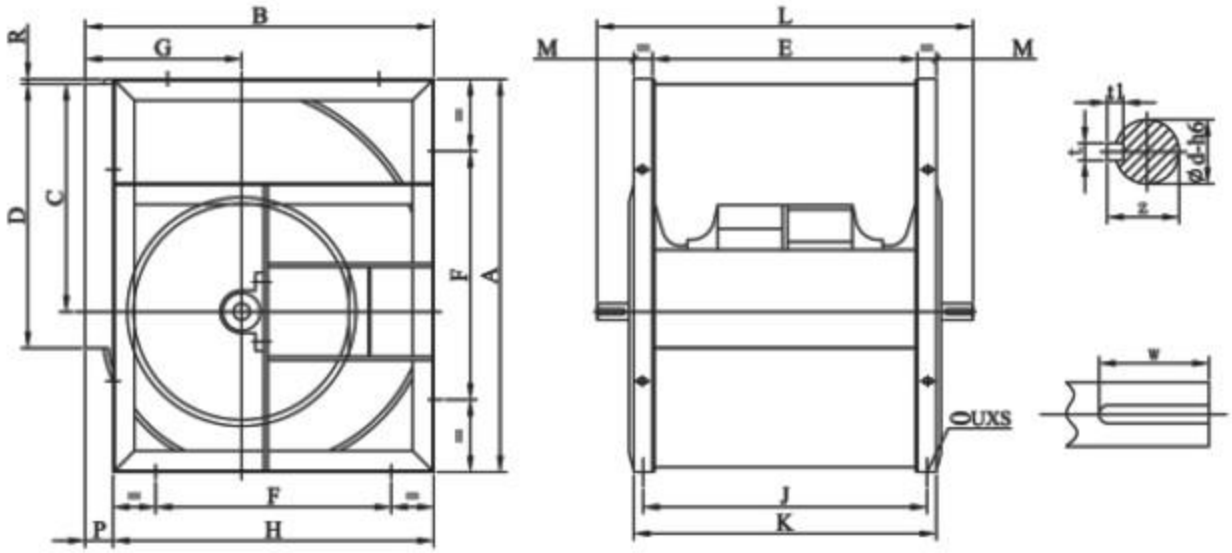
Modle	A	B	C	D	E	F	G	H	J	K	L	M	P	R	t	t1	w	z	Ød	uxs
400	750	670	431	506	506	355	302	617	552	588	726	69	53	12	8	7	40	33	30	13X18
450	841	744	485	568	568	530	333	684	614	650	814	82	60	13	10	8	50	38	35	13X18
500	930	817	538	638	638	530	363	754	684	720	924	102	63	13	12	8	50	43	40	13X18
560	1038	913	603	714	714	530	405	845	770	816	1000	92	68	12	12	8	70	43	40	15X25
630	1166	1019	678	800	800	530	449	942	856	902	1092	95	77	13	14	9	70	53.5	50	15X25

注 ： 以上机号为钢叶轮

Remark:The table is suitable for the fans with impellers made of steel metal

HRZ 双进风离心风机外形尺寸图 (400-1000) 'T I'

HRZ Overall dimension for type TI (400–1000)



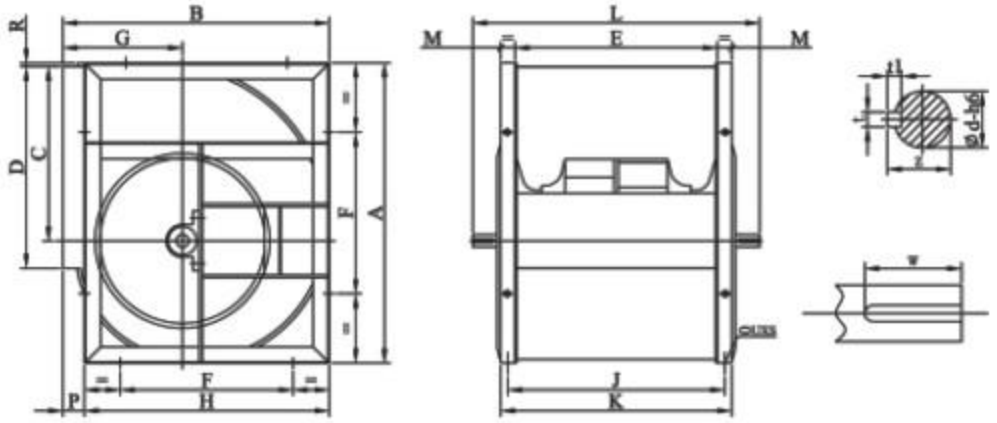
Modle	A	B	C	D	E	F	G	H	J	K	L	M	P	R	t	t1	w	z	ød	uxs
400	750	670	431	506	506	355	302	617	552	588	772	92	53	12	10	8	50	38	35	13X18
450	841	744	485	568	568	530	333	684	614	650	878	114	60	13	12	8	70	43	40	13X18
500	930	817	538	638	638	530	363	754	684	720	956	118	63	13	14	9	70	48.5	45	13X18
560	1038	913	603	714	714	530	405	845	770	816	1080	132	68	12	14	9	90	53.5	50	15X25
630	1166	1019	678	800	800	530	449	942	856	902	1166	132	77	13	14	9	90	53.5	50	15X25
710	1311	1140	764	898	898	630	499	1054	954	1000	1280	140	86	13	18	11	90	64	60	18X28
800	1474	1278	861	1006	1006	710	558	1174	1062	1108	1388	140	104	13	18	11	90	64	60	18X28
900	1656	1431	970	1130	1130	800	622	1311	1186	1232	1566	167	120	12	18	11	110	69	65	18X28
1000	1817	1563	1066	1266	1266	900	675	1444	1322	1368	1724	178	119	12	20	12	110	74.5	70	18X28

注 ： 以上机号为钢叶轮

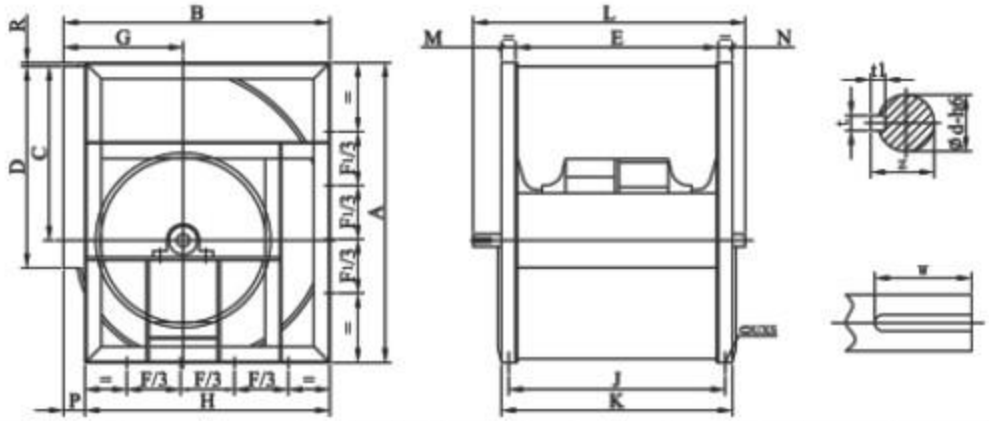
Remark:The table is suitable for the fans with impellers made of steel metal

HRZ双进风离心风机外形尺寸图(400~1400)TII

HRZ Overall dimension for type TII (400–1400)



Modle	A	B	C	D	E	F	G	H	J	K	L	M	P	R	t	t1	w	z	ød	UXS
400	750	670	431	506	506	355	302	617	552	588	772	92	53	12	10	8	50	38	35	13X18
450	841	744	485	568	568	530	333	684	614	650	878	114	60	13	12	8	70	43	40	13X18
500	930	817	538	638	638	530	363	754	684	720	956	118	63	13	14	9	70	48.5	45	13X18
560	1038	913	603	714	714	530	405	845	770	816	1080	132	68	12	14	9	90	53.5	50	15X25
630	1166	1019	678	800	800	530	449	942	856	902	1166	132	77	13	14	9	90	53.5	50	15X25
710	1311	1140	764	898	898	630	499	1054	954	1000	1280	140	86	13	18	11	90	64	60	18X28
800	1474	1278	861	1006	1006	710	558	1174	1062	1108	1388	140	104	13	18	11	90	64	60	18X28
900	1656	1431	970	1130	1130	800	622	1311	1186	1232	1566	167	120	12	18	11	110	69	65	18X28
1000	1817	1563	1066	1266	1266	900	675	1444	1322	1368	1724	178	119	12	20	12	110	74.5	70	18X28



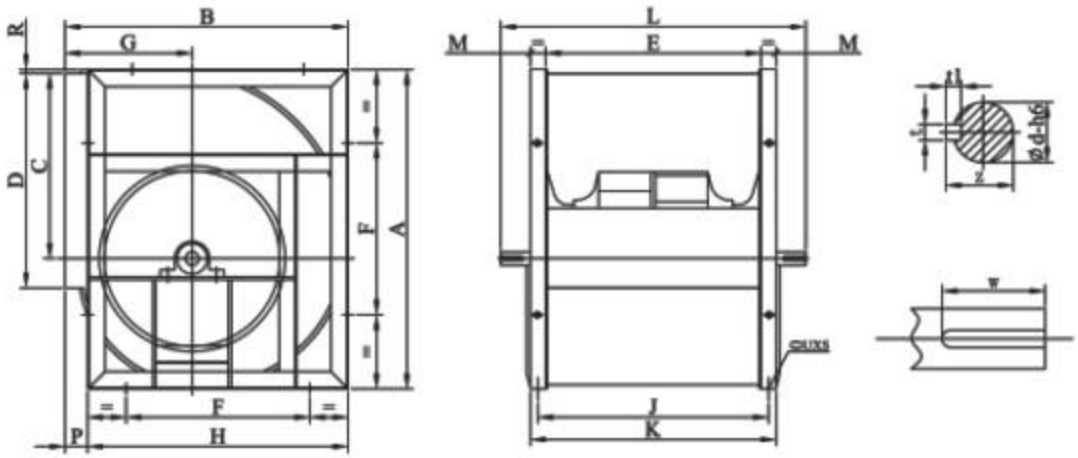
Modle	A	B	C	D	E	F	F1	G	H	J	K	L	M	N	P	R	t	t1	w	z	ød	UXS
1120	2052	1763	1207	1400	1400	1050	1452	761	1625	1482	1526	1778	193	59	138	13	22	14	110	85	80	18X28
1250	2290	1961	1347	1560	1560	1230	1686	843	1806	1635	1710	1975	203	64	155	12	22	14	110	90	85	18X28
1400	2575	2226	1513	1750	1750	1437	1947	968	2038	1825	1900	2216	227	89	188	12	25	14	140	95	90	18X28

注 ： 以上机号为钢叶轮

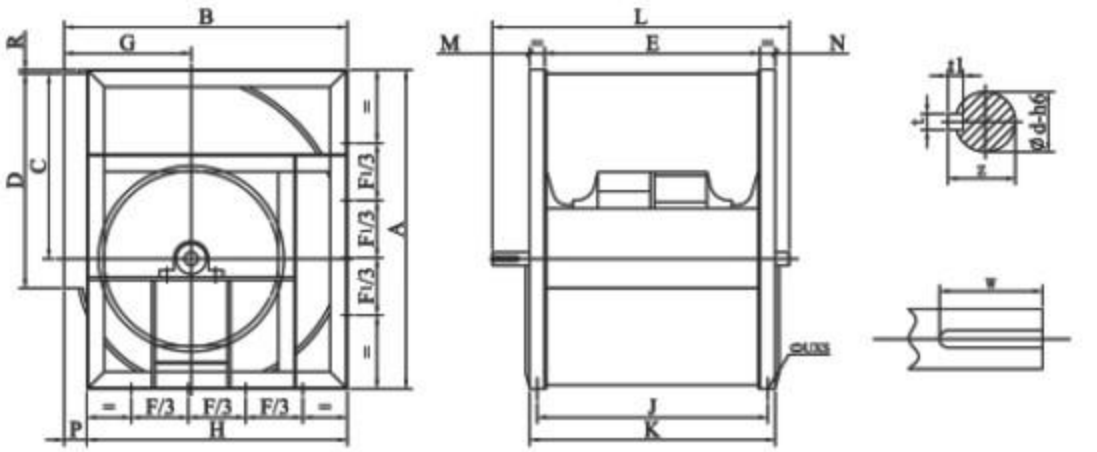
Remark:The table is suitable for the fans with impellers made of steel metal

HRZ双进风离心风机外形尺寸图(710~1400) TIII

HRZ Overall dimension for type TIII (710–1400)



Modle	A	B	C	D	E	F	G	G	H	J	K	L	M	P	R	t	t1	w	z	ød	UXS
710	1311	1140	764	898	898	630	630	499	1054	954	1000	1316	158	86	13	18	11	110	64	60	18X28
800	1474	1278	861	1006	1006	710	710	558	1174	1062	1108	1424	158	104	13	18	11	110	64	60	18X28
900	1656	1431	970	1130	1130	800	800	622	1311	1186	1232	1604	186	120	12	18	11	110	69	65	18X28
1000	1817	1563	1066	1266	1266	900	900	675	1444	1322	1368	1768	200	119	12	20	12	110	74.5	70	18X28



Modle	A	B	C	D	E	F	F1	G	H	J	K	L	M	N	P	R	t	t1	w	z	ød	UXS
1120	2052	1763	1207	1400	1400	1050	1452	761	1625	1482	1526	1778	193	59	138	13	22	14	110	85	80	18X28
1250	2290	1961	1347	1560	1560	1230	1686	843	1806	1635	1710	1975	203	64	155	12	22	14	110	90	85	18X28
1400	2575	2226	1513	1750	1750	1437	1947	968	2038	1825	1900	2216	227	89	188	12	25	14	140	95	90	18X28

注 ： 以上机号为钢叶轮

Remark:The table is suitable for the fans with impellers made of steel metal

TRZ系列风机运行极限

TRZ Series Ventilator Operational Linits

			180	200	225	250	280	315	355	400	450	500	560	630	710	800	900	1000
极限吸收功率 Maximum Absorbed Power	S	kw	3.5	4.8	5.6	6	9.6	9.2	10.3	10	14	13.5	15.2	14.5				
	C	kw	3.8	4.8	5.6	6.5	9.6	9.9	10.7	10.8	14	13.5	15.2	14.7				
	T	kw				6.5	9.6	9.9	10.7	10.8	14.5	13.5	15.2	14.7				
极限转速 Maximum Speed	S	rpm	3200	3200	2600	2100	1900	1600	1400	1250	1100	900	850	650	20	26.8	32	41.7
	C	rpm	4200	3900	3400	2700	2500	2100	1800	1600	1400	1200	1100	850				
	T	rpm				3000	2800	2400	2100	1900	1700	1500	1200	950	850	750	650	600
极限温度（最低-20℃） Temperature Range/Mim.-20℃	S-C	Max℃	85	85	85	85	85	85	85	85	85	85	85	85				
	T	Max℃				85	85	85.	85	85	85	85	85	85	85	85	85	85
风机重量 Fan Weight	S	Kg	7.2	8	10.6	10.8	15.5	20.5	24	37	46	58	70	102				
	C	Kg	8.7	9.5	12	13.8	18.5	22.5	28	41	49	63	82	105				
	T	Kg				19.8	25.5	28.5	41	55	59	70	99	141	204	254	304	396

HRZ系列风机运行极限（铝合金）

HRZ Series Ventilator Operational Linits（aluminium alloy）

			180	200	225	250	280	315	355	400	450	500	560	630	710	800	900	1000
极限吸收功率 Maximum Absorbed Power	S	kw	0.7	0.8	1	1	1.2	1.2	1.2	1.3	2.1	3.2	3.6	4.3				
	C	kw	1.3	1.3	2	2	1.9	1.6	2.3	2.7	4.1	6.5	8	11				
	T	kw	2.0	2.5	3	5	5.7	4	6	8.3	12.3	20.8	25	34.2	24	27	54	65
极限转速 Maximum Speed	S	rpm	4500	4400	3900	3200	2600	2100	2000	1700	1560	1500	1300	1170				
	C	rpm	5500	5200	4900	4100	3300	2700	2600	2200	2000	1900	1700	1500				
	T	rpm	7000	6500	5700	5700	4800	3800	3500	3200	2900	2800	2500	2200	1600	1400	1400	1300
极限温度（最低-20°C） Temperature Range/Mim:-20°C	S-C	Max°C	85	85	85	85	85	85	85	85	85	85	85	85				
	T	Max°C				85	85	85	85	85	85	85	85	85	85	85	85	85
风机重量 Fan Weight	S	Kg	6.8	7.8	10.2	12	16.8	26	34	49	54	57	73	96				
	C	Kg	7.8	8.8	12	14	18.8	28	38	53	58	64	87	119				
	T	Kg				19.8	25.5	28.5	41	55	59	70	99	141	165	240	290	371

HRZ系列风机运行极限

HRZ Series Ventilator Operational Linits

杭州远胜进出口有限公司 FAIRWAY (HANGZHOU) IMP.& EXP. CO.,LTD. FAIRWAY

II

			180	200	225	250	280	315	355	400	450	500	560	630	710	800	900	1000	1120	1250	1400
极限吸收功率 Maximum Absorbed Power	S	kw	0.7	0.8	1	1	1.2	1.2	1.2	1.3	2.1	3.2	3.6	4.3							
	C	kw	1.3	1.3	2	2	1.9	1.6	2.3	2.7	4.1	6.5	8	11							
	TI	kw	2.0	2.5	3	5	5.7	4	6	6	9	14.7	17.4	25.7	16	17	23	30			
	TII	kw								8.3	12.3	20.8	25	34.2	24	27	54	65			
	TIII	kw													24	27	54	65	92	112	162
极限转速 Maximum Speed	S	rpm	4300	4100	4100	3200	2600	2100	2000	1700	1560	1500	1300	1170							
	C	rpm	5500	5100	5200	4100	3300	2700	2600	2200	2000	1900	1700	1500							
	TI	rpm								2850	2600	2500	2200	2000	1400	1200	1050	1000			
	TII	rpm								3200	2900	2800	2500	2200	1600	1400	1400	1300	1200	1100	1000
	TIII	rpm													1600	1400	1400	1300	1200	1100	1000
极限温度（最低-20℃） Temperature Range/Min:-20℃	S-C	Max℃	85	85	85	85	85	85	85	85	85	85	85	85							
	TI-III	Max℃				85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85
风机重量 Fan Weight	S	Kg	6.8	7.8	10.2	12	17.8	22	26.5	51	59	74	90	113							
	C	Kg	7.8	8.8	12.2	14	19.8	24	30.5	54	63	81	104	136							
	TI	Kg								75	90	118	152	192	210	309	384	504			
	TII	Kg								79	93	122	156	199	220	319	396	518	900	1200	1800
	TIII	Kg													250	353	435	566	968	1297	1905