

Backward Curved Medium-Pressure
Centrifugal Fans



诺森工业风机



Innovation Make Us Different
创新让我们与众不同

冠带通风节能设备有限公司是中国地区最先进的工业风机制造商之一。我们对客户所能承诺的是能制造出精良的设备及优秀的售后服务。

上海冠带通风节能设备有限公司 (Shanghai GRADE-FE Blower Equipment Co., Ltd.) 可以为以下行业的工程技术应用提供技术支持及可靠性产品：楼宇通风、电力、石化、纸浆和纸张、制药、污染控制、合成纤维、核电。

冠带风机的技术为美系40年的成熟制造工艺和设计理念为基础，质量保持一贯的优良传统，从开厂的第一天起我们就努力把我们的产品做到最好，每天能对我们的产品渴求进步。

每个细节都决定了客户将对我们做出何种选择。作为重型工业通风设备生产的专业性公司，我们的工程设计人员可以提供轴承负荷分析，结构有限元分析，计算机自动辅助设计绘图，完备的检验手段，精密的测试过程，一切的努力都是为客户提供高品质的设备有服务。

我们的分销机构遍布全国各地及全世界，以工厂为后盾，我们的分销机构时刻准备着为您提供所需要的运用建议及产品信息。

Shanghai Grade-FE Blower Equipment Co., Ltd. is one of the most advanced fan companies in China. In all that we do we are committed to the construction of an excellent product and the provision of outstanding customer service.

The applications include Process Gas Fans, Odor Control Fans, Waste Water Treatment-Fans, Air Pollution Control , Nuclear Power Plants, Steel Mills, Paper Mills, Ovens, Auto-claves, and General Ventilation.

Base on the 40 years American serious mature manufacturing and designing idea, Shanghai Grade-FE Blower Equipment Co., Ltd. product quality is a tradition. From our first day we have devoted our best efforts to the production of high grade fan equipment. Every day we strive to improve.

Each application determines the selection of each fan we build. Our design engineering staff provides bearing load analysis, finite element analysis, AutoCAD drawings, and thirty years of design experience for each fan we manufacture. Performance and Sound Testing has been performed on each of our different fan lines.

Our sales representatives are located coast-to-coast across the China continent. Backed by the factory sales team, Shanghai Grade-FE Blower Equipment Co., Ltd. representatives are ready to provide product information and application advice whenever you need it.

Series BCLS

Centrifugal Fans

后弯叶片式中压离心风机

The Design BCLS Centrifugal Backward Curved Industrial fans are highly efficient and stable operating fans suited for a wide range of rigorous industrial applications. Due to the broad capabilities of the Design BCLS fan this bulletin contains only limited performance information. Further information on extended performance and custom fans is available from your Northern Blower sales representative.

BCLS系列的设计秉承了离心后弯式工业风机的高效率和稳定运行特点可以适合宽泛的工业领域的运用。由于宽泛的性能表现本样本上的数据也只是包括了部分的性能参数。如果需要特殊的设计和特定的工况下的性能要求，你可以咨询您本地就近的诺森风机公司的代理商。

Industrial supply and exhaust:

Thermal Oxidizers
Baghouses
Scrubbers
Forced Draft
Induced Draft
Combustion Air Supply
Pulp and Paper Machines
Drying Kilns

适用的工业送排风领域：

热氧化排风
布袋式除尘系统
洗气塔后段排风
工业正压送风
工业引风排风
燃烧气体输送
纸浆及造纸机械
干窑炉排风



上海冠带通风节能设备有限公司特此证明，此处所示BCLS系列风机获得了加盖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 Grade-FE Blower Equipment Co., Ltd certifies that the BCLS fans shown herein are 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.

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出风口法兰

开孔后的出风口法兰方便现场
螺栓连接于风管

Flanged Outlet

Punched flange to facilitate the
bolting of duct connections

后弯式叶轮

优秀的效率和可靠强劲的运行
相结合的叶轮

Backward Curved Wheel

Superior combination of efficient
operation and rugged, dependable



壳体

强劲的重型钢板全焊接结构外壳加上重型角钢加强筋络使
外壳强度达到最大标准结构包括了出风口法兰、轴封及密
封件。标号4900以上为分体式结构

Housing

Rugged heavy gauge all welded steel housing with
substantial framing sections for maximum rigidity. Standard
features include flanged outlet, shaft seal and gasketted
housing split on sizes 4900 and larger.

轴承

重型工业用分体式球轴承或分体式滚柱
轴承保证平均10年的使用寿命

Bearings

Heavy duty split pillow-block ball or
spherical roller bearings sized for a
generous B-10 life.

轴

进过调质和碾磨处理或全机械加工的轴
保证最小的配合间隙和长使用寿命

Shaft

Turned ground and polished or fully
machined to close tolerance.

轴封

通过加载轴封可以最大限度的减少在轴
孔处的漏风量

Shaft Seal

Used to reduce leakage through the
shaft hole in the housing.

重型改成重型结构

轴承支座方箱高强度结构设计

Heavy Duty

Structural Bearing Pedestal

平衡

对于轴和叶轮，根据标准进行动平衡校
验ANSI S2.19-1989在型号强度为30和
40时采用过盈配合

Balancing

Wheel and shaft assemblies are dynamically
balanced to ANSI S2.19-1989 specifications and
are interference fit on Models 30 and 40.

轴和轴承

Shafts and Bearings

轴

精确匹配在最高强度等级风机临界转速下的所耐受的强度。

Shafts

Selected to have suitable strength and operate well below the first critical speed for each maximum class condition.

轴承

抗磨脂类油类润滑，球轴承或滚子轴承，分体式，都具有国际标准的配件，可以拥有全球通用性的售后服务，轴承的选型按照最不利情况下的最大负荷及最长寿命选择。

Bearings

Antifriction, grease lubricated, self aligning ball or roller types, solid or split housing, manufactured to internationally adopted standards by companies having worldwide acceptance and support services. Bearings are selected for continuous belt driven operation with a generous bearing life throughout each full class range.



Classes of Construction

Arrangement	Fan Size Range
	Models 18, 30, 40
A 1 - SISW	2 0 - 0
A 8 - SISW	2 0 - 0
A 9 - SISW	2 0 - 0

Models 18, and 30 only. Refer to pages 21 and 22 for maximum arrangement 9 motor frame sizes.

温度范围 Temperatures

perating Temperatures to 4 0

标准配置

- 分体式重型滚子轴承或滚柱轴承
- 内置的轴承支座加强设计
- 出口法兰标准开孔
- 标准的轴封部气密封件
- 可拆式的检修门
- 顺滑的进风喇叭口

Standard Features

- Split Pillow Block Ball or Roller Bearings
- Integral Bearing Pedestal
- Punched langed outlet
- Shaft Seal
- uick Release Access oor
- Slip it Inlet

共用减震底座

Vibration Isolation Base

加强型钢制框架提供了一个安装风机和电机的共用底座，可以和减震器及马达滑动底座一起订购。

Rigid steel frame to provide a common mounting platform for fan and motor. May be ordered with spring isolators and motor slide base.



进风风箱/进风风箱调节阀

Inlet Box/Inlet Box Damper

进风风箱可以给风机进气口以平顺的气流输入。进风箱为螺栓对接设计，作为风机的一个配件。进风风阀同样可以用螺栓连接于进风箱入口来达到精准的风量控制。

An Inlet Box provides smooth aerodynamic airflow into the fan inlet. The Inlet Box is designed as a bolt-on accessory to the fan. Inlet dampers also are available in conjunction with the Inlet Box for efficient air volume control.

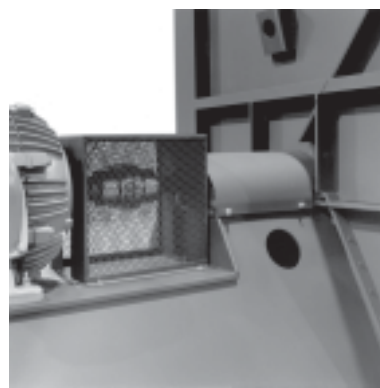


联轴器/轴封及轴承保护罩

Coupling/Shaft and Bearing Guard

联轴器保护罩把连接马达轴和风机轴联轴器保护起来。轴和轴承被保护在另外一个专用保护罩内，以免外界对联轴器及轴和轴承的损害。

The coupling guard encloses the coupling from the face of the motor to the outboard bearing. The Shaft and Bearing guard encloses the shaft and bearings from the inboard bearing to just beyond the outboard bearing.



突出的检修门

Raised Access Door

检修门可以空出蜗壳150mm，可以方便现场在风机外壳的保温。检修门内部插入风机部分自带保温棉。

Access door raised beyond scroll surface to provide room for insulation on exterior of fan housing. Insulated door plug surface is flush with inside of housing scroll.



快开式检修门

Hinged Quick Release Access Door

快开式检修门使用铰链连接，所有检修门都安装于蜗壳上方，用手柄或螺栓固定。

The hinged option adds hinges to the standard Quick Release Access Door. Both the standard and Hinged Quick Release Access Doors are mounted flush to the fan scroll and are secured with quick release handles.

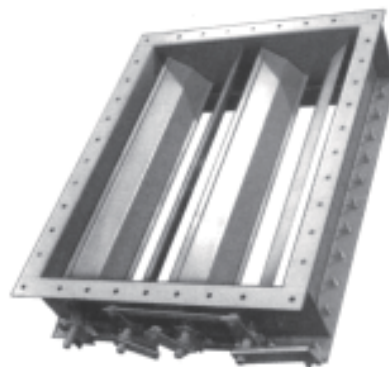


出风口风阀

Outlet Damper

对开多叶式调节阀是最经济的风量控制装置，诺森的出风阀有着双边开孔的法兰，可便于现场风机和风管的对接，出风口风阀可以在耐温280℃的下使用

Opposed Blade outlet dampers are the least expensive air volume control device. Northern Blower outlet dampers have punched flanges on both ends to allow for convenient fan and duct connections. Outlet dampers are available for operating temperatures to 400

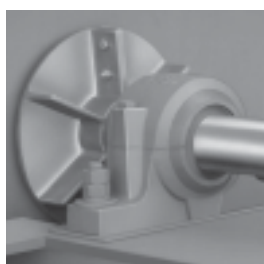


轴承冷却风扇

Cooling Wheel

分半式的铸铝冷却风扇安装于内轴承和机壳中间，可有效防止轴上传热和蜗壳辅助射热作用于轴承上。同时配有散热叶轮保护罩，如需高温运用请参照第七页

Split aluminum wheel mounted between the inboard bearing and the fan housing. Protects the inboard bearing from shaft conveyed heat and housing radiated heat. Supplied with protective guard as standard. Required for high temperature application see Page .

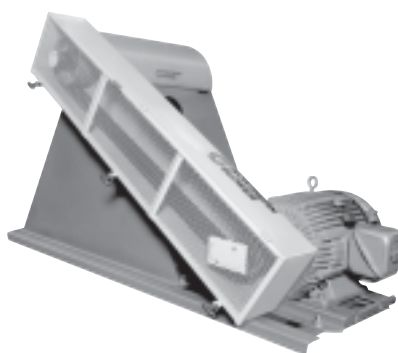


皮带保护罩

Belt Guard

全封闭皮带罩配有重型金属网罩及快速开启螺栓，安全色喷漆及转速测控可以选择使用。

Enclosed on all sides, for safe operation, with a mesh cover and quick release fasteners. Tachometer holes and safety colour coatings also available.



进风口调节阀

Variable Inlet Vanes

变风量进风口调节可以以最小的损耗提供准确的风量控制，风机运行平稳，无论进风阀在全闭还是全开的状态下。手动式或自动式开关进风阀为可选件，正常可耐温150℃，特殊耐温到350℃的可咨询工厂。

The coupling guard encloses the coupling from the face of the motor to the outboard bearing. The Shaft and Bearing guard encloses the shaft and bearings from the inboard bearing to just beyond the outboard bearing.



进风口法兰

Flanged Inlet

开孔的进风口法兰可以方便进风风管和风机的连接

Punched flanges to facilitate the bolting of duct connections to the fan inlet and outlet.

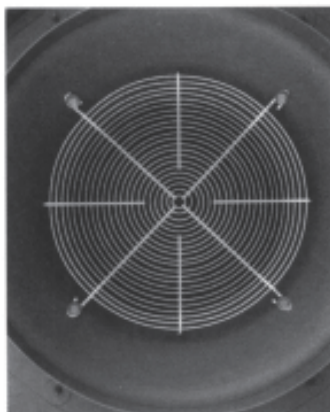


进风口防护网

Inlet Screen

进风钢制防护网可以有效防止杂物进入风机，同时拥有可以方便的拆装设计。

Steel screen mounted to the inlet cone. Screens are split where required for easy removal.



其他配附件选项

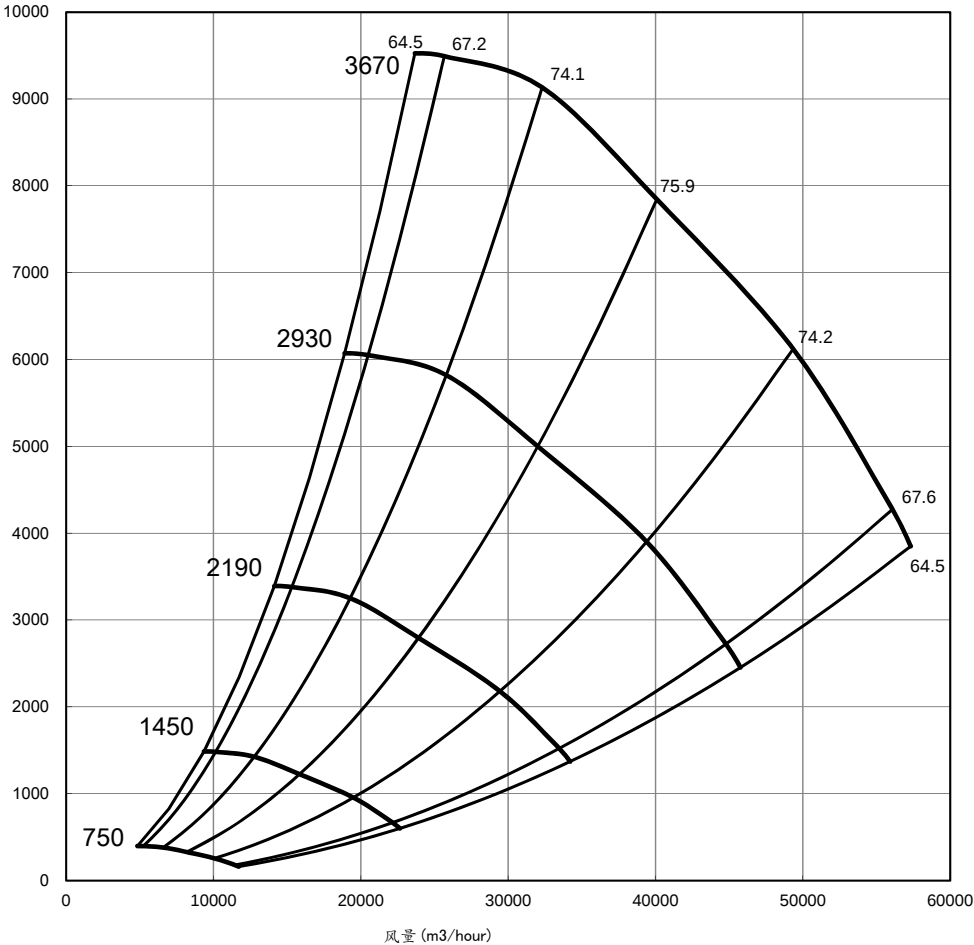
Additional Accessories

- 防爆结构
- 防腐结构
- 各种涂层
- 分半式设计
- 特殊材料
- 漏水口
- 高温结构设计
- 延长的管
- 保温外壳
- 快开式安装设计
- 方形通风法兰
- 不锈钢外壳设计
- Spark Resistant construction
- Protective coatings
- Split Housings
- Accessory Sizes 200-440
- Standard Sizes 4900-8900
- Special Metals
- Rain penings
- High Temperature construction
- Extended release fittings
- Insulation lips
- Mounted drive Package
- Square flanged Inlet
- Stainless Steel construction

BCLS 270

FEG80

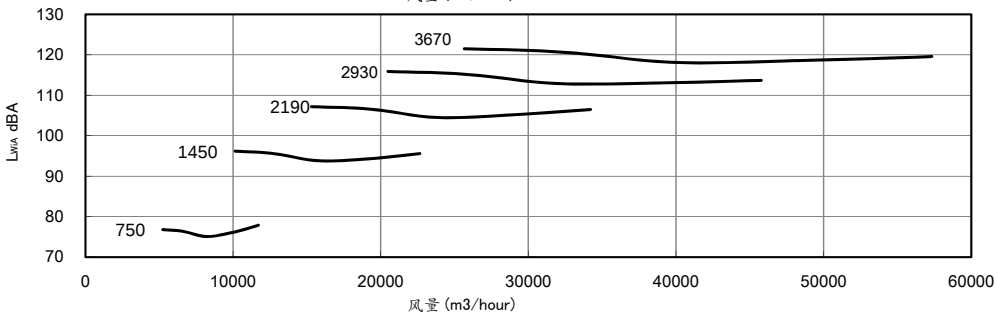
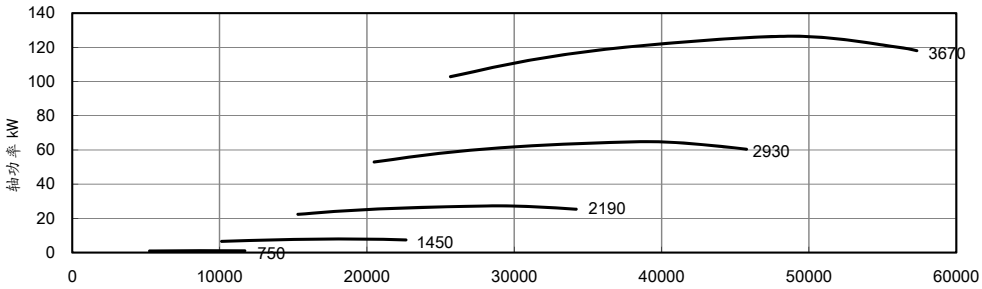
静压 Pst (Pa)



n max (rpm): 3678
Class IV: 3112<n<3678
Class III: 2687<n<3112
Class II: 1981<n<2687
Class I: n<1981

n (rpm)	u (m/s)
3670	132.0
2930	105.4
2190	78.8
1450	52.2
750	27.0

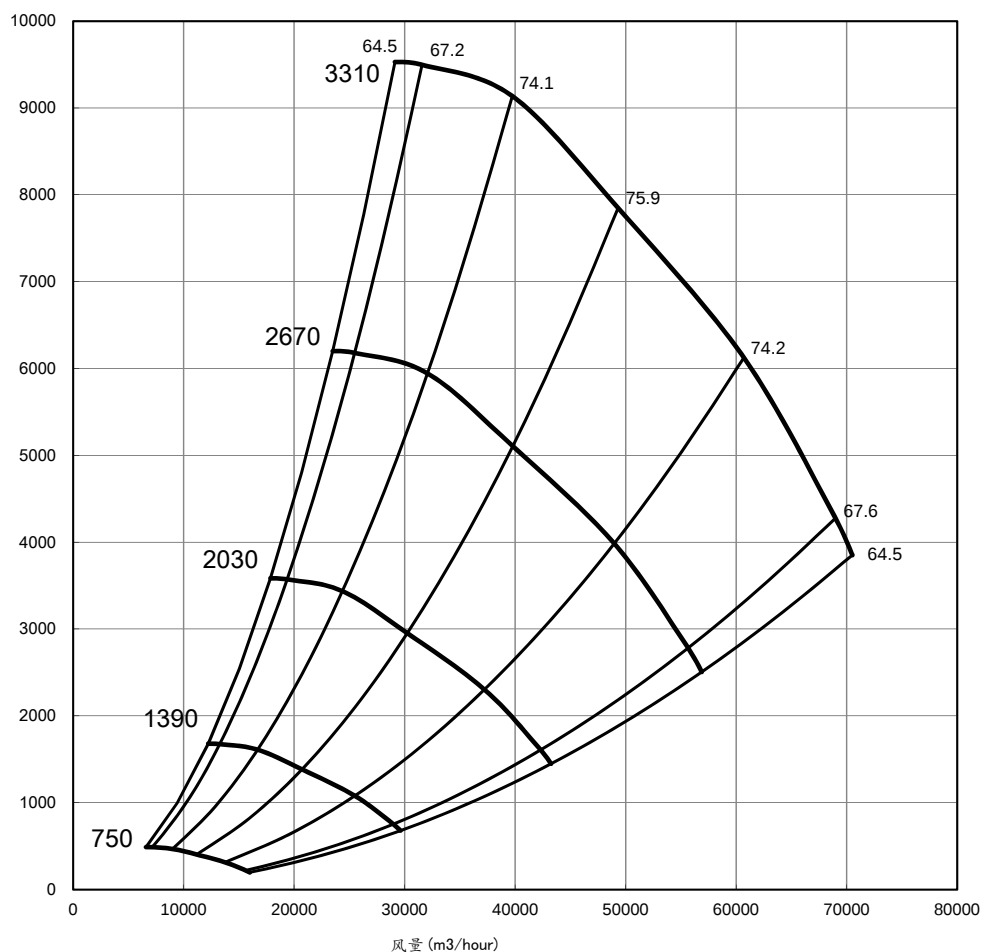
1. 功率额定值不包括传输 (动) 损失。
Power rating does not include transmission losses.
2. 各项性能额定值不包括附属物 (附件) 的影响。
Performance ratings do not include the effects of appurtenances (accessories).
3. 所示值为安装类型 B: 自由入口, 管道出口的声功率级 (入口 LwIA)。额定值不包括管道端部校正影响。
所示 A 加权声音性能额定值已按 AMCA International 标准 301 计算。
Values shown are for inlet LwIA sound power levels for:
Installation Type B: free inlet, ducted outlet.
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.



BCLS 300

FEG80

静压 Pst (Pa)



n max (rpm): 3310

Class IV: 2801<n<3310

Class III: 2420<n<2801

Class II: 1783<n<2420

Class I: n<1783

n (rpm)	u (m/s)
3310	132.1
2670	106.5
2030	81.0
1390	55.5
750	29.9

1. 功率额定值不包括传输(动)损失。

Power rating does not include transmission losses.

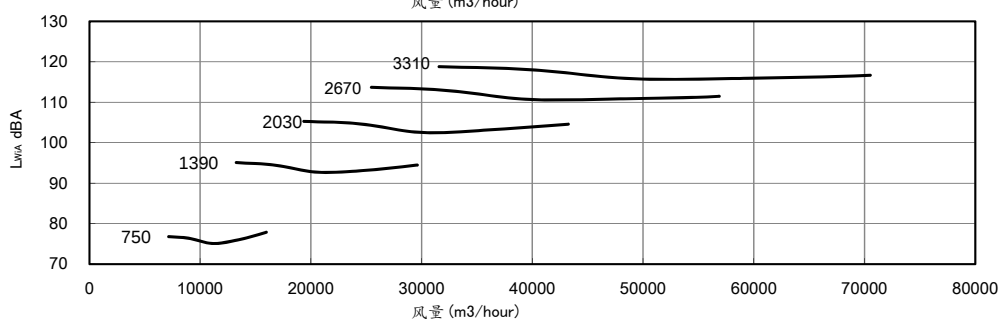
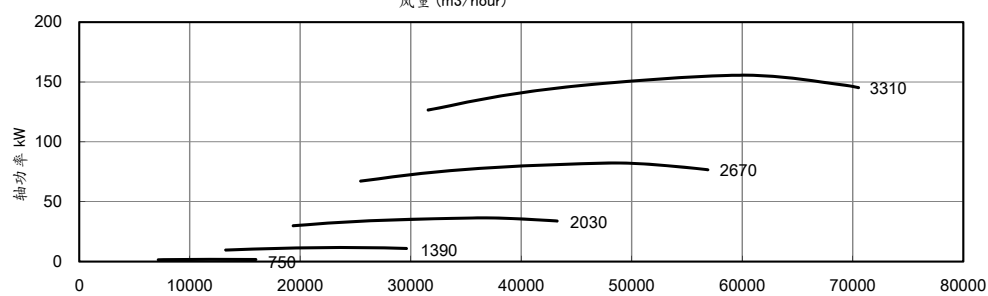
2. 各项性能额定值不包括附属物(附件)的影响。Performance ratings do not include the effects of appurtenances (accessories).

3. 所示值为安装类型 B: 自由入口, 管道出口的声功率级(入口 LwIA)。额定值不包括管道端部校正影响。所示 A 加权声音性能额定值已按 AMCA International 标准 301 计算。

Values shown are for inlet LwIA sound power levels for:

Installation Type B: free inlet, ducted outlet.

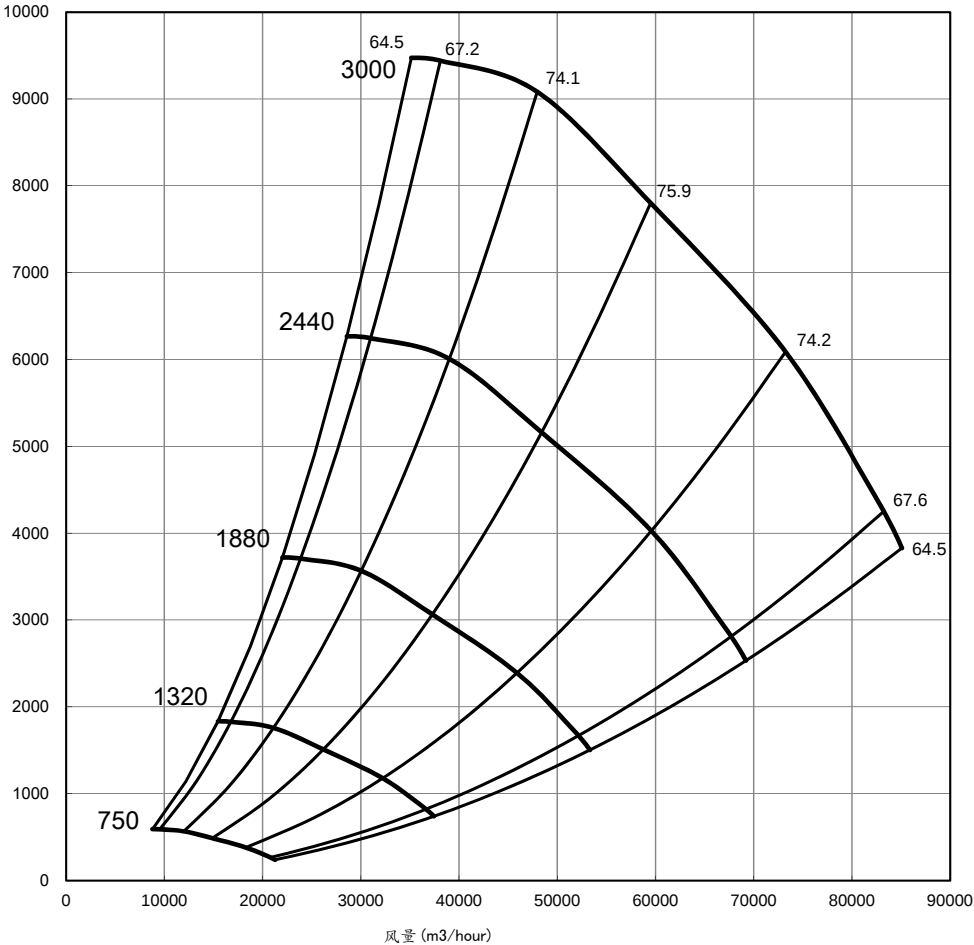
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.



BCLS 330

FEG80

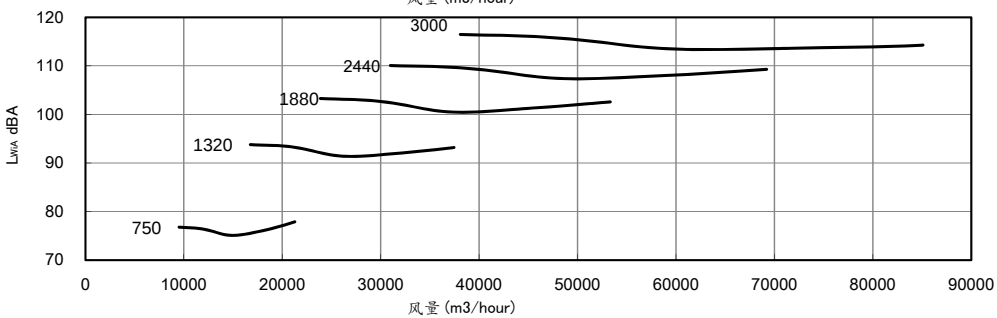
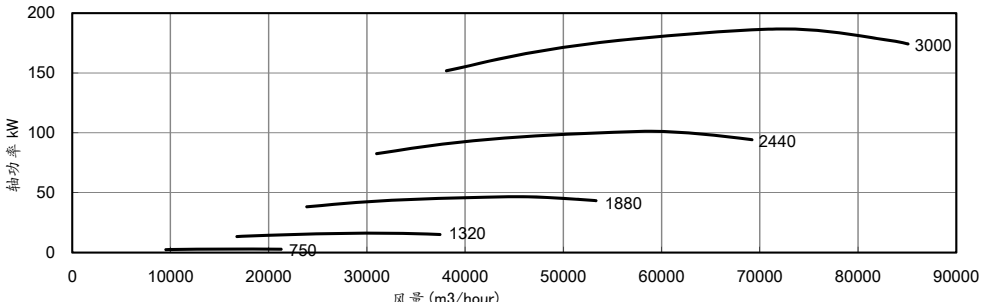
静压 Pst (Pa)



n max (rpm): 3009
Class IV: 2546<n<3009
Class III: 2199<n<2546
Class II: 1621<n<2199
Class I: n<1621

n (rpm)	u (m/s)
3000	131.6
2440	107.1
1880	82.5
1320	57.9
750	32.9

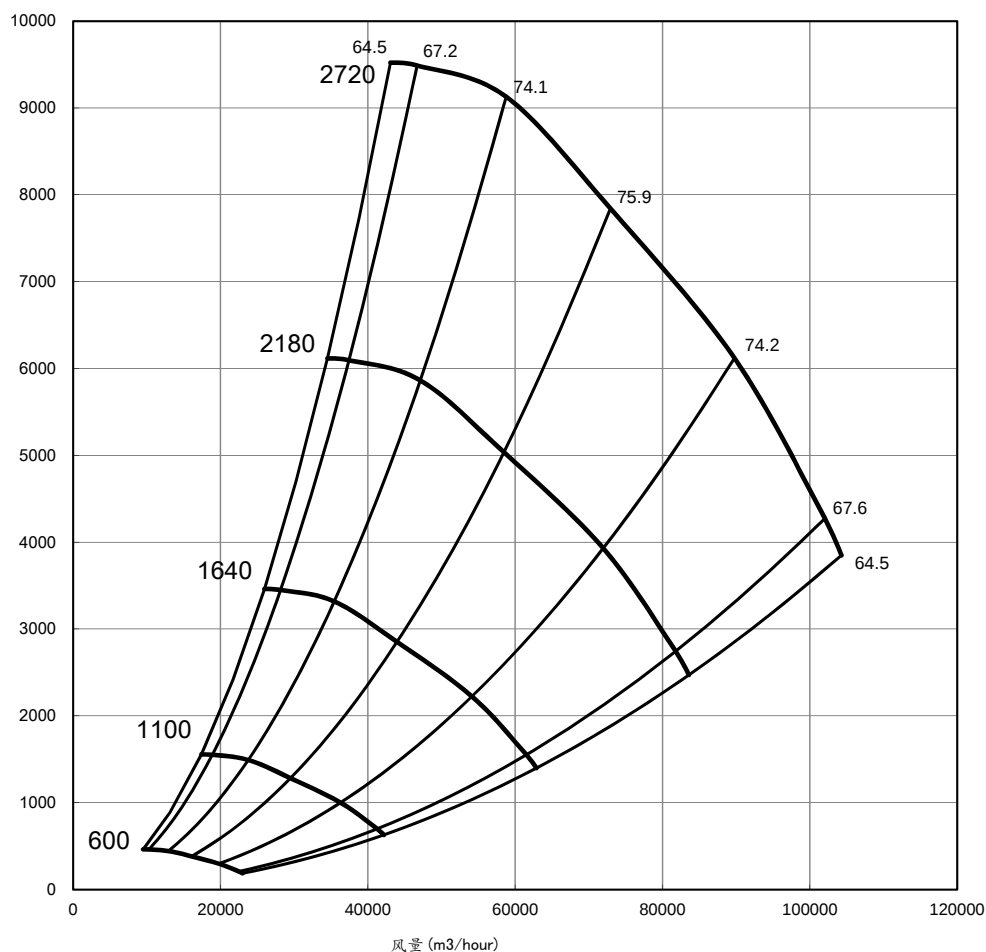
1. 功率额定值不包括传输 (动) 损失。
Power rating does not include transmission losses.
2. 各项性能额定值不包括附属物 (附件) 的影响。
Performance ratings do not include the effects of appurtenances (accessories).
3. 所示值为安装类型 B: 自由入口, 管道出口的声功率级 (入口 LwIA)。额定值不包括管道端部校正影响。
所示 A 加权声音性能额定值已按 AMCA International 标准 301 计算。
Values shown are for inlet LwIA sound power levels for:
Installation Type B: free inlet, ducted outlet.
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.



BCLS 365

FEG80

静压 Pst (Pa)



n max (rpm): 2720

Class IV: 2302<n<2720

Class III: 1987<n<2302

Class II: 1467<n<1987

Class I: n<1467

n (rpm)	u (m/s)
2720	132.0
2180	105.8
1640	79.6
1100	53.4
600	29.1

1. 功率额定值不包括传输(动)损失。

Power rating does not include transmission losses.

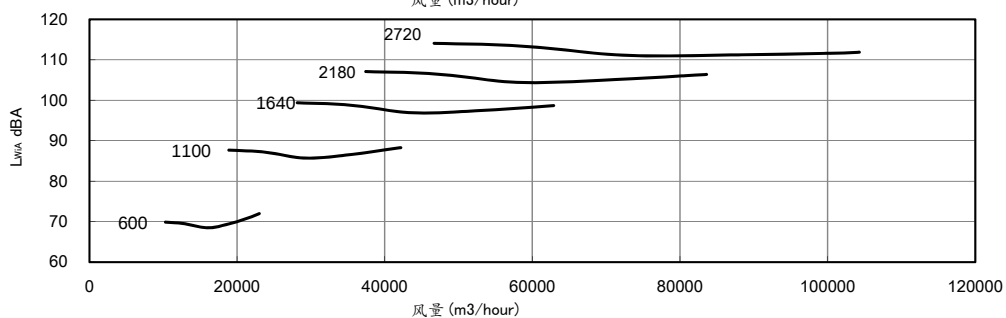
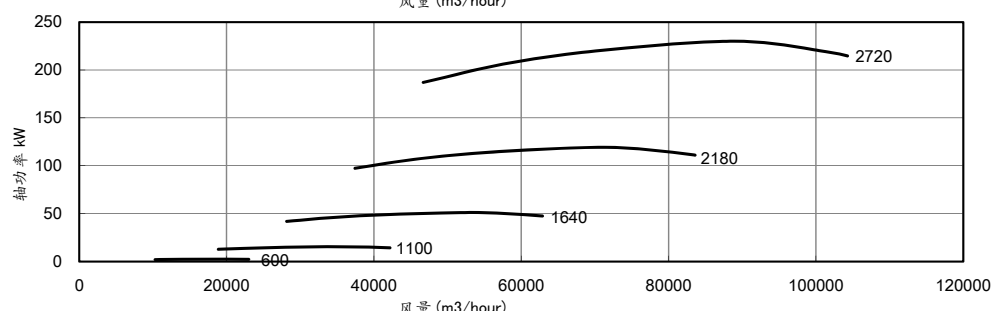
2. 各项性能额定值不包括附属物(附件)的影响。Performance ratings do not include the effects of appurtenances (accessories).

3. 所示值为安装类型 B: 自由入口, 管道出口的声功率级(入口 LwIA)。额定值不包括管道端部校正影响。所示 A 加权声音性能额定值已按 AMCA International 标准 301 计算。

Values shown are for inlet LwIA sound power levels for:

Installation Type B: free inlet, ducted outlet.

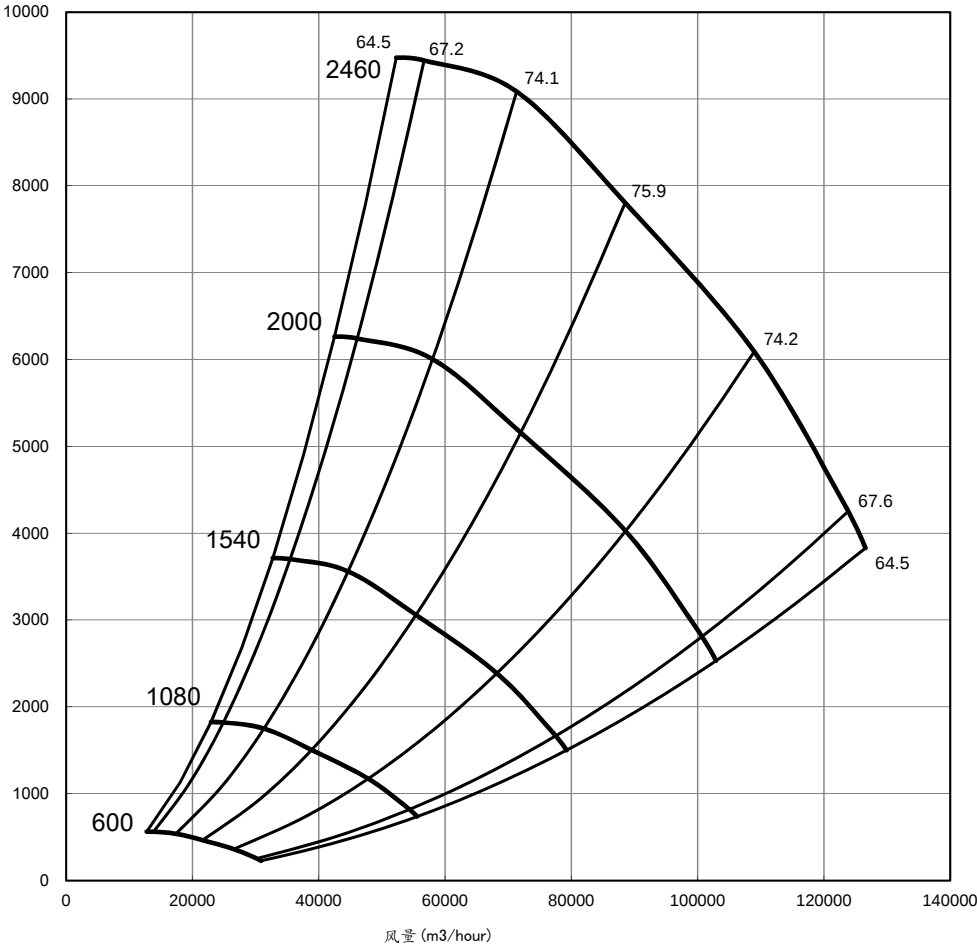
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.



BCLS 402

FEG80

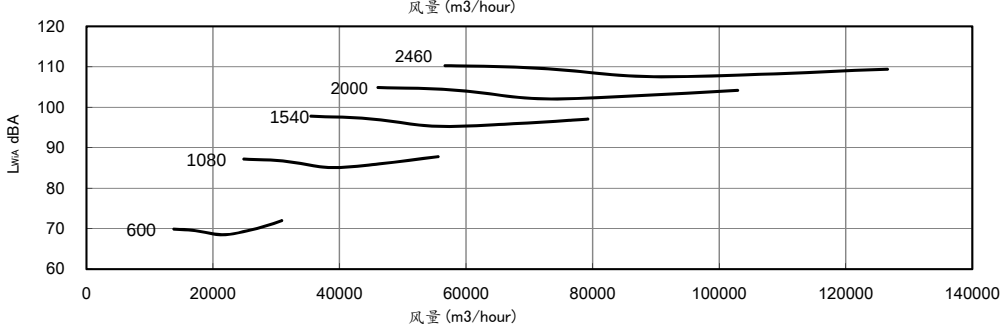
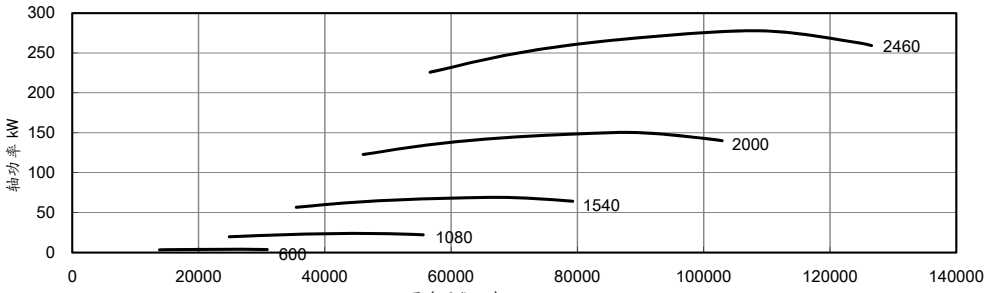
静压 Pst (Pa)



n max (rpm): 2467
Class IV: 2088<n<2467
Class III: 1802<n<2088
Class II: 1329<n<1802
Class I: n<1329

n (rpm)	u (m/s)
2460	131.6
2000	107.0
1540	82.4
1080	57.8
600	32.1

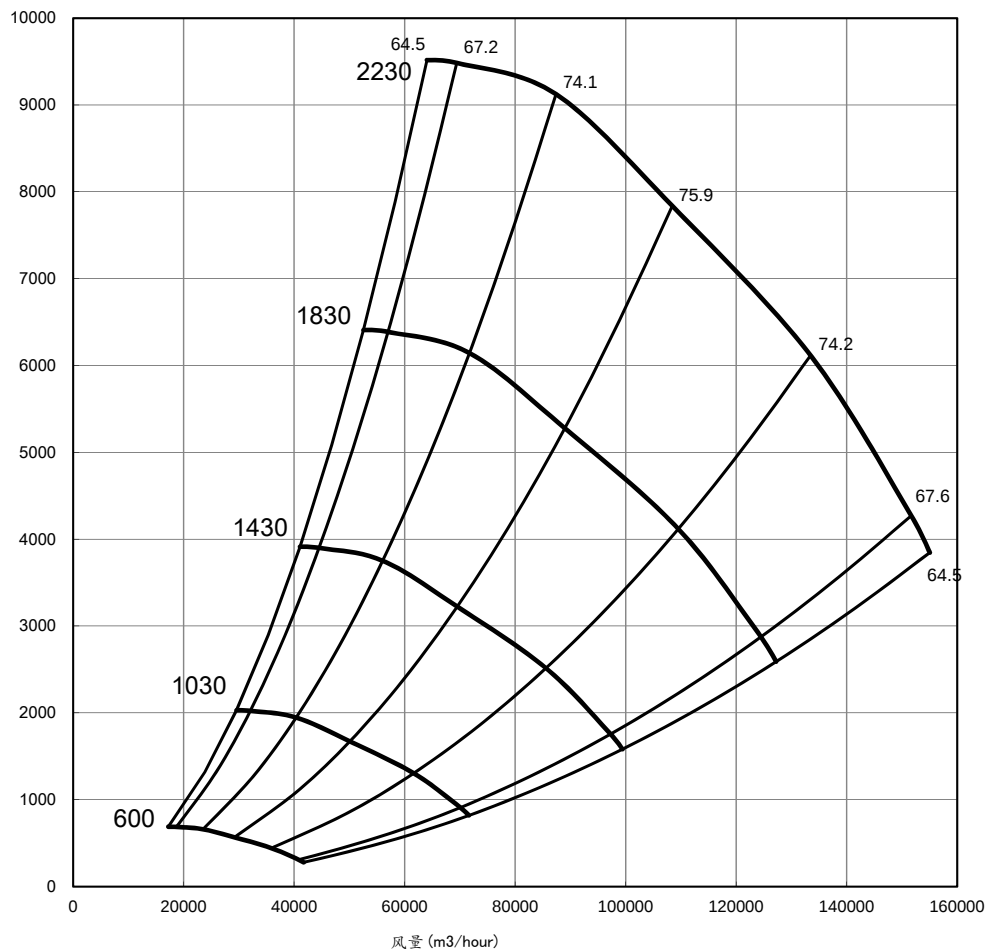
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BCLS 445

FEG80

静压 Pst (Pa)



n max (rpm): 2231

Class IV: 1888<n<2231

Class III: 1631<n<1888

Class II: 1202<n<1631

Class I: n<1202

n (rpm)	u (m/s)
2230	131.9
1830	108.3
1430	84.6
1030	60.9
600	35.5

1. 功率额定值不包括传输 (动) 损失。

Power rating does not include transmission losses.

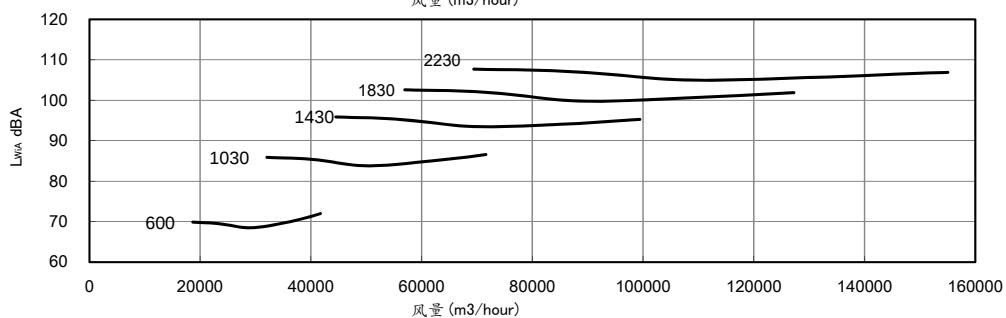
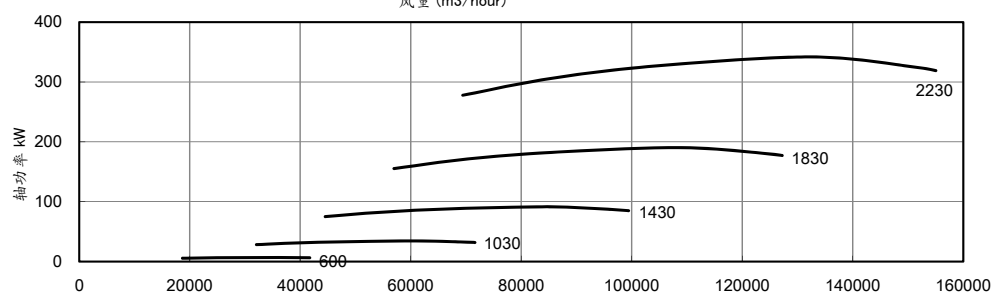
2. 各项性能额定值不包括附属物 (附件) 的影响。Performance ratings do not include the effects of appurtenances (accessories).

3. 所示值为安装类型 B: 自由入口, 管道出口的声功率级 (入口 LwIA)。额定值不包括管道端部校正影响。所示 A 加权声音性能额定值已按 AMCA International 标准 301 计算。

Values shown are for inlet LwIA sound power levels for:

Installation Type B: free inlet, ducted outlet.

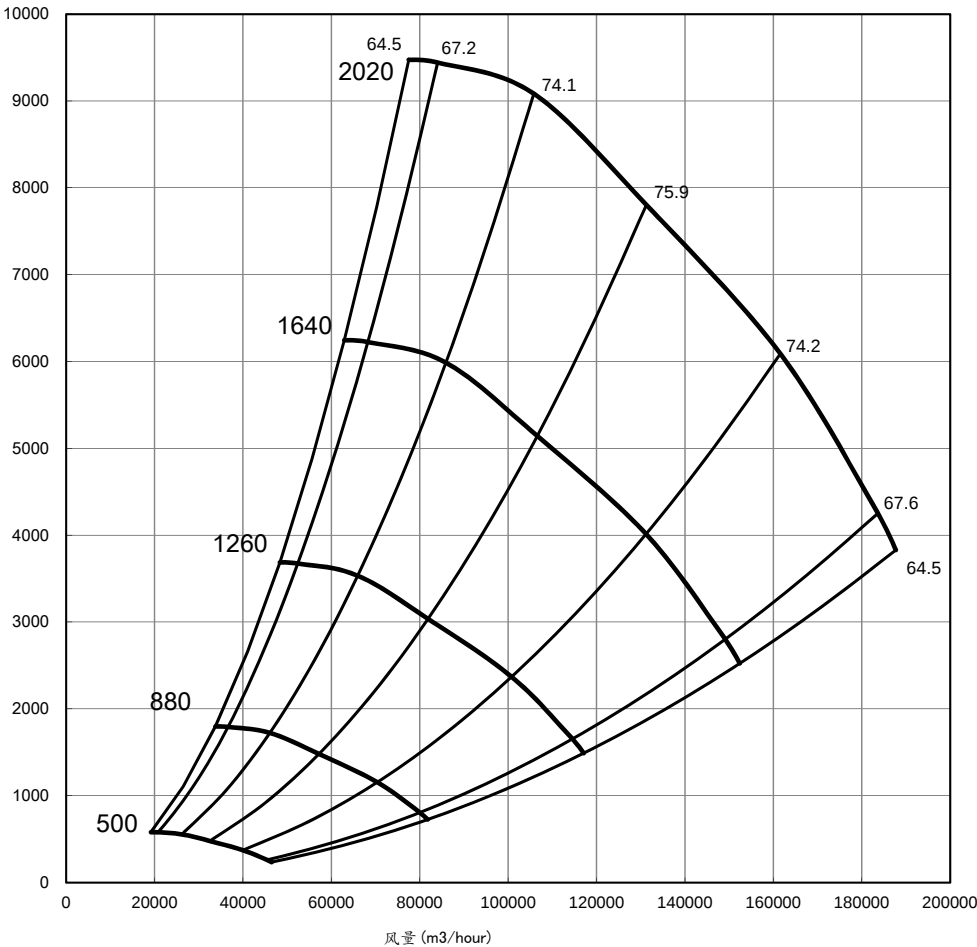
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.



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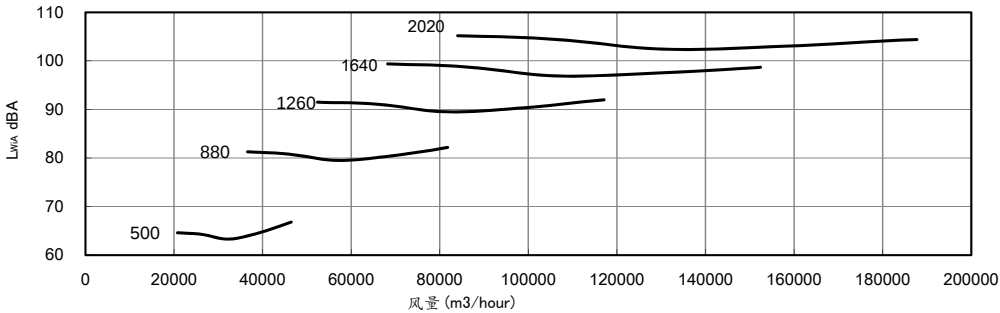
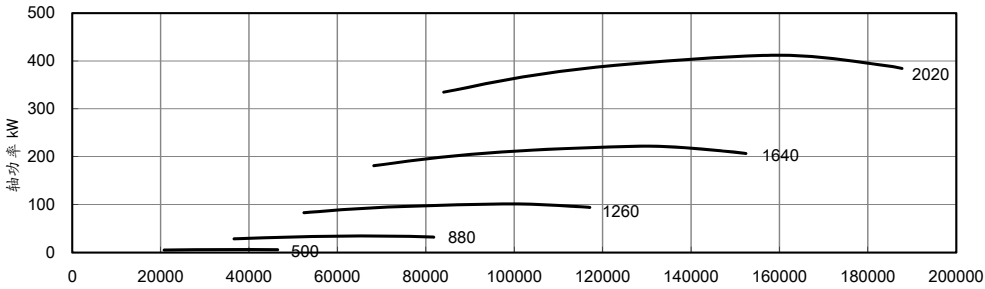
静压 Pst (Pa)



n max (rpm): 2027
Class IV: 1780<n<2027
Class III: 1481<n<1780
Class II: 1092<n<1481
Class I: n<1092

n (rpm)	u (m/s)
2020	131.7
1640	106.9
1260	82.1
880	57.4
500	32.6

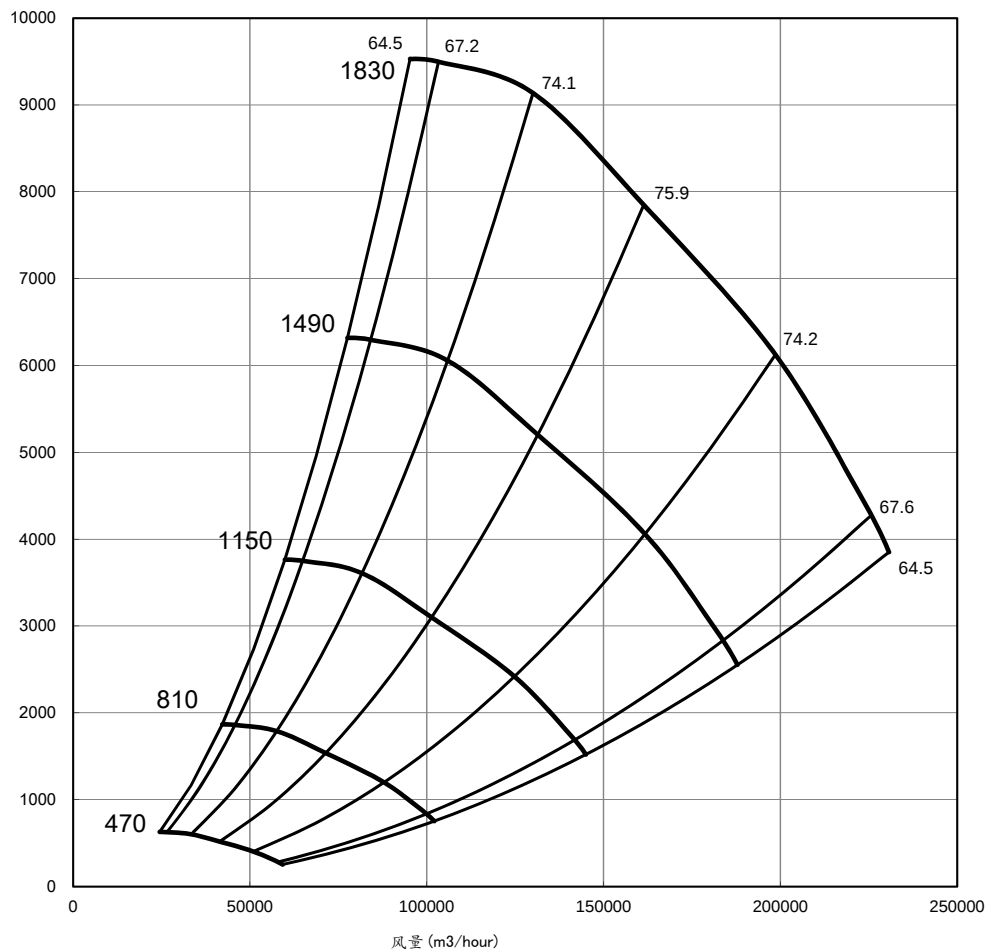
1. 功率额定值不包括传输 (动) 损失。
Power rating does not include transmission losses.
2. 各项性能额定值不包括附属物 (附件) 的影响。
Performance ratings do not include the effects of appurtenances (accessories).
3. 所示值为安装类型 B: 自由入口, 管道出口的声功率级 (入口 LwIA)。额定值不包括管道端部校正影响。
所示 A 加权声音性能额定值已按 AMCA International 标准 301 计算。
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Installation Type B: free inlet, ducted outlet.
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.



BCLS 542

FEG80

静压 Pst (Pa)



n max (rpm): 1831

Class IV: 1549<n<1831

Class III: 1338<n<1549

Class II: 986<n<1338

Class I: n<986

n (rpm)	u (m/s)
1830	132.0
1490	107.5
1150	83.0
810	58.4
470	33.9

1. 功率额定值不包括传输(动)损失。

Power rating does not include transmission losses.

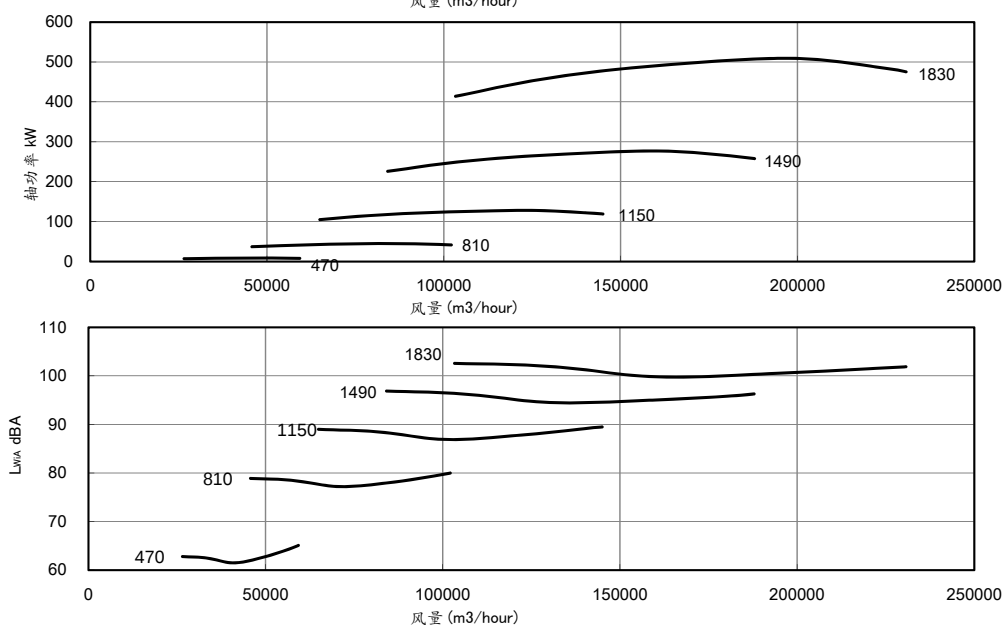
2. 各项性能额定值不包括附属物(附件)的影响。Performance ratings do not include the effects of appurtenances (accessories).

3. 所示值为安装类型 B: 自由入口, 管道出口的声功率级(入口 LwIA)。额定值不包括管道端部校正影响。所示 A 加权声音性能额定值已按 AMCA International 标准 301 计算。

Values shown are for inlet LwIA sound power levels for:

Installation Type B: free inlet, ducted outlet.

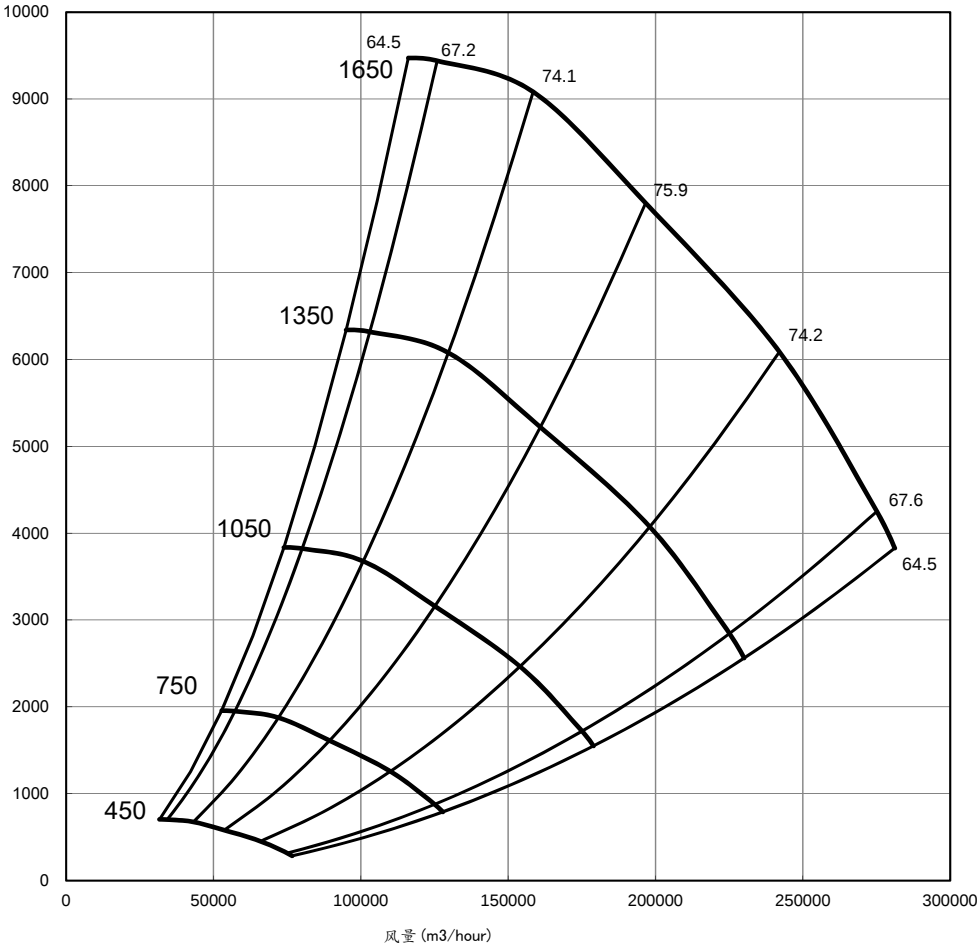
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.



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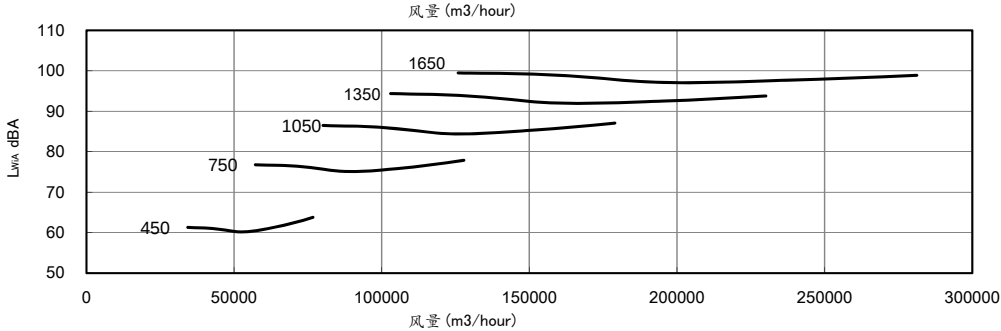
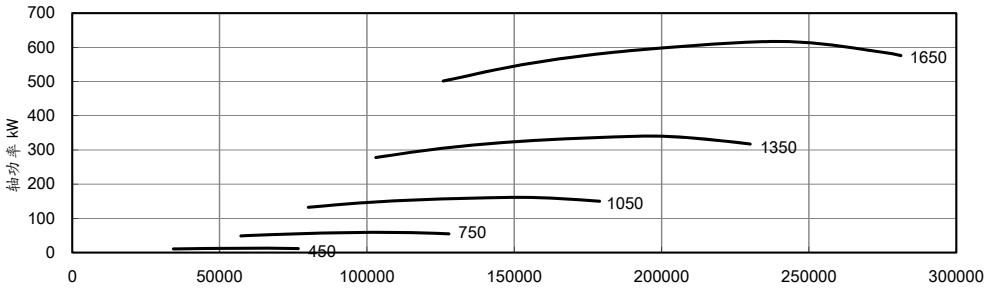
静压 Pst (Pa)



n max (rpm): 1655
Class IV: 1401<n<1655
Class III: 1082<n<1401
Class II: 891<n<1082
Class I: n<891

n (rpm)	u (m/s)
1650	131.7
1350	107.7
1050	83.8
750	59.8
450	35.9

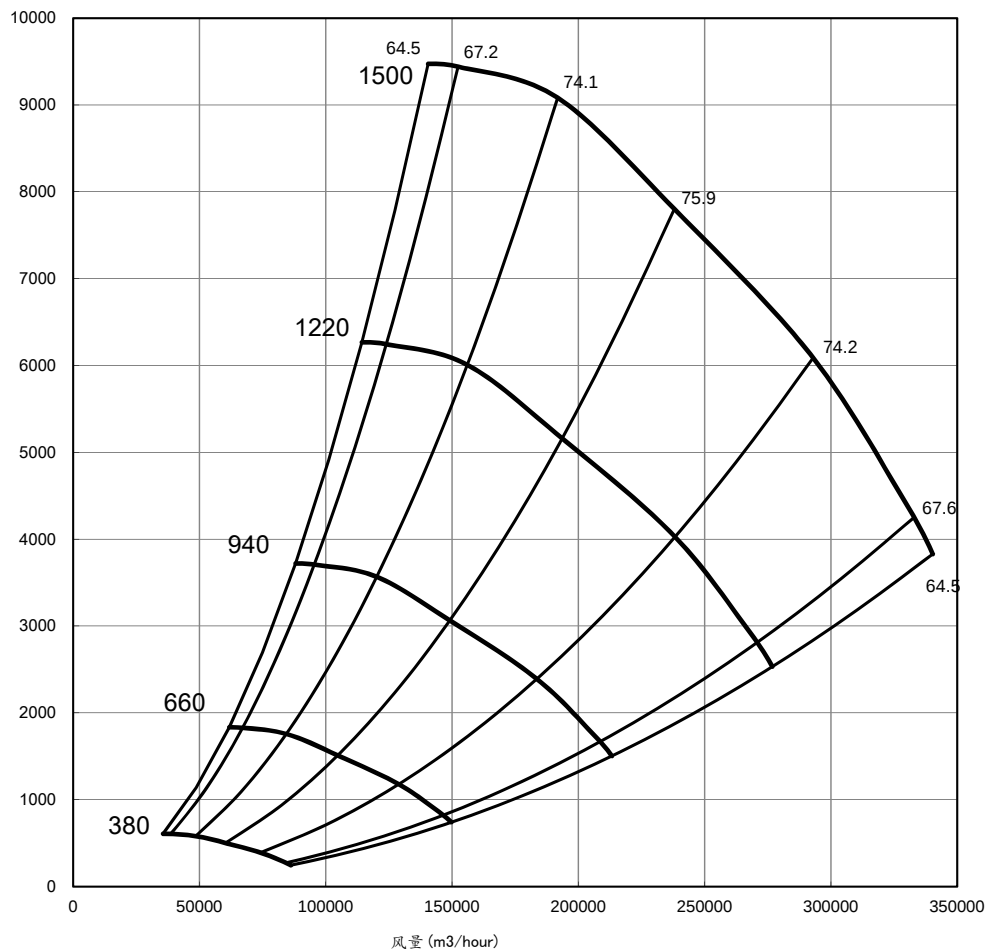
1. 功率额定值不包括传输(动)损失。
Power rating does not include transmission losses.
2. 各项性能额定值不包括附属物(附件)的影响。
Performance ratings do not include the effects of appurtenances (accessories).
3. 所示值为安装类型 B: 自由入口, 管道出口的声功率级(入口 LwIA)。额定值不包括管道端部校正影响。
所示 A 加权声音性能额定值已按 AMCA International 标准 301 计算。
Values shown are for inlet LwIA sound power levels for:
Installation Type B: free inlet, ducted outlet.
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.



BCLS 660

FEG80

静压 Pst (Pa)



n max (rpm): 1504

Class IV: 1273<n<1504

Class III: 984<n<1273

Class II: 810<n<984

Class I: n<810

n (rpm)	u (m/s)
1500	131.6
1220	107.1
940	82.5
660	57.9
380	33.3

1. 功率额定值不包括传输(动)损失。

Power rating does not include transmission losses.

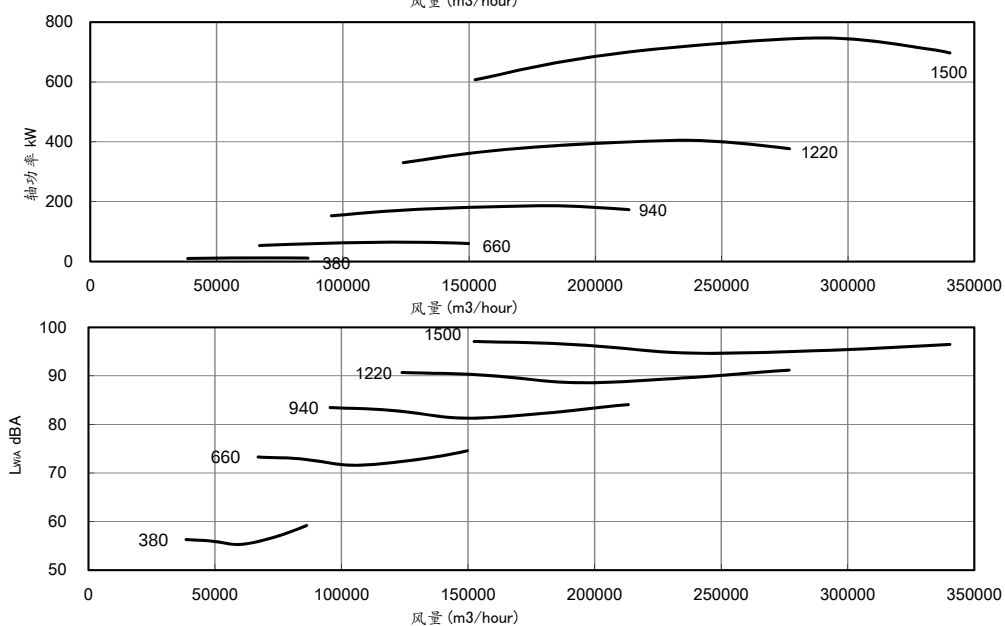
2. 各项性能额定值不包括附属物(附件)的影响。Performance ratings do not include the effects of appurtenances (accessories).

3. 所示值为安装类型 B: 自由入口, 管道出口的声功率级(入口 LwIA)。额定值不包括管道端部校正影响。所示 A 加权声音性能额定值已按 AMCA International 标准 301 计算。

Values shown are for inlet LwIA sound power levels for:

Installation Type B: free inlet, ducted outlet.

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.



Backward Curved Medium-Pressure Centrifugal Fans



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