

AND/B 可调叶片轴流风机 可作为标准风机，防爆风机和排烟风机

*AND/B AXIAL FLOW FANS with adjustable blades
as standard fans, explosion proof design and smoke fans*



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ETRI
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THE AIR MOVEMENT GROUP



担保的宗旨

客户负责风机选型、风机的安装和操作。根据有效条款 VII 段和购买条件，提供产品担保，不包括其他要求。

担保不适用于下列情况：

购买者或第三方的不恰当使用，装配或安装错误，正常磨损，违规操作，不正确的维护保养，不适宜的通风介质，错误安装，不适宜的底座，化学及电气的影响超出厂商责任范围。

如果在厂商交货时，产品存在质量问题，客户有权要求更换风机或其他部件。厂商也可以在合理的时间内修好产品，一有问题顾客应尽早通知厂商。

在保修期的维修与更换，可访问我们的网站或直接联系我们的子公司。

机械安全的信息

洛森伯格风机是符合EC评议会指令（机械，低电压，电磁兼容性和在ATEX指令下的潜在危险区），这种产品标有CE标签和一个制造商的合格声明。

风机的潜在危险评估和必要的技术安全措施是按照VDMA标准，图表编号24167：风机，安全性要求和相关的欧洲标准。

为满足欧共体的方针要求，在安装过程中使用的操作手册包含了其他的安全方面的考虑。

版本: 11/2009

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Warranty Guidelines

The customer is responsible for the project design, selection and operation of the fans. The supplier gives warranty for faulty products, excluding further claims, in accordance with paragraph VII of the valid terms and conditions of business.

Warranty will not given in the following instances:

Unfitted or inappropriate usage, incorrect mounting or faulty installation by the purchaser or a third party, normal wear and tear, incorrect or negligent handling, improper maintenance, unsuitable operating material, faulty installation, unsuitable ground and chemical, electrochemical or electrical influence - as long as they are not the responsibility of the supplier.

If the goods delivered from the manufacturer are faulty, the customer has the right to receive a replacement or replacement of the faulty parts up to the maximum value of the purchase price. The manufacturer also has the right to get the product repaired within a reasonable time period. The manufacturer must be informed immediately in the case of damage.

The obligation to replace additional faults is herewith excluded. Our general terms of business are the basis for all further agreements for example: time periods to repair or replace. The general terms of business are available on our website www.rosenberg.eu or direct from one of our sales representatives.

Information on Machine Safety

Rosenberg fans are in conformity with EC council directives (machinery, low voltage, electromagnetic compatibility and in potential hazardous areas with the ATEX directive). The products are marked with a CE label and delivered with a manufacturers declaration respectively a declaration of conformity.

The assessment of the potential dangers of the fan and the necessary technical safety measures are in accordance with VDMA standard, sheet number 24167: fans; Safety requirements and relevant harmonized European standards.

The operation manual contains additional safety precautions to be considered during installation to fulfil the requirements of the guidelines of the European Community.

Version: 11/2009

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轴流风机AND/ANDB

带可调叶片

技术描述

带可调叶片的轴流风机可覆盖一个较大的风量范围。通过中心轮毂，叶片数量和角度的变化，风机具有很大的可变性。洛森伯格的AND风机系列可以达到1,200的压力以及高达85.000 m³/h的风量。

所传输的空气介质的温度可以从-20 ° C到 +40 ° C（按照电机制造商的描述，同时根据需要，特殊电机可以达到100° C）。

带有标准法兰孔的外壳可以保证风机和风管系统的方便连接。

带有标准法兰孔的外壳可以保证风机和风管系统的方便连接。标准的气流方向是电机位于负压侧。若需要相反的气流方向，那么叶片的位置必须相反180°，并且电机的方向也必须更换。

风机适合水平和垂直安装。

若使用变频器允许，请见第四页中的图表。

外壳

风机的标准外壳是由热浸镀锌钢板制成，如果需要外壳可以喷塑。

外壳上可以设置一个维修孔。对于L型式，电机和叶片都可以覆盖到；对于K型式，电机不可覆盖到。

电机电缆穿过风机壳体，通过接线盒安装在壳体上。根据需要，接线盒也可以作为单独的部件，分开安装。另外，也可选配风机进风导风圈、防护网罩、带有两个法兰和其配对法兰的底脚以及减震器。

Axial fans AND/ANDB with adjustable blades

Technical description

Axial fans with adjustable blades cover a wide capacity range due to their large variation possibilities with hub relation, number of blades and blade angle. With the Rosenberg AND/ANDB series pressure increases up to 1.200 Pa and volumes up to 85.000 m³/h can be realized.

The allowed temperatures of the conveyed mediums are from -20 °C up to +40 °C as a standard (Follow description of motor manufacturer. Special motors for higher temperatures up to 100°C on request).

The casings with defined flange master-gauge for holes ensure an easy connection to the duct system.



型号Type: AND

The standard air flow direction is pressured over the motor. To reverse air flow direction blade position must be rotated 180° and the direction of motor rotation must be changed.

The fans are suitable for vertical and horizontal installation.

By operation with frequency converters please see the table on page 4.



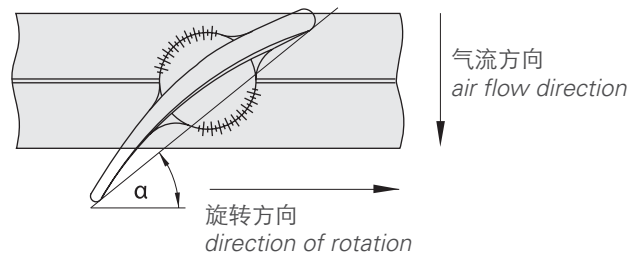
型号Type: ANDB

Casings

The casings are made of hot-dip galvanized steel as a standard. On request the casings can be supplied plastic-coated.

The casings can be equipped with a service access. In the long version L, the casing, the motor and the blades are covered. In the short version K, the motor juts out.

Motor cable with flying ends passing through the casing. A terminal box can be mounted or delivered as separate accessory on request. Also available are inlet cones and protection guards, mounting feet with two steel flanges as well as mating flanges, vibration dampers, adapted to the casing.



叶轮

根据DIN ISO 1940标准，我们轴流叶轮的平衡等级是G6.3。轮毂由铝合金冷铸而成，且由两部分组成并且包括方便叶轮拆除的拆卸装置。轮毂直径和叶片的数量详见第十页。叶片由铝合金铸造，叶片角度可调。若叶片角度在发运后需要调整，那么必须先确认电机是否会过载。在叶片角度调整后，叶轮必须重新平衡。叶片的角度是指叶尖的角度。根据运行状态点和性能范围的不同，叶片的数量是可以变化的

Impellers

The axial impellers are balanced on quality level G 6,3 according to DIN ISO 1940. The hubs of chilled casting aluminium are made in two parts and have removal drillings for easy dismantling of the impeller. Diameter of hub and number of blades see page 10. The profiled blades are made of aluminium diecast, in standstill the blade angles are adjustable. If the blade angle is adjusted after delivery the power requirement must be checked for overload of the motor. The impeller has to be balanced after blade adjustment. The blade angle α is measured on the wing tip. The number of blades is variable, which expands the performance range and allows any operating point.

电机

三相交流异步标准电机，安装方式B3，防护等级IP55，绝缘等级F。2，4，6，8级电机较为常用。变速电机，调压电机，变频电机，单相直流电机以及高温电机可以根据要求提供。



Motors

3-phase IEC standard motors of type B3 with protection class IP 55, insulation class F in 2-, 4-, 6- or 8 pole execution are used. Pole-changable, voltage-controllable, inverter motors and single phase A.C. motors or motors for higher airflow temperatures are available on request.

安全保护

此风机是被设计在一个通风系统中，其标准配置是不包括防护网罩。根据EN 12100-1 / -2，使用者必须在初次使用前确保所有的安全防护。

Safety protection

The fans are designed for installation in a ventilation system and therefore supplied without protection guard as a standard. The user has to make sure before initial operation that safety protection is ensured according to EN 12100-1 / -2.

特殊设计

- 检修孔

有了检修孔可以方便已安装风机的日常清理和维护。需要注意的是在安装过程中，检修孔可以被打开。

- 防爆

AND / ANDB轴流风机可以设计成防爆型式，其最大轴功率为15kW,最大线速度为62 m/s (AND-Ex) 和 79 m/s (ANDB-Ex)。



这款防爆风机可以满足ATEX标准II 2G c IIB T3 X（适用于区域1和2）的要求。在叶轮中会嵌入一个铜头。

由于防爆风机叶尖和外壳间的巨大的间隙，在选型的时候必须要考虑额外的功率损失（5%的风量损失和15%的压力损失）。

在使用变频器的情况下，必须遵照以下的最大速度

Special design:

- with service access

The service access makes it possible to gain access for cleaning and maintenance on the installed fan. During installation take care that service access can be opened.

- explosion proof

Axial fans type AND / ANDB are also available as explosion proof versions. The maximum shaft power is limited on 15 kW. The maximum peripheral speed is limited on 62 m/s (AND-Ex) and 79 m/s (ANDB-Ex).

The explosion proof fans are available according ATEX with the marking II 2G c IIB T3 X. They are suitable for use in and for conveying of zone 1 and 2. In the area of the impeller a copper head is inserted.

Due to the larger annular gap of explosion proof fans a power loss (5% in volume flow and 15% in pressure) must be taken into consideration during selection.

By using frequency converters the following maximum speed has to be observed:

尺寸 size	AND (75 m/s)	ANDB (95 m/s)	AND-Ex (62 m/s)	ANDB-Ex (79 m/s)
315	4.547 ⁽¹⁾	-	3.759 ⁽¹⁾	-
400	3.581 ⁽¹⁾	-	2.960 ⁽¹⁾	-
500	2.950 ⁽¹⁾	-	2.368 ⁽²⁾	-
560	-	3.240 ⁽¹⁾	-	2.694 ⁽²⁾
630	2.274 ⁽²⁾	2.880 ⁽¹⁾	1.880 ⁽²⁾	2.395 ⁽²⁾
710	2.017 ⁽²⁾	2.555 ⁽²⁾	1.668 ⁽²⁾	2.125 ⁽²⁾
800	-	2.268 ⁽²⁾	-	1.886 ⁽²⁾
900	-	2.016 ⁽²⁾	-	1.676 ⁽²⁾
1000	-	1.814 ⁽²⁾	-	1.509 ⁽²⁾

(1) 最适合2级电机 best suited motors 2-pole

(2) 最适合4级电机 best suited motors 4-pole

防爆电机也可以使用变频器。防爆电机比普通电机大，必须确认安装尺寸。

Flameproof enclosure motors are obliged by using frequency converters. The flameproof enclosure motors are bigger, therefore dimensions have to be checked.

- 排烟风机

带有宽叶片和排烟电机的型号为ANBB的轴流风机是可以作为排烟风机使用。风机按照EN 12101-3进行认证：

- Smoke fans

Axial fans with wide impellers and exhaust motors are available as type ANBB on request. The fans are certified according to EN 12101-3 and are available in:

F300 (尺寸 315-1600)
F400 (尺寸 400-1250)

F300 (size 315-1600)
F400 (size 400-1250)

附件

(镀锌 = 标准, 喷塑和不锈钢按需提供)

铁制底脚, 镀锌或喷塑

底脚保证高稳定性和能在任何位置安装。



Feet made of steel, galvanized or plastic-coated

The feet guarantee high stability and easy installation in any position.

减震器

减震器确保风机平滑地运行并且可以方便地安装在底脚上。风机必须竖直安装在其底脚上。



Vibration dampers

Vibration dampers assure smooth running and can easily be fixed to the feet. The fan must be mounted upright on its feet.

带有2个热浸镀锌铁法兰圈的软接头

使用了软接头, 风机的振动不会传递到风管系统



Flexible connection with 2 steel flange rings hot-dip-galvanized

Utilising flexible connections, vibrations will not be transmitted from the fan to the duct system.

热浸镀锌铁法兰圈

用于方便地安装软接头, 风管消声器或其他部件



Flange ring made of hot-dip galvanized steel

For easy installation of flexible connections, duct sound attenuators or similar.

进风导风圈, 镀锌

带有或不带防护网罩 (在选型时请扣除防护网罩的5%额外压损), 可将气流自由地带入房间或箱体。



Inlet cone, galvanized

With or without protection guard (during selection please deduct 5% pressure losses due to protection guard pressure drop). For free intake from rooms and chambers.

防护网罩, 镀锌

(在选型时请扣除防护网罩的5%额外压损)。根据 EN 13857防护网罩可以阻止人员接触到运行的叶轮。

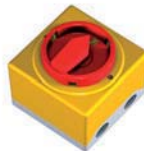


Protection guard, galvanized

(During selection please deduct 5% pressure losses due to protection guard pressure drop). The protection guard according to EN 13857 prevents reaching into running impellers.

On / Off 开关

风机马达和主电源间的切断器



On / Off-switch

The service isolator disconnects the fan from mains supply.

外部接线盒

外部接线盒提供快速、方便连接。根据要求, 电机会在装运前完成接线。

External terminal box on request

The external terminal box provides quick and easy connection. On request the motor is wired to terminal box before delivery.

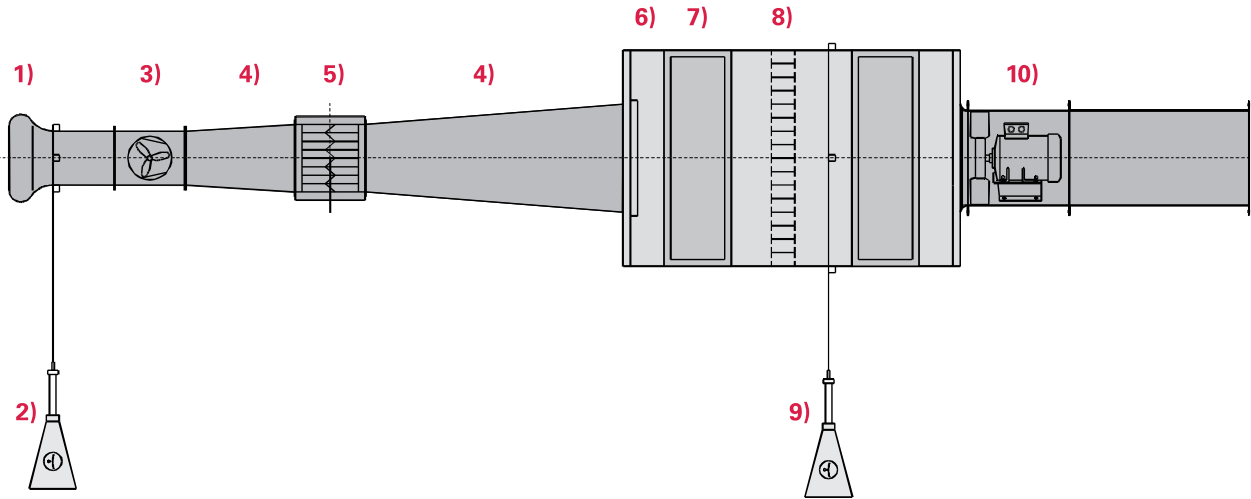
性能曲线测试方法

性能曲线是按照DIN 24163中第一部分位置B中的规定，利用如下图所示的进风测试法得到的。本样本中所示的静压增长和动压（单位帕斯卡）是根据气流（m³/h）公式计算出来的。这个性能曲线在空气密度为1,2 kg/m³，温度20° C时有效。

Measuring method for performance curves

Performance curves were made in accordance to DIN 24163 part 1 in mounting position B, using the inlet method in the test chamber as shown below. The performance curves in this catalogue show the static pressure increase and the dynamic pressure in Pascal (Pa) as a function of the air flow in m³/h. The performance curves are valid for air with a density of 1,2 kg/m³ with a temperature of 20 °C.

Inlet test chamber as per DIN 24163:



- 1) 导流口 inlet cone
- 2) 压力测量点 pressure measurement point
- 3) 辅助风机 auxiliary fan
- 4) 过渡段 transition piece
- 5) 流量控制阀 reducing damper

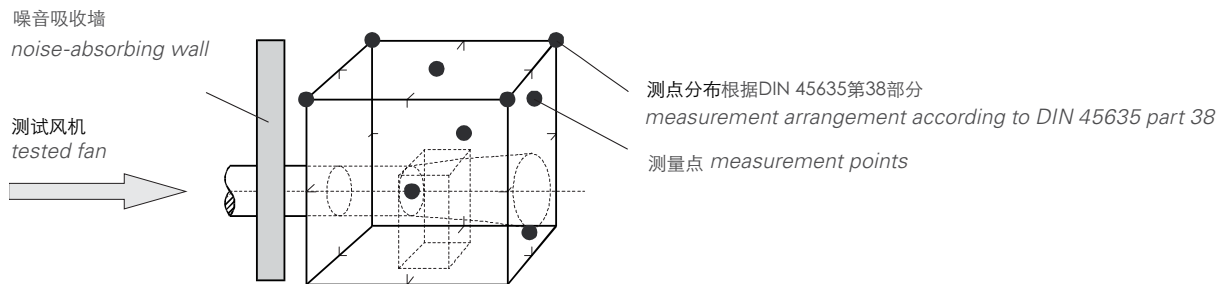
- 6) 屏栅 screens
- 7) 带风门测试室 measuring chamber
- 8) 整流板 straightener
- 9) 压力计 Δp_{fa} pressure manometer Δp_{fa}
- 10) 测试风机 tested fan

噪音测试

噪音说明是根据DIN 45635第38部分以及VDI 3731做出的。对于每一叶片角度的出风口A声功率级 L_{WA6} 用dB(A)来表示。结果可以在性能曲线下方的表格中找到。根据DIN 45635第38部分表格e，出风口A声功率级 L_{WA6} 的测量方法是如下图所示在一个带有一块反射板的低反射的噪音测试室内进行的。

Noise level measurements

Noise specifications are in accordance to DIN 45635 Part 38 resp. VDI 3731. For each blade angle the A-weighted outlet sound power level L_{WA6} is mentioned in dB(A). The results please find in the tables below the performance curves. The measuring method for the A-weighted sound power level at the outlet side L_{WA6} according to DIN 45635, Part 38, graticule e, in a low-reflection sound measurement chamber with one reflecting plane is shown below:



在低反射装置中距离出风口1m距离的声压级可以遵循出风口1m处的声功率级减少11dB的原则。从距离1m到距离a的声压级可以遵循： $L_p = 10 * \log(1/a)$ 。请注意：反射和房间的特性以及自然频率都会对不同声压级的值造成影响。假设 $L_{W5} \approx L_{W6}$ 同时 $L_{WA5} \approx L_{WA6}$ ，那么出口处的声学值也可以用于风机入口处(L_{W5} =入口处声功率级)。

The sound pressure level at the outlet side in 1 m distance in low reflexion installation can be obtained by deducting of 11 dB from the sound power level at the outlet side. The sound pressure difference from distance 1 m to distance a is obtained as follows: $\Delta L_p = 10 * \log(1/a)$. Please note that reflections and room characteristics as well as natural frequencies influence the size of the sound pressure level differently. Assuming that $L_{W5} \approx L_{W6}$ resp. $L_{WA5} \approx L_{WA6}$ the acoustic values of the outlet side can be used for the inlet side of the fans as well (L_{W5} = sound power level of inlet side).

当声功率频谱被用来设计消声器时，在特定的八阶中频A倍频带声功率 L_{WAOkt} 可以通过相对声功率级 L_{Wrel} 的减法计算得到：

If the sound power frequency spectrum is needed e.g. for design of sound attenuators the A-rated octave sound power levels at particular octave medium frequencies L_{WAOkt} can be calculated by subtracting the relative sound power level L_{Wrel} ..

$$L_{WAOkt} = L_{WA} - L_{Wrel}$$

AND声功率频谱 *Sound power frequency spectrum AND*

尺寸 size	fm	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
315	L_{Wrel} [dB]	-13	-8	-6	-5	-6	-9	-11
400	L_{Wrel} [dB]	-13	-7	-6	-5	-6	-9	-12
500	L_{Wrel} [dB]	-10	-6	-6	-5	-6	-9	-12
630	L_{Wrel} [dB]	-7	-3	-4	-4	-8	-10	-18
710	L_{Wrel} [dB]	-5	-4	-4	-4	-8	-10	-16

ANDB声功率频谱 *Sound power frequency spectrum ANDB*

尺寸 叶片数量 size blades	fm	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
560/630 3	L_{Wrel} [dB]	-4	-5	-4	-5	-7	-9	-13
560/630 6	L_{Wrel} [dB]	-5	-4	-4	-4	-8	-10	-16
560/630 9	L_{Wrel} [dB]	-6	-6	-3	-4	-8	-11	-17
710/800 3	L_{Wrel} [dB]	-9	-1	-2	-5	-8	-11	-14
710/800 6	L_{Wrel} [dB]	-6	-2	-3	-5	-8	-10	-15
710/800 9	L_{Wrel} [dB]	-7	-3	-4	-4	-8	-10	-18
900/1000 5	L_{Wrel} [dB]	-5	-4	-3	-4	-8	-12	-18
900/1000 10	L_{Wrel} [dB]	-4	-3	-3	-4	-8	-13	-20

风机运行时流量法则

Fluid flow rules of operation for fans

当风机大小不变，空气密度不变时，转速变化时：

Speed variation at constant fan size and constant density:

流量和转速成正比

$$\frac{\dot{V}_1}{\dot{V}_2} = \frac{n_1}{n_2}$$

The volume flow changes proportional to speed

所有压力（静压、动压和全压）与转速的平方成正比。

$$\frac{p_1}{p_2} = \left(\frac{n_1}{n_2}\right)^2 = \left(\frac{\dot{V}_1}{\dot{V}_2}\right)^2$$

All pressures (static, dynamic and total) change square of the speed

所需功率与转速的三次方成正比。

$$\frac{P_1}{P_2} = \left(\frac{n_1}{n_2}\right)^3 = \left(\frac{\dot{V}_1}{\dot{V}_2}\right)^3$$

The power requirement changes cube to the speed.

当转速不变时，空气密度变化时（或介质密度不变，开尔文温度变化时）：

Changes in the density at constant speed (or change of the Kelvin temperature at a constant flow medium):

体积流量不受影响

$$\dot{V} = \text{const.}$$

The volume flow is not affected

所有压力（静压、动压和全压）与密度成正比，与开尔文温度成反比。

$$\frac{p_1}{p_2} = \frac{\rho_1}{\rho_2} = \frac{T_2}{T_1}$$

All pressures change proportionately to the density*

所需功率与密度成正比，与开尔文温度成反比。

$$\frac{P_1}{P_2} = \frac{\rho_1}{\rho_2} = \frac{T_2}{T_1}$$

The power requirement changes proportionately to the density

$$* T_1 = T_0 + t_1 = 273,15 \text{ K} + t_1$$

$$T_2 = T_0 + t_2 = 273,15 \text{ K} + t_2$$

转速不变，风机叶轮尺寸改变时：

In the case of changes in the wheel diameter of geometrically similar wheels at constant speed:

流量与叶轮直径的三次方成正比。

$$\frac{\dot{V}_1}{\dot{V}_2} = \left(\frac{D_1}{D_2}\right)^3$$

The volume flow changes cube to the wheel diameter

所有压力（静压、动压和全压）与叶轮直径的平方成正比。

$$\frac{p_1}{p_2} = \left(\frac{D_1}{D_2}\right)^2$$

All pressures (static, dynamic and total) change proportionately to the square of the wheel diameter

所需功率与叶轮直径的五次方成正比。

$$\frac{P_1}{P_2} = \left(\frac{D_1}{D_2}\right)^5$$

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

流量单位 Volume flow units

单位 unit	单位名称 name of the unit	m ³ /s	m ³ /min	m ³ /h	l/h	l/s	ft ³ /s cu.ft/s	ft ³ /min cu.ft/min	gal/min (UK)	gal/min (US)
1 m ³ /s	立方米/每秒 cubic meter/second	1	60	3600	3.6*10 ⁶	1000	35.31	2118.8	1.32*10 ⁴	1.587*10 ⁴
1 m ³ /min	立方米/每分钟 cubic meter/minute	0.01667	1	60	6.0*10 ⁴	16.667	0.5885	35.31	220	260
1 m ³ /h	立方米/每小时 cubic meter/hour	2.778*10 ⁻⁴	0.01667	1	1000	0.2778	9.808*10 ⁻³	0.5886	3.667	4.403
1 l/h = 1 dm ³ /h	升/每小时 liter/hour	2.778*10 ⁻⁷	1.667*10 ⁻⁵	0.001	1	2.778*10 ⁻⁴	9.808*10 ⁻⁶	5.886*10 ⁻⁴	3.667*10 ⁻³	4.403*10 ⁻³
1 l/s = 1 dm ³ /s	升/每秒 liter/second	0.001	0.05999	3.5	3600	1	3.531*10 ⁻²	2.1188	13.198	15.8502
1 cu.ft/s	立方英尺/秒 cubicfoot/second	2.932*10 ⁻²	1.6992	102	1.02*10 ⁵	28.3179	1	60	373.9	448.9
1 cu.ft/min	立方英尺/分 cubicfoot/minute	4.179*10 ⁻⁴	2.832*10 ⁻²	1.70	1.70*10 ³	0.47197	1.667*10 ⁻²	1	6.229	7.480
1 gal/min (UK)	加仑/分钟 (英国) gallon/minute	7.577*10 ⁻⁵	4.546*10 ⁻³	2.728*10 ⁻¹	272.8	0.07577	2.675*10 ⁻³	0.1605	1	1.201
1 gal/min (US)	加仑/分钟 (美国) gallon/minute	6.302*10 ⁻⁵	3.846*10 ⁻³	2.271*10 ⁻¹	227.1	0.06309	2.227*10 ⁻³	0.1336	0.8328	1

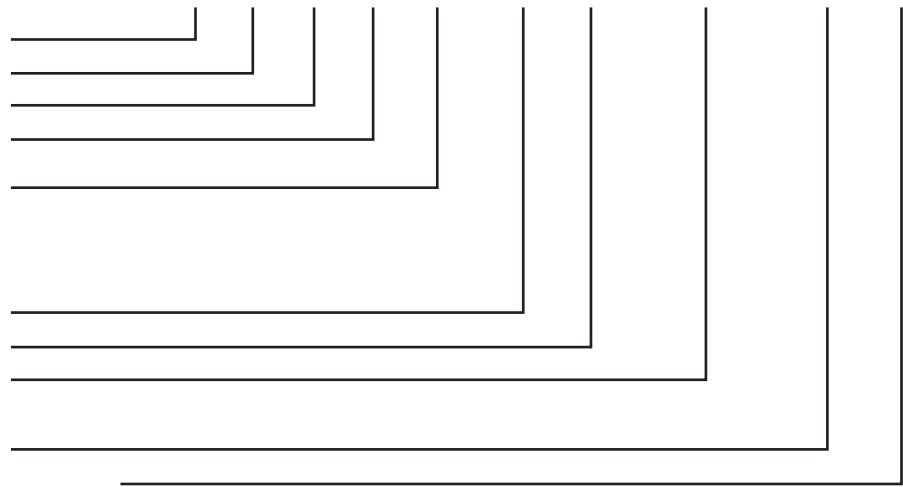
压力单位 Pressure units

单位 unit	单位名称 name of the unit	Pa = N/m ²	bar	mbar	kp/m ² = mmWS	kp/cm ² = at	atm	Torr = mm Hg	lbf/in ²	lbf/ft ²	in Hg
1 Pa = 1N/m ²	帕斯卡 pascal	1	0.00001	0.01	0.10197	0.00001	-	0.0075	0.00014	0.02089	0.000295
1 bar	巴 bar	100000	1	1000	10197.2	1.01972	0.98692	750.062	14.5037	2088.54	29.53
1 mbar	毫巴 millibar	100	0.001	1	10.197	0.00102	0.000987	0.750	0.01450	2.08854	0.02953
1 kp/m ² =1mmWS	毫米水柱 mm column of water	9.80665	-	0.09807	1	0.0001	-	0.07356	0.00142	0.20482	0.0029
1 kp/cm ² = 1at	工业大气压 technical atmosphere	98066.5	0.98067	980.66	10000	1	0.96784	735.559	14.2233	2048.16	28.959
1 atm	物理大气压 physical atmosphere	101325	1.01325	1013.25	10332.3	1.03323	1	760	14.696	2116.22	29.9213
1 torr = 1mmHg	毫米汞柱 mm column of mercury	133.322	0.00133	1.3332	13.5951	0.00136	0.00132	1	0.01934	2.78449	0.03937
1 lbf/in ²	磅每平方英寸 pound-force per sqare inch	6894.76	0.06895	68.9476	703.07	0.07031	0.06805	51.7149	1	144	2.03602
1 lbf/ft ²	磅每平方英尺 pound-force per sqare foot	478803	0.00048	0.47880	4.88243	0.00048	0.00047	0.35913	0.00694	1	0.01414
1 in Hg	英寸汞柱 inch column of mercury	3386.39	0.03386	33.8639	345.316	0.03453	0.03342	25.4	0.49115	70.7262	1
1 in H ₂ O	英寸水柱 inch column of water	249	0.00249	2.4909	25.4	0.00254	-	1.8684	0.0315	5.2024	0.07366

产品编码 *Type Code*

R
L
V
A N D B - K - 560 / 6 - 112 M/4 - 20 - A

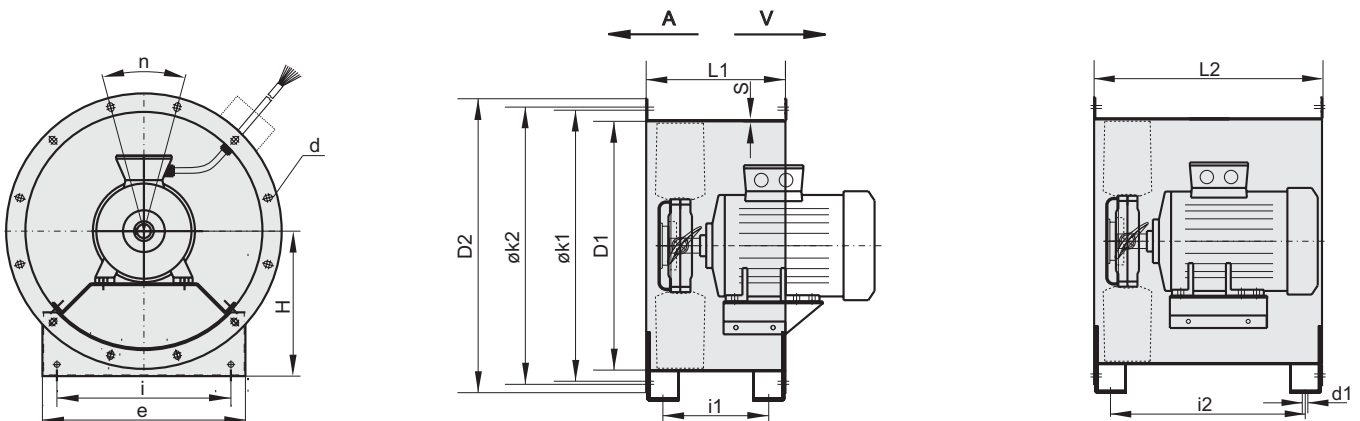
- A 轴流风机 / axial fan
- N 标准电机 / standard motor
- D 三相 / three phase
- B 宽叶形 / wide profile
- K 短筒体 / short
- L 长筒体 / long
- R 长筒体带检修门 / long with service access
- 尺寸 / size
- 叶片数量 / number of blades
- 电机尺寸 / 级数 / motor size / number of poles
- 叶片角度 / blade angle
- 气流方向 / air flow direction



- V 顺电机方向吹入 / blowing over motor
- A 顺电机方向吸入 / sucking over motor

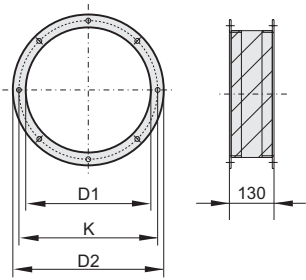
尺寸 <i>size</i>	叶片 <i>blades</i>		叶片 <i>blades</i>	
	AND / AND-Ex	轮毂 <i>hub</i>	ANDB / ANDB-Ex	轮毂 <i>hub</i>
315	5/10	150	-	-
400	5/10	150	-	-
500	5/10 / 7/14	150 / 250	-	-
560	-	-	3/6/9	200
630	5/10 / 7/14	150 / 250	3/6/9	200
710	5/10 / 7/14	150 / 250	3/6/9	250
800	-	-	3/6/9	250
900	-	-	5/10	300
1000	-	-	5/10	300

尺寸 <i>size</i>	D1	D2	Mot.	L1	L2	Ø k1	Ø k2	n	d	H	s	e	i	i1	i2	d1
315	317	385	063-080	-	280	356	366	8x45°	17x12	230	2	300	250	-	226	9
400	402	475	063-090	225	375	438	448	12x30°	17x12	250	2	350	300	171	321	9
500	504	575	071-112	250	450	541	551	12x30°	17x12	315	2,5	438	360	195	395	12
560	562	655	071-160	350	650	605	625	16x22,5°	22x14	345	3	480	400	284	584	14
630	632	725	080-160	350	650	674	694	16x22,5°	22x14	400	3	530	462	284	584	14
710	711	805	080-132	350	540	755	775	16x22,5°	22x14	450	3	670	546	234	474	14
800	797	890	080-160	350	650	841	861	24x15°	22x14	500	3	760	610	274	574	14
900	894	1004	080-160	300	700	-	958	24x15°	14	580	4	900	830	212	612	14
1000	1003	1105	090-180	350	780	-	1067	24x15°	14	630	4	990	930	262	692	14

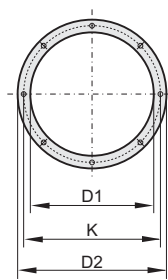


附件 Accessories

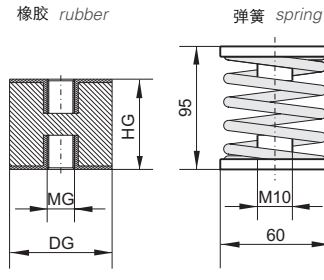
法兰圈 Flange ring



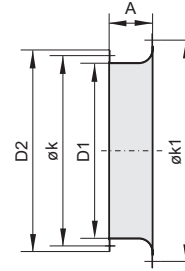
软接头 Flexible duct



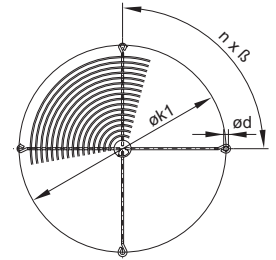
减震器 Vibration damper



进风导风圈 Cone



防护网罩 Protection guard



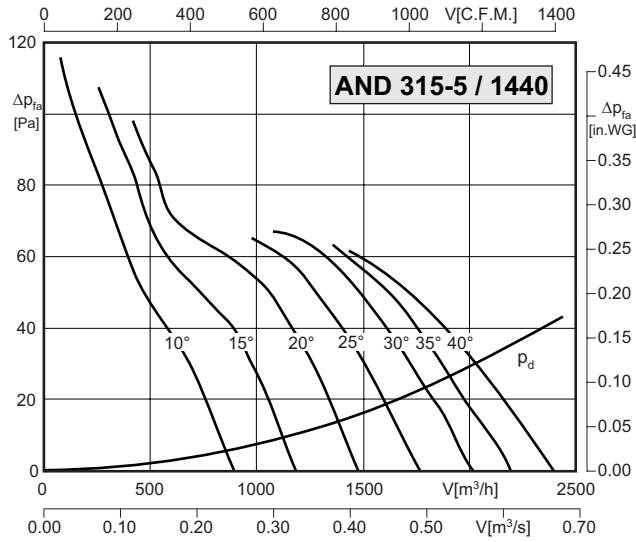
型号 Type	A	D1	D2	D3	DG	HG	K	K1	d	n	MG	nxB
315	82	317	385	420	30	20	356	395	9	8	M8	4x90
400	100	403	464	510	30	20	438	490	11,5	12	M8	4x90
500	120	504	571	630	30	20	541	605	11,5	12	M8	8x45
560	140	562	635	700	50	50	605	674	11,5	16	M10	8x45
630	150	632	705	784	50	50	674	755	11,5	16	M10	8x45
710	170	711	780	870	50	50	755	841	11,5	16	M10	8x45
800	195	797	870	965	50	50	841	934	11,5	24	M10	8x45
900	250	894	1004	1015	50	50	958	958	11,5	24	M10	8x45
1000	250	1003	1105	1115	50	50	1067	1067	11,5	24	M10	8x45

所有尺寸均为 (mm) all dimensions in [mm]

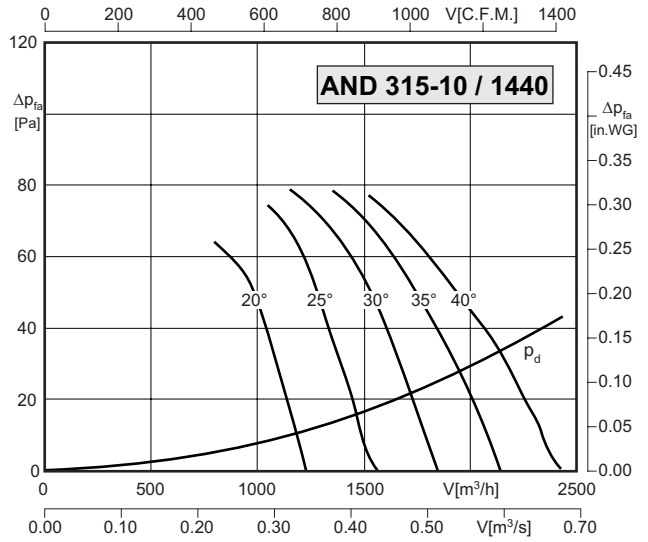
附件 Accessories	风机尺寸 fan size									
	315	400	500	560	630	710	800	900	1000	
法兰圈 ⁽¹⁾ Flange ring ⁽¹⁾	I01-31511	I01-40011	I01-50011	I01-56011	I01-63011	I01-71011	I01-80011	I01-90011	I01-10012	
软接头 Flexible joint	I20-31513	I20-40013	I20-50013	I20-56013	I20-63013	I20-711013	I20-80013	I20-90013	I20-10013	
软接头 (防爆) Flexible joint (Ex)	I20-31514	I20-40014	I20-50014	I20-56014	I20-63014	I20-711014	I20-80014	I20-90014	I20-10014	
外壳防护网罩 ⁽¹⁾ Protection guard for casing ⁽¹⁾	P25-31522	P21-40001	P21-50001	P21-56003	P21-63003	P21-71000	P21-80000	P21-90002	P21-10002	
进风导风圈 ⁽¹⁾ Inlet cone ⁽¹⁾	K71-31530	K71-40030	K71-50030	K71-56030	K71-63030	K71-71030	K71-80030	K71-90030	K71-10030	
导风圈防护网罩 ⁽¹⁾ Protection guard for cone ⁽¹⁾	P25-35522	P21-45002	P21-56003	P21-63003	P21-71000	P21-80000	P21-90001	P21-90002	P21-10002	
底脚 ⁽¹⁾ Angle feet (set) ⁽¹⁾	I41-31535	I41-40035	I41-50035	I41-56035	I41-63035	I41-71035	I41-80035	I41-90035	I41-10035	
接线盒 - 铝制 (标准) Terminal Box - Aluminium (standard)	W21 - 00133 和 W21 - 00134 根据电机尺寸 W21-00133 and W21-00134 depending on size of motor 按照需要配防爆接线盒 Explosion proof terminal box on request									
减震器 (套) ⁽¹⁾ Vibration damper (set) ⁽¹⁾	X01-30010					X01-30013				
弹簧 ⁽¹⁾ Spring ⁽¹⁾	按照需要 (根据电机尺寸) on request (depends on motor)									
开关 on/off-switch	型号 Type	电压 Voltage	功率 Power	标准 standard 编号 Art.-No.			防爆 Ex 编号 Art.-No.			
* = 额外增加 2 个用于热保护的常闭接触器	GS 2 *	400 V	7,5 kW	H80-00031			-			
	GS 3 *	400 V	7,5 kW 2-tourig	H80-00032			-			
* = additionally with 2 closing contacts for thermal contact	GS 5	400 V	7,5 kW	H80-00034			H80-00134			
	GS 6	400 V	7,5 kW 2-tourig	H80-00040			H80-00140			
GS 7	400 V	22 kW	H80-00036			H80-00137				
GS 9	400 V	22 kW 2-tourig	H80-00038			-				
GS 10 *	400 V	22 kW 2-tourig	H80-00039			-				
GS 11	400 V	7,5 kW 3-tourig	H80-00041			-				
消声器 Sound attenuator	按照需要 on request									

按照需要配排烟型式的附件 Accessories for exhaust types on request

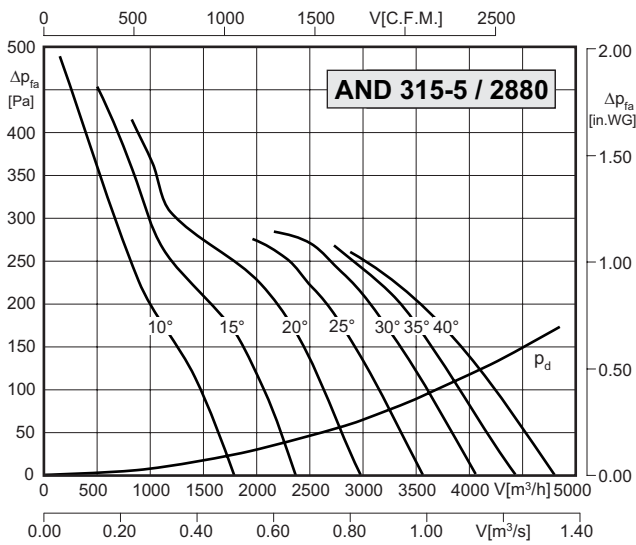
(1) 附件也可以用于防爆要求 Accessories can also be used for explosion proof application



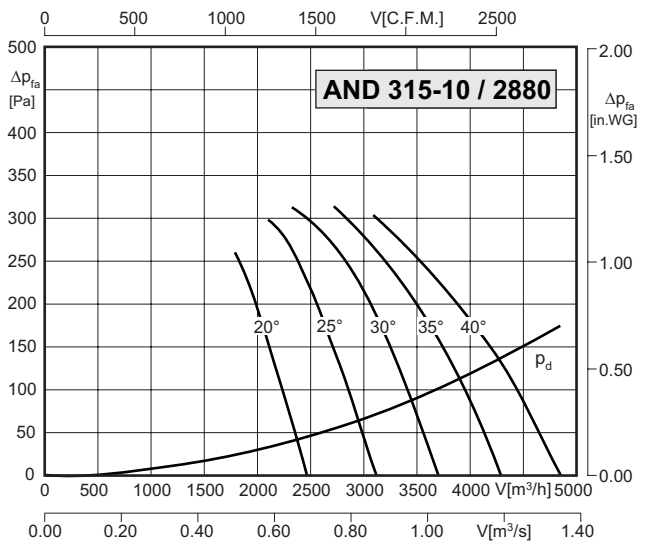
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,016	0,024	0,035	0,047	0,058	0,097	0,109
Motor	0,12	0,12	0,12	0,12	0,12	0,12	0,12
[dB(A)]	64	65	66	68	69	71	72



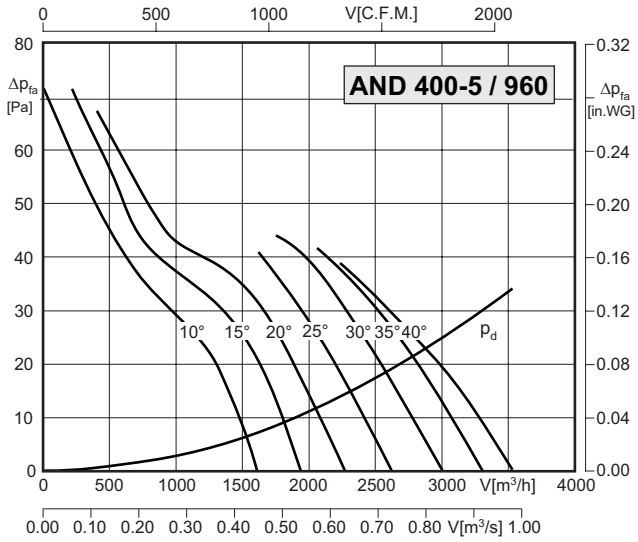
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	-	0,045	0,062	0,098	0,116	0,135
Motor	-	-	0,12	0,12	0,12	0,12	0,18
[dB(A)]	-	-	68	69	72	73	73



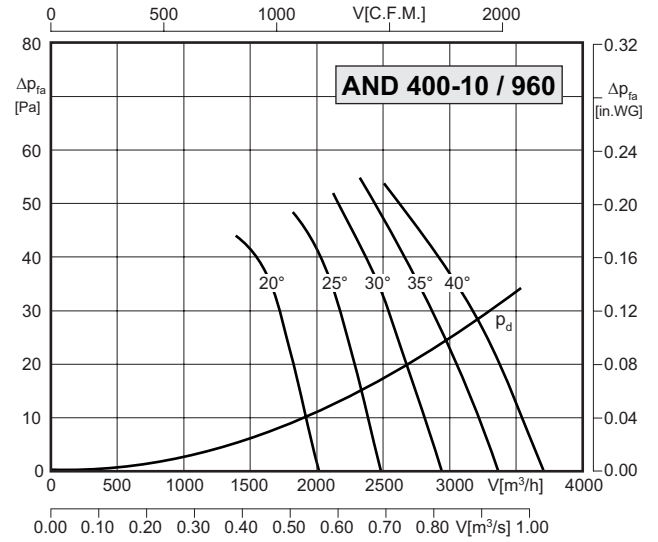
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,129	0,194	0,281	0,374	0,462	0,775	0,871
Motor	0,18	0,25	0,37	0,37	0,55	1,1	1,1
[dB(A)]	81	83	84	85	86	89	90



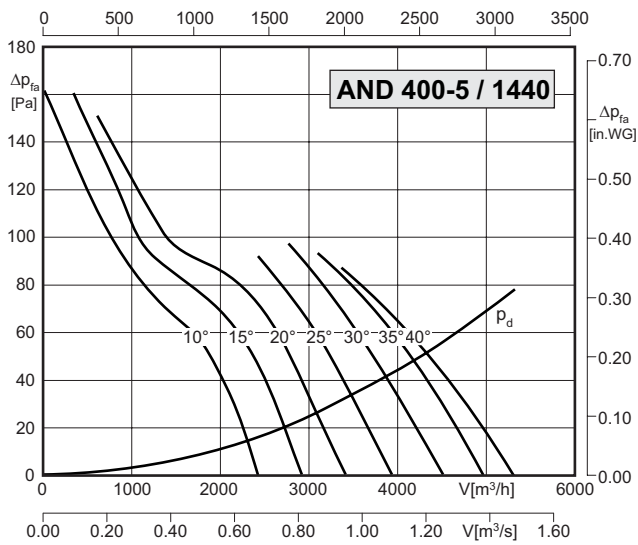
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	-	0,361	0,495	0,783	0,929	1,082
Motor	-	-	0,37	0,55	1,1	1,1	1,1
[dB(A)]	-	-	86	87	89	90	91



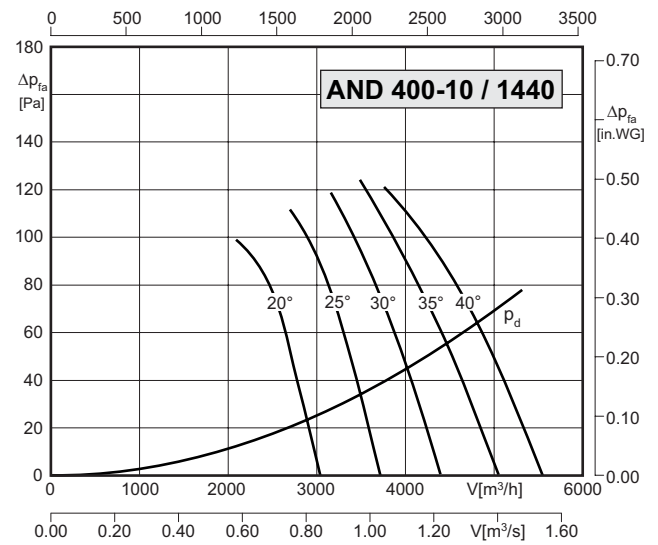
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,012	0,023	0,029	0,040	0,050	0,062	0,079
Motor	0,09	0,09	0,09	0,09	0,09	0,09	0,09
[dB(A)]	58	61	62	63	64	65	67



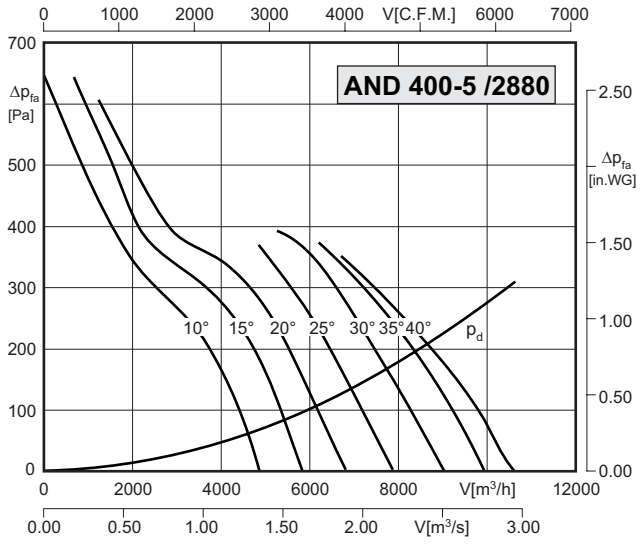
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	-	0,045	0,056	0,076	0,094	0,113
Motor	-	-	0,09	0,09	0,09	0,18	0,18
[dB(A)]	-	-	64	65	66	68	69



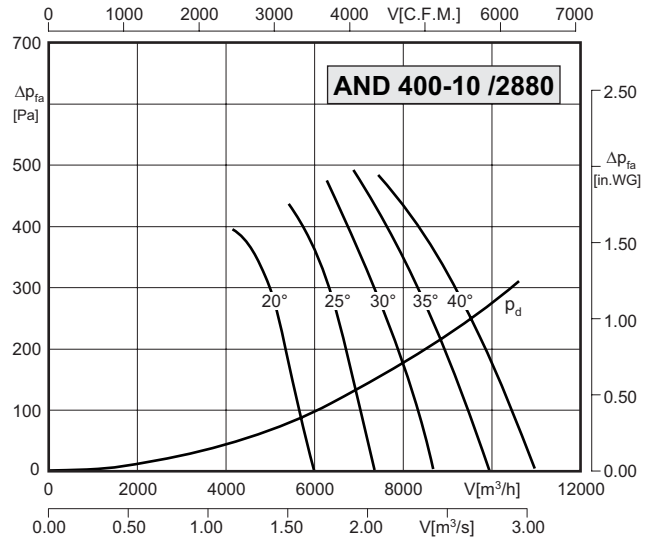
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,042	0,077	0,099	0,134	0,169	0,209	0,266
Motor	0,12	0,12	0,12	0,18	0,18	0,25	0,37
[dB(A)]	69	72	73	74	75	76	77



[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	-	0,152	0,189	0,258	0,319	0,380
Motor	-	-	0,18	0,25	0,37	0,37	0,55
[dB(A)]	-	-	75	76	77	78	79



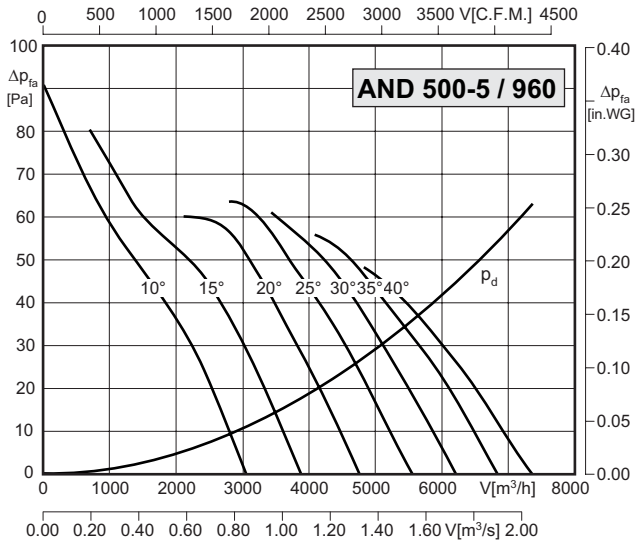
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,337	0,619	0,793	1,074	1,350	1,669	2,127
Motor	0,37	0,75	1,1	1,1	1,5	2,2	2,2
[dB(A)]	86	89	90	91	92	93	95



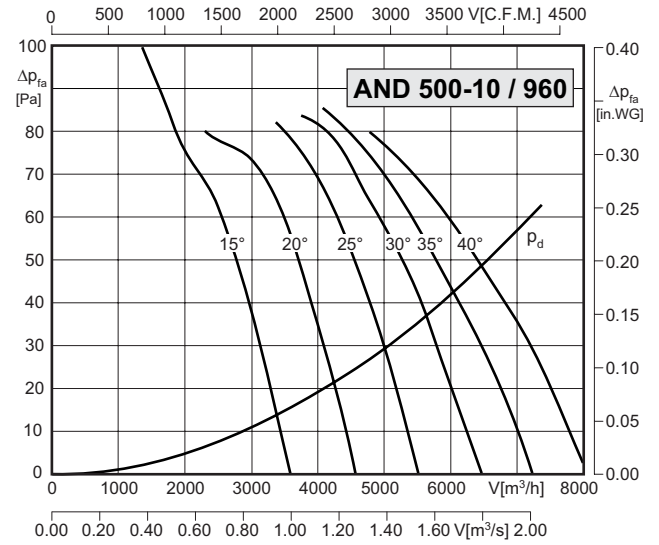
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	-	1,214	1,515	2,065	2,549*	3,042*
Motor	-	-	1,5	2,2	2,2	3,0	3,0
[dB(A)]	-	-	92	94	94	95	96

* 电机尺寸 90，带有必要的过载量

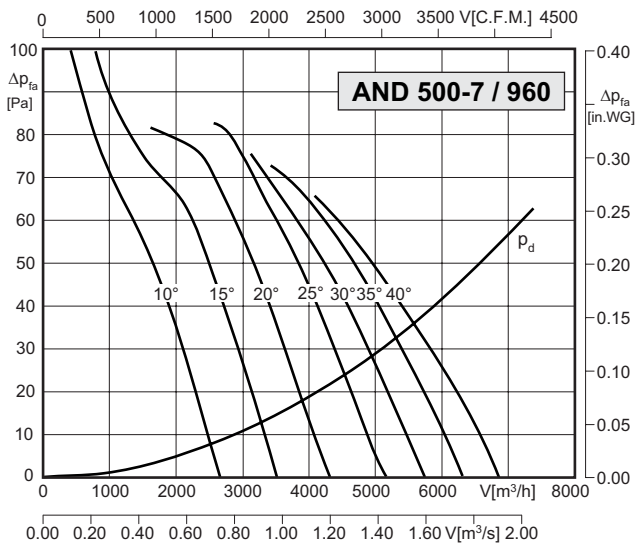
* Motor size 90 with increased power necessary.



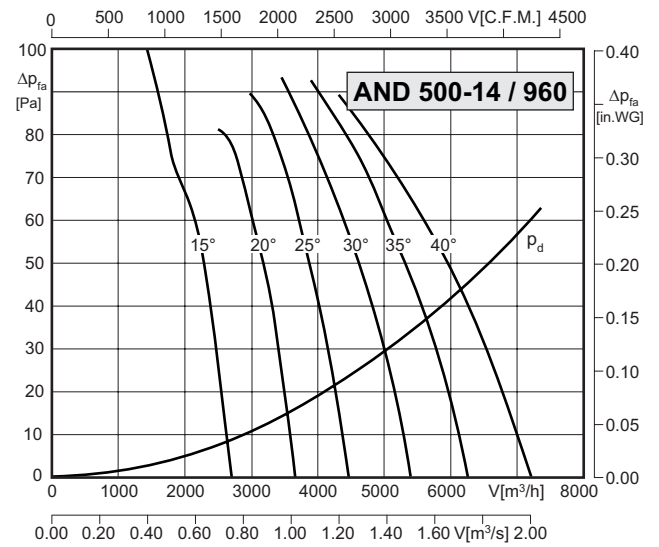
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,05	0,07	0,09	0,12	0,15	0,19	0,22
Motor	0,09	0,09	0,09	0,18	0,18	0,25	0,25
[dB(A)]	67	68	69	70	71	72	73



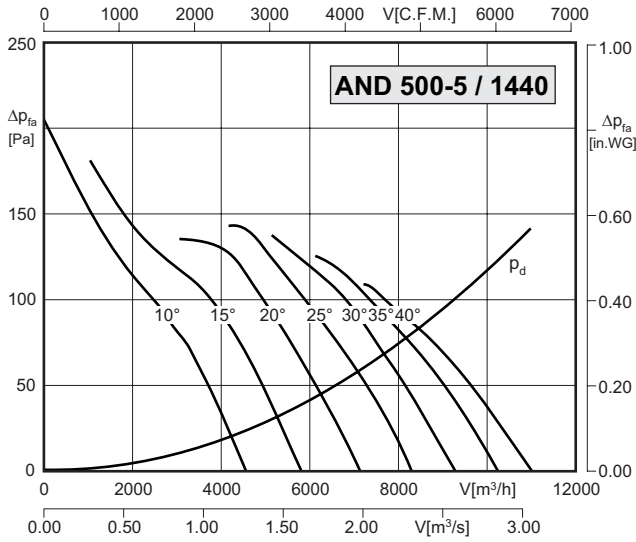
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	0,1	0,14	0,18	0,24	0,25	0,33
Motor	-	0,18	0,18	0,18	0,25	0,25	0,37
[dB(A)]	-	70	71	72	73	73	75



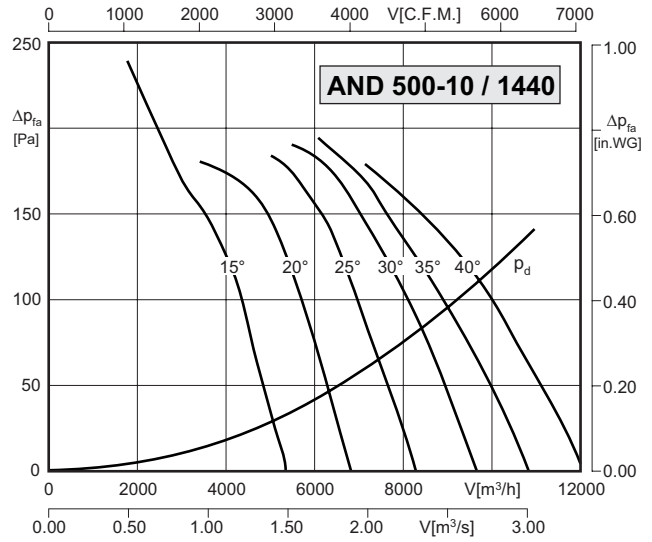
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,06	0,08	0,12	0,15	0,18	0,22	0,28
Motor	0,09	0,09	0,18	0,18	0,18	0,25	0,37
[dB(A)]	68	69	70	71	73	74	75



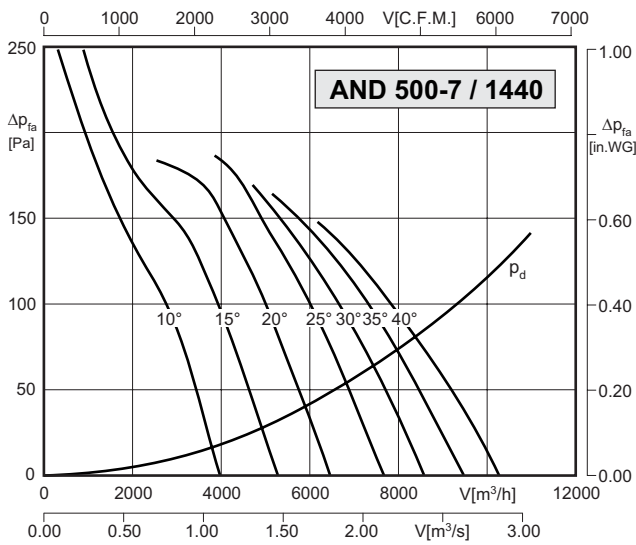
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	0,11	0,15	0,19	0,26	0,29	0,39
Motor	-	0,18	0,18	0,25	0,37	0,37	0,55
[dB(A)]	-	71	72	73	74	75	76



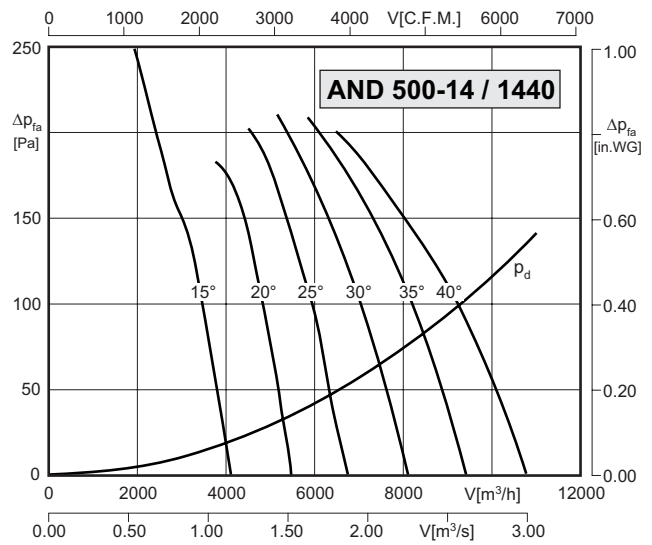
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,15	0,22	0,31	0,41	0,50	0,63	0,76
Motor	0,18	0,25	0,37	0,55	0,55	0,75	1,1
[dB(A)]	77	78	79	81	81	83	84



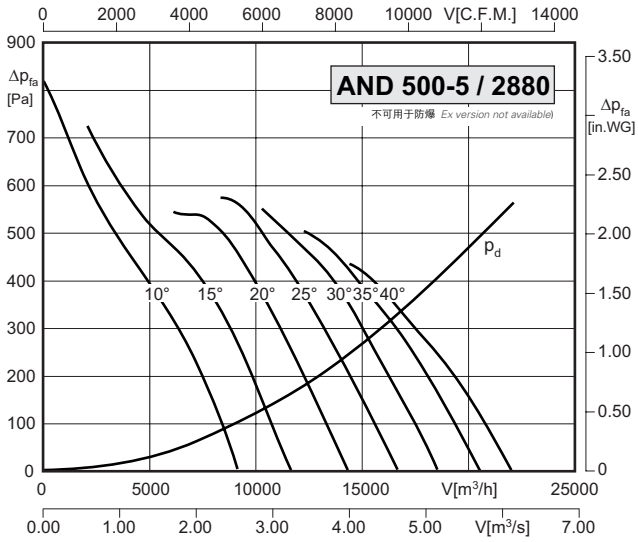
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	0,35	0,48	0,61	0,81	0,84	1,1
Motor	-	0,37	0,55	0,75	1,1	1,1	1,1
[dB(A)]	-	81	82	83	84	85	86



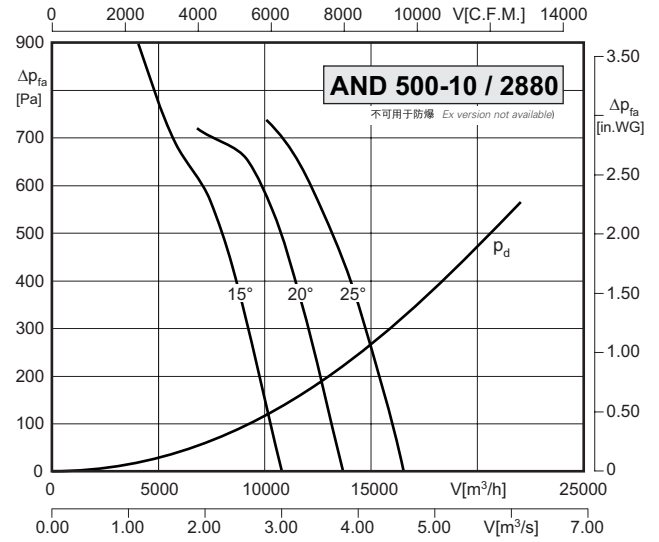
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,19	0,27	0,39	0,50	0,61	0,76	0,95
Motor	0,25	0,37	0,55	0,55	0,75	1,1	1,1
[dB(A)]	79	80	81	82	83	84	85



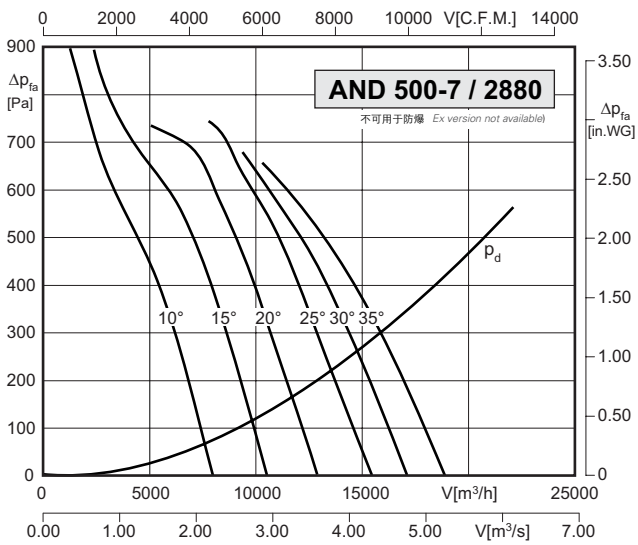
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	0,38	0,51	0,66	0,89	0,98	1,30
Motor	-	0,55	0,55	0,75	1,1	1,1	1,5
[dB(A)]	-	82	83	84	85	86	87



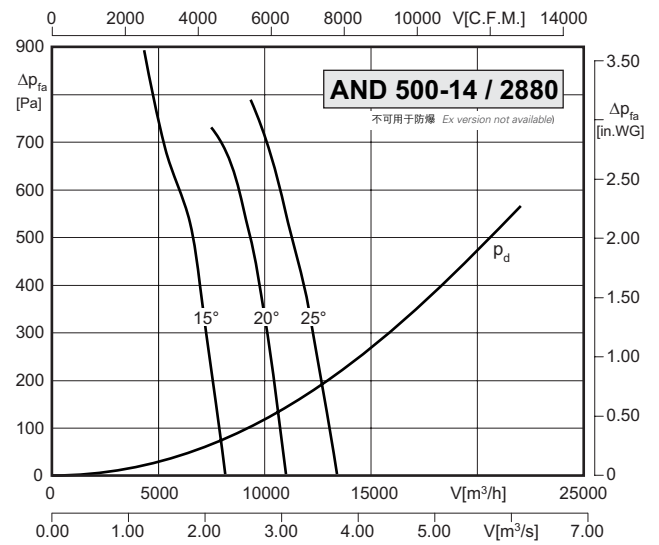
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	1,20	1,78	2,44	3,28	3,97	5,02*	6,05*
Motor	1,5	2,2	3,0	4,0	4,0	6,5*	6,5*
[dB(A)]	95	96	97	98	99	100	101



[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	2,76	3,81	4,88*	-	-	-
Motor	-	3,0	4,0	6,5*	-	-	-
[dB(A)]	-	98	99	100	-	-	-



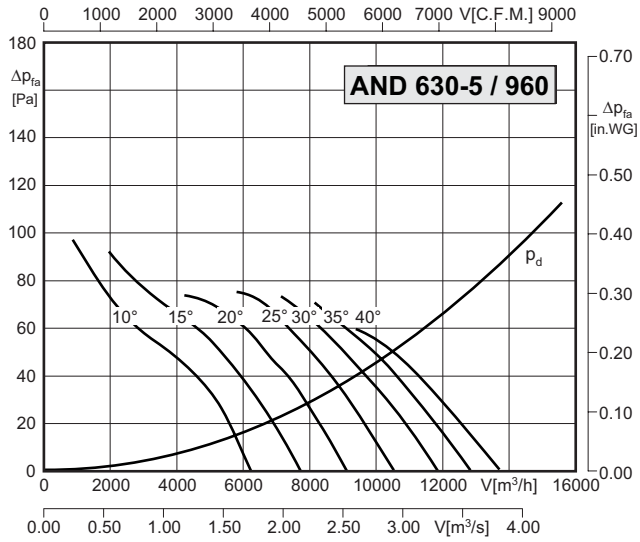
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	1,52	2,18	3,14	4,00	4,85*	6,03*	-
Motor	2,2	2,2	4,0	4,0	6,5*	6,5*	-
[dB(A)]	97	98	99	100	101	102	-



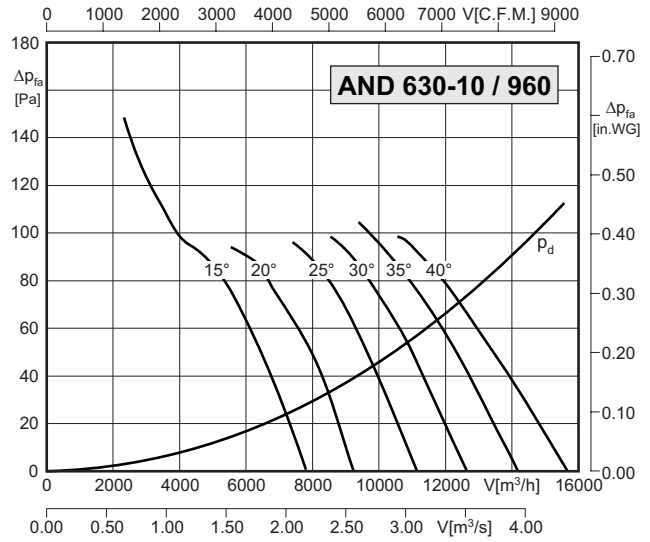
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	3,02	4,05*	5,24*	-	-	-
Motor	-	3,0	6,5*	6,5*	-	-	-
[dB(A)]	-	100	101	101	-	-	-

* 电机尺寸 112, 带有必要的过载量

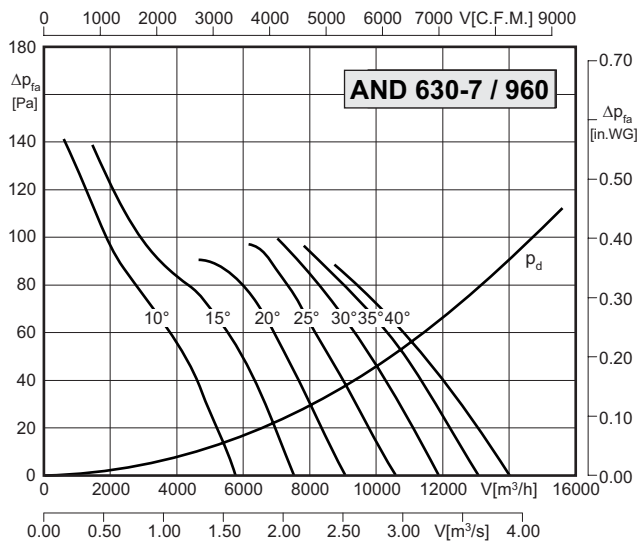
* Motor size 112 with increased power necessary.



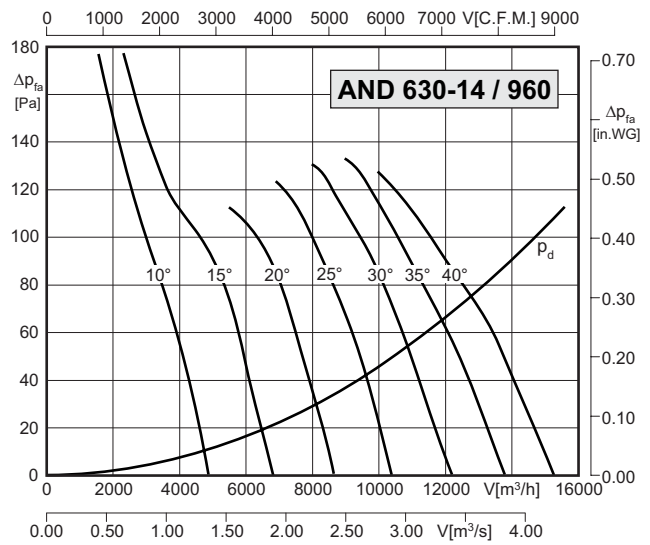
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,10	0,16	0,23	0,27	0,35	0,42	0,51
Motor	0,18	0,18	0,25	0,37	0,37	0,55	0,55
[dB(A)]	72	74	75	75	76	77	78



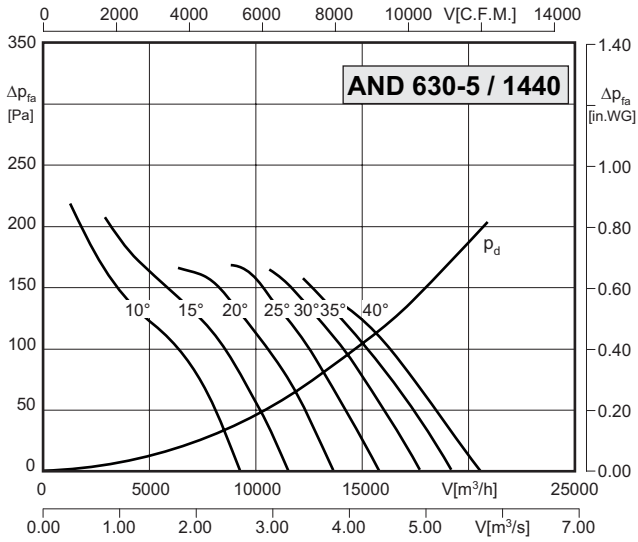
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	0,27	0,30	0,44	0,54	0,70	0,87
Motor	-	0,37	0,37	0,55	0,55	0,75	1,1
[dB(A)]	-	76	76	77	78	80	81



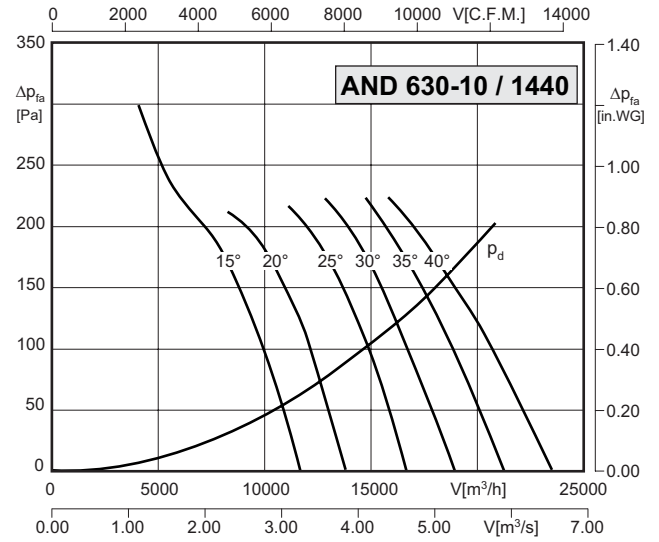
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,14	0,21	0,32	0,36	0,46	0,56	0,68
Motor	0,18	0,25	0,37	0,37	0,55	0,75	0,75
[dB(A)]	74	76	77	77	78	79	80



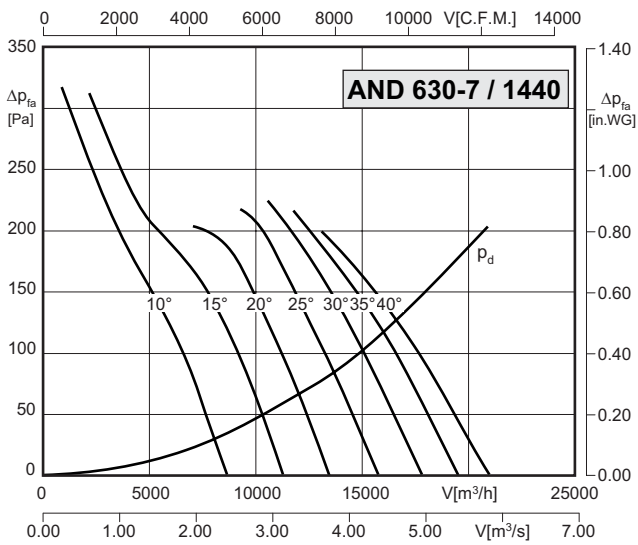
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,23	0,28	0,38	0,51	0,67	0,85	1,04
Motor	0,25	0,37	0,55	0,55	0,75	1,1	1,1
[dB(A)]	77	77	78	79	80	81	82



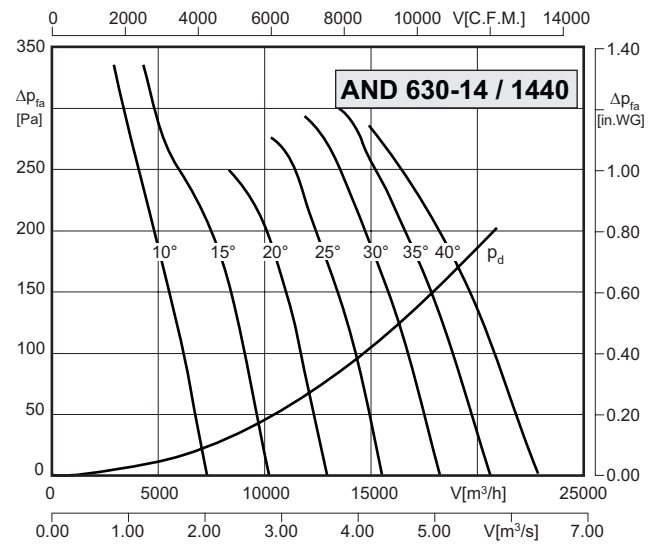
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,33	0,54	0,78	0,90	1,16	1,43	1,71
Motor	0,37	0,55	1,1	1,1	1,5	1,5	2,2
[dB(A)]	83	84	85	86	87	88	89



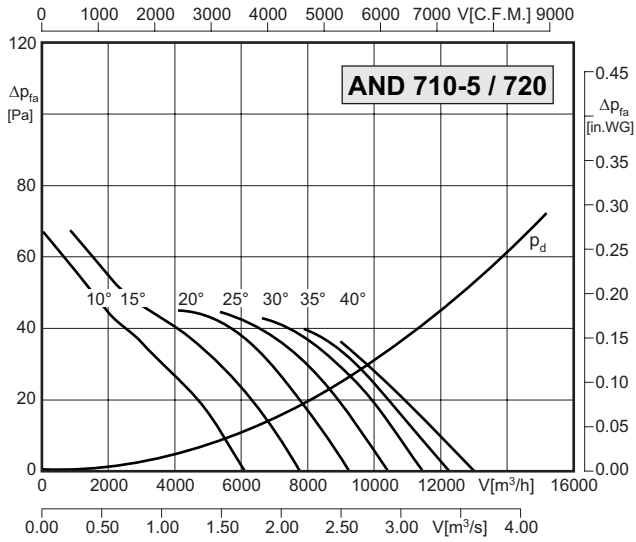
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	0,91	1,00	1,49	1,82	2,36	2,92
Motor	-	1,1	1,1	1,5	2,2	3,0	3,0
[dB(A)]	-	87	87	88	89	90	91



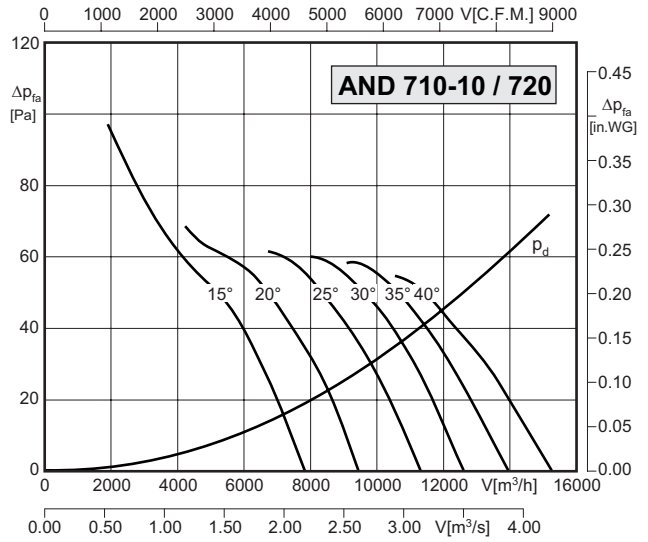
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,46	0,71	1,07	1,20	1,56	1,89	2,29
Motor	0,55	0,75	1,1	1,5	2,2	2,2	3,0
[dB(A)]	85	86	87	88	89	90	91



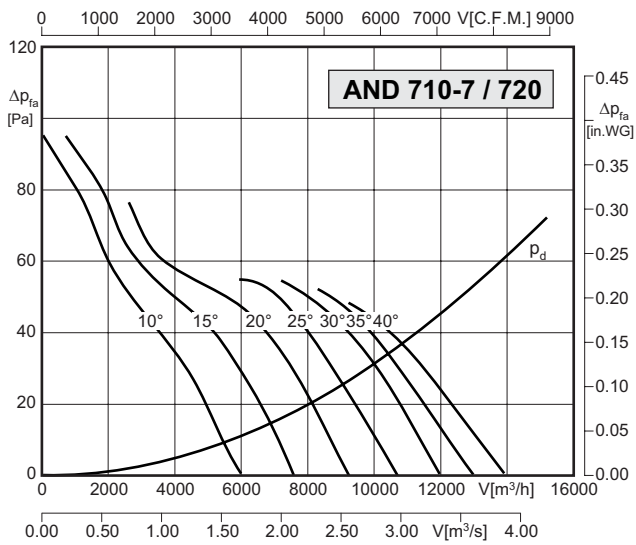
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,78	0,95	1,28	1,71	2,27	2,87	3,50
Motor	1,1	1,1	1,5	2,2	3,0	3,0	4,0
[dB(A)]	87	88	88	89	91	92	93



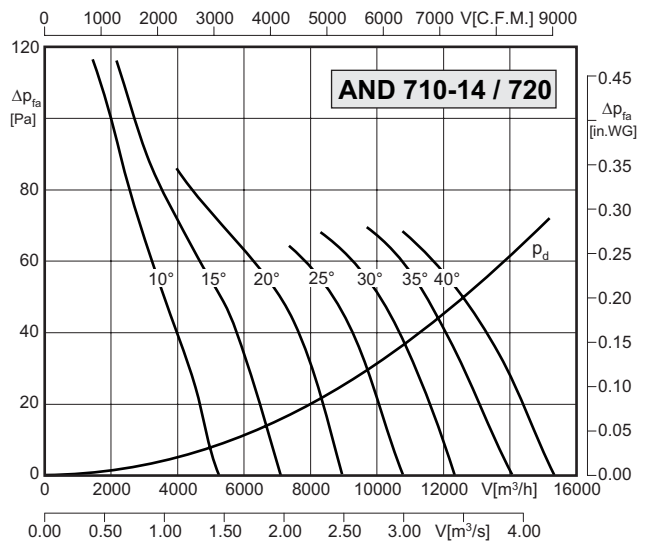
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,05	0,09	0,13	0,16	0,21	0,26	0,33
Motor	0,09	0,09	0,18	0,18	0,25	0,37	0,37
[dB(A)]	66	68	70	71	72	74	75



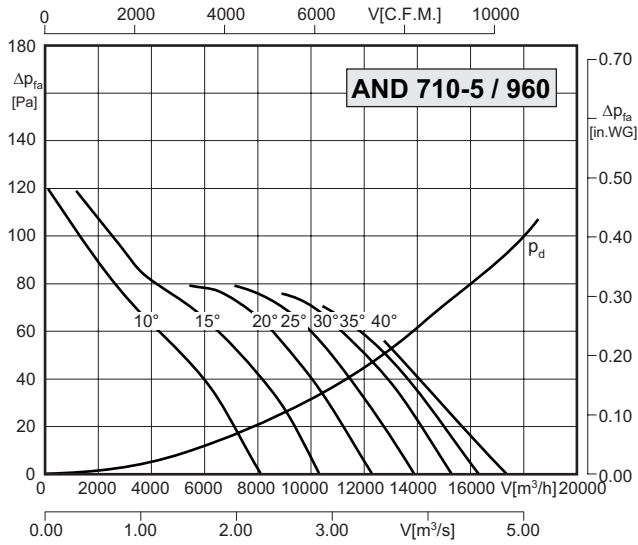
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	0,15	0,19	0,28	0,36	0,45	0,57
Motor	-	0,18	0,25	0,37	0,37	0,55	0,75
[dB(A)]	-	71	72	74	75	76	77



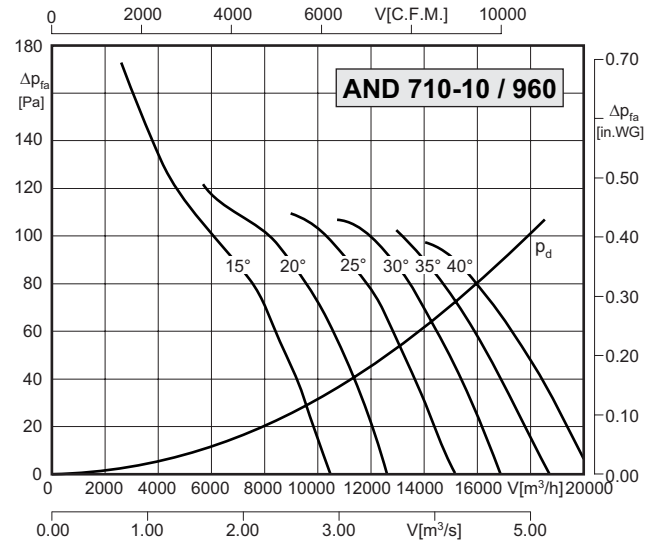
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,07	0,12	0,18	0,22	0,29	0,36	0,45
Motor	0,09	0,12	0,18	0,25	0,37	0,37	0,55
[dB(A)]	68	70	72	73	74	75	76



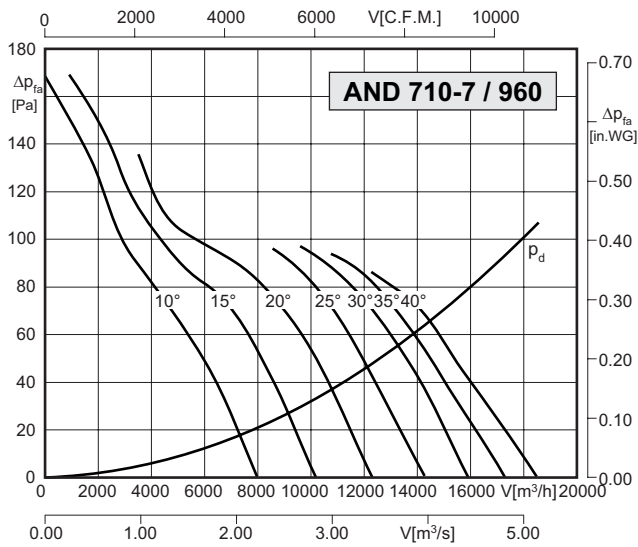
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,14	0,17	0,24	0,33	0,43	0,55	0,69
Motor	0,18	0,18	0,25	0,37	0,55	0,55	0,75
[dB(A)]	72	73	74	75	76	77	79



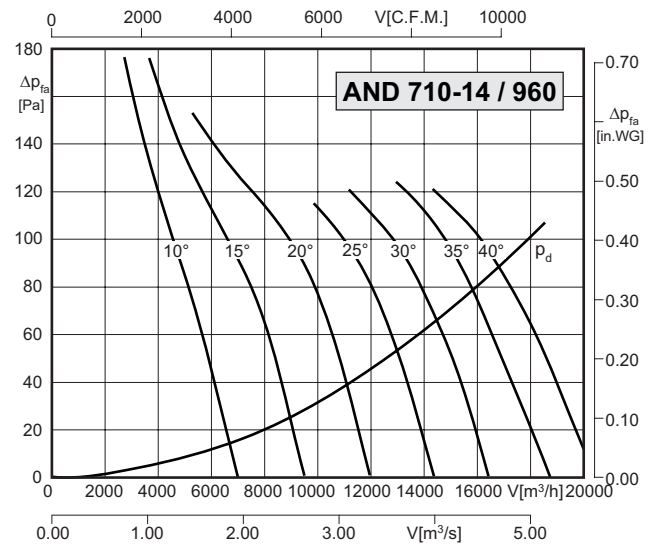
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,12	0,20	0,31	0,38	0,48	0,62	0,78
Motor	0,18	0,25	0,37	0,55	0,55	0,75	1,1
[dB(A)]	73	76	77	78	79	81	83



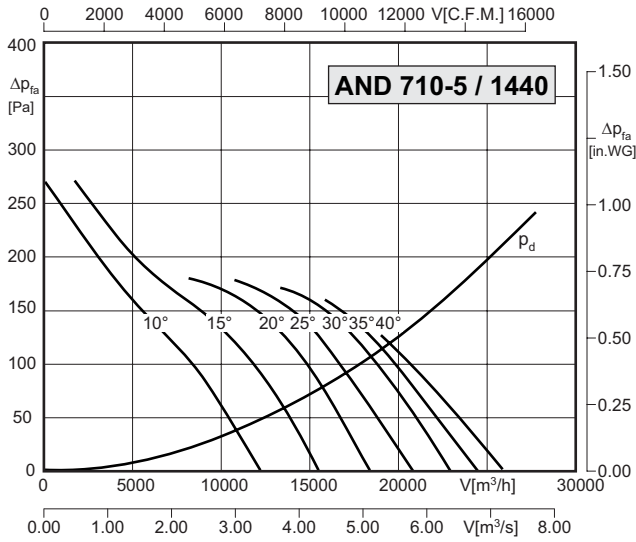
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	0,35	0,45	0,66	0,85	1,07	1,36
Motor	-	0,37	0,55	0,75	1,1	1,1	1,5
[dB(A)]	-	79	80	81	83	84	84



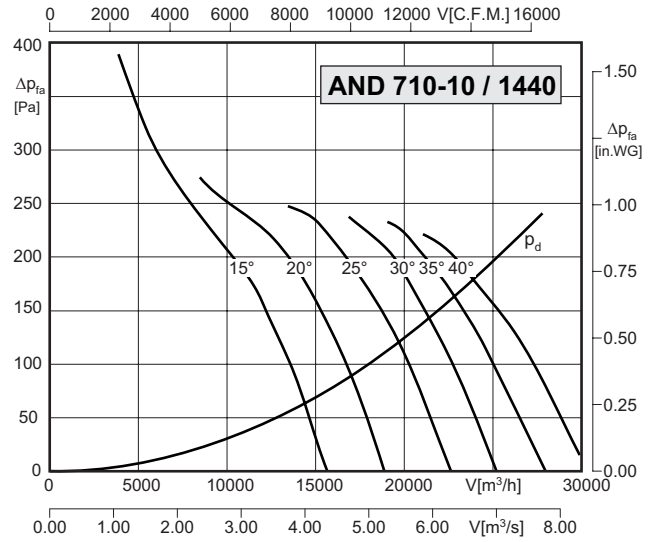
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,17	0,27	0,42	0,51	0,68	0,85	1,07
Motor	0,18	0,37	0,55	0,55	0,75	1,1	1,1
[dB(A)]	76	78	80	80	82	83	84



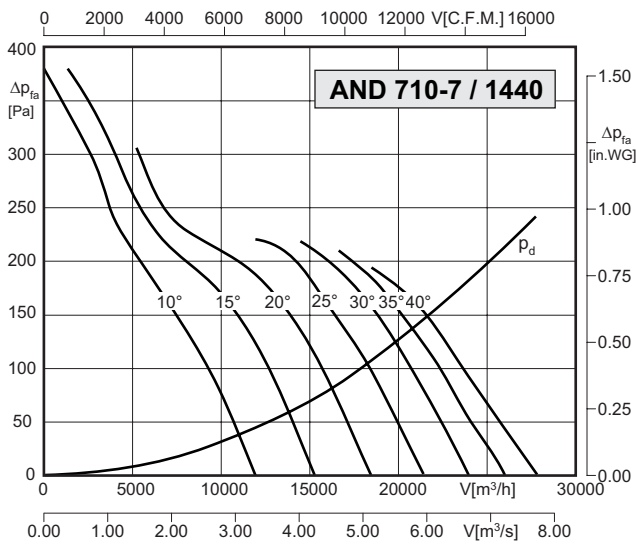
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,33	0,41	0,56	0,78	1,02	1,30	1,63
Motor	0,37	0,55	0,75	1,1	1,1	1,5	2,2
[dB(A)]	80	80	81	83	84	85	86



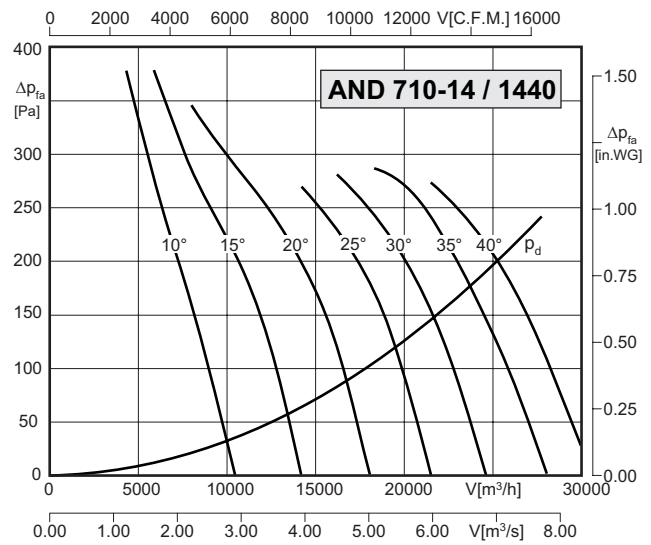
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,39	0,68	1,04	1,26	1,63	2,08	2,63
Motor	0,55	0,75	1,1	1,5	2,2	2,2	3,0
[dB(A)]	84	86	88	88	90	92	93



[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	1,19	1,50	2,22	2,85	3,60	4,58*
Motor	-	1,5	2,2	3,0	3,0	4,0	6,5*
[dB(A)]	-	90	90	92	93	94	95



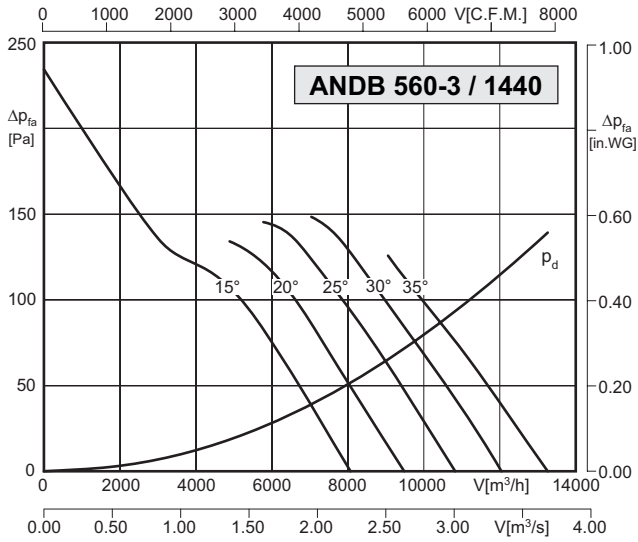
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,57	0,92	1,40	1,71	2,30	2,87	3,60
Motor	0,75	1,1	1,5	2,2	3,0	3,0	4,0
[dB(A)]	86	88	90	91	92	94	95



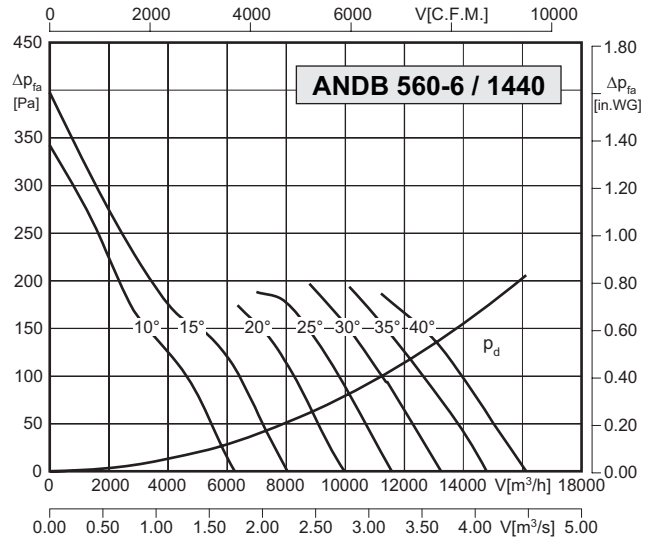
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	1,12	1,38	1,89	2,63	3,45	4,39	5,49
Motor	1,5	1,5	2,2	3,0	4,0	5,5	5,5
[dB(A)]	90	91	92	93	94	95	97

* 电机尺寸 112，带有必要的过载量

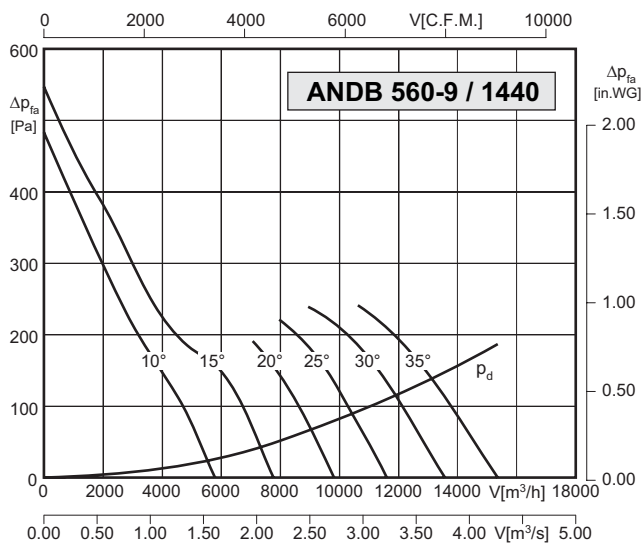
* Motor size 112 with increased power necessary.



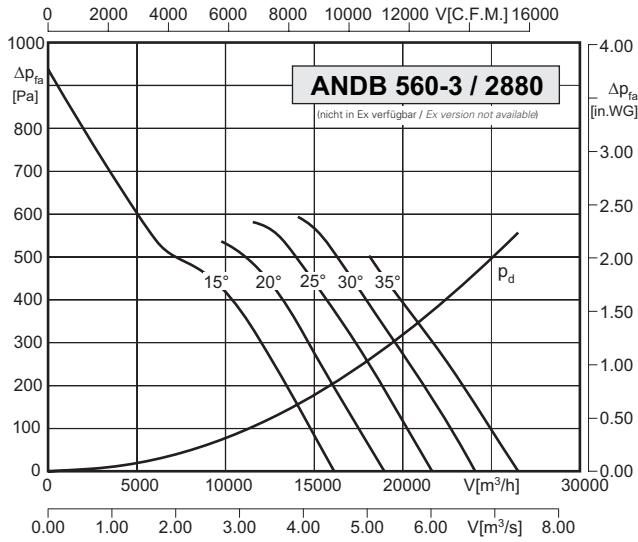
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	0,30	0,37	0,46	0,56	0,71	-
Motor	-	0,37	0,37	0,55	0,75	0,75	-
[dB(A)]	-	77	78,5	80	81,5	83	-



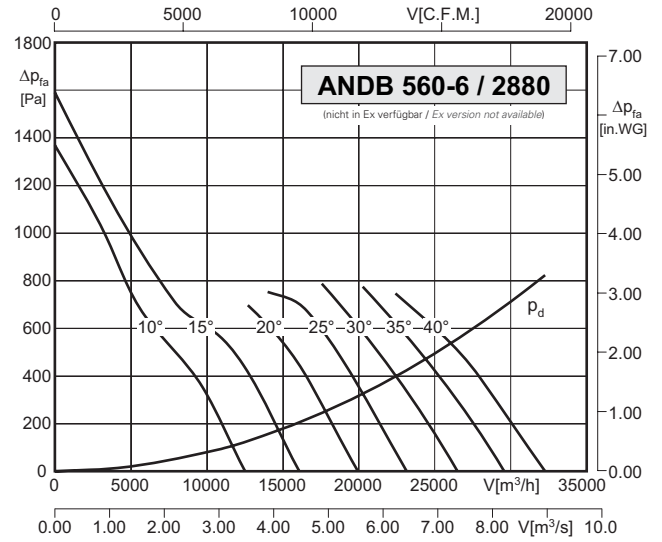
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,31	0,47	0,52	0,67	0,87	1,07	1,29
Motor	0,37	0,55	0,55	0,75	1,1	1,1	1,5
[dB(A)]	77	78,5	80,5	82	84	86	88



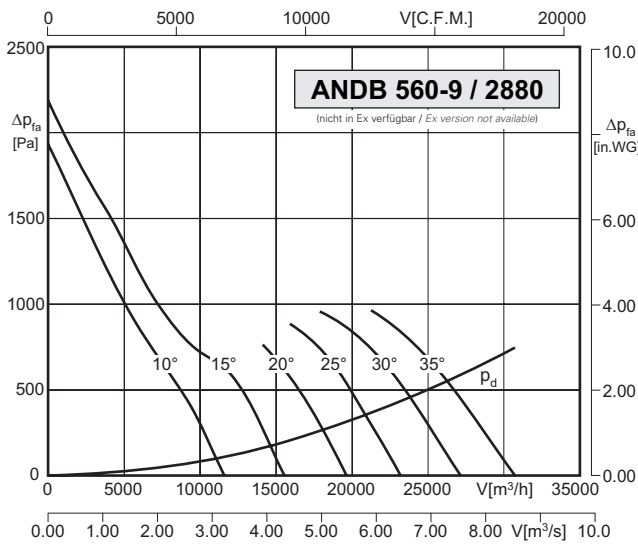
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,41	0,56	0,66	0,85	1,07	1,33	-
Motor	0,55	0,75	0,75	1,1	1,1	1,5	-
[dB(A)]	77,5	79,5	81,5	83,5	85	86,5	-



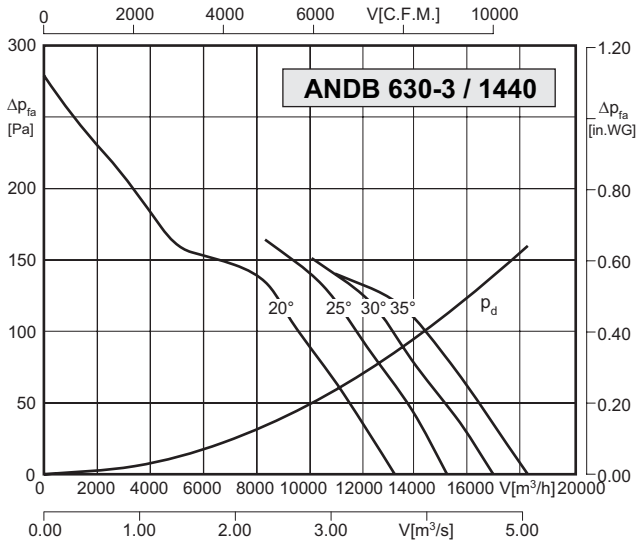
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	2,38	2,94	3,66	4,47	5,70	-
Motor	-	3,0	3,0	4,0	5,5	7,5	-
[dB(A)]	-	92	93,5	95	96,5	98	-



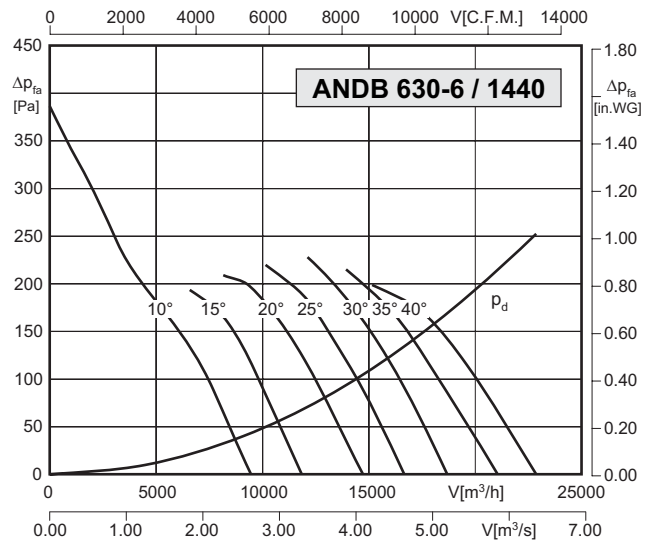
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	2,48	3,78	4,14	5,36	6,95	8,56	10,29
Motor	3,0	4,0	5,5	5,5	7,5	11,0	11,0
[dB(A)]	92	93,5	95,5	97	99	101	103



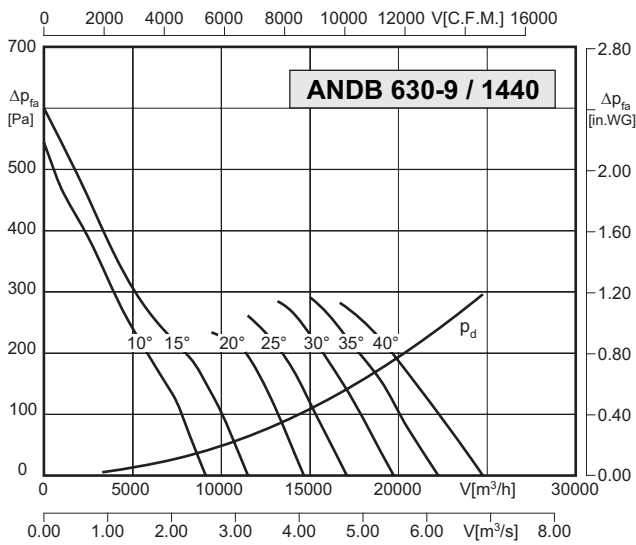
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	3,25	4,50	5,30	6,78	8,60	10,66	-
Motor	4,0	5,5	7,5	7,5	11,0	11,0	-
[dB(A)]	92,5	94,5	96,5	98,5	100	101,5	-



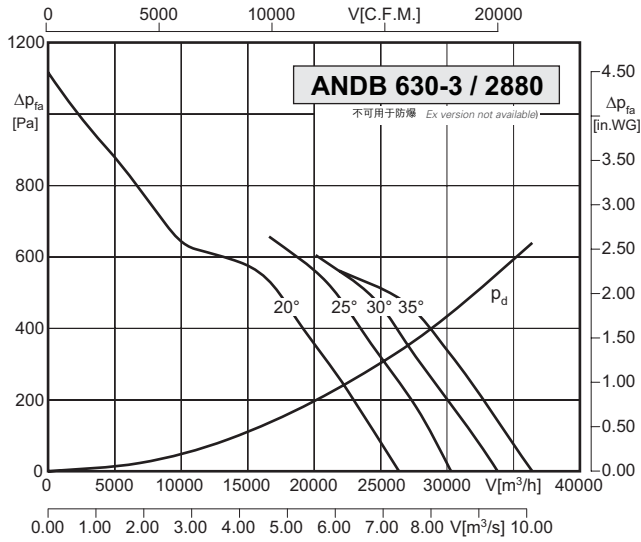
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	-	0,61	0,71	0,92	1,11	-
Motor	-	-	0,75	0,75	1,1	1,5	-
[dB(A)]	-	-	84	86	87,5	88,5	-



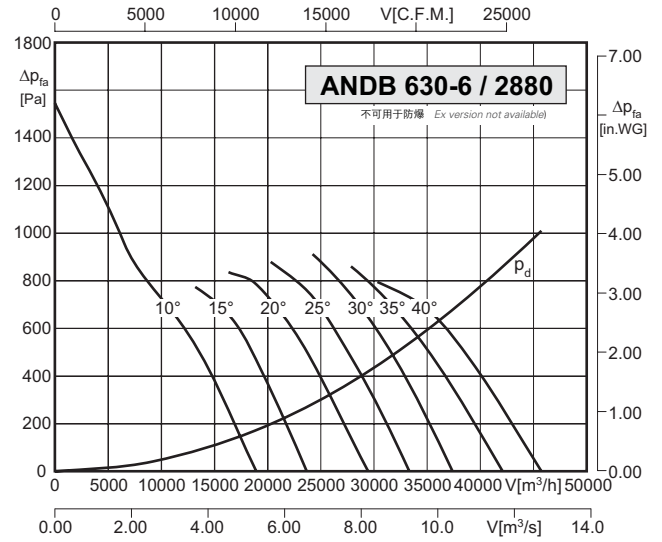
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,45	0,60	0,87	1,13	1,43	1,78	2,17
Motor	0,55	0,75	1,1	1,5	1,5	2,2	2,2
[dB(A)]	82,5	83,5	85	87	88	90,5	92



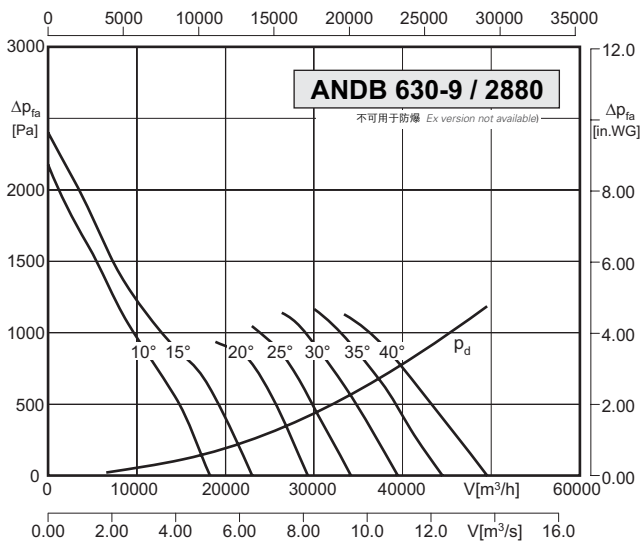
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,64	0,90	1,11	1,43	1,88	2,34	2,92
Motor	0,75	1,1	1,1	1,5	2,2	3,0	3,0
[dB(A)]	82,5	84	86	88	90	92	93,5



[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	-	4,88	5,68	7,32	8,92	-
Motor	-	-	5,5	7,5	7,5	11	-
[dB(A)]	-	-	99	84	84	84	-



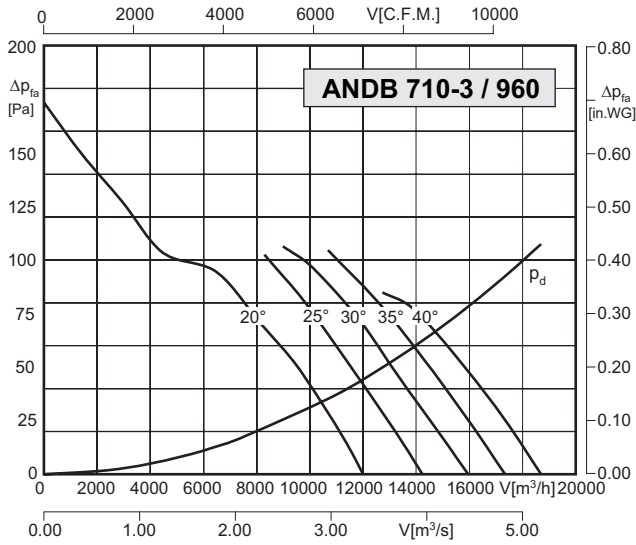
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	3,63	4,81	6,98	9,00	11,43	14,23	17,38
Motor	4	5,5	7,5	11	15	15	18,5
[dB(A)]	97,5	98,5	100	102	103	105,5	107



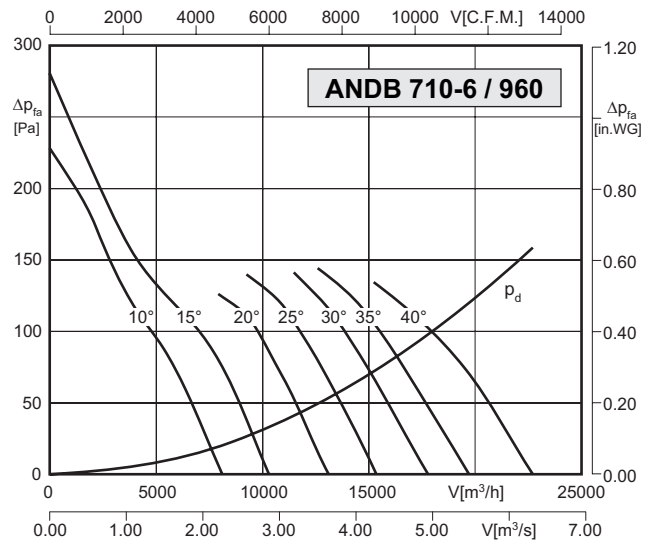
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	5,09	7,22	8,87	11,43	15,07	18,72	23,39
Motor	5,5	7,5	11	15	15	21*	26*
[dB(A)]	97,5	99	101	103	105	107	108,5

* 电机尺寸 160，带有必要的过载量

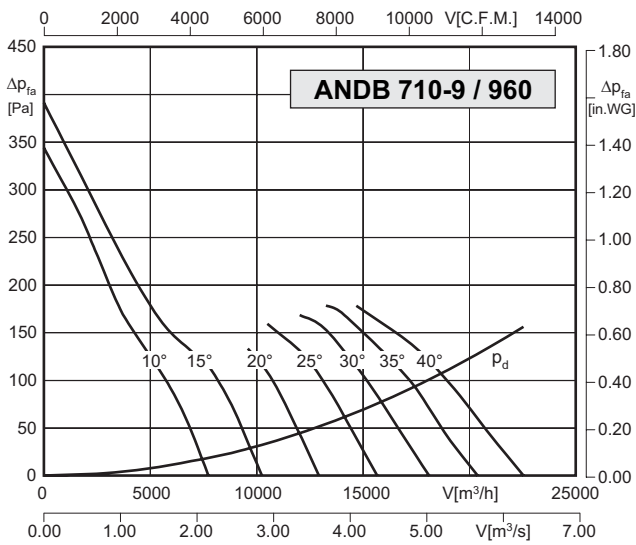
* Motor size 160 with increased power necessary.



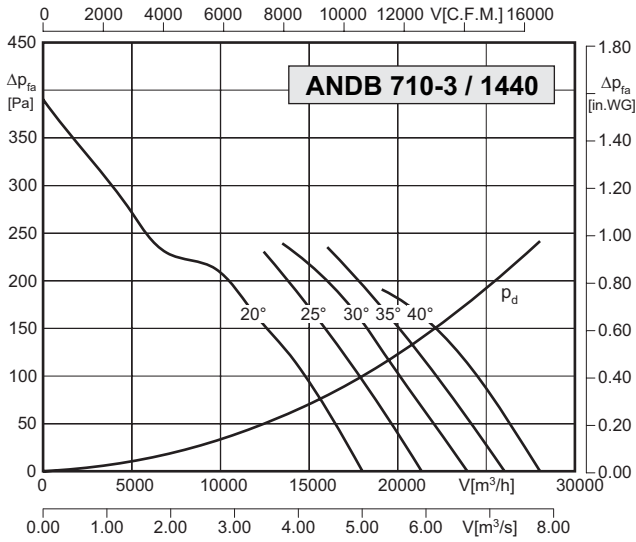
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	-	0,34	0,40	0,50	0,62	0,78
Motor	-	-	0,37	0,55	0,55	0,75	1,1
[dB(A)]	-	-	76,5	78	78,7	79,5	80



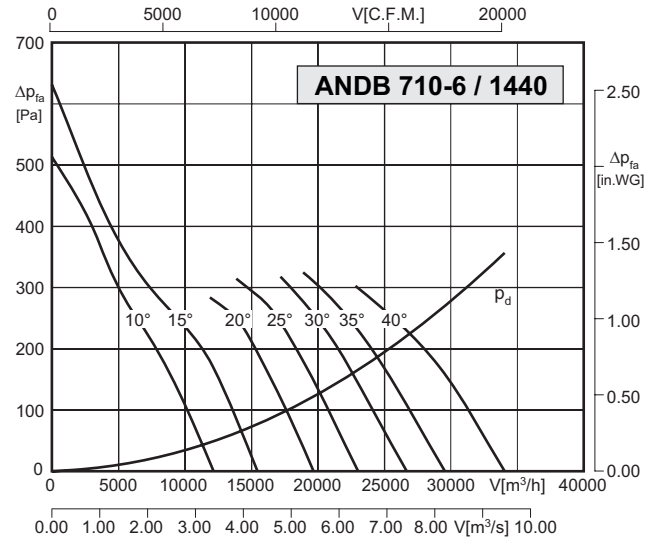
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,24	0,44	0,47	0,62	0,82	1,00	1,24
Motor	0,25	0,55	0,55	0,75	1,1	1,1	1,5
[dB(A)]	74,4	76,2	78,3	80	81,5	83	84,8



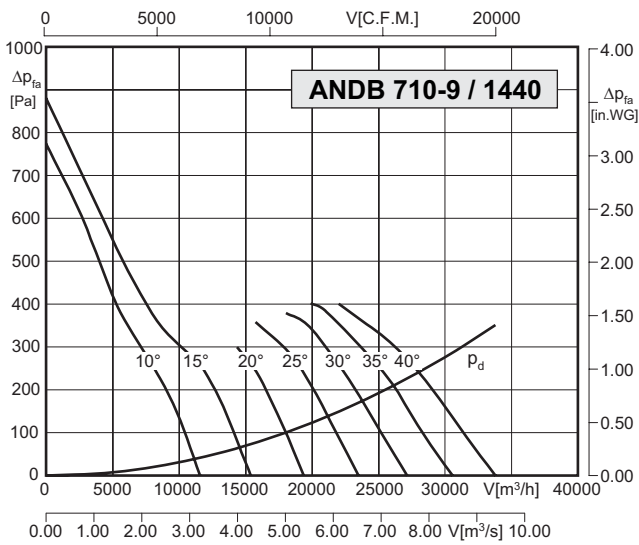
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,35	0,50	0,58	0,79	1,02	1,30	1,61
Motor	0,37	0,55	0,75	1,1	1,1	1,5	2,2
[dB(A)]	76,5	78	79,5	81	82	83	84



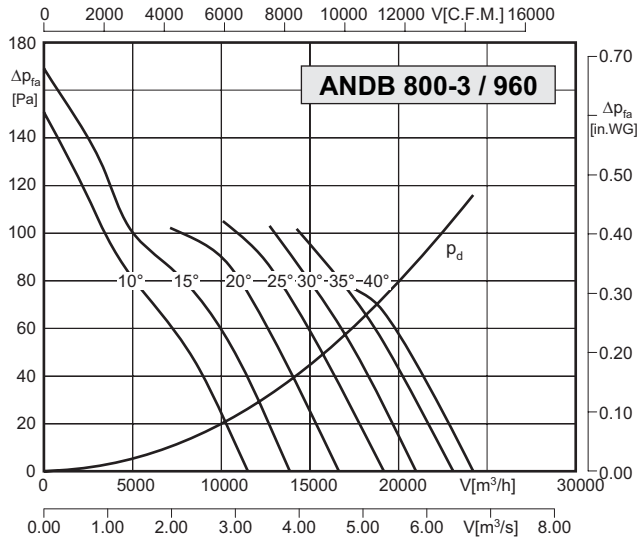
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	-	-	1,15	1,33	1,69	2,11	2,63
Motor	-	-	1,5	1,5	2,2	2,2	3,0
[dB(A)]	-	-	85,5	87	87,7	88,5	89



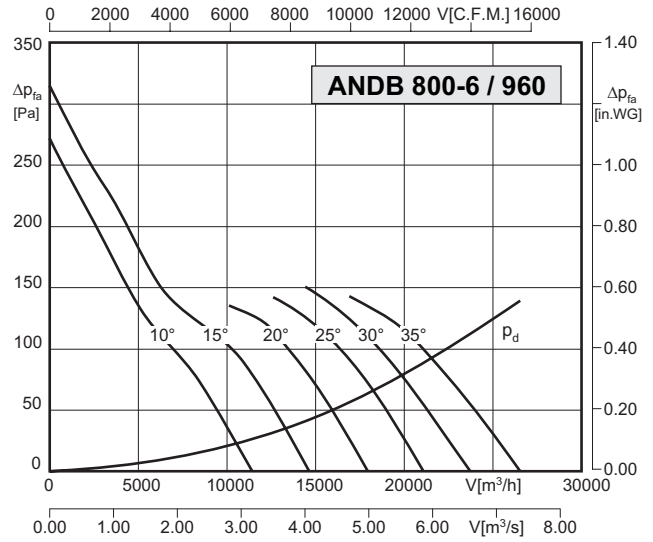
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,81	1,47	1,57	2,08	2,76	3,39	4,20
Motor	1,1	1,5	2,2	2,2	3,0	4,0	5,5
[dB(A)]	83,4	85,2	87,3	89	90,5	92	93,8



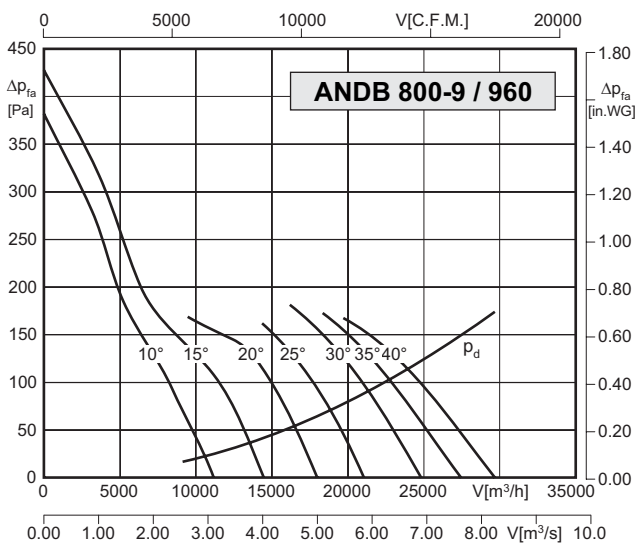
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	1,19	1,69	1,96	2,67	3,44	4,38	5,44
Motor	1,5	2,2	2,2	3,0	4,0	5,5	5,5
[dB(A)]	85,5	87	88,5	90	91	92	93



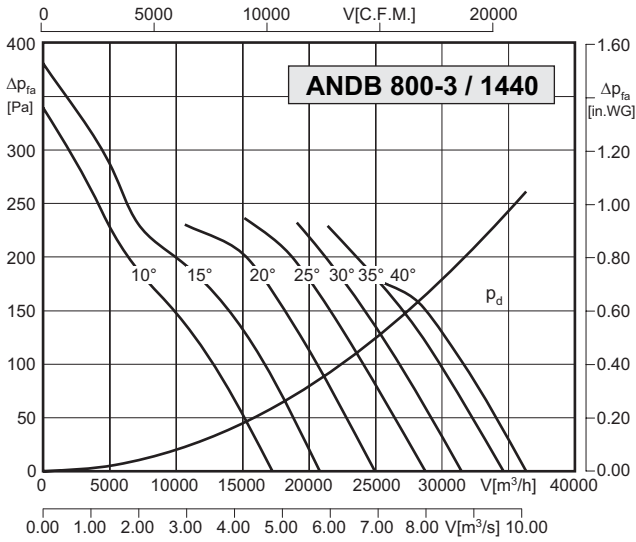
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,22	0,32	0,46	0,63	0,78	1,02	1,29
Motor	0,25	0,37	0,55	0,75	1,1	1,1	1,5
[dB(A)]	81	83	84	85	87	88	89



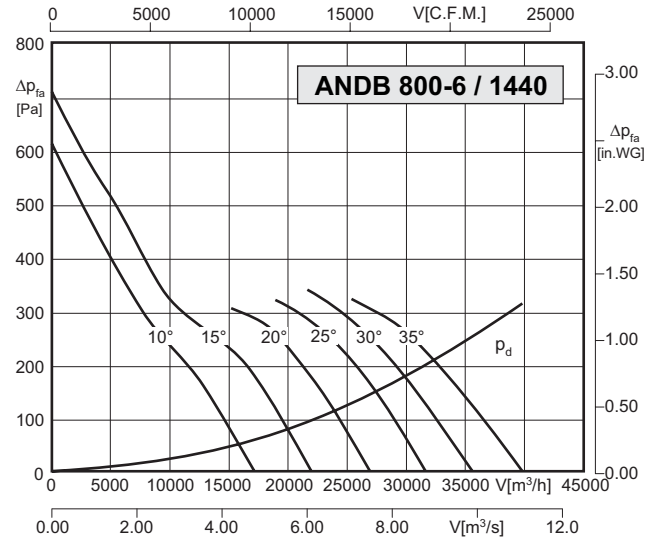
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,39	0,68	0,74	1,01	1,33	1,69	-
Motor	0,55	0,75	1,1	1,1	1,5	2,2	-
[dB(A)]	80	81	83,5	86	88	90	-



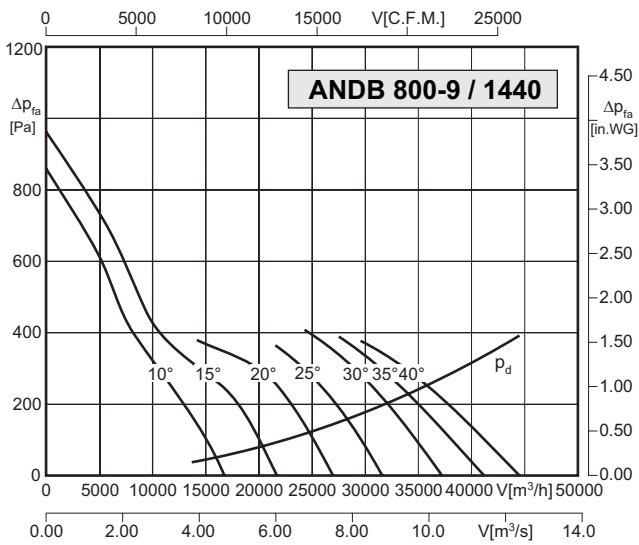
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,59	0,84	0,95	1,28	1,74	2,14	2,55
Motor	0,75	1,1	1,1	1,5	2,2	2,2	3,0
[dB(A)]	82	84	85,5	87	89,5	91	92



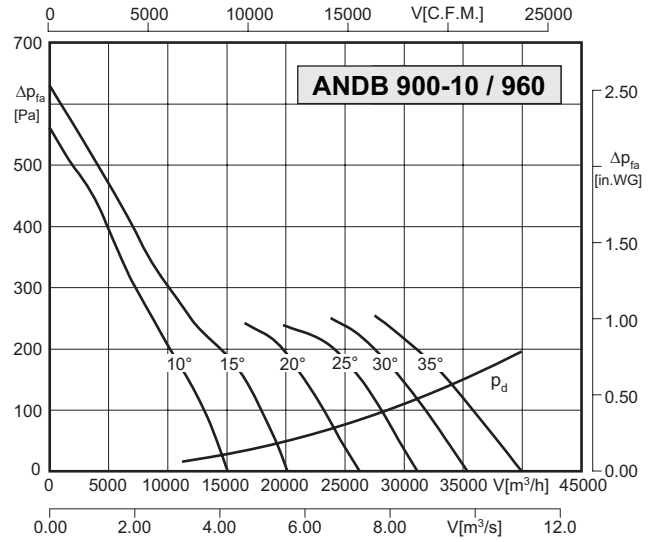
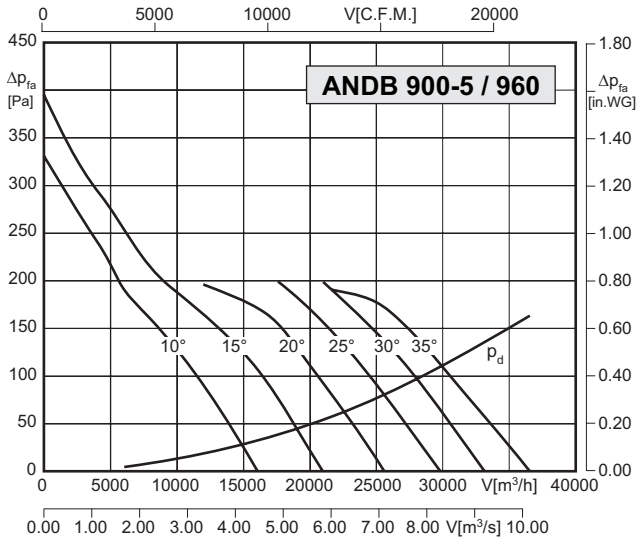
[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	0,75	1,07	1,56	2,14	2,64	3,45	4,35
Motor	0,75	1,1	2,2	2,2	3,0	4,0	5,5
[dB(A)]	90	92	93	94	96	97	98



[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	1,31	1,98	2,49	3,41	4,48	5,71	-
Motor	1,5	2,2	3,0	4,0	5,5	7,5	-
[dB(A)]	89	90	92,5	95	97	99	-

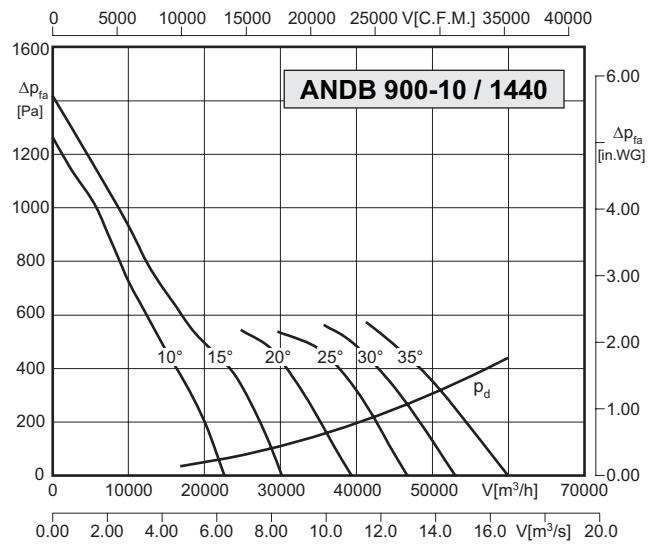
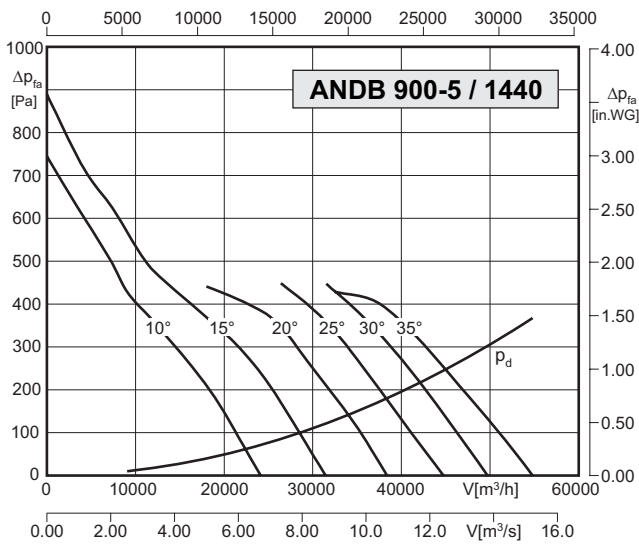


[°]	10°	15°	20°	25°	30°	35°	40°
[kW]	1,98	2,84	3,22	4,34	5,87	7,22	8,60
Motor	2,2	3,0	4,0	5,5	7,5	7,5	11
[dB(A)]	91	93	94,5	96	98,5	100	101



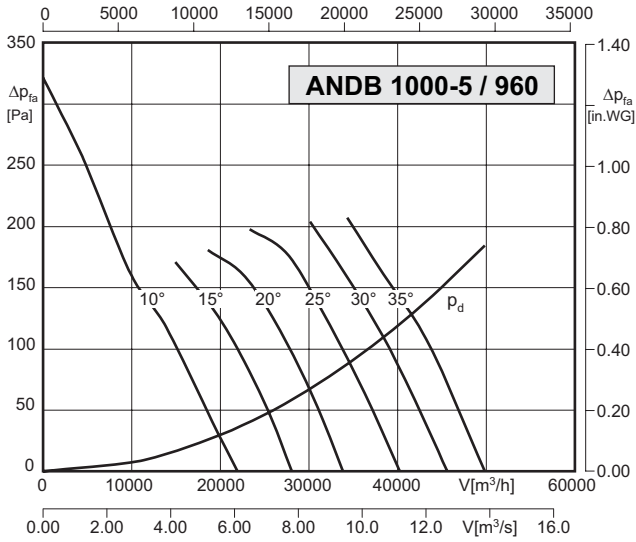
[°]	10°	15°	20°	25°	30°	35°
[kW]	0,65	1,01	1,26	1,71	2,16	2,69
Motor	0,75	1,1	1,5	2,2	2,2	3,0
[dB(A)]	86	88,5	91	93	94,5	96

[°]	10°	15°	20°	25°	30°	35°
[kW]	1,15	1,72	1,90	2,36	3,02	3,81
Motor	1,5	2,2	2,2	3,0	3,0	4,0
[dB(A)]	85	86	87,5	89	91	93

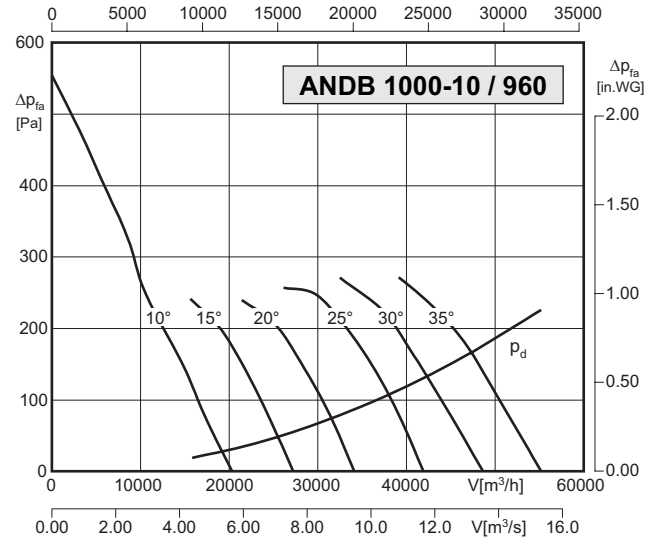


[°]	10°	15°	20°	25°	30°	35°
[kW]	2,20	3,41	4,25	5,76	7,28	9,09
Motor	2,2	4,0	5,5	7,5	7,5	11
[dB(A)]	95	97,5	100	102	103,5	105

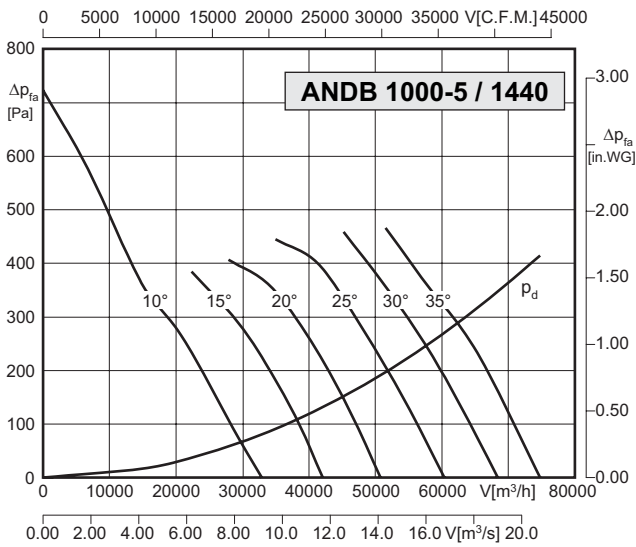
[°]	10°	15°	20°	25°	30°	35°
[kW]	3,88	5,82	6,40	7,97	10,21	12,86
Motor	4,0	5,5	7,5	11	11	15
[dB(A)]	94	95	96,5	98	100	102



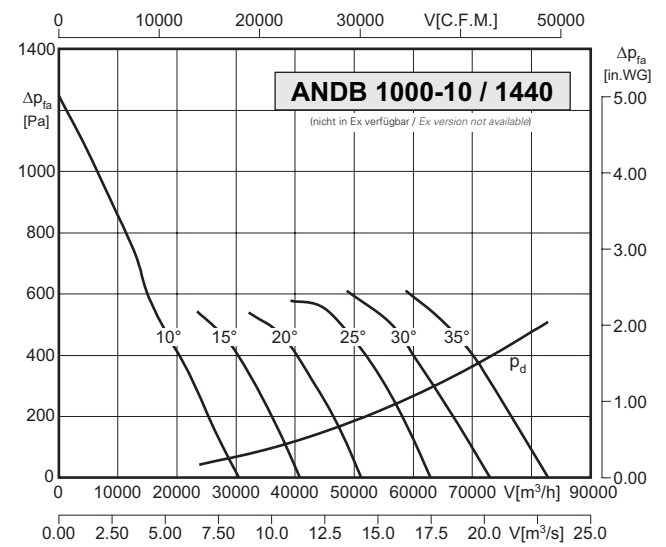
[°]	10°	15°	20°	25°	30°	35°
[kW]	0,88	1,24	1,73	2,61	3,17	4,26
Motor	1,1	1,5	2,2	3,0	4,0	5,5
[dB(A)]	89	90	91	92	93,5	95



[°]	10°	15°	20°	25°	30°	35°
[kW]	1,45	1,89	2,50	3,53	4,59	6,47
Motor	1,5	2,2	3,0	4,0	5,5	7,5
[dB(A)]	90,5	92	94	96	97,5	99



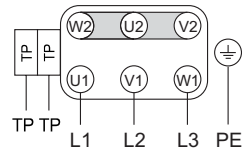
[°]	10°	15°	20°	25°	30°	35°
[kW]	2,99	4,18	5,85	8,79	10,71	14,39
Motor	3,0	5,5	7,5	11	11	15
[dB(A)]	98	99	100	101	102,5	104



[°]	10°	15°	20°	25°	30°	35°
[kW]	4,90	6,38	8,45	11,91	15,48	21,85
Motor	5,5	7,5	11	15	18	22
[dB(A)]	99,5	101	103	105	106,5	108

接线图

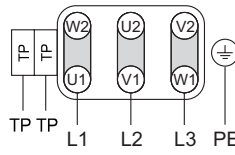
带有 PTC 电阻的单速三相交流电机



(Y) 星接法 Star connection

Wiring diagrams:

1-stage three-phase A.C. motor with PTC resistor



(Δ) 三角接法 Delta connection

电机必须按照电机铭牌上接线，两个相位上的互换会导致电机反转。

Motor must be wired according to motor label. Reversible rotation by interchanging of two phases.

电机电压 230 V Δ / 400 V Y

- 供电电源在 3~400V 的时候，电机必须根据接线图用星形接法接线。

Motor voltages 230 V Δ / 400 V Y:

- Motor must be wired up in star connection (Y) according to the connection diagram, if power supply is 3~400 V.

- 供电电源在 3~230V 的时候，电机必须根据接线图用三角形接法接线。

- Motor must be wired up in delta connection (Δ) according to the connection diagram, if power supply is 3~230 V.

注：上述方法在变频器的“输出”为 1~230V 时同样适用

Note: The above mentioned supplies are available on the “out” of a frequency converter if it is supplied with 1~230 V.

电机电压 400 V Δ / 690 V Y :

- 供电电源在 3~400V 的时候，电机必须根据接线图用三角形接法接线。

Motor voltages 400 V Δ / 690 V Y :

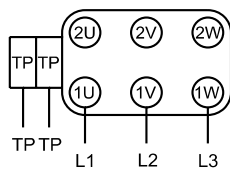
- Motor must be wired up in delta connection (Δ) according to the connection diagram, if power supply is 3~400 V.

注：上述电机可以用星三角方式启动

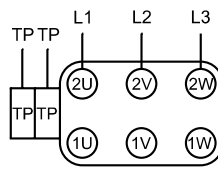
Note: The above mentioned motors can be started in star-delta.

双速三相交流电机（独立线圈）

低速 low speed



高速 high speed



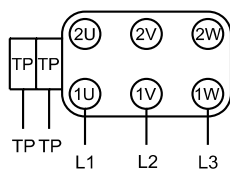
TP = 温度传感器 temperature sensor

电机必须按照电机铭牌上接线，两个相位上的互换会导致电机反转。

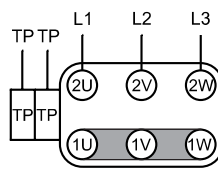
Motor must be wired according to motor label. Reversible rotation by interchanging of two phases.

双速三相交流电机（达兰德线圈）

低速 low speed



高速 high speed



TP = 温度传感器 temperature sensor

电机必须按照电机铭牌上接线，两个相位上的互换会导致电机反转。

Motor must be wired according to motor label. Reversible rotation by interchanging of two phases.

您的销售代表 *your sales representative:*