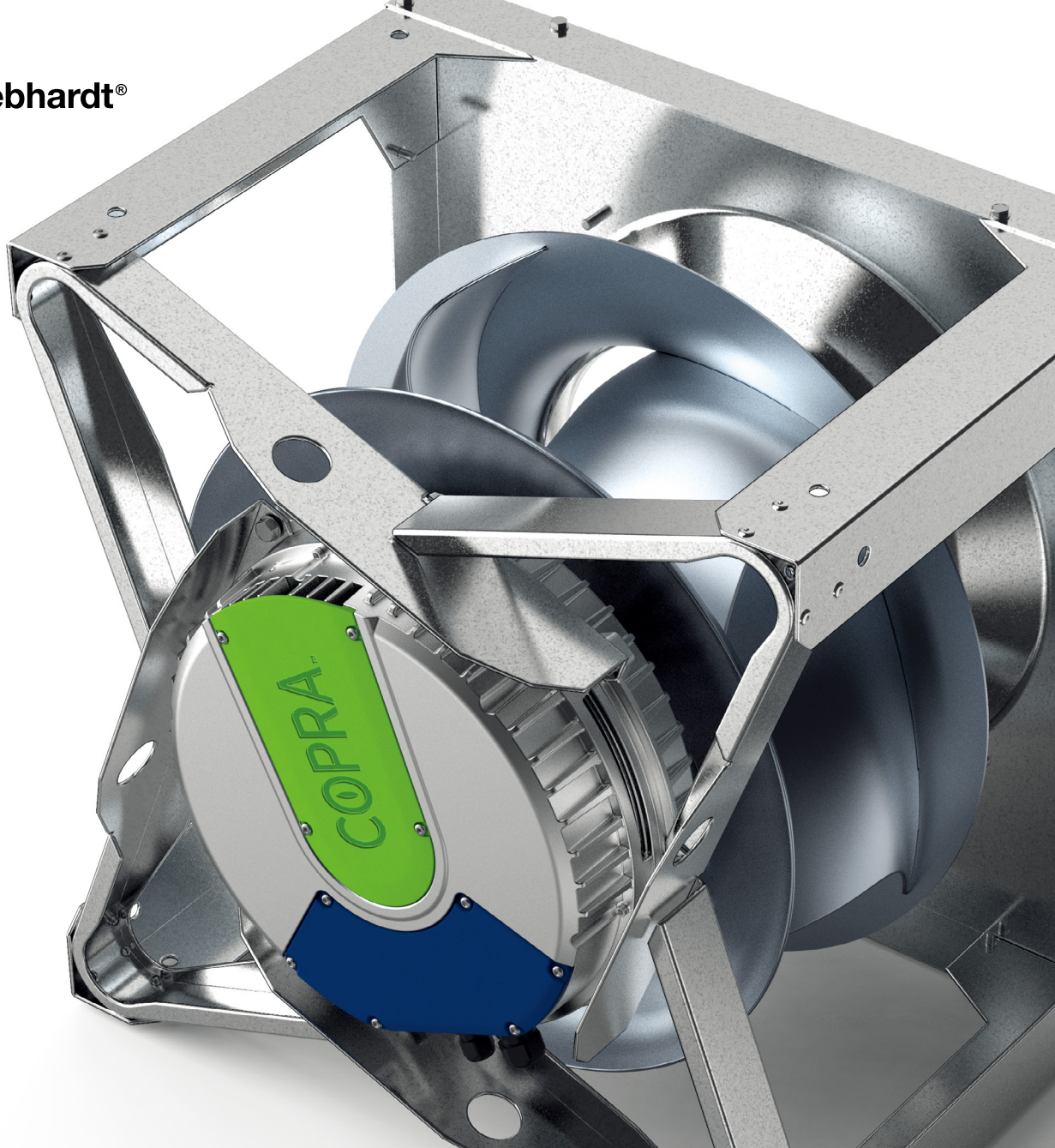




COPRA™ FANS

COMPACT AND EFFICIENT. THE PERFECT MATCH.

THE SPACE-SAVING CENTRIFUGAL FAN SYSTEM.



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RegalRexnord™

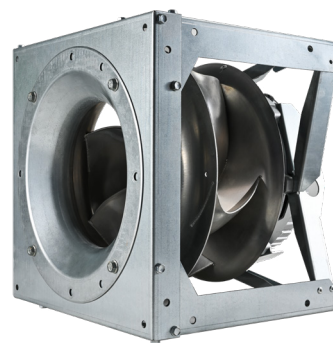
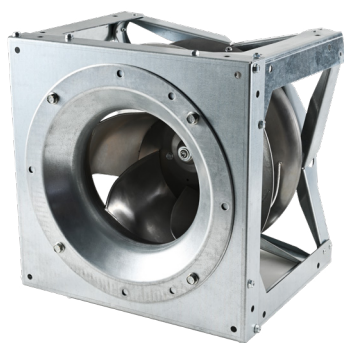


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Regal Beloit (Jiaxing) Co., Ltd. certifies that the COPRA Plug series shown herein is licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.



Nicotra Gebhardt stands for:

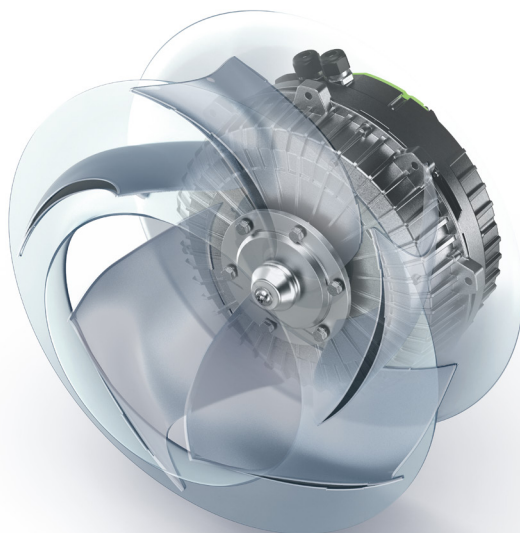


PUTTING AN END TO COMPROMISE

COPRA™ fans combine high system efficiency, decisive compactness and high power density for the best overall performance.

The new space-saving COPRA system is comprised of a motor, impeller and integrated controller. It combines three properties in a way that previously seemed almost impossible: exceptional compactness, outstanding system efficiency and high power density. Its short motor does not restrict airflow while minimizing the space needed for the system. This, with the newly developed aerodynamic impeller design, delivers maximum efficiency – especially at reduced operating speeds.

Compared to conventional plug fans, COPRA™ fans offer maximum airflow with the greatest possible efficiency and significantly reduce footprint for all sizes. With its low installation losses, the new aluminum impeller demonstrates its advantages to the fullest, even in confined installation conditions. This makes COPRA fans the ideal solution in HVAC systems, data centers, and many other areas.



Why only improve, when you can reinvent?

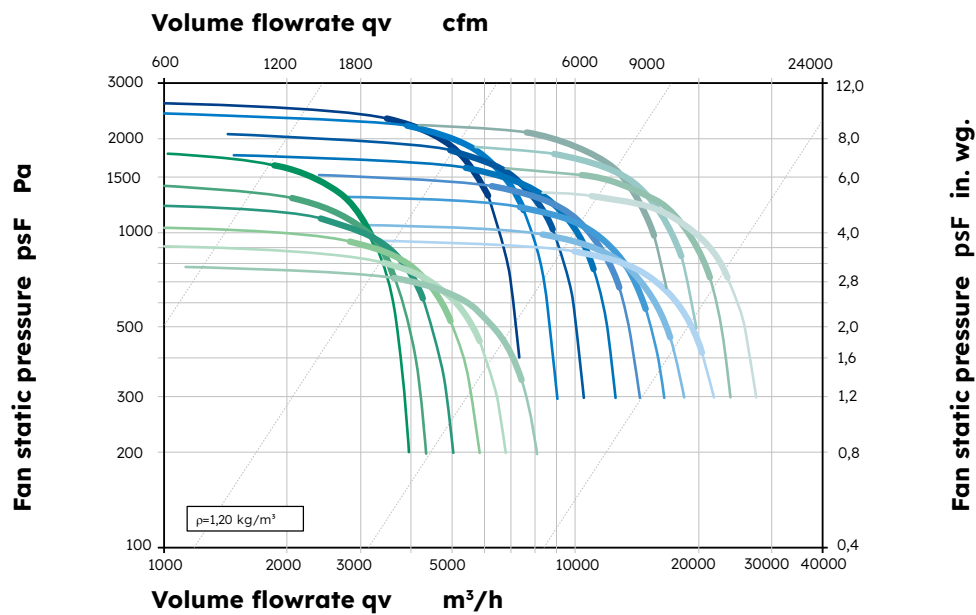
For good reasons, plug or hybrid radial fans have largely replaced fans with scroll housings in air-conditioning applications. Even though the latter have some positive physical characteristics, plug fans take up less space, and drive losses due to belts, bearings or couplings are not an issue. Planners are particularly focused on lower pressures.

In addition, the European Ecodesign Directive prescribes variable-speed drives. This favors directdrive solutions. In terms of physics, plug impellers can only achieve a pressure increase or energy conversion via two factors: a swirl added to the flow and a maximum delay in the relative flow in the impeller's blade channel.

A swirl in the flow at the exit from the impeller is unavoidable and necessary for energy conversion. However, this swirl also represents a loss in air-conditioning applications. As a result, fan concepts of this kind can achieve maximum aerodynamic system efficiencies of around 70%. We have achieved these maximum plug static efficiencies with COPRA™ fans.

The only way to gain more static efficiency from the energy of the flow swirl at the impeller exit is to use guide vanes, specifically a direct-driven hybrid fan with multiple discharge scrolls. However, this is typically less compact in design. Taking the above aspects into account, we have achieved greater aerodynamic efficiency levels with a reduced footprint in the development of the COPRA system.

Consolidated characteristics: overview of sizes.



The chart shows an overview of sizes 250 mm to 710 mm with up to 8 kW motor power at the maximum speed of the respective size. The ranges with the best overall static fan efficiencies (operating range with best efficiency) are highlighted.

COPRA™

COPRA CORE 1.3 – 8 kW COPRA PLUG 1.3 – 8 kW

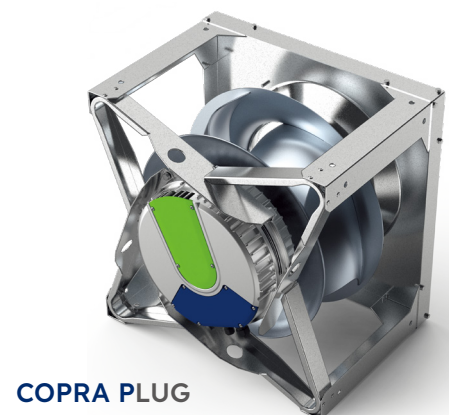
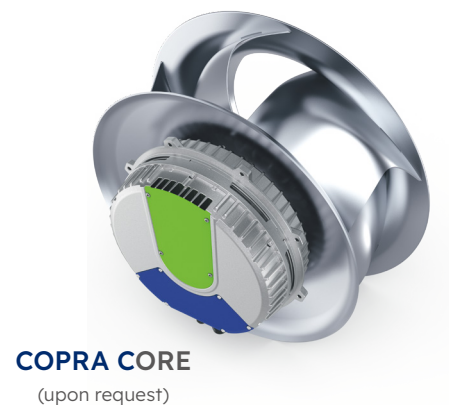
- Internal-rotor motor PM/EC technology with efficiency up to IE6
- Integrated electronics
- Air volume up to 28,000 m³/h / 16,480 CFM
- Static pressures up to 2,000 Pa / ~6.8" wg
- Installation made simple with frame system
- UL/CE certified

Impeller

- Aluminum, welded; 3-dimensional backward curved blade design
- Impeller diameters: 250, 280, 315, 355, 400, 450, 500, 560, 630, 710 mm
- Maximum static pressure 2,000 Pa / ~6.8" wg
- Maximum circumferential speed at impeller outer diameter: ~70 m/s
- Conical backplate

Motor

- 1.3 kW, 4.5 kW, 8 kW
- 200-240 V 50/60 Hz 3~
- 380-480 V 50/60 Hz 3~
- No use of rare earth magnets
- Operating temperature range: -20 to +40 °C



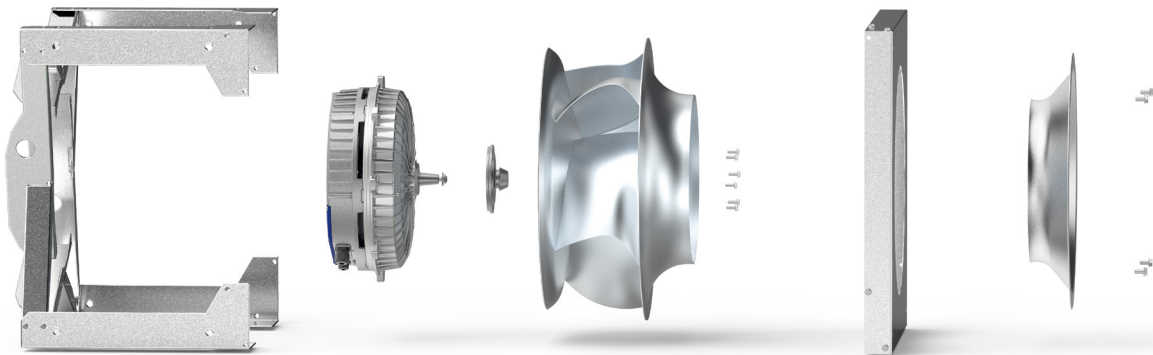
A PERFECT COMBINATION

Maximum airflow, maximum efficiency together on one unit;
with COPRA™ fans, the motor and impeller are optimally matched.

In the new COPRA™ fans, a perfect combination of impeller and motor across all sizes ensures maximum airflow with the highest possible efficiency and no mutual aerodynamic interference. Every application benefits from the perfect fit of COPRA™ fans' motor and impeller. Aerodynamically, the new impeller is one of the best currently available. It also enables a perfect symbiosis with the new motor form factor. Since the new internal-rotor motor is very short and its motor hub does not recede into the impeller it does not obstruct the impeller airflow. And at the same time, the overall system is highly compact and has a small footprint.

Standout features: maximum aerodynamic efficiency levels with ultra small footprint.

Conventional plug fans with external-rotor motors are hard to improve in terms of system efficiency and compactness. The greatest optimization potential for fan systems lies in adapting the characteristics of the drive required for the application in terms of the geometry and specifications – without aerodynamic disturbance or the need for additional cooling. It is precisely this goal – the perfect motor/impeller combination – that we have pursued and achieved in the development of COPRA™ fans. We have perfectly matched the motor and impeller geometrically and with regard to the necessary power, speed and speed range, aerodynamics, pressure increase, and corresponding torque. We have eliminated any mutual aerodynamic interference.



The Impeller

The new aluminum impeller with its advanced geometry can compete aerodynamically with the best impellers. Its three-dimensional backward curved blade design provides the necessary width to achieve a physical balance of forces between the flow lines and flow surfaces. It avoids an unfavorable crossflow within the impeller. The profiled design (hollow profile) achieves the best aerodynamic properties at the respective flow surfaces for the pressure increase in the blade region. The profile cross-sections are designed as airfoils, in order to optimize the flow on the suction and pressure sides of the blades at every position within the impeller.

The Motor

The COPRA™ fans' motor sets the benchmark with its maximum efficiency and high effectiveness. At the same time, it has to be as compact as possible in combination with the impeller – and without negatively affecting the aerodynamics. For centrifugal fans with an impeller within a plug arrangement, this means the motor must be as short as possible. We have achieved all this with the PM/EC motor in COPRA™ fans. It achieves an efficiency class of up to IE6. Moreover, the COPRA™ fans' motor does not require direct cooling by air circulation or a separate cooling system. The integrated cooling of the motor electronics is sufficient. In any case, the motor's high efficiency means it requires less cooling. This makes the motor and system extremely reliable in operation.

Compact and efficient without impeller obstruction: COPRA™ fans make the impossible possible.

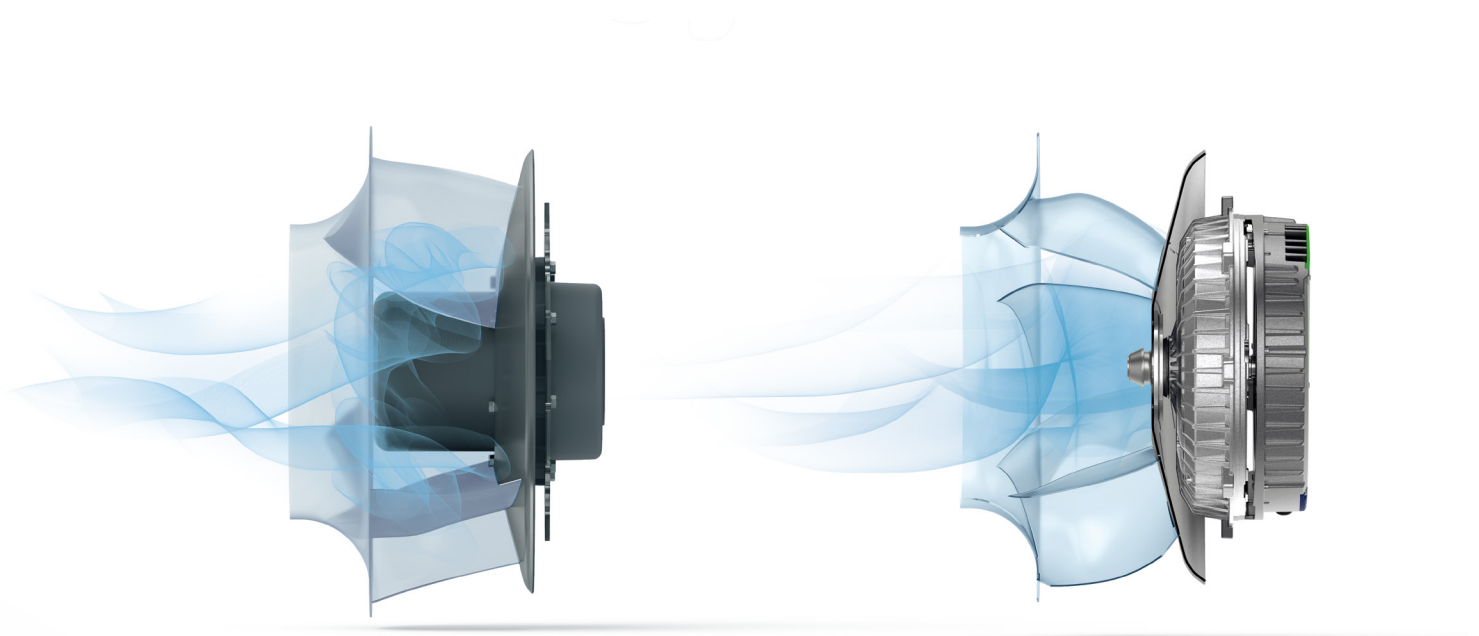
The size and shape of an external-rotor motor have an immense impact on the aerodynamic efficiency of a fan. The problem here is obstruction of the impeller airflow. With COPRA™ fans, it has been possible to avoid impeller obstruction and still achieve an extremely compact, highly efficient centrifugal fan system with an internal rotor. Solutions that are compact but compromise on efficiency are now a thing of the past. COPRA™ fans therefore unlock completely new potential for saving energy and costs.

Partly because of how they were historically developed, the design of external-rotor motors is better suited to axial flow fans than centrifugal fans. Nevertheless, despite the aerodynamic disadvantage of obstructing the airflow in the impeller, they have also become widely used for centrifugal fans. However, especially with compact EC motors, the motor protruding into the impeller significantly reduces system efficiency.

Pulling the motor out of the impeller – withdrawing it into a cone-shaped impeller or backplate – does reduce impeller obstruction, because the fan hub no longer protrudes into the impeller. However, this sacrifices the system's footprint.

Yet compactness is a crucial requirement in many applications. This is because, particularly where space is limited, fan solutions with pulled-out motors cannot be implemented in some applications due to their length.

Using an EC external-rotor motor in a plug fan is always a compromise between efficiency and overall length. This is why COPRA™ fans, with a very short internal-rotor motor, consistently prove to be the ideal, compromise-free, and therefore highly economical, system solution.



Fan solution with external-rotor motor and obstruction of the airflow in the impeller.

Fan solution with COPRA™ technology, without obstructing the airflow in the impeller.

CREATING SPACE WHERE THERE IS NONE

In short, COPRA™ fans are the ideal system for tight installation spaces.

In the new COPRA™ fans, it has been possible to make the internal rotor motor so short that it does not obstruct the impeller's airflow as is the case in conventional fan solutions. This creates ideal conditions for particularly economical operation even in tight installation spaces; the shortest axial length with maximum efficiency.

At the same time, the new motor/impeller concept ensures very low installation losses. There are hardly any unexpected, disadvantageous interactions between fan and application. A major reason for this is the modified overall geometry of the impeller.

No more compromise: short axial length plus high efficiency.

Typical competitive fans use external rotor motors while COPRA™ fans use a compact internal rotor motor. For fans with external rotor motors (left), pulling the motor out of the impeller provides high efficiency, but makes the system longer. In addition, cooling is required for the external rotor motor due to the lack of air stream around the rotor in the impeller.

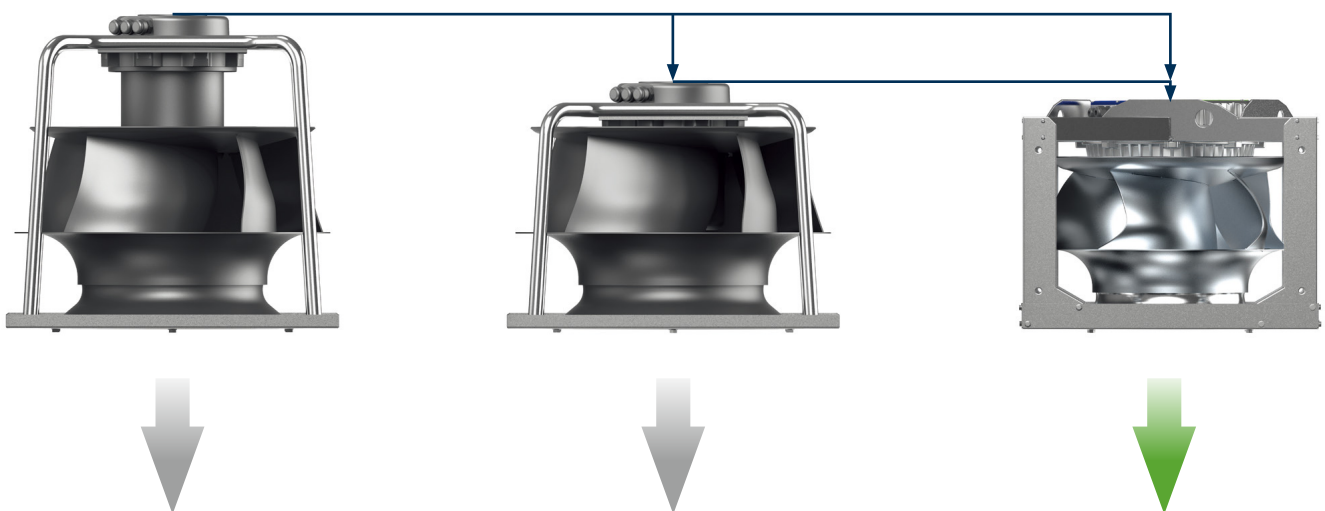
For systems with an external rotor located inside the impeller (center), the opposite is true. The system is compact and the motor is cooled in the airstream, but unavoidable turbulence in the impeller considerably reduces the aerodynamic efficiency.

COPRA™ fans (right) utilize the best features from both configurations without the compromises. The exclusively designed short motor does not protrude into the impeller, making the system extremely compact and does not generate any turbulence. It also has integrated cooling for the electronics. The result is the best efficiency with maximum compactness of the system.

With its outstanding compactness, COPRA™ fans are ideal for use in specific applications in data centers, or in ventilation and air-conditioning system fan arrays, where installations can often be made a crucial few centimeters shorter. This results in valuable material cost savings.

Conventional External Rotor Motor Plug Fans

COPRA Plug



High Efficiency

Long axial length

Low Efficiency

Short axial length

Combined highest efficiency

with shortest axial length

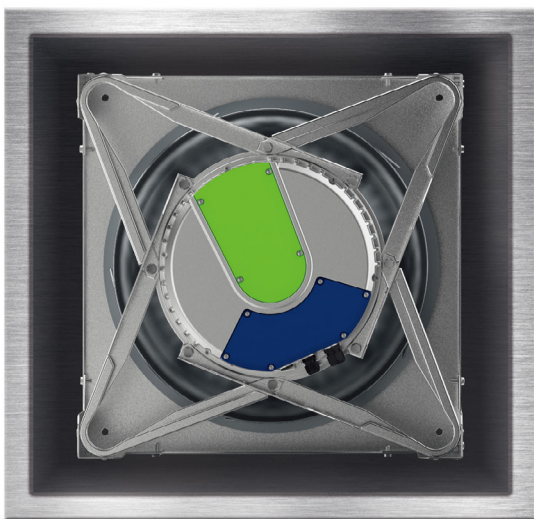
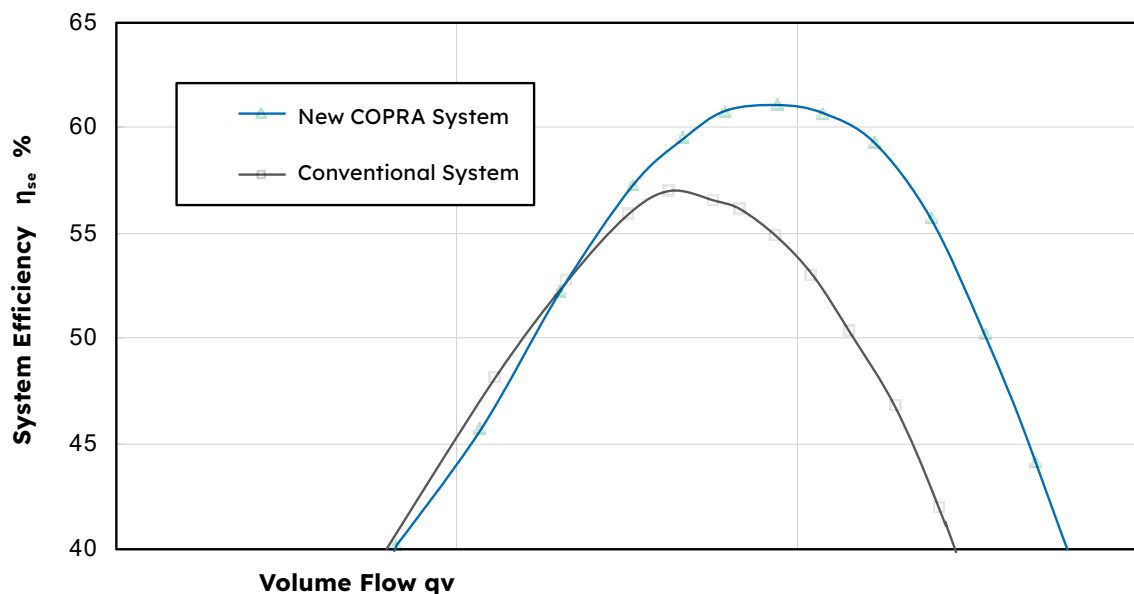
COPRA™ fans: the perfect system for tight installation spaces.

Tight installation spaces cause many challenges for centrifugal fan systems. The usual problem here is that the fan is not running under ideal conditions, and efficiency drops due to the limited gap between the fan and the chamber walls. In this case, the actual values can differ significantly from the catalog data measured in the laboratory.

COPRA™ fans, by contrast, show their strengths particularly under such difficult installation conditions. The technical reasons for this are found in the modified

overall geometry of the impeller. They include its three-dimensional properties with large flow surfaces resulting in relatively low flow velocities, as well as the conical backplate and different diameters on the backplate and cover plate.

Compared to conventional EC fans, for example, COPRA™ fans attain the maximum achievable aerodynamic static pressure increase and static efficiency. The specific performance, i.e. the relationship between the power consumption for given diameters and speeds, and the volume of air moved, has been optimized.



In this example, we compare VGreen Evo (TM) motor series fan with the COPRA system under otherwise identical conditions. With an installation ratio of factor 1.6 to the outer wall, in relation to the impeller diameter, COPRA™ fans achieve significantly better values, especially to the right of the optimum.

THE BEST PERFORMANCE FOR EVERYONE

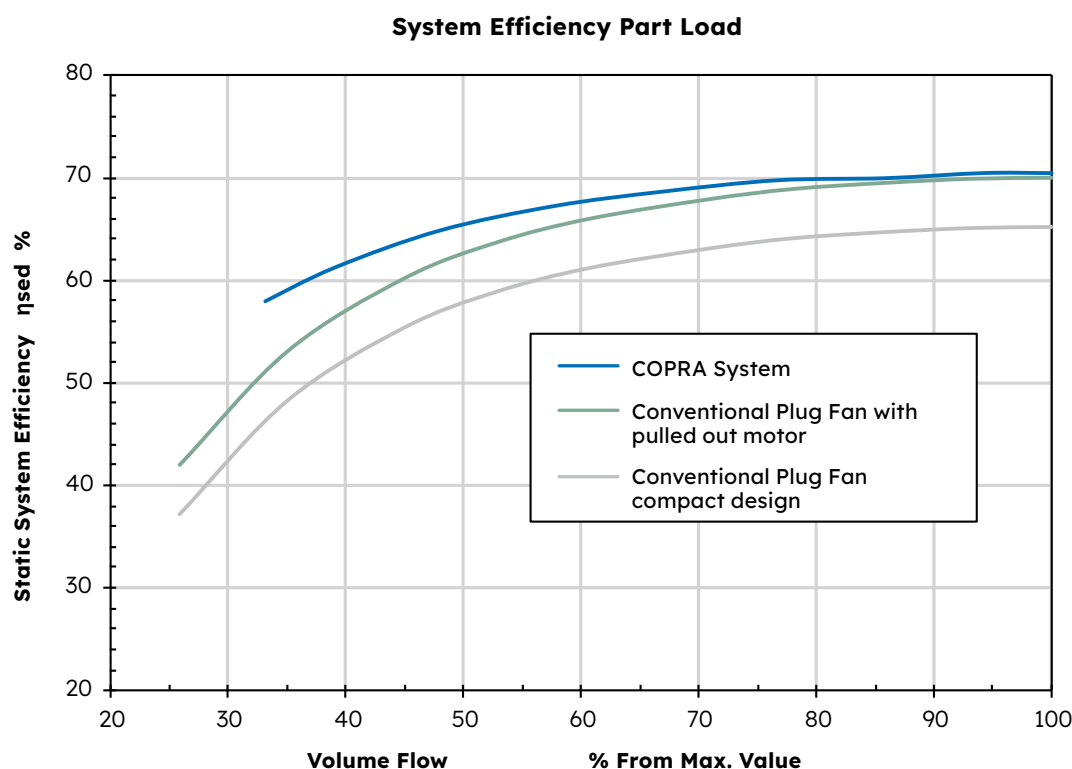
COPRA™ fans deliver excellent system efficiency and maximum power density

With COPRA™ fans, small dimensions equal big power. The new COPRA™ fans achieve static system efficiencies of around 70 percent and more with the greatest compactness. At the same time, they offer significantly higher power density than conventional plug fans. This ensures maximum airflow with the greatest possible efficiency for every size. In many cases, COPRA™ fans reach the operating point with the next smaller size or achieve higher efficiency with the same size. When operating under reduced speed, they offer the highest system efficiency compared to conventional EC fan technology. In summary, they provide outstanding system efficiency.

Highest aerodynamic efficiency levels with greatest compactness.

COPRA™ fans provide the best reduced speed performance.

In most applications, fans do not run under full speed. They run under reduced speed as required. COPRA™ fans shine whether used for specific applications in ventilation and air-conditioning - for example, use in redundant operation in fan arrays - or in data centers. The units provide outstanding efficiencies, not only at maximum speed, but also in the reduced speed range. This is true in comparison with both compact and efficiency-optimized fans. The difference becomes particularly evident where fans with a pulled-out motor cannot be used due to a lack of space in the axial direction.



A comparison of the new COPRA™ fans with the best conventional fans with external-rotor motor shows that COPRA™ fans achieve the highest system efficiency under reduced speed compared to conventional EC fan technology.

COPRA™ fans score twice with outstanding system efficiency and highest power density.

In a system efficiency comparison, COPRA™ fans' benefits are compelling. When comparing our impeller from the well-known V Green Evo (TM) motor series in size 500 with COPRA™ fans in size 450, COPRA™ fans are the clear front-runner.

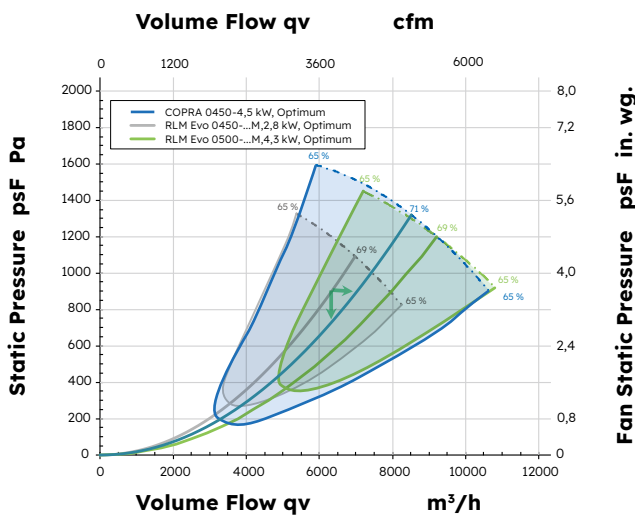
Compared to the RLM EVO with IE5 PM motor technology, a smaller sized COPRA™ fan can be selected - and with at least the same efficiency.

In a comparison of plug fans, COPRA™ fans have to achieve the decisive advantage of high compactness with the highest efficiencies. Therefore, the development

goal was to maximize their specific performance with the highest possible static efficiencies. In other words, the aim was to achieve the highest possible airflow for the fan's size and speed at the highest efficiencies, i.e. maximum airflows at the respective pressure level.

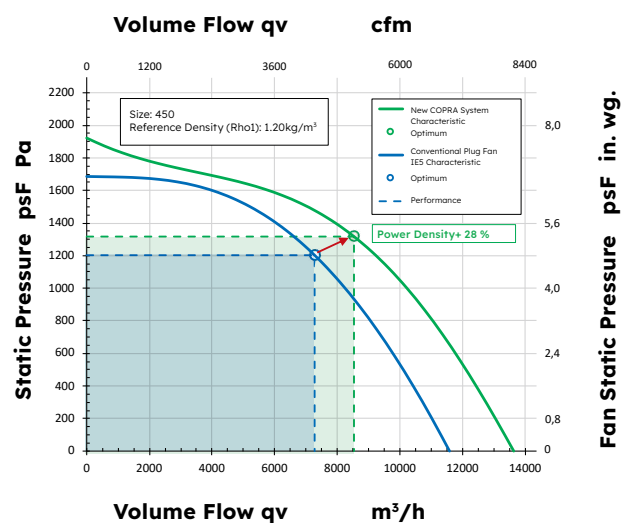
As a fan solution for specific tasks, COPRA™ fans can therefore be sized smaller than other solutions available on the market. Furthermore, the system runs at lower speeds than other solutions of the same size. And this is achieved with maximum efficiencies, lower power consumption, reduced space requirements, less noise, and also lower speeds.

Plug Fans
Comparison Optimum



In many cases, COPRA reaches the operating point with the next smaller size or achieves higher efficiency with the same size.

Plug Fans
New COPRA System with higher power density



With COPRA™ fans, specific performance has been maximized with the highest possible static efficiencies.

LOW NOISE MEETS LIGHTWEIGHT, WORLDWIDE

The compelling advantages of geometry and material, realized.

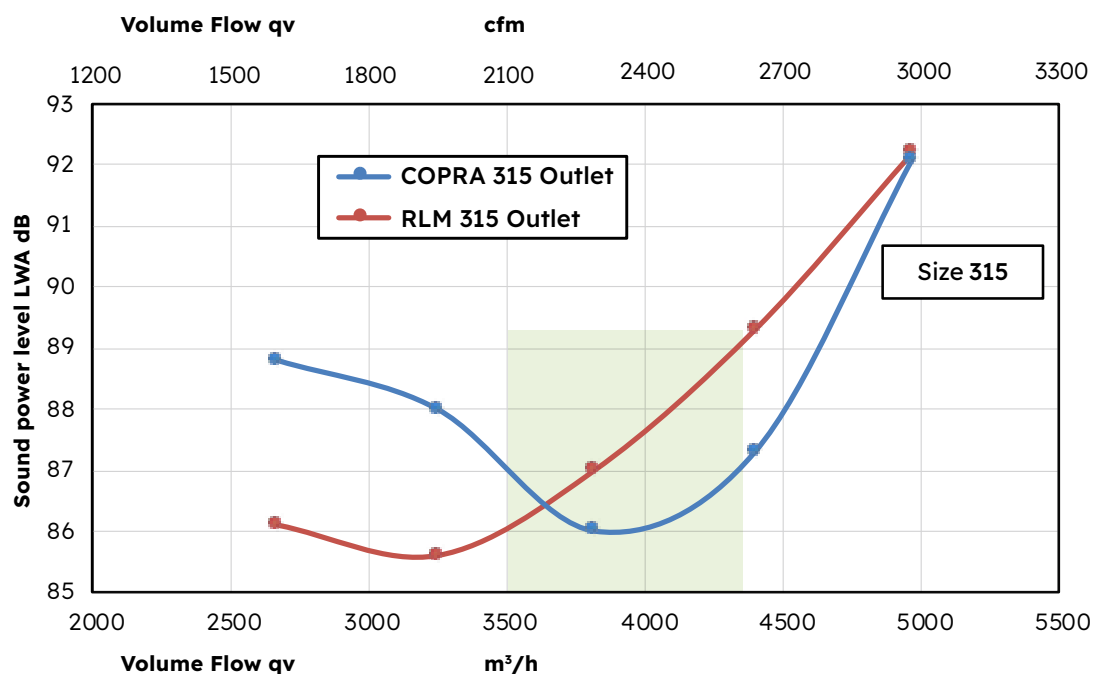
Whether data centers or HVAC systems, wind power or retrofit, COPRA™ fans offer decisive advantages in many applications. Planners, plant engineers and operators will appreciate their compactness, efficiency, power density and high cost-effectiveness. The system's low noise level, the material, and worldwide availability are further reasons to choose COPRA™ fans.

Low noise.

With its special blade and impeller geometry, COPRA™ fans generate less noise thanks to better flow conditions. Their psychoacoustically more comfortable frequency range is also an important advantage, especially for HVAC applications in residential and office buildings. COPRA™ fans' PM internal-rotor motors generate significantly less noise compared to external-rotor motor concepts. This, too, has a positive effect on the overall system's sound power level.

In particular, the profiled blade sections (hollow profiles) implemented with three-dimensional geometry make a significant contribution to these excellent characteristics.

Sound power level comparison outlet



For many years, our customers have appreciated the VGreen Evo (TM) motor impeller's low noise emissions. But it gets even quieter: Typically, the higher noise values on the pressure side are often the most decisive factor. Compared to the Evo impeller, we have achieved further improvements with COPRA in applications with pre high airflows.



Enjoy all the advantages of aluminum.

COPRA's impeller is made of high-quality aluminum. The material enables hollow-profile blades and hence optimal aerodynamic geometries, while also maximizing stability. The low system inertia of the impeller allows more dynamic adjustment of the speed. At the same time, the impeller is particularly lightweight, easy to handle and also corrosion-resistant. Plus, compared to the use of plastic throughout, the wall thicknesses are thinner. Imbalances also have less of an effect. As a result, both the center of gravity and the vibration characteristics are better in challenging installation situations. This has a positive impact on the service life of the motor and fan. Another factor that is becoming increasingly important is aluminum, unlike plastic, is virtually 100 percent recyclable - ensuring a good environmental footprint.

Well positioned worldwide: one series for all requirements.

As a company, we are established worldwide and manufacture wherever our customers are. COPRA meets all requisite conditions for global use. Where you would otherwise have to configure two different series, this one series can cover all requirements worldwide - and each features unique compactness and efficiency. As a plant engineer, you no longer need additional series that could have an impact on efficiency or axial length; your stock-keeping is much simpler.

Furthermore, COPRA is equally suitable for all regions of the world, and is available globally with a uniform quality standard. A local technical presence is assured worldwide. In addition, official certifications have been obtained worldwide.



VERSATILITY IS ITS STRENGTH

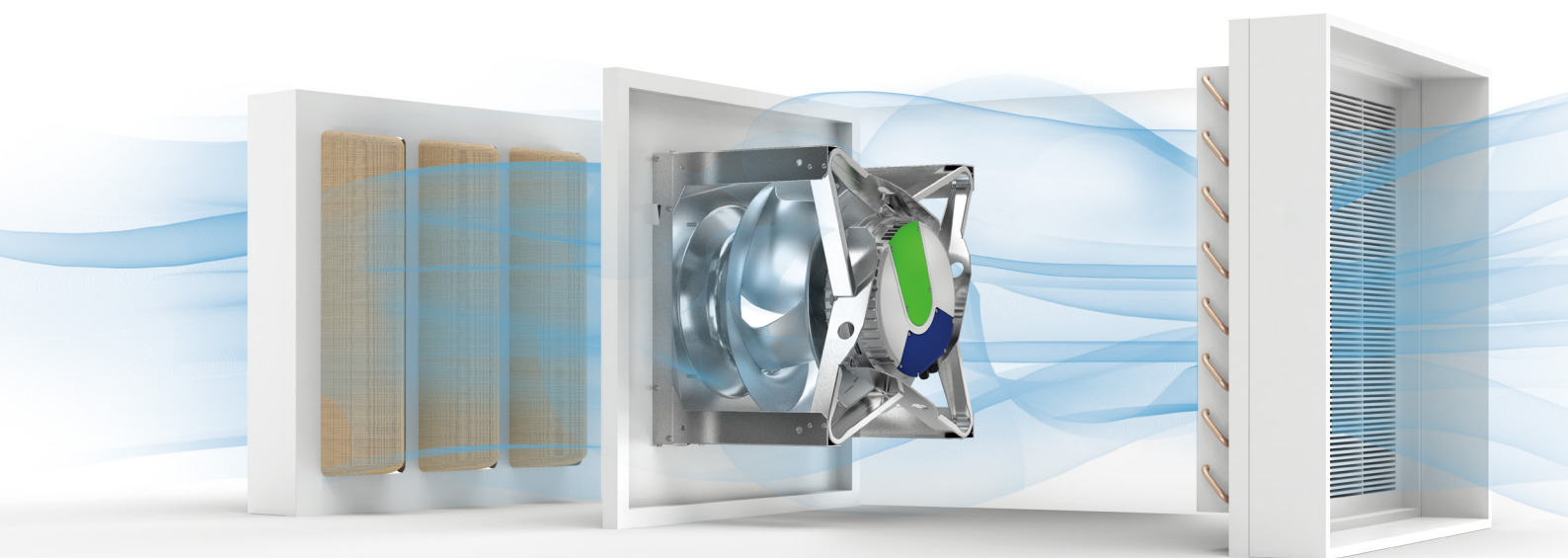
COPRA™ fans are the ideal fan for any HVAC system.

The new COPRA™ fans maximize efficiency while minimizing required space in your system. Their short motor do not obstruct airflow, while the newly developed aerodynamic impeller design maximizes efficiency at both full and reduced speeds. Perfect for simple plug-&-play installation in new HVAC systems as well as for the modernization of existing systems, COPRA™ fans can deliver significant cost savings.

The ideal plug fan for fan arrays.

COPRA™ fans are ideally suited to multiple wall configurations in the form of several fans arranged next to and above each other. Although in principle plug fans also need sufficient installation space to achieve high system efficiencies, this is often neglected in the design of fan arrays. Unwanted air turbulence causes further installation losses. COPRA™ fans are the best fit for multiple wall configurations not only because of their compactness in axial length, but also because of their smallest possible diameters with high airflows.

Fan arrays are operated at reduced power to ensure a capacity reserve for redundancy operation. This is where COPRA™ fans' excellent reduced speed performance is a benefit. With a COPRA™ fan, its compactness in combination with high system efficiency and high power density ensures you get the maximum performance out of your system, whether as a single fan or as part of an array.



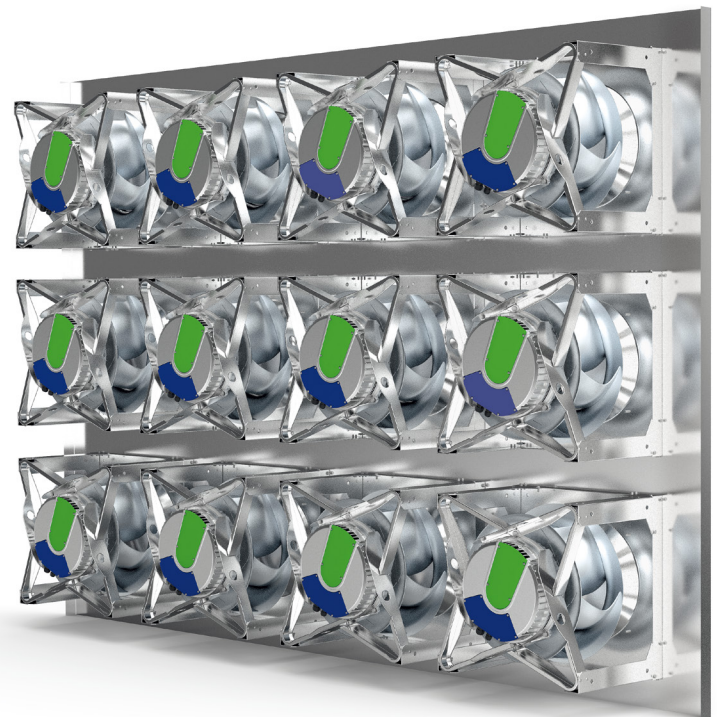
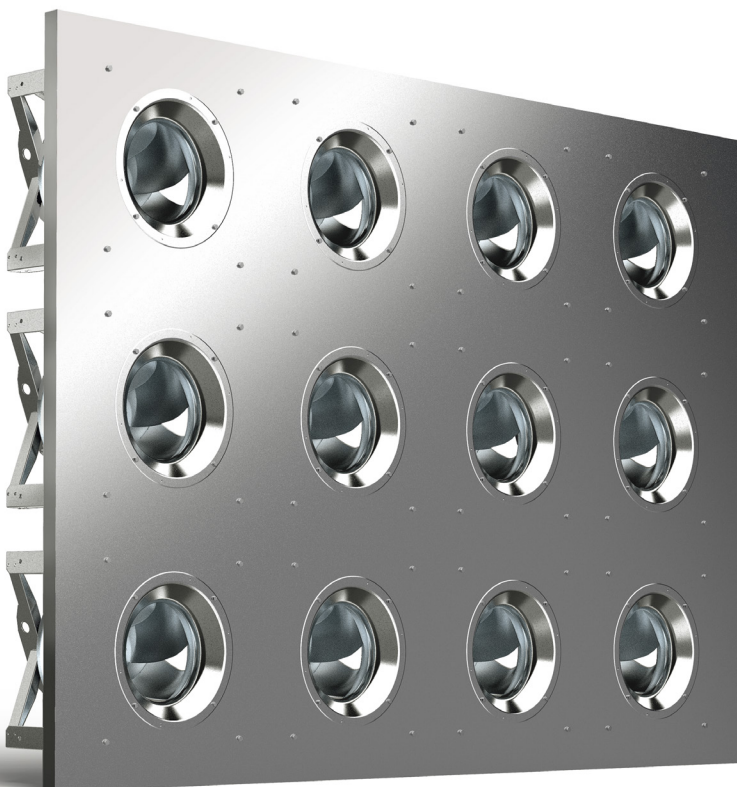
Retrofit: Replacing fans with COPRA™ fans pays off.

Replacing old, power-hungry and maintenance-intensive fans with economical devices featuring a flow-optimized design brings many advantages. From lower operating costs and CO₂ emission savings to higher operational reliability and short payback times. Fans account for up to 70% of the operating costs in an overall ventilation and air-conditioning system. Take advantage of the resulting savings potential - with the new COPRA™ fans.

The question of the "best" and most economical solution when choosing fans depends on individual factors and can only be answered based on a professional system analysis. In retrofit projects, contractors will appreciate the minimal installation and maintenance work required, as well as the ease of fitting COPRA™ fans into often confined spaces. Often the preferred choice is COPRA-style units; plug fans or hybrid fans with multi-spiral baffle plate technology.

The advantages of COPRA™ fans for ventilation and air-conditioning systems, at a glance:

- High system efficiency
- Small installation depth
- High power density
- Excellent reduced speed performance
- Almost no installation losses
- Low noise
- Less installation effort



COPRA SERIES BACKWARD CURVED CENTRIFUGAL FAN

Ideal solution for the new generation of combined air conditioning, ventilation systems, data centers, and other fields.

The COPRA Series Backward Curved Centrifugal Fan is a new generation of efficient centrifugal fan series introduced by Regal Rexnord. COPRA combines three characteristics in a scientific manner: compact size, high system efficiency, and high power density. The ultra-thin inner rotor motor does not impede airflow and, coupled with the newly developed aerodynamic impeller design, can provide high efficiency even at full load or partial load conditions. COPRA is equipped with commonly used signal input and output interfaces in the industry, enabling intelligent control through Modbus communication. The COPRA power range is from 1.3 kW to 8 kW, offering high power density and low operational noise levels. COPRA has an IP54 protection rating and is certified by UL, CE, and CCC.

EFFICIENT

- Efficient impeller design for fluid simulation.
- Clever combination of motor and impeller, ensuring unobstructed airflow for the impeller and high transmission efficiency with direct drive from the motor shaft.
- Highly efficient motor surpassing the industry's highest IE5 energy efficiency standard with high power density.
- Independently integrated electronic control cooling system inside the motor for improved efficiency in electronic control.
- The fan achieves a maximum static pressure efficiency of over 70%, approximately 5% higher than competing products in the industry.

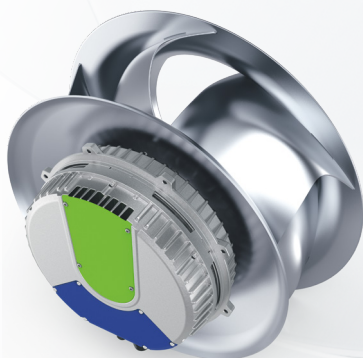
LOW-NOISE

- The special geometric shape of the blades facilitates better gas flow and reduces noise.
- Efficient motor and impeller design, resulting in approximately 2 decibels lower noise levels under typical operating conditions.

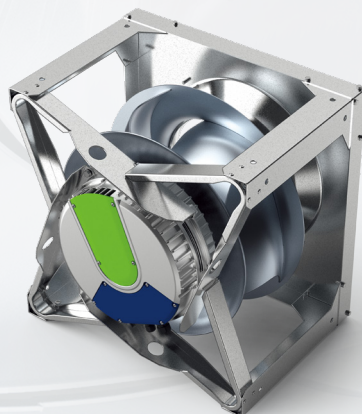
COMPACT

- Compact structure and small size.
- Superior performance in narrow spaces, saving more installation space for customers.

COPRA CORE

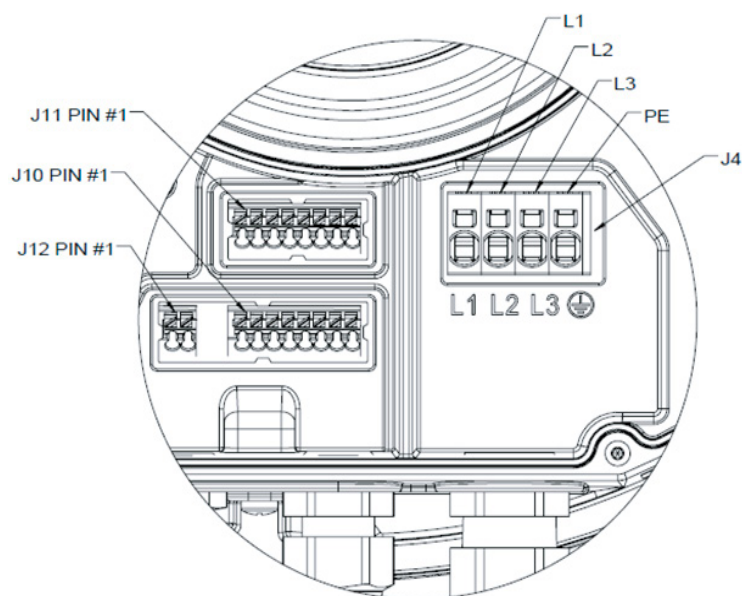


COPRA PLUG



COPRA Series Backward Curved Centrifugal Fan

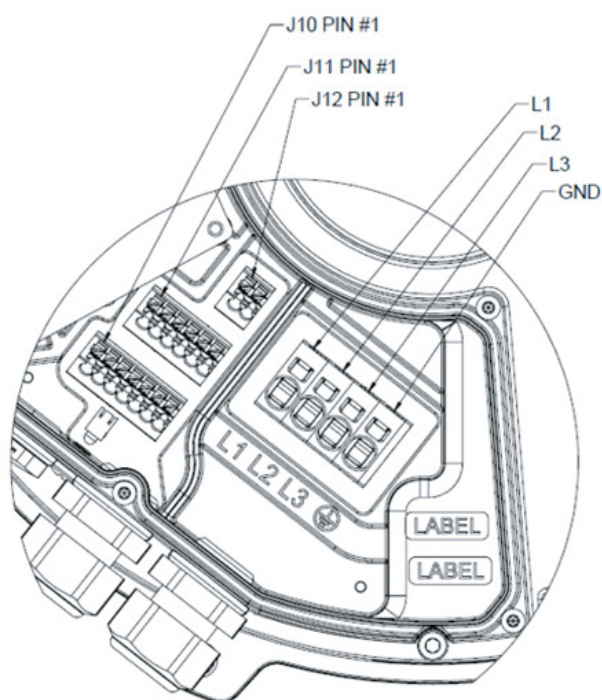
- 4.5KW/7.8KW Wiring Diagram Explanation



Group	Interface Sequence (from left to right)	Interface Description	Interface Abbreviation
Signal Interface Group	J10#1	485 communication interface A	RS485 A
	J10#2	485 communication interface B	RS485 B
	J10#3	grounding port that complies with the ISO standard	GND
	J10#4	Auxiliary power output of +10V	+10V OUT
	J10#5	0-10V speed control signal input	0-10V IN
	J10#6	4-20mA speed control signal input	4-20mA IN
	J10#7	PWM speed control signal input	PWM IN
	J10#8	grounding port that complies with the ISO standard	GND
Functional Interface Group	J11#1	Digital signal input port 1	DIN 1
	J11#2	Digital signal input port 2	DIN 2
	J11#3	Digital signal input port 3	DIN 3
	J11#4	grounding port that complies with the ISO standard	GND
	J11#5	Digital signal feedback port	DOUT
	J11#6	Auxiliary power output of +24V	+24V OUT
	J11#7	grounding port that complies with the ISO standard	GND
	J11#8	grounding port that complies with the ISO standard	GND
Relay Interface Group	J12#1	Relay port	ROUT
	J12#2	Relay port COM	RCOM
Power Supply Interface Group	J4#1	Three-phase line 1port	L1
	J4#2	Three-phase line 2port	L2
	J4#3	Three-phase line 3port	L3
	J4#4	Grounding port	PE

COPRA Series Backward Curved Centrifugal Fan

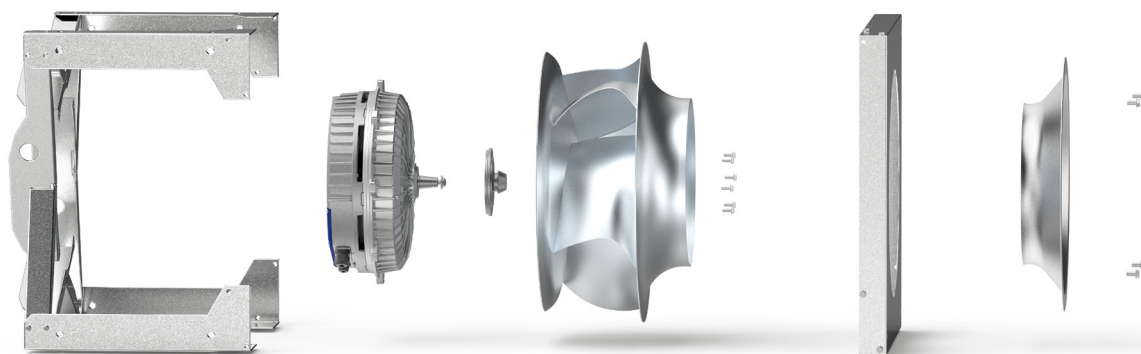
- 1.3KW Wiring Diagram Explanation



Group	Interface Sequence (from left to right)	Interface Description	Interface Abbreviation
Signal Interface Group	J10#1	485 communication interface A	RS485 A
	J10#2	485 communication interface B	RS485 B
	J10#3	grounding port that complies with the ISO standard	GND
	J10#4	Auxiliary power output of +10V	+10V OUT
	J10#5	0-10V speed control signal input	0-10V IN
	J10#6	4-20mA speed control signal input	4-20mA IN
	J10#7	PWM speed control signal input	PWM IN
Functional Interface Group	J11#1	Digital signal input port 1	DIN 1
	J11#2	Digital signal input port 2	DIN 2
	J11#3	Digital signal input port 3	DIN 3
	J11#4	grounding port that complies with the ISO standard	GND
	J11#5	Digital signal feedback port	DOUT
	J11#6	Auxiliary power output of +24V	+24V OUT
Relay Interface Group	J12#1	Relay port	ROUT
	J12#2	Relay port COM	RCOM
Power Supply Interface Group	J4#1	Three-phase line 1port	L1
	J4#2	Three-phase line 2port	L2
	J4#3	Three-phase line 3port	L3
	J4#4	Grounding port	PE

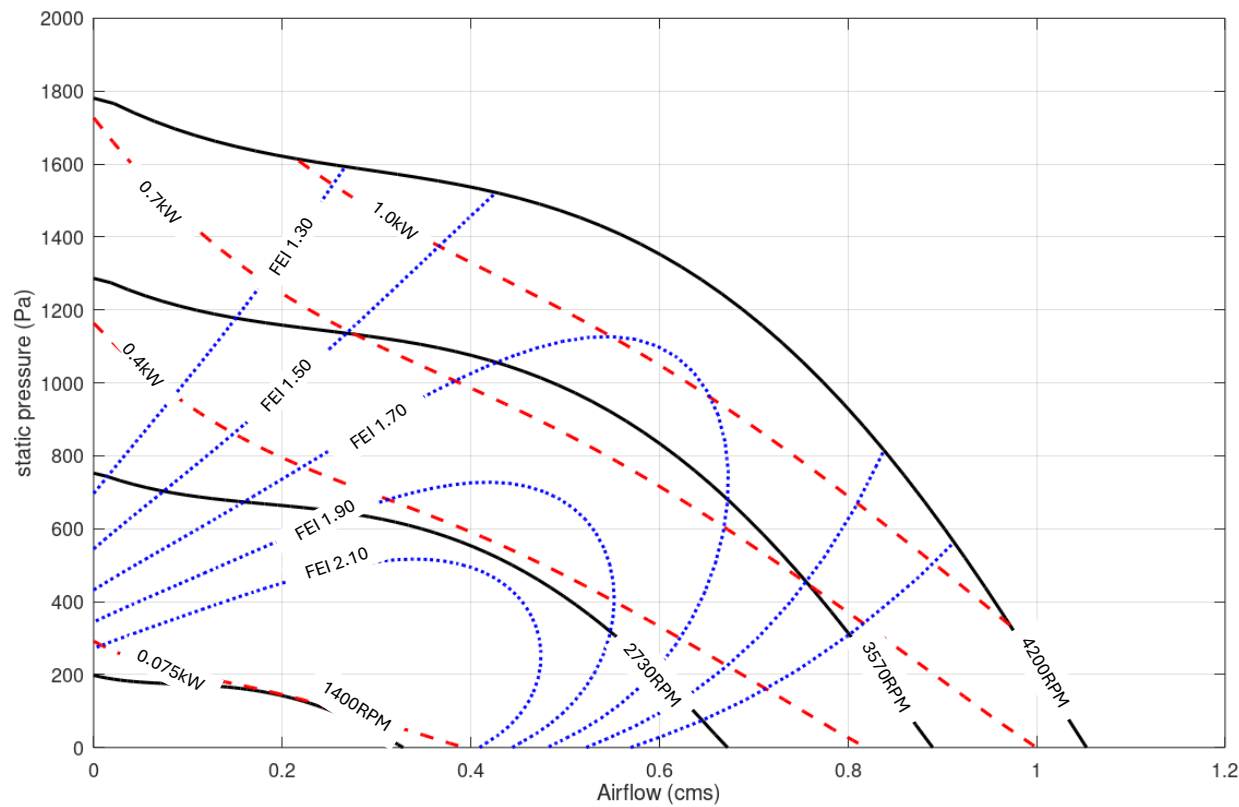
Technical specifications

Unit ID	Motor model	Rated voltage (V)	Frequency (Hz)	Maximum power (kW)	Maximum speed (RPM)	Maximum air volume (m³/h)	Maximum static pressure (Pa)	Weight (kg)	Ambient temperature (°C)
PA-C25-EC56-XXXXX	0134446GAA54	3~380-480	50/60	1.3	4200	3910	1710	21.1	-20~40
PA-C28-EF56-XXXXX	0134446GAA54	3~380-480	50/60	1.3	3480	4610	1510	21.6	-20~40
PA-C31-EJ56-XXXXX	0132946GAA54	3~380-480	50/60	1.3	2900	5350	1280	22.7	-20~40
PA-C35-EM56-XXXXX	0132946GAA54	3~380-480	50/60	1.3	2370	6310	1130	24.4	-20~40
PA-C35-JE56-XXXXX	0454146HAA54	3~380-480	50/60	4.4	3600	9500	2600	31.9	-20~40
PA-C40-ER56-XXXXX	0131946GAA54	3~380-480	50/60	1.3	1970	7520	975	27	-20~40
PA-C40-JJ56-XXXXX	0453046HAA54	3~380-480	50/60	4.4	2980	11300	2260	34.5	-20~40
PA-C45-EV56-XXXXX	0131946GAA54	3~380-480	50/60	1.3	1620	8700	860	32	-20~40
PA-C45-JM56-XXXXX	0452546HAA54	3~380-480	50/60	4.4	2460	13600	1920	39.5	-20~40
PA-C50-JQ56-XXXXX	0452546HAA54	3~380-480	50/60	4.4	2020	15200	1610	45	-20~40
PA-C56-JV56-XXXXX	0451746HAA54	3~380-480	50/60	4.4	1670	18100	1360	59	-20~40
PA-C50-LM56-XXXXX	0802546HAA54	3~380-480	50/60	7.8	2450	19200	2340	60	-20~40
PA-C56-LQ56-XXXXX	0802546HAA54	3~380-480	50/60	7.8	2030	22000	2020	73	-20~40
PA-C63-JY56-XXXXX	0451746HAA54	3~380-480	50/60	4.4	1370	20800	1190	70	-20~40
PA-C63-LV56-XXXXX	0801746HAA54	3~380-480	50/60	7.8	1670	25900	1765	84	-20~40
PA-C71-LY56-XXXXX	0801746HAA54	3~380-480	50/60	7.8	1380	30000	1535	95	-20~40
PA-C40-KE56-XXXXX	0803646HAA54	3~380-480	50/60	7.8	3588	13687	3284	41.5	-20~40
PA-C45-KH56-XXXXX	0802946HAA54	3~380-480	50/60	7.8	2970	16452	2802	50	-20~40
PA-C56-JU56-XXXXX	0521846HAA54	3~380-480	50/60	5.2	1820	19730	1620	59	-20~40



P-Q Performance curve

PA-C25-EC56-XXXXX Performance

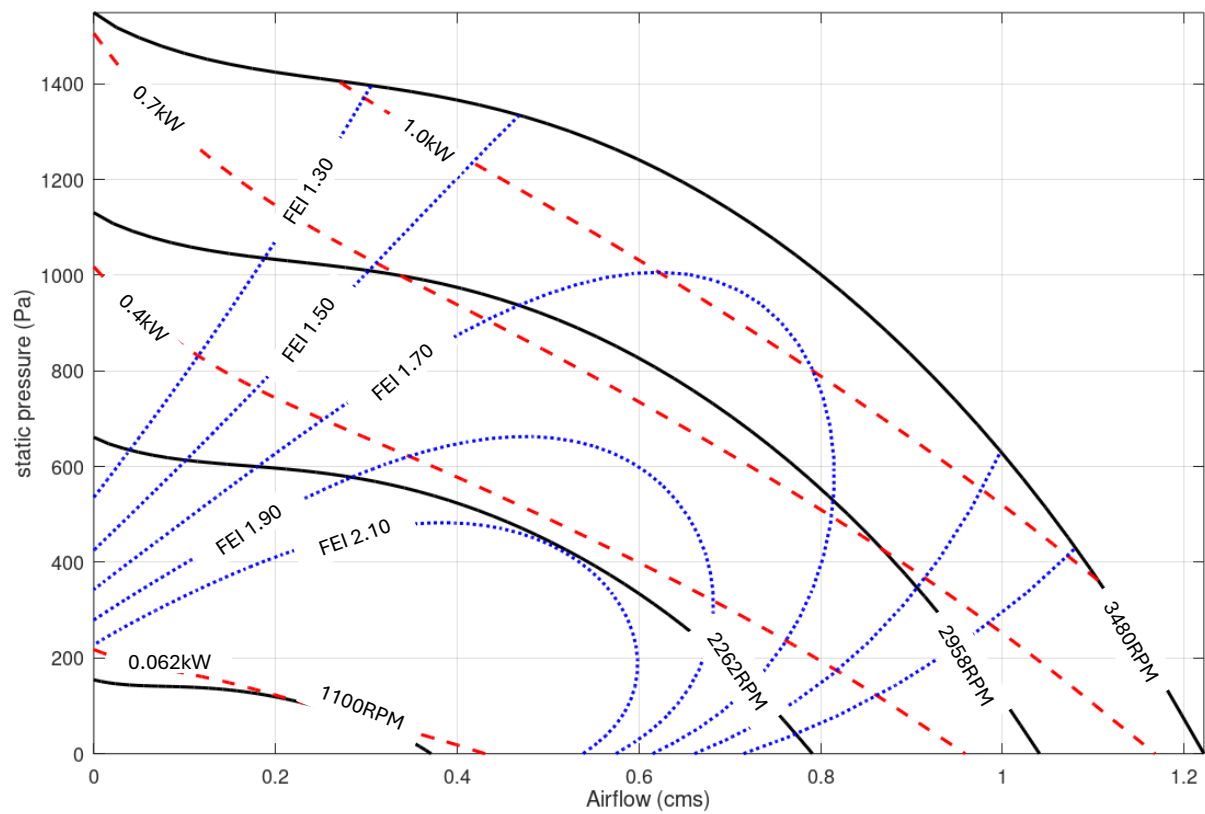


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
1400	0.328	0	62	66	63	62	68	71	56	51	74
1400	0.263	92	59	66	57	57	63	61	51	51	66
1400	0.189	148	61	69	57	57	59	56	49	51	63
1400	0.082	175	71	69	63	61	61	56	48	51	65
2730	0.672	0	73	76	79	77	77	83	82	68	88
2730	0.594	211	71	74	79	74	74	80	78	66	84
2730	0.515	384	70	73	78	72	72	76	74	66	81
2730	0.331	612	79	80	83	77	75	75	70	64	82
3570	0.89	0	76	79	85	83	83	86	90	78	93
3570	0.717	567	74	75	83	79	79	81	83	75	88
3570	0.613	810	74	75	82	78	77	78	79	75	85
3570	0.474	1015	81	83	88	84	82	80	78	73	88
4200	1.05	3	77	80	88	86	87	87	97	83	99
4200	0.912	566	76	75	88	84	83	84	93	82	95
4200	0.71	1151	76	74	83	80	81	80	83	79	88
4200	0.249	1603	91	94	96	94	93	88	83	76	97

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C28-EF56-XXXXX Performance

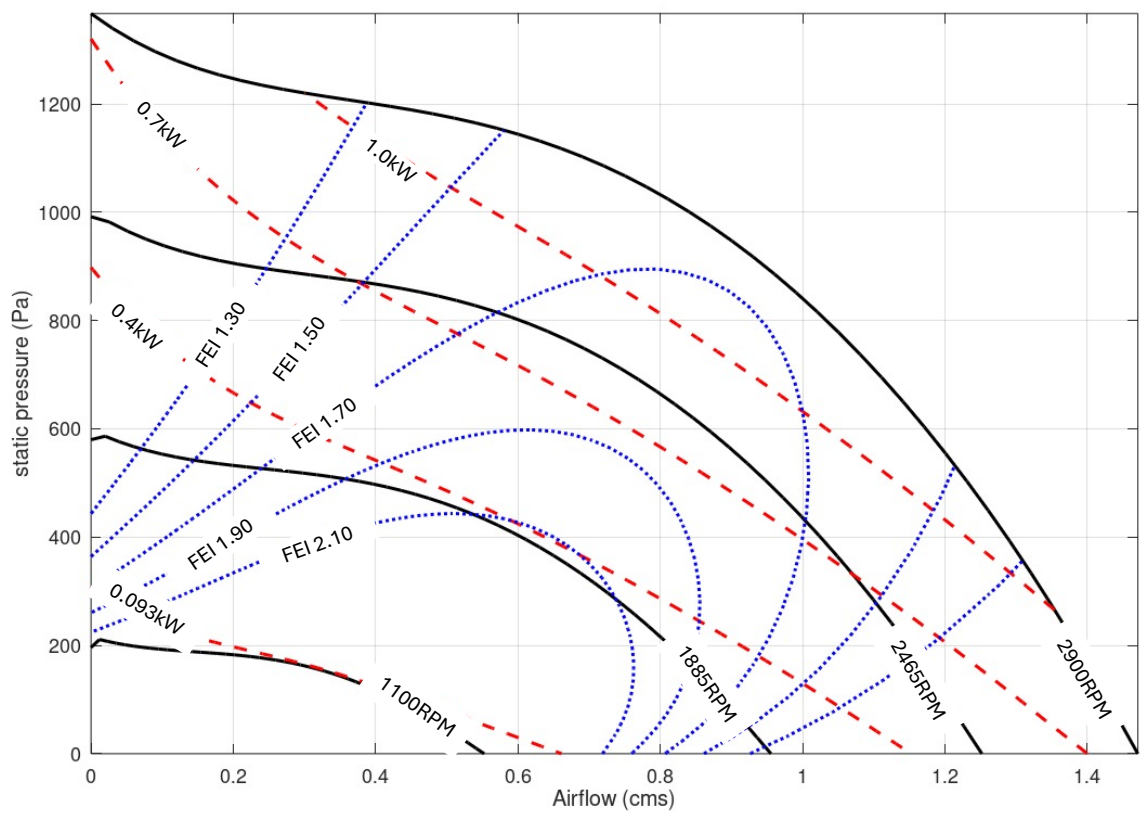


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
1100	0.371	0	62	61	58	60	65	66	59	49	70
1100	0.308	61	61	62	56	57	61	56	47	49	63
1100	0.227	107	62	60	55	56	55	50	43	49	59
1100	0.098	139	73	67	61	60	59	52	44	49	63
2262	0.786	0	75	76	76	75	76	81	80	72	86
2262	0.614	294	74	76	78	71	72	74	73	67	80
2262	0.526	412	75	77	78	72	71	72	70	65	78
2262	0.409	510	78	80	79	74	74	72	68	62	79
2958	1.035	0	77	80	82	81	82	84	88	80	92
2958	0.821	503	77	80	84	77	77	78	80	77	86
2958	0.613	801	79	82	85	79	79	78	77	72	85
2958	0.268	1005	87	90	90	86	85	81	76	69	90
3480	1.222	0	78	83	85	84	86	86	95	84	97
3480	0.904	835	78	82	88	78	80	78	83	82	88
3480	0.53	1306	82	85	90	86	86	84	80	75	91
3480	0.227	1411	91	96	95	92	92	86	81	74	96

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C31-EJ56-XXXXX Performance

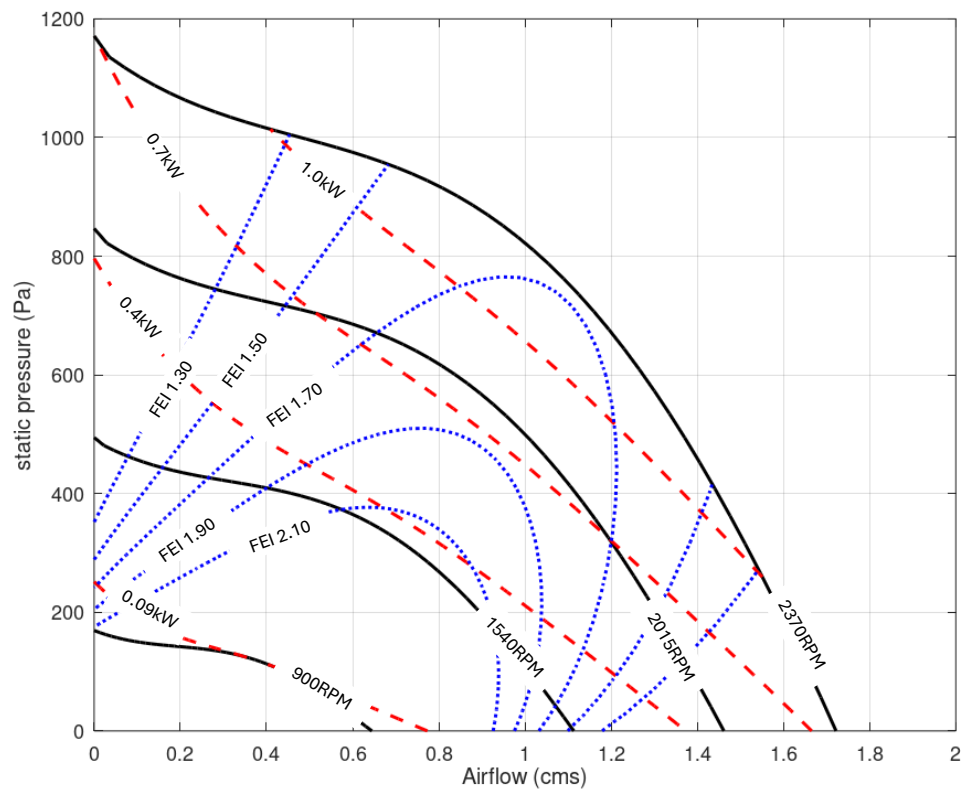


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
1100	0.552	0	65	64	62	63	68	70	57	47	73
1100	0.459	77	62	62	58	59	63	60	51	46	66
1100	0.367	136	63	62	56	57	59	54	50	46	62
1100	0.136	189	78	70	65	64	64	56	49	46	67
1885	0.953	0	74	76	75	75	77	81	79	67	85
1885	0.831	175	72	74	73	71	73	77	73	63	81
1885	0.712	306	72	75	72	70	71	73	69	62	77
1885	0.573	418	75	77	73	70	70	70	66	61	76
2465	1.249	0	78	79	82	81	83	85	87	77	92
2465	1.088	300	78	76	80	77	79	82	83	73	88
2465	0.876	581	78	76	82	75	76	77	76	70	83
2465	0.571	816	86	87	87	82	82	79	74	68	87
2900	1.471	0	81	81	86	85	87	87	93	83	96
2900	1.239	488	83	76	84	80	82	85	90	79	93
2900	0.916	921	81	76	86	77	79	79	79	74	86
2900	0.294	1218	93	96	94	91	91	85	80	73	94

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C35-EM56-XXXXX Performance

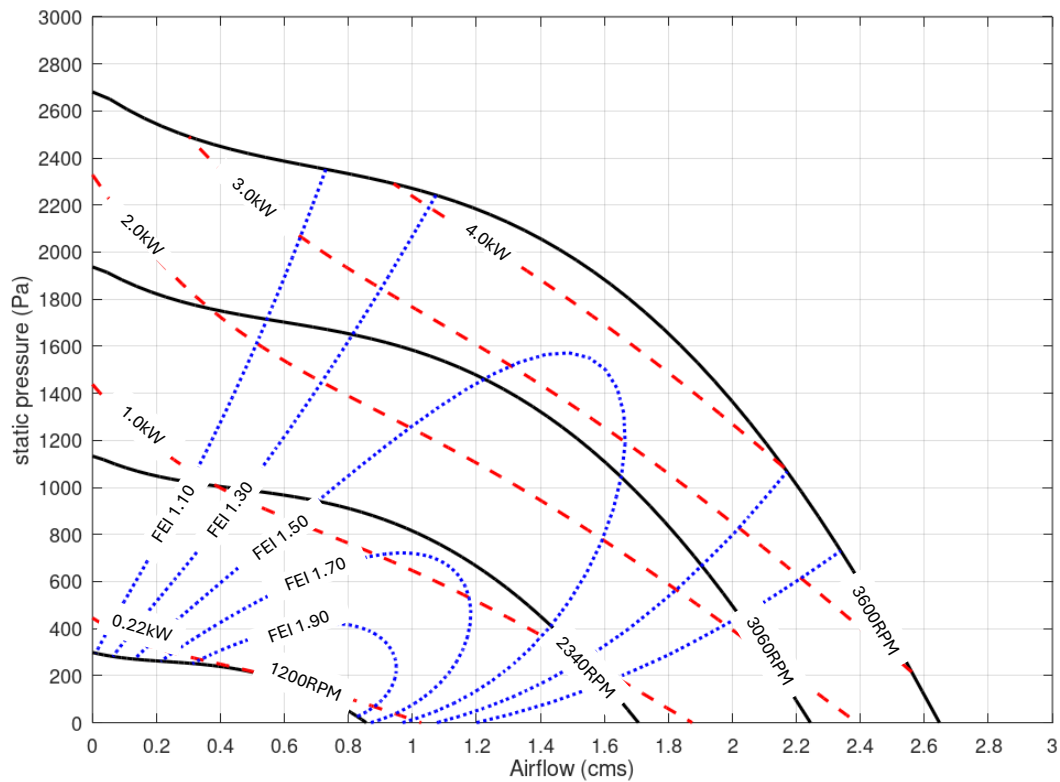


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
900	0.644	0	65	61	59	61	67	60	63	44	70
900	0.54	55	65	59	56	58	62	56	54	43	65
900	0.419	107	63	54	53	56	57	51	47	43	60
900	0.157	144	66	56	54	57	59	52	46	43	61
1540	1.113	0	73	76	73	73	76	79	76	74	84
1540	0.878	214	71	76	69	68	71	72	67	63	77
1540	0.746	301	70	76	68	66	68	68	64	59	73
1540	0.448	401	77	78	70	70	70	69	63	57	75
2015	1.462	0	75	81	80	80	82	85	86	84	91
2015	1.213	305	72	82	79	75	77	82	78	74	86
2015	0.979	516	72	83	79	71	73	74	72	68	80
2015	0.537	697	82	85	81	78	79	76	71	65	83
2370	1.71	10	75	80	84	83	85	89	91	89	96
2370	1.462	374	71	77	85	78	80	89	85	80	92
2370	1.15	716	73	73	88	74	77	77	77	72	84
2370	0.424	1000	86	91	87	85	86	81	77	70	89

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C35-JE56-XXXXX Performance

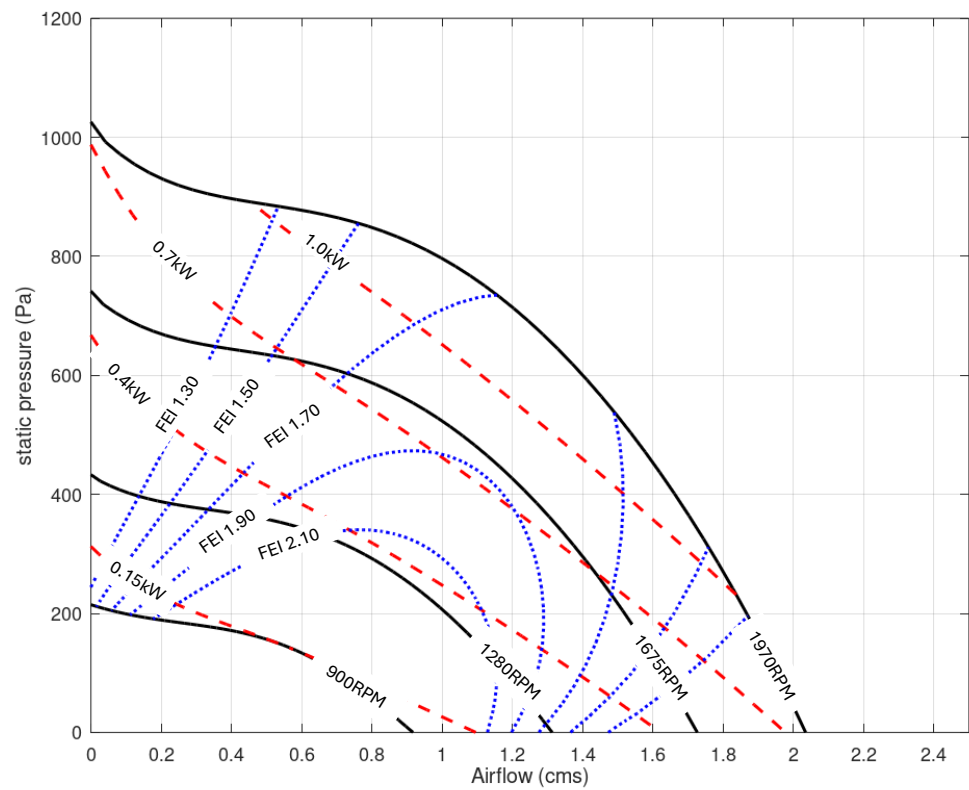


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
1200	0.855	0	67	70	67	69	71	70	72	58	77
1200	0.607	176	61	70	65	66	68	61	57	57	70
1200	0.373	243	70	71	66	66	69	61	56	57	71
1200	0.188	263	79	74	70	69	70	62	56	57	73
2340	1.706	0	80	81	84	83	84	87	87	85	93
2340	1.485	342	76	79	83	81	81	85	83	79	90
2340	1.276	592	74	78	85	79	80	82	78	75	87
2340	1.015	806	79	83	87	80	81	81	76	72	87
3060	2.244	0	84	86	89	90	91	91	96	91	100
3060	1.951	586	80	82	88	86	87	89	93	87	97
3060	1.676	1013	80	81	91	84	85	86	87	83	93
3060	1.18	1491	88	90	96	89	89	88	85	80	95
3600	2.64	10	86	87	92	93	95	92	102	96	105
3600	2.268	865	83	82	91	88	91	89	100	93	102
3600	1.741	1718	84	80	98	85	87	87	88	86	95
3600	0.747	2344	97	103	103	100	100	95	91	84	104

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C40-ER56-XXXXXX Performance

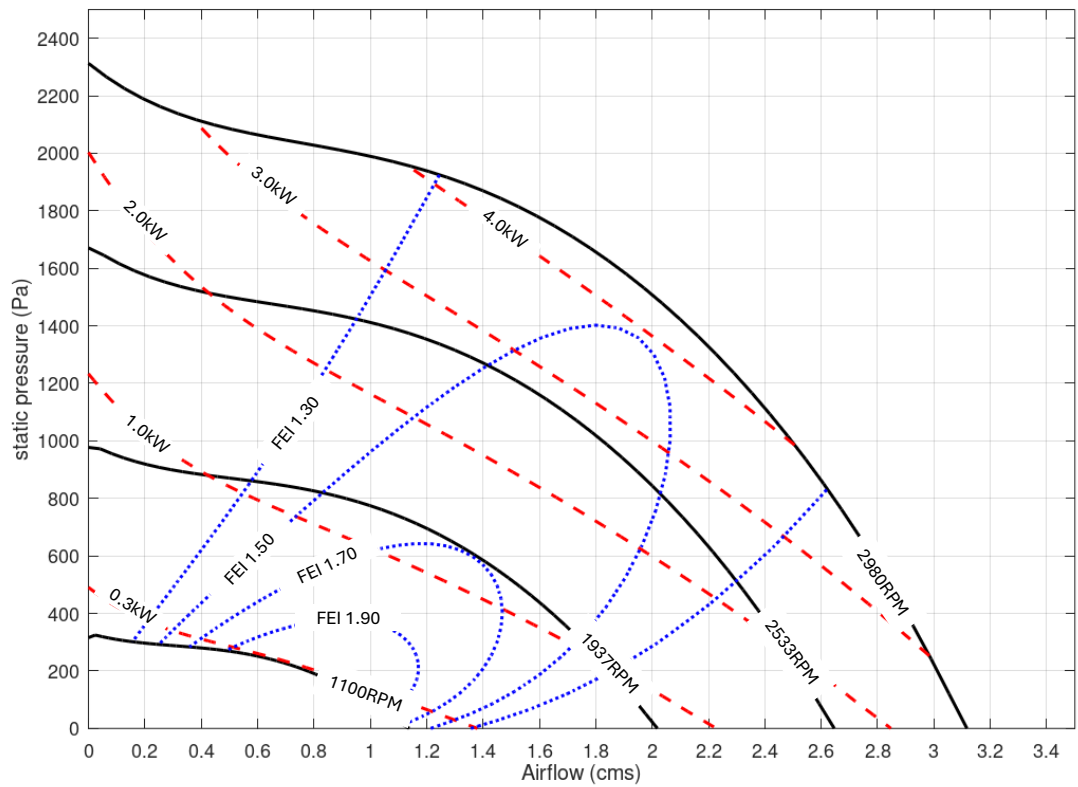


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
900	0.916	0	68	64	65	66	69	73	59	56	75
900	0.794	60	67	62	61	62	66	67	55	52	71
900	0.623	126	67	58	59	59	61	58	51	51	65
900	0.264	182	76	66	63	62	63	56	48	51	66
1280	1.313	0	74	75	73	73	75	78	74	67	82
1280	1.16	112	73	75	70	70	72	74	69	62	78
1280	1.001	206	73	75	67	68	69	70	65	60	75
1280	0.747	309	78	79	69	69	69	67	62	59	74
1675	1.726	0	77	81	79	80	80	82	83	76	88
1675	1.529	192	75	81	75	76	77	79	79	71	85
1675	1.249	398	74	82	72	73	74	75	73	68	81
1675	0.742	601	86	88	81	79	79	75	70	66	83
1970	2.03	12	78	85	82	83	84	85	87	82	92
1970	1.701	364	71	85	76	79	79	80	82	76	87
1970	1.281	669	73	87	75	76	77	77	76	72	83
1970	0.406	893	94	94	89	88	87	81	75	71	91

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C40-JJ56-XXXXX Performance

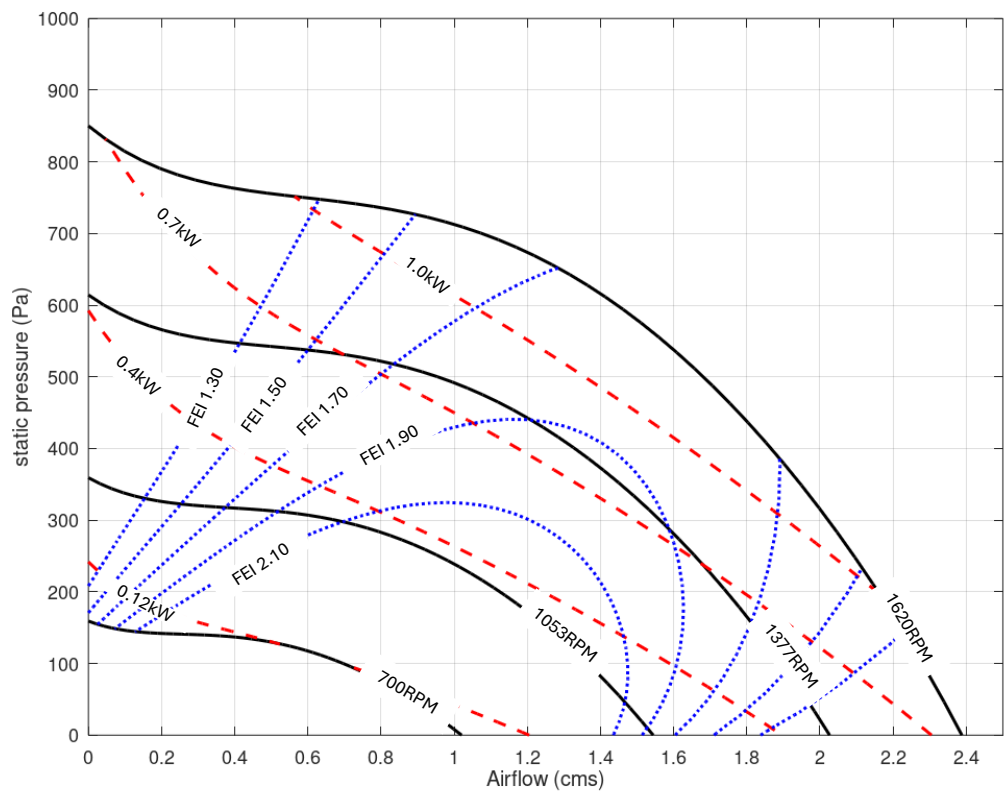


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
1100	1.137	0	70	69	70	73	73	76	67	63	80
1100	0.948	120	64	69	67	69	69	71	60	63	75
1100	0.732	211	67	71	67	68	67	65	56	63	72
1100	0.252	288	86	78	74	73	72	65	56	63	75
1937	2.019	0	80	82	82	83	84	86	86	79	92
1937	1.629	414	74	83	81	79	81	81	80	75	87
1937	1.377	599	76	85	82	79	80	79	77	73	86
1937	0.905	803	90	92	88	85	84	81	76	71	89
2533	2.646	0	84	86	89	90	90	90	93	88	98
2533	2.13	708	79	81	89	85	85	87	87	83	93
2533	1.682	1106	83	84	93	86	86	87	84	81	93
2533	1.013	1410	95	98	97	93	92	89	84	79	97
2980	3.1	12	85	88	92	94	94	92	98	92	102
2980	2.74	653	80	83	91	90	90	90	95	90	99
2980	2.161	1365	83	78	96	88	84	91	87	87	96
2980	0.808	2029	98	104	101	99	99	95	88	84	103

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C45-EV56-XXXXX Performance

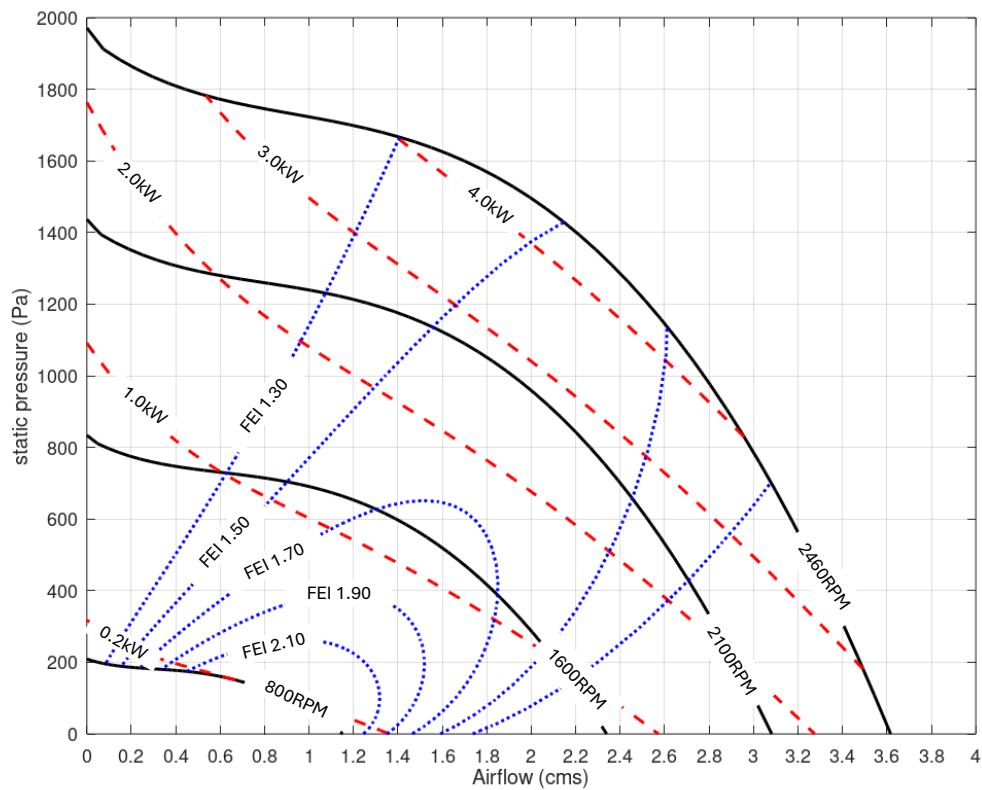


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
700	1.019	0	70	64	63	65	68	73	55	48	75
700	0.847	62	68	59	59	62	64	64	56	47	69
700	0.626	112	65	55	57	60	58	52	44	47	61
700	0.201	142	78	67	63	63	59	51	41	47	64
1053	1.544	0	77	75	73	73	75	77	74	65	82
1053	1.366	99	77	73	69	70	72	74	70	62	78
1053	1.123	201	76	70	66	67	69	69	64	57	74
1053	0.674	300	84	78	71	70	69	64	57	54	73
1377	2.026	0	78	80	79	79	80	81	81	75	87
1377	1.549	307	73	83	71	72	73	76	74	67	81
1377	1.311	407	75	86	70	72	73	74	70	63	80
1377	0.915	506	82	92	76	75	76	73	66	61	81
1620	2.378	10	78	83	82	83	82	85	82	81	90
1620	1.712	493	69	87	72	74	74	78	79	71	84
1620	1.152	686	75	99	77	77	79	77	71	67	86
1620	0.509	752	94	92	87	85	83	77	70	67	88

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C45-JM56-XXXXX Performance

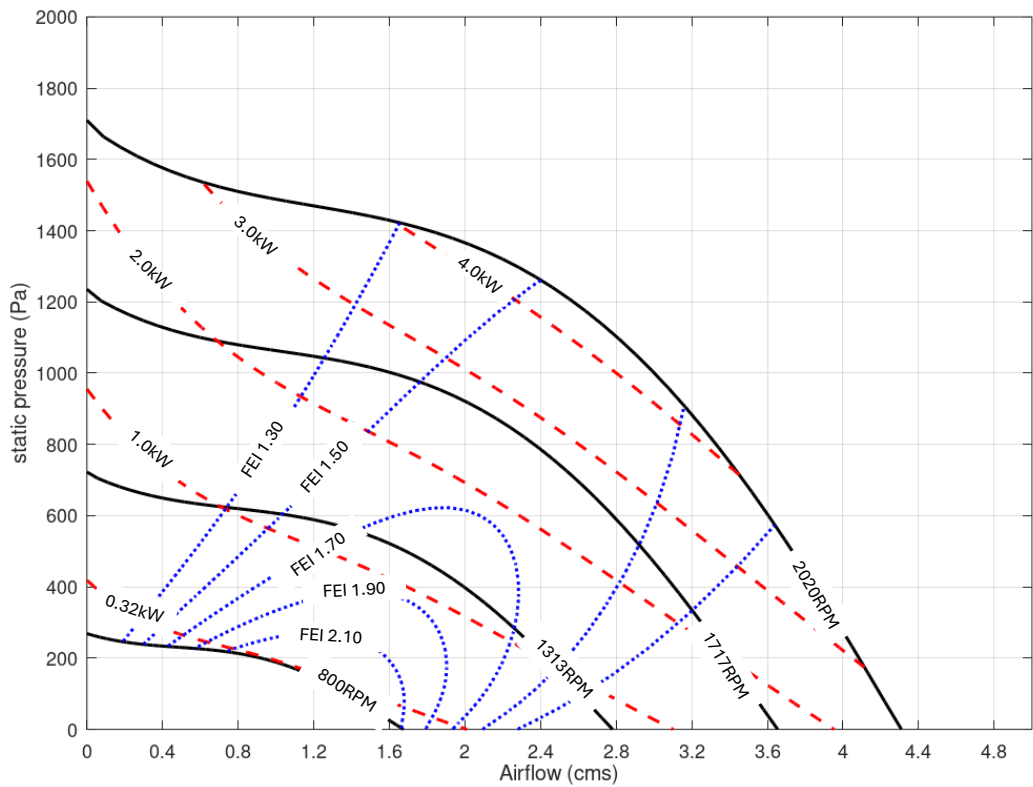


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
800	1.14	6	72	67	68	71	71	76	60	60	78
800	0.981	70	70	64	65	69	68	71	54	60	75
800	0.754	134	66	61	63	67	66	63	50	59	70
800	0.252	181	80	64	64	68	65	59	49	59	69
1600	2.34	0	83	84	83	84	85	86	86	72	92
1600	1.979	303	79	81	79	80	81	82	82	68	88
1600	1.603	519	78	80	77	77	80	79	77	68	85
1600	0.892	706	91	92	83	82	83	79	73	66	87
2100	3.084	0	84	89	89	90	90	90	92	80	97
2100	2.734	404	81	86	86	86	87	87	89	79	94
2100	2.245	816	80	87	85	83	84	84	84	78	91
2100	1.649	1110	89	93	90	86	87	85	81	76	92
2460	3.617	0	85	89	92	94	94	91	97	84	101
2460	3.036	743	79	83	88	88	89	87	94	84	97
2460	2.306	1336	81	87	91	84	86	86	85	83	92
2460	0.758	1735	100	101	99	98	96	90	84	79	100

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C50-JQ56-XXXXX Performance

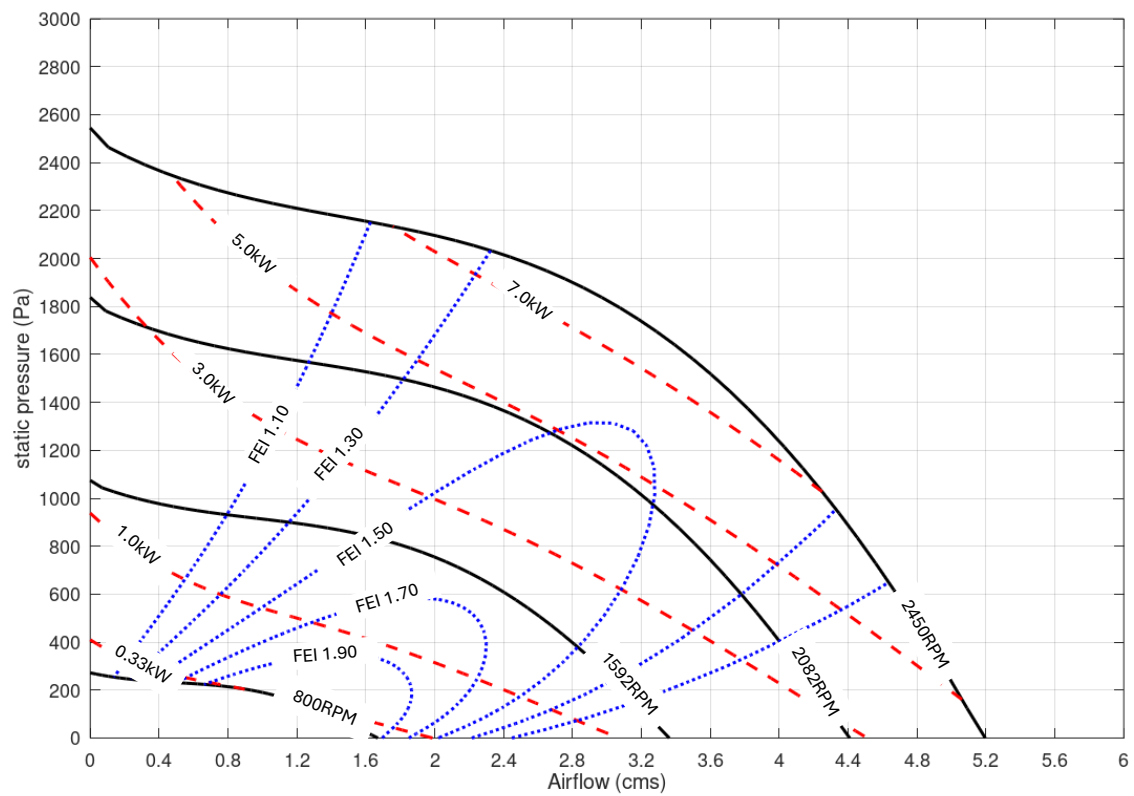


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
800	1.67	5	72	70	71	73	75	71	63	61	78
800	1.193	152	72	62	65	67	67	62	55	60	70
800	0.787	214	84	66	66	68	66	60	54	61	70
800	0.351	233	84	74	71	71	67	61	55	60	72
1313	2.781	0	81	83	82	83	85	86	80	71	90
1313	2.553	130	81	83	79	81	82	83	77	70	88
1313	2.013	393	81	82	74	76	77	76	72	67	82
1313	1.078	600	91	92	82	81	79	75	70	67	84
1717	3.654	0	85	88	88	89	90	92	90	79	97
1717	3.212	327	84	88	84	85	86	87	85	77	93
1717	2.789	598	83	88	81	81	83	83	81	75	89
1717	2.393	789	84	90	81	81	82	82	79	74	87
2020	4.309	0	85	91	92	93	92	96	98	85	102
2020	2.965	1028	82	92	83	82	84	85	83	80	90
2020	1.842	1402	89	98	92	91	90	87	82	78	95
2020	0.938	1481	100	101	98	97	94	88	83	79	99

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C50-LM56-XXXXX Performance

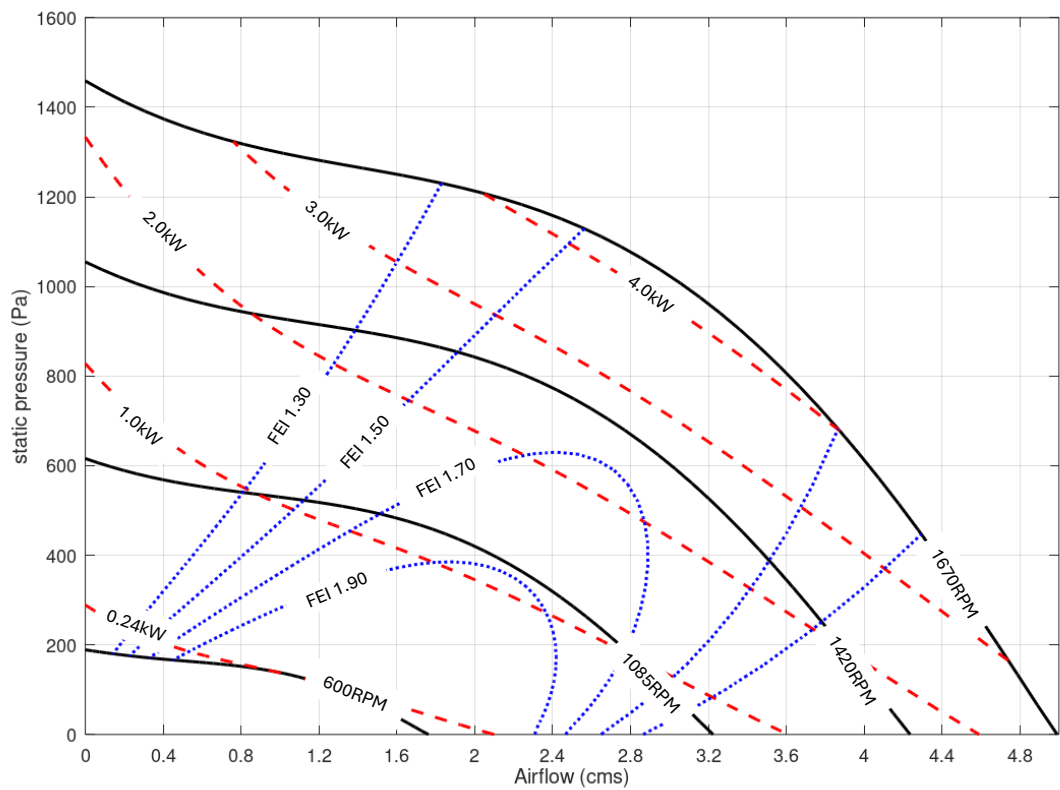


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
800	1.66	6	74	71	72	79	77	73	62	66	81
800	1.18	156	73	63	65	76	69	64	55	65	75
800	0.731	219	84	66	65	75	67	61	54	64	74
800	0.35	235	82	72	69	75	67	61	54	64	74
1592	3.361	0	86	88	87	88	92	94	86	72	98
1592	2.979	282	83	86	83	84	90	90	83	70	95
1592	2.341	634	83	86	79	79	86	83	78	70	89
1592	1.824	800	91	93	83	82	87	81	76	69	90
2082	4.409	0	88	93	93	94	95	99	98	81	103
2082	3.75	624	84	90	89	90	92	95	92	78	99
2082	3.075	1085	85	91	88	84	86	89	85	78	93
2082	2.221	1414	95	98	95	91	91	89	84	77	96
2450	5.196	0	88	93	96	98	98	101	107	87	109
2450	4.479	803	84	88	92	94	94	99	101	85	104
2450	3.471	1591	86	86	93	87	86	90	89	83	96
2450	1.389	2181	103	105	104	102	100	94	88	82	104

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C56-JV56-XXXXX Performance

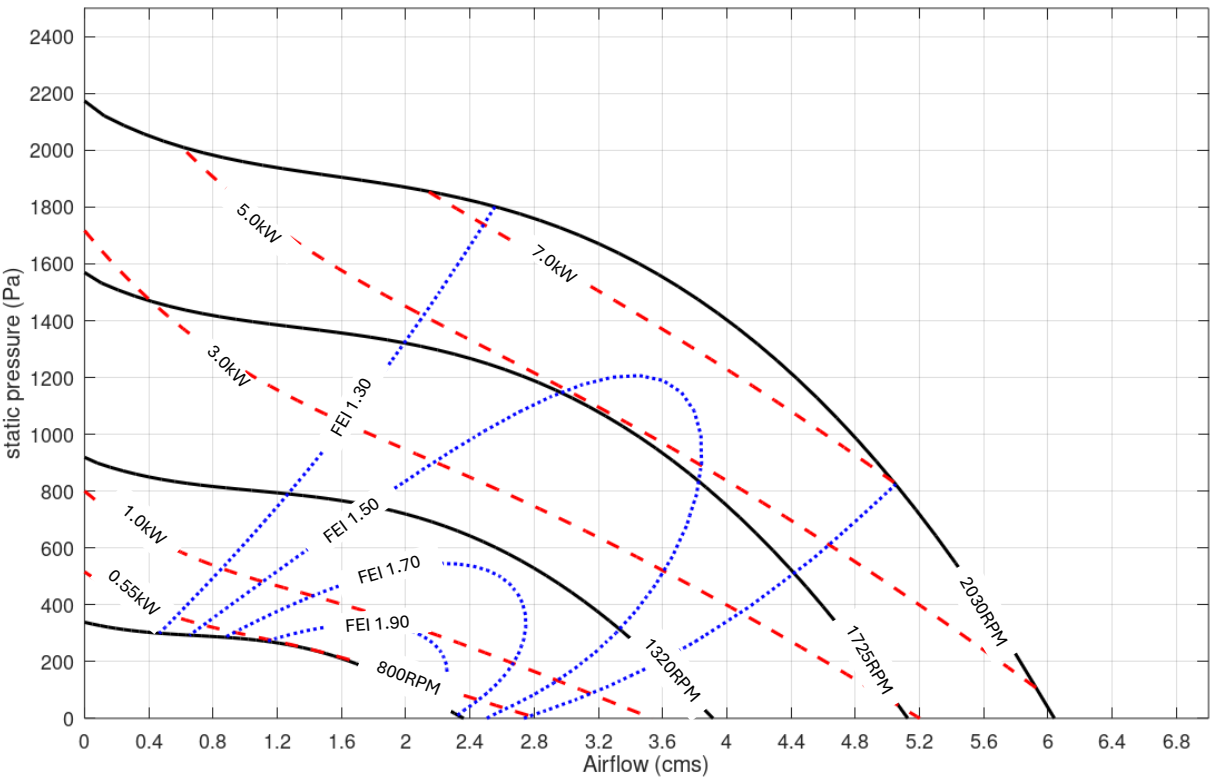


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
600	1.75	8	75	68	68	71	70	74	58	60	77
600	1.296	102	73	61	62	65	62	59	49	60	67
600	0.857	148	74	61	63	66	58	56	49	60	66
600	0.403	165	74	64	65	67	59	56	49	60	67
1085	3.224	0	84	85	82	82	85	83	82	76	90
1085	2.7	217	82	84	77	78	81	78	76	72	85
1085	2.071	405	83	86	73	74	76	73	69	63	80
1085	1.406	503	87	88	79	78	78	72	68	63	82
1420	4.236	0	87	89	89	89	89	91	86	85	96
1420	3.719	285	83	88	85	85	86	88	82	82	93
1420	3.044	587	82	90	81	80	81	82	79	74	88
1420	2.265	801	89	93	85	83	83	80	77	70	88
1670	4.991	0	87	91	92	93	91	98	87	89	101
1670	4.21	495	80	90	87	88	86	94	84	86	97
1670	3.128	977	79	95	83	82	82	84	83	76	90
1670	1.082	1282	102	101	98	96	92	87	81	75	97

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C56-LQ56-XXXXX Performance

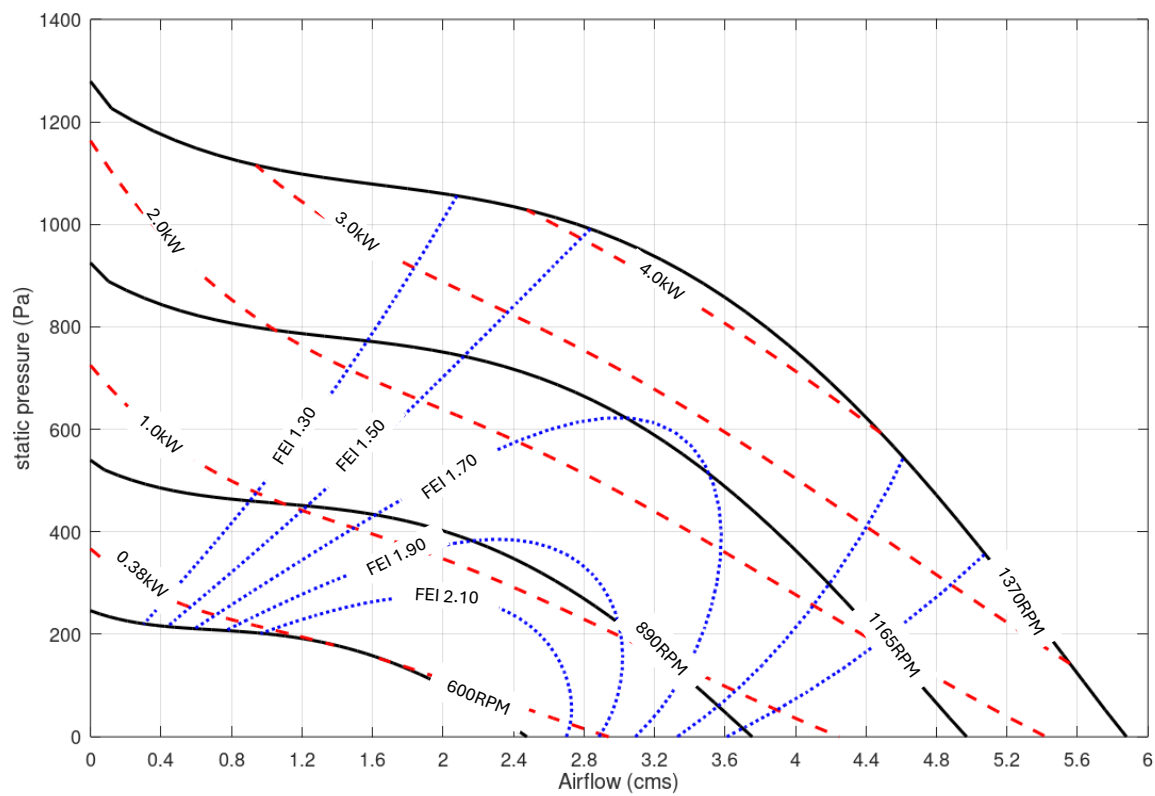


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
800	2.35	8	76	74	74	78	79	75	72	63	82
800	1.697	194	81	65	67	76	67	67	57	61	75
800	1.085	272	87	69	68	76	67	63	56	61	75
800	0.493	298	87	80	77	79	71	64	57	62	78
1320	3.915	0	85	86	86	86	89	89	86	82	95
1320	3.471	246	86	88	82	83	87	85	82	78	91
1320	2.857	509	87	89	79	81	85	81	78	75	89
1320	2.01	718	94	95	83	84	85	79	75	73	89
1725	5.127	0	88	92	93	93	93	97	94	90	101
1725	4.361	547	85	93	88	88	90	92	89	86	97
1725	3.547	955	86	94	87	87	90	91	88	85	96
1725	2.2	1297	98	101	95	94	92	88	84	81	97
2030	6.04	0	88	95	97	97	95	101	99	95	106
2030	5.137	756	82	96	91	93	91	98	93	92	101
2030	3.986	1402	82	96	91	93	91	98	93	92	101
2030	1.588	1904	102	105	103	102	98	93	88	87	103

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C63-JY56-XXXXX Performance

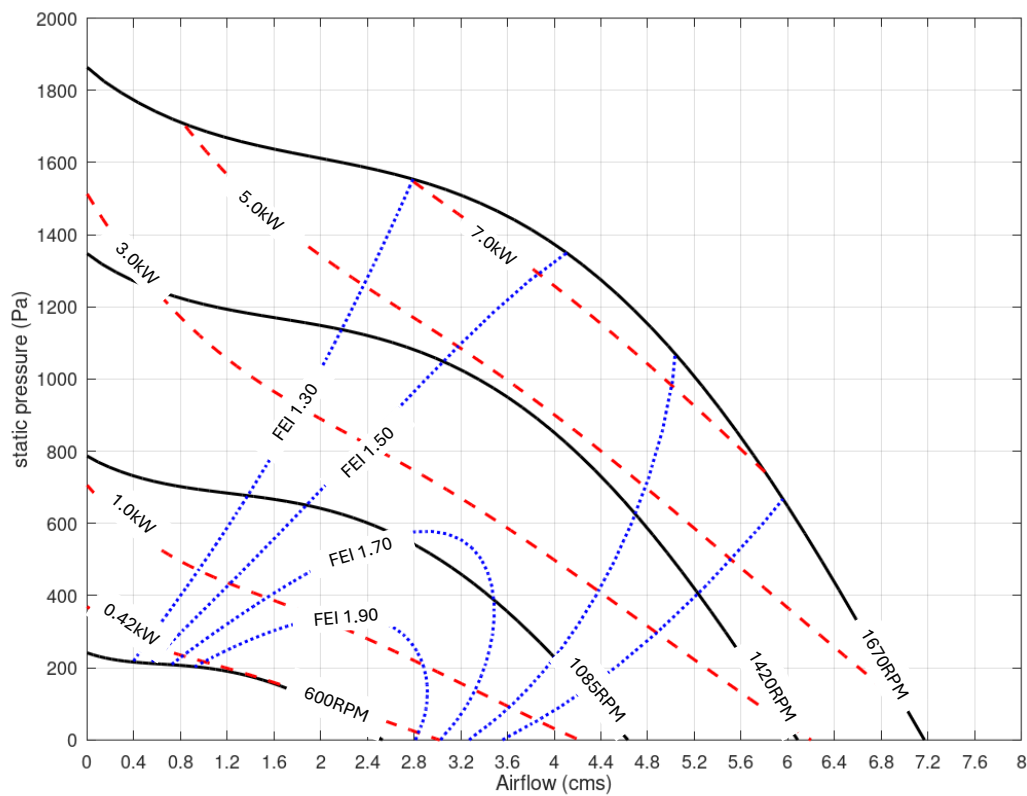


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
600	2.465	10	81	70	70	72	73	74	60	60	78
600	2.079	85	77	64	65	68	68	66	56	59	72
600	1.546	162	82	59	63	67	60	58	51	59	68
600	0.488	211	83	73	71	71	64	58	51	59	71
890	3.755	0	86	84	80	80	83	82	78	73	88
890	3.452	94	84	81	77	77	80	80	75	70	85
890	3.008	219	83	79	73	74	77	76	70	66	81
890	2.011	401	89	83	76	76	74	69	65	64	79
1165	4.971	0	88	89	87	86	86	91	86	82	95
1165	4.357	237	84	86	83	82	83	88	82	76	92
1165	3.585	492	82	88	78	79	79	81	77	71	86
1165	2.472	710	91	93	85	84	81	78	73	70	87
1370	5.878	0	88	90	91	90	88	98	88	89	101
1370	4.937	407	82	86	86	86	84	95	86	81	97
1370	3.711	827	78	90	81	82	79	83	79	75	88
1370	1.118	1098	102	98	96	94	89	84	77	76	95

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C63-LV56-XXXXX Performance

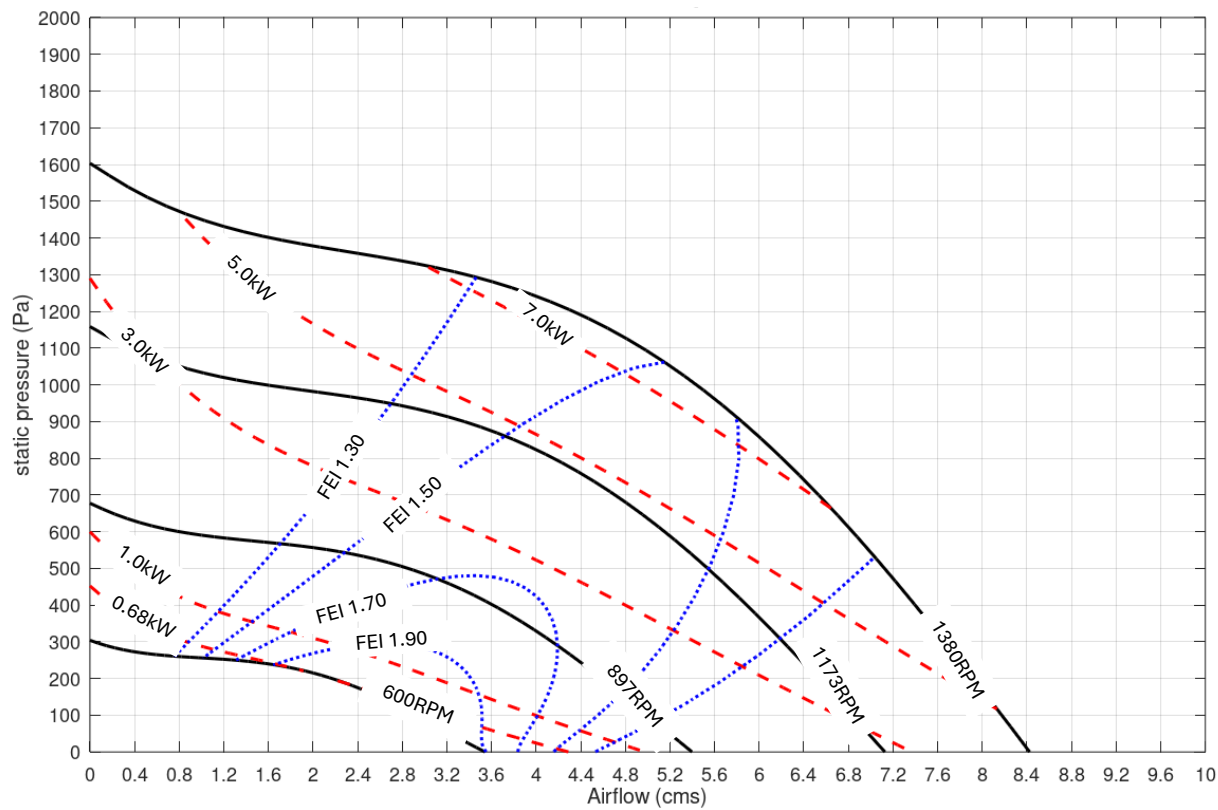


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
600	2.52	6	77	70	71	72	72	73	59	62	78
600	2.172	70	78	66	68	69	69	65	56	61	72
600	1.673	147	79	62	68	68	62	58	52	61	69
600	0.97	202	83	75	74	73	65	59	51	61	73
1085	4.631	0	87	88	85	84	87	87	85	76	92
1085	4.109	192	87	88	81	81	84	83	79	75	89
1085	3.332	428	89	92	77	79	80	77	73	70	85
1085	2.289	615	93	94	85	84	82	76	72	69	87
1420	6.086	0	89	93	92	91	91	96	91	86	100
1420	5.154	440	86	92	87	86	87	92	86	83	95
1420	4.144	811	88	99	83	83	83	85	81	78	91
1420	2.629	1101	99	100	94	92	89	85	79	77	95
1670	7.171	0	90	96	96	96	92	102	95	92	105
1670	6.12	579	84	94	91	91	88	99	90	90	102
1670	4.795	1149	84	103	85	86	84	90	86	83	95
1670	2.8	1570	103	103	100	98	94	89	83	82	100

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C71-LY56-XXXXX Performance

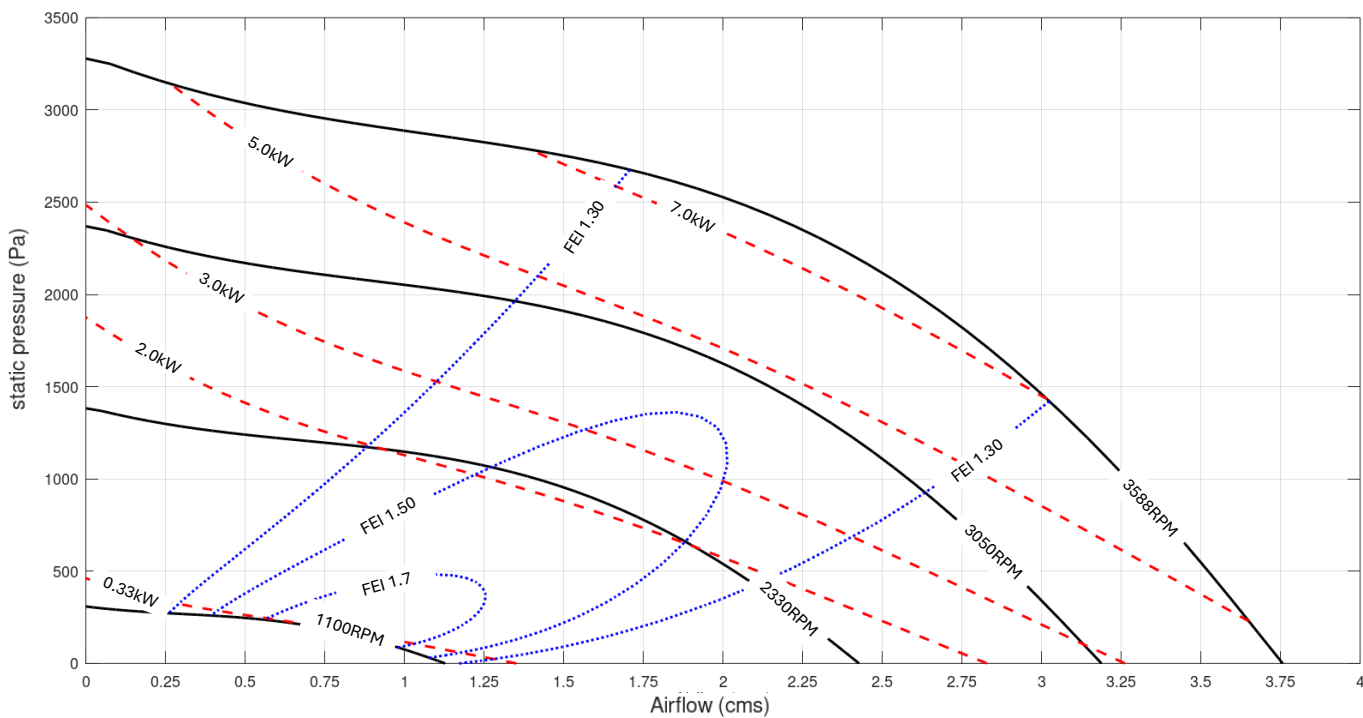


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
600	3.527	15	80	74	75	76	79	70	61	65	80
600	2.901	102	84	70	71	72	75	65	59	63	77
600	2.095	205	87	67	70	69	66	60	55	63	71
600	0.705	259	87	79	77	75	69	61	54	63	76
897	5.384	0	87	86	84	84	88	85	77	72	91
897	4.461	226	90	85	79	80	84	81	72	69	87
897	3.603	398	93	86	77	78	78	75	68	67	82
897	2.797	502	94	88	81	80	78	73	68	66	83
1173	7.1	0	89	92	91	90	91	96	86	80	99
1173	6.196	296	87	93	87	86	89	94	82	76	97
1173	5.037	618	87	96	84	83	85	86	77	73	91
1173	3.136	911	97	99	91	89	87	83	76	72	92
1380	8.387	0	90	95	95	94	92	103	92	86	105
1380	7.021	513	83	95	91	89	89	103	85	80	104
1380	5.227	1025	82	99	88	85	85	88	80	77	92
1380	1.704	1374	107	102	100	98	93	88	81	78	99

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C40-KE56-XXXXX Performance

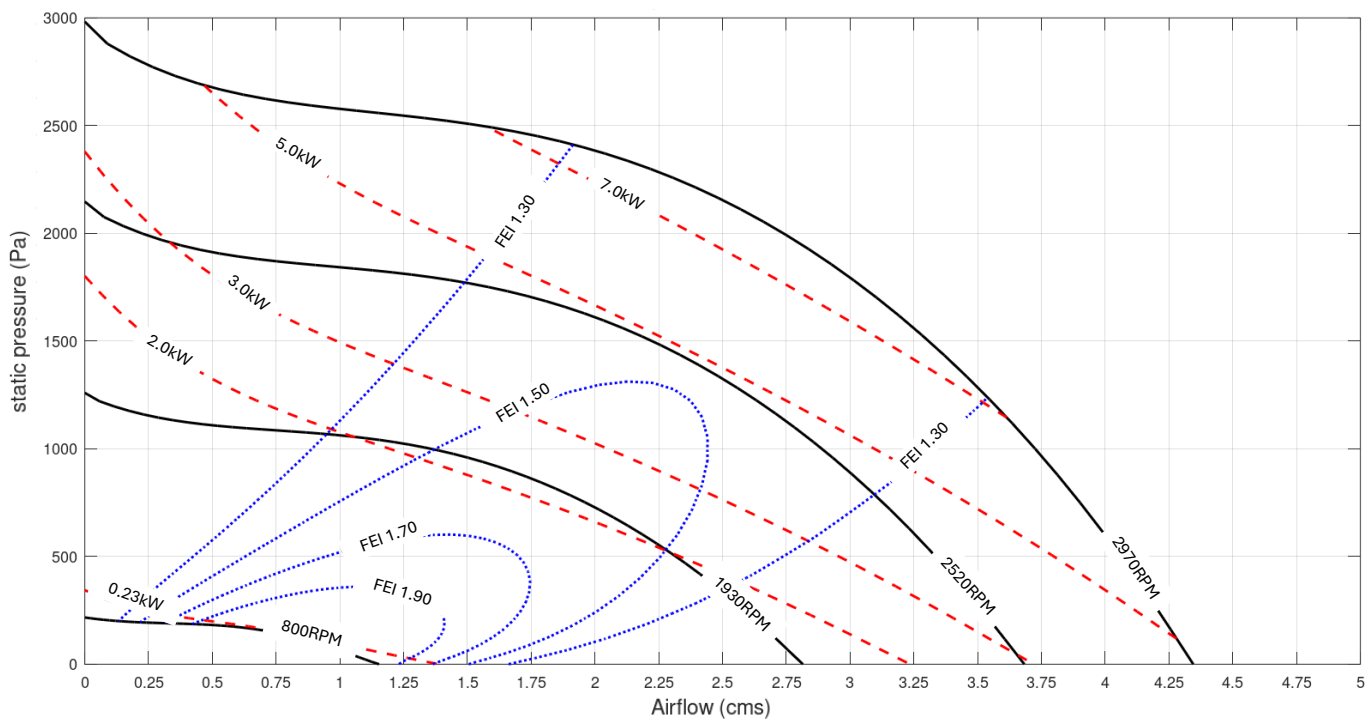


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
1100	1.127	1	68	70	72	78	75	75	68	59	81
1100	0.951	100	66	68	71	78	73	70	66	57	78
1100	0.716	200	65	71	70	78	70	64	58	57	77
1100	0.051	300	80	76	73	78	72	65	56	57	78
2330	2.437	0	83	86	89	90	91	92	92	85	98
2330	2.104	427	80	83	86	87	89	89	87	81	95
2330	1.677	847	79	84	90	84	88	85	80	75	93
2330	1.203	1102	84	89	93	86	89	85	79	73	93
3050	3.193	0	89	89	96	96	96	96	100	94	104
3050	2.765	731	87	85	92	92	93	93	95	88	100
3050	2.207	1450	85	85	98	89	90	90	87	82	97
3050	1.578	1888	88	90	100	91	91	91	86	81	98
3588	3.750	1	93	91	101	100	100	97	106	99	109
3588	3.260	1000	92	85	97	95	96	94	101	93	104
3588	2.600	2000	90	83	103	92	92	93	91	87	100
3588	1.860	2600	91	89	105	93	93	94	90	85	101

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C45-KH56-XXXXX Performance

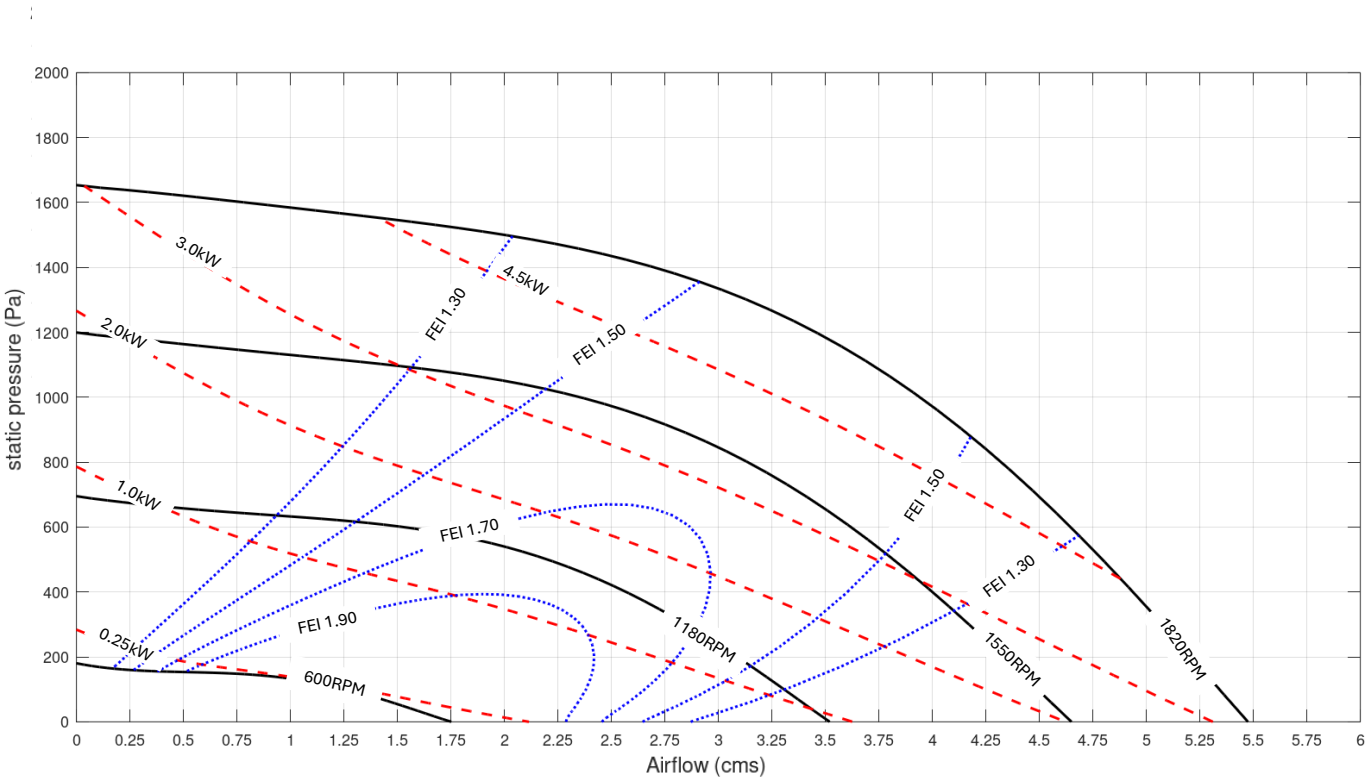


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
800	1.152	1	70	68	69	78	71	74	68	63	79
800	1.030	50	69	66	68	78	68	68	63	63	77
800	0.925	100	69	63	67	78	64	60	60	63	76
800	0.110	200	80	72	69	79	65	57	49	63	76
1930	2.815	0	86	89	88	88	91	92	90	81	98
1930	2.414	437	84	88	85	86	89	89	84	77	95
1930	2.014	739	84	88	85	84	88	85	80	76	92
1930	1.295	1029	94	95	91	89	91	85	78	71	94
2520	3.683	0	92	91	95	94	95	96	99	87	103
2520	3.148	727	90	87	94	91	93	93	95	84	100
2520	2.631	1303	88	86	92	89	90	89	88	83	96
2520	1.678	1734	96	99	99	95	94	92	86	79	99
2970	4.340	1	95	92	99	98	99	96	106	92	109
2970	3.720	1000	94	87	98	95	96	93	102	90	105
2970	3.100	1800	91	83	95	92	92	90	93	88	98
2970	1.970	2400	96	101	101	99	98	95	91	84	102

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

P-Q Performance curve

PA-C56-JU56-XXXXX Performance

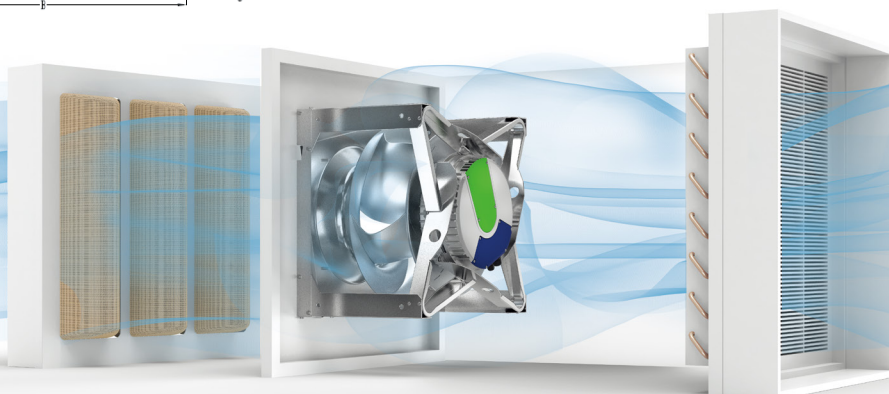
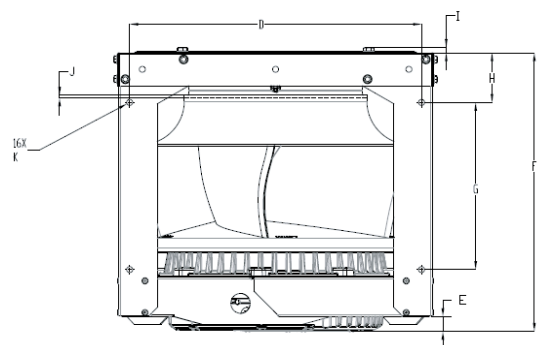
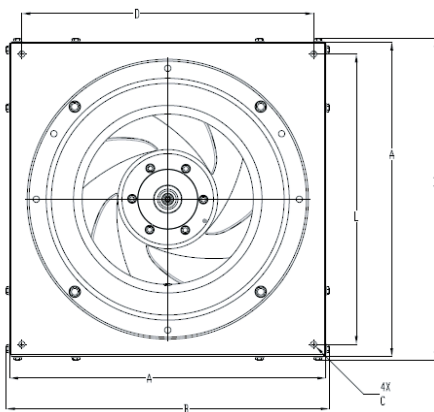


Speed (RPM)	Air flow (m³/s)	Static pressure (Pa)	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	LwA (dBA)
600	1.749	0	75	72	69	71	71	72	63	57	76
600	1.517	50	74	69	65	66	65	62	60	56	70
600	1.255	100	76	66	64	65	60	57	57	56	67
600	0.000	176	76	70	69	68	62	57	50	56	69
1180	3.520	0	89	92	86	84	88	86	85	80	93
1180	3.064	201	85	88	83	81	84	81	78	77	88
1180	2.525	407	87	90	80	79	80	77	73	71	85
1180	0.354	664	90	91	86	84	82	76	72	66	87
1550	4.650	0	90	99	93	92	92	95	90	88	100
1550	4.061	357	85	93	90	88	89	92	85	84	96
1550	3.352	689	85	95	88	85	85	87	81	79	92
1550	0.508	1160	95	97	95	92	89	85	79	74	95
1820	5.475	0	88	104	96	96	94	102	93	92	105
1820	4.790	500	83	96	93	93	90	101	89	89	103
1820	3.950	1000	81	99	91	89	86	93	86	83	96
1820	0.607	1620	98	101	99	98	94	90	84	79	99

*Performance certified is for installation type A - free inlet, free outlet with partition. Speed (RPM) shown is nominal. Performance is based on actual speed of test. Performance ratings include the effects of supporting bracket. Values shown are for outlet Lwo and outlet LwoA sound power levels for installation type A: free inlet, free outlet with partition. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301. FEI calculation is based on wire-to-air test

Dimensions of the COPRA backward centrifugal fan

Model	A	B	C	D	E	F	G	H	I	J	K
PA-C25-EC56-XXXXXX	325	335	9	288	10	288	145	75	6.5	0.9-4.3	9
PA-C28-EF56-XXXXXX	355	365	9	318	10	307	170	70	6.5	1.0-4.8	9
PA-C31-EJ56-XXXXXX	390	400	9	352	24	333	185	70	9	1.1-5.4	9
PA-C35-EM56-XXXXXX	430	440	9	392	20	354	210	70	8	1.2-6	9
PA-C35-JE56-XXXXXX	430	440	9	392	23	389	220	70	8	1.2-6	9
PA-C40-ER56-XXXXXX	475	485	9	438	15	385	235	75	8	4	9
PA-C40-JJ56-XXXXXX	475	485	9	438	23	421	253	75	8	4	9
PA-C45-EV56-XXXXXX	580	590	11	514	12	410	260	75	8	1.5-7.6	11
PA-C45-JM56-XXXXXX	580	590	11	514	35	450	275	75	8	5	11
PA-C50-JQ56-XXXXXX	630	643	11	564	25	476	285	90	8	1.7-8.5	11
PA-C56-JV56-XXXXXX	690	703	11	624	-	510	310	115	8	1.9-9.5	11
PA-C50-LM56-XXXXXX	630	643	11	564	52	520	280	90	8	1.7-8.5	11
PA-C56-LQ56-XXXXXX	690	703	11	624	19	553	305	115	8	1.9-9.5	11
PA-C63-JY56-XXXXXX	760	773	11	694	-	551	355	115	13.7	2.1-10.7	11
PA-C63-LV56-XXXXXX	760	773	11	694	27	600	355	115	13.7	2.1-10.7	11
PA-C71-LY56-XXXXXX	840	853	11	774	12	650	420	115	12.7	2.4-12	11
PA-C40-KE56-XXXXXX	475	485	9	438	69	463.1	251.3	75	8	4	9
PA-C45-KH56-XXXXXX	580	590	11	514	81.2	492.8	262	75	8	5.4	11
PA-C56-JU56-XXXXXX	690	703	11	624	-	510	310	115	8	1.9-9.5	11





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