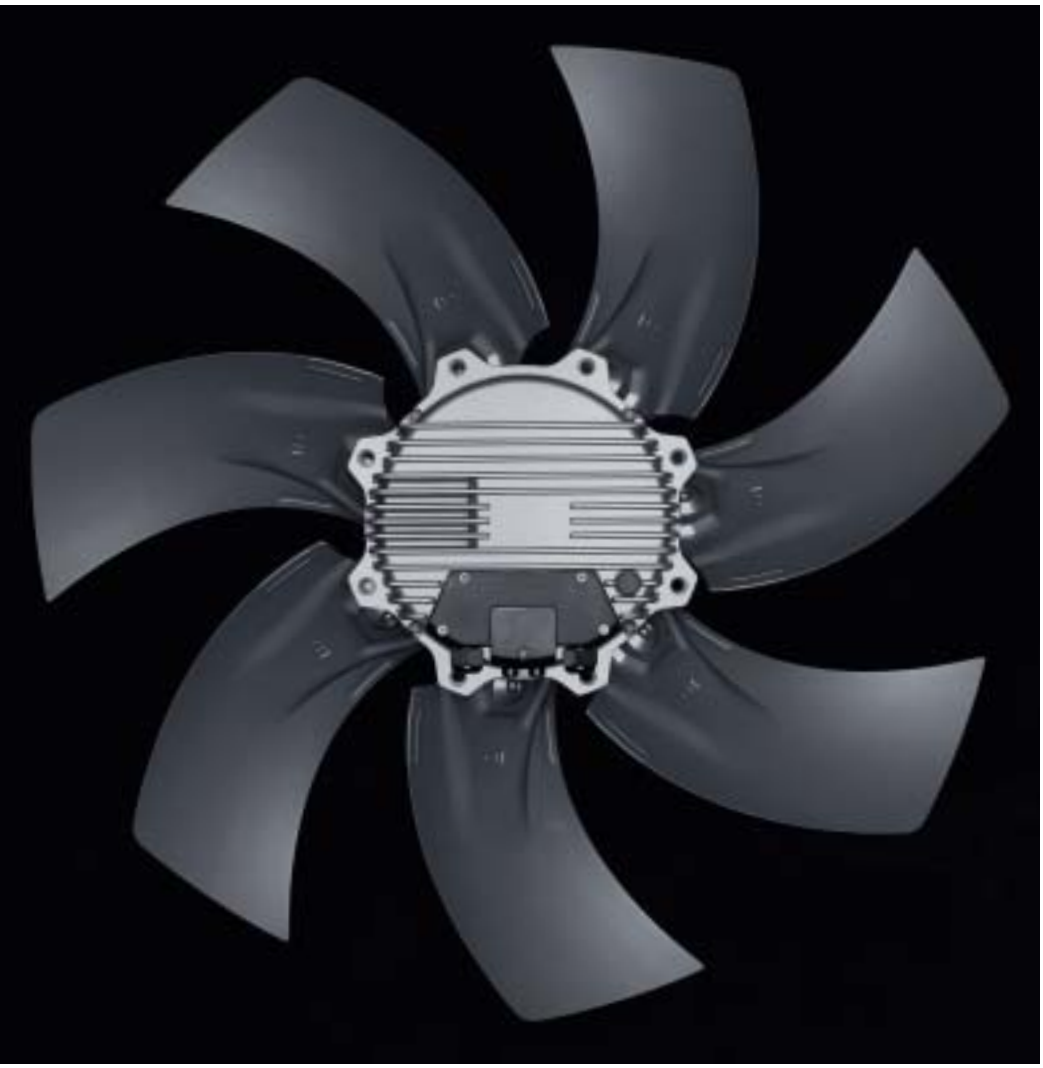
Centrifugal blowers and fans
Axial fans

Catalogue 2004



ebmpapst

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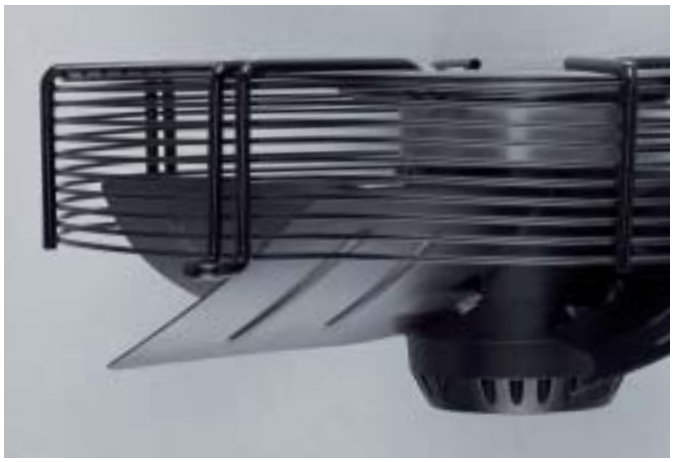
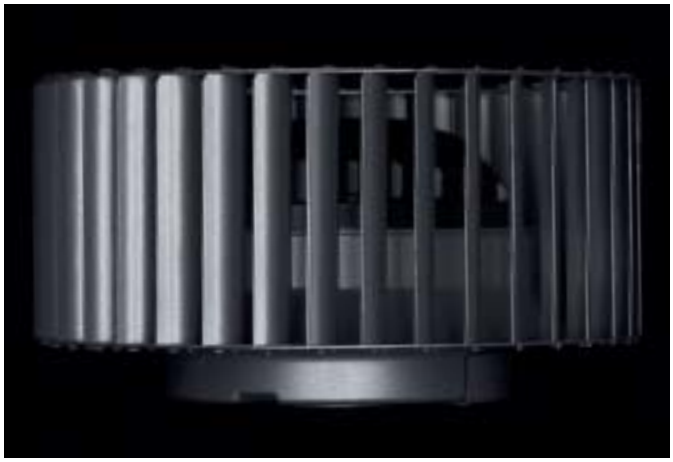




ebmpapst

Company profile: ebm-papst

The entire scope of air and drive technology: this is the world of ebm-papst. Originating from the companies ebm, PAPST and mvl, all three rich in tradition, ebm-papst offers a unique range of products that makes us world market leader. We unite the fortes of three remarkable companies – each of them having worked hard to succeed in attaining a leading position in the most diverse fields and segments. More than 7,000 members of staff in Germany and throughout the world develop, produce and distribute our motors and fans. Striving for perfect solutions in applications in the different industries is what determines our daily work. Those who know us know the high standards we apply to our work and know our creed: to be as close to our customers as possible and to simply be the best in terms of innovation and reliability.

Our headquarters in Mulfingen

Left:
Our location in St. Georgen
Right:
Our location in Landshut

For years, ebm, PAPST und mvl have been working together hand in hand. For the benefit of our customers, we use the synergy effect generated by our co-operation and the product ranges that complement each other so well. And now, in 2003, we move even closer and document this closeness in a joint public appearance and a joint name: ebm-papst.

We remain the same- only better!

Though our outward appearance may have changed, our "inner" values remain the same. We still want you to enjoy being close to your established contacts, making their commitment and know-how help you succeed in your specific task. And, of course, we also want you to enjoy the same quality and choice of ebm, PAPST and mvl products:

ebm products are now available from ebm-papst Mulfingen
PAPST products are now available from ebm-papst St. Georgen
mvl products are now available from ebm-papst Landshut

Passionately involved in R&D

Our catalogues just list the results of our incessant efforts in R&D: products of highest quality and reliability. After all, it is our passion to constantly try something new and improve what we have. In doing so, we take advantage of the latest development methods and state-of-the-art technology and invest quite heavily in R&D facilities. Best of all, though: we rely on excellently trained and skilled engineers and technicians to be at your service in R&D and Sales & Distribution.

Producing and safeguarding high-quality products and services

This is our promise beyond all bounds. Whether we manufacture in our national headquarters or in one of our 15 international production facilities - we insist on the same high level of quality! No cheap compromises when it comes to quality control! And this across all levels of production and throughout all processes: consulting customers, development, material selection through to picking certified, choice suppliers and on to the production of parts and final delivery. On top of this, our products have to pass the most rigorous test procedures under all realistic operating conditions: continuous stress test, salt spray test, vibration test, or in the room for precision noise measuring, just to mention a few.

And the product gets clearance for serial production only after all the desired characteristics have been determined to be just right. Environmental care is another priority with ebm-papst. This is why we have developed our product line in EC technology, which makes for very low power consumption, and why we take pride in our manufacturing philosophy. There is absolute focus on environmental care in production, recycling, waste and waste water disposal.

Global Domestic

In order to be specialist for customised solutions throughout the world, you need strong partners. Global Domestic -i.e. being present all over the world and being a national company in each individual country - is how we have established ourselves with our successful subsidiaries in all important markets on this globe. And so you will always find ebm-papst close to home, speaking your language, and knowing the demands of your very markets. Besides, our worldwide production alliance serves as a basis for competitive pricing. Our global services and logistic outlets, i.e. IT networking, safeguard short reaction times and just-in-time delivery.

All our efforts are documented in a comprehensive quality management system, both for products and services. Being certified as complying with the tough requirements of the international standards DIN EN ISO 9001, ISO/TS 16949-2 and of standard DIN EN ISO 14001 is just one seal of approval we have got for our incessant strife to provide only the best quality products and services.

Our key to success

Our innovations and technologies keep on turning into new industrial standards. This competitive capability can only be maintained by seeing ventilation as a whole: the interrelationship between, and thus the system of, motor engineering, aero-dynamics, and electronics. These are our three core competences, imminently connected and linked in each of our products. And so we handle air intelligently and quietly and continue to set new standards in drive technology. Our system solutions form the main part of our product range by now.
And they will be our main key to success.

Production

Winding machine

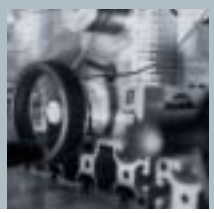
Motor engineering, aero-dynamics, electronics
Our drive is well known and famous with specialists: our external-rotor motor, which has made us world market leader – quietly, yet powerfully. Being versatile as to integration, it is ideally suited to the most diverse applications. Based on this principle, we here at ebm-papst have developed the widest range of fans and motor types in the world. And for hot or aggressive blower mediums, the internal-rotor motor is the perfect complement.

Still, in drive engineering, certain applications simply require the internal-rotor motor principle, and they are then realised with our motors specifically developed for such cases. Take, for instance, the steering support motor in the automotive field developed as innovation in active steering.

And when it comes to airflow: this can be engineered, too. Be it axial or centrifugal fans, centrifugal blowers, compact fans or tangential blowers: we always design fan blades, impeller blades and ducted housings with the specific application in mind. We strive to minimise noise and to optimise efficiency. This is the challenge that we have taken up and which we meet – working away powerfully and quietly.

Finally, intelligence will become the decisive factor on all markets in future. After all, only in connection with electronics can drive and airflow - as system solution - have an optimal effect in a product or application. Interfaces are avoided, and thus potential faults and failures.

Setting new standards with EC technology
Wherever intelligent air handling is required, where energy consumption needs to be reduced and performance has to be maximised, there our EC motors are your reliable answer. They do not waste financial or natural resources. Instead, they boost high efficiency, continuous controllability via analogue or digital inputs, long and maintenance-free service life, and robustness.



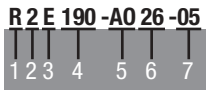
Left: Endurance test lab
Centre: Shaker
Right: Measurement station

Top: Betz manometer
Left: Precision noise measurement lab

Without any problems, the ebm-papst EC technology allows you to realise networked, bus-linked appliances, to integrate simple or complex controls at low cost and to also realise time and again new and customised and complete solutions. Here, ebm-papst excels as competent development partner, with our experience of more than 25 years and our excellent know-how in R & D and production also being well documented in a few hundred national and international patents. And there is also our ability to listen intently, to pay good attention to our customers and their demands - in order to come up with new and pioneering ideas, such as:

– EC fan units for clean room technology, where the fan is supplied as fan filter unit. As the electronics are integrated and the unit is wired up completely and ready to plug in, there is no need for our customers to waste time and money on laborious wiring work.
– Sensitive EC sensor fans for the automotive industry providing optimal selection of the air-conditioning unit in the car and, combined with booster blowers, individual air-conditioning of each and every passenger seat.
– EC gas blowers with commutation and control electronics including a processor. They are developed in such a way as to make the blower pre-mix the required amount of air with the gas. Aero-dynamics with these blowers are adjusted in such a way as to make these blowers ideal for use in very limited space at high back pressure.

Technical introduction - general remarks



Explanation of type designation

1) Type
   - A - axial fan
   - S - axial fan with guard grille
   - W - axial fan with wall ring
   - R - centrifugal fan, single inlet
   - G - centrifugal blower, single inlet (with scroll housing)
   - B - centrifugal fan, dual inlet
   - D - centrifugal blower, dual inlet (with scroll housing)
   - K - combination
   - M - motor
   - P - pumps
2) Number of poles (AC) / cores (EC)
   2-, 4- and 6-pole / 1- and 3-core
3) Type of motor
   - D - 3-phase motor
   - E - single phase motor with capacitor
   - G - EC motor
   - S - shade pole motor
   - Q - square shade pole motor
4) Fan diameter in mm
5) Key for mechanical design
6) Key for electrical design
7) Key for mechanical variants

Graphic rendition of products

The dimensional drawings and photographs of products in the catalogue serve as a visual orientation and may vary in some details from the actual product design.

Product liability

ebm-papst motors and fans are components, the functions of which are determined by the final customer applications.

CE mark

Machinery directive:
ebm-papst do not apply the CE mark on the basis of the machinery directive.
Electromagnetic compatibility (EMC):
ebm-papst products are exclusively supplied to industry and trade and those companies with relevant know-how in electromagnetic compatibility. Our products are therefore not subject to the law on electromagnetic compatibility. Compliance with the EMC directive has to be verified on the end product of the customer, as different integration conditions for our products may result in modified EMC properties in the final unit.
Low voltage directive:
ebm-papst products with input voltages > 50 VAC or > 75 VDC are subject to the low voltage directive. Depending on the product, compliance with this directive has to be assessed according to EN 50178, EN 60335-1, and EN 60950.

Bearings

As a standard, ball bearings are used unless other bearings are specified in the relevant chapters. They are completely maintenance-free and can be used in any mounting position. Unless otherwise indicated, the bearing lubricant is suitable for a minimal ambient temperature of minus 15 °C (even minus 30 °C for a short period of time and without reaching dew point). For applications at an ambient temperature of 40 °C, minimal life cycle L10 is 40,000 hours. On request, we provide a life cycle calculation for your specific application.
Sleeve bearings have a very low noise level. Lifetime lubrication is guaranteed by means of a special retention medium. However, for use with suspended motor and at high ambient temperatures, ball bearings should be used. Life cycle depends on the ambient temperatures and application conditions, and up to 30,000 hours are typically attained. Favourable conditions, though, can result in a life cycle of 40,000 hours.

Safety approvals

Depending on the product, ebm-papst fans and blowers comply with EN 60335-1, EN 50178, EN 60950, and EN 60034-1.
Special requests as to flammability rating have to be specified by the customer.
The major part of the fans and blowers can also be supplied in CE, VDE, UL, GOST, CCC and/or CSA approved design.

Ambient temperature

The permissible ambient temperature refers to the operating points as specified. Axial fans, when running at free air, have the lowest power consumption and the lowest temperature rise in the motor. With rising back pressure, the motor temperature rises as well. With some fans, there is a limit as to maximum pressure. Forward curved centrifugal fans heat up most at free delivery. With some fans, a minimum pressure has to be observed. The motor temperature goes down as soon as back pressure increases.
The ambient temperatures as given apply to the characteristic operating range of the fans and blowers.

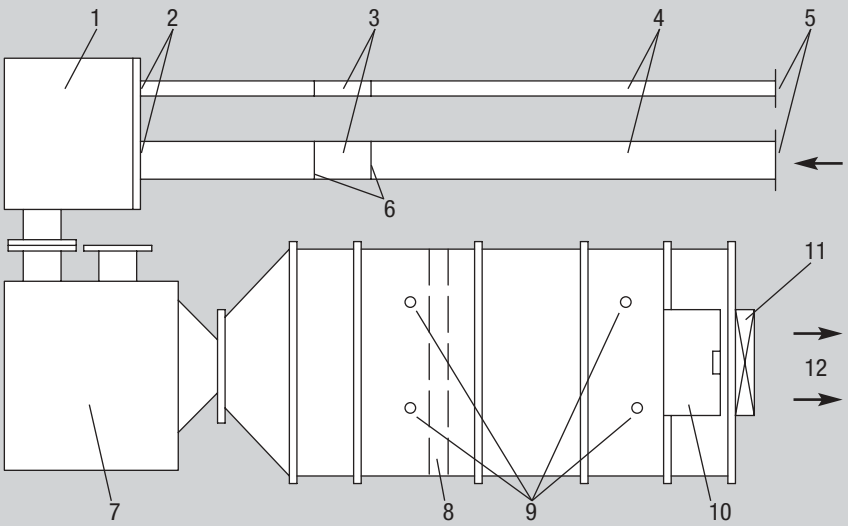
Air performance

Air performance characteristics are determined in a test chamber built to DIN 24163, with the fan measured on its sucking side. They refer to an air density of $\rho = 1.2\ kg/m^3$ at 20 °C.
With air density ρ changing, pressure build-up also changes, though the air flow remains the same.
Pressure at deviating air density can be calculated roughly by the following equation:

$$\Delta p_2 = \Delta p_1 \frac{\rho_2}{\rho_1}$$

Noise level

The noise level as indicated is measured in an echo-free chamber with non-reflective floor, following DIN 45635-1, respectively ISO 3745. The fan under test is anti-vibration mounted and runs at free air at nominal voltage, in AC also at nominal frequency. The microphone is placed in front of the air inlet, at a distance of one meter. Since the actual operating and mounting conditions usually differ from test conditions, the data given can only be used for comparison.



Test chamber set-up

Test rig according to DIN 24163

1) Collector
2) Hydraulic shutter
3) Venturi tube or nozzle
4) 9 ducts with different diameter each for different air volumes
5) Air intake (inlet nozzles)
6) Measuring points for diff. pressure, air flow
7) Auxiliary fan with shutter
8) Air flow rectifier
9) Measuring points for static pressure, connected by ring pipe
10) Door
11) Fan under test
12) Direction of air delivery, free air

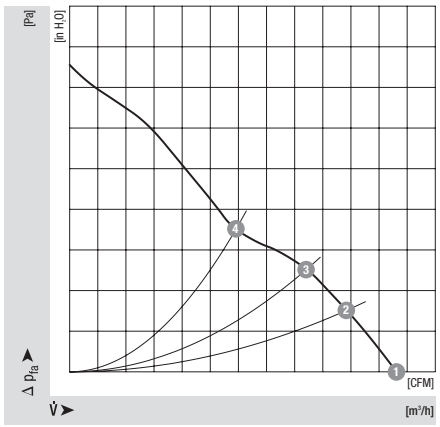
Choosing the right fan

In selecting the best fan for your application, the following criteria should be taken into account:

- Possible dimensions and space limitations
- Required air volume
- Static pressure
- Noise level / acoustics
- Power supply

In determining the required air flow, the losses inherent in the system and caused by filters, ducts, air deflection and packing of elements to be cooled, have to be considered.

Those losses determine the operating point and vary in square to the air flow and can be shown as fan characteristics. Optimum mounting conditions, i.e. free intake and free blowing, should be aimed for. Components mounted directly in front of the air inlet cause disturbances and increase the noise level.



Fan characteristic

Calculating the air volume for cooling

The air volume required for cooling can be calculated with the following equation:

$$\dot{V} = \frac{3100 \times P}{\vartheta}$$

$\dot{V}$ = required air volume in m³/h

P = heat produced inside the appliance (kW)

ϑ = permissible temperature rise of cooling air in K

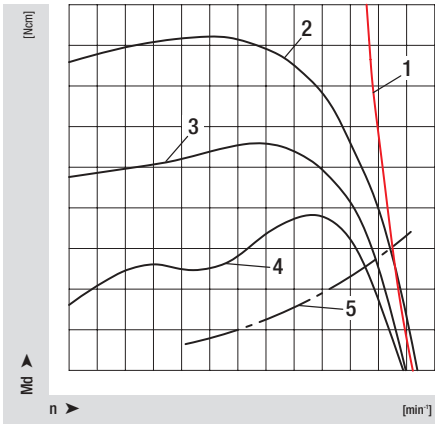
Types of protection

AC fans are built to protection class IP44, EC fans to IP42. Any exceptions to this are noted on the relevant data sheets. Higher protection classes upon request.

Nominal data

All data in the technical specifications are determined at nominal voltage, with AC also at nominal frequency, at free air delivery or at the specified minimum air pressure in the housing. Other operating points and modified mechanical mounting conditions result in deviations from this nominal data.

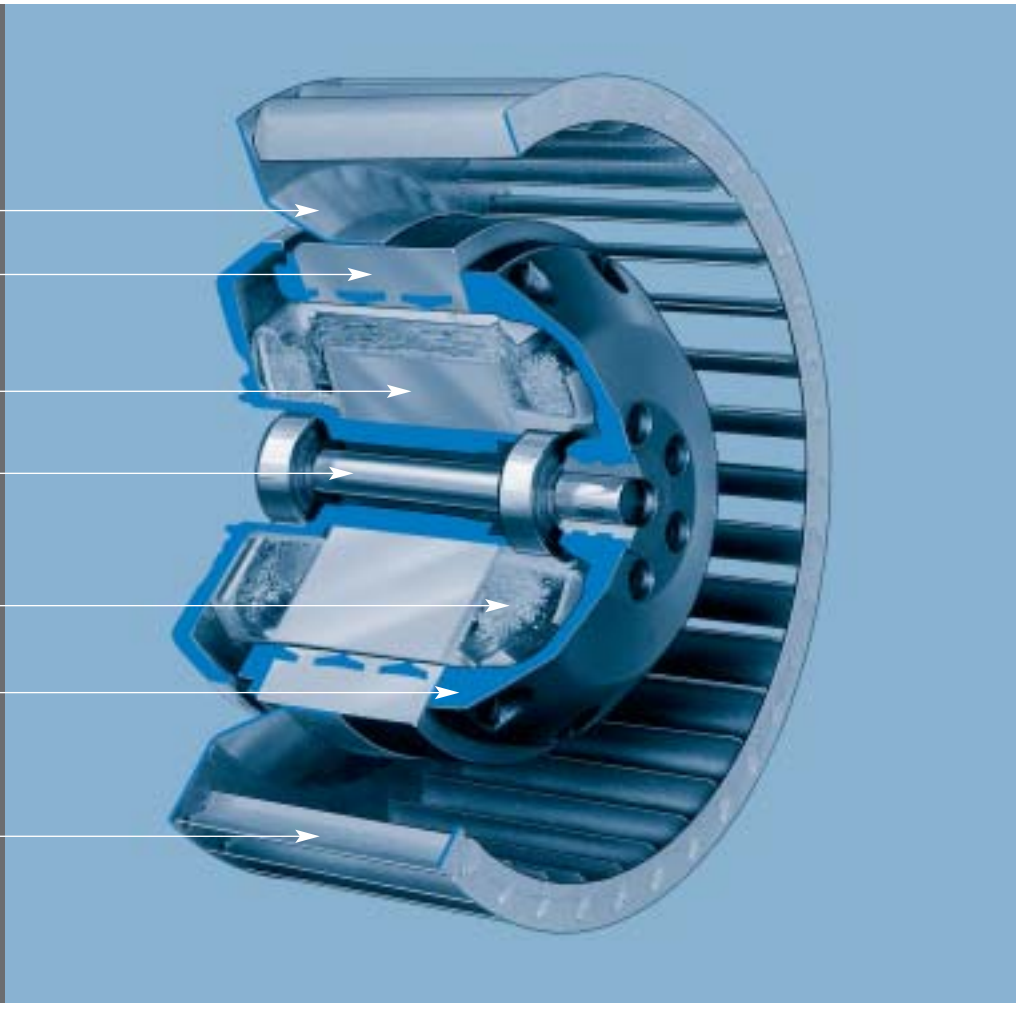
Torque characteristics



1 - EC motor
2 - 3-phase motor
3 - Single phase motor
4 - Shade pole motor
5 - Appliance characteristic

The principle of the external-rotor motor, illustrated on a forward curved centrifugal fan

Section of a centrifugal fan



Like any other electric motor, the external-rotor motor consists of a stator wound with copper wire, and a rotor.
The unique difference is, however, that the rotor rotates externally, with the stator at its centre.
As it contains integrated bearings, the motor is surprisingly short and makes for a very compact fan unit once it is directly built into the impeller.
The singular integration of the rotating parts permits precision balancing and reduces mechanical stress on the bearings tremendously.
Both the motor and the impeller are cooled with optimal efficiency, being positioned directly at the centre of the air stream they generate, which, of course, increases service life.

Electrical design

Standard with AC fans are motors in protection class I and insulation class "B". Any exceptions to this are noted on the relevant data sheet.
In order to realise an ambient temperature that is higher by 20°C, insulation class "F" is available on request.
The ground lead required for protection class I is normally brought out with the connection lead.
Capacitors are accessory and have to be ordered separately. Please note that for some designs, a capacitor type FPU (P2) is called for. The operative voltage required for the capacitors, as well as their capacity, is listed with the nominal data.
Only capacitors approved and passed by the relevant approval agencies may be used.

Protective equipment

Additional protective devices or equipment is necessary when installing our products without integrated motor protection equipment and without the design prohibiting improper use.
The relevant product norm will specify any such protection for the motor or motorised fan (e.g. locked-rotor protection or in case of insufficient thermal protection according to the product norm applied).
All single-phase motors are locked-rotor protected by means of either impedance protection or T.O.P. (thermal overload protection). The fan components and motors are designed for 230 VAC +6 % / -10 %, according to DIN IEC 38.

Three-phase current products do not have protective equipment for either single-pole or all-pole shutdown and must therefore be connected to some external protective equipment.
Any electrical connection must comply with the relevant specifications, and special attention must be paid to the correct installation of the ground wires.

Special designs in serial production

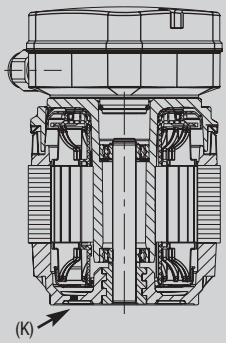
- Insulation class "F"
- Increased protection class
- Hall-IC signal brought out for monitoring of functions
- Special voltages:
  UL and CSA approved designs
  (115, 230, 277, 480 VAC / 60 Hz)

Drilled condensate discharges in size 094 motors

Depending on mounting position RU (rotor down) or RO (rotor on top), drilled condensate discharges are necessary.

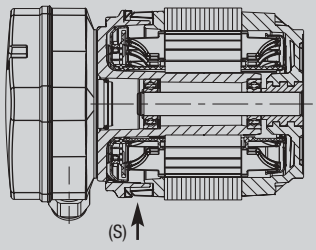
In mounting position RH (rotor horizontal), the condensate can escape via the slot in the labyrinth seal (S) between stator and rotor.

RU



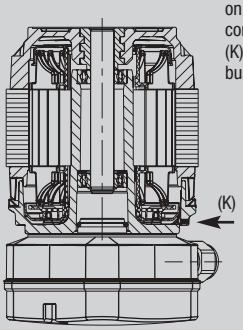
Mounting position rotor down (RU): condensate discharge (K) drilled into rotor

RH



Horizontal mounting position (RH): any condensate drains off via slot in the labyrinth seal between stator and rotor.

RO



Mounting position rotor on top (RO): condensate discharges (K) drilled into stator bush

Speed regulation

Our fans can be easily and precisely regulated by simply reducing the voltage. Depending on the application, we recommend the use of either fixed resistors, autotransformers, capacitive resistors or, to some extent, electronic controllers.

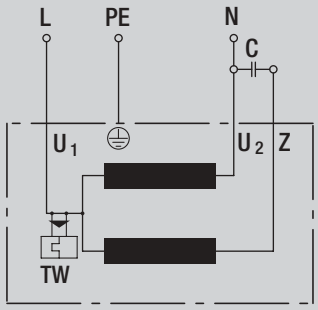
For specific applications, special circuits are possible, such as capacitor switching or delta/star. For some applications and projects, special motors with step winding for up to 5 speeds can be supplied. Here, the slip of the motor influences the speed. Whenever a TRIAC is used to control the fan, the actual temperature rise of the motor winding has to be kept within the limits of the respective insulation class; higher noise levels may also be generated.

Frequency transformers

As soon as our motors/fans are operated with frequency transformers, an all-pole sine filter has to be inserted between motor and frequency transformer (all-pole design: phase to phase, phase to earth).

Electrical connections

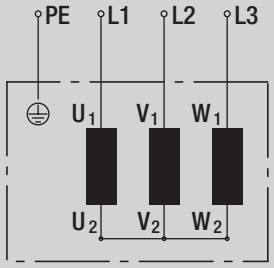
Single-phase AC motor with capacitor:



U_1 = blue
U_2 = black
Z = brown
⏚ = green, yellow

All connection leads brought out are "internal leads" as defined by EN 60335-1.

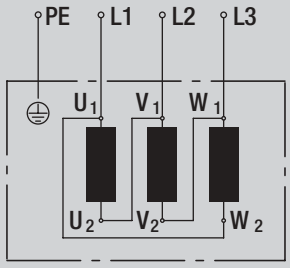
3-phase motor in star connection:



U_1 = black
U_2 = green
V_1 = blue
V_2 = white
W_1 = brown
W_2 = yellow
⏚ = green, yellow

Direction of rotation changed via interchanging any two phases.

3-phase motor in delta connection:

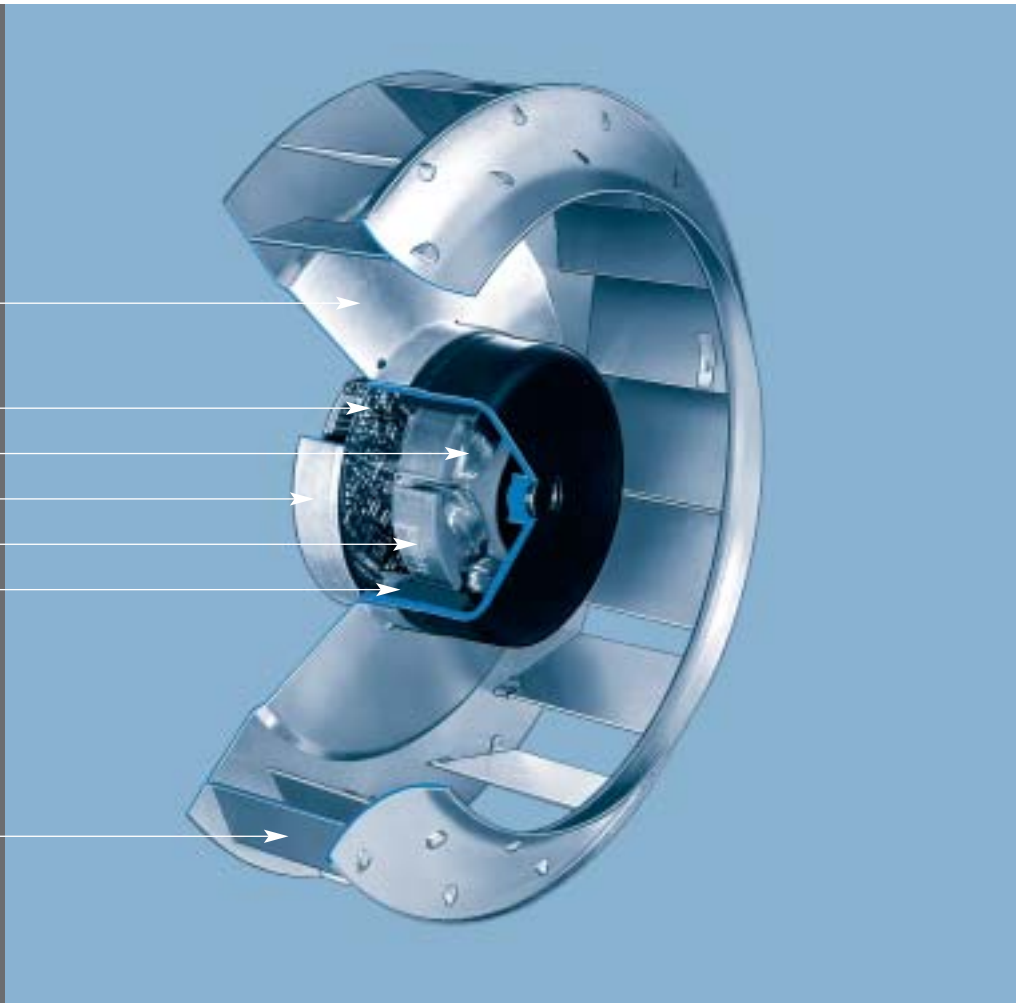


U_1 = black
U_2 = green
V_1 = blue
V_2 = white
W_1 = brown
W_2 = yellow
⏚ = green, yellow

Direction of rotation changed via interchanging any two phases.

The external-rotor motor as EC motor, illustrated on a backward curved centrifugal fan

Section of a centrifugal fan



The EC external-rotor motor is very compact because of its integrated bearing system. This motor installed inside the impeller results in a very low-profile ventilation unit.
All rotating parts are directly fitted to one component and dynamically balanced as such. This guarantees low loads on the bearing system. There is optimum heat transfer out of the motor because of its exposure to the air flow inside the impeller. This contributes to long motor life.

The electronics can be either integrated onto a PCB inside the motor or can be ordered as separate unit.

General information

Electronically commutated DC motors - in the following referred to as "EC motors" - are DC motors with a characteristic similar to that of shunt motors. The advantages of these EC motors are maintenance-free operation combined with high efficiency. The electronics of the EC motor can be designed to offer certain additional functions, such as open- or closed-loop speed control, alarm functions, etc.

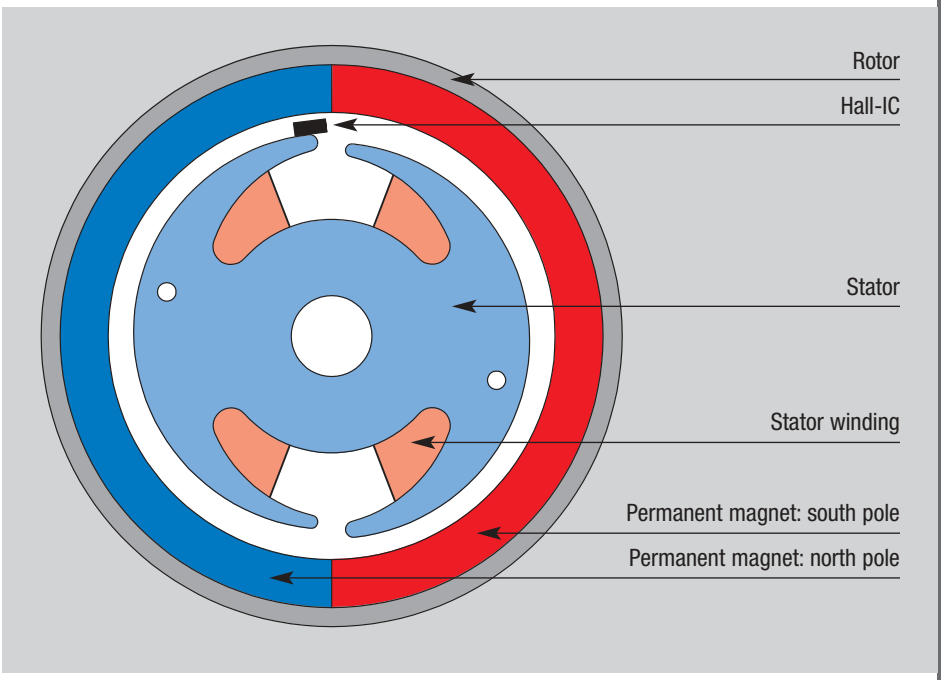
Advantages of the EC motor

The various advantages of the EC motor, resulting from the use of state-of-the-art electronics, make it the recommended choice for both air technology and drive engineering.

- High efficiency resulting in energy savings and fast amortisation
- Only about 1/3 of the heat loss normally incurred by a conventional AC or 3-phase motor
- Continuously variable speed control via analogue or digital input
- Simple speed control or more complex closed loop control options can be integrated at competitive cost
- Networked and bus-linked installations are easy to realise
- High power density, i.e. compact design
- Temperature and air flow-dependent speed control options (= intelligent fan)
- Speed and/or air flow monitoring
- Long service life and robust design comparable to an asynchronous motor
- Built-in protective systems (e.g. locked-rotor protection, reverse battery protection)
- Constant air flow or pressure characteristics

Basic principle of the EC motor

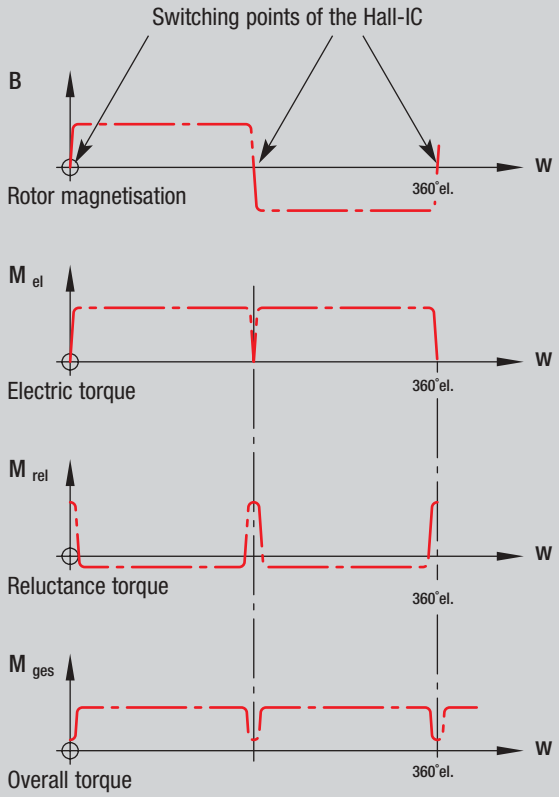
With the EC motor, the magnetic field is generated in the rotor itself by permanent magnets. Commutation is electronically and therefore without wear-and-tear. Depending on their layout and the application, EC motors can be operated from the DC power supply or, via an external / integrated commutation unit, directly from an AC mains supply.



Reluctance torque

One-core EC motors cannot create a torque from out of all rotor positions. To deal with this effect and still ensure start-up, the stator has a specific design which creates the reluctance torque. This torque makes the rotor always stay outside the neutral zone when in standstill position. Whenever the reluctance torque is bigger than the starting torque, start-up is guaranteed. With ebm-papst fans with directly driven impellers, this is always the case.

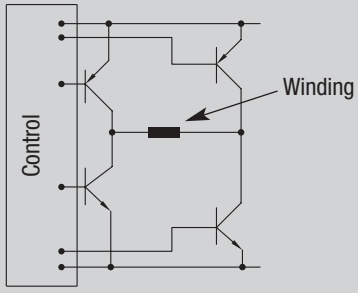
Rotor magnetisation / torques (1-core)



Number of cores

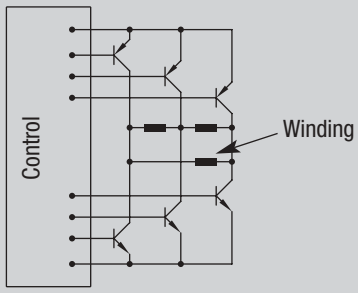
Depending on the required start-up torque, the torque characteristic and the smoothness of running, EC motors with various numbers of cores are available. In this catalogue, the following numbers of cores are used:

Single core (M1G...):



These motors only have one core which is energised via an H-bridge commutation circuit. Their start-up torque is low, and so these motors are particularly suitable for competitive fan applications.

3-core (M3G...):



These motors have three winding cores 120° apart which are energised by six transistors in three H-bridge connections. 3-core motors have very favourable noise characteristics. Their start-up torque is at least as high as their nominal torque. This is why these motors are especially suitable for high performance fans and applications in drive engineering.

Table of characteristics

Locked-rotor protection

General remarks:

All EC motors are protected against improper use (locked-rotor protection) in accordance with relevant regulations.

Sizes 045, 055, 074 and 084:

The motor windings are de-energised with locked-rotor condition. The motor tries to restart every 5 seconds. Once the rotor is no longer locked, the motor will restart.

Sizes 084 and 112 with external electronics:

A thermal switch is built into the motor. The external electronics will de-energise the motor windings once the rotor is locked. Either the enable input or the power supply have to be disconnected for a moment to restart the motor. If an RS485 interface is used, restart via software is possible.

Start-up, overload, current limitation

Sizes 045, 055, 074 and 084:

In general, there is soft start. In case of overload, the current is limited and the motor will eventually be shut off.

Sizes 084 and 112 with external electronics:

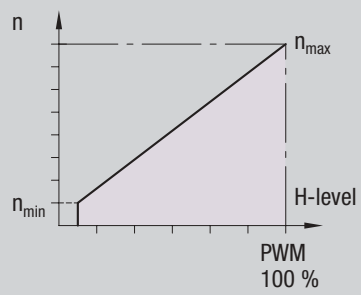
Soft start is included in the external electronics as standard.

Closed loop / open loop speed control

EC motors are controlled via PWM or linear (0-10 VDC) input signal. There is an open loop speed control so that the speed changes depending on the load. (Standard interfaces, see page 21). Closed loop speed control is possible for sizes 084 and 112 with external electronics, in size 150 with integrated electronics. There are inputs for potentiometers, 0-10 VDC or PWM signals.

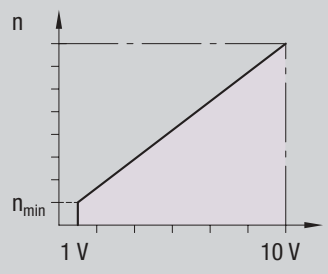
PWM (pulse width modulation)

A PWM signal is a square wave signal with a variable pulse-pause ratio.



Linear closed loop /open loop speed control

At 0 VDC, the motor is de-energised and does not rotate. From 1 VDC onwards, the motor starts to run. Maximum speed is reached at 10 VDC.



Tach output

The number of pulses per revolution is listed in the table below.

Fan operation above nominal voltage

The air performance characteristics in this catalogue are given at nominal voltage (24 VDC respectively 48 VDC).
Appliances in telecommunication or rail and vehicle engineering, however, are mostly operated via battery power supply. The supply voltage (rated voltage U_R) in such cases exceeds nominal voltage U_N by 15 %.

Protective equipment

Any electrical connection must comply with the relevant specifications and directives, and special attention must be paid to the correct installation of the ground wires.

Special designs in serial production

- Insulation class "F"
- Increased protection class
- Special voltages:
  VDE, UL and CSA approved designs

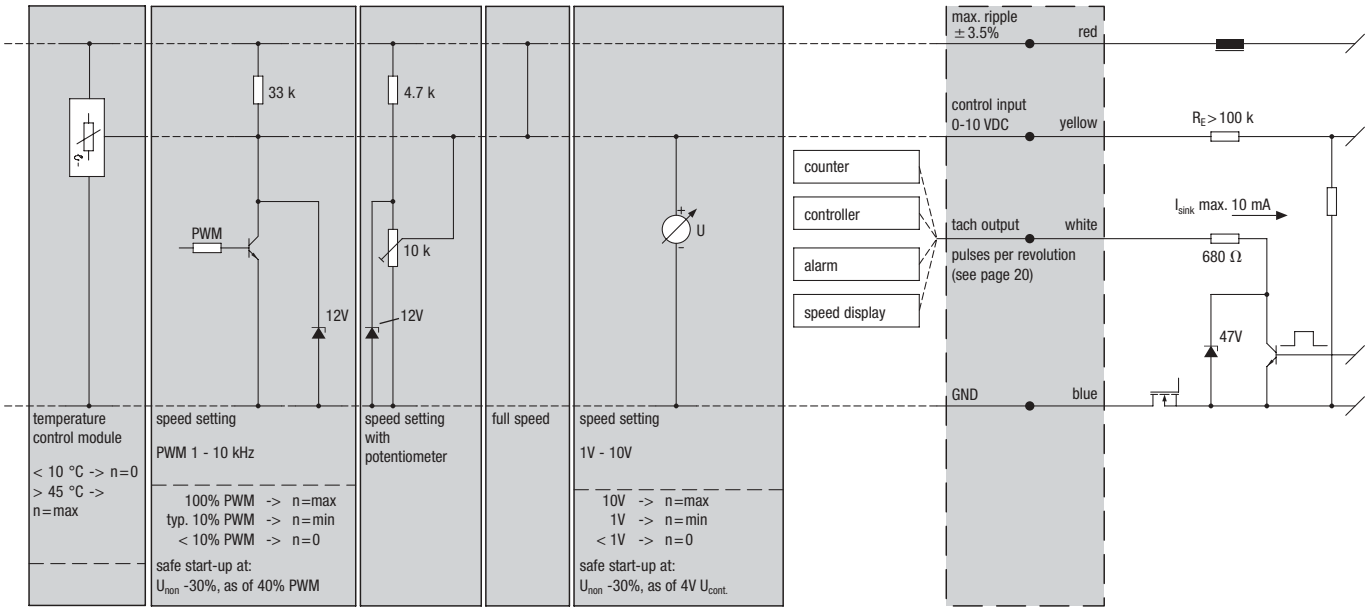
Overview EC motors

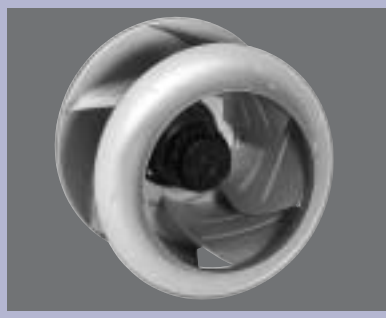
Motor	Voltages					Characteristics			Electronics	
	24 VDC	48 VDC	110 VDC	200-277 VAC	380-480 VAC	Control input Lin 0-10 VDC / PWM	Speed output	Pulses per revolution	integrated	external
M1G045	X	X				X	X	2	X	
M1G055	X	X				X	X	2	X	
M1G074	X	X				X	X	3	X	
M3G074[1]	X	X	X	X		X	X	4		X
M3G084	X	X				X	X	3	X	
M3G084[1]			X	X		X	X	3		X
M3G112[1]			X	X		X	X	3		X
M3G150					X	X			X	

[1] Characteristics only in connection with external electronics

Electrical connection / Standard interface

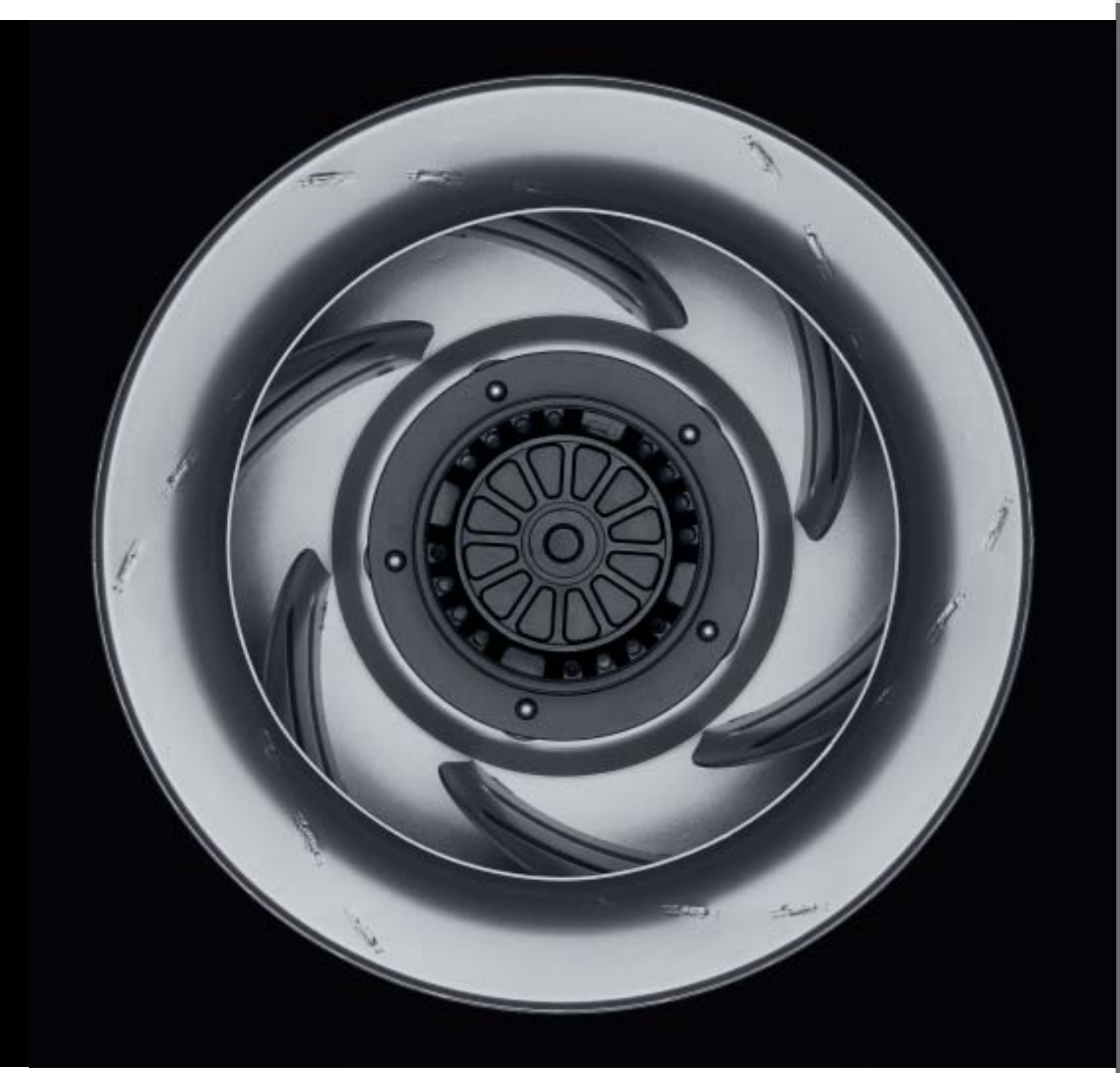
Notes on various control possibilities and their applications





ebmpapst

AC centrifugal fans backward curved

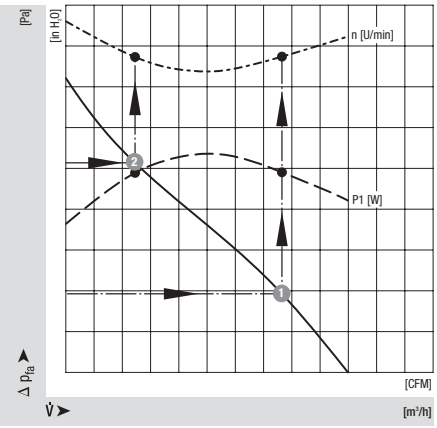


AC centrifugal fans backward curved

Technical information

Backward curved centrifugal fans feature extremely long blades. These impellers are highly resistant to dirt and dust. Moreover, their hydraulic efficiency is very high. They are mainly used in sucking mode. In most cases, a scroll housing becomes superfluous. Depending on the application, it suffices to place a square or round box around the impeller to convert part of the dynamic pressure of the fan and to guide the air flow in the desired direction.

Especially when used in range hoods, computer fan trays, duct fans, roof units etc, this kind of fan is of particular advantage due to its dimensions and performance. In range hoods, for example, the rectangular-shaped over-pressure area around the impeller facilitates the simple switch from exhaust to re-circulated air. This principle allows you to freely choose the exhaust air direction.



Air performance characteristrics for backward curved centrifugal fans

Air performance characteristic

Air performance data are determined with ebm-papst inlet rings at sucking operation and free air flow.

Each air performance curve shows two operation points for which the corresponding data, such as speed and power input, is listed in the adjoining table.

Impellers

Backward curved impellers, also called free-blowing, are available in various versions:

- plastic with sheet metal flange made of galvanised sheet steel
- completely made of plastic
- completely made of galvanised sheet steel
- completely made of aluminium sheet

The impellers are press-fitted onto the rotor or screwed onto a flange. In keeping with DIN ISO 1940, the unit is dynamically balanced in two planes.

Direction of rotation
clockwise rotation, seen on suction side

Type of protection
IP44 when installed
(final evaluation has to be carried out in the customer's application)

Bearings
maintenance-free ball bearings

Approvals
Œ

Cable exit
variable, either lateral or front side

Electrical data
Electrical data has been established at free air flow, i.e. at a back pressure of 0 Pa.
In the lower third of the air performance curve, there is maximum power consumption. After that, power consumption decreases as back pressure increases.

Insulation class
"B" if not otherwise stated

Moisture protection
The stator is humidity protected and the rotor has condensate discharge.

AC centrifugal fans

backward curved, Ø 133

- **Material:** impeller completely made of plastic PA 6.6 (polyamide, glass-fibre reinforced), injection-moulded round sheet-metal plate

ebm-papst · Mulfingen

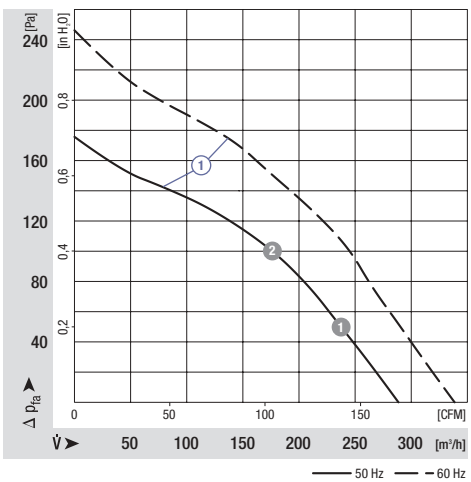
Nominal data

Type	Motor	Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Perm. amb. temp.	Mass
			VAC	Hz	m³/h	min⁻¹	W	A	µF/VDB	dB(A)	°C	kg
R2E 133-BH66 -05	M2E052-BF	①	230 230	50 60	290 345	2800 3300	24 27	0,11 0,13	1,0/400 1,0/400	56 60	45 60	0,7
R2S 133-AE17 -05	M2S052-CA	②	230 230	50 60	280 320	2780 3200	36 34	0,25 0,21	--- ---	55 58	40 60	0,9

subject to alterations

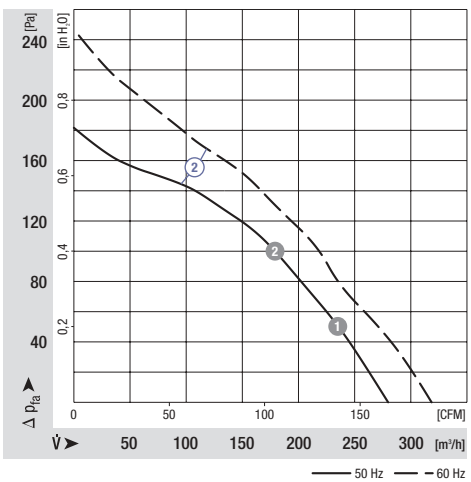
	n [min⁻¹]	P1 [W]
① ❶	2710	25
① ❷	2700	26

Characteristics



	n [min⁻¹]	P1 [W]
② ❶	2720	38
② ❷	2720	38

Characteristics



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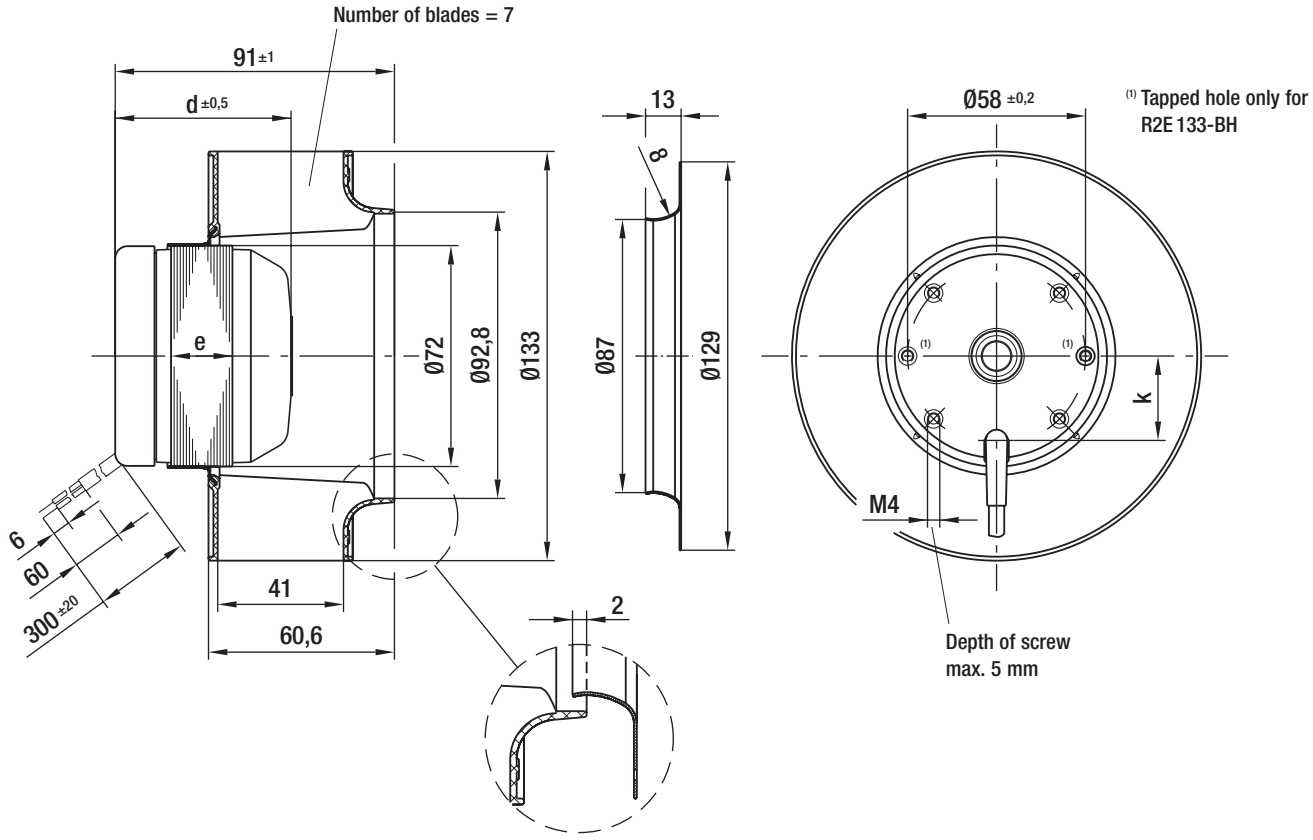
Dimensions

Type	d	e	k	Inlet ring
R2E 133-BH66 -05	53,6	15	27,5	09566-2-4013
R2S 133-AE17 -05	58,0	20	28,5	09566-2-4013



AC centrifugal fans

backward curved, Ø 175 / 190

- **Material:** impeller completely made of plastic PA 6.6 (polyamide, glass-fibre reinforced), injection-moulded round sheet-metal plate

ebm-papst · Mulfingen

Nominal data

Type	Motor	Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Perm. amb. temp.	Mass
			VAC	Hz	m³/h	min⁻¹	W	A	µF/VDB	dB(A)	°C	kg
R2E 175-AR72 -05[1]	M2E 052-CA	①	230 230	50 60	490 570	2650 3100	50 51	0,25 0,23	1,5/400 1,5/400	63 68	50 80	0,9
R2S 175-AB56 -01	M2S 052-CA	②	230 230	50 60	440 430	2350 2300	53 51	0,33 0,29	--- ---	61 60	40 55	0,9
R2E 190-AO26 -05	M2E 068-BF	③	230 230	50 60	570 620	2500 2700	58 75	0,26 0,34	2,0/400 2,0/400	62 64	50 55	1,2

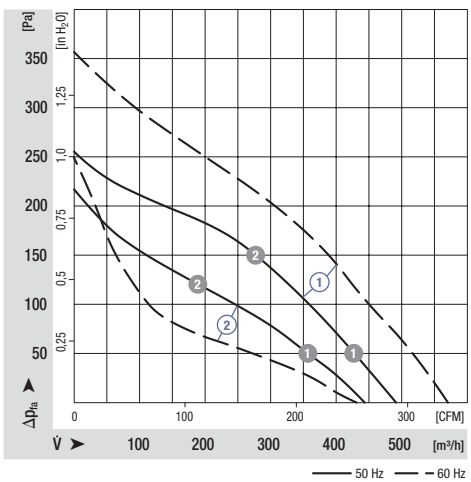
subject to alterations

[1] Insulation class "F"

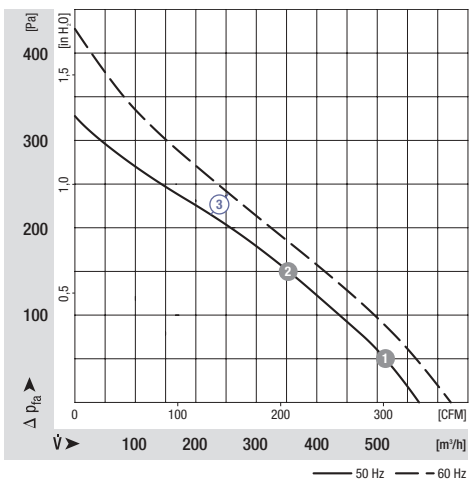
	n [min⁻¹]	P1 [W]
① ❶	2600	51
① ❷	2530	53
② ❶	2240	54
② ❷	2120	56

	n [min⁻¹]	P1 [W]
③ ❶	2490	59
③ ❷	2410	61

Characteristics



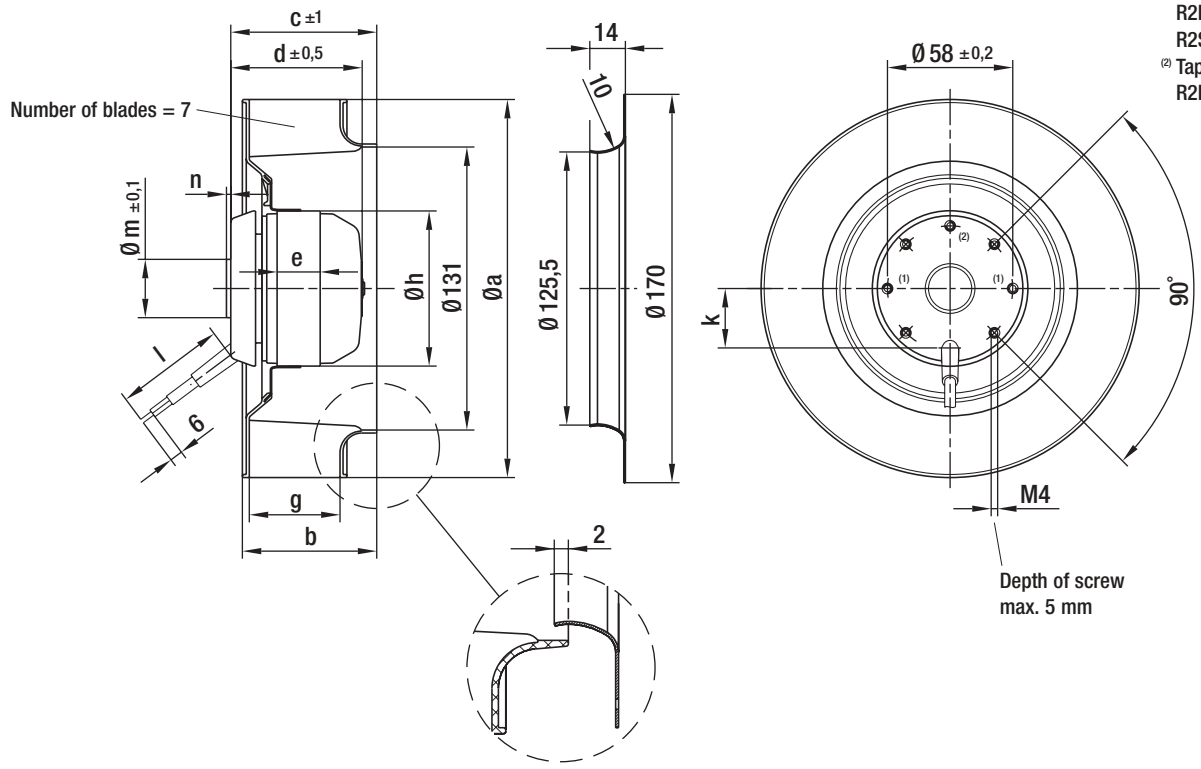
Characteristics



ebmpapst

Dimensions

Type	a	b	c	d	e	g	h	k	l	m	n	Inlet ring
R2E 175-AR72 -05	175	62,0	68,5	61,5	20	42,0	72	27,5	450	---	---	09576-2-4013
R2S 175-AB56 -01	175	62,0	69,0	61,5	20	42,0	72	27,5	400	---	---	09576-2-4013
R2E 190-AO26 -05	190	62,8	68,5	62,7	15	44,6	92	27,0	450	27	2	09576-2-4013



AC centrifugal fans

backward curved, Ø 220 / 225

- **Material:** impeller completely made of plastic PA 6.6 (polyamide, glass-fibre reinforced), injection-moulded round sheet-metal plate

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**°C**	**kg**
R2E 220-AA40 -05	M2E 068-BF	①	230 230	50 60	860 900	2600 2700	85 90	0,38 0,40	3,0/400 2,0/400	73 74	40 40	1,5
R2E 220-AB06 -05	M2E 068-CF	②	230 230	50 60	885 990	2700 3050	85 115	0,38 0,51	2,5/400 2,5/400	72 75	55 55	2,5
R2E 225-BD92 -09[1]	M2E 068-DF	③	230 230	50 60	1200 1340	2650 2950	135 200	0,60 0,88	4,0/450 4,0/450	69 71	60 60	2,3
R4E 225-AT01 -05	M4E 068-CF	④	230 230	50 60	655 765	1420 1660	40 37	0,20 0,18	1,5/400 1,0/400	59 61	50 80	1,8

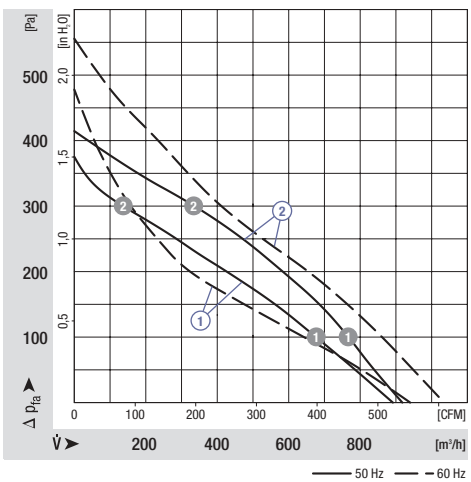
subject to alterations

[1] Insulation class "F"

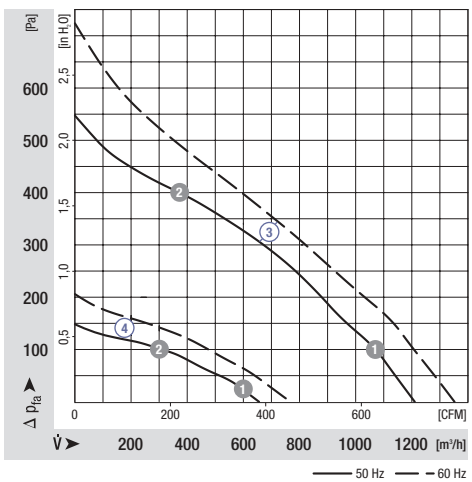
		n [min⁻¹]	P1 [W]
①	❶	2390	95
①	❷	2490	90
②	❶	2650	96
②	❷	2600	102

		n [min⁻¹]	P1 [W]
③	❶	2610	146
③	❷	2650	138
④	❶	1410	41
④	❷	1400	43

Characteristics

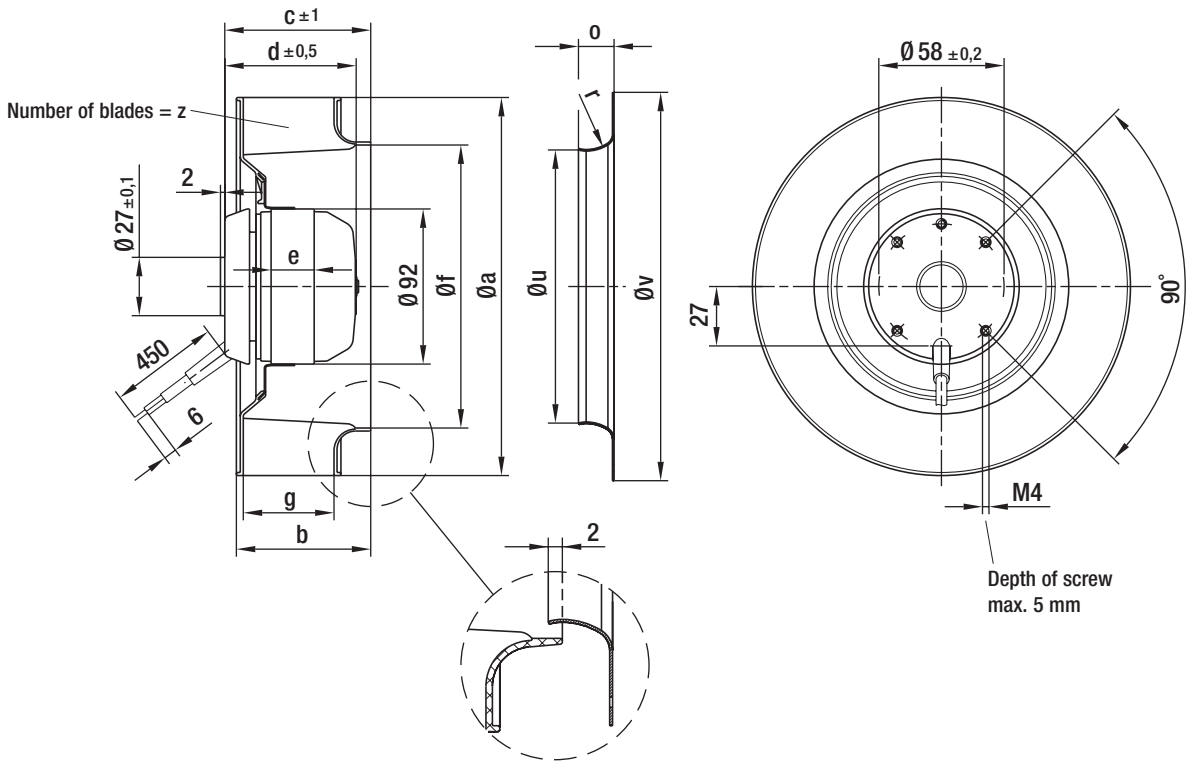


Characteristics



ebmpapst

Type	Dimensions a	b	c	d	e	f	g	z	Inlet ring	Dimensions o	r	u	v
R2E 220-AA40 -05	220	63,0	71	63,0	15	159	44,0	11	09609-2-4013	21	22	155	252
R2E 220-AB06 -05	220	63,0	71	73,0	25	159	44,0	11	09609-2-4013	21	22	155	252
R2E 225-BD92 -09	225	89,3	99	83,0	35	153	62,6	7	96358-2-4013	28	25	146	223
R4E 225-AT01 -05	225	89,3	99	72,6	25	153	62,6	7	96358-2-4013	28	25	146	223



AC centrifugal fans

backward curved, Ø 250

- **Material:** plastic impeller made of PA 6.6 (polyamide, glass-fibre reinforced), round sheet-metal plate

ebm-papst · Mulfingen

Nominal data

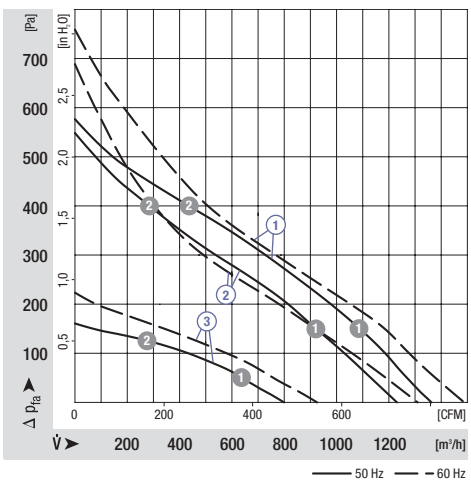
Type	Motor	Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Perm. amb. temp.	Mass
			VAC	Hz	m³/h	min⁻¹	W	A	µF/VDB	dB(A)	°C	kg
R2E 250-AS47 -05	M2E 068-EC	①	230	50	1450	2600	155	0,70	5,0/400	75	50	3,1
			230	60[1]	1490	2700	215	0,95	5,0/400	76	45	
R2E 250-AQ05 -05	M2E 068-DF	②	230	50	1230	2550	130	0,57	4,0/400	73	50	2,6
			230	60	1320	2750	180	0,80	4,0/400	75	40	
R4E 250-AH01 -05	M4E 068-CF	③	230	50	810	1400	43	0,20	1,5/400	61	70	2,2
			230	60	930	1600	43	0,20	1,0/400	64	80	

subject to alterations

[1] Insulation class "F" required at 60 Hz

		n [min⁻¹]	P_1 [W]
①	❶	2400	152
①	❷	2400	152
②	❶	2460	172
②	❷	2435	175
③	❶	1385	46
③	❷	1370	47

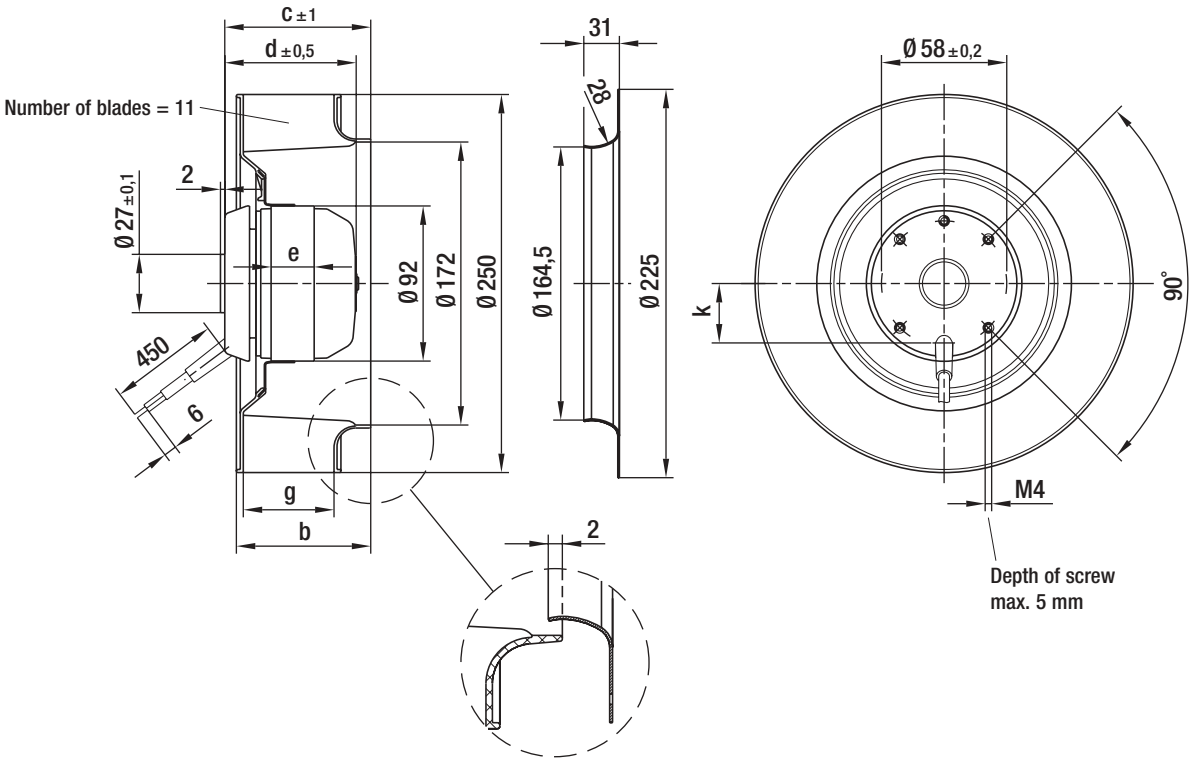
Characteristics



ebmpapst

Dimensions

Type	b	c	d	e	g	k	Inlet ring
R2E 250-AS47 -05	84,3	99	97,5	42	56	27	96359-2-4013
R2E 250-AQ05 -05	73,3	89	82,5	35	45	27	96359-2-4013
R4E 250-AH01 -05	84,3	99	72,6	25	56	29	96359-2-4013



AC centrifugal fans

backward curved, Ø 310 / 330 / 355

- **Material:** plastic PA 6.6 V0

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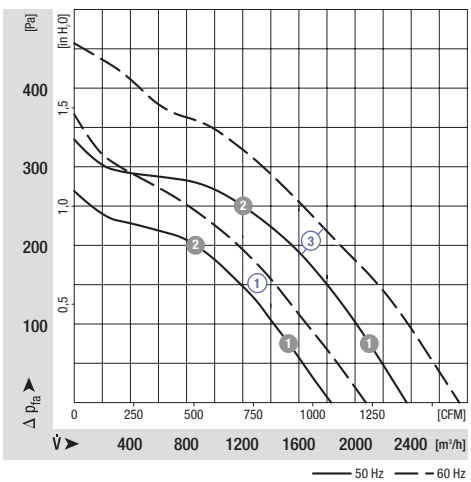
Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**°C**	**kg**
R4E 310-AT06 -01	M4E068-EI	①	230 230	50 60	1830 2070	1400 1600	105 140	0,50 0,62	4,0/400 4,0/400	63 66	55 55	3,5
R4E 330-AA06 -05	M4E074-DF	②	230 230	50 60	1760 2070	1450 1700	95 135	0,44 0,61	4,0/400 4,0/400	66 69	60 40	3,6
R4E 355-AF05 -05	M4E074-EI	③	230 230	50 60	2365 2740	1410 1630	170 250	0,78 1,10	6,0/400 6,0/400	66 70	55 40	4,4
R4E 355-AG02 -05	M4E074-GA	④	230	50	2850	1430	210	0,97	7,0/400	67	45	4,5
R6E 355-AB16 -05	M6E074-DF	⑤	230 230	50 60	1875 2050	910 1000	65 90	0,29 0,40	2,0/400 2,0/400	61 62	70 50	4,0

subject to alterations

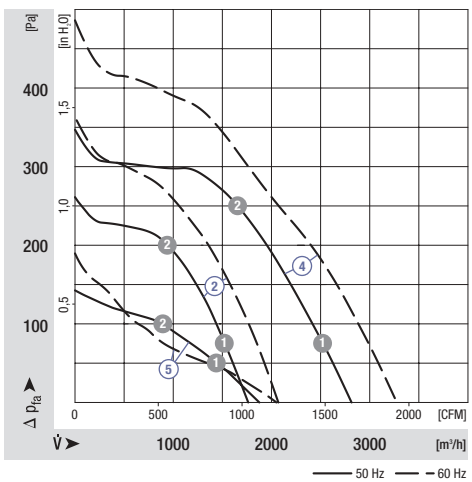
		n [min⁻¹]	P_1 [W]
①	❶	1380	118
①	❷	1360	127
③	❶	1390	190
③	❷	1360	212

		n [min⁻¹]	P_1 [W]
②	❶	1420	112
②	❷	1395	128
④	❶	1425	233
④	❷	1400	267
⑤	❶	870	73
⑤	❷	835	77

Characteristics

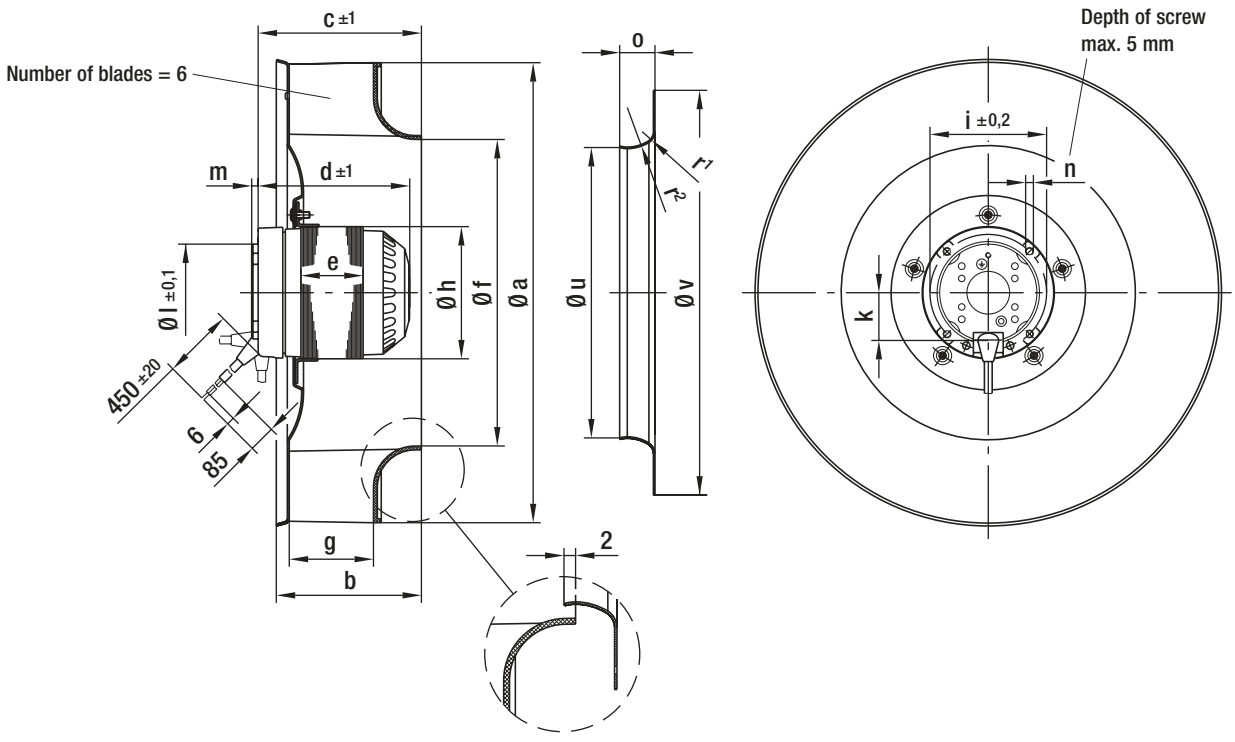


Characteristics



ebmpapst

Type	Dimensions a	b	c	d	e	f	g	h	i	k	l	m	n	Inlet ring	Dimensions o	r¹	r²	u	v
R4E 310-AT06 -01	318	132,0	154,0	97,5	42	203	101,0	92	58	27	27	2	M4	97512-2-4013	53	30	60	192	300
R4E 330-AA06 -05	360	127,0	144,0	104,0	35	237	80,0	102	90	37	75	5	M6	51357-2-4013	60	54	28	224	350
R4E 355-AF05 -05	360	148,5	165,5	117,0	48	237	101,5	102	90	37	75	5	M6	51357-2-4013	60	54	28	224	350
R4E 355-AG02 -05	360	173,0	190,0	129,0	60	237	126,0	102	90	37	75	5	M6	51357-2-4013	60	54	28	224	350
R6E 355-AB16 -05	360	173,0	190,0	104,0	35	237	126,0	102	90	37	75	5	M6	51357-2-4013	60	54	28	224	350



AC centrifugal fans

backward curved, Ø 250 / 270

- **Material:** sheet steel

ebm-papst · Mulfingen

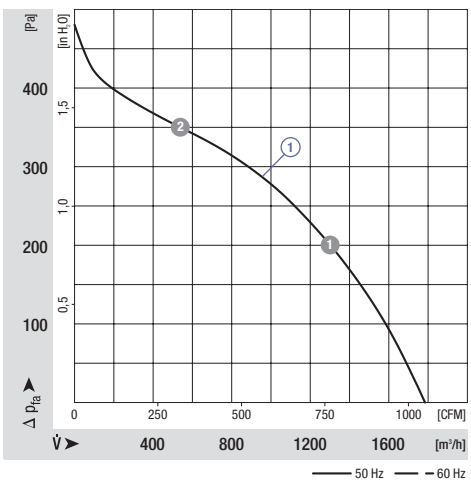
Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**°C**	**kg**
R2E 250-AW50 -05	M2E 068-EC	①	230	50	1780	2650	185	0,81	6,0 / 400	72	50	3,1
R2E 270-AA01 -05[1)2)]	M2E 074-GA	②	230 230	50 60	2435 2760	2750 3100	280 430	1,23 1,88	10 / 400 10 / 400	77 80	60 50	4,7

subject to alterations

[1)] FPU (P2) capacitor in keeping with IEC 252 [2)] Insulation class "F"

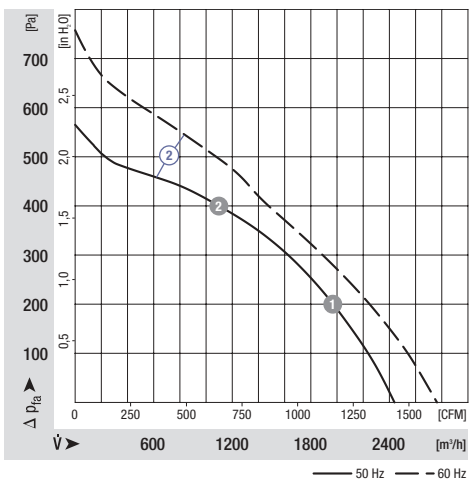
	n [min⁻¹]	P_1 [W]
① 1	2510	220
① 2	2615	190

Characteristics



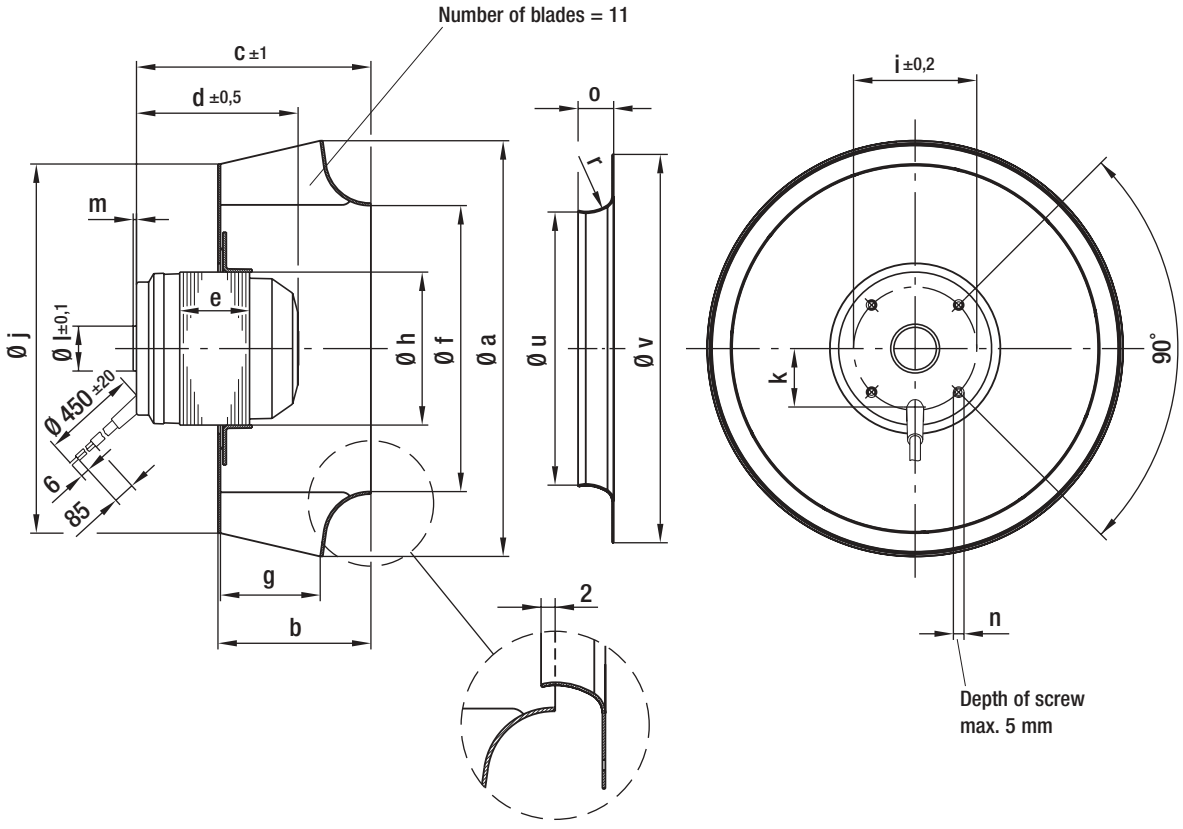
	n [min⁻¹]	P_1 [W]
② 1	2665	245
② 2	2690	332

Characteristics



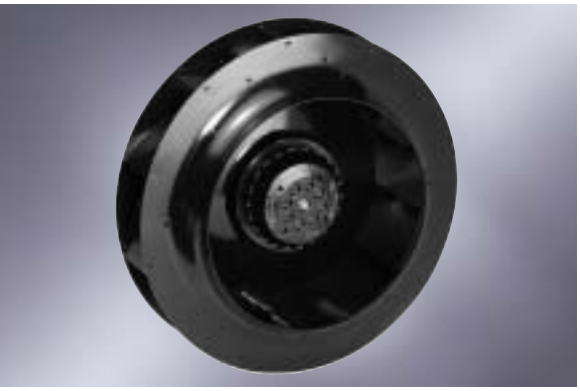
ebmpapst

Type	Dimensions a	b	c	d	e	f	g	h	i	j	k	l	m	n	Inlet ring	Dimensions o	r	u	v
R2E 250-AW50 -05	250	92	141	97,5	42	172	60	92	58	222	27	27	2	M4	96359-2-4013	31	28	164,5	250
R2E 270-AA01 -05	270	102	171	129,0	60	191	70	102	90	240	37	75	5	M6	96360-2-4013	35	31	182,5	280



AC centrifugal fans

backward curved, Ø 280



- **Material:** sheet steel

ebm-papst · Mulfingen

Nominal data

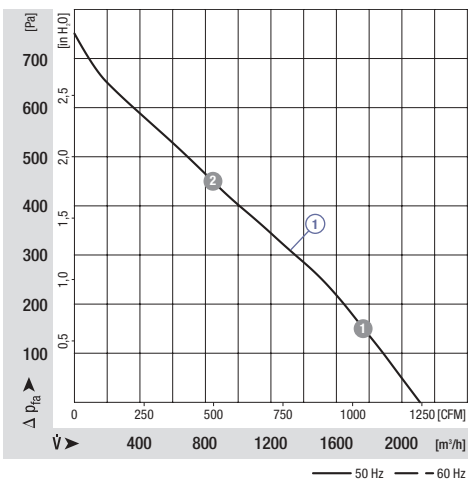
Type	Motor	Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Perm. amb. temp.	Mass
			VAC	Hz	m³/h	min⁻¹	W	A	µF/VDB	dB(A)	°C	kg
R2E 280-AE52 -05[1)(2)]	M2E 068-EC	①	230	50	2110	2700	225	1,00	7,0/400	76	40	3,0
R4E 280-AD08 -05	M4E 068-DF	②	230 230	50 60	1435 1685	1420 1635	78 105	0,35 0,42	2,5/450 2,5/450	62 67	40 40	2,8

subject to alterations

[1)] FPU (P2) capacitor in keeping with IEC 252 [2)] Insulation class "F"

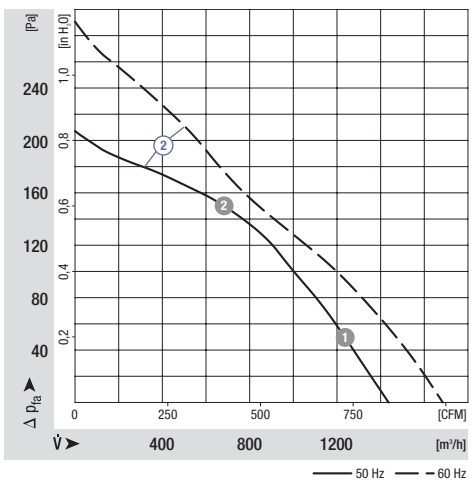
	n [min⁻¹]	P_1 [W]
① ❶	2560	265
① ❷	2390	312

Characteristics



	n [min⁻¹]	P_1 [W]
② ❶	1380	88
② ❷	1340	99

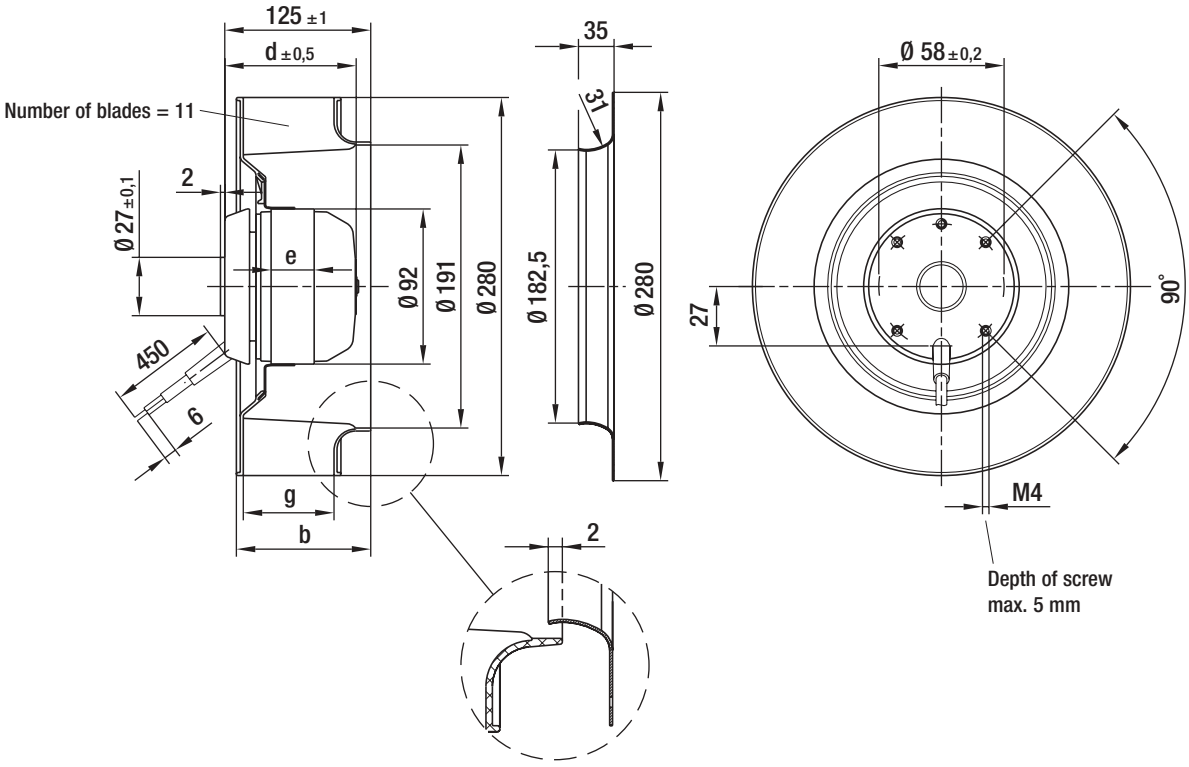
Characteristics



ebmpapst

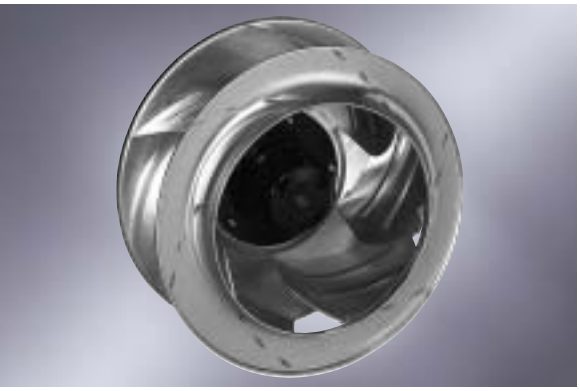
Dimensions

Type	b	d	e	g	k	Inlet ring
R2E 280-AE52 -05	81,6	97,5	42	50	27	96360-2-4013
R4E 280-AD08 -05	111,4	82,5	35	80	29	96360-2-4013



AC centrifugal fans

backward curved, 3-D, Ø 310



- **Material:** sheet aluminium
- **Inlet ring:** data collected via short nozzle (using long nozzle, better air performance and noise figures can be attained)

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**°C**	**kg**
R4D 310-AR18 -01[1]	M4D068-EC	①	230/400 230/400	50 60	1710 1990	1430 1650	85 115	0,30 0,26	--- ---	62 66	75 80	3,3
R4D 310-AS18 -01[1]	M4D068-EC	②	230/400 230/400	50 60	2120 2450	1400 1600	110 150	0,32 0,30	--- ---	60 63	65 55	3,4
R4E 310-AR06 -01	M4E068-EC	③	230 230	50 60	1690 1950	1410 1650	95 125	0,46 0,56	4,0/400 4,0/400	62 66	70 65	3,3
R4E 310-AS06 -01[2]	M4E068-EC	④	230 230	50 60	2130 2380	1370 1530	120 160	0,54 0,71	4,0/400 4,0/400	59 62	85 50	3,4
R6E 310-AI04 -01	M6E068-EC	⑤	230 230	50 60	1110 1320	950 1120	45 55	0,21 0,25	1,5/450 1,5/450	51 55	75 80	3,3
R6E 310-AJ04 -01	M6E068-EC	⑥	230 230	50 60	1400 1640	920 1070	48 60	0,22 0,27	1,5/450 1,5/450	50 53	75 75	3,4

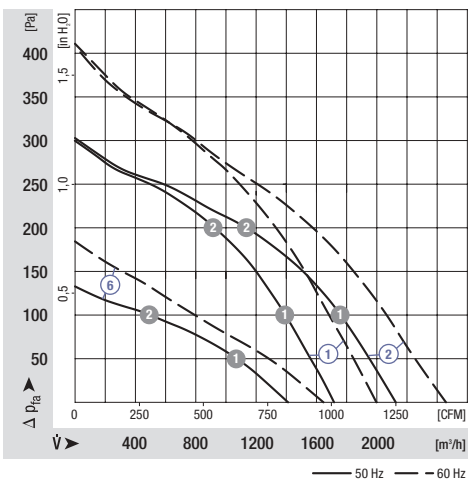
subject to alterations

[1] 400 VAC Δ/Y for two speed steps available on request [2] Insulation class "F"

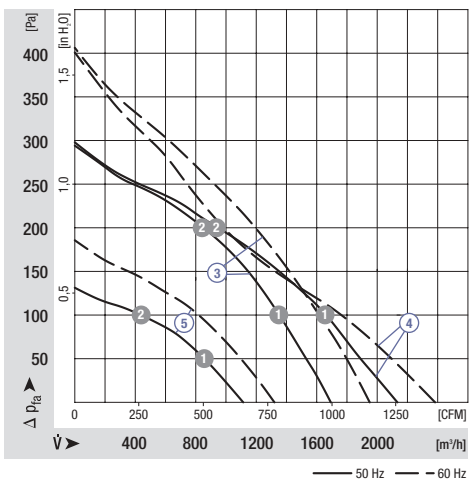
		n [min⁻¹]	P_1 [W]
①	1	1400	107
①	2	1400	113
②	1	1360	136
②	2	1350	141
⑥	1	885	53
⑥	2	900	51

		n [min⁻¹]	P_1 [W]
③	1	1370	114
③	2	1360	118
④	1	1310	140
④	2	1320	140
⑤	1	950	46
⑤	2	925	50

Characteristics



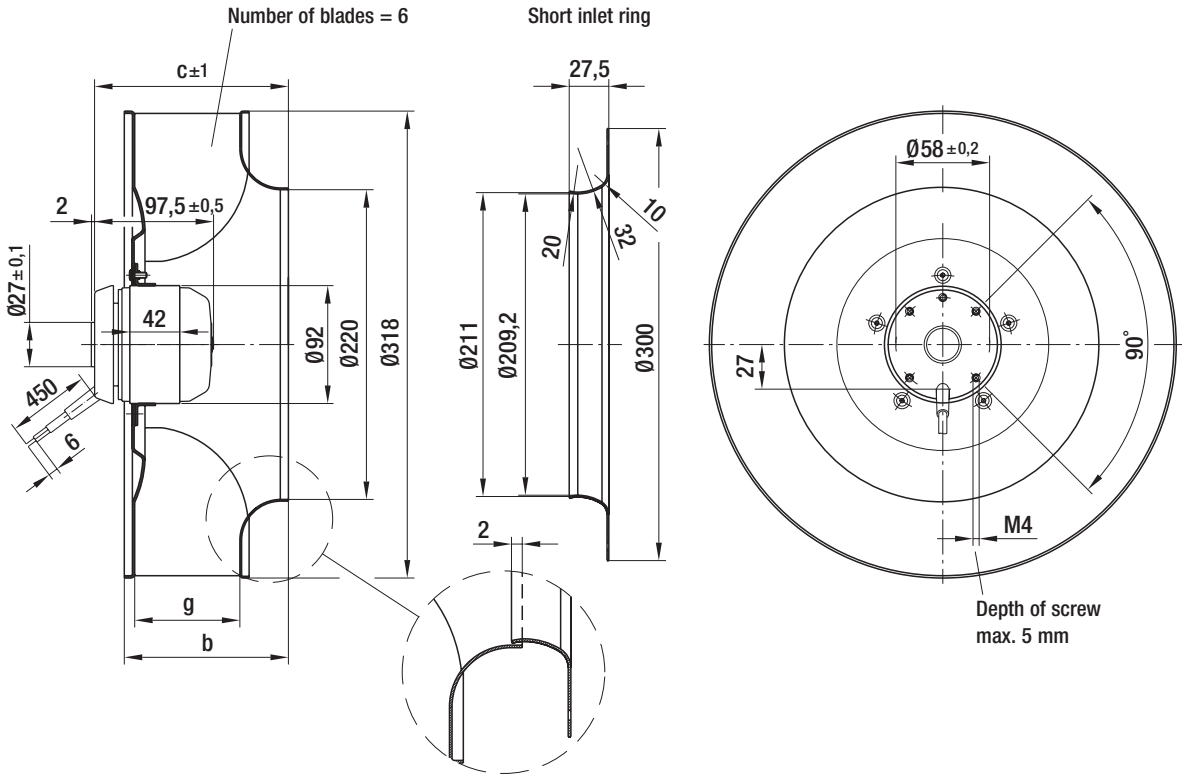
Characteristics



ebmpapst

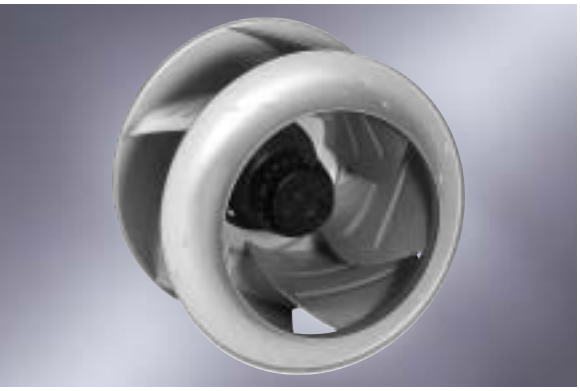
Dimensions

Type	b	c	g	Inlet ring short	(long)
R4D 310-AR18 -01	104	123	70	31051-2-4013	(31050-2-4013)
R4D 310-AS18 -01	139	154	101	31051-2-4013	(31050-2-4013)
R4E 310-AR06 -01	104	123	70	31051-2-4013	(31050-2-4013)
R4E 310-AS06 -01	139	154	101	31051-2-4013	(31050-2-4013)
R6E 310-AI04 -01	104	123	70	31051-2-4013	(31050-2-4013)
R6E 310-AJ04 -01	139	154	101	31051-2-4013	(31050-2-4013)



AC centrifugal fans

backward curved, 3-D, Ø 355



- **Material:** sheet aluminium
- **Inlet ring:** data collected via short nozzle (using long nozzle, better air performance and noise figures can be attained)

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**°C**	**kg**
R4D 355-AH11 -05[1][2]	M4D074-EI	①	400 Y 400 Y	50 60	2580 2930	1400 1600	170 235	0,52 0,50	--- ---	65 69	70 65	4,7
R4E 355-AK05 -05[2]	M4E074-EI	②	230 230	50 60	2580 2940	1400 1600	180 250	0,80 1,14	6,0/450 6,0/450	66 69	60 35	4,7
R4E 355-AL02 -05[2]	M4E074-GA	③	230	50	3160	1420	245	1,12	8,0/400	66	50	5,3
R6E 355-AD16 -05[2]	M6E074-DF	④	230 230	50 60	1700 1890	910 1000	65 85	0,29 0,37	2,0/400 2,0/400	54 57	90 75	3,5
R6E 355-AE16 -05[2]	M6E074-DF	⑤	230 230	50 60	1930 1940	870 890	70 90	0,31 0,40	2,0/400 2,0/400	52 53	85 60	4,1

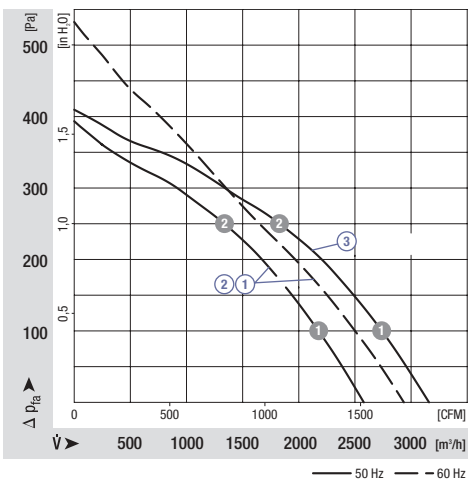
subject to alterations

[1] 400 VAC Δ/Y for two speed steps available on request [2] Insulation class "F"

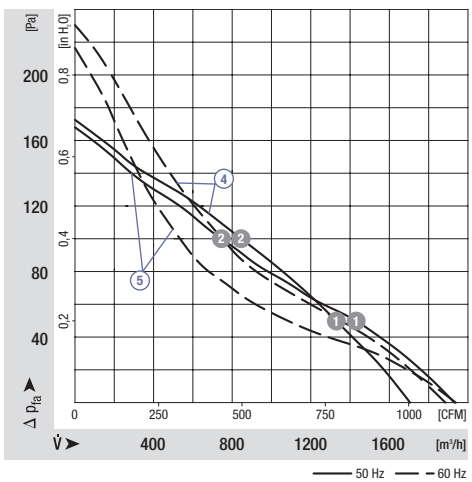
		n [min⁻¹]	P_1 [W]
①	1	1375	205
①	2	1360	227
②	1	1350	209
②	2	1330	229
③	1	1395	273
③	2	1375	295

		n [min⁻¹]	P_1 [W]
④	1	860	71
④	2	850	73
⑤	1	785	80
⑤	2	805	78

Characteristics



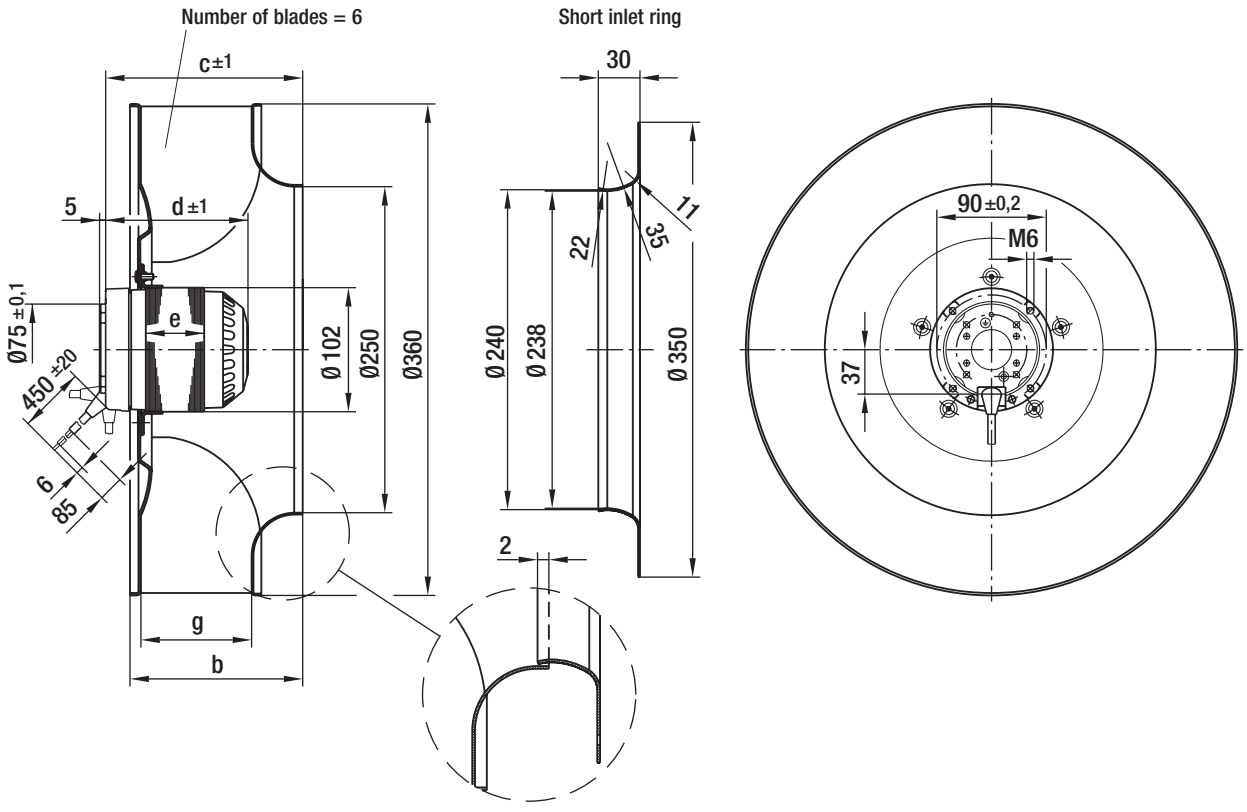
Characteristics



ebmpapst

Dimensions

Type	b	c	d	e	g	Inlet ring short	(long)
R4D 355-AH11 -05	146,5	167	117	48	96,0	35561-2-4013	(35560-2-4013)
R4E 355-AK05 -05	146,5	167	117	48	96,0	35561-2-4013	(35560-2-4013)
R4E 355-AL02 -05	171,0	190	129	60	120,5	35561-2-4013	(35560-2-4013)
R6E 355-AD16 -05	146,5	167	104	35	96,0	35561-2-4013	(35560-2-4013)
R6E 355-AE16 -05	171,0	190	104	35	120,5	35561-2-4013	(35560-2-4013)



AC centrifugal fans

backward curved, 3-D, Ø 400

- **Material:** sheet aluminium

ebm-papst · Mulfingen

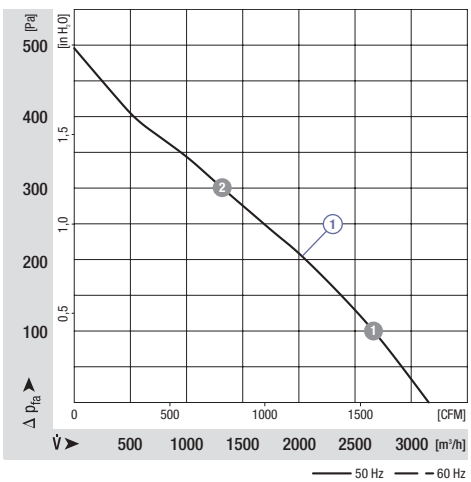
Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**°C**	**kg**
R4E 400-AB23 -05[1]	M4E074-EI	①	230	50	3150	1300	270	1,20	8,0/400	68	45	5,2
R6E 400-AA04 -05	M6E074-EI	②	230 230	50 60	2225 2455	910 1000	117 160	0,52 0,70	3,0/450 3,0/450	62 64	55 40	5,2

subject to alterations

[1] Insulation class "F"

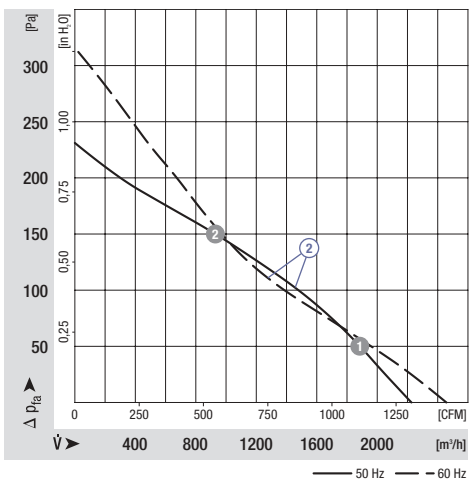
	n [min⁻¹]	P_1 [W]
① ❶	1240	292
① ❷	1250	287

Characteristics



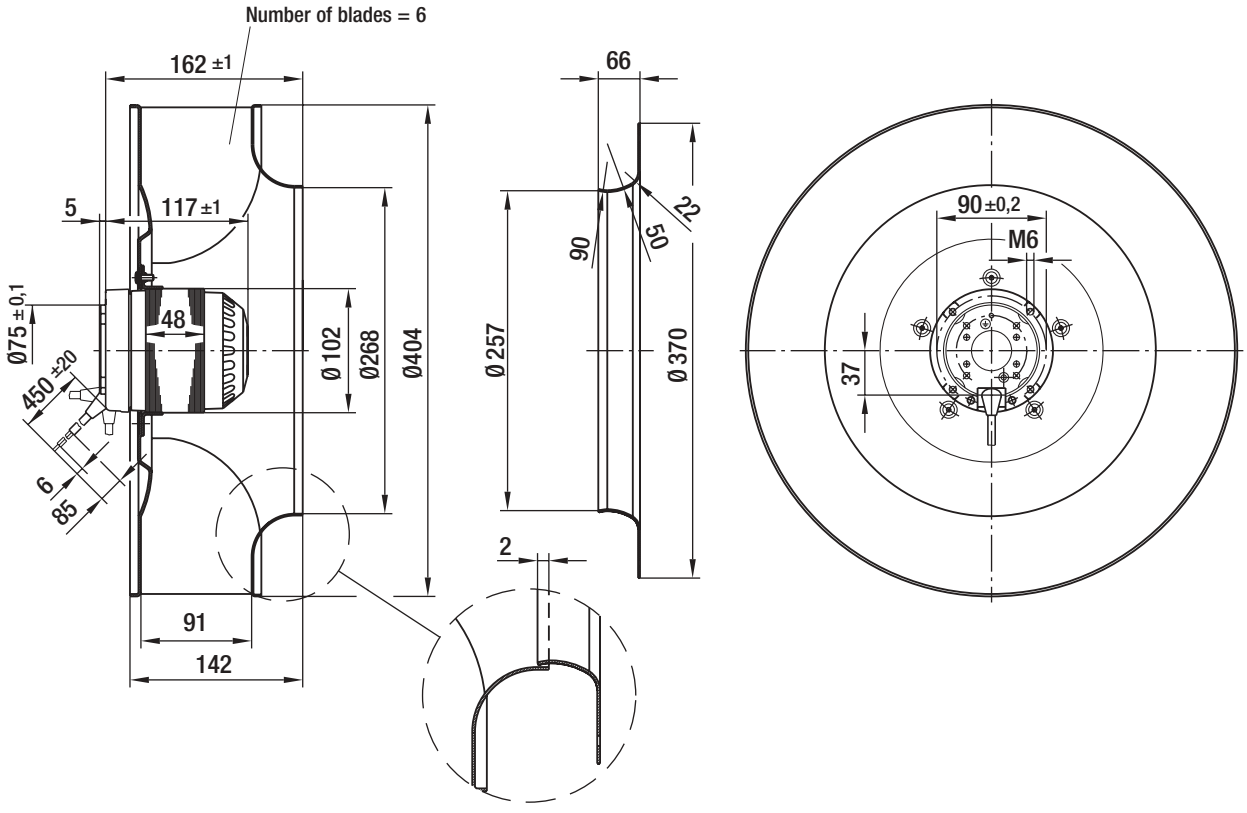
	n [min⁻¹]	P_1 [W]
② ❶	880	125
② ❷	880	125

Characteristics



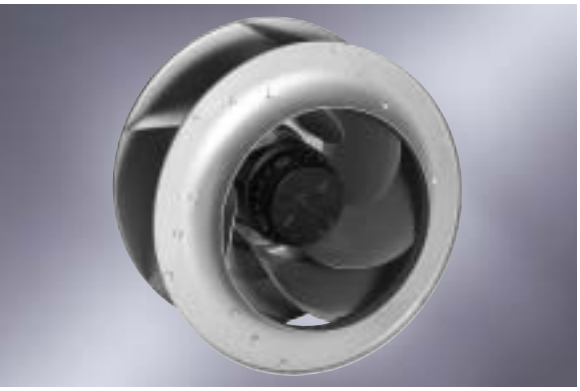
ebmpapst

Type	Inlet ring
R4E 400-AB23 -05	54476-2-4013
R6E 400-AA04 -05	54476-2-4013



AC centrifugal fans

backward curved, 3-D, Ø 400



- **Material:** sheet aluminium
- **Type of protection:** IP54 (please note drilled condensate discharges)
- **Approval:** complying with EN 60034-1
- **Locked-rotor protection:** thermal overload protector brought out

ebm-papst · Mulfingen

Nominal data

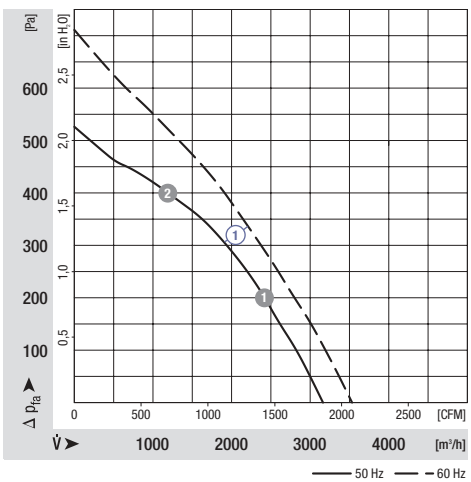
Type	Motor	Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Perm. amb. temp.	Mass
			VAC	Hz	m³/h	min⁻¹	W	A	µF/VDB	dB(A)	°C	kg
R4E 400-AR05 -06[1]	M4E 094-FA	①	230	50	3160	1380	330	1,60	8,0/400	72	60	7,1
			230	60	3530	1560	480	2,10	8,0/400	74	50	
R4E 400-AP17 -06[1]	M4E 094-HA	②	230	50	3860	1400	410	2,10	10 /450	71	80	8,8
			230	60	4360	1580	600	2,70	10 /450	74	55	

subject to alterations

[1] Insulation class "F"

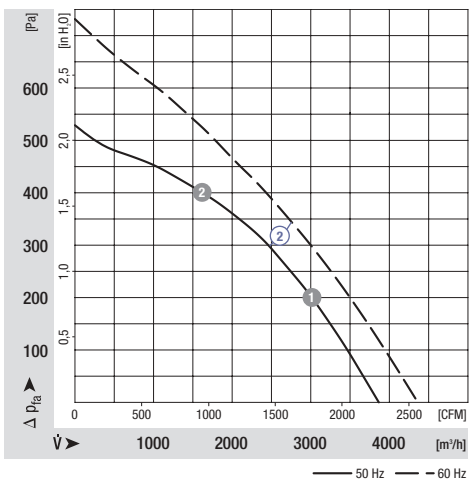
	n [min⁻¹]	P_1 [W]
① ❶	1350	370
① ❷	1380	331

Characteristics



	n [min⁻¹]	P_1 [W]
② ❶	1370	469
② ❷	1390	430

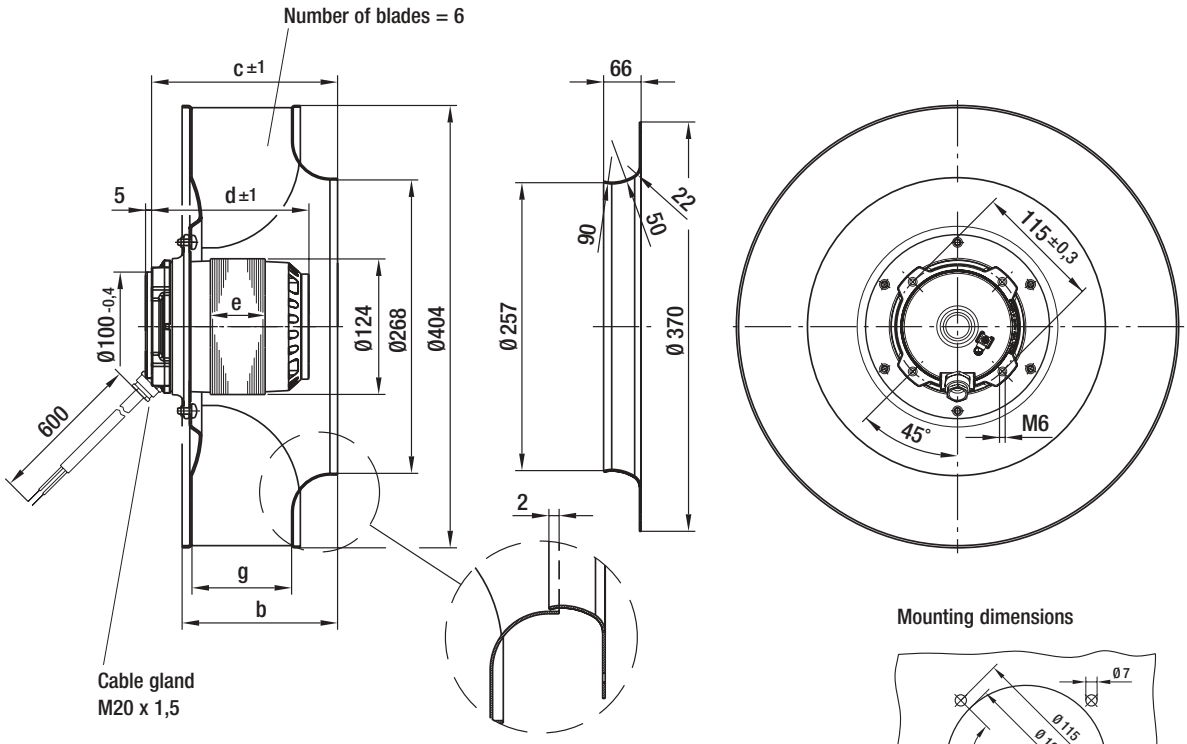
Characteristics



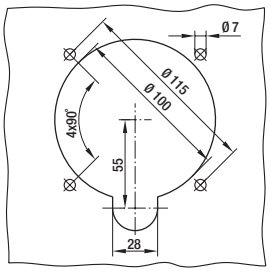
ebmpapst

Dimensions

Type	b	c	d	e	g	Inlet ring
R4E 400-AR05 -06	141	172	128	50	90	54476-2-4013
R4E 400-AP17 -06	164	193	148	70	113	54476-2-4013

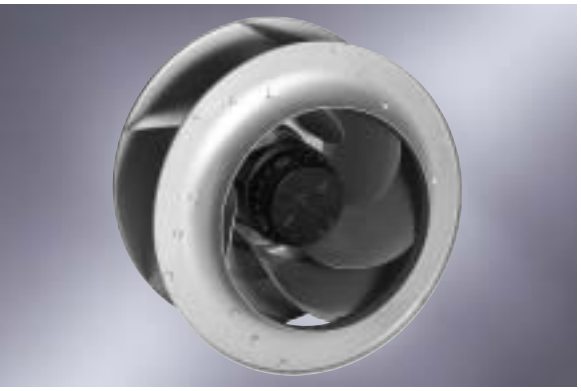


Mounting dimensions



AC centrifugal fans

backward curved, 3-D, Ø 400



- **Material:** sheet aluminium
- **Type of protection:** IP54 (please note drilled condensate discharges)
- **Approval:** complying with EN 60034-1
- **Locked-rotor protection:** thermal overload protector brought out

ebm-papst · Mulfingen

Nominal data

Type	Motor	Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Perm. amb. temp.	Mass
			VAC	Hz	m³/h	min⁻¹	W	A	µF/VDB	dB(A)	°C	kg
R4D 400-AD22 -06[1)(2)]	M4D094-HA	①	400 Y	50	3630	1300	325	0,58	---	69	80	8,7
			400 Y	60	3720	1330	465	0,82	---	70	40	
		②	400 Δ	50	4040	1430	445	1,40	---	72	60	8,7
			400 Δ	60	4670	1650	645	1,30	---	76	60	
R4E 400-AN09 -06[2)]	M4E094-HA	③	230	50	3900	1400	420	2,17	10 / 400	71	70	8,7
			230	60	4420	1580	615	2,75	10 / 450	74	55	
R6E 400-AK06 -06[2)]	M6E094-FA	④	230	50	2690	910	140	0,61	5,0 / 450	66	95	8,7
			230	60	3070	1040	205	0,90	5,0 / 450	67	85	

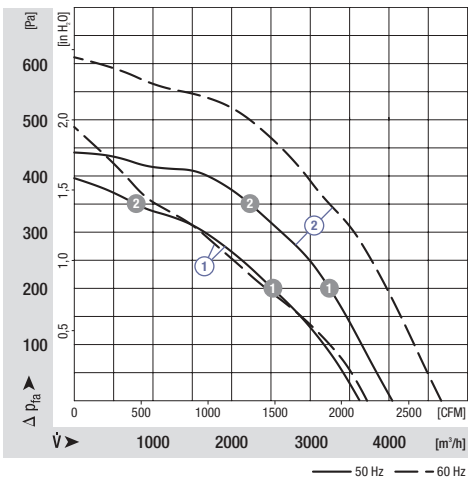
subject to alterations

[1)] 400 VAC Δ/Y for two speed steps available on request [2)] Insulation class "F"

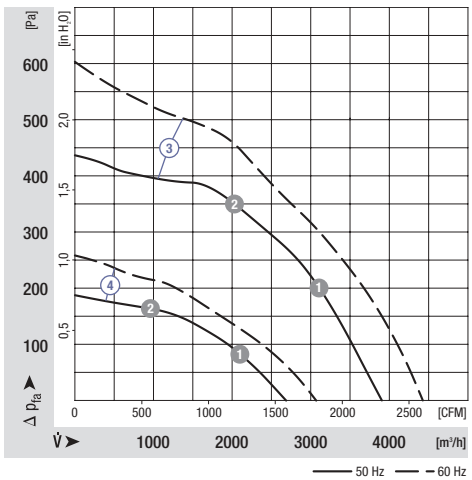
		n [min⁻¹]	P_1 [W]
①	1	1240	380
①	2	1320	281
②	1	1415	490
②	2	1415	500

		n [min⁻¹]	P_1 [W]
③	1	1380	464
③	2	1380	462
④	1	900	149
④	2	910	143

Characteristics



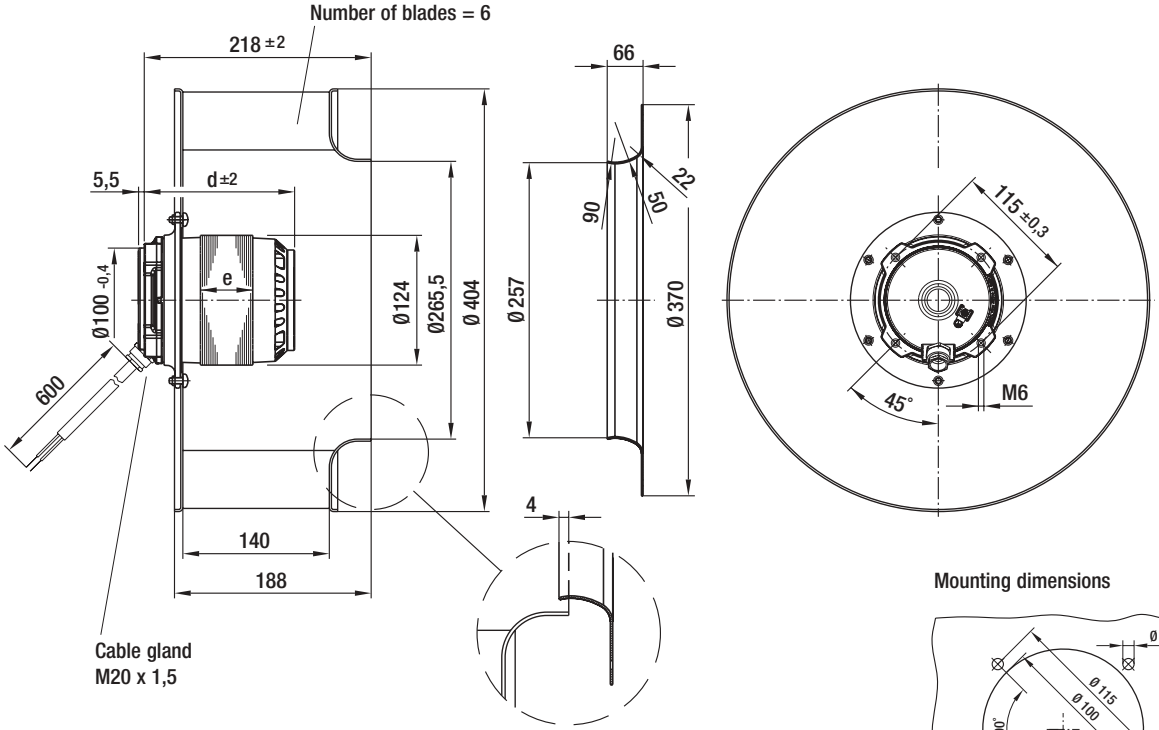
Characteristics



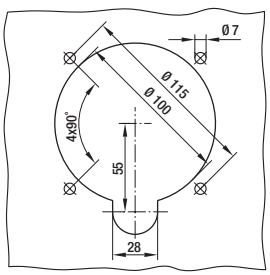
ebmpapst

Dimensions

Type	d	e	Inlet ring
R4D 400-AD22 -06	148	70	54476-2-4013
R4E 400-AN09 -06	148	70	54476-2-4013
R6E 400-AK06 -06	128	50	54476-2-4013



Mounting dimensions



AC centrifugal fans

backward curved, Ø 450 / 500

- **Material:** sheet aluminium
- **Type of protection:** IP54 (please note drilled condensate discharges)
- **Approval:** complying with EN 60034-1
- **Locked-rotor protection:** thermal overload protector brought out

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Nominal data

Type	Motor	Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Perm. amb. temp.	Mass
			VAC	Hz	m³/h	min⁻¹	W	A	µF/VDB	dB(A)	°C	kg
R4D 450-AD22 -06[1]	M4D094-HA	①	400 Y	50	4070	1280	355	0,60	---	74	55	9,3
		②	400 Δ	50	4540	1430	455	1,40	---	76	50	9,3
R4E 450-AB09 -06[1]	M4E094-HA	③	230	50	4410	1350	450	2,20	10 / 400	75	50	9,3
R6E 450-AB06 -06[1]	M6E094-HA	④	230 230	50 60	3930 4530	920 1060	290 385	1,45 1,68	10 / 400 10 / 450	69 72	40 55	9,6
R6E 500-AB05 -06[1]	M6E094-HA	⑤	230 230	50 60	5180 5810	880 990	320 420	1,55 1,83	10 / 400 10 / 450	66 69	40 40	11,1

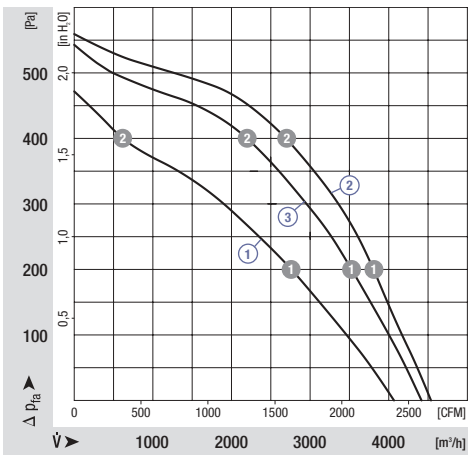
subject to alterations

[1] Insulation class "F"

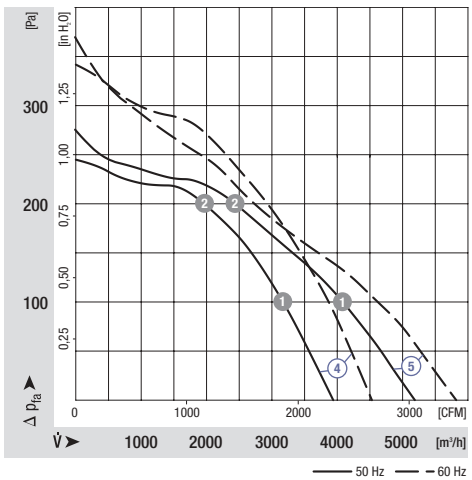
		n [min⁻¹]	P1 [W]
①	1	1130	470
①	2	1260	350
②	1	1390	610
②	2	1380	650
③	1	1310	602
③	2	1310	596

		n [min⁻¹]	P1 [W]
④	1	910	305
④	2	905	310
⑤	1	845	360
⑤	2	830	376

Characteristics



Characteristics



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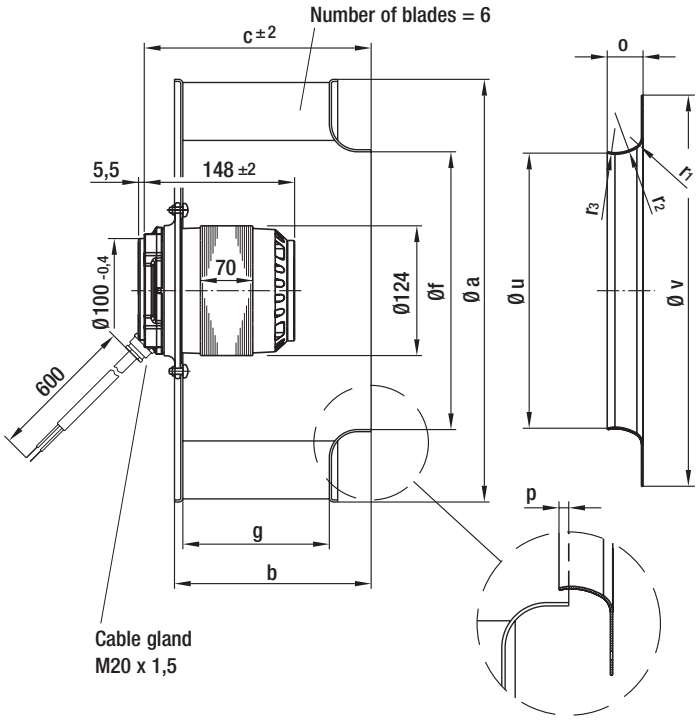
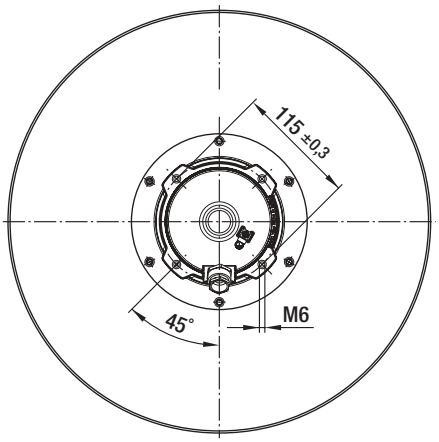
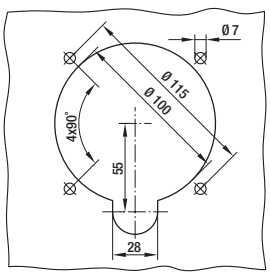
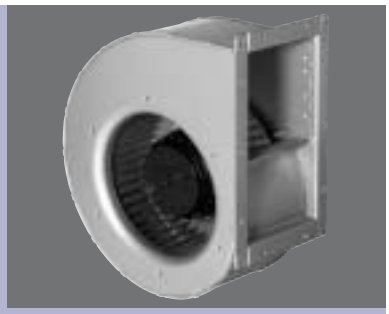
Type	Dimensions a	b	c	f	g	Inlet ring	Dimensions o	p	r1	r2	r3	u	v
R4D 450-AD22 -06	454	175	210,0	298,0	120	54478-2-4013	71	4	25	55	100	287	413
R4E 450-AB09 -06	454	175	210,0	298,0	120	54478-2-4013	71	4	25	55	100	287	413
R6E 450-AB06 -06	454	215	250,0	298,0	160	54478-2-4013	71	4	25	55	100	287	413
R6E 500-AB05 -06	504	241	269,5	334,5	180	54480-2-4013	79	5	28	65	115	323	456

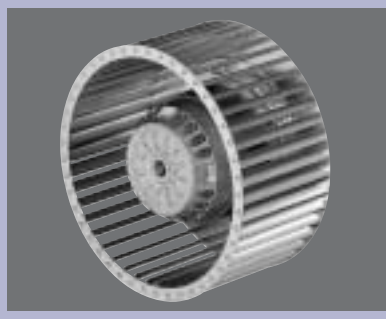




Mounting dimensions

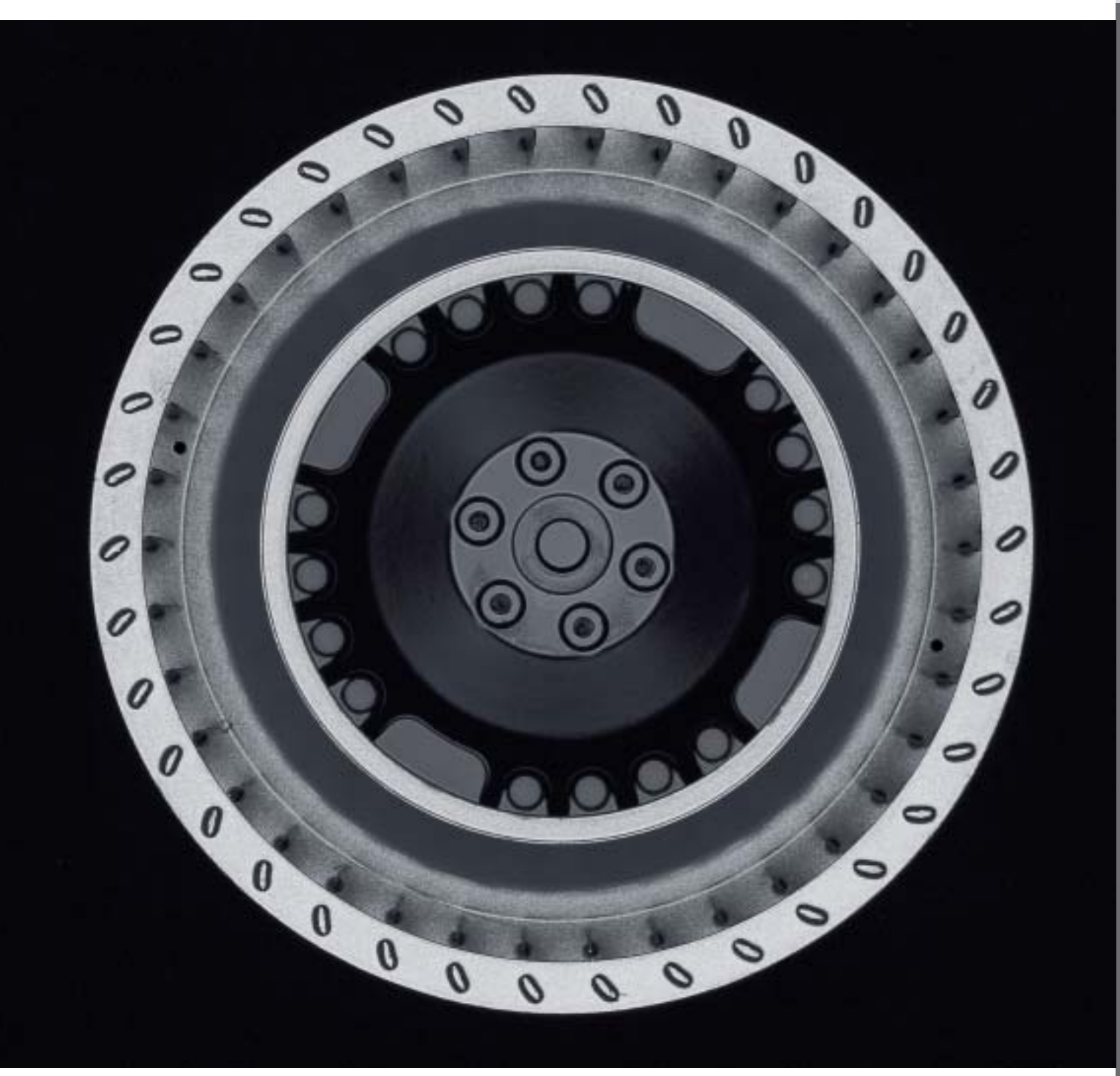






ebmpapst

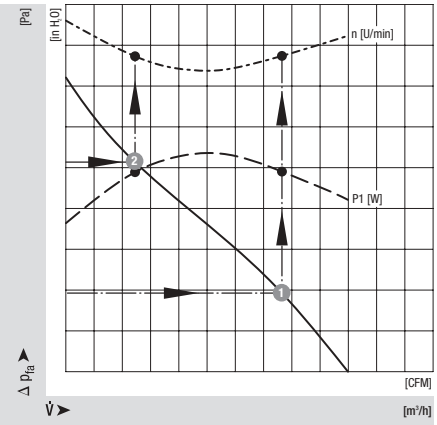
AC centrifugal blowers and fans forward curved



AC centrifugal blowers and fans forward curved

Technical information

With forward curved centrifugal fans, maximum power consumption is reached at free air. Rising back pressure results in declining power consumption. Positioned at the centre of the air stream, the integrated external-rotor motor is excellently cooled. All motors have a special torque vs. speed characteristic which allows for speed control. Some centrifugal fans depend in their use on a minimal and specified back pressure.



Air performance characteristics for forward curved centrifugal fans

Scroll housing

Versions:

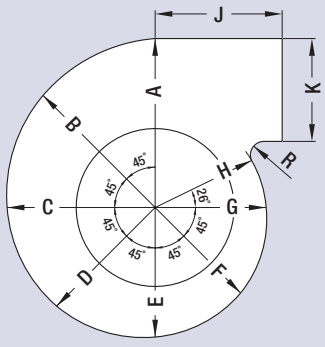
a) in aluminium die-cast alloy, with the two housing parts screwed together
b) in galvanised sheet steel, with case and side-parts joined by slots and tabs
c) in heat-resistant plastic
d) case in galvanised sheet steel, side parts in heat-resistant plastic

Forward curved centrifugal fans require scrolls as guides. These scrolls guide the air stream from impeller to pressure stud.
The dimensions of the centrifugal blowers can be taken from the respective pages.

Centrifugal fans supplied without scroll

For the integration of the scroll into the unit or for customized solutions, the scroll dimensions as listed below apply. Changing the scroll dimensions results in changes of the air performance characteristic as well as in the parameters as specified.
The inlet nozzles required are listed in the accessories.

Size	A	B	C	D	E	F	G	H	J	K	R
076 / 085	60	57,0	55,0	53,0	52	51,0	48,0	47,0	60	42	6
097	75	71,5	68,0	65,5	62	58,5	57,5	56,5	75	48	5
108	93	83,0	77,0	73,0	68	67,0	64,0	60,0	79	50	12
120	91	91,0	89,0	85,0	79	73,0	69,0	67,0	82	50	6
133	91	88,0	81,5	79,0	77	76,5	73,5	73,0	87	71	4
140 / 146 / 160	137	128,5	120,0	113,0	105	98,0	90,0	87,0	103	92	11
180	156	146,0	137,0	128,0	119	111,0	104,0	102,0	120	110	8
200	217	197,0	179,0	163,0	149	137,0	127,0	118,0	136	146	13



Impellers
Forward curved impellers are press-fitted onto the rotor of the external-rotor motor.
This unit is dynamically balanced in two planes according to DIN ISO 1940.

Centrifugal fans, single inlet
The external-rotor motor (standard version) integrated in the impeller is mounted onto the side wall of the scroll housing.

Centrifugal fans, dual inlet
a) Via a bracket, the integrated external-rotor motor (standard version) is mounted on one side of the scroll housing.
b) As of size 133, an external-rotor motor with standing shaft (EW) can be used. In this version, the motor is anti-vibration mounted on both sides of the scroll housing via brackets. These fans have extremely low structural vibration rates.

Direction of rotation
Centrifugal fans with single inlet clockwise rotation as seen from suction side.
Centrifugal fans with dual inlet anti-clockwise rotation as seen from inlet opposite the cable exit.
Any exceptions to this are indicated on the relevant pages.

Type of protection
IP44 when being installed. Any evaluation has to be carried out in the customer's final application. Any exceptions to this are indicated on the relevant pages.

Bearings
Maintenance-free ball bearings
(any exceptions to this are indicated on the relevant pages)

Approvals
Œ

Cable exit
Variable cable exits either lateral or front side for centrifugal fans, single inlet.
For centrifugal blowers, single inlet, please consult relevant drawings.

Air performance characteristic
All air performance characteristics are based on measurements using the scroll housings shown on the respective pages.

Insulation class
"B" (types in insulation class "F" are marked)

Electrical data
Electrical data are determined at highest load, i.e. at free air flow.
Should free air flow be impossible for some blowers or fans, the values are determined in the minimal operating point.

AC centrifugal blowers and fans

single inlet, Ø 085

- **Material:** scroll housing made of die-cast aluminium, impeller made of galvanised sheet steel

ebm-papst · Mulfingen

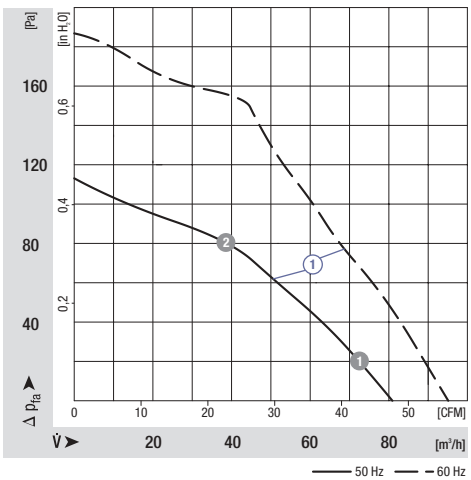
Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
G2E 085-AA01 -01[1]	M2E042-CA	①	230	50	80	2350	32	0,15	1,0/400	53	0	60	0,9
R2E 085-AA01 -05[1]			230	60	95	2800	30	0,14	1,0/400	57	0	70	0,7

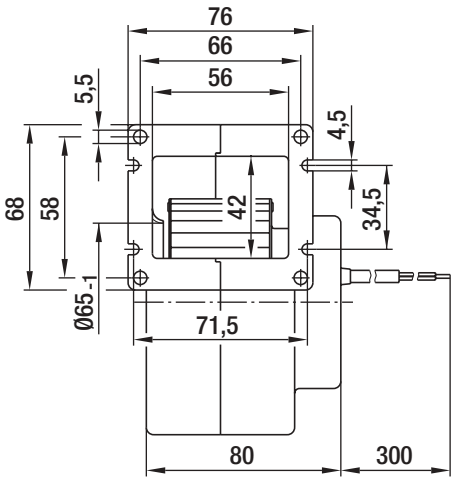
subject to alterations

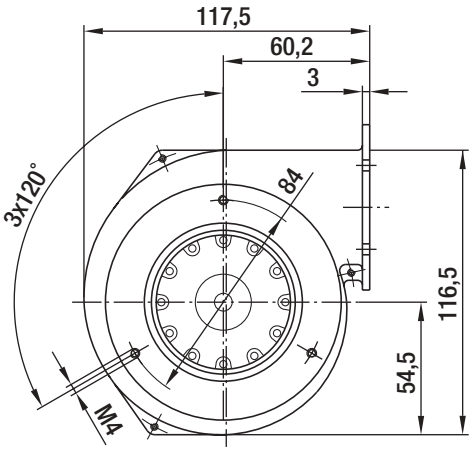
[1] FPU (P2) capacitor in keeping with IEC 252

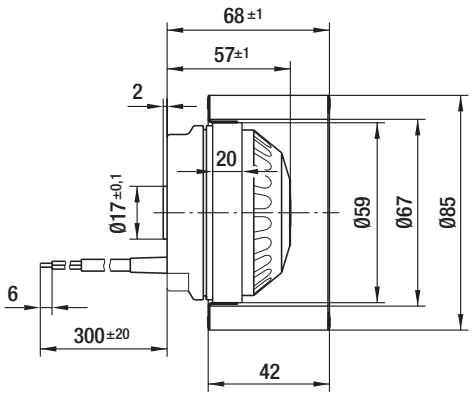
	n [min⁻¹]	P_1 [W]
① ❶	2430	32
① ❷	2590	30

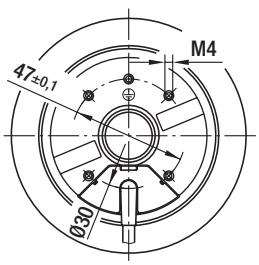
Characteristics











AC centrifugal blowers and fans

single inlet, Ø 097

- **Material:** scroll housing and impeller made of galvanised sheet steel

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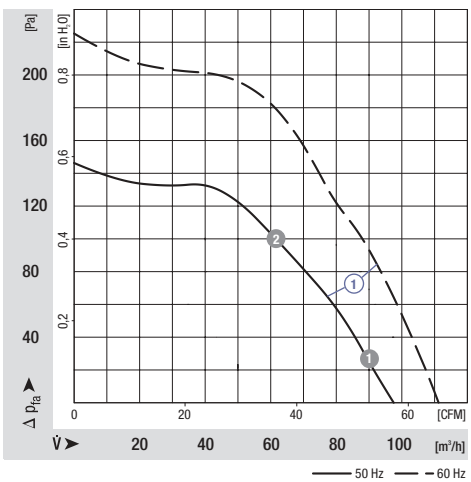
Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
G2E 097-HD01 -02[1]	M2E042-CA	①	230	50	100	2050	35	0,16	1,5/400	55	0	40	1,1
R2E 097-AD01 -05[1]			230	60	110	2300	37	0,17	1,5/400	58	0	55	0,6

subject to alterations

[1] FPU (P2) capacitor in keeping with IEC 252

	n [min⁻¹]	P_1 [W]
① ❶	2120	35
① ❷	2335	33

Characteristics



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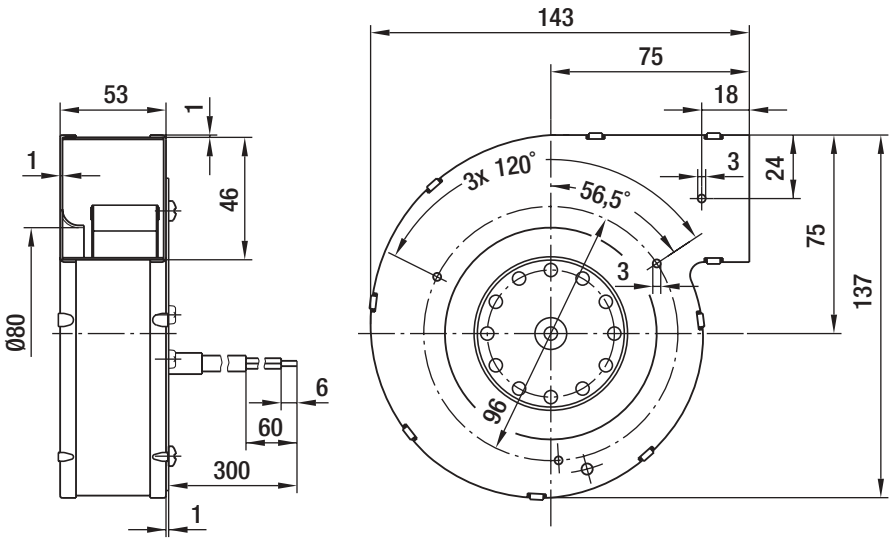
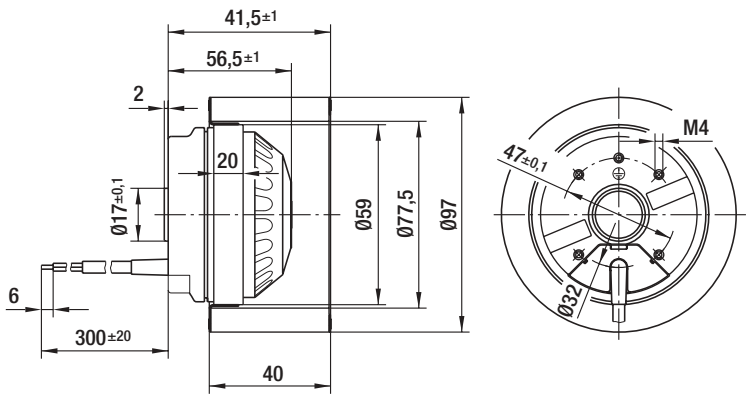




AC centrifugal blowers and fans

single inlet, Ø 108 / 120

- **Material:** scroll housing made of die-cast aluminium, impeller made of galvanised sheet steel

ebm-papst · Mulfingen

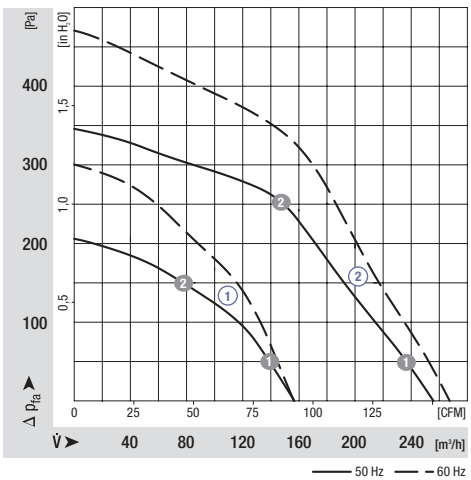
Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
G2E 108-AA01 -01[1]	M2E042-CA	①	230	50	155	1650	41	0,19	1,5/400	54	0	55	1,3
R2E 108-AA01 -05[1]			230	60	155	1650	44	0,20	1,5/400	54	0	55	0,6
G2E 120-AR77 -01	M2E068-BF	②	230	50	255	2350	80	0,35	2,0/450	61	0	55	1,8
R2E 120-AR77 -05			230	60	265	2450	100	0,44	2,0/450	62	0	60	1,2

subject to alterations

[1] FPU (P2) capacitor in keeping with IEC 252

		n [min⁻¹]	P_1 [W]
①	❶	1920	39
①	❷	2350	36
②	❶	2460	77
②	❷	2665	69

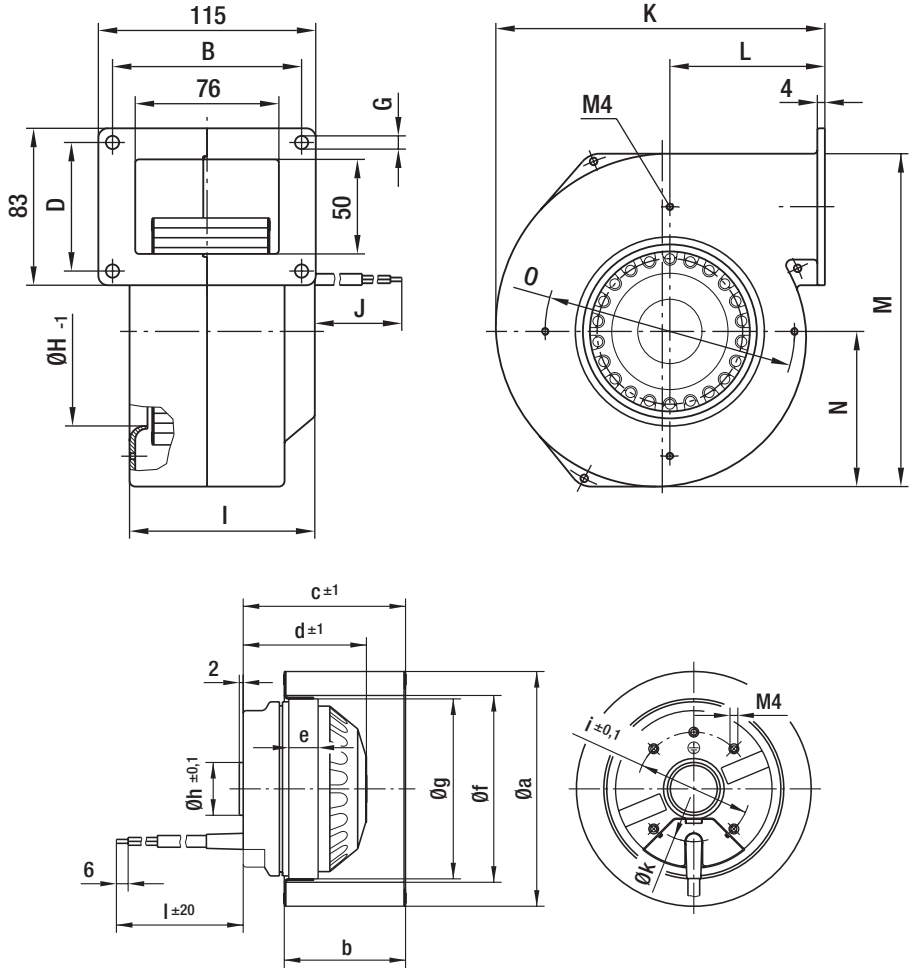
Characteristics



ebmpapst

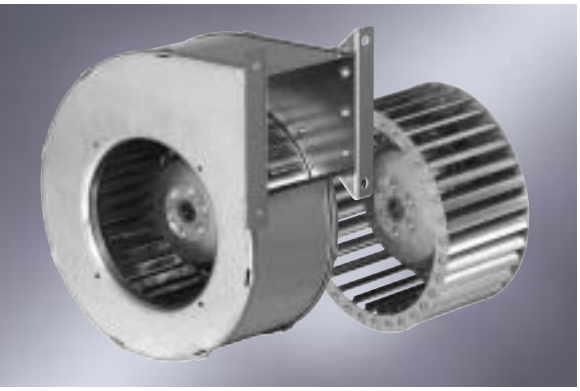
Dimensions

Type	B	D	G	H	I	J	K	L	M	N	O	a	b	c	d	e	f	g	h	i	k	l
G2E 108-AA01 -01 **R2E 108-AA01 -05**	97	66	8	87	82	300	159	79	168	71	118	108	52	53	57	20	84	59	17	47	32	300
G2E 120-AR77 -01 **R2E 120-AR77 -05**	100	68	7	100	98	450	178	82	184	86	132	120	62	83	63	15	96	92	27	58	55	450



AC centrifugal blowers and fans

single inlet, Ø 120 / 133



- **Material:** scroll housing and impeller made of galvanised sheet steel

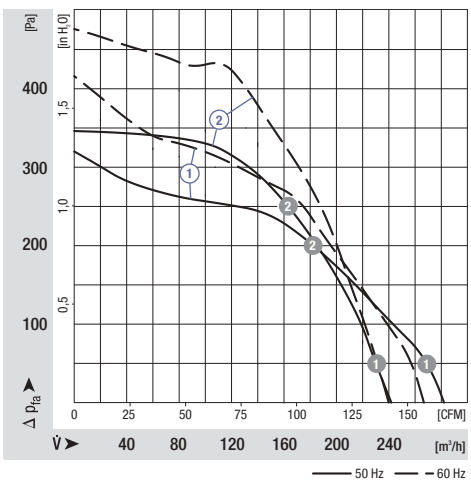
ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
G2E 120-CR21 -01	M2E 068-BF	①	230	50	275	2200	83	0,37	2,0/450	64	0	70	1,9
R2E 120-AR21 -05			230	60	255	2050	100	0,45	2,0/450	63	0	60	1,2
G2E 133-DN77 -01	M2E 068-BF	②	230	50	245	2150	88	0,39	2,0/450	65	0	60	1,9
R2E 133-AN77 -01			230	60	235	2100	110	0,49	2,0/450	65	0	50	1,6

subject to alterations

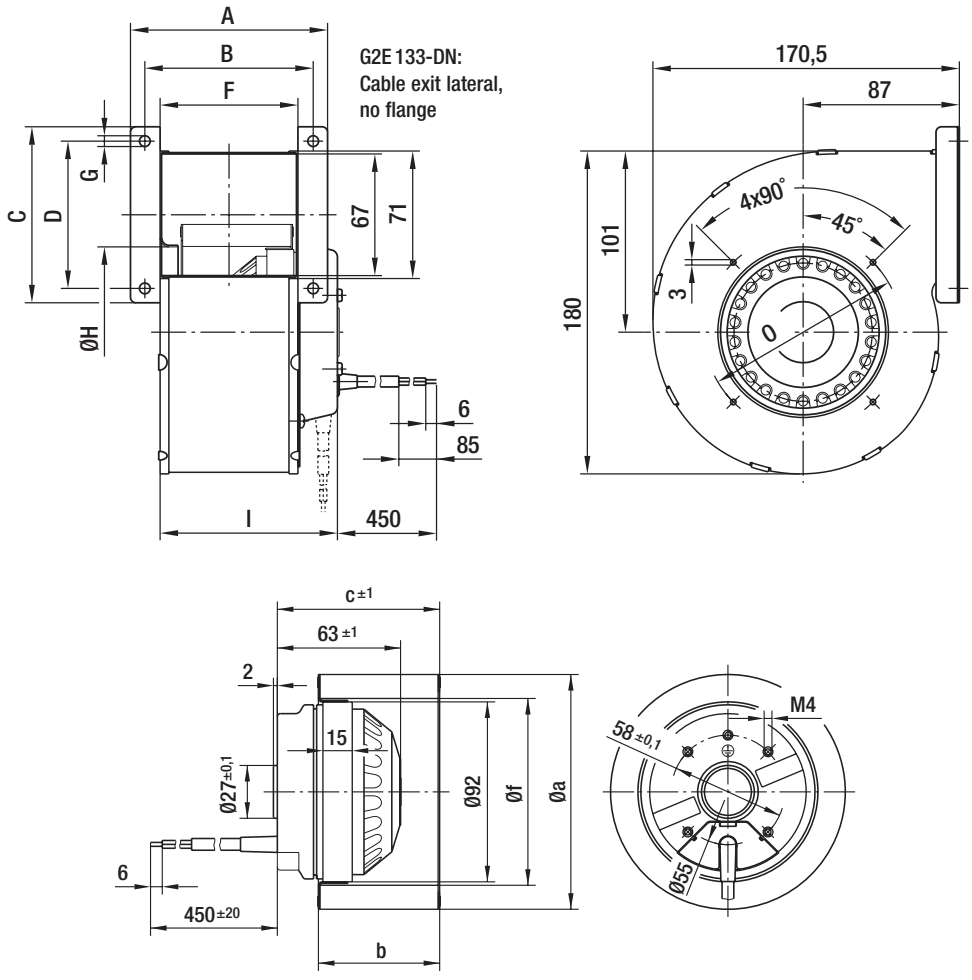
		n [min⁻¹]	P_1 [W]
①	❶	2335	80
①	❷	2580	72
②	❶	2290	83
②	❷	2530	73

Characteristics



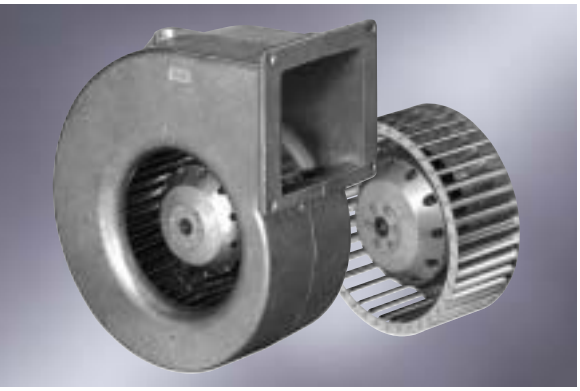
Dimensions

Type	A	B	C	D	F	G	H	I	O	a	b	c	f
G2E 120-CR21 -01 R2E 120-AR21 -05	110	94	98	82	77	6	95	99	110	120	62	85,0	96
G2E 133-DN77 -01 R2E 133-AN77 -01	---	---	---	---	59	---	112	81	140	133	46	68,5	108



AC centrifugal blowers and fans

single inlet, Ø 140



- **Material:** scroll housing made of die-cast aluminium, impeller made of galvanised sheet steel

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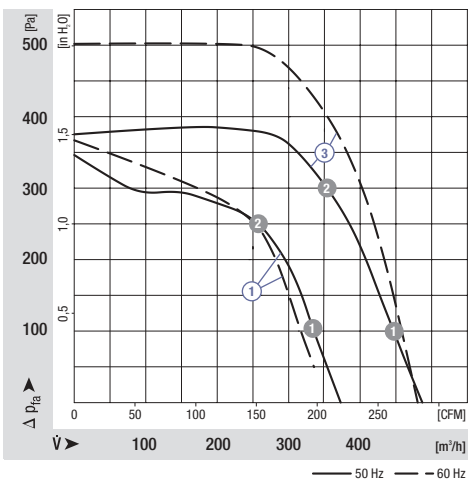
Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
G2E 140-AE77 -01	M2E 068-BF	①	230	50	370	1400	105	0,46	2,0/450	59	0	40	2,6
R2E 140-AE77 -05			230	60	335	1500	115	0,51	2,0/450	57	50	45	1,2
G2E 140-AL40 -01	M2E 068-CF	②	230	50	385	1650	135	0,60	2,0/400	63	0	55	3,0
R2E 140-AL40 -05			230	60	305	1700	145	0,64	2,0/400	60	100	40	1,7
G2E 140-AI28 -01	M2E 068-DF	③	230	50	485	2400	160	0,70	4,0/400	72	0	70	2,6
R2E 140-AI28 -05			230	60	480	2350	205	0,90	4,0/400	71	0	45	2,1

subject to alterations

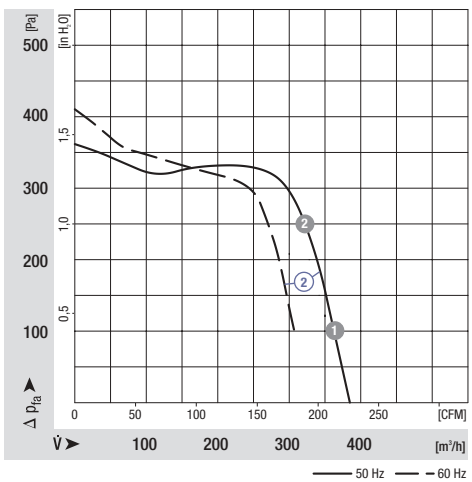
		n [min⁻¹]	P_1 [W]
①	1	1700	98
①	2	2100	89
③	1	2485	148
③	2	2630	128

		n [min⁻¹]	P_1 [W]
②	1	1900	128
②	2	2200	117

Characteristics



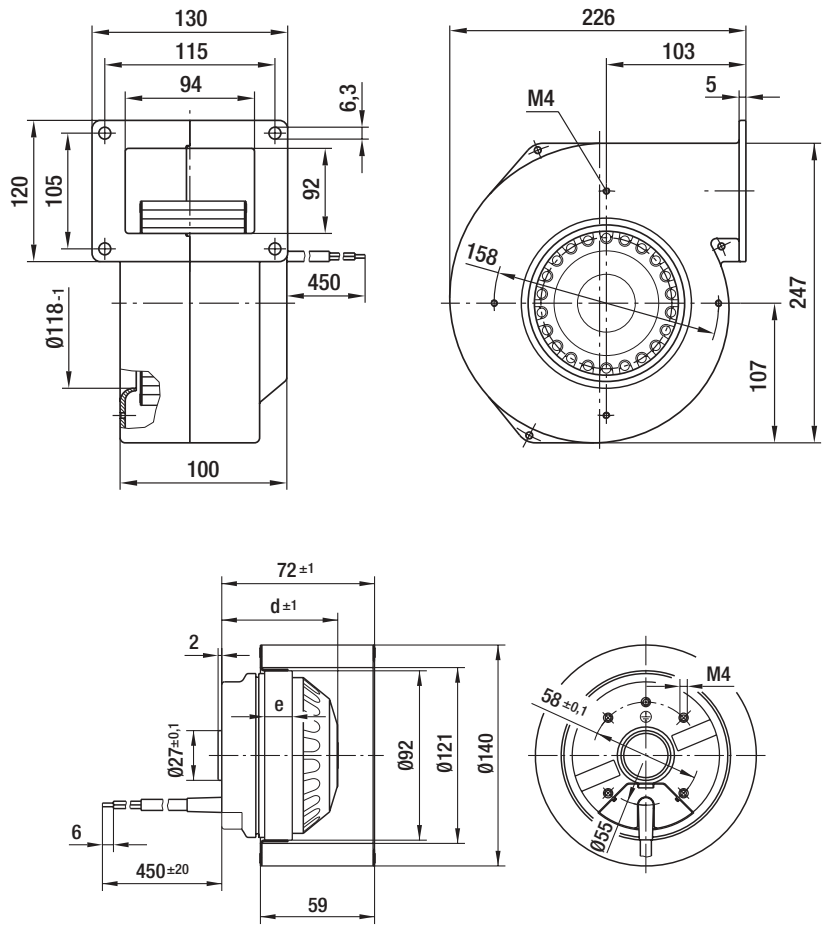
Characteristics



ebmpapst

Dimensions

Type	d	e
G2E 140-AE77 -01 R2E 140-AE77 -05	63	15
G2E 140-AL40 -01 R2E 140-AL40 -05	73	25
G2E 140-AI28 -01 R2E 140-AI28 -05	83	35



AC centrifugal blowers

single inlet, Ø 140

- **Material:** scroll housing and impeller made of heat-resistant plastic

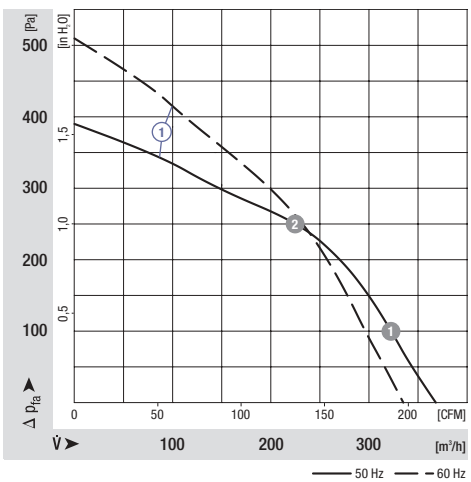
ebm-papst · Mulfingen

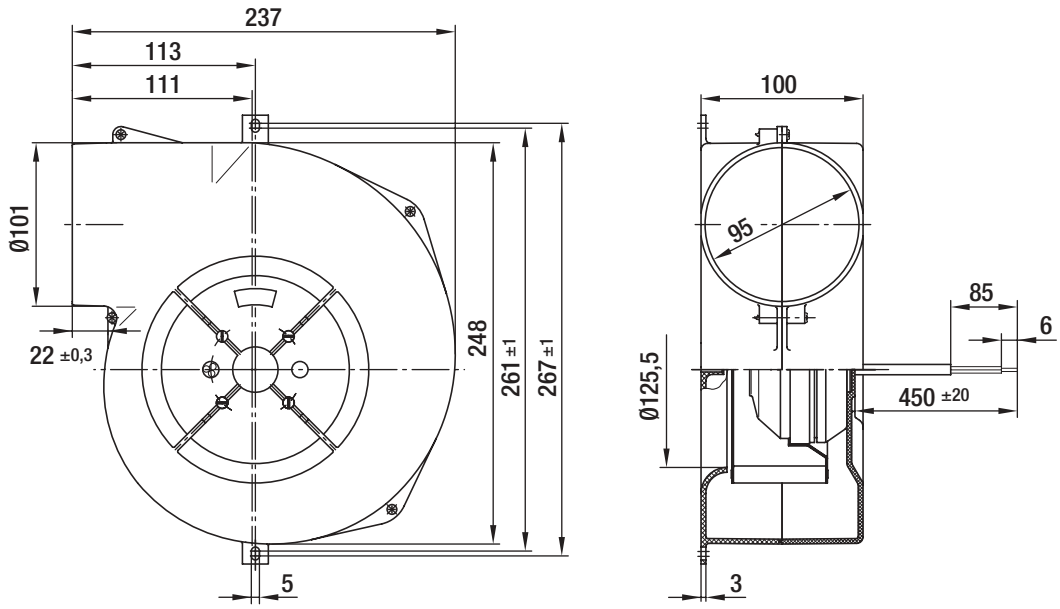
Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
G2E 140-NS38 -01	M2E068-BF	①	230 230	50 60	370 315	1650 1700	105 115	0,46 0,51	2,0/400 2,0/400	59 57	0 50	55 40	1,6

subject to alterations

	n [min⁻¹]	P1 [W]
① ❶	1910	98
① ❷	2280	86

Characteristics





AC centrifugal blowers and fans

single inlet, Ø 146 / 160

- **Material:** scroll housing made of die-cast aluminium, impeller made of galvanised sheet steel

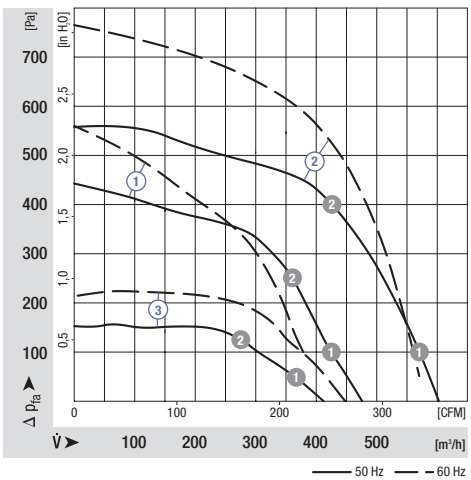
ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
G2E 146-DW07 -01	M2E 068-CA	①	230	50	470	1550	140	0,62	3,0/450	60	0	50	2,6
R2E 146-AW07 -05			230	60	380	1750	155	0,68	3,0/450	58	100	40	2,4
G2E 160-AY47 -01	M2E 068-EC	②	230	50	600	2100	240	1,05	6,0/400	72	0	50	3,9
R2E 160-AY47 -01			230	60	570	2100	280	1,23	6,0/400	71	50	40	2,6
G4E 160-AB01 -01	M4E 068-CF	③	230	50	410	1300	67	0,30	2,0/450	65	0	65	2,9
R4E 160-AB01 -01			230	60	445	1400	90	0,40	2,0/450	67	0	65	1,7

subject to alterations

		n [min⁻¹]	P_1 [W]
①	❶	1835	136
①	❷	2070	126
②	❶	2210	223
②	❷	2525	172
③	❶	1350	63
③	❷	1395	58

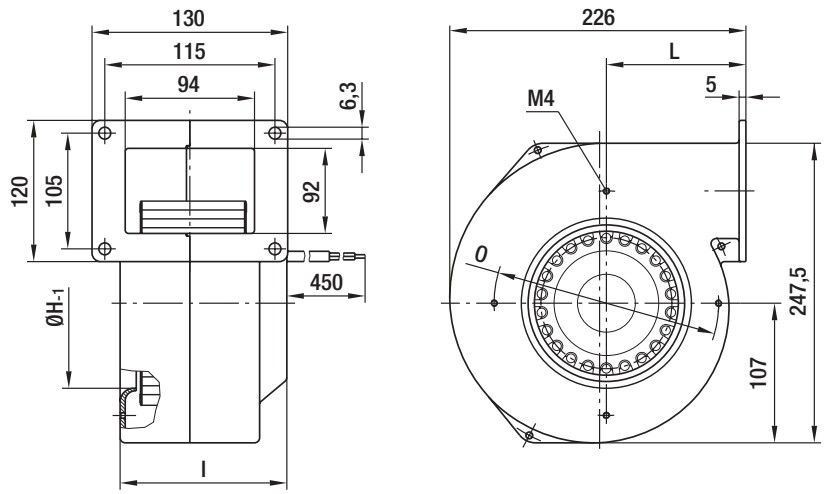
Characteristics

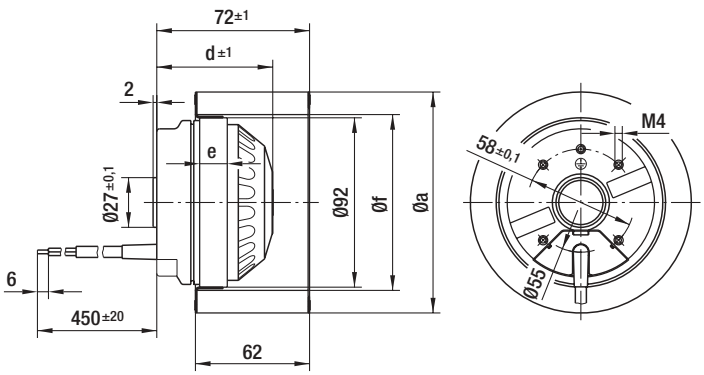


ebmpapst

Dimensions

Type	H	l	L	O	a	d	e	f
G2E 146-DW07-01 **R2E 146-AW07-05**	125,5	104	101	158	146	68	20	127
G2E 160-AY47-01 **R2E 160-AY47-01**	130,0	100	103	175	160	91	42	131
G4E 160-AB01-01 **R4E 160-AB01-01**	130,0	100	103	175	160	72	25	131





AC centrifugal blowers and fans

single inlet, Ø 180

- **Material:** scroll housing made of die-cast aluminium, impeller made of galvanised sheet steel

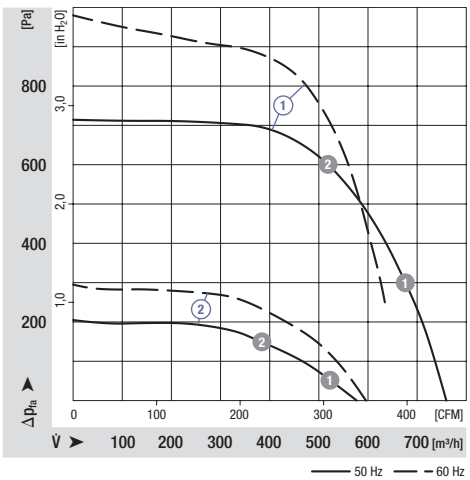
ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
G2E 180-EH03 -01	M2E 074-EI	①	230	50	760	1950	400	1,75	8,0/400	73	0	40	5,6
			230	60	630	2150	415	1,82	8,0/400	71	250	40	
G4E 180-AB01 -01	M4E 068-DF	②	230	50	575	1250	110	0,49	3,0/450	65	0	55	3,7
R4E 180-AB01 -05			230	60	594	1300	145	0,64	3,0/450	65	0	45	1,7

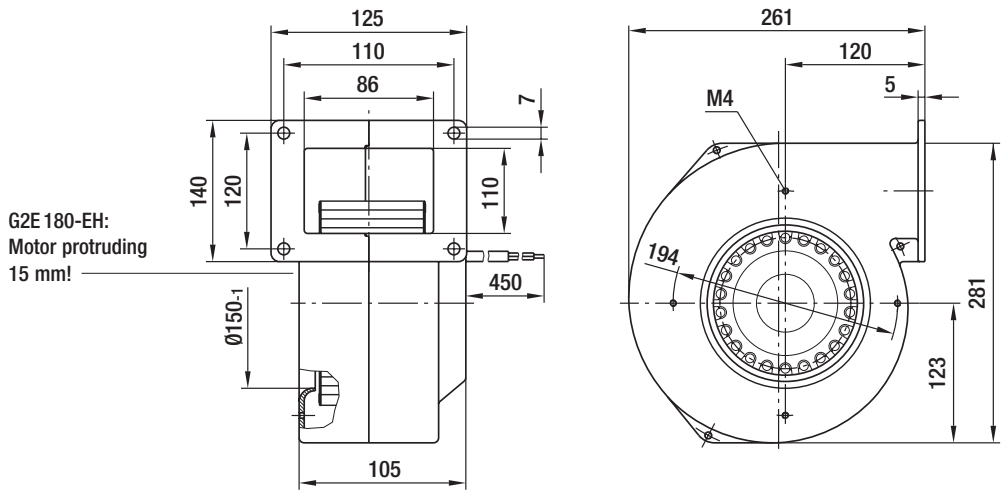
subject to alterations

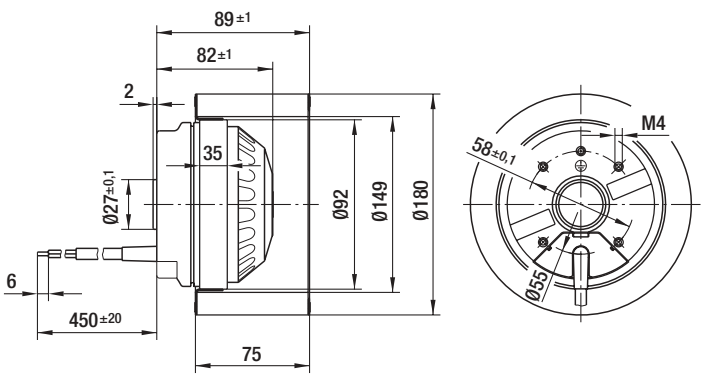
		n [min⁻¹]	P_1 [W]
①	❶	2290	335
①	❷	2600	255
②	❶	1300	105
②	❷	1385	92

Characteristics



G2E 180-EH:
Motor protruding
15 mm!





AC centrifugal blowers and fans

single inlet, Ø 180

- **Material:** scroll housing and impeller made of galvanised sheet steel

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
G4D 180-FF20 -01	M4D074-DF	①	230/400	50	1010	1330	175	0,39	---	67	0	60	6,4
R4D 180-AF20 -05			230/400	60	1090	1440	240	0,43	---	69	0	55	3,2
G4D 180-GF20 -01[1]	M4D074-DF	②	230/400	50	1110	1290	195	0,40	---	69	0	60	6,4
			230/400	60	1180	1370	265	0,47	---	70	0	45	
G4E 180-FS11 -01	M4E074-DF	③	230	50	965	1220	160	0,71	4,0/400	66	0	60	6,4
R4E 180-AS11 -05			230	60	935	1200	197	0,87	4,0/400	65	0	40	3,2
G4E 180-GS11 -01[1]	M4E074-DF	④	230	50	1030	1130	180	0,80	4,0/400	66	0	45	6,4
			230	60	910	1170	200	0,88	4,0/400	64	50	35	

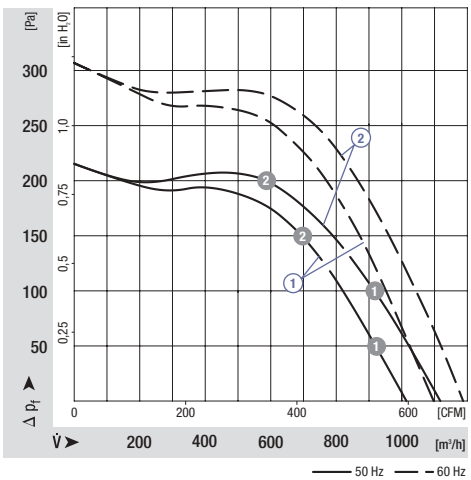
subject to alterations

[1] Data collected via exhaust duct of 1 m length serving as diffuser

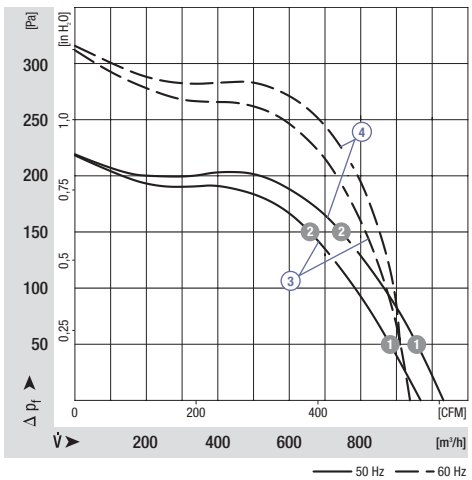
	n [min⁻¹]	P_1 [W]
① ❶	1360	160
① ❷	1410	120
② ❶	1360	163
② ❷	1420	105

	n [min⁻¹]	P_1 [W]
③ ❶	1280	142
③ ❷	1375	112
④ ❶	1210	160
④ ❷	1340	123

Characteristics



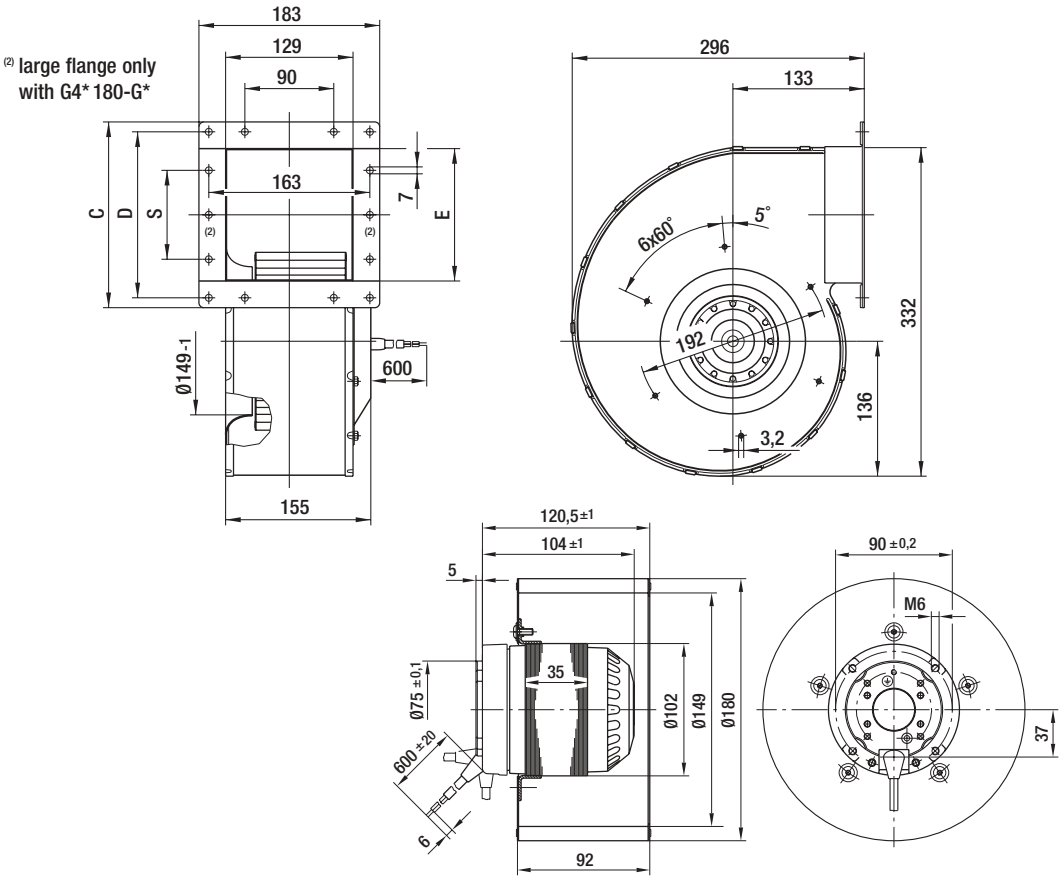
Characteristics



ebmpapst

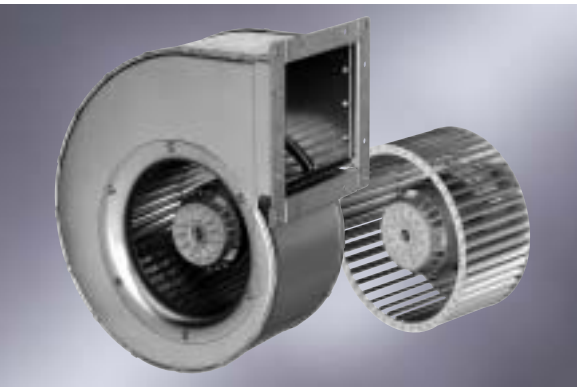
Dimensions

Type	C	D	E	S
G4D 180-FF20 -01 **R4D 180-AF20 -05**	188	168	134	90
G4D 180-GF20 -01	278	258	224	180
G4E 180-FS11 -01 **R4E 180-AS11 -05**	188	168	134	90
G4E 180-GS11 -01	278	258	224	180



AC centrifugal blowers and fans

single inlet, Ø 200



- **Material:** scroll housing and impeller made of galvanised sheet steel

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
G4D 200-BL12 -01	M4D074-EI	①	230/400	50	1375	1350	285	0,58	---	69	0	45	7,0
R4D 200-AL12 -05			230/400	60	1360	1530	360	0,65	---	69	100	45	3,7
G4D 200-CL12 -01[1]	M4D074-EI	②	230/400	50	1665	1300	360	0,66	---	71	0	45	7,0
			230/400	60	1220	1550	340	0,62	---	69	250	40	
G4E 200-BL03 -01[2][3]	M4E074-EI	③	230	50	1370	1300	280	1,25	8,0/400	69	0	40	7,0
R4E 200-AL03 -05[2][3]			230	60	1315	1480	350	1,55	8,0/400	69	100	40	3,7
G4E 200-CL03 -01[1][2][3]	M4E074-EI	④	230	50	1540	1240	330	1,45	8,0/400	70	0	50	7,0
			230	60	1300	1430	370	1,62	8,0/400	68	170	40	

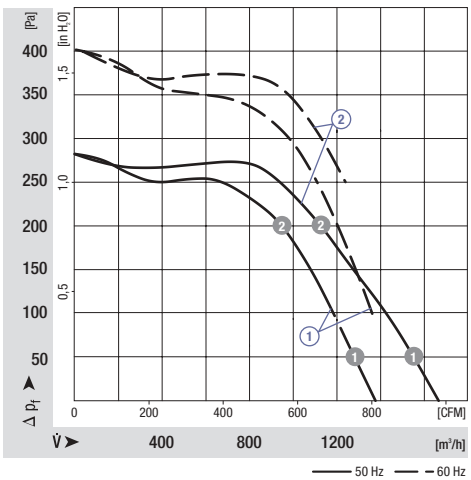
subject to alterations

[1] Data collected via exhaust duct of 1 m length serving as diffuser [2] FPU (P2) capacitor in keeping with IEC 252 [3] Insulation class "F"

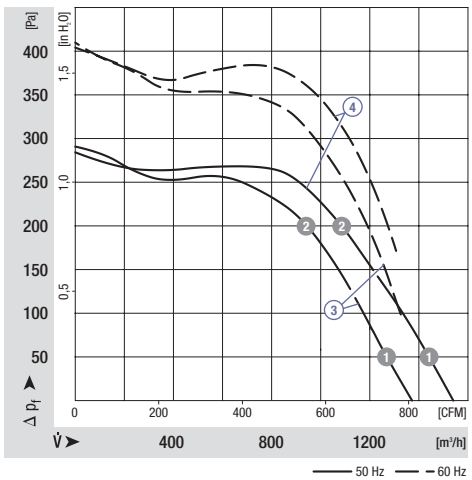
		n [min⁻¹]	P1 [W]
①	①	1375	255
①	②	1415	192
②	①	1315	330
②	②	1385	230

		n [min⁻¹]	P1 [W]
③	①	1350	258
③	②	1400	214
④	①	1285	303
④	②	1370	242

Characteristics



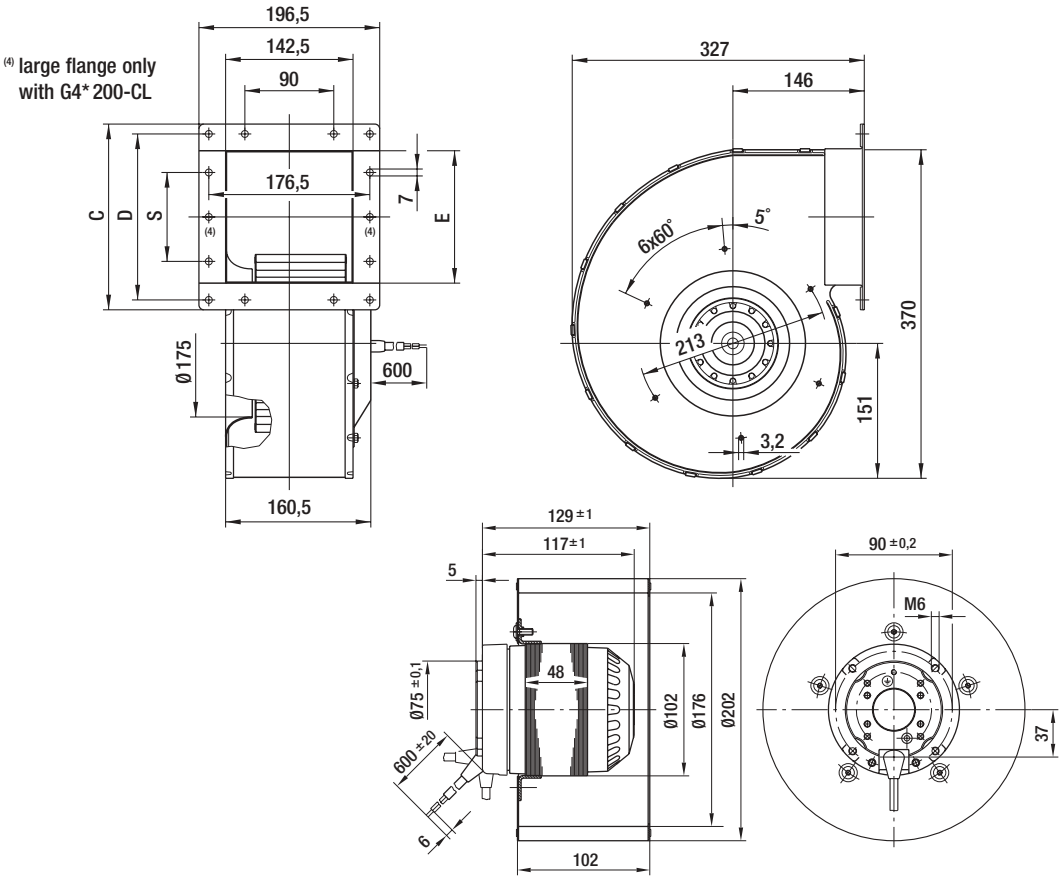
Characteristics



ebmpapst

Dimensions

Type	C	D	E	S
G4D 200-BL12 -01 **R4D 200-AL12 -05**	200	180	146	90
G4D 200-CL12 -01	304	284	250	180
G4E 200-BL03 -01 **R4E 200-AL03 -05**	200	180	146	90
G4E 200-CL03 -01	304	284	250	180



AC centrifugal blowers

single inlet, Ø 225

- **Material:** scroll housing and impeller made of galvanised sheet steel
- **Type of protection:** IP54 (please note drilled condensate discharges)
- **Approval:** complying with EN 60034-1
- **Locked-rotor protection:** thermal overload protector brought out

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
G4D 225-FK10 -03[1][2]	M4D094-FA	①	400 Y	50	1590	1350	380	0,75	---	73	0	90	9,7
			400 Y	60	1670	1500	540	0,94	---	74	50	55	
G4D 225-GK10 -03[1][2][3]	M4D094-FA	②	400 Y	50	1830	1310	460	0,85	---	75	0	75	9,7
			400 Y	60	1630	1520	515	0,90	---	73	200	60	
G4E 225-DK05 -03[1]	M4E094-FA	③	230	50	1540	1330	395	1,98	6,0/450	73	0	70	9,8
			230	60	1480	1500	500	2,30	6,0/450	73	100	50	
G4E 225-EK05 -03[1][3]	M4E094-FA	④	230	50	1770	1260	485	2,30	6,0/450	74	0	55	9,8
			230	60	1510	1470	510	2,30	6,0/450	72	200	45	

subject to alterations

[1] Insulation class "F"

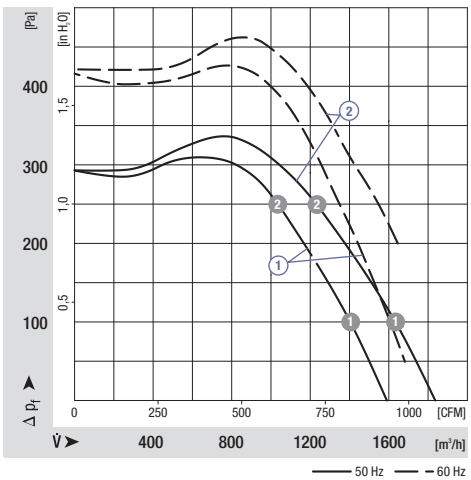
[2] 400 VAC Δ/Y for two speed steps available on request

[3] Data collected via exhaust duct of 1 m length serving as diffuser

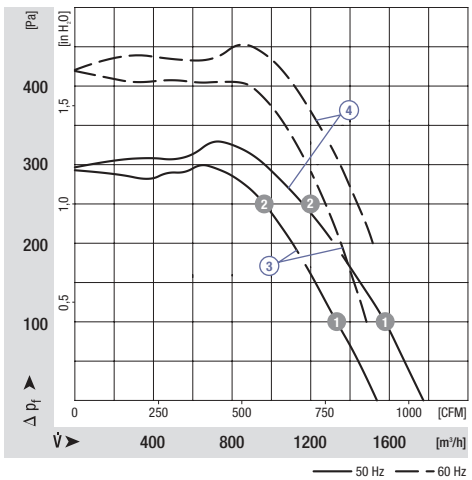
		n [min⁻¹]	P_1 [W]
①	1	1380	325
①	2	1420	228
②	1	1345	388
②	2	1400	271

		n [min⁻¹]	P_1 [W]
③	1	1365	339
③	2	1415	255
④	1	1320	401
④	2	1395	292

Characteristics



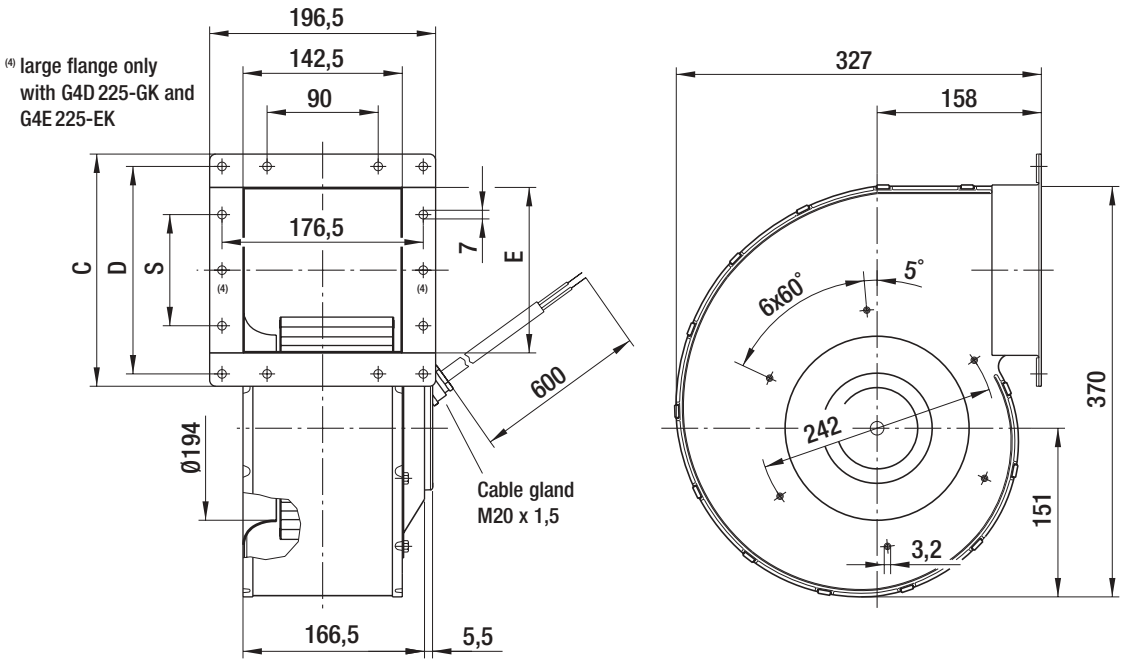
Characteristics



ebmpapst

Dimensions

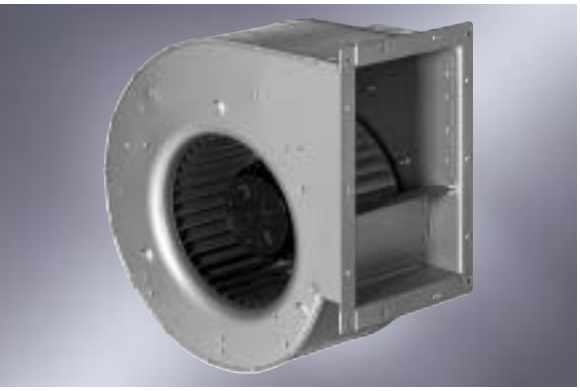
Type	C	D	E	S
G4D 225-FK10 -03	200	180	146	90
G4D 225-GK10 -03	304	284	250	180
G4E 225-DK05 -03	200	180	146	90
G4E 225-EK05 -03	304	284	250	180



Capacitor
S. 356 f.

AC centrifugal blowers

single inlet, Ø 250



- **Material:** scroll housing and impeller made of galvanised sheet steel
- **Type of protection:** IP54 (please note drilled condensate discharges)
- **Approval:** complying with EN 60034-1
- **Locked-rotor protection:** thermal overload protector brought out

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
G4D 250-DC10 -03[1][2]	M4D094-HA	①	400 Y 400 Y	50 60	2185 2000	1350 1560	590 710	1,17 1,26	--- ---	75 77	0 150	80 60	13,5
G4D 250-EC10 -03[1][2][3]	M4D094-HA	②	400 Y 400 Y	50 60	2640 1980	1280 1560	800 700	1,46 1,24	--- ---	77 73	0 300	50 55	13,5
G4E 250-DA09 -03[1]	M4E094-HA	③	230 230	50 60	2050 1930	1310 1470	570 690	2,48 3,05	10 /450 10 /450	74 75	0 100	70 55	13,1
G4E 250-EA09 -03[1][3]	M4E094-HA	④	230 230	50 60	2400 1970	1150 1400	760 730	3,80 3,30	10 /450 10 /450	76 72	0 220	45 55	13,1
G6E 250-DK05 -03[1]	M6E094-FA	⑤	230 230	50 60	1520 1630	850 900	220 295	1,00 1,30	6,0/450 6,0/500	66 67	0 0	80 80	11,4
G6E 250-EK05 -03[1][3]	M6E094-FA	⑥	230 230	50 60	1690 1650	780 760	255 305	1,15 1,35	6,0/450 6,0/500	67 65	0 0	80 70	11,4

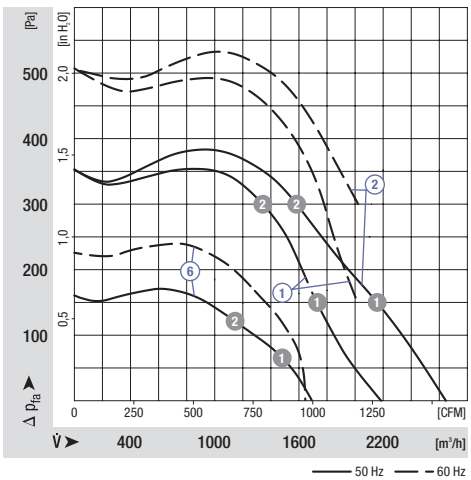
subject to alterations

[1] Insulation class "F" [2] 400 VAC Δ/Y for two speed steps available on request [3] Data collected via exhaust duct of 1 m length serving as diffuser

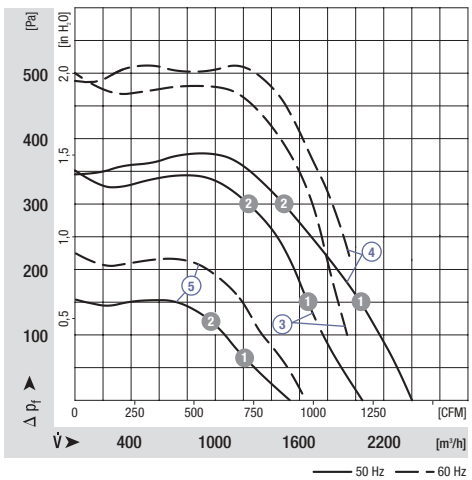
		n [min⁻¹]	P_1 [W]
①	1	1390	444
①	2	1430	312
②	1	1330	654
②	2	1410	386
⑥	1	855	215
⑥	2	910	173

		n [min⁻¹]	P_1 [W]
③	1	1370	448
③	2	1420	325
④	1	1310	560
④	2	1390	395
⑤	1	900	180
⑤	2	930	156

Characteristics

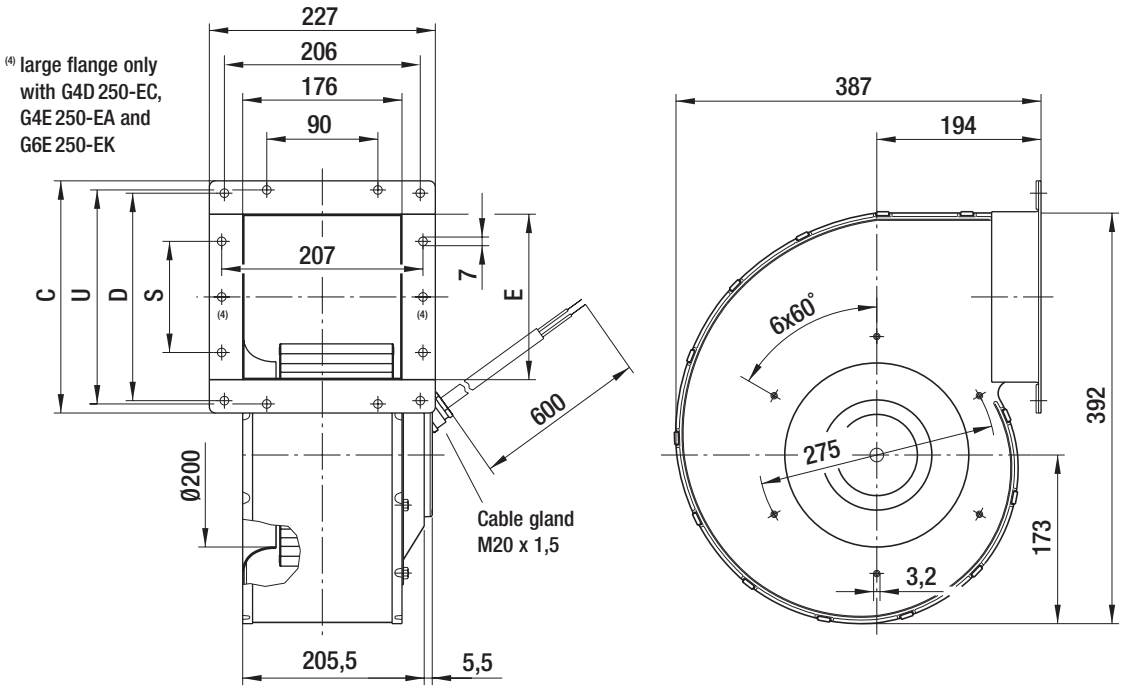


Characteristics



Dimensions

Type	C	D	E	S	U
G4D 250-DC10 -03	218	190	167	90	198
G4D 250-EC10 -03	313	285	262	180	293
G4E 250-DA09 -03	218	190	167	90	198
G4E 250-EA09 -03	313	285	262	180	293
G6E 250-DK05 -03	218	190	167	90	198
G6E 250-EK05 -03	313	285	262	180	293



Capacitor
S. 356 f.

AC centrifugal blowers

dual inlet, Ø 140

- **Material:** scroll housing with integrated terminal box made of polypropylene, reinforced with French chalk - coloured in black, impeller made of polypropylene - natural colour (according to IEC 695 T2-2 and EN 60335-2-31)
- **Mounting:** SAL (standard external-rotor) motor mounted on one side of the scroll housing via brackets
- **Design:** 4-step blower with external-rotor motor
- **Bearings:** calotte sleeve bearing (medium life-cycle of 15,000 h) - applicable only in horizontal axis
- **Capacitor:** Integrated in terminal box completely wired up and ready for plug-in. FPU (P2) capacitor design.
- **Direction of rotation:** counter-clockwise, seen on plug

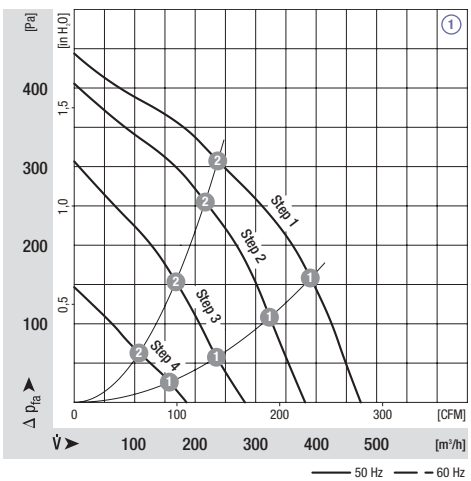
ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
D2E 140-HR97 -05	M2E 068-CF	①	230 230	50 60	470 430	1150 1050	130 130	0,58 0,58	2,0/400 2,0/400	58 56	0 0	50 40	2,3

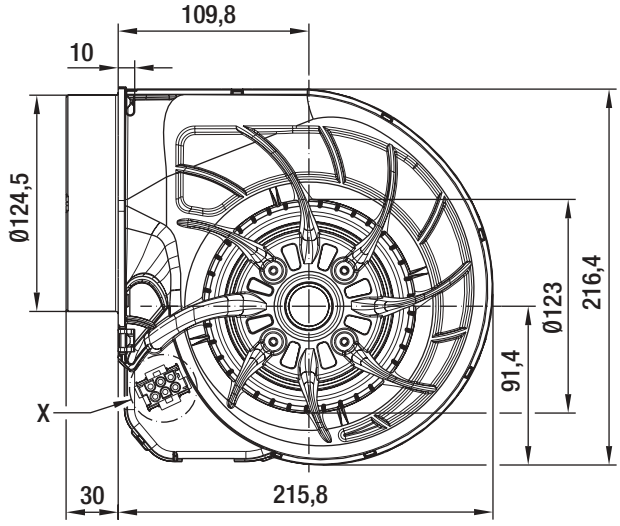
subject to alterations

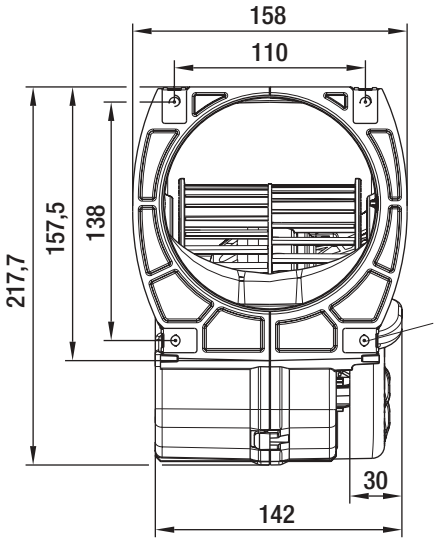
			n [min⁻¹]	P1 [W]
①	1	Step 1	750	56
①	2	Step 1	1055	55
①	1	Step 2	1080	72
①	2	Step 2	1615	67
①	1	Step 3	1485	91
①	2	Step 3	2080	78
①	1	Step 4	1760	116
①	2	Step 4	2295	97

Characteristics



- **Insulation class:** "F"
- **Approvals:** VDE, Œ; UL on request
- **Safety regulations:** with integrated temperature monitor and integrated FPU (P2) capacitor in keeping with EN 60335-2-31
- **Note:** Due to the capacitor connected, voltages exceeding 300 V can occur.

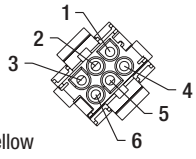




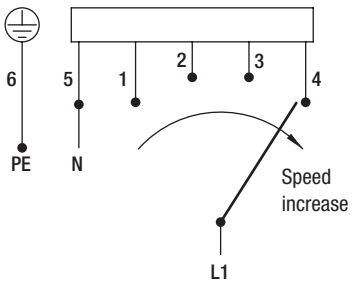
4 x sheet metal nut for thread EN ISO 1478-ST4.8 min. screw length 14.5 mm plus thickness of mounting material

View X
coded plug system AMP Universal-Mate-N-Lok
connector shell AMP 926 682-3
6 x plug pin AMP 926 886-1

1 =	Step 1 (min.)	white
2 =	Step 2	red
3 =	Step 3	grey
4 =	Step 4 (max.)	black
5 =	N	blue
6 =	Ground wire	green / yellow



Connection diagram
When changing speeds, the switch must break the circuit.



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Guard grille S. 345
Connection lead S. 355
Capacitor S. 356 f.

AC centrifugal blowers

dual inlet, Ø 146

- **Material:** scroll housing with integrated terminal box made of polypropylene, reinforced with French chalk - coloured in black (according to IEC 695 T2-2 and EN 60335-2-31), impeller made of galvanised sheet steel
- **Mounting:** EW-motor anti-vibration mounted on both sides
- **Design:** 4-step blower with external-rotor motor
- **Bearings:** calotte sleeve bearing (medium life-cycle of 15,000 h) - applicable only in horizontal axis
- **Capacitor:** Integrated in terminal box completely wired up and ready for plug-in. FPU (P2) capacitor design.
- **Direction of rotation:** counter-clockwise seen on plug
- **Type of protection:** IP20

ebm-papst · Mulfingen

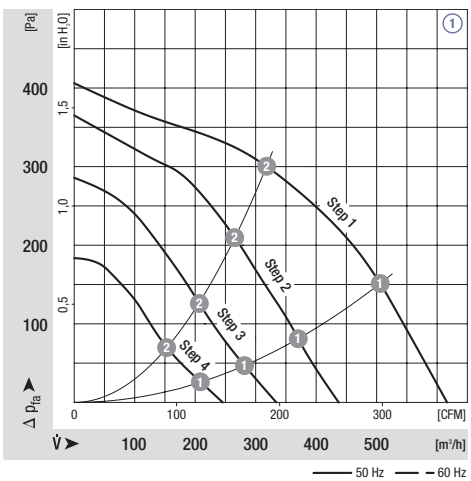
Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
D2E 146-HR93 -01	M2E 068-CF	①	230 230	50 60	615 370	1050 1750	150 165	0,66 0,73	4,0/400 4,0/400	52 63	0 220	50 50	3,0
D2E 146-HS97 -01	M2E 068-DF	②	230 230	50 60	725 500	1450 2000	200 215	0,88 0,95	5,0/400 5,0/400	58 63	50 250	50 50	3,5

subject to alterations

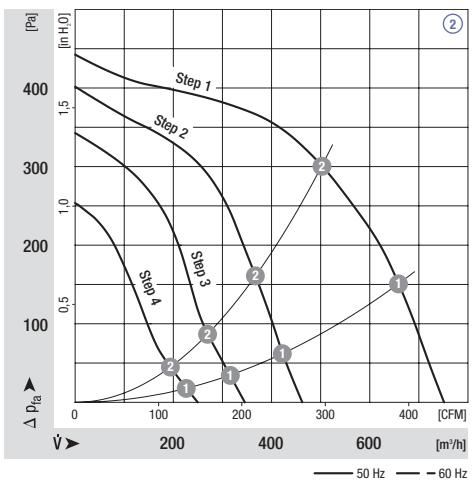
			n [min⁻¹]	P1 [W]
①	1	Step 1	670	71
①	2	Step 1	1020	55
①	1	Step 2	890	83
①	2	Step 2	1380	79
①	1	Step 3	1150	100
①	2	Step 3	1780	90
①	1	Step 4	1540	143
①	2	Step 4	2130	130

			n [min⁻¹]	P1 [W]
②	1	Step 1	560	94
②	2	Step 1	800	92
②	1	Step 2	820	108
②	2	Step 2	1200	105
②	1	Step 3	1150	127
②	2	Step 3	1610	118
②	1	Step 4	1715	190
②	2	Step 4	2120	173

Characteristics

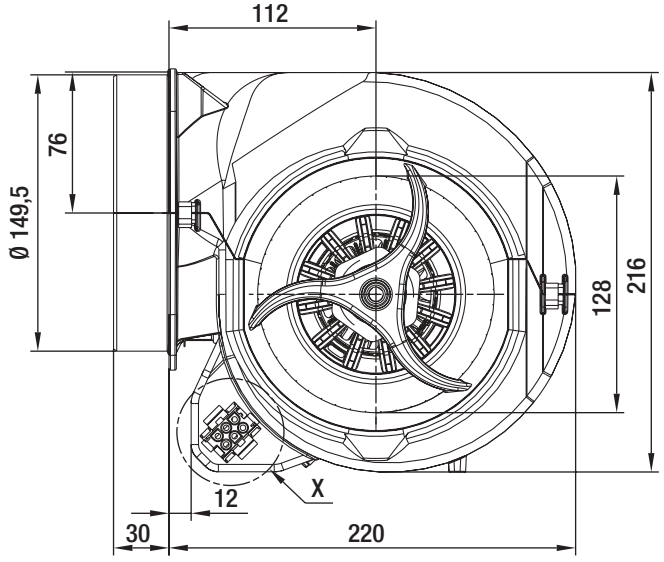


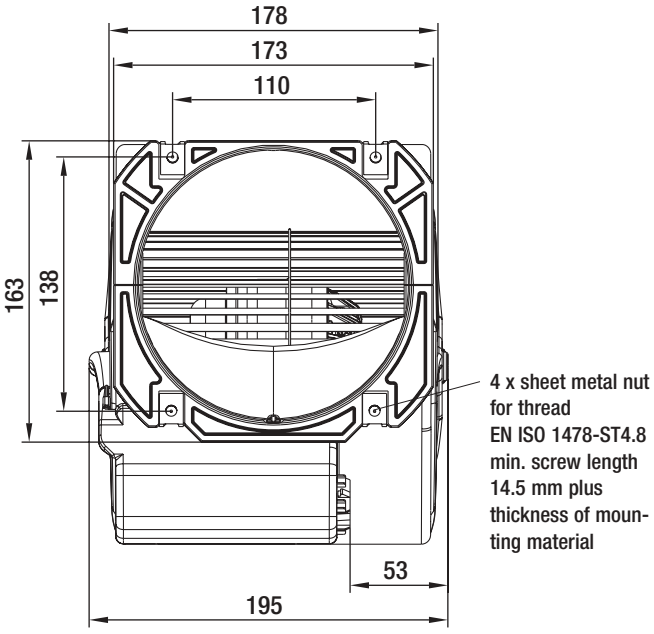
Characteristics



ebmpapst

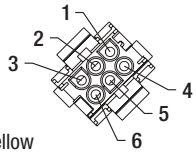
- **Insulation class:** "F"
- **Approvals:** VDE, Œ; UL on request
- **Safety regulations:** with integrated temperature monitor and integrated FPU (P2) capacitor in keeping with EN 60335-2-31
- **Note:** Due to the capacitor connected, voltages exceeding 300 V can occur.



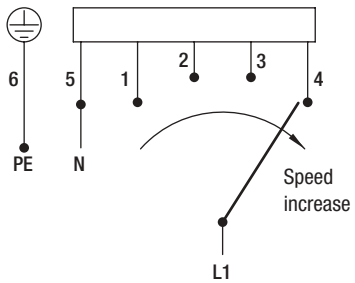


View X
coded plug system AMP Universal-Mate-N-Lok
connector shell AMP 926 682-3
6 x plug pin AMP 926 886-1

1 =	Step 1 (min.)	white
2 =	Step 2	red
3 =	Step 3	grey
4 =	Step 4 (max.)	black
5 =	N	blue
6 =	Ground wire	green / yellow



Connection diagram
When changing speeds, the switch must break the circuit.



ebmpapst

Guard grille S. 345
Connection lead S. 355
Capacitor S. 356 f.

AC centrifugal blowers

dual inlet, Ø 146

- **Material:** scroll housing with integrated terminal box made of polypropylene, reinforced with French chalk - coloured in black (according to IEC 695 T2-2 and EN 60335-2-31), impeller made of galvanised sheet steel
- **Mounting:** EW-motor anti-vibration mounted on both sides
- **Design:** 4-step blower with external-rotor motor
- **Bearings:** calotte sleeve bearing (medium life-cycle of 15,000 h) - applicable only in horizontal axis
- **Capacitor:** Integrated in terminal box completely wired up and ready for plug-in. FPU (P2) capacitor design.
- **Direction of rotation:** counter-clockwise seen on plug
- **Type of protection:** IP20

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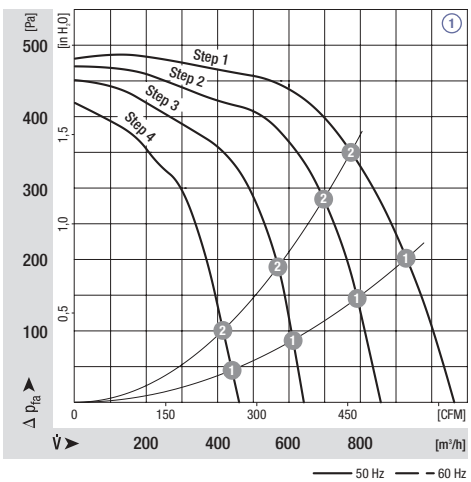
Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
D2E 146-HT67 -01	M2E 068-EC	①	230	50	1060	1850	355	1,55	8,0/450	66	0	50	3,6
			230	60	875	2100	400	1,75	8,0/450	63	200	55	

subject to alterations

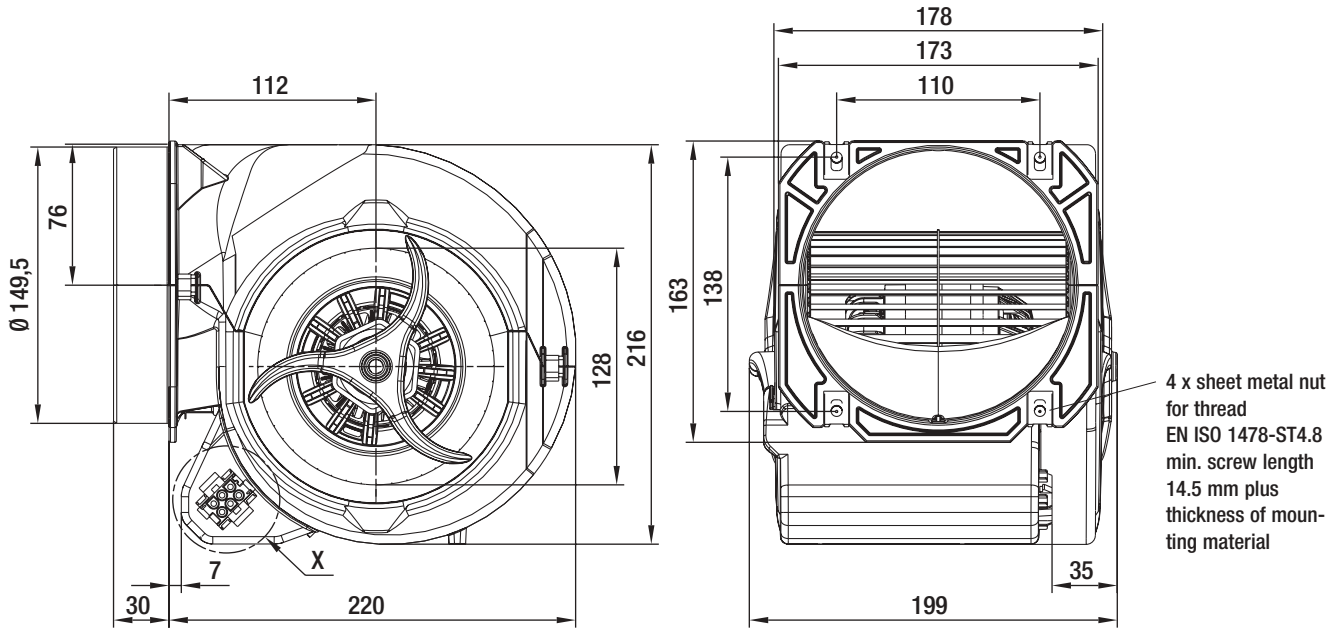
			n [min⁻¹]	P_1 [W]
①	1	Step 1	1065	190
①	2	Step 1	1315	182
①	1	Step 2	1460	222
①	2	Step 2	1765	203
①	1	Step 3	1840	262
①	2	Step 3	2140	232
①	1	Step 4	2145	318
①	2	Step 4	2355	280

Characteristics



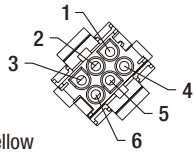
ebmpapst

- **Insulation class:** "F"
- **Approvals:** VDE, Œ; UL on request
- **Safety regulations:** with integrated temperature monitor and integrated FPU (P2) capacitor in keeping with EN 60335-2-31
- **Note:** Due to the capacitor connected, voltages exceeding 300 V can occur.

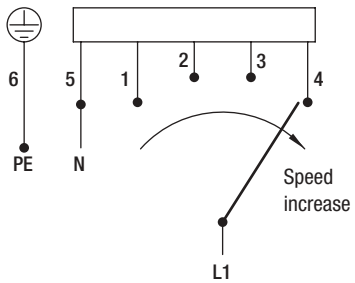


View X
coded plug system AMP Universal-Mate-N-Lok
connector shell AMP 926 682-3
6 x plug pin AMP 926 886-1

1 =	Step 1 (min.)	white
2 =	Step 2	red
3 =	Step 3	grey
4 =	Step 4 (max.)	black
5 =	N	blue
6 =	Ground wire	green / yellow



Connection diagram
When changing speeds, the switch must break the circuit.



ebmpapst

Guard grille S. 345
Connection lead S. 355
Capacitor S. 356 f.

AC centrifugal blowers

dual inlet, Ø 146

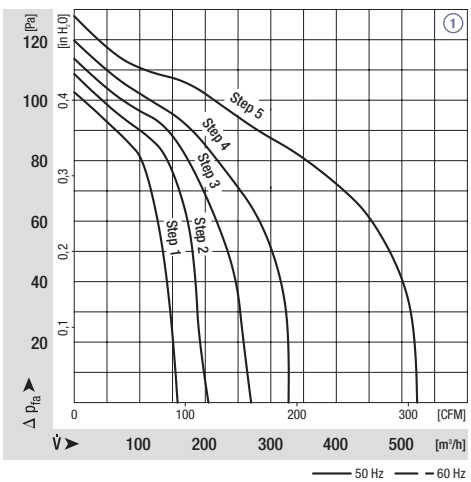
- **Material:** scroll housing made of plastic PP - coloured in black, impeller made of plastic PA - coloured in black (in keeping with UL 94 HB)
- **Design:** 5-step blower with integrated EW external-rotor motor and anti-vibration motor suspension on both sides
- **Bearings:** maintenance-free ball bearings both sides
- **Capacitor:** Integrated in terminal box completely wired up and ready for plug-in. FPU (P2) capacitor design.
- **Insulation class:** "F"
- **Approvals:** VDE, Œ
- **Note:** Due to the capacitor connected, voltages exceeding 300 V can occur.

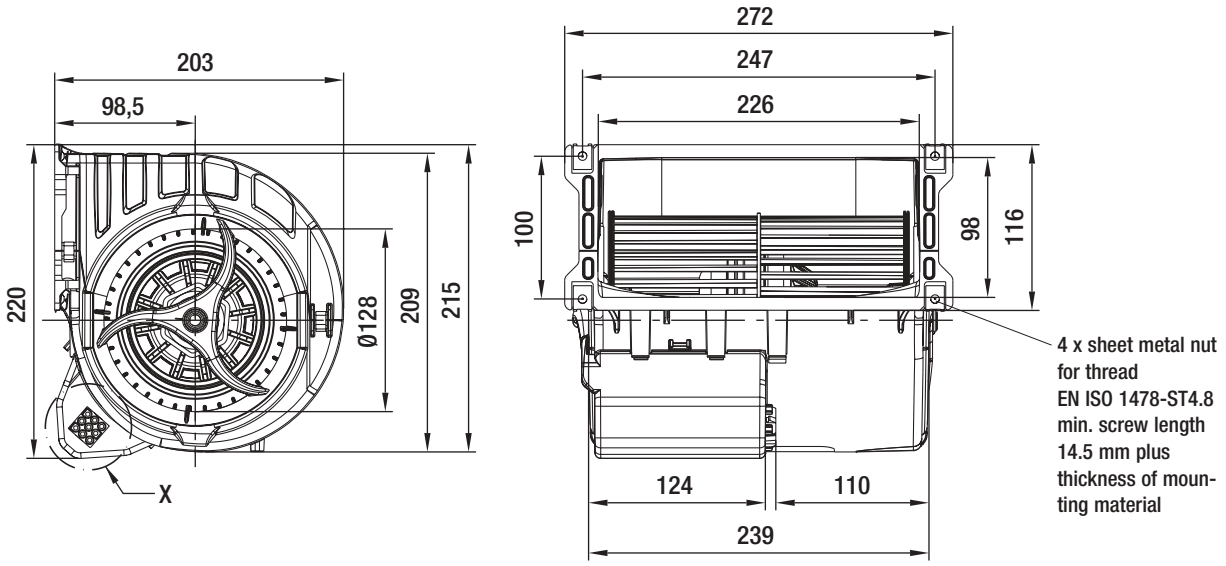
ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
D4E 146-LV55 -01	M4E068-CF	①	230 230	50 60	565 510	780 710	65 68	0,29 0,30	2,0/400 2,0/400	46 42	0 0	50 40	2,5

subject to alterations

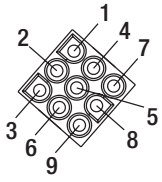
Characteristics



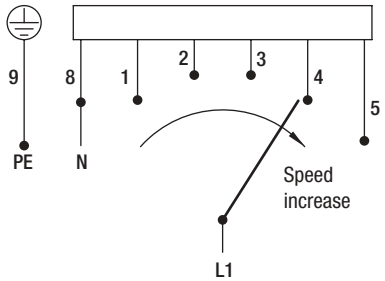


View X
coded plug system AMP Universal-Mate-N-Lok
connector shell AMP 927 231-3
7 x plug pin AMP 926 886-1

1 = Step 1 (min.)
2 = Step 2
3 = Step 3
4 = Step 4
5 = Step 5 (max.)
8 = N
9 = Ground wire



Connection diagram
When changing speeds, the switch must break the circuit.



Guard grille
S. 345
Capacitor
S. 356 f.

AC centrifugal blowers unit

dual inlet, Ø 146

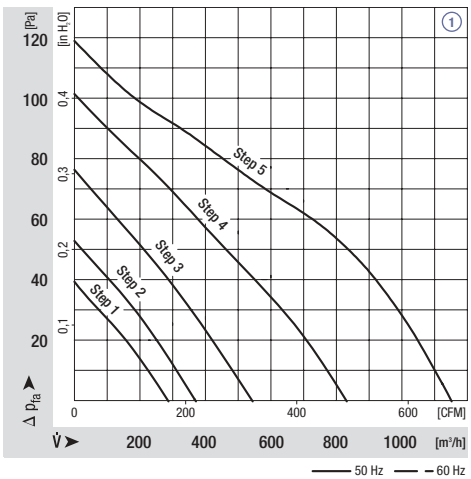
- **Material:** scroll housing made of plastic PP - coloured in black, impeller and suspension made of plastic PA - coloured in black (in keeping with UL 94 HB)
- **Design:** 5-step blower with integrated EW external-rotor motor and anti-vibration motor suspension on both sides
- **Bearings:** maintenance-free ball bearings on both sides
- **Capacitor:** Integrated in terminal box completely wired up and ready for plug-in. FPU (P2) capacitor design.
- **Insulation class:** "F"
- **Approvals:** VDE, Œ
- **Note:** Due to the capacitor connected, voltages exceeding 300 V can occur.

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
K4E 146-AB57 -01	M4E068-CF	①	230	50	1180	750	85	0,38	2,5/450	47	0	50	4,0

subject to alterations

Characteristics



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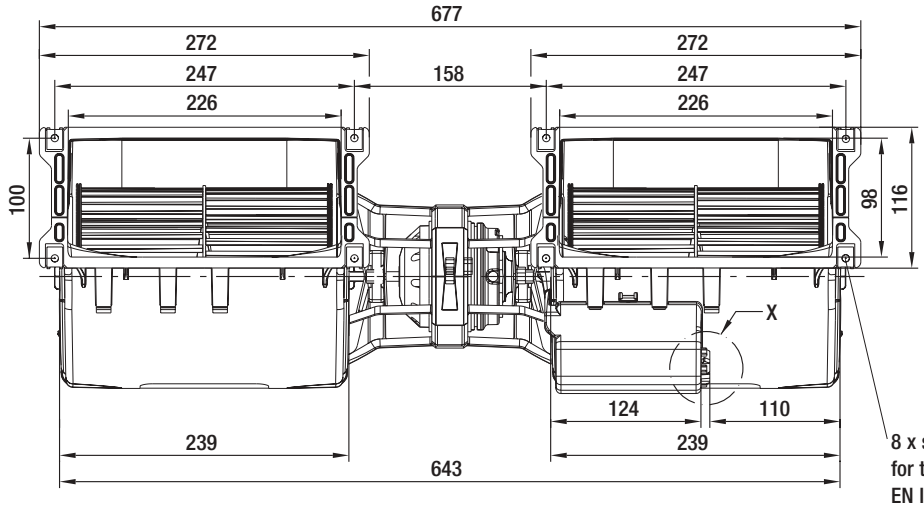
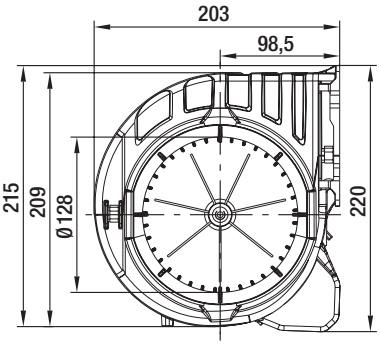
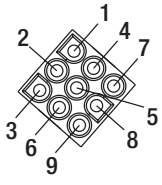




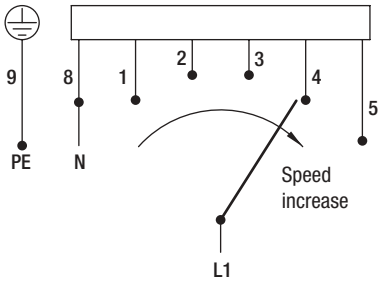
8 x sheet metal nut
for thread
EN ISO 1478-ST4.8
min. screw length
14.5 mm plus
thickness of mounting material

View X
coded plug system AMP Universal-Mate-N-Lok
connector shell AMP 927 231-3
7 x plug pin AMP 926 886-1

1 = Step 1 (min.)
2 = Step 2
3 = Step 3
4 = Step 4
5 = Step 5 (max.)
8 = N
9 = Ground wire



Connection diagram
When changing speeds, the switch must break the circuit.



Guard grille
S. 345
Capacitor
S. 356 f.

AC centrifugal blowers

dual inlet, Ø 160

- **Material:** side parts made of polyamide reinforced with glass fibre, steel case made of galvanised sheet steel, impeller made of polypropylene
- **Design:** blower with integrated EW external-rotor motor and anti-vibration motor suspension on both sides
- **Bearings:** calotte sleeve bearing (medium life-cycle of 15,000 h) - applicable only in horizontal axis
- **Capacitor:** mountable on housing - must be ordered separately
- **Direction of rotation:** counter-clockwise seen on plug
- **Insulation class:** "F"
- **Approvals:** VDE, Œ; UL on request
- **Safety regulations:** with integrated thermal overload protection in keeping with EN 60335

ebm-papst · Mulfingen

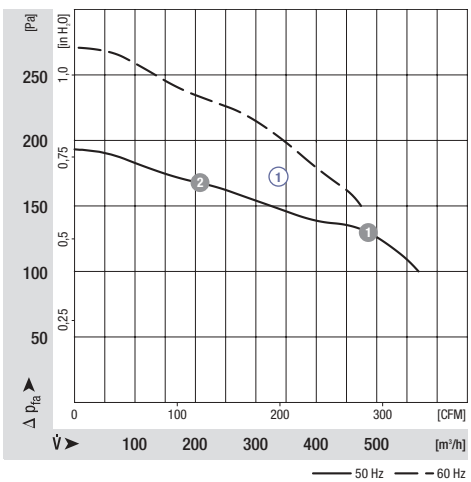
Nominal data

Type	Motor	Characteristic	Voltage VAC	Frequency Hz	Air flow m³/h	Speed/rpm min⁻¹	Power input W	Current draw A	Capacitor µF/VDB	Noise level dB(A)	Min. back pressure Pa	Perm. amb. temp. °C	Mass kg
D4E 160-HN46 -12	M4E068-CF	①	230	50	565	1280	93	0,42	2,0/450	54	100	40	2,7
			230	60	500	1450	110	0,49	2,0/450	56	150	40	

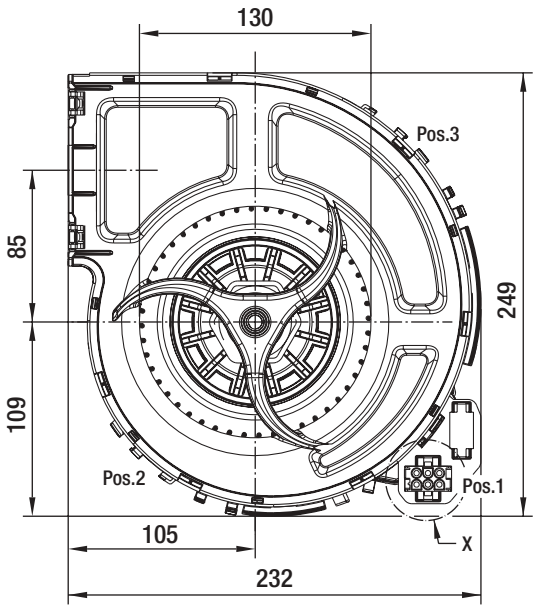
subject to alterations

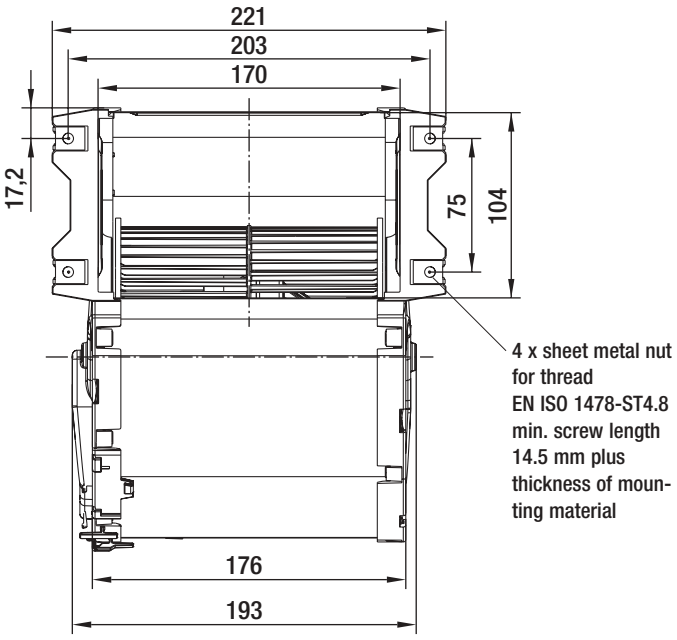
	n [min⁻¹]	P_1 [W]
① 1	1340	84
① 2	1430	69

Characteristics



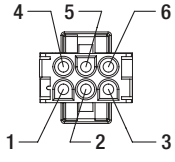
- **Position of plug:** Pos.1 is standard, Pos.2 or Pos.3 on request





View X
coded plug system AMP Universal-Mate-N-Lok
connector shell AMP 926 682-3
4 x plug pin AMP 926 886-1

1 = L
2 = not assigned
3 = N / C2
4 = ground wire
5 = not assigned
6 = C1



AC centrifugal blowers

dual inlet, Ø 097

- **Material:** scroll housing and impeller made of galvanised sheet steel
- **Mounting:** SAL (standard external-rotor) motor mounted via brackets on one side of the scroll housing

ebm-papst · Mulfingen

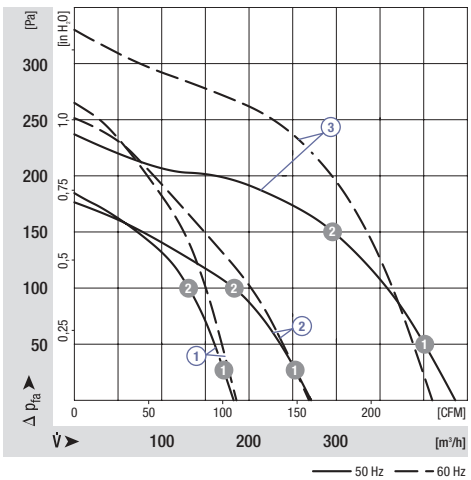
Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
D2E 097-CB01 -12[1][3]	M2E 042-CA	①	230	50	180	1650	42	0,19	1,5/400	47	0	60	1,3
D2E 097-CB01 -02[2][3]			230	60	180	1650	42	0,20	1,5/400	47	0	60	
D2E 097-BE01 -65[1][3]	M2E 042-CA	②	230	50	270	1250	48	0,22	2,0/400	47	0	55	1,5
D2E 097-BE01 -02[2][3]			230	60	265	1200	54	0,26	2,0/400	47	0	50	
D2E 097-BI56 -48[1]	M2E 052-CA	③	230	50	435	1950	87	0,39	2,0/400	58	0	40	1,5
D2E 097-BI56 -02[2]			230	60	410	1850	100	0,45	2,0/400	57	0	35	

subject to alterations

[1] With flange [2] Without flange [3] FPU (P2) capacitor in keeping with IEC 252

		n [min⁻¹]	P_1 [W]
①	1	1690	39
①	2	2090	36
②	1	1395	49
②	2	1900	45
③	1	2150	83
③	2	2475	73

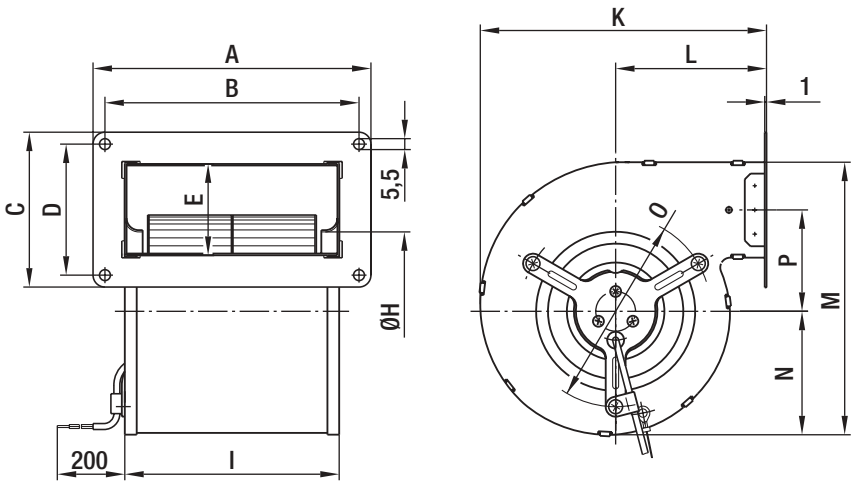
Characteristics



ebmpapst

Dimensions

Type	A	B	C	D	E	H	I	K	L	M	N	O	P
D2E 097-CB01 -12 D2E 097-CB01 -02	140	128	78	66	46	80,0	108	144	76	137	62	96	51,0
D2E 097-BE01 -65 D2E 097-BE01 -02	180	168	100	88	67	79,5	146	162	86	165	68	114	62,5
D2E 097-BI56 -48 D2E 097-BI56 -02	180	168	100	88	67	79,5	146	162	86	165	68	114	62,5



AC centrifugal blowers

dual inlet, Ø 133

- **Material:** scroll housing and impeller made of galvanised sheet steel
- **Mounting:** SAL (standard external-rotor) motor mounted via brackets on one side of the scroll housing

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
D2E 133-AM47 -23[1][3]	M2E 068-DF	①	230	50	685	1500	190	0,84	3,0/450	59	0	45	3,5
D2E 133-AM47 -01[2][3]			230	60	510	1800	200	0,88	3,0/450	56	100	40	
D2E 133-CI33 -22[1]	M2E 068-CF	②	230	50	700	1700	175	0,77	4,0/400	58	50	40	3,3
D2E 133-CI33 -56[2]			230	60	500	2100	190	0,84	4,0/400	58	200	40	
D2E 133-DM47 -23[1][3]	M2E 068-DF	③	230	50	810	1150	190	0,84	3,0/450	56	0	40	4,4
D2E 133-DM47 -01[2][3]			230	60	600	1550	195	0,85	3,0/450	55	100	40	

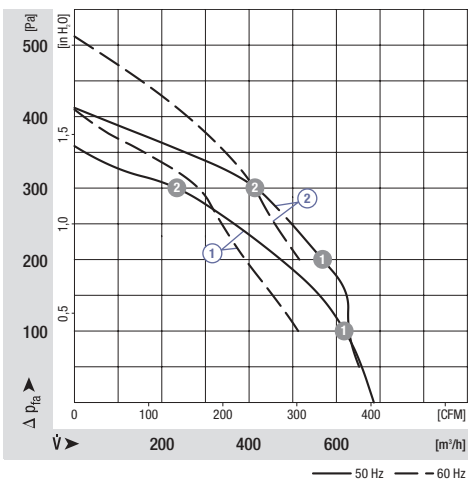
subject to alterations

[1] With flange [2] Without flange [3] Direction of rotation: clockwise as seen from inlet opposite the cable exit

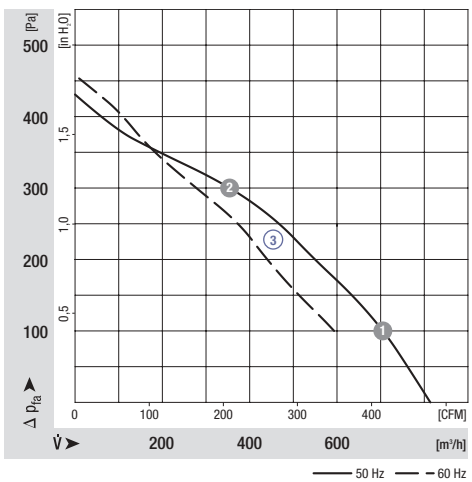
		n [min⁻¹]	P_1 [W]
①	❶	1885	180
①	❷	2640	130
②	❶	2135	160
②	❷	2450	138

		n [min⁻¹]	P_1 [W]
③	❶	1700	180
③	❷	2480	138

Characteristics



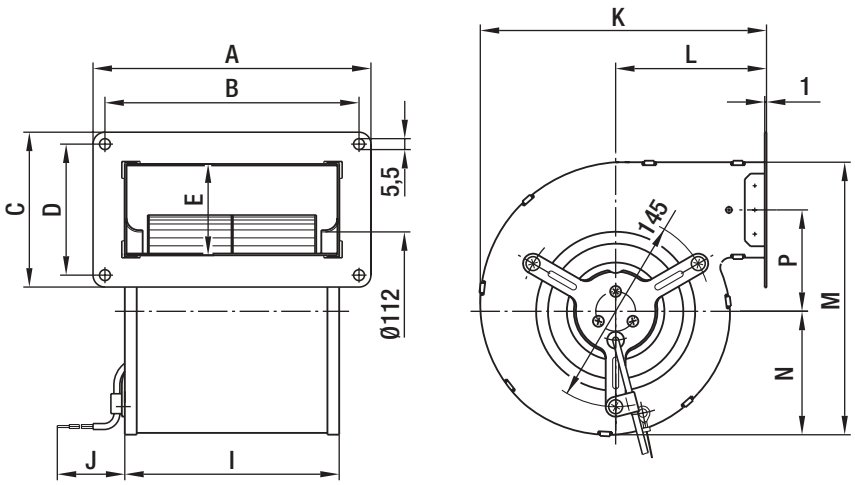
Characteristics



ebmpapst

Dimensions

Type	A	B	C	D	E	I	J	K	L	M	N	P
D2E 133-AM47 -23 D2E 133-AM47 -01	254	238	108	92	69	215	300	171,5	88	180	79,0	66,0
D2E 133-CI33 -22 D2E 133-CI33 -56	206	190	142	126	102	168	400	204,0	97	213	93,5	67,5
D2E 133-DM47 -23 D2E 133-DM47 -01	270	254	142	126	102	232	300	204,0	97	213	98,0	67,5



AC centrifugal blowers

dual inlet, Ø 133

- **Material:** scroll housing made of galvanised sheet steel, impeller made of plastic
- **Mounting:** SAL (standard external-rotor) motor mounted via brackets on one side of the scroll housing

ebm-papst · Mulfingen

Nominal data

Type	Motor	Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
			VAC	Hz	m³/h	min⁻¹	W	A	µF/VDB	dB(A)	Pa	°C	kg
D4E 133-AH01 -58[1]	M4E068-BF	①	230	50	510	1180	70	0,32	2,0/400	52	0	40	2,6
D4E 133-AH01 -55[2]			230	60	540	1240	80	0,35	2,0/400	54	0	40	
D4E 133-DH01 -J4[1]	M4E068-BF	②	230	50	670	1080	73	0,33	2,0/400	52	0	40	3,3
D4E 133-DH01 -J2[2]			230	60	675	1100	83	0,37	2,0/400	52	0	40	
D4E 133-DL01 -J5[1]	M4E068-CF	③	230	50	760	1230	75	0,34	2,0/450	55	0	70	3,8
D4E 133-DL01 -H9[2]			230	60	790	1280	95	0,43	2,0/450	56	0	60	

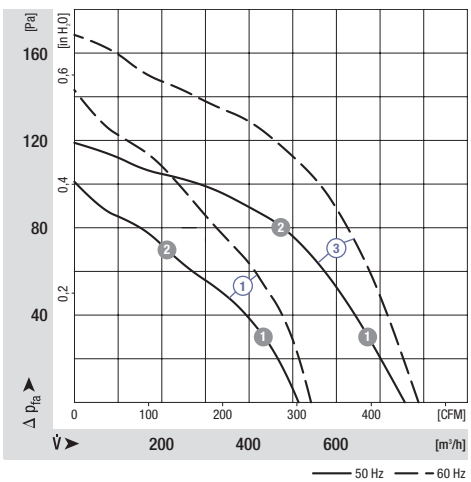
subject to alterations

[1] With flange [2] Without flange

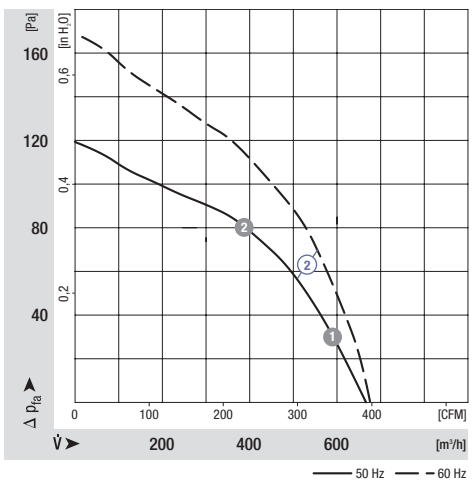
		n [min⁻¹]	P_1 [W]
①	1	1240	66
①	2	1380	63
③	1	1280	67
③	2	1370	58

		n [min⁻¹]	P_1 [W]
②	1	1150	69
②	2	1300	65

Characteristics



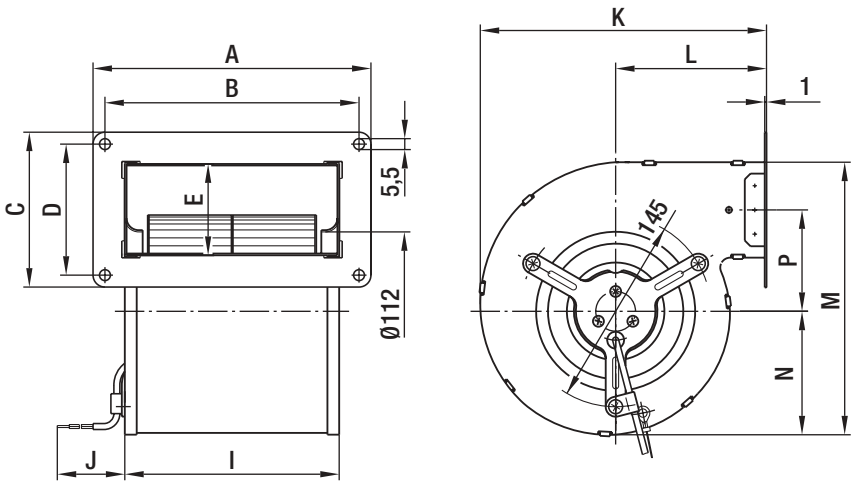
Characteristics



ebmpapst

Dimensions

Type	A	B	C	D	E	I	J	K	L	M	N	P
D4E 133-AH01 -58 D4E 133-AH01 -55	254	238	108	92	69	215	300	171,5	88	180	76	66,0
D4E 133-DH01 -J4 D4E 133-DH01 -J2	270	254	142	126	102	232	300	204,0	97	213	98	67,5
D4E 133-DL01 -J5 D4E 133-DL01 -H9	270	254	142	126	102	232	300	204,0	97	213	98	67,5



AC centrifugal blowers

dual inlet, Ø 146

- **Material:** scroll housing and impeller made of galvanised sheet steel
- **Mounting:** SAL (standard external-rotor) motor mounted via brackets on one side of the scroll housing

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
D2E 146-AP43 -22[1]	M2E 068-EC	①	230	50	935	1650	245	1,08	6,0/400	60	100	40	4,2
D2E 146-AP43 -02[2]			230	60	690	2100	270	1,20	6,0/400	62	250	40	
D2E 146-AP47 -22[1]	M2E 068-EC	②	230	50	970	2050	300	1,31	8,0/400	63	200	40	4,2
D2E 146-AP47 -02[2]			230	60	690	2550	330	1,45	8,0/400	68	400	35	
D4E 146-AA07 -22[1]	M4E 068-CF	③	230	50	835	1000	100	0,44	2,0/450	55	0	50	3,5
D4E 146-AA07 -02[2]			230	60	765	950	116	0,51	2,0/450	53	0	50	

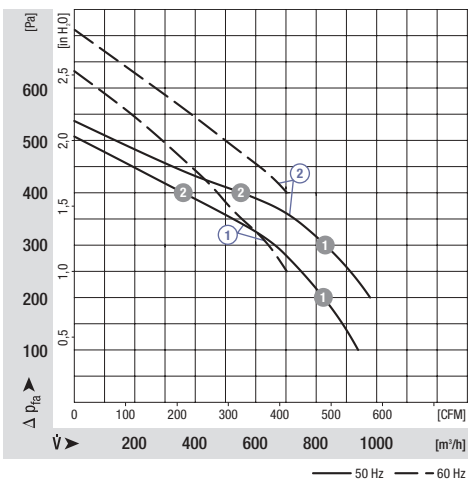
subject to alterations

[1] With flange [2] Without flange

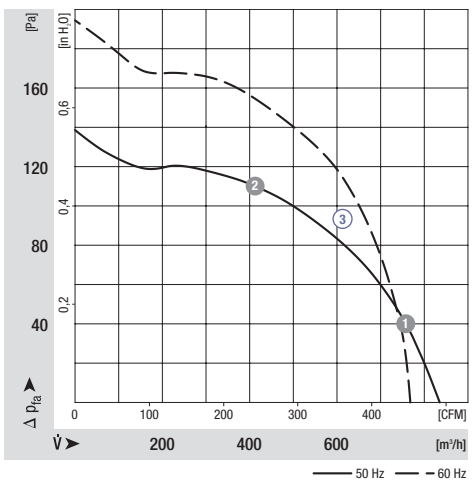
		n [min⁻¹]	P_1 [W]
①	❶	1935	230
①	❷	2560	167
②	❶	2300	262
②	❷	2600	206

		n [min⁻¹]	P_1 [W]
③	❶	1180	88
③	❷	1390	65

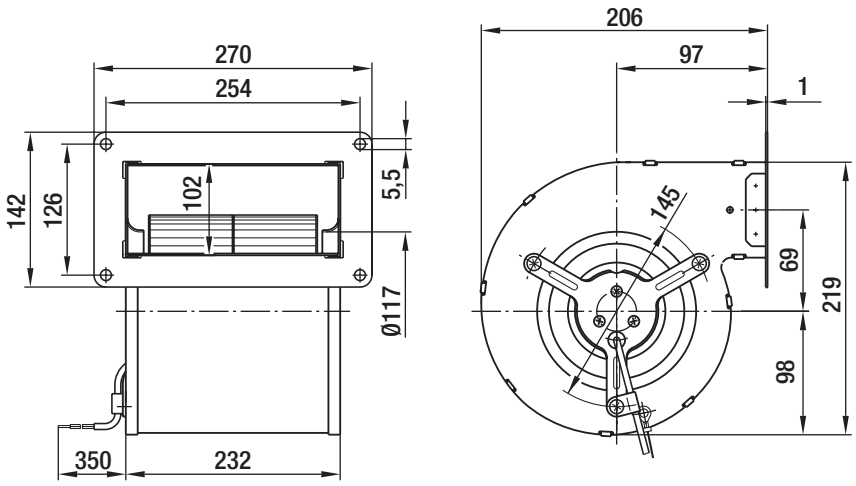
Characteristics



Characteristics

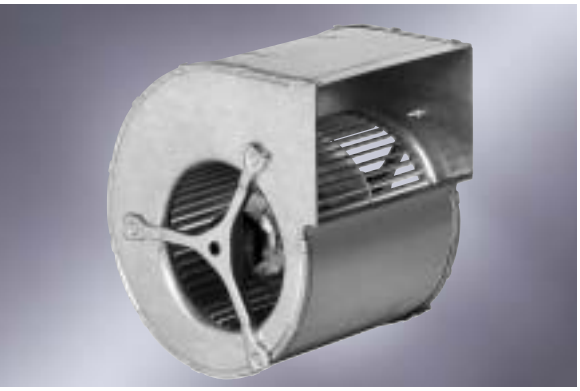


ebmpapst



AC centrifugal blowers

dual inlet, Ø 146



- **Material:** scroll housing and impeller made of galvanised sheet steel
- **Mounting:** EW-motor anti-vibration mounted on both sides

ebm-papst · Mulfingen

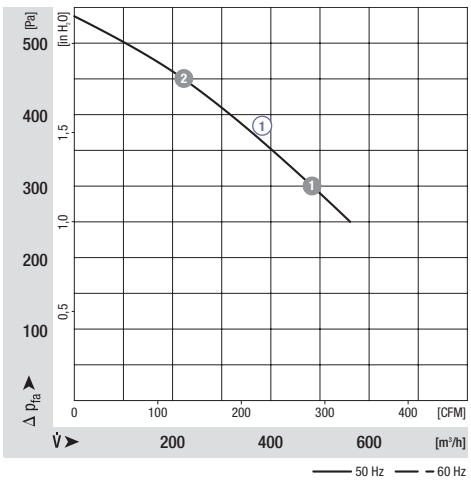
Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
D2E 146-CS03 -01[1]	M2E 068-DF	①	230	50	555	1950	180	0,79	4,0/400	57	250	40	4,3

subject to alterations

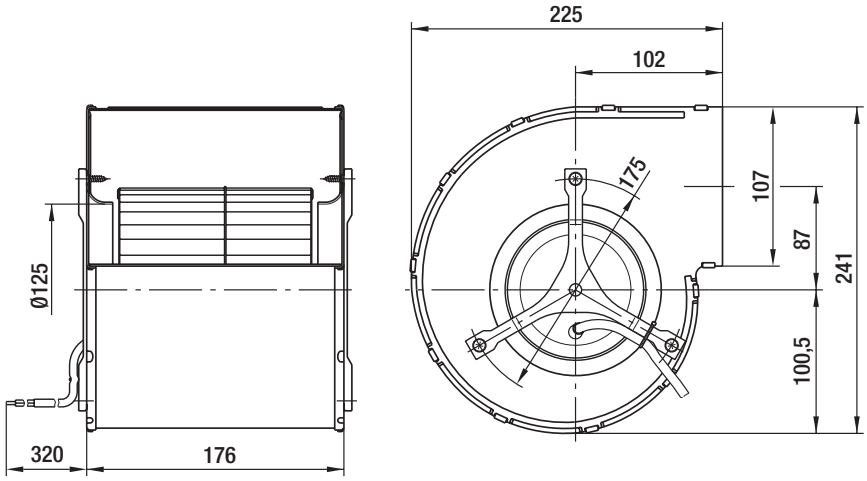
[1] Flange on request

	n [min⁻¹]	P_1 [W]
① ❶	2160	182
① ❷	2480	155

Characteristics



ebmpapst



AC centrifugal blowers

dual inlet, Ø 160

- **Material:** scroll housing and impeller made of galvanised sheet steel
- **Mounting:** SAL (standard external-rotor) motor mounted via brackets on one side of the scroll housing

ebm-papst · Mulfingen

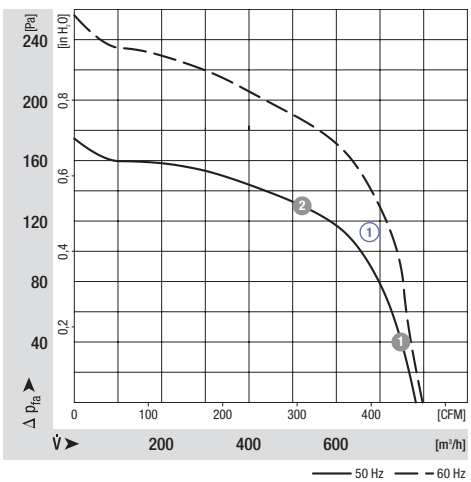
Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
D4E 160-DA01 -22[1]	M4E068-DF	①	230	50	780	1200	117	0,51	3,0/450	58	0	55	4,3
D4E 160-DA01 -02[2]			230	60	820	1200	140	0,62	3,0/450	58	0	40	

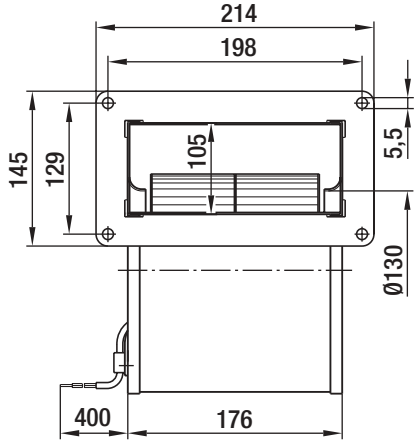
subject to alterations

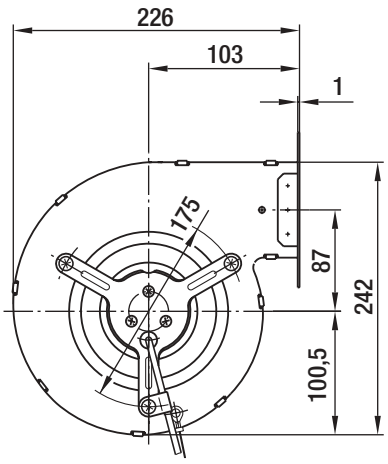
[1] With flange [2] Without flange

	n [min⁻¹]	P_1 [W]
① 1	1230	114
① 2	1360	93

Characteristics







ebmpapst

Capacitor
S. 356 f.

AC centrifugal blowers

dual inlet, Ø 160

- **Material:** scroll housing and impeller made of galvanised sheet steel
- **Mounting:** EW-motor anti-vibration mounted on both sides

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
D2E 160-AB01 -06	M2E074-FA	①	230	50	1195	1850	410	1,80	10 / 400	64	200	40	5,7
D4E 160-EG06 -05	M4E068-EC	②	230 230	50 60	1240 1250	1300 1350	180 245	0,79 1,07	5,0/400 5,0/400	63 64	0 10	75 40	4,5
D4E 160-FH12 -05	M4E068-GA	③	230 230	50 60	1310 1410	1350 1450	185 270	0,81 1,18	6,0/400 6,0/400	64 67	0 0	80 50	5,9

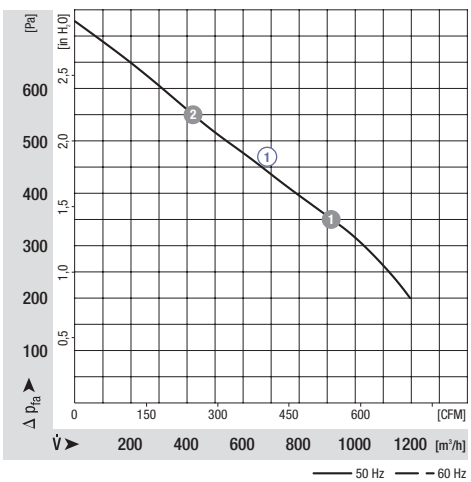
subject to alterations

(1) Flange on request (2) Insulation class"F"

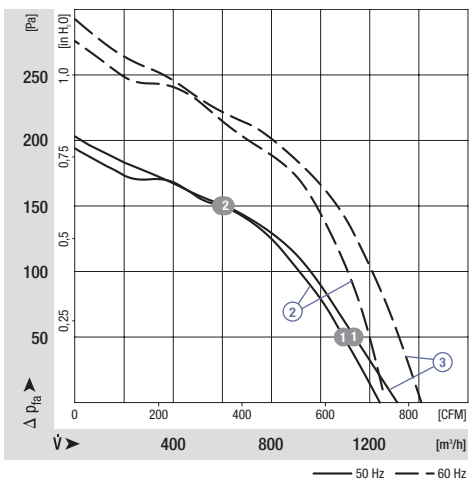
		n [min⁻¹]	P_1 [W]
①	1	2265	380
①	2	2520	338

		n [min⁻¹]	P_1 [W]
②	1	1355	153
②	2	1445	100
③	1	1400	154
③	2	1460	103

Characteristics



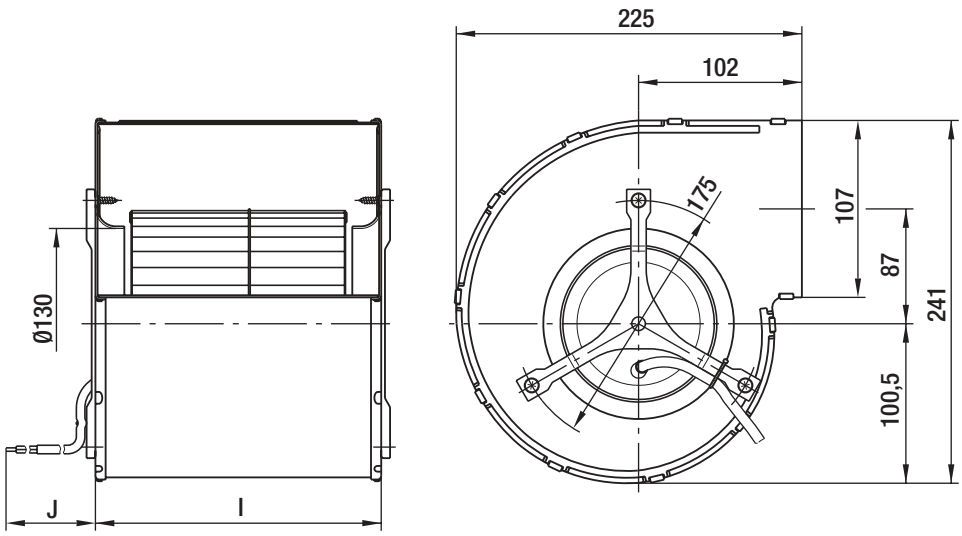
Characteristics



ebmpapst

Dimensions

Type	I	J
D2E 160-AB01 -06	276	1300
D4E 160-EG06 -05	232	400
D4E 160-FH12 -05	276	400



AC centrifugal blowers

dual inlet, Ø 180

- **Material:** scroll housing and impeller made of galvanised sheet steel
- **Mounting:** EW-motor anti-vibration mounted on both sides

ebm-papst · Mulfingen

Nominal data

Type	Motor	Characteristic	Voltage VAC	Frequency Hz	Air flow m³/h	Speed/rpm min⁻¹	Power input W	Current draw A	Capacitor µF/VDB	Noise level dB(A)	Min. back pressure Pa	Perm. amb. temp. °C	Mass kg
D4D 180-CB01 -02[1]	M4D068-GA	①	230/400 230/400	50 60	1880 1860	1050 1030	290 360	0,53 0,60	--- ---	62 62	0 0	55 30	9,5
D4E 180-BA02 -02	M4E068-LA	②	230 230	50 60	1900 2040	1300 1360	360 460	1,58 2,02	10 / 400 10 / 400	65 66	0 0	65 40	11,0
D4E 180-CA02 -02[1]	M4E068-LA	③	230 230	50 60	2110 2125	1250 1280	380 495	1,68 2,16	10 / 400 10 / 400	64 64	0 0	60 35	10,8

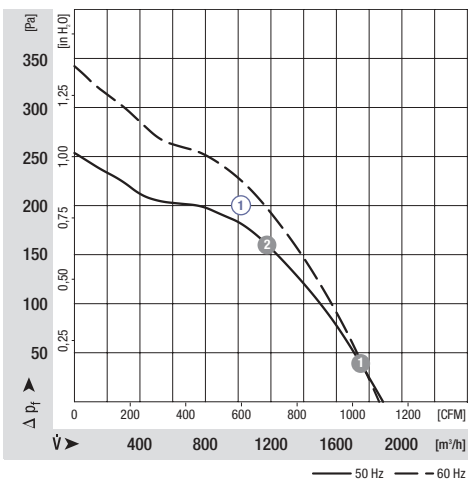
subject to alterations

[1] Data collected via exhaust duct of 1 m length serving as diffuser

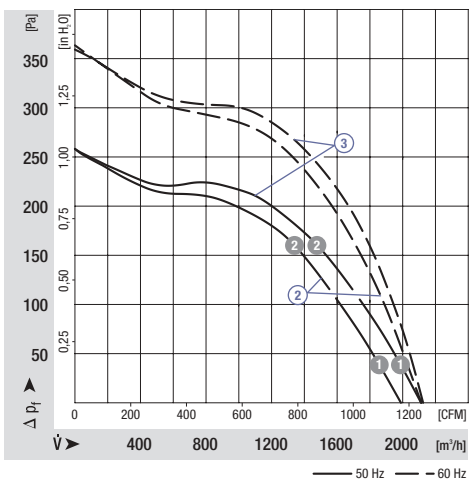
	n [min⁻¹]	P_1 [W]
① ❶	1100	260
① ❷	1275	175

	n [min⁻¹]	P_1 [W]
② ❶	1350	310
② ❷	1400	240
③ ❶	1300	360
③ ❷	1385	270

Characteristics

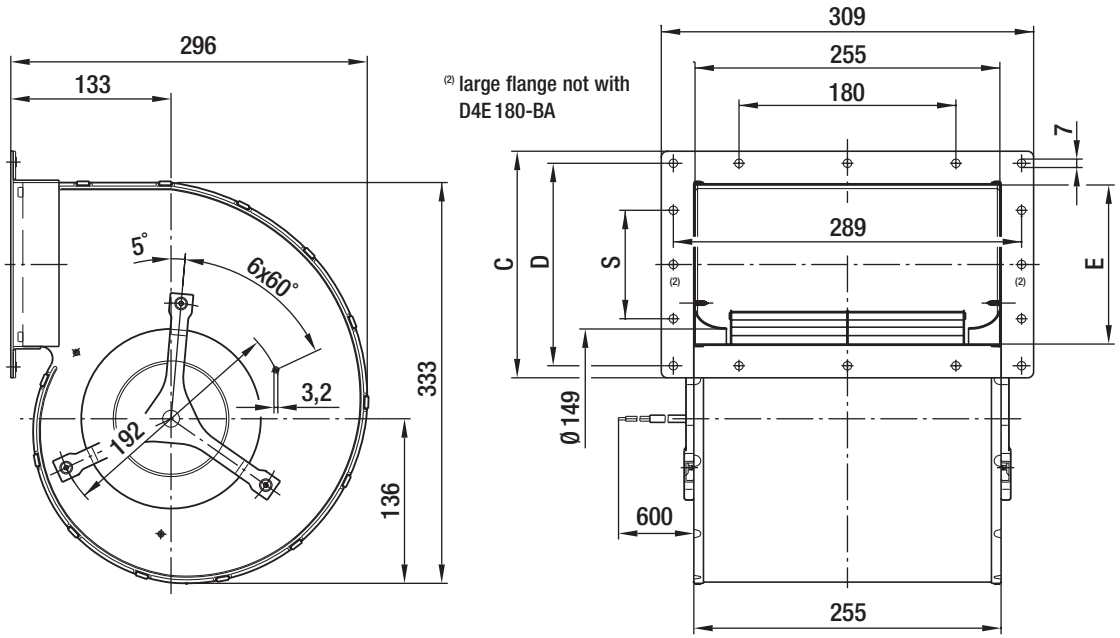


Characteristics



Dimensions

Type	C	D	E	S
D4D 180-CB01 -02	278	258	224	180
D4E 180-BA02 -02	188	168	134	90
D4E 180-CA02 -02	278	258	224	180



AC centrifugal blowers

dual inlet, Ø 200

- **Material:** scroll housing and impeller made of galvanised sheet steel
- **Mounting:** EW-motor anti-vibration mounted on both sides

ebm-papst · Mulfingen

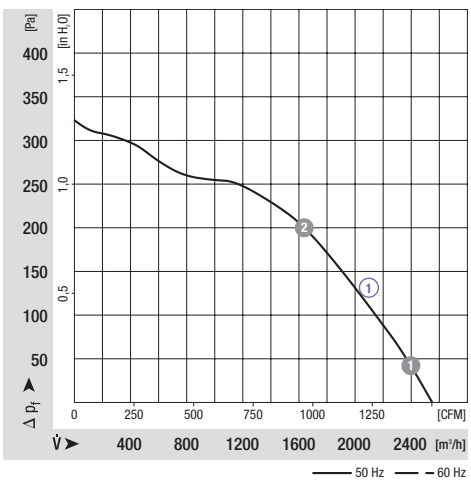
Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
D4D 200-CA01 -02[1]	M4D068-LA	①	230/400	50	2550	1080	480	0,89	---	63	0	30	12,0
D4E 200-CA02 -02[1]	M4E068-LA	②	230 230	50 60	2380 2050	1100 1250	490 525	2,15 2,30	10 / 400 10 / 400	60 60	50 150	40 40	11,9

subject to alterations

[1] Data collected via exhaust duct of 1 m length serving as diffuser

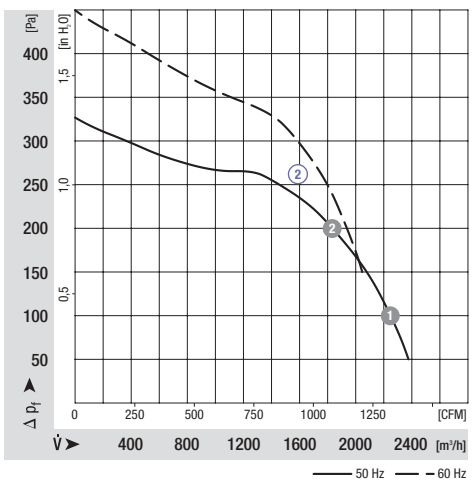
	n [min⁻¹]	P_1 [W]
① ❶	1125	425
① ❷	1260	310

Characteristics



	n [min⁻¹]	P_1 [W]
② ❶	1185	445
② ❷	1300	350

Characteristics



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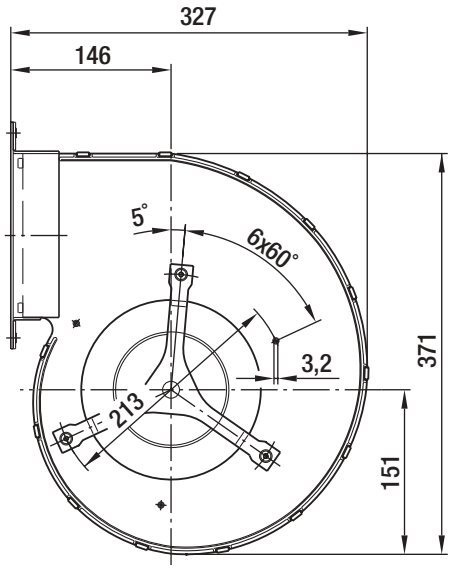

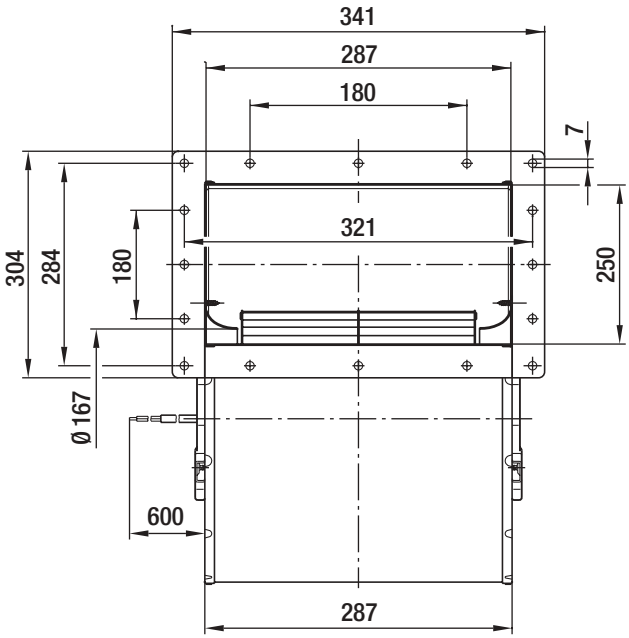

AC centrifugal blowers

dual inlet, Ø 225

- **Material:** scroll housing and impeller made of galvanised sheet steel
- **Mounting:** EW-motor anti-vibration mounted on both sides

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Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
D4D 225-CC01 -02[1]	M4D074-LA	①	230/400 230/400	50 60	2980 2430	1000 1050	680 700	1,15 1,25	--- ---	64 62	0 100	45 35	12,5
D4E 225-BC01 -02	M4E074-LA	②	230	50	2600	1100	700	3,05	25 /400	67	20	40	12,1
D4E 225-CC01 -02[1]	M4E074-LA	③	230	50	2650	1150	650	2,84	25 /400	65	100	40	12,4
D6E 225-FB07 -02[1]	M6E068-LA	④	230 230	50 60	2680 2480	800 900	365 410	1,60 1,80	10 /450 10 /450	59 59	20 80	40 40	12,5

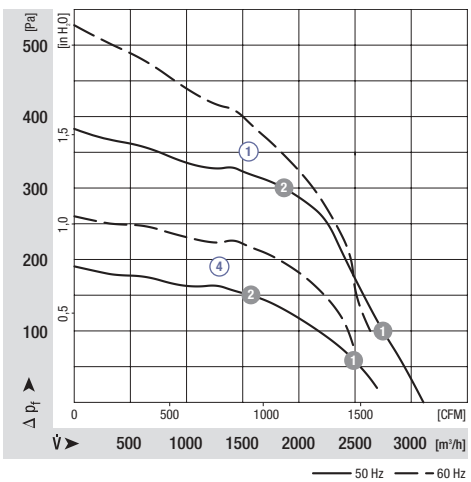
subject to alterations

[1] Data collected via exhaust duct of 1 m length serving as diffuser

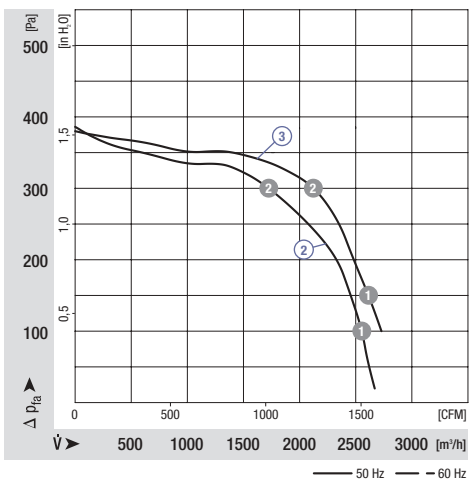
		n [min⁻¹]	P₁ [W]
①	1	1110	600
①	2	1300	385
④	1	850	330
④	2	940	245

		n [min⁻¹]	P₁ [W]
②	1	1200	660
②	2	1370	480
③	1	1170	680
③	2	1300	550

Characteristics



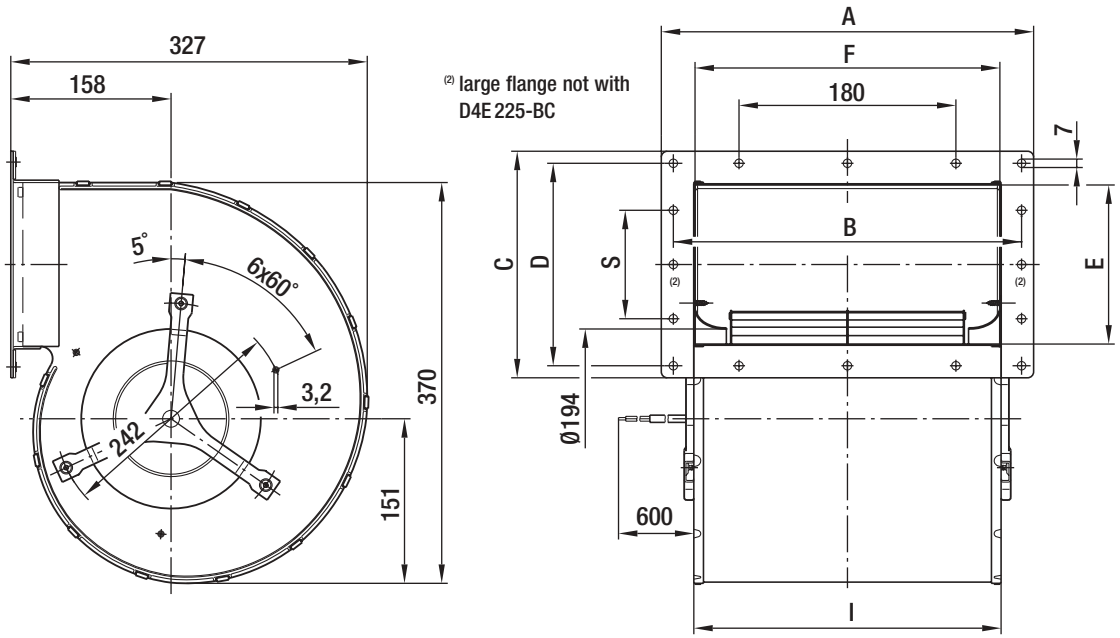
Characteristics



ebmpapst

Dimensions

Type	A	B	C	D	E	F	I	S
D4D 225-CC01 -02	341	321	304	284	250	287	287	180
D4E 225-BC01 -02	341	321	200	180	146	287	287	90
D4E 225-CC01 -02	341	321	304	284	250	287	287	180
D6E 225-FB07 -02	387	367	304	284	250	333	333	180



AC centrifugal blowers

dual inlet, Ø 225

- **Material:** scroll housing and impeller made of galvanised sheet steel
- **Mounting:** EW-motor anti-vibration mounted on both sides, mounting brackets on request
- **Approval:** complying with EN 60034-1

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Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
D4D 225-FH02 -01[1][2]	M4D094-LA	①	400 Y 400 Y	50 60	3870 4030	1300 1350	950 1320	1,82 2,40	--- ---	75 76	0 0	85 40	15,6
D4D 225-GH02 -01[1][2][3]	M4D094-LA	②	400 Y 400 Y	50 60	4400 3940	1230 1360	1140 1280	2,10 2,30	--- ---	76 74	0 150	70 50	15,6
D4E 225-EH01 -01[1]	M4E094-LA	③	230 230	50 60	3730 3140	1230 1410	1060 1085	5,38 5,24	10 / 450 10 / 500	74 70	0 200	55 45	16,7
D4E 225-DH01 -01[1][3]	M4E094-LA	④	230 230	50 60	3700 3200	1230 1370	1060 1120	5,38 5,40	10 / 450 10 / 500	72 69	100 250	55 45	16,7

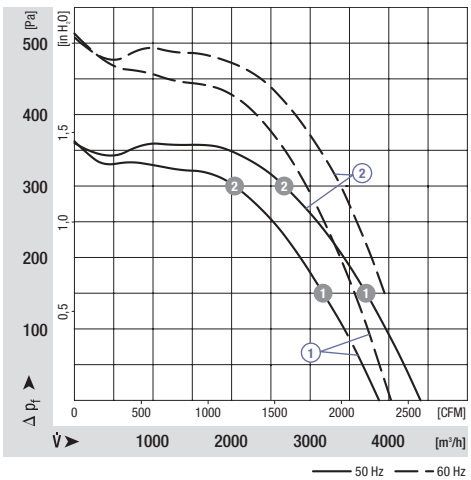
subject to alterations

[1] Insulation class"F" [2] 400 VAC Δ/Y for two speed steps available on request [3] Data collected via exhaust duct of 1 m length serving as diffuser

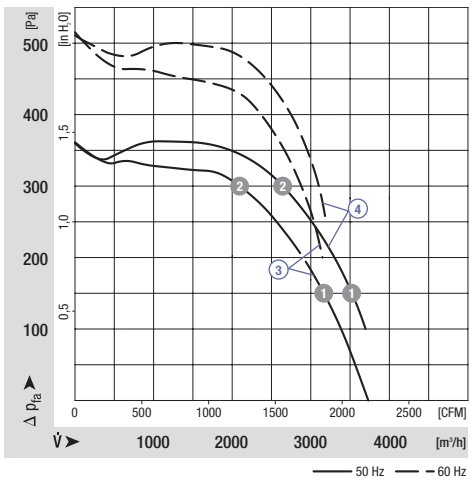
		n [min⁻¹]	P1 [W]
①	1	1360	717
①	2	1420	454
②	1	1320	877
②	2	1390	589

		n [min⁻¹]	P1 [W]
③	1	1330	802
③	2	1410	530
④	1	1270	947
④	2	1380	652

Characteristics



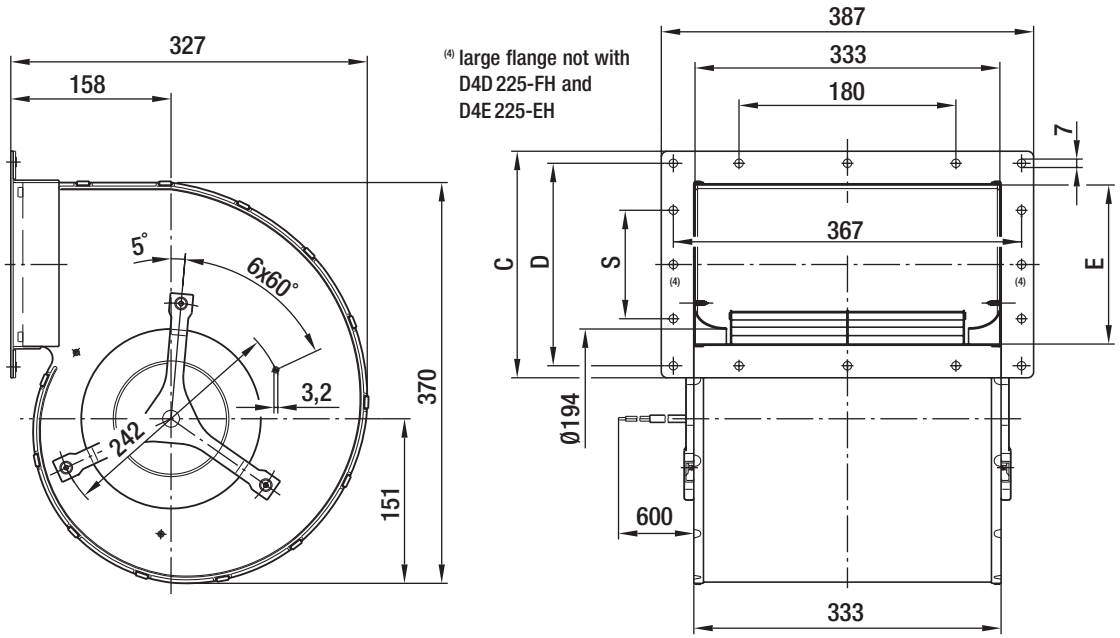
Characteristics



ebmpapst

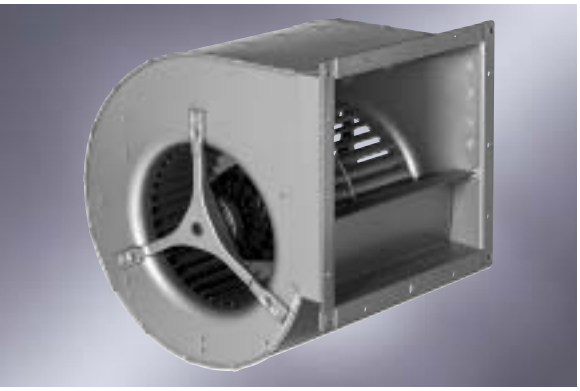
Dimensions

Type	C	D	E	S
D4D 225-FH02 -01	200	180	146	90
D4D 225-GH02 -01	304	284	250	180
D4E 225-EH01 -01	200	180	146	90
D4E 225-DH01 -01	304	284	250	180



AC centrifugal blowers

dual inlet, Ø 250



- **Material:** scroll housing and impeller made of galvanised sheet steel
- **Mounting:** EW-motor anti-vibration mounted on both sides, mounting brackets on request
- **Approval:** complying with EN 60034-1

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Min. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
D4D 250-BA02 -01[1][2]	M4D094-LA	①	400 Y 400 Y	50 60	3790 3340	1240 1410	1140 1210	2,10 2,20	--- ---	76 73	0 250	60 45	16,7
D4D 250-CA02 -01[1][2][3]	M4D094-LA	②	400 Y 400 Y	50 60	4040 3250	1200 1410	1270 1270	2,30 2,20	--- ---	76 72	50 350	45 45	16,7
D4E 250-BA01 -01[1]	M4E094-LA	③	230 230	50 60	3730 3220	1210 1460	1240 1230	6,00 5,54	14 /500 14 /500	75 72	0 300	40 45	16,3
D4E 250-CA01 -01[1][3]	M4E094-LA	④	230 230	50 60	3770 3310	1200 1400	1250 1285	6,00 5,90	14 /500 14 /500	74 71	100 350	40 40	16,3
D6E 250-BA01 -01[1]	M6E094-HA	⑤	230 230	50 60	2480 2390	800 770	400 480	1,85 2,15	10 /400 10 /450	63 62	0 0	80 80	14,4
D6E 250-CA01 -01[1][3]	M6E094-HA	⑥	230 230	50 60	2670 2400	680 580	470 500	2,20 2,30	10 /400 10 /450	65 62	0 0	70 55	14,4

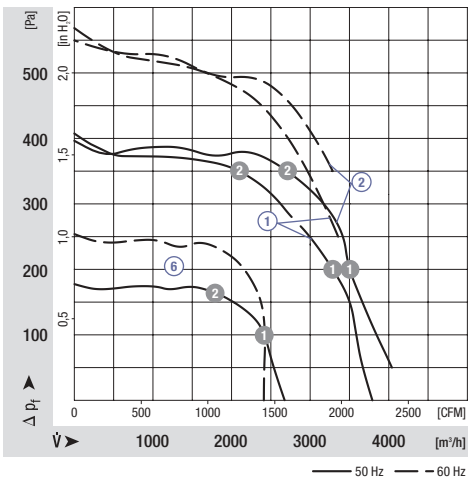
subject to alterations

[1] Insulation class"F" [2] 400 VAC Δ/Y for two speed steps available on request [3] Data collected via exhaust duct of 1 m length serving as diffuser

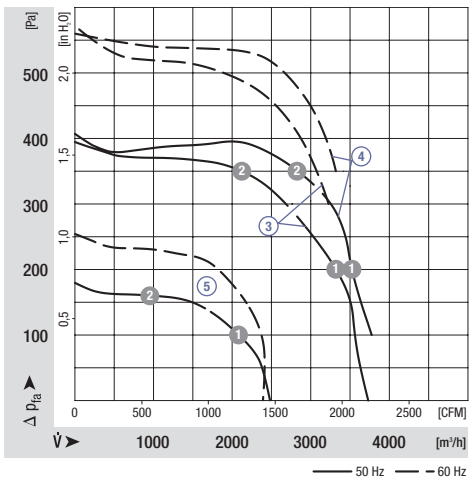
		n [min⁻¹]	P_1 [W]
①	1	1320	875
①	2	1410	481
②	1	1280	1001
②	2	1370	675
⑥	1	830	375
⑥	2	900	304

		n [min⁻¹]	P_1 [W]
③	1	1320	975
③	2	1400	665
④	1	1270	1100
④	2	1370	788
⑤	1	890	318
⑤	2	940	244

Characteristics

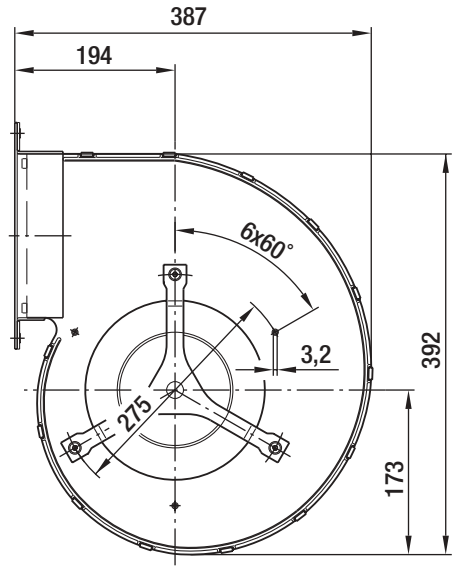


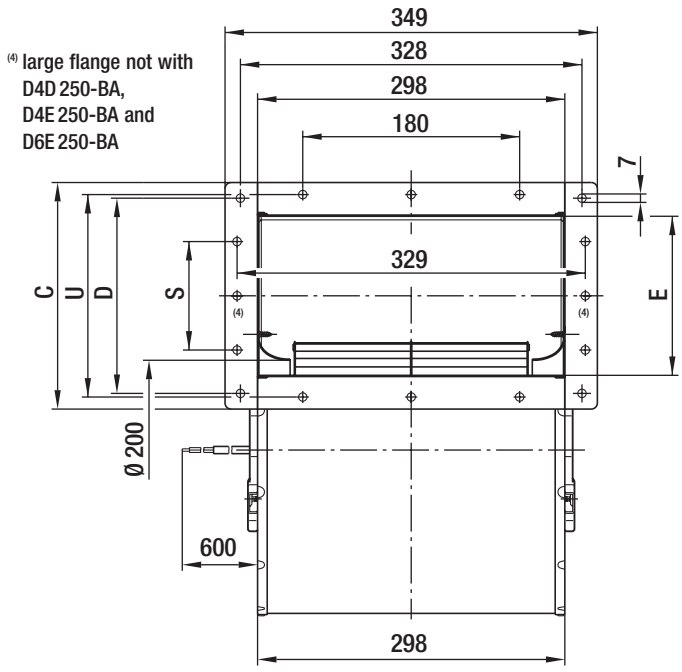
Characteristics

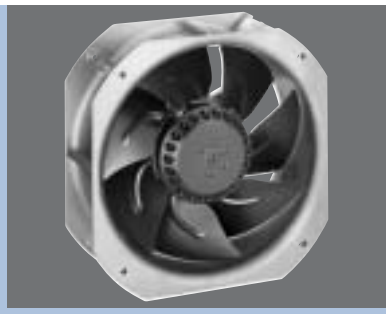


Dimensions

Type	C	D	E	S	U
D4D 250-BA02-01	218	190	167	90	198
D4D 250-CA02-01	313	285	262	180	293
D4E 250-BA01-01	218	190	167	90	198
D4E 250-CA01-01	313	285	262	180	293
D6E 250-BA01-01	218	190	167	90	198
D6E 250-CA01-01	313	285	262	180	293

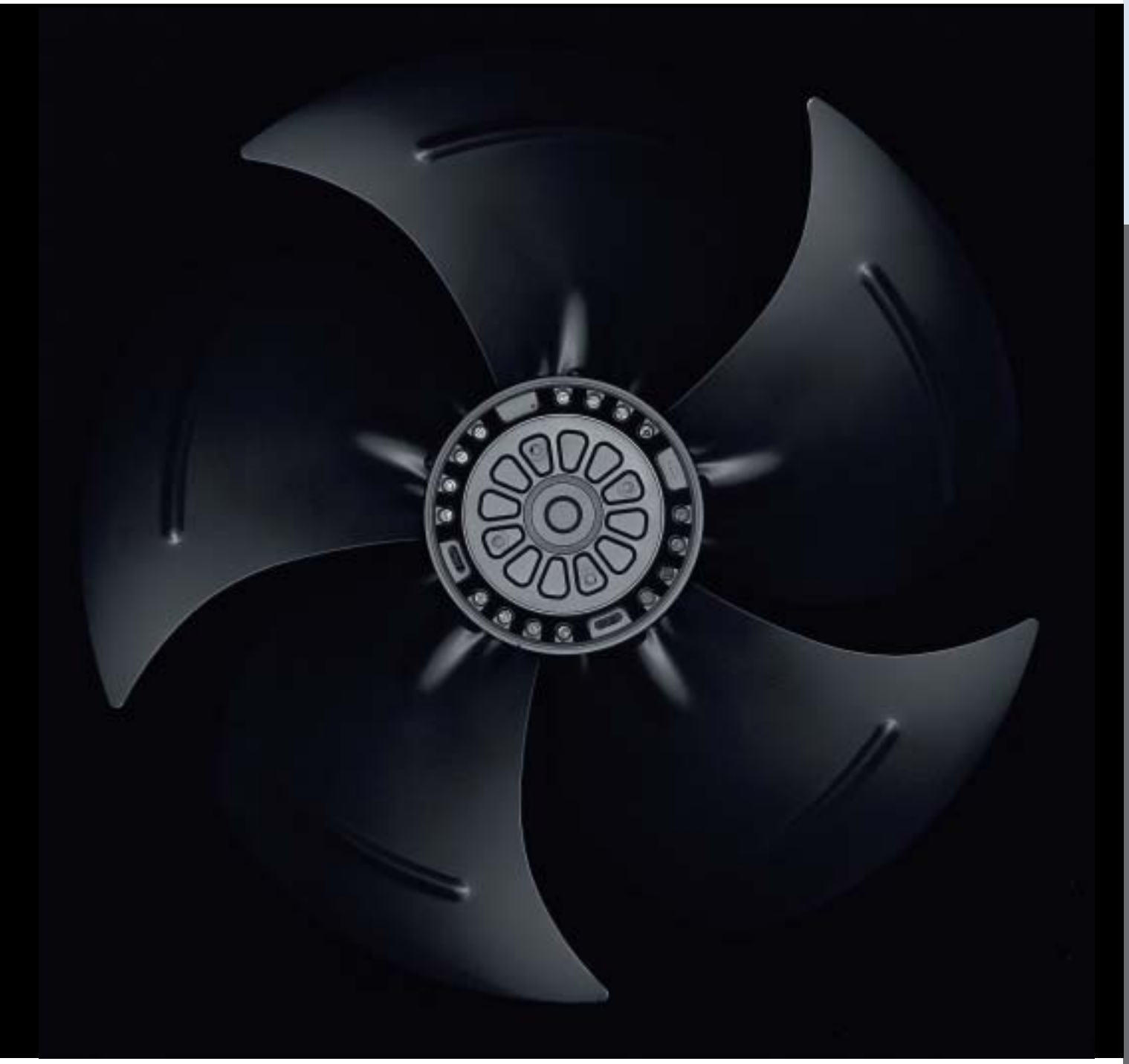






ebmpapst

AC axial fans



AC axial fans

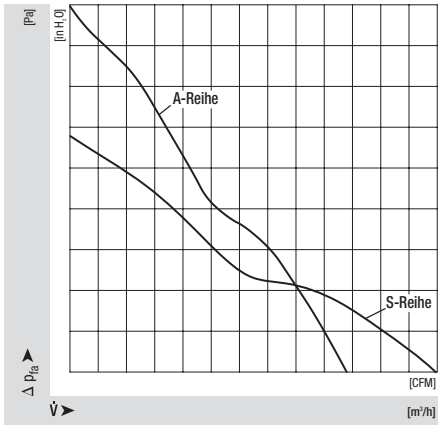
Technical information

Axial fans have least power consumption blowing at free air. As the back pressure increases, the power consumption increases.

Impellers

Designs:

a) S-Range:
Individual sickle blades made of sheet steel are welded onto the rotor of the external-rotor motor and are dynamically balanced in two planes according to DIN ISO 1940. As of size 450 and motor size 094, screwed aluminium blades are mounted.



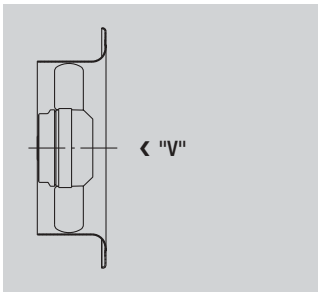
b) K-Range:
Impellers are injection-moulded of high quality plastic. A metal ring is moulded into the hub area so that the impeller can be press-fitted onto the rotor and dynamically balanced in two planes according to DIN ISO 1940.

c) A-Range:
Impellers of galvanised sheet steel, punched from one piece; blades are stamped with an eyelet in the middle of the hub. They are press-fitted onto the rotor of the external-rotor motor. The unit is dynamically balanced in two planes according to DIN ISO 1940.

The combination of impeller and external-rotor motor provides an optimal aerodynamic solution in each range.

Air performance characteristic

Air performance of all axial fans is determined in the wall ring.
Air performance of the K-Range was measured in flow direction "A", free sucking over inlet ring.
Air performance of the S-Range was measured in flow direction "V" without supporting / basket grille guard.
Without the inlet ring or when using the supporting / protective / basket grille guard, the performance is slightly lower at a higher noise level.



Wall rings

The wall rings are optimized inlet rings, made of galvanised sheet steel and varnished black. The motors are mounted via guard grilles, chromated in yellow for the K-Range, and coated in black plastic for the S-Range.
For some types, wall rings made of die-cast aluminium are available.

Moisture protection

The stator comes in moisture-proof insulation, and the rotor is coated in black varnish and has drilled condensate discharges.

Bearings

Maintenance-free ball bearings (can be installed in any mounting position)

Direction of rotation and air flow

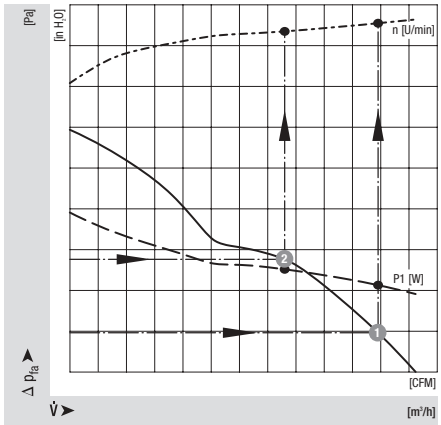
Direction of air flow "V", counter-clockwise, direction of air flow "A", clockwise (only for S-Range Ø 200/250: direction of air flow "A" and "V" counter-clockwise)

Electrical data

As indicated on the relevant pages, all electrical data is established at free air flow and with wall rings or short nozzles.

With rising back pressure, power consumption increases as well. That is why some axial fans may not be used in the upper pressure range.

With 60 Hz, the operative range is further restricted in the upper pressure range. This is indicated on the relevant pages.



Air performance characteristics for axial fans

The air performance curves show two operating points each for which the adjacent tables give speed, power input and total efficiency.

In general, the three-phase motors are designed for 230 / 400 VAC. As of motor size 074, 400 VAC, Δ/Y for two speed steps are available on request.

Three-phase motors in size 094 are designed for two speed steps in 400 VAC Δ and Y.

Δ configuration results in the high, Y configuration results in the low speed step.

Cable exit

Lateral (S), front side (A), possible in both ways (B). Versions with guard grille and wall ring have the connection cable brought out through the guard grille.

Approvals

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Type of protection

IP44 when being installed.

Any evaluation has to be carried out in the customer's final application. (Any exceptions to this are indicated on the relevant pages).

Insulation class

Our standard is insulation class "B". In some cases, there are exceptions to this featuring insulation class "F". This then is indicated on the relevant pages. For higher ambient temperatures or operative ranges with higher pressures, it is always possible to manufacture in insulation class "F".

General notes

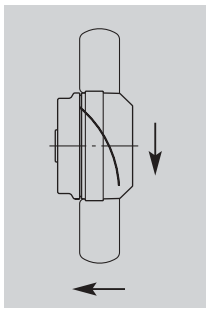
The technical quality, i.e. air performance at operating point, noise, etc. of any fan, particularly an axial fan, is greatly determined by the mounting position.

Ideal mounting positions are often not possible due to design or space limitations, and compromises have to be made.

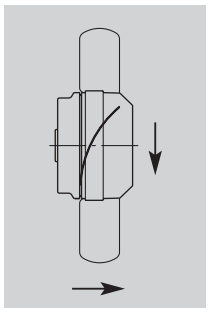
On the next pages, some possible mounting positions for the S-Range are illustrated.

Possible mounting configurations of the S-Range

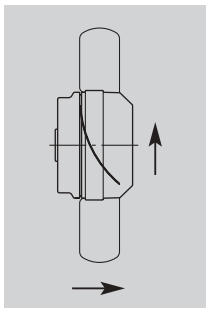
Direction of rotation and air flow



Direction of air flow "V"
Direction of rotation: counter-clockwise seen from rotor side



Direction of air flow "A"
Direction of rotation with Ø 200 / Ø 250: counter-clockwise

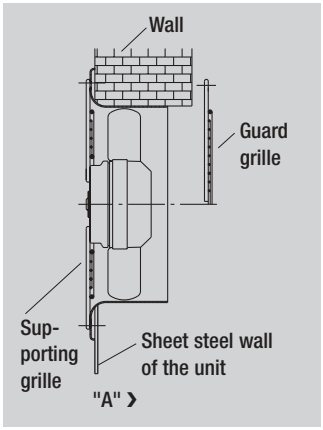


Direction of air flow "A"
Direction of rotation as of Ø 300: clockwise

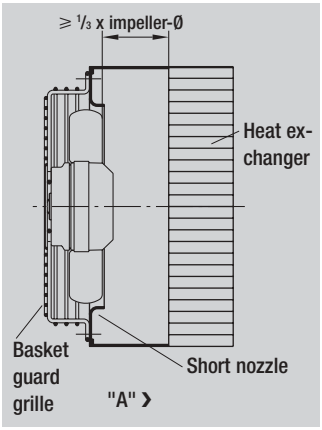
Possible mounting configurations

Air performance and noise of a fan are stronly influenced by the mounting conditions.

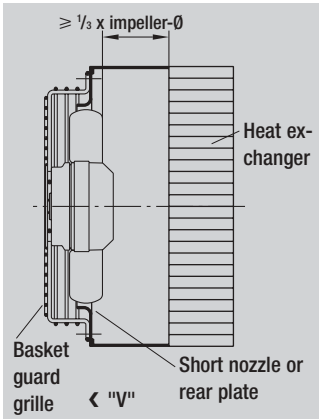
- **Wall ring unit**
  sucking via supporting grille, blowing at free air

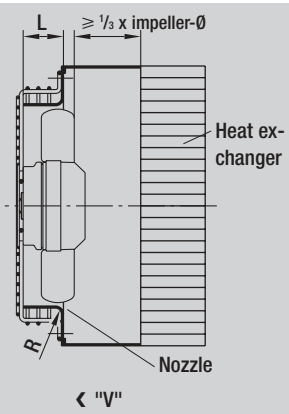


- **Basket grille unit**
  pressing via heat exchanger (connection pressure side)



- **Basket grille unit**
  sucking via heat exchanger. This mounting configuration results in favourable noise levels.

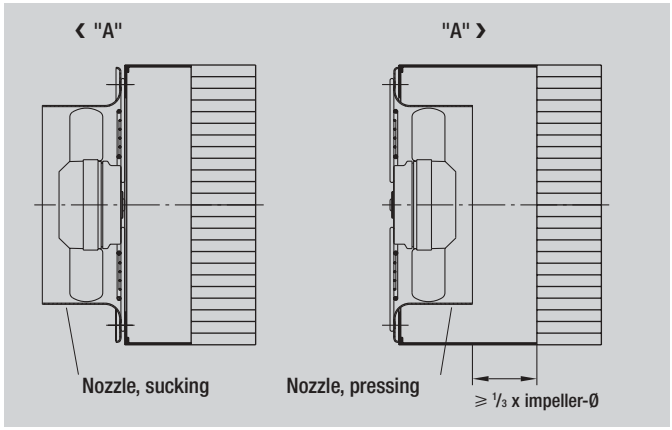




Impeller-Ø	R	L
200	15	35
250	20	35
300	20	35
315	20	70
330	20	70
350	22	70
400	22	70
420	40	70
450	40	70

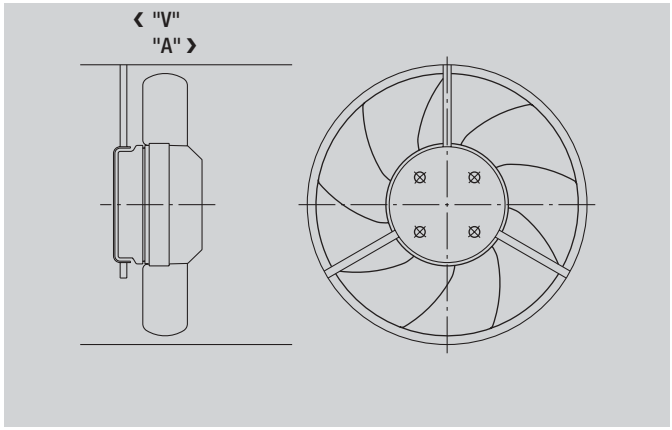
- **Wall ring unit**

  N.B.: With full nozzles, an increase of performance by up to 10% can be achieved when compared to installation in wall openings and short nozzles.



- **Duct mounting**

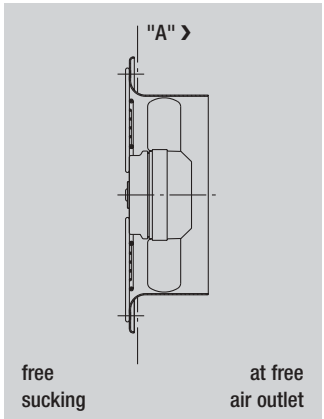
  e.g. mounting flange with struts or supporting grille



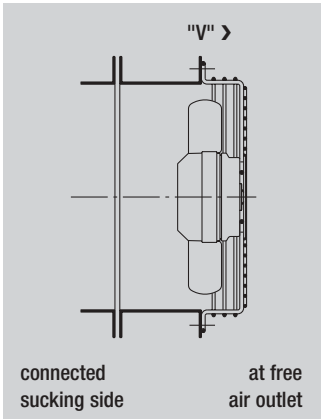
- **Mounting versions**

  As per DIN 24163 part 1, the following mounting versions are defined:

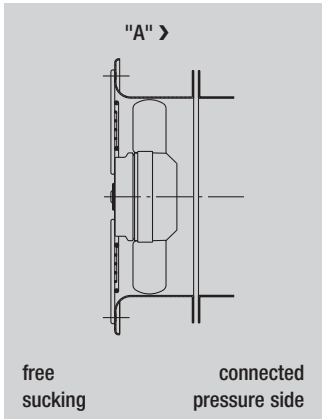
Version A



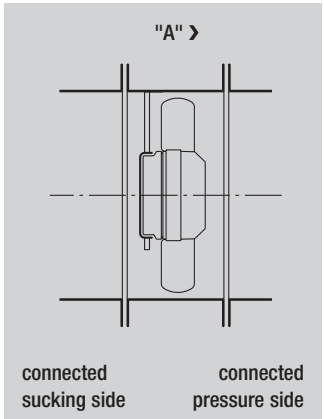
Version B



Version C



Version D



AC axial fans

Ø 130

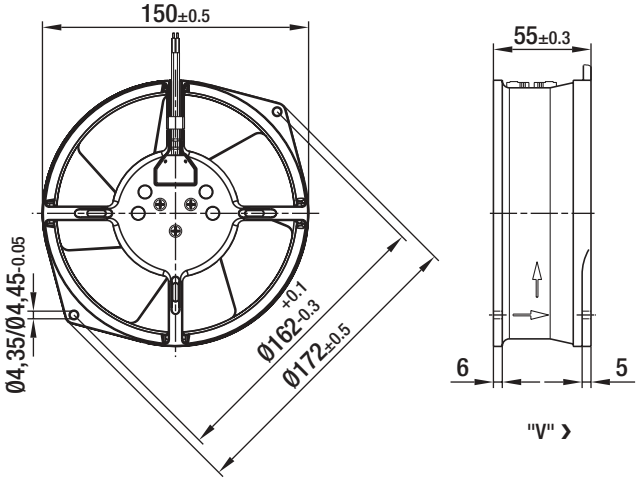
- **Material:** housing made of die-cast aluminium, impeller made of sheet steel (directly welded onto rotor and stove-enamelled in black)
- **Bearings:** maintenance-free ball bearings
- **Direction of rotation:** counter-clockwise, seen on rotor
- **Direction of air flow:** "V", blowing over struts
- **Connection leads:** cable length 330 mm as of wall ring
- **Approvals:** UL, VDE, CSA

ebm-papst · Mulfingen

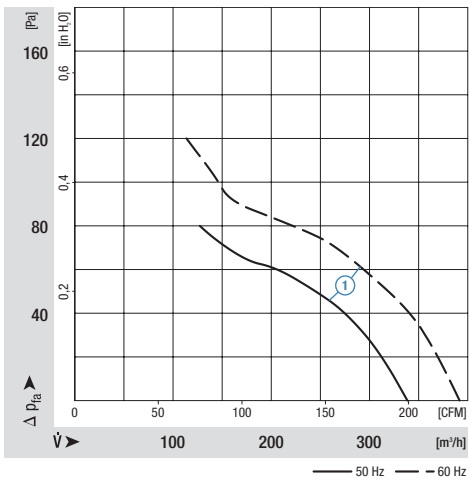
Nominal data

Type	Motor	Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass	Direction of air flow
			VAC	Hz	m^3/h	min^{-1}	W	A	µF/VDB	dB(A)	Pa	°C	kg	
W2S130-AA25 -01	M2S052-CA	①	115 115	50 60	325 380	2800 3250	41 38	--- ---	--- ---	49 53	80 120	60 80	1,1	"V"
W2S130-AA03 -01	M2S052-CA	①	230 230	50 60	325 380	2800 3250	45 39	--- ---	--- ---	49 53	80 120	50 70	1,1	"V"

subject to alterations



Characteristics



Guard grille
S. 350

AC axial fans

Ø 130

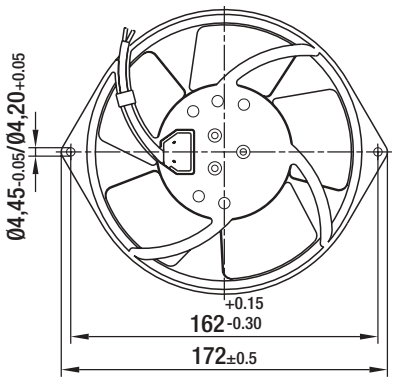
- **Material:** housing made of die-cast aluminium, impeller made of sheet steel (directly welded onto rotor and stove-enamelled in black)
- **Bearings:** maintenance-free ball bearings
- **Direction of rotation:** counter-clockwise, seen on rotor
- **Direction of air flow:** "A", sucking over struts
- **Connection leads:** cable length 330 mm as of wall ring
- **Approvals:** UL, VDE, CSA

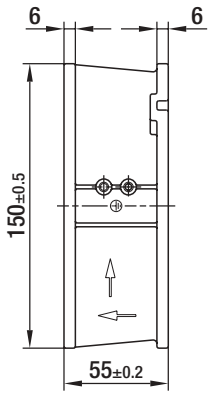
ebm-papst · Mulfingen

Nominal data

Type	Motor	Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass	Direction of air flow
			VAC	Hz	m³/h	min⁻¹	W	A	µF/VDB	dB(A)	Pa	°C	kg	
W2S130-BM15-01	M2S052-CA	②	115	50	380	2700	47	---	---	60	---	50	1,1	"A"
			115	60	425	3050	46	---	---	62	---	70		
W2S130-BM03-01	M2S052-CA	②	230	50	380	2700	47	---	---	60	---	50	1,1	"A"
			230	60	425	3050	46	---	---	62	---	70		

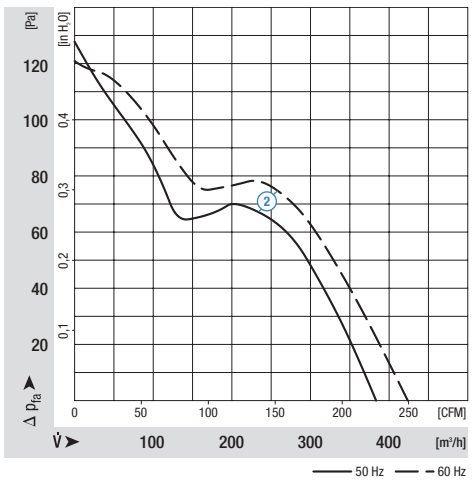
subject to alterations





‹ "A"

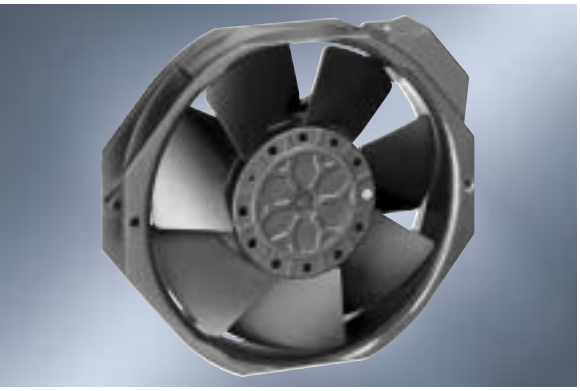
Characteristics



Guard grille
S. 350

AC axial fans

Ø 142

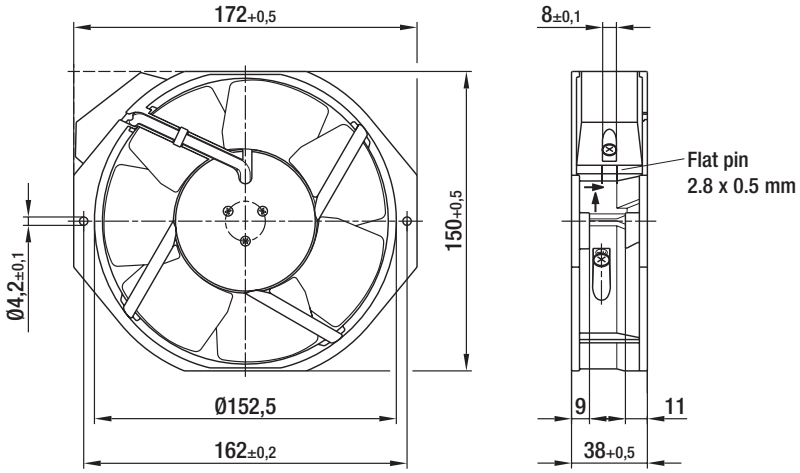


- **Material:** housing made of die-cast aluminium, impeller made of sheet steel (directly welded onto rotor and stove-enamelled in black)
- **Bearings:** maintenance-free ball bearings
- **Direction of rotation:** counter-clockwise, seen on rotor
- **Direction of air flow:** "V", blowing over struts
- **Connection leads:** flat pin terminal 2.8 x 0.5 mm, integrated capacitor
- **Approvals:** UL, VDE, CSA

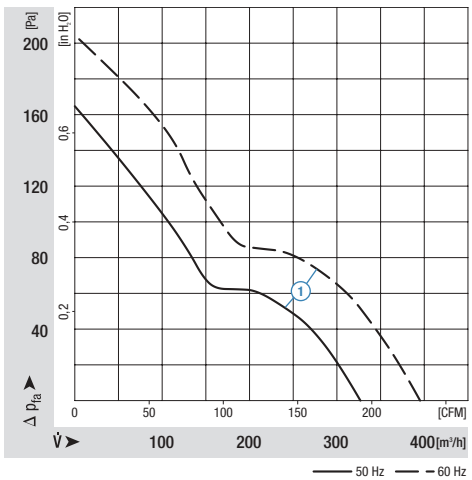
ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass	Direction of air flow
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**	
W2E 142-BB05 -01	M2E 052-BA	①	115 115	50 60	330 390	2800 3300	25 24	--- ---	--- ---	52 57	--- ---	55 70	0,9	"V"
W2E 142-BB01 -01	M2E 052-BA	①	230 230	50 60	330 390	2800 3300	29 28	--- ---	--- ---	52 57	--- ---	55 70	0,9	"V"

subject to alterations



Characteristics



Guard grille S. 350 f.
Connection lead S. 355

AC axial fans

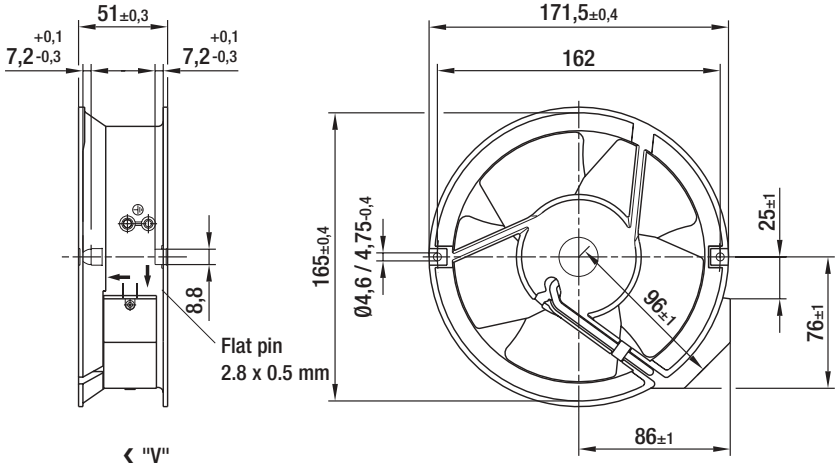
Ø 143

- **Material:** housing made of die-cast aluminium, impeller made of sheet steel (directly welded onto rotor and stove-enamelled in black)
- **Bearings:** maintenance-free ball bearings
- **Direction of rotation:** counter-clockwise, seen on rotor
- **Direction of air flow:** "V", blowing over struts
- **Connection leads:** flat pin terminal 2.8 x 0.5 mm, integrated capacitor
- **Approvals:** UL, VDE, CSA

ebm-papst · Mulfingen

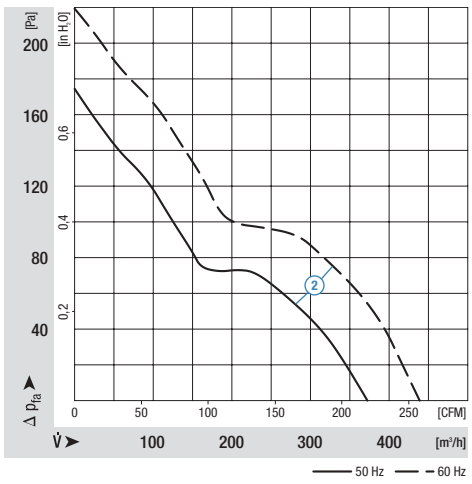
Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass	Direction of air flow
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**	
W2E 143-AA15 -01	M2E 052-BF	②	115 115	50 60	375 440	2800 3300	24 26	--- ---	--- ---	55 60	--- ---	70 70	1,0	"V"
W2E 143-AA09 -01	M2E 052-BF	②	230 230	50 60	375 440	2800 3300	24 26	--- ---	--- ---	55 60	--- ---	70 70	1,0	"V"

subject to alterations



‹ "V"

Characteristics



Guard grille S. 350 f.
Connection lead S. 355

AC axial fans

Ø 143

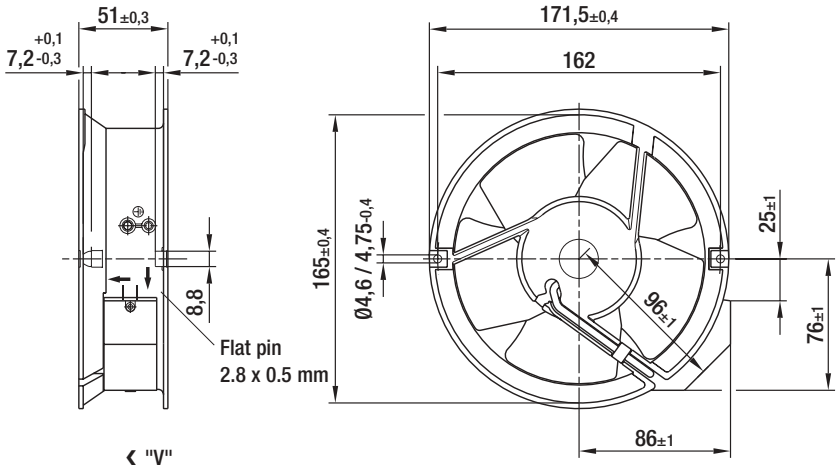
- **Material:** housing made of die-cast aluminium, impeller made of sheet steel (directly welded onto rotor and stove-enamelled in black)
- **Bearings:** maintenance-free ball bearings
- **Direction of rotation:** counter-clockwise, seen on rotor
- **Direction of air flow:** "V", blowing over struts
- **Connection leads:** flat pin terminal 2.8 x 0.5 mm, integrated capacitor
- **Approvals:** Œ, UL, CSA, VDE

ebm-papst · Mulfingen

Nominal data

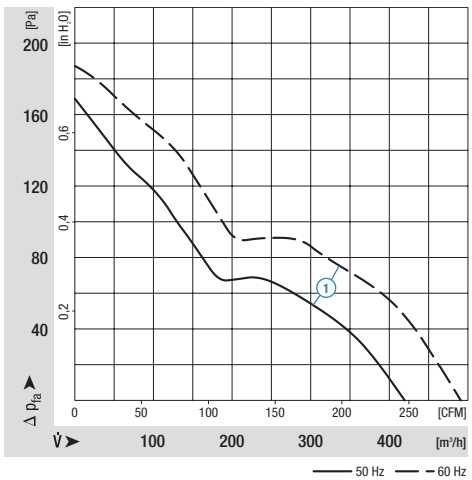
Type	Motor	Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass	Direction of air flow
			VAC	Hz	m³/h	min⁻¹	W	A	µF/VDB	dB(A)	Pa	°C	kg	
W2E 143-AB15 -01	M2E 052-BF	①	115 115	50 60	420 500	2800 3300	26 29	--- ---	--- ---	54 58	--- ---	60 75	1,0	"V"
W2E 143-AB09 -01	M2E 052-BF	①	230 230	50 60	420 500	2800 3300	26 29	--- ---	--- ---	54 58	--- ---	60 75	1,0	"V"

subject to alterations



‹ "V"

Characteristics



Guard grille S. 350 f.
Connection lead S. 355

AC axial fans

Ø 200

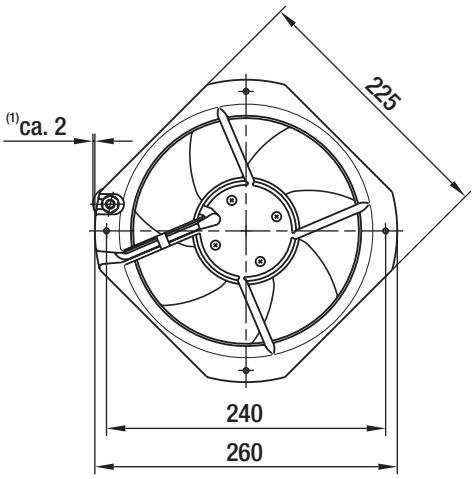
- **Material:** housing made of die-cast aluminium, impeller made of sheet steel (directly welded onto rotor and stove-enamelled in black)
- **Bearings:** maintenance-free ball bearings
- **Direction of rotation:** counter-clockwise, seen on rotor
- **Direction of air flow:** "V", blowing over struts
- **Connection leads:** wired with capacitor on terminal strip
- **Motor protection:** integrated thermal overload protector
- **Approvals:** UL, VDE, CSA, Œ

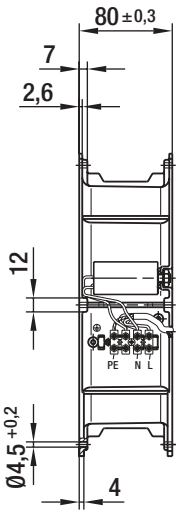
ebm-papst · Mulfingen

Nominal data

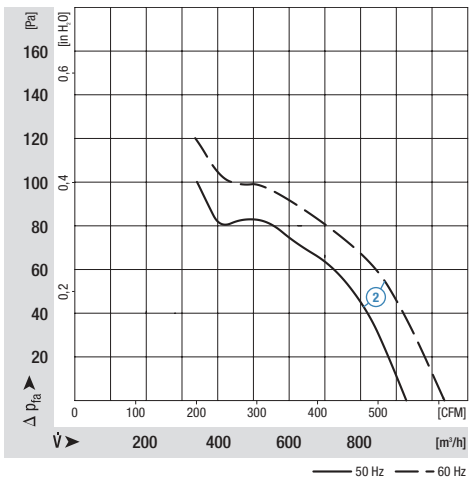
Type	Motor	Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass	Direction of air flow
			VAC	Hz	m³/h	min⁻¹	W	A	µF/VDB	dB(A)	Pa	°C	kg	
W2E 200-HK86 -01	M2E 068-BF	②	115 115	50 60	925 1030	2550 2800	64 80	0,58 0,70	5,0/220 5,0/220	59 61	100 120	60 65	2,0	"V"
W2E 200-HK38 -01	M2E 068-BF	②	230 230	50 60	925 1030	2550 2800	64 80	0,29 0,35	1,5/400 1,5/400	59 61	100 120	60 65	2,0	"V"

subject to alterations





Characteristics



Guard grille
S. 351

AC axial fans

Ø 200

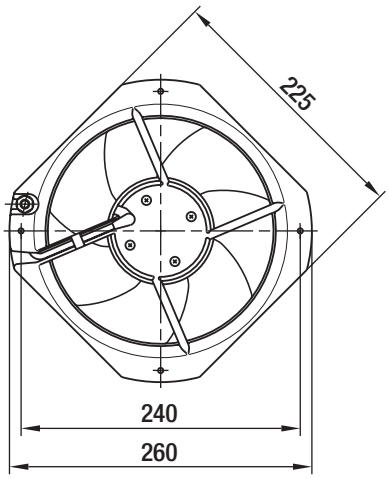
- **Material:** housing made of die-cast aluminium, impeller made of sheet steel (directly welded onto rotor and stove-enamelled in black)
- **Bearings:** maintenance-free ball bearings
- **Direction of rotation:** counter-clockwise, seen on rotor
- **Direction of air flow:** "V", blowing over struts
- **Connection leads:** terminal strip
- **Motor protection:** integrated thermal overload protector
- **Approvals:** UL, VDE, CSA, Œ

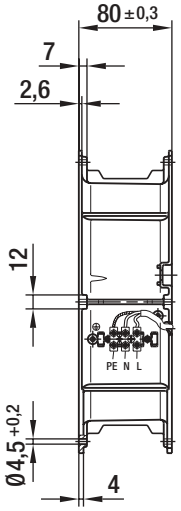
ebm-papst · Mulfingen

Nominal data

Type	Motor	Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass	Direction of air flow
			VAC	Hz	m³/h	min⁻¹	W	A	µF/VDB	dB(A)	Pa	°C	kg	
W4S200-HK04 -01	M4S068-BF	①	230	50	450	1370	30	0,21	---	40	50	70	2,0	"V"
			230	60	525	1590	26	0,18	---	44	50	80		

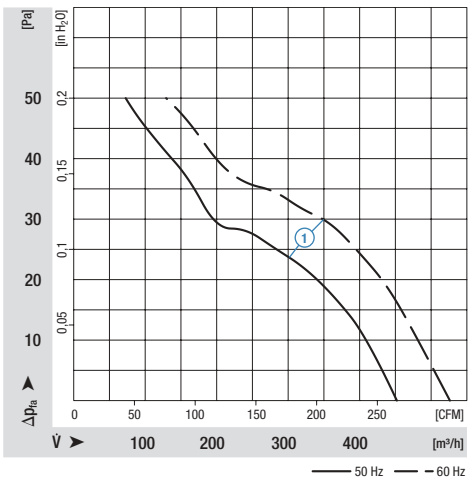
subject to alterations





"V" ›

Characteristics



Guard grille
S. 351

AC axial fans

Ø 250

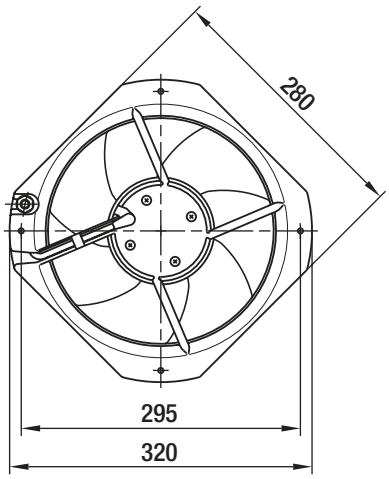
- **Material:** housing made of die-cast aluminium, impeller made of sheet steel (directly welded onto rotor and stove-enamelled in black)
- **Bearings:** maintenance-free ball bearings
- **Direction of rotation:** counter-clockwise, seen on rotor
- **Direction of air flow:** "V", blowing over struts
- **Connection leads:** wired with capacitor on terminal strip
- **Motor protection:** integrated thermal overload protector
- **Approvals:** UL, VDE, CSA, Œ

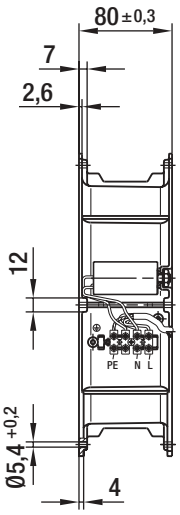
ebm-papst · Mulfingen

Nominal data

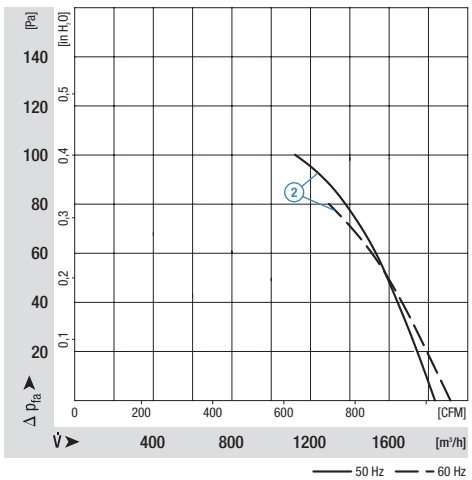
Type	Motor	Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass	Direction of air flow
			VAC	Hz	m³/h	min⁻¹	W	A	µF/VDB	dB(A)	Pa	°C	kg	
W2E 250-HL06 -01	M2E 068-CF	②	230 230	50 60	1830 1910	2500 2630	110 150	0,48 0,66	3,0/400 3,0/400	69 70	100 80	50 40	2,0	"V"

subject to alterations





Characteristics



ebmpapst

Guard grille
S. 351

AC axial fans

S-Range, Ø 200

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
***2D 200**[1]	M2D068-BF	①	230/400 230/400	50 60	910 1030	2650 3000	65 60	0,19 0,12	--- ---	56 58	140 140	45 70	1,5
***2E 200**	M2E068-BF	②	230 230	50 60	910 1030	2650 3000	60 75	0,28 0,31	1,5/400 1,5/400	56 58	150 150	70 70	1,3
***4D 200**[1]	M4D068-BF	③	230/400 230/400	50 60	490 570	1450 1700	22 20	0,08 0,06	--- ---	40 44	70 90	80 90	1,3
***4S 200**	M4S068-BF	④	230 230	50 60	455 530	1370 1600	30 26	0,21 0,18	--- ---	38 43	50 50	75 80	1,1

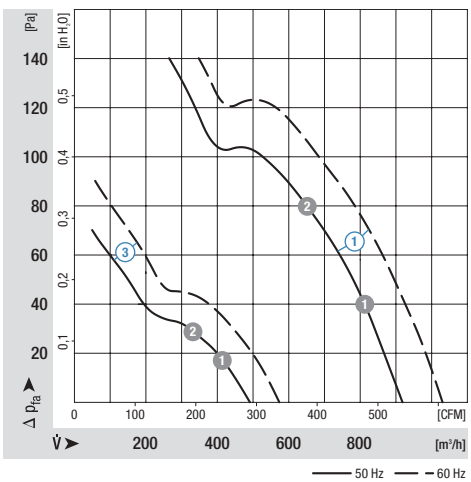
subject to alterations

[1] Current draw established at 400 VAC (Y)

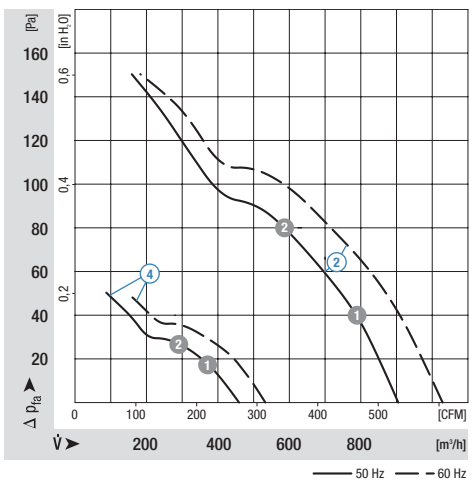
		n [min⁻¹]	P_1 [W]
①	①	2595	68
①	②	2525	73
③	①	1430	23
③	②	1420	25

		n [min⁻¹]	P_1 [W]
②	①	2555	63
②	②	2455	69
④	①	1350	30
④	②	1335	31

Characteristics



Characteristics



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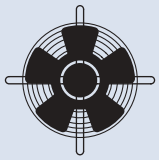
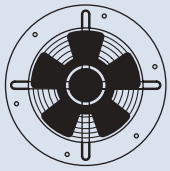
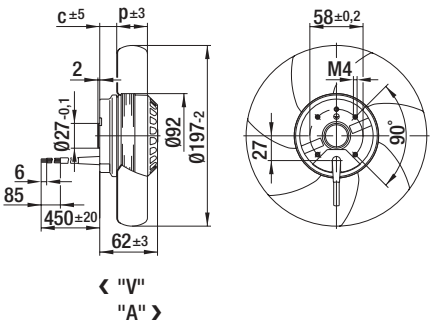
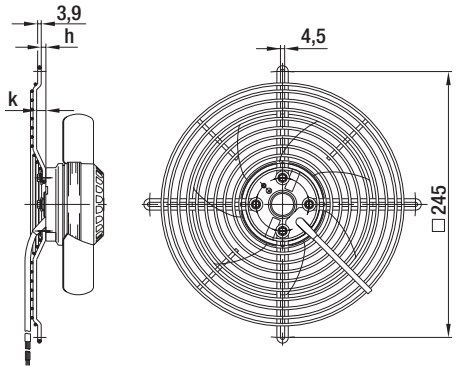
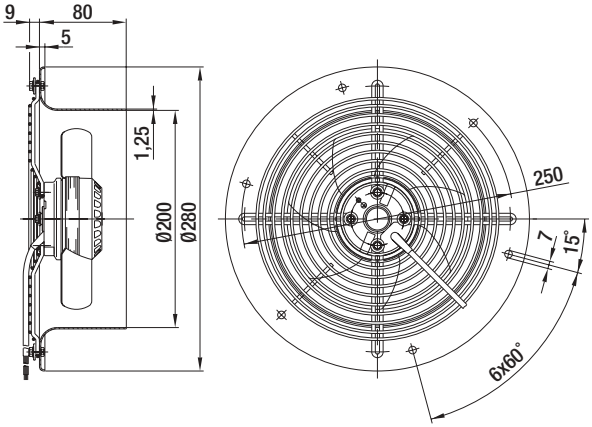
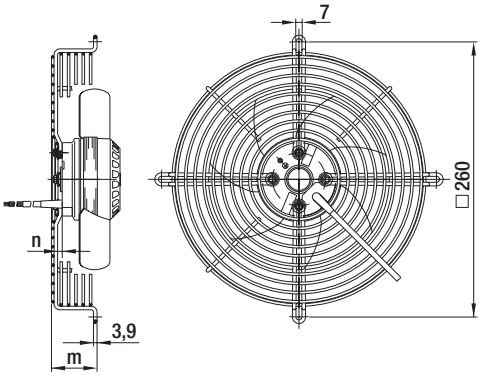




Selection	Cable exit	Direction of air flow					Dimensions					
Type	S/A/B						c	h	k	m	n	p
*2D 200	S	"V"	A2D200-AK18 -01	S2D200-BK18 -01	W2D200-CK18 -01	S2D200-AK18 -01	13	5	10	51	5	48
		"A"	A2D200-AI18 -01	S2D200-BI18 -01	W2D200-CI18 -01	S2D200-AI18 -01	17	0	0	46	0	35
*2E 200	B	"V"	A2E200-AK38 -01	S2E200-BK38 -01	W2E200-CK38 -01	S2E200-AK38 -01	13	5	10	51	5	48
		"A"	A2E200-AI38 -01	S2E200-BI38 -01	W2E200-CI38 -01	S2E200-AI38 -01	17	0	0	46	0	35
*4D 200	S	"V"	A4D200-AK14 -01	S4D200-BK14 -01	W4D200-CK14 -01	S4D200-AK14 -01	13	5	10	51	5	48
		"A"	A4D200-AI14 -01	S4D200-BI14 -01	W4D200-CI14 -01	S4D200-AI14 -01	17	0	0	46	0	35
*4S 200	S	"V"	A4S200-AK04 -01	S4S200-BK04 -01	W4S200-CK04 -01	S4S200-AK04 -01	13	5	10	51	5	48
		"A"	A4S200-AI04 -01	S4S200-BI04 -01	W4S200-CI04 -01	S4S200-AI04 -01	17	0	0	46	0	35









AC axial fans

S-Range, Ø 250

ebm-papst · Mulfingen

Nominal data

Type	Motor	Characteristic	Voltage VAC	Frequency Hz	Air flow m³/h	Speed/rpm min⁻¹	Power input W	Current draw A	Capacitor µF/VDB	Noise level dB(A)	Max. back pressure Pa	Perm. amb. temp. °C	Mass kg
*2D 250[1]	M2D068-CF	①	230/400 230/400	50 60	1830 1950	2500 2650	100 140	0,20 0,23	--- ---	69 70	150 150	65 45	2,1
*2E 250	M2E068-CF	②	230 230	50 60	1820 1970	2450 2600	115 150	0,51 0,66	3,0/400 3,0/400	69 71	120 85	65 50	1,9
*4D 250[1]	M4D068-CF	③	230/400 230/400	50 60	1010 1140	1400 1580	25 32	0,07 0,07	--- ---	54 57	70 70	85 80	1,9
*4E 250	M4E068-BF	④	230 230	50 60	1010 1200	1400 1630	42 45	0,19 0,20	1,5/400 1,5/400	54 58	80 100	55 70	1,9
*4S 250	M4S068-CF	⑤	230 230	50 60	1000 1160	1390 1600	69 63	0,53 0,45	--- ---	54 58	80 80	50 65	1,7

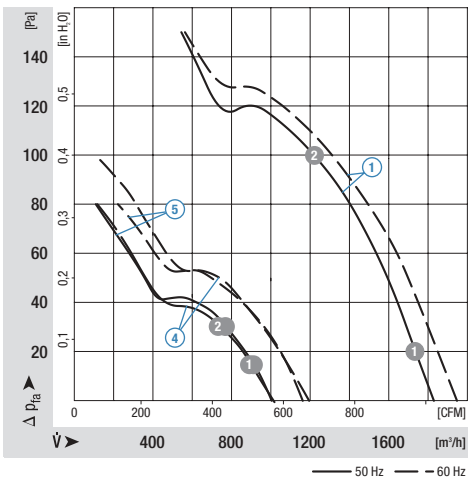
subject to alterations

[1] Current draw established at 400 VAC (Y)

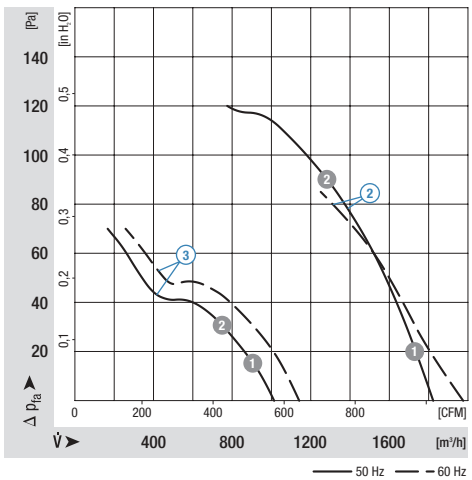
		n [min⁻¹]	P_1 [W]
①	1	2455	106
①	2	2310	125
④	1	1370	43
④	2	1360	45
⑤	1	1370	71
⑤	2	1360	73

		n [min⁻¹]	P_1 [W]
②	1	2455	116
②	2	2290	132
③	1	1375	27
③	2	1350	30

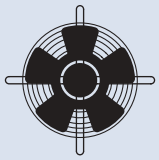
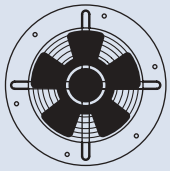
Characteristics



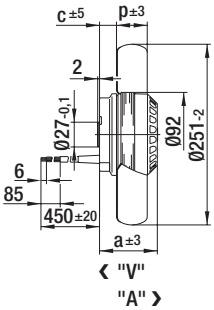
Characteristics

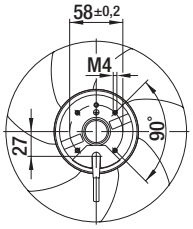


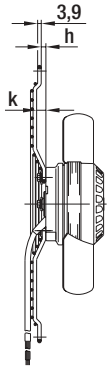
ebmpapst

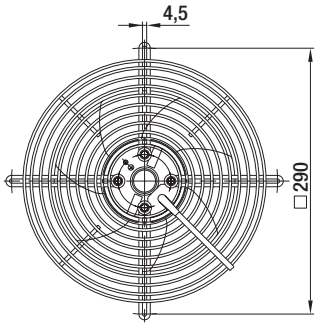




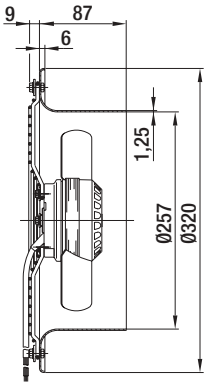

Selection	Cable exit	Direction of air flow					Dimensions						
Type	S/A/B						a	c	h	k	m	n	p
*2D 250	S	"V"	A2D250-AH02 -01	S2D250-BH02 -01	W2D250-CH02 -01	S2D250-AH02 -01	72	18	5	10	50	5	34
		"A"	A2D250-AI02 -01	S2D250-BI02 -01	W2D250-CI02 -01	S2D250-AI02 -01	72	21	0	0	45	0	34
*2E 250	B	"V"	A2E250-AL06 -01	S2E250-BL06 -01	W2E250-CL06 -01	S2E250-AL06 -01	72	18	5	10	50	5	34
		"A"	A2E250-AM06 -01	S2E250-BM06 -01	W2E250-CM06 -01	S2E250-AM06 -01	72	25	0	0	45	0	32
*4D 250	S	"V"	A4D250-AH22 -01	S4D250-BH22 -01	W4D250-CH22 -01	S4D250-AH22 -01	72	18	5	10	50	5	34
		"A"	A4D250-AI22 -01	S4D250-BI22 -01	W4D250-CI22 -01	S4D250-AI22 -01	72	23	0	0	45	0	34
*4E 250	S	"V"	A4E250-AH02 -01	S4E250-BH02 -01	W4E250-CH02 -01	S4E250-AH02 -01	62	14	5	10	50	5	34
		"A"	A4E250-AI02 -01	S4E250-BI02 -01	W4E250-CI02 -01	S4E250-AI02 -01	62	22	0	0	45	0	34
*4S 250	S	"V"	A4S250-AH02 -01	S4S250-BH02 -01	W4S250-CH02 -01	S4S250-AH02 -01	72	18	5	10	50	5	34
		"A"	A4S250-AI02 -01	S4S250-BI02 -01	W4S250-CI02 -01	S4S250-AI02 -01	72	23	0	0	45	0	34

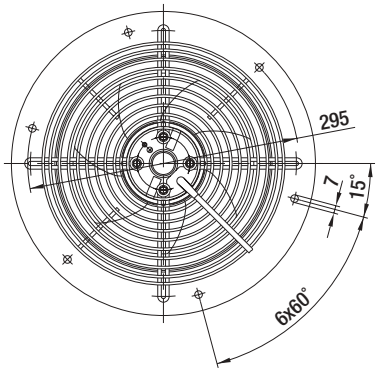


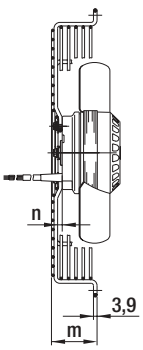


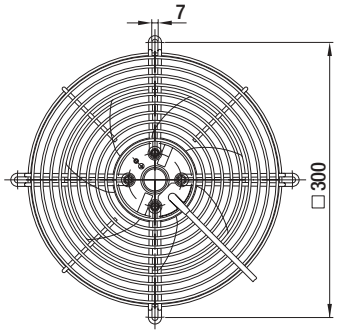






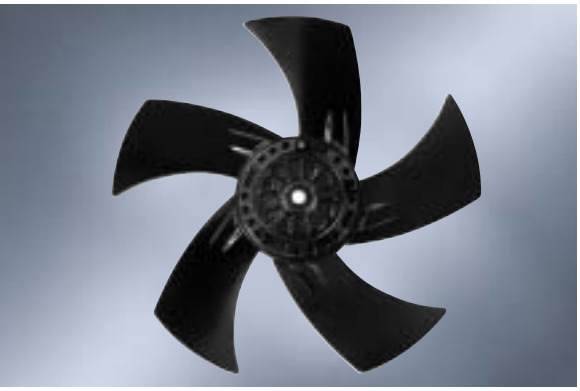






AC axial fans 2 poles

S-Range, Ø 300



ebm-papst · Mulfingen

Nominal data

Type	Motor	Characteristic	Voltage VAC	Frequency Hz	Air flow m³/h	Speed/rpm min⁻¹	Power input W	Current draw A	Capacitor µF/VDB	Noise level dB(A)	Max. back pressure Pa	Perm. amb. temp. °C	Mass kg
*2D 300[1]	M2D074-DF	①	230/400 230/400	50 60	3290 3570	2600 2850	195 275	0,33 0,43	--- ---	74 75	200 150	70 45	3,0
*2E 300	M2E074-DF	②	230 230	50 60	3410 3740	2700 3000	230 350	1,10 1,55	8,0/400 8,0/400	73 76	200 50	50 40	3,0

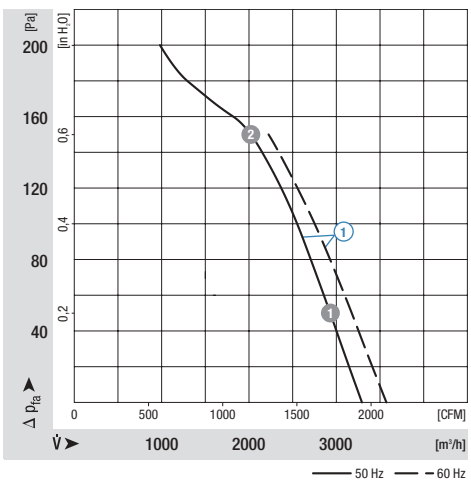
subject to alterations

[1] Current draw established at 400 VAC (Y)

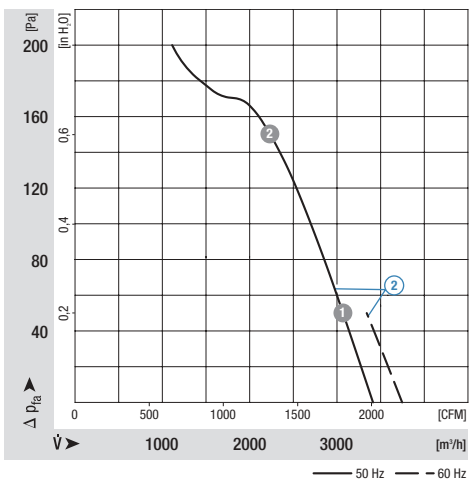
	n [min⁻¹]	P_1 [W]
① 1	2570	216
① 2	2450	256

	n [min⁻¹]	P_1 [W]
② 1	2680	252
② 2	2560	290

Characteristics

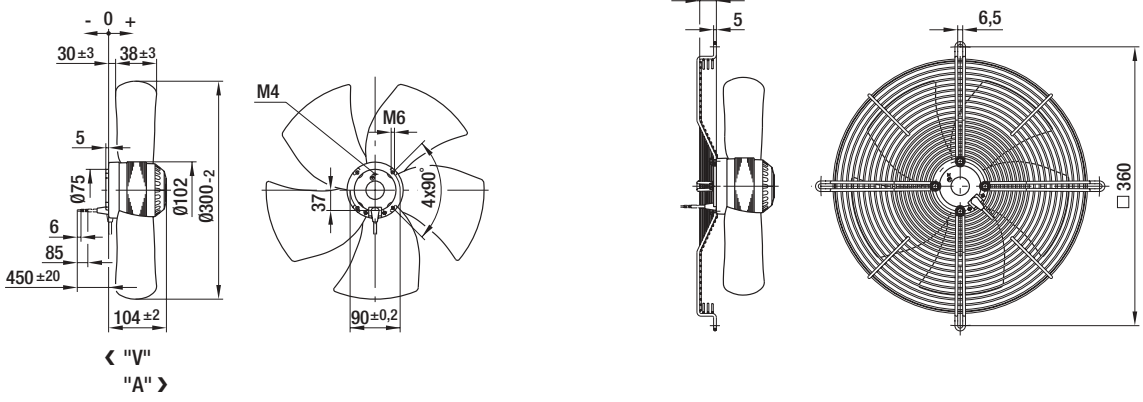


Characteristics



ebmpapst

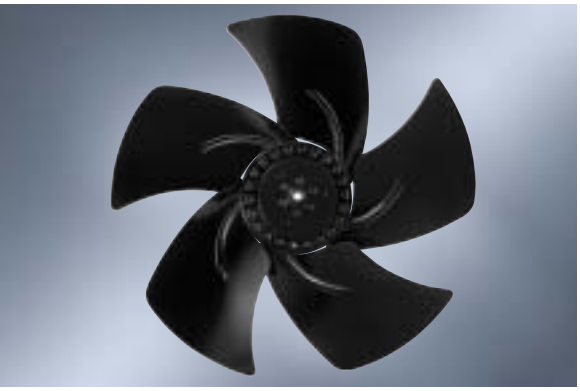
Selection	Cable exit	Direction of air flow				
Type	**S/A/B**					
***2D 300**	B	"V"	A2D300-AP02 -01	S2D300-BP02 -30	W2D300-CP02 -30	S2D300-AP02 -30
		"A"	A2D300-AP02 -02	S2D300-BP02 -31	W2D300-CP02 -31	S2D300-AP02 -31
***2E 300**	B	"V"	A2E300-AP02 -01	S2E300-BP02 -30	W2E300-CP02 -30	S2E300-AP02 -30
		"A"	A2E300-AP02 -02	S2E300-BP02 -31	W2E300-CP02 -31	S2E300-AP02 -31



❮ "V"
"A" ❯

AC axial fans 4 poles

S-Range, Ø 300



ebm-papst · Mulfingen

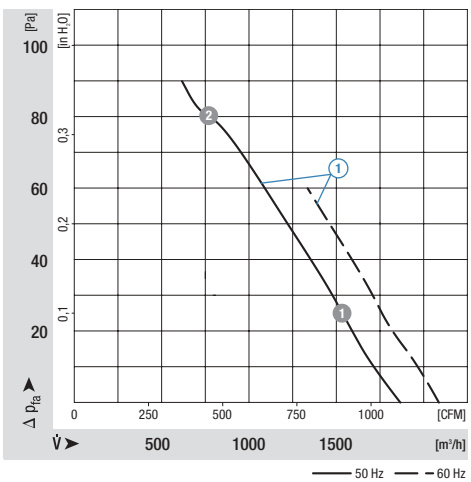
Nominal data

Type	Motor	Characteristic	Voltage VAC	Frequency Hz	Air flow m³/h	Speed/rpm min⁻¹	Power input W	Current draw A	Capacitor µF/VDB	Noise level dB(A)	Max. back pressure Pa	Perm. amb. temp. °C	Mass kg
*4D 300	M4D068-CF	①	230/400 230/400	50 60	1860 2080	1370 1540	60 75	0,17 0,15	--- ---	57 60	90 60	45 40	1,9
*4E 300	M4E068-CF	②	230 230	50 60	1740 2040	1400 1630	68 92	0,30 0,41	2,0/400 2,0/400	59 63	80 70	60 45	1,9

subject to alterations

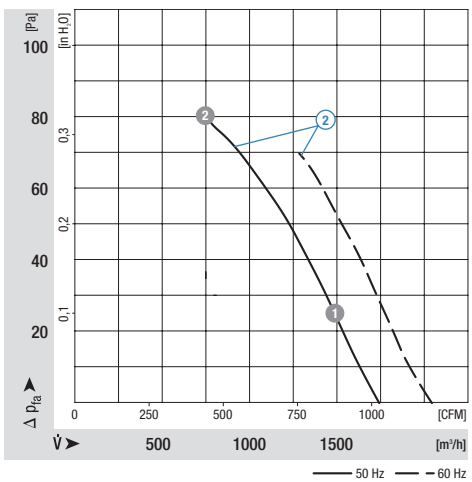
	n [min⁻¹]	P1 [W]
① ❶	1350	66
① ❷	1260	88

Characteristics

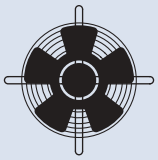
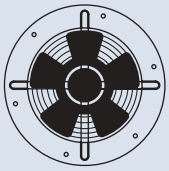


	n [min⁻¹]	P1 [W]
② ❶	1390	72
② ❷	1290	88

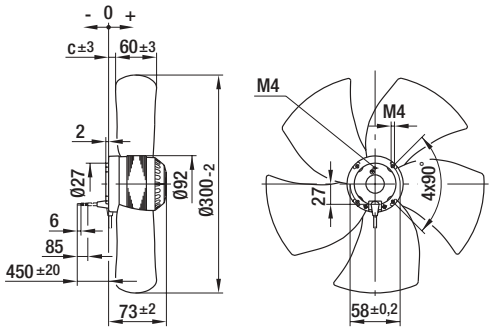
Characteristics



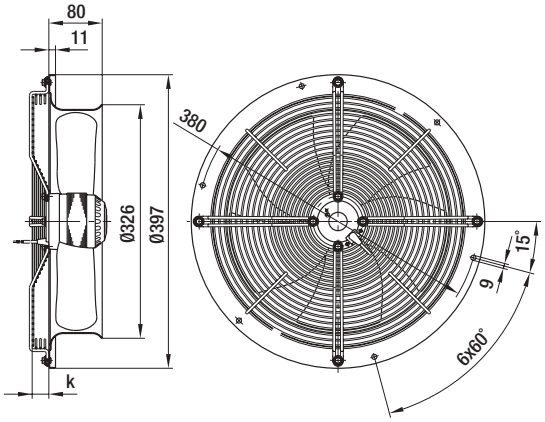
ebmpapst


Selection	Cable exit	Direction of air flow					Dimensions	
Type	S/A/B						c	k
*4D 300	A	"V"	A4D300-AP28 -01	S4D300-BP28 -30	W4D300-CP28 -30	S4D300-AP28 -30	17	0
		"A"	A4D300-AP28 -02	S4D300-BP28 -31	W4D300-CP28 -31	S4D300-AP28 -31	-7	30
*4E 300	A	"V"	A4E300-AP26 -01	S4E300-BP26 -30	W4E300-CP26 -30	S4E300-AP26 -30	17	0
		"A"	A4E300-AP26 -02	S4E300-BP26 -31	W4E300-CP26 -31	S4E300-AP26 -31	-7	30



‹ "V"
"A" ›



AC axial fans

S-Range, Ø 315

ebm-papst · Mulfingen

Nominal data

Type	Motor	Characteristic	Voltage VAC	Frequency Hz	Air flow m³/h	Speed/rpm min⁻¹	Power input W	Current draw A	Capacitor µF/VDB	Noise level dB(A)	Max. back pressure Pa	Perm. amb. temp. °C	Mass kg
*4D 315[1]	M4D068-DF	①	230/400 230/400	50 60	2450 2810	1400 1620	85 110	0,26 0,24	--- ---	60 64	120 120	55 55	2,4
*4E 315	M4E068-DF	②	230 230	50 60	2440 2840	1410 1650	102 120	0,52 0,53	4,0/400 4,0/400	59 64	120 120	55 55	2,4
*6E 315	M6E068-DF	③	230 230	50 60	1650 1950	950 1120	65 68	0,33 0,30	2,0/400 2,0/450	51 55	70 80	50 60	2,4

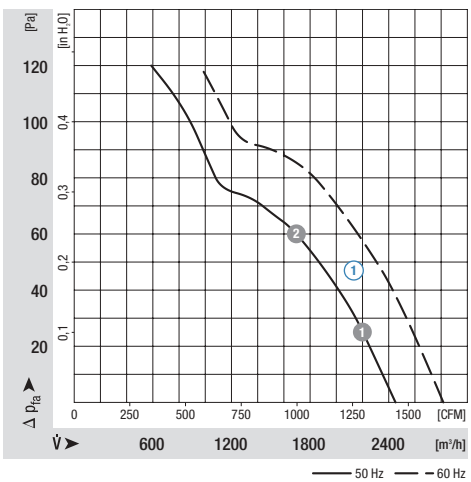
subject to alterations

[1] Current draw established at 400 VAC (Y)

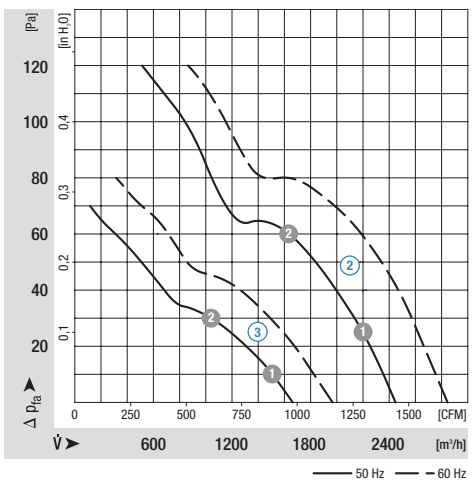
	n [min⁻¹]	P_1 [W]
① 1	1400	90
① 2	1380	103

	n [min⁻¹]	P_1 [W]
② 1	1400	108
② 2	1380	120
③ 1	945	63
③ 2	930	66

Characteristics

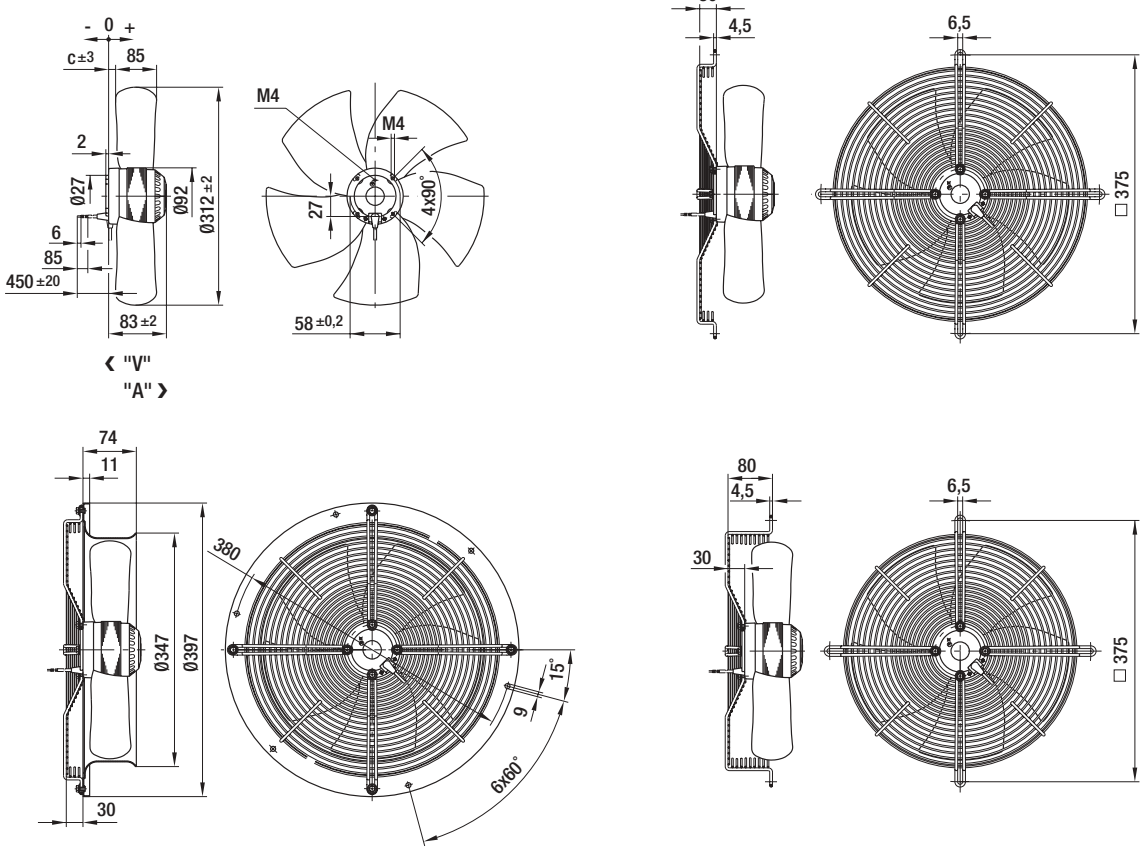


Characteristics



ebmpapst

Selection	Cable exit	Direction of air flow					Dimensions
Type	S/A/B						c
*4D 315	A	"V"	A4D315-AP10 -01	S4D315-BP10 -30	W4D315-CP10 -30	S4D315-AP10 -30	5
		"A"	A4D315-AP10 -02	S4D315-BP10 -31	W4D315-CP10 -31	S4D315-AP10 -31	-7
*4E 315	A	"V"	A4E315-AP18 -01	S4E315-BP18 -30	W4E315-CP18 -30	S4E315-AP18 -30	5
		"A"	A4E315-AP18 -02	S4E315-BP18 -31	W4E315-CP18 -31	S4E315-AP18 -31	-7
*6E 315	A	"V"	A6E315-AP02 -01	S6E315-BP02 -30	W6E315-CP02 -30	S6E315-AP02 -30	5
		"A"	A6E315-AP02 -02	S6E315-BP02 -31	W6E315-CP02 -31	S6E315-AP02 -31	-7



‹ "V"
"A" ›

AC axial fans

S-Range, Ø 330

ebm-papst · Mulfingen

Nominal data

Type	Motor	Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass
			VAC	Hz	m³/h	min⁻¹	W	A	µF/VDB	dB(A)	Pa	°C	kg
*4D 330[1]	M4D068-DF	①	230/400 230/400	50 60	2800 3180	1390 1570	100 130	0,26 0,24	--- ---	59 63	120 120	55 45	2,6
*4E 330	M4E068-DF	②	230 230	50 60	2830 3230	1390 1600	120 140	0,57 0,60	4,0/400 4,0/400	63 67	90 75	50 40	2,5
*6E 330	M6E068-DF	③	230 230	50 60	1940 2280	940 1100	65 72	0,33 0,32	2,0/400 2,0/450	49 53	60 70	50 65	2,5

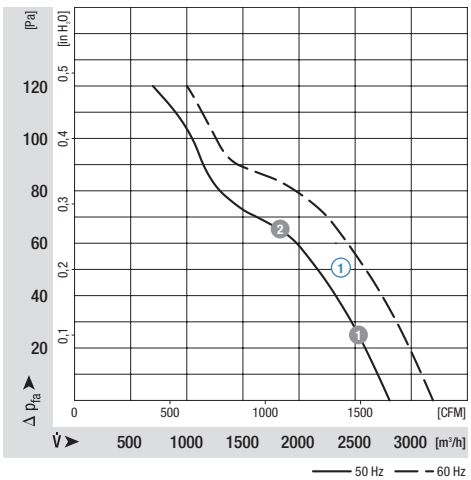
subject to alterations

[1] Current draw established at 400 VAC (Y)

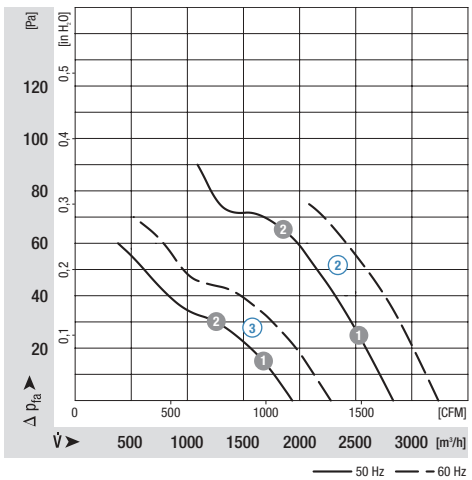
	n [min⁻¹]	P1 [W]
① 1	1370	102
① 2	1325	126

	n [min⁻¹]	P1 [W]
② 1	1375	122
② 2	1325	140
③ 1	925	68
③ 2	910	70

Characteristics

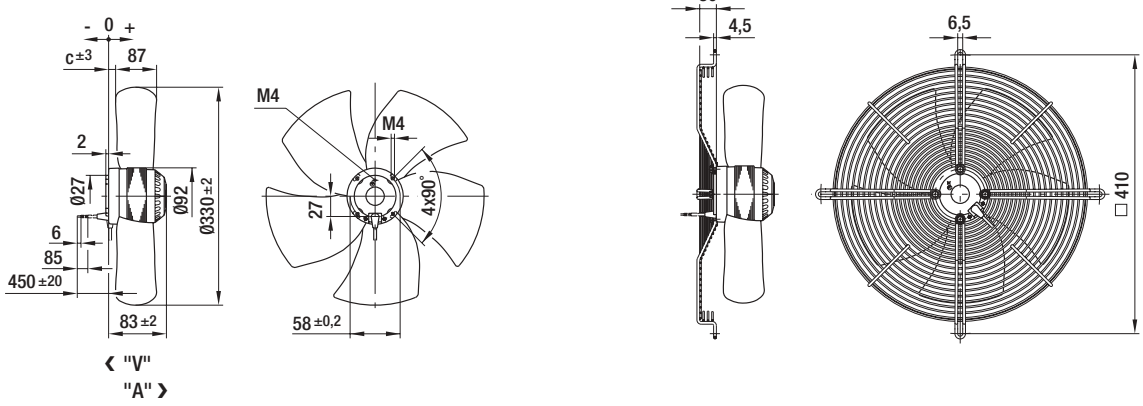


Characteristics



ebmpapst

Selection	Cable exit	Direction of air flow					Dimensions
Type	S/A/B						c
*4D 330	A	"V"	A4D330-AP10 -01	S4D330-BP10 -30	W4D330-CP10 -30	S4D330-AP10 -30	6
		"A"	A4D330-AP10 -02	S4D330-BP10 -31	W4D330-CP10 -31	S4D330-AP10 -31	-8
*4E 330	A	"V"	A4E330-AP18 -01	S4E330-BP18 -30	W4E330-CP18 -30	S4E330-AP18 -30	6
		"A"	A4E330-AP18 -02	S4E330-BP18 -31	W4E330-CP18 -31	S4E330-AP18 -31	-8
*6E 330	A	"V"	A6E330-AP02 -01	S6E330-BP02 -30	W6E330-CP02 -30	S6E330-AP02 -30	6
		"A"	A6E330-AP02 -02	S6E330-BP02 -31	W6E330-CP02 -31	S6E330-AP02 -31	-8



‹ "V"
"A" ›

AC axial fans

S-Range, Ø 350

ebm-papst · Mulfingen

Nominal data

Type	Motor	Characteristic	Voltage VAC	Frequency Hz	Air flow m³/h	Speed/rpm min⁻¹	Power input W	Current draw A	Capacitor µF/VDB	Noise level dB(A)	Max. back pressure Pa	Perm. amb. temp. °C	Mass kg
*4D 350[1]	M4D074-DF	①	230/400 230/400	50 60	3140 3630	1420 1640	115 160	0,33 0,34	--- ---	64 67	180 180	55 40	3,6
*4E 350[2]	M4E074-DF	②	230 230	50 60	3110 3540	1400 1590	130 190	0,58 0,83	4,0/400 4,0/400	64 67	90 60	45 45	3,6
*6E 350	M6E074-DF	③	230 230	50 60	2120 2460	945 1100	65 85	0,31 0,37	2,0/450 2,0/450	54 58	75 65	70 55	3,6

subject to alterations

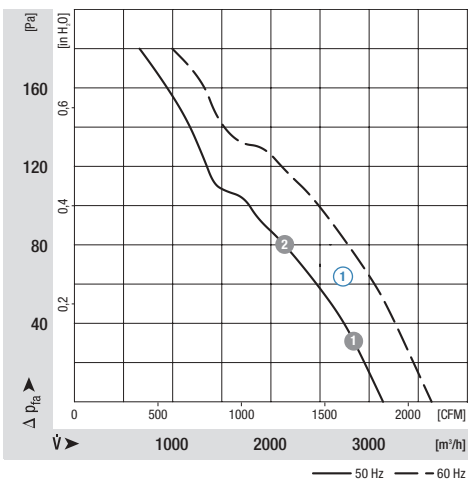
[1] 400 VAC Δ/Y for two speed steps available on request, current draw established at 400 VAC (Y)

[2] Insulation class "F"

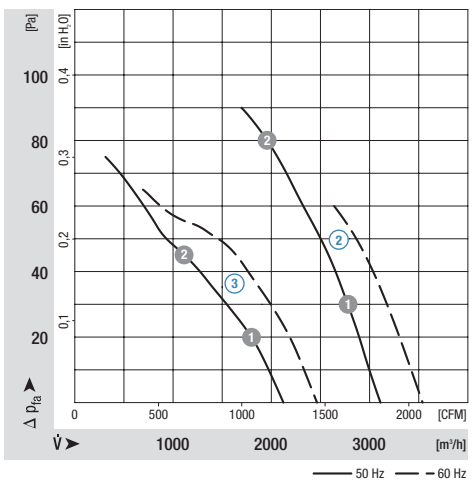
		n [min⁻¹]	P1 [W]
①	1	1415	126
①	2	1385	152

		n [min⁻¹]	P1 [W]
②	1	1385	140
②	2	1335	160
③	1	930	69
③	2	895	78

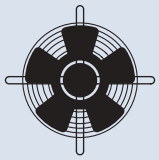
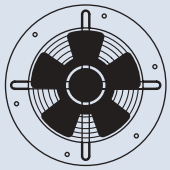
Characteristics



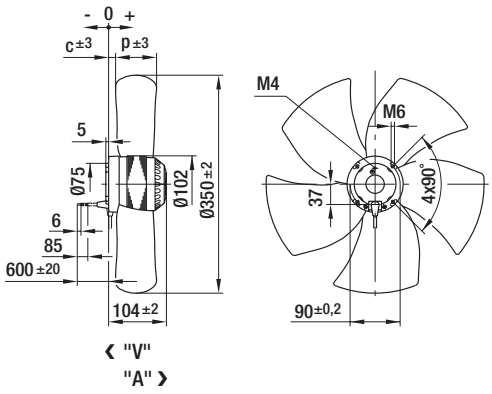
Characteristics

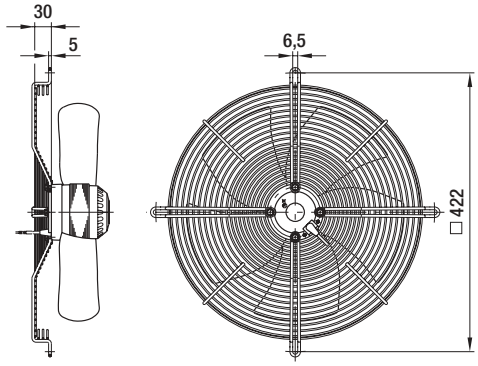


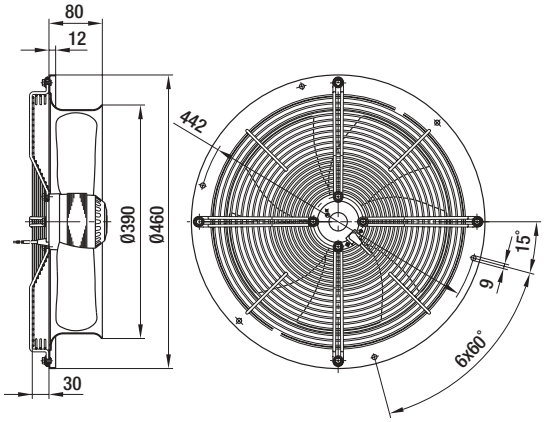
ebmpapst

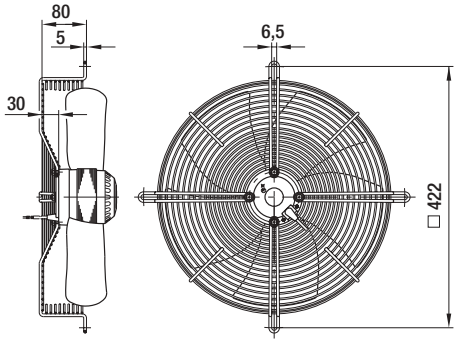





Selection	Cable exit	Direction of air flow					Dimensions	
Type	S/A/B						c	p
*4D 350	B	"V"	A4D350-AP08 -01	S4D350-BP08 -30	W4D350-CP08 -30	S4D350-AP08 -30	10	92
		"A"	A4D350-AP08 -02	S4D350-BP08 -31	W4D350-CP08 -31	S4D350-AP08 -31	0	86
*4E 350	B	"V"	A4E350-AP06 -01	S4E350-BP06 -30	W4E350-CP06 -30	S4E350-AP06 -30	10	92
		"A"	A4E350-AP06 -02	S4E350-BP06 -31	W4E350-CP06 -31	S4E350-AP06 -31	0	86
*6E 350	B	"V"	A6E350-AP24 -01	S6E350-BP24 -30	W6E350-CP24 -30	S6E350-AP24 -30	10	92
		"A"	A6E350-AP24 -02	S6E350-BP24 -31	W6E350-CP24 -31	S6E350-AP24 -31	0	86









AC axial fans

S-Range, Ø 400

ebm-papst · Mulfingen

Nominal data

Type	Motor	Characteristic	Voltage VAC	Frequency Hz	Air flow m³/h	Speed/rpm min⁻¹	Power input W	Current draw A	Capacitor µF/VDB	Noise level dB(A)	Max. back pressure Pa	Perm. amb. temp. °C	Mass kg
*4D 400[1]	M4D074-EI	①	230/400 230/400	50 60	4000 4610	1450 1690	135 185	0,44 0,39	--- ---	68 72	150 120	40 40	4,2
*4E 400	M4E074-EI	②	230 230	50 60	4235 4950	1430 1700	160 240	0,73 1,06	6,0/400 6,0/400	69 73	150 75	40 40	4,2
*6E 400[2]	M6E074-DF	③	230 230	50 60	3290 3780	940 1080	120 170	0,55 0,75	3,0/450 3,0/400	59 62	50 40	40 40	4,0

subject to alterations

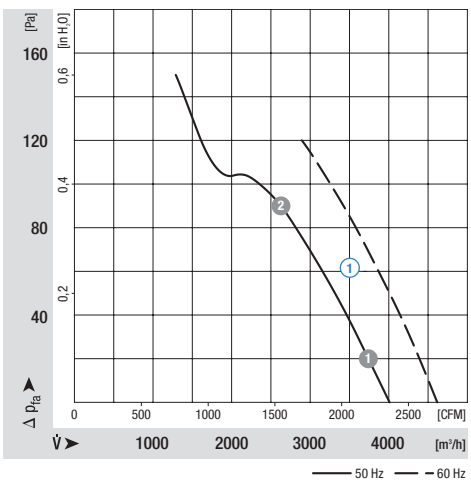
[1] 400 VAC Δ/Y for two speed steps available on request, current draw established at 400 VAC (Y)

[2] Insulation class "F"

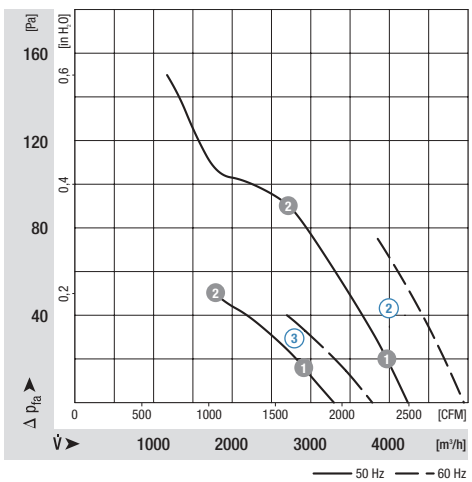
	n [min⁻¹]	P1 [W]
① 1	1440	152
① 2	1415	195

	n [min⁻¹]	P1 [W]
② 1	1430	172
② 2	1395	210
③ 1	935	126
③ 2	895	140

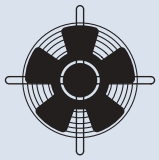
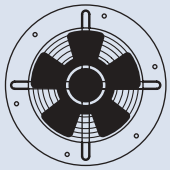
Characteristics



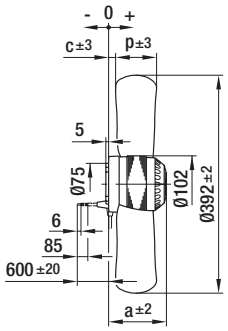
Characteristics

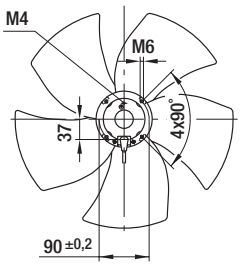


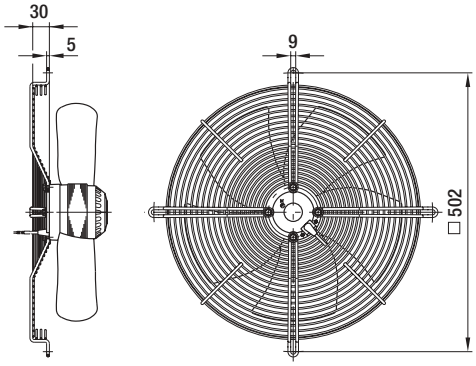
ebmpapst

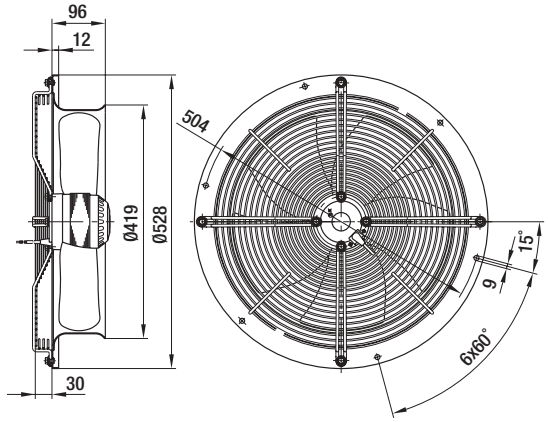




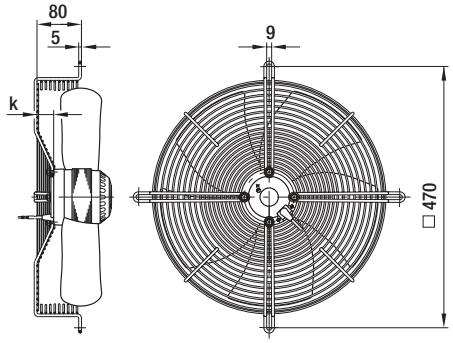

Selection	Cable exit	Direction of air flow					Dimensions			
Type	S/A/B						a	c	p	k
*4D 400	B	"V"	A4D400-AP12 -01	S4D400-BP12 -30	W4D400-CP12 -30	S4D400-AP12 -03	117	28	68	10
		"A"	A4D400-AP12 -02	S4D400-BP12 -31	W4D400-CP12 -31	S4D400-AP12 -04	117	19	62	10
*4E 400	B	"V"	A4E400-AP02 -01	S4E400-BP02 -30	W4E400-CP02 -30	S4E400-AP02 -03	117	28	68	10
		"A"	A4E400-AP02 -02	S4E400-BP02 -31	W4E400-CP02 -31	S4E400-AP02 -04	117	19	62	10
*6E 400	B	"V"	A6E400-AP10 -01	S6E400-BP10 -30	W6E400-CP10 -30	S6E400-AP10 -30	104	-5	90	30
		"A"	A6E400-AP10 -02	S6E400-BP10 -31	W6E400-CP10 -31	S6E400-AP10 -31	104	14	88	30











AC axial fans

S-Range, Ø 420

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
***4D 420**[1]	M4D074-GA	①	230/400 230/400	50 60	4890 5635	1430 1660	160 235	0,44 0,45	--- ---	69 72	160 120	65 40	4,8
***4E 420**	M4E074-GA	②	230 230	50 60	4830 5630	1430 1680	200 285	0,94 1,25	7,0/400 7,0/400	70 74	150 50	50 40	4,8
***6E 420**[2]	M6E074-EI	③	230 230	50 60	3940 4570	940 1090	145 205	0,67 0,90	4,0/450 4,0/450	60 63	90 80	50 45	4,4

subject to alterations

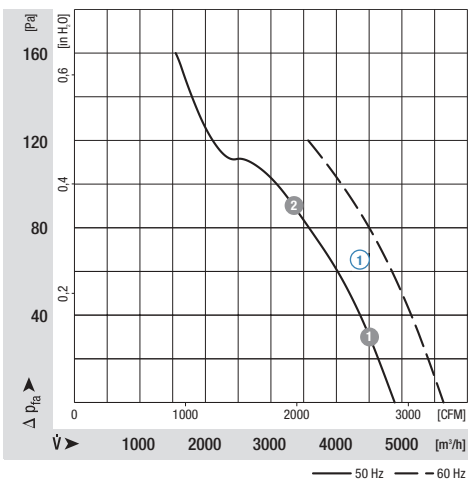
[1] 400 VAC Δ/Y for two speed steps available on request, current draw established at 400 VAC (Y)

[2] Insulation class "F"

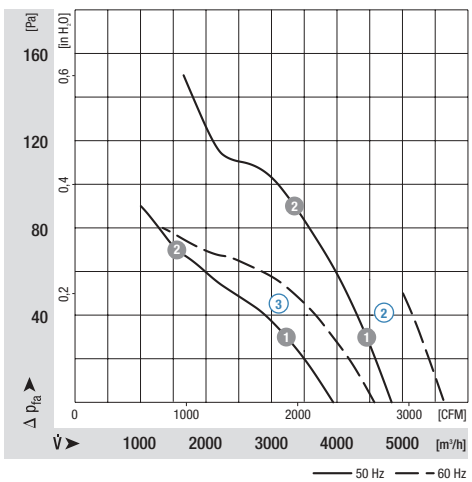
	n [min⁻¹]	P_1 [W]
① 1	1420	185
① 2	1390	237

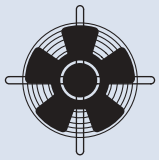
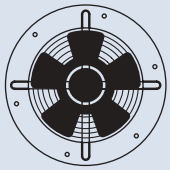
	n [min⁻¹]	P_1 [W]
② 1	1430	220
② 2	1400	260
③ 1	930	155
③ 2	890	176

Characteristics

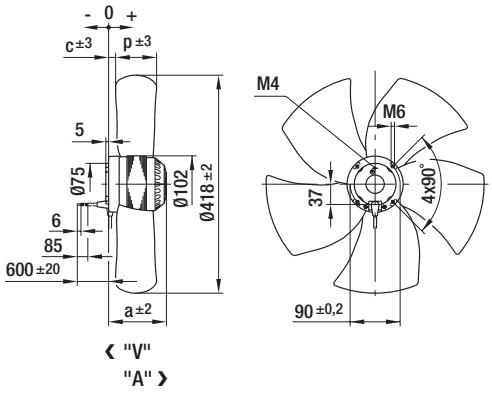


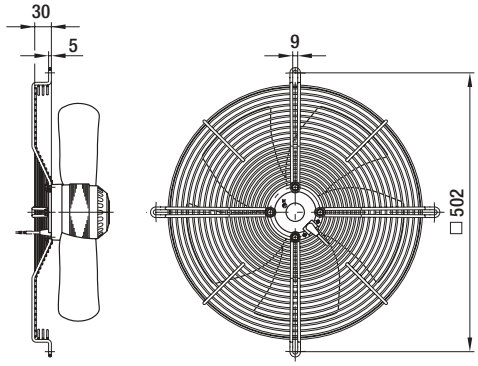
Characteristics

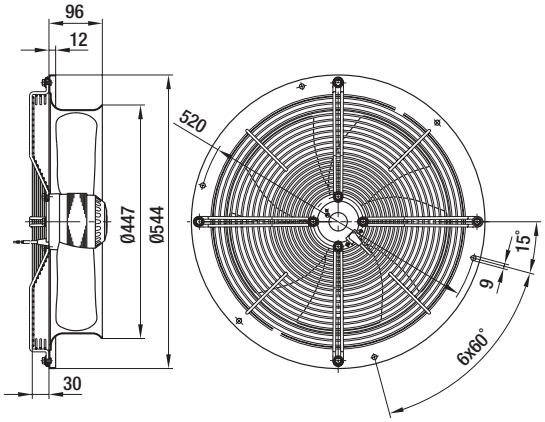


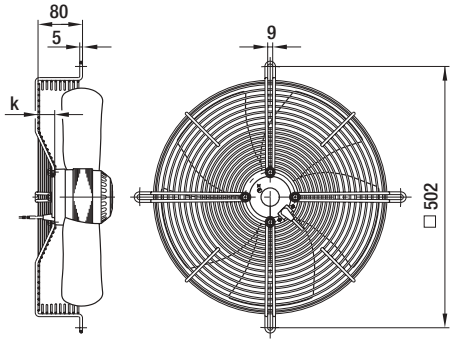





Selection	Cable exit	Direction of air flow					Dimensions			
Type	S/A/B						a	c	p	k
*4D 420	B	"V"	A4D420-AP02 -01	S4D420-BP02 -30	W4D420-CP02 -30	S4D420-AP02 -03	129	28	67	0
		"A"	A4D420-AP02 -02	S4D420-BP02 -31	W4D420-CP02 -31	S4D420-AP02 -04	129	25	67	0
*4E 420	B	"V"	A4E420-AP02 -01	S4E420-BP02 -30	W4E420-CP02 -30	S4E420-AP02 -03	129	28	67	0
		"A"	A4E420-AP02 -02	S4E420-BP02 -31	W4E420-CP02 -31	S4E420-AP02 -04	129	25	67	0
*6E 420	B	"V"	A6E420-AP02 -01	S6E420-BP02 -30	W6E420-CP02 -30	S6E420-AP02 -30	117	2	89	30
		"A"	A6E420-AP02 -02	S6E420-BP02 -31	W6E420-CP02 -31	S6E420-AP02 -31	117	21	89	30









Guard grille S. 346 f. | Wall ring S. 352 ff. | Capacitor S. 356 f. | Terminal box S. 358

AC axial fans

S-Range, Ø 450

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
***4D 450**[1][2]	M4D074-GA	①	230/400 230/400	50 60	5440 6040	1380 1540	200 285	0,48 0,53	--- ---	72 75	120 70	45 45	5,0
***4E 450**[2]	M4E074-GA	②	230 230	50 60	5700 6500	1400 1600	245 355	1,10 1,55	8,0/400 8,0/400	73 76	85 35	40 40	5,0
***6E 450**	M6E074-GA	③	230 230	50 60	4725 5450	980 1070	165 225	0,80 0,98	4,0/450 4,0/450	63 67	70 45	40 40	5,0

subject to alterations

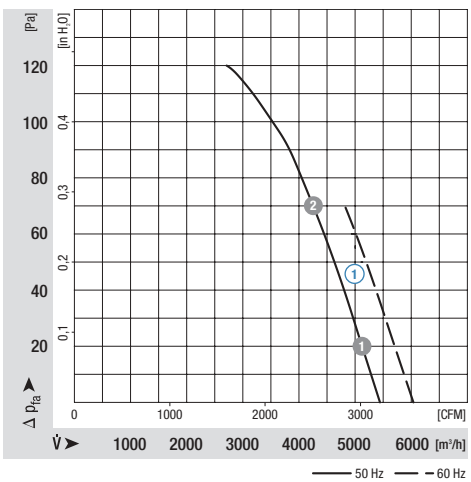
[1] 400 VAC Δ/Y for two speed steps available on request, current draw established at 400 VAC (Y)

[2] Insulation class "F"

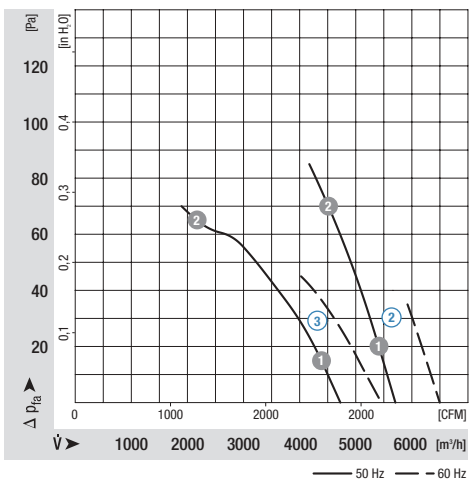
		n [min⁻¹]	P_1 [W]
①	①	1360	220
①	②	1330	258

		n [min⁻¹]	P_1 [W]
②	①	1390	258
②	②	1360	292
③	①	930	171
③	②	870	200

Characteristics

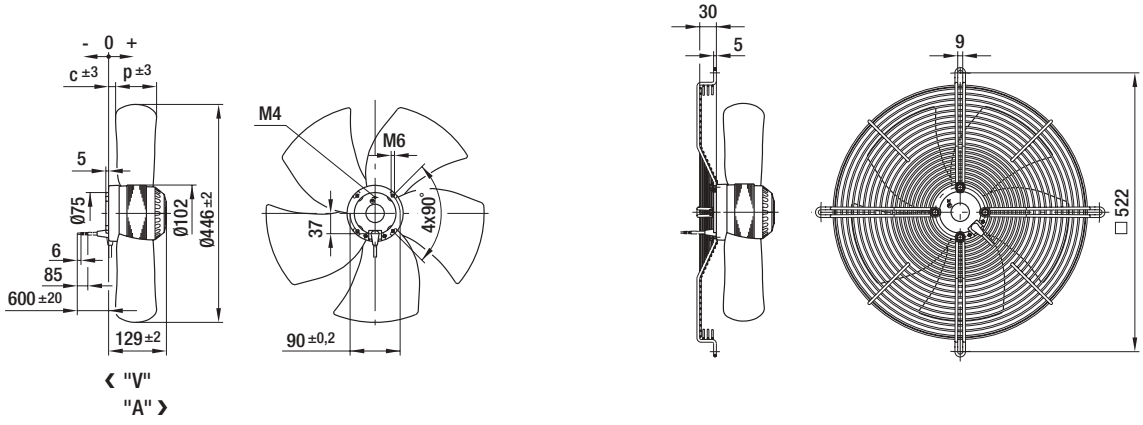


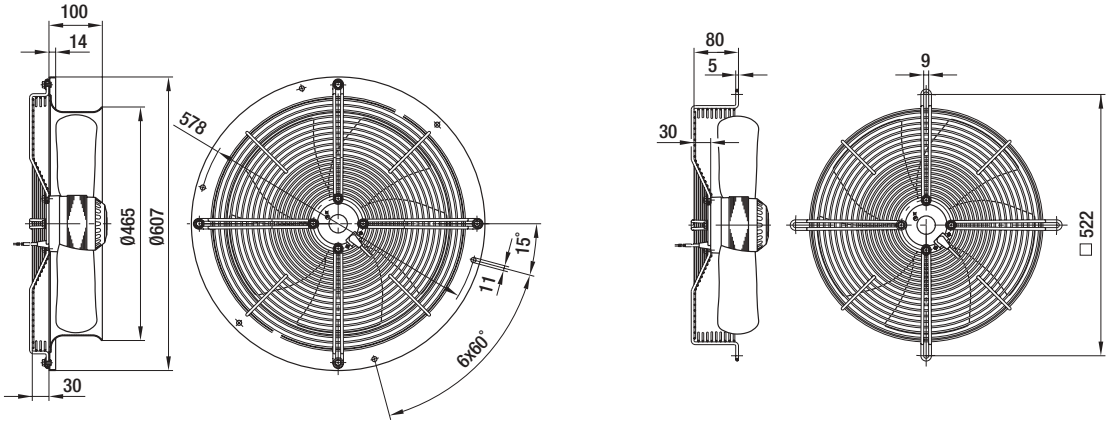
Characteristics



ebmpapst

Selection	Cable exit	Direction of air flow					Dimensions	
Type	S/A/B						c	p
*4D 450	B	"V"	A4D450-AP01 -01	S4D450-BP01 -01	W4D450-CP01 -01	S4D450-AP01 -01	35	75
		"A"	A4D450-AP01 -02	S4D450-BP01 -02	W4D450-CP01 -02	S4D450-AP01 -02	27	64
*4E 450	B	"V"	A4E450-AP01 -01	S4E450-BP01 -01	W4E450-CP01 -01	S4E450-AP01 -01	35	75
		"A"	A4E450-AP01 -02	S4E450-BP01 -02	W4E450-CP01 -02	S4E450-AP01 -02	27	64
*6E 450	B	"V"	A6E450-AP02 -01	S6E450-BP02 -01	W6E450-CP02 -01	S6E450-AP02 -01	10	92
		"A"	A6E450-AP02 -02	S6E450-BP02 -02	W6E450-CP02 -02	S6E450-AP02 -02	25	92





AC axial fans

S-Range, Ø 450

- **Type of protection:** IP54 (please note drilled condensate discharges)
- **Approval:** complying with EN 60034-1
- **Locked-rotor protection:** thermal overload protector brought out

ebm-papst · Mulfingen

Nominal data

Type	Motor	Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass
			VAC	Hz	m³/h	min⁻¹	W	A	µF/VDB	dB(A)	Pa	°C	kg
*4D 450[1]	M4D094-HA	①	400 Y 400 Y	50 60	5920 5690	1180 1130	305 390	0,55 0,72	--- ---	66 65	115 45	70 55	7,9
		②	400 Δ 400 Δ	50 60	7050 8000	1400 1600	400 610	0,95 1,12	--- ---	69 72	200 115	85 60	7,9
*4E 450[1]	M4E094-HA	③	230 230	50 60	6960 7790	1380 1540	435 630	2,25 2,80	10 /400 10 /400	70 73	125 115	70 55	7,9

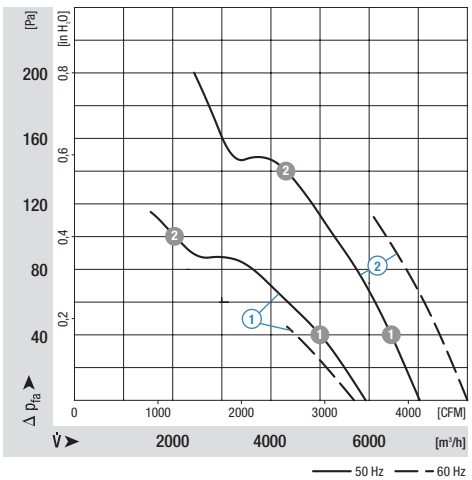
subject to alterations

[1] Insulation class "F"

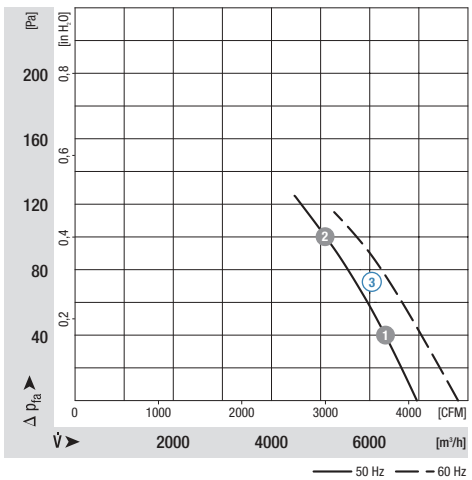
		n [min⁻¹]	P1 [W]
①	①	1125	335
①	②	990	400
②	①	1385	430
②	②	1325	523

		n [min⁻¹]	P1 [W]
③	①	1370	468
③	②	1345	515

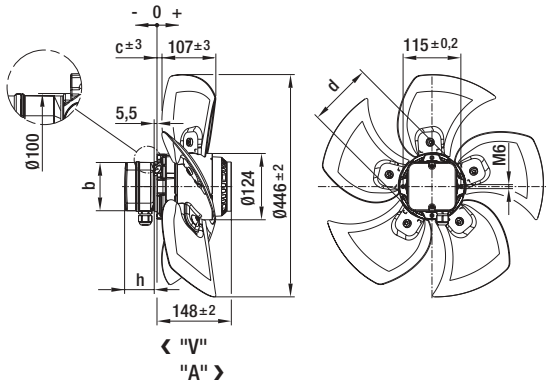
Characteristics



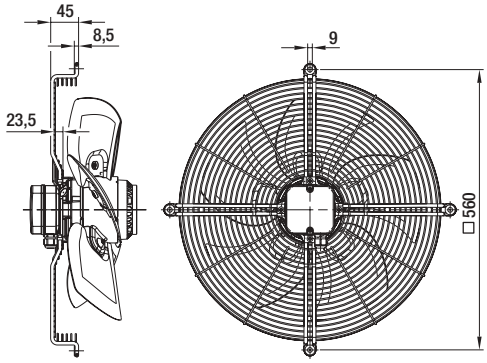
Characteristics

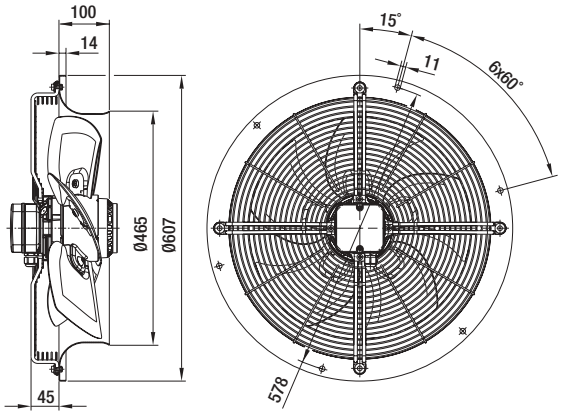


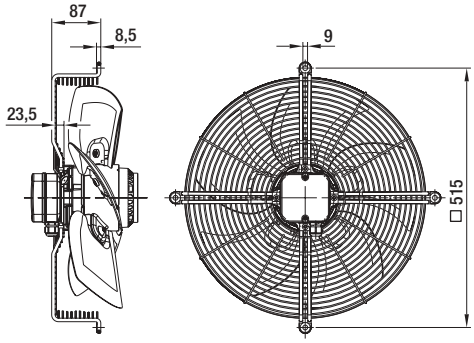
Selection Type	Terminal box version	Direction of air flow					Dimensions b	c	d	h
*4D 450	Ø 89	"V"	A4D450-BG14 -01	S4D450-LG14 -01	W4D450-MG14-01	S4D450-KG14 -01	Ø 89	9,4	---	33,3
		"A"	A4D450-BG14 -02	S4D450-LG14 -02	W4D450-MG14-02	S4D450-KG14 -02	Ø 89	17,8	---	33,3
*4E 450	□ 99	"V"	A4E450-BG09 -01	S4E450-LG09 -01	W4E450-MG09-01	S4E450-KG09 -01	□ 99	9,4	126	59,2
		"A"	A4E450-BG09 -02	S4E450-LG09 -02	W4E450-MG09-02	S4E450-KG09 -02	□ 99	17,8	126	59,2



‹ "V"
"A" ›







Guard grille S. 346 ff.
Wall ring S. 352 ff.
Capacitor S. 356 f.

AC axial fans

K-Range, Ø 250

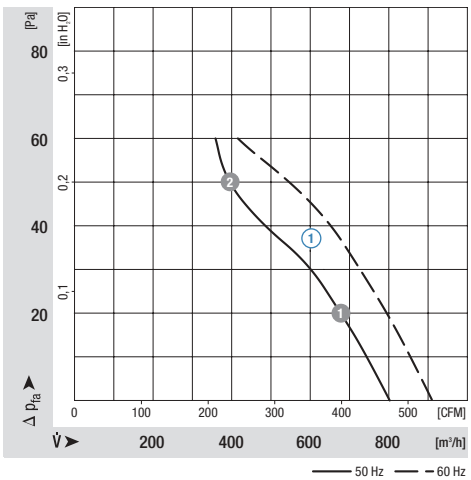
ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
***4E 250**	M4E 068-BF	①	230 230	50 60	800 910	1350 1550	41 50	0,18 0,23	1,5/400 1,5/400	47 50	60 60	60 70	1,2

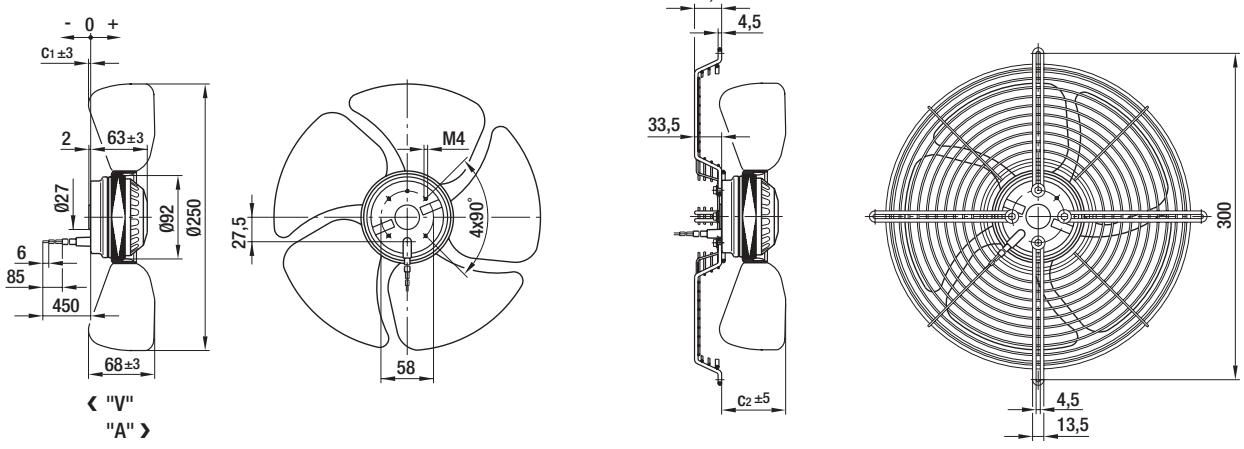
subject to alterations

	n [min⁻¹]	P_1 [W]
① ❶	1315	42
① ❷	1280	44

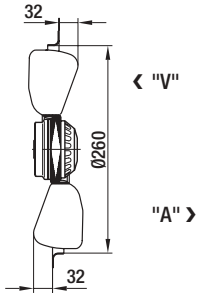
Characteristics



Selection Type	Cable exit S/A/B	Direction of air flow			Dimensions c_1	Dimensions c_2
*4E 250	A	"V"	A4E 250-AE32 -05	S4E 250-AE32 -01	-9	25
		"A"	A4E 250-AE32 -06	S4E 250-AE32 -02	2	36



Mounting configuration



AC axial fans

K-Range, Ø 300

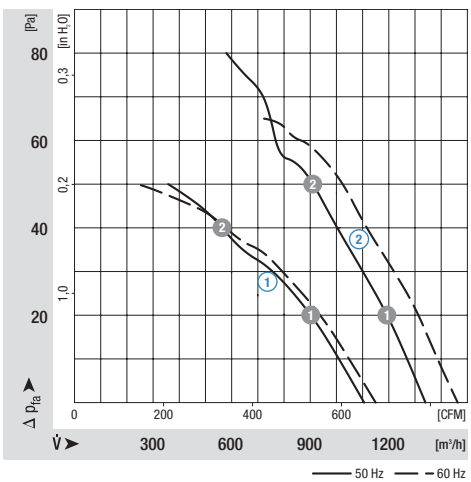
ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
***4E 300-*E**	M4E 068-BF	①	230 230	50 60	1100 1150	1100 1150	52 60	0,23 0,27	1,5/400 1,5/400	53 54	50 50	45 40	1,3
***4E 300-*H**	M4E 068-CF	②	230 230	50 60	1340 1460	1350 1480	70 90	0,31 0,40	1,5/400 1,5/400	58 61	80 65	60 55	1,7

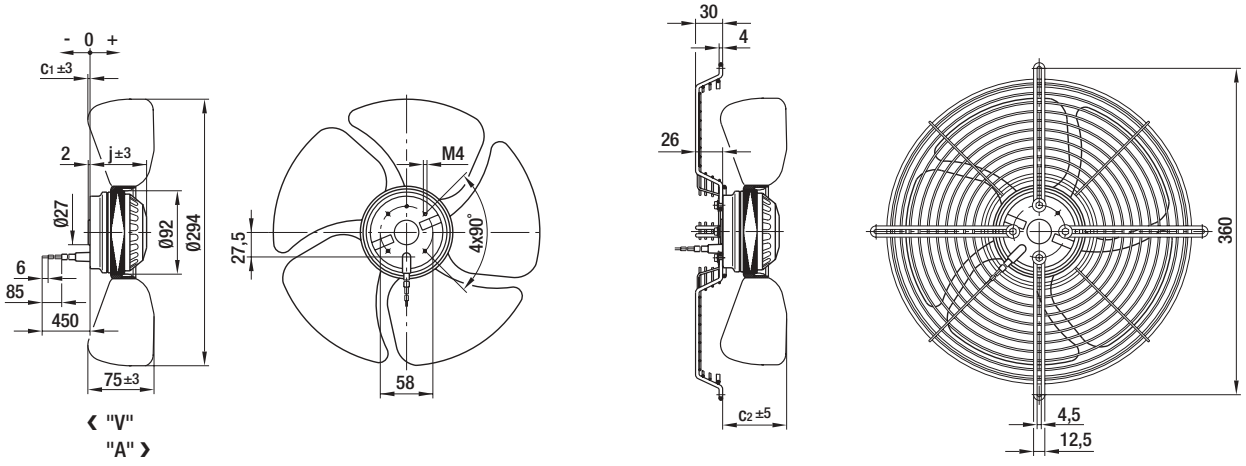
subject to alterations

		n [min⁻¹]	P_1 [W]
①	❶	1060	53
①	❷	985	55
②	❶	1325	71
②	❷	1310	73

Characteristics

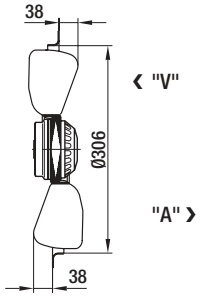


Selection	Cable exit	Direction of air flow			Dimensions		
Type	S/A/B				c_1	c_2	j
*4E 300-*E	B	"V"	A4E 300-AE20 -05	S4E 300-EE20 -05	-9	66	63
		"A"	A4E 300-AE20 -06	S4E 300-EE20 -06	-3	72	63
*4E 300-*H	A	"V"	A4E 300-AH26 -05	S4E 300-EH26 -05	-4	71	73
		"A"	A4E 300-AH26 -06	S4E 300-EH26 -06	-4	71	73



‹ "V"
"A" ›

Mounting configuration



‹ "V"

"A" ›

AC axial fans

K-Range, Ø 350

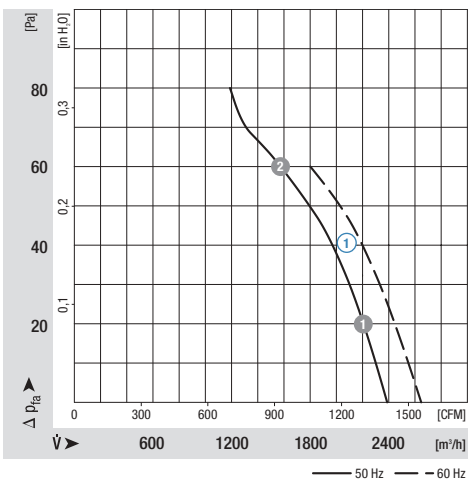
ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m^3/h**	**min^{-1}**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
***4E 350**	M4E068-DC	①	230 230	50 60	2390 2650	1350 1500	105 135	0,50 0,60	3,0/400 3,0/400	63 66	80 60	50 40	2,0

subject to alterations

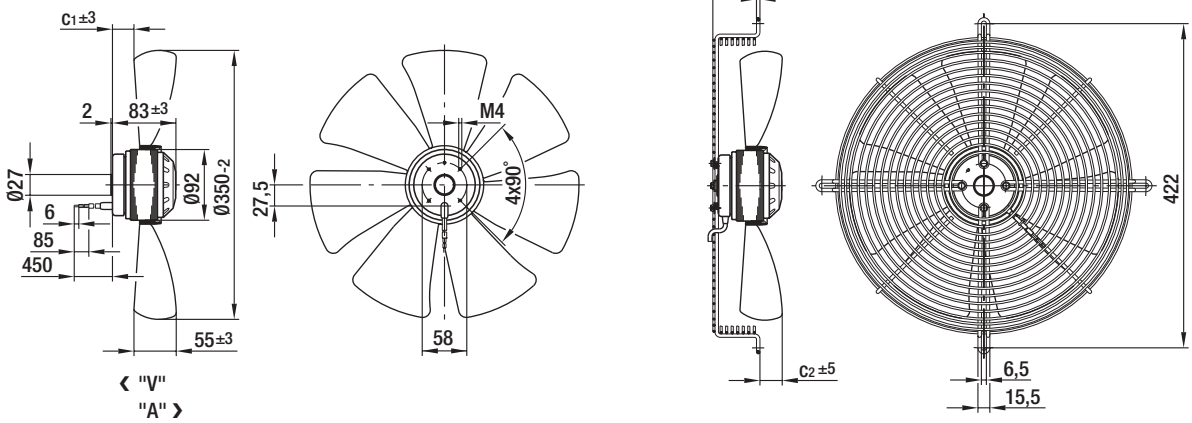
	n [min^{-1}]	P_1 [W]
① ❶	1335	110
① ❷	1300	120

Characteristics

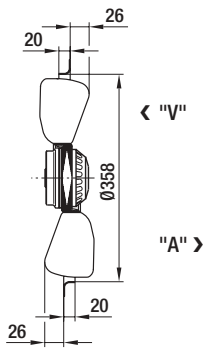


ebmpapst

Selection	Cable exit	Direction of air flow			Dimensions	
Type	S/A/B				c_1	c_2
*4E 350	A	"V"	A4E 350-AF20 -05	S4E 350-AF20 -01	18	19
		"A"	A4E 350-AF20 -06	S4E 350-AF20 -02	28	29



Mounting configuration



AC axial fans

K-Range, Ø 360

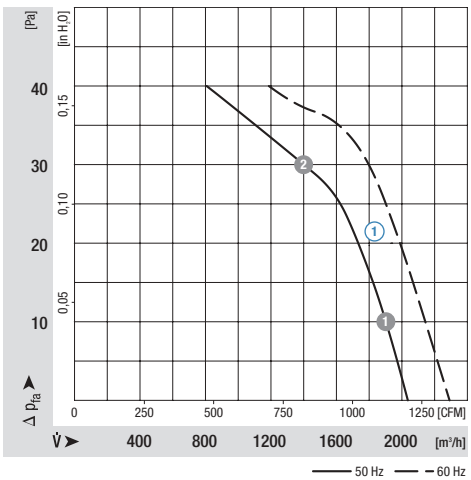
ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
***6E 360**	M6E 068-DF	①	230 230	50 60	2030 2290	850 960	65 85	0,29 0,38	2,5/400 2,5/400	46 51	40 40	50 40	2,0

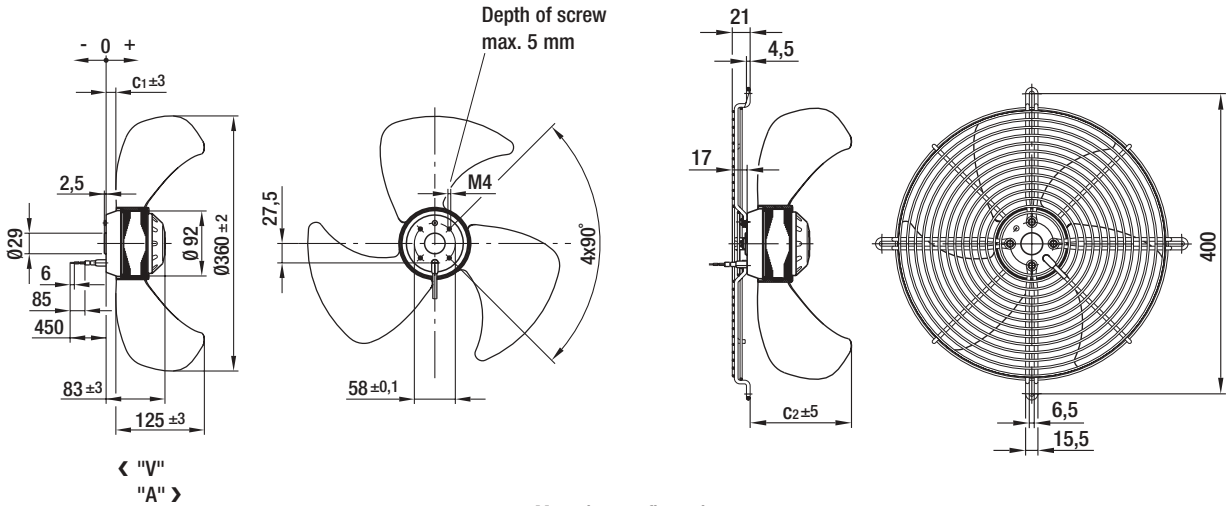
subject to alterations

	n [min⁻¹]	P_1 [W]
① ❶	850	64
① ❷	820	67

Characteristics

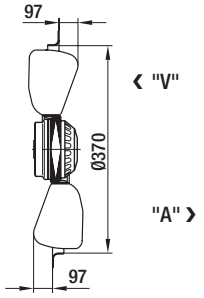


Selection	Cable exit	Direction of air flow			Dimensions	
Type	S/A/B				c_1	c_2
*6E 360	A	"V"	A6E 360-AE08 -01	S6E 360-AE08 -01	13	134
		"A"	A6E 360-AE08 -02	---	-42	---



‹ "V"
"A" ›

Mounting configuration



‹ "V"

"A" ›

AC axial fans

K-Range, Ø 360

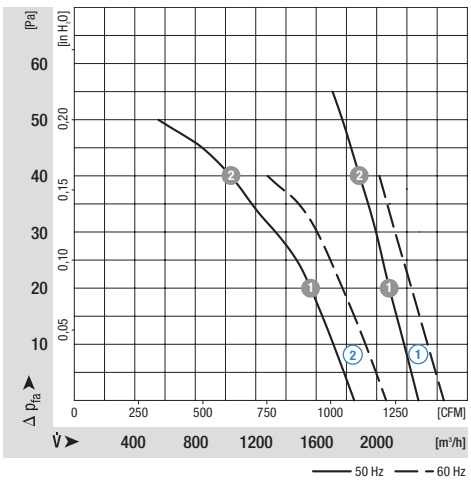
ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
***4E 360**	M4E068-DF	①	230 230	50 60	2275 2440	1320 1430	115 145	0,54 0,64	3,0/400 3,0/400	55 57	55 40	40 40	2,1
***6E 360**	M6E068-DF	②	230 230	50 60	1850 2060	850 960	65 85	0,29 0,38	2,5/400 2,5/400	49 52	50 40	55 45	2,2

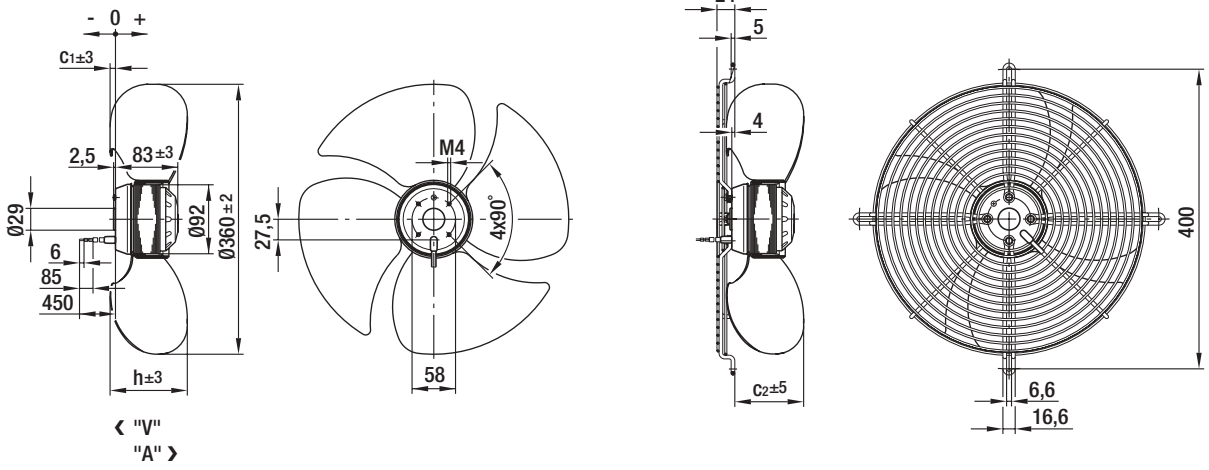
subject to alterations

		n [min⁻¹]	P_1 [W]
①	1	1310	113
①	2	1300	119
②	1	840	66
②	2	790	71

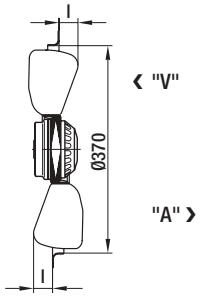
Characteristics



Selection					Dimensions			
Type	S/A/B	Direction of air flow			c_1	c_2	h	l
*4E 360	B	"V"	A4E 360-AC20 -05	S4E 360-EC20 -05	8	88	84	43
		"A"	A4E 360-AC20 -06	---	-8	72	84	43
*6E 360	A	"V"	A6E 360-AA08 -05	S6E 360-EA08 -05	-11	65	103	65
		"A"	A6E 360-AA08 -06	---	-8	38	103	65



Mounting configuration



AC axial fans

K-Range, Ø 450

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
***6E 450-AF**[1]	M6E 074-EI	①	230	50	4565	890	140	0,62	4,0/400	57	45	45	3,7
***6E 450-AG**	M6E 074-GA	②	230 230	50 60[2]	4550 5050	890 990	142 190	0,65 0,84	4,0/400 4,0/400	57 61	45 50	50 40	4,2

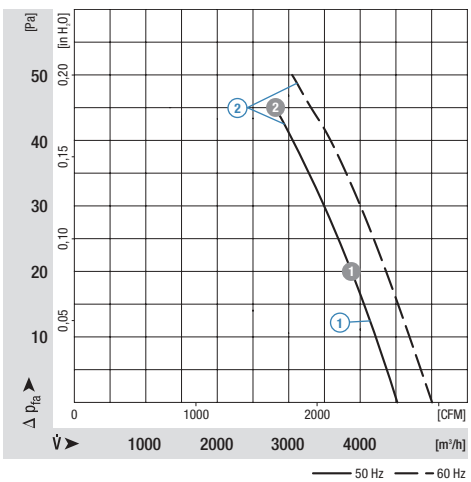
subject to alterations

[1] Insulation class "F"

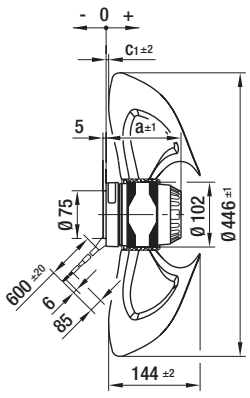
[1] Insulation class "F" required at 60 Hz

		n [min⁻¹]	P_1 [W]
①	❶	890	147
①	❷	870	155
②	❶	880	151
②	❷	860	160

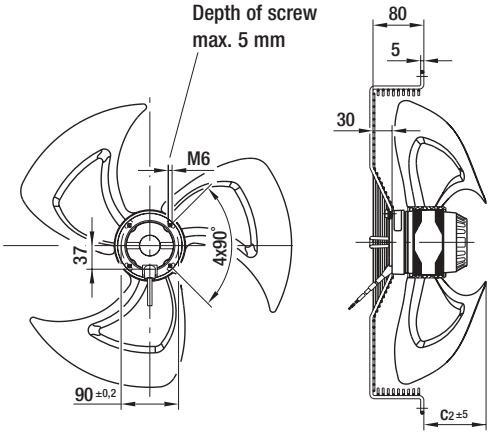
Characteristics

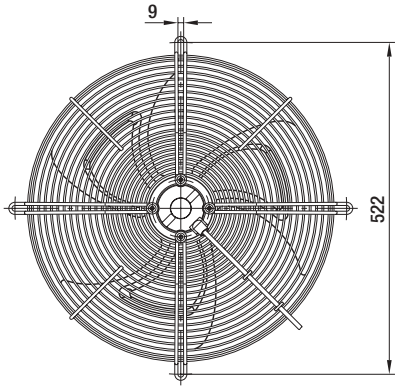


Selection	Cable exit	Direction of air flow			Dimensions		
Type	**S/A/B**				**a**	**c_1**	**c_2**
***6E 450-AF**	B	"V"	A6E 450-AF08 -01	S6E 450-AF08 -01	117	4	98
		"A"	A6E 450-AF08 -02	---	117	-18	---
***6E 450-AG**	B	"V"	A6E 450-AG05 -01	S6E 450-AG05 -01	129	4	98
		"A"	A6E 450-AG05 -02	---	129	-18	---

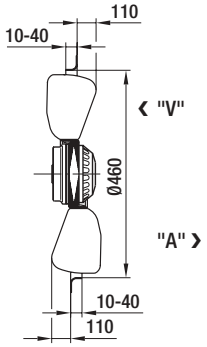


‹ "V"
"A" ›





Mounting configuration



AC axial fans

K-Range, Ø 450

ebm-papst · Mulfingen

Nominal data

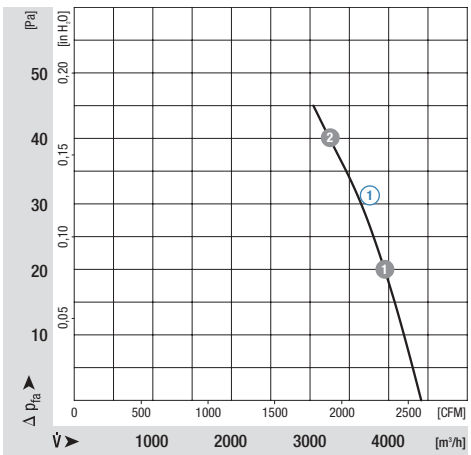
Type	Motor	Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass
			VAC	Hz	m^3/h	min^{-1}	W	A	µF/VDB	dB(A)	Pa	°C	kg
*6E 450[1]	M6E 074-EI	①	230	50	4415	900	145	0,64	4,0/400	61	45	55	3,0

subject to alterations

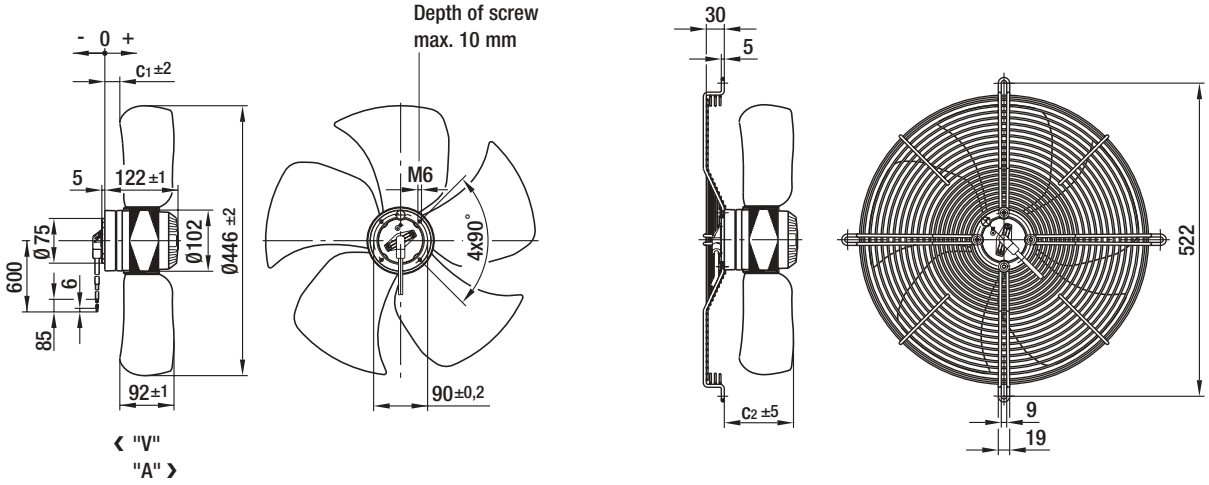
[1] Insulation class "F"

	n [min^{-1}]	P_1 [W]
① ❶	880	151
① ❷	850	160

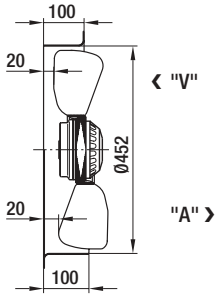
Characteristics



Selection	Cable exit	Direction of air flow			Dimensions	
Type	S/A/B				c_1	c_2
*6E 450	S	"V"	A6E 450-AN08 -01	S6E 450-BN08 -01	8	100
		"A"	A6E 450-AN08 -02	S6E 450-BN08 -02	25	117



Mounting configuration



AC axial fans

A-Range, Ø 200

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
***2D 200**[1]	M2D068-CF	①	230/400 230/400	50 60	830 940	2800 3150	53 70	0,15 0,14	--- ---	67 70	140 140	75 75	1,7
***2E 200**	M2E068-CA	②	230 230	50 60	740 830	2740 3120	50 61	0,24 0,28	1,5/400 1,5/400	65 69	200 200	75 75	1,4
***4D 200**[1]	M4D068-CF	③	230/400 230/400	50 60	390 460	1450 1730	22 21	0,09 0,07	--- ---	51 55	70 100	60 80	1,5
***4S 200**	M4S068-BF	④	230 230	50 60	375 445	1380 1630	40 34	0,30 0,24	--- ---	52 53	60 80	50 65	1,2

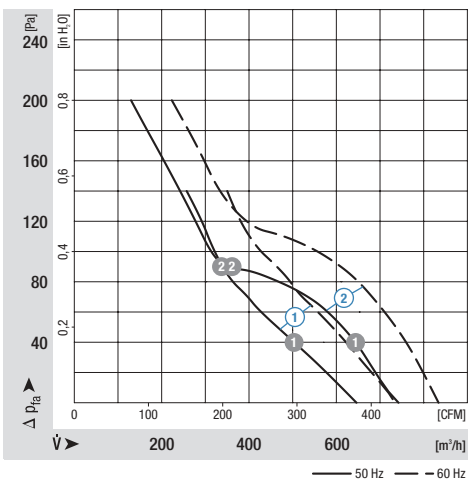
subject to alterations

[1] Current draw established at 400 VAC (Y)

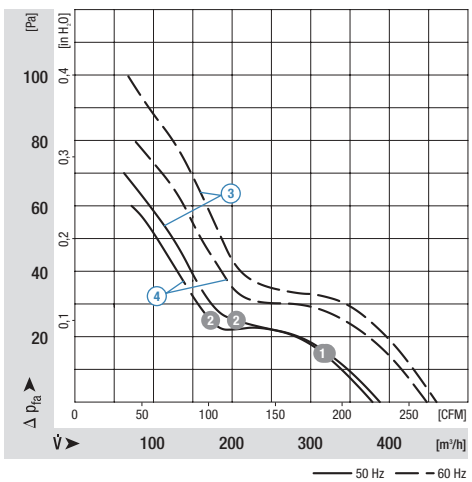
		n [min⁻¹]	P_1 [W]
①	1	2785	53
①	2	2770	55
②	1	2670	51
②	2	2670	50

		n [min⁻¹]	P_1 [W]
③	1	1460	24
③	2	1460	24
④	1	1375	40
④	2	1380	39

Characteristics

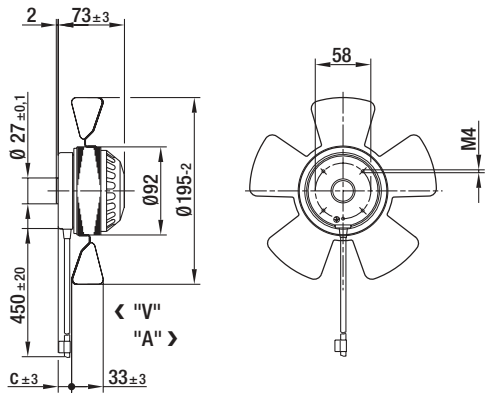


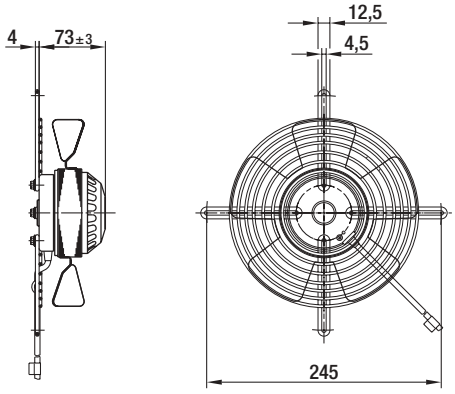
Characteristics

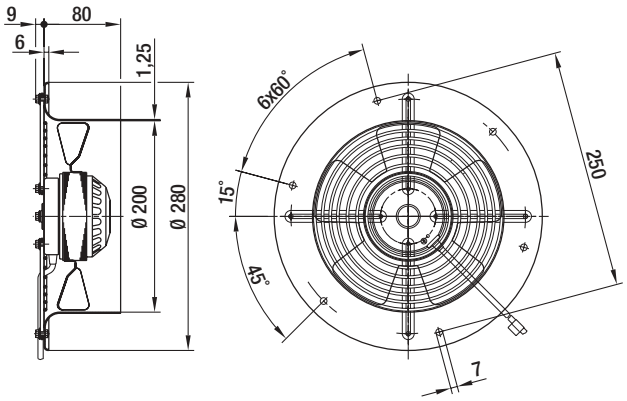


ebmpapst

Selection	Cable exit	Direction of air flow				Dimensions
Type	S/A/B					c
*2D 200	S	"V"	A2D200-AA02 -01	S2D200-BA02 -01	W2D200-CA02 -01	21
		"A"	A2D200-AA02 -02	S2D200-BA02 -02	W2D200-CA02 -02	21
*2E 200	B	"V"	A2E200-AF02 -01	S2E200-BF02 -01	W2E200-CF02 -01	21
		"A"	A2E200-AF02 -02	S2E200-BF02 -02	W2E200-CF02 -02	21
*4D 200	S	"V"	A4D200-AA04 -01	S4D200-BA04 -01	W4D200-CA04 -01	20
		"A"	A4D200-AA04 -02	S4D200-BA04 -02	W4D200-CA04 -02	20
*4S 200	S	"V"	A4S200-AA02 -01	S4S200-BA02 -01	W4S200-CA02 -01	20
		"A"	A4S200-AA02 -02	S4S200-BA02 -02	W4S200-CA02 -02	20







AC axial fans

A-Range, Ø 250

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
***2D 250**[1]	M2D068-DF	①	230/400 230/400	50 60	1685 1845	2650 2950	110 160	0,22 0,26	--- ---	72 75	300 300	70 40	2,2
***2E 250**	M2E068-DF	②	230 230	50 60	1610 1740	2550 2750	115 165	0,51 0,74	4,0/400 4,0/400	72 73	150 130	55 50	2,2
***4D 250**[1]	M4D068-CF	③	230/400 230/400	50 60	890 1035	1420 1650	30 35	0,09 0,08	--- ---	58 62	90 100	75 75	1,6
***4S 250**	M4S068-CF	④	230 230	50 60	870 1000	1400 1620	72 67	0,53 0,46	--- ---	58 62	80 100	40 50	1,7

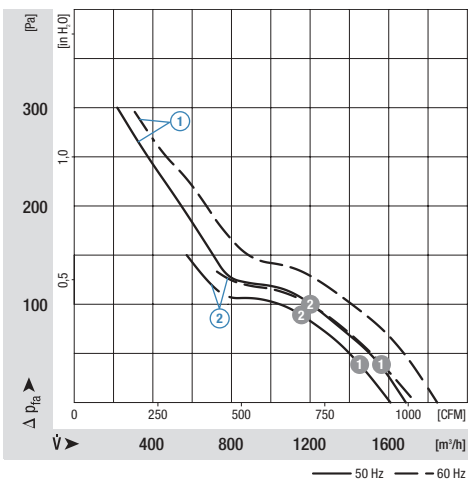
subject to alterations

[1] Current draw established at 400 VAC (Y)

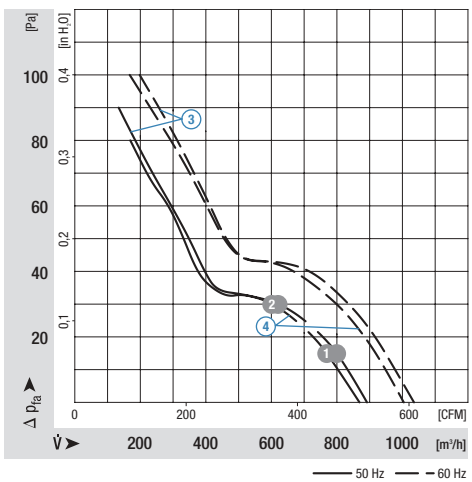
		n [min⁻¹]	P_1 [W]
①	❶	2645	123
①	❷	2615	131
②	❶	2520	122
②	❷	2480	126

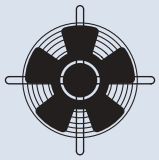
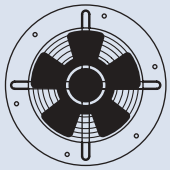
		n [min⁻¹]	P_1 [W]
③	❶	1420	32
③	❷	1410	33
④	❶	1400	70
④	❷	1395	71

Characteristics

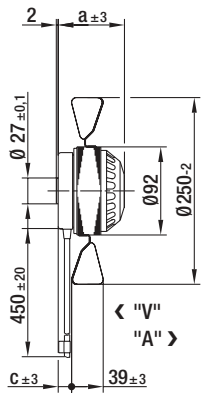


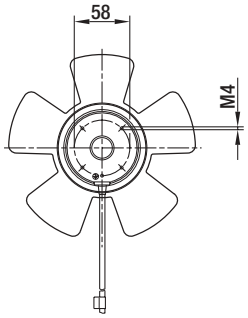
Characteristics

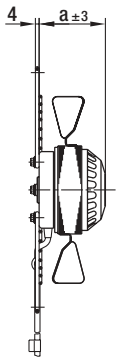


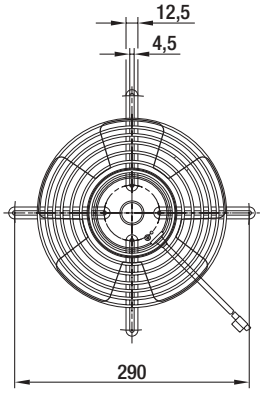




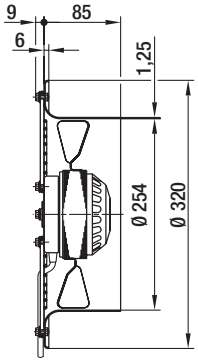
Selection						Dimensions	
Type	Cable exit	Direction of air flow				a	c
*2D 250	S	"V"	A2D250-AA02 -01	S2D250-BA02 -01	W2D250-CA02 -01	83	25
		"A"	A2D250-AA02 -02	S2D250-BA02 -02	W2D250-CA02 -02	83	25
*2E 250	B	"V"	A2E250-AE65 -01	S2E250-BE65 -01	W2E250-CE65 -01	83	25
		"A"	A2E250-AE65 -02	S2E250-BE65 -02	W2E250-CE65 -02	83	25
*4D 250	S	"V"	A4D250-AA04 -01	S4D250-BA04 -01	W4D250-CA04 -01	73	19
		"A"	A4D250-AA04 -02	S4D250-BA04 -02	W4D250-CA04 -02	73	19
*4S 250	S	"V"	A4S250-AA02 -01	S4S250-BA02 -01	W4S250-CA02 -01	73	19
		"A"	A4S250-AA02 -02	S4S250-BA02 -02	W4S250-CA02 -02	73	19

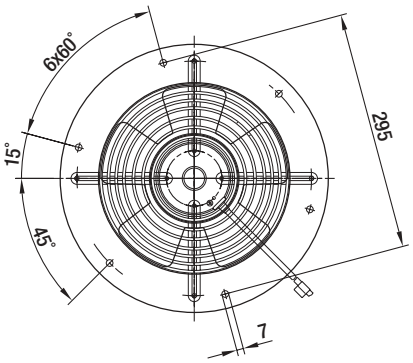












AC axial fans

A-Range, Ø 300

ebm-papst · Mulfingen

Nominal data

Type	Motor	Characteristic	Voltage VAC	Frequency Hz	Air flow m³/h	Speed/rpm min⁻¹	Power input W	Current draw A	Capacitor µF/VDB	Noise level dB(A)	Max. back pressure Pa	Perm. amb. temp. °C	Mass kg
*2D 300[1]	M2D068-EC	①	230/400 230/400	50 60	2760 2940	2650 2800	180 270	0,31 0,41	--- ---	76 77	150 100	60 40	2,7
*2E 300	M2E068-EC	②	230 230	50 60	2440 2700	2650 2900	140 190	0,62 0,83	5,0/400 5,0/400	75 78	150 150	55 50	2,5
*4D 300[1]	M4D068-DF	③	230/400 230/400	50 60	1740 1910	1370 1520	85 110	0,21 0,22	--- ---	66 68	100 110	55 40	2,3
*4E 300	M4E068-DF	④	230 230	50 60	1690 1830	1350 1450	95 105	0,44 0,47	3,0/400 2,0/400	65 66	120 100	45 40	2,3
*4S 300	M4S068-DF	⑤	230 230	50 60	1440 1600	1380 1550	94 94	0,67 0,67	--- ---	62 64	75 60	30 40	2,1

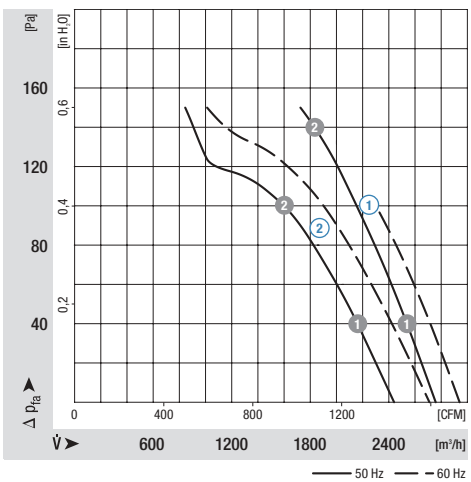
subject to alterations

[1] Current draw established at 400 VAC (Y)

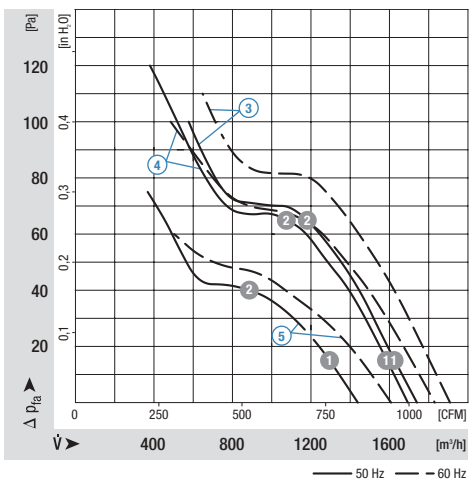
		n [min⁻¹]	P_1 [W]
①	❶	2610	190
①	❷	2535	220
②	❶	2600	149
②	❷	2530	162

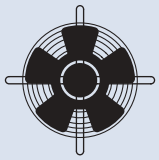
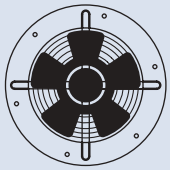
		n [min⁻¹]	P_1 [W]
③	❶	1360	86
③	❷	1345	94
④	❶	1345	96
④	❷	1315	101
⑤	❶	1375	92
⑤	❷	1360	94

Characteristics

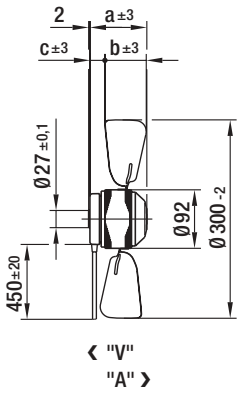


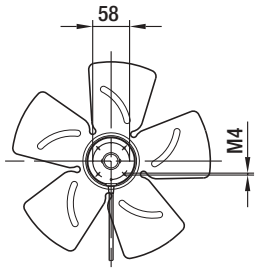
Characteristics

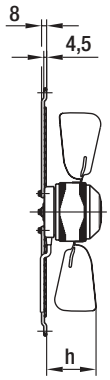


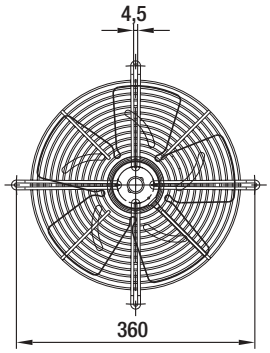




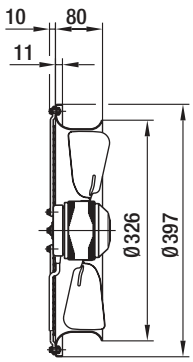
Selection	Cable exit	Direction of air flow				Dimensions			
Type	S/A/B					a	b	c	h
*2D 300	S	"V"	A2D300-AD02 -01	S2D300-BD02 -01	W2D300-CD02 -01	101	30	32	64
		"A"	A2D300-AD02 -02	S2D300-BD02 -02	W2D300-CD02 -02	101	30	32	64
*2E 300	S	"V"	A2E300-AC47 -01	S2E300-BC47 -01	W2E300-CC47 -01	98	20	30	50
		"A"	A2E300-AC47 -02	S2E300-BC47 -02	W2E300-CC47 -02	98	20	17	37
*4D 300	S	"V"	A4D300-AA02 -01	S4D300-BA02 -01	W4D300-CA02 -01	83	56	20	73
		"A"	A4D300-AA02 -02	S4D300-BA02 -02	W4D300-CA02 -02	83	56	20	73
*4E 300	S	"V"	A4E300-AA01 -01	S4E300-BA01 -01	W4E300-CA01 -01	83	56	20	73
		"A"	A4E300-AA01 -02	S4E300-BA01 -02	W4E300-CA01 -02	83	56	20	73
*4S 300	S	"V"	A4S300-AA02 -01	S4S300-BA02 -01	W4S300-CA02 -01	83	30	20	52
		"A"	A4S300-AA02 -02	S4S300-BA02 -02	W4S300-CA02 -02	83	30	20	52

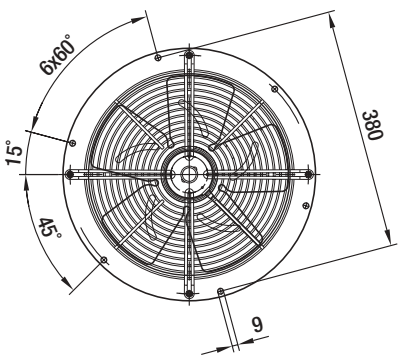












AC axial fans

A-Range, Ø 315

ebm-papst · Mulfingen

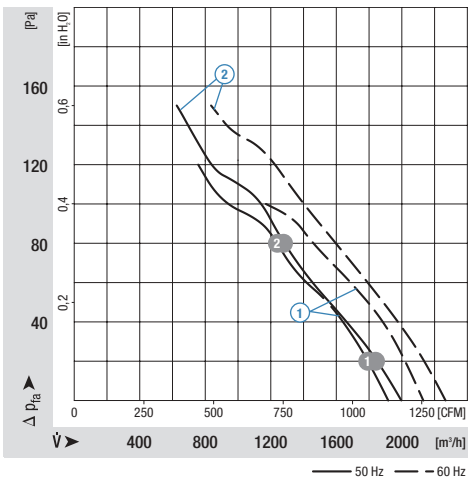
Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
***4D 315**[1]	M4D068-EC	①	230/400 230/400	50 60	1990 2260	1400 1590	78 115	0,19 0,21	--- ---	65 68	150 150	80 60	2,8
***4E 315**[2]	M4E068-EC	②	230 230	50 60	1950 2230	1400 1610	120 135	0,53 0,60	5,0/400 4,0/400	67 70	180 120	50 45	2,8

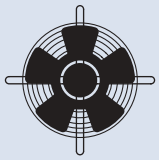
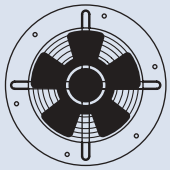
subject to alterations

[1] Current draw established at 400 VAC (Y) [2] Insulation class "F"

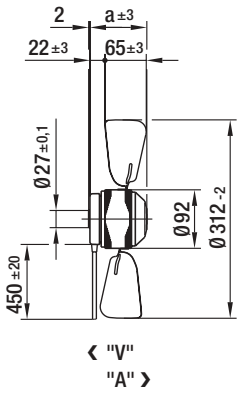
		n [min⁻¹]	P_1 [W]
①	1	1390	82
①	2	1370	95
②	1	1395	123
②	2	1360	136

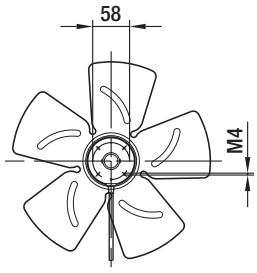
Characteristics

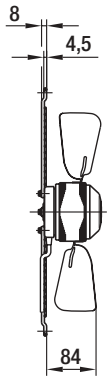


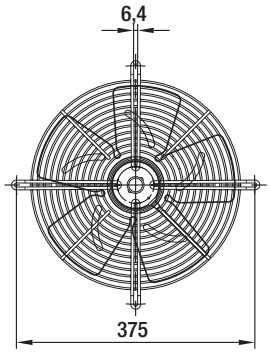




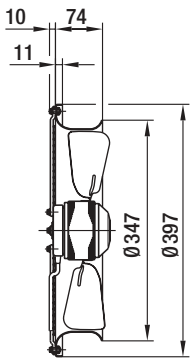
Selection	Cable exit	Direction of air flow				Dimensions
Type	**S/A/B**					**a**
***4D 315**	S	"V"	A4D315-AC20 -01	S4D315-BC20 -01	W4D315-CC20 -01	101
		"A"	A4D315-AC20 -02	S4D315-BC20 -02	W4D315-CC20 -02	101
***4E 315**	S	"V"	A4E315-AA05 -01	S4E315-BA05 -01	W4E315-CA05 -01	92
		"A"	A4E315-AA05 -02	S4E315-BA05 -02	W4E315-CA05 -02	92

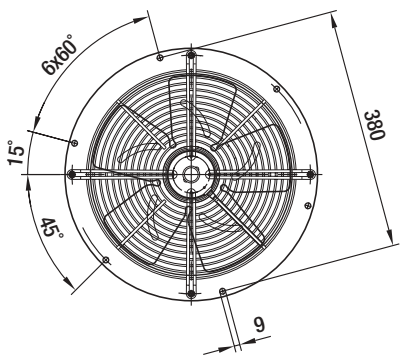












AC axial fans

A-Range, Ø 350

ebm-papst · Mulfingen

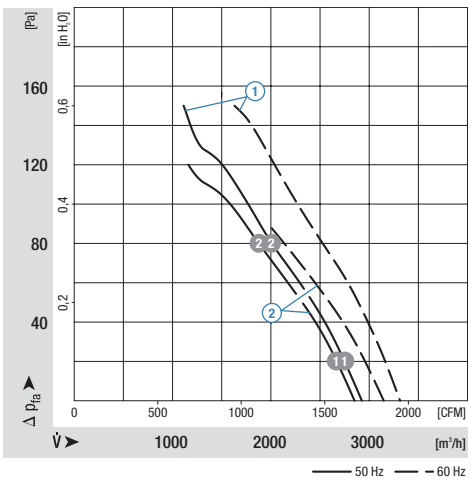
Nominal data		Characteristic	Voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Noise level	Max. back pressure	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**µF/VDB**	**dB(A)**	**Pa**	**°C**	**kg**
***4D 350**[1]	M4D068-EC	①	230/400 230/400	50 60	2900 3300	1420 1620	145 190	0,39 0,36	--- ---	69 72	150 150	45 40	3,1
***4E 350**	M4E068-EC	②	230 230	50 60	2850 3190	1390 1550	140 195	0,62 0,86	5,0/400 5,0/400	68 70	120 90	60 40	3,1

subject to alterations

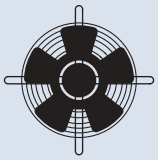
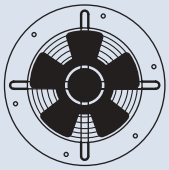
[1] Current draw established at 400 VAC (Y)

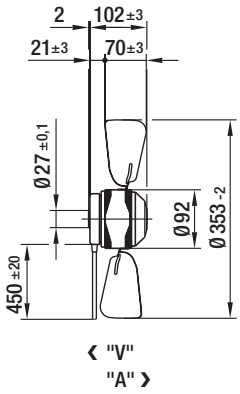
		n [min⁻¹]	P_1 [W]
①	1	1405	154
①	2	1390	169
②	1	1375	147
②	2	1345	161

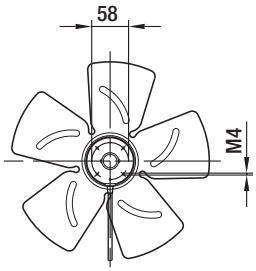
Characteristics

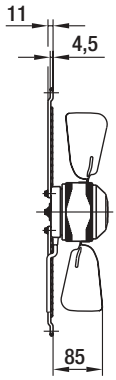


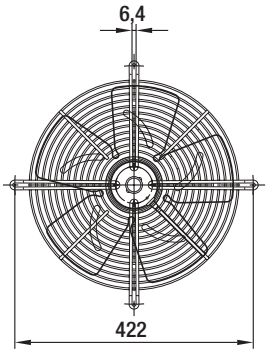
ebmpapst

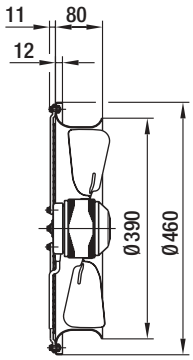
Selection	Cable exit	Direction of air flow			
Type	**S/A/B**				
***4D 350**	S	"V"	A4D350-AA06 -01	S4D350-BA06 -01	W4D350-CA06 -01
		"A"	A4D350-AA06 -02	S4D350-BA06 -02	W4D350-CA06 -02
***4E 350**	S	"V"	A4E350-AA06 -01	S4E350-BA06 -01	W4E350-CA06 -01
		"A"	A4E350-AA06 -02	S4E350-BA06 -02	W4E350-CA06 -02

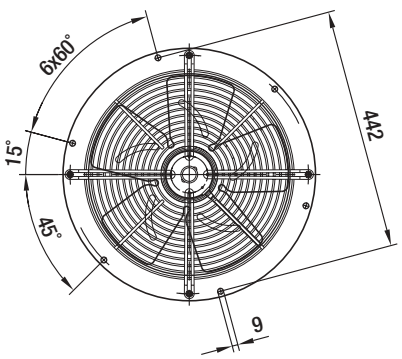


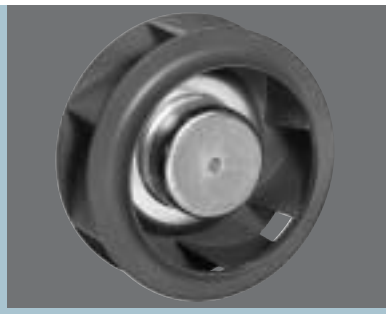


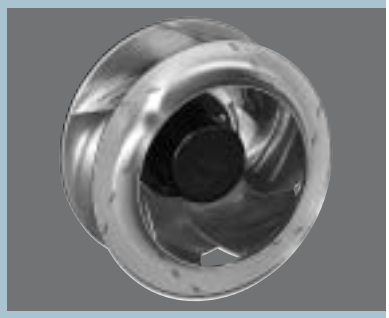












ebmpapst

EC centrifugal fans backward curved

EC centrifugal fans backward curved

Technical information

These centrifugal fans have backward curved blades offering an extremely good aerodynamic efficiency.

Their compact dimensions and excellent performance are their main advantage for use in applications such as computer racks, telecommunication plants, roof ventilators, range hoods, automotive engineering, railway applications, etc.

Impellers

Backward curved impellers, also known as free-wheeling, are available in four designs:

a) made of plastic with galvanised sheet steel backplate
b) completely made of plastic
c) completely made of galvanised sheet steel
d) completely made of sheet aluminium

The impeller are press-fitted onto the rotor or screwed onto a flange and dynamically balanced in two planes to DIN ISO 1940.

Air performance characteristic

Air performance curves are determined with ebm inlet rings in sucking mode.

For different operating points, parameters are listed in a table with the following key:

η_{tL} = Total efficiency of the impeller (including dynamic pressure)

Air performance curves at U_N (nominal voltage) and U_R (rated voltage) are determined at 10 V control voltage.

$U_R = 1.15 \times U_N$

Example:

U_N	24 V	48 V
U_R	27.6 V	55.2 V

EC motors / fans 1-core or 3-core,
with integrated commutation electronics

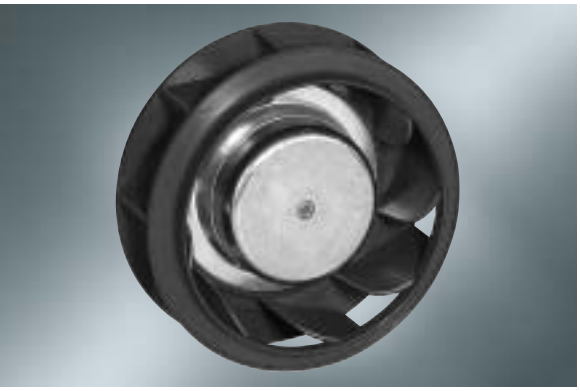
- nominal voltage 24 VDC, 48 VDC
- clockwise rotation
- integrated electronics
- PWM / linear input 0-10 VDC
- tach output
- soft start
- reverse polarity protection
- locked-rotor protection
- EMC
  - RFI suppression according to EN 55014 (up to 5A nom. current)
  - ESD according to EN 61000-4-2
  - Burst according to EN 61000-4-4

EC motors / fans 3-core,
for external commutation electronics

- for external commutation electronics, nominal voltage 24 VDC, 48 VDC and 110 VDC for train applications (with special motor design)
- for external commutation electronics, nominal voltage 200-277 VAC, 50/60 Hz

EC centrifugal fans

backward curved, Ø 120



- **Material:** impeller completely made of plastic PA 6.6 (polyamide, glass-fibre reinforced), injection-moulded round sheet-metal plate
- **Cable exit:** axial

ebm-papst · Mulfingen

Nominal data

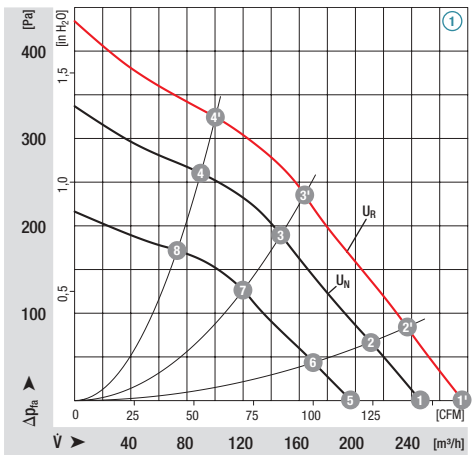
Type	Motor	Characteristic	Voltage	Voltage range	Air flow	Speed/rpm	Power input	Current draw	Noise level	Perm. amb. temp.	Mass
			VDC	VDC	m³/h	min⁻¹	W	A	dB(A)	°C	kg
R1G 120-AD13 -02	M1G045-BE	①	24	16-28	250	4060	26	1,20	62	50	0,5
R1G 120-AD11 -02	M1G045-BE	①	48	36-57	250	4060	26	0,60	62	50	0,5

subject to alterations

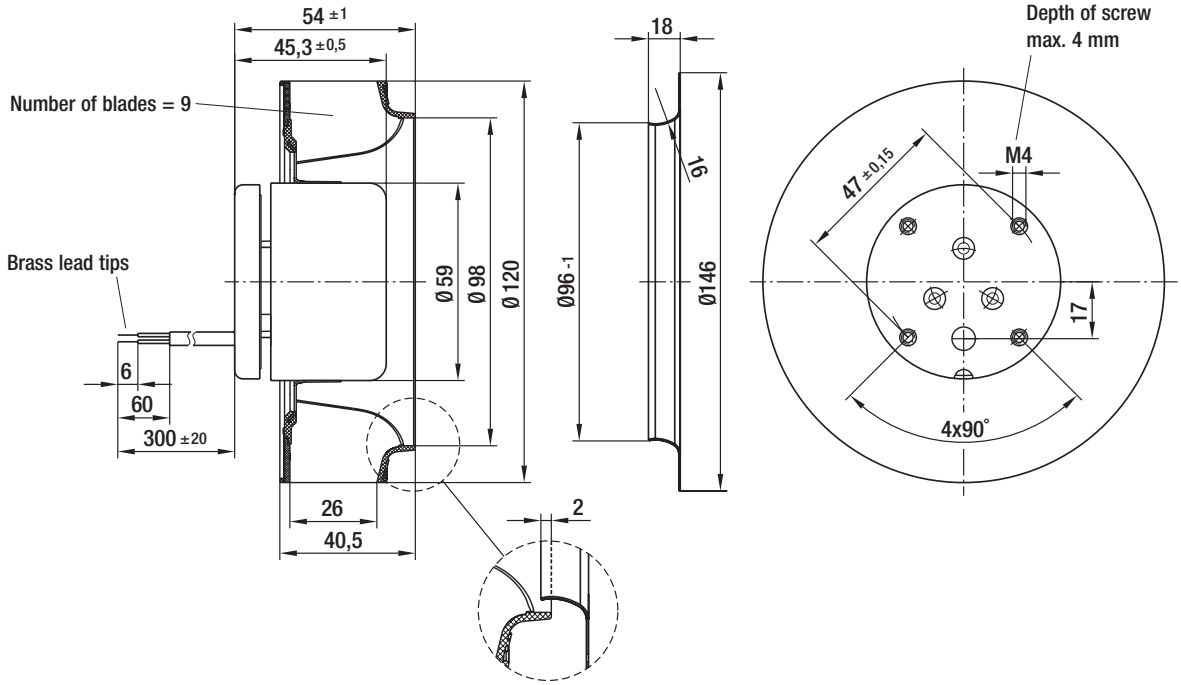
		n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
①	1'	4520	36	---	65
①	2'	4500	36	27	64
①	3'	4540	36	45	61
①	4'	4750	32	39	64
①	1	4060	26	---	62
①	2	4000	26	27	61
①	3	4050	26	45	58
①	4	4200	23	39	61

		n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
①	5	3270	14	---	56
①	6	3250	14	27	55
①	7	3280	14	45	53
①	8	3400	13	39	56

Characteristics

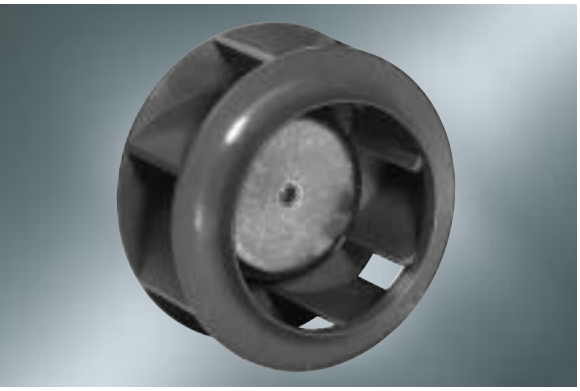


Type	Inlet ring
R1G 120-AD13 -02	96120-2-4013
R1G 120-AD11 -02	96120-2-4013



EC centrifugal fans

backward curved, Ø 133



- **Material:** impeller completely made of plastic PA 6.6 (polyamide, glass-fibre reinforced), injection-moulded round sheet-metal plate
- **Cable exit:** variable

ebm-papst · Mulfingen

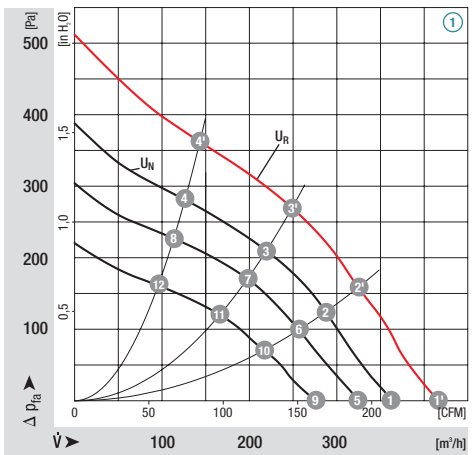
Nominal data

Type	Motor	Characteristic	Voltage	Voltage range	Air flow	Speed/rpm	Power input	Current draw	Noise level	Perm. amb. temp.	Mass
			VDC	VDC	m³/h	min⁻¹	W	A	dB(A)	°C	kg
R1G 133-AA17 -02	M1G055-BD	①	24	16-28	360	3900	28	1,30	63	60	0,7
R1G 133-AA65 -02	M1G055-BD	①	48	36-57	360	3900	28	0,70	63	60	0,7

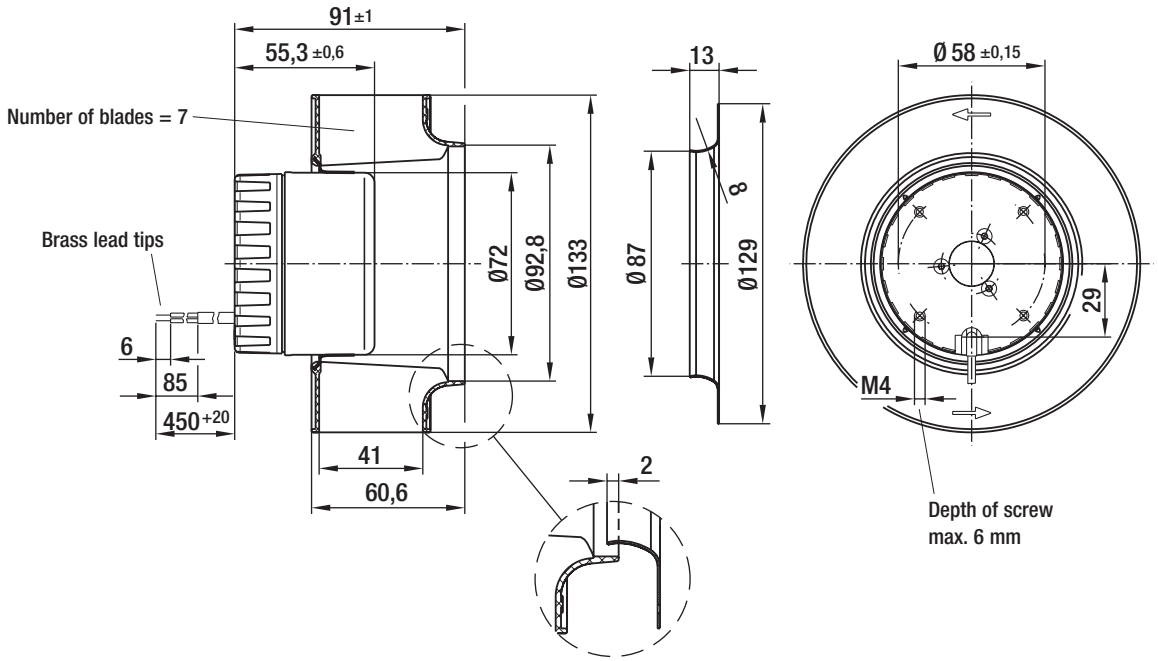
subject to alterations

		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]			n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	1'	4450	39	---	74	①	5	3500	20	---	59
①	2'	4250	44	45	60	①	6	3380	23	45	55
①	3'	4270	44	56	59	①	7	3400	23	56	53
①	4'	4380	41	44	61	①	8	3450	21	44	55
①	1	3900	28	--	63	①	9	2970	13	---	55
①	2	3770	31	45	58	①	10	2860	15	45	51
①	3	3770	31	56	56	①	11	2880	15	56	49
①	4	3850	29	44	58	①	12	2930	14	44	51

Characteristics

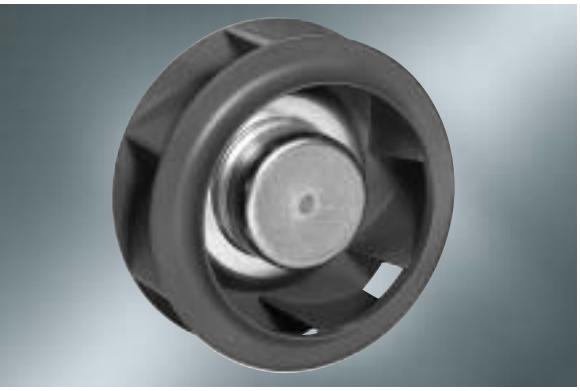


Type	Inlet ring
R1G 133-AA17 -02	09566-2-4013
R1G 133-AA65 -02	09566-2-4013



EC centrifugal fans

backward curved, Ø 175



- **Material:** impeller completely made of plastic PA 6.6 (polyamide, glass-fibre reinforced), injection-moulded round sheet-metal plate
- **Cable exit:** variable

ebm-papst · Mulfingen

Nominal data

Type	Motor	Characteristic	Voltage VDC	Voltage range VDC	Air flow m³/h	Speed/rpm min⁻¹	Power input W	Current draw A	Noise level dB(A)	Perm. amb. temp. °C	Mass kg
R1G 175-AB63 -02	M1G055-BD	①	24	16-28	565	3100	34	1,62	65	60	0,7
R1G 175-AB41 -02	M1G055-BD	①	48	36-57	565	3100	34	0,83	65	60	0,7
R1G 175-AF29 -04	M1G055-CF	②	48	36-52	695	4000	75	1,75	72	40	1,0

subject to alterations

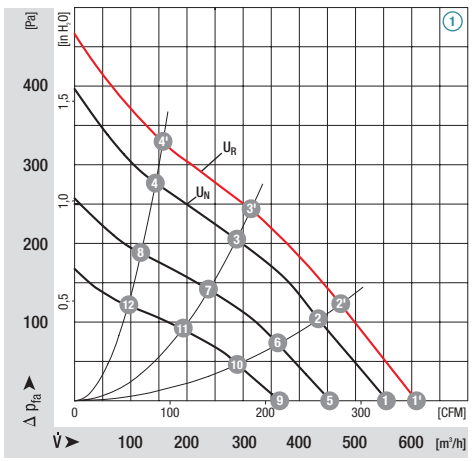
		n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
①	1'	3390	46	---	67
①	2'	3200	51	49	60
①	3'	3170	51	58	58
①	4'	3300	51	39	66
①	1	3100	34	---	65
①	2	2910	39	49	58
①	3	2880	39	58	56
①	4	3010	37	39	64

		n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
①	5	2520	20	---	60
①	6	2430	22	51	54
①	7	2390	23	58	51
①	8	2470	21	39	60
①	9	2050	12	---	56
①	10	1950	13	51	50
①	11	1920	13	58	56
①	12	1990	12	40	53

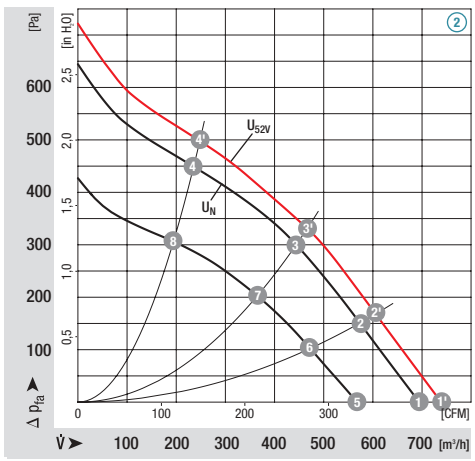
		n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
②	1'	4250	88	---	73
②	2'	4130	93	39	71
②	3'	4050	96	55	67
②	4'	4130	93	43	72
②	1	4000	75	---	72
②	2	3920	80	39	69
②	3	3880	83	55	66
②	4	3920	80	43	71

		n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
②	5	3290	42	---	67
②	6	3250	45	39	64
②	7	3160	47	55	62
②	8	3250	46	43	66

Characteristics



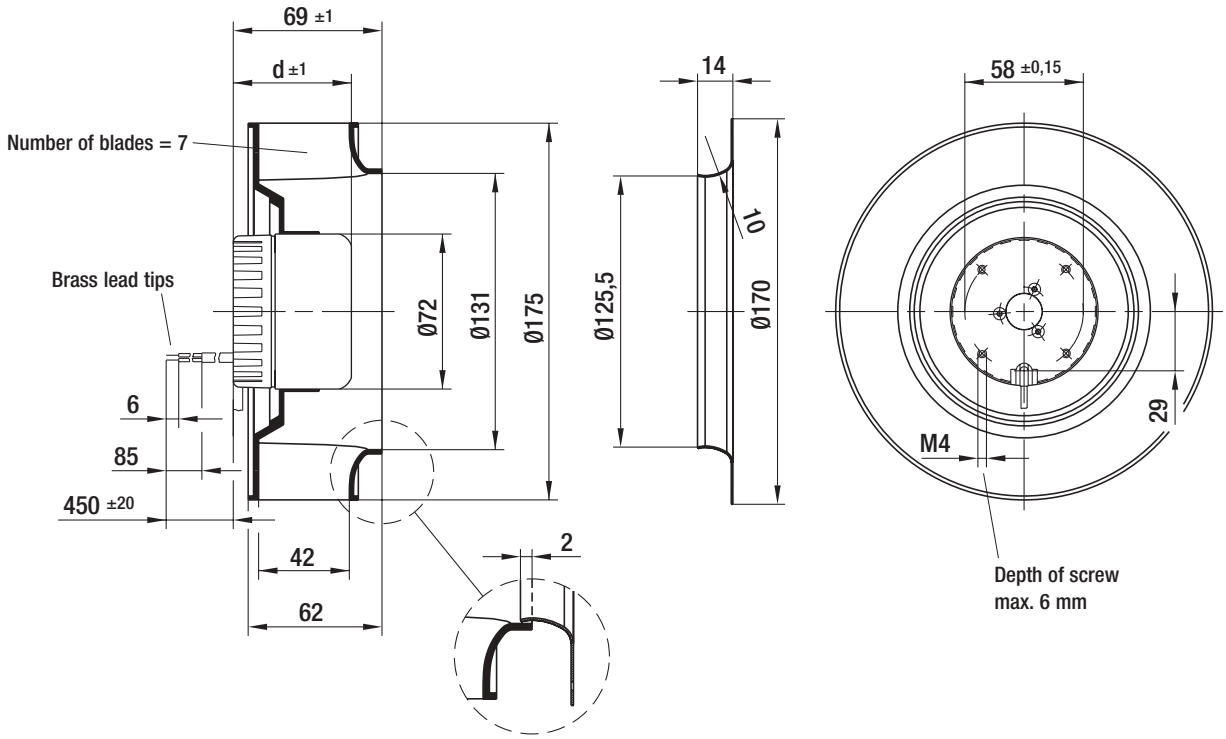
Characteristics



ebmpapst

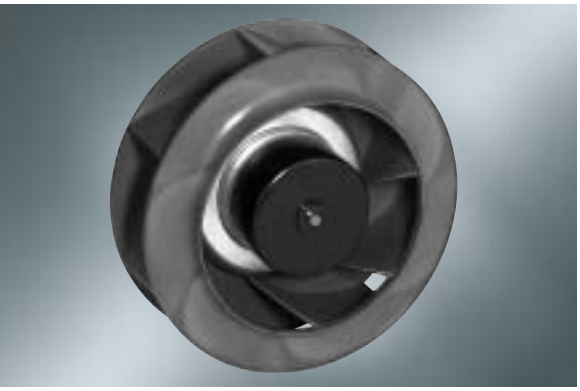
Dimensions

Type	d	Inlet ring
R1G 175-AB63 -02	55,3	09576-2-4013
R1G 175-AB41 -02	55,3	09576-2-4013
R1G 175-AF29 -04	67,0	09576-2-4013



EC centrifugal fans

backward curved, Ø 190



- **Material:** impeller completely made of plastic PA 6.6 (polyamide, glass-fibre reinforced), injection-moulded round sheet-metal plate
- **Cable exit:** variable

ebm-papst · Mulfingen

Nominal data

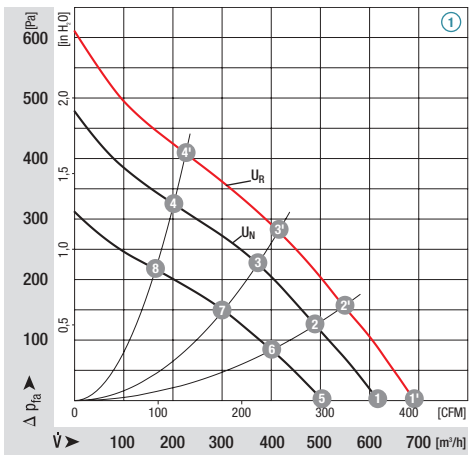
Type	Motor	Characteristic	Voltage	Voltage range	Air flow	Speed/rpm	Power input	Current draw	Noise level	Perm. amb. temp.	Mass
			VDC	VDC	m³/h	min⁻¹	W	A	dB(A)	°C	kg
R1G 190-AB27 -02	M1G055-CF	①	24	16-28	620	2950	51	2,30	68	40	1,0
R1G 190-AB25 -02	M1G055-CF	①	48	36-57	620	2950	51	1,20	68	40	1,0

subject to alterations

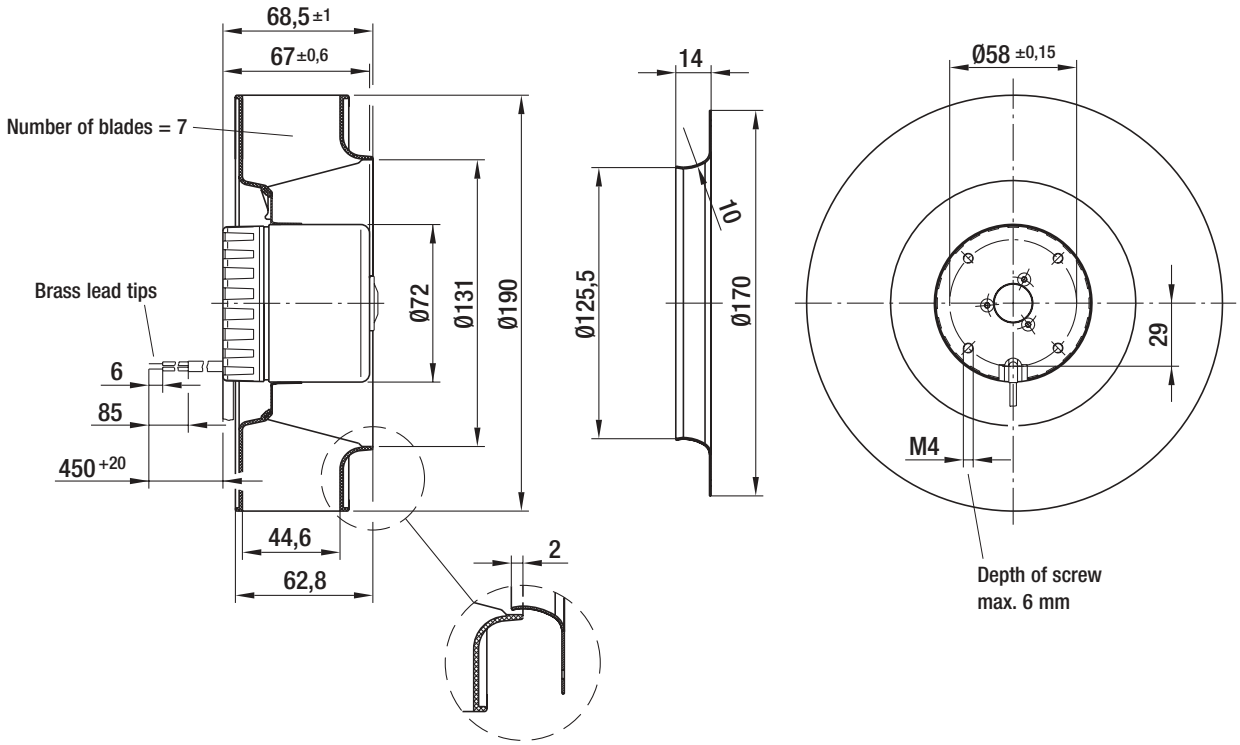
		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	1'	3300	71	---	70
①	2'	3200	75	45	66
①	3'	3160	77	53	63
①	4'	3290	72	42	67
①	1	2950	51	---	68
①	2	2870	54	45	63
①	3	2830	56	53	60
①	4	2940	51	42	63

		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	5	2390	28	---	62
①	6	2340	30	45	58
①	7	2320	31	53	54
①	8	2390	28	42	58

Characteristics



Type	Inlet ring
R1G 190-AB27 -02	09576-2-4013
R1G 190-AB25 -02	09576-2-4013



EC centrifugal fans

backward curved, Ø 190

- **Material:** impeller completely made of plastic PA 6.6 (polyamide, glass-fibre reinforced), injection-moulded round sheet-metal plate
- **Cable exit:** variable
- **Performance curve:** determined at 24 VDC

ebm-papst · Mulfingen

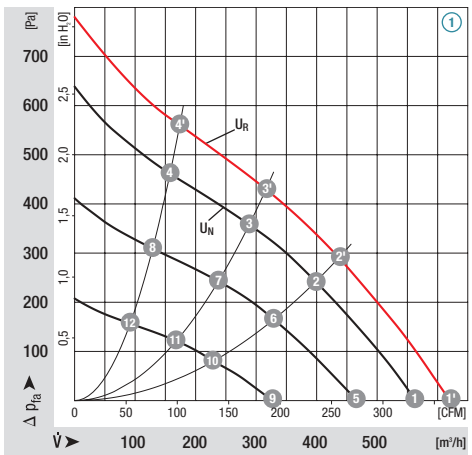
Nominal data

Type	Motor	Characteristic	Voltage	Voltage range	Air flow	Speed/rpm	Power input	Current draw	Noise level	Perm. amb. temp.	Mass
			VDC	VDC	m³/h	min⁻¹	W	A	dB(A)	°C	kg
R1G 190-AC37 -52	M1G074-BF	①	24	16-28	560	3250	80	3,70	68	60	1,3
R1G 190-AC11 -52	M1G074-BF	①	48	36-57	545	3200	71	1,65	68	60	1,3

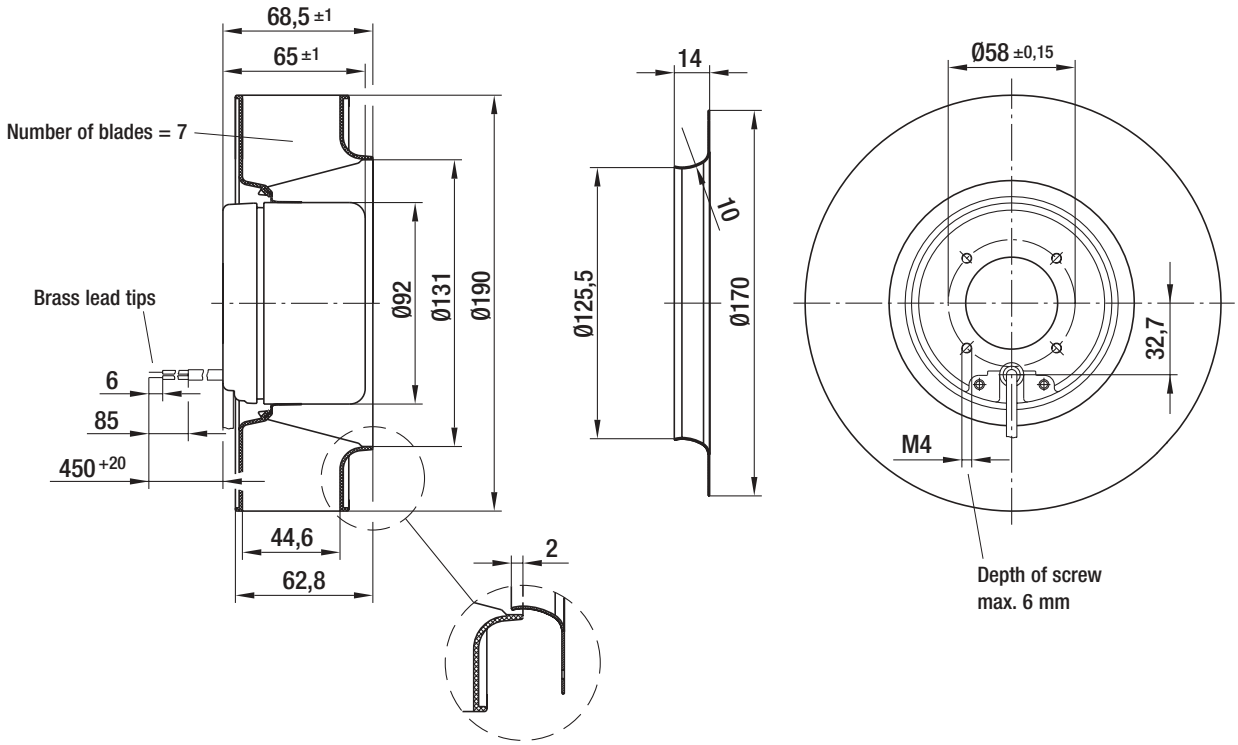
subject to alterations

	n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
① 1'	3580	106	---	71	① 5	2700	47	---	65
① 2'	3590	105	41	66	① 6	2710	47	41	59
① 3'	3630	103	45	65	① 7	2740	45	44	58
① 4'	3770	97	33	69	① 8	2795	42	33	61
① 1	3250	80	---	68	① 9	1910	19	---	60
① 2	3275	80	42	64	① 10	1910	20	39	51
① 3	3300	79	45	63	① 11	1940	19	43	49
① 4	3400	74	34	66	① 12	1985	18	33	52

Characteristics

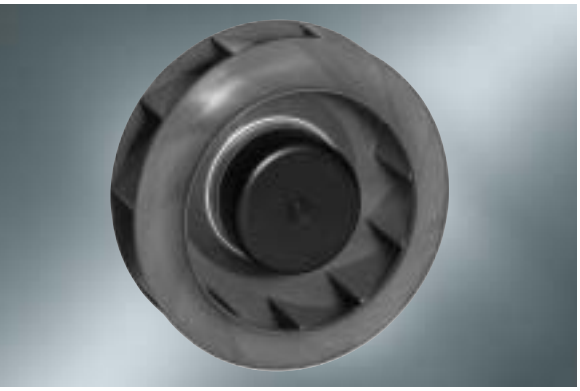


Type	Inlet ring
R1G 190-AC37 -52	09576-2-4013
R1G 190-AC11 -52	09576-2-4013



EC centrifugal fans

backward curved, Ø 220



- **Material:** impeller completely made of plastic PA 6.6 (polyamide, glass-fibre reinforced), injection-moulded round sheet-metal plate
- **Cable exit:** variable
- **Performance curve:** determined at 24 VDC

ebm-papst · Mulfingen

Nominal data

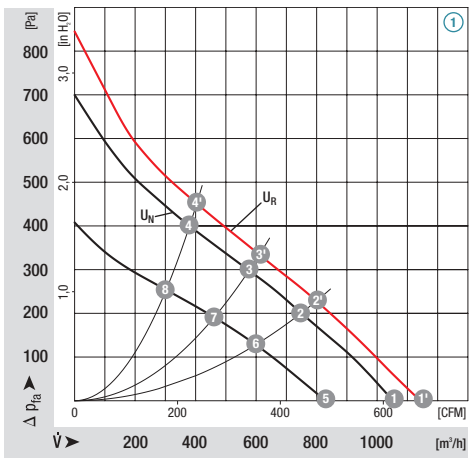
Type	Motor	Characteristic	Voltage	Voltage range	Air flow	Speed/rpm	Power input	Current draw	Noise level	Perm. amb. temp.	Mass
			VDC	VDC	m³/h	min⁻¹	W	A	dB(A)	°C	kg
R1G 220-AB35 -52	M1G074-BF	①	24	16-28	1055	3150	106	5,00	76	60	1,4
R1G 220-AB73 -52	M1G074-BF	①	48	36-57	1015	3100	100	2,40	73	60	1,4

subject to alterations

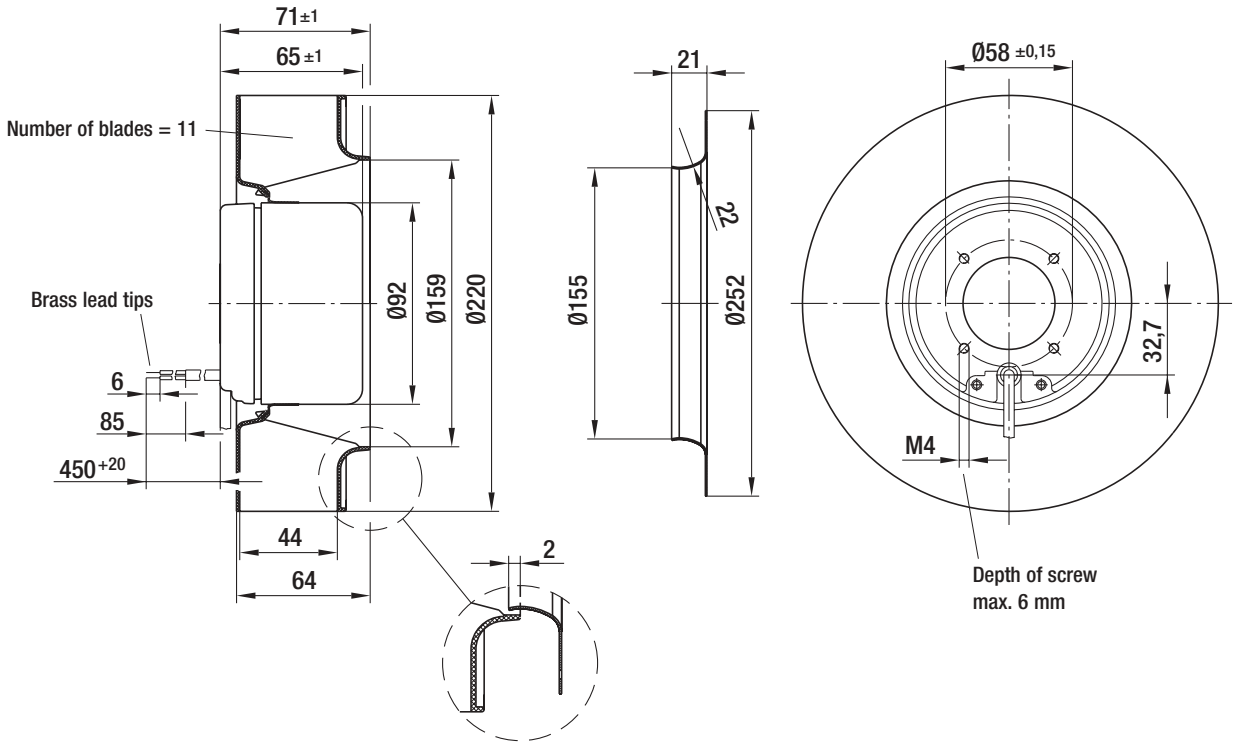
	n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
① 1'	3400	128	---	78
① 2'	3200	132	53	69
① 3'	3050	135	55	67
① 4'	3000	137	46	71
① 1	3150	106	---	76
① 2	3010	110	53	68
① 3	2870	112	55	65
① 4	2800	113	46	69

	n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
① 5	2470	50	---	70
① 6	2360	54	53	63
① 7	2300	57	55	59
① 8	2250	59	46	63

Characteristics

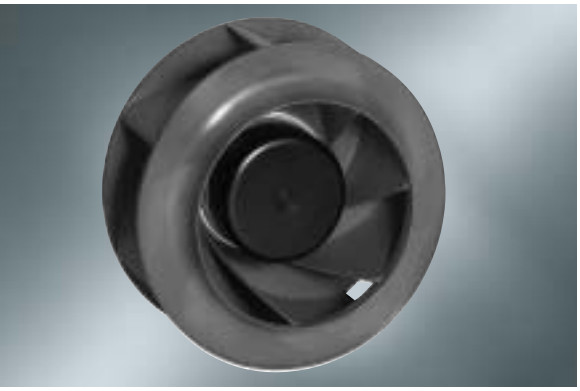


Type	Inlet ring
R1G 220-AB35 -52	09609-2-4013
R1G 220-AB73 -52	09609-2-4013



EC centrifugal fans

backward curved, Ø 225



- **Material:** impeller completely made of plastic PA 6.6 (polyamide, glass-fibre reinforced), injection-moulded round sheet-metal plate
- **Cable exit:** variable
- **Performance curve:** determined at 48 VDC

ebm-papst · Mulfingen

Nominal data

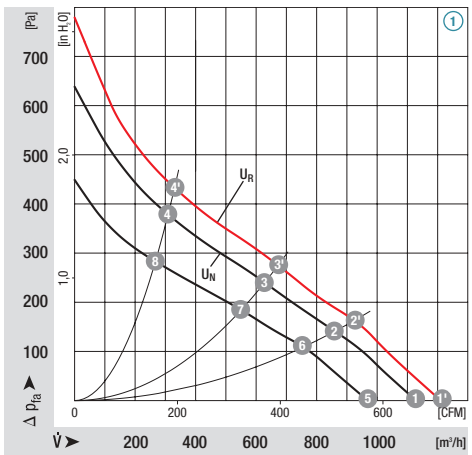
Type	Motor	Characteristic	Voltage VDC	Voltage range VDC	Air flow m³/h	Speed/rpm min⁻¹	Power input W	Current draw A	Noise level dB(A)	Perm. amb. temp. °C	Mass kg
R1G 225-AF07 -52	M1G074-BF	①	24	16-28	1125	2600	100	4,60	67	60	1,5
R1G 225-AF11 -52	M1G074-BF	①	48	36-57	1130	2700	95	2,20	67	60	1,5

subject to alterations

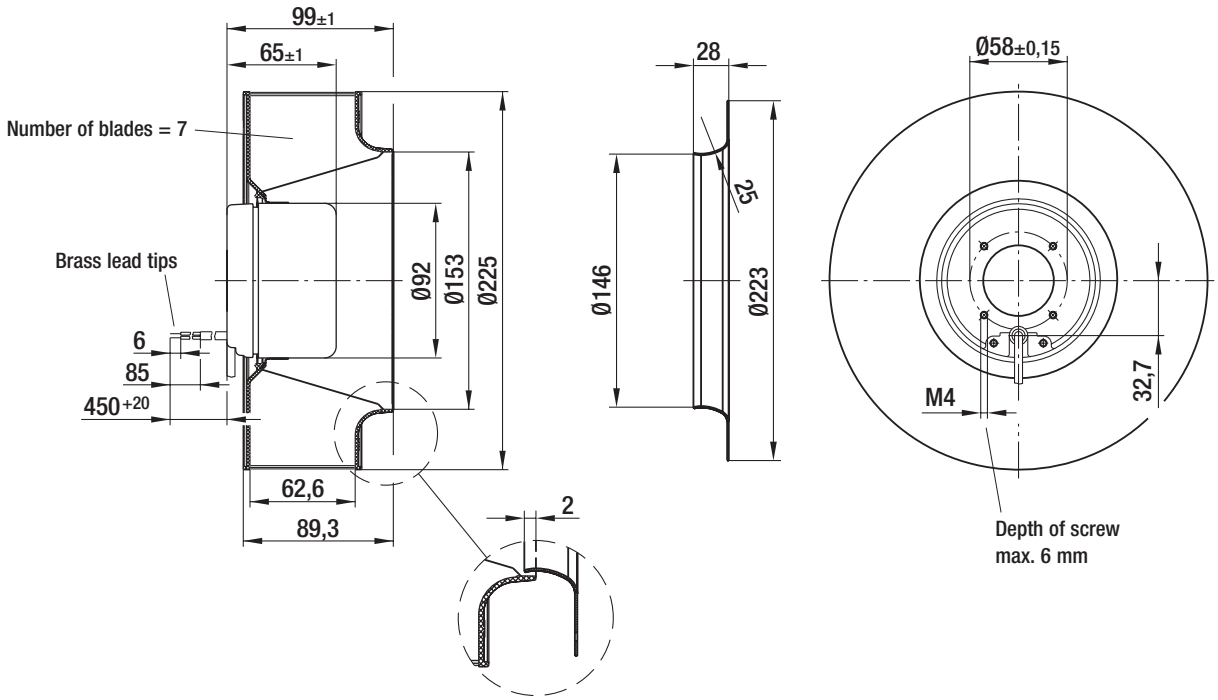
		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	1'	2780	112	---	69
①	2'	2610	116	48	64
①	3'	2570	117	57	62
①	4'	2780	112	42	66
①	1	2700	95	---	67
①	2	2450	93	48	63
①	3	2400	94	57	60
①	4	2610	91	42	64

		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	5	2230	59	---	63
①	6	2150	63	48	58
①	7	2100	64	57	56
①	8	2230	58	42	58

Characteristics



Type	Inlet ring
R1G 225-AF07 -52	96358-2-4013
R1G 225-AF11 -52	96358-2-4013



EC centrifugal fans

backward curved, Ø 250

- **Material:** plastic impeller made of PA 6.6 (polyamide, glass-fibre reinforced), round sheet-metal plate
- **Cable exit:** variable
- **Performance curve:** determined at 48 VDC

ebm-papst · Mulfingen

Nominal data

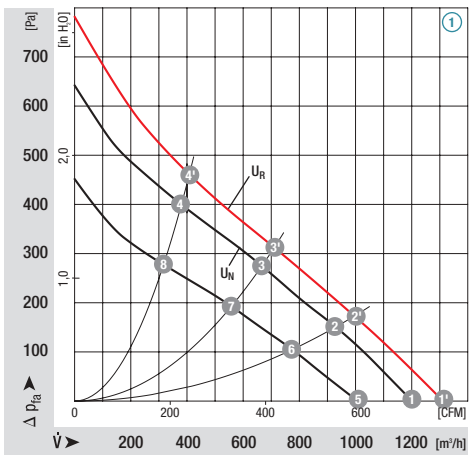
Type	Motor	Characteristic	Voltage VDC	Voltage range VDC	Air flow m³/h	Speed/rpm min⁻¹	Power input W	Current draw A	Noise level dB(A)	Perm. amb. temp. °C	Mass kg
R1G 250-AQ21 -52	M1G074-CF	①	24	16-28	1140	2540	93	4,30	73	60	2,0
R1G 250-AQ37 -52	M1G074-CF	①	48	36-57	1200	2600	105	2,55	72	60	2,0

subject to alterations

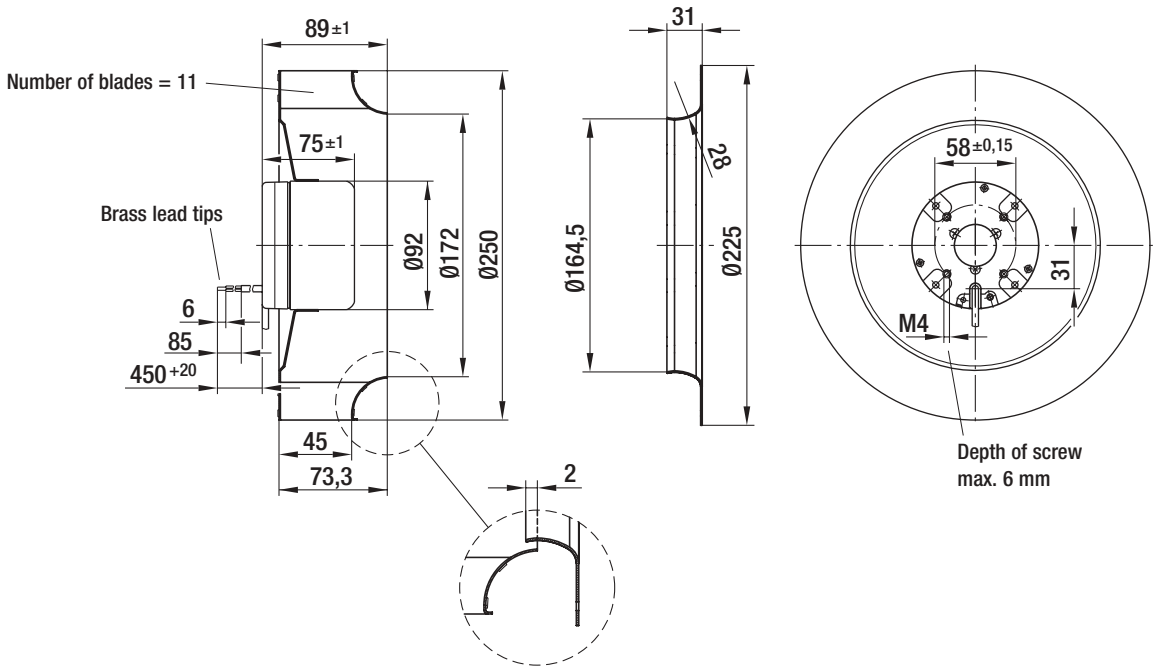
		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	1'	2870	134	---	75
①	2'	2610	139	55	68
①	3'	2530	140	58	63
①	4'	2650	138	48	66
①	1	2600	105	---	72
①	2	2440	114	55	66
①	3	2360	116	58	62
①	4	2490	112	48	64

		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	5	2190	59	---	68
①	6	2020	67	55	62
①	7	2020	70	58	57
①	8	2070	66	48	59

Characteristics



Type	Inlet ring
R1G 250-AQ21 -52	96359-2-4013
R1G 250-AQ37 -52	96359-2-4013



EC centrifugal fans

backward curved, Ø 250

- **Material:** sheet steel
- **Cable exit:** variable

ebm-papst · Mulfingen

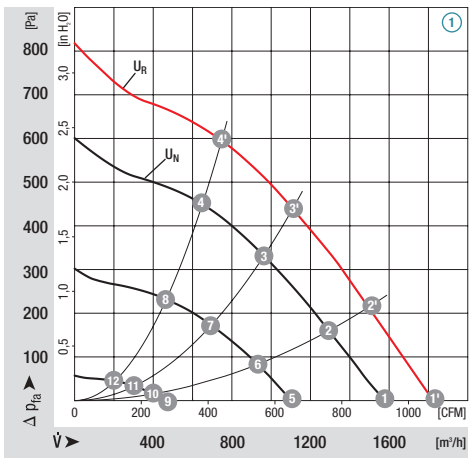
Nominal data		Characteristic	Voltage	Voltage range	Air flow	Speed/rpm	Power input	Current draw	Noise level	Perm. amb. temp.	Mass
Type	**Motor**		**VDC**	**VDC**	**m³/h**	**min⁻¹**	**W**	**A**	**dB(A)**	**°C**	**kg**
R3G 250-AD62 -30	M3G084-CA	①	48	36-57	1580	2645	135	2,80	72	60	3,0

subject to alterations

		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	1'	3055	207	---	75
①	2'	2990	256	45	70
①	3'	2970	274	60	68
①	4'	2980	270	55	71
①	1	2645	135	---	72
①	2	2600	166	45	67
①	3	2580	182	60	64
①	4	2590	177	55	66

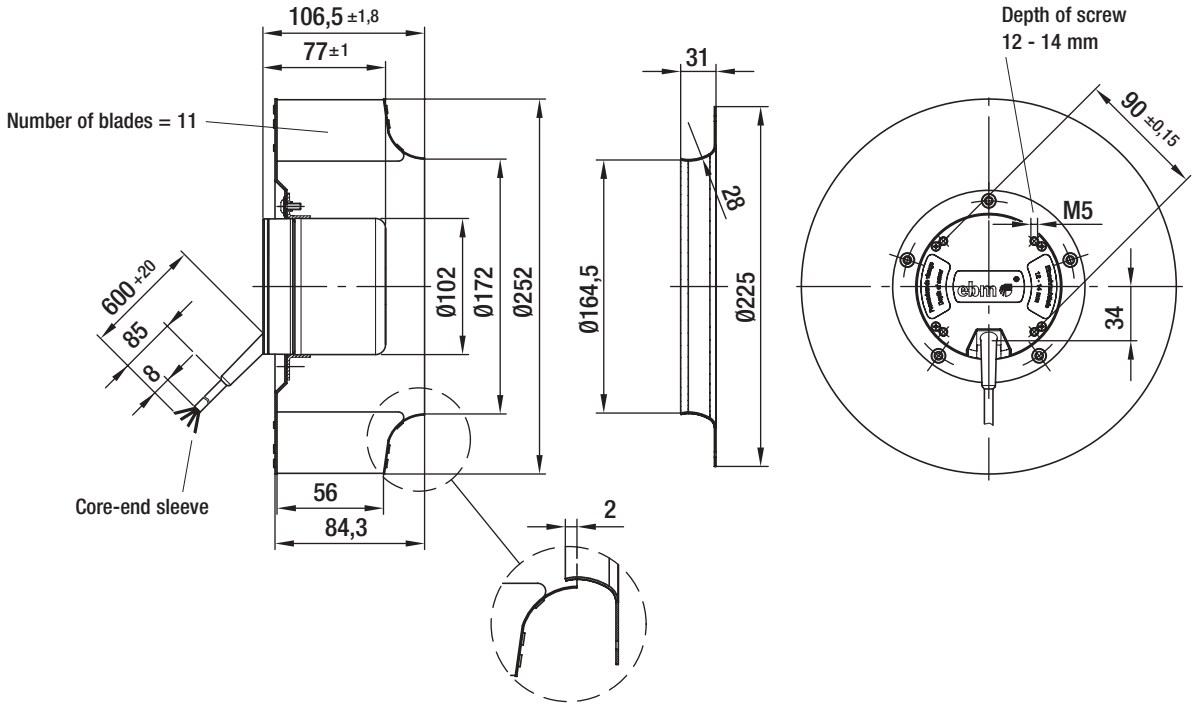
		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	5	1900	56	---	66
①	6	1875	69	45	59
①	7	1870	73	60	56
①	8	1870	72	55	58
①	9	835	9	---	48
①	10	830	10	45	44
①	11	830	11	60	43
①	12	830	10	55	35

Characteristics



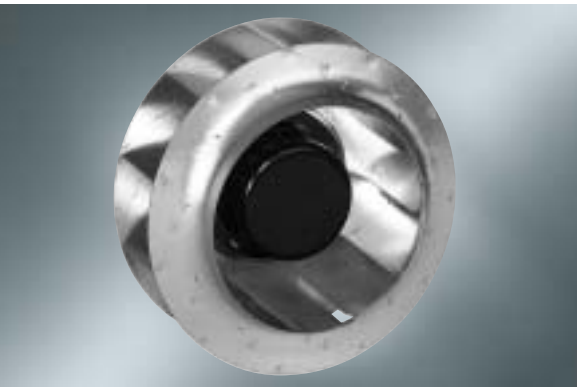
ebmpapst

Type	Inlet ring
R3G 250-AD62 -30	96359-2-4013



EC centrifugal fans

backward curved, Ø 280



- **Material:** sheet steel
- **Cable exit:** variable

ebm-papst · Mulfingen

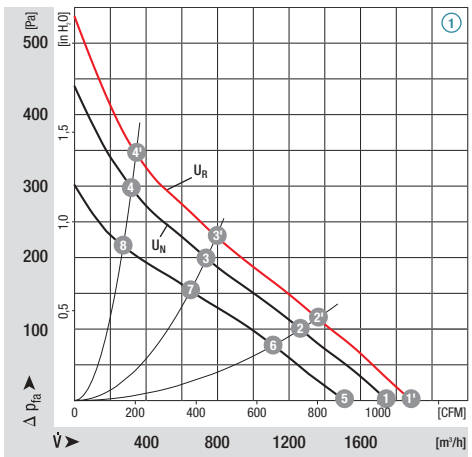
Nominal data		Characteristic	Voltage	Voltage range	Air flow	Speed/rpm	Power input	Current draw	Noise level	Perm. amb. temp.	Mass
Type	**Motor**		**VDC**	**VDC**	**m³/h**	**min⁻¹**	**W**	**A**	**dB(A)**	**°C**	**kg**
R1G 280-AE45 -52	M1G074-CF	①	24	16-28	1750	1710	95	4,60	71	60	2,8
R1G 280-AE47 -52	M1G074-CF	①	48	36-57	1750	1710	95	2,30	71	60	2,8

subject to alterations

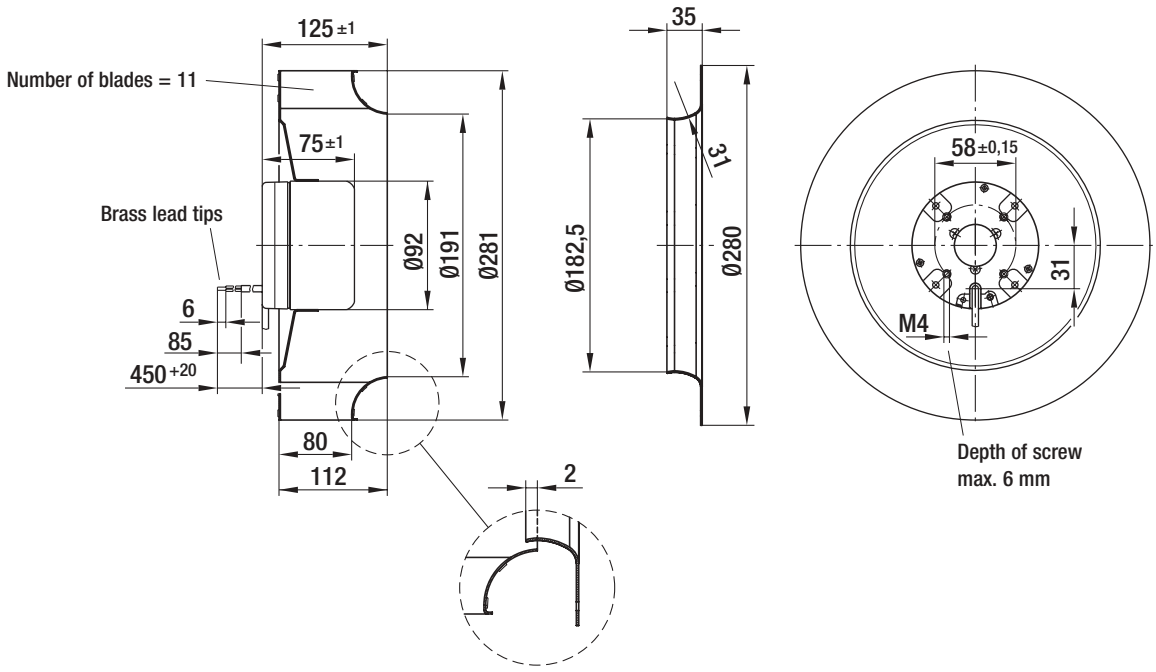
		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	1'	1840	118	---	72
①	2'	1650	127	55	64
①	3'	1670	126	55	62
①	4'	1950	114	31	67
①	1	1710	95	---	71
①	2	1550	100	55	63
①	3	1560	100	55	59
①	4	1810	91	31	64

		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	5	1470	60	---	67
①	6	1360	68	55	60
①	7	1370	67	55	55
①	8	1530	56	31	59

Characteristics

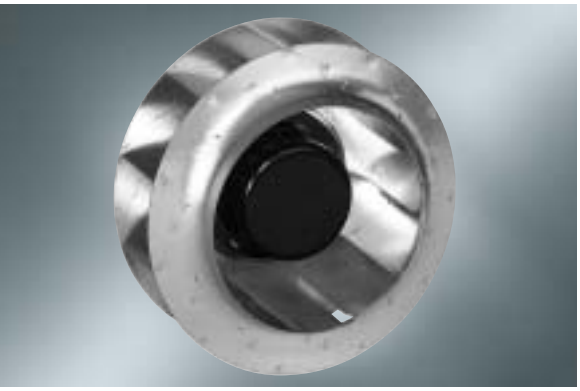


Type	Inlet ring
R1G 280-AE45 -52	96360-2-4013
R1G 280-AE47 -52	96360-2-4013



EC centrifugal fans

backward curved, Ø 280



- **Material:** sheet steel
- **Cable exit:** variable

ebm-papst · Mulfingen

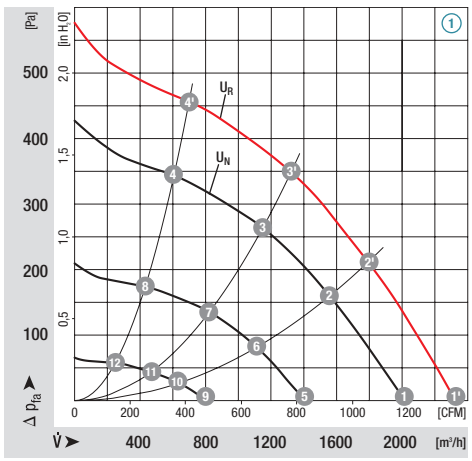
Nominal data		Characteristic	Voltage	Voltage range	Air flow	Speed/rpm	Power input	Current draw	Noise level	Perm. amb. temp.	Mass
Type	**Motor**		**VDC**	**VDC**	**m³/h**	**min⁻¹**	**W**	**A**	**dB(A)**	**°C**	**kg**
R3G 280-AC66 -30	M3G084-CA	①	48	36-57	2020	1965	123	2,60	70	60	3,3

subject to alterations

		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	1'	2265	187	---	72
①	2'	2185	243	53	68
①	3'	2165	258	60	65
①	4'	2230	213	50	69
①	1	1965	123	---	70
①	2	1905	160	53	65
①	3	1885	171	60	61
①	4	1940	140	50	66

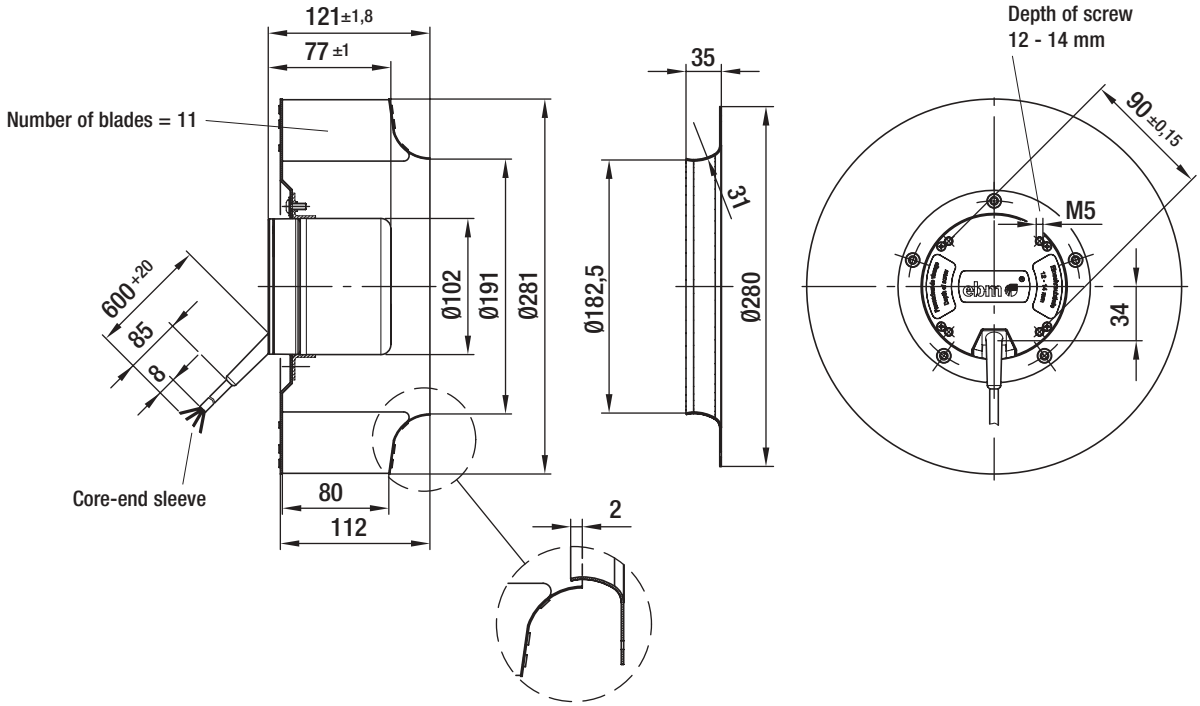
		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	5	1390	46	---	63
①	6	1365	61	53	58
①	7	1360	65	60	53
①	8	1380	53	50	55
①	9	800	12	---	53
①	10	790	15	53	48
①	11	785	15	60	42
①	12	795	13	50	41

Characteristics



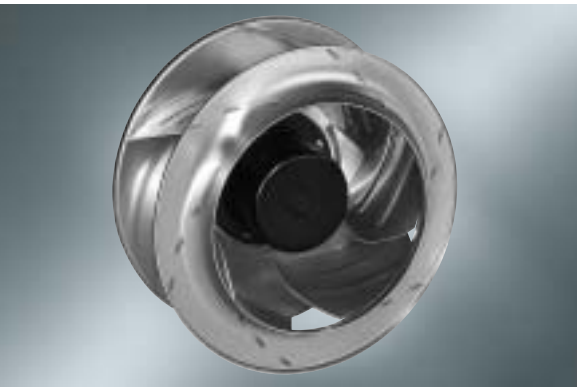
ebmpapst

Type	Inlet ring
R3G 280-AC66 -30	96360-2-4013



EC centrifugal fans

backward curved, 3-D, Ø 310



- **Material:** sheet aluminium, laser welded
- **Cable exit:** variable

ebm-papst · Mulfingen

Nominal data

Type	Motor	Characteristic	Voltage VDC	Voltage range VDC	Air flow m³/h	Speed/rpm min⁻¹	Power input W	Current draw A	Noise level dB(A)	Perm. amb. temp. °C	Mass kg
R1G 310-AD19 -52	M1G074-CF	①	24	16-28	1910	1600	90	4,20	64	45	2,6
R1G 310-AD33 -52	M1G074-CF	①	48	36-57	1910	1600	90	2,20	64	45	2,6
R1G 310-AD17 -11	M1G074-CF	②	48	36-52	2100	1800	120	3,00	67	40	2,6

subject to alterations

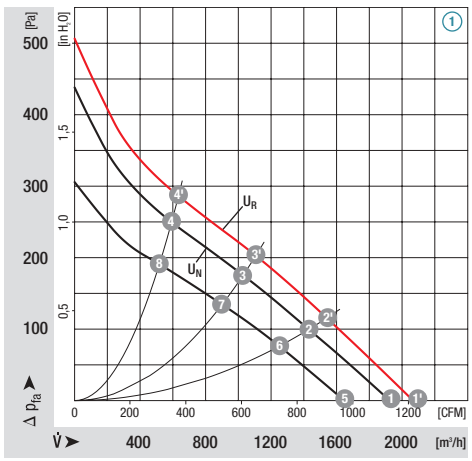
	n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
① 1'	1720	113	---	66
① 2'	1540	122	62	60
① 3'	1490	124	67	59
① 4'	1560	121	50	63
① 1	1600	90	---	64
① 2	1430	96	62	58
① 3	1390	99	67	58
① 4	1450	96	50	61

	n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
① 5	1150	69	---	60
① 6	1260	65	62	55
① 7	1230	67	67	54
① 8	1270	65	50	58

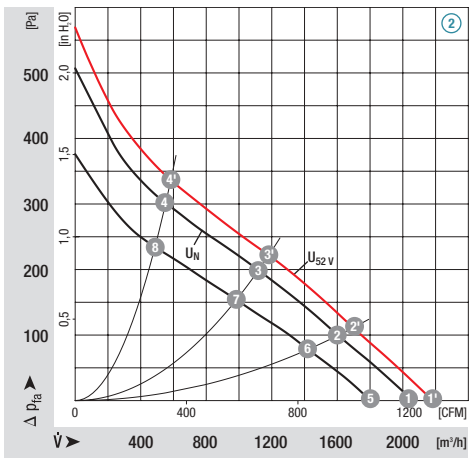
	n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
② 1'	1895	130	---	67
② 2'	1720	140	59	64
② 3'	1610	147	67	60
② 4'	1635	146	48	65
② 1	1800	120	---	67
② 2	1610	118	59	62
② 3	1530	122	67	58
② 4	1570	120	48	63

	n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
② 5	1570	74	---	63
② 6	1430	80	59	58
② 7	1350	82	67	54
② 8	1400	80	48	60

Characteristics

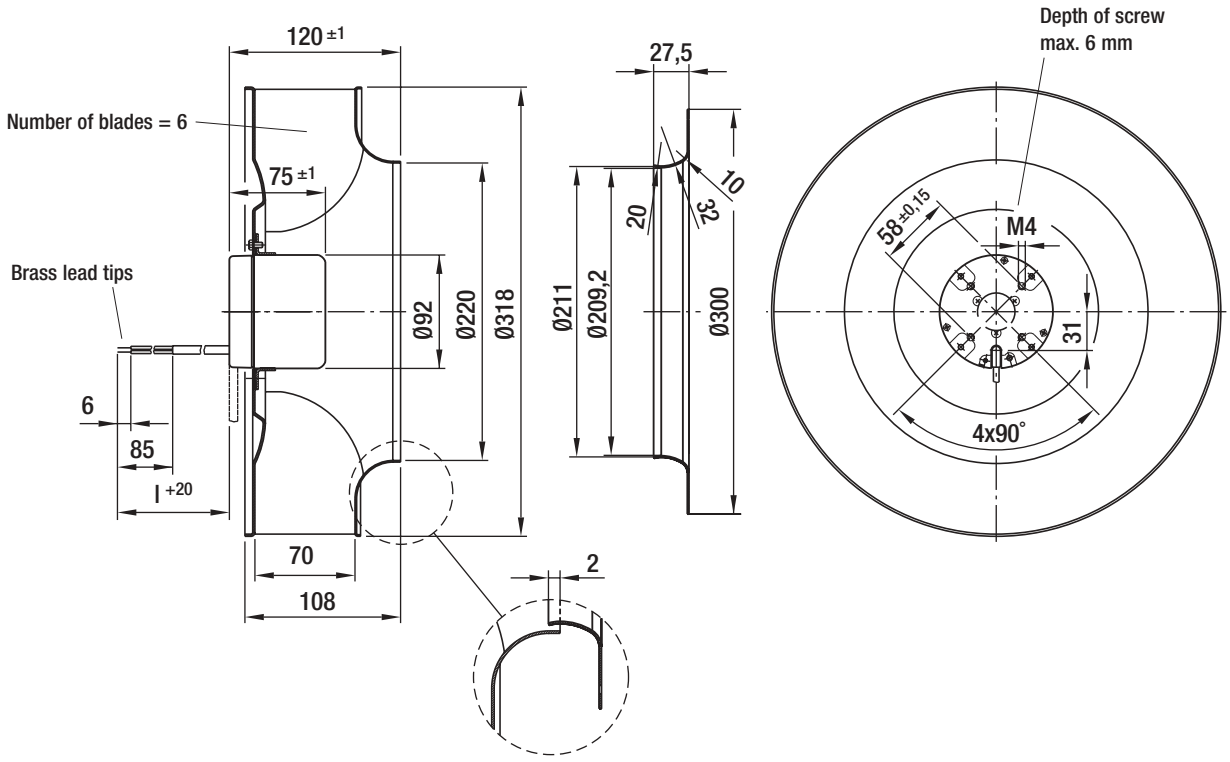


Characteristics



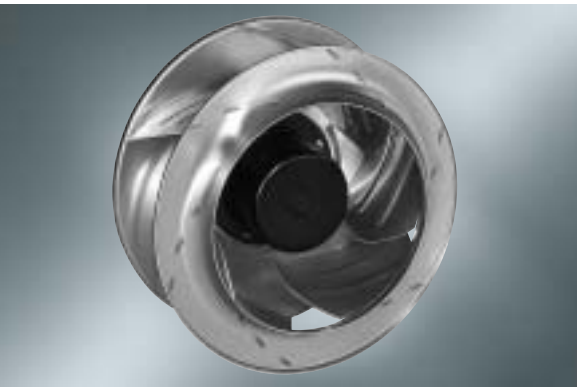
Dimensions

Type	l	Inlet ring
R1G 310-AD19 -52	600	31051-2-4013
R1G 310-AD33 -52	600	31051-2-4013
R1G 310-AD17 -11	700	31051-2-4013



EC centrifugal fans

backward curved, 3-D, Ø 310



- **Material:** sheet aluminium, laser welded
- **Cable exit:** variable

ebm-papst · Mulfingen

Nominal data

Type	Motor	Characteristic	Voltage VDC	Voltage range VDC	Air flow m³/h	Speed/rpm min⁻¹	Power input W	Current draw A	Noise level dB(A)	Perm. amb. temp. °C	Mass kg
R3G 310-AN12 -30	M3G084-FA	①	48	36-57	2230	2070	178	3,70	71	60	4,2
R3G 310-AL09 -30	M3G084-FA	②	48	36-57	2620	1930	208	4,35	69	60	4,4

subject to alterations

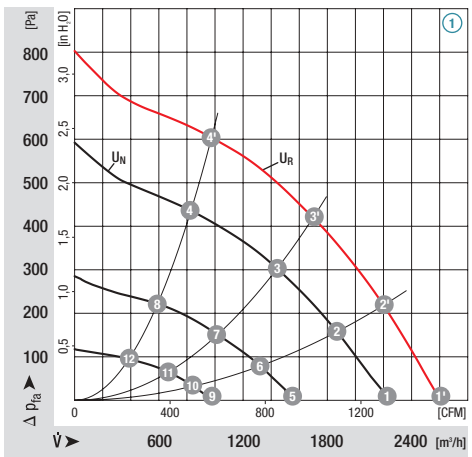
		n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
①	1'	2395	271	---	74
①	2'	2345	325	47	71
①	3'	2320	362	60	70
①	4'	2330	350	54	74
①	1	2070	178	---	71
①	2	2035	211	47	67
①	3	2015	234	60	65
①	4	2025	227	54	70

		n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
①	5	1445	66	---	61
①	6	1430	79	47	59
①	7	1420	88	60	57
①	8	1420	85	54	62
①	9	930	23	---	50
①	10	925	26	47	48
①	11	920	29	60	47
①	12	920	28	54	51

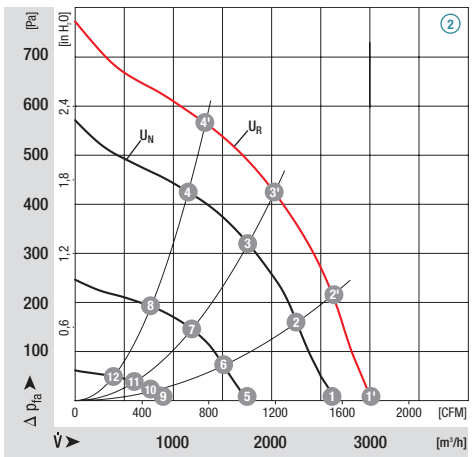
		n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
②	1'	2230	317	---	72
②	2'	2190	373	50	69
②	3'	2150	415	66	66
②	4'	2175	390	63	67
②	1	1930	208	---	69
②	2	1900	148	50	65
②	3	1870	274	66	62
②	4	1890	257	63	61

		n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
②	5	1290	69	---	59
②	6	1280	80	50	57
②	7	1270	90	66	55
②	8	1280	85	63	54
②	9	660	14	---	47
②	10	660	15	50	46
②	11	655	17	66	44
②	12	655	16	63	44

Characteristics

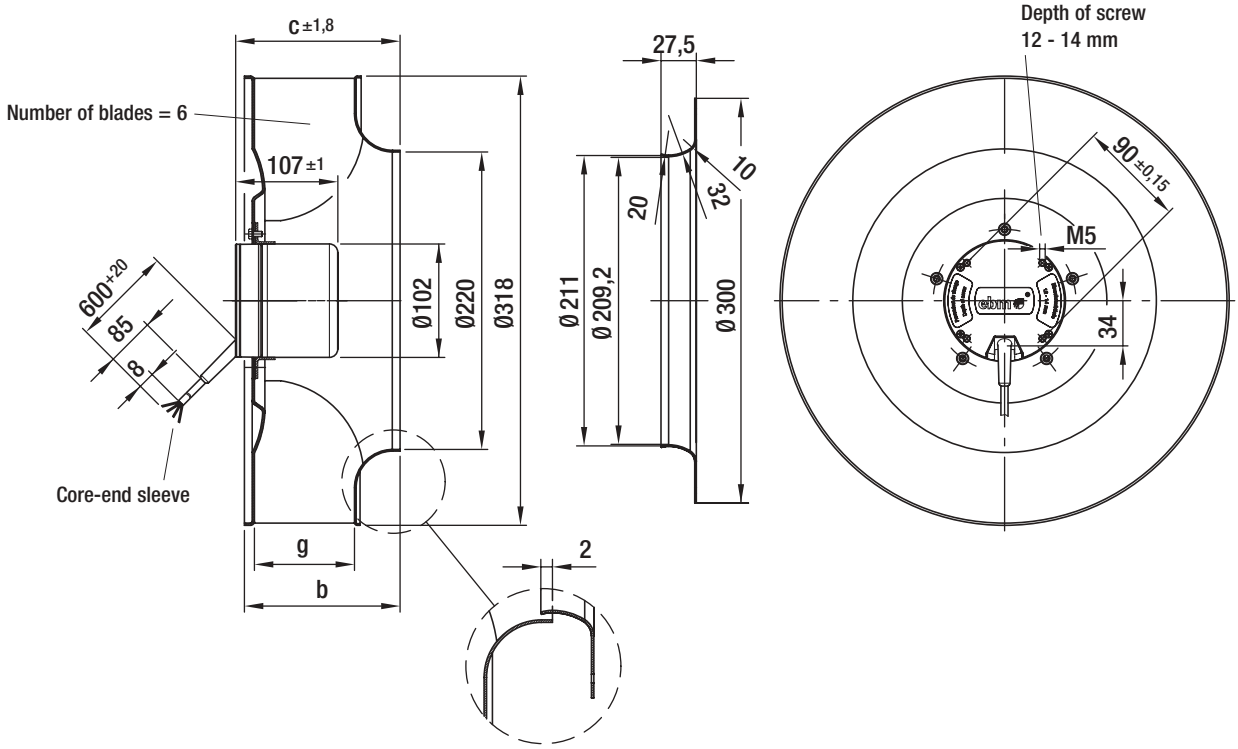


Characteristics



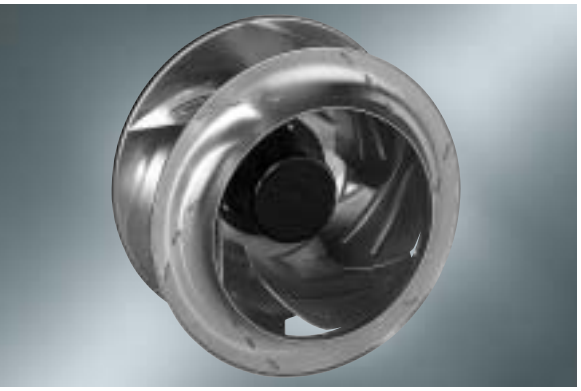
Dimensions

Type	b	c	g	Inlet ring
R3G 310-AN12 -30	108	119,5	70	31051-2-4013
R3G 310-AL09 -30	139	150,0	101	31051-2-4013



EC centrifugal fans

backward curved, 3-D, Ø 355



- **Material:** sheet aluminium, laser welded
- **Cable exit:** variable

ebm-papst · Mulfingen

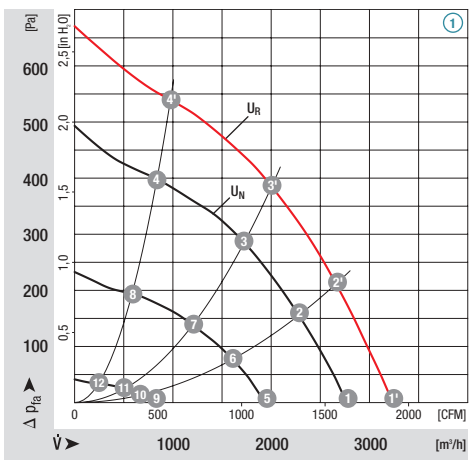
Nominal data		Characteristic	Voltage	Voltage range	Air flow	Speed/rpm	Power input	Current draw	Noise level	Perm. amb. temp.	Mass
Type	**Motor**		**VDC**	**VDC**	**m³/h**	**min⁻¹**	**W**	**A**	**dB(A)**	**°C**	**kg**
R3G 355-AM08 -30	M3G084-FA	①	48	36-57	2790	1560	178	3,70	69	60	4,6
R3G 355-AN18 -30	M3G084-FA	②	48	36-57	3030	1410	168	3,50	66	60	4,8

subject to alterations

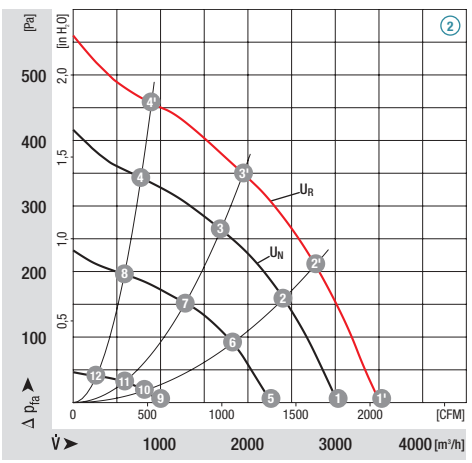
		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	1'	1800	272	---	73
①	2'	1740	333	53	67
①	3'	1725	355	65	67
①	4'	1770	307	49	70
①	1	1560	178	---	69
①	2	1515	220	53	63
①	3	1500	236	65	63
①	4	1530	208	49	65
①	5	1088	64	---	60
①	6	1065	79	53	56
①	7	1055	85	65	54
①	8	1070	75	49	56
①	9	470	9	---	44
①	10	450	10	53	42
①	11	450	11	65	40
①	12	455	10	49	40

		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
②	1'	1630	257	---	70
②	2'	1575	317	62	64
②	3'	1570	321	66	63
②	4'	1610	270	47	67
②	1	1410	168	---	66
②	2	1370	207	62	60
②	3	1365	212	66	59
②	4	1400	177	47	63
②	5	1065	75	---	58
②	6	1045	93	62	55
②	7	1040	96	66	55
②	8	1060	79	47	56
②	9	485	11	---	37
②	10	480	12	62	35
②	11	480	13	66	34
②	12	480	11	47	35

Characteristics



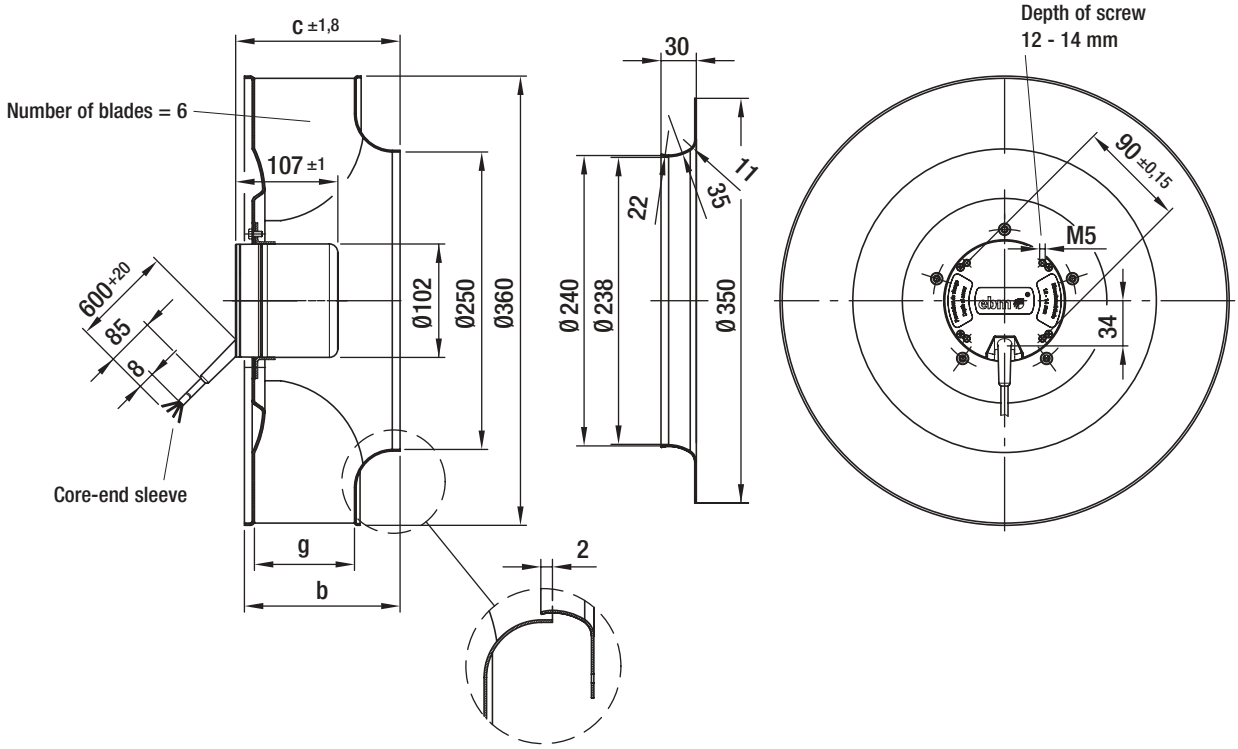
Characteristics



ebmpapst

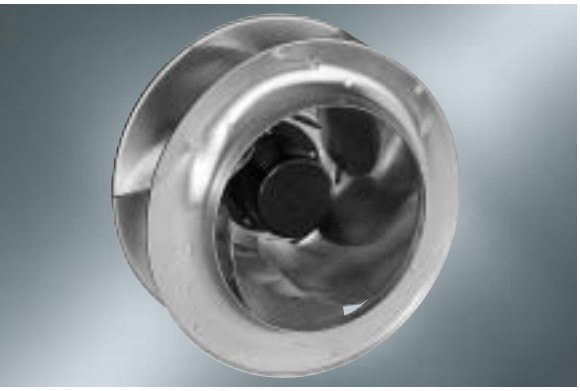
Dimensions

Type	b	c	g	Inlet ring
R3G 355-AM08 -30	146,5	158,5	96,0	35561-2-4013
R3G 355-AN18 -30	171,0	183,0	120,5	35561-2-4013



EC centrifugal fans

backward curved, 3-D, Ø 400



- **Material:** sheet aluminium
- **Cable exit:** variable

ebm-papst · Mulfingen

Nominal data		Characteristic	Voltage	Voltage range	Air flow	Speed/rpm	Power input	Current draw	Noise level	Perm. amb. temp.	Mass
Type	**Motor**		**VDC**	**VDC**	**m³/h**	**min⁻¹**	**W**	**A**	**dB(A)**	**°C**	**kg**
R3G 400-AD20 -30	M3G084-FA	①	48	36-57	3000	1290	200	4,20	65	60	5,0
R3G 400-AC13 -30	M3G084-FA	②	48	36-57	3300	1160	192	3,90	63	60	5,3

subject to alterations

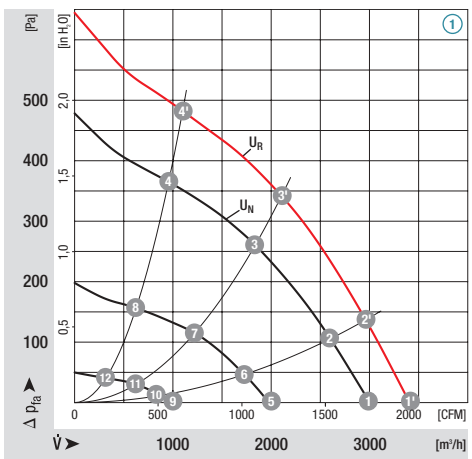
		n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
①	1'	1480	307	---	69
①	2'	1450	340	44	68
①	3'	1440	353	68	62
①	4'	1480	309	55	67
①	1	1290	200	---	65
①	2	1270	224	44	64
①	3	1260	234	68	59
①	4	1285	204	55	62

		n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
①	5	850	59	---	56
①	6	840	67	44	54
①	7	835	71	68	51
①	8	850	62	55	53
①	9	435	11	---	43
①	10	435	12	44	41
①	11	430	13	68	38
①	12	435	12	55	39

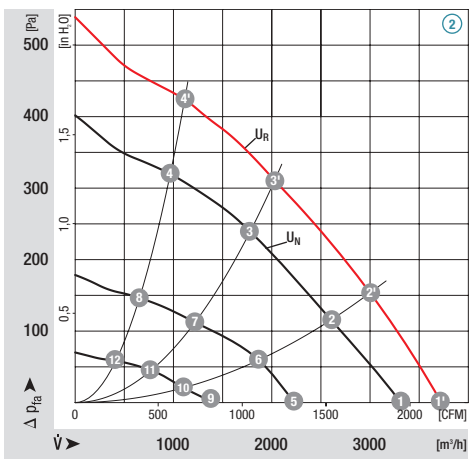
		n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
②	1'	1325	287	---	69
②	2'	1300	340	43	66
②	3'	1300	335	62	64
②	4'	1345	268	53	68
②	1	1160	192	---	63
②	2	1140	227	43	62
②	3	1140	210	62	59
②	4	1170	177	53	63

		n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
②	5	795	62	---	57
②	6	784	74	43	56
②	7	780	69	62	56
②	8	795	59	53	56
②	9	500	15	---	49
②	10	500	19	43	48
②	11	500	21	62	48
②	12	505	18	53	49

Characteristics



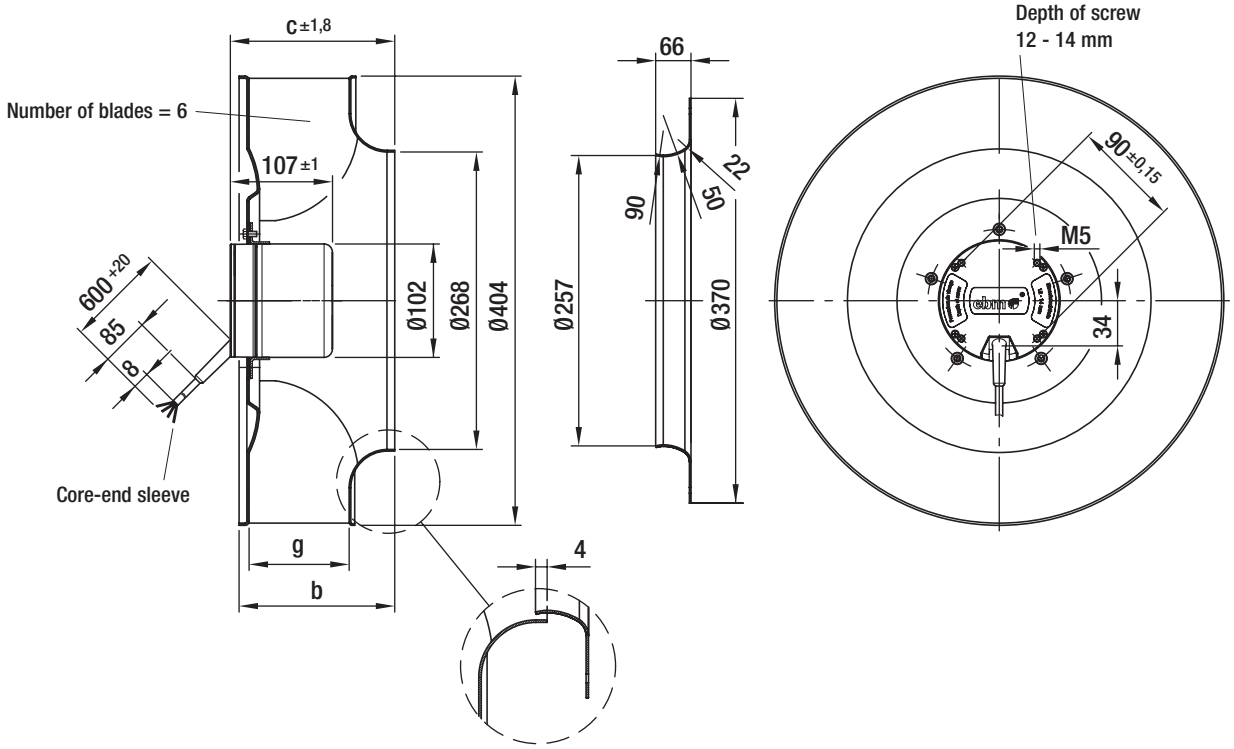
Characteristics



ebmpapst

Dimensions

Type	b	c	g	Inlet ring
R3G 400-AD20 -30	141	157	90	54476-2-4013
R3G 400-AC13 -30	164	180	113	54476-2-4013



EC centrifugal fans

backward curved, Ø 250

- **Material:** sheet steel
- **Cable exit:** variable
- **Note:** Nominal data established with external electronics (CHW050-AA)!
  For commutation and open respectively closed loop control, external electronics are needed. Designs for electronics with nominal voltage 24 VDC or 110 VDC on request.

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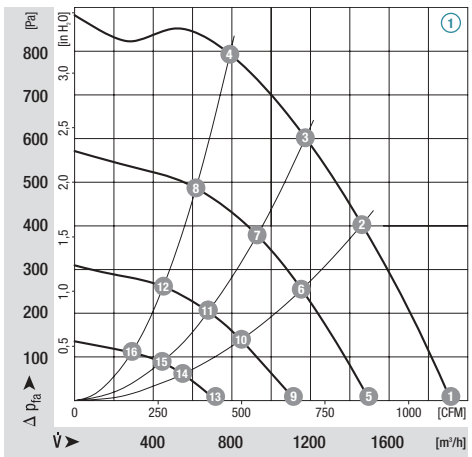
Nominal data		Characteristic	Voltage range external electronics	Frequency	Air flow	Speed/rpm	Power input	Mains current draw	Noise level	Perm. amb. temp.	Mass	perm. maximum impeller speed
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**dB(A)**	**°C**	**kg**	**min⁻¹**
R3G 250-AK20 -01	M3G084-DF	①	200-277	50/60	1870	3400	315	1,40	80	40	3,7	3400

subject to alterations

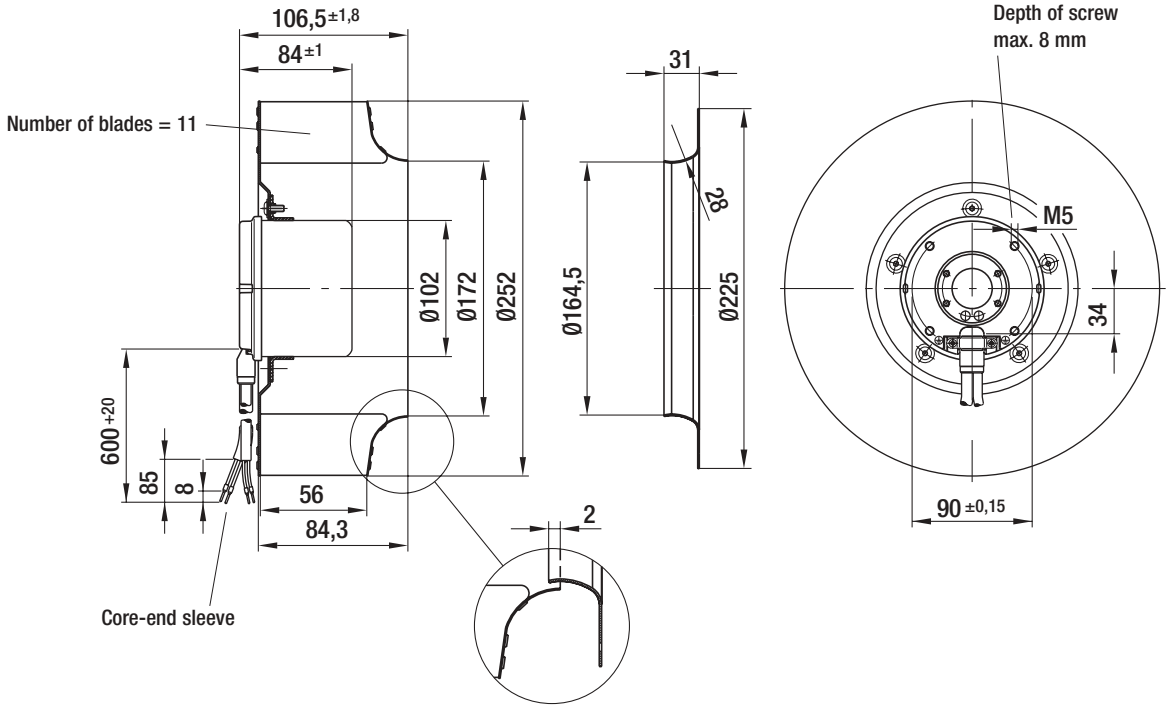
Type only to be connected to mains with external electronics (CHW 050-AA)!

		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]			n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	1	3400	315	---	78	①	9	2000	76	---	68
①	2	3400	414	49	76	①	10	2000	95	49	63
①	3	3400	430	57	75	①	11	2000	99	57	61
①	4	3400	415	52	67	①	12	2000	91	52	60
①	5	2700	165	---	73	①	13	1300	33	---	63
①	6	2700	216	49	70	①	14	1300	39	49	56
①	7	2700	229	57	69	①	15	1300	42	57	52
①	8	2700	192	52	68	①	16	1300	39	52	50

Characteristics

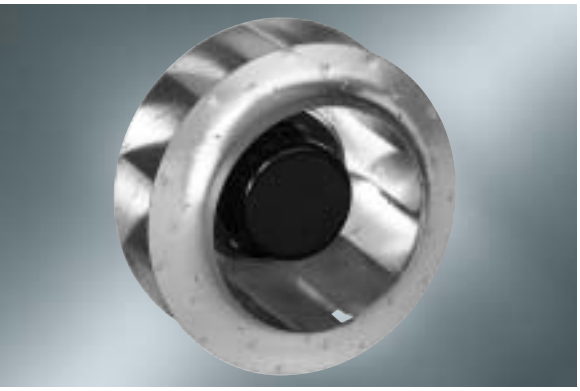


Type	Inlet ring
R3G 250-AK20 -01	96359-2-4013



EC centrifugal fans

backward curved, Ø 280



- **Material:** sheet steel
- **Cable exit:** variable
- **Note:** Nominal data established with external electronics (CHW050-AA)!
  For commutation and open respectively closed loop control, external electronics are needed. Designs for electronics with nominal voltage 24 VDC or 110 VDC on request.

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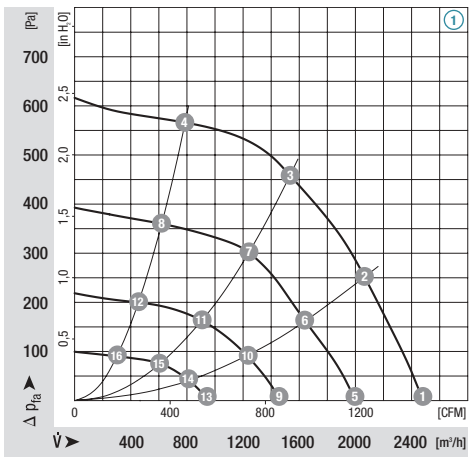
Nominal data		Characteristic	Voltage range external electronics	Frequency	Air flow	Speed/rpm	Power input	Mains current draw	Noise level	Perm. amb. temp.	Mass	perm. maximum impeller speed
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**W**	**A**	**dB(A)**	**°C**	**kg**	**min⁻¹**
R3G 280-AF19 -01	M3G084-DF	①	200-277	50/60	2480	2500	250	1,30	76	40	3,9	2500

subject to alterations

Type only to be connected to mains with external electronics (CHW 050-AA)!

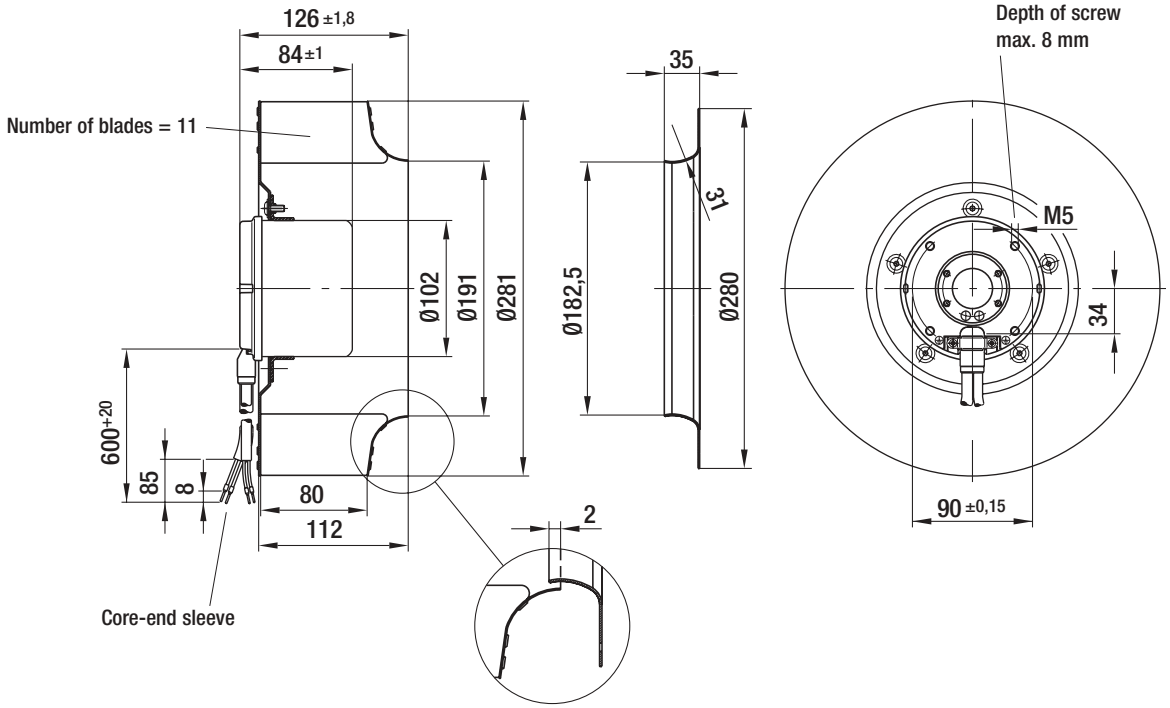
		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]			n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	1	2500	250	---	76	①	9	1500	75	---	63
①	2	2500	390	53	74	①	10	1500	89	53	61
①	3	2500	450	60	72	①	11	1500	88	60	57
①	4	2500	330	50	72	①	12	1500	70	50	57
①	5	2000	158	---	70	①	13	1000	31	---	55
①	6	2000	204	53	67	①	14	1000	37	53	53
①	7	2000	231	60	65	①	15	1000	40	60	51
①	8	2000	179	50	65	①	16	1000	30	50	48

Characteristics



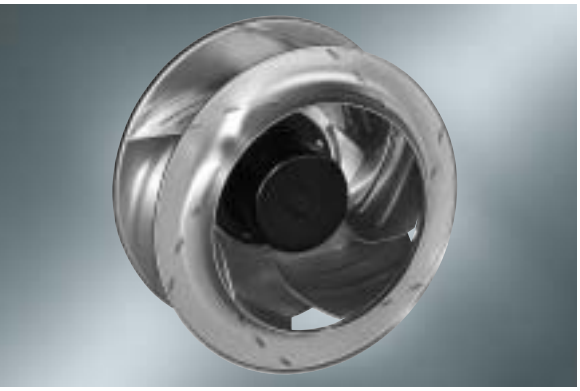
ebmpapst

Type	Inlet ring
R3G 280-AF19 -01	96360-2-4013



EC centrifugal fans

backward curved, 3-D, Ø 310



- **Material:** sheet aluminium, laser welded
- **Cable exit:** variable
- **Note:** Nominal data established with external electronics (CHW050-AA)!
  For commutation and open respectively closed loop control, external electronics are needed. Designs for electronics with nominal voltage 24 VDC or 110 VDC on request.

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Nominal data

Type	Motor	Characteristic	Voltage range external electronics	Frequency	Air flow	Speed/rpm	Power input	Mains current draw	Noise level	Perm. amb. temp.	Mass	perm. maximum impeller speed
			VAC	Hz	m³/h	min⁻¹	W	A	dB(A)	°C	kg	min⁻¹
R3G 310-AM50 -01	M3G084-CA	①	200-277	50/60	2150	1900	150	0,65	67	40	3,0	3150
R3G 310-AK54 -01	M3G084-CA	②	200-277	50/60	2440	1750	160	0,70	65	40	3,0	2930

subject to alterations

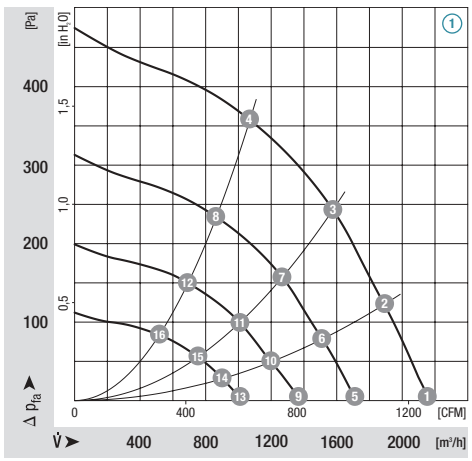
Type only to be connected to mains with external electronics (CHW 050-AA)!

		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	1	1900	150	---	67
①	2	1900	200	58	65
①	3	1900	230	68	63
①	4	1900	240	62	62
①	5	1500	75	---	61
①	6	1500	94	58	59
①	7	1500	108	68	56
①	8	1500	112	62	55

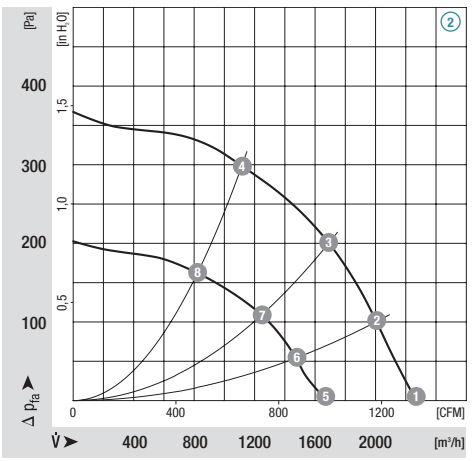
		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
①	9	1200	42	---	55
①	10	1200	55	58	52
①	11	1200	62	68	50
①	12	1200	64	62	49
①	13	900	26	---	47
①	14	900	31	58	45
①	15	900	33	68	43
①	16	900	34	62	42

		n [min⁻¹]	P_1 [W]	η_{tL} [%]	Lp_A [dBA]
②	1	1620	129	---	61
②	2	1620	156	50	59
②	3	1620	189	67	58
②	4	1620	181	61	58
②	5	1200	61	---	53
②	6	1200	72	50	51
②	7	1200	83	67	49
②	8	1200	80	61	50

Characteristics



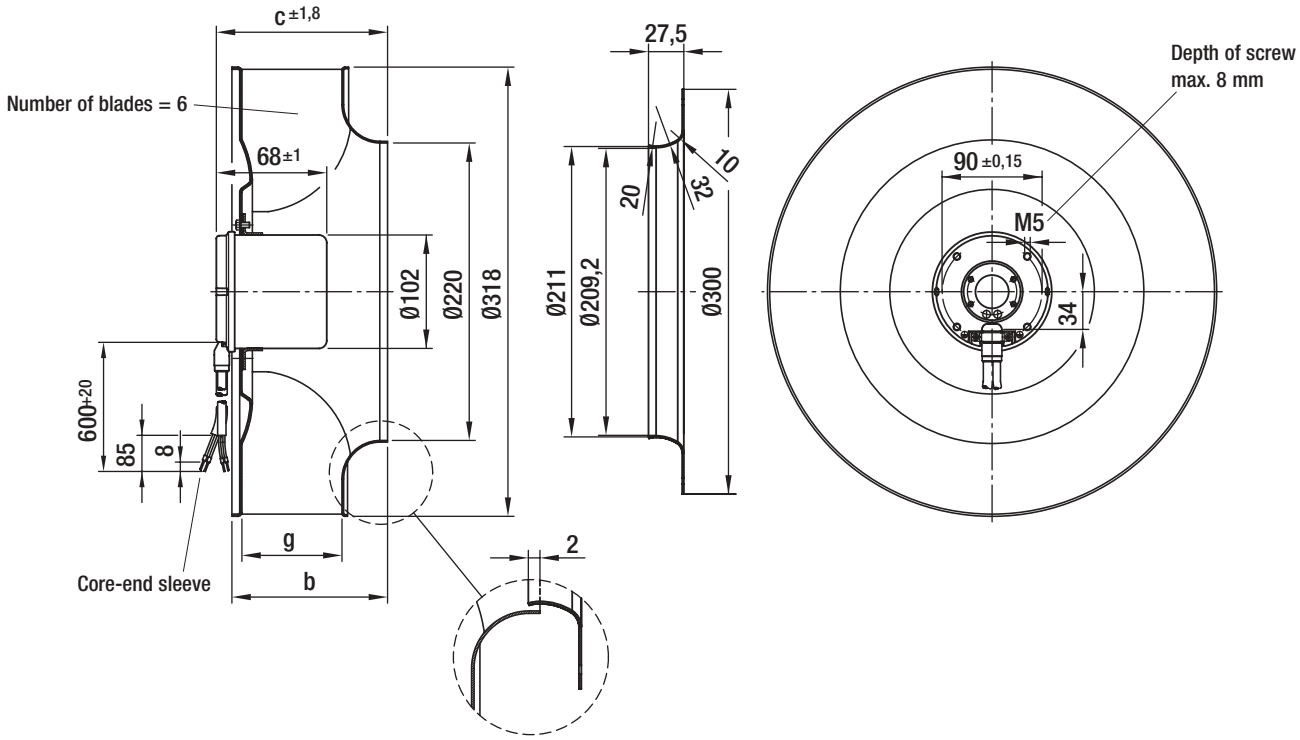
Characteristics



ebmpapst

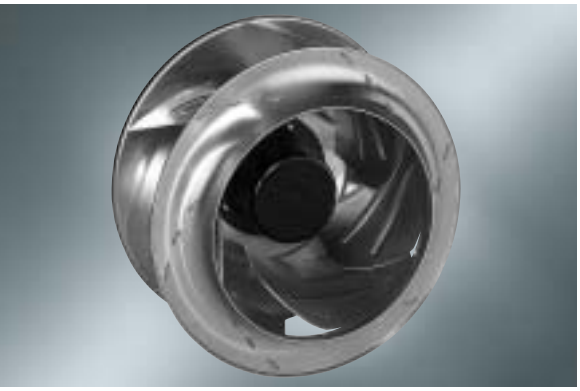
Dimensions

Type	b	c	g	Inlet ring
R3G 310-AM50 -01	108	116,0	70	31051-2-4013
R3G 310-AK54 -01	139	146,5	101	31051-2-4013



EC centrifugal fans

backward curved, 3-D, Ø 355



- **Material:** sheet aluminium, laser welded
- **Cable exit:** variable
- **Note:** Nominal data established with external electronics (CHW050-AA)!
  For commutation and open respectively closed loop control, external electronics are needed. Designs for electronics with nominal voltage 24 VDC or 110 VDC on request.

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Nominal data

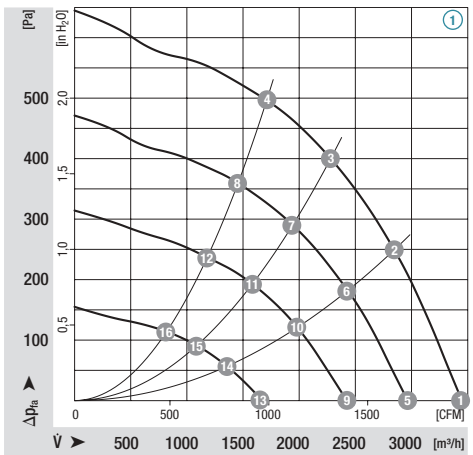
Type	Motor	Characteristic	Voltage range external electronics VAC	Frequency Hz	Air flow m³/h	Speed/rpm min⁻¹	Power input W	Mains current draw A	Noise level dB(A)	Perm. amb. temp. °C	Mass kg	perm. maximum impeller speed min⁻¹
R3G 355-AK36 -01	M3G084-DF	①	200-277	50/60	3650	1900	335	1,50	75	40	4,0	2430

subject to alterations

Type only to be connected to mains with external electronics (CHW 050-AA)!

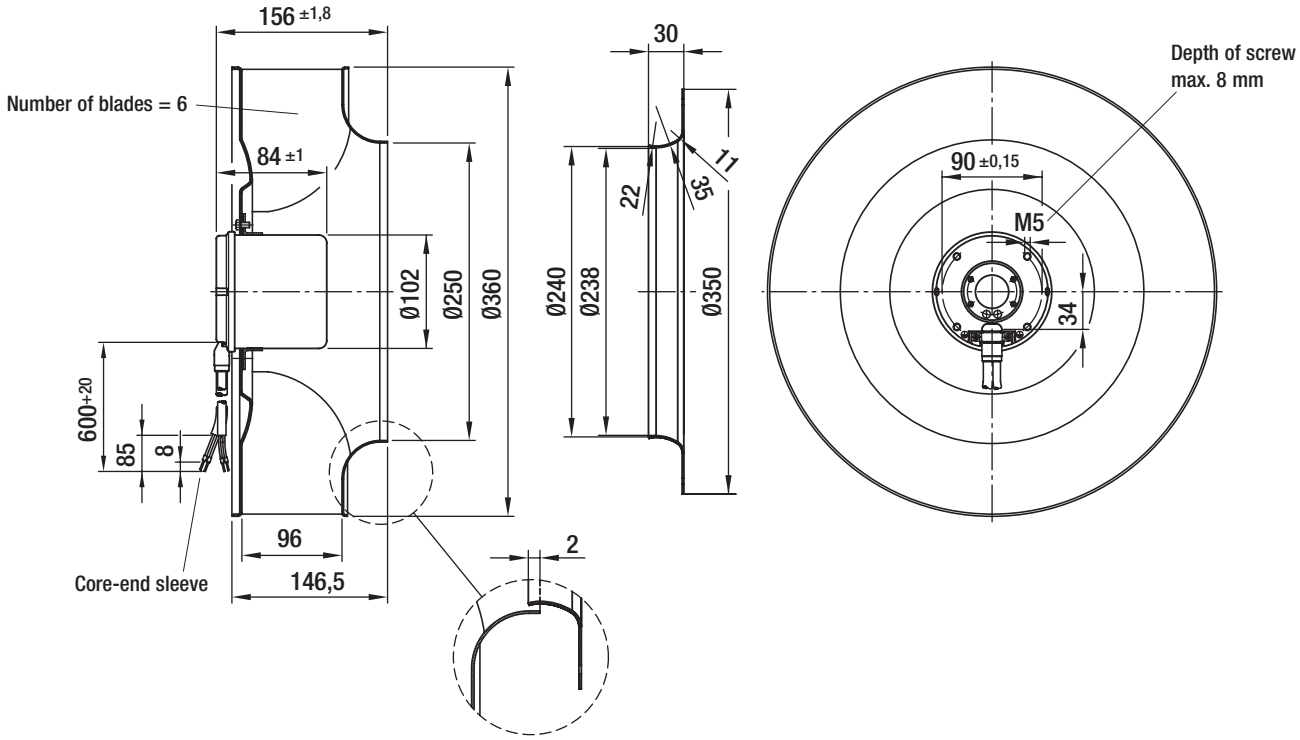
		n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]			n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
①	1	1800	280	---	73	①	9	1260	108	---	65
①	2	1800	405	60	69	①	10	1260	145	60	61
①	3	1800	435	69	63	①	11	1260	155	69	58
①	4	1800	405	65	54	①	12	1260	145	65	51
①	5	1550	188	---	68	①	13	880	47	---	65
①	6	1550	260	60	64	①	14	880	55	60	63
①	7	1550	275	69	59	①	15	880	60	69	59
①	8	1550	260	65	52	①	16	880	55	65	52

Characteristics



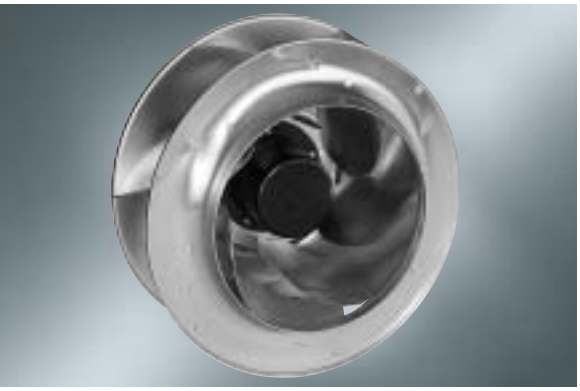
ebmpapst

Type	Inlet ring
R3G 355-AK36 -01	35561-2-4013



EC centrifugal fans

backward curved, 3-D, Ø 400



- **Material:** sheet aluminium
- **Cable exit:** variable
- **Note:** Nominal data established with external electronics (CHW050-AA)!
  For commutation and open respectively closed loop control, external electronics are needed. Designs for electronics with nominal voltage 24 VDC or 110 VDC on request.

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Nominal data

Type	Motor	Characteristic	Voltage range external electronics	Frequency	Air flow	Speed/rpm	Power input	Mains current draw	Noise level	Perm. amb. temp.	Mass	perm. maximum impeller speed
			VAC	Hz	m³/h	min⁻¹	W	A	dB(A)	°C	kg	min⁻¹
R3G 400-AD03 -01	M3G084-FA	①	200-277	50/60	3500	1450	265	1,15	69	40	4,3	1700
R3G 400-AC03 -01	M3G084-FA	②	200-277	50/60	3750	1300	277	1,20	69	40	5,3	1700

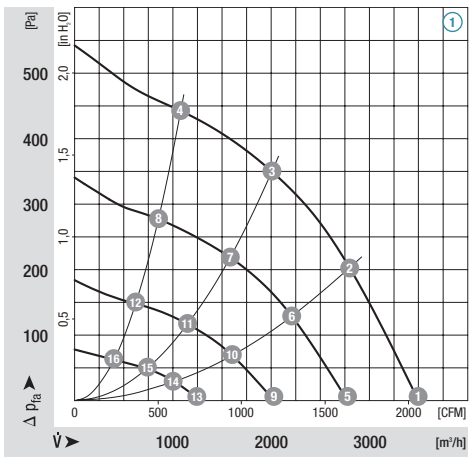
subject to alterations

Type only to be connected to mains with external electronics (CHW 050-AA)!

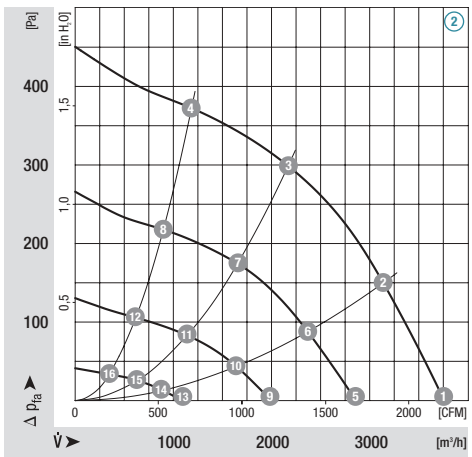
		n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
①	1	1450	265	---	69
①	2	1450	353	54	64
①	3	1450	363	66	62
①	4	1450	286	56	66
①	5	1150	131	---	63
①	6	1150	177	54	60
①	7	1150	183	66	60
①	8	1150	158	56	60
①	9	850	61	---	56
①	10	850	75	54	54
①	11	850	76	66	55
①	12	850	68	56	55
①	13	550	23	---	48
①	14	550	29	54	47
①	15	550	29	66	48
①	16	550	28	56	48

		n [min⁻¹]	P1 [W]	ηtL [%]	LpA [dBA]
②	1	1300	277	---	69
②	2	1300	349	45	66
②	3	1300	360	62	64
②	4	1300	290	51	67
②	5	1000	129	---	62
②	6	1000	157	45	59
②	7	1000	168	62	59
②	8	1000	137	51	59
②	9	700	51	---	56
②	10	700	60	45	55
②	11	700	62	62	55
②	12	700	53	51	55
②	13	400	18	---	47
②	14	400	18	45	46
②	15	400	19	62	46
②	16	400	18	51	46

Characteristics

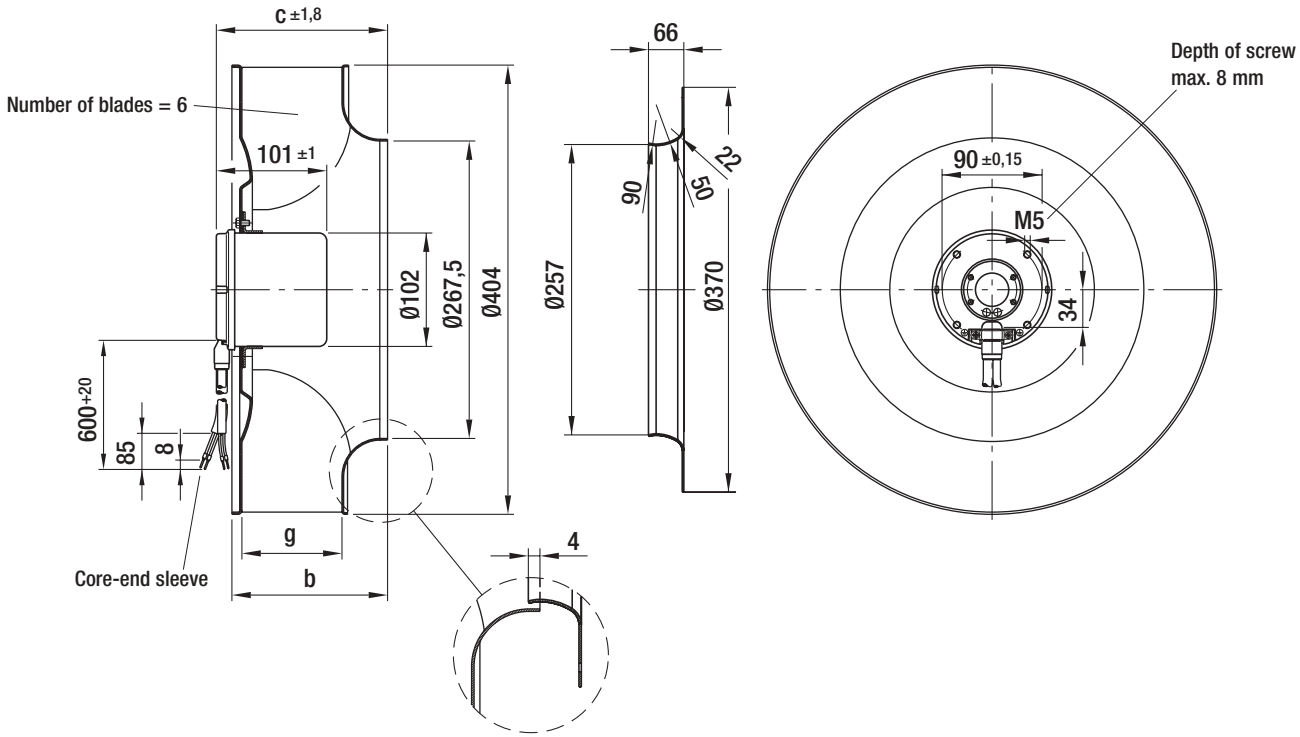


Characteristics



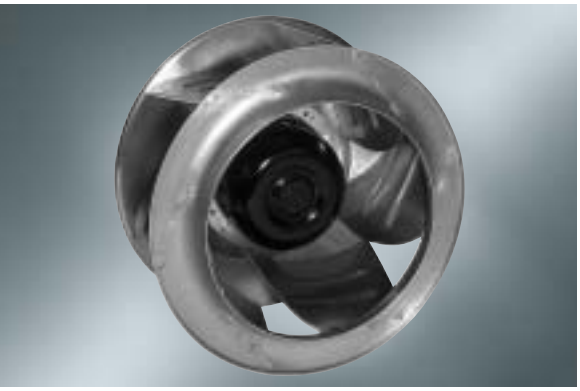
Dimensions

Type	b	c	g	Inlet ring
R3G 400-AD03 -01	141	154	90	54476-2-4013
R3G 400-AC03 -01	164	176	113	54476-2-4013



EC centrifugal fans integrated electronics

backward curved, 3-D, Ø 500



- **Material:** stator and electronics housing made of die-cast aluminium, rotor made of steel sheet (black, KTL-coated), impeller made of sheet aluminium
- **Technical features:** integrated electronics, limiting of making of current, mains under-voltage detection, phase failure recognition, limitation of motor current, over-temperature protection of electronics and motor, locked-rotor protection, short-circuit protection
- **Bearings:** maintenance-free ball bearings
- **Balancing quality:** ≤ Q 6,3 according to DIN ISO 1940-1
- **Type of protection:** IP54 according to DIN VDE 0470, part 1 (EN 60 529) category 2
- **Approvals:** UL, CSA, VDE, Œ, CCC and GOST are applied for
- **Mounting position / condensate discharges:** Norm is shaft horizontal or rotor down with 4 condensate discharges drilled into rotor. Mounting position rotor on top on request.

ebm-papst · Mulfingen

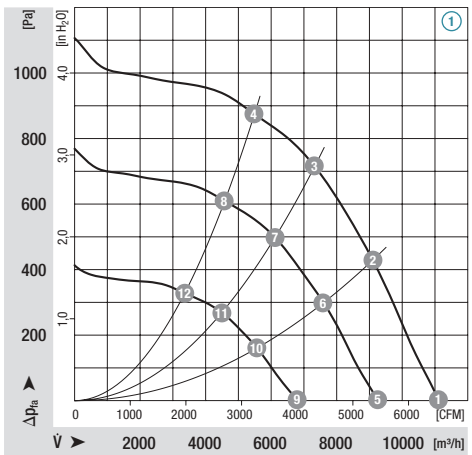
Nominal data		Characteristic	Voltage range	Frequency	Air flow	Speed/rpm	Power input	Current draw	Noise level	Perm. amb. temp.	Mass
Type	**Motor**		**VAC**	**Hz**	**m³/h**	**min⁻¹**	**kW**	**A**	**dB(A)**	**°C**	**kg**
R3G 500-AD06 -01	M3G150-FF	①	380-480	50/60	11100	1800	2,05	3,00	82	-20..+60	22,0

subject to alterations

		n [min⁻¹]	P_1 [kW]	η_{tL} [%]	Lp_A [dBA]
①	1	1800	2,05	---	82
①	2	1800	2,57	53	78
①	3	1800	2,69	64	77
①	4	1800	2,64	58	78
①	5	1500	1,19	---	77
①	6	1500	1,49	53	74
①	7	1500	1,56	64	73
①	8	1500	1,53	58	74

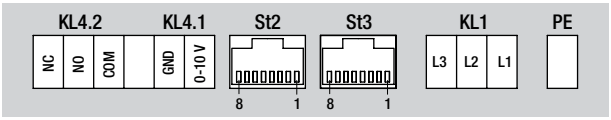
		n [min⁻¹]	P_1 [kW]	η_{tL} [%]	Lp_A [dBA]
①	9	1100	0,47	---	68
①	10	1100	0,59	53	64
①	11	1100	0,61	64	63
①	12	1100	0,60	58	64

Characteristics



ebmpapst

- **Electrical connection:**



KL4.2	Alarm / status contact
KL4.1	Speed setting input
St2	RJ45-plugs for ebm BUS
St3	RJ45-plugs for ebm BUS
KL1	3-phase power supply
PE	PE (2x)

Configuration RJ45-plugs:

Pin	St2	St3
1	---	---
2	10 V	---
3	GND	---
4	0-10 V / PWM	---
5	ebm Bus (RS B)	ebm Bus (RS B)
6	ebm Bus (RS A)	ebm Bus (RS A)
7	---	---
8	---	---

Type	Inlet ring
R3G 500-AD06 -01	63072-2-4013