

Technical information



Cooling capacity and efficiency

Greater power density, increasing miniaturization and extreme electronic component density are placing increased demands on the cooling capacity and efficiency of fans. Therefore, intelligent and space-saving integration of the fan in the device configuration is very important:

- Tailor-made cooling adapted to the situation as and when required.
- Programmable cooling by defining speed profiles.
- Transparency of function thanks to complete, interactive monitoring in all operating conditions.

Standard fans in electronics cooling have proven themselves a million times over.

With a constant speed and an appropriate sound level, they continuously provide the air flow required for extreme cases. But these extreme situations occur seldom – if at all – during operation. What is needed is an intelligent fan that adapts automatically to the level of cooling required at the time.

ebm-papst provides intelligent cooling concepts that are optimally adapted to practical requirements. For example:

1. Speed adjustment via temperature sensor

ebm-papst answers with a complete range of DC fans with temperature-controlled speed adjustment via a temperature sensor, available in a variety of standard dimensions.

Installation is very simple. Either an external temperature sensor in the form of an exposed wire that can be placed anywhere, or an internal sensor located directly in the fan hub in the air flow provides continuous and undissipated thermal information to the control electronics for speed adjustment. A range of temperature sensors can be found on page 184.

2. DC fans with separate control input

Open or closed-loop speed control is also possible with DC fans that have a separate control input. So a control voltage or a pulse-width modulated signal can be used to vary the speed. These options are used primarily in devices that have the appropriate standard interfaces and require varied fans depending on the load.

DC fans - specials

3. Speed signal

DC fans with speed signal.

The integrated "electronic tachometer" continuously provides an actual speed signal for external evaluation. A very simple signal evaluation on the customer side informs the user of the current fan speed at all times. The speed signal is provided by a separate wire.

4. Alarm signal

For applications that require monitored fan operation with an alarm signal, ebm-papst offers a number of alarm signals variants. Depending on the type of fan in question, the signal will either be static, already evaluated, or a continuous, interface-compatible, high or low signal. The alarm signal is provided by a separate wire.

5. Turbo drives

Fans with three-phase EC drives and microprocessor-controlled motor electronics. The torque of these three-phase motors, which is virtually independent of the rotor position, allows the fan to run very smoothly. The speed of these fans can be controlled over a very wide speed range by means of PWM, analog voltage, or temperature. Optionally, the fans can be supplied with reversible direction of rotation and active brake operation.

6. Protection against environmental conditions

Some applications place particular demands on the fans' resistance to environmental conditions, such as dust, moisture, water, and salt. ebm-papst offers solutions for adapting fans to these conditions.

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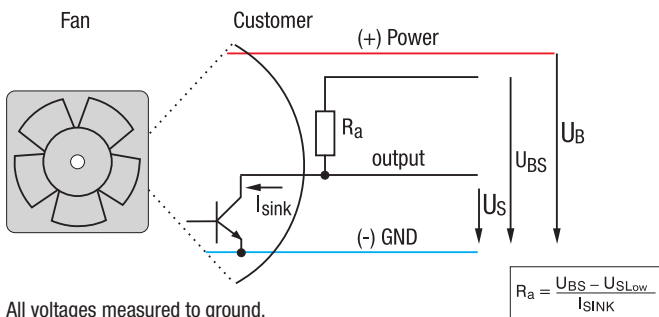
Speed signal /2

- Speed-proportional, square-wave signal for external monitoring of the fan motor speed
- 2, 3, or 6 pulses per revolution
- Open-collector signal output
- Extremely wide operating voltage range
- Easy adaptation to user interface
- Connection via separate cable
- The sensor signal also serves as a major comparison variable for setting and maintaining the setpoint speed for interactive or controlled cooling with one or more interconnected fans.

Available on request:

- Electrically isolated speed signal circuit
- Varying voltage potentials for power and logic circuit

Electrical hookup



All voltages measured to ground.
External load resistor R_a / U_S / U_{BS} required.

Signal data

Type	Speed signal $U_{S\ Low}$ VDC	Condition: I_{sink} mA	Speed signal $U_{S\ High}$ VDC	Condition: I_{source} VDC	Admissible sink current $I_{sink\ max}$ mA	Pulses per revolution*
12 / 24 V	≤ 0.4	2	≤ 30	30	4	2
48 V	≤ 0.4	2	≤ 60	60	4	2

Subject to change

Standard value, can vary depending on fan series.
* Depending on the fan electronics other values are feasible e. g. 3 or 6.

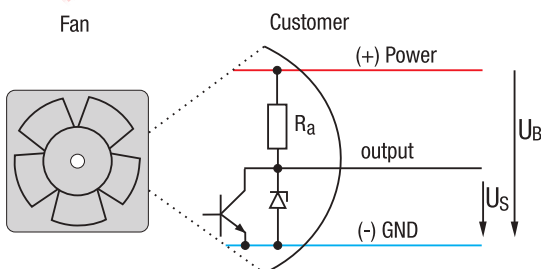
Speed signal /12

- Speed-proportional, square-wave signal for external monitoring of the fan motor speed
- 2, 3, or 6 pulses per revolution
- TTL-compatible
- Integrated pull-up resistor
- Connection via separate cable
- The sensor signal also serves as a major comparison variable for setting and maintaining the setpoint speed for interactive or controlled cooling with one or more interconnected fans.

Available on request:

- Electrically isolated speed signal circuit
- Varying voltage potentials for power and logic circuit

Electrical hookup



All voltages measured to ground.

Signal data

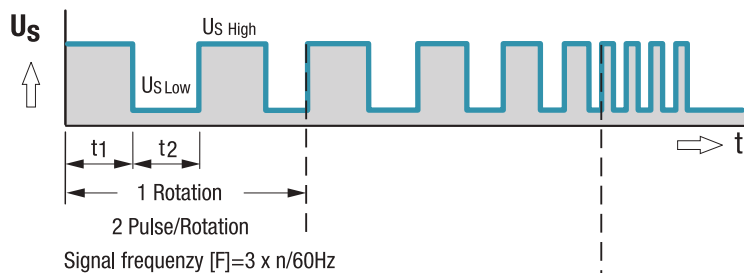
Type	Speed signal $U_{S\ Low}$ VDC	Condition: I_{sink} mA	Speed signal $U_{S\ High}$ VDC	Condition: I_{source} mA	Admissible sink current $I_{sink\ max}$ mA	Pulses per revolution*
12 / 24 / 48 V	≤ 0.4	1	2.5–5.5	1	1	2

Subject to change

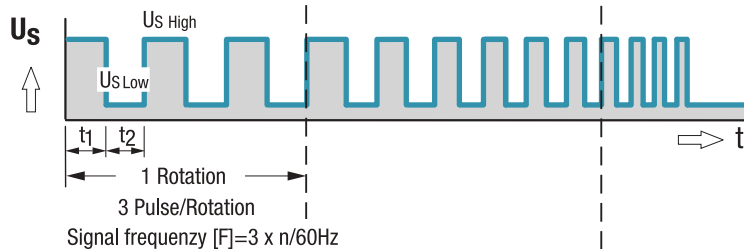
Standard value, can vary depending on fan series.
* Depending on the fan electronics other values are feasible e. g. 3 or 6.

Signal output voltage

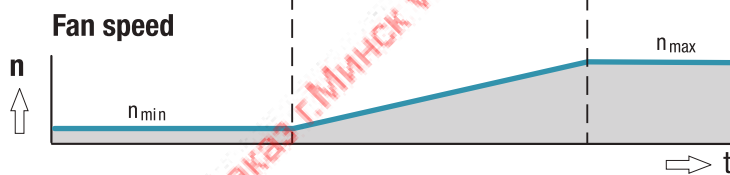
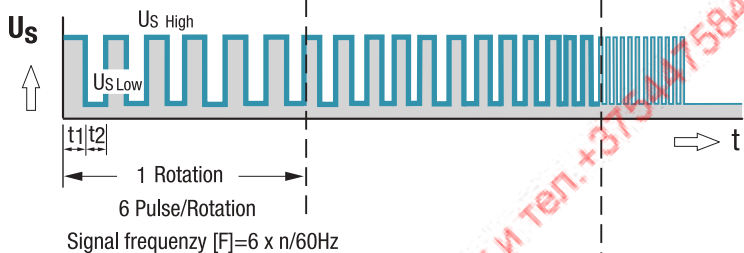
Standard signal for all models (exceptions see below)



For multi option control input and 4100 NH7 and NH8



All TD Fans e.g. 6300 TD



Note:

Fans that come with these fan specials could have variations with respect to the temperature range, voltage range, and power consumption compared to standard fans without specials.

Alarm signal /17

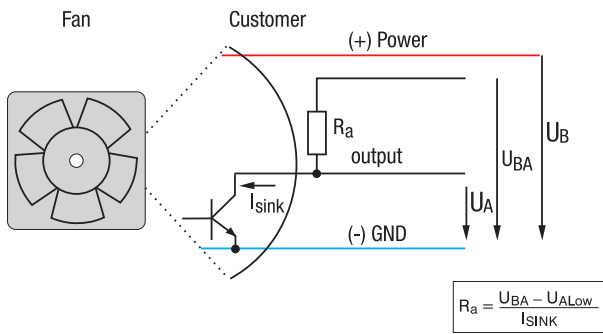
Speed limit

- Alarm signal for speed monitoring
- Signal output via open collector
- The fan emits a continuous high signal during trouble-free operation within the permissible voltage range.
- Low signal when speed limit is not reached
- After elimination of the fault, the fan returns to its setpoint speed; the alarm signal reverts to high.

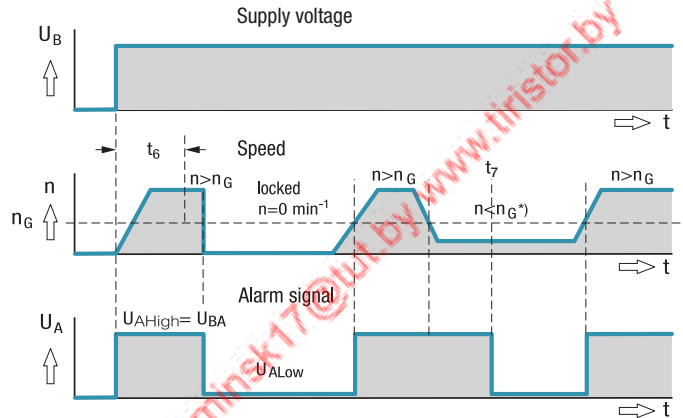
Available on request:

- Integrated signal storage for subsequent recognition of short-term faults (latch).
- Alarm circuit open collector or TTL.
- Electrically isolated for maximum device safety; Defects in the power circuit do not affect the alarm circuit.

Electrical hookup



All voltages measured to ground.
External load resistor R_a from U_A to U_{BA} required.



t_6 = Alarm signal suppression during startup
 t_7 = Alarm delay time during run-up
* $n < n_G$ by braking or locking

Alarm signal /19

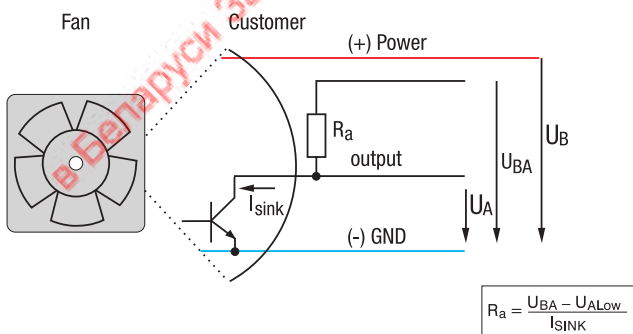
Speed limit

- Alarm signal for speed monitoring
- Signal output via open collector
- The fan emits a continuous low signal during trouble-free operation within the permissible voltage range.
- High signal when speed limit is not reached
- After elimination of the fault, the fan returns to its setpoint speed; the alarm signal reverts to low.

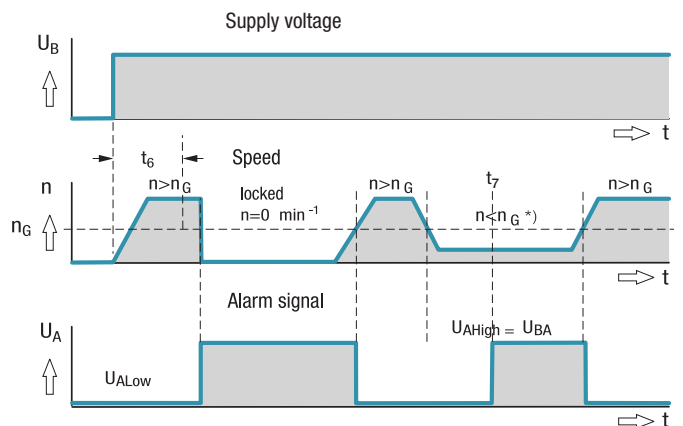
Available on request:

- Integrated signal storage for subsequent recognition of short-term faults (latch).
- Alarm circuit open collector or TTL.
- Electrically isolated for maximum device safety; Defects in the power circuit do not affect the alarm circuit.

Electrical hookup



All voltages measured to ground.
External load resistor R_a from U_A to U_{BA} required.



t_6 = Alarm signal suppression during startup
 t_7 = Alarm delay time during run-up
* $n < n_G$ by braking or locking

Note:

Fans that come with these fan specials could have variations with respect to the temperature range, voltage range, and power consumption compared to standard fans without specials.

Alarm signal data	Alarm output voltage U _A Low	Condition:	Condition: I _{sink} =	Alarm output voltage U _A High	Condition:	Condition: I _{source}	Alarm operating voltage U _{BA} max.	Max. permissible sink current
	VDC		mA	VDC		mA	VDC	mA
12 / 24 V	≤ 0.4	n > n _G	2	≤ 30	n < n _G	0	30	10
48 V	≤ 0.4	n > n _G	2	≤ 60	n < n _G	0	60	10
Subject to change	Standard value, can vary depending on fan series.							

Selectable parameters:

- Speed limit
- t₆ Alarm signal suppression during start-up
- t₇ Alarm delay time during run-up

For existing products, information about alarm signals is included in the product data sheet.

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Alarm signal /37

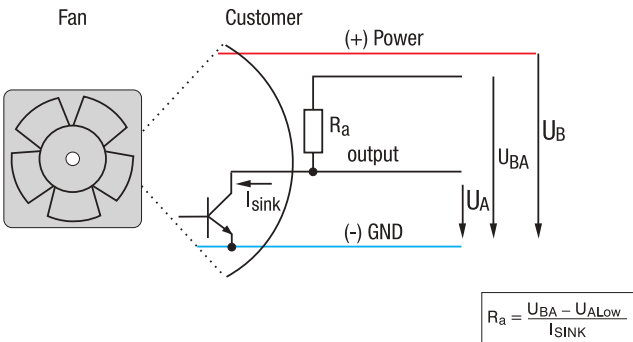
Go / NoGo alarm

- Alarm signal for speed monitoring
- Signal output via open collector
- The fan emits a continuous high signal during trouble-free operation within the permissible voltage range.
- Low signal when speed limit is not reached
- After elimination of the fault, the fan returns to its setpoint speed; the alarm signal reverts to high.

Available on request:

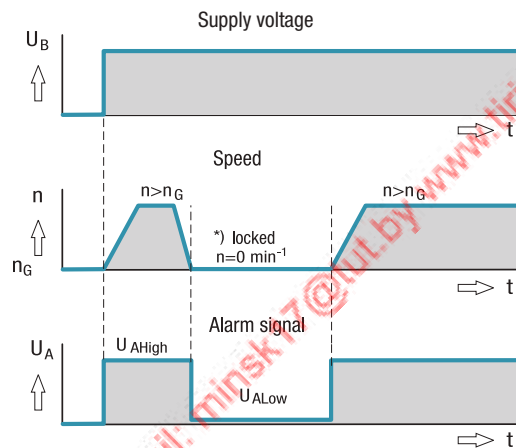
- Alarm circuit TTL compatible.

Electrical hookup



$$R_a = \frac{U_{BA} - U_{ALow}}{I_{SINK}}$$

All voltages measured to ground
External load resistor R_a from U_A to U_{BA} required.



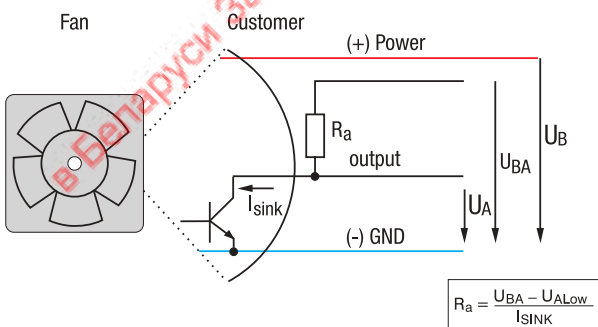
* Speed limit $n_G = 0$ rpm

Alarm signal /39

Go / NoGo alarm

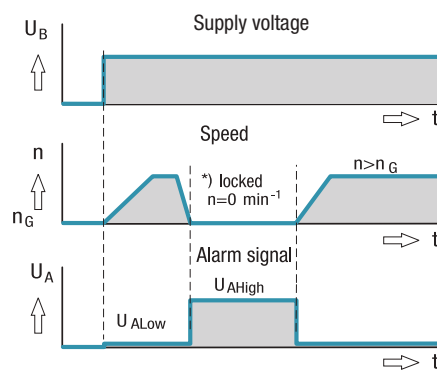
- Alarm signal for speed monitoring
- Signal output via open collector
- The fan emits a continuous low signal during trouble-free operation within the permissible voltage range.
- High signal when speed limit is not reached
- After elimination of the fault, the fan returns to its setpoint speed; the alarm signal reverts to low.

Electrical hookup



$$R_a = \frac{U_{BA} - U_{ALow}}{I_{SINK}}$$

All voltages measured to ground
External load resistor R_a from U_A to U_{BA} required.



* Speed limit $n_G = 0$ rpm

Note:

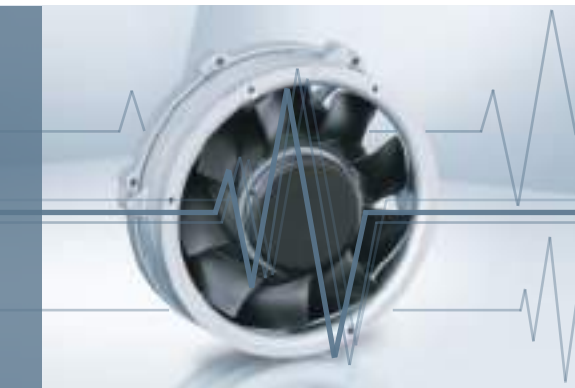
Fans that come with these fan specials could have variations with respect to the temperature range, voltage range, and power consumption compared to standard fans without specials.

Alarm signal data	Alarm output voltage U _A Low			Alarm output voltage U _A High			Alarm operating voltage U _{BA} max.	
	Condition:	Condition: I _{sink} =	Condition: I _{source}	Condition:	Condition: I _{source}	Max. permissible sink current		
Type	VDC	mA	VDC	mA	VDC	mA		
12 / 24 V	≤ 0.4	n > n _G	2	≤ 30	n < n _G	0	30	10
48 V	≤ 0.4	n > n _G	2	≤ 60	n < n _G	0	60	10
Subject to change	Standard value, can vary depending on fan series.							

For existing products, information about alarm signals is included in the product data sheet.

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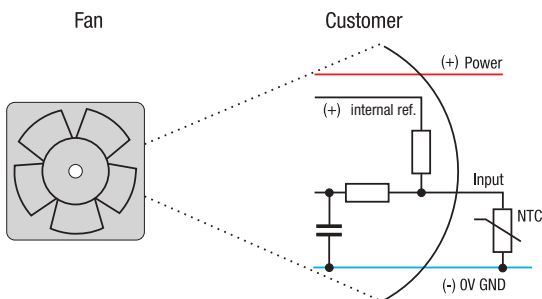
Speed setting via temperature sensor



- The control variable is a temperature sensor that is either integrated in the fan or connected to an additional control cable.

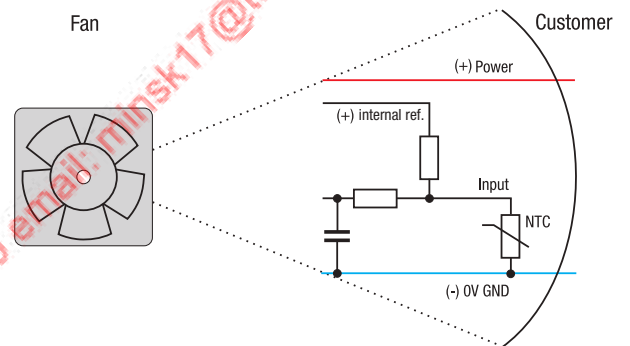
External temperature sensor type T

- Ext. NTC resistor type LZ370 (p. 272) is required (not included in the standard scope of delivery)

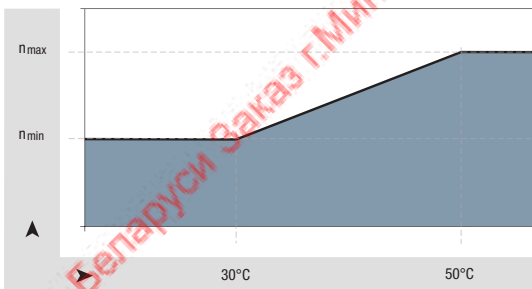


Internal temperature sensor type I

- NTC integrated in the fan hub



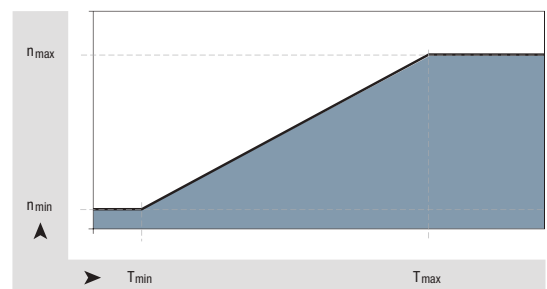
Standard speed/temperature curve for type T and type I



$$n_{\min} \approx \frac{1}{2} n_{\max}$$

$$T_{\min} \approx 30 \text{ }^{\circ}\text{C}; T_{\max} = 50 \text{ }^{\circ}\text{C}$$

Optionally available with selectable temperature/speed curve

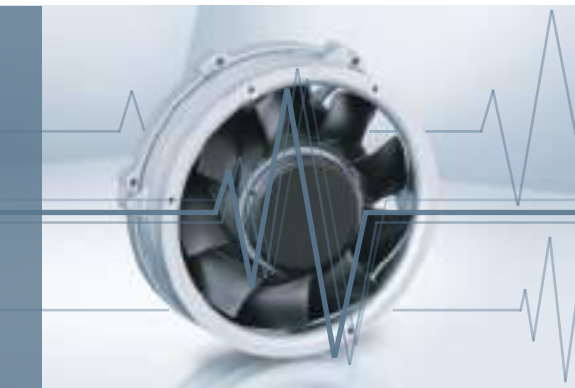


$$n_{\min} \approx 800 \text{ }^1/\text{min} \quad n_{\max} \text{ based on model}$$

$$T_{\min} \approx 5 \text{ }^{\circ}\text{C} \quad T_{\max} \leq 85 \text{ }^{\circ}\text{C, based on model}$$

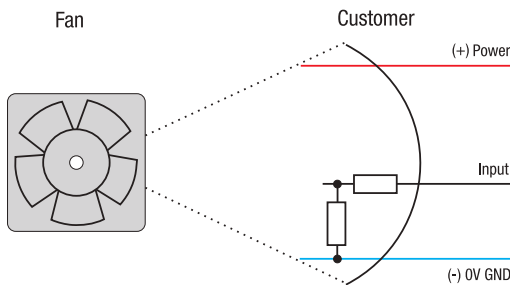
Speed setting via control voltage or PWM signal

– The control variable is a PWM signal or analog control voltage.



Speed setting via analog control voltage type A

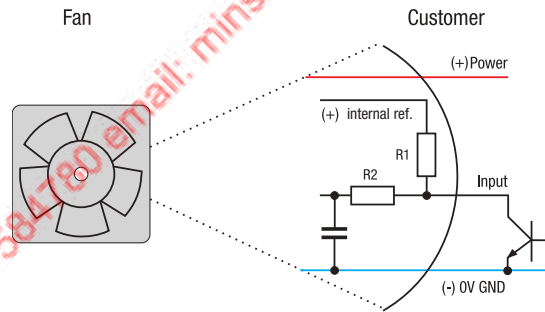
– Standard control range 0...10 V



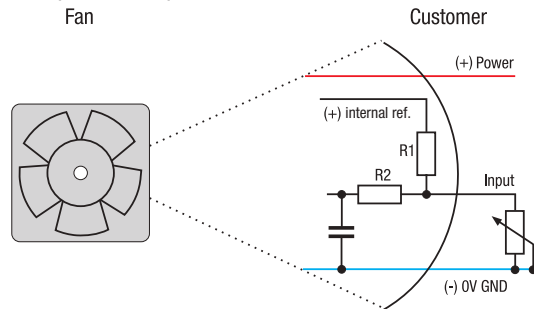
Typical input resistance > 10 k

Speed setting via PWM type P

- Standard PWM signal in two versions
 - a) PWM frequency, mainly 1...10 kHz (0-100%), Open-collector input
 - b) Four-wire interface according to Intel specifications for 12 VDC fans, PWM frequency 25 kHz, incl. speed signal /2

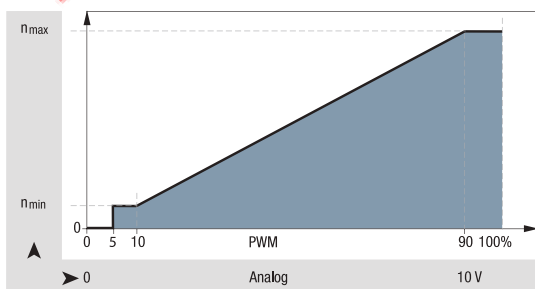


– Optional with potentiometer

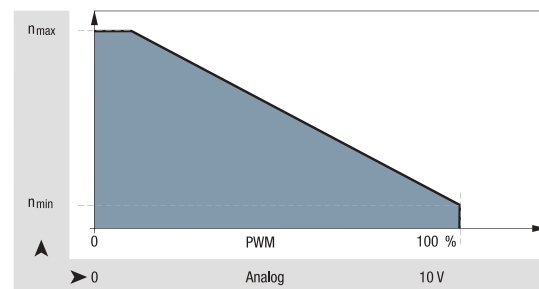


Internal reference = + 5 V
 R1 typical 4.7...10 kΩ
 R2 typical 100 kΩ

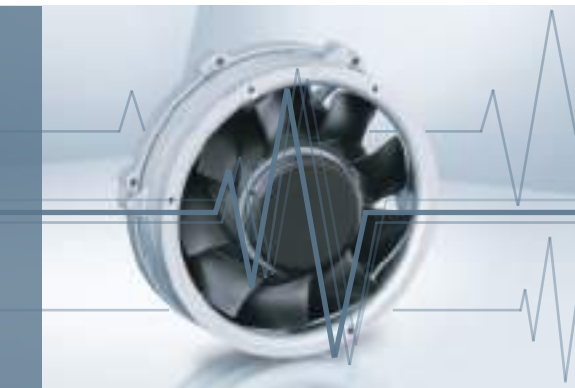
Standard P / A curve



Optionally available with selectable P / A speed curve

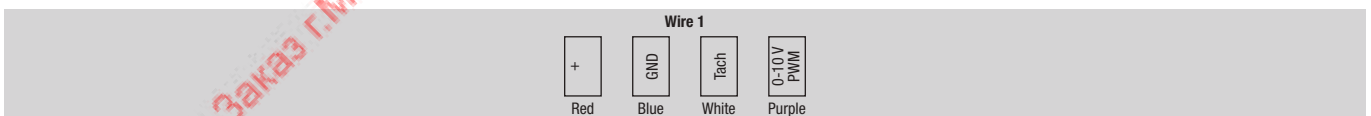
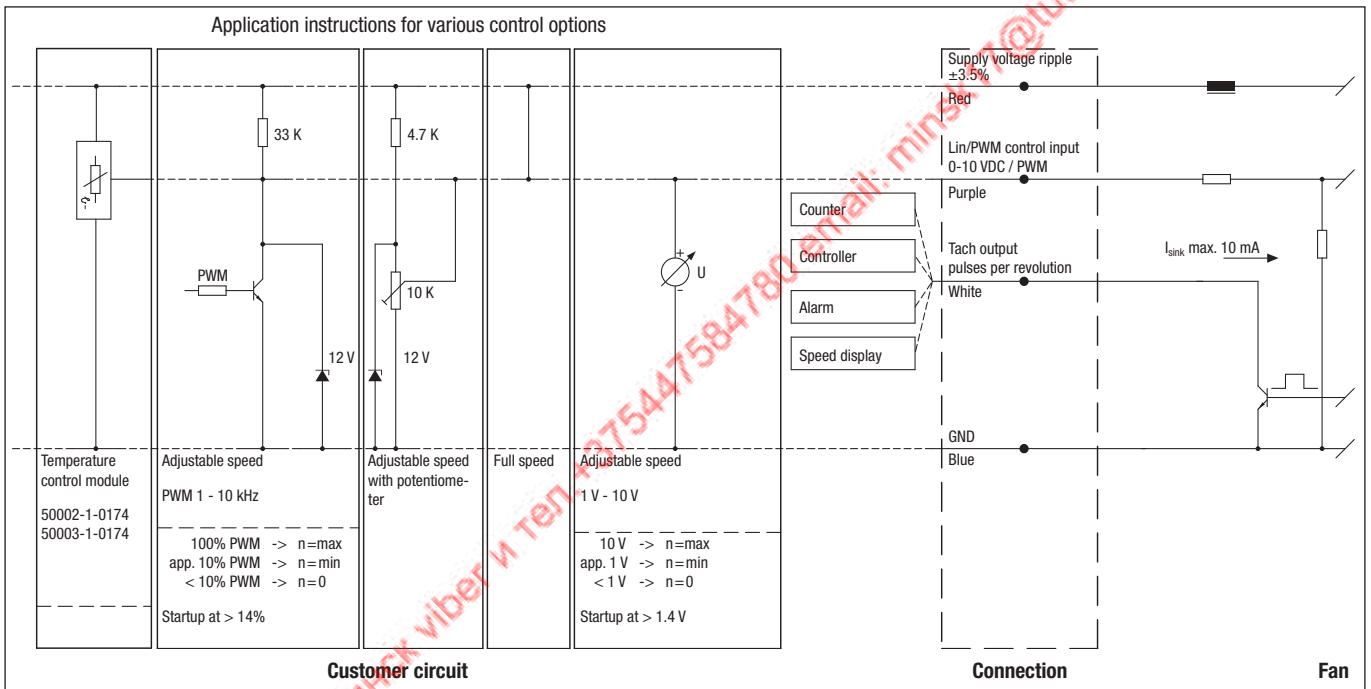


Speed setting via multi-option control input



- Customer can operate input either with PWM signal, analog voltage, external temperature control module, or resistor.
- The control signal speed characteristics of the fan differ from the standard curve of the A and P inputs (see p. 185).
- To reach the maximum speed, the control cable must be connected to the U_B .
- The control input is usually combined with an open collector tachometer (type /2, see page 178).

Speed setting via multi-option control input type 0



Wire	Connection	Color	Assignment/function
1	+	Red	Supply voltage ripple ±3.5%
	GND	Blue	GND

Wire	Connection	Color	Assignment/function
1	Tach	White	Tach output: 3 Impulse/revolution
	0-10 V / PWM	Purple	Control input (impedance 100 kV)

FanCheck



- **Material:** Housing: Die-cast aluminum
Impeller: GRP¹⁾ (PA)
- **Direction of air flow:** Exhaust over struts
- **Direction of rotation:** Counterclockwise, looking towards rotor
- **Connection:** (+) and GND: AWG 22,
Speed signal and control input: AWG 24
all wires: UL 1007, TR 64
- **Highlights:** FanCheck
PWM control input
- **Weight:** 755 g

1) Fiberglass-reinforced plastic

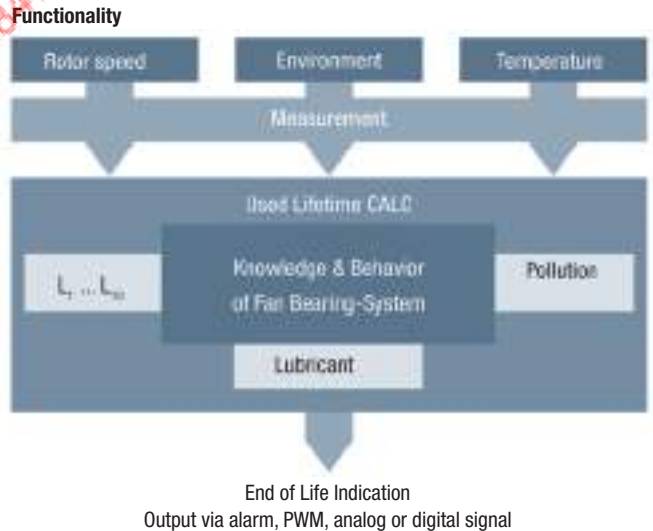
Series 6300 N
FanCheck

Nominal data

Type	Air flow m ³ /h	Air flow cfm	Nominal voltage VDC	Voltage range VDC	Sound pressure level dB(A)	Sound power level Bel(A)	Sinter sleeve bearings Ball bearings	Power consumption Watts	Nominal speed rpm	Temperature range °C	Service life L10 (40 °C) ebm-papst standard Hours	Service life L10 (Tmax) ebm-papst standard Hours	Life expectancy L10IPC (40 °C) s. p. 15 Hours
6318 N/2 H3P-305	675	397	48	36...60	-	7.5	■	58	5 000	-20...+70	77 500 / 40 000	130 000	

Subject to change

FanCheck is a diagnostic tool integrated into the fan electronics for determining the remaining service life of the fan, dependant, upon temperature, speed, and preset environmental parameters. The FanCheck system emits a pulse width modulated signal, which reflects the remaining service life of the fan. The pulse width is proportional to the remaining service life of the fan. The FanCheck signal has a pulse width of 10 % at the end of the service life and a pulse width of 90 % with full service life. Basic data, such as the ball bearing system, bearing lubrication or lubricant used, are programmed in advance as parameters into the software. The customer defines the environmental conditions, such as the use of fans in moist, dusty, or dirty environments; other parameters such as ambient temperature and speed are determined continuously. Based on all the influencing parameters, the software can, by means of a complex algorithm, calculate the remaining service life for each individual fan. To be able to better demonstrate function, the FanCheck system possesses a demo function for samples, in which the service life expires much more quickly than in real time. Using the alarm signal, tacho signal or an additional lead, the remaining service life can be retrieved and analyzed. Depending on the selected feature, the remaining service life can be emitted in the form of a PWM or an analog signal. In this way, optimum benefit is gained from the individual service life of each fan; thus, a fan exchange that is too early or too late can be avoided.



Protected fans

against environmental conditions

- Capable of satisfying special requirements for a broad range of applications
- Resistance of fans to environmental conditions such as dust, splashing water, humidity, spray water, and salt spray.
- Competent solutions to adapt fans to environmental conditions.



Moisture protection

A coat of paint over the motor and circuit board protect the fans against spray water and condensation.

Degree of protection IP 54 / IP 68*

In the degree of protection IP 54, the motor and circuit boards are coated and therefore protected against spray water and moisture.

The degree of protection IP 68 is important for ebm-papst products, as it ensures a high degree of protection for the encapsulated motor and electronics against foreign bodies and water, while protecting the user against potential hazards upon contact. Degrees of protection higher than IP 68 are possible on request.

Solutions that are available and are used may differ depending on the fan size.

We would be glad to develop solutions tailored to the demands of your application.

Salt spray protection

Salt spray represents one of the most difficult requirements for product durability. ebm-papst has the technology to protect fans and blowers from salt spray reliably and for the long term.

Stainless steel bearings

Special bearings made of stainless steel provide additional protection.

Degree of protection – IP code*

Protection against foreign bodies and accidental contact (first digit)		Water protection (second digit)	
X	No protection	X	No protection
1	Protection against foreign objects > 50 mm (back of the hand)	1	Protection against dripping water or condensation
2	Protection against foreign objects > 12 mm (finger)	2	Protection against dripping water, fans tilted 15° from vertical
3	Protection against foreign objects > 2.5 mm (tool)	3	Protection against sprayed water up to 60° from vertical
4	Protection against foreign objects > 1 mm (wire)	4	Protection against sprayed water from all sides
5	Protection against dust in harmful quantities	5	Protection against low-pressure water jets
6	Dust-proof	6	Protection against high-pressure water jets
		7	Protection against temporary submersion (15 cm - 1 m)
		8	Protection against continuous submersion

* IP = International degree of protection marking

For AC- and EC-fans max. IP 65 available

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ACmaxx / EC axial fans



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ACmaxx / EC axial fans

Technical information about ACmaxx / GreenTech EC tubeaxial fans



AC ACmaxx ACi

Progress made by ebm-papst

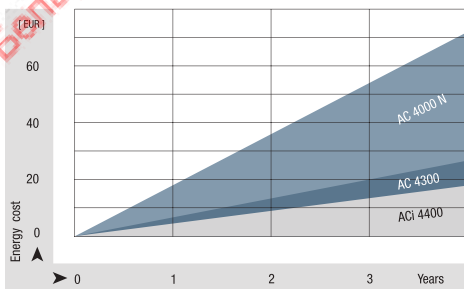
The best example: The ACmaxx fans from ebm-papst that offer substantial benefits thanks to an ingenious yet simple improvement over conventional AC fans.

The aim in developing the ACmaxx series was to raise the technical standard of the conventional AC fan significantly and in the process facilitate a transition to new technology by maintaining the same fan sizes. In short, to make sure that the fans can be replaced 1:1 without any changes to the peripherals or voltage situation.

ebm-papst offers two generations of ACmaxx products that meet different needs.

What the ACmaxx and GreenTech EC compact fans have in common: Energy efficiency

A drive concept based on state-of-the-art GreenTech EC technology with outstanding motor efficiency. Compared to AC fans of the same size, ACmaxx energy consumption is up to 77 % lower – for greater cooling capacity! The energy savings alone means that the products pay for themselves after only a few months. The savings over the entire service life, especially in systems with multiple fans, is considerable.

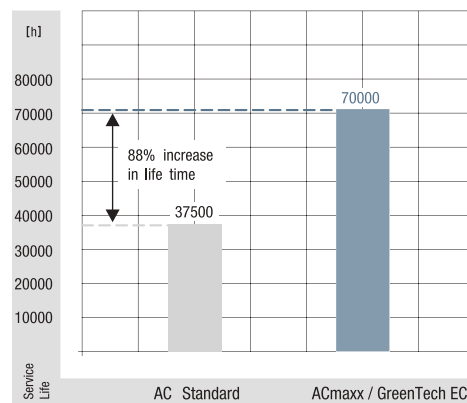


Independent of the power frequency and line voltage

The ACmaxx and GreenTech EC tubeaxial fans are prepared for direct connection to a wide range of AC voltages and frequencies. The speed, and thus important properties of the fan such as air flow and noise, are independent of the power frequency and do not change, even within the defined voltage range. Voltage fluctuations in the power system are automatically compensated for.

Long service life

The efficiency of ACmaxx and GreenTech EC tubeaxial fan motors is up to 75 % greater than that of conventional AC fan variants. This not only saves energy, it also means less self-heating of the motor. Especially the bearing system responds positively to the low self-heating. The reason why the fans have a service life that is up to 85 % longer! This also extends the service and maintenance intervals significantly. Investments in replacement fans and every more expensive downtime are manageably small.



ACmaxx / EC axial fans

Technical information about ACmaxx / GreenTech EC tubeaxial fans



Safety

- Safety certifications: UL, CSA and VDE 0805 / EN60950. VDE 0700 / EN60335 on request.
- Our fans have the CE mark of conformity.
- EMC protection:
 - > EN61000-4-4 Level 1 (1 kV or 2 kV) B
 - > EN61000-4-2 Level 8 kV/15 kV or 4 kV/8 kV
 - > EN61000-4-3
 - > EN61000-4-6
 - > EN61000-4-8
 - > EN55022 Class B

The environment

AC fans are extremely common and are used in a wide variety of applications. In control cabinet cooling, beer coolers, cooling cabinets, wood-burning stoves, medical devices – all have different requirements for resistance to environmental conditions. ACmaxx and GreenTech EC tubeaxial fans offer the same features for moisture protection, splash water, and tougher environmental conditions.

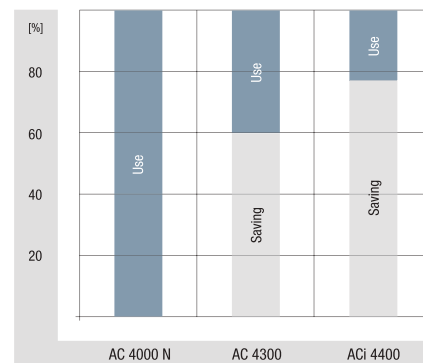
Particular design features of the GreenTech EC tubeaxial fan (ACi 4400): GreenTech EC compact fan is more compact!

As large as existing AC fans – and not a bit larger. This is the greatest feature of the ACi 4400 GreenTech EC tubeaxial fans. Even in the hub area, the fan does not differ from typical 119 x 119 x 38 mm AC fans. Out with the AC, in with the ACi 4400 GreenTech EC tubeaxial fans – it's that simple.



The GreenTech EC tubeaxial fan is more efficient!

ACmaxx saves energy, and the GreenTech EC tubeaxial fan generation saves even more. While an AC fan at 50 Hz can barely reach an overall efficiency of 5-6 %, the ACmaxx makes it to about 20-25 %. With the new ACi 4400 GreenTech EC tubeaxial fans, a remarkable level of up to 30 % is reached. This is the result of the optimization of the entire package made up of the drive, electronics, AC/DC conversion, and aerodynamics. Thus the new GreenTech EC tubeaxial fan series boasts energy savings of almost 75 % compared to the corresponding AC fan, thus providing significantly greater savings than the 40 % level of the old AC 4300 generation.



The GreenTech EC tubeaxial fan is quieter!

The ACi 4400 GreenTech EC tubeaxial fan is quieter! Quieter than AC fans and quieter than the existing ACmaxx generation. The reason for this is the optimized aerodynamics and the drive, which is optimized for minimum structure-borne noise. Thus the fan is only half as loud at a comparable air performance, and is up to 6 dB(A) quieter at some operating points.

Speed independent of voltage and frequency

For the ACi 4400 GreenTech EC tubeaxial fans, the speed, and thus the flow quantity and operating noise, are independent of the power supply and power frequency.

Versions are available for 115 VAC with a voltage range from 85 to 132 VAC and 230 VAC with a voltage range of 195 to 265 VAC. Operation with DC voltage is also possible. Voltage fluctuations and frequency differences in the power system are compensated for automatically.

ACmaxx / EC axial fans

Technical information
about ACmaxx / GreenTech EC tubeaxial fans



Particular design features of the ACmaxx:

Prepared for all common AC voltages

These models have a very wide voltage range from 85 to 265 VAC – the global voltage range, so to speak. This allows the fan to be used around the world, opening up large savings potentials. In addition to reduced logistics effort and stock keeping, worldwide availability is key. ACmaxx is compatible with every power supply and no switching is needed. From 85 to 265 volts and power frequencies of 50 and 60 Hz. Voltage fluctuations in the power system are automatically compensated for.

Higher performance

Unlike conventional AC technology, the state-of-the-art drive concept of this fan series is not linked to a fixed power frequency. This allows the motor speed to be increased over a wide range. Thus ACmaxx provides significantly greater air flow and significantly increased pressure.

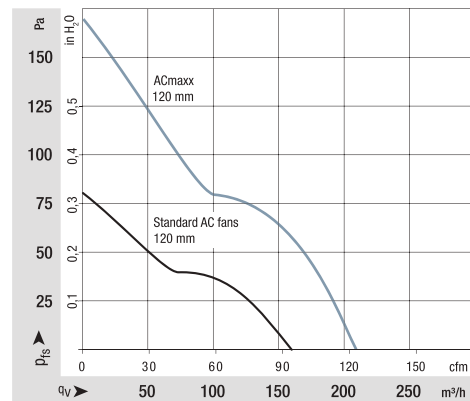
Greater flexibility

The flexibility of ACmaxx is unique. With its intelligent features, ACmaxx can be adapted individually to the specific application: standby mode, overload mode at peak times, or night reduction all the way to temperature-controlled quiet operation are all possible. From speed monitoring to long-term function checks using an alarm or speed signal

outputs, ACmaxx offers optional interfaces that allow you to monitor an operation easily and quickly.

You can find further information about these fan options in the "Fans specials" chapter, starting on page 175.

Or you can simply contact our application engineers to discuss your ideal ACmaxx or GreenTech EC tubeaxial fan.



Fans for AC operation

Overview of air performance

Dimensions mm	Series	Air flow m ³ /h	Air flow scale (10 to 2500 m ³ /h)																Page	
			10	20	30	40	50	60	70	80	90	100	200	300	400	500	600	700		800
□ 80 x 32	AC 8300	80	[Performance bars]																196	
□ 92 x 38	AC 3200 J	144	[Performance bars]																197	
□ 119 x 25	AC 4400 FN	205	[Performance bars]																198	
□ 119 x 32	AC 4300	204	[Performance bars]																199	
□ 119 x 38	ACi 4400 N	78...175	[Performance bars]																200	
□ 119 x 38	ACi 4400	100...175	[Performance bars]																201	
∅ 172 x 51	AC 6200 N	350	[Performance bars]																202	
∅ 130	W1G 130	220...370	[Performance bars]																204	
∅ 200	W3G 200	560...1065	[Performance bars]																206	
∅ 250	W3G 250	900...1910	[Performance bars]																208	
∅ 98,5 x 130	AC 100	40...135	[Performance bars]																210	

Subject to change

Overview of technically feasible designs

Dimensions mm	Series	VDE, UL, CSA	SIMTEC sleeve bearings / ball bearings	Speed signal	Go / NoGo alarm	Alarm with speed limit	External temperature sensor	Internal temperature sensor	PWM control input	Analog control input	Multi-options control input	Moisture protection	IP 65	Salt spray protection	Page
ACmaxx / ACi axial fans															
□ 80 x 32	AC 8300	yes	■	•	•	•	•	•	•	•	•	•	•	•	196
□ 92 x 38	AC 3200 J	no	■	•	•	•	•	•	•	•	•	•	•	•	197
□ 119 x 25	AC 4400 FN	yes	■	•	•	•	•	•	•	•	•	•	•	•	198
□ 119 x 32	AC 4300	yes	■	•	•	•	•	•	•	•	•	•	•	•	199
□ 119 x 38	ACi 4400 N	yes	■	–	–	–	–	–	–	–	–	•	•	•	200
□ 119 x 38	ACi 4400	yes	■	•	•	•	–	•	•	•	–	•	•	•	201
∅ 172 x 51	AC 6200 N	yes	■	•	•	•	•	•	•	•	•	•	•	•	202
∅ 98.5 x 130	AC 100	*	■	–	–	–	–	–	–	–	–	•	–	–	210

Subject to change

- Not yet available
 - Available
 - Sleeve bearings
 - Ball bearings
- * Partially granted, partially in registration stage.

Please note that these special versions are not possible for all voltages and speeds, and not in all combinations. The special versions are designed for specific customers and projects. As a rule they are not available off the shelf and are tied to minimum volumes. Please consult your customer support representative about the feasibility of your special variant.

Max. 80 m³/h

ACmaxx axial fans

□ 80 x 32 mm



- **Material:** Housing: GRP¹⁾ (PBTP)
Impeller: GRP¹⁾ (PA)
 - **Direction of air flow:** Exhaust over struts
 - **Direction of rotation:** Clockwise, looking towards rotor
 - **Connection:** Via single wires AWG 22, TR 64
 - **Highlights:** Universally usable for all power voltages between 85 and 265 VAC
 - **Weight:** 325 g
- **Possible special versions:**
(See chapter DC fans - specials)
 - Speed signal
 - Go / NoGo alarm
 - Alarm with speed limit
 - External temperature sensor
 - Internal temperature sensor
 - PWM control input
 - Analog control input
 - Moisture protection
 - Salt spray protection
 - Degree of protection: IP 65

1) Fiberglass-reinforced plastic

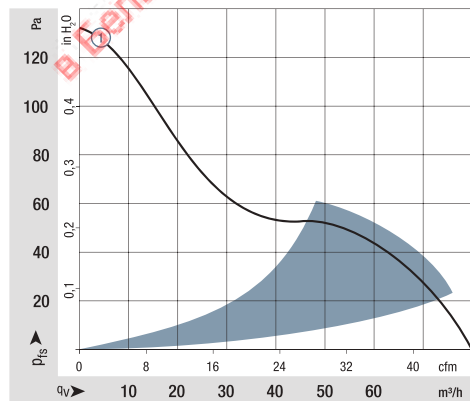
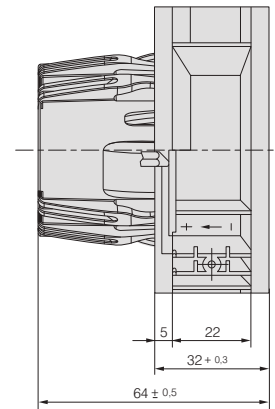
Series AC 8300
WVC0080ASJAS

Nominal data

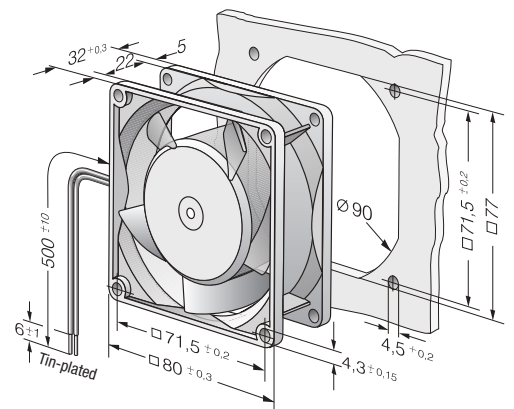
Type	Air flow		Nominal voltage	Frequency	Voltage range	Sound pressure level	Sound power level	Sinter sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40 °C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ DFC (40 °C) see page 15	Curve
	m ³ /h	cfm													
AC 8300 H	80	47	100...240	50 / 60	85...265	48	6.2	■	8.3	5 000	-20...+75	55 000 / 20 000	92 500	①	

Subject to change

Speed variants available on request.



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{pA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general-conditions>



Max. 144 m³/h

ACmaxx axial fans

□ 92 x 38 mm



- **Material:** Housing: GRP¹⁾ (PBTP)
Impeller: GRP¹⁾ (PA)
 - **Direction of air flow:** Exhaust over struts
 - **Direction of rotation:** Clockwise, looking towards rotor
 - **Connection:** Via single wires AWG 22, TR 64
 - **Highlights:** Universally usable for all power voltages between 85 and 265 VAC
 - **Weight:** 325 g
- **Possible special versions:** (See chapter DC fans - specials)
 - Speed signal
 - Go / NoGo alarm
 - Alarm with speed limit
 - External temperature sensor
 - Internal temperature sensor
 - PWM control input
 - Analog control input
 - Moisture protection
 - Salt spray protection
 - Degree of protection: IP 65

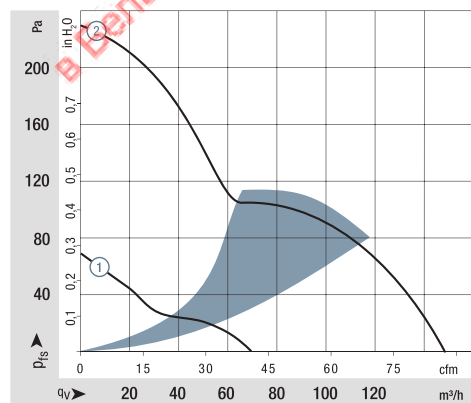
1) Fiberglass-reinforced plastic

Series AC 3200 J
WVC0092JSGBS

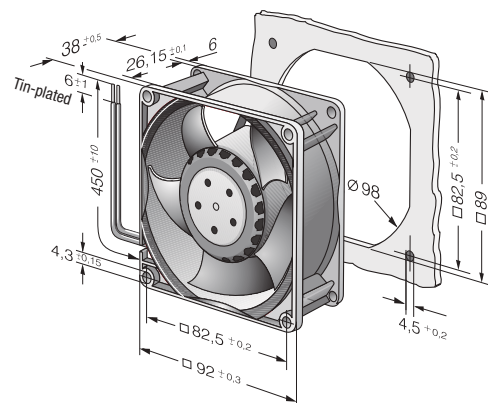
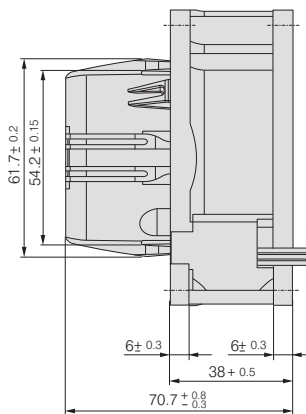
Nominal data	Air flow		Nominal voltage	Frequency	Voltage range	Sound pressure level	Sound power level	Sinter sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40 °C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ DFC (40 °C) see page 15	Curve
	m ³ /h	cfm													
AC 3200 JLU	70	41	100...240	50 / 60	85...265	36	4.6	■	2.6	3 360	-20...+70	70 000 / 35 000	117 500	①	
AC 3200 JH	144	85	100...240	50 / 60	85...265	55	6.4	■	12	6 800	-20...+70	70 000 / 35 000	117 500	②	

Subject to change

Speed variants available on request.



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{PA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general-conditions>



Max. 205 m³/h

ACmaxx axial fans

□ 119 x 25 mm



- **Material:** Housing: GRP¹⁾ (PBTP)
Impeller: GRP¹⁾ (PA)
 - **Direction of air flow:** Exhaust over struts
 - **Direction of rotation:** Counterclockwise, looking towards rotor
 - **Connection:** Via single wires AWG 22, TR 64
 - **Highlights:** Universally usable for all power voltages between 85 and 265 VAC
 - **Weight:** 370 g
- **Possible special versions:** (See chapter DC fans - specials)
 - Speed signal
 - Go / NoGo alarm
 - Alarm with speed limit
 - External temperature sensor
 - Internal temperature sensor
 - PWM control input
 - Analog control input
 - Moisture protection

1) Fiberglass-reinforced plastic

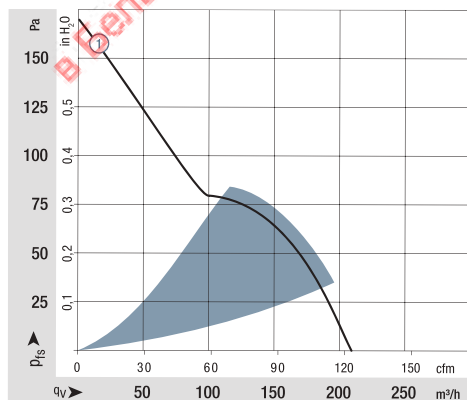
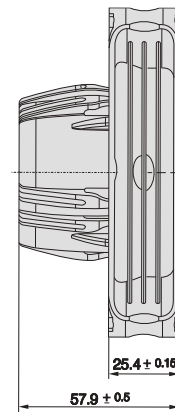
Series AC 4400 FN
WVC0119FSJBS

Nominal data

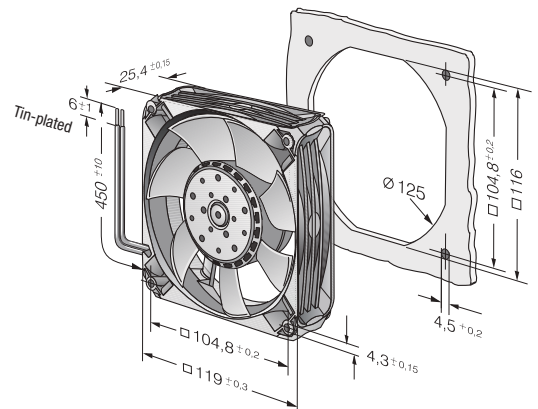
Type	Air flow		Nominal voltage	Frequency	Voltage range	Sound pressure level	Sound power level	Sinter sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40 °C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ DFC (40 °C) see page 15	Curve
	m ³ /h	cfm													
AC 4400 FNN	205	121	100...240	50 / 60	85...265	53	6.2	■ / ■	12	4 850	-20...+70	60 000 / 30 000	102 500	①	

Subject to change

Speed variants available on request.



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{PA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general conditions>



Max. 204 m³/h

ACmaxx axial fans

□ 119 x 32 mm



- **Material:** Housing: GRP¹⁾ (PBTP)
Impeller: GRP¹⁾ (PA)
 - **Direction of air flow:** Exhaust over struts
 - **Direction of rotation:** Clockwise, looking towards rotor
 - **Connection:** Via single wires AWG 22, TR 64
 - **Highlights:** Universally usable for all power voltages between 85 and 265 VAC
 - **Weight:** 325 g
- **Possible special versions:** (See chapter DC fans - specials)
 - Speed signal
 - Go / NoGo alarm
 - Alarm with speed limit
 - External temperature sensor
 - Internal temperature sensor
 - PWM control input
 - Analog control input
 - Moisture protection
 - Salt spray protection
 - Degree of protection: IP 65

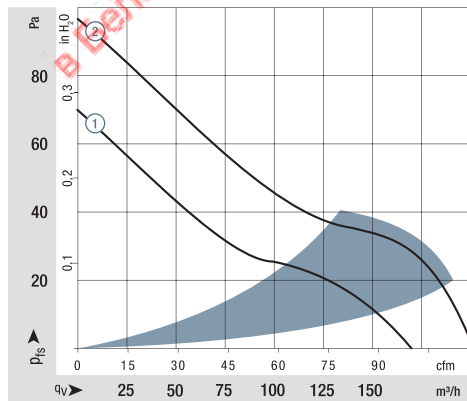
1) Fiberglass-reinforced plastic

Series AC 4300
WVC0119ASJAZ

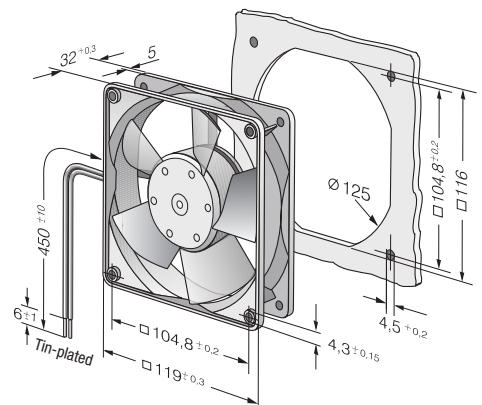
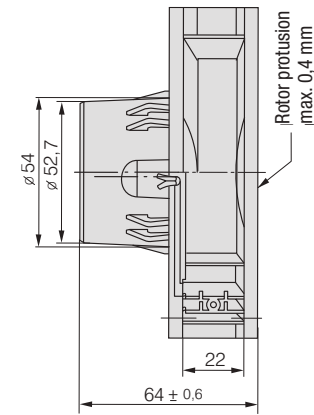
Nominal data	Air flow		Nominal voltage	Frequency	Voltage range	Sound pressure level	Sound power level	Sinter sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40 °C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ DFC (40 °C) see page 15	Curve
	m ³ /h	cfm													
AC 4300	170	100	100...240	50 / 60	85...265	45	5.8	■	6.7	2 800	-20...+50	70 000 / 25 000	117 500	①	
AC 4300 H	204	120	100...240	50 / 60	85...265	51	6.4	■	12	3 400	-20...+70	45 000 / 22 500	75 500	②	

Subject to change

Speed variants available on request.



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{PA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general-conditions>



Max. 175 m³/h

GreenTech EC tubeaxial fans

□ 119 x 38 mm



- **Material:** Housing: GRP¹⁾ (PBT)
Impeller: GRP¹⁾ (PA)
- **Direction of air flow:** Exhaust over struts
- **Direction of rotation:** Clockwise, looking towards rotor
- **Connection:** Via single wires AWG 24
- **Highlights:** Power supply and drive electronics completely integrated. Universally usable for all power voltages between 90 and 264 VAC. Compact design.
- **Weight:** 250 g
- **Possible special versions:** (See chapter DC fans - specials)
 - Moisture protection
 - Salt spray protection
 - Degree of protection: IP 65

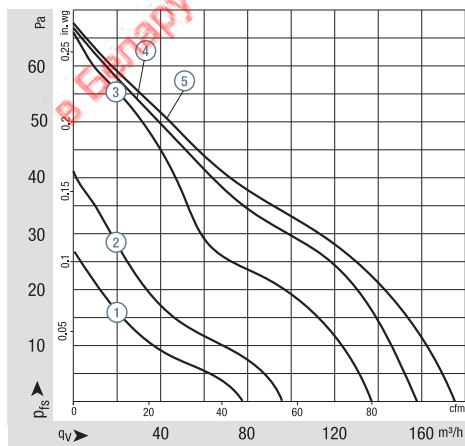
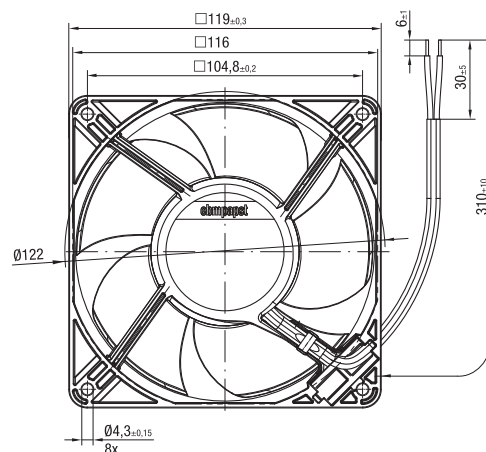
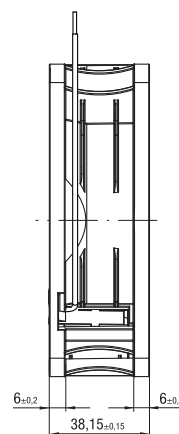
1) Fiberglass-reinforced plastic

Series ACi 4400 N
VWC0120YSGBS

Nominal data

Type	Air flow		Nominal voltage	Frequency	Voltage range	Sound pressure level	Sound power level	Sinter sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40 °C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ DFC (40 °C) see page 15	Curve
	m ³ /h	cfm													
ACi 4400 NLU	78	46	100...240	50 / 60	90...264	23	3.7	■	1.1	1 500	-40...+75	65 000 / 25 000	110 000	①	
ACi 4400 NMLU	100	59	100...240	50 / 60	90...264	25	4.1	■	1.7	1 850	-40...+75	65 000 / 25 000	110 000	②	
ACi 4400 NNU	140	82	100...240	50 / 60	90...264	36	4.8	■	2.8	2 700	-40...+75	65 000 / 25 000	110 000	③	
ACi 4400 NHU	160	94	100...240	50 / 60	90...264	39	5.2	■	3.8	3 000	-40...+70	65 000 / 25 000	110 000	④	
ACi 4400 NHHU	175	103	100...240	50 / 60	90...264	43	5.5	■	4.6	3 300	-40...+70	65 000 / 25 000	110 000	⑤	

Subject to change



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{PA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general conditions>

Max. 175 m³/h

GreenTech EC tubeaxial fans

□ 119 x 38 mm



- **Material:** Housing: GRP¹⁾ (PBT)
Impeller: GRP¹⁾ (PA)
 - **Direction of air flow:** Exhaust over struts
 - **Direction of rotation:** Clockwise, looking towards rotor
 - **Connection:** Via single wires AWG 24
 - **Highlights:** Power supply and drive electronics completely integrated. Universally usable for all power voltages between 90 and 264 VAC. Compact design.
 - **Weight:** 250 g
- **Possible special versions:** (See chapter DC fans - specials)
 - Speed signal
 - PWM control input
 - Analog control input
 - Moisture protection
 - Salt spray protection
 - Degree of protection: IP 65
 - Approval for refrigeration products acc. to EN60335-24 / EN60335-89 and ATEX acc. to EN60079-15

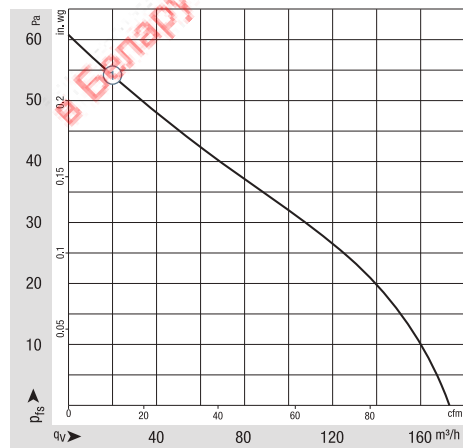
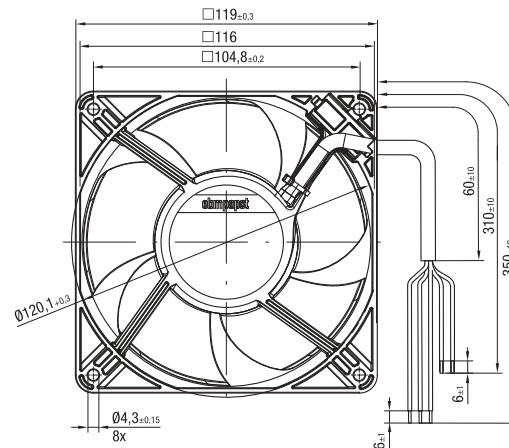
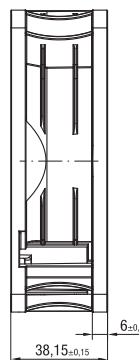
1) Fiberglass-reinforced plastic

Series ACi 4400
VWC0120YSGBS

Nominal data

Type	Air flow		Nominal voltage	Frequency	Voltage range	Sound pressure level	Sound power level	Sinter sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40 °C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ IPPC (40 °C) see page 15	Curve
	m ³ /h	cfm													
ACi 4400 HHAU	175	103	100...240	50 / 60	90...264	43	5.5	■	4.6	3 300	-40...+75	65 000 / 25 000	110 000	①	
ACi 4400/2 HHPU	175	103	100...240	50 / 60	90...264	43	5.5	■	4.6	3 300	-40...+75	65 000 / 25 000	110 000	①	

Subject to change



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{pA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general conditions>

Max. 350 m³/h

ACmaxx axial fans

Ø 172 x 51 mm



- **Material:** Housing: Die-cast aluminum
Impeller: GRP¹⁾ (PA)
 - **Direction of air flow:** Exhaust over struts
 - **Direction of rotation:** Counterclockwise, looking towards rotor
 - **Connection:** Via single wires AWG 22, TR 64
 - **Highlights:** Universally usable for all power voltages between 85 and 265 VAC, 50-60 Hz
Housing with grounding lug for screw M4 x 8 (Torx)
 - **Weight:** 900 g
- **Possible special versions:** (See chapter DC fans - specials)
 - Speed signal
 - Go / NoGo alarm
 - Alarm with speed limit
 - External temperature sensor
 - Internal temperature sensor
 - PWM control input
 - Analog control input
 - Moisture protection
 - Salt spray protection
 - Degree of protection: IP 65

1) Fiberglass-reinforced plastic

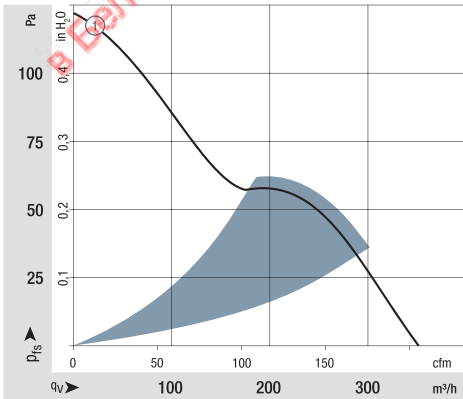
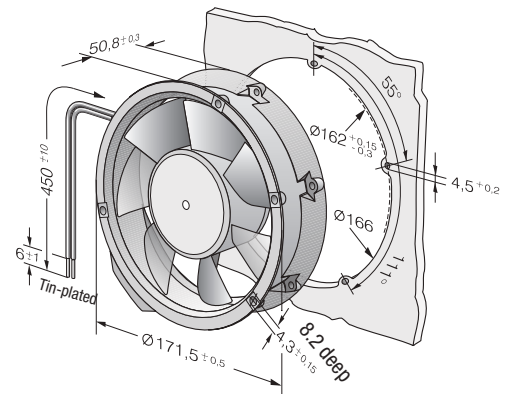
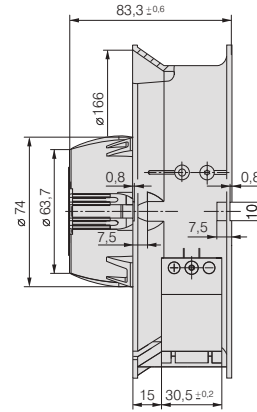
Series AC 6200 N
VWS0143XSLCS

Nominal data

Type	Air flow		Nominal voltage	Frequency	Voltage range	Sound pressure level	Sound power level	Sinter sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40 °C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ (IPPC (40 °C) see page 15	Curve
	m ³ /h	cfm													
AC 6200 NM	350	206	100...240	50 / 60	85...265	50	5.7	■	14	2 850	-20...+70	80 000 / 40 000	135 000	①	

Subject to change

Speed variants available on request.



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{pA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general-conditions>

в Беларусі Заказ г.Мінск viber и тел. +375447584780 email: minsk17@tut.by www.tiristor.by

Max. 370 m³/h

Energy-saving axial fans

Ø 130 mm



- **Material:** Housing: PP plastic, fiberglass-reinforced; Blades: PA plastic, fiberglass-reinforced
- **Number of blades:** 7
- **Direction of air flow:** "V", exhaust over struts
- **Direction of rotation:** Counterclockwise, looking towards rotor
- **Degree of protection:** IP 54
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

WWS0130XSLBS

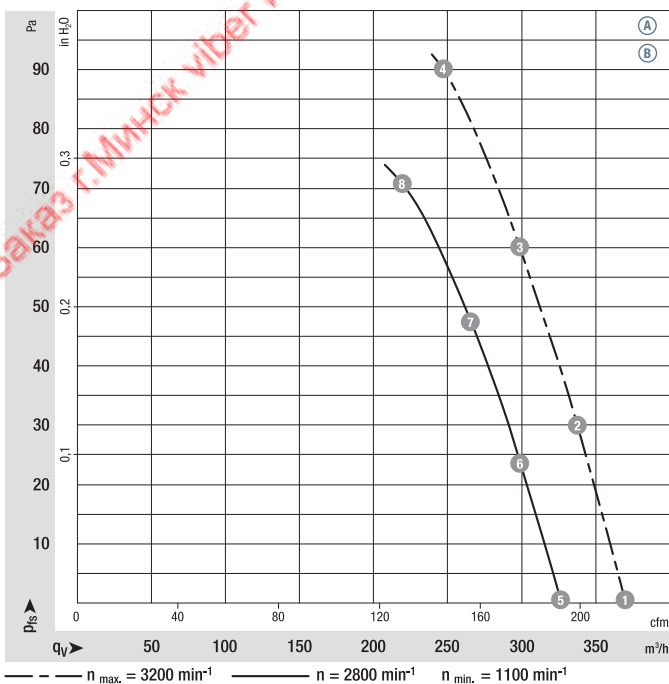
Nominal data

Type	Motor	Curve	Nominal voltage VAC	Frequency Hz	Nominal speed rpm ⁻¹	Max. power consumption ⁽¹⁾ W	Max. input current ⁽¹⁾ A	Max. back-pressure Pa	Admissible amb. temp. °C	Weight kg	Connection diagram
W1G130-AA49 -01	M1G055-AI	Ⓐ	1~ 115	50/60	3200	24	0.38	90	-30..+60	0.75	p. 281 / J7)
W1G130-AA25 -01	M1G055-AI	Ⓑ	1~ 230	50/60	3200	24	0.19	90	-30..+70	0.75	p. 281 / J7)

Subject to change

⁽¹⁾ Nominal data in operating point with maximum load and 115 or 230 VAC

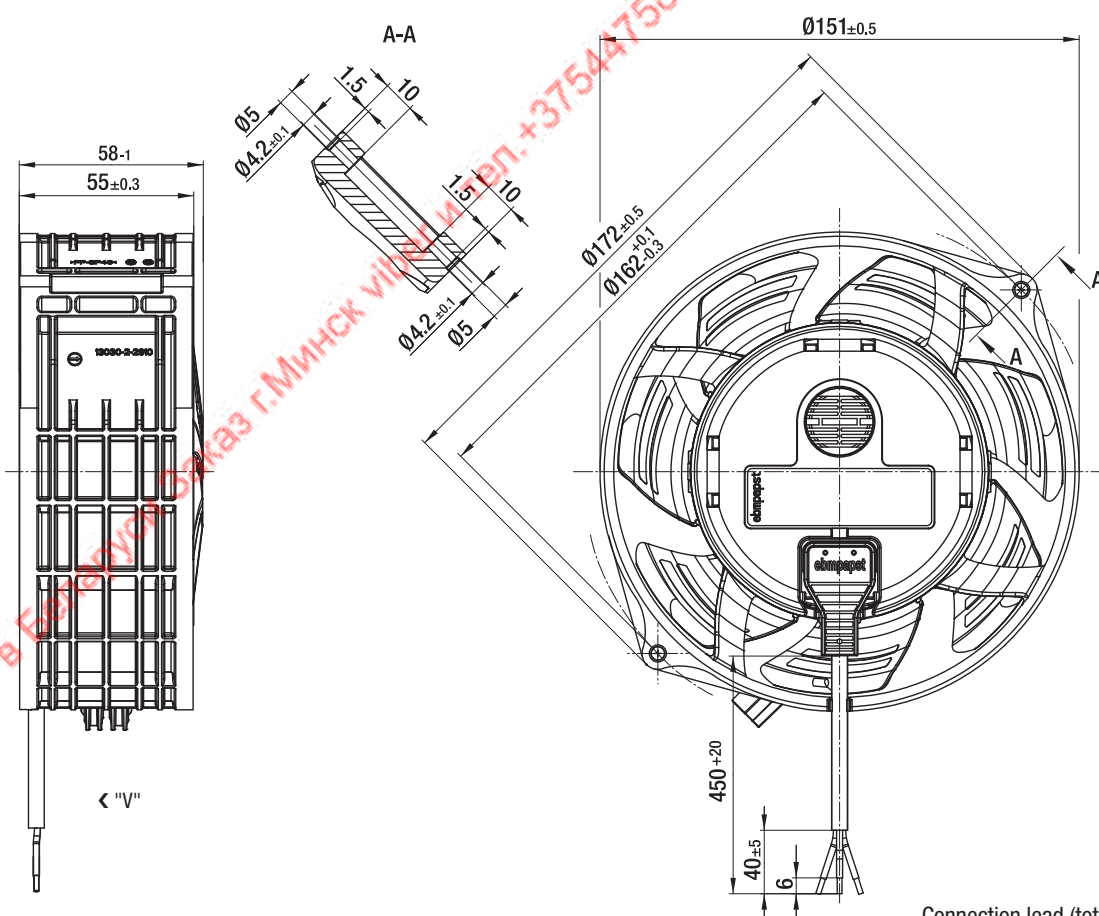
Curves:



	n rpm ⁻¹	P _{ed} W	I A	L _{wA} dB(A)
Ⓐ 1	3200	23	0.38	63
Ⓐ 2	3200	24	0.38	61
Ⓐ 3	3200	24	0.38	60
Ⓐ 4	3200	24	0.38	63
Ⓐ 5	2800	16	0.26	60
Ⓐ 6	2800	16	0.26	58
Ⓐ 7	2800	16	0.26	57
Ⓐ 8	2800	16	0.26	60
Ⓑ 1	3200	23	0.19	63
Ⓑ 2	3200	24	0.19	61
Ⓑ 3	3200	24	0.19	60
Ⓑ 4	3200	24	0.19	63
Ⓑ 5	2800	16	0.13	60
Ⓑ 6	2800	16	0.13	58
Ⓑ 7	2800	16	0.13	57
Ⓑ 8	2800	16	0.13	60

Air performance measured according to: ISO 5801, installation category A, in ebm-papst full nozzle without contact protection. Suction-side noise levels: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Motor protection:** Via electronics and thermal overload protector
- **Electrical hookup:** Plug-in connection on motor side
- **Protection class:** II
- **Conformity with standard(s):** CE; EN 60335-1
- **Approvals:** VDE, GOST (are available); UL, CSA (are applied for)
- **Speed:** Using the programming unit 2 speeds between n_{min} and n_{max} can be programmed



Connection lead (total length 450 mm) is fitted ex works and can be detached.

Max. 1065 m³/h

EC axial fans

Ø 200 mm



- **Material:** Housing: Die-cast aluminum
Blades: PP plastic
Rotor: Thick-film passivated
- **Number of blades:** 7
- **Direction of air flow:** "V"
- **Direction of rotation:** Counterclockwise, looking towards rotor
- **Degree of protection:** Depending on installation and position⁽²⁾
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensate discharges:** None, open rotor
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

VWT0200XSLCS

Nominal data

Type	Motor	Curve	Nominal voltage VAC	Frequency Hz	Nominal speed rpm ⁻¹	Max. power consumption ⁽¹⁾ W	Max. input current ⁽¹⁾ A	Max. back-pressure Pa	Admissible amb. temp. °C	Weight kg	Technical features and connection diagram
W3G200-HD01 -01	M3G055-BD	Ⓐ	1~200-240	50/60	2 900	54	0.55	96	-25..+60	1.6	P. 275 / H3)
W3G200-HD01 -03	M3G055-BD	Ⓑ	1~200-240	50/60	2 900	54	0.55	96	-25..+60	1.6	P. 276 / H4)
W3G200-HD23 -10	M3G055-BD	Ⓒ	1~115	50/60	2 900	65	1.00	94	-25..+60	1.6	P. 276 / H4)

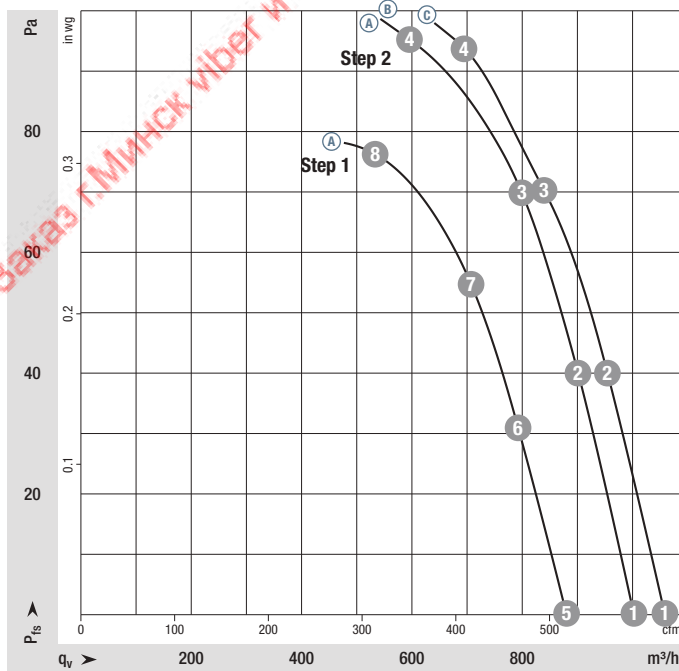
Subject to change

⁽¹⁾ Nominal data in operating point with maximum load and 230 VAC

⁽²⁾ Not suitable for permanent outdoor use. Special version available on request.

Curves:

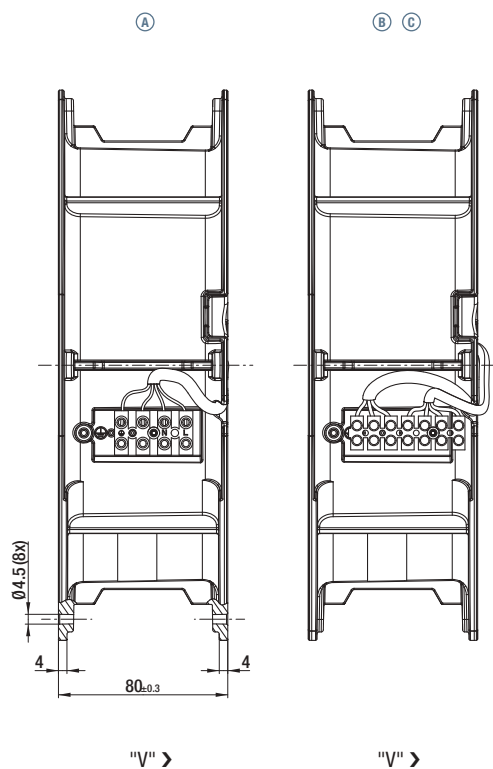
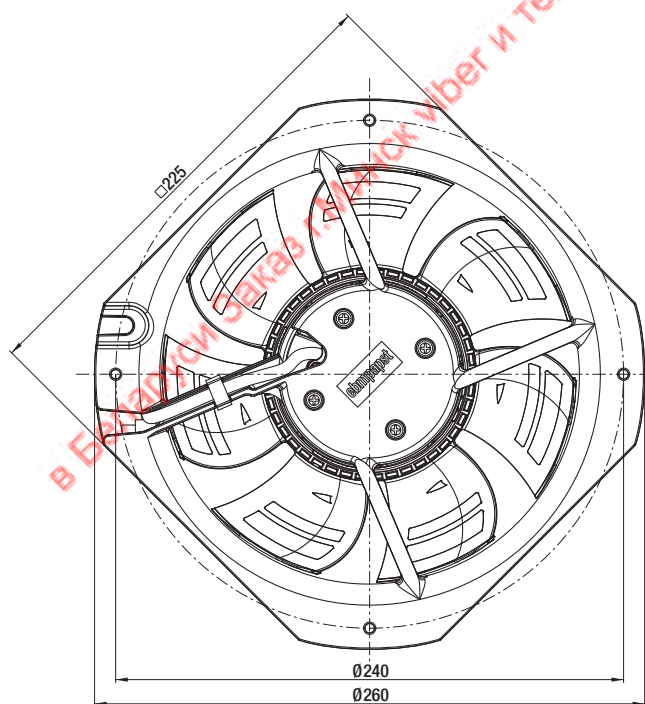
- Ⓐ 2 Speed stages
- Ⓑ Ⓒ Speed-controlled



	n rpm ⁻¹	P _{ed} W	I A	L _{WA} dB(A)
Ⓐ 1	2970	50	0.49	65
Ⓐ 2	2890	54	0.53	64
Ⓐ 3	2830	58	0.56	65
Ⓐ 4	2900	54	0.55	70
Ⓐ 5	2645	36	0.37	62
Ⓐ 6	2575	39	0.40	61
Ⓐ 7	2530	42	0.42	62
Ⓐ 8	2500	43	0.43	67
Ⓑ 1	2970	50	0.49	65
Ⓑ 2	2890	54	0.53	64
Ⓑ 3	2830	58	0.56	65
Ⓑ 4	2900	54	0.55	70
Ⓒ 1	3150	62	1.00	66
Ⓒ 2	3050	65	1.00	66
Ⓒ 3	2930	65	1.00	72
Ⓒ 4	2900	65	1.00	74

Air performance measured according to: ISO 5801, Installation category A, without contact protection. Suction-side noise levels: L_{WA} according to ISO 13347, L_{WA} measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Technical features:** See connection diagram p. 275/276
- **Touch current:** ≤ 3.5 mA acc. to IEC 60990 (test circuit, illustration 4)
- **Electrical hookup:** Via terminal strip
- **Protection class:** I (with customer connection to grounding conductor)
- **Conformity with standard(s):** EN 60335-1, CE
- **Approvals:** VDE, cURus



Max. 1910 m³/h

EC axial fans

Ø 250 mm



- **Material:** Housing: Die-cast aluminum
Blades: PP plastic
Rotor: Thick-film passivated
- **Number of blades:** 7
- **Direction of air flow:** "V"
- **Direction of rotation:** Counterclockwise, looking towards rotor
- **Degree of protection:** Depending on installation and position⁽²⁾
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensate discharges:** None, open rotor
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

VWT0250XSLES

Nominal data

Type	Motor	Curve	Nominal voltage VAC	Frequency Hz	Nominal speed rpm ⁻¹	Max. power consumption ⁽¹⁾ W	Max. input current ⁽¹⁾ A	Max. back-pressure Pa	Admissible amb. temp. °C	Weight kg	Technical features and connection diagram
W3G250-HH07 -01	M3G055-CF	Ⓐ	1~200-240	50/60	2 330	83	0.72	100	-25...+60	2.1	P. 275 / H3)
W3G250-HH07 -03	M3G055-CF	Ⓑ	1~200-240	50/60	2 330	83	0.72	100	-25...+60	2.1	P. 276 / H4)
W3G250-HH53 -03	M3G055-CF	Ⓒ	1~115	50/60	2 040	56	0.90	80	-25...+50	2.1	P. 276 / H4)
W3G250-HK35 -11	M3G055-CF	Ⓓ	1~115	50/60	2 700	125	1.90	130	-25...+60	2.1	P. 276 / H4)

Subject to change

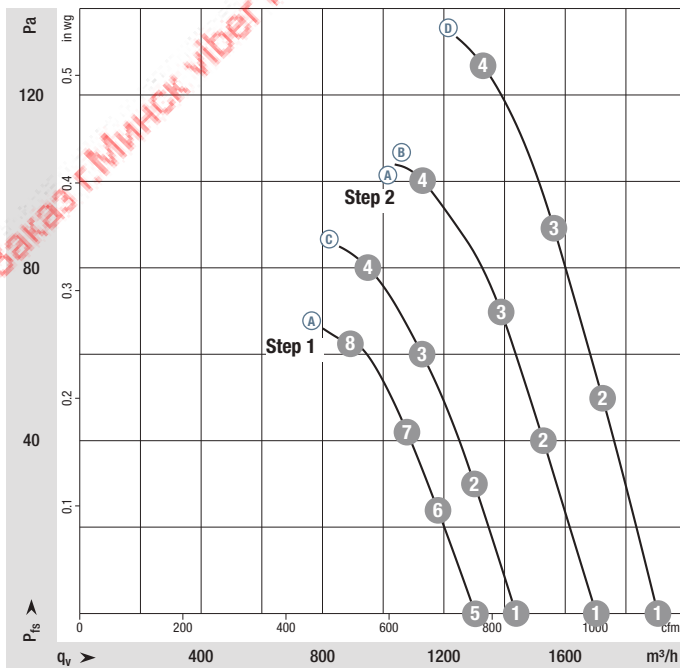
⁽¹⁾ Nominal data in operating point with maximum load and 230 VAC

⁽²⁾ Not suitable for permanent outdoor use. Special version available on request.

Curves:

Ⓐ 2 Speed stages

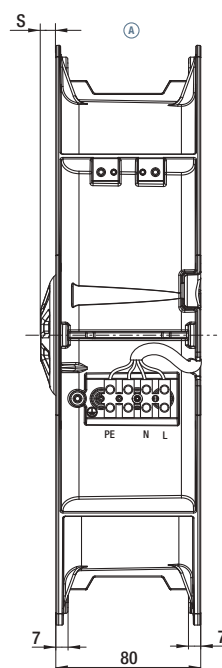
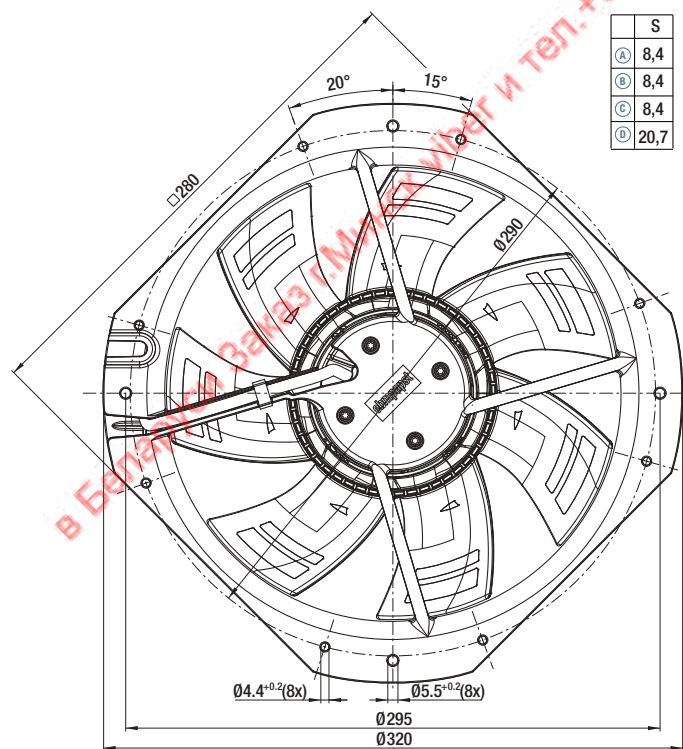
Ⓑ Ⓒ Ⓓ Speed-controlled



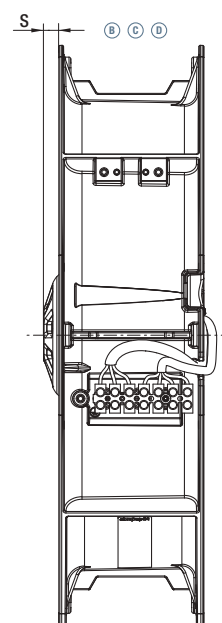
	n rpm ⁻¹	P _{ed} W	I A	L _{WA} dB(A)
Ⓐ 1	2465	67	0.59	69
Ⓐ 2	2410	75	0.65	69
Ⓐ 3	2375	80	0.68	68
Ⓐ 4	2330	83	0.72	69
Ⓐ 5	1900	33	0.33	63
Ⓐ 6	1880	37	0.37	63
Ⓐ 7	1860	40	0.38	62
Ⓐ 8	1850	42	0.40	63
Ⓑ 1	2465	67	0.59	69
Ⓑ 2	2410	75	0.65	69
Ⓑ 3	2375	80	0.68	68
Ⓑ 4	2330	83	0.72	69
Ⓒ 1	2140	43	0.72	63
Ⓒ 2	2100	49	0.80	63
Ⓒ 3	2070	53	0.86	64
Ⓒ 4	2040	56	0.90	65
Ⓓ 1	2820	93	1.43	70
Ⓓ 2	2760	106	1.61	71
Ⓓ 3	2725	114	1.72	71
Ⓓ 4	2700	125	1.90	71

Air performance measured according to: ISO 5801, Installation category A, without contact protection. Suction-side noise levels: L_{WA} according to ISO 13347, L_{WA} measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Technical features:** See connection diagram p. 275/276
- **Touch current:** ≤ 3.5 mA acc. to IEC 60990 (test circuit, illustration 4)
- **Electrical hookup:** Via terminal strip
- **Protection class:** I (with customer connection to grounding conductor)
- **Conformity with standard(s):** EN 60335-1, CE
- **Approvals:** VDE, cURus



"V" >



"V" >

Max. 135 m³/h

ACmaxx in-line duct fan

Ø 98.5 x 130 mm



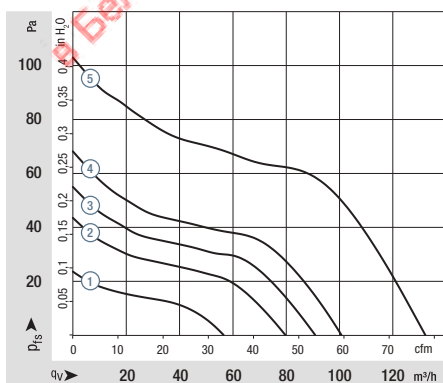
- **Material:** Housing: GRP¹⁾ (PBT)
Impeller: GRP¹⁾ (PA)
- **Direction of air flow:** Intake over struts
- **Direction of rotation:** Clockwise, looking towards rotor
- **Connection:** Via 3-pin Europa terminal strip max. 1.5 mm²
- **Highlights:** Universally usable for all main voltages between 85 and 265 VAC, 50-60 Hz, Boost function
Vibration-isolated motor
Optional: new impeller for high pressure. Two speeds over jumper adjustable
- **Weight:** 400 g

1) Fiberglass-reinforced plastic

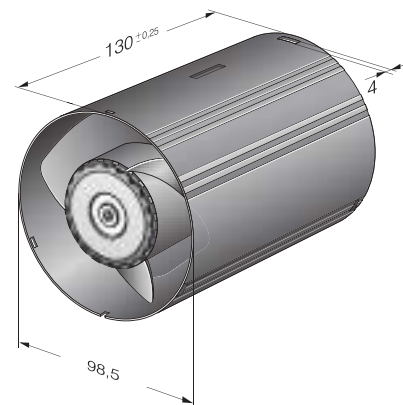
Series AC 100 VUS0092XSGBS		Nominal data		Nominal voltage		Frequency		Voltage range		Sound pressure level		Sound power level		Sinter sleeve bearings Ball bearings		Power consumption		Nominal speed		Temperature range		Service life L ₁₀ (40 °C) ebm-papst standard		Service life L ₁₀ (T _{max}) ebm-papst standard		Life expectancy L ₁₀ DFC (40 °C) see page 15		Curve	
Type	high air flow	m ³ /h	cfm	VAC	Hz	VAC	dB(A)	Bel(A)	□/■	Watts	rpm ⁻¹	°C	Hours	Hours															
Nominal boost	AC 100 MR	55 90	32 53	100...240	50-60	85...265	33 40	4.5 5.0	■	1.8 3.8	2 050 3 150	-10...+55	70 000 / 50 000	117 500														① ③	
Nominal Boost	AC 100 NR	80 105	47 62	100...240	50-60	85...265	35 42	4.7 5.3	■	2.5 4.5	2 750 3 500	-10...+55	70 000 / 50 000	117 500														② ④	
Max.	AC 100 HR*	135	79	100...240	50-60	85...265	tbd	tbd	■	7.0	4 500	-10...+55	tbd	tbd													⑤		

Subject to change
* On request

Impeller	Type	Boost off, Jumper low	Boost off, Jumper high	Boost on
High air flow	AC 100 MR	1 250	2 050	3 150
High air flow	AC 100 NR	2 200*	2 750	3 500
High pressure	AC 100 MR*	1 250*	2 050*	3 150*
High pressure	AC 100 NR-017	2 180	2 680	3 300



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{pA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general-conditions>



Max. 135 m³/h

ACmaxx in-line duct fan

Ø 98.5 x 130 mm



- **Material:** Housing: GRP¹⁾ (PBT)
Impeller: GRP¹⁾ (PA)
- **Direction of air flow:** Intake over struts
- **Direction of rotation:** Clockwise, looking towards rotor
- **Connection:** Via 3-pin Europa terminal strip max. 1.5 mm²
- **Highlights:** Universally usable for all main voltages between 85 and 265 VAC, 50-60 Hz, Boost function
Vibration-isolated motor
Optional: new impeller for high pressure. Two speeds over jumper adjustable
- **Weight:** 400 g

1) Fiberglass-reinforced plastic

Series AC 100
VUS0092XSGBS

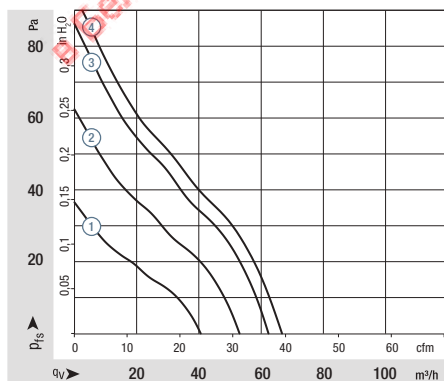
Nominal data

Type high pressure	Air flow		Nominal voltage	Frequency	Voltage range	Sound pressure level	Sound power level	Sinter sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40 °C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ DFC (40 °C) see page 15	Curve
	m ³ /h	cfm													
Nominal Boost AC 100 MR*	40	23	100...240	50-60	85...265	31	4.2	■	tbd	2 050*	-10...+55	70 000 / 50 000	117 500	⑥	
	62	36													⑧
Nominal Boost AC 100 NR-017	53	31	100...240	50-60	85...265	33	4.4	■	2.8	2 680	-10...+55	70 000 / 50 000	117 500	⑦	
	66	39													40

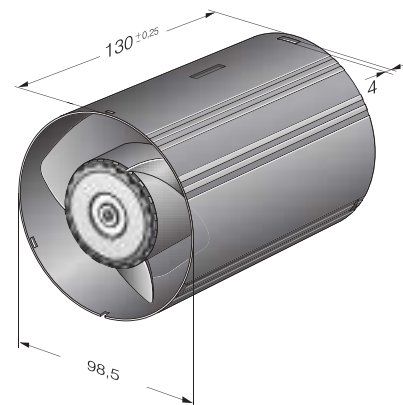
Subject to change

* on request

Impeller	Type	Boost off, Jumper low	Boost off, Jumper high	Boost on
High air flow	AC 100 MR	1 250	2 050	3 150
High air flow	AC 100 NR	2 200*	2 750	3 500
High pressure	AC 100 MR*	1 250*	2 050*	3 150*
High pressure	AC 100 NR-017	2 180	2 680	3 300



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{pA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general-conditions>



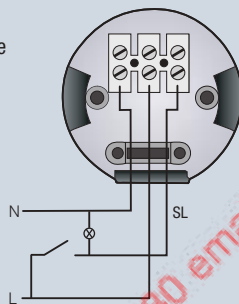
Highest energy efficiency: 0.03 - 0.045 W/m³/h free air (specific fan power).
Boost speed: 2 speed settings possible via boost function.
Vibration isolation: Reduced transmission of vibrations from motor to housing.
Intelligence: Can be expanded to include set value requirement and signal outputs as an option.

Examples of connections

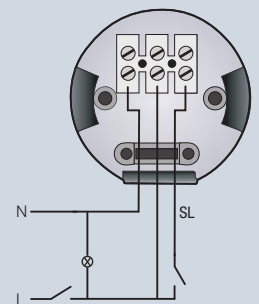


Jumper Low Jumper High

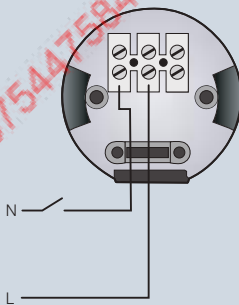
Example 1:
 Nom speed endurance
 Boost via light switch



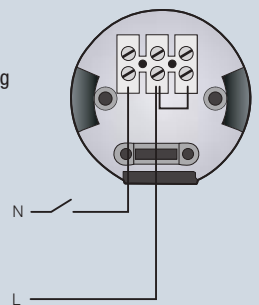
Example 2:
 Nom speed via light switch
 Separate boost switch



Example 3:
 Simple connection
 Nom speed without switching



Example 4:
 Simple connection
 Boost without switching



Scope of delivery



в Беларусі Заказ г.Мінск вібер и тел. +375447584780 email: minsk17@tut.by www.tiristor.by

в Беларуси Заказ г.Минск viber и тел. +375447584780 email: minsk17@tut.by www.tiristor.by

AC axial fans



AC axial fan overview

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AC axial fans

218

AC axial fans

Technical information



Product line

The renowned ebm-papst AC fans are used when DC voltage is not available. The AC range of fans is based on experience gained from decades of development know-how, millions of units in series production, and the innovation competence of a world-wide technology pioneer.

In this catalog, we offer you the broad spectrum of our AC fans. In addition to complete systems, you will also find fans without external housing. They offer economic benefits whenever the air duct design can be integrated in the respective device.

Variety of sizes

AC fans are available in a variety of sizes with either air exhaust or air intake over struts. Silent running models with sleeve bearings. Electrical connection with plug connection or external exposed connection wires are available.

Shaded-pole or capacitor motors

Fan drives by shaded-pole or capacitor motors, most of which incorporate the world-famous ebm-papst external rotor principle. The fan blades are directly attached to the external rotor of the external rotor motor. This construction combining high performance with profitability.

Flat built AC fans

ebm-papst also has AC fans with a particularly flat construction and an internal rotor motor. Their advantage: quick start to full speed. A plastic impeller and the smaller and lighter internal rotor motor result in lower rotational inertia.

Bearings

AC fans with sleeve bearings are powered by Class E insulated motors. Fans with ball bearings are equipped with Class B, E, or F insulated motors.

Degree of protection

All ebm-papst fans conform to the requirements of IP 20. IP 54 / IP 65 and special degrees of protection are available on request.

AC voltage

The line of AC fans for Euro voltage according to IEC 60038 (230 V \pm 10 %) is also available in 115 V.

Frequencies

AC fans can be operated at frequencies of 50 or 60 Hz. In this case, their technical data changes accordingly.

Capacitor

Fans driven by capacitor external motors provide particularly high operating efficiency. Generally, the required motor run capacitor is already integrated in the fan housing.

Overloading

Almost all AC fans are protected against overloading (e. g. due to locked rotor) – either impedance protected (marked "Impedance protected" or "Z. P.") or equipped with a thermal switch (marked "Thermally protected" or "Th. P."). The model designation of these fans ends with "S".

Axial fans for AC operation

Overview of air performance

Dimensions	Series	Air flow	Air flow (m³/h)																	Page
			10	20	30	40	50	60	70	80	90	100	200	300	400	500	600	700	800	
□ 80 x 38	8000 N	30...61	[Performance chart data]																	218
∅ 76 x 37	8000 TV	24...47	[Performance chart data]																	219
□ 92 x 25	3900	31...70	[Performance chart data]																	220
□ 92 x 38	3000	49...89	[Performance chart data]																	221
□ 119 x 25	9900	84...135	[Performance chart data]																	222
□ 119 x 38	4000 N	80...180	[Performance chart data]																	223
□ 119 x 38	4000 Z	100...180	[Performance chart data]																	224
∅ 108 x 37	4600 TZ	125...140	[Performance chart data]																	225
□ 127 x 38	5900	150...206	[Performance chart data]																	226
□ 135 x 38	5600	235...270	[Performance chart data]																	227
150 x 172 x 38	W2E 142	320...380	[Performance chart data]																	228
∅ 150 x 55	W2S 130-AA	325...380	[Performance chart data]																	229
∅ 150 x 55	W2S 130-BM	380...425	[Performance chart data]																	230
∅ 172 x 51	W2E 143	375...500	[Performance chart data]																	231
□ 225 x 80	W2E 200	880...1030	[Performance chart data]																	232
□ 280 x 80	W2E 250	1865	[Performance chart data]																	234
∅ 200	K2E 200	765...830	[Performance chart data]																	236
∅ 200	K2E 200	765...845	[Performance chart data]																	238
∅ 200	K2D 200	780...880	[Performance chart data]																	240

Overview of technically feasible designs

Dimensions	Series	VDE, UL, CSA	SMTEC sleeve bearings/ Ball bearings	Speed signal	Moisture protection	IP >= 54	IP 65	Salt spray protection	Page
Axial fans									
□ 80 x 38	8000 N	yes	□/■	-	•	•	•	•	218
∅ 76 x 37	8000 TV	yes	□/■	-	•	•	•	•	219
□ 92 x 25	3900	yes	□/■	-	•	-	-	-	220
□ 92 x 38	3000	yes	□/■	-	•	•	•	•	221
□ 119 x 25	9900	yes	□/■	-	•	-	-	-	222
□ 119 x 38	4000 N	yes	□/■	•	•	•	•	•	223
□ 119 x 38	4000 Z	yes	□/■	•	•	•	•	•	224
∅ 108 x 37	4600 TZ	yes	□/■	-	•	•	•	•	225
□ 127 x 38	5900	yes	□/■	-	•	-	-	-	226
□ 135 x 38	5600	yes	■	-	•	•	-	•	227

Subject to change

• available – not yet available □ Sleeve bearings ■ Ball bearings

Max. 61 m³/h

AC axial fans

□ 80 x 38 mm



- **Material:** Housing: Die-cast aluminum
Impeller: painted sheet steel
- **Direction of air flow:** Exhaust over struts
- **Direction of rotation:** Clockwise, looking towards rotor
- **Connection:** Via 2 single wires
grounding lug for M4 x 8
- **Weight:** 490 g
- **Note:** Please note our ACmaxx series.
With identical mounting dimensions and voltages,
this series achieves greater energy efficiency.
See page 196.
- **Possible special versions:**
(See page 10)
 - Moisture protection
 - Salt spray protection
 - Degree of protection: IP 54 / IP 65

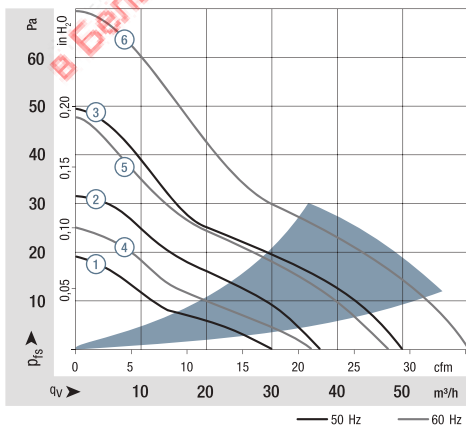
Series 8000 N
WVC0080AQHCS

Nominal data

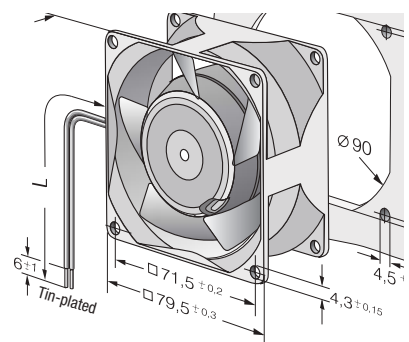
Type	Air flow		Nominal voltage	Frequency	Sound pressure level	Sound power level	Sinter sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40°C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ IPC (40 °C) see page 15	Curve
	m ³ /h	cfm												
8880 N	30	17.7	230	50	18	3.3	□	9.0	1 750	-10...+80	60 000 / 20 000	102 500	102 500	①
8850 N	37	21.8	230	50	24	3.9	□	12.5	2 150	-10...+70	52 500 / 27 500	87 500	87 500	②
8550 N	50	29.4	230	50	30	4.4	□	12.0	2 700	-10...+70	52 500 / 27 500	87 500	87 500	③
8556 N	50	29.4	230	50	31	4.5	■	12.0	2 800	-40...+90	52 500 / 10 000	87 500	87 500	③
8830 N	36	21.2	115	60	21	3.7	□	8.0	1 950	-10...+80	62 500 / 20 000	105 000	105 000	④
8800 N	47	27.7	115	60	28	4.3	□	11.0	2 500	-10...+70	55 000 / 27 500	92 500	92 500	⑤
8500 N	61	35.9	115	60	34	4.8	□	11.0	3 200	-10...+75	55 000 / 22 500	92 500	92 500	⑥
8506 N	61	35.9	115	60	35	5.0	■	11.0	3 300	-40...+95	55 000 / 9 000	92 500	92 500	⑥

Subject to change

Fan type					Length "L"	Connection wires
8880 N	8830 N	8800 N	8550 N	8500 N	310 mm long	AWG 18, TR 64
8556 N	8506 N				310 mm long	AWG 22
8850 N					440 mm long	AWG 18, TR 64



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_wA ISO 10302
measured on a hemisphere with a radius of 2 m.
Sound pressure level L_pA measured at 1 m distance
from fan axis.
The values given are applicable only under the specified
measuring conditions and may differ depending on the
installation conditions.
In the event of deviation from the standard configuration,
the parameters must be checked after installation!
For detailed information see
<http://www.ebmpapst.com/general-conditions>



Max. 47 m³/h

AC axial fans

Ø 76 x 37 mm



- **Material:** Impeller: Die-cast aluminum
Mounting bracket: Metal
- **Direction of air flow:** Exhaust over mounting bracket
- **Direction of rotation:** Clockwise, looking towards rotor
- **Connection:** Via 2 single wires
- **Weight:** 370 g
- **Possible special versions:** (See page 10)
 - Moisture protection
 - Salt spray protection
 - Degree of protection: IP 54 / IP 65

Series 8000 TV
VWY0076XQHCS

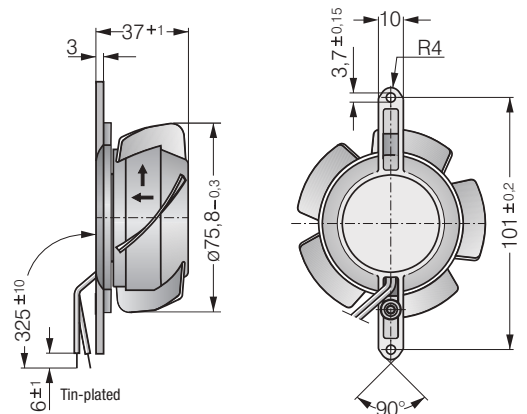
Nominal data

Type	Air flow		Nominal voltage	Frequency	Sound pressure level	Sinter sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40 °C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ (IPPC) (40 °C) see page 15
	m ³ /h	cfm										
8880 TV	24	14.1	230	50	15	□	9.0	1 650	-10...+80	60 000 / 20 000		102 500
8850 TV	31	18.2	230	50	20	□	12.0	2 100	-10...+70	52 500 / 25 000		87 500
8550 TV	40	23.5	230	50	27	□	12.0	2 650	-10...+70	52 500 / 25 000		87 500
8556 TV	40	23.5	230	50	28	■	12.0	2 750	-40...+90	52 500 / 15 000		87 500
8830 TV	27	15.9	115	60	18	□	8.0	1 850	-10...+80	62 500 / 20 000		105 000
8800 TV	36	21.2	115	60	24	□	11.0	2 450	-10...+70	55 000 / 27 500		92 500
8500 TV	47	27.7	115	60	32	□	11.0	3 150	-10...+75	55 000 / 22 500		92 500
8506 TV	47	27.7	115	60	33	■	11.0	3 250	-40...+95	55 000 / 9 000		92 500

Subject to change

The air flow and sound level of fans without external housing depend on the installation conditions. The stated air flow and noise have been measured with an orifice 76.5 mm Ø at a distance of approx. 17 mm from the mounting bracket. The air flow capacity of fan series 8000 N is achievable because of the exceptionally favorable installation conditions. The noise in the optimal operating range can be measured for these fans only in a specific application.

Fan type	Length "L"	Connection wires
8880 TV 8850 TV 8830 TV 8800 TV	325 mm long	AWG 18, TR 64
8550 TV 8500 TV	325 mm long	AWG 18, TR 64
8556 TV 8506 TV	325 mm long	AWG 18



Max. 70 m³/h

AC axial fans

□ 92 x 25 mm



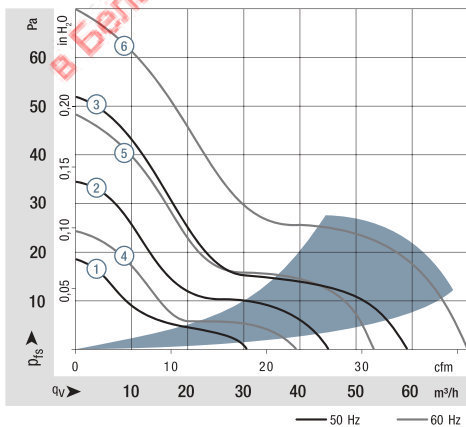
- **Material:** Housing: Die-cast aluminum
Impeller: Mineral-reinforced PA plastic
- **Direction of air flow:** Exhaust over struts
- **Direction of rotation:** Counterclockwise, looking towards rotor
- **Connection:** Via 2 flat plugs 2.8 x 0.5 mm grounding lug for M4
- **Weight:** 280 g
- **Note:** Please note our ACmaxx series. With identical mounting dimensions and voltages, this series achieves greater energy efficiency. See page 197.
- **Possible special versions:** (See page 10)
- Moisture protection

Series 3900
WVC0092AQFBS

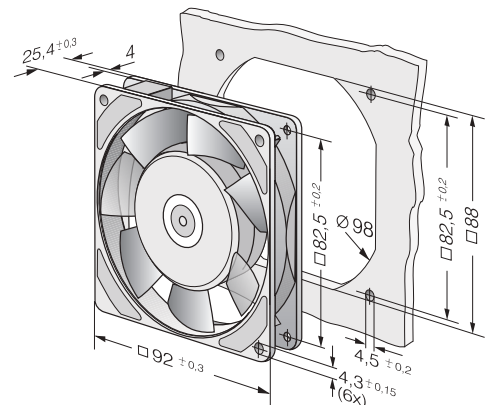
Nominal data

Type	Air flow		Nominal voltage	Frequency	Sound pressure level	Sound power level	Sinter sleeve bearings		Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40°C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ IPC (40°C) see page 15	Curve
	m ³ /h	cfm					VAC	Hz							
3950 L	31	18.2	230	50	24	3.8	□	■	6.0	1 550	-10...+80	70 000 / 22 500	117 500	117 500	①
3956 L	31	18.2	230	50	24	3.8	■	■	6.0	1 550	-40...+80	70 000 / 22 500	117 500	117 500	①
3950 M	45	26.5	230	50	29	4.2	□	■	6.0	2 150	-10...+80	70 000 / 22 500	117 500	117 500	②
3956 M	45	26.5	230	50	29	4.2	■	■	6.0	2 150	-40...+80	70 000 / 22 500	117 500	117 500	②
3950	59	34.7	230	50	35	4.7	□	■	11.0	2 650	-20...+80	55 000 / 17 500	92 500	92 500	③
3956	59	34.7	230	50	35	4.7	■	■	11.0	2 650	-40...+80	55 000 / 17 500	92 500	92 500	③
3900 L	39	23.0	115	60	27	4.0	□	■	5.0	1 850	-10...+80	70 000 / 22 500	117 500	117 500	④
3906 L	39	23.0	115	60	27	4.0	■	■	5.0	1 850	-40...+80	70 000 / 22 500	117 500	117 500	④
3900 M	53	31.2	115	60	34	4.6	□	■	5.0	2 600	-10...+80	70 000 / 22 500	117 500	117 500	⑤
3906 M	53	31.2	115	60	34	4.6	■	■	5.0	2 600	-40...+80	70 000 / 22 500	117 500	117 500	⑤
3900	70	41.2	115	60	40	5.1	□	■	9.0	3 150	-20...+80	60 000 / 20 000	102 500	102 500	⑥
3906	70	41.2	115	60	40	5.1	■	■	9.0	3 150	-40...+80	60 000 / 20 000	102 500	102 500	⑥

Subject to change



Air performance measured according to: ISO 5801. Installation category A, without contact protection. Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m. Sound pressure level L_{pA} measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>



Max. 89 m³/h

AC axial fans

□ 92 x 38 mm



- **Material:** Housing: Die-cast aluminum
Impeller: painted sheet steel
- **Direction of air flow:** Exhaust over struts
- **Direction of rotation:** Clockwise, looking towards rotor
- **Connection:** Via 2 single wires
grounding lug for M4 x 8
- **Weight:** 420 g
- **Note:** Please note our ACmaxx series.
With identical mounting dimensions and voltages, this series achieves greater energy efficiency. See page 197.
- **Possible special versions:** (See page 10)
 - Moisture protection
 - Salt spray protection
 - Degree of protection: IP 54 / IP 65

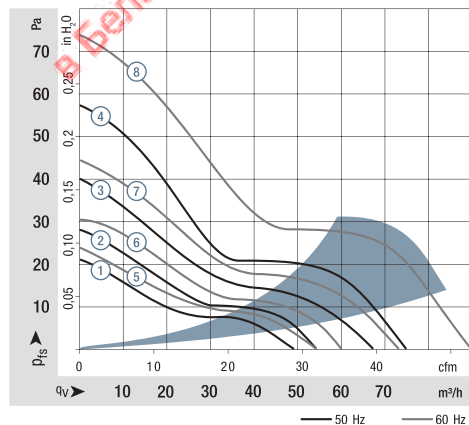
Series 3000
WVC0092AQHCS

Nominal data

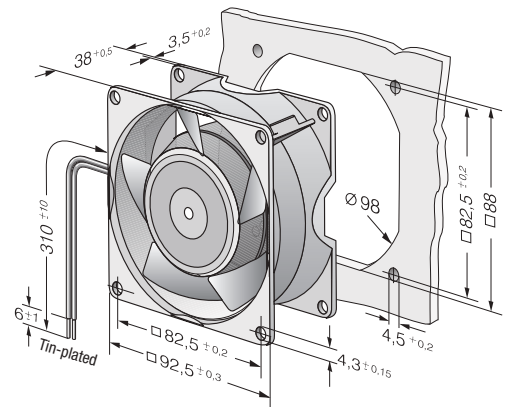
Type	Air flow		Nominal voltage	Frequency	Sound pressure level	Sound power level	Sinter sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40°C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ IPC (40 °C) see page 15	Curve
	m ³ /h	cfm												
3850	49	28.8	230	50	24	3.7	□	9.0	1 750	-10...+75	60 000 / 25 000	102 500	①	
3856	54	31.8	230	50	26	3.9	■	9.0	1 950	-40...+90	60 000 / 12 500	102 500	②	
3550	67	39.4	230	50	32	4.4	□	8.5	2 300	-10...+80	60 000 / 20 000	102 500	③	
3556	67	39.4	230	50	33	4.5	■	8.5	2 400	-40...+90	60 000 / 12 500	102 500	③	
3650	75	44.1	230	50	36	4.8	□	12.0	2 650	-10...+55	52 500 / 37 500	87 500	④	
3656	75	44.1	230	50	37	4.9	■	12.0	2 700	-40...+75	52 500 / 20 000	87 500	④	
3800	54	31.8	115	60	26	3.9	□	8.0	1 900	-10...+80	62 500 / 20 000	105 000	⑤	
3806	60	35.3	115	60	29	4.2	■	8.0	2 150	-40...+95	62 500 / 10 000	105 000	⑥	
3500	73	43.0	115	60	35	4.6	□	8.0	2 500	-10...+80	62 500 / 20 000	105 000	⑦	
3506	73	43.0	115	60	36	4.7	■	8.0	2 600	-40...+95	62 500 / 10 000	105 000	⑦	
3600	89	52.4	115	60	41	5.1	□	11.0	3 100	-10...+65	55 000 / 30 000	92 500	⑧	
3606	89	52.4	115	60	42	5.2	■	11.0	3 200	-40...+75	55 000 / 22 500	92 500	⑧	

Subject to change

Fan type	Length "L"	Connection wires
With sleeve bearings	310 mm long	AWG 18, TR 64
With ball bearings	310 mm long	AWG 18



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_w ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{pA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general-conditions>



Max. 135 m³/h

AC axial fans

□ 119 x 25 mm



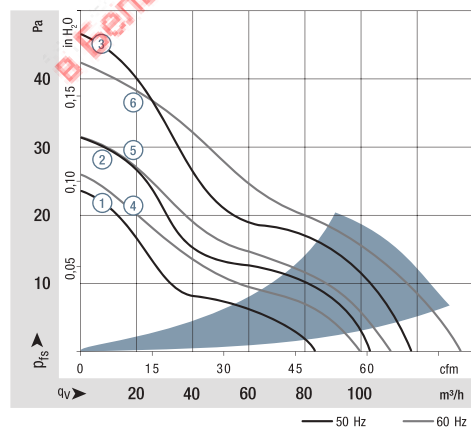
- **Material:** Housing: Die-cast aluminum
Impeller: Mineral-reinforced PA plastic
- **Direction of air flow:** Exhaust over struts
- **Direction of rotation:** Counterclockwise, looking towards rotor
- **Connection:** Via 2 flat plugs 2.8 x 0.5 mm grounding lug for M4
- **Weight:** 320 g
- **Note:** Please note our ACmaxx series. With identical mounting dimensions and voltages, this series achieves greater energy efficiency. See page 198.
- **Possible special versions:** (See page 10)
- Moisture protection

Series 9900
WVC0119AQFBS

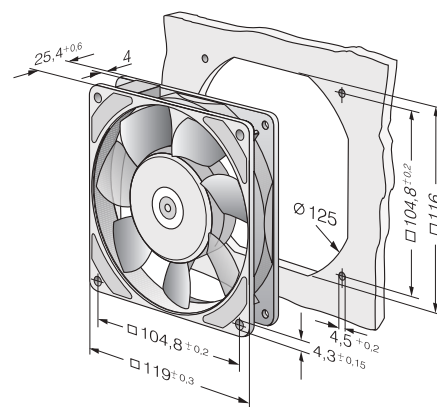
Nominal data

Type	Air flow		Nominal voltage	Frequency	Sound pressure level	Sound power level	Sinter sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40°C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ IPC (40 °C) see page 15	Curve
	m ³ /h	cfm												
9956 L	84	49.4	230	50	29	4.4	■	9.5	1850	-40...+80	57 500 / 17 500	97 500	97 500	①
9956 M	104	61.2	230	50	35	4.7	■	10.0	2250	-40...+80	57 500 / 17 500	97 500	97 500	②
9950	117	68.9	230	50	37	5.0	□	14.0	2450	-20...+70	47 500 / 25 000	80 000	80 000	③
9956	117	68.9	230	50	37	5.0	■	14.0	2450	-40...+70	47 500 / 25 000	80 000	80 000	③
9906 L	100	58.9	115	60	34	4.6	■	8.0	2100	-40...+80	62 500 / 20 000	105 000	105 000	④
9906 M	111	65.3	115	60	37	5.0	■	8.0	2450	-40...+80	62 500 / 20 000	105 000	105 000	⑤
9900	135	79.5	115	60	42	5.4	□	12.0	2850	-20...+70	52 500 / 27 500	87 500	87 500	⑥
9906	135	79.5	115	60	42	5.4	■	12.0	2850	-40...+70	52 500 / 27 500	87 500	87 500	⑥

Subject to change



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_wA ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_pA measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general-conditions>



Max. 180 m³/h

AC axial fans

□ 119 x 38 mm

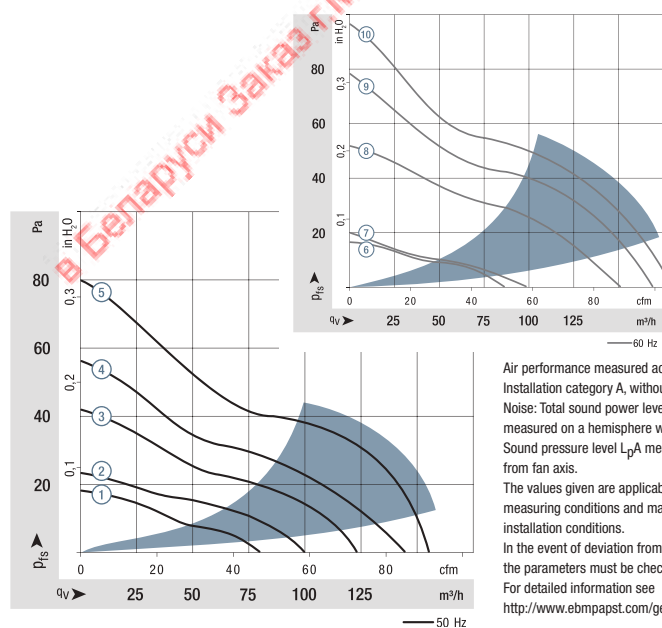


- **Material:** Housing: Die-cast aluminum
Impeller: painted sheet steel
 - **Direction of air flow:** Intake over struts
Types 4890 N and 4840 N
Exhaust over struts
 - **Direction of rotation:** Clockwise,
looking towards rotor
 - **Connection:** Via 2 flat plugs 2.8 x 0.5 mm
grounding lug for M4
 - **Weight:** 550 g
 - **Note:** Please note our ACmaxx series. With identical mounting dimensions and voltages, this series achieves greater energy efficiency. See from page 200.
- **Available as an option:** Versions with reinforced mounting flanges and exposed external single wires.
 - **Possible special versions:** (See page 10)
 - Speed signal
 - Moisture protection
 - Salt spray protection
 - Degree of protection: IP 54 / IP 65

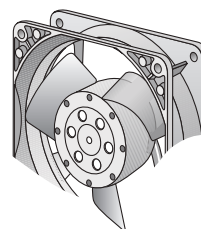
Series 4000 N
VUC0119XQHCS

Nominal data	Air flow		Nominal voltage	Frequency	Sound pressure level	Sound power level	Sinter sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40°C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ IPC (40°C) see page 15	Curve
Type	m ³ /h	cfm	VAC	Hz	dB(A)	Bel(A)	□ / ■	Watts	rpm ⁻¹	°C	Hours	Hours	Hours	
4890 N	80	47.0	230	50	25	4.0	□	11.0	1 550	-10...+70	55 000 / 27 500	92 500	①	
4850 N*	100	58.8	230	50	32	4.4	□	10.0	1 800	-10...+70	57 500 / 30 000	97 500	②	
4580 N*	123	72.3	230	50	41	5.2	□	18.0	2 350	-10...+55	40 000 / 27 500	67 500	③	
4550 N*	145	85.2	230	50	44	5.4	□	16.5	2 550	-10...+55	42 500 / 30 000	72 500	④	
4650 N	160	94.1	230	50	46	5.4	□	19.0	2 650	-10...+55	37 500 / 27 500	62 500	⑤	
4656 N	160	94.1	230	50	47	5.5	■	19.0	2 650	-40...+85	37 500 / 10 000	62 500	⑤	
4840 N	85	50.0	115	60	26	4.1	□	10.0	1 650	-10...+75	57 500 / 22 500	97 500	⑥	
4800 N*	97	57.0	115	60	32	4.3	□	9.0	1 750	-10...+75	60 000 / 25 000	102 500	⑦	
4530 N*	151	88.8	115	60	45	5.4	□	16.0	2 700	-10...+65	42 500 / 25 000	72 500	⑧	
4500 N*	169	100	115	60	48	5.7	□	15.0	3 000	-10...+65	47 500 / 27 500	80 000	⑨	
4600 N	180	106	115	60	50	5.7	□	18.0	3 100	-10...+60	40 000 / 25 000	67 500	⑩	
4606 N	180	106	115	60	51	5.8	■	18.0	3 100	-40...+90	40 000 / 8 000	67 500	⑩	

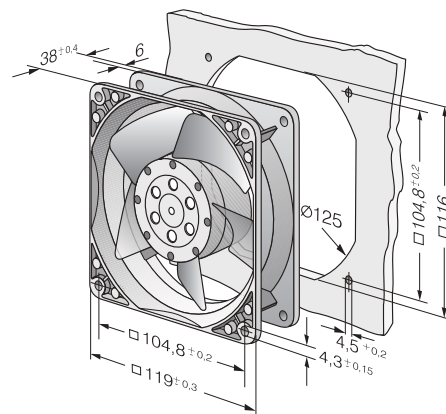
Subject to change



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{pA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general-conditions>



* Fan with 3 blades.



Max. 180 m³/h

AC axial fans

□ 119 x 38 mm

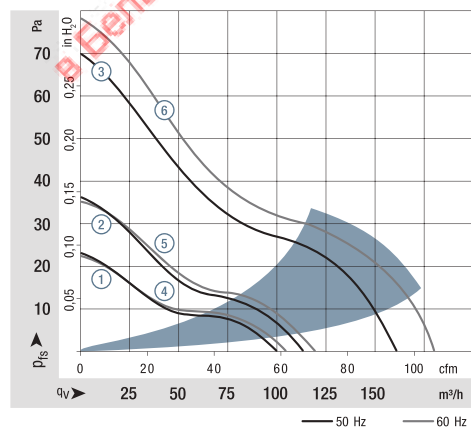


- **Material:** Housing: Die-cast aluminum
Impeller: painted sheet steel
 - **Direction of air flow:** Exhaust over struts
 - **Direction of rotation:** Clockwise, looking towards rotor
 - **Connection:** Via 2 flat plugs 2.8 x 0.5 mm grounding lug for M4 x 8
 - **Weight:** 540 g
 - **Note:** Please note our ACmaxx series. With identical mounting dimensions and voltages, this series achieves greater energy efficiency. See from page 200.
- **Possible special versions:** (See page 10)
 - Speed signal
 - Moisture protection
 - Salt spray protection
 - Degree of protection: IP 54 / IP 65

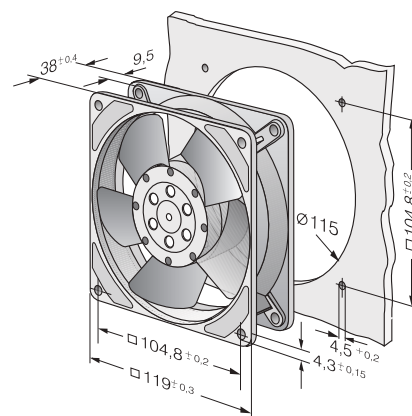
Series 4000 Z
WVC0119XQHCS

Nominal data	Air flow		Nominal voltage	Frequency	Sound pressure level	Sound power level	Sinter sleeve bearings		Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40°C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ IPC (40 °C) see page 15	Curve
	m ³ /h	cfm					VAC	Hz							
4850 Z	100	58.8	230	50	26	4.0	□	■	13.0	1 700	-10...+65	50 000 / 27 500	85 000	①	
4856 Z	100	58.8	230	50	26	4.0	■	■	13.0	1 700	-40...+75	50 000 / 20 000	85 000	①	
4580 Z	115	67.6	230	50	30	4.3	□	■	13.0	1 900	-10...+65	50 000 / 27 500	85 000	②	
4586 Z	115	67.6	230	50	30	4.3	■	■	13.0	1 900	-40...+75	50 000 / 20 000	85 000	②	
4650 Z	160	94.1	230	50	40	5.3	□	■	19.0	2 650	-10...+50	37 500 / 30 000	62 500	③	
4656 Z	160	94.1	230	50	40	5.3	■	■	19.0	2 650	-40...+75	37 500 / 15 000	62 500	③	
4800 Z	105	61.7	115	60	28	4.1	□	■	12.0	1 800	-10...+70	52 500 / 27 500	87 500	④	
4806 Z	105	61.7	115	60	28	4.1	■	■	12.0	1 800	-40...+75	52 500 / 20 000	87 500	④	
4536 Z	120	70.5	115	60	32	4.4	■	■	12.0	2 000	-40...+75	52 500 / 20 000	87 500	⑤	
4600 Z	180	106	115	60	45	5.6	□	■	18.0	3 100	-10...+60	40 000 / 25 000	67 500	⑥	
4606 Z	180	106	115	60	45	5.6	■	■	18.0	3 100	-40...+85	40 000 / 10 000	67 500	⑥	

Subject to change



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{PA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general-conditions>



Max. 140 m³/h

AC axial fans

Ø 108 x 37 mm



- **Material:** Impeller: Die-cast aluminum
Mounting bracket: Metal
 - **Direction of air flow:** Exhaust over mounting bracket
 - **Direction of rotation:** Clockwise, looking towards rotor
 - **Connection:** Via 2 single wires
 - **Weight:** 430 g
- **Possible special versions:** (See page 10)
 - Moisture protection
 - Salt spray protection
 - Degree of protection: IP 54 / IP 65

Series 4600 TZ
VWY0108XQHCS

Nominal data

Type	Air flow		Nominal voltage	Frequency	Sound pressure level	Sinter sleeve bearings Ball bearings		Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40 °C)	
	m ³ /h	cfm				VAC	Hz				dB(A)	□ / ■
4650 TZ	125	73.6	230	50	42	□	19.0	2 600	-10...+50	37 500 / 30 000	62 500	
4656 TZ	125	73.6	230	50	42	■	19.0	2 600	-40...+65	37 500 / 20 000	62 500	
4600 TZ	140	82.4	115	60	45	□	18.0	2 950	-10...+50	40 000 / 32 500	67 500	
4606 TZ	140	82.4	115	60	45	■	18.0	2 950	-40...+75	40 000 / 15 000	67 500	

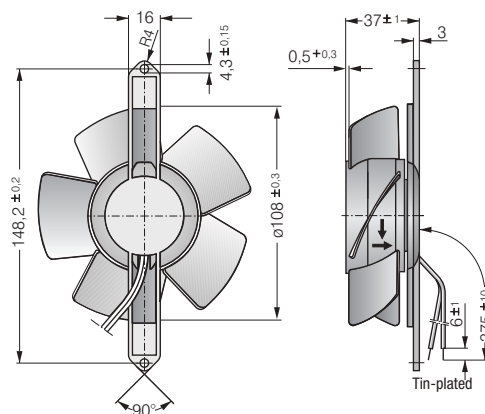
Subject to change

The air flow and sound level of fans without external housing depends on the installation conditions.

The stated air flow and noise have been measured with an orifice 109 mm Ø at a distance of approx. 17 mm from the mounting bracket.

The air flow capacity of fan series 4000 Z is achievable because of the exceptionally favorable installation conditions. The noise in the optimal operating range can be measured for these fans only in a specific application.

Fan type	Connection wires
4650 TZ	4600 TZ
4656 TZ	4606 TZ



Max. 206 m³/h

AC axial fans

□ 127 x 38 mm



- **Material:** Housing: Die-cast aluminum
Impeller: GRP¹⁾ (PA)
 - **Direction of air flow:** Exhaust over struts
 - **Direction of rotation:** Counterclockwise, looking towards rotor
 - **Connection:** Via 2 flat plugs 2.8 x 0.8 mm grounding lug for M4 x 6
 - **Weight:** 570 g
- **Possible special versions:**
(See page 10)
- Moisture protection

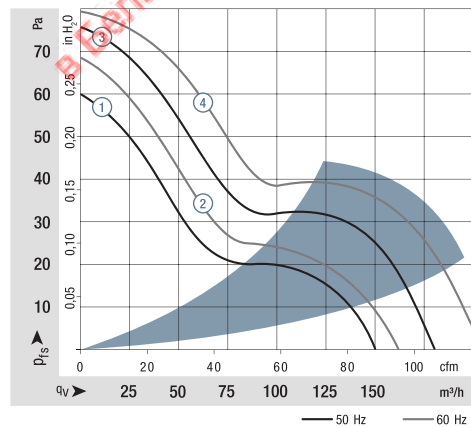
1) Fiberglass-reinforced plastic

Series 5900
VWC0127AQGDS

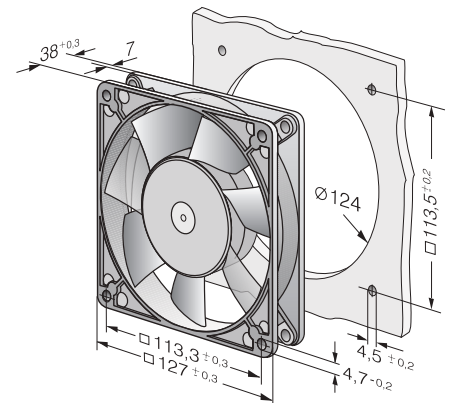
Nominal data

Type	Air flow		Nominal voltage	Frequency	Sound pressure level	Sound power level	Sinter sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40°C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ IPC (40 °C) see page 15	Curve
	m ³ /h	cfm												
5988	150	88.2	230	50	37	4.9	■	13.0	2 250	-30...+55	35 000 / 25 000	60 000	60 000	①
5950	180	106	230	50	43	5.4	□	18.0	2 700	-20...+50	40 000 / 32 500	67 500	67 500	③
5958	180	106	230	50	44	5.5	■	18.0	2 750	-30...+60	40 000 / 25 000	67 500	67 500	③
5938	162	95.2	115	60	40	4.9	■	12.0	2 500	-30...+55	35 000 / 25 000	60 000	60 000	②
5900	206	121	115	60	46	5.7	□	17.0	3 050	-20...+55	42 500 / 30 000	72 500	72 500	④
5908	206	121	115	60	47	5.8	■	17.0	3 100	-30...+75	42 500 / 17 500	72 500	72 500	④

Subject to change



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{PA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general-conditions>



Max. 270 m³/h

AC axial fans

□ 135 x 38 mm



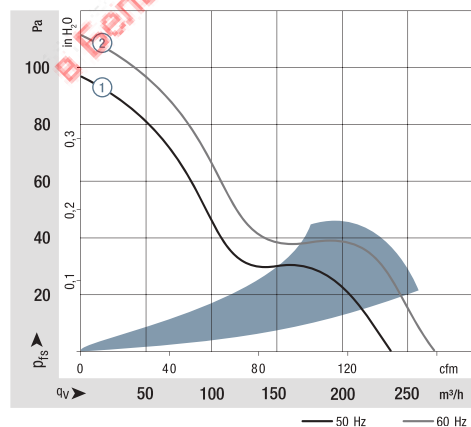
- **Material:** Housing: Die-cast aluminum
Impeller: painted sheet steel
 - **Direction of air flow:** Exhaust over struts
 - **Direction of rotation:** Counterclockwise, looking towards rotor
 - **Connection:** Via 2 flat plugs 2.8 x 0.5 mm grounding lug for M4 x 8
 - **Weight:** 800 g
- **Possible special versions:** (See page 10)
 - Moisture protection
 - Salt spray protection
 - Degree of protection: IP 54

Series 5600
VWC0135AQKCS

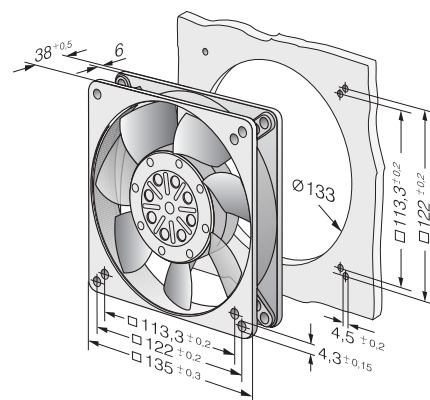
Nominal data

Type	Air flow		Nominal voltage	Frequency	Sound pressure level	Sound power level	Sintec sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40°C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ IPC (40°C) see page 15	Curve
	m ³ /h	cfm												
5656 S	235	138	230	50	46	5.9	■	30.0	2 700	-35...+70	45 000 / 22 500	75 000	①	
5606 S	270	159	115	60	50	6.2	■	26.0	3 100	-35...+80	47 500 / 15 000	80 000	②	

Subject to change



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{pA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see
http://www.ebmpapst.com/general_conditions



Max. 380 m³/h

AC axial fans

150 x 172 x 38 mm



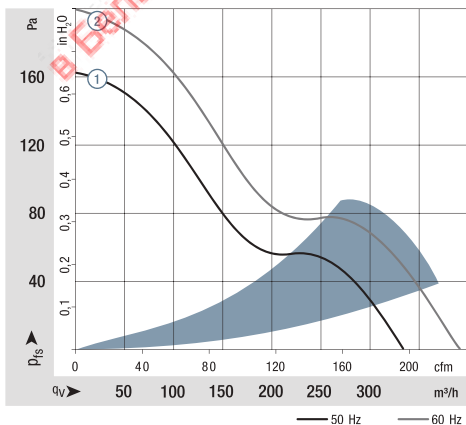
- **Material:** Housing: Die-cast aluminum
Impeller: painted sheet steel
- **Direction of air flow:** Exhaust over struts
- **Direction of rotation:** Counterclockwise, looking towards rotor
- **Connection:** Via 2 flat plugs 2.8 x 0.5 mm grounding lug for M4 x 8
- **Weight:** 900 g
- **Note:** Please note our ACmaxx series.
With identical mounting dimensions and voltages, this series achieves greater energy efficiency. See page 202.

VWT0142X2LBS

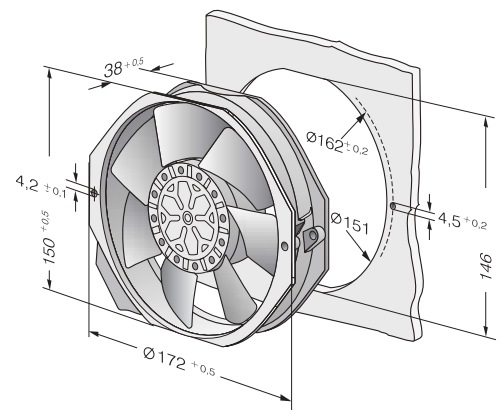
Nominal data

Type	Air flow		Nominal voltage	Frequency	Sound pressure level	Sound power level	Sinter sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40 °C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ IPC (40 °C) see page 15	Curve
	m ³ /h	cfm												
W2E 142-BB01-01	320	188	230	50	51	6.4	■	27.0	2 800	-25...+55	60 000 / 42 500	102 500	①	
W2E 142-BB05-01	380	224	115	60	56	6.8	■	28.0	3 350	-25...+65	55 000 / 30 000	92 500	②	

Subject to change



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_wA ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_pA measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general-conditions>



Max. 380 m³/h

AC axial fans

Ø 150 x 55 mm

Information

DC axial fans

DC centrifugal fans

DC fans - specials

ACmaxx / EC axial fans

AC axial fans

AC centrifugal fans

Accessories

Representatives



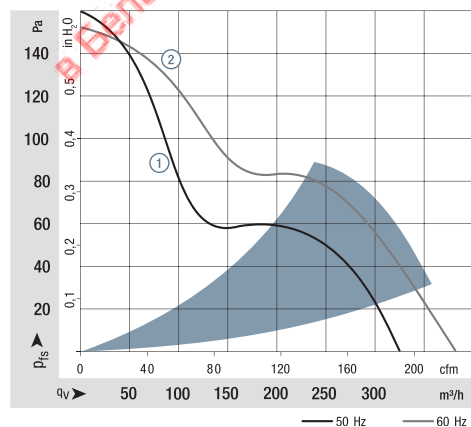
- **Material:** Housing: Die-cast aluminum
Impeller: painted sheet steel
- **Direction of air flow:** Exhaust over struts
- **Direction of rotation:** Counterclockwise, looking towards rotor
- **Connection:** Via 2 single wires
wire ends with wire end splices
grounding lug for M4 x 8
- **Weight:** 1.1 kg
- **Note:** Please note our ACmaxx series. With identical mounting dimensions and voltages, this series achieves greater energy efficiency. See page 202 and 204.

VWS0130XQLDS

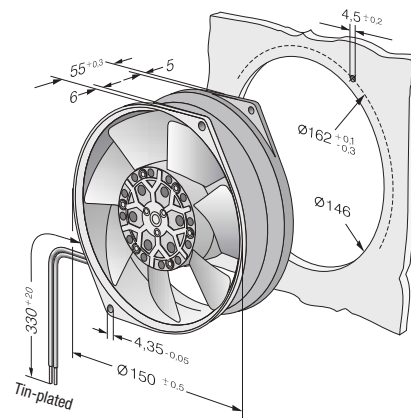
Nominal data

Type	Air flow		Nominal voltage	Frequency	Sound pressure level	Sound power level	Sintec sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40°C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ IPC (40°C) see page 15	Curve
	m ³ /h	cfm												
W2S 130-AA03-01	325	191	230	50	49	6.0	■	45.0	2 800	-25...+50	60 000 / 47 500	102 500	①	
W2S 130-AA03-97	325	191	230	50	49	6.0	■	45.0	2 800	-25...+70	60 000 / 30 000	102 500	①	
W2S 130-AA25-01	380	224	115	60	53	6.4	■	38.0	3 250	-25...+70	60 000 / 30 000	102 500	②	
W2S 130-AA25-97	380	224	115	60	53	6.4	■	38.0	3 250	-25...+90	60 000 / 12 500	102 500	②	

Subject to change



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{pA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see http://www.ebmpapst.com/general_conditions



Max. 425 m³/h

AC axial fans

Ø 150 x 55 mm

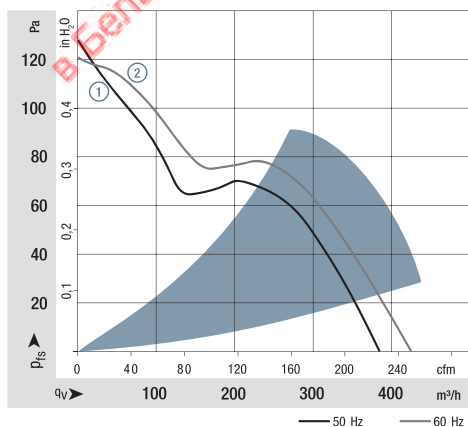


- **Material:** Housing: Die-cast aluminum
Impeller: painted sheet steel
- **Direction of air flow:** Intake over struts
- **Direction of rotation:** Counterclockwise, looking towards rotor
- **Connection:** Via 2 single wires
wire ends with wire end splices
grounding lug for M4 x 8
- **Weight:** 1.1 kg
- **Note:** Please note our ACmaxx series.
With identical mounting dimensions and voltages,
this series achieves greater energy efficiency.
See page 202 and 204.

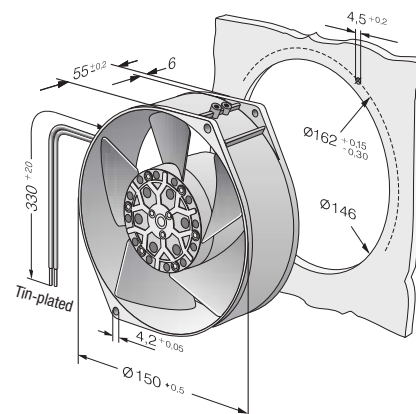
VUS0130XQLDS

Nominal data	Air flow		Nominal voltage	Frequency	Sound pressure level	Sound power level	Sinter sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40°C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ IPC (40 °C) see page 15	Curve
	m ³ /h	cfm												
W2S 130-BM03-01	380	224	230	50	60	6.8	■	47.0	2 700	-25...+50	65 000 / 52 500	110 000	①	
W2S 130-BM15-01	425	250	115	60	62	6.9	■	46.0	3 050	-25...+70	50 000 / 25 000	85 000	②	

Subject to change



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{wA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{pA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general conditions>



Max. 500 m³/h

AC axial fans

Ø 172 x 51 mm



- **Material:** Housing: Die-cast aluminum
Impeller: painted sheet steel
- **Direction of air flow:** Exhaust over struts
- **Direction of rotation:** Counterclockwise, looking towards rotor
- **Connection:** Via 2 flat plugs 2.8 x 0.5 mm grounding lug for M4 x 6
- **Weight:** 1.0 kg

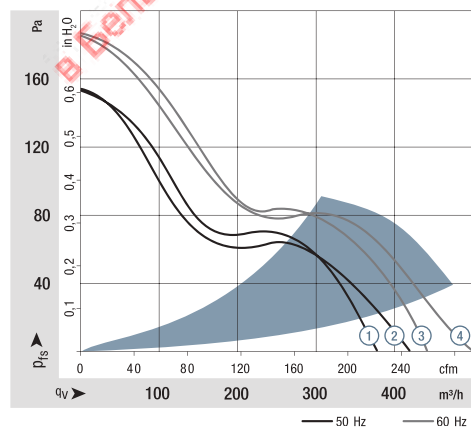
- **Note:**
Please note our ACmaxx series.
With identical mounting dimensions and voltages, this series achieves greater energy efficiency.
See pages 202.

VWS0143X2LCS

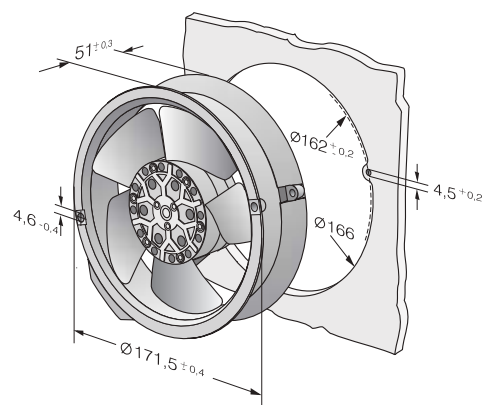
Nominal data

Type	Air flow		Nominal voltage	Frequency	Sound pressure level	Sound power level	Sintec sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L ₁₀ (40°C) ebm-papst standard	Service life L ₁₀ (T _{max}) ebm-papst standard	Life expectancy L ₁₀ IPC (40°C) see page 15	Curve
	m ³ /h	cfm												
W2E 143-AA09-01	375	221	230	50	55	5.9	■	24.0	2 800	-25...+70	62 500 / 32 500	105 000	105 000	①
W2E 143-AB09-01	420	247	230	50	54	6.3	■	26.0	2 800	-25...+60	62 500 / 40 000	105 000	105 000	②
W2E 143-AA15-01	440	259	115	60	60	6.4	■	26.0	3 300	-25...+70	57 000 / 30 000	97 500	97 500	③
W2E 143-AB15-01	500	284	115	60	58	6.7	■	29.0	3 300	-25...+75	57 000 / 22 500	97 500	97 500	④

Subject to change



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{pA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see
<http://www.ebmpapst.com/general-conditions>



Max. 1000 m³/h

AC axial fans

□ 225 x 80 mm



- **Material:** Housing: Die-cast-aluminum
Impeller: Sheet steel, painted black
Rotor: Painted black
- **Number of blades:** 7
- **Direction of air flow:** "V"
- **Direction of rotation:** Counterclockwise, looking towards rotor
- **Degree of protection:** IP 44, depending on installation and position
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

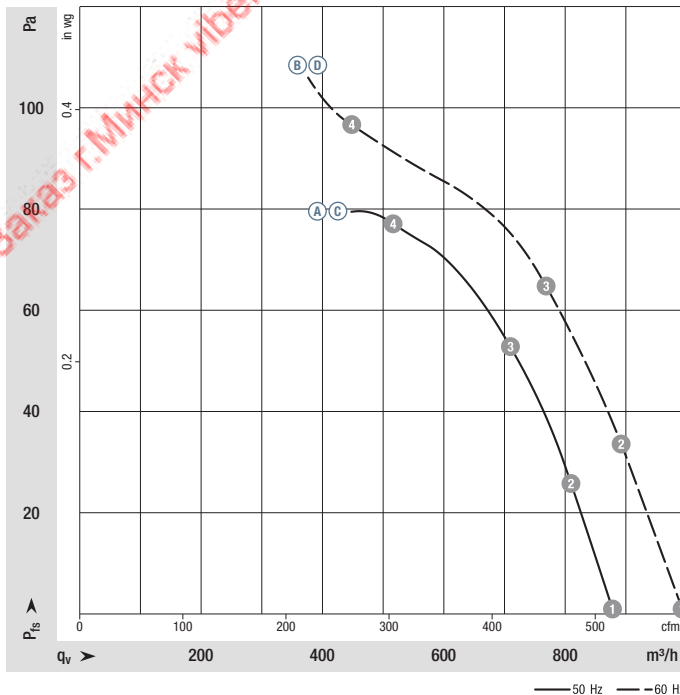
VWT0200X2MCS

Nominal data

Type	Motor	Curve	Nominal voltage VAC	Frequency Hz	Air flow m ³ /h	Nominal speed rpm ⁻¹	Power consumption W	Input current A	Capacitor F/VDB	Sound power level dB(A)	Max. back-pressure Pa	Admissible amb. temp. °C	Weight kg	Connection diagram
W2E 200-HK86-01	M2E 068-BF	A	1~115	50	880	2550	64	0.58	5.0/220	—	80	-25...+60	2.0	P. 280 / A1)
		B	1~115	60	1000	2800	80	0.70	5.0/220	—	95	-25...+65	2.0	
W2E 200-HK38-01	M2E 068-BF	C	1~230	50	880	2550	64	0.29	1.5/450	—	80	-25...+60	2.1	P. 280 / A1)
		D	1~230	60	1000	2800	80	0.35	1.5/450	—	95	-25...+65	2.1	

Subject to change

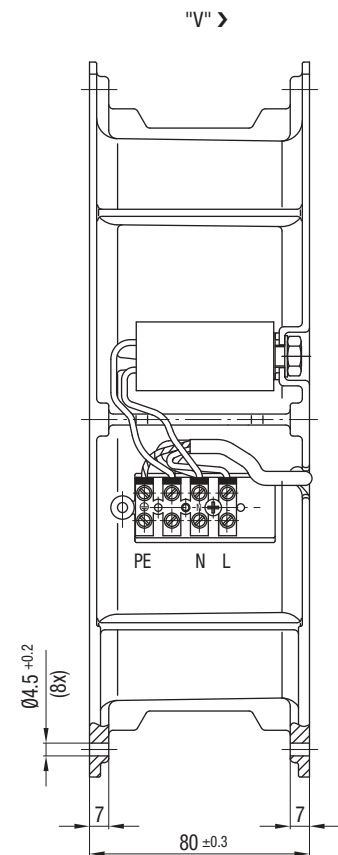
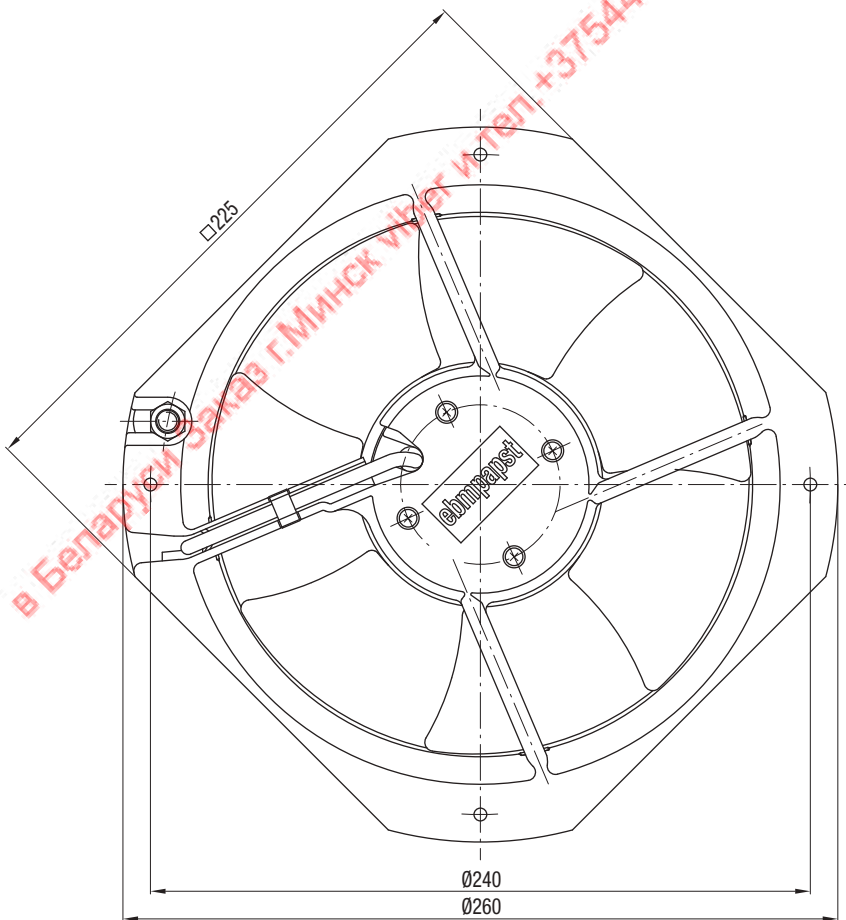
Curves:



	n rpm ⁻¹	P _{ed} W	I A	L _{WA} dB(A)
A 1	2640	56	0.56	—
A 2	2595	58	0.57	—
A 3	2550	61	0.58	—
A 4	2480	64	0.60	—
B 1	2980	67	0.58	—
B 2	2880	71	0.62	—
B 3	2790	75	0.65	—
B 4	2660	80	0.69	—
C 1	2630	60	0.30	—
C 2	2585	64	0.31	—
C 3	2530	66	0.31	—
C 4	2480	69	0.32	—
D 1	3000	70	0.31	—
D 2	2935	73	0.32	—
D 3	2850	77	0.34	—
D 4	2705	83	0.36	—

Air performance measured according to: ISO 5801, Installation category A. For detailed information on the measurement setup, contact ebmpapst. Suction-side noise levels: L_{WA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Motor protection:** Thermal overload protector (TOP) connected internally
- **Touch current:** < 0.75 mA acc. to IEC 60990 (test circuit, illustration 4)
- **Cable exit:** Variable
- **Electrical hookup:** Via terminal strips, capacitor connected
- **Protection class:** I (with customer connection to grounding conductor)
- **Conformity with standard(s):** EN 60335-1, CE
- **Approvals:**
 - Ⓐ Ⓑ EAC, UL 507, VDE, CSA C22.2 no. 113, CCC
 - Ⓒ Ⓓ EAC, UL 2111, VDE, CSA C22.2 no. 113, CCC



Max. 1880 m³/h

AC axial fans

□ 225 x 80 mm



- **Material:** Housing: Die-cast-aluminum
Impeller: PP plastic
Rotor: Painted black
- **Number of blades:** 7
- **Direction of air flow:** "V"
- **Direction of rotation:** Counterclockwise, looking towards rotor
- **Degree of protection:** IP 44, depending on installation and position
- **Insulation class:** "F"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

VWT0250X2MES

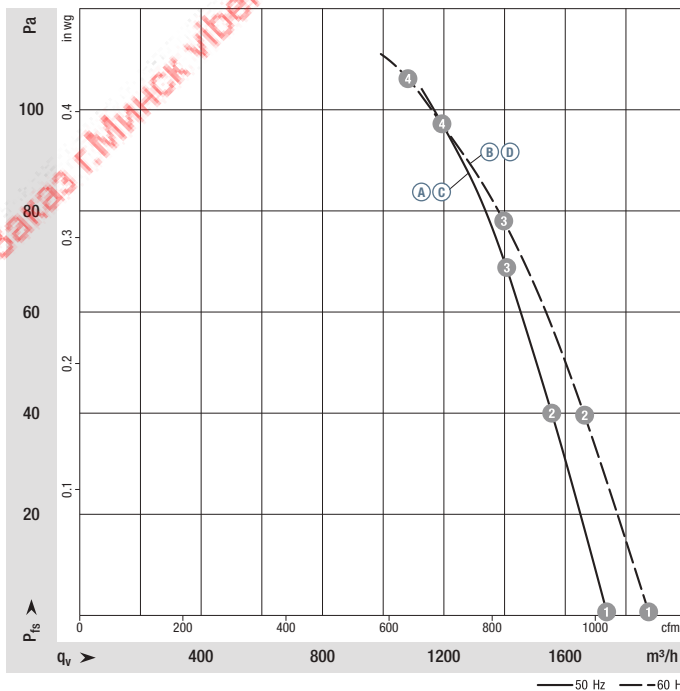
Nominal data

Type	Motor	Curve	Nominal voltage	Frequency	Air flow	Nominal speed	Max. power consumption ⁽¹⁾	Max. input current ⁽¹⁾	Capacitor	Sound power level	Max. back-pressure	Admissible amb. temp.	Weight	Connection diagram
W2E 250-HP08-01	M2E 068-CF	A	1~115	50	1740	2375	125	1.10	12/320	70	100	-25...+50	2.7	P. 280 / A3)
		B	1~115	60	1880	2350	165	1.45	12/320	72	110	-25...+45	2.7	
W2E 250-HP06-01	M2E 068-CF	C	1~230	50	1695	2320	125	0.55	3.0/400	70	100	-25...+60	2.7	P. 280 / A3)
		D	1~230	60	1840	2300	160	0.71	3.0/400	71	110	-25...+50	2.7	

Subject to change

(1) Nominal data in operating point with maximum load and 115/230 VAC

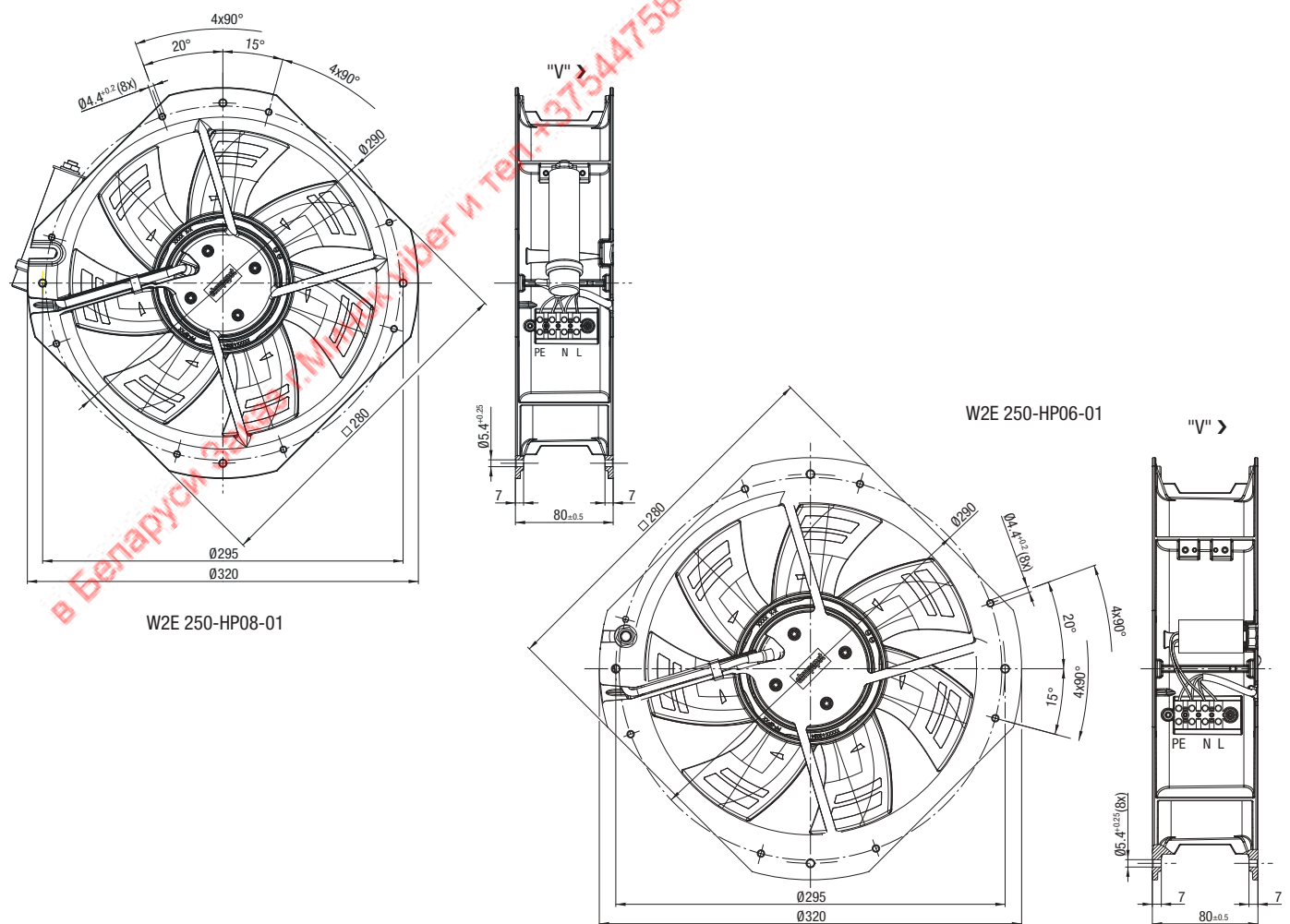
Curves:



	n	P _{ed}	I	L _{WA}
	rpm ⁻¹	W	A	dB(A)
A 1	2580	108	0.96	70
A 2	2510	115	1.02	69
A 3	2455	121	1.06	68
A 4	2375	125	1.10	68
B 1	2785	149	1.30	72
B 2	2655	154	1.35	70
B 3	2490	162	1.41	70
B 4	2350	165	1.45	70
C 1	2550	101	0.44	70
C 2	2480	109	0.47	69
C 3	2410	115	0.50	68
C 4	2320	125	0.55	68
D 1	2750	134	0.59	71
D 2	2600	145	0.63	70
D 3	2420	152	0.66	69
D 4	2300	160	0.71	70

Air performance measured according to: ISO 5801, Installation category A. For detailed information on the measurement setup, contact ebmpapst. Suction-side noise levels: L_{WA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Motor protection:** Thermal overload protector (TOP) connected internally
- **Touch current:** < 0.75 mA acc. to IEC 60990 (test circuit, illustration 4)
- **Cable exit:** Variable
- **Electrical hookup:** Via terminal strips, capacitor connected
- **Protection class:** I (with customer connection to grounding conductor)
- **Conformity with standard(s):** EN 60335-1, CE
- **Approvals:**
 - Ⓐ Ⓑ UL 2111, CSA C22.2 no. 77
 - Ⓒ Ⓓ EAC, UL 2111, CSA C22.2 no. 77



Max. 830 m³/h

AC diagonal module

Ø 200 mm



- **Material:** Housing: PA plastic
Support bracket: PA plastic
Impeller: PA plastic
Rotor: Painted black
- **Number of blades:** 7
- **Direction of air flow:** "V", single inlet
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 44, depending on installation and position
- **Insulation class:** "F"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

VJH0200X2MES

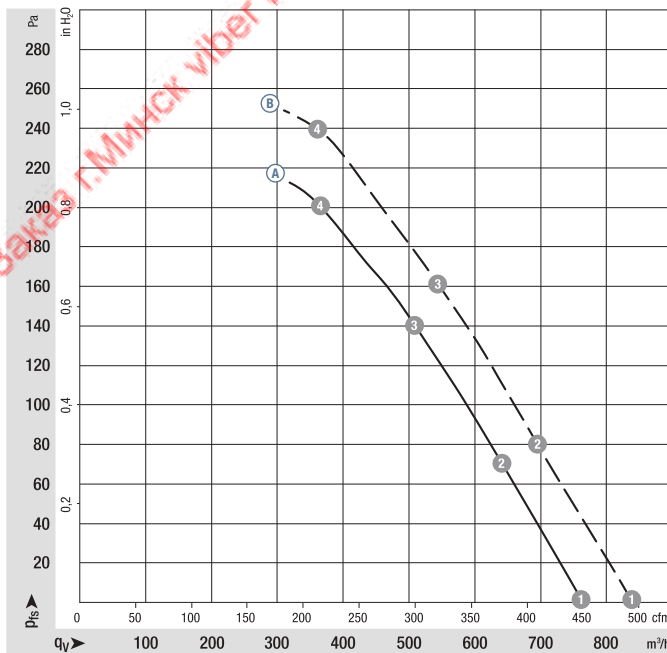
Nominal data

Type	Motor	Curve	Nominal voltage	Frequency	Air flow	Nominal speed	Power consumption	Input current	Capacitor	Sound power level	Max. back-pressure	Admissible amb. temp.	Weight	Connection diagram
Type	Motor		VAC	Hz	m ³ /h	rpm ⁻¹	W	A	µF/VDB	dB(A)	Pa	°C	kg	
K2E 200-AA12 -01	M2E 068-CF	Ⓐ 1	~ 115	50	760	2650	64	0.56	6.0/250	70	200	-25..+65	2.1	P. 280 / A1)
		Ⓑ 1	~ 115	60	830	2910	88	0.77	6.0/250	72	240	-25..+65	2.1	

Subject to change

Curves:

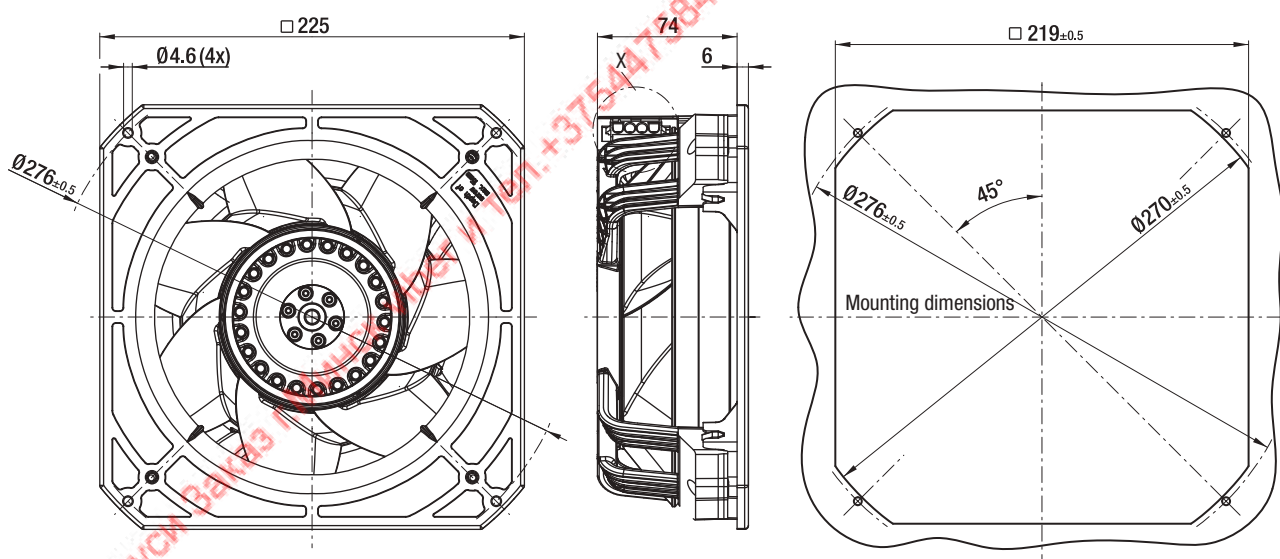
- 50 Hz
- - - 60 Hz



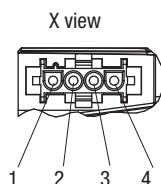
	n	P _{ed}	I	L _{wA}
	rpm ⁻¹	W	A	dB(A)
Ⓐ 1	2650	64	0.56	70
Ⓐ 2	2610	67	0.59	68
Ⓐ 3	2580	70	0.61	67
Ⓐ 4	2590	69	0.61	69
Ⓑ 1	2910	88	0.77	72
Ⓑ 2	2815	93	0.81	69
Ⓑ 3	2755	96	0.84	69
Ⓑ 4	2780	95	0.83	71

Air performance measured according to: ISO 5801. Installation category A, without contact protection. Suction-side noise levels: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Motor protection:** Thermal overload protector (TOP) connected internally
- **Touch current:** < 0.75 mA acc. to IEC 60990 (test circuit, illustration 4)
- **Cable exit:** Lateral
- **Electrical hookup:** Via connector
- **Protection class:** I (with customer connection to grounding conductor)
- **Conformity with standard(s):** EN 60335-1, CE
- **Approvals:** UL 2111, CSA C22.2 no. 77



Coded plug system
 Universal Mate-N-Lok
 Connector shell: AMP 350 780-1
 3x plug pins: AMP 926 885-1
 Mating connector (not included in
 scope of delivery):
 Connector shell: AMP 350 779-4
 3x sockets: AMP 926 884-1



- 1 = not used
- 2 = N + capacitor
- 3 = L
- 4 = PE

Max. 845 m³/h

AC diagonal module

Ø 200 mm



- **Material:** Housing: PA plastic
Support bracket: PA plastic
Impeller: PA plastic
Rotor: Painted black
- **Number of blades:** 7
- **Direction of air flow:** "V", single inlet
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 44, depending on installation and position
- **Insulation class:** "F"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

VJH0200X2MES

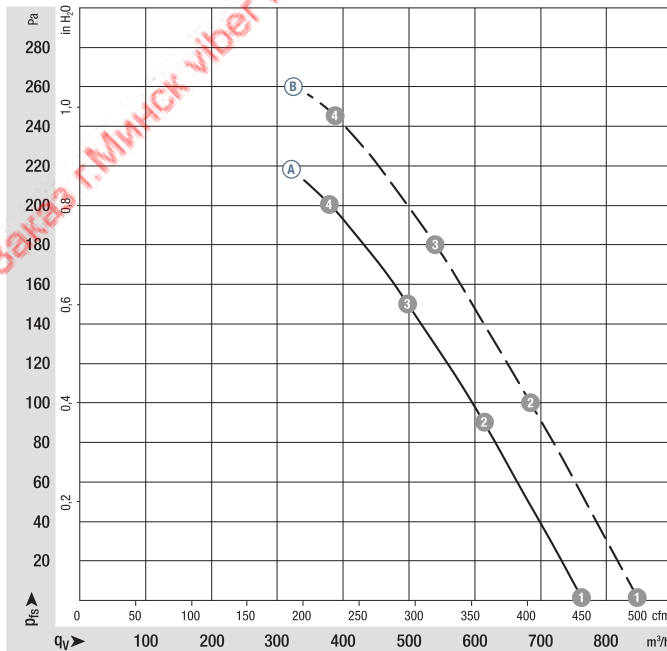
Nominal data

Type	Motor	Curve	Nominal voltage	Frequency	Air flow	Nominal speed	Power consumption	Input current	Capacitor	Sound power level	Max. back-pressure	Admissible amb. temp.	Weight	Connection diagram
			VAC	Hz	m ³ /h	rpm ⁻¹	W	A	µF/VDB	dB(A)	Pa	°C	kg	
K2E 200-AA52 -02	M2E 068-CF	Ⓐ	1~ 230	50	765	2650	65	0.30	2.0/400	70	200	-25..+80	2.1	P. 280 / A1)
		Ⓑ	1~ 230	60	845	2950	90	0.40	2.0/400	73	245	-25..+80	2.1	

Subject to change

Curves:

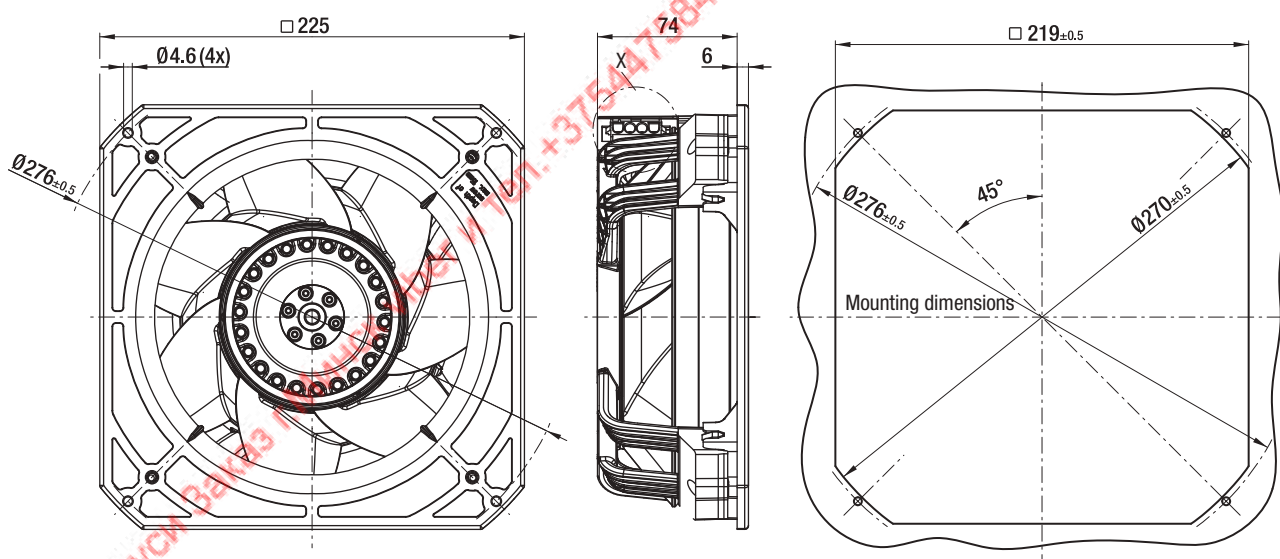
- 50 Hz
- - - 60 Hz



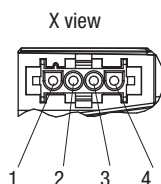
	n	P _{ed}	I	L _{wA}
	rpm ⁻¹	W	A	dB(A)
Ⓐ 1	2650	65	0.30	70
Ⓐ 2	2620	67	0.30	68
Ⓐ 3	2605	68	0.30	67
Ⓐ 4	2610	68	0.30	69
Ⓑ 1	2950	90	0.40	73
Ⓑ 2	2865	93	0.41	70
Ⓑ 3	2820	96	0.42	69
Ⓑ 4	2840	94	0.41	71

Air performance measured according to: ISO 5801. Installation category A, without contact protection. Suction-side noise levels: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Motor protection:** Thermal overload protector (TOP) connected internally
- **Touch current:** < 0.75 mA acc. to IEC 60990 (test circuit, illustration 4)
- **Cable exit:** Lateral
- **Electrical hookup:** Via connector
- **Protection class:** I (with customer connection to grounding conductor)
- **Conformity with standard(s):** EN 60335-1, CE
- **Approvals:** UL 2111, CSA C22.2 no. 77



Coded plug system
 Universal Mate-N-Lok
 Connector shell: AMP 350 780-1
 3x plug pins: AMP 926 885-1
 Mating connector (not included in scope of delivery):
 Connector shell: AMP 350 779-4
 3x sockets: AMP 926 884-1



1 = not used
 2 = N + capacitor
 3 = L
 4 = PE

Max. 880 m³/h

AC diagonal module

Ø 200 mm



- **Material:** Housing: PA plastic
Support bracket: PA plastic
Impeller: PA plastic
Rotor: Painted black
- **Number of blades:** 7
- **Direction of air flow:** "V", single inlet
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 44, depending on installation and position
- **Insulation class:** "F"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

VJH0200X3MES

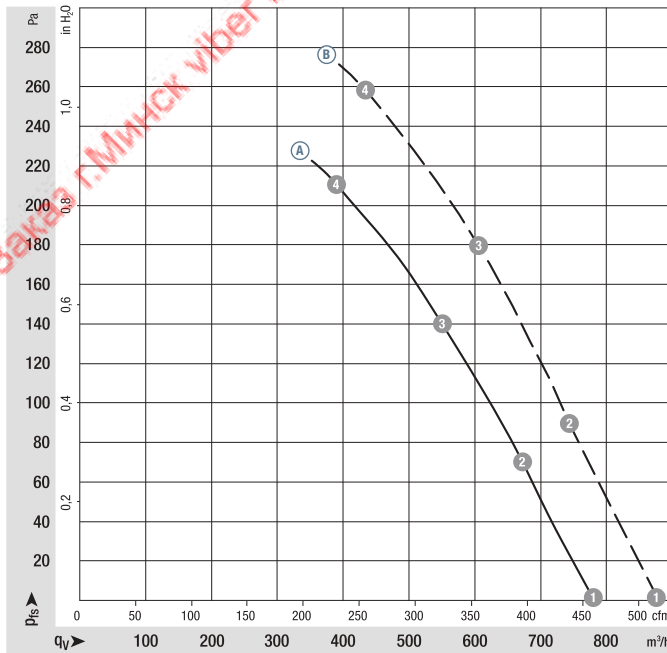
Nominal data

Type	Motor	Curve	Nominal voltage	Frequency	Air flow	Nominal speed	Power consumption	Input current	Capacitor	Sound power level	Max. back-pressure	Admissible amb. temp.	Weight	Connection diagram
			VAC	Hz	m ³ /h	rpm ⁻¹	W	A	µF/VDB	dB(A)	Pa	°C	kg	
K2D 200-AA02 -02	M2D 068-CF	Ⓐ 3~	400 Y	50	780	2700	65	0.15	---	71	210	-25..+75	2.0	P. 280 / C2)
		Ⓑ 3~	400 Y	60	880	3050	90	0.16	---	73	260	-25..+75	2.0	

Subject to change

Curves:

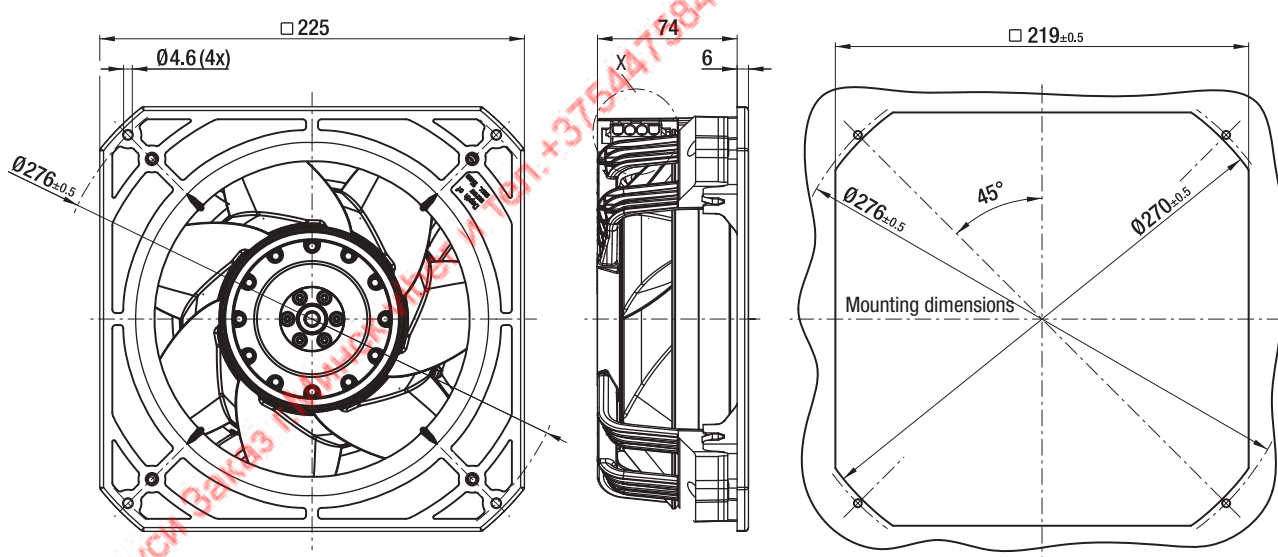
- 50 Hz
- - - 60 Hz



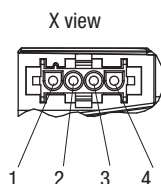
	n	P _{ed}	I	L _{wA}
	rpm ⁻¹	W	A	dB(A)
Ⓐ ①	2700	65	0.15	71
Ⓐ ②	2695	69	0.16	69
Ⓐ ③	2675	71	0.16	68
Ⓐ ④	2680	70	0.16	69
Ⓑ ①	3050	90	0.16	73
Ⓑ ②	3010	94	0.16	71
Ⓑ ③	2970	98	0.17	70
Ⓑ ④	2975	96	0.17	72

Air performance measured according to: ISO 5801. Installation category A, without contact protection. Suction-side noise levels: L_{wA} according to ISO 13347, L_{pA} measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Motor protection:** thermal overload protector wired internally
- **Touch current:** < 0.75 mA acc. to IEC 60990 (test circuit, illustration 4)
- **Cable exit:** Lateral
- **Electrical hookup:** Via connector
- **Protection class:** I (with customer connection to grounding conductor)
- **Conformity with standard(s):** EN 60335-1, CE



Coded plug system
 Universal Mate-N-Lok
 Connector shell: AMP 350 780-1
 4 x plug pins: AMP 926 885-1
 Mating connector (not included in scope of delivery):
 Connector shell: AMP 350 779-4
 4x sockets: AMP 926 884-1



1 = L3
 2 = L1
 3 = L2
 4 = PE

в Беларуси Заказ г.Минск viber и тел. +375447584780 email: minsk17@tut.by www.tiristor.by

AC centrifugal fans



AC centrifugal fan overview

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AC centrifugal fans

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AC centrifugal fans

Technical information



Product line

The renowned ebm-papst AC fans are used when DC voltage is not available. The AC range of fans is based on experience gained from decades of development know-how, millions of units in series production, and the innovation competence of a world-wide technology pioneer.

In this catalog, we offer you the broad spectrum of our AC fans. In addition to complete systems, you will also find fans without external housing. They offer economic benefits whenever the air duct design can be integrated in the respective device.

Variety of sizes

AC fans are available in a variety of sizes with either air exhaust or air intake over struts. Silent running models with sleeve bearings. Electrical connection with plug connection or external exposed connection wires are available.

Shaded-pole or capacitor motors

Fan drives by shaded-pole or capacitor motors, most of which incorporate the world-famous ebm-papst external rotor principle. The fan blades are directly attached to the external rotor of the external rotor motor. This construction combining high performance with profitability.

Flat built AC fans

ebm-papst also has AC fans with a particularly flat construction and an internal rotor motor. Their advantage: quick start to full speed. A plastic impeller and the smaller and lighter internal rotor motor result in lower rotational inertia.

Bearings

AC fans with sleeve bearings are powered by Class E insulated motors. Fans with ball bearings are equipped with Class B, E, or F insulated motors.

Degree of protection

All ebm-papst fans conform to the requirements of IP 20. Fans conforming to IP 54 / IP 65 and special degrees of protection are also available on request.

AC voltage

The line of AC fans for Euro voltage according to IEC 60038 (230 V \pm 10 %) is also available in 115 V.

Frequencies

AC fans can be operated at frequencies of 50 or 60 Hz. In this case, their technical data changes accordingly.

Capacitor

Fans driven by capacitor external motors provide particularly high operating efficiency. Generally, the required motor run capacitor is already integrated in the fan housing.

Overloading

Almost all AC fans are protected against overloading (e. g. due to locked rotor) – either impedance protected (marked "Impedance protected" or "Z. P.") or equipped with a thermal switch (marked "Thermally protected" or "Th. P."). The model designation of these fans ends with "S".

Centrifugal fans for AC operation

Overview of air performance

Dimensions	Series	Air flow	Page
mm		m ³ /h	
<input type="checkbox"/> 121 x 37	RL 90	40...42	246
<input type="checkbox"/> 135 x 38	RG 90	47...54	247
<input type="checkbox"/> 180 x 40	RG 125	86...94	248
<input type="checkbox"/> 220 x 56	RG 160	202...223	249
∅ 138 x 40	RER 125	104...115	250
∅ 176 x 54	RER 160	234...274	251

Subject to change

Overview of technically feasible designs

Dimensions	VDE, UL, CSA	SMTEC sleeve bearings/ Ball bearings	Speed signal	Moisture protection IP >= 54	IP 65	Salt spray protection	Page
mm	Series	OPTIONAL				P.	
<input type="checkbox"/> 121 x 37	RL 90	yes <input type="checkbox"/> / <input type="checkbox"/>	-	•	•	-	246
<input type="checkbox"/> 135 x 38	RG 90	yes <input type="checkbox"/> / <input type="checkbox"/>	-	•	•	-	247
<input type="checkbox"/> 180 x 40	RG 125	yes <input type="checkbox"/>	-	•	•	-	248
<input type="checkbox"/> 220 x 56	RG 160	yes <input type="checkbox"/>	-	•	•	-	249
∅ 138 x 40	RER 125	yes <input type="checkbox"/>	-	•	•	-	250
∅ 176 x 54	RER 160	yes <input type="checkbox"/>	-	•	•	-	251

Subject to change

• available – not yet available Sleeve bearings Ball bearings

в Беларусі Закаў г.Мінск вібелітэп:+375447584780 email: minsk17@tut.by www.tiristor.by

Max. 42 m³/h

AC centrifugal fans

□ 121 x 37 mm



- **Material:** Scroll housing: GRP¹⁾ (PBT)
Impeller: GRP¹⁾ (PA)
Housing base: Sheet steel
 - **Direction of air flow:** Centrifugal: discharge through window in housing
 - **Direction of rotation:** Clockwise, looking towards rotor
 - **Connection:** Via 2 single wires; housing base with flat plugs 6.3 x 0.8 mm for ground conductor
 - **Highlights:** Forward-curved impeller
 - **Weight:** 680 g
- **Possible special versions:** (See page 10)
 - Moisture protection
 - Salt spray protection
 - Degree of protection: IP 54

1) Fiberglass-reinforced plastic

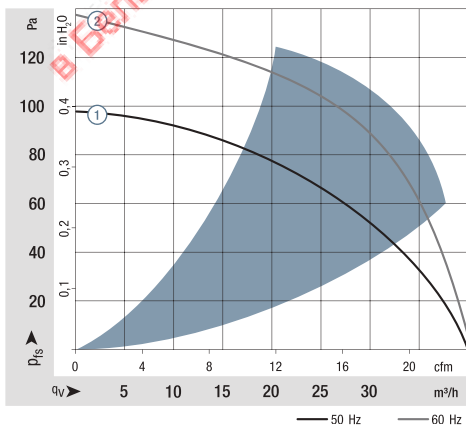
Series RL 90
VHS0090XQHCS

Nominal data

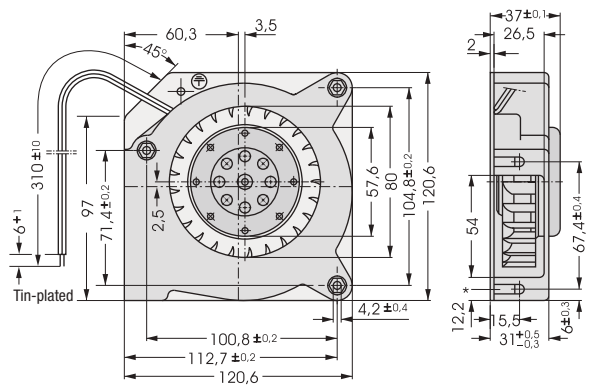
Type	Air flow		Nominal voltage	Frequency	Sound power level	Sinter sleeve bearings Ball bearings		Power consumption	Nominal speed	Temperature range	Service life L ₁₀		Curve
	m ³ /h	cfm				VAC	Hz				Bel(A)	□ / ■	
RL 90-18/50	40	23.5	230	50	5.6	□	20.0	2 450	-10...+50	37 500 / 30 000		①	
RL 90-18/56	40	23.5	230	50	5.6	■	20.0	2 450	-30...+70	37 500 / 20 000		①	
RL 90-18/00	42	24.7	115	60	6.0	□	19.5	2 550	-10...+60	37 500 / 25 000		②	
RL 90-18/06	42	24.7	115	60	6.0	■	19.5	2 550	-30...+85	37 500 / 15 000		②	

Subject to change

Fan type		Connection wires
RL 90-18/50	RL 90-18/00	AWG 18, TR 32
RL 90-18/56	RL 90-18/06	AWG 22



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m;
Sound pressure level L_{pA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions, described measurement set-up and may vary depending on the installation situation.
For detailed information see <http://www.ebmpapst.com/general-conditions>



*Speed nut M4 or 8-32UNC. Screw- in depth max.12.5 min 9.0

Max. 54 m³/h

AC centrifugal fans

□ 135 x 38 mm



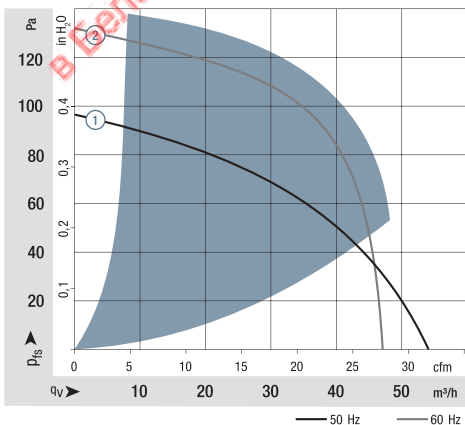
- **Material:** Scroll housing: GRP¹⁾ (PBT)
Impeller: GRP¹⁾ (PA)
Housing base: Sheet steel
 - **Direction of air flow:** Centrifugal: discharge through window in housing
 - **Direction of rotation:** Clockwise, looking towards rotor
 - **Connection:** To 2 single wires AWG 22.
 - **Highlights:** Forward-curved impeller
 - **Weight:** 560 g
- **Possible special versions:** (See page 10)
 - Moisture protection
 - Salt spray protection
 - Degree of protection: IP 54

1) Fiberglass-reinforced plastic

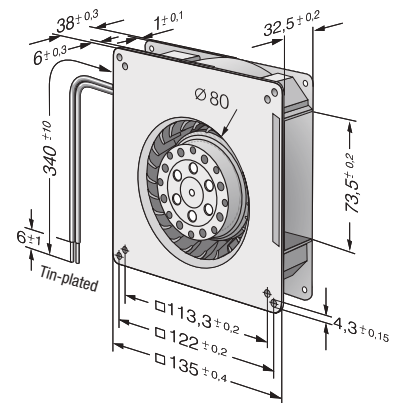
Series RG 90
VHS0090XQHCS

Nominal data	Air flow		Nominal voltage	Frequency	Sound power level	Sinter sleeve bearings		Power consumption	Nominal speed	Temperature range	Service life L ₁₀		Curve
	m ³ /h	cfm				VAC	Hz				Bel(A)	□ / ■	
RG 90-18/50	54	32	230	50	5.8	□	22.0	2 200	-30...+60	35 000 / 22 500	①		
RG 90-18/56	54	32	230	50	5.8	■	22.0	2 200	-30...+60	35 000 / 22 500	①		
RG 90-18/00	47	28	115	60	6.2	□	22.0	1 900	-30...+65	35 000 / 20 000	②		
RG 90-18/06	47	28	115	60	6.2	■	22.0	1 900	-30...+65	35 000 / 20 000	②		

Subject to change



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{pA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general-conditions>



Max. 94 m³/h

AC centrifugal fans

□ 180 x 40 mm



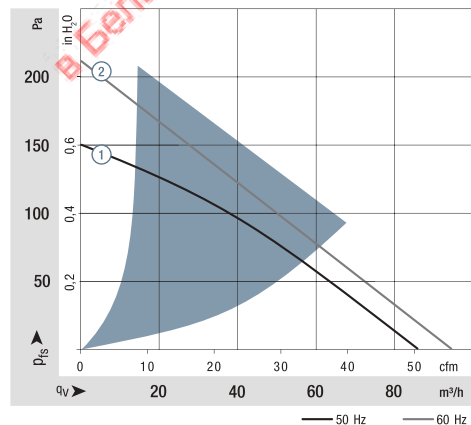
- **Material:** Scroll housing: GRP¹⁾ (PBT)
Impeller: GRP¹⁾ (PA)
Housing base: Sheet steel
 - **Direction of air flow:** Centrifugal: discharge through window in housing
 - **Direction of rotation:** Clockwise, looking towards rotor
 - **Connection:** To 2 single wires AWG 22.
 - **Highlights:** Backward-curved impeller
 - **Weight:** 850 g
- **Possible special versions:** (See page 10)
 - Moisture protection
 - Salt spray protection
 - Degree of protection: IP 54

1) Fiberglass-reinforced plastic

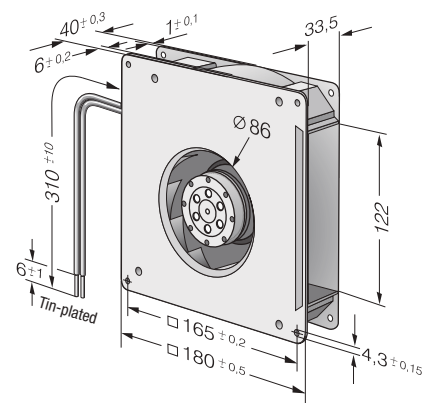
Series RG 125
VCS0125XQHCS

Nominal data	Air flow		Nominal voltage	Frequency	Sound power level	Sinter sleeve bearings		Power consumption	Nominal speed	Temperature range	Service life L ₁₀		Curve
	m ³ /h	cfm				VAC	Hz				Bel(A)	□ / ■	
RG 125-19/56	86	51	230	50	5.8	■	20.0	2 550	-30...+70	37 500 / 20 000		①	
RG 125-19/06	94	55	115	60	6.0	■	19.0	2 750	-30...+80	40 000 / 15 000		②	

Subject to change



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{pA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general-conditions>



Max. 223 m³/h

AC centrifugal fans

□ 220 x 56 mm



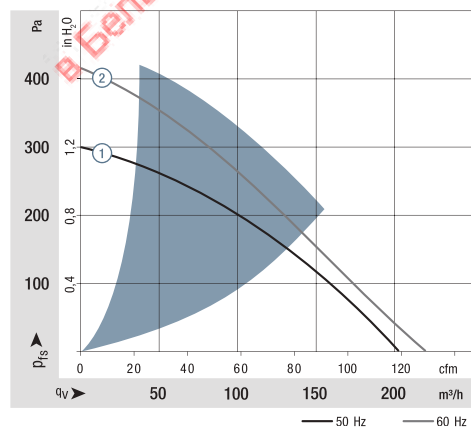
- **Material:** Scroll housing: GRP¹⁾ (PBT)
Impeller: GRP¹⁾ (PA)
Housing base: Sheet steel
 - **Direction of air flow:** Centrifugal: discharge through window in housing
 - **Direction of rotation:** Counterclockwise, looking towards rotor
 - **Connection:** To 2 single wires AWG 18.
 - **Highlights:** Backward-curved impeller
 - **Weight:** 1.7 kg
- **Possible special versions:**
(See page 10)
- Moisture protection

1) Fiberglass-reinforced plastic

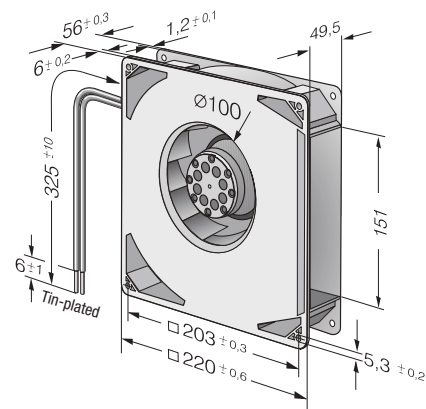
Series RG 160
VCS0160XQKDS

Nominal data	Air flow		Nominal voltage	Frequency	Sound power level	Sinter sleeve bearings Ball bearings		Power consumption	Nominal speed	Temperature range	Service life L ₁₀		Curve
	m ³ /h	cfm				VAC	Hz				Bel(A)	□ / ■	
RG 160-28/56S	202	119	230	50	6.6	■	47.0	2 750	-30...+70	30 000 / 15 000	①		
RG 160-28/06S	223	131	115	60	6.9	■	50.0	3 050	-30...+80	27 500 / 12 500	②		

Subject to change



Air performance measured according to: ISO 5801.
Installation category A, without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a radius of 2 m.
Sound pressure level L_{pA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see
http://www.ebmpapst.com/general_conditions



Max. 115 m³/h

AC centrifugal fans

Ø 138 x 40 mm



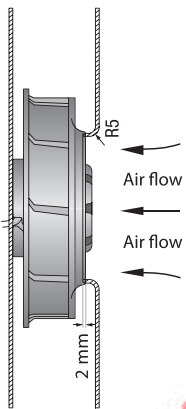
- **Material:** Scroll housing: GRP¹⁾ (PBT)
Impeller: GRP¹⁾ (PA)
with sheet steel reinforced
 - **Direction of air flow:** centrifugal
 - **Direction of rotation:** Clockwise,
looking towards rotor
 - **Connection:** To 2 single wires AWG 22.
 - **Highlights:** Backward-curved impeller
 - **Weight:** 500 g
- **Possible special versions:**
(See page 10)
 - Moisture protection
 - Salt spray protection
 - Degree of protection: IP 54

1) Fiberglass-reinforced plastic

Series RER 125
VBS0125XQHCS

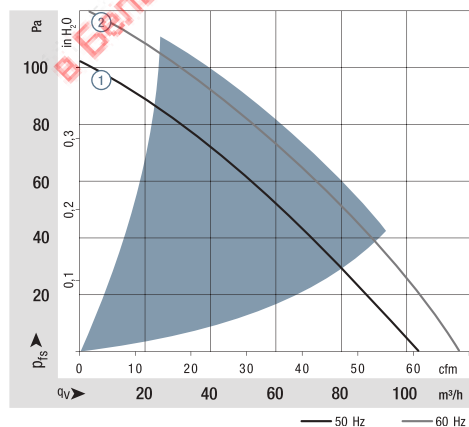
Nominal data	Air flow		Nominal voltage	Frequency	Sound power level	Sinter sleeve bearings		Power consumption	Nominal speed	Temperature range	Service life L ₁₀		Curve
	m ³ /h	cfm				VAC	Hz				Bel(A)	■ / □	
RER 125-19/56	104	61	230	50	6.2	■	19.0	2 600	-30...+60	37 500 / 22 500	①		
RER 125-19/06	115	68	115	60	6.5	■	18.0	2 850	-30...+70	40 000 / 20 000	②		

Subject to change

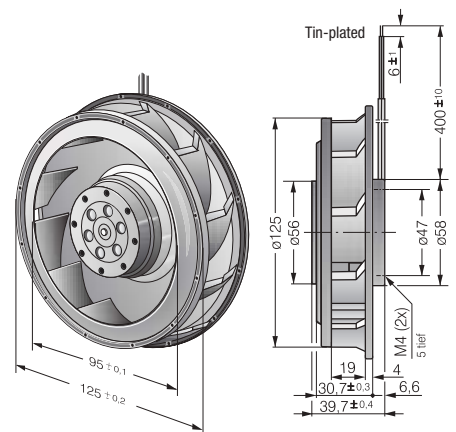


The air flow and sound level of the centrifugal fans without external housing depend on their individual installation conditions. The stated air flow and noise levels have been measured under the following conditions:

Centrifugal fan mounted on a base plate 220 x 220 mm.
Cover plate 220 x 220 mm with an air inlet of Ø 86 mm, concentric to the impeller.



Air performance measured according to: ISO 5801.
Installation category A, with ebm-papst inlet ring without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a distance of 2 m.
Sound pressure level L_{PA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see <http://www.ebmpapst.com/general-conditions>



Max. 274 m³/h

AC centrifugal fans

Ø 176 x 54 mm

Information

DC axial fans

DC centrifugal fans

DC fans - specials

ACmaxx / EC axial fans

AC axial fans

AC centrifugal fans

Accessories

Representatives



- **Material:** Scroll housing: GRP¹⁾ (PBT)
Impeller: GRP¹⁾ (PA)
with sheet steel reinforced
- **Direction of air flow:** centrifugal
- **Direction of rotation:** Counterclockwise,
looking towards rotor
- **Connection:** To 2 single wires AWG 18
- **Highlights:** Backward-curved impeller
- **Weight:** 1.0 kg

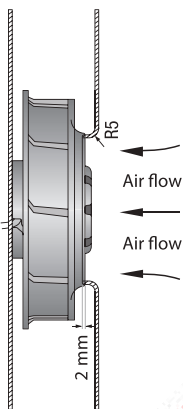
- **Possible special versions:**
(See page 10)
- Moisture protection

1) Fiberglass-reinforced plastic

Series RER 160
VBS0160XQKDS

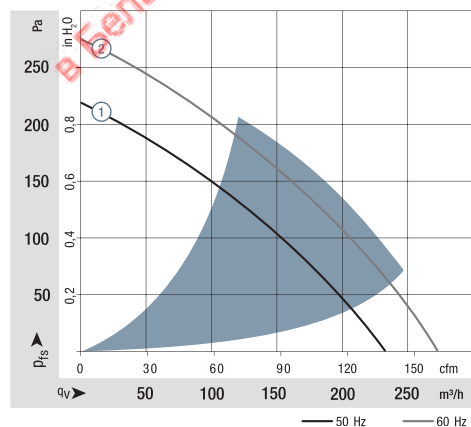
Nominal data	Air flow		Nominal voltage	Frequency	Sound power level	Sinter sleeve bearings Ball bearings		Power consumption	Nominal speed	Temperature range	Service life L ₁₀		Curve
	m ³ /h	cfm				VAC	Hz				Bel(A)	□ / ■	
RER 160-28/56S	234	138	230	50	6.6	□	■	45.0	2 800	-30...+60	30 000 / 20 000	①	
RER 160-28/06S	274	161	115	60	6.8	□	■	46.0	3 250	-30...+70	30 000 / 15 000	②	

Subject to change

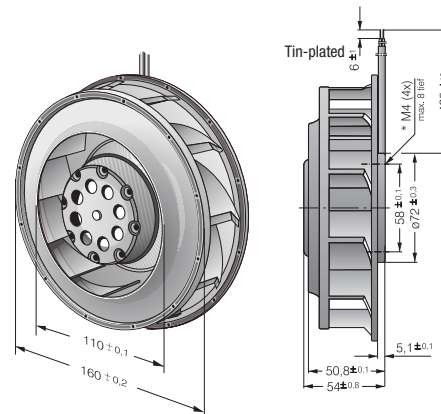


The air flow and sound level of the centrifugal fans without external housing depend on their individual installation conditions. The stated air flow and noise levels have been measured under the following conditions:

Centrifugal fan mounted on a base plate 260 x 260 mm.
Cover plate 260 x 260 mm with an air inlet of Ø 100 mm, concentric to the impeller.



Air performance measured according to: ISO 5801.
Installation category A, with ebm-papst inlet ring without contact protection.
Noise: Total sound power level L_{WA} ISO 10302 measured on a hemisphere with a distance of 2 m.
Sound pressure level L_{PA} measured at 1 m distance from fan axis.
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.
In the event of deviation from the standard configuration, the parameters must be checked after installation!
For detailed information see http://www.ebmpapst.com/general_conditions



в Беларуси Заказ г.Минск viber и тел. +375447584780 email: minsk17@tut.by www.tiristor.by

Accessories



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ebm-papst offers a comprehensive selection of accessories for optimum fan operation, from temperature sensors for speed-controlled fans, to finger guards for all variants, to cables, filters, and screens, to spacers and installation parts. Even in the case of very special parts, you can be sure: We will assist you every way possible. The sales experts at ebm-papst will be happy to assist you with your question concerning fan installation and use.

From selection to accessories:

Insist on the efficient and reliable service provided by ebm-papst.

Finger guards



- **Material:** Galvanized or nickel-plated steel wire
- **Note:** Finger guard according to DIN EN ISO 13857 (previously EN 294). Additional finger guards that do not satisfy DIN EN ISO 13857 available on request.
Our finger guards are designed specifically to be used with ebm-papst fans. They combine the highest degree of safety with minimum effect on the operating noise. Please note that the safety-related clearances cannot be guaranteed when finger guards made by other manufacturers are used.

Fan size	Fan series	Type	Order number	Side	Drawing see page
40 x 40	400 F, 400, 420 J	LZ29-1	9920029001	Intake/Outlet	255
50 x 50	500 F	LZ31	9920031000	Intake/Outlet	255
60 x 60	600 F, 620, 630, 600 N, 600 J	LZ28	9920028000	Intake/Outlet	255
		LZ28-1	9920028001		
80 x 80	8450, 8400 N, 8300 N, 8200 J, 8000 N, CoR 8200 J	LZ22-2	9920022002	Intake/Outlet	255
		LZ32-4	9920032004		
		LZ22-N	9920022001		
		LZ32-14	9920145006		
92 x 92	3400 N, 3300 N, 3200 J, 3250 J, 3900, 3000	LZ23	9920023000	Intake/Outlet	255
		LZ23-1	9920023001		
119 x 119	4400 F, 4400 FN, 4300 N, 4400, 4100 N, 4000 N, 4000 Z, 9900	LZ20	9920020000	Intake/Outlet	255
		LZ30	9920030000		256
		LZ30-3	9920030003	Intake/Outlet	256
		LZ30-4	9920030004		
127 x 127	DV 4100	LZ30-4	9920030004	Intake/Outlet	256
	DV 5200	LZ35	9920035000	Intake/Outlet	256
	5200 N, 5900	LZ35 LZ35-2	9920035000 9920035002	Intake/Outlet	256
135 x 135	5100 N, 5600	LZ25	9920025000	Intake/Outlet	256
140 x 140	5300, 5300 TD	LZ53	9920053000	Intake/Outlet	256
Ø 150	7100 N, 7200 N	LZ24	9920024000	Intake/Outlet	256
		LZ27	9920027000	Intake/Outlet	257
		LZ36	9920036000		
Ø 172	6300 N, 6300 NTD, 6300, 6300 TD	LZ26	9920026000	Intake/Outlet	257
		LZ37	9920037000		
		LZ37-10	9920145004		
		LZ38	9920038000		
	DV 6300	LZ39 LZ52	9920039000 9920052000	Outlet side Intake side	257
172 x 150	6400, 6400 TD	LZ38	9920038000	Intake/Outlet	257
172 x 160	DV 6400, DV 6400 TD	LZ38	9920038000	Intake side	257
220 x 200	2200 FTD	LZ22	9920022000	Intake/Outlet	257
Fan unit		LZ38-1	9920038001		257

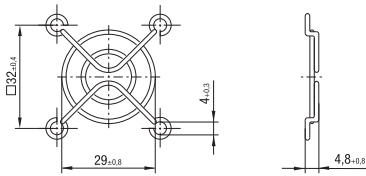
Subject to change

All measurements are given in mm.

Finger guards

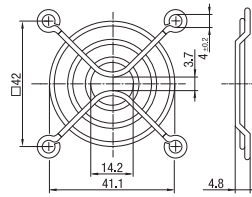
LZ29-1

Fan size 40 x 40



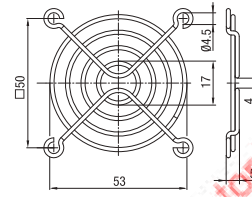
LZ31

Fan size 50 x 50



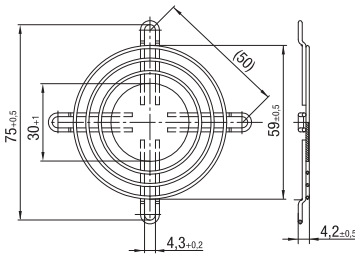
LZ28

Fan size 60 x 60



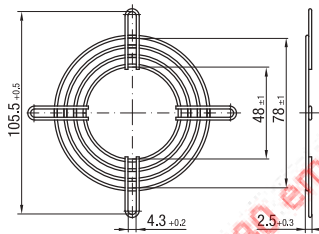
LZ28-1

Fan size 60 x 60



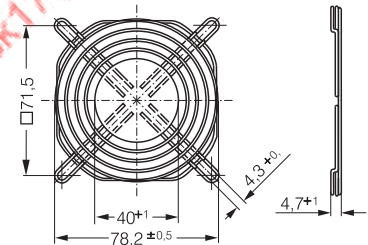
LZ22-2

Fan size 80 x 80



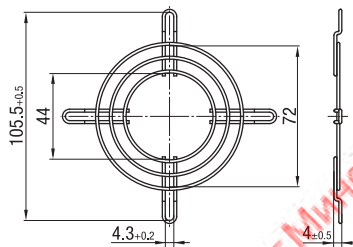
LZ32-4

Fan size 80 x 80



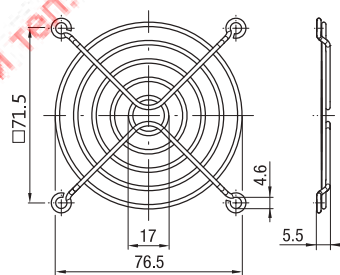
LZ22-N

Fan size 80 x 80



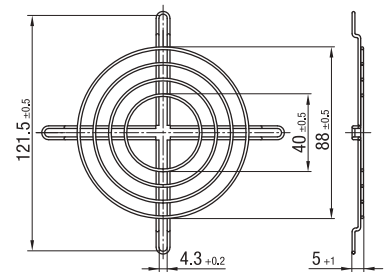
LZ32-14

Fan size 80 x 80



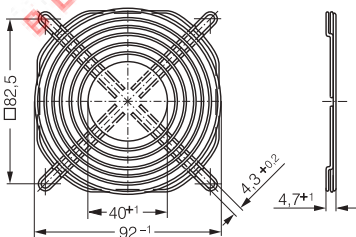
LZ23

Fan size 92 x 92



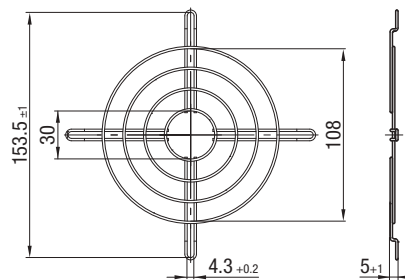
LZ23-1

Fan size 92 x 92



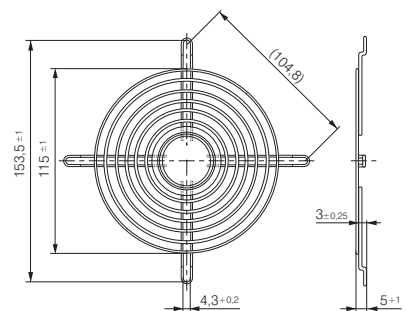
LZ20

Fan size 119 x 119



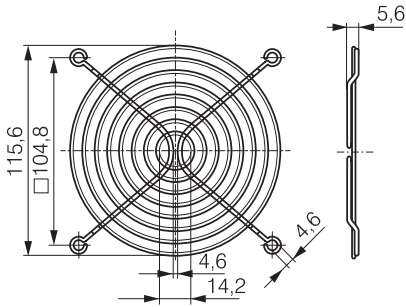
LZ30

Fan size 119 x 119

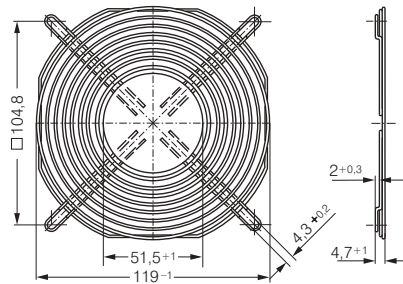


Finger guards

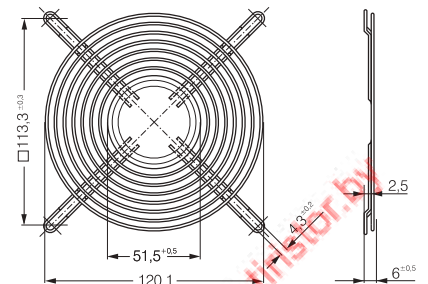
LZ30-3 Fan size 119 x 119



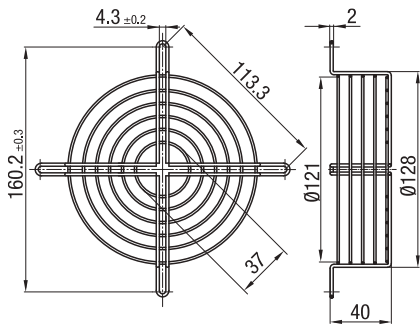
LZ30-4 Fan size 119 x 119



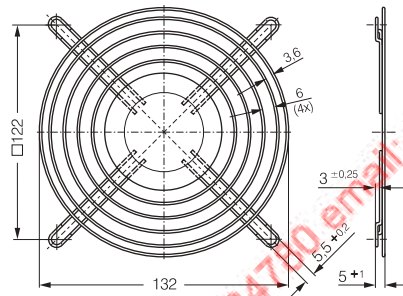
LZ35 Fan size 127 x 127



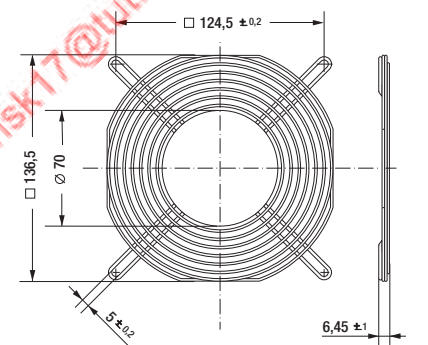
LZ35-2 Fan size 127 x 127



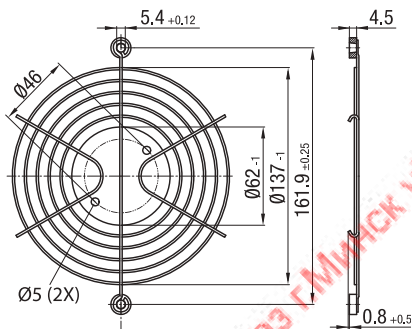
LZ25 Fan size 135 x 135



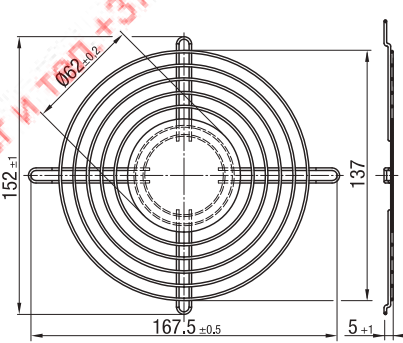
LZ53 Fan size 140 x 140



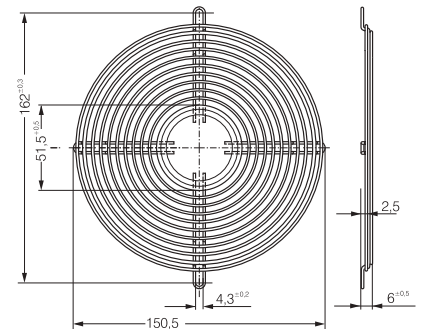
LZ24 Fan size Ø 150



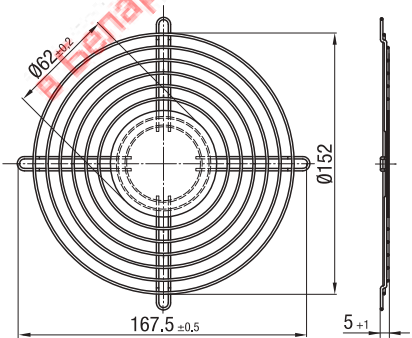
LZ27 Fan size Ø 150



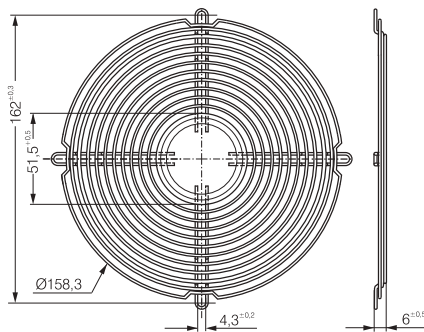
LZ36 Fan size Ø 150



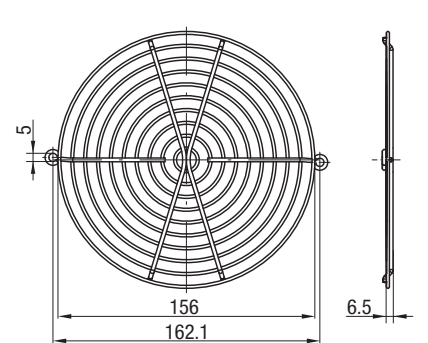
LZ26 Fan size Ø 172



LZ37 Fan size Ø 172



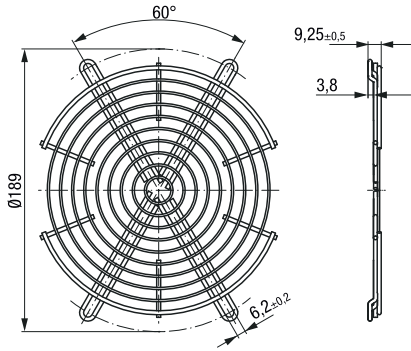
LZ37-10 Fan size Ø 172



Finger guards

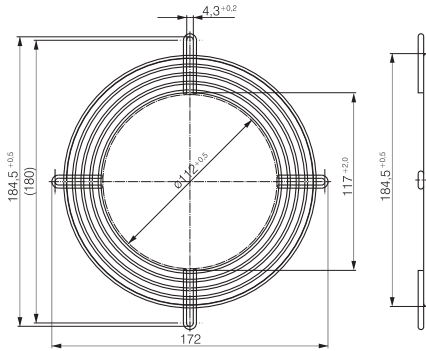
LZ38-1

Fan unit



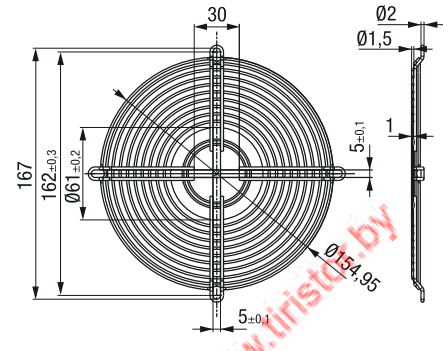
LZ39

Fan size Ø 172



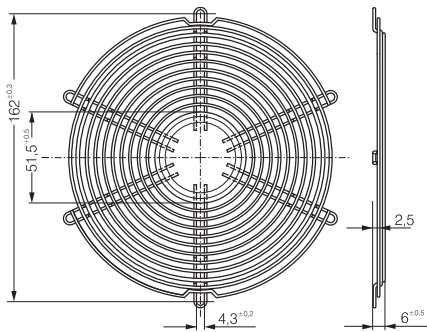
LZ52

Fan size Ø 172



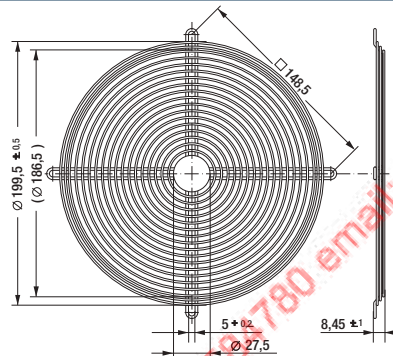
LZ38

Fan size 172 x 150
172 x 160
Ø 172



LZ22

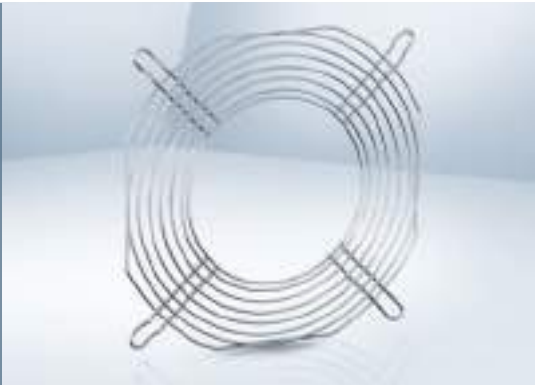
Fan size 220 x 200



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Finger guards

ACmaxx / ACi



- **Material:** Galvanized or nickel-plated steel wire
- **Note:** Finger guard according to DIN EN ISO 13857 (previously EN 294).
Finger guards for air outlet described on this page are specifically for fan series ACmaxx.
For air intake side the standard finger guards with a corresponding dimension can be used.

Finger guards made of metal

Fan size	Fan series	Type	Order number	Side	Drawing see page
80 x 80	AC 8300 H	LZ32-7	9920032007	Outlet side	259
	AC 8300 H	LZ22-N	9920022001	Intake side	255
		LZ22-2	9920022002		
		LZ32-14	9920145006		
		LZ32-4	9920032004		
92 x 92	AC 3200 J	LZ23-6	9920023006	Outlet side	259
	AC 3200 J	LZ23	9920023000	Intake side	255
		LZ23-1	9920023001		
119 x 119	ACi 4400, ACi 4400 N	LZ20	9920020000	Intake side	255
		LZ30	9920030000		
	AC 4400 FN	LZ30-3	9920030003		256
		LZ30-4	9920030004		
	AC 4400 FN AC 4300	LZ30-9	9920030009	Outlet side	259
Ø 172	AC 6200 N	LZ26	9920026000	Intake side	256
		LZ37	9920037000		
		LZ37-10	9920145004		
		LZ52	9920052000		
	AC 6200 N	LZ37-2	9920037002	Outlet side	259

Subject to change

All measurements are given in mm.

Finger guards made of plastic

Fan size	Fan series	Type	Order number	Side	Drawing see page
119 x 119	AC 4400 FN, AC 4300	LZ30-5	9920030005	Intake side	263
	ACi 4400, ACi 4400 N	LZ30-6	9920030006		
119 x 119	ACi 4400, ACi 4400 N	LZ30-P	9920030001	Intake/Outlet	263

Subject to change

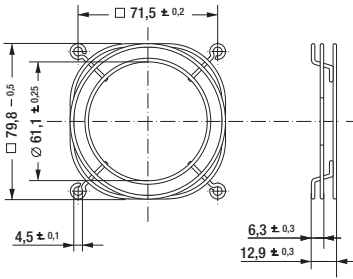
All measurements are given in mm.

Finger guards

ACmaxx / ACi

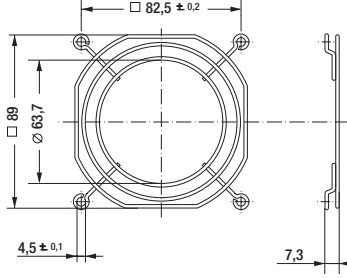
LZ32-7

Fan size 80 x 80



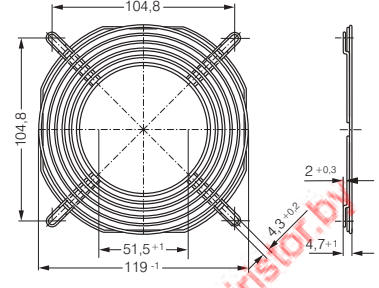
LZ23-6

Fan size 92 x 92



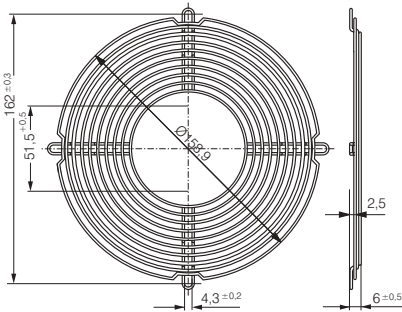
LZ30-9

Fan size 119 X 119



LZ37-2

Fan size ∅ 172



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Finger guards



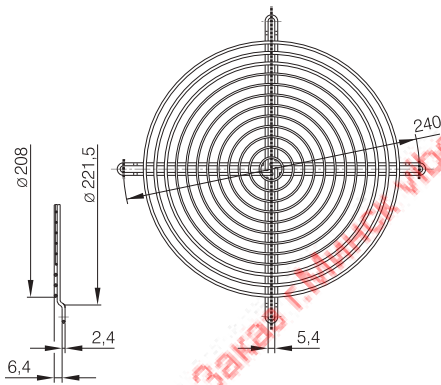
- **Material:** Steel wire, plastic-coated, with silver-metallic gloss

Fan size	Fan series	Order number	Side	Drawing see page
Ø 200	W3G 200	78128-2-4039	Intake/Outlet	260
Ø 250	W1G 250 W3G 250	09418-2-4039	Intake/Outlet	260

Subject to change All measurements are given in mm.

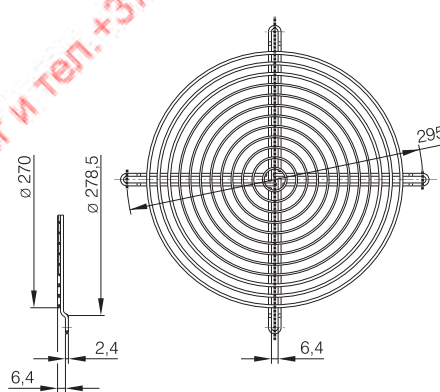
78128-2-4039

Fan size 200

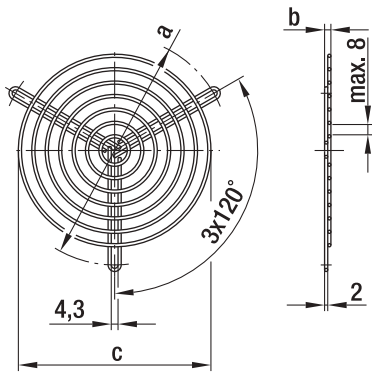


09418-2-4039

Fan size 250



Finger guards



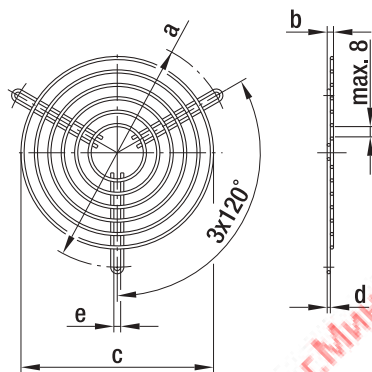
– **Material:** Steel wire

Finger guards for centrifugal blowers with dual inlet

Fan size	Order no.	a	b	c	Coating	Highlights
097	83319-2-4039	96.0	3.5	71.0	Phosphated, plastic-coated in RAL no. 9005	for D2E097-CH
097	09485-2-4039	114.0	3.5	88.0	Phosphated, plastic-coated in RAL no. 9005	for D2E097-B
133 / 146	09500-2-4039	145.0	4.0	122.0	Phosphated, plastic-coated in RAL no. 9005	

Subject to change

All measurements are given in mm.



– **Material:** Phosphated steel wire, plastic-coated, silver-metallic gloss

Finger guards for centrifugal blowers with dual inlet (versions with EW motor)

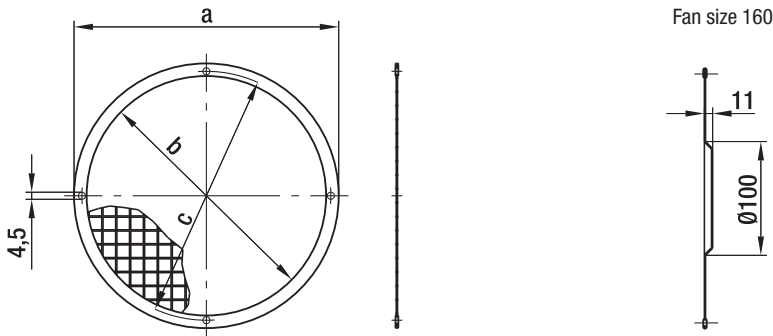
Fan size	Order no.	a	b	c	d	e
160	35000-2-4039	182.0	12.0	144.0	2.4	4.5

Subject to change

All measurements are given in mm.

Finger guards

- **Material:** Welded screens made of hot-dip galvanized steel, border made of tin (0.4 mm thick)

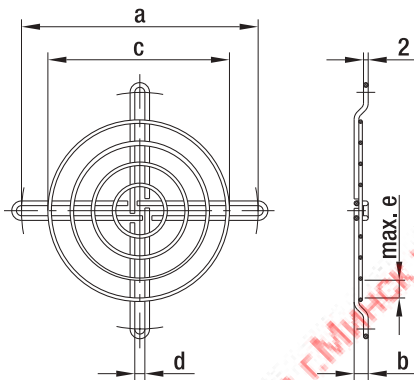


Finger guards for centrifugal blowers with single inlet

Fan size	Order no.	a	b	c	Highlights
085	09489-2-4039	90.0	74.0	84.0	3 drilled holes staggered by 120°
108	09490-2-4039	126.0	110.0	118.0	
120	09494-2-4039	140.0	124.0	132.0	
140 / 146	09492-2-4039	168.0	152.0	158.0	
160	09503-2-4039	183.0	170.0	175.0	see picture fan size 160

Subject to change

All measurements are given in mm.



- **Material:** Steel wire

Finger guards for centrifugal blowers with single inlet

Fan size	Order no.	a	b	c	d	e	Coating
076 / 085	98214-2-4039	101.0	6.0	79.0	4.3	8.0	Plastic coated, silver-metallic gloss
108	98214-2-4039	120.0	3.5	88.0	4.3	8.0	Plastic coated, silver-metallic gloss
140 / 146	25028-2-4039	162.0	8.5	139.0	4.3	8.0	Galvanized, chromitized in blue
160	17729-2-4039	175.0	3.5	139.0	4.6	7.0	Galvanized, chromitized in blue

Subject to change

All measurements are given in mm.

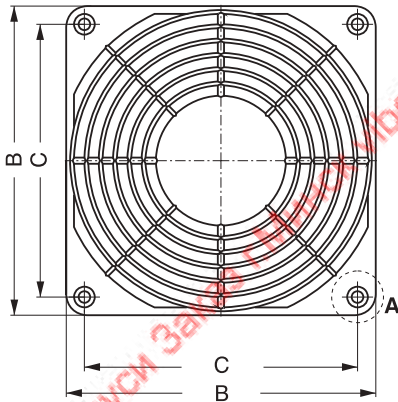
Finger guards



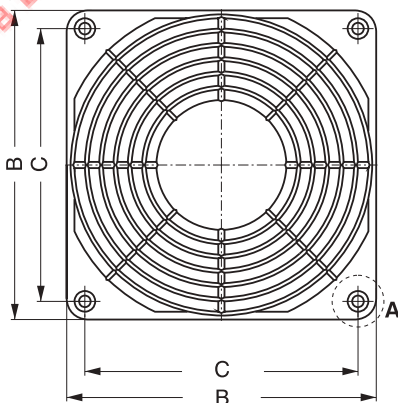
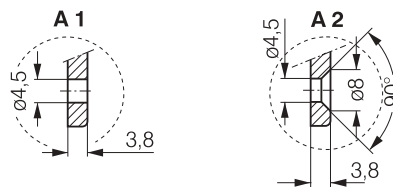
- **Material:** Fiberglass-reinforced plastic
- **Note:** Finger guard according to DIN EN ISO 13857 (previously EN 294). Plastic guards may not be used for the following models:
8200 JH3 / JH4
3200 JH3 / JH4
4100 NH5 - NH8

Fan size	Fan series	Type	Order number	B	C	D	E	Mounting
60 x 60	600 F, 620, 630, 600 N, 600 J	LZ28-3	9920028003	60 ^{-0.5}	50.0 ^{+0.2}	3.0	24	A3
80 x 80	8450, 8400 N, 8300 N, 8200 J, 8000 N, CoR 8200 J	LZ32-2	9920032002	80 ^{-0.5}	71.5 ^{+0.2}	7.0	34	A1
		LZ32-P	9920032001					A2
		LZ32-3	9920032003					A3
92 x 92	3400 N, 3300 N, 3200 J, 3250 J, 3900, 3000	LZ23-2	9920023002	92 ^{-0.5}	82.5 ^{+0.2}	6.5	46	A1
		LZ23-3	9920023003					A3
119 x 119	4400 F, 4400 FN, 4300 N, 4400, 4100 N, 4000 N, 4000 Z, 9900, DV 4100	LZ30-5	9920030005	119 ^{-0.5}	105 ^{+0.2}	6.5	50	A2
		LZ30-6	9920030006					A4
		LZ30-P	9920030001					A2
127 x 127	5200 N, DV 5200, 5900	LZ33-1	9920033001	127 ^{-0.5}	113 ^{+0.2}	6.5	50	A2
		LZ33-2	9920033002					A4

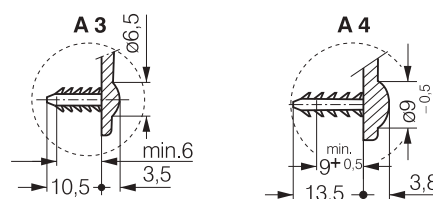
Subject to change All measurements are given in mm.



Screw connection



Barbed inserts



Only suitable for bore hole diameter 4.3 - 4.7.

Filter fan guards

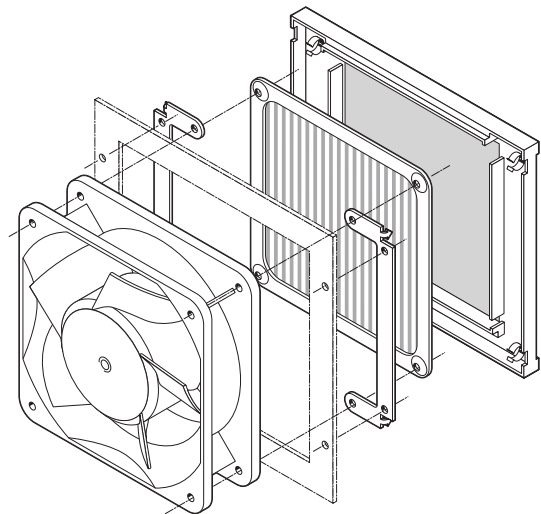
119 x 119



- **Material:** Filter guard LZ40 N: black, fiberglass-reinforced plastic with inserted wire mesh LZ60.
Coarse filter LZ60: stainless steel wire mesh
Mounting lug LZ40-1 for mounting

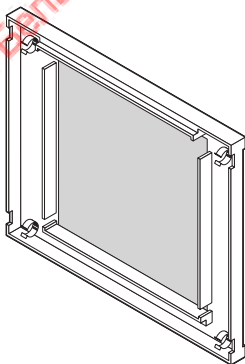
DC fan series	AC fan series	ACi fan series
4400 F	AC 4300	ACi 4400
4400 FN	9900	ACi 4400 N
4300 N	4000 N	
4400	4000 Z	
4100 N	AC 4400 FN	
DV 4100		

Subject to change All measurements are given in mm.



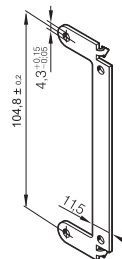
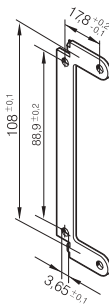
LZ40N

Filter guard



LZ40-1

Mounting lug



LZ60

Coarse filter



Filter fan guards



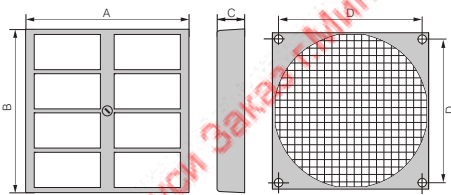
- **Material:** Guard cover: Injection-molded polycarbonate (PC) with mat surface.
Mounting plate: wire mesh with black powder coating
Filter pad: white, synthetically bonded fibers
- **Note:**
Filter fan guards suitable for fitting on axial fan series in sizes: 60 mm, 80 mm, 92 mm, 119 mm, \varnothing 172 mm. All filter units fit directly on the existing mounting holes of the fans.
Filter fan guards consisting of 3 parts: external guard cover, internal mounting plate, and replaceable filter pad.
The filter pad can be replaced quickly and easily via a quick release on the guard cover.
The filter pads can be replaced even while the fan is running, as protection is provided by the welded wire mesh.

Fan size	Fan series	Type	Order number	A	B	C	D	Replacement filter*
60 x 60	600 F, 620, 630, 600 N, 600 J	FF60	9920034001	65	65	13.5	50.0	RF 60
80 x 80	8450, 8400 N, 8300 N, 8200 J, 8000 N, CoR 8200 J	FF80	9920034002	85	85	14.0	71.5	RF 80
92 x 92	3400 N, 3300 N, 3200 J, 3250 J, 3900, 3000	FF92	9920034003	125	105	17.5	82.5	RF 92
119 x 119	4400 F, 4400 FN, 4300 N, 4400, 4100 N, 4000 N, 4000 Z, 9900, DV 4100	FF119	9920034004	162	136	18.5	104.5	RF 119
\varnothing 172 172 x 150 172 x 160	DV 6300, 6300, 6300 N, 6300 TD, 6300 NTD, DV 6300 TD, DV 6400, 6400, 6400 TD, DV 6400 TD	FF172	9920034005	226	190	19.5	162.0	RF 172

Subject to change * Replacement filter available only in packages of 5.
All measurements are given in mm.

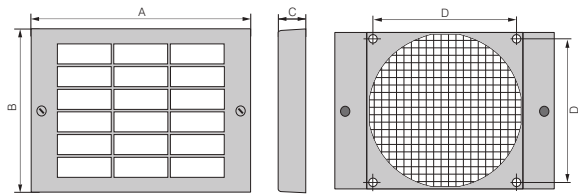
FF60 / FF80

Fan size: 60 x 60 mm / 80 x 80 mm



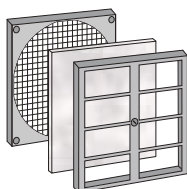
FF92 / FF 119

Fan size: 92 x 92 mm / 119 x 119 mm



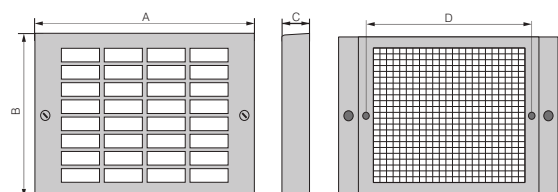
Filter performance

The filter fan guard filters 75 % of dust particles with a size of 5-10 microns and can withstand temperatures of up to 100 °C. Filter class G3 according to DIN EN 779. Flame-retardant according to DIN 53438, class F1. When a clean filter is installed, a reduction of air flow of 20-30 % is possible.



FF 172

Fan size: \varnothing 172 mm



Finger guards

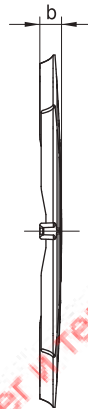
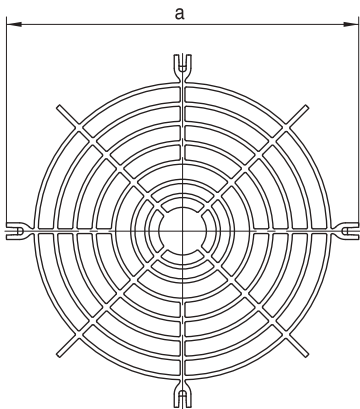
For compact centrifugal modules

- **Material:** PA plastic, fiberglass-reinforced
- **Highlights:** Flame protection class in line with UL 94V-0



Fan size	Fan series	Type	Order number	a	b
Ø 190	RG 190 TD	LZ46-1	9920046001	133	9.0
Ø 220	RG 220 TD	LZ47-1	9920047001	166	8.7
Ø 225	RG 225 TD	LZ48-1	9920048001	158	8.7

Subject to change All measurements are given in mm.



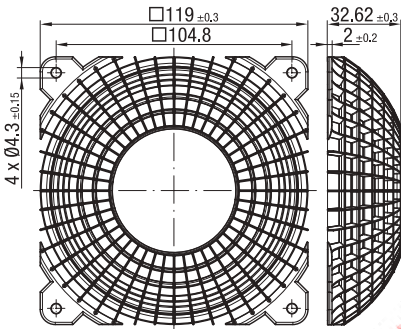
Air inlet grill



- **Material:** PA plastic, fiberglass-reinforced
- **Note:** For axial and diagonal fans
Assembled on the air intake, the fan grid reduces the noise emission dramatically and minimizes disturbing low frequency sound.

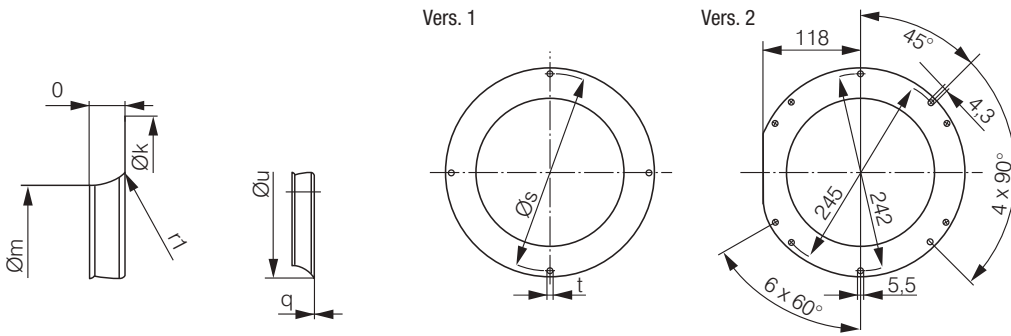
Fan size	Fan series	Type	Order number	Side	Drawing see page
119 x 119	ACi 4400, ACi 4400 N, 4400, 4400 F, 4400 FN, AC 4400 FN, AC 4300, 4300 N, 4100 N, 4000 N, 4000 Z, 9900, DV 4100	FG 119	9920070000	Intake side	265
Subject to change					All measurements are given in mm.

FG 119 Fan size 119 x 119



Inlet rings

For centrifugal fans



– **Material:**
Galvanized sheet steel

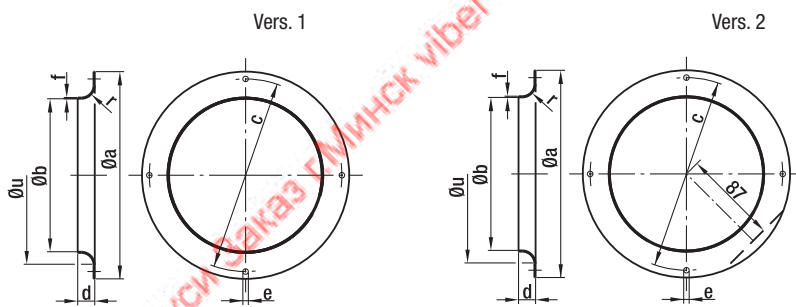
Inlet rings for backward curved centrifugal fans

Fan size ⁽¹⁾	Type	Order number	Version	k	m	o	q	r ₁	s	t	u
RER 120 (S)/ 120 (P)	LZ 1000-120	96120-2-4013	1	146.0	94.4	18.0	0.80	16.0	134.0	4x4.5	126.0
RER 133 (P)	LZ 1000-133	09566-2-4013	1	129.0	87.0	13.0	1.00	8.0	118.0	4x4.5	103.0
RER 160 (S)	LZ 1000-160	09569-2-4013	1	142.0	100.0	9.0	1.00	8.0	132.0	4x4.5	—
RER 175/190 (P)	LZ 1000-175	09576-2-4013	1	170.0	125.5	14.0	1.25	10.0	158.0	4x4.5	146.0
RER 220 TD (P)	LZ 1000-220	09609-2-4013	2	252.0	155.0	21.0	0.80	21.8	242.0	6x5.5	119.0
RER 225 TD (P)	LZ 1000-225	96358-2-4013	1	223.0	146.0	28.0	1.50	25.0	210.0	4x4.5	196.0

Subject to change

(1) Fan size with key for impeller material: (P) = plastic, (S) = sheet steel, (A) = aluminum

All measurements are given in mm.



Inlet rings for forward curved centrifugal fans

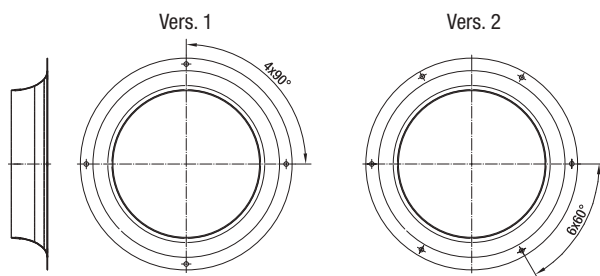
Fan size	Order number	Version	a	b	c	d	e	f	r	u	Highlights
085	09560-2-4013	1	92.0	63.4	84.0	6.0	3x4.2	0.80	6.8	—	3 drilled holes staggered by 120°
097	09563-2-4013	1	116.0	80.0	108.0	10.0	3x4.5	0.80	10.0	—	3 drilled holes staggered by 120°
108	09566-2-4013	1	129.0	87.0	118.0	13.0	4x4.5	1.00	8.0	—	
120	09569-2-4013	1	142.0	100.0	132.0	9.0	4x4.5	1.00	8.0	—	
133	09572-2-4013	1	150.0	112.0	142.0	12.0	4x4.5	1.00	10.0	—	
140 / 146	09576-2-4013	1	170.0	125.5	158.0	14.0	4x4.5	1.25	10.0	—	
160	09588-2-4013	2	185.0	130.0	175.0	17.0	4x4.5	0.75	12.0	—	

Subject to change

All measurements are given in mm.

Inlet rings / air filter

For centrifugal fans



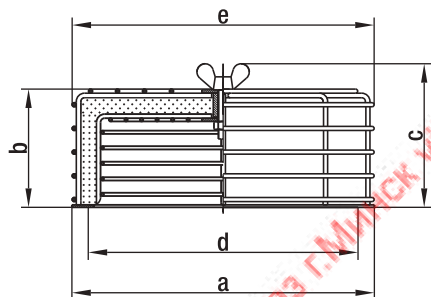
Material: Galvanized sheet steel

Inlet rings without measuring device for backward curved centrifugal fans

Fan size	Order number	Version	Dimensions
190	09576-2-4013	1	See corresponding product page
220	09609-2-4013	2	See corresponding product page
225	96358-2-4013	1	See corresponding product page
250	96359-2-4013	1	See corresponding product page
280	28000-2-4013	1	See corresponding product page
310	31000-2-4013	1	See corresponding product page

Subject to change

All measurements are given in mm.



- **Material:** Steel wire or sheet steel, plastic coated in RAL no. 9005, black
- **Filter:** Viledon filter type R: PSB / 29 OS (according to DIN 24185)
Separation capacity: < 86 %
Efficiency: < 20 %
Dust binding capacity: 650 g/m²

Air filters for centrifugal blowers (with die-cast aluminum housing)

Fan size	Order number	a	b	c	d	e	Replacement filter
108 / 120	95777-1-5171	142.0	66.0	83.0	118-132	145.0	95779-1-5171
140 / 146 / 160	95778-1-5171	185.0	74.0	91.0	158-175	185.0	95780-1-5171

Subject to change

All measurements are given in mm.

Cables

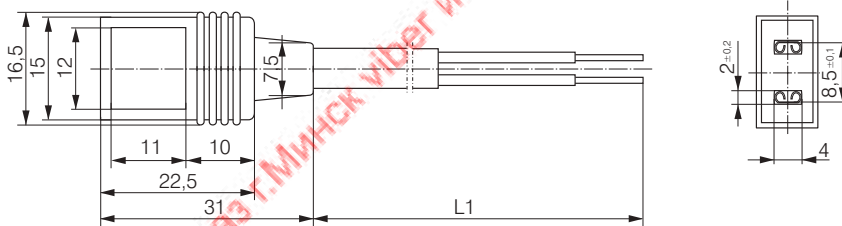


- Cable with molded plug connection in varying lengths.
- Wire end with wire end ferrules, crimped ferrules, or tin-plated.
- Straight or angled plug.
- For all fan types with flat plug 2.8 / 3.0 x 0.5.

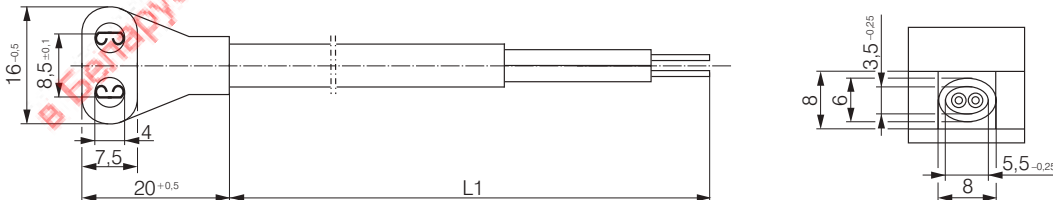
Order number	Type	L1 (mm)	Wires	Plug	Wire end	Flat push-on receptacle	Application
9920120000	LZ120	610	0.5 mm ²	G	C	2.8 x 0.5	AC
9920120004	LZ120-4	2 000	0.5 mm ²	G	A	2.8 x 0.5	AC
9920120005	LZ120-5	380	0.5 mm ²	W	B	2.8 x 0.5	DC
9920120006	LZ120-6	610	0.5 mm ²	W	B	2.8 x 0.5	DC
9920120010	LZ120-10	2 500	0.5 mm ²	G	B	2.8 x 0.5	AC
9920120011	LZ120-11	2 000	0.5 mm ²	G	A	2.8 x 0.5	DC
9920120013	LZ120-13	5 000	0.5 mm ²	G	B	2.8 x 0.5	AC
9920120016	LZ120-16	800	0.5 mm ²	G	B	2.8 x 0.5	AC
9920120017	LZ120-17	3 000	0.5 mm ²	G	A	2.8 x 0.5	AC
9920120018	LZ120-18	4 000	0.5 mm ²	G	A	2.8 x 0.5	AC
9920126000	LZ126	1 000	0.5 mm ²	G	C	2.8 x 0.5	AC
9920127000	LZ127	1 600	0.5 mm ²	G	B	2.8 x 0.5	AC
9920130001	LZ130-1	610	0.82 mm ²	G	C	2.8 x 0.5	AC *
9920140000	LZ140	610	0.73 mm ²	G	B	2.8 x 0.8	AC

All measurements are given in mm. * UL-approved

Cable Straight plug (G)



Cable Angled plug (W)



Wire end ferrules

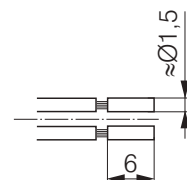
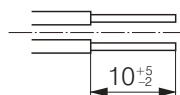
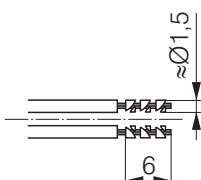
Wire end A

Tin-plated

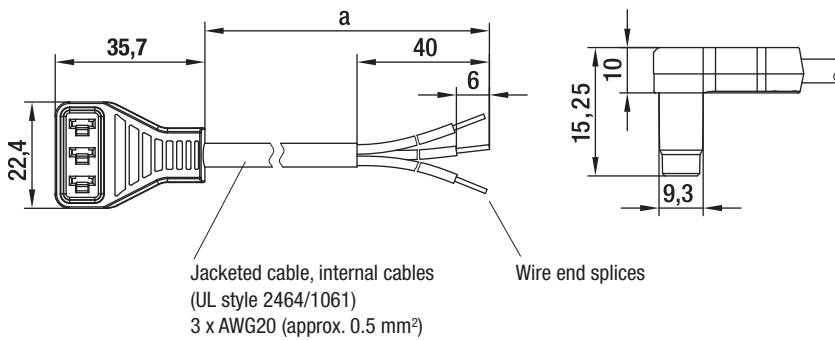
Wire end B

Wire end ferrules

Wire end C



Cable (ESM) / Handheld Programmer



- **Design:** Cable conforms to UL standards sealed plug. Customized cables on request.

Cables for energy-saving motors 115/230 VAC

Order number	a
13060-4-1040	450
13061-4-1040	1500

Subject to change



- Easy speed programming
- Battery operated
- User-friendly navigation menu
- Protective cover with folding stand

For Energy Saving Motor (ESM) based products

Order number

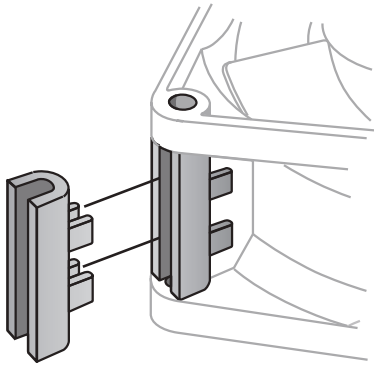
CBC 000-AF08-01

Subject to change

Makes quick work of programming the two ESM adjustable operating speeds. Eliminates the need for a PC, software adapter and second cable. Especially for use in production or by sales representatives. Automatic shut-off function for extended battery life. Mini USB plug for downloading software updates. Batteries, programming cable, and operating instructions included in scope of delivery.

Accessories

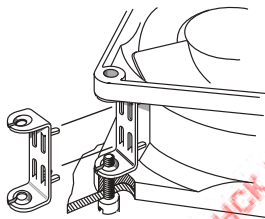
In addition to the accessories and installation parts listed here, ebm-papst also supplies a number of additional, sometimes very special parts for fans. Our company sales team is happy to offer you their expert assistance with all your questions regarding the installation and use of our fans.



Fan series	Type	Order number
4300 N	LZ212	9920212000
3400 N, 4400 F, 8400 N, 8450	LZ261	9920261000
4000, 5100, 5200, 5600, 5900, 7100, 7200, 9000	LZ210	9920210000
6200, 6300, 6300 N, 6400, 7100, 7200	LZ215	9920215000
For all temperature-controlled fans	LZ370	4871104201
For all fans with mounting holes of 4.3 mm	LZ550	6030020000
	LZ551	6030053002

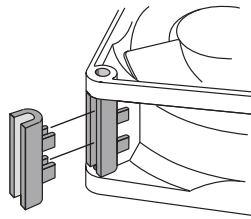
Subject to change

LZ212



Screw clip of rustproof spring steel.
For mounting fans with threaded pin
3.5 DIN EN ISO 1478 (7970).

LZ261



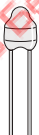
Spacer of fiberglass-reinforced plastic.
For mounting with screws through both fan
mounting flanges.

LZ210



Screw clip of hardened steel.
For mounting fans with threaded pin 6-32 UNC
or 3.5 DIN 7970.

LZ370

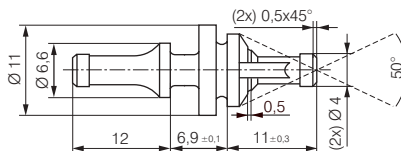


Required performance data:

R_{25} = 100 K Ω \pm 5% @25°C
B-value = 4190 \pm 2%
 P_{max} = 0,25 W

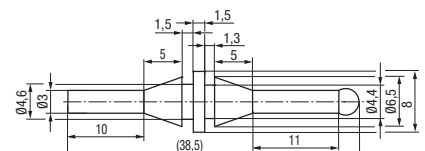
Temperature sensor for speed-controlled fan
operation. Temperature range 30...50 °C.

LZ550



Rubber anti-vibration mounts
for fans with a hole diameter of 4.3 \pm 0.2 mm
and flange thickness of 3 to 5.5 mm.
For a carrier plate with a hole diameter of
6.5 \pm 0.15 mm and plate thickness of 1 to 2 mm.

LZ551



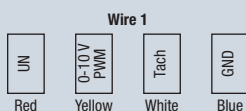
Rubber anti-vibration mounts
for fans with a hole diameter of 4.3 \pm 0.2 mm
and flange thickness of 2 to 4 mm.
For a carrier plate with a hole diameter of
4.4 \pm 0.15 mm and plate thickness of 1 to 2 mm.

Connection diagrams EC

E)

Technical features (nominal voltage 24 / 48 VDC):

- Tach output
- Motor current limitation
- Soft start
- Control input 0-10 VDC / PWM
- Overvoltage detection
- Thermal overload protection for electronics
- Reverse polarity protection



Wire	Designation	Color	Assignment/function
1	UN +24 VDC	Red	Power supply 24 VDC, supply voltage ripple $\pm 3.5\%$
	0-10V /PWM	Yellow	Control input $R_e > 40\text{ K}$
	Tach	White	Tach output, 3 pulses per revolution, $I_{\text{sink max.}} = 10\text{ mA}$
	GND	Blue	Reference ground

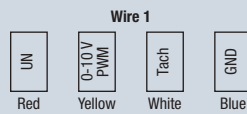
в Беларусі Закаж г.Мінск viber и тел. +375447584780 email: minsk17@tut.by www.tiristor.by

Connection diagrams EC

G)

Technical features (nominal voltage 24 / 48 VDC):

- Tach output
- Soft start
- Control input 0-10 VDC / PWM



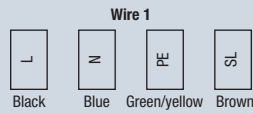
Wire	Designation	Color	Assignment/function
1	UN +24 VDC	Red	Power supply 24/48 VDC, supply voltage ripple $\pm 3.5\%$
	1-10V /PWM	Yellow	Control input $R_e > 100\text{ K}$
	Tach	White	Tach output: 2 pulses/revolution (M1G045/M1G055) 3 pulses/revolution (M1G074/M1G084)
	GND	Blue	Reference ground

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Connection diagrams EC H3)

Technical features (M3G 055 with 2 speed stages):

- Speed setting input (230V)
- Power limitation
- Motor current limitation
- Soft start
- Thermal overload protection for electronics / motor
- Line undervoltage detection



Wire	Designation	Color	Assignment/function
1	L	Black	Power supply 230 VAC, 50 - 60 Hz, see type plate for voltage range
	N	Blue	Neutral conductor
	PE	Green/yellow	Ground conductor
	SL	Brown	Speed selection: switch open = speed 1; switch closed = speed 2

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Connection diagrams EC H4)

Technical features (M3G 055 speed-controlled):

- Output 10 VDC max. 1.1 mA
- Tach output
- Power limitation
- Motor current limitation
- Soft start
- Control input 0-10 VDC / PWM
- Control interface with SELV potential safely disconnected from the mains
- Overvoltage detection
- Thermal overload protection for electronics / motor
- Line undervoltage detection

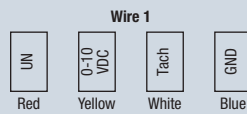


Wire	Designation	Color	Assignment/function
1	L	Black	Power supply 115/230 VAC, 50 - 60 Hz, see type plate for voltage range
	N	Blue	Neutral conductor
	PE	Green/yellow	Ground conductor
2	GND	Blue	GND - Connection for control interface
	0-10 V PWM	Yellow	Control input 0-10 V or PWM, electrically isolated
	10 V/max. 1,1 mA	Red	Voltage output +10 V / 1.1 mA, electrically isolated, not short-circuit-proof
	Tach	White	Tach output: Open collector, 1 pulse per revolution, electrically isolated

Connection diagrams EC J5)

Technical features (nominal voltage 24 / 48 VDC):

- Control input 0-10 VDC / PWM
- Output 10 VDC max. 1.1 mA
- Power limitation
- Soft start
- Motor current limitation
- Tach output
- Thermal overload protection for electronics / motor
- Overvoltage detection
- Line undervoltage detection
- Control interface with SELV potential safely disconnected from the mains



Wire	Designation	Color	Assignment/function
1	UN +24/48 VDC	Red	Power supply 24/48 VDC, supply voltage ripple $\pm 3.5\%$
	0-10 VDC	Yellow	Control input $R_e > 100\text{ K}$
	Tach	White	Tach output, 3 pulses per revolution, $I_{\text{sink max.}} = 10\text{ mA}$
	GND	Blue	Reference ground

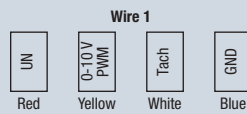
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Connection diagrams EC

Q)

Technical features:

- Tach output
- Motor current limitation
- Soft start
- Control input 0-10 VDC / PWM
- Overvoltage detection
- Thermal overload protection for electronics
- Reverse polarity protection



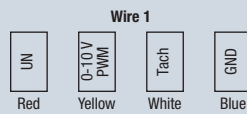
Wire	Designation	Color	Assignment/function
1	UN +12/24 VDC	Red	Power supply 12/24 VDC, supply voltage ripple \pm 3.5 %
	PWM/LIN	Yellow	Control input $R_e > 40$ K
	Tach	White	Tach output, 3 pulses per revolution, $I_{sink\ max.} = 10$ mA
	GND	Blue	Reference ground

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Connection diagrams EC R)

Technical features:

- Tach output
- Motor current limitation
- Soft start
- Control input 0-10 VDC / PWM
- Overvoltage detection
- Thermal overload protection for electronics
- Reverse polarity protection



Wire	Designation	Color	Assignment/function
1	UN +48 VDC	Red	Power supply 48 VDC, supply voltage ripple $\pm 3.5\%$
	0-10V /PWM	Yellow	Control input $R_e > 100\text{ K}$
	Tach	White	Tach output, 3 pulses per revolution, $I_{\text{sink max.}} = 10\text{ mA}$
	GND	Blue	Reference ground

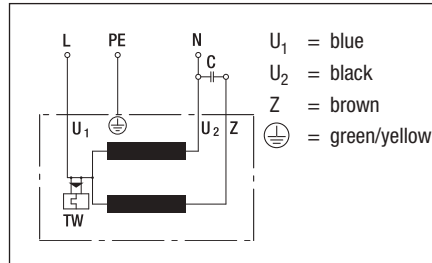
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Connection diagrams AC

A1) / A3) / C2)

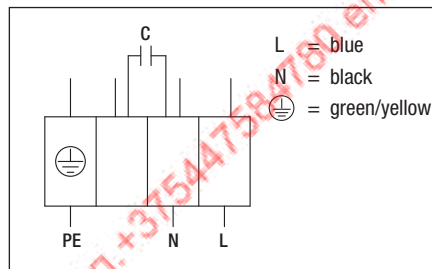
A1) Single-phase capacitor motor (1~ 115/230 VAC power line)

with thermal overload protector wired internally



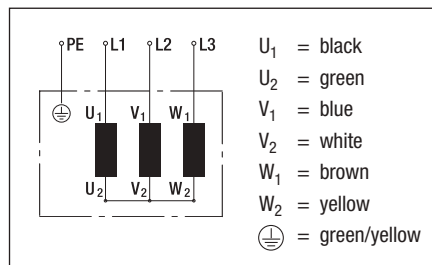
A3) Single-phase capacitor motor (1~ 115/230 VAC power line)

with thermal overload protector wired internally



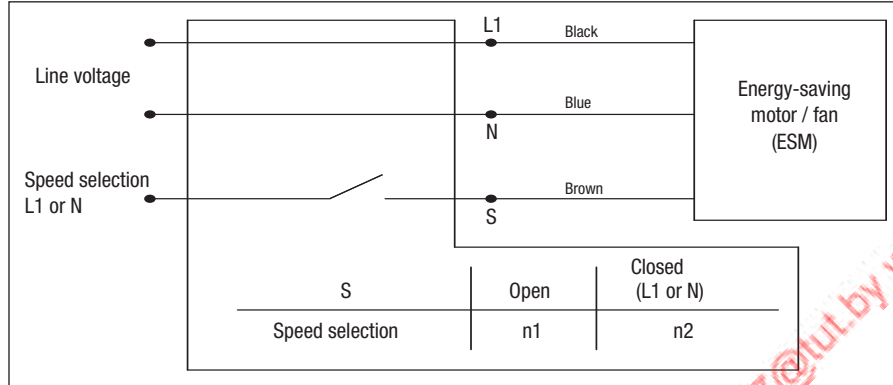
C2) Star connection (3~ 400 VAC power line)

without thermal overload protector



Connection diagrams AC J7)

J7) Energy-saving motor (ESM) (1~ 115/230 VAC power line)



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каталог, описание, технические, характеристики, datasheet, параметры, маркировка, габариты, фото,
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