

S2D200-BI18-01

# AC axial fan

sickle-shaped blades (S series)  
with guard grille for full nozzle

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## Nominal data

|                             |                   |      |      |      |      |
|-----------------------------|-------------------|------|------|------|------|
| Type                        | S2D200-BI18-01    |      |      |      |      |
| Motor                       | M2D068-BC         |      |      |      |      |
| Phase                       |                   | 3~   | 3~   | 3~   | 3~   |
| Nominal voltage             | VAC               | 230  | 230  | 400  | 400  |
| Wiring                      |                   | Δ    | Δ    | Y    | Y    |
| Frequency                   | Hz                | 50   | 60   | 50   | 60   |
| Method of obtaining data    |                   | fa   | fa   | fa   | fa   |
| Valid for approval/standard |                   | CE   | CE   | CE   | CE   |
| Speed (rpm)                 | min <sup>-1</sup> | 2600 | 2900 | 2600 | 2900 |
| Power consumption           | W                 | 68   | 70   | 68   | 70   |
| Current draw                | A                 | 0.29 | 0.22 | 0.17 | 0.13 |
| Max. back pressure          | Pa                | 85   | 90   | 85   | 90   |
| Max. back pressure          | in. wg            | 0.34 | 0.36 | 0.34 | 0.36 |
| Min. ambient temperature    | °C                | -25  | -25  | -25  | -25  |
| Max. ambient temperature    | °C                | 45   | 70   | 45   | 70   |
| Starting current            | A                 | 0.36 | 0.32 | 0.36 | 0.32 |

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment  
Subject to change



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## Technical description

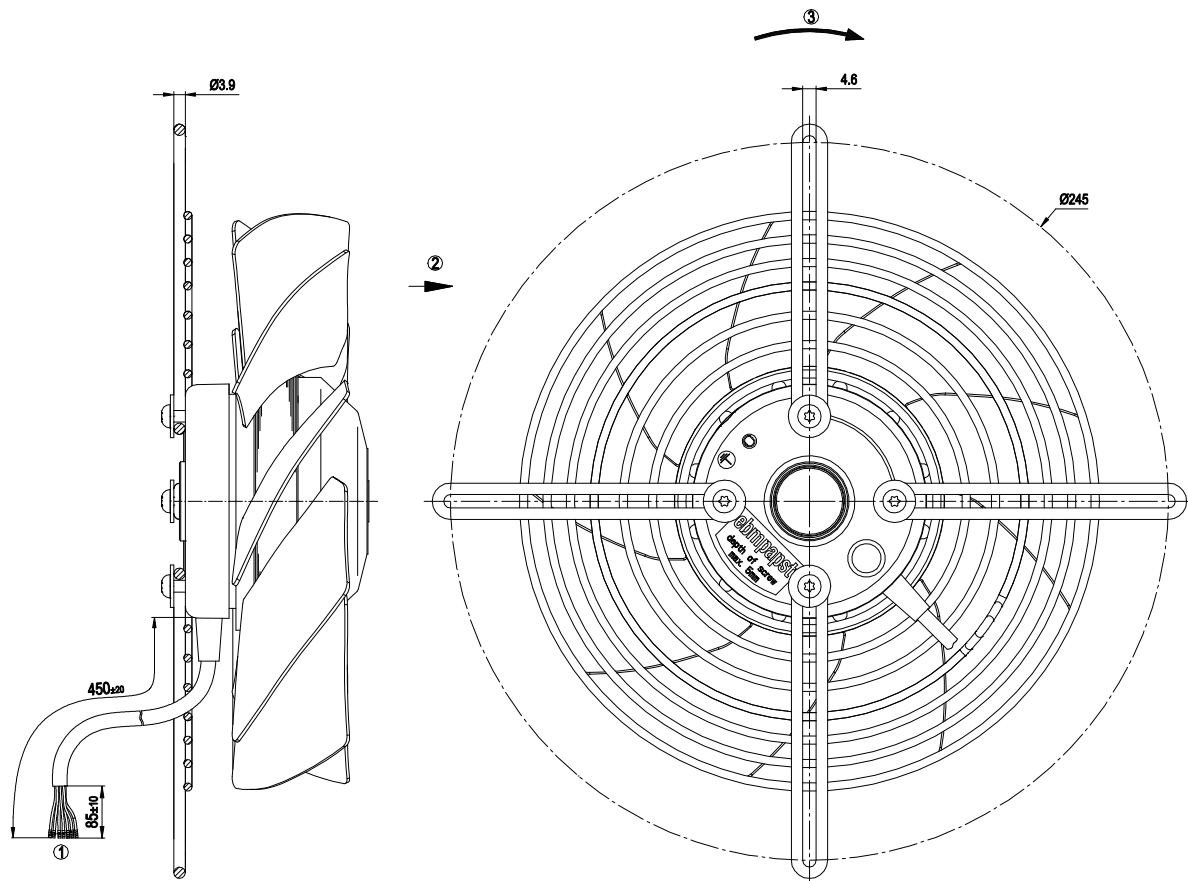
|                                                                            |                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight                                                                     | 1.6 kg                                                                                                                                                                                                                                                                                         |
| Size                                                                       | 200 mm                                                                                                                                                                                                                                                                                         |
| Motor size                                                                 | 68                                                                                                                                                                                                                                                                                             |
| Rotor surface                                                              | Painted black                                                                                                                                                                                                                                                                                  |
| Blade material                                                             | Sheet steel, painted black                                                                                                                                                                                                                                                                     |
| Guard grille material                                                      | Steel, phosphated and coated in black plastic                                                                                                                                                                                                                                                  |
| Number of blades                                                           | 9                                                                                                                                                                                                                                                                                              |
| Airflow direction                                                          | A                                                                                                                                                                                                                                                                                              |
| Direction of rotation                                                      | Counterclockwise, viewed toward rotor                                                                                                                                                                                                                                                          |
| Degree of protection                                                       | IP44                                                                                                                                                                                                                                                                                           |
| Insulation class                                                           | "B"                                                                                                                                                                                                                                                                                            |
| Moisture (F) / Environmental (H) protection class                          | H1                                                                                                                                                                                                                                                                                             |
| Max. permitted ambient temp. for motor (transport/storage)                 | +80 °C                                                                                                                                                                                                                                                                                         |
| Min. permitted ambient temp. for motor (transport/storage)                 | -40 °C                                                                                                                                                                                                                                                                                         |
| Installation position                                                      | Shaft horizontal or rotor on bottom; rotor on top on request                                                                                                                                                                                                                                   |
| Condensation drainage holes                                                | On rotor side                                                                                                                                                                                                                                                                                  |
| Mode                                                                       | S1                                                                                                                                                                                                                                                                                             |
| Motor bearing                                                              | Ball bearing                                                                                                                                                                                                                                                                                   |
| Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system) | < 0.75 mA                                                                                                                                                                                                                                                                                      |
| With cable                                                                 | Lateral                                                                                                                                                                                                                                                                                        |
| Protection class assignment                                                | I; If a protective earth is connected by the customer<br>This component for installation may have several local protection classes. This information relates to this component's basic design.<br>The final protection class is based on the component's intended installation and connection. |
| Conformity with standards                                                  | EN 60034-1; EN 60204-1; EN 60335-1, motor not provided with overheating protection at the factory; CE                                                                                                                                                                                          |
| Comment on CE                                                              | Ecodesign Directive 2009/125/EC + Fan Directive (EC) No. 327/2011 does not apply, as power consumption <125W.                                                                                                                                                                                  |
| Approval                                                                   | EAC; CCC                                                                                                                                                                                                                                                                                       |



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## Product drawing



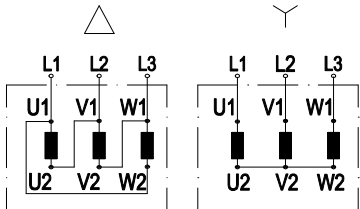
|   |                                                             |
|---|-------------------------------------------------------------|
| 1 | Cable PVC AWG20                                             |
|   | 7x splice                                                   |
| 2 | Direction of air flow "A"                                   |
| 3 | Direction of rotation counterclockwise, viewed toward rotor |



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## Connection diagram



Change of rotation direction by reversing two phases

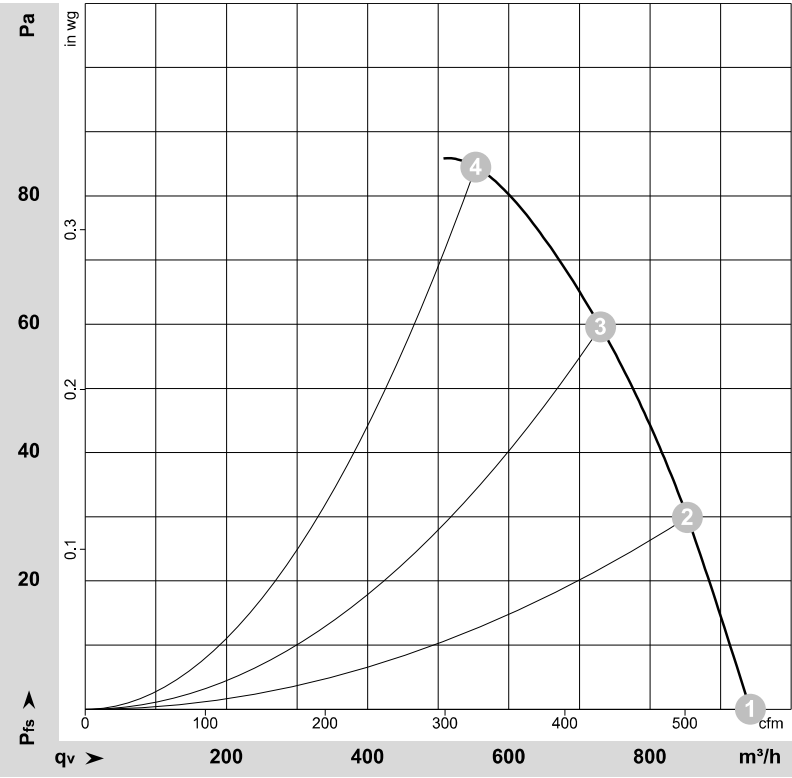
|    |                   |    |                  |    |                 |
|----|-------------------|----|------------------|----|-----------------|
|    | Three-phase motor | Δ  | Delta connection | Y  | Star connection |
| L1 | = U1 = black      | L2 | = V1 = blue      | L3 | = W1 = brown    |
| U2 | green             | V2 | white            | W2 | yellow          |



# AC axial fan

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Curves: Air performance 50 Hz



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-26980-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Measured values

|   | Wired | U   | f  | n                 | P <sub>e</sub> | I    | q <sub>v</sub>    | p <sub>fs</sub> | q <sub>v</sub> | p <sub>fs</sub> |
|---|-------|-----|----|-------------------|----------------|------|-------------------|-----------------|----------------|-----------------|
|   |       | V   | Hz | min <sup>-1</sup> | W              | A    | m <sup>3</sup> /h | Pa              | cfm            | in. wg          |
| 1 | Y     | 400 | 50 | 2600              | 68             | 0.17 | 940               | 0               | 555            | 0.00            |
| 2 | Y     | 400 | 50 | 2550              | 70             | 0.16 | 855               | 30              | 500            | 0.12            |
| 3 | Y     | 400 | 50 | 2500              | 73             | 0.16 | 730               | 60              | 430            | 0.24            |
| 4 | Y     | 400 | 50 | 2460              | 75             | 0.16 | 555               | 85              | 325            | 0.34            |

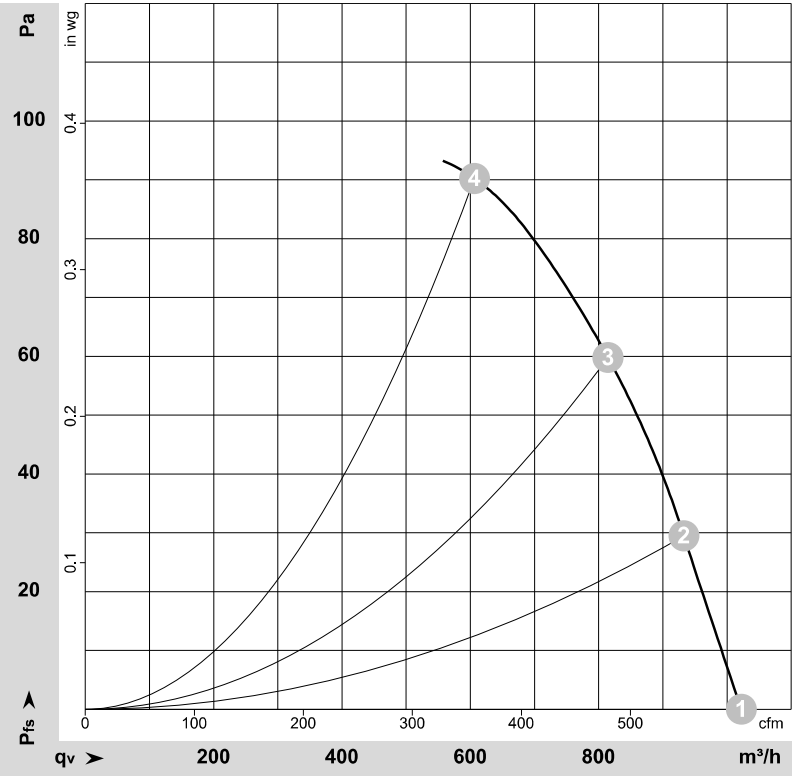
Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase



# AC axial fan

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## Curves: Air performance 60 Hz



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-26981-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

## Measured values

|   | Wired | U   | f  | n                 | P <sub>e</sub> | I    | q <sub>v</sub> | p <sub>fs</sub> | q <sub>v</sub> | p <sub>fs</sub> |
|---|-------|-----|----|-------------------|----------------|------|----------------|-----------------|----------------|-----------------|
|   |       | V   | Hz | min <sup>-1</sup> | W              | A    | m³/h           | Pa              | cfm            | in. wg          |
| 1 | Y     | 400 | 60 | 2900              | 70             | 0.13 | 1020           | 0               | 600            | 0.00            |
| 2 | Y     | 400 | 60 | 2745              | 73             | 0.14 | 935            | 30              | 550            | 0.12            |
| 3 | Y     | 400 | 60 | 2670              | 78             | 0.14 | 815            | 60              | 480            | 0.24            |
| 4 | Y     | 400 | 60 | 2590              | 82             | 0.15 | 605            | 90              | 355            | 0.36            |

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase

