

A4D400-AP12-01

AC axial fan

sickle-shaped blades (S series)



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Nominal data

| Type | A4D400-AP12-01 | | | | |
|-----------------------------|-------------------|------|------|------|------|
| Motor | M4D074-EI | | | | |
| 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 ⁻¹ | 1450 | 1690 | 1450 | 1690 |
| Power consumption | W | 135 | 185 | 135 | 185 |
| Current draw | A | 0.76 | 0.68 | 0.44 | 0.39 |
| Max. back pressure | Pa | 105 | 120 | 105 | 120 |
| Max. back pressure | in. wg | 0.42 | 0.48 | 0.42 | 0.48 |
| Min. ambient temperature | °C | -25 | -25 | -25 | -25 |
| Max. ambient temperature | °C | 40 | 40 | 40 | 40 |
| Starting current | A | 3.0 | 3.0 | 1.7 | 1.7 |

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

Data according to Commission Regulation (EU) 327/2011 (EN 17166)

| | | Actual | Req. 2015 | | | |
|-----------------------------------|---|--------|-----------|-------------------------------|-------------------|------|
| 01 Overall efficiency η_{es} | % | 34.4 | 29.3 | 09 Power consumption P_e | kW | 0.2 |
| 02 Measurement category | | A | | 09 Air flow q_v | m ³ /h | 2805 |
| 03 Efficiency category | | Static | | 09 Pressure increase p_{fs} | Pa | 92 |
| 04 Efficiency grade N | | 45.1 | 40 | 10 Speed (rpm) n | min ⁻¹ | 1390 |
| 05 Variable speed drive | | No | | 11 Specific ratio* | | 1.00 |

Data obtained at optimum efficiency level.

* Specific ratio = $1 + p_{fs} / 100\,000\text{ Pa}$

LU-195802

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings). The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again. The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).



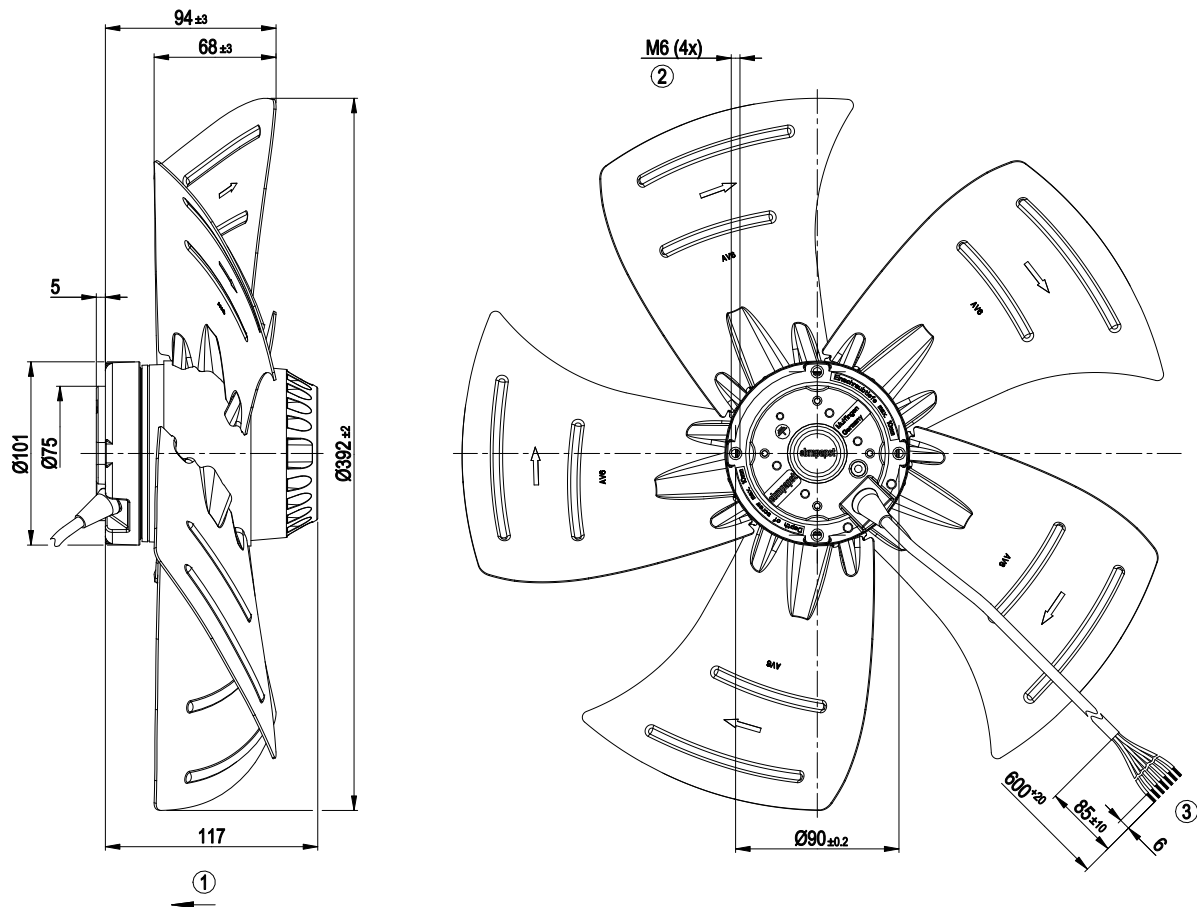
Technical description

| | |
|---|--|
| Weight | 3.3 kg |
| Size | 400 mm |
| Motor size | 74 |
| Rotor surface | Painted black |
| Blade material | Sheet steel, painted black |
| Number of blades | 5 |
| Airflow direction | V |
| Direction of rotation | Counterclockwise, viewed toward rotor |
| Degree of protection | IP44; installation- and position-dependent as per EN 60034-5 |
| 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 | Variable |
| Protection class | I (with customer connection of protective earth) |
| Conformity with standards | EN 60335-1, motor does not have factory-installed overheating protection; CE; UKCA |
| Approval | EAC; CCC |

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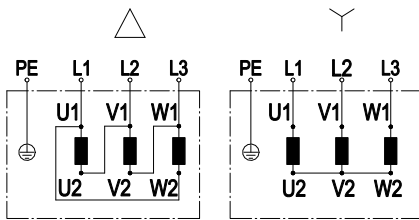
Product drawing



| | |
|---|---|
| 1 | Direction of air flow "V" |
| 2 | Max. clearance for screw 10 mm |
| 3 | Cable PVC 7G 0.5 mm ² , 7x crimped splices |



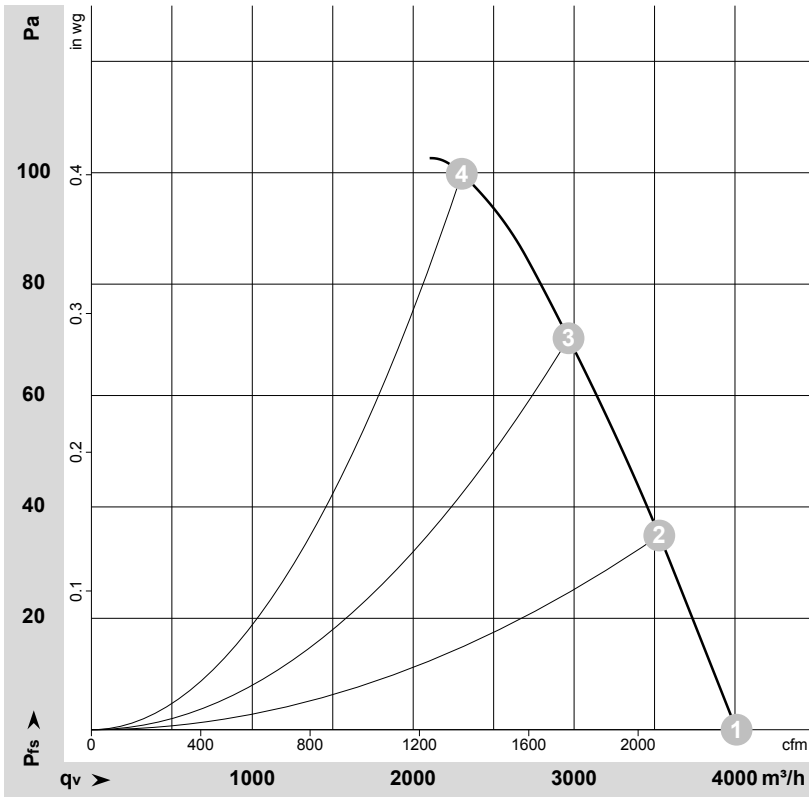
Connection diagram



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 |
| PE | green/yellow | | | | |

Curves: Air performance 50 Hz



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

Measurement: LU-27622-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. 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.

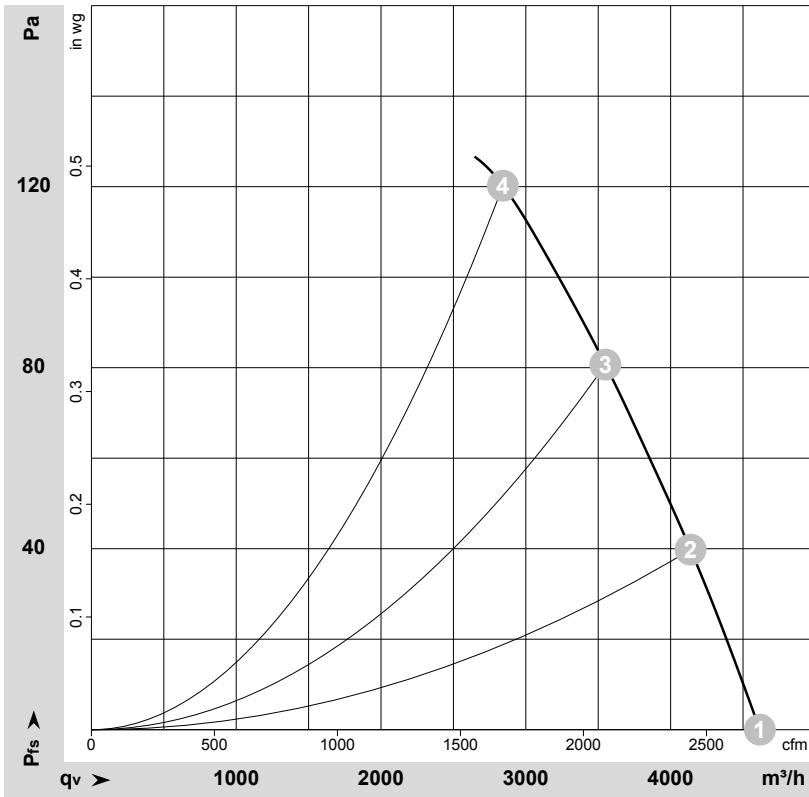
Measured values

| | Wired | U | f | n | P _e | I | q _v | p _{fs} | q _v | p _{fs} |
|---|-------|-----|----|-------------------|----------------|------|-------------------|-----------------|----------------|-----------------|
| | | V | Hz | min ⁻¹ | W | A | m ³ /h | Pa | cfm | in. wg |
| 1 | Y | 400 | 50 | 1450 | 135 | 0.44 | 4010 | 0 | 2360 | 0.00 |
| 2 | Y | 400 | 50 | 1435 | 161 | 0.47 | 3530 | 35 | 2080 | 0.14 |
| 3 | Y | 400 | 50 | 1420 | 183 | 0.49 | 2965 | 70 | 1745 | 0.28 |
| 4 | Y | 400 | 50 | 1410 | 204 | 0.50 | 2300 | 100 | 1355 | 0.40 |

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase



Curves: Air performance 60 Hz



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

Measurement: LU-27623-1

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 _e | I | q _v | p _{fs} | q _v | p _{fs} |
|---|-------|-----|----|-------------------|----------------|------|-------------------|-----------------|----------------|-----------------|
| | | V | Hz | min ⁻¹ | W | A | m ³ /h | Pa | cfm | in. wg |
| 1 | Y | 400 | 60 | 1690 | 185 | 0.39 | 4615 | 0 | 2715 | 0.00 |
| 2 | Y | 400 | 60 | 1660 | 223 | 0.45 | 4140 | 40 | 2435 | 0.16 |
| 3 | Y | 400 | 60 | 1635 | 257 | 0.49 | 3550 | 80 | 2090 | 0.32 |
| 4 | Y | 400 | 60 | 1605 | 292 | 0.54 | 2840 | 120 | 1675 | 0.48 |

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

