

AC axial fan

sickled blades (S series), single inlet

Wall ring with guard grille

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Nominal data

| Type | W4D400-DP12-41 | | | | |
|-------------------------------|-------------------|------|------|------|------|
| Motor | M4D074-EI | | | | |
| Phase | | 3~ | 3~ | 3~ | 3~ |
| Nominal voltage | VAC | 380 | 400 | 400 | 480 |
| Connection | | Y | Y | Y | Y |
| Frequency | Hz | 50 | 50 | 60 | 60 |
| Type of data definition | | fa | fa | fa | fa |
| Valid for approval / standard | | CE | CE | CE | CE |
| Speed | min ⁻¹ | 1430 | 1450 | 1690 | 1640 |
| Power input | W | 145 | 135 | 185 | 250 |
| Current draw | A | 0.48 | 0.44 | 0.39 | 0.6 |
| Max. back pressure | Pa | 130 | 150 | 120 | 130 |
| Min. ambient temperature | °C | -25 | -25 | -25 | -25 |
| Max. ambient temperature | °C | 60 | 60 | 60 | 55 |
| Starting current | A | 1.7 | 1.7 | 1.7 | |

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data according to ErP directive

| | |
|-----------------------|--------|
| Installation category | A |
| Efficiency category | Static |
| Variable speed drive | No |
| Specific ratio* | 1.00 |

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

| | | Actual | Request 2013 | Request 2015 |
|--------------------------------|-------------------|--------|--------------|--------------|
| Overall efficiency η_{es} | % | 32.7 | 25.1 | 29.1 |
| Efficiency grade N | | 43.6 | 36 | 40 |
| Power input P_e | kW | 0.19 | | |
| Air flow q_v | m ³ /h | 2595 | | |
| Pressure increase p_{fs} | Pa | 91 | | |
| Speed n | min ⁻¹ | 1415 | | |

Data definition with optimum efficiency. LU-27622
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.



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Technical features

| | |
|---|---|
| Mass | 9.4 kg |
| Size | 400 mm |
| Surface of rotor | Coated in black |
| Material of blades | Sheet steel, coated in black |
| Material of wall ring | Sheet steel, galvanised and coated in black plastic (RAL 9005) |
| Material of guard grille | Steel, coated in black plastic (RAL9005) |
| Number of blades | 5 |
| Direction of air flow | "V" |
| Direction of rotation | Counter-clockwise, seen on rotor |
| Type of protection | IP 44; Depending on installation and position as per EN 60034-5 |
| Insulation class | "F" |
| Humidity class | F2-2 |
| Max. permissible ambient motor temp. (transp./ storage) | + 80 °C |
| Min. permissible ambient motor temp. (transp./storage) | - 40 °C |
| Mounting position | Shaft horizontal or rotor on bottom; rotor on top on request |
| Condensate discharge holes | Rotor-side |
| Operation mode | S1 |
| Motor bearing | Ball bearing |
| Touch current acc. IEC 60990 (measuring network Fig. 4, TN system) | < 0.75 mA |
| Motor protection | Thermal overload protector (TOP) wired internally |
| Cable exit | Variable |
| Protection class | I (if protective earth is connected by customer) |
| Product conforming to standard | CE |
| Approval | CSA C22.2 Nr.100; UL 1004-1 |

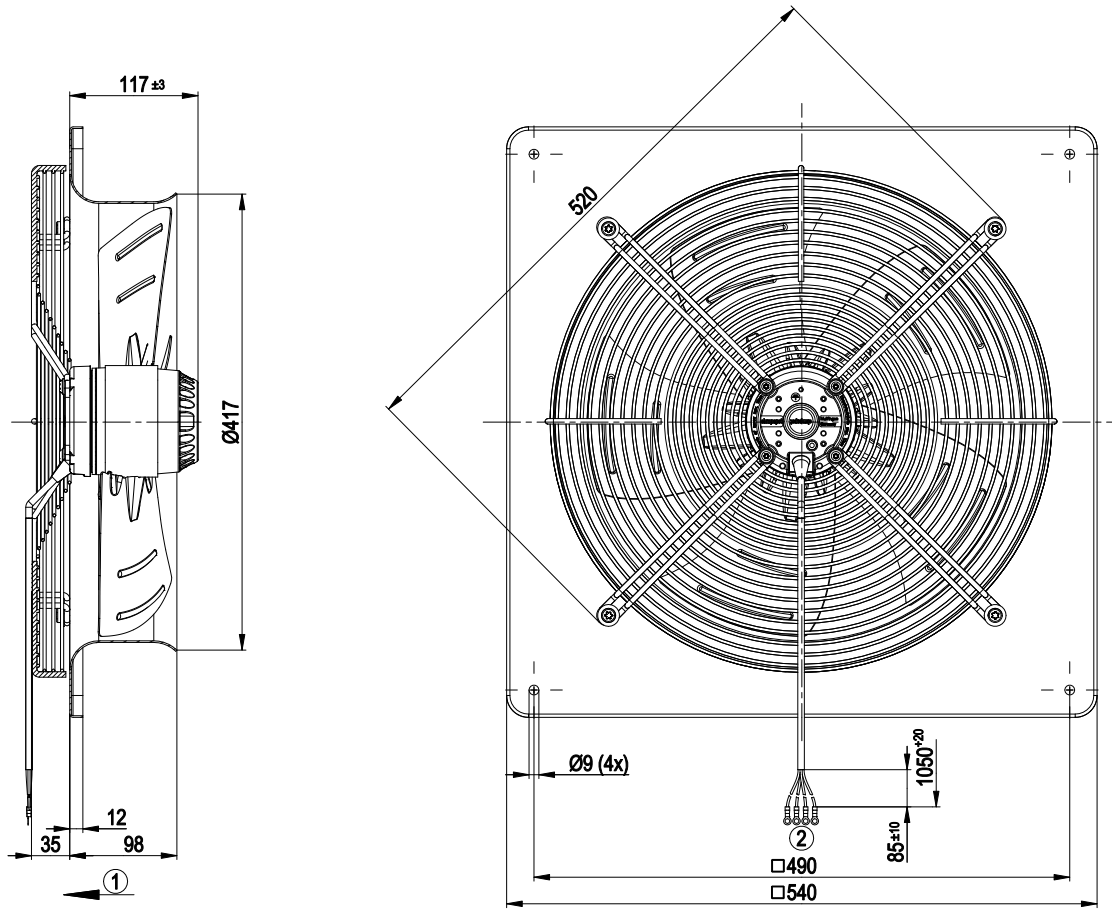


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Product drawing



- | | |
|---|---|
| 1 | Direction of air flow "V" |
| 2 | Connection line PFA AWG18, 1x lead tip crimped, connection line PFA AWG20, 3x lead tips crimped |

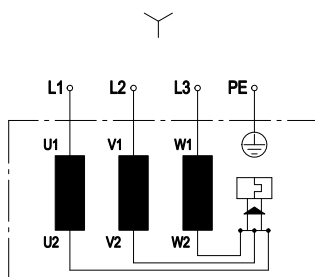


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Connection screen



Change direction of rotation by reversing two phases

| | | | | | |
|----|-------------------|----|-----------------|----|----------------|
| | Three-phase motor | Y | Star connection | L1 | = U1 = black |
| L2 | = V1 = blue | L3 | = W1 = brown | PE | green / yellow |

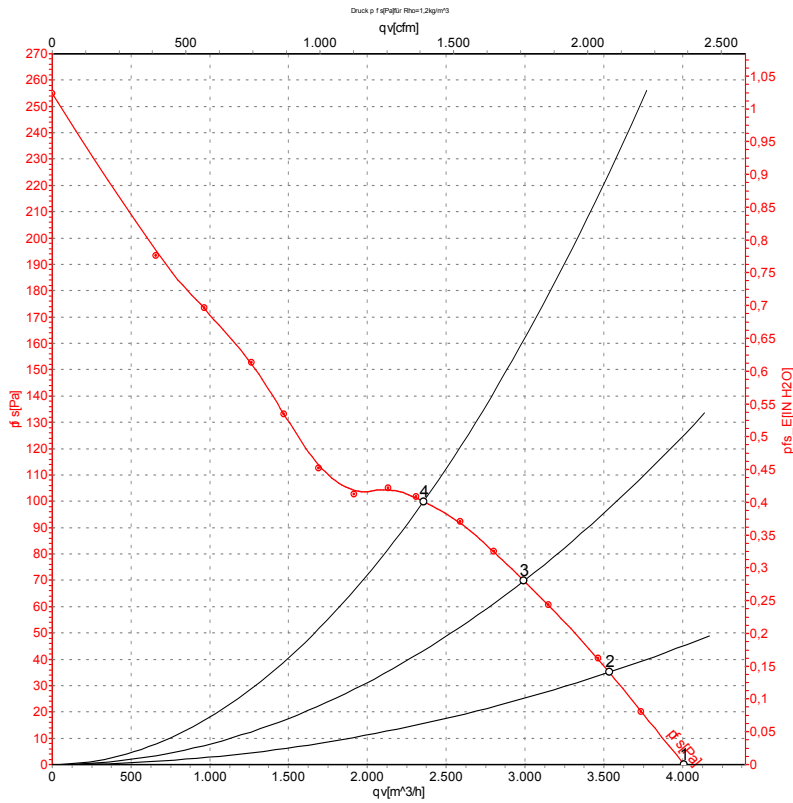


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Charts: Air flow 50 Hz



Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebmpapst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

| | Conn. | U | f | n | Pe | I | LpA _{in} | LwA _{in} | qv | p _{fs} |
|---|-------|-----|----|-------------------|-----|------|-------------------|-------------------|-------------------|-----------------|
| | | V | Hz | min ⁻¹ | W | A | dB(A) | dB(A) | m ³ /h | Pa |
| 1 | Y | 400 | 50 | 1450 | 135 | 0.44 | 65 | 74 | 4000 | 0 |
| 2 | Y | 400 | 50 | 1435 | 161 | 0.47 | 65 | 73 | 3535 | 35 |
| 3 | Y | 400 | 50 | 1420 | 182 | 0.49 | 65 | 72 | 2995 | 70 |
| 4 | Y | 400 | 50 | 1410 | 203 | 0.50 | 67 | 74 | 2355 | 100 |

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed · Pe = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side
 qv = Air flow · p_{fs} = Pressure increase

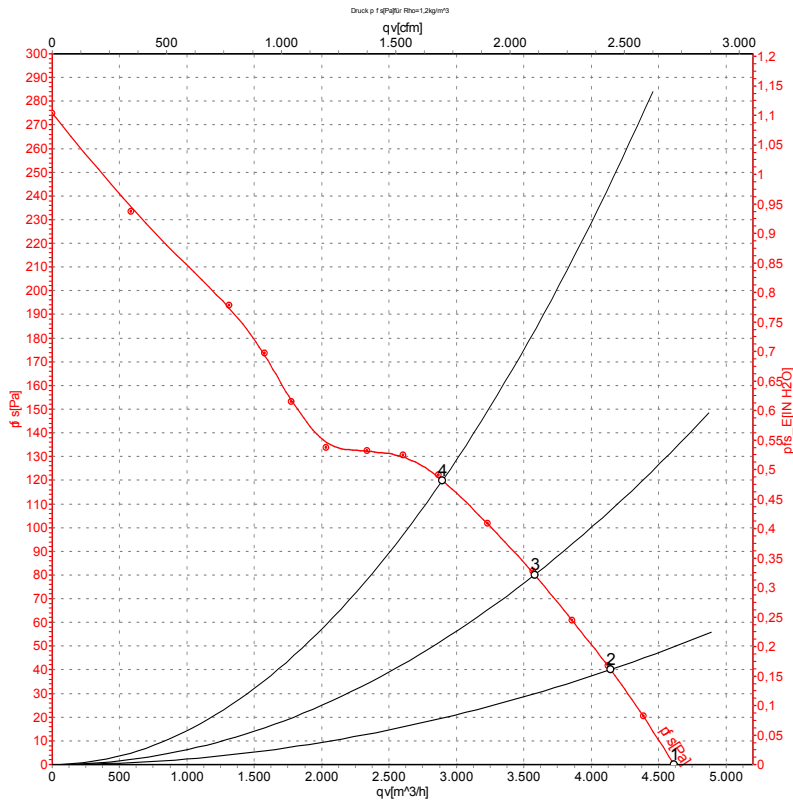


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Charts: Air flow 60 Hz



Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

| | Conn. | U | f | n | P _e | I | LpA _{in} | LwA _{in} | qv | p _{fs} |
|---|-------|-----|----|-------------------|----------------|------|-------------------|-------------------|-------------------|-----------------|
| | | V | Hz | min ⁻¹ | W | A | dB(A) | dB(A) | m ³ /h | Pa |
| 1 | Y | 400 | 60 | 1690 | 185 | 0.39 | 69 | 76 | 4615 | 0 |
| 2 | Y | 400 | 60 | 1660 | 223 | 0.45 | 70 | 76 | 4145 | 40 |
| 3 | Y | 400 | 60 | 1635 | 256 | 0.49 | 69 | 76 | 3580 | 80 |
| 4 | Y | 400 | 60 | 1605 | 290 | 0.54 | 70 | 76 | 2895 | 120 |

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed · P_e = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side
 qv = Air flow · p_{fs} = Pressure increase

