**D2E146-AZ03-F5**

# AC centrifugal fan

forward-curved, dual-intake

with housing (flange)

**ebm-papst Mulfingen GmbH & Co. KG**
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

## Nominal data

| | |
|---|---|
| **Type** | **D2E146-AZ03-F5** |
| **Motor** | **M2E074-EI** |

| | | | | |
|---|---|---|---|---|
| Phase | | 1~ | 1~ | 1~ |
| Nominal voltage | VAC | 230 | 230 | 230 |
| Frequency | Hz | 50 | 60 | 60 |
| Method of obtaining data | | ml | ml | ml |
| Valid for approval/standard | | CE | CE | UL 2111 |
| Speed (rpm) | $min^{-1}$ | 2300 | 2500 | 2500 |
| Power consumption | W | 330 | 365 | 380 |
| Current draw | A | 1.44 | 1.59 | 1.65 |
| Capacitor | µF | 7 | 7 | 7 |
| Capacitor voltage | VDB | 400 | 400 | 400 |
| Capacitor standard | | S2 (CE) | S2 (CE) | S2 (CE) |
| Min. back pressure | Pa | 235 | 350 | 350 |
| Min. back pressure | inH2O | 0.94 | 1.41 | 1.41 |
| Min. ambient temperature | °C | -25 | -25 | -25 |
| Max. ambient temperature | °C | 65 | 50 | 50 |

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

| | | Actual | Req. 2015 |
|---|---|---|---|
| 01 Overall efficiency $\eta_{es}$ | % | 33.5 | 33.5 |
| 02 Measurement category | | A | |
| 03 Efficiency category | | Static | |
| 04 Efficiency grade N | | 44 | 44 |
| 05 Variable speed drive | | No | |

| | | |
|---|---|---|
| 09 Power consumption $P_e$ | kW | 0.22 |
| 09 Air flow $q_v$ | $m^3/h$ | 640 |
| 09 Pressure increase $p_{fs}$ | Pa | 411 |
| 10 Speed (rpm) n | $min^{-1}$ | 2645 |
| 11 Specific ratio* | | 1.00 |

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-166694

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## Technical description

| | |
|---|---|
| **Weight** | 5.6 kg |
| **Fan size** | 146 mm |
| **Rotor surface** | Unpainted |
| **Impeller material** | Sheet steel, galvanized |
| **Housing material** | Sheet steel, galvanized |
| **Motor suspension** | Motor mounted with brackets on one side |
| **Direction of rotation** | Counterclockwise, viewed toward rotor |
| **Degree of protection** | IP44; installation- and position-dependent |
| **Insulation class** | "F" |
| **Moisture (F) / Environmental (H) protection class** | H0 - dry environment |
| **Max. permitted ambient temp. for motor (transport/storage)** | + 80 °C |
| **Min. permitted ambient temp. for motor (transport/storage)** | - 40 °C |
| **Installation position** | Any |
| **Condensation drainage holes** | None |
| **Mode** | S1 |
| **Motor bearing** | Ball bearing |
| **Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)** | < 0.75 mA |
| **Motor protection** | Thermal overload protector (TOP) internally connected |
| **Protection class** | I (with customer connection of protective earth) |
| **Motor capacitor according to EN 60252-1 in safety protection class** | S2 |
| **Conformity with standards** | EN 60335-1; CE |
| **Approval** | UL 1004-3; CSA C22.2 No. 77 |



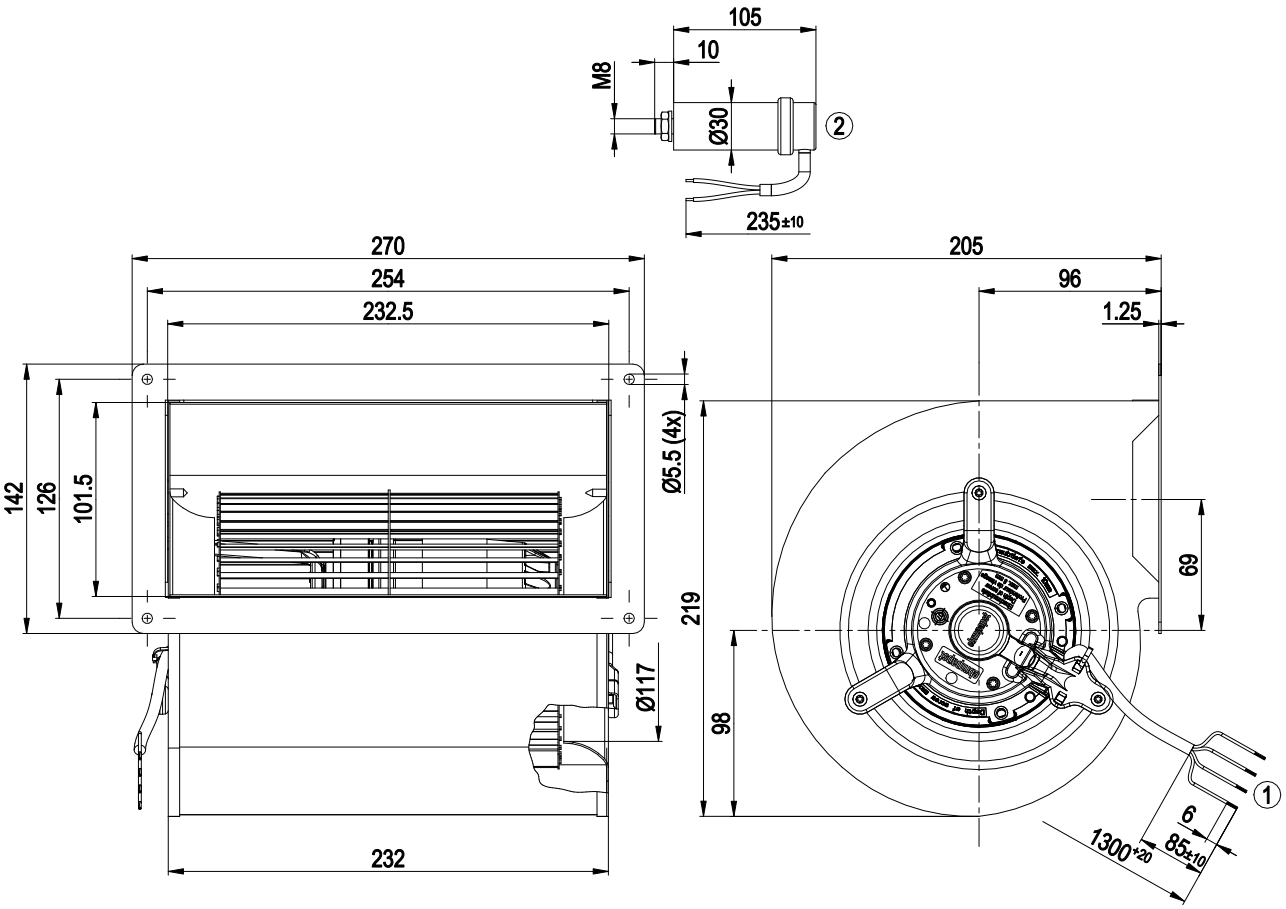
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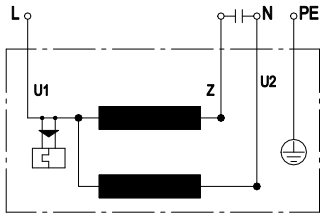
with housing (flange)

## Product drawing




| | |
|---|---|
| 1 | Cable silicone 4G 0.5 mm², 4x crimped splices |
| 2 | Accessory part: capacitor included separately |

## Connection diagram




| | | | | | |
|---|---|---|---|---|---|
| U1 | blue | Z | brown | U2 | black |
| PE | green/yellow | | | | |



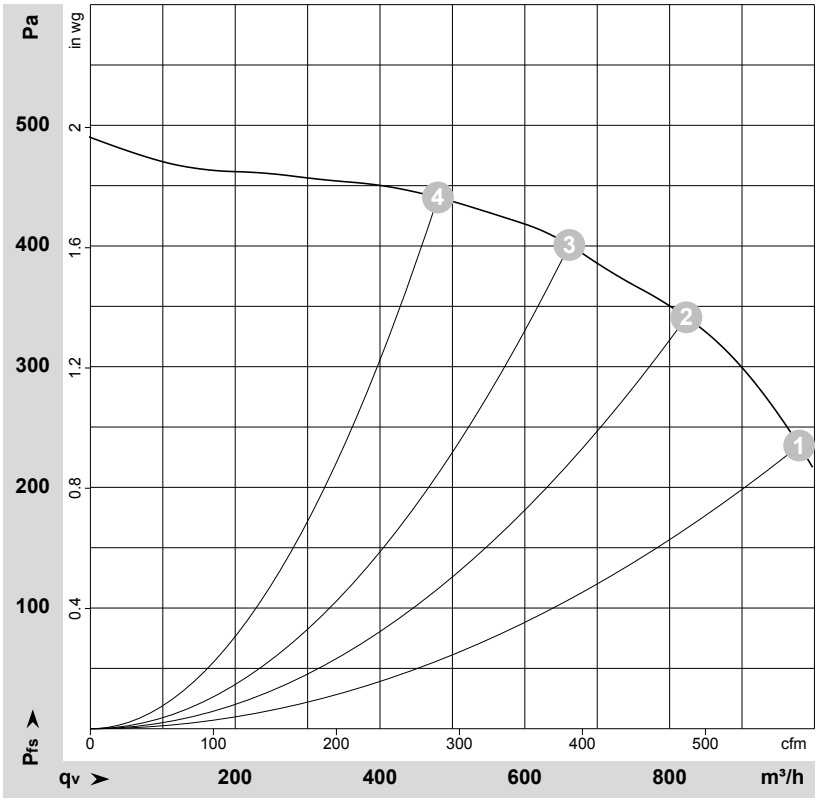
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## Curves: Air performance 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-166694-1

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

| | U | f | n | $P_e$ | I | $LpA_{in}$ | $LwA_{in}$ | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | $m^3/h$ | Pa | cfm | inH2O |
| 1 | 230 | 50 | 2300 | 330 | 1.44 | 64 | 75 | 980 | 235 | 575 | 0.94 |
| 2 | 230 | 50 | 2500 | 272 | 1.19 | 64 | 75 | 825 | 340 | 485 | 1.36 |
| 3 | 230 | 50 | 2625 | 234 | 1.03 | 64 | 75 | 660 | 400 | 390 | 1.61 |
| 4 | 230 | 50 | 2720 | 198 | 0.88 | 65 | 75 | 480 | 440 | 285 | 1.77 |

U = Power supply · f = Frequency · n = Speed (rpm) · $P_e$ = Power consumption · I = Current draw · $LpA_{in}$ = Sound pressure level intake side · $LwA_{in}$ = Sound power level intake side
$q_V$ = Air flow · $p_{fs}$ = Pressure increase



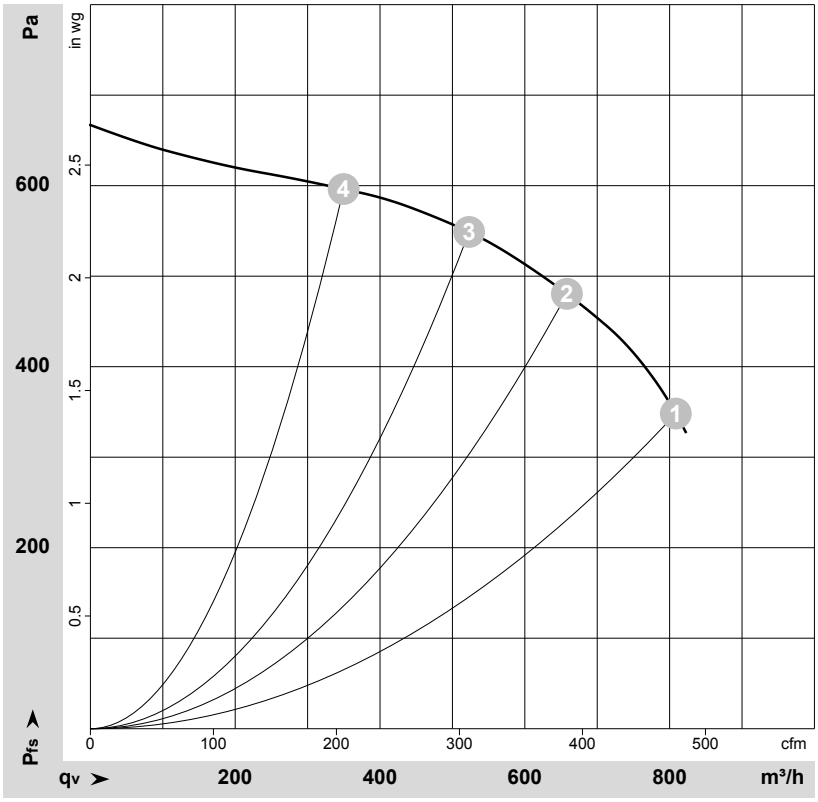
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## Curves: Air performance 60 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-166734-1

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

| | U | f | n | $P_e$ | I | $LpA_{in}$ | $LwA_{in}$ | $q_V$ | $p_{fs}$ | $q_V$ | $p_{fs}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | V | Hz | $min^{-1}$ | W | A | dB(A) | dB(A) | $m^3/h$ | Pa | cfm | inH2O |
| 1 | 230 | 60 | 2500 | 365 | 1.59 | 64 | 74 | 810 | 350 | 475 | 1.41 |
| 2 | 230 | 60 | 2850 | 328 | 1.44 | 66 | 77 | 660 | 480 | 385 | 1.93 |
| 3 | 230 | 60 | 3035 | 295 | 1.32 | 68 | 78 | 525 | 550 | 310 | 2.21 |
| 4 | 230 | 60 | 3185 | 259 | 1.21 | 69 | 80 | 350 | 600 | 205 | 2.41 |

U = Power supply · f = Frequency · n = Speed (rpm) · $P_e$ = Power consumption · I = Current draw · $LpA_{in}$ = Sound pressure level intake side · $LwA_{in}$ = Sound power level intake side
$q_V$ = Air flow · $p_{fs}$ = Pressure increase



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