**D2E146-HS01-A5**

# AC centrifugal fan

forward-curved, dual-intake

with housing (flange)

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## Nominal data

| | |
|---|---|
| **Type** | **D2E146-HS01-A5** |
| **Motor** | **M2E068-DF** |

| | | |
|---|---|---|
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Frequency | Hz | 50 |
| Method of obtaining data | | ml |
| Valid for approval/standard | | CE |
| Speed (rpm) | $min^{-1}$ | 1450 |
| Power consumption | W | 200 |
| Current draw | A | 0.88 |
| Capacitor | µF | 5 |
| Capacitor voltage | VDB | 400 |
| Capacitor standard | | S2 (CE) |
| Min. back pressure | Pa | 50 |
| Min. back pressure | in. wg | 0.2 |
| Min. ambient temperature | °C | -30 |
| Max. ambient temperature | °C | 50 |
| Starting current | A | 0.92 |

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** | 3 kg |
| **Size** | 146 mm |
| **Motor size** | 68 |
| **Rotor surface** | Unpainted |
| **Terminal box material** | PP plastic |
| **Impeller material** | PP plastic |
| **Housing material** | PP plastic |
| **Guard grille material** | PP plastic |
| **Motor suspension** | Motor vibration-damped on both sides |
| **Direction of rotation** | Counterclockwise, viewed toward rotor |
| **Degree of protection** | IP20 |
| **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** | Shaft horizontal |
| **Condensation drainage holes** | None, open rotor |
| **Mode** | S1 |
| **Motor mounting** | Calotte bearing |
| **Speed levels** | 4 |
| **Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)** | < 0.75 mA |
| **Electrical hookup** | Plug; Via terminal box, capacitor integrated and connected |
| **Motor protection** | Thermal overload protector (TOP) internally connected |
| **With cable** | Variable |
| **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** | VDE |



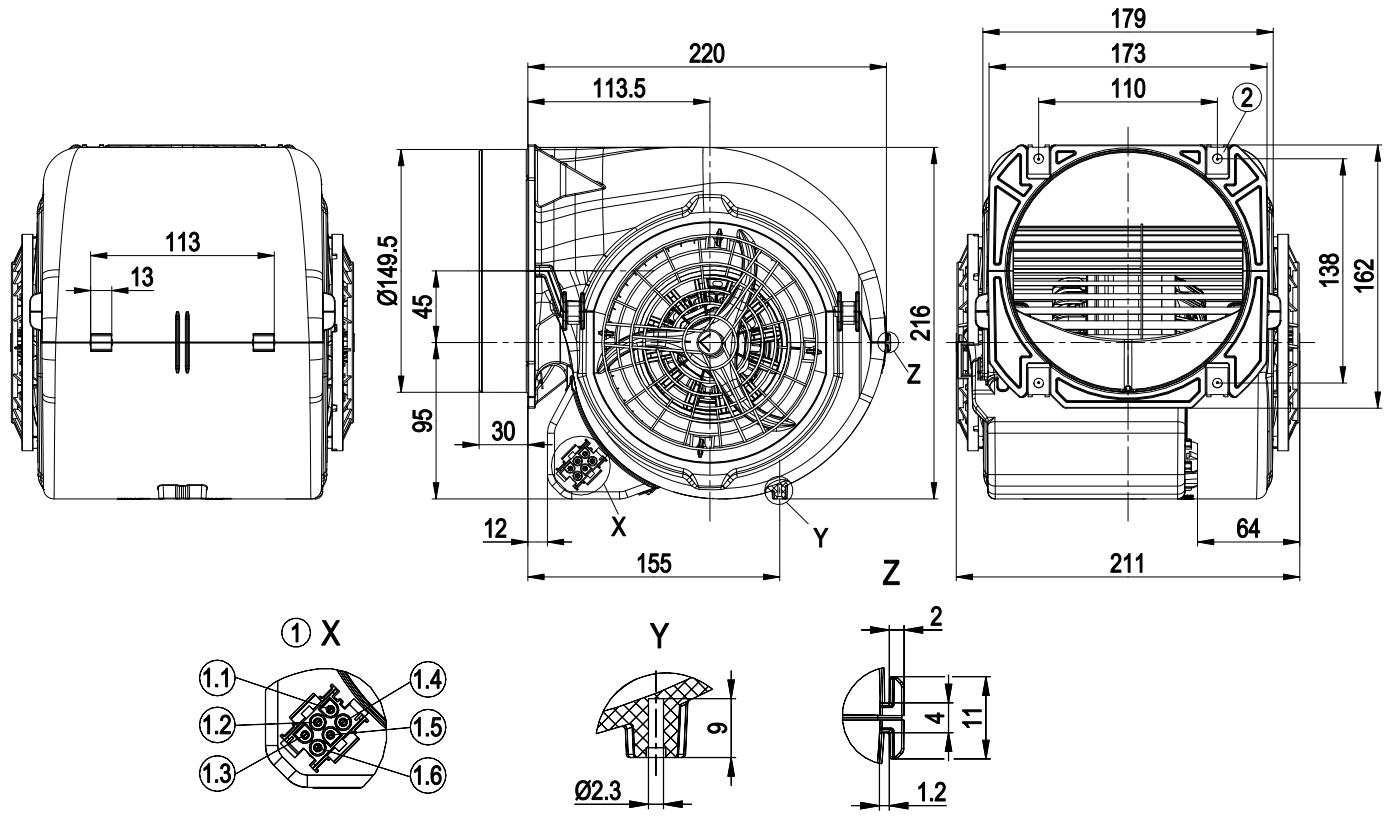
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## Product drawing




| | |
|---|---|
| 1 | Coded plug system: 6-pole connector housing tyco 2178773-1, 6x plug pin tyco 926886-1 |
| 1.1 | L = step 1 |
| 1.2 | L = step 2 |
| 1.3 | L = step 3 |
| 1.4 | L = step 4 |
| 1.5 | N |
| 1.6 | Protective earth |
| 2 | 4x sheet metal nut for thread EN ISO 1478-ST4.8 (min. screw length 14.5 mm plus material thickness of mounting) |



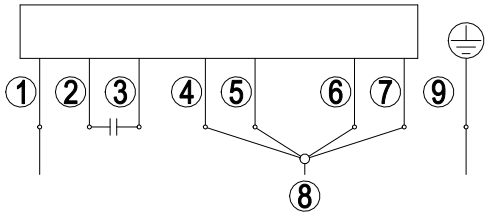
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## Connection diagram




Note: High speed (step IV); low speed (step I); the switch must interrupt the circuit when switching.

| | |
|---|---|
| 1 | N (blue) |
| 2 | brown |
| 3 | yellow |
| 4 | Step I black 1 / white |
| 5 | Step II black 2 / red |
| 6 | Step III black 3 / gray |
| 7 | Step IV black 4 / black |
| 8 | L1 |
| 9 | = PE = green/yellow |



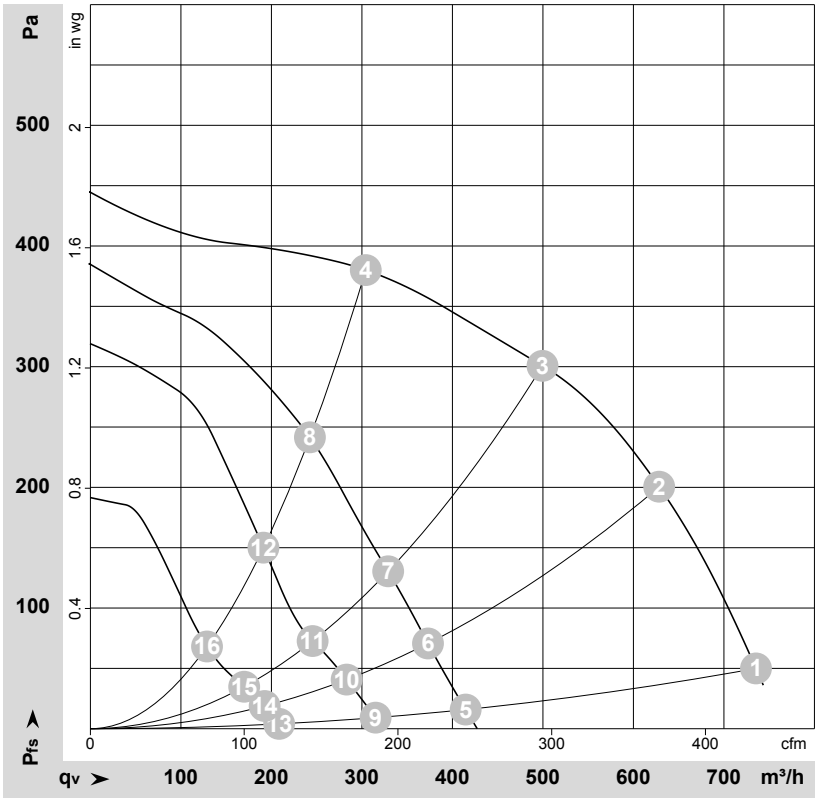
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## Curves: Air performance 50 Hz




ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-168305-1
Measurement: LU-168371-1
Measurement: LU-168372-1
Measurement: LU-168376-1

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

| | Stage | 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 | 4 | 230 | 50 | 1450 | 200 | 0.88 | 735 | 50 | 435 | 0.20 |
| 2 | 4 | 230 | 50 | 1880 | 182 | 0.79 | 630 | 200 | 370 | 0.80 |
| 3 | 4 | 230 | 50 | 2180 | 168 | 0.74 | 500 | 300 | 295 | 1.20 |
| 4 | 4 | 230 | 50 | 2485 | 147 | 0.67 | 305 | 380 | 180 | 1.53 |
| 5 | 3 | 230 | 50 | 850 | 120 | 0.57 | 415 | 16 | 245 | 0.06 |
| 6 | 3 | 230 | 50 | 1135 | 118 | 0.56 | 375 | 71 | 220 | 0.29 |
| 7 | 3 | 230 | 50 | 1455 | 114 | 0.55 | 330 | 131 | 195 | 0.53 |
| 8 | 3 | 230 | 50 | 1990 | 99 | 0.52 | 245 | 242 | 145 | 0.97 |
| 9 | 2 | 230 | 50 | 650 | 104 | 0.50 | 315 | 9 | 185 | 0.04 |
| 10 | 2 | 230 | 50 | 865 | 102 | 0.49 | 285 | 41 | 165 | 0.16 |
| 11 | 2 | 230 | 50 | 1095 | 100 | 0.49 | 245 | 73 | 145 | 0.29 |
| 12 | 2 | 230 | 50 | 1570 | 94 | 0.47 | 190 | 151 | 110 | 0.61 |
| 13 | 1 | 230 | 50 | 440 | 92 | 0.44 | 210 | 4 | 125 | 0.02 |
| 14 | 1 | 230 | 50 | 605 | 90 | 0.44 | 195 | 20 | 115 | 0.08 |
| 15 | 1 | 230 | 50 | 760 | 89 | 0.44 | 170 | 35 | 100 | 0.14 |
| 16 | 1 | 230 | 50 | 1060 | 86 | 0.43 | 130 | 68 | 75 | 0.27 |

U = Power supply · f = Frequency · n = Speed (rpm) · $P_e$ = Power consumption · I = Current draw · $q_V$ = Air flow · $p_{fs}$ = Pressure increase



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