

Product Data Sheet 4606 Z

ebmpapst

The engineer's choice



4606 Z

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1 General

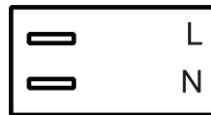
| | |
|-------------------------------------|------------------------|
| Fan type | Fan |
| Rotating direction looking at rotor | Clockwise |
| Airflow direction | Air outlet over struts |
| Bearing system | Ball bearing |
| Mounting position - shaft | Any |
| Balancing grade | 2,5 |

2 Mechanics**2.1 General**

| | | |
|---|---|--|
| Width | 119,0 mm | |
| Height | 119,0 mm | |
| Depth | 38,0 mm | |
| Diameter | 0,0 mm | |
| Mass | 0,540 kg | |
| Housing material | Metal | |
| Impeller material | Metal | |
| Max. torque when mounted across both mounting flanges | Wire outlet corner: 120 Ncm Remaining corners: 350 Ncm | |
| Screw size | ISO 4762 - M4 degreased, without an additional brace and without washer | |

2.2 Connections

| | | |
|-----------------------|-------------|--|
| Electrical connection | Plug | |
| Lead wire length | See drawing | |
| Tolerance | | |
| Tube length | See drawing | |
| Tolerance | | |
| Wire size (AWG) | | |
| Insulation diameter | | |
| Plug | See drawing | |
| Contact | See drawing | |



3 Operating Data

3.1 Electrical Operating Data

Measurement conditions: Normal air density = 1,2 kg/m³; Temperature 23°C +/- 3°C; Motor axis horizontal; warm-up time before measuring 5 minutes (unless otherwise specified).
In the intake and outlet area should not be any solid obstruction within 0,5 m.

$\Delta p = 0$: corresp. to free air flow (see chapter aerodynamics)

I: corresp. to RMS line current

| Features | Condition | Symbol | Values | |
|--------------------------------|----------------|--------|-----------------------|-----------------------|
| Frequency | $\Delta p = 0$ | f | 50 Hz | 60 Hz |
| Nominal voltage Tolerance | $\Delta p = 0$ | U_N | 115 V +- 10 % | 115 V +- 10 % |
| Power consumption Tolerance | $\Delta p = 0$ | P | 19 W +- 10 % | 18 W +- 10 % |
| Speed Tolerance | $\Delta p = 0$ | n | 2.650 1/min +- 3 % | 3.100 1/min +- 3 % |

3.4 Sound Data

Measurement conditions: Sound pressure level: 1 meter distance between microphone and the air intake.
 Sound power level: Acc. to DIN 45635 part 38 (ISO 10302) Sound power level: Acc. to DIN 45635 part 38 (ISO 10302)
 Measured in a semianchoic chamber with a background noise level of $L_p(A) < 5 \text{ dB(A)}$
 For further measurement conditions see chapter aerodynamics.

a.) Operation condition:
 2.650 1/min at free air flow Frequency: 50 Hz

| | | |
|---|--------------------|--|
| Optimal operating point | 130,0 m3/h @ 15 Pa | |
| Sound power level at the optimal operating point | 5,1 bel(A) | |
| Sound pressure level at free air flow, measured in rubber bands | 37,0 dB(A) | |

b.) Operation condition:
 3.100 1/min at free air flow Frequency: 60 Hz

| | | |
|---|--------------------|--|
| Optimal operating point | 148,0 m3/h @ 20 Pa | |
| Sound power level at the optimal operating point | 5,5 bel(A) | |
| Sound pressure level at free air flow, measured in rubber bands | 42,0 dB(A) | |

4 Environment

4.1 General

| | | |
|--|----------------------------------|--|
| Min. permitted ambient temperature TU min. | -40 °C / 50 Hz -40 °C / 60 Hz | |
| Max. permitted ambient temperature TU max. | 75 °C / 50 Hz 85 °C / 60 Hz | |
| Min. permitted storage temperature TL min. | -40 °C | |
| Max. permitted storage temperature TL max. | 100 °C | |

4.2 Climatic Requirements *)

| | | |
|-----------------------|---|--|
| Humidity requirements | humid heat, constant; according to DIN EN 60068-2-78, 14 days | |
| Water exposure | None | |
| Dust requirements | None | |
| Salt fog requirements | None | |

Permitted application area:
 The product is intended for use in sheltered rooms with controlled temperature and controlled humidity. Directly exposure to water must be avoided.

Pollution degree 1 (according DIN EN 60664-1)
 There is either no pollution or it occurs only dry, non-conductive pollution. The pollution has no negative impact.

5 Safety

5.1 Electrical Safety

| | |
|--|-------------------|
| Dielectric strength DIN EN 60950 (VDE 0805) and DIN EN 60335 (VDE 0700) A.) Type test Measuring conditions: After 48h of storage at 95% R.H. and 25°C. No arcing or breakdown is allowed! All connections together to ground. | 1000 VAC / 1 Min. |
| B.) Routine test Measuring conditions: At indoor climate. No arcing or breakdown is allowed! All connections together to ground. | 1500 VAC / 1 Sec. |
| Isolation resistance Measuring conditions: After 48h of storage at 95% R.H. and 25°C measured with U=500 VDC for 1 min. | RI > 50 MOhm |
| Clearance / creepage distance | 2,0 mm / 1,1 mm |
| Protection class | I |

5.2 Approval Tests

| | | |
|-----|---|---|
| CE | EC Declaration of Conformity | Yes |
| EAC | Eurasian Conformity | Yes |
| UL | Underwriters Laboratories | Yes / UL507, Electric Fans |
| VDE | Association for Electrical, Electronic and Information Technologies | Yes / Approval acc. to EN 60950 (VDE 0805) - Information technology equipment |
| CSA | Canadian Standards Association | Yes / C22.2 No. 113 Fans and Ventilators |
| CCC | China Compulsory Certification | Yes / GB 12350 Safety Requirements for small Power Motors |

The approval tests are observed to:

U approval max.: 115 V / f: 60 Hz @ TU approval max.: 85 °C

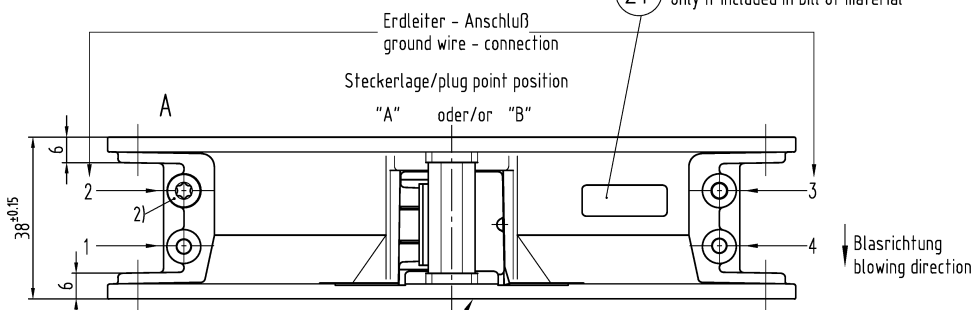
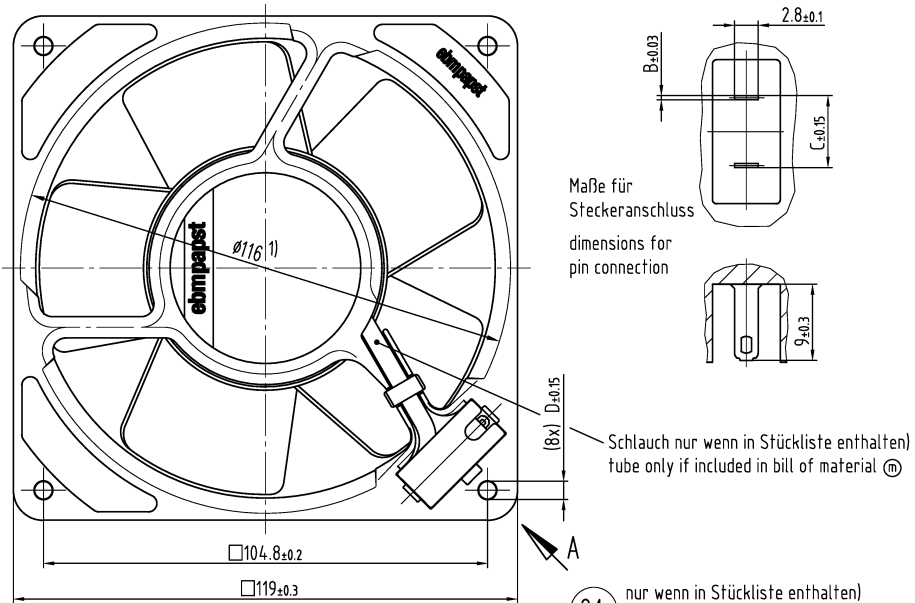
6 Reliability

6.1 General

| | | |
|-----------------------------------|--------------------------------------|--|
| Life expectancy L10 at TU = 40 °C | 37.500 h / 50 Hz 40.000 h / 60 Hz | |
| Life expectancy L10 at TU max. | 17.500 h / 50 Hz 15.000 h / 60 Hz | |

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Refer to protection notice DIN ISO 16756!



- 1) Maße für Montagewand
2) Schraube: Duo-Taptite nach DIN 7500, CM 4x8, Torx

Flanschseite
flangeside

- 1) dimensions for assembly wall
2) Screw: Duo-Taptite to DIN 7500, CM 4x8, Torx

- Axialspiel bei
- Kugellagerung (K): 0 (mit Federausgleich)
- Gleitlagerung (G): 0.1 - 0.6
- Gleitlagerung (GF): 0 (mit Federausgleich)

- axial clearance by
- ball bearing (K): 0 (with spring compensation)
- sleeve bearing (G): 0.1 - 0.6
- sleeve bearing (GF): 0 (with spring compensation)

| Erzeugnis-Nr. product number | Typ | Lagersystem bearing system | Befestigungs- bohrung - Ø D mounting holes Ø D | Steckermaße plug dimensions B/C | Steckerlage plug position | Lage des Erdleiter- Anschlusses position the ground wire - connection |
|---------------------------------|-------------|-------------------------------|---|---------------------------------------|------------------------------|---|
| 924 4014 800 | 4656 Z | K | 4.3 | 0.5/8.5 | "A" | 2 |
| 924 4014 801 | 4650 Z | G | 4.3 | 0.5/8.5 | "A" | 2 |
| 924 4014 802 | 4606 Z | K | 4.3 | 0.5/8.5 | "A" | 2 |
| 924 4014 803 | 4600 Z | G | 4.3 | 0.5/8.5 | "A" | 2 |
| 924 4014 828 | 4856 Z | K | 4.3 | 0.5/8.5 | "A" | 2 |
| 924 4014 829 | 4850 Z | G | 4.3 | 0.5/8.5 | "A" | 2 |
| 924 4014 832 | 4806 Z | K | 4.3 | 0.5/8.5 | "A" | 2 |
| 924 4014 833 | 4800 Z | G | 4.3 | 0.5/8.5 | "A" | 2 |
| 924 4014 836 | 4536 Z | K | 4.3 | 0.5/8.5 | "A" | 2 |
| 924 4014 837 | 4530 Z | G | 4.3 | 0.5/8.5 | "A" | 2 |
| 924 4014 840 | 4586 Z | K | 4.3 | 0.5/8.5 | "A" | 2 |
| 924 4014 841 | 4580 Z | G | 4.3 | 0.5/8.5 | "A" | 2 |
| 924 4014 842 | 4606 ZR | K | 4.3 | 0.5/8.5 | "A" | 2 |
| 924 4014 853 | 4656 Z-853 | K | 4.3 | 0.8/8.8 | "A" | 2 |
| 924 4014 854 | 4650 Z-854 | G | 4.3 | 0.8/8.8 | "A" | 2 |
| 924 4014 855 | 4606 Z-855 | K | 4.3 | 0.8/8.8 | "A" | 2 |
| 924 4014 856 | 4600 Z-856 | G | 4.3 | 0.8/8.8 | "A" | 2 |
| 924 4014 857 | 4856 Z-857 | K | 4.3 | 0.8/8.8 | "A" | 2 |
| 924 4014 858 | 4850 Z-858 | G | 4.3 | 0.8/8.8 | "A" | 2 |
| 924 4014 863 | 4586 Z-863 | K | 4.3 | 0.8/8.8 | "A" | 2 |
| 924 4014 864 | 4580 Z-864 | G | 4.3 | 0.8/8.8 | "A" | 2 |
| 924 4014 873 | 4656 ZR-873 | K | 4.3 | 0.5/8.5 | "A" | 2 |
| 924 4014 876 | 4650 Z-876 | G | 4.3 | 0.8/8.8 | "A" | 2 |
| 924 4014 881 | 4600 Z-881 | G | 4.3 | 0.8/8.8 | "A" | 2 |
| 924 4014 884 | 4856 ZR-884 | K | 4.3 | 0.5/8.5 | "A" | 2 |
| 924 4014 886 | 4586 ZR-886 | K | 4.3 | 0.5/8.5 | "A" | 2 |
| 924 4014 024 | 4586 ZU-024 | K | 4.3 | 0.5/8.5 | "A" | 2 |
| 924 4014 025 | 4656 ZU-025 | K | 4.3 | 0.5/8.5 | "A" | 2 |

| | | | | | | | | | | | |
|-------------------------------------|--|--------------------------------------|--|---|--|-------------------------|--|------------------------|--|------------------------------------|--|
| SAP-Status/State | | Änd.-Nr./Change-No. | | Aut/CAD-System-Version CAD-Umgebung/ CAD-Umwelt | | ebmpapst | | Werkstoff/Material: | | Volumen/Volume (mm ³): | |
| | | | | Datum/Date | | Name/Name | | | | Gewicht/Mass (g): | |
| Bearb./ Drawn | | Gepr./ Checked | | Freig./ Released | | Artikel/Title | | | | | |
| Tolerierung/Tolerances: | | Allgemeintoleranzen/Gen. tolerances: | | ebmpapst | | Zchg.-Nr./ Drawing-No.: | | Ers.f.Zchg./ Replaces: | | | |
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