



5958 W

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6.1 GENERAL..... 7

Special features according to QMH 2-5.4.7 and company standard 1-23.00 have the following definitions:

"A" : Product features or process parameters which influence the safety of a product or the compliance of legal requirements. (Must not necessary verified and documented 100%. Standards and legal requirements must be considered.)

"FK" : Product features or process parameters which influence the fit and function of a product or which have to be controlled or documented for some other reasons (e.g. Customer requirements).

1 General

| | | |
|---------------------------------------|--------------------------------------|-----------|
| Fan type | Fan | |
| Rotational direction looking at rotor | counterclockwise | FK |
| Airflow direction | Air outlet over struts | FK |
| Bearing system | Ball bearing | |
| Lubrication | see sectional drawing of the bearing | |
| Mounting position | any | |
| Tolerance | | |
| Balancing grade | 40,0 | FK |
| Impeller weight | | |

2 Mechanics

2.1 General

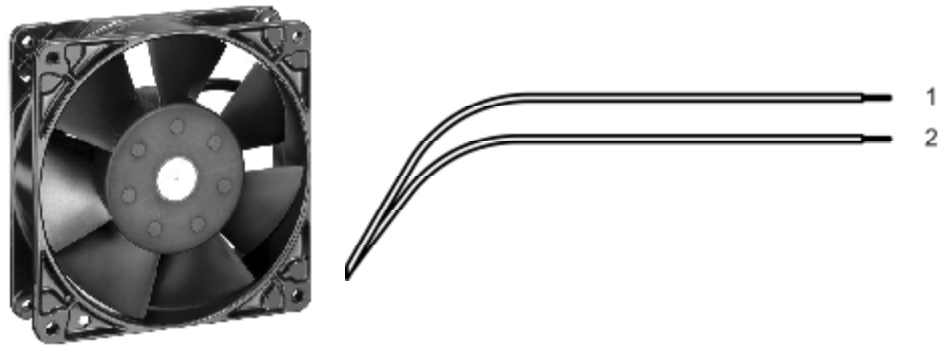
| | | |
|---|---|--|
| Width | 127,0 mm | |
| Height | 127,0 mm | |
| Depth | 38,0 mm | |
| Diameter | 0,0 mm | |
| Weight | 0,570 kg | |
| Surface protection | see single part drawing of the housing, flange and impeller | |
| Housing material | Metal | |
| Impeller material | Plastic | |
| Max. torque when mounted across both mounting flanges | wire outlet corner: 200 Ncm remaining corners: 410 Ncm | |
| Screw size | ISO 4762 - M4 degreased, without an additional brace and without washer | |

2.2 Motor

| | | |
|---------------------------|--------------------------------|--|
| Type of motor | Shaded pole motor-intern rotor | |
| Diameter of the motor | 31,0 mm | |
| Height of the motor | 18,0 mm | |
| Operating mode | Continuous duty | |
| Insulation material class | B | |

2.3 Connections

| | | |
|-----------------------|-------------|--|
| Electrical connection | Wires | |
| Length of lead wire | 270,0 mm | |
| Tolerance | + - 10,0 mm | |
| Length of tube | see drawing | |
| Tolerance | | |
| Wire gauge (AWG) | 22 | |
| Insulation diameter | 1,70 mm | |
| Plug | see drawing | |
| Contact | see drawing | |



| | Colour | Operation |
|--------|--------|-----------|
| Wire 1 | black | L |
| Wire 2 | black | N |

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 section 3.4)

I: corresp. to RMS line current

| Features | Condition | Symbol | Values | |
|---------------------|----------------|--------|------------------|------------------|
| Frequency | $\Delta p = 0$ | f | 50 Hz | 60 Hz |
| Nominal voltage | $\Delta p = 0$ | U_N | 230,0 V | 230,0 V |
| Tolerance | | | + 6,0 % - 10,0 % | + 6,0 % - 10,0 % |
| Power consumption | $\Delta p = 0$ | P | 18,0 W | 17,0 W |
| Tolerance | | | + 5,0 % - 10,0 % | + 5,0 % - 10,0 % |
| Current consumption | $\Delta p = 0$ | I | 105 mA *) | 95 mA *) |
| Tolerance | | | + 5,0 % - 10,0 % | + 5,0 % - 10,0 % |
| Speed | $\Delta p = 0$ | n | 2.750 1/min *) | 3.100 1/min *) |
| Tolerance | | | + 5,0 % | + 5,0 % |

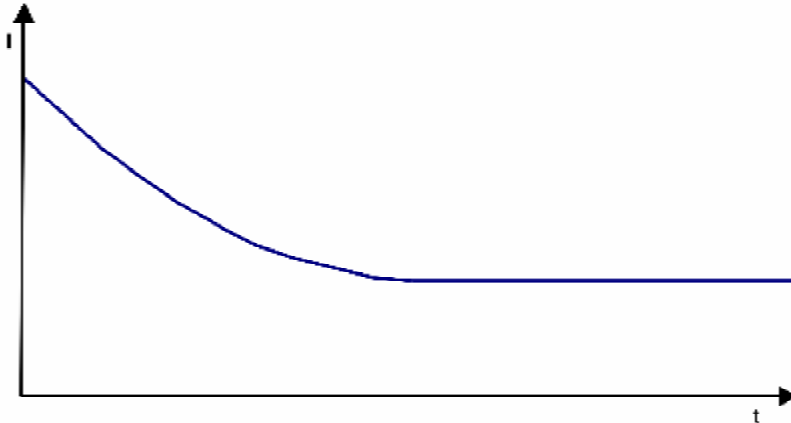
*) Attention: Marked values are "FK" features

3.2 Operating Data - Electrical Interface -Output

| | |
|------------|------|
| Tacho type | None |
|------------|------|

3.3 Electrical Features

| | | |
|-------------------------------|-----------|----------|
| Locked rotor protection | Impedance | A |
| Locked rotor current at U_n | | |



3.4 Aerodynamic

Measurement conditions: Measured with a double chamber intake rig acc. to DIN EN ISO 5801.
 Normal air density = 1,2 kg/m³; Temperature 23°C +/- 3°C;
 In the intake and outlet area should not be any solid obstruction within 0,5 m.

a.) Operation condition:
 2.750 1/min at free air flow Frequency: 50 Hz

| | | |
|---|-------------------------|-----------|
| Max. free-air flow ($\Delta p = 0 / \dot{V} = \text{max.}$) | 178,0 m ³ /h | FK |
| Max. static pressure ($\Delta p = \text{max.} / \dot{V} = 0$) | 80 Pa | FK |

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

| | | |
|---|-------------------------|-----------|
| Max. free-air flow ($\Delta p = 0 / \dot{V} = \text{max.}$) | 200,0 m ³ /h | FK |
| Max. static pressure ($\Delta p = \text{max.} / \dot{V} = 0$) | 65 Pa | FK |

4.3 Mechanical requirements

Please require severity levels and specification parameters from the responsible development departments **EMC**

not specified

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. B.) Routine test Measuring conditions: At indoor climate. No arcing or breakdown is allowed! All connections together to ground. | 1500 VAC / 1 Min. 1500 VAC / 1 Sec. | A |
| 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 | |
| Air and leakage distances | 2,0 mm / 1,8 mm | |
| Protection class | I | |

5.2 Approval Tests

| | |
|-----|---|
| CE | Yes |
| UL | Yes / UL507, Electric Fans |
| VDE | Yes / Approval acc. to EN 60335 (VDE 0700) - Safety for household and similar electrical appliances |
| CSA | Yes / C22.2 No. 113-M1984 Fans and Ventilators |
| CCC | Yes / GB 12350 Safety Requirements for small Power Motors |

The approval tests are observed to:

U approval max.: 230 V / f: 60 Hz @ TU approval max.: 75 °C

6 Reliability

6.1 General

| | | |
|--|--------------------------------------|--|
| Life expectancy L10 at TU = 40 °C | 40.000 h / 50 Hz 42.500 h / 60 Hz | |
| Life expectancy L10 at TU max. | 25.000 h / 50 Hz 20.000 h / 60 Hz | |
| Life expectancy L10 acc. to IPC 9591 at TU = 40 °C | / 50 Hz / 60 Hz | |

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