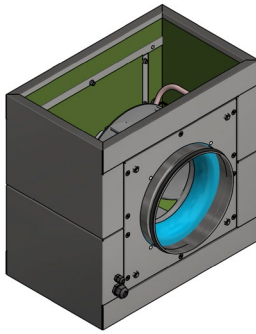


BF500S-280RR03H2

BoxFan

Built-in Radical EC fan
With square air inlet and outlet



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Nominal data

| | | |
|---------------|------------------|--|
| Type | BF500S-280RR03H2 | |
| EC Ventilator | K3G280-RR03-H2 | |

| | | |
|-----------------------|-----|-----------|
| Phase | | 1~ |
| Nominal voltage | VAC | 230 |
| Nominal voltage range | VAC | 200...277 |
| Frequency | Hz | 50/60 |

| | | |
|--------------------------|-------------------|------|
| Type of data definition | | ml |
| Speed | min ⁻¹ | 2700 |
| Power input | W | 500 |
| Current draw | A | 2,2 |
| Min. ambient temperature | °C | -25 |
| Max. ambient temperature | °C | 60 |

ml = Max. load · me = Max. efficiency · rfa = running at free air · cs = customer specs · cu = customer unit
Subject to alterations

Data in accordance with the EU environment design regulation 327/2011 for built-in fan units.

| | Actual | Request 2015 | | | |
|--------------------------------|--------|--------------|----------------------------|-------------------|------|
| Overall efficiency η_{es} | 67,3% | 48,4% | Power input P_{ed} | kW | 0,51 |
| Installation category | A | | Airflow q_v | m ³ /h | 2105 |
| Efficiency category | Static | | Pressure increase p_{fs} | Pa | 535 |
| Efficiency grade N | 80,9% | 62% | Speed n | min ⁻¹ | 2695 |
| Variable speed drive | Yes | | Specific ratio* | | 1,01 |

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

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup

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Technical features

| | |
|---|--|
| Rotor surface | Painted black |
| Electronic housing material | Die-cast aluminium |
| Impeller material | Plastic PA |
| Support plate materiale | Sheet steel, galvanized |
| Support bracket material | Steel, painted black |
| Inlet nozzle material | Sheet steel, galvanized |
| Number of blades | 6 |
| Direction of rotation | Clockwise, viewed toward rotor |
| Degree of protection | IP 55 |
| Insulation class | "F" |
| Moisture (F) / Environmental (H) protection class | H1 |
| Max. permitted ambient temp. for motor (transport/storage) | +80 °C |
| Min. permitted 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 |
| Mode | S1 |
| Motor bearing | Ball bearing |
| Technical features | <ul style="list-style-type: none"> -Output 10 VDC, maks. 10 mA -Operation and alarm display -Alarm relay -Integrated PID controller -Power limiter -Motor current limitation -PFC, active -RS485 MODBUS-RTU -Softstart -Control input 0-10 VDC / PWM -Control interface with SELV potential safely disconnected from supply -Thermal overload protection for electronics/motor -Line undervoltage / phase failure detection |
| EMC interference immunity | According to EN 61000-6-2 (industrial environment) |
| EMC circuit feedback | According to EN 61000-3-2/3 |
| EMC interference emission | According to EN 61000-6-3 (household environment) |
| Touch current acc. IEC 60990 (measuring network Fig. 4, TN system) | ≤ 3.5 mA |
| Motor protection | Thermal overload protector (TOP) internally connected |
| Protection class | I (with customer connection of protective earth) |

Physical description

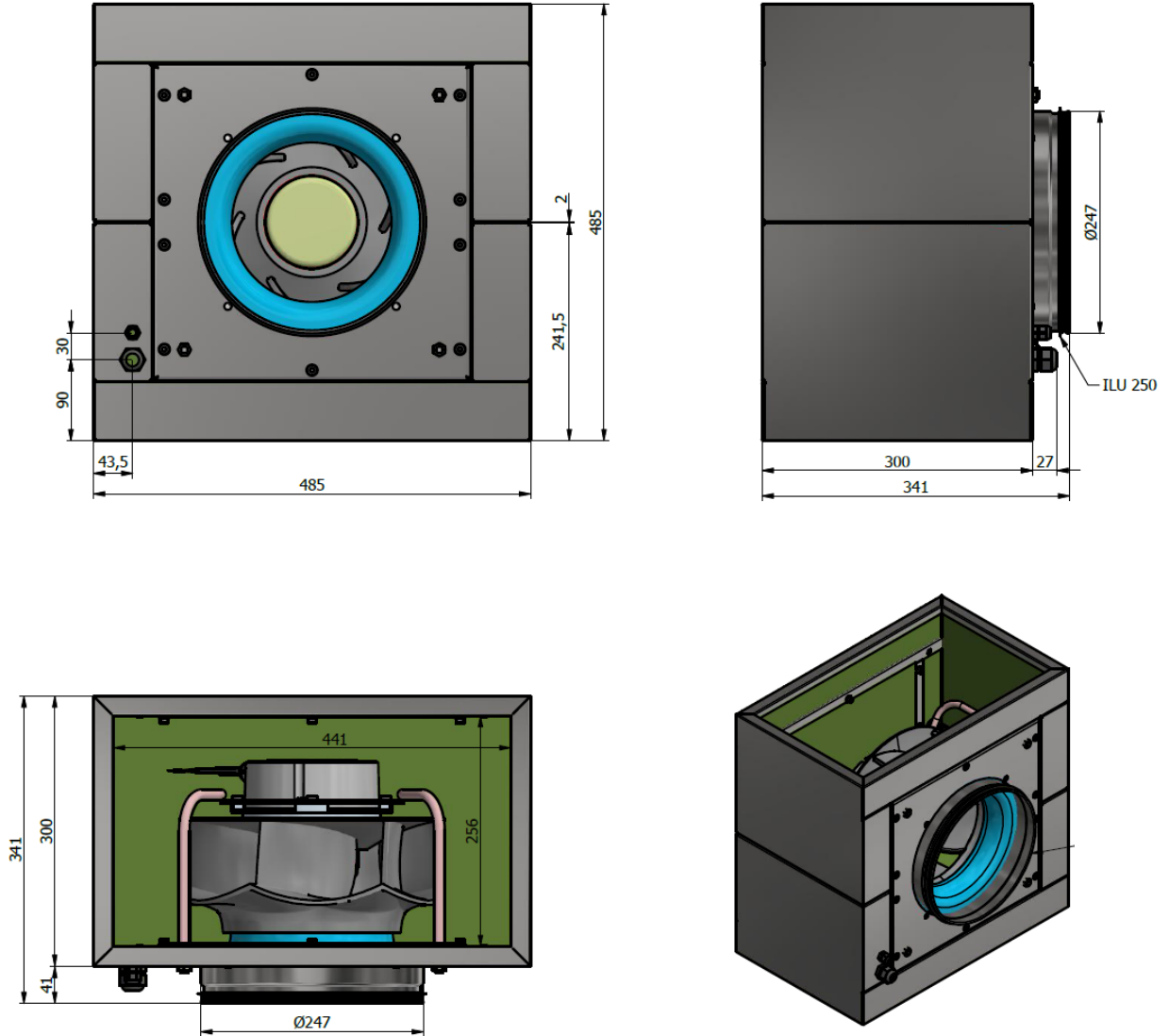
| | |
|--|---|
| Weight | 21,3 kg |
| Plate thickness, chassis | 1 mm |
| Plate thickness, fan plate and inspection hatch | 3 mm |
| Insulation | 20 mm Polyethylen Cross Linked PE-Foam - LD-30, Black |
| Cable glands, PG | M12 |
| Duct connection, ILU | indtag Ø250 / afkast 441x256 mm |
| Dimensions | See product drawing |

BF500S-280RR03H2

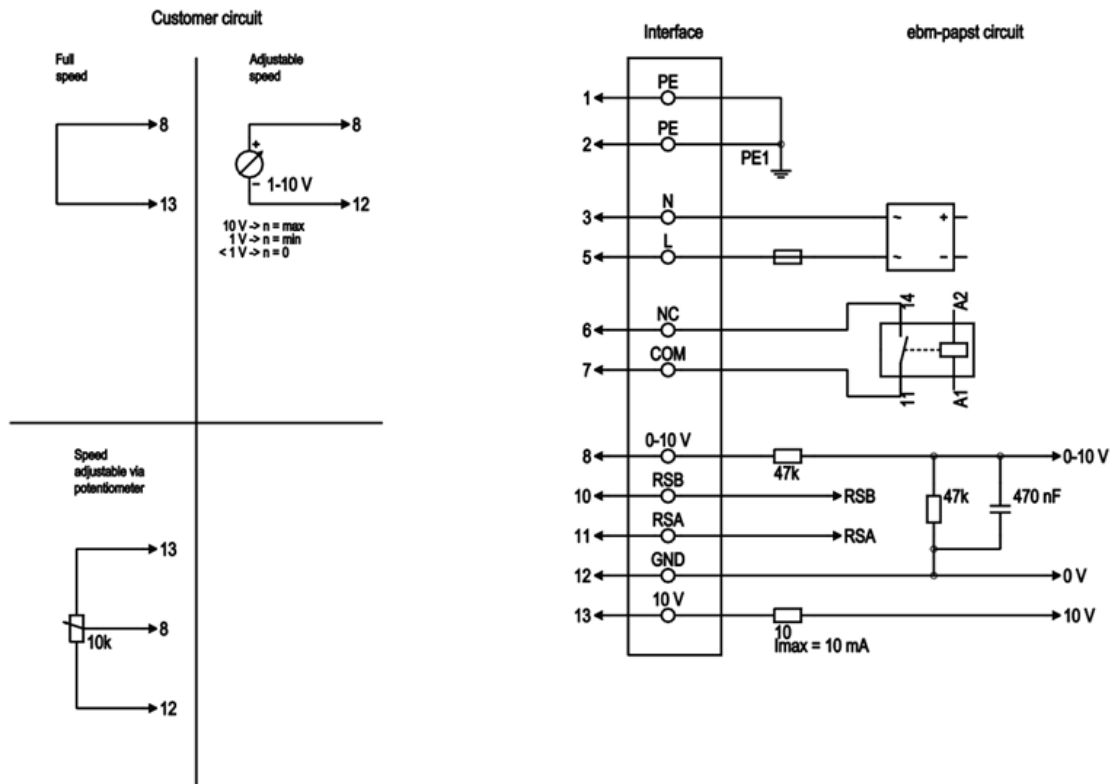
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Product drawing



Connection

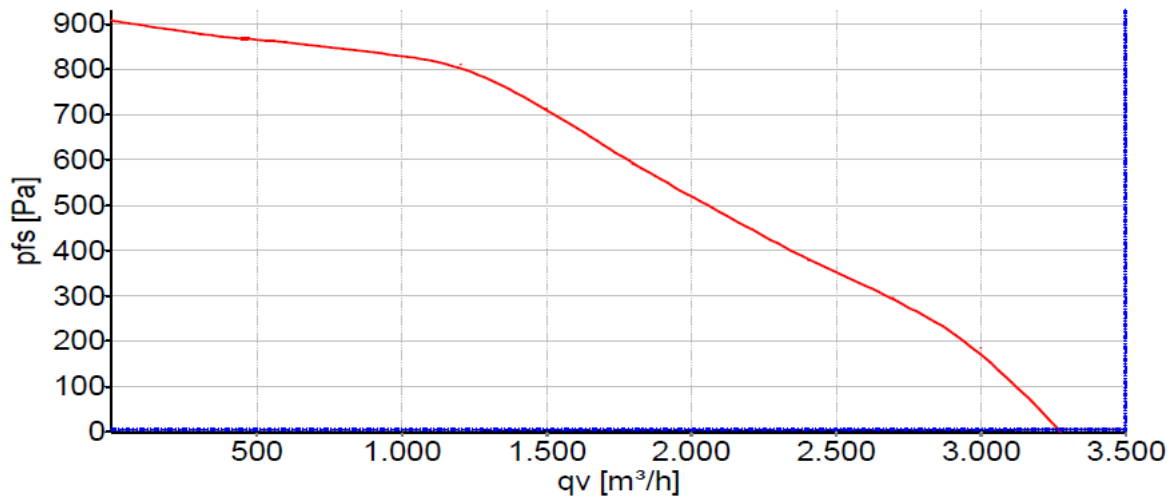


| No. | Conn. | Designation | Color | Function/assignment |
|-----|-------|-------------|--------------|---|
| 1 | 1, 2 | PE | Green/yellow | Protective earth |
| 1 | 3 | N | Blue | Power supply, neutral conductor, 50/60 Hz |
| 1 | 5 | L | Black | Power supply, phase, 50/60 Hz |
| 1 | 6 | NC | White 1 | Status relay, floating status contact; break for failure, contact rating 250 VAC / 2A (AC1) / min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side |
| 1 | 7 | COM | White 2 | Status relay, floating status contact; common connection, contact rating 250 VAC / 2A (AC1) / min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side |
| 2 | 8 | 0-10V | Yellow | Analog input (set value); 0-10 V; $R_i = 100\text{ k}\Omega$; adjustable curve |
| 2 | 10 | RSB | Brown | RS485 interface for MODBUS, RSB |
| 2 | 11 | RSA | White | RS485 interface for MODBUS, RSA |
| 2 | 12 | GND | Blue | Reference ground for control interface, SELV |
| 2 | 13 | +10V | Red | Fixed voltage output 10 VDC, +10 V $\pm 3\%$; max. 10 mA; short-circuit-proof; power supply for external devices (e.g. pot) |

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Curves: Air Performance 50 Hz



Measurement: LU-149673-1

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.

