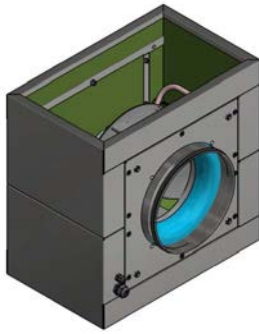


BF500S-280RR03H2

## BoxFan

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



BF500S-280RR03H2 ebmpapst Datasheet  
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www.fansco.com

### 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 <sup>-1</sup>	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 $\eta_{es}$	67,3%	48,4%	Power input $P_{ed}$	kW	0,51
Installation category	A		Airflow $q_v$	m <sup>3</sup> /h	2105
Efficiency category	Static		Pressure increase $p_{fs}$	Pa	535
Efficiency grade N	80,9%	62%	Speed n	min <sup>-1</sup>	2695
Variable speed drive	Yes		Specific ratio*		1,01

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

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 material	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"> <li>-Output 10 VDC, maks. 10 mA</li> <li>-Operation and alarm display</li> <li>-Alarm relay</li> <li>-Integrated PID controller</li> <li>-Power limiter</li> <li>-Motor current limitation</li> <li>-PFC, active</li> <li>-RS485 MODBUS-RTU</li> <li>-Softstart</li> <li>-Control input 0-10 VDC / PWM</li> <li>-Control interface with SELV potential safely disconnected from supply</li> <li>-Thermal overload protection for electronics/motor</li> <li>-Line undervoltage / phase failure detection</li> </ul>
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**

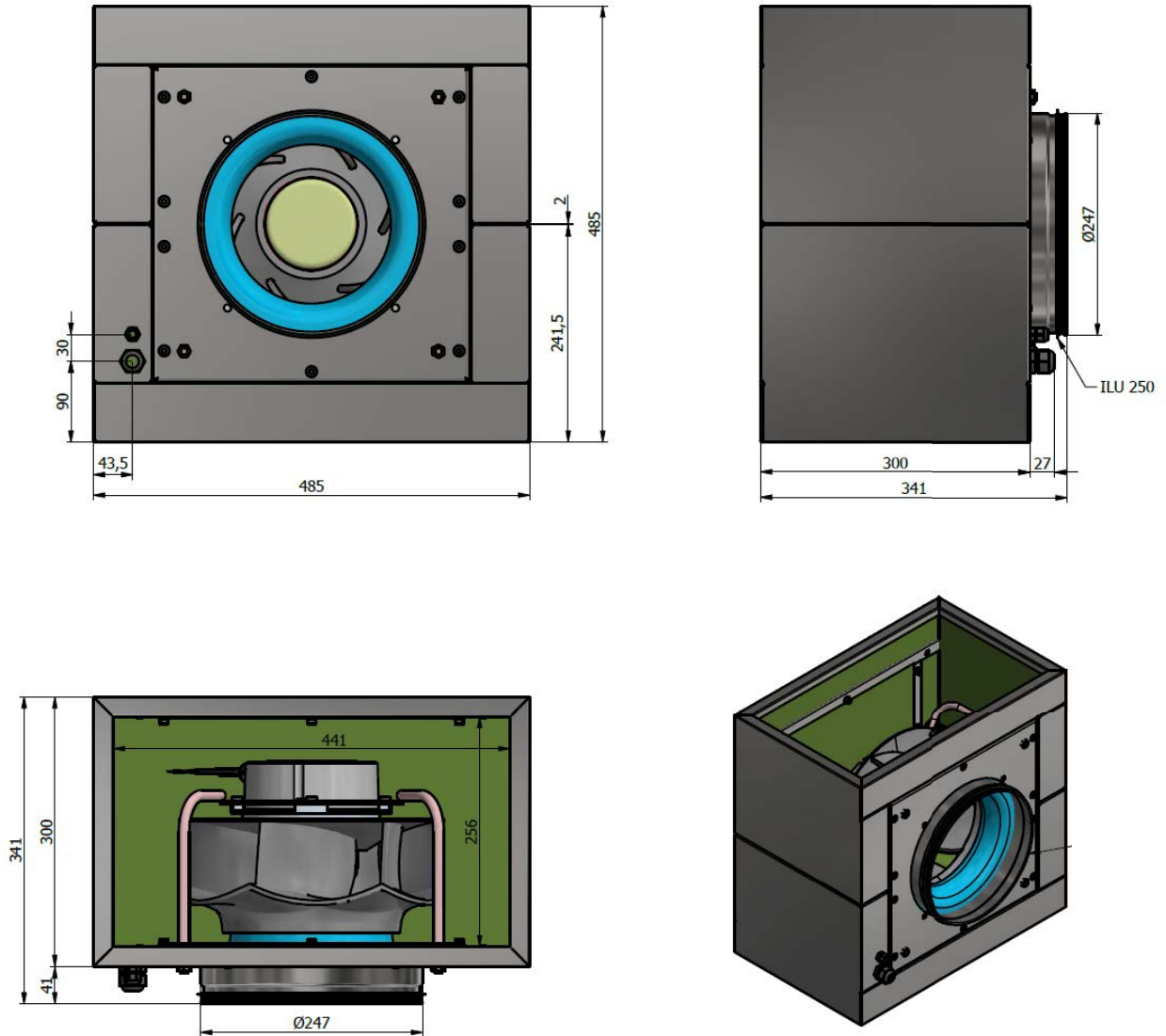
Weight	21,3 kg
Plate thickness, chassis	1 mm
Plate thickness, fan plate and inspection hatch	3 mm
Insulation	20 mm Polyethylen Cross Linked PE-Foam - LD-30, Black
Cable glands, PG	M12
Duct connection, ILU	indtag Ø250 / afkast 441x256 mm
Dimensions	See product drawing

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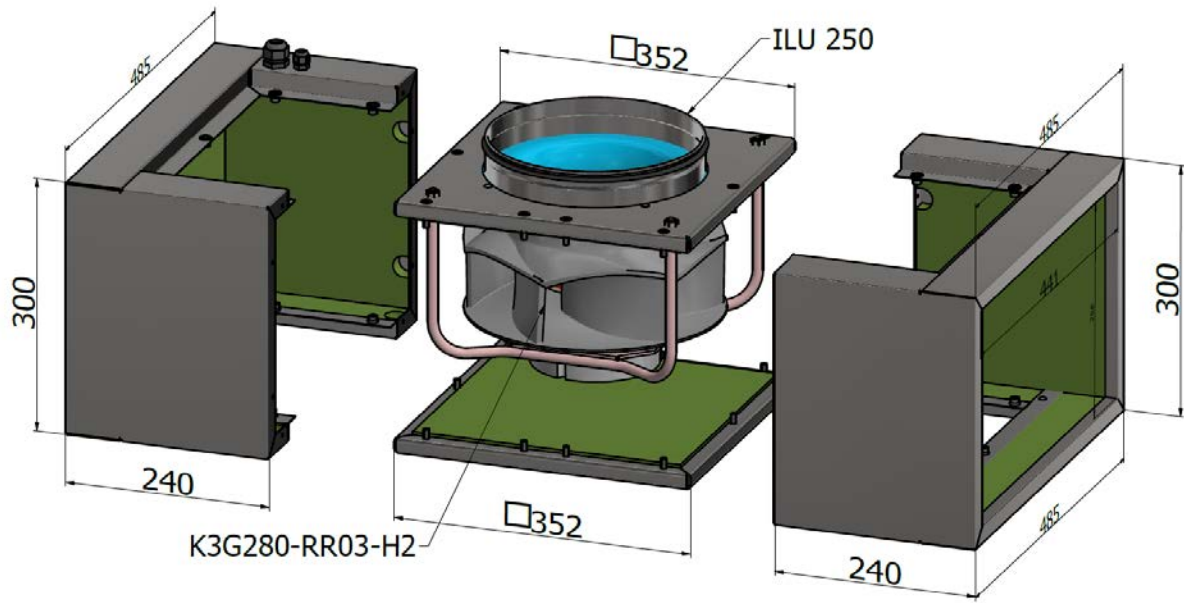
## Product drawing



BF500S-280RR03H2

## BoxFan

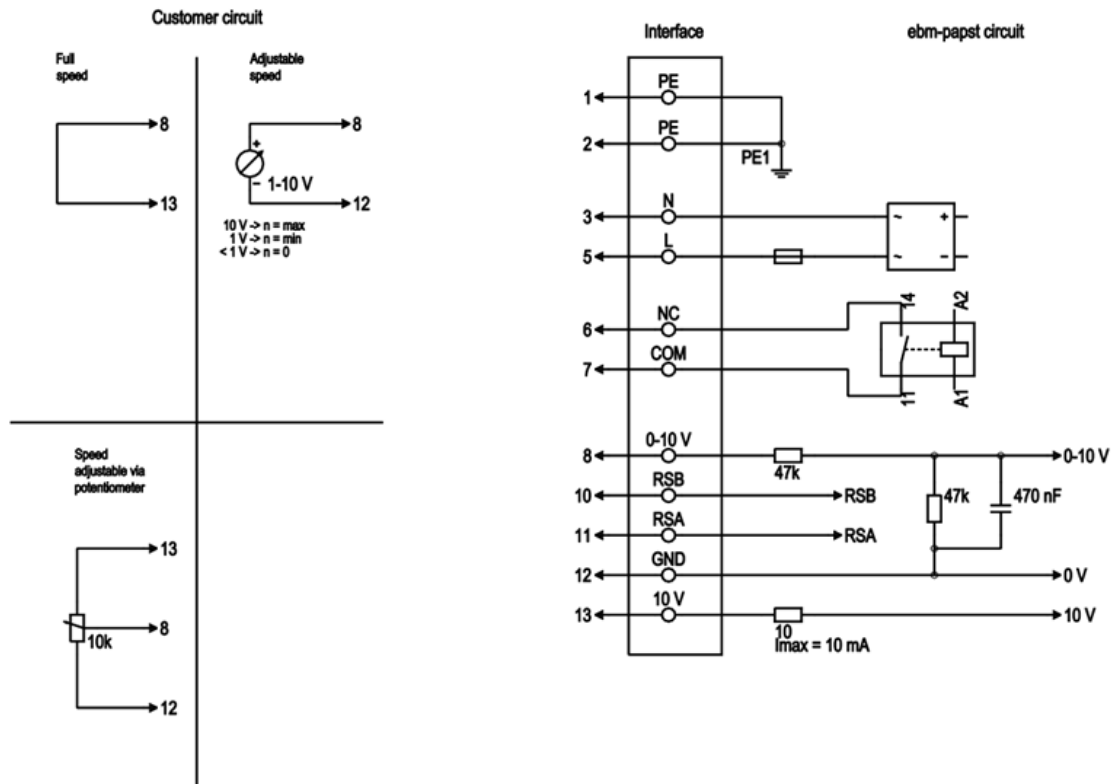
Built-in Radical EC fan  
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Cable PVC AWG18, 5x crimped ferrules

Cable PVC AWG22, 5x crimped ferrules

## Connection

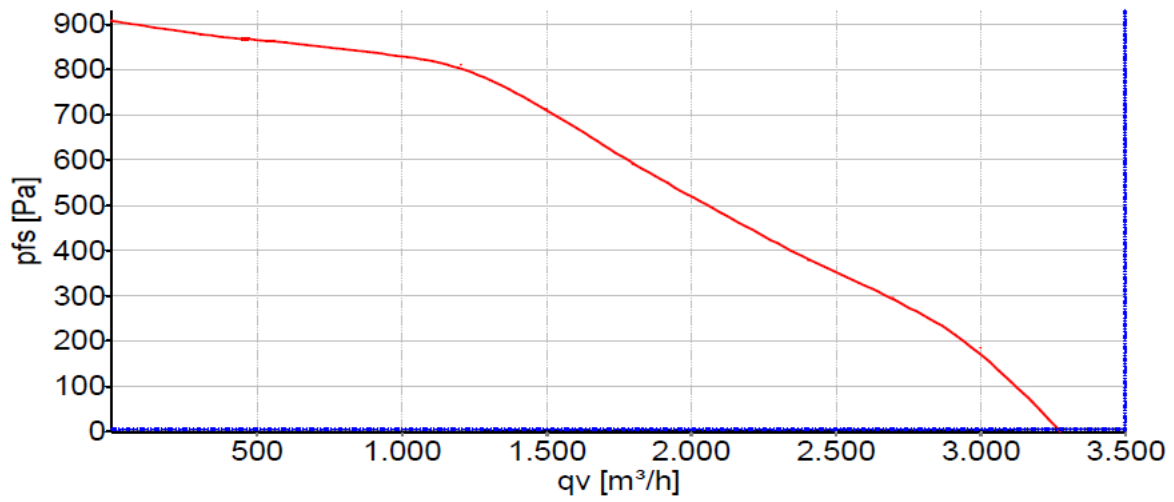


No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	Green/yellow	Protective earth
1	3	N	Blue	Power supply, neutral conductor, 50/60 Hz
1	5	L	Black	Power supply, phase, 50/60 Hz
1	6	NC	White 1	Status relay, floating status contact; break for failure, contact rating 250 VAC / 2A (AC1) / min. 10 mA, 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.