BL-F180E-EC-05

EC Forward Curved Centrifugal Fan



Product Overview

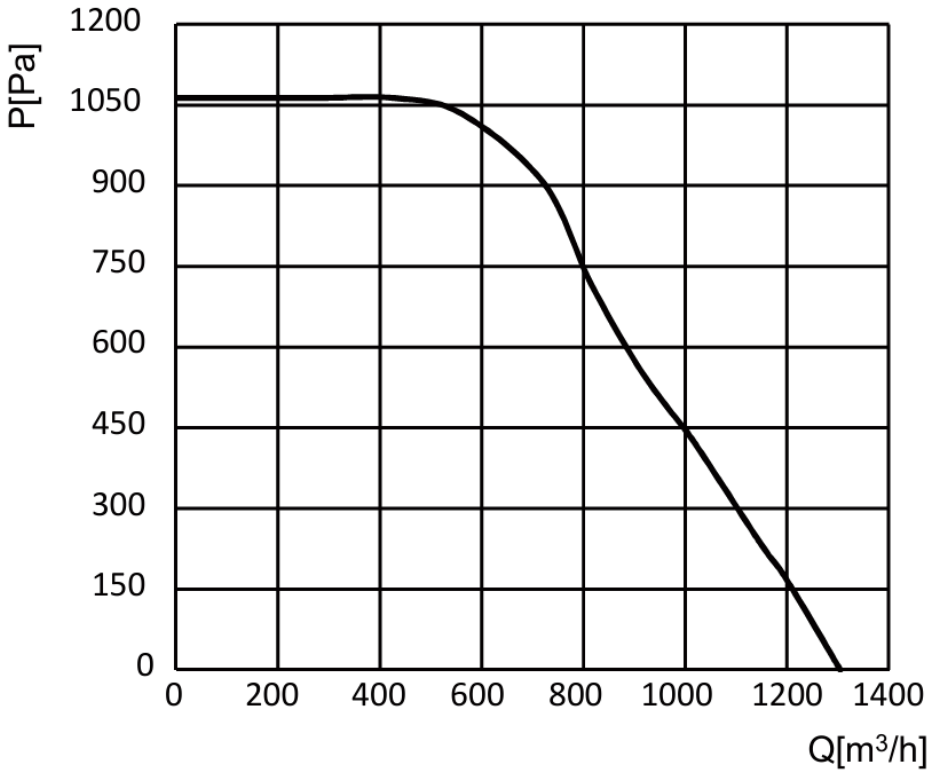
The BL-F180E-EC-05 is a high-performance 230 VAC electronically commutated forward curved centrifugal fan. It combines a metal impeller, 0–10 V/PWM and RS485 control, integrated motor protection and a compact external-rotor design for HVAC and equipment-cooling applications.

Key characteristic	Value
Maximum airflow	Approx. 1300 m³/h
Maximum static pressure	Approx. 1050 Pa
Nominal voltage	230 VAC, 50/60 Hz
Nominal speed	2350 RPM
Maximum input power	510 W
Control	0–10 VDC / PWM / RS485
Protection / insulation	IP55 / Class B

Technical Data

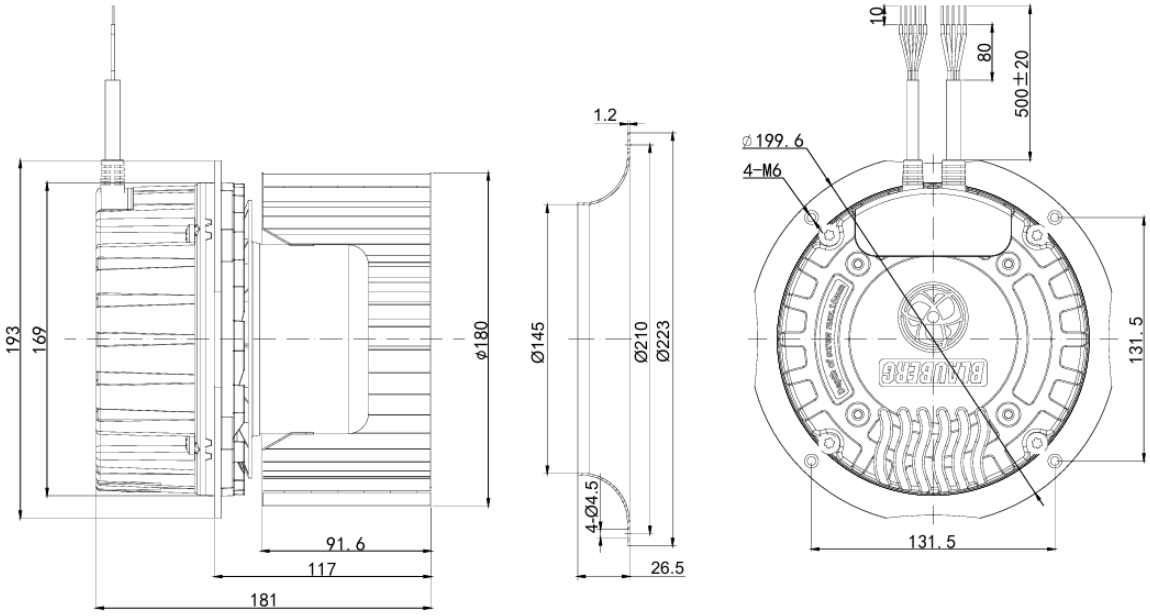
Parameter	Specification	Parameter	Specification
Type	EC forward curved centrifugal fan	Phase	Single phase (1~)
Nominal voltage	230 VAC	Frequency	50/60 Hz
Nominal speed	2350 RPM	Max. input current	2.4 A
Max. input power	510 W	Sound pressure	83 dB(A)
Ambient temperature	-25 to +60 °C	Operating mode	S1 continuous duty
Overall dimensions	193 × 193 × 181 mm	Impeller	Metal
Rotation	Clockwise viewed from rotor side	Rotor finish	Powder coated
Protection	IP55	Insulation class	Class B
Bearing	Ball bearing	Motor protection	Locked-rotor, thermal, over/undervoltage and overcurrent protection; soft start
Cable	500 ±50 mm, measured at bracket	Humidity	5–90% RH
Motor type	External-rotor EC motor	Impeller runout	Axial ≤0.5 mm; radial ≤0.5 mm
Certifications	CCC, CE, RoHS	Control interfaces	0–10 V/PWM and RS485

Air Performance



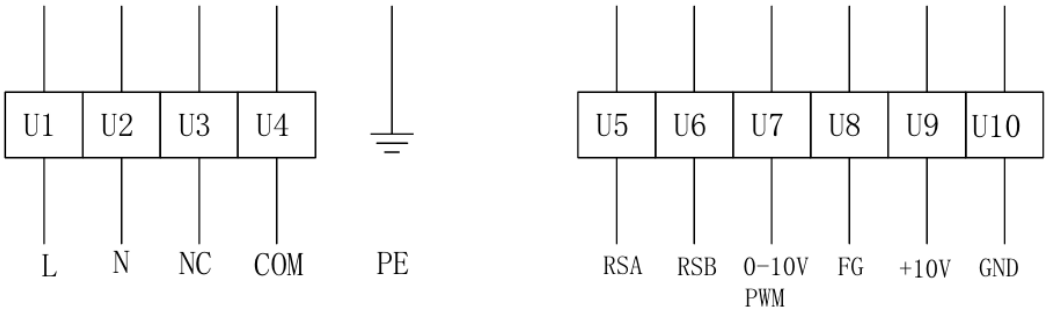
Air performance curve

Overall Dimensions



Dimensions in millimetres

Electrical Connection



Line	Connection	Designation	Colour	Function / Assignment
Power	—	PE	Green/Yellow	Protective earth
Power	U1	L	Brown	Live conductor
Power	U2	N	Black	Neutral conductor
Power	U3	NC	White	Normally-closed switch / circuit breaker
Power	U4	COM	Grey	Common terminal
Control	U5	RSA	Brown	RS485 interface A
Control	U6	RSB	Grey	RS485 interface B
Control	U7	Speed control	Yellow	0–10 V/PWM compatible input
Control	U8	FG	White	Speed-feedback output
Control	U9	+10 V	Red	Control-power output
Control	U10	GND	Blue	Control reference ground

Note

1. Connect power and control conductors strictly according to the wiring diagram.

2. Do not connect the white signal conductor directly to the red signal conductor or an external DC supply.

3. If the fan does not start, check the speed-control input. Never touch the impeller or rotor while energised.

4. Startup may take several seconds. Do not touch the impeller or rotor while energised or at low speed.

5. For EN 55014 EMC testing, install an additional magnetic ring on the power cable.

6. Only persons with appropriate capability and technical experience may use the fan without supervision. Keep children away.

7. A damaged power cable must be replaced by the manufacturer.

8. Do not operate the motor alone without an impeller or load.

9. Store the repacked product at -40 to +80 °C, RH ≤75%, in a clean ventilated area free of corrosive gases and at least 15 cm above the floor.