SPECIFICATION

MODEL

K-EC200-W230-21

Model:K-EC200-W230-21

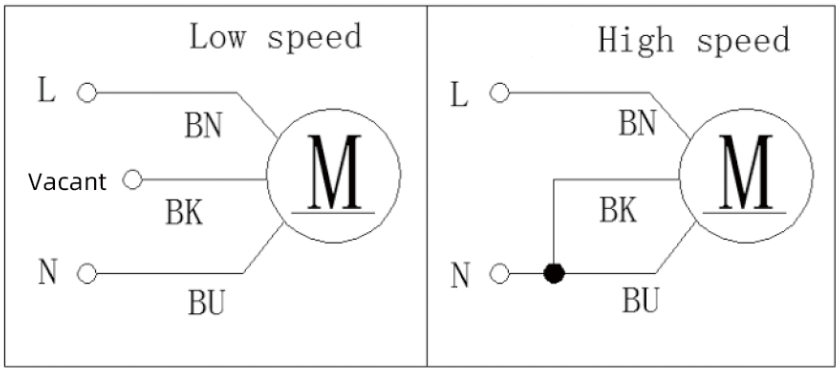
1.Scope of Application

The specification is applicable to the fan for air supply or heat dissipation of refrigerator. The motor complies with the technical regulations of 3-phase brushless DC motor. Where there is no special point, all comply with GB 12350, GB/T 21418 and other national standards.

2.General parameter

NO.	Item		Data	Remark
1	Model		K-EC200-W230-21	
2	Fan Size		ϕ200（34°）[mm]	Aluminum blade
3	Rated voltage		AC230 [V]	
4	Rated current		0.07±7% [A]	AC terminal current
5	Rated power		23±7%[W]	
6	Operating voltage range		AC100-240 [V]	50/60Hz
7	Rated speed	High speed	2100±30 [r/min]	Free atmosphere (static pressure 0 Pa)
		Low speed	1500±30 [r/min]	
8	Speed control		Constant speed	
9	Rated air volume		530±5% [m^3/h]	2100r/min, 0Pa
			530±5% [m^3/h]	1500r/min, 0Pa
10	Noise		50 [dB（A）]	1m away from the air wheel inlet
11	Dynamic balance accuracy level		G4.0	
12	Life		≥20000 [h]	Under rated load, bearing temperature below 80℃ continuous operation
13	Insulation impedance		≥50 [MΩ]	
14	Electrical strength		AC 1500V 1min	Leakage current less than 5mA
15	Working system		Continuous S1	
16	Insulation class		Class B	
17	Allowable temperature range[℃]		-30℃ ~ +50℃	
18	Allowable storage temperature range[℃]		-40℃~+80℃	
19	Permissible humidity range [%]		≤95% [RH]	
20	Allowable storage humidity range [%]		≤93% [RH]	
21	Protection class		IP65	
22	Direction of rotation		Counterclockwise (at the end of the shaft)	
23	Temperature rise standard		Winding ≤105℃	The ambient temperature is 50℃. Test under normal conditions. The allowable temperature rise is 45K or less.
			IC chip, MOS tube surface ≤100℃	
			Bearing near ≤80℃	
			Motor housing ≤80℃	
23	Weight		968g	

3.Instructions for connecting the outgoing cable



4.Structure and control

4.1 Wind blades:

The leaf material is metal aluminum leaf, color is natural, and the material meets the requirements of RoHS.

4.2 Wind guide bracket:

The wind guide bracket is made of cold rolled sheet. The surface electrophoresis is black and the material conforms to RoHS.

4.3 Motor:

The motor is brushless DC permanent magnet motor with outer rotor. The shell material of the motor is engineering plastic PA66, flame retardant V-0 grade, and the material meets the requirements of RoHS.

4.4 Bearing:

Ball bearings.

4.5 Tension test of power cord:

The power outlet line and the motor housing should be able to withstand the static tension of 50N/10s, and no loosening is allowed after three consecutive tests; The static tension between a single lead wire and the terminal should be at least 30N/10s.

4.6 Constant speed:

The motor has a constant speed function, that is, after power-up, the motor maintains a constant speed, its speed is not subject to static pressure changes.

4.7 Soft Starting:

After the motor starts, it starts running at a low speed and reaches the maximum speed in about 15s.

4.8 Protection Function:

The motor has the functions of stop-turn protection, current limiting and overcurrent protection.

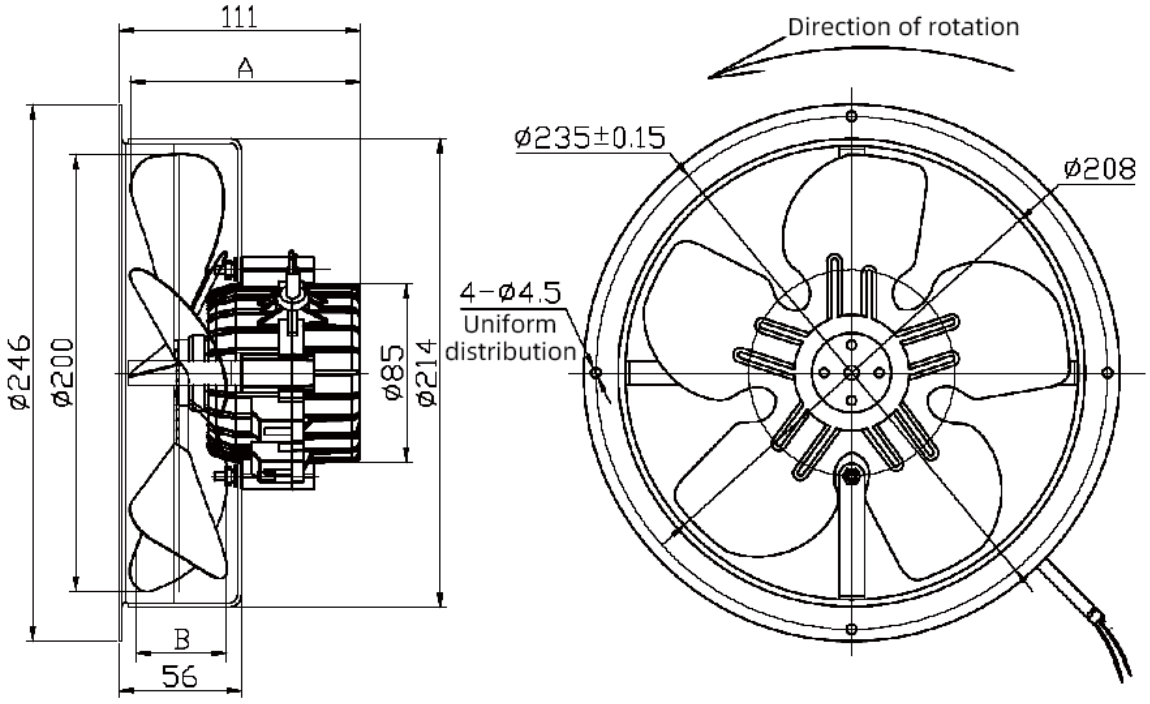
4.9 Noise:

Single fan running in free atmosphere, measured 1m away from the fan, wind turbine noise measured at 1500r/min ≤50[dB(A)]

5. Load air volume test data

Item	Fan dia	Voltage	Frequency	Speed	Power input	Current	Air flow
Unit	mm	VAC	Hz	r/min	W	A	m^3/h
High speed	ϕ200（34°）	230	50	2100	23	0.19	740
Low speed	ϕ200（34°）	230	50	1500	11.5	0.1	530

6. Product drawing



Fan size			
Blade specification	Wind blade Angle	A	B
Φ200	22°	98	30
Φ200	28°	100	36
Φ200	31°	102	40
Φ200	34°	102	42

7.Precautions

6.1 Do not extend the lead length during use.
6.2 Reverse rotation of the motor is prohibited during power-on. And when the motor is not energized, do not apply external force to make its speed higher than the rated speed, otherwise, the motor will be damaged.
6.3 When the motor fails, the power supply must be turned off immediately.
6.4 The power supply voltage range of the driving motor is specified in the instructions. If the power supply voltage does not meet the requirements, the motor may have the possibility of smoke, leakage or electric shock.
6.5 Do not touch the fan when it is energized. This may cause electric shock or injury.
6.6 Do not decompose or transform the fan; otherwise, the fan cannot operate normally.
6.7 If the outgoing wire is connected incorrectly or by mistake, the motor cannot run normally.
6.8 The lead wire and protective sheath shall not be damaged, otherwise the motor may leak or be burned out.
6.9 If the motor runs abnormally, turn off the power immediately and cool down. Otherwise, people could be shocked or burned.
6.10 Do not put water into the motor.
6.11 It is forbidden to run the electricity for a long period of time with full power and no load.