Product specification

Model:ECF(K)6E146-PGWSAV0

Fan type:EC Blower with Scroll housing

Manufactory:Zhejiang MingZhen Electric & Electronic Co., Ltd.

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Fan Introduction

This product consist of outer rotor(EC)motor, forward curved centrifugal impeller and volute, with features of compact structure, small volume, convenient installation etc..

Scope of application

General purpose fan, can be widely used in purification of air conditioning systems, ventilation duct dust, environmental protection, refrigeration equipment and other fields.

Environmental requirements

- ●Operating ambient temperature range:-25℃~+50℃
- ●Working environment humidity range:≤90%
- ●Transportation and storage temperature range:-40℃~+80℃
- ●Transportation and storage environment humidity range:≤80%
- ●The storage place is well ventilated, corrosive gases not contained.

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Design, manufacturing, testing standards and certification

●JB-T10563 Technical specification for general purposes centrifugal fans
●GB/T 14711 General safety requirements for Medium and small rotary motor
●GB/T 755/IEC60034-1 rotary motor quota and performance
●GB 4706.32-2012/IEC 60335-2-40:2005 Household and similar electrical appliances - Safety - Part 2-40: Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers
●The level of balance is in accordance with ISO 1940, G6.3
●Vibration testing and velocity is performed according to JB/T8689.
●This product is certified by China CCC and EU CE
●ISO 9001 quality system certification

Technical features

Mass	4.5 kg
Size	φ146 mm
Impeller material	Galvanised sheet steel
Rotation	Counter-clockwise(Seen from cable exit)
Protection class	IP54
Insulation class	F
Mounting	Shaft horizontal or rotor on bottom; rotor on top on request
Mode of operation	S1(Continuous operation)
Bearings	Maintenance-free ball bearings
Controller	Controller seperated with motor, 0~10V or PWM control

Structures

Inlet type	Dual Inlet
Impeller type	Forward curved impeller
Housing	Volute; With inlet ring;

Technical parameters

Supply	1P,200~277V
Frequency	50/60 Hz

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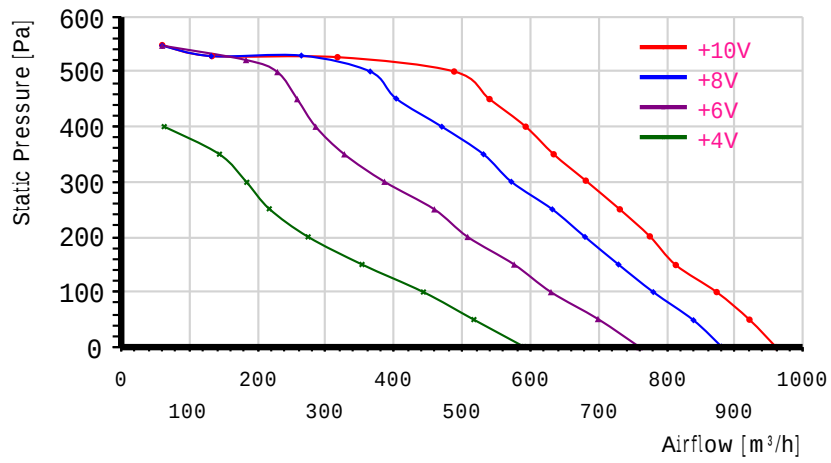
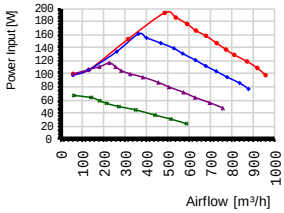
Rated voltage	230 VAC
Power input	163 W
Rated current	1.2 A
Rated speed	2500 r/min
Max airflow	1000 m³/h (Static pressure=0Pa)
Acoustic	65 dB(A) measured at 1.0m from inlet side
ErP level	2015

Performance curve

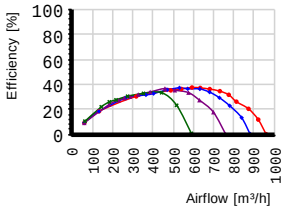
Airflow curve



Power input curve



Efficiency on total pressure



Performance test with reference to GB/T 1236-2017, equivalent to ISO 5801

TestID	2017070401	Control voltage	10 VDC

Test environment					
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density
171mm	0.023㎡	31℃	68%	100.7kPa	1.2kg/m³

Test data										
Voltage	Frequency	Speed	Power input	Current	Airflow	Static pressure	Dynamic pressure	Total pressure	Pressure Differenc	Nozzle Size
V	Hz	r/min	W	A	m³/h	Pa	Pa	Pa	Pa	mm
231.3	50	2834	100	0.79	60	548	0	549	343	30
231.5	50	2834	106	0.84	133	528	2	529	216	30+40
232	50	2834	153	1.19	317	526	8	534	306	30+40+50
231.3	50	2800	193	1.49	488	500	20	520	328	30+40+70
231.1	50	2687	186	1.38	540	450	24	474	226	30+40+50+70
229.7	50	2515	176	1.35	593	400	29	429	272	30+40+50+70

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230.7	50	2360	166	1.25	634	350	33	383	311	30+40+50+70
231	50	2216	158	1.19	681	302	39	341	358	30+40+50+70
231.7	50	2046	147	1.08	731	250	44	294	412	30+40+50+70
230.8	50	1917	137	1	775	201	50	251	462	30+40+50+70
231.4	50	1762	129	0.98	813	149	55	204	222	30+40+50+100
231.5	50	1606	119	0.88	873	100	63	164	255	30+40+50+100
230.7	50	1439	109	0.84	921	50	70	121	284	30+40+50+100
230.2	50	1269	98	0.78	960	0	76	77	308	30+40+50+100

TestID	2017070402	Control voltage	8 VDC

Test environment

Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density
171mm	0.023㎡	31℃	68%	100.7kPa	1.2kg/m³

Test data

Voltage	Frequency	Speed	Power input	Current	Airflow	Static pressure	Dynamic pressure	Total pressure	Pressure Differenc	Nozzle Size
V	Hz	r/min	W	A	m³/h	Pa	Pa	Pa	Pa	mm
228.3	50	2833	98	0.75	60	547	0	547	343	30
226.5	50	2834	106	0.84	132	528	1	530	213	30+40
230.4	50	2833	134	0.99	264	529	6	535	212	30+40+50
230.2	50	2786	161	1.23	365	500	11	511	404	30+40+50
228.6	50	2669	155	1.17	403	451	14	464	225	30+40+70
229.6	50	2518	147	1.12	470	400	18	419	306	30+40+70
229.8	50	2359	139	1.05	531	350	23	373	219	30+40+50+70
229.2	50	2196	131	1	572	300	27	327	253	30+40+50+70
229.7	50	2019	121	0.94	632	250	33	283	308	30+40+50+70
230.3	50	1582	112	0.85	680	200	38	238	357	30+40+50+70
230.4	50	1434	104	0.78	729	150	44	194	410	30+40+50+70
230.1	50	1295	95	0.74	780	100	51	150	204	30+40+50+100
230.3	50	1360	86	0.66	839	49	58	108	236	30+40+50+100
230.8	50	1190	77	0.59	880	1	64	65	260	30+40+50+100

TestID	2017070403	Control voltage	6 VDC

Test environment

Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density
171mm	0.023㎡	32℃	68%	100.7kPa	1.2kg/m³

Test data

Voltage	Frequency	Speed	Power input	Current	Airflow	Static pressure	Dynamic pressure	Total pressure	Pressure Differenc	Nozzle Size
V	Hz	r/min	W	A	m³/h	Pa	Pa	Pa	Pa	mm
229.8	50	2834	100	0.84	60	547	0	548	343	30
230.9	50	2836	111	0.94	183	521	3	524	221	30+50
230.4	50	2744	117	0.98	229	499	4	504	344	30+50

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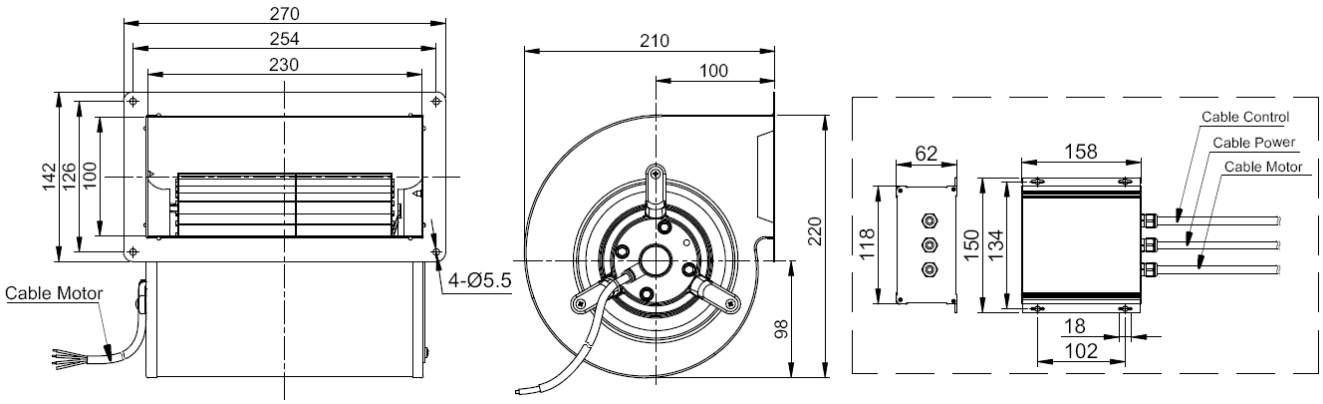
229.5	50	2600	111	0.93	258	450	6	455	435	30+50
230.7	50	2462	105	0.88	285	400	7	406	248	30+40+50
230.6	50	2337	100	0.84	327	350	9	359	324	30+40+50
230.1	50	2186	95	0.77	386	300	12	312	207	30+40+70
229.1	50	1991	87	0.71	459	250	18	267	291	30+40+70
229	50	1805	80	0.66	508	200	21	222	200	30+40+50+70
230.1	50	1597	72	0.58	576	150	28	178	257	30+40+50+70
230.9	50	1409	64	0.54	630	100	33	133	306	30+40+50+70
230.6	50	1216	56	0.46	699	51	40	91	376	30+40+50+70
230.1	50	995	48	0.42	760	0	48	48	444	30+40+50+70

TestID	2017070404	Control voltage	4 VDC

Test environment					
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density
171mm	0.023㎡	32℃	69%	100.7kPa	1.2kg/m³

Test data										
Voltage	Frequency	Speed	Power input	Current	Airflow	Static pressure	Dynamic pressure	Total pressure	Pressure Differenc	Nozzle Size
V	Hz	r/min	W	A	m³/h	Pa	Pa	Pa	Pa	mm
230.8	50	2436	67	0.58	63	400	0	400	373	30
229.6	50	2284	64	0.56	144	350	2	352	253	30+40
230.1	50	2113	59	0.53	184	299	3	302	415	30+40
230.4	50	1969	55	0.49	217	251	4	255	309	30+50
228.2	50	1785	50	0.47	274	200	6	206	490	30+50
229.5	50	1572	45	0.41	353	150	10	160	378	30+40+50
230.9	50	1300	37	0.34	443	100	16	116	272	30+40+70
230.4	50	1045	31	0.3	517	50	22	72	368	30+40+70
231.3	50	781	24	0.25	590	1	29	30	479	30+40+70

Dimensions(in mm)



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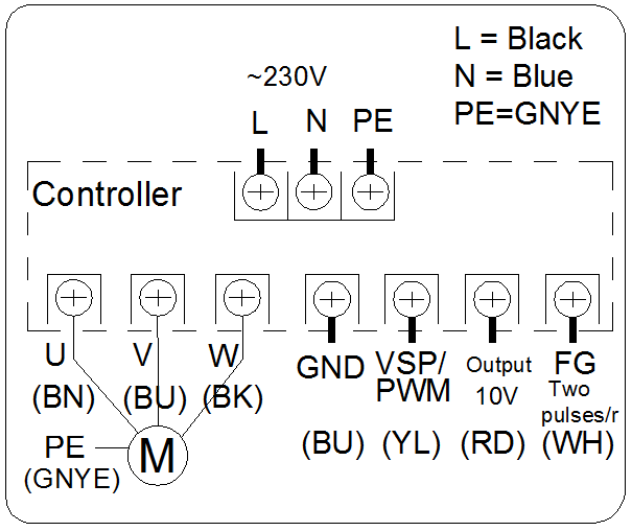
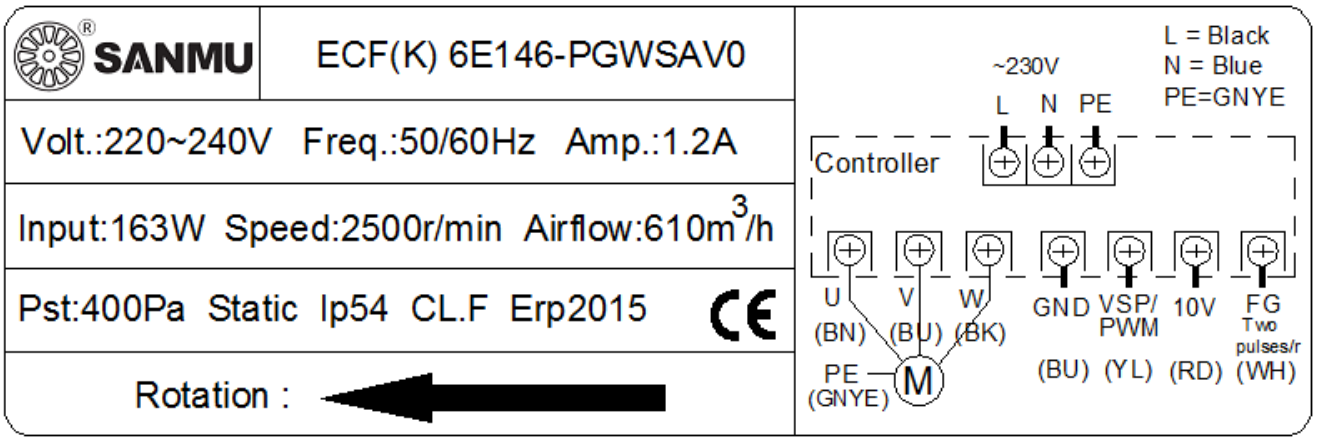
Wiring diagram



Electrical connections

Connection	Assignment/function
L、N	Single-phase supply connection, voltage range 200-277VAC, frequency 50/60Hz
PE	Protective earth
FG	Speed feedback pulse output, 2 pulses per revolution, can be customized
+10V	10VDC output,maximum output current 10mA
VSP/PWM	Speed control signal input connection, 0-10V voltage or PWM signal (amplitude 10-12V, frequency 1-10kHz)
GND	Signal ground for control interface

NamePlate



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Attentions

★Please check the appearance and the accessories if there is no damage before use, check the model is consistent with requirements;

★Keep reliable grounding according to the wiring diagram. to avoid motor burning and personal accident, please check wiring is loose or fall off;

★Before connect the power supply, check whether the motor is reliable, otherwise it will cause motor damage and personal injury;

★It is forbidden to pull the power cable, if the power cable is damaged, to be repaired before use, to avoid the accident of electric shock;

★Drop or impact motor is forbidden;

★Washing motor with water is prohibited, it will reduce the motor insulation level, even lead to electric leakage even endanger personal safety;

★Special customized product is designed for specified requirements, please consult with our engineers before change useage;

★The temperature of the motor shell may be higher in a short time after the fan stopped, Please avoid direct contact with the motor surface. If necessary, please take protective measures to prevent scald;

★Do not contact the impeller when the fan running, you need to wait for all the parts stopped before operate it;

★When the fan is installed, check and ensure thers is no debris in the shell and other shell body, keep the fan clean;

★After the fan installation complete, before connected to supply, please confirm that there is no collision or interference or stuck.

Product life and maintenance, warranty

●The design life of this product is 40,000 hours. This data is derived from the expected life of L10 for general ball bearings at 40℃ is 40,000 hours. The actual service life of the product is affected by the use environment (temperature, humidity, installation, bearing load, etc.).

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●According to the use of the environment, please make a clean maintenance every 3~6 months.

●From the date of purchase (order delivery date), The warranty period is one year. During this period, for failure due to the quality of the product itself, we provide free replacement or repairing. If the damage caused by improper disassembly, transportation, artificial damage or natural disasters, etc., is not in the scope of this warranty;