

Model:ECF(K)6E250-PLHDAJ1-PRF

Fan type:EC Backward curved centrifugal fan



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Fan Introduction

This product consist of outer rotor(EC)motor, backward curved centrifugal impeller, with features of compact structure, large airflow, high static pressure, low vibration, low noise, convenient installation, energy saving, high efficiency 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	6 kg
Size	φ250 mm
Impeller material	Sheet aluminium
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 integrated with motor, 0~10V or PWM control

Structures

Inlet type	Single Inlet
Impeller type	Backward curved impeller
Housing	Without housing; With inlet ring;

Technical parameters

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

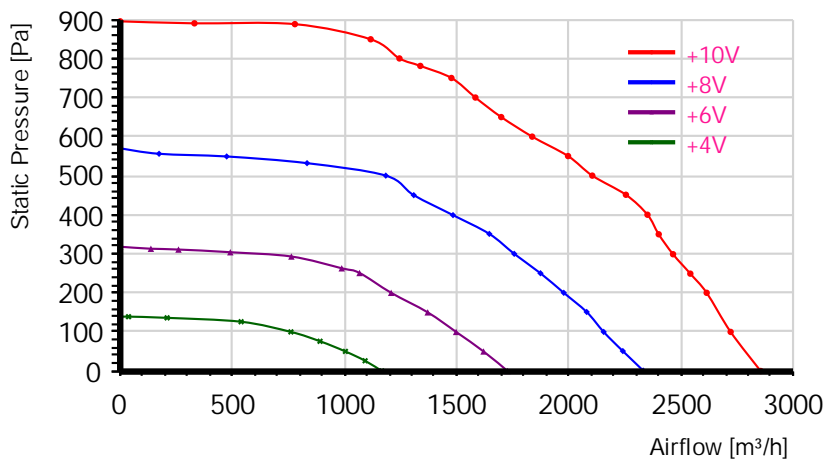
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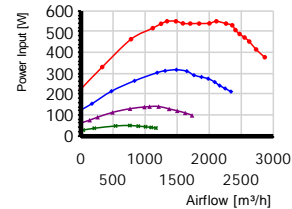
Rated voltage	230 VAC
Power input	540 W
Rated current	2.38 A
Rated speed	3100 r/min
Max airflow	2850 m ³ /h (Static pressure=0Pa)
Acoustic	74 dB(A) measured at 1.0m from inlet side
ErP level	2015

Performance curve

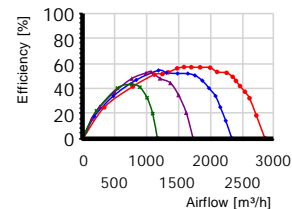
Airflow curve



Power input curve



Efficiency on static pressure



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

TestID	2018010601			Control voltage	10 VDC					
Test environment										
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density					
301mm	0.0712m ²	14°C	58%	102.7kPa	1.2kg/m ³					
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	m ³ /h	Pa	Pa	Pa	Pa	mm
229.7	50	3100	224	1.01	0	895	0	895	940	
230.1	50	3100	330	1.46	331	890	1	891	360	30+40+50
230.3	50	3100	464	2.04	779	888	6	894	220	30+40+50+100
230.6	50	3055	517	2.29	1117	849	12	861	257	30+40+50+70+100
230.7	50	2988	538	2.36	1245	800	15	815	303	30+40+50+70+100
229.7	50	3100	550	2.42	1338	781	17	798	284	150+189*0

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229.9	50	3100	550	2.43	1477	750	20	770	346	150+189*0
229.9	50	3020	540	2.38	1584	700	22	723	397	150+189*0
230.9	50	3010	539	2.36	1699	650	26	676	456	150+189*0
230.4	50	3010	539	2.36	1837	600	30	630	533	150+189*0
230.2	50	3020	540	2.37	1997	550	36	586	250	+189*1
229.9	50	3080	550	2.42	2105	500	42	542	278	+189*1
230.1	50	3100	539	2.36	2255	451	48	499	319	+189*1
229.4	50	3100	531	2.33	2351	400	52	452	346	+189*1
229.7	50	3100	508	2.24	2401	350	54	404	361	+189*1
230.2	50	3100	489	2.15	2465	299	58	357	381	+189*1
229.9	50	3100	472	2.08	2542	249	61	310	405	+189*1
230.3	50	3100	453	1.99	2615	200	65	264	428	+189*1
230.6	50	3100	415	1.82	2722	100	70	170	464	+189*1
229.8	50	3100	377	1.66	2856	0	77	77	510	+189*1

TestID	2018010605			Control voltage	8 VDC	
Test environment						
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density	
301mm	0.0712m ²	11℃	73%	101.9kPa	1.2kg/m ³	

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	m ³ /h	Pa	Pa	Pa	Pa	mm
228.6	50	2495	124	0.62	0	570	0	570	598	
230.4	50	2495	154	0.73	173	556	0	556	214	30+50
230.4	50	2495	214	0.97	475	549	2	551	190	30+40+50+70
228.7	50	2495	264	1.19	833	532	7	538	252	30+40+50+100
229.5	50	2495	303	1.36	1184	500	13	513	289	30+40+50+70+100
231.7	50	2500	312	1.38	1309	450	16	466	273	150+189*0
230	50	2500	317	1.41	1484	399	21	420	350	150+189*0
229.6	50	2500	310	1.38	1646	351	26	376	430	150+189*0
230	50	2500	291	1.3	1757	300	29	330	490	150+189*0
229.1	50	2500	282	1.26	1874	250	33	283	557	150+189*0
230.5	50	2500	274	1.23	1978	200	37	237	247	+189*1
230.7	50	2500	258	1.16	2080	151	41	192	273	+189*1
231.1	50	2500	241	1.08	2156	100	44	144	293	+189*1
230.6	50	2500	227	1.03	2241	51	48	98	316	+189*1
229.5	50	2500	212	0.97	2332	1	52	52	342	+189*1

TestID	2018010606			Control voltage	6 VDC	
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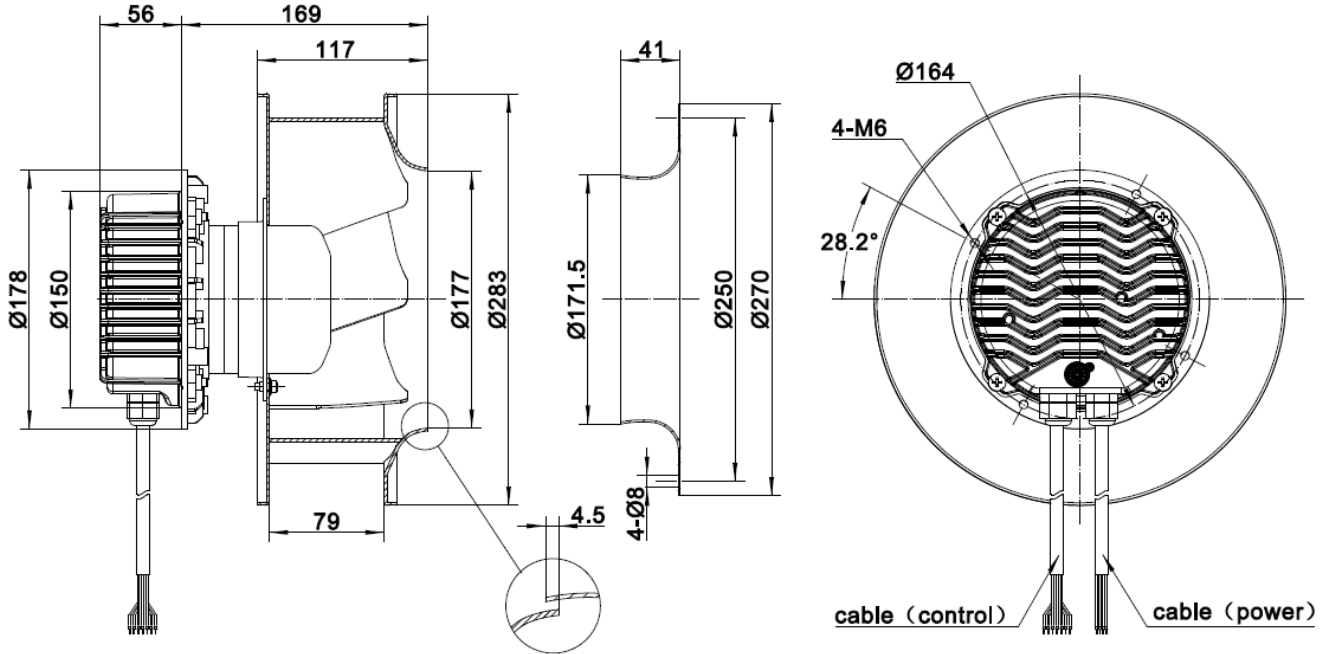
Test environment										
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density					
301mm	0.0712m ²	10℃	73%	101.9kPa	1.2kg/m ³					
Test data										
Voltage	Frequency	Speed	Power input	Current	Airflow	Static pressure	Dynamic pressure	Total pressure	Pressure Differenc	Nozzle Size
V	Hz	r/min	W	A	m ³ /h	Pa	Pa	Pa	Pa	mm
228.9	50	1868	61	0.39	0	318	0	318	334	
230.3	50	1868	75	0.43	137	313	0	313	249	30+40
229.2	50	1868	89	0.48	260	311	1	311	224	30+40+50
230.8	50	1868	112	0.56	491	304	2	306	202	30+40+50+70
229.7	50	1868	130	0.64	763	293	6	298	212	30+40+50+100
229.9	50	1868	138	0.67	988	263	9	272	202	30+40+50+70+100
229.6	50	1868	140	0.68	1067	251	11	262	234	30+40+50+70+100
229.8	50	1867	140	0.68	1208	200	14	213	233	150+189*0
229.3	50	1867	129	0.64	1371	150	18	168	299	150+189*0
230.8	50	1867	120	0.6	1498	100	21	122	357	150+189*0
230.3	50	1867	110	0.56	1620	50	25	75	417	150+189*0
230.8	50	1868	98	0.51	1727	0	28	29	473	150+189*0

TestID	2018010608			Control voltage	4 VDC					
Test environment										
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density					
301mm	0.0712m ²	10℃	77%	101.8kPa	1.2kg/m ³					
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	m ³ /h	Pa	Pa	Pa	Pa	mm
230	50	1230	26	0.3	0	138	0	138	145	
229.8	50	1230	27	0.3	37	139	0	139	144	30
229.8	50	1230	36	0.31	209	136	0	136	146	30+40+50
231	50	1230	47	0.35	539	126	3	128	244	30+40+50+70
230.6	50	1230	49	0.36	761	100	6	106	212	30+40+50+100
230.6	50	1230	46	0.35	891	76	8	83	288	30+40+50+100
230.3	50	1230	43	0.33	1004	50	10	60	208	30+40+50+70+100
230.6	50	1230	40	0.33	1092	26	11	37	246	30+40+50+70+100
230.5	50	1230	37	0.31	1166	0	13	13	280	30+40+50+70+100

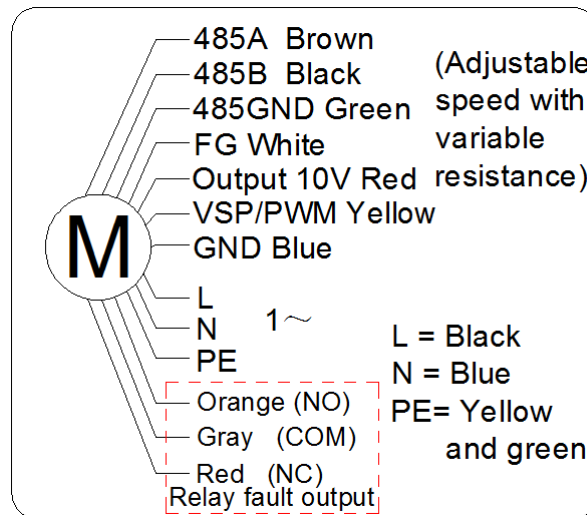
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Dimensions (in mm)



Wiring diagram



Electrical connections


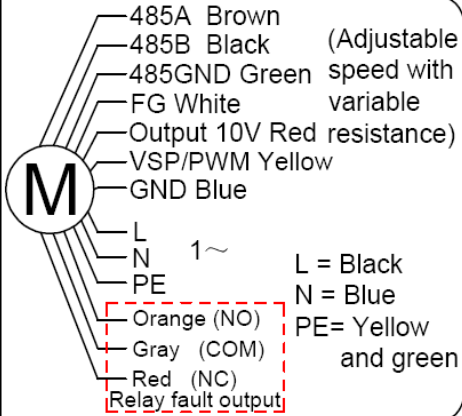


Connection	Assignment/function
L、N	Single-phase supply connection, voltage range 200-277VAC, frequency 50/60Hz
PE	Protective earth
485A	RS485 interface for MODBUS-RTU
485B	RS485 interface for MODBUS-RTU

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485GND	Reference ground for control interface
NC	Status relay, mode2--close on normal, open on fault
COM	Common connection of status relay, contact rating 250VAC/3A
NO	Status relay, mode2--open on normal, close on fault
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

	ECF(K) 6E250-PLHDAJ1-PRF	
Volt.:220~240V	Freq.:50/60Hz Amp.:2.38A	
Input:540W	Speed:3100r/min Airflow:1584m ³ /h	
Pst:700Pa	Static Ip54 CL.F Erp2015 	
Rotation :		

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;

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- ★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.).
- 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;