

Model:ECF(K)8D310-PLHDAL8E-RF

Fan type:EC Radial plug 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..The support bracket and panel assembly makes the fan have the characteristics of plug and play, the installation and maintenance become more convenient.

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/T 10563 Technical specification for general purposes centrifugal fans
- GB/T 14711 Safety requirements of small and medium size rotating electrical machines
- GB/T 755/IEC60034-1 Rotating electrical machines - Part 1: Rating 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
- Balance quality grade for rotor is G6.3, in accordance with ISO 1940-1,
- Vibration testing and velocity is performed according to JB/T 8689.
- This product is certified by China CCC and EU CE
- ISO 9001 quality system certification

Technical features

Mass	23 kg
Size	φ310 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; With bracket; With panel;

Technical parameters

Supply	3P,380~480V
Frequency	50/60 Hz
Rated voltage	400 VAC

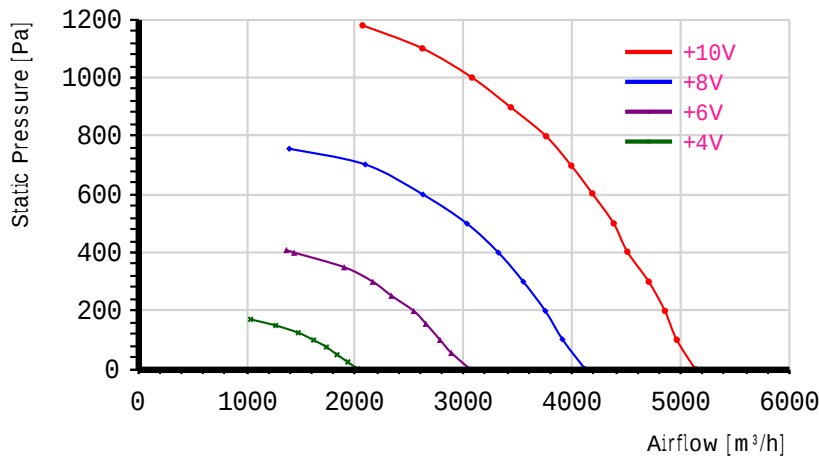
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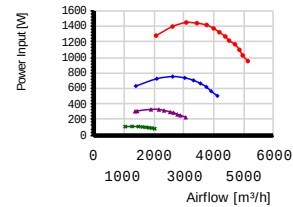
Power input	1330 W
Rated current	2.1 A
Rated speed	2880 r/min
Max airflow	5130 m³/h (Static pressure=0Pa)
Acoustic	78 dB(A) measured at 1.0m from inlet side
ErP level	2020

Performance curve

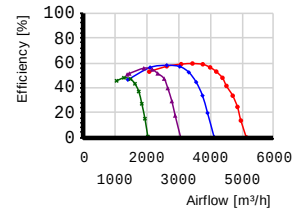
Airflow curve



Power input curve



Efficiency on static pressure



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

TestID		2022070102			Control voltage			10 VDC		
Test environment										
Outlet size		Outlet area		Temperature		Humidity		Baropressure		Density
350.3mm		0.0964m²		32℃		70%		101.2kPa		1.2kg/m³
Test data										
Voltage	Frequency	Speed	Power input	Current	Airflow	Static pressure	Dynamic pressure	Total pressure	Pressure Difference	Nozzle Size
V	Hz	r/min	W	A	m³/h	Pa	Pa	Pa	Pa	mm
399.5	50	2890	1280	2.05	2067	1179	20	1199	249	+189*1
399.6	50	2890	1397	2.21	2618	1100	32	1133	398	+189*1
401.1	50	2890	1449	2.29	3076	1000	45	1045	208	150+189*1
400.5	50	2890	1440	2.25	3433	898	56	954	259	150+189*1
400	50	2890	1417	2.24	3758	799	67	866	310	150+189*1
400	50	2890	1373	2.18	3991	698	75	774	349	150+189*1
399.4	50	2890	1323	2.1	4184	603	83	685	383	150+189*1
401.3	50	2890	1269	2.02	4381	500	91	591	420	150+189*1

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397.4	50	2890	1216	1.97	4507	403	96	499	444	150+189*1
398.3	50	2890	1168	1.89	4704	300	105	404	484	150+189*1
399.3	50	2890	1097	1.79	4853	200	112	312	514	150+189*1
400.6	50	2890	1025	1.7	4962	101	116	217	538	150+189*1
400.4	50	2890	952	1.59	5134	0	125	125	576	150+189*1

TestID		2022070103		Control voltage		8 VDC	
Test environment							
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density		
350.3mm	0.0964m²	32℃	69%	101.2kPa	1.2kg/m³		

Test data										
Voltage	Frequency	Speed	Power input	Current	Airflow	Static pressure	Dynamic pressure	Total pressure	Pressure Difference	Nozzle Size
V	Hz	r/min	W	A	m ³ /h	Pa	Pa	Pa	Pa	mm
400.4	50	2318	630	1.12	1392	756	9	765	285	150+189*0
397.3	50	2318	725	1.23	2093	702	21	722	255	+189*1
399	50	2318	752	1.3	2623	599	32	632	399	+189*1
400	50	2318	736	1.28	3030	499	43	543	202	150+189*1
398.8	50	2318	704	1.22	3319	400	52	452	242	150+189*1
398.8	50	2318	664	1.17	3549	300	60	359	276	150+189*1
399.1	50	2318	619	1.12	3751	200	66	266	308	150+189*1
400.4	50	2318	564	1.03	3910	102	72	174	335	150+189*1
400.8	50	2318	504	0.93	4117	1	80	81	371	150+189*1

TestID		2022070104		Control voltage		6 VDC	
Test environment							
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density		
350.3mm	0.0964m²	33℃	68%	101.2kPa	1.2kg/m³		

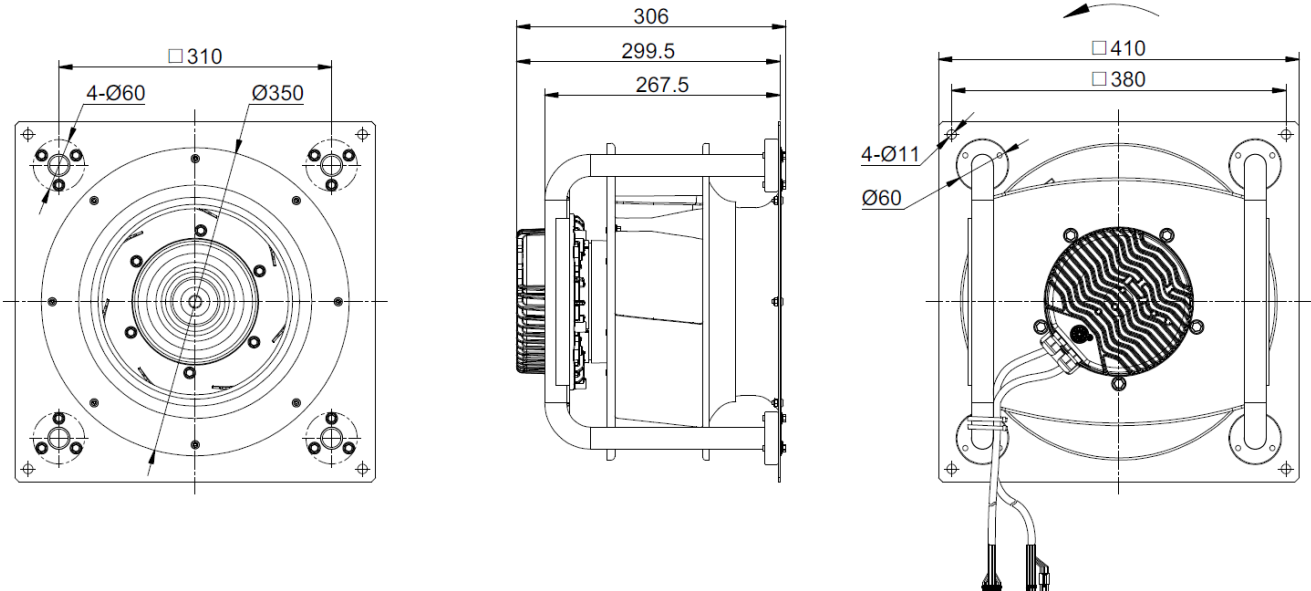
Test data										
Voltage	Frequency	Speed	Power input	Current	Airflow	Static pressure	Dynamic pressure	Total pressure	Pressure Difference	Nozzle Size
V	Hz	r/min	W	A	m ³ /h	Pa	Pa	Pa	Pa	mm
399.9	50	1735	306	0.66	1366	409	9	418	274	150+189*0
402.3	50	1735	310	0.69	1437	400	10	410	304	150+189*0
401.7	50	1735	331	0.7	1897	350	17	367	210	+189*1
401.4	50	1735	329	0.71	2162	300	22	322	272	+189*1
401.4	50	1735	317	0.67	2334	252	26	278	317	+189*1
400.5	50	1735	298	0.65	2539	200	30	230	374	+189*1
401.4	50	1735	289	0.67	2651	156	33	190	408	+189*1
400.8	50	1735	266	0.59	2781	101	37	137	449	+189*1
399.8	50	1735	254	0.58	2885	56	39	96	483	+189*1
399.5	50	1735	229	0.53	3061	0	44	45	543	+189*1

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TestID			2022070105			Control voltage			4 VDC	
Test environment										
Outlet size		Outlet area		Temperature		Humidity		Baropressure		Density
350.3mm		0.0964m²		33℃		68%		101.2kPa		1.2kg/m³
Test data										
Voltage	Frequency	Speed	Power input	Current	Airflow	Static pressure	Dynamic pressure	Total pressure	Pressure Difference	Nozzle Size
V	Hz	r/min	W	A	m³/h	Pa	Pa	Pa	Pa	mm
401.1	50	1153	108	0.34	1036	171	5	176	158	150+189*0
401.8	50	1153	110	0.37	1267	150	8	158	236	150+189*0
400.7	50	1153	109	0.38	1475	125	10	135	320	150+189*0
400.8	50	1153	104	0.35	1616	100	12	112	383	150+189*0
400.2	50	1153	99	0.37	1735	76	14	90	441	150+189*0
400.9	50	1153	94	0.33	1832	50	16	66	492	150+189*0
400.3	50	1153	89	0.36	1931	25	18	43	546	150+189*0
400.4	50	1153	81	0.32	2023	1	19	20	599	150+189*0

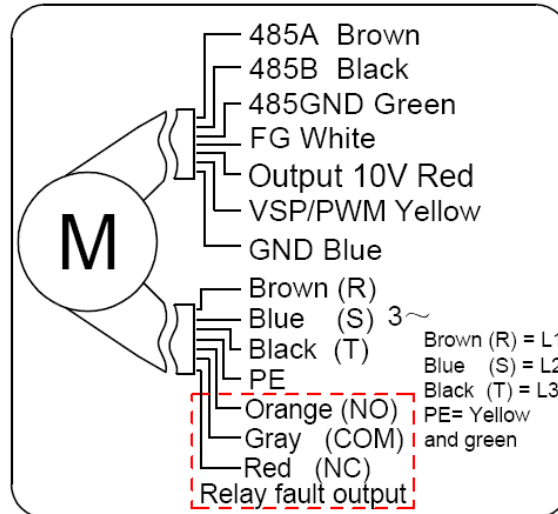
Dimensions(in mm)



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Wiring diagram



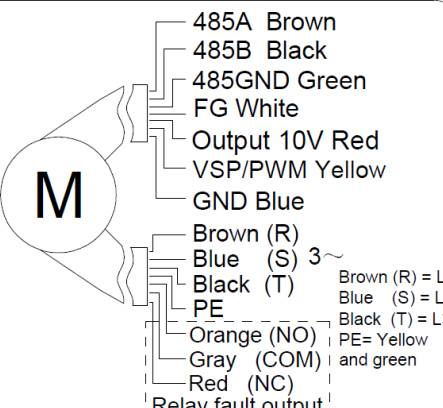
Electrical connections

Connection	Assignment/function
L1、L2、L3	Three-phase supply connection, voltage range 380-480VAC, frequency 50/60Hz
PE	Protective earth
485A	RS485 interface for MODBUS-RTU
485B	RS485 interface for MODBUS-RTU
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

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NamePlate

 SANMU®		ECF(K) 8D310-PLHDAL8E-RF		
Volt.:400V		Freq.:50/60Hz		
Input:1330W		Speed:2880r/min		
P _{st} :900Pa		Airflow:3300m ³ /h		
IP54		CL.F ErP2020		
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;
- ★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;

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★When the fan is installed, check and ensure there 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.

Service life, maintenance, warranty and Disclaimer

- 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;