

Model:ECF(K)8D310-PLHDAJ1-RF

Fan type:EC Backward curved centrifugal fan



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

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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	13 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;

Technical parameters

Supply	3P,380~480V
Frequency	50/60 Hz

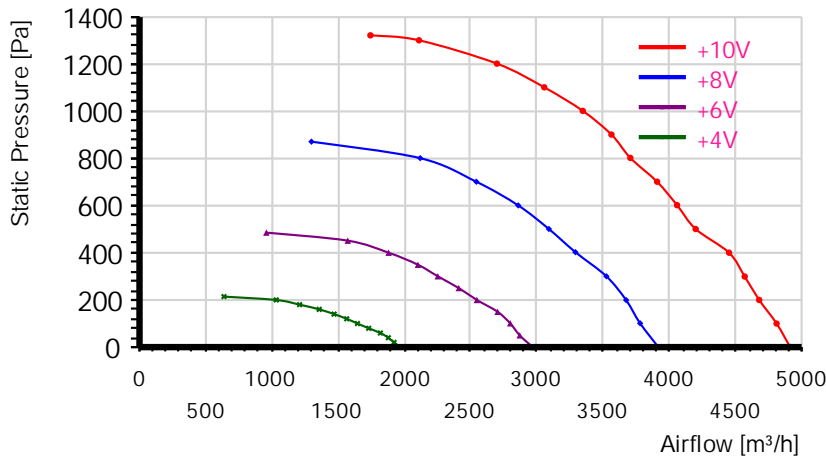
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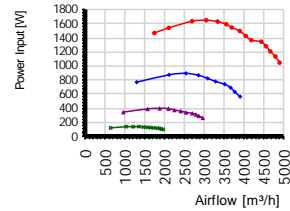
Rated voltage	400 VAC
Power input	1650 W
Rated current	2.8 A
Rated speed	3160 r/min
Max airflow	4900 m ³ /h (Static pressure=0Pa)
Acoustic	82 dB(A) measured at 1.0m from inlet side
ErP level	2015

Performance curve

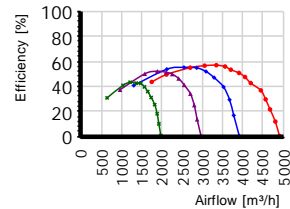
Airflow curve



Power input curve



Efficiency on static pressure



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

TestID	2017061305			Control voltage	10 VDC	
Test environment						
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density	
350.3mm	0.0964m ²	26°C	82%	100.7kPa	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
399.3	50	3160	1469	2.64	1745	1320	15	1334	454	150+189*0
399.8	50	3160	1542	2.7	2111	1299	22	1321	264	+189*1
400.9	50	3160	1637	2.82	2698	1200	35	1235	429	+189*1
399.6	50	3160	1651	2.86	3055	1100	45	1145	208	150+189*1
397.9	50	3160	1632	2.81	3345	1000	54	1054	250	150+189*1
397.9	50	3160	1594	2.73	3561	900	61	961	282	150+189*1

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401.3	50	3160	1547	2.74	3704	801	66	867	306	150+189*1
399.6	50	3160	1498	2.64	3906	700	74	774	340	150+189*1
400.9	50	3160	1428	2.52	4056	601	79	680	366	150+189*1
402.2	50	3160	1368	2.48	4196	500	85	585	391	150+189*1
400	50	3160	1346	2.38	4448	400	96	495	440	150+189*1
400.5	50	3160	1283	2.31	4566	299	101	400	463	150+189*1
400.1	50	3160	1208	2.22	4675	200	106	306	485	150+189*1
400	50	3160	1136	2.05	4806	100	112	211	513	150+189*1
399.7	50	3160	1048	1.92	4908	1	116	117	206	150+189*2

TestID	2017041107			Control voltage	8 VDC					
Test environment										
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density					
352mm	0.0973m ²	20°C	62%	100.9kPa	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
401	50	2554	773	1.35	1301	870	8	879	258	150+189*0
399.9	50	2555	877	1.49	2120	800	22	822	271	+189*1
399.9	50	2556	897	1.52	2543	700	31	732	389	+189*1
400.6	50	2557	870	1.48	2859	600	40	640	491	+189*1
399.3	50	2556	827	1.42	3090	500	46	546	217	150+189*1
401	50	2554	782	1.35	3290	402	52	455	246	150+189*0
402.2	50	2554	744	1.33	3523	300	60	361	282	150+189*0
400.1	50	2555	694	1.25	3672	199	66	265	306	150+189*0
400	50	2556	634	1.16	3777	101	69	170	324	150+189*0
400.4	50	2557	566	1.05	3914	1	74	75	348	150+189*0

TestID	2017041108			Control voltage	6 VDC					
Test environment										
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density					
352mm	0.0973m ²	20°C	62%	100.9kPa	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
400.7	50	1915	347	0.72	960	485	4	490	141	150+189*0
400.5	50	1916	394	0.78	1574	451	12	463	377	150+189*0
399.6	50	1915	402	0.78	1882	400	17	418	214	+189*1
400.7	50	1915	398	0.78	2103	349	22	371	267	+189*1
401.5	50	1915	377	0.77	2252	300	25	325	306	+189*1
400.5	50	1914	362	0.71	2411	250	28	278	350	+189*1

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399.1	50	1917	344	0.7	2547	200	32	232	390	+189*1
399.1	50	1919	331	0.67	2703	150	36	186	439	+189*1
400.1	50	1914	315	0.66	2798	101	38	139	470	+189*1
401.3	50	1918	294	0.61	2870	50	40	90	495	+189*1
400.7	50	1915	266	0.59	2969	0	43	43	530	+189*1

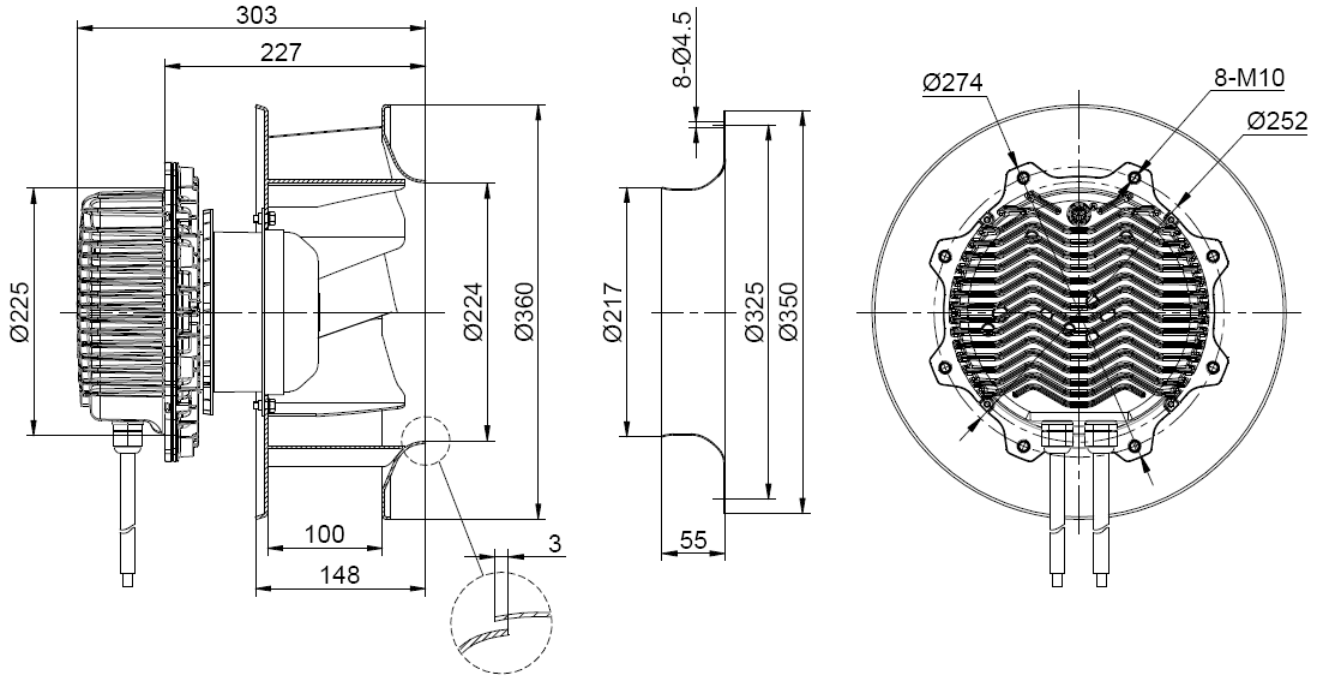
TestID	2017041109		Control voltage	4 VDC		
Test environment						
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density	
352mm	0.0973m ²	20℃	62%	100.9kPa	1.2kg/m ³	

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
400.2	50	1274	124	0.37	641	214	2	216	63	150+189*0
401.6	50	1277	141	0.39	1035	200	5	206	164	150+189*0
401.5	50	1276	140	0.39	1211	180	7	187	224	150+189*0
400.6	50	1275	142	0.38	1359	160	9	169	282	150+189*0
399.8	50	1275	135	0.39	1471	140	10	150	329	150+189*0
400.1	50	1276	132	0.39	1566	120	12	132	373	150+189*0
400.5	50	1275	128	0.37	1647	100	13	114	412	150+189*0
399.5	50	1275	124	0.36	1732	80	15	95	456	150+189*0
400.5	50	1275	120	0.37	1820	60	16	76	503	150+189*0
400.7	50	1276	116	0.36	1880	40	17	57	536	150+189*0
398.9	50	1275	108	0.34	1923	20	18	38	561	150+189*0
400.2	50	1275	101	0.34	1971	1	19	20	589	150+189*0

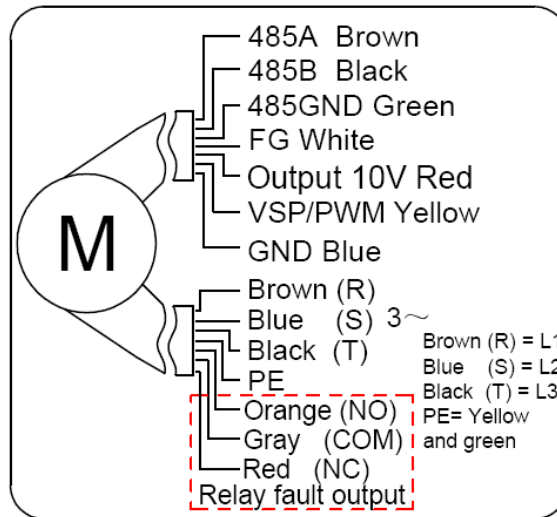
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Dimensions (in mm)



Wiring diagram



Electrical connections


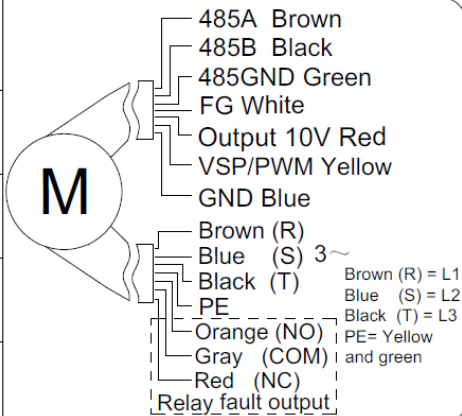

Connection	Assignment/function
L1、L2、L3	Three-phase supply connection, voltage range 380-480VAC, frequency 50/60Hz
PE	Protective earth
485A	RS485 interface for MODBUS-RTU

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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

NamePlate

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Volt.:400V	Freq.:50/60Hz	Amp.:2.8A	
Input:1650W	Speed:3160r/min	Airflow:3350m ³ /h	
Pst:1000Pa	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;