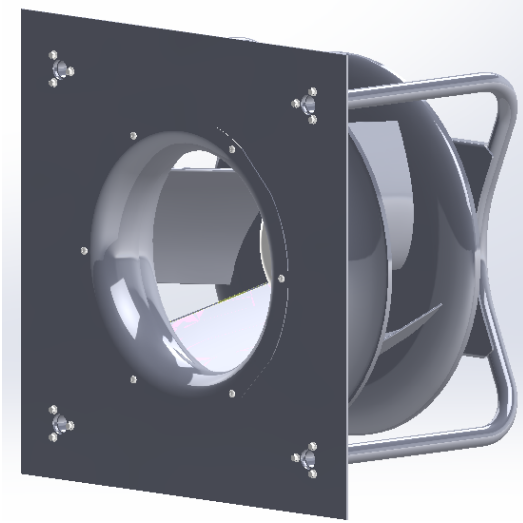


Model:ECF(K)10D560-PLHDAL1Y-RF

Fan type:EC Radial plug fan



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

ADD:The Central Industry Zone, Chengnan Town, WenLing City, Zhejiang Province, China

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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.

Model:ECF(K)10D560-PLHDAL1Y-RF

Fan type:EC Radial plug fan

## 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	79 kg
Size	φ560 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

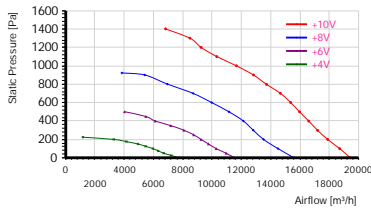
Model: ECF(K)10D560-PLHDAL1Y-RF

Fan type: EC Radial plug fan

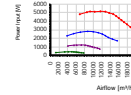
Power input	5150 W
Rated current	8.1 A
Rated speed	1750 r/min
Max airflow	19500 m <sup>3</sup> /h (Static pressure=0Pa)
Acoustic	84 dB(A) measured at 1.0m from inlet side
ErP level	2020

## Performance curve

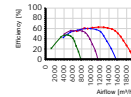
Airflow curve



Power input curve



Efficiency on static pressure



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

TestID	2020052901			Control voltage	10 VDC
Test environment					
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density
652mm	0.3339m <sup>2</sup>	27°C	69%	101.7kPa	1.2kg/m <sup>3</sup>

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 <sup>3</sup> /h	Pa	Pa	Pa	Pa	mm
399.4	50	1765	4818	7.55	6825	1401	19	1420	402	150+189*2
398.5	50	1765	5054	7.92	8490	1300	29	1329	327	150+189*3
399.8	50	1760	5141	8.08	9249	1200	34	1235	239	150+189*4
400.5	50	1743	5112	8.01	10319	1100	43	1143	297	150+189*4
399.6	50	1752	5155	8.09	11658	1000	55	1055	256	150+189*5
401	50	1760	5121	7.99	12821	900	66	966	224	150+189*6
398.7	50	1760	4971	7.82	13711	798	76	874	256	150+189*6
401.7	50	1760	4832	7.53	14657	701	87	788	292	150+189*6

Model:ECF(K)10D560-PLHDAL1Y-RF

Fan type:EC Radial plug fan

399.2	50	1760	4600	7.28	15358	601	95	696	320	150+189*6
400.3	50	1760	4371	6.95	15967	500	103	604	205	150+189*8
399	50	1760	4129	6.58	16593	399	112	511	221	150+189*8
400.9	50	1760	3896	6.2	17196	298	120	418	238	150+189*8
399.9	50	1760	3643	5.82	17884	200	130	330	257	150+189*8
400.3	50	1760	3308	5.34	18702	100	142	242	281	150+189*8
399.8	50	1760	3014	4.91	19425	0	153	153	303	150+189*8

TestID	2020052902			Control voltage			8 VDC			
Test environment										
Outlet size	Outlet area	Temperature		Humidity		Baropressure		Density		
652mm	0.3339m <sup>2</sup>	28℃		66%		101.7kPa		1.2kg/m <sup>3</sup>		

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 <sup>3</sup> /h	Pa	Pa	Pa	Pa	mm
399.6	50	1420	2298	3.96	3843	922	6	928	332	150+189*1
399.3	50	1420	2554	4.31	5410	900	12	912	253	150+189*2
400.7	50	1420	2721	4.59	6951	801	20	820	220	150+189*3
400.1	50	1420	2816	4.71	8707	700	31	731	344	150+189*3
399.3	50	1420	2773	4.64	9976	600	40	640	278	150+189*4
399.9	50	1420	2665	4.41	11151	500	50	550	346	150+189*4
401.5	50	1420	2495	4.26	12131	400	59	459	278	150+189*5
398.3	50	1420	2318	3.97	12807	300	66	366	309	150+189*5
399.4	50	1420	2109	3.67	13508	200	74	273	344	150+189*5
400.8	50	1420	1909	3.38	14494	100	85	185	216	150+189*7
401.3	50	1420	1718	3.04	15587	0	98	98	250	150+189*7

TestID	2020052903			Control voltage			6 VDC			
Test environment										
Outlet size	Outlet area	Temperature		Humidity		Baropressure		Density		
652mm	0.3339m <sup>2</sup>	28℃		64%		101.7kPa		1.2kg/m <sup>3</sup>		

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 <sup>3</sup> /h	Pa	Pa	Pa	Pa	mm
401	50	1062	1134	2.26	4028	501	6	507	365	150+189*1
401.1	50	1062	1214	2.37	5477	449	12	461	260	150+189*2
400.2	50	1062	1225	2.43	6113	400	15	415	323	150+189*2
401	50	1062	1240	2.47	7180	350	21	371	234	150+189*3
398.8	50	1062	1218	2.48	8071	300	26	326	295	150+189*3
399	50	1062	1160	2.27	8741	250	31	281	213	150+189*4
399.9	50	1062	1090	2.15	9245	200	34	234	238	150+189*4

Model: ECF(K)10D560-PLHDAL1Y-RF

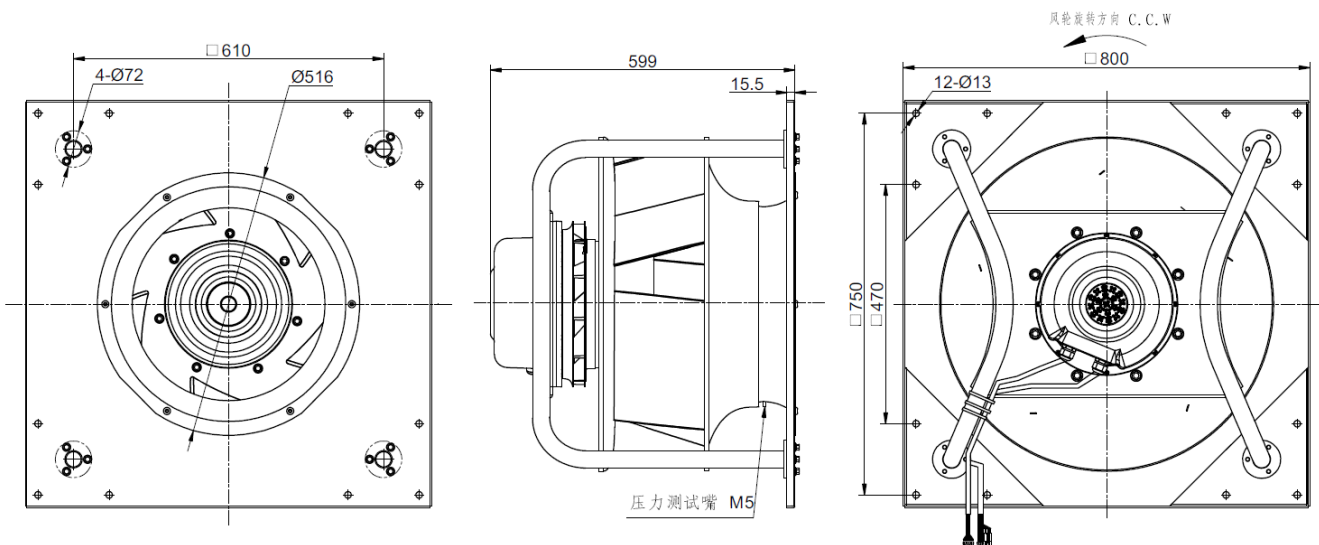
Fan type: EC Radial plug fan

398.9	50	1062	1022	2	9750	151	38	189	265	150+189*4
400.2	50	1062	954	1.88	10275	100	43	143	294	150+189*4
400.2	50	1062	870	1.74	10953	50	48	99	226	150+189*5
400.8	50	1062	780	1.61	11525	0	54	54	251	150+189*5

TestID	2020052904		Control voltage		4 VDC	
Test environment						
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density	
652mm	0.3339m <sup>2</sup>	27°C	68%	101.7kPa	1.2kg/m <sup>3</sup>	

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 <sup>3</sup> /h	Pa	Pa	Pa	Pa	mm
399.2	50	706	342	0.78	1184	224	1	225	212	150+189*0
399.7	50	706	422	0.93	3289	200	4	205	244	150+189*1
399.1	50	706	433	0.97	4155	176	7	183	388	150+189*1
400.5	50	706	435	1.03	4942	150	10	160	212	150+189*2
399.5	50	706	418	0.92	5459	125	12	137	258	150+189*2
401.1	50	706	400	0.92	5962	100	14	114	307	150+189*2
400.7	50	706	373	0.82	6328	75	16	91	346	150+189*2
400.6	50	706	354	0.87	6692	50	18	69	386	150+189*2
399.7	50	706	327	0.73	7215	25	21	46	449	150+189*2
399.9	50	706	303	0.69	7735	0	24	24	515	150+189*2

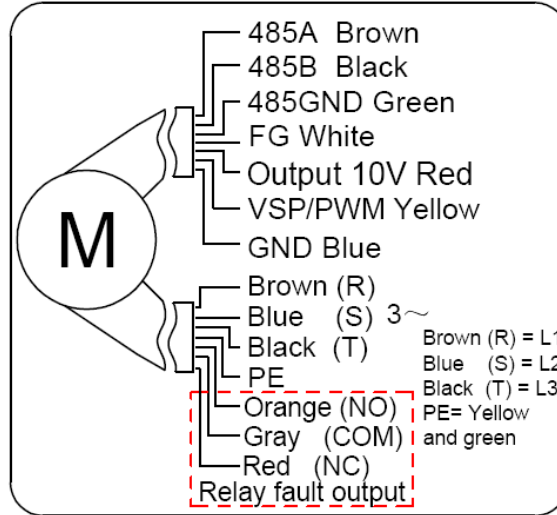
## Dimensions(in mm)



Model:ECF(K)10D560-PLHDAL1Y-RF

Fan type:EC Radial plug fan

## Wiring diagram





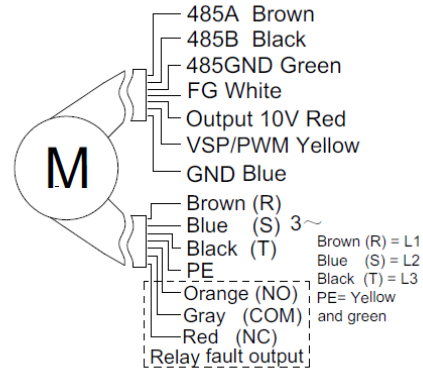

## Electrical connections

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

Model:ECF(K)10D560-PLHDAL1Y-RF

Fan type:EC Radial plug fan

## NamePlate

 <b>SANMU</b> <sup>®</sup>		<b>ECF(K)10D560-PLHDAL1Y-RF</b>			
Volt.:400V    Freq.:50/60Hz    Amp.:8.1A					
Input:5150W    Speed:1750r/min    Airflow:11660m <sup>3</sup> /h					
Pst:1000Pa    Static    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;

Model:ECF(K)10D560-PLHDAL1Y-RF

Fan type:EC Radial plug fan

- ★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 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.

## 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°C 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;