

Model:YWF(K)4D400-GH

Fan type:AC Backward curved centrifugal fan



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Fan Introduction

This product consist of outer rotor(AC)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/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 60335-2-40:2022 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	7.6 kg
Size	φ400 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
Thermal protector	Can be built in or out of line according to requirements
Inverter speed regulation	Not Applicable

Structures

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

Technical parameters

Supply	3P
Frequency	50 Hz

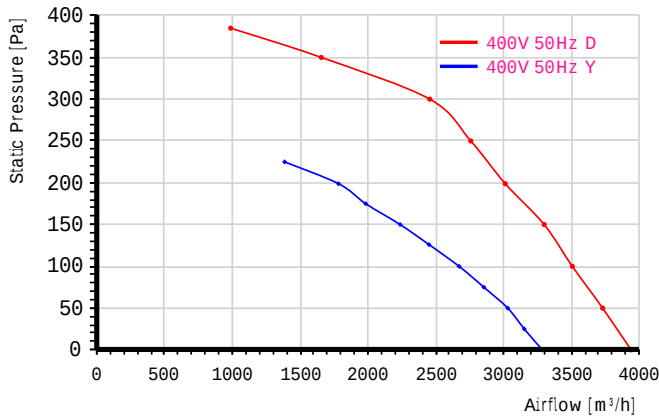
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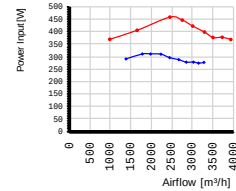
Motor poles	4
Rated voltage	400 VAC
Power input	540/350 W
Rated current	1.0/0.53 A
Rated speed	1350/1070 r/min
Max airflow	4100/3300 m³/h (Static pressure=0Pa)
Acoustic	70 dB(A) measured at 1.0m from inlet side

Performance curve

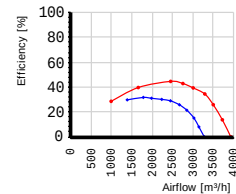
Airflow curve



Power input curve



Efficiency on static pressure



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

TestID			2019021902			Connection			D	
Test environment										
Outlet size		Outlet area		Temperature		Humidity		Baropressure		Density
475mm		0.1772㎡		10℃		96%		101.8kPa		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
397.2	50	1366	370	0.82	988	385	2	386	156	150+189*0
401.4	50	1356	406	0.86	1656	350	4	354	436	150+189*0
401.6	50	1335	459	0.93	2456	300	9	309	380	+189*1
401.2	50	1338	447	0.92	2758	250	12	262	478	+189*1
401.2	50	1348	423	0.89	3012	199	14	213	570	+189*1

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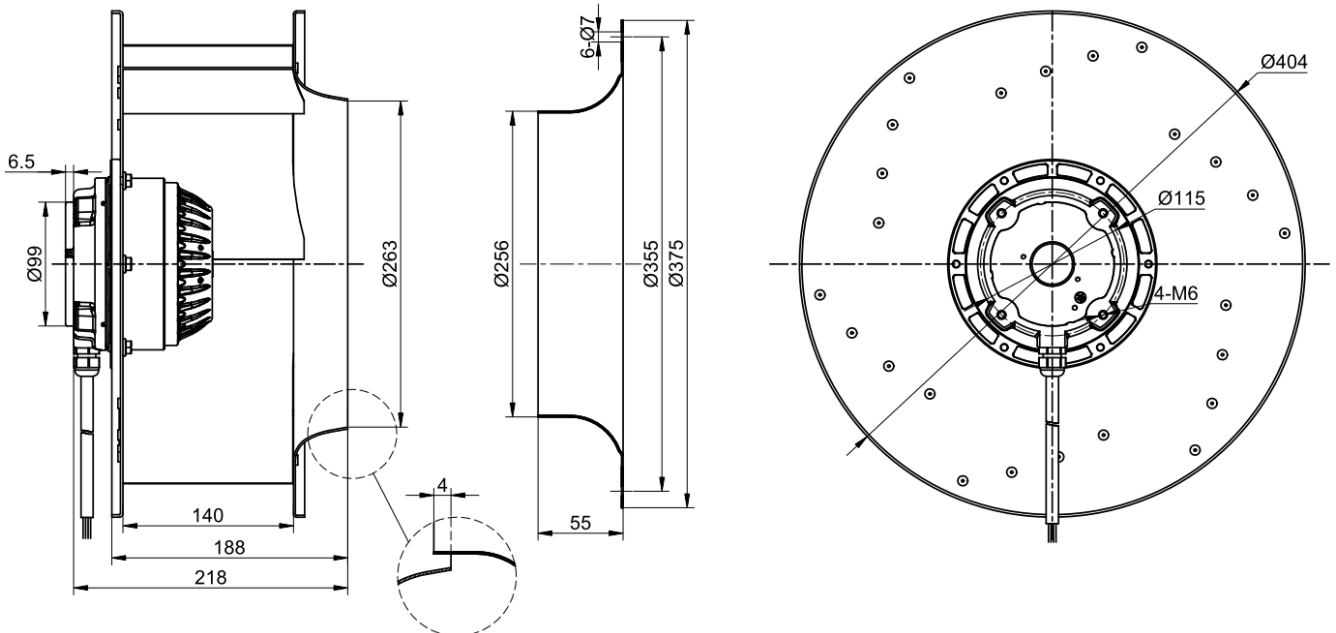
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400.9	50	1360	399	0.86	3299	150	17	167	259	150+189*1
401	50	1365	377	0.83	3507	100	19	119	292	150+189*1
401.8	50	1368	378	0.84	3731	50	21	72	220	+189*2
401.4	50	1371	369	0.83	3940	0	24	24	245	+189*2

TestID		2019021901		Connection		Y	
Test environment							
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density		
475mm	0.1772㎡	10℃	97%	101.8kPa	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
401.7	50	1095	291	0.5	1385	225	3	228	306	150+189*0
401.6	50	1054	311	0.54	1782	199	5	204	201	+189*1
400.7	50	1062	311	0.55	1983	175	6	181	248	+189*1
401.5	50	1071	310	0.54	2237	150	8	157	315	+189*1
402	50	1087	296	0.51	2450	126	9	135	378	+189*1
399.6	50	1108	288	0.51	2672	100	11	111	449	+189*1
400.7	50	1120	278	0.48	2855	75	12	88	512	+189*1
400.9	50	1131	278	0.48	3031	50	14	64	219	150+189*1
400.6	50	1139	274	0.47	3153	25	15	40	237	150+189*1
401	50	1150	277	0.48	3286	0	17	17	257	150+189*1

Dimensions(in mm)

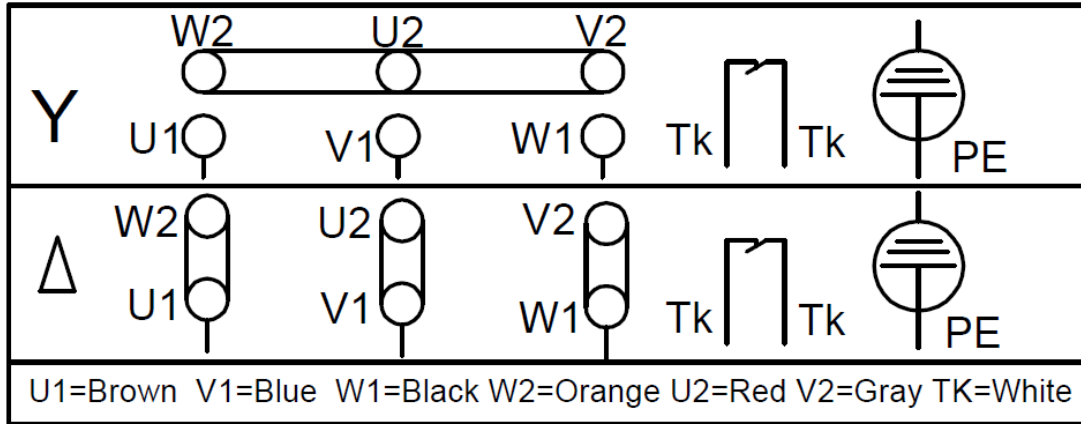


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Wiring diagram

WIRING DIAGRAM



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;
- ❑ For AC fans powered by three-phase supply, please confirm the power connection phase sequence before use to ensure that the motor rotation direction is consistent with the marked rotation direction (the motor rotation direction can be changed by reversing any two-phase phase sequence of the power supply);
- ❑ 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;

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- ▣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.

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 (If there is another contractual agreement, the period of time shall be as agreed in the contract). 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;
- This AC fan should be used according to the specified voltage range and power frequency. It is not recommended to use frequency inverters or voltage regulators as speed control devices. If necessary, you need to make technical confirmation with our sales before placing an order. The use of unconfirmed speed control devices leads to the reduction of product life, abnormal noise, operating failures, etc., which are not covered by this warranty;