

LKZWH SERIES BACK-CURVED BLADE SINGLE-INLET SHAFT-DRIVEN CENTRIFUGAL FAN WITHOUT VOLUTE



LKZWH series back-curved blade single-inlet shaft-driven centrifugal fan without volute is a new-typed fan developed by our company. It has no volute and can be directly installed in the equipment requiring ventilation or placed in any size of bellows. In this kind of special working situation, its efficient working area is wider than that of ordinary centrifugal fan, and its noise is lower. In addition, because the direction of its air flow is not limited by the volute, it can be used to replace large-diameter fans by simply installing several fans in the same air box to compose of a fan group, so as to reduce the noise and volume of the whole unit.

The **fluid model** of this series of fans has been optimized by **CFD** advanced technology, which not only increases the output pressure, but also reduces the noise and improves the efficiency. It has the characteristics of energy saving and low noise. It is especially suitable for **supporting various air conditioning, refrigeration, purification, fresh air units, HVAC, refrigeration unit** and other products, and has been widely used in schools, hospitals, factories, mines, cold chain and other fields.

The fan of this series can be vertically or horizontally installed.

LKZWH series of fans has the following remarkable advantages:

1. Wider and more efficient working area, more free air direction;
2. The utility model has the advantages of simple structure, small volume, light weight and flexible and simple installation mode;
3. The backward impeller with optimized design has high efficiency, low noise, energy saving and environmental protection.



Model Definition

Example: LKW 250 M 2- 4 C3 X

Model Number consists of seven parts.

Part 1: Model Code;

No. 1 L: centrifugal fan;

No.2 K: air ventilation;

No. 3 P: belt driven; W: external rotor motor drive; Z: shaft drive;

No. 4 None: single-case, double inlet; D: single-case, single-inlet; S: double-case, double-inlet; W: single-inlet without case; G: duct fan; H: back curved blade;

Part 2: wheel diameter code, unit is mm;

Part 3: case width code, up to 2 bits;

SS: tiny width; S: small width; M: medium width; L: large width;

Part 4: designing sequence codes in numbers;

Part 5: motor pole, EC means brushless DC motor;

code	2	4	6	4/6
meaning to	2-pole motor	4-pole motor	6-pole motor	4/6-pole double-speed motor
code	6/8	4/6/8	EC	
meaning to	6/8-pole double-speed	4/6/8-pole three-speed motor	BLDC motor	

Part 6: specific code for single-phase motor

code	none	C	C2	C3
meaning to	non-single-phase motor	single-phase single-speed motor	single-phase two-speed motor	single-phase three-speed motor

Part 7: motor installation types

code	meaning to
none	b3 motor; belt-drive rear installation or shaft-drive horizontal installation
l	b5 motor, shaft-drive vertical installation
x	b3 motor, belt-drive down installation
d	b3 motor, belt-drive top installation
e	b3 motor, belt-drive side installation

Such as LKZWH560 – 4 is back-curved blade single-inlet shaft-driven centrifugal fan without volute, blade diameter 560mm, motor poles 4.

**Technical Parameters**

Fan frame size	Rated performance			Volume Range (m ³ /h)	Voltage (V)	freq. (Hz)	Power (kW)	Current (A)	Weight (kg)
	Volume (m ³ /h)	Pressure (Pa)	Noise [dB(A)]						
LKZWH355-2	4000	900	75	5100~6600	380	50	3	6.4	55
LKZWH355-4	2000	220	69	2550~3300	380	50	0.55	1.5	35
LKZWH400-2	6000	1000	80	6800~8800	380	50	4	8.2	95
LKZWH400-4	3000	300	71	3400~4400	380	50	0.55	1.5	45
LKZWH450-2	9000	1500	82	10200~13200	380	50	7.5	15	105
LKZWH450-4	4500	400	73	5100~6600	380	50	1.1	2.7	60
LKZWH500-4	6000	490	75	6800~8800	380	50	2.2	5	90
LKZWH500-6	4000	200	69	4650~6100	380	50	0.75	2.2	75
LKZWH560-4	9000	600	77	10200~13200	380	50	3	6.8	110
LKZWH560-6	5600	250	73	6800~8800	380	50	1.1	3.2	95
LKZWH630-4	12500	760	78	14450~18700	380	50	5.5	11.6	155
LKZWH630-6	8000	300	74	10200~13200	380	50	2.2	5.6	135
LKZWH710-4	18000	1000	80	18700~24200	380	50	11	22.6	195
LKZWH710-6	11500	400	76	12750~16500	380	50	3	7.2	180
LKZWH800-4	25000	1250	82	25500~33000	380	50	18.5	35.9	315
LKZWH800-6	16000	500	78	17000~22000	380	50	5.5	12.6	255

Work Environment

- 1) Altitude not more than 1000 meters;
- 2) The ambient temperature is not lower than - 25 °C, not higher than 40 °C;
- 3) The relative humidity of the environment shall not exceed 90%;
- 4) The conveying gas does not contain acid, alkaline and corrosive medium, and the dust content is not more than 150mg / m³.

When the working environment does not meet the above requirements, it needs to be explained when ordering. We can customize the product according to the specific site conditions.

Performance Range

Flow: 1500~28000 m³/h

Total pressure: 220~1500 pa

Beyond this range, please choose other series of our fan products, or contact our technical department for customization.



Matters Needing Attention

1. Before use, please check carefully:

- (1) Whether the motor is intact;
- (2) Whether the connecting bolts are loose;
- (3) Whether there is serious deformation of impeller, motor shaft and other components;
- (4) Rotate the fan impeller by hand, the hand induction rotation is stable, without obvious stuck phenomenon.

2. Installation

- (1) The grounding bolt of the fan shall be connected reliably;
- (2) The fan shall be equipped with phase loss and overload protection devices;

3. Start up and Operation

- (1) Before starting the fan, check the working power supply, which must be within $\pm 5\%$ of the rated voltage and $\pm 1\%$ of the rated frequency;
- (2) The rotation direction of the fan impeller shall be the same as that of the turning mark;
- (3) The operating current of the fan shall not exceed the defined current, otherwise the motor will be damaged or burnt;
- (4) When the fan is running, it is strictly prohibited to extend the body or foreign matters to the inside of the fan, and it is strictly prohibited to approach the belt and pulley to avoid danger.