

## LKPH SERIES BACKWARD-CURVED BLADE DOUBLE-INLET BELT-DRIVEN CENTRIFUGAL FAN



LKPH series backward double air inlet belt driven centrifugal fan adopts a backward impeller with belt driven. The motor is located outside the volute and drives the fan impeller to rotate by the way of belt driven. The proper transmission ratio can make the rated working point of the fan match the required working condition well, improve the overall efficiency of the unit, and achieve the purpose of energy saving and environmental protection.

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, purification, air handling unit, HVAC** and other products, and has been widely used in hotels, schools, hospitals, factories, mines, cinemas and other fields.

LKPH series of fans can be **customized with special matching motors of different voltages and frequencies** according to your needs, which is very convenient for application in different countries, regions and fields.

### LKPH series of fans has the following remarkable advantages:

1. The belt drive mode can **select the rated flow and pressure** of the fan at will;
2. The improved designed **backward multi wing impeller** with high pressure, low noise, environmental protection and energy saving is adopted;
3. The **direction of the air outlet** can be specially customized, and the installation form is flexible and convenient;
4. Our **self-developed matching motors** have better reliability and service life than ordinary motors after with optimization of power;

**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
code	6/8	4/6/8	EC	
meaning to	6/8-pole double-speed	4/6/8-pole three-speed	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	single-phase two-speed	single-phase three-speed

**Part 7: motor installation types**

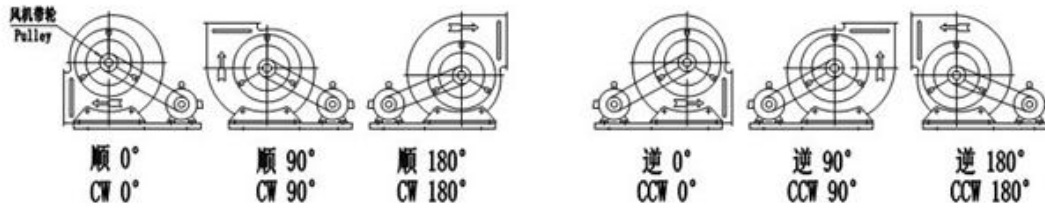
Such as LKPH630 is centrifugal air conditioning fan, blade diameter 630mm.

**Installation Method**

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

1) The installation of LKPH series centrifugal fan has three main types according to the **outlet angle (between fan outlet and mounting surface)**: 0 °, 90 °, 180 °. It can also be customized to other directions according to the needs of users.

2) The **rotating direction** of centrifugal fan is divided into CW and CCW according to the rotating direction of impeller. To Belt-drive Centrifugal Fans: facing the fan pulley, the clockwise direction of impeller rotation is called CW, and the counter-clockwise direction of impeller rotation is called CCW.



\*\*\*The default rotation direction of our centrifugal fans is CW. If users want different rotation directions, must point out clearly at the time of ordering.\*\*\*

### Technical Parameters

Model No.	Speed (rpm)	Rated performance			Volume Range (m <sup>3</sup> /h)	Voltage (V)	freq. (Hz)	Motor Frame	Power (kW)	Current (A)	Weight (kg)
		Volume (m <sup>3</sup> /h)	Pressure (Pa)	Noise dB(A)							
LKPH355	2000	6000	800	77	2800~7000	380	50	Y90L-2	2.2	4.8	125
	2200	6600	970	79	3100~7700	380	50	Y100L-2	3	6.4	135
	2400	7200	1150	81	3300~8400	380	50	Y112M-2	4	8.2	145
	2600	7800	1350	82	3600~9100	380	50	Y132S1-2	5.5	11.1	165
	2800	8400	1570	84	3900~9800	380	50	Y132S2-2	7.5	15	170
	3000	9000	1800	85	420~10500	380	50	Y132S2-2	7.5	15	170
	3200	9600	2050	87	440~11200	380	50	Y160M1-2	11	21.8	215
	3400	10200	2310	88	470~11900	380	50	Y160M1-2	11	21.8	215
LKPH400	1800	7200	790	77	3600~9000	380	50	Y100L-2	3	6.4	145
	2000	8000	980	80	400~10000	380	50	Y112M-2	4	8.2	155
	2200	8800	1185	82	440~11000	380	50	Y132S1-2	5.5	11.1	175
	2400	9600	1410	84	480~12000	380	50	Y132S2-2	7.5	15	180
	2600	10400	1650	85	520~13000	380	50	Y160M1-2	11	21.8	225
	2800	11200	1920	87	560~14000	380	50	Y160M1-2	11	21.8	225
	3000	12000	2200	88	600~15000	380	50	Y160M2-2	15	29.4	235
	3200	12800	2500	90	640~16000	380	50	Y160M2-2	15	29.4	235
LKPH450	1400	8400	590	75	4200~9800	380	50	Y100L2-4	3	6.8	165
	1600	9600	770	78	480~11200	380	50	Y112M-4	4	8.8	180
	1800	10800	970	81	540~12600	380	50	Y132S-4	5.5	11.6	195
	2000	12000	1200	83	600~14000	380	50	Y132M-4	7.5	15.4	210
	2200	13200	1450	85	660~15400	380	50	Y160M1-2	11	21.8	245
	2400	14400	1730	87	720~16800	380	50	Y160M2-2	15	29.4	255
	2600	15600	2030	89	780~18200	380	50	Y160M2-2	15	29.4	255
	2800	16800	2350	90	840~19600	380	50	Y160L2-2	18.5	35.5	275
LKPH500	1400	11800	740	79	500~13000	380	50	Y112M-4	4	8.8	210
	1500	12600	850	80	550~14000	380	50	Y132S-4	5.5	11.6	225
	1600	13500	960	82	580~15000	380	50	Y132M-4	7.5	15.4	240
	1700	14300	1090	83	620~16000	380	50	Y132M-4	7.5	15.4	240



	1800	15000	1220	84	660~17000	380	50	Y160M-4	11	22.6	280
	1900	16000	1360	85	700~18000	380	50	Y160M-4	11	22.6	280
	2000	16800	1500	87	730~19000	380	50	Y160M2-2	15	29.4	285
	2100	17700	1660	88	770~20000	380	50	Y160M2-2	15	29.4	285
	2200	18500	1820	89	800~21000	380	50	Y160L2-2	18.5	35.5	305
	2300	19300	1990	90	840~22000	380	50	Y160L2-2	18.5	35.5	305
	2400	20000	2170	91	880~23000	380	50	Y180M2-2	22	42.2	330
LKPH560	1300	16400	710	80	7500~19000	380	50	Y132S-4	5.5	11.6	285
	1400	17700	825	82	8000~20600	380	50	Y132M-4	7.5	15.4	300
	1500	19000	950	83	8600~22000	380	50	Y160M-4	11	22.6	340
	1600	20000	1080	84	9200~23600	380	50	Y160M-4	11	22.6	340
	1700	21500	1220	86	9800~25000	380	50	Y160L-4	15	30	360
	1800	22700	1360	87	10400~26500	380	50	Y160L-4	15	30	360
	1900	24000	1520	88	11000~28000	380	50	Y180M-4	18.5	35.9	395
	2000	25000	1680	89	11500~29500	380	50	Y200L-4	22	42.9	465
	2100	26500	1850	90	12000~31000	380	50	Y200L1-2	30	56.9	445
	2200	27800	2040	91	12500~32500	380	50	Y200L1-2	30	56.9	445
LKPH630	1100	19000	670	80	8800 ~23500	380	50	Y132M-4	7.5	15.4	360
	1200	21000	800	82	9600~25600	380	50	Y160M-4	11	22.6	400
	1300	22500	940	84	10400~27700	380	50	Y160M-4	11	22.6	400
	1400	24000	1090	85	11200~30000	380	50	Y160L-4	15	30	420
	1500	26000	1250	87	12000~32000	380	50	Y160L-4	15	30	420
	1600	27500	1420	88	12800~34000	380	50	Y180M-4	18.5	35.9	455
	1700	29500	1600	90	13600~36200	380	50	Y180L-4	22	42.9	470
	1800	31000	1800	91	14400~38400	380	50	Y200L-4	30	56.8	525
	1900	33000	2000	92	15200~40500	380	50	Y200L-4	30	56.8	525
	2000	34500	2220	93	16000~42600	380	50	Y225S-4	37	70.4	580
LKPH710	1000	25000	675	81	12000~28000	380	50	Y160M-4	11	22.6	510
	1100	28000	820	83	13200~32000	380	50	Y160M-4	11	22.6	510
	1200	30000	970	85	14400~34000	380	50	Y160L-4	15	30	530
	1300	33000	1140	87	15600~37000	380	50	Y180M-4	18.5	35.9	565
	1400	35000	1320	89	16800~40000	380	50	Y180L-4	22	42.9	580
	1500	38000	1520	90	18000~43000	380	50	Y200L-4	30	56.8	635
	1600	40000	1730	92	19200~46000	380	50	Y225S-4	37	70.4	690
	1700	43000	1950	93	20400~49000	380	50	Y225M-4	45	84.2	720
	1800	45000	2190	94	21600~52000	380	50	Y250M-4	55	84.2	765
LKPH800	900	30000	760	83	15000~36000	380	50	Y160M-4	11	22.6	585
	1000	33000	940	85	16500~40000	380	50	Y160L-4	15	30	600
	1100	36600	1130	87	18000~44000	380	50	Y180L-4	22	42.9	650
	1200	40000	1350	89	20000~48000	380	50	Y200L-4	30	56.8	705
	1300	43000	1580	91	21000~52000	380	50	Y225S-4	37	70.4	760



	1400	46600	1840	93	23000~ 56000	380	50	Y225M-4	45	84.2	790
	1500	50000	2110	94	25000~60000	380	50	Y250M-4	55	102.5	835
LKPH900	800	38000	800	85	18000~46000	380	50	Y180L-6	15	31.6	780
	900	43000	1020	87	20000~51000	380	50	Y200L2-6	22	44.6	835
	1000	47500	1260	90	22000~57000	380	50	Y225M-6	30	59.5	905
	1100	52000	1520	92	25000~63000	380	50	Y225S-4	37	70.4	905
	1200	57000	1810	93	27000~69000	380	50	Y225M-4	55	102.5	930
	1300	62000	2130	95	30000~74000	380	50	Y250M-4	75	139.7	975
	1400	66600	2470	97	32000~80000	380	50	Y280M-4	90	164.3	1260
LKPH1000	700	43400	770	85	21000~55000	380	50	Y200L1-6	18.5	37.7	1000
	800	49600	1000	88	24000~62000	380	50	Y225M-6	30	59.5	1080
	900	55800	1270	90	27000~70000	380	50	Y250M-6	37	72	1145
	1000	62000	1570	93	30000~78000	380	50	Y280S-6	45	85.4	1320
	1100	68200	1900	95	33000~86000	380	50	Y250M-4	75	141.1	1155
	1200	74400	2260	97	36000~94000	380	50	Y280M-4	90	168.6	1440
	1300	80600	2650	98	39000 ~100000	380	50	Y315S-4	110	205.5	1485
LKPH1120	600	60000	660	85	26000~66000	380	50	Y200L1-6	18.5	37.7	1220
	700	70000	900	88	31000~77000	380	50	Y225M-6	30	59.5	1300
	800	80000	1180	91	35000~88000	380	50	Y280S-6	45	85.4	1540
	900	90000	1490	94	40000~99000	380	50	Y315S-6	75	141.1	1695
	1000	100000	1840	96	44000~110000	380	50	Y315M-6	90	168.6	1930
	1100	110000	2230	98	49000~120000	380	50	Y315L1-6	110	205.5	1990
LKPH1250	500	64000	560	84	28000~75000	380	50	Y200L1-6	18.5	37.7	1520
	600	77000	800	88	34000~90000	380	50	Y225M-6	30	59.5	1600
	700	90000	1100	91	40000~105000	380	50	Y280S-6	45	85.4	1840
	800	100000	1430	94	46000~120000	380	50	Y315S-6	75	141.1	1990
	900	115000	1810	96	52000~135000	380	50	Y315L1-6	110	205.5	2290
	1000	128000	2230	99	57000~150000	380	50	Y315L2-6	132	245	2420

### 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 / m<sup>3</sup>.

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: 2800~28000m<sup>3</sup>/h

Total pressure: 590-2650pa

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, pulley and belt are intact;
- (2) Whether the connecting bolts, pulley and belt are loose;
- (3) Whether there is serious deformation of fan volute, impeller, fan 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 fan chassis must be installed horizontally, and it is strictly prohibited to install vertically or obliquely;
- (2) The grounding bolt of the fan shall be connected reliably;
- (3) The fan shall be equipped with phase loss and overload protection devices;
- (4) Be careful when installing. Do not put your hand into the pulley to avoid crushing.

#### **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.