

SUZHOU FIRST MACHINERY TECHNOLOGY CO.,LTD

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1STCOOLFAN

Suzhou First Machinery Technology Co., Ltd. (Brand Name: 1stCoolFan) , stands out as a leading manufacturer specializing in the production of High-Volume, Low-Speed (HVLS) industrial fans and industrial air coolers. With over a decade of deep engagement in the industry, 1stCoolFan has positioned itself not just as a provider of ventilation and cooling products but as a comprehensive solution provider, catering specifically to the unique needs of its clients.

1stCoolFan offers a diverse range of HVLS fans, including models equipped with gearbox HVLS FAN and high-efficiency PMSM FAN. Our self-developed PMSM motors feature an industry-leading IP67 rating, signifying their robustness against dust and water ingress, which is currently the highest in the industry. Safety is a top priority at 1stCoolFan, evidenced by the use of premium components like hubs, connectors, high-grade screws (grade 12.9), and reinforced upper chassis. Our professionally designed locking structure provides 5 layers of protection, significantly reducing the risk of fan detachment and safeguarding the lives and property of people and factories.

COMPANY PROFILE



WORKSHOP



1stCoolFan offers customized fan blade structures, colors, and motor appearances for VIP clients, fulfilling your needs to the greatest extent. When bidding on large-scale projects, 1stCoolFan can provide you with free CFD simulations to visually demonstrate the ventilation effects of our large fans to end-clients.

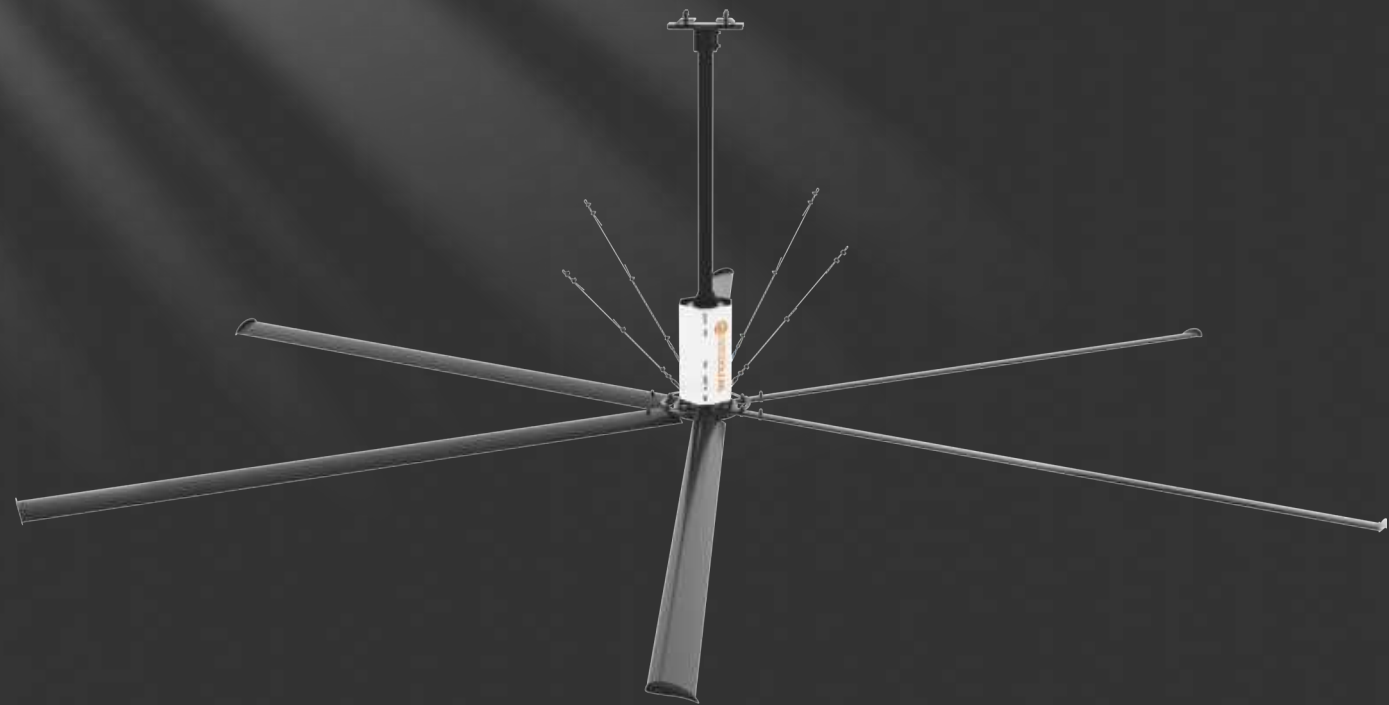
Our industrial air coolers are composed with high-speed copper motors and waterproof motors, with aluminum cast fan blades that remain resistant to deformation under any heavy pressure. The perfect combination of HVLS FANs and air coolers are recommend by 1stCoolFan engineers ensure the optimal setup for you in any given environment, guaranteeing the fastest and best overall cooling effect.

With a team of experienced engineers in HVAC industry, 1stCoolFan has ventured into the industrial air conditioning sector. Our own R&D team is currently working on water-cooled air conditioners that require only 3-4 kW of electricity but can cover an area of 200 square meters. Compared to traditional air conditioners, 1stCoolFan's water-cooled air conditioners are more energy-efficient and have a broader coverage area.

Lastly, 1stCoolFan provides all esteemed clients with one-stop ventilation, cooling, and energy-saving solutions that are exceptionally power-efficient.

HVLS FAN

GEAR MOTOR HVLS FAN



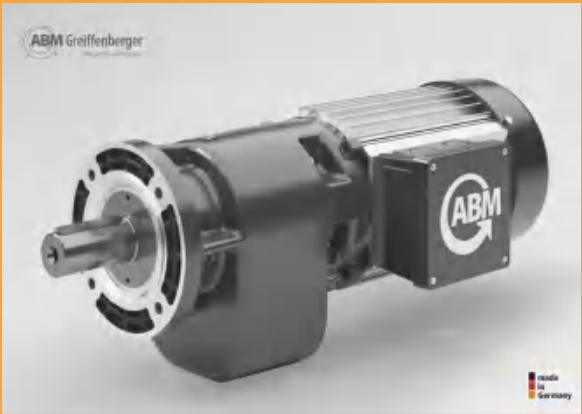
1stCoolFan GEAR MOTOR HVLS FANS, Using GERMAN ABM Motor, The output shaft is made of 42CrMo, which has both strength and toughness, which improves the problem of shaft breakage during frequent starts and stops and power outages. Adopting the dustproof oil seal specially designed by Germany, it solves the problems of oil leakage and loud noise, need maintenance of other brands. With 1stcoolfan special design for motor frame, makes the locking mechanism stronger when encountering greater force. The harder the external force it receives, the tighter it can clamp the motor shaft, so that the fan don't have any risk of falling down.

Model	Motor Power	Size	Max Speed	Air volume	Current	Fan weight	Noise	
FSTAC-1500-7.3	1.5KW	24ft(7.3m)	0-54	14500m³/min	220/380V	5.8/3.6A	138kgs	43dBA
FSTAC-1500-6.1	1.5KW	20ft(6.1m)	0-60	13400 m³/min	220/380V	5.5/3.4A	126kgs	43dBA
FSTAC-1500-5.5	1.5KW	18ft(5.5m)	0-65	12800 m³/min	220/380V	5.2/3.2A	115kgs	43dBA
FSTAC-1500-4.9	1.5KW	16ft(4.9m)	0-70	12100m³/min	220/380V	5/3A	105kgs	43dBA
FSTAC-750-5.5	0.75KW	18ft(5.5m)	0-60	8200m³/min	220/380V	3.8/2A	98kgs	43dBA
FSTAC-750-4.9	0.75KW	16ft(4.9m)	0-65	7600m³/min	220/380V	3.4/1.8A	88kgs	43dBA
FSTAC-750-4.2	0.75KW	14ft(4.2m)	0-70	7150m³/min	220/380V	3/1.6A	76kgs	43dBA

DETAILED INTRODUCTION

MOTOR

1stCoolFan using German ABM motor. The output shaft is made of 42CrMo, which has both strength and toughness, which improves the problem of shaft breakage during frequent starts and stops and power outages. Adopting the dustproof oil seal specially designed by Germany, it solves the problems of oil leakage and loud noise, need maintenance of other brands.



VFD

Special design VFD for HVLS Fan with IP54 protection level; equipped with start/stop button, stepless speed regulation knob, indicator light; with overload protection, voltage shock protection, phase loss protection and other protection functions, can totally operate the fan smoothly.

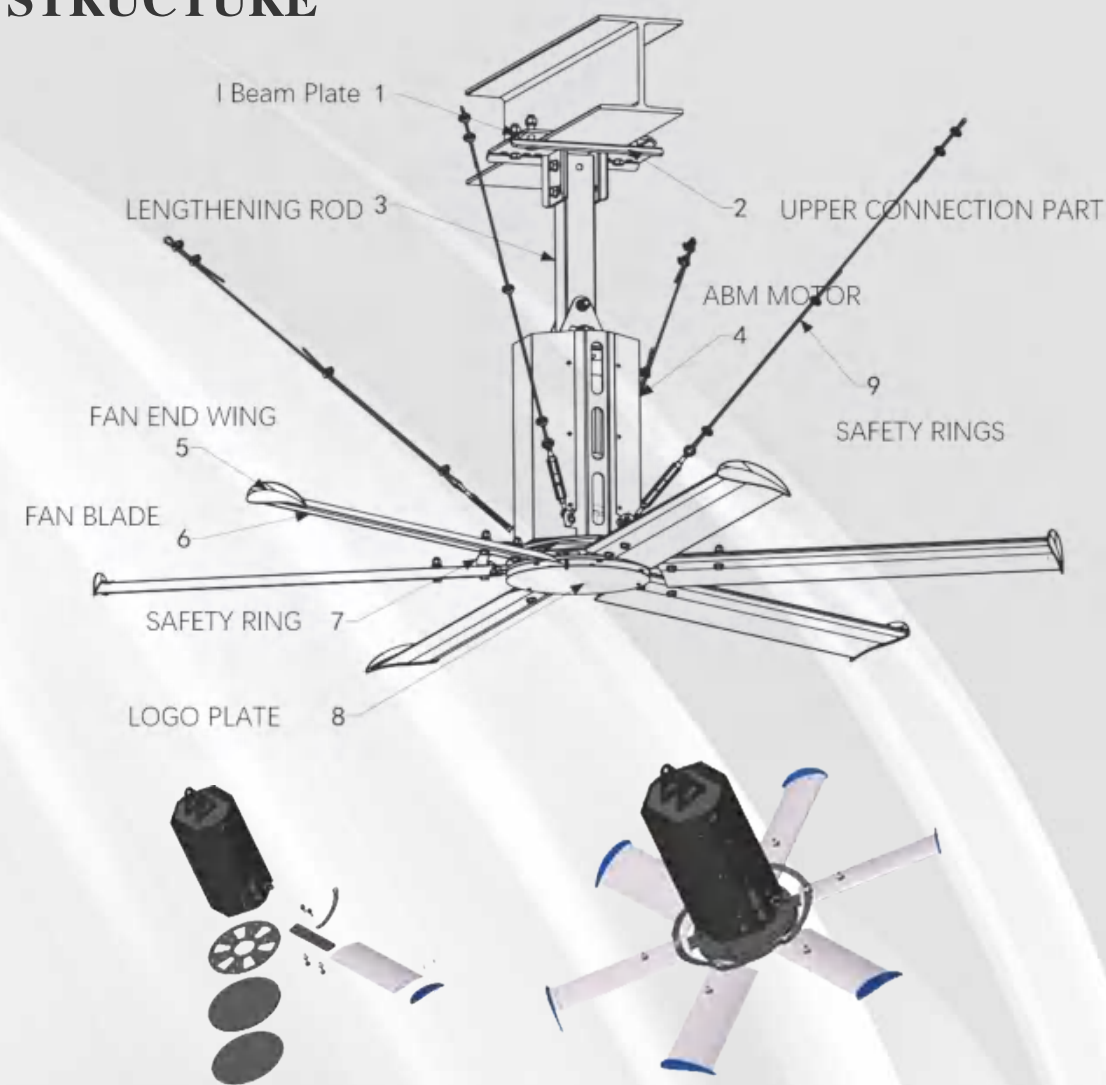


FAN BLADES

1stCoolFan fan blades are made of Aluminium alloy 6063-T5, which contains two connected reinforcing ribs and four unconnected reinforcing ribs, making the blades light and more resistant to breakage. When the blades are connected to the plug-in and fastened to the plug-in with nuts and caps, the two "E-shaped" reinforcing ribs have a certain deformation capacity. When the blades are subjected to the tightening force from top to bottom, the reinforcing ribs will bend slightly, which can ensure that the plug-in is tightly connected to the blades and the structural strength of the blades.



FAN STRUCTURE

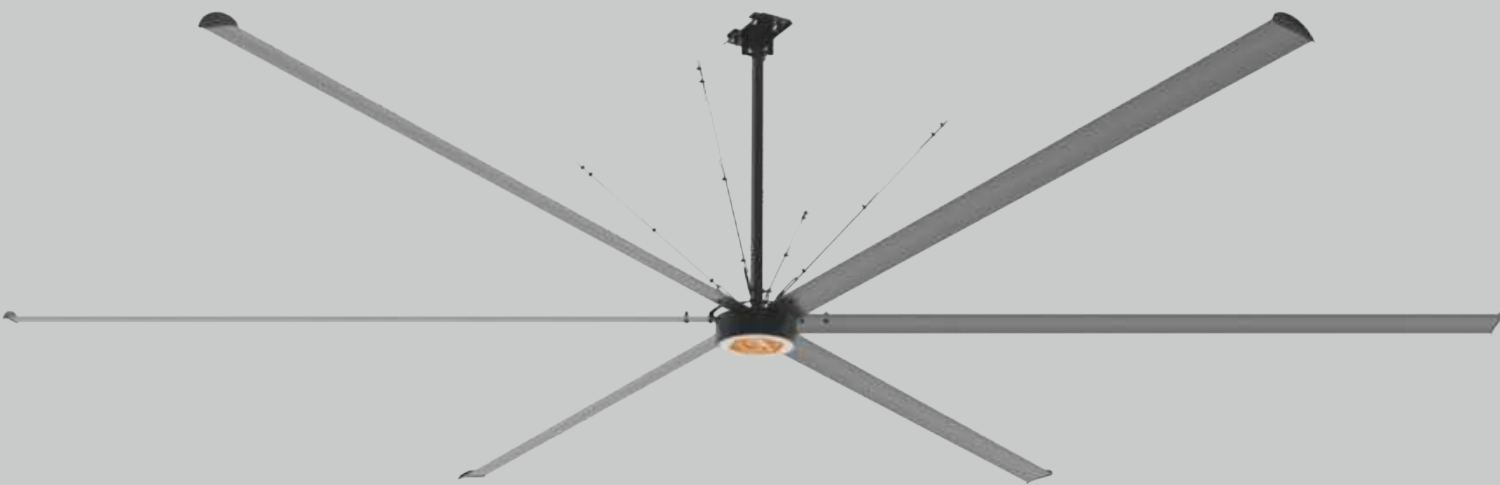


1stCoolFan 5+ safety parts to protect hvls fans without any falling down risk, with special design of safety sling line, safety ring, 12.9 grade screws, double locking structure, ensures that the chassis connected to the locking mechanism will not detach from the motor frame.

1STCOOLFAN INSTALLATION CASES



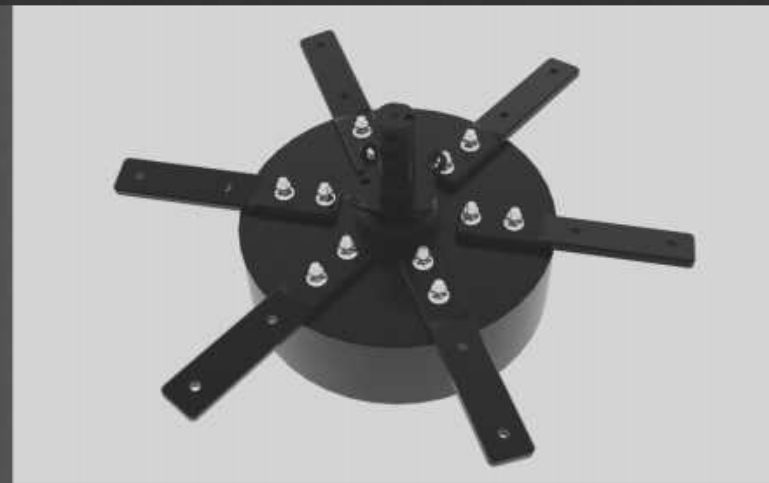
1STCOOLFAN
PMSM FAN



1stCoolFan Using a high IP grade PMSM Motor, is a type of large industrial ceiling fan that utilizes a Permanent Magnet Synchronous Motor (PMSM) for operation. Our special design Motor using high Magnetic Pole, which improves operational stability, reduce energy consumption and increase efficiency, reduce the risk of magnetic steel demagnetization, optimize starting characteristics and commutation performance, also improves speed stability.

Model	Motor Power	Size	Max Speed	Air volume	Current	Fan weight	Noise
FSTPM-1500-7.3	1.5KW	24ft(7.3m)	0-55	15500m³/min	380V/220V/2.7/5.1A	120KGS	43dBA
FSTPM-1200-6.1	1.2KW	20ft(6.1m)	0-60	13800m³/min	380V/220V/2.8/5.2A	108KGS	43dBA
FSTPM-900-5.5	900W	18ft(5.5m)	0-65	11000m³/min	380V/220V/1.8/3.2A	98KGS	43dBA
FSTPM-750-4.9	750W	16ft(4.9m)	0-70	8800m³/min	380V/220V/1.7/2.8A	82KGS	43dBA
FSTPM-500-4.2	500W	14ft(4.2m)	0-75	7000m³/min	220V/2.3A	72KGS	43dBA
FSTPM-300-3.6	300W	12ft(3.6m)	0-85	6200m³/min	220V/1.9A	65KGS	43dBA
FSTPM-300-3	300W	10ft(3m)	0-95	5800m³/min	220V/1.7A	60KGS	43dBA
FSTPM-300-2.4	300W	8ft(2.4m)	0-110	5200m³/min	220V/1.6A	55KGS	43dBA

DETAILED INTRODUCTION



PMSM MOTOR

1stcoolfan High IP Grade PMSM motor, high water-proof motor, with NSK Bearing,

which improve operational stability, reduce energy consumption and increase efficiency, reduce the risk of magnetic steel demagnetization, Optimize starting characteristics and commutation performance and Improve speed stability.

VFD

Special design VFD for HVLS Fan with IP54 protection level; equipped with start/stop button, stepless speed regulation knob, indicator light; with overload protection, voltage shock protection, phase loss protection and other protection functions, can totally operate the fan smoothly.



FAN BLADES

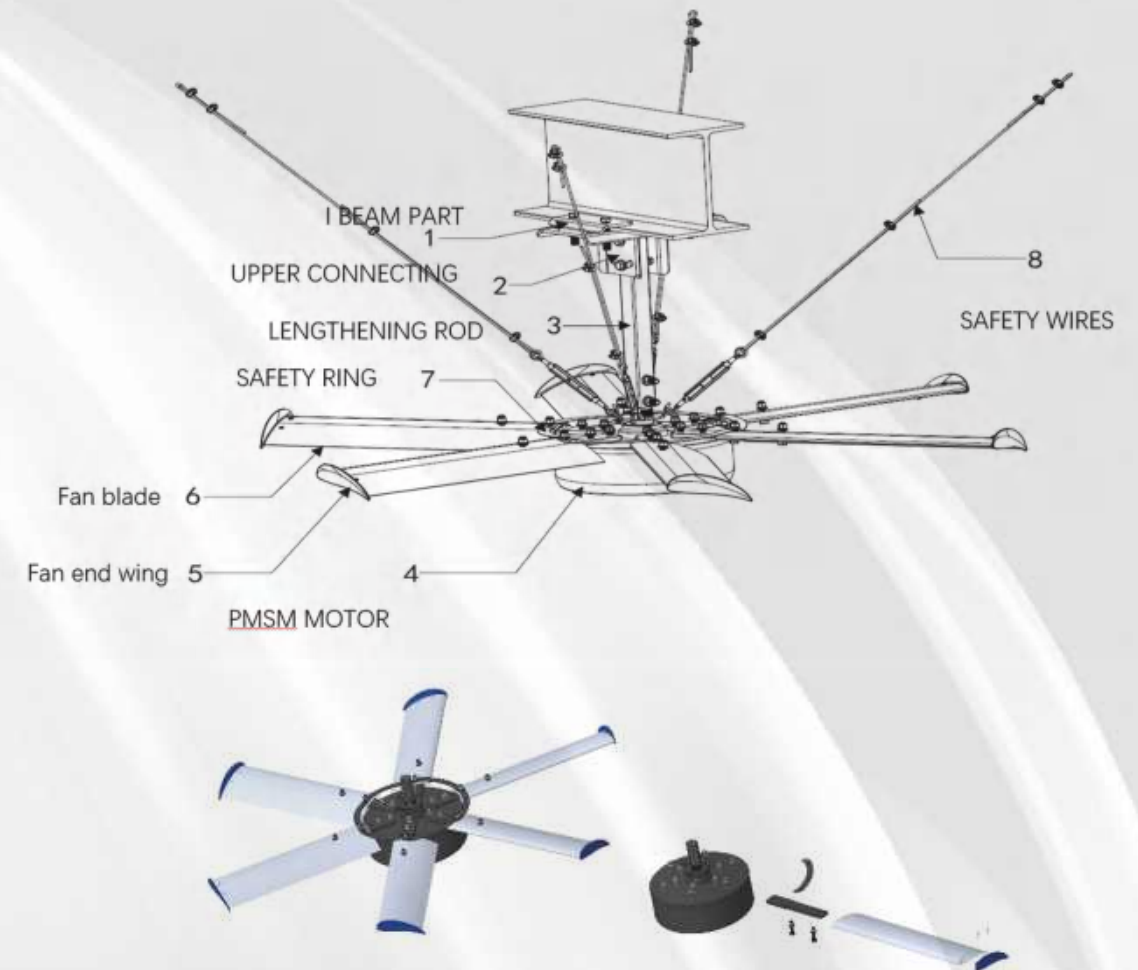
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FAN SAFETY

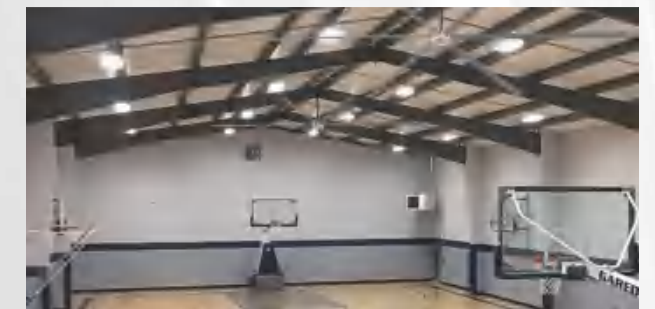
1stCoolFan special design to protect hvls fans without any falling down risk, with safety sling line, safety ring, 12.9 grade screws, double locking structure, ensures that the chassis connected to the locking mechanism will not detach from the motor frame.

FAN STRUCTURE



1stCoolFan special design to protect hvls fans without any falling down risk, with special design of safety sling line, safety ring, 12.9 grade screws, double locking structure, ensures that the chassis connected to the locking mechanism will not detach from the motor frame.

1STCOOLFAN INSTALLATION CASES



1STCOOLFAN MOBILE HVLS FAN



1STCOOLFAN MOBILE HVLS FAN HAS THE FOLLOWING ADVANTAGES:

1.Energy efficient design:

The super mobile fan is with large air volume, and the bottom speed technology uses brushless DC motor. The conflict between air conditioning and high energy consumption is completely solved, and the stepless speed control can be better meet your precise control requirement for air volume.

2.Flexible:

Universal indoor and outdoor casters allow you to move it to any place you need without any difficult. Just plug it into the socket. Casters with side brakes are more convenient to operate, flexible to move, and durable.

3.Low noise:

Compact and sleek design with 6 aluminum alloy blades for aerodynamics and strong winds. Brushless DC motor has fast speed, low noise, low energy consumption and long service life.

4.Durable:

All apearence material are treated with Spray-painted paint.

5.Plug and play:

No on-site installation, all factory pre-installed and commissioned, avoid cumbersome installation and maintenance-free use.

Model	Motor Power	Size	Max Speed	Air volume	Coverage area	Fan weight	Noise
FSTYD-750-2	0.75KW	2m	250RPM	82000 m ³ /min	280m ²	120kgs	38dBA
FSTYD-750-1.5	0.75KW	1.5m	300RPM	55000m ³ /min	200m ²	100kgs	38dBA

1STCOOLFAN WALL HVLS FAN



1STCOOLFAN wall mounted HVLS fan adopts PMSM motor with a diameter of 1.5-2m, which can provide ultra-long air wind, with an effective long distance. 1STCOOLFAN WALL FAN is mainly used in industrial, commercial and livestock spaces, and has received good feedback from customers.

Model	Motor Power	Size	Max Speed	Air volume	Coverage area	Fan weight	Noise
FSTYD-750-2	0.75KW	2m	250RPM	82000 m ³ /min	280m ²	120kgs	38dBA
FSTYD-750-1.5	0.75KW	1.5m	300RPM	55000m ³ /min	200m ²	100kgs	38dBA

MOBILE AIR COOLER

It is a cost-effective solution that provides sustainable air cooling system for spaces like factories, warehouses, showrooms, workshops, religious places, etc, is the suitable devices combine with HVLS Fans for large area cooling.



1stCoolFan Special Design Air Cooler adopts special water curtain, High speed pure copper core motor, with principle of evaporative air cooling, where fresh air supplying continuously through air ducts.

DETAILED INTRODUCTION



MAIN TECHNICAL PARAMETER

MOTOR

1stCoolFan with High efficiency motor, in the same power, our Industrial Air Cooler produce larger air volume and provide more effective cooling effect, also with low energy consumption, also we adopt fully waterproof and anticorrosion shell design, anti-oxidation gas protection welding process, and have high cleanliness in the system, this enables our motor to operate stably in harsh environment such as humidity and corrosion, extend its service life.



FAN BLADE

Because industrial air coolers are usually used in harsh environments such as humidity and corrosion, the fan blades need to have high corrosion resistance to ensure long-term stable operation. 1stCoolFan using Aluminium casting fan blades which considering Aerodynamic to ensure maximum air volume and minimum noise when rotating



DETAILED INTRODUCTION



COOLING PAD

1stCoolFan Cooling Pad is made of multiple layers of corrugated fiber materials, these materials have good water absorption and air permeability. it has the advantages of significant cooling effect, Energy saving and environmental protection: Increase humidity and Dustproof and deodorizing.

WATER PUMP

Its main function is to pump water from the tank and deliver it through the pipe to the evaporative media (such as wet curtains) of the air cooler. During the evaporative cooling process, the water absorbs heat from the air and evaporates, thereby reducing the temperature of the air. The continuous operation of the water pump ensures that this process continues and provides a steady flow of water to the air cooler.



MAIN TECHNICAL PARAMETER:

Model	Motor Power	Air volume	Voltage	Water tank	Water consumption	Dimensions	Applicable
FSTNC-1100	1.1KW	18000m³/H	220V	200L	20L	1110*1110*1880mm	120m²
FSTNC-1500	1.5KW	22000m³/H	220/380V	200L	20L	1110*1110*1880mm	150m²
FSTNC-2200	2.2KW	25000 m³/H	220/380V	200L	20L	1110*1110*2080mm	200m²

WALL-TYPE AIR COOLER



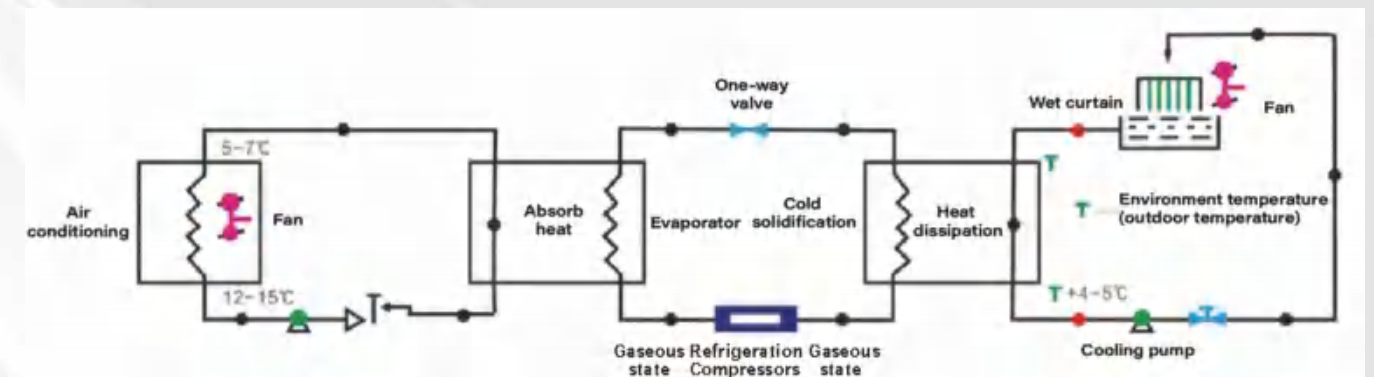
Model	Motor Power	Air volume	Voltage	Water tank	Water consumption	Dimensions	Applicable
FSTNC-1100 UP/DOWN/SIDE	1.1KW	18000m³/H	220V	20L	5-10L	1110*1110*940mm	100-150m²
FSTNC-1500 UP/DOWN/SIDE	1.5KW	22000m³/H	220/380V	20L	5-10L	1110*1110*940mm	150-180m²
FSTNC-2200 UP/DOWN/SIDE	2.2KW	25000 m³/H	220/380V	20L	10-20L	1110*1110*1150mm	180-220m²
FSTNC-3000 UP/DOWN	3KW	35000 m³/H	220/380V	30L	20-30L	1350*1350*1250mm	200-260m²
FSTNC-4000-UP/Down	4KW	40000 m³/H	380V	45L	30-35L	1500*1500*1450mm	400-500m²

VERTICAL LOUVER STYLE



1stCoolFan Water evaporative air conditioner, also known as low-consumption air conditioner or evaporative condensing air conditioner, is a working mode that combines water cooling, air cooling and compressor. First, the outdoor unit cools the circulating water through the wet curtain water evaporation. After the water temperature drops to room temperature, it flows through the heat exchange system of the indoor unit (at this time, the compressor has started working and the refrigerant has been compressed into a high-temperature and high-pressure state). The heat exchange system of the indoor unit takes away most of the heat of the high-temperature refrigerant and turns it into a normal-temperature refrigerant. The normal-temperature refrigerant is throttled by the expansion valve and becomes a low-temperature and low-pressure refrigerant, which is transported to the indoor evaporator to blow out cold air; the circulating water after the high-temperature and high-pressure refrigerant is cooled is transported to the outdoor unit by a water pump, and at the same time flows through the wet curtain water evaporator, thereby turning the high-temperature water into normal-temperature water and flowing through the room again. This machine cools the refrigerant by means of high temperature and high pressure, and operates continuously in a cycle to maximize the energy efficiency ratio, thereby reducing energy consumption.

WATER-COOLED AIR CONDITIONER



Main parts of water-cooled Evaporative Air Conditioner



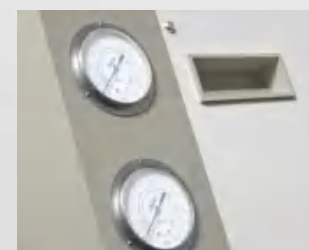
EVAPORATOR

Use U-shaped large area evaporator with high efficiency internal thread copper tube, high heat exchange efficiency, corrosion resistance and long service life.



SHELL AND TUBE HEAT EXCHANGER

Domestic famous shell and tube heat exchanger, 45 steel tube shell, 38 spiral copper tube, fast heat exchange and small water resistance.



HIGH-PRECISION PRESSURE GAUGE

The pressure gauge indicator is added on the side for easy judgment and more convenient subsequent maintenance.



PANASONIC COMPRESSOR

Japanese Panasonic C-SB R410 380/50HZ fast cooling scroll compressor, with high efficiency, durability, high temperature resistance, low noise and noise reduction function.

Model	FSTAK5HP	FSTAK7HP	FSTAK10HP	FSTAK12HP	FSTAK15HP
Compressor power (kw)	3.75	5.25	7.5	9	10.5
Cooling capacity (kw)	18	25	36	43	54
Rated power (kw)	5.1	7.1	10.64	12.14	14.6
Temperature control range	13-30	13-30	13-30	13-30	13-30
Motor power (kw)	0.52	1	0.52*2	0.52*2	1*2
Air volume (m³/n)	3350	4200	6700	6700	8400
Cooling area	150-200	250-300	400-450	500-550	650-700
Refrigerant model	R410A	R410A	R410A	R410A	R410A
Length width height	80*60*197	80*60*197	131*64*212	131*64*212	131*64*212
Weight (kg)	166	180	330	340	360
Outdoor unit parameters					
Motor power (kw)	0.5	0.5	0.5*2	0.5*2	0.5*2
Air volume (m³/n)	165600	165600	165600*2	165600*2	165600*2
Heat dissipation ambient temperature	40	40	40	40	40
Outdoor unit dimensions (cm)	74*22*107	84*22*117	(74*22*107)*2	(74*22*107)*2	(74*22*107)*2
Weight (kg)	35	40	35*2	35*2	35*2



INDUSTRIAL DEHUMIDIFIER



FSTindustrial dehumidifiers are engineered to provide efficient humidity control for large-scale commercial and industrial spaces. Designed for continuous, reliable operation, our units maintain optimal humidity levels between 40–60% RH to prevent mold and mildew growth, improving air quality, and protecting equipment and infrastructure. Our dehumidifiers are equipped with advanced technology, including a fully automatic smart control model and robust hardware material to ensure consistent performance even in the toughest conditions. Contact us today to learn more about our industrial dehumidifiers and how they can be tailored to your operation.

DETAILED INT

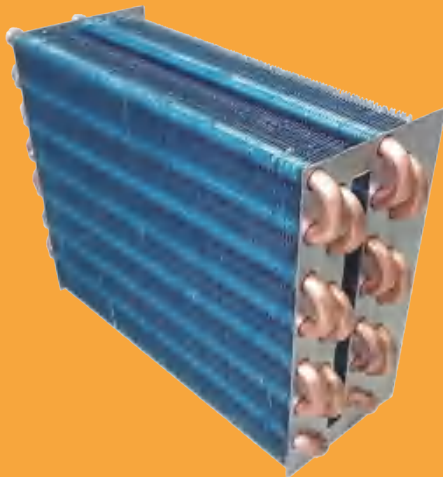
COMPRESSOR

The compressor is one of the core components of the dehumidifier, which is responsible for providing the power required for the refrigeration cycle. By compressing the refrigerant, its temperature and pressure increase, providing conditions for the subsequent condensation process.



CONDENSING UNIT

When industrial dehumidifier working, the wet air enters the dehumidifier through the fan, and then passes through the evaporator (cooling coil), the temperature drops below the dew point, and the water vapor condenses into water droplets. These water droplets gather and flow into the water collection tray, and finally discharged through the drain pipe. The dehumidified air then passes through the condenser (heating coil) to return to the temperature, and is discharged after the temperature is increased, thus achieving the purpose of dehumidification.



DETAILED INTRODUCTION

CENTRIFUGAL FAN

1stCoolFan using waterproof, dustproof and shockproof motor to drive motor to gener-ate airflow, which draws the moist air into the dehumidifier and passes through the condens-er for dehumidification.



BLOW FAN

When the fan motor starts, it drives the fan blades to rotate, air is sucked into the axial inlet of the fan, and then the air is thrown out from the circumferential direction using centrifugal force to form an airflow. In this process, the air is accelerat-ed and generates a certain pressure, thereby achieving air flow and dehumidification effects.



Model	FST90E	FST138E	FST156E	FST180E
Daily Dehum L/D	90L/D	138L/D	156L/D	180L/D
Max power	1.45KW	2KW	2.3KW	3.5KW
Applicable area (m²)	100-150	150-200	160-260	150-300
Circulation air volume(m³/h)	1200	1250	1400	2000
Working Noise(dBA)	55	55	55	55
Weight(kg)	47	49	65	120
Machine Size	410* 500* 1030	410* 500* 1030	610* 400* 1650	610* 400* 1650
Drainage pattern	Soft tube Direct			
Control Panel	With tempt appear, Microcomputer control			

Model	FST240E	FST380E	FST480E	FST580E	FST720E	FST960E
Daily Dehum L/D	240L/D	380L/D	480L/D	580L/D	720L/D	960L/D
Max power	4.9KW	6.5KW	10KW	12KW	16KW	22KW
Applicable area (m²)	300-450	400-600	500-700	600-900	800-1200	1200-1600
Circulation air volume(m³/h)	2800	3000	5600	5800	8200	8500
Working Noise(dBA)	65	65	65	65	65	65
Weight(kg)	145	175	230	230	400	400
Machine Size	770* 480* 1710	460* 770* 1720	460* 1200 *1720	500* 1200 *1800	640* 1370 *1900	640* 1370 *1900
Drainage pattern	Soft tube continuous Direct					
Control Panel	Fully automatic LED color screen, precise accuracy, 10%-80% arbitrary setting, timed on/off, shutdown memory function					



1STCOOLFAN

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TECHNOLOGY CO., LTD