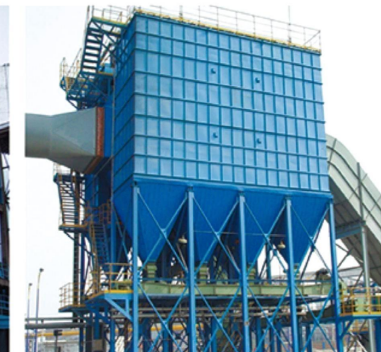


## PULSE BAG DUST COLLECTOR

Bag filters are dry dust removal devices that utilize novel bagged filter media to capture dust from dust-laden gases. Their performance is unaffected by the dust concentration and gas volume at the source. For particles larger than 0.2 microns, the capture efficiency is typically over 99%, and for particles smaller than 1 micron, the efficiency is nearly 100%. The outlet dust concentration can meet or exceed national standards, typically reaching 5-30 mg/m<sup>3</sup>.

### Dust Collector Features:

1. Filtration: Dust-laden air enters the dust collector and flows through the filter bags, trapping dust on their outer surfaces. Clean air then flows through the bags and out.
2. Cleaning: When dust accumulates to a certain thickness outside the filter bags, a pulse valve instantly injects high-pressure air, causing the bags to rapidly expand and vibrate, shaking off the attached dust into the hopper.
3. As dust-laden air passes through the hopper, the upward deflection of the airflow causes larger dust particles to fall directly into the hopper due to their own weight, achieving the desired dust removal effect
4. The dust removal equipment adopts pulse cleaning, which cleans thoroughly without affecting the dust removal process. It can also be conveniently repaired, maintained and replaced while the dust removal is running.
5. The use of a chamber pulse cleaning method prolongs the spraying time, reduces energy consumption, reduces the wear of the pulse valve diaphragm and keel filter bags, and increases the life of wearing parts..



### Technical performance

Specifications	Filter area m <sup>2</sup>	Dust concentration g/m <sup>3</sup>	Filter air velocity m/min	Filter air volume m <sup>3</sup> /h	Resistance H omm	Efficiency %	Dimensions 长x宽x高mm	Weight kg
MC24-II	18	< 15	2-4	2160-4320	120-150	99.5	1090x1678x3667	1133
MC36-II	27	< 15	2-4	3240-2480	120-150	99.5	1490x1678x3667	1485
MC48-II	36	< 15	2-4	4320-8640	120-150	99.5	1890x1678x3667	1495
MC60-II	45	< 15	2-4	5400-10800	120-150	99.5	2290x1678x3667	1730
MC72-II	54	< 15	2-4	6480-12960	120-150	99.5	2690x1678x3667	1950
MC84-II	63	< 15	2-4	7560-15120	120-150	99.5	3090x1678x3667	2230
MC96-II	72	< 15	2-4	8640-17280	120-150	99.5	3650x1678x3667	2400
MC120-II	99	< 15	2-4	10800-21600	120-150	99.5	4450x1678x3667	2870

## CARTRIDGE DUST COLLECTOR

### Equipment Introduction

Filter cartridge dust collectors are composed of filter cartridges or use pulse jets. Cartridge dust collectors can be divided into oblique insertion, side-mounted, hanging, and top-mounted types based on installation method. Filter cartridge dust collectors can be divided into long fiber polyester cartridge dust collectors, composite fiber cartridge dust collectors, antistatic cartridge dust collectors, flame retardant cartridge dust collectors, membrane cartridge dust collectors, and nano cartridge dust collectors based on cartridge material.

### Advantages of Cartridge Dust Collector

1. Rigid filter media is evenly distributed in a pleated pattern to form the filter cartridge, minimizing its volume and maximizing its filtration area.
2. A microfiber layer is applied to the outer layer of the standard filter media, significantly improving filtration efficiency. Filtered dust remains confined to the surface of the microfiber layer, significantly reducing filtration resistance and saving over 30% in energy consumption. This significant energy saving effect also ensures thorough dust removal. This also addresses various challenges, such as the difficulty in handling ultrafine and fibrous dust.
3. PTFE-coated filter media is suitable for handling damp, dusty gases. Because the contact angle between the filter media and water is greater than 108 degrees, damp dust adhering to the filter media surface does not stick to the filter media and is easily blown off, thus completely eliminating the problem of damp dust condensation sticking to the filter media.
4. Filter efficiency of the cartridge dust collector: Standard filter media has a 99% dust collection capacity for particles 5µm and larger, while coated filter media has a 99% dust collection capacity for particles 0.5µm and larger.

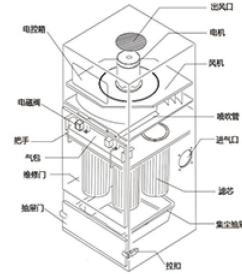
序号	型号/参数	PH-01-06L	PH-01-07L	PH-01-12S	PH-01-18S	PH-01-24S
1	过滤面积 (m²)	72	84	99	150	198
2	滤芯数量 (个)	6	7	12	18	24
3	电磁脉冲阀 (个)	6	7	6	9	12
4	处理气流量 (m³/h)	2160-8640	2520-10080	2970-11880	4455-17820	5940-23760
5	净化效率 (%)	99.99%				
6	除尘器阻力 (Pa)	800-1000				
7	过滤风速 (m³/min)	0.5-2				
8	压缩空气压力 (Mpa)	0.4-0.6	0.4-0.6	0.4-0.6	0.4-0.6	0.4-0.6
9	空压机排气量 (m³/min)	0.6	0.6	0.6	0.9	0.9
10	电机功率 (KW)	7.5	11	15	18.5	22
11	外形尺寸 (m)	1.9*1.3*3.8	2.0*1.3*3.8	2.0*1.7*3.8	2.2*1.8*3.8	2.6*1.8*3.8



## CARTRIDGE DUST COLLECTOR MOBILE

The MCLT series cartridge dust collector is a mature product developed by our company. Its key features include:

1. It utilizes a vertical filter cartridge structure for easy dust adsorption and cleaning. Because the filter media experiences minimal vibration during cleaning, the filter cartridge lifespan is significantly longer than that of filter bags, resulting in lower maintenance costs.
2. It utilizes the internationally advanced pulse cleaning method, ensuring thorough and reliable cleaning.
3. Critical components that impact performance, such as pulse valves, are made of high-quality products, with the diaphragms boasting a service life exceeding one million cycles.
4. It utilizes column-by-column cleaning technology, allowing one pulse valve to simultaneously spray one column, significantly reducing the number of pulse valves required.
5. The pulse valve cleaning mechanism is automatically controlled, with both timed and manual control options available.
6. Filter cartridges can be combined in any number of columns and rows to meet installation space requirements. The unit filter area occupies a small three-dimensional footprint, saving significant space resources and indirectly reducing the user's initial investment costs.
7. Long service life: The filter cartridge can last up to 1-2 years, significantly reducing the frequency of filter replacements (traditional cartridge dust collectors require replacements approximately every 6 months). Maintenance is simple, significantly reducing user maintenance costs.
8. This product is widely suitable for collecting smoke and dust generated during welding, workshop fumes, and other work.



A pulse filter collector typically features an air inlet and outlet, a filter cartridge, an air bag, a pulse controller, a blow valve, and a blow pipe. The dust collector is typically made of folded and rolled polyester fiber, with a closed lower end and the center of the upper end facing the lower end of the blow pipe. After dust-laden gas enters the dust collector through the air inlet, the airflow slows, allowing coarse particles to escape and settle into the dust collection chamber. Fine dust particles are trapped on the outer surface of the filter cartridge as they travel through the airflow, and clean gas is discharged through the air outlet. When the dust layer on the filter cartridge surface becomes thick, the pulse controller activates the blow valve, causing the compressed air in the air bag to be ejected at high speed through the blow pipe. This simultaneously induces several times the amount of ambient air to enter the filter cartridge and rapidly eject it from the inside out, blowing dust off the outer surface of the cartridge into the dust collection chamber, where it is finally discharged through the dust hopper. The dust collector utilizes a pulse blow method for cleaning, which ensures thorough cleaning without damaging the filter cartridge, extending the service life of the pulse filter cartridge. The dust cleaning process is automatically controlled by a pulse controller without the need for manual control. At the same time, the pulse filter dust collector can be controlled by pressure difference control or time interval control.

## CYCLONE DUST COLLECTOR

A cyclone dust collector is a type of dust removal device. The dust removal mechanism is to rotate the dust-laden airflow, using centrifugal force to separate dust particles from the airflow and trap them on the wall. Gravity then forces the dust particles into the hopper. Each component of a cyclone dust collector has specific dimensional proportions. Changes in these proportions can affect the efficiency and pressure loss of the cyclone dust collector, with the collector diameter, air inlet size, and exhaust pipe diameter being the primary influencing factors. When using a cyclone dust collector, be aware that beyond certain limits, favorable factors can become unfavorable. Furthermore, some factors that improve dust removal efficiency can increase pressure loss, so adjustments to all factors must be considered.



## CATALYTIC COMBUSTION WASTE GAS TREATMENT EQUIPMENT



### Working Principle of a Catalytic Combustion System

The core of a catalytic combustion system is to use a catalyst to reduce the combustion activation energy of organic waste gas, enabling a complete oxidation reaction at low temperatures of 200-400°C. This decomposes organic pollutants into harmless carbon dioxide (CO<sub>2</sub>) and water (H<sub>2</sub>O), while simultaneously releasing heat. Some of this released heat is recovered through a heat exchanger and used to preheat the waste gas to be treated, thereby reducing system energy consumption and achieving energy-efficient operation. The basic process is: waste gas pretreatment (filtration and water removal) → preheating (reaching the catalytic reaction temperature) → catalytic combustion (oxidative decomposition) → heat recovery/standard emission compliance.

**Characteristics of catalytic combustion:** Flameless combustion is easy to control, with a low combustion temperature (between 250°C and 300°C). It consumes minimal external heating energy, and different catalysts and combustion processes are required for different exhaust gas components. Gases entering the catalytic combustion unit must be filtered and preheated to reach the catalyst's ignition temperature (between 220°C and 250°C). This removes catalytic inhibitors such as dust particles and liquid droplets to prevent clogging of the catalyst bed and poisoning of the catalyst.

**Equipment Features:** Easy operation, with automatic control during operation.

**Low energy consumption:** The catalytic combustion chamber utilizes a precious metal catalyst on a honeycomb ceramic carrier, resulting in low resistance and high activity. It can sustain spontaneous combustion when exhaust gas vapor concentrations exceed 2000 ppm.

**Safe and Reliable:** The equipment is equipped with a fire-retardant dust removal system, explosion-proof pressure relief system, over-temperature alarm system, and advanced automatic control system.

**Low resistance, high purification rate:** The catalyst utilizes a state-of-the-art precious metal honeycomb ceramic carrier with a large specific surface area.

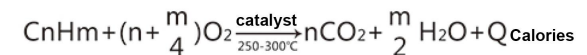
**Waste heat recovery:** Waste heat can be returned to the drying tunnel, reducing power consumption in the original drying tunnel and can also be used as a heat source for other purposes.

**Small footprint:** Only 70% to 80% of similar products in the industry, and no special equipment foundation requirements are required.

**Long service life:** The catalyst is generally replaced after 8000 hours, and the carrier is regenerable.

**Process Flow and Principle:** This process primarily utilizes a high-efficiency catalyst, which oxidizes waste gas to produce non-toxic and odorless carbon dioxide (CO<sub>2</sub>) and water (H<sub>2</sub>O).

和水 (H<sub>2</sub>O) ;



## WET ELECTROSTATIC PRECIPITATOR

The operating principle of a wet electrostatic precipitator (WESP) is to charge pollutants such as dust and mist in the gas through a high-voltage direct current (DC) electric field. Under the influence of the electric field, the charged pollutants migrate toward the electrode of opposite polarity (the collecting electrode). They are ultimately captured by the water film or mist on the collecting electrode surface and discharged with the water flow, thus purifying the gas.

The core working process can be divided into four key steps:

1. Ionization (corona discharge): High-voltage DC is applied to the cathode wire (corona electrode), ionizing the surrounding air and generating a large number of negatively charged electrons and ions (forming a "corona zone").
2. Charging: When pollutants such as dust and mist in the exhaust gas pass through the corona zone, they collide and combine with the negatively charged electrons/ions, rapidly acquiring a negative charge.
3. Migration and adsorption: Under the influence of the electric field (Coulomb force), the negatively charged pollutant particles migrate toward the positively charged anode plate/tube (the collecting electrode) and ultimately adsorb on the collecting electrode surface.
4. Cleaning (Water Film Flushing): By continuously spraying a uniform water film on the collecting electrode surface, or by periodically spraying a water mist, pollutants adsorbed on the collecting electrode are washed off and flowed along with the flushing water into the wastewater treatment system at the bottom, completing the cleaning process and avoiding the secondary dust emission problem associated with dry electrostatic precipitators.
5. Gas Ionization and Dust Charging: An electrostatic precipitator (ESP) is equipped with cathode wires (such as corona wires) and anode plates (such as plates or tube bundles). When energized, the cathode wires generate a strong electric field, causing a "corona discharge" in the surrounding air. This process ionizes air molecules into a large number of negatively charged electrons and positive ions. The electrons, under the influence of the electric field, rapidly migrate toward the anode plates. When the dust-laden gas flows through the electric field, dust particles collide with these high-speed electrons, forcing them to acquire a negative charge, preparing them for subsequent capture.
6. Directional capture of charged dust: Negatively charged dust particles are subjected to a continuous electric force in the electric field, overcoming the resistance of gas flow and moving in a directional manner toward the positively charged anode plate (or anode tube bundle). When the dust particles reach the surface of the anode plate, they lose their electrical properties due to charge neutralization and are subsequently captured by the water film (or water mist) attached to the anode plate surface. The water film envelops the dust particles, preventing them from being re-launched by airflow disturbances, thus achieving separation of dust and gas. The purified gas is discharged from the top of the dust collector.



## ELECTROSTATIC TAR COLLECTOR

The operating principle of an electrostatic tar precipitator is to use a high-voltage direct current (DC) electric field to ionize coal gas containing tar droplets, imparting a negative charge to the tar droplets. Under the influence of the electric field (Coulomb force), the charged tar droplets migrate toward the positively charged dust collecting electrode (precipitation electrode) and adhere to its surface. The tar is then removed from the collecting electrode by gravity or mechanical means (such as scraping or washing), achieving separation and purification of the coal gas and tar. Its core workflow consists of three steps:

1. Ionization (corona discharge): High-voltage DC is applied to the cathode wire (corona electrode) inside the device, ionizing the surrounding coal gas and generating a large number of negatively charged electrons and ions, forming a "corona zone."
2. Charging: Coal gas containing tar droplets enters the device from the bottom. As it flows through the corona zone, the tar droplets collide with the negatively charged electrons/ions, rapidly becoming negatively charged.
3. Separation and collection: Negatively charged tar droplets move toward the positively charged anode plate or anode tube (dust collecting electrode) under the action of the electric field force and are adsorbed on the surface of the dust collecting electrode. As the adsorbed tar gradually increases, it gathers into oil droplets under the action of gravity, flows down the surface of the dust collecting electrode, and finally gathers in the tar tank at the bottom of the equipment for discharge.



## ACTIVATED CARBON ADSORPTION BOX

The operating principle of an activated carbon adsorption chamber is to leverage the enormous specific surface area and surface adsorption forces (van der Waals forces and chemical bonding) of activated carbon's porous structure (e.g., micropores and mesopores). When gases containing organic waste or odor pass through the activated carbon layer, pollutant molecules in the waste gas are adsorbed within the activated carbon pores, thereby purifying the gas and ensuring compliance with emission standards.

The core operating process is divided into two phases:

1. Adsorption Phase: Organic waste gas to be treated (e.g., VOCs and odorous gases) is introduced into the adsorption chamber via a fan and flows evenly through the activated carbon granules/fiber layer filled within. Pollutant molecules in the waste gas are captured and fixed by intermolecular forces (van der Waals forces) or chemical adsorption, and the purified gas is discharged from the adsorption chamber outlet.
2. Desorption and Regeneration Phase (optional): When the activated carbon reaches saturation (adsorption capacity decreases, outlet waste gas concentration exceeds standards), desorption and regeneration are required to restore its adsorption capacity. Common desorption methods include hot air desorption (heating air to volatilize pollutants in the activated carbon pores), steam desorption (using high-temperature steam to desorb pollutants), or nitrogen desorption. The high-concentration pollutant gas produced by desorption can be further treated through catalytic combustion, condensation recovery, and other methods to achieve resource recovery or complete destruction.



## SPRAY TOWER

### Product Applications

Water spray waste gas treatment towers are widely used to purify acidic and alkaline waste gases emitted from processes in the chemical, electronics, metallurgy, electroplating, textile (chemical fiber), and machinery manufacturing industries. These include food seasoning, acid production, pickling, electroplating, electrolysis, and battery production. They are also used for waste gas purification in industries such as electronic component production, battery production, pickling, laboratory exhaust, metallurgy, chemicals, pharmaceuticals, painting, spraying, brewing, and furniture production.

### Product Features

1. The packed tower is used to purify the exhaust gas, which is suitable for the treatment of continuous and intermittent exhaust gas emissions;
2. The process is simple, and the management, operation and maintenance are quite convenient and concise, and will not cause any impact on the production of the workshop;
3. It has a wide range of applications and can purify multiple pollutants at the same time; it has a low pressure drop, high flexibility, and good demisting performance;
4. The tower body can be made of FRP/PP/PVC/glass reinforced plastics/stainless steel/carbon steel and other materials according to actual conditions;
5. The filler uses high-efficiency, low-resistance ball rings, which can thoroughly remove odors, harmful substances, etc. in the gas.



## CYCLONE HYBRID SPRAY TOWER

The cyclone hybrid spray tower is based on the cyclone hybrid tower, cyclone spray tower device and ordinary paint spray water curtain cabinet, and is embedded with a "pneumatic mixed flow flue gas purification system". The system is designed according to the principle of power technology. It is mainly aimed at the sticky dust, oily flue gas, fibrous dust and other dry dust removal equipment in the pretreatment of industrial flue gas that cannot be handled by dry dust removal equipment. It is a new cooling and environmentally friendly flue gas purification equipment developed.

### Workflow

The cyclonic hybrid spray tower is designed based on fluid dynamics principles. Through physical calculations, the tangential angle of the cyclone device is designed to generate centrifugal force. Under the pull of the fan, dust-laden gas enters the high-pressure centrifugal cyclone tangentially. During this high-speed, dynamic operation, the centrifugal force of the cyclone device causes the liquid and dust-laden gas to fully dissolve and adsorb. The circular motion attenuates the cyclonic energy, achieving dust removal.

This system features high air volume processing, completely eliminates flammable and explosive hazards, and is highly adaptable to changing dust levels. Because the dust-laden airflow rotates in a centripetal, high-speed motion, the cyclone velocity varies with air volume, maximizing the liquid-air contact area and mixing time. This minimizes wind resistance while achieving optimal dust purification results, with a dust removal efficiency of up to 99.9%.

### Working Principle

During production operations, smoke and dust exhaust gas enters the high-speed mixed flow guide device under the action of the fan traction force, and the smoke and dust exhaust gas undergoes gas-liquid emulsification reaction under the action of centrifugal force. Under the high-speed rotation state of the mixed liquid, the pollutants are fully mixed, absorbed and dissolved with the rotating liquid to increase the proportion of smoke. The centrifugal force designed by the cyclone device is used to achieve gas-liquid separation. The separated gas enters the adsorption layer of the environmentally friendly filler, and the corresponding solvent sprayed by the spiral nozzle is evenly distributed on the filler. Due to the reasonable design of the filler, the pollutants penetrate into the filler for a longer time, and have sufficient gas-liquid dissolution reaction time with the reaction liquid on the surface of the special environmentally friendly filler, thereby achieving the purpose of meeting emission standards.



## FIBERGLASS DESULFURIZATION TOWER

The FRP desulfurization tower works as follows: Using FRP as the tower body, sulfur-containing exhaust gas (primarily SO<sub>2</sub>) is thoroughly contacted and mixed with a sprayed alkaline absorbent (such as limewater or sodium hydroxide solution). The acid-base neutralization reaction converts the SO<sub>2</sub> in the exhaust gas into harmless salts (such as calcium sulfate and sodium sulfite), achieving desulfurization and purification. The purified gas then undergoes demisting and meets emission standards.

The core workflow consists of four key steps:

1. Exhaust Gas Intake: Sulfur-containing exhaust gas (such as boiler flue gas) is introduced into the bottom of the desulfurization tower via a fan and flows upward along the tower.
2. Absorbent Spray: The alkaline absorbent (such as lime milk) is atomized into fine droplets by a spray device at the top of the tower and sprayed downward, countercurrently with the rising exhaust gas, significantly increasing the gas-liquid contact area.
3. Desulfurization Reaction: The SO<sub>2</sub> in the exhaust gas undergoes a chemical neutralization reaction with the sprayed alkaline absorbent. Taking the commonly used limewater (Ca(OH)<sub>2</sub>) as an example, the core reaction is: SO<sub>2</sub>+ Ca(OH)<sub>2</sub> - CaSO<sub>3</sub> ↓ (calcium sulfite) + H<sub>2</sub>O. Some of the calcium sulfite is further oxidized to the more stable calcium sulfate (CaSO<sub>4</sub>, also known as gypsum), making it easier to process.
4. Gas-Liquid Separation and Discharge: The desulfurized gas, carrying a small amount of mist droplets, enters the demister at the top of the tower. After the mist droplets are removed, the clean gas is discharged from the chimney at the top of the tower. The slurry at the bottom of the tower (containing salts generated by the reaction and unreacted absorbent) is pumped to subsequent treatment systems (such as concentration and dehydration) via a slurry pump to achieve solid-liquid separation.



## LOW-TEMPERATURE PLASMA FUME PURIFIERSPRAY TOWER

Low-temperature plasma fume purifiers are used to purify and control fume pollution in restaurant kitchens, food processing plants, and oil-fired boilers. They efficiently capture fume particles of varying diameters and offer high purification efficiency.

### Working Principle

Under the influence of an induced draft fan, fume and pollutants enter the purifier. Large oil droplets are filtered out through mechanical collision, leaving remaining pollutants in the first-stage electrostatic field. The strong electric field generates a low-temperature plasma, charging the fine particles. These charged particles are then attracted and partially carbonized by the second-stage electrostatic field. Simultaneously, ozone generated by the high-voltage electrostatic field degrades harmful components, providing disinfection and deodorization.

### Applications

Purification and control of fume pollution in restaurant kitchens, food processing plants, and oil-fired boilers; air purification in public places such as airports, stations, docks, and theaters; and industrial purification applications such as heat treatment, high-speed cutting, welding, and weaving.

### Technical Features

1. Highly efficient capture of fume particles of varying diameters and high purification efficiency.
2. Modular purification units allow for flexible combination. The number of units can be adjusted to meet different purification capacity and purification rate requirements, reducing equipment costs.
3. The modular purification unit features a split drawer structure for easy installation, maintenance, and cleaning.
4. The electrostatic power control system automatically adjusts the electric field strength to maintain a high purification rate over time.
5. Energy-efficient and highly efficient, it occupies a small footprint.
6. Low resistance and power consumption.



### SCREW CONVEYOR SERIES

From the perspective of the displacement direction of the conveyed material, screw conveyors are divided into two types: horizontal screw conveyors and vertical screw conveyors. They are mainly used for horizontal conveying and vertical lifting of various loose materials such as powders, granules and small blocks. This machine is not suitable for conveying special materials that are easy to deteriorate, highly sticky, easy to agglomerate, or are subject to high temperature, pressure, or high corrosiveness.



Screw conveyors are widely used in various industries, such as building material chemical industry, electric power, metallurgy, coal, grain and other industries. They are suitable for horizontal or inclined conveying of powdered, granular and small block materials, such as coal, ash, slag, cement, grain, etc., with material temperature less than 200°C.

#### LS SERIES SCREW CONVEYOR TECHNICAL PARAMETERS

Model specification	Technical data		Standard volume conveying capacity			Standard volume conveying capacity			Standard volume conveying capacity			Standard volume conveying capacity							
	Spiral diameter mm D	Spiral distance S	Rotational speed r/min n	Standard volume conveying capacity			Standard volume conveying capacity			Standard volume conveying capacity			Standard volume conveying capacity						
				m³/h			m³/h			m³/h			m³/h						
中型	LS200	200	200	100	16.9	12.4	5.6	80	13.5	9.9	4.5	63	10.7	7.8	3.6	50	8.5	6.2	2.8
	LS250	250	250	90	29.7	21.8	9.9	71	23.5	17.2	7.8	56	18.5	13.6	6.2	45	14.9	10.9	5.0
	LS315	315	315	80	52.9	38.8	17.6	63	41.6	30.5	13.9	50	33.1	24.2	11.0	40	26.4	19.4	8.8
大型	LS400	400	355	71	85.3	62.5	28.4	56	67.3	49.3	22.4	45	54.1	39.6	18	36	43.2	31.7	14.4
	LS500	500	400	63	133.2	97.7	44.4	50	105.8	77.6	35.3	40	84.6	62.0	28.2	32	67.7	49.6	22.6
	LS630	630	450	50	188.9	138.5	63.0	40	151.1	110.8	50.4	32	120.9	88.6	40.3	25	94.4	69.3	31.5
特大型	LS800	800	500	40	270.7	198.5	90.2	32	216.6	158.8	72.2	25	169.2	124.1	56.4	20	135.4	99.3	45.1
	LS1000	1000	560	32	379.0	277.9	126.3	25	296.1	217.1	96.7	20	236.9	173.7	79.0	16	189.5	139.0	63.2
	LS1250	1250	630	25	520.5	381.7	173.5	20	416.4	305.4	138.8	16	333.1	244.3	111.0	13	270.7	198.5	90.2



### SJ-TYPE DUAL-SHAFT DUST HUMIDIFYING MIXER

The Si-type twin-shaft mixer is a highly efficient device for mixing powdered materials by spraying water. It is mainly used under the dust collector of thermal power plants, and can also be used in chemical, metallurgical, mining, building materials and other industries. The amount of water added is controlled to achieve the appropriate humidity requirements. It uses two sets of spiral blades for stirring, which has high stirring efficiency and takes up little space. The spiral blades are made of high wear-resistant special alloy or composite ceramic. The twin-shaft mixer features a long service life. It utilizes a cycloidal pinwheel reducer for smooth rotation and low noise. It features top feeding and bottom discharge, a rational structure. Tight seals between all joints ensure smooth operation. The twin-shaft mixer is equipped with a humidifying water spray system to ensure uniform water spray, allowing for adjustable water supply to meet demand. A hand-operated oil pump centrally supplies lubricating grease to the four drive bearings, facilitating operation and maintenance, saving time.



#### 二、MAIN TECHNICAL PARAMETERS AND DIMENSIONS TABLE

项目	型号	SJ-10	SJ-20	SJ-40	SJ-60	SJ-80	SJ-100	SJ-200
processing capacity		10	20	40	60	80	100	200
spiral diameter		Φ400	Φ400	Φ600	Φ600	Φ700	Φ700	Φ800
main shaft speed		34	34	34	34	34	34	34
reducer type		XWD4-5-1/43	XWD5-5-1/43	XWD11-8-1/43	XWD15-9-1/29	XWD18.5-9-1/29	XWD22-101/29	XWD30-11/29
motor power		4.0	5.5	11	15	18.5	22	30
Water pressure of the water sprayer		0.4—0.8						
moisture content		15—20						
外形及联接尺寸	A	300	300	416	416	490	490	560
	L × B <sub>1</sub> × B <sub>2</sub>	414 × 3860 × 560	4143 × 860 × 560	4555 × 1174 × 758	4555 × 1174 × 758	6170 × 1360 × 758	6170 × 1360 × 758	7366 × 1570 × 880
	H <sub>1</sub> H <sub>2</sub>	640 340	640 340	870 460	870 460	1360 660	1360 660	1480 720
	h <sub>1</sub> h <sub>2</sub>	600 500	600 500	720 600	720 600	750 450	750 450	850 550
	L <sub>1</sub> L <sub>2</sub>	2500 400	2500 400	2900 460	2900 460	3870 520	3870 520	4400 580
	L <sub>3</sub> L <sub>4</sub>	260 700	260 700	310 700	310 700	500 2000	500 2000	560 2000
	L <sub>5</sub>	260	260	310	310	420	420	480
	C <sub>1</sub> C <sub>2</sub>	850 1368	850 1368	980 1780	980 1780	1800 1800	1800 1800	2200 2200
	C <sub>3</sub> C <sub>4</sub>	850 695	850 695	790 985	790 985	0 1800	0 1800	0 2200
	C <sub>5</sub>	40	40	40	40	130	130	150
	B <sub>1</sub> B <sub>2</sub>	810 510	810 510	1118 702	1118 702	1300 760	1300 760	1500 800
	B <sub>3</sub>	350	350	500	500	720	720	800
	P × P	300 × 300	300 × 300	400 × 400	400 × 400	500 × 500	500 × 500	600 × 600
	n <sub>1</sub> × F <sub>1</sub>	3 × 120	3 × 120	3 × 120	3 × 120	5 × 116	5 × 116	5 × 140
	F <sub>2</sub>	0	0	55	55	0	0	0
F × F	420 × 420	420 × 420	530 × 530	530 × 530	640 × 640	640 × 640	760 × 760	
n2-Φ	12-Φ14	12-Φ14	16-Φ14	16-Φ14	20-Φ18	20-Φ18	20-Φ18	
g × g × s <sub>1</sub>	300 × 300 × 6	300 × 300 × 6	400 × 400 × 6	400 × 400 × 6	与进料口相同			
n <sub>3</sub> -d	10-Φ23	10-Φ23	10-Φ23	10-Φ23	8-Φ23	8-Φ23	8-Φ23	
进水口法兰PN1	DN50	DN50	DN100	DN100	DN100	DN100	DN100	

### YJD STAR-SHAPED DISCHARGE DEVICE



The YJD series discharge device, also known as an electric ash discharge valve, consists of a motor, a planetary reducer (X) with a gear differential or a cycloidal reducer (Z), and a rotary discharger. There are two series and 60 specifications. The inlet and outlet flanges are square in Type A, and round in Type B. This discharge device is a key component for dust removal, air supply, and feeding other equipment. It is suitable for both powdered and granular materials. It is widely used in industries such as environmental protection, metallurgy, chemicals, grain, and food.

Features:

1. Compact structure, attractive design, and easy operation.
2. Smooth operation and low noise.
3. Because the bearings and gearbox are separated from the housing, high temperature resistance and lubrication are significantly improved.
4. We can also design and manufacture according to customer requirements.
5. This product is pre-filled with grease specifically designed for cycloidal reducers before shipment. Please check and refill regularly.

#### YJD <sup>A</sup>/<sub>B</sub>-<sup>X</sup>/<sub>Z</sub> 型 DISCHARGER TECHNICAL PARAMETERS

数据名称	型号	YJD 2	YJD 4	YJD 6	YJD 8	YJD 10	YJD 12	YJD 14	YJD 16	YJD 18	YJD 20	YJD 26	YJD 30	YJD 40	YJD 50
Discharge volume		2	4	6	8	10	12	14	16	18	20	26	30	40	50
r/min Z 型		25-40													
Working temperature		T ≤ 80°C T ≤ 200°C													
Material		Powder, granular													
motor	model	Y801-4	Y802-4		Y90S-4			Y90L-4		Y100L-4		Y100L-4	Y100L-4	Y112M-4	Y132S-4
	KW	0.55	0.75		1.1			1.5		2.2		3	4	5	
	r/min	1390			1400			1430		1430	1430	1430			
重量 kg	53	71	86	101	121	141	161	181	191	221	251	301	491	681	

### BUCKET ELEVATOR SERIES

TH, TD, HL bucket elevators are suitable for blast furnace gas dust removal and conveying non-abrasive materials in the form of powder, granular, or small blocks with a bulk density not exceeding 1.5t/m<sup>3</sup>. The material temperature should not exceed 250°C. They have a conveying capacity of 35-185m/h and a lifting height of 6-40m. They operate smoothly under load, have low noise, and are easy to repair and replace.



#### Conveying equipment series

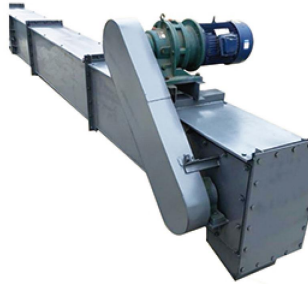
A disc feeder is an auxiliary device for material conveyors. It is typically used to continuously and evenly feed bulk or granular materials from silos, hoppers, and other containers to conveying machinery or equipment. It provides precise feeding and reduces material crushing. It is suitable for precise, continuous, and even feeding and proportioning in metallurgy, coal, building materials, chemical, power, and mechanized foundries.



DISC FEEDER

Screw conveyors are divided into two major series: GX and LS, with dozens of models, including GX200, 250, 300, 400, 500, 600..LS200, 250, 300, 400, 500, 600.... The length can range from 3 meters to 70 meters according to user needs.

## FU CHAIN CONVEYOR



### USE

The Fu-type chain conveyor is a new product designed for conveying powdered, granular, and small bulk materials horizontally (or at an inclination of  $\leq 15^\circ$ ). It is technologically advanced in China. Featuring a rational design, novel structure, and long service life, this product significantly outperforms screw conveyors, buried scraper conveyors, and other conveying equipment, making it an ideal new conveying device. It has been well-received by customers and is widely used in the building materials, chemical, mining, metallurgy, electric power, grain and oil processing machinery, transportation, ports, and shipping industries. The Fu-type chain conveyor utilizes the internal friction and lateral pressure of bulk materials to maintain a stable state between material layers, creating a continuous overall flow under the action of the conveyor chain.

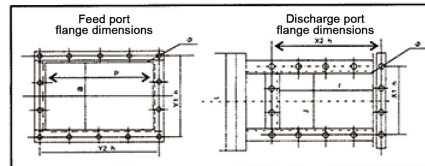
The chain conveyor is mainly composed of the head section, middle section, optional section, tail section, conveyor chain, feed and discharge port, drive device, etc. The drive device is divided into left-mounted and right-mounted. The drive device model is selected according to the conveying capacity and conveying length. The feed port is divided into three types: top feed port, side feed port, and both side feed ports. The discharge port is the head discharge port, and can also be the middle bottom discharge port and the middle side discharge port for users to choose.

### Specifications and technical parameters of FU type chain conveyor

Model	Groove Width mm	Ideal Particle Size mm	Maximum Particle Size mm	Drop Size m/s	0.17	0.21	0.26	0.36	0.40	0.53
FU150	150	$\leq 4$	$\leq 8$	输 送 量 m <sup>3</sup> /h	8	10	15	20	25	
FU200	200	$\leq 5$	$\leq 10$		16	22	30	40	58	
FU270	270	$\leq 7$	$\leq 14$		25	40	50	70	90	110
FU350	350	$\leq 9$	$\leq 18$			50	80	110	140	180
FU410	410	$\leq 11$	$\leq 20$			80	120	160	180	240

### Chain speed selection table

Material Abrasiveness	Chain Speed m/min	特大	大	中	小
		Recommended	10	15	20
	Maximum	15	20	30	40



## PNEUMATIC VALVES

Pneumatic valves are valves actuated by compressed air. The practice of specifying only the specifications, type, and operating pressure when purchasing pneumatic valves is considered sufficient. These valves can be used to control the flow of various fluids, including air, water, steam, various corrosive media, slurries, oils, liquid metals, and radioactive media. This approach is imperfect in the current market economy. To compete, pneumatic valve manufacturers, while striving for product competitiveness, each develops their own innovations within the unified design of pneumatic valves, resulting in their own company standards and product characteristics. Therefore, it is essential to provide detailed technical requirements when purchasing pneumatic valves and reach consensus with the manufacturer. This requirement should be included as an appendix to the pneumatic valve purchase contract. These valves are generally installed horizontally in pipelines.

### Operating Principle:

Compressed air is used to drive the movement of multiple pneumatic pistons within the actuator, transmitting force to the crossbeam and internal curved track, thereby driving the rotation of a hollow spindle. Compressed air is supplied to each cylinder by a disc, and the direction of spindle rotation is altered by varying the air inlet and outlet positions. The number of cylinders can be adjusted to drive the load (valve) based on the required torque. Two-position, five-way solenoid valves are typically used in conjunction with double-acting pneumatic actuators. Two-position valves control two positions: open and closed. Five-way valves have five ventilation channels: one connected to the air source, two to the inlet and outlet ports of the double-acting cylinder's external chamber, and two to the inlet and outlet ports of the internal chamber. For detailed operating principles, refer to the Working Principle of a Double-Acting Pneumatic Actuator. As control methods and approaches become increasingly common, numerous methods are used to control pneumatic actuators in real-world industrial production and industrial control. The following are some common ones.

**Intelligent Display:** An intelligent display monitors valve operating status and controls valve operation. It uses two position sensors to monitor valve status, determine whether the valve is open or closed, and programmably records valve opening and closing data. It also provides two 4-20mA outputs corresponding to valve opening and two normally open and normally closed output contacts. These output signals control the valve's opening and closing motion. PLCs are increasingly widely used in control systems. Since this solution is developed based on an OMRON PLC, we will use an OMRON PLC for this introduction.

### Hardware Components:

1 computer, 1 PLC (including CPU, I/O module, ID212, OC224, and AD003 modules), 2 relays, 2 solenoid valves, and 1 pneumatic valve actuator.

### General Requirements

- The specifications and types of pneumatic valves produced must comply with the requirements of the pipeline design documents.
- The pneumatic valve model should indicate the national standard number used. If it is a company standard, the model number should also be indicated.
- The pneumatic valve operating pressure must be the same as the pipeline operating pressure. Without affecting the price, the valve should withstand a pressure greater than the actual pipeline operating pressure. When the pneumatic valve is closed, either side should be able to withstand 1.1 times the valve operating pressure without leakage. When the valve is open, the valve body should be able to withstand twice the valve operating pressure.
- The manufacturing standard of the pneumatic valve should state the national standard number based on it. If it is an enterprise standard, the enterprise document should be attached to the purchase contract.



## ELECTRIC VALVES

### Product Introduction

Simply put, an electric valve uses an electric actuator to control a valve, thereby opening and closing the valve. It consists of two parts: the upper part is the electric actuator, and the lower part is the valve. Electric valves should undergo simulated operation and pressure testing before installation.

Advantages: Effective for liquid media and large-diameter gas pipes, unaffected by climate and compressed air pressure. Disadvantages: High cost and poor performance in humid environments.

An electric valve typically consists of an electric actuator and a valve. Electric valves use electrical energy as power to drive the valve through the electric actuator, achieving the purpose of opening and closing the pipeline medium.

A solenoid valve is a type of electric valve; it uses the magnetic field generated by an electromagnetic coil to pull the valve core, thereby changing the valve body's opening and closing position. When the coil is de-energized, the valve core returns under spring pressure.

Electric valves are used for analog flow control of liquid, gas, and air system pipeline media, and are an automatic control method. Electric valves can also be used for two-position on/off control in large valves and air systems.

### 1. Preparation before Operation

1. Before operating the valve, carefully read the operating instructions.
- 1.2 Before operation, be sure to clearly understand the gas flow direction and carefully check the valve open and close markings.
- 1.3 Inspect the electric valve to see if it is damp. If so, dry it out. If any other problems are found, address them promptly. Do not operate the valve while it is faulty.
- 1.4 For electric devices that have been out of service for more than three months, check the clutch before restarting. After confirming that the handle is in the manual position, check the motor insulation, direction of rotation, and electrical wiring.

### 2. Precautions for Operating an Electric Valve

- 2.1 During startup, confirm that the clutch handle is in the correct position.
- 2.2 If controlling the electric valve from the control room, turn the transfer switch to the REMOTE position and then control the opening and closing of the electric valve through the SCADA system.
- 2.3 If manually controlling, turn the selector switch to the LOCAL position and operate the electric valve switch locally. The electric valve will automatically stop when it reaches its fully opened or closed position. Finally, turn the operation selector switch to the intermediate position.
- 2.4 When operating the valve locally, monitor the valve opening and closing indicators and valve stem movement. The valve opening and closing degree must meet the requirements.
- 2.5 When operating a fully closed valve locally, stop the electric valve closing function before the valve reaches its fully closed position and use micro-motion to close the valve.
- 2.6 When fully opening or closing a valve after the stroke and over-torque controllers have been adjusted, monitor the stroke control during the first full opening or closing. If the valve does not stop at the fully opened or closed position, perform a manual emergency stop immediately.
- 2.7 During the valve opening or closing process, if the signal indicator light indicates an error or the valve makes an unusual sound, immediately stop the machine for inspection.
- 2.8 After successful operation, turn off the power to the electric valve.
- 2.9 When operating multiple valves simultaneously, pay attention to the operating sequence and meet production process requirements.
- 2.10 When opening a large-diameter valve with a bypass valve, if the pressure differential between the two ends is large, first open the bypass valve to adjust the pressure, then open the main valve. After the main valve is opened, immediately close the bypass valve.
- 2.11 When sending or receiving pigs (or pigs), the ball valves they pass through must be fully open.
- 2.12 When operating ball valves, gate valves, globe valves, and butterfly valves, only fully open or fully close them. Adjustment is strictly prohibited.
- 2.13 When operating gate valves, globe valves, and flat plate valves, when closing or opening to top dead center or bottom dead center, they should be rotated 1/2 to 1 turn.



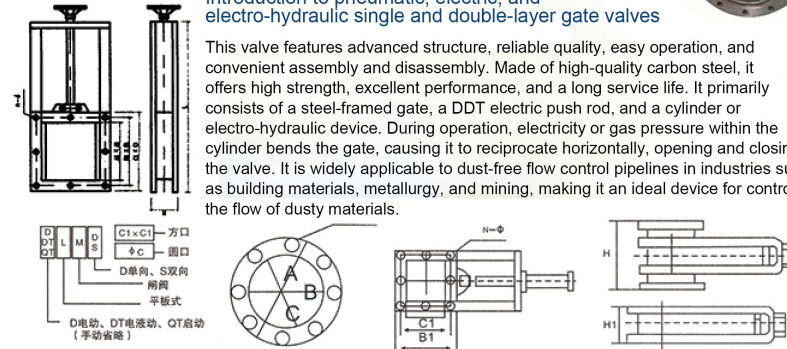
## PLUG VALVE

Gate valves come in three types: electric, pneumatic, and manual. They are widely used in industries such as building materials, metallurgy, chemicals, and electrical engineering. They serve as hopper unloading devices for various equipment, as well as feed and discharge devices for mills, dryers, silos, and other equipment, to prevent wind from blowing in. Gate valves are typically used in conjunction with dischargers. Manual spiral gate valves are available in square and round sizes, with diameters matching the discharger's inlet.



### Introduction to pneumatic, electric, and electro-hydraulic single and double-layer gate valves

This valve features advanced structure, reliable quality, easy operation, and convenient assembly and disassembly. Made of high-quality carbon steel, it offers high strength, excellent performance, and a long service life. It primarily consists of a steel-framed gate, a DDT electric push rod, and a cylinder or electro-hydraulic device. During operation, electricity or gas pressure within the cylinder bends the gate, causing it to reciprocate horizontally, opening and closing the valve. It is widely applicable to dust-free flow control pipelines in industries such as building materials, metallurgy, and mining, making it an ideal device for controlling the flow of dusty materials.



Main shape and connection dimensions

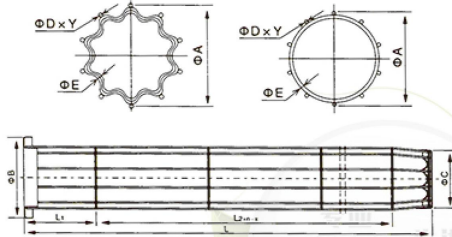
C	B	A	C1XC1	B1	A1XA1	H1	H	□N-φ
Φ200	260	Φ300	200x200	250	300x300	200	200	8-φ11
Φ220	280	Φ320	220x220	270	320x320	200	200	8-φ11
Φ240	300	Φ340	240x240	290	340x340	200	200	8-φ13
Φ260	320	Φ360	260x260	310	360x360	200	200	8-φ13
Φ280	340	Φ380	280x280	330	380x380	200	200	8-φ17
Φ300	360	Φ400	300x300	350	400x400	200	200	8-φ17
Φ320	380	Φ420	320x320	370	420x420	200	200	8-φ17
Φ340	400	Φ440	340x340	390	440x440	200	200	8-φ17
Φ400	460	Φ500	400x400	450	500x500	220	220	8-φ17
Φ440	500	Φ540	440x440	495	550x550	220	220	12-φ17
Φ500	560	Φ610	500x500	555	610x610	220	220	12-φ17
Φ540	600	Φ650	540x540	600	650x650	220	220	12-φ17
Φ600	660	Φ720	600x600	660	720x720	240	240	12-φ20
Φ650	720	Φ770	650x650	720	770x770	240	240	12-φ20
Φ700	770	Φ820	700x700	765	820x820	240	240	12-φ20
Φ750	820	Φ870	750x750	825	870x870	240	240	12-φ20
Φ800	870	Φ930	800x800	870	930x930	270	270	12-φ20

## DUST REMOVAL FRAME

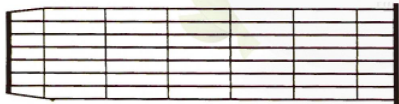
The skeleton is the "rib" of the filter bag and is formed by one-time welding with automatic welding equipment. Its characteristics are: firm welding, straight surface to protect the filter bag from damage, light to use, easy to install and maintain, and surface treatment using galvanizing, silicone or plastic spraying.



Round cage filter bag frame outline:



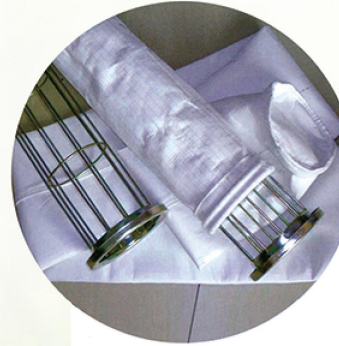
Oval anisotropic filter bag frame:



Oval anisotropic filter bag frame:

	Diameter	Bag Diameter	Length
Round Cage	115	120	2000 2400 2800 3200 3600 4000 4400 800 5200 5600 6000
	125	130	
	147	152	
	195	200	
	Perimeter	Bag Diameter	Length
Flat Bag	800	800	2000 3000 4000 5000 6000
	900	900	
Envelope	1500*750*25	1500*750*25	备注：长*宽*高

## DUST COLLECTOR BAGS



### DUST COLLECTOR FILTER BAG SERIES:

The filter bag is a key component in determining the bag filter's removal efficiency and operating temperature. The cost of replacing the oil bags is the primary maintenance expense for bag filters. Therefore, the filter bag's service life is crucial to the filter's operational status and cost. Therefore, selecting the appropriate filter media and designing a well-designed structure are crucial.

Filter media selection should be based on a comprehensive consideration of factors such as gas temperature and chemical properties; particle size, weight, shape, abrasiveness, and biomass concentration; filtration rate, cleaning method, emission concentration, and the bag filter's operating system. Generally, pulse-jet bag filters use needle-punched felt, while chambered reverse-blow bag filters or mechanically vibrating bag filters use woven fabric.



## PULSE BAG DUST COLLECTOR

Bag filters are dry dust removal devices that utilize novel bagged filter media to capture dust from dust-laden gases. Their performance is unaffected by the dust concentration and gas volume at the source. For particles larger than 0.2 microns, the capture efficiency is typically over 99%, and for particles smaller than 1 micron, the efficiency is nearly 100%. The outlet dust concentration can meet or exceed national standards, typically reaching 5-30 mg/m<sup>3</sup>.

### Dust Collector Features:

1. Filtration: Dust-laden air enters the dust collector and flows through the filter bags, trapping dust on their outer surfaces. Clean air then flows through the bags and out. Cleaning: When dust accumulates to a certain thickness outside the filter bags, a pulse valve instantly injects high-pressure air, causing the bags to rapidly expand and vibrate, shaking off the attached dust into the hopper.
2. High-temperature dust-laden air must be cooled to avoid burns on the filter bags, which could affect dust removal efficiency or cause a fire.
3. As dust-laden air passes through the hopper, the upward deflection of the airflow causes larger dust particles to fall directly into the hopper due to their own weight, achieving the desired dust removal effect
4. The dust removal equipment adopts pulse cleaning, which cleans thoroughly without affecting the dust removal process. It can also be conveniently repaired, maintained and replaced while the dust removal is running.
5. The use of a chamber pulse cleaning method prolongs the spraying time, reduces energy consumption, reduces the wear of the pulse valve diaphragm and keel filter bags, and increases the life of wearing parts..



### Technical performance

Specifications	Filter area m <sup>2</sup>	Dust concentration g/m <sup>3</sup>	Filter air velocity m/min	Filter air volume m <sup>3</sup> /h	Resistance H omm	Efficiency %	Dimensions 长x宽x高mm	Weight kg
MC24-II	18	<15	2-4	2160-4320	120-150	99.5	1090x1678x3667	1133
MC36-II	27	<15	2-4	3240-2480	120-150	99.5	1490x1678x3667	1485
MC48-II	36	<15	2-4	4320-8640	120-150	99.5	1890x1678x3667	1495
MC60-II	45	<15	2-4	5400-10800	120-150	99.5	2290x1678x3667	1730
MC72-II	54	<15	2-4	6480-12960	120-150	99.5	2690x1678x3667	1950
MC84-II	63	<15	2-4	7560-15120	120-150	99.5	3090x1678x3667	2230
MC96-II	72	<15	2-4	8640-17280	120-150	99.5	3650x1678x3667	2400
MC120-II	99	<15	2-4	10800-21600	120-150	99.5	4450x1678x3667	2870

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## FAN

### PRINCIPLE

As the impeller rotates, the air between the blades of a centrifugal fan receives centrifugal force, generating kinetic energy (dynamic head) and being discharged from the periphery of the impeller. This energy is then guided by the volute-shaped casing toward the fan outlet, creating a negative pressure at the center of the impeller. This allows a continuous inflow of external air to replenish the air, enabling the fan to exhaust the air.

The motor transmits power to the fan impeller via a shaft. The impeller's rotation transfers energy to the air, which generates centrifugal force, causing the air to spread outward along the impeller blades. The larger the impeller, the greater the energy received by the air, and thus the pressure head (wind pressure) generated by the fan. Reducing a large impeller to a smaller size does not affect air volume, but only reduces wind pressure.

A centrifugal fan primarily consists of an impeller and a casing. Small fans have impellers mounted directly on the motor, while medium and large fans are connected to the motor via couplings or pulleys. Centrifugal fans generally have a single-side intake and a single-stage impeller. High-flow centrifugal fans can have dual-side intakes, using two back-to-back impellers, also known as double-suction centrifugal fans.

The impeller is a key component of a fan. Its geometry, size, number of blades, and manufacturing precision significantly influence its performance. Static or dynamic balancing of the impeller ensures smooth fan rotation. Impellers are categorized by blade outlet orientation: forward, radial, and backward.

Forward impellers have blade tips angled in the direction of impeller rotation. Radial impellers have blade tips angled radially, and are further categorized as straight or curved. Backward impellers have blade tips angled in the opposite direction of impeller rotation. Forward impellers generate the highest pressure and, for a given flow rate and speed, require the smallest impeller diameter but generally have lower efficiency. Backward impellers, on the other hand, generate the lowest pressure and require the largest impeller diameter, but generally have higher efficiency. Radial impellers fall somewhere in between. Straight blades are the simplest blade profile, while airfoil-shaped blades are the most complex. To achieve a suitable velocity distribution over the blade surface, curved blades, such as constant-thickness arc blades, are generally used. Impellers typically have a cover plate to increase impeller strength and reduce gas leakage between the blades and the casing. The blades and cover are connected by welding or riveting. Welded impellers are lighter and have smoother flow paths. Impellers for low- and medium-pressure small centrifugal fans are also made of cast aluminum alloy.

