PPC

PPC series

Pulse bag filter with air box

Instructions

I. Overview:

PPC series pulse bag filter with air box is a kind of new and efficient bag filter developed by introducing advanced company's technology, absorbing the technical merits of similar products in Germany, combing with our country's actual condition. It combines the advantages of sub-room cleaning and jet pulse bag filter as a whole, overcomes sub-room pulse bag filter's lack of cleaning kinetic energy and the jet pulse filter's defect that deal with the cleaning and filtering at the same time, which expands the application range of bag filter. The product set of the essence of similar products at home and abroad, combined with our patented technology of environmental protection, effectively improve the air box pulse bag filter's dust collection efficiency and operational reliability, extending the life of the bag, reducing the operator's labor Strength, becoming enterprises' best partners in protecting the environment.

PPC series air box pulse bag filter is now serving in casting, metallurgy, machinery, electricity, building materials, ores, cement, chemical and other industries with its excellent performance, doing its best for the removal of dust pollution and maintaining a good corporate image.

2. Product characteristics:

1, Adapt to high concentrations of dust. Such as the O-Sepa separator, the grinding system gas dust concentrations is as high as 1000g/Nm3, but PPC series air box pulse bag filter can directly process it without setting a cyclone dust removal equipment.

2, Use off-line cleaning technology for sub-room's blowing back and cleaning, which avoid the "re-absorption" phenomenon of flying dust generated by on-line cleaning, and will not affect the equipment's normal and continuous operation, improving the cleaning effect and extending bag filter's life.

3, Use patented technology "filter bag self-lock sealing device " to improve the seal between the device and the bag and the collection efficiency.

4, Use air box structure to reduce loss of local resistance of the equipment and prevent the inconvenience of installing.

5, The electromagnetic pulse valve uses double-diaphragm structure, which has the advantages of

sensitive operating, high efficiency and long life.

6, The filter bag is made of our new-tech products - microporous film composite material, which not only can improve the filtration velocity, reduce equipment operating resistance, but also can avoid the difficulty to remove the dust that is condensed on the filter bag caused by moisture. It is particularly suitable for the dust removal of high temperature, high humidity gas with dust, such as cement, power and other industries.

7. Air Flow Rate: 17800m^3/h

Filtering air speed:1.0-2.0m /min

Total Filter area:248 m^2

Chamber Number :4pieces

Filter bag number: 256pieces

Resistance: 1470-1770Pa

Motor Type: Y160L-2

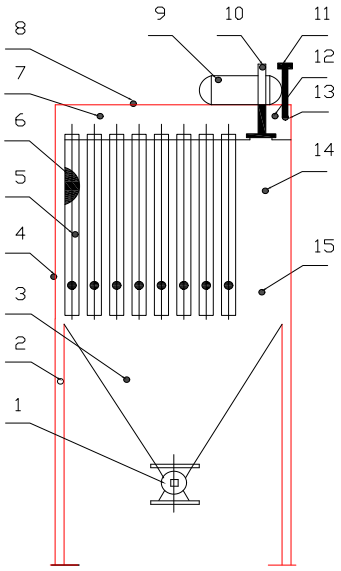
Motor Power: 18.5KW

Fan Type: 4-27No-5.5A

3. Device structure:

PPC series air box pulse bag filter mainly consists of bottom steel parts, ash bucket, top box body, wind in and out mouth on the box body, filter bag, cleaning equipment, and electrical control system. In addition, according to actual condition, we can configure hopper vibrator outside the ash bucket, configure star cindervalve or screw conveyor or other ash discharging devices to the discharge end of the ash bucket.

Device structure is shown as below:



1、卸灰阀子 2、支 架 3、灰斗 4、箱体
5、滤袋 6、袋笼 7、清洁室 8、顶盖
9、储气罐 10、气缸提升阀 11、电磁脉冲阀
12、气箱 13、喷管 14、净化气体出口
15、含尘气体进口

1. cindervalve 2.shelf 3.ash bucket 4.box body 5.filter bag 6.bag cage 7.cleaing room 8.top cover 9.gas holder 10. cylinder elevating valve 11.radioflash valve 12.cylinder 13.spraying pipe 14.exit for cleaned gas 15.entrance for gas with dust

4. Working principle:

1, filtering principle:

Dust air goes in from the air inlet, when it passes through the hopper, part of the large particles in the gas is separated by the force of inertia, and then fall directly into the hopper bottom. After the dust gas passes through the hopper and goes into the top box, it is discharged from the outlet.

2, cleaning principle:

With the filtering time lasts, the layer of dust on the filter bag constantly becomes thick, the resistance of dust removal equipment increases. When the resistance reaches to the set value, the cleaning device starts to clean dust. First, a sub-chamber's poppet valve closes to cut off the filtering air flow, and then the solenoid valve opens, make the compressed air to expand rapidly in the cabinet in a very short time and goes into the filtering bag. The bag deforms to generate vibration, by the washing of the reverse flow, the dust that attaches to the surface of the bag falls into the hopper. After cleaning, the electromagnetic pulse valve is closed, poppet valve opens, and the chamber resumes filtering status. The cleaning operates from one chamber to the next in turn, and a cleaning cycle starts from the first chamber's first cleaning to its next cleaning.

3, dust collection:

The dust that is kept from filtering and cleaning all falls into the ash bucket, and then is discharged from the hopper uniformly.

5. Electrical control:

1, the cleaning control

The cleaning control of PPC series air box pulse bag filter usually uses time control or resistance control method.

Time control method is to clean the dust from one chamber to another as per fixed time schedule.

Resistance control method is based on the control of pressure inside and outside the bag, the signals from the differential pressure transmitter pass through the electrical control device, and the dust is cleaned from one chamber to another as per fixed program.

2, the function of electrical control devices

PPC type air box pulse bag filter uses singlechip to proceed centralized control, which can be divided into automatic and manual two types. Manual type is used for debugging and maintaining the equipment, while automatic is used to when the equipment is operating normally.

3, methods of operation:

1. start operations:

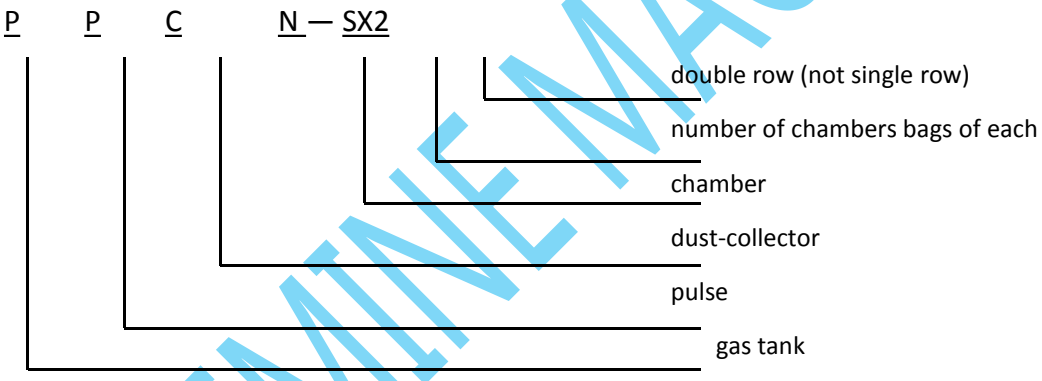
Turn on each power switch after checking all electrical wiring and pressure transmitter. When the fan starts to run and the feedback signal comes, the equipment begins to run.

2. pulse cleaning:

Pulse cleaning uses automatic control mode. When the controller switch points to “demand”, use resistance control method to clean dust. Set the upper and lower pressure limit with the red pointer on the table, when the device resistance passes the limit, the pulse jet begins to work.

3. discharging control:

Discharging of dust can be manually or automatically in two ways. Manually, press "start discharging " button on the control cabinet to start discharging; press "stop discharging " button to stop discharging



PPC series air box pulse bag filter is divided into A, B two types. According to actual needs of users PPC air box pulse bag filter can also be composed of non-standard equipment.

7. Selection Description:

1, the filtration velocity m / min:

The selection for the filtration velocity of bag filter is closely related to the equipment’s running conditions. For the fineness of particles, dust gas with high concentration, high viscosity, and high moisture should select low filtration velocity, and select high filtration velocity for the opposite.

2, the filtering area m^2:

Filtering area is calculated as follows:

F = L/60V

Where: L-handle dust gases, m^3 / h

V-filtration velocity, m / min

Selection of filtering area of dust removal equipment is calculated as follows:
S = F (1 +1 / N)
Where: N-Room number
3, the collection efficiency% (the outlet emission concentration mg/m3):
The dust emission efficiency or outlet emission concentration is different according to the different selection of filtering wind speed for the media.
4, the running resistance Pa:
Bag dust filter resistance is generally 1470-1770Pa.
5, Air Consumption m3/min:
Air consumption is calculated as follows:
Q = (N × Z × S × K) / T
Where:
Q-gas consumption, m3 / min
N-Number of Room
Z- the number of pulse valve for each chamber
S-injection of gas each time, Nm3
K-factor, factory air supply of 1.5, a separate compressor supply of 2.0
K-cleaning cycle, min, from the actual working conditions.

Parameters

Performance table of technical parameters of **PPC** Air box pulse bag filter

Model / Parameters		PPC 96—4	PPC 96—5	PPC 96—6	PPC 96—7	PPC 96—8	PPC 96—5X2	PPC 96—6X2	PPC 96—7×2
Processing wind volume m^3/h		26800	33400	40100	46800	53510	66900	80700	94100
Filtering wind speed m/min		1.2～2.0							
Filtering room area m^2		372	465	558	650	744	929	1121	1308
Filtering room number		4	5	6	7	8	10	12	14
Filtering bag number		384	480	576	672	768	960	1152	1344
Filtering bag material		Select according to the characters of the dust gas							
Dust emission resistance Pa		1470-1770							
Input gas dust concentration g/Nm^3		<1000							
Outlet gas dust concentration g/Nm^3		<0.1							
Emission efficiency %		99.5～99.999							
Cleaning air compression	Pressure Pa	$(5-7)\times10^5$							
	Air consumption m^3/min	1.2	1.5	1.8	2.1	2.4	3.0	3.4	4.2

		Air compressor should be prepared by the buyer.							
electrical valve	Quantity	4	5	6	7	8	10	12	14
	Size	$2\frac{1}{2}''$							
Elevating valve	Quantity	4	5	6	7	8	10	12	14
Discharging valve	Size	300×300mm							
Screw conveyor	Size	ϕ300mm				ϕ300mmX2			
	Speed reducer powder	2.2KW				2.2KWX2			
Cleaning program controller		Input and output voltage are both 220V, the controller is supplied by the equipment manufacturer.							
Filtering bag size		ϕ130×2450mm							
Weight of equipment kg		8710	10100	12400	14100	15700	21000	25200	29400

Note:

1, The gas consumption in the table means the factory's uniform gas supply, if setting an air compressor separately, the gas consumption in the table should be multiplied by 1.3.

2, The processing air volume in the table is calculated based on the filtration velocity of 1.2m/min, it is used only when the dust gas concentration is less than 30g/Nm3 or the filtration velocity is not clear, choose the processing air volume directly from the table. General the selection shall talk the steps indicated in the guidelines.

3,The limit of input gas dust concentration in the table is suitable only for certain equipment in the cement industry. For other industries, the selection of limit of input gas dust concentration should refer to the specified limit value of other types of bag filter.

9. installation and debugging:

1. Install

① The order of installation of PPC series air box pulse bag filter is as follows: (1) dust cleaning base (2) bottom steel structure (3) hopper (4) Box (5) top cabinet (6) conveying system (7) cleaning devices and air bag (8) pressure system (9) painting (10) filtering bag (11) bag cage.

② The installation of PPC type air box pulse bag filter must meet "technical requirements for installation and acceptance of bag filters " (JB/T8471-96).

2. Installation Notes

① Please read this instructions and the relevant documentation provided before installation, check the quantity and quality of parts according to the list, if any problems please contact with us in time.

② For installation, each step must be checked quality, proceed the next step when the former step is ensured right.

③ Pay attention to avoid distortion, our factory's equipments are installed lug for key parts, please use the lug for installation.

④ For the gas system assembly, the pipes inside must be cleaned.

⑤ The filtering bag should not have any damage, install a bag cage for every bag installed immediately.

⑥ All lubrication points must be re-lubricated after installation.

3. Debugging

① Adjust the elevating valve with its closing time less than 2 seconds, and its opening time may appropriately be slow. The valve plate and valve hole clearance should not exceed 0.8mm.

② Adjust the cleaning controller, make sure the action sequence of elevating valve, solenoid pulse valve is correct, and the order of each cleaning room is correct.

③ The pressure of compressed air for blowing should be maintained at 5-7kg / c m2.

④ Check the equipment to see whether the electrical and mechanical transmission part is functioning properly and adjust any errors found.

⑤ Carry out debugging without load, each part must be operating normally.

⑥ Carry out debugging with load, each part must be operating normally. Adjust the cleaning cycle according the changes in running resistance (fixed resistance method or timing method).

10, maintenance:

1. According to the absorbing amount of dust cleaning system, decide the collecting amount of the dust collection equipment, discharge ash regularly.

2. According to the hydrops condition of the air pocket of the water separator in the compressed air system, determine the schedule of water emissions.

3. Always check whether the pulse cleaning system of the dust collector is operating normal. If not normal, check the valve diaphragm and the solenoid valve for failure or damage, repair or replace them immediately.

4. According to the change condition of running resistance, check regularly whether the equipment is running correctly.

5. According to the list of easily broken parts, check them regularly and replace the broken ones in time.

6. Regularly add oil to lubrication points of the equipment. Cycloid reducer should be replaced once every six months, supplement # 2 lithium grease once a week to the 2 # sodium grease bearing lubrication point in the gear box.

7. Regularly check whether there is fouling phenomena in the differential pressure transmitter, clean it in time.