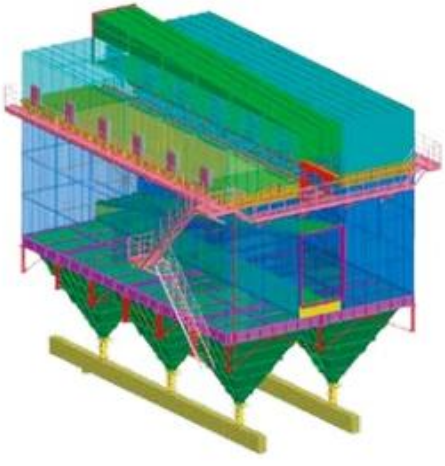
SINOSPARE

Conversion of ESP to Bag Filter

——Lower energy consumption, higher purification



Sinospare (Xiamen) Mechanical Technology Co.,Ltd

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ESP conversed to low pressure long bag pulse bag house

Product	ESP conversed to low pressure long bag pulse bag house
Application	Applied for kiln /raw mill and grate cooler dust collection of 2000tpd~6000tpd cement production line
Working condition	High temperature
Apply temperature	≤260℃, peak value: 280℃
Dust content inlet	≤1000g/m³
Performance	≤10mg/Nm³
Warranty	2 years, filter bag: 3-4 years
Contract	EP/EPC
Delivery	Sea /air/inland transportation
Payment terms	T/T, L/C & others

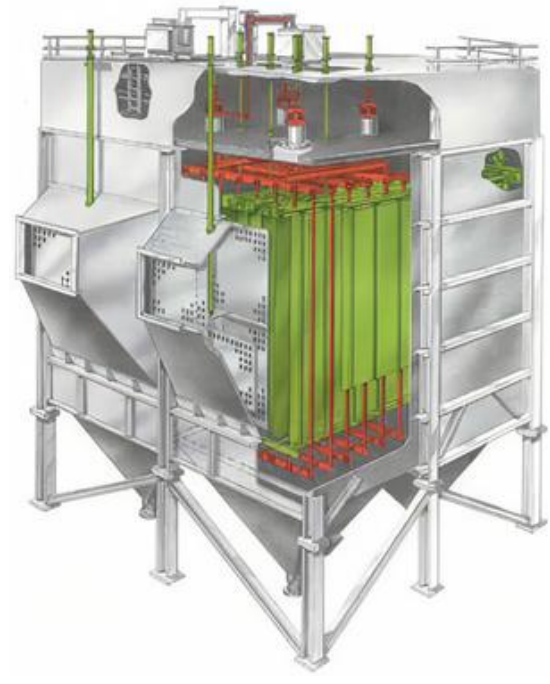
Product Selection

Dust content at inlet (g/m³)	30, 50, 80, 100, 200, 600, 1000, 1300, 1500
Filtration air volume (m³)	196000~429000, 398000~515000, 464000~601000, 530000~686000, 597000~772000, 663000~858000, 729000~944000, 796000~1030000
Working temperature (℃)	180, 200, 220, 230, 240 ,250
Peak temperature (℃)	220, 250, 260, 280
Dust content at outlet(mg/Nm³)	≤5, 10, 30

Process

Conversion of the system:

1) Modify ESP fan with a higher pressure.
2) Add fresh air valve on inlet duct to prevent bags from high temperature.
3) Add opacity monitor on outlet chimney to monitor the dust emission real-timely.
4) Add air compressor if needed.
5) Add air-air heat exchanger or water spraying system for cooler modification.



Performance

Dust emission	5 mg/Nm³
Pressure loss	800 Pa
Bag Life	> 4 years
Air leakage	< 2.5% (walk-in structure)



Technical Data

Specification	Data
Air volume	196000~1030000 m³/h
Filtration area	3840~50880 m²
Total number of filter bags	1280~8448 Piece
Velocity of filtration air	0.85~1.10 m/s
Dust concentration at inlet	≤1500 g/m³
Dust concentration at outlet	≤10 mg/Nm³
Number of Chambers	8~48 Unit
Number of pulse valves	88~528 Piece
Operation Temperature	≤260℃
Peak Temperature	280℃
Equipment bearing negative pressure	< 120000 Pa
Pressure difference between inlet and outlet	1000~500 Pa，Max1800 Pa

Typicals

Conversion of ESP to bag filter for kiln of HUAXIN Cement Co., Ltd. (5,000 t/d)

——Model Case for conversion of ESP with heavy dust-laden gas to hybrid filter

ESP technical data

ESP Size	I2×31/12.5/4×9/.4 BS780 LURGI		
Gas volume	900,000 m³/h (120 ºC)	Section area	315 m²
Gas inlet temp.	Normal: 120 ºC; Upset: 300 ºC	Gas component	For kiln and raw mill
Inlet dust cont.	<=600 g/Nm³	Outlet dust emission	<100 mg/Nm³

Bag house technical data

Bag house Size	TDM-374/12	Quan. of compart	12
Gas volume	900,000 m3/h (150 ºC)	Bags/compartment	374
Gas inlet temp.	Norm.: 100-150 ºC Upset: 240 ºC	Bag size	Ø160x7,000
Inlet dust cont	<=600 g/Nm³	Total filtering Area	15,300 m²
Outlet dust emission	<10 mg/Nm³	Bag material	P84
ΔP between inlet and outlet flange	700 Pa (after 3 years' operation)	Quan. of pulse valve	264, Goyen Ca76mm
Actual bag life	6.5 years	Kiln standstill	12.5 days

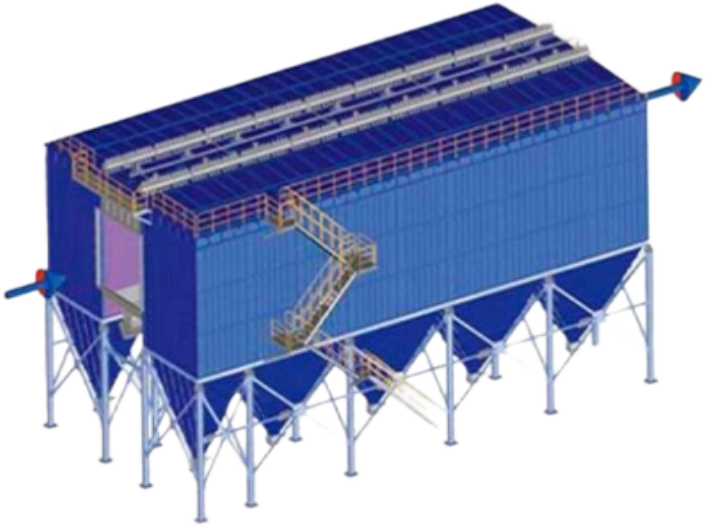
Conversion of bag filter to bag filter for kiln of Shanxi Coking Xishan Coal Electricity Cement Plant (2,500 t/d)

——Model case for conversion of walk-on structure to walk-in structure

Problem	Broken bag; over emission standard
Proposal	Replace hole plate, deducting system; Replace walk-on structure with walk-in structure; Lengthen bag reducing filtering velocity
Date put into operation	2011.3
Emission	< 9mg/Nm³
Actual bag life	5 years

Bag house technical data

New Bag house Size	TDM-180/2x7	Quan. of compart.	14
Gas volume	480,000 m³/h(150 ºC)	Bags/compartment	180
Gas inlet temp	Norm.: 100~150 ºC Upset: 260 ºC	Bag size	Ø160x6,500 mm
Inlet dust cont.	< 80 g/Nm³	Total filtering Area	8,233 m²
ΔP between inlet and outlet flange	800 Pa (after 3 years' operation)	Bag material	glassfibre@PTFE membrane
Outlet dust emission	< 10 mg/Nm³	Quan. of pulse valve	168, Goyen Ca76mm
Actual bag life	5 years	Kiln standstill	10 days



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