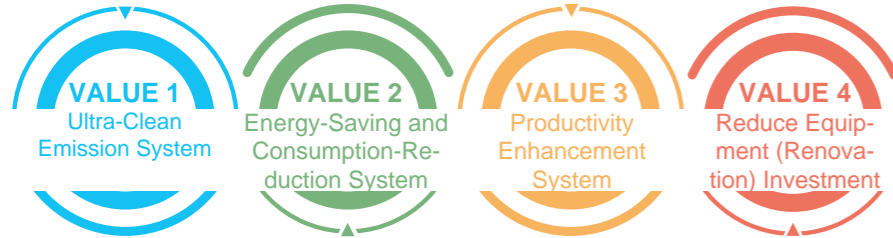


The Value of EGS® High-Flux Energy-Saving Carbon-Reduction Filter Media



The dust emission concentration can reach 5mg/Nm³ under normal working conditions

After the system is upgraded, it can save energy by 20%-50%

After the system is upgraded, the production can be increased by 10%-30%

The filter velocity of the dust collector can be appropriately increased and the life of the filter bag can be extended, reducing the equipment investment cost by 10-20%

Application:

Application case of EGS® high-flux energy-saving carbon reduction filter material

Typical Case	A chemical self-provided power plant in Shandong
Filter Model	EGS-PPS-620F
Filter bag specification	160*6550mm
Number of filter bags	1325

Comparison of operating data before and after bag replaced

No.	Parameters	Before Bag-Change	After Bag-Change
1	Flue gas volume	260000Nm ³ /h	260000Nm ³ /h
2	Filtration Velocity	1.0m/min	1.0m/min
3	Inlet dust concentration	36g/Nm ³	36g/Nm ³
4	Outlet dust concentration	>20mg/Nm ³	First Testing:7.3mg/Nm ³ Second Testing:4.16mg/Nm ³
5	Operating pressure difference	Average of 700 Pa	Average of 400 Pa
6	Dust cleaning cycle	4500s	4500s
7	Fan output	33A/69A(specified)	26A/69A(specified)
8	Compressed air consumption	2700m ³ /h	1500m ³ /h



Estimated value brought by the project

Annual electricity saving cost after upgrading EGS® low-carbon energy-saving filter bags ...=14, 3335 RMB Yuan, That is, electricity saving during the service life:430, 005 RMB Yuan

The emission reduction of particulate matter after upgrading the low-carbon energy-saving filter bag of EGS®.

The previous emission concentration was 20mg/m³, and the current emission concentration is 5mg/m³, ...=120 Tons.

- Annual CO₂ reduction after upgrading EGS® low-carbon energy-saving filter bags 1KWH=320g standard coal, 1 ton of standard coal emits an estimated 2.66-2.72 tons of carbon dioxide...=188 Tons.

Appearance diagram and operation interface diagram of dust collector



Dust from boiler bag filter

Sampling date	Sampling location	Sampling time	Dust mg/m ³
2021.10.15	1# Furnace Bag Outlet	9:10	4.16
		10:14	5.10

Reference Table of EGS®

Project Name	End-use unit scale	Product Type	Running time	End-use industry	New/Change Bag
Guizhou RS (Group)	8000T/D	PE	2021	cement	Bag change
Beijing ZKGR-DX	50,000 tons/year	TF	2021	hazardous waste synergy	New
Beijing ZKGR-YY	50,000 tons/year	TF	2021	hazardous waste synergy	New
LH New Material Technology	130T/H*3	PPS	2021	chemical industry	Bag change



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Introduction of EGS® Energy-saving Carbon-reduction Filter Bag

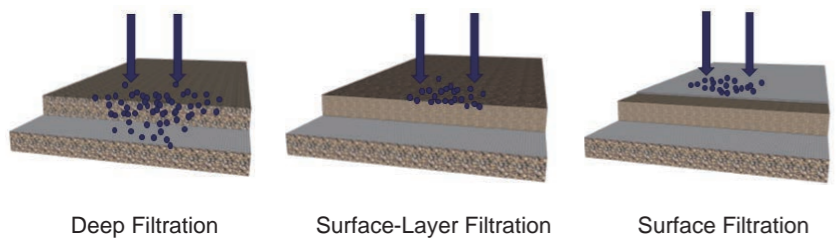


Yuanfuxin (Xiamen) Energy-saving New Material Technology Co., Ltd.

Introduction of EGS® high-flux, long-life, energy-saving and carbon-reducing filter media

Technical introduction

EGS® is an energy-saving and carbon reduction filter media, which has high filtration accuracy and lower pressure drop, achieving a perfect match between high-efficiency and low-resistance of the filter media. Energy-saving filter material can be divided into "surface-layer filter type" energy-saving filter material and "surface filter type" energy-saving filter material



Surface Filtration

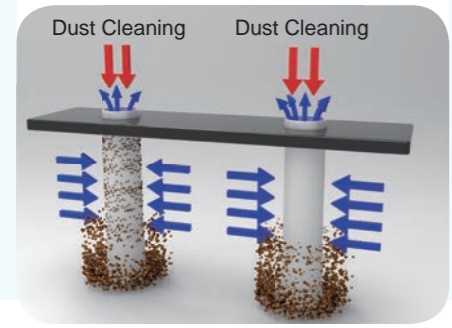
Conventional membrane-coated filter media VS EGS® energy-saving filter media



Both are PTFE laminated, and the dust is intercepted on the outside of the membrane

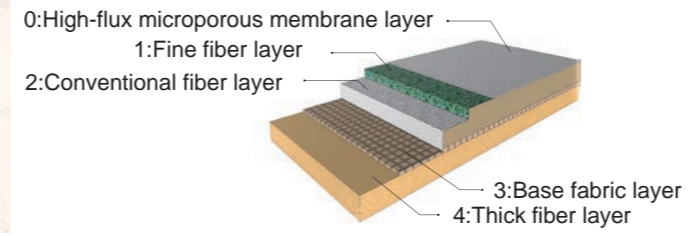


1. EGS® energy-saving filter material has a larger permeability
2. EGS® energy-saving filter material has better cleaning effect
3. EGS® energy-saving filter material has a longer service life



Three key technologies to ensure surface filtration

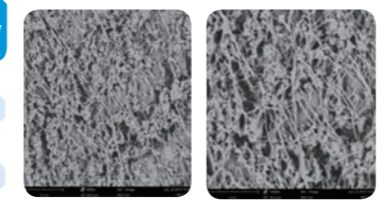
1. The core technology I of EGS® high-flux energy-saving filter media - Three-dimensional inter-embedded asymmetric structure and formula design of filter media



Patented technology: Three-dimensional inter-embedded asymmetric structure and formula perfectly reach the perfect match between the high efficiency and resistance of the filter bag.

2. The core technology II of EGS® high-flux energy-saving filter media - Deep fibrillated membrane technology

Type of membrane	(0-16μm)Cumulative percentage of membrane pore size%	Air permeability L/dm ² .min
1#Conventional membrane	6-100	40-50
2#Conventional membrane	15-100	60-80
3#Conventional membrane	12-100	110-140
4#Conventional membrane	8-100	150-170
5#Deep fibrillated membrane	95-100	250-270



The flux of the deeply fibrillable membrane is large, which is 2~7 times that of the traditional biaxially stretched membrane

3. The core technology III of EGS® high-flux energy-saving filter media - Deep fibrillation laminating technology

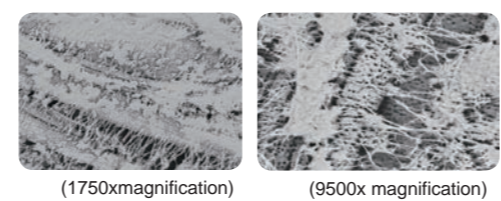


Fig.1 SEM of conventional membrane filter media

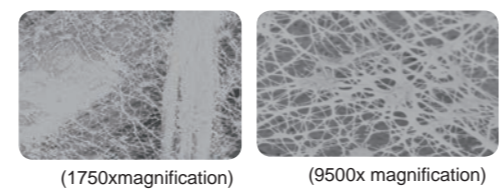


Figure 2 SEM of EGS® products

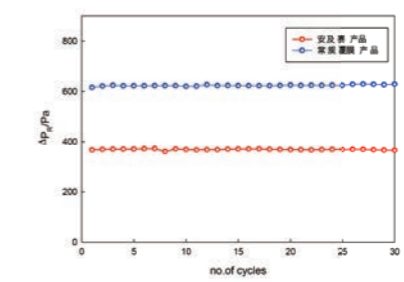
Deep fibrillation laminating technology: After laminated, the pore size of the filter material becomes smaller than that of the membrane

Comparison 1 of filtration performance between EGS® products and conventional membrane-laminated products

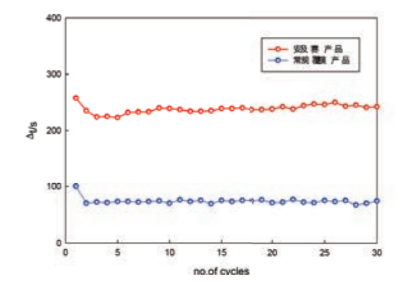
Characteristics	Test parameter	Unit	Category	
			EGS® VS	Regular Product
Clean filter media performance	Air Permeability	L/dm ² .min	63.78	22.5
	Gram weight	g/m ²	552	565
	Thickness	mm	1.85	1.93
Resistance characteristics	Initial Pressure Drop Pa	Pa	66	219
	Residual Pressure Drop Pa	Pa	366	628
Dust removal characteristics	Dust removal efficiency	%	99.9992	99.9975
	Ratio of dustcake removing%		68	48
Cleaning characteristics	Cycle	s	414	174
	Cycle	s	242	75

Test basis:GB/T 6719—2009 "Specifications for bag house"
 ◎Alumina standard dust; ◎Test dust inlet concentration: 5g/m³; ◎Filtration velocity: 2m/min.

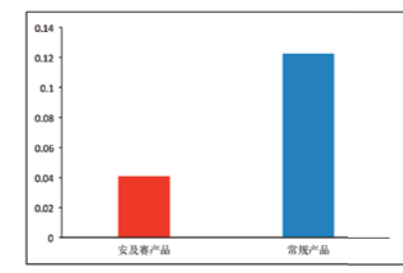
Comparison 2 of filtration performance between EGS® products and conventional membrane-laminated products



41% drop in differential pressure



The cleaning cycle is extended by more than 220%



The concentration of emissions is reduced by more than 30%