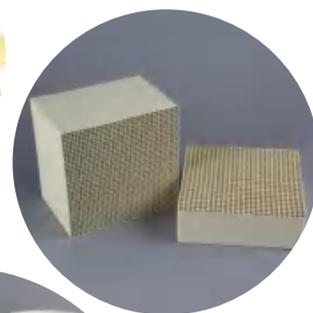




FLUE GAS DUST TREATMENT SYSTEM FILTER SOLUTIONS

Anhui Yuanchen Environmental Protection
Science & Technology Co., Ltd

R&D/Production/Marketing/Service



Company Profile



“Yuanchen Technology, established in 2005, has become a leading company in the air pollution control industry through continuous innovation for more than 15 years. On March 31, 2021, Yuanchen Technology officially entered the A-share market and was listed on the Shanghai Stock Exchange, Stock Code: 688659.



We are a national high-tech enterprise with ISO, CE, CNAS and CMA qualified, specialized in the field of dust filtration and deNOx SCR catalysts, including filter fabric, filter bags, bag cages, honeycomb SCR catalysts, etc. More than 500 skillful workers, advanced imported production technology&equipments, strict material selection and management enable us to win a great reputation from our clients with professional consulting service and a huge market.”

Filter Material Products Introduction

Media Offered	Polypropylene	Polyester	Acrylic	Aramid	PPS	Polyimide (P84)	FMS	PTFE	Fiberglass	
Abrasion	Excellent	Excellent	Good	Excellent	Good	Fair	Fair	Good	Fair	
Energy Absorption	Good	Excellent	Good	Good	Good	Good	Fair	Good	Fair	
Filtration Properties	Good	Excellent	Good	Excellent	Excellent	Excellent	Good	Good	Good	
Moist Heat	Excellent	Poor	Excellent	Good	Good	Good	Excellent	Excellent	Excellent	
Alkaline	Excellent	Fair	Fair	Good	Excellent	Fair	Fair	Excellent	Fair	
Mineral Acids	Excellent	Fair	Good	Fair	Excellent	Good	Poor	Excellent	Excellent	
Oxygen (10%+)	Excellent	Excellent	Excellent	Excellent	Poor	Excellent	Excellent	Excellent	Excellent	
Weight(g/m)	500	500	550	500	500	500	900	750	750	
Thickness (mm)	2.3±0.3	1.9±0.2	2.3±0.3	1.9±0.2	1.9±0.2	2.3±0.3	3.0±0.2	1.0±0.2	0.8±0.1	
Air Permeability (L/dm ² /min)	150-210	150-210	150-210	120-180	120-180	120-180	150-210	70-150	20-50	
Tensile Strength (N/5*20cm)	Warp	≥1000	≥1200	≥800	≥800	≥900	≥800	≥2000	≥800	≥3600
	Weft	≥1100	≥1400	≥1000	≥1100	≥1200	≥900	≥2000	≥800	≥3600
Elongation at Break (%)	Warp	≤30	≤30	≤30	≤30	≤30	≤30	≤1	≤10	≤1
	Weft	≤90	≤50	≤50	≤50	≤50	≤50	≤1.5	≤30	≤1.5
Temperature (°C)	Continuous	90	130	125	204	160	240	240	260	260
	Peak	110	150	140	240	190	280	260	280	280
Shrinkage(%)	2	2	2	2	2	2	1	2	1	
Optional Finish Treatment	Singeing, Calendering, Heat-setting, Anti-static, Water&Oil Proof Fire Proof, PTFE Impregnation, PTFE Membrane								PTFE Impregnation PTFE Membrane Acid Resistance	



Dust Filter Bag

Item Code: YCTP30



PPS+PTFE Filter Bag

Item Code: YCPE550.C12



Polyester with PTFE Membrane Filter Bag

Item Code: YCPE550.C06



Polyester Antistatic Filter Bag

Item Code: YCMA550



Aramid Filter Bag

Item Code: YCAC550



Acrylic Filter Bag

Item Code: YCFMS850



FMS Filter Bag

Item Code: YCPI550



P84 Filter Bag

Item Code: YCTI650



P84+PTFE Filter Bag

Item Code: YCPTFE750



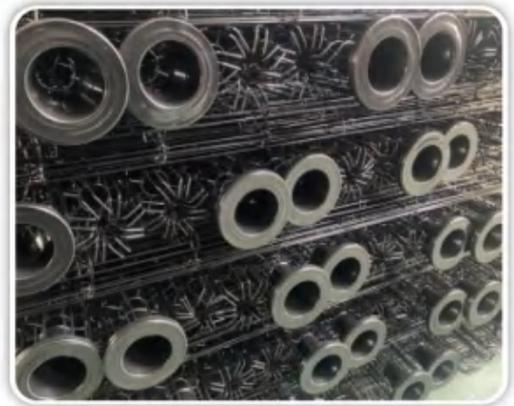
PTFE Filter Bag

Filter Cage

Filter Cage Material Carbon Steel/Stainless Steel

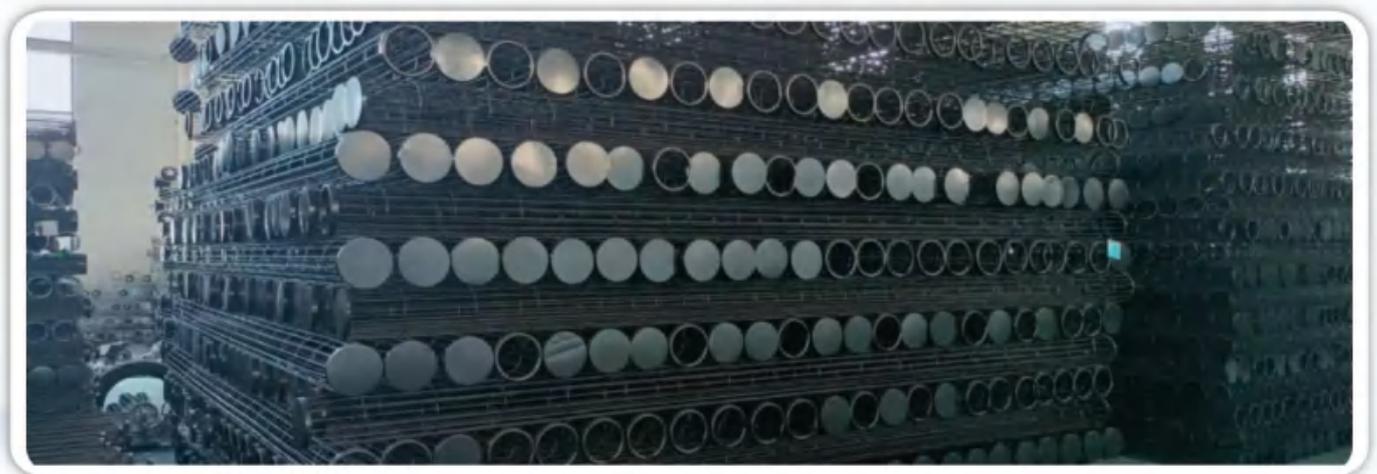
Filter Cage Feature

We can produce different types of filter cages. We use multi-point welding which has uniformity and stabilization in current also high intension on welding point, so that the surface is slick and without burr.



Filter Cage Surface Treatment

Spray Plastic/ Spray Painting/ Silicon Coating



Power Plant Filter Material Selection

Selection Scheme for Power Plants

Product Name	YCPPS580	YCPPS600	YCTP50	YCTI650	YCPPS580C12	YCTP50C12	
Fiber	PPS	PPS	PTFE+PPS	PTFE+P84	PPS	PTFE+PPS	
Scrim	PPS	PTFE	PTFE	PTFE	PPS	PTFE	
Weight(g/m ²)	580	600	650	650	580	650	
Temperature(°C) Continuous	160	160	170	260	160	170	
Temperature(°C) Peak	190	190	200	280	190	200	
Tensile Strength (N/5*20cm)	Warp	> 900	> 900	> 800	> 800	> 900	> 800
	Weft	> 1200	> 1200	> 1000	> 1000	> 1200	> 1000
Elongation at Break (%)	Warp	< 30	< 30	< 30	< 30	< 30	< 30
	Weft	< 50	< 50	< 50	< 50	< 50	< 50
Air Permeability (m ³ /m ² *min)	10~15	10~15	10~15	10~15	2~5	2~5	
Applications	Low sulfur coal, the temperature <160°C, lower oxygen content	Medium sulfur coal, temperature <165°C (higher instant temperature, higher oxygen content)	High sulfur coal, corrosive and occasions with high oxygen content, improve the use of temperature <160°C, oxidation resistance, and cost effective	High dust content, higher oxygen content higher temperature, corrosive gas field of flue gas dust	Emissions required high efficiency low sulfur coal, the temperature <160°C, lower oxygen content	High-sulfur coal, corrosive and occasions with higher oxygen content, improve the use of temperature, oxidation resistance, and cost-effective	

Case: BRAZIL---PMAPA Coal-Fired Power Plant

Unit: 1*600MW Unit

Temperature: 160-210°C

Type Of Filter Bag: 160*8250mm

Material: P84+PTFE/PTFE

Finishment: PTFE Impregnation

Sox<500mh/Nm³



Power Plant Project Performance

Power Plant

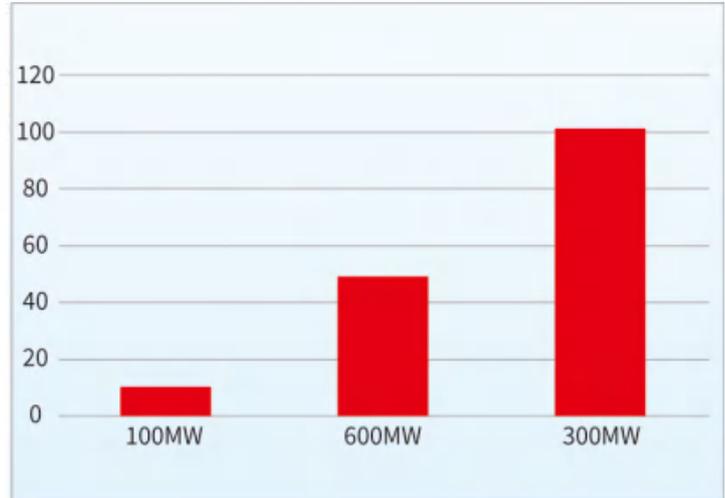
10*1000MW

48*600MW

108*300MW

Yuanchen ranks the NO. 1 market share in the China power industry, especially in 600MW and 1000MW coal-fired power generating units.

Project Cases of Coal-Fired Power Plants



Waste Incineration Filter Material Selection

Selection Scheme for Waste Incineration

Model		YCPTFE800.C12	YCPTFE750
Fiber		100%PTFE	100%PTFE
Scrim		PTFE	PTFE
Weight(g/m ²)		800	750
Continuous Temperature (°C)		260	260
Peak Temperature (°C)		280	280
Breaking Strength (N/5*20cm)	Warp	>800	>800
	Weft	>800	>800
Elongation at Break(%)	Warp	<10	<10
	Weft	<30	<30
Air Permeability (m ³ /m ² *min)		2-5	7-15
Filtration Velocity (m/min)		<1.0	<1.2
Application		High temperature resistance, oxidation resistance, acid and alkali corrosion performance, high humidity, high filtration accuracy requirements	High temperature resistance, oxidation resistance, acid and alkali corrosion performance, high humidity, low filtration accuracy requirements

Case: Austria-Andritz

Material: 50%PTFE+50%P84



Steel Plant Filter Material Selection

Selection Table for Steel Industry

Model		YCAC550	YCPA550	YCTI650	YCFMS850
Fiber		Acrylic	Nomex+P84	PTFE+P84	P84+Fiberglass
Scrim		Acrylic	PTFE	PTFE	High Strength Fiberglass
Weight(g/m ²)		550	550	650	850
Continuous Temperature (°C)		120	210	260	280
Peak Temperature (°c)		140	240	280	300
Breaking Strength (N/5*20cm)	Warp	>800	>900	>800	>2000
	Weft	>1000	>1200	>1000	>2000
Elongation at Break(%)	Warp	<30	<30	<30	<10
	Weft	<50	<50	<50	<10
Air Permeability (m ³ /m ² *min)		2-5	10-15	10-15	10-15
Filtration Velocity (m/min)		<0.8	<1.2	<1.0	<0.8

Performance Case-P84+PTFE/PTFE

TATA Steel Co.,Ltd

01	Temperature	180--210 °C
02	Dust concentration	1.321g/Nm ³
03	Nox concentration	<730 mg/Nm ³
04	Sox concentration	<540mg/Nm ³
05	mg/Nm ³ H ₂ O content	9--18%
06	Material	PTFE/PTFE PTFE Membrane
07	Measurement of Bag	160*6500mm



Selection Scheme for Steel Sintering Semi-Dry Desulfurization

Model	YCPPS580	YCPPS620
Fiber	100%PPS (Surface layer content 50% ultra-fine PPS)	100%PPS (50% ultra-fine PPS+50%medium PPS)
Scrim	PPS or PTFE	PPS or PTFE
Weight(g/m ²)	580	620
Thickness (mm)	1.8±0.2	1.9±0.2
Air Permeability (L/dm ² .min)	90-120	80-110
Breaking Strength at Warp(N/5*20cm)	≥900	≥900
Breaking Strength at Weft(N/5*20cm)	≥1200	≥1200
Elongation at Break Warp(%)	≤30	≤30
Elongation at Break Weft(%)	≤50	≤50
Heat Shrinkage Rate(%)	≤1.5 at warp, ≤1 at weft (@190°C90min)	≤1.5 at warp, ≤1 at weft (@190°C90min)
Bursting Strength(N/cm ²)	≥250	≥250
Continuous Temperature(°C)	≤160	≤160
Peak Temperature(°C)	≤190	≤190
Filtration Accuracy(mg/Nm ³)	≤10	≤5

Cement Plant Filter Material Selection

Selection Scheme for Cement Plant

Model		YCMA550	YCPA550	YCPI550	YCFMS850
Fiber		Nomex	Nomex+P84	P84	P84+fiberglass
Scrim		Nomex	PTFE	PTFE	Strong fiberglass
Weight(g/m ²)		550	550	550	850
Continuous Temperature (°C)		204	210	260	240
Peak Temperature (°C)		240	240	280	260
Breaking Strength (N/5*20cm)	Warp	> 900	> 900	> 800	> 2000
	Weft	> 1100	> 1200	> 1000	> 2000
Elongation at Break(%)	Warp	< 30	< 30	< 30	< 1
	Weft	< 50	< 50	< 50	< 1.5
Air Permeability (m ³ /m ² *min)		12-18	12-18	12-18	15-21
Filtration Velocity (m/min)		< 1.2	< 1.2	< 1.2	< 0.8
Application		General corrosion resistance, good wear resistance. suitable for large and medium-sized cement kiln head.	Excellent corrosion resistance, good abrasion resistance, easy cleaning, high filtration accuracy, suitable for large cement kiln head, kiln tail.	High temperature resistance, good corrosion resistance, good wear resistance, high filtration precision, suitable for large cement kiln tail.	High temperature resistance, good corrosion resistance, wear resistance, suitable for filtering low wind speed, small and medium-sized mud kiln.

Performance Case-Cement Plant

Sunny Group 5000t/d kiln tail

Output : 5000t/d kiln tail

Fabric: Fiberglass high temperature resistance dust filter fabric;

Filter bag size:133x2450cm

Temperature:260~280°C , Peak:280°C



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Yuanchen Technology

Filter Material Production line

1. Germany AUTEFA Equipment

- Germany Imported Machine Valued at 7.5 million USD
- 6 Million Square Meters Output per Year
- On-line Automatic Calibration Weight/Thickness/Width, CV<1.5%
- The Most Advanced Filter Production Line
- The First Automatic Needle Changing Equipment in the World



Lapping Machine



Needle Punching Machine



Fiber Storage Machine



Automatic Needle Change Machine

Filter Material Production line

2. Japan Tokuden Laminating Machine

- Temperature Deviation <math>< 4-10^{\circ}\text{C}</math>
- Electromagnetic Heating-Cost Decrease
- Wider Heating Area: 240cm
- Higher Heating Temperature: 380°C



【Membrane Filter】



▲ 130X



▲ 3000X

【Normal Filter】



▲ 300X



▲ 3000X

3.Sweden ETON Automatic Hanging System

- Avoid Fabric Abrasion
- Decrease Production Cost
- Keep Fabric Clean
- Improve Production Efficiency



Filter Material Production Line

4. Germany Bruckner High Temperature Setting Line

- Tank Chain Structure: Smooth surface and evenly stressed
- Width Range: 60cm-240cm
- Cross-Flow Heat Transfer: Heat transfer evenly
- Temperature: 1% deviation



SCR Catalyst Production Introduction

Yuanchen manufactures Titania-based ceramic honeycomb SCR catalysts for power generation, steel, cement, glass, chemical and other industries. Our SCR catalysts are widely used in boilers, turbines, and engines. Yuanchen's SCR catalysts installed capacity ranks the No.1 in China's power generation and steel sintering field, totaling over 83,800MW of generating capacity in China power plant market.



Screw Conveyor



Mixer



Mould Extruder



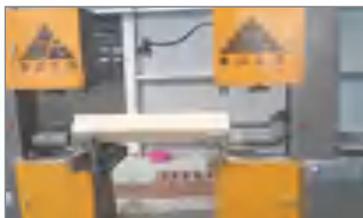
Mesh-belt Type Sintering Kiln



Drying Oven Section One



Robotics



Auto-cutting



Model Assembling



Installing

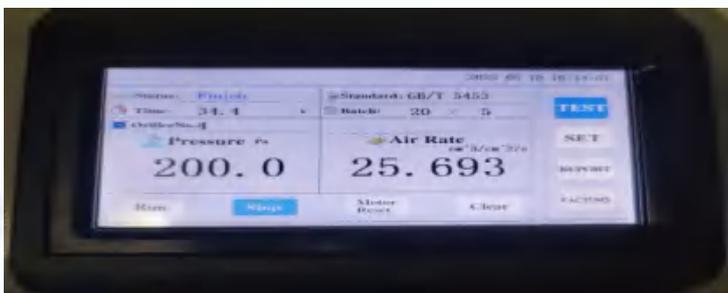
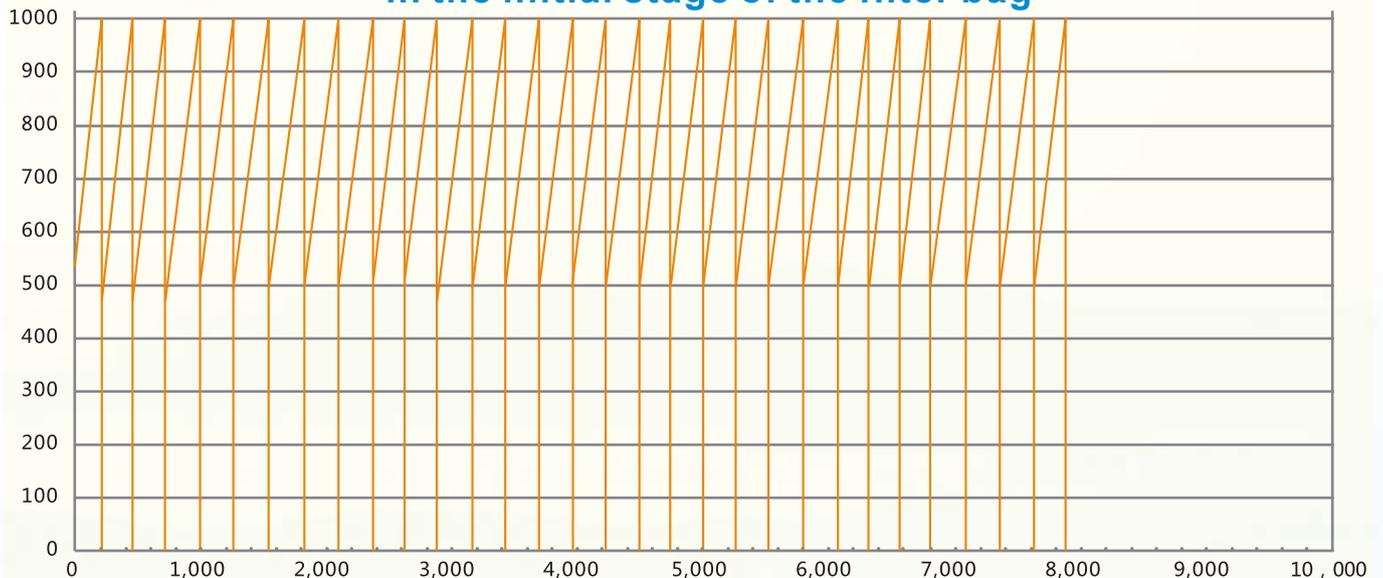
Filter Media Testing Samples

VDI Testing Samples for Filter Bag

Chart: Data changes in the initial and final stages of the filter media

Filter Bag Sample No.		S120190807001	S120190807002
The first 30 times cleansing periods	Circulation time(s)	10122	11191
	Pressure loss(Pa)	207	178
	Output concentration(mg/m ³)	0.13	0.01
	Filtration efficiency(%)	99.9974	99.9998
The last 30 times cleansing periods	Circulation time(s)	7878	8734
	Pressure loss(Pa)	351	305
	Output concentration(mg/m ³)	0.15	0.03
	Filtration efficiency(%)	99.997	99.9994

Chart: S120190807001 Pressure difference change in the initial stage of the filter bag



A . SCR Denitrification Catalyst in the Power Industry

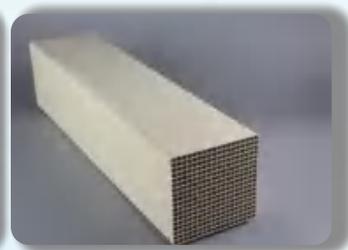
SCR Denitrification Catalyst in Power Industry

Product Features	Catalysts need to meet high strength anti-scouring, large pore size anti-clogging, high resistance to alkali, high resistance to sulfur and other anti-poisoning ability
Product Characteristic Parameters	
Number of Cells	15 Cells, 16 Cells, 18 Cells, 20 Cells, 22 Cells
Abrasion Resistance Strength	Hardened End ≤ 0.06 (%/kg), Non-Hardened End ≤ 0.09 (%/kg)
Compressive Strength	Axial compressive strength ≥ 2.8 MPa, radial compressive strength ≥ 0.9 MPa

B . SCR Denitrification Catalyst in the Cement Industry

Cement Kiln SCR Denitrification Catalyst

Product Features	The catalyst needs to meet the high strength anti-scouring, large pore size anti-clogging, high resistance to alkali, high resistance to sulfur and other anti-poisoning ability	
Product Parameters	Number of cells	9 Cells-13 Cells
	Cell size	10mm-14.5mm
	Abrasion resistance strength	Hardened end ≤ 0.06 (%/kg); non-hardened end ≤ 0.09 (%/kg)
	Compressive strength	Axial compressive strength ≥ 2.8 MPa; radial compressive strength ≥ 0.9 MPa



C . SCR Catalyst Application in Different Industries

SCR Denitrification Catalyst for Steel Industry (Sintering/ Pellet)

Product Characteristics	High strength anti-scouring, large pore size anti-clogging, high resistance to alkali, sulfur and other anti-poisoning ability
Product Parameters	
Number of Cells	18 Cells, 22 Cells, 25 Cells, 30 Cells
Temperature Range	150°C-380°C

D .Denitrification Catalyst for Non–Power Industry

Typical Representative of Non-Electric Industry	Lime Kiln SCR Denitrification Catalyst	Glass Kiln SCR Denitrification Catalyst	Coking Industry SCR Denitrification Catalyst
Product Characteristic	The catalyst needs to meet the denitrification activity at low temperature, the ability to resist sulfur alkali (calcium) poisoning.	The catalyst needs to meet the denitrification activity at low temperature, the ability to resist sulfur and alkali poisoning, and the ability to resist corrosion of acidic gases	The catalyst needs to meet the requirements of denitrification activity, sulfur poisoning resistance and water poisoning resistance at low temperature
Product Parameters			
Number of Cells	25 Cells, 30 Cells	20 Cells, 22 Cells, 25 Cells	25 Cells, 30 Cells
Temperature Range	150°C-380°C	150°C-380°C	150°C-380°C

CMA&CNAS Testing Center



The Analysis and Testing Center is dedicated to the company's R&D, testing work and the inspection of raw materials, with CMA and CNSA testing qualifications.



Phenom Scanning Electron Microscope(Netherlands)



AFC-133 Filter Material Dynamic Test Platform (Germany)



NETZSCH DSC Thermogravimetric Analyzer(Germany)



Full-Scale Testing Machine



Malvern Laser Particle Size Tester(UK)



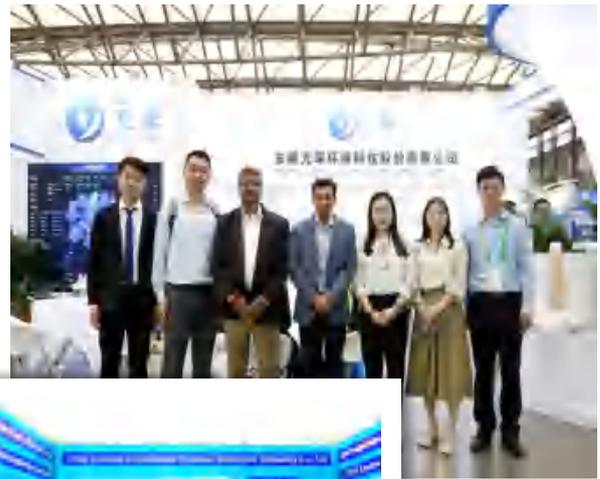
Agilent Liquid Chromatograph (USA)

Workshop Presentation



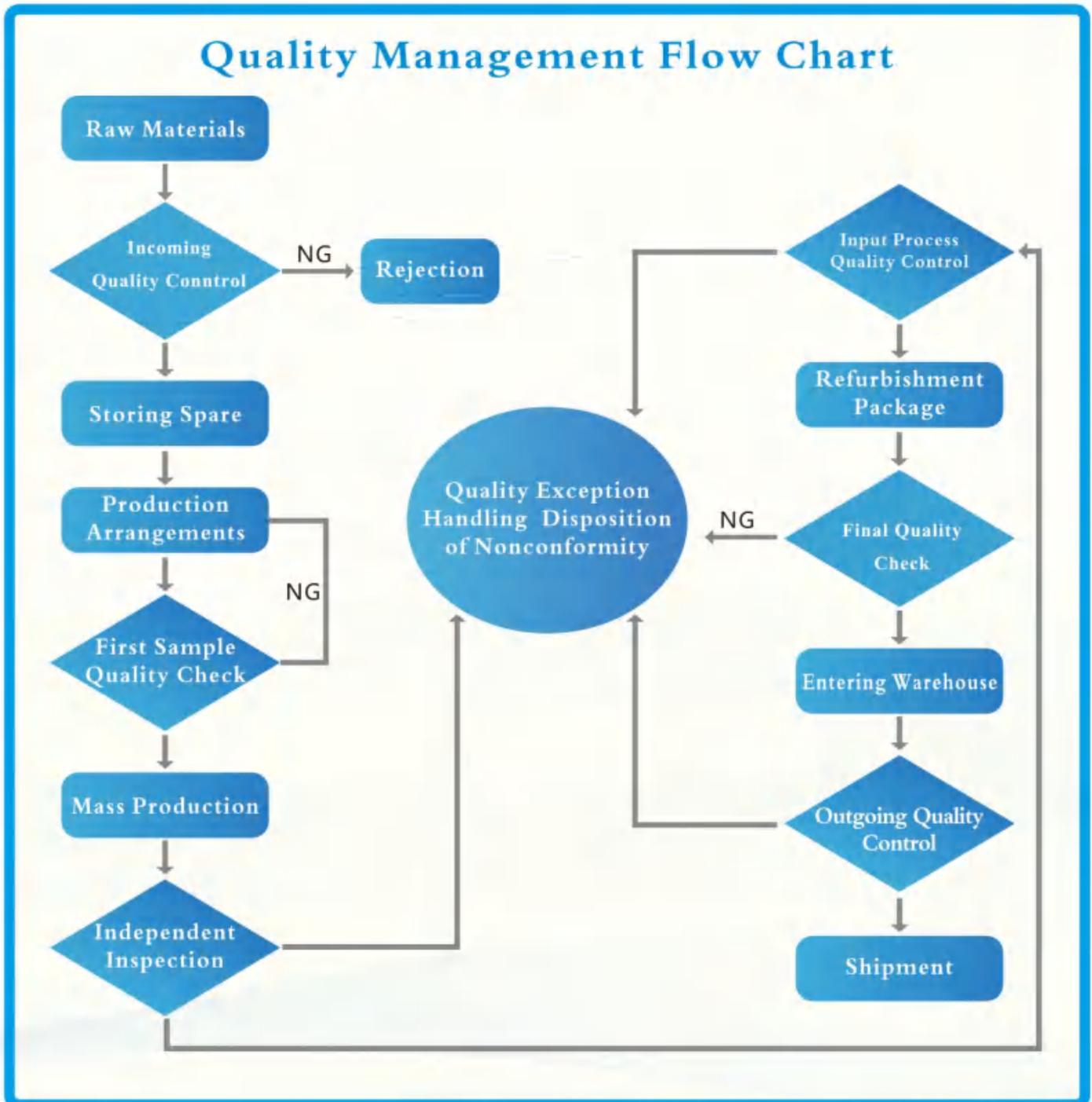
Overseas Exhibition

In response to the National One Belt Road Strategy, Yuanchen Technology successfully developed overseas markets such as Brazil, Vietnam, Turkey, India, Russia, etc., and demonstrated the strength of Yuanchen to the countries along the Belt and Road.



Quality Control

According to the ISO9001:2008 quality management system requirements, the standards implemented by our company are much stricter compared to both Chinese and industry standards, to ensure the product quality.



Enterprise Honors



- 4 International PCT Patents
- 142 Authorized National Patents
- 27 Leading/Participating Criteria
- 36 Software Copyrights
- ISO 14001:2004
- ISO 9001:2008
- OHSAS18001:2007
- CNAS Laboratory
- CE Certificates



Overseas Market



 清新环境 SPC	 ANSTEEL 鞍钢集团	 DUPONT 杜邦	 BAOWU 宝武集团	 中航国际 AVIC INTERNATIONAL	 中国电建 POWERCHINA	 菲达环保
 光大环境 EVERGLIGHT ENVIRONMENT	 SINOPEC 中国石化	 国家电投 SPIC	 中国能建 ENERGY CHINA	 国寿	 海螺集团 CONCH	 河北建投 HCTIG
 菲达环保 FEIDA ENVIRO	 河钢集团 HBIS GROUP	 大唐集团公司 CHINA DATANG	 中国华电 CHD	 同方环境 TONGFANG ENVIRONMENT	 中国华能 CHINA HUANENG	 华润 与您携手 改变生活



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