

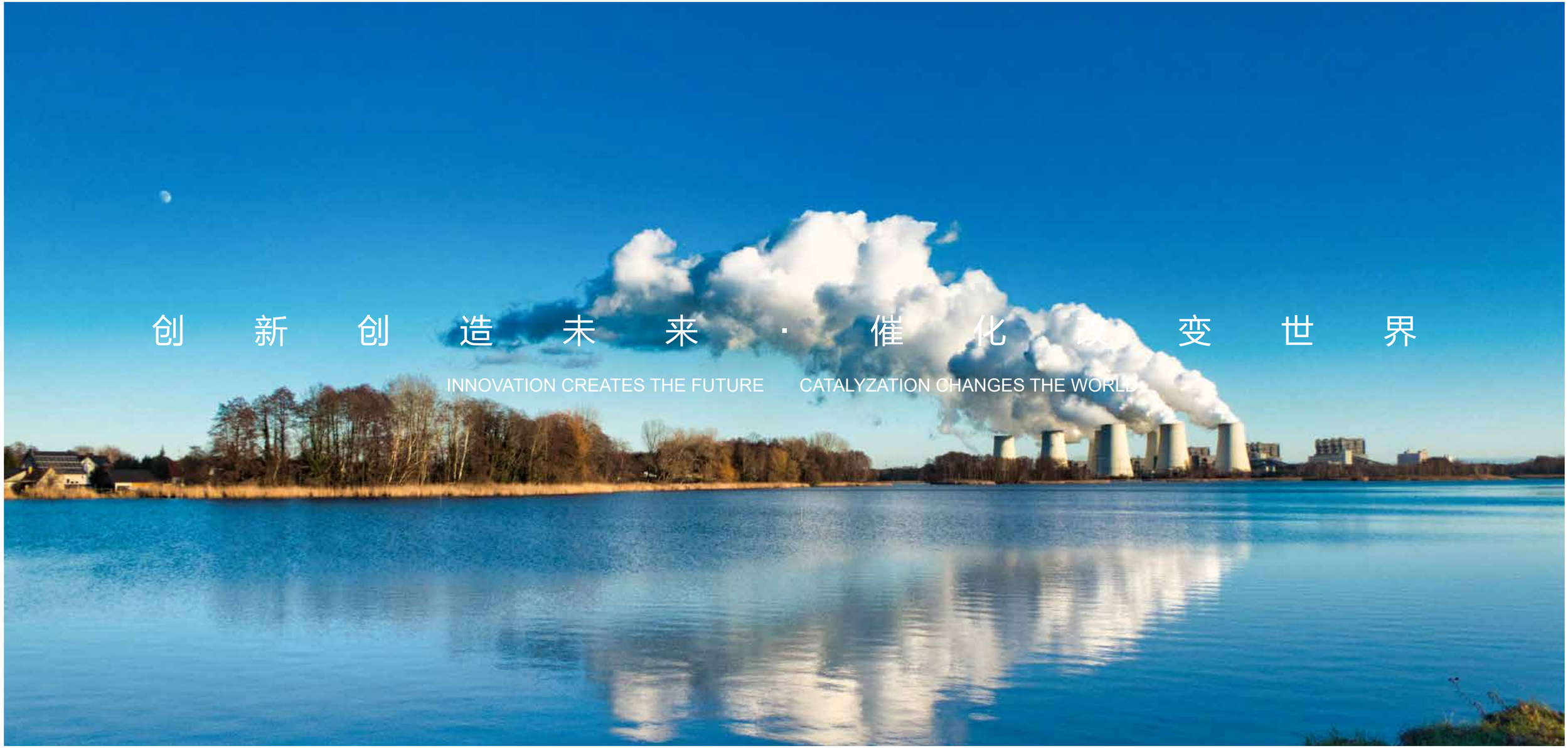
致力于为客户提供稳定可靠、节能高效的环保产品和技术服务

Committed to providing customers with stable, reliable, energy-saving and efficient environmental protection products and technical services

DeNOx CATALYST

AIREP 爱亿普环保

AIR Environmental Protection


创 新 创 造 未 来 · 催 化 改 变 世 界
INNOVATION CREATES THE FUTURE CATALYZATION CHANGES THE WORLD

AIREP

爱亿普核心竞争力

CORE COMPETITIVENESS OF AIREP

为客户提供稳定可靠、节能高效的烟气治理产品及定制整体解决方案

To provide customers with stable, reliable, energy-saving and efficient pollution control products and customized overall solutions.

聚焦细分市场，专注核心竞争能力的发挥与发展，拥有一支具备扎实理论知识基础及丰富项目实践经验的专业技术团队。

Focusing on segmented markets, focusing on the development of core competitive capabilities, possessing a solid theoretical knowledge foundation and rich projects A professional technical team with practical experience.

技术领先 Leading technology

设计创新 Design innovation

专业团队 Professional team

非标定制 Non standard customization

1500+

在玻璃、钢铁、水泥、化工、内燃机、船舶、分布式能源等行业领域完成脱硝项目 1500+。

Completed over 1500 denitrification projects in industries such as glass, steel, cement, chemical, internal combustion engines, ships, and distributed energy.

10+年

10 年 + 烟气脱硝技术积累，多行业领域技术经验储备。

Over 10 years of accumulation in flue gas denitrification technology, with technical experience reserves in multiple industries and fields.

40+

40+ 项专利及获奖，高层次人才领办企业。

40+patents and awards, led by high-level talents to establish the enterprise.

AIREP

爱亿普企业文化

AIREP CORPORATE CULTURE

企业愿景

Corporate Vision

为亿万普众创造一片蓝天，
为员工创造有持续竞争力的事业平台！

Create a blue sky for billions of people,
Create a sustainable and competitive career platform for employees!

企业使命

Corporate Mission

为客户提供最稳定可靠、节能 高效的环保产品和技术服务！

To provide customers with the most stable, reliable, energy-efficient and environmentally friendly products and technical services!

企业价值观

Corporate values

真诚、务实、执着、创新

Sincere, pragmatic, persistent, innovative



目 录

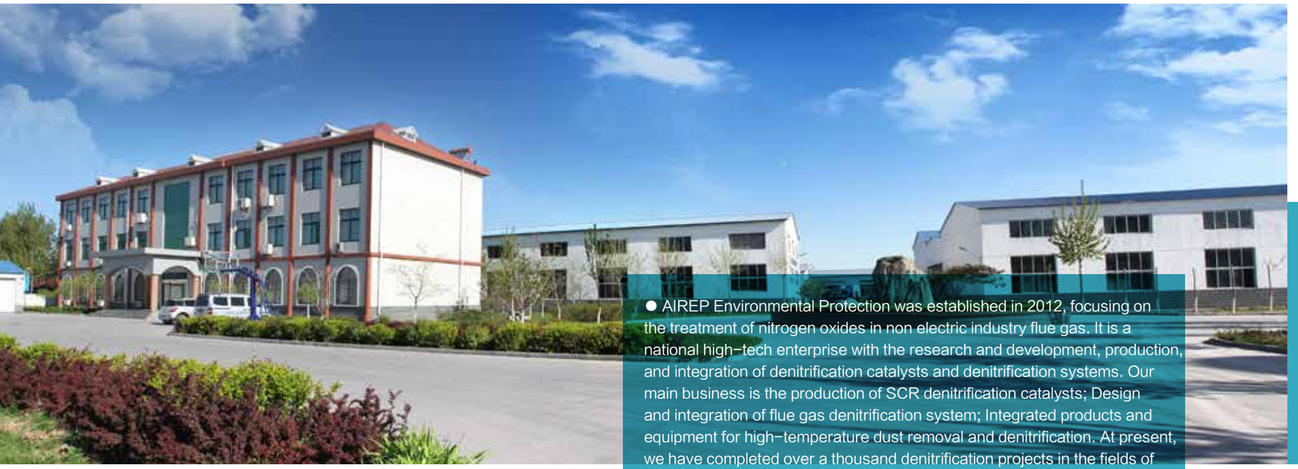
C O N T E N T S

Introduction to Aiyipu	爱亿普简介 ---01
Development milestones	发展大事记 ---03
Technological Innovation Achievements	科技创新成果 ---05
Technology R&D Platform	技术研发平台 ---09
Business Scope&Application Fields	业务范围 & 应用领域 ---13
Key Product Introduction	重点产品介绍 ---15
Efficient and comprehensive denitrification catalyst technology	高效全面的脱硝催化剂技术 ---29
Customized overall solution	定制化的整体解决方案 ---31
Rich project experience in multiple industries	丰富的多行业领域项目经验 ---47
Collaboration and Development Together	携手合作与发展 ---51
Aiyipu Corporate Culture	爱亿普企业文化 ---53

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爱亿普简介

AIREP INTRODUCTION



●爱亿普环保成立于 2012 年，专注于非电行业烟气氮氧化物治理，是具备脱硝催化剂研发、生产、脱硝系统集成的国家高新技术企业。主营业务为 SCR 脱硝催化剂生产；烟气脱硝系统设计及集成；高温除尘脱硝一体化产品及设备等。目前在水泥、玻璃、化工、内燃机、船舶、分布式能源等领域完成脱硝项目千余个，是中石化、中石油以及中海油系统入网合格供应商、中国烟气污染治理创新联盟会员单位等。

●公司以科技创新为驱动，年度研发投入占比 6.5% 以上，申请了 40 余项专利技术。现有自主专利产品可涵盖温度从 150℃低温到 600℃高温烟气条件下的脱硝需求，并可提供 50 孔、60 孔及更高孔数的高效整体成型催化剂。公司经过多年的技术积累，在脱硝催化剂领域已经形成了自己独特的技术优势，具备丰富的技术储备，掌握了高效全面的脱硝催化剂生产技术。公司自主研发的低温脱硝催化剂技术、中温脱硝催化剂技术、高温脱硝催化剂技术、一氧化碳脱除技术、高温除尘脱硝一体化等技术已经成功应用于钢铁冶金、水泥建材、电力、玻璃、生物质发电等多个行业。

● AIREP Environmental Protection was established in 2012, focusing on the treatment of nitrogen oxides in non electric industry flue gas. It is a national high-tech enterprise with the research and development, production, and integration of denitrification catalysts and denitrification systems. Our main business is the production of SCR denitrification catalysts; Design and integration of flue gas denitrification system; Integrated products and equipment for high-temperature dust removal and denitrification. At present, we have completed over a thousand denitrification projects in the fields of cement, glass, chemical engineering, internal combustion engines, ships, and distributed energy. We are a qualified supplier for Sinopec, PetroChina, and CNOOC systems and a member of the China Smoke Pollution Control Innovation Alliance.

● The company is driven by technological innovation, with an annual R&D investment of over 6.5%, and has applied for more than 40 patented technologies. The existing independent patented products can cover the denitrification needs under flue gas conditions ranging from low temperature of 150 ℃ to high temperature of 600 ℃ , and can provide efficient integral forming catalysts with 50, 60, and higher pore numbers. After years of technological accumulation, the company has formed its own unique technological advantages in the field of denitrification catalysts, with rich technical reserves and mastery of efficient and comprehensive denitrification catalyst production technology. The company's independently developed low-temperature denitrification catalyst technology, medium temperature denitrification catalyst technology, high-temperature denitrification catalyst technology, carbon monoxide removal technology, high-temperature dust removal and denitrification integration technology have been successfully applied in multiple industries such as steel metallurgy, cement building materials, power, glass, biomass power generation, etc.

AIREP 爱亿普环保
AIR Environmental Protection

●公司将立足非电领域脱硝催化剂研发和生产这一基础核心业务，针对客户的需求和痛点，不断研发新工艺、新技术和新产品，配套提供检测设备、控制系统以及核心部件，成为细分行业烟气治理环保和节能技术的整体解决方案提供商，为国家大气环境治理及节能降耗碳达峰做应有贡献！

● The company will focus on the research and production of denitrification catalysts in the non electric field as its fundamental core business. In response to customer needs and pain points, it will continuously develop new processes, technologies, and products, provide supporting testing equipment, control systems, and core components, and become a comprehensive solution provider for flue gas treatment, environmental protection, and energy-saving technologies in segmented industries. It will make due contributions to national atmospheric environmental governance and energy conservation and carbon peak reduction!





















AIREP

爱亿普发展大事记

AIREP DEVELOPMENT MEMORABILIA

AIREP 爱亿普环保
AIR Environmental Protection

2012

● 2012 年 5 月项目立项、开工建设。
● 2012 年 8 月爱亿普团队参加中国首届创新创业大赛，入围全国 20 强。
●2012 年底脱硝催化剂生产线建成投产。
●催化剂产品成功投放市场，应用于多个电厂、化工厂项目，稳定运行达标。

● The project was approved and started construction in May 2012.
● In August 2012, the AIREP team participated in the first China Innovation and Entrepreneurship Competition and was shortlisted for the top 20 nationwide.
● At the end of 2012, the denitrification catalyst production line was completed and put into operation.
● Catalyst products have been successfully launched on the market and applied to multiple power and chemical plant projects, ensuring stable operation and meeting standards.

2014

● SCR 脱硝催化剂生产线扩建至 3000m3 年。量产 25 孔、30 孔多孔催化剂。
●研究开发了高温分子筛脱硝催化剂及系统解决方案。
●签订并完成了第一个燃气内燃机脱硝 EPC 工程项目，实现了从单一生产销售催化剂向系统工程总包及服务的转变。
●总经理荣卫龙入选淄博英才高层次人才计划。

● The SCR denitrification catalyst production line will be expanded to 3000m3 annually. Mass production of 25 hole and 30 hole porous catalysts.
● We have researched and developed high-temperature molecular sieve denitrification catalysts and system solutions.
● Signed and completed the first EPC project for denitrification of gas internal combustion engines, realizing the transformation from a single production and sales catalyst to a system engineering general contracting and service.
● General Manager Rong Weilong has been selected for the Zibo Talent High Level Talent Program.

2016

●在化工、玻璃、钢铁酸洗、垃圾焚烧、分布式能源、燃气内燃机等非电细分行业领域实现多项业绩突破，当年完成 300 多个项目且无一失败案例。
●获批市级企业研发中心。
●获得淄博市科技进步二等奖。
●获批淄博市内燃机脱硝工程实验室。

● Achieved multiple performance breakthroughs in non electric sub sectors such as chemical, glass, steel pickling, waste incineration, distributed energy, and gas internal combustion engines, completing over 300 projects without any failure cases that year.
● Approved as a municipal level enterprise research and development center.
● Received the second prize for scientific and technological progress in Zibo City.
● Approved Zibo Internal Combustion Engine Denitrification Engineering Laboratory.

2018

●完成现代化企业规范化改制，挂牌齐鲁股权交易中心精选板。
●通过国家高新技术企业认定。
●获批市级工程技术研究中心。
●签订泰国皇家石油脱硝催化剂供货合同。
●高效燃煤燃气脱硝催化剂全生命周期关键技术研发及应用项目获得江苏省科学技术一等奖。

● Complete the standardized restructuring of modern enterprises and list them on the selected board of Qilu Equity Trading Center.
● Recognized as a national high-tech enterprise.
● Approved as a municipal engineering technology research center.
● Sign a supply contract for Royal Thai Petroleum's denitrification catalyst.
● The research and application project of key technologies for the full life cycle of high-efficiency coal-fired gas denitrification catalysts has won the first prize of Jiangsu Provincial Science and Technology Award.

2020

●公司入选淄博市瞪羚企业榜单
●研发中心主任入选淄博英才计划人选。
●获得中国水泥网脱硝先锋供应商荣誉称号。
●建成涂覆催化剂生产线。
●中标中海油涠洲终端六台燃气轮机烟气脱硝工程项目。

● The company has been selected for the list of gazelle enterprises in Zibo City
● The director of the R&D center has been selected as a candidate for the Zibo Talent Program.
● Received the honorary title of China Cement Network Denitrification Pioneer Supplier.
● Build a coating catalyst production line.
● Winning the bid for the CNOOC Weizhou Terminal Six Gas Turbine Flue Gas Denitrification Project.

2021

●中标国内首台 5000T 水泥窑高温除尘脱硝一体化工程催化剂供货合同。
●创新研发的 CO-SCR 脱硝催化剂应用于山东海化脱硝降碳工程项目并成功运行达效。
●成立爱亿普新材料公司，建成薄壁波纹催化剂载体生产线。

● Winning the bid for the supply contract of catalyst for the first 5000T cement kiln high-temperature dust removal and denitrification integrated project in China.
● The CO-SCR denitration catalyst, innovatively developed, has been applied to the Shandong Haihua denitration and carbon reduction project and has successfully achieved results.
● Establish Aiyipu New Materials Company and build a thin-walled corrugated catalyst carrier production line.

2022

●获批国家专精特新“小巨人”企业
●中标鞍钢集团联众冷轧退火炉定制低温催化剂，入库供应商。
●承接并交付验收内蒙雄伟光大 180Th 燃气锅炉炉内改造脱硝项目。

● Approved as a national specialized, refined, and new "little giant" enterprise .
● Winning the bid for the customized low-temperature catalyst for Ansteel Group's Lianzhong Cold Rolling Annealing Furnace, to be supplied to the warehouse.
● Undertake and deliver the acceptance of the Inner Mongolia Xiongwei Guangda 180Th gas boiler furnace renovation denitrification project.

2023

●获批中海石油公司海上设备维修资格证书。
●中标光大环境 130th 生物质锅炉超低排放技术开发及优化提升工程。
●入选淄博市第一批“中间人才自主评价企业。

● Winning the bid for the supply contract of catalyst for the first 5000T cement kiln high-temperature dust removal and denitrification integrated project in China.
● The CO-SCR denitration catalyst, innovatively developed, has been applied to the Shandong Haihua denitration and carbon reduction project and has successfully achieved results.
● Establish Aiyipu New Materials Company and build a thin-walled corrugated catalyst carrier production line.

2024

●入选国家工信部《符合环保装备制造业规范条件企业名单》（2024 年版）。
●当选淄博市环保产业链“链主”单位。
●中标德龙钢铁烧结厂脱硝项目、中海油燃气轮机尾气脱硝项目。

● Selected for the "List of Enterprises Eligible for Environmental Protection Equipment Manufacturing Industry Standards" (2024 Edition) by the Ministry of Industry and Information Technology of China.
● Elected as the "Chain Leader" unit of the environmental protection industry chain in Zibo City.
● Winning the bid for DeLong Steel Sintering Plant Denitrification Project and CNOOC Gas Turbine Exhaust Denitrification Project.

2025

●爱亿普环保，山西生产线正式运行。

● Aiyipu Environmental Protection has officially launched its Shanxi production line.

荣誉资质

Honor
Qualification





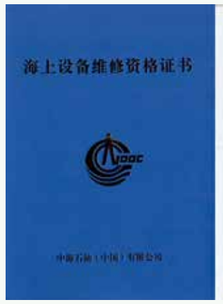


































专利知识产权
Patent Intellectual Property





AIREP

技术研发平台

TECHNOLOGY R&D PLATFORM

研发实验室
R&D laboratory

- ●淄博市企业技术研发中心
- ●淄博市内燃机脱硝工程实验室
- ●淄博市分布式能源脱硝催化剂及系统工程技术研究中心

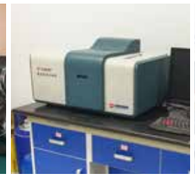
- ● Zibo Enterprise Technology Research and Development Center
- ● Zibo Internal Combustion Engine Denitrification Engineering Laboratory
- ● Zibo Distributed Energy Denitrification Catalyst and System Engineering Technology Research Center

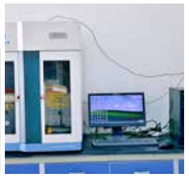






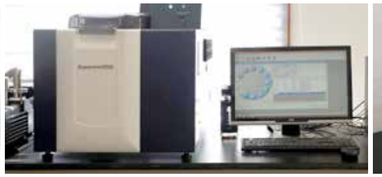














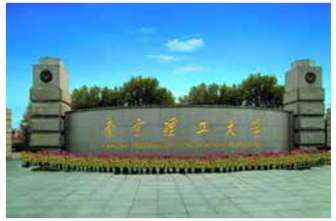
公司科研力量分别依托南京理工大学化工学院脱硫脱硝课题组，与安徽工业大学、上海海事大学商船学院船舶机舱实验室以及清华大学环境学院新兴污染物研究组开展产学研合作项目，配套建设了相关研发基础设施，建立了完整的 SCR 脱硝及氨吸收实验研究和理论计算平台。

公司除了具备现代化生产设备外，还拥有烟气净化技术研发系统、产品性能试验系统、XRD、XRF、BET、SEM、激光粒度分析仪、强度试验、GC-MS 和多普勒液体粒度分析等先进的研发、试验及检测设备。在引进、消化、吸收国内外先进的脱硝脱二噁英技术的基础上，进行自主创新，自主研发出更适合中国市场的烟气净化处理技术。

The company's research strength relies on the desulfurization and denitrification research group of the School of Chemical Engineering at Nanjing University of Science and Technology, and carries out industry university research cooperation projects with Anhui University of Technology, the Ship Engine Room Laboratory of the School of Merchant Shipping at Shanghai Maritime University, and the Emerging Pollutants Research Group of the School of Environment at Tsinghua University. Relevant research and development infrastructure has been built, and a complete SCR denitrification and ammonia absorption experimental research and theoretical calculation platform has been established. In addition to modern production equipment, the company also has a research and development system for flue gas purification technology, a product performance testing system XRD、XRF、BET、SEM、 Advanced research and development, testing, and detection equipment such as laser particle size analyzer, intensity testing, GC-MS, and Doppler liquid particle size analysis. On the basis of introducing, digesting, and absorbing advanced denitrification and dioxin removal technologies at home and abroad, independent innovation has been carried out to independently develop flue gas purification treatment technologies that are more suitable for the Chinese market.

产学研发合作
Industry university research and development cooperation





南京理工大学脱硝平台
Nanjing University of Science and Technology Denitrification Platform

- 国家级化学化工实验教学示范中心
  National Chemical Engineering Experimental Teaching Demonstration Center
- 教育部软化学重点实验室
  Key Laboratory of Soft Chemistry, Ministry of Education
- 江苏省废气治理工程中心
  Jiangsu Provincial Waste Gas Treatment Engineering Center
- 国家脱硝联盟理事单位
  Member of the National Denitrification Alliance



AIREP
技术研发平台
TECHNOLOGY R&D PLATFORM

AIREP 爱亿普环保 AIR Environmental Protection

智慧引领 Smart leadership



钟 秦 Zhong qin

钟秦，国家“万人计划”领军人才，南京理工大学化工学院教授、博导。主持包括国家 863 计划、国家级科技成果重点推广计划、国家自然科学基金等 20 多项科研项目。近 10 年发表 SCI 研究论文 200 余篇，获国家发明专利 10 余项，出版的《燃煤烟气脱硫脱硝技术及工程实例》、《火电厂烟气脱硫系统设计、建造及运行》和《火电厂烟气脱硝技术及工程应用》获业界好评，产生了广泛的影响。在烟气脱硫脱硝及先进催化等方面取得了多项国内领先、国际先进的技术成果。

Zhong Qin, a leading talent in the national “Ten Thousand Talents Plan”, is a professor and doctoral supervisor at the School of Chemical Engineering, Nanjing University of Science and Technology. Hosted over 20 scientific research projects, including the National 863 Program, National Key Promotion Program for Scientific and Technological Achievements, and National Natural Science Foundation. In the past 10 years, more than 200 SCI research papers have been published, and more than 10 national invention patents have been obtained. The publications “Coal fired flue gas desulfurization and denitrification technology and engineering examples”, “Design, construction and operation of flue gas desulfurization systems in thermal power plants” and “Flue gas denitrification technology and engineering applications in thermal power plants” have received high praise in the industry and have had a wide impact. We have achieved multiple domestically leading and internationally advanced technological achievements in flue gas desulfurization, denitrification, and advanced catalysis.



荣卫龙 Rong wei long

荣卫龙，淄博英才计划人才，爱亿普总经理兼技术总监，15 年 + 脱硝催化剂研发与应用经验，脱硝领域三十余项专利发明人，南京理工大学环境工程硕士毕业，博士研究生在读。

Rong Weilong, a talent under the Zibo Talent Program, is the General Manager and Technical Director of Aiyipu. With over 15 years of experience in the research and application of denitrification catalysts, he has been the inventor of more than 30 patents in the field of denitrification. He holds a Master's degree in Environmental Engineering from Nanjing University of Science and Technology and is currently pursuing a PhD.



张舒乐 Zhang shu le

张舒乐，南京理工大学教授、博导；在宽温 SCR 脱硝催化剂、催化臭氧氧化烟气脱硝、光催化烟气脱硝等领域，主持国家重点研发计划、江苏省重点研发计划、国家自然科学基金、工信部自主科研项目等多项。

Zhang Shule, Professor and Doctoral Supervisor at Nanjing University of Science and Technology; In the fields of wide temperature SCR denitrification catalysts, catalytic ozone oxidation flue gas denitrification, photocatalytic flue gas denitrification, etc., I have led multiple national key research and development programs, Jiangsu Province key research and development programs, National Natural Science Foundation of China, and Ministry of Industry and Information Technology independent research projects.



李云涛 Li yun tao

李云涛，南京理工大学工学博士、清华大学环境工程博士后、高级工程师。薄壁波纹玻纤材料及其衍生产品发明人。曾主持或参与多项省部级以上科技项目，发表论文十几篇，第一发明人授权国家专利 19 项，获技术成果奖 2 项。

Li Yuntao, PhD in Engineering from Nanjing University of Science and Technology, Postdoctoral Fellow in Environmental Engineering from Tsinghua University, and Senior Engineer. Inventor of thin-walled corrugated fiberglass materials and their derivatives. Has presided over or participated in multiple provincial and ministerial level scientific and technological projects, published over ten papers, obtained 19 national patents as the first inventor, and won 2 technical achievement awards.

AIREP 爱亿普环保 AIR Environmental Protection

Committed to air pollution control from fixed and mobile sources

致力于固定源以及移动源的大气污染治理

节能 / 高效 / 绿色 / 环保

Energy saving/efficient/green/environmentally friendly

Scope of business

业务范围

爱亿普环保专长于玻璃、化工、钢铁、水泥、燃气轮机、船舶、分布式能源等细分专业领域，低温（180℃ -280℃）、高温（400℃ -600℃），高 NO_X 浓度、高粉尘等烟气条件下的脱硝催化剂及系统定制解决方案。

Aiyipu Environmental Protection specializes in specialized fields such as glass, chemical, steel, cement, gas turbines, ships, distributed energy, etc. It provides customized solutions for denitrification catalysts and systems under low temperature (180 ℃ -280 ℃), high temperature (400 ℃ -600 ℃), high NO_X concentration, high dust and other flue gas conditions.



SCR honeycomb denitrification catalyst
SCR 蜂窝脱硝催化剂

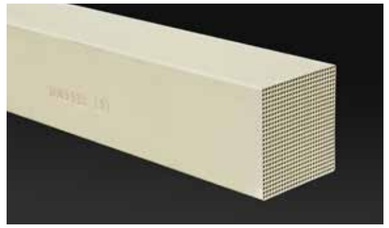
核心技术优势 Core technological advantages

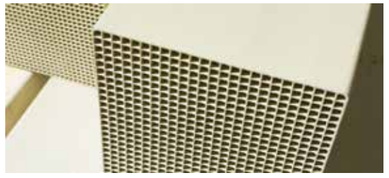
●全新优质原材料生产，杜绝使用废旧再生料，保证催化剂内在品质，性能稳定，使用寿命长。
●催化剂选型根据烟气条件非标定制，国际权威数据库验算支持。
●适用温度窗口宽（150℃ -600℃）
●高比表催化剂反应速率快，氨逃逸率低，不产生二次污染。
●强度高，机械寿命可达 10 年。
●催化剂模块可根据项目要求非标定制，交付周期短。

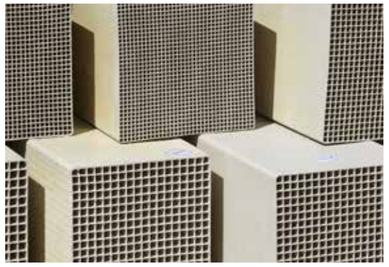
●Production of brand new high-quality raw materials, eliminating the use of waste recycled materials, ensuring the intrinsic quality, stable performance, and long service life of catalysts.
●Catalyst selection is customized according to non-standard flue gas conditions and supported by international authoritative databases for verification.
●Applicable temperature window width (150 ℃ -600 ℃)
●High specific surface catalyst has a fast reaction rate, low ammonia escape rate, and does not produce secondary pollution.
●High strength, with a mechanical lifespan of up to 10 years.
●The catalyst module can be customized according to project requirements and has a short delivery cycle.

产品特点 Product Features

● 整体成型，通体具有活性	● Integrated molding, with activity throughout the body
● 具有自主知识产权	● Possess independent intellectual property rights
● 适应温度范围广 (200-450℃)	● Suitable for a wide temperature range (200-450 ℃)
● 脱硝效率高，可达 90% 以上	●High denitrification efficiency, reaching over 90%
● SO_2 氧化率 <1%	●SO_2 oxidation rate<1%
● 氨逃逸率 <3ppm	●Ammonia escape rate<3ppm
● 催化剂化学寿命 >24000h	●Catalyst chemical life>24000h
● 耐磨损，机械寿命 >10 年	● Wear resistant, mechanical life>10 years
● 模块化组装，具有互换性	●Modular assembly with interchangeability









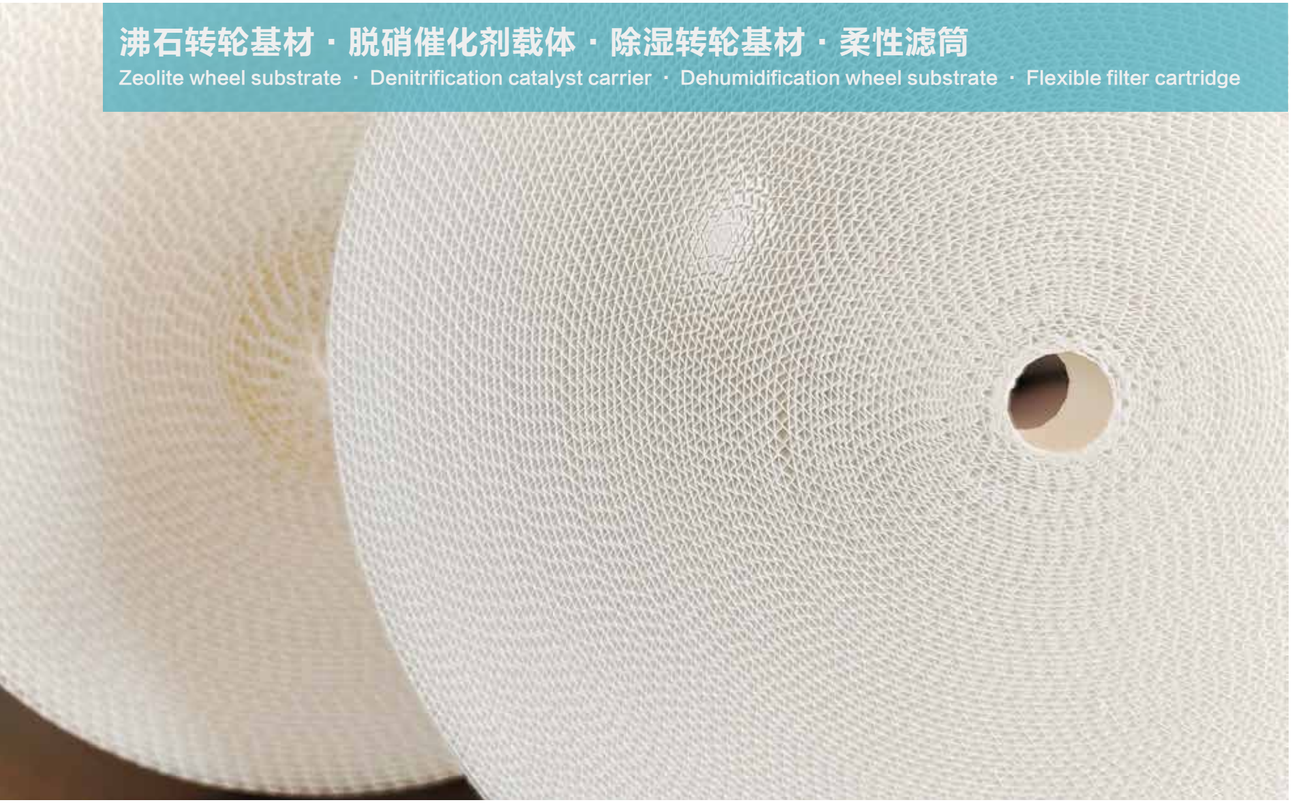
蜂窝脱硝催化剂参数 Parameters of Honeycomb Denitrification Catalyst

规格型号 Specification and model	AIREP-13	AIREP-16	AIREP-18	AIREP-20	AIREP-22	AIREP-25	AIREP-30	AIREP-35	AIREP-40	AIREP-50	AIREP-60	AIREP-90
截面尺寸 /mm Dimension	150	150	150	150	150	150	150	150	150	150	150	150
孔数 /K Number of holes	13	16	18	20	22	25	30	35	40	50	60	90
节距 /mm Pitch	11.2	9.2	8.2	7.4	6.7	5.9	4.9	4.2	3.7	3	2.5	1.8
内壁厚 /mm Inner wall thickness	1.6	1.2	1.1	0.9	0.9	0.8	0.65	0.6	0.5	0.45	0.4	0.3
孔径 /mm Aperture	9.6	8	7.1	6.5	5.8	5.1	4.3	3.6	3.2	2.5	2.1	1.33
比表面积 /m^2/m^3 Specific surface area	290	364	409	460	499	567	686	791	914	1121	1331	1915
开孔率 /% Porosity	70	73	72	74	72	72	73	72	73	71	69	64
使适用行业 Make applicable industries	水泥 Cement	燃煤电厂、工业窑炉 Coal fired power plants, industrial kilns				玻璃、焦化、钢铁 Glass, coking, steel		燃气锅炉、燃气轮机、燃气燃油内燃机 Gas boilers, gas turbines, gas fuel internal combustion engines				

Thin walled corrugated fiberglass carrier material and catalyst
薄壁波纹玻纤载体材料及催化剂

沸石转轮基材 · 脱硝催化剂载体 · 除湿转轮基材 · 柔性滤筒

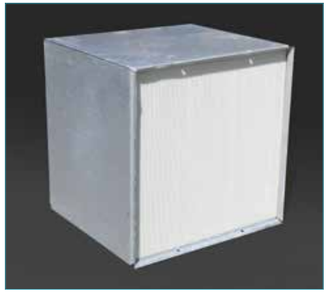
Zeolite wheel substrate · Denitrification catalyst carrier · Dehumidification wheel substrate · Flexible filter cartridge



波纹蜂窝块 Corrugated honeycomb block

- ●蜂窝块不含碱金属、碱土金属。
- ●涂敷量高，高温稳定。
- ●专有蜂窝组装技术。
- ●可重复、任意弯曲定型。
- ●多种规格可选，任意尺寸可定制生产。

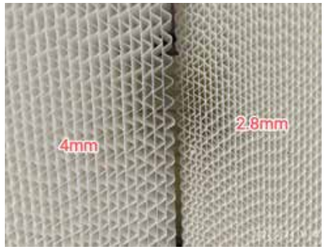
- ● Honeycomb blocks do not contain alkali metals or alkaline earth metals.
- ● High coating volume and high temperature stability.
- ● Exclusive cellular assembly technology.
- ● Repeatable and flexible shaping.
- ● Multiple specifications are available, and any size can be customized for production.



产品特点 Product Features

- ●波纹成型，通体具有活性
- ●高强度玻璃纤维，重量非常轻
- ●应用温度范围大：300℃ -450℃
- ● SO2 氧化率低
- ●脱硝效率高，可达 90% 以上
- ●氨逃逸 <3ppm
- ●抗堵塞性好
- ●催化剂内部压降很低
- ●比表面积大
- ●抗中毒效果非常好
- ●催化剂生产时间短
- ●模块化组装，具有互换性

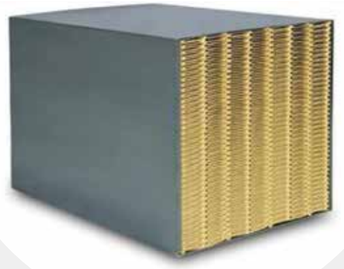
- ● Ripple forming, the whole body has activity
- ● High strength fiberglass, very lightweight
- ● Wide application temperature range: 300 ℃ -450 ℃
- ● Low SO2 oxidation rate
- ● High denitrification efficiency, reaching over 90%
- ● Ammonia escape<3ppm
- ● Good anti clogging performance
- ● The pressure drop inside the catalyst is very low
- ● Large specific surface area
- ● The anti poisoning effect is very good
- ● Short catalyst production time
- ● Modular assembly with interchangeability



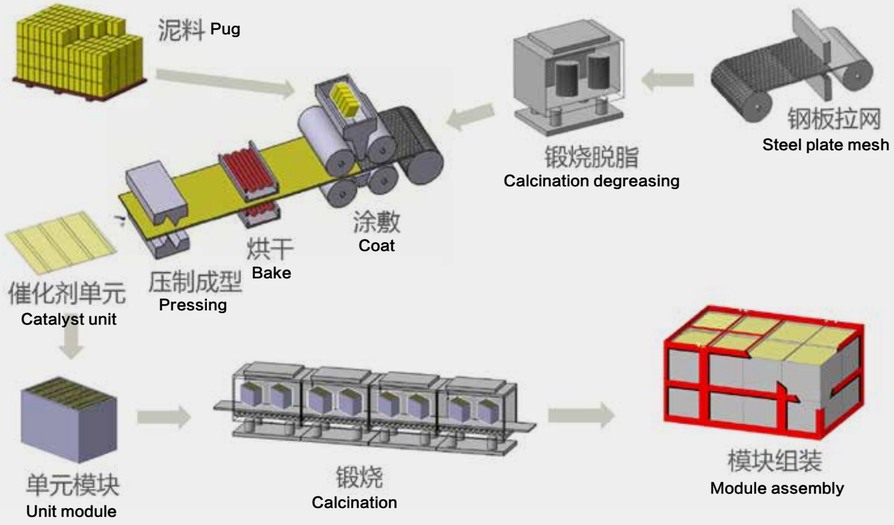
GFC 波纹催化剂技术参数 Technical parameters of GFC corrugated catalyst

波纹催化剂 Ripple catalyst							
规格型号 Specification and model	GFC-15	GFC-20	GFC-25	GFC-30	GFC-40	GFC-50	GFC-75
嵴底长度 /mm Ridge base length	16	15	9.5	8.5	7.5	4.8	3.6
壁厚 /mm Wall thickness	0.9	0.9	0.6	0.4	0.4	0.3	0.3
高度 /mm Height	9	6.6	5.5	4.5	3.4	2.8	1.8
比表面积 /m^2/m^3 Specific surface area	458	596	660	772	1048	1250	1600
开孔率 /% Porosity	77	70	76	80	75.5	75	74
使适用行业 Make applicable industries	燃煤、工业窑炉 Coal fired and industrial kilns		燃油、燃气等低尘气体 Low dust gases such as fuel and gas		燃气及无尘气体 Gas and dust-free gas		

Plate type denitrification catalyst
板式脱硝催化剂



板式车间工艺流程图
Process Flow Diagram of Plate Workshop



Characteristics of Plate Catalysts

板式催化剂特点

●高活性、长寿命
根据不同的工作环境和性能要求，结合以往成熟经验，选择合适的催化剂类型，并做个性调整，很好地解决失活问题。

●高抗堵灰性
在国内做脱硝工程时，常常要面对和解决机组长时间运行后出现的积灰问题。要防止堵塞，应用板式催化剂是很明显的解决方案。

●高耐磨损性
机组长期不间断运行时，烟气中飞灰持续对催化剂进行冲刷。板式催化剂独有的金属骨架可以将这种影响减低到最小限度。

●实现较低的压力损失
相比大节距蜂窝，板式催化剂能够更好实现脱硝工程中关键的压降要求。

●单位价格低、长期运行成本更低
相对于同质制造的蜂窝催化剂，板式催化剂因制作工艺适合大批量生产与控制，并采用金属骨架，具有单位价格低的特点，从机组安全可靠运行和长期运行成本控制角度出发，具有更大吸引力。

●安装、拆卸、更换简单
板式催化剂模块化供货，密封工作简单易操作。在现场服务方面，爱亿普一批具有丰富经验的专家，在安装、拆卸、更换等方面提供可靠的建议与指导。

● High activity, long lifespan
Based on different working environments and performance requirements, combined with past mature experience, select the appropriate catalyst type and make personalized adjustments to effectively solve the deactivation problem.
● High resistance to clogging
When carrying out denitrification projects in China, it is often necessary to face and solve the problem of dust accumulation that occurs after a long period of operation of the unit. To prevent blockage, the use of plate catalysts is an obvious solution.
● High wear resistance
During long-term uninterrupted operation of the unit, fly ash in the flue gas continuously flushes the catalyst. The unique metal framework of plate catalysts can minimize this effect.
● Achieve lower pressure loss
Compared to large pitch honeycomb, plate catalysts can better meet the key pressure drop requirements in denitrification engineering.
Low unit price and lower long-term operating costs
Compared to homogenous honeycomb catalysts, plate catalysts are suitable for mass production and control due to their manufacturing process, and use a metal skeleton, which has the characteristic of low unit price. From the perspective of safe and reliable operation of the unit and long-term cost control, they have greater attractiveness.
● Easy installation, disassembly, and replacement
Modular supply of plate catalysts, with simple and easy to operate sealing work. In terms of on-site service, Aiyipu has a group of experienced experts who provide reliable advice and guidance on installation, disassembly, replacement, and other aspects.

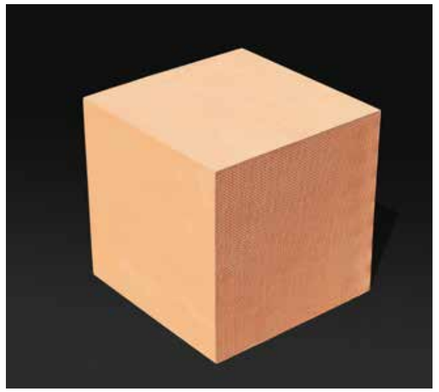


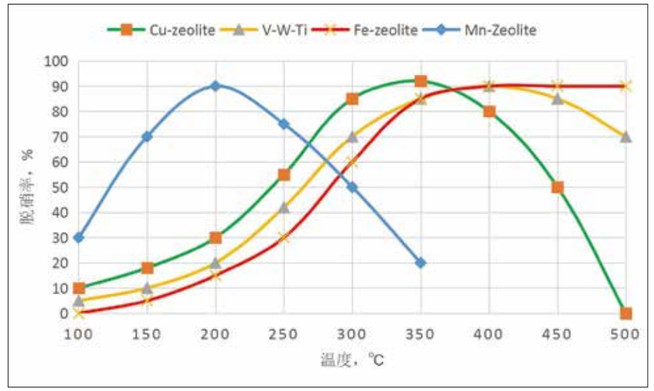
新型分子筛催化剂

我公司自主研发了耐高温性能优良且具有较好低温活性的分子筛脱硝催化剂。该催化剂活性温度窗口宽（300~600℃），氮氧化物脱除效率达到 90% 以上，在水蒸气和 SO_2 存在的条件下仍然可以保留良好的活性。目前，我公司研发的燃气分布式能源脱硝系统已经在江苏某数据中心等多个天然气分布式能源站脱硝项目中成功应用，NOx 排放浓度达到 20mg/Nm3 以下的近零排放指标。

New type of molecular sieve catalyst

Our company has independently developed a molecular sieve denitrification catalyst with excellent high-temperature resistance and good low-temperature activity. The catalyst has a wide active temperature window (300-600 ℃), with a nitrogen oxide removal efficiency of over 90%. It can still maintain good activity in the presence of water vapor and SO2. At present, the gas distributed energy denitrification system developed by our company has been successfully applied in multiple natural gas distributed energy station denitrification projects, including a data center in Jiangsu. The NOx emission concentration has reached the near zero emission standard of 20mg/Nm3 or below.



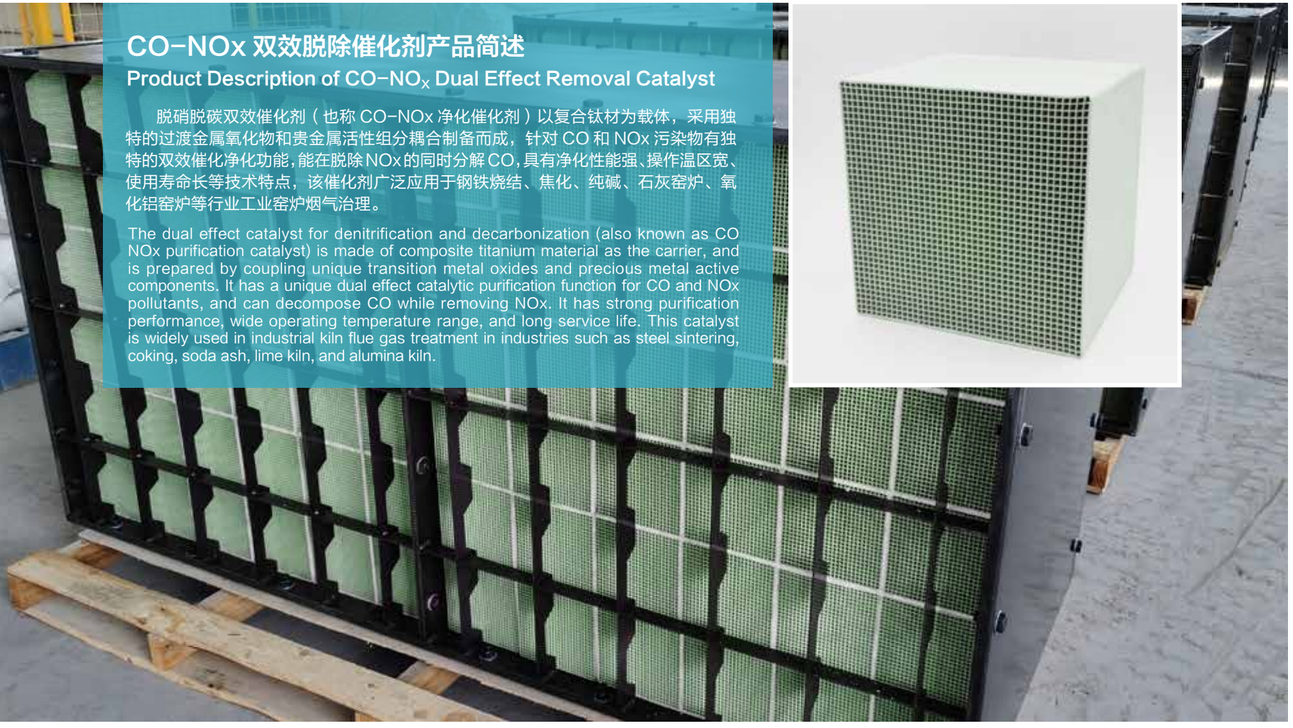


我公司自主研发的分子筛催化剂与传统钒钛基催化剂的对比如下：

The comparison between our independently developed molecular sieve catalyst and traditional vanadium titanium based catalyst is as follows:

性能 Performance	V-W-Ti 催化剂	Cu-Zeolite	Fe-Zeolite	Mn-Zeolite
活性温度范围 Active temperature range	180-420	150-480	280-600	120-300
NOx 转化效率 NOx conversion efficiency	中温效率高 High efficiency at medium temperature	中低温效率高 High efficiency at medium and low temperatures	高温效率高 High temperature efficiency	低温效率高 High low-temperature efficiency
抗高温性能 High temperature resistance performance	不耐高温，超过 420 度长时间迅速失活 Not resistant to high temperatures, quickly deactivated after exceeding 420 degrees for a long time	耐高温，高温下选择性差 High temperature resistance, poor selectivity at high temperatures	高温性能高 High temperature performance	抗耐高温性能差 Poor resistance to high temperatures
耐硫性 sulfur tolerance	耐硫性好 Good sulfur resistance	耐硫性差 Poor sulfur resistance	耐硫性一般 Moderate sulfur resistance	耐硫性差 Poor sulfur resistance

Dual effect catalyst for denitrification and decarbonization
脱硝脱碳双效催化剂



CO-NOx 双效脱除催化剂产品简述
Product Description of CO-NO_X Dual Effect Removal Catalyst

脱硝脱碳双效催化剂（也称 CO-NOx 净化催化剂）以复合钛材为载体，采用独特的过渡金属氧化物和贵金属活性组分耦合制备而成，针对 CO 和 NOx 污染物有独特的双效催化净化功能，能在脱除NOx的同时分解 CO，具有净化性能强、操作温区宽、使用寿命长等技术特点，该催化剂广泛应用于钢铁烧结、焦化、纯碱、石灰窑炉、氧化铝窑炉等行业工业窑炉烟气治理。

The dual effect catalyst for denitrification and decarbonization (also known as CO NOx purification catalyst) is made of composite titanium material as the carrier, and is prepared by coupling unique transition metal oxides and precious metal active components. It has a unique dual effect catalytic purification function for CO and NOx pollutants, and can decompose CO while removing NOx. It has strong purification performance, wide operating temperature range, and long service life. This catalyst is widely used in industrial kiln flue gas treatment in industries such as steel sintering, coking, soda ash, lime kiln, and alumina kiln.

催化剂指标 Catalyst indicators

技术参数 Technical Parameter	指标 Index	技术特性 Technical Characteristics
空速 Airspeed	2000-40000h-1	脱除效率高 应用范围广 起活温度低 机械强度高 使用寿命长 High removal efficiency A wide range of applications Low activation temperature High mechanic strength long service life
净化效率 purification efficiency	95% 以上	
使用温度 Usage temperature	150—450℃	
使用寿命 Service life	3 年以上	
强度 Strength	>1.5Mpa	
堆密度 Bulk density	约 450kg/m3	
规格尺寸 Specification and size	150*150*(0-1000mm)	





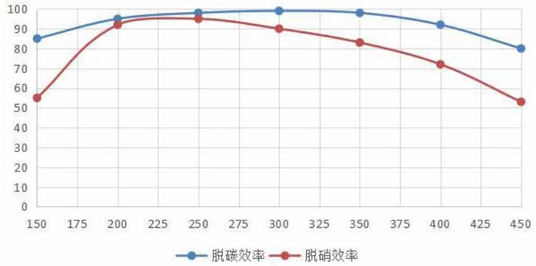
CO-NOx 脱除原理 CO-NO_X removal principle

脱碳与脱硝催化剂反应都是典型的气－固相催化反应，在一定的温度下，催化剂吸附烟气中的一氧化碳、氮氧化物以及氧气，在催化剂表面发生化学反应，彻底氧化生成无害的二氧化碳，并释放出大量的热量。产生的热量还可以根据情况进行二次利用，在减排的同时实现节能。

Decarbonization and denitrification catalyst reactions are typical gas-solid phase catalytic reactions. At a certain temperature, the catalyst adsorbs carbon monoxide, nitrogen oxides, and oxygen in the flue gas, undergoes chemical reactions on the catalyst surface, completely oxidizes to produce harmless carbon dioxide, and releases a large amount of heat. The generated heat can also be reused according to the situation, achieving energy conservation while reducing emissions.



CO-NO_X 催化剂协同处理效率
CO-NO_X catalyst synergistic treatment efficiency



$$2CO+O_2 \longrightarrow 2CO_2$$
$$2NO+2CO \longrightarrow N_2+2CO_2$$
$$4NO+4NH_3+O_2 \longrightarrow 4N_2+6H_2O$$
$$2NO_2+O_2+4NH_3 \longrightarrow 3N_2+6H_2O$$

Integrated metal filter cartridge for high-temperature dust removal and denitrification

高温除尘脱硝一体化金属滤筒

产品特点 Product Features

金属烧结除尘器，是采用极精细的金属纤维丝及金属粉末，通 过无纺铺制、叠配、等静压等工艺成型，再经过高温烧结而成的 微过滤元件。过滤精度高，透气性好，机械强度高，耐腐蚀，寿 命长，适合高温使用，广泛应用于水泥窑、玻璃窑、陶瓷窑、化工厂等行业的高温除尘，结合我司研发的脱硝催化剂产品，实现 除尘脱硝一体化的应用。

Metal sintering dust collector is a micro filter element made by using extremely fine metal fiber wires and metal powders, which are formed through non-woven paving, stacking, isostatic pressing and other processes, and then sintered at high temperature. High filtration accuracy, good breathability, high mechanical strength, corrosion resistance, long service life, suitable for high temperature use, widely used in high-temperature dust removal in industries such as cement kilns, glass kilns, ceramic kilns, chemical plants, etc. Combined with our company's developed denitrification catalyst products, we achieve integrated application of dust removal and denitrification.



技术优势和特性 Technical advantages and features

Widely used in various environments
使用环境广泛

在 600° C 以下以及酸碱环境中均可正常连续使用。

It can be used continuously and normally below 600 °C and in acidic and alkaline environments.

Efficient performance
性能高效

过滤精度高 (1-50um), 能实现 5mg/Nm3 以下超净排放 的需要，除尘效率高达 99.9%

High filtration accuracy (1-50um), capable of achieving ultra clean emissions below 5mg/Nm3, with a dust removal efficiency of up to 99.9%

High denitrification efficiency
脱硝效率高

与除尘器结合使用，脱硝率可达到 99% 以上，实现近零排放要求。

Combined with dust collectors, the denitrification rate can reach over 99%, achieving near zero emissions requirements.

Low resistance
阻力小

透气性好，压力损失小，易于反吹，易清洗，再生能力强，维护简单，使用寿命长。

Good breathability, low pressure loss, easy to blow back, easy to clean, strong regeneration ability, simple maintenance, and long service life.

High strength/strong processing performance
强度高 / 加工性能强

具有极高的机械强度与耐压强度，长度可调，加工、焊接与 组装方便，拼接加工可达到 6 米甚至更长，占地面积更小。

It has extremely high mechanical and compressive strength, adjustable length, easy processing, welding, and assembly, and can be spliced up to 6 meters or even longer, occupying a smaller area.

Integrated solution for high-temperature dust removal and denitrification

高温除尘脱硝一体化解决方案

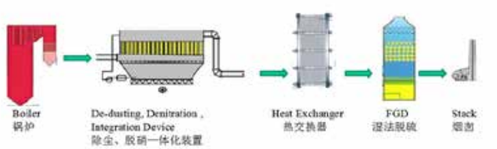
环保岛全工艺过程污染治理与能源综合利用

Pollution control and comprehensive energy utilization throughout the entire process of environmental protection island

颠覆传统先脱硝后除尘再脱硫的工艺路线，采用先高温除尘后治理气体污染物并进行余热综合利用，除尘以后的整个环保系统均处于低粉尘的工况条件下运行，能源利用效率提高，环保设备故障率降低，设备体积减少，投资成本与占地面积都极大的减小。

Subverting the traditional process route of first denitration, then dust removal, and then desulfurization, the entire environmental protection system operates under low dust conditions after high-temperature dust removal followed by treatment of gas pollutants and comprehensive utilization of waste heat. The energy utilization efficiency is improved, the failure rate of environmental protection equipment is reduced, the equipment volume is reduced, and the investment cost and land area are greatly reduced.





高温过滤与催化
High temperature filtration and catalysis

催化材料最佳使用温度 300℃以上，传统过滤材料一般使用温 度均不超过 300℃，限制了催化材料的使用。而金属过滤使用温度范围完美的解决了这一问题，协同催化材料使用，让催化材料完美发挥最佳性能。

The optimal operating temperature for catalytic materials is above 300 ℃, while traditional filter materials generally do not exceed 300℃, which limits the use of catalytic materials. The use of metal filtration within a temperature range perfectly solves this problem, and the use of synergistic catalytic materials allows the catalytic materials to perform at their best.

协同高效及长寿命
Collaborative efficiency and long lifespan

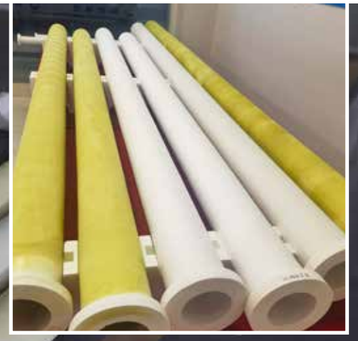
爱亿普 MCF 催化过滤系统能够对 PM 与 NOx 进行高效处理，除尘效率高达 99.9% 以上，脱硝效率也可达到 99% 以上 (具体数值根据具体项目有所不同) 由于烟气先经过过滤，再到达催化剂层进行反应，因此可有效防止由于粉尘中的杂质离子对催化剂寿命的影响，因此可极大的延长催化剂的使用寿命。

除此以外，催化过滤系统还可以协同其他催化技术，用于处理 VOC、二噁英、CO 等， 具有极强的扩展性能。

The Aiyipu MCF catalytic filtration system can efficiently treat PM and NOx, with a dust removal efficiency of over 99.9% and a denitrification efficiency of over 99% (specific values vary depending on the specific project). As the flue gas is filtered first and then reaches the catalyst layer for reaction, it can effectively prevent the impact of impurity ions in the dust on the catalyst life, thus greatly extending the catalyst's service life.
In addition, catalytic filtration systems can also collaborate with other catalytic technologies to treat VOCs, dioxins, CO, etc., with strong scalability.



Ceramic fiber filter
陶瓷纤维过滤器



产品特点 Product Features

耐腐蚀 Corrosion preventive

· F、CL、碱液
· 在使用前配合去酸工艺可去除 F、CL

·F, CL, alkaline solution
·Combining the deacidification process before use can remove F and CL

耐高温 High temperature resistance

· 长期使用温度≤ 800℃，
· 省去降温成本且热能回收创造利益
· 避免飞灰烧袋
· 催化管有催化剂决定

高效性 Efficiency

· 滤管本身排放浓度≤ 1mg/m^3
· 处理亚微米级颗粒 PM1 PM0.5 PM0.3
· 寿命长，可节约维护与运行成本
· 催化剂效率高，可以有效防止碱金属中毒

·The emission concentration of the filter tube itself is ≤ 1mg/m^3
·Processing submicron particles PM1 PM0.5 PM0.3
·Long lifespan, can save maintenance and operating costs
·High catalyst efficiency can effectively prevent alkali metal poisoning

·Long term use temperature ≤ 800 □,
·Save cooling costs and create benefits through heat recovery
·Avoid burning bags with fly ash
·The catalytic tube is determined by the catalyst

陶瓷纤维过滤管应用工艺优点 Advantages of Ceramic Fiber Filter Tube Application Process

一次性投资 One time investment

可一次性实现更严格的超低排放标准，避免二次改造的风险。

It can achieve stricter ultra-low emission standards at once, avoiding the risk of secondary renovation.

一体化烟气治理 Integrated flue gas treatment

可同时实现脱硫、除尘、脱硝的超低排放一体化治理，脱硝效率可高达 95% 以上，可避免催化剂中毒，使用寿命更长。

It can achieve ultra-low emission integrated treatment of desulfurization, dust removal, and denitrification simultaneously, with a denitrification efficiency of over 95%, which can avoid catalyst poisoning and have a longer service life.

无需停产更换 No need to stop production for replacement

可在线更换，保证生产不停产的连续运行与达标排放。

Can be replaced online to ensure continuous operation without production stoppage and meet emission standards.

维护费用低 Low maintenance costs

可避免某些行业省煤器的堵塞问题，降低维修频率，设备占地少、灵活检修、维护费用低，且无废水排放。

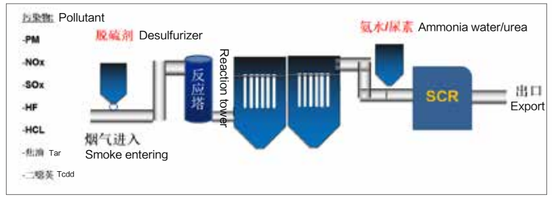
It can avoid the blockage problem of economizer in certain industries, reduce maintenance frequency, occupy less equipment space, have flexible maintenance, low maintenance costs, and no wastewater discharge.

Working principle of ceramic fiber filter tube
陶瓷纤维过滤管工作原理

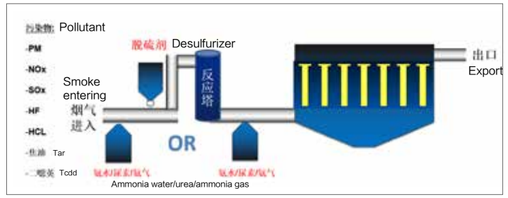
●配合干法工艺，进行脱硫去酸及烟气调质等。
●烟气粉尘被阻挡在滤管表面，且滤管表面的滤饼层可起到二次脱硫工作。
●干净烟气经过滤管壁的过程中在催化剂作用下，NO_X 与 NH_3 发生化学反应，被转换成 N_2。
●净化后的气体进入净气室通过风机排出。
●当粉尘在滤管表面沉积到一定值后压缩空气对滤管脉冲清灰。

● Cooperate with dry process technology to carry out desulfurization, acid removal, and flue gas conditioning.
●The smoke dust is blocked on the surface of the filter tube, and the filter cake layer on the surface of the filter tube can play a role in secondary desulfurization.
●During the process of clean flue gas passing through the filter tube wall, NO_X reacts chemically with NH_3 under the action of a catalyst and is converted into N_2.
●The purified gas enters the clean air chamber and is discharged through a fan.
●When dust deposits on the surface of the filter tube to a certain value, compressed air pulses the filter tube to clean the dust.

干法脱硫 / 去酸 / 调质 + 高温除尘 +SCR 脱硝工艺路线
Dry desulfurization/deacidification/conditioning+high-temperature dust removal+SCR denitrification process route



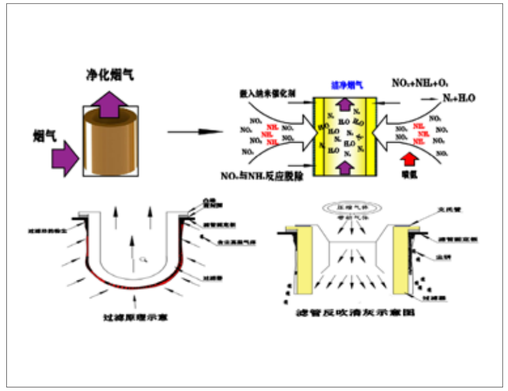
干法脱硫 / 去酸 / 调质 + 高温除尘脱硝一体化工艺路线
Integrated process route of dry desulfurization/deacidification/conditioning+high-temperature dust removal and denitrification



陶瓷纤维过滤管的规格与尺寸 Specifications and dimensions of ceramic fiber filter tubes

规格 specifications	Φ150				Φ130	
长度（mm）Length	< 3000	3000	3500	4000	< 3000	3000
过滤面积（m^2）Filter area	定制 customized	1.4	1.65	1.88	定制	1.2
		目前主推 Currently the main recommendation	后期推广 Post promotion			

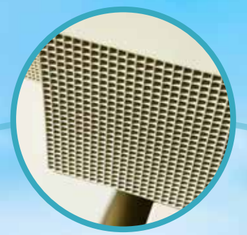
代码 Code	项目 Project	单位 Unit	尺寸 Size
A	陶瓷纤维过滤管总长 Total length of ceramic fiber filter tube	mm	3000
B	陶瓷纤维过滤管外径 Outer diameter of ceramic fiber filter tube	mm	150
C	陶瓷纤维过滤管壁厚 Ceramic fiber filter tube wall thickness	mm	20
D	法兰面外径 Outer diameter of flange surface	mm	195
E	法兰高度 / 厚度 Flange height/thickness	mm	30
F	除尘管重量 Weight of dust removal pipe	kg	10.8
	催化管重量 Weight of catalytic tube	kg	12
G	过滤面积 Filter area	m^2	~1.4



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高效全面的脱硝催化剂技术

EFFICIENT AND COMPREHENSIVE DENITRATION CATALYST TECHNOLOGY



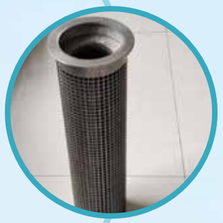
整体挤出成型催化剂

Integrated extrusion molding catalyst



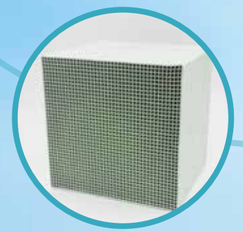
新型分子筛催化剂

New type of molecular sieve catalyst



耦合式除尘脱硝一体化催化剂

Coupled dust removal and denitrification Integrated catalyst



$CO-NO_X$ 双效脱除催化剂

$CO-NO_x$ dual effect removal catalyst



GFC 波纹催化剂

GFC corrugated catalyst

AIREP Core Catalyst Products

爱亿普核心催化剂产品

10 年 + 专注脱硝催化剂研发、生产及脱硝系统集成

Over 10 years of dedicated research and development, production, and integration of denitrification catalysts and systems

专利脱硝催化剂产品可满足温度从 150℃低温到 600℃高温烟气条件下的脱硝需求。可提供从 13 孔 −40 孔各种孔型，以及 50 孔、60 孔更高孔数的高效脱硝催化剂。

The patented denitrification catalyst product can meet the denitrification requirements under flue gas conditions ranging from low temperature of 150 ℃ to high temperature of 600 ℃. We can provide efficient denitrification catalysts with various pore sizes ranging from 13 to 40, as well as higher pore numbers of 50 and 60.

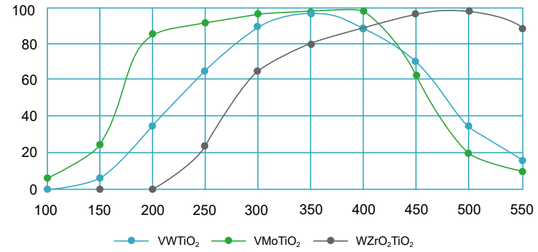
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蜂窝催化剂的生产工艺流程

Production process flow of honeycomb catalyst



脱硝效率 Denitration efficiency



不同温度条件下各类型催化剂性能对比

Comparison of the performance of various types of catalysts under different temperature conditions

测试条件 Test conditions	VWTi	VMoTi	WZrTi
一般使用温度 General operating temperature	280-400	180-420	300-500
特点 Characteristic	中温性能优良 Excellent performance at medium temperature	中低温性能优良 Excellent performance at medium and low temperatures	高温性能优良 Excellent high-temperature performance
耐硫性能 Sulfur resistance performance	>1000ppm	<50ppm	

我公司针对不同烟气条件研发的脱硝催化剂，能够满足各种烟气工况条件，脱硝效率均达到 90% 以上的脱硝活性效率，具体的催化剂选型需要我公司专业人员进行设计。

Our company has developed denitrification catalysts for different flue gas conditions, which can meet various flue gas operating conditions with a denitrification efficiency of over 90%. The specific catalyst selection needs to be designed by our professional personnel.

AIREP

定制化的整体解决方案

EFFICIENT AND COMPREHENSIVE DENITRATION CATALYST TECHNOLOGY

基于公司强大的技术实力和丰富的项目实施经验，公司的产品具备较强的多行业应用能力。目前，公司客户广泛分布于玻璃窑炉、瓦斯发电、生物质锅炉、钢铁、水泥、分布式能源、燃气轮机等行业领域，具备丰富的多行业领域项目经验。

Based on the company's strong technical strength and rich project implementation experience, its products have strong multi industry application capabilities. At present, the company's customers are widely distributed in industries such as glass kilns, gas power generation, biomass boilers, steel, cement, distributed energy, gas turbines, etc., and have rich project experience in multiple industries.



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定制化的整体解决方案

EFFICIENT AND COMPREHENSIVE DENITRATION CATALYST TECHNOLOGY

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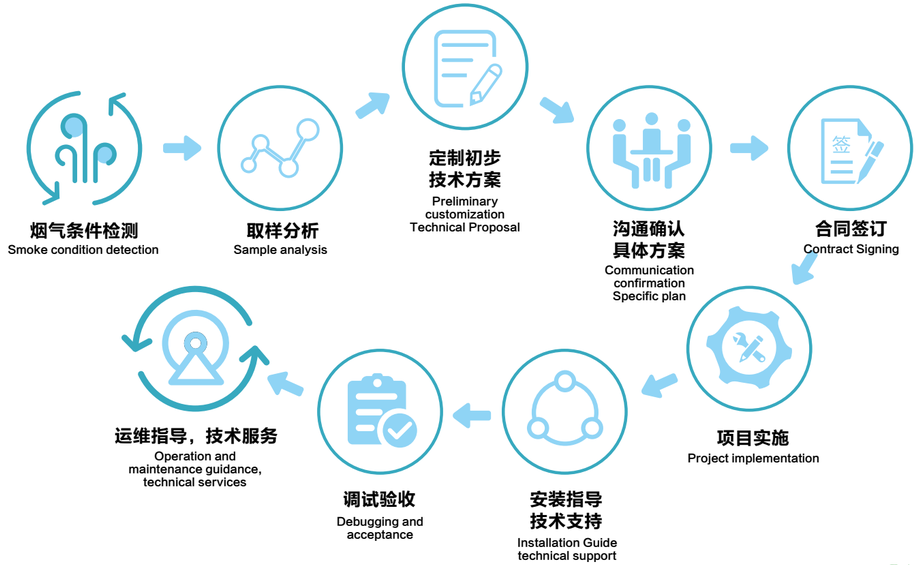
Overall solution service process

整体解决方案服务流程

公司自成立以来，始终致力于为各类工业企业的环境污染防治提供经济有效的整体解决方案，已成为颇具市场影响力的工业污染治理整体解决方案提供商，能够为客户的安全生产、达标排放提供一站式的环保解决方案。

根据不同行业的烟气、工况条件，产生的污染特征采用相应的技术和产品工艺，定制针对性解决方案，凭借过硬的技术实力和工艺水平、丰富的环保项目经验以及强大的技术服务团队，为多行业客户提供了具有良好社会效益和经济效益的环境污染防控系统整体解决方案。

Since its establishment, the company has been committed to providing cost-effective overall solutions for environmental pollution prevention and control in various industrial enterprises. It has become a highly influential provider of comprehensive solutions for industrial pollution control, providing customers with one-stop environmental protection solutions for safe production and compliant emissions. Based on the characteristics of smoke and working conditions in different industries, corresponding technologies and product processes are adopted to customize targeted solutions. With strong technical strength and process level, rich experience in environmental protection projects, and a strong technical service team, we provide comprehensive environmental pollution prevention and control system solutions with good social and economic benefits for customers in multiple industries.





中材株洲水泥有限责任公司 5000t/d 水泥熟料生产线窑尾气尘硝一体化

国内首个 5000t/d 水泥窑高温尘硝一体化项目
工艺：高温金属滤袋除尘 + 中温 SCR 脱硝一体化工艺　温度：260~420℃
烟气量：400000Nm³/h 温度 260~420℃，NOx：500mg/Nm³
排放指标：NOx ≤ 50mg/Nm³，PM ≤ 10mg/Nm³

5000t/d cement clinker production line kiln tail gas dust and nitrate integration of Zhongcai Zhuzhou Cement Co., Ltd
The first 5000t/d integrated high-temperature dust and nitrate project for cement kilns in China
Process: High temperature metal filter bag dust removal+medium temperature SCR denitrification integrated process temperature: 260-420 ℃
Smoke volume: 400000Nm³/h Temperature: 260-420 ℃ , NOx：500mg/Nm³
Emission standards: NOx ≤ 50mg/Nm³, PM ≤ 10mg/Nm³



河北欣芮回转窑尘硝一体化治理 EPC 工程项目

再生资源利用行业首个高温除尘脱硝一体化项目
工艺：旋风除尘 + 高温金属滤袋 + 中高温尿素 SCR 脱硝 + 双级湿法脱硫 + 脱白　温度：390~450℃
烟气量：30000Nm³/h,SO_2 20000mg/Nm³，NOx：500mg/Nm³
排放指标：NOx ≤ 50mg/Nm³，PM ≤ 10mg/Nm³，SO_2 ≤ 10mg/Nm³

Hebei Xinrui Rotary Kiln Dust and Nitrate Integrated Treatment EPC Project
The first integrated high-temperature dust removal and denitrification project in the renewable resource utilization industry
Process: Cyclone dust removal+High temperature metal filter bag+Medium high temperature urea SCR denitrification+Double stage wet desulfurization+Whitening temperature: 390-450 ℃
Smoke volume: 30000Nm³/h, SO_2 20000mg/Nm³, NOx: 500mg/Nm³
Emission standards: NOx ≤ 50mg/Nm³, PM ≤ 10mg/Nm³, SO_2 ≤ 10mg/Nm³

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定制化的整体解决方案
EFFICIENT AND COMPREHENSIVE
DENITRATION CATALYST TECHNOLOGY

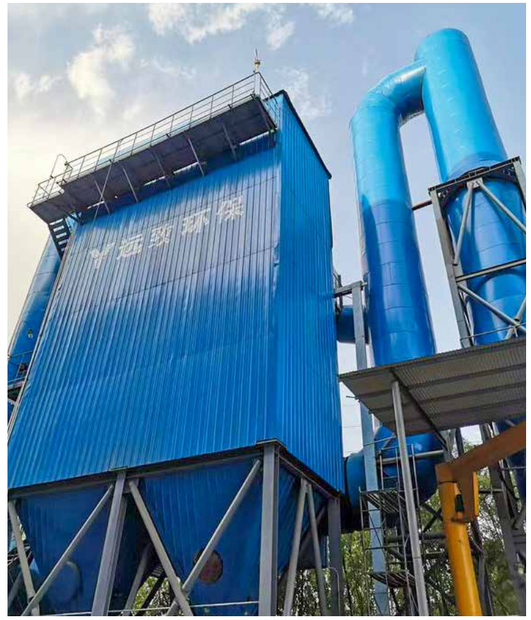
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宁夏吉元 2x75t/h 燃气锅炉烟气脱硝工程

铁合金行业首个炉内脱硝，建设周期短、投入小
工艺：燃气锅炉内置式中低温 SCR 脱硝　温度：180~420℃
烟气量：烟气量：110000Nm³/h，NOx：400mg/Nm³　浓度：160000mg/Nm³
排放指标：NOx ≤ 50mg/Nm³

Ningxia Jiyuan 2x75t/h Gas Boiler Flue Gas Denitrification Project
The first furnace denitrification in the ferroalloy industry, with a short construction period and low investment
Process: Gas boiler built-in medium low temperature SCR denitration temperature: 180-420 ℃
Smoke volume: Smoke volume: 110000Nm³/h, NOx: 400mg/Nm³, concentration: 160000mg/Nm³
Emission standard: NOx ≤ 50mg/Nm³



山西华岳玻璃有限公司高温除尘脱硝一体化工程

玻璃窑高温除尘脱硝一体化项目，除尘效率高，阻力小，系统能耗低，占地面积小
工艺：玻璃窑高温金属滤袋 + 中低温 SCR 脱硝　温度：240~400℃
烟气量：烟气量：42000Nm³/h，NOx：5000mg/Nm³
排放指标：NOx ≤ 50mg/Nm³

Integrated High Temperature Dust Removal and Denitrification Project of Shanxi Huayue Glass Co., Ltd
The integrated project of high-temperature dust removal and denitrification for glass kilns has high dust removal efficiency, low resistance, low system energy consumption, and small footprint
Process: Glass kiln high-temperature metal filter bag+medium low temperature SCR denitration temperature: 240-400℃
Smoke volume: Smoke volume: 42000Nm³/h, NOx: 5000mg/Nm³
Emission standard: NOx ≤ 50mg/Nm³

定制化的整体解决方案
EFFICIENT AND COMPREHENSIVE DENITRATION CATALYST TECHNOLOGY



赣锋锂业中温脱硝项目

锂电池行业首个尘硝一体化项目

工艺：锂电池行业高温金属滤袋除尘 +SCR 中温脱硝　温度：300~400℃
烟气量：烟气量：35200Nm³/h,NOx：450mg/Nm³
排放指标：NOx ≤ 50mg/Nm³

Ganfeng Lithium Industry Medium Temperature Denitrification Project

The first integrated dust and nitrate project in the lithium battery industry

Process: High temperature metal filter bag dust removal for lithium battery industry+SCR medium temperature denitrification temperature: 300-400 ℃
Smoke volume: Smoke volume: 35200Nm³/h, NOx: 450mg/Nm³
Emission standard: NOx ≤ 50mg/Nm³



山西凯嘉 1.2.3 期煤气层颜巴赫发电机组余热锅炉中温脱硝系统 EPC 项目

高浓度与低浓度瓦斯发电中高温脱硝项目

工艺：尿素溶液中高温 SCR 脱硝工艺　温度：390~500℃
烟气量：11x3300KW 国产内燃机，NOx ≤ 5000mg/Nm³;
11x3300KW 进口内燃机，NOx ≤ 500mg/Nm³
排放指标：NOx ≤ 50mg/Nm³

EPC project for the intermediate temperature denitrification system of the waste heat boiler of Shanxi Kaijia Phase 1.2.3 Gas Layer Yanbach Generator Unit

High concentration and low concentration gas power generation high-temperature denitrification project

Process: High temperature SCR denitrification process in urea solution Temperature: 390-500 ℃
Smoke volume: 11x3300KW domestic internal combustion engine, NOx≤5000mg/Nm³;
11x3300KW imported internal combustion engine, NOx≤500mg/Nm³
Emission standard: NOx ≤ 50mg/Nm³



涠洲终端厂 Typhoon73 型和 UGT6000 型燃气轮机燃气轮机组低碳排放 SCR 脱硝项目

国内首个燃气轮机高温脱硝

工艺：燃气轮机高温脱硝工艺　温度：450~550℃
烟气量：160000Nm³/h+120000Nm³/h，NOx：250mg/Nm³
排放指标：NOx ≤ 50mg/Nm³

Low carbon emission SCR denitrification project for Typhoon73 and UGT6000 gas turbine units at Weizhou Terminal Factory

The first domestic gas turbine high-temperature denitrification

Process: Gas Turbine High Temperature Denitrification Process Temperature: 450-550 ℃
Smoke volume: 160000Nm³/h+120000Nm3/h, NOx: 250mg/Nm³
Emission standard: NOx ≤ 50mg/Nm³



山东海化纯碱厂 100000Nm³/h 和 120000Nm³/h 石灰窑低温脱硝脱碳项目

国内首个纯碱行业低温脱硝

工艺：碳化尾气低温 SCR+CO 协同一体化处理工艺　温度：180~220℃
烟气量：120000Nm³/h+100000Nm³/h，NOx：500mg/Nm³，CO 浓度：160000mg/Nm³
排放指标：NOx ≤ 50mg/Nm³

Shandong Haihua Soda Ash Plant 100000Nm³/h and 120000Nm³/h Lime Kiln Low Temperature Denitrification and Decarbonization Project

The first low-temperature denitrification in the domestic soda ash industry

Process: Low temperature SCR+CO synergistic integrated treatment of carbonization tail gas Process temperature: 180-220 ℃
Smoke volume: 120000 Nm³/h+100000 Nm³/h, NOx: 500mg/Nm³, CO concentration: 160000 mg/Nm³
Emission standard: NOx ≤ 50mg/Nm³

定制烟气超低排放解决方案
CUSTOMIZED FLUE GAS ULTRA-LOW EMISSION SOLUTIONS

Integrated ultra-low emission solution for glass kiln dust, sulfur and nitrate
玻璃窑尘硫硝一体化超低排放解决方案



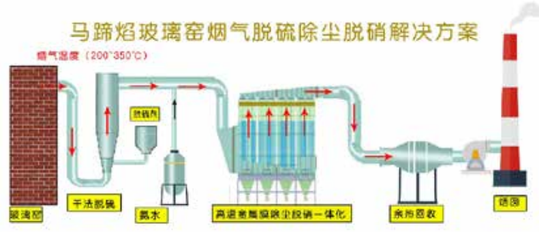
配合爱亿普高效催化剂可节省 50% 运行成本

Cooperating with Aiyipu high-efficiency catalyst can save 50% of operating costs

Pain points in smoke control in the glass industry
玻璃行业烟气治理痛点

●工艺流程长，系统阻力大，风机能耗大
●烟气温度不合适，升温加热成本高
●高温电除尘不稳定，效率低，催化剂频繁阻塞，增加备用环保设备增大投资成本
●烟气含碱金属及碱土金属，催化剂容易中毒失效
●烟气硫含量高，附着性强，腐蚀性强

- Long process flow, high system resistance, and high energy consumption of fans
- The temperature of the flue gas is not suitable, and the cost of heating up is high
- High temperature electrostatic precipitator is unstable, inefficient, and the catalyst frequently blocks, increasing the investment cost by adding backup environmental protection equipment
- The flue gas contains alkali metals and alkaline earth metals, and the catalyst is prone to poisoning and failure
- High sulfur content in flue gas, strong adhesion, and strong corrosiveness



Pain points in smoke control in the glass industry
核心技术优势

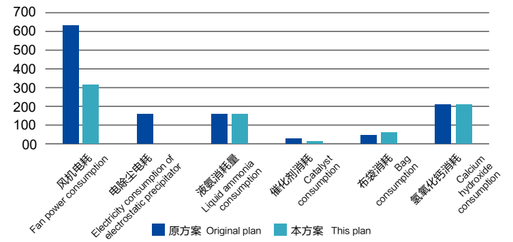
●除尘脱硝一体化，占地面积小，施工周期短，施工成本低
●阻力小，强度高，耐磨损
●适应温度 180~450℃极宽温域
●节能降本，节省 50% 烟气脱硝投资运行成本
●工艺成熟可靠，性能高效
●针对企业烟气情况，提供定制化解决方案
●可靠售后技术支持，7*24 专业技术服务支持

- Integrated dust removal and denitrification, small footprint, short construction period, and low construction cost
- Low resistance, high strength, and wear resistance
- Suitable for a wide temperature range of 180-450 ℃
- Energy saving and cost reduction, saving 50% of investment and operating costs in flue gas denitrification
- Mature and reliable technology, efficient performance
- Provide customized solutions for the smoke situation of enterprises
- Reliable after-sales technical support, 7 * 24 professional technical service support



Comparison of operating costs with traditional processes
与传统工艺比较运行成本对比图

名称 Name	原方案 Original plan	本方案 This plan
风机电耗 Fan power consumption	640	320
电除尘电耗 Electricity consumption of electrostatic precipitator	160	0
液氨消耗量 Liquid ammonia consumption	160	160
催化剂消耗 Catalyst consumption	29.7	20
布袋消耗 Bag consumption	51.49	64.8
氢氧化钙消耗 Calcium hydroxide consumption	210	210
	1251.19	774.8

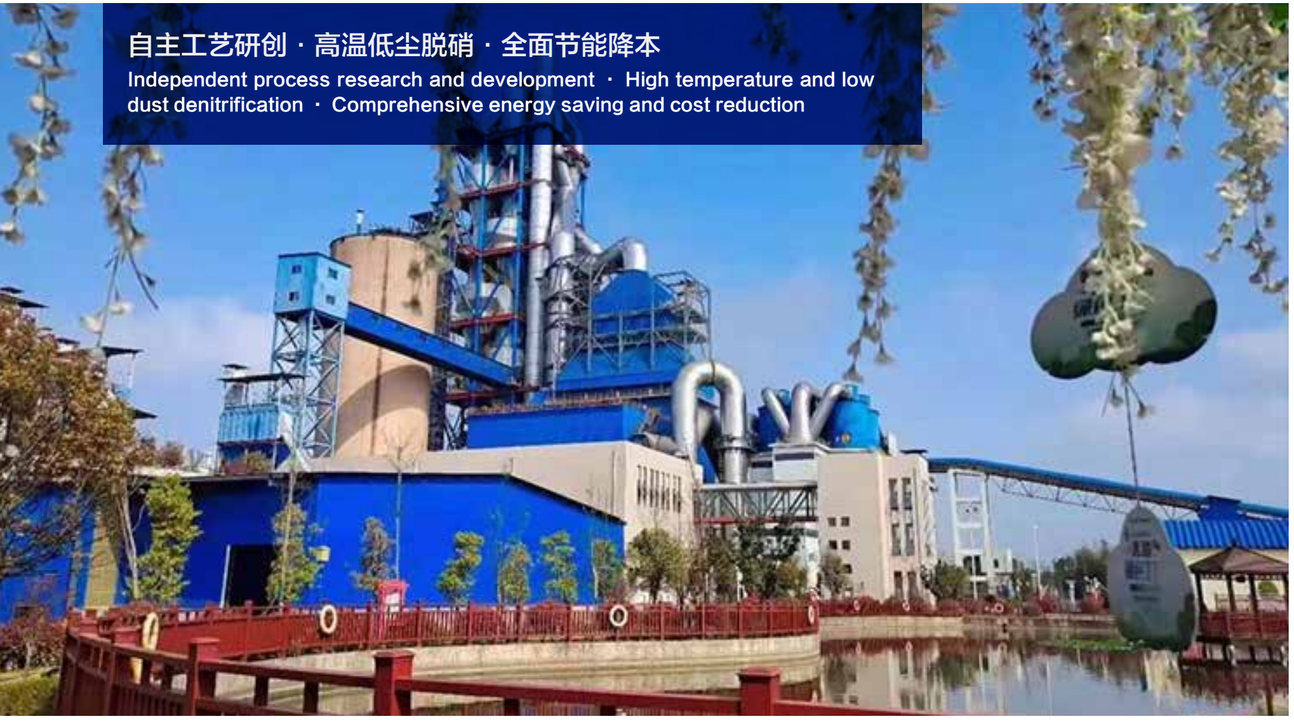


定制烟气超低排放解决方案

CUSTOMIZED FLUE GAS ULTRA-LOW EMISSION SOLUTIONS

Integrated solution for high-temperature dust removal and denitrification in cement kilns

水泥窑高温除尘脱硝一体化解决方案



Pain points in smoke control in the cement industry

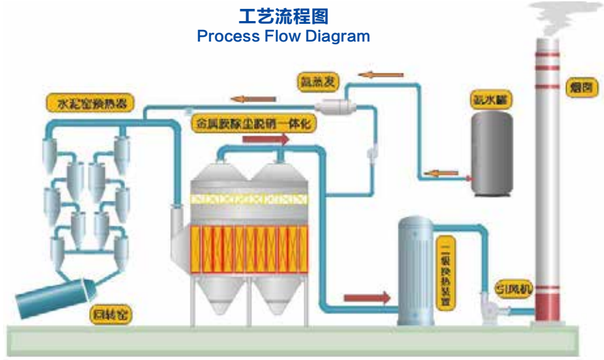
水泥行业烟气治理痛点

- ●水泥窑的粉尘性质为碱性，黏性较大，易造成催化剂中毒
- ●粉尘含量高，容易造成催化剂堵塞
- ●项目建设占地面积大
- ●烟气温度高，容易损坏除尘布袋，成本增加

●The dust properties of cement kilns are alkaline and highly viscous, which can easily cause catalyst poisoning
●High dust content can easily cause catalyst blockage
●The project construction occupies a large area
●High flue gas temperature can easily damage the dust bag and increase costs



工艺流程图
Process Flow Diagram



工艺技术指标对照表
Comparison Table of Process and Technical Indicators

项目 / 路径 Project/Path	高温高尘 High temperature and high dust	高温中尘 High temperature dust	高温低尘 High temperature and low dust	中温中尘 Moderate temperature and dust	低温低尘 Low temperature and low dust
还原剂 Reducing agent	尿素 / 氨水 / 氨气 Urea/Ammonia/ Ammonia	尿素 / 氨水 / 氨气 Urea/Ammonia/ Ammonia	尿素 / 氨水 / 氨气 Urea/Ammonia/ Ammonia	氨水 / 氨气 Ammonia water/ ammonia gas	氨水 / 氨气 Ammonia water/ ammonia gas
反应温度 Reaction temperature	280–350℃	280–350℃	280–350℃	180–250℃	80–150℃
氨氮摩尔比 Ammonia nitrogen molar ratio	1.05–1.1	1.05–1.1	1.05–1.1	1.05–1.1	1.05–1.2
脱硝效率 Denitration efficiency	95%	95%	95%	87%	75%
除尘 Dust elimination	无 Not have	电除尘 Electrostatic precipitation	金属膜除尘 Metal film dust removal	无 Not have	布袋除尘 Bag dust removal
粉尘浓度要求 g/Nm³ Dust concentration requirements	80–130	< 35	< 0.05	44–55	< 0.05
SO2 含量要求 Content requirements	无	无	无	< 35mg/Nm³	< 5mg/Nm³
系统压降 System pressure drop	800pa	1200pa	1000pa	800pa	800pa
占地面积 Cover an area	中 Medium	大 Big	大 Big	大 Big	大 Big
建设费用 Construction cost	较贵 More expensive	贵 Expensive	贵 Expensive	较贵 More expensive	很贵 Very expensive
运行费用 Operating cost	高 High	很高 Very high	低 Low	低 Low	低 Low
系统可靠性 System reliability	一般 General	一般 General	高 High	中等 Medium	不成熟 Immature
催化剂寿命 Catalyst life	1–2 年 Years	2–3 年 Years	4–5 年 Years	1–2 年 Years	无经验 No experience

定制烟气超低排放解决方案
CUSTOMIZED FLUE GAS ULTRA-LOW EMISSION SOLUTIONS

Ultra low emission solution for denitrification of gas internal combustion engines
燃气内燃机脱硝超低排放解决方案



Pain points in exhaust treatment of gas internal combustion engines
燃气内燃机尾气治理痛点

●燃机尾气温度高，一般 400-600 度，催化剂容易烧结。
●粉尘少，含硫量低，但是氮氧化物浓度高。
● SCR 系统对烟气的流速设计不当，造成憋气现象，会影响内燃机的运行功率。

●The exhaust temperature of the gas turbine is high, generally between 400-600 degrees, and the catalyst is prone to sintering.
●Low dust and sulfur content, but high concentration of nitrogen oxides.
●Improper design of the flow rate of flue gas in the SCR system can cause suffocation, which can affect the operating power of the internal combustion engine.

核心技术优势

●采用专有技术研发生产高比表高活性脱硝催化剂，反应效率高，还原剂用小，运行成本低。
●根据现场条件和实际烟气工况定制工艺技术方案，对内燃机组无改动，无影响，设备占地面积小，施工周期短，投资成本小。
●专家级技术和施工团队，自主研发专有技术高效集约脱硝反应系统及控制、检测系统，完成脱硝闭环达到环保超低排放要求的同时，不影响内燃机运行效率。
●根据场地、气候及其他区域情况，可选氨水或尿素作为还原剂，为企业节省工期及采购的便利。

●Using proprietary technology to develop and produce high specific surface area and high activity denitrification catalysts, with high reaction efficiency, small reducing agent usage, and low operating costs.
●Customize process technology solutions based on site conditions and actual flue gas conditions, without any modifications or impact on the internal combustion engine unit, with small equipment footprint, short construction period, and low investment cost.
●Expert level technical and construction team, independently developed proprietary technology efficient and intensive denitrification reaction system and control, detection system, completed denitrification closed-loop to meet environmental protection ultra-low emission requirements without affecting the operating efficiency of internal combustion engines.
●According to the site, climate, and other regional conditions, ammonia water or urea can be selected as reducing agents to save time and facilitate procurement for enterprises.

Comparison of annual operating costs between reducing agent urea particles and ammonia water
还原剂尿素颗粒与氨水的年运营费用对比

以内蒙某铁合金行业 23×700KW 内燃机为例
Taking a 23 × 700KW internal combustion engine in a certain ferroalloy industry in Inner Mongolia as an example

	尿素 Urea	20% 氨水
用量 Usage	150kg/h	170kg/h
单价 Unit price	1280 元 / 吨	1200 元 / 吨
还原剂年运行成本 Annual operating cost of reducing agent	153.6 万元	163.2 万元
人工成本 Labor cost	10 万元	0
溶解及伴热电耗 Electricity consumption for dissolution and heat tracing	11.88 万元	0
喷射电耗 Jet power consumption	3.96 万元	3.96 万元
运行费用合计 Total operating costs	179.44	167.16



山西凯嘉煤层气发电有限公司
11x3300KW 燃气内燃机脱硝 (全套装置 EPC)
投运时间 : 2018 年 2 月 (1#、3#) 2019 年 12 月 (2#)

Shanxi Kaijia Coalbed Methane Power Generation Co., Ltd
11x3300KW Gas Internal Combustion Engine Denitrification (Complete Equipment EPC)
Operation time: February 2018 (1 #, 3 #) December 2019 (2 #)



北京燃气集团清河医院项目
2X835KW 燃气内燃机脱硝 (全套装置 EPC)
投运时间 : 2018 年 2 月 (1#、3#)

Beijing Gas Group Qinghe Hospital Project
2X835KW Gas Internal Combustion Engine Denitrification (Complete Equipment EPC)
Operation time: February 2018 (1 #, 3 #)

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定制烟气超低排放解决方案
CUSTOMIZED FLUE GAS ULTRA-LOW EMISSION SOLUTIONS

Ultra low emission solution for denitrification of gas boilers
燃气锅炉脱硝超低排放解决方案



AIREP 爱亿普环保 AIR Environmental Protection

Pain points in denitrification treatment of gas boilers
燃气锅炉脱硝治理痛点

●对煤质有要求，高硫煤造成二 氧化硫浓度过高，容易产生硫酸氢铵结露，造成催化剂堵塞。
●灰尘较多，水分大，容易积灰，造成催化剂堵塞和磨损，空预器堵塞。
●气场流量不均，造成还原剂喷量不精确，容易造成氨逃逸过高。

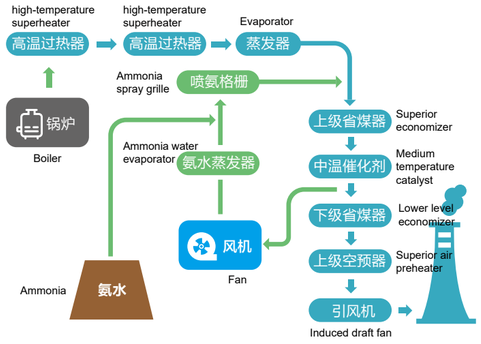
●There are requirements for coal quality, and high sulfur coal can cause excessive sulfur dioxide concentration, which can easily lead to the condensation of ammonium bisulfate and cause catalyst blockage.
●There is a lot of dust and moisture, which can easily accumulate and cause catalyst blockage and wear, as well as air preheater blockage.
●Uneven gas flow can cause inaccurate injection of reducing agent, which can easily lead to excessive ammonia escape.

Core technological advantages
核心技术优势

●不改变现有工艺流程，对锅炉系统产生较小影响；
●脱硝与锅炉高度集成，效率高，占地面积小；
●采用高比表面积脱硝催化剂，使用面积大，能有效降低催化剂体积，减少占地空间面积；
●采用中低温脱硝工艺，处理效率可达到 90% 以上，命长达 3 年以上，可以满足最严格的排放要求。
●通过抽取部分高温烟气进行气化氨水并混合氨气。
●智能化的控制系统。整套系统由一个集成的控制系统进行自动控制，根据系统运行状况自动控制氨水喷射量。
●高度集成化的设备，整体氨水计量喷射系统采用撬装运输安装，现场施工工作量小；SCR 反应器安装与上下两级省煤器之间，有效减少空间与占地面积。
●阻力小，风机电耗低，运行成本低。

●Not changing the existing process flow, with minimal impact on the boiler system;
●Denitrification is highly integrated with boilers, with high efficiency and small footprint;
●Adopting high specific surface area denitrification catalyst, with a large usage area, can effectively reduce the catalyst volume and reduce the occupied space area;
●Adopting a medium low temperature denitrification process, the treatment efficiency can reach over 90%, with a lifespan of over 3 years, which can meet the strictest emission requirements.
●Extract a portion of high-temperature flue gas to gasify ammonia water and mix ammonia gas.
●Intelligent control system. The entire system is automatically controlled by an integrated control system, which controls the amount of ammonia injection based on the system's operating conditions.
●Highly integrated equipment, the overall ammonia water metering and spraying system is transported and installed by prying, with a small on-site construction workload; The installation of SCR reactor between the upper and lower stages of economizer effectively reduces space and footprint.
●Low resistance, low power consumption of the fan, and low operating costs.

工艺流程图 Process Flow Diagram



Estimation of Denitrification Cost for Blast Furnace Gas Boiler
高炉煤气锅炉脱硝费用估算

65 吨燃气锅炉，75000 烟气量，800NOx 为例。
65 ton gas boiler, 75000 flue gas volume, taking 800NOx as an example.

项目 Project	消耗（每小时）Consumption (per hour)	单价（元）Unit price (yuan)	每小时费用（元）Hourly fee (yuan)
电 Electricity	20KW	0.6/ 度 Degrees	12
氨水（18%）Ammonia water	106kg	1500/ 吨 Ton	159
总计 Total			171

AIREP

定制烟气超低排放解决方案
CUSTOMIZED FLUE GAS ULTRA-LOW EMISSION SOLUTIONS

Ultra low emission solution for gas turbine exhaust gas
燃气轮机尾气超低排放解决方案



AIREP 爱亿普环保
AIR Environmental Protection

Pain points in gas turbine exhaust treatment
燃气轮机尾气治理痛点

●烟气粉尘及硫含量少，水分含量高，启停造成温度及 NOX 浓度变化梯度大。
●气场流速不稳定，氨水与气体混合不均匀，造成脱硝效率低。
●监测系统测点设置不合理，反应器入口、出口及总排口 NOX 出现倒挂现象，造成喷氨过量，催化剂提前失效。

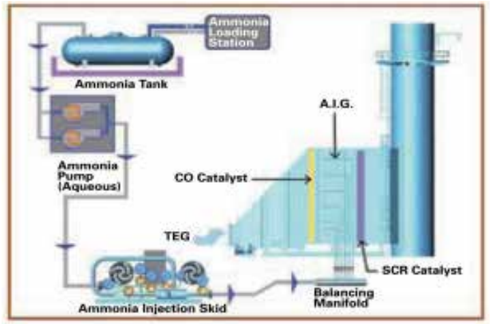
●The smoke has low dust and sulfur content, high moisture content, and causes large temperature and NOX concentration gradients during start-up and shutdown.
●Unstable gas flow rate and uneven mixing of ammonia and gas result in low denitrification efficiency.
●The monitoring system's measuring points are not properly set, resulting in inverted NOx at the reactor inlet, outlet, and main discharge, causing excessive ammonia injection and premature catalyst failure.

Core technological advantages
核心技术优势

●具有丰富的催化剂研发与生产经验，可为客户提供具有针对性的技术方案，从 180-600° C 均可在 30 天内提供对应的催化剂产品，满足不同的要。
●专利混合技术，能保证氨气与烟气 100% 混合均匀，实现 NOx 零排放。
●精确计量喷射技术，可实现闭环或者开环的控制， 能满足机组剧烈的负荷变化以及浓度变化，均均以稳定排放。专利催化剂封装技术，保证背压超过 5KPa 时均可以完全密封不漏气，实现零排放。
●在业内率先采用物联网技术，实现无线远传， 通过手机、电脑或者其他可以上网的终端都可以远程监控设备运行情况，帮助客户提前发现问题并及时解决。
●专业的技术团队，CFD、ANSYS 建模能力，可为客户提供专业的数模服务，确保工程零风险高效率。

●With rich experience in catalyst research and production, we can provide customers with targeted technical solutions. We can provide corresponding catalyst products within 30 days from 180-600 ° C to meet different needs.
●Patent mixing technology can ensure 100% uniform mixing of ammonia and flue gas, achieving zero NOx emissions.
●Accurate metering injection technology can achieve closed-loop or open-loop control, which can meet the severe load and concentration changes of the unit and ensure stable emissions. The patented catalyst packaging technology ensures complete sealing and zero emissions even when the back pressure exceeds 5KPa.
●Being the first in the industry to adopt IoT technology and achieve wireless remote transmission, the operation of devices can be remotely monitored through mobile phones, computers, or other internet enabled terminals, helping customers discover problems in advance and solve them in a timely manner.
●A professional technical team with CFD and ANSYS modeling capabilities can provide customers with professional numerical modeling services to ensure zero risk and high efficiency in engineering.

工艺流程图 Process Flow Diagram





AIREP

定制烟气超低排放解决方案

CUSTOMIZED FLUE GAS ULTRA-LOW EMISSION SOLUTIONS

Ultra low emission solution for gas turbine exhaust gas

工业窑炉烟气超低排放系统解决方案



工业窑炉烟气治理痛点 Pain points of industrial kiln flue gas treatment

●炉型多样化，烟气成分和燃料及产品息息相关，每条窑炉都要身定制的方案。

●工业窑炉普遍运行状态不恒定，烟气风量及温度等根据产品各阶段的不同变化较大，对烟气脱硝率要求高。

●部分工业窑炉产品原料中含有脱硝催化剂活性中毒的成分，影响催化剂寿命，运行费用较高。

●部分工业窑炉不具备停炉检修条件，必须选择合适工艺，满足相应的在线检修条件。

●工业窑炉普遍存在烟气量小，环保治理重视度不高，自动化程度低等现象。

●Diversified furnace types, the composition of flue gas is closely related to fuel and products, and each kiln requires a customized solution.
●Industrial kilns generally operate in an unstable state, and the flue gas volume and temperature vary greatly depending on the different stages of the product, requiring high flue gas denitrification rates.
●Some industrial kiln products contain components that poison the activity of denitrification catalysts in their raw materials, affecting the lifespan of the catalysts and resulting in high operating costs.
●Some industrial kilns do not have the conditions for shutdown maintenance, and suitable processes must be selected to meet the corresponding online maintenance conditions.
●Industrial kilns generally have low smoke volume, low emphasis on environmental protection, and low degree of automation.

Core technological advantages

核心技术优势

AIREP 爱亿普环保 AIR Environmental Protection

●优质的方案和合适的工艺路线：
针对每个工艺窑炉烟气的特点，制定配套专属工艺路线和技术方案，满足 I 业窑炉各种工况条件下，能够稳定达标排放。

●工艺路线的可选择性：
针对于各种复杂工况，可选择高温金属滤筒除尘后进行高中低温脱硝；可选择干法脱硫除尘后低温脱硝；可选择脱硫脱硝除尘－体化治理等不同工艺。

●特殊的窑炉工况选择定制化工艺：
针对原料中含有催化剂中毒成份的情形，本着先除尘后采用耐中毒催化剂方式进行多连锁的控制，使催化剂寿命最大化。

●科学的检修方案：
针对于工业窑炉在线检修，采用采用完全分离式布袋除尘器，可通过除尘脱硝一体化设备进出口阀门控制，完全隔离检修，可实现在线检修。

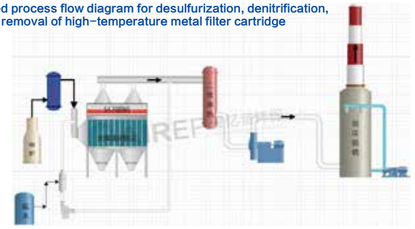
●工业窑炉控制自动化：
针对工业窑炉开发一整套 自动化控制系统，通过集成模块，可实现喷射量根据烟气污染因子变动自动调节，并可实时施监控、记录各工段、各设备运行状态和工艺参数变化。

●窑炉工艺路线科学的计算依据：
我司为服务多个行业专业生产脱硝催化剂的国家高新技术企业，针对不同工业窑炉烟气成分，通过实验分析和计算对比分析生产与之相批匹配的专属催化剂产品，保证脱硝效率能够长期稳定达标，运行费用低廉。

●提供节能高效适用的硫硝尘脱硝工程方案：
公司定制的专属工业窑炉烟气治理工程方案具有：运行费用最低；催化剂使用寿命长；设备设计紧凑，占地面积较小；无废水产生，烟囱无白烟，现场环境整洁。设备运行自动化运行程度高，工人劳动强度小等多项技术优点。

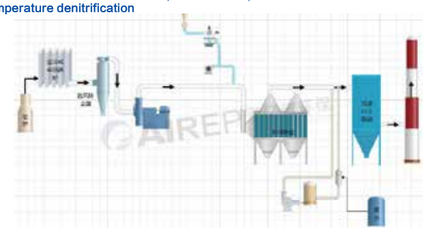
高温金属滤筒脱硫脱硝除尘一体化工艺流程图

Integrated process flow diagram for desulfurization, denitrification, and dust removal of high-temperature metal filter cartridge



脱硫除尘低温脱硝工艺流程图

Process flowchart for desulfurization, dust removal, low-temperature denitrification



●High quality solutions and suitable process routes:
Based on the characteristics of the flue gas from each process kiln, develop a dedicated process route and technical plan to meet the stable and standard emissions of various operating conditions of the I industry kiln.
● Selectivity of process routes:
For various complex working conditions, high-temperature metal filter cartridges can be selected for high, medium, and low temperature denitrification after dust removal; Low temperature denitrification after dry desulfurization and dust removal can be selected; Different processes such as desulfurization, denitrification, dust removal, and integrated treatment can be selected.
Customized process selection for special kiln operating conditions:
In response to the presence of catalyst poisoning components in raw materials, a multi chain control approach is adopted by first removing dust and then using poisoning resistant catalysts to maximize the lifespan of the catalyst.
Scientific maintenance plan:
For online maintenance of industrial kilns, a fully separated bag filter is adopted, which can be controlled by the inlet and outlet valves of the integrated dust removal and denitrification equipment, achieving complete isolation for online maintenance.
Industrial kiln control automation:
Develop a complete set of automation control system for industrial kilns, which can automatically adjust the injection volume according to changes in flue gas pollution factors through integrated modules, and can monitor and record the operation status and process parameter changes of each section and equipment in real time.
The scientific calculation basis for kiln process route:
Our company is a national high-tech enterprise specializing in the production of denitrification catalysts for multiple industries. Based on the composition of flue gas from different industrial kilns, we produce exclusive catalyst products that match the batch through experimental analysis and comparative calculation, ensuring that denitrification efficiency can meet long-term and stable standards, and operating costs are low.
Provide energy-saving, efficient and applicable sulfur and nitrogen dust denitrification engineering solutions:
The company's customized exclusive industrial kiln flue gas treatment project has the following advantages: the lowest operating cost; The catalyst has a long service life; Compact equipment design and small footprint; No wastewater is generated, there is no white smoke in the chimney, and the on-site environment is clean. The equipment has multiple technical advantages such as high automation and low labor intensity for workers.

低温脱硫脱硝除尘一体化治理工艺流程图

Process flowchart for integrated treatment of low-temperature desulfurization, denitrification, and dust removal



几种工艺运行成本对比

Comparison of operating costs for several processes

名称 Name	中温脱硝布袋除尘器湿法脱硫工艺 Wet desulfurization process of medium temperature denitration bag filter	中温脱硝干法脱硫布袋除尘工艺 Medium temperature denitrification dry desulfurization bag dust removal process	干法脱硫布袋除尘脱硝一体化工艺 Integrated process of dry desulfurization bag dust removal and denitrification
项目投资 Project investment	较高 Higher	较高 Higher	一般 General
年运行成本 Annual operating cost	高 Tall	一般 General	低 Low
现场环境 On site environment	差 Differ from	较好 Better	较好 Better
设备复杂性 Equipment complexity	复杂 Complex	较简单 Relatively simple	较简单 Relatively simple
工期 Duration	一般 General	一般 General	一般 General
催化剂寿命 Catalyst life	二至三年 Two to three years	三年 Three years	三年及以上 Three years or more
废水 waste water	有 Have	无 Not have	无 Not have
白烟 white smoke	有 Have	无 Not have	无 Not have
工人劳动强度 Labor intensity of workers	大 Big	小 Small	小 Small
后期维护成本 Post maintenance costs	大 Big	小 Small	小 Small

丰富的多行业领域项目经验

RICH PROJECT EXPERIENCE IN MULTIPLE INDUSTRIES AND FIELDS



玻璃窑高温除尘脱硝一体化项目
Integrated project of high-temperature dust removal and denitrification for glass kiln





水泥窑高温金属膜除尘脱硝一体化项目
Integrated project of high-temperature metal film dust removal and denitrification for cement kiln





纯碱工业窑炉尾气 CO-SCR 脱硝项目
CO-SCR denitration project for tail gas of soda ash industrial kiln

高炉煤气锅炉尾气脱硝项目
Blast furnace gas boiler tail gas denitrification project





内蒙新创内燃机尾气脱硝项目
Inner Mongolia New Internal Combustion Engine Exhaust Gas Denitrification Project

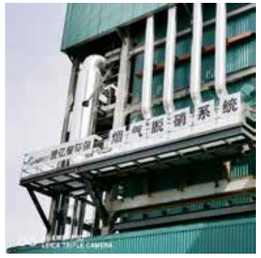


玻璃行业脱硝 – 河北南玻
Glass Industry Denitrification - Hebei Nanbo





铁合金行业燃气锅炉脱硝 EPC 工程
EPC project for denitrification of gas boilers in the ferroalloy industry



焦化冶金行业燃气锅炉脱硝 EPC 工程
EPC Project for Gas Boiler Denitrification in Coking and Metallurgy Industry



石灰窑低温脱硝工程 (180℃)
Low temperature denitrification project for lime kiln (180 ℃)



宁夏吉元燃气锅炉脱硝工程
Ningxia Jiyuan Gas Boiler Denitrification Project



雄伟光大 180T/h 燃气锅炉炉内改造脱硝项目
Xiongwei Guangda 180T/h Gas Boiler Internal Renovation Denitrification Project



玻璃行业脱硝 – 金晶玻璃
Glass Industry Denitrification - Gold Crystal Glass







山西凯嘉煤层 1.2.3 期 EPC 燃气脱硝总包项目（脱硝系统、尿素溶解系统、喷射计量系统）
Shanxi Kaijia Coal Seam 1.2.3 EPC Gas Denitrification General Contracting Project (Denitrification System, Urea Dissolution System, Spray Metering System)



燃气轮机脱硝超低排放 EPC 项目（15mg/Nm^3,15%O_2）
Gas turbine denitrification ultra-low emission EPC project (15mg/Nm^3, 15% O_2)



中海油湄洲岛终端燃气脱硝项目
CNOOC Weizhou Island Terminal Gas Denitrification Project



5000T 水泥窑尾气高温除尘脱硝一体化项目
Integrated project of high-temperature dust removal and denitrification for 5000T cement kiln tail gas



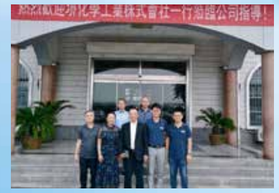
燃气内燃机尾气脱硝超低排放治理项目
Gas Internal Combustion Engine Exhaust Denitrification Ultra Low Emission Control Project

携手合作与发展

COOPERATION AND DEVELOPMENT

Qualified suppliers of Sinopec, PetroChina, and CNOOC systems for network access,
Member unit of China Denitrification Industry Alliance.

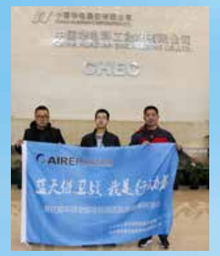
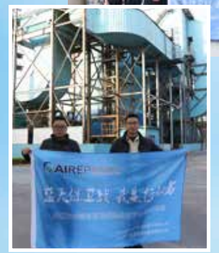
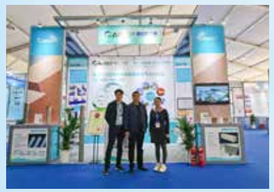
中石化、中石油、中海油系统入网合格供应商，
中国脱硝产业联盟会员单位。










The road to environmental protection is long and arduous
Thank you for walking hand in hand with me

环保事业之路任重道远
感恩有您携手同行

TEAM



创新



真诚 / 务实
执着 / 创新





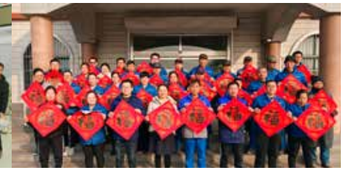












诚信

















责任



团结







凝聚






为亿万普众创造一片蓝天，
为员工创造有持续竞争力的事业平台！
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Create a sustainable and competitive career platform for employees!

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