

HUADE CREATION

Leading Integrated Service Provider For The Full Value Chain Of China
Environmental Protection Equipment

中国领先的环保设备全产业链综合服务商

电站、矿山水处理解决方案

POWER STATION
MINE WATER TREATMENT



华德创业
HUADE CREATION

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水处理领域篇 WATER TREATMENT FIELD

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矿山废水	Mine Wastewater

公司介绍

Company Profile

北京华德创业环保设备有限公司（简称“华德创业”）是中国领先的环保设备全产业链综合服务商。专注于环保领域高新技术和核心工艺产品的研发、制造和增值服务。公司成立于2003年，总部位于北京，在国内设有大型生产制造工厂和实验研发基地。华德创业立足于自主创新，为中国数百个地区及国外的客户提供环保领域最先进的技术、产品、服务以及综合的解决方案。

华德创业紧跟国家环保产业政策，在超净排放改造趋于尾声之时，迅速将工作重点放在水处理领域，助力电站及矿山客户解决脱硫废水 / 矿井水 / 选矿废水 / 含煤废水达标排放 / 回用问题。目前得到了国内外众多用户的广泛认可。

Huade Creation Environmental Protection & Equipment Co., Ltd.(hereinafter referred to as "Huade Creation") is China's leading comprehensive servicer for whole industrial chain of environmental protection equipment. Founded in 2003, it is headquartered in Beijing, built with large-scale manufacturing plants and experiemental R&D bases in China. Huade Creation based on independent innovation, provides customers in hundreds of regions of China with the most advanced technology, products, services and comprehensive solutions in the field of environmental protection.

Following the national environmental protection industrial policy, Huade Creation focus on the field of water treatment, assist customers to solve the standard discharge of desulfurization wastewater/mine drainage/mineral processing wastewater/Wastewater Treatment of Containing Coal. At present, it has been widely recognized by many domestic users.

企业资质

Qualification



- 环保工程专业承包三级资质
 - 建筑机电安装工程专业承包三级资质
 - 安全生产标准化证书
 - 安全生产许可证
 - OHSAS18001 职业健康安全管理体系认证
- 冶金行业（冶金矿山工程）乙级设计资质
 - 环境工程（水污染防治工程）乙级设计资质
 - ISO9001 质量管理体系认证
 - ISO14001 环境管理体系认证
 - 营业执照
- Environmental engineering professional contracting qualification level III
 - Construction mechanical & electrical installation engineering professional contractor qualification level III
 - Work Safety Standardization Certificate
 - Safety Production License
 - OHSAS18001 (Occupational health and safety management system certification)
- Grade B design qualification of metallurgical industry (metallurgical mining engineering)
 - Grade B design qualification of environmental engineering (water pollution prevention and control engineering)
 - ISO9001 QMSC (Quality management system certification)
 - ISO14001 EMSC (Environmental management system certification)
 - Business License

业务范围

Business Scope

- 华德创业关注行业发展，拓展业务领域，目前涉及的产品有 HDCY 一体化脱硫废水处理系统、HDCY 一体化多效澄清系统、NTG 除雾器、NTG 喷嘴、玛泰 旋流器、煤炭洗选设备等多种具有市场竞争力和技术领先的环保设备，并承接废水处理和尾矿干堆、充填 EPC 工程。为客户提供集技术咨询、方案设计、装备研发、装备制造、现场施工安装等全产业链服务。
- Huade Creation focus on industry development, expand business areas, the involved products are HDCY integration of FGD wastewater treatment system, HDCY multi-effect clarify integration system, the NTG demister, the NTG nozzle, MULTOTEC cyclone, coal washing equipments etc., could undertake EPC of wastewater treatment and dry-tailing stacking and filling. To provide customers with whole industrial chain services such as technical consulting, design, equipment R&D, equipment manufacturing and others.



电力行业 ■ Power Station

- 作为中国领先的环保设备全产业链综合服务商，华德创业拥有应用于电力行业的超净排放核心装备和 HDCY 一体化废水处理系统解决方案，协助客户解决烟气治理达标、脱硫废水和含煤废水排放 / 回用难题，保障企业的正常运营。
- As China's leading comprehensive servicer, Huade Creation owns ultra-clean discharge score equipments and HDCY integrated system solutions applied in Power Station, assisting customers to solve the problem of FGD control standards,desulfurization wastewater and Coal-containing wastewater discharge and ensuring enterprise's normal operation.

矿山行业 ■ Mine Field

- 华德创业可提供针对矿山行业尾矿干堆 / 充填、矿浆管道输送、废水 HDCY 一体化多效澄清系统的技术研究、系统设计、产品制造以及现场施工安装等服务，HDCY 一体化多效澄清系统以超高性价比为铅锌矿矿井水和选矿废水处理提供独一无二的必选解决方案。
- Huade Creation can provide dry-tailing stacking/ filling, slurry pipeline transport, research and design of HDCY integrated wastewater multi-effect clarify system, product manufacturing and onsite construction and installation services in Mine field.It is the uinique and required high performance solution for Pb-Zn mine water and mineral processing wastewater treatment with HDCY integrated system.

技术创新

Technology Innovation

- 华德创业充分发挥技术创新的核心竞争优势，在一体化脱硫废水处理、浆液冷凝水处理回用技术、多效澄清技术等领域拥有全部核心技术自主知识产权。华德创业通过持续的技术创新以及与美国、德国、澳大利亚、南非等国际著名的高科技技术公司战略合作机制的有效运行，研制出一系列核心技术居于中国领先的新产品。
- Huade Creation fully exerts its core competitive advantages of technological innovation, owns independent intellectual property rights of all core technologies in the fields of FGD Wastewater Integrated Treatment, slurry condensate water treatment and reuse, and multi-effect clarification. Through continuous technological innovation and effective operation of strategic cooperation mechanism with internationally renowned high-tech companies such as the United States, Germany, Australia and South Africa, Huade Creation has developed a series of new products with leading core technologies in China.

- 为超过 **260** 家脱硫工艺总包商提供供给服务
 - 一体化多效澄清系统设备专家及技术解决方案提供商
 - 引领当前一体化脱硫废水处理和消白冷凝水处理新技术
 - 超高性价比的除 SS、除重金属、除氟化物、除氮磷等药剂供应
 - 为超过 **1000** 座燃煤电站等脱硫系统提供喷嘴、除雾器、旋流器等核心装备
 - 国内唯一同时掌握高效介质喷雾、除雾除尘以及废水处理的高新技术企业
 - 国内第一个具有矿山设计资质，能够提供井下膏体充填系统解决方案并可以承接 EPC 的民营企业
-
- Provide technical service for more than **260** general contractors of desulfurization process
 - Provider with equipment expert and technical solution of Integrated Multi-effect Clarification System
 - Leading new technologies of integrated desulfurization wastewater treatment and whitening condensate treatment
 - Reagent Supplier to remove SS, heavy metal, fluoride and others with high performance-price ratio
 - Provide nozzle, demist, cyclone and other core devices for more than **1000** Power Station
 - The only high-tech enterprise in China, to master High Efficiency Medium Spray, Demist, Dust Removal and Wastewater Treatment
 - The first domestic private enterprise with mine design qualification, could provide solutions of downhole paste filling system, and undertake EPC

知识产权

Intellectual Property



40 Chinese Patents
中国专利申请

40 项

07 Registered Software Copyrights
软件著作权登记

07 项

药剂研发

Reagent R & D

- 华德创业拥有专业化的水质检测和药剂研发能力，实验研发基地选配了先进的水质检测设备、实验器材。实现了高效化，定制化的药剂选配为公司主营项目提供了可靠的药剂选配支持。
- With professional water quality testing and reagent R&D capabilities, Huade Creation has set up an experimental R&D base, equipped with advanced water quality testing devices and experimental instruments. The high efficiency and customized reagent selection provides reliable support for company's main projects.



生产制造

Production & Manufacture



- 华德创业拥有专业化的生产制造能力，在河北衡水设有大型生产基地，生产基地配备了先进的生产、安装、检测、调试设备。实现了高效化，定制化的产品制造。华德创业持续改进制造工艺，按照国际认证标准对产品的各个环节进行质量控制，为客户提供品质卓越的环保设备。
- Huade Creation has specialized production and manufacturing capacity, set up a large production base with advanced production, installation, testing and debugging equipments, in Hengshui city of Hebei. To be achieved efficient, customized product manufacturing. Huade Creation continuously improves the manufacturing process, carries out quality control for each link of products in accordance with international certification standards, to provide customers with excellent environmental protection equipments.



一体化系统

Integrated System

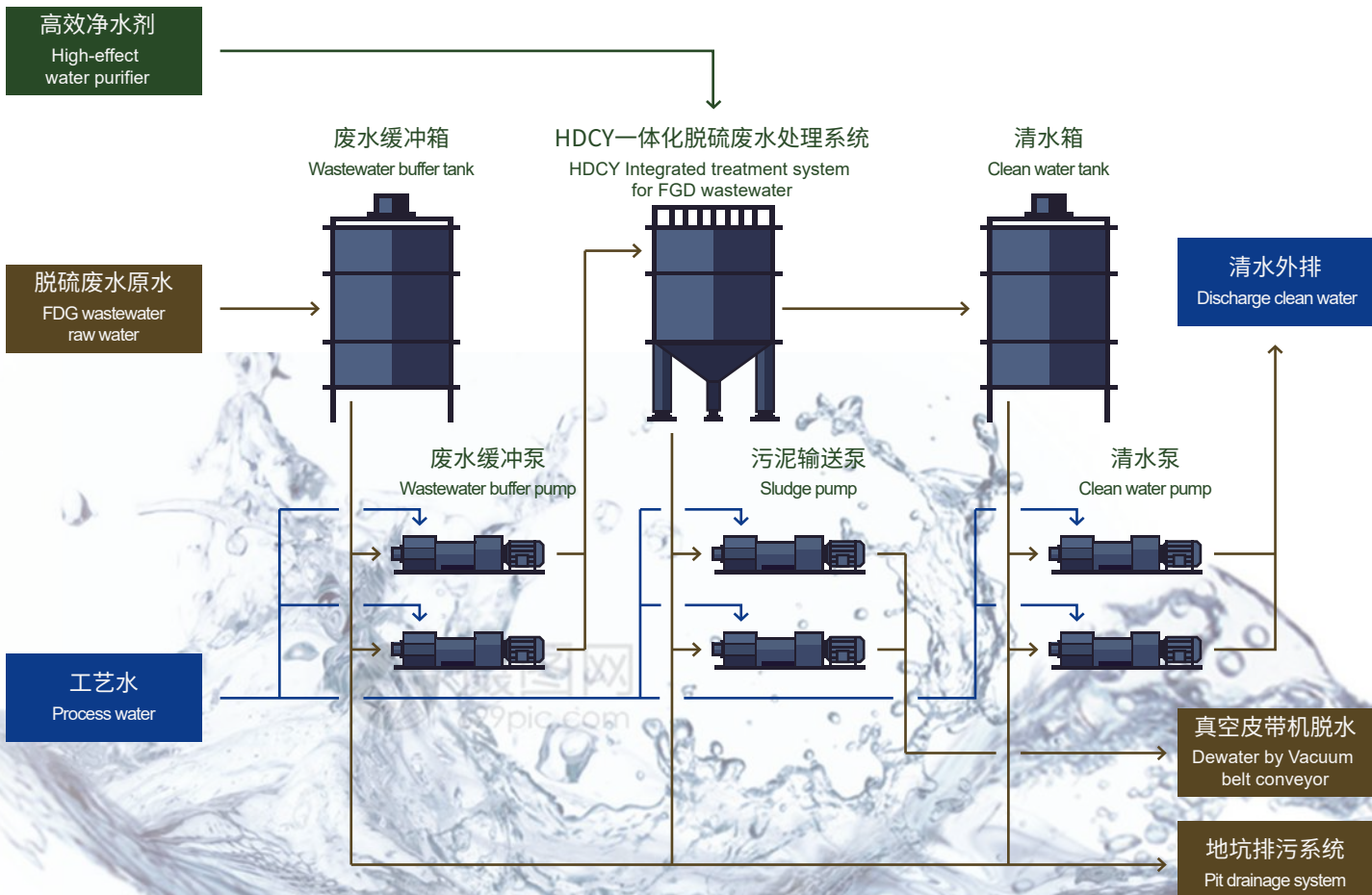


HDCY 一体化脱硫废水处理系统 ▪ HDCY Integrated Treatment System for FGD Wastewater

- 系统采用调速搅拌剪切技术、变间距 / 变角度叶片型旋流布料技术、高级絮凝吸附技术以及浅层浓缩沉降技术，结合一体化净水剂的凝并和螯合作用，使脱硫产物中超细固体颗粒在凝成絮团过程中高效吸附重金属、氟化物、非溶解性 COD 以及 DL/T997-2006 标准要求控制的其他污染物，通过模拟非紊流高效分离设备完成固液分离及浓缩，从而实现达标排放并高效脱水的最终目的。
- The System adopts speed adjustable stirring shearing technology, variable interval, variable angle blade vortex fabric technology,combined with the coagulation and chelation of integrated water purifier, advanced flocculation adsorption technology and settlement technology of shallow layer concentration, to make the super fine solid particles which inside of desulfurization product to high-efficient adsorb heavy metals, fluoride, non soluble COD and other pollutant related in DL/T997- 2006 standard requirements, to complete the solid-liquid separation and concentration by simulating non-turbulent flow and high efficient separation devices, to realize the ultimate goal of discharging standard and highly efficient dewatering.

技术特点

- 系统适应能力强
综合多种高效沉降技术和专利的特殊机械机构，装置对入料废水浓度范围要求极其宽松，进水浓度最高可达 15%
- 吨水处理费用低
仅需添加一种药剂，干粉投加，根据入水水质和悬浮物浓度，药剂投加量为 100-400g/m³
- 污泥无害化处理
底流污泥浓度≥ 25%，可直接给入石膏真空皮带机，对皮带机运行及石膏品质无影响，省去污泥脱水设备投入
- 系统模块化设计
模块化设计，土建费用极低，设计最大处理量可达 80m³/h，20m³/h 处理量系统占地≤ 30 m²，装机功率≤ 20KW
- 系统供货周期短
可控供货期为 15 天、自动化程度高，运行无人值守、24 小时现场服务



Technical Feature

- Strong adaptability
Combined with various high-efficiency sedimentation technologies and special patented mechanical mechanism, the device has extremely loose requirements on feeding concentration range, it can be up to 15%.
- Low treatment cost per ton
100-400g/m³.Only taken one reagent,dry powder, depending on the water quality and suspension concentration,the dosage will be 100-400g/m³.
- Innocent treatment of sludge
If underflow sludge concentration ≥25%,directly send to gypsum vacuum belt machine, there is no impact on belt operation and gypsum quality, saving the investment of sludge dewatering equipment, wihtout heavy metal precipitation, that is the sludge harmless treatment.
- Modular design
Modular design, low construction cost, max.designed capacity be up to 80m³/h, 20m³/h capacity covers ≤30m². installed power ≤20KW.
- Short delivery time
Controlled delivery time with 15 days, high automation, unattended operation, 24 - hour onsite service

一体化系统

Integrated System

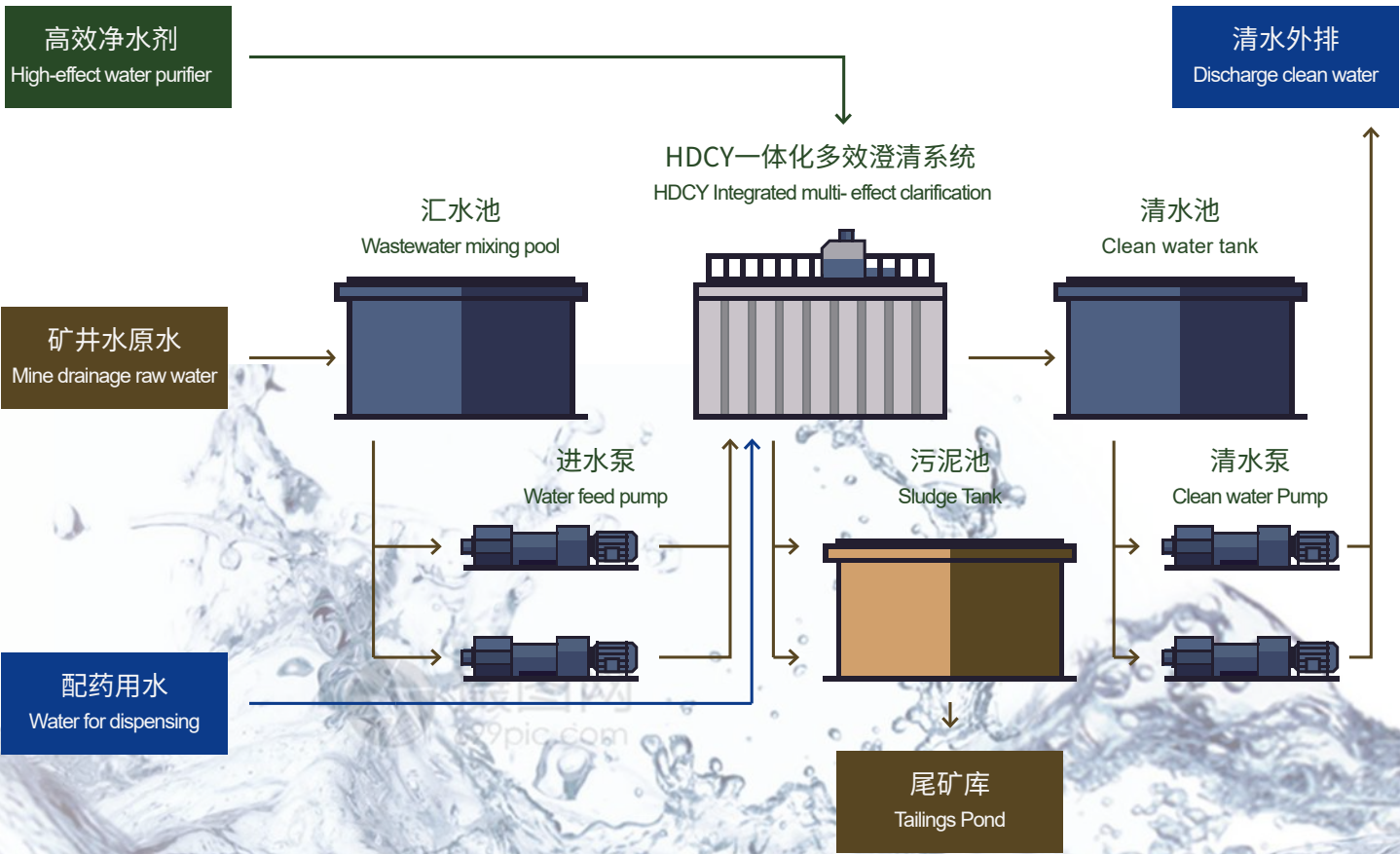


HDCY 一体化多效澄清系统 ▪ HDCY Integrated multi- effect clarification System

- 该系统将化学混凝、机械搅拌、加载沉降、斜管分离等各种有利于固液分离的技术进行高度集成，借助合理的介质作用和污泥回流措施，将水中的悬浮物、重金属等物质以絮团的形式沉降下来，进而达到合格的出水效果；该系统采用模块化设计，从 500 吨 / 天到 20000 吨 / 天的处理量均可选择；工程建设周期仅 45-60 天，甚至更短。
该系统广泛适用于矿井水、选矿水、含煤废水、各种冶金流程废水、市政污水提标改造等各类水处理应用领域。
- highly integrates with various technologies that are conducive to solid-liquid separation, such as chemical coagulation, mechanical stirring, loading precipitation and inclined tube separation. With the medium action and sludge reflux measures, suspended substances, heavy metals and other substances settle down in the form of floc, thus achieving the qualified discharge effect. With modular design, the treatment capacity could be ranged from 500 tons per /day to 20,000 tons per day, the construction period is only 45-60 days, or even shorter.
This system wildy used in the upgrading and reconstruction of mine drainage, mineral processing wastewater, coal-containing wastewater, various wastewater from metallurgical process, municipal wastewater and other related applicaitons.

技术特点

- 设备集成度高
多种水处理技术高度集成于模块化撬装机构中，悬浮物、重金属、氟、PH 值调整等多种污染物和水质调整任务均可完成
- 单体设备处理水量大
矿山废水在整套系统中的停留处理时间仅仅 8 分钟，是目前国际上单位设备体积处理量最大的系统技术
- 投资成本低廉
整套系统根据项目现场状况可以量体裁衣，不需要复杂土建，占地面积极小，大大节约了项目投资和建设成本
- 运行成本低廉
整套设备结合最高性价比的药剂技术达到最低的运行处理成本，吨水处理成本可控制在 0.3 元以下



Technical Feature

- High level of equipment integrationd
A variety of water treatment technologies are highly integrated in the modular skid-mounted mechanism, all the adjustment tasks of suspension, heavy metal, fluorine, PH value and other pollutants and water quality adjustment can be completed
- High capacity for uint device
The treatment time of mine wastewater in the whole system is only 8 minutes, which is the largest system technology for the volumetric processing of unit equipment in the world
- Investment costs are cheap
The whole system can be customized according to onsite situation, without complex civil construction, occupies a very small area, and greatly saves project's investment and construction cost
- Low operating cost
The whole set of equipment combines with the highest cost performance reagent and technology to achieve the lowest operation and treatment costs



江西某大型热电厂一体化脱硫废水达标排放 EPC 项目

脱硫工艺：石灰石 - 石膏湿法脱硫
废水来源：废水旋流器溢流及真空皮带机滤液水
处理系统：HDCY 一体化脱硫废水处理系统
处理总量：30m³/h
进水浓度：50000ppm
出水浓度：45ppm
处理后废水去向：煤厂回用、灰库冲洗
处理后底泥去向：随石膏脱水外运

One EPC project for FGD wastewater integrated standard discharge of Thermal Power Station in Jiangsu Province

Desulfurization process: limestone-gypsum wet desulfurization
Source: overflow of wastewater cyclone and filtrate of vacuume belt machine
Treatment System: HDCY Integrated treatment system for FGD wastewater
Total Capacity: 30m³/h
Influent concentration:50000ppm
Discharge concentration: 45ppm
Treated Wastewater goes to: Coal yard reuse, ash storage flushing
The treated sludge goes to: dewater and shipped out with gypsum



浙江某热电厂一体化脱硫废水达标排放项目

脱硫工艺：石灰石-石膏湿法脱硫
废水来源：废水旋流器溢流及真空皮带机滤液水
处理系统：HDCY 一体化脱硫废水处理系统
处理总量：5m³/h
进水浓度：50000ppm
出水浓度：45ppm
处理后废水去向：煤厂抑尘
处理后底泥去向：随石膏脱水外运

An integrated FGD wastewater discharge project of a thermal power station in Zhejiang Province

Desulfurization process: limestone-gypsum wet desulfurization
Source: overflow of wastewater cyclone and filtrate of vacuume belt machine
Treatment System: HDCY Integrated treatment system for FGD wastewater
Total Capacity: 5m³/h
Influent concentration: 50000ppm
Discharge concentration: 45ppm
Treated Wastewater goes to: Coal dust suppression
The treated sludge goes to: dewater and shipped out with gypsum



江苏某热电厂一体化脱硫废水达标排放 EPC 项目

脱硫工艺：石灰石 - 石膏湿法脱硫
废水来源：石膏旋流器溢流及真空皮带机滤液水
处理系统：HDCY 一体化脱硫废水处理系统
处理总量：5m³/h
进水浓度：30000ppm
出水浓度：12ppm
处理后废水去向：煤厂抑尘
处理后底泥去向：随石膏脱水外运

Project for FGD wastewater integrated standard discharge of Thermal Power Station in Jiangsu Province

Desulfurization process: limestone-gypsum wet desulfurization
Source: overflow of wastewater cyclone and filtrate of vacuume belt machine
Treatment System: HDCY Integrated treatment system for FGD wastewater
Total Capacity: 5m³/h
Influent concentration:30000ppm
Discharge concentration: 12ppm
Treated Wastewater goes to: Coal dust suppression
The treated sludge goes to: dewater and shipped out with gypsum



甘肃某大型热电厂一体化脱硫废水达标排放 EPC 项目

脱硫工艺：石灰石 - 石膏湿法脱硫
废水来源：石膏旋流器溢流
处理系统：HDCY 一体化脱硫废水处理系统
处理总量：30m³/h
进水浓度：36000ppm
出水浓度：59ppm
处理后废水去向：干灰拌湿
处理后底泥去向：随石膏脱水外运

Project for FGD wastewater integrated standard discharge of Thermal Power Station in Gansu Province

Desulfurization process: limestone-gypsum wet desulfurization
Source: overflow of gypsum cyclone
Treatment System: HDCY Integrated treatment system for FGD wastewater
Total Capacity: 30m³/h
Influent concentration:36000ppm
Discharge concentration: 59ppm
Treated Wastewater goes to: moisture they dry ash
The treated sludge goes to: dewater and shipped out with gypsum





内蒙某铅锌锡银铜多金属矿矿井水达标外排处理工程

原水水质：水质浑浊，悬浮物、重金属、COD 等超标
出水指标：满足地表水四类标准
处理系统：HDCY 一体化多效澄清系统
处理总量：5000m³/d
处理后清水去向：直接外排
处理后污泥去向：泵送回尾矿库

Tailings wastewater treatment project of a lead, zinc and tungsten polymetallic mine in Jiangxi Province

Raw water quality: water turbidity, suspended solids, heavy metals, COD, etc.
Effluent index: meet the surface water standard of the forth class
Treatment System: HDCY Integrated multi- effect clarification System
Total capacity: 5000m³/d
Clear water after treatment: efflux
Disposal of sludge:: pumping back to the tailings pond



江西某铅锌钨多金属矿尾矿废水处理工程

原水水质：不稳定，浑浊带有泥沙，pH 值高
出水指标：SS<20，重金属满足地表水三类标准
处理系统：HDCY 一体化多效澄清系统
处理总量：5000m³/d
处理后清水去向：外排，部分回用
处理后污泥去向：泵送回尾矿库

Tailings wastewater treatment project of a lead, zinc and tungsten polymetallic mine in Jiangxi Province

Raw water quality: unstable, turbid with sediment, high pH value
Effluent index: SS<20, heavy metals meet the surface water standard of the third class
Treatment System: HDCY Integrated multi- effect clarification System
Total capacity: 5000m³/d
Clear water after treatment: efflux, partial reuse
Disposal of sludge:: pumping back to the tailings pond

业绩概况 (截止到 2019 年 8 月)

Performance Overview(Until 2019/08)

- 大型燃煤电厂（600MW 及 1000MW 及以上机组）脱硫废水处理（5 个）
 - 大型燃煤电厂（600MW 及 1000MW 及以上机组）消白冷凝水处理（6 个）
 - 小型燃煤电厂（600MW 以下机组）脱硫废水处理（18 个）
 - 热电厂脱硫废水处理（13 个）
 - 氧化铝自备电厂脱硫废水处理（3 个）
 - 电解铝自备电厂脱硫废水处理（4 个）
 - 煤化工自备电厂脱硫废水处理（2 个）
- 石油化工自备电厂脱硫废水处理（4 个）
 - 造纸厂自备电厂脱硫废水处理（2 个）
 - 垃圾焚烧电厂脱硫废水处理（2 个）
 - 金属矿山选矿水处理（2 个）
 - 金属矿山尾矿回水处理（1 个）
 - 金属矿山矿井水处理（2 个）
 - 煤矿矿井水处理（1 个）
 - 黑臭水体应急处理（23 个）
 - 市政污水处理提标改造（2 个）
- FGD wastewater treatment for Large Coal-fired Power Station(600MW&1000MW or above Units) (5)
 - Whitening condensate treatment for Large Coal-fired Power Station(600MW&1000MW or above Units) (6)
 - Small coal-fired power station(18)
 - FGD wastewater treatment of Thermal Power Station (13)
 - FGD wastewater treatment for Alumina Captive Power Station (3)
 - FGD wastewater treatment for Electrolytic Aluminum Power Station (4)
 - FGD wastewater treatment for Coal Chemical Power Station (2)
- FGD wastewater treatment for Petrochemical power plant (4)
 - FGD wastewater treatment for Paper Mill Power Station (2)
 - FGD wastewater treatment for waste incineration power station (2)
 - Mineral processing wastewater treatment for Metal Mine (2)
 - Tailing's backwater treatment for Metal Mine (1)
 - Metal Mine drainage treatment (2)
 - Coal Mine drainage treatment (1)
 - Emergency treatment of black and odorous water (23)
 - Upgrading and Reconstruction of municipal wastewater(2)

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Rm 1012, B Tower FULLLINK Square Chaoyangmenwai Street, Beijing, China

地址 ADDRESS / 北京市朝阳区门外大街丰联广场 B 座 1012

电话 TEL / 86-10-51655558

传真 FAX / 86-10-65887816

邮箱 E-mail / technology@huadecorp.com

网址 URL / WWW.HUADECORP.COM