



**科达洁能——提供经济的煤基洁净燃料**

**KEDA, PROVIDES ECONOMICAL COAL-BASED CLEAN FUEL**



**安徽科达洁能股份有限公司**

KEDA (ANHUI) CLEAN ENERGY CO.,LTD.

地址:安徽省马鞍山市经济技术开发区天门大道南段2611号

Add.: No.2611, Tianmen South Rd, Economic And Technological Development Zone,

Ma' anshan City, Anhui Province, China

电话 (TEL): +86-555-2376339 6337 3959

传真 (FAX): +86-555-2373998-980

邮编 (P.C.): 243041

E-mail: jninfo@kedachina.com.cn

Http://www.kedaenergy.com



**股票代码 (Stock Code) : 600499**



# ABOUT KEDA

## 关于我们



安徽科达洁能股份有限公司成立于2007年4月28日，为科达制造股份有限公司（股票代码：600499）在马鞍山市投资设立的控股子公司，具备完善的质量、环境、职业健康安全管理体系。

公司主要从事清洁煤气化系统的技术研发、装备制造和煤气的生产与销售；同时从事化工环保技术的研发和相关装备的生产制造与销售。

展望未来，安徽科达洁能将继续专注于环保节能板块的多元化发展，全力打造成为具有国际竞争力的清洁能源供应商，为企业提供整套清洁能源解决方案，实现可持续发展，让幸福更久远！

KEDA (ANHUI) CLEAN ENERGY CO., LTD. was established on Apr. 28, 2007 in Ma'anshan City, as a subsidiary company of KEDA INDUSTRIAL GROUP CO., LTD. (Stock Code: 600499), the company has adopted the certification system of ISO9001, ISO14001 and OHSAS18001.

The company has specialized in R&D, equipment manufacturing, gas production & sales. At the same time, the company has also engaged in R&D of chemical and environmental protection technology and the production and sale of related equipment.

In the future, KEDA will continue to focus on the diversified development of clean energy environmental protection plate, to create a clean energy supplier, provide a set of clean energy solution for the enterprise to realize sustainable development and make happiness longer.

### 企业愿景 Vision

做值得人尊重的机械装备制造企业

To be a respectable manufacturer for machinery and equipment.

### 企业使命 Mission

让幸福更久远——为节能减排提供装备与服务

Green solution, greener life

### 企业核心价值观 Core Value

创新永无止境；为客户创造价值；

诚实守信，多赢才是赢；品质至上，质量决定成败。

Innovate infinitely; Create value for the customer; To be honest, multi-win with credibility;

Quality first, quality decides success or failure.



# DEVELOPMENT

## 发展历程



清洁煤制气装置成功运用于陶瓷行业  
Clean coal gasification equipment applied for ceramic industry.



“工业园集中供气项目正式运营”新闻发布会顺利举行  
Convened press conference of “Central gas supply for ceramic industry park project in official operation”.



清洁煤制气装置成功运用于钢铁行业  
Clean coal gasification equipment applied for steel industry.



清洁煤制气装置成功运用于焦化、合成氨行业  
Clean coal gasification equipment applied for cooking , synthetic ammonia industry.

2007/04

2008/08

2013/01

2014/04

2015/07

2017/06

2018/09

2018/12

2019/06

2021/04



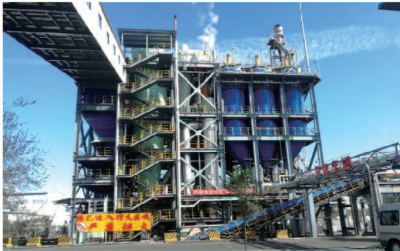
公司在佛山成立  
Established in Foshan City.



清洁煤制气装置成功运用于氧化铝行业  
Clean coal gasification equipment applied for alumina industry.



常压气流床煤制气装置点火运行  
The atmospheric pressure entrained-flow gasification equipment launched.



清洁煤制气装置成功运用于碳素行业  
Clean coal gasification equipment applied for carbon industry.



首个海外氧化铝项目——印尼宾坦清洁煤制气装置  
The first overseas alumina project—clean coal gasification equipment for BINTAN.



清洁煤制气装置成功运用于金属镁行业  
Clean coal gasification equipment applied for magnesium industry.



# STRENGTH

## 实力篇



### 硬件实力 Hardware strength

安徽科达洁能股份有限公司投资近5亿元在马鞍山市打造了占地180000m<sup>2</sup>的“清洁煤气化系统”生产研发基地,其中厂房面积40000m<sup>2</sup>。工厂内设施设备先进、齐全,厂内桥式起重机起重能力可达260吨,并配备数控龙门加工中心、数控落地镗铣床、钢板预处理线、数控龙门等离子切割机、热处理炉、无损探伤间、喷漆系统等起重和加工设备,满足清洁能源、锂电和化工环保等设备部件的生产制造。

KEDA builds a R&D and manufacturing base of clean coal gasification system with an area of 180,000m<sup>2</sup> in Ma'anshan City, including a workshop area of 40,000m<sup>2</sup>. The facilities and equipment in the factory are advanced and completed, and the bridge crane lifting capacity is up to 260T, matching production facilities including CNC gantry machining-center, CNC floor-type boring and milling machine, steel plate preprocessor, CNC double column plasma incise machine, thermal treatment furnace, non-destructive testing room, paint spray booth, etc., these facilities can meet the production and manufacture of equipment components such as clean energy, lithium battery, chemical and environmental protection.



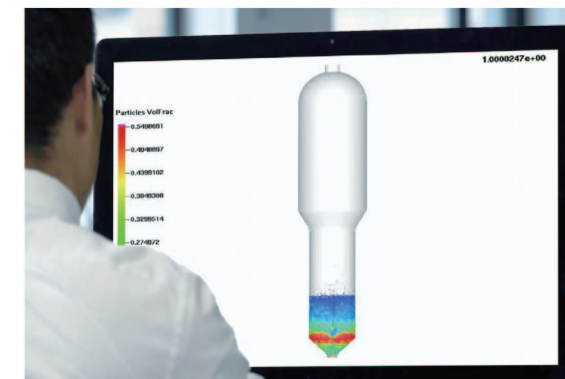
### 软件实力 Software strength

公司拥有一支由多学科博士、硕士和学士人员组成的专业技术研发和管理团队,依托“清洁煤气化重点实验室”、“技术研发中心”等产学研平台,自主研发了循环流化床气化系统和常低压气流床气化系统两种核心技术,并获得授权专利177项;同时全面引进CAD、Aspen、Solidworks、Fluent、Sw6等先进的软件,可为用户提供工程设计、三维建模、仿真计算等技术支持和服务。

同时,公司具备特种设备设计和制造、石油化工工程施工总承包、冶金工程施工总承包、化工石化医药行业设计资质,可为客户提供EPC总包服务。

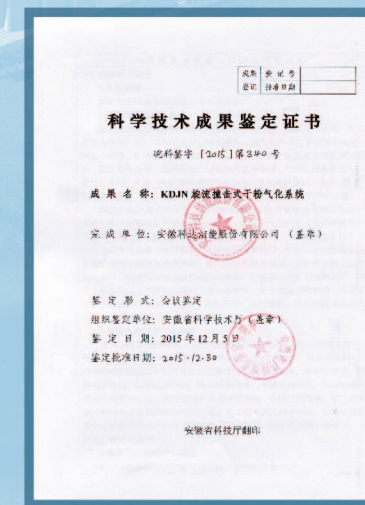
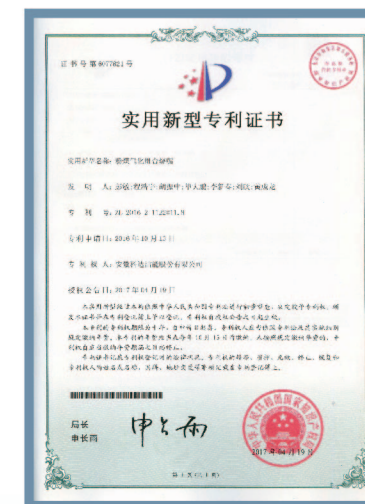
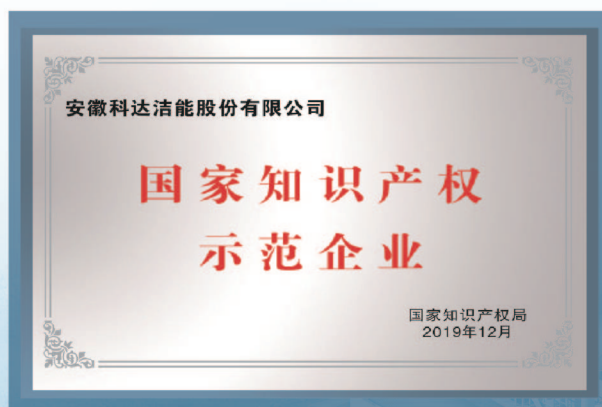
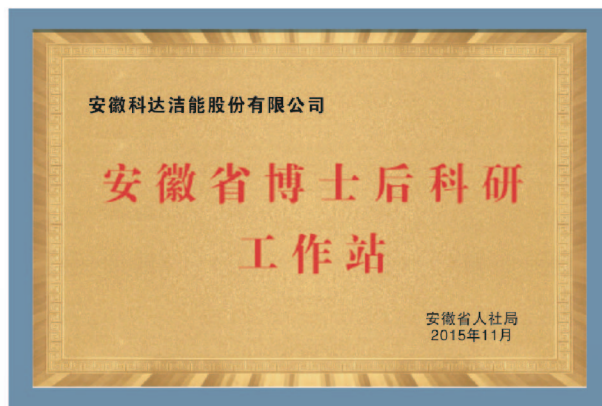
KEDA assembled a technical and management team which is composed of Ph.D., masters and bachelors; the company has set up the platform of producing-studying-researching, including “Key Laboratory of Clean Coal Gasification”, “Academician Work Station”, etc.; the company has independently developed two core technologies of circulating fluidized gasification system and atmospheric/low pressure entrained-flow gasification system, and it obtained 177 authorized patents; the company also imported advanced software, such as CAD, Aspen plus, Solidworks, Fluent, Sw6 for engineering design, 3D modeling, simulation calculation, etc.

Besides, KEDA holds the qualification of design or construction general contracting(EPC) at certain subject, such as special equipment, petrochemical and metallurgical and chemical engineering.





## 荣誉篇





# SERVICE

## 服务篇

### 我们的服务——整套能源解决方案

Our service —— a set of energy solution

能源的清洁、环保、高效利用，  
可降低企业运营成本，提升企业竞争力，为企业树立良好的社会形象。

没有不清洁的能源，只有不清洁的技术。  
科达洁能秉承为节能减排提供装备与服务的宗旨，  
向客户提供经济的煤基洁净燃料，为客户提供一整套的能源解决方案。

Clean, environmental friendly, efficient utilization of energy can cut the operating cost,  
enhance the company competitiveness and reputation.

Energy always be clean except unclean process.  
Green solution, greener life.

KEDA always provides economical coal-based clean fuel,  
and a set of energy solution for the customer.

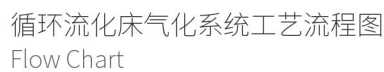




## 产品篇

KEDA clean coal gasification equipment mainly comprises coal storage system, gasification system, flyash removal system, desulphurization system, compressing system, pneumatic conveying system, water treatment system, DCS operating system, etc., and it includes circulating fluidized gasification system and low pressure entrained-flow gasification system, and it is a safe, clean, efficient and economical coal gasification equipment.

## Circulating Fluidized Bed Gasification System



原煤经过破碎、筛分, 10mm 以下的颗粒, 通过皮带运输至原煤贮斗, 由螺旋给煤机送入气化炉中。气化剂 (空气或富氧空气) 经高温预热器预热至高温, 进入气化炉与粉煤在 950℃ 左右反应。气化炉内物料处于流化状态, 炉内不含干馏层, 煤炭在炉内受热均匀; 高温下焦油及酚、氰类物质裂解燃烧完全。

## 工艺特点 Features

**运行安全稳定：**完善的安全保护连锁、一键停车设置；关键设备可在线更换维修，单炉最长运行周期超过12个月。

推荐煤种 Recommended coal	煤的热值 Q <sub>net,ar</sub>	空干基挥发分 V <sub>ad</sub>	空干基灰分 A <sub>ad</sub>	焦渣特性 CRC	软化温度 S.T.
烟煤、次烟煤、褐煤 Bituminite, sub-bituminous, lignite coal	≥4500kcal/kg	≥28%	≤20%	≤4	≥1150℃

## 煤气成分 Gas composition

If the mixture of air and steam are used as gasifying agent, the gas composition are as follows:

主要成分 Component	CO	H <sub>2</sub>	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub>	Qnet/kcal/Nm <sup>3</sup>
体积(%) Vol.-%	20~24	18~22	1~3	8~12	45~50	≥1250

If oxygen-enriched air and steam are used as gasifying agent, the gas composition are as follows:

主要成分 Component	CO	H <sub>2</sub>	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub>	Qnet/kcal/Nm <sup>3</sup>
体积 (%) Vol - %	23~40	23~40	2~3	12~14	30~35	1400~2200

Coal gas flows through cyclone separator, high temperature preheater, waste heat recovery, fly-ash filter and gas cooler A/B for cooling down and dust removal. After desulphurization and compression, the gas can be sent to users.

Safe and stable operation: perfect safety protection interlock, one-button parking; key equipment can be replaced online, the longest running period of a single furnace is more than 12 months.



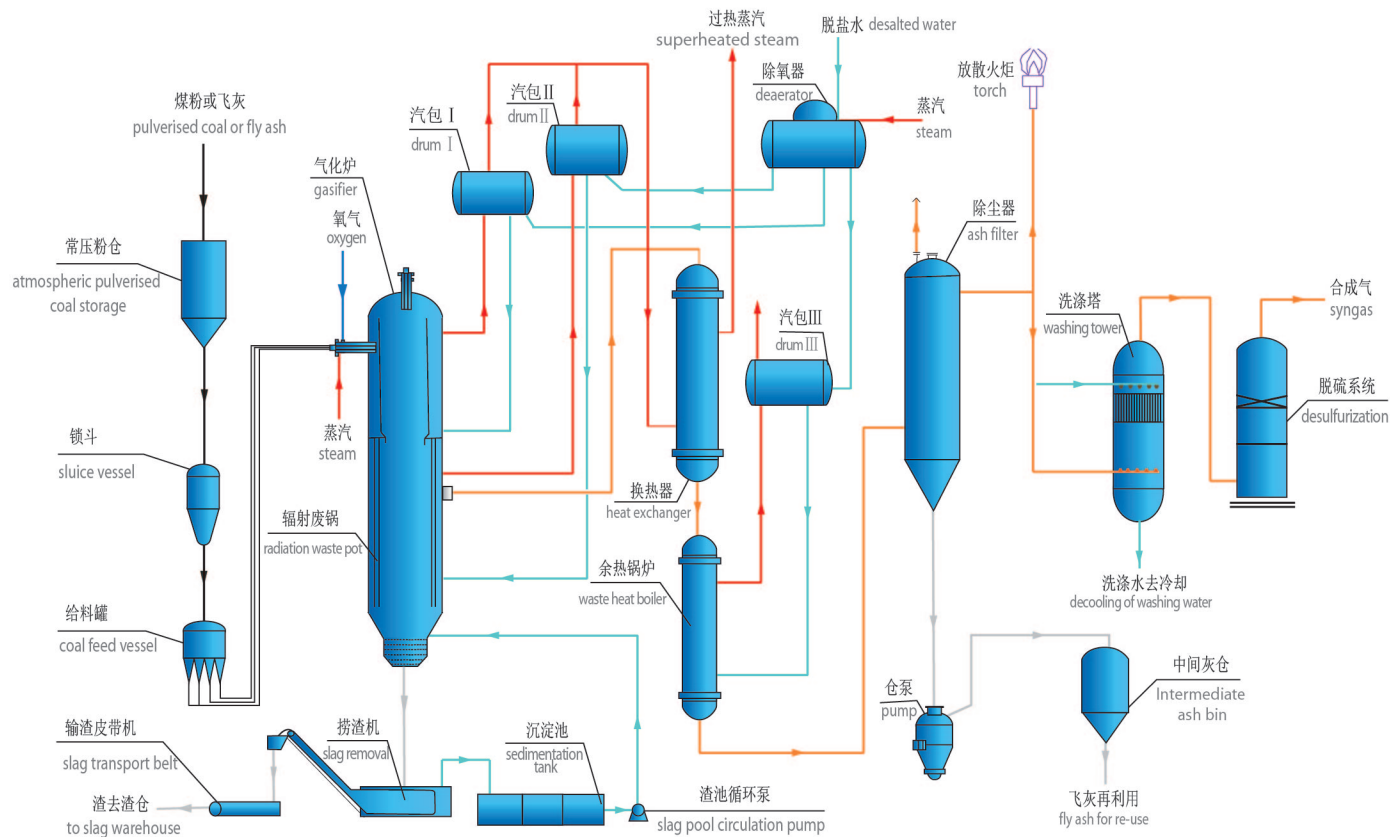
# PRODUCTS

## 产品篇

### 低压气流床气化系统

Low Pressure Entrained-flow Gasification System

- 合成气 syngas
- 氧气 oxygen
- 粉煤 pulverized coal
- 蒸汽 steam
- 飞灰/渣 fly-ash/slag
- 软水/脱盐水 soft/desalted water



低压气流床气化系统工艺流程图  
Flow Chart

### 工艺流程 Process Flow

原煤经磨煤系统干燥制粉处理后 (90%粒径 $\leq 90\mu\text{m}$ , 水份含量 $\leq 2\%$ ) 送入给粉系统, 经给粉系统加压输送至煤烧嘴, 在煤烧嘴头部与蒸汽、氧气接触发生剧烈燃烧形成高温射流在炉膛内经过充分氧化还原反应生成粗合成气。此过程中煤粉燃尽后剩余的灰份发生熔融粘连, 形成液态渣。部分液态渣粘在炉壁形成固态渣层; 部分液态渣随合成气下行落入渣池, 经水激冷后由渣系统送往渣堆场。合成气经后续系统设备降温、除尘、脱硫后供给下游用户使用。

### 工艺特点 Features

- 煤种适应性广:** 反应温度高 (1500~1700℃), 运行压力 0~1.6MPa, 可气化多种煤。
- 清洁:** 生产过程中无焦油、酚类物质产生, 煤气中 $\text{H}_2\text{S}$ 含量 $\leq 20\text{mg}/\text{Nm}^3$ , 粉尘含量 $< 1\text{mg}/\text{Nm}^3$ , 煤气清洁程度高。
- 高效:** 煤炭综合利用率 $\geq 98\%$ , 热回收效率 $\geq 95\%$ ; 纯氧气化,  $\text{CO} + \text{H}_2 \geq 85\%$ ; 干煤粉气化, 比氧耗、比煤耗低。
- 产能高:** 单炉产气量可达 $100\text{kNm}^3/\text{h}$ , 可调负荷 50%~120%。
- 运行安全稳定:** 气化炉为水冷壁结构, 气渣同流, 使用寿命长, 可实现长周期运行。

The coal is sent to the powder system after coal milling and drying system (90% particle size  $\leq 90\mu\text{m}$ , moisture  $\leq 2\%$ ), and then transmitted to the coal burners by pressurizing. In the head of the coal burner, with steam and oxygen contact, a high temperature jet stream was formed with intense combustion in the furnace. In the process of coal combustion, the remaining ash will melt and adhesion, forming liquid slag. Some of the liquid slag is stuck to the furnace wall to form solid slag layer; some of the liquid slag falls into the slag pool with the syngas, and the slag is sent to the slag dump after cooled in the cold slag handling system. The syngas is used after cooling, dusting and desulphurization.

- Wide adaptability:** high reaction temperature (1500~1700℃), operating pressure 0~1.6MPa, wide adaptability for kinds of coal.
- Clean:** in the process, no discharge of tar and phenol-cyanogen waste-water; in the gas,  $\text{H}_2\text{S} \leq 20\text{mg}/\text{Nm}^3$ , dust  $< 1\text{mg}/\text{Nm}^3$ .
- Efficient:** comprehensive utilization of raw coal  $\geq 98\%$ , thermal recovery efficiency  $\geq 95\%$ ; dry pulverized coal gasification, in the condition of pure oxygen as gasification agent,  $\text{CO} + \text{H}_2 \geq 85\%$ ; lower oxygen consumption ratio and coal consumption ratio.
- High productive capacity:** the gas production of single gasifier can be up to  $100\text{kNm}^3/\text{h}$ ; and the scope of adjustable load lies in 50%~120%.
- Safe and stable operation:** applies water cooled wall structure to gasifier, can realize long period operation.

### 煤质指标 Coal index

推荐煤种 Recommended coal	煤的热值 Qnet,ar	全水 Mt	空干基灰分 Aad	灰熔点 F.T.	操作窗口 Operating-window	可磨指数 HGI
烟煤、无烟煤、贫瘦煤等 Bituminite, anthracite, meager-lean coal	$\geq 4800\text{kcal}/\text{kg}$	$\leq 15\%$	12~35%	$\leq 1450^\circ\text{C}$	$> 80^\circ\text{C}$	$> 60\%$

### 煤气成分 Gas composition

99%富氧作为气化剂时, 煤气的成分如下表:  
If 99% oxygen-enriched air for gasifying agent, the gas composition are as follows:

主要成分 Component	CO	$\text{H}_2$	$\text{CH}_4$	$\text{CO}_2$	$\text{N}_2$	Qnet/kcal/Nm <sup>3</sup>
体积 (%) Vol.-%	60~70	13~25	0~1	2~5	8~13	$\geq 2400$



# ACHIEVEMENTS

## 业绩篇

科达洁能目前在国内外已承建清洁煤制气装置102套。应用范围涉及陶瓷、氧化铝、碳素、玻璃、钢铁、焦化、合成氨、金属镁、化工等多个行业。

KEDA has contracted clean coal gasification equipment 100 sets at home and abroad. Application fields cover ceramic, aluminum, carbon, glass, steel, cooking, synthetic ammonia, magnesium, coal chemical industry, etc.

### 赤峰启辉铝业发展有限公司

Chifeng Qihui Aluminum Development Co., Ltd.  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 7 $\times$ 60  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 鄂托克旗建元煤化科技有限责任公司

Etuokeqi Jianyuan Coal Chemical Technology Co., Ltd.  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 7 $\times$ 60  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 南阳汉冶特钢有限公司

Nanyang Hanye Special Steel CO.,Ltd.  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 1 $\times$ 60  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 新疆天龙矿业股份有限公司

Xinjiang Heaven Dragon Mining Co., Ltd.  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 2 $\times$ 10  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 国家电投集团贵州遵义产业发展有限公司

Spic Guizhou Zunyi Industry Development Co., Ltd.  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 2 $\times$ 40  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 贵州华锦铝业有限公司

Guizhou Huajin Aluminum Co., Ltd.  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 3 $\times$ 40  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 广西信发铝电有限公司

Guangxi Xinfu Aluminum Refinery Co., Ltd.  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 4 $\times$ 10+8 $\times$ 20+2 $\times$ 40  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 印尼宾坦氧化铝有限公司

PT. BINTAN ALUMINA INDONESIA  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 6 $\times$ 40  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 印尼瑞兴陶瓷厂

PT. JUI SHIN INDONESIA  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 1 $\times$ 40  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 印度尼西亚PT BAI公司

PT. BAI INDONESIA  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 2 $\times$ 40  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 山西信发化工有限公司

Shanxi Xinfu Chemical Co., Ltd.  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 8 $\times$ 20+3 $\times$ 60  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 河北田原化工集团有限公司

Hebei Tianyuan Chemical Group Co., Ltd.  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 2 $\times$ 45+1 $\times$ 20  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 沈阳科达洁能燃气有限公司

KEDA( Shenyang) Clean Energy Gas Co., Ltd.  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 22 $\times$ 10  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 山东东岳能源交口肥美铝业有限责任公司

Jiaokou Feimei Aluminum Co., Ltd.  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 10 $\times$ 20  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 中铝集团山西交口兴华科技股份有限公司

Chinalco Shanxi Jiaokou Xinghua Technology Co., Ltd.  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 1 $\times$ 40  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 东方希望晋中铝业有限公司

East Hope Jinzhong Aluminum Co., Ltd.  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 2 $\times$ 50  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 巢湖云海镁业有限公司

Chaohu Yunhai Magnesium Industry Co., Ltd.  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 2 $\times$ 50  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 山西复晟铝业有限公司

Shanxi Fu Sheng Aluminum Co., Ltd.  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 2 $\times$ 40  
Scale ( set $\times$  kNm<sup>3</sup>/h )

### 开曼铝业(三门峡)有限公司

Kaiman Aluminum (Sanmenxia) Co.,Ltd.  
规模 (台数 $\times$  kNm<sup>3</sup>/h) : 4 $\times$ 40  
Scale ( set $\times$  kNm<sup>3</sup>/h )



# PROJECT REFERENCES

## 案例篇



### 沈阳·法库项目 Faku, Shenyang

沈阳科达洁能燃气有限公司成立于2010年4月, 占地面积470亩, 旨在为法库县陶瓷企业提供优质能源解决方案。此项目为辽宁省重点建设项目之一, 对于促进区域经济发展, 具有巨大的社会和经济效益。

已建22套10kNm<sup>3</sup>/h清洁煤制气装置: 一期20套循环流化床及二期2套10kNm<sup>3</sup>/h常压气流床清洁煤制气装置。向沈阳法库陶瓷工业园连续稳定供气; 站内循环流化床煤气化装置共设四组, 每组5套, 单套产气量为10kNm<sup>3</sup>/h, 热值在1600kcal/Nm<sup>3</sup>以上(富氧工况)。

Shenyang KEDA Clean Energy Gas Co., Ltd., was established in Apr. 2010, with the total area of 320,000m<sup>2</sup>. The company aims to provide an energy supply solution for the ceramic producers in Faku country. This project is one of the key construction projects in Liaoning Province and has great social and economic benefits for promoting regional economic development.

So far, it has 22 sets of 10kNm<sup>3</sup>/h clean coal gasification equipment. The 20 sets of 10kNm<sup>3</sup>/h circulating fluidized bed gasification equipment and 2 sets of 10kNm<sup>3</sup>/h entrained-flow gasification equipment supplied gas to Faku Ceramic Industrial Park. The heat value of clean coal gas (CFBC) is more than 1,600 kcal/Nm<sup>3</sup> (oxygen enrichment condition), with the mixture of oxygen-enriched air and steam as gasification agent.

沈阳清洁煤制气装置包括储煤系统、气化系统、除尘系统、脱硫系统、空分系统及操作系统等。

It was composed of coal storage system, gasification system, flyash removal system, desulphurization system, air separation system, operating system and so on.

**储煤系统:** 圆形煤仓, 储煤量4万吨, 可供气化系统正常运行20天。采用全自动运输系统, 输煤管道大都深埋地下, 有效节约了地面空间, 系统运行更安全可靠。

Coal storage system: round coal bunker, with a coal storage capacity of 40,000 tons, and it can normally operate for 20 days. With an automated transport system, most of the coal pipelines are buried deep underground, effectively saving floor space and making the system safer and more reliable.

**气化系统:** 采用KEDA清洁煤气化技术, 粉煤在气化炉内均匀燃烧, 高温下挥发分裂解燃烧完全, 生产过程中无焦油、酚氰等污染物产生。

Gasification system: using KEDA clean coal gasification technology, pulverized coal is uniformly burned in the gasifier, and the volatiles are completely pyrolyzed and burned under high temperature. No discharge of tar and phenol-cyanogen waste-water in the process.

**布袋除尘系统:** 工作温度可达180~220°C, 对0.5μm以上的微尘, 除尘效率达99.99%, 除尘后煤气粉尘含量≤10mg/Nm<sup>3</sup>。

Flyash removal system: the working temperature can be up to 180~220°C, and the dust removal efficiency can reach 99.99% for fine dust of over 0.5μm, and the gas dust content after dust removal should be no more than 10mg/Nm<sup>3</sup>.

**脱硫系统:** 采用湿法脱硫, 脱硫效率95%以上; 4套脱硫系统, 总处理能力200kNm<sup>3</sup>/h。脱硫后, 煤气中H<sub>2</sub>S≤20mg/Nm<sup>3</sup>, 满足环保要求。

Desulphurization system: adopted with wet desulphurization technology and the desulphurization efficiency is higher than 95%; the whole capacity of 4 sets system is 200kNm<sup>3</sup>/h. After desulphurization, H<sub>2</sub>S content in gas ≤ 20mg/Nm<sup>3</sup>.

**空分系统:** 采用深冷空分技术, 制氧纯度可达99.6%; 2套空分系统, 每套制氧量为10kNm<sup>3</sup>/h。采用富氧技术可满足客户对高热值煤气的需求。

Air separation system: using cryogenic air separation technology, oxygen purity can reach 99.6%; 2 sets of air separation systems, each set of oxygen production capacity is 10kNm<sup>3</sup>/h. Oxygen-enriched technology is used to satisfied customer demand for high-calorie gas.

**操作系统:** 采用DCS控制系统, 管控一体化配置; 系统的高自动化减少了人员配置。

Operating system: DCS control system, integrates management and control; the high automation of the system reduces the personnel configuration.





## 印尼·宾坦项目 BINTAN, Indonesia

印尼宾坦项目是我公司首个海外氧化铝项目，项目分三期建设，一期3套40kNm<sup>3</sup>/h清洁煤制气装置、二期2套40kNm<sup>3</sup>/h清洁煤制气装置、三期1套40kNm<sup>3</sup>/h清洁煤制气装置，气化煤种均采用印尼褐煤。

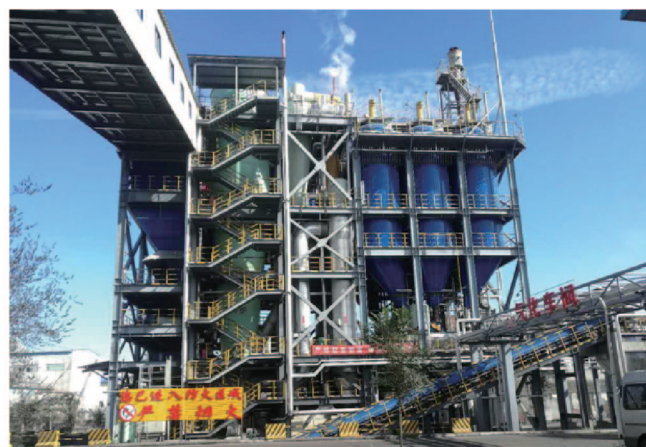
The Bintan project in Indonesia is the first overseas alumina project for KEDA. The project is constructed in three phases, including 3 sets of 40kNm<sup>3</sup>/h CFBC clean coal gasification equipment in the first phase, 2 sets of 40kNm<sup>3</sup>/h CFBC clean coal gasification equipment in the second phase, and 1 set of 40kNm<sup>3</sup>/h CFBC clean coal gasification equipment in the third phase, and gasification coals all use Indonesian lignite coal.



## 新疆·阜康项目 Fukang, Xinjiang

2017年6月，新疆天龙矿业2套10kNm<sup>3</sup>/h清洁煤制气装置投入运行，煤气热值约1450kcal/Nm<sup>3</sup>。是公司继在氧化铝和陶瓷行业之后，首次将循环流化床气化技术应用于碳素行业。

In Jun. 2017, 2 sets of 10kNm<sup>3</sup>/h CFBC clean coal gasification equipment put into operation in Xinjiang heaven dragon mining Co., Ltd., it is the first time for the company to apply circulating fluidized bed gasification technology to carbon industry after alumina and ceramic industry.

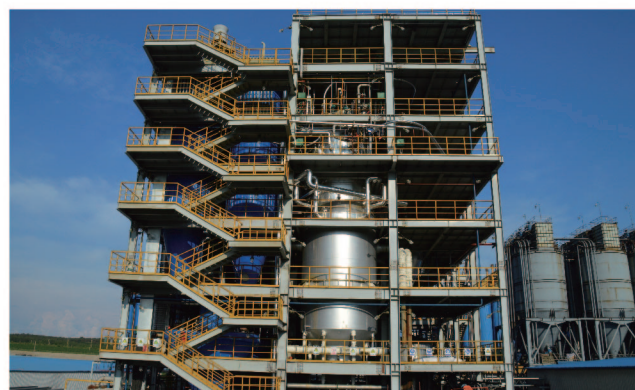


## 沈阳·法库项目 Faku, Shenyang

2015年7月，2套10kNm<sup>3</sup>/h常压气流床煤制气装置投入运行，以一期建设的循环流化床装置所产飞灰为原料，高富氧条件下气化，生产煤气热值≥2350kcal/Nm<sup>3</sup>。

In Jul. 2015, 2 sets of 10kNm<sup>3</sup>/h atmospheric pressure entrained-flow gasification equipment put into operation in Shenyang KEDA Clean Energy Gas Co., LTD. has been supplied gas since then.

Take the fly-ash produced by CFBC gasification equipment as raw material, it can provide clean coal gas with a calorific value of more than 2350kcal/Nm<sup>3</sup>, under the condition of high oxygen-enriched air as gasification agent.



## 山西·孝义项目

Xiaoyi, Shanxi

2014年8月，信发集团山西孝义8套20kNm<sup>3</sup>/h清洁煤制气装置投入运行。项目建成后，为氧化铝焙烧提供了清洁稳定的燃料，大大降低了企业的生产成本。

2018年8月，信发集团3套60kNm<sup>3</sup>/h清洁煤制气装置点火运行。

In Aug. 2014, 8 sets of 20kNm<sup>3</sup>/h CFBC clean coal gasification equipment put into operation in Xinfu Group, located in Xiaoyi City, Shanxi Province. After the project was completed, it provided clean and stable fuel for alumina roasting, which greatly reduced the production cost of the enterprise.

In Aug. 2018, 3 sets of 60kNm<sup>3</sup>/h CFBC clean coal gasification equipment in Xinfu Group put into operation.



## 广西·靖西项目

Jingxi, Guangxi

2012年-2014年，广西信发铝电有限公司先后订购4套10kNm<sup>3</sup>/h、8套20kNm<sup>3</sup>/h、2套40kNm<sup>3</sup>/h清洁煤制气装置。

2013年起，一期、二期、三期项目陆续建成投产使用，合计产气量达280kNm<sup>3</sup>/h，可满足厂区内氧化铝生产需求。

采用科达循环流化床煤气化生产工艺替代原有落后的单段式煤气发生炉制气工艺，极大的改善了环境污染问题，提高了煤气化效率，经业主核算每吨氧化铝可节约成本100元左右，年节约成本2.8亿元。

2012-2014, Guangxi Xinfu Aluminum Refinery ordered 4 sets of 10 kNm<sup>3</sup>/h, 8 sets of 20 kNm<sup>3</sup>/h, and 2 sets of 40 kNm<sup>3</sup>/h clean coal gasification equipment.

Since 2013, phase I, phase II and phase III projects have been completed and put into operation, and the total gas production capacity is 280kNm<sup>3</sup>/h, which can meet the demand of alumina production in the factory.

Use KEDA circulating fluidized bed coal gasification system to replace the original backward single sections of gas occurrence boiler gasification system, greatly improving the environmental pollution problem, improve the efficiency of the coal gasification, the owner accounting alumina can save costs 100 yuan per ton, save costs 280 million yuan.





# POLICIES

## 外界声音

### 大力推动煤炭的清洁高效利用。

We will vigorously promote the clean and efficient use of coal.

——2020年9月，中共中央总书记、国家主席、中央军委主席、中央财经领导小组组长 习近平

In Sep. 2020, Xi Jinping, general secretary of the CPC central committee, President of the state, chairman of the central military commission and leader of the central economic and financial leadership group.

### 推进煤炭清洁高效利用。

We will promote the clean and efficient use of coal.

——2020年5月，中共中央政治局常委、国务院总理 李克强

In May 2020, the standing committee of the political bureau of the CPC central committee and premier li keqiang of the state council.

### “十四五”期间，加强煤炭能源清洁高效利用，是在更大量级上缓解石油和天然气进口压力的重要手段。

During the "14th Five-Year Plan" period, strengthening the clean and efficient use of coal energy is an important means to alleviate the pressure on oil and natural gas imports on a larger scale.

——2020年7月 全国政协委员、北京化工大学能源中心主任 刘振宇

In Jul., Member of the National Committee of the Chinese People's Political Consultative Conference, Director of Beijing University of Chemical Technology Energy Center, Zhenyu Liu,

### 中国的能源结构与供需关系决定了中国必须大力地推进煤炭清洁高效可持续开发利用，并以此作为能源转型发展的立足点和首要任务。

China's energy structure and the relationship between supply and demand determine that China must vigorously promote the clean, efficient and sustainable development and utilization of coal, and use this as the foothold and primary task of energy transformation and development.

——2019年5月，中国工程院院士、煤化学工程专家 谢克昌

In may 2019, Academician of Chinese Academy of Engineering, Expert of Coal Chemical Engineering, Kechang Xie

### 中国要按照清洁低碳的发展方向，找到符合中国实际的转型发展路径，实现化石能源清洁高效利用。

China should follow the direction of clean and low-carbon development, and find a transformation development path that is in line with China's actual conditions, and realize the clean and efficient utilization of fossil energy.

——2017年5月 国家能源局监管总监 李冶

In May 2017, Director of National Energy Board, Li Ye

### 以煤为主是符合我国资源禀赋条件的不可变化的事实，其他替代能源只能是辅助能源，而不能成为主力。

Taking coal as the main factor is in conformity with the fact that the resource endowments of our country cannot be changed. Other alternative energy sources can only be auxiliary energy, but cannot be the main force.

——2017年5月 中国工程院院士、清华大学教授 倪维斗

In May 2017, Academician of Chinese Academy of Engineering, Professor of Tsinghua University, Ni Weidou