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公司业绩遍布国内70余家钢铁企业，以及巴西、印度、马来西亚、越南、孟加拉、菲律宾、津巴布韦、安哥拉、秘鲁、沙特等多个国家。

公司是北京市高新技术企业，获得国家科学技术奖和全国优秀设计奖等30余项、冶金行业和北京市优秀设计及科技成果奖等近300项，拥有数百项专利技术，多个项目创中国企业新纪录。

BSIET is an international engineering company established through reorganization of Beijing Shougang Design Institute. It is invested by Shougang Group who takes relative majority of the share.

BSIET has the Engineering Design Integrated Qualification Class A issued by the State. It is the first unit of Beijing municipal enterprises awarded this Qualification and is able to undertake engineering design for all industries and all grades. Meanwhile, it can provide technical services such as planning consultation, equipment integration and general contracting. BSIET owns unique technology and rich practical experience in overall design of iron and steel plants, individual design for iron making, steel making, steel rolling, sintering, pelletizing, coking, industrial furnace and integration of metallurgical equipment.

BSIET has served more than 70 iron and steel enterprises in China, and has its achievements in more than 20 countries such as India, Malaysia, Brazil, Viet Nam, Bangladesh, the Philippines, Zimbabwe, Angola, Peru and Saudi Arabia, etc.

BSIET is Hi-tech Enterprise of Beijing City, and has been awarded with 30-odd national science & technology prizes and national excellent design prizes, nearly 300 metallurgical industry and Beijing city excellent design and achievement prizes, and hundreds of national patents. Dozens of projects have created the new records of the Chinese enterprises.

地 址：北京市石景山路60号
邮政编码：100043
电 话：(010) 68872480 (办公室)
(010) 88299085 (国内业务)
传 真：(010) 88295389 (办公室)
(010) 88294937 (国内业务)
网 址： www.bsiet.com 邮箱：bsiet@bsiet.com

Address: No. 60 Shijingshan Road, Beijing, P. R. China
Postal code: 100043
Tel: +86-10-88299017 +86-10-88299030
+86-10-88299033 +86-10-88299157
Fax: +86-10-88291231
Website: www.bsiet.com E-mail: bsiet@bsiet.com

钢铁厂煤气净化及储配工程与技术

GAS PURIFICATION, STORAGE AND DISTRIBUTION FOR IRON & STEEL PLANT

源自百年首钢 服务世界钢铁
Expertise from hundred-year Shougang

北京首钢国际工程技术有限公司
BEIJING SHOUGANG INTERNATIONAL ENGINEERING TECHNOLOGY CO.,LTD.

从上世纪60年代全面完成首钢集团燃气系统设计，到如今为国内外钢铁企业及市政行业提供全面解决方案，首钢国际工程公司在钢铁厂副产煤气净化与储配及市政燃气工程方面，具有突出的技术优势和丰富的实践经验，能够为国内外客户提供以下各类工程的咨询、设计、设备成套与工程总承包服务：

From completing the design of Shougang Group gas system in 1960s to providing overall solutions for iron & steel corporations and municipal industry both home and abroad nowadays, BSIET possesses outstanding technical advantages and rich field experience in iron & steel plant byproduct gas purification, storage & distribution and municipal gas projects, enabling us to provide clients both home and broad engineering consultation, design, equipment integration and EPC services for various projects as follows:

- ◎ 高炉煤气余压发电（TRT）
- ◎ 焦炉煤气二次净化系统
- ◎ 高炉煤气干法除尘系统
- ◎ 转炉煤气干法除尘系统
- ◎ 钢铁厂煤气储配系统
- ◎ 市政燃气输配系统

- ◎ Blast furnace top gas pressure recovery turbine (TRT)
- ◎ Secondary purification system for coke oven gas
- ◎ Dry dedusting system for BF gas
- ◎ Dry dedusting system for converter gas
- ◎ Gas storage & distribution system for iron & steel plant
- ◎ Municipal gas storage & distribution system

工程设计综合甲级资质
Engineering Design Integrated Qualification Class-A

对外承包工程经营资格证书
Qualification certificate for operation of overseas project

压力容器设计许可证
License of pressure container design

压力管道设计许可证
License of pressure piping design

高炉煤气余压发电（TRT）

BF top gas pressure recovery turbine (TRT)

首钢国际工程公司拥有干湿两用和全干式串/并联高炉煤气炉顶余压发电技术，帮助客户高效实现回收高炉余压、降低高炉区域环境噪声、减轻周边社会用电负荷压力、实现环境友好型企业的目标。

技术特点

- ◎ 全干式（或干湿两用）高炉煤气炉顶余压发电装置串并联工艺流程优化（专有技术）
- ◎ 全干式高炉煤气炉顶余压发电装置露天化（专有技术）
- ◎ 大型设备特征（装机容量最大的、三级静叶全部可调的干式TRT机组）及附属设施紧凑型工艺布置优化技术（专有技术）
- ◎ 湿式除尘与干式除尘互为备用，拥有湿法除尘技术在干法除尘运行中的关键数据和运行经验
- ◎ 干/湿法运行的无扰动顶压自动切换技术
- ◎ TRT装置在干法除尘运行中的安全技术
- ◎ 干/湿切换的控制参数优化

技术应用效果

- ◎ 采用压力调节原理，保证炉顶压力的偏差控制在2kPa以内
- ◎ 过一阶转速振动的在线连续监视和联锁控制工艺，强化安全生产
- ◎ TRT机组低压启动的运行方式，提高机组启动时的安全程度，并保证炉顶压力稳定
- ◎ 实现TRT机组在负荷变化的条件下对炉顶压力精确地调节，提高发电量

首钢迁钢 4000m^3 高炉余压发电 TRT 装置
Shougang Qiangang 4000m^3 BF TRT system

BSIET owns the technology of dry & wet and all dry series/parallel BF top gas pressure recovery turbine (TRT), which helps the clients realized effective recovery of BF pressure, noise reduction around BF, reducing electricity work load of neighboring communities and the goal of a environmentally friendly corporation.

Technical features

- ◎ All dry (or dry & wet) BF gas top pressure recovery turbine with series and parallel optimized process flow (specialized technology)
- ◎ Outdoor installation of all dry TRT equipment (specialized technology)
- ◎ Compact process deployment optimization of large equipment (dry TRT unit with all adjustable 3 grade stable blades and largest installed rating capacity) and auxiliary devices (specialized technology)
- ◎ Wet dedusting and dry dedusting back up each other, and BSIET has key data and operation experience in the wet dedusting technology applied in dry conditions
- ◎ Automatic switch between dry & wet mode without disturbing top pressure
- ◎ Safety technology of TRT devices in dry dedusting operation
- ◎ Control parameter optimization in dry/wet switching

Technical performance

- ◎ Adopting pressure adjustment methods controls the top pressure deviation below 2kPa
- ◎ Continuous online supervision over first order speed vibration and inter-lock control technology make production safer
- ◎ TRT unit low pressure start-up makes a high safety start-up and a stable top pressure
- ◎ When work load of TRT unit changes, precise adjustment of top pressure can increase electricity

典型工程：首钢3#2536m^{3}高炉余压发电系统

Typical project: Shougang 3#2536m^3 BF TRT system

◎ 服务方式：设计

◎ 投产时间：2003年1月

◎ 系统特点

该项目在吸取了国内外先进的 TRT 技术基础上，采用 TRT 与减压阀组串联的工艺流程，首创了大型高炉干、湿两用 TRT 技术，以及 TRT 低压启动技术，实现了煤气的全流量回收；采用炉顶压力串级调节，使高炉炉顶压力的控制精度大大提高。

◎ 运行情况

该项目自 2003 年 4 月投产，系统运行稳定、可靠，在回收了电能的基础上，大大降低了高炉煤气清洗区域的噪音，创造了可观的经济效益和社会效益。小时平均发电量 9000-10000kW，高炉炉顶压力控制精度 2kPa。

◎ Service: Design

◎ Start-up time: January, 2003

◎ System features

This program combined advanced TRT technologies from home and abroad. By combining TRT with pressure reducers in series, BSIET originally created a dry & wet TRT technology and TRT low pressure start-up technology, which realized a full recovery of BF gas; top pressure adjustment in series greatly improved the control precision of BF top pressure.

◎ Operation performance

Since the start-up in April, 2003, this system ran steadily and safely and therefore effectively recovered the energy and reduced the noise level around BF gas cleaning zone as well as created a remarkable economic and social benefits. Power generation reached 9000-10000kW/h, and control precision of BF top pressure reached 2kPa.

首钢京唐 5500m^3 高炉余压发电 TRT 装置
Shougang Jingtang 5500m^3 BF TRT system

应用业绩 Applications

序号 No.	工程名称 Project name	装机容量 Installed rating capacity	实施方式 Service	投产时间 Start-up time	备注 Remark
1	首钢3#2536m^{3}高炉TRT系统 Shougang 3#2536m^3 BF TRT system	15000kW	设计 Design	2002.4	冶金科学技术三等奖 北京市科技进步三等奖 冶金行业部级优秀工程设计三等奖 3rd Prize of Science and Technology in Metallurgical Industry 3rd Prize of Beijing Science and Technology Progress 3rd Prize of Excellent Design in Metallurgical Industry
2	首钢1#2536m^{3}高炉TRT系统 Shougang 1#2536m^3 BF TRT system	15000kW	设计 Design	2002.4	冶金科学技术三等奖 北京市科技进步三等奖 冶金行业部级优秀工程设计三等奖 3rd Prize of Science and Technology in Metallurgical Industry 3rd Prize of Beijing Science and Technology Progress 3rd Prize of Excellent Design in Metallurgical Industry
3	首秦1#1200m^{3}高炉TRT系统 Shouqin 1#1200m^3 BF TRT system	6400kW	设计 Design	2004.10	
4	首秦2#1780m^{3}高炉TRT系统 Shouqin 2#1780m^3 BF TRT system	12000kW	设计 Design	2005.8	
5	首钢迁钢1#2650m^{3}高炉TRT系统 Shougang Qiangang1#2650m^3 BF TRT system	15000kW	设计 Design	2006.5	
6	首钢迁钢2#2650m^{3}高炉TRT系统 Shougang Qiangang 2#2650m^3 BF TRT system	15000kW	设计 Design	2006.7	
7	首钢京唐1#5500m^{3}高炉TRT系统 Shougang Jingtang 1#5500m^3 BF TRT system	36500kW	设计 Design	2007.9	
8	宣钢10#2500m^{3}高炉TRT系统 Xuangang 10#2500m^3 BF TRT system	15000kW	总承包 EPC	2008.3	冶金行业全国优秀工程总承包三等奖 3rd Prize of National Excellent Project General Contract in Metallurgical Industry
9	首钢京唐2#5500m^{3}高炉TRT系统 Shougang Jingtang 2#5500m^3 BF TRT system	36500kW	设计 Design	2008.5	
10	宣钢8#2000m^{3}高炉TRT系统 Xuangang 8#2000m^{3}BF TRT system	15000kW	总承包 EPC	2011.8	

焦炉煤气二次净化

Secondary purification of coke oven gas

首钢国际工程公司将塔式焦炉煤气精制工艺应用于钢铁厂焦炉煤气净化，并结合钢铁厂自身特点，不断创新优化，使该技术能够很好地适应钢铁生产要求。

技术特点

◎ 脱硫同时一并脱除焦油、萘、NH_3、HCN等杂质，工艺流程简单，操作简便，净化成本低

◎ 优先脱除硫化氢后的TSA吸附工艺，使吸附剂寿命大大提高

◎ 脱萘塔煤气再生，改善操作环境

◎ 活动栅板卸料技术，降低工人劳动强度

焦炉煤气二次净化系统（脱萘侧）
Secondary purification system of coke oven gas (side of denaphthalene)

BSIET applies tower oven gas refining technology to the coke oven gas purification and optimizes this technology according to plant's own characters to meet the production requirements.

Technical features

◎ Desulphurization is conducted together with the elimination of inclusion like coke tar, naphthalene, NH_3, HCN etc. This process flow is simple and easy as well as profitable for purification

◎ TSA adsorption process which primarily removes SH_2 can greatly increase adsorbent life

◎ Naphthalene scrubber gas regeneration improves operation environment

◎ Active bar fence discharging lowers the work load

应用业绩 Applications

序号 No.	工程名称 Project name	处理能力 Capacity （m^3/h）	实施方式 Service	投产时间 Start-up time
1	首钢迁钢一期 Shougang Qiangang Phrase I	4000	设计 Design	2003.12
2	首钢京唐 Shougang Jingtang	2X55000	设计 Design	2007.12
3	首钢迁钢配套完善 Shougang Qiangang supporting projects	45000	设计 Design	2009.10
4	首钢冷轧 Shougang cool rolling	55000	设计 Design	2010.1

典型工程：首钢迁钢配套完善项目45000m^3/h焦炉煤气精制

Typical project: Shougang Qiangang supporting projects of 45000m^3/h of coke gas purification

◎ 服务方式：设计

◎ 投产时间：2009年10月

◎ 系统特点

采用先精制后加压的工艺流程，避免了因煤气加压而引起煤气温度过高，进而对后序的煤气吸附造成不利影响。煤气脱硫塔采用可串可并方式，提高脱硫剂的利用效率。活动栅板卸料技术，可将填料直接卸到运输车辆内，降低了工人的劳动强度。

◎ 运行情况

目前，该系统运行平稳，产品气杂质含量达到或优于设计值，产品气用于迁钢 150MW 煤气 - 蒸汽联合循环发电项目，完全满足工艺要求，为高效利用钢铁厂副产煤气提供了可靠保障。

◎ Service: Design

◎ Start-up time: October,2009

◎ System features

Putting pressurization after purification avoids the over high temperature cause by pressurization and the disadvantages for the sequent gas adsorption. Gas desulphurization tower adopts both tandem and parallel modes and increases the efficiency of desulphurizer. Active bar fence can discharge fillings directly into transport cars, which lowers human work load.

◎ Operation performance

This system run smoothly so far and product gas inclusion content reached or surpassed the designed value. Product gas is used in Qiangang 150MW gas-steam combined electricity generating project and fully meets the process requirements, which provides reliable method to use the byproduct-gas of iron & steel plant.

焦炉煤气二次净化系统（脱硫侧）
Secondary purification system of coke oven gas (side of desulphurization)

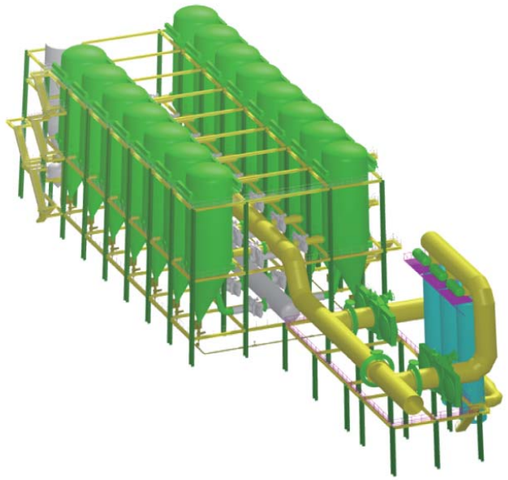
高炉煤气干法除尘

Dry dedusting of BF gas

作为首创单位，首钢国际工程公司在高炉煤气干法除尘技术发展上始终走在行业前列，拥有 19 项专利技术和 10 余座 1000m^3 以上高炉的应用业绩。公司主编了《高炉煤气干法袋式除尘设计规范》国家标准并承担了“十一五”国家科技支撑计划项目相关课题研究。

技术特点

◎ 紧凑化工艺布置技术。自主研发了除尘器箱体双侧脉冲清灰技术，实现除尘装备单元装置大型化、集约化、高效化
◎ 降温技术。自主研发的降温装置可使温降达70℃以上，运行效果好，确保高炉顶温短时偏高时干法除尘系统滤袋正常运行
◎ 新型滤料技术
◎ 全系统智能检测及过程自动化
◎ 管道防腐复合技术
◎ 干法除尘与大功率TRT发电耦合技术
◎ 除尘灰浓相气力输送技术



高炉煤气干法除尘系统三维设计
Three-dimensional design of BF gas dry dedusting system

技术应用效果

◎ 生产稳定以后箱体压差控制在2kPa～3kPa
◎ 净煤气含尘量长期稳定在2mg/m^3～4mg/m^3
◎ 煤气降温装置使用效果良好，滤袋寿命达到2年
◎ 年平均吨铁TRT发电量达到53kWh，高于湿法除尘45%

As a pioneer in dry dedusting technology, BSIET has always been a leading company with 19 patents and completion of 10 odd BFs with an over 1000m3 capacity. BSIET compiled a national standard of Design Specification for Dry Bag Dedusting of BF Gas and undertook the related research on National Technology Supporting Plan Projects during the “Eleventh Five-Year Plan”.

Technical features

◎ Compact process deployment. BSIET independently developed the pulse dust cleaning method on both sides of the precipitator, which makes large scale, intensive and high efficient dedusting equipment possible
◎ Independently developed cooling device can reduce temperature more than 70℃ and has a good performance, which insures a stable running of the filter bags of dry dedusting system when BF gas temperature is too high
◎ New type of filter material
◎ All system intelligent detection and automation
◎ Combined anticorrosive technology for piping
◎ Dry dedusting and high power TRT generating coupling technology
◎ Ash dense-phase transportation technology

Technical performance

◎ Tank differential pressure is controlled in 2kPa-3kPa when running smoothly
◎ Purified gas content is consistent within 2mg/m^3 – 4mg/m^3
◎ Cooling equipment has a good performance, which prolongs the filter bags life to 2 years
◎ TRT Power generation reached 53kWh per ton of iron, which is 45% higher than wet dedusting

宣钢 2500m^3 高炉煤气干法除尘系统
Dry dedusting system for Xuangang 2500m^3 BF gas

首钢迁钢 4000m^3 高炉煤气干法除尘系统
Dry dedusting system for Shougang Qiangang 4000m^3 BF gas

首钢京唐 5500m^3 高炉煤气干法除尘系统
Dry dedusting system for Shougang Jingtang 5500m^3 BF gas

转炉煤气干法除尘

Dry dedusting for converter gas

在引进消化转炉煤气干法除尘工艺的基础上，首钢国际工程公司开发应用了转炉煤气干法除尘安全技术，完善了回收工艺控制，实现了高效化转炉煤气回收。

技术特点

◎ 优化的工艺布置
◎ 高效化的蒸发冷却器工艺
◎ 操作简单的安全冶炼辅助设施
◎ 煤气冷却塔安全水封装置，防止煤气泄漏（专有技术）

转炉煤气干法除尘电除尘器
Dry dedusting electric deduster for converter gas

技术应用效果

◎ 强化蒸发冷却塔喷嘴供水条件，提高降温除尘的可靠性
◎ 蒸发冷却塔喷嘴蒸汽采用转炉自身供应+外部供气联合运行的方式，保证连续用气条件
◎ 优化蒸发冷却塔入口烟气导流板，提高蒸发冷却塔降温调质效果
◎ 电除尘器的分布板采用耐热不锈钢材料，增加抗腐蚀性能
◎ 增加电除尘器电场极线厚度，延长电除尘器的寿命，提高可靠性
◎ 取消放散烟囱点火装置助燃风机，采用气体密封的点火控制装置

专利技术

◎ 脱碳转炉废气处理采用干法除尘工艺电除尘不泄爆的方法（发明）
◎ 一种释放转炉煤气干法除尘工艺管道内传播压力的装置（实用新型）
◎ 转炉煤气干法净化设备的自动抑爆装置（实用新型）
◎ 一种用于模拟泄爆阀压力释放性能的实验装置（实用新型）
◎ 一种用于泄爆阀弹簧组整机性能的静压试验装置（实用新型）
◎ 一种用于脱碳转炉干法除尘蒸发冷却器的卸灰装置（实用新型）

Based on introducing and digesting the dry dedusting technology for converter gas, BSIET developed the safety control of dry dedusting for converter gas and improved the recovery process control, realizing a high efficient recovery of converter gas.

Technical features

◎ Optimized process deployment
◎ High efficient evaporative cooler
◎ Easy-going aiding device for safe melting
◎ Safe water-sealed device for gas cooling tower is used to prevent gas leak(specialized technology)

Technical performance

◎ Enhancing the water supply condition at the nozzle of evaporative cooling tower improved the reliability of cooling down and dedusting
◎ The steam from the cooling tower nozzle is supplied by both the converter and external resource, which insures a continuous supply
◎ Optimizing the fume guide plate at the entrance of evaporative cooling tower improves the performance of cooling and content adjustment
◎ Electric deduster distribution plates adopt heat resistant stainless steel which improves the anti-corrosive performance
◎ Increasing electric field intensity of deduster prolongs the life of deduster and increases the reliability
◎ Replace combustion fan of the igniter with air-tight igniter control device

Patents

◎ A method to protect ESP against bleeding and explosion used in dry dedusting process for decarburization converter waste gas treatment (invention)
◎ One kind of device to release the transmitting pressure in converter gas dry dedusting process pipeline (utility model)
◎ Automatic explosion suppressing device for dry purification device of converter gas (utility model)
◎ One kind of test device to simulate the pressure releasing performance of bleeding valve (utility model)
◎ One kind of static pressure test device for overall performance of bleeding valve spring set (utility model)
◎ One kind of dust damping device used on decarburization converter dry dedusting evaporation cooler (utility model)

转炉煤气干法除尘煤气冷却器
Dry dedusting cooler for converter gas

典型工程：首钢迁钢二炼钢厂210t转炉（4#、5#）干法除尘系统

◎ 服务方式：设计

◎ 投产时间：2009年12月

◎ 系统特点

进行多项技术优化，确保系统的高效、可靠运行，如：蒸发冷却塔喷嘴供水改为净水；入口导流板迎气面积方位调整；强化电除尘器入口气流分配板功能；增加电除尘器极线材质及厚度；应用先进的流体密封燃烧器代替国外燃烧器引风技术等。同时，管道设备流程化布置流畅简约，卸输灰系统紧凑流畅。

◎ 运行情况

目前，该系统运行平稳，泄爆率满足安全需要，各项技术指标达到国内领先水平。回收后的煤气直接供给炼钢白灰窑及轧钢加热炉使用，大大节约了生产成本。

Typical project: Dry dedusting system of 210t converter (4#, 5#) for Shougang Qiangang No.2 steelmaking plant

◎ Service: design

◎ Start-up time: December,2009

◎ System features

Optimizing several technologies insures a high efficient and reliable system, for example: supplying non-contact water for steam cooling tower nozzle; adjusting the position of guide plate at the entrance; enhancing functions of flow distribution plate at the entrance of electric deduster; increasing the quality and thickness of wire of electric deduster; replacing the guide wind method of foreign burner with the advanced fluid sealed burner. At the same time, piping device has a smooth and brief deployment according to the process flow and the dust discharging and transporting system is compact and smooth.

◎ Operation performance

This system runs smoothly for now, and bleeding and explosion rate meet the requirements of safety. All technical indexes reached a leading position in China. The recovered gas is used directly for lime kiln of steelmaking and reheating furnace, which greatly saved the cost.

转炉煤气干法除尘煤气放散塔
Dry dedusting bleeder tower for converter gas

煤气柜
Gas holder

首钢国际工程公司煤气柜技术具有储气压力高、升降速度快、吞吐煤气量大等优势，并拥有不同贮气压力煤气柜的丰富应用业绩，首钢京唐全厂副产煤气储配中心，煤气柜总容积 122 万 m^3。

技术特点

◎ 柜体结构合理

◎ 稀油密封装置简单可靠，压紧部分简化，结构有利于制作和调节（专有技术）

专利技术

◎ 干式煤气柜调节活塞运动偏差的弹簧导轮装置（实用新型）

◎ 一种干式煤气柜约束活塞水平移动防回转装置（实用新型）

◎ 一种干式煤气柜顶部预备油箱的供油装置（实用新型）

◎ 一种用于干式煤气柜约束活塞运动偏差的固定导轮装置（实用新型）

BSIET's gas holder technologies have advantages of high storage pressure, fast lifting speed and huge gas throughput etc. BSIET also has abundant experience in different pressure gas holder design. Shougang Jingtang side-product gas storage and distribution center has a total volume of 1220000m^3.

Technical features

◎ Rational structure of tank body

◎ Simple and reliable oil sealed device, simplified pressing part, structure is good for manufacturing and adjustment (specialized technology)

Patents

◎ Spring guiding wheel device to regulate deviation of piston movement in dry gas holder (utility model)

◎ One kind of anti-swing device to limit the horizontal movement of piston in dry gas holder (utility model)

◎ Oil supply device of top provision oil tank for dry gas holder (utility model)

◎ Fixed guiding wheel device to regulate deviation of piston movement in dry gas holder (utility model)

首钢京唐煤气柜区
Shougang Jingtang gas holder area

应用业绩 Applications

序号 No.	用户名称 Owner	气柜容积 Tank volume (m^3)	气柜类型 Tank type	介质 Media	投产日期 Start-up time	服务方式 Service
1	首秦公司 Shouqin Corp.	80000	布帘密封干式柜 drape seal dry gas holder	转炉煤气 converter gas	2000	设计 design
		150000	多边形稀油密封干式柜 polygon oil sealed dry gas holder	高炉煤气 BF gas	2000	
2	包钢二炼钢 Baogang No.2 steelmaking plant	80000	布帘密封干式柜 drape seal dry gas holder	转炉煤气 converter gas	2000	总承包 EPC
3	首钢新钢公司 Shougang Xingang Corp.	80000	布帘密封干式柜 drape seal dry gas holder	转炉煤气 converter gas	2001	设计 design
4	首钢迁钢公司 Shougang Qiangang Corp.	150000	多边形稀油密封干式柜 polygon oil sealed dry gas holder	高炉煤气 BF gas	2001	设计 design
		80000	布帘密封干式柜 drape seal dry gas holder	转炉煤气 converter gas	2001	
		150000	多边形稀油密封干式柜 polygon oil sealed dry gas holder	焦炉煤气 coke oven gas	2002	
		80000	布帘密封干式柜 drape seal dry gas holder	转炉煤气 converter gas	2002	
5	四川德胜钢铁公司 Desheng iron&steel Corp., Sichuan	20000	布帘密封干式柜 drape seal dry gas holder	转炉煤气 converter gas	2002	设计 design
6	江西南昌钢铁公司 Nanchang iron& steel Corp., Jiangxi	50000	布帘密封干式柜 drape seal dry gas holder	转炉煤气 converter gas	2006	总承包 EPC
7	山东富伦钢铁公司 Fulun iron&steel Corp. Shandong	150000	多边形稀油密封干式柜 polygon oil sealed dry gas holder	高炉煤气 BF gas	2006	设计 design
8	首钢京唐钢铁公司 Shougang Jingtang iron& steel Corp.	150000	多边形稀油密封干式柜 polygon oil sealed dry gas holder	焦炉煤气 coke oven gas	2006	设计 design
		2 × 80000	布帘密封干式柜 drape seal dry gas holder	转炉煤气 converter gas	2006	
		80000	布帘密封干式柜 drape seal dry gas holder	转炉煤气 converter gas	2007	
9	山东张店钢铁公司 Zhangdian iron&steel Corp., Shandong	150000	多边形稀油密封干式柜 polygon oil sealed dry gas holder	高炉煤气 BF gas	2009	设计 design
10	江苏淮阴钢铁公司 Huaiyin iron& steel Corp., Jiangsu	50000	多边形稀油密封干式柜 polygon oil sealed dry gas holder	高炉煤气 BF gas	2002	设计 design
		50000	布帘密封干式柜 drape seal dry gas holder	转炉煤气 converter gas	2010	
11	江西景德镇开门子陶瓷化工集团公司 Kaimenzi porcelain chemical Corp., Jingde Town	100000	多边形稀油密封干式柜 polygon oil sealed dry gas holder	焦炉煤气 coke oven gas	2010	设计 design
12	首钢长治钢铁公司 Shougang Changzhi iron& steel Corp.	200000	圆形稀油密封干式柜 round oil sealed dry gas holder	高炉煤气 BF gas	2010	设计(中国钢结构金奖) Design (Gold Prize for steel structure in China)
13	江苏申特钢铁公司 Shente iron& steel Corp., Jiangsu	150000	布帘密封干式柜 drape seal dry gas holder	转炉煤气 converter gas	2010	设计 design
14	中普（邯郸）钢铁公司 Zhongpu (Handan) iron& steel Corp.	50000	多边形稀油密封干式柜 polygon oil sealed dry gas holder	焦炉煤气 coke oven gas	2011	设计 design
15	山西文水海威钢铁公司 Haiwei iron& steel Corp., Wenshui Shanxi	80000	布帘密封干式柜 drape seal dry gas holder	转炉煤气 converter gas	2011	设计 design
16	安徽芜湖新型铸管公司 New casting pipe Corp., Wuhu, Anhui	200000	多边形稀油密封干式柜 polygon oil sealed dry gas holder	高炉煤气 BF gas	2012	设计 design

典型工程：首钢长钢20万m^3、12KPa高炉煤气柜

◎ 服务方式：设计

◎ 投产时间：2010年

◎ 系统特点

新型圆柱稀油密封型，贮气压力 12KPa，气柜直径 56.525 米，柜体全高 107.642 米，钢结构工程量 3013 吨。应用三项专利技术，提高密封严密性和导轮结构的安全性，且方便制作和维修。

◎ 运行情况

该项目自投产以来，运行情况良好，煤气柜活塞运行平稳，活塞油沟密封机构密封性能良好，煤气柜柜体结构及附件的气密性良好，实现了高炉煤气系统安全稳定运行。该项目对首钢长钢有效利用二次能源、保护环境，平衡全厂煤气管网压力具有重要意义。

Typical project: 200000m^3, 12kPa BF gas holders of Shougang Changgang

◎ Service : design

◎ Start-up time: 2010

◎ System features

New type of round oil sealed tank had a storage pressure of 12kPa, diameter of 56.525m, body height of 107.642m and steel structure quantity of 3013 ton. Three patents were used to improve the tightness of sealing and the safety of structure of guiding wheels and the convenience of manufacturing and maintenance.

◎ Operation performance

Since completed, this system runs in good conditions. The piston of gas holder runs smoothly and seal unit at the piston oil ditch has a good tightness, so do the frame of gas holder body and the accessories, realizing a safe and steady operation of BF gas system. This program has played an important role for the reuse of energy & resources, protection of environment, balance of gas piping pressure of the whole plant in Shougang Changgang.

首钢长沿 20 万 m^3 高炉煤气柜

200000m^3 BF gas holder in Shougang Changzhi

煤气加压站

Gas booster station

首钢国际工程公司在煤气加压站的集中化布置方面具有突出的优势和丰富的经验，帮助客户实现减少占地、节约投资的目标。

技术特点

◎ 加压设备大型化

◎ 负荷调节技术

◎ 加压设备选型及变负荷调节，适应不同工况要求

BSIET has great advantages and rich experience in centralized deployment of gas booster station, making less land occupation and less investment possible.

Technical features

◎ Large scale pressure equipment

◎ Technology of workload adjustment

◎ Model selection and variable workload adjustment according to different working conditions

首钢迁钢转炉煤气加压站

Converter gas booster station in Shougang Qiangang

首钢京唐煤气储配站燃气设施

Fuel gas devices of gas storage and distribution station in Shougang Jingtang

典型工程：首钢京唐钢铁厂燃气设施煤气储配站工程

◎ 服务方式：设计

◎ 投产时间：2009年

◎ 系统特点

该项目将燃气设施集中布置在一个区域，实现设备国产化、大型化和集约化的综合管理目标，属国内首创。该系统应用多项新技术：煤气柜选型、布置和安全措施；煤气混合站流程的简化和设施的配置；煤气加压站设备大型化和综合负荷调节技术等，具有工艺流程优化、系统设施配置简约、减少建设投资、降低能耗、便于管理和安全可靠等特点。

荣获全国冶金行业优秀工程设计一等奖。

◎ 运行情况

该项目解决了燃气设施分散布置的诸多弊端，自投产至今运行良好。

Typical project: Gas storage and distribution station of Shougang Jingtang iron& steel plant

◎ Service: design

◎ Start-up time: 2009

◎ System features

This project converged all the gas devices in one area, and large domestic equipment and intensive comprehensive management were original in China. This system adopted many new technologies: model selection, deployment of gas holder and safety measures; simplified process flow and deployment of devices of gas mixing station; large scale equipment and comprehensive workload adjustment at gas booster station; all the technologies helped to optimized the process flow, to simplified the system devices deployment, to decreased construction investment and to lowered the energy consumption, therefore this system is easy to manage and safe.

1st Prize of Excellent Engineering Design in Metallurgical Industry

◎ Operation performance

This system has overcome the disadvantages of scattered deployment of gas devices and been running smoothly ever since the beginning.

首钢京唐煤气储配站

Gas storage and distribution station in Shougang Jingtang

市政燃气储配

Municipal fuel gas storage and distribution

首钢国际工程公司拥有市政燃气储配系统设计能力和丰富业绩。设计建设的液化石油气单介质及油气混配加油加气站，建站规模约为北京市总规模的 1/3，并为孟加拉国设计建设了单罐容积 1000m^3、总容积 6000m^3 液化石油气储配站。

BSIET has rich experience in municipal fuel gas storage and distribution system engineering. 1/3 of Beijing's LPG stations and LPG & natural gas stations are designed and constructed by BSIET, who also designed and constructed the LPG storage and distribution station in Bangladesh with a single tank capacity of 1000m^3 and a total capacity of 6000m^3.

石景山区金顶街龙禹加油加气站

Longyu LPG & natural gas station at Jinding Street, Shijingshan District