



## 低温深冷产业链 一站式服务者

Low temperature cryogenic industry chain  
one-stop service provider



微信公众号 全景VR 客服微信



English Website

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Xinxiang City, Henan Province

誠者天之道也，誠之者人之道也。《孟子·离娄上》  
Honest is the law of nature while prusuit for honest is the law of performance

天行健，君子以自強不息；  
地勢坤，君子以厚德載物。《周易》

Gentleman should run endless like the Sky, even if displaced, he is also perseverance;  
If you are a gentleman, make sure to measure the same as earth, nothing can not carry!



# 誠實守信 以德為先

Honesty and trustworthiness, Morality first



# 低温深冷产业链 一站式服务者

Low temperature cryogenic industry chain one-stop service provider

我们不仅仅专注于压力容器的精良制造,更矢志不渝地守护人类健康;  
我们不仅仅关注化工机械行业的蓬勃发展,更深深牵挂人们生活的品质提升;  
我们不仅仅是在打造一件产品,更是在努力传承与创新一种文化;  
我们不仅仅要服务市场赢得信赖,更要肩负新的责任和使命;  
我们的产品和服务,都源于对文化的深刻洞察与无尽创新,让情怀与品质共融。

We are not only dedicated to the exquisite manufacturing of pressure vessels, but also steadfastly committed to safeguarding human health;

We are not only concerned about the vigorous development of the chemical machinery industry, but also deeply concerned about the quality of people's lives;

We are not only creating a product, but striving to inherit and innovate a culture;

We are not only serving the market and earn trust, but also shoulder new responsibilities and missions;

Our products and services stem from a profound insight into culture and endless innovation, blending emotion and quality together.



## WORDS FROM THE GENERAL MANAGER

### 总经理致辞

首先,感谢您拨冗阅读我们企业的宣传手册。这不仅是一册纸张的集合,更是我们对您诚挚邀请与承诺的载体。从此刻起,我们的服务之旅正式启程,愿我们的每一步都能为您带来满意与惊喜。

回顾过去,我们在变革与创新中砥砺前行,凭借对技术的执着追求和对品质的严格把控,在行业中树立了良好的口碑。经济全球化的浪潮为我们施展抱负创造了广阔的空间,助力我们实现跨越式发展。

展望未来,我们将继续秉持“诚实守信、以德为先”的价值观,以更加开放的心态、更加务实的作风,与全球合作伙伴携手,共同推动低温深冷产业链的发展。

First of all, thank you for taking the time to read our company brochure. This is not only a collection of paper, but also the carrier of our sincere invitation and commitment to you. From this moment on, our service journey is officially started, and we hope that every step of our journey can bring you satisfaction and surprise.

Looking back, we have forged ahead through transformation and innovation, establishing a good reputation in the industry with our steadfast pursuit of technology and strict control of quality. The wave of economic globalization has provided us with vast opportunities to realize leapfrog development.

Looking ahead, we will continue to uphold the values of "honesty, integrity, and virtue first," and with a more open mindset and pragmatic approach, we will work hand in hand with global partners to promote the development of the cryogenic industry chain.

总经理  
GENERAL MANAGER



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# 01 企业篇 Company

# About us

## 关于我们



新乡市诚德能源科技装备有限公司(简称:新乡诚德)成立于 2002 年,是一家致力于压力容器、低温深冷设备、气体设备、船用产品、专用车领域研发、设计、制造、安装、服务为一体的科技型企业。是河南省优秀民营企业、河南省质量诚信体系建设 AAA 级企业、河南省“专精特新”中小企业、国家高新技术企业。

公司下辖新乡市诚德环球贸易有限公司、新乡市锦诚科技有限公司、新乡市华元诚德工程安装有限公司、越南 CNCD 气体设备有限责任公司等6家公司,拥有1个装备产业园和 3 大制造基地,总占地面积 160 亩,标准化车间 69000m<sup>2</sup>,员工 500 余人,年产低温贮槽、移动式压力容器、常压货物罐车等2000余台(套)及其他配套产品,是国内优秀的低温装备制造企业。公司拥有内贸“华元诚德”和外贸“CNCD”两大品牌,服务于多家大型跨国公司和国内龙头企业,产品广泛应用于能源、冶金、化工、食品、医疗、装备制造、汽车工业、高效农业等领域,销往全国,出口 70 多个国家和地区。

创新驱动,蓄势勃发。站在新的历史起点,诚德人将继续秉承“装备强国、科技兴邦”的使命,坚守“诚实守信,以德为先”的企业价值观,坚持“专注 专业 共享 共赢”的经营理念,以“做国内低温深冷产业链一站式服务引领者”为目标,用工匠精神锻造国之精品,向着“诚德百年,服务世界”的宏伟愿景阔步前行!

Xinxiang Chengde Energy Technology Equipment Co.,(hereinafter referred to as "Xinxiang Chengde")was found in 2002,We are a Science and technology-based enterprise dedicated to the research and development, design, manufacturing, installation and service of pressure vessels, cryogenic equipment, gas equipment, marine products, and special vehicles.It is an outstanding private enterprise , an AAA enterprise in quality integrity system construction, a "specialized, special and innovative" small and medium-sized enterprise in Henan Province, and a national high-tech enterprise.

We have 6 companies, including Xinxiang Chengde Global Trade Co., LTD., Xinxiang Jincheng Technology Co., LTD., Xinxiang Huayuan Chengde Engineering Installation Co., LTD., Vietnam CNCD Gas Equipment Co., LTD., with one equipment industrial park and three manufacturing bases, covering a total area of 160 acres, and standardized workshops of 69,000 square meters. With more than 500 employees and an annual output of more than 2,000 sets of low-temperature storage tanks, mobile pressure vessels, Semi-trailer tankers and other related products, it is an excellent low-temperature equipment manufacturing enterprise in China. The company has two brands: "Huayuan Chengde" for of domestic market and "CNCD" for foreign market, serving a number of large multinational companies and domestic leading enterprises, products are widely used in energy, metallurgy, chemical industry, food, medical, equipment manufacturing, automobile industry, efficient agriculture and other fields, exported to the whole country, more than 70 countries and regions in the world.

Innovation-driven,momentum-gained. Standing at a new historical starting point, Chengde people will continue to uphold the mission of "equipment power, science and technology", adhere to the corporation values of "honest and trustworthy, moral first", adhere to the business philosophy of "focus on professional sharing and win-win", with the goal of "being a one-stop service leader in the domestic low-temperature and cryogenic industry chain", we use the spirit of craftsmanship to forge national quality products and stride forward towards the grand vision of "a century of integrity and serving the world"!



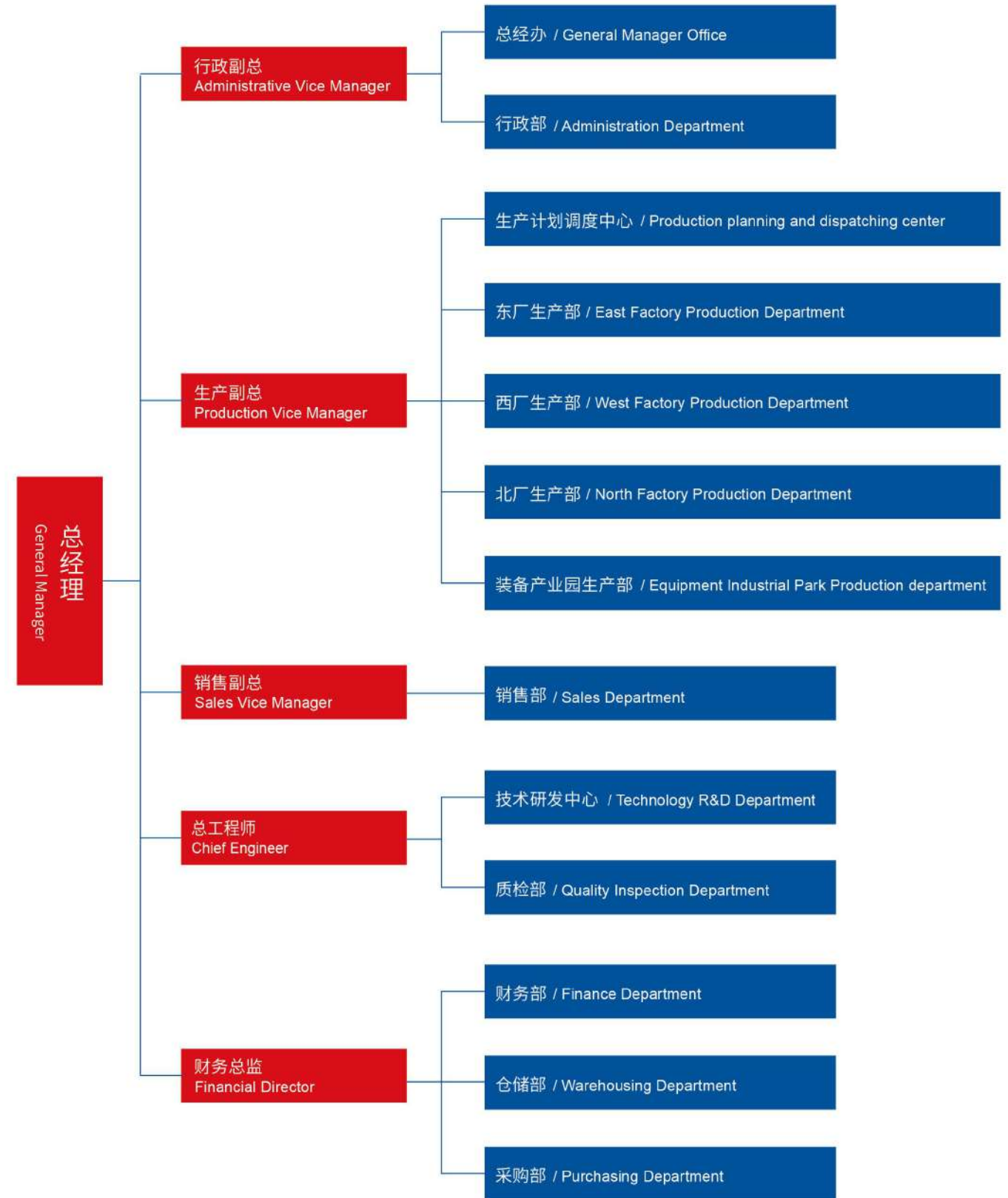
# ENTERPRISE CULTURE

## 企业文化

	<b>企业价值观</b> ENTERPRISE VALUE	诚实守信 以德为先 Honesty and trustworthiness, Morality first
	<b>企业精神</b> ENTERPRISE SPIRIT	乐观 包容 创新 奋进 Optimistic Inclusive Innovation Endeavor
	<b>企业经营理念</b> BUSINESS PHILOSOPHY	专注 专业 共享 共赢 Focus Profession Share Win-win
	<b>企业使命</b> ENTERPRISE MISSION	装备强国 科技兴邦 Powerful country through equipment and technology
	<b>企业愿景</b> ENTERPRISE VISION	诚德百年 服务世界 To be century company Serve the world

# ORGANIZATION CHART

## 组织架构





# DEVELOPMENT HISTORY

## 发展历程

### 2002-2005

逐梦启航  
Set sail

坚定初心 携梦前行 Stay original heart, carry the dream forward  
以“诚德”指引航程 Guide the voyage with “Chengde”

- 2002年 新乡市诚德能源科技装备有限公司正式成立
- 2004年 开始生产泵、汽化器
- 2005年 进入中国三大空分基地——开封市场

### 2006-2012

蓄势深耕  
Prepare for deep ploughing

深耕行业 筑牢根基 Cultivate the industry deeply build a solid foundation  
为未来发展积蓄力量 Accumulate the strength for further development

- 2006年 公司搬迁至牧野区高湾工业区, 生产型队伍初具规模
- 2008年 公司开始筹备取证
- 2009年-2012年 先后取得A2级压力容器制造许可证、压力容器设计许可证、压力管道设计许可证、压力管道安装许可证
- 2012年 成立新乡市锦诚科技有限公司

### 2013-2016

稳健笃行  
Steady and firm

勠力同心 稳中求进 Make concerted efforts, seek improvement in stability  
力拓国际市场 Expand international market

- 2013年 公司搬到凤泉区产业集聚区
- 2014年 成立外贸部, “华元诚德”荣获“河南省著名商标”
- 2015年 外贸业务进入越南市场, 标志着外贸业绩质的提升
- 2016年 成立新乡市诚德环球贸易有限公司

### 2017-2021

乘势而上  
Ride the wave

把握趋势 创新创造 Seize the trend, innovate and create  
构建品牌核心竞争力 Build brand core

- 2017年 公司建成第2个厂区(东厂);取得美国 ASME 证书;成立诚德学院;荣获“河南省两化融合试点企业”;迈入发展新阶段
- 2018年 进军平陆贮槽市场, 成立越南办事处; 成立新乡市华元诚德工程安装有限公司;荣获“河南省优秀民营企业”
- 2019年 荣获河南省质量诚信体系建设 AA 级企业
- 2020年 公司建成第3个厂区(北厂), 成立新乡市华元容器装备有限公司, 取得压力管道元件制造许可证
- 2021年 公司建成第4个厂区(东张门厂), 取得中国船级社质量管理体系认证、中国船级社工厂认证、D级(含真空绝热容器)压力容器生产许可证、专用车生产准入资质、两化融合管理体系贯标认证, 评为河南省质量诚信体系建设AAA级企业、河南省“专精特新”中小企业、国家高新技术企业。

### 2022至今

追光前行  
Follow the light

坚定目标 踔厉奋发 Firm goals, work hard  
努力成为低温深冷产业链一站式服务引领者  
To be the one-stop service leader in the low-temperature cryogenic industry chain

- 2022年 启动年产1000台(套)移动式压力容器及常压货物罐车项目  
取得危险化学品罐体生产许可证  
荣获新乡市五一劳动奖状、新乡市优秀民营企业、凤泉区优秀纳税企业
- 2023年 成立诚德科学技术协会  
取得移动式压力容器汽车罐车(C2)资质、移动式压力容器罐式集装箱(C2)资质  
被认定为河南省企业技术中心、河南省低温深冷压力储罐工程研究中心  
荣获凤泉区区长质量奖、凤泉区年度产业转型优秀企业称号、凤泉青年五四奖章集体  
河南省工业气体协会“气体装备”优秀合作单位

公司已走过二十余年的风雨, 如今迈向新征程的起点, 在实现压力容器储存、运转、安装一站式服务目标引领下, 全体诚德人带着全新梦想一起出发!

# MANUFACTURING STRENGTH

## 装备实力

### 总体介绍

General introduction

1个

装备产业园

1 equipment industrial park

3大

制造基地

3 manufacturing bases

6.9万<sup>m</sup><sup>2</sup>

标准化车间

69,000 m<sup>2</sup> standardized workshop

500+

职工

More than 500 employees

2000+

年生产规模

More than 2000 units (sets) production scale in one year

公司拥有1个装备产业园及3大制造基地,2条移动式压力容器及常压货物罐车生产线,并建有下列、制作、套装、试压、真空、涂装、成品车间,标准化车间总面积达69000m<sup>2</sup>,员工500余人,具有年产2000余台(套)的生产规模。

制造装备先进,自动化程度高。拥有智能激光切割机、机器人封头开孔设备、十字臂自动焊接操作机、卷圆机、拼板焊机、翻板机、液压卷板机、闸式剪板机、自动埋弧/氩弧焊机、CO<sub>2</sub>焊机等先进的下料成型与焊接设备300余台(套),其中,十字臂自动焊接操作机达30台,能满足不同规格筒体自动焊接、批量生产的需要。拥有600m<sup>2</sup>大型自动喷涂车间,DXWP5500通过式抛丸除锈设备、12万m<sup>3</sup>沸石转轮废气处理系统等高端制造装备。先进的生产设备与生产工艺,现代化、自动化的生产管理模式,让产品质量与性能始终保持行业领先水平。

检测仪器配置齐全,手段先进。设有专业的理化实验室、探伤室,配置光谱检测仪、化学材料分析(PMI)、机械性能试验(如冲击试验/拉力试验)、无损检测设备(磁粉探伤MT、着色探伤PT、射线探伤RT、超声探伤UT)、扭矩实验、金相分析等专业化、现代化的试验设备。具备从最初到最终工序,从原材料到成品全过程检验的高性能检测能力。

Our company has 1 equipment industrial park and 3 manufacturing bases, 2 production lines for mobile tank and normal pressure tanks, and has prepared materials, production, assembly, pressure testing, vacuum, painting, finished product workshops, and a standardized workshop. It covers an area of 69,000 m<sup>2</sup>, more than 500 employees, and has a production scale of more than 2,000 units (sets) in one year.

The manufacturing equipment is advanced and the degree of automation is high. It has intelligent laser cutting machines and robot head drilling equipment, cross arm automatic welding operating machine, rounding machine, puzzle welding machine, plate turning machine, hydraulic plate rolling machine, gate shearing machine. More than 300 sets of advanced Material direct molding and welding equipment such as automatic submerged arc/argon arc welding machines and CO<sub>2</sub> welding machines. Among them, there are 30 sets cross-arm automatic welding machines, which can meet the needs of automatic welding and mass production of cylinders of different specifications. It has a 600 m<sup>2</sup> large-scale automatic spraying workshop, DXWP5500 through-type shot blasting and rust removal equipment, a 120,000 m<sup>3</sup> zeolite runner exhaust gas treatment system and other high-end manufacturing equipment. Advanced production equipment and production technology, modern and automated production management models, keep product quality and performance at the leading level in the industry.

The testing machine is fully equipped and the methods are advanced. It has professional physical and chemical laboratories and flaw detection rooms equipped with spectrum detectors, chemical material analysis (PMI), mechanical performance testing (such as impact test/tensile test), non-destructive testing equipment (magnetic particle testing MT, coloring testing PT, radiographic testing RT, ultrasonic testing UT), torque testing, metallographic analysis and other specialized, Modern testing equipment. It has high-performance testing capabilities from the initial to the final process, from raw materials to finished products.

### 制造基地

Manufacture base

制造硬实力是为客户提供高品质产品的保证。拥有1个装备产业园及3大制造基地,充足的产能,科学的生产管理体系,智能化生产线,技术过硬的操作团队,有效保障产品的生产及供应。

Manufacturing strength is the guarantee for providing customers with high-quality products. It has 1 equipment industrial park and 3 major manufacturing bases, sufficient production capacity, scientific production management system, intelligent production lines, and highly skilled operation team to effectively guarantee the production and supply of products.

装备产业园



东厂



西厂



北厂



# MANUFACTURING STRENGTH

## 装备实力

### 质量控制

#### Quality control

质量是与客户保持长期友好合作的基础。严格贯彻国家、行业质量标准和公司质量体系,对产品的全流程进行质量检验、监控管理,向市场提供可信赖的产品及服务。

Quality is the basis for maintaining long-term friendly cooperation with customers. Strictly implement national and industry quality standards and company quality systems, conduct quality inspection, monitoring and management of the entire product process, and provide reliable products and services to the market.



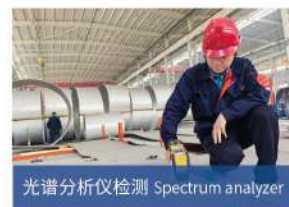
真空检测 Vacuum detection



铁素体检测 Ferrite detection



铁素体检测 Ferrite detection



光谱分析仪检测 Spectrum analyzer



超声检测 Ultrasonic testing



圆度测量 Roundness measurement



氦质谱检漏 Helium mass spectrometry leak detection



漆膜厚度测量 Paint film thickness measurement

### 检验设备

#### Inspection equipment



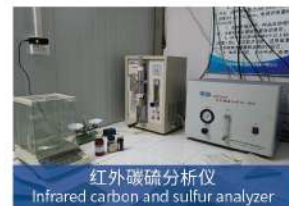
布氏硬度计 Brinell hardness tester



自动冲击试验机 Automatic Impact Testing Machine



SH-21A型红外测油仪 SH-21A infrared oil meter



红外碳硫分析仪 Infrared carbon and sulfur analyzer



金相试样磨抛机 Metallographic sample grinding and polishing machine



金相试样镶嵌机 Metallographic sample mounting machine



金相显微镜 Metallurgical microscope



电液伺服万能试验机 Electro hydraulic servo universal testing machine

### 生产工艺

#### Manufacturing technique

制造设备的先进性是生产效率、产品性能的关键。拥有先进的生产设备与生产工艺,现代化、自动化的生产管理模式,让生产效率与产品质量始终保持行业领先水平。

The advancement of manufacturing equipment is the key to production efficiency and product performance. With advanced production equipment and manufacturing technique, as well as a modern and automated production management model, production efficiency and product quality remain at the leading level in the industry.



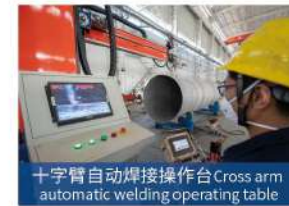
火焰切割 Flame cutting



碳弧气刨 Carbon arc gouging



深熔焊 Deep penetration welding



十字臂自动焊接操作台 Cross arm automatic welding operating table



真空制冷机 Vacuum refrigerator



应变强化 Strain hardening



珠光砂填充 Pearlescent sand filling



烘干房数据收集 Drying room data collection

### 制造装备

#### Manufacturing equipment



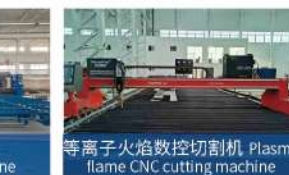
十字臂自动焊操作机 Cross arm automatic welding operator



桥式起重机 Bridge crane



拼板焊机 Plate welding machine



大型卷圆机 Large rounding machine



等离子火焰数控切割机 Plasma flame CNC cutting machine



应变强化技术 Strain strengthening technology



探伤室 Inspection room



通过式抛丸机 Through shot blasting machine



表面处理喷漆设备 Surface treatment spray equipment



烘干房 Drying room



P+升降纵缝设备 P+lifting longitudinal seam equipment



机器人封头开孔设备 Robot head drilling equipment



激光切割机 Laser cutter



深熔焊环缝设备 Deep penetration welding circumferential seam equipment



自动温控退火炉 Automatic temperature control annealing furnace

# INNOVATE

## 研发创新



新乡市诚德能源科技装备有限公司是高新技术企业、专精特新企业；

荣获7项国际质量认证，60余项专利成果；荣获“国家低温检测中心产品型式认证”、美国 ASME 权威认证、欧盟 CE 认证。

Xinxiang Chengde Energy Technology Equipment Co., Ltd. is a high-tech enterprise, specialized and special new enterprise; Won 7 international quality certification, more than 60 patent achievements; Won the "National Low Temperature Testing Center Product type certification", American ASME authority certification, European CE certification;



河南省低温深冷压力储罐  
工程研究中心  
Henan low temperature cryogenic  
pressure storage tank  
engineering research center



河南省企业技术中心  
Henan enterprise Technology center



新乡诚德科学技术协会  
Xinxiang Chengde Science and  
Technology Association



新乡市低温深冷设备  
工程技术研究中心  
Xinxiang low temperature cryogenic  
equipment engineering technology  
research center

# R&D process

## 研发历程

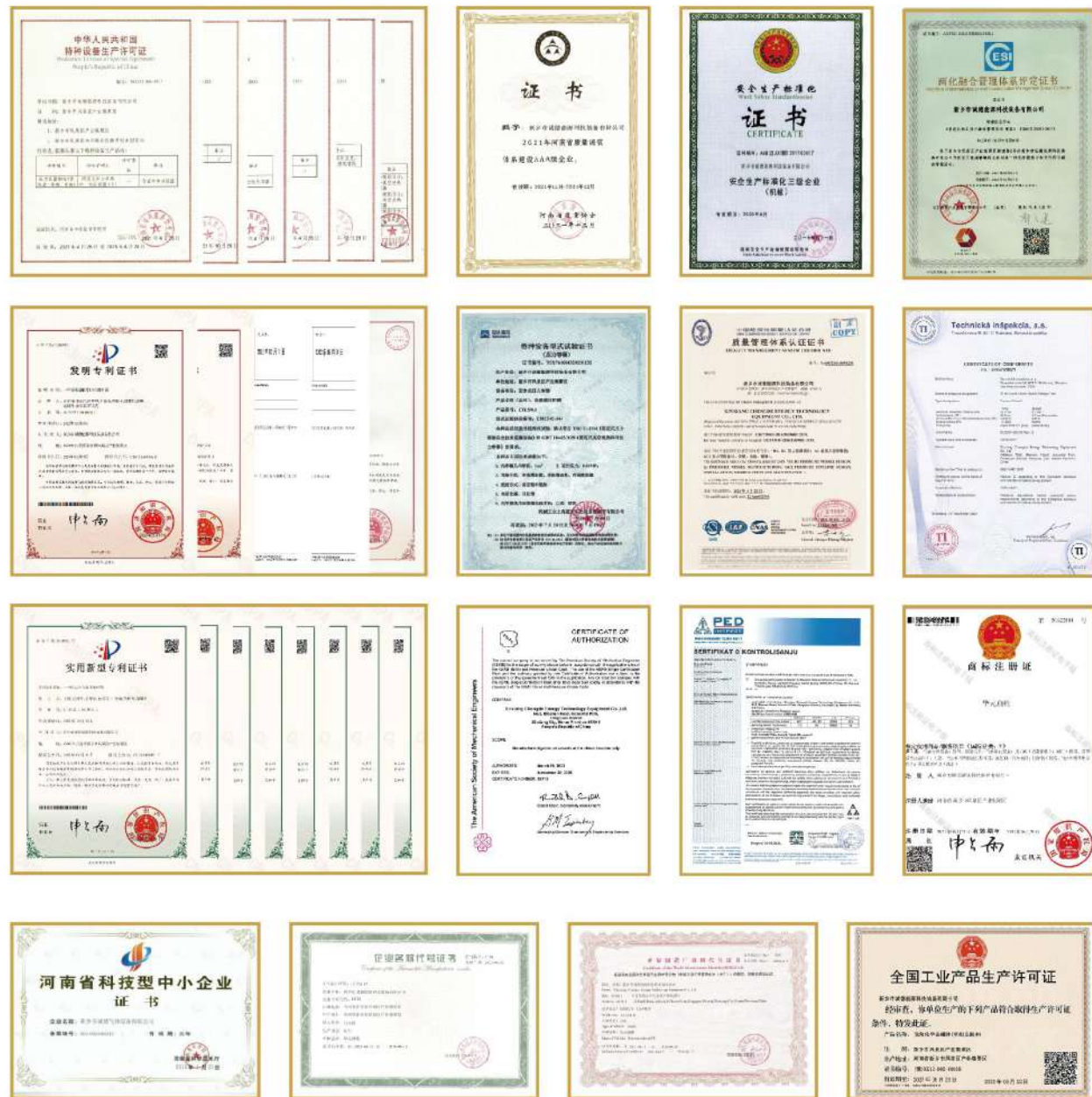


# REPUTATION

## 资质荣誉

### 企业资质

Company qualification



### 企业荣誉

Company honor



# ACTIVITY PHOTOS

## 活动照片

### 国内客户来访

Domestic customers visit



### 国外客户来访

Foreign customers visit



### 技能比赛

Skills competition



### 公司年会

Company annual meeting



### 诚德学院

Chengde college



### 安全大会

Safety conference



### 党建活动

Party building activities



### 社会公益

Social welfare



# 02 产品篇 Products

# LOW TEMPERATURE AND CRYOGENIC INDUSTRY CHAIN

## 低温深冷产业链

### 气体的制备 Gas equipment



处于产业链上游, 制备方式主要有: 空气分离、气体合成、特种制气等。

In the upstream of the industrial chain, the main preparation methods are: air separation, gas synthesis, special gas production, etc.



产

### 气体的储存 Gas storage



主要形式有常温压缩储存、低温液体压力储存、低温液体常压储存, 气体储存容器的制造包括低温贮槽、平底贮槽、船用燃料罐等。

The main method include normal temperature compression storage, cryogenic liquid pressure storage, and cryogenic liquid normal pressure storage. The manufacturing of gas storage vessel includes cryogenic storage tanks, flat bottom storage tanks, marine fuel tanks, etc.



储

### 气体的运输 Gas transportation



气体运输途径有槽车运输、管道运输、瓶装运输, 移动式储存容器制造包括液化气体和冷冻液化气体罐式集装箱、罐车, 危化品液罐车等。

There are tank truck transportation, pipeline transportation, bottled transportation, mobile storage vessel manufacturing including liquefied gas and frozen liquefied gas tank containers, tank trucks, hazardous chemical liquid tank trucks, etc.



运

### 气体工程的安装 Gas project installation



气体贮存、运输的保障, 安装主要包括气体储存装备、运输管道等工程项目。

The guarantee and installation of gas storage and transportation mainly include gas storage equipment, transportation pipelines and other engineering projects.



安

### 气体的供应 Gas Supply



处于产业链上游, 制备方式主要有: 空气分离、气体合成、特种制气等。

In the upstream of the industrial chain, the main preparation methods are: air separation, gas synthesis, special gas production, etc.



供



# 低温液体贮槽

## Cryogenic liquid storage tanks

### 产品概述 Product Overview

低温液体贮槽是我公司生产一、二、三类压力容器中的一种系列产品,该系列产品严格按照GB150《压力容器》、GB18442-2019《固定式真空绝热深冷压力容器》和TSG21-2016《固定式压力容器安全技术》进行设计、制造、检验与验收。

低温液体贮槽为双层壁、立(卧)式结构,采用真空粉末绝热,具有结构紧凑、日蒸发率低、占地面积小、集中控制、安全可靠、操作和维修方便等优点。

Cryogenic liquid storage tank is a series of products of producing first, second third types of pressure vessel(Cryogenic liquid storage tank is a series of products about first/second/third type pressure vessels manufactured by our company), the products strictly in accordance with the GB150 "pressure vessels", GB18442-2019 "stationary vacuum insulation cryogenic pressure vessel", and the TSG21-2016 "Stationary pressure vessel safety technology" to design, manufacture, inspect and accept.

Cryogenic liquid storage tanks is for double wall, vertical (horizontal) structure, adopt the use of vacuum powder adiabatic(adopt vacuum powder insulation), with the advantage of compact structure, low daily evaporation rate, small footprint, centralized control, safe, reliable, easy operation and maintenance.

### 技术参数 Technical Parameter

项目 ITEMS	技术参数 TECHNICAL PARAMETERS
容积 Volume (m <sup>3</sup> )	200~20000或定制 200~20000 or as customer requirement
工作压力 Working pressure (MPa)	液化天然气、液氧、液氮、液氩、液态乙烯 LNG, liquid oxygen, liquid nitrogen, liquid argon, liquid ethylene



# 低温液体贮槽 (LO2、LAR、LN)

## Cryogenic liquid storage tanks (LO2、LAR、LN)

### 产品概述 Product Overview

随着科学技术的发展,在常压下利用低温贮槽储存物料的技术日臻成熟。国内常压低温贮槽的建设越来越多,向着大型化方向发展。常压贮槽与其他储存方式比较,有许多优点:相对于真空罐和球罐,由于低温贮槽的储存压力低,因而安全性比较好,低温贮槽实现了大型化,其占地少,降低了储存成本,贮槽结构简单,施工容易,降低了建设成本。常见的储存介质有液化天然气LNG (-162℃)、液氧(-183℃)、液氮(-196℃)、液氩(-186℃)、液态乙烷(-89℃)、乙烯(-104℃)等。

With rapid scientific and technological development, the material-store ad technology by use of low temperature storage tanks under normal temperature gets mature day by day. In China, more and more normal-pressure low temperature storage tanks tending to large-scale type are constructed. Compared with other storage methods, the normal pressure storage tank has more advantages; for an example, it is safer due to its low storage pressure if compared with vacuum tank and spherical tank. Low temperature storage tank built in large size occupies a vary small area, thus reducing storage cost. It is simple in structure and easy in construction, thus reducing construction cost. The common storage medium, such as Liquefied natural gas, LNG (-162℃), liquic oxygen(-183℃), liquid nitrogen(-196℃)liquidargon(-186C), liquid etha ne (-89C), and ethylene(-104C).etc, can be stored.

### 技术参数 Technical Parameter

项目 ITEMS	技术参数 TECHNICAL PARAMETERS
容积 Volume (m <sup>3</sup> )	2~250或定制 2~250 or as customer requirement
工作压力 Working pressure (Mpa)	0.2~3.5或定制 0.2~3.5 or as customer requirement
工作介质 Working medium	液氧、液氩、液氮 Liquid oxygen, Liquid argon, Liquid nitrogen
放置方式 Placement type	立式或卧式 Vertical or horizontal



## 低温液体贮槽 (LCO2)

### Cryogenic liquid storage tanks (LCO2)

#### 产品概述 Product Overview

液体二氧化碳贮槽按照绝热方式的不同分为聚氨酯发泡保温贮槽和真空粉末绝热贮槽,设计温度为-40℃,根据使用条件的不同,主题材质可选用OCr18Ni9或16MnD-R。

本系列产品广泛用于冶金、钢结构、汽车制造等现代化农业,该产品具有结构紧凑、安全可靠、操作维修方便等优点。

Liquid carbon dioxide storage tank can be classified into polyurethane foaming insulation tank and the vacuum powder adiabatic tank, with a designed working temperature of minus 40 °C, Its main material can be OCr18Ni9 or 16MnDR according to the different working condition.

The products are widely used in Metallurgy, steel structure, automobile manufacturing and other modern agriculture,they have the advantage of compact structure, safe and reliable,convenient operation and maintenance.



#### 技术参数 Technical Parameter

项目 ITEMS	型号 MODEL	真空粉末绝热 液体二氧化碳贮槽 Vacuum powder insulated liquid carbon dioxide storage tank	聚氨酯发泡保温 液体二氧化碳贮槽 Polyurethane foam insulation liquid carbon dioxide storage tank	高真空缠绕 液体二氧化碳贮槽 High Vacuum Multi-layer liquid carbon dioxide storage tank
绝热方式 Insulation method		真空粉末绝热 Vacuum powder insulated	聚氨酯发泡保温 Polyurethane foam insulation	高真空缠绕 High vacuum multi
容积 Volume (m³)		5~200或定制 5~200 or as customer requirement	5~200或定制 5~200 or as customer requirement	5~200或定制 5~200 or as customer requirement
工作压力 Working pressure (MPa)		2.16或定制 2.16 or as customer requirement	2.16或定制 2.16 or as customer requirement	2.16或定制 2.16 or as customer requirement
放置方式 Placement type		立式或卧式 Vertical or horizontal	立式或卧式 Vertical or horizontal	立式或卧式 Vertical or horizontal

## 低温液体贮槽 (LNG)

### Cryogenic liquid storage tanks (LNG)

#### 产品概述 Product Overview

低温液体贮槽为双层壁,立(卧)式结构,采用真空粉末绝热,具有结构紧凑、日蒸发率低、占地面积小、集中控制、安全可靠、操作和维修方便等优点。

液化天然气贮槽是储存液化天然气的专业产品,广泛应用于能源、冶金、化工、食品、养殖等领域。

Cryogenic liquid storage tank is for double wall,vertical (horizontal) structure, adopt vacuum powder insulation, with the advantage of compact structure, low daily evaporation rate small footprint centralized control safe, reliable, easy operation and maintenance.

LNG tank is a professional product for storing liquefied natural gas which is widely used in energy,metallurgy,chemical,food, aquaculture and other fields.



#### 技术参数 Technical Parameter

项目 ITEMS	技术参数 TECHNICAL PARAMETERS
容积 Volume (m³)	2~250或定制 2~250 or as customer requirement
工作压力 Working pressure (Mpa)	0.2~3.5或定制 0.2~3.5 or as customer requirement
工作介质 Working medium	液化天然气 LNG
放置方式 Placement type	立式或卧式 Vertical or horizontal

## 低温液体贮槽(液乙烯)

### Cryogenic liquid storage tanks (Liquid ethylene)

#### 产品概述 Product Overview

乙烯是合成纤维、合成橡胶、合成塑料(聚乙烯及聚氯乙烯)、合成乙醇(酒精)的基本化工原料,也用于制造氯乙烯、苯乙烯、环氧乙烷、醋酸、乙醛和炸药等,也可用作水果和蔬菜的催熟剂,是一种已证实的植物激素。乙烯是世界上产量最大的化学产品之一,乙烯工业是石油化工产业的核心。我公司生产的液乙烯储罐是专门储存液乙烯的容器,具有安全系数高、储存方便、操作便捷的特点。

Ethylene is the basic chemical raw material of synthetic fibers, synthetic rubber, synthetic plastics (polyethylene and polyvinyl chloride) and synthetic ethanol (alcohol). It is also used to make vinyl chloride, styrene, ethylene oxide, acetic acid, acetaldehyde, and explosives. It can also be used as a ripening agent for fruits and vegetables. It is a proven plant hormone. Ethylene is one of the largest chemical products in the world, and the ethylene industry is the core of the petrochemical industry. Our company's liquid ethylene storage tank is a special container for storing liquid ethylene, which has the characteristics of high safety factor, convenient storage and convenient operation.



#### 技术参数 Technical Parameter

项目 ITEMS	技术参数 TECHNICAL PARAMETERS
容积 Volume (m³)	2~250或定制 2~250 or as customer requirement
工作压力 Working pressure (Mpa)	0.2~3.5或定制 0.2~3.5 or as customer requirement
工作介质 Working medium	液乙烯 Liquid ethylene
放置方式 Placement type	立式或卧式 Vertical or horizontal

## 德捷通

### Micro Bulk

#### 产品概述 Product Overview

德捷通储罐是小型低温液体储罐,一般容积是1-5m³,压力可达到3.6MPa。特点是无需频繁更换钢瓶、操作便捷、减少液体浪费、节省时间、免过磅,应用于切割、焊接、低温实验室、小型医院等。

Micro Bulk is a small cryogenic liquid storage tank, the general volume is 1-5m³, the pressure can reach 3.6mpa. It is characterized by no need to replace cylinders frequently convenient operation, reduce liquid waste, save time, no weighing, it is used in cutting, welding cryogenic laboratory, small hospitals etc.



## 球形容器

### Spherical vessel

#### 产品概述 Product Overview

球形容器又称球罐，壳体呈球形，是贮存和运输各种气体、液体、液化气体的一种有效、经济的压力容器。

应用范围：在化工、石油、炼油、造船及城市煤气工业等领域大量应用。

主要优点：与圆筒形容器相比其主要优点是：受力均匀；在同样壁厚条件下，球罐的承载能力最高，在相同内压条件下，球形容器所需要壁厚仅为同直径、同材料的圆筒形容器壁厚的1/2（不考虑腐蚀裕度）；在相同容积条件下，球形容器的表面积最小，由于壁厚、表面积小等原因，一般要比圆筒形容器节约30%~40%的钢材。其主要缺点是制造施工比较复杂。

Spherical container is also called spherical tank, a kind of effective and economical pressure vessel for storing and transporting various gases, liquids and liquefied gases, the shell is spherical.

Application: It is widely used in chemical industry, petroleum, oil refining, shipbuilding and city gas industry.

Main advantages: Compared with the cylindrical container, the main advantages are: uniform force; under the same wall thickness condition, the bearing capacity of the spherical tank is the highest. Under the same internal pressure condition, the wall thickness of the spherical container is only 1/2 of the wall thickness of the cylindrical container with the same diameter and material (without considering the corrosion margin). Under the same volume conditions, the surface area of the spherical container is the smallest, and due to the wall thickness, small surface area and other reasons, it is generally save 30% to 40% steel than the cylindrical container. The main disadvantage is that the manufacturing and construction are more complicated.



## 非标压力容器

### Non-standard pressure vessels

#### 产品概述 Product Overview

在过程工业中,从原料到成品往往需要许多道工序,这些工序就称为工艺过程。一个先进的工艺过程的实现,是由各操作单元所组成的,而一个工艺过程的实现,往往需要这样或那样的设备,所以说过程设备是工艺过程得以实现的载体(硬件)。过程设备的先进与否直接影响生产的工艺过程。过程设备的组成主要由其壳体部分(压力容器)和其内部为完成指定的工艺目的的内部元件(如塔板、塔填料、换热器管板、换热管等)所组成。过程设备设计的主要内容是流体储存、传热、传质和反应设备的设计。然后由生产厂家制造成成品,以使用于生产。

Process industry, many processes are often required to finish one product( from raw materials to the end),and these processes are technological processes. The realization of an advanced technological process is composed of various operating units, while the realization of a technological process often requires one or several kinds of equipment. So the process equipment is the carrier (hardware) for the realization of technological process. Whether the process equipment is advanced or not,directly affects the production process. The composition of process equipment is mainly composed of its shell part (pressure vessel) and internal components (such as trays, tower packing, heat exchanger tube plates heat exchange tubes, etc.) for the purpose of completing the specified process.The main content of process equipment design is the design of fluid storage, heat transfer, mass transfer and reaction equipment. Then the manufacturer finish the products and use them for production.



#### 列管换热器

Tubular heat exchanger

我公司生产的列管冷凝器,按材质分为碳钢列管冷凝、不锈钢列管冷凝器和碳钢与不锈钢混合列管式冷凝三种,按形式分为固定管板式、浮头式、U型管式换热器,按结构分为单管程、双管程和多管程,传热面积0.5-5002,可根据用户需要定制。



#### 塔式容器

Tower-type vessel

塔器作为汽-液和液-液进行传质与传热的重要设备,广泛应用于炼油、石油化工、精细化工、化肥、农药、医药、环保等行业的物系分离,涉及蒸(精)馏、吸收、解吸、汽提、萃取等化工单元操作。



#### 反应类容器

Reaction class container

反应容器是指用来完成介质的物理反应、化学反应的容器,在工业生产中尤其在化工、医药、化肥、炼化等行业反应容器作为一种承压设备由于工艺上的需要被大量使用。



#### U型列管

U tube exchanger

我公司根据客户要求制造一类、二类、三类压力容器,设计一类、二类压力容器。



#### 缓冲罐

Buffer tank

缓冲罐是往复泵的重要附属设备,用于减小管路中流量的不均匀度,分为吸入缓冲罐和排出缓冲罐两种。吸入缓冲罐的作用是减小吸入管路流量不均匀度,减小惯性损失,提高泵的吸入性能。排出缓冲罐的作用是减小排出管路流量不均匀度,避免过流量的产生,已适应工艺流程的需要。

## 罐式集装箱

### ISO tank containers

#### 产品概述 Product Overview

用于装运酒类、油类、液体食品、化学药品等单层式液体货物的集装箱，主要由液罐和框架构成，液罐采用双层结构，内壁采用不锈钢或其他刚性材料制成，外壁采用保温材料，框架采用高强度钢材制成，液罐放在框架中间。可用于公路、铁路及水上运输。

The container is used for carrying liquid goods such as wine, oil, liquid food and single-layer liquid cargo such as chemicals. It is mainly composed of liquid tank and frame. The liquid tank adopts double layer structure, the inner wall is made of stainless steel or other rigid materials, the outer wall is made of thermal insulation material, the frame is made of high-strength steel, and the liquid tank is placed in the middle of the frame. Can be used for road railway and water transportation.



## 集装箱运输半挂车(骨架车)

### Container transport semi-trailer (skeleton vehicle)

#### 产品概述 Product Overview

主要用于船舶、港口、航线、公路、中转站、桥梁、隧道、多式联运相配套的物流系统。专门用于各种集装箱的运输。能长期的反复使用，具有足够的强度。便于货物的装满和卸空，满足客户的个性化需求。根据客户要求工装保证，质量稳定，性能可靠。

The railing type semi-trailer is a semi-trailer whose cargo part is a railing structure. It has a wide range of uses and is mainly suitable for medium and long-distance transportation of medium-heavy and bulk goods. It has strong applicability and has become the first choice for medium- and long-distance freight vehicles.



## 低温液体运输半挂车

### Cryogenic liquid transport semi-trailer

#### 产品概述 Product Overview

低温液体运输半挂车是指承受压力的运输半挂车，可用于装运各种低温深冷液体，罐体结构为双层型式。车辆是由罐体和底架两大部件所组成，罐体为卧式筒体结构，内部装有防波板，可减少液体运输过程的惯性力。一般储运的介质是临界温度较低的低深冷液体，如液氧、液氮、液氩、LNG、液乙烯、液乙烷等。

Cryogenic liquid transport semi-trailers refer to transport semi-trailers that bear pressure and can be used to transport various low-temperature and cryogenic liquids. The tank structure is a double-layer type. The vehicle is composed of two major components: a tank and a chassis. The tank is a horizontal cylinder structure and is equipped with anti-wave plates inside, which can reduce the inertial force during liquid transportation. The general storage and transportation media are low-temperature cryogenic liquids with low critical temperatures, such as liquid oxygen, liquid nitrogen, liquid argon, LNG, LPG, Liquid ethylene, liquid ethane, etc.



## 液化气体运输半挂车

### Liquefied gas transport semi-trailer

#### 产品概述 Product Overview

液化气体运输半挂车可用于装运各种液化气体，可以根据客户的需要设计改装适用于液氨、液态二氧化硫、丙烯、丙烷、液化石油气、二甲醚、正丁烷、异丁烷、丁烯、异丁烯、丁二烯、环氧乙烷等大部分气体的运输半挂车。液化气体运输半挂车主要有以下部分构成：罐体、车架、车轴、轮胎、支腿、牵引销、双出液双阀门箱（压力表、温度计、紧急切断阀、球阀）、铁制防浪板、安全阀、液位计、灭火器具、工具箱、防静电胶带、备胎架、塑料轮胎挡泥板等。一般储运的介质有：液化石油气、丙烯、苯酚、环氧乙烷等液体等。

Liquefied gas transport semi-trailers can be used to transport various liquefied gases and can be designed and modified according to customer needs. They are suitable for liquid ammonia, liquid sulfur dioxide, propylene, propane, liquefied petroleum gas, dimethyl ether, n-butane, isobutane, butene, isobutylene, butadiene, ethylene oxide and other gas transport semi-trailers. The liquefied gas transportation semi-trailer mainly consists of the following parts: tank, frame, axle, tires, legs, traction pin, double liquid outlet and double valve box (pressure gauge, thermometer, emergency shut-off valve, ball valve), iron wave prevention plate, safety valve, liquid level gauge, fire extinguishing equipment, tool box, anti-static tape, spare tire rack, plastic tire fender, etc. General storage and transportation media include: liquefied petroleum gas, propylene, phenol, ethylene oxide and other liquids.



## 常压罐式运输半挂车

### The atmospheric tank semi-trailer

#### 产品概述 Product Overview

常压罐式运输半挂车为单层结构，车体由罐体和底架两大部件所组成。罐车内部装有防波板，可减少液体运输过程的惯性力。按用途可分为轻质油类罐车、黏油类罐车、酸碱类罐车等，罐车均为整体承载结构，罐体具有较大的强度和刚度，能承受货物的重量，也能承担作用在罐体上的纵向力，主要用于常压常温液体运输。

The atmospheric tank semi-trailer is a single-layer structure, consisting of two main components: the tank body and the chassis. Inside the tank, there are baffles to reduce the inertial force during liquid transportation. According to its purpose, it can be divided into light oil tankers, viscous oil tankers, acid and alkali tankers, etc. The tanker is an integral load-bearing structure, with the tank body possessing significant strength and rigidity to withstand the weight of the cargo and longitudinal forces acting on it. It is primarily used for the transportation of liquid cargo at atmospheric pressure and ambient temperature.



## 运油半挂车

### Oil semi-trailer

#### 产品概述 Product Overview

运油半挂车主要用于装运油类、化工液体以及食用液体等多种液态物质的大型油料运输。罐体采用优质碳钢按国家标准制造，外形分椭圆或方形罐体，可装1-4种油品。也可生产加热保温系列罐体。采用高压气体试漏检测，使罐体具有强度高，重心稳，车辆运载安全平稳等特点。

Oil semi-trailers are mainly used for large-scale oil transportation of various liquid substances such as oil, chemical liquids, and edible liquids. The tank body is made of high-quality carbon steel according to national standards. The shape is oval or square and round, and can hold 1-4 types of oil products. It can also produce heating and heat preservation series tanks. The high-pressure gas leak test is adopted to make the tank body have the characteristics of high strength, stable center of gravity, and safe and stable vehicle transportation.



## 栏板式半挂车

### Railing semi-trailer

#### 产品概述 Product Overview

栏板式半挂车载货部位为栏板结构的半挂车。用途广泛，主要适用于中重型及散装货物的中长途运输，适用性强，已成为中、长途货运车辆之首选。

The railing type semi-trailer is a semi-trailer whose cargo part is a railing structure. It has a wide range of uses and is mainly suitable for medium and long-distance transportation of medium-heavy and bulk goods. It has strong applicability and has become the first choice for medium- and long-distance freight vehicles.



## 仓栅式运输半挂车

### Warehouse type transport semi-trailer

#### 产品概述 Product Overview

仓栅式半挂运输车所使用的悬架系统都是新型的空气悬挂，有着比较好的耐冲击性能、高强度。各个轴的轴荷载较为平衡，其系统拉杆的角度也是设计的比较合理，仓栅式半挂运输车在进行驾驶的过程里，遇到那些比较颠簸的路段，可以减少到车轮和地面之间摩擦滑移的距离，能够很好的降低了车辆轮胎的磨损程度。并且可以同时的调节拉杆、调整轴距，可以很好的避免到轮胎出现了偏磨合啃轮的情况。

The suspension systems used in warehouse-type semi-trailer transport trucks are all new air suspensions, which have relatively good impact resistance and high strength. The axle load of each axle is relatively balanced, and the angle of the system tie rod is also designed to be relatively reasonable. During the driving process of the warehouse-type semi-trailer transport vehicle, the friction between the wheels and the ground can be reduced when encountering bumpy road sections. The slip distance can greatly reduce the wear of vehicle tires. And the tie rod and wheelbase can be adjusted at the same time, which can effectively avoid the tire running in and chewing the wheel.



## 自卸半挂车

### Dump semi-trailer

#### 产品概述 Product Overview

自卸式半挂车是载货部位具有自动倾卸装置的半挂车，适用于煤炭、矿石、建筑物料等散装零散货物的运输。

Dump-type semi-trailers are semi-trailers with automatic dumping devices in the cargo area. They are suitable for transporting bulk cargoes such as coal, ore, and building materials.



# LNG船用燃料罐

## LNG marine fuel tanks

### 产品概述 Product Overview

公司生产CCS和ZC认证的各型船用LNG燃料储罐，执行国标GB150、GB18442和CCS《船舶应用天然气燃料规范》(2021)、CB/T4453-2016《船用液化天然气燃料储罐》，并提供船用LNG系统集成设备和撬装化产品。公司可根据用户要求定制特殊型号和特殊规范的LNG动力船用储罐和系统。

The company produces various types of marine LNG fuel storage tanks certified by CCS and ZC, implements national standards GB150, GB18442 and CCS "Specification for natural gas fuel for marine applications"(2021), CB/T4453-2016 "Marine LNG fuel storage tanks", and provides marine LNG system integration equipment and skid-mounted products. The company can customize special models and specifications of LNG-powered marine storage tanks and systems according to user requirements.



### 技术参数 Technical Parameter

项目 ITEMS	容积 (m³) Volume	最高工作压力 (MPa) Maximum operating pressure	充装率 Filling rate	外形尺寸 (mm) Outer size	备注 Remarks
型号 MODEL					
CFW3.6	3.6	1.0	90%	详见图纸	
CFW5-1.0	5				
CFW8-1.0	8				
CFW10-1.0	10				
CFW15-1.0	15				
CFW20-1.0	20				
CFW30-1.0	30				
CFW40-1.0	40				
CFW50-1.0	50				
CFW65-1.0	65				
CFW80-1.0	80				
CFW100-1.0	100				

# 空分设备

## Air separation equipment

### 产品概述 Product Overview

小型空分装置采用先进的低压工艺流程和技术、高效的空气压缩技术、空气净化技术、新型规整填料技术、无氢制氮技术，消除了传统设计的高能耗特点。诚德的小型空分装置占地面积小，分馏塔冷箱整体撬装、生产安装周期短、运行稳定。

应用领域：冶金、钢铁、石油化工、煤化工、机械、环保、电子、医药、玻璃、轮胎、核电、航空航天、多晶硅、新能源电池等。

The air separation unit developed by Huayuan Chengde adopts advanced low-pressure process and technology, efficient air compression technology, air purification technology, new structured filling technology, and hydrogen-free argon production technology, eliminating the high energy consumption characteristics of traditional designs. Chengde's small air separation unit occupies a small area, the fractionation tower cold box is integrally skid-mounted, the production and installation cycle is short, and the operation is stable.

Application fields: metallurgy, steel, petrochemical industry, coal chemical industry, machinery, environmental protection, electronics, medicine, glass, tires, nuclear power, aerospace, polysilicon, new energy batteries, etc.



# LNG汽化站

## LNG vaporizing station

### 产品概述 Product Overview

LNG由槽车运至汽化站,利用LNG卸车增压器使槽车内压力增高,将槽车内LNG送至LNG低温贮槽内储存。当从LNG贮槽外排时,先通过贮槽的自增压系统,使贮槽压力升高,然后打开贮槽液相出口阀,通过压力差将贮槽内的LNG送至气化器后,经调压、计量、加臭等工序送入使用用户。当室外环境温度较低空浴式气化器出口的天然气温度低于5℃时,需在空浴式气化器出口串联水浴式加热器,对汽化后的天然气进行加热。

我公司设计、制造、安装的LNG汽化站设备具有:安装简单、设计合理、操作方便、美观大方、占地面积小、智能控制等优点,广泛应用于城市管网调峰、食品、化工、医药、冶金、电器、光伏、锂电等诸多行业,多年来深受广大客户青睐和好评。

LNG is transported to vaporizing station by tanker Using LNG unloading supercharger to increase the pressure in tank and transport LNG from tanker to storage tank when LNG is excretion from storage tank, first through Self pressurization system to increase to increase tank's pressure,then open the tank liquid phase outlet valve,By pressure difference to send LNG from the storage tank to the gasifier. Then trasported to end user after sadjusted pressure measurement,odorization and other processes.When outdoor temperature is low and air ambient vaporizer outlet temperature is lower than 5℃, needs adding water bath heater and Heating natural gas after vaporized.

The LNG vaporizing station equipment designed, manufactured, installed by our company has advantage of installation is simple, reasonable design,convenient operation,beautiful appearance, small area occupied,intelligent control and other advantages. They are widely used in urban pipeline peaking food,chemical,-pharmaceutical,metallurgical,electrical appliance,photovoltaic,Lithium battery,batteries and other industries,widely praised by our customers year by year.



### 技术参数 Technical Parameter

项目 ITEMS	技术参数 TECHNICAL PARAMETERS
液化天然气贮槽容积 Liquefied natural gas storage tank capacity	2-5000m³
供气流量 Gassupplyflow	50-200000Nm³/h
供气压力 Gas supply pressure	0.01-3.5MPa
控制方式 Control mode	PLC可编程自动控制 PLC Programmable automatic control

# LNG调峰站

## LNG shaving station

### 产品概述 Product Overview

LNG调峰站具有过滤、计量、调压、加臭等功能,作为一个气源门站可以非常方便的为下游供气,在现代城镇燃气供应中是一种不可或缺的供气方式。

LNG调峰站储液能力非常可观,一旦遇到市区管网用量突然增加、极端天气情况,天然气长输干线突发事故的情况下,该站可以开启气化设备,将LNG气化为气态,大量的为管网输气补气,保证整体供气系统的安全稳定供气。

#### LNG调峰站总图布置

调峰站可分为两大区域:生产区及辅助生产区。其中,生产区主要有LNG储罐、空浴式气化器、水浴式加热器、缓冲罐等生产设备,也包括卸车台及槽车回转场地。辅助生产区包括控制室、变配电室、柴油发电机房、消防泵房、消防水池等。

The LNG peak regulating station has the functions of filtering, metering, pressure regulating and odorization. As a gas source gate station, it is very convenient to supply gas to the downstream. It is an indispensable way of gas supply in modern town.

The storage capacity of LNG peaking station is very impressive. Once the sudden increase of urban pipe network usage, the extreme weather and the sudden accident of the long pipeline of natural gas, the station can open the gasification equipment and vaporized LNG into The gaseous state, a large amount of gas is supplied to the pipeline network to ensure the safe and stable supply of gas to the overall gas supply system.

#### LNG peak-regulating station general plan layout

Peak-regulating stations can be divided into two major areas: production area and auxiliary production area. The production area mainly include LNG storage tank, ambient vaporizer, water-bath heater, buffer tank and other production equipment, as well as unloading platform and tanker revolution area. Auxiliary production areas include control room, power distribution and transformer room, diesel generator room, fire pump room, fire pool, etc..





# LNG加气站

## LNG refueling station

### 产品概述 Product Overview

LNG加气站是以贮槽为主体、低温液体泵、加液机等组合模块,按照GB50156-2002《汽车加油加气站设计与施工规范》开发设计的一、二、三级标准站,流程合理、布置规范、简洁,并最大限度撬块化、工厂预组装、现场工程量小,适合中大规模加气需求。

LNG filling stations are tanks whose main part is storage tank, cryogenic liquid pumps, and fluid machine and other combination module, according to GB50156-2002 "car design and construction of refueling stations," first, second, third standard station development and design, the process is reasonable, layout is normative, concise, and maximize the skid of the factory pre-assembled, a small amount of on-site engineering for large-scale increase in gas demand.



### 技术参数 Technical Parameter

加气站级别 Skid station stage	基本配置 Basic configuration			加气能力 ×104Nm <sup>3</sup> /d Filling volume
	储罐数量 Storage quantity	低温泵数量 Lower pump quantity	售气机数量 Quantity of gas dispenser	
三级站 Standard stage 3	1×60m <sup>3</sup>	1	2	1.5-2
		2	2	2-3
二级站 Standard stage 2	2×60m <sup>3</sup>	2	2	2-3
		2	4	3-4
一级站 Standard stage 1	3×60m <sup>3</sup>	3	4	4-5
		4-8	6-8	6-8

# 平底贮槽

## Flat bottom storage tank

### 产品概述 Product Overview

随着科学技术的发展,在常压下利用低温贮槽储存物料的技术日臻成熟。国内常压低温贮槽的建设越来越多,向着大型化方向发展。常压贮槽与其他储存方式比较,有许多优点:相对于真空罐和球罐,由于低温贮槽的储存压力低,因而安全性比较好,低温贮槽实现了大型化,其占地少,降低了储存成本,贮槽结构简单,施工容易,降低了建设成本。常见的储存介质有液化天然气LNG(-162℃)、液氧(-183℃)、液氮(-196℃)、液氩(-186℃)、液态乙烷(-89℃)、乙烯(-104℃)等。

With the development of science and technology, the technology of using low temperature storage tank to store materials under normal pressure is becoming more and more mature. The construction of atmospheric low temperature storage tank in China is more and more, and it is developing towards large scale. Compared with other storage methods, the atmospheric pressure tank has many advantages: compared with the vacuum tank and the spherical tank, due to the low storage pressure of the low temperature tank, the safety is better, the low temperature tank has realized the large-scale, the area is less, the storage cost is reduced, the storage tank structure is simple, the construction is easy, and the construction cost is reduced. Common storage medium are of liquefied natural gas, LNG (162 °C), liquid oxygen (183 °C) (196 °C), liquid argon (186 °C), liquid ethane (89 °C), ethylene (104 °C), etc.



### 技术参数 Technical Parameter

型号 MODEL	项目 ITEMS	容积(m <sup>3</sup> ) Volume	工作介质 Service Fluid
单容罐 Single layer tank	200~20000或定制200~20000 200 ~ 20000 or custom 200 ~ 20000	液化天然气、液氧、液氮、液氩、液态乙烯 Liquefied natural gas, Liquid oxygen, Liquid nitrogen, Liquid argon, Liquid ethylene	
双容罐 Double layer tank	200~20000或定制200~20000 200 ~ 20000 or custom 200 ~ 20000	液化天然气、液氧、液氮、液氩、液态乙烯 Liquefied natural gas, Liquid oxygen, Liquid nitrogen, Liquid argon, Liquid ethylene	
全容罐 Full capacity tank	200~20000或定制200~20000 200 ~ 20000 or custom 200 ~ 20000	液化天然气、液氧、液氮、液氩、液态乙烯 Liquefied natural gas, Liquid oxygen, Liquid nitrogen, Liquid argon, Liquid ethylene	

## 蒸汽加热水浴式汽化器

### Steam heated water bath vaporizer

#### 产品概述 Product Overview

蒸汽加热水浴式汽化器是将蒸汽的热能传递给工作介质,使之汽化为设计温度下的气体,配置有温度控制器、蒸汽控制阀、电控箱等附件。

其重要特点:平均温差大、换热效率高、工作时间长、不受环境温度影响、无需电能、结构紧凑、占地面积小、集中智能控制、使用安全方便。



It converts steam water power into heat and transfers them to the working medium, then vaporizes them into the needed temperature. The attachment of this vaporizer includes temperature controller, steam water control valve and electric cabinet.

Its main features are: large average temperature gap, high efficiency in temperature changing, not influenced by exterior changes, a compact, small size and central intelligent control, easy and safe to operate.

## 电加热水浴式汽化器

### Electric heating bath type evaporator

#### 产品概述 Product Overview

本系列汽化器是利用特质高效率电加热器加热筒体内的水,水再加热紧凑式换热管内低温液体(LO<sub>2</sub>、LN<sub>2</sub>、LAr、LNG、LCO<sub>2</sub>、LC<sub>2</sub>H<sub>4</sub>、LPG),采用先进的水温自动控制系统,保证气体出口温度达到设计要求,设备无需人员值守,无震动及噪声,寿命长。

根据汽化气体或者使用要求,LNG、液氮等易燃介质做成防爆型电加热汽化器。



This series of vaporizers uses a special high-efficiency electric heater to heat the water in the cylinder, and the water reheats the low-temperature liquid (LO<sub>2</sub>, LN<sub>2</sub>, LAr, LNG, LCO<sub>2</sub>, LC<sub>2</sub>H<sub>4</sub>, LPG) in the compact heat exchange tube. It adopts an advanced water temperature automatic control system, ensuring that the gas outlet temperature reaches the design requirements, equipment without personnel duty, no vibration and noise, long life.

According to the vaporized gas or usage requirements, LNG, liquid nitrogen and other flammable medium are made into explosion-proof electric heating vaporizers.

## 空浴式汽化器

### Ambient air vaporizer

#### 产品概述 Product Overview

本系列空浴式汽化器采用高换热效率的星形铝合金翅片管作为换热主体;其中高压空浴式汽化器的承压管道和翅片管间采用特殊的胀管拉制复合技术,大大减少了热阻系数;提高了换热效率;星形铝合金翅片管间采用中心连接片菱形连接,结构稳固,外形美观大方;在工作过程中依靠空气对流加热,无需外接能源,节能环保。



Ambient air vaporizer this series of vaporizer uses the highly efficient star-shaped aluminum alloy fin as its main body heat transfer meter. Inside the pressure-bearing pipe among the high-pressure ambient air vaporizer and aluminum alloy fin applies the special technology, which greatly reduces the thermal resistance and improves the heat-transfer efficiency. The star-shaped aluminum alloy fins are connected with the joining piece into the diamond shape, which ensures its stability and quality. During the working process, it's energy, making it more energy-saving and environmental-friendly.

## 液体二氧化碳泵

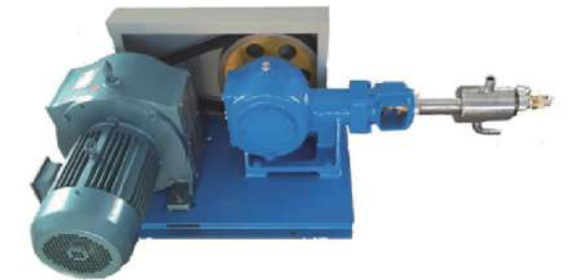
### Liquid carbon dioxide pump

#### 产品概述 Product Overview

液体二氧化碳泵适用于液体二氧化碳加压充装系统。

本系列二氧化碳泵具有性能稳定、操作维护便利、启动时间短、运行平稳等优点。泵头采用流通式设计,使得泵可以在无需泄压时启动。

该泵由于冷端所用的部分材质不适用于氧介质等易燃易爆介质和深冷介质的工作条件,因此只适用于液体二氧化碳的输送流程。



This liquid carbon dioxide pump can be applied in the pressurizing and filling of liquid carbon dioxide.

It's stable. Easy to operate with a short set-up time. With the flow-through design of the pump head, the pump can start working without reducing the pressure.

As some material of the cooling part of the pump is not suitable for inflammable and explosive gases like oxygen, this product is only confined to the transportation of liquid carbon dioxide.

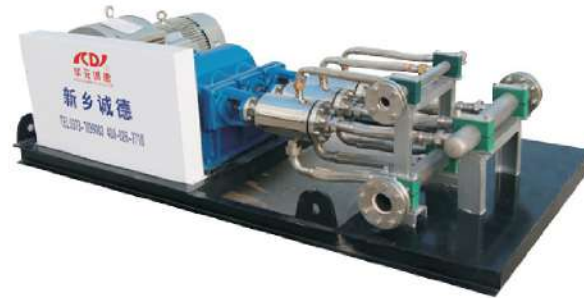
## 低温液体流量泵

### Cryogenic liquid flow pump

#### 产品概述 Product Overview

本系列低温液体泵是为中压输送大流量的低温液体要求而设计合成的。它主要适用于钢厂炼钢系统的氧气或氩气的供给系统,空分流程的液体输送及低温液体的其它增压输送场合。简单实用的设计理念和严格的质量控制保证了该系列的长期可靠运行。

本系列低温液体泵可按实际使用进行流量调节,调节方式分为电磁调速和变频调速,其中变速调速型采用当前国际流行的节能技术,对速度调节的同时可以节约电耗30%左右。



This series of pump is mainly designed for transporting large amount of cryogenic liquid gas in a medium-pressure environment .It can be mainly applied in the filling system of oxygen and argon during the steel-marking system in the steel factory and also in the gas separation and other occasions where cryogenic gas transportation is needed.Its simple but practical design concept as well as its strict quality control in manufacturing ensures its reliability and long-time operation.

This series of pump can adjust its flow regulation according to practical conditions.The flow adjustment can be either in the electromagnetic speed regulating or the frequency control speed regulating,which adopts the current prevailing cutting-edge energy-saving technology,thus can meantime save around 30%electric power .

## 液化天然气高压泵

### High-pressure liquid natural gas pump

#### 产品概述 Product Overview

本系列液化天然气高压泵是在引进吸收国外先进技术的基础上,精心设计制造的液化天然气高压泵,该泵适用于液化天然气汽车加气站,其工作目的是将贮槽中的低温化天然气增压气化后给汽车供气,简洁优化的设计和精心的制造保证了长时间的安全可靠运行。



This series of pump is based on the advanced technology and with Careful design and manufacturing High-pressure liquid natural gas pump. It is suitable for natural liquid gas car filling station.After vaporizing and adding pressure to the cryogenic liquid gas in the tanks,it helps to supply natural liquid gas to cars and trucks.Its simple design and meticulous manufacturing ensures its high-quality and long-time operation.

## 氧、氩、氮低温液体充瓶泵

### Oxygen, argon, nitrogen cryogenic liquid filling cylinders of pump

#### 产品概述 Product Overview

泵系列往复式低温液体泵是在引进吸收国内外先进技术的基础上,精心设计制造的新一代低温液体泵,该泵具有性能稳定、操作维护便利、启动时间短、运行平稳等优点,泵头采用高真空多层绝热保温,降低了工作介质的冷损,并采用流通式设计,使得泵可以在无需泄压时启动。

该泵适用于液氧、液氮、液氩充装系统中,其工作目的是将贮槽中的低温液体增压气化后充入钢瓶简洁优化的设计和精心的制造保证了长时间安全可靠的运行。



This series of pump is based on the advanced technology in the world ,design and manufactured with meticulousness.The pump has a stable performance, convenient operation and maintenance, start-up time is short, smooth operation and so on. Pump Head adopt high vacuum multilayer insulation,Reduce the cold damage the working medium, And the use of flow-through design,- So that the pump can be started at the time without relief.

The pump is suitable for liquid oxygen, liquid nitrogen, liquid argon filling system, Its aim is to work in the cryogenic liquid storage tank after filling the cylinder supercharged vaporization, Simple design and careful manufacturing optimization ensures safe and reliable operation for a long time.

## 离心式低温液体泵

### Centrifugal cryogenic liquid pump

#### 产品概述 Product Overview

离心式低温液体泵主要用于贮槽与贮槽之间,贮槽与槽车之间低温液体的输送,它可大大缩短液体输送的时间和减少液体无谓的浪费。同时,在各种空分装置中离心式低温泵也得到了广泛的运用。

本系列离心式低温泵具有结构紧凑、运转平稳、寿命长、噪音低、维修方便等诸多优点。其优异的性能与合理的价格已得到众多国内用户的好评,并已成为替代进口产品的最佳选择。



This pump is mainly applied in the transportation of cryogenic liquid gas between two storage tanks or between the storage tank and the storage tank car(road tanker) .The pump can greatly reduce the transportation time and the related loss.Meanwhile ,it's also widely used in a variety of gas separation equipment.

This series of pump is characterized by a compact structure, stability ,high-quality,low sound during operating,and easy to maintain. With its excellent quality and reasonable price,it's well-received by a large number of customers, even replacing some of the export products.

## 自力式调压装置

### Self-operated pressure regulating equipment

#### 产品概述 Product Overview

自力式调压装置是利用调压阀以及一路截止阀作为旁通将压力调节至所需值的阀组。设计有进出口法兰、截止阀、压力调节阀、安全阀、压力表、过滤器、排空阀等。调压装置压力调节阀的型号以及管路的口径根据所需调节后的压力和流量确定,适用于氧气、氩气、氮气、二氧化碳、天然气等气体压力调节。



Self-operated pressure regulating equipment this equipment contains a group valve of pressure regulating valve and also a line of shut-off valve ,which is used as a bypass,regulating the pressure to the level needed.It includes inside and outside flange,shut-off valve ,pressure regulating valve, safety valve ,pressure gage ,filler,air-draining valve ,etc. The type of the pressure regulating valve and the size of the pipe can be varied according to the required pressure and air flow.It can be applied in the pressure regulating for oxygen, argon nitrogen,carbon dioxide ,natural gas ,etc.

## 液化天然气气化调压撬

### Natural gas pressure regulator

#### 产品概述 Product Overview

我国城市管网大多采用中压输送(一般为1-4bar),而直燃设备(燃气锅炉、直燃型中央空调机组)的用气为低压(一般为50-100mbr).为此,公司针对此类用户用气特点而开发了CHZ系列直燃设备专用调压站。

该系列调压站针对工业用气的特点(流量骤变、需迅速启闭、不间断供气)除设计上采用双路自动切换,具备过滤、调压、计量等功能。调压站还具有在流量范围变化大的工况条件下,反应迅速出口压力稳定,关闭精度高的特点。能极好滴满足工业和民用直燃设备的使用要求。



The pipe line system in most cities of China adopt the medium-pressure transportation (usually between 1-4bar),however,the direct-fired equipment,such as the gas-fired boiler and the direct fired central air-conditioning units need low-pressure gas (usually between 50-100mbr).As a result,the company designs and creates the CHZ series direct fired equipment pressure adjustment system.

This series product takes the features of industrial gas using into consideration ---sudden changes of gas flow,requirement of quick start and stop ,non-stopping gas supply,etc.)Its functions include automatic double-way switching, filtrating,adjusting the pressure and measuring.When there is rapid change of gas flow ,this pressure regulator can respond quickly to adjust and ensure the stability of pressure and stop when needed. This can greatly help the operation of both industrial and civil direct-fired equipment.

## 混合配比柜

### Mixing ratio cabinet

#### 产品概述 Product Overview

混合气体配比柜可以将需要使用的两种气体按使用要求进行配比,并获得均匀的混合气体,可广泛适用于铁道船舶、化工、机械制造等各类气体保护焊场合。



The mixed gas proportioning cabinet can proportion the two gases that need to be used according to the requirements of use, and obtain a uniform mixed gas. It can be widely used in various gas shielded welding occasions such as railway ships,chemical industries, and machinery manufacturing.

## 汇流排、充装排

### Cylinder manifold, filling manifold



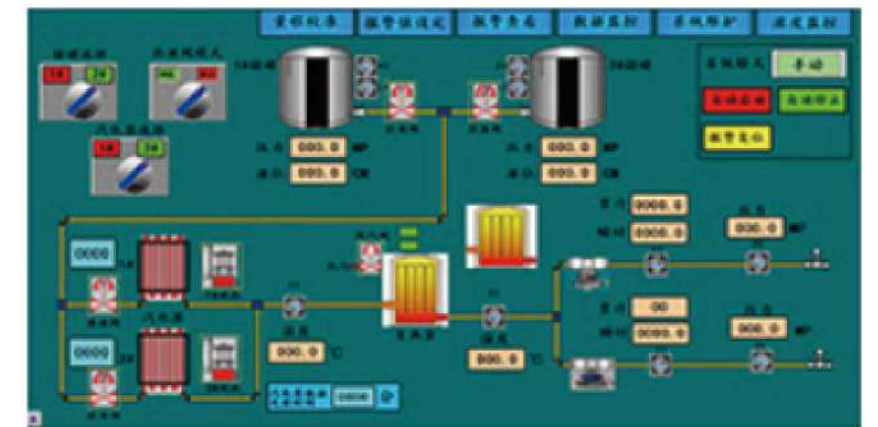
## CNCD阀门

### CNCD Valve



## 自动控制系统(PLC等)

### Automatic control system (PLC etc.)



# FIELD INSTALLATION

## 现场安装

天然气场站施工  
LNG station construction

石油化工管道施工  
Petrochemical pipeline construction

燃气管道施工  
Gas pipeline construction

燃气工程总承包  
General contracting of gas project

燃气工程专项施工  
Special construction of gas project

公司具有GB1、GC2、GC3压力管道设计、安装资质可以为客户提供专业的压力管道整体解决方案。

Our company have the design and installation qualification of GB1, GC2 and GC3 pressure pipeline which can supply customers with professional pressure pipeline solutions.

压力管道设计、安装、检验、办证、改造、维修一站式服务,快速、专业、高效、安全的为用户解决问题,让用户放心、省心、舒心。

Pressure pipeline design, installation in spection, certification, transformation, maintenance one-stop service fast, professional, efficient and safe to solves problems, ask user rest assured, relax and comfortable.



# TECHNICAL SUPPORT

## 技术支持

服务体系健全,近百名专业服务人员为客户提供技术培训+全程追踪服务。

Complete service system, nearly 100 professional service personnel to provide customers with technical training + full tracking service.



云平台报修  
Cloud platform repair



远程指导  
Remote instruction



现场解决  
The scene to solve



技术培训  
Technical training



全程跟踪  
Full tracing service

一切以客户实际需求出发,一切以客户价值为依归  
一切以解决客户问题为要,一切以客户满意为着力点  
夯实自身根基,锻造硬核能力,用真诚服务,让满意永驻





























































Everything starts with the actual needs of customers  
Everything is based on customer value  
Everything in order to solve customer problems  
Everything starts with customer satisfaction as the focus  
Tamp its own foundation, forging core capability  
With sincere service, let satisfaction stay forever



# 03 案例篇 Project cases

# PROJECT CASES

## 工程案例

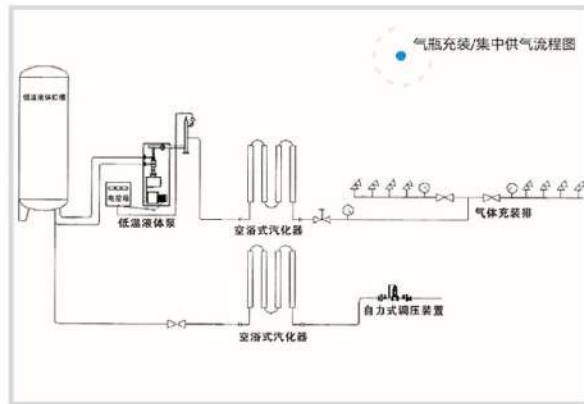
能源化工 Energy and chemical	医药行业 Pharmaceutical industry	装备制造 Equipment manufacturing	食品加工 Food processing	环境保护 Environmental protection	高效农业 Efficient agriculture	天然气行业 Natural gas industry	交通运输 Transportation	外贸出口 Foreign trade export	军民融合 Military-civilian integration
 中国燃气	 甘肃药业	 安钢集团	 河南骑士精酿啤酒工厂	 北京碧水源环保公司 安徽天长污水处理厂	 百容水产养殖	 LNG调峰站	 航平	 缅甸	 国家低温泵 试验中心项目
 杭州中泰济宁协力气体	 海南博鳌医院	 湖南长沙三一重工	 宁波石浦播备供应链 科技研发有限公司	 福建新大陆四川 成都污水处理厂	 鼎新生态农业	 荆门宏图	 济柴动力	 南美秘鲁	 国家低温泵 试验中心项目
 豪安能源	 湖南善意科技 广西南宁项目	 江西钢结构	 南极冰	 华清博雅环保	 绿港宿迁	 京昆仑燃气	 江阴船舶	 伊朗	 风洞项目
 新疆天瑞达	 拉萨人民医院	 美的集团	 上海梭子蟹精酿啤酒	 南京环境科技	 山东汇通养殖	 气化站	 望达	 印尼	 风洞项目
 裕祥燃气	 千金方医院	 元山制造	 深圳联德康干冰科技	 青岛国林环保公司 陕西咸阳水厂	 牧原食品股份有限公司	 矿粉厂	 鑫通船务	 越南梅塞尔	 中国航天
 杭氧	 武汉雷神山医院	 浙江美可达	 浙江美盐食品	 新大陆湖南项目 污水处理	 云南梅塞尔	 养殖场	 载达船务	 越南明行食品有限公司	 卫星发射研究中心

# CLASSIC PROCESS

## 经典流程

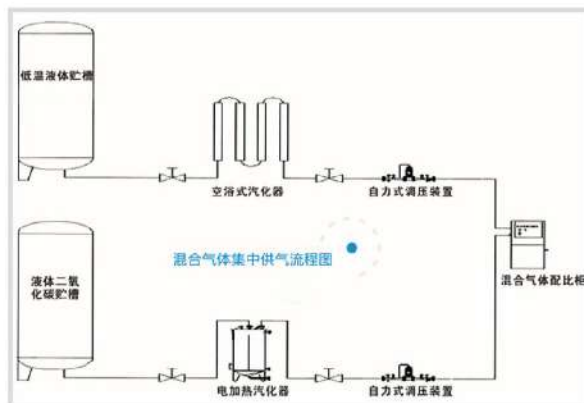
### 气瓶充装/集中供气流程图

Cylinder filling/centralized gas supply flow chart



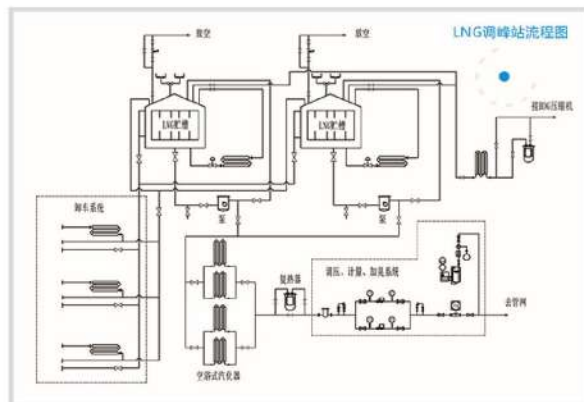
### 混合气体集中供气流程图

Mixed gas concentration of gas flow chart



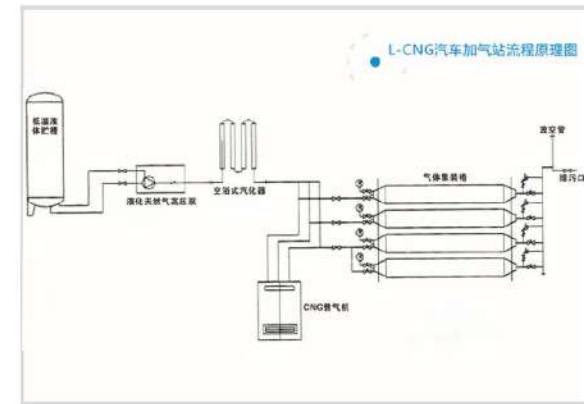
### LNG调峰站流程图

Flow chart of LNG gasification station



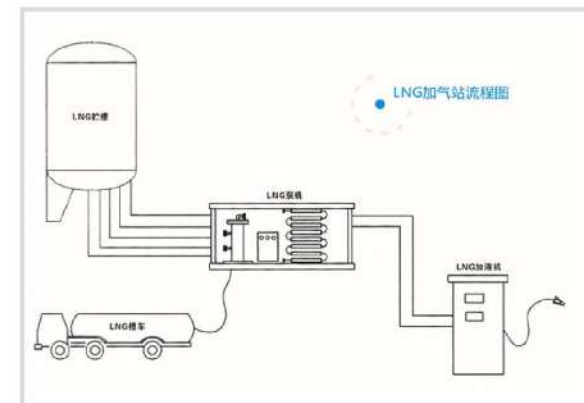
### L-CNG汽车加气站流程原理图

Automobile L-CNG filling station flow diagram



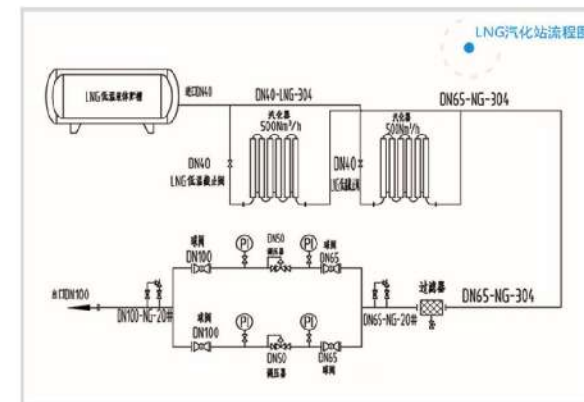
### LNG加气站流程图

LNG filling stations flowchart



### LNG汽化站流程图

Flow chart of LNG gasification station





# 04 合作伙伴 Partner

### Cooperation A Win-win policy and Development

合作 共赢 发展

### Rooted In Central China Set Out For The Whole World

立足中原放眼世界

### The Course of Our Development Is Endless.....

发展永无止境.....



 中國建築	 中国国电 CHINA GUODIAN	 中信重工 CITIC HEAVY INDUSTRIES	 中国石化	 CHINAGAS 中國燃氣	 LG Life's Good	 muyuan牧原	 中核集团 CNNC	 中国平煤神马集团 CHINA PINGMEI SHENMA GROUP	 中国兵器工业集团
 MESSER Gases for Life	 杭氧	 盈德气体 YINGDE GASES	 Zhongtai Cryogenic 中泰股份	 协鑫 GCL	 中科富海 FULLCRYO	 中国五环 WUHUAN — 原化工部第四设计院 —	 中国船舶工业集团公司 CHINA STATE SHIPBUILDING CORPORATION LIMITED	 侨源气体 QIAO YUAN GAS	 HQHP
 宇通客车 YUTONG	 美的 Midea	 GUOLIN	 金宏气体 JINHONG GAS	 黄河空分 HUANGHE	 COSIC 武汉三江航天远方科技有限公司	 交圣新能源 JIAOSHENG NEW ENERGY	 ENN 新奥	 贵州燃气	 陕汽重卡
 鸿路钢构 HONGLU STEEL STRUCTURE	 BYD	 GREE 格力	 WEICHAI 潍柴	 SANY	 骏通 JUNTONG	 山东临工 SHANDONG LINING	 包钢集团 BAOGANG GROUP	 安钢集团 AN GANG GROUP	 HNCC 河南煤业化工集团安化公司
 DIER 迪尔	 多氟多 DFD	 FOXCONN 富士康科技集团	 Coca-Cola	 康师傅	 百岁山 Ganten	 micoe四季沐歌	<p>这个位置是留给您的..... This place is for you.....</p>		

one-stop service provider  
Low temperature cryogenic industry chain  
低温冷产业链 一站式服务者



诚实守信 以德为先  
Honesty and trustworthiness, Morality first