



低温深冷产业链 一站式服务者

Low temperature cryogenic industry chain
one-stop service provider

船舶用设备 Marine equipment



微信公众号 全景VR 客服微信



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诚者天之道也，诚之者人之道也。《中庸》
Honest is the law of nature while prusuit for honest is the law of performance

天行健，君子以自强不息；
地势坤，君子以厚德载物。《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.



诚实守信 以德为先

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

CONTENTS

目录

01 企业篇 Company

- 01/关于我们
- 05/组织架构
- 11/研发创新
- 15/企业图集
- 03/企业文化
- 07/装备实力
- 13/资质荣誉

- 01/About us
- 03/Company culture
- 05/Organization
- 07/Manufacturing strength
- 11/Innovate
- 13/Reputation
- 15/Enterprise picture

02 产品篇 Products

- 17/LNG船用燃料罐
- 21/船用制氮装置
- 23/船用二氧化碳回收装置
- 25/船用燃机烟气脱硫脱硝装置
- 26/合作单位
- 17/LNG marine fuel tank
- 21/ Marine nitrogen plant
- 23/ Marine CO2 recovery unit
- 25/ Marine gas turbine flue gas desulfurization and denitrification device
- 26/ Cooperating organization

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 69000m²,员工 500 余人,年产低温贮槽、移动式压力容器、常压货物罐车、LNG船用燃料罐、船用制氮装置、船用二氧化碳回收装置等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,目前公司所涉及的船型有油船、化学品船、LPG运输船、LNG加气趸船、双燃料动力船、PSV船、AHTS工作船等。产品销往全国出口 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.

The company has 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 1 equipment industrial park and 3 manufacturing bases, covering a total area of 160 mu, and standardized workshops of 69,000 square meters. With more than 500 employees and an annual output of more than 2000 sets (sets) of cryogenic storage tanks, mobile pressure vessels, atmospheric cargo tankers, LNG Marine fuel tanks, Marine nitrogen production devices, Marine carbon dioxide recovery devices and other supporting products, it is an excellent domestic cryogenic equipment manufacturing enterprise. The company has two brands of domestic trade "Huayuan Chengde" and foreign trade "CNCD", serving many large multinational companies and domestic leading enterprises, and its products are widely used in energy, metallurgy, chemical industry, food, medical, equipment manufacturing, automobile industry, efficient agriculture and other fields. At present, the ship types involved in the company include oil tankers, chemical tankers, LPG carriers, LNG refueling barges, dual fuel power vessels, PSV vessels, AHTS working vessels and so on. Products are exported to more than 70 countries and regions.

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



企业价值观
ENTERPRISE VALVE

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



企业精神
ENTERPRISE SPIRIT

乐观 包容 创新 奋进
Optimistic Inclusive Innovation Endeavor



企业经营理念
BUSINESS PHILOSOPHY

专注 专业 共享 共赢
Focus Profession Share Win-win



企业使命
ENTERPRISE MISSION

装备强国 科技兴邦
Powerful country through equipment and technology



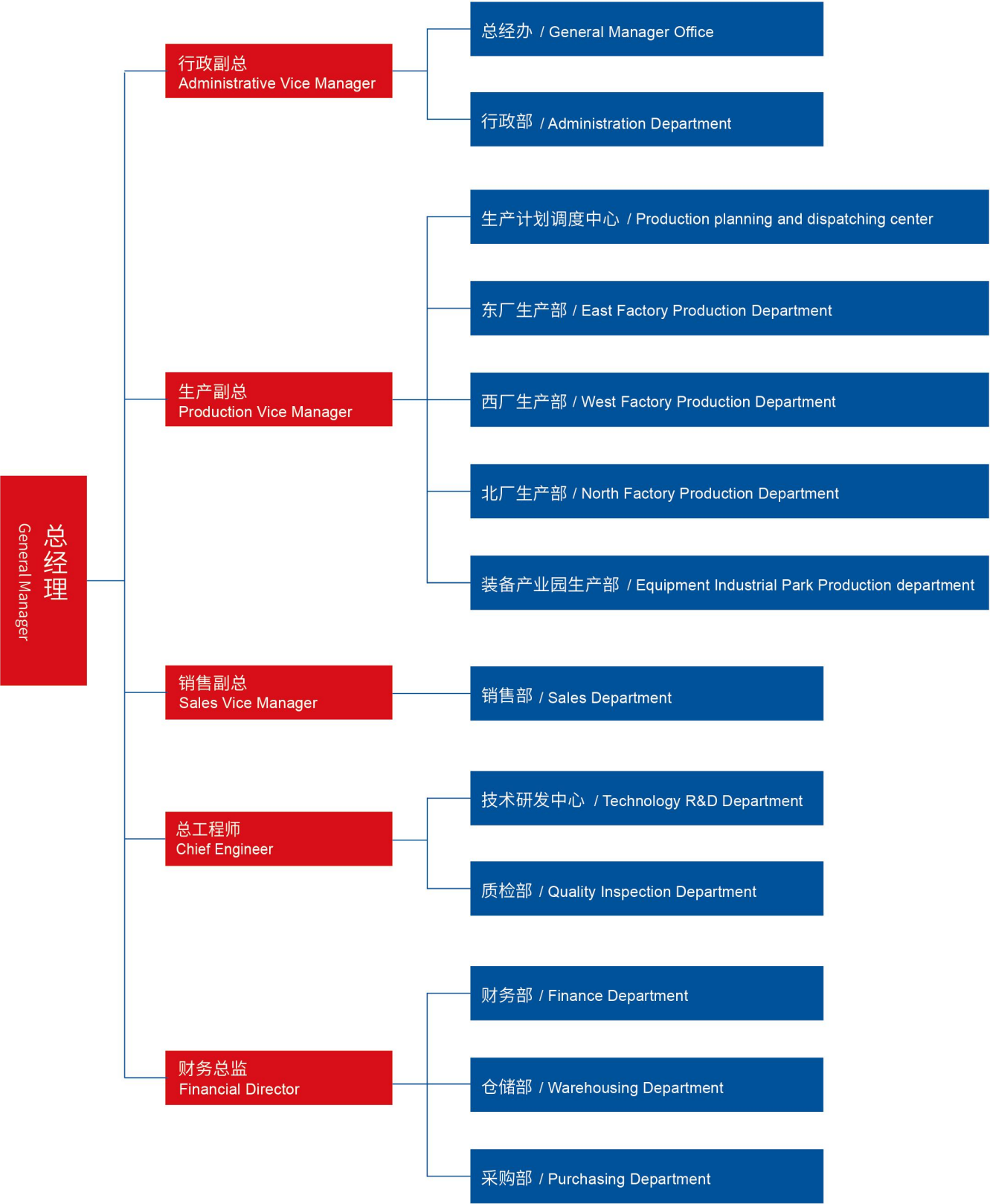
企业愿景
ENTERPRISE VISION

诚德百年 服务世界
To be century company Serve the world



ORGANIZATION CHART

组织架构



MANUFACTURING STRENGTH

装备实力

总体介绍

General introduction



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,并建有下料、制作、套装、试压、真空、涂装、成品车间,标准化车间总面积达69000m²,员工500余人,年产低温贮槽、移动式压力容器、常压货物罐车、LNG船用燃料罐、船用制氮装置、船用二氧化碳回收装置、船用二氧化碳回收装置等2000余台(套)及其他配套产品的生产规模。

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、CO₂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600m²大型自动喷涂车间,DXWP5500通过式抛丸除锈设备、12万m³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。

The company has 1 equipment industrial park and 3 manufacturing bases, 2 mobile pressure vessels and normal pressure cargo tanker production lines, and has built blanking, production, assembly, pressure test, vacuum, painting, finished product workshops, a total area of 69,000 square meters, more than 500 employees, Annual output of cryogenic storage tank, mobile pressure vessel, atmospheric cargo tanker, LNG Marine fuel tank, Marine nitrogen production device, Marine carbon dioxide recovery device and other supporting products of more than 2000 sets (sets).

Advanced manufacturing equipment, high degree of automation. It has more than 300 sets of advanced blanking and welding equipment, such as intelligent laser cutting machine, robot head opening equipment, cross arm automatic welding machine, coil machine, splice welding machine, turning machine, hydraulic plate rolling machine, gate shears, automatic submerged arc/argon arc welding machine, CO₂ welding machine, etc. Among them, there are 30 cross arm automatic welding machines. It can meet the needs of automatic welding and mass production of cylinder of different specifications. With 600m² large automatic spraying workshop, DXWP5500 through the shot blasting rust removal equipment, 120,000 m³ zeolite wheel exhaust gas treatment system and other high-end manufacturing equipment. Advanced production equipment and production process, modern and automated production management mode, so that product quality and performance always maintain the industry leading level.

The testing equipment is equipped with advanced means. It has a professional physical and chemical laboratory, flaw detection room, equipped with spectral detector, chemical material analysis (PMI), mechanical properties test (such as impact test/tensile test), non-destructive testing equipment (magnetic particle detection MT, color detection PT, X-ray detection RT, ultrasonic detection UT), torque test, metallographic analysis and other professional and modern test equipment. With high performance inspection capability 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.



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。

设有专业的理化实验室, 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。检测仪器配置齐全手段先进, 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。

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.

It has a professional physical and chemical laboratory, equipped with spectral detector, chemical material analysis (PMI), mechanical properties test (such as impact test/tensile test), non-destructive testing equipment (magnetic particle detection MT, color detection PT, X-ray detection RT, ultrasonic detection UT), torque test, metallographic analysis and other professional and modern test equipment. The testing equipment is equipped with advanced means, with high-performance testing capabilities from the initial to the final process, from raw materials to finished products.



真空检测 Vacuum detection



表面粗糙度检测 Surface roughness 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。

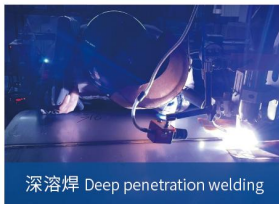
The advancement of manufacturing equipment is the key to production efficiency and product performance. With advanced production equipment and manufacturing technique, as well as a modern and automated production management model, production efficiency and product quality remain at the leading level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



内筒体抛光工艺 Inner cylinder polishing process



边梁P+T自动焊接 Automatic side beam P+T welding



深溶焊 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



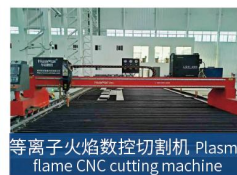
桥式起重机 Bridge crane



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



坡口机 beveling machine



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



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



激光切割机 Laser cutter



深溶焊环缝设备 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, 80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。

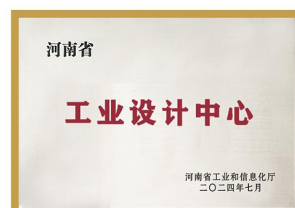
Xinxiang Chengde Energy Technology Equipment Co., Ltd. is a high-tech enterprise, specialized and special new enterprise; Won 7 international quality certification, more than 80 patent achievements; Won the "National Low Temperature Testing Center Product type certification", American ASME authority 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



河南省工业设计中心
Henan Industrial Design Center



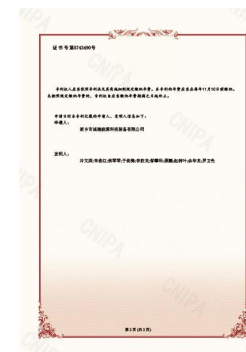
新乡诚德科学技术协会
Xinxiang Chengde Science and
Technology Association

MARINE PRODUCT PATENT

船用产品专利



发明专利: 一种防泄漏船用LNG燃料罐



实用专利: 一种便于吊装的船用燃料罐 实用新型专利证书



实用专利: 一种便于固定的大型船用燃料罐 实用新型专利证书



实用专利: 一种大型船用燃料罐 专利证书



实用专利: 一种减摇制荡的船用燃料储罐-实用新型专利证书



实用专利: 一种可移动的船用燃料罐



REPUTATION

资质荣誉

企业资质

Company qualification



企业荣誉

Company honor



ENTERPRISE PICTURE

企业图集

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

目前公司所涉及的船型有油船、化学品船、LPG运输船、LNG加气趸船、双燃料动力船、PSV船、AHTS工作船等。我公司有专业的设计研发团队，专业生产压力容器，对氮气发生器、LNG燃料系统、二氧化碳回收系统、船用燃机烟气脱硫脱硝一体化设备等研究，有着自己独到的经验和技術。

At present, the ship types involved in the company include oil tankers, chemical tankers, LPG carriers, LNG refueling barges, dual fuel power vessels, PSV vessels, AHTS working vessels and so on. Our company has a professional design and development team, specializing in the production of pressure vessels, nitrogen generator, LNG fuel system, CO2 recovery system and other research, has its own unique experience and technology.

LNG船用燃料罐

LNG marine fuel tanks

产品简介 Introduction

船用燃料罐是以LNG作为动力燃料的低温绝热储罐，由罐体、冷箱、汽化器、缓冲罐及管路系统、控制系统组成的高集成度的整装设备。罐为高真空绝热双层罐体，冷箱为汽化器、缓冲罐及管路系统、控制系统放置处所。管路系统可分为进液、回气、增压、减压及压力、温度、液位测量的管路。控制系统可对压力、温度、液位，冷箱气体浓度进行测量、报警和控制。

公司生产各型船用燃料储罐取得CCS认证，执行国标GB150、GB18442和CCS《船舶应用天然气燃料规范》、GB/T4453《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。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。

公司主营产品-船舶LNG燃料储罐已获得CCS认证，在船舶领域得到广泛应用。该储罐能有效实现船舶LNG储存，气化，供气、实时动态显示等，且真空度好，安全可靠，能够与全船的安全监测实现联动控制，得到广大船东及配套商的认可。

船用燃料罐作为LNG动力燃料储罐，实现了加注LNG后直接使用的特点，可有效降低冷损失，减少蒸发损失，同时减轻了设备重量，符合国家环保政策，广泛运用于船舶运输燃料动力供应。



Marine fuel tanks are low-temperature insulated storage tanks that use LNG as power fuel. They are highly integrated self-contained equipment consisting of a tank body, cold box, vaporizer, buffer tank, piping system, and control system. The tank is a high-vacuum insulated double-layer tank body, and the cold box is where the vaporizer, buffer tank, piping system, and control system are placed. The piping system can be divided into pipelines for liquid inlet, return gas, pressurization, decompression, and pressure, temperature, and liquid level measurement. The control system can measure, alarm, and control pressure, temperature, liquid level, and cold box gas concentration.

The company produces various types of marine fuel storage tanks with CCS certification, and implements national standards GB150, GB18442 and CCS 《Specifications for Marine Natural Gas Fuel》, GB/T4453 《Marine Liquefied Natural Gas Fuel Storage Tanks》, and provides marine LNG system integration equipment and skid-mounted products. LNG-powered marine storage tanks and systems of special models and special specifications can be customized according to user requirements.

The Company's main products -Marine LNG fuel tank has been certified by CCS, is widely used in the field of ship. The storage tank can effectively realize LNG storage, gasification, gas supply, real-time dynamic display, etc., and has good vacuum degree, high safety and reliability, and can realize linkage control with the safety monitoring of the whole ship, which has been recognized by the majority of shippers and fittings.

Marine fuel tanks for fuel tank LNG power, the realization of the filling characteristics of LNG directly use after can effectively reduce the cold loss and reduce the evaporation loss, reduced the weight of equipment at the same time, in line with the national environmental protection policy, widely used in ship transportation fuel power supply.



LNG船用燃料系统集成服务

LNG Marine fuel system integration services

公司集成服务主要包括三大主要模块：供气模块、动力模块、安保模块。负责LNG动力船舶供气系统的设计、采购、安装、调试和售后集成服务。

The company's integrated services mainly include three main modules: gas supply module, power module, and security module. Responsible for the design, procurement, installation, commissioning and after-sales integration services of LNG powered ship gas supply system.



供气模块
Gas Supply Module



安保模块
Security Module



动力模块
Power Module

主要内容 Main contents

船舶LNG集成服务主要内容

动力系统：气罐、主机、安保系统

燃料供给系统：安保系统---气罐，安保系统

Main contents of ship LNG integration service

Power system: gas tank, main engine, security system

Fuel feed system: Security systems -- gas tanks, security systems



LNG船用燃料系统集成服务

LNG Marine fuel system integration services

公司LNG系统集成服务的基础---供气系统的精准设计，我司提供的LNG集成系统“精准设计”，即是对不同的主机、辅机在不同工况时对LNG用气量、压力、温度的不同需求，而提供不同的汽化量、储存量、汽化温度、供气压力等。而最终目的是通过LNG精准设计实现船舶LNG系统的智能化。

The basis of the company's LNG system integration services is the precise design of gas supply systems, The "precise design" of the LNG integrated system provided by our company is to provide different amounts of vaporization, storage, vaporization temperature, gas supply pressure, etc. according to the different requirements of LNG gas consumption, pressure and temperature of different main engines and auxiliary engines under different working conditions. The ultimate goal is to realize the intelligence of the ship LNG system through the accurate design of LNG.

定量气化 Quantitative Gasification	智能控制 Intelligent Control
<div>1. 汽化水温度及流速设计；</div> <div>2. 加温系统设计；</div> <div>3. 气化系统设计；</div> <div>4. 自增压系统设计。</div>	<div>1. 供气管路设计；</div> <div>2. 缓冲罐设计；</div> <div>3. 控制信号采集；</div> <div>4. 工艺流程设计；</div> <div>5. 控制程序设计。</div>
<div>1. Vaporized water temperature and velocity design;</div> <div>2. Heating system design;</div> <div>3. Gasification system design;</div> <div>4. Self-pressurization system design.</div>	<div>1. Gas supply pipeline design;</div> <div>2. Buffer tank design;</div> <div>3. Control signal acquisition;</div> <div>4. Process design;</div> <div>5. Control program design.</div>

船用制氮装置

Marine nitrogen generator

公司从事船用氮气发生器设备、二氧化碳捕集、二氧化碳纯化及二氧化碳液化等设备的设计研发、生产制造、维修服务的专业供应商。通过CCS、ABS、BV、LR等船级社认证，先后同各大船厂和发动机厂合作，以技术服务于客户，用品质让客户满意。

The company is engaged in Marine nitrogen generator equipment, carbon dioxide capture, carbon dioxide purification and carbon dioxide liquefaction equipment design and development, manufacturing, maintenance services of professional suppliers. Through CCS, ABS, BV, LR and other classification society certification, has cooperated with major shipyards and engine factories, to serve customers with technology, with quality to satisfy customers.

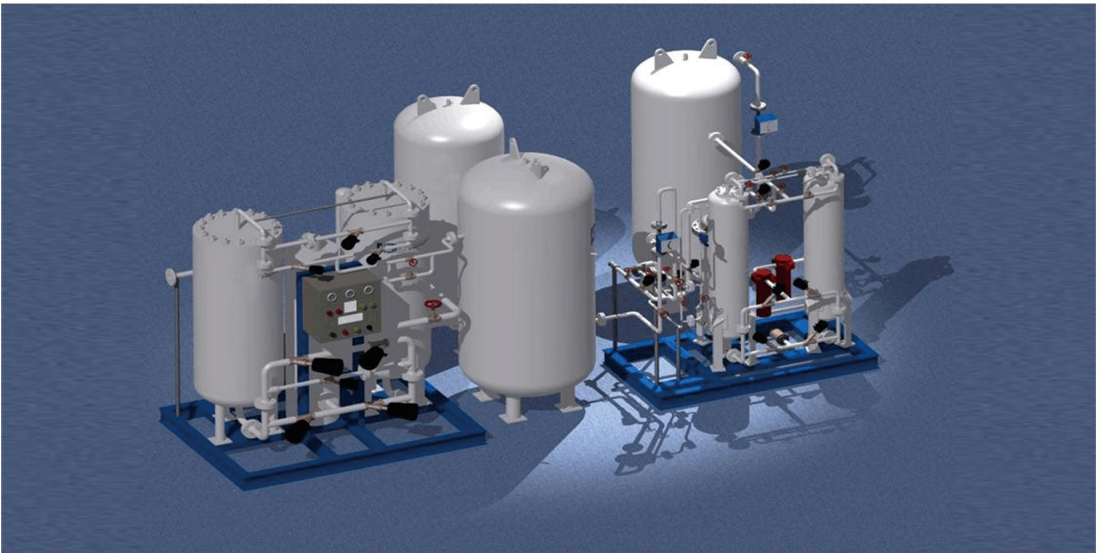
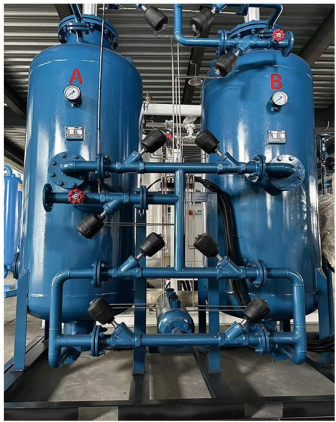
氮气发生器设备特点 Nitrogen generator equipment features

- 1、易扩容，满足用户用气量增长需求；
- 2、启动速度快，5~15分钟即可提供合格的氮气；
- 3、设备全自动运行，全过程可实现无人值守；
- 4、压力、纯度、流量稳定可调，满足客户的不同需要；
- 5、结构紧凑，流程先进，安全稳定，能耗小，占地面积小；

- 1. easy to expand, to meet the growth needs of users;
- 2. start fast, 5 ~15 minutes to provide qualified nitrogen;
- 3. the equipment fully automatic operation, the whole process can be unattended;
- 4. pressure, purity, flow stable and adjustable to meet the different needs of customers;
- 5. compact structure, advanced process, safe and stable, low energy consumption, small footprint;



产品图片展示 Product picture display



船用HX系列CO₂回收装置介绍

Introduction of Marine HX series CO₂ recovery device

烟道尾气采集后,先经除尘器除尘,再依次流至洗涤塔、脱塔、吸收塔解析塔。洗涤塔、脱硫塔内装填料,并备有循环系统,主要去除尾气当中能溶于水的杂质及去除尾气中的SO₂。吸收塔内存有针对以上气源开发的一种化学复合液,吸收塔中与溶液充分接触,CO₂被反应吸收,再在解析塔中加热解析,释放出浓度96%的CO₂。CO₂气体借助于两级CO₂无油润滑压缩机压缩至1.6-2.0Mpa以上的CO₂后,送入吸附塔。

为了保证CO₂压缩机工作稳定,在水洗塔和CO₂压缩机之间设置了一个气囊。压缩气体经吸附塔和干燥塔净化,净化后的CO₂气体在CO₂冷凝器内冷凝成-18℃的液体;冷凝器冷源由冷冻机组提供。液态CO₂进入贮罐贮存。用户需要用气时,液态CO₂由汽化器稳压加热,变成气体CO₂再经减压阀减压至用户需要的压力,以供使用。如果需要罐装或运输,将贮罐里的液体CO₂通过罐装泵充入钢瓶或运输设备。

After the flue gas is collected, the dust is first removed by the dust collector, and then it flows to the scrubber, the desulfurization tower, the absorption tower and the desulfurization tower. The scrubber and desulphurization tower are equipped with fillers and circulation systems, which mainly remove impurities that can dissolve in water and remove SO₂ in the exhaust gas. The absorption tower has a chemical composite liquid developed for the above gas source. The absorption tower is fully in contact with the solution, and CO₂ is absorbed by reaction, and then heated and analyzed in the analysis tower, releasing CO₂ with a concentration of 96%. CO₂ gas is compressed to CO₂ above 1.6-2.0Mpa by the two-stage CO₂ oil-free lubrication compressor, and then fed into the adsorption tower.

In order to ensure the stable operation of the CO₂ compressor, an air bag is arranged between the washing tower and the CO₂ compressor. The compressed gas is purified by the adsorption tower and the drying tower, and the purified CO₂ gas is condensed into a liquid at -18℃ in the CO₂ condenser. The cold source of the condenser is provided by the refrigeration unit. Liquid CO₂ is stored in tanks. When the user needs to use gas, the liquid CO₂ is heated by the carburetor pressure regulation, becomes a gas CO₂ and then depressurized by the pressure reducing valve to the pressure required by the user for use. If canning or transportation is required, the liquid CO₂ from the storage tank is filled into the cylinder or transportation equipment through the canning pump.

产品图片展示 Product picture display



船用PSA系列CO₂回收装置介绍

Introduction of Marine PSA series CO₂ recovery device

压吸附的基本原理是利用吸附剂对吸附质在不同分压下有不同的吸附容量、吸附速度和吸附力,并且在一定压力下对分离的气体混合物的各组分有选择吸附的特性,加压除去原料气中的杂质组分,减压脱附这些杂质而使吸附剂再生。

我单位采用吸附剂有天然沸石、分子筛等。一般四台吸附器并联使用,以保证整个过程能连续的输入原料混合气,连续取出CO₂产品和未吸附气体。属于干法工艺,无腐蚀,整个过程由吸附、漂洗、降压、抽真空和加压五步组成,运行系统压力在1.26MPa-6.66KPa之间变化。优点是工艺过程简单、能耗低、适应能力强、自动化程度较高。

我公司整套CO₂回收设备与各部分的标准化模块,可实现数据对接和远程控制。设备确保运行可靠,低维护;高回收率;其中节能模块运用在的液、气变相过程中,产生能量的转换,节能降耗成果巨大。

The basic principle of pressure adsorption is that the adsorbent has different adsorption capacity, adsorption speed and adsorption force for the adsorbent under different partial pressures, and the components of the separated gas mixture have the characteristics of selective adsorption under a certain pressure, the impurities in the raw gas are removed under pressure, and the impurities are desorbed under pressure to regenerate the adsorbent.

Our company uses natural zeolite, molecular sieve and so on as absorbent. Generally, four adsorbers are used in parallel to ensure that the whole process can continuously input the raw material mixture, and continuously remove the CO₂ product and unadsorbed gas. It is a dry process without corrosion. The whole process consists of five steps: adsorption, rinsing, pressure reduction, vacuuming and pressure. The operating system pressure varies between 1.26MPa-6.66KPa. The advantages are simple process, low energy consumption, strong adaptability and high degree of automation. Our company's complete set of CO₂ recovery equipment and each part of the standardized module, can achieve data docking and remote control. Equipment to ensure reliable operation, low maintenance; High recovery rate; Among them, the energy-saving module is used in the liquid and gas phase transformation process, which generates energy conversion and has great results in energy saving and consumption reduction.

产品图片展示 Product picture display

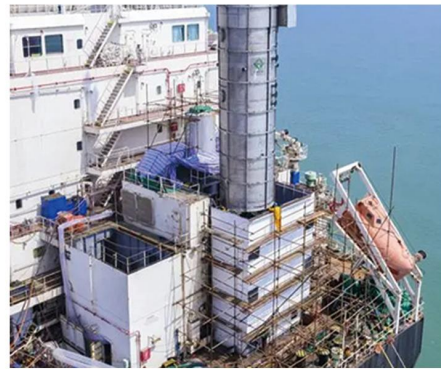


船用燃机烟气脱硫脱硝装置

Marine gas turbine flue gas desulfurization and denitrification device

船用燃机烟气脱硫脱硝一体化设备,包括以下流程:船用燃机烟气先经气换热器将温度降至 50~140℃后进入吸收塔底部,二氧化氯发生器生成二氧化氯浓溶液,将天然海水与二氧化氯浓溶液混合,根据烟气体积 NO_x 和 SO_2 的浓度,按一定液气比将二氧化氯海水溶液由喷淋泵打进吸收塔顶部,并在吸收塔内形成雾状液滴,与烟气接触脱除 NO_x 和 SO_2 净化后的烟气经气换热器加热后由烟囱排出。

Marine gas turbine flue gas desulfurization and denitrification integrated equipment, including the following processes: The flue gas of Marine gas turbine first enters the bottom of the absorption tower after the temperature is reduced to 50~140℃ through the gas heat exchanger. The chlorine dioxide generator generates a concentrated solution of chlorine dioxide. The natural seawater is mixed with the concentrated solution of chlorine dioxide, and according to the concentration of flue gas volume NO_x and SO_2 , the chlorine dioxide seawater solution is injected into the top of the absorption tower by the spray pump according to a certain liquid to gas ratio. In addition, mist droplets are formed in the absorber and contact with the flue gas. After removing NO_x and SO_2 , the purified flue gas is heated by the air heat exchanger and discharged by the chimney.



合作单位

Cooperating organization

公司是国内专业的船舶LNG供气系统集成设计、采购、安装、调试、售后服务为一体的集成服务团队。

目前公司已为部分LNG动力船舶提供了系统的大包EPC集成服务,系统设计合理、节能减排效果明显、系统运营良好,深受用户好评!

The company is a professional Marine LNG gas supply system integrated service team, which can supply design, procurement, installation, commissioning, after-sales service as total.

At present, the company has provided large-scale EPC integration services for some LNG-powered ships. The system design is reasonable, the effect of energy saving and emission reduction is obvious, and the system operation is good, which is well received by users!



帆盛船务



富德船务



航平333



重庆交运



济柴动力



江阴船舶



鑫通船务



西江重工



载达船务



one-stop service provider
Low temperature cryogenic industry chain
低温深冷产业链一站式服务者

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