



追求卓越，永无止境

I CAN Improvement, Continuous And Never-ending

上海汇舸环保科技集团股份有限公司于 2017 年成立于上海，被上海市政府授予高新技术企业称号，并发展成为在中国、新加坡、中国香港、挪威等地拥有九家子公司的集团企业—汇舸集团，作为一家科技型企业，汇舸专注于海洋环境保护、绿色能源解决方案及智能船舶领域。

汇舸致力于以科技推动海洋发展，让汇舸技术应用在每一艘船上，推动绿色能源、保护蓝色地球。

ContiOcean Environment Tech Co. Ltd. was established in Shanghai in 2017, it has developed to a group of 9 subsidiaries in China and overseas ("ContiOcean Group"). Being a technology group focusing on marine environmental conservation solution, ContiOcean Group's business mainly covers marine environmental protection solutions, clean energy applications, intelligent equipments, and marine services. ContiOcean Group has built a strong R&D team with extensive experience in the environmental protection solutions for large marine vessels, which is the core competency for developing our products and solutions for our customers.

ContiOcean is dedicated to maritime development with science and technology. We serve every vessel with eco-friendly technics, propel green energy and protect blue planet.



集团总部 /Group Headquarters

价值 Value

责任 Responsibility

创新 Innovation

共赢 Mutual Benefits



生产基地 /Manufacturing Base

汇舸（南通）环保设备有限公司成立于 2019 年，隶属于汇舸集团，公司占地 40 余亩，标准厂房生产面积约 10,000m²，并拥近 200 米的码头作业岸线，设计年吞吐量 160,000 吨。作为集团生产基地，当前主要承担船用脱硫塔、不锈钢管 /LNG 双壁管、撬块单元、船用烟气阀、船用控制系统、船舶水培柜等产品的制造。

ContiOcean (Nantong) E.P. Equipment Co., Ltd. was established in 2019 in Rugao City Jiangsu Province, subordinated to ContiOcean Group. The company covers an area of more than 26700 m², with a standard factory production area of about 10,000m² and a quay operation shoreline of nearly 200 meters, with a designed annual throughput of 160,000 tons. As the manufacturing base of the ContiOcean Group, it is mainly responsible for the manufacturing of Marine Scrubber Tower, Stainless Steel Pipe /LNG Cryogenic Double-Wall Pipe, FGSS/LFSS Skids, Exhaust Gas Damper, Marine Control System and etc.

www.contioceangroup.com

追求卓越，永无止境
I CAN... Improvement, Continuous And Never-ending...

产品及服务 Product & Service

船舶脱硫系统 / EGCS

- 船舶烟气洗涤系统（脱硫）
Exhaust Gas Cleaning System (SOx)

船舶脱碳系统 / CCS

- 船舶碳捕捉固化系统
Carbon Capture & Solidification
- 二氧化碳流量计
CO₂ Flowmeter

能源解决方案 / ENERGY SOLUTION

- 双燃料供气系统 – 液化天然气 / 液化乙烷
Fuel Gas Supply System (FGSS) - LNG/LEG
- 低闪点燃料供给系统 – 甲醇 / 液化石油气 / 氨
Low-Flashpoint Fuel Supply System (LFSS) - Methanol/ LPG/ Ammonia
- 液货系统 – 液化天然气 / 液化石油气 / 氨 / 液态二氧化碳
Cargo Handling System – LNG/LPG/Ammonia/LCO₂
- 低温阀
Cryogenic Valves
- 低温管道系统（双壁管）
Cryogenic Piping System (Double Wall Pipe)
- 氮气发生器
N₂ Generator
- 船舶与海洋工程气体类撬块 / 模块
Marine and Offshore Gas Skid & Module
- 双联过滤器
Double-filter
- 尿素液制造装置
Urea Solution Production Plant

常规设备 / GENERAL EQUIPMENT

- 集装箱 / 滚装船绑扎件
Container Fixed and Loose Fittings / RO-RO Lashing Gears
- 厨房 & 洗衣设备
Galley & Laundry Equipment
- 高压清洗机
Hydro Blasting Machine

智能船舶 / SMART SHIPS

- 船舶光伏系统
Photovoltaic System
- 船舶节能装置
Energy Saving Device (ESD)
- 船舶导风罩
Wind Deflector (WD)
- 船舶岸电系统
Alternative Marine Power system (AMP)
- 能效控制器
Electrical Efficiency Control (EEC)
- 船舶网络安全
Ship Cyber Security System (SCSS)
- 人性化船舶内装设计及施工
Accommodation Interior Design & Construction



船舶烟气洗涤系统

EGCS -- Exhaust Gas Cleaning System



为什么选择汇舸脱硫系统？

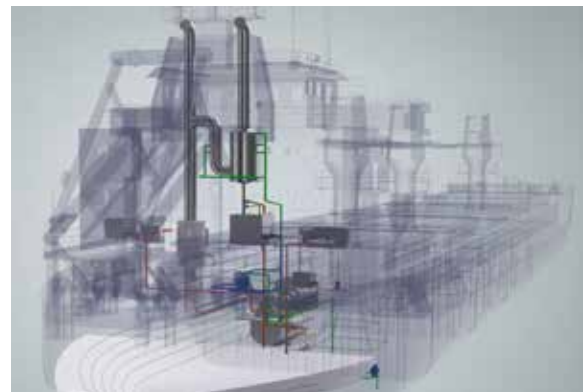
Our Advantages

- 安装超过 100 船套，久经考验值得信赖；
Over 100 vessels are equipped, proven and trusted.
- 有效去除超过 98% 的废气硫氧化物并减少可达 80% 的废气颗粒物；
Effective in removing over 98% of exhaust sulfur oxides and reducing up to 80% of exhaust particulate matter.
- 强有力的交付能力及项目管理能力；
Strong delivery capacity and project management.
- 全球服务网络；
Global network for service and support.
- 性能经过验证并得到客户的信赖；
Proven performance and many returning customers.
- 交钥匙工程服务
Turnkey project service.

项目总包服务

Turnkey Project Service

- 脱硫系统供应
Scrubber system supply
- 工程设计服务(3D扫描+详细设计+生产设计)
Engineering Design (3D Scanning + Detailed & Production design)
- 脱硫系统安装
Scrubber System installation

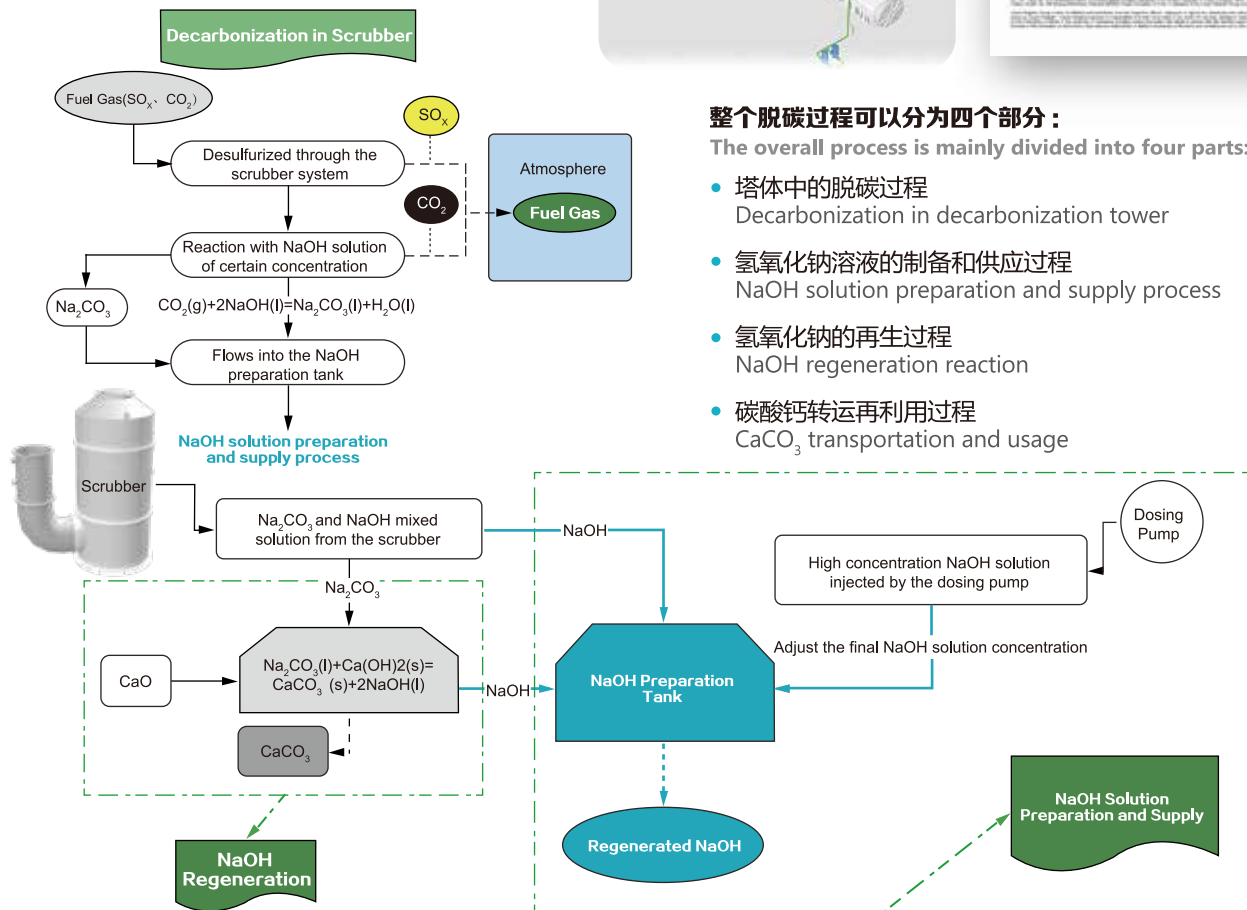
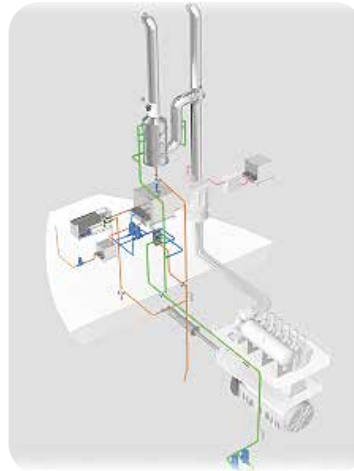


船舶碳捕捉系统-双碱法

CCS – Carbon Capture System – Dual Alkali Based

脱碳系统的原理是烟气中的 CO_2 在脱碳塔内被 NaOH 溶液吸收生成 Na_2CO_3 溶液，然后该溶液与 CaO 进行反应再生 NaOH 和 CaCO_3 ，从而形成一个将 CO_2 转化为固态化合物再利用和碱液循环使用脱碳过程。

The process of the decarbonization system is mainly that CO_2 in the flue gas is absorbed by NaOH solution in the decarbonization tower to generate Na_2CO_3 solution, and then the solution and CaO undergo regeneration reaction to regenerate NaOH and finally generate solid product CaCO_3 .



为什么选择汇舸碳捕捉？ Our Advantages

- 改装物量少、改装成本低
Low conversion volume and cost
- 丰富的洗涤塔改装经验
Mature Scrubber retrofit experience
- 最高可实现70%的脱碳
Up to 70% decarbonization can be achieved
- 氢氧化钠循环系统有效降低运营成本
NaOH Looping can reduce operating costs
- 操作简便快捷
User-friendly
- 有利于环境保护
Environment friendly

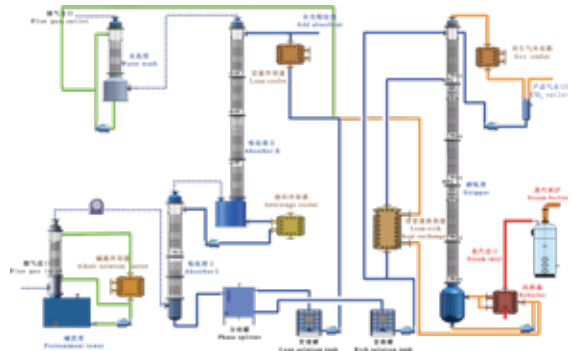
船舶碳捕捉系统-醇胺法

CCS-Carbon Capture System - Organic Amine Based

ContiOcean还提供了一种替代的碳捕获溶液有机胺方法。基本原理是弱酸(如CO₂)和弱碱(如MEA)之间形成可溶性盐的放热可逆反应。ContiOcean开展了实验室级别的脱碳测试,取得了令人满意的结果。根据测试数据,在200立方米/小时的气体流量下,二氧化碳去除率可达90%,远远超过了现行所有脱碳法规的要求。

Other than NaOH Looping, ContiOcean also offers an alternative carbon capture solution-ORGANIC AMINE METHOD. The fundamental underlying principle is the exothermic, reversible reaction between a weak acid (e.g., CO₂) and a weak base (e.g., MEA) to form a soluble salt.

ContiOcean has conducted multiple tests and validations of this system, achieving satisfactory results. According to the test data, at a gas flow rate of 200m³/h, the carbon dioxide removal rate can reach up to 90% which is far exceeds the requirements of all current decarbonization regulations.



200Nm³/h Pilot test



Design Parameters	Item	Unit	Data
	Treatment gas flow	Nm ³ /h	200~300
	CO ₂ volume fraction	vol%	6-12%
	CO ₂ removal efficiency	%	≥90%
	Absorbent flow	Kg/h	800~1400
	Steam flow (0.3Mpa)	Kg/h	80~110

Item	Unit	Absorber	Stripper	Pretreatment tower	Wash column
Dimensions	mm	DN300	DN250	DN250	DN300
Packing height	-	11+1m	10+2m	2m	2m
Packing Type	-	500Y	500Y	250X	-
Empty tower velocity	m/s	1.2	-	-	-
Operation temperature	°C	40~55	90~120	200	40~60
Operation pressure	bar	1.1	2	1.05	1.1

基于上述得到的产物, ContiOcean CCS 直接在船上解吸, 随后通过加压和冷却使其液化以获得液态CO₂, 该液态CO₂可以被储存在船上。这种方法不仅可以获取可回收的吸附剂, 还可以将液态CO₂作为产品出售。更重要的是, 这种解决方案更具环保性, 还能节省船上宝贵的空间。

Based on the product obtained from the amine decarbonization process described above, it can be either directly stored on board (which requires a large space) and transported to the shore for desorption and subsequent treatment, or directly desorbed on board, and then liquefied through pressurization and cooling to obtain liquid CO₂, which can be stored on board (which requires more power).

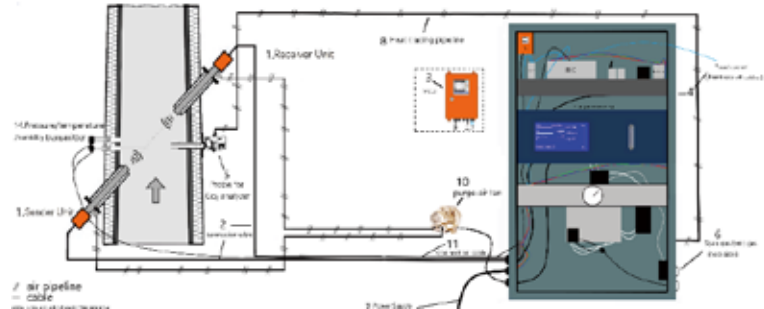
为什么选择ContiOcean产品: Why contioccean product ?

- 最高可实现90%的脱碳
High carbon capture efficiency (≥ 90%)
- 高性能塔: 大规模流场优化、超低排放、高性能填料
High-performance tower: large-scale flow field optimization, ultra-low emissions, high-performance packing
- 成熟的全球网络服务平台。
Mature global network service platform
- 第三代吸收剂: 低水分、低能耗、低损失
Third-generation absorbents: low water content, low energy consumption & low losses
- 高效率节能设备: 终端温差低、抗腐蚀、高效率
High-efficiency energy-saving equipment: low terminal temperature difference, corrosion-resistant & high efficiency

船舶二氧化碳流量计 CO₂ Flowmeter System

汇舸船用二氧化碳流量计系统是面向船舶海洋领域而研发的针对于CO₂的实时在线监测系统。

Conti CO₂ Flowmeter System is a real-time on-line CO₂ monitoring system developed for the marine field.



系统组成/Components

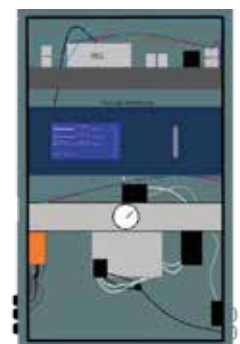
- 烟气流量测量系统
Flue gas flow measurement system
- 烟气分析检测系统
Flue gas analysis and detection system
- 数据分析与控制单元
Data analytics and Control Unit

产品特点/Product Feature

- 船舶碳捕捉固化系统
Carbon Capture & Solidification
- 分模块设计：易于安装，运行与维护
Module design: easy to install, operate and maintain
- 触摸屏显示，操作简单方便，界面友好
Touch screen display, simple and convenient operation, friendly interface
- 流量采用超声波流量计，测量精准，受干扰程度小
Flow using ultrasonic flowmeter, accurate measurement, less interference
- 流量计配有扫风模块（按温度启动），高温适配性强
The flowmeter is equipped with a sweeping module (starting at temperature), which has strong high temperature adaptability
- 具有故障、断电和监测数据超标异常情况的自动报警与记录功能
Automatic alarm and recording functions for faults, power outages and abnormal monitoring data

应用/Application

- 辅助监管部门对于船舶实时及累计碳排放计算
Assist regulatory authorities for real-time and cumulative carbon emissions calculation of ships
- 船舶运营商精准了解自身船队碳排放情况并及时调整运营方式
Ship operators get a precise picture of their fleet's carbon emissions and adjust their operations in a timely manner.
- 建立脱碳排放数据库，建立精准排放模型，提升公众绿色低碳意识
Establish a decarbonization emission database and an accurate emission model to enhance public awareness of green and low carbon emissions
- 与脱碳系统或动力系统建立通讯联系，自动控制系统运行策略
Establish communication with decarbonization systems or power systems, and automatically control system operation strategies



优势 Our advantages

- 专为船舶设计
Designed specifically for vessels
- 测量精度高
High measurement accuracy
- 速度快
Fast
- 获得劳氏船级社的原理性认证
Received principle certification from Lloyd's Register

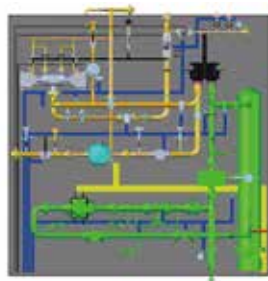
双燃料供气系统-液化天然气/ 液化乙烷 FGSS-Fuel Gas Supply System LNG/LEG

低闪点燃料供给系统-甲醇/ 液化石油气/ 氨 LFSS-Low-Flashpoint Fuel Supply System Methanol/LPG/Ammonia



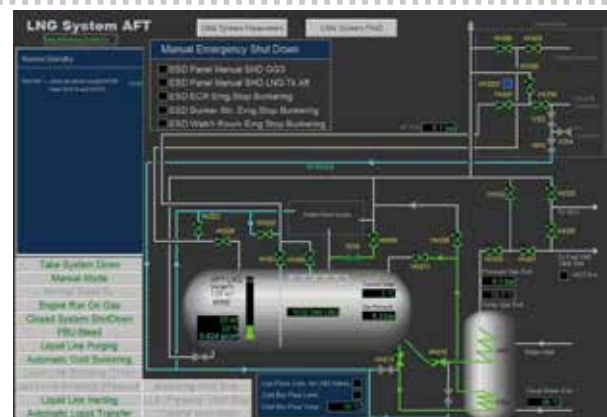
完整解决方案 Complete System Solution

- 覆盖所有双燃料主机的气态或液态燃料供给;
Covering gas / liquid supplies for all dual-fuel engines.
- 领先的甲醇挥发管理技术;
Cutting-edge technology for methanol vapor management.
- BOG 自动化管理;
With automated BOG management.
- 完全集成到船舶自动控制系统中;
Fully integrated into the ship's automation.
- 简化结构设计, 减少安装工程量, 为客户节约成本创造更大价值。
Simplification of structural design and reduction of installation workload, to save cost for customers to create greater value.



气体控制系统 Gas Control System (GCS)

- 认可的技术
Approved Technology
- 气态或液态燃料的加注和转运
Bunkering and transferring of gas/liquid fuel
- 备用模式和 BOG 管理
Standby mode and BOG management
- 处理后向燃烧单元供气
Processing and supply to consumers
- 适用长期停机模式
Apply to shutdown for longer periods

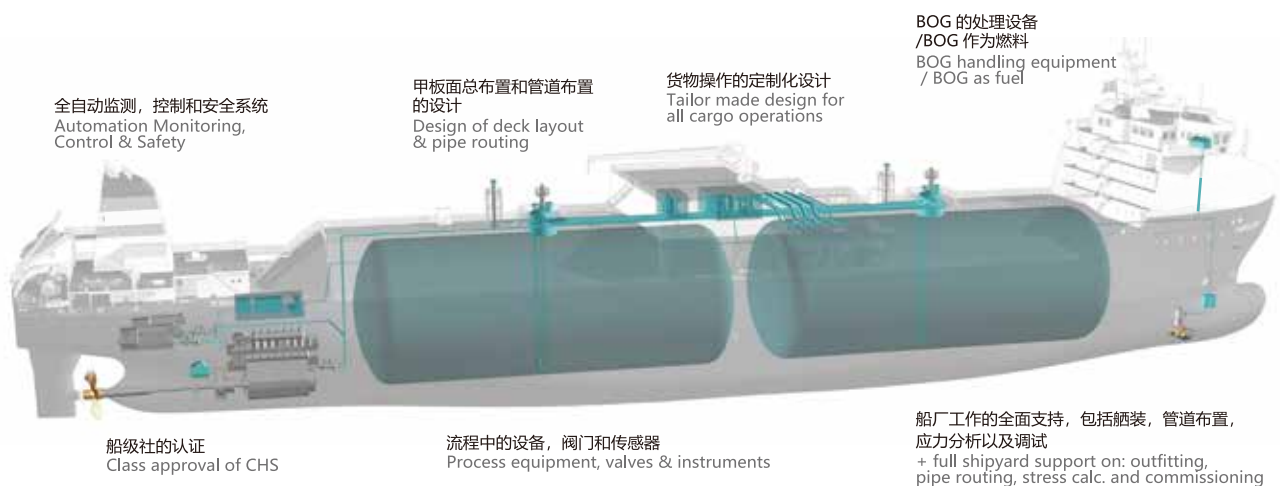
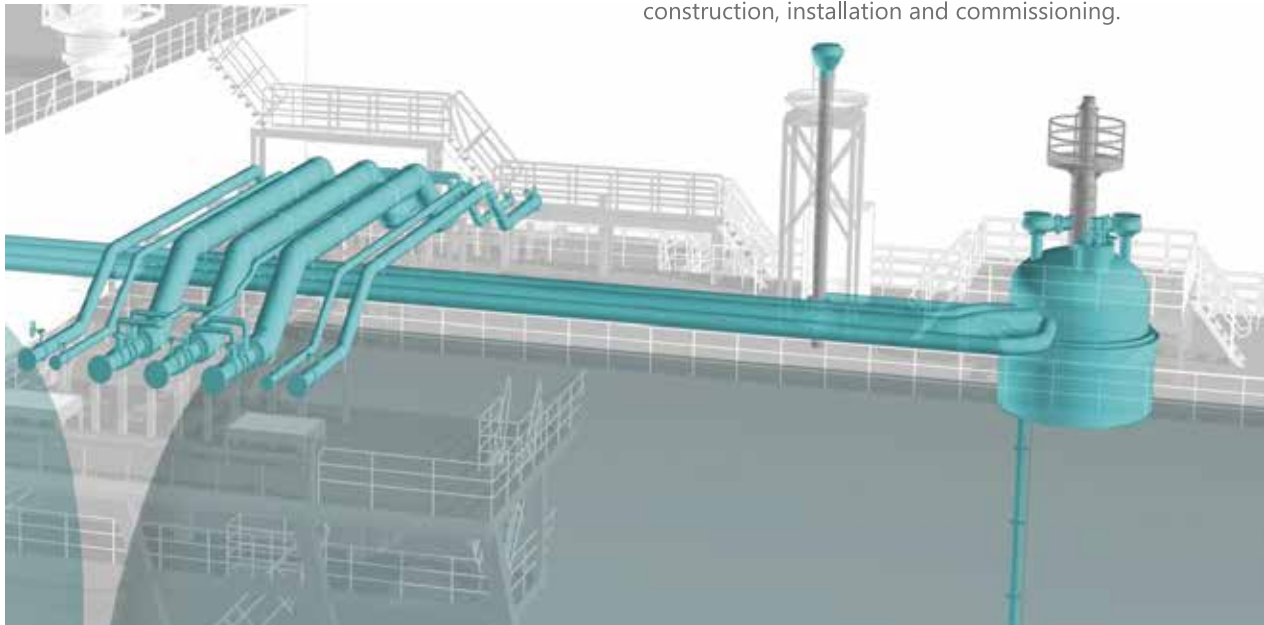


液货系统— 液化天然气/液化石油气/氨/液态二氧化碳

Cargo Handling System – LNG/LPG/Ammonia/LCO₂

整套解决方案 Complete System Solution

- 为液货管理身定制解决方案。
Customized solutions for cargo handling.
- 提供液货系统所有设备，包括船 - 船加注。
Delivery of all equipment of Cargo Handling System, including ship-to-ship bunkering.
- 包括液货系统设计、采购、建造、安装、调试等全部工程。
The scope of work includes engineering, procurement, construction, installation and commissioning.



氮气发生器

N₂ Generator

双压缩机
Double Air Compressors
全冗余过滤器和干燥器
Full Redundant Filter & Dryer Systems
系统自动化和集成化
Automatic and Integrated



膜法氮气发生器

Membrane Nitrogen Generator



主要特点/Key Features

- 高品质膜组可以提供最大的效率，以满足客户的要求。
The membrane selected can provide maximum efficiency to satisfy customer's requirements.
- 带与舱室压力联锁的自动开 / 关系统。
Automatic on/off system with tank pressure interlock.
- 与氮气流速和纯度相关的最佳控制系统，最大限度延长膜组的使用寿命
Optimal control system in connection with the flow rate and the purity of the nitrogen maximizes the life span of the membrane cartridges.
- 在制氮过程中无活动件，免维护。
Maintenance free as no moving parts during nitrogen producing process.

膜法氮气 / 干燥空气发生器

Membrane Nitrogen / Dry Air Generator

个性化定制 Personalized customization

基本参数/Parameters

冷却方式：空气冷却	结构：10'HC
Cooling method: Air cooling	Structure: 10'HC
氮气流量：550m ³ /h	干燥空气流量：1100m ³ /h
N ₂ flow: 550m ³ /h	Dry air flow: 1100m ³ /h
氮气纯度：大于 95%	出口压力：10-12barg
N ₂ purity: >95%	Outlet pressure: 10-12barg
氮气及干燥空气露点：小于 -45℃	
N ₂ and dry air dew point: < -45℃	

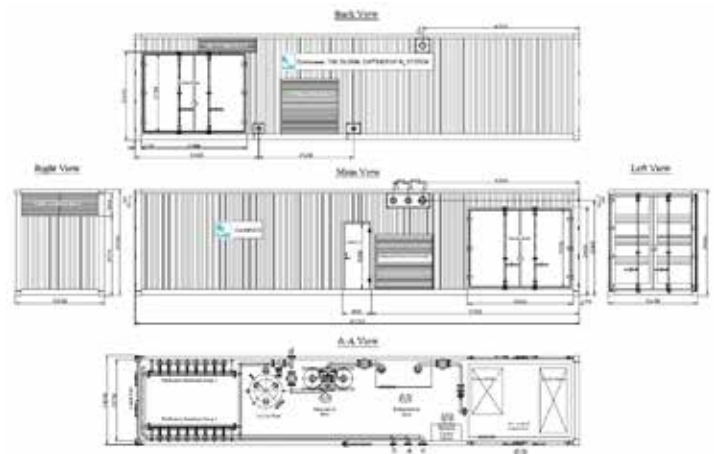
PSA 法氮气发生器

PSA Nitrogen Generator



主要特点/Key Features

- **经济性 Economical**
CMS 独特的填充压实方法使其具有更大的压实强度和更高的吸附效率。单位制氮成本最低。
The unique filling and compacting method of the CMS enables a larger compaction intensity and a higher adsorption efficiency.
Lowest cost of unit nitrogen generation.
- **使用便利 Convenient Usage**
自动记录并连续监控制氮过程。全自动和无人操作。
Automatically record and continuously monitor the nitrogen preparation progress.
Fully automatic and unmanned during operation.
- **高可靠性 High Reliability**
选用的阀门可运行 100 万次以上，为用户提供更高的可靠性。
Valves selected can operate up to one million times to ensure a higher reliability for the customers.



低温阀

Cryogenic Valves for CHS & FGSS



球阀
Ball Valve



截止阀
Globe Valve



止回阀
Check Valve

主要特点 / Key Features

316L, 对焊连接形式

316L, Butt-welded type

工作压力: -16 barg

Working pressure: -16 barg

工作温度: -196°C

Working temp: -196°C

认证船级社: LR/ABS/DNV-GL

Class Certificate: LR/ABS/DNV-GL

形式认可试验: 满足1.5 倍水压实验; 1.2倍密封实验; 低温操作实验

Type approval test: 1.5 times Hydraulic test; 1.2times Leakage test;
Cryogenic Operation test.



低温管道系统（双壁管）

Cryogenic Piping System (Double Wall Pipe)

- 真空双壁管
Vacuum double wall tube
- 低压双壁管
Low pressure double wall pipe
- 高压双壁管
High pressure double wall pipe
- 低温单壁管
Cryogenic single wall tube
- 真空绝热低温泵池
Vacuum insulated cryogenic pump sump
- 真空保温低温阀箱
Vacuum insulated cryogenic valve box
- 真空绝缘低温阀
Vacuum insulated cryogenic valve

本产品采用高真空多层绝热形式，根据结构不同分为内补偿真空管、外补偿真空管及真空软管，采用一体式支撑，通过高可靠性金属波纹补偿器解决管段冷缩应力。采取特殊真空处理工艺，专用真空维持工艺，彻底解决产品真空寿命问题，全面应用于各类低温液体（液氮、液氧、液化天然气、液氢、液氦、液氩等）的输送。

ContiOcean adopts high vacuum multi-layer insulation. According to the different structures, it is divided into the internal compensation vacuum tube, external compensation vacuum tube and vacuum hose. Also, it uses Integral support through high reliable metal corrugated compensator to solve the section of the cold shrinkage stress. The special vacuum treatment process and special vacuum maintenance process are adopted to completely solve the vacuum life problem of the product and have comprehensively application range.



应用范围

Application

适用于各类不同条件及不同标准要求下低温介质供应管道。
Suitable for cryogenic medium under different conditions and different standards.

主要技术参数/ Technical Data

设计压力：≤35Mpa

Design pressure: ≤35Mpa

设计温度：-196℃~105℃

Design temperature: -196℃ ~ 105℃

适用介质：液氮、液氧、液化天然气、液氢、液氦、液氩等低温液体

Medium: liquid nitrogen, liquid oxygen, LNG, liquid hydrogen, liquid helium, liquid argon and other cryogenic liquids

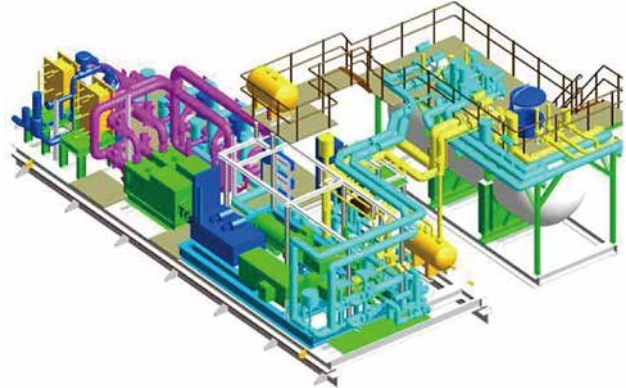


船舶与海洋工程气体类撬块/模块

Marine and Offshore Gas Skid & Module

LFSS撬块/LFSS Skid

- 提供满足主机工作流量、压力和温度要求的甲醇
Provide methanol that meets the requirements of flow, pressure and temperature for engine operation
- 自动控制并调节燃料供给
Automatically control and adjust the fuel supply
- 可靠且安全的设计
Reliable safety design



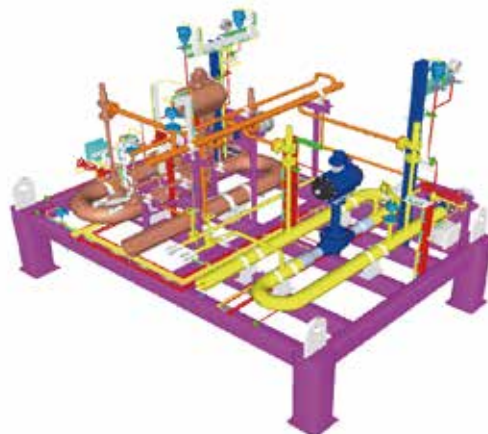
高低压撬块/HP&LP Skid

- 更高效地加注速度
High loading rates
- 安全且便于操作
Fully integrated in the ship's automation
- 配备干断式快速接头
Dry-break emergency couplings
- 可以在货物装卸作业中进行加注
Bunkering during cargo handling operations



加注撬块/Bunker Manifold Skid

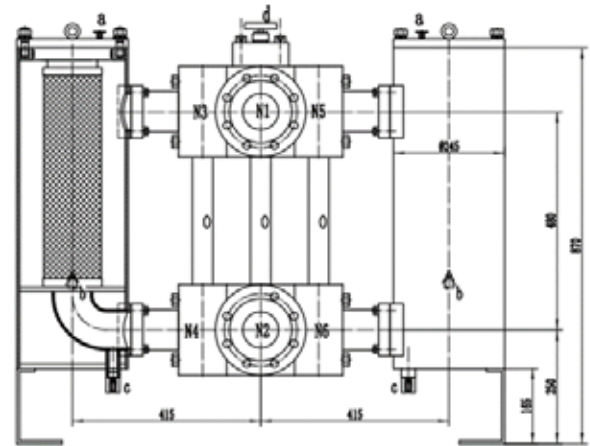
- 为所有型号主机提供解决方案
Solutions for all engine makers & types
- 与原船自动化系统中完全整合
Fully integrated in the ship's automation
- 支持标准化或定制化解决方案
Standardized or customized solutions



双联过滤器 Double-filter

双联过滤器，适用于各类低闪点燃料供应系统（如甲醇供应系统），其结构包含了A、B两套筒体、两套氮气吹扫口以及两组双截止阀，以确保燃料供应系统在工作中，滤器能够实现不断流的情况下同时进行维修、保养工作。而双截止系统又确保了在维修过程中，类似甲醇这种危化品不会倒流进正在操作的区域，充分保障了操作人员的安全。

Double-filter, suitable for various low-flashpoint fuel supply systems (such as methanol supply systems), its structure includes two sets of body A and B, two sets of nitrogen purging ports, and two sets of double shut-off valves to ensure that the filter can be continuously maintained and serviced while the fuel supply system is in operation. The double shut-off system also ensures that during maintenance, hazardous chemicals such as methanol do not backflow into the operational area, fully ensuring the safety of the operators.



基本参数/Parameters

- 材质：304/316L

Material: 304/316L

- 过滤精度：10um

Fineness: 10um

- 连接方式：法兰

Connection: Flange

- 流量：0~5200L/min

Flow: 0~5200L/min

- 尺寸：0～DN150

Size: 0~DN150

- 压力：0~5.0MPa

Pressure: 0~5.0MPa

尿素液制造装置

Urea Solution Production Plant

该本装置集尿素溶液生产和注入为一体的撬块式安装装置

The plant is a skid mounted equipment integrating urea solution production and injection.

- 尿素溶液是选择性催化还原(SCR)系统的还原剂。
Selective catalytic reduction (SCR) converter using urea solution as reducing agent.
- 减少氮氧化物排放，达到国际海事组织 IMO Tier III级氮氧化物排放标准。
Reduce nitrogen oxide emissions to meet IMO Tier III nitrogen oxide emission standards.
- 撬块式安装方式使得装置结构紧凑，安装方便，性能稳定。
Skid mode with compact structure, easy installation and stable performance
- 极大降低了尿素溶液的制造，使用成本，提高了尿素液的质量。
Greatly reduce the use-cost of urea solution and improve the quality of urea solution.



装置组成 / Components

- 尿素液制造罐(含加热器)
UREA solution production tank (include heater)
- 控制单元
Control module
- 阀和管路
Valve and pipeline
- 测量仪表
Measuring instrument
- 输送泵
Transfer pump

应用 Principle:

定量尿素颗粒投入尿素液制造罐中，与纯水混合。混合装置罐体中尿素液的浓度、液位和温度由固定在混合罐上的密度计、液位变送器和温度计监测。用作还原剂的尿素液由输送泵注入船舶尿素液舱中。

Quantitative urea granules are put into the solution production tank, for mixing with pure water. The concentration, liquid level and temperature of the mixed solution production plant are monitored by the densimeter, liquid level transmitter and thermometer on the solution production tank. The urea solution is injected into the ship urea solution tank as a reducing agent through the transfer pump.

注入阶段

Injection Phase

- 按下启动按钮
Push the start button
- 淡水注入阀打开，直到液位到达设定点
Fresh water inlet valve open, till water level reach the set point
- 加热系统启动工作
(尿素液温度<30°C 加热器启动，>40°C加热器停止)
Heating system starts to work.
(temperature of the UREA solution: Start <30°C / Stop >40°C)

尿素液混合

Urea solution Mixing

- 定量尿素颗粒投入稀释罐，搅拌器开始启动
Quantitative urea granules are put into the dilution tank, and the mixer is started.
- 当尿素液浓度到达40%，搅拌器继续允许10分钟，确保稀释液混合均匀
When the solution concentration reaches 40%, the mixer keep running for 10 minutes to mix the liquid evenly

排放

Discharge Stage

- 搅拌器停止后，排放阀打开
The discharge valve opens after the mixer stops
- 输送泵装置启动，尿素液注入船舶尿素舱
The transfer pump unit starts to inject the UREA solution into the ship UREA chamber.

营运船能效等级提升-船舶光伏系统

EEXI Solution - Photovoltaic system

- 两种运行方式—并网运行和独立运行。
Two modes of operation-grid-connected and stand-alone.
- 并网运行时，智能微电网可以为大电网起到调峰填谷的作用，是大电网稳定运行的有力支撑。
When operating grid-connected, smart microgrid can play the role of peak-shaving and valley-filling for the large grid. It is a strong support for the stable operation of the large grid.
- 当电网故障时，智能微电网可以快速从大电网中解列，独立运行，提高了供电可靠性。
When the grid fails, the smart microgrid can be quickly unlisted from the large grid and run independently to provide continuous power supply for important loads, which improves the reliability of power supply.



超20年设计寿命且系统免维护。

20+ years designed lifespan and a maintenance-free system.

24小时*7天连续监测和自动记录。

24hours*7days continuous monitoring and self-recording.

全球化服务网络。

Global aftersales service will be provided by the solar panel manufacturer, the battery supplier, and ContiSolar.

锂铁磷酸盐(最安全的锂电池类型)将被用于电池的材料。

Lithium Iron Phosphate (the safest lithium battery type) will be selected as the material of the batteries.



营运船能效等级提升-船舶节能装置

EEXI SOLUTION – ESD – ENERGY SAVING DEVICE

提升解决方案

Energy Efficiency Upgrade Implementation

- **前置预旋导轮 (PSV) 节能3%~6%**

Pre-shrouded Vanes (PSV) 3%~6% energy saving

加入导叶提供预旋效果

Added Guide Vane to provide the pre-spin effect

有效降低螺旋桨旋转能量损失

Reduce the propeller rotational energy loss

提高螺旋桨推进效率

Improve the propeller propulsion efficiency



- **桨毂消涡鳍 (HVAF) 节能2%~4%**

Vortex Absorbed Fins (HVAF) 2%~4% energy saving

桨毂消涡鳍与螺旋桨一体化设计

Integrated design of propeller hub vortex elimination fin and propeller

回收毂涡能量损失

Recover hub vortex energy loss



- **高效桨 (HEP) 节能2%~6%**

High Efficiency Propeller (HEP) 2%~6% energy saving

交货时间为5-7个月

Delivery time is 5-7 months

提供旧螺旋桨更换回收等

Providing old propeller replacement recycling, etc.

一站式解决方案

One-step solutions



- **舵球 (RB) 节能1%~3%**

Rudder Bulb (RB) 1%~3% energy saving

减小阻力

Reduce disc ratio, optimized propeller blade load distribution

提高舵效

Improve propeller propulsion efficiency



船舶导风罩

WD – Wind Deflector

背景/Background

- 船舶风阻占船舶总阻力6%以上，特别是对于甲板上装载集装箱高度超过15米的中大型集装箱船。
The wind resistance of ships accounts for more than 6% of the total resistance of ships, especially for medium and large container ships with a height of more than 15 meters on the deck.
- 降低运营成本，提高能源效率一直是航运业追求的目标。
Reducing operating costs and improving the energy efficiency have always been the pursuit of marine industry.
- 风荷载在安全方面起着重要作用。
Wind loads play an important role in safety.



因此，上部结构受风影响面积大的风阻降低研究逐渐受到关注。

Therefore, the research on wind resistance reduction with a large wind-affected area of the superstructure is gradually attracting attention.



功能/FUNCTION

- 降低风阻
Reducing wind resistance
- 节省油耗
Saving fuel consumption
- 节能减排约2%
Reducing emissions by approximately 2%

服务内容 What We Offer

EPC总包项目 / EPC Project

设计步骤: Multi-step design process:

- | | | |
|---|--|--|
| • 基本设计以及详细设计
Basic and detailed designs | • 有限元计算分析
FEM calculations and analysis | |
| • CFD仿真模拟
CFD simulations | • 风洞试验
wind tunnel tests | • 安装工期: 7天
Installation Period: within 7 days |
| • 优势: 满载时没有箱位减少损失
Advantage: No containers reduction when fully loaded | | |
| • 节能效果: 大约减少2%的能源消耗以及排放
Effect: about 2% reduction in fuel consumption and emissions | | |



EEC 能效控制器

EEC-Electrical Efficiency Control

EEC 设备/EEC applications:

- 海水泵(通常3套/船)
Sea Water Pumps (Normally 3 sets/ship)
- LT冷却水泵 (2套/船)
LT Cooling Water Pumps (2 sets/ship)
- 轮机舱通风风扇 (4套/船)
Engine Room Ventilation Fans (4 sets/ship)
- 客舱空调通风 (1套/船)
Cabin Air Condition Ventilation (1 set/ship)

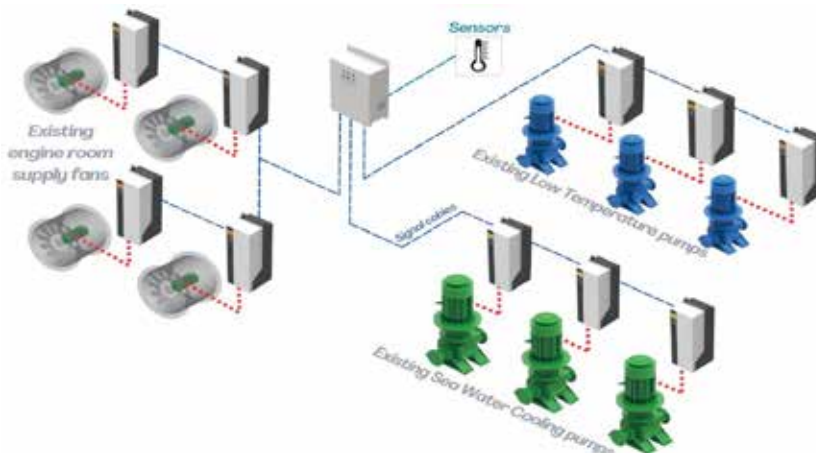
EEC 提供/EEC supply:

- 主控箱
EEC Switchboard (1 per ship)
- 变频器(1套/船)
Frequency Inverters (1 per device)
- 温度传感器和压力传感器
Temperature Sensors & Pressure Sensors
- 必要的汇报软件
Necessary Software for reporting
- 电缆(电&信号)
Cables (power & signal)

服务内容 What We Offer

交钥匙工程 Turn-key Project

- 系统硬件 System Hardware
- 文件存档 Documentation
- 项目管理 Project Management
- 安装服务 Installation Service
- 调试 Commissioning Procedure
- 远程试航 Remote Sea Trial



投资回报率 EEC-ROI

决定要素/Determining factors

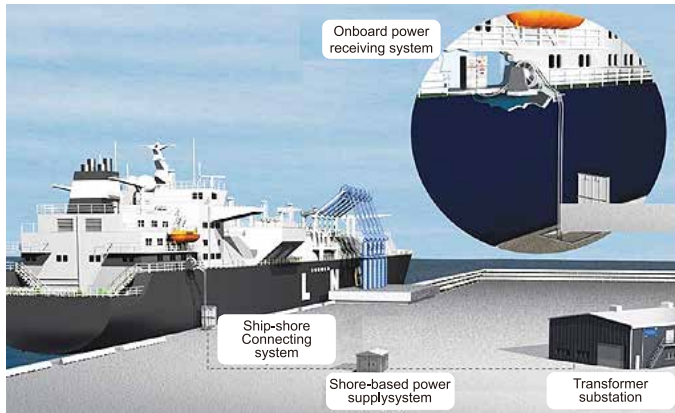
- 船速
Typical vessel speed
- 温度
Sea water/Air temperature
- 运行概况 (发动机高负荷和低负荷持续时间)
Operating profile (duration of high & low engine load)
- 设备尺寸
Machinery size
- 油价
Price of bunker

预估节省成本/Estimated Savings

- 2x65 kW 海水泵
2x65 kW SW Pump
- 2x75 kW 低温冷却水泵
2x75 kW Low Temperature Pumps
- 平均50%主机负载
Average 50% main engine load
- 能效控制器实施成本\$280000
EEC implementation Cost USD 280,000
- 4x37 kW 机舱风扇
4x37 kW Engine Room Fan
- 平均海水温度25°C
Average 25°C sea water

Quantity	Saving Calculator	Operating hrs. [hrs/yr]	Power usage[kW]	Energy Savings[%]	Savings USD
2	SW pumps at Sea	6240	130	60%	\$70106.40
1	SW pumps at Sea	0	65	0%	\$0.00
1	SW pumps in Port / at Anchorage	2340	65	75%	\$15970.50
4	Engine Room Fans at Sea	6420	148	70%	\$93115.68
2	Engine Room Fans in Port	2340	74	75%	\$18181.18
2	LT pumps at Sea	6420	150	50%	\$67410.00
1	LT pumps in port / anchorage	2340	75	70%	\$17199.00
2	Air Con Fan	8760	34.6	70%	\$25460.06
Savings per year					\$307443.33

船舶岸电系统 AMP System



船舶靠泊能源系统/AMP

- 为船舶靠泊期间能源使用提供解决方案
Solutions for energy during ship berthing
- 支持标准化或个性化定制
Standardized or customized solutions



船舶靠泊能源系统设计/AMP System Design

- 根据船型和船坞形式定制的替代电源系统
Alternative Maritime Power classify according to ship type and dock forms
- 可以提供固定式和移动式的替代能源系统
Both stationary and mobile alternative energy systems can be provided



产品组成及工程服务/

AMP System product formation & Engineering ability

产品组成 Product formation

- 电缆绞车或高压岸电受电插座
Cable reel and cable or high-voltage shore power socket;
- 中压岸电配电板
Middle-voltage shore power connecting switchboard;
- 中压变压器
Middle-voltage transformer;
- 接入控制屏
Shore power connecting control panel;
- 低压发电机组控制屏或集成箱式
Low-voltage main switchboard genset panel or Container type AMP.

工程服务 Engineering Ability

- 全面提供改装及安装服务，产品可定制并提供整体解决方案。

Provide package solutions for all installation and renovation projects of ships, provide customized turnkey solutions.

船舶网络安全解决方案 Ship Cyber Security Solutions



- 根据 IMO 和船级社规范，及丰富的船舶航海领域技术能力，为客户提供船舶网络安全定制化的一站式解决方案。We can provide a customized one-stop solutions in accordance with IMO and Classification Society rules based on abundant maritime thought. The CyberION AIP was awarded by LR.



船舶网络安全问题

Common Safety Problems of SCS

- 岸基 IT 网络攻击
Shore-based IT network attacks
- 船舶 IT 系统攻击
Ship IT system attack
- 船舶网络间的交叉感染风险
Ship network system cross-infection risks
- 旧的 WINDOWS 平台长期不更新
Old windows platform not update for a long time
- 系统缺乏审计记录
System lack of audit records
- GPS 干扰
GPS interference
- 缺乏网络安全培训
Lack of cyber security training

解决方案

Solutions

- 提供船舶网络安全检测服务
Provide inspection service for ship cyber security
- 提供一套完整的含硬件、软件的网络安全系统方案及应用
Provide a complete set of SCSS including hardware and software
- 提供网络安全评估解决方案
Provide risk assessment solutions

船舶网络系统 SHIP CYBER SECURITY

船用物联网系统
SHIPS
SYSTEM(OT)

船舶管理系统
SHIP
MANAGEMENT

船舶服务、娱乐系统
SERVICE
PROVIDERS

人性化船舶内装设计及施工

Ship Accommodation Manufact Design Installation

ContiInteriors

ContiInteriors 专注于提供高标准的船舶内装EPC服务。提供内墙板材、地板材料、织物、船用胶、门五金等高科技复合材料。以高效的管理体系、专业的设计团队、卓越的创新精神、人性化的安全理念，为客户提供全方位的船舶生活区设计、施工服务。

ContiInteriors 将坚持对住宿系统的新技术研究，满足生活区的相关标准和国际潮流，以人为本，以客户为中心。

ContiInteriors focuses on providing high-standard marine interior EPC package services, which supplies high technology composite materials such as interior wall panel, floor materials, fabric, marine glue, door hardware, etc.

When it becomes a trendy, to provide a turn-key project of service to the client of an accommodation system, Alfaback rapidly becomes an accommodation leader known well in the marine and offshore industry with a high-efficient management system, professional design team, outstanding innovation spirit, and humanistic safety ideas.

ContiInteriors will persist with new technology research in accommodation system, satisfy the relative standard of live quarter and international trend, focus on people-oriented and customer-centered integrity.



集装箱/滚装船绑扎件

Container Fixed and Loose Fittings / RO-RO Lashing Gears



汇舸绑扎件公司不断地进行产品开发和增值服务，专注于提供高质量的产品，以满足客户对产品的要求和他们对产品价值、性能和质量期望。中国各港口、新加坡、鹿特丹供应网点，确保为客户提供全球化服务。

服务内容：提供设计和解决方案 维护、修理和大修，货物装卸设备的测试、检查和认证，技术咨询，新造船的绑扎计算和货物安全手册，全球物流和供应。

ContiLashing continues its product and service development, focusing on the highest quality products to suit the customer's requirements and their expectations of value, performance and quality. Fully-equipped research and testing facilities provide ContiLashing with an R&D capability to develop and improve products and processes.



服务内容 What we offer

设计/ DESIGN

- 货物系固手册 (CSM)
CSM / CSA
- 集装箱安全堆重手册
Cargo & Container Securing Manual

供应/ SUPPLY

- 集装箱固定件、活动件
Container fixed and loose gears
- Ro-Ro 船绑扎件
Ro-Ro lashing gears
- 散装和原木捆扎装置
Breakbulk and log lashing gears
- 起吊设备
Lifting Equipment

全自动锁FAT

全自动锁获得DNV型式认可证书

FAT Approved by DNV/LR/KR Class. Received TA Certificate.

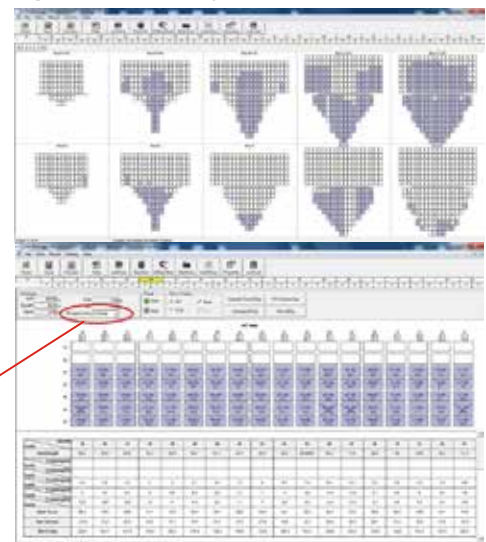


绑扎系统设计与绑手册编制

Container securing system design and CSM/ CSA Manual

绑扎系统分析设计

Lashing system Design-Software Analysis



厨房 & 洗衣设备

Conti Galley & Laundry Equipment

烹饪, 食品(加热), 冷藏, 洗碗, 洗衣及相关设备。

Cooking, Food (Heating), Refrigeration, Dish washing, Laundry and related Equipments



提供整体解决方案

One-stop solution provider

A workman must first sharpen his tools if he is to do his work well.



高压清洗设备 Hydro Blasting Machine



ContiJet 可被广泛用于甲板清洁，舱室清洁与除锈。船体外板清洁，除锈以及船上日常维护清洁。同时，该产品可根据客户需求进行定制。该产品具有防爆及非防爆两种选型，工作压力 300bar~1000bar。

ContiJet can be used for deck cleaning, tank cleaning, descaling, ship hull cleaning, rust removing, and other daily cleaning work on board. We can customize according to customer requirements. Explosion-proof and non-explosion-proof are available, working pressure range 300bar~1000bar.

型号 Model

CJEX300-15S

Model	CJEX300-15S
Working Pressure	≤300 Bar
Type	Stationary
Flowrate	26L/min
Motor Type	Explosion Proof
Motor Protection	IP55/Class F
Motor Capacity	15KW 1200RPM
Power Supply	440V 60Hz 3-phase
Rated Current	30A
Control Box Type	Class F
Frame Material	SS304
Dimensions	1255*520*1380mm
Weight	300KG

CJ500-22S

Model	CJ500-22S
Working Pressure	≤500 Bar
Type	Movable
Flowrate	18L/min
Motor Type	No Explosion Proof
Motor Protection	IP55/Class F
Motor Capacity	22KW 1750RPM
Power Supply	440V 60Hz 3-phase
Rated Current	44A
Control Box Type	Class F
Frame Material	SS304
Dimensions	1280*580*1140mm
Weight	300KG

汇舸海事服务

CMS-Conti Marine Services



WHAT WE OFFER

Turnkey Project Execution

- **修船&新造船项目监造**
Project Supervision Shipbuilding and Ship repairing
- **脱硫系统故障处理, 修理, 维护**
EGCS Trouble-Shooting, Repair and Overhauling Repair
- **脱硫年检服务**
EGCS Annual Inspection
- **脱硫系统备件供应**
EGCS Spare Parts and Consumables
- **玻璃钢管安装, 维修**
GRE Pipe Installation & Repair
- **酸性区域玻璃钢内衬涂层**
GRE Lining for Acid Corrosion Area
- **压载水工程服务**
BWTS Engineering & Installation
- **测厚服务**
UTM Service
- **3D 扫描, 详细、生产设计**
Vessel 3D Scanning, Specific & Production Design
- **甲板吊机维保, 修理**
Deck Crane Maintenance & Repair

ONE-STOP SERVICE



Why ContiOcean?

Ask our customers!

为什么选择汇舸？ 我们的客户更具发言权！

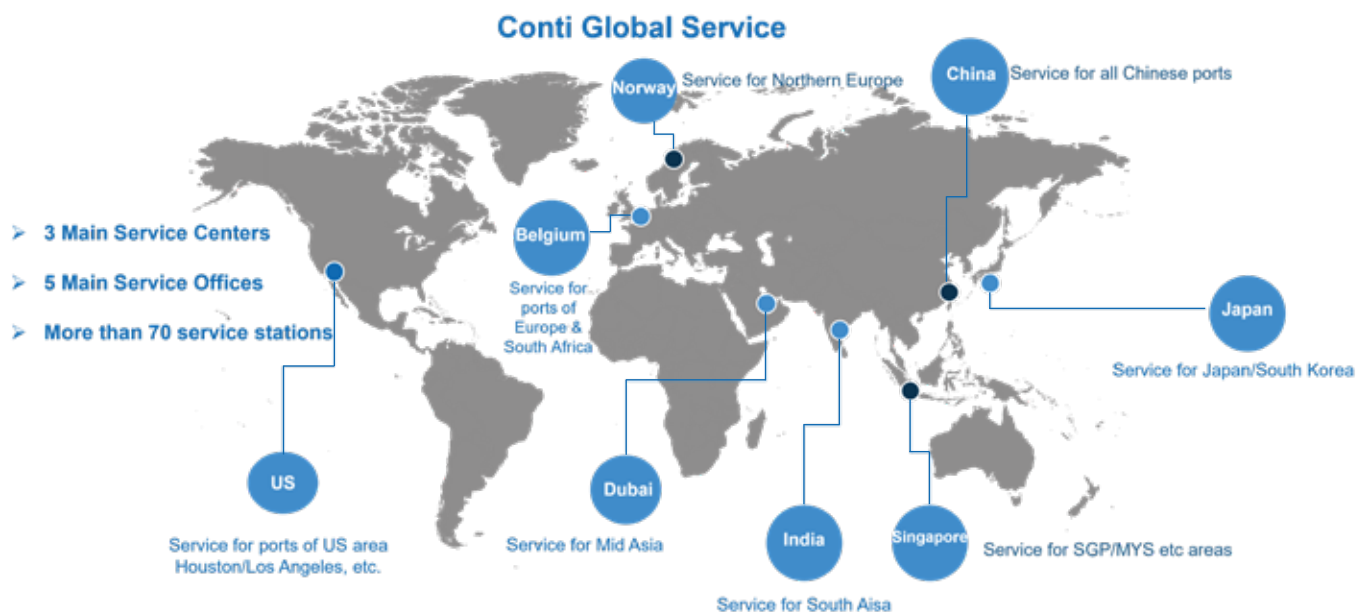


Teh-Hu Cargocean Management Ltd.



汇舸全球服务

CONTI GLOBAL SERVICE



- **中国：服务于中国所有港口**
China: Service for all Chinese ports
- **新加坡：服务于新加坡/马来西亚等地区**
Singapore: Service for SGP/MYS etc.
- **挪威：服务于北欧地区**
Norway: Service for Northern Europe
- **日本：服务于日本/韩国地区**
Japan: Service for Japan/South Korea
- **印度：服务于南亚地区**
India: Service for South Asia
- **迪拜：服务于中东地区**
Dubai: Service for the Middle East
- **比利时：服务于欧洲和南非港口**
Belgium: Service for ports in Europe & South Africa
- **美国：服务于美国休斯敦/洛杉矶等港口**
United States: Service for ports of US area Houston/Los Angeles, etc.



集团总部 / Group Headquarters

上海市浦东新区新金桥路36号上海国际财富中心南塔30楼
30/F South Tower, SIFC, 36 Xin Jin Qiao Road, Pudong, Shanghai, China
Tell: (+86) 21 5031 5500
Fax: (+86) 21 5031 0066
Email: sales@contioceangroup.com
technical@contioceangroup.com
Web: www.contioceangroup.com

Singapore Office:

10 Anson Road, 19-01 International Plaza, Singapore
Tell: (+65) 6222 3822
Email: sales@contioceangroup.com
subir@contioceanglobal.com
Web: www.contioceangroup.com

Norway Office:

Sollistrandveien 12, 3187 Horten, Norway
Tell: +(47) 918 99 880
Email: sales@contioceangroup.com
Web: www.contioceangroup.com

Portugal Office:

Rua da Figueira Preta, 17-1 Piso, 9050-014 Funchal, Portugal
Tell: +(47) 918 99 880
Email: sales@contioceangroup.com
Web: www.contioceangroup.com