



Life-time service Versatile solutions

全生命保障,全方位服务

中船海洋动力技术服务有限公司 CSSC Marine Service Co., Ltd.



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Company **Introduction**公司介绍

中船海洋动力技术服务有限公司(以下简称:中船服务)于2017年1月23日在中国(上海)自由贸易试验区洋山保税港区内正式成立,注册资本金为10亿元人民币。公司注册在上海市浦东新区洋浩路88号1号楼101、201单元内。注册地也是中船服务上海配送中心所在地。2017年6月30日,中船服务正式启动了公司位于上海自由贸易试验区洋山保税港区的上海配送中心,用于零部件的仓储和物流。



CSSC Marine Service Co., Ltd. (CMS) was established in January 2017, registered in Yangshan Free Trade Port Area of China (Shanghai) Pilot Trade Free Zone, with a registered capital of 1,000,000,000RMB. The registered location of CMS is Unit 101-201, Building 1, No.88 Yanghao Road, which is also the location of the Shanghai Distribution Center. On June 30th 2017, CMS officially opened and launched the Shanghai Distribution Center in Yangshan for spare parts warehouse and logistics.



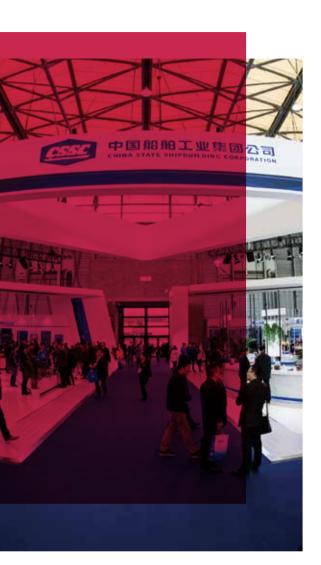
Company **Shareholder** 公司股权

中船服务,是中国船舶工业集团有限公司(以下简称:中船集团)下属企业,由中船集团旗下中船动力研究院有限公司、中船动力有限公司、中船安庆柴油机有限公司和中国船舶工业贸易有限公司共同投资组建,四大股东分别占股65%、20%、10%、5%。

CMS is a new subsidiary of China State Shipbuilding Corporation Limited (CSSC), jointly invested by China Shipbuilding Power Engineering Institute Co., Ltd. (65%), CSSC Marine Power Co., Ltd. (20%), Anqing CSSC Diesel Engine Co., Ltd. (10%) and China Shipbuilding Trading Co., Ltd. (5%).







Company **Organization**公司组织机构

根据董事会的批复方案,中船服务下设五个部门和若干个区域 服务中心。目前,中船服务由运营管理部、质量安全部、供应链管 理部、服务技术所和上海服务中心组成。

Approved by the Board of Directors, five departments and several service centers are established in the company, currently including Business Administration,QHSE, Supply Chain, Operations and Service Center SHA.





中船海洋动力技术服务有限公司是中船集团旗下唯一的海洋动力装备服务平台,肩负起中船集团动力产业、乃至海洋装备的服务使命,肩负着为客户的海洋动力装备提供全生命保障、全方位服务的使命,为"发展海洋经济、建设海洋强国"添砖加瓦。

全球范围内的船东、船舶管理公司,是中船服务致力于提供专业化技术服务的主要对象。

CMS is the exclusive marine equipment service platform of CSSC, shouldering the mission of total life-time service and versatile solutions for vessels and equipments to all customers, while contributing to "development of the marine economy and construction of a powerful national marine industry".

Ship owners and ship management companies throughout the world, are the key customers of CMS which is devoted to serve them with professional technical services and products.

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全生命保障,全方位服务





推进中船集团动力板块企业由以制造为主向研发、制造和服务协同发展,实现由生产型企业向服务型企业的转变,为客户提供全生命周期保障、全方位专业化服务。

To promote CSSC Power Enterprise and coordinate manufacturing R&D, and services. Realizing the transformation from a production-oriented enterprise to a service-oriented enterprise, by providing customers with total life-cycle guarantee and versatile professional services, are the mission of CMS.

Company Philosophy

公司理念

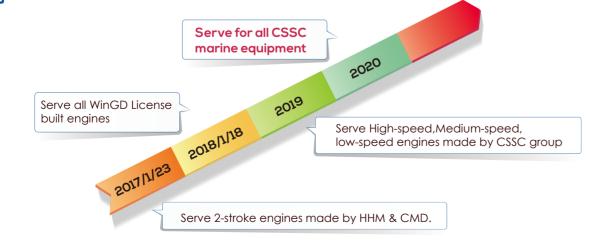
中船服务以客户为中心,立足原厂技术、原厂配件,为客户提供优质、专业化的增值服务;坚持开放、协调、绿色、共享发展理念,追求生态圈利益共享。为客户产品提供世界一流的全生命周期保障、全方位服务。

CMS focuses on customers, by providing high-quality and professional value-added services, based on genuine equipment makes and accessories; sticking to the concept of open, coordinated, green and shared ecosystem develop.

Providing customers world-class products with life-time services and versatile solutions.

Service Plan of CMS

发展规划



Exclusive After-service for HHM Diesel Engines CMS是HHM柴油机的唯一售后服务机构

沪东重机有限公司(简称: 沪东重机),是中船集团旗下的国内船用发动机的领军企业。沪东重机自上世纪50年代开始,先后自主研发、制造船用大功率低、中、高速发动机,造机历史已经超过60年。在低速机领域中沪东重机自1978年引进了当时最先进的瑞士Sulzer(即后来的Wartsila、WinG-D)、1980年引进了丹麦B&W(即现MANB&W)二冲程低速柴油机专利技术进行本土化制造,二冲程低速柴油机的专利制造历史已超过40年,机型自26cm缸径至98cm缸径,几乎覆盖全部系列,累计交付运营的二冲程低速柴油机已经超过3000台,正在全球范围内推进着2000多艘商船的运行。

2017年6月,中船服务被沪东重机授权为柴油 机唯一的原厂备件和服务提供方,为客户提供柴油 机全生命周期服务。



Hudong Heavy Machinery Co., Ltd (HHM), is the leading marine engine enterprise in China under CSSC. Since the 1950s, it has independently carried out R&D, and manufacture of marine diesel engines covering low-speed, medium-speed and high-speed engines for over 60 years. In the field of low-speed diesel engine manufacturing since 1978, HHM adopted the Sulzer low-speed diesel engine license, which later was known as Wartsila 2-stroke and today it is known as WinGD. Since the 1980s, B&W low-speed marine diesel engine license was introduced by HHM. Today, HHM has a history of more than 40 years in licensed engine manufacture. There are more than 3000 sets of diesel engines delivered by HHM and currently more than 2000 sets of engines are powering merchant ships around the world.



In June 2017, CMS was officially authorized by HHM as the exclusive supplier for Original Spare Parts and Technical Service of HHM Diesel Engines providing customers with total life cycle services.



Authorized After-service for CMD Diesel Engines CMS是CMD柴油机的授权售后服务机构

上海中船三井造船柴油机有限公司(简称:中船三井),是中船集团旗下,由沪东重机、日本三井和中船集团,共同出资组建的一家专业化、大型船用柴油机制造基地,在2005年建成,年产能超过550万马力,迄今为止已经交付各类低速船用柴油机超过500台,产品覆盖MAN、WinGD专利60cm至98cm所有机型,并在G型主机、双燃料主机和SCR装置的制造和试制业绩上,居全球领先水平。

2017年6月,中船三井正式将其生 产制造的低速柴油机的售后服务委托给 中船服务执行。



CSSC MES Diesel Engine Co.,Ltd (CMD) was jointly invested by HHM, MES and CSSC in 2005, focusing on producing marine diesel engines, with a production capacity of more than 5.5 million horsepower. Up to now more than 500 sets low-speed marine diesel engines have been delivered. All models from 60cm to 98cm cylinder diameter of MAN and WinGD Licences, and ranking as the world's leading manufacturer, including first time production and development of G-Type engines, dual-fuel main engines and SCR devices.



Since June 2017, CMS has been fully in charge of the after-sales services of the low-speed diesel engine products manufactured by CMD.



Authorized Aftermarket Service Partner of **WinGD**CMS是WinGD全球服务伙伴

Winterthur Gas & Diesel (WinGD) 是船用气体和柴油二冲程发动机研发设计的引领者。总部位于瑞士WinGD,由于其前身是自1893年就开始柴油机业务的Sulzer公司,WinGD继承了其传统,并在X-DF(双燃料)系列,X系列和RT-flex系列机型上进一步创新。

自2018年1月起,中船服务被WInGD授权为服务伙伴,可以为所有WinGD产品(包括WinGD, Wartsila 和 Sulzer品牌的二冲程主机)提供原厂备件、进行现场服务,车间及改造服务,技术支持,改装与升级、培训及其它售后服务。

Winterthur Gas & Diesel (WinGD) is a leader in two-stroke gas and diesel marine engine propulsion research and development. Headquartered in Switzerland, since its inception as the Sulzer Diesel Engine business in 1893, it carries on the legacy of excellence and innovation in its X-DF (dual-fuel) Generation-X and RT-flex engines.

Since Jan. 2018, CMS has been authorized Service Company to provide OEM spare parts and field, workshop and remanufacturing services, technical support, conversion and upgrades, training and other aftersales services for all WinGD product (WinGD, Wartsila and Sulzer brand 2-stroke engines).





Service 服务

现场服务

- ·主机常规维护修理
- · 主机机体部件修理: 曲轴、缸体、机座、机架、轴承等;
- ·主机曲轴主轴颈、曲柄销修理
- ·主机启动、运行故障处理
- · 零部件翻新: 缸盖、排气阀、活塞、喷油器、ICU等

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> 技术咨询

- ·技术咨询
- · 主机性能评估与优化
- ·主机运行指导
- · 主机运行维护保障服务
- ・远程监测

间

- · 气动阀件保养
 - · Alpha或CLU-4等气缸注油 器维护保养

维护保养服务

· 整机保养



升级改造

- · 主机降功率改造 · 主机停增改造
- (适用于配置有两台以上增压器主机)
- · 主机排放改造 (加装SCR后处理系统)
- · ALPHA注油器改造 (MAN主机机械式注油器改为ALPHA 注油器)
- · CLU-4注油器改造 (WinGD主机CLU-3注油器系统改为 CLU-4注油器系统)
- ·ME系列主机独立液压油模块改造
- ·新增轴承磨损监测系统
- ·油雾探测器改造
- ·HJ注油器改造
- ·主机PMI系统改造

Field Service

- · Field service of main engine
- ·On-site repair of main engine components, including cylinder block, bedplate, A-frame, bearing girder, etc.
- · On-site repair of main journal crankshaft and crank pin
- · Engine operation trouble shooting
- · Reconditioning of components, including cylinder cover, exhaust valve spindle, piston crown, piston rod, ICU, etc.

Technical Consulting and Customised Service

- · Technical consulting
- · Evaluation and improvement of performance
- · Management Assistance Service
- · Service Maintenance Agreements
- · Remote Monitoring

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Maintenance Service

- · Maintenance service of pneumatic valves
- · Maintenance service of lubricating system
- · Maintenance service for main engine

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Retrofit and upgrade

- · Slow steaming upgrade
- Retrofit of T/C cut off of main engine (suitable for engines with more than two Turbocharges)
- · Retrofit of exhaust system of main engine (with



SCR system)

- · Upgrade to ALPHA lubricating system
- · Upgrade to CLU-4 lubricating system
- · Upgrade to independent hydraulic oil system on ME engine
- · Install bearing wear monitoring system
- · Install oil mist detector
- · Retrofit lubricating systems
- \cdot Upgrade PMI system of main engine

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Products

产品

以原厂技术和经验为基础,以原厂零件供应体系为支撑,中船服务对所有交付的柴油机进行档案式管理与运行分析,常年储备原厂备件。同时,在紧急情况下,可设法协调生产线上的新机零件资源,以满足船东紧急需求。





On the basis of original technology and manufacturing experience, supported by original supply chain, CMS maintains all delivered engine records and documentation. We keep safety stock with original spareparts for delivered engines. And in emergency situation, CMS will coordinate with HHM and CMD production lines for urgent sparepart demands.



Original spareparts for MAN B&W low-speed diesel engines: 适用于MAN B&W 低速柴油机的原厂备件:



Cylinder bore	Engines type
35	S35MC、S35ME-B
40	G40ME-C、S40ME-B
42	L42MC、S42MC
45	G45ME-B
46	S46MC-C、S46ME-B
50	L50MC、S50MC、S50MC-C、S50ME-C、
	S50ME-B、G50ME-B、G50ME-C、
	\$50ME-C-GI
60	L60MC、S60MC、S60MC-C、S60ME-C、
	G60ME-C、G60ME-B
70	L70MC、\$70MC、\$70MC-C、\$70ME-C、
	G70ME-C
80	K80MC-C、S80MC、S80MC-C、K80ME-C、
	S80ME-C、G80ME-C
90	K90MC-C、S90MC-C、S90ME-C
98	K98MC

Original spareparts for WinGD low-speed diesel engines: 适用于WinGD低速发动机的原厂备件



Cylinder bore	Engines type
35	W-X35-B
40	W-X40-B
48	RTA48T-B、RTA48T-D、RT-flex48T-D
50	RT-flex50B、RT-flex50D、RTF50DF
52	W-X52
58	RTA58T-B、RT-flex58T-B、RT-flex58T-D
60	RT-flex60C
62	RTA62U、W-X62
68	RTA68B、RT-flex68B、RT-flex68D
72	RTA72U-B、W-X72
82	RT-Flex82T RT-flex82C W-X82
84	RTA84 、RT-flex84
92	W-X92
96	RTA96、RT-flex96







Training 培训

中船服务,可以向客户提供专业的柴油发动机、气体发动机、船用设备有 关的培训服务,由沪东重机培训中心实施。沪东重机培训中心,依托沪东重机 有限公司的制造、专业的设计研发技术和调试团队,专注于为国内外船东、船 舶管理公司、船厂等客户提供船舶动力相关的专业技术培训和实操课程。并与 ABB、SAM Electronic、Kongsberg、HansJesen等多家行业内著名的设 备厂家密切合作,解决客户多样化的培训需求。目前,沪东重机培训中心向来 自全球不同国家或地区的各类客户提供培训,年均700人次以上,全球已有超 过60家的船舶公司选择使用沪东重机培训中心对其员工进行专业化培训。





- 海事产品培训
- - ・四冲程主机培训
 - 管理类培训

遥控与报警系统培训

CMS can supply professional training services related to marine diesel engines, gas engines and marine products, these services are provided by HHM-MPA Marine Power Acadamy (HHM-MPA). We are fully supported by HHM's manufacturing expertise and technical background in R&D and testing, HHM-MPA is focusing on shipping companies, shipyards and other clients, by providing professional training services. There are more than 60 global companies using HHM-MPA to train their employees. Annually 700 persons are trained in HHM-MPA. There is also good cooperation between HHM-MPA and famous companies, such as ABB SAM Electronic, Kongsberg, WinGD, MAN, therefore we are able to provide customers with multi-disciplined training.



- ·2-Stroke Engine Training
- · 4-stroke Engine Course
- · Marine Product Training
- · Remote & Alarm System
- · Management Training



Calibration & Testing

计量与检测

HMM - CTC

中船服务,同时也可以向客户提供专业的计量 检测服务,由专业计量检测机构--沪东重机计量检 测中心实施。沪东重机计量检测中心,是经国家专业 机构CNAS、DILAC、CCS等评估、认可的专业级 计量检测机构。该中心占地2000平米,并拥有 1000多平米的恒温实验室,各种先进的计量检测设 备90多台,专业技术人员50多人。



CMS can provide professional calibration and testing services, these services are performed by HHM Calibration & Testing Center (HHM-CTC). HHM-CTC was evaluated and approved by CNAS. DILAC. CCS. Since 2007, It has a total laboratory area of 2000m², including a constant temperature laboratory area of 1000m². There are more than 90 different and highly advanced testing equipment with 50 professional people in the center.

HHM-CTC is mainly engaged in testing of mechanical properties, chemical analysis, metallographic inspection and nondestructive testing of metal materials, engineering measurement related to mechanical products, testing of vibration, noise and smoke for marine diesel engines and calibration of measurement instruments.



Physical Testing and Chemical Analysis

· Mechanical Property

· Metallography

· Chemical element Analysis



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沪东重机计量检测中心,主要从事金属材料的力学性能、化学分析、金相检验以及无损检测;与机械 产品相关的几何测量;船用柴油机的震动、噪声和烟度测试,船舶轴系扭振,船舶轴系扭矩及功率测量, 管道流量(水、油类)测量,柴油机排放检测,高温传感器校验;计量器具的校准等业务。

77

- 理化检测
 - ·力学性能
 - ·金相
 - · 化学元素分析

> 无损检测

- ·超声波检测
- 磁粉检测
- ·渗透检测
- ・涡流检测
- ·射线检测

▶ 校准

- . . .
- ・长度
- 力学温度
- · 电磁
- . .

() 几何量测量

- 直线度··面轮廓度··对称度
- 平面度・平行度・位置度
- 圆度 · 垂直度 · 圆跳度
- 圆柱度 · 倾斜度 · 全跳度
- 线轮廓度 · 同轴度 · 线性尺寸公差

Geometric Measurement

- · Straightness
- · Planeness
- · Roundness
- · Cylindricity
- · Line Profile
- · Surface Profile
- · Parallelism
- · Verticality
- · Slope
- · Coaxiality
- · Symmetry
- Position Degree
- · Circular Runout
- · Full Jitter
- Linear Dimensional Tolerance

Nondestructive Test (NDT)

- · UT
- · MT
- · PT
- · RT

Calibration

- · Length
- · Dynamics
- · Temperature
- Temperature



HOW 如何实现 to implement



为了向船东提供快速、便捷的专业技术服务,中船服务已规划,将在全球船舶主要航行区域,设立6个区域中心,下设28个服务站。

In order to support shipowners with quick response and professional technical service, 6 service hubs and 28 service stations have been planned by CMS to set up step by step at worldwide, sailing routes and regions.

Service **Network**

服务网络



Parts Supply **Ability and Plan** 零件供应体系与计划

中船服务在洋山设立上海配送中心,占地9000平方米。目前库存零部件种类达32000多种,可满足自产低速柴油机的常规备件需求;借助信息化手段有效提高备件供应速度。

随着海外区域中心、分公司和服务网络的建立,将在全球服务站当地建立更多的零件配送分中心,以支持和满足就近服务需求。

通过信息化计划,目前已经实现了通过SAP、WMS等软件,确保提供给客户的产品与服务的准确性。未来,还将通过PLM、FSM和远程检测系统的应用,进一步提升服务的专业化和效率。







CMS Shanghai Distribution Center in Yangshan, occupies $9000 \, \mathrm{m}^2$. Currently, more than 32000 kinds of original spare parts are stocked for low-speed engines. The efficiency of spareparts delivery is helped by latest technology and software.

With the development of overseas subsidiaries and service networks, more and more sub-centers or ware-houses will be set up to support local service stations.

Assurance that the products and service supplied to customers are correct is supported by WMS tools. Future development includes systems for PLM, FSM and Remote Monitoring will improve the professional level and efficiency of the services company.







灯塔,位于海岸或港口,透过塔顶的灯光,将光芒射 向海面用,为海上船舶指引方向。

灯塔,对于船舶来说是归属感、安全感、方向感。这正是我们中船服务,想通过自己的产品和服务,给客户的感受。

红色的三角,是灯塔的衍生,温暖、又充满希望,三角形,也是最稳固的形状,给人可靠的印象。正如中船服务,正致力于成为客户最专业、可靠的伙伴,帮助客户解决船舶方面的问题与困惑,提供最专业的解决方案。





The lighthouse is the source of inspiration for the LOGO of our company.

Located on the shore or at the port, the lighthouse shoots a beam of light to the sea, guiding the way for ships.

For the ships, the lighthouse is a sense of belonging, safety and direction, which is exactly the feeling CMS wishes to give our customers through our products and services.

The red triangle is a deviation of the lighthouse, which gives a sense of warmth and hope. As the most stable geometry, the triangle is the strongest structure, just like CMS, who is striving to be a professional and reliable partner for you.

Address from Chairman of the Board

董事长致辞

中船海洋动力技术服务有限公司于2017年1月23日注册成立,她是在我们沪东重机全球服务网络中心的基础上组建而成,是应全球客户对我们的要求而建,也是中船集团战略管控下的重要一步。此次突破,将使我们走向"研发、制造、服务"一体化,最终实现"世界第一海洋动力装备企业"的愿景。

中船海洋动力技术服务有限公司将立足原厂技术、原厂配件,为客户的海洋动力装备提供全生命保障和全方位服务;将肩负起中船集团动力产业、乃至海洋装备的服务使命;将为"发展海洋经济、建设海洋强国"添砖加瓦。

CMS was incorporated on January 23, 2017 taking over the Global Service Network Center of Hudong Heavy Machinery Co., Ltd (HHM). On request of global customers to CSSC; the foundation of the company is a significant step in strategic control of CSSC. The breakthrough would lead us to the integration of "research and development, manufacturing and service" and finally we achieve the vision of becoming the "Best Marine Power Equipment Enterprise in the World".

Based on technologies and accessories of the original maker, CMS offers life-time service and versatile solutions to marine power equipment to its' customers. We take on the service responsibility of CSSC power industry and marine equipment, and contribute to the "development of marine economy and building of marine power".



¬船海洋动力技术服务有限公司 SSC Marine Service Co., Ltd 董事长 Chairman of the Board



Life-time service Versatile solutions

全生命保障,全方位服务





Life-time service Versatile solutions

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Speech by **President 总经理致辞**

CMS was established in 2017, a new family member of CSSC.

From today we will be focusing on providing more choices and competitive OEM priced parts and services.

Our logistics center is the hub for our global distribution center and we will be capable to efficiently deliver key engine components.

Our headquarters is focussing on the field and technical service expansion worldwide. This will take time and energy to ensure we are in the right places, at the right time to support your vessels.

I have every confidence that our young, exciting and energetic team will progress very quickly. I receive many confident messages from customers and experts who want us to suceed.

Our philosophy is to cooperate with you by providing services that produce mutual benefits for many years.

President Andrew Stump



21