Kai Marine



MARINE HVAC & REFRIGERATION SOLUTIONS

Anchoring Trust.
Navigating the Future.

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Overview

Kai Marine & Offshore Solutions provides comprehensive Marine HVAC & Refrigeration Solutions tailored to the operational requirements of commercial vessels, shipowners, ship management companies and shipyards.

We specialize in the supply of customized HVAC and refrigeration equipment, offering flexible solutions to meet vessel-specific technical specifications, installation requirements and operational demands.

Our capabilities encompass equipment selection, engineering coordination, customization, manufacturing arrangements, Inspection, testing, marine classification and after-sales technical support.



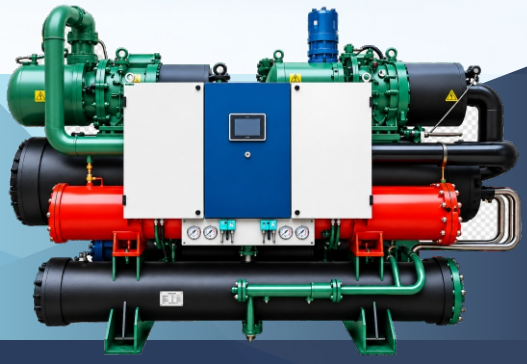
MARINE HVAC & REFRIGERATION PRODUCTS



We offer a comprehensive range of marine HVAC and refrigeration equipment for various vessel applications.

Marine Chiller Systems

- Water-Cooled Chillers
- Air-Cooled Chillers
- Packaged Chiller Systems
- Anti-Corrosion Chillers
- Customized Chilled-Water Systems



Marine Air Conditioning & Ventilation

- Air Handling Units (AHU)
- Fan Coil Units (FCU)
- Air Coolers
- Customized Air Conditioning Packages



Marine Refrigeration & Cooling

- Refrigeration Packages
- Customized Cooling Equipment
- Integrated HVAC & Refrigeration Packages



Marine Heat Pump Systems

- Customized Heat Pump Units
- Heating and Cooling Applications
- Vessel-Specific Heat Pump Configurations



ENGINEERING & CUSTOMIZATION

Our solutions are tailored to meet individual vessel specification,operational requirements and installation constraints.

Our engineering and customization capabilities include:

- Equipment selection and capacity sizing
- Cooling and thermal calculations
- Customized equipment design and configuration
- Vessel-specific dimensions and equipment footprint
- Customized materials and component selection
- Electrical voltage and frequency configurations
- Customized control systems and automation
- General Arrangement (GA) drawings
- Electrical and control drawings
- System integration and interface arrangements



MATERIALS & CORROSION PROTECTION



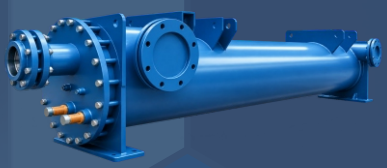
We offer marine HVAC and refrigeration equipment with suitable material selections and corrosion protection options according to project specifications.

Available options include:

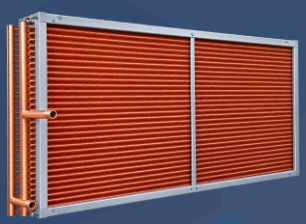
- Marine-grade protective coating systems
- Stainless-steel construction
- Corrosion-resistant cooling coils
- Seawater-resistant materials
- Stainless-steel fasteners and fittings
- Customer-specified material selections
- Customized protective coating systems

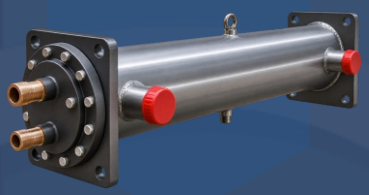


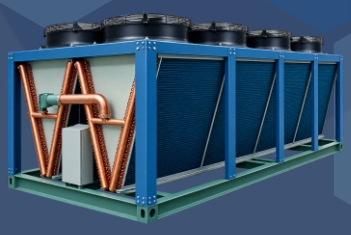




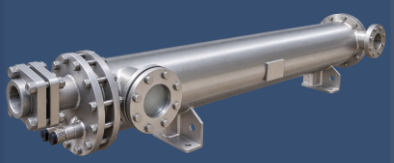












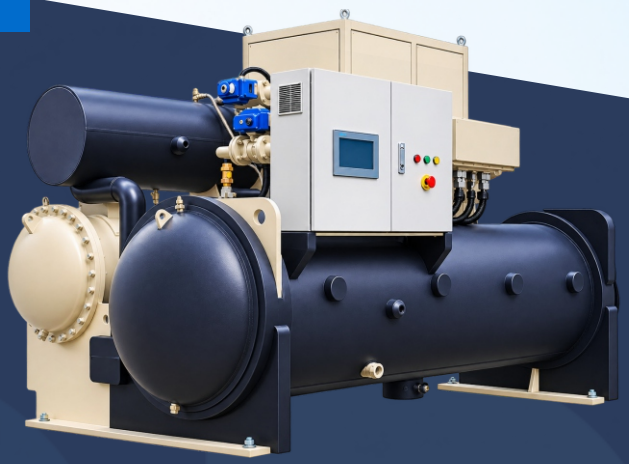
Equipment frames and bases can be supplied in stainless steel or with protective anti-corrosion coatings, depending on application requirements.

ELECTRICAL & CONTROL SYSTEMS



Our marine HVAC and refrigeration solutions support flexible electrical configurations and control systems to accommodate vessel-specific requirements.

Electrical Capabilities

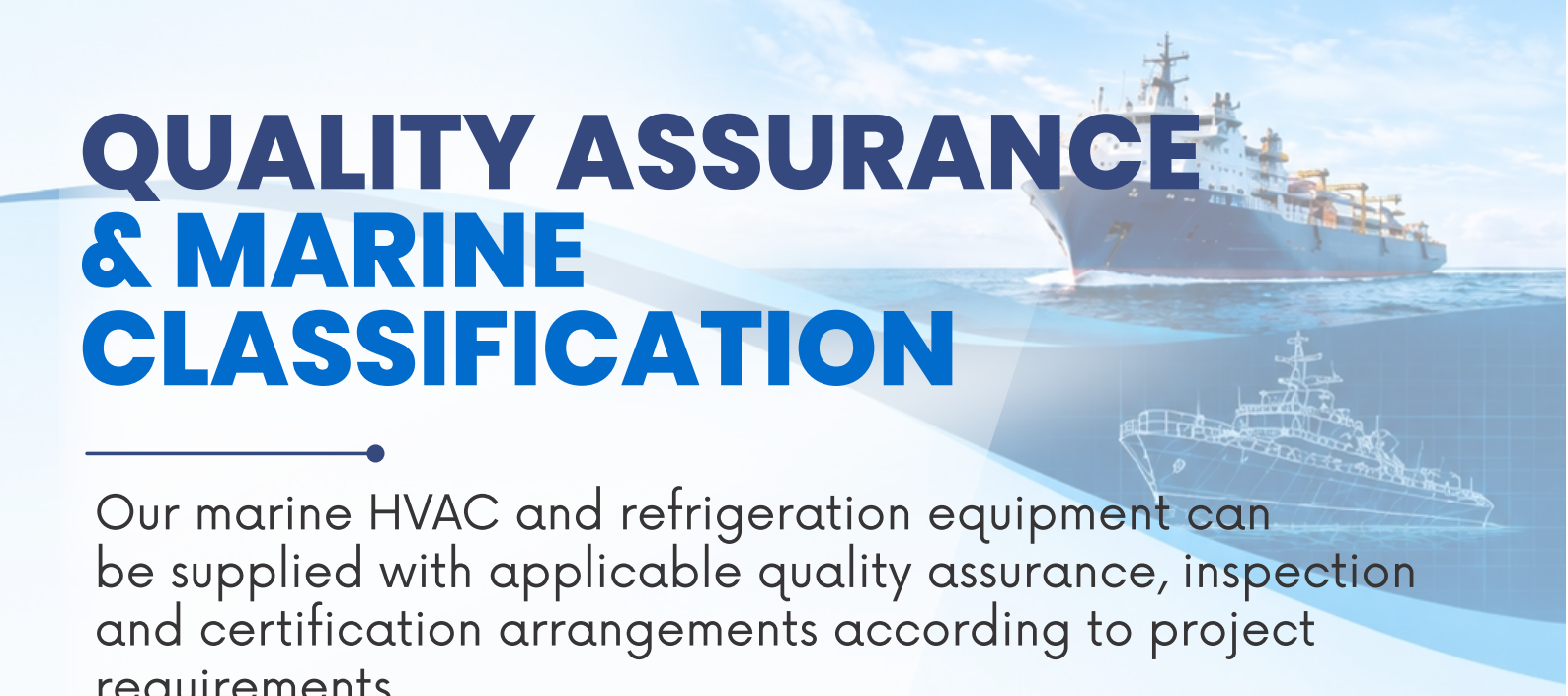


- Marine electrical configurations
- 50 Hz and 60 Hz operation
- Voltage configurations from 220V to 460V
- Marine-grade motors and electrical components.
- Suitable IP-rated electrical equipment
- Customer-specified electrical configurations

Control & Automation



- PLC and HMI control systems
- Siemens PLC options
- Remote monitoring and control
- Vessel control-system interface
- Customized control logic and automation arrangements



QUALITY ASSURANCE & MARINE CLASSIFICATION

Our marine HVAC and refrigeration equipment can be supplied with applicable quality assurance, inspection and certification arrangements according to project requirements.

Quality & Manufacturing Standards

- ISO 9001 – Quality Management System
- ISO 14001 – Environmental Management System
- CE Conformity, where applicable
- PED Compliance, where applicable
- ASME Compliance, where applicable

Marine Classification

Project-specific marine classification arrangements can be supported through internationally recognized classification societies, including:

- DNV
- American Bureau of Shipping (ABS)
- Lloyd's Register (LR)
- Bureau Veritas (BV)
- China Classification Society (CCS)

Depending on equipment specifications and applicable classification rules, certification arrangements may include technical documentation review, equipment inspection, factory acceptance testing and classification society involvement.

INSPECTION & TESTING

Our marine HVAC and refrigeration solutions are supported by inspection and testing arrangements designed to verify equipment performance and operational functionality.

Available inspection and testing capabilities include:

Testing Center



- Factory inspection and testing
- Pressure and leak testing
- Electriacal and functional testing
- Cooling performance testing
- Full-load testing, where required
- Customer-witnessed Factory Acceptance Testing (FAT)
- Third-party witnessed FAT
- Classification society-witnessed FAT
- FAT procedures and test reports



Power Distribution Cabinet



Power Distribution Cabinet



Air handing unit laboratory



Air source heat pump test bench



TECHNICAL DOCUMENTATION

Technical documentation can be provided according to equipment specifications, project requirements and applicable certification arrangements.

Available documentation includes:

- Technical datasheets
- General Arrangement (GA) drawings
- Technical and cooling calculations
- Electrical and control drawings
- Material and component certificates
- Inspection and test reports
- Factory Acceptance Test procedures and reports
- Certificates of Conformity
- Classification or third-party certificates, where applicable
- Operation and Maintenance (O&M) manuals
- Recommended spare-parts lists



Project-specific documentation requirements are established during technical clarification.



DELIVERY & AFTER-SALES SUPPORT

We provide coordinated delivery and technical support throughout the equipment supply process.

Our support services include:

- Seaworthy export packing
- Equipment preservation and storage arrangements
- Installation support
- Testing and commissioning assistance
- Site technical support
- Remote technical assistance
- Spare-parts supply
- Warranty support

Our Commitment

At Kai Marine & Offshore Solutions, we are committed to delivering reliable, customized and technically suitable Marine HVAC & Refrigeration Solutions for the maritime industry.

Through engineering coordination, flexible manufacturing capabilities, quality assurance and responsive technical support, we strive to provide solutions that meet our customers' operational and project requirements.

From initial enquiry and technical evaluation to equipment delivery and after-sales service, our approach emphasizes quality, reliability and long-term customer relationships.

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