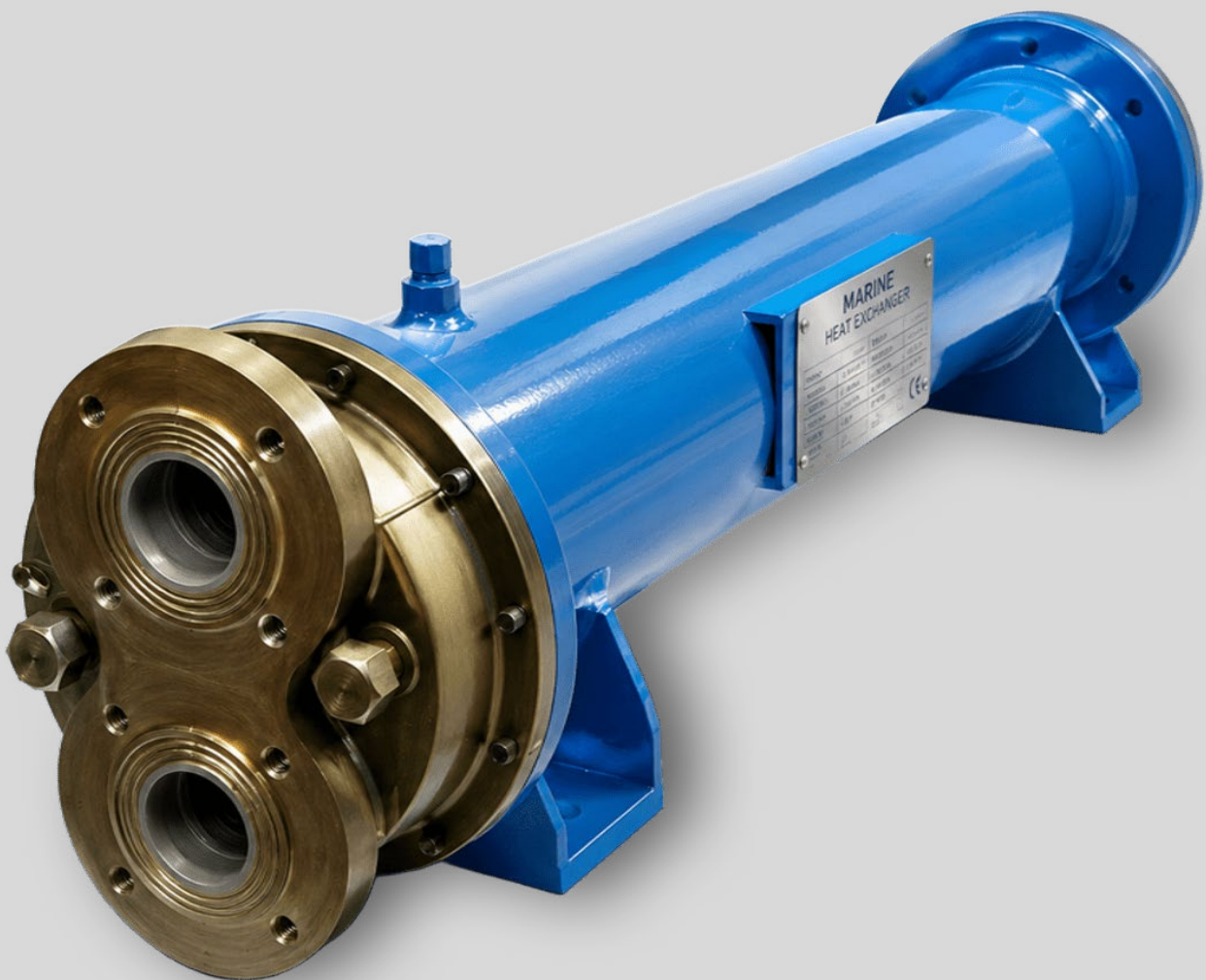


# Marine Heat Exchangers



## Marine Application Specialist

- Shell & Tube design & Manufacture
- Copper & CuNi alloy expertise
- Multi material configuration for application
- All Major Marine Classification society compliance
- In-house thermal design software

# Engineered for Performance

## Built for the Sea

When corrosion resistance and thermal precision matter, Wieland Marine Heat Exchangers set the standard. Designed for Shell & Tube heat exchange in the most demanding seawater environments, our heat exchangers cover every application – from cruise ships and naval vessels to luxury yachts and commercial cargo fleets.

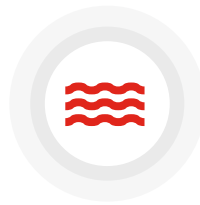
Every unit is engineered to maximise service life, minimise maintenance requirements, and deliver consistent thermal performance across the full spectrum of marine operating conditions.



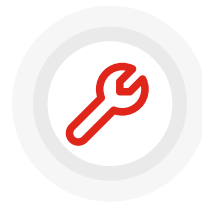
Performance



High thermal  
efficiency



Marine-  
engineered



Low  
maintenance

## Company Overview

### The Marine Thermal Expert

Wieland has developed over the time a strong know how on marine Shell & Tube applications.

Every unit is the result of rigorous thermal design, precision manufacturing, and exhaustive material selection.

*"Our Marine Heat Exchangers are purpose-built for the demanding sea environment, backed by the world's leading alloy expertise."*

Wieland TS

# Market Applications

## A Solution for Every Environment

The Wieland marine condenser line is engineered to perform across all vessel categories and operating profiles – from tropical ocean routes to arctic fishing grounds.



Cruise & passenger ships



Chemical industries



Offshore



Luxury yachts



Naval & defence



Industrial heat pump



Cargo & commercial vessels



Fishing vessels



# Product Configuration

## Full Material Flexibility

Every component of the Wieland marine heat exchanger is independently configurable. Wieland's unique advantage is vertical integration: alloys are drawn and processed in-house, ensuring full traceability and material consistency from raw material to finished exchanger.

## Exchange Tubes

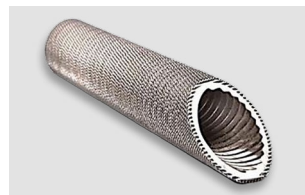
- CuNi 90/10 – Corrugated (High Performance)
- CuNi 90/10 – Smooth – Low fouling (Standard)
- CuNi 70/30 – Smooth (Standard)
- Titanium – Smooth (Standard)
- Stainless steel



CuNi 90/10  
High performance



CuNi 90/10



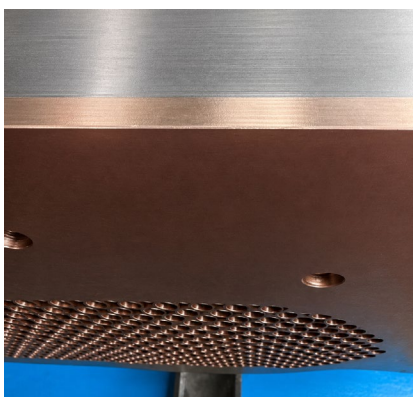
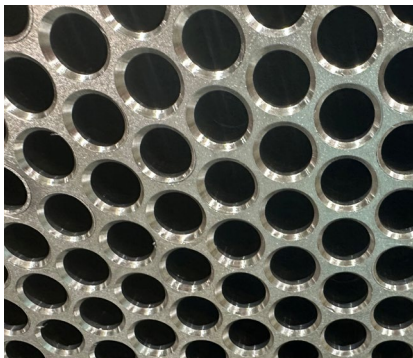
CuNi 70/30



Titanium

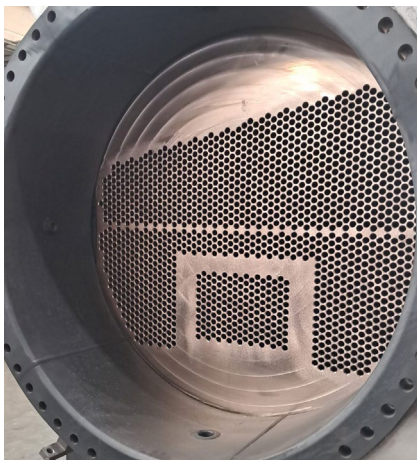
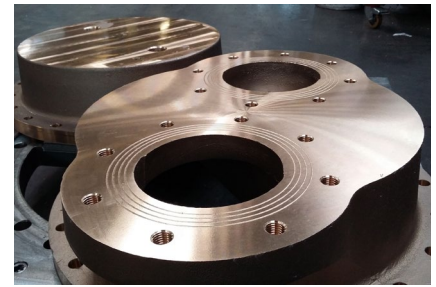
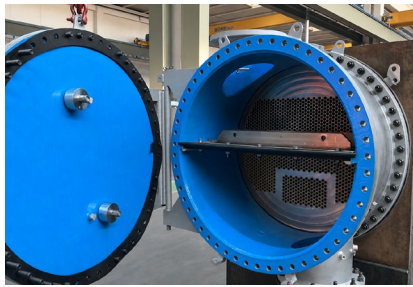
## Tube Sheets

- Stainless steel full or clad
- CuNi 70/30 full or clad
- CuNi 90/10 full or clad
- Titanium clad
- Chamfer to avoid erosion



## Water Boxes (Marine Heads)

- AISI 316L stainless steel
- CuNi 90/10
- Bronze marine grade
- Rubber internal lining
- Ceramic internal coating
- Sacrificial zinc anodes (standard fit)
- Hinged cover for easy front access
- Tailored solutions available upon request



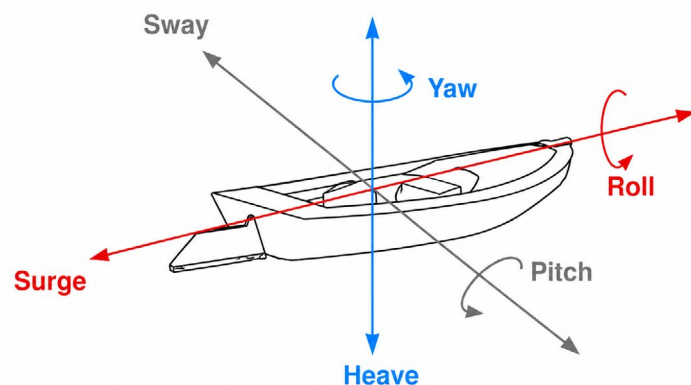
## Tube-to-Tubesheet Joint

- Mechanical expansion
- Orbital TIG welding (full penetration)
- Mechanical expansion + seal weld



## Shell & Baffles

- Carbon steel
- AISI 316L stainless steel
- Segmental baffles
- Swaged baffles to prevent tube vibration
- Optional special design to avoid liquid migration due to pitch and roll



# Engineering Details

## Technical Excellence as Standard

From alloy selection to surface treatment, Wieland applies rigorous engineering methodology at every stage.

## Salt Spray Coating System

Surface preparation is carried out by abrasive blasting (sandblasting) ensuring optimal grip of the coating system to the metallic surface.

Marine epoxy painting systems are tested per NF EN ISO 9227, with confirmed resistance from 500 to 700 hours of continuous neutral salt spray exposure. All systems are two-component epoxy, selected for adhesion to metallic surface in humid marine environments. Custom RAL colours available on request.



## Factory Acceptance Testing

All marine heat exchangers undergo hydrostatic pressure testing, mechanical stress and leak detection. Customized specific quality control available on request.

# Value-Added Services

## Why Passivation Matters

Without pre-commission passivation, fresh CuNi tube surfaces are vulnerable to accelerated initial corrosion when first exposed to seawater. This early attack can cause pitting, dezincification, and premature failure – even in correctly specified alloys.

Wieland's passivation process creates the protective oxide barrier before the exchanger enters into service, extending corrosion-free service life and reducing risk of early unplanned maintenance events.

## Tube Passivation Service

Wieland offers a professional tube passivation service to protect internal tube surface in contact with the sea water against corrosion during the critical commissioning and initial startup phase.

## Applicable Materials

- CuNi 90/10 – all tube types
- CuNi 70/30 – all tube types



## Marine Qualifications

### Marine Certifications & Classification Societies

Wieland marine heat exchangers are designed, manufactured and tested in full compliance with all major international marine classification societies and pressure vessel codes, ensuring reliable performance in the most demanding offshore and onboard environments.



## Thermal Selection Software

Wieland's in-house simulation software covers Shell & Tube, BPHE, and air-cooled configurations. Each heat exchanger is sized using first-principles thermodynamics, with thermal margin, fouling resistance, and flow-induced vibration analysis as standard.

Software available at [wieland.com](http://wieland.com).

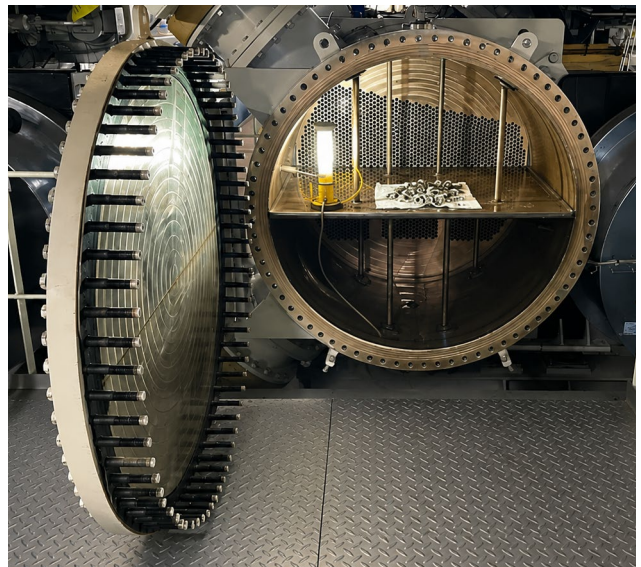


## Service & Support

### From engineering to on-site intervention

Wieland supports you at every stage of your system's lifecycle. From the first technical consultation to on-site intervention, our team of specialists is by your side – ensuring optimal performance, operational continuity, and long-term reliability.

- Maintenance
- Expertise
- Analyse
- Reparation
- Intervention on site



**wieland**  
[wieland.com](http://wieland.com)