



**ERMA FIRST**  
THE EXCELLENCE OF SIMPLICITY



# **ERMA FIRST FIT BWTS**

---

INDUSTRY LEADING BALLAST WATER TREATMENT SYSTEM



TANKERS



CONTAINERS



BULK CARRIERS

## OPERATION

ERMA FIRST FIT BWTS is a full flow electrolytic system that operates only during ballasting.

### BALLASTING

#### FULL FLOW ELECTROLYSIS

During ballasting, the water goes through the filter, where organisms and sediment (with a diameter larger than 40 microns) are separated and further discharged overboard.

The filtered water enters the Electrolytic Cell. From the chlorides of the water, free chlorine is produced through the electrolysis process at a very low concentration (around 4-6 mg/L). The treated water then, enters the ballast tanks.

### DE-BALLASTING

#### CONSIDERABLE GAINS

During de-ballasting, the system will only monitor the residual oxidants and will further intervene if necessary. The main stages of the system (filtration and disinfection) are bypassed.

A Total Residual Oxidants (TRO) sensor samples the residual chlorine at the discharge line. If it is greater than 0.1 mg/L, a dosing pump is operated for the dosage of neutralizing agent (Sodium Bisulfite). Successful neutralization of free chlorine is confirmed by a second TRO sensor, installed at the far end point of the ballast discharge line.



#### FULLY CERTIFIED

IMO & USCG type approved, suitable for all water types



#### EFFECTIVE DISINFECTION

Continuous R&D on electrochemistry for innovative applications



#### SMALL FOOTPRINT

Developed to exceed all special installation requirements



#### SMART SAVINGS

Competitive CapEx & low OpEx for a system fit for your pocket

## TECHNOLOGY

The success of ERMA FIRST FIT BWTS lies in its simplicity and the proven technology followed.

ERMA FIRST FIT BWTS incorporates the most reliable and efficient filtration followed by a state of the art disinfection stage. Mechanical separation refers to a 40 microns automatic backwashing filter. The disinfection stage takes place in the special for ballast water treatment electrodes, providing the appropriate amount of disinfectant agent whilst consuming minimum power. A special coating is applied on the electrodes, which are designed to minimize the production of harmful byproducts and have an extended life time of minimum 5,000-6,000 hrs\*.

\*Normal operation at 30 PSU Salinity.





RoRo / PASSENGER



LNG CARRIERS



YACHTS

## SYSTEM

ERMA FIRST FIT BWTS is an autonomous and reliable solution for all types and sizes of vessels.

ERMA FIRST FIT BWTS is an advanced modular system that was developed to exceed all the special installation requirements either for newbuild vessels or any retrofit projects. The major components of the system are a high-end backwash filter and an electrolytic cell with outstanding performance. Covering an extensive capacity range of 50-3740 m<sup>3</sup>/hr and being certified for operation in the most challenging conditions by the IMO, USCG and classification societies, ERMA FIRST FIT BWTS is an ideal solution for all types and sizes of ships.



### SEPARATION

40 microns self-cleaning automatic screen filter  
(three options available)



### DISINFECTION

Advanced quality Electrolysis Cells

## HANDS-ON TRAINING ON ERMA FIRST BALLAST WATER TREATMENT SYSTEM

High-end training programs, tailor-made to cover all needs.

The ERMA FIRST training centers are located at: Perama, Greece and Manilla, Philippines.

## BENEFITS

ERMA FIRST FIT BWTS is an autonomous and reliable solution for all types and sizes of vessels

- ✓ Simple and Flexible
- ✓ 24/7 After Sales Service
- ✓ Low Pressure Drop (0,5 bar)
- ✓ Suitable for all Available Spaces and Pump Capacities
- ✓ Suitable for Fresh Water (0,9 PSU Salinity) & Low Temp. Waters (-2°C)
- ✓ Low Power Consumption in Various Waters (1,8 kW/100 m<sup>3</sup> at 30 PSU)
- ✓ Optional Feature: METIS Remote Data Monitoring for Optimal Performance



# CERTIFICATION

ERMA FIRST FIT BWTS is fully certified according to the IMO, the USCG and from all major Flags and Classes.



IMO Type  
Approval



USCG Type  
Approval



LR Class Type  
Approval



Certification  
ISO 9001



Certification  
ISO 14001

# NETWORK

ERMA FIRST serves ships internationally through an expanding sales agents, service and spare parts stations. For any further information or inquiries please do not hesitate to contact us at [sales@ermafirst.com](mailto:sales@ermafirst.com).

## SALES NETWORK

- Belgium

Brazil

China

Croatia

Cyprus

Denmark

Estonia

Finland

France

Germany

Greece

Hong Kong

India

Israel

Italy

Japan
- Korea

Latvia

Lithuania

Netherlands

Norway

Poland

Portugal

Romania

Singapore

Spain

Sweden

Taiwan

Turkey

United Arab Emirates

United Kingdom

United States of America

## SERVICE STATIONS

- EUROPE

Greece

Turkey

Latvia

Cyprus

Poland

Romania

Ukraine

France

Germany

Portugal

ARA Region

MIDDLE EAST

All Middle East Ports

India
- ASIA

China (all ports)

Korea

Japan

Singapore

AMERICAS

USA

Canada

Panama

OCEANIA

Australia



[www.ermafirst.com](http://www.ermafirst.com)