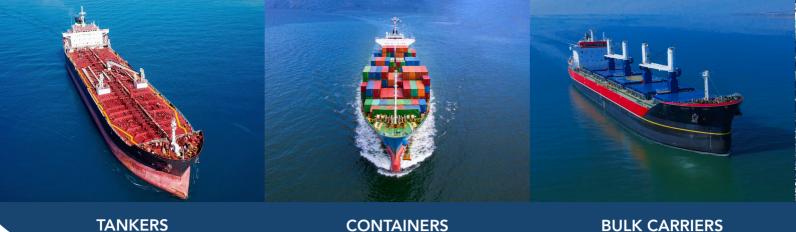


# **ERMA FIRST FIT BWTS**

INDUSTRY LEADING BALLAST WATER TREATMENT SYSTEM



### **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\*.



**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 m³ 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.







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**.

# **SALES NETWORK**

# **SERVICE STATIONS**

Belgium	Korea
Brazil	Latvia
China	Lithua
	INCLIE
Cyprus	Norwa
Denmark	Polan
	Portu
Finland	Roma
France	• • • Singa
Germany	Spain
Greece	Swed
Hong Kong	Taiwa
India	Turke
Israel	United
Italy	Unite
Japan	Unite

Korea
Latvia
Lithuania
Netherlands
Norway
Poland
Portugal
Romania
Singapore
Spain
Sweden
Taiwan
Turkey
United Arab Emirates
United Kingdom
United States of Americ

EUROPE	
<b>Greece</b>	
Turkey	• •
Latvia	
Cyprus	
Poland	
Romania	
Ukraine	
France	
Germany	
Portugal	
ARA Region	
MIDDLE EA	ST

MIDDLE	EAST
All Middle	East Port
India	

ASIA
China (all ports)
Korea
Japan
Singapore

AMERICAS
USA
Canada
Panama

**OCEANIA** Australia





