ERMA FIRST BWTS
The Ultimate Sediment Control
ERMA FIRST BWTS FIT
Excellence of Simplicity – NEW SYSTEM

ERMA FIRST ESK ENGINEERING SOLUTIONS S.A.
**OPERATION**

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

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**BALLASTING**

**FULL FLOW ELECTROLYSIS**

During ballasting, the water goes through the filter, where organisms and sediment (with a diameter larger than 40 microns for ERMA FIRST FIT and 20 microns for ERMA FIRST) are separated and further discharged overboard.

The filtered water is then entering the Electrolytic Cell. From the chlorides of the water, free chlorine is produced through the electrolysis process at very low concentration (around 4-6 mg/L for ERMA FIRST FIT and 10 mg/L for ERMA FIRST). The treated water then enters the ballast tanks.

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**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 chlorine sensor samples the residual chlorine at the discharge line. If this is greater than 0.1 mg/L, then it drives a dosing pump for the dosage of a neutralizing agent (Sodium Bisulfite). The successful neutralization of the free chlorine is confirmed by a second chlorine sensor, installed at the far end point of the ballast discharge line.

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**TECHNOLOGY**

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

ERMA FIRST incorporates the most reliable and efficient filtration followed by a state of the art disinfection stage. Filtration takes place in either 40 microns automatic backwashing filters (ERMA FIRST FIT) or in-house engineered 20 microns hydro cyclones (ERMA FIRST). The disinfection stage takes place in our own-design, highly customized electrodes, providing the appropriate amount of disinfectant agent by using minimum power and ensuring compliance. 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 5000-6000hrs.
ERMA FIRST BWTS FIT

EXCELLENCE OF SIMPLICITY

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

DISINFECTION
Advanced Technology Electrolysis Cells

ERMA FIRST BWTS FIT is an advanced modular system that was developed to exceed all the special installation requirements either for New Building vessels or any retrofit projects. Covering an extensive capacity range of 50-3000m³/hr and having completed successfully the required tests on the way to USCG approval, ERMA FIRST FIT is an ideal solution for all types of ships.

Simple and Flexible
Suitable for all Pump Capacities
Suitable for all Available Spaces
Low Pressure Drop (0,5 bar)
Suitable for Fresh Water (0,9 PSU Salinity) & Low Temp. Waters (3°C)
Low Power Consumption in Various Waters (1,8 kW/100m³ at 30 PSU)

ERMA FIRST BWTS

THE ULTIMATE SEDIMENT CONTROL

SEPARATION
200 microns mesh self-cleaning pre-filter
20 microns Hydrocyclones

DISINFECTION
Advanced Technology Electrolysis Cells

ERMA FIRST BWTS is the industry’s standard system based on the most efficient filtration device, the multi hydrocyclones. The system uses an advanced filtration and cyclonic separation stage for the removal of large organisms and sediment in combination with an electrolytic cell for the production of free chlorine and the elimination of the remaining viable organisms.

Simple and Flexible
Zero Maintenance
Extreme Sediment Removal
Low Pressure Drop of Hydrocyclones
Stable Flow Capacity at all Water Sediment Load Conditions
Very Low Associated Fuel and Operating Costs
CERTIFICATION
ERMA FIRST BWTS holds IMO Final Approval, Type Approval and USCG AMS Acceptance

IMO Final Approval
USCG AMS Acceptance
LR Class Type Approval
Certification ISO 9001
Certification ISO 14001

NETWORK
ERMA FIRST serves ships internationally through an expanding agents network and service stations

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Greece  Sweden
India  Turkey
Israel  United Arab Emirates
Italy  United Kingdom
Japan  Korea
Korea

SERVICE NETWORK
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For further information please visit our website
www.ermafirst.com

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