

Konstantinos Stampedakis

The BWTS industry is quite mature



Konstantinos Stampedakis
Managing Director
ERMA FIRST ESK

ERMA FIRST is a rather new entity which is backed up with the 40 year experience of Environmental Protection Engineering SA. The company comprises of a group of talented, motivated, with highly expertise engineers, scientists and marketing personnel. This group has managed to design a simple, reliable, innovative BWTS based on applied Research and Development.

Our belief in our product along with our dedication to it and our customers are the key advantages of ERMA FIRST BWTS

Do you believe that BWTS is a strong headache for the shipping industry or not?

KS: As very new products/ projects can be a headache to every industry. With regards to Ballast Water Treatment System, is the same. However with more than 11 years from the announcement of the convention, with 57 IMO Type Approved BWMS, with a couple of thousands installations so far, I would dare to claim that the BWTS is not a new issue. On top of this, considering the rigorous testing procedures, the huge Research and Development investments by big players in the marine equipment industry, the headache can be eliminated. Of course there are or will be cases where the choice, installation and operation of a BWTS can be a headache. Good research prior the choice of the vendor, identification of the actual needs of each vessel or fleet and good planning can be the key issues for a successful and trouble free BWTS installation and operation.

What is your word of advice to shipowners who are considering a retrofit as possible solution? Could you pls give as pros, cons and limitations regarding BWTS retrofit installations?

KS: As per current regulatory status the installation and operation of a BWTS is inevitable till 2020. Even today early movers, despite the foggy USCG TA issue can be benefited. The free choice of the BWTS vendor of their preference is one major benefit. The installation of the preferred ship yard is another one. But the most important is the training of the crew and the experience gained by the technical department from the installation of equipment which is not yet obligatory. Having installed a BWTS today gives the flexibility to the crew to be familiarized with the operation and procedures that derive from the convention without though being penalized in cases something went wrong. Of course the competitive capital cost for purchasing and installing a BWTS is still an incentive. Nevertheless we cannot ignore the concerns of the shipping community, specially driven from the lack of USCG TA BWTS. We recognize this risk and we communicate it openly with all of our existing or potential customers. Choosing a trusted BWTS vendor, which has already initiated the USCG TA process, or even better has completed part of the testing, secures the receipt of the certificate. Moreover choosing widely known and mature technology is another suggestion to the ship owners. ERMA FIRST is among the few BWTS vendors which has already initiated the USCG TA in co-operation with National Scientific Foundation (NSF), the first and only Indented Laboratory (IL) within the US. The company has completed successfully all the pre-certification tests using electrolysis, a widely used mature technology.

There are shipowners who are worried about crew training as BWTS are concerned. What is your opinion about this issue?

KS: Crew training is a key issue for the years to come. The installation and operation of a new system affecting a traditional vessel operation, such as the ballasting/ de-ballasting, raises several training issues. Firstly the mentality of crew should change, then the crew and the office should be educated on the new documentation/ certification/ book keeping requirements of the convention. Last but not least the familiarization of the crew with the specific technology installed on board of the vessel will follow. ERMA FIRST, as an innovative vendor and taking advantage of its location, in Piraeus, has already developed a three levels training of its customers. The first level, with duration 4-5 hours, takes place in our premises during the shop test of each BWTS. During this session the participants are getting familiarized with the convention requirements, the new ballasting and de-ballasting procedures and how these should be done via the BWTS. Then they are getting familiarized with the specific vessel control and automation and at last they have the chance to operate the control logic of the BWTS and inspect the actual complements of their BWTS prior its dispatch. The second training session takes place on board the vessel during the commissioning/ delivery of the BWTS. At this session, with a duration of 2-4 hours, the crew has the chance to operate the BWTS and go through all the alarms and recovery drills. The last session, the 3rd, takes place after the delivery of the BWTS at the office of the shipping company. The purpose of this recap session is to present to the technical and operation department of the vessel the actual installation and operational requirements of a specific vessel. On top of this ERMA FIRST prepares a new 'Training Center' at its premises at Schisto Industrial Park, where every existing or potential customers will be able to experience all of the above in real operating conditions. Meaning that they will be able to operate an ERMA FIRST BWTS in real without being on their vessel.

Based on your experience ,pls illustrate your sense about the challenges ahead regarding BWTS. What are the potential changes that may occur in the future?

KS: As mentioned earlier, the BWTS industry is quite mature. Therefore I don't expect major changes either technological or regulatory. The only change I am expecting is in some technologies which are almost using a 'magic wand' for treating the ballast water. We have already seen a few companies either to withdraw their technologies or proceed with severe upgrades. This phenomenon is expected increase with the USCG TA process.

Please give the company profile of Erma. What is your key of the success which makes your system better than your competitors? Could you pls give us a full technical presentation of your system?

KS: ERMA FIRST is a rather new entity which is backed up with the 40 year experience of Environmental Protection Engineering SA. The company comprises of a group of talented, motivated, with highly expertise engineers, scientists and marketing personnel. This group has managed to design a simple, reliable, innovative BWTS based on applied Research and Development. Our highly educated marketing team in co-operation with our designers and scientists provides practical solutions on several engineering challenges derived from the installation of ERMA FIRST BWTS and reliable information on the convention development and requirements. Our belief in our product along with our dedication to it and our customers are the key advantages of ERMA FIRST BWTS. Of course the technology itself has unique advantages to our competitors, but the people are those who truly make the difference.

The simple process, automation and control of our full flow electrolytic BWTS is one of the key technological advantages. Then the extreme sediment removal of our hydrocyclones along with its zero maintenance cost makes the ERMA FIRST BWTS unique. The reliable and robust sintered type automatic back washing filters used at ERMA FIRST BWTS FIT is another advantage of the FIT generation. But the most important advantage of all is ERMA FIRST's electrolytic cell. This has been carefully designed for producing adequate free chlorine even at fresh and cold water, down to 0.9 PSU and 3o C. It's power consumption still remains among the lowest in the market.



ERMA FIRST BWTS FIT EC1000



ERMA FIRST BWTS FIT BS300T FILTER



BWTS 300

ERMA FIRST Technology Description

ERMA FIRST offers two different systems, ERMA FIRST BWTS and ERMA FIRST BWTS FIT. Both of them are based on one way treatment, full flow electrolysis but two different separation/ filtration devises are used.

ERMA FIRST BWTS

During ballasting, the vessel's ballast pump is delivering sea water to the pre-filter, where sediments and particles larger than 200microns are retained. Then, ballast water passes from the hydrocyclones, where particles larger than 10 microns are separated using the centrifugal force effect.

After the above process, ballast water, free from particles and sediment, enters the electrolytic cell, where specially coated electrodes are producing low concentration free chlorine for the disinfection of the ballast water from micro-organisms.

The product of this process flows to the ballast tanks so that the residual oxidants disinfect any harmful organisms taken onboard. During de-ballasting, the pre-filtering equipment, hydrocyclones and electrolytic cells are by-passed and only neutralization of the total residual chlorine is performed by adding aqueous sodium bisulfite solution to the treated ballast water through a dosing pump.

ERMA FIRST BWTS FIT

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 especially any retrofit project. Covering an extensive capacity range from 50 to 3000m3/hr, ERMA FIRST FIT is an ideal solution for all types of ships. The major components of the system are a high-end backwash filter and an electrolytic cell with outstanding performance under the most demanding conditions. During ballasting, the upcoming water goes through the filter where particles and organisms larger than 40µm will be removed and drained back to the sea. The filtered water will then enter to the Electrolytic Cell, where the active substance is produced, by applying low voltage direct current, to a certain concentration adequate to disinfect all the living organisms in the ballast water. For the de-ballasting of the vessel there is no need to use the system; It is completely by-passed and the water can be discharged directly overboard, after neutralization where applicable, with considerable gains in energy saving for the operators/managers of the vessel. Using an active substance that is produced by the method of electrolysis, any danger for re-growth of microorganisms is eliminated.