



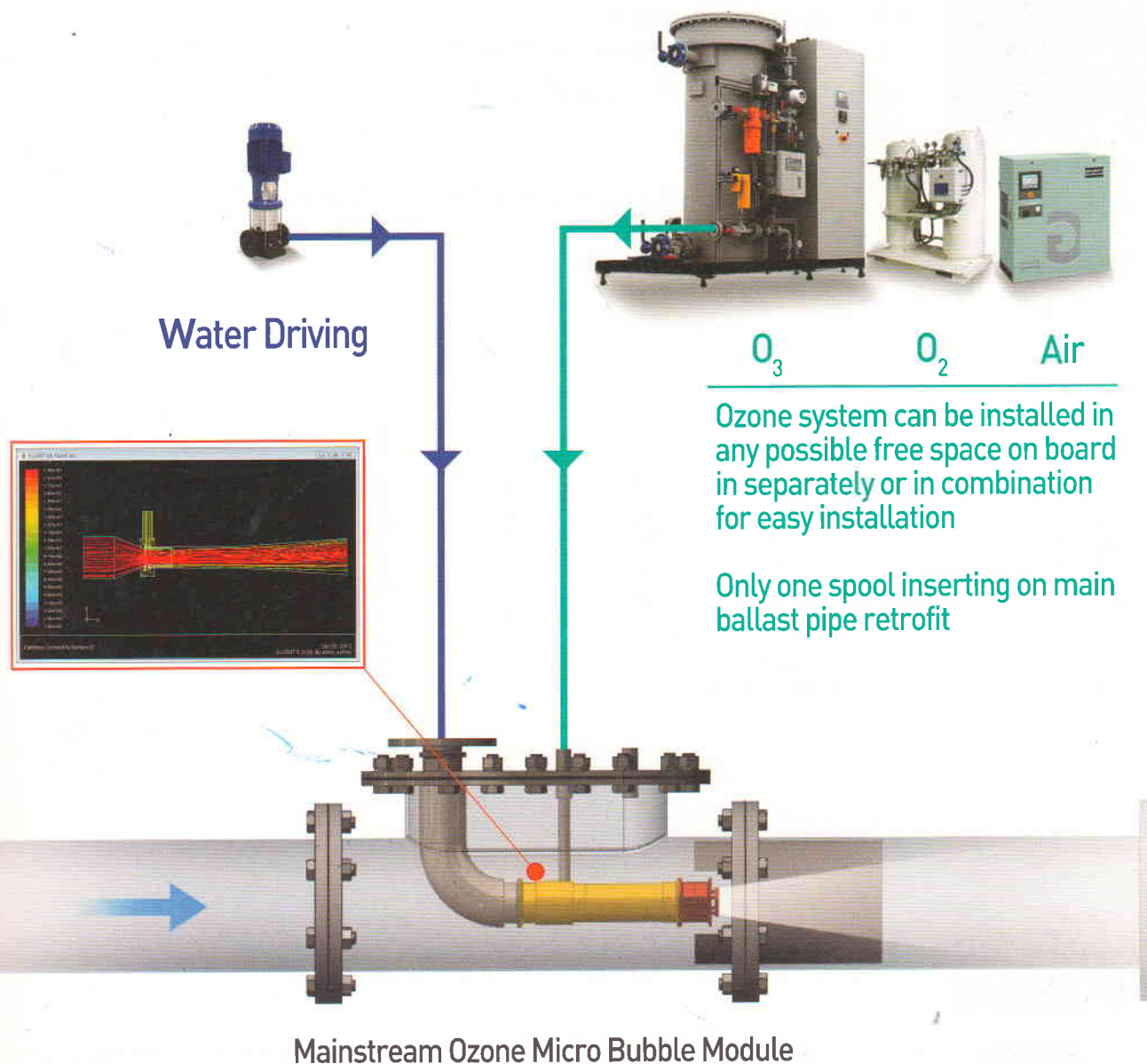
# **BlueZone<sup>®</sup>**

ENVIRONMENTALLY FRIENDLY  
EASILY INSTALLABLE  
ECONOMICALLY EFFICIENT BWMS

The logo for dsec, featuring the word "dsec" in a bold, italicized, lowercase sans-serif font, with a horizontal line underneath the letters.

## Overview

- Gaseous ozone to treat a normal ballast load is generated by an ozone generator and is directly connected to the ballast line. Thus, any requirement to store the Active Substance is unnecessary for the BlueZone® BWMS.



## Great Advantage of Micro Ozone bubble

- The ozone micro bubbles have **directly contact** surface with the water and are **highly diffusible** in being evenly spread into the seawater. Thus, it has a uniform and stable effects on disinfection.
- The BlueZone® BWMS **increases solubility** of gaseous ozone and minimizes the amount of ozone gas released from the treated water. By generating micro-sized bubbles from gaseous ozone in the BlueZone® BWMS, the residence time of ozone inside the ballast pipe and the ballast tank can be extended



## Why BlueZone BWMS?

### Simple

- Easy Installation (only one spool inserting on main ballast line)
- Easy operation by full automation

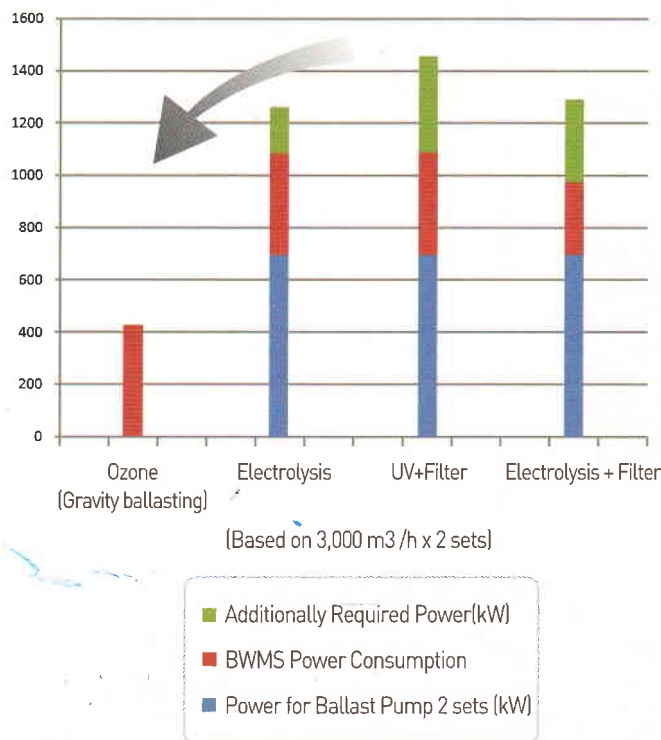
### Reliable

- Proven technology in water treatment industries for 100 years
- Optimized solution by marine engineering expert

### Low cost

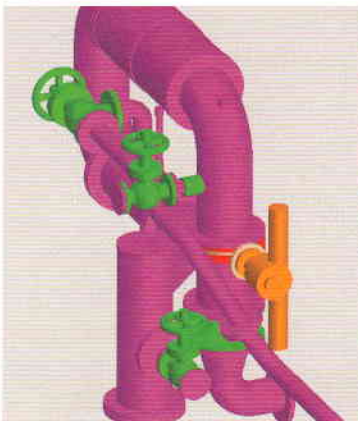
- Min. Ozone Injection Rate
- Low Power Consumption & No Filter
- Minimum modification of existing vessel
- Gravity ballasting

### ► Ballasting Power Consumption Graph



### BWMS Retrofit

- Provide the retrofit total solutions on a turn-key basis



Minimum space for ballast main pipe retrofit

## BlueZone BWMS



## Approval Status



Basic approval at MEPC 65 (2012)  
Final approval MEPC 67 (2014)

## Company Outline



Ship & Marine Technology  
Engineering, procurement, commissioning, quality management,  
project management, logistics, bunkering  
Foundation. 1993  
Location. Busan in Korea  
[www.idsec.co.kr](http://www.idsec.co.kr) | [www.youtube.com/dsecwave](http://www.youtube.com/dsecwave)



**SUNBO Family**

A prime manufacturer & supplier of pre-engineered  
module unit and marine equipment  
Foundation. 1986  
Location. Busan in Korea  
[www.sunbo.co.kr](http://www.sunbo.co.kr)