METHOD FOR TREATING BALLAST WATER FOR VESSEL

Technical Field

The present invention relates to ballast water treatment systems, and particularly to a ballast water treatment system for removing aquatic organisms from the ballast water of a ship.

Background Art

Ships which transport ores, crude oil and the like are provided with a ballast tank
so that ballast water such as sea water and fresh water is stored in the ballast tank to perform attitude control and stability maintenance of the hull. Since ballast water is taken into the ballast tank when the ship is unloaded, and is discharged from the ballast tank as the loading of cargoes progresses, it will be discharged in a region different from the location of water intake. Therefore, aquatic organisms may be moved with the ballast water and settle in a new environment, and in such a case, there arises a concern that ecosystems are destroyed and the business activities such as fisheries are affected. Moreover, there is also a fear that pathogenic bacteria which are moved with the ballast water directly affect human health.

Accordingly, in the International Convention for the Management of Ships' Ballast Water, "The International Convention for the Control and Management of Ships' Ballast Water & Sediments," was adopted in February, 2004, making it obligatory for ships to install a ballast water treatment apparatus. The ballast water management standards stipulated by the International Maritime Organization (IMO) are as follows.

* Less than 10 viable organisms per cubic meter for organisms greater than or equal to 50 micrometers in minimum dimension.

* Less than 10 viable organisms per milliliter for organisms less than 50 micrometers in minimum dimension and greater than or equal to 10 micrometers in minimum dimension.

* Toxicogenic Vibrio cholerae (O-1 and O-139) is less than 1 colony forming unit (cfu) per 100 milliliters.

* Escherichia coli is less than 250 cfu per 100 milliliters.