reduction of noise from the propeller through reduction of fluctuating pressure induced by the propeller and can achieve reduction of frictional resistance in a harsh marine environment.

SUMMARY

[0008] It is an object of the present invention to provide an air lubrication system for ships, which has an optimal arrangement of multiple air lubrication devices and thus can achieve improvement in operation efficiency of a propeller and reduction of noise from the propeller through reduction in fluctuating pressure induced by the propeller while allowing reduction of frictional resistance in a harsh marine environment.

[0009] It is another object of the present invention to provide an air lubrication method for ships using an air lubrication system for generating air bubbles on a ship bottom, wherein the air lubrication method provides an optimal arrangement of multiple air lubrication devices and thus can achieve improvement in operation efficiency of a propeller and reduction of noise from the propeller through reduction in fluctuating pressure induced by the propeller while allowing reduction of frictional resistance in a harsh marine environment.

[0010] In accordance with one aspect of the present invention, an air lubrication system for ships adapted to generate air bubbles on a ship bottom includes: a front air ejection port disposed in a bow region of a ship; and a rear air ejection port disposed at the rear of the front air ejection port in the bow region of the ship, wherein the front air ejection port and the rear air ejection port extend predetermined lengths, respectively, in a transverse direction of the ship, and a region in which the front air ejection port is disposed and a region in which the rear air ejection port is disposed share an overlapping area in a longitudinal direction of the ship.

[0010a] In accordance with a second aspect of the present invention, there is provided an air lubrication method for ships using an air lubrication system for generating air bubbles on a ship bottom, the method comprising: ejecting air through a front air ejection port disposed in a bow region of a ship and a rear air ejection port disposed at the rear of the front air ejection port in the bow region of the ship, wherein an air layer formed by air ejected through the front air ejection port is incorporated into an air layer formed by

air ejected from the rear air ejection port to increase the volume fraction of air in an air layer formed in a central region of the ship extending in a longitudinal direction of the ship.

[0011] According to embodiments of the present invention, the air lubrication system can improve operation efficiency of a propeller through reduction in fluctuating pressure induced by the propeller.

[0012] In addition, according to embodiments of the present invention, the air lubrication system can reduce noise from the propeller.