

## “Recuperation of air layer under ship’s hull”

This patent is about thin layer of air under the flat bottom of the hull. System consists of slot nozzle for air supply that is installed at the bow of the shipping vessel. The flat bottom of the vessel is along both sides confined with “L” profiles, preventing the layer of air escaping at the side of the ship.

Air layer floats under the vessel and reduces friction, similar to “air lubrication” system that was developed in Japan, Holland and Norway. In front of the stern air is collected with suction grill and pushed toward the bow and is recirculated like in an “air conveyor”. This is the main advantage comparing with previous solutions. The reuse of air “recuperation” extremely reduces energy needed for creation of air layer.

Ventilating fan in the return line only adds energy that is lost due to resistance in the air return pipeline. Exhaust gases could be added into air layer, reducing grow of algae and other marine organisms on the surface of the ship's hull. The system can be affordably and quickly installed during regular ship maintenance in dry dock. With algae, fuel and maintenance savings, it is expected that returns on investment will be seen within a few months. Implementing „Hyperbolic Jet propulsion“ and “Recuperation of air layer under hull” would reduce fuel consumption and maintenance costs up to 25-30% compared with today’s costs.

