

Boat with electrical propulsion system, having self-energy assured by renewable resources

DESCRIPTION:

The boat has at the bow, in the section between two floating bodies of catamaran, a porter which support a sliding system with two positions, having an electric micro-hydro-generator. The weight of boat together with energetic conversion systems (solar and hydraulic), electrical propulsion system, electrical energy storage system (two electrical battery), boat hand gear, together with related subassemblies is about 600Kg.

The propeller permits the boat to move with a maximum speed of 3 m/s, and cruising speed of 1,8 m/s, both for additional loading of maximum 500Kg.

For this application is designed and obtained a boat of catamaran type, with a dome on which was assembled three photovoltaic panels to assure an additional self-energy for boat. Boat body is catamaran type and has overall sizes: length: 6m, width: 2.2 m, high: 2.4 m.

Electrical energy storage system: 2 - 4 baterries, bonded in different connections series / parallel, each at voltage of 12V and capacity of 75Ah.

Electrical propulsion system consists of AC servomotor (brasless), body for movement transmission, pusher-type propeller, force electric driving for propeller (electronic converter - variable-speed drive, supplying from the battery). Electric motor voltage: 24 V. Maximum electric motor power: 3 KW.

Conversion system of solar energy in electrical energy (three photovoltaic panels of USP 150 type, bonded in parallel) having DC terminal voltage: 24V and maximum power: 50W.

The photovoltaic panels are connected to an electronic controller to stabilize a voltage of 24 V, necessary to load the batteries and electrical utilities of boat.



USERS:

Ecological boat for biosphere reserve of Danube Delta.