

Vortex Heat-Generators

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Energy production from the environment by means of vortex is principally possible using devices of two different types.

1. Vortex heat pumps

The vortex is generated using some external energy source and by means of aerohydrodynamic and thermodynamic processes environment medium being pumping through the body of this vortex gives part of its low-potential energy to the vortex. Then the vortex gives this energy to consumer. Unlike classical heat pumps, the vortex heat pump does not require chladone and others special gases.

2. Renewable vortex energy source.

In this case energy is applied for the first starting of the vortex, then the vortex utilizes the energy from environment. One part of this energy it consumes for self-support of its movement, another part is given to consumer.

Now there are plenty of theoretical and experimental works, which can serve as a basis to state, that the process of taking of low-potential heat energy from environment (air or water) by means of vortex is a physically real process. But these works are not enough to create theory and methods of calculation. Due to the existing analogy between motion in liquid, electromagnetic field and other little known and quite unknown fields, we can suppose that taking of energy from environment of any physical nature using vortex is also possible. There is some problem: in what extent we know the properties of these fields and methods of taking energy from them (optimum performance, in particular). This field of research is little studied and transcendently difficult to understand. But it is not in contrary to the fact that devices in practice can be very simple for using them (the deeper our knowledge is, the simpler our devices can be).

Nicola Tesla began these researches, and now they are followed by several laboratories and some scientists (see below and the references).

Yu. S. Potapov was the first to create vortex heat-generator. Now more than ten small firms are working on production of the heat-generators. A discussion on physical nature of energy source (or if it is absent), on efficiency (more or less than 100%) and on other questions has been lasting from Potapov's first works up to present time. Often they are rude. Let's be tolerant to each other and remember the following:

1. All kinds of energy sources including heat pumps, vortex heat pump, renewable vortex energy sources

never will have efficiency more than 100%. But from the point of view of the consumer, when he spends the part of energy from electricity supply network, and another part is provided "free" from the environment (that can be several times more than those from electricity supply) it can be very profitable for economy. Efficiency is always less than 100%, but conversion coefficient of energy from electricity supply to the output energy for consumer can be much more than 100%.

2. It is not easy to create a device, which will be able to utilize the energy from surrounding motionless air or water by means of vortex (or other forms of movement), especially if it is the energy from various other fields. This happens because we should call such aerohydrodynamic and thermodynamic processes, which are less studied and investigated ones, are in different fields of science (sometimes in very unexpected). Some engineers ignore this objectively existing situation, and it calls perplexity and regret. They are sure in quick success, but it is equivalency that they should have luck to produce the wonder.
3. These creators of vortex heat-generators, who conquer this problem with enthusiasm, call regard and astonishment to the human nature. They are in the same thankless situation that the airplane pioneers, who rushed to create them without any clear notions on physics of lifting force origin.
4. Vortex heat pumps and renewable vortex energy sources will be created at first with utilization of low-potential heat energy from air and water, then with utilization of energy of other fields. It can happen that mechanical vortex will utilize energy not only of mechanical and heat origin, but also electromagnetic, gravitational and other fields.
5. Resolute and quick success in creation of vortex energy sources in many respects depends on dominating development of theoretical and experimental investigations in this field.

Please, contact Dr. Sorokodum to get data base about research on the vortex heat generators.

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Quasi-Superconductive Technology for Electric Power Transmission

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SUMMARY

Low cost and low losses single-wire electric power system (SWEPS) has been developed. The new technology of electric power transmission uses idle operation mode of the transmission line and reactive capacitive current for transmission of active electric power. Three different SWEPS has been constructed and tested: 230V, 10kV and 100kV each is of one-kilowatt capacity. Resonance mode of oscillation at the frequency from 3 kHz to 30 kHz was used to provide the most efficient power transmission. Frequency converter and modified Tesla transformer were applied at the generator site to generate high frequency reactive capacitive current. Reversal Tesla transformer and standard rectifier and inverter were used at the consumer end to convert the reactive high frequency electric power to standard 50-60Hz electricity. It has been experimentally proved that SWEPS has quasi-superconductivity properties for reactive capacitive current flow along the line even at high operation temperature of the electric conductor. SWEPS has no resistance losses for following tested conductor materials of the line: copper, aluminum, steel, tungsten, carbon, water, and damp soil. Analysis of theoretical calculations and experimental study shows that SWEPS can be applied both for energy transmission from

renewable powerful generation site to a large energy system and for transmission lines connecting different parts of renewable energy system.

DESCRIPTION

Renewable-based electric grids are increasingly being viewed as an attractive alternative for providing power to rural communities. Technology options include small hydropower, biomass-powered generators, small geothermal, solar-thermal, wind turbines and hybrid systems with back-up diesel generator, which may be connected to the local utility. Implementation of renewable-based technologies for rural electrification would contribute to the social and economic growth of the rural communities and would serve sustainable progress of the remote regions. Electric grids face specific problems of non-efficient operations, including transmission losses and the high cost of grid extension in remote sparsely populated areas. For example off-shore wind turbine, micro-hydro or geothermal generator are often located far from consumers and requires costly installation of a long distance transmission line which usually has from 6% to 10% of electric losses.

We propose and investigate single-wire power transmission line systems instead of three-phase lines and apply steel conductor or even non-metal conductive media instead of traditionally used aluminum or copper conductor.

The OBJECTIVE of this project is to implement the original low cost and low-loss single-wire electric power system for renewable-based electric grids. Project program covers design and manufacture of 50 kW single-wire power transmission line. The complete set of equipment contains: audio-frequency converter, resonance generator - mono-stable multivibrator, rectifier and inverter. Transmitted electromagnetic energy has a voltage of 5 kV to 20 kV and a frequency of 1 kHz to 20 kHz.

SWEPS operation principle is the following: In no load operation mode the active current and the magnetic field