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The invention relates to the wind-power engineering, in particular to rotors of the wind turbines for wind power conversion into mechanical and electric power, and may be used in the constructions of vortex devices for phase and component separation of mixes.

The process for flow vortex conversion includes direction of the incoming flow toward the concave inside of the blades and formation of vortex braids onto said surface. It is increased the kinetic energy of the flow with the help of the vortex braid formers, placed at an angle with the blade axis of rotation. When separating the flow from the blade inside the vortex braids are consecutively conversed and broken.

The device for flow vortex conversion comprises an axis of rotation (1) and at least one helical blade (2), made arch-shaped in cross- section and fixed thereon by means of tiered up holders (3) and rests. Each blade (2) is made thin, of at least two layers (6, 7) joined between them, with the cross section profile in the form of curve, close to the form of the effective aerodynamic profile, with the form correction, and ending in a wing flap fillet. On the concave surface of the inner layer (7) there are placed the vortex braid formers (8), oriented toward the incoming flow direction, converging to the axis of rotation (1) and made with asymptotically decreasing profile of the end edges and with sawtooth cross-section with asymmetrical parts, the smaller of which is concave arched. The blades (2), the holders (3) and the rests are preliminarily tensed, forming an integral tensed structure. The aerodynamic profile of the device and the blade torsion are made according to the phyllotaxy rule.

Claims: 10
Fig.: 17