

A rotor-vortical machine has a stator and rotor, between those there is formed torus-like working chamber, this is connected to channels for supply and discharge of working medium, at that the working chamber blades and separator are placed, those are connected with the stator and the rotor, respectively, each blade has front edge turned to the rotor, and the separator is arranged with cutoff edges restricting the section of the surface of the separator turned to the front edges of the blades, at that the angle of direction of the front edge of the blade is within $\alpha=20-70^\circ$, and the chord connecting the opposite ends of the front edge makes angle $\beta=0-26^\circ$ with the meridional plane going through the center of the front edge.