

The invention relates to machine-building, in particular to vaneless turbine plants for actuation of electric generators, compressors, pumps. A reaction turbine has a rotor with channels for working medium supply to nozzles, those are connected to the cavity placed on turbine shaft coaxially with the shaft, at that the central axis of channel is placed in plane of rotation of turbine, and the channel itself consists of straight radial section and curvilinear section joined to it with inlet, with outlet directed in direction of rotation of rotor of turbine. According to the invention outlet of curvilinear section of channel is joined to inlet of the convergent part of the nozzle, coaxially to that one with gap by means of centering ribs the divergent part of the nozzle is fixed, it is provided with a coaxial reflector fixed at its inlet, this connects the inner cavities of outlet of the convergent part of the nozzle and inlet of divergent part of the nozzle by means of circular curvilinear channel convex surface of which is turned to side of turbine rotation, and the channel itself is arranged as toroidal and is formed by rotation of arc of a circle with respect to long axis of the nozzle. The beginning of the arc coincides with point of intersection of the plane, where ends of convergent and divergent parts of the nozzle are located, with long axis of the nozzle normal to that plane, and the end of the arc is smoothly connected to the inner surface of inlet of the convergent part of the nozzle, at that radius of arc of the circle R and distance δ from the plane normal to the long axis of the nozzle to center of arc of the circle are determined through relationships given. Such realization makes it possible to increase torque on the reaction turbine shaft.