

This invention relates to hydraulic units for electrical energy generation, or for pumping water or other liquid. The electro-hydraulic unit has electric synchronous machine with keeper winding and excitation winding, and turbine (pump) wheel of propeller type. The blades of the turbine (pump) wheel are placed inside the rotor, and act as the spokes of the electrical machine rotor. Between the stator and the winding-less rotor of electric synchronous machine there is installed a non-magnetic non-conductive tightening screen. The excitation winding is arranged as coils in circular form, this is coaxial to the axis of rotation of the rotor. Placement of the two windings at the stator, together with presence of a tightening non-magnetic, non-conductive screen between the stator and the rotor makes it possible to provide electro-hydraulic direct-flow unit without moving gaskets at the outer diameter of the turbine (pump) wheel.