

Summary

The basic devices used to work with mechanical and electrical energy are generators and motors. Generators are principally used to convert mechanical energy into electricity, and motors – vice versa. Both applications consist of irreplaceable components, which make the conversion possible. However, it is important to remember that there are also different types of current used in such machines. The current, that flows only in one direction, is known as direct (DC) while the current, that changes its direction in the process of operation, is known as alternating (AC). Thus, there are DC and AC generators and motors. The principles of operation in DC and AC machines differs, as well.

As the basic conversion devices were mastered, more complicated applications were created, some of which even have both motors and generators as their parts. AC machines are preferred more in the means of production, so many devices are of the AC type. Synchronous motors have squirrel-cage for induction purposes. The rotor and the stator have two different magnetic fields and they rotate with the same relatively constant speed. Hence the title of the machine.