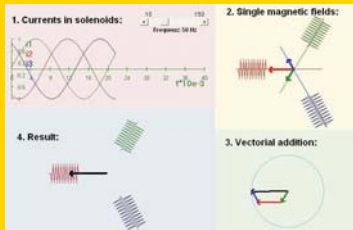


Fascination Induction Motors

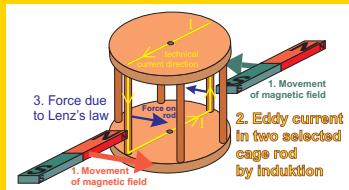
three-phase motor



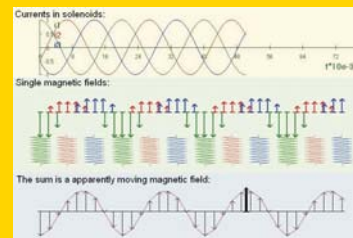
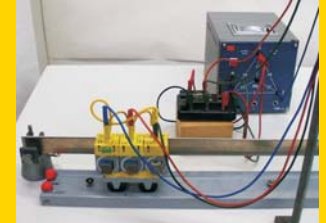
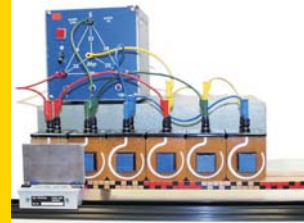
aluminium jar of a tea light



a circular rotating magnetic field



asynchronous linear motors



a linear moving magnetic field

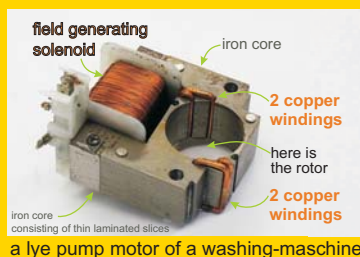
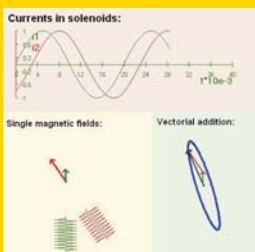
Lenz's law in an elementary form:

The conductor follows the moving magnetic field due to the induced current and the resulting force

shaded pole motor



additional winding around the half iron core



simple explanation

It's not necessary to think about the direction of the induced current. Lenz's law shows the direction of the force (see above).

simply built in school

The use of the little aluminium jar of a tea light is very fascinating for pupils. For the very simple experimental setups usual solenoids, iron cores and power supplies are used. And you need only 23 V ac voltage (three-phase and/or one-phase)!

animations help to understand

The animations show how it is possible that fixed solenoids generate a rotating (circular or elliptic) or moving magnetic field.