



Selected Chapters from Textile and Single-purpose Machines

Drive systems in the construction of single-purpose machines VII.



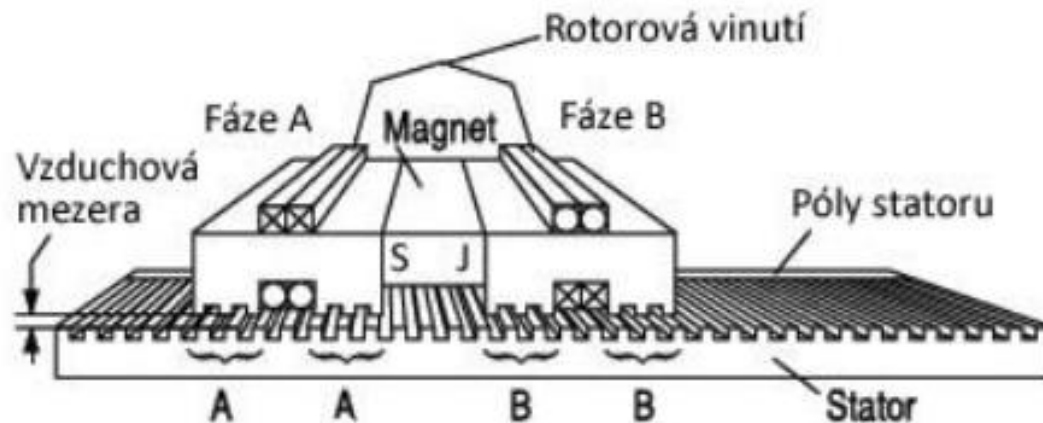
Content

- Linear stepper motors
- Physical principle of linear stepper motors
- Stepper motor applications
- Motors in linear drives

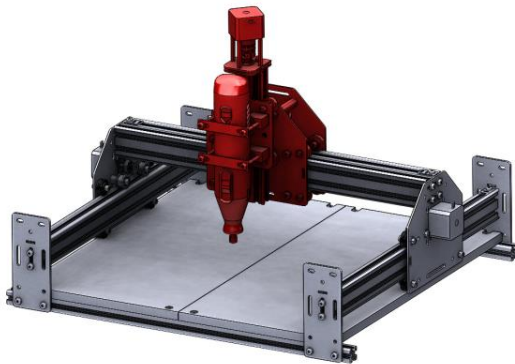
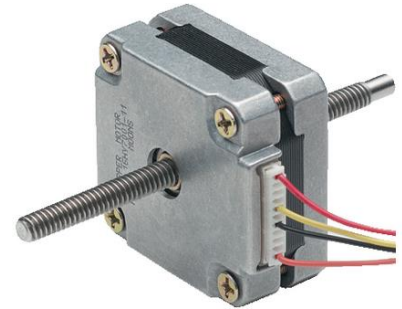
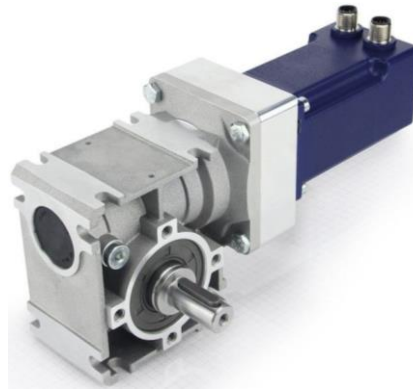


Linear stepper motor

- performs a rectilinear reciprocating motion
- the stator of the motor is developed into a line, it serves as a path over which the rotor winding with two coils moves, so it has (structurally)
- the possibility of only a final movement to one side.
- due to the non-coherence of the dimensions, the different distances between the poles of the stator and the rotor, a motor step can be obtained which is only a fraction of the distance between the poles of the rotor and the stator.



Stepper motors - applications



Linear drives

- Efforts to minimize the number of moving drive elements
- Enabling sliding motion without motion transformation
- High maximum speeds up to 10 m / s
- Positioning accuracy VS speed of movement

- Motors in linear drives:

- ASM
- DC
- EC
- Step



Review

- List the basic types of stepper motors.
- Draw and describe the speed-torque characteristic of the stepper motor.
- Describe stepper motor control.



Thanks for your attention

