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Product Name :
Determination Of Gear Efficiency

Product Code :
LBNY-0005-10100055



Description :

The components used are common in drive technology and therefore closely related to practice. A three-phase AC motor with variable speed via frequency converter serves as the drive unit. An electromagnetic brake is used as the brake unit. The unit is a complete test system with drive and brake unit and two different gears. Driving and braking power are calculated to determine the efficiencies. The constant braking effect can be very finely adjusted via the exciting current; it then serves as a tunable load. The properties of the magnetic particle brake can be investigated in an additional experiment. Motor and brake are mounted on pendulum bearings in order to determine the torques. The forces are measured by spring balances and lever arms. A two-stage spur gear and a worm gear are available to be studied. The characteristic properties of the gear are adapted to the performance of the motor. Flexible couplings connect the gear to the motor and the brake. The speed of the motor is detected contact-free by means of an inductive displacement sensor on the motor shaft.

Determination of torques on motor and brake via spring scales and lever arms

Three-phase AC motor with variable speed via frequency converter

Magnetic particle brake with adjustable braking torque via exciting current

Inductive speed sensor on the motor

Determination of mechanical efficiency in gears

Investigation on worm gear and 2-stage spur gear

Display of speed and exciting current.

Technical Specification :

Determination Of Gear Efficiency



Laboratory Instrument India