

## Design of a Three-Finger Robot Manipulator

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**The paper deals with a construction design of a versatile adaptive gripper for a robot manipulator. More specifically, it presents construction design of motional kinematics of fingers, which are controlled by a working screw, and also computation of forces and a selection of drive actuating units. Calculation of forces is needed for further correct selection of an engine transmission, considered gearing, belt gear and transmission.**

Automation is a process of replacing man's control function by operation of various machines and devices. Automation is a highly complex process including very simple control operations, which are performed automatically by relatively simple devices, as well as very complex control of large production units. Control is a purposeful action of evaluation and processing of information about the controlled object or process, actions in the process (these may include measurement device data, signalling equipment states), and according to them, related machines are controlled so that the prescribed objective can be met – handling piece loads of maximal weight  $m = 25$  kg in this instance.

**Keywords:** Manipulator, three-finger gripper, handling machinery

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