

DEVELOPMENT OF ELECTRONIC -TYPE FINGER FORCE MEASURING SYSTEM AND EVALUATION OF ITS CHARACTERISTICS ON INVESTIGATED PNEUMATICALLY ACTUATED TWO FINGERED ENCOMPASSING GRIPPER

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ABSTRACT

- The Purpose of our work is to develop a sensor for realize the amount of required force during grasping in gripping mechanism, and testing it on investigated pneumatically actuated two fingered encompassing gripper.
- **Material and Method:** In this paper an experimental system has been proposed for a force control of a two finger pneumatic encompassing gripper with an economy, easy sensitizing by using digital force sensor. This sensor has been used for finding the required amount of grasping force (N) for holding different coefficient of friction grasping objects in minimum working pressures (Bars) with respect to maximum holding weight without slippage. And also theoretical calculations were done for checking and proving the accuracy of this type of force sensor.
- The results show a good agreement between theoretical and experimental results, therefore the developed force sensor is sufficient enough to be used as a force sensor for determining the amount of force needed by the gripper to grasp the unknown object.

KEYWORDS: Pneumatic Encompassing Gripper Design, Electronic Force Sensor, Gripping Force