Project Report Title : The Pneumatic servo system design in 3D

Using Solid Works and LabVIEW.

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Abstract

This project is to create a 3-D (dimension) model of a pneumatic position control system. To simulate the operation of pneumatic devices, Solid Works program is used in the modeling and using LabVIEW program for the control cylinder's rod position movement. In the control system will be used PID (proportional-Integral-Differential) controls. The simulation is to be connected between the two programs to work together. The work process consists of four steps: the first step is a design of structure model

of the servo pneumatic system. The second step is the development of the position control of servo pneumatic system with LabVIEW program. The third step to link the Solid Works and LabVIEW programs together. Finally, connect a 3-D model with a real servo pneumatic system together. The experimental results, response to command signals to control the position of a 3-D model is consistent with the real servo pneumatic system.