2.0 System Design and Dynamic/Steady State Analysis

By far, most users are interested in the system design capabilities of HyPneu. With HyPneu users can obtain both dynamic and steady state analysis data without having to re-design or modify the system schematic. The following examples show how HyPneu has been used in designing various systems.

2.1 Cylinder Control System

The pressure losses of a hydraulic system are an important consideration in component selection. HyPneu can provide both dynamic and steady state pressure loss data. for example, consider the typical cylinder control system found in hydraulic applications. The size of the valve is an important factor in the design. Simulation results using HyPneu are shown by the two curves. The higher curve is the dynamic pressure at the valve inlet while the lower pressure is the work port going to the cylinder. The difference between these two pressures is the pressure lost across the control valve.

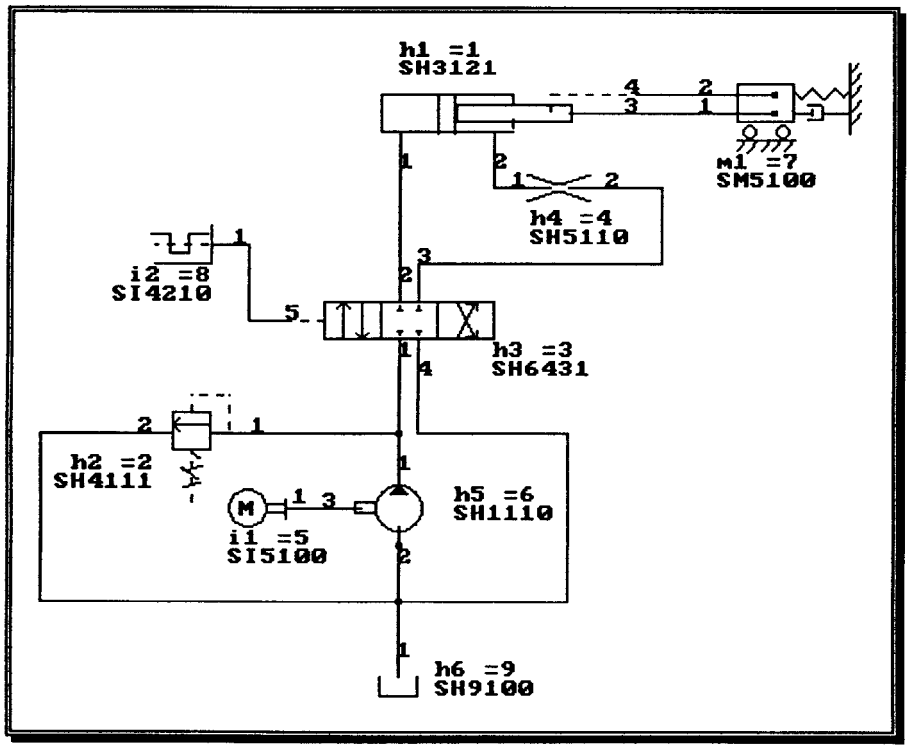

Figure 2.1. Cylinder Control System Schematic.

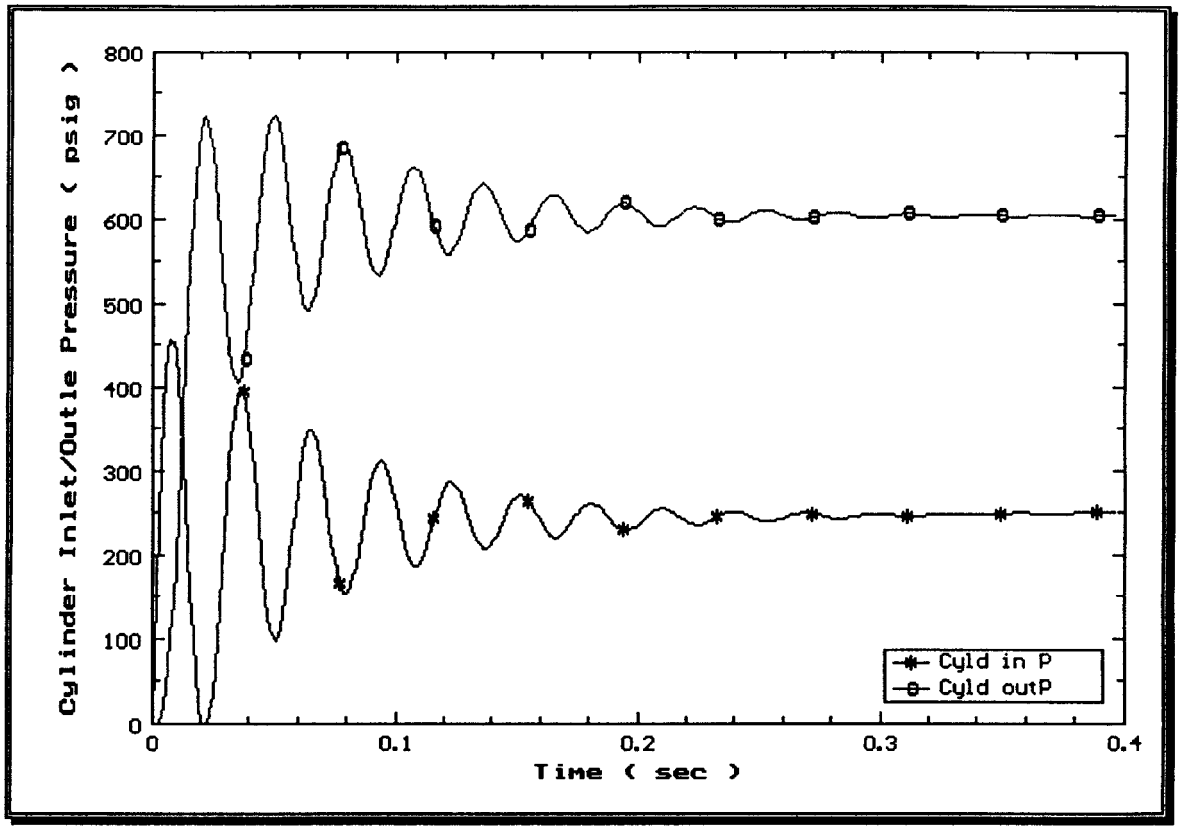

Figure 2.1b. Cylinder Control Circuit Analysis.