

Product Name :
Hydraulic Servo System

Product Code :
AR331



Description :

Hydraulic Servo System

Technical Specification :

Hydraulic Servo System Servo systems are closed-loop control systems. In many industrial applications it is often required to convert small mechanical motions into a different motions with increased force. Hydraulic systems are particularly suitable for applications where large actuation forces are required. The unit allows the operation of a hydraulic servo system to be investigated in detail. A carriage with a mass of 50kg is moved by a hydraulic cylinder. Additional springs and an adjustable hydraulic damper permit static and dynamic loads to be simulated. The displacement of the carriage is established using a potentiometric position sensor and compared against the reference variable. The control deviation is processed in a separate servo amplifier. Depending on the direction of the deviation, a control valve is activated in forward or reverse direction, which in turn produces a corresponding movement of the hydraulic cylinder and the carriage. Self-contained training system of a complete hydraulic position control loop with adjustable loading conditions Oil circuit with hydraulic unit, hydraulic accumulator, 2 manometers, control valve and hydraulic cylinder to move a weighted carriage Operation of the electromagnetic control valve for position control by servo amplifier Servo amplifier with adjustable Gain All control variables available as voltage signals Potentiometric displacement sensor Adjustable load conditions on carriage using 2 springs with hand wheel and adjustable damping Low-friction ball bearing-mounted carriage Mobile steel profile trolley with built-under unit Software for data acquisition via USB under Windows 7, 8.1, 10 Including PC1 Computer-System with 21" TFT-Monitor Win 10 engl. Technical Data: Hydraulic unit Power output: 1,1kw Flow rate: 4,3L/min Head: 1500m Tank capacity: 10L Hydraulic accumulator capacity: 2L Accumulator charging valve: max. 40L/min Hydraulic cylinder Piston diameter: $d=40\text{mm}$ Stroke: 150mm Mass moved: 50kg Control valve NG6 Nominal flow rate: 24L/min Activation: $\pm 10\text{V}$ Potentiometric position sensor Measuring range: 150mm Output: 0 ...10v 400V, 50Hz, 3 phases.

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