



FSP Fundamentals & Servicing of Proportional Valves 5-Day Course

Plant maintenance personnel of all levels learn the function & operation of electro-proportional hydraulic valves and their interface electronic amplifiers – recommended for the mechanical trades and the electrical trades.

What you will learn –

- Understand the similarities between standard (fixed voltage solenoid, spool type) directional control valves and electro-proportional directional control valves
- Understand the principles of speed control (throttle valve principle)
- Compare and contrast force controlled and stroke controlled solenoids as applied to electro-proportional valves
- The control of actuator direction, speed, acceleration/deceleration with proportional valves
- Ideas of proper proportional directional control valve sizing
- Understanding electro-proportional pressure control valves
- Compare and contrast spool position feedback proportional valves versus non-spool position feedback valves
- Standard proportional directional control valves
- High performance and servo solenoid proportional directional control valves
- Proportional flow control valves
- Electronic interface amplifiers that are used to drive proportional valves
- Integrated electronics/on-board electronics valves
- Rexroth branded and Bosch branded proportional valves
- Troubleshooting proportional valve systems and isolate problems

Electro-proportional hydraulic valves have become a main stream component in most hydraulic powered and controlled machines and processes. These valves are an active part of the process control system. It is important that mechanical and electrical maintenance personnel develop a thorough understanding of how these valves are applied and how they operate. For this purpose there will be ample time devoted to the disassembly, inspection and assembly of several valve types. Students will configure the electronic interface amplifier and put the proportional valve in a hydraulic circuit to observe the operation. Through this hands-on approach, students will develop their setup and troubleshooting skills.

Prerequisites: FOH or prior formal industrial hydraulics technology training required for enrollment in FSP

Approximately 50% lecture and 50% hands-on lab exercises

Tuition: \$1,600.00 (includes seminar fee, all student materials, text book, daily lunch & refreshments)