

Cartridge Valve and Manifold Technologies

A Components Approach to Improved Energy Efficiency

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Component selection is critical to maximize energy efficiency in circuit designs. Careful selection of compatible, energy efficient components will allow a well-designed circuit to reach its full energy saving potential. In order to help circuit designers obtain maximum savings, Sun Hydraulics Corporation has invested in many different technologies that offer improved component efficiency. These technologies fall into three categories: higher capacities, energy saving functions, and optimized manifold assemblies. This presentation will discuss the benefits of each category and showcase examples of how they are applied to Sun Hydraulics cartridge valves and manifolds.

Higher Capacities

- The Sun Cavity
 - Lower pressure drop than equivalently sized industry common cavities
- Series 4+ Valves
 - Equivalent pressure drops to DIN 25/32 valves
 - Optimized with computational fluid dynamics (CFD)
 - “Drop In” replacements for existing Sun valves

Energy Saving Functions

- LoadMatch™ Counterbalance Valves
 - Reduced energy consumption counterbalance valve
 - Description of “Self-Setting” driver
 - “Drop In” replacement for existing Sun counterbalance valves

Optimized Manifold Assemblies

- 5-Axis Machining
 - Minimize circuit pressure losses with efficient manifold design
 - Advantages over 3-Axis machining
 - Flow path optimization recommendations