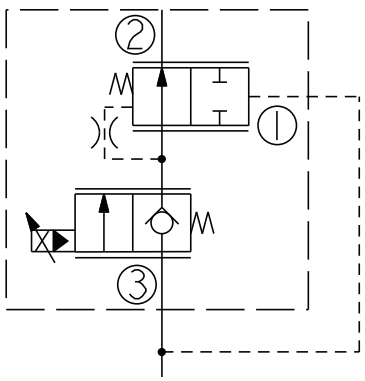
Multi-Function HSPECxx-34 Cartridge Valves Offer Efficient Load-Holding and Gravity-Lowering

The HSPECxx-34 electroproportional flow control valves are the next wave of high-pressure multi-function valves introduced by HydraForce, complementing the HSPECxx-30 models launched just last year.

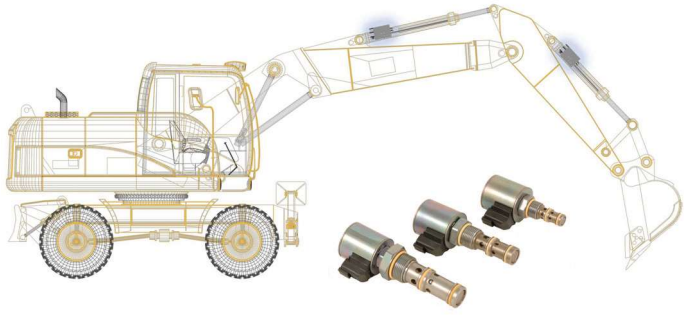
While the HSPECxx-30 valves were designed for flow-sharing applications, the built-in damping of the HSPECxx-34 valves makes them ideal for superior load-holding while allowing for precise and stable flow control. They can also be applied in power-down and gravity-assisted lowering systems.

Available in several sizes and flow ratings, from 36 lpm (9.5 gpm) to 98 lpm (26 gpm) HSPECxx-34 valves are rated to handle high hydraulic pressures of 350 bar (5075 psi).



ISO symbols depict multiple functions of the HSPECxx-34 cartridge valves.

HSPECxx-34 valves are pilot-operated, normally closed valves with a sealed internal compensator and a full-flow pump-blocking check. With inlet at port 3, the HSPECxx-34 regulates flow out of port 2 regardless of load pressure with the flow rate proportional to current applied to the solenoid. When de-energized, the HSPECxx-34 valve blocks flow from port 3 to 2.



HSPECxx-34 multi-function valves can be mounted right on the cylinders for efficient, responsive control.

	HSPEC16-34	HSPEC12-34	HSPEC10-34
FLOW RATING	98 lpm 26 gpm	60.5 lpm 16 gpm	36 lpm 9.5 gpm
PRESSURE RATING	350 bar (5075 psi); 10% cycle life; 420 bar (6090 psi)		

Both the HSPECxx-30 and HSPECxx-34 valves provide multiple functions in a single cartridge, allowing the hydraulic manifold to be more compact in size, which results in reduced manifold space claim on a machine and greater flexibility in application.

For a complete listing of efficient and energy-saving multi-function valves available from HydraForce, see the back page of this Bulletin.

For detailed information and specifications, visit www.hydraforce.com or contact your local HydraForce representative at www.hydraforce.com/Distribs/World.htm

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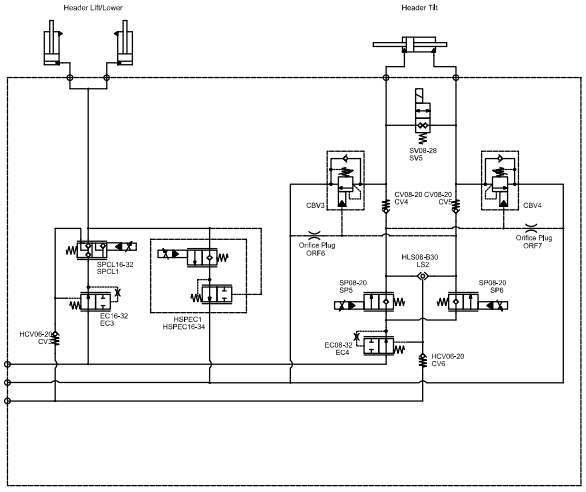
ISO 9001: 2008

Application Ideas for HSPECxx-34 Multi-Function Valves

Forklift trucks, telehandlers, and combine harvesters require precise control when adjusting their height as inefficient movement can cause a load to drop of decrease harvesting efficiency.

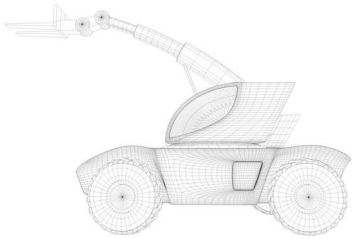
An ideal application for the HSPECxx-34 valves are lift, lower and tilt functions of a harvester header. The HSPECxx-34 valves can provide smooth and responsive raising/lowering of the header. These stable electrohydraulic control valves ensure the header follows terrain at a height that keeps dirt and debris out of the feed chute, providing maximum yield of good, clean crop.



HSPECxx-34 multi-function valves as applied in a circuit for smooth, responsive lowering of a combine header.

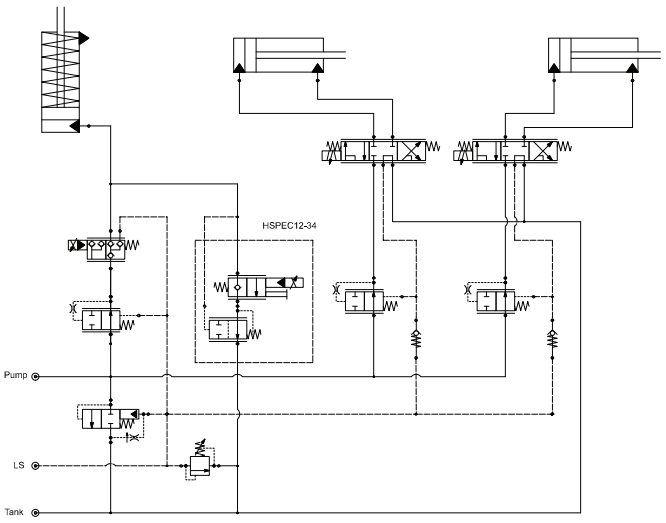
HSPECxx-34 cartridge valves provide efficient, low-leakage load-holding for construction, material-handling and agricultural equipment.

An innovative application for the HSPECxx-34 valves is a boom control circuit that benefits from the ability to selectively choose between power-down and gravity-assisted lowering.



By using the boom's structurally induced load pressure, the HSPECxx-34 harnesses the natural force of gravity and provides smooth and stable lowering. With an emphasis toward increased efficiency, the HSPECxx-34 has the potential to convert gravity-assist lowering into significant fuel savings.

A typical application for HSPECxx-34 valves is for the single-acting lift cylinder of a forklift truck. The schematic below shows how the HSPECxx-34 can be used for the lowering function of the circuit.



Features/Benefits

The HSPECxx-34 proportional flow control valve is a high pressure, 3-way, normally closed, solenoid-operated cartridge valve designed for post-compensated applications with load-sense systems.

Load Holding

Load-holding is one of the HSPECxx-34 valve's most useful features.

Low Leakage

The sealed compensator of the HSPECxx-34 valve reduces the potential for hydraulic leakage.

Space Savings

A single HSPECxx-34 valve replaces several valves as it combines the functionality of an electro-proportional flow control valve, a pressure compensating logic element and a load-holding valve. This takes up less space in the manifold, allowing it to have a smaller "hydraulic footprint." This translates to savings in multiple areas - reduced size and weight for the machine, lower fuel cost, greater efficiency, parts consolidation, etc.

At the HydraForce Innovation and Technology Center in Vernon Hills, Illinois, flow control valve engineers work with applications engineering to develop customized models of new multi-function valves.

For More Information

If you have questions about the new HSPECxx-34 cartridge valves, contact your HydraForce Regional Sales Manager, or visit www.Hydraforce.com.

Features	Benefits
Sealed compensator and poppet-style configuration.	Low hydraulic leakage.
Built-in damping.	Smooth lowering capability.
Multi-function.	Reduced manifold space claim and improved circuit efficiencies.
Waterproof E-coils rated up to IP69K are standard.	Can be specified in wet, humid, and outdoor applications.
Several flow ratings from 35 to 132 lpm (9 to 35 gpm)	Well-suited for a range of applications.
Operating pressure to 5075 psi/350 bar continuous duty; 420 bar (6090 psi) 10% cycle life	Can be specified for high-pressure, horsepower-efficient applications.
Tested to 1 million cycles at full rated flow and pressure.	Long life; no worries about wear or decreased performance over time.
Designed, inspected and tested to HydraForce Quality standards with 5-year warranty. (See full warranty statement in the catalog.)	Guaranteed use for five years or longer.