VG35 Application Story

Pressure Generating/Regulating Section

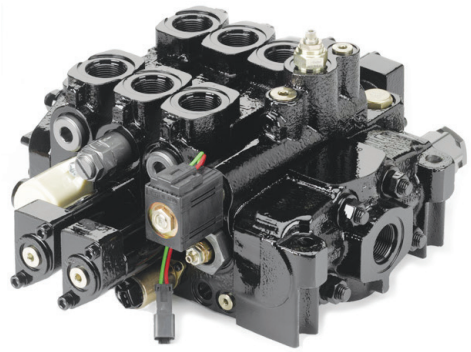
Increased Efficiency:

Challenge

Refuse truck OEMs typically use pneumatically operated VA35 directional control valves but the need for increased efficiency and controllability necessitates an electro-hydraulic solution. The goals are to enhance safety, controllability and efficiency. To accomplish this the valve must generate and regulate the pilot pressure to select the spools for the desired function, maintain pilot pressure to the solenoids during pump overdemand and have a separate operator actuator switch to allow operation of the main valve.

Solution

Parker developed a section to integrate into the valve that meets these goals. Upon selecting a spool, pilot pressure is generated so the valve has sufficient pressure to move the spool. Once the load pressure is inside the valve, the integrated pressure-reducing valve regulates the pilot pressure to the solenoids to a level within their pressure rating, and in pump over-demand conditions, the pressure is kept stable. This improves productivity vs designs that have the pressure-reducing valve in the outlet.



Reduced Lifetime Ownership Costs

Eliminated Waste & Reduced Energy Consumption

Increased Productivity

Success Factors:

- Minimal impact on open-center pressure drops, when the spools are in neutral
- No impact on loop pressure drops (P-A/B & A/B-T)
- Pilot pressure “triggered” to on, only when a spool is selected
- Dedicated drain of pilot signal ensures stability of the main spool

Customer Values:

- Reduced system complexity can mean estimated savings of up to $175 per machine
- On-demand pilot pressure operation can lead to up to $15,000 over the life of the machine based on 10,000 hours of use.

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