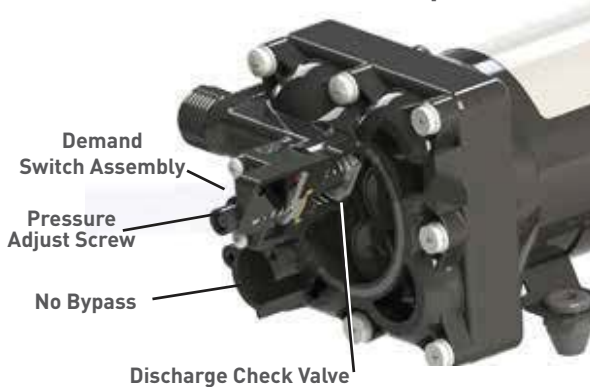
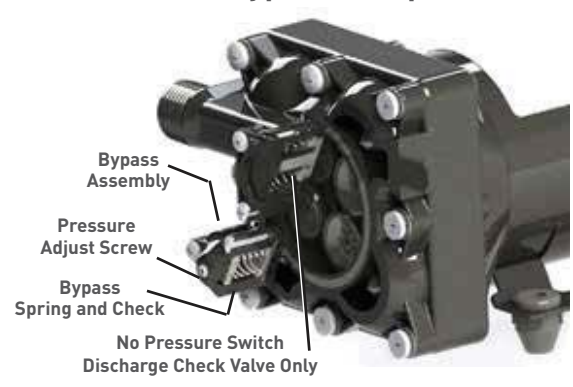


Demand vs Bypass Pump

Demand Pump



Bypass Pump



Common Uses:

Applications with a set flow and pressure requirement. Example: Spray wands on spot sprayers.

How it Works:

When the operator shuts off the wand, pressure in the line increases to a set point and the pressure switch shuts off the motor. A check valve inside the pump keeps trapped pressure in the line. When the wand is turned back on, pressure in the line decreases. The pressure falls below the set point that then restarts the pump.

Sizing the Pump:

Select a pump with a pressure and flow point that is matched to the orifice size in the wand.

Pros:

- Saves wear and tear on the pump
- Extends the service life of the battery

Cons:

- Can be difficult to use with variable rate hand operated spray wands & guns

Common Uses:

Applications where a wide range of flows and pressures may be required. Example: Spray bar with multiple nozzles, all controlled independently.

How it Works:

The pump continues to run regardless of pressure in the system. For the spray bar example, the flow rate is different when one nozzle is turned on as opposed to having two or more turned on. As nozzles are turned off, excess flow is bypassed within the pump.

Sizing the Pump:

Size the pump for the maximum flow rate required with all nozzles spraying.

Pros:

- Prevents on/off cycling of pump which can lead to early failure

Cons:

- If the discharge valve is closed for too long, overheating and damage can occur

- Constant amp draw can reduce battery power life