

iQ Standard Proportional Valves

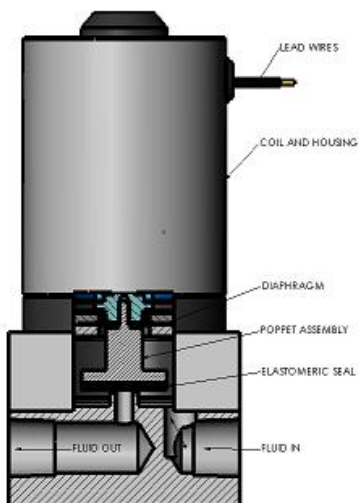
iQ Valves solenoid-operated proportional flow control valves are unparalleled in the valve industry. Our proportional valve line outperforms other types of proportional valves through unique design innovations. There are no rubbing contact surfaces and hence our valves have low hysteresis, high frequency response (250 Hz), quick time response and long life.

Our valves are direct solenoid actuated poppet type valves. The poppet is attached to the moving part of the solenoid which moves proportionally with applied current. This poppet motion varies the orifice exposure, in turn varying the flow proportionally. The position of the poppet in these types of valves depends on the force balancing between the solenoid, spring force and force due to fluid pressure. Variation in the inlet pressure can change the take-off. Take-off is the point (voltage /current) at which the valve starts flowing. The variation in the outlet (back) pressure can change the displacement of the poppet and hence the overall flow. Pressure balancing of the valve is necessary to make the valve insensitive to these pressure effects.

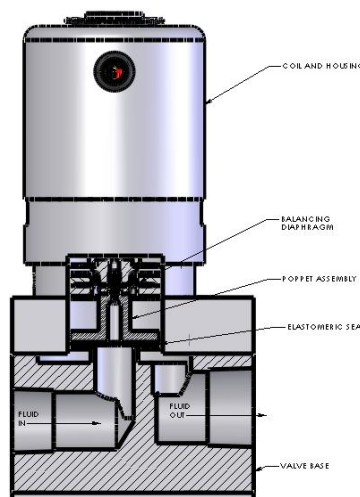
In some applications isolation of the fluid or medium from the active solenoid parts is required. This isolation can be achieved by using a diaphragm separating the poppet from the active solenoid parts.

Considering these aspects, iQ valves offers the following types of valves in the Standard Valve category:

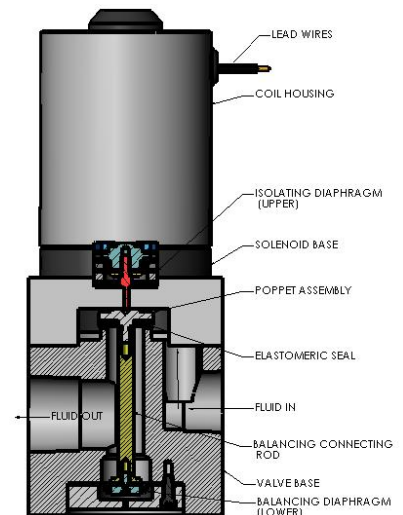
- 1. Isolation Inlet Balanced Valve:** The main advantage of these valves is medium isolation. These valves are not outlet pressure balanced; however the diaphragm isolation on the inlet side of the valve offers isolation of the fluid or medium from the solenoid parts and offers a small internal volume. In addition, the isolation diaphragm offers pressure balancing on the inlet of the valve; so the variations on the initial take off current of the valve due to inlet pressure variations are minimized. They are useful in the application where the outlet pressure doesn't exceed 30% of the inlet pressure.
- 2. Internally Balanced Valve:** These valves are pressure balanced and are insensitive to the inlet and outlet pressure. Due to their unique design the take-off of the valve remains the same for different inlet pressures and the poppet displacement doesn't change with varying outlet pressure. The pressure balancing is achieved using a small internal passage. Therefore these valves do not offer medium isolation.
- 3. Isolation Balanced Valve:** These valves combine the advantage of both inlet balanced and internal balanced valves. These valves are pressure balanced and are insensitive to inlet and outlet pressures. The take-off of the valve remains consistent at different inlet pressures and they can be used at any outlet pressure. These valves offer isolation of the fluid or medium from the solenoid part and offer small internal volume.



Isolation Inlet Balanced Specifications



Internally Balanced Specifications



Isolation Balanced Specifications