These drawings of the InFlex™ FCV™ show the operation of the valve for injection at full (maximum) and partial flows, and for pumping . . . note the cross sections.

For injection, the annular orifices provide the tortuous path for water that results in the desired non-cavitating pressure loss across the valve. The reinforced element stretches into the area between the channels which further increases pressure loss in the valve. For pumping, the element is pressurized to provide a leak-proof shut-off seal against the area without channels. The valve has a built-in liquid inflation chamber so that gas from the surface may be used to actuate the valve.