

What's The Hitch?

Common answers to technical question about the Repeater™ Valve.



Q: Will the valve fill up with plastic in the pocket (at the junction of the two diameters of the piston and its housing) when the valve is open?

A: During each recovery cycle some plastic may leak into this pocket. However, during each injection cycle much higher forces (Pressure times Area of the large end of the piston) will expel all this plastic. Thus no plastic remains in this pocket.

Q: What wear problems are anticipated with the Repeater™ valve?

A: Unlike current valves, the Repeater™ has no plastic flow over or around the piston. Only leakage flow can occur between the two surfaces, thus very little erosion is possible.

Q: Will there be excessive erosion at the entry and exit holes?

A: Some erosion may occur at the edge of the piston and exit hole during recovery. The valve action is self compensating for this erosion. Material hardness of the Repeater™ valve is designed to minimize this occurrence.

Q: Will the piston wear out prematurely?

A: Only sliding motion occurs between the piston and its housing during opening and closing. The piston rotates with the screw and valve housing. This will cause the wear to be minimal.

Q: Will the Repeater™ wear the same as a ring or ball check assembly?

A: Wear between the Repeater™ valve body and the barrel will be comparable to other current ball check valves. US

Valves is very careful on concentricity and squareness of the surfaces which seat on the end of the screw. Valve “wobble,” however, is also dependent on the same surfaces on the end of the screw.

Q: What about corrosive wear?

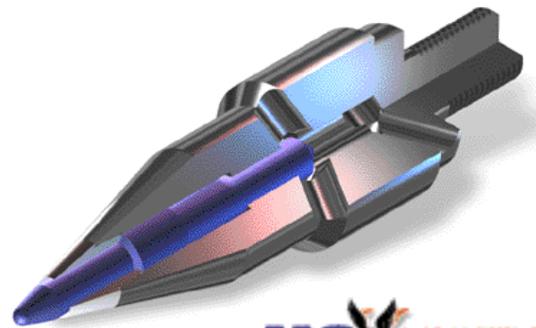
A: Materials used in making the Repeater™ valve must be suitable for those plastics which tend to cause corrosive wear. In cases where corrosion is a key concern materials such as Stainless 420 will be utilized. These specific material selections should be noted on your Request for Quotation sheet.

Q: Will the recovery stroke length remain unchanged?

A: The Repeater™ valve closes very quickly. A shorter stroke setting (i.e. recovery position) may be required.

Q: Will only two inlet and four outlet holes restrict plastic flow and increase cycle time?

A: In most cases two inlet and four outlet holes are sufficient and have minimal impact on the cycle time. For some engineering resins which have low material stress characteristics, or very high viscosity, the Accelerator Valve is designed to provide optimum results. The Repeater and Accelerator Valves require lower back pressure when operating since the screw pumps against a pressure that is the accumulation pressure times the area ratio of the piston ends ($[(D/d)^2]$).



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