



Bal Seal[®] spring-energized seals in high temperature adhesive dispensing valves

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Overview

Many industries use valves to dispense and control the flow of single part adhesives and hot melt fluids. Typically, these applications are extremely harsh on sealing components because of the high temperatures, abrasive media, and high velocities.

Bal Seal Engineering, Inc. has pioneered a line of sealing solutions tailored for hot melt valves. These field-proven solutions provide reliable service over millions of cycles. Made from formulated and blended PTFE or other engineered polymer compounds for optimized performance, these seals incorporate a metal locking ring that is pressed into the housing to maintain secure mounting despite repeated thermal cycling.

The seals also employ a Bal Spring[®] canted coil spring energizer to maintain a near-constant contact force against the plunger throughout their service life. Bal Seal[®] spring-energized seals also have proven performance in many other valve types, including gate valves, ball valves, and needle valves.



Operating Parameters

Pressure

To 1,000 psi (70 kg/cm²)

Speed

4 feet per minute (1.22 meters per minute) at 1,000 cycles per minute

Temperature

To 400 °F (204 °C)

Media

Hot melt adhesive for packaging

Additional

Low frictional forces, variable pressure and temperature endurance

Features

- Bal Seal® K Series with metal locking rings pressed into the housing reduce diametrical seal shrinkage and provide reliable sealing under constant thermal cycling
- The unique seal contact geometry results in excellent sealing performance
- The Bal Spring[®] canted coil spring energizer provides near-constant force for optimal performance and long seal life; springs are available in many different materials and loads to accommodate good sealing and low frictional drag at various temperatures
- Filled PTFE seal materials with excellent wear resistance and chemical compatibility, as well as other high-temperature engineered polymer compounds to meet long-term application needs



High Temperature Dispensing Valve

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