Enertech Cartridge Valves

Curtiss-Wright Nuclear’s Enertech Cartridge Valves utilize an innovative design that incorporates the positive characteristics of ball, gate, plug, and high performance butterfly valves - without the typical drawbacks associated with these other valve types. Enertech Cartridge Valves allow for maximum flow with minimal pressure drop, while still being able to have a bubble-tight shut-off.

These single body valves features a top-entry cartridge that allows users to remove the entire trim from the body in one piece. This cartridge is paired with a patented rotary mechanical sealing technology that does not require seat springs or line pressure to seal, making it a simple and reliable tight shut-off valve. The valves can be designed for on-off and control applications for temperatures up to 850°F.

Both the Hemiwedge Cartridge Valve (HCV) and Ball Cartridge Valve (BCV) top-entry cartridge design enables quick trim replacements with ease. Because all of the internal parts are attached to the cartridge, maintenance is fast and simple. The agility of this valve cartridge design helps reduce radiation dosage, minimize costs associated with complex training programs, and reduce burden on maintenance departments.
Enertech Cartridge Valves are an innovative design that incorporates the positive features of ball, gate, and high performance valves resulting in a mechanically sealing, tight shut-off valve with a simple operation that provides outstanding performance. The valve design can be installed in a wide variety of nuclear power plant applications to provide safe and reliable operation in most environments.

Both the Hemiwedge Cartridge Valve (HCV) and Ball Cartridge Valve (BCV) do not rely on springs to create the sealing in the closed position. These valves seat via a positive mechanical load on the seat at the full closed position, providing a tight seal at both low and high pressures, regardless of differential pressure direction. They also have no seat pockets, making their internals resistant to corrosion and build-up.

The Hemiwedge Cartridge Valve (HCV) uses a spherical shell (HEMI) set around a stationary core to cut through the media stream like a gate valve, reducing the turbulence/cavitation normally experienced in ball valve designs while providing a more uniform/liquid flow of media flow. At full closure, a positive mechanical load is created between the HEMI and the seat, providing bubble-tight shutoff at both low and high pressures.

The Ball Cartridge Valve (BCV) uses several of the same mechanical sealing principles of the HCV, but utilizes a trunnion supported ball on a central fixed axis to achieve its seal. This unique sealing method allows for only (1) leakage path, making it well suited to higher pressure applications. The BCV is also well suited for standard block valve applications where the end user is in need of a reliable shut-off valve.

**Applications**
- Service Water Isolation and Flow Control
- Containment Isolation
- Steam Generator Blowdown Isolation
- Chemical Volume Control System
- Component Cooling Water
- Containment Purge/Vent Isolation
- Alt. Decay Heat Removal
- Radiation Waste
- Heater Drain Level Control
- Condensate Polishing
- Condensate/Feedwater Loop
- Raw Water Treatment
- Safety Injection

**HEMI Cartridge Valve (HCV)**
- Sizes: 2” to 12”
- ANSI 150 to 1,500 lb.
- Bubble-Tight Shutoff

**Ball Cartridge Valve (BCV)**
- Sizes: 2” to 12”
- ANSI 150 to 1,500 lb.
- Dual Mechanical Sealing