

DEPENDABILITY IN CRITICAL APPLICATIONS

The Caged Control Valve is ideal for abrasive applications with high solids concentrations and is commonly used in both throttling and on/off applications.

Caged valves have been used successfully in many critical applications in the following industries:

- Mining
- Pulp & Paper
- Chemical Processing

UREA SERVICE — A CAGED CONTROL SHOWCASE

An excellent example of the efficiency designed into a Cage Control Valve is its use in urea service. In combination with a side flush option as demonstrated in Double Block and Bleed Valves, the FluoroSeal® Cage Control Plug Valve can withstand frequent pressure drops and urea crystallization present in the fabrication of this chemical reactant.

Inherently corrosive and erosive, urea service requires a valve designed to protect its main seals from the attack of the urea flow and possible particulates. Not only does the Caged Control Valve achieve this, it also effectively prevents the valve from clogging and sticking.

DESIGN PROPERTIES

The design of the Caged Control Valve allows the plug to rotate freely around a fixed cage within the body. The cage is stationary in the body while the plug rotates, thus allowing the sealing area of the plug to be in direct contact with the sleeve to provide bubble-tight shutoff.

The cage stays in position protecting the polymer sleeve from erosion/abrasion while the plug is in any intermediate position such as when the valve is moving from the open to the closed position or when the valve is throttling.

- Maximum protection to the polymer sealing surfaces
- PTFE sleeve never directly exposed to the process flow
- Valve maintains its sealing integrity in abrasive applications

The cage has upper and lower graphite filled RTFE bearings that prevent galling between the plug and cage. A keyway keeps the cage from rotating in the body. This allows free movement of the plug around the cage.



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CAGED CONTROL PLUG VALVES

IN-LINE ADJUSTMENT

The Caged Control Valve still allows for in-line adjustment for through valve leakage just as a standard plug valve does since the plug and the cage are independent of each other.

The adjustment can be achieved through the standard three-point mechanical adjustment or using the state-of-the-art EZ-SEAL® (patent pending) Top Seal and Adjustment System, available on sizes 1/2" to 6" (DN15 to DN 150). The EZ-SEAL® features:

- Single point frontal adjustment — no special tooling needed
- 360° simultaneous and even compression of top seal and plug
- Plug adjustment is linear, impossible to side load
- Integrated Min/Max gauge offers a visual diagnostic of remaining service life and allows for easy maintenance planning



EZ-SEAL® (patent pending) Adjustment System with Bracket and Lock

MATERIAL SELECTION

The cage and plug in the Caged Control Valve are generally made from CD4MCu material, an abrasion resistant alloy with the corrosion resistance of 316 SS. Caged Control Valves are available in any material, from carbon steel and stainless steel to any of the more exotic alloys.

