Innovative valve design improves reactor uptime and plant profitability

RESULTS

- Improved reactor uptime by eliminating frequent valve failures
- Reduced maintenance labor and equipment costs
- Reduced replacement valves and spares inventory

APPLICATION

Magnesium Oxide and Silica catalyst isolation valves for a Butadiene reactor.

CUSTOMER

A major petrochemical producer in Europe.

CHALLENGE

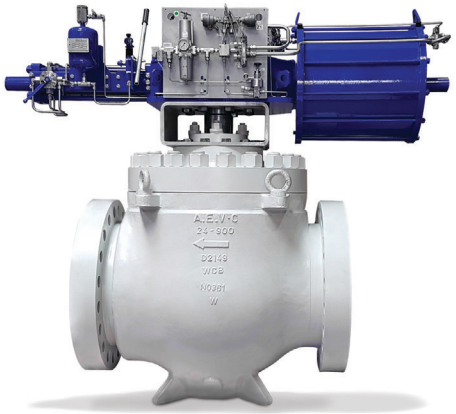
One major petrochemical producer had been working to improve the productivity of their 1,3 Butadiene production process which required the addition of Magnesium Oxide and Silica catalysts in the form of powder. A variety of ball valves had all failed in this application as the fine powder infiltrated the valve cavity to enter behind the floating seat and seize the valve. This was forcing a shutdown of the reactor every 6-8 weeks that had been straining productivity and elevating maintenance costs for years.

SOLUTION

Emerson's engineering team collaborated with the customer to propose a breakthrough technology now available through the latest Isolation Valves acquisition. The new AEV ²XC Severe Service C-Ball Valve features a revolutionary design with no cavity and a fixed seat. This design immediately solved the problem because without a cavity, there is absolutely no opportunity for powder to infiltrate behind the seat and cause the valve to seize. The valve also achieves a longer life with a double eccentric design that eliminates wear during rotation.

"We were being forced to shutdown the reactor every 6-8 weeks to replace seized valves."

Maintenance Manager
Major Petrochemical Producer



AEV™ ²XC™ Severe Service C-Ball Valve

AEV™

EMERSON™

SOLUTION - CONTINUED

The AEV™ 2XC™ Severe Service C-Ball Valve solved the recurring failure of traditional ball valves to eliminate the frequent reactor shutdowns and improve productivity. Additionally, the frequent labor and equipment maintenance costs associated with changing out the seized valves were eliminated. It was also no longer necessary to maintain a costly inventory of replacement valves and spare parts. Overall the adoption of Emerson's AEV C-Ball Valve technology has reduced the plant's valve asset investment while improving performance and profitability.

RESOURCES

AEV C-Ball Valves Overview Brochure
https://www.emerson.com/documents/automation/product-brochure-aev-c-ball-valves-overview-brochure-aev-en-en-5917220.pdf

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