

Valve components for extreme operating conditions

We offer ceramic components for ball valves, needle valves, spool valves, butterfly valves and other valves that are suitable for extreme service conditions.

These ceramic components have been specially developed to increase service life compared to conventional materials, especially in corrosive, abrasive and erosive environments.

By using our valve components in problem areas, you gain an advantage in the market.

- Superior against abrasion and wear
- Extreme corrosion resistance
- Exceptional resistance to oxidation
- High fire resistance
- low adhesions
- excellent sealing properties

Increased availability: Ceramics are practically unaffected by acids, bases, organic solvents and other corrosive liquids.

The hardness of ceramic is close to that of diamond.

Ceramics will typically outperform materials such as plastic, metal, cemented carbide and coatings in applications where corrosion, erosion, high temperatures, thermal cycling, high pressure differentials and cavitation are combined.

Reduced Costs: Valves with increased life can drastically reduce costs by eliminating downtime, reducing spare parts costs and maintenance costs.

All-ceramic valves can replace expensive solutions made of materials such as titanium, Hastelloy, Inconel, Monel, stainless steel or special plastics.

Improved Flow Control: The dimensional stability of ceramic components allows more precise flow control and improves process control.

Lower drive torques: The low coefficients of friction of ceramics in combination with the high lubricity and the low tendency to stick minimize the release forces and the drive torques of valves with ceramic components.

Reduced risk of fugitive emissions: Ceramic components retain their sealing properties longer than those made from conventional materials. Shorter replacement intervals reduce the potential risk of leaking process liquids and gases and their unwanted emission.

- Applications: limestone suspension
- Corrosive pulp and sludge
- high pressure steam
- Catalytic cracker residues
- Chloric, sulfuric and nitric acids

- aqua regia
- Sulfur-hydrogen mixtures
- flue gas
- fly ash

Currently, valve balls up to 300mm in diameter, plates and rings up to 600mm and cylinders up to 150mm in diameter are made of zirconium oxide, zirconium-reinforced aluminum oxide, silicon carbide and silicon nitride.

If your application requires larger components, we are more than willing to investigate the possibility of manufacturing them.

Consistent application of SPC and high quality standards ensures that you receive precise, defect-free ceramic components at competitive prices from us.

Our development engineers offer you support throughout the development cycle, including material selection, design assistance, assembly assistance and failure analysis if required.