



HYDROCYCLONES

CERAMIC HYDROCYCLONES

Hydrocyclones are vital to classification and separation operations in mineral processing, wastewater treatment, and chemical industries. They use centrifugal force to separate solid particles from liquid based on size and density. However, when processing abrasive slurries, standard hydrocyclones quickly succumb to wear, compromising efficiency and increasing downtime.

Ceramic hydrocyclones address this issue by incorporating wear-resistant ceramic materials into critical internal components such as the cone, apex (spigot), and vortex finder. These components are where the most aggressive wear occurs due to high-velocity particle flow.

MATERIAL DIVERSITY

[Zirconia Toughened Alumina \(ZTA\)](#) | [Yttria-Stabilized Zirconia \(YSZ\)](#) | [Alumina \(Al₂O₃\)](#)

These materials are manufactured through isostatic pressing, high-temperature sintering, and precision grinding, ensuring structural integrity, dimensional accuracy, and a long operational life.

INDUSTRIES SERVED

- Mining and Mineral Processing
- Rare Earth Element Recovery
- Coal Beneficiation and Desliming
- Chemical Processing
- Tailings Dewatering and Thickening
- Oil & Gas

APPLICATION

- Particle classification in grinding circuits
- Dewatering and thickening of slurry
- Desliming of fine particles
- Pre-concentration before flotation
- Sand and silt removal in industrial effluent

KEY ADVANTAGES

- **High Wear Resistance:** Withstands erosion from abrasive slurries for significantly longer service intervals.
- **Improved Process Efficiency:** Stable classification performance and sharper cut points.
- **Corrosion and Chemical Resistance:** Ideal for handling chemically aggressive slurries.
- **Reduced Downtime and Maintenance:** Fewer replacements and lower overall maintenance costs.
- **Custom Fit and Retrofitting:** Designed for seamless integration with OEM or existing cyclone bodies.

CONCLUSION

For operations where performance reliability and wear life are critical, ceramic hydrocyclones from CeramForge offer a technologically superior solution. By combining precision engineering with the mechanical robustness of advanced ceramics, we deliver equipment that ensures consistent separation with minimum maintenance. Upgrade your classification systems with CeramForge ceramics—designed for durability, built for performance.