



CHOKE BEAN

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A choke bean is a critical flow control component used in a choke manifold system—most commonly seen in oil and gas drilling operations. It restricts fluid flow using an orifice that can be changed or adjusted to control wellhead pressure and flow rate.

Ceramic Choke Beans are revolutionizing flow control systems by offering superior wear resistance, chemical stability, and longer service life, even under the harshest conditions.

At CeramForge, we manufacture precision-engineered ceramic choke beans designed for high-pressure and high-erosion applications. Our solutions are trusted in energy, mining, and slurry transport systems worldwide.

MATERIAL DIVERSITY

[HIPed Alumina Toughened Zirconia \(HIPed ATZ\)](#) | [HIPed Yttria Stabilized Zirconia \(HIPed YSZ\)](#) | [Tungsten Carbide](#)

These ceramics are isostatically pressed, CNC machined, and precision lapped to ensure tight dimensional tolerances, zero leakage, and exceptional sealing integrity.

APPLICATION

- Adjustable and fixed choke manifolds
- Drilling wellheads and completion trees
- High-pressure testing lines
- Slurry injection systems
- Fluid backpressure regulation
- Subsea and surface well control equipment

INDUSTRIES SERVED

- Oil & Gas Exploration and Production
- Mining and Mineral Processing
- Chemical & Petrochemical Plants
- Geothermal & Deepwell Drilling

KEY ADVANTAGES

- **Outstanding Wear Resistance:** With hardness above 1300 HV, ceramic beans can operate thousands of cycles longer than steel or carbide alternatives.
- **Corrosion Inertness:** Immune to aggressive fluids like brine, acids, CO₂, and H₂S—ideal for sour gas and deepwell operations.
- **High-Pressure Tolerance:** Withstands operating pressures exceeding 15,000 psi depending on design and housing compatibility.
- **Extended Service Life:** Fewer replacements mean reduced downtime, lower labor costs, and better operational uptime.
- **Stable Flow Characteristics:** Maintains consistent orifice dimensions even in abrasive slurry flows, ensuring accurate flow regulation.
- **Contamination-Free:** Ideal for applications where purity is critical and metallic contamination is unacceptable.

CONCLUSION

For critical flow control in abrasive, corrosive, and high-pressure applications, ceramic choke beans offer unmatched performance and durability. CeramForge's engineered ceramic solutions ensure longer operating life, consistent performance, and safer operations in some of the world's most challenging industrial environments.