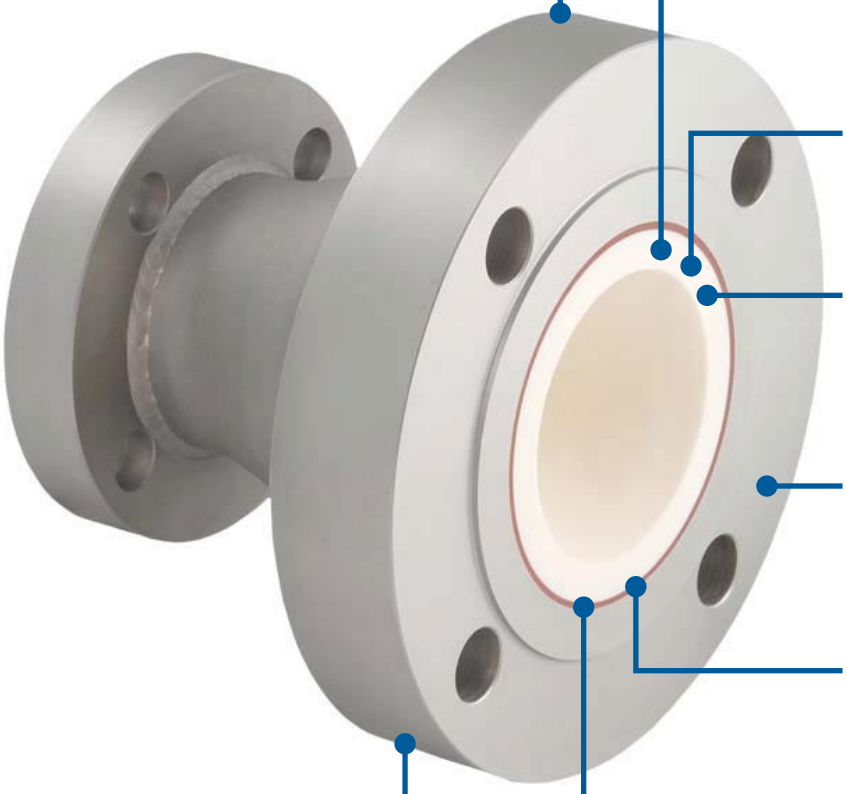
Ceramic-Lined Reducers

Ceresist concentric and eccentric reducers are extremely cost-effective wear-preventative items. Heavy wall thickness ceramics are installed to maximize service life, and are able to survive in the most aggressive and erosive services.



Engineer's Review

Our engineers review every application, cross-reference the process with our installation history and corrosion/wear charts, and will only recommend a ceramic material that is both cost-effective yet will yield years of wear-free service.

Technical Ceramics

Ceresist reducers are available with 99.5% or 99.8% purity alumina or sintered silicon carbide ceramics. These ceramics are extremely corrosion and wear resistant materials, and their preference is based upon the severity of the process.

Single-Piece, Solid Ceramic Lining

The ceramic linings in Ceresist reducers are made of single-piece solid ceramic inserts. There are no seams or fitted tiles, and therefore the possibility of media attacking and penetrating behind the ceramic is eliminated.

Heavy-Wall Ceramic

All reducers feature very heavy wall thickness ceramics that allows their use in the most severely erosive services. The standard wall thickness for most reducers is ½", which is more than 50 times the thickness of thermally-sprayed wear-resistant coatings.

Exterior Protection

Carbon steel fittings are sandblasted, degreased, and coated with a corrosion and abrasion resistant finish for added protection and longevity in harsh environments. Bare or coated stainless steel and other alloys are offered as well.

Minimal Transition

The ceramic OD and flange ID are tightly toleranced to minimize gaps and to keep epoxy exposure to an absolute minimum.

Perfect Matching

Our innovative manufacturing methods ensure a smooth, perfectly matched and level sealing surface without any length difference between the flange face and the ceramic lining, assuring zero leak-by.

ASME Conformance

All flanged fittings meet or exceed ASME B16.5 requirements for pressure-temperature ratings, materials, dimensions, tolerances, marking, and testing.

Ceresist

Applications

Uses for Ceramic-Lined Reducers

Before and After Pumps
Ceramic reducers will transition gracefully between the piping and pump, and offer very long service life when transporting slurries or abrasive fluids. Their use has also been very successful in services where cavitation is present.

Before and After Valves
It is sometimes more economical to install a down-sized valve in a particular piping system with the added benefit of improving flow control. Ceramic reducers offer protection from abrasive slurries both on the upstream side (ceramic reducers may be custom-machined to match the ID of any valve), as well as downstream (by preventing premature pipe wear).

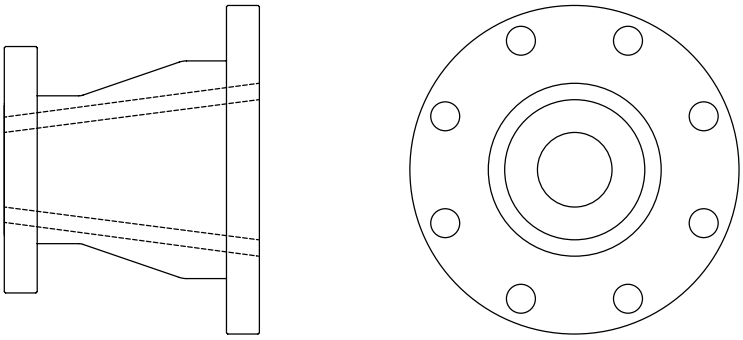
As Piping Transitions
When transitioning between flanges of different class ratings and wear protection is necessary, ceramic reducers are ideal.

Ceramic Materials

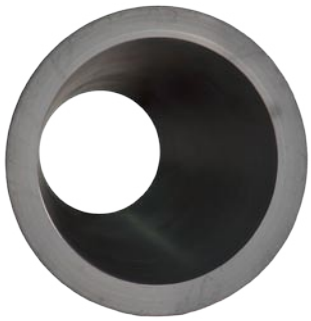
Both sintered silicon carbide as well as high-purity alumina will perform as reducer lining materials. Since the impingement angle is typically shallow, the life of the ceramic inserts has been found to be extremely long. Therefore the selection of alumina or sintered silicon carbide depends upon the erosiveness of the process as well as its corrosiveness.

Housing Materials

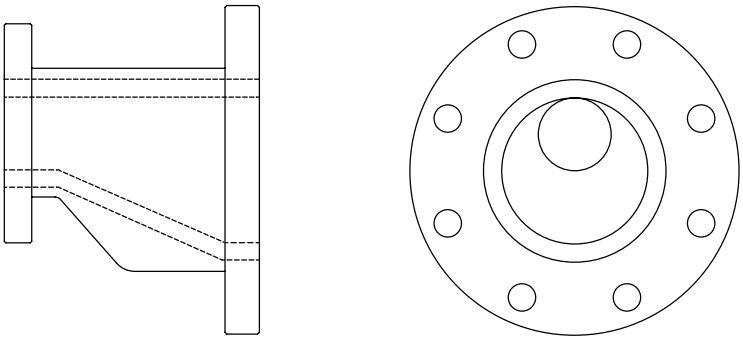
In addition to our standard carbon steel housing, stainless steel 316, 304, and other alloy or plastic housing materials may be supplied. Both mating surfaces are machined to a phonograph finish to ensure positive sealing. For added protection, a corrosion and abrasion–resistant epoxy coating may be applied to carbon steel housings to offer longevity in harsh environments.



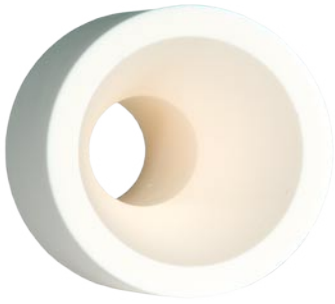
Concentric Reducer



Sintered Silicon Carbide Insert



Eccentric Reducer



Alumina Insert

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