CAVEX®
Hydrocyclones

Excellent
Minerals
Solutions

WEIR MINERALS

Polyurethane Cyclones for Mineral Processing

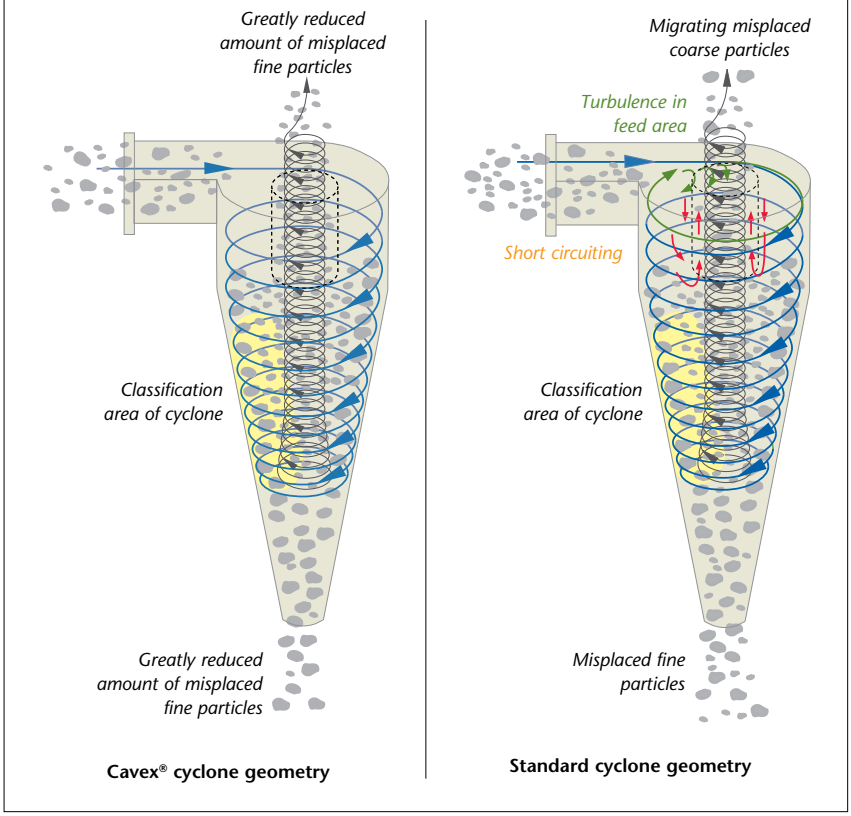
Unique design

It's all by design – Cavex® hydrocyclones feature a unique laminar spiral inlet geometry designed to deliver excellent efficiency and capacity, and longer wear life than conventional involute or tangential fed cyclone designs. Not just a cone modification, Cavex® hydrocyclones utilize an entirely new feed geometry that allows the slurry to follow a natural flow path within the cyclone. This results in a reduction of turbulence which in turn substantially increases hydraulic capacity while minimizing localized wear on the feed chamber and vortex finder. The unique shape of the Cavex® hydrocyclone has no sharp edges and no corners. These design improvements result in lower operating costs and fewer cyclones required for a given duty.

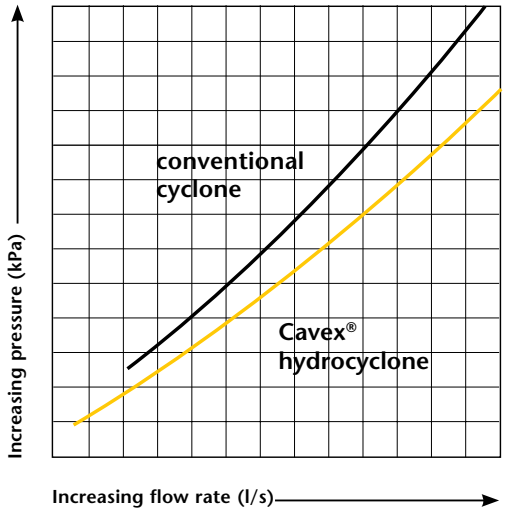
Higher separation efficiency

When turbulence is reduced, sorting efficiency is enhanced. As shown in the illustration, fewer misplaced fines report to the underflow and less grit reports to the overflow.

Classification efficiency: Cavex® cyclone vs standard cyclone



Flow rate vs pressure



Increased hydraulic capacity

As a result of less turbulence and a larger blending zone, material flows more freely through a Cavex® cyclone. The Cavex® design requires less energy to pass fluid at comparable inlet velocities than conventional cyclone designs.

Cavex® cyclone vs conventional cyclone design

Cavex®

A controlled feed stream blends progressively and smoothly so turbulence is reduced throughout the Cavex® cyclone

conventional cyclone

Liner failure in conventional cyclones is highly localized while major portions remain unworn

Longer wear life

Turbulence is also the cause of uneven wear in hydrocyclones. The revolutionary design of Cavex® cyclones helps reduce turbulence, resulting in improved wear life.

In conventional cyclones, slurry bursts into the cylinder with no flow control. The resulting turbulence is responsible for gouging the liner walls, leaving major portions of the liner unworn. Cavex® cyclones have been shown to deliver significantly longer wear life than conventional feed head liners in comparable applications.

Cavex® hydrocyclone features

- The Cavex® shape – providing excellent separation efficiency, hydraulic capacity, and feed chamber liner life
- Solid polyurethane construction
- Wide range of vortex finder sizes
- Variety of apex sizes available
- Victaulic overflow and feed connections

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