

Metso

MHC hydrocyclone

**Single
component
polyurethane
conical section**



MHC™ Hydrocyclone Single Component Polyurethane Conical Section

Metso's MHC hydrocyclone was meticulously designed to minimize the turbulence of flow within the cyclone. As a result, the interaction between the slurry feed and two product streams is seamless. CFD and DEM process simulations were first used to shape the ideal geometries, with testing across laboratory, pilot and full-scale operations since proving the design.

Improved wear life

The thickness of the polyurethane increases going down the cone, giving more material at the bottom near the apex where the wear rate is highest. This means the conical section will wear more evenly throughout its length. As a result, this enhances the life of the cone, and aligns some of the maintenance events between the cone and apex.

Metso also provides an option to include a ceramic sleeve poured with the polyurethane in the lower section/high wear zone of the cone, extending the life of the cone further.

The higher the wear life, the more time between change outs. This not only enhances hydrocyclone availability, but also reduces both change-outs and OPEX for the MHC hydrocyclone.

Benefits

- Reduced downtime
- Lower costs
- Increased energy savings
- Ease of installation and maintenance
- Improved product grade
- Higher classification efficiency
- Extended wear life
- Maximized performance





Improved production and increased wear life compared against previous hydrocyclone technology

Easier and faster maintenance

The single piece conical section design means there are only two sets of bolts to work with for maintenance tasks: one set at the top where the conical section connects to the head assembly and a second set at the bottom. This simple design leads to faster maintenance. There are less joints/boltings, as well as no housings to handle for assembling with liners.

The uniformly sized bolts are interchangeable and minimize the tools required for maintenance. With fewer parts which require replacing, this results in easier maintenance and ordering with lower inventory.

Improved efficiency

The MHC hydrocyclone conical section's concave shape accelerates the speed of particles flowing through the hydrocyclones, increasing centrifugal classification and promoting sharper separation of coarse particles from fine particles and water. The result is significantly reduced water and fines bypass to the underflow. With higher classification efficiency, downstream equipment can improve product grade and recovery.

Cost and energy savings

The MHC hydrocyclone's improved efficiency aids in cost savings as it reduces the quantity wear components, thus minimizing the amount of waste material handling and disposal. This can also lead to increased energy savings, as the circulating load in the grinding circuit will be reduced to process the same tonnage.

Exceptional material durability

The MHC hydrocyclone polyurethane design offers very favorable wear characteristics that out-perform rubber in similar applications.

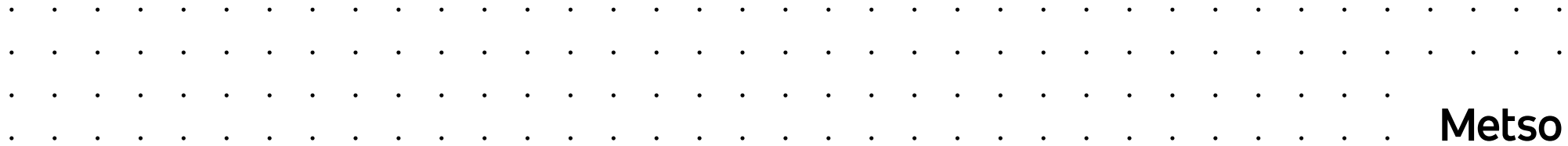
The polyurethane material of construction is specifically designed to handle the attrition wear most common in hydrocyclone operations while simultaneously providing the strength required to hold the conical section shape.



Unparalleled advantages proven to deliver maximized performance

Metso is a frontrunner in providing sustainable technologies, end-to-end solutions and services for the aggregates, minerals processing and metals refining industries globally. By helping our customers increase their productivity, improve their energy and water efficiency and environmental performance with our process and product expertise, we are the **partner for positive change**.

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