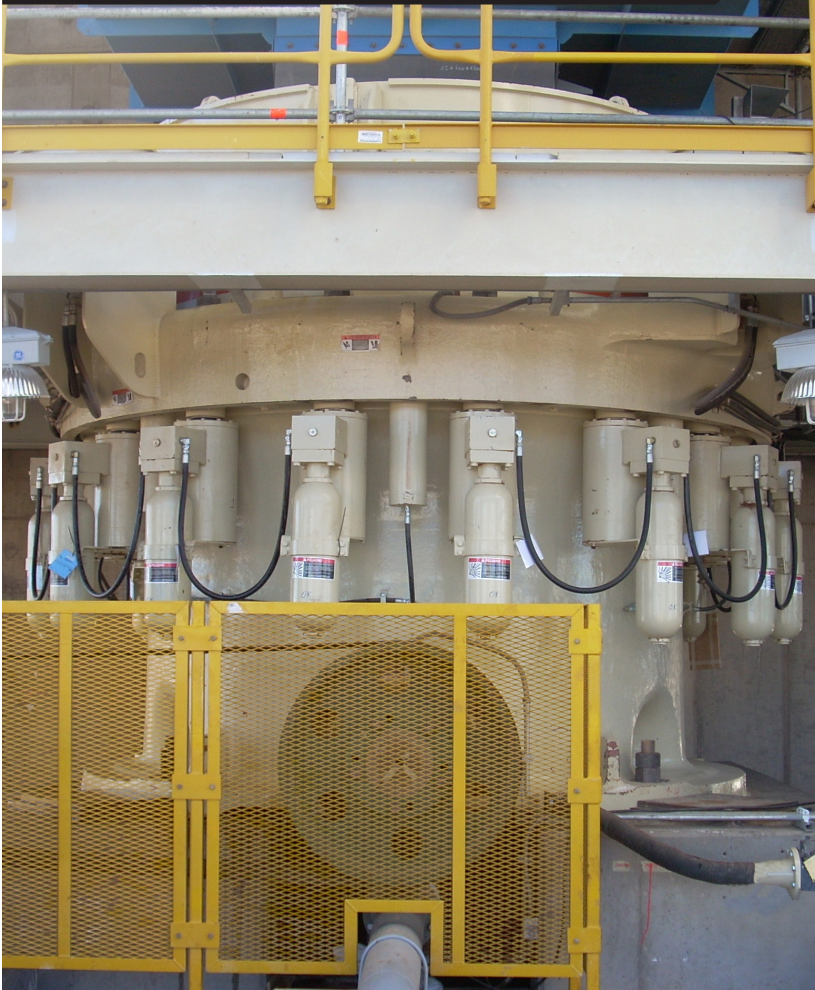


# Metso:Outotec

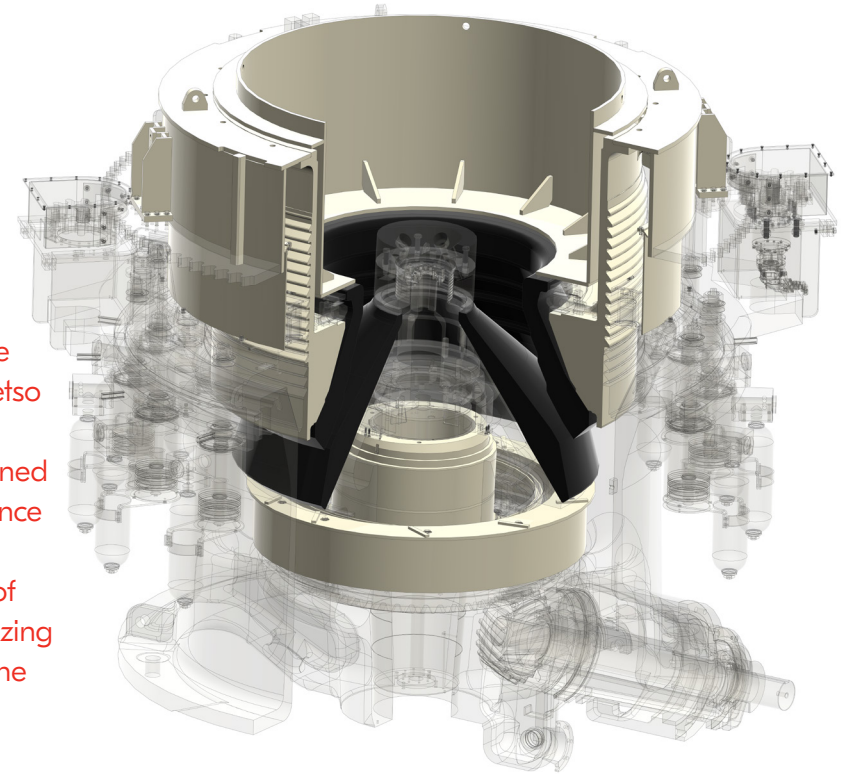
## MP maX liner crusher upgrade

Nordberg® MP1000™ cone crusher



A thicker liner means less changeouts and considerably less waste.

Selecting the right liner is critical for optimal cone crusher performance. Metso Outotec's MP maX liner crusher upgrade is designed to improve the performance of your MP crusher by reducing the frequency of liner changeouts, maximizing uptime and decreasing the total cost of ownership.



### MP maX liner vs. base liners

Base liner life (hrs.)	1500	1000	500
MP maX liner life (hrs.)	2250	1500	750
Added uptime per crusher (hrs.)	11	16	32
Reduced annual liner changes per crusher	1	2	4

\*8 hrs. downtime per liner change

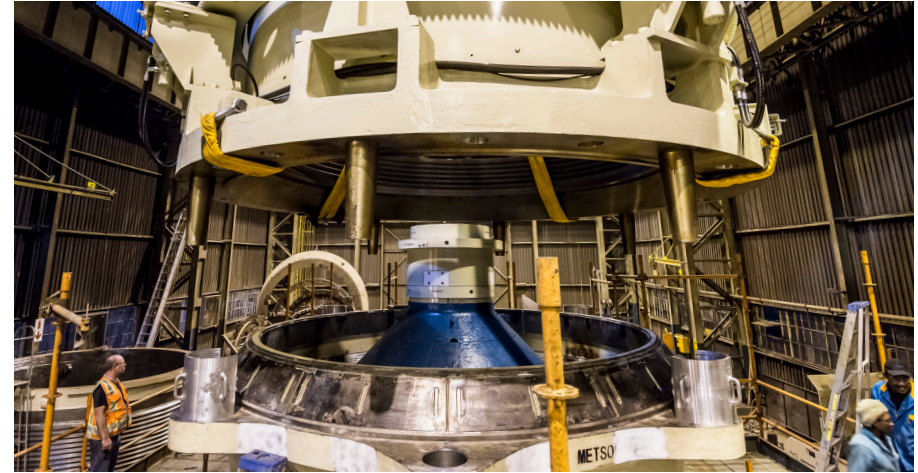
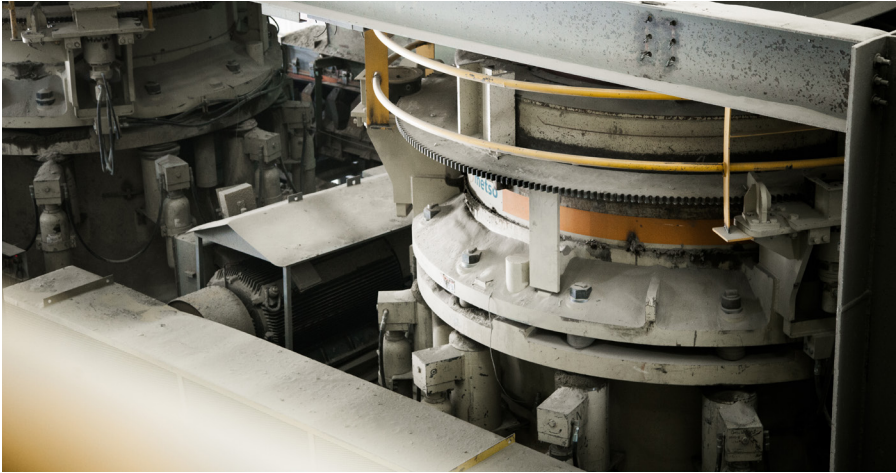
\*6000 hrs. per year crusher operation

\*Target 50% increased life

### Nordberg® MP1000™ cone crusher

- Allows for maximum thickness working wears (bowl liner and mantle) to be used
  - Maximum thickness liner meaning the thickest liner set possible before reduction of crushing chamber feed opening
- Considers additional unbalance forces created by thicker liners and counteracts through Metso Outotec patented counterweight technology
  - No adverse effects to crusher foundation
  - All bearing loads with extra weight taken into consideration

## MP maX liner crusher upgrade



### Features and Benefits

#### Safety and Sustainability

The MP maX liner crusher upgrade allows for the thickest liners possible for MP crushers custom designed by Metso Outotec. Applying thicker liners brings a great operational advantage with longer run times which means increased crusher uptime and less need for maintenance leading to less maintenance labor costs and improved safety.

Thicker liners contribute to an overall more sustainable operation due to generating less wear parts-related waste and less exposure to chemicals.

#### OEM design expertise

Metso Outotec crushing experts take all machine operational factors into consideration, like unbalanced force and bearing loads, and ensure that there are no adverse effects to the machine that would reduce machine life or machine reliability. Liners are incrementally custom designed in terms of the chamber profile and material to deliver the most productive wear part set with the longest life to your operation.

### General Parts Scope of Upgrade

#### Bowl

Additional threads added for more bowl travel due to thicker liners (possible retrofit repair of existing bowls)

#### Counterweight

Metso Outotec patented counterweight technology to counteract additional unbalanced forces with thicker mantle

#### Dust shell

Taller dust shell to accommodate more bowl travel

#### Bowl turning brackets

Taller brackets for adjustment driver gear due to more bowl travel

#### Adjustment cap

Taller adjustment cap for increased bowl travel (included if bowl ordered at the assembly level)

#### Bowl liner and mantle

Incrementally increased thickness and chamber profile to your application, designed by Metso Outotec's crushing experts

Read more at [www.mogroup.com/portfolio/cone-crusher-upgrades](http://www.mogroup.com/portfolio/cone-crusher-upgrades)