

Mining Technologies

# HPGR Pro – The next level in grinding



thyssenkrupp



# Join us on the next level of grinding performance!

For decades, our HPGR has been the machine of choice for efficient high-pressure grinding and processing of ores. The new thyssenkrupp HPGR Pro takes grinding to the next level through new and operationally advantageous features. As a result, you can enjoy higher throughput, even better product quality and much lower production costs.

## Get fit for the future with the new thyssenkrupp HPGR Pro!



### More economical than ever

Lower costs through approx. 15% energy savings, less wear and tear, and up to 30% longer-lasting rolls.



### More efficient than ever

The best possible grinding outcome with up to 20% more throughput thanks to optimized material feed and reduced wear and tear.



### More reliable than ever

Higher machine availability through increased transparency on roller status and predictive maintenance combined with fast, professional service at any location worldwide.



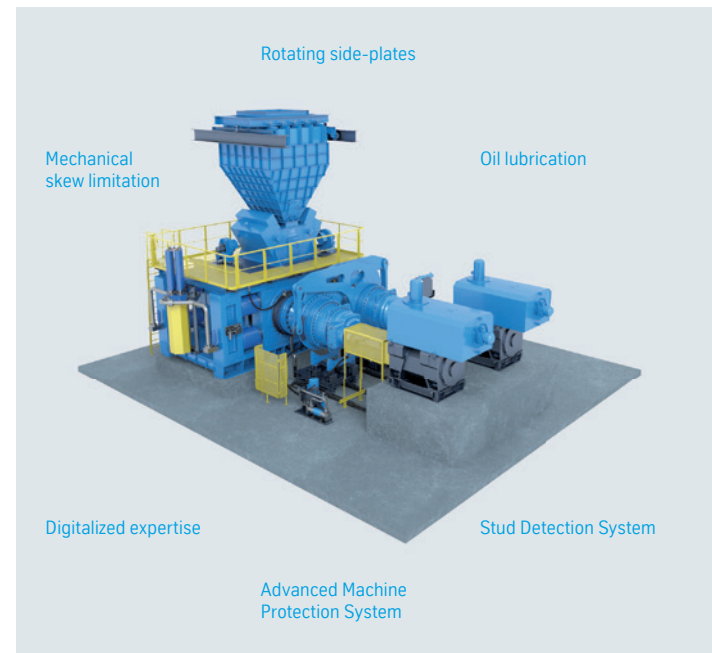
### More high-end than ever

State-of-the-art sensor technology and data analysis for greater transparency and ongoing optimization resulting in an even better performance and higher productivity through continual roller monitoring while the machine is operating.

# Upgrade your HPGR to the next level!

## Want to optimize your HPGR?

You can rely on our full support in equipping your existing machine with the latest technical features from the HPGR Pro and making your machine fit for the future. Through our network of service centers and specialists we will be there to help you anywhere in the world.



Just get in touch and we will be glad to advise you!

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Up to **20%**  
more throughput plus  
better product quality

Up to **15%**  
energy savings (kWh/t)

Up to **30%**  
longer-lasting rolls



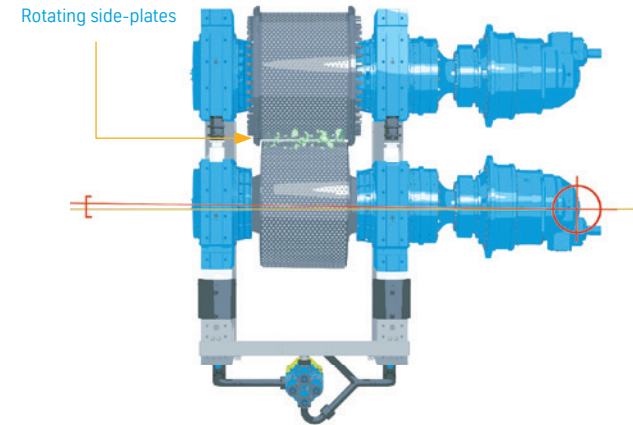
## Rotating side-plates for more throughput

More throughput from the same-sized machine: the thyssenkrupp HPGR Pro makes that possible. The rotating side-plates on the fixed grinding rolls enable improved material feed and up to 20% more throughput than conventional HPGRs. What's more, the machine's specific energy consumption is reduced by around 15%.

At the same time, the uniform pressure profile in the milling gap results in better grinding and more even roller wear. This prolongs the service life of the rolls by up to 30%. Through reducing the so-called bathtub effect the rolls need to be replaced less frequently – and your HPGR Pro will run longer with fewer downtimes.

## Controlled mechanical skew limitation for greater safety

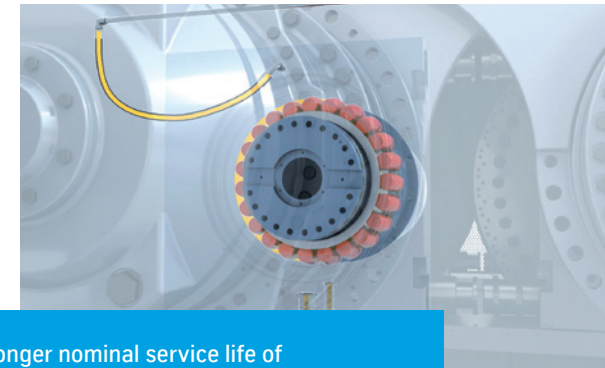
A certain amount of roller skew is beneficial because it ensures uniform grinding. The new and unique controlled mechanical skew limitation in the HPGR Pro allows skew but prevents excessive skew. Damage, which might be caused by excessive skew, is therefore prevented, even in case of an emergency or operational error. This makes the operation safer and avoids unscheduled downtimes.



➞ Maximum machine availability –  
even in case of an emergency or  
operational error

➞ Greater safety and fewer downtimes

➞ Improved product quality



➞ Longer nominal service life of  
the rolls as per ISO 281

➞ Reduced environmental impact

➞ Lower OPEX costs through  
reduced lubricant consumption



## Oil lubrication for increased availability

The HPGR Pro rolls are lubricated with oil and not grease. This prevents too high temperatures occurring during higher machine usage and supports easier cleaning. Optimized bearing seals, oil quality monitoring, and continual filtering also reduce contamination and the environmental impact. Besides, continual filtering allows the oil to be used longer.

## Digitalized expertise for continual optimization

### Unique Stud Detection System

The availability of the HPGR Pro is increased even further through our unique stud detection system. While the machine is operating, the surface of the rolls is automatically monitored and measured by a laser – so you are constantly informed about the state of the studs and the rolls. In this way, the stud detection system can predict the best possible time for roller replacement. And you no longer need to stop the machine as a precautionary measure, which saves you valuable time and money.

### Continual optimization via data analysis

Modern sensor technology and the Advanced Machine Protection System based on our specialist expertise enables the HPGR Pro to automatically run at the optimum operating point. This prevents overloading and vibrations, as well as ensuring optimized output.

What's more, as our specialists collect and process machine data, you can continually improve your HPGR Pro's operation and optimize throughput, energy consumption or machine availability in line with your specific targets. This transparency enables fast diagnosis and root cause analysis.

➞ Reporting and consulting services

➞ Predictive maintenance planning

➞ Optimum operating point with  
optimized output



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