

KREBS®

PUMPS, CYCLONES AND VALVES

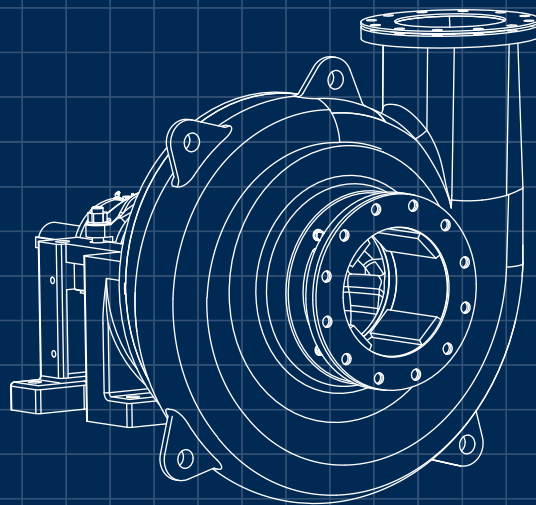
millMAX-e™ pump

Advanced slurry
pump technology



Advanced slurry pump technology

It is becoming increasingly important for mining operations to reduce power consumption, while maintaining wear life. Our millMAX-e pump optimizes wear life and saves in both power and total cost for applications throughout the plant.



Key benefits

- Even and predictable wear life for wet end parts

- Optimized space utilization

- Increased efficiency

- Reduced capital cost

- Easy maintenance

Revolutionizing slurry pump efficiency

millMAX-e™ pumps

Like all the pumps in the KREBS® family, the millMAX-e™ pump includes our proprietary suction side sealing system - the wear ring. Our unique design solves both the grinding and recirculation problems within the pump by maintaining clearances between the impeller and the suction side. By maintaining the design performance without increasing the speed, the wear ring feature extends the life of all wet end parts and reduces power consumption.

Even and predictable wear life for wet end parts

With predictable wear life, millMAX-e pumps match your maintenance cycle to provide less downtime, lower inventory requirements and fewer maintenance shutdowns.

Optimized space utilization

We understand the challenges of space constraints when designing a pumping system. We also know that the answer for the most cost efficient, space saving design isn't always your average heavy-duty split-case pump. The answer is our millMAX-e slurry pump that optimizes space utilization with its unlined, compact design.

Reduced capital cost

The decreased total weight of the unlined wet end design and innovative internal components combine to reduce capital and replacement part costs. The hydraulically advanced impeller and overall efficient design often allow you to downsize your motor, which serves to further minimize costs.

Increased efficiency

The millMAX-e features tight clearances between the impeller and casing to limit recirculation and significantly increase efficiency. Because the millMAX-e maintains a constant flow and pressure and does not grind particles, it naturally lasts longer and consumes less power. Additionally, because the power frame utilizes the same bearing and shaft components as the equivalent millMAX™ power frames, the millMAX-e can handle applications requiring high speed and power.

Easy maintenance

The millMAX-e has an optimized unlined wet end design that allows for easy maintenance. The addition of the patented KREBS Pump Belt Tensioning system allows users to quickly change out v-belts without having to realign the sheaves.

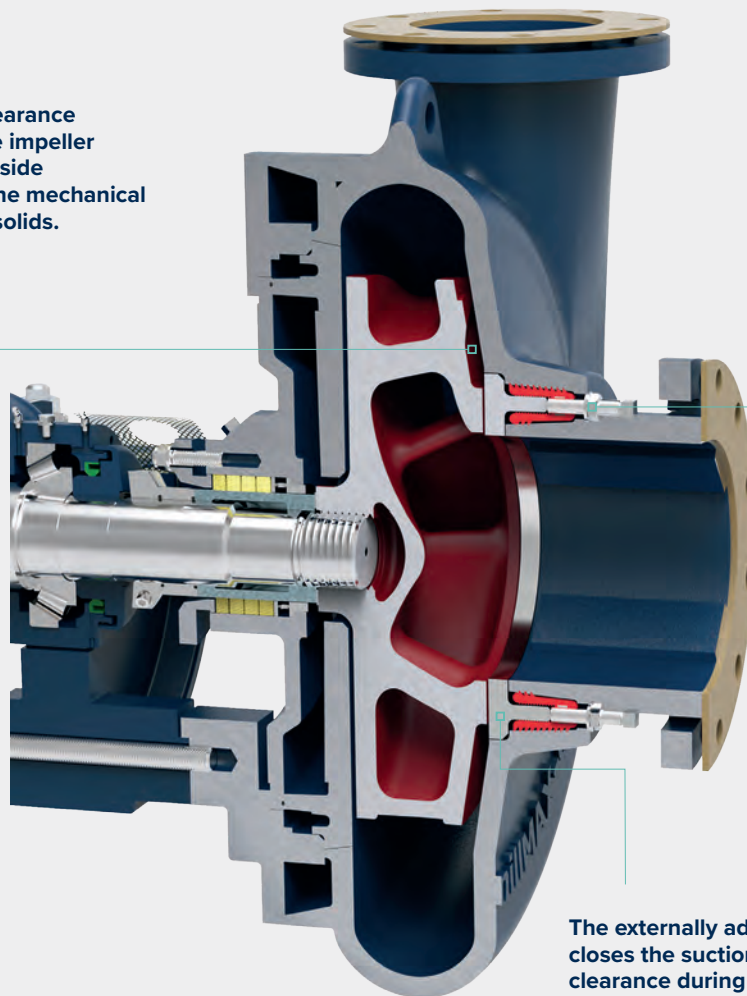
Side By Side Comparison of the 8x6-24 millMAX to the 8x6-20 millMAX-e



Optimised millMAX™ design for highest efficiency

We have optimised the millMAX™ design to bring increased wear life and higher efficiency to your plant processing application with our millMAX-e slurry pump.

The wide clearance between the impeller and suction side eliminates the mechanical grinding of solids.



The adjusting screw lock nut compresses the wear ring carrier to provide a seal to atmosphere and lock the jacking screw in place.

The externally adjustable wear ring closes the suction-side impeller clearance during operation to reduce recirculation and maintain hydraulic performance.

The millMAX-e design includes the following:

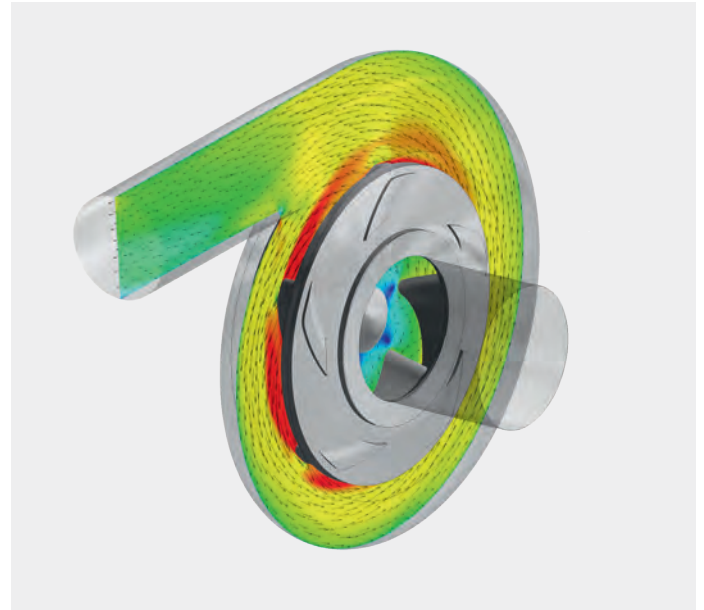
Externally adjustable wear ring: Closes the suction-side impeller clearance during operation. This reduces recirculation, while still allowing for a large gap between the impeller and suction liner which eliminates the grinding of solids.

High efficiency impeller: We used computational fluid to create the most efficient impeller in its class. See image on right.

Reverse-taper roller bearings: Designed to increase the effective load span and improve life. The pumping action of the taper rollers discharges grease to the outside, preventing ingress of slurry and eliminating possibility of failure due to over-greasing.

Adjusting screw lock nut: Compresses the wear ring carrier to provide an atmospheric seal and locks the jacking screw in place.

Design and material options: Heavy-duty thick outer casing available in a range of erosion and corrosion resistant alloys.



CFD Predictions of the Velocity Field



The most efficient slurry pump in its class

millMAX-e™ size range

| Imperial units (in) | Metric units (mm) |
|------------------------|----------------------|
| 2 x 1.5 | 50 x 40 |
| 3 x 2 | 80 x 50 |
| 4 x 3 | 100 x 80 |
| 6 x 4 | 150 x 100 |
| 8 x 6 | 200 x 150 |
| 10 x 8 | 250 x 200 |
| 12 x 10 | 300 x 250 |
| 14 x 12 | 350 x 300 |
| 16 x 14 | 400 x 350 |

Ideal for applications in

- Mineral sands
- Alumina
- Solvent extraction
- Dilute media
- Gland water
- Fine coal
- All thickener overflow and tailings return water
- Other high efficiency applications



Pump Sealing Options:

- Water flush
- Centrifugal (expeller)
- Mechanical

Easy Maintenance & Design Options:

- Belt Tensioning System
- Explosion Protection System
- Back Pullout Slide Base

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We deliver reliability and slurry to your process

Our knife gate slurry valves are designed for the most demanding high pressure applications

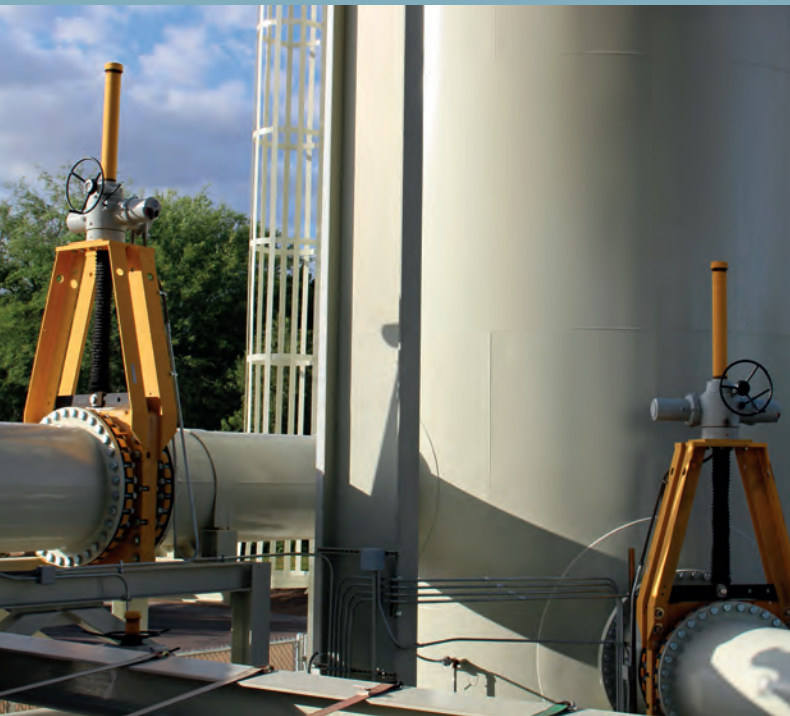
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With KREBS® Cyclones it is easy to see what you have been missing

Finer, sharper particle separations at high capacities

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Bringing better solutions to light

in the cement and mining industries

The future is full of possibilities and you are leading the way. But it's never a straight journey and it's easy to lose sight of true potential. With an ally by your side, who shares your ambitions and who sees your world from different angles, we will find the right way together.

For more than 135 years, we have challenged conventions and explored opportunities. Across more than 50 countries, we are 13,000 employees who combine our unique process-knowledge on projects, products and services to drive success. We develop the most advanced technology in our industries and offer market-leading product and service ranges.

Rooted in Danish values, we activate our knowledge and experience to navigate your complexity and bring better solutions to light. So no matter where in the world you are, we are here to help you discover new ground and achieve sustainable productivity enhancement.

We are the market-leading supplier of engineering, equipment and service solutions to customers in the global mining and cement industries.

We discover potential.

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