



Product datasheet

Thickener Spiral Rake Blade: the optimal design

Developed for high performance, the patented Spiral Rake Blade solves common issues with thickeners related to raking capacity, energy consumption and water reclamation.

As the need for better tailings management increases, so does the demand for large-capacity dewatering equipment. Our cutting-edge spiral rake blade design plays an important role in managing underflow densities, which directly affect the thickener efficiency.

Benefits

- Better underflow density on high-tonnage thickeners.
- Improved mud bed residence time distribution from increased raking capacity.
- Reduced water loss, leading to increased water recycling.
- Lower torque requirements – resulting in lower energy consumption.
- Maximise TSF storage capacity.



Thickeners not only help to create a more sustainable site by producing reusable process water, they also minimise the environmental impact and safety risks associated with multiple or large settling ponds.

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The answer to raking capacities on high-tonnage thickeners

A common challenge with traditional thickener rakes is their inability to move mud evenly to the outlet. Uneven distribution causes lower-viscosity material to flow out too quickly, also known as ratholing.

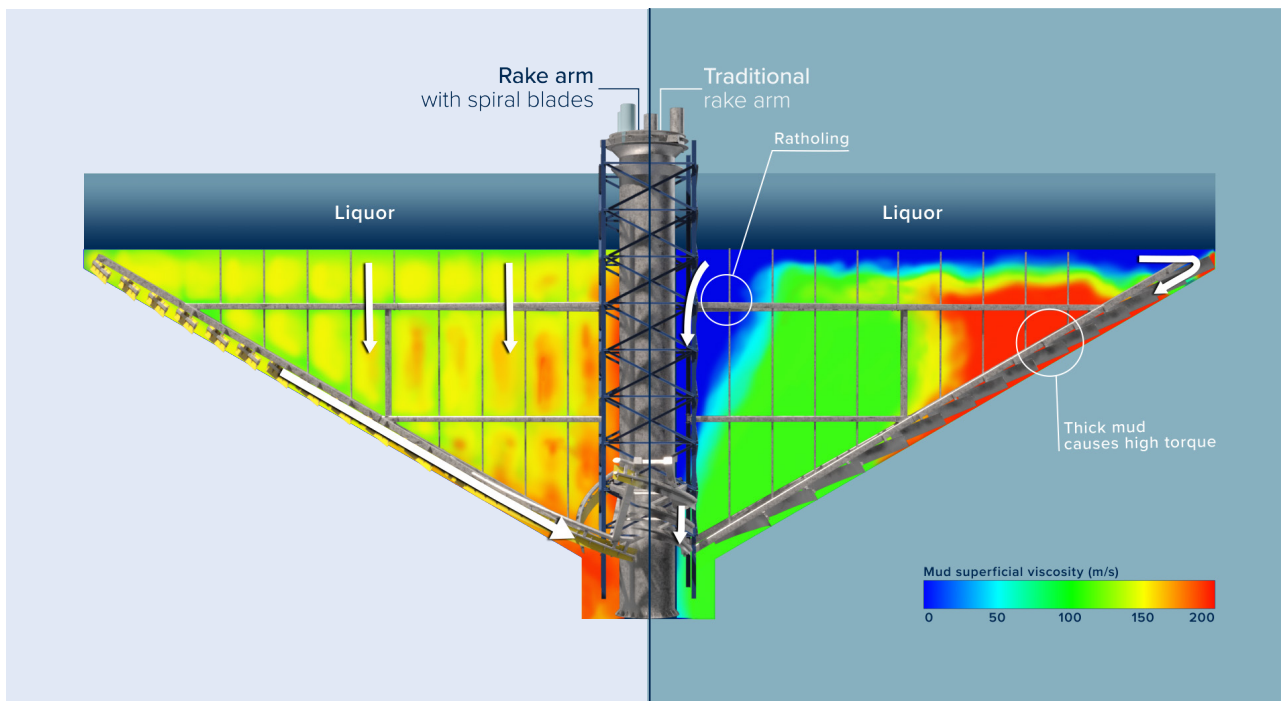
Better distribution = better performance

The spiral inner blade (shown on the left, above) improves mud bed residence time distribution by cutting off short circuiting and eliminating dead zones. The spiral design steadily pulls more material along the floor, so mud bed distribution is much more even, effectively eliminating the ratholing effect.

In high-tonnage applications, traditional rakes (shown right) do not provide enough raking capacity to move mud evenly to the outlet. Instead, the low-density material ratholes, flowing directly toward the outlet without optimal time in the thickener.

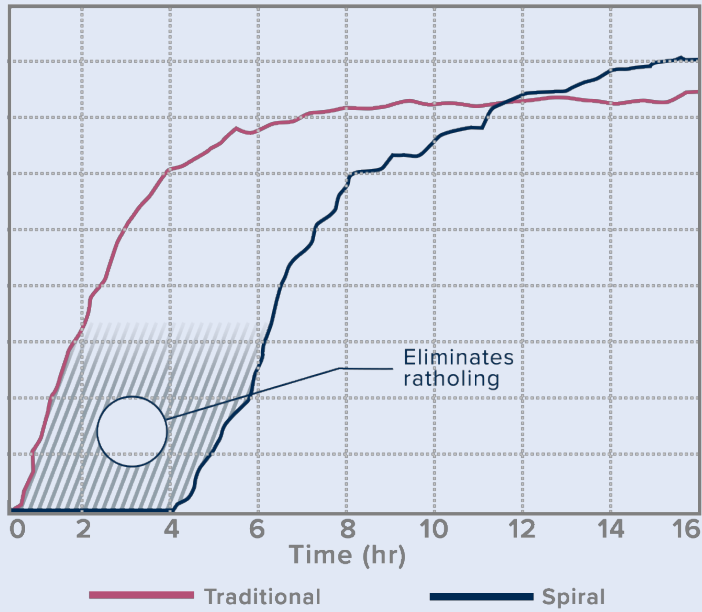
The spiral rake blade produces a denser material in the thickener. With less water lost in the tailings, it allows more water to be recycled back into the plant.

This innovation has a side benefit of dramatically reducing the torque requirements – leading to reduced energy consumption, easier operation and longer component life.



- Increased raking capacity
- Reduced ratholing
- Improved mud bed residence time

Time taken for particles to reach outlet



The spiral rake blade achieves a longer and more even mud bed residence time, as well as overall higher underflow density, as compared to a traditional rake arm. A longer residence time is better for proper underflow thickening and improved overflow.

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