



MINIMIZES TOTAL COST OF OWNERSHIP



ERIEZ FLOTATION IMPROVES TOTAL COST OF OWNERSHIP

with an Evolutionary Change in Flotation
Equipment Design

The Eriez **StackCell™** mechanical flotation machine uses a separate, high-energy bubble-particle contacting zone de-coupled from a larger chamber for froth/pulp phase separation. This provides an overall reduction in capital and installation costs due to a significantly smaller equipment footprint and lighter support loads when compared to conventional flotation machines. The smaller layout equates to an overall smaller plant which results in lower costs for building and site preparation.

StackCell™ improves concentrators' EBITA through optimized flotation performance. This mechanical flotation cell is designed to focus energy to enhance fine particle recovery and improve flotation kinetics. The StackCell's high throughput technology reduces the needed volumetric capacity per cell by nearly **80%** while maintaining metallurgical integrity treating the same volume as a conventional flotation circuit.

StackCell Advantages

- **Superior Flotation Kinetics** – Lower capital and installation cost
- **Energy Savings** – Focused on kinetics, not wasted on mixing the slurry
- **Efficient Froth Washing Option** – Higher concentrate grades
- **Lower Residence Time/Higher Throughput** – Increased revenue

StackCell's Economic Benefits

35-40% Less Power Consumption

60-70% Reduction in Plant Loading

20-30% Savings in Installed Costs



ERIEZ STACKCELL TECHNOLOGY

Maximize Metallurgical Performance and Minimize Total Cost of Ownership

The StackCell™ is a two-stage mechanical flotation cell. The equipment de-couples the particle collection chamber within the tank from the phase separation process. The particle collection chamber focuses energy to maximize bubble - particle collisions and minimize energy transfer into the separation chamber. Reduced energy in the separation chamber results in less mixing and increased concentrate grade. This approach creates a significant reduction in residence time and allows energy input to be used solely for gas dispersion and bubble-particle attachment-not inefficient mixing as with other conventional cells.

StackCell Improves Kinetics

The StackCell has proven to have kinetic rates five times faster than the conventional flotation cells and twice as fast as laboratory scale units.

Capital and Installation Cost Savings

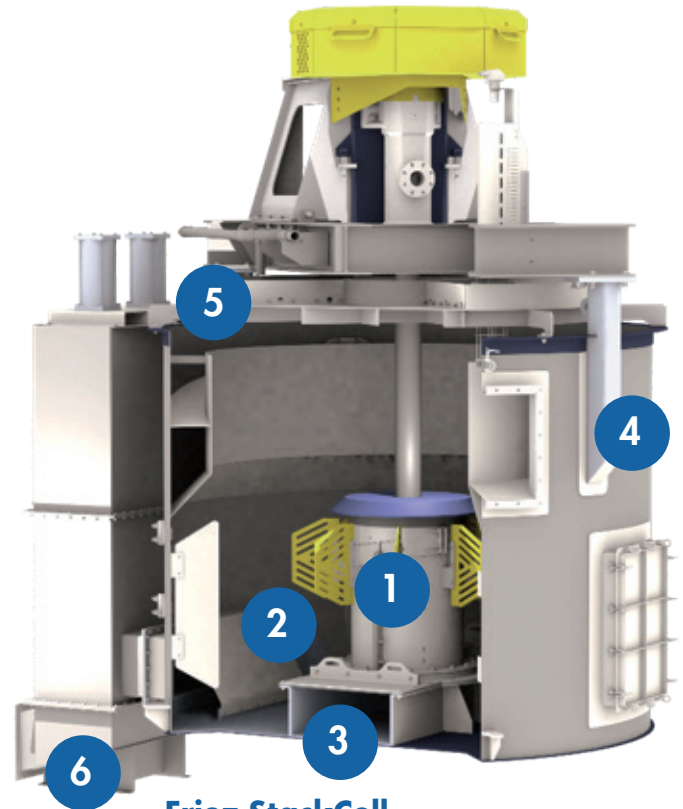
Improved flotation kinetics means less flotation volume is required to process an equal amount of tons. The smaller volume offered by the StackCell™ two-stage technology results in a more compact layout with lighter loads which reduces structural steel, foundation loads and piping costs. When compared to a conventional circuit, this results in a 35% reduction in row length and an installation envelope 50% less than a conventional rougher circuit. Foundation loading is reduced by more than 70% of a conventional rougher circuit.

Reduced Operational and Maintenance Costs

Energy input to the system is focused on shearing air to generate bubble surface area while maximizing bubble-particle attachment. Total air requirement is approximately 30% less than that of a comparable conventional circuit. Power is not wasted on unnecessary slurry mixing. Other costs such as ventilation, heating and cooling will also scale down with the reduced building envelope.

Decreased Water Usage

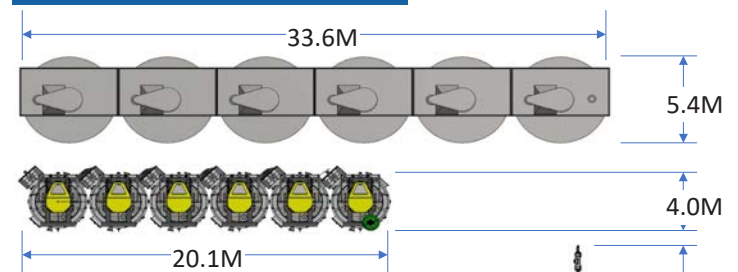
Wash water is not wasted on froth mobility. It is only required when improved concentrate grade benefits the plants revenue stream.



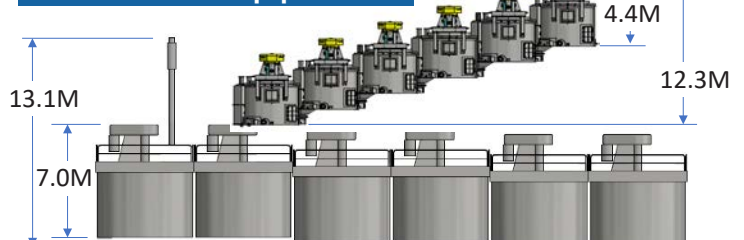
Eriez StackCell

1. Collection Chamber
2. Separation Chamber
3. Feed Inlet
4. Froth
5. Wash Water System
6. Tailings Discharge

Current Mechanical Flotation Cell



StackCell Flotation Equipment





ERIEZ FLOTATION – WORLD LEADER IN ADVANCED FLOTATION TECHNOLOGIES

Customer-Focused Service Spanning the World of Minerals

The Eriez Flotation Division is focused on addressing specialty flotation applications through innovative technology and expert support.

Eriez Flotation is committed to providing state-of-the-art equipment and process solutions for new and existing projects worldwide. We understand and quickly respond to the needs of our clients. Our versatility is demonstrated by the diversity of our engineering services and the varying sizes of projects we have successfully completed around the world.

Our test lab facilities in Erie, Pennsylvania, USA are available to demonstrate and pilot solutions based on your unique needs.

Contact the nearest Eriez Flotation office for technical support or design engineering to suit your specific application.



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