

## OptimEXT™: Maximizing metal and phosphoric acid recovery rates



### Streamlined extraction process to boost safety, purity and recovery rates while minimizing ownership costs.

Traditional hydrometallurgical processes for metal extraction and recovery—such as rare earth, lithium extraction, and battery recycling—rely on a series of robust but sub-optimal mixer-settlers. Extraction plants equipped with mixer-settlers often suffer from poor separation efficiency, high solvent consumption, and solvent leakage. This leads to significant metal losses, elevated operating costs, and serious environmental concerns. Additionally, large plant footprints drive up CAPEX and limits flexibility for future plant upgrades or capacity expansions.

OptimEXT™ addresses all these challenges with a fully enclosed design based on Sulzer's high-performance Kühni™ columns. This setup reduces solvent losses and harmful VOC emissions, significantly lowering fire risks and ensuring a cleaner and safer working environment.

Engineered for superior efficiency, OptimEXT™ maximizes metal recovery rates at the highest selectivity and purity. Its compact design lowers both CAPEX and OPEX by minimizing solvent usage, inventory, and space requirements, enabling cost-effective recovery of various metals.

### Proven successes and applications:

- Lithium extraction from brine
- Lithium recovery from battery
- Nickel and Cobalt recovery from battery
- Rare earth purification
- Phosphoric acid purification

How can we help you?  
Contact us today to find  
your best solution.

[OptimEXT@sulzer.com](mailto:OptimEXT@sulzer.com)

### Benefits of OptimEXT™

**Highest efficiency:** up to 30 theoretical stages in one column and up to 70% less solvent required.

**Maximized product purity:** Up to 99% selectivity and recovery rates of valuable metals with performance guarantee backed by pilot test and engineering expertise.

**Substantial decrease in net working capital:** Up to 90% less inventory needed through reduced solvent and metal hold-up compared to mixer settlers.

**Optimized CAPEX:** Up to 60% less footprint required thanks to a compact design - ideal for tight plant layouts.

**Safe & clean Operation:** Sealed design engineered to minimize solvent losses, VOC emissions, and fire risks.

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