

Metso:Outotec

Unrivalled leader in recoveries

Electrowinning



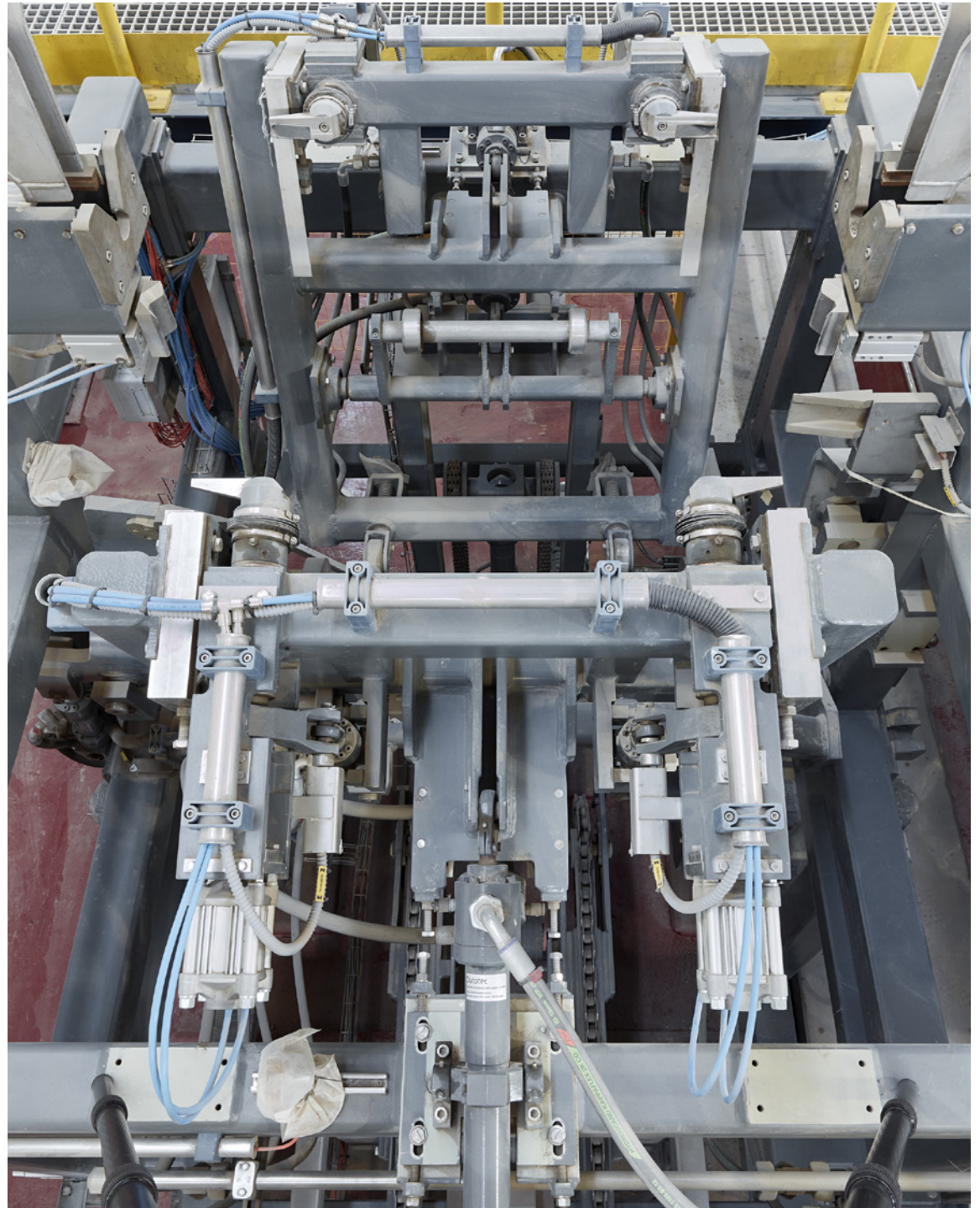
The Electrowinning process

Electrowinning is a process used to recover metals from concentrated solutions by applying a voltage across electrodes immersed in a concentrated solution. Electrowinning is commonly used to recover base metals such as copper, zinc, nickel, and cobalt.



Metso Outotec electrowinning capabilities

Metso Outotec's premier and well-known electrowinning technology with an impressive range of equipment package is especially designed for high performance and producing sustainable, cost-efficient & high-grade cathode. Our offering for copper and zinc electrowinning tankhouses comprises pre-engineered solutions, key equipment, and services to ensure superior process performance, increased safety, and minimized environmental impact.

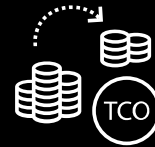




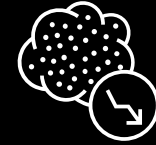
Production of high purity cathode



Improved occupational and environmental health and safety



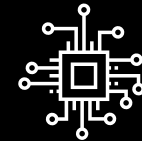
Lower total cost of ownership through high quality design and manufacturing



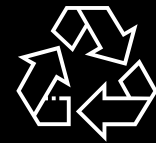
Low emissions into air



Minimized cathode replacement costs



High automation & digitalization



All waste recycled back to smelter



Global service network support



Industry's most comprehensive scope of supply

Metso Outotec is the right partner for building an efficient, productive, and safe electrowinning plant with optimized cathode and cell sizes, current densities, busbars, and an automatic material flow of cathodes. We offer full technology and equipment package with proprietary of whole electrowinning flowsheet.

Core

- Metso Outotec® Permanent Cathode
- Metso Outotec's cell and anode designs
- DoubleContact™ busbar system
- Robotic Cathode Stripping Machine
- Metso Outotec® Tankhouse Cranes
- Acid mist capturing system with cell hoods
- Cooling towers for zinc

Enablers

- CellSense™ cell voltage monitoring
- Proscon process control system
- CathodeSense
- Main Busbar systems
- TIMS
- IR camera short circuit detection

Services

- Spares
- Startup
- Audits
- Flowsheet development and studies
- Pilot testing
- Modernizations
- Technical services

Why choose Metso Outotec Electrowinning process

Metso Outotec continuous research and development work on tankhouse equipment and processes, as well as our own production experience, have led to a range of impressive new technology developments, specially designed for high performance and cost-efficient cathode production.

Premier technology

Well known and proven technology for producing high-grade cathodes from copper sulfate solutions received from solvent extraction

Extensive portfolio

One-stop-shop for electrowinning plant deliveries with proprietary and key equipment

Sustainability

Minimized emissions and maintenance cost





Maximizing ROI at Grupo México's Buenavista ESDE III plant

Promising results

Metso Outotec's leading-edge SX-EW technology is helping to maximize return on investment at the world's largest SX facility, Grupo México's ESDE III copper SX-EW (solvent extraction-electrowinning) plant in Buenavista, Mexico.

Challenge

- Due to metal content of the PLS, it was important to select the technology that would minimize mechanical & chemical entrainment of PLS in organic phase, to keep control of electrolyte quality

Solution

- SX-EW plant was redesigned to include one additional SX train to feed the required amount of copper to the EW tankhouse
- Metso Outotec team was also involved in detailed engineering and finally in construction and start-up of the entire plant

Results

- Maximized ROI resulting from low CAPEX and OPEX, and high plant availability
- Optimized plant ergonomics for safe, comfortable working conditions
- Short project lead time with equipment readily available

