



Material Handling Helps Build a Sustainable Energy Future

Discharging System Accelerates Fossil Fuel Reduction Through Battery Recycling

As the world increasingly swaps fossil fuel power for emissions-free electrification, batteries are becoming a vital tool to facilitate this energy transition. According to *Reuters*, it is projected that global demand for lithium-ion batteries – mainly used in electric vehicles or EVs – will increase over 500% by 2030.

To drive down the environmental and economic costs of electric vehicles, one U.S.-based company is a key contributor to the circular supply chain – extracting battery materials for recycling and reuse. Due to the nature of battery recycling processes, the company needed a bulk material handling partner that understood the critical specifications for this unique application.

They turned to Material Transfer for its expertise and ability to design a complete system that could offload large volumes of battery materials to prepare for the recycling process.

Designing an Automated Container Discharger System

Material Transfer's product visionaries began by evaluating the unique specifications of the materials that will be broken down, recovered and reused. **MTS' goal: to design a fully automated system that accepts full boxes of battery materials, lifts and discharges the contents and transfers the empty boxes to a powered discharge conveyor.**

A battery contains toxic chemicals that need to be contained to maintain a safer working environment. This created additional challenges that had to be identified and addressed.

- Safe conveying and handling of bulk containers.
- Sealed discharge of materials into the process.
- Control system interlocks for operator safety.
- Machine guarding with load side light curtain.



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Equipped with this knowledge, our customization experts built an automated **Container Discharging System** integrating several key features and functions. This includes:

- **Roller conveyors** to move bulk containers from their load positions.
- **A slide gate** to provide a better seal of materials.
- **Control system** to enable custom recipe programming.
- Capable of discharging **up to ten boxes per hour**.

This fully integrated system helps maximize production efficiencies, ensure consistent workflow and reduce costs associated with manual labor processes.

The Road to a Renewable Energy Future

With a combination of innovative design and automation integration, the Discharging System enabled the company to accelerate production to meet rising demand. This solidified Material Transfer's position as a trusted partner in the domestic battery supply chain.



Reduce

Risky Manual Process



Increase

Productivity



Enhance

Plant Safety

With the automated discharging system's ability to increase productivity, eliminate hazardous working conditions and ramp up production, the customer continues to be a significant contributor to a sustainable energy future.

With the transition to renewable energy gaining momentum, learn how we can help you design a better future!



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Inspiring a Better Way