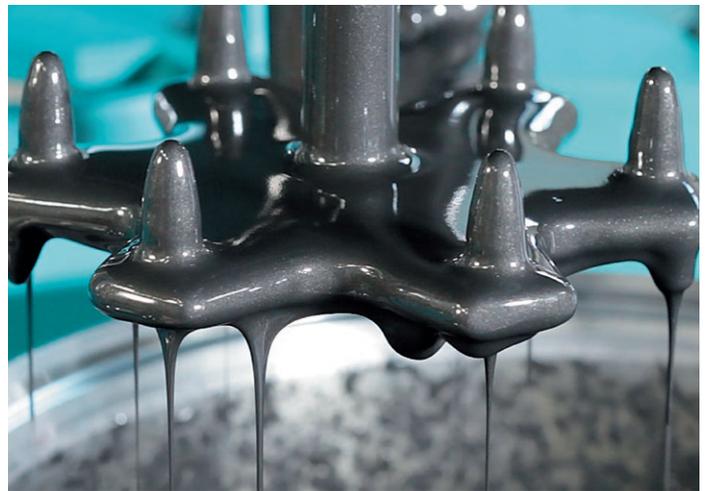


# Preparation Technology for Lithium-Ion Battery Electrodes

Preparation of dry mixes, pastes and degassed coating slurries in one single **EIRICH** mixer.

Innovative preparation technology for **battery manufacturers** and **producers of raw materials**.



- **EIRICH MixSolver®** combines several process steps in one machine for preparation of coating slurries
- Absolute **bubble free slurries** with **EvacMix®** vacuum technology
- Continuous coater slurry supply with **EIRICH Conti Feeder** concept
- **In-line Rheometry** allowing just-in time quality assurance and production
- **Mixing Technology** for **Next-Generation Electrodes** (Dry, All-Solid State) and **Active Material preparation** (e.g. Specialty Graphites, Si-based Anode materials, Precursor, Functionalization of Cathode Active Materials)
- Explosion protection according to **ATEX** directives
- **Fully automatic** plant concepts

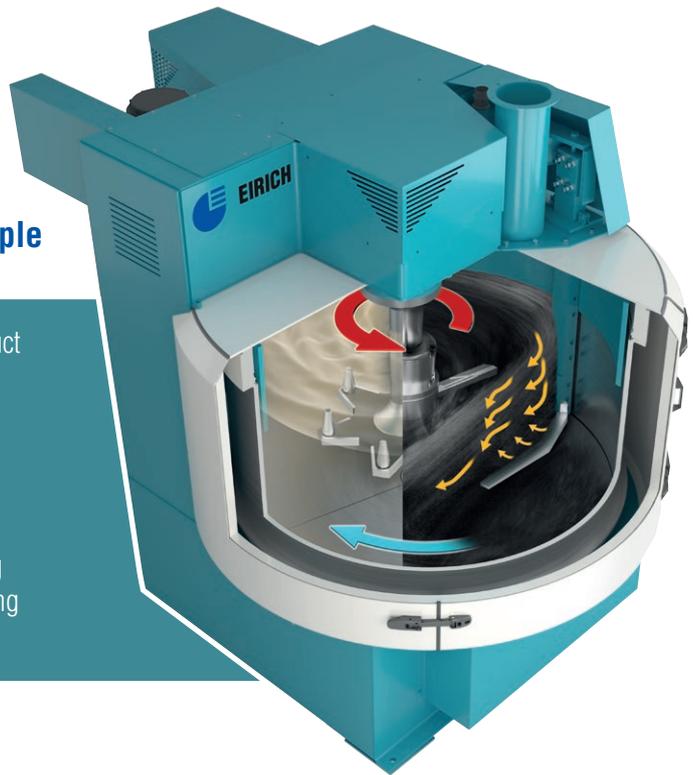
## The unique EIRICH preparation principle

**A rotating mixing pan** for transporting the product

**Variable-speed mixing tool, slow to fast,** for adapted mixing, fibrillation, coating, kneading, dissolving and dispersing

### The effect

By separating the product transport from the mixing process, it is possible to vary the speed of the mixing tool (and thus the power input) within wide limits.



### The preparation principle of using one machine allows:

- Precisely controlled power input and introduced shear forces in wide ranges
- Complete disintegration of agglomerates
- Homogeneous distribution and complete dissolution of binder
- Fibrillation of polymeric binders
- Optimal wetting of active materials, conductive carbon black, even CNT, binder and additives
- Processing / adjusting to any viscosity
- Very short processing times (just minutes)
- High quality assurance and reproducibility due to continuous process monitoring
- Visualization and Documentation of temperature, pressure and power input

### Other advantages:

- No detrimental dead zones and temperature gradients in the mixer
- Easy access and cleaning of the mixer; can be automated on request
- Small footprint
- Low energy consumption
- Excellent scale-up capability
- High flexibility

### EIRICH customers with production machines as well as research institutes report benefits compared to other preparation technologies:

- Drastically reduced processing times
- No product cooling required – optional double jacket cooling available
- Powdery binder can be added directly, without preparing a separate solution
- Excellent degassing results with EvacMix® technology without additional processing time
- Homogeneous coating surfaces
- Excellent adhesive properties of the coating on conductor foils
- Improved electrochemical properties of the cells
- Minimal deviations from standard
- Same processing and similar plant concepts for anode and cathode

### Bear in mind:

**The appropriate mixing system is at least as important as your formula.**

**Top-name manufacturers around the world work with EIRICH mixing technology.**

**We would be glad to provide references on request.**

**EIRICH is a research partner for universities.**