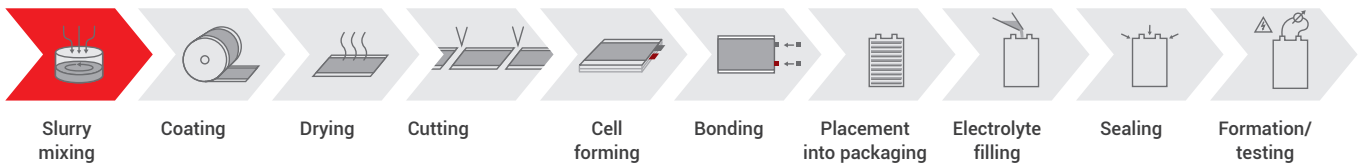


## Valve solutions for mixing electrode slurries



GEMÜ valve solutions for reliable slurry mixing in Li-ion cell manufacturing

### Li-ion cell manufacturing process



### GEMÜ capabilities in the area of Li-ion cell manufacturing

As a manufacturer of valves, measurement and control systems, GEMÜ is also establishing itself in high-tech markets to an increasing degree. Particularly in the manufacture of Li-ion battery cells, GEMÜ is working together with its customers to develop solutions for the relevant production steps – ranging from slurry mixing all the way to electrolyte filling.

### Slurry mixing in Li-ion cell manufacturing

The first step in the manufacture of Li-ion battery cells is to mix the electrode slurry, which is then applied to the electrode foils (anode/cathode) as a layer in the next step. The slurry comprises a mixture of active materials, solvents, binders and additives. When mixing slurry, it is particularly important to feed in the different components in precisely the correct quantities. GEMÜ has the appropriate valves, measurement and control systems to ensure process reliability of this manufacture step.

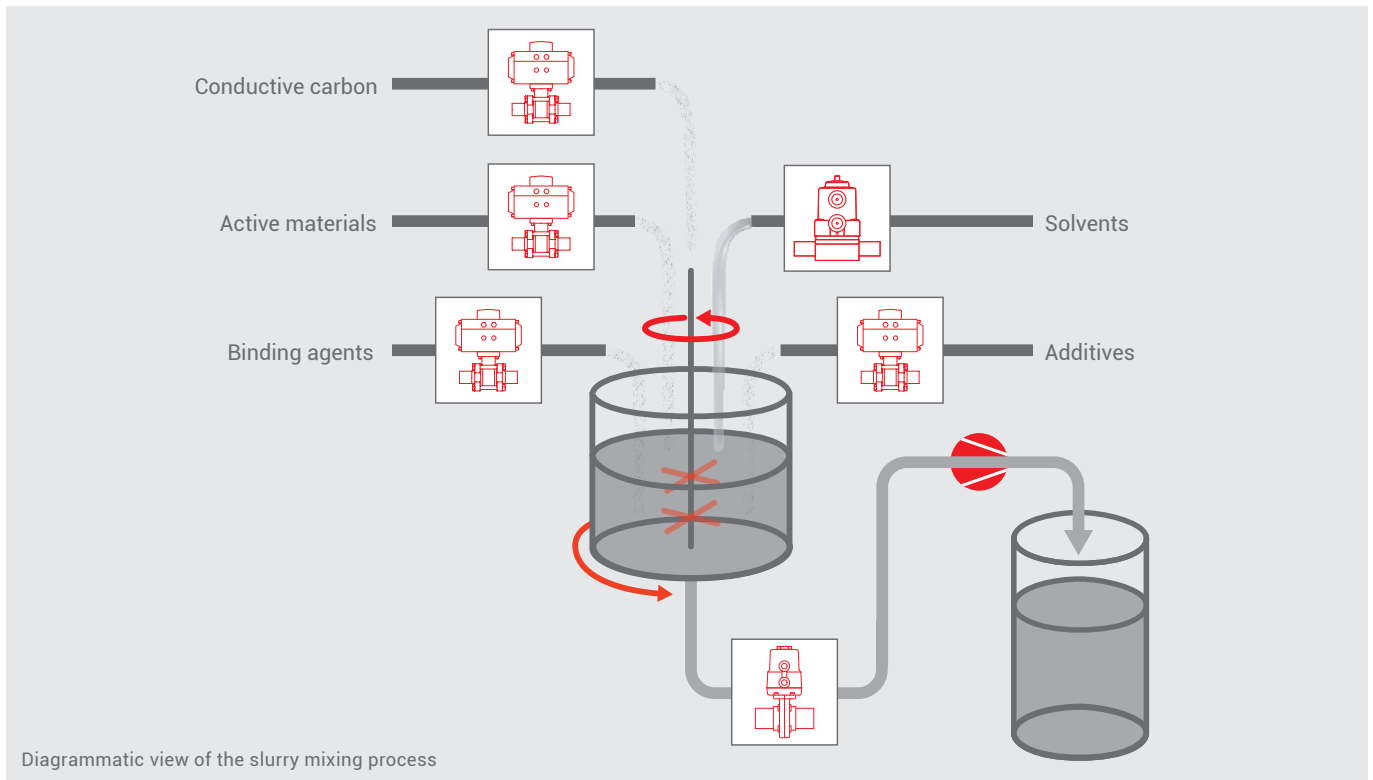
### Different mixing procedures

The slurry can be mixed via various procedures. With what has become known as batch mixing, an individual container is always filled and then mixed. It is a batch-based mixing procedure.

With continuous mixing, this process is automated and makes slurry continuously available to the coating systems. Both mixing procedures place stringent requirements on the used components.



Example slurry mixing plant



### Customer benefits

- Appropriate functional principle for requirements of the respective application
- Careful and safe media handling of active materials and solvents
- GEMÜ valve components are designed with minimal deadleg and allow self-draining and consequently simple cleaning
- ATEX certification allows use in explosion-proof zones
- High chemical resistance of the used stainless steel components

### Used valve designs



GEMÜ B44 stainless steel ball valve



GEMÜ R481 Victoria stainless steel butterfly valve

### Why GEMÜ

Through continuous innovative capacity and orientation towards quality and proximity to our customers, GEMÜ is one of today's leading worldwide manufacturers of valves, measurement and control systems.

GEMÜ has excellent references in connection with the use of valves in highly technological markets. The area of application ranges from the areas of (micro-)electronics and semiconductor production right up to battery cell manufacturing.

The described process places stringent requirements on the used valves, measurement and control systems. Chemical resistance and precise media handling are basic requirements, as well as a compact and modular design and a long service life. GEMÜ fulfils all these requirements with its ball valves and butterfly valves.

In addition to a reliable and sizeable product range, customers benefit from GEMÜ employees being solution-oriented. Especially in the area of battery cell manufacturing, GEMÜ acts here as a system provider and development partner.