

Measurement of atmosphere gas in electrode material coating and drying furnace

Applicable process

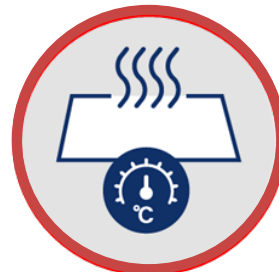
In the manufacture of secondary batteries, there is a process called "coating and drying" in which the base material coated with the electrode slurry is dried to evaporate the organic solvent.



Mixing



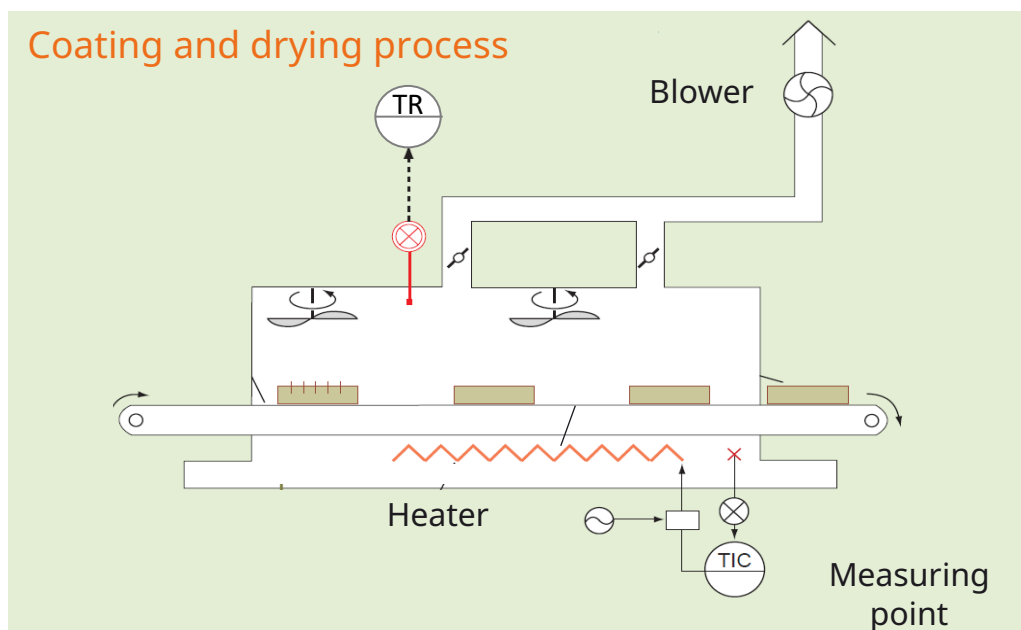
Coating



Drying



Pressing/Slitting/
Assembling



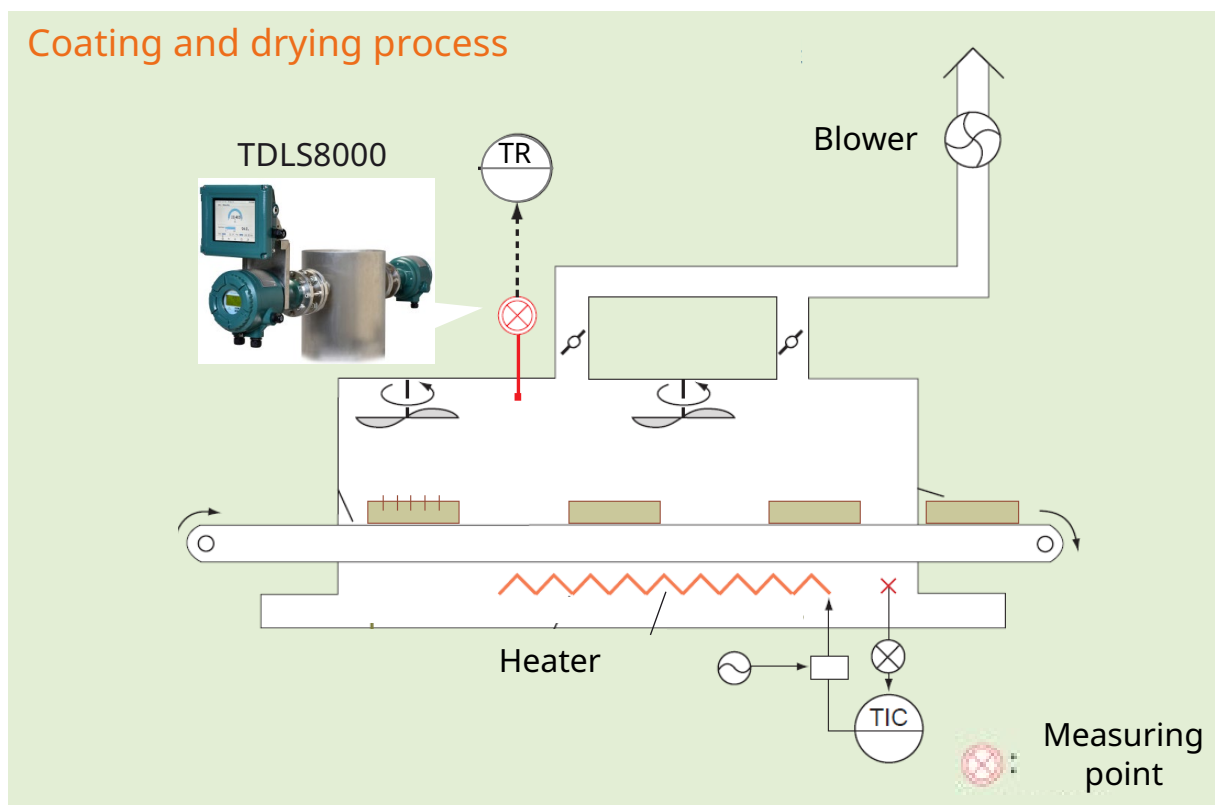
Challenges

Battery performance and life are adversely affected by oxidation and moisture entering the electrodes.

Compounds such as lithium-cobalt-hydrochloride and lithium-nickel-manganese-cobalt-hydrochloride, which are used as electrode materials, are applied to the substrate in a slurry state using an organic solvent, which generates corrosive gas.

Yokogawa's solution

Coating and drying process



By monitoring O₂ and H₂O remaining in the furnace, quality can improve.
By measuring O₂ and H₂ remaining in the furnace, it is possible to indirectly estimate the organic solvent and record the health score with recorder.
Highly accurate measurement of the corrosive gas atmosphere in the furnace leads to the quality assurance of the electrode.



In-Situ Gas Analyzer
TDLS8000

Features

- Capable fast response and high accuracy measurement gases.
- No PC is required for direct simple operation and maintenance with intuitive 7.5-inch color touch screen HMI.
- Standard communication functions that can be checked and adjusted both on-site and at remote locations. (Installation and maintenance cost reduction)

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