

# Measurement of gas concentration in the anode material electrode drying furnace

## Applicable process

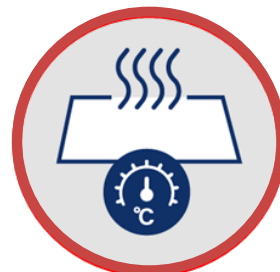
In the manufacture of secondary batteries, there is a process called "coating and drying" that dries the substrate coated with the electrode slurry.



Mixing



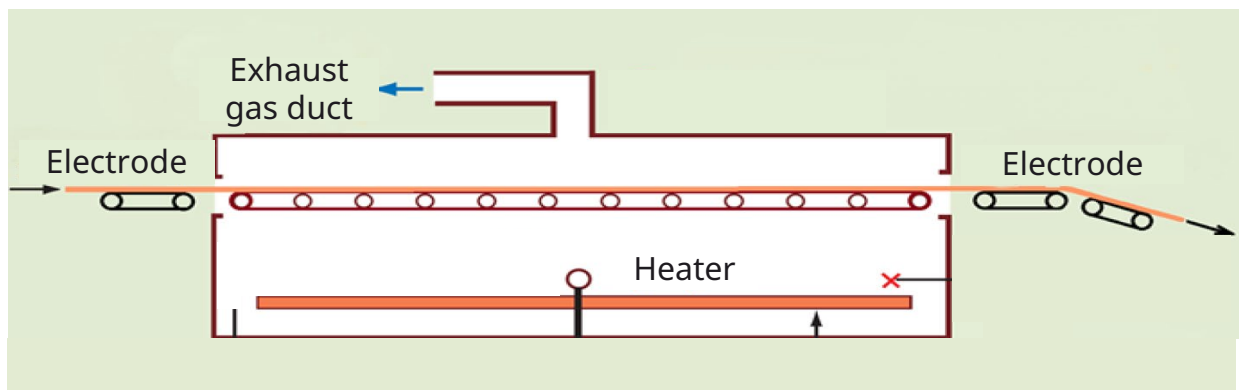
Coating



Drying



Pressing/Slitting/  
Assembling

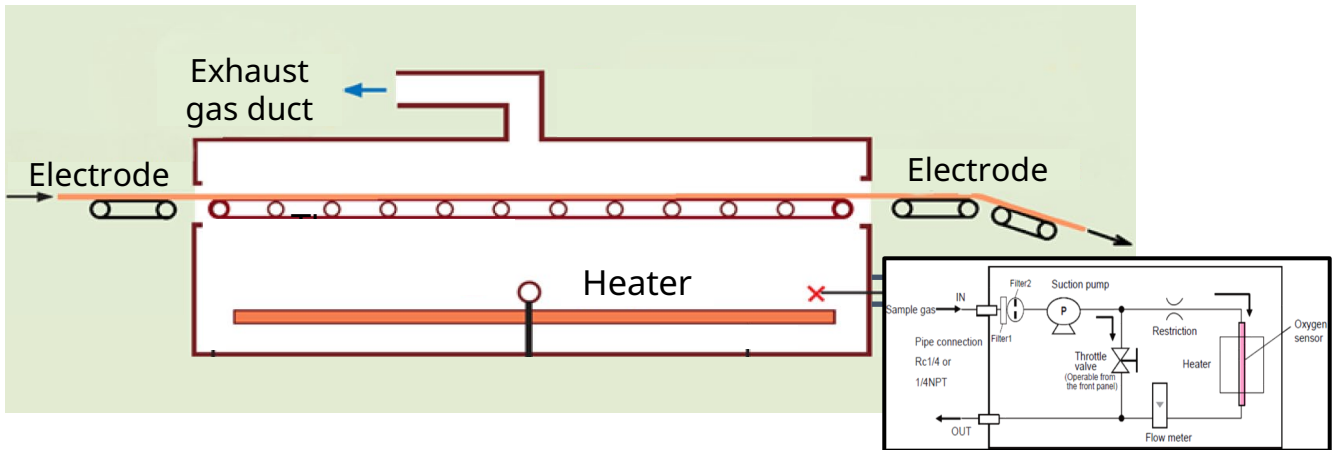


## Challenges

**Quality Control:** If the oxygen concentration in the drying oven is too high, it can react with the lithium contained in the negative electrode to produce impurities and degrade the quality of the electrode. On the other hand, if the oxygen concentration is too low, the electrode may not be dried sufficiently and the battery performance may be adversely affected.

**Improved production efficiency:** If the oxygen concentration is not properly controlled, the negative electrode may be dried insufficiently, resulting in poor electrode quality. This can lead to lower battery performance, more defective products, and lower production efficiency.

# Yokogawa's solution



**Quality Control:** By measuring the oxygen concentration in the drying furnace, it contributes to electrode quality control by preventing the generation of impurities and insufficient electrode drying.

**Improving production efficiency:** By measuring the oxygen concentration in the drying oven, it prevents deterioration of electrode quality and deterioration of production efficiency.



Low Concentration (ppm)  
Zirconia Oxygen Analyzer OX400

## Features

- Long life and high-speed response  
A cylindrical sensor design facilitates the replacement of measurement gases, thereby helping to assure a high-speed response.
- Built-in functions and a variety of self-diagnosis functions  
Comes with multi-selector, free-range, and pump on/off Functions
- High performance and high reliability  
Superior repeatability and linearity even at low oxygen concentrations
- Superior maintainability  
The sensor can be replaced on-site.  
Compact and lightweight for easy installation

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