

High-Precision Measurement of Coating Edge / Measurement Stabilization Processing (Barometric Pressure Correction)

Battery Web Gauge ES-5

High-Precision Measurement of Coating Edge

Why is it required?

In the production of secondary battery electrodes, it is essential to precisely measure the coating edge. If the measurement is inadequate, a margin must be applied to ensure the coating amount stays within specification, which in turn requires additional slurry and foil width.

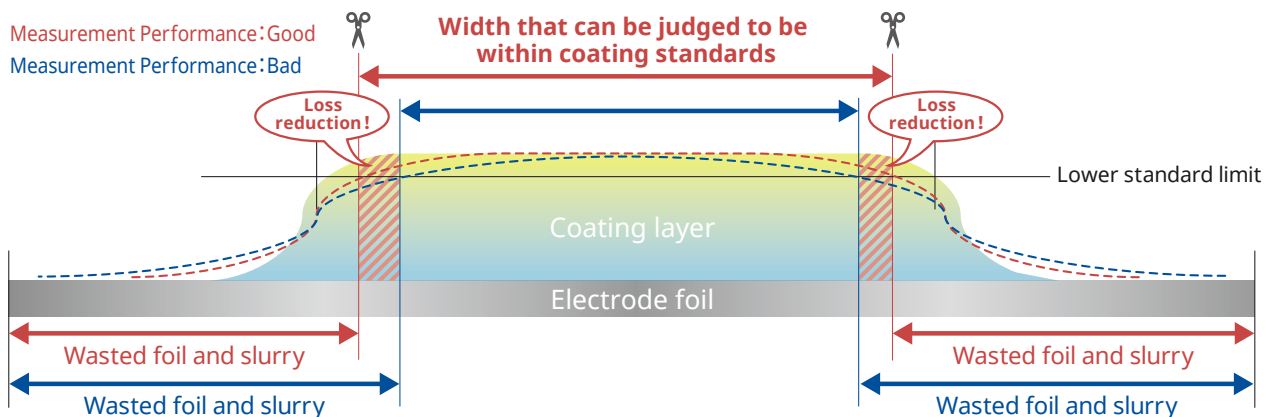


- How can we keep the product width and basis weight within the specified tolerances?
- How can we minimize material and energy costs during production?



Production team

Solve these problems!



Accurate measurement of the coating edge increases the usable width that meets specification.

This helps reduce slurry and foil material waste at both edges of the coating.

YOKOGAWA's Approach

The accuracy of coating edge measurement is influenced by the sensor's response delay and the measurement beam diameter. To address this, we improved the sensor's response speed and adopted a slit-type beam to enable high-precision measurement of the coating edge.

This contributes to reducing slurry and foil material waste at the coating edge. Furthermore, integrating our automatic coating amount control system can further reduce material waste.

Reference: [Battery Electrode Production Improvement through Coating Amount Control](#)



Measurement Stabilization Processing (Barometric Pressure Correction)

Why is it required?

The Battery Web Gauge ES-5 measures the coating amount by detecting radiation attenuation as it passes through the electrode.

Because radiation is also slightly attenuated by the air layer, it is necessary to correct for changes in air density.

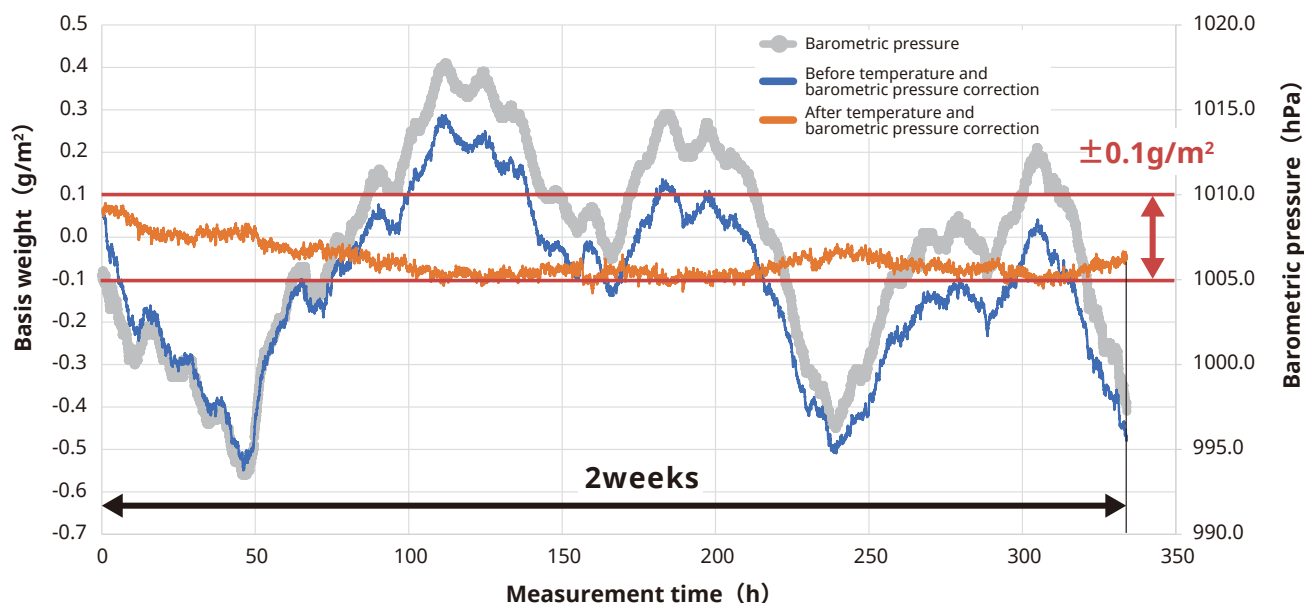
In previous models, compensation was performed based solely on temperature.

When using temperature-based compensation only, calibration is required at regular intervals—such as every two hours—and measurement is paused during calibration.

YOKOGAWA's Approach

In addition to the temperature sensor, an air pressure sensor has also been newly integrated.

[Effect of temperature and barometric pressure correction]



Value for Customers

- ☒ The influence of barometric pressure on measurements has been eliminated, enabling stable operation while maintaining measurement accuracy.
- ☒ Continuous measurement for hundreds of hours is now possible, significantly reducing downtime and contributing to improved productivity.

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