PULP AND PAPER

Winder Performance Optimization
ABB Ability™ Performance Optimization for paper mills

Increased competition and changing markets have brought new requirements for paper production. As papermakers consider extending asset life, converting to different paper grades and/or increasing machine speed, existing winders may not be configured to meet the mill’s demands. ABB Winder Performance Optimization helps maximize winder capacity, increasing uptime and reducing quality losses.

Overview

ABB Winder Performance Optimization is a fast-to-implement, cost-efficient solution that can help improve the production throughput by as much as 8 percent.

This is accomplished by first reviewing and monitoring dozens of operational, quality, and process Key Performance Indicators (KPIs), such as controls performance (speed, tension and load share), rider roll counter pressure control, and much more. Sub-optimal performance is recorded and improvement recommendations are made. Implementation steps are a collaborative effort between the customer and ABB’s experts.

Once the winder meets critical KPIs, further optimization focuses on increasing the winder productivity. ABB’s patented approach allows continuous calculation of the maximum drive system to dynamically adjust the acceleration to meet capacity. This also shortens ramp up to full speed, while lengthening time at full speed, without increasing mechanical stress.

Through continuous monitoring, optimized performance is sustained and an excessive investment, such as expansion of the drive system or adding a new winder, may be avoided.

Features

- Automatic, non-invasive data gathering for control applications and drives equipment
- Advanced monitoring and daily analysis for production capability, roll set performance, and efficiency KPIs by ABB experts
- Edge analytics for speed, tension and load share
- Local and remote dashboards for data visualization and web break trends
- Configurable alerts when KPIs are outside site-specific thresholds
Benefits
- Improves production capacity at winder by 3–8%
- Increases running time at full speed and shortens ramp-up to maximum speed
- Helps mitigate the need for new equipment
- Reduces quality losses
- Lowers maintenance and energy costs
- Allows use of winder for wider scale of grades

Digital platform
Pulp and paper companies are looking to digital solutions for new ways to automate and optimize their mills. ABB Ability™ is a unified, digital platform that extends from device to edge to cloud. It securely collects data from devices at mills, applies advanced analytics, generates actionable insights and provides advanced automation for customer operations at all levels of the enterprise.

Delivery model
Collaborative Operations, an ABB Ability™ offering connects services that leverage the availability and transparency of data from the Ability™ platform into a data ecosystem. By connecting ABB and customer experts to actionable data, advanced analytics tools and predictive monitoring in a collaborative environment, advanced automation solutions can be implemented and optimized. Problems can also be quickly diagnosed and corrective actions implemented, with continuous improvement efforts prioritized.

Under the Collaborative Operations offering is the ABB Ability™ Performance Optimization solution suite. Offerings in this category, such as Winder Performance Optimization, focus on maximizing equipment and process performance to ensure efficient operations. The Ability™ platform enables structured monitoring and analysis of KPIs and drives system performance to make sure the winder productivity is maximized. These results are reviewed weekly to identify issues and recommend performance improvements that will further increase throughput.

Our Ability™ solutions enable mills to know more, do more, do better, together.

Monitored KPIs
- Operational Performance
  - Productivity
  - Quality
- Control Performance
  - Speed
  - Load share
  - Tension performance

Applicable for:
- Twin Drum and Center Winders
- ABB PMC800 Drive control

Add on features:
- Automatic inertia correction
- Running without load cells