

SUCCESS STORY

VFD MAXIMIZES ENERGY SAVINGS FOR MACHINE BUILDER

INFORMATION

Industry

Lumber

Application

Sawmill

Product

Yaskawa U1000 MATRIX VFD



An all-electric driven log kicker allowing for more precise control and ease of troubleshooting.

COMPANY HIGHLIGHTS

The customer stands as the Midwest's preeminent service center for rotating apparatus repair and a leading distributor of power generation systems. The customer's reputation stems from its committed team, high-quality products, and superior service capabilities. As an authorized distributor and service provider for Yaskawa, the customer identified a need for the **Yaskawa U1000 Industrial Matrix Variable Frequency Drive (VFD)** in a local machine builder's operation.

APPLICATION CHALLENGES

The machine builder is a decade-long leader in the field of advanced sawmill equipment. Originally a sawmill business, the machine builder now manufactures a wide range of sawmill equipment including carriages, track frames, and trim & grading lines.

A recent initiative of the machine builder was to redesign a rotary log kicker with the objectives of expanding its size range and transitioning from a hydraulic system to a completely electric one. The challenge lay in the overall size of the log kicker. The significant machine inertia posed difficulties in achieving the required 15 cycles per minute rate. In fact, managing the machine's inertia and cycle-per-hour requirements in an all-electric system would necessitate a substantial braking system to dissipate energy.

THE YASKAWA SOLUTION

To address the rapid deceleration challenge, the machine builder sought assistance from the Yaskawa distributor. While initially considering a standard VFD and brake resistor to control the 30 HP electric drive system, the distributor proposed a more energy-efficient solution: the **U1000 Industrial Matrix VFD**.

The drive's regenerative capability eliminates the need for braking resistors and reduces heat production during load deceleration. The energy previously wasted as heat now returns to the power grid and lowers the user's utility costs. The **U1000 Industrial Matrix VFD** allows precise speed control of the rotary log kicker and extends the life of the equipment with fine-tuned acceleration and deceleration. Since the solution is a simple 3-wire in and 3-wire out installation, there are no extra equipment costs, complexities, or failures and less installation space is required.

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CONTACT YASKAWA

Yaskawa America, Inc.

Drives & Motion Division
2121 Norman Drive S
Waukegan, IL 60085, U.S.A.
+1-800-YASKAWA (927-5292)
www.yaskawa.com
Email: info@yaskawa.com

More U1000 MATRIX VFD information:

<https://www.yaskawa.com/u1000>



Find a Yaskawa representative:

<https://www.yaskawa.com/support-training/support/sales-search>



Using the **U1000 Industrial Matrix VFD** has allowed the machine builder to produce and sell a more premium solution than their competition. At the same time the end user gets a machine that is more compact, requires less maintenance, is safer, and lowers energy cost.

KEY U1000 FEATURES

The Yaskawa **U1000 Matrix VFD** brings a set of notable advantages:

- Adheres to the 5% input Total Harmonic Distortion (iTHD) standard as per IEEE 519 guidelines for harmonic mitigation at the input stage
- Adjustable torque limit and overtorque settings for optimized acceleration and machine protection
- Equipped with a Safe Torque Off (STO) safety feature, meeting the requirements of IEC62061 (SIL3) and EN/ISO 13849-1 (PLe)
- Does not rely on bus capacitors that degrade over time, contributing to a long product lifespan
- Built-in fusing
- Access to Yaskawa's award-winning 24-hour technical support is free of charge

Contact Yaskawa today to learn more about how you can use Yaskawa AC drives to perfect your water and wastewater treatment industry applications!