

# SUCCESS STORY

## VFD EASILY REPLACES OLD DC DRIVE IN FIBERBOARD PLANT

### INFORMATION

#### Industry

Lumber and Woodworking

#### Application

Medium Density Fiberboard  
Conveying System

#### Product

Yaskawa GA800 Industrial VFD



Yaskawa A1000 VFDs and PM motors replace aging DC drives on conveyors at lumber factory.

### COMPANY HIGHLIGHTS

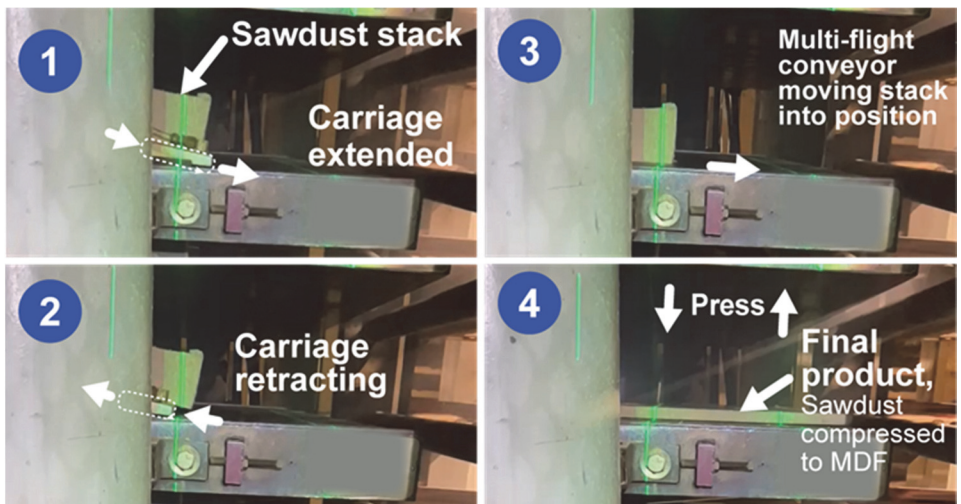
The customer is a wood-products company operating in the Pacific Northwest. They manufacture engineered wood, plywood, lumber, medium density fiberboard (MDF), laminated wood, and wood chips.

### THE VFD APPLICATION

The customer needed to replace aging DC motors that control the carriage and multi-flight conveyor system that moves sawdust into a machine, which then compresses it into MDF. The customer selected new permanent magnet (PM) motors as replacements for the older DC motors.

The customer's system has two conveyors, carriage and multi-flight, which each require a variable frequency drive (VFDs) for control. The bi-directional carriage structure moves the loose sawdust stack onto the multi-flight conveyor to process the sawdust into MDF. Several multi-flight belted conveyors move the 4" sawdust stack into the machine that compresses it into MDF. This results in the final product being approximately 1/2" - 3/4" in height.

The VFD coordinates the movement of the carriage conveyor belt with the movement of the carriage unit during extension and retraction of the carriage. If the carriage conveyor does not synchronize with the carriage conveyor belt, the fragile stack of sawdust is disturbed when the carriage extends and retracts from under the sawdust stack.



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### CONTACT YASKAWA

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#### More GA800 Industrial VFD information:

<https://www.yaskawa.com/ga800-drive>



#### Find a Yaskawa representative:

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



### APPLICATION CHALLENGES

This application was the customer's first use of PM motors and they had concerns about how well the PM motors would perform in the application. It is important to note that PM motors have not enjoyed the same popularity in the U.S. compared to standard induction motors (IM) and induction motors remain the prevailing motor type in the U.S.

Additionally, because the sawdust stack must remain symmetrical before it is compressed into MDF, it was crucial to precisely coordinate the extension and retraction motions with the carriage conveyor movement and not disturb the stack of sawdust.

### THE YASKAWA SOLUTION

The customer contacted Yaskawa and was pleased to learn that Yaskawa's **GA800 Industrial VFDs** come standard with PM motor control functionality. Additionally, the **GA800 Industrial VFD** offers an Electronic Line Shaft feature; allowing precise coordination of the carriage and conveyor belt rotation, thereby keeping the sawdust stack symmetrical prior to being pressed into MDF.

Yaskawa application engineers traveled to the customer's facility to fine-tune the **GA800 Industrial VFD** and teach them about the Electronic Line Shaft feature and PM motor control.

Ultimately, the customer was satisfied with the solution. The MDF production resumed successfully with the **GA800 Industrial VFDs** and permanent magnet motors replacing the older DC motors and controllers. Their location now uses Yaskawa VFDs for all of their wood processing applications.

Contact Yaskawa today to learn more about how you can use Yaskawa AC drives to perfect your lumber & woodworking industry applications!