

RIKON Case Study

The bandsaw is a staple in many workshops and has undergone several stages of development since the first patent issued by Englishman William Newberry in 1809. This machine featured blades that could not withstand the constant flexing of the bandsaw blade and was therefore just an initial concept. It took more than 40 years until Anne Paulin Crepin of France finally welded a blade in 1846 that endured the harsh conditions of sawing and bending around the bandsaw wheels. In the seven decades to come bandsaws improved further in design but were foot-driven at best until the 1920s. A chapter in "The Modern Motor-Driven Woodworking Shop" by Herbert Tautz and Clyde Fruits, released in 1930, marks the motorization of woodworking machines in home-workshops including the bandsaw. Today most bandsaws are powered by generic induction motors that run at one speed. Standard bandsaws generally can run either "slow" for wood or "fast" for metal cuts. The enhancement of these machines has been limited to changes to the frame.

Fast forward to 2019 to the age of machine intelligence. Striatech, a motor systems solutions provider, contacted RIKON Power Tools, an experienced designer and manufacturer of woodworking equipment to offer the integration of a product that would set RIKON's already superior machines apart from competitors on a technical level. The key was to emancipate the very part that powers the whole machine: the motor. Striving for product innovation RIKON saw the opportunities that Striatech's intelligent digital variable reluctance (DVR) motors held and decided to use this sophisticated switched reluctance system to improve one of their flagship products: the bandsaw.

Striatech's smart technology powered by a micro-computer had already driven the transformation of other power tools, namely lathes and drill presses, turning them into market disruptors in the fields of wood and metalworking.

RIKON's design expertise combined with Striatech's smart Motor Control's ability to improve a machine's performance, precision and intelligence from within, resulted in RIKON's Model 10-326 DVR 14" Deluxe Bandsaw with Smart Motor DVR Control. This essential improvement awarded RIKON's bandsaw with intelligent features that are representative of the 21st century's thrust towards smart technologies.

This next-generation bandsaw can cut various materials with the same saw such as wood, plastic, and metal as it offers variable speeds for different materials and cut types (rip, scroll, resaw,



crosscut). Depending on the material the saw will require a different blade but can otherwise simply be made by turning the variable speed dial on the machine's controller panel.

The system's control sensors determine if there is excessive vibration, or a jam detected in which case the motor shuts down to prevent damages to the blade. The motor also operates very quietly which compared to standard models is a big advantage as the operator is better able to tell changes in the cutting sound which can indicate the necessity to adjust the speed to protect the saw blade.

Another unique and user-friendly feature is that the 10-326 DVR 14" Deluxe Bandsaw can run the blade in reverse to clean itself. While RIKON has already programmed their control panel with 15 helpful set speeds, the user can add further "friendly" speeds into their controller.

These upgrades were enough to earn RIKON's 10-326 DVR 14" Deluxe Bandsaw "Machinery of the Year" in the 4th Annual Canadian Woodworking and Home Improvement Tool of the Year Award. Yet, the motor still offers great potential for improvement and a range of features that can be easily integrated into future bandsaw models.



For example, an emergency stop button could be added that will shut the motor off by using an electronic brake. It could also offer customizable torque settings based on the user's needs and an adjustable ramp-up speed from a slow start.

What customers have to say about the DVR upgrade on RIKON's 10-326 14" Bandsaw:



Love it!

Definitely a nice upgrade to the bandsaw. I purchased it so I could use the bandsaw to cut metals with the proper RPM's. Have cut 3/8" aluminum and 1/8" stainless steel. Works like a charm. I love the braking feature as well. It's also great having all the presets for different materials and cut types. Would definitely recommend for anyone with a RIKON bandsaw that it would fit.

The RIKON 10-326 DVR 14" Bandsaw can be purchased from [Woodcraft](#) and [Rockler](#).

If you already own the RIKON [10-324TG](#), [10-325](#), or [10-326](#) Bandsaws and would like to upgrade them with the Striatech motor system you can also purchase just the package drive at [Woodcraft](#) and [Rockler](#). Installing the motor is simple and will transform your regular bandsaw within minutes.

For further information on this advanced bandsaw technology please refer to [RIKON](#).