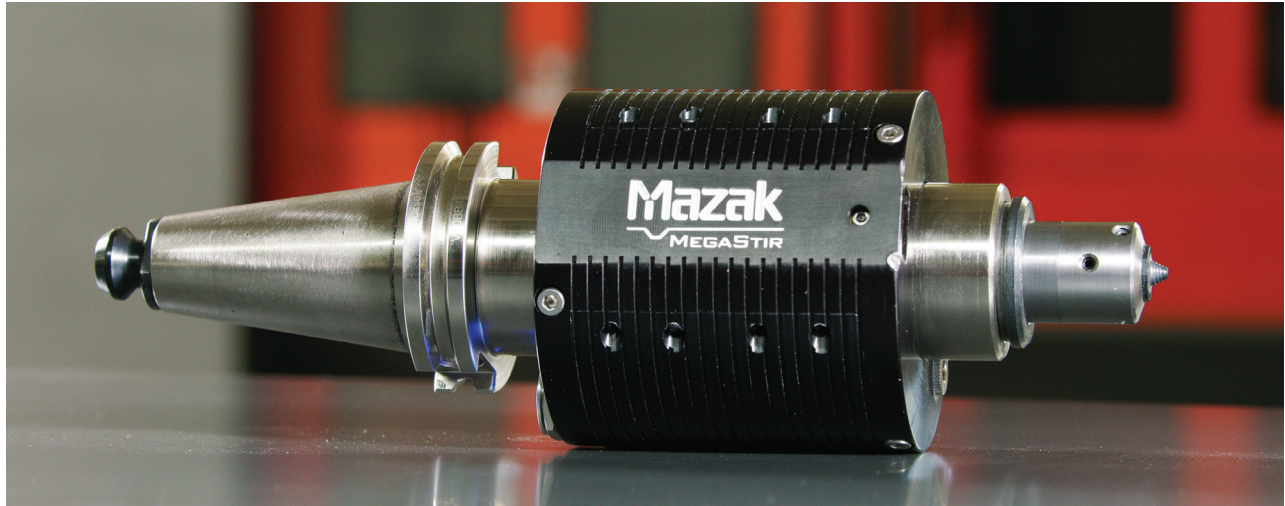




# FRICTION STIR WELDING (FSW) AFTERMARKET KIT



Transform your existing Mazak vertical machining center into a HYBRID Multi-Tasking machine.

Create flawless, full-penetration welds with your Mazak vertical machines right now with the addition of a Friction Stir Welding Aftermarket Kit. Designed for easy installation and full compatibility with MAZATROL Smooth CNCs, this retrofittable system includes an FSW Intelligent Tool Holder and a wireless gateway that instantly sets your machine up for HYBRID productivity, expanding your shop's capabilities and reducing production costs.



The FSW Aftermarket Kit can be added to a variety of Mazak vertical machining centers.  
Contact your representative for more info.

# EVERYTHING YOU NEED FOR FSW SUCCESS

## Intelligent Tool Holder

An all-in-one tool holder and telemetry system, the FSW Intelligent Tool Holder collects tool temperature, Z-axis load and more to help operators fine-tune the FSW process. These tool holders are compatible with a comprehensive range of standard or custom non-consumable pins that can meet any joining challenge and handle most common materials, including aluminum, steel, stainless steel and nickel-based alloys.

## IIoT Gateway

A WSDA®-Base-101 gateway provides seamless communication between the Intelligent Tool Holder's multiple remote wireless nodes and the MAZATROL Smooth CNC.

## MAZATROL Smooth CNC

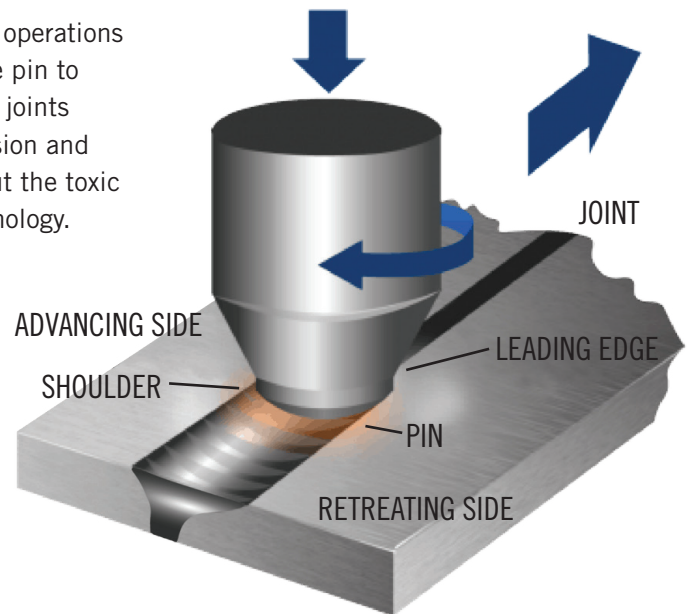
The fully closed-loop FSW software available through the MAZATROL Smooth CNC allows for real-time process monitoring, manual thrust offset capabilities, process logging and part-program design, all at the machine control. The three main FSW processes – plunging, traversing and extracting – are easily managed via EIA/ISO or conversational programming, all within the user-friendly interface familiar to any MAZATROL Smooth control user.

## HOW FRICTION STIR WELDING WORKS

The innovative FSW process enables faster, single-pass welding operations by using frictional heat produced by a rotating, non-consumable pin to plasticize the base materials and create defect-free welds. FSW joints require little post-processing, use no filler material, resist corrosion and can even join dissimilar or low-melting-point metals – all without the toxic fumes and molten spatter produced by traditional welding technology.

## BENEFITS

- Lower setup costs and less training with closed-loop software solution.
- Great weld appearance, minimal under/over matching.
- Capable of welding in any position or orientation.
- Welds result in the same joint strength as base material.
- Reduced energy consumption and waste production for greener welding.
- No cooldown period boosts efficiency and cost-savings.
- Join dissimilar alloys including cast to wrought.



Find out how you can bring our advanced joining technology into your shop and implement the cost-saving, time-efficient workflows made possible with HYBRID Multi-Tasking. Contact your local Mazak sales representative or visit [MazakMegaStir.com](http://MazakMegaStir.com).

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## MAZAK MEGASTIR

1952 Ironton Boulevard, Provo, UT 84606

385-219-4614

[MazakMegaStir.com](http://MazakMegaStir.com)

## MAZAK CORPORATION

8025 Production Drive, Florence, KY 41042

859-342-1700

[MazakUSA.com](http://MazakUSA.com)