

Media Release

Biel, Switzerland
July 2022

Reduced manufacturing process time thanks to new hybrid solution available on the Mikron MILL S/X (U) for Milling and Grinding

Customers can now achieve faster processing times thanks to the hybrid Milling/Grinding capabilities available on the Milling machine series Mikron MILL S/X (U). The machines in these series are now able to combine milling and jig grinding on the same machine without any impact on its footprint or its performance.

On the customers' side, the manufacturing process is crucial to answer market demands and fast time to market is a daily challenge in many industries. Due to the crisis caused by COVID-19, the cost of raw materials has increased considerably and producing the first part right is essential in order to keep costs down and avoid scratch material. A short machining process is key to increasing productivity and efficiency.

The Mikron MILL S/X (U) three- and five-axis milling series are renowned for its accuracy, precision and high dynamics as well as for its iconic design and ergonomics. Accessibility to the machine is easy and the machine footprint is small – whether on a standalone machine or combined with an automation cell. With a fast process speed, parts can be produced in the highest quality to fulfil market demands with a flexible production. The AMC (Automated Machine Calibration) as standard on the series provides a perfect calibration and the cooling of all machine components keeps the process stable during long milling and grinding processes.

The MILL S and X series now include hybrid capabilities: Milling/Grinding. The new machines are able to combine milling and jig grinding on the same machine without any impact on its footprint or performance. The grinding setup has been designed in order to maintain standard workpiece dimensions and the clamping surface for automated processes. The laser measuring system and the dressing spindle (with an adjusted rpm from 3,000 to 20,000) remain located closer to the working area for a quick and fast grinding process. In addition, the dressing spindle has been installed with a slight inclination in order to be able to dress any type of grinding tool without issue.

Through this two-in-one solution, the Mikron MILL S/X (U) series reduce the time and complexity of the customers' manufacturing process. The combination of the milling and the grinding technologies, extremely high machine dynamics and consistent thermal stability thanks to the Ambient Robust technology ensure high accuracy and a fast ROI for high quality parts. The dressing spindle is equipped with an acoustic emission (AE) sensor to track and visualize the signal on the Heidenhain control during the tool dressing. The machine can be equipped with an additional AE sensor to track grinding operations to optimize the process further. Thanks to the additional AE sensors on the machine table, operators can adapt their process even more thanks to the automatic tool-piece detection cycle. This cycle, developed by GF Machining Solutions, avoids air grinding by detecting exactly when the grinding tool touches the part to start the process under optimal conditions.

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Inclinable and adjustable dressing spindle close to the working area for a fast grinding setup and process.



The Mikron MILL S/X (U) series now combine milling and grinding to reach high-quality parts and excellent surface quality in a reduced manufacturing process.

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Profile of GF Machining Solutions

GF Machining Solutions is one of the world's leading providers of complete solutions for precision components and tools manufacturers and the mold-making industry. The portfolio includes milling, EDM, laser texturing, laser micromachining, and additive manufacturing machines. Additionally, the division offers spindles, automation, tooling, and digitalized solutions backed by unrivaled customer services and support. With its solutions, the division advances energy-efficient and clean manufacturing. GF Machining Solutions is a globally acting Division of the Georg Fischer Group (Switzerland) and maintains a presence at 50 locations worldwide. Its 3,282 employees generated sales of CHF 873 million in 2021. More information can be found at www.gfms.com.

