

Media Release

Biel, Switzerland
April 2022

CUT X series of wire-cutting EDM available worldwide

The AgieCharmilles CUT X wire-cutting EDM machine series, first announced at EMO Milano 2021, is now available worldwide, providing extreme accuracy in a simple and fast way.

With the new high-end CUT X series, GF Machining Solutions makes use of its over 100 years of experience in wire-cutting EDM. The new CUT X series in the Pininfarina design, which includes the CUT X 350 and the CUT X 500 machines, features new technologies that significantly increase operating precision. The machines are capable of holding extreme pitch positioning and contouring capabilities for superb part quality, making them suited for stamping, molding and micro-machining applications in the electronic components (EC), medical and automotive markets.

One of the features the CUT X series includes is the Uniqua human/machine interface (HMI), with optimal functionality and ergonomics in a 19" vertical touchscreen, full keyboard and mouse. For utmost compatibility, Uniqua supports legacy file types from various EDM manufacturers. It also creates, imports, modifies and executes sequential (ISO-based) and object-oriented (dynamic) programs from previous versions of VISION and AC CUT, combining their usability and functionality. With offline and at-the-machine programming, ISO-based functionality and object-oriented programming, Uniqua provides a powerful graphic tool with integrated CAM. It also ensures compatibility with major CAD/CAM programs.

Besides the easy-to-use interface Uniqua, machines in the CUT X series are equipped with a new wire circuit. Thanks to the unique twin wire plate, the users can choose between the twin wire technology (the main cut being faster with bigger wire, while achieving smaller radii with thinner wire), longer autonomy (thanks to two identical wire spools) and to reduce contamination (with two wires with identical diameter but different coating).

As a world premiere, GF Machining Solutions gives the operator the possibility to work with open or closed guides, thanks to a quick and simple system of interchangeable cartridges. This allows the operator to choose the right guides depending on the application. The distance from the guide to the workpiece has been reduced to guarantee the highest contour accuracy and a more stable process. The new heads, produced with Additive Manufacturing, optimize the flushing channels and reduce the distance between the guides and the parts, which is key to improving the wire straightness and cleaning conditions during the cutting process. The compact design of the lower head allows to machine intricate parts. New X-Technologies in GF Machining Solutions' database focus on high accuracy, high surface quality and high-speed results.

Thermal compensation is a new standard feature of the CUT X machines, ensuring ultra-high contour accuracy even with high environment temperature change during long cutting cycles. The Automatic Wire Threading (AWT) makes it easy to integrate automation into the process, while the wire chopper reduces idle time. Thanks to the annealing, job processing with a correct re-threading is ensured, even under the most difficult conditions.

Other features will be available on the CUT X series during the year, like the Intelligent Spark Protection System (ISPS). Based on the Spark Track technology, the ISPS prevents wire breakage, detecting variations in the workpiece profile. The CUT X series is connected to OPC UA, while offering further options like automatic doors for perfect ergonomics and full

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accessibility for the operator, retractable probing and 3D setup for continuous production, and Automatic Slug Management for a full automated process.

The CUT P Pro series for higher productivity

Before launching the CUT X series, GF Machining Solutions launched the AgieCharmilles CUT P Pro series of wire-cutting EDM machines, designed for increased productivity and ideal for every application with the largest technology database. The series includes the CUT P 350 Pro, the 550 Pro and the 800 Pro with robust designs and the intuitive interface Uniqua as well as automation options for lights-out operation.

With Intelligent Power Generator with Direct Power Supply (IPG-DPS), also available for the CUT X series, the CUT P Pro series' machines deliver surface finishes as smooth as up to Ra 0.08 μm and heighten accuracy with integrated thermal regulation that allows to achieve an accuracy of $\pm 2\mu\text{m}$.

Linear scales and rotary encoders form a double measuring system that protects the X, Y, Z, U and V axes. In the event of a collision, the energy absorber system automatically stops the axes without damage to machine or workpiece. This full protection applies at machine speeds of up to 3m/min.

In the QUADRAX[®] mechanical system of the CUT P Pro series, the table, work tank and dielectric liquid remain stable, and the workpiece does not move, accommodating heavy workpieces. Independent U/V and X/Y axes with equal length (X = U travel; Y = V travel), constant, lower mass and completely independent movement produce large, precise tapered cuts. In addition, the Rhenocast machine base offers lower thermal conductivity and a vibration damping system.

Automation solutions for the CUT P Pro series include Automatic Slug Management (ASM), Automatic Slug Welding (ASW), and the option of a fixed or retractable Renishaw mechanical touch probe to measure workpiece planarity and position on the machine's worktable. Scalable automation options from System 3R maintain unattended production, including a WorkPartner 1+ compact robot with raw materials that can feed up to two wire-cutting EDM machines for more than two days without operator intervention.

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As a world premiere, GF Machining Solutions gives the operator the possibility to work with open or closed guides, thanks to a quick and simple system of interchangeable cartridges on the CUT X series.



The CUT X machine includes two identical, symmetrical wire circuits for simple, fast roughing and finishing, optimal cutting speed and accuracy and double wire autonomy.

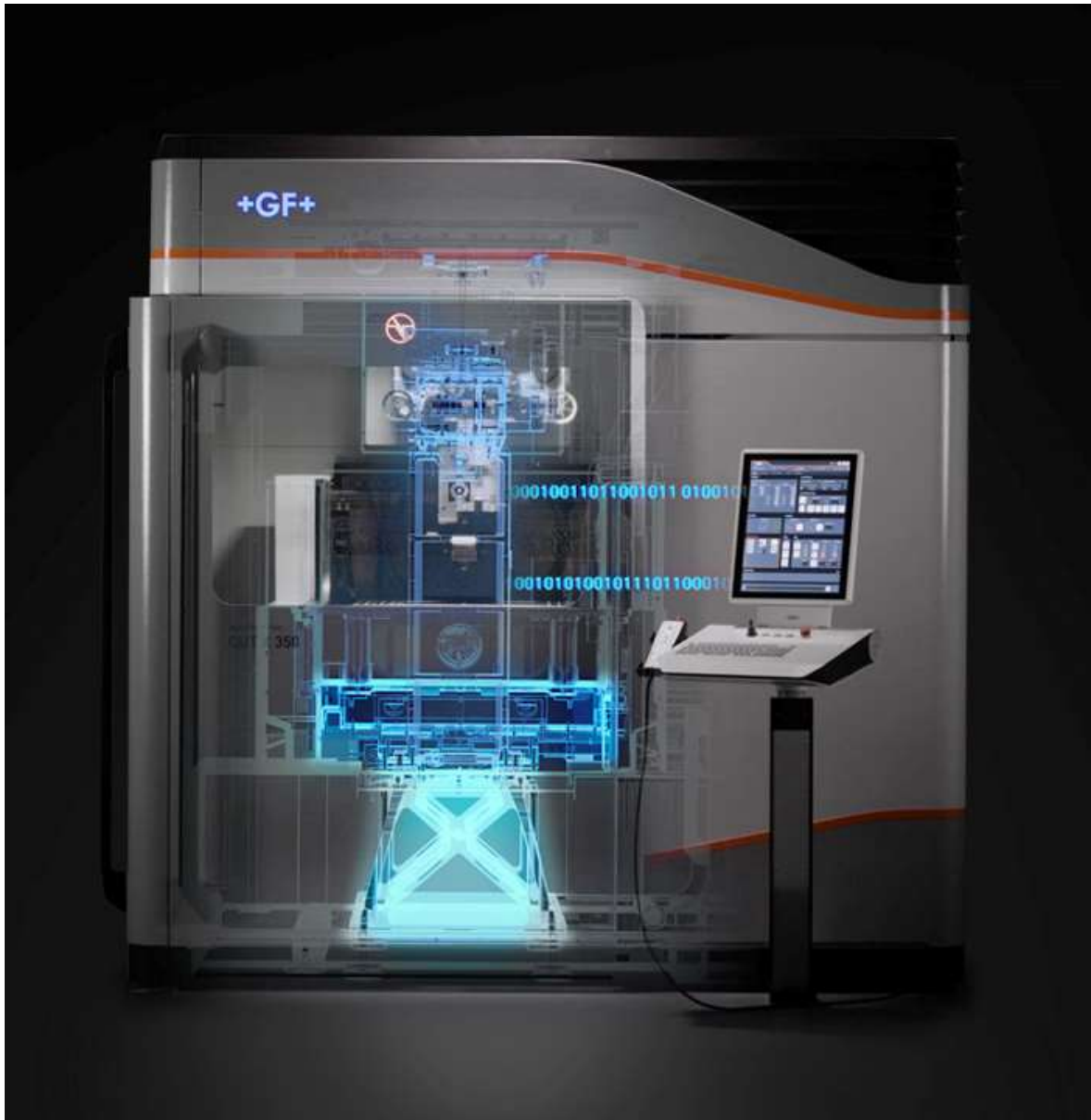
GF Machining Solutions SA, Roger-Federer-Allee 7, 2504 Biel/Bienne
T +41 32 366 11 11, F +41 32 366 19 20

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Thermal compensation is a new standard feature of the CUT X series, ensuring ultra-high pitch accuracy even with high environment temperature change.

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The new human machine interface (HMI) Uniqua, here on the CUT P 550 Pro, offers optimal functionality and ergonomics for every skill level.

More information:

Johanna Lüder

Internal Communications and Media Relations Manager

Phone: +41 32 366 10 52

Mobile: +41 79 824 81 65

johanna.lueder@georgfischer.com

GF Machining Solutions SA

Roger-Federer-Allee 7

2504 Biel/Bienne

Switzerland

www.gfms.com

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.

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