



PRESS RELEASE

Exceptional cutting performance and reliability with the new FANUC ROBOCUT

Upgraded mechanical structure complemented by even more intuitive operation makes for enhanced customer experience

Thanks to a number of breakthrough advances, the new ROBOCUT α -CiC series of wire EDM machines from FANUC offers even higher levels of reliability, cutting speed, surface finish and dimensional precision. Among the many customer-centric enhancements are an entirely new mechanical structure, pitch error compensation across the complete work surface, a dramatic simplification in taper cutting adjustment and a hardened table as standard.

Electro-discharge machining (EDM) is the go-to process for parts out of electrically conductive materials where intricate contours or cavities are required, particularly in hard metals or those that would be difficult to machine using conventional techniques such as milling, turning or grinding. It was in 1975 that FANUC brought its first ROBOCUT wire EDM solution to the market. Since then, the company's expert team of design and development engineers has worked continuously on new iterations to ensure customers stay ahead of their competitors. With the latest ROBOCUT α -CiC, wire EDM has reached another new dawn.

"Offering all-round, high-quality cutting performance and uncompromising reliability in a multitude of applications, the new ROBOCUT α -CiC wire erosion machine will bring genuine competitive gain to both subcontract and OE manufacturers," states Stefan Raff, FANUC's Head of Sales Robomachine Europe. "Nearly half a century since FANUC first launched its ROBOCUT wire EDM brand, we are bringing this foundation stone of wire erosion technology to the next-generation of manufacturers."

Underpinning several of the improvements is a high-strength, high-rigidity upgrade to the mechanical structure of the main linear axes. This reconfiguration of the ROBOCUT design suppresses distortion and promotes better stability, which in turn leads to higher cutting accuracy and extended machine reliability, both of which are pillars of the FANUC philosophy.

The new ROBOCUT α -CiC will provide users with a further accuracy boost thanks to the introduction of a high-precision pitch error compensation function. A special factory-calibrated compensation grid ensures pitch error correction over the entire X-Y table area - rather than a single central point - delivering a significant advantage in workpiece accuracy. It no longer matters where the workpiece is located on the work surface, the same level of optimum precision will result.

Improvements in taper cutting performance and ease of adjustment represent another notable advance. The traditionally complex operation of setting and adjusting the wire taper is now straightforward thanks to the use of a basic jig guided by on-screen instructions.

Customers will also benefit from the inclusion of a hardened and durable workpiece table as standard, preventing any potential for scratches to develop.

Improved process control

FANUC appreciates that process control is paramount to success in wire EDM operations. ROBOCUT control enhancements via the latest feature-rich FANUC *iH Pro* user interface focus on leveraging the advantages of the new mechanical structure to cut more efficiently. The new and improved user interface with its 15" widescreen, multi-touch LCD means that more intuitive operation is a further advancement, even for those relatively new to wire EDM.

This high level of practicality extends to many other machine functions, including installation and maintenance. It now takes 2 hours less on average to complete installation, while many maintenance options are far quicker. For instance, maintenance of the feed rollers takes just 5 minutes, rather than 40. And, with the aim of reducing the already unlikely possibility of a breakdown, the FANUC *iH Pro* can highlight impending issues prior to failure, even providing a video or image that outlines how rectification can take place in-house to minimise downtime.

ROBOCUT α -*CiC* machines also feature new-generation discharge technology to achieve higher cutting speeds without wire breakage, particularly for rough cutting passes. Alternatively, users can opt to improve surface finish (to Ra 0.3 μm) without heavy compromises in speed. To help find the optimum speed/surface finish settings for a specific workpiece, FANUC has introduced a straightforward adjustment function. Now, instead of having to reference a complex table of parameters, users can adjust cutting performance via a simple +/- slider control while maintaining the discharge gap for stable machining.

Rapid wire threading

The new ROBOCUT α -*CiC* design offers more space for easy and quick wire threading. In terms of wire-related functions, the machine retains many popular features of the previous ROBOCUT generation, including highly reliable automatic wire feeding. The ROBOCUT AWF technology allows automatic wire feeding up to 500 mm under submerge conditions depending on the machine configuration.

ROBOCUT-LINK*i* software, supplied as standard, serves to manage production and quality information. Users can monitor operations, receive e-mail alerts, manage consumables and transfer programs. With ROBOCUT-LINK*i*, customers are able to connect up to 32 IoT-ready ROBOCUT α -*CiC* machines.

Further capabilities available to customers include: the ROBOCUT-CCR high-precision rotary table, which provides even more application opportunities (such as helical cutting and PCD tool machining); a wire loader (for 20-30 kg wire) to further boost continuous unmanned machining; and the potential to connect a machine-tending robot/cobot via a single Ethernet cable. To create solutions that meet specific requirements, full customisation is possible, either at the build stage or any point of the machine's lifetime.

Space-saving design

Featuring a more compact design than the previous-generation machine, two model sizes are available: the ROBOCUT α -C400iC and ROBOCUT α -C600iC. Users can load workpieces with dimensions up to 1050 x 775 x 400 mm in the X, Y and Z axis respectively, with a maximum weight of 1000 kg.

Importantly, thanks to a comprehensive Europe-wide network of service centres, FANUC can offer lifetime support for its machines, regardless of running hours or age of control.

“Such is the reliability of FANUC and its machines that customers frequently enjoy using ROBOCUT models for several decades,” concludes Stefan Raff. “This dependable performance, matched by our extensive service provision, allows customers to concentrate on their core business of manufacturing parts with complete peace-of-mind. Wherever you are located, we have a local presence to ensure help is never far away.”

About FANUC

The FANUC Corporation is one of the worldwide leaders in factory automation for CNC control systems, robots and production machinery (ROBODRILL, ROBOCUT, ROBOSHOT and ROBONANO). Since 1956, FANUC is the pioneer in the development of numerically controlled machines in the automation industry. With more than 264 FANUC locations worldwide and more than 8,000 employees, FANUC offers a dense network in sales, technical support, research & development, logistics and customer service.

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