



Industries:
Medical, aerospace, electronics, job shops, die & mould

Categories:
Precision metal tooling, stamping die applications

01.09.2012
New wire EDM machine:
Faster cutting with the Makino U3

***Hamburg.* Speed is the decisive factor in wire EDM machining. In just three passes Makino's brand-new U3 achieves a surface finish quality other machines need four for. At the same time, the U3 is very economical in its consumable consumption and operating costs. Moreover, its compact footprint makes it the ideal solution for small job shops where space is an issue. Makino presents the U3 to a European audience for the first time at this autumn's MSV (Brno), AMB (Stuttgart) and BiMU (Milan) exhibitions.**

The U3 is predestined for stamping, mould-making and parts' production. Makino's new HyperCut technology shortens machining times, reduces wire and power consumption, and prolongs the energizing plate and filter service lives. In tool steel the optimised generator achieves a surface finish of Ra 0.4 µm in just three passes at a cutting height of 100 mm. Moreover, outstanding straightness is achieved on the very first pass. Two independently operated pumps ensure stable flushing through the upper and lower heads, even in situations where both nozzles are away from the workpiece.

The new anti-rusting unit effectively prevents corrosion by electronic means – without sticky additives. Even parts that are highly susceptible to rust can remain in the water tank for days without rusting – an advantage above all in parts' production and moulds that need lengthy machining.

A newly developed thermal wire cutter stretches and melts the wire without any burrs. When it comes to threading the wire into even the tiniest of holes, a high-pressure jet of water guides the wire through the upper head before a second jet of water generated at the flushing nozzle ensures accurate, high-speed threading. Since this technique involves no moving parts, it also requires very little maintenance. Besides, the new pecking feed system ensures reliable location of the start hole by lifting and lowering the wire onto the workpiece surface several times.

The U3 comes in a geometrically symmetrical design where straightness and perpendicularity are a direct result of the high-precision machining of the castings and not of any compensatory electronics. The machine has a solid Meehanite cast base and the table is made of tempered stainless

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steel. Large-sized linear guides and direct-driven dual-anchored ball screws guarantee vibration-free, precision positioning over many years. Thanks to the fixed table the masses moved are always identical, independent of the workpiece, and the motion control can be optimally adjusted. At the touch of a button the automatic door is lowered to 100 mm below the level of the table to ensure good accessibility. This means that the operator is standing directly in front of the workpiece and can even reach the lower head even if a large workpiece prevents access from the top. The U3 is operated via a user-friendly touchscreen and maintenance work takes only about an hour per 100 hours of operation. What is more, the number of parts subject to wear and tear has been radically reduced through the multiple use of identical components.

Specifications: Makino U3

Travels (X, Y, Z axes)	370 x 270 x 220 mm
Travels (U, V axes)	±50 x ± 50 mm
Table working area	630 x 460 mm
Max. workpiece size	770 x 590 x 220 mm
Max. workpiece weight	600 kg
Wire diameter	0.1, 0.15, 0.2, 0.25, 0.3 mm
Machine width and depth:	1,981 x 2,523 mm
Height:	2,116 mm
Weight:	3,200 kg

Makino company background

Makino Milling Machine Co., Ltd. is recognised as one of the leading technology and service providers in the machine tool industry. The corporation is listed on the Tokyo Stock Exchange and employs some 4,000 people throughout the Americas, Europe and Asia. Its revenues for the fiscal year ending March 31st 2012 totalled nearly US\$1.4 billion. Makino's wide range of premium-quality products includes machining centres for the production of parts as well as for die and mould manufacturing in a great variety of applications in the aerospace, automotive, off-highway vehicles, industrial components and micro-technology industries. The MAKINO Europe Group has technology centres in Hamburg, Stuttgart (Kirchheim/Teck), Milan and Bratislava focusing on marketing, sales, application engineering and services.

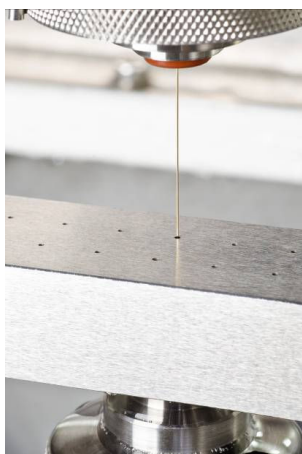
Accompanying pictures

The pictures below are enclosed with the press release as printable JPGs (300 dpi). The text describes the image it accompanies. Reproduction is permitted providing the source is mentioned.

- Picture 1: U3 wire EDM
- Picture 2: PICO Precision Guides
- Picture 3: Easy guide maintenance
- Picture 4: Reliable automatic wire threading



Picture 1



Picture 2

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Picture 3



Picture 4

For further information please contact:

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