

Press release - AMB 2024

Marbach, Germany, 15 July 2024

Increasing efficiency and reducing costs: Hainbuch presents solutions for process optimization

At AMB 2024 in Stuttgart, Hainbuch, leading provider of workholding technology and automation solutions from Marbach (Germany), will be showing how production companies can significantly increase efficiency while reducing costs at the same time. Hainbuch's focus is on reducing non-productive times, optimizing the entire production process and increasing machine output.

Drastically reducing set-up times: Efficiency through quick change-over systems

Reducing set-up times is a key factor in increasing efficiency in production. Hainbuch has been setting new standards for years with the centrotex quick change-over system. The system allows clamping devices to be changed in less than a minute, with consistently high precision. At the AMB, Hainbuch is now presenting the new B-TEX - a jaw chuck addition to the centrotex quick change-over system. This means that the working area for millturn machines can also be optimally utilized in the Z direction. In addition to the Toplus and Spanntop chucks for external clamping, the Maxxos and Mando clamping mandrels and the compensating 4-jaw chuck, the new 3-jaw chuck with a very low installation height completes the range of compatible clamping devices.

The Handling Line introduced in 2024 also supports users of the quick change-over interface when setting up, storing and transporting clamping devices. The set-up hoist, a further development of a mobile crane, is the centerpiece of the Handling Line. It allows clamping devices to be changed over quickly in any production hall, even without a gantry crane. The system is supplemented by a pallet system with clamping device holders, frames and covers. This optimizes upstream and downstream processes such as the storage and transport of clamping devices.

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Sustainably increasing process stability: Reliability through advanced workholding technology

Increasing process stability is a decisive factor in optimizing production. Hainbuch offers innovative solutions here with the Toplus clamping heads and the new Maxxos T212 mandrel. The hexagonal shape of the Toplus clamping heads prevents dirt deposits and ensures constant precision and durability of the clamping devices. The hexagonal geometry has been transferred to the Maxxos mandrel, resulting in even greater rigidity. Thanks to the hexagonal truncated pyramid, the Maxxos mandrel is made for the most demanding machining operations. Maxxos achieves a 25% higher holding power than the round Mando mandrel and up to double the torque transmission and cutting rates. Hainbuch will be presenting the Maxxos T212 mandrel at the AMB. The T212 mandrel has no draw bolt and is ideal for workpieces with blind bores or very short clamping lengths.

Avoiding scrap through precise measurement: Quality control in the production process

Avoiding scrap is another key factor in reducing costs and increasing efficiency. The IQ clamping devices with integrated measuring intelligence from Hainbuch make this possible by measuring and clamping in one. They continuously measure workpiece diameter, workpiece position and clamping force. The measurement data is transmitted directly to the machine controller and analyzed via non-contact data and energy transmission. The control system then performs a setpoint adjustment. If there are deviations, a message is issued or a correction is initiated immediately. Upstream and downstream measuring operations can be reduced in the process. This reduces scrap and ensures a constant level. The IQ clamping devices are also able to detect increasing process forces and thus tool wear. Countermeasures therefore also reduce tool costs that would be incurred by regrinding, for example.

IQ clamping devices can also be used as a downstream "post-process" measuring station, which is also possible thanks to automated measurement at the measuring station. With the intelligent IQ clamping devices - available both as chucks for external clamping and as mandrels for internal clamping - Hainbuch enables manufacturing companies to achieve higher quality and improved process capability.

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Future-proof production through innovative technology

Trouble-free, low-maintenance production is a prerequisite for an unmanned process sequence: The clamping device brings the workpiece and machining together. Process reliability is only possible if the workholding technology is chip-proof and compatible with coolant/lubricant systems. Once the production process has been established, automation can be implemented in different levels. Hainbuch offers automation in three levels:

For the production of workpieces with different clamping diameters, clamping profiles and chuck depths, the automated clamping element change-over, also possible with end-stop change-over, is a very practical option.

Quick change-over systems, such as the centrotex AC from Hainbuch, enable a higher degree of automation for external and internal clamping. This enables the unmanned change-over of an entire clamping device, i.e. chuck, mandrel, jaw chuck or customer-specific clamping devices. Hainbuch developed for example a pioneering automated production process with the company WTO Werkzeug-Einrichtungen GmbH. The machines are set up completely autonomously by robot for each new order, with a grinding accuracy of 3 µm on the workpiece after the change-over.

Hainbuch's subsidiary Vischer & Bolli Automation plans and implements autonomous robot cells with all the associated components and peripheral devices for automated production. The starting point for automation is always absolutely reliable workpiece clamping. The basis of a cell is formed, for example, by clamping pallets or zero-point clamping systems based on a modular system for direct workpiece loading and automated fixture change-over. The number of fixtures, workpieces and tool holders can be freely selected. The robot cells are designed for individual and series production and can be connected to any machine tool.

Regardless of the automation level, the set-up and clamping process is always a decisive starting point in the implementation of any automation process - in addition to the machine, robot and operator.

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At AMB 2024, Hainbuch will be demonstrating at booth 1D10 that every little adjustment in the process counts and that significant increases in efficiency and cost reductions can be achieved through targeted investments in workholding technology.

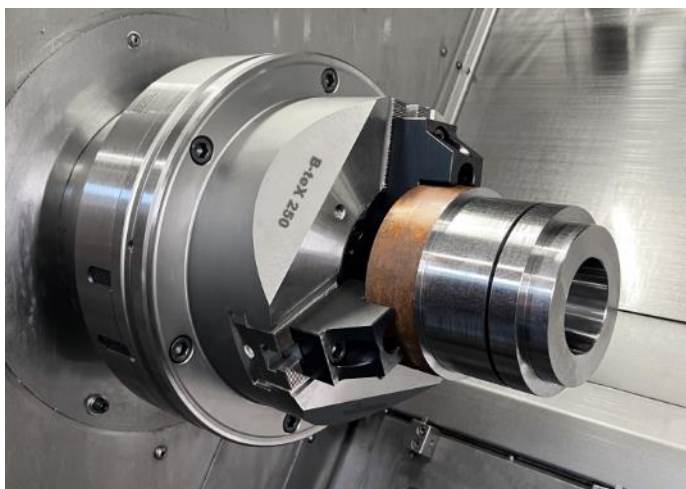
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HAINBUCH at AMB 2024 in Stuttgart: Hall 1 / Stand D10

Images:

HAINBUCH_B-TeX_Jaw chuck.jpg:

The new 3-jaw chuck, the B-TeX, complements the range of clamping devices for the centroteX quick change-over interface.



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Handling Line.jpg:

The Handling Line introduced in 2024 also supports users of the quick change-over interface when setting up, storing and transporting clamping devices.



Maxxos T212.jpg

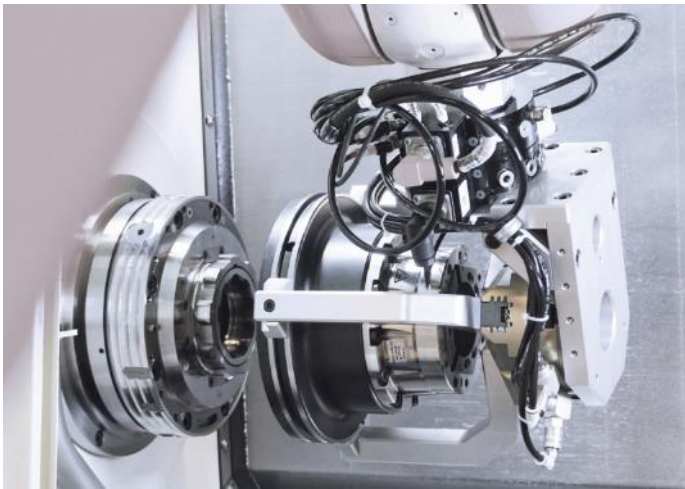
The Maxxos T212 mandrel has no draw bolt and is ideal for workpieces with blind bores or very short clamping lengths.



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centroteX AC.jpg

Quick change-over systems such as the centrotex AC enable a higher degree of automation even with small batch sizes.



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