

Press release

INDEX MultiLine MS52C with MHS

CNC multi-spindle automatic now equipped with a modular handling system - Pneumatic workpiece removal unit simplifies handling tasks

Esslingen. INDEX-Werke GmbH & Co. KG are now presenting their Multiline MS52C CNC multi-spindle machine also equipped with the MHS modular handling system. This combination systematically simplifies complex handling tasks. The new pneumatic workpiece removal unit allows finished parts to be discharged in a quick and simple manner. The new development is the result of a successful cooperation with the Esslingen automation specialist Festo.

The pneumatic linear drive in the Z-axis is a pivoting boom arm to which are attached the vertical lifting unit and the gripper. The linear movement is converted into a pivoting motion by means of a slotted guide track. The linear movement is effected by two recirculating ball screw drives. The vertical Y-axis drive is accomplished by a pneumatic double-acting cylinder.

The MHS modular handling system is designed for workpiece weights of 1.5 kg max. The linear drive has a useable traverse of 1177 mm and a traverse rate of only 1.7 s over the entire traverse of 1177 mm. The repetitive accuracy is +/- 0.02 mm. The lifting unit has a useable stroke of 160 mm and a traverse time of less than 1 s also over the entire useable stroke of 160 mm. The lifting unit is adjustable between 0 and 160 mm, with the end position extended, and by +/- 30 mm, with the end position retracted.

With their continuous CNC multi-spindle series from 18 to 52 mm, INDEX have a machine concept that up to the present day has been unique in terms of complete machining and productivity. Their outstanding features are hollow shaft motors for work spindles, the operation by means of main and counter spindles, and complete machining using rotating tools. Thus, CNC multi-spindle machines are optionally equipped with Y-axes at the tool carriers, and even serrations can be produced. A remarkable feature are the number and arrangement of the tool carriers: Each spindle can optionally be reached from two tool carriers – the decision whether internal or external machining is only defined by the tool holder.

Live tools, C-axis and Y-axis allow extensive and varied machining options, such as eccentric bores and threads, contour milling and gear hobbing. The working area

open at the front and without end slide blocks is readily accessible, making for high user friendliness and resulting in substantial savings of time during setup.

The two optional Scara synchronous spindles and the four tools for the backworking provide the INDEX multi-spindle machines with improved performance features and make them unique. The Scara synchronous spindle has an extended working range, as compared to conventional slides. The X-, Y- and Z-axes can be used to approach several tools for machining between the cut-off position and receiving conveyor outside of the drum-indexing range. The four tools for backworking can be stationary or live, as desired. The Y-axis included in the kinematics allows eccentric machining with live tools. Backworking by means of the optional Scara synchronous spindles results in cutting the machining cycle time in half. Complex machining of the workpiece back is accomplished by the combination of the Y- and C-axes.

When operation takes place by means of the Scara synchronous spindles, the control performs all necessary interpolation tasks and ensures a collision-free operation. The tool carriers can be positioned with adjustable speed. To test the program, individual tool slides, all slides of a spindle position or all machine slides are activated, either in the jog mode or program-controlled in dry run feed. Machine downtimes for set-up can thus be considerably reduced. Complex machining functions such as milling in the C-or Y-axis can be programmed by means of special input screens.

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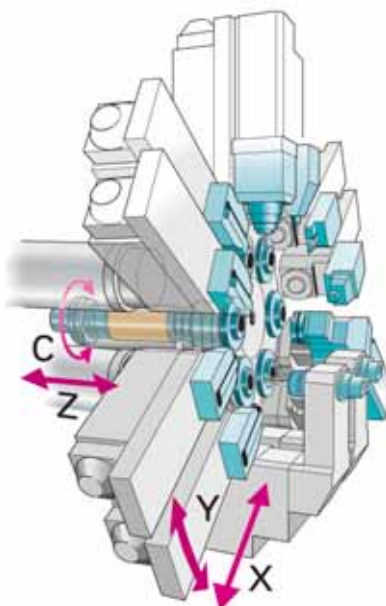
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MS52C



Pic 1: INDEX MS52C



Pic 2: The modular handling system



Pic 3: Kinematics