

Press Release

MultiLine INDEX MS40C-8

Eight spindles for more productivity

The new multi-spindle automatic lathe INDEX MS40C-8 is characterized by its outstanding versatility. With eight motorized spindles, simple and complex bar and chuck parts can be machined in the shortest cycle times. Up to two simultaneously working synchronized spindles also allow sophisticated rear-end machining. For simpler parts, the use as double four-spindle machine enables even cutting cycle times in half. The MS40C-8 comes optionally also with the new bar loader INDEX MBL40-8.



The six-spindle INDEX MS40C is part of the successful MultiLine series. It is designed for bar stock machining of up to 40 mm. Chuck parts can be machined up to a blank diameter of 80 mm on this multi-spindle automatic lathe. To extend the machining range of the six-spindle MS40C, INDEX has developed an eight-spindle version. This is the INDEX MS40C-8, which can be individually configured with up to 18 CNC slides (X/Z), additional Y-axes, and synchronized spindles for rear end machining and numerous other options.

A large number of stationary and live tools are available for front and rear-end machining. The front-open machine concept – without longitudinal slide block – and the V-shaped arrangement of the tool carriers on the work spindles ensure that the optimum technological sequence alone determines the machining method. Thus, for example, external and internal machining operations using stationary or live tools can be carried out in every station.

The generously dimensioned work area can be accessed through two sliding doors on the side. This is not only convenient for the user but also reduces setup time appreciably. An advantageous slide arrangement also ensures unhindered chip flow and, thus, a high level of process reliability.

The customer has the choice: highly complex or highly productive

The heart of the INDEX MS40C-8 multi-spindle automatic lathe is the compact spindle drum with eight fluid-cooled motorized spindles with synchronized technology (max 7,000 rpm, 24 kW, 57 Nm). They are characterized by infinitely variable speed control, high torque, low size and no maintenance requirements. By the increased number of main spindles and tool carriers, the MS40C-8 is able to completely machine even very complex parts in one operation. And, there are up to two pivoting synchronized spindles, each able to work on up to seven rear end machining tools: four of them can be live. A new feature is that two rear end machining tools can work simultaneously on the workpiece.

But the outstanding highlight of the MS40C-8 is its versatile economic usability, which does not exclude simple workpieces. On the contrary: if components need to be cut with only a small number of tools, it can be used as a highly productive double four-spindle machine. This possibility is already “built in” in the standard version. If the user makes this choice, he has practically two four-spindle machines available of which each provides a synchronized spindle for rear end machining. Each cycle finally outputs two finish-machined components from the machine, which cuts the cycle time in half.

Optimized rear end machining

But the INDEX MS40C-8 offers still more opportunities to improve productivity: it can also be used as a machine with six main-end and two rear-end machining stations. This is especially interesting if a component requires costly rear-end machining. Because then – when using only one synchronized spindle – this may take longer than the cycle time of the main spindles. So the cycle would have to be extended according to the rear-end machining or the part would need to be transferred to another machine for reworking.

The MS40C-8 offers a better solution. The user can use the second synchronized spindle to machine another part from the rear end in parallel. This finishes two parts simultaneously, and the rear end machining time is cut in half.

Independent speeds and optimum cutting data

The well-known advantages of the INDEX CNC multi-spindle machines in the market, such as the use of hollow-shaft motor technology in all work spindles and the possibility to select the optimum cutting data via the CNC program, were of course also carried over into the development of the MS40C-8. Always the optimum speed can be programmed during machining for each spindle position and cutting tool edge. The results are optimum chipping, maximum surface quality, short production times per piece, and extended tool life. Thus, you can also machine troublesome materials that up to now were hardly suitable for multi-spindle machines. Speed changes are possible also during drum indexing, resulting in no additional downtimes. The C-axes available in all spindle positions also permit complete machining of intricate workpieces in minimum time. The optionally available Y-axes expand the range of machinable workpieces even more.

The INDEX MS40C-8 makes it possible to set up live tools on the compound slides, thereby integrating numerous machining technologies: off-center drilling, thread cutting, inclined drilling, cross drilling, contour milling, hobbing, bevel gear cutting, and multi-edge turning are only a few of the many possibilities.

Directed parts removal by handling systems and robots

The MS40C-8 is equally suitable for the machining of bar stock and chuck parts. As bar loader, INDEX's own, newly developed bar loading magazine INDEX MBL40-8 is available among others.

To machine chuck parts, the MS40C-8 is the ideal choice for automatic loading thanks to its generous work area without an annoying longitudinal slide block. The optional built-in robot with double gripper in the work area handles the loading and unloading of workpieces. The 110 mm chuck allows machining of pre-formed, forged or extruded parts of up to 80 mm.

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Figure 1 (machine photo):

Versatile usage options: highly productive as a double four-spindle machine – for simple to medium-complex parts – or as an eight-spindle machine for complex parts

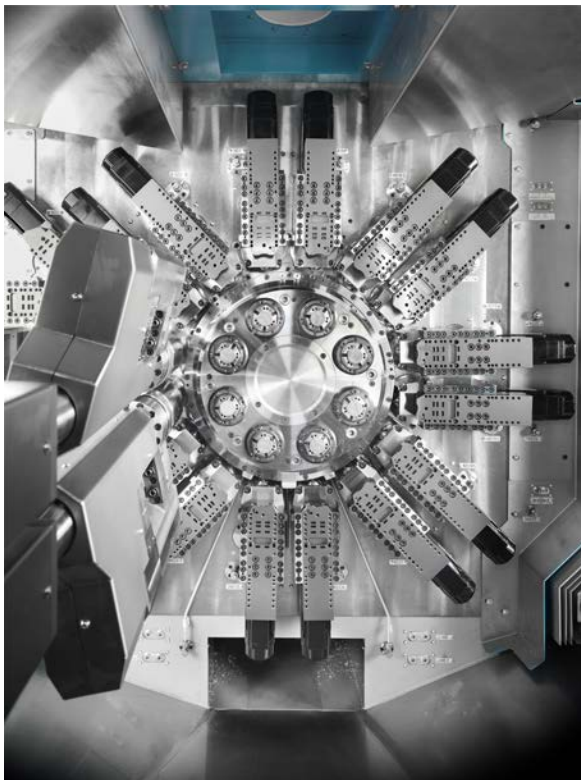


Figure 2 (front view of the 8 spindles and 2 synchronized spindles):

INDEX CNC multi-spindle machines are configurable as necessary in the number of working slides and options (X-, Z-, and Y-axes) as well as in the synchronized spindles

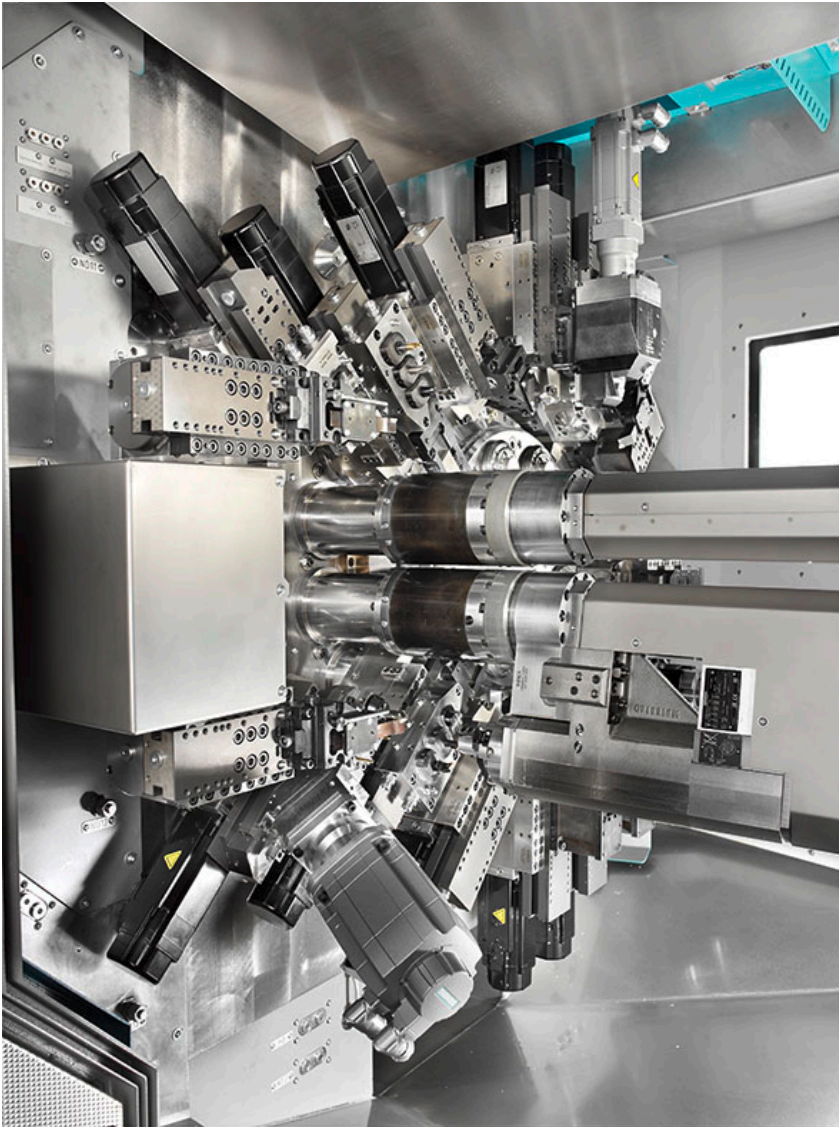


Figure 3 (view inside the machine area of the MS40-8):
Flexibility with system: different tools for different machining operations per spindle position can be installed on the working slides.