

## Press Release

### INDEX MS22-L

## Into new dimensions

Swisstype turning unit in CNC multi-spindle automatic lathe

For their 2018 in-house exhibition, INDEX-Werke will introduce with the MS22-L a swisstype turning unit version of a CNC multi-spindle automatic lathe. The development team has succeeded in adding a swisstyp turning unit to the tried and tested MS22, retaining all the typical advantages of INDEX multi-spindle machines. Thus, the workpiece can be pre- and finish-turned simultaneously in one spindle position.

With certain combination of component size, complexity and quantity, CNC-controlled multi-spindle machines are by far the most efficient solution. However, this statement did not apply previously to long and narrow turned parts, for which an unfavorable ratio of length to diameter made precise machining impossible. For typical long turned parts in high quantities, users only had the possibility to realize tasks using a number of single-spindle sliding headstock machines. With the newly developed swisstype turning unit, which was first adapted to an INDEX MS22, these limitations are a thing of the past. It can be used to machine long turned parts up to a length of 200 mm and a bar diameter of 5 to 22 mm. In particular manufacturers of series production parts such as injection nozzles for internal combustion engines or nozzles and pistons in fluid technology, as well as implants in dental technology, should profit from this. But in the near future, this will include also, and above all, producers of electric drives who will be provided with highly productive equipment for the production of a wide variety of shafts. These are in general typical mass production parts in which traditional sliding headstock turning machines are at a disadvantage due to reduced efficiency.

The core of the swisstype turning unit is the centered guide block on which six long turning sleeves are moving. The ball-bearing guide bushing unit is equipped with a double-cone guide clamp.

In order to achieve best results with different machining operations, the guide bushing can be programmed with different guide pressures. For milling, the guide clamp is attached firmly to the bar stock. In addition, a built-in swiveling synchronized spindle not only ensures damage-free removal of the finished components, but also enables rear-side machining on three tools.

35 The MS22-L is the world's first multi-spindle turning machine that allows simultaneous  
use of two tool carriers per spindle position for sliding headstock machining with 6  
spindles. The resulting 12 tools in use ensure an extremely high level of productivity. In  
addition, the slideways in proven INDEX technology on guide and machining slides  
stand for maximum rigidity and, as a result, more precision. The swiveling synchronized  
40 spindle allows rear end machining with three tools, while the use of live tools enables  
also milling operations.

Apart from the swisstype turning unit, the MS22-L is a genuine MS22. The special  
charm of this constellation lies in the fact that on the one hand all tools of a 'normal' MS  
22 can be used and on the other hand all peripherals of the basic machine can be  
adopted.

45 There are 62 NC axes available to the user for machining complex parts. But this not  
only ensures the machining of complicated contours. This configuration also allows a  
wide scope for the use of different methods and enables the necessary variable use of  
the tool carriers. As a result, the user is on the safe side even with difficult to machine  
workpieces. Especially as the Siemens Sinumerik 840D solution line stands for  
50 innovative control technology.

About the machine. The machine design of the MS22 – a front-opening machine for bar  
machining – stands for best accessibility, while providing the user with live tools, C and  
Y axes to allow a wide range of machining options, such as off-center drilling and  
threading, contouring and hobbing or polygonal turning. The central module consists of  
55 six air-cooled motorized spindles integrated into the spindle drum, with three-part Hirth  
coupling for precise positioning of the spindle drum. Always the optimum speed is  
available 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.

60 The typical INDEX arrangement of tool carriers in the working area allows more than  
one tool to be used on each spindle. The possible machining operation is thus limited  
only by the tool holder. As a result, the user can specify all production steps in almost all  
spindle positions.

One INDEX MS22-L usually achieves a part output like up to six single-spindle CNC  
65 sliding headstock automatic lathes. The advantage of multi-spindle technology is  
obvious: the customer only needs one handling, only one coolant preparation, saves  
energy and requires fewer personnel.

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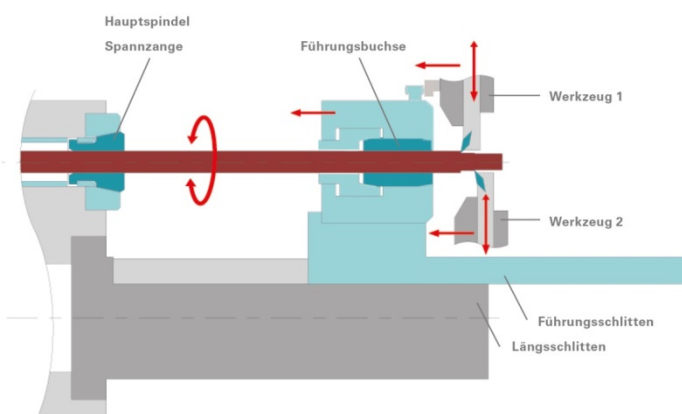
**Figures:**



**Fig. 1:**  
The machine design of the INDEX MS22-L as a front-opening machine stands for best accessibility.



**Fig. 2:**  
The typical INDEX arrangement of tool carriers in the working area allows more than one tool to be used on each spindle.



**Fig. 3:**  
The core of the swisstype turning unit is the centered guide block on which six long turning sleeves are moving.