

MS40C-8

INDEX



better.parts.faster.

INDEX CNC multi-spindle machines: More productive with 8 spindles!

With the totally configurable MS40C-8, we offer a machine concept that meets all requirements and the most stringent demands. Eight main spindles, up to

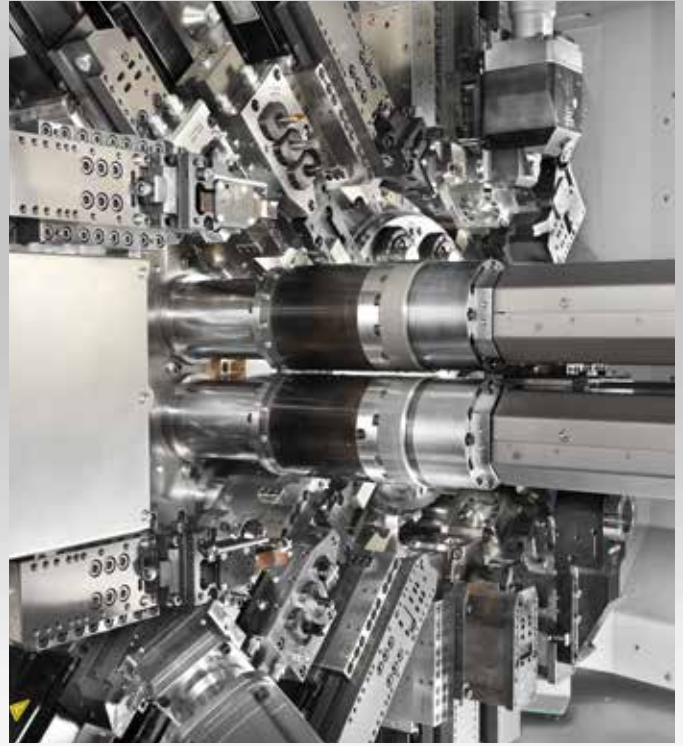
2 swiveling synchronous spindles, and up to maximum 18 tool carriers, which can be configured in XYZ, enable highly productive manufacturing possibilities.

All aspects of the MS40C-8 were developed for use of state-of-the-art manufacturing technologies. Generously dimensioned and freely accessible, the working area

minimizes setup cost especially for changeovers. Free chip flow is ensured even at full tooling.



Designed to meet precise user requirements – the concept behind the MS40C-8



Machine concept

- Freely accessible working area and, thus, extremely easy setup
- Highly-dynamic slide with sliding guide (X-axis)
- Non-wearing Z-axis due to quills with hydrostatic support
- Front-opening machine for bar machining
- Chuck part machining with loading and unloading by robots
- Directed part discharge through linear handling
- Extremely fast swiveling synchronous spindles with C-axis
- Swing arm is locked by three-piece Hirth coupling in machining position, ensuring maximum rigidity
- Maximum of 7 tools for rear end machining per swiveling synchronous spindle

The thermostable spindle drum is a guarantee for high-precision workpieces

Our trade mark – the spindle drum

The compact spindle drum ensures maximum precision in each position through the use of a three-piece Hirth coupling. The basis is composed of 8 fluid-cooled motorized spindles integrated in the spindle drum. Infinitely variable speed control, (high dynamics) compact design, maintenance-free and the latest synchronous drive technology, as a guarantee for high-precision workpieces.

Independent speeds

During machining, the optimal speed, which can still be varied during cutting, can always be programmed for each spindle position and each cutting edge of the tool. The result is better chipping, maximum surface quality, short part production times, and longer tool service life. You can also machine high-strength materials that up to now were hardly suitable for multi-spindle machines. It is also possible to make

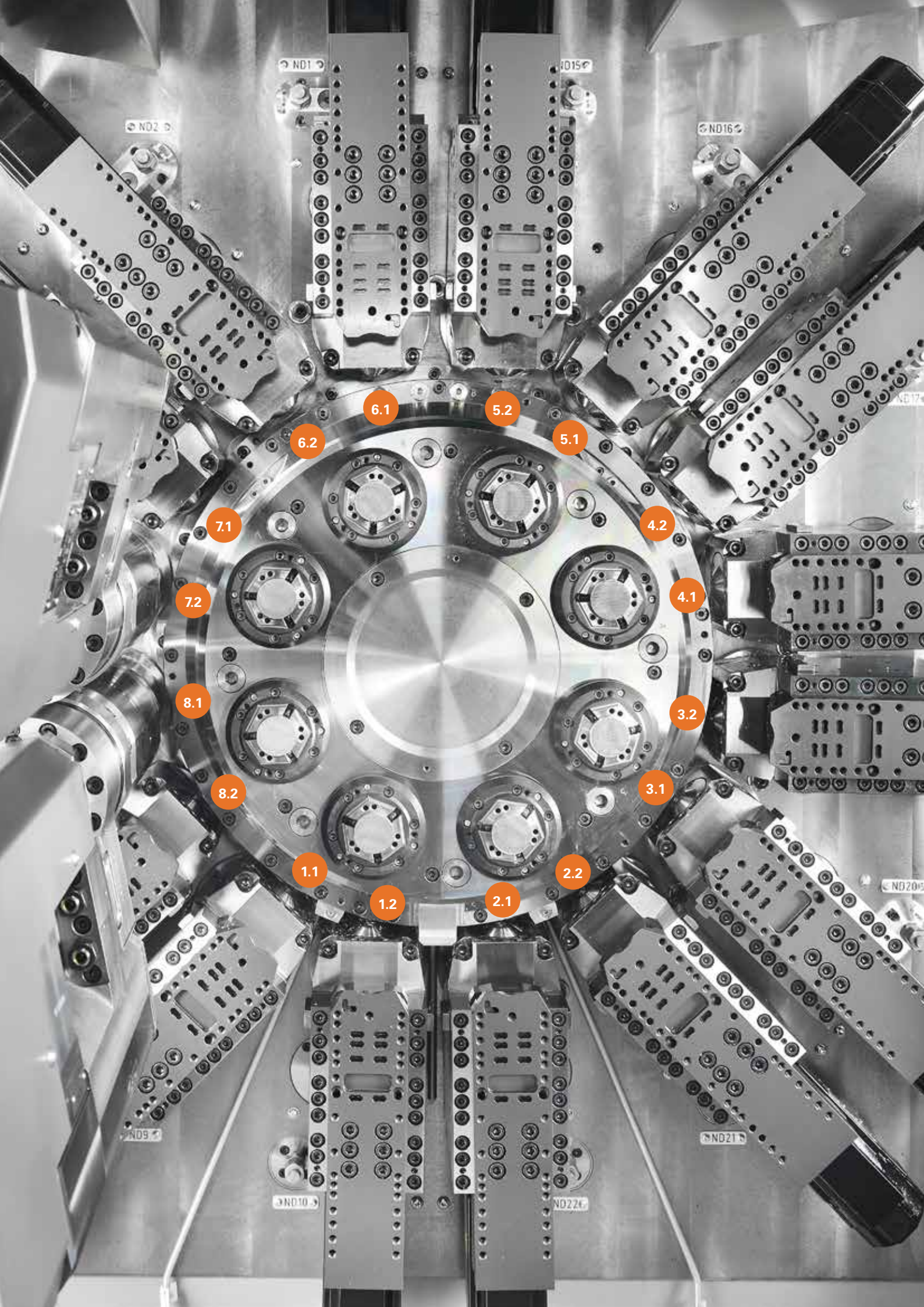
speed changes during drum indexing, thus avoiding any additional secondary processing times.

More than just turning

INDEX CNC multi-spindle machines with live tools, C-axis, and Y-axis give you access to entirely new processes, such as:

- Off-center drilling and thread cutting
- Inclined drilling
- Cross drilling
- Contour milling
- Hobbing (tooth cutting)
- Polygon turning





ND1

ND15

ND2

ND16

ND17

ND20

ND9

ND10

ND22

ND21

6.1

5.2

6.2

5.1

7.1

4.2

7.2

4.1

8.1

3.2

8.2

3.1

1.1

2.2

1.2

2.1

Precise, fast and flexible

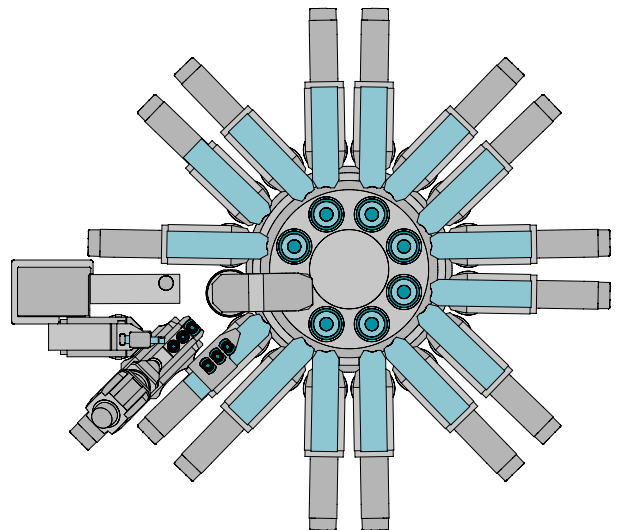
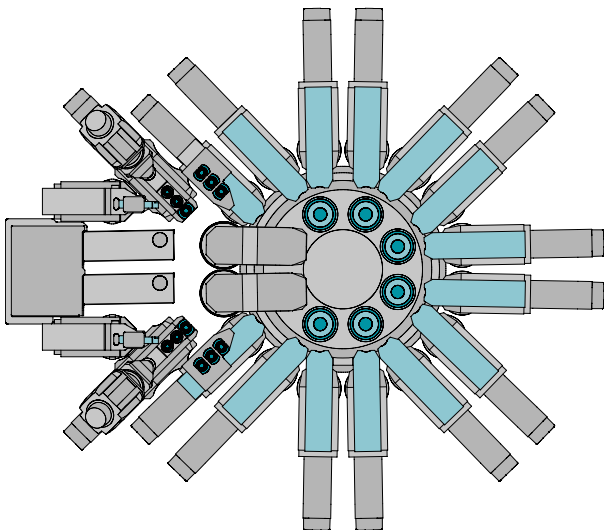


Versatility is the strength of the MS40C-8. Whether complex parts or manufacturing methods are involved – anything is possible

- A maximum of 18 tool carriers with 1 or 2 travel axes
- Y-axis (optional)
- 1 or 2 swiveling synchronous spindles
- Variable use of tool carriers for internal and external machining
- Use of several tools per tool carrier possible
- Cross machining with live tools
- C-axis and multi-edge turning for extended use options

Even more possibilities for rear end machining with a swiveling synchronous spindle

- Up to 7 tools, of which 4 are live
- Fast swiveling motion and hydraulic locking of the swiveling synchronous spindle via a Hirth coupling
- Favorable chip flow due to machining outside the main working area
- Numerous possibilities using live tools in conjunction with C- and Y-axes as well as an electronic shaft



Double four-spindle machine – an interesting upgrade option

- Additional part production time reduction due to simultaneous manufacturing of 2 workpieces
- 18 tool carriers with 1 or 2 axes (optionally also Y-axis)
- 2 swiveling synchronous spindles, up to 7 tools for face machining, 4 of them live (per spindle)

With the same configuration level with simultaneous reverse-side machining in two spindle positions

- Front end machining on 6 main spindles
- Simultaneous cutoff-side machining on 2 swiveling synchronous spindles

Benefit: Reduced cycle time with time-determining rear end machining



ND5

ND7

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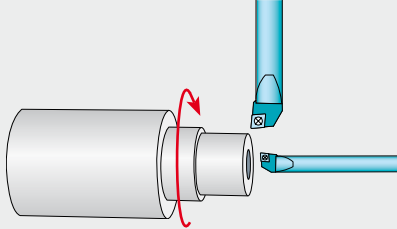
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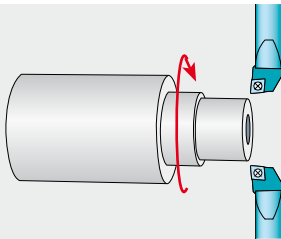


Simply more possibilities for a wide range of technologies

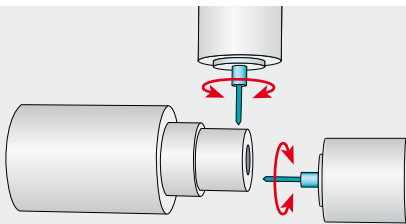


Machining examples

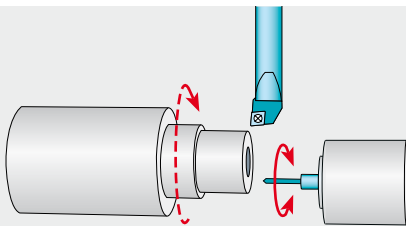
1. External turning –
Internal turning



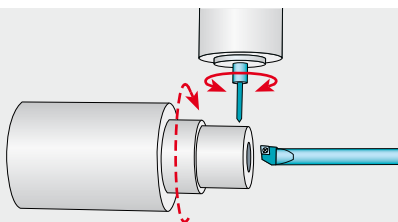
2. External turning –
External turning



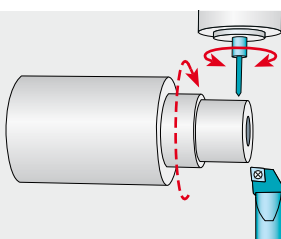
3. Externally live –
Internally live



4. External turning –
Internally live
(sequential)



5. Externally live –
Internal turning
(sequential)



6. Externally live –
External turning
(sequential)



Valve sleeve

Dimensions, mm	Ø35 x 70
Material	42CrMo4



Mounting

Dimensions, mm	Ø38 x 70
Material	16MnCr5



Valve screw

Dimensions, mm	Ø32 x 85
Material	42CrMo4



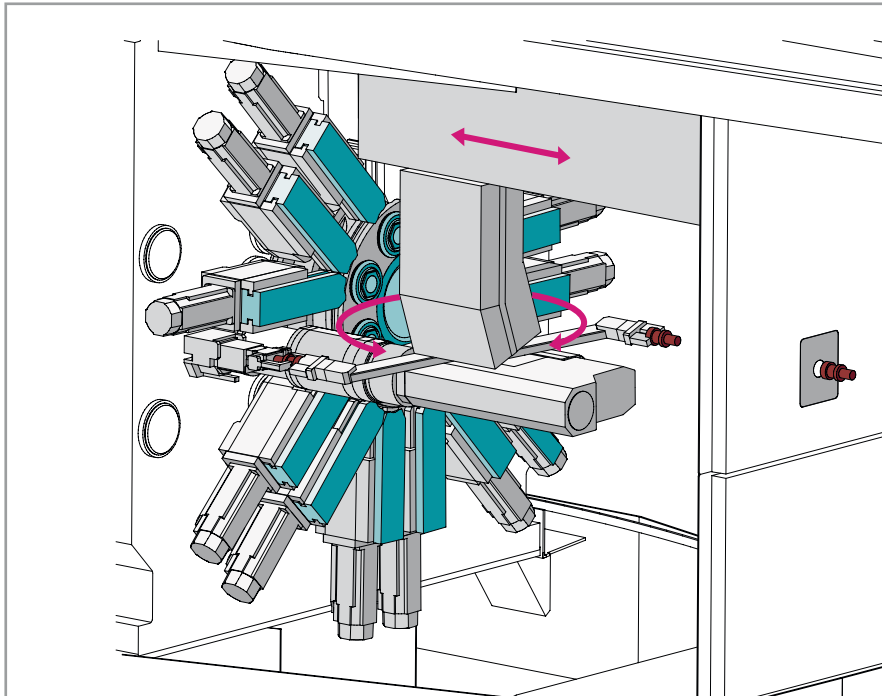
Drive shaft

Dimensions, mm	Ø20 x 115
Material	X8CrNiS18-9

Drive pinion

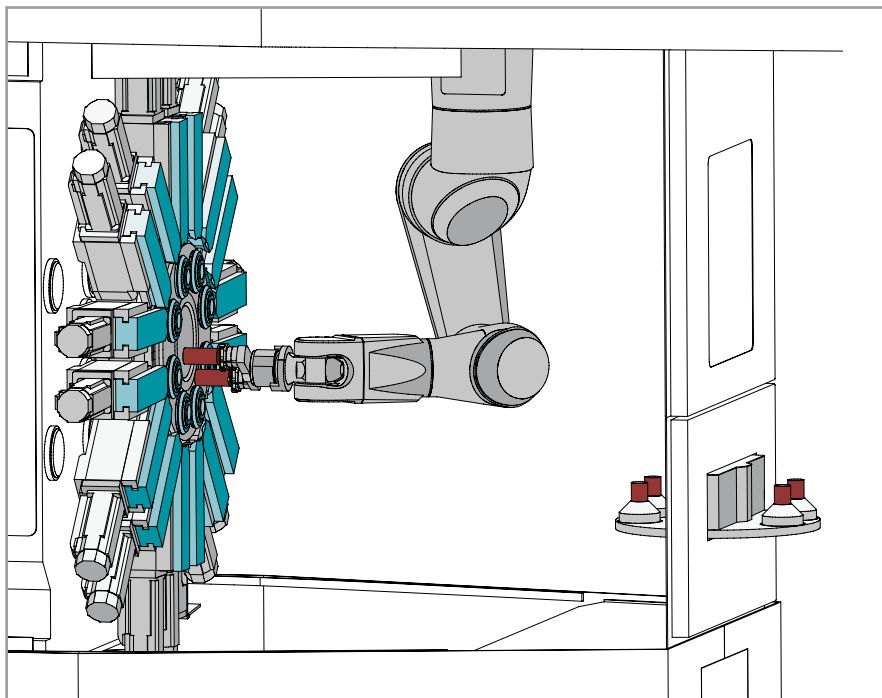
Dimensions, mm	Ø28 x 60
Material	11SMnPb30

Workpiece handling systems



Linear shuttle with intermediate gripper for directed parts removal from spindle position 8

Very rapid, position-oriented removal by a linear and rotary motion. The workpiece is transferred first from the synchronous spindle to the intermediate gripper. The linear shuttle then takes the workpiece from the intermediate gripper and passes it to the external handling system. This process takes place during secondary processing time.



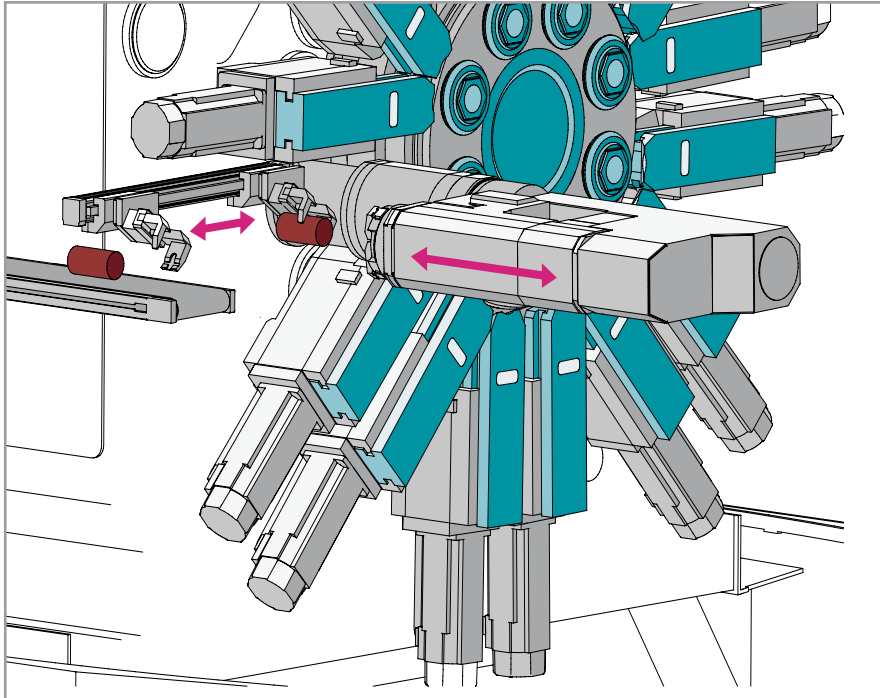
Parts feed and discharge by 6-axis robot via the swivel disk interface to the external handling system

The workpiece handling system for chuck parts and bar segments can be used for 8-spindle machining with and without synchronous spindle, as well as for double 4-spindle machining.

A variant

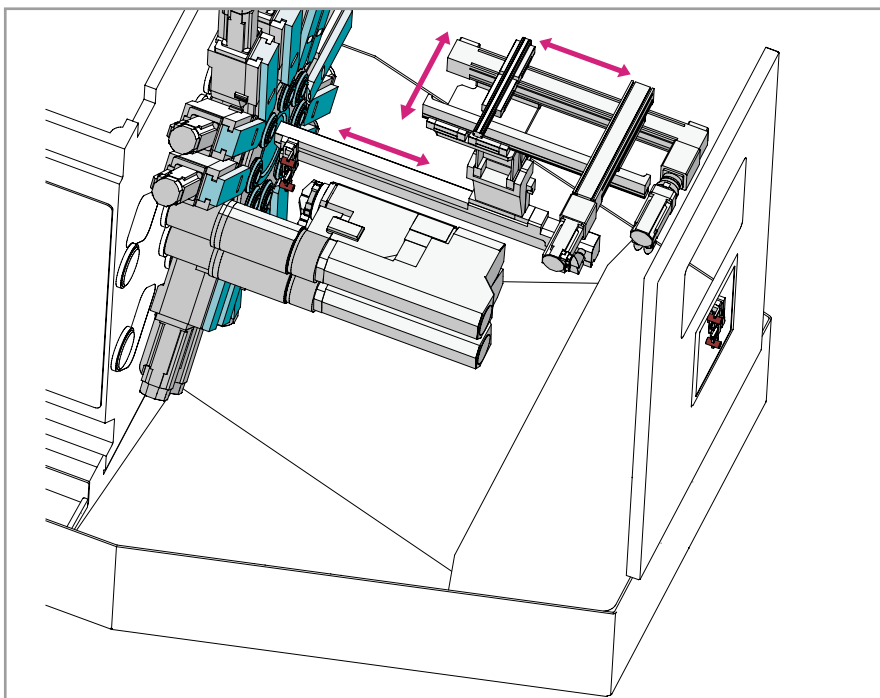
4x OP10 (first side) and

4x OP20 (second side) with external turning station is also possible.



Directed parts removal from synchronous spindle onto the internal conveyor belt

Axially-directed discharge by gripper and linear cylinder from the synchronous spindle in position 8 or 7 and 8 to the internal conveyor belt for parts that may not be ejected.



3-axis linear shuttle for directed parts removal from the synchronous spindle

Damage-free and position-oriented delivery of components from the synchronous spindle in position 8 or 7 and 8 to the external handling system at the front of the machine. All 3 axes of the machine-integrated handling system are NC-controlled.



The cockpit for easy integration of the machine in your business organization.



Focus on production and control – Industry 4.0 included.

The Xpanel operating concept provides access to networked production. With Xpanel your staff always has all relevant information for efficient production right at the machine. Xpanel is already included in the standard and can be individually extended. So you can use Xpanel as you want it for your business organization – that's Industry 4.0 tailored to your needs.

Future-proof.

Xpanel integrates the latest control generation SIEMENS S840D sl. Use XPanel intuitively via an 18.5" touchscreen monitor.



Productive.

Maximum machine performance by optimally tuned processes in machine cycles with clear control screens. In addition, technology cycles for frequently recurring machining operations and safe machine operation as well as for optimum machining quality.



Intelligent.

The machine always starts with the control home screen. Other functions can always be displayed on a second screen, and the operator enjoys direct, activity-related assistance already in the standard version, such as workpiece drawing, setup lists, programming tools, documentation, etc., right at the machine.



Virtual & open.

With the optional VPC box (industrial PC), Xpanel not only opens up the world of Virtual Machine and of simulation directly at the control (VM on Board). Thanks to the VPC-box (option), the machine can also be integrated easily and fully into IT networks and structures. You determine what additional applications are used on the VPC box!















CUSTOMER

18.5" TOUCHSCREEN MONITOR

STANDARD included as standard

OPTION

Industry 4.0 features

- | | | | | | |
|--|---|---|--|--|---|
| 
Order documents | 
Customer data | 
Workpiece counter | 
Production status | 
Drawings | 
Setup sheet |
| 
Notes | 
Information center | 
Maintenance & care | 
User management | 
Technology computer | 
Programming help |

- | | |
|--|--|
| 
VPC Box | 
Virtual Machine 3D simulation |
| 
VirtualPro Programming Studio | 
Custom applications |

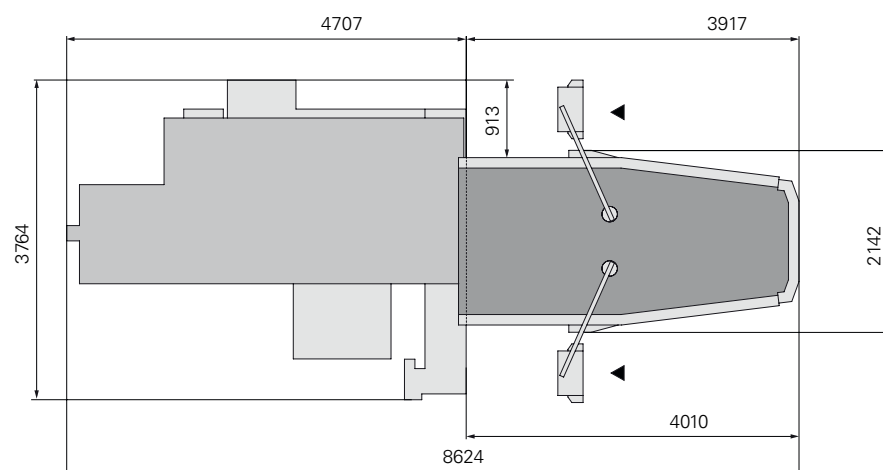
+ many more standard features

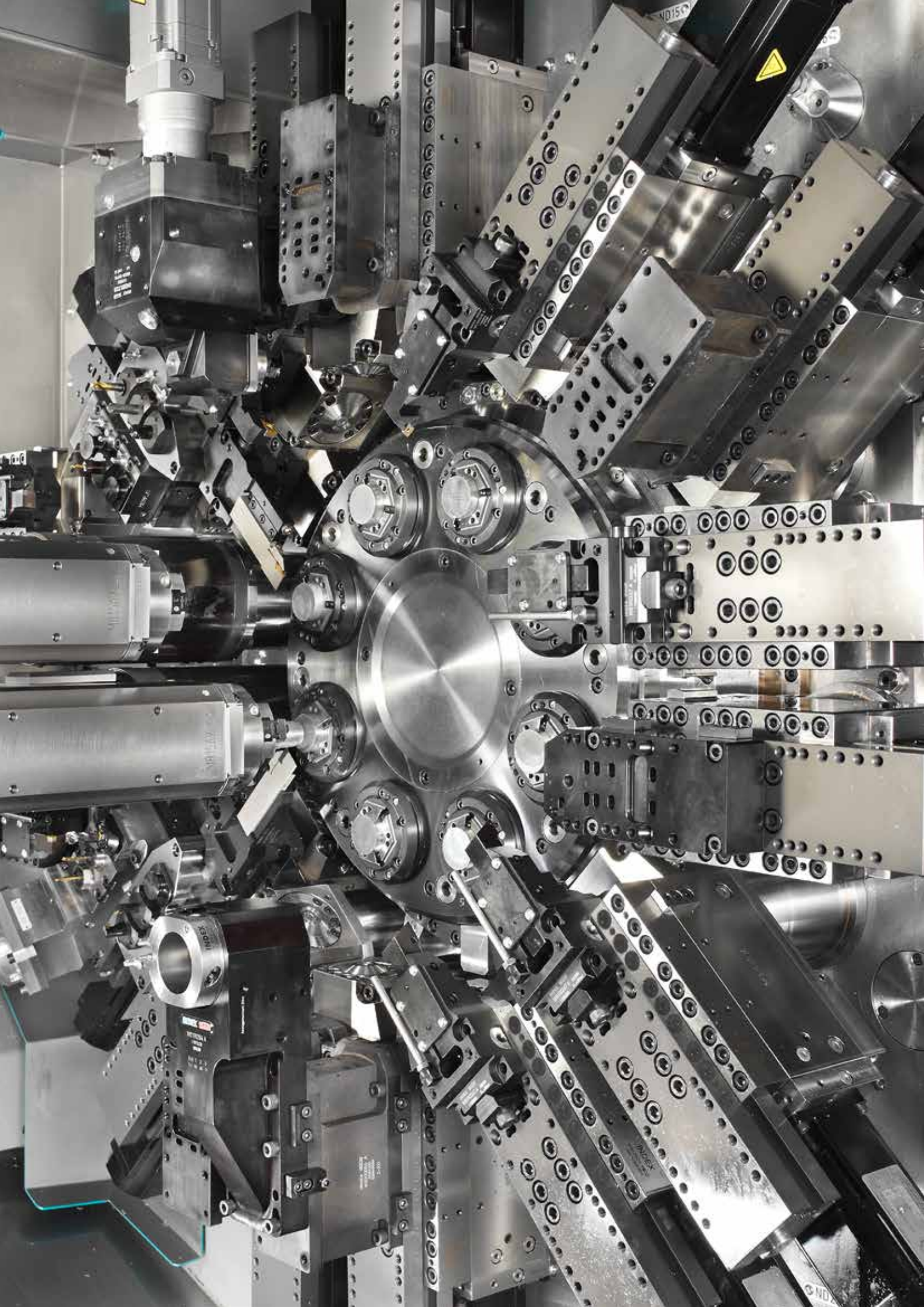
Technical data

Work spindles		8
Max. bar diameter	mm	40
Speed *	rpm	7,000
Power (100%/40%)	kW	13 / 24
Torque (100%/40%)	Nm	31 / 57
Tool carriers		16
Slide travel X	mm	85
Slide travel Z	mm	120
Slide travel Y	mm	42
Synchronous spindle		1 / 2
Max. clamping diameter	mm	40
Speed N _{max.}	rpm	8,000
Speed N _{rated}	rpm	6,000
Power (100%/40%)	kW	10 / 14
Torque (100%/40%)	Nm	16 / 22
Swiveling angle of synchronous spindles	Deg.	190
Slide travel Z	mm	150
Number of tools for rear end machining		7 / 14
Back-boring slides 7.3 / 8.3 (optional)		
Tool carriers for rear end machining		1 / 2
Slide travel X	mm	82
Number of tools for rear end machining		3 / 6
Quantity that are driven		2 / 4
Back-boring slides 7.4 / 8.4 (optional)		
Tool carriers for rear end machining		1 / 2
Slide travel X	mm	45 / 55
Slide travel Z	mm	120
Number of tools for rear end machining		1 / 2
Quantity that are driven		1 / 2
Machine dimensions		
Length x width x height	mm	4010 x 2142 x 3216
Weight	kg	10,300
Connected power		66-104 kW, 78-123 kVA, 113-177 A, 400 V, 50/60 Hz
Control		INDEX C200 sl (based on Siemens S840D sl)
Options		
Polygon turning, hobbing, tool monitoring, Y-axis, transmit function		

MS40C-8

Loading magazine MBL 3300





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The logo for INDEX TRAUB. The word "INDEX" is in a bold, teal, sans-serif font. Below it, the word "TRAUB" is in a bold, red, sans-serif font, with a red curved line arching over the letters "T" and "R".**INDEX-Werke GmbH & Co. KG****Hahn & Tessky**

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