

MultiLine MS16C Plus

CNC Multi Spindle
Turning Machines



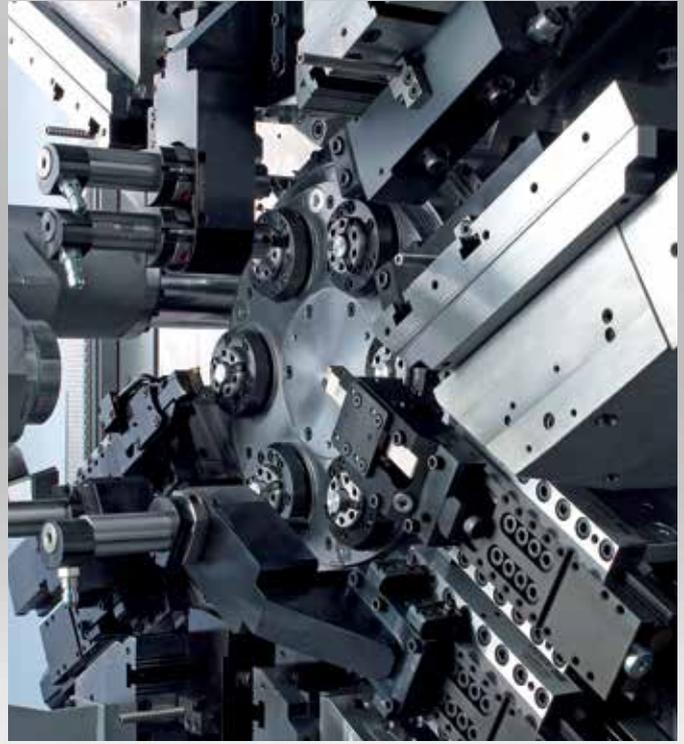
CNC multi-spindle machine: More dynamics, less secondary times!

The MS16C with its enlarged bar capacity of max. 22 mm combines the flexibility of modern INDEX CNC multi-spindle technology with the familiar productivity of cam-controlled machines. With 5 extremely rigid CNC grooving slides, optionally also drilling slides instead of grooving slides, and further machining slides with X- and Z-axes, almost all geometries and machining tasks can be managed with the ease of an ultra-

modern open-front INDEX CNC multi-spindle machine. Shortest possible changeovers, ultra-high dynamics and lowest secondary times are the basis of minimal cost per part.



**Open front, flexible and productive –
the machine design of the MS16C Plus**



Extremely high power density for maximum production output with minimum footprint

- Freely accessible and setup-friendly work area
- Grooving or drilling slide for maximum cutting performance with minimum machining time
- Quick tool setup by INDEX W-serration
- Spindle drum with individual drives of the work spindles
- Cross-slide for flexible complete machining
- CNC cutoff slide with extended stroke for rear end machining
- Max. 2 highly dynamic synchronous spindles with extremely short acceleration and deceleration times

Optional

- Cut-off slid and separate rear machining slide

The core– top precision from INDEX

Our hallmark – the spindle drum

The compact spindle drum ensures maximum precision in each position through the use of a three-piece Hirth coupling. The core is composed of 6 fluid-cooled motorized spindles integrated in the spindle drum. An infinitely variable speed range, high torque, high thermal stability, small compact design and low maintenance – that’s what INDEX CNC multi-spindle machines stand for.

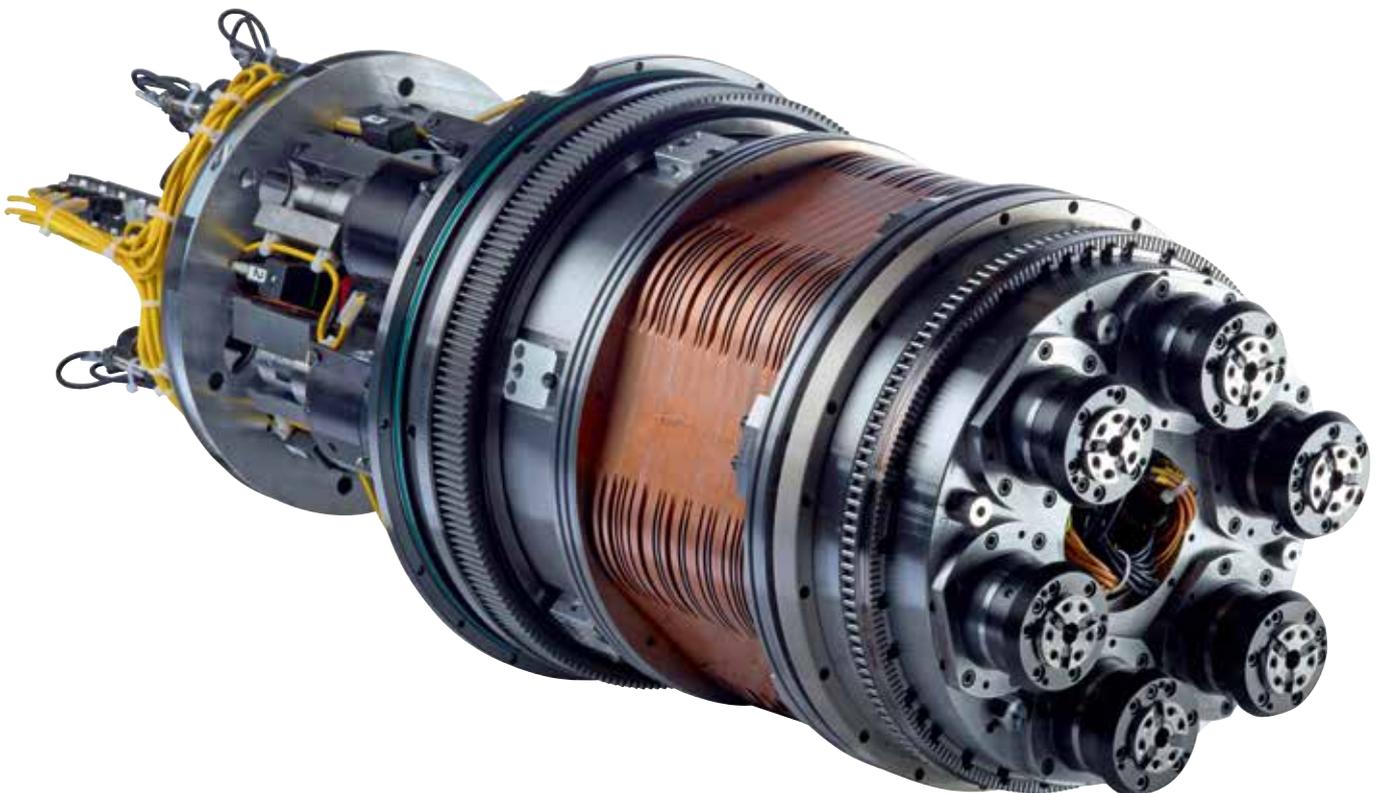
Independent speeds

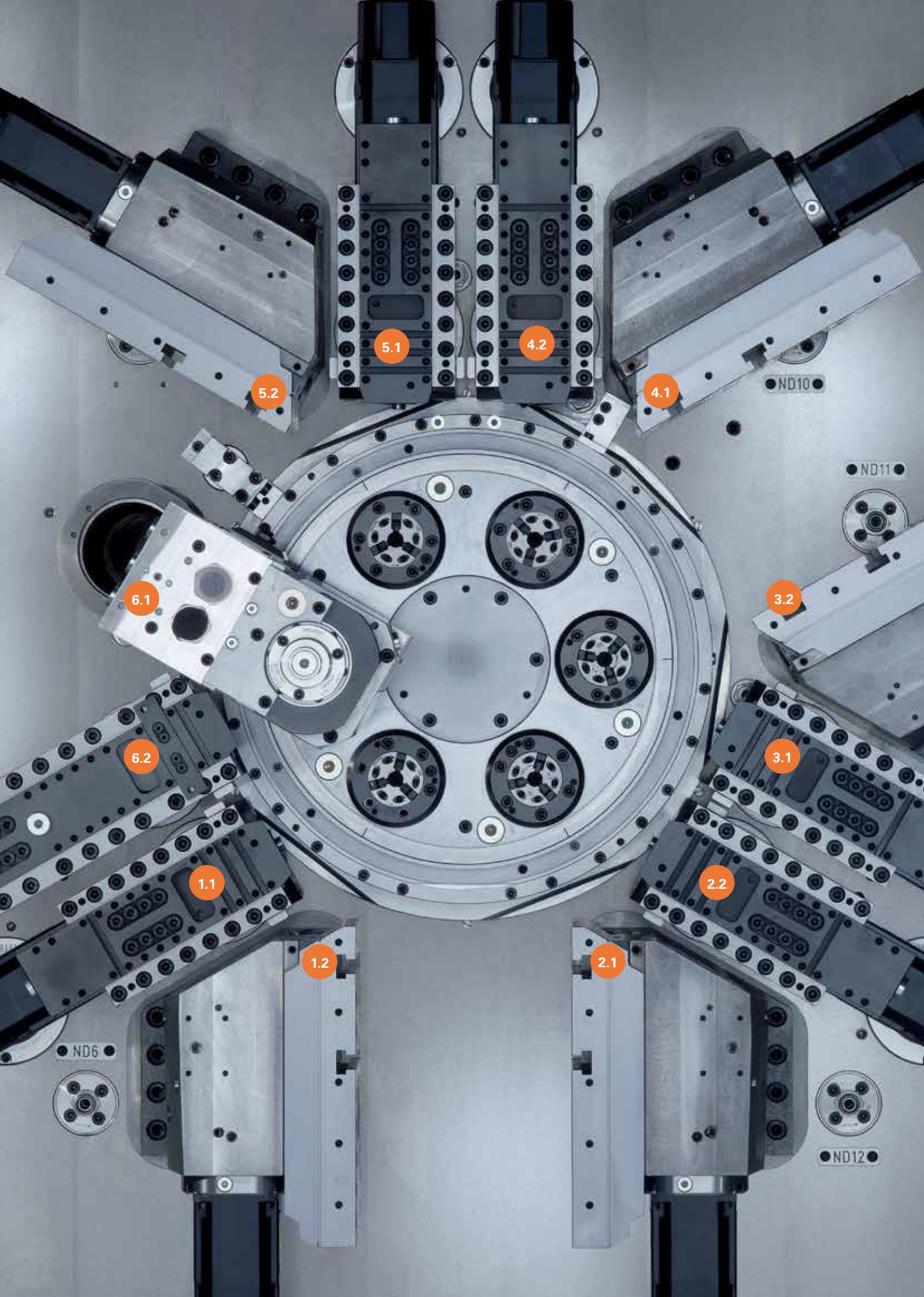
During machining, it is always possible to program the optimum speed, which can still be varied during cutting, for each spindle position and each cutting edge of the tool. The result is optimum chipping, maximum surface quality, short production times per piece, and extended tool life. You can also machine high-strength materials that up to now were hardly suitable especially for cam-controlled 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 and C-axes give you access to entirely new processes, such as:

- Off-center drilling and thread cutting
- Inclined drilling
- Cross drilling
- Contour milling
- Multi-edge turning





5.1

4.2

5.2

4.1

ND10

ND11

6.1

3.2

6.2

3.1

1.1

2.2

1.2

2.1

ND6

ND12

Amazingly fast, impressively flexible

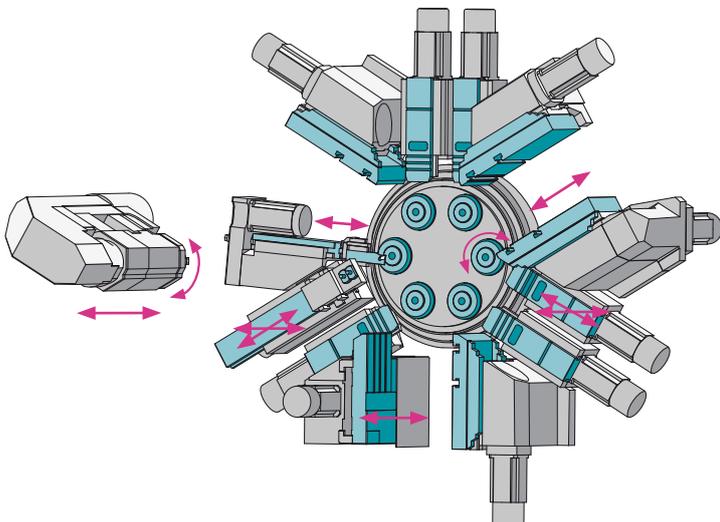


With dynamic and diverse machining capabilities at low unit costs

- A maximum of 12 tool carriers with 1 or 2 travel axes
- Max. 2 fast synchronous spindles for rear end machining
- Several tools per cross-slide possible
- Variable use of tool carriers, internal-external, stationary or live
- C-axis machining possible in every spindle position
- Polygon turning and other machining options

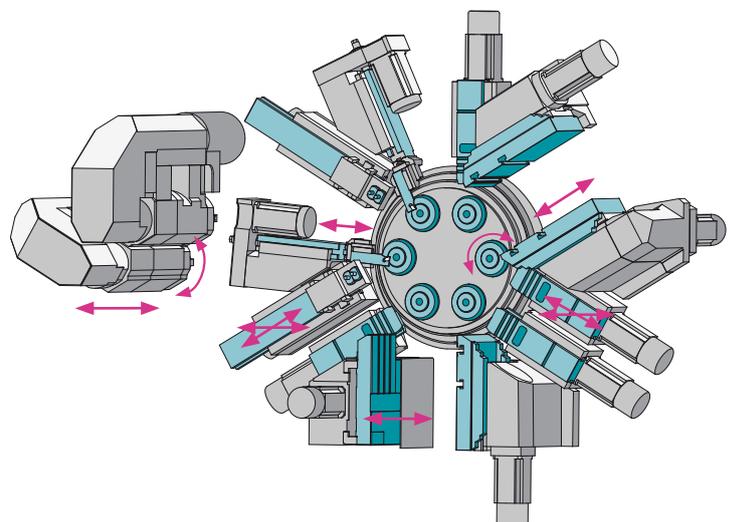
Configuration as a single synchronized machine

- Synchronized spindle in position 6.1
- Cutoff and rear end machining slide in position 6.2
- Grooving or drilling slide
1x selectable per spindle position (1 to 5)
- Extension version with separate cutoff slide 6.0 and pure rear end machining slide 6.2
- Cross slide 1x per spindle position (1 to 5 selectable)



Configuration as a double synchronized machine

- Synchronized spindle in position 5.1/6.1
- Cutoff and rear end machining slide in position 5.2/6.2
- Grooving or drilling slide
1x selectable per spindle position (1 bis 4)
- Extension version with separate cutoff slide 5.0/6.0 pure rear end machining 5.2/6.2
- Cross slide 1x per spindle position (1 to 4 selectable)

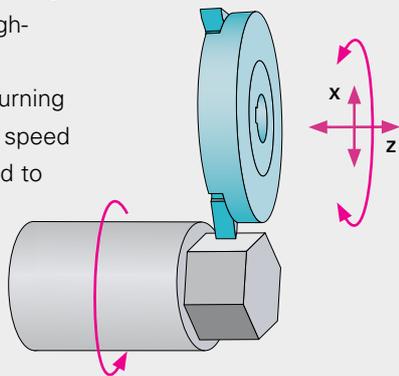


For various technologies

Polygonal turning

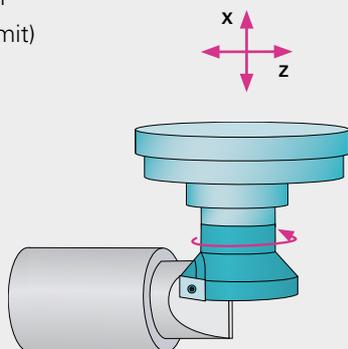
Polygonal turning is possible in longitudinal and grooving processes, even in high-alloy materials

Example: hexagonal turning $i=2:1$, referring to the speed ratio of the cutter head to the workpiece



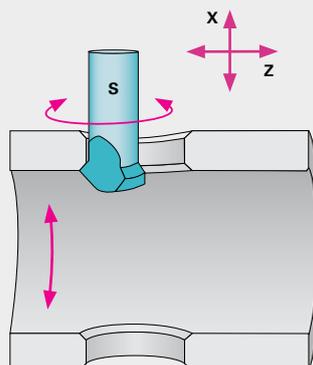
Milling

Milling with live tool, also in conjunction with C-axis operation (Transmit)



Elliptical deburring of cross-drill holes

Uniform deburring (even chip removal) of cross-drill holes based on interpolation of the C-axis, X-axis, and Z-axis with live tool



Simply more possibilities

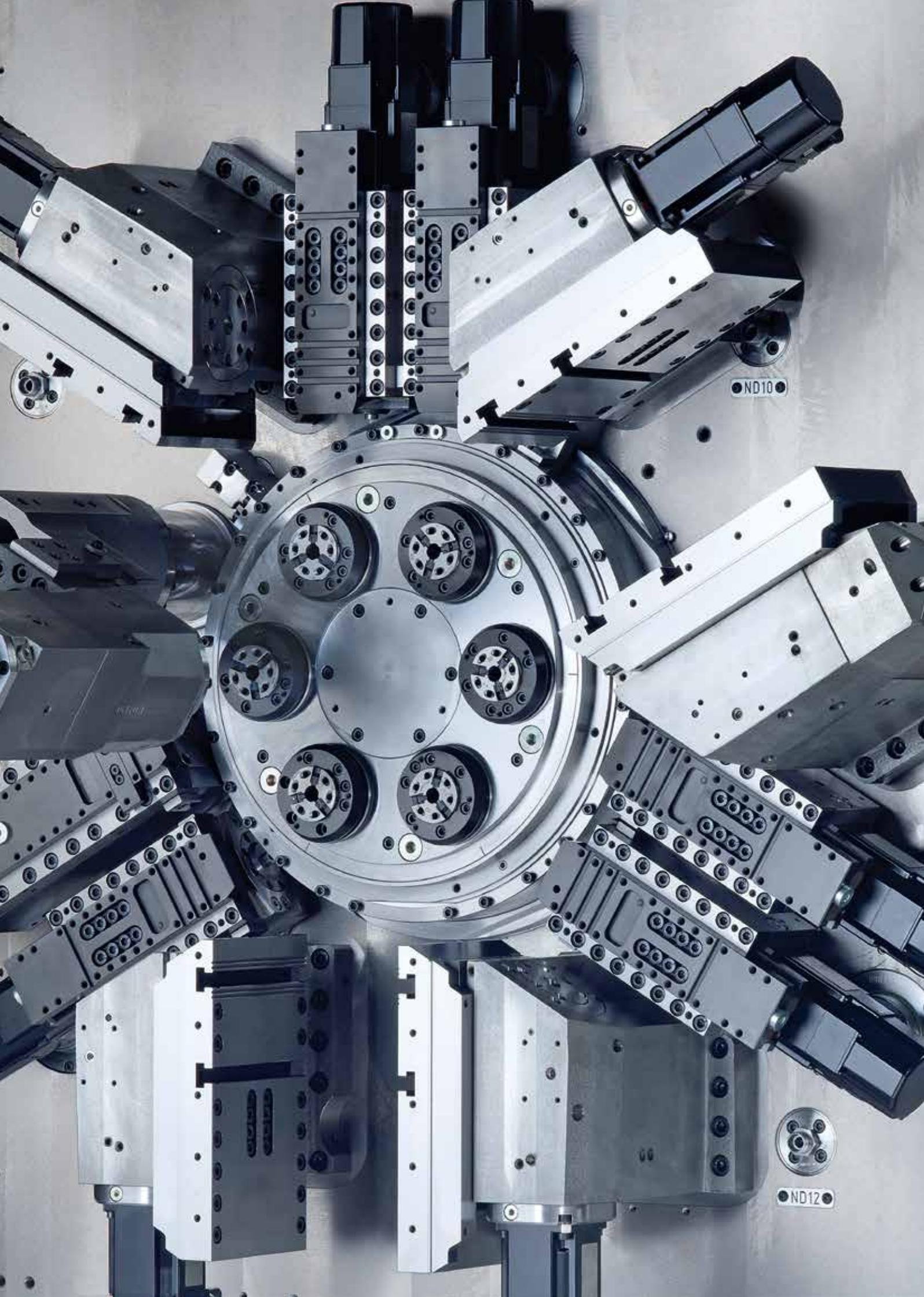
The work area—almost limitless machining capabilities in each spindle position

The tool carrier arrangement in the work area allows unrestricted use of several stationary or live tools – also for external machining – on each spindle. The possible machining operations are thus limited only by the tool holder. As a result, you can specify all production steps in all spindle positions. Another advantage: unhindered chip flow.

Performance as we understand it

Maximum productivity and cost-effectiveness of multi-spindle machines, combined with the precision and flexibility of CNC single-spindle machines, is the formula for success of the MS16C Plus multi-spindle machine.

	Machining examples
	2. External grooving – Internal turning
	3. External grooving – External turning
	4. Live radially – Live axially
	5. External grooving – Live axially (sequential)
	6. Live radially – Internal turning (sequential)
	7. Live radially – External turning (sequential)



ND10

ND12

Powerful and convenient control

New and optimized

The new INDEX C200 sl control is firmly committed to the new SIEMENS S840D Solution Line control and SIEMENS SINAMICS drives and therefore represents the highest level of performance and functionality. This ensures future security and productivity!

Forward-looking – The operation

The INDEX MS16C Plus has a 43.5 cm monitor screen with full touch-sensitive surface. A touch of the finger now suffices to use softkeys directly on the screen to open files, folders and menu trees or to move entire pages on the screen. Even switching the operating areas or enabling/disabling of block skip levels is now done simply by "finger pointing" on the screen.

Compatible

Despite the innovative technology, the new INDEX C200 sl control is compatible with the previous control in all key operating areas.

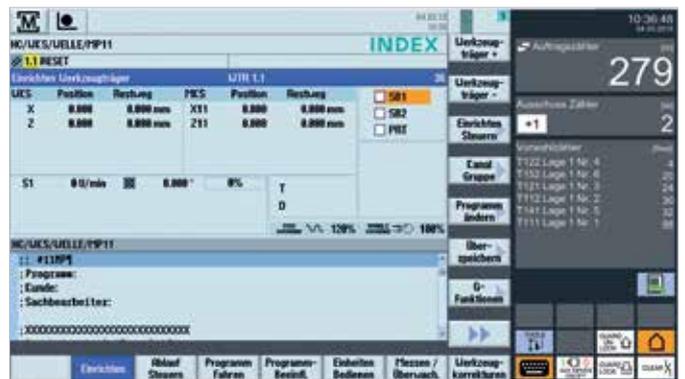
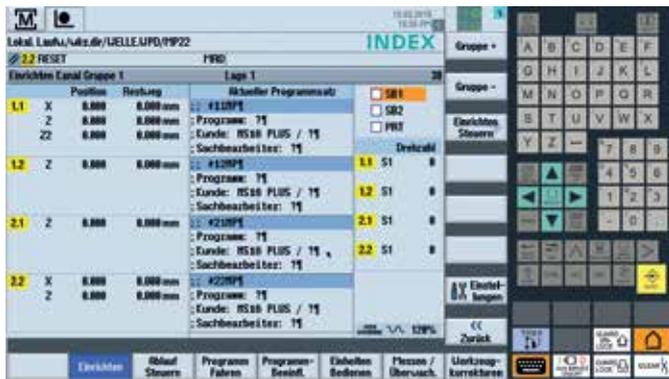
Innovative

In addition to the adoption of various selector switches directly into the touch-sensitive user interface on the screen, LED backlit control buttons and switches on the machine control panel are also part of the new control concept.

They are used by the control to actively indicate allowable movements or enabled switches to the operator – inadmissible movements and switches remain dark.

Actions expected by the operator are signaled by flashing keys!

In this way, the C200 sl control communicates directly with the operator!



Advanced

- The latest editor for easy and fast programming
- Convenient display functions such as multi-editor, animated cycles, etc.
- Programming of mathematical functions, variables and workpiece counts
- The same functionality for turning, milling, drilling
- Easy network integration through control-integrated network technology
- Intelligent online help, detailed descriptions of error causes and remedies

Efficient

- Largely unchanged machine operation and key arrangement compared to the previous control (INDEX)
- Practical machine cycles support safe, time-effective and collision-free machine operation
- Internal calculation accuracy better than nano-interpolation (80-bit floating point arithmetic)
- All displays and operating inputs in clear text
- More than 20 foreign languages

Productive

- Latest control generation with maximum performance
- Full-fledged Y-axis/axes for drilling and milling
- Comprehensive technology cycles for error-free and optimal machining quality
- Free assignment and programming of additional drilling and milling units
- Fast and safe job change by automatic saving of setup data and automatic re-initialization at (re-) selection of the job

Safe

- Tool breakage monitoring from INDEX or ARTIS available (option)
- Safety Integrated Inside: Continuous safety monitoring and testing integrated in the control
- Post-process and in-process measurement possible (optional)
- INDEX Virtual Machine & VPro Programming Studio for off-machine programming, setup, optimizing on a PC (option)

INDEX

HC/UKS/UELE/MP11

Spindelträgerstellung

Position	100.000°
Ishwert	1100.000 mm
Selshwert	1100.000 mm
Container	3
Stellung genau	1150.1+1
Barlastung	0%
Betriebsart UHM/SIG	✓
Freigabe UHM/SIG	✓

180.0°

100%

Einrichten Abstand
Stauraum Program
Fahren Program-
Beeinfl. Einleiten
Bedienung Messen /
Überwach. Werkzeug-
korrekturen

Schaltung 98 Grad
Schaltung 30 Grad
Schaltung Spind. 1 in 1
Verriegeln
Entriegeln
Details
ausblenden
Zurück

HOME
LOCK
CLEAR

Hand control panel with:

- Emergency stop button (red)
- Joystick
- Rotary dials (0-100%)
- Function keys (F1-F12)
- Power switch
- Key

Technical data

Working spindles		6
Max. bar diameter	mm	22
Speed *	rpm	10000
Power (at 100%/25%)	kW	8.7 / 15
Torque (at 100%/25%)	Nm	10 / 18
Tool carrier / cross slide max.		5
Slide travel X	mm	45
Slide travel Z	mm	70
Tool carrier / cross slide max.		5
Slide travel X	mm	45
Tool carrier / drilling slide max.		5
Slide travel Z	mm	70
Tool carrier / cutoff slide max.		2
Slide travel X	mm	14
Tool carrier / cutoff and back-boring slide max.		2
Slide travel X	mm	94
Slide travel Z	mm	79
Number of tools for rear end machining / synchronous spindle		2
or		3, of which 2 are live
Synchronous spindle max.		2
Max. clamping diameter	mm	22
Speed *	rpm	10000
Power (at 100%/40%)	kW	9.2 / 12
Torque (at 100%/40%)	Nm	11 / 14
Slide travel Z	mm	140
Dimensions, weight, and connection values (for maximum configuration level, without bar guide or loading magazine)		
Mass	kg	ca. 5200
Length	mm	2599
Width	mm	1300
Height	mm	3044
Power consumption **		approx. 49 kW

Control

INDEX C200-4D (based on Siemens S840D sl) with Teleservice feature, spindle stop, C-axis in standard scope

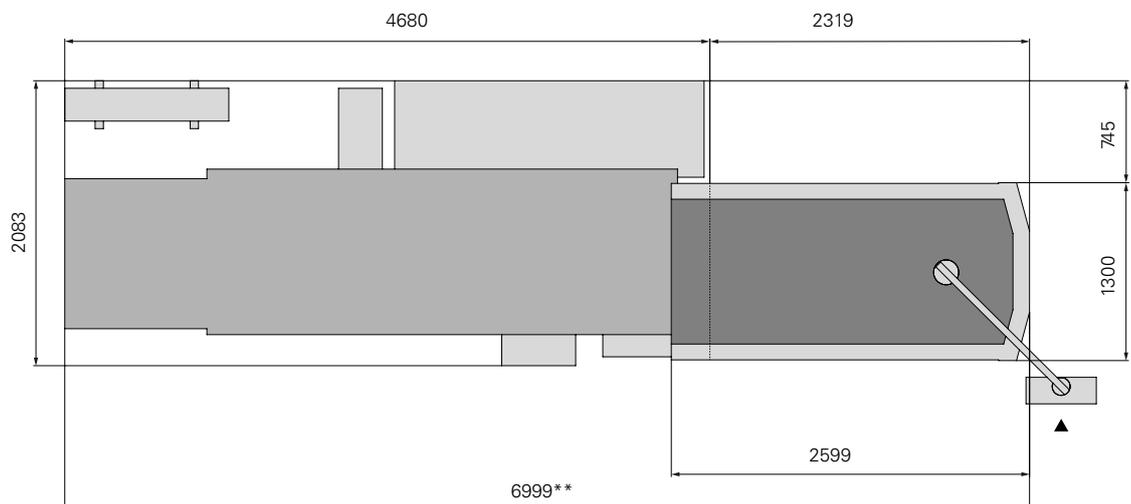
Options

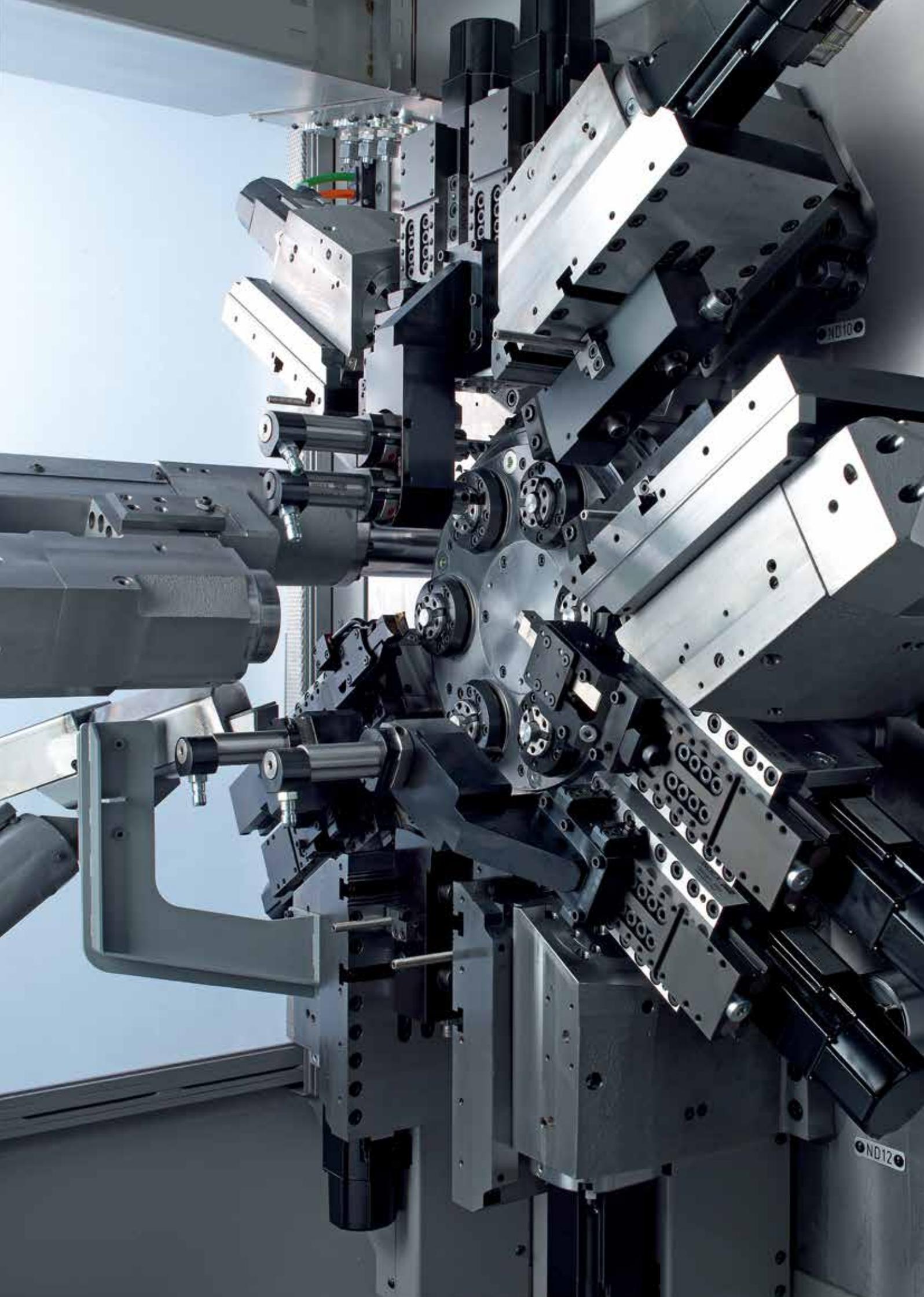
Multi-edge turning, tool monitoring, transmit function

* Speed limitations are necessary, depending on bar diameter, bar guide, and workpiece clamping

** Dependent on I/O devices

MS16C Plus
IEMCA SIR 22/3300





BRAZIL // Sorocaba

INDEX Tornos Automaticos Ind. e Com. Ltda.
Rua Joaquim Machado 250
18087-280 Sorocaba - SP
Phone +55 15 2102 6017
vendas@indextornos.com.br
www.indextornos.com.br

CHINA // Shanghai

INDEX Trading (Shanghai) Co., Ltd.
No. 18 Gu Fang Rd
Shanghai 201102
Phone +86 21 54176637
info-shanghai@indextraub-china.com
www.index-traub.cn

CHINA // Dalian

INDEX DALIAN Machine Tool Ltd.
17 Changxin Road
Dalian 116600
Phone +86 411 8761 9788
dalian@index-traub.com
www.index-traub.cn

DENMARK // Langeskov

INDEX TRAUB Danmark
Havretoften 1
5550 Langeskov
Phone +45 65993401
t.frydensberg@index-traub.dk
www.index-traub.dk

GERMANY // Esslingen

INDEX-Werke GmbH & Co. KG Hahn & Tessky
Plochinger Straße 92
73730 Esslingen
Phone +49 711 3191-0
info@index-werke.de
www.index-werke.de

GERMANY // Deizisau

INDEX-Werke GmbH & Co. KG Hahn & Tessky
Plochinger Straße 44
73779 Deizisau
Phone +49 711 3191-0
info@index-werke.de
www.index-werke.de

GERMANY // Reichenbach

INDEX-Werke GmbH & Co. KG Hahn & Tessky
Hauffstraße 4
73262 Reichenbach
Phone +49 7153 502-0
info@index-werke.de
www.index-werke.de

FINLAND // Helsinki

INDEX TRAUB Finland
Hernepellontie 27
00710 Helsinki
Phone +35 8 108432001
pekka.virkki@index-traub.fi
www.index-traub.fi

FRANCE // Paris

INDEX France Sarl
Avenue du Québec / Z.A. de Courtabœuf
91941 Les Ulis Cedex
Phone +33 1 69187676
info@index-france.fr
www.index-france.fr

FRANCE // Bonneville

INDEX France Sarl
399, Av. de La Roche Parnale
74130 Bonneville Cedex
Phone +33 4 50256534
info@index-france.fr
www.index-france.fr

NORWAY // Oslo

INDEX TRAUB Norge
Postbox 2842
0204 Oslo
Phone +46 8 505 979 00
h.sars@index-traub.se
www.index-traub.no

SWEDEN // Stockholm

INDEX TRAUB Nordic AB
Fagerstagatan 2
16308 Spånga
Phone +46 8 505 979 00
h.sars@index-traub.se
www.index-traub.se

SLOVAKIA // Malacky

Gematech s.r.o.
Vínohrádok 5359
Malacky 901 01
Phone +34 654 9840
info@index-werke.de
www.index-traub.com

UNITED STATES // Noblesville

INDEX Corporation
14700 North Point Boulevard
Noblesville, IN 46060
Phone +1 317 770 6300
sale@index-usa.com
www.index-usa.com

better.parts.faster.

INDEX
TRAUB

**INDEX-Werke GmbH & Co. KG
Hahn & Tessky**

Plochinger Straße 92
73730 Esslingen

Phone +49 711 3191-0
Fax +49 711 3191-587
info@index-werke.de
www.index-werke.de