

MS24-6

CNC multi-spindle automatic lathe
for high productivity
and short cycle and setup times

INDEX



better.parts.faster.

INDEX CNC multi-spindle automatic lathe: high level of flexibility, shorter setup and cycle times

With the INDEX MS24-6 multi-spindle automatic lathe, which can be configured according to manufacturers' specific needs, INDEX is presenting a machine concept that meets stringent requirements and the highest demands.

Six main spindles, up to two swiveling synchronized spindles, and up to twelve tool carriers, which can be freely configured as cross slides X/Y/Z or boring slides Z, enable highly productive machining options.

The INDEX quick-clamping system, patented W-serration, and ergonomic open-front work area minimize setup times.

Maximum dynamic response and minimum non-productive times also contribute to low part costs.



Flexible, highly productive, and quick to set up – the machine concept of the INDEX MS24-6:

- Highly-dynamic cross slide with sliding guide (X axis)
- Non-wearing Z axis thanks to quills with hydrostatic support
- Freely accessible working area, making setup particularly easy
- Fast tool setup with the INDEX quick clamping system and its W-serration interface
- Chucked part machining with loading and unloading by linear or robot handling units
- Extremely fast swiveling synchronized spindles with C axis - the swivel arm is locked in its working position by a three-piece Hirth coupling providing maximum rigidity
- Up to 6 tools for rear end machining per swiveling synchronized spindle
- High productivity per unit area thanks to reduced footprint



The core: it's original, when it originates from INDEX

Our hallmark: the spindle drum

The compact spindle drum ensures maximum precision in each and every position through the use of a Hirth coupling. The core is composed of six fluid-cooled motorized spindles integrated in the spindle drum. An infinitely variable speed range, high tractive force, compact design, low maintenance, and the latest synchronous drive technology – these are the criteria that make an INDEX CNC multi-spindle automatic lathe stand out.

Workpiece clamping can be achieved both by push/pull or chuck clamping. This opens up a wide range of possibilities for raw part feeding and machining.

Independent speeds

During machining, it is always possible to program the optimum speed, which can still be varied even during tool engagement, for each spindle position and each cutting edge of the tool.

The results are optimized material removal, 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 for multi-spindle machines.

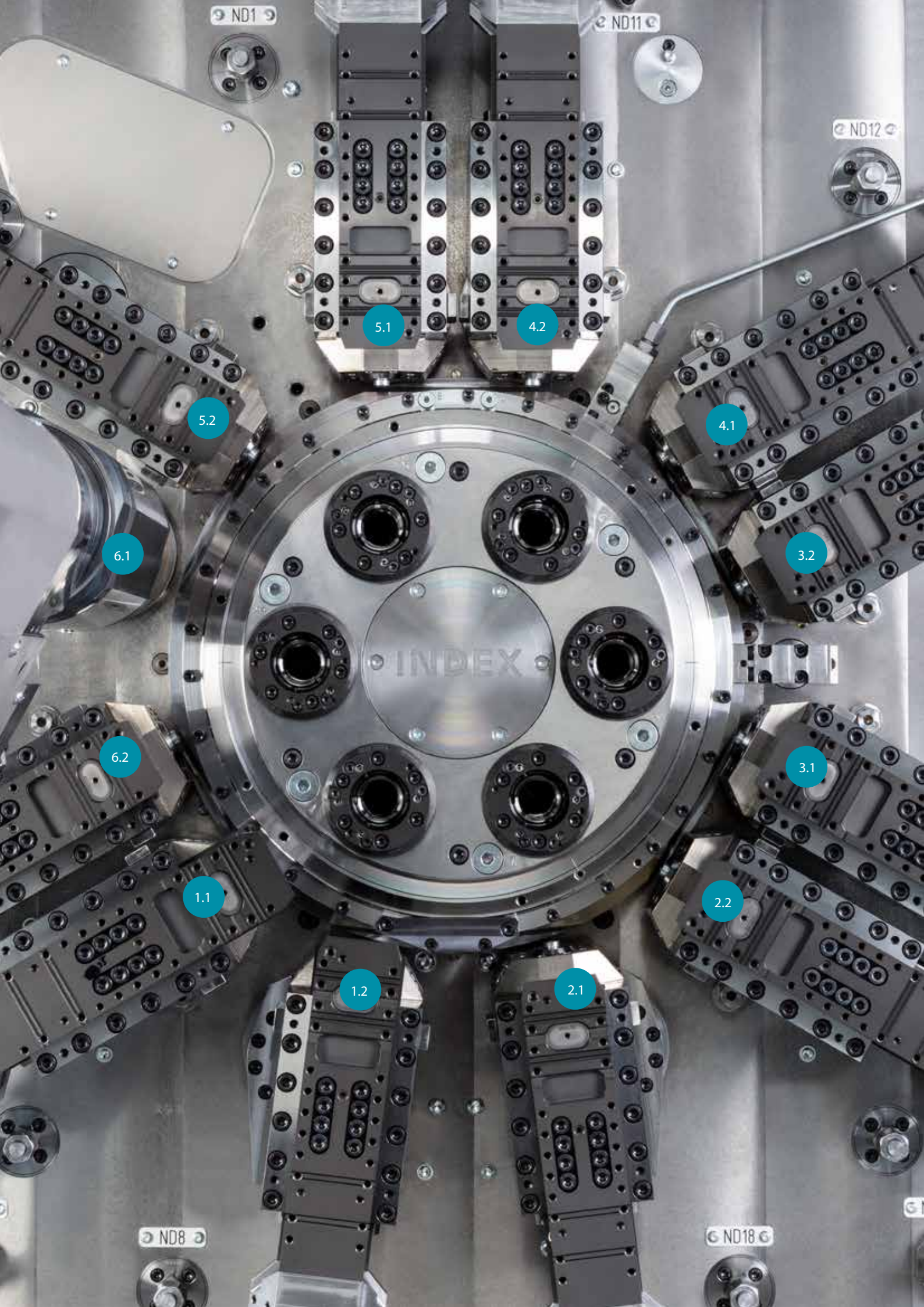
It is possible to make speed changes during drum indexing, thus avoiding any additional secondary times.

More than just turning

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

- off-center drilling and tapping
- inclined bores
- cross drilling
- contour milling
- Hobbing
- polygon turning





ND1

ND11

ND12

5.1

4.2

5.2

4.1

6.1

3.2

1.2

2.1

6.2

3.1

1.1

2.2

ND8

ND18

INDEX

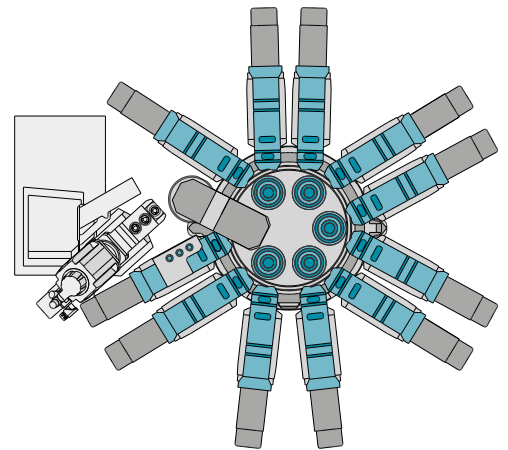
Precise, fast, and flexible

Versatility is a strength of the INDEX MS24-6. Whether complex or more simple parts are involved or even varying processes, –anything is possible

- A maximum of 12 tool carriers with 1 or 2 travel axes
- Y axes (optional)
- 1 or 2 synchronized 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 polygon turning for extended fields of application

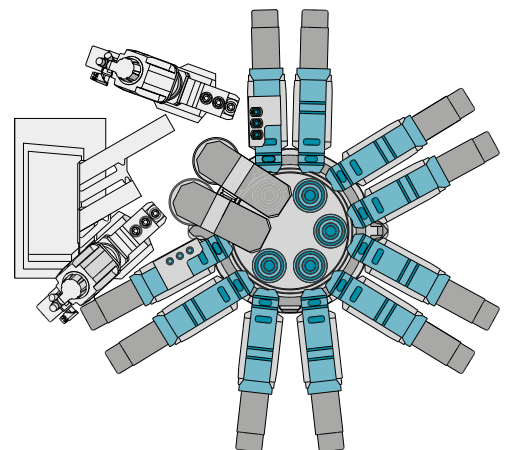
Rear-end machining with swiveling synchronized spindle

- Up to 6 tools, 2 of which are live
- Fast swivel motion and hydraulic locking of the swiveling synchronized spindle by means of a Hirth coupling
- Efficient chip flow, as machining takes place outside the main working area
- Numerous machining options using live tools in conjunction with C and Y axes, and also with an electronic shaft



The double three-spindle machine – for maximum work output

- Additional part production time reduction as a result of the simultaneous manufacturing of 2 workpieces
- 10 tool carriers with 1 or 2 axes (optionally also Y axis)
- 2 swiveling synchronized spindles
- 2 back-boring slides (optional) each with 3 tools, of which up to 2 are power-driven tools



With the same equipment level as a six-spindle machine and simultaneous rear-end machining in two spindle positions

- Front end machining on 4 main spindles
- Simultaneous cut-off-end machining on 2 swiveling synchronized spindles

The tool holders

Tool holder change: 50% faster setup times

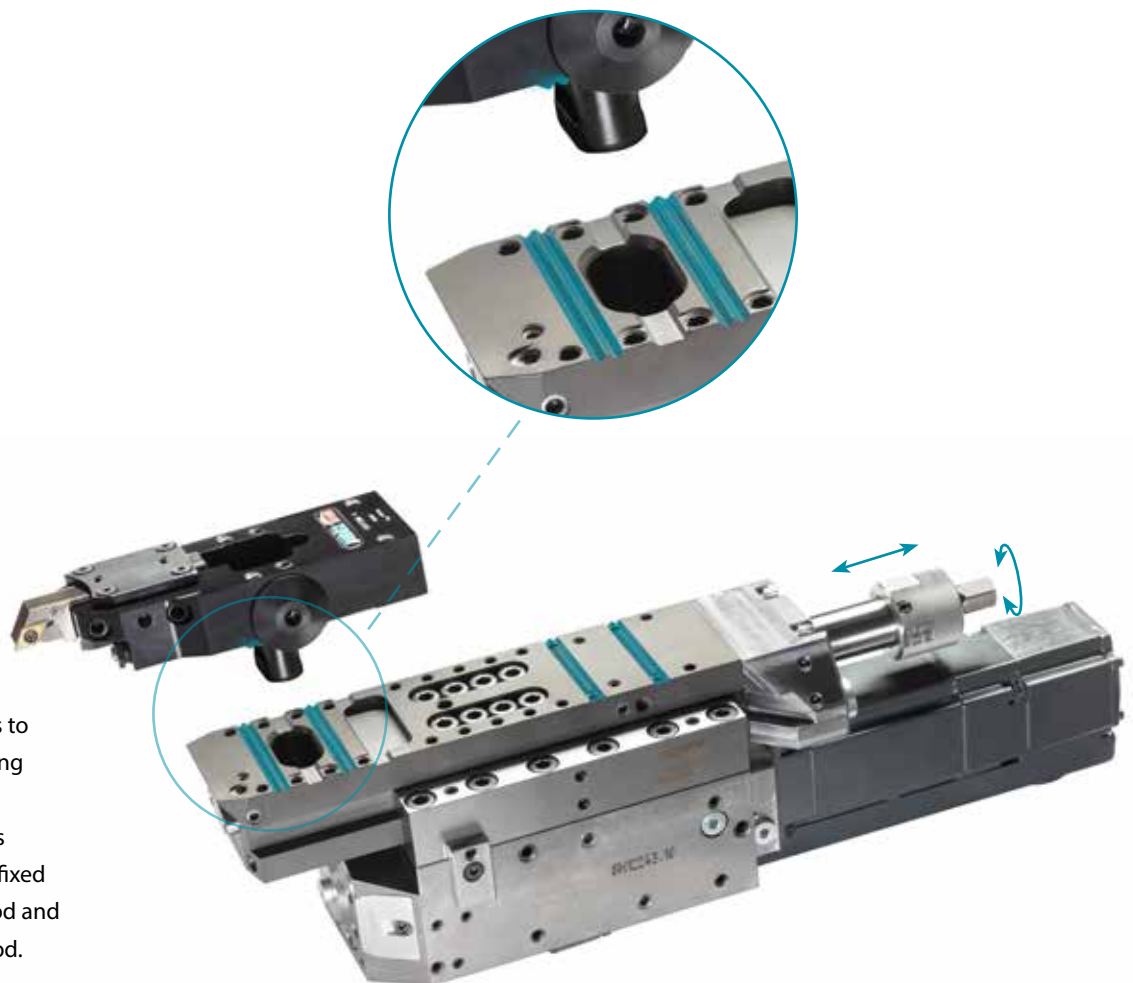
The INDEX MS24-6 succeeds in further simplifying various setup tasks. Each cross slide now has a W-serration interface, which significantly facilitates the μm -accurate alignment of the tool holder and prevents its misalignment. The operator can preset the tool holder externally, place it on the slide, and fix it in position using the newly developed INDEX quick clamping device. All that is then needed is a quick turn with the wrench and the holder is ready to use. Thanks to this plug & play approach, the holder is changed in just half the time.

It is important to note that previous tool holders with dovetail mounting can still be used.

The INDEX W-serration principle

The patented INDEX W-serration interface ensures high repeat accuracy for the cross slides when tools are changed:

- Quick and precise positioning of tool holders
- Short setup/changeover times
- Extended life of cutting inserts
- Suitable for stationary and live tools
- Measuring on an external presetting unit is possible
- Quick tool changes thanks to the INDEX quick-clamping system – changing takes only half the time compared to conventional clamping systems



50% time-saving thanks to the INDEX quick clamping system with integrated W-serration on the cross slide: The tool holder is fixed in position using a tie rod and pre-tensioned wedge rod.

Simply more possibilities

The work area – virtually limitless machining capabilities in each spindle position

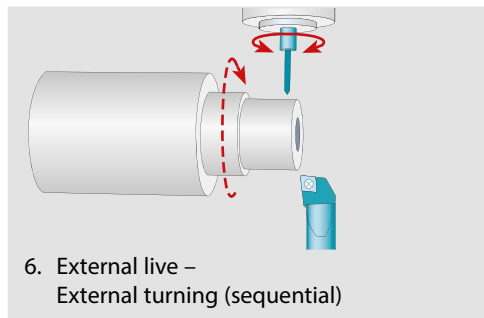
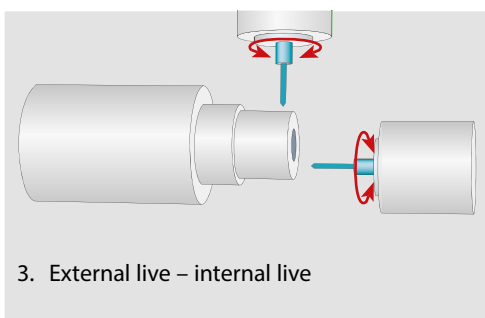
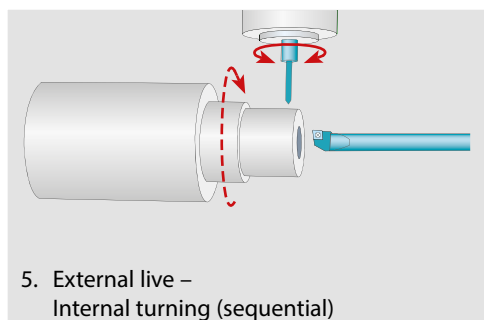
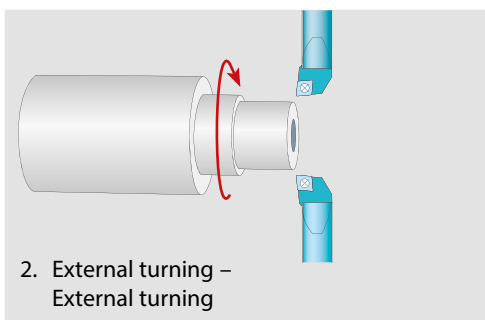
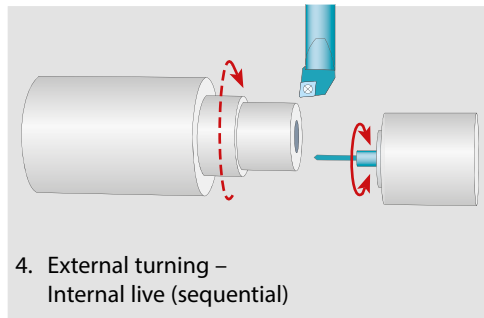
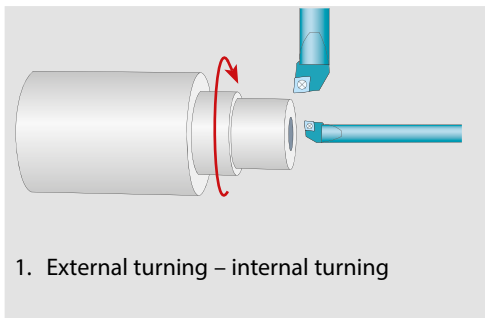
The tool carrier arrangement in the work area, without longitudinal sliding block, allows more than one tool to be used on each spindle. Available machining operations are therefore limited only by the tool holder. The result is that all production steps in all spindle positions can be freely defined.

Another advantage: They have free chip fall.

Performance as we understand it

Maximum productivity and cost-effectiveness of multi-spindle automatic lathes, combined with the precision and flexibility of CNC single-spindle lathes, is the formula for success of the INDEX MS24-6 multi-spindle automatic lathes.

Machining examples:

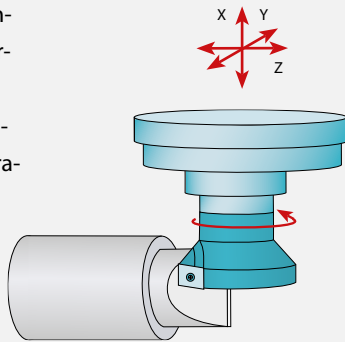


For the most diverse technologies

Milling

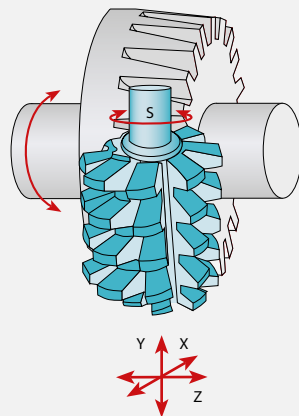
Milling with live tools in the following variants:

- Disk milling cutter in conjunction with C axis operation (transmit function)
- End milling cutter in conjunction with Y axis operation
- Plunge milling (see diagram)



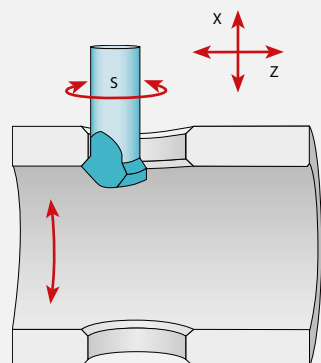
Gear cutting, gear hobbing

- Coupled with electronic precision
- Maximum stability
- Teeth in correct position relative to other surfaces or shaped elements
- Any angular offset can be programmed
- Greater tool service life as a result of shifting with Y axis

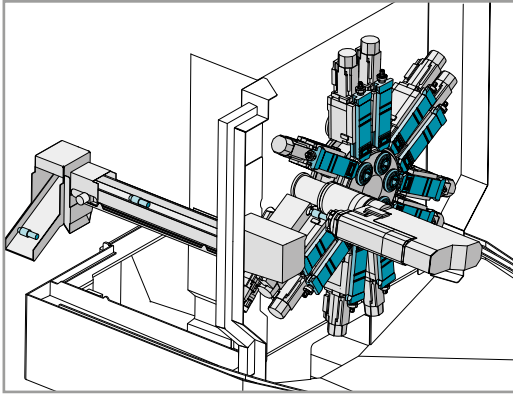


Elliptical deburring of cross-drilled holes

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

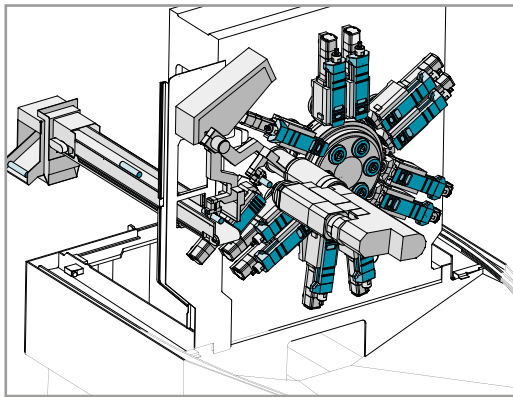


Workpiece handling systems



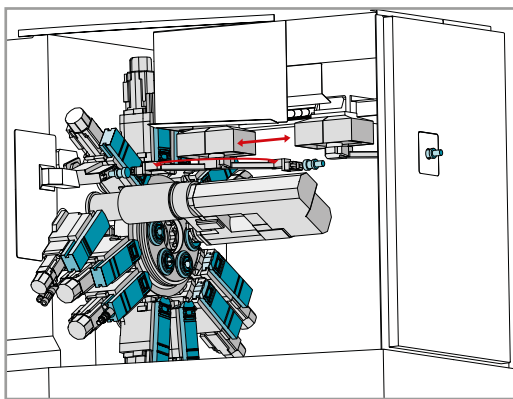
Stationary workpiece removal device with integral parts conveyor

The workpieces fall onto the internal conveyor belt through a chute and are then deflected 90° by a second chute to reach an external conveyor belt.



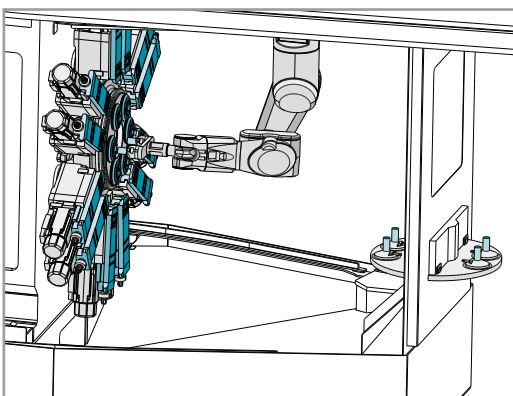
Position-aligned workpiece removal with integral parts conveyor

The workpieces are removed from position 6 by the synchronized spindle and are aligned in position to the internal conveyor belt for parts that are not to be ejected.



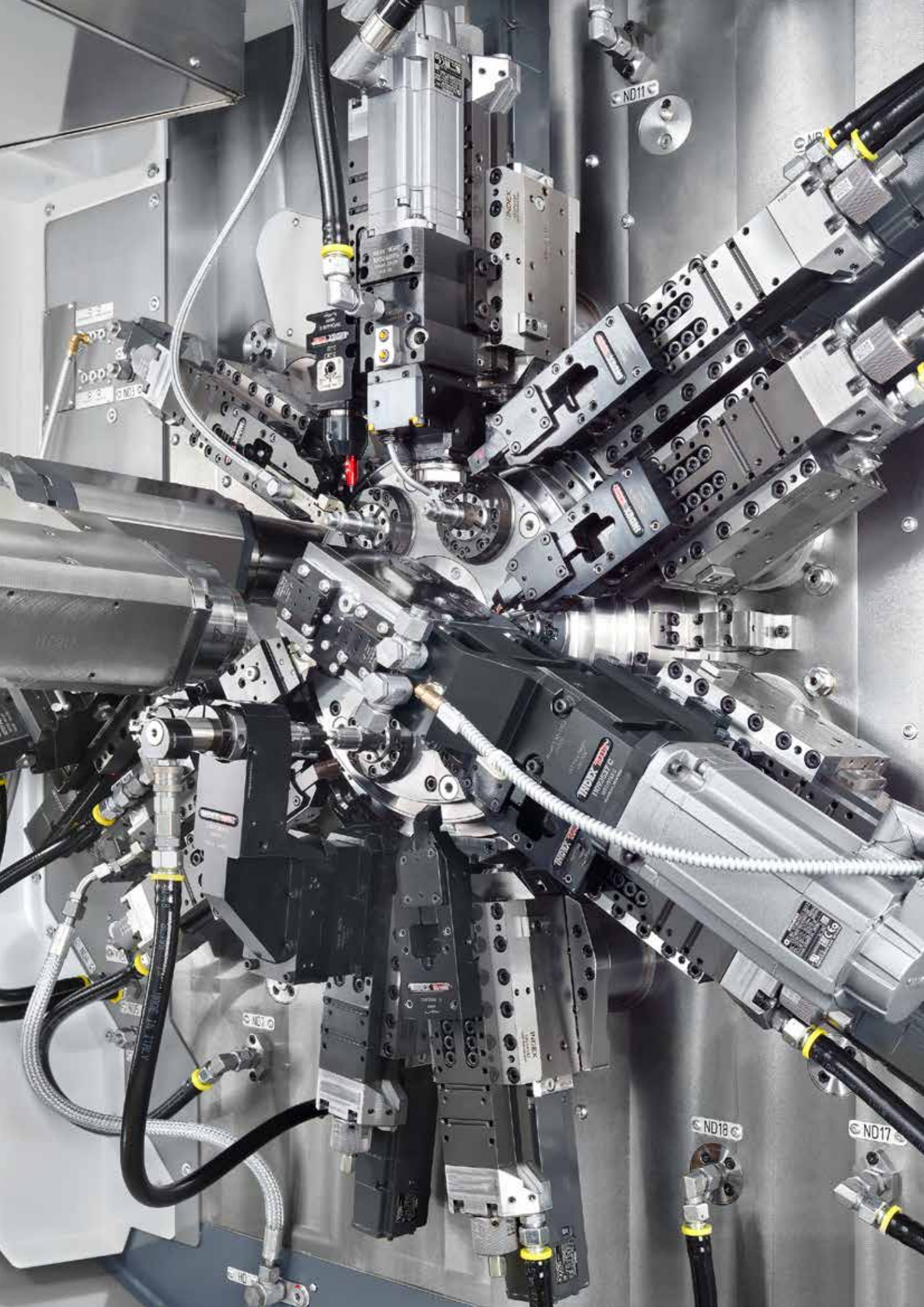
Position-aligned workpiece removal with intermediate gripper and linear shuttle

Very rapid, damage-free, position-oriented removal by a linear and rotary motion. The transfer of the workpieces first takes place from the synchronized spindle to the intermediate gripper. Then the linear shuttle transfers the workpieces to the external handling system. This procedure takes place during secondary processing time.



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

The workpiece handling system for chuck parts and bar segments can be used for 6-spindle machining with and without synchronized spindle, and also for double 3-spindle machining. A version 3 x OP10 (page 1) and 3 x OP20 (page 2) with external reversing station are also possible.



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



Focus on production and control – Industry 4.0 included. The iXpanel operating concept provides access to networked production. With iXpanel, your staff always has all relevant information for efficient production right at the machine. iXpanel is already included as standard and can be individually extended. You can use iXpanel just as you require it for your business organization – that’s Industry 4.0 tailored to suit your needs.

Future-proof. iXpanel integrates the latest control generation SIEMENS S840D sl. Use iXpanel intuitively through an 18.5” touch monitor.



Productive.
Maximize machine performance with optimally tuned processes in machine cycles with clear control screens. In addition, the control offers technology cycles for frequently recurring machining operations and safe machine operation and also for optimum machining quality.



Intelligent.
The machine always starts with the control home screen. Other functions can be displayed on a second screen at any time, and operators can enjoy direct, activity-related assistance already with the standard version, such as workpiece drawings, setup lists, programming aids, documentation, etc. All of this can be accessed right at the machine.



Virtual & open.
With the optional VPC box (industrial PC), iXpanel opens up the world of the virtual machine and of simulation directly at the control system (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!



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



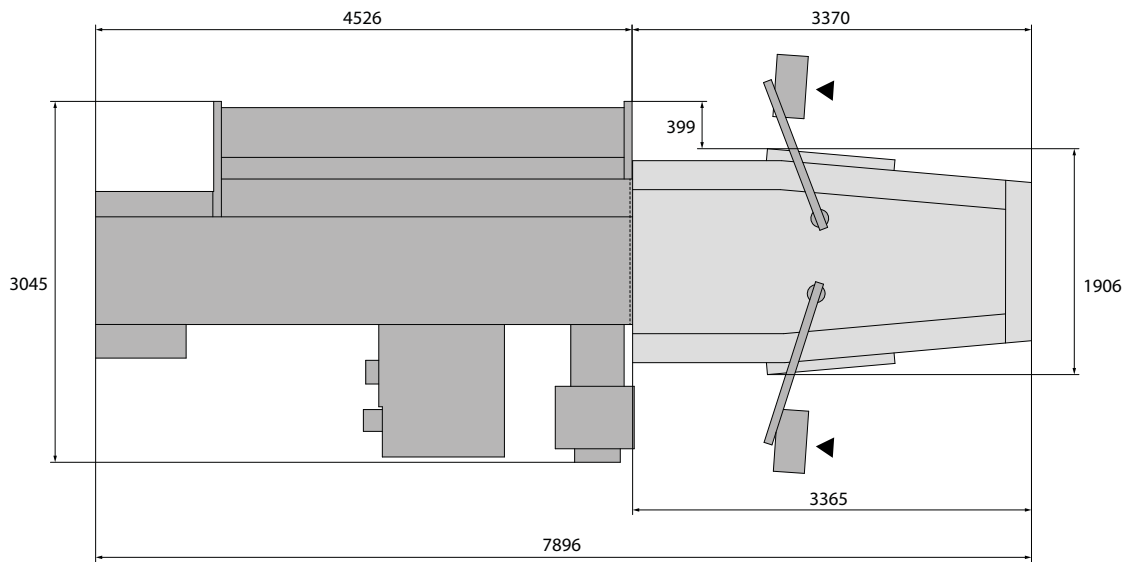
Custom applications

+ many more standard features

Technical data

Working spindles		6
Max. bar diameter	mm	24
Speed *	rpm	10,000
Power (at 100% / 25% DC)	kW	8.7 / 15
Torque (at 100% / 25% DC)	Nm	10 / 18
Tool carriers	max.	12
Slide travel X	mm	62
Slide travel Z	mm	85
Slide travel Y	mm	±13
Synchronized spindles	max.	2
Max. clamping diameter	mm	24
Speed*	rpm	10,000
Power (at 100%/40% DC)	kW	9.2 / 14
Torque (at 100% / 40% DC)	Nm	11 / 14
Synchronized spindle swivel angle	degrees	120 (157)
Slide travel Z	mm	120
Max. number of tools for rear-end machining		6
Back-boring slides 1+2 (optional)		
Tool carriers for rear-end machining		1 / 2
Slide travel X	mm	62
Number of tools for rear-end machining		3
of which are live		max. 2
Dimensions, mass, and connected power (at maximum equipment level, without bar guide or loading magazine)		
Weight	kg	approx. 5,700
Length	mm	3,387
Width	mm	1,906
Height	mm	2,854
Connected power		73 kW, 87 kVA, 125 A, 400 V, 50 Hz or 460-480 V, 60 Hz
Controller		
Siemens S840D Solution Line, with teleservice, spindle stop, C-axis as standard		
Options		
Polygon turning, gear hobbing, tool monitoring, Y-axis, transmit function		

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



INDEX MS24-6
 Loading magazine
 INDEX MBL 24 -6 / 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
br.index-traub.com

CHINA | Shanghai
INDEX Trading (Shanghai) Co., Ltd.
No. 526, Fute East 3rd Road
Shanghai 200131
Phone +86 21 54176637
china@index-traub.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 30681790
info@index-traub.dk
www.index-traub.dk

GERMANY | Esslingen
INDEX-Werke GmbH & Co. KG Hahn & Tessky
Plochinger Strasse 92
73730 Esslingen
Tel. +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
Tel. +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
Tel. +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
info@index-traub.fi
www.index-traub.fi

FRANCE | Paris
INDEX France S.à.r.l
12 Avenue d'Ouessant / Bâtiment I
91140 Villebon-sur-Yvette
Phone +33 1 69 18 76 76
info@index-france.fr
www.index-france.fr

FRANCE | Bonneville
INDEX France S.à.r.l
399, Av. de La Roche Parnale
74130 Bonneville Cedex
Phone +33 4 50 25 65 34
info@index-france.fr
www.index-france.fr

NORWAY | Oslo
INDEX TRAUB Norge AB
Liadammen 23
1684 Vesterøy
Phone +47 93080550
info@index-traub.se
www.index-traub.no

RUSSIA | Togliatti
INDEX RUS
Lesnaya street 66
445011 Togliatti
Phone +7 8482 691 600
info@index-rus.ru
ru.index-traub.com

SWEDEN | Stockholm
INDEX TRAUB Nordic AB
Fagerstagatan 2
16308 Spånga
Phone +46 8 505 979 00
info@index-traub.se
www.index-traub.se

SWITZERLAND | St. Blaise
INDEX Werkzeugmaschinen (Schweiz) AG
Av. des pâquiers 1
2072 St. Blaise
Tel. +41 (32) 756 96 10
info@index-traub.ch
www.index-traub.ch

SLOVAKIA | Malacky
INDEX Slovakia s.r.o.
Vinohrádok 5359
901 01 Malacky
Phone +34 654 9840
info@index-werke.de
sk.index-traub.com

U.S.A. | Noblesville
INDEX Corporation
14700 North Pointe Boulevard
Noblesville, IN 46060
Phone +1 317 770 6300
sales@index-usa.com
www.index-usa.com

Visit us on our social media channels:



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