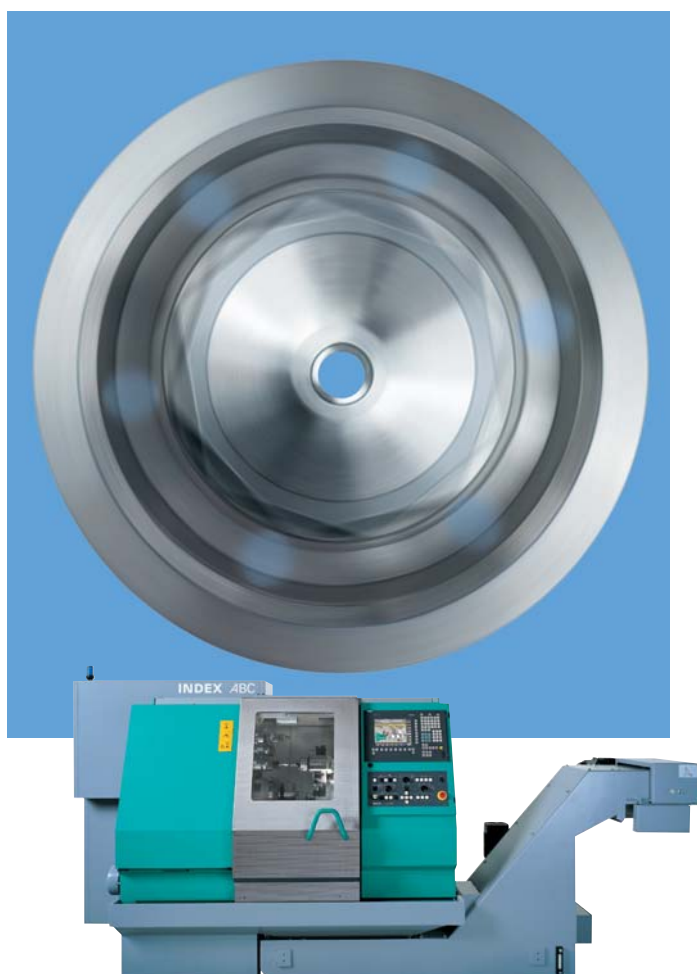


## SpeedLine ABC

Production turning machine



## Exact fit for your needs

INDEX sets the standard for economic high-precision solutions tailored to the customer's needs.

For the machining of simple to highly complex parts, in small to large lot sizes, INDEX is offering consistently economic and technologically superior solutions.

The production turning machine INDEX ABC produces simple and complicated parts. It is designed for bar and chuck work. At the same time it combines the advantages of a cam controlled automatic with those of a universal CNC lathe. The result shows in your wallet: You are flexible and productive at the same time. You produce first class quality and work economically. Your ABC does both, because it offers a wide range of application possibilities. The tooling accessories will meet your requirements. Up to 19 tools can be employed. This allows you to completely finish a part in one operation.

### A solid construction - added value already in the machine construction

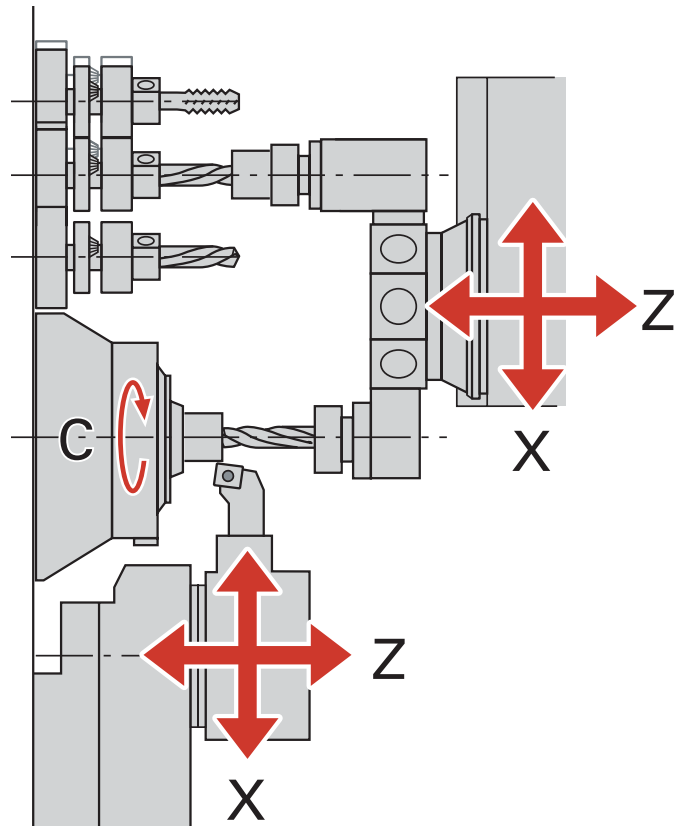
The machine has a welded steel base, on which the cast iron machine bed is mounted with the 2 independent turrets. This concept offers the best guarantee for precision work and it convinces by its maximum bending and torsional stiffness as well as excellent dampening.

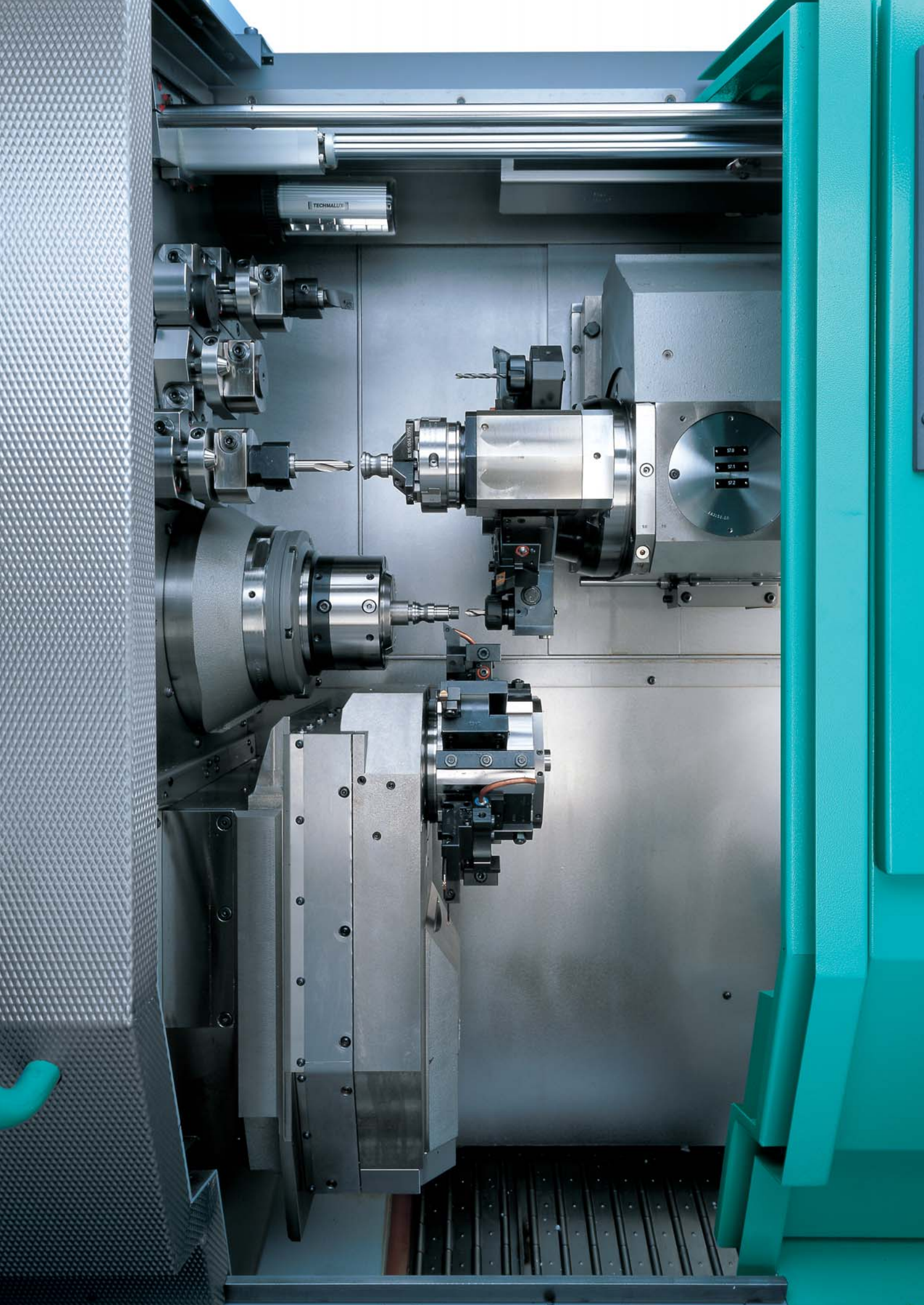
High-quality linear guideways provide precision in combination with a long service life. In case of collision, the machine is protected by friction-locked connections between headstock and machine bed and by overload clutches on all ball screws. INDEX quality for long life.

The thermo-symmetric headstock with its controlled heat transfer perpendicular to the tool plane impresses by its superior turning precision.

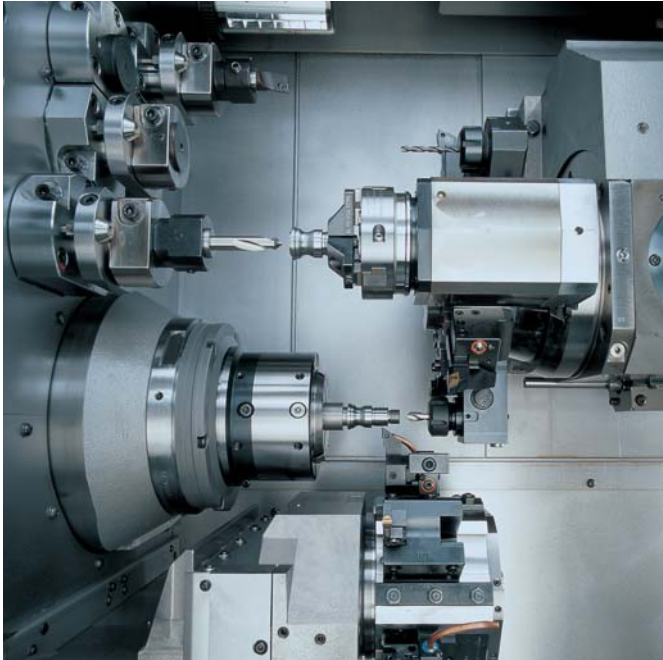
### Your advantages:

- Compact design, high performance values requiring little space
- Bar capacity according to choice 42, 60 or 65 mm
- Up to 10% increase in productivity through the ABC dynamics package - control C200-4D powerline
- Cycle time reduction due to three tools simultaneously in cut
- Driven tools on every tool carrier possible
- up to 6 backworking stations
- easy to set-up and very good accessible
- Polygon turning also possible in steel

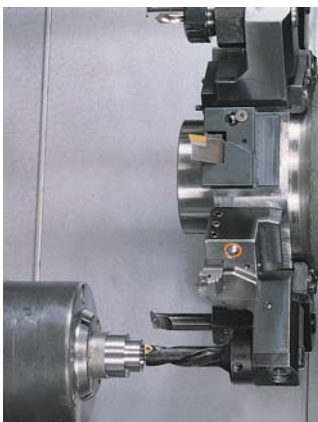




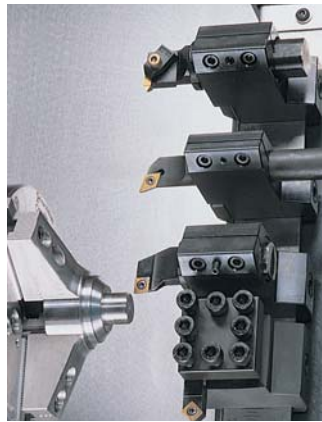
## Choose the combination you need



**Variation 1** has two turrets for quick change toolholders. Turret 1 with 7 tool stations, plus 1 fixed position for the synchronized pick-up spindle, and a second turret which can hold up to 6 tools. In addition 5 (6) backworking stations can be added, two of which can have live tool capability to complete the part on the cutoff side.



**Variation 2** is equipped with an eight station turret designed for quick change toolholder system DIN 69880 - DIA 25 (VDI25) for I.D. and O.D. work. With the optional tool driving attachment driven (live) toolholders can be used on all stations, except for the synchronized spindle position.

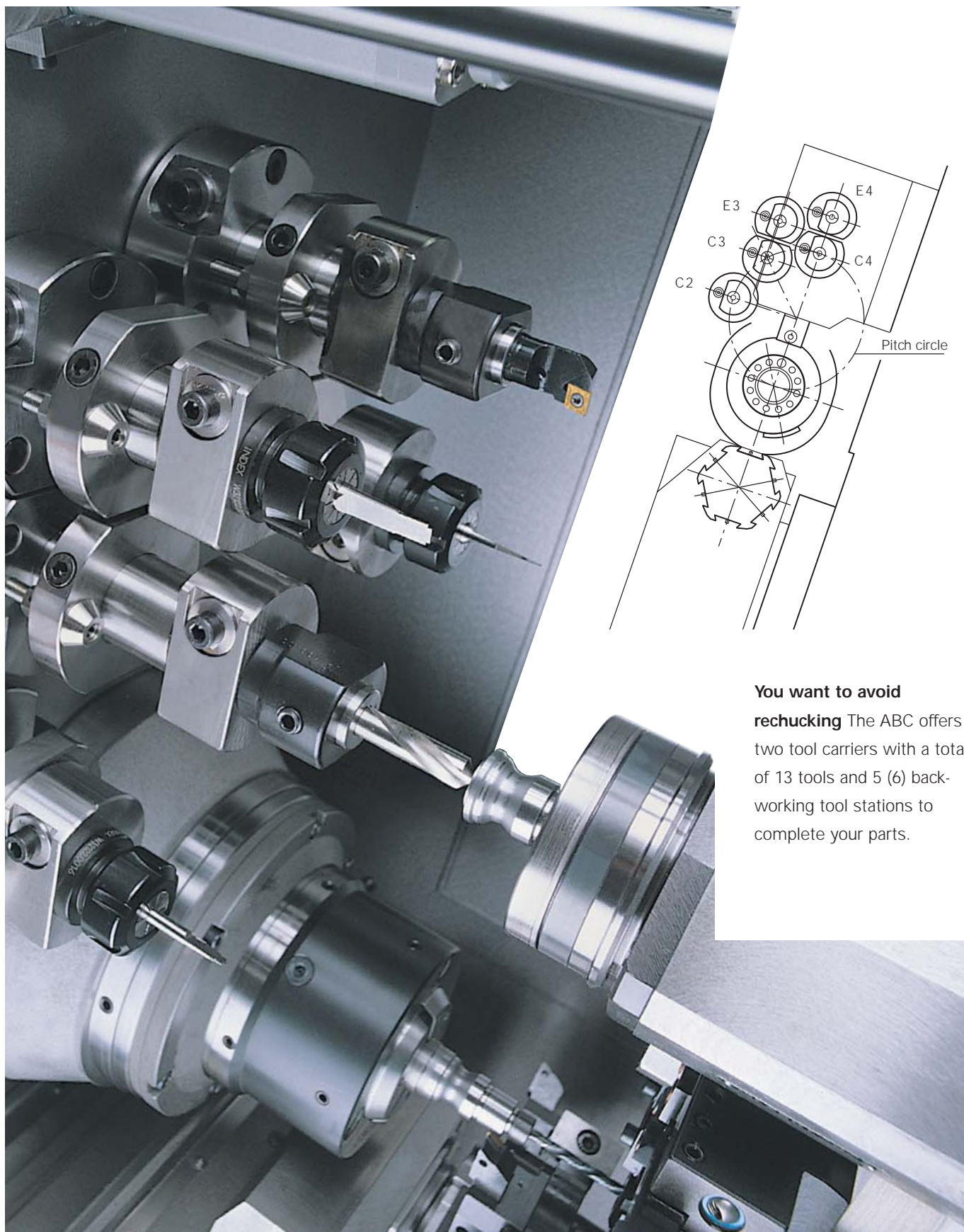


**Variation 3** is equipped with a linear (gang style) tool carrier, which is particularly advantageous for machining of forgings and castings, or even finishing of heat treated parts hand loaded into the main spindle. The linear slide has a length of 400 mm (15.748 in) and can hold up to 7 tools depending on part diameter.



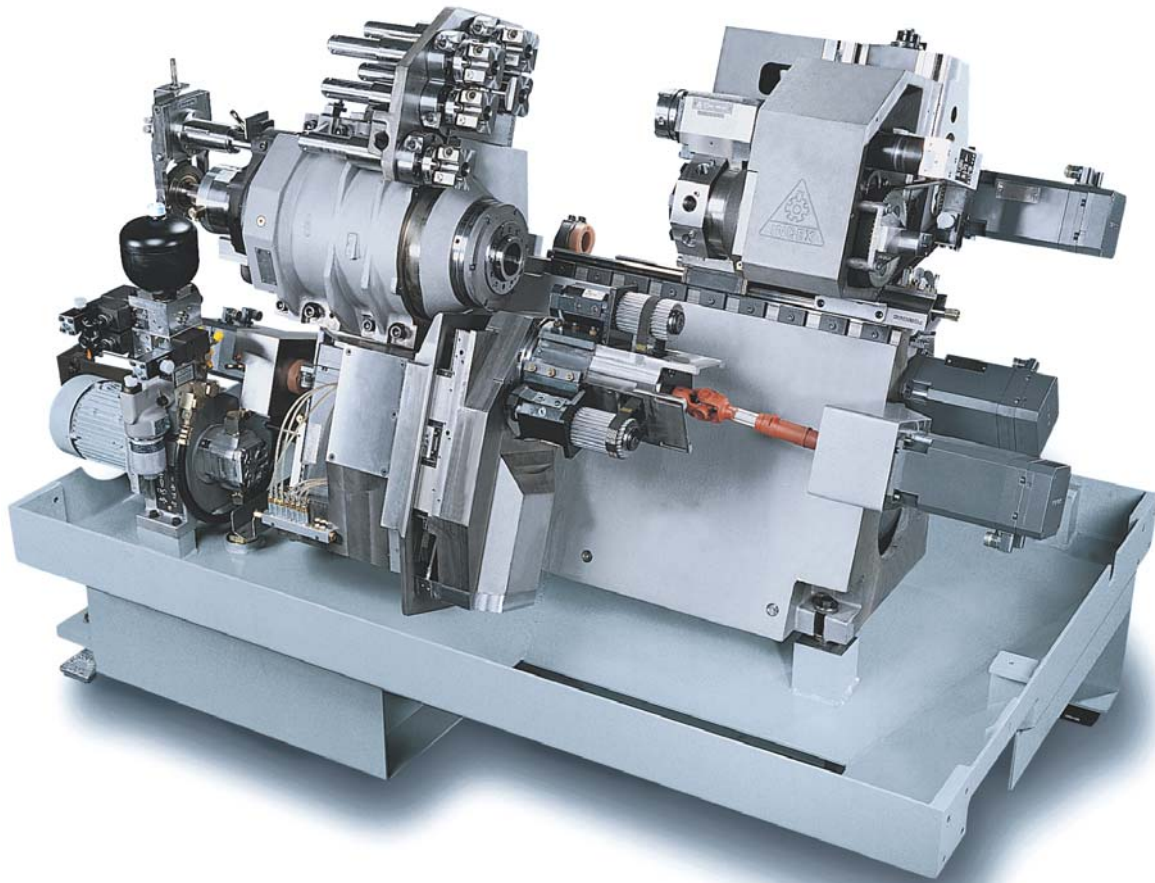
**Variation 4** has a magazine style loading device for automatic loading of blanks or pre-machined parts. Using part dependent guide rails, the blank is loaded into a backworking station. From there the part is transferred by a loading tool into the main spindle chuck or collet. The loading tool could also be mounted on the linear slide or turret.

## Increase your productivity



**You want to avoid rechucking** The ABC offers two tool carriers with a total of 13 tools and 5 (6) back-working tool stations to complete your parts.

## Impressive technology



**Turret 1** has 7 (8) stations for I.D. and O.D. work. Using the driving attachments all tool stations can be equipped with driven tools. The synchronized spindle is rigidly mounted on a separate turret position and equipped with a separate helical gear drive.

**Turret 2** has 6 tool positions with rugged, dovetail toolholder mounting, designed for form tools, turning, plunge cut and cutoff tools. Driven tools are possible at every station as well.

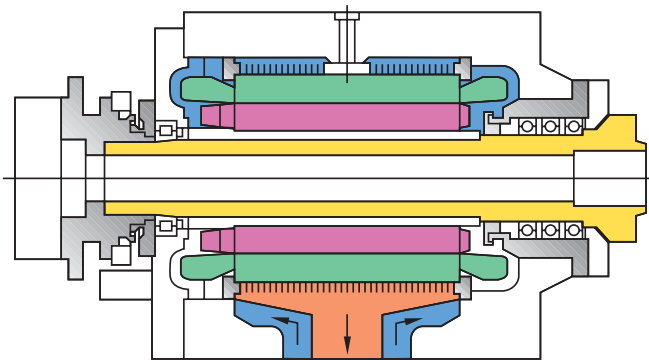
Both turrets work independently and are indexed by a innovative high speed indexing and locking mechanism. Very good acceleration and deceleration performance without jolt.

Up to 6 **backworking stations** complete the tooling array. These stations are mounted above the main spindle on two pitch circles; the I.D. tools on the turret and the main spindle center are on the same circle. These stations service the synchronized spindle in turret 1.

**Motor spindle**

The high torque frequency controlled AC spindle motor with the patented INDEX Air-cooling System has a power of 20 kW (27 Hp) at 100 %. The increased air pressure in the spindle motor unit prevents coolant or dirt from entering the spindle bearings. The thru flow air

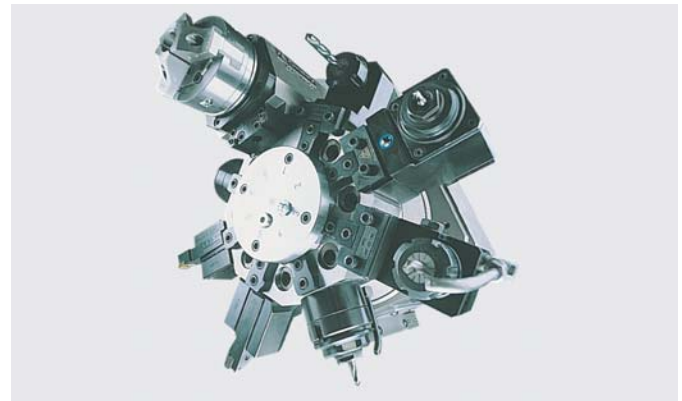
cools both stator and rotor directly. Main characteristics are: Short acceleration and deceleration times; no gears, pulleys, etc.; small rotating masses; high quiet-ness; high torsional stiffness; no external forces from belt or gear drives. The result: better part quality.



**Synchronized spindle**

With collet for chucking DIA up to 42 mm (1.65 in), or with chuck up to 90 mm (3.54 in) chucking DIA, I.D. chucking optional. Max. rpm 4500. The synchronized pick-up spindle is equipped as standard with an indexing and locating attachment. The spindle is mounted on turret

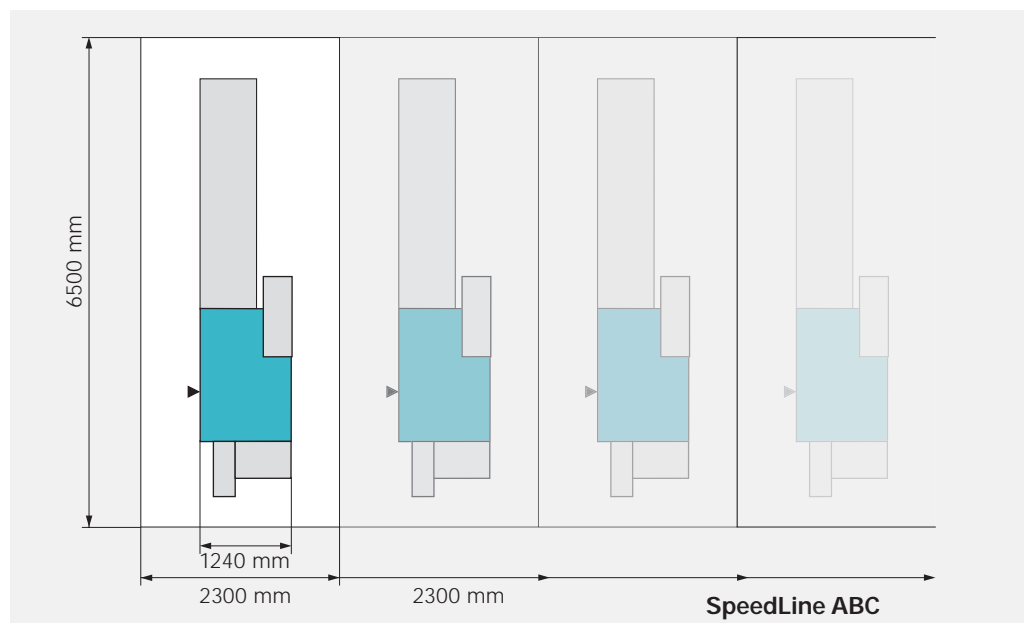
1 on a fixed position and driven by a separate helical gear, independently from the central bevel gear.



**The performance level**

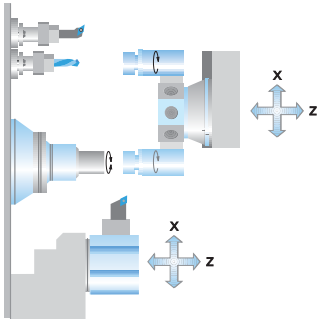
**High performance values requiring little space**

Use your valuable production surface to your optimum benefit

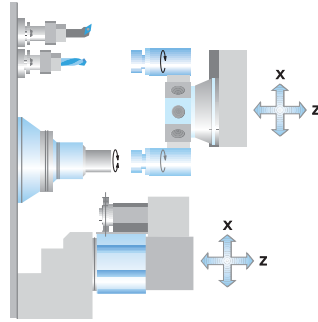


# Precision that pays

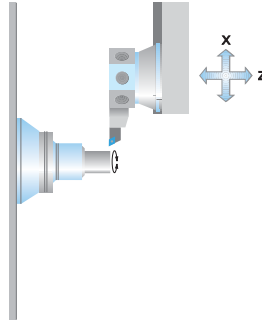
## Universal possibilities



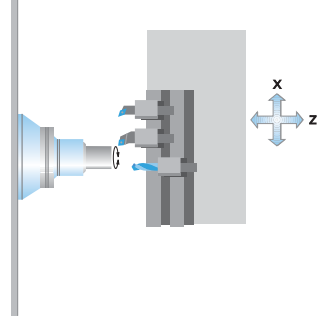
## Planned perfection



## Adaptable in each position



## Know-how in each detail



Free machining steel  
SW 17 x 45 mm  
(.67 Hex x 1.77 in) **48 s**



Tool steel  
Ø 26 x 33 mm  
(DIA 1.02 x 1.30 in) **67 s**



Brass  
Ø 32 x 34 mm  
(DIA 1.26 x 1.34 in) **28 s**



Ball bearing steel  
Ø 36 x 20,3 mm  
(DIA 1.42 x .80 in) **38 s**



Stainless steel  
Ø 25,8 x 64,3 mm  
(DIA 1.02 x 2.53 in) **75 s**



Brass  
SW 19 x 29 mm  
(.75 Hex x 1.14 in) **17 s**



Free machining steel  
Ø 38 x 25,7 mm  
(DIA 1.50 x 1.01 in) **32 s**



Low carbon alloy steel  
Ø 16 x 30 mm  
(DIA .63 x 1.18 in) **10 s**

## An investment you can justify

Whatever you produce, the ABC machine provides the answer to your production problems. From the simplest screw machine part to complex precision turned parts. No matter if it is bar work or

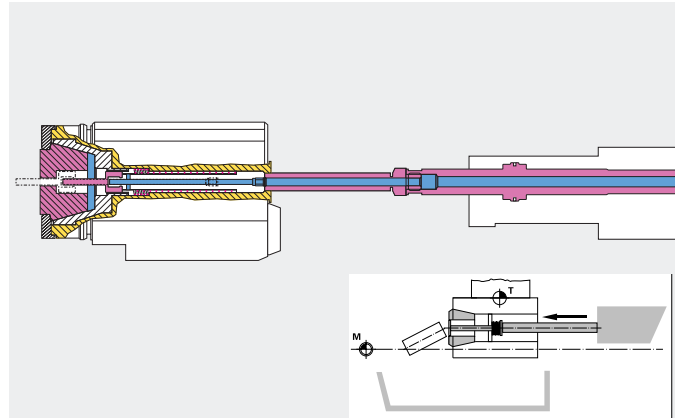
chuck working with I.D. and O.D. contouring; no matter if you do complex machining or simple finishing operations, your plus with the ABC: You will complete simple and complex parts in one

cycle in a very competitive time. You will also save on set up time and achieve faster throughput. You do not need to struggle for parts, but you increase your production reliability. You

also increase your capacity to take on additional work. Even small lot sizes can be produced economically.



## Automation and additional components



### Save time when feeding bars

You can gain up to 4 seconds using the INDEX LMI automatic barloader. During the automatic barloading cycle you can even save up to 35 sec., compared to other barloaders.

The INDEX LMI is available for round or profile barstock for 3.2/3.7 or 4.2 m (10, 12 or 14 foot) bar length and DIA from 6 to 52 mm (0.236 - 2.047 in). The ABC can also adapt to most barfeeds and barloaders using the UNIMAG interface.

### Workpiece ejection and flushing system

This system is used to eject the finished parts from the synchronized spindle, flushing the spindle with coolant at the same time to clear out chips. This increases process reliability.



### Reduce your piece cost

Do you need an additional station for milling threads or polygon turning? The ABC can be equipped with a separate drive for these attachments. On brass, stainless steel aluminum and free machining steel, threads and polygon profiles can be produced in the shortest possible time.



### Automatic part unloading

While the next piece is machined, the work receiving attachment transports the finished part carefully to the finished part workpiece box or a workpiece conveyor. The bar remnant is removed separately.



# Technical Data

<b>Main spindle</b>		<b>D42</b>	<b>D60</b>	<b>D65</b>
Bar capacity	mm (in)	42 (1.65)	60 (2.36)	65 (2.56)
Feeding length max.	mm (in)	80 (3.15)	80 (3.15)	80 (3.15)
Speed	rpm	7000	6000	6000
Power at 100%	kW (Hp)	20 (27)	20 (27)	20 (27)
Power at 40%	kW (Hp)	29 (39)	29 (39)	29 (39)
Torque at 100%	Nm (ft lbs)	95 (70)	95 (70)	95 (70)
Torque at 40%	Nm (ft lbs)	140 (103)	140 (103)	140 (103)

Option: C-axis / Indexing and locating attachment (2.5° increments)

<b>Turret 1</b>		<b>X-axis</b>	<b>Z-axis</b>
Number of stations		7 (+ synchronized spindle)	
Toolholder system DIN 69880	mm (in)	25 (.98)	
Slide travel	mm (in)	90 (3.54)	280 (11.02)
Feedforces	N (Lbs)	5500 (1100)	5500 (1100)
Rapid traverse	m/min (ft/min)	27 (88)	36 (117)
Resolution	mm (in)	0.0005 (.00002)	0.001 (.00004)

Option: Tool drive (all stations)

Speed	rpm	6000	
Power at 25%	kW (Hp)	4.2 (5.7)	
Torque at 25%	Nm (ft lbs)	10 (7.4)	

<b>Synchronized spindle</b>		
Speed	rpm	4500
Power at 25%	kW (Hp)	4.2 (5.7)
Torque at 25%	Nm (ft lbs)	10 (7.4)

Indexing and locating attachment (7.5° increments) / Hydraulic ejecting and flushing attachment (max stroke 42 mm)

<b>Backworking stations</b>		
Number		5 (6 if part discharge unit to the L.H.side)
Driven tools max		2
Speed	rpm	6000
Power at 25%	kW (Hp)	4.5 (6.1)
Torque at 25%	Nm (ft lbs)	8 (6)

<b>Turret 2</b>		<b>X-axis</b>	<b>Z-axis</b>
Number of stations		6	
Toolholder system: Dovetail mounting			
Slide travel	mm (in)	81 (3.18)	80 (3.15)
Feedforces	N (Lbs)	8300 (1660)	5500 (1100)
Rapid traverse	m/min (ft/min)	27 (88)	36 (117)
Resolution	mm (in)	0.0005 (.00002)	0.001 (.00004)

Tool drive (all stations)

Speed	rpm	4500	
Power at 25%	kW (Hp)	4.2 (5.7)	
Torque at 25%	Nm (ft lbs)	10 (7.4)	

Option: Thread milling and polygon turning attachment (can be installed on up to 2 stations simultaneously)

Speed	rpm	6000	
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<b>Weights and connecting power (max. configuration)</b>		
Weight	approx. kg	2500
Connecting power		12-34 kW, 15-43 kV, 25-80 A, 400 V, 50 / 60 Hz

**Control**  
INDEX C200-4D (Based on Siemens 840D powerline)

