

CNC swiss and non-swiss

turning center



TNL32



Thanks to the outstanding technical features of the **TRAUB TNL32 CNC** swiss and non-swiss turning center, you will notice measurable improvements in production. Just take the turrets designed as **NC rotary axes**, for example. Not only is their indexing extremely fast, they can also be freely positioned without any mechanical locks required. This allows the use of multiple tools, which in turn reduces the chip-to-chip times and increases the tool pool in the work area. The advantage is that you don't have to do as much setting up, which results in higher productivity.



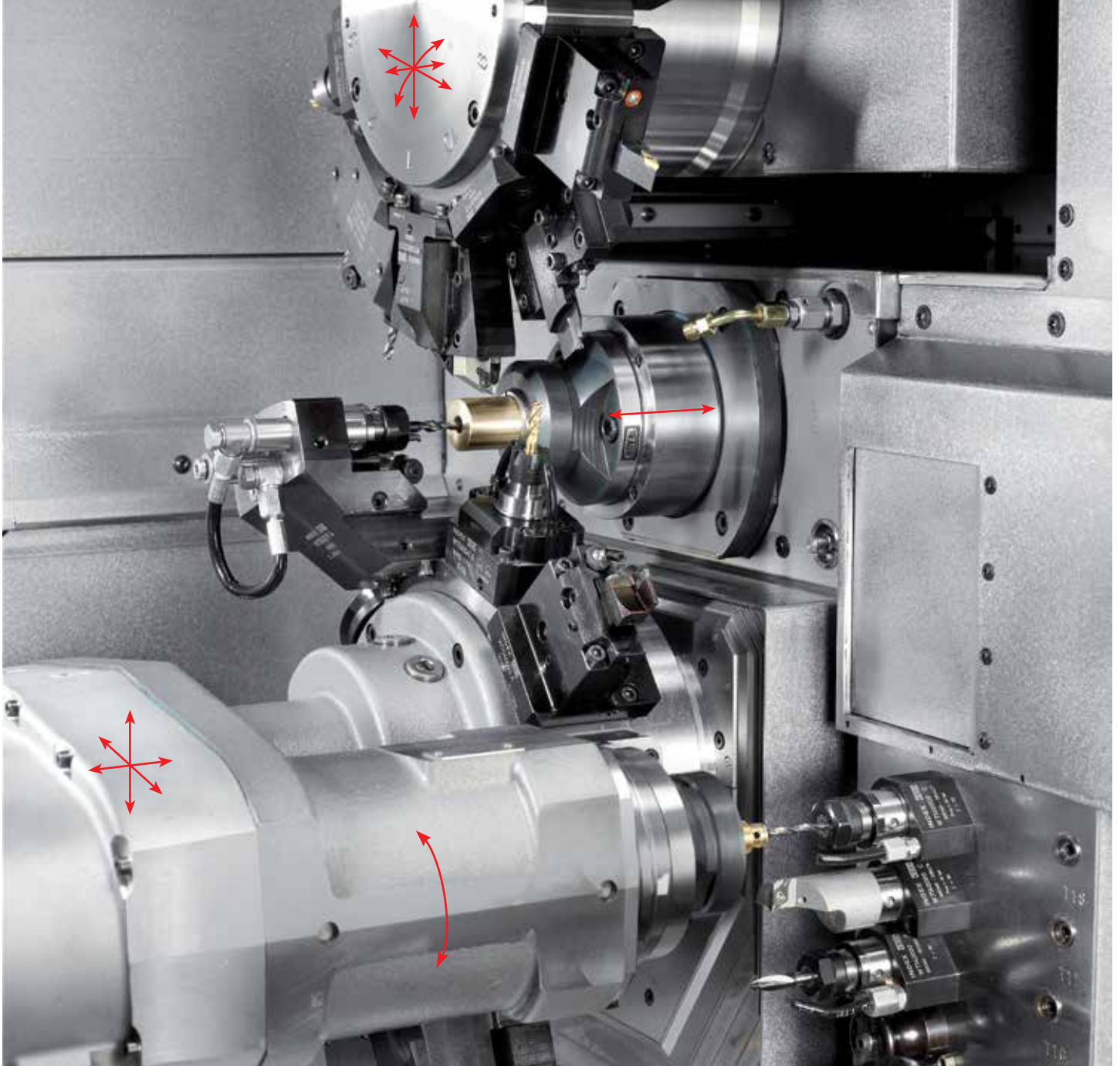
New solutions open up

new possibilities



TNL32

**Ideal for any
production task**



The new machine design of the TNL32 was tuned to meet the varied requirements of typical long-turned and short-turned parts.

This design gives you a range of benefits:

■ Simultaneous machining with up to 3 tools (each tool with variable feed rate)

■ Clearly structured work area with large axis travels and wide tooling circles

■ Excellent accessibility through a large sliding cover

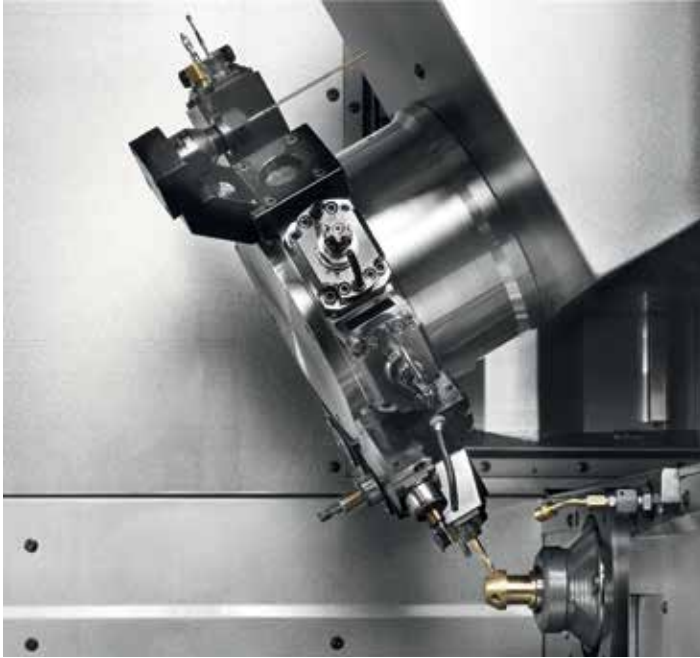
■ Easy change-over between swiss and non-swiss turning operation

■ Very compact, low footprint machine design

■ Highest precision due to thermal symmetric machine structure

TNL32-7B

The interaction of systems

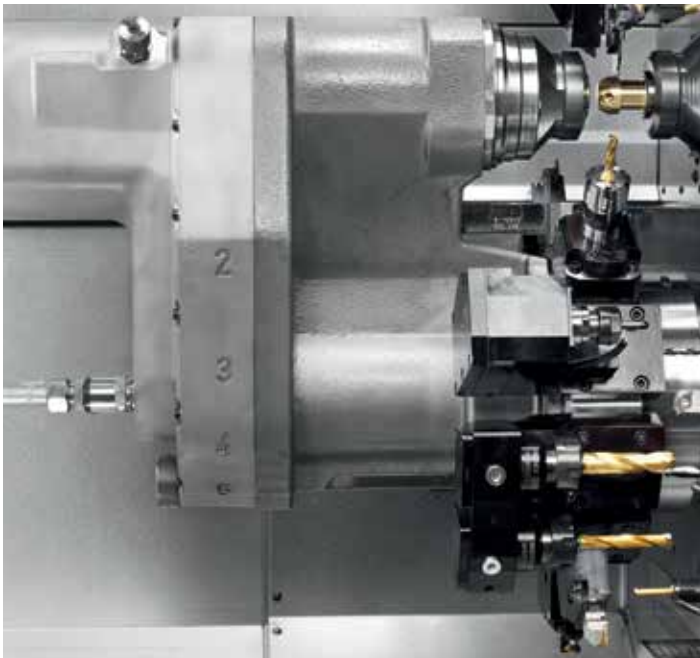


Main spindle

- Highly dynamic motor spindle in synchronous design
- Fast acting C-axis positioning for short times per piece
- Fluid cooling contributes to thermal stability
- High performance ensures large chip volume
- Smart headstock design with large Z-axis travel allows the use as both a sliding and fixed headstock lathe

Top tool carrier

- 10 tool stations
- Optional with B-axis
- Powerful tool drive on all stations
- Large X/Y/Z-axis travels
- Turret indexing designed as an NC rotary axis (without mechanical lock) allows positioning at any angle
- Chip-to-chip times comparable to those with a linear tool carrier
- Each station can be equipped with multiple tool holders



Counter spindle with bottom tool carrier

- Powerful counter spindle with large axis travels in the X/Y/Z axes and integrated tool carrier with 9 stations
- Fast acting C-axis positioning
- Spindle positioning in 3 axes results in ultimate transfer accuracy
- Three-axis rear end machining for parts with complex geometry



Rear end machining unit

- 8 tool stations
- Large travels of counter spindle allow multiple allocations
- The special drive design provides the choice of high speeds or high torque
- Integrated workpiece discharge by workpiece gripper

- Tool carrier adapted to counter spindle allows simultaneous machining on the main spindle with two independent tools

TNL32-9

for even more

flexibility



The TNL32-9's enhanced machine concept has an autonomous counter spindle and 9 NC axes.

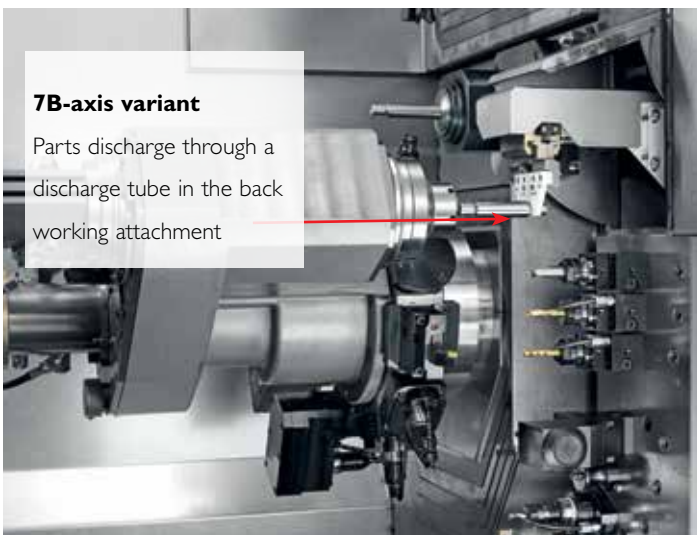
This concept offers you comprehensive machining options up to a bar clearance of 32 mm.

A counter spindle identical to the main spindle is mounted on a separate X-Z cross-slide, providing a Z travel range of 300 mm.

140 mm of X-axis stroke ensures simultaneous internal machining on the main and counter spindles.

Here, too, you will benefit from:

- Easy changeover between sliding and fixed headstock operation
- Excellent accessibility through a large sliding cover
- Clearly structured work area with large axis travels
- Turret indexing using an NC rotary axis
- Ultimate precision by thermo-symmetrical machine design



7B-axis variant

Parts discharge through a discharge tube in the back working attachment

Parts removal

9-axis / 11-axis variants

Parts discharge to the right through machine partition or to the left through the counter spindle



TNL32-11

more productivity

with front working attachment



The TNL32-11 with an additional front working attachment and autonomous counter spindle

Two turrets and an additional front working attachment allow you to machine with three independent subsystems.

■ Y-axis function in the front working attachment

■ Large tool pool

4 x stationary tools

4 x live tools

max. drive power 3.4 kW

max. speed 12,000 rpm

■ Internal coolant supply at each station with

max. cutting oil pressure 80 bar

■ Deep-hole drilling station

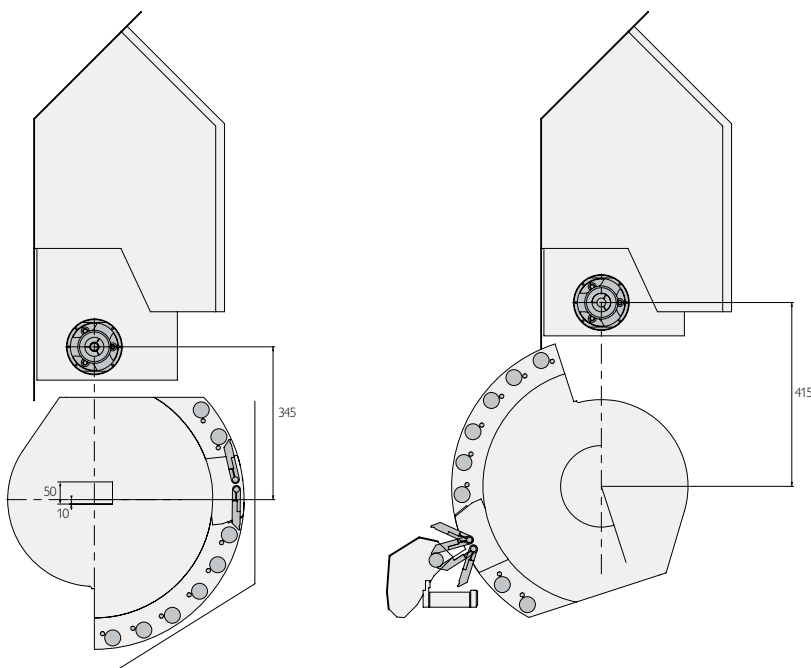
max. speed 12,000 rpm

max. cutting oil pressure 120 bar

■ Feed force up to 6,200 N

■ Tailstock function for bar stock machining

■ Workpiece gripper



Parts removal

11-axis variant

Gentle part removal by gripper carrier in front working attachment

Ø max. 32 mm

Length max. 250 mm

Mass max. (1.6) 2.9 kg

This makes the

tool carriers

so special

Turret indexing with NC rotary axis

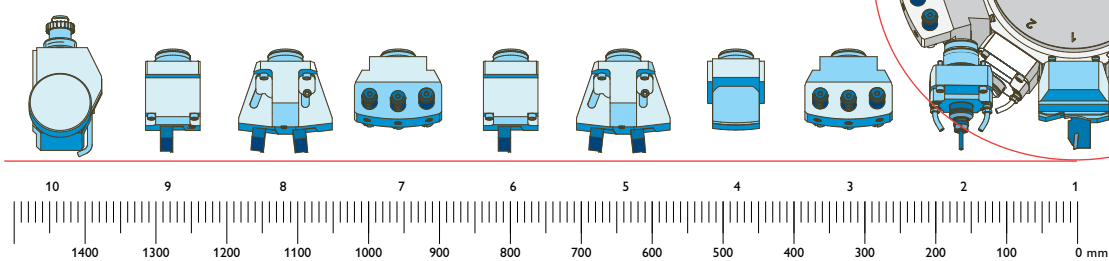
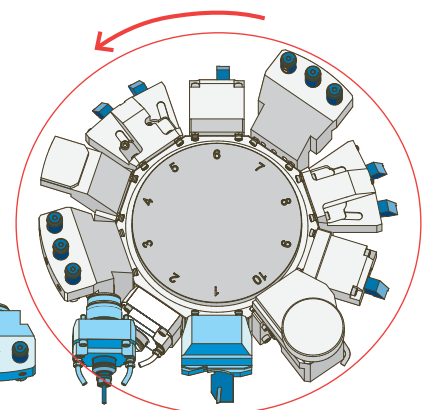
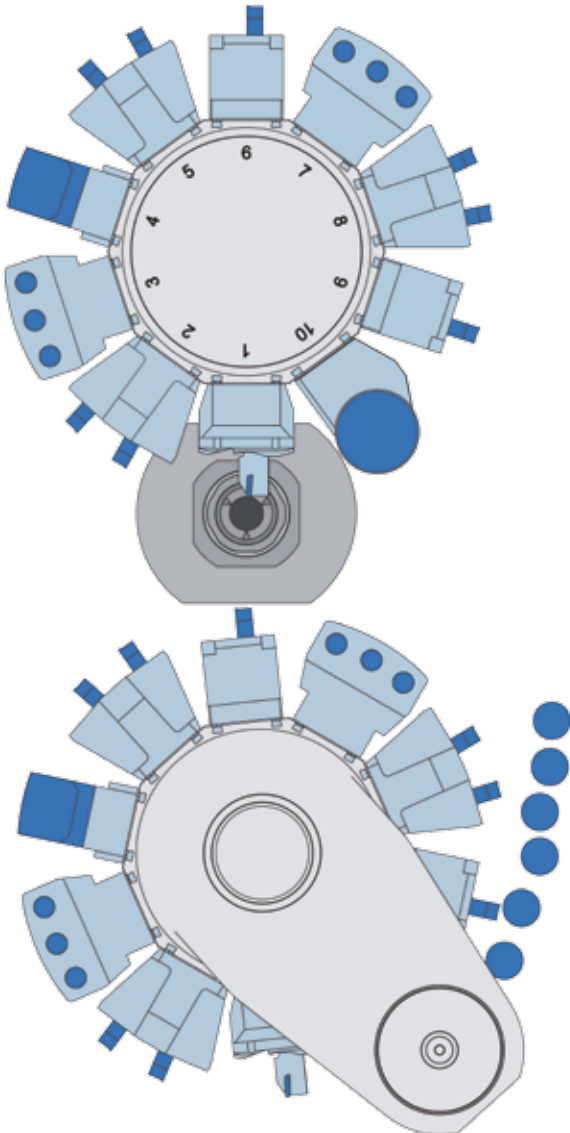
The newly designed tool carriers are a highlight of the TNL32. For the first time, the rotary motion is executed by an NC axis without any mechanical locks. This allows you to position both the turret and the counter spindle very fast at any angle.

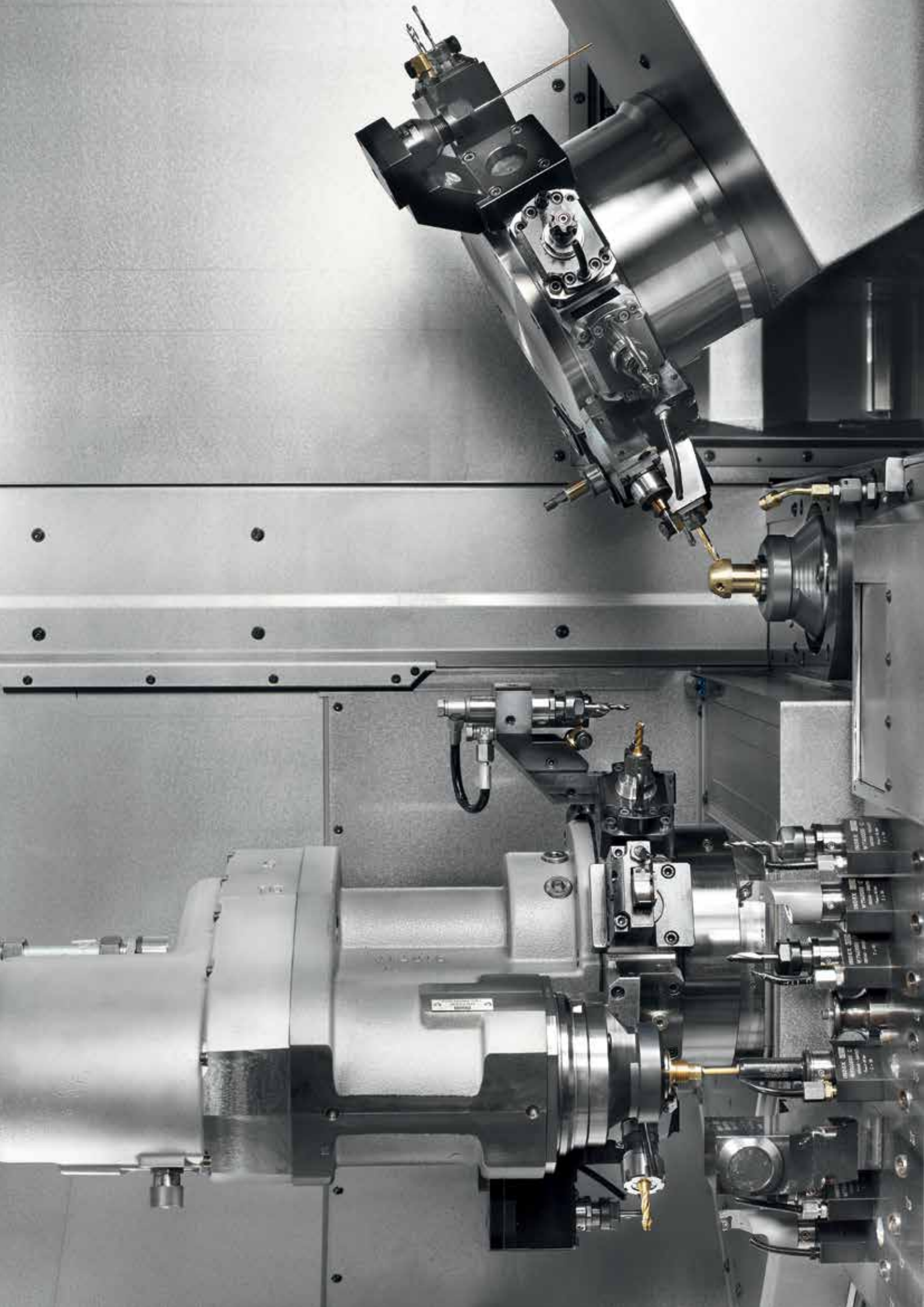
Counter spindle with unique kinematics

The innovative TRAUB counter spindle is mounted on an X/Y/Z cross-slide that simultaneously carries the bottom turret.

Large tool stock

The tooling circle corresponds to remarkable 1444 mm of Y-travel unwrapped, beating any linear tool carrier.





The tool drive

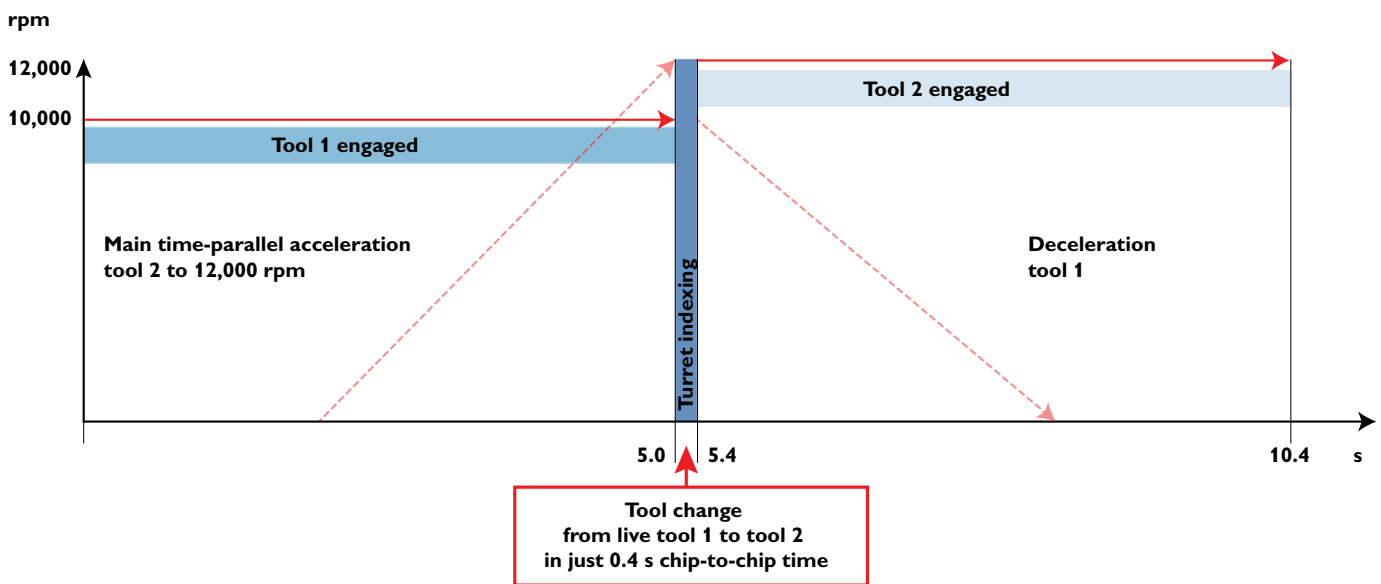
for short

chip-to-chip times

Dual Drive System –

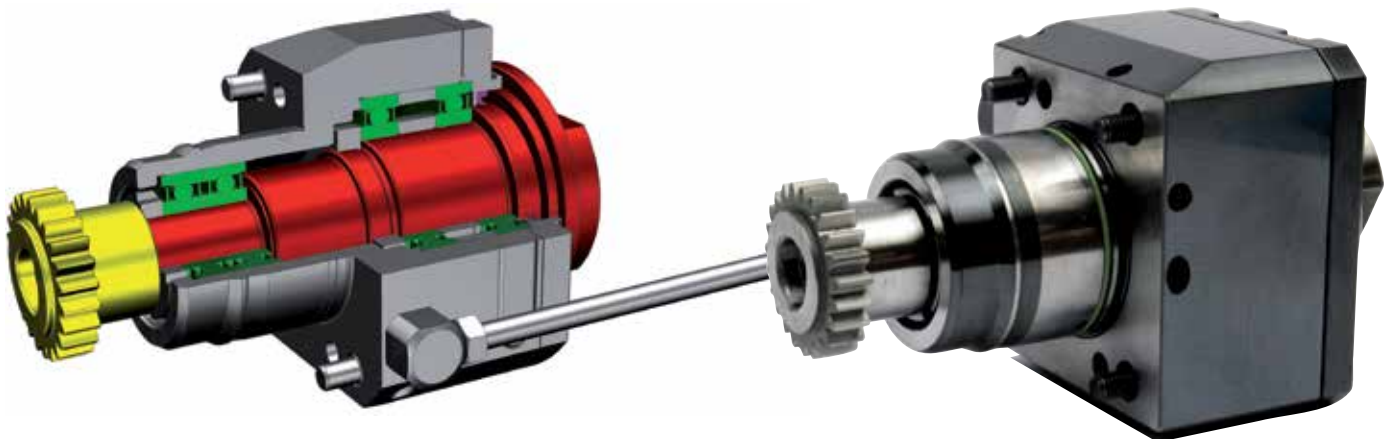
The new drive system from TRAUB, in which the speed for the follow-up tool is ramped up during main time.

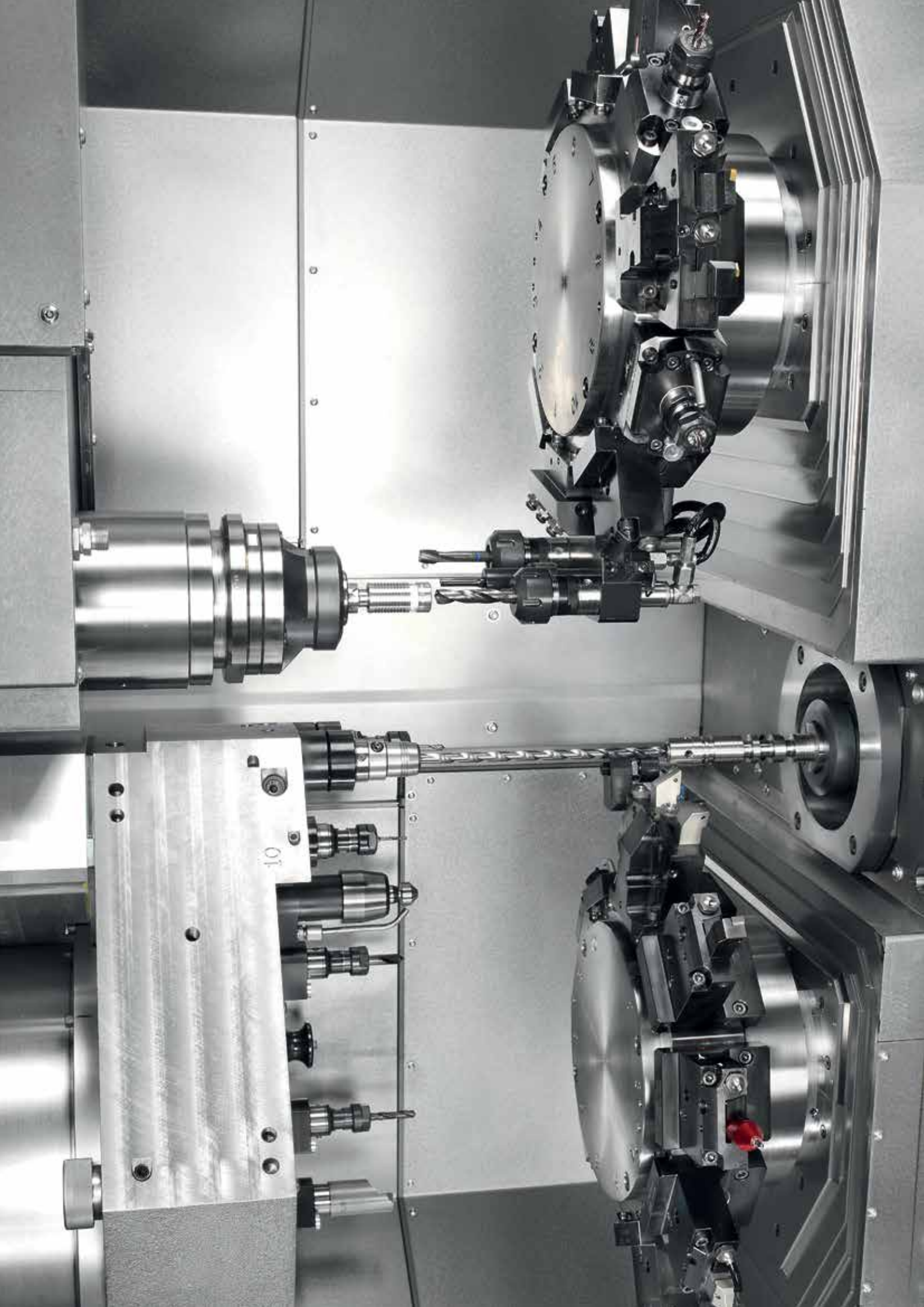
- Moderate acceleration as well as gentle braking ensure a long service life for the tool holders
- Time savings during the power-up time of the tools

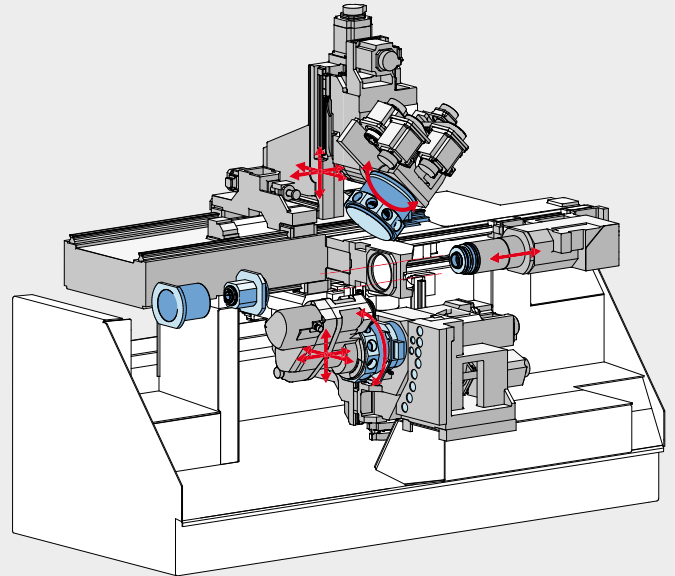


Innovative tool mounting system

The new compact shaft system provides significantly higher rigidity, resulting in longer life cycles and improved surface quality.



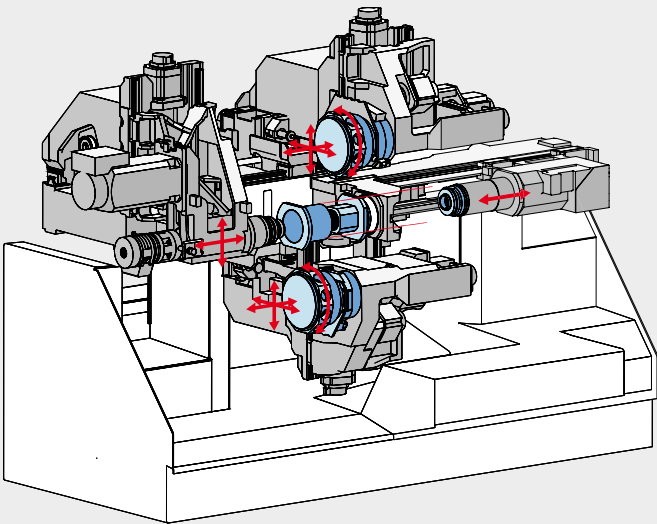




TNL32-7B

Main spindle drive	Motorized spindle
Headstock Max. bar capacity Max. Z stroke swiss / non swiss turning center	32 305 / 127
Counter spindle Max. bar capacity Max. X / Z-travel	with bottom tool 32 140 / 320
Top turret Stations Axes	10 X / Y / Z / B / H
Bottom turret Stations Axes	9 X / Y / Z / H
Front working attachment Stations Axes	
Rear end machining unit Stations	8
Number of sub-systems	2
Number of tools Maximum simultaneously engaged	2 (3)
Number of CNC linear axes	7
Tool pool	27
Max. number of tools with 2/3-slot tool holders	46
Tool shank Ø turret	45
Tool shank Ø front working attachment	
Tool shank Ø rear end mach. unit	36

Three variants,
as diverse as your
requirements



TNL32-9

Motorized spindle

32
 305 / 127
 autonomous
 32
 140 / 300

10
 X/Y/Z/H

10
 X/Y/Z/H

3

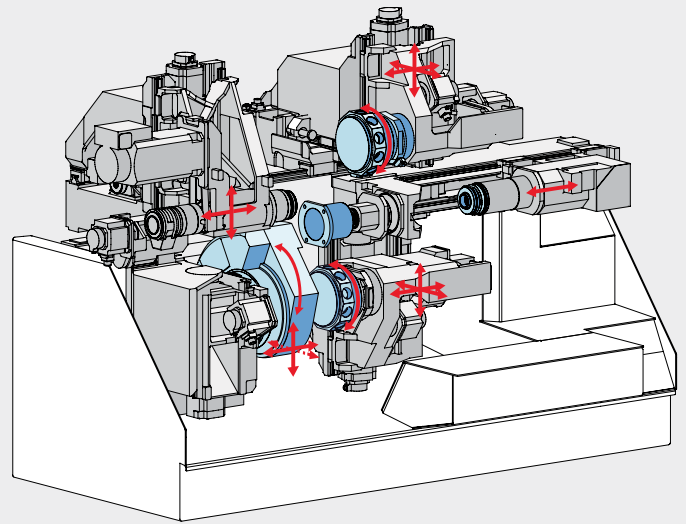
2 (3)

9

20

40

45



TNL32-11

Motorized spindle

32
 305 / 127
 autonomous
 32
 140 / 300

10
 X/Y/Z/H

10
 X/Y/Z/H

8
 X/Z/H

4

3

11

28

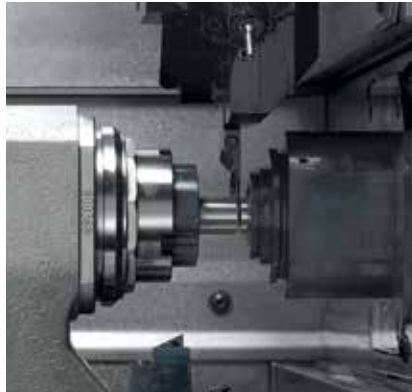
49

45

36

Highly accurate and complex rear end machining

- Precise pick-up position programmable
- Three-axis rear end machining for parts with complex geometry
- Up to 3 tools being used simultaneously



Sample applications for variants -7B

Simultaneous machining on the main spindle

- Turning, milling, cross-drilling
- Headstock function
- Thread chasing without material return through the autonomous Z-axis



Sample applications for variants -7B, -9, -11

Brilliant for a broad part

spectrum – from simple

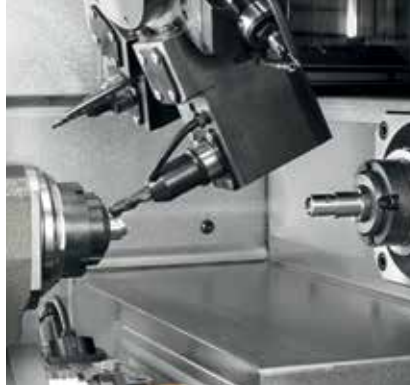
to highly complex

The additional machining capabilities of the B-axis

- Contour machining with precise tool position
- Production of inclined holes and surfaces with standard tool holders
- Line-by-line milling of complex contours



Sample applications for the -7B variant



Simultaneous machining with two tool turrets

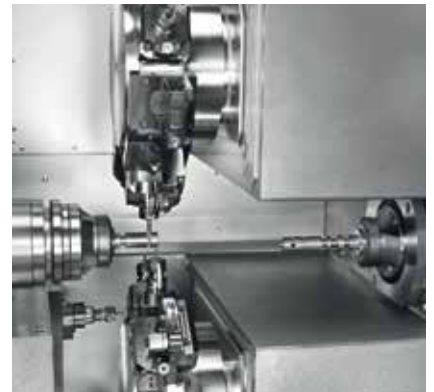
- Also on the counter spindle
- Turning, milling, cross-drilling
- X-axis in the counter spindle ensures large clearance with simultaneous internal machining on the main and counter spindle
- Use of larger thread rolling heads
- 3 tools being used simultaneously and independently (-11 variant)

Parts discharge through the counter spindle

- Particularly well-suited for very long parts



Sample applications for the -9, -11 variants



CNC control

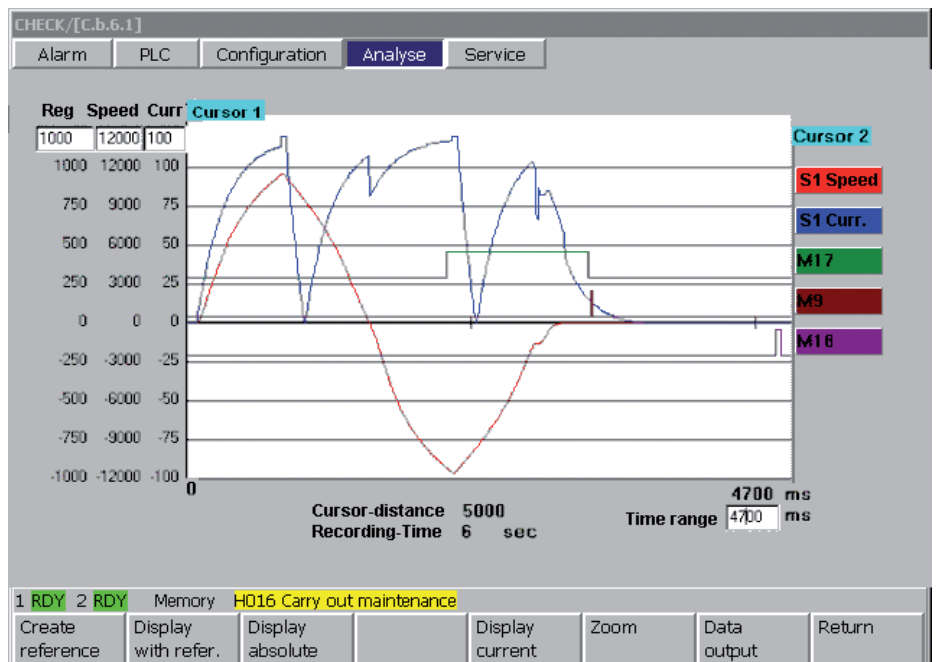
Ergonomic interactive user interface for programming, editing, setup and operation

- Graphics-supported interactive guidance also during setup
- Comfortable process synchronization and optimization of the program sequences of parallel machining processes
- Visual control to avoid collision situations through graphical process simulation
- Highly sensitive tool breakage monitoring
- 15" display



Diagnostic features

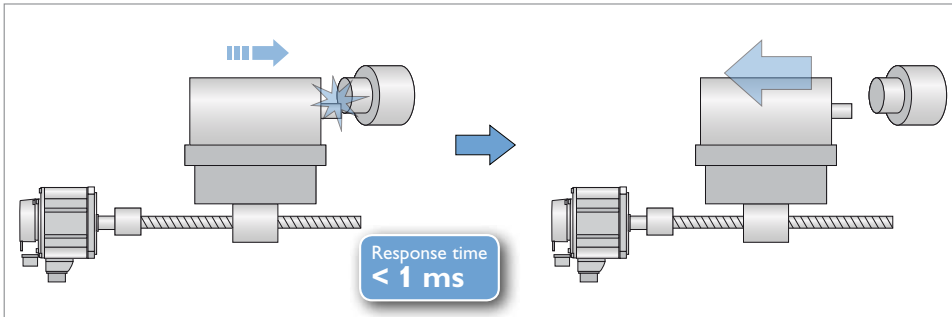
- Ongoing recording of relevant analog and digital signals and data; their flow can be displayed and compared with other recordings at any time
- Alarm messages with detailed clear-text information
- Quick location and elimination of cause of malfunction



TRAUB TX8i-s

Get a firm grasp

on your production

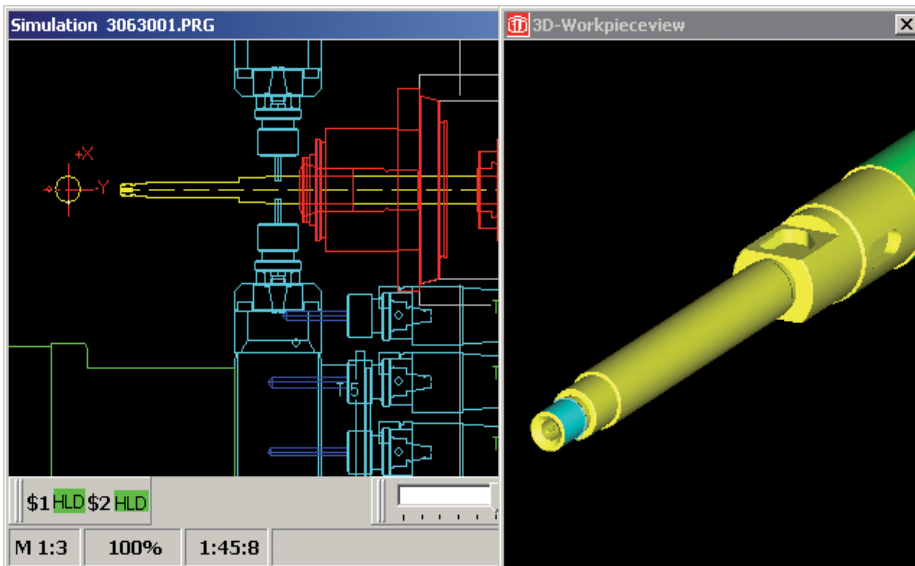


Electronic quick retraction

Additional safety device –

Electronic quick retraction

- Active on all TRAUB machines
- Active counter control in case of malfunction
- Response time in the millisecond range by intelligent servo amplifier
- More effective than mechanical safety systems



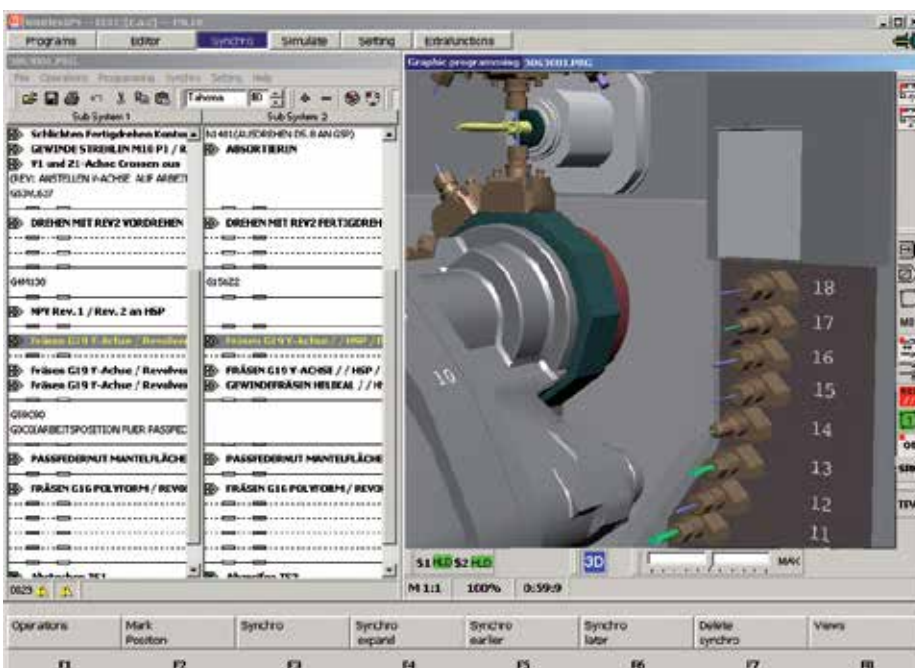
Programming, optimization, simulation

- Realistic real-time simulation for shorter setup times
- 3D workpiece display as standard feature
- Graphical display of the working sequences
- Visual collision check before the machine is run in

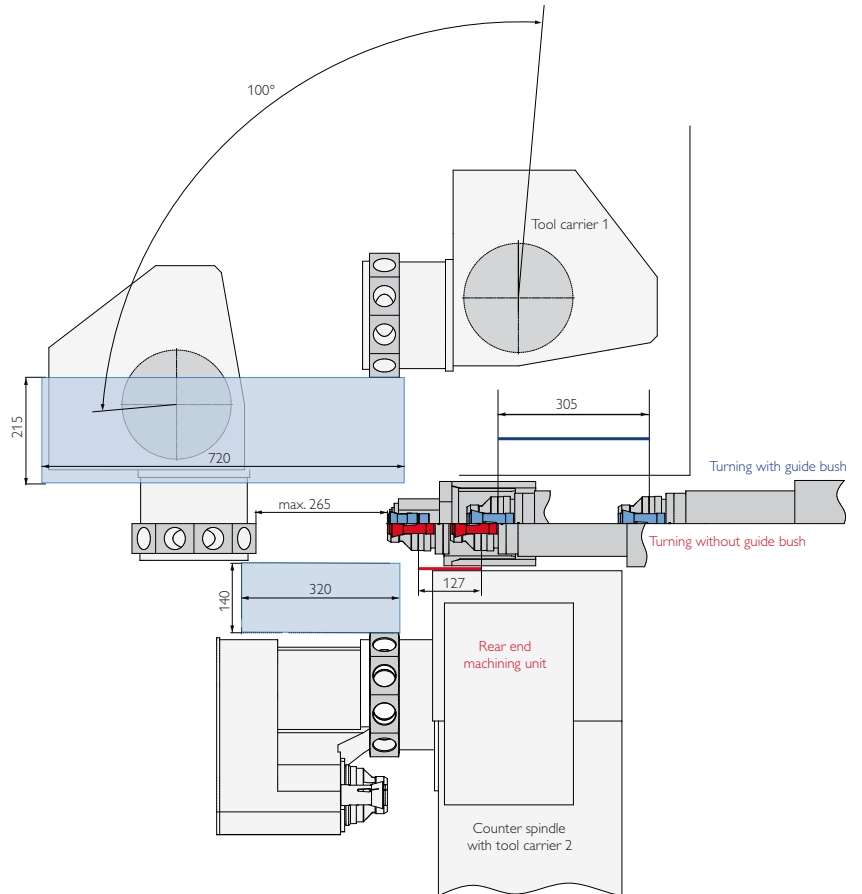
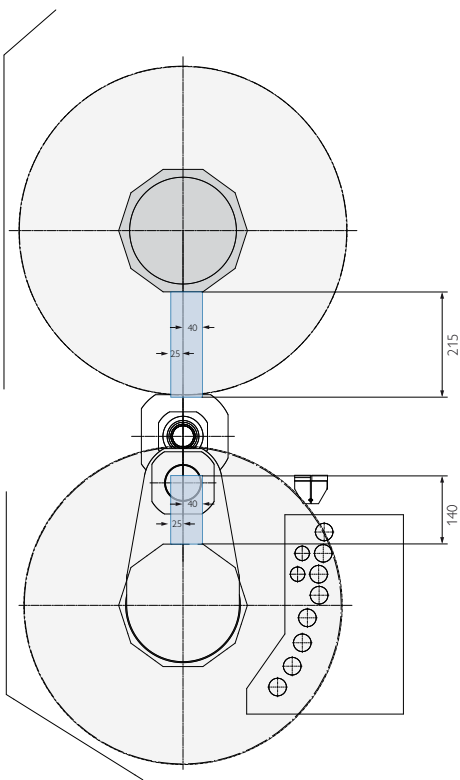
External programming

TRAUB WinFlexIPSP^{plus} (option)

- Step-by-step parallel programming and simulation possible
- Extremely easy synchronization of machining sequences with 2 sub-systems
- Cycle-time optimization already during programming
- Planning and optimization of the setup operation using “Manual mode” and “Automatic mode” functions corresponding to the real machine
- 3D simulation and calculation check provide additional safety
- Optionally as PC version and / or integrated in the control
- 3D collision protection during setup operation of the machine



Work area: TNL32-7B



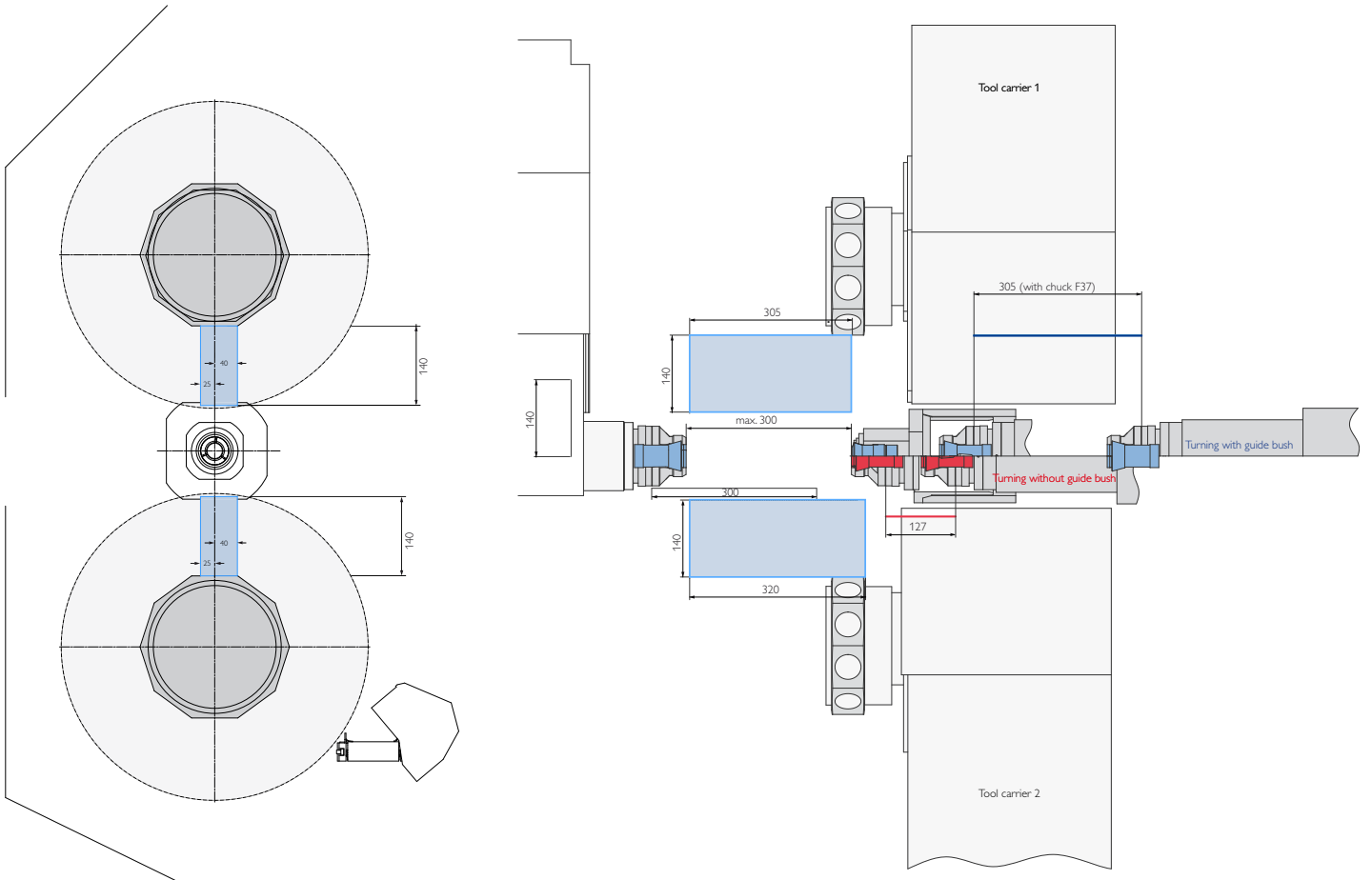
Technical data

TNL32-7B

Headstock		
Max. bar capacity	mm	32
Max. Z-travel Swiss and non swiss turning center	mm	305 / 127 *
Max. speed	rpm	8,000
Power at 100%/40%	kW	6.7 / 10.7
Torque at 100%/40%	Nm	21 / 32
C-axis resolution	Degrees	0.001
Max. rapid traverse rate Z	m/min	20
* Non swiss turning center		
Top tool turret		
Tool mountings	Number	10
Driven tools	Number	10
Max. speed	rpm	12,000
Mounting-ø	mm	45
Power at 100%/20%	kW	1.5 / 3.4
Turning tool cross-section	mm	16 x 16
Slide travel X	mm	215
Slide travel Y	mm	-40 / +25
Slide travel Z	mm	720
Rapid traverse rate X / Y / Z	m/min	20 / 20 / 40
Swivel angle B	Degrees	100
Bottom tool turret		
Tool mountings	Number	9
Driven tools	Number	9
Max. speed	rpm	12,000
Power at 100%/40%	kW	1.5 / 3.4
Mounting-ø	mm	45
Turning tool cross-section	mm	16 x 16
Slide travel X	mm	140
Slide travel Y	mm	-25 / +40
Slide travel Z	mm	320
Rapid traverse rate X / Y / Z	m/min	20 / 20 / 20
Counter spindle		
Max. clamping depth / diameter	mm	250 / 32
Max. speed	rpm	8,000
Power at 100%/40%	kW	2 / 4.5
Torque at 100%/40%	Nm	6.9 / 15.3
C-axis resolution	Degrees	0.001
Rear end machining unit		
Tool mountings	Number	8
Driven tools	Number	4
Mounting-ø	mm	36
Max. speed	rpm	12,000
Power at 100%/25%	kW	1.5 / 3.4
Cooling lubricant unit basic unit		
Pump pressure	bar	3 / 8
Tank capacity	l	500
Pump capacity 3 / 8 bar	l/min	80 / 100
Filter fineness	µm	50
Medium pressure (option)		
Pump pressure	bar	20
Pump capacity	l/min	80
Filter fineness	µm	50
Hydraulic unit		
Tank capacity	l	11
Machine dimensions		
Length x width x height	mm	3870 x 1670 x 2500
Weight up to approx.	kg	7000 **
Connecting power	kW	28

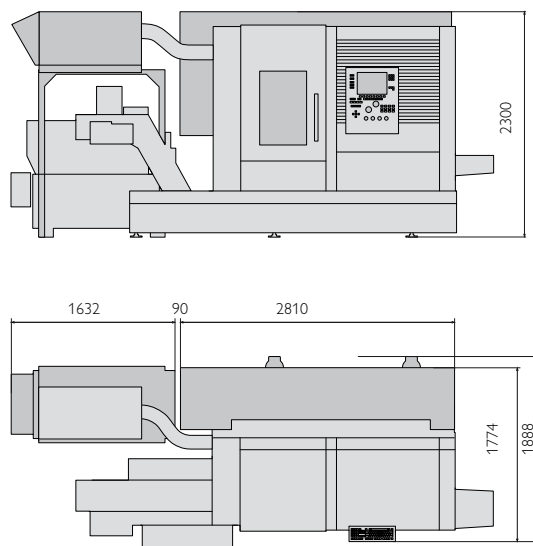
** Depending on equipment

Work area: TNL32-9



Installation plan:

in the basic design



Technical data

TNL32-9

Headstock

Max. bar capacity	mm	32
Max. Z-travel Swiss and non swiss turning center	mm	¹⁾ 305 / 127
Max. speed	rpm	8,000
Power at 100%/40%	kW	6.7 / 10.7
Torque at 100%/40%	Nm	21 / 32
C-axis resolution	Degrees	0.001
Max. rapid traverse rate Z	m/min	20

Top tool turret

Tool mountings	Number	10
Driven tools	Number	10
Max. speed	rpm	12,000
Mounting-ø	mm	45
Power at 100%/20%	kW	1.5 / 3.4
Turning tool cross-section	mm	16 x 16
Slide travel X	mm	140
Slide travel Y	mm	-40 / +25
Slide travel Z	mm	300
Rapid traverse rate X / Y / Z	m/min	20 / 20 / 20

Bottom tool turret

Tool mountings	Number	10
Driven tools	Number	10
Max. speed	rpm	12,000
Power at 100%/40%	kW	1.5 / 3.4
Mounting-ø	mm	45
Turning tool cross-section	mm	16 x 16
Slide travel X	mm	140
Slide travel Y	mm	-25 / +40
Slide travel Z	mm	320
Rapid traverse rate X / Y / Z	m/min	20 / 20 / 20

Counter spindle

Max. bar capacity	mm	32 (30 *)
Max. speed	rpm	6,400
Power at 100%/40%	kW	3.7 / 5.5
Torque at 100%/40%	Nm	29.4 / 43.7
Slide travel X	mm	140
Slide travel Z	mm	300
C-axis resolution	Degrees	0.001
Rapid traverse rate X / Z	m/min	20 / 20

Cooling lubricant unit basic unit

Pump pressure	bar	3 / 8
Tank capacity	l	500
Pump capacity 3 / 8 bar	l/min	80 / 100
Filter fineness	µm	250

Hydraulic unit

Tank capacity	l	11
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Machine dimensions

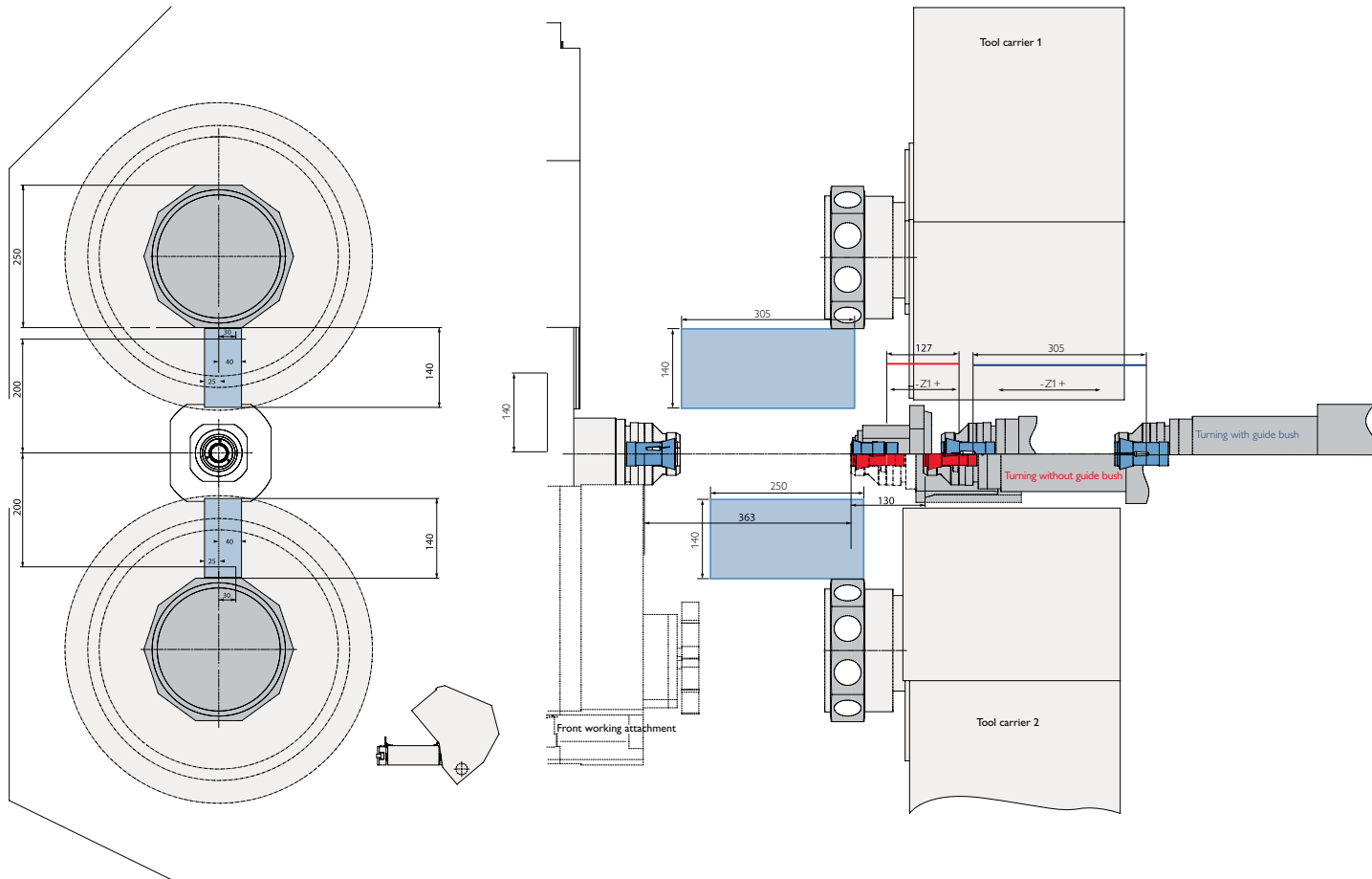
Length x width x height	mm	3870 x 1670 x 2500
Weight up to approx.	kg	7350 **
Connecting power	kW	28

* Discharging through the counter spindle

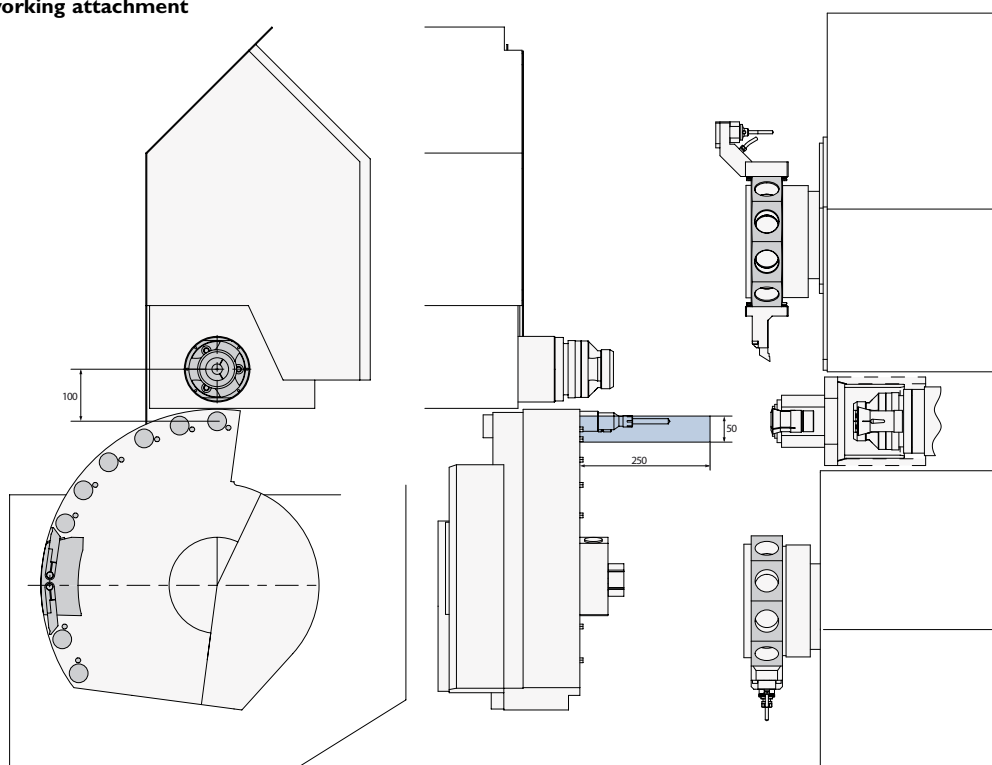
** Depending on equipment

1) The headstock stroke depends on the clamping device being used

Work area: TNL32-11



Front working attachment



Technical data

TNL32-11

Headstock		
Max. bar capacity	mm	32
Max. Z-travel <i>Swiss and non swiss turning center</i>	mm	¹⁾ 305 / 127
Max. speed	rpm	8,000
Power at 100%/40%	kW	6.7 / 10.7
Torque at 100%/40%	Nm	21 / 32
C-axis resolution	Degrees	0.001
Max. rapid traverse rate Z	m/min	20
Top tool turret		
Tool mountings	Number	10
Driven tools	Number	10
Max. speed	rpm	12,000
Mounting-ø	mm	45
Power at 100%/20%	kW	1.5 / 3.4
Turning tool cross-section	mm	16 x 16
Slide travel X,Y,Z	mm	140, -40/+25, 305
Rapid traverse rate X,Y,Z	m/min	20 / 20 / 20
Bottom tool turret		
Tool mountings	Number	10
Driven tools	Number	10
Max. speed	rpm	12,000
Power at 100%/40%	kW	1.5 / 3.4
Mounting-ø	mm	45
Turning tool cross-section	mm	16 x 16
Slide travel X,Y,Z	mm	140, -25/+40, 250
Rapid traverse rate X,Y,Z	m/min	20 / 20 / 20
Front working attachment		
Tool mountings	Number	8
Driven tools	Number	4
Mounting-ø	mm	36
Max. speed	rpm	12,000
Power at 100%/40%	kW	1.5 / 3.4
Slide travel X, Z	mm	-40/+10, 250
Rapid traverse rate X, Z	m/min	20 / 20
Deep-hole drilling station (option)		
Driven tools	Number	1
Max. speed	rpm	12,000
Max. coolant pressure (option)	bar	120
Counter spindle		
Max. bar capacity	mm	32 (30*)
Max. speed	rpm	6,400
Power at 100%/40%	kW	3.7 / 5.5
Torque at 100%/40%	Nm	29.4 / 43.7
Slide travel X, Z	mm	140, 300
C-axis resolution	Degrees	0.001
Rapid traverse rate X, Z	m/min	20 / 20
Cooling lubricant unit basic unit		
Pump pressure	bar	3 / 8
Tank capacity	l	500
Pump capacity 3 / 8 bar	l/min	80 / 100
Filter fineness	µm	250
Hydraulic unit		
Tank capacity	l	11
Machine dimensions		
Length x width x height	mm	3870 x 1670 x 2500
Weight up to approx.	kg	7350 **
Connecting power	kW	28

* Discharging through the counter spindle ** Depending on equipment

1) The headstock stroke depends on the clamping device being used

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