CNC swiss- and non-swiss

turning center

TNL18

TRAUB

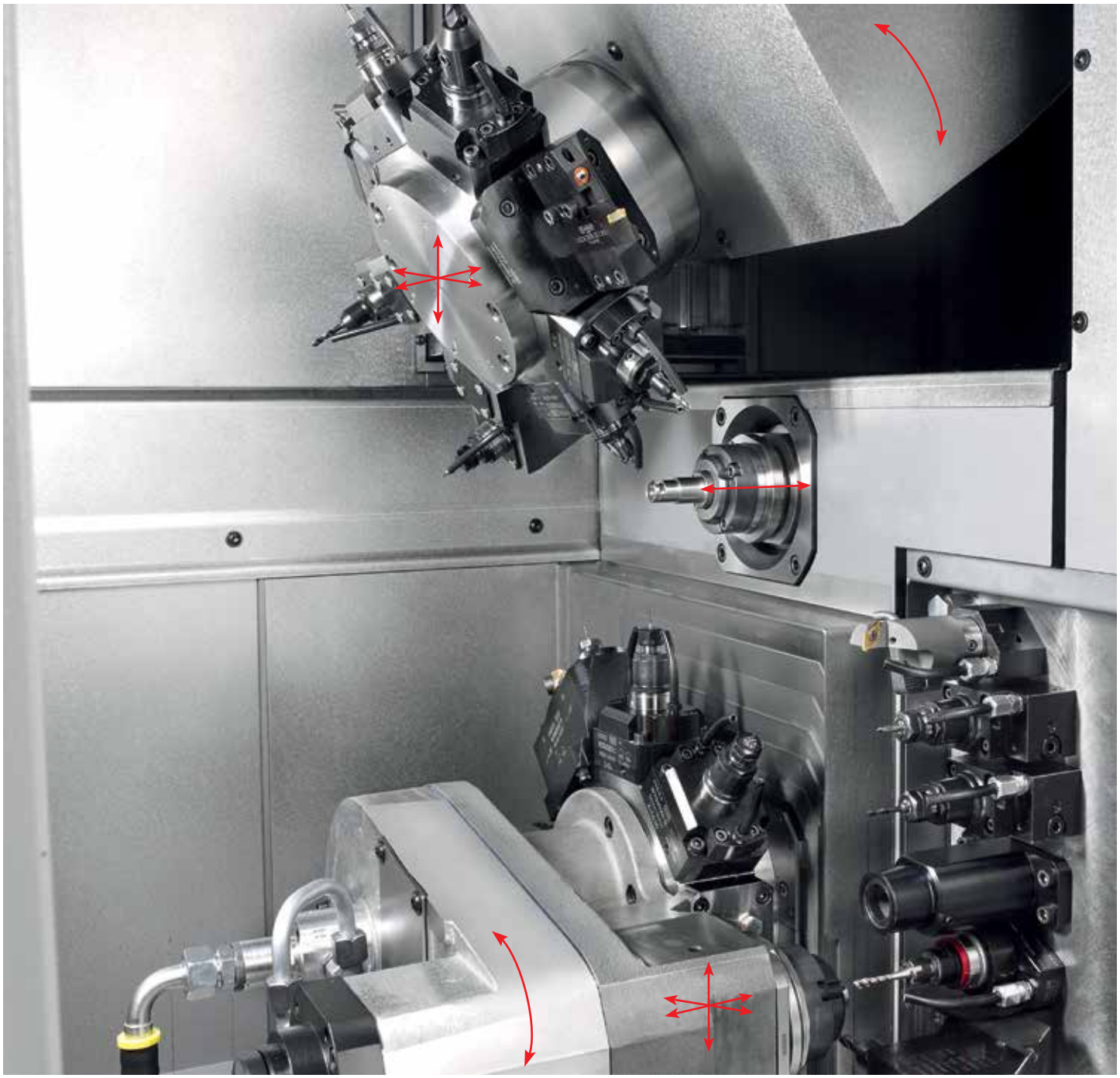
Thanks to the outstanding technical features of the TRAUB TNL18 CNC swiss- and non-swiss turning center you will notice measurable improvements in production. Just take the turrets designed as NC rotary axes, for example. Not only is their indexing extremely fast, they can also be freely positioned without 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

TNL18

Ideal for any manufacturing task



The TNL18 was designed 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 circle
- 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

TNL18-7B

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 turning operation both with and without a guide bush

Top tool carrier

- 8 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

Rear end machining unit

- 7 tool stations
- Large travels of counter spindle allow multiple allocations
- The special drive design provides the choice of high speeds or high torque
- Integrated work discharge; the part can be flushed or optionally positioned and removed

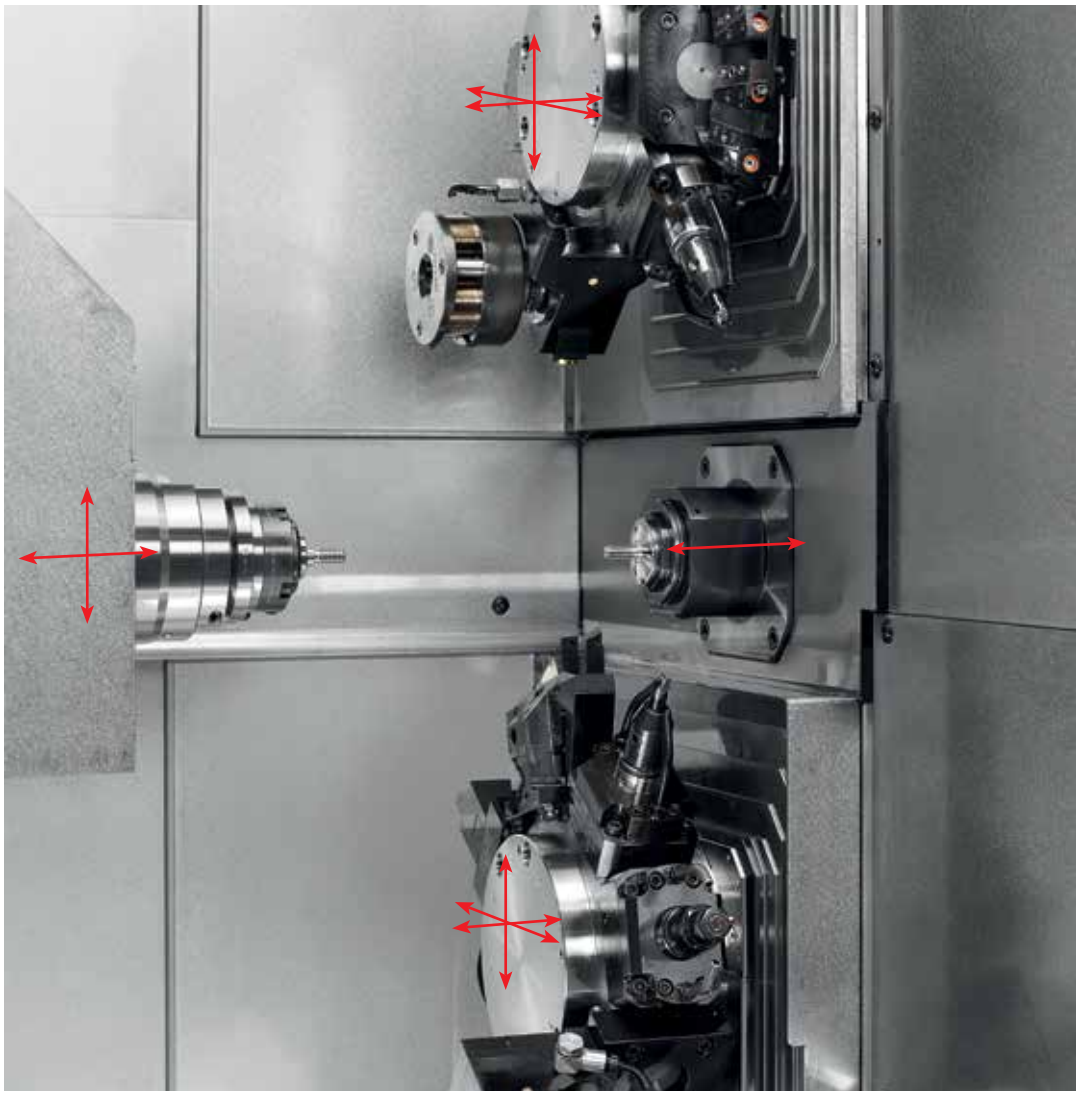
Counter spindle with bottom tool carrier

- Powerful counter spindle with large axis travels in the X/Y/Z axes and integrated tool carrier with 7 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
- Tool carrier adapted to counter spindle allows simultaneous machining on the main spindle with two independent tools

TNL18-9

for even more

flexibility



The TNL18-9'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 20 mm.

A counter spindle identical to the main spindle is mounted on a separate X-Z cross-slide, providing a Z travel range of 262 mm.

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

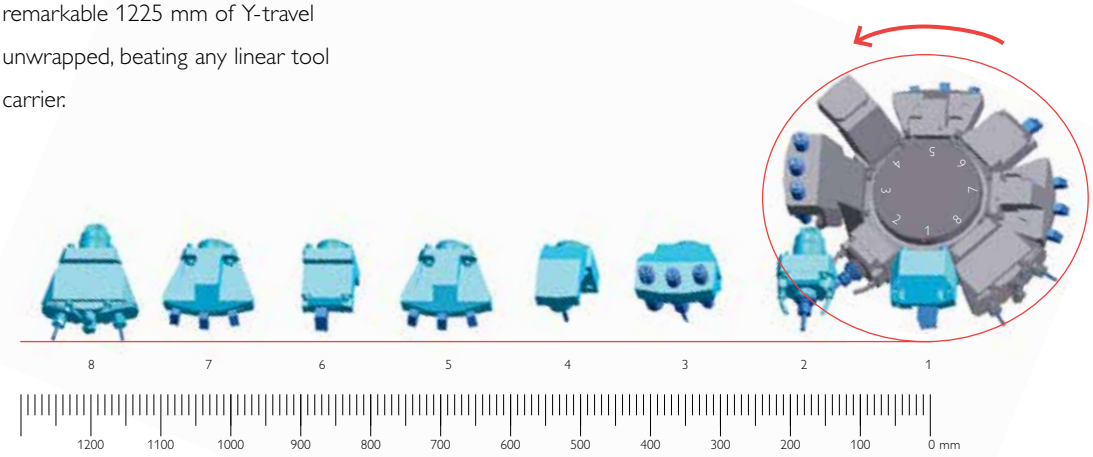
Simultaneous machining using two fast X/Y/Z tool turrets

Two tools are used independently of one another on the main or counter spindle. This enables complex milling contours as well as off-center drill holes to be produced simultaneously to turning operations. Also, the simultaneous use of larger thread rolling heads both on the tool front and reverse side is possible without any problem at all. The additional X-axis of the counter spindle provides optimal clearance for simultaneous internal machining on the main and counter spindles.

This makes the tool carriers so special

Large tool stock

The tooling circle corresponds to remarkable 1225 mm of Y-travel unwrapped, beating any linear tool carrier.

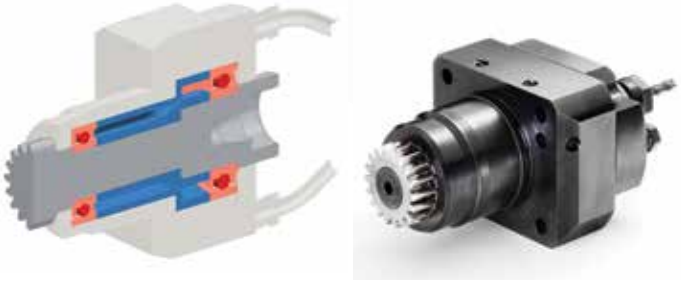


Turret indexing with NC rotary axis

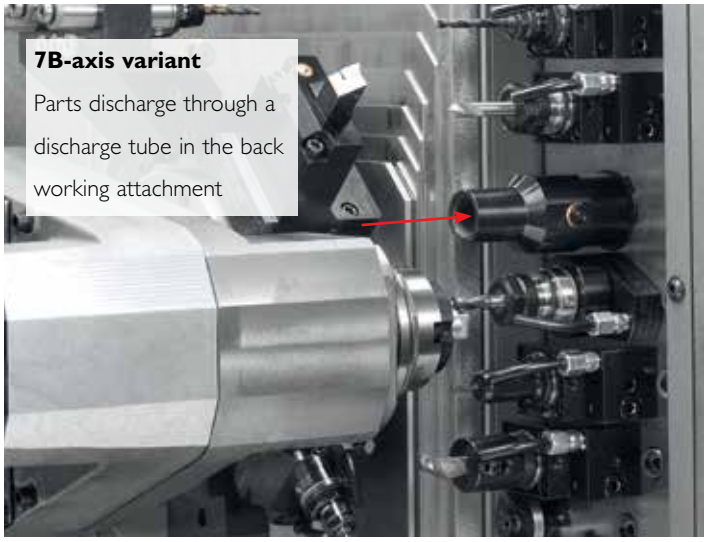
The newly designed tool carriers are a highlight of the TNL18. For the first time, the rotary motion is executed by an NC axis without any mechanical locks. This allows you to position both the turret and the counter spindle very fast at any angle.

Innovative tool mounting system

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



Parts removal

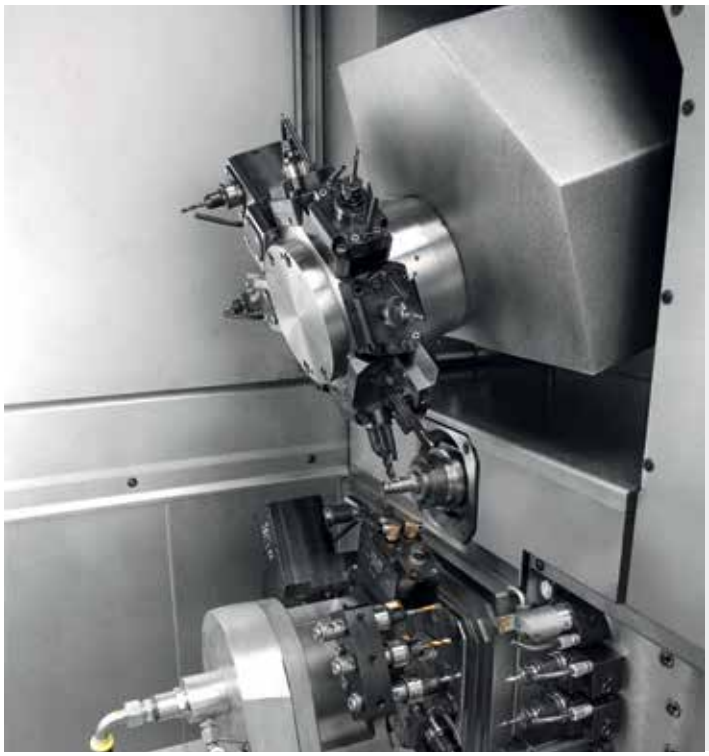


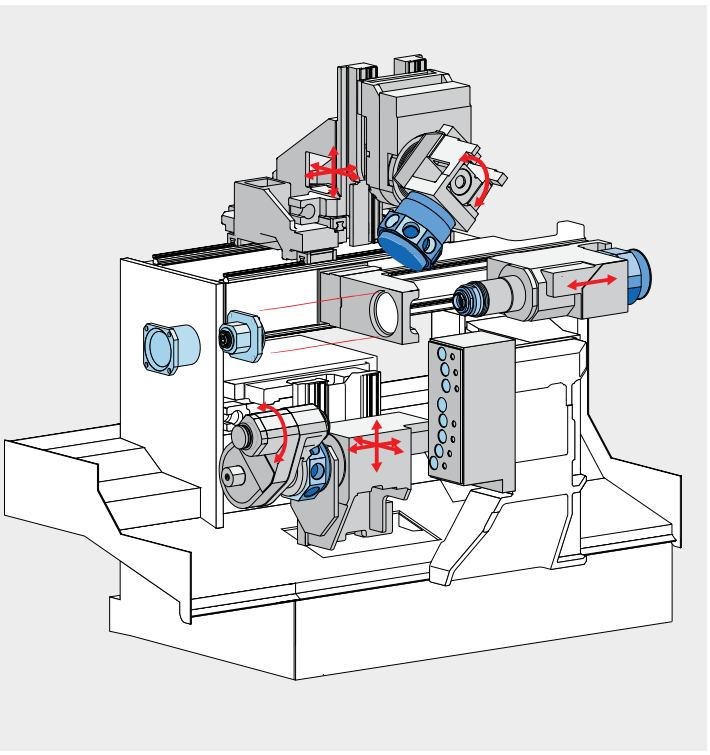
7B-axis variant

Parts discharge through a discharge tube in the back working attachment

9-axis variant

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



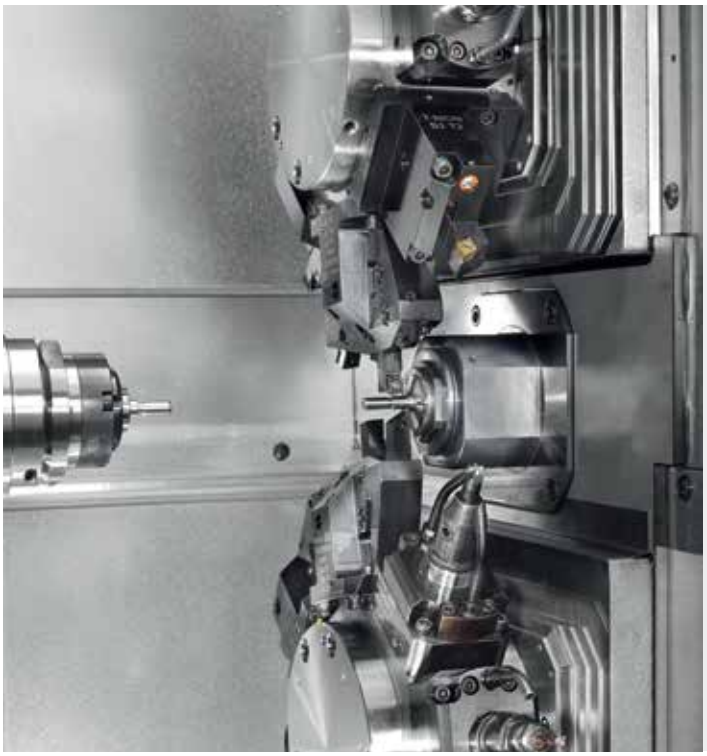


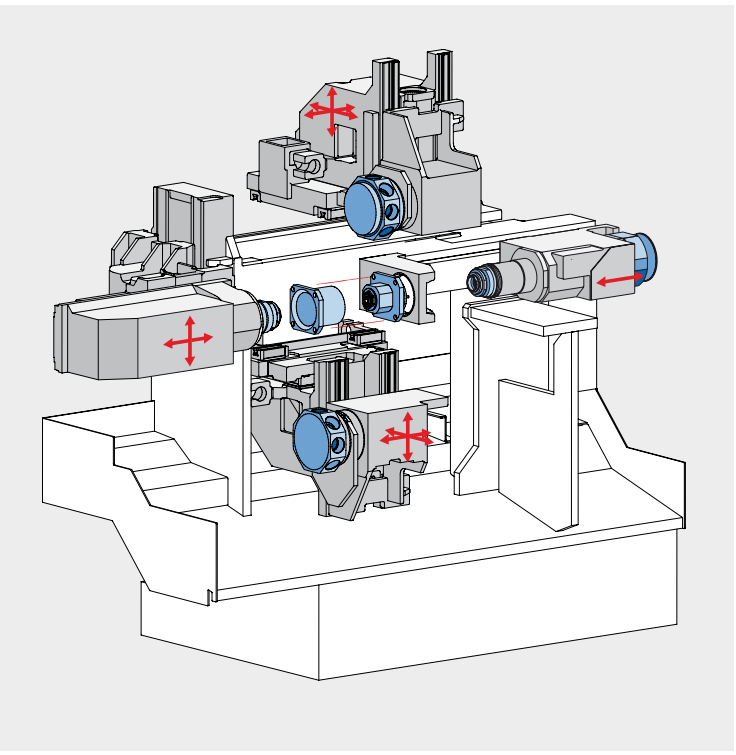
		TNL18-7B
Main spindle drive		Motorized spindle
Headstock		
Max. bar capacity		18 (20)
Max. Z1 stroke	swiss - / non-swiss turning center	205 / 80
Counter spindle		with bottom tool
Max. bar capacity		18
Max. X/Z-travel		120 / 250
Top turret		
Stations		8
Axes		X / Y / Z / B / H
Bottom turret		
Stations		7
Axes		X / Y / Z / H
Rear end machining unit		
Stations		7
Number of sub-systems		2
Number of tools		
Maximum simultaneously engaged		3
Number of CNC linear axes		**7**
Tool pool		22
Max. number of tools	with 3-slot tool holders	52
Tool shank Ø turret		45
Tool shank Ø rear end mach. unit		36

The variants,

as diverse as your

requirements





		TNL18-9
Main spindle drive		Belt spindle
Headstock		
Max. bar capacity		20
Max. Z1 stroke	swiss - / non-swiss turning center	205 / 80
Counter spindle		autonomous
Max. bar capacity		20
Max. X/Z-travel		100 / 262
Top turret		
Stations		8
Axes		X / Y / Z / H
Bottom turret		
Stations		8
Axes		X / Y / Z / H

Number of sub-systems		3
Number of tools		
Maximum simultaneously engaged		2
Number of CNC linear axes		**9**
Tool pool		16
Max. number of tools	with 3-slot tool holders	48
Tool shank Ø turret		45

Simultaneous machining on the main spindle

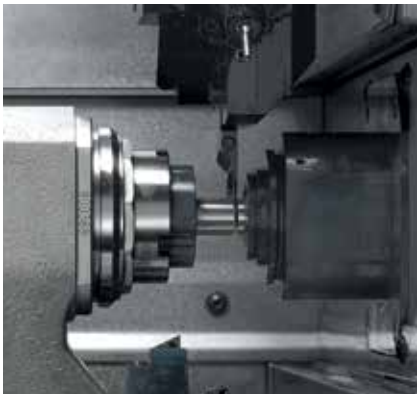
- Turning, milling, cross-drilling
- Headstock function
- Thread chasing without material return through the autonomous Z-axis

Sample applications for variants -7B, -9

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



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

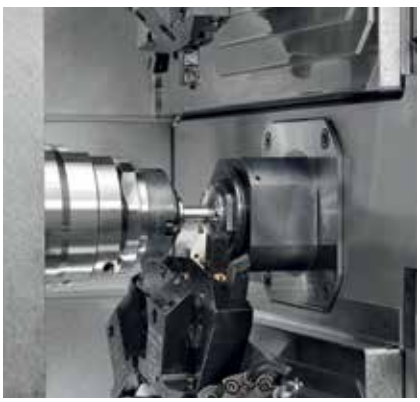
Sample applications for the -7B variant

Simultaneous machining with two tool turrets

- 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

Parts discharge through the counter spindle

- Particularly well-suited for very long parts



Sample applications for the -9 variant

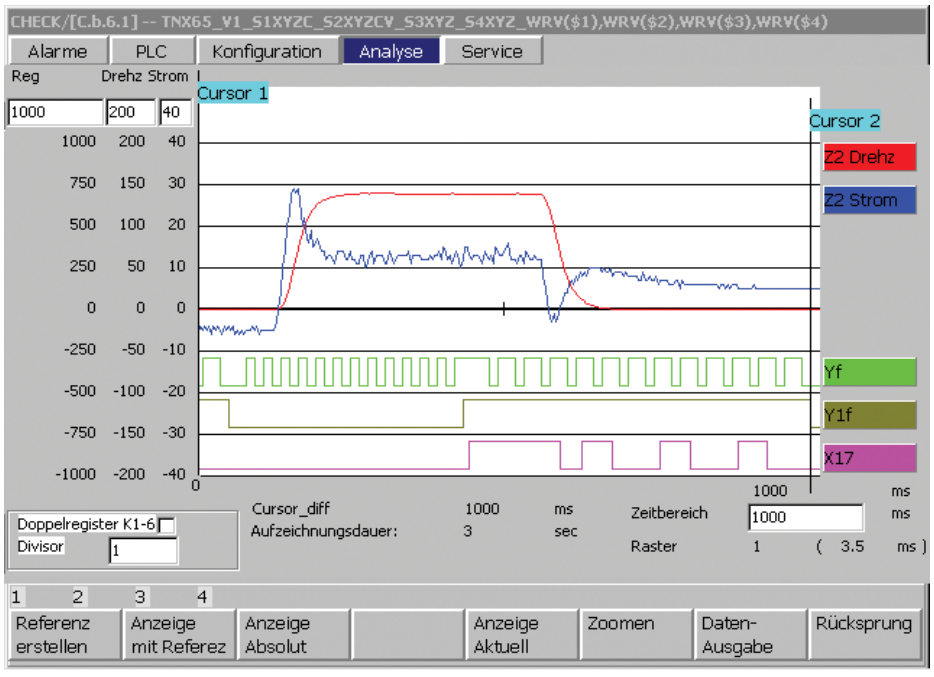
CNC control

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
- Large 15" display

Diagnostic features

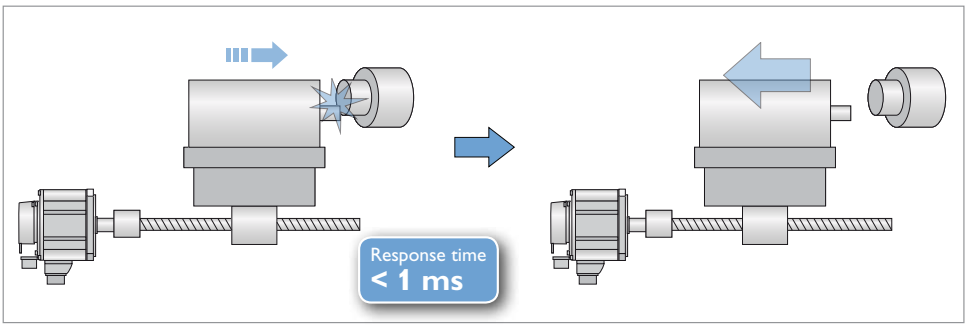
- Ongoing recording of relevant analog and digital signals and data; their flow can be displayed and compared with other recordings at any time.
- Alarm messages with detailed clear-text information
- Quick location and elimination of cause of malfunction



TRAUB TX8i-s

Get a firm grasp

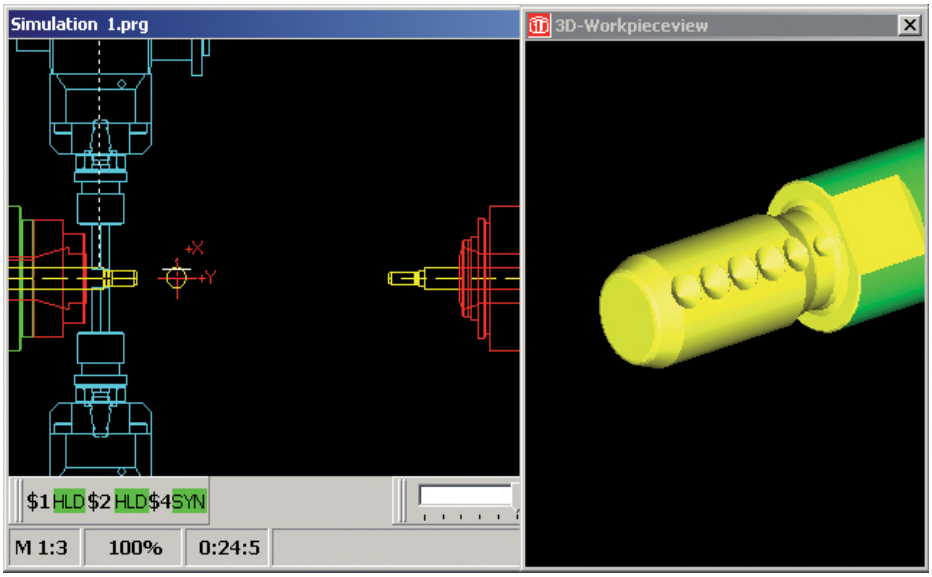
on your production



Electronic quick retraction

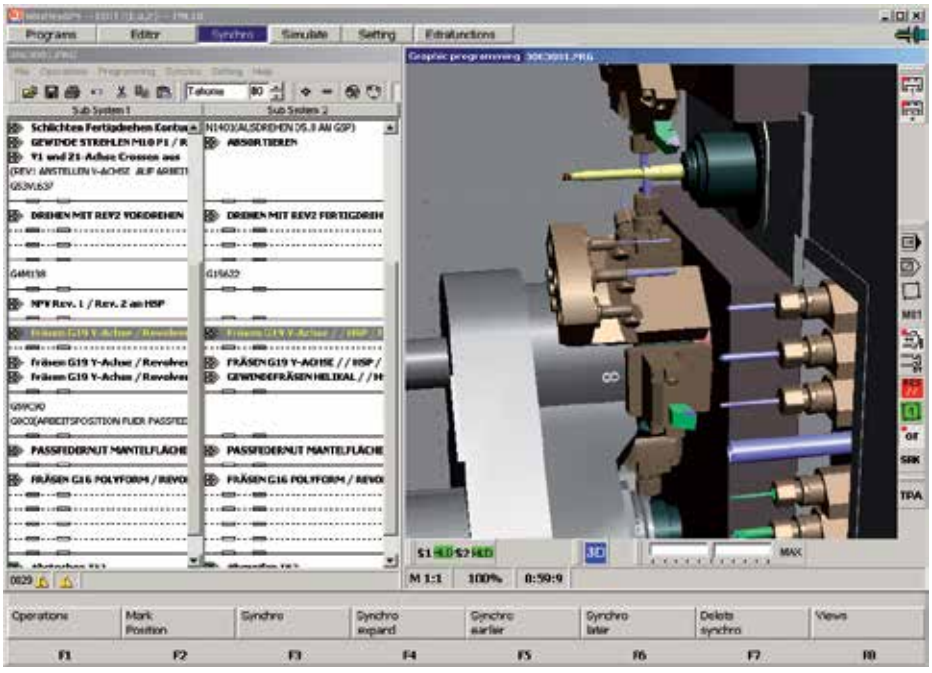
Additional safety device –
Electronic quick retraction

- 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

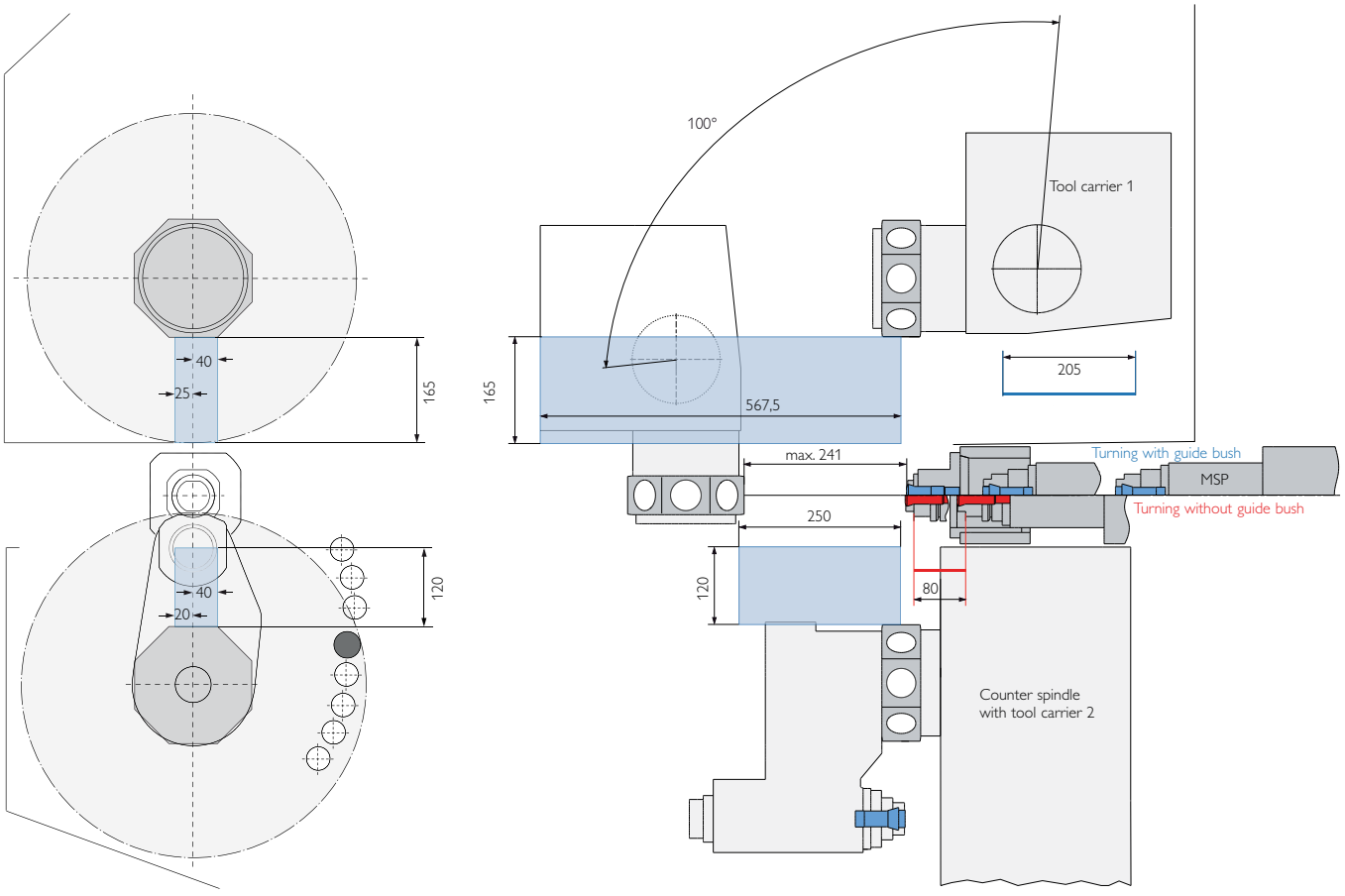
- Realistic real-time simulation for shorter setup times
- 3D workpiece display as standard feature
- Graphical display of the working sequences
- Visual collision check before the machine is run in



External programming
TRAUB WinFlexIPS^{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: TNL18-7B

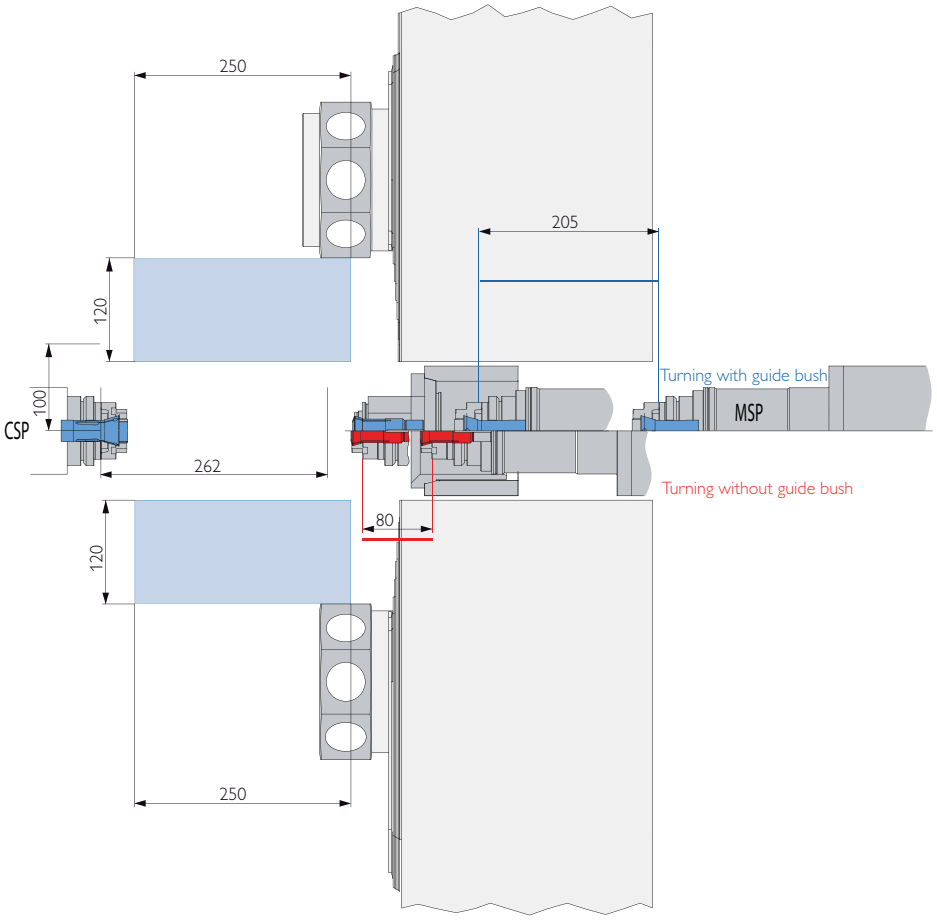


Technical data

		TNL18-7B
Headstock		
Max. bar capacity	mm	18 (20)
Max. Z-travel Swiss- and non-swiss turning center	mm	205 / 80
Max. speed	rpm	12000
Power at 100%/40%	kW	3.0 / 5.5
Torque at 100%/40%	Nm	5.7 / 10.5
C-axis resolution	Degrees	0.001
Max. rapid traverse rate Z	m/min	40
Top tool turret		
Tool mountings	Number	8
Driven tools	Number	8
Max. speed	rpm	12000
Mounting-ø	mm	45
Power at 100%/40%	kW	1 / 2
Turning tool cross-section	mm	16 x 16 / 12 x 12
Slide travel X	mm	165
Slide travel Y	mm	-40 / +25
Slide travel Z	mm	550
Rapid traverse rate X / Y / Z	m/min	20 / 20 / 40
Swivel angle B	Degrees	100
Bottom tool turret		
Tool mountings	Number	7
Driven tools	Number	7
Max. speed	rpm	12000
Power at 100%/40%	kW	1.5 / 2.5
Mounting-ø	mm	45
Drehmeißelquerschnitt	mm	16 x 16 / 12 x 12
Slide travel X	mm	120
Slide travel Y	mm	-20 / +40
Slide travel Z	mm	250
Rapid traverse rate X / Y / Z	m/min	20 / 20 / 40
Counter spindle		
Max. clamping depth / diameter	mm	175 / 20
Max. speed	rpm	12000
Power at 100%/40%	kW	1,5 / 2,5
Torque at 100%/40%	Nm	3 / 5.1
C-axis resolution	Degrees	0,001
Rear end machining unit		
Tool mountings	Number	7
Driven tools	Number	3
Mounting-ø	mm	36
Max. speed	rpm	10000
Power at 100%/25%	kW	1 / 2
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	28
Filter fineness	µm	50
Hydraulic unit		
Tank capacity	l	11
Machine dimensions		
Length x width x height	mm	3060 x 1480 x 2420
Weight up to approx.	kg	4300 *
Connecting power	kW	24

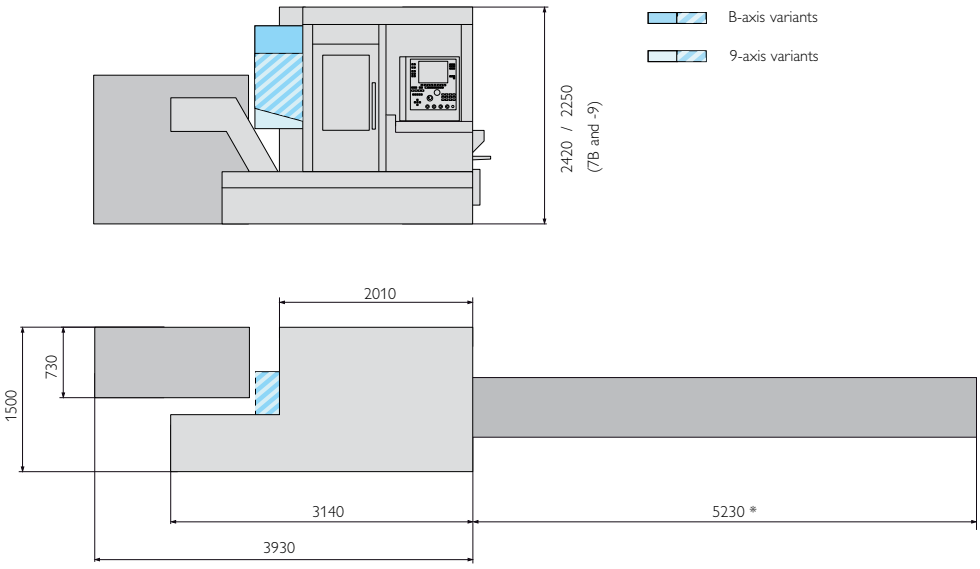
* Depending on equipment

Work area: TNL18-9



Installation plan for all variants:

in the basic design



* Contour and length depend on loading magazine

Technical data

		TNL18-9
Headstock		
Max. bar capacity	mm	20
Max. Z-travel Swiss- and non-swiss turning center	mm	1) 205 / 80
Max. speed	rpm	10000
Power at 100%/40	kW	2.2 / 3.7
Torque at 100%/40%	Nm	14 / 23,5
C-axis resolution	Degrees	0.001
Max. rapid traverse rate Z	m/min	40
Top tool turret		
Tool mountings	Number	8
Driven tools	Number	8
Max. speed	rpm	12000
Mounting-ø	mm	45
Power at 100%/40%	kW	1 / 2
Turning tool cross-section	mm	16 x 16 / 12 x 12
Slide travel X	mm	120
Slide travel Y	mm	-40 / +25
Slide travel Z	mm	250
Rapid traverse rate X / Y / Z	m/min	20 / 20 / 40
Bottom tool turret		
Tool mountings	Number	8
Driven tools	Number	8
Max. speed	rpm	12000
Power at 100%/40%	kW	1 / 2
Mounting-ø	mm	45
Turning tool cross-section	mm	16 x 16 / 12 x 12
Slide travel X	mm	120
Slide travel Y	mm	-20 / +40
Slide travel Z	mm	250
Rapid traverse rate X / Y / Z	m/min	20 / 20 / 40
Counter spindle		
Max. bar capacity	mm	20 (18 *)
Max. speed	rpm	10000
Power at 100%/40%	kW	2.2 / 3.7
Torque at 100%/40%	Nm	14 / 23.5
Slide travel X	mm	100
Slide travel Z	mm	262
C-axis resolution	Degrees	0.001
Rapid traverse rate X / Z	m/min	20 / 40
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	28
Filter fineness	µm	600
Hydraulic unit		
Tank capacity	l	11
Machine dimensions		
Length x width x height	mm	3060 x 1460 x 2250
Weight up to approx.	kg	4000 **
Connecting power	kW	24

* Discharging through the counter spindle

** Depending on equipment

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

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