CNC-

Turn-mill center

TNX65/42

TRAUB

TRAUB'S TNX65/42 sets new standards in high-performance machining.

Its future-oriented machine concept comprising a new, unique milling unit offers previously unexpected opportunities of integrating machining processes. This concept stands for previously unknown flexibility and productivity.

The new milling unit impresses by its chip-to-chip times, such as previously only known of tool turrets.

TNX65/42

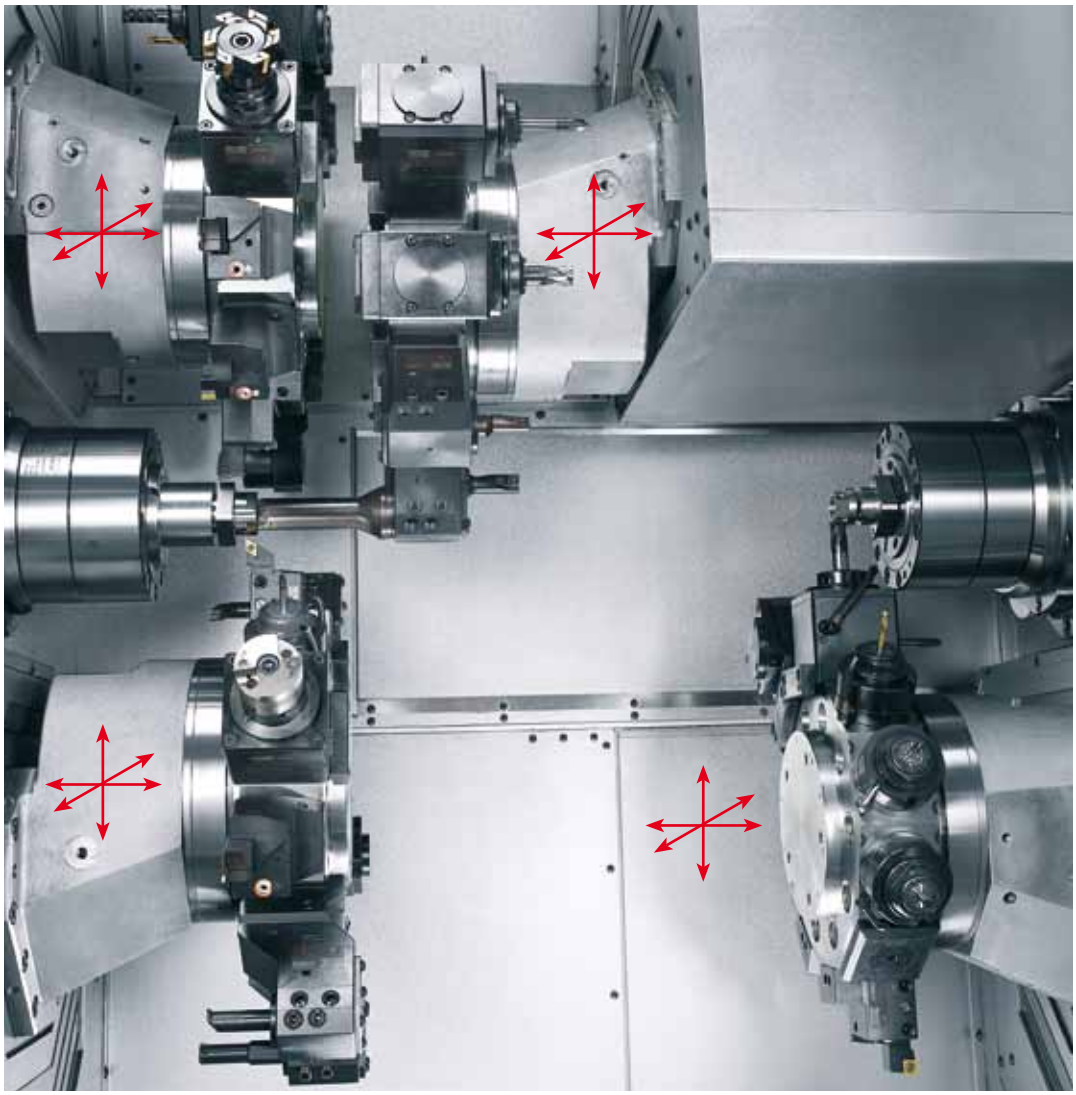
A passion for

high performance

The TNX65/42

economical with

2, 3 or 4 turrets



The machine concept of the TNX65/42 has been tailored to the wide range of requirements needed by users. The result offers many advantages:

- quadruple functional symmetry, i. e. 4 identical turrets with independent Y axis, with identical tool change areas and identical number of tool stations
- free allocation of the tool carriers to the two spindles
- high-powered drives on main and counter spindles provide optimum metal-cutting performance
- powerful tool drives on all turrets for perfect complete machining

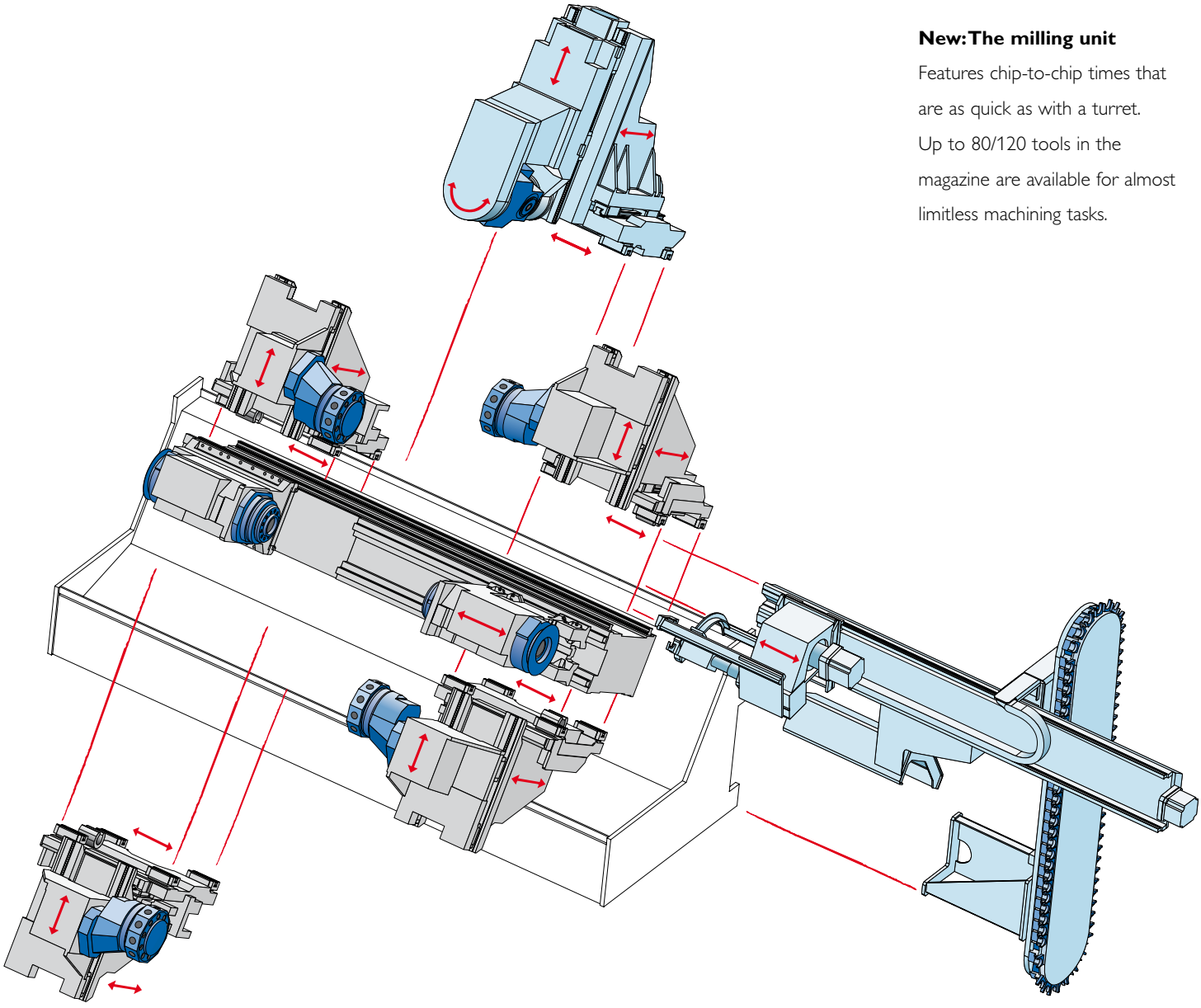
Less setup efforts

- precise tool change repetitive accuracy of the tool holders (TRAUB patent)
- large tool stock with up to 80 tools in 4 turrets

Wide application spectrum for high utilization of the machine

- suitable for all different workpieces and lot sizes
- highly productive due to the simultaneous use of up to 4 tool carriers
- high integrability for different machining methods
- bar, chuck or shaft machining

Modular system for your specific requirements



New: The milling unit

Features chip-to-chip times that are as quick as with a turret. Up to 80/120 tools in the magazine are available for almost limitless machining tasks.

The modular system

For optimal adaptation of the machine equipment to your specific needs.

The basic structure

The compact machine bed made of heavily ribbed cast iron has high torsional and bending stiffness. It carries the thermo-symmetric headstock and the linear guideways for bed slides and counter spindle slides. It offers excellent vibration dampening, outstanding dynamic stiffness and high thermal stability. A bed inclination of 60° ensures unhindered chip fall.

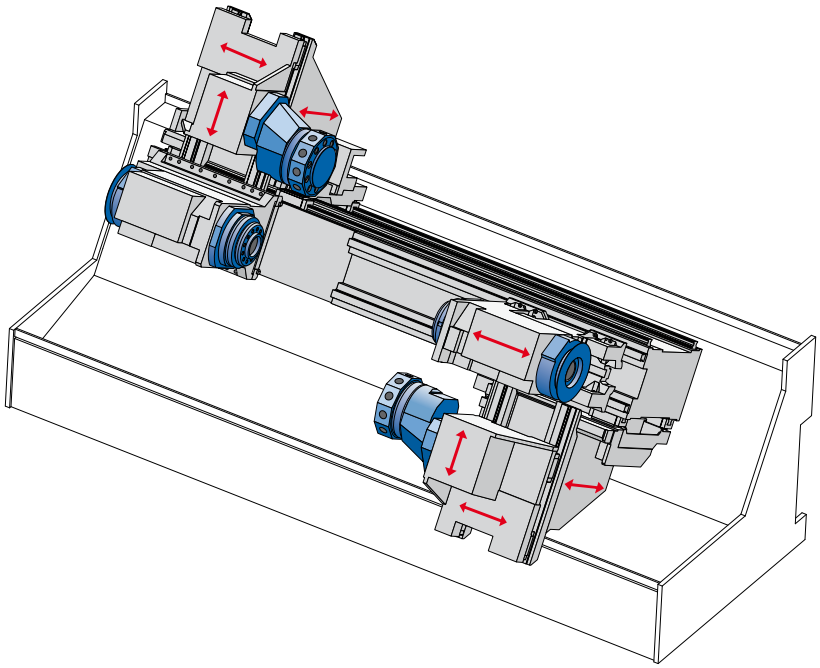
Machine dimensions

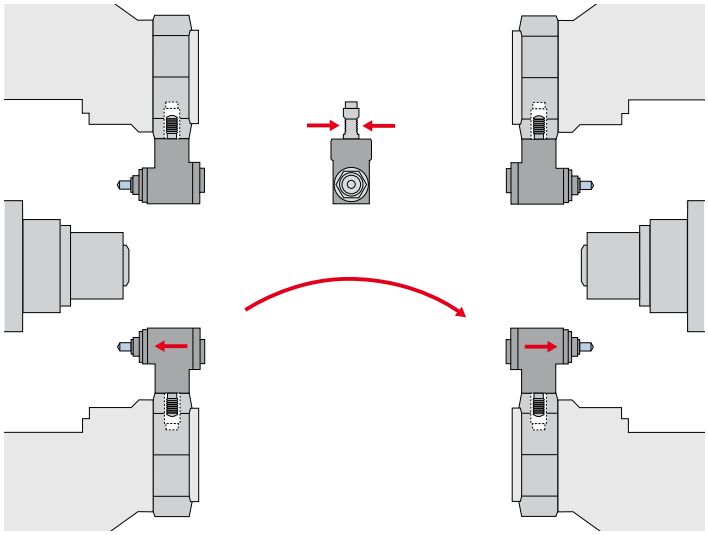
- bar diameter up to 65 mm
- chuck sizes up to 175 mm
- turning lengths up to 650 mm

Top performance

with only two turrets

The TRAUB TNX65/42 allows you to perform a host of different machining tasks using just the basic equipment including two turrets. This is made possible because both tool carriers can be used on both the main and counter spindles. This gives you previously unknown freedom in simultaneous machining of the workpiece on the front and back. Thus, machining tasks can be planned perfectly, and the resulting parts can be produced with minimum cycle times.





One tool holder for all turrets and all machining directions

The two-sided serration of our tool holders (TRAUB patent) allows you to use the cutting tools on the main and counter spindles. The combination with high-precision tool holder positioning significantly reduces setup times. Thus, no tool alignment is required.

The many options

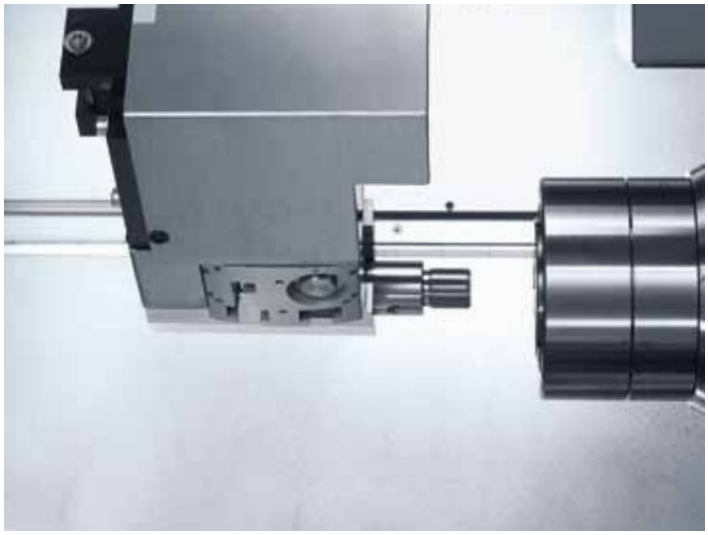
give you flexibility

The turrets

Owing to their 30 mm of shaft diameter, the 10 tool holder stations form a solid base when using different tools. Short setup times are achieved by using the patented TRAUB tool holder alignment or W serration.

The spindles

The identically designed spindles are provided as standard with hybrid bearings. This gives significantly increased service lives. The powerful motor spindles are designed in synchronous technology.



Automatic unloading

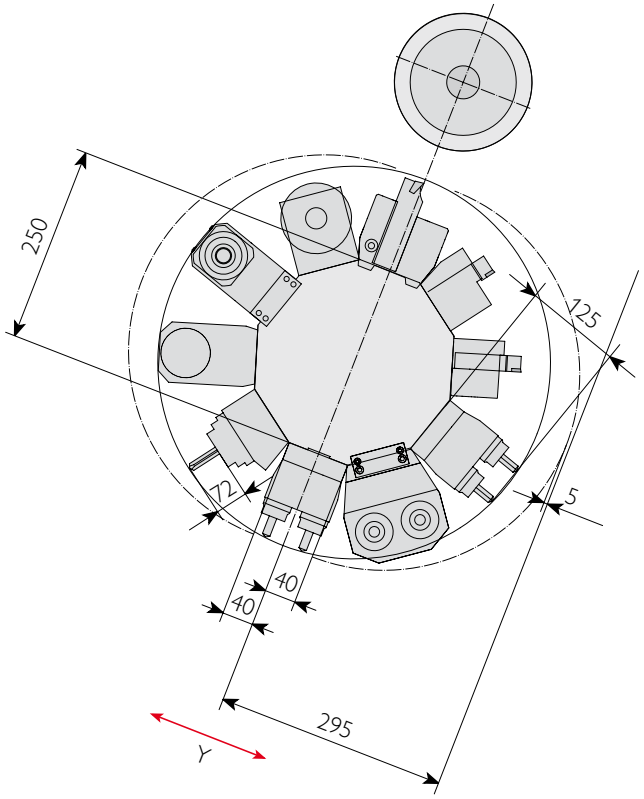
The finished part is discharged by a gripper positioned via highly dynamic axes on the right side of the machine via a conveyor in parallel to production time. The bar remnant is removed separately.

TRAUB ATC

Allows you to measure your tools optically, the resulting data being transmitted automatically to the control system. Your advantage: Time-saving presetting of the cutting tools in the machine-clamped state. The optical measuring microscope with 17-fold magnification allows non-contact high-precision tool measurement.

Outstanding features

of our turrets

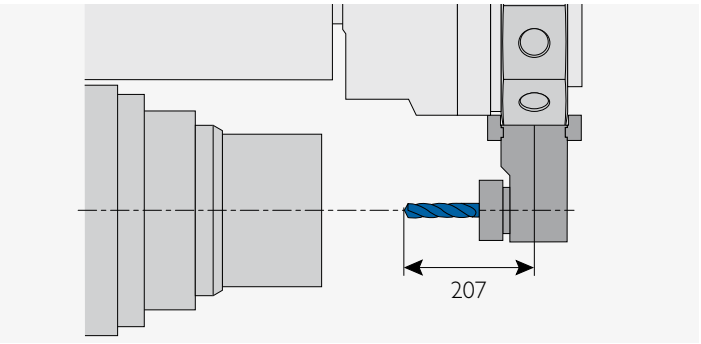


Intelligent turret construction

■ the controllable turret indexing simplifies your setup procedure

■ large tool change areas and reduced risk of collision are achieved with our inclined bed construction and the particularly large available space

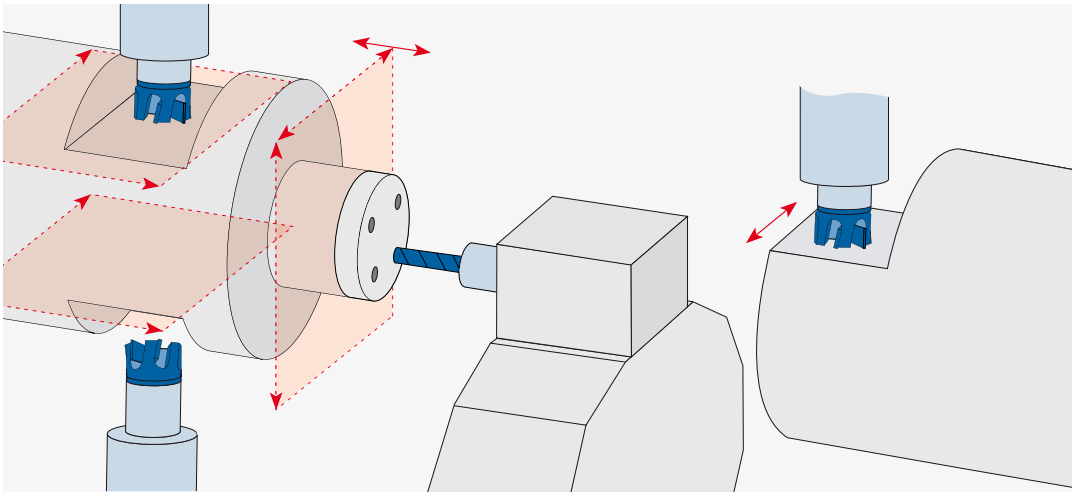
■ large tool stock by using double tool holders



3-D machining

■ 4 independent sub systems of ± 40 mm Y travel each allow simultaneous drilling and milling with 4 tools on the spindles

■ X travels of up to 40 mm under the turning centre allow high-precision end-face machining up to a pitch circle of 80 mm without C axis movement



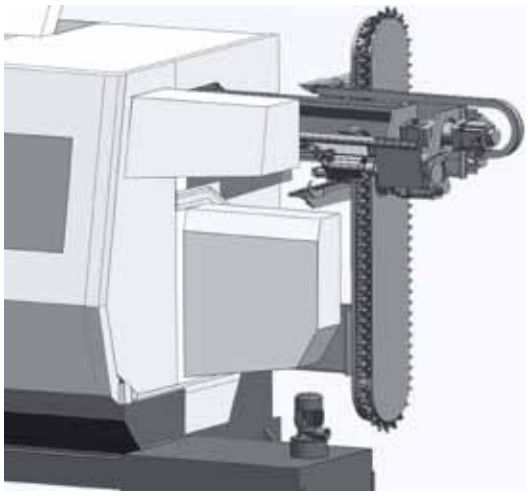
Simply unique -

the milling unit

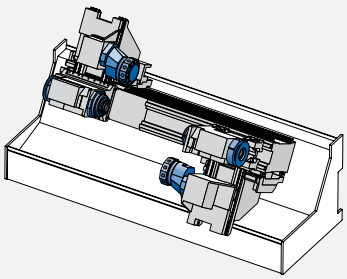
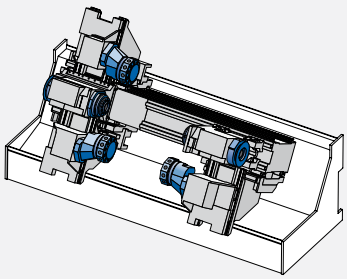
The milling unit is the highlight of the TNX65/42. The tool magazine with its 80/120 tool pockets and incredible chip-to-chip times stands for maximum productivity.

Speed:	max. 12000 rpm
Torque:	max. 35.4 Nm
Tool holder system:	HSK-A40

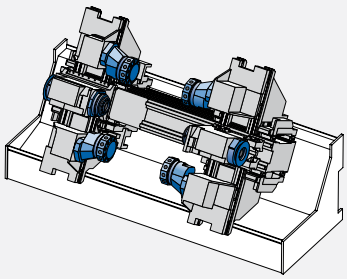
- the highly compact design of the milling unit also allows simultaneous end face machining means of the turrets
- no restrictions for the axis movements due to the unique kinematics, i.e., same traversing range as that of the turrets
- unrestricted use on main and counter spindles
- allows processes such as turning, gear hobbing, hobbing, B axis machining etc., to be integrated
- powerful torque thanks to 2-stage gear i=1:1 and 1:3
- internal coolant supply max. 120 bar

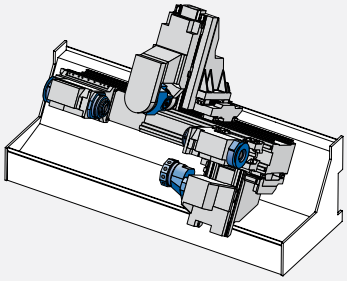


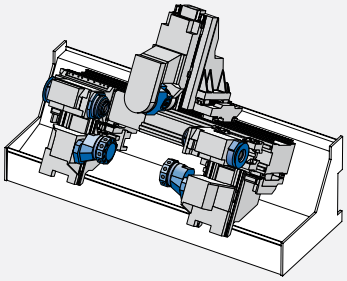
- chip-to-chip times comparable to those of a turret
- tool provision via linear shuttle and tool change by double gripper
- 80/120 tool pockets HSK-A40

			
Main spindle			
max. bar capacity	65 mm	●	●
Chuck diameter	175 mm		
Counter spindle			
max. bar capacity	65 mm	●	●
Chuck diameter	175 mm		
Tool carrier, left-hand top			
Stations	10	●	●
Drive	all		
Tool carrier, right-hand bottom			
Stations	10	●	●
Drive	all		
Tool carrier, left-hand bottom			
Stations	10		●
Drive	all		
Tool carrier, right-hand top			
Stations	10		
Drive	all		
Milling unit			
including B axis			
Tool pockets in magazine	80/120		
Number of CNC axes		9	12
Tool stock		20	30
Tool stock max.		40	60

Options - as varied as your requirements







Tool holders:

single or double

fixed or driven

•	•	•
•	•	•
•		
•	•	•
•		•
•		
	•	•
15	10	13
40	90	100
80	140	160

TRAUB TX8i-s

To ensure your

production

Complete solution

CNC control

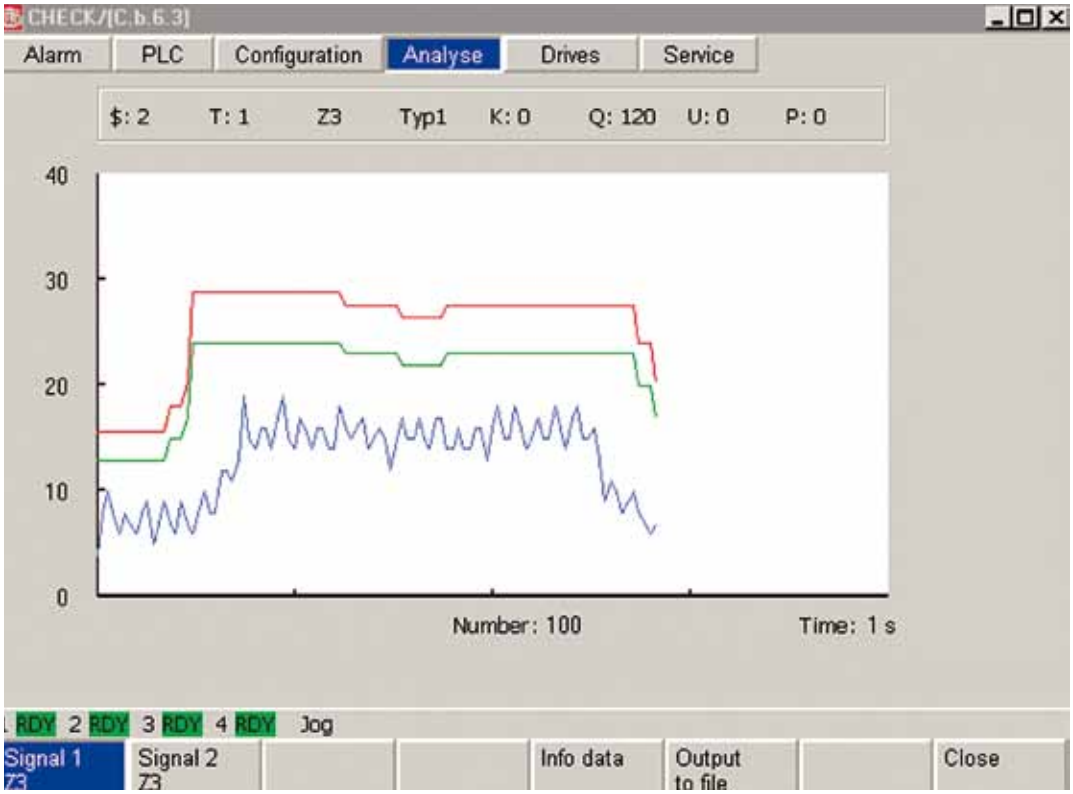
Clearly arranged user interface with dialog technology for programming, editing, setup and operation.

- graphics-supported dialog instructions also during setup
- comfortable process synchronization and optimization of the program sequence of parallel machining processes
- visual control of potential collision situations through graphic process simulation GPS
- large 15 inch monitor

Tool monitoring

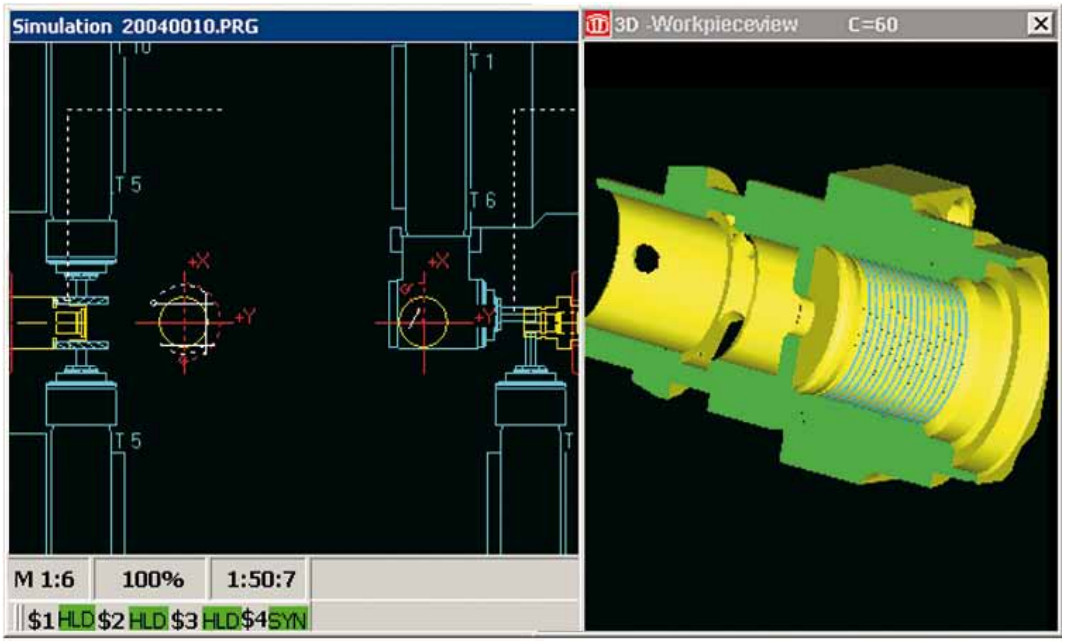
- highly sensitive tool breakage and tool wear control through permanent monitoring of the drives
- simultaneous monitoring on all tool carriers
- no additional sensors required
- easy-to-use, for example through automatic generation of limiting curves
- all processes are displayed on the monitor

(option)



Easy programming

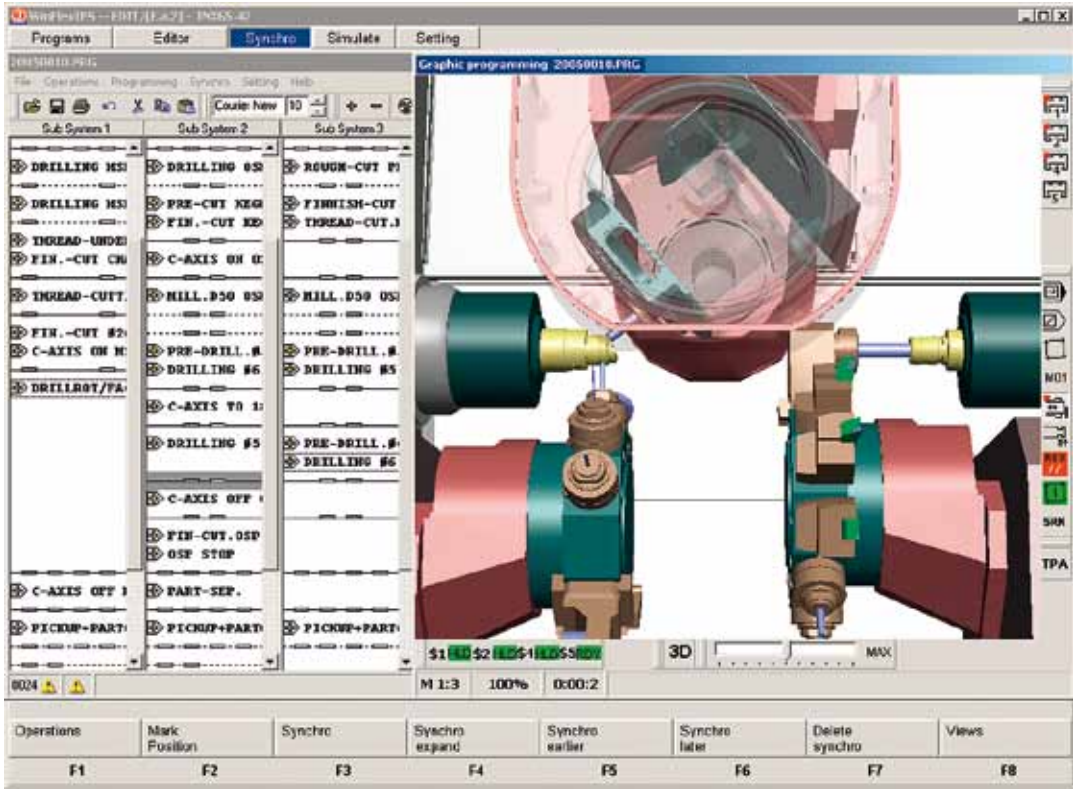
with 4 subsystems



Programming, Optimization, Simulation

- realistic real-time simulation for short setup times
- standard 3D workpiece simulation
- control of the working sequences
- visual collision control before the machine is run in

(standard)



External programming

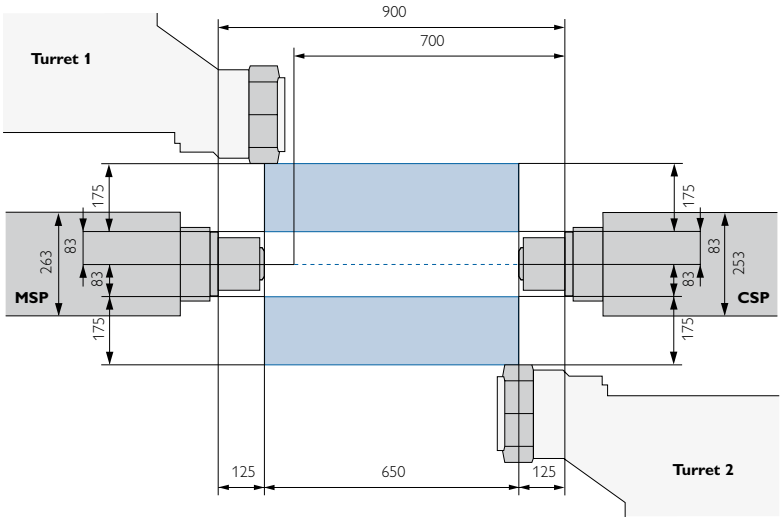
TRAUB WinFlexIPS^{Plus}

- stepwise parallel programming and simulation possible
- extremely simple synchronization of machining sequences including up to 4 subsystems
- floor-to-floor time optimization already during programming
- planning and optimization of the setup procedure using the manual mode and automatic mode functions as with the real machine
- 3D simulation and computed control give increased safety

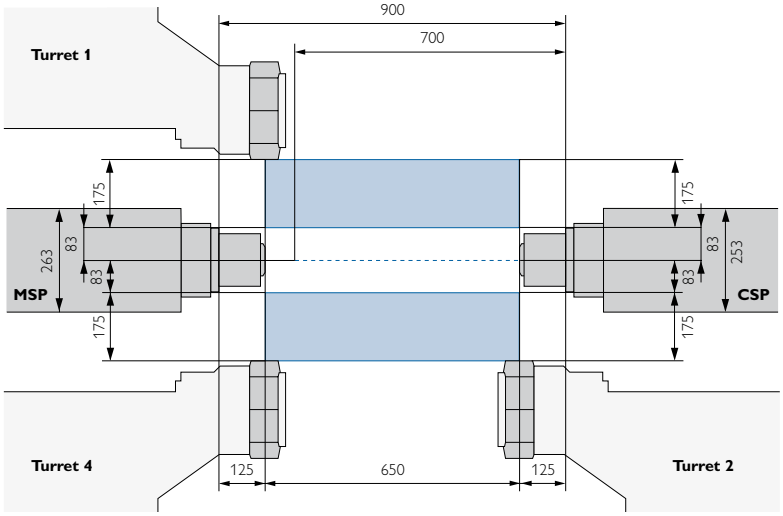
(option)

Working areas

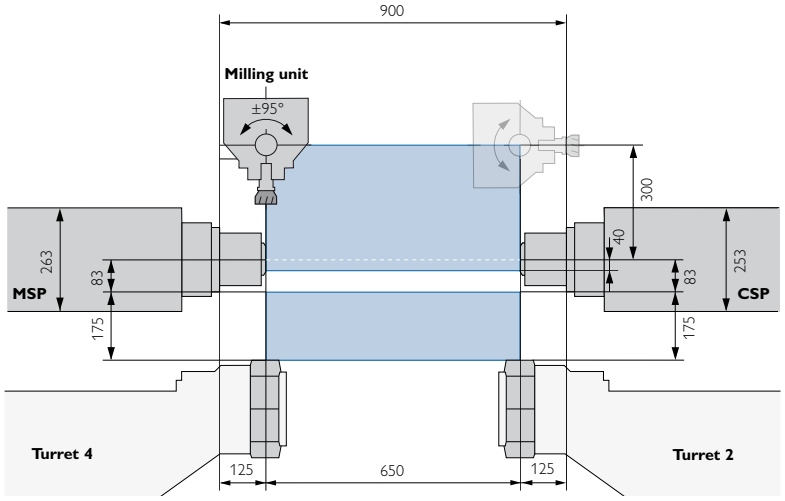
2 Turrets



3 Turrets

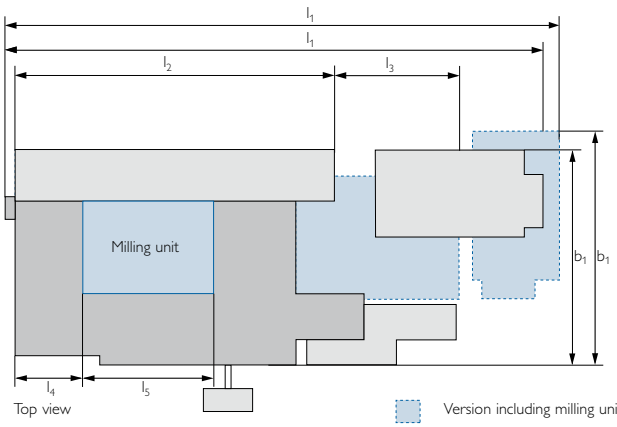


Milling unit



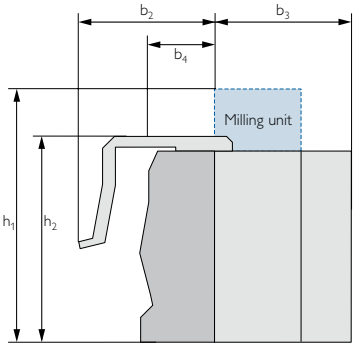
Technical data

Working range					
Turning length	mm (inch)	650 (25.6)			
Main spindle, counter spindle		**D42**	**D65**		
Bar capacity (max. bar diameter)	mm (inch)	42 (1.7)	65 (2.6)		
Spindle diameter front bearing	mm (inch)	85 (3.3)	110 (4.3)		
Spindle nose ISO 702/1	size	A5	A6		
Chuck diameter	mm (inch)	160 (6.3)	175 (6.9)		
Speed	rpm	7000	5000		
Power at 40 %	kW (hp)	28 (37.5)	24 (32.2)		
Torque at 40 %	Nm (ft lbs)	153 (115)	192 (144)		
C axis resolution	degrees	0,001	0,001		
Z axis rapid traverse (counter spindle)	m (inch)/min	40 (1574)	40 (1574)		
Compound slide		**X**	**Z**	**Y**	
Slide travel 1	mm (inch)	175 (6.9)	650 (25.6)	± 40 (1.6)	
Slide travel 2	mm (inch)	175 (6.9)	650 (25.6)	± 40 (1.6)	
Slide travel 3	mm (inch)	175 (6.9)	650 (25.6)	± 40 (1.6)	
Slide travel 4	mm (inch)	175 (6.9)	650 (25.6)	± 40 (1.6)	
Rapid traverse	m (inch)/min	20 (787)	40 (1574)	20 (787)	
Turrets 1, 2, 3, 4					
Number of stations		10			
Cylindrical shank mounting DIN 69880	mm (inch)	30x55 (1.2x2.2)			
Tool drive speed max.	rpm	6000			
Tool drive power max.	kW	5,5 (7.4)			
Tool drive torque max.	Nm	17,5 (13)			
Milling unit		**X**	**Z**	**Y**	**B**
Slide travel	mm (inch)	340 (13.4)	650 (25.6)	± 40 (1.6)	± 95°
Rapid traverse	m (inch)/min	30 (1181)	60 (2362)	15 (591)	450°/s
Speed max.	rpm	12000			
Power max.	kW (hp)	5.5 (7.4)			
Torque max.	Nm (ft lbs)	35.4 (26.1)			
Tool holder system		HSK-A40			
Number of tool pockets in magazine		80/120			
Weights and connecting power with max. configuration					
Weight	kg (lbs)	approx. 10000 (22000)			
Connecting power		85 kW, 400 V, 50/60 Hz			



Top view

Version including milling unit



Side view

Length	without milling unit	with milling unit
l_1	5450 (214.6)	5870 (231)
l_2	3420 (134.6)	3420 (134.6)
l_3	–	1400 (55.1)
l_4	950 (37.4)	950 (37.4)
l_5	1100 (43.3)	1100 (43.3)
Width		
b_1	2318 (91.3)	2497 (98.3)
b_2	1525 (60)	1525 (60)
b_3	1541 (60.7)	1541 (60.7)
b_4	777 (30.6)	777 (30.6)
Height		
h_1	–	2700 (106.3)
h_2	2258 (88.9)	2258 (88.9)

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