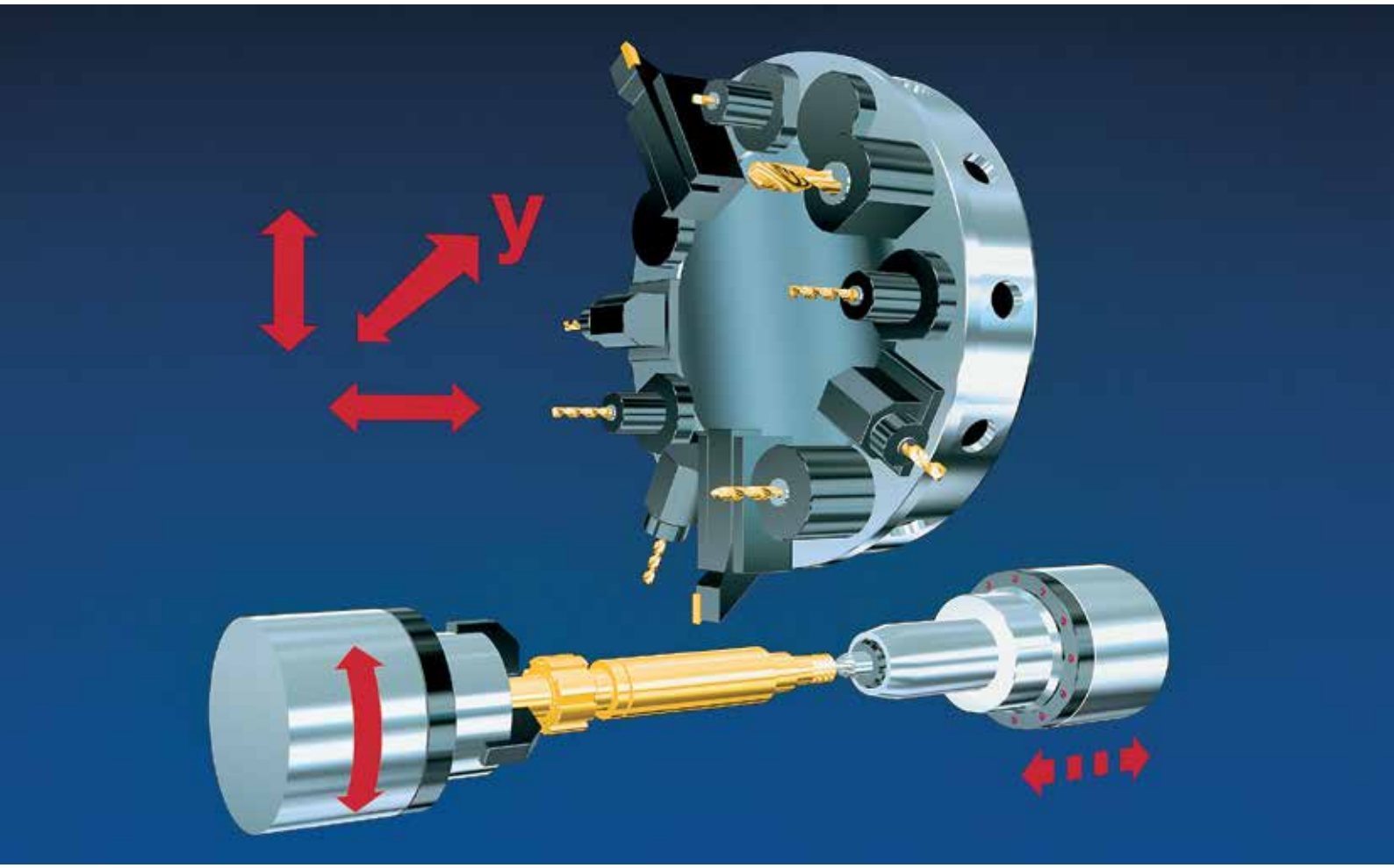
Universal

CNC Turning machine



TNA300

TRAUB


X1 410.000
Z1 177.784
Y1 0.000
C1 0.000
V1 1170.000

The TNA300

at a glance

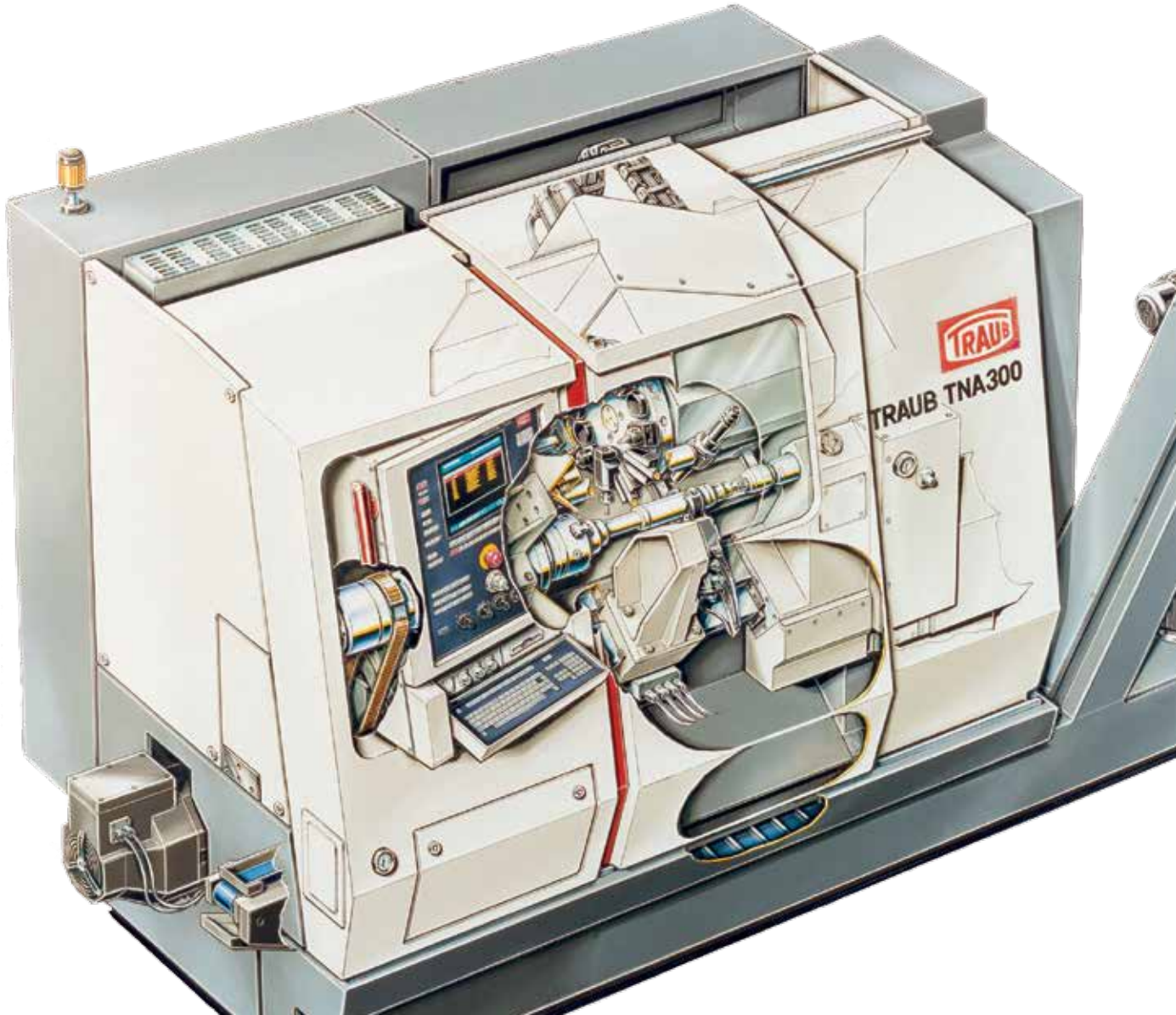
TRAUB's product philosophy does not offer the compromises of a modular design principle but tailor-made a 4-axes machine to suit your production requirements:
TNA series for simple turned parts, the TNX series for highly complex mill-turn workpieces.
The TNA300 a machine with a Y-axis, and which holds its own in tool room, production line and training centre alike. Convince yourself at a glance of the advantages of this TRAUB Turning Centre.

- Compact, torsion and deflection resistant slant bed with 40° angle.
- Modern design safety envelope, polycarbonate viewing panels. Ergonomically optimal pivoting operator console.
- Can be transported without tackle and levelled on four adjustable floor bolts.
- Tailstock positioned on separate, covered guideway, with hydraulic rapid return for automatic operation.
- Separate, easy to maintain coolant tank with filtration system.
- Central lubrication of bearings and slides.
- Static and dynamic exceptionally rigid main- spindle, with short taper for mounting of all standard power and collet chucks.
- Highly dynamic, digitally coupled AC motor for maximum torque. Maintenance free, of robust design, and without adverse thermal effect on headstock.
- Digital coupling of drives and control system.
- An absolute position feed-back system eliminates the need to reference the machine.
- 12-station disc-type turret with cylindrical tool mounting bores to DIN 69880-30.
- The turret traverses 35 mm (1.378 inch) over spindle centre to allow optimal use of tools.
- Internal coolant supply (5 / 20 bar) through the tool.
- The rotating tools in all 12 turret stations are driven individually.
- Thread tapping without compensating chuck.
- A hollow shaft encoder guarantees maximum C-axis precision.
- Linear Y-axis with 70 mm (2.756 inch) travel.
- Sensor-free tool life and breakage monitoring.
- TRAUB TX8i-s open control system with ultra-fast 64bit high-speed processor.
- DNH Bar Loading Magazine

■ The TNA300 offers the user many advantages in planning, selection and production. Starting with the standard equipment specification the machine can be tailored to suit any particular requirement – whether it is the machining of one-offs and small batches so typical in mould making, tool manufacture and prototype production, or of medium size and large workpiece batches with process monitoring, automated material flow and many other special features. Its flexibility is further increased by the new, powerful 64bit technology of the TRAUB TX8i-s control system.

TRAUB high-tech offers top quality and optimal economic performance

■ The large, easily accessible tooling zone, the digital coupling of drives, the absolute position feedback system which eliminates the need for referencing the machine, are all outstanding features of the TNA300. State-of-the-art design, pleasing colours and ergonomic construction are guarantors for a comfortable working environment.



A lot more machine

at no extra cost

The tailstock offers a large automatically adjustable working range.

Automatic tool position calculation forms part of the basic equipment – TRAUB ATC.

Universal part production by two spindle sizes with short taper mounting for all standard power and collet chucks.

Safety envelope with state-of-art design and safety windows of polycarbonat and glass laminate.

The basic construction

■ The TNA300 features a torsion and deflection resistant slant bed with 40° angle.
This carries the thermo-symmetrically designed headstock, the linear motion guideways for the compound slide and the separate guideways for tailstock and steadies.
The tailstock offers hydraulic rapid return, large travel and hydraulic clamping.

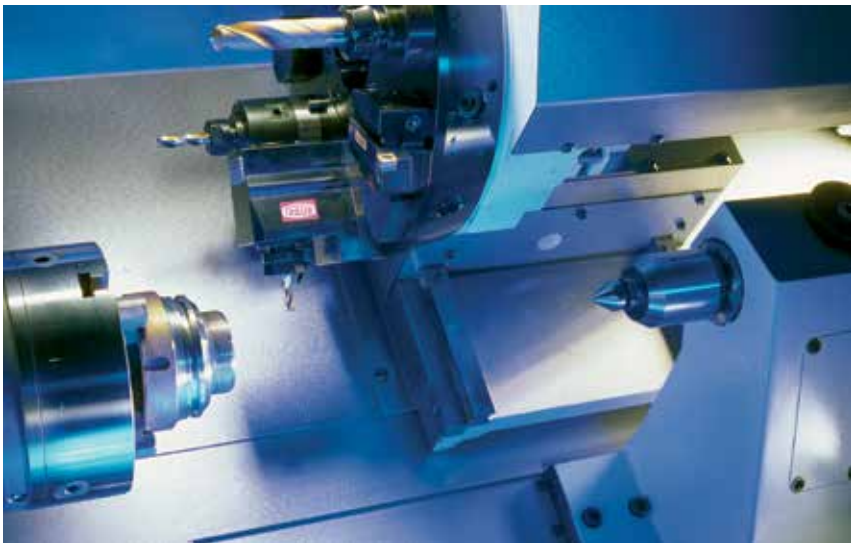
■ The main spindle is supported in high-precision, lifetime lubricated, play-free, preloaded angular contact bearings. The spindle nose with short taper mounting suits for all conventional chucking equipment.

■ The TNA300 is equipped with 12-station disc-type turret and tool mounting bores to DIN 69880-30. Internal coolant supply and directional logic are long established features. The turret head does not lift off during indexing which results in outstanding chip-to-chip times.

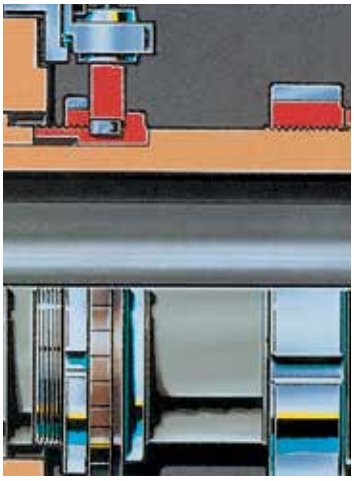
■ If you should decide in favour of a TNA300 you will acquire a machine which sets new standards not only with regard to technical merit but also where equipment specification is concerned. The basic machine includes all the components you need for fast, accurate and – above all – economic production. This includes, amongst other features:

The machine that can be tailored to suit any production requirement

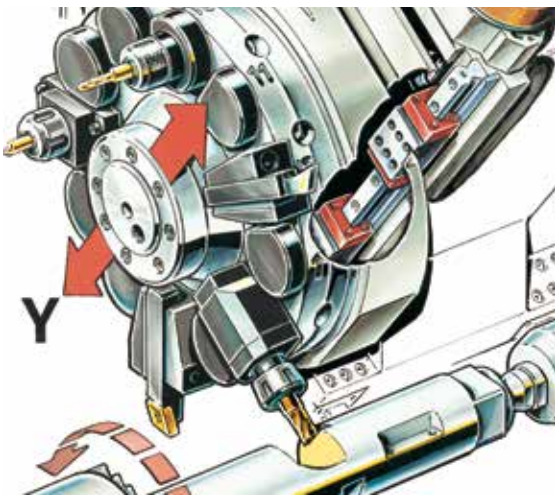
■ hydraulic chucking cylinder
■ 12-station turret with VDI tool mounting
■ internal coolant supply with 5 / 20 bar pressure
■ tailstock with hydraulic rapid return
■ chip conveyor
■ coolant tank with filtration system
■ pivoting operator console with hinge-type ASCII keyboard
■ USB interface
■ latest generation control system TRAUB TX8i-s
■ TRAUB ATC
■ electronic collision shut down through monitoring of all drive axis motor currents



A generously dimensioned tooling zone and a fast indexing disc-type turret with 12 tool mounting bores. Internal coolant supply and directional logic indexing system are natural.



C-axis with hollow shaft encoder for maximum positioning accuracy considerably enhances the range of application.



Y-axis

Even more possibilities offers a Y-axis in conjunction with the C-axis for linear milling operations or off-center drilling.

Production optimized

with the help of attachments

When we state the machine can be tailored to suit any requirement we understand this to mean that a few auxiliary attachments open up additional machining possibilities, thus turning the TNA300 into an indispensable manufacturing aid. These options include various chucking equipment components for the machining of chuck, shaft or bar workpieces and the use of steadies or driven tools in conjunction with the C-axis.

The tool drive

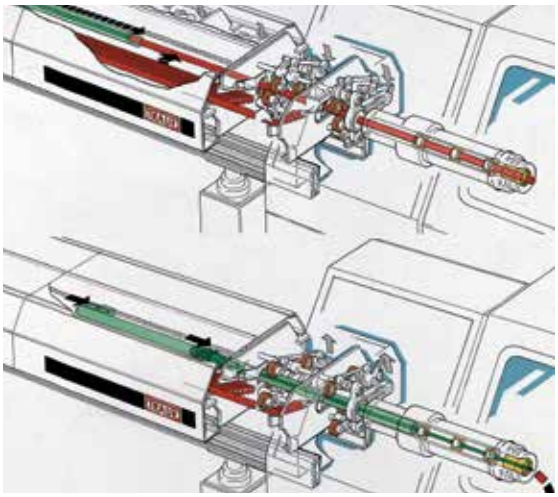
■ Toolholders for driven drilling, milling and threading tools can be accommodated in all turret stations. As only the active tool is driven maximum cutting force can be applied to the relevant machining operation. In conjunction with C-axis, the Y-axis or the POLYFORM software even the most complex milling requirements can be fulfilled.

The automation components

■ In conjunction with the DNH Bar Loading Magazine, specially developed by TRAUB for use with CNC Turning Centres, the machine can be turned into an economical manufacturing cell with the highest possible degree of integral automation.

■ The TRAUB ATB tool monitoring device guarantees that worn or broken tools are replaced in time, a factor of particular importance in automatic and unattended production. The integrated in-process gauging unit for workpieces is also an important component in automated manufacture and ensures increased productivity.

The universality counts with shaft-, preformed blanks- machining or bar work.
Picture: Stationary steady rest.



Automated material flow with TRAUB DNH Bar Loading Magazine adjusted to the machine and its CNC control.

Complete solution

CNC control

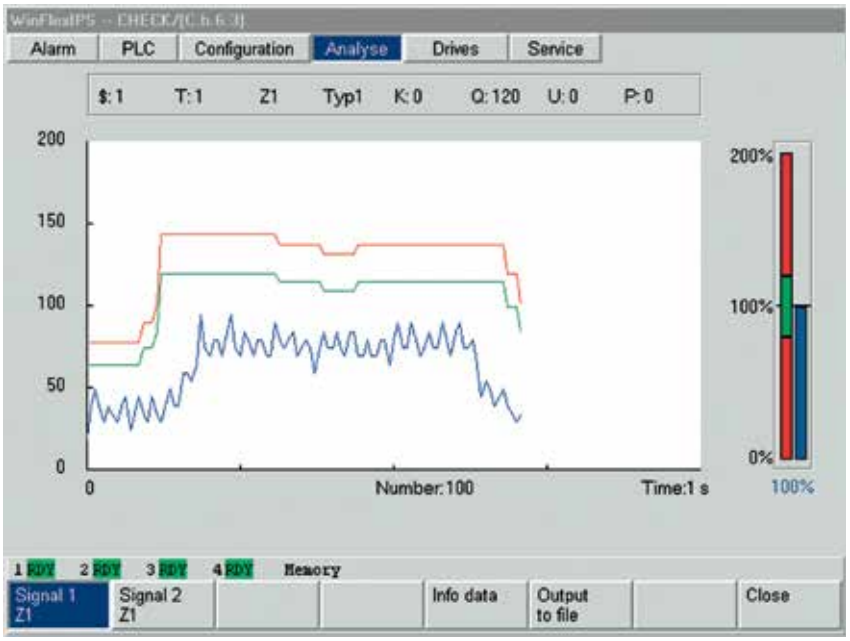
Clearly arranged user interface with dialog technology for programming, editing, setup and operation

- graphics-supported dialog instructions also during setup
- visual control of potential collision situations through graphic process simulation GPS

Tool monitoring

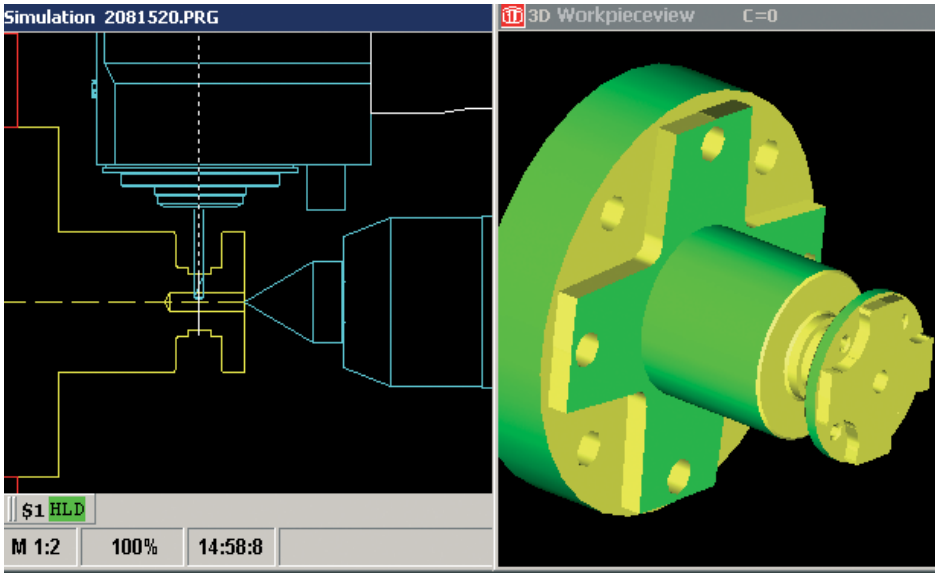
- highly sensitive tool breakage and tool wear control through permanent monitoring of the drives
- no additional sensors required
- easy-to-use, for example through automatic generation of limiting curves
- all processes are displayed on the monitor

(option)



TRAUB TX8i-s

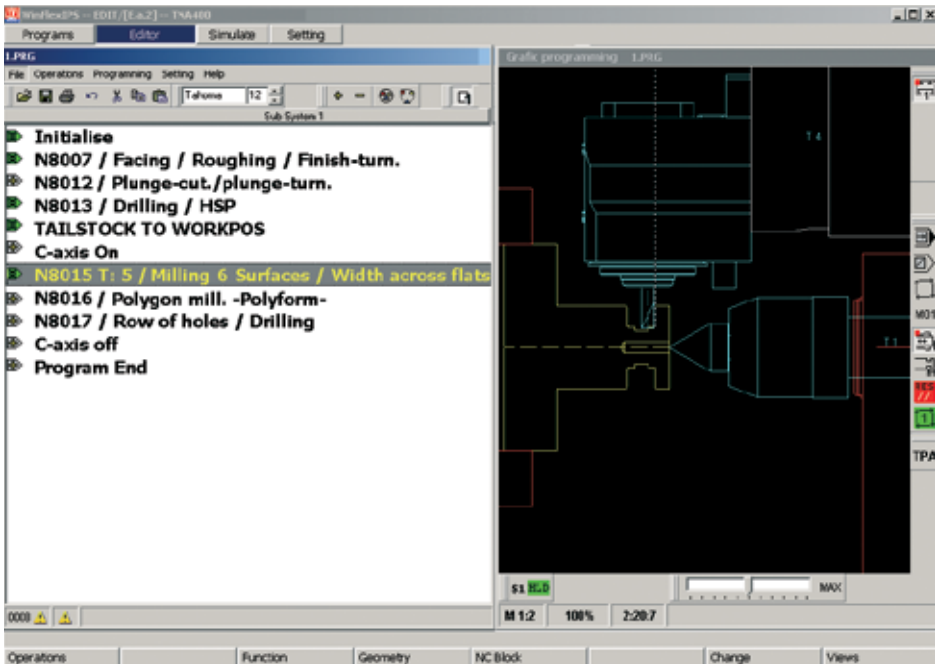
To ensure your production



Programming, Optimization, Simulation

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

(standard)

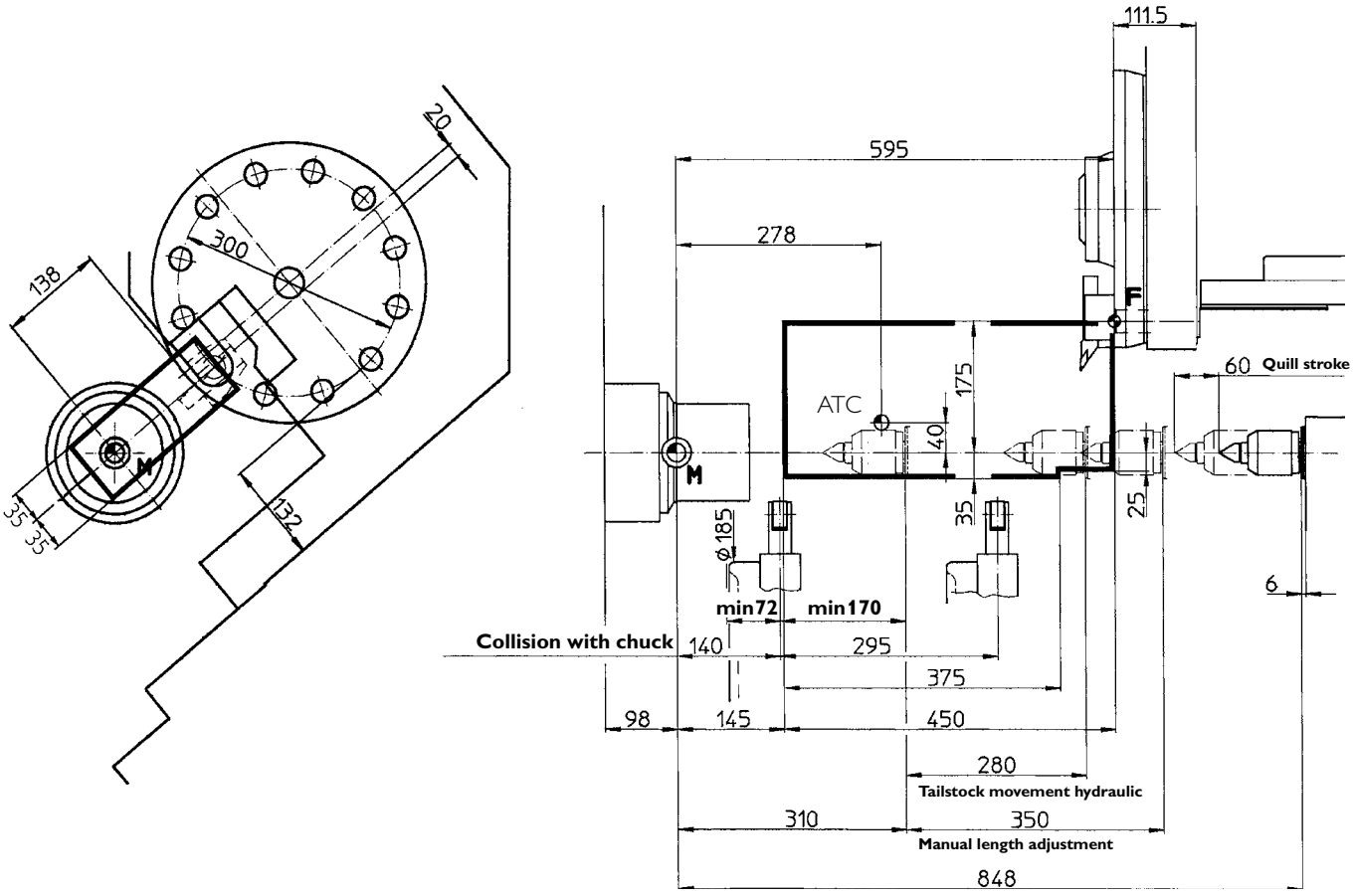


External programming TRAUB WinFlexIPS

- stepwise parallel programming and simulation possible
- cycle time optimization already during programming

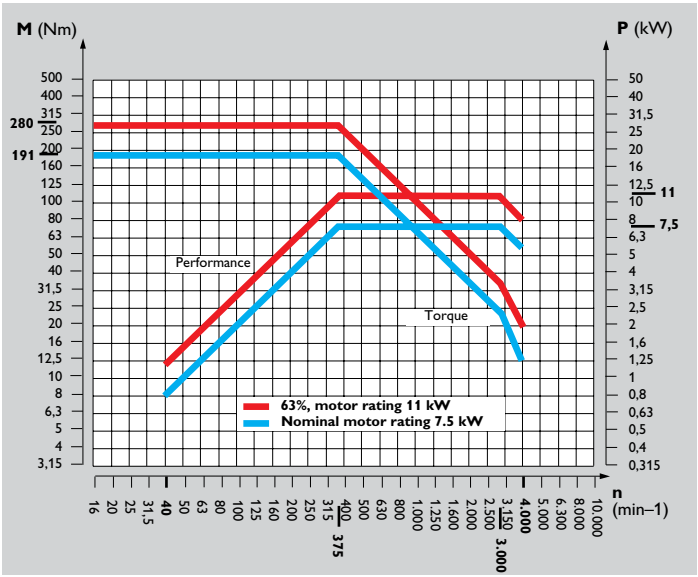
(option)

Tooling zone and performance diagram



You can feel safe.

Safety is not just a word at TRAUB's. It is technology transposed. This is why all machines manufactured by TRAUB conform to EG machine guidelines. It is documented by the EG declaration of conformity in conjunction with the CE symbol on the machine.



Performance diagram TNA 300

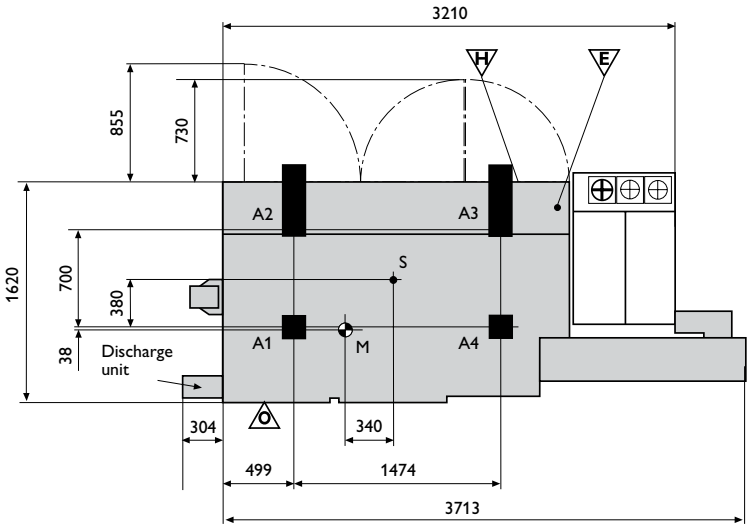
Technical data

Capacity		
Spindle capacity	mm (in)	65 (2.559)
Spindle nose DIN 55026	Size	A6
Chuck diameter	mm (in)	200-250 (8-10)
Turning diameter max.	mm (in)	275 (10.826)
Traverse over centre	mm (in)	35 (1.378)
Turning length max.	mm (in)	450 (17.716)
Swing diameter over cross slide	mm (in)	395 (15.551)
Swing diameter over bed	mm (in)	520 (20.472)
Main drive		
Power rating	kW (Hp)	11 (15)
Spindle speed max.	rpm	4000
Constant rating		1 : 10.7
Torque	Nm (ft lb)	280 (203)
C-axis	rpm	100
Turret		
Number of tool registers for cylinder shanks DIN 69880		12
Shank diameter	mm (in)	30 (1.181)
Tool section dimensions	mm (in)	20x20 (.787x.787)
Indexing time 1 station	sec	0.5
each add. station	sec	0.15
Y-axis	mm (in)	± 35 (1.378)
Feed drives		
Rapid traverse and feed rate		
X-axis	m (in)/min	15/15 (590/590)
Z-axis	m (in)/min	18/18 (708/708)
Y-axis	m (in)/min	10/10 (393/393)

Drive for rotating turret tools		
Number of turret stations with drive		12
Power rating at 25%	kW (Hp)	4 (5.5)
Max. torque on drive gear	Nm (ft lb)	16 (11.5)
Drive gear speed	rpm	4000
Tailstock		
Quill size	mm (in)	70 (2.756)
Quill stroke	mm (in)	60 (2.362)
Max. stroke of rapid return slide	mm (in)	280 (11.023)
Quill force at 55 bar	N (lb)	8600 (1890)
Quill receptor to DIN 228		MK 4
Steady (fixed)		
Clamping range	mm (in)	8-95 (.315-3.740)
Coolant system		
Coolant pressure, standard	bar (psi)	5 / 20 (72 / 290)
Coolant tank capacity	l (gal)	275 (70)
Total installed power rating		
with drive for turret tools	kW (Hp)	16 (21.5)
Weight		
with tailstock and steady, approx.	kg (lbs)	3500 (7700)
Machine dimensions		
Length (excl. chip conveyor)	mm (in)	2710 (106.7)
Depth	mm (in)	1620 (63.8)
Height	mm (in)	1800 (70.9)

The floor plan

A1 = 11.0 kN
A2 = 10.0 kN
A3 = 9.3 kN
A4 = 10.0 kN



11.15 - 740/1 AD Printed in Germany Subject to change without prior notice

INDEX
TRAUB

INDEX-Werke GmbH & Co. KG
Hahn & Tessky
Plochinger Straße 92
73730 Esslingen
Phone +49 (0) 711 3191-0
info@index-werke.de
www.index-werke.de