



TUR MN 1150/1350/1550

POWER...PRECISION...PERFORMANCE!



HACO

FAT

for impressive
performances



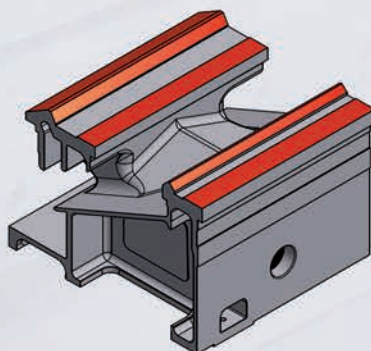
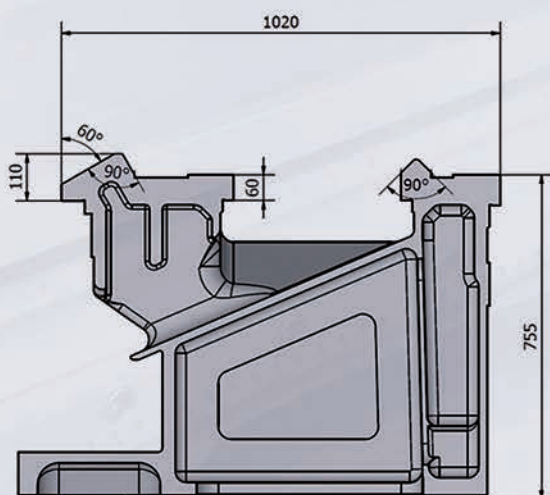
TUR 1150/1350/1550 MN SERIES

The TUR 1150/1350/1550 MN is been designed for machining of heavy work pieces with diameter up to 1550 mm. These heavy duty lathes have exceptional stability and high precision. The TUR MN is a durable, tested and proven group of models, based on years of experience in producing lathes using innovative structure and design. The special care taken in every single detail of the manufacturing process guarantees failure-free operation when using our machines.

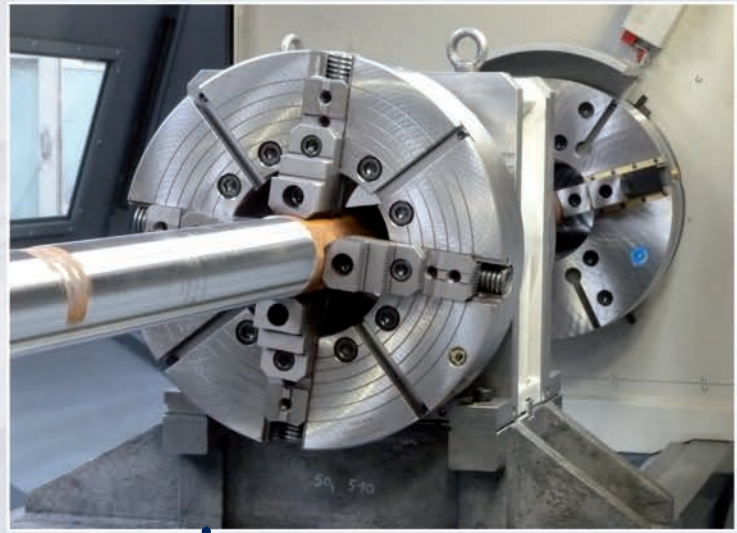
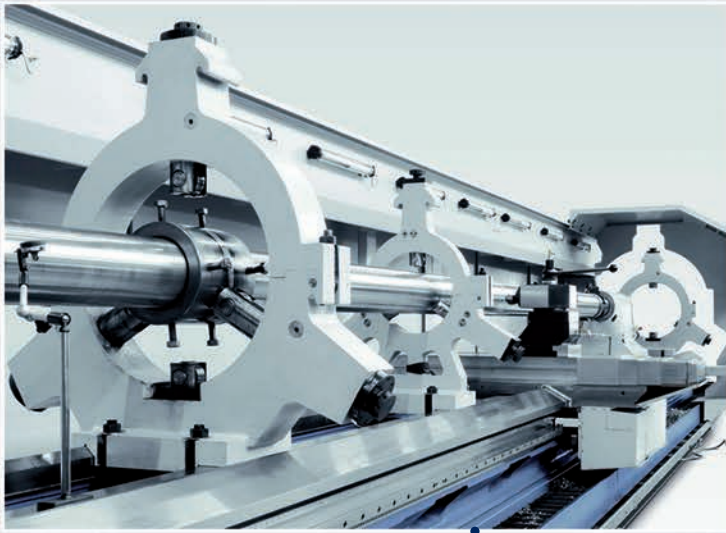
The best combination of price and high efficiency is **your cost most effective solution**. We are confident there is no better choice for your work shop on the market today!

TUR 1150/1350/1550 MN is a high precision, high quality **European product** 100% manufactured in Poland. The outsourced parts used in all our products only come from world leaders in machine tools parts manufacture and supply.

The **high level of standard equipment** makes the TUR MN lathe a powerful tool which will increase the capacity of your work shop from its first day of operation! A large range of easy to install options will fulfil any special requirements.



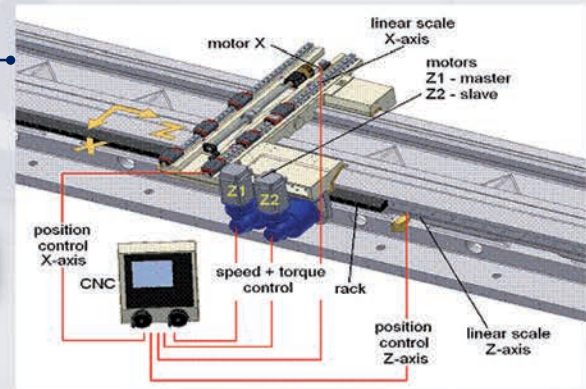
Special, mono-block type bed made of cast iron is a rigid structure which perfectly absorbs vibrations. Extra wide, deeply hardened and ground guide ways ensure precise machining of huge work pieces and excellent surface quality. All of the above guarantee long-life accurate operation of the lathe.



Manual steady rest.
A wide range of steadies and rests is available to suit different machining applications, including:
manual, hydraulic self-centering, follow rests, C-form, ring type and other.

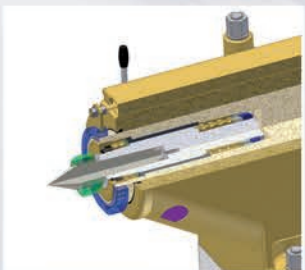
CARRIAGE

A „Master- Slave” drive system is used on lathes with machining lengths longer than 4M, using an automated backlash reduction system and linear scales to achieve very high accuracy. The carriage is driven by two synchronized motors, a gearbox and a rack. Lathes which have shorter machining length are equipped with a precise ball screw.



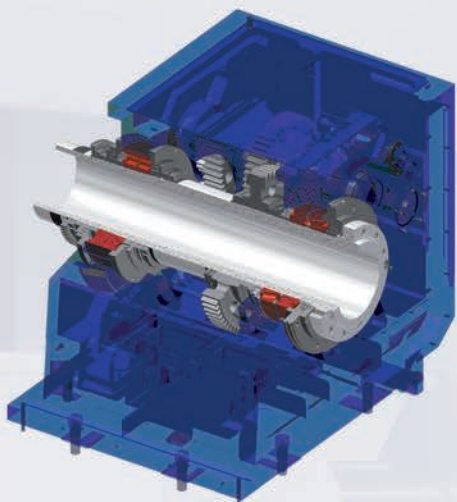
Advantages of “Master – Slave” solution:

- automatic backlash elimination
- high stiffness
- maintenance free and no readjustment needed

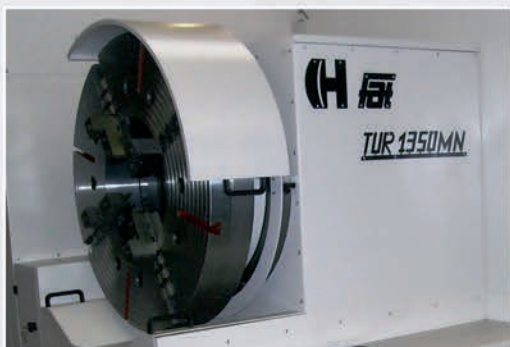


A robust tailstock with an extended stroke allows the full working range (between tailstock housing and carriage) to be used. Due to this solution, heavy duty machining of any work piece held in the tailstock center is possible. The hydraulically operated quill with a diameter is 200 mm is hardened and ground. The Quill has a built-in bearing sleeve with taper socket MT6 for dead center. Quick coupling between the tailstock and cross slide makes positioning time short. Optionally, the tailstock can be equipped with an independent drive.

The TUR MN headstock housing is a special, ribbed structure which is tested with FEM analysis to eliminate the weakest points. The integrity of every single headstock is checked before the beginning of the machining process during every stage of assembly.



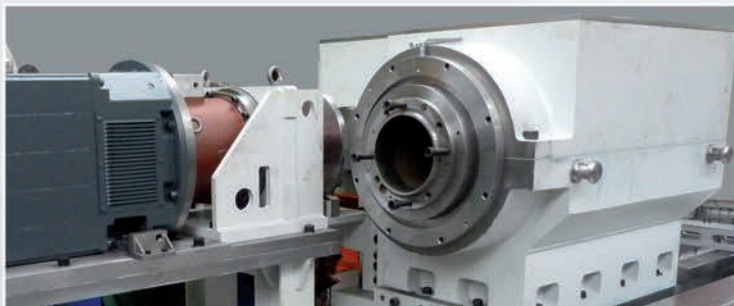
TUR MN 1150/1350/1550 main spindle has new special bearings: in the front two precision axial spherical roller bearings and in the rear one double, cylindrical roller bearing. Due to this arrangement, spindle rigidity and machining accuracy is increased. An automatic maintenance-free bearing lubrication system is used on TUR MN lathes to ensure a continuous, adequate flow for long life and reliability. Different executions are used to provide high heat stability and rigidity during machining of large work pieces and ensure excellent quality of machined surfaces. Diameter spindle bores are available 140, 220, 320, 360, 450 mm.



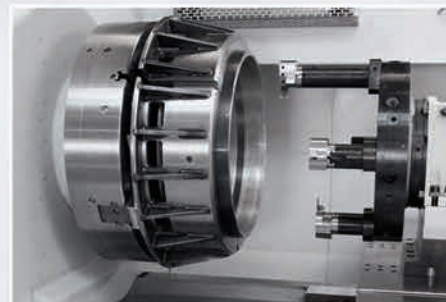
▶ Dual nose spindle with a 450mm diameter bore



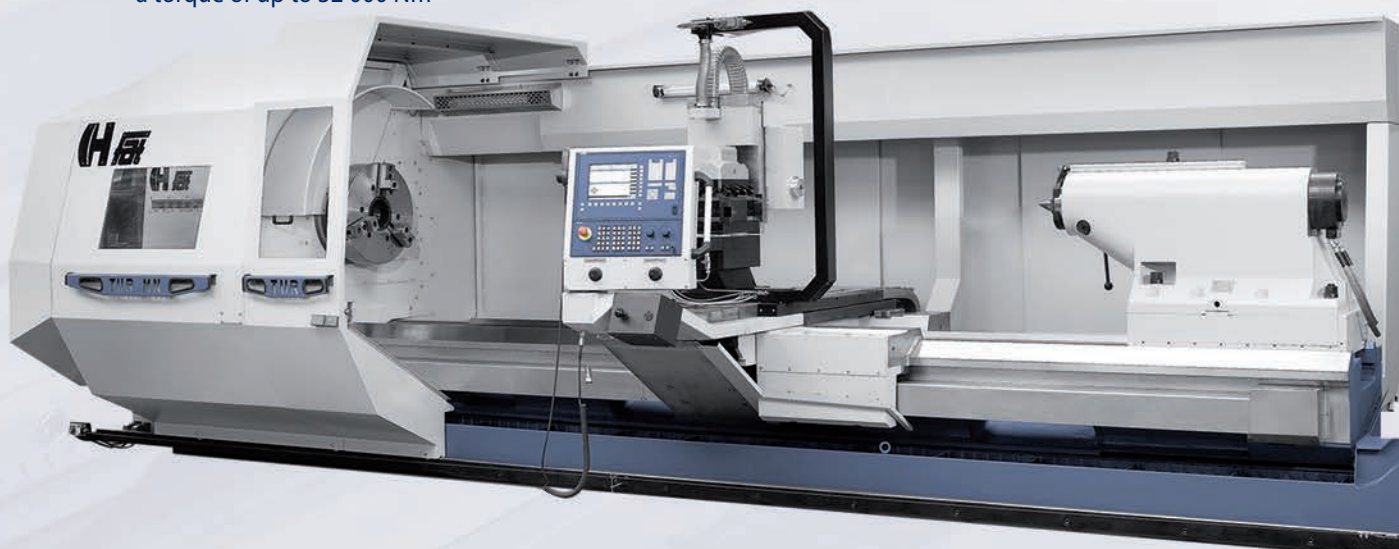
▶ Hydraulic chuck



▶ Special headstock with high powerful motor and additional planetary gearbox. With this solution it is possible to obtain a torque of up to 32 000 Nm



▶ Special jaws



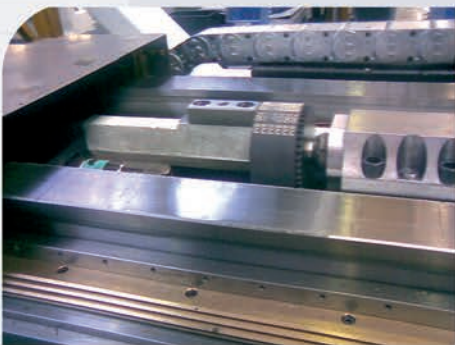
MACHINE STANDARD EQUIPMENT

- Siemens CNC Control System: Sinumerik 840D SL,
- Brushless AC servo motors
- Third movable hand-wheel for easy tool-setting (MPG)
- Automatic programmable change 2-step gearbox
- Tool-post type Multifix Size D2
- 2 tube lights in working area
- Complete coolant system
- One movable front door (connected to cross slide)
- Full back guard
- Hydraulic tailstock quill 200mm diameter with 300 mm stroke
- Electrical emergency contact between tailstock and cross slide
- Hydraulic unit
- Automatic lubrication system
- Front chip conveyor integrated with bed and coolant system
- Rotating operator panel
- Direct measuring system in the X-axis
- Direct measuring system in the Z-axis for lathes longer than 4000mm between centres
- Double T-slot on the rear of the cross slide
- Absolute encoders
- USB port

MACHINE OPTIONAL EQUIPMENT

- Various sizes of spindle bore: 220, 320, 360, 450mm and other
- Manual steady and follow rests
- Hydraulic steady and follow rests
- Various types of chucks:
 - manual
 - pneumatic
 - hydraulic
 - T-slots face plates
 - closed or with through-hole
- Manual toolpost Parat
- 8-position disc turret for static and driven tools
- 4-position horizontal type turret
- NC-axes: C, Y, U
- Special solutions for milling and drilling
- Grinding unit
- Boring bar attachment
- Special headstock and more powerful main motor
- Coolant station with filter and high pressure pump
- Oil mist collector
- Independent tailstock drive
- Additional front door
- Additional chip conveyor in the back of a lathe

Other special equipment on request



Optional X-axis sliding guide ways



Different options for boring operations



"Power Grip" system with replaceable units for quick change tools system

Essential features:

- easy programming using graphics and without need for knowledge of DIN/ISO
- extremely short programming time
- clear display of all data in machining sequence
- prevention of invalid inputs thanks dynamic online graphics
- simple management of tools
- wide range of standard machining and measuring cycles



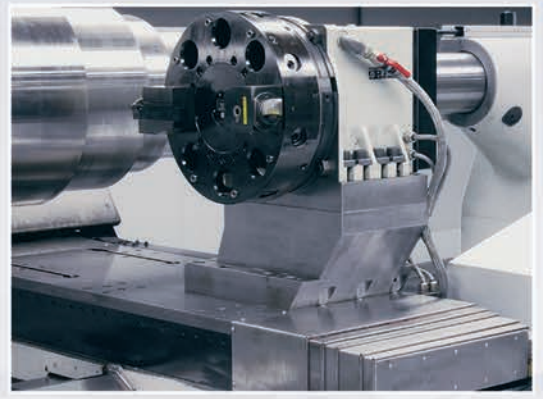
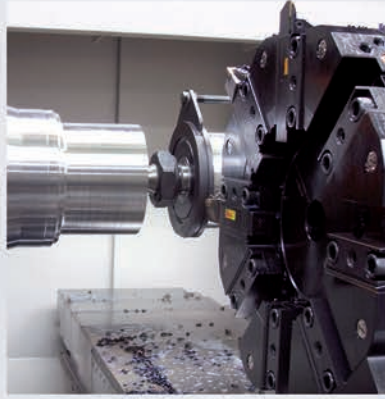
Surprisingly **easy programming!**

TUR MN with Siemens 840D SL allows you to work manually, semi-automatic or full CNC. The user friendly Siemens Shop Turn Conversational Programming System will make your work efficient and enjoyable.

Fanuc or Fagor controller as an option



OPTIONAL EQUIPMENT



8-position tool turret

Milling units with automatic Y axis and double spindle, mounted on 4-position Sauter toolpost



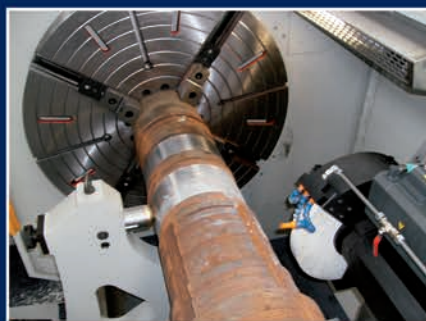
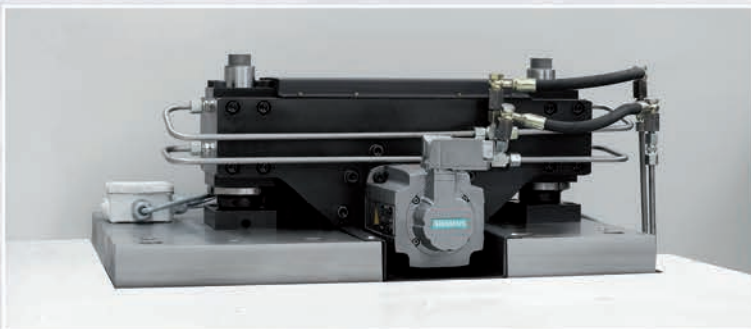
Standard Multifix D toolpost



Parat toolpost with optional Capto seat

C axis with driven tools:

- driven by main motor in combination with hydraulic brake and spindle encoder
- full contouring C-axis driven directly by separate servo motor



Grinding unit

Double scrappers with compressed air for special guide ways security against grinding powder.

SPECIFICATIONS

		TUR 1150 MN	TUR 1350 MN	TUR 1550 MN
WORKING RANGE				
Distance between centers/ Machining length	mm	2 000 - 4 000 - 6 000 - 8 000 - ... - 16 000		
Swing over bed	mm	1 150	1 350	1 550
Swing over saddle	mm	700	900	1 100
Swing over gap	mm	1 280	1 480	1 680
Width of gap	mm	580 standard		
Max. weight between centers (without steadies)	kg	9 000; up to 15 000		
Max. weight in chuck only	kg	2 000	2 000	2 000
SPINDELS HEADSTOCK TOCK				
Number of spindle ranges		2	2	2
Top spindle speed ranges (standard machine with 140 mm spindle bore)	rpm	I: 2-200, II: 180-900	I: 2-200, II: 180-900	I: 2-200, II: 180-900
Main drive motor power (S6)	kW	56	56	56
Max. Turning torque	Nm	8 250; up to 32 000		
Standard execution 140:				
Spindle nose	DIN55026	A2-15		
Spindle bore	mm	140	140	140
Front bearing	mm	250	250	250
Special execution:	mm	220	320	360
Spindle nose	DIN 55026	A2-15	A2-20	A2-20
Max speed	rpm	700	500	350
SADDLE				
Cross slide travel X-axis	mm	650	750	775
Rapid travel Z-axis	m/min	8	8	8
Rapid travel X-axis	m/min	10	10	10
Feed force X-axis	kN	25	25	25
Feed force Z-axis	kN	35/47		
Ball screw X-axis	mm	40	40	40
Carriage length	mm	1 150		
Width of cross guide ways	mm	366	366	366
Manual Tool post Type Multifix	type	D2		
Automatic tool turret with 8-pos. tool disc	DIN69880	VDI 60		
Automatic 4-pos. tool turret "HEAD-Type"	DIN69881	NG40		
TAILSTOCK				
Quill stroke	mm	300		
Quill taper	size	MT 6		
Quill diameter	mm	200		
CAPACITY				
Width/height of bed ways	mm	1 020 / 755		
<i>Total length of machine</i>				
2.000/4.000/6.000/8.000 mm b.c.	mm	5.200 / 7.200 / 9.200 / 11.200		
Width of machine / for transport	mm	3 300 / 2 480		
Height of machine	mm	2 550	2 550	2 750
<i>Weight of machine (approx.)</i>				
Machining in centres 2000 mm	kg	16 500	17 300	18 100
Machining in centres 4 000 mm	kg	19 000	19 800	20 600
Machining in centres 6 000 mm	kg	21 500	22 300	23 100
Machining in centres 8 000 mm	kg	24 000	24 800	25 600

* More information by e-mail/phone

Subject to alteration without prior notice.

FAT Haco offers you the benefit of our vast experience – since the year 1945 over 50.000 machine tools have been sold in many countries around the world!

Our excellently equipped machine shop, assembly facility, research office and our own foundry allows us to manufacture most components by ourselves - complete from casting to the finished product. FAT works closely with you to develop the absolute best product for your needs. Our experience and quick reaction time will save you both time and money.

Together, let's make creative imagination our only limitation!

1869: ● foundation as a Locksmith Company

1906: ● metal work company of Gustav Trelenberg – for production of steel construction for the building industry, railways, trams and industrial locomotives.

1945: ● production of simple planing machines, saws and drills, later specializing in manufacturing horizontal lathes: TUC40, TUD40/50/63, TUR50/63 which were very well known in Poland and overseas markets.

1992: ● delivered the 50.000th machine tool made by FAT

1995: ● expanded the range of lathes to include universal lathes TUR 560/630/710, TUR 50/63/68 cnc lathes and highly productive multi-spindle automatics

1998: ● FAT joined the HACO GROUP

- new investments and increased production of mn & cnc lathes
- new machine shop
- production of modern teach-in lathes using state-of-the-art Technology
- special projects
- new sales strategy through dealer network
- taking over a cast-iron foundry in Koluszki
- production of the heavy duty 4-guide ways lathes



for impressive performances

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