GENERAL CATALOGUE

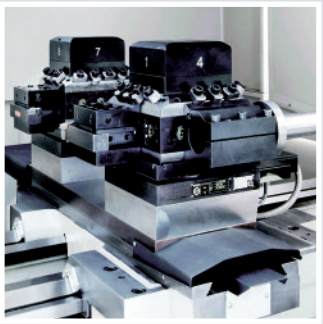
POWER...PRECISION...PERFORMANCE!

HACO FAT

for impressive performances

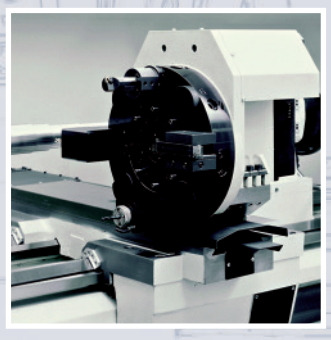
TUR MN 560/630/630A/630P/710/710A/710P

TUR 560/630/710MN is a precision, high quality European product 100% manufactured in Poland. The purchased parts used in all our products only come from the world's leaders in the manufacture and supply of machine tool parts. The high level of standard equipment makes the TUR MN lathe a powerful tool which will increase capacity of your work shop from the first day of operation! A large range of easy to install options will fulfil any special requirements.



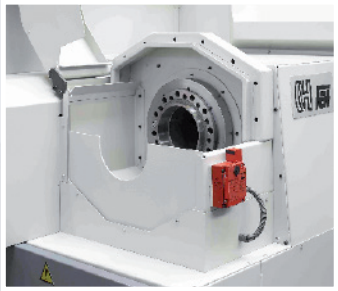
Combination of 2 Sauter head turrets

Sauter disc turret for static tools

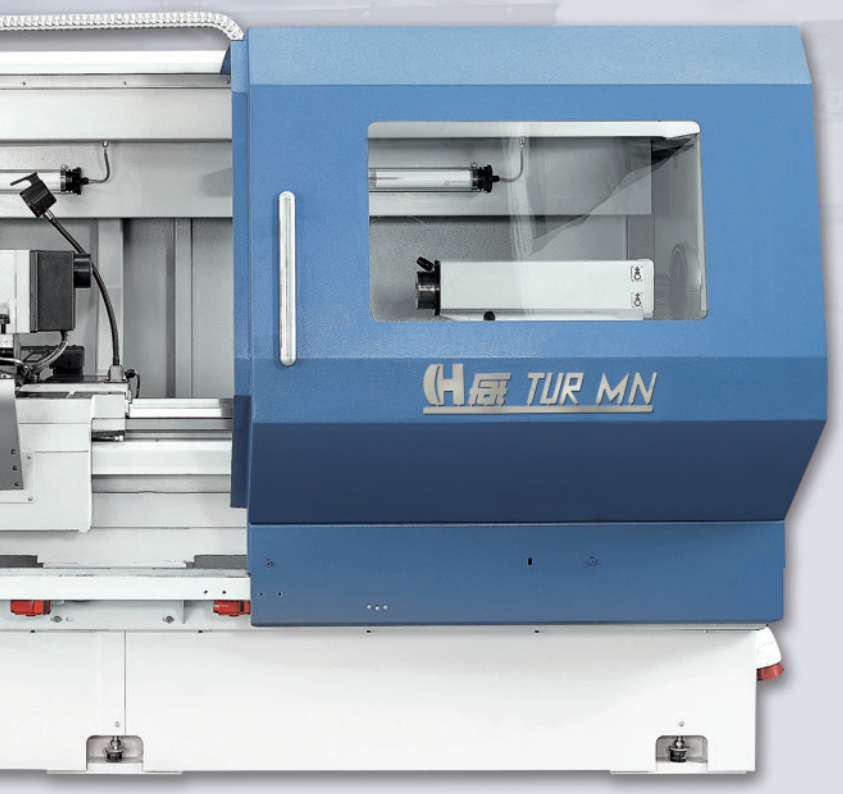


Sauter turret for driven tools with options for C-axis spindle positioning:

- indexing 2,5 degrees
- driven by main motor in combination with hydraulic brake and spindle encoder
- full contouring C-axis driven directly by separate servo motor



Versions „A” (140mm spindle bore) and „P” (165 or 190mm spindle bore) are equipped with second spindle nose

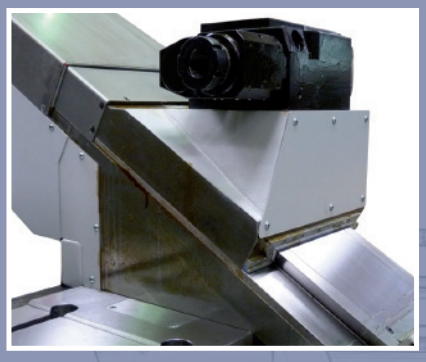


TUR MN 630 equipped with bar feeder

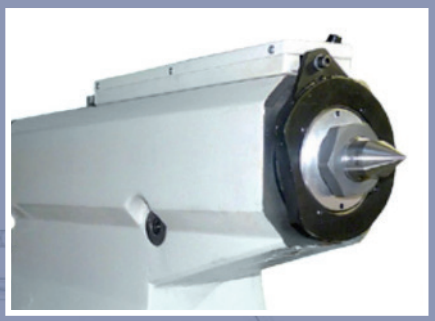
TECHNICAL PARAMETERS						
TUR MN		**MN 560**	**MN 630**	**MN 630 A** / **MN 630 P**	**MN 710**	**MN 710 A** / **MN 710 P**
CAPACITY						
Distance between centers	mm	1.000 - 2.000 – 3.000 – 4.000 – 5.000 – 6.000				
Swing over bed	mm	560	630	630	710	710
Swing over saddle	mm	300	370	370	450	450
Max. weight between centers (without steadies)	kg	2.000	2.000	2.000	2.000	2.000
HEADSTOCK						
Top spindle speed ranges	rpm	2 - 2.500		2 - 1.800	2- 2.500	2 - 1.850
Spindle bore	mm	105	105	140 / 165 / 190	105	140 / 165 / 190
Main drive motor power	kW (S6)	18,5	18,5	18,5	18,5	18,5
SADDLE						
Cross slide travel X-axis	mm	365	390	390	410	410
TAILSTOCK						
Quill diameter	mm	100	100	100	100	100

TUR SMN 800/930/1100

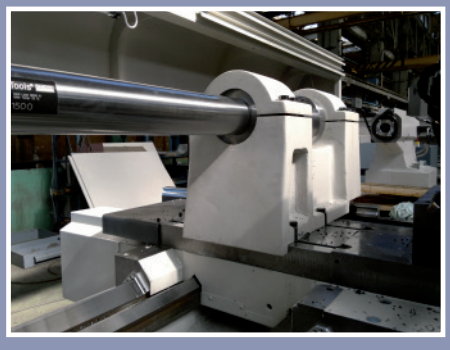
The TUR SMN is a manual/CNC combination high-precision lathe. This strong machine is perfect universal solution for manufacturing of precision, complicated, big parts made either as one-offs or in small batches. With wide optional equipment it provides all the efficiency expected of a modern flat bed CNC lathe.



Tooling system with an automatic Y axis for turning, milling and drilling operations

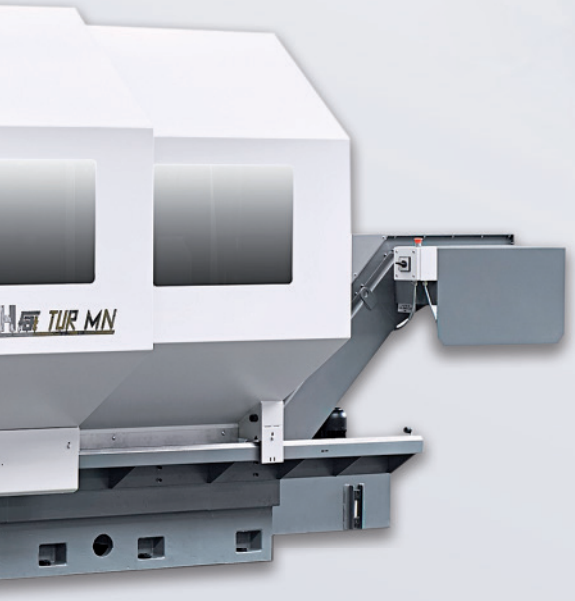


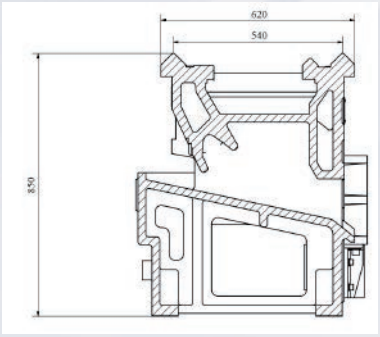
Reinforced tailstock with the quill's diameter 140 mm or 160 mm. Optionally, hydraulic quill is also available



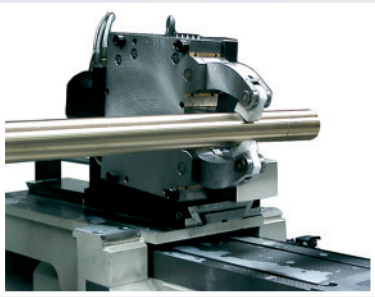
Robust attachment for heavy boring operations

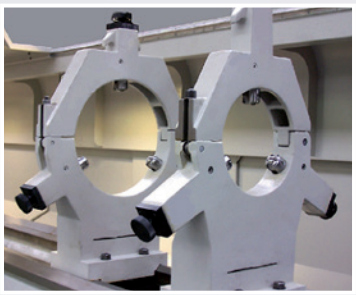
Full enclosure





Monoblock bed with massive 3-V ways



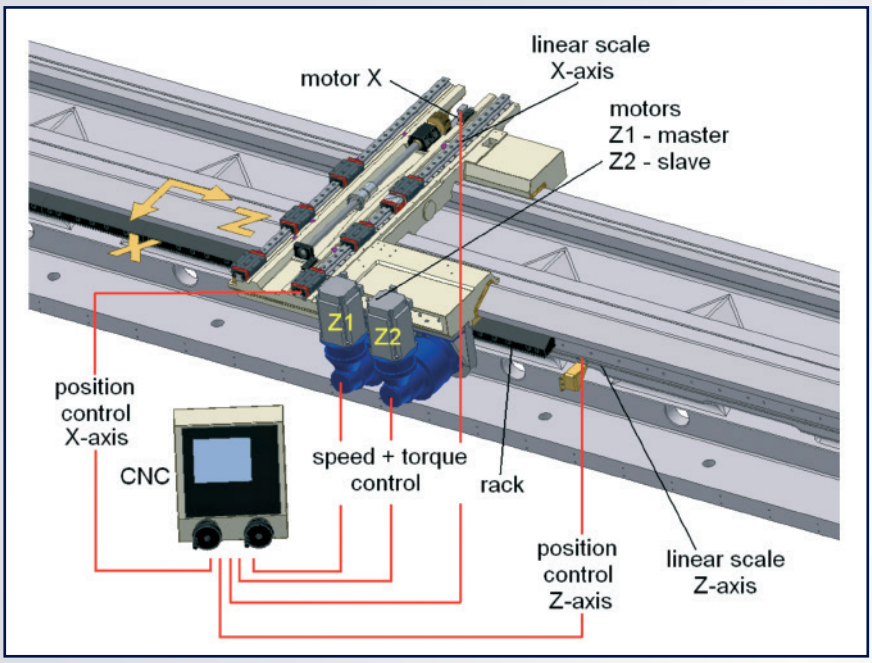


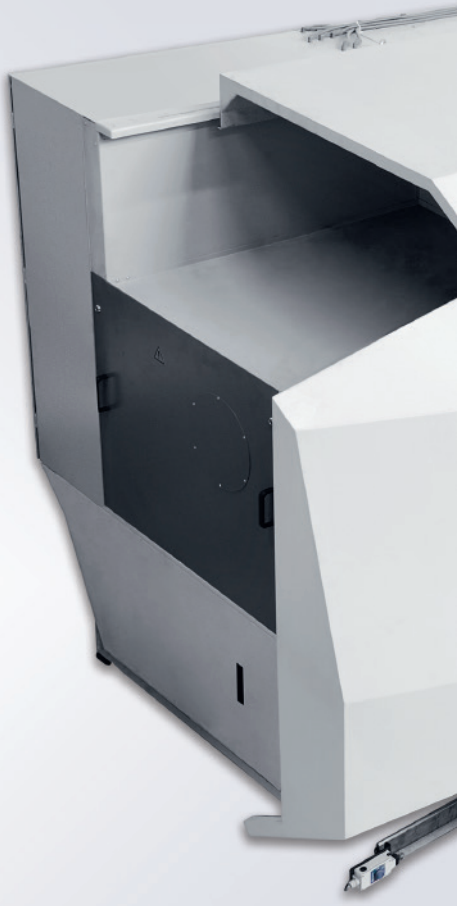
Wide variety of manual and hydraulic steady rests

TECHNICAL PARAMETERS						
		TUR 800 SMN		TUR 930 SMN		TUR 1100 SMN
CAPACITY						
Distance between centres (other lengths on request)	mm	2.000 – 3.000 – 4.000 – 5.000 – 6.000-...– 18.000				
Swing over bed	mm	800		950		1.100/1.200
Swing over saddle	mm	500		630		790/830
Max. weight between centres (option)	kg	4.000 (7.000)		4.000 (7.000)		4.000 (7.000)
HEADSTOCK						
Top spindle speed ranges (for standard spindle bore Ø 140)	rpm	4-1.800		4-1.200		
Main drive motor power (S6)	kW	33		33		33
Spindle bore	mm	140		140		140
Larger spindle (option)						
Spindle bore	mm	165	220	320	360	450
SADDLE						
Cross slide travel X-axis	mm	505		570		610
TAILSTOCK						
Quill diameter	mm	125 (140/160 option)		125 (140/160 option)		125 (140/160 option)

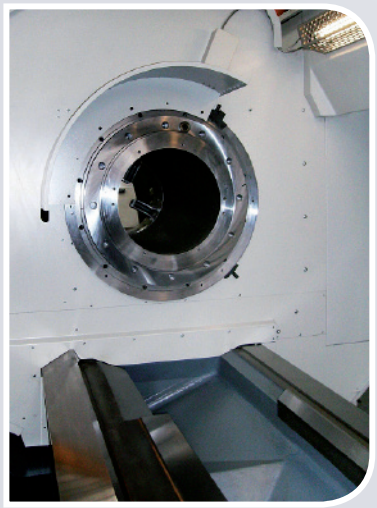
TUR MN 1150/1350/1550

The TUR 1150/1350/1550 MN has been designed for machining heavy work pieces of diameters up to 1.550 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.



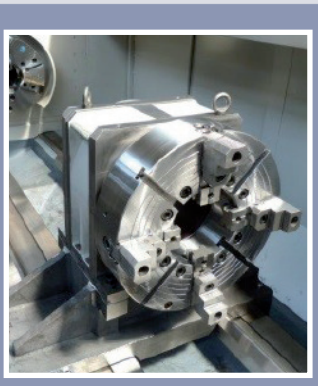


The 6 m and longer machines have a gear drive (rack and pinion) in longitudinal axis. The system is driving by servomotors (master/ slave system with automatic backlash compensation by CNC).

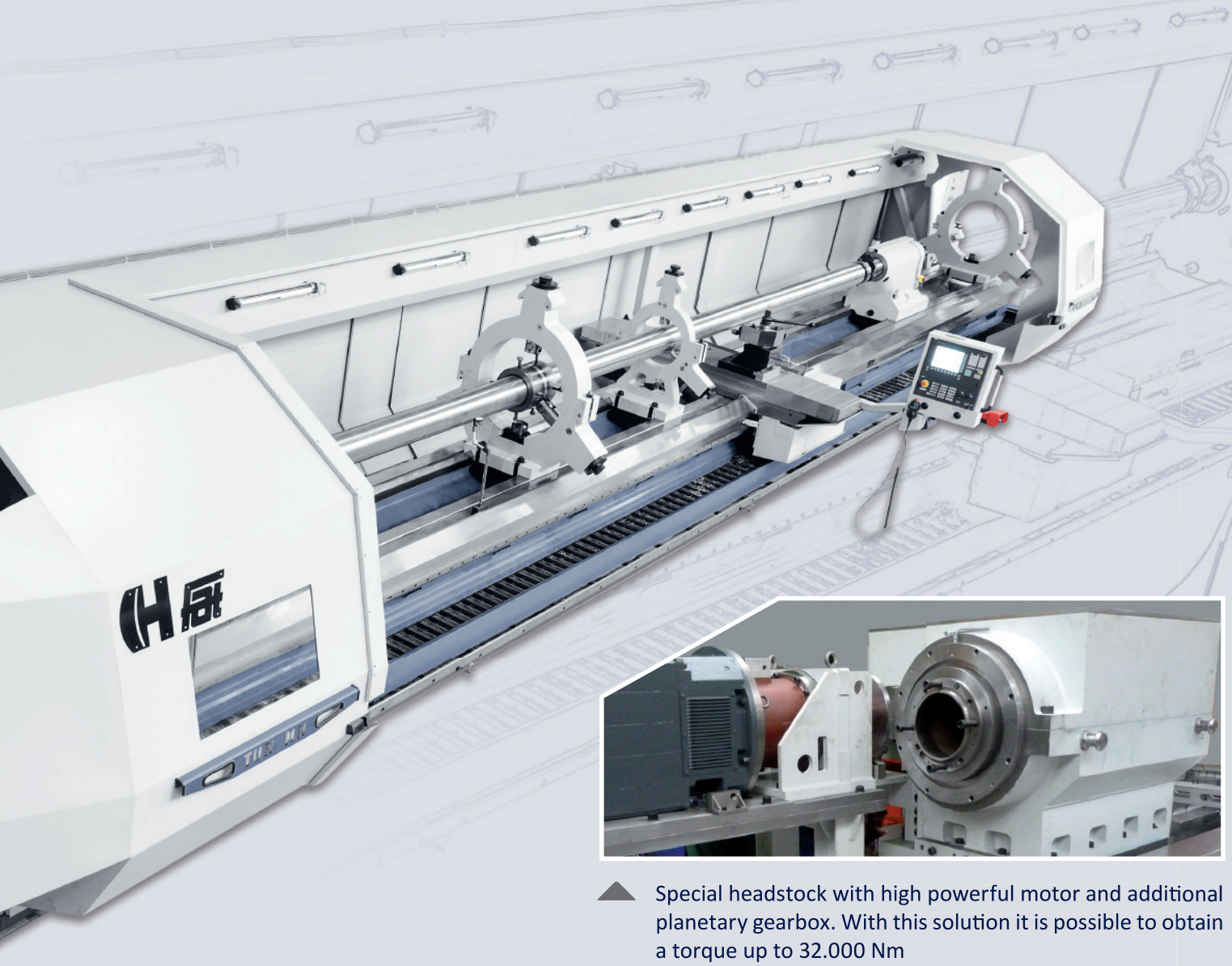


Special tooling system for grinding operation

Available spindle bores: ø140, ø220, ø320, ø360, ø450



A wide range of rests is available: hydraulic self-centering, manual, steady or follow rests, C-form, ring rests and other.

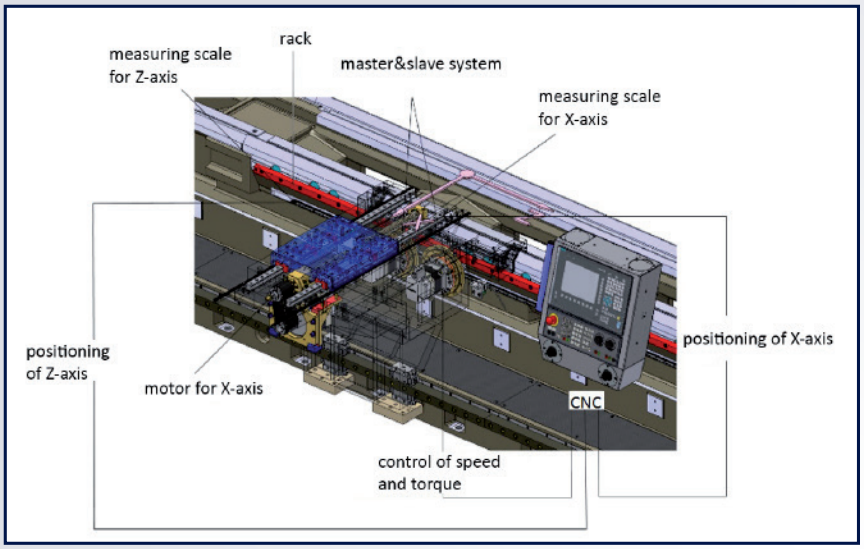


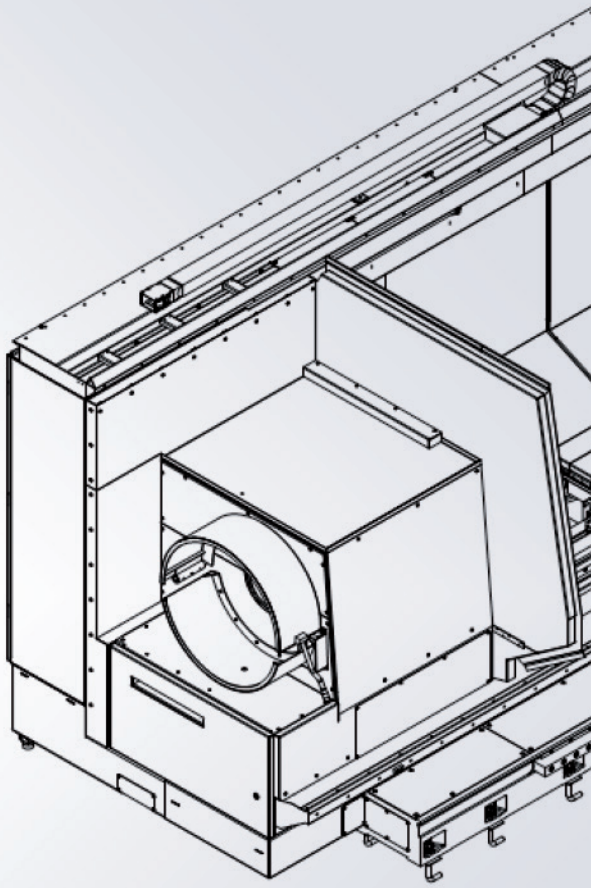
Special headstock with high powerful motor and additional planetary gearbox. With this solution it is possible to obtain a torque up to 32.000 Nm

TECHNICAL PARAMETERS					
		TUR 1150 MN	TUR 1350 MN	TUR 1550 MN	
CAPACITY					
Distance between centers (other lengths on special request)	mm	2.000 – 4.000 – 6.000... – 16.000			
Swing over bed	mm	1150	1350	1550	
Swing over bed	mm	700	900	1.100/1.300	
Max. weight between centers (without steadies)	kg	12.000 / 15.000			
Max. weight in chuck only	kg	3.000			
HEADSTOCK					
Top spindle speed ranges	rpm	2-900	2-900	2-900	
Main drive motor power (S6)	kW	56	56	56	
Standard spindle					
Spindle bore standard version	mm	140	140	140	
Larger spindle (option)					
Spindle bore	mm	220	320	360	450
SADDLE					
Cross slide travel X-axis	mm	650	750	775	
TAILSTOCK					
Quill diameter	mm	220			

TUR 4SMN 930/1100

The machine design has been based on the proven, high quality TUR SMN. The wide step bed ensures maximum stability and guarantees geometrical accuracy. The stepped bed allows machining of the workpiece without collision between the saddle and steady rests.



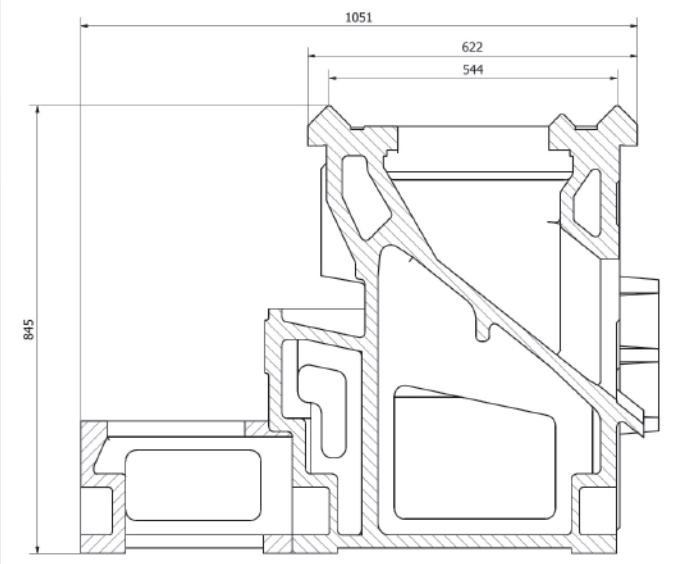


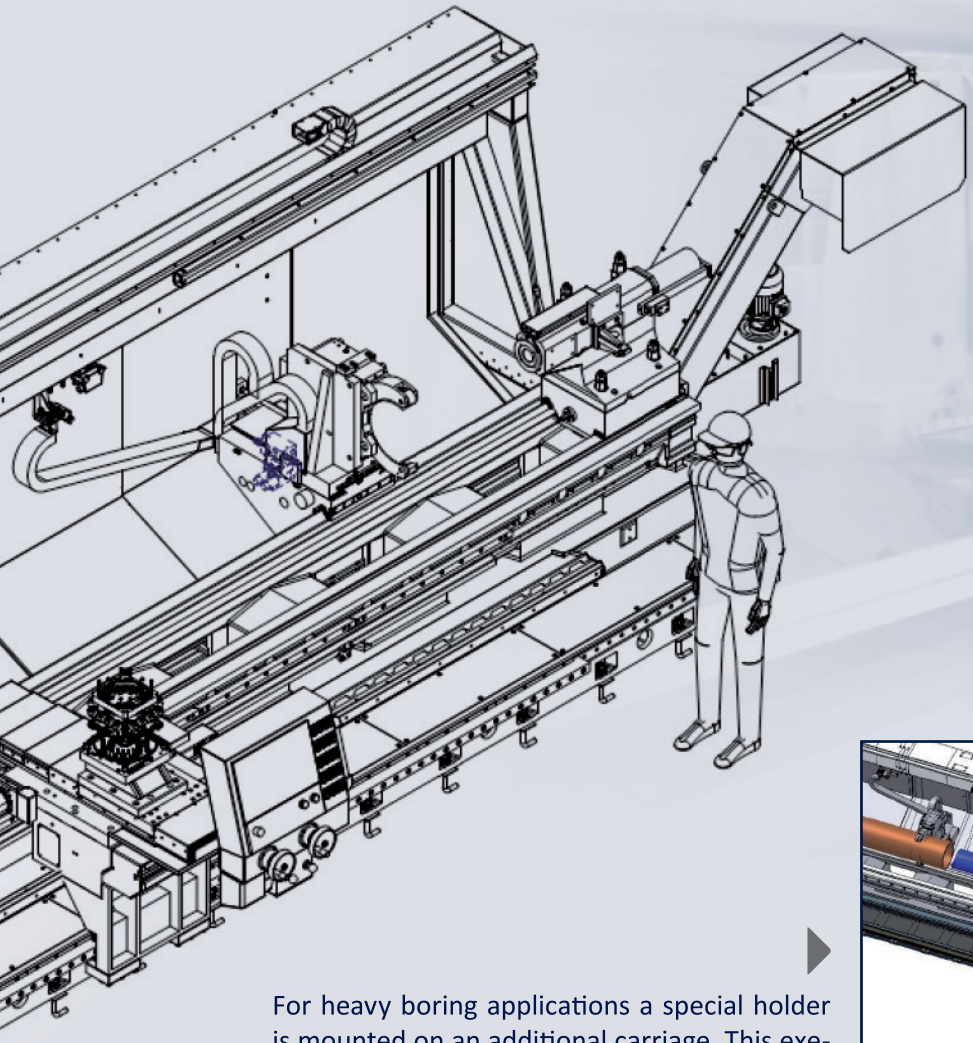
Longitudinal travel is performed by master&slave system.
Advantages:

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

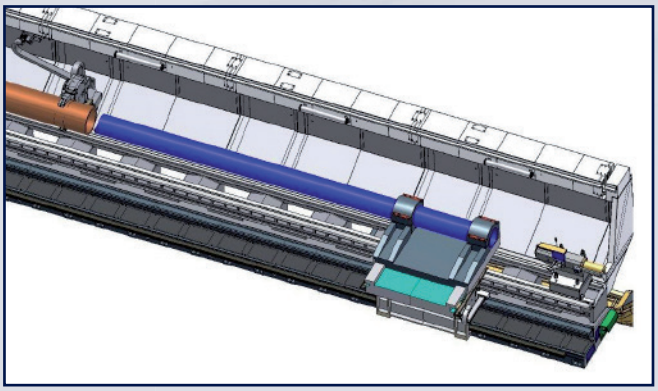
TUR 4SMN 930 x 10 000 with steady rests having automatic approach and positioning at the working position

The enormous wide 1-piece monoblock bed with massive 3-V ways is made from high-grade cast iron. The guide ways are induction hardened and ground.





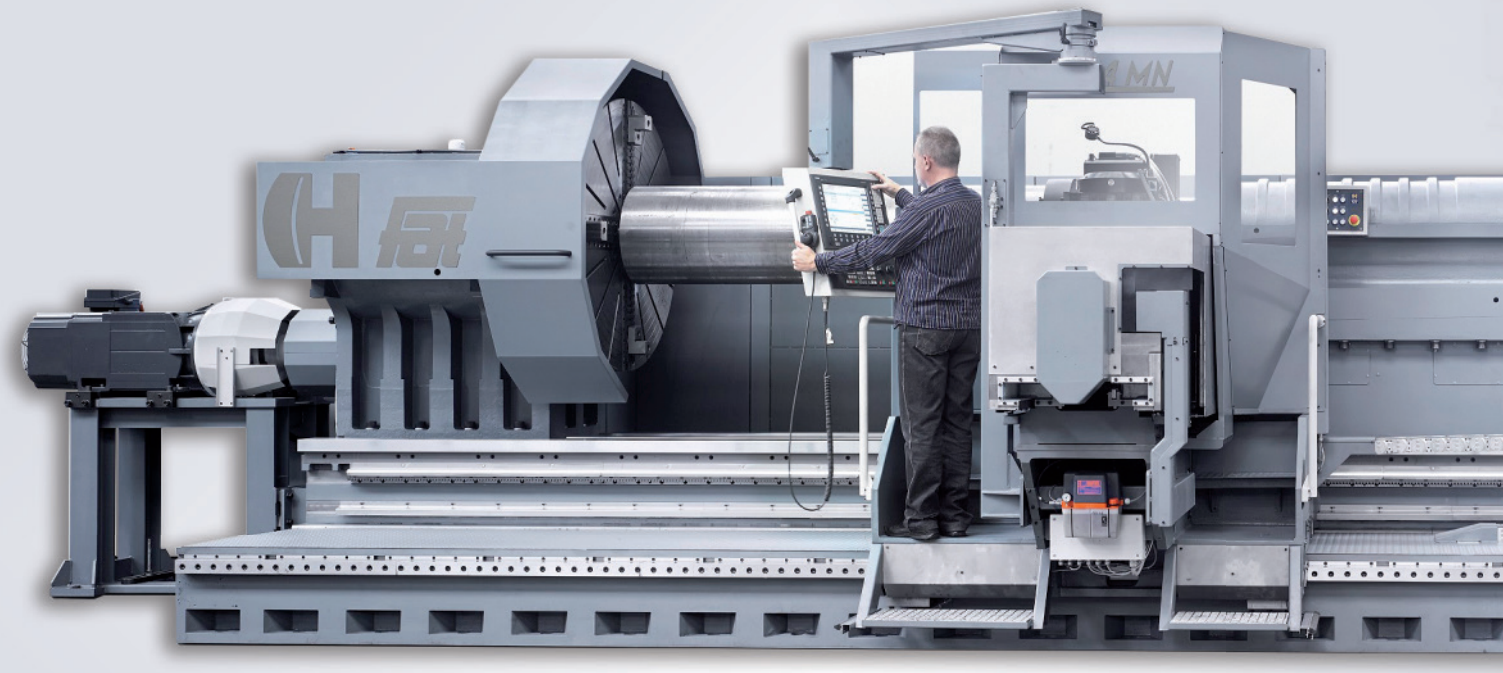
For heavy boring applications a special holder is mounted on an additional carriage. This execution ensures high stability and accuracy even for very complicated boring operation.

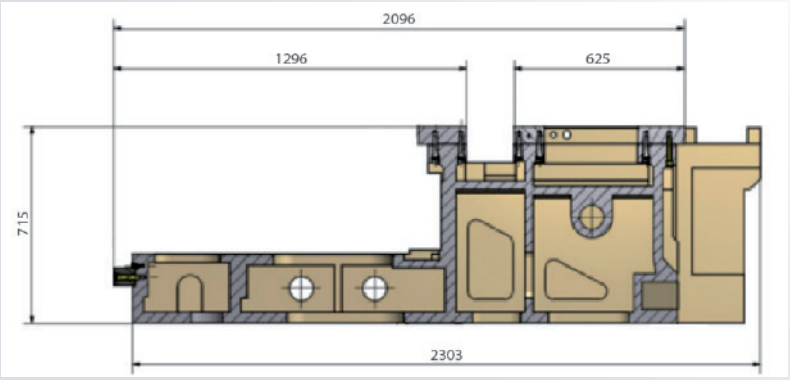


TECHNICAL PARAMETERS					
		TUR 930 4SMN		TUR 1100 4SMN	
CAPACITY					
Distance between centers (other lenghts on special request)	mm	2.000 - 3.000 - 4.000 - ... 16.000			
Swing over bed	mm	950		1.100	
Swing over saddle	mm	630		790	
Max. weight between centers (without steadies)	kg	7.000		7.000	
HEADSTOCK					
Top spindle speed ranges	rpm	4-1.200			
Main drive motor power S6	kW	33 (56)		33	
Max. Turning torque	Nm	3.750 (7.500)		3.750 (7.500)	
Spindle bore standard version	mm	140		140	
Special execution:					
Spindle bore	mm	220	320	360	450
SADDLE					
Cross slide travel X-axis	mm	570		610	
TAILSTOCK					
Quill diameter	mm	125 (140/160 option)		125 (140/160 option)	

TUR 4MN

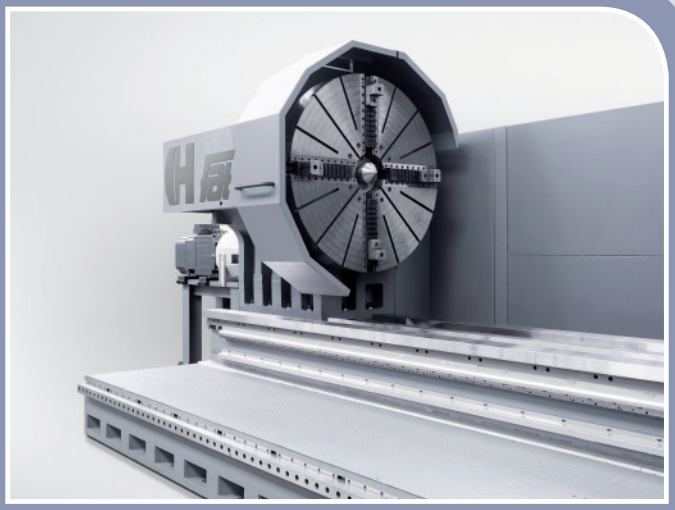
The TUR 4MN is a heavy duty 4-guideway lathe designed for highly efficient machining of long and heavy workpieces. This machine can be used for machining of workpieces at length up to 16 m and weight of 80.000 kg.





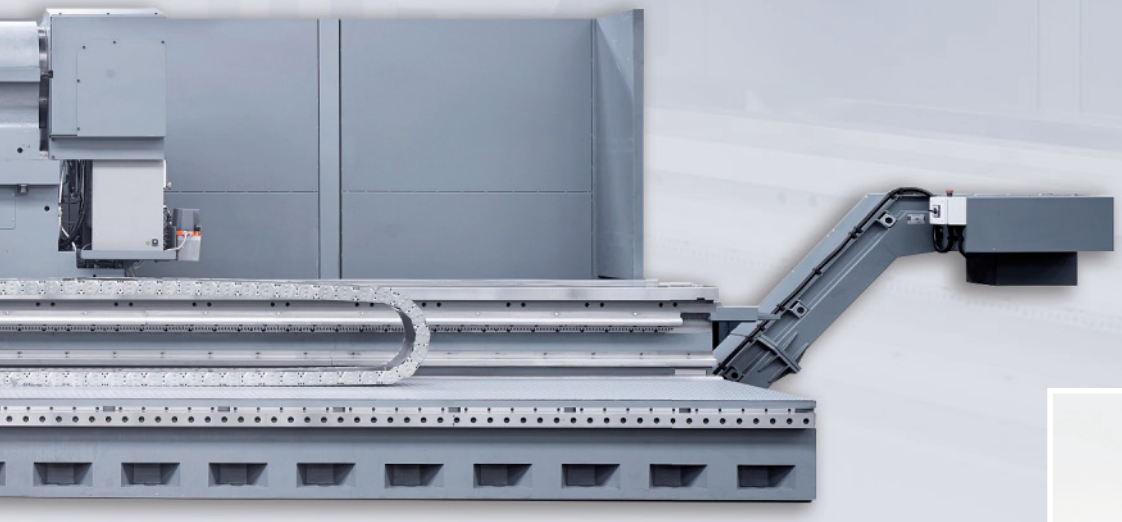
The enormous wide step bed is made from high-grade cast iron. The upper guide ways are hardened and ground, with high quality steel inserts assembled using “Guide Easy FIX” technology.

Tailstock with quill’s diameter 400 mm and stroke 300 mm.



The heavy duty headstock is equipped with 185 mm spindle bore. Thanks to the planetary gearbox, the maximum turning torque is 100.000 Nm.

TUR 4MN with full enclosure

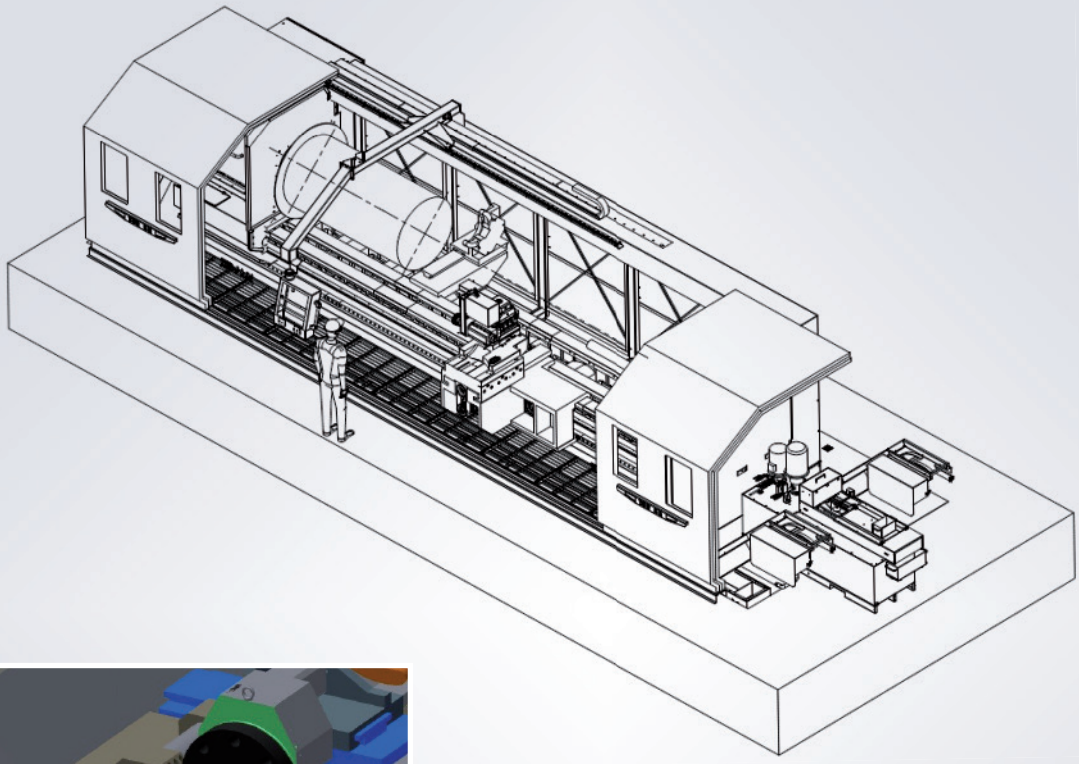


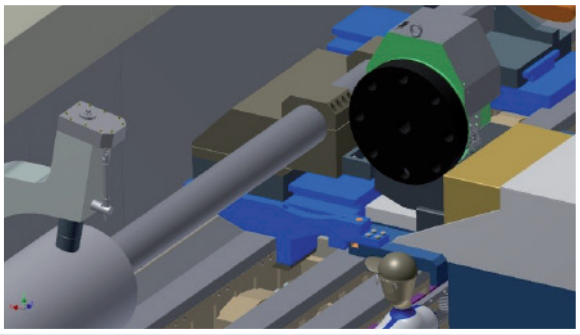
4 position tool turret

TECHNICAL PARAMETERS				
		TUR 4 MN		
		Standard	Medium	Heavy duty
CAPACITY				
Distance between centres (other lengths on special request)	mm	4.800 – 6.400 – 8.000 – 9.600 – 11.200 – 12.800 – 14.400 – 16.000		
Swing over bed	mm	700- 1.100- 1.600- 1.800- 2.000-2.300		
Swing over saddle	mm	700 – 1.100 – 1.200 – 1.400 – 1.600 - 1.900		
Max. weight between centers (without steadies)	kg	12.000	15.000	80.000
HEADSTOCK				
Main drive motor power (S1/S6)	kW	37/56	80/98	138/200
Max. Turning torque	Nm	8.250	32.000	85.000
Spindle bore	mm	140	260	185
TAILSTOCK				
Quill diameter/* dimension	mm	220	*280x280	400 / *600x600

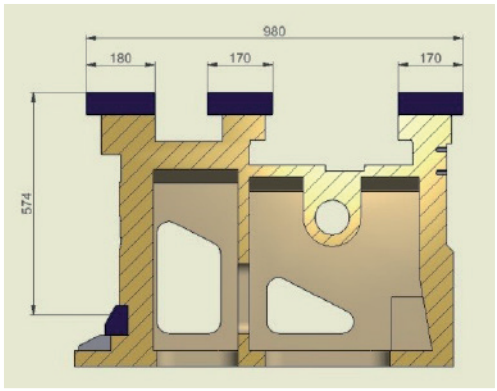
TUR 3MN

TUR 3MN is a lighter version of a 4 - guideways lathe. It enables machining of pieces at diameter up to 2.000 mm and weight to 15.000 kg. Similarly as in case of other FAT lathes, this machine can be designed in different configurations using many options.





Unique design of boring bar attachment allows to use long and heavy tools. The boring bar is evenly supported which enables stable machining of even big diameters and depths.



Due to compact design of the bed, the machine takes little space while keeping rigidity.

TECHNICAL PARAMETERS			
		TUR 3 MN	
		Standard	Medium
CAPACITY			
Distance between centres (other lengths on special request)	mm	4.800 – 6.400 – 8.000 – 9.600 – 11.200 – 12.800 – 14.400 – 16.000	
Swing over bed	mm	1.300 - 1.600	
Swing over saddle	mm	1.000 - 1.300	
Max. weight between centers	kg	12.000	15.000
HEADSTOCK			
Main drive motor power (S1/S6)	kW	37/56	80/98
Max. Turning torque	Nm	8.250	32.000
Spindle bore diameter	mm	140	260
TAILSTOCK			
Quill diameter/* dimension	mm	220	*280x280

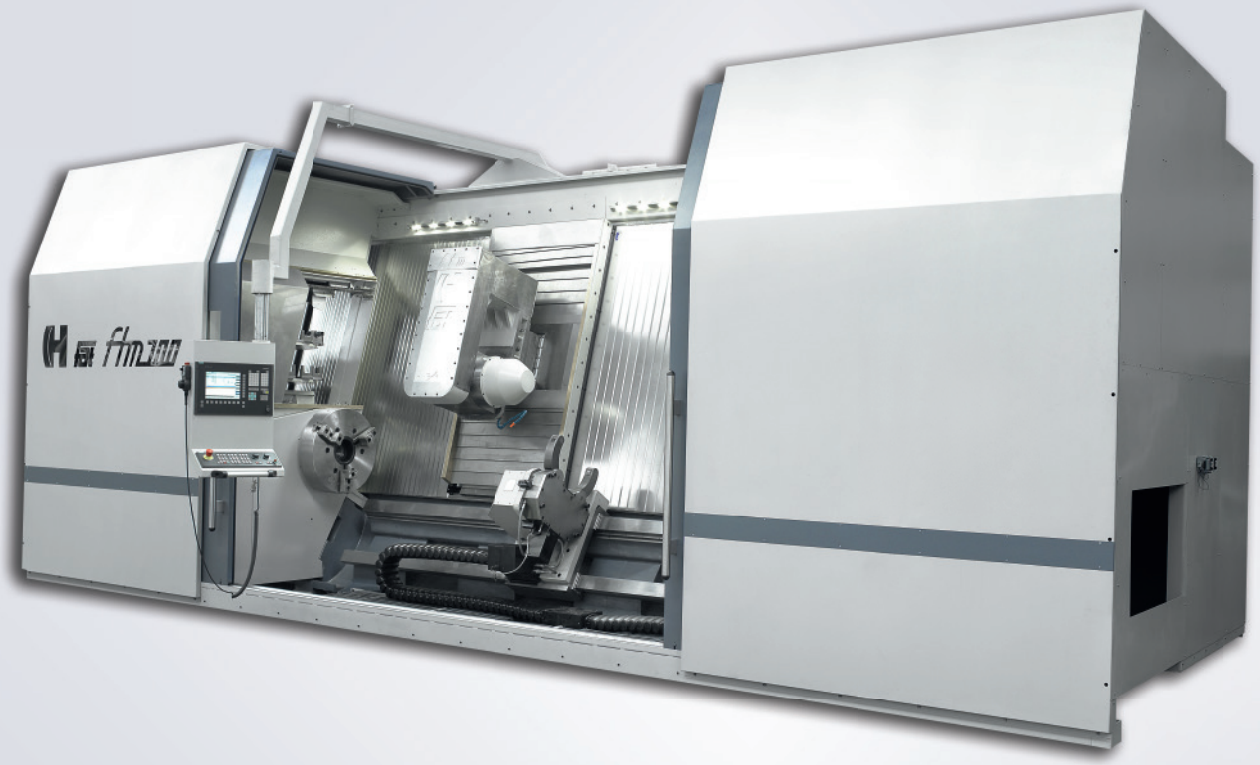
FCT 700

The FAT FCT 700 lathe is the perfect slant bed lathe for fast, precise and heavy-duty turning and milling of large workpieces. The FCT 700 turning center provides a significant increase in productivity and results in increased profitability. The 70° inclined bed ensures optimum swarf removal, easy setting and inspection of the tools and optimal access to the workpiece for the operator.

TECHNICAL PARAMETERS		
		FCT 700
CAPACITY		
Distance between centres	mm	1.100 - 1.600 - 2.100 - 3.100 – 4.100
Swing over bed	mm	700
Swing over saddle	mm	490
Max. weight between centres (without steadies)	kg	2.500
HEADSTOCK		
Main drive motor power (S6)	kW	33
Spindle bore	mm	105
Top spindle speed (option)	rpm	2.500 (3.000)
SADDLE		
Cross slide travel X-axis	mm	460
TOOLING SYSTEM		
12 position tool turret	DIN69880	VDI 50
TAILSTOCK		
Quill diameter	mm	120

FTM 700/1000

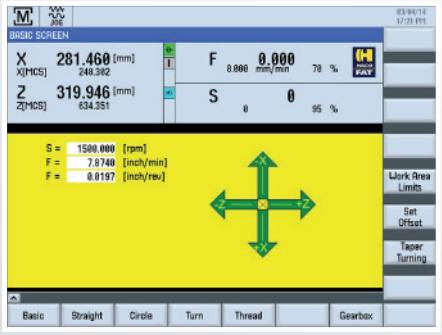
The FTM 700/1000 slant bed CNC lathe has a heavy duty 60° inclined bed with 70° column. The swing over bed is 700/1000 mm, with distance between centers from 1500 up to 12.500. The machine can be equipped with a milling head B-axis and can work as a full 5 axis turn-mill center.



TECHNICAL PARAMETERS					
		FTM 700		FTM 1000	
CAPACITY					
Distance between centres	mm	2.100 – 3.100- … – 12.100		1.500 – 2500 - … – 12.500	
Swing over bed	mm	700		1.000	
Swing over saddle	mm	700		1.000	
Max. weight between centres (without steadies)	kg	6.500		7.500	
HEADSTOCK					
Main drive motor power (S6)	kW	33		56	
STANDARD SPINDLE:					
Spindle bore	mm	140			
Top spindle speed	rpm	1.800			
SPECIAL EXECUTION:					
Spindle bore	mm	220	320	360	450
SADDLE					
Cross slide travel X-axis	mm	660/990			
Stroke Y axis (integrated with machine)	mm	±100		±200	
TAILSTOCK					
Quill diameter	mm	160		200	

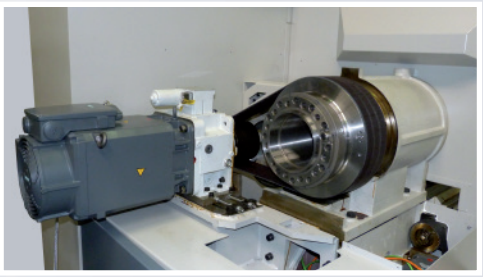
TUR 560/630/710 SC

The TUR SC is a combination of a conventional and a CNC high-precision lathe. A great advantage to the user is the possibility of using defined machining operations without special programming knowledge. Reduced machining times, uniform precision of all parts in a batch, as well as taking away from the operator much routine work, demonstrates a new level of production efficiency.



Simplified controller allows the operator to use easy macros without knowledge of programming skills

Covers for manual operations

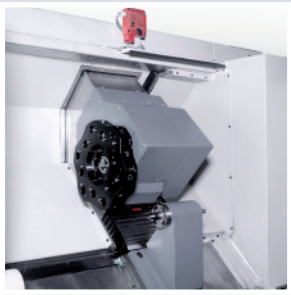


Compact headstock with direct drive and planetary gearbox

TECHNICAL PARAMETERS				
		TUR SC 560	TUR SC 630	TUR SC 710
CAPACITY				
Distance between centres	mm	1.000-2.000-3.000-4.000		
Swing over bed	mm	560	630	710
Swing over saddle	mm	300	370	450
Max. weight between centres	kg	2.000		
HEADSTOCK				
Spindle speed	rpm	4 -1.800		
Main drive motor power (S1)	kW	12		
Spindle bore	mm	105		
SADDLE				
Cross slide travel X-axis	mm	365	390	410
TAILSTOCK				
Quill diameter	mm	100		

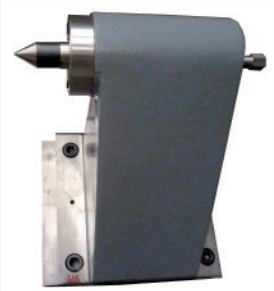
FTM 165

Based on our experience gained on the larger FTM machines, this new model is the smallest in the range of highly flexible turn / mill centres available from FAT Haco. Its exceptional stability is based on a machine whose structures are produced in our own foundry which, together with the use of high precision components and unrivalled quality of assembly, will ensure many years of reliable service.

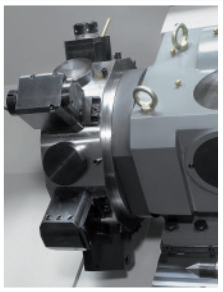


Standard 12 position turret with static tools VDI 30 seats

Automatic part catcher



Automatic tailstock positioning

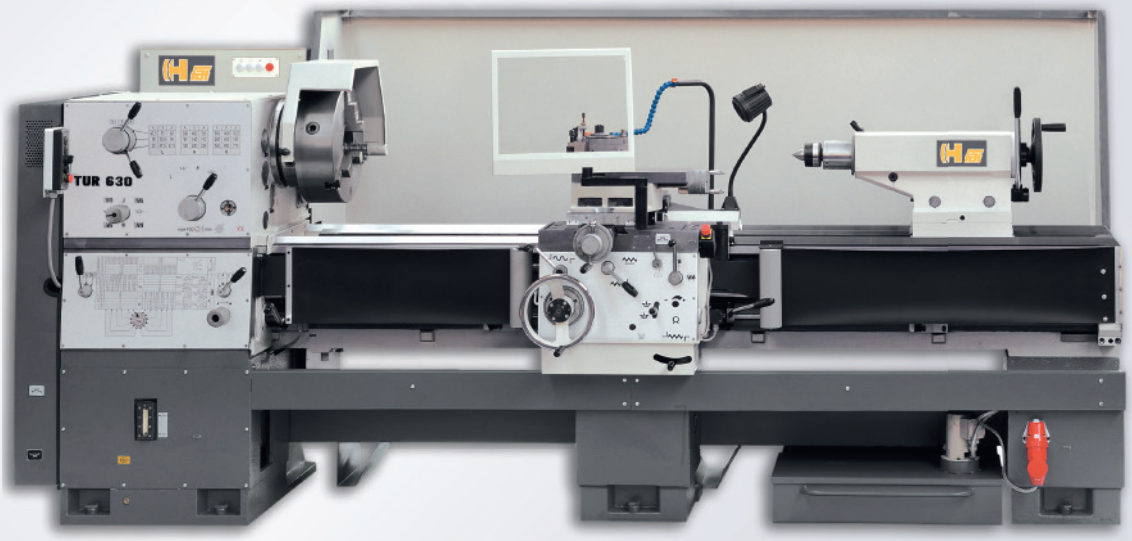


Option of tool turret with driven tools VDI 30 and VDI 40 also available

TECHNICAL PARAMETERS			
			FTM 165
CAPACITY			
Distance between centers		mm	600 – 800 – 1.000
Swing over bed		mm	550
Max turning dia.	static tool disc VDI 30	mm	340
	driven tool disc VDI 30 (option)	mm	340
HEADSTOCK			
Top spindle speed		rpm	5.000
Main drive motor power		kW	15
Max. turning torque		Nm	275
Spindle bore without hydraulic cylinder and chuck			40 (s) – 65 (o) – 80 (o)
SADDLE			
Cross slide travel X-axis		mm	210
Rapid travel Z-axis		m/min	35
Rapid travel X-axis		m/min	35
TAILSTOCK			
Quill taper		mm	MT4
Travel method			auto positioning

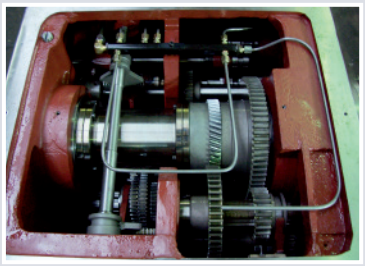
TUR CONVENTIONAL

The rigid construction of the machine, the high motor power of 15 kW, the wide range of spindle speeds and high top cutting speeds all allow the operator to select cutting parameters and perform the machining of different materials.



Spindle with bore 140 mm and double nose

Taper turning attachment



The head stock drives the spindle and contains the speed selection transmission which provides a range of 21 spindle speeds. The feed box contains a three chamber transmission for the selection of feeds and threads. The main spindle is powered by a 15 kW motor.

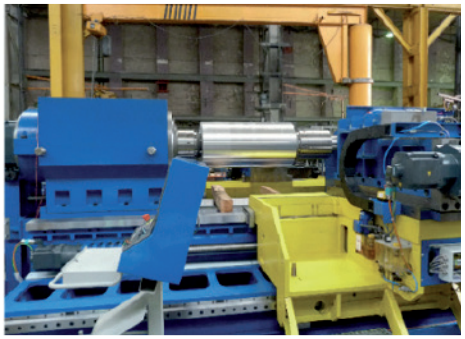
PARAMETRY TECHNICZNE						
		TUR 560	TUR 630	TUR 630A	TUR 710	TUR 710A
CAPACITY						
Distance between centres	mm	1.000-2.000-3.000-4.000				
Swing over bed	mm	560	630	630	710	710
Swing over saddle	mm	320	380	380	440	440
Max. weight between centres (without steadies)	kg	1.500	1.500	1.500	1.500	1.500
HEADSTOCK						
Number of spindle speeds		21	21	21	21	21
Spindle speed	rpm	18-1.800	18-1.800	15-1.400	18-1.800	15-1.400
Spindle bore	mm	105	105	140	105	140
Main motor power	kW	15	15	15	15	15
SADDLE						
Cross slide travel	mm	345			407	
Top slide travel	mm	155				
TAILSTOCK						
Tailstock quill diameter	mm	100	100	100	100	100

SPECIAL MACHINES

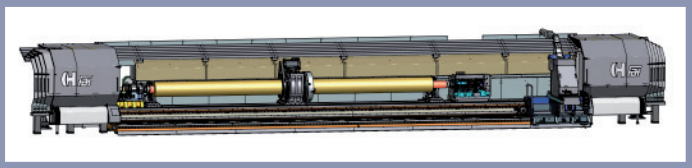
Based on the combination of our broad experience in lathe manufacturing, our constant development and improvements and fulfilling our customer's requests, our product range has been expanded to include special machines dedicated to meet specific requests from our clients. We are not only focused on producing standard, small horizontal lathes. Our aim is to provide huge stand-alone machines and also manufacture complete production lines for complicated machining operations to include turning, grinding, boring and other complex operations. Below, we have examples of completed and current projects.

TUR 4 MN 3000 x 22 000 - turning machine consists of two independent beds. This solution enables machining of shafts up to 3.000 mm in diameter and 22.000 mm in length. The machine is equipped with a 220 kW motor.

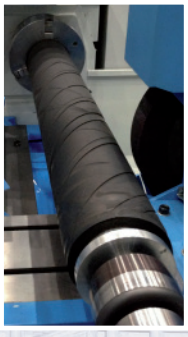
TUR 6 MN - a lathe equipped with a 6 guideway bed and double saddle system. Designed for highly efficient machining of aluminum billets.



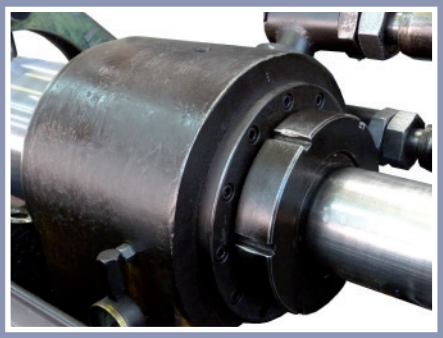
A lathe designed for machining of long pieces. Due to very special machining requirements, this lathe is equipped with movable headstock with separate drive. Thanks to this solution, the headstock can be positioned in every position along the bed.



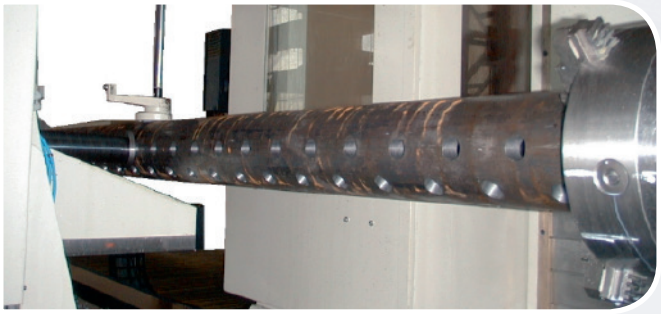
Machine with a simplified control system, designed for machining rubber printing shafts. The lathe is equipped with "Power grip" system for quick tool changing.



Deep drilling machine TUR FDD 100 x 6000. Range of drilling length is 1.200-6.000 and the diameter 20-100 mm

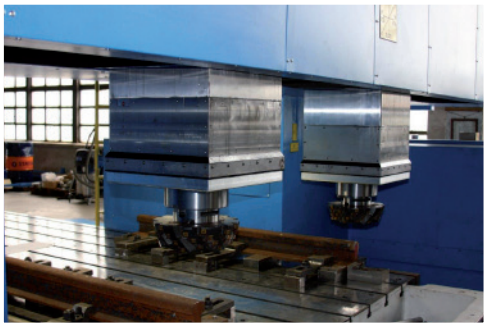


Production line for high efficient pipe drilling. The machine consists of lathe and loading/unloading station.



Production line for grinding of welded pipes

TUR RMN 240 - milling machine for railways switches



Turning-boring machine designed based on TUR MN.

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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 builiding 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

HACO FAT

for impressive performances

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