1798 POREBA

RAFAMET GROUP

Horizontal Lathes

Timeline

1798

Foundation of POREBA WORKS – one of the oldest machine tools manufacturers in Europe

1909

The first records show that machine tools for machining of metal and timber were awarded the first gold medal for performance and design

1946

The first hundred machines had been produced

1948

The first export began during the machine tool exhibition in Paris when first contracts were entered with Dutch and Romanian customers

1968

The jubilee of 170 anniversary was celebrated. The ocassion was marked by assemblying of the machine bearing the serial number 10.000 (since 1945)

1971

The SMT Machine Company AB (Sweden) initiated in Poreba Works **manufacturing of machining centres.** The relevant agreement signed in 1971 elevates the prestige of the company and starts NC control era

1972

First deliveries to the American Customer Mesers. National Forge Company

2016

POREBA Machine Tools Ltd. became a solid member of RAFAMET GROUP

POREBA Machine Tools Ltd.

is a solid member of **RAFAMET GROUP** since 2016, inheritor of the technical achievements of the FUM POREBA Ltd. It is a manufacturer of CNC super heavy duty, heavy-duty and medium centre and floor-type lathes, as well as large horizontal drilling machines and drilling & boring machines for deep hole drilling. The POREBA machine tools are used for roughing and finishing of workpieces of up to 100 tonnes in weight and up to 4500 mm in diameter, made of grey iron, ductile iron, steel, custom steel and steel alloys. The machine tools are applicable in the metallurgical, mechanical, defense, power, mining, paper and shipbuilding industries.

TOK Series

In its basic version the TOK 80 N horizontal slant-bed centre lathe – thanks to the innovative mechanical solutions and the advanced control systems – is the multipurpose lathe that guarantee productive rough and finish machining. The TOK 80 N lathe is designed for workpiece machining in the range of turning in accordance with its specifications, especially for machining of large-size shafts. When delivered with special equipment it can operate as horizontal machining centre with turning, drilling and milling capabilities. It can be equipped with an automatic turret, tool attachments, tool and workpiece measuring systems, controlled C axis, workpiece steady rests.

Main features:

- Slant-bed made of high-grade cast iron of enhanced mechanical properties, standardized, suitably ribbed, rested on foundation along its entire length
- Carriage travels along two guideways that guarantee precise guidance
- Longitudinal and crosswise travels on an anti-friction material and assisted by central lubrication system
- Headstock housing made from cast iron of enhanced mechanical properties
- Spindle rested on bearings of increased accuracy class
- All shafts and gears carburized, hardened and ground

TECHNICAL SPECIFICATIONS		TOK 80 CNC
Capacity		
Swing over bed	Ø mm	800
Swing over carriage	Ø mm	670
Turning length (every 1000 mm)	mm	1000 - 12000
Max. weight of workpiece clamped in centres	kg	6000
Max. weight of workpiece clamped in chuck	kg	800
Headstock		
Spindle bore diameter	Ø mm	95
Spindle nose	size	A1 - 11
Range of continuously variable rotation rates	rpm	4 - 800
Number of ranges of rotation rates	quantity	2
Power of main drive motor	kW	39
Max. torque on spindle	Nm	3250
Carriage		
Longitudinal travel	mm	1000 / 2000 / 3000 / 4000
Cross-wise travel	mm	410
Rapid travel in X and Z axes	mm / min	5000
Size of X-axis ball screw	Ø × pitch mm	63 × 10
Size of Z-axis ball screw	Ø × pitch mm	63 × 10
Tool system	type	automatic 12-position turret / other *
Tailstock		
Quill diameter	Ø mm	180
Quill stroke	mm	150
Internal taper	size	65 / 1:12
Machine tool overall dimensions and weight, approx.		
• Length	mm	5500 / 6850 / 8050 / 9900
• Width	mm	2450
• Height	mm	2950
Weight (for 1000 mm turning length)	kg	15500
Increase in weight for 1000 mm of turning length	kg	3000
* – optional execution		

Some of the above data can be altered to meet the Customer requirements.
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TRP Series

In their basic version the TRP Series horizontal centre lathes – thanks to the innovative mechanical solutions and the advanced control systems – are the multipurpose lathes that guarantee productive rough and finish machining. The TRP Series lathes are designed for workpiece machining in the range of turning in accordance with their specifications, especially for machining of large-size shafts. When delivered with special equipment they can operate as horizontal machining centres with turning, drilling and milling capabilities. They can be equipped with an automatic turret, tool attachments, tool and workpiece measuring systems, controlled C axis, workpiece steady rests.

Main features:

- Bed made of high-grade cast iron of enhanced mechanical properties, standardized, suitably ribbed, rested on foundation along its entire length
- Longitudinal travel along two V-block guideways that guarantee precise guidance
- Bed and carriage guideways hardened up to minimum 45 HRC
- Longitudinal and crosswise travels on an anti-friction material and assisted by central lubrication system
- Headstock housing made from cast iron of enhanced mechanical properties
- Spindle rested on bearings of increased accuracy class
- All shafts and gears carburized, hardened and ground

TECHNICAL SPECIFICATIONS		TRP 63 CNC	TRP 72 CNC	TRP 110 CNC
Capacity				
Swing over bed	Ø mm	650	740	1100
Swing over carriage	Ø mm	380	420	740
Turning length (every 1000 mm)	mm	1000 - 8000	1000 - 8000	2000 - 16000
Max. weight of workpiece clamped in:				
• chuck	kg	500	500	1000
• centres	kg	3000	3000	6000
• centres + 1 steady rest	kg	3800	3800	7600
• centres + 2 steady rests	kg	4600	4600	9800
Headstock				
Spindle bore diameter	Ø mm	105	140	95 / 204 * 300 * / 370 *
Spindle nose	size	C - 8 / A1 - 11 *		A1 - 11 / A1 - 15 * A1 - 20 * / A2 - 20 *
Range of continuously variable rotation rates	rpm	2 - 2000 / 2 - 1700 *		4 - 800 / 2 - 550 * 2 - 450 * / 2 - 315 *
Number of ranges of rotation rates	quantity	3		2
Power of main drive motor	kW	12		30 / 28 * / 22 *
Max. torque on spindle	Nm	2160		5600 / 5900 * / 4700 *
Carriage				
Rapid travel in Z and X axes	mm / min	4000		
Longitudinal travel	mm	distance between centres		
Cross-wise travel	mm	330		580
Size of X-axis ball screw	Ø × pitch mm	32 × 5		40 × 5
Size of Z-axis ball screw	Ø × pitch mm	50 × 10 for 1000 - 4000 mm turning length		63 × 10 for 2000 - 4000 mm turning length
Z-axis drive	type	Rack-and-pinion, backlash-free for 5000 - 8000 mm turning length		Rack-and-pinion, backlash-free for 5000 - 16000 mm turning length
Tool system	type	automatic 8-position turret / other *		
Tailstock				
Quill diameter	Ø mm	100		160
Quill stroke	mm	200		270
Internal taper	size	Morse no. 5		Morse no. 6
Machine tool overall dimensions and weight, approx.				
• Length	mm	2450 + turning length		3270 + turning length
• Width	mm	2080		2735
• Height	mm	2000		2200
Weight (for 1000 mm of turning length)	kg	4000	4200	10700
Increase in weight for 1000 mm of turning length	kg	750		950

* – optional execution

Full offer of TRP Series also contains TRP 93 CNC lathe.

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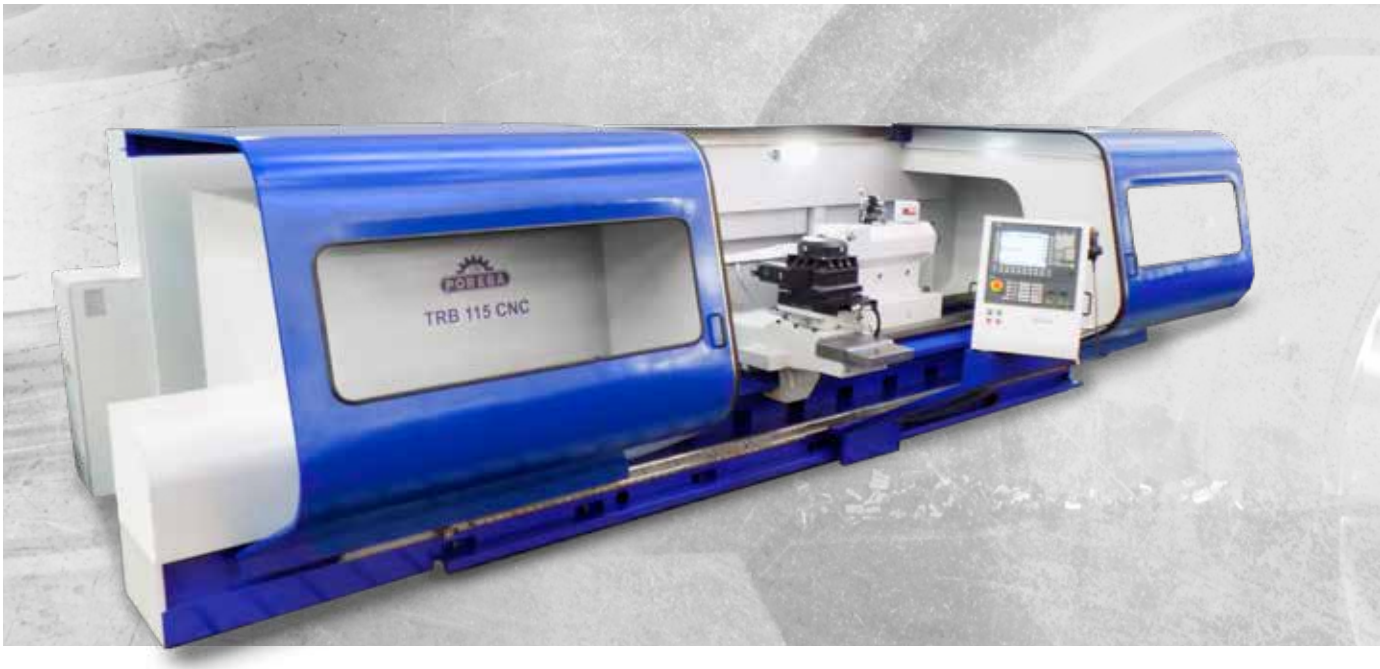
TRB Series

In their basic version the TRB Series horizontal centre lathes – thanks to the innovative mechanical solutions and the advanced control systems – are the multi-purpose lathes that guarantees efficient rough and finish machining. The TRB Series lathes are designed for workpiece machining in the range of turning in accordance with their specifications, especially for machining of large-size shafts. When delivered with special equipment they can operate as horizontal machining centres with turning, drilling and milling capabilities. They can be equipped with an automatic tool head, tool and workpiece measuring system, controlled C axis, workpiece steady rest.



Main features:

- Machine tool construction based on a rigid bed with hardened guideways
- Bed and headstock bodies made from high-grade cast iron of enhanced mechanical properties
- Carriage travels along two guideways that guarantee precise guidance
- Spindle rested on bearings of increased accuracy class
- A wide variety of optional equipment that expands the machine tool capabilities
- All shafts and gears are carburized, hardened and ground

TECHNICAL SPECIFICATIONS		TRB 115 CNC	TRB 135 CNC	TRB 155 CNC
Capacity				
Swing over bed	Ø mm	1150	1350	1550
Swing over carriage	Ø mm	700	900	1100
Distance between centres (every 1000 mm)	mm	2000 - 18000		
Max. weight of workpiece clamped in:				
• chuck	kg	2000		
• centres	kg	9000		
• centres + 1 steady rest	kg	12000		
• centres + 2 steady rests	kg	15000		
Headstock				
Spindle bore diameter	Ø mm	150	300	420
Range of continuously variable rotation rates	rpm	1 - 900	2 - 450	2 - 315
Spindle nose	size	A1 - 15	A1 - 20	A2 - 20
Power of main drive motor	kW	40 / 60		
Max. torque on spindle	Nm	10000 / 13000 *		
Carriage				
Longitudinal travel	mm	2200 for 2000 mm turning length, every 1000 mm		
Cross-wise travel	mm	700		
Rapid travel in X axis	mm / min	4000		
Rapid travel in Z axis	mm / min	4000		
Tailstock				
Quill diameter	Ø mm	190		
Quill stroke	mm	300		
Internal taper	size	Morse no. 6		
Machine tool overall dimensions and weight, approx.				
• Length	mm	3900 + turning length		
• Width	mm	2850		
• Height	mm	2500		
Weight (for 2000 mm of turning length)	kg	10000	10400	10800
Increase in weight for 1000 mm of turning length	kg	1100		
* – optional execution				

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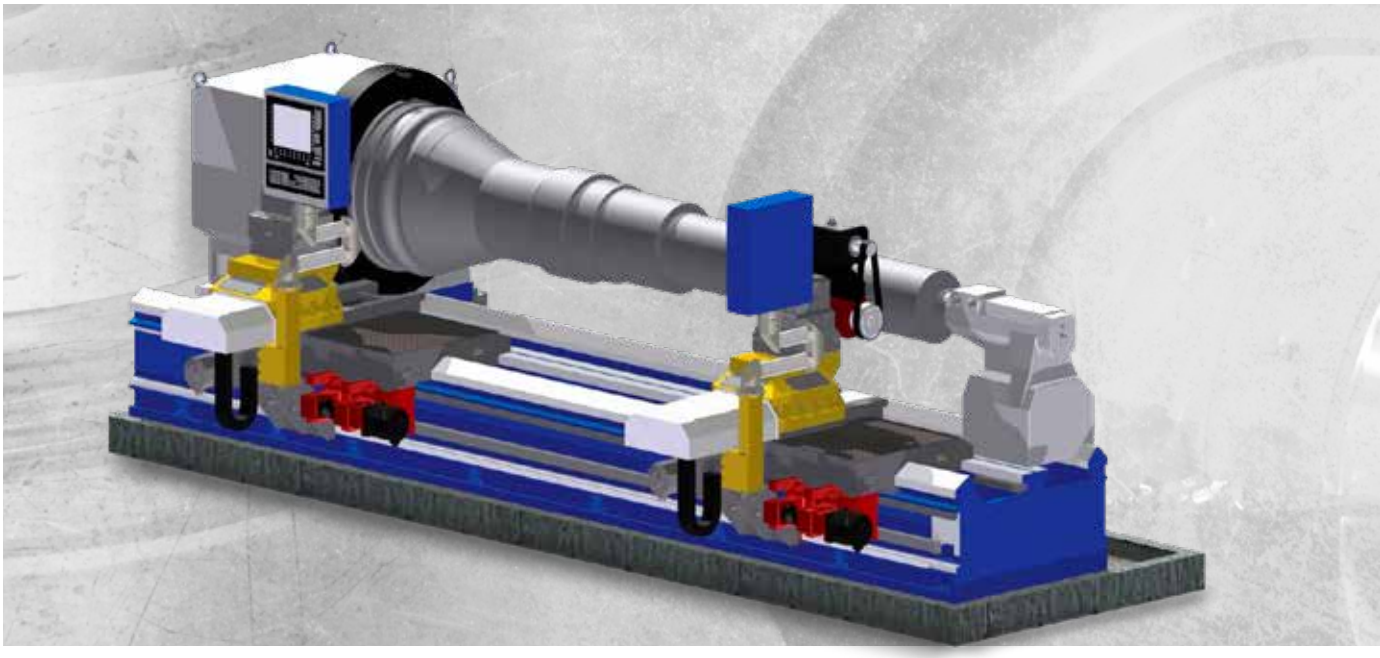
TCM Series

The horizontal centre lathes of the TCM Series – thanks to the innovative mechanical solutions and the advanced control systems – are the multi-purpose lathes that guarantees efficient rough and finish machining. Construction of the lathe is based on a rigid bed with hardened guides with full support on the ground and with chip spout on its back. The construction of these solid lathes is characterized by solutions which ensure good vibration damping and excellent rigidity. The result of it is high accuracy, repeatability and excellent finishing of the machined surfaces while maintaining reliability. A wide range of additional equipment allows further increase of machining efficiency.



Main features:

- Machine tool construction based on a rigid bed with hardened guideways
- 3-guideway bed, headstock body made from high-grade cast iron of enhanced mechanical properties
- Carriage travels along two guideways that guarantee precise guidance
- Spindle rested on bearings of increased accuracy class
- A wide variety of optional equipment that expands the machine tool capabilities
- All shafts and gears are carburized, hardened and ground

TECHNICAL SPECIFICATIONS		TCM 130 CNC	TCM 155 CNC	TCM 180 CNC
Capacity				
Swing over bed	Ø mm	1300	1550	1800
Swing over carriage	Ø mm	1100	1300	1550
Distance between centres (every 1000 mm)	mm	3000 - 20000		
Max. weight of workpiece clamped in:				
• chuck	kg	2000		
• centres	kg	18000		
• centres + 1 steady rest	kg	22000		
• centres + 2 steady rests	kg	26000		
Headstock				
Spindle bore diameter	Ø mm	140		
Spindle nose	size	A1 - 15		
Range of continuously variable rotation rates	rpm	4 - 710		
Number of ranges of headstock rotation rates	quantity	4		
Power of main drive motor	kW	60		
Max. torque on spindle	Nm	17000		
Carriage				
Rapid travel in X and Z axis	mm / min	5000		
Longitudinal travel	mm	3200 for 3000 mm turning length, every 1000 mm		
Cross-wise travel	mm	700	700 + 250 *	700 + 250 *
X-axis ball screw diameter	Ø × pitch mm	63 × 10		
Z-axis ball screw diameter (3000 mm – 5000 mm of turning length)	Ø × pitch mm	80 × 16		
Z-axis drive for 6000 mm to 20000 mm of turning length	type	rack-and-pinion, backlash-free *		
Tool system	type	automatic turret with 4 pos. / other *		
Tailstock				
Quill diameter	Ø mm	240		
Quill stroke	mm	200		
Machine tool overall dimensions and weight, approx.				
• Length	mm	2900 + turning length		
• Width	mm	3300		
• Height	mm	2500		
Weight (for 3000 mm of turning length)	kg	17000	17800	18600
Increase in weight for 1000 mm of turning length	kg	1900		

* – optional execution

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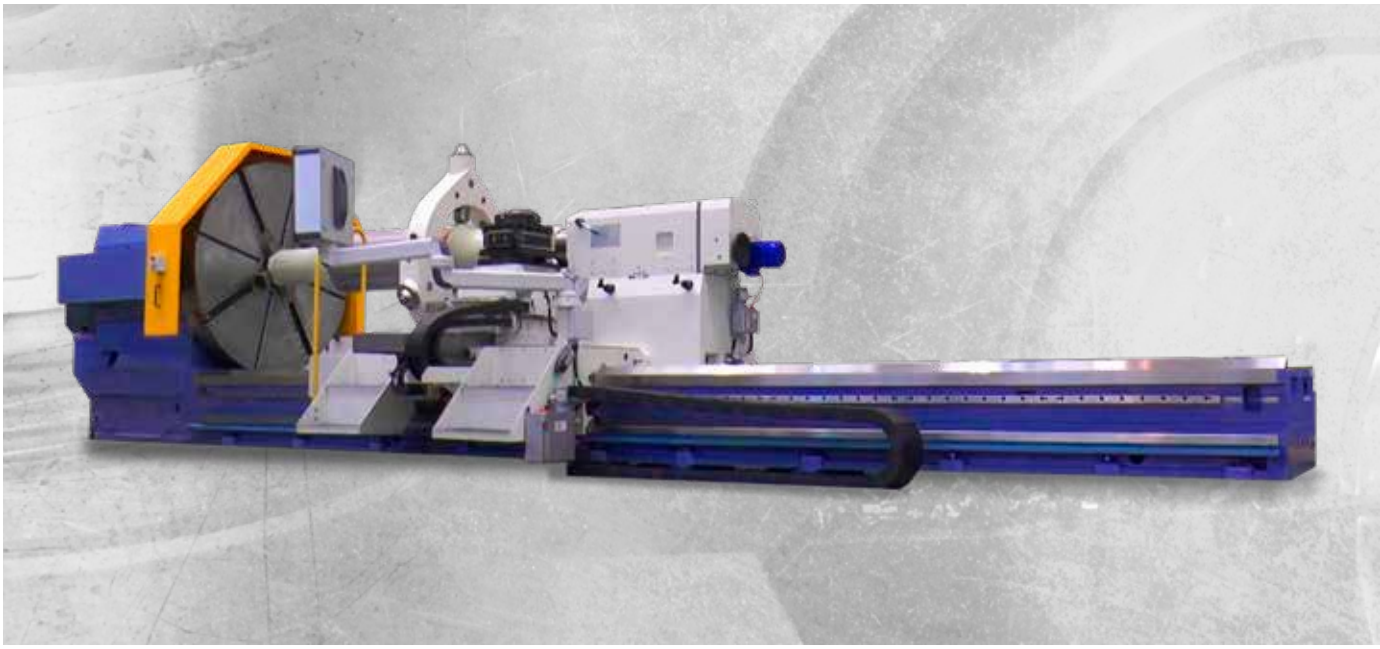
TCF Series

The TCF Series lathes are designed for workpiece machining in the range of turning in accordance with their specifications, especially for machining of large-size shafts. When delivered with special equipment they can operate as the horizontal machining centres with turning, drilling and milling capabilities. They can be equipped with an automatic turret, tool attachments, tool and workpiece measuring systems, controlled C axis, workpiece steady rests.



Main features:

- Machine tool construction based on a rigid bed with hardened guideways
- 3-guideway bed, headstock body made from high-grade cast iron of enhanced mechanical properties
- Carriage travels along two or three guideways that guarantee precise guidance
- Bed and carriage guideways hardened to 45 HRC and ground
- A wide variety of optional equipment that expands the machine tool capabilities
- Slidable operator cabin with the control panel

TECHNICAL SPECIFICATIONS		TCF 160 CNC	TCF 200 CNC	TCF 300 CNC
Capacity				
Swing over bed	Ø mm	1600	2000	3000
Swing over carriage	Ø mm	1300 / 1150 *	1600 / 1550 *	2700 / 2550 *
Distance between centres (every 1000 mm)	mm	3000 - 25000 *		
Max. weight of workpiece clamped in:				
• chuck	kg	4000	4000	4000
• centres	kg	30000	30000	30000
• centres + 1 steady rest	kg	35000	35000	35000
• centres + 2 steady rests	kg	40000	40000	40000
Headstock				
Range of continuously variable rotation rates	rpm	0.5 - 250 / 0.6 - 315 *		
Power of main drive motor	kW	71 / 100 *		
Max. torque on spindle	Nm	40000 / 50000 *		
Spindle nose	size	Taper 1:10 / A1:20 *		
Carriage				
Carriage	quantity	2 / 3 *	2 / 3 *	2 / 3 *
Longitudinal travel	mm	turning length		
Cross-wise travel	mm	650 / 1200	650 + 250 / 1200	650 + 400 / 1200 + 400
Rapid travel in X axis	mm / min	6000		
Rapid travel in Z axis	mm / min	4000		
Tailstock				
Quill diameter	Ø mm	280 / 450 *		
Quill stroke	mm	200		
Machine tool overall dimensions and weight, approx.				
• Length	mm	3550 + turning length		
• Width	mm	2600		
• Height	mm	2300	2500	3000
Weight (for 1000 mm of turning length)	kg	33000 / 34000	35000 / 36000	44000 / 45000
Increase in weight for 1000 mm of turning length	kg	1600		

* – optional execution

Full offer of TCF Series also contains: TCF 224 CNC, TCF 250 CNC, TCF 275 CNC lathes.

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TCE Series

The TCE Series super heavy centre lathes are designed for workpiece machining in the range of turning in accordance with their specifications, especially for machining of large-size shafts. When delivered with special equipment they can operate as the horizontal machining centres with turning, drilling and milling capabilities. They can be equipped with an automatic turret, tool attachments, tool and workpiece measuring systems, controlled C axis, workpiece steady rests.

Main features:

- Machine tool construction based on a rigid bed with hardened guideways
- 4-guideway bed, headstock body made from high-grade cast iron of enhanced mechanical properties
- Carriage travels along two guideways that guarantee precise guidance and a third support guideway
- Bed and carriage guideways hardened to 45 HRC and ground
- A wide variety of optional equipment that expands the machine tool capabilities
- Slidable operator cabin with the control panel

TECHNICAL SPECIFICATIONS		TCE 200 CNC	TCE 250 CNC
Capacity			
Swing over bed	Ø mm	2000	2500
Swing over carriage	Ø mm	1700	2000
Distance between centres (every 1000 mm)	mm	4000 - 25000 *	
Max. weight of workpiece clamped in:			
• chuck	kg	12000	
• centres	kg	80000	
• centres + 1 steady rest	kg	90000	
• centres + 2 steady rests	kg	100000	
Headstock			
Range of continuously variable rotation rates	rpm	0.5 - 160	
Power of main drive motor	kW	150 / 200 *	
Max. torque on spindle	Nm	180000	
Spindle nose	size	Taper 1:10	
Carriage			
Longitudinal travel	mm	turning length	
Cross-wise travel	mm	660 + 450	
Rapid travel in X axis	mm / min	2000	
Rapid travel in Z axis	mm / min	4000	
Z-axis travel drive	type	rack-and-pinion, backlash-free	
Tailstock			
Quill diameter	Ø mm	450	
Quill stroke	mm	200	
Rapid travel of quill	mm / min	300	
Working travel of quill	mm / min	4	
Machine tool overall dimensions and weight, approx.			
• Length	mm	7000 + turning length	
• Width	mm	4350	
• Height	mm	2500	2900
Weight (for 3000 mm of turning length)	kg	70000	75000
Increase in weight for 1000 mm of turning length	kg	3500	

* – optional execution

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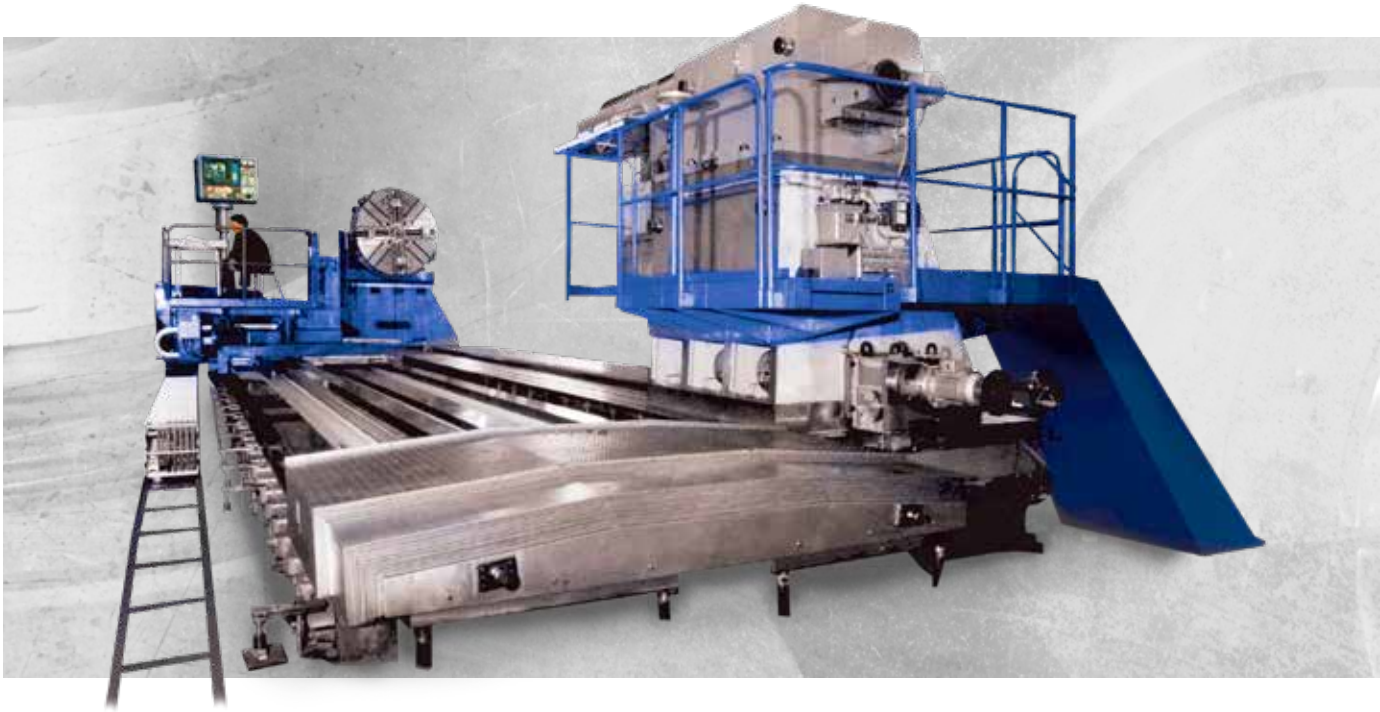
TZL Series

The TZL 420 CNC lathe is designed for workpiece machining in the range of turning in accordance with the machine tool specifications, especially machining of large-size shafts and large-diameter workpieces. When delivered with special equipment it can operate as horizontal machining centre with turning, drilling and milling capabilities. It can be equipped with an automatic tool head, tool and workpiece measuring systems, controlled C axis, workpiece steady rests.



Main features:

- Max. turning diameter Ø 4200 mm
- 4-guideway bed, headstock body made from high-grade cast iron of enhanced mechanical properties
- Carriage and tailstock bed guideways hardened to 45 HRC and ground, additional carriage guideway hardened to 60 HRC
- Cross-slide guideways carburized and hardened to 60 HRC and ground
- Headstock and tailstock on separate plates
- A wide variety of optional equipment that expands the machine tool capabilities
- Slidable operator cabin with a control panel

TECHNICAL SPECIFICATIONS		TZL 420 CNC
Capacity		
Max. turning diameter	Ø mm	4200
Min. turning diameter	Ø mm	700
Distance between centres	mm	5000 / 12000 * / 19000 * / 26000 *
Max. weight of workpiece clamped in:		
• chuck	kg	12000
• centres	kg	80000
• centres + 1 steady rest	kg	90000
• centres + 2 steady rests	kg	100000
Headstock		
Range of continuously variable rotation rates	rpm	0.3 - 100
Power of main drive motor	kW	150 / 200 *
Max. torque on spindle	Nm	180000
Spindle nose	size	Taper 1:10
Carriage		
Longitudinal travel	mm	turning length
Cross-wise travel	mm	1300 + 450
Rapid travel in X axis	mm / min	4000
Rapid travel in Z axis	mm / min	4000
Z-axis travel drive	type	rack-and-pinion, backlash-free
Spindle – C axis *		
Range of continuously variable rotation rates	rpm	0.3 - 42
Positioning rotation rates	rpm	0.2 - 2
Max. torque on spindle	Nm	36000
Positioning accuracy	deg.	0.001
Tailstock		
Quill diameter	Ø mm	450
Quill stroke	mm	200
Rapid travel of quill	mm / min	300
Working travel of quill	mm / min	4
Machine tool overall dimensions and weight, approx.		
• Length	mm	7000 + turning length
• Width	mm	4350
• Height	mm	3500
• Weight		
- for 3000 mm turning length	kg	100000
- for 5000 mm turning length	kg	138500
- for 19000 mm turning length	kg	177000
- for 26000 mm turning length	kg	215500

* – optional execution

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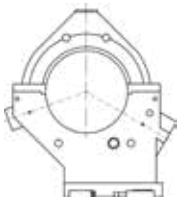
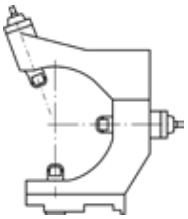
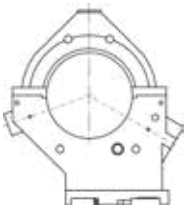
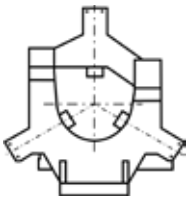
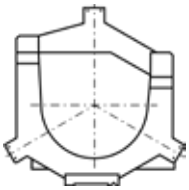
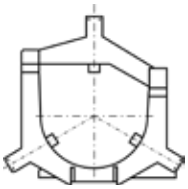
Steady rests for lathes

Name	Diameters	Application	Steady rest
Roller steady rest	Ø 250 - 600 mm (TZL 420 CNC, TCF) Ø 600 - 1000 mm (TZL 420 CNC, TCE) Ø 20 - 160 mm (TRP 63, TRP 72) Ø 40 - 400 mm (TRP 93, TRP 110) Ø 160 - 380 mm (TRP 63, TRP 72) Ø 400 - 600 mm (TRP 93, TRP 110) Ø 100 - 400 mm (TCF) Ø 400 - 800 mm (TCF) Ø 700 - 1100 mm (TCF) Ø 250 - 650 mm (TCE) Ø 50 - 450 mm (TCM) Ø 450 - 750 mm (TCM) Ø 450 - 950 mm (TCM)	• TZL 420 CNC • TRP Series • TCF Series • TCE Series • TCM Series	
C-type roller steady rest	Ø 150 - 700 mm (TZL 420 CNC, TCF) Ø 400 - 800 mm (TZL 420 CNC, TCF) Ø 700 - 1000 mm (TZL 420 CNC, TCF)	• TZL 420 CNC • TCF Series	
Hydrostatic steady rest	Ø 600 - 1000 mm (TZL 420 CNC, TCE)	• TZL 420 CNC • TCE Series	
Open-type roller steady rest	Ø 1000 - 1350 mm (TCE) Ø 1000 - 1800 mm (TCE) Ø 1100 - 1600 mm (TCF)	• TCE Series • TCF Series	
Tilting-type roller steady rest	Ø 50 - 450 mm (TRB) Ø 450 - 750 mm (TRB) Ø 450 - 950 mm (TRB)	• TRB Series	 Ø 50 – 450 mm  Ø 450 – 750 mm  Ø 450 – 950 mm

Notes:

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