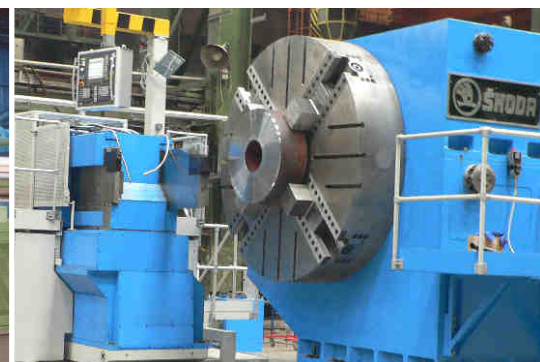


UNIVERSAL CENTRE LATHES



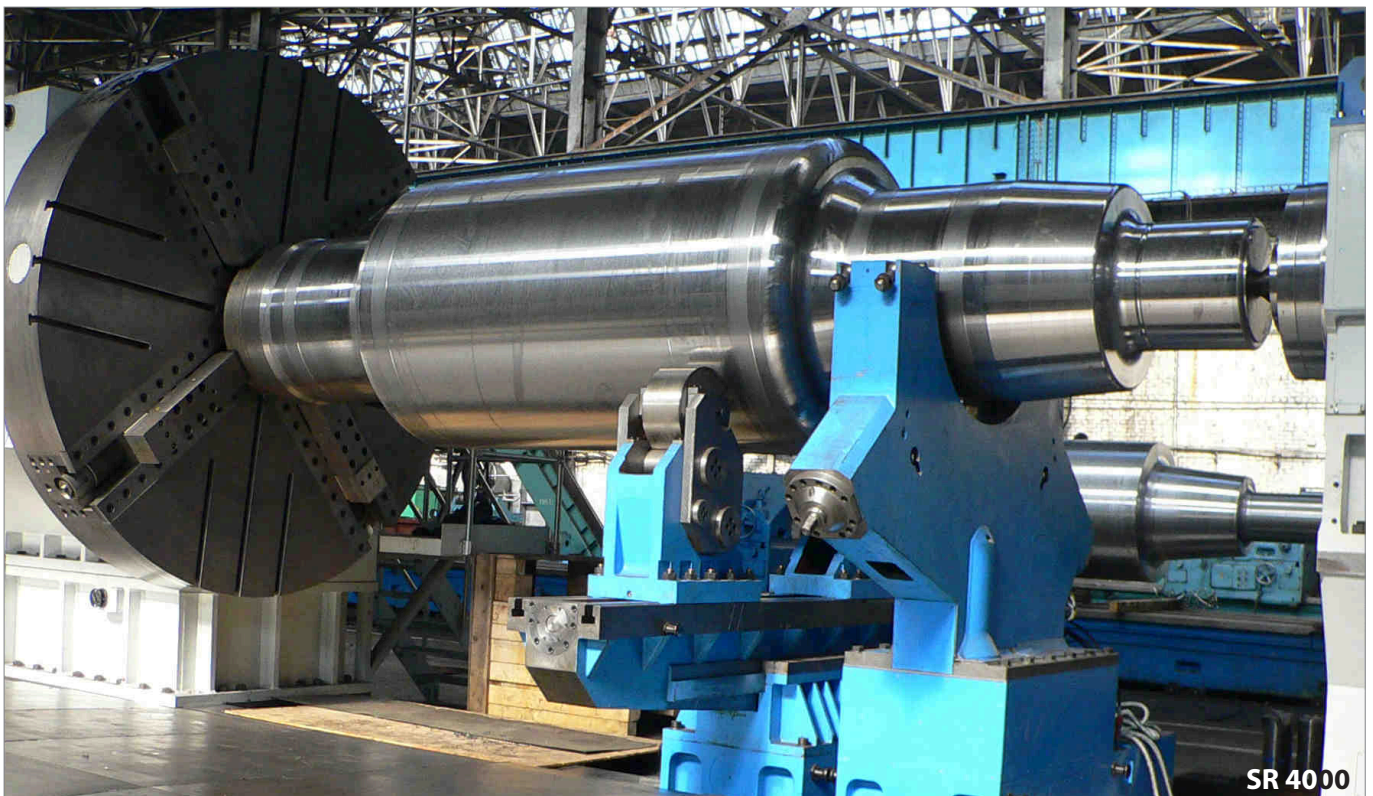
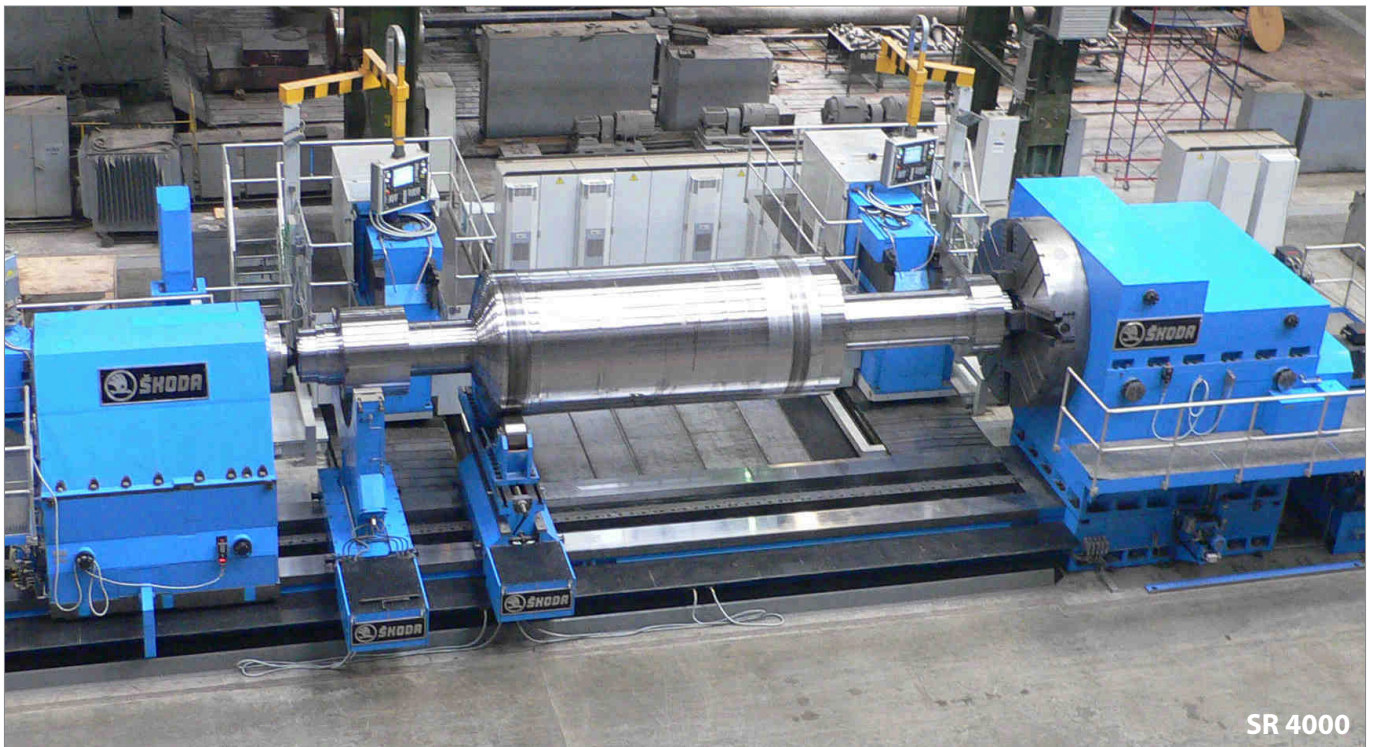
TRADITION AND EXPERIENCE



ŠKODA machine tools of different type and variant have been present in the world market for over 100 years. Among them were a lot of special high-precision machines of outstanding operational reliability. At all times, horizontal lathes were included in the standard company product scope.

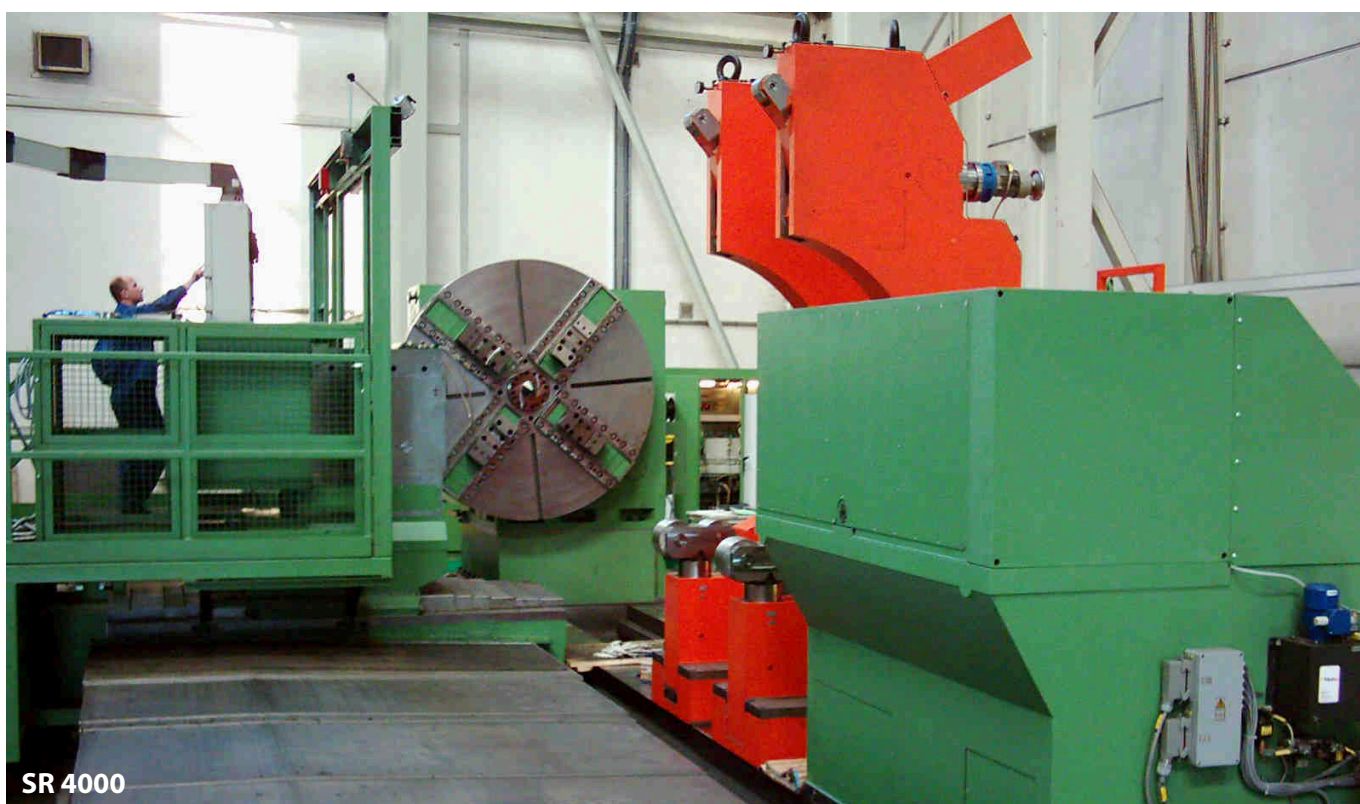
The present series of heavy horizontal centre lathes marketed under the brand of ŠKODA SR consists of machines of modern design intended for efficient and precision working of axial workpieces, representing the best combination of maximum stability, high precision and high cutting power. The machines are operated to the customer satisfaction in a number of manufacturing industry branches such as steam and gas turbines, electric generators, wind-mill power plants, rolling mills, paper manufacturing, large crankshafts, transport technology and oil winning and refining industries.

MACHINE DESCRIPTION



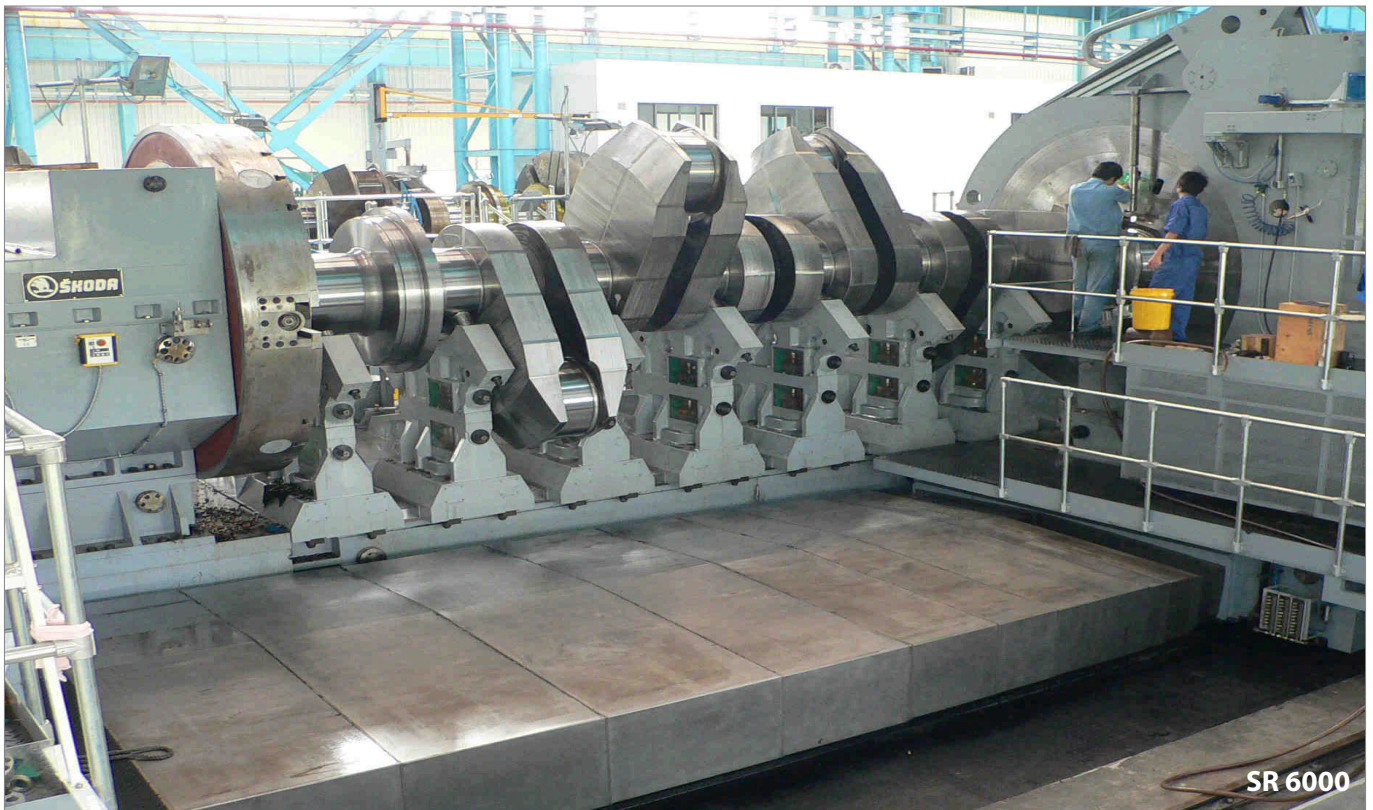
The sophisticated modular machine construction makes possible work station design optimised to meet the customer requirements. The key machine parts are made of grey iron. The machine bed is designed with four ways (SR 1000 is equipped with a three-way bed). The spindle head is temperature-stabilised. The spindle is seated in rolling-contact bearings or, in cases of high precision requirement, in hydrostatic bearings. The workpiece-clamping plate includes four or eight independently controlled chucking jaws. The carriage by-passes both the tailstock and the workpiece rests. The longitudinal travel is facilitated by means of two pre-stressed pinion wheels (a master-slave system), the travel in the cross-wise direction by means of a ball screw and pre-stressed nut. The headstock travels along the two rear bed ways. The machine is equipped with a control system selected by the customer (SINUMERIK, FANUC).

TECHNOLOGICAL CAPABILITIES



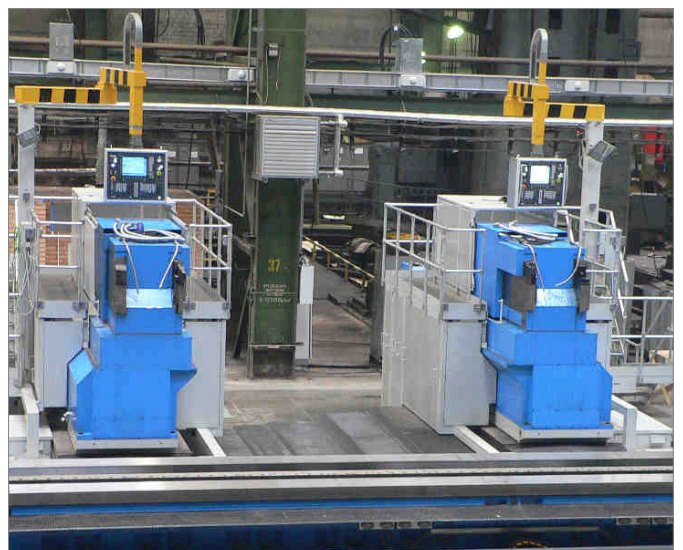
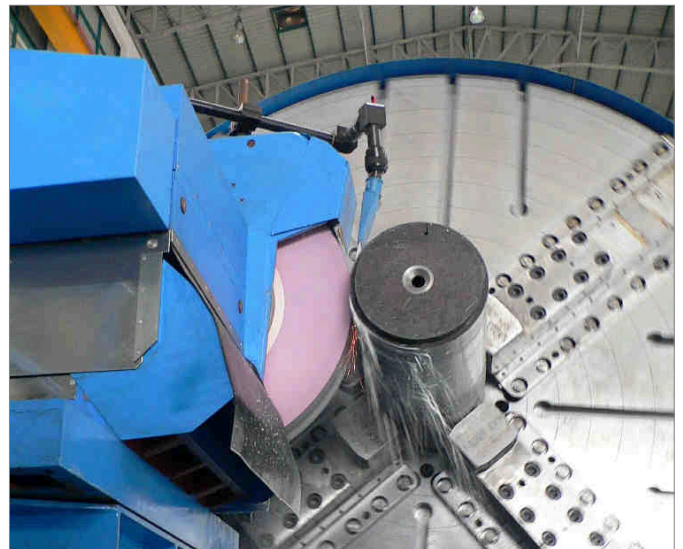
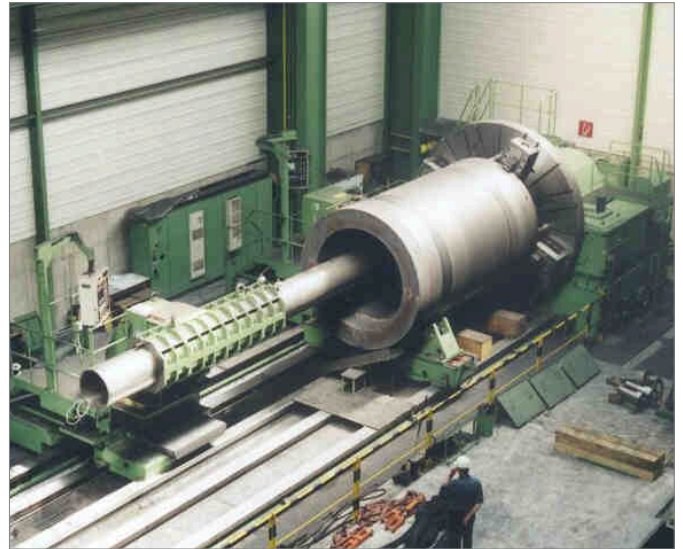
Lathes of the ŠKODA SR series are intended for working of large axial workpieces using various machining technologies. Provided the necessary technological accessories have been installed on the machine, SR lathe may perform any of the following operations: turning of external surfaces using the high power of the main drive for both rough machining and high-precision finishing operations, turning of internal surfaces by means a boring bar provided with a vibration absorber, power grinding of both external and internal surfaces, milling of external cylindrical surfaces, milling and boring in any angular direction, cutting of turns of any lead parameters and deep hole boring.

CRANKSHAFT MACHINING



The ŠKODA SR lathes intended for machining of heavy crankshafts of low-speed engines are equipped with two carriages. One carriage is of the lamellar type (for machining of centre pins) and the other bears a planetary fixture for machining of the crankshaft journals. The lathe is further equipped with workpiece rests, one for each crankshaft journal section. Highly efficient machining of crankshafts of four-stroke internal combustion engines is achieved using impact milling by two milling towers under controlled crankshaft rotation (axis C).

MACHINE ACCESSORIES

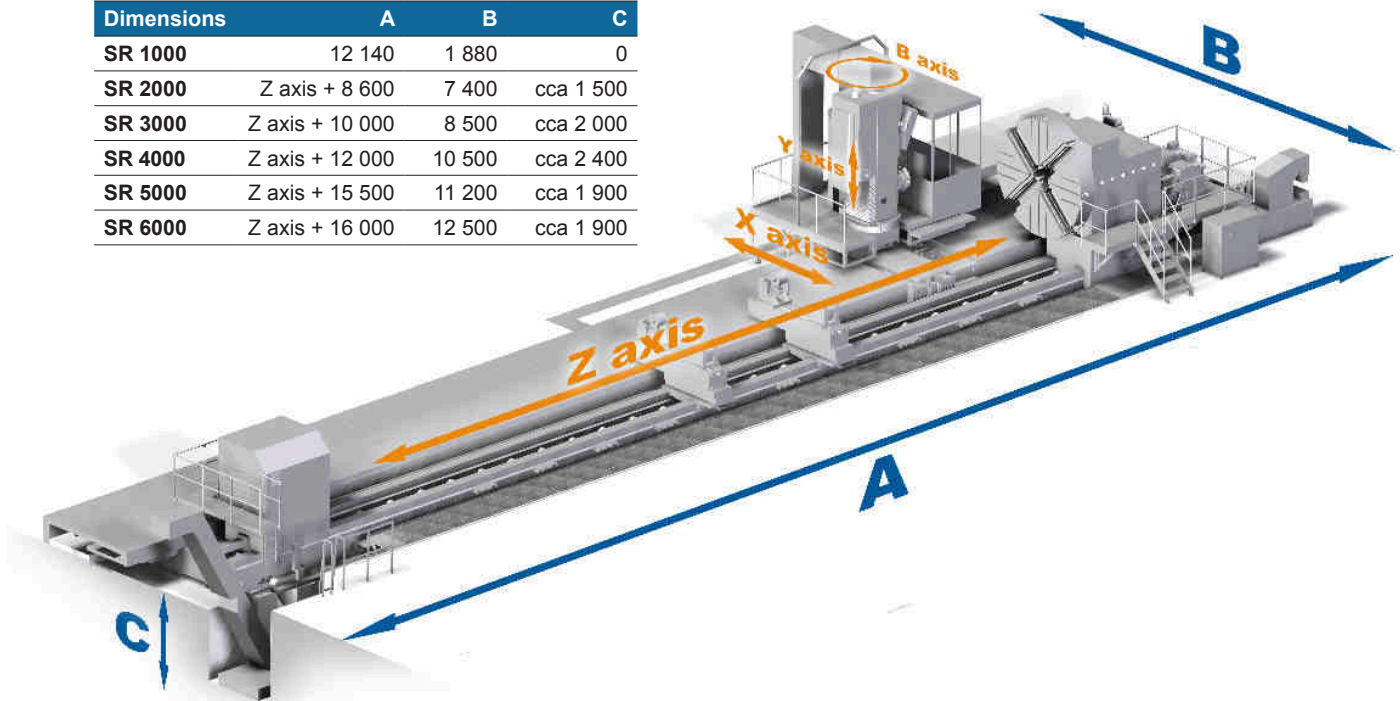


Application of suitable accessories may significantly extend the technological capabilities and increase the labour productivity of the basic machine. Such accessories include additional carriage, automated turret heads, boring bars, grinding equipment for work on internal and external surfaces, deep-hole boring equipment, milling equipment, work rests, clamping plates including various powered features, tool and workpiece dimension measuring probes, chip conveyors and tool cooling systems.

TECHNICAL SPECIFICATIONS

Machine	SR 1000	SR 2000	SR 3000	SR 4000	SR 5000	SR 6000	
Swing over carriage (mm)	1 000	1 000 1 300 1 500	1 300 1 600 2 000	2 000 2 500 3 000	3 000 3 400 3 600	3 600 4 200 4 800	
Swing over bed (mm)	1 250	1 250 1 600 1 900	1 600 1 900 2 250	2 500 3 000 3 500	3 000 3 400 3 600	3 600 4 200 4 800	
Centres height (mm)	630	780 930 1 100	950 1 100 1 300	1 450 1 700 1 950	1 550 1 750 1 850	1 850 2 150 2 450	
Distance between centres (mm)	6 000	3 000 - 20 000	4 000 - 20 000	4 000 - 20 000	4 000 - 20 000	10 000 - 30 000	
Max. workpiece weight (t) - no steadies	16	25	56	100	250	350	
Aggregate guideway field width (mm)	1 400	1 550	2 500	3 150	min. 4 300	min. 5 140	
Bed height (mm)	710	710	750	900	800	800	
Number of guideways	3	4 + 1	4	4	2 + 2	2 + 2	
Cross-slide travel (mm)	600	700	1 000	1 250	1 600	1 750 / 2 200	
Headstock		16	25	56	100	160	250
Weight of workpiece between centres (t)		16	25	56	100	160	250
Diameter in front bearing (mm)		260	300	400	600	710	800
Clamping plate diameter (mm)		800 1 000 1 200	1 000 1 200	1 600 2 000	1 600 2 000 2 500	2 000 2 500 3 000	2 500 3 000 4 200
Spindle speed range (rpm)		1 - 800	1 - 700	1 - 400	1 - 250	1 - 200	1 - 120
Max. torque (kNm)		12	35	85 / 140	85 / 140	270	270
Power (kW)		37 / 51	55 / 71 / 95	55 / 71 / 95 140 / 190	55 / 71 / 95 140 / 190	190	190
Axis C - speed range (rpm)		0,025 - 2	0,016 - 2	0,007 - 2		0,004 - 2	
Axis C - torque (kNm)		10	25	60 / 90	60 / 90	150	150
Tailstock		16	25	56	100	160	250
Quill diameter (mm)		300	320	450	560	700	850
Quill extension (mm)		250	250	250	250	250	250

Dimensions	A	B	C
SR 1000	12 140	1 880	0
SR 2000	Z axis + 8 600	7 400	cca 1 500
SR 3000	Z axis + 10 000	8 500	cca 2 000
SR 4000	Z axis + 12 000	10 500	cca 2 400
SR 5000	Z axis + 15 500	11 200	cca 1 900
SR 6000	Z axis + 16 000	12 500	cca 1 900





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