STANKOMASHSTROY

ST16k20 Series conventional lathe

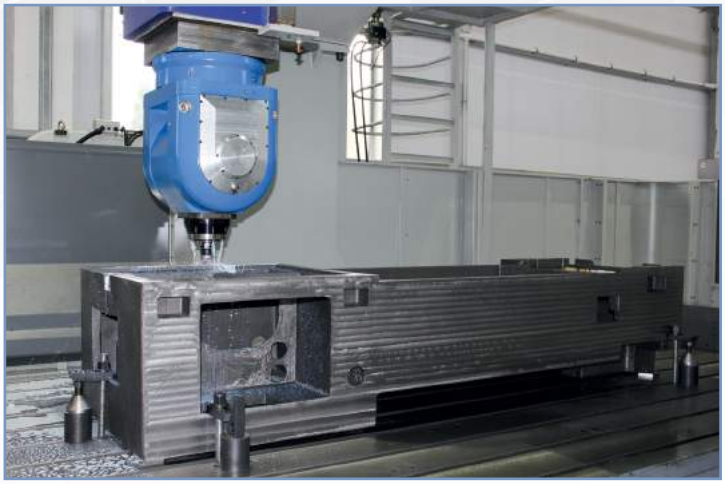
StankoMashStroy company group has been successfully working in the metalworking industry market of Russia and CIS countries for over 10 years; it is among the 10 largest suppliers of high-productive metal-working equipment. Today, the priority of StankoMashStroy, within the framework of import substitution program, is production of its own equipment that meets all modern quality standards. The whole production cycle is carried out on the premises of the company by its employees. It helps to reduce the time of delivery and the final price of the finished product. The current technology is constantly improved and modernized by obtaining the foremost developments from our foreign partners. Moreover, we provide metal-machining services, and offer all the available equipment for rent at the client's premises.

The main goals of the company:

- revival of machine-building industry in Russia;
- production of metal-cutting machines from universal machines to machining centers;
- providing the best guarantee and post-guarantee service;
- implementation of difficult projects due to a complex approach to tasks.

ST16k20/ST16k20B/ST16k25/ST16k25B series conventional lathe

The machines are modern versions of 16k20 and 16k25 machines and can be applied in different branches of industry for various machining operations and different materials: outer and inner diameter machining; outer, inner, metric, inch, modular, worm threading; drilling, boring, reaming. Strong structure of the cast bed and its hardened precision-ground guideways provide professional machining and reliable stable work. Due to high-precision spindle bearings, the structure of the spindle unit and the whole machine is especially rigid. This allows heavy-duty machining, fully using the motor power. The machines are manufactured using advanced technology, they are easy to operate and keep precision for a long time. Hardened and precision-ground helical gears of the main spindle improve performance, insure quiet operation and long operating life of the machine and smoothness of gear shifting.

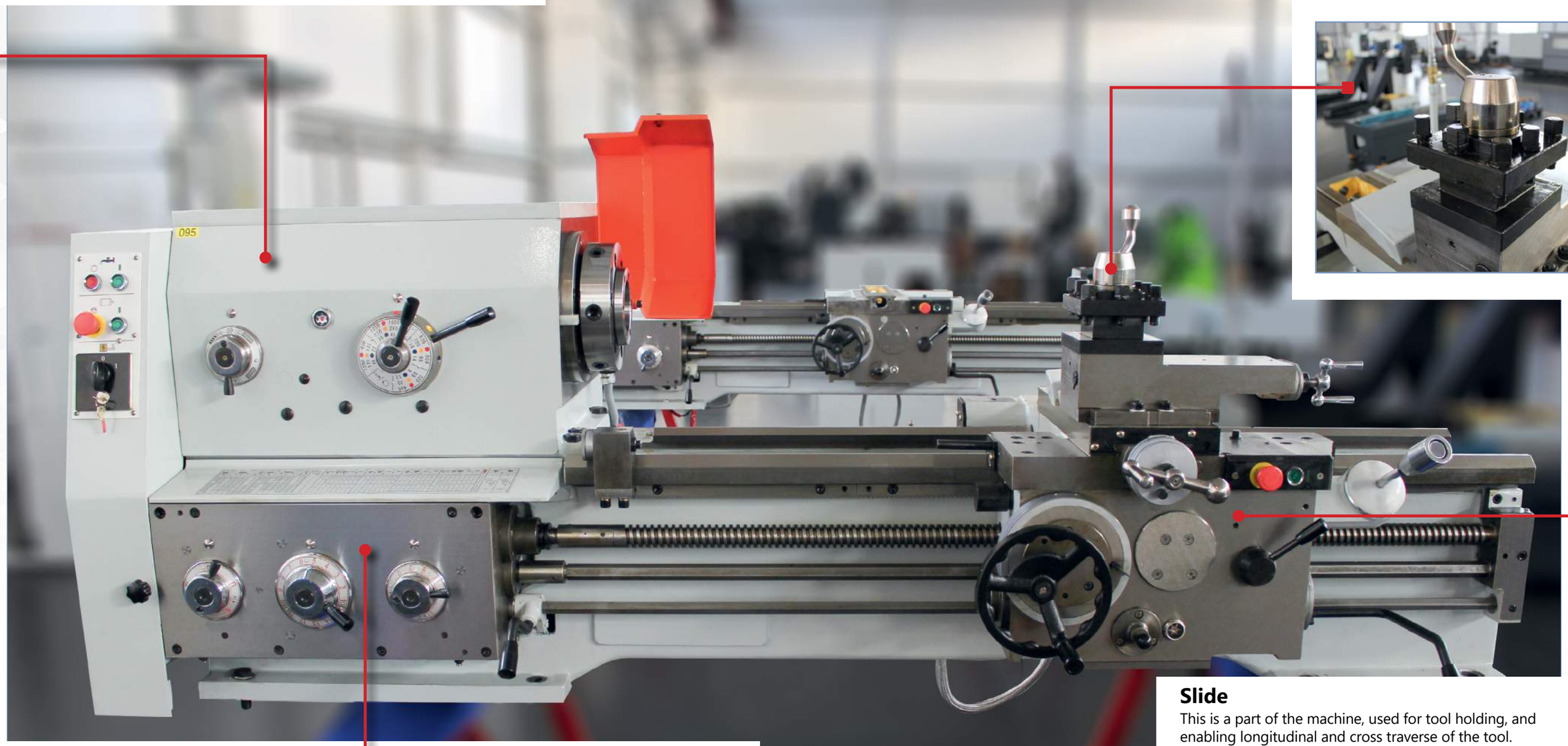


Specification

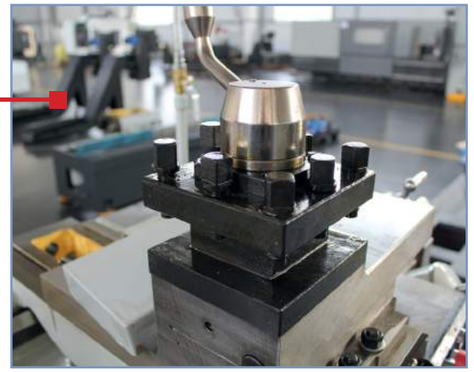
Specifications / Model	ST16k20	ST16k20B	ST16k25	ST16k25B
Maximum swing over bed, mm	Ø400	Ø400	Ø500	Ø500
Maximum swing over cross-slide, mm	Ø220	Ø220	Ø300	Ø300
Maximum length of the workpiece, mm	750/1000	750/1000	1000/1500	1000/1500
Maximum turning length per one set, mm	570/820	570/820	820/1320	820/1320
Bore diameter, mm	Ø52	Ø82	Ø52	Ø82
Spindle taper	MT. №6	Ø90 1:20	MT. №6	Ø90 1:20
Spindle nose	ISO 702/III № 6 bayonet ring fixing type	B ISO 702/II № 8 cam-lock type	ISO 702/III № 6 bayonet ring fixing type	B ISO 702/II № 8 cam-lock type
Spindle speed, rpm	9 – 1600			
Number of speeds	24			
Maximum spindle torque, N-m	1400			
Number and range of longitude feeds				
Standard	0.063-2.52 mm/rev, 0.0023-0.0937 inch/rev			
Decreased	0.028-0.056 mm/rev, 0.0010-0.0021 inch/rev.			
Increased	2.86-6.43 mm/rev, 0.1064-0.2392 inch/rev			
Number and range of cross feeds				
Standard	0.027-1.07 mm/rev 0.0011-0.0404 inch/rev			
Decreased	0.012-0.026 mm/rev 0.0004-0.0010 inch/rev			
Increased	1.21-2.73 mm/rev 0.0457-0.1032 inch/rev			
Anzahl und Bereich der Quervorschübe				
Metric thread, mm	0.5-224			
Inch thread	72-1/8 tpi			
Module thread	0.5-112			
Worm thread	56-1|4 DP			
Longitude rapid traverse, rpm	4.5			
Cross rapid traverse, m/min	1.9			
Thread pitch of the lead screw, mm	12			
Distance from the spindle to the tool base	28			

Specifications / Model	ST16k20	ST16k20B	ST16k25	ST16k25B
Recommended size of the tool cross section, mm	25x25			
Compound rest angle	±90º			
Maximum travel of the longitude slide, mm	145			
Maximum travel of the carriage, mm	320			
Maximum cutting force, N	12000			
Maximum feeding force, N	3500			
Tailstock quill diameter, mm	75			
Tailstock quill taper	MT № 5			
Maximum travel of the tailstock quill, mm	150			
Cross travel of the tailstock, mm	±15			
Type of the main motor type	5AMX132S4У3			
Power of the main motor, kW	7,5			
Speed of the main motor, rpm	1450			
Type of the slide motor	2AOS			
Power of the slide motor, kW	0,250			
Speed of the slide motor, kW	1360			
Type of the coolant pump	centrifugal			
Type of the coolant pump motor	АИР56 А2у2			
Power of the coolant pump motor, kW	0,180			
Liquid flow at the end of the coolant pump, l/min	25/32/50			
V-belt	B-Serie	B-Serie	B-Serie	B-Serie
Voltage, V	380			
Frequency, Hz	50			
Machine net weight, kg	2800/3000	2800/3000	2900/3200	3000/3300
Machine length, mm	2210/2560	2210/2560	2560/3060	2560/3060
Machine width, mm	1020			
Machine height, mm	1350			

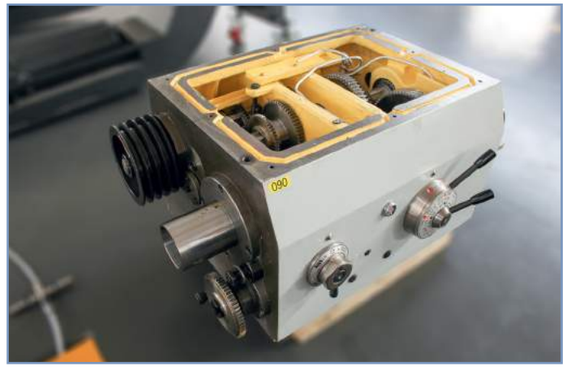
Bed assembly with tailstock and apron



Tool holder



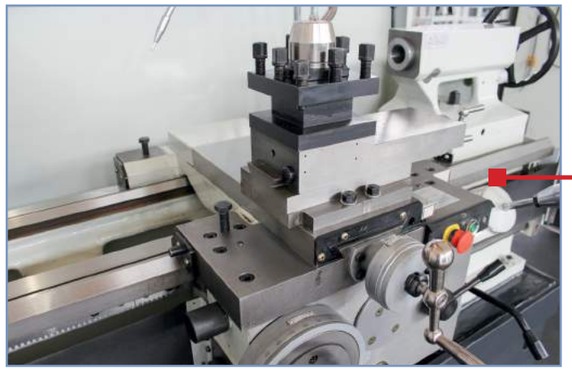
Headstock



Feed box

Slide

This is a part of the machine, used for tool holding, and enabling longitudinal and cross traverse of the tool. This unit of the machine is highly rigid, which reduces occurrence of errors caused by elastic strain of the slide system during cutting.



Frame

Solid cast base. Mass from 1000 to 1200 kg depending on length of the machine.

Gear Box

The gear box is used for reducing the speed of spindle rotation. It has 24 speed steps in the range from 9 to 1600 rpm. All the gears are heat-hardened, which increases their wear resistance. The lubrication system insures good cooling and fiction reduction, stabilizing errors caused by thermal deformation of the headstock during cutting.

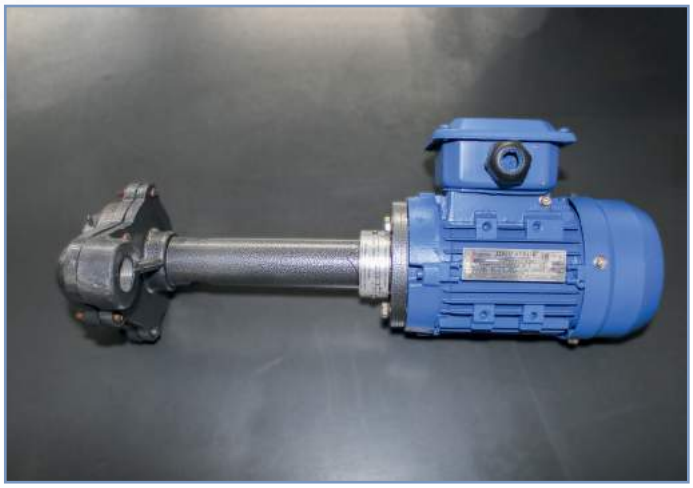
Feed Gear Box

Ensures the travel of the slide and tool on the machine guide ways with the set speed. This part is used to set the constant feeding rate while cutting or tapping.

Motor

Power Capacity 7,5 kWt

Pump



DRO

DRO is applied on ST16k20 Series, as an option for the precision control of the longitudinal and cross tool travel. Thus, the operator can perform works with accuracy equals of DRO resolution.

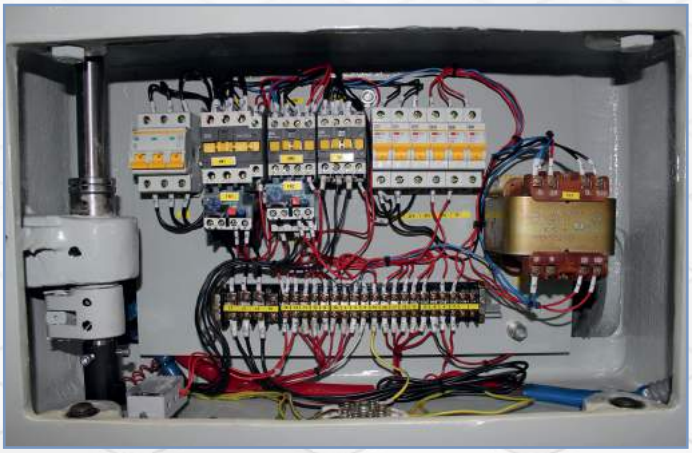
Tailstock

Used for clamping rotary cutting tool and as an additional support, applied with dead or live centers, while hard cutting.

Steady Rest

Used as an additional support while cutting long work pieces to reduce elastic strain.

Electrical cabinet



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