STANKOMASHSTROY

MACHINE TOOLS

StankoMashStroy Co.,Ltd

StankoMashStroy is a leading machine tools manufacturer supplying turning machines worldwide. The company's headquarter, as well as production facilities for casting, machining and assembly, are located in Penza, Russia.

StankoMashStroy has been successfully working in the Russian machine tools market for over a decade. Two years ago the company started to supply its products to CIS and European countries, including Germany, Latvia, Lithuania, Italy and others.

Our product line-up includes machines to match any customer's requirement from flat bed universal and CNC lathes to slant bed CNC turning centers equipped with live tools. All models are CE certified. The quality management system complies with ISO 9001.

StankoMashStroy is a reliable partner providing quick technical support, and constantly improving quality and machine efficiency. Fulfilling the customers' needs is our top priority.

STANKOMASHSTROY

en.16k20.ru

Content

Conventional lathe ST16k20 series

The machine is the universal equipment for precision machining of products in full accordance with the international quality standards. The powerful design of the cast bed, the hardened guideways ensure professional machining and reliable functioning. The high precision bearings are applied as the spindle support. Therefore the machine has general high rigidity and the increased rigidity of spindle unit that allows to machine with the high cutting force, completely using the drive power. The machine is high tech, easy-to-work, keeps accuracy for a long period of time. Helical gears of a gear-box improve the working capacity, provide noiselessness of work, durability of the machine and smoothness of switching.

Machines of this group can be equipped with DRO digital read out device with linear scales that considerably simplifies achievement of the minimum tolerance while cutting.

Specifications / Model	ST16k20	ST16k25 ST16k25*	ST16k25B ST16k25B*	ST16k25S ST16k25S*
Maximum swing over bed, mm	Ø400	Ø500	Ø500	Ø500
Maximum swing over cross-slide, mm	Ø220	Ø300	Ø300	Ø300
*Maximum swing over gap, mm	Ø630	Ø710	Ø710	Ø710
*Maximum length over gap, mm	240	240	240	240
Maximum length of the workpiece, mm	750	1000/1500	1000/1500/2000	1000/1500/2000
Maximum turning length per one set, mm	570	820/1320	820/1320/1820	820/1320/1820
Bore diameter, mm	Ø52	Ø52	Ø82	Ø105
Spindle taper	MT. №6	MT. №6	Ø90 1:20	Ø113 1:20
Spindle nose	ISO 702/III № 6 bayonet ring fixing type	ISO 702/III № 6 bayonet ring fixing type	B ISO 702/II № 8 cam-lock type	B ISO 702/II № 8 cam-lock type
Spindle speed, rpm	9 – 1600			36 – 1600
Number of speeds	24			16
Maximum spindle torque, N-m	1400			

Specifications \ Model	ST16k20	ST16k25 ST16k25*	ST16k25B ST16k25B*	ST16k25S ST16k25S*
Number and range of longitude feeds				
Standard	0.063-2.52 mm/rev, 65 sorts (0.0023-0.0937 inch/rev)			0.063-2.52 mm/rev, 65 sorts (0.0023-0.0937 inch/rev)
Decreased	0.028-0.056 mm/rev, 13 sorts (0.0010-0.0021 inch/rev)			
Increased	2.86-6.43 mm/rev, 15 sorts (0.1064-0.2392 inch/rev)			
Number and range of cross feeds				
Standard	0.027-1.07 mm/rev, 65 sorts (0.0011-0.0404 inch/rev)			0.027-1.07 mm/rev, 65 sorts (0.0011-0.0404 inch/rev
Decreased	0.012-0.026 mm/rev, 13 sorts (0.0004-0.0010 inch/rev)			
Increased	1.21-2.73 mm/rev, 15 sorts (0.0457-0.1032 inch/rev)			
Number and range of threading				
Metric thread, mm	0.5-224 mm, 48 sorts			1-14 mm, 22 sorts
Inch thread	72-1/8 tpi, 46 sorts			28-2 tpi, 25 sorts
Module thread	0.5-112, 42 sorts			0.5-7, 18 sorts
Worm thread	56 - 1/4 DP, 45 sorts			56 - 4 DP, 24 sorts
Longitude rapid traverse	4.5 rpm			
Cross rapid traverse	1.9 m/min			
Thread pitch of the lead screw, mm	12			
Distance from the spindle to the tool base	28			
Recommended size of the tool cross section, mm	25x25			
Compound rest angle	+90°/-30°			
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	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 (AIR56 A2u2)			
Power of the coolant pump motor, kW	0,180			
Liquid flow at the end of the coolant pump, l/min	50			
V-belt	B-Serie	B-Serie	B-Serie	B-Serie
Voltage, V	380			
Frequency, Hz	50			
Machine net weight, kg	2800	2900/3200	3000/3300/3800	3100/3400/3900
Machine length, mm	2210	2560/3060	2560/3060/3560	2560/3060/3560
Machine width, mm	1020			
Machine height, mm	1350			1400

Frame

Solid cast base. Weight from 1000 to 1400 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, that 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

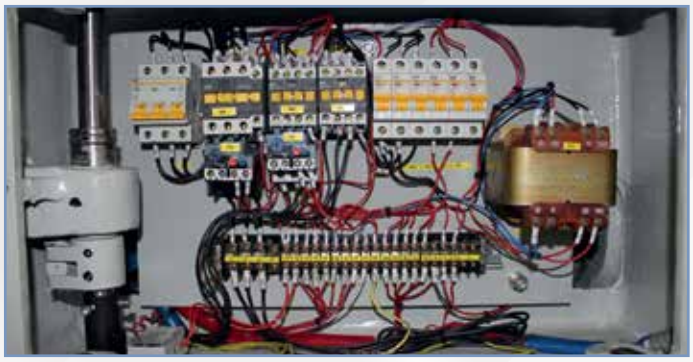
Power Capacity 7,5 kWt

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.

Electrical cabinet

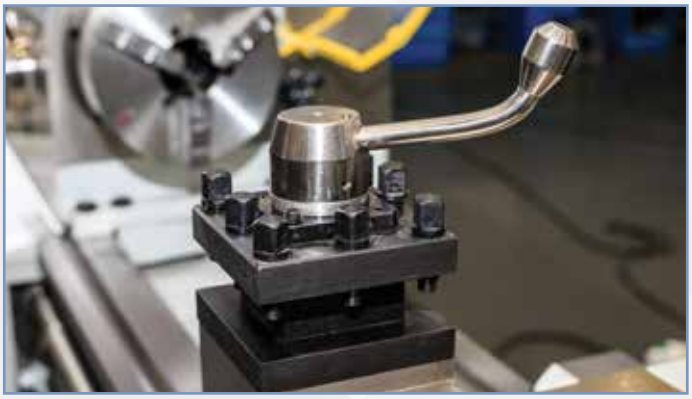


Headstock

There are spindle and gearbox in the headstock. 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 that increases their wear resistance. The lubrication system insures good cooling and fiction reduction, stabilizing errors caused by thermal deformation of the headstock during cutting.

Tool holder

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 that reduces occurrence of error caused by elastic stain of the slide system during cutting.



Multi-Fix

Multi-Fix is an optional accessory, it is used for quick tool change saving current settings. This tool holder is more rigid than the standard one.

CNC lathe ST16A25

Machine are intended for turning of external and internal surfaces of workpiece like rotation bodies with a stepped and curved profile in one or several passes in the closed semi-automatic cycle simultaneously along two coordinate axes. It is possible to make turning, boring, conic and shaped surfaces processing, face cutting, grooving, thread cutting, processing of inner surfaces with the center tools. CNC lathe has an easy access to the movable CNC control panel. The main parts that can be made on machine are covers, flanges, bushings, rollers, stubs, small bodies, cups, half-coupling and etc. Machine has H accuracy class, high efficiency and are is one of the best offers based on the price to quality ratio.

Parameters	ST16A25
Maximum swing over bed, mm	500
Maximum swing over cross-slide, mm	280
Maximum length of the workpiece, mm	870
Chuck diameter, mm	250
Bore diameter, mm	77
Spindle nose	ISO702/II D8
Number of positions in the turret	6/8
Size of the tool cross section, mm	25x25
X – axis travel, mm	230
Z – axis travel, (with tailstock/without tailstock), mm	650/900
Power of spindle drive, kW	7,5
CNC system	Fanuc 0i-TF(5) / Siemens 808D

Parameters	ST16A25
Maximum swing over bed/ cross-slide, mm	500/280
Maximum length of workpiece, mm	870
Spindle nose	ISO702/I A2-8
Maximum weight of workpiece in the chuch, kg	200
Maximum weight of workpiece between centers, kg	460
Spindle speed, rpm	21-1620
step 1, rpm	21-210
step 2, rpm	66-660
step 3, rpm	162-1620
Maximum torque of spindle N.m.	800
Maximum rapid speed, m/min	X-axis 6 Z-axis 12
Lead screw pitch, mm	X (direction) – 5 Z (direction) – 6
Tool post travel, mm	X: 275 Z: 900
Tailstock quill diameter, mm	75
Taper of tailstock quill MT No.	Morse MT5
Maximum travel of tailstock quill, mm	150
Cross movement of tailstock, mm	+ 15
V-belt: - name /quantity, pc	B 2060 GOST 1284.1-89 / 4
Positioning accuracy, mm	Z – 0,04 X – 0,03
Repeat positioning accuracy, mm	Z – 0,016 X – 0,012
Number of axes	2
Axes type	Linear (X,Z)
Coolant system pump:	
- power, W	180
- capacity, l/min	50
Power supply requirements	3-phase of AC current, ground
Voltage, W	380
Frequency, Hz	50
Maximum height, mm	1790
Machine weight: Net/gross, kg	2950/3100

Hydraulic chuck

The main advantages of the hydraulic chuck are operability and decrease of auxiliary time that increases efficiency of the machine, and as a result reduces payback time.

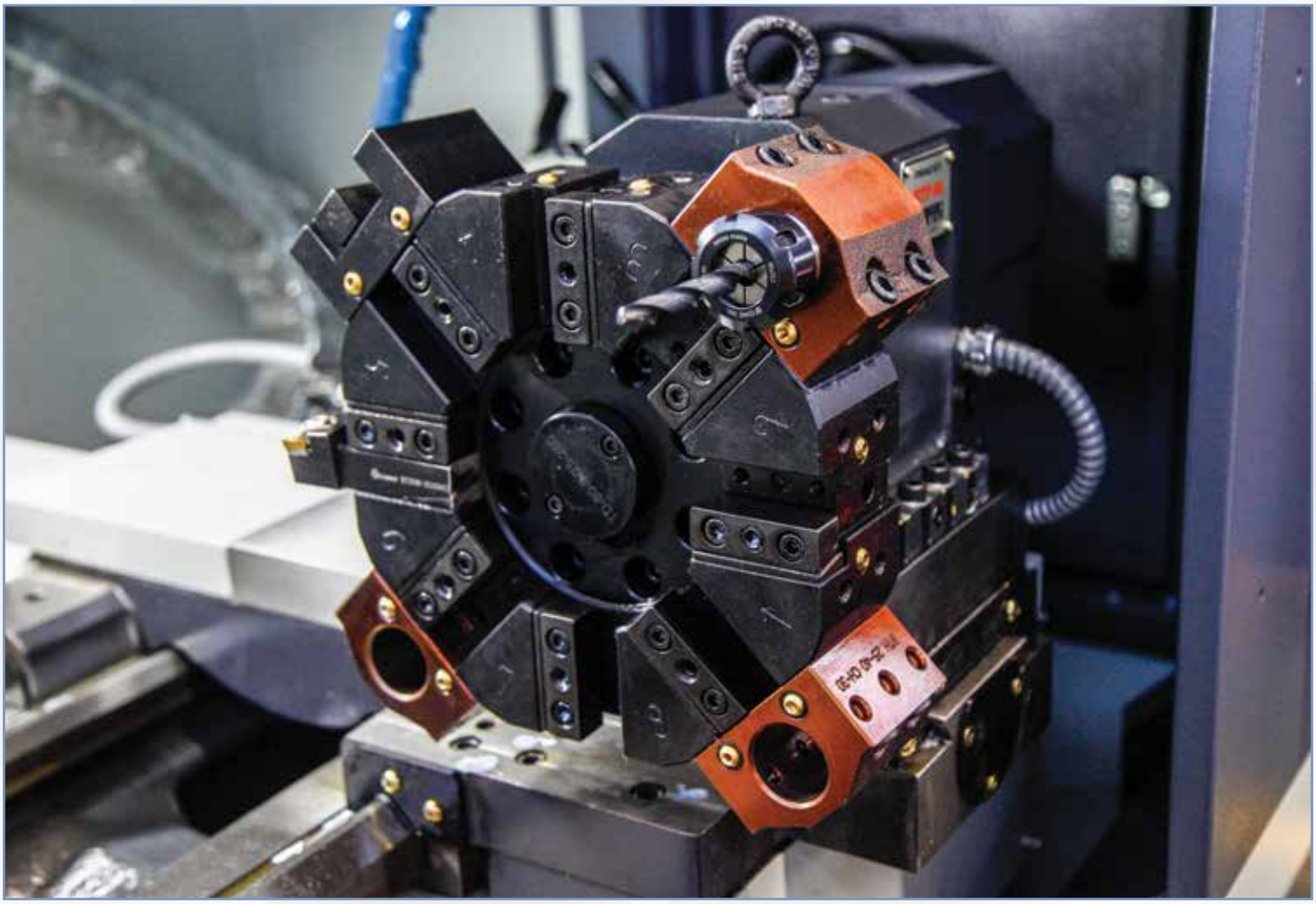
Electrical cabinet

Electrical cabinet can be made under customer request from the components of any manufacturer, including Russian.

Turret

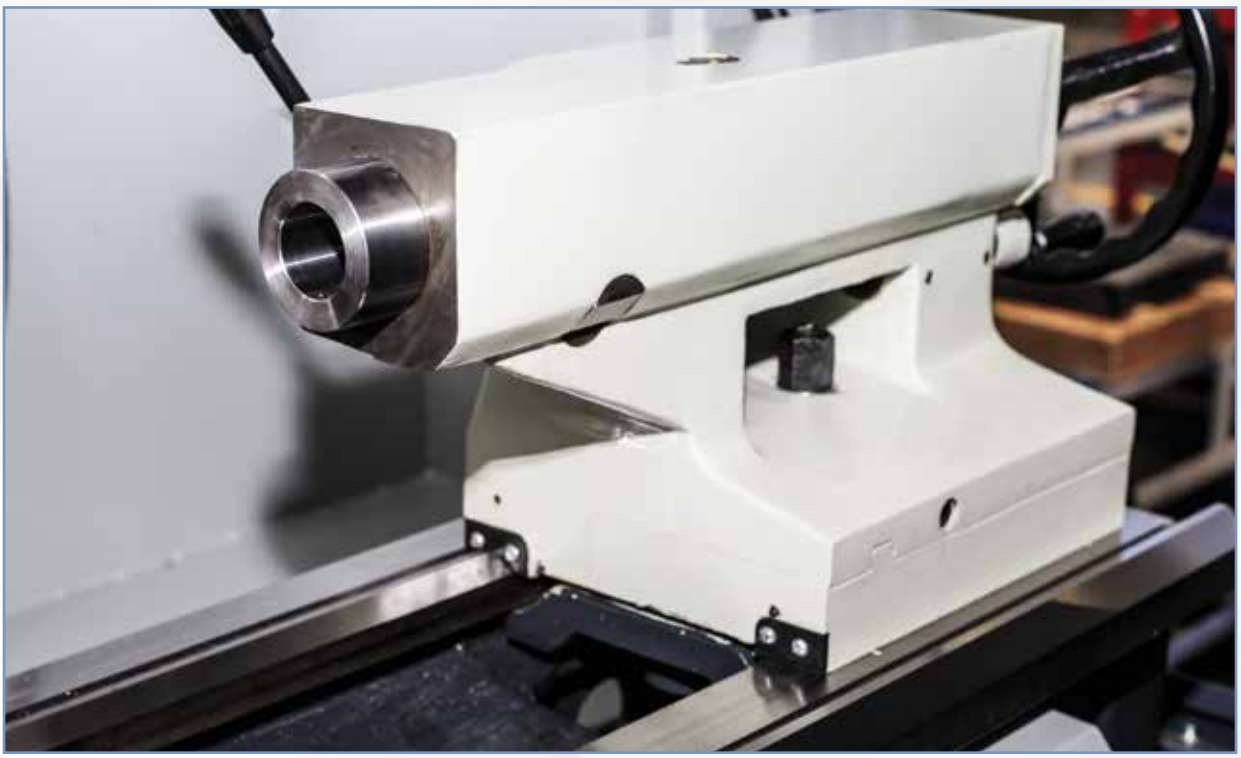
Lathe standard accessories include six-position turret which provides great speed of tool change, having an optimized cost at the same time. The adopted turret clutch provides quick and smooth tool indexing.

On customer request, the standard turret can be replaced by a well-known Pragati turret head, which has widespread usage on new and upgraded equipment. Eight-position turret head expands lathe capacity and allows to supply coolant through the tool holders directly to cutting area.



Bed

The bed is cast from gray cast iron of the SCh30 brand, has the advanced rigidity. Machining and hardening of guidways is arranged on the manufacturing area of the «StankoMashStroy» company.



CNC system

CNC lathe has an easy access to the movable CNC control panel. Machine can be equipped with CNC systems **Fanuc**, **Siemens**, GSK and other manufacturers including Russian.

CNC turning center ST25L/ST25LM

CNC turning center ST25 series is the joint development of the "StankoMashStroy" company and the Korean company SMEC. Machine doesn't have analogs at the Russian market.

ST25 series machine with numerical program control can carry out complex machining by means of various tools. The turning center can be equipped with 12-position turret, and all 12 positions can be used for the driving tool simultaneously that significantly expands technological capabilities and increases labor productivity.

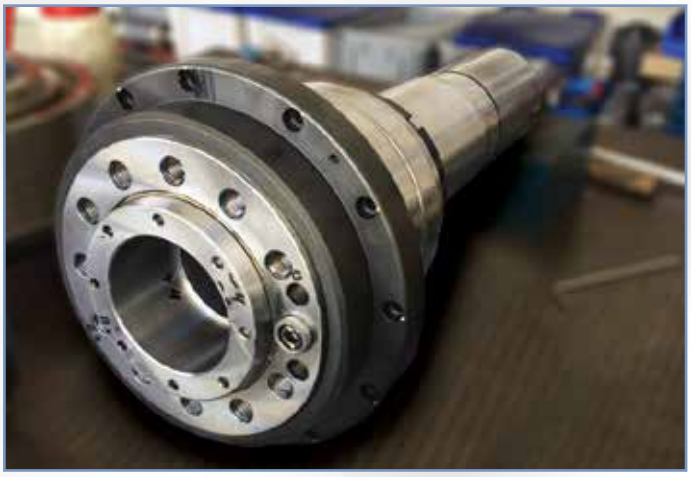
45 degree slant bed provides the sufficient strength and rigidity at the extreme loadings because of high-performance processing. The guideways carry high loads. Strength margin allows the ballscrew works both in the high speeds, and in the mode of power turning.

Parameters	ST25L	ST25LM
Swing over bed, mm	520	650
Swing over cross slide,mm	350	480
Maximum machining diameter, mm	380	365
Maximum machining length, mm.	1050	1020
Chuck size	10" / 250 mm	
Maximum bar diameter, mm	76	
CNC system	Fanuc 0i TF	
M aximum spindle motor power, kW	22	

Parameters		ST25L	ST25LM
Travel	X/Z axis, mm	200/1090	225/1040
Spindle	Spindle speed rpm	35-3500	
	Spindle nose	JIS A2-8	
	Bore diameter, mm	Ø 86	
	Spindle indexing (degree)	-	0,001
	Inner diameter of front bearing, mm	130	
Turret	Number of tool positions	10/12 [opt.]	12 (BMT 65)
	Turning tool shank size, mm	25	
	Maximum boring bar size, mm	Ø 40 (50)	Ø 40 (50)
	Rotary tool maximum speed, rpm	-	50-5000
	Clamping force, kgf	2905	3955
Feed	Rapid traverse, mm/min	X : 18000 Z : 24000	
	Cutting feed, mm	X : 0.0003-285 Z : 0.0003-357	
Tailstock	Tailstock travel, mm	990	1020
	Quill diameter, mm	110	
	Taper	MT5	
	Quill travel, mm	100	
Motors	Main motor, kW	18,5\22	
	Servo motor, kW	X, Z : 3.0	
	Hydraulic system motor, kW	1,5	
	Lubrication motor, kW	0.018	
	Coolant motor, kW	0,4	
	Rotary tool motor power, kW	-	2.2/3.7 (3.7/5,5)
Power requirements		Maximum power consumption, kVA	39
Tank capacity	Hydraulic tank capacity, l	14	
	Lubrication tank capacity, l	1,8	
	Coolant tank capacity, l	256	
Dimensions	Floor space [with chip conveyor], mm	3,880 [4,807] x 1,617	3,885 [4,807] x 1,705
	Machine weight, kg	6200	6600

Spindle

Machining and assembly is made in the temperature-controlled rooms, equipped with precision SKF bearings. It has high output capability and high vibration strength that allow to machine alloy-treated steel and special alloy with 7 accuracy degree and degree of roughness 0.8 under Ra criterion.



Turret

CNC turning center ST25LM is equipped with BMT65 turret made by South Korea and holders made by WTO company. Drive power is 2.2/3.7 kW standard or 3.7/5.5 kW optional. The main advantage of turret is the possibility to install all 12 drive holders simultaneously, turned the lathe into the milling center. The turret indexing accuracy is ±0,003 mm.

Bed

The bed is cast from high-strength cast iron in Penza city. It naturally and artificially aged, has additional strengthening ribs and specially developed construction. Machining and hardening of guideways are made by the "StankoMashStroy" company.

Tailstock

Electric cabinet

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