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Founded in 1897

Brief product catalogue

1. CNC tool and cutter grinders, gear-grinding, spline-grinding (special machines).

* technical data are available for base machines with CNC. CNC equipment is manufactured under the performance specification approved by the Buyer and has its own, distinct from the base sequence number. In agreement with the Buyer it is possible to manufacture machines with non-basic technical characteristics and performance.

Name of the basic model*

Semiautomatic CNC 6-axis gear-grinding machine **VZ-676F4**

Exterior



Application and short characteristics

Description:

designed for profile grinding along flank surfaces of spurs and helical gears with external teeth by standard abrasive wheels, aluminum oxide wheels or highly resistant CBN special profiled grinding wheels on ceramic bond with possibility of their periodical dressing. The machine is equipped with linear motors for straight and circular programmable travels, guideways with intergrated measuring systems, SINUMERIK 840DSL CNC device as well as with autodynamic balancing system for grinding wheels and dressing mechanism with diamond roll, aerosol suction and filtering system and production accessories.

Specifications:

Max. workpiece diameter - 360 mm;
Max. grinding length - 360 mm;
Module ranges - 2...10 mm;
Accuracy grade of gear machining - ≤5 grade;
Machine overall dimensions LxWxH - 3000x2600x2350 mm;
Weight - 8000 kg.

CNC Spline-Grinding Machine VZ-729F4

(-**01**, -**02**) 3 models



Description:

The machine is applied for grinding on parts splines of straight and involute profiles. Spline grinding is performed with coolant-cutting fluid by abrasive grinding wheels dressed directly on the machine.

Technical capabilities of the machine enable to perform using extra options such operations as grinding of indexing plate slots, spur gears and other similar operations.

Specifications:			
Model:	VZ-729F4	-01,	-02,
Max length of the blank to be installed, mm.:	600	1000	1800
Max Ø of the blank to be installed, mm.:		250	
Max length of the surfaces to be mach-ed,mm.:	400	900	1700
Max Ø of the surfaces to be mach-ed, mm:		200	
Min Ø of the surfaces to be mach-ed, mm:		10	
Max. module / slot height, mm.:	16 /215	18 /	220
Machine overall dimensions LxWxH, mm.	3000x	3600x	5250x
	2600x	4000x	4000x
	2350	2650	2650
Weight, kg.	7500	9500	10000

Semiautomatic CNC thread-grinding machine

VZ-681F4 (-01, -02) 3 models



Description:

The machine is applied for grinding of external helical surfaces of single grinding wheel with coolant-cutting fluid. As the grinding wheels can be used CNB wheels and abrasive circles, profiled directly on the machine.

The design of the machine in conjunction with software, allows to solve the problem by sanding the profile turns worms, thread, and perform special tasks.

saliding the profile tarns worms, thread, and perform special tasks.			
Specifications:			
Model:	VZ-681F4	-01,	-02,
Max length/Ø of the blank to be installed, mm.:	400 / 350	1000 / 350	1800 / 350
Max length of the surfaces to be mach-ed,mm.:	400	900	1700
Ø of the surfaces to be mach-ed (minmax),mm:	10350	10350	10350
Roughness of the spline machined surface		Ra 0,80	
Machine overall dimensions LxWxH, mm.	от 2400х4500х2630 до		
	5310x4500x2630		
Weight, kg.	6500	9500	10000

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Semiautomatic CNC broaching machine **VZ-780F4** (-01, -02) 3 models



Description:

The machine is designed for grinding, profiling and grooving of flat and round broaches. Broach surface can be machined by abrasive or CBN wheels depending on the operation. To ensure high-quality results for the machined broach surfaces they are ground with coolant-cutting fluid application.

Design features of the semiautomatic machine combined with its software ensure the following standard machining steps:

- alignment of the machined broach to the semiautomatic machine axes;
- alignment of the grinding wheel to the semiautomatic machine axes;
- forming of the grinding wheel;
- grooving of flat and round broaches;
- profiling of flat and round broaches;
- grinding of front surfaces on flat and round broaches;
- grinding of clearance face flat surfaces of the broaches;

The surfaces are machined by grinding wheels of various profiles with their manual change on the semiautomatic machine.

Specifications:	VZ-780F4	-01	-02
Max length/Ø of the blank to be installed, mm.:	600 / 250	1000 / 250	1800 / 250
Max length of the surfaces to be mach-ed, mm.:	400	900	1700
Ø of the surfaces to be mach-ed (minmax),mm:	10200	10200	10200
Roughness of the spline machined surface	Ra 0,80		
Machine overall dimensions LxWxH, mm.	от 6650х4700х2650 до		
	7850x4700x2650		
Weight, kg.	6500	9500	10000

Semiautomatic CNC worm grinding machine **VZ-766F4**



Description:

Designed for grinding of external helical surfaces of worms by single grinding wheel with coolant-cutting fluid.

As a grinding wheel used CBN and abrasive grinding wheels, profiled directly on the machine/

Specifications:	
Max.diameter of the workpiece	125
Max.length of the workpiece	360
Limits of the helix angle of the helical chip grooves (left/right), deg Max.module	<u>+</u> 35 ⁰ 6
Rotational speed of the grinding wheel (stepless adjustment), rpm-1	15002800
Power of the grinding wheel drive, kW Overall dimensions (LxWxH), mm Weight with free-standing equipment, kg	8 3000x2600x2350 6000

Semiautomatic CNC 5-axis sharpening and grinding machine **VZ-531F4**



Description:

Designed for manufacturing and grinding of point cylindrical, conical, radius milling cutters, circular cutoff saws, drills, taps, broaching bits, etc. made of high-speed steel and carbide material by highly resistant diamond, CBN and abrasive grinding wheels with coolant-cutting fluid. When using extra options, technological capabilities of the semiautomatic machine allow grinding disc cam profiles, worm lateral profiles, performing gear-grinding of cylindrical gears, slots of indexing plates and other similar operations.

The semiautomatic machine is equipped with SINUMERIC 840Dsl CNC device by SIEMENS.

Specifications:	
Max.diameter of the workpiece in the collet chuck/in the centres	25 / 250 mm
Max.length of the workpiece in the collet chuck/in the centres	180 / 400 mm
Rotational speed of the grinding wheel (stepless adjustment), rpm-1	20008000
Power of the grinding wheel drive, kW	8
Number of controlled axes	5
Overall dimensions (LxWxH), mm	2400x4500x2650
Weight with free-standing equipment, kg	7000 кг

Semiautomatic CNC hob-grinding machine **VZ-721F4**



Description:

5

Designed for grinding along front surfaces with cooling of single-thread arbor-type hobs by abrasive grinding wheel as well as of multiple-thread arbor-type and shank-type hobs, incl. ones with closed-type chip grooves.

Equipped with SINUMERIK 840DSL CNC device. The drives used are the digital drives of SINAMICS S120 series.

Grinding precision - AAA class to GOST 9324-80.

difficulty precision 7000 class to door 352 root	
Specifications:	
Hob diameters, mm	40-200
Max. depth of the chip grooves/modules to be ground, mm	50 / 14
Max. length of the arbor-type, mm	250
Max. length of the shank-type hobs, mm	440
Limits of the helix angle of the helical chip grooves (left/right), deg	<u>+</u> 30°
Power of the main motion motor, kW	4
Overall dimensions (LxWxH), mm	4700x2420x2290
Weight with free-standing equipment, kg	7000

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Semiautomatic CNC hob-arinding machine VZ-646F4



Description:

Designed for grinding with coolant along front surfaces of single-thread arbor-type and shank-type hobs. Grinding of special multiple-thread arbor-type and shank-type hobs, incl. ones with closed-type chip grooves can also be performed. Equipped with SINUMERIK 828DSL CNC device, workpiece headstock with torus motor or worm-gear, grinding wheel dressing system, hob alignment system, coolant supply and recycling system, aerosol suction and filtering system and production accessories. Grinding precision - AA class to GOST 9324-80.

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Specifications:	
Hob diameters, mm	40-200
Max. length of the arbor-type / shank-type hobs, mm	250 / 400
Max. depth of the chip grooves/modules to be ground, mm	50 / 14
Limits of the helix angle of the helical chip grooves (left/right), de	g <u>+</u> 20 ⁰
Rake angle, deg	010 ^o
Overall dimensions (LxWxH), mm	2500x2680x2350
Weight with free-standing equipment, kg	7000 кг

Semiautomatic CNC hob-grinding machine VZ-715F4



Description:

designed for grinding of arbor-type and shank-type hobs along front surfaces with coolantcutting fluid. It is possible to grind hobs with closed-type chip grooves with the help of ex-

a a grinanig nead.	
Specifications:	
Hob diameters, mm	40-200
Max. length of the arbor-type hobs, mm	250
Max. depth of the chip grooves/modules to be ground, mm	50 / 14
Power of the grinding wheel drive, kW	2,2
Overall dimensions (LxWxH), mm	2700x1600x1700
Weight with free-standing equipment, kg	4500

CNC 5-axis sharpening and grinding center VZ-454F4



Description:

designed for manufacturing and sharpening of various cutters made of HSS and carbide material by highly resistant diamond, CBN and abrasive grinding wheels with cooling. Equipped with SIEMENS SINUMERIK 840DSL CNC device, workpiece headstock with torus motor or worm-gear, grinding wheel dressing mechanism, hob preorientation device, coolant supply and recycling system and production accessories.

Specifications:	
max.diameter of the workpiece in the collet chuck/in the centres	25/200 mm
max.length of the workpiece in the collet chuck/in the centres	160 mm
power of the grinding wheel drive, kW	2,2 кВт
overall dimensions (LxWxH), mm	1350x3000x2020
weight with free-standing equipment, kg	3500

CNC broach-sharpening machine VZ-605F4



Description:

designed for sharpening / resharpening of flat, round and spline broaches made of tool steel, HSS and carbide material. Equipped with production accessories.

Specifications:

Max. diameter of the round broach - 250 mm;

Max. length of the round broach, installed in the centres - 2000 mm;

Max. length of the cutting part of the round broach - 1500 mm;

Max. width of the flat broach: - straight-toothed - 250 mm; - 30° inclined teeth - 120 mm; Power of the grinding wheel drive - 2.2 kW;

Overall dimensions (LxWxH) - 4890x2380x1795 mm; weight - 5150 kg.

Semiautomatic grinding machine for gear shaping heads

VZ-441F2



Description:

designed for sharpening of gear shaping heads and broaches that cut bevel gears, roundand straight-toothed, made of HSS, by abrasive grinding wheels with cooling. Equipped with SIEMENS controller.

Specifications:

Diameter ranges:

- of gear shaping heads for round-toothed gears 80...500 mm;
- of gear shaping heads VEDGAC, GELICSFORM, RAFAC, HARDAC 4-21 inches;
- of broaches for straight-toothed bevel gears up to 630 mm;

Number of cutters in the head - 4...40, in the broach - up to 90;

Power of the grinding wheel drive - 2.2 kW;

Overall dimensions (LxWxH) - 2210x1700x1980 mm;

Weight - 4000 kg.

Semiautomatic CNC grinding machine for face mills

VZ-652F2



Description:

designed for grinding of face mills D = 80...630 mm with cutting edge made of carbide material, cemented-oxide, tool and high-speed steel by the face of abrasive, diamond or CBN wheel with/without cooling. Grinding with cooling is combined with electroerosion dressing. All straight cutting edges are ground on the semiautomatic machine operation by operation: main, auxiliary and transitional ones. Equipped with SIEMENS controller S7-300.

Speci	ficati	ons:
Limits	of the	dian

Limits of the diameters of mills to be ground	80630 mm
Limits of the number of the cutters to be ground	4120 mm
Limits of the clearance angle value	523 deg
Taper hole in the workpiece headstock spindle to GOST 15345-82	50 AT6
Rotational speed of the wheelhead spindle	1800/3600 rpm
Power of the main motion drive	2,0/2,65 kW
Semiautomatic machine overall dimensions (LxWxH) mm	2080x2210x1795
Weight of the semiautomatic machine with free-standing equipment kg	2600

2. Grinders (serial machines).

Name of the **Exterior** Application and short characteristics basic model** Universal tool and cut-Power of the grinding wheel drive: 1,1/1,5 kW ter grinder Overall dimensions (LxWxH): 3E642 1745x1940x1550 mm Designed for manual sharpening and finishing of Machine weight: 1080 кг main types of cutters (max. DxL = 250x600 mm) as well as for grinding operations (flat, circular ex-Power of the grinding wheel drive: Universal tool and cutternal and internal grinding) with up to 40 attach-1,1/1,5 kW ter grinder ments, delivered at extra cost. Overall dimensions (LxWxH): (with hydrolic table Are equipped with system coolant at extra cost. 1380x1940x1550 mm longitudinal travel) Machine weight: 1160 кг 3E642E Tool and cutter grinder Power of the grinding wheel drive: 0.71/0.85 kW **VZ-818** Overall dimensions (LxWxH): 1085x1150x1630 mm Machine weight: 780 kg Designed for manual sharpening and finishing of main types of cutters (max. DxL = 200x500 mm) as well as for grinding operations (flat, circular external and internal grinding) with up to 40 attach-Tool and cutter grinder Power of the grinding wheel drive: ments, delivered at extra cost. 0.71/0.85 kW (with hydrolic table Overall dimensions (LxWxH): Are equipped with system coolant at extra cost. longitudinal travel) 1460x1530x1660 mm **VZ-818E** Machine weight: 860 kg Wood-cutting Power of the grinding wheel drive: Designed for manual sharpening and finishing of main types of wood-cutting tool of up to tool grinding machine Overall dimensions (LxWxH): DxL = 250x400 mm by abrasive, diamond and VZ-384 1080x750x300 mm CBN grinding wheels with 36 attachments de-Machine weight: 300 kg livered at extra cost. Metal-processing tools can be ground on the machine as well. It is completed with table (base unit) and cooling system on request at extra cost. Designed for manual cutter grinding of up to Tool and cutter Power of the grinding wheel drive: 0.37 kW DxL = 100x200 mm by periphery and face of grinder Overall dimensions (LxWxH): abrasive, diamond and CBN grinding wheels (tabletop) 670x450x550 mm with up to 9 attachments delivered at extra VZ-319 Machine weight: 125 kg cost. Diameters of the saws to be ground: Designed for grinding of metal-working circular Semiautomatic rim 250-1430 mm saws along tooth profile and transition cutting saw grinding machine Diameter of the grinding wheel: 300 mm edges by the periphery of the abrasive grind-3E692 Power of the main drive motor: 2.2 kW ing wheel, radius-dressed. Grinding is Overall dimensions (LxWxH): performed with coolant. 2450x1120x1910 mm Weight: 1800 kg Diameter range of the saws to be ground: Designed for grinding of metal-working circular Semiautomatic special 275...1010 mm saws to GOST 4047-82 along tooth profile and circular saw grinding Diameters of the saw fitment holes: transition cutting edges by the periphery of the machine 70, 80, 120 mm abrasive grinding wheel, radius-dressed. VZ-330 Overall dimensions (LxWxH): 920x690x1800 mm Weight: 1050 kg Sharp form milling cut-Max. diameter of the mills to be ground: Designed for back grinding of sharp form milling cutters, form flat blades by abrasive, dia-355 mm ter back grinding ma-Max. external diameter of the grinding mond and CBN grinding wheels without coolchine wheel: 150 mm ina. **VZ-222**

Power of the grinding wheel drive:

Overall dimensions (LxWxH):

0.18 kW

⁷⁴⁰x1370x1400 mm Weight: 710 kg

** the manufacturer reserves the right to make changes at the appearance of equipment, without changes to technical specifications. All additional changes are reflected in the technical task agreed with the Customer

Semiautomatic diamond-erosion bit sharpener **VZ-763**

Grinding machine for

bide plates

VZ-464

circular saws with car-



Diameters of the jackbits to be ground: 32, 36, 40, 43, 46, 52, 56 mm

Types of the jackbits: KKP, KDP, KTSh (Rus.: ККП, КДП, КТШ) Max. diameter of the grinding wheel:

Overall dimensions (LxWxH):

1950x750x1450 mm Weight: 800 kg

Diameters of the saws to be ground: 100-500 mm

Saw teeth face angles: -80...+250 Power of the grinding wheel drive: 0.55 kW

Machine weight: 200 kg

Designed for diamond wheel grinding of face and clearance face of circular saw teeth with carbide plates, applied for wood processing.

Designed for grinding of carbide jackbits, ap-

plied at blasthole drilling by percussive ma-

electroerosion-dressed. Applied in the mineral

grinding wheel,

diamond

chines,

by

resource industry.

Drill-grinding machine (tabletop) **VZ-823**



Drill diameters: 1...20 mm Power of the main drive: 0.25 kW Overall dimensions (LxWxH): 600x400x520 mm

Machine weight: 65 kg

Designed for surface grinding and regrinding of right-hand drills made of high-speed steel and carbide material by CBN and diamond wheels. The machines are equipped with wide-range collet and electronic microscope with LCD monitor.

Drill-grinding machine (tabletop) **VZ-889**



Drill diameters: 0.5...3 mm Power of the drive: 0.025 kW Overall dimensions (LxWxH): 535x295x447 mm Machine weight: 38 kg

Designed for surface grinding and regrinding of right- and left-hand spiral drills made of carbide material, D = 0.5...3.0 mm, length 30...50 mm. The machine is equipped with collet and electronic microscope with LCD monitor...

Flat blade grinding machine (tabletop) **VZ-874**



Sharpening angle range (provided a swivelling table is installed): 0-90° Power of the grinding wheel and feed drive: 1.1 kW (380 V) Overall dimensions (LxWxH):

1470x520x635 mm Machine weight: 170 kg

Designed for grinding of woodworking straight edge blades made of tool steel by abrasive grinding wheel. Max. size of the blank to be installed: height 6 mm, length 640 mm, width 45 mm. Max. unit travel: longitudinal travel - 700 mm, vertical - 90 mm. Grinding wheel diameter - 125 mm.

Equipped with coolant supply system at extra

Flat blade grinding machine for wood working flat blade (tabletop) **VZ-874RN**



Sharpening angle range (provided a swivelling table is installed): 26-40° Power of the grinding wheel and feed **drive:** 1,1 kW (380 V) Overall dimensions (LxWxH):

1470х520х635 мм Machine weight: 170 кг

Designed for grinding of woodworking straight edge blades made of tool steel by abrasive grinding wheel. (MR-40 type). Max. size of the blank to be installed: height 20 mm., length up to 600mm., width 45 mm., max. unit travel: longitudinal travel - 700 mm., vertical - 90 mm. Grinding wheel diameter - 125 mm.

Equipped with coolant supply system at extra

Tool grinding machine (with dust collector)

VZ-879-01 VZ-879-011



Power of the grinding wheel drive:

Rotational speed: 1500 rpm Overall dimensions (LxWxH): 965x593x1235 mm

Machine weight: 140кг

Designed for grinding of fitter's and metal cutting tool, as well as for roughing and dressing of small parts.

Grinding wheel diameter - 350 mm.

Equipped with grinding attachment (at extra cost): VZ-879-01.P10 - for drills D = 20...50mm.

Model VZ-879-011 is equipped with a device which disconnect the drive of the grinding wheels when lifting the protective screen.

Tool grinding machine (with dust collector) VZ-879-02





Power of the grinding wheel drive: 1.5 kW

Rotational speed: 2840 rpm Overall dimensions (LxWxH): 965x530x1100 mm

Machine weight: 105 kg

Designed for grinding of carbide material and HSS tools by diamond, CBN and abrasive grinding wheels of up to 200 mm diameter.

Equipped with grinding attachment (at extra cost):

VZ-367.P1 - for rotary saws D = 160...500 mm;VZ-367.P2 - for drills D = 3...20 mm;

VZ-367.P3 - for vertical timber frames W/L =160...180/1250...1950 mm.

Model VZ-879-021 is equipped with a device which disconnect the drive of the grinding

wheels when lifting the protective screen.

Die-grinding machine (tabletop) **VZ-462**



Range of the thread-cutting dies:

metric - M6...M52; pipe - 1/16...1.5

Power of the grinding head drive 0.25

Overall dimensions (LxWxH): 525x405x720

Machine weight: 105 kg

Designed for thread-cutting die grinding along teeth face and for relieving of back surfaces on the cutting part.

Equipped with cams for thread-cutting dies with various number of chip grooves, die holders and arbors at extra cost.

3. Woodworking machinery.

Name of the basic model**

Lathe woodworking machine TDS-2

Exterior

Application and short characteristics

Max. carriage longitudinal /cross travel: 1000/45 mm

Max. diameter of the blank to be machined on the faceplate: 300 mm

Power of the

main motion drive: 1.5 kW Overall dimensions (LxWxH):

1500x700x1210 mm Weight: 300 kg

Designed for the following types of wood machining: manual turning of cylindric and formed surfaces in the centres and lathe chuck; manual endface turning on the faceplate; contour turning of cylindric and formed surfaces and turning in the centres. The machine is used independently, in single-piece production and small batch produc-

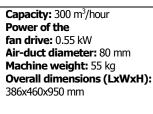
4. Industrial dust collectors.

Name of the basic model**

Dust collector V19-101

Exterior

Application and short characteristics



Designed for collecting of abrasive and metal dust, appearing during machine operation.

Wood dust collector for woodworking machines VZ-576



Capacity: 2000 m³/hour Power of the fan drive: 2.2/1.5 kW Air-duct diameter: 127 mm Machine weight: 100 kg Overall dimensions (LxWxH): 990x520x2043 mm

Designed for taking away wood waste during wood processing.

5. Miscellaneous Machinery.

Name of the basic model**

Machines for torque breakdown test of grinding wheels **SR-400V SR-800**

Exterior

Wheel type to GOST 2424-83: 1 Max. external diameter of the test



SR-400B - up to 450 mm. Machine weight: 360 kg Overall dimensions (LxWxH):

1040x645x1378 mm



SR-800 - up to 800 mm. Machine weight: 2500 kg Overall dimensions (LxWxH): 1800x1230x1750 mm

Designed for torque breakdown test of grinding wheels.

Safety guard of the machine provides 100% safety assurance during wheel testing. The machine is equipped with force braking system.

At extra cost the machine can be equipped with arbors for grinding wheel fastening of the following types: 2, 3, 4, 5, 6, 7, 10, 11, 12, 14, 23, 36, 41 with hole bore diameters, mm: 23; 25.4; 35; 40; 51; 60; 100; 125; 127, 250; 301; 305

SR-400V is equipped with UTsI PLK-73 system with frequency converter, that allows to set automatically rotational speed of the grinding wheel depending on the selected diameter of the tested wheel. Data on all the executed operations is stored in the system memory.

Application and short characteristics

Monitoring device VZ-581



Gearing center-to-center distance: up to 320 mm

Gear module: 1...10 mm

Weight of the controlled wheels: ≤ 30 kg

Power of the drive: 120 W

Overall dimensions excl. free-standing equipment (LxWxH): 1344x530x415 mm Designed for measuring and recording of tooth-to-tooth measuring center distance (MCD) variation per wheel revolution and of MCD deviation limits at two-profile mesh of the standard gear with controlled gear at 1 revolution swivel. It ensures control of cylindrical spurs and narrow helical gears under conditions of single-piece, serial and mass production.

^{**} the manufacturer reserves the right to make changes at the appearance of equipment, without changes to technical specifications. All additional changes are reflected in the technical task agreed with the Customer

6. Services.

- mechanical processing;
- repairs and upgrades;
- special equipment acc. to performance specification.

7. Repairs and upgrades of CNC machines.

OJSC "VIZAS" Works repairs, recovers and upgrades home-produced and import tool and cutter grinders and gear-grinding machines involving changing CNC for SIEMENS CNC and mechanic parts (bearings, linear frictionless bearings, ballscrew drives, wormgears, etc.) for import components.

Equipment stock available at the enterprise and appropriately trained personell enable high-quality repairs in the shortest terms possible.

The works is the only manufacturer in CIS of the whole grinding machinery range and the vast experience in design and production of such machinery provides repair and upgrade of the most complicated grinders and gear-grinding machines, incl. import ones.