DESIGN AND MANUFACTURE OF EQUIPMENT FOR THE RAILWAY INDUSTRY

- WHEEL LATHES
- AXLES TURNING AND ROLL-HARDERING MACHINES
- MULTI-PURPOSE MACHINES FOR MANUFACTURE AND REPAIR ELECTRIC
- MILLING MACHINES
- PRESS MACHINES
- LIFTING EQUIPMENT
- RAIL WELDING EQUIPMENT
- WASH COMPLEXES SERVICES

UCI GROUP

ABOUT COMPANY

UCI Group is an Ukrainian designer and manufacturer specializing in equipping railway structural divisions, car repair shops, locomotive repair enterprises with metalworking, pressing, welding and lifting equipment.

The production facilities of UCI Group are located in the central part of Ukraine in the city of Cherkasy.

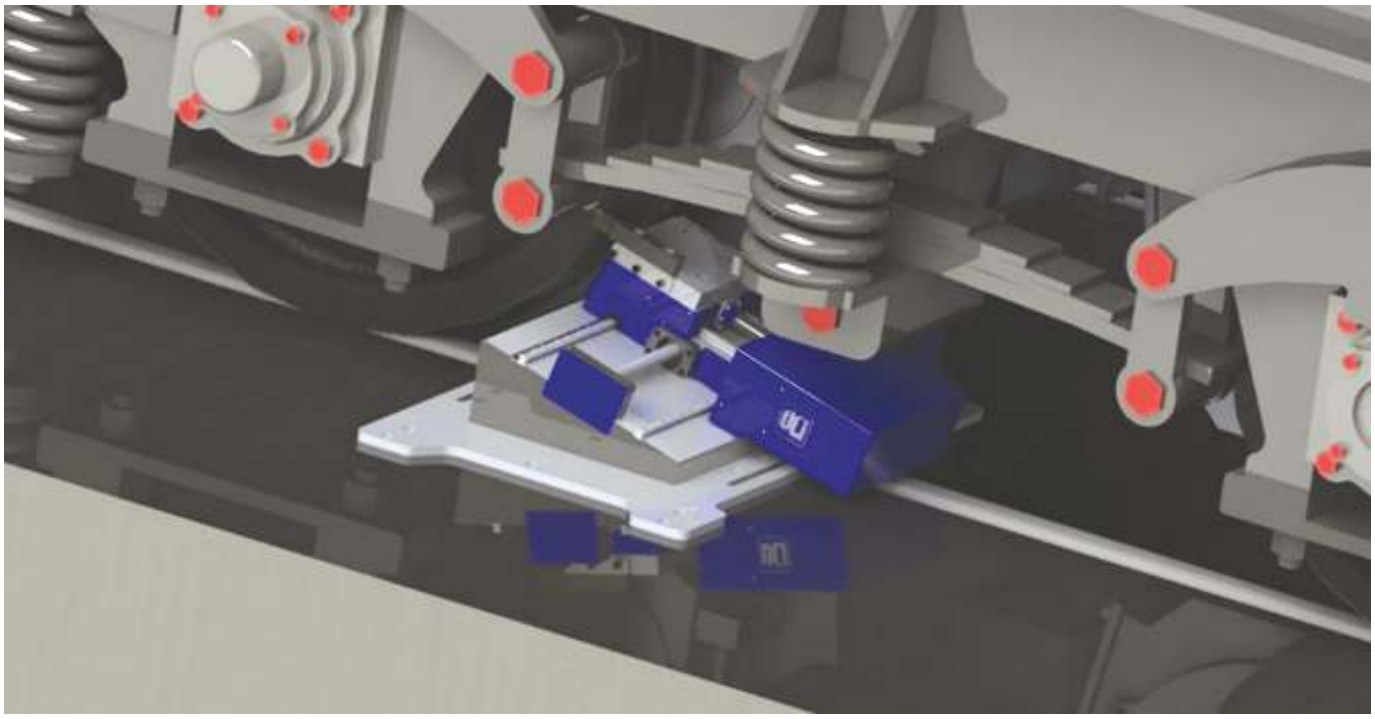
List of manufactured main products:

- a line of CNC lathes for wheel set turning, namely portable and stationary above floor and underfloor wheel lathes;
- machines for turning and roll-hardering of axles of wheel sets;
- specialized milling machines for processing car parts (bolsters, frames, axle boxes);
- multi-purpose machines for repair of collectors of electrical machines;
- presses for the formation and dismantling of wheel pairs, for rolling the retaining ring of locomotive wheels, for axlebox assemblies, for checking rail welds;
- locomotive lifts, screw jacks, under-rail jacking systems, ramp lifts, container tilter;
- wash complesex;
- rail welding machines;
- mobile rail welding complexes on the combined course and containerized.

We strive to be known in the railway equipment market as a manufacturer of reliable and progressive equipment.

CONTENT

PORTABLE CNC WHEEL LATHE MODEL PKS-2



A portable CNC lathe for turning wheelsets model PKS-2 is designed to restore the profile of the bandage locomotive wheelsets without rolling out them from underneath the locomotive.
The rotation of the wheelset is carried out from the individual drive of the locomotive wheel set, or an external drive. When using an external wheelset drive, it is possible to use the lathe for processing wheels of wagons. The design of the lathe allows us to use it in any place remote from stationary reset areas and the formation of wheelsets.

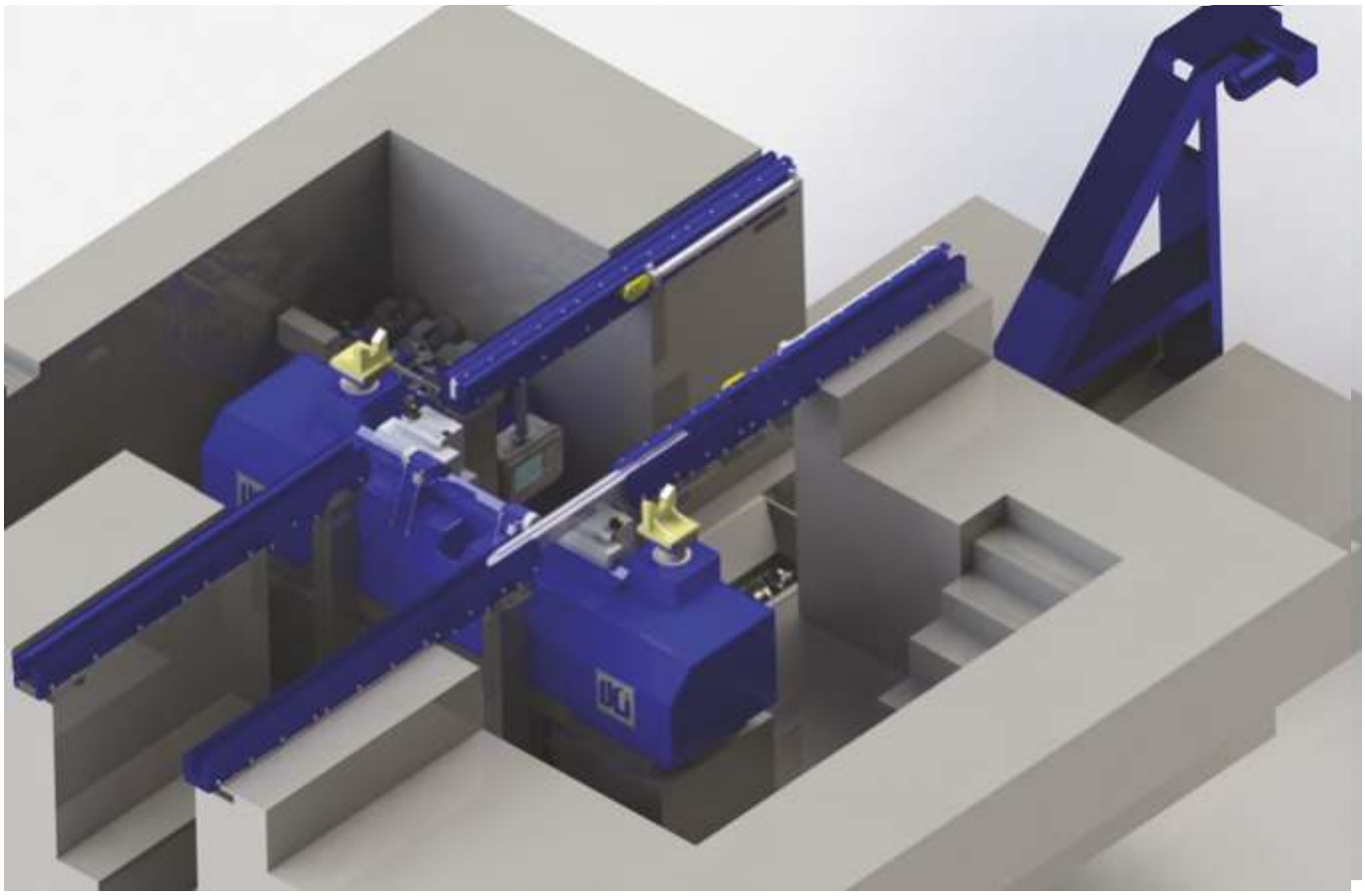
The main advantages of our portable CNC lathe for turning a wheelsets:

- wheel turning is performed without disconnecting the wheelset from the locomotive;
- the possibility of using the machine both directly in the depot and outside it;
- safety, easy installation and operation;
- gentle turning with minimum turning allowances;
- high quality, accuracy cleanliness of the resulting profile;
- work safety - the operator does not need to be close to the cutting and chip cutting area;
- there is no need to manually rotate the flywheels that would be located almost at ground level;
- high maintainability of the machine.

Basic technical characteristics lathe PKS-2

Parameter	Value
Minimum wheel diameter	700mm
Maximum wheel diameter	1250mm
Maximum width of the bandage	143mm
Wheel Profile Type	At the request of the customer
Electrical control cabinet	220 V, 50-60 Hz, 1 phase, 15 A
Feed speed	0...35mm/min
Rapid feed speed Maximum cutting depth	2000mm/min
Overall dimensions of the machine:	1,5
-Length	1100mm
-Width	700mm
-Basic height: (without gaskets and tool holder)	270mm
Machine weight (without accessories)	170kg

CNC UNDERFLOOR WHEEL LATHE MODEL PKTS-3



The CNC lathe model PKTS-3 is a special underfloor wheel lathe equipped with one lathe support and designed for turning locomotive wheelsets. The peculiarity of the machine is that the wheel lathe does not have a drive for rotating the locomotive wheel set; for this, the drive of the turned wheel is used.
This is a budget machine for turning wheelsets of rolling stock with an individual electric drive.

Basic technical characteristics lathe PKTS-3

Parameter	Value
Gauge for basic machine, mm	1520 (1524)
Diameter of wheel-sets on tread, mm	950-1250
Range of profile widths, mm	до 143
The distance of the wheelset between the tires of the wheels, mm	1437-1443
Support longitudinal stroke, mm	1740
Support cross stroke, mm	200
Machine dimensions (LxWxH), mm	6900x5800x2300
Weight of the machine, kg	7000

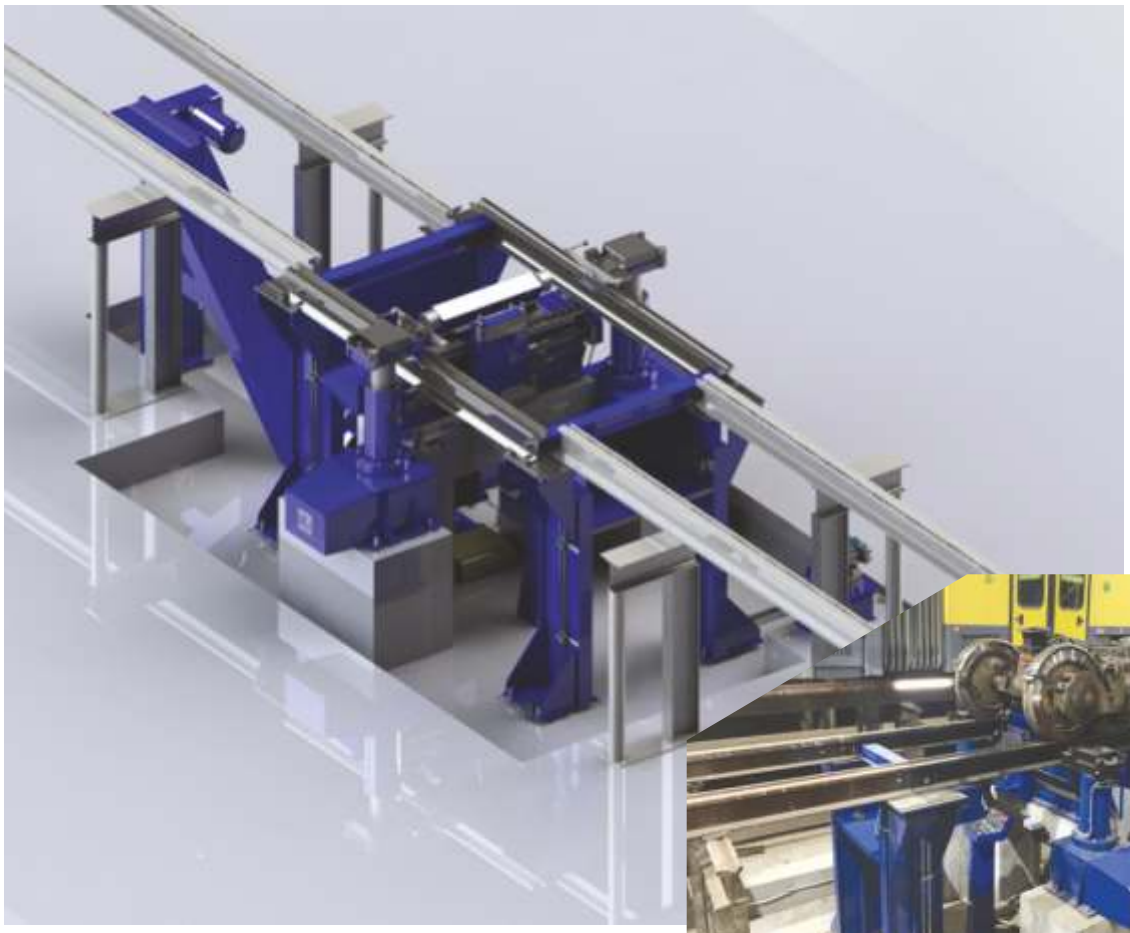
Speed of movement

Parameter	Value
Jack, mm/min	1000
Locking clips, mm/min	1000
Movable rails, mm/min	3000
Rapid support moving, mm/min	
- longitudinal	2500
- cross	2500

Turning mode

Parameter	Value
Nominal cutting depth, mm	2,5
Max.cutting depth, mm	6
Feed, mm/min	0-35
Maindrive (whhel set speed), (stepless), rpm	0-25

CNC UNDEEFLOOR TRAM WHEEL LATHE MODEL PKTS-3T



The lathe model PKTS-3T with CNC is a special underfloor wheel lathe with one lathe support that is designed for turning of tram wheelsets.
The peculiarity of the machine is that the wheel lathe does not have a drive for rotating the tram wheelset; for this, the drive of the turned wheel is used. However, for the treatment of idle tram wheels, we can install a special hydraulic wheel rotation drive.
The lathe model PKTS -3T has the following features:
- turning along the entire profile of the wheelset tire in automatic mode;
- turning individual sections of the wheelset tire profiles to eliminate local defects in a semi-automatic mode.

Profile restoration is carried out under the control of a CNC system, which ensures high quality and accuracy of the profile, cleanliness of the machined surface, and productivity.
This is a budget machine for turning tram wheelsets.

Basic technical characteristics lathe PKTS -3T

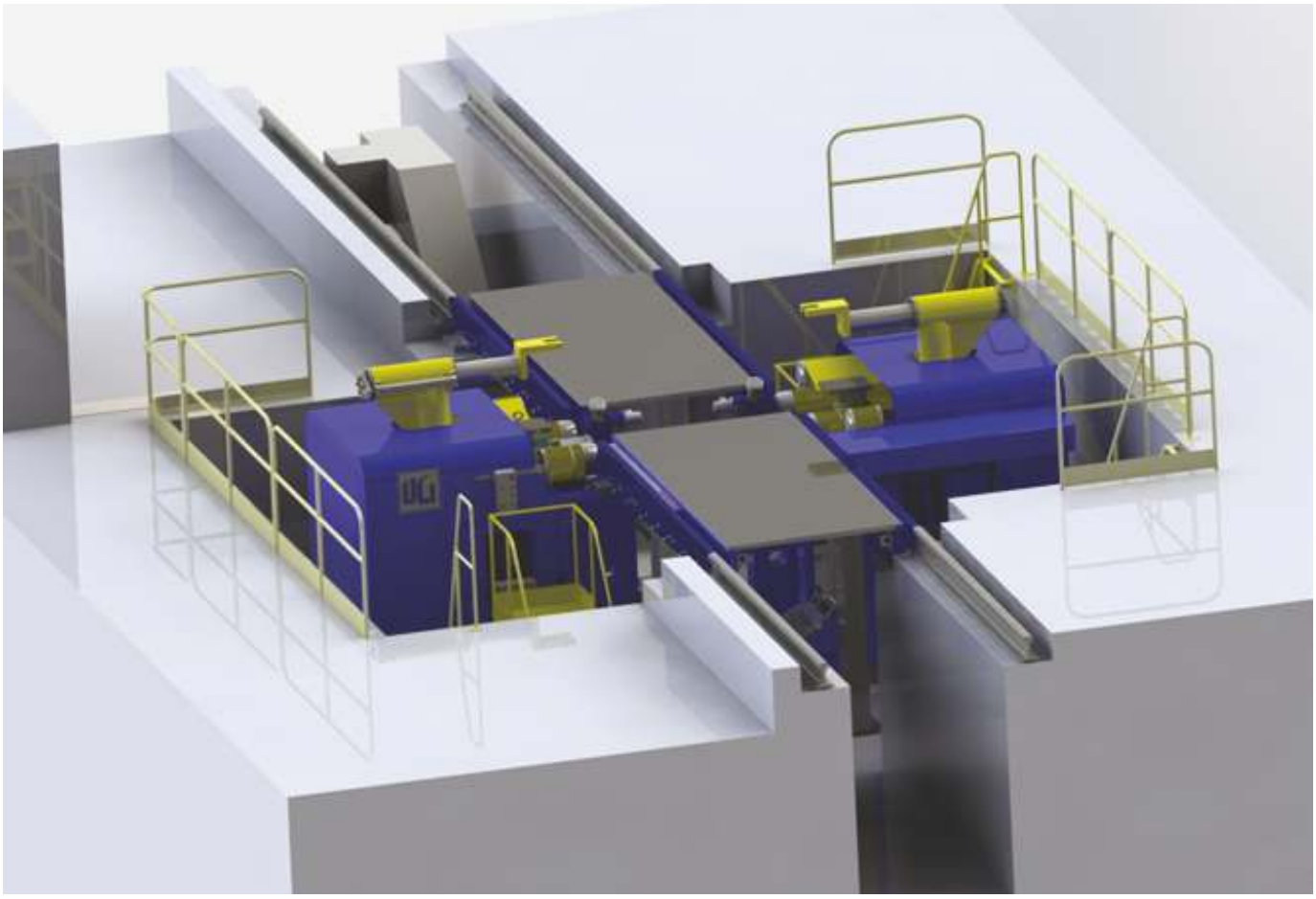
Parameter	Value
Gauge for basic machine, mm	1000
Min diameter of wheel-sets on tread, mm	650
Max diameter of wheel-sets on tread, mm	720
Range of profile widths, mm	95
The lifting capacity of the wheelset lifting devices, t	2x12
Max.cutting depth, mm	2
Feed (stepless regulation), mm/min	8....40
Accelerated feed, mm/min	2000
Nominal cutting speed, m/min	80
The wheel set rotation drive, kW.	45
Power of the electric motor of the hydraulic station, kW	4
Electrical network parameters	380V, 50Hz
Weight of the machine, kg	2700

Parameters of wheel pairs after turning

Parameter	Value
Profile deviation (from nominal), mm	< 0,2
Difference between diameters of the wheels of given bogie, mm	< 0,2
Surface finish (dependent on feed rate)	Ra< 20

* At the request of the customer, it is possible to change the characteristics and parameters of the machine

CNC UNDEEFLOOR WHEEL LATHE MODEL PKTS-4



The machine model PKTS-4 is a special underfloor wheel lathe designed for turning wheelsets of locomotives with the ability to perform work without disconnecting the wheelsets from the locomotive. The machine performs turning tires of locomotive wheelsets with a range of diameters along the rolling circle of 700-1250 mm and a track guide of 1520 mm (1435 mm).
According to its purpose, the PKTS-4 wheel turning machine has the following turning capabilities:

- turning along the entire profile of the wheelset tire in automatic mode;
- turning individual sections of the wheelset tire profiles to eliminate local defects in a semi-automatic mode;
- wheelset parameters measurement before and after turning.

Basic technical characteristics lathe PKTS-4

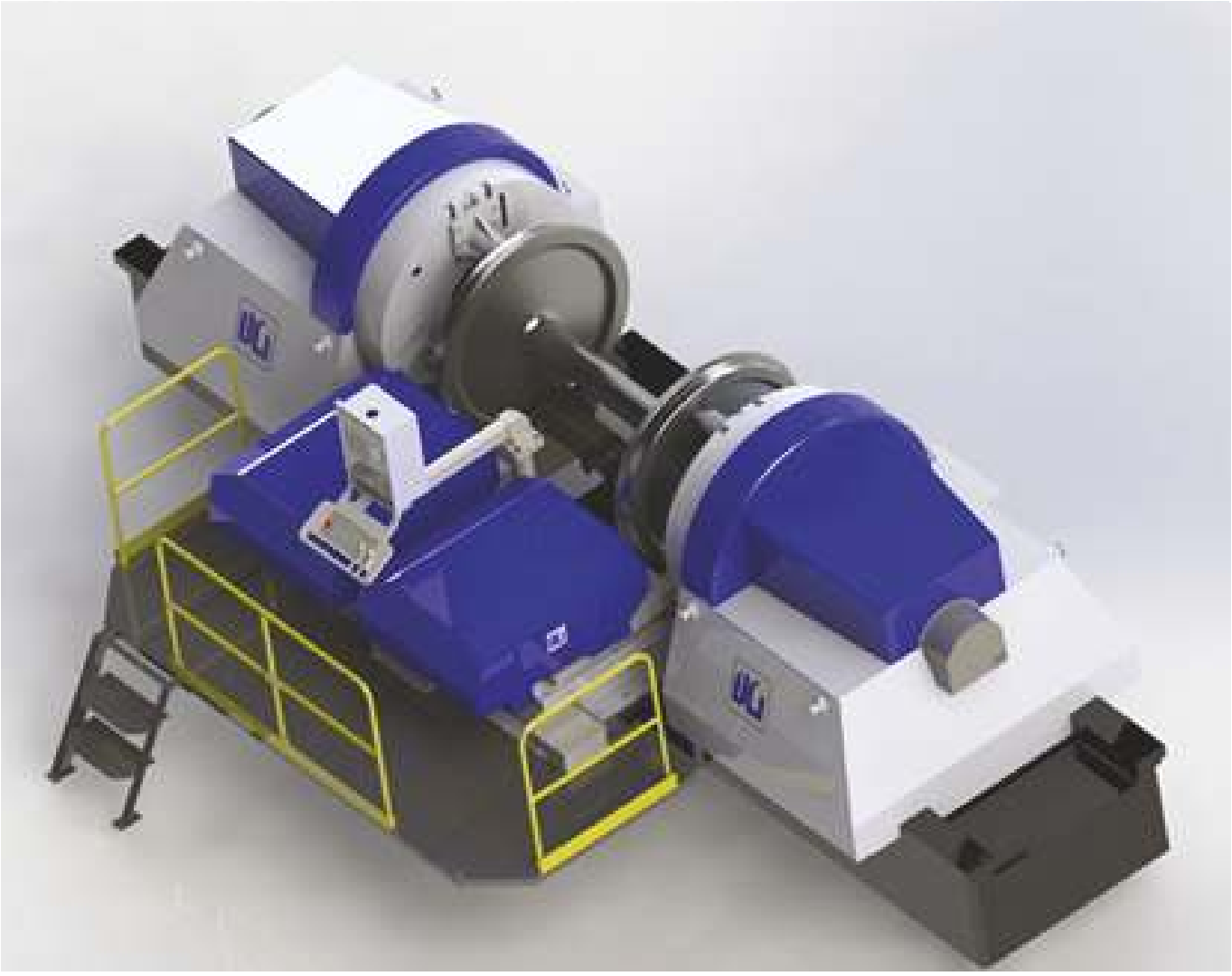
Parameter	Value
Gauge for basic machine, mm	1520 (1524)
Diameter of wheel-sets on tread, mm	700...1250
Range of profile widths, mm	143
The distance of the wheelset between the tires of the wheels, mm	1437...1443
Maximum lifting capacity of jacks, t	25
Maximum load capacity of the drive rollers, t	25
Machine dimensions (LxWxH), mm	6900x6400x2900
Weight of the machine, kg	32000

Режимы обточки

Parameter	Value
Nominal cutting depth, mm	2,5
Max.cutting depth, mm	6
Feed, mm/min	0...35
Frequency of rotation of wheel set, min-1 (stepless)	0...25
Frequency of rotation of the wheel drive rollers, rpm	0...156
The total power of the electric machine, kW	70
Maximum current consumption, A	250

Параметр	Значение
Profile processing accuracy, mm	0,2
The inconstancy of the diameter in the cross section of the bandage on a circle of skiing (after turning), mm	< 0,2
The difference of the diameters of the right and left tires, measured in a circle riding one wheelset, mm	< 0,5
Surface roughness, μm	Ra 20

CNC WHEEL LATHE MODEL VK1836F3

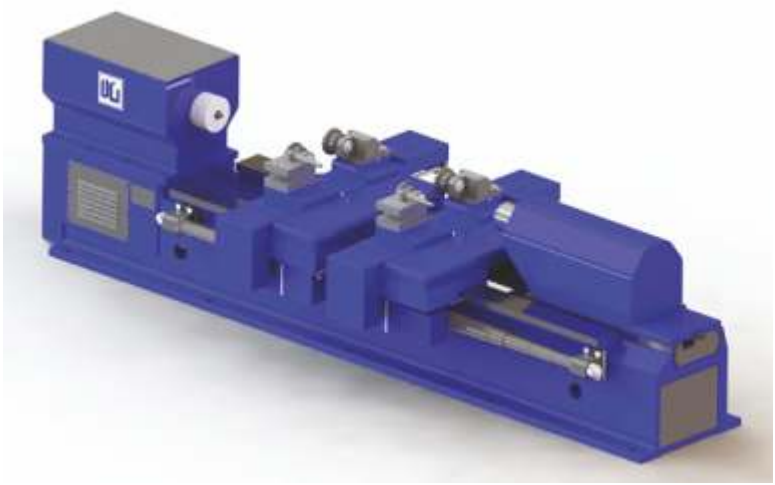


The machine model VK183l6F3 is a special CNC wheel-turning machine equipped with two supports and designed for profiling wheelset tires of wagons and locomotives.

Basic technical characteristics

Parameter	Value
The diameter of the processed tires of wheel set in a circle riding, mm	840 - 1250
2. Axle length range, mm	2020 - 2600
3. Gauge width, mm	1435; 1520
4. Spindle speed limits, rpm	≤25
5. Limits of support feed, mm/min:	
working longitudinal	≤80
working cross	≤80
accelerated longitudinal	≤2500
accelerated transverse	≤2500
6. Maximum cutting depth, mm	12
7. Feed, mm/rev	0,1 – 1,5
8. Accuracy of processing wheel set tires:	0,2
in a circle riding, mm	0,3
diameter difference, mm	≤ 20
surface roughness, Ra, m	
9. Wheel measurement system	Automatic
10. Basing of cutting tools	Automatic
11. Turning mode	Automatic, manual
12. Control system	CNC
13. The duration of turning one wheel set, мин, не более	15
14. Number of operators	1
15. Main drive power, kW	75

TURNING AND ROLLING MACHINE MODEL VN1842



Specialized turning and roll-hardening machine VN1842 is designed for turning and roll-hardening of necks, pre-hub and sub-hub parts of wagon and locomotive wheelset axles.

Basic technical characteristics

Parameter	Value
Centers height, mm	320
Max distance between centers, mm	2700
Diameter of journal to be machined, mm	90...240
The maximal weight of axles, kg	600
Number of carriages	2
Feeds, mm/min	56...162
Axis rotation frequency, rpm	58...235
Main drive power, kW	11
Overall dimensions of the machine (LxWxH), mm	5100x2900x1970
Machine weight, kg	10430

CNC SPECIAL ROLLING MACHINE MODEL VN1845F3

CNC machine model VN1845F3 is designed for roll-hardering of necks, pre-hub, sub-hub, middle parts, as well as fillets of wagon and locomotive axles of wheelsets.

Basic technical characteristics

Parameter	Value
Centers height, mm	320
Max distance between centers, mm	2600
Diameter of journal to be machined, mm	150 и 240
Axis rotation frequency, rpm	58...335
Range of working feeds, mm/min.	12...1000
Main drive power, kW	11
Overall dimensions of the machine (LxWxH), mm	5600x29001970
Machine weight, kg	9300

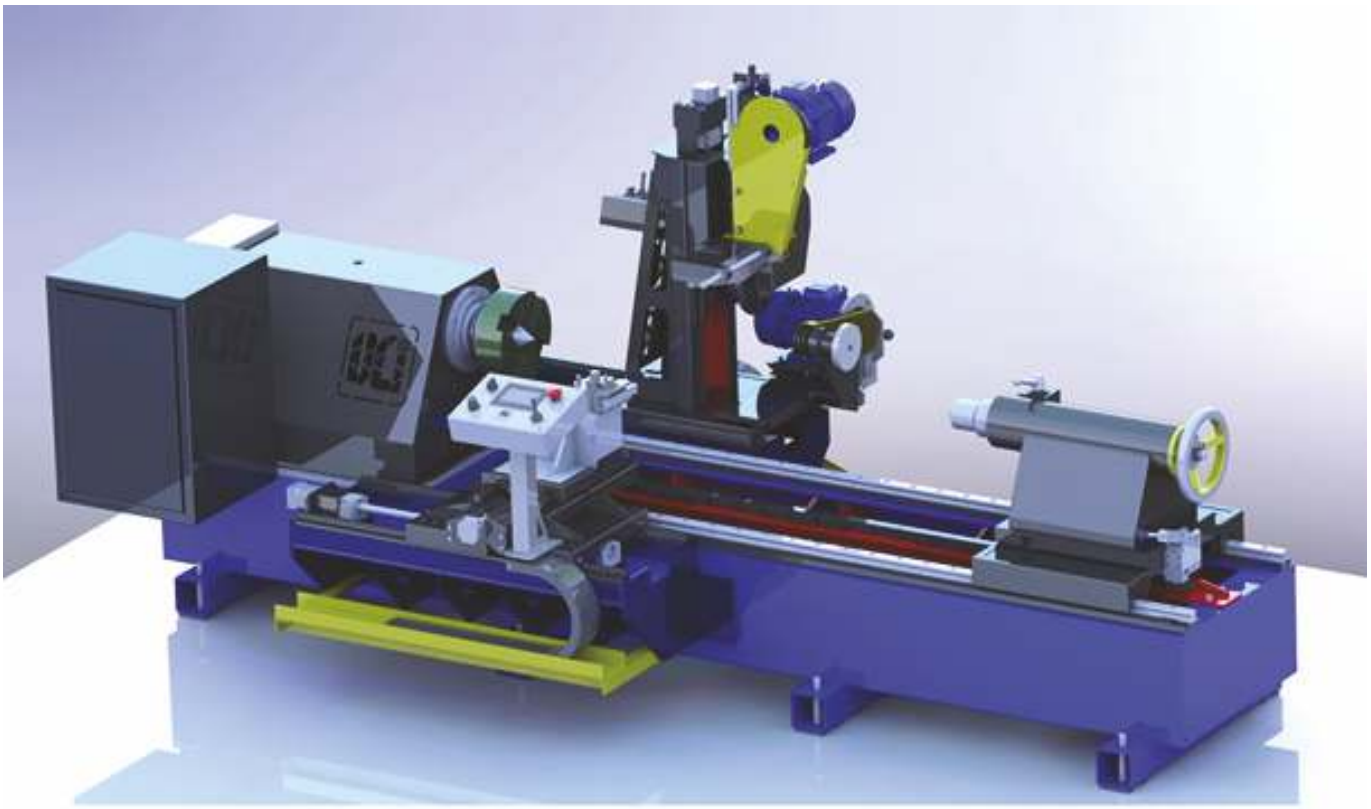
CNC MACHINE FOR DRILLING AND CUTTING THREADS VSV-1

The CNC machine model VSV-1 is for drilling and threading on the ends of wheelset axles.
A machine with numerical control, consists of two drill head, bed with a workpiece positioning and clamping mechanism (axis of a freight wagon). Working movements are carried out from servomotors along three coordinate axes. The spindle unit has a pneumatic device for automatic tool clamping; tool change is carried out manually. The machine is controlled from the control panel

Basic technical characteristics

Parameter	Value
Productivity, min./piece	20
Feed drive power (X, Y, Z), kW	2 x 6,5
Spindle drive power, kW	2,0
Machine dimensions (LxWxH), мм	4300x1300x1300
Weight of the machine, kg	2300

ARMATURE COMMUTATOR REPAIR MACHINE MODEL VPK 01.01



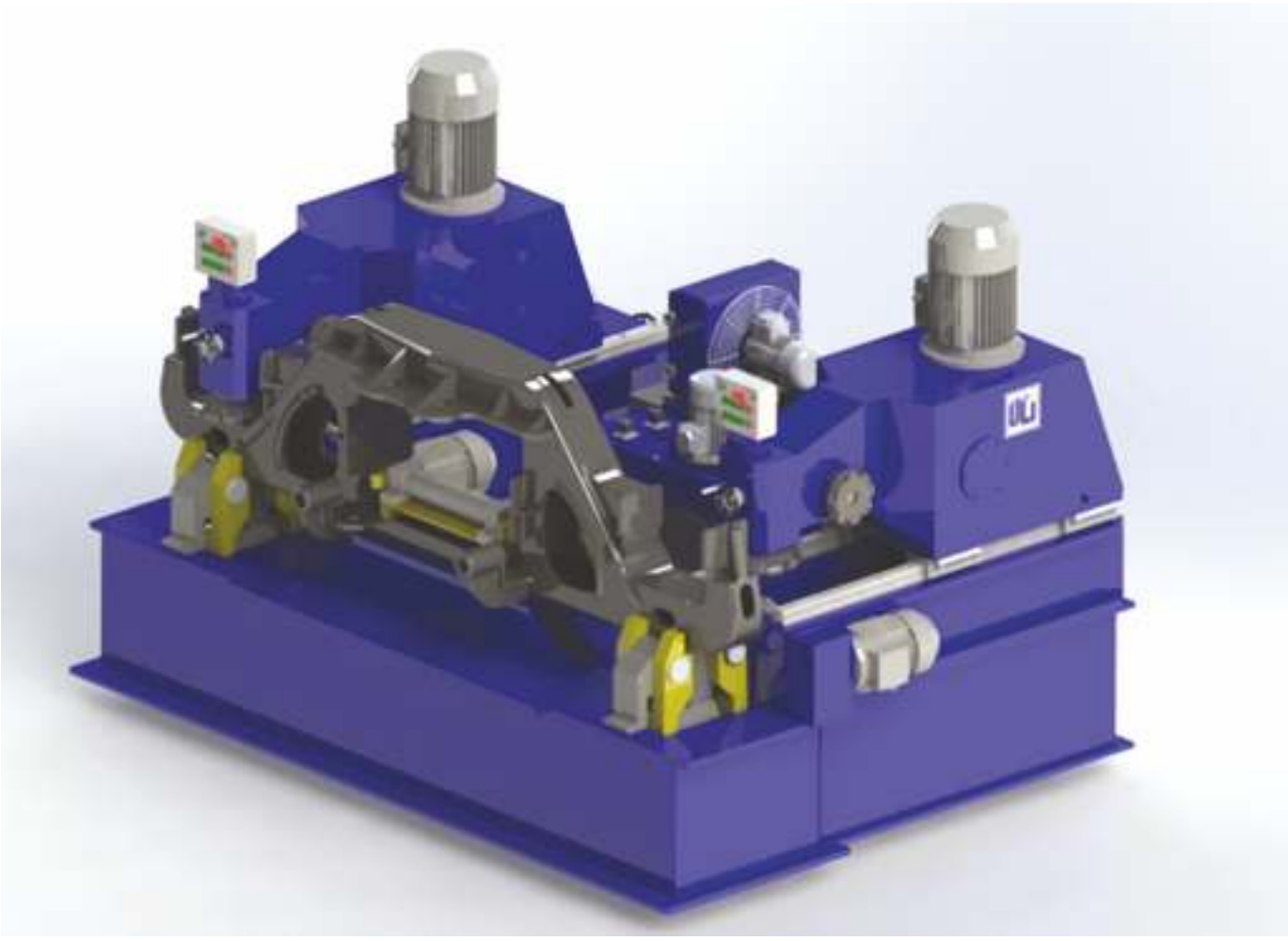
The CNC armature commutator reset machine VPK 01.01 is designed for armature commutator reset of DC traction motors, in particular traction motors of locomotives The operations performed on this machine are collector turning, routing, and further cleaning in automatic and semi-automatic mode.

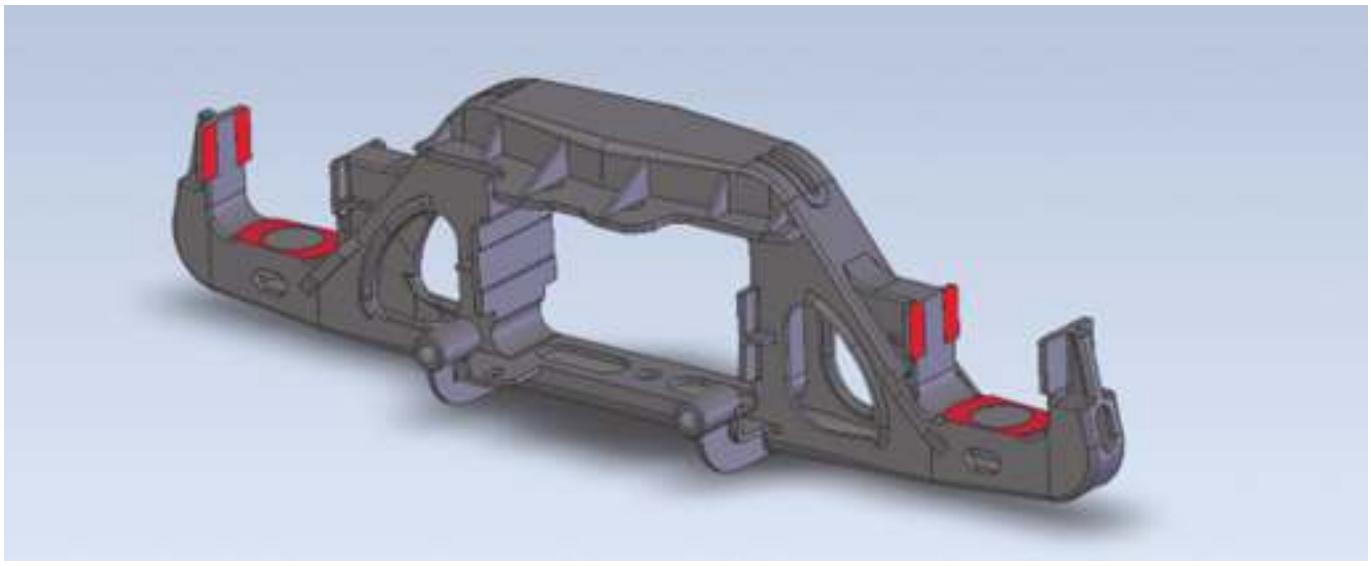
Basic technical characteristics machine VPK 01.01

Parameter	Value
Armature Weight up to, kg	1360
Armature Diameter range, mm	200...609
Armature length between center and Check up to, mm	1320
Commutator Diameter range, мм	203...508
Commutator Length, mm	300
Shaft Diameter range, mm	44...175
Permissible angle of inclination of the insulating plates	1°30'max
Ascending speed, mm/sec	3 ÷ 20
Cutter rotation speed, rpm.	1000 ÷ 4000
Power supply	3ph, 380В, 50Гц
Power, kW	4,0
Dimensions (WxLxH), mm	3100 x 2200 x 1550
Weight, kg	1250

*At the request of the customer, it is possible to change the characteristics and parameters of the machine

MILLING MACHINE FOR SIDE FRAME JAW OPENING SURFACES MODEL VF-2BP





Basic technical characteristics

Parameter	Value
Productivity, parts per hour	No less 4
Spindle speed, rpm	750
Working feed, mm/min	0,5...1000
Main drive power, kW	2 x 5,5
Installed power, kW	18,4
Frame clamp	Hydraulic2600x1900x1650
Overall dimensions, mm	4000
Weight, kg	

MILLING MACHINE FOR BOLSTER SLOPED SURFACES MODEL VF-4PPB

Basic technical characteristics

Parameter	Value
Productivity, parts per hour	No less 4
Spindle speed, rpm	750
Working feed, mm/min	0,5...5000
Main drive power, kW	2 x 5,5
Feed drive power, kW	4 x 2,2
Installed power, kW	22,6
Overall dimensions, mm	2700x2200x1500
Weight, kg	5900

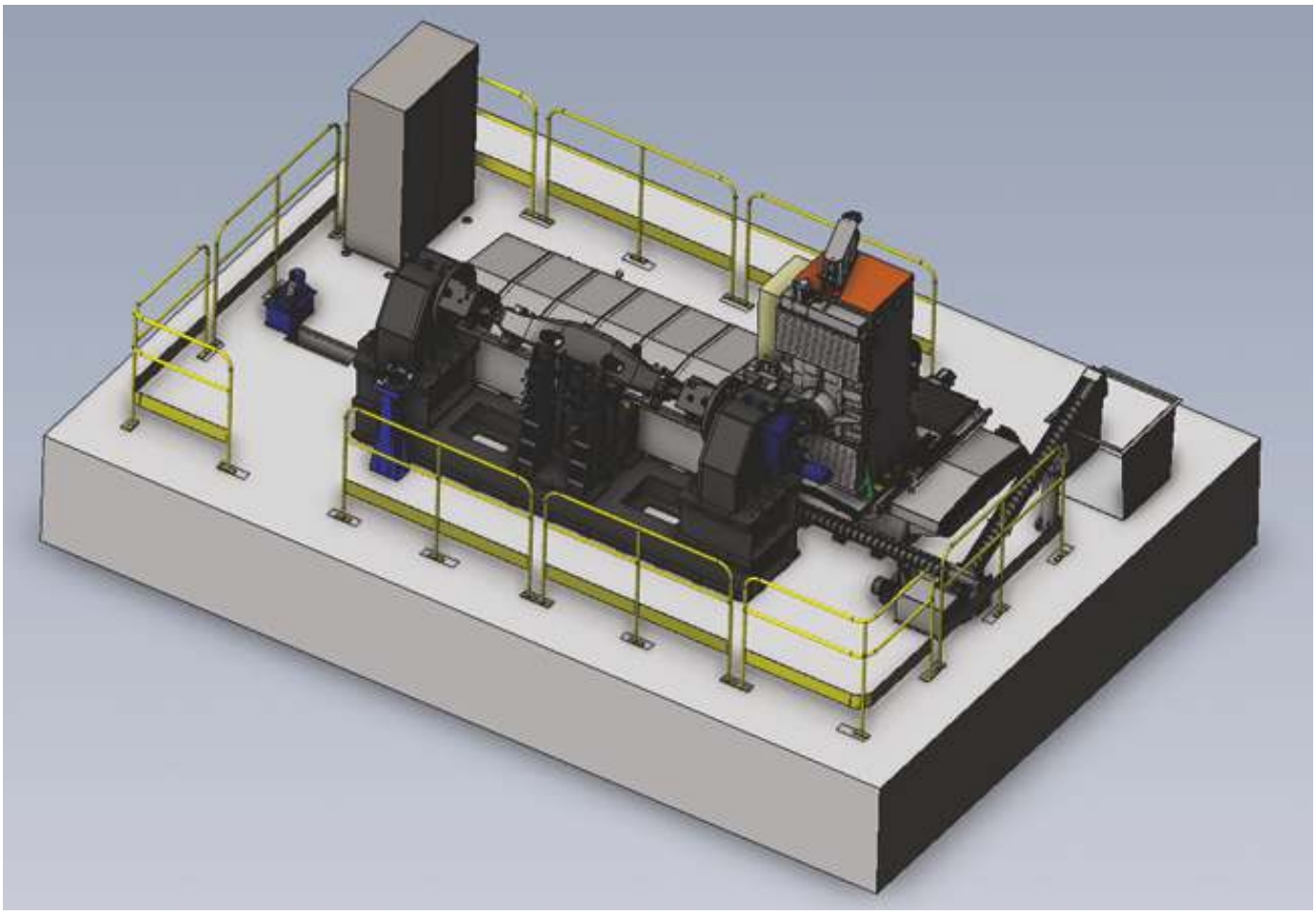
MILLING MACHINE FOR BOLSTER PAD MODEL VF-2PPB

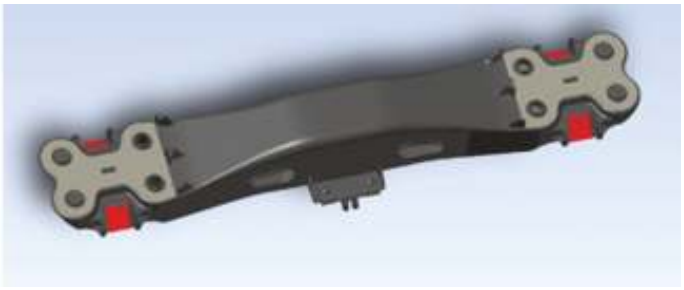
Basic technical characteristics

Parameter	Value
Productivity, parts per hour	No less 4
Spindle speed, rpm	750
Working feed, mm/min	0,5...500
Main drive power, kW	02 x 5,5
Feed drive power, kW	4 x 2,2
Installed power, kW	22,6
Overall dimensions, mm	2700x2200x1500
Weight, kg	5900

MACHINE FOR COMPLEX MILLING MODEL VF-7PPB

The machine for the complex surfaces milling of the wagon bolster VF-7PPB, which allows you to automatically process the surfaces of the wagon bolster during the manufacture of a new one or repair, namely: treatment of 4 sloped surfaces, bolster pivot point, and bolster pad in one installation of the bolster.





The machine of horizontal execution, with numerical control, consists of a base, a movable column, a milling head, and a rotary device for installing and positioning the workpiece (wagon bolster). Working movements are carried out from servomotors along three coordinate axes. As a cutting tool face mills with non-turning carbide inserts are used. The workpiece clamp is hydraulic, the positioning is automatic, the main drive and the feed drive are electromechanical. The control system is based on CNC.

Basic technical characteristics

Parameter	Value
Производительность (подпятниковый город, 4 наклонные поверхности), мин./дет	40
Частота вращения шпинделей, об/мин	20...1000
Рабочая подача, мм/мин.	0,5...5000
Мощность главного привода, кВт	5,5
Установленная мощность, кВт	22,6
Габаритные размеры (ДхВхШ), мм	4700x1550x1550

MILLING MACHINE FOR AXLE BEARING BOX MODEL VF-2PB

Basic technical characteristics

Parameter	Value
Productivity, bearing box per hour	10
Clamping of beabing box	Hydraulic
Number of milling heads	2
Main drive, kW/ rpm	5,5/280
Spindle	
Rotation frequency, rpm	347
Cutter diameter, mm	125
Feed drive	
Output shaft speed, rpm	140

RING ROLLING MACHINE MODEL PB7728

Gibson (safety) ring rolling machine PB7728 is designed to swage the bursts of wheel tire down to fasten the retaining ring.
The automatic machine control system is based on an industrial controller and provides the visualization of the operation of the machine equipment, technological process, the possibility of self-diagnosis of errors, and logging of work.
The machine is easily programmed for different wheels and can be adjusted if necessary

Machine features

1. The design of the machine PA7728 is simple, built on a modern element base, and provides the ability to disassemble individual units of the machine without disassembling other nodes, thereby significantly increasing its reliability and maintainability.
2. The machine has high-quality fittings, a fence with doors hiding hydro equipment and also creates a modern ergonomic appearance of the machine.
3. The lubrication system of the machine PA7728 is based on an automatic lubrication station, the machine control system monitors its operation, and signals an error or failure.
4. The machine has a built-in pyrometer for continuous measurement of the temperature of wheelset bandage.
5. All essential parameters are continuously displayed on the screen during the rolling process. The communication of the operator with the machine is being carried out in a dialogue mode.
6. The machine is controlled by the operator in the adjustment (manual) and automatic modes from the control panel.
7. The control system ensures the operation of the PA7728 machine in automatic mode with the control and fixing of the main parameters, namely effort, temperature, and start time, duration, total number of turnovers. The system signals or stops working in case of violation of the setting parameters (for example, too high or too low bandage temperature, violation of the effort, minimum number of turnovers, etc.), controls and signals the operation of all systems of the machine. All data, namely process data, axle, wheel bandage, wheel center, operator name, date and time data are recorded, stored and possibly transferred to a USB disk. The machine has both light and audible alarm.
8. The control panel is very simple; to start the process it is necessary to enter the data of the wheelset and press the start button, the machine will automatically execute the work according to the technological program and will stop after its completion.
The presence of modern equipment and an automatic control system guarantees the quality of rolling of safety rings and prevents any violation of the process, which is important for the formation of locomotive wheels and the safety of rail transport.

Basic technical characteristics machine Pb7728

Parameter	Value
Nominal machine force on roll, kN	600
Wheel set diameter, mm	500 - 1700
Tire width, mm	130-150
Tire thickness, mm	70-95
Max. rolling speed, m/min	11
Roll speed, mm/sec:	
-idle stroke	8.3
-working stroke	2.4
-back stroke	16.2
Rolls drive power, kW	9,2
Max slide stroke, mm	50
Max whhel set weight, t	5
Machine dimensions (LxWxH), mm	3825x1960x2240
Machine weight, kg	5800

*The machine parameters can be changed at the request of the customer.

DOUBLE CYLINDER WHEEL PRESS MODEL PDRZ-400

Double cylinder press model PDRZ-400 is designed for automatically mounting and dismounting all axle elements (wheels, brake discs, gears and bearings). The wheelset and its components are loaded and unloaded using a gantry crane.

The PDRZ-400 press operates under the control of the CNC system. Press controls are intuitive for efficient and safe operation.
There is an automatic measurement system and a wheelset axle alignment system.
The press is equipped with a block for registering and recording the pressing parameters.

Advantages of the PDRZ-400 press:

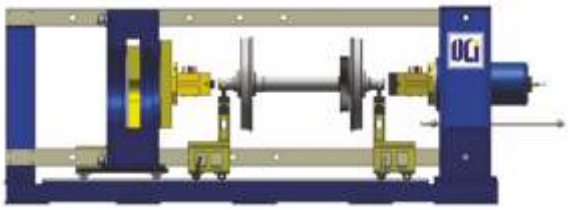
- a fully automated process of mounting and dismantling of wheelsets;
- high measurement accuracy and repeatability of the process;
- high performance;
- absence of human factor;
- work with any type of wheelsets;
- control of the process during its execution;
- the possibility of integration into an automatic line for the formation of wheelsets

Basic technical characteristics press PDRZ-400

Parameter	Value
Nominal press force, kN	4000
Maximum wheel diameter, mm	1200
Maximum Wheelset weight, kg	3150
Maximum wheelset Length, mm	2300
Maximum Axle diameter, mm	230
Track Gauge, mm	1435
Maximum stroke of the plunger working cylinder, mm	850
Ram travel, mm	650
Ram fitting speed, mm/sec	0,5...5
Speed of working cylinder plunger, mm/sec	50
- at idle stroke	1...4,5
- at working stroke	70
- at return stroke	50
The speed of movement of the support beam, mm/sec	8
Compressed air pressure, Bar	25
Operating pressure, Mpa	+5...+60
Temperature range, C°	3ph; 380V
Power supplyInstalled power, kW	60
Overall dimensions, (LxWxH), mm	7320x3100x2300
Mass of press, kg	28200
Production capacity for mount all the components of wheels, min.	upto 30
Accuracy, mm	0,5

* At the request of the customer, it is possible to change the characteristics and parameters of the press

SINGLE CYLINDER WHEELSET PRESS MODEL PRZ-400



Single-cylinder press model PRZ-400 is designed for mounting and dismounting of all axle elements (wheels, brake discs, gears and bearings).
The press is controlled by the operator in debugging, manual, and semi-automatic modes from the operator's console.
The automated process control system provides visualization of the operation of the press equipment, the possibility of self-diagnosis of errors, logging of the operation of the equipment and the progress of the technological process, including the recording of the Path-Pressure diagram for pressing.

Basic technical characteristics

Parameter	Value
Nominal press force, kN	4000
Maximum stroke of the plunger working cylinder, мм	850
Speed of working cylinder plunger, mm/sec	50
- at idle stroke	1...3,5
- at working stroke	70
- at return stroke	50
The speed of movement of the support beam, mm/sec	1500
The largest diameter of the product, mm	400...2900
Length of the product (wheel set), mm	25
Operating pressure, MpaInstalled power, kW	25
Overall dimensions, (LxWxH), mm	6000x2300x2400
Mass of press, kg	18000

* At the request of the customer, it is possible to change the characteristics and parameters of the press

WHEEL PULLER PRESS MODEL PRS-100

The Wheel Puller press PDK-100 is designed to dismantle wheels of locomotives, passenger and freight wagon wheelsets.
The press is equipped with a high-pressure oil pump and a wheel kit lifting and rotating equipment by 180 degrees.

Basic technical characteristics

Parameter	Value
Maximum Pulling force, KN	900
Cylinder stroke, mm	500
Cylinder pressure, bar	630
Cylinder Height, mm	900
High pressure oil pump, bar	3000
Working speed, mm / sec	3,6
Wheelset lifting height, mm	200
Wheelset Rotation angle	180
Compressed air pressure in the pneumatic system, Mpa	6
Air consumption in the pneumatic control system, m3 / hour	0,2
Temperature range, C°	+5C...+60
Power supply	3ph, 380V, 60Hz
Power, kW	4,0
The press dimensions (WxLxH), mm	1400×4400×1900
The Lifting and Rotating Equipment Dimensions (WxLxH), mm	1480x1400x670
Total Weight, kg	1320

* At the request of the customer, it is possible to change the characteristics and parameters of the press

DISMOUNT WHEELSET PRESS MODEL PR-400

The specialized press is intended for pressing the wheelsets of freight cars from the axle.
At the request of the customer, it is possible to manufacture a press for any type of wheelsets.

Advantages of the press PR-400

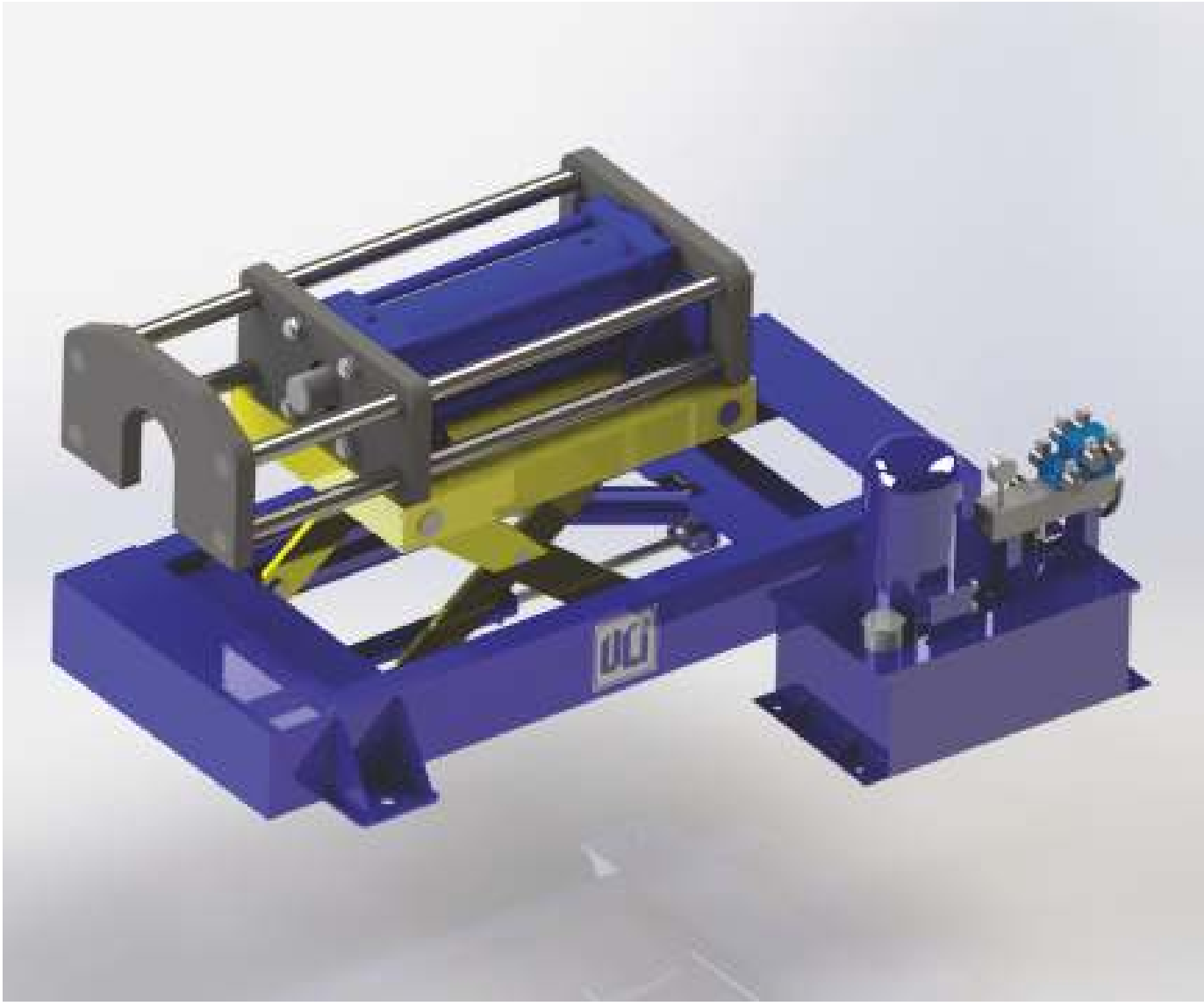
1. The pre-stressed design of the press frame guarantees a significant reduction in distortions and deformations of the frame, side loads in the cylinder, which leads to a significant (20 ... 30%) increase in the service life of the base parts of the press and the quality of pressing out
2. The cylinder body and piston adopt one-piece forged design, which improves the reliability and extends the service life of the cylinder.
3. The design of the column press base is not welded, which excludes possible welding defects and residual deformations after welding.
4. The base, hydraulic station, electrical equipment and all auxiliary equipment are installed on the same frame.
5. Low power consumption.

Basic technical characteristics

Parameter	Value
Nominal force of the press, kN	4000
Rated oil pressure power system, Mpa	32
Main cylinder	
-The force of the cylinder, MN (tf)	4 (400)
-Working stroke, mm	350
The speed of the rod of the working cylinder, mm/sec	
- Working stroke	2,8
- Installation movement	13,2
- Return stroke	30,3
Maximum wheel diameter, mm	1100
Overall dimensions of the press (WxLxH), mm	1600x3650x1810
Press weight, kg	9300
Power consumption, kW	11

* At the request of the customer, it is possible to change the characteristics and parameters of the press

BEARING PRESS MODEL PDP-100



The Bearing Puller press PDP 100 is designed to dismantle or install tapered roller bearings and railway bearing sets from the journals of locomotives, passenger and freight wagon wheelsets.

Basic technical characteristics

Parameter	Value
Maximum Pulling force, KN	900
Cylinder stroke, mm	500
Cylinder pressure, bar	630
Working speed, mm / sec	3,6
Height of lifting of the axis of the hydraulic cylinder, mm	500...1100
Temperature range, C°	+5C...+60
Power supply	3ph, 380V, 60Hz
Power, kW	4,0
Dimensions (WxLxH), mm	2450×1050×1150
Weight, kg	440

* At the request of the customer, it is possible to change the characteristics and parameters of the press

PRESS FOR JOINTS OF RAIL TESTING MODEL PVR-350

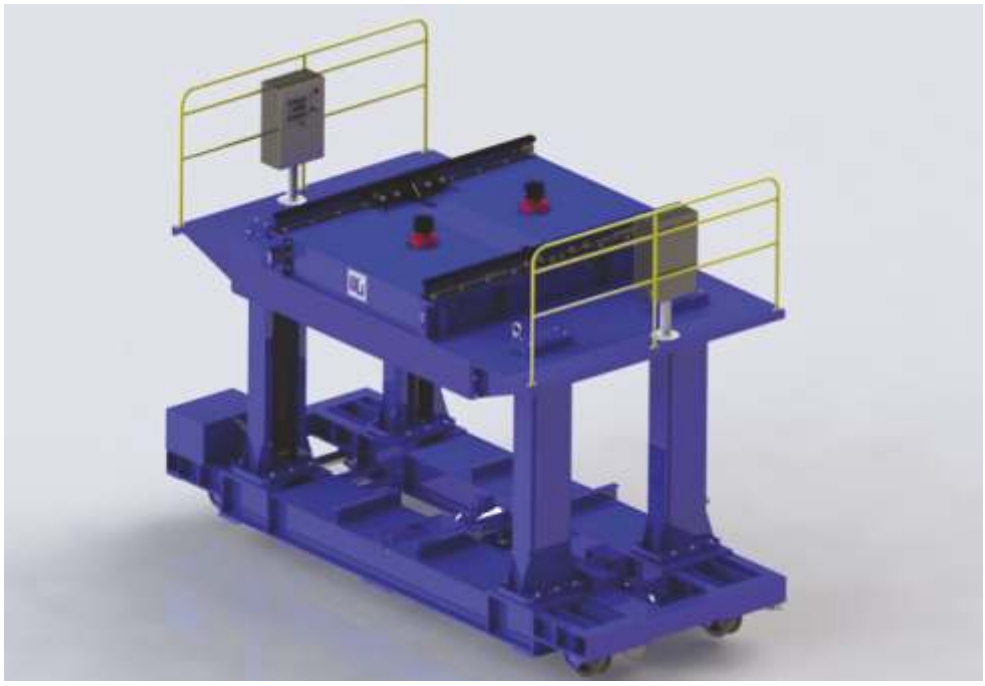
The press model PVR-350 is designed for strength and plasticity testing (static transverse bending) of welded rail joints of samples of railway rails of different types (non-thermo-strengthened, heat-strengthened, heat-strengthened of the highest quality) with a load both on the head and on the sole.
Press control is carried out by the operator in debugging, manual and semi-automatic modes from the operator's console. The operator's remote is equipped with a color touch monitor. The process parameters are set in dialog mode.
The automatic control system provides visualization and logging of work of the press and the course of the technological process of testing the welded joint, measurement, registration, formation of loading curve of the process, and possibility of self-diagnosis of errors.
The press can be used both at rail-welding enterprises, and in the composition of mobile flash-butt rail welding machines.

Basic technical characteristics

Parameter	Value
Maximum effort, kN	3500
Maximum deflection, mm	60
Length of welded specimens, mm	1100...1800
Working pressure in the hydraulic system, Mpa	40
Power supply	3ph, 380V, 60Hz
Overall dimensions (LxWxH),mm	2250 x 580 x 1550
Total weight, kg	3090

* At the request of the customer, it is possible to change the characteristics and parameters of the press

WHEEL SET-TRACTION MOTOR DROP TABLE MODEL VESP-70



Drop table model VESP-70 applies for rail vehicle maintenance to facilitate the replacement of a wheel set-traction motor assembly from underneath its locomotives.
The Drop table is used for all types of locomotives on railways of countries with railways gauge 1435mm (1520mm).
Machine design ensures the safety and efficiency of maintenance work in a locomotive depot.

Advantages of the VESP-70.

- The drive for moving the rail clamps that fix the ramp relative to the pit is hydraulic;
- The drive for moving the rail inserts is hydraulic;
- The upper platform movement reducers are based on standard reducers, which greatly facilitates and reduces the cost of maintenance and repair of the drop tabel;
- Screws and tightening cylinders are protected by corrugated shield from dust, dirt and damage.

Basic technical characteristics of the VESP-70

Parameter	Value
1. Max wheel diameter, mm	1250
2. Lifting capacity, kg:	70000
maximal	40000
working	180
3. Lifting speed, mm/min.	8
4. Lowering time, min., not more	1380
5. Vertical travel, mm., not less	20
6. Additional lifting height, mm., not less	1520
7. Track width of the upper frame, mm	
8. The width of the lower track to move the drop table , mm	1620
9. Motion speed, m/min.	6
10. Overall dimensions (LxWxH),mm	3875x2350x2890
11. Total weight of the droptable, kg	8812

* At the request of the customer, it is possible to change the characteristics and parameters of the model of drop table

STATIONARY SCREW JACK MODEL DVS-30, DVS-40

Stationary screw jacks for railway transport are designed to lift locomotives, electric locomotives, diesel locomotives, all types of railway freight and passenger cars, cranes on railway tracks, motor railways, railcars, platforms, tanks, gondola cars, including synchronized lifting of high-speed and electric trains.

Basic technical characteristics

Parameter	DVS-30	DVS-40
Lifting capacity, t	30	40
Total jack capacity, t	120	160
Lifting speed, mm/min	172	172
Maximum lifting height, mm	1960	2600
Motor power, kW	5,5 (7,5)	7,5
Dimensions, mm	1500x1300x2550	1500x1300x3850
Jack / Installation Weight, kg	9200	9700

UNDER FLOOR LIFTING SYSTEM

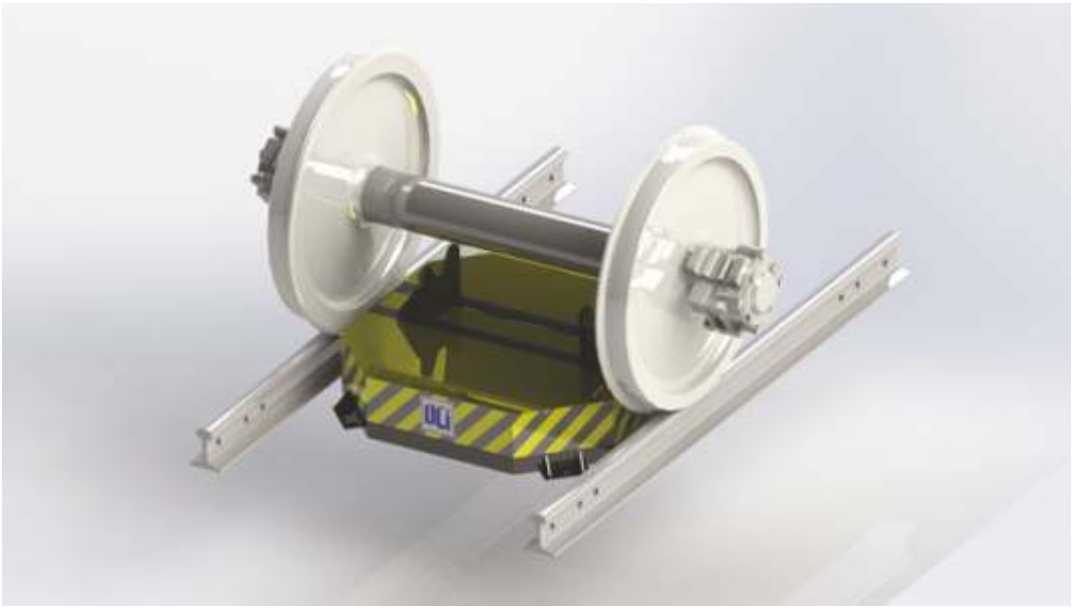
The UCI Under Floor Lifting System (also referred to Synchronized Pit Jacks) is to intended to synchronized lift, lower, and support all types of rolling stocks in single and/or group mode to enable inspection of underframe and bogie, maintenance of bogie, dismantling/replacement of bogie etc.

Basic technical characteristics

Parameter	Value
Track guide, mm	1435
Trolley lift	
Trolley lift capacity, t	22 т на яму
Maximum lifting height, mm	1800
Lifting speed, mm/min	400
Wagon body lift	
Cart lift capacity, t	11т одна (22т на яму)
Maximum lifting height, mm	2700
Lifting speed, mm/min	800

* At the request of the customer, it is possible to change the characteristics and parameters

WHEELSET LIFTING ROTATING PLATFORM



The Wheelset lifting rotating platform is designed to lift and turn the wheelset to the required angle of 90° or 180°.

Basic technical characteristics

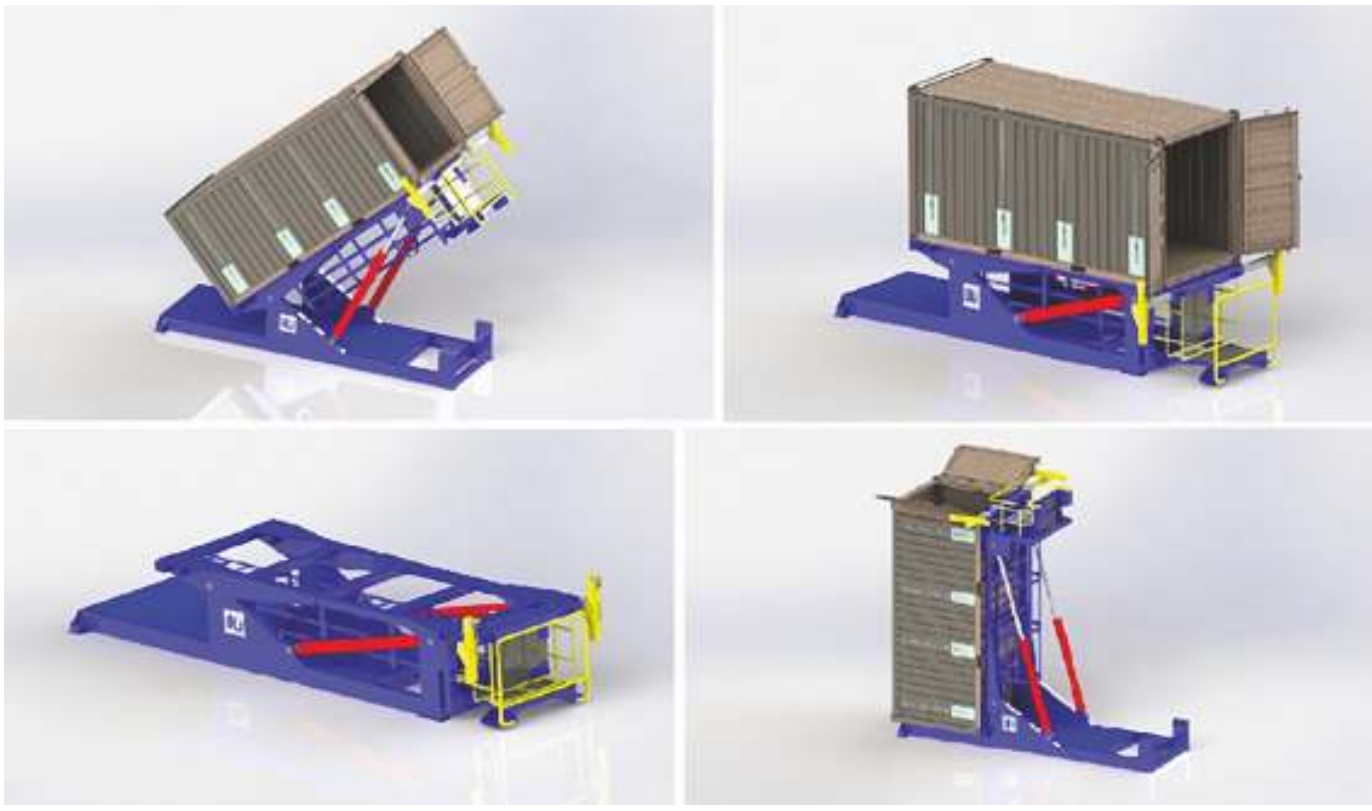
Parameter	Value
Platform drive	pneumatic
Load capacity, kg	2000
Lifting height of wheelset, mm	200
Working pressure of compressed air, Mpa	0,5...0,6
Rotation angle, deg.	90; 180
Weight, kg	250
Overall dimensions, mm	1250x800x700

POSITIONER FOR SURFACE OF SIDE FRAMES MODEL PN-2BR

Basic technical characteristics

Parameter	Value
Rated speed, rpm	3
Rotary drive type	electric
Frame clamp type	Mechanical manual
Consumed electric power, kW	3
Overall dimensions, mm	3300x2000x2600
Mass, kg	1300
MTBF, h	10000
Average service life, years	10
Warranty period, months	12

CONTAINER TILTER



Container Tilteris designed to staff bulk cargo (seeds, fertilizers, granules, capsules, etc.) into 20`or 40` containers. Loading can be done at different angles from 10 ° to 90 °. The cargo are loaded from above, thus achieving almost full load of the containers.

Basic technical characteristics

Parameter	Value
Productivity	5 cycles per hour(depending on the load andthe operator's work)
Max loading weight into container	30000kg
Max loading size	in accordance with a 20-footcontainer
Elevation angle	10 ° to 90 °
Height of the lift	1200-1400mm
Working temperature	-30 to +50 ° C
Length and width ofloading area:	9000 x 4000
Weight of the Container Tilter	7t
Motor power	11 kW
Elctrical connection	50A; 3 phases
Control	Manual

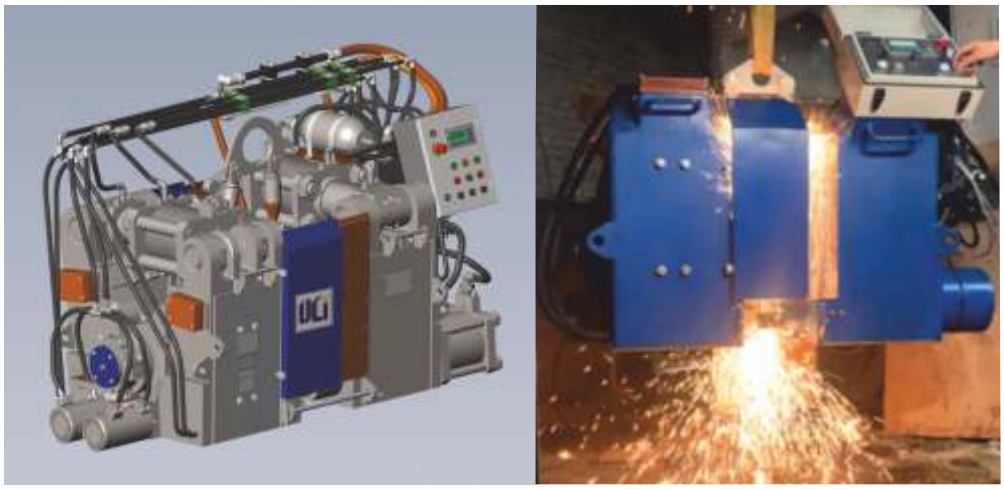
STATIONARY FLASH BUTT RAIL WELDING MACHINE

The stationary rail welding machine is designed for flash butt welding of rails with a cross-sectional area from 5000 mm2 to 10000 mm2 by continuous or pulsed flashing with deburring immediately after welding under stationary conditions.

Basic technical characteristics

Parameter	Value
Rated supply voltage, V	380
Current frequency, Hz	50
Maximum short circuit power, kVA, not less than	600
Maximum secondary current, kA, not less	84
Rated continuous secondary current, kA, not less	19
Rated duty cyrcle	180kVA @ 50%
Maximum short-term welding and deburring productivity of rails with 8265mm2 section, butt/hour, not less than	15
Rated upset force, kN at 20 MPa pressure	800 ± 60
Rated upset, mm	20 ± 0,5
Weight of equipment set, kg	12850

PORTABLE FLASH BUTT RAIL WELDING MACHINE



The suspended rail welding machine is designed for flash butt welding of rails with a cross-sectional area from 6500 mm2 to 10000 mm2 by continuous or pulsed flashing with deburring immediately after welding and is used as part of mobile rail welding complexes.

Basic technical characteristics

Parameter	Value
Rated supply voltage, V	380
Current frequency, Hz	50
Maximum short circuit power, kVA, not less than	500
Maximum secondary current, kA, not less	67
Rated continuous secondary current, kA, not less	24
Rated duty cyrcle	211kVA @ 50%
Rated upset force, kN at 21MPa pressure	1200
Maximum short-term welding and deburring productivity of rails with 8265mm2 section, butt/hour, not less than	15
Rated upset force, kN at 21 MPa pressure	2900
Range of upset, mm	7,5...15
Weight of equipment set, kg	5000

RAIL WELDING COMPLEXES RWC

UCI Group manufactures rail welding complexes, both stationary and mobile, based on containers or chassis on a combined track.

CONTAINER TYPE RAIL WELDING COMPLEX RWC-2C
Designed in the form of two 10-foot containers, which allows it to be installed both on a car chassis and on a railway platform or platforms.

CONTAINER TYPE RAIL WELDING COMPLEX RWC-1C
Designed in the form of a 20-foot container, which allows it to be installed both on a car chassis and on a railway platform.

MOBILE TYPE RAIL WELDING COMPLEX RWC-M
Designed on the basis of an rail-road vehicle.

Each of the rail welding complexes includes:
1. Hanging flash butt rail welding machine
2. Diesel generator
3. Hydraulic manipulator
4. Cooling station
5. Power cabinet and control system.

WHEELSET WASHER

The complex is designed for washing wheel sets with a washing solution heated up to 40...90ºC, rinsing them with clean water and drying them with compressed air.

Description of the complex
The washing chamber is a hermetic passage-type chamber equipped with lifting door curtains and a ventilation system.
The wheelset is manually fed into the washing chamber and mounted on the rollers of the rotation mechanism. The door shutters are closed, the wheelset is washed, rinsed and blown with compressed air. At the end of the cycle, the door curtains are raised and the wheelset is ejected.
The complex is controlled from the control panel in both automatic and manual modes, in the setup mode, the washing parameters are set. The automated process control system is built on the basis of an industrial controller, the control panel is equipped with a touch panel.

Basic technical characteristics

Parameter	Value
Washer type	single-chamber, walk-through, non-contact
Machined wheelset:	
- the largest diameter in the circle of skating, mm	1260
- maximum width, mm	2520
- maximum weight, kg	2750
Wheel pair washing time, min.	7...10
Washing solution temperature, ºC	40...90
Installed electric power, kW	140
Overall dimensions of the sink (LxWxH), no more than, mm.	3800x1800x2400
Weight, kg	4200

REPAIR AND MODERNIZATION OF EQUIPMENT FOR PROCESSING AND FORMING RAILWAY WHEELS

REPAIRS AND MODERNIZATION OF WHEEL LATHE MACHINES WITH CNC SYSTEM INSTALLATION

Modernization of wheel lathes consists in installing two new supports on the machine (or upgrading existing ones), which are made on the basis of high-precision rolling guides and backlash-free ball screws. The supports are equipped with measuring devices that measure the profile of the wheelset before and after turning. In the course of these works, the main DC drive motor is replaced with an asynchronous electric motor with stepless frequency control, a new hydraulic station, a new lubrication station, a new electrical equipment along with a CNC system are installed.

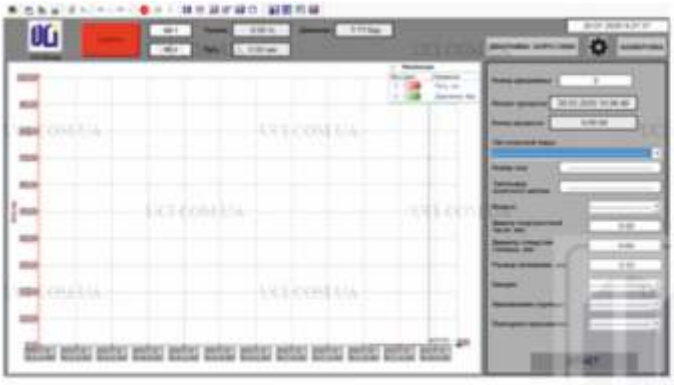
REPAIR AND MODERNIZATION OF EQUIPMENT FOR PROCESSING AND FORMING RAILWAY WHEELS

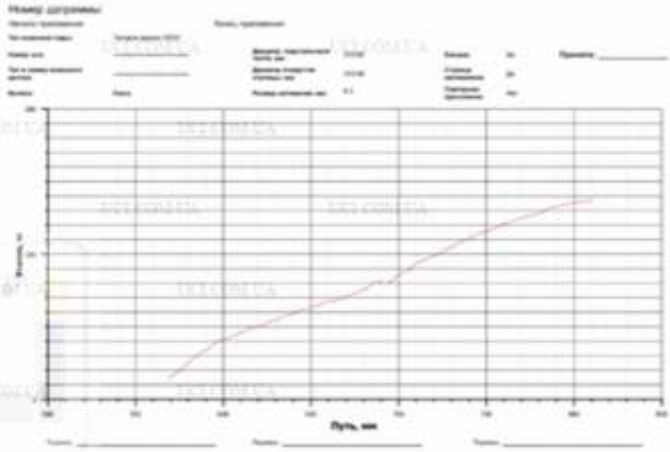
REPAIRS AND MODERNIZATION OF WHEEL LATHE MACHINES WITH CNC SYSTEM INSTALLATION

During the modernization process:

1) Modernization of the slider with the replacement of a 5-position turret with a more rigid slider with a cutting head and an automatic tool change system.
2) Installation of an automatic tool change system for 10 positions.
3) Installation of a telescopic or corrugated guide traverse.
4) Modernization of the gearbox to obtain faceplate speed control in two ranges with smooth adjustment.
5) Modernization of feed boxes with the installation of low backlash gears with servo drives.
6) Chip Conveyor Installation.
7) Installation of a protective cabinet.
8) Installation of a new guide lubrication system.
9) CNC installation.

REPAIR AND MODERNIZATION OF HYDRAULIC WHEEL PRESSES models PA6730, P6736, PA6738, P6738B, P6738A.
In the process of modernization, the old electrical and hydraulic equipment is replaced by a new modern one, the press is equipped with an operator's console with a color touch screen and visualization of operating modes and parameters, their recording and storage, registration and recording of pressure-path diagrams for pressing wheel sets.





MANUFACTURING OF SPARE PARTS

SPARE PARTS FOR MACHINES

1) Hardening rollers for machines KZ1840.02, KZ1841.02, KZ1842.02, KZ1843.02, KZ1844.02
2) Hydrocopy sensors 36-77-01 for machines KZ1836A, KZ1836B, KZ1836M.10
3) Hydrocopy sensors for machines KZ-1832, KZ-1833, 1A832, 1A833, 1B832, 1B833
4) Cutters for underfloor wheel milling machine KZ20, repair of cutters for wheel milling machines KZ20
5) Other spare parts: gears, combs, holders, tool holders, centers, couplings, shafts, bushings of machines manufactured by KZTS and Rafamet.

SPARE PARTS FOR RAIL WELDING MACHINES

Current leads, sponges, liners, flexible busbars, curtain mechanism, curtains, deburring knives for stationary and suspended machines of models K355, K920, K920-A, K922, K1000, K1100, K924.

UCI Group
str. Lutsenko, 6, Cherkasy, 18007, Ukraine.
Phone: +38 (0472) 59 04 88
Mobile, Telegram, WhatsApp +38 (067) 446 04 48
E -mail: uci.com.ua@gmail.com
UCI.COM.UA