Machine-Building Enterprise

PromStroiMash LLC

EQUIPMENT CATALOG

2019

PRESS-FORGING
METAL CUTTING
AUXILIARY

CONTENTS

RELIABILITY

The plant's products are manufactured only from high quality materials from trusted domestic suppliers. All equipment is covered by a warranty.

BENEFITS

Individual approach, efficient order processing, and high quality of equipment produced by the plant at reasonable prices.

CONVENIENCE

Professional managed delivery of machines and equipment just in time by road or rail throughout Russia and the Customs Union.

SUPPORT

Service professionals provide warranty and post-warranty maintenance, supervision, commissioning, and personnel training.

SALES LOCATIONS

Products of the plant are supplied to various companies in the regions of Russia, the Republic of Belarus, Ukraine, and Kazakhstan.

It finds markets in Bangladesh, India, Iran, Latvia, Lithuania, and Estonia.

Besides, today the company is expanding its sales markets and upgrading its production facilities.

COMPANY'S BUSINESS

PromStroiMash Machine-building Enterprise, LLC is a plant with a structure including a mechanical and mechanical assembly shop, a blank production, welding, tool, electrical, painting, and heat treatment department. The company commercially produces more than 100 different models of equipment.

Now it continuously improves quality of its produced equipment and its reliability, is working on introducing frequency converters, controllers, DRU, and CNC systems in products.

Независимая Российская Сертификация

ISO 9001

СИСТЕМА ДОБРОВОЛЬНОЙ СЕРТИФИКАЦИИ
СИСТЕМ МЕНЕДЖМЕНТА
«НЕЗАВИСИМАЯ РОССИЙСКАЯ СЕРТИФИКАЦИЯ»
Регистрационный № РОСС RU.31495.04ЖЗШ1

СЕРТИФИКАТ СООТВЕТСТВИЯ

Выдан: Обществу с ограниченной ответственностью
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НАСТОЯЩИЙ СЕРТИФИКАТ УДОСТОВЕРЯЕТ:

Система менеджмента качества
применительно к разработке конструкторской и сопроводительной документации, производству, гарантийному, постгарантийному и сервисному обслуживанию кузнечно-прессового и металлообрабатывающего оборудования, металлорежущего инструмента, оснастки и запасных частей к выпускаемому оборудованию

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ

ГОСТ Р ИСО 9001-2015 (ISO 9001:2015)

Регистрационный номер	СДС.HPC.RU.001.ОС.01.СМК.00385
Дата регистрации:	с 01.10.2018 г.
Срок действия:	по 01.10.2021 г.

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PRESS FORGING EQUIPMENT

AIR SQUARING SHEARS

Air squaring shears are characterized by high precision of shearing provided by improved rigidity and strength of a welded frame made of certified domestic steel with bolted connections and a table with milled grooves and roller supports to facilitate sheet movement. The main feature of the shears with a pneumatic drive with the ÓÂ model clutch/brake is low noise and shearing accuracy. It is the best choice for thin sheet metal, non-ferrous metals, and alloys.

Air squaring shears produced by the PromStroyMash Plant is an example of shears production preserving the best solutions of the domestic engineering school while utilizing modern shears control design.

Specifications*	НА3214	НД3314	НА3216	НД3316	НК3416	НД3318	НК3418	НК3418А.01	НА3121	НА3122
Sheared sheet width, mm	1600	1600	2000	2000	2000	2000	2000	3150	2000	2000
Sheared sheet thickness at ultimate tensile strength = 500MPa, mm	2,5	2,5	4	4	4	6,3	6,3	6,3	12	16
Length of sheet sheared with back gage	700	560	700	600	700	600	600	500...1000	500	500
Idle blade strokes, min-1	68	65	68	65	68	50	60	60	40	60
Moving blade rake angle, α	1°30'	1°20'	1°30'	1°19'	1°30'	1°30'	1°30'	1°30'	2°10'	2°10'
Distance between the upper edge of the lower blade and the floor, mm	860	860	900	940	900	900	920	800	800	800
Electric motor capacity, kW	3	3	5,5	5,5	5,5	7,5	7,5	15	18,5	22
Length	2150	2400	2610	2850	2610	3125	2780	4030	3400	3400
Width	1475	1600	1600	1635	1600	1600	1600	1910	2200	2200
Height	1375	1340	1510	1520	1510	1550	1620	1720	2200	2200
Weight, kg	1800	2080	2870	3450	2870	4520	4250	6220	7000	8300

* Based on the customer's specification, pneumatic shears can be manufactured with a table up to 3,150 mm wide and a shearing thickness up to 32 mm, but it may impact the shear dimensions and weight.
A detailed technical proposal and quotation will be provided upon specification submission.

SQUARING SHEARS WITH HYDRAULIC SHEET HOLDDOWN

Shears with hydraulic blade holddown are used in the blank production shops of mechanical engineering and shipbuilding companies and other industries. They are designed for linear shearing of plate and strip material.

Squaring shears are capable of cutting nonmetallic sheet material that does not cause dulling or cracking of blade edges. The frame is built-up with a fixed table with a set of blades attached to it.

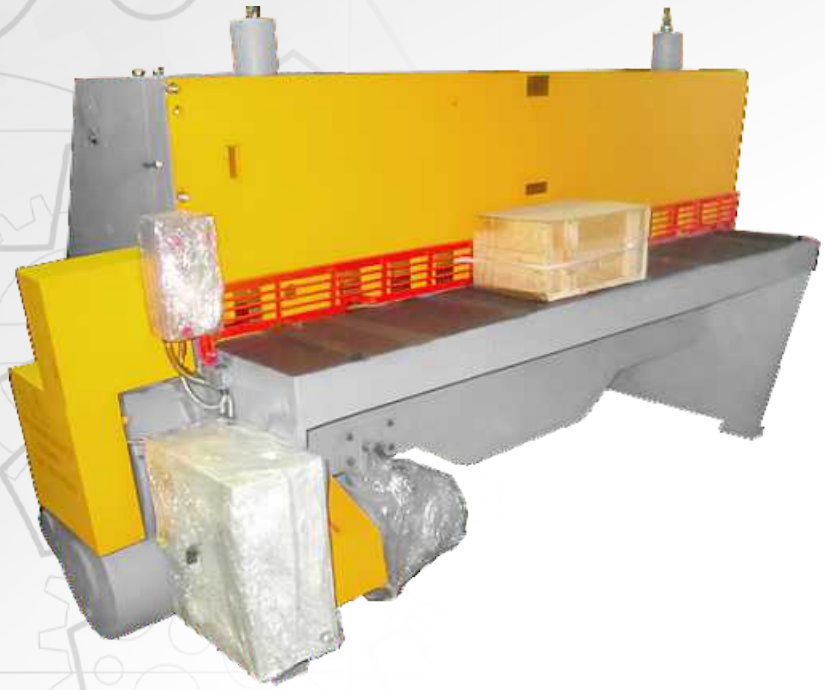
The blade rams moves along the side roller supports and two flat guides at the front. During cutting, the sheet to be sheared is held down against the table with a hydraulic holddown. Shears control is push-button and footswitch.

Operating mode: set-up, single, and continuous stroke.

Specifications*	HA3218	HA3221	HA3222	HA3223	HA3224	HA3225
Sheared sheet width, mm	3150	3150	3150	3150	3150	3150
Sheared sheet thickness at ultimate tensile strength = 500 MPa, mm	6.3	12	16	20	25	32
Length of sheet sheared with back gage	630	1000	1000	1000	1000	1000
Idle blade strokes, min-1	60	30	30	30	30	30
Moving blade rake angle, α	1°30'	2°10'	2°10'	2°10'	2°40'	2°40'
Distance between the upper edge of the lower blade and the floor, mm	800	800	800	900	900	900
Electric motor capacity, kW	11	22	30	37	45	50
Length	4220	4700	4750	5100	5155	5220
Width	1680	2380	2350	2550	3630	3700
Height	1720	2300	2300	2760	2850	2950
Weight, kg	7200	15800	20380	24500	31200	33950

PRESS FORGING EQUIPMENT

ELECTROMECHANICAL SQUARING SHEARS



Electromechanical shears are characterized by high precision of shearing provided by improved rigidity and strength of a frame with bolted connections and a table with milled grooves and roller supports to facilitate sheet movement.

The shear frame is fabricated and welded from certified domestic steel. The main feature of shears with an electromechanical drive with a cam clutch (operation with the special keys) is operation at a low temperature inside the shelter, low operating costs, and shearing accuracy.

It is the best choice for operation in the production shops of construction companies and assembly areas.

Specifications*	МНГ 2х1300	МНГ 3х1300	МНГ 4х1300	НК 3418А	СТД 9А	СТД 9АН	НКЧ 6020	СТД 9АМ
Sheared sheet width, mm	1300	1300	1300	2000	2000	2500	2500	2500
Sheared sheet thickness at ultimate tensile strength = 500 MPa, mm	2	3	4	6,3	6,3	4,3	6	6,3
Length of sheet sheared with back gage, mm	-	750	750	500	500	630	500	630
Blade strokes during shearing, min-1	47	47	65	25	21	21	25	21
Moving blade rake angle, α	1°30'	1	1	1°20'	1°20'	1°30'	1°20'	1°30'
Distance between the upper edge of the lower blade and the floor, mm	850	860	860	800	800	800	800	800
Electric motor capacity, kW	1,5	3	3	7,5	7,5	7,5	7,5	11
Length, mm	1620	1850	1850	2870	2900	3300	3400	3300
Width, mm	770	1750	1750	1750	1800	1900	1400	1900
Height, mm	1100	1320	1320	1850	1940	1940	1390	1940
Weight, kg	520	1750	1800	4320	3350	4200	3700	4600

* Based on the customer's specification, electromechanical shears can be manufactured with a table up to 3,150 mm wide and a shearing thickness up to 22 mm, but it may impact the shear dimensions and weight.
A detailed technical proposal and quotation will be provided upon specification submission.

ELECTROMECHANICAL SQUARING SHEARS

Standard equipment

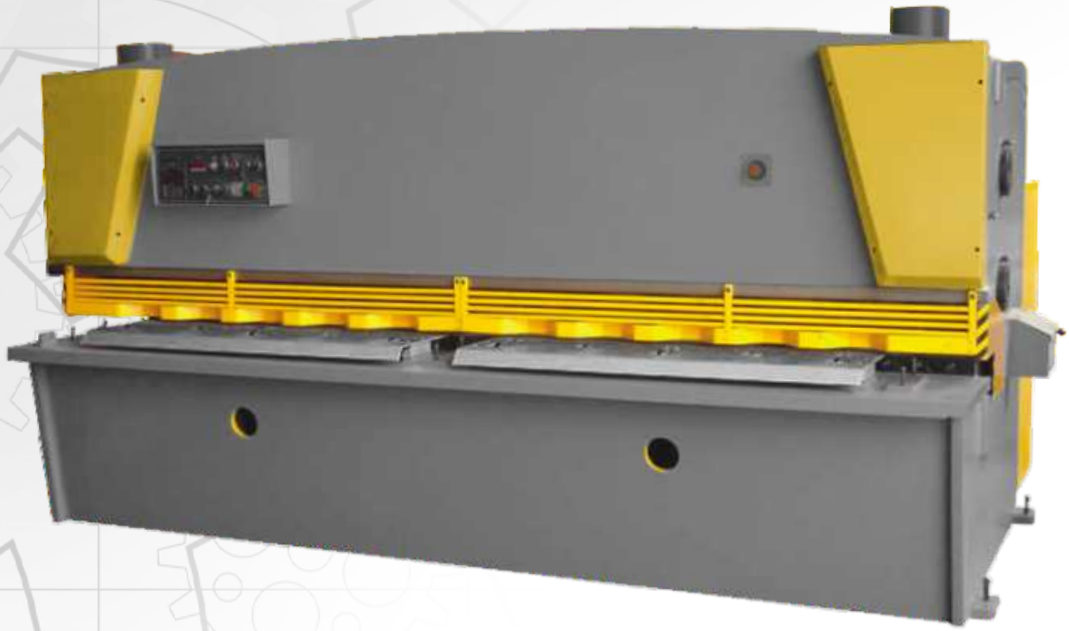
- Shears complete with control panel;
- LED lighting line for operating area;
- External control footswitch;
- Side gage for square shearing;
- Back guard for collecting blanks;
- Spare parts, tools, and accessories kit;

Additional options

- Front table extensions.
- Ball supports for sheet movement.
- Line laser for cutting line projection.
- Electromechanical back gage with DRU
- Rubber pads to reduce sheet deformation during cutting.
- Motorized / neutral roller conveyors.
- Motorized / passive sliding carriers.

Specifications*	H3118	HK 3418A.02	H3121	МНГ 13	МНГ 16	H3122	H478	H478.01
Sheared sheet width, mm	2000	3150	3150	2000	2000	2000	2200	2000
Sheared sheet thickness at ultimate tensile strength = 500 MPa, mm	6.3	6.3	12	13	16	18	16	22
Length of sheet sheared with back gage, mm	500	500..1000	500	500	500	500	650	650
Blade strokes during shearing, min-1	45	60	40	40	40	40	20	20
Moving blade rake angle, α	1°30'	1°30'	2°10'	2°10'	2°10'	2°10'	2°04'	2°04'
Distance between the upper edge of the lower blade and the floor, mm	800	800	800	800	800	800	800	800
Electric motor capacity, kW	7.5	15	18.5	18.5	22	22	30	37
Length, mm	3000	4030	3150	3100	3100	3150	3300	3300
Width, mm	2000	1910	1950	2100	2100	2450	2400	2600
Height, mm	2200	1720	2250	2300	2300	2450	2350	2500
Weight, kg	5100	6320	7000	7000	7500	8900	11000	12500

HYDRAULIC SQUARING SHEARS



Hydraulic shears are available in various versions: with a table 2,500 / 3,200 / 4,000 / 5,000 / 6,000 mm wide for shearing sheet with a thickness between 4 and 30 mm. A rigid all-welded shears frame ensures high equipment accuracy and reliability during operation. The main design feature of this squaring shears series is that the upper ram moves at an angle when shearing providing for high metal cutting accuracy that is much more difficult to achieve with straight guides.

State-of-the-art equipment design, convenience in operation, lower noise, and a reliable safety system meeting the requirements of specifications and GOST support shears use in many cutting edge automated production facilities with high reliability needs.

Specifications* of НГ33-	16.25	16.32	16.40	18.25	18.32	18.40	18.50	18.60	19.25	19.32	19.40	19.50	19.60	20.25	20.32	20.40	21.25	21.32
Sheet thickness, mm	4	4	4	6	6	6	6	6	8	8	8	8	8	10	10	10	12	12
Shearing length, mm	2500	3200	4000	2500	3200	4000	5000	6000	2500	3200	4000	5000	6000	2500	3200	4000	2500	3200
Blade length, mm	2600	3300	4100	2600	3300	4100	5100	6100	2600	3300	4100	5100	6100	2600	3300	4100	2600	3300
Blade strokes, min-1	8-16	8-16	8-16	8-16	8-16	8-16	8-16	8-16	8-16	8-16	8-16	8-16	8-16	8-12	8-12	8-12	8-12	8-12
Moving blade rake angle, α	30' - 1°30'	30' - 1°30'	30' - 1°30'	30' - 1°30'	30' - 1°30'	30' - 1°30'	30' - 1°30'	30' - 1°30'	30' - 1°45'	30' - 1°45'	30' - 1°45'	30' - - 2°	30' - - 2°	30' - - 2°	30' - - 2°	30' - - 2°	30' - - 2°	30' - - 2°
Max. back gage adjustment, mm	500	500	500	600	600	600	800	800	600	600	600	800	800	800	800	800	800	800
Electric motor capacity, kW	5.5	5.5	5.5	7.5	7.5	7.5	11	11	7.5	7.5	7.5	15	15	11	11	11	15	15

* Based on the customer's specification, hydraulic shears can be manufactured with a table up to 6,000 mm wide and a shearing thickness up to 30 mm.
A detailed technical proposal and quotation will be provided upon specification submission.

HYDRAULIC SQUARING SHEARS

Hydraulic squaring shears features

- Shearing accuracy.
- Parallel shearing.
- Long frame service life.
- Best construction.
- High efficiency.
- Protection of blanks.
- Safety.
- Convenient and easy operation.

The design extensively uses components from the world's leading brands

- Controller **E21**
- Main motor **Siemens**
- Electrical equipment **Schneider**
- Hydraulic pump **Chengjie**
- Seals **NOK** (Japan)
- Hydraulic equipment **Bosch**
- Ball screws **HIWIN** (Taiwan)

Design features

- The shears frame is welded steel subjected to a stress relief procedure.
- The shears are equipped with an inclined blade ram and return cylinders with an accumulator.
- Easy adjustment of the blade gap with an integrated scale.
- The shears are equipped with a safety screen for the blade ram with limit switches.

Hydraulic squaring shears offer various additional functions

- Back gage control capability.
- Shearing angle control capability.
- Blade gap control capability.
- Shearing time monitoring
- Intelligent positioning system
- Positioning for gap adjustment
- Gage movement function
- Reference position search function.
- Hot key to save and recover parameters
- Quick positioning (40 program memory)
- Protection against power failure.

Specifications* of НГ33-	21.40	21.50	21.60	22.25	22.32	22.40	22.50	22.60	23.25	23.32	23.40	23.50	23.60	24.25	24.32	24.40	25.25	25.32
Sheet thickness, mm	12	12	12	16	16	16	16	16	20	20	20	20	20	25	25	25	30	30
Shearing length, mm	4000	5000	6000	2500	3200	4000	5000	6000	2500	3200	4000	5000	6000	2500	3200	4000	2500	3200
Blade length, mm	4100	5100	6100	2600	3300	4100	5100	6100	2600	3300	4100	5100	6100	2600	3300	4100	2600	3300
Blade strokes, min-1	8-16	8-12	8-12	7-10	7-10	7-10	7-10	7-10	6-10	6-10	6-10	6-10	6-10	6-9	6-9	6-8	6-8	6-8
Moving blade rake angle, α	30' - - 2°	30' - - 2°	30' - - 2°	30' - 2°30'	30' - 2°30'	30' - 2°30'	30' - 2°30'	30' - 2°30'	1°30' - 3°	1°30' - 3°	1°30' - 3°	1°30' - 3°	1°30' - 3°	1°30'- -3°30'	1°30'- -3°30'	1°30'- -3°30'	1°30'- -3°30'	1°30' - 4°
Max. back gage adjustment, mm	800	1000	1000	800	800	800	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Electric motor capacity, kW	15	18.5	18.5	22	22	22	30	30	30	30	30	37	37	37	37	37	55	55

PRESS FORGING EQUIPMENT

HYDRAULIC PRESSES

The ДГ/ДЕ press series is used to produce rubber and plastic products. This press model is used to produce items from thin sheet metal and mold products from thermosetting plastics.

Hydraulic press operation employs the injection and compression molding techniques. Heating is connected to the mold using special instrument and control equipment. This function makes it possible to process material by heating it to the required temperature.

The press is designed to operate in both set-up and semi-automatic modes. In the set-up mode, the ram and ejector travel while the relevant buttons on the control panel are pressed. Releasing the button will cause the travel to stop immediately.

Specifications*	ДГ \ ДЕ 2428	ДГ \ ДЕ 2430	ДГ \ ДЕ 2432	ДГ \ ДЕ 2434	ДГ \ ДЕ 2436
Rated press tonnage, kN	630	1000	1600	2500	4000
Maximum distance between table and ram, mm	710	800	900	1250	1400
Table size (LxW), mm	560x500	630x560	710x630	1120x1000	1250x1120
Maximum ram stroke, mm	450	500	560	710	800
Lower ejector stroke, mm	160	200	250	360	360
Idle / operating ram speed (adjustable), not less than, mm/s	300 / 50...7	300 / 50...6.5	300 / 50...7	250 / 5.5...1	160 / 5...1
Ejector speed (adjustable), mm/s	70 / 100...35	60 / 100...30	70 / 100...35	80 / 25...5	80 / 30...5
Hydraulic system rated pressure, MPa	32	32	32	32	32
Main motor capacity, kW	4	5.5	7.5	15	18.5
Dimensions (LxWxH), mm	1100x2100x3200	1150x2200x3500	1200x2350x3820	1480x2720x4750	1600x2870x5610
Weight, kg	2800	3400	5100	10300	16000
**Heated plate size (LxW), mm [option]	560x450 \ 500x450	600x600 \ 560x450	650x600 \ 600x600	1000x800 \ 800x800	1000x1000

* - The manufacturer reserves the right to make any technical modification that do not have a major impact on press specification at its sole discretion.

** - Not included in the basic equipment, supplied at the customer request for an extra fee.

GAP FRAME HYDRAULIC PRESSES

The П/ПБ gap frame hydraulic press series is all-purpose type equipment for various pressure operations. However, the П/ПБ presses are not intended for shearing operations such as punching, trimming or hot die-forging. The major press series operations are:

• press fitting • stamping • broaching and sizing • flattening operations.

At the customer request, the presses can be completed with specialized attachments (molds) for use with field coils of traction motors. If the straightening table is installed, the presses can be used for straightening. It is also possible to integrate gap frame hydraulic presses into automatic lines.

Specifications*	П6320(Б)	П6324(Б)	П6326(Б)	П6328(Б)	П6330(Б)	П6332(Б)	ПБ6334
Rated press tonnage, kN	100	250	400	630	1000	1600	2500
Maximum distance between ram and table / straightening table, mm	600 / 420	710 / 460	710 / 460	710 / 615	750	750 / 600	800 / 595
Maximum ram stroke, mm	400	500	500	500	500	500	500
Distance between rod centerline and frame, mm	220	250	320	320	400	400	400
Table / **straightening table size, mm	500x380 / 300x1250	630x480 / 360x1600	630x560 / 360x1600	710x560 / 360x1600	800x630 / 420x2000	800x630 / 500x2000	1000x630 / 600x2500
Distance between the floor and table surface, mm	800	700	700	730	745	800	790
Idle ram speed, mm/s	155	145	112	220	100	180	45
Return ram speed, mm/s	180	195	145	310	180	180	55
Operating ram speed, mm/s	22...1.5	15...1	11...1	10	12	6,3...1	4,5...0,5
Main motor capacity, kW	4	7.5	7.5	15	15	15	15
Dimensions (LxWxH), mm	960x1450 x2285	980x1650 x2450	1000x1700 x2490	1060x1800 x3000	1250x2150 x2720	1250x2090 x3500	1250x2170 x3150
Weight, kg кг	1800	2150	2635	3100	5600	7400	10000

PRESS FORGING EQUIPMENT

TIRE SHOULDER SWAGING PRESS

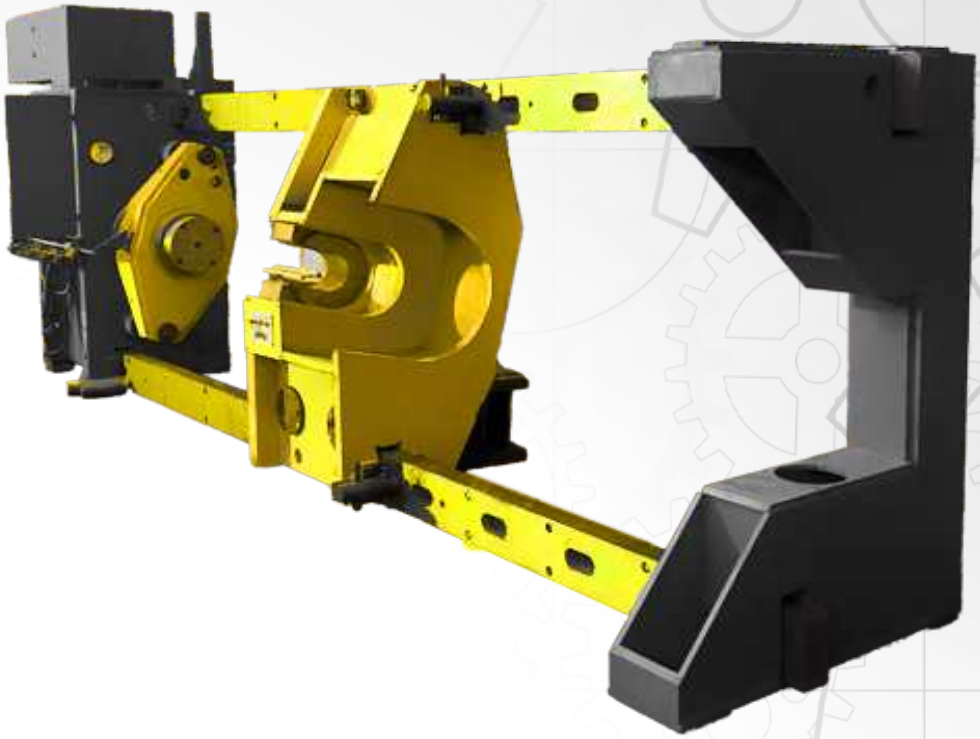
The ПБ7730 automatic press is designed for swaging tire shoulders, wheel tires, and wheel pairs of diesel and electric locomotives.

- Press force applied to the roll when swaging not more than 50 tf
- Tire temperature during the process not lower than 100°C
- The process will stop automatically and an alarm will be generated if the press force exceeds 50 tf and the tire temperature drops below 100°C
- The shoulder is swaged in not more than 4 turns of the wheel
- The press is equipped with an automatic recording device to register the press fit chart and two pressure gages
- Force applied to the roll and temperature are recorded by an electronic device
- The sawing process is fully automatic.

Specifications*	ПБ7730
Rated press tonnage, kN	1000
Piston stroke, mm	500
Max. swaging roll stroke, not less than (mm)	80
Min. / max. 780 mm wheel speed (min-1)	5,2-5,4 ... 7,0-7,2
Min. / max. 1,250 mm wheel speed (min-1)	2,9-3,1 ... 3,9-4,1
Ram translational speed: accelerated / inching / return, mm/s	12,0 / 2,9 / 20,0
Press tonnage levels, kN: I / II / III	500 / 800 / 1000
Installed motor capacity of hydraulic actuator / swaging rolls, kW	5,5 / 28/37
Dimensions (LxWxH), mm	4000x2800x2450
*Weight, kg	8800

* - The manufacturer reserves the right to make any technical modification that do not have a major impact on press specification at its sole discretion.

WHEEL MOUNTING HYDRAULIC PRESSES



One of the most common equipment used in the railway industry is the hydraulic fitting (wheel mounting) presses.

These presses have a relatively simple, but reliable design and perfectly operate for long service life. The hydraulic press is designed for railway machines, trams, subways, and mining and metallurgical machinery. It is used to press in and out bushings, gears, bearings, and pulleys in the electric machine rotors and for any other similar job.

Advantages:

- Mechanized loading and unloading;
- Travel-pressure recorder;
- Supporting beam motor.

Specifications*	ПК6730	ПК6732	ПК6734	ПК6734А	ПК6736	ПК6736 -ПТ	ПА6738 (ПК6738)	ПА6738 -СДТ16	ПК6738 -01	ПК6738 -01А
Rated press tonnage, kN	1000	1600	2500	2500	4000	4000	6300	6300	6300	6300
Distance between piston and supporting beam, mm	2150	2200	2500..3500	3400	400..3400	3400	500...6300	4000	3000	6300
Piston stroke, mm	800	800	1000	1000	1000	1000	1000	1000	1000	1000
Max. Ø press-fitted items O, mm	1300	1300	1300	1300	1500	1300	1600	1600	2500	2500
Piston speed (adjustable), mm/s	1...3	1...3	1...3	1...3	1...3	1,2...2,5	1...2,2	1,2...2,4	1,2...2,5	1,2...2,5
Main motor capacity, kW	10	10	11	11	18,5	18,5	18,5	18,5	18,5	18,5
Length, mm	5000	5000	7500	7400	7400	11000	8100	8100	7300	11000
Width, mm	2000	2000	2500	4275	4275	4350	3955	4350	4350	4350
Height, mm	3500	3500	3200	3405	3405	3700	3595	3700	3700	3700
*Weight, kg	8000	10000	15000	18450	18450	34000	26050	27570	32000	34000

CRANK PRESSES

This presses type is widely used in various production sectors and can be operated by single and continuous strokes. The single-crank, single-acting, C-frame presses are available with capacities between 25 and 1,600 kN. They are designed for punching, piercing, bending, embossing, and cold forming operations with removal of completed items or scrap to a though-hole.

Specifications*	КД2114	КД2118	К2019	КД2122	КД2124	КД2324
Rated press tonnage, kN	25	63	80	160	250	250
Max. distance between table and ram in its lower position at max. stroke, mm	180	180	160	220	250	250
Ram stroke (adjustable), mm	4...36	5...50	5...50	5...55	5...65	5...65
Ram strokes, min-1	250	200	200	120	160	160
Table size, mm	280x180	360x280	360x280	420x280	500x340	500x340
Distance adjustment between table and ram, mm	32	40	40	45	55	55
Clear distance between frames, mm	125	160	140	200	240	240
Distance between ram centerline and frame	100	150	150	160	190	190
Main motor capacity, kW	0.37	0.75	1.1	2.2	3	2.7
Dimensions (LxWxH), mm	780x850 x1590	990x1000 x1850	970x1000 x1750	1085x990 x1875	1170x1190 x2110	1170x1360 x2110
Weight, kg	435	650	670	1325	2100	2175

* - The manufacturer reserves the right to make any technical modification that do not have a major impact on press specification at its sole discretion.

CRANK PRESSES

These presses are described by the following specifications: Maximum and minimum ram strokes, maximum ram strokes per minute, operational surface size, machine weight and dimensions, maximum throat clearance, maximum and minimum ram strokes in the single stroke mode, and motor capacity.

Specifications*	КД2126	КД2128	КД2130Г	КЕ2130	КВ2132Г
Rated press tonnage, kN	400	630	1000	1000	1600
Max. distance between table and ram in its lower position at max. stroke, mm	280	340	400	400	480
Ram stroke (adjustable), mm	10...80	10...100	10...130	10...130	25...160
Ram strokes, min-1	140	140	63	63	35
Table size, mm	600x400	710x480	950x630	950x630	1000x670
Distance adjustment between table and ram, mm	65	80	100	100	120
Clear distance between frames, mm	290	340	400	400	700
Distance between ram centerline and frame, mm	220	260	340	340	360
Main motor capacity, kW	5.5	7.5	11	11	18.5
Dimensions (LxWxH), mm	1350x1270 x2420	1450x1730 x2880	1020x2380 x2750	1020x2380 x2750	1900x2100 x3600
Weight, kg	3260	5890	8900	8900	14500

PRESS FORGING EQUIPMENT

SHEAR/PUNCH COMBO MACHINES

Shear/punch combo machines are designed for shearing strips, bars, and sections, punching holes in sheets, strips, and sections, and punching open grooves.

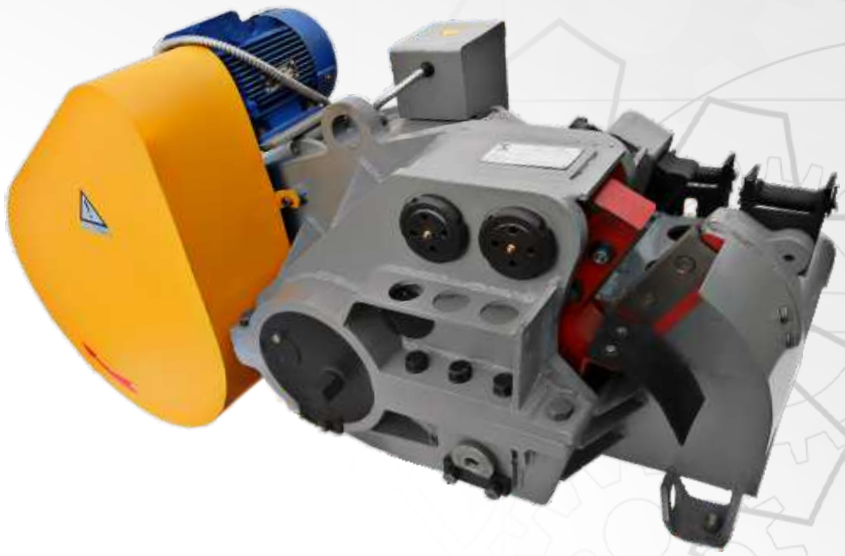
Shear/punch combo machines can be applied in mechanical engineering, repair and other plants.

They operate in moderate and cold climate (the UHL version) or dry and humid tropical climate (the O version), the location category 4 in accordance with GOST 15150-69.

Specifications*	СМЖ652	НВ5221	НВ5222	НВ5223	НВ5224
Rated press tonnage, kN	400	630	1000	1000	1600
Max. size of punched rectangular grooves (T/L/W), mm	280	340	400	400	480
Диам. пробивного отверстия (16мм.), мм	10...80	10...100	10...130	10...130	25...160
Punched hole diameter (16 mm), mm	140	140	63	63	35
Round bar diameter, mm	600x400	710x480	950x630	950x630	1000x670
Max. section (I-section and channel)	65	80	100	100	120
Strip thickness and width, mm	290	340	400	400	700
Height above the floor, mm	220	260	340	340	360
Main motor capacity, kW	5.5	7.5	11	11	18.5
Dimensions (LxWxH), mm	1350x1270x2420	1450x1730x2880	1020x2380x2750	1020x2380x2750	1900x2100x3600
Weight, kg	3260	5890	8900	8900	14500

* - The manufacturer reserves the right to make any technical modification that do not have a major impact on press specification at its sole discretion.

REINFORCING BAR SHEARING AND BENDING MACHINES



Reinforcing bar shearing machines are used in production and construction and precast reinforced concrete companies and designed for shearing rebar steel. Reinforcing bar can have any shape at cross-section: standard round, square or strip with a diameter up to 50 mm.

Specifications*	СМЖ-133М	СМЖ-172 (УРА-40БМА)	СМЖ-322 (МП)
Operating blade force, kN	600	350	760
Link strokes per minute, min-1	...	34	32
Max. shearing rebar diameter, mm	40 (A-I) / 38 (A-II) / 36 (A-II)	42 [A-I] / 38 [A-II] / 34 [A-III]	50 [A-III]
Main motor capacity, kW	5.5	3	5.5
Dimensions (LxWxH), mm	1360x410x980	1020x470x780	1550x700x900
Weight, kg	490	570	435

The СГА-1 (УГА-40) machine is designed for rebar bending in reinforcement shops of prefabricated reinforced concrete companies and at construction sites.

Specifications*	СГА 1 / УГА-40
Max. bending rebar diameter (A-I / A-II / A-III), mm	40 / 36 / 32
Max. internal bending radius, mm	55
Min. internal bending radius, mm	12 / 20
Top die speed, rpm	3,4; 14
Main motor capacity, kW	3
Dimensions (LxWxH), mm	760x790x680
Weight, kg	380

ELECTROMECHANICAL PIPE BENDING MACHINES

Electromechanical tube or pipe benders can be used in the boiler making and shipbuilding industry, by the structural steel fabricators, for water and gas pipeline installation, and at construction and erection sites for industrial and civil construction.

They are intended for bending of cold tubes or pipes with or without a mandrel by rolling a tube or pipe around a bend die. The mandrel is used to reduce ovalization and wrinkles. The mandrel may not be used for bending if there are no strict requirements to the shape of the pipe cross-section in the bent section or the ratio of wall thickness to its diameter is not more than 0.1.

Specifications*	УГС-5	ИВ3428М	ИВ3429М	ИВ3430М
Max. bending tube or pipe diameter, mm	60	63	76	100
Bending tube or pipe wall thickness, mm	4,5	4	6	5
Min. bending tube or pipe diameter, mm	20 (15**)	25	25	40
Internal bending tool radius, mm (min. / max.)	30 / 210	1,5D(2,0D) / 320	1,5D(2,0D) / 320	1,5D(2,0D) / 500
Max. bending tool rotation angle, deg.	180	210	210	210
Number of bending form rotation cycles per minute (min.)	--	2.5	2.5	2
Distance between the bending tool centerline and mandrel end attachment, mm	--	3000 / 6000	3000 / 6000	3000 / 6000
Max. torque at the bending form centerline, kN.m	--	10	10	31
Bending centerline height above the floor, mm	800	980	970	960
Electric motor capacity, kW	3	7,5	7.5	12.5
Dimensions (LxWxH), mm	950x800x850	3500x1400x1160	3700x1250x1250	3730x1930x1160
Weight, kg	356	1550	1250	2100

* - Технические изменения, существенно не влияющие на характеристики трубогибов, завод-изготовитель оставляет за собой

SEMI-AUTOMATIC PIPE BENDING MACHINES

Tube or pipe clamping, bend die holding down, and mandrel removal from the tube or pipe clamping area are automatic.

Application of variable frequency drive for the motor increases the accuracy of measurement and optimization of bending parameters (angle, speed) and extends the service life of the machine mechanisms because there are not any shock loads.

Improved control interface features and memory for optimized programs allow making products with different bending techniques that is especially important for products made from thin wall tubes or pipes and different materials.

A bending bar with adjustable stops in the machine supports successive bending without preliminary marking tubes or pipes along the length.

Specifications*	ИВ3428П	ИВ3430П	ИВ3432П
Max. bending tube or pipe diameter, mm	63	108	160
Bending tube or pipe wall thickness, mm	4	5	6
Min. bending tube or pipe diameter, mm	25	40	63
Internal bending tool radius, mm (min. / max.)	38 / 320	1,5(2,0)D / 500	1.5(2.0)D / 800
Max. bending tool rotation angle, deg.	210	210	210
Number of bending form rotation cycles per minute (min.)	2.5	2	0.5
Distance between the bending tool centerline and mandrel end attachment, mm	4000/6000	3000/6000	4000/6000
Max. torque at the bending form centerline, kN.m	10	31	10
Bending centerline height above the floor, mm	985	960	1150
Electric motor capacity, kW	7.5	15	22
Dimensions (LxWxH), mm	4700x1140x1160	3900x1600x1270	5500x2800x1450
Weight, kg	1550	3400	5800

THREE-ROLL SECTION BENDING MACHINE

The ИБ3230МП machine is meant for bending sections.

This bending machine is designed and manufactured specifically for bending sections with high bending resistance.

For this reason, the frame construction delivers a high safety margin, and the machine frame is rigid and heavyweight and welded from thick plates.

High quality of the bending machine warrants the use of state-of-the-art hydraulic and electrical components.

Технические характеристики*	ИБ3230МП
Angle with leg out (in): Max. cross-section, mm	100x100x16 (100x100x10)
Angle with leg out (in): Min. bending radius, mm	480 (825)
Angle with leg out (in): Min. cross-section, mm	40x40x4 (45x45x5)
Angle with leg out (in): Min. bending radius, mm	400 (450)
Channel with flange out (in): Channel size	22 (18)
Channel with flange out (in): Min. bending radius, mm	560 (560)
Upright (flat) strip section: Max. cross-section, mm	100x25 (200x36)
Upright (flat) strip section: Min. bending radius, mm	500 (340)
Electric motor capacity, kW	11
Dimensions (LxWxH), mm	2000x2200x1270
Weight, kg	5400

* - The manufacturer reserves the right to make any technical modification that do not have a major impact on machine specification at its sole discretion.
** - Not included in the basic equipment, supplied for an extra fee.

THREE-ROLL SHEET BENDING MACHINES

The ИБ three-roll sheet bending machine features the latest evolution of traditional three-roll machine design with pre-bending. The three-roll machine of this design is robust, cost efficient, and all-purpose. The machine design with an electric actuator and a classic hydraulic crane thruster brake was developed to meet the customer requirements to fabricating medium weight structural steel.

The ИБ model machine series is the most accurate of the three-roll machine class. The machine rolls are moved with screws by powerful independent domestic oil-filled gearboxes. Therefore, pulling capacity for metal sheets with different thicknesses and cones is optimal and there is a huge torque that does not lead to a deterioration in bending accuracy, even when processing thin sheets. An increased installed power allows bending of sheet material in a single pass at an increased speed without loss of time and energy.

Технические характеристики*	ИБ2212.01	ИБ2213	ИБ2216	ИБ2220	ИБ2222	ИБ2223	ИБ2224
Max. bending sheet thickness (σт=250 MPa) for bending, mm	1.5 / 3**	3	4	10	16	20	25
~ For pre-bending, mm	-	1.5	2.5	8	12	16	20
Max. sheet width, mm	1550	1250	2000	2000	2000	2000	2000
Min. bending radius, mm	67	67	125	180	240	400	300/350/750
Bending speed, m/min	10.8	10.8	10.8	9.3	7.7	7	7
Bending roll diameter, mm	75 (130**)	100	180	215	270	350	350
Electric motor capacity, kW	1.1	1.7	6.3	7.5	12	15	22
Dimensions (LxWxH), mm	2110x700 x1160	2350x645 x950	3600x1470 x1300	4140x1350 x1570	4040x2020 x1745	4200x1950 x1420	4200x1950 x1420
Weight (without electrical cabinet), kg	420 / 700**	900	2900	6000	9800	10500	11500

HYDRAULIC SHEET BENDING PRESSES

Hydraulic sheet bending press is designed to bend sheet metal by creating direct bending force to be applied to metal by bending tools (top/bottom die); the presses are used for high quality repeating bends, for example, for production of facade cassettes, metal doors, electric cabinets, supply and extract systems, filters, cladding panels, etc.

Specifications	ИБ1426.20-21	ИБ1426.20-200	ИБ1426.25-21	ИБ1428.25-21	ИБ1428.25-200
Press tonnage, t	40	40	40	63	63
Work table length, mm	2000	2000	2500	2500	2500
Column distance, mm	1650	1650	2000	2015	2015
Throat depth, mm	200	200	200	250	250
Top die travel, mm	100	100	100	100	100
Crosshead travel speed, mm/s	10	10	10	10	10
Return stroke speed, mm/s	80	80	80	80	80
Electric motor capacity, kW	4	4	4	5.5	5.5
Dimensions (LxWxH), mm	2160x1480x2000	2610x1730x2000	2660x1480x2000	2620x1730x2360	2620x1730x2360
Weight, kg	3310	3330	3620	4810	4830

* - Based on the customer's specification, hydraulic sheet bending presses can be manufactured with a table up to 5,000 mm wide and a capacity up to 200 t, but it may impact the press dimensions and weight.
A detailed technical proposal and quotation will be provided upon specification submission.

HYDRAULIC SHEET BENDING PRESSES

Hydraulic sheet bending press features

- Best price-quality ratio
- Accuracy and easy adjustment
- Wide range of functional characteristics
- Easy operation
- Reliable and wear-resistant construction
- Safety

Design features

Hydraulic sheet bending press has a rigid connection of two hydraulic actuators to synchronize their operation.
This design is simple and reliable and used by all global sheet bending press manufacturers.
Press rigidity is ensured by a robust, welded frame heat-treated for stress relief.
Powerful hydraulic actuators and a reliable hydraulic system with its components supplied by the leading global manufacturers allow bending with high speed and accuracy.

Estun CNC system

The Y-axis is controlled by CNC by setting the bending angle that is then converted to the mechanical stop position in the hydraulic cylinder. It ensures high accuracy and stability of the result.

The X-axis is also controlled by CNC. The stop is moved along the X-axis by a stepper motor through a high-accuracy ball screws with guides. Axis actuators are complete servo actuators manufactured by Estun.

Стандартная комплектация гибочного пресса

- **Estun** CNC
- Complete **Estun** servo actuators
- **Bosch-Rexroth** valves
- **Siemens** and **Schneider** electrical equipment
- Gear-type oil pump
- **AMADA** Promecam 4-sided bottom/top die
- Back gage accessories (pins): 2 pcs
- **NOK** (Japan) hydraulic cylinder seals
- Swivel mount control panel
- External control footswitch

Specifications	ИБ1429.25-21	ИБ1429.25-200	ИБ1430.32-21	ИБ1430.32-200	ИБ1432.50-21
Press tonnage, t	80	80	100	100	200
Work table length, mm	2500	2500	3200	3200	5000
Column distance, mm	2010	2010	2650	2650	4000
Throat depth, mm	250	250	320	320	320
Top die travel, mm	100	100	100	100	200
Crosshead travel speed, mm/s	10	10	10	10	7
Return stroke speed, mm/s	80	80	120	120	70
Electric motor capacity, kW	7.5	7.5	7.5	7.5	11
Dimensions (LxWxH), mm	2610x1730x2250	2610x1730x2250	3300x1830x2700	3520x1620x2370	5050x2000x3150
Weight, kg	5920	5940	6630	6650	14500

PRESS FORGING EQUIPMENT

AIR POWER FORGING HAMMER

Air power forging hammer is designed for forging works:
broaching, hole punching, hot metal cutting, metal bending by open die forging with flat and shaped hammer dies. The forging hammer operation principle is conversion of mechanical energy of the falling parts in striking mass.

Any companies with a need for metal processing by hot forging use forging hammers. The forging hammer is also indispensable for artistic forging.

Specifications*	MA4127A	MA4129A	MA4132	MA4134A	MA4136A
Rate weight of falling parts, kg	50	80	160	250	400
Die blows per minute	225	210	190	162	130
Blow energy, not less than, kgf*m	80	150	315	645	1000
Distance between ram centerline and frame, mm	280	300	340	420	530
Clear operational area height, mm	220	250	330	420	530
Distance between the lower die surface and the floor, mm	800	840	800	750	750
Compressor cylinder diameter, mm	225	260	315	400	480
Compressor piston stroke, mm	170	210	330	340	390
Ram stroke (max.), mm	300	385	390	550	640
Electric motor, kW	4	7,5	15	22	37
Dimensions (LxWxH), mm	1450x735x1715	1650x850x1950	1900x900x2250	2710x1200x2600	3020x1320x2800
Weight, kg	2170	3100	5350	8126	13100

* Based on the customer's specification, hydraulic sheet bending presses can be manufactured with a table up to 5,000 mm wide and a capacity up to 200 t, but it may impact the press dimensions and weight.
A detailed technical proposal and quotation will be provided upon specification submission.

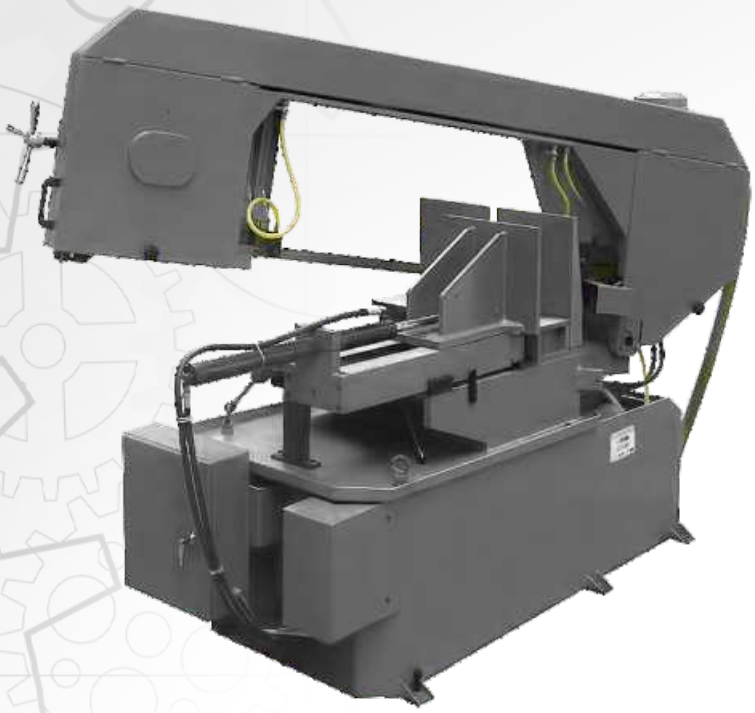
BLACKSMITH FORGE

The ГК-923МП blacksmith forge is designed for heating blanks with a max. weight of 50 kg in the forging shop. It is used for manual and mechanical part forging in the forges of repair and mechanical repair shops.

The blacksmith forge is equipped with a blast system with the VT1-3 model fan, a refractory brick base, an ash collection and removal device, and natural exhaust ventilation. The blast system consists of an ash dump filled with steel and cast iron chips that serves to lower velocity of the incoming compressed air and distribute it evenly over the entire area of the grate, supply pipe, and shut-off valve. The exhaust canopy is connected to the 219 mm exhaust pipe with a reducer and a flange. Fuel is charcoal and hard coal.

Specifications*	ГК-923МП
Coal consumption, kg/hour	8
Exhaust pipe diameter (natural ventilation), mm	159
Compressed air supply pipe diameter, mm	76
Air suction from combustion zone, m^3/hour	500
Fan electric motor capacity, kW	0,37
Base size in plan, mm	1500x1300
Length, mm	1500
Width, mm	1500
Height, mm	2650
Weight, kg	870

BANDSAW MACHINES



Horizontal bandsaw machines are designed for metal cutting with special metal or bimetal bands with a certain thickness and length (based on the saw type and the size and grade of material to be sawed).

These saws are equipped with a hydraulic feed speed control. The ПСМ line horizontal bandsaws belong to the most popular saw segment based on sawing diameter. They are characterized by good service life and reliability.

Specifications*	180МП	200МП	230МП	240МП	250МП	270МП	330МП	500МП
Max. blank size (90°), mm	180	200	229	240	250	270	330	508
Max. sawing round blank diameter (45°), mm	125	127	150	200	190	240	300	508
Max. sawing square blank diagonal (90°), mm	180x200	305x180	178x305	270x220	410x250	350x220	125x480	660x508
Max. sawing rectangular blank size (45°), mm	80x140	125x120	125x150	200x200	180x240	200x210	230x300	590x260
Sawcut width, mm	1	1	1	1	1	1	1	1.2
Saw blade speeds	4	4	4	continuous	4	continuous	continuous	continuous
Band saw size, mm	2362x20 x0.9	2362x20 x0.9	2655x27 x0.9	2730x27 x0.9	3300x27 x0.9	3160x27 x0.9	3810x27 x0.9	5890x41 x1.1
Coolant Tank Capacity, l	8	8	8	5	23	23	20	15
Electric motor capacity, kW	0.55	1.4	1.4	1.2	1.5	1.5	2.2	3,7
Dimensions (LxWxH), mm	1230x630 x1120	1250x440 x1100	1380x460 x1050	1550x800 x1480	1750x800 x1100	2050x830 x2000	2000x730 x1250	3000x1270 x1730
Weight, kg	150	160	160	310	370	360	500	1590

* - The manufacturer reserves the right to make any technical modification that do not have a major impact on machine specification at its sole discretion.

POWER HACKSAW MACHINES

Power hacksaw machines are designed for cutting round bar and section material made of steel, cast iron and non-ferrous metals with metal machine hacksaw blade. Sawing is performed perpendicular to the blank centerline or at a max. angle of 45 deg. with swivel base vise installed (models with the -AM suffix).

Machines are used for custom and serial production. Climatic version in accordance with GOST 15150-69 is УХЛ4, and machine accuracy class is H in accordance with GOST 8-82E.

Specifications*	8725	8725AM	8725AM-300
Max. blank size (90°), mm	250	250	300
Max. sawing round blank diameter (45°), mm	..	140	180
Max. sawing square blank diagonal (90°), mm	250	250	260
Max. sawing rectangular blank size (45°), mm	..	140x250	220x290
Sawcut width, mm	2	2	2
Blank length fed for sawing, mm	350...500	350...500	300...500
Hacksaw blade size, mm	450x40x2	450x40x2	450x40x2
Coolant tank capacity, l	30	30	30
Electric motor capacity, kW	2,2	2.2	2.2
Dimensions (LxWxH), mm	1690x700x900	1690x700x900	2010x1240x1080
Weight, kg	700	700	1050

ABRASIVE CUT-OFF MACHINES

An abrasive cut-off machine is an essential tool for abrasive wheel operations with blanks made of different metals. Wheels with different diameters used in these machines allow cutting blanks with different shapes and make these machines quite all-purpose.

The abrasive wheel rotates circumferentially at a high speed with a simultaneous intensive actuator operation that ensures high metal cutting efficiency and low wear of the machine.

Specifications*	8Г240
Abrasive wheel diameter, mm	300/400
Cutting rate, m/s	50;63;80;100
Min. blank (pipe) diameter, mm	60 (100)
Max. blank length, mm	500
Electric motor capacity, kW	15
Dimensions, mm	1800x1910x1810
Weight, kg	1230

* - The manufacturer reserves the right to make any technical modification that do not have a major impact on machine specification at its sole discretion.

TOOL-AND-CUTTER GRINDERS

Tool-and-cutter grinders are machines for sharpening cutting tools.

The major part of the tool-and-cutter grinder body is occupied by an electric motor with a support. Two parallel abrasive wheels are located on both sides of the motor:one with a large grain size for rough material machining and the other with a fine grain size for fine finishing. With the appropriate attachments, they can be used for item grinding and polishing.

Specifications*	ОТШ 1	ОТШ 2	ОТШ 3
Abrasive wheel diameter, mm	250	250	300
Abrasive wheel width, mm	40	40	40
Speed, RPM	1500	1500	1500
Grinding wheels centerline distance, mm	360	360	360
Bore diameter, mm	76	76	76
Limit switch	No	Yes	es
Wheel actuation type	from electric motor	from electric motor	from electric motor
Cutting rate, m/s	19,6	19,6	23,5
Electric motor capacity, kW	2,2	2,2	2,2
Dimensions (LxWxH), mm	480 x 435 x 510	480 x 435 x 510	500x550x1150
Weight, kg	70	71	92

SCREW-CUTTING LATHES

Specifications*	16K20МП-1000	16K20МП-1500	16K20МП-2000	16K20МП-3000
Swing over bed, mm	500	500	500	500
Swing over gap piece, mm	720	720	720	720
Swing over saddle, mm	315	315	315	315
Center-to-center distance, mm	1000	1500	2000	3000
Spindle DIN 55029 (Camlock)	D1-8	D1-8	D1-8	D1-8
Spindle through hole diameter, mm	80	80	80	80
Max. moving sleeve travel, mm	165	165	165	165
Spindle speed steps	23	23	23	23
Spindle speed (reverse), RPM	9-1600 (19-2000)	9-1600 (19-2000)	9-1600 (19-2000)	9-1600 (19-2000)
Cut metric threads	45	45	45	45
Cut inch threads	44	44	44	44
Cut pitch threads	37	37	37	37
Cut module threads	38	38	38	38
Longitudinal (cross) feed limits, mm/rev.	0,7-4,16(0,035-2,08)	0,7-4,16 (0,035-2,08)	0,7-4,16 (0,035-2,08)	0,7-4,16 (0,035-2,08)
Max. torque, Nm	2000	2000	2000	2000
Max. cutting tool section, mm	25x25	25x25	25x25	25x25
Electric motor capacity, kW	7,5	7,5	7,5	7,5
Dimensions (LxWxH), mm	2310x1166x1324	2812x1166x1324	3310x1166x1324	4420x1166x1324
Weight, kg	2850	3035	3300	4200

* - The manufacturer reserves the right to make any technical modification that do not have a major impact on machine specification at its sole discretion.

SCREW-CUTTING LATHES

Operation of industrial facilities and production workshops is dependent on screw-cutting lathes. Such equipment has been used for a long time as it can be employed for highly complicated jobs.

Current mechanism modifications have been improved for additional operations. The main purpose of screw-cutting lathes is high-accuracy operations with metal and cutting of different thread types.

Distinctive features of this machine type are such parameters as:

- High efficiency and quick solution to functional tasks
- Rigidity and durability of the high quality steel bed allows for an extended package service life.
- Blanks are securely attached with an advanced chuck or in a special work area center.
- Equipment design features include firm attachment of the cutting tool
- Screw-cutting lathe equipment has a high safety and reliability class.

Specifications*	16K25Б-1000	16K25Б-1500	16K25Б-2000	16K25Б-3000
Swing over bed, mm	500	500	500	500
Swing over gap piece, mm	720	720	720	720
Swing over saddle, mm	300	300	300	300
Center-to-center distance, mm	1000	1500	2000	3000
Spindle DIN 55029 (Camlock)	D1-8	D1-8	D1-8	D1-8
Spindle through hole diameter, mm	52	52	52	52
Max. moving sleeve travel, mm	165	165	165	165
Spindle speed steps	23	23	23	23
Spindle speed (reverse), RPM	9-1600 (19-2000)	9-1600 (19-2000)	9-1600 (19-2000)	9-1600 (19-2000)
Cut metric threads	45	45	45	45
Cut inch threads	44	44	44	44
Cut pitch threads	37	37	37	37
Cut module threads	38	38	38	38
Longitudinal (cross) feed limits, mm/rev.	0,7-4,16(0,035-2,08)	0,7-4,16 (0,035-2,08)	0,7-4,16 (0,035-2,08)	0,7-4,16 (0,035-2,08)
Max. torque, Nm	1400	1400	1400	1400
Max. cutting tool section, mm	25x25	25x25	25x25	25x25
Electric motor capacity, kW	7,5	7,5	7,5	7,5
Dimensions (LxWxH), mm	2660x1020x1350	3060x1020x1350	3366x1020x1350	4770x1020x1350
Weight, kg	3000	3200	3700	4300

BENCH DRILLING MACHINES

Having drilling machines at the plant, in the laboratory, training facility or garage will solve any drilling tasks. Preliminary drilling of holes with a diameter between 3 and 16 mm when drilling cast iron, steel, all kinds of materials, or thread cutting.

In the bench type machines, the spindle is rotated by the main machine actuator with manual feed. The main difference between the machines is hole diameter cut in steel. All-purpose upright drilling machines are a powerful drilling equipment option that does not take up much space and is quite easy to operate.

Specifications*	2M112	2M118
Max. drilling diameter, mm	12	16
Distance between spindle centerline and guide column (spindle extension), mm	190	175
External spindle taper size	B18	2
Min. distance between spindle end and table operational surface, mm	50...400	420...600
Max. spindle travel, mm	100	85
Table operational surface size, mm	250x250	300x500
Speed, RPM	450...4500	180...2250
Spindle speeds	5	9
Cutting thread range, mm	-	5-12
T-shaped groove quantity in base table	3	6
Main motor capacity, kW	0,55	0,55
Dimensions (LxWxH), mm	770x370x880	670x330x1100
Weight, kg	130	115

* - The manufacturer reserves the right to make any technical modification that do not have a major impact on machine specification at its sole discretion.

MAGNETIC BASE DRILLING MACHINES

Some production tasks require hole milling or drilling in conditions where stationary metalworking equipment cannot be used and required hole diameters make it impossible to use hand tools.

To solve such and many other tasks, special small size magnetic drilling machines are used with a design allowing manually moving and metalworking in the hard-to-reach places during installation and production. Reliable equipment attachment directly to the surface to be machined is ensured by an electromagnetic base.

Specifications*	МСЧ-35	МСЧ-38/1	МСЧ-55	МСЧ-100	МСЧ-100-Р	МСЧ-100-РП
Cutting tool securing system	Morse №2	Morse №2	Morse №2	Morse №3	Morse №3	Morse №3
Hole saw drilling range, mm	12-35	38 max.	12-55	12-100	12-100	12-100
Twist drill drilling range, mm	3-16	20 max.	20 max.	32 max.	32 max.	32 max.
Drill feed stroke, mm	150	150	155	200	200	200
No-load shaft speed, RPM	650	680	250/450	100-385	60-470	60-470
Cutting thread range, mm	-	-	-	-	M30	M30
Magnet pull strength, kN	20	20	20	25	25	25
Motor capacity, kW	1,3	1,15	1,15	1,7	1,8	1,8
Voltage, V	220	220	220	220	220	220
Dimensions (LxWxH), mm	320x230x450	300x210x450(600)	300x210x450	370x220x740	370x250x720	370x250x730
Weight, kg	14	14	17	22	22	25

ALL-PURPOSE UPRIGHT DRILLING MACHINES

All-purpose upright drilling machines are designed for machining parts made of various structural materials for individual and small-batch production. The machines of these models perform drilling, countersinking, reaming, boring, and thread cutting with a tap.

Machine motor capacity is different: between 1.1 and 4 kW. It also determines the range of hole diameters that can be drilled with them in steel, cast iron, non-ferrous metals, and any other materials. Please review table sizes, machine dimensions, speed ranges, and feed rates shown in the specifications to get a complete picture of the machine you specifically need.

Specifications*	2C125	2C125МП	2C132	2C132МП
Cast iron / steel nominal drilling diameter, mm	31	25 / 30	50	32...50
Distance between spindle centerline and guide column (spindle extension), mm	320	210	300	370
External spindle taper size	Morse 3	Morse 3	Morse 4 (5*)	Morse 4
Min. distance between spindle end and table operational surface, mm	730	700	750	920
Max. spindle (table) travel, mm	150	150	(300)	250 (500)
Table surface (base) size, mm	420x300 (320x320)	320x320 (360x400)	500x500 500x630* (630x630*)	500x600 (430x440)
Speed, RPM	90...1400 (180...2800*)	120...3000	31.5...1400	52...2050
Spindle speeds	9	9	12 (15*)	12
Cutting thread range, mm	M3-M27	M5-M22	M3-M33	M3-M33
T-shaped groove quantity in table / base	3 / 3	2	3 / 5*	2x2 / 2
Main actuator capacity, kW	1,1 (1,5*)	1,1	4	2.7 / 4 (dual speed)
Dimensions (LxWxH), mm	810x510x2060	800x500x2050	875x1120x2710	1110x750x2400
Weight, kg	432	420	1210	1250

* - Additional option. Not included in the basic equipment and supplied at the customer request only.

RADIAL-DRILLING MACHINES

Radial-drilling machines are designed for drilling, reaming, and thread cutting with a tap. Use of special tools and attachments allows boring holes and grooves, cutting large-diameter holes in discs made of sheet material, and fitting in precision holes in cylinders and valves.

The main purpose of this machine type is to machine holes in parts for individual and small-batch production. They have a wide range of applications, are easy to maintain, and demonstrate high efficiency and accuracy.

Specifications*	2A554МП	РС-50МП	РС-63МП	РС80МП
Steel / cast iron nominal drilling diameter, mm	50 / 63	50 (M36)	63	80
Distance between spindle centerline and guide column (spindle extension), mm	380-1595	360-1590	460-1990	510-2490
Spindle taper	MK5	MK5	MK5	MK6
Distance between spindle end and table operational surface, mm	455-1595	330-1210	410-1590	560-1990
Arm travel along the column (round, deg.)	745 (360)	600 (±180)	790 (±180)	950 (±180)
Axial spindle travel (drill unit along the arm), mm	400 (1220)	315 (1250)	400 (1600)	450 (2000)
Spindle speeds / speed, RPM	24 / 18-2000	16 / 25-2000	16 / 20-1600	16 / 16-1250)
Feed qty / range per revolution, mm/rev.	24 / 0,045-5,0	16 / 0,04-3,2	16 / 0,04-3,2	16 / 0,4-3,2
Spindle torque, mm	710	500	980	1560
Base (work table) size, mm	1020 x 2555	980x2370 (625x500x500)	(795x625x495)	(990x790x550)
Main actuator capacity, kW	5,5	4,0	5,5	5,5
Dimensions (LxWxH), mm	2690x1050x3450	2500x1050x2800	3090x1310x3420	3820x1410x4120
Weight, kg	4750	3600	7050	11100

Column-and-knee type milling machines are used for a variety of milling, drilling, and boring operations to machine parts with any shape made of ferrous and non-ferrous metals or any other materials with tools made of high-speed steel or equipped with hard and extra-hard synthetic material plates with shaping, cylindrical, face, end and other cutter types.

Horizontal and vertical surfaces, grooves, frames, corners, spirals, and a number of other parts can be machined with these machines. Machine capabilities can be further enhanced by using a dividing attachment, a round turn table and other accessories.

Specifications*	ГФ2171С6	6Т12	6Т13
Table operational surface length, mm	1600	1250	1600
Table width, mm	400	320	400
Longitudinal and cross (X, Y) feed limits, mm/min	3 - 6000	12,5 - 1600	12,5 – 1600
Vertical (Z) feed limits, mm/min	3 - 6000	4,1 - 430	4,1 - 530
Max. longitudinal stroke (X), mm	1010	800	1000
Max. cross stroke (Y), mm	400	320	400
Max. vertical stroke (Z), mm	260	420	430
Spindle speed limits, RPM	50..2500	31,5..1600	31,5..1600
Max. machined part weight, kg	400	400	1250
Main actuator capacity, kW	11	7,5	11
Dimensions (LxWxH), mm	3350x4170x3150	2280x1965x2265	2570x2252x2430
Machine weight, kg	6580	3250	4300

* - The manufacturer reserves the right to make any technical modification that do not have a major impact on machine specification at its sole discretion.

MILLING MACHINES

- Mechanized tool securing in spindle
- Proportional feed slowing mechanism
- Gap adjustment device for longitudinal feed ball screw
- Feed actuator overload clutch
- Horizontal spindle braking when stopped by electromagnetic clutch
- Flying chip protection.
- Various automatic machine operation cycles;
- Wide range of spindle speeds and table feeds;
- High capacity actuators;
- High rigidity;
- Reliability and durability.

Технические характеристики*	6Т82Ш	6Т83Ш	6Т82Г	6Т83Г
Table operational surface length, mm	1250	1600	1250	1600
Table width, mm	320	400	320	400
Longitudinal and cross (X, Y) feed limits, mm/min	12.5 - 1600	12.5 - 1600	12.5 - 1600	12.5 - 1600
Vertical (Z) feed limits, mm/min	4,1 - 530	4,1 - 530	4,1-530	4,1 - 530
Max. longitudinal stroke (X), mm	800	1010	800	1010
Max. cross stroke (Y), mm	320	400	320	400
Max. vertical stroke (Z), mm	420	420	370	420
Spindle speed limits, RPM	50..1600	50..1600	31,5..1600	31,5..1600
Max. machined part weight, kg	400	630	400	700
Main actuator capacity, kW	11	11	7.5	11
Dimensions (LxWxH), mm	2280x1965x1970	2570x2252x2040	2280x1965x1690	2570x2252x1870
Machine weight, kg	3550	4400	3150	3800

CROSS PLANING MACHINES

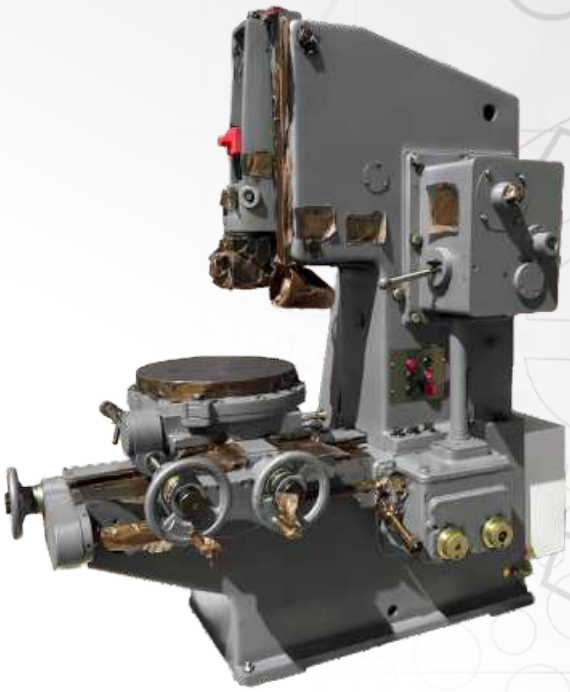
Cross planing machines are intended for machining horizontal, vertical, inclined, flat, and shaped surfaces up to 710 mm with a cutting tool.

- Cross-planing machines are cheaper than milling machines, and it is especially true for smaller job scopes.
- During planing, the blank is heated up less intensively and machining accuracy increases accordingly.
- In-case planing surfaces electricity costs are significantly lower than those for their milling.
- Slotting head allows making grooves in parts such as bushings (models with the -ТД suffix).

Specifications*	7305Т	7305ТД	7307ГТ	7307ТД
Ram stroke, mm	500	500	710	710
Distance between cutting tool bearing surface and bed (extension), mm	590	590	800	800
Ram adjustment, mm	310	310	310	310
Distance between table operational surface and ram guide, mm	480	480	480	480
Upper table operational surface size, mm	500x400	500x400	710x450	710x450
Horizontal (vertical) table travel, mm	530 (310)	530 (310)	650 (390)	650 (390)
Slotting head available	No	Yes	No	Yes
High horizontal (vertical) table travel speed (m/min)	4 (0,8)	4 (0,8)	4 (0,8)	4 (0,8)
Horizontal table feeds (range)	25 (0,2...5)	25 (0,2...5)	25 (0,2...5)	25 (0,2...5)
Saddle feeds (range per double ram stroke)	6 (0,16...1)	6 (0,16...1)	6 (0,16...1)	6 (0,16...1)
Main motor capacity, kW	5,5	5,5	5,5	5,5
Dimensions (LxWxH), mm	2310x1055x1550	2310x1055x1550	2500x1250x1600	2500x1250x1600
Weight, kg	1980	1980	2770	2770

* - The manufacturer reserves the right to make any technical modification that do not have a major impact on machine specification at its sole discretion.

SLOTTING MACHINES



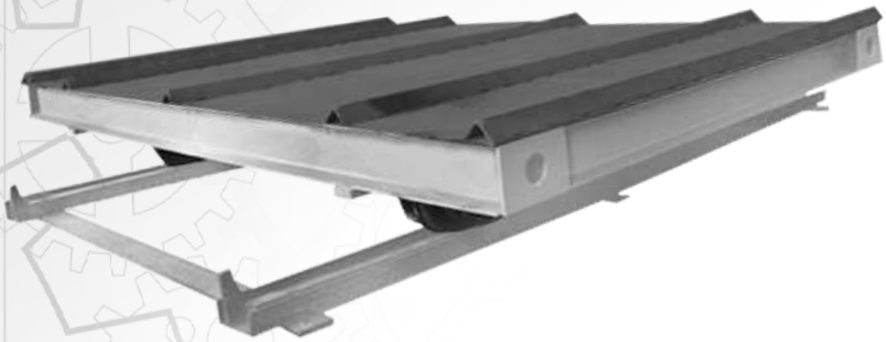
Slotting machines are designed for external and internal slotting of flat and shaped surfaces, cut-outs, and grooves and slotting with an undercut up to 5 for custom and small batch production.

Application is tool and mechanical shops and repair services of mechanical engineering and metalworking companies.

Accuracy class is N according to GOST 8-82. Technical version is 04 according to GOST 15150-69. Machines are also suitable for operation in the UHL-4 conditions.

Specifications*	7А420	ГД320	ГД500
Operating slotter ram stroke, mm	20 .. 200	120 .. 320	120 .. 500
Table diameter, mm	500	770	940
Distance between table and lower guide surface, mm	320	500	710
Distance between outer and inner head surface, mm	450	615	710
Height of machined item when machining outer (inner) surface, mm	300 (100)	500 (250)	650 (325)
Loaded slotter ram speed, RPM	32,49,66,101	3..38	3..38
Longitudinal / cross table travel, mm	500 / 400	650 / 510	800 / 650
Range of longitudinal (cross) table feeds per double slotter ram stroke, mm	0.1 - 1.2	0.1 - 2.5	0.1 - 2.5
Round table stroke, deg.	360	360	360
Main motor capacity, kW	3.6	11	11
Dimensions (LxWxH), mm	2100x1270x2175	2850x2160x3010	3440x2760x3465
Weight, kg	2000	5660	8160

SLIDING CARRIERS



Auxiliary mechanical equipment is designed primarily for efficient and seamless equipment operation, reduction of production costs per unit of time, and arrangement of the entire workflow.

In the cutting and preparation shops, it is recommended to use production cycle mechanical equipment to facilitate movement of parts and blanks.

Mechanization of sheet and strip movement is an important component for high equipment loads and an essential prerequisite for small-lot production to reduce storage load on the working areas.

Технические характеристики*	TO-1000	TO-2000
Max. feed sheet size, mm	2000x1500	3000x2000
Max. feed sheet weight, kg	1000	4000
Track width, mm	1500	1700
Length, mm	1500	2200
Height, mm	745	500
Width, mm	2150	3000

* - The manufacturer reserves the right to make any technical modification that do not have a major impact on machine specification at its sole discretion.

ROLLER CONVEYORS

Various means of mechanization are used to move blanks or completed items. It makes unloading and loading much easier and ensures fast transportation to the appropriate storage location for completed items. Employees use their working time more efficiently, while increasing their productivity.

Sliding carriers are a simple and convenient way of transporting completed blanks from the shearing site. Roller conveyors are successfully used to facilitate transportation of steel sheets. Roller conveyors are installed directly at the machines, and the placed strips or sheets moves on them.

They consist of a frame with rollers with rotating bearings mounted on its fixed axles. The motorized roller conveyors are driven by a gearmotor.

Specifications*	РН-2000	РП-2000	РП-3000	РП-4000
Max. feed sheet size, mm	6000x2000x20	6000x2000x20	6000x3000x16	6000x3000x32
Max. feed sheet weight, kg	2000	2000	2500	3700
Roller length, mm	2000	2000	3000	3150
Roller diameter, mm	133	110	159	159
Feed rate, m/min	-	0.15	0.15	0.15
Centerline distance, mm	800 / 1200	600 / 750	800 / 1200	800 / 1200
Operational surface height, mm	770	770	865	800
Мощность главного привода, кВт	-	1.5	3	3
Main motor capacity, kW	-	1500	1500	1500
Dimensions (LxWxH), mm	4590 x 2180 x770	4500 x 2020 x 770	4590 x 3180 x 865	4590 x 3325 x 800

FOR NOTES

ОСПП

Станкоинструмент

Российская ассоциация производителей станкоинструментальной продукции

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