

510x510 HERKULES X

Technical data



- Highly productive semi-automatic, hydraulically manipulated two column band saw machine.
- Our offer suitable for cutting of the most problematic materials.
- These characteristics together with the planet drive and with the blade of 54 mm high ensure the maximum possible efficiency.
- The machine is designed for vertical cuts.
- It is suitable for serial production in industrial premises.
- Thanks to its robust construction enables to cut wide range of materials including stainless steels and tool steels both profiles and full materials.

Control system:

- Machine is equipped with programmable PLC SIEMENS SIMATIC S7-1200. Blade drive and bow movements are controlled by SIEMENS technology.
- The coloured touch screen HMI SIEMENS TP 700 COMFORT enables easy communication with an operator. It shows working conditions (blade speed, moving to the cut, cutting parameters etc.)
- SEMIAUTOMATIC CYCLE: The machine cuts the material immediately in a semiautomatic mode. An operator manually inserts and takes away material from the saw.
- Two basic regimes of automatic system regulation (ASR): ARP and RZP-2.
- RZP-2: cutting zones regulation. System enables to set of optimal shift speed (movement to cut) and blade speed in 5 different zones depending on blade position.
- ARP = System of the automatic regulation of the cutting feed rate depending on the cutting resistance of the material or blunting the blade.
- System offers two basic modes of ARP: BIMETAL and CARBIDE.
- BIMETAL mode is suitable for optimization of the cutting feed when cutting profiles by bimetal blades. The cutting feed is higher if the blade cuts sides of the profile. As the blade reaches the full material, the system reduces the cutting feed automatically so that teeth gap of the blade would not be filled.
- CARBIDE mode is suitable for cutting of full bars. If the blade is old (blunt), loaded is the cutting feed reduced. Reaction time is slower than in mode BIMETAL.
- Regulation of cutting feed is realized by controlled system by the servo-motor and throttle valve of hydraulic. Then is reached very precise cutting feed. Operator will input into program required cutting feed (mm/min) and bandsaw this cutting feed precisely set.
- The control panel is mounted on the cover of tensioning pulley. Control panel has mechanical buttons as well as digital touch display, which controls the machine. Mechanical buttons are serving to control basic movements of the saw (arm, vices and feeder with turntable (if the saw is equipped) and also button to turn the cycle on. Emergency button is present on the control panel to stop the machine immediately.

Construction:

- The machine is constructionally designed in that way, so that it corresponds to extreme exertions in productive conditions. Massive construction enables using of carbide blades comfortably.
- The arm of machine with columns situated as near the clamping vice as possible minimizes vibrations and enables max. cutting performance.
- The arm of the machine is robust, heavy weldment and it is designed so that a toughness and a precision of cut was ensured.
- The arm moves along two columns using a four row linear leading with a high loading capacity. Arm movement using two hydraulic cylinders.
- The robust steel pulleys sloped of 25 degrees regarding the level of the cut. Thanks to sloped arm the twist of the blade is eliminated and there is possibility to bring the blade closer to the minimal distance from the linear leading on columns. This arrangement eliminates vibrations and enables the max. cutting performance of the machine.
- Upper position automatically using of incremental sensor for measuring of a position above material. Upper cutting position of frame is detected automatically using control system after setting of the size parameters of cut material, or after pressing of button.
- Down position using adjusting stop and microswitch. After reaching of bottom position arm goes to upper position automatically.
- Vice is robust steel weldments.

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- Main vice with divided jaw that clamps the material in front of as well as behind the cut. The jaws allow a safe grip. The optimization of the chip movement through the fixed jaw directly to the chip extractor.
- Jaws of the main vice move on two rails of linear leading using hydraulic cylinder. One jaw is longstroke (the movement by longstroke hydraulic cylinder), one is fixed.
- Regulation valves for setting a vice pressure in hydraulic system.
- The blade leading in guides with hardmetal plates and leading bearings and along cast iron pulleys.
- There is a guide situated on the firm beam on the drive side. On the tightening side there is the guide situated on the moving beam.
- The guide beams of the blade are adjustable in the whole working range. A guide moving is connected with a vice-jaw movement so that to achieve the minimum distance of the guide and material. That is why it is not necessary to set the position manually.
- The guide beam of the blade is placed in linear rails (2 linear rails and 4 bearings) with high bearing capacity.
- The saw-band is equipped with a guard, which protects the operator from millings and cutting emulsion.
- Machine has hydraulic band tightening.
- Automatic indication of blade tension.
- A cleaning brush is driven by an electroengine and ensures perfect cleaning of a blade.
- There is a planet gear box drive and a three-phase electroengine, a fluent regulation of a circumferential blade speed by a frequency converter for a fluent change of blade speed. CAUTION: Drive with planet gearbox corresponds with drive with worm gearbox and engine of approx. double multiple power.
- The cooling system for emulsion, led to the guides of the blade and by LoLine system directly to the cut groove.
- Massive base with a tank for chips and with chip extractors. Base is designed for manipulation with machine by crane.
- Indication of blade tightening and opening of the cover.
- Controlling 24 V.
- Machine is equipped with hydraulic system which controls all functions of that machine. It pushes the arm to cut, pulls up the arm and opens and closes vices.

Basic equipment of the machine:

- Chip extractor
- Lighting of work space.
- Band saw blade.
- Set of spanners for common service.
- Manual instructions in electronic form (CD).

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Cutting parameters:		
		 0°
	D [mm]	510
	a x b [mm]	510 x 350
	a x b [mm]	500 x 450

° Cutting bundles without vertical clamp. HP = accessory at extra cost. When HP is used, the cutting parameters will be limited.

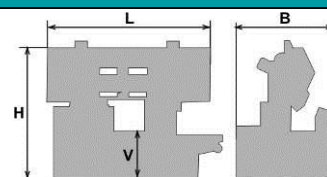
Cutting parameters		
The smallest divisible diameter	mm	50
The shortest cutting	mm	10
The shortest rest durring one cut	mm	50

* possibility to order special bars to clamp smaller diameter – accesory

Performance parameters		
Blade dimensions	mm	6060x54x1,6
Blade speed	m/min	15-80
Blade drive	kW	7,5
Blade cleaning brush motor	kW	0,12
Chip conveyor motor	kW	0,12
Motor of the blade drive cooling	kW	0,06
Electric input Ps	kW	10,5
Electrical connection	kW	3 x 400V, 50Hz, TN-S

Working movements	
Cutting feed	Hydraulically
Material feed	Manually
Clamping of material	Hydraulically
Blade tension	Hydraulically
Cleaning of the blade	A cleaning brush is driven by an electroengine

Parameters					
lenght	width	Height			weight
[L]	[B]	[Hmax]	[Hmax]	[V]	(kg)
3400	1500	2200	2600	810	3750



Lmin = the saw without the chip extractor

Filling volumes	
Cooling emulsion	60 l
Hydraulic oil	40 l
Gear oil	5 l