

600x1100 HORIZONTAL X (version 3)

A highly efficient semiautomatic double-column band saw machine.

The band saw machine is designed for cutting in semiautomatic cycle perpendicularly as well as angularly. It enables angle cuts to the left (60 grades) and to the right (60 grades).

Band saw machine is designed for profile structural steel cutting. Able to cut hard-working alloyed steels due to its robust design.

Control system:

- Machine is equipped with programmable PLC SIEMENS SIMATIC S7-1200. Drive of band blade and movement of arm are completely controlled and drive by SIEMENS technology.
- Colored touch display – HMI SIEMENS TP 700 COMFORT enable easy communication with operator.
- SEMIAUTOMATIC CYCLE: The machine cuts the material immediately in a semiautomatic mode. The operator uses the feeder of the machine for the manipulation with the material and for the exact feed of the material into the cutting zone. The movement of the feeder is realized by manual buttons or by GTO function. After starting GTO function the operator sets the position of the feeder, presses START GTO button and feeder goes to the set position.
- 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.
- Two basic regimes of automatic system regulation (ASR): ARP a RZP.
 - RZP = Zone regulation. System enable to cut material in 5 zones, because of setting optional cutting feed and blade speed according on blade position. Operator can choose from 2 strategy settings: DEFENSIVE setting is appropriate for cutting very hard materials with use of carbide band blade. Cutting feed is in beginning and in the end reduced. OFENSIVE settings supports executive cutting logs. Cutting feed and band speed are in the beginning and in the end of cut increased. It's about similar principle as ARP mode. Advantage is regulation of blade speed.
 - ARP = System of the automatic regulation of the cutting feed rate depending on the cutting resistance of the material or blunting the blade. Systém 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.
- The ergonomical control panel is mounted on the movable console and its position does not depend on the turntable position at any angle. The control of the machine is optimized with our control panel and the field of view is better for an operator. The control panel is equipped with mechanical buttons and digital display of the machine control system. Mechanical buttons controls basic saw movements (arm, vice, feeder and turntable movements) and cutting cycle start. The safety button is present on the panel aswell. All buttons are highly resistant in anti-vandal version.
- Safety module with autodiagnosics.

Construction:

- The machine is constructionally designed in that way, so that it corresponds to extreme exertions in productive conditions. A robust construction of machine includes vice allows to take advantage of bimetal blades maximally.
- 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.
- Drive pulley and tighten pulley are both metal castings.
- The arm uses sensor and magnetic tape for position evaluation above material. Upper working position of the arm is possible to set in control system.
- Down working position is set with adjustable mechanical stop and microswitch. Down working position of the arm is also possible to set in the saw control system. After reaching bottom working position the arm stops in the position set in the system.
- 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 in steel leading using hydraulic cylinder. One jaw is longstroke (the movement by longstroke hydraulic cylinder), one is fixed.
- Fixed clamp of vice is equipped with guiding rollers on both ends.
- Regulation valves for setting a vice pressure in hydraulic system.
- Turntable with toothing rim is placed on very robust ball-bearing. As a part of turntable are 4 support rollers which minimizes friction of material and machine during its movement through.
- The turntable's turn at angle is provided by rotational hydromotor, worm gear box and cogwheel with hydraulic fixing at turn. RoTo function (rotate to position) with automatic setup of turntable into needed position.
- The angles indicated on the digital display on the control panel SIEMENS. Reading of angle by incremental sensor and magnetic tape.

Basic equipment of machine:

- The blade leading in guides with hardmetal plates and leading bearings and along cast iron pulleys.
- The blade is 7 grades sloped regarding the level of the vice => higher performance when cutting, profiles, longer bladeflife, higher performance when cutting full materials.











- 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.
- Hydraulic tightening of band.
- 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 blade speed by a frequency converter for a fluent change of blade speed.
- Wasteless lubricating system - standard equipment Cutting with emulsion system (water+oil) is offered as an option, we recommend to use it for full material perpendicular cutting
- Massive base with a tank for chips. Base is designed for manipulation with machine by crane.
- Indication of blade tightening and opening of the cover.
- Controlling 24 V.
- Hydraulic unit is based on horizontal column = better cooling, better access. Machine is equipped with hydraulic system that manipulates all functions of that machine. It moves the arm to cut, lift the arm, opens and closes vices, turning of the turntable for angular cutting.

Basic accessories of machine:

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

Operating cycle:

After starting the machine, vices are clamped automatically, cut is made by selected cutting speed, in the end position microswitch is on, arm goes to selected upper position and vices open automatically. The operator only handles material.

Cutting parameters							
		 0°	 45°	 60°	 45°	 60°	 $\frac{b}{a}$
	D [mm]	620	650	490	650	490	x
	D [mm]	550*	400*	300*	400*	300*	x
	axb [mm]	1100x600	730x600	480x600	730x600	480x600	1100x400 700x400*

* Recommended values. Recommendations of band blade producers are to be followed when choosing to cut full material, their dimensions are limited by available size of the teeth for the specific type of the band.

° Cutting of the bundle without upper vice HP. HP = accessory for additional price. The cutting parameters are limited when using.

the shortest cutting	50	mm
the smallest divisible diameter	50	mm
the shortest rest during one cut	50	mm

Performance parameters		
drive of the blade	kW	5,5
drive of the hydraulic aggregate	kW	2,64
electroengine of the cleaning of the blade	kW	0,12
total input	kW	16,7
cutting speed – fluently set	m/min	20-100
diameter of the blade	mm	9000x54x1,6
electric connection		3x400V, 50 Hz, TN-S

Control	
feed of the Frame to the cut	hydraulically
feed of the material	manually
clamping of material	hydraulically
bend tension	hydraulically
cleaning of the blade	A cleaning brush is driven by an electroengine

Parameters						
length		width	Height		height of the table	weight
[Lmin]	[Lmax]	[B]	Hmax]	[Hmin]	[V]	(kg)
4350	5050	2060	3000	2650	800	5200

