

600x1000 HORIZONTAL X

is 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 automatic 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.
- The machine enables to work with two modes:
- SEMIAUTOMATIC CYCLE: The machine cuts the material immediately in a semiautomatic mode.
- Regulation of cutting feed is realized by controlled system by the servo-motor and throttle valve hydraulics. 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-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.
- Externally situated controlling panel - its position does not depend on the position of turntable position during angular cuts. 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. 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.
- 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 cutted material, or after pressing of button.
- Down position using adjusting stop and microswitch. After reaching of bottom position arm goes to upper position automatically.
- 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.
- 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. RTO function (rotate to position) with automatic setup of turntable into needed position.
- The angles indicated on the digital display on the control panel. 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 blade life, 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.
- 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.
- 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 manipulation with machine by crane.
- Indication of blade tightening and opening of the cover.
- Controlling 24 V.
- Hydraulic unit is based on horizontal column = beter cooling, better access. Machine is equipped with hydraulic system that manipulates all functions of that maschine. 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 workink space.
- Band saw blade.
- Set of spanners for common service.
- Manual instructions in eletronic 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

	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.

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

Performance parameters

drive of the blade	kW	5,5
drive of the hydraulic agregate	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

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

