

360x500 A-CNC-R (version 2)

It is a highly efficient automatic hydraulically controlled band-saw with multiple material feed.

The machine is designed for vertical and angular cuts. Angles setting (turning of the bow) manually:

- fluently between 0° and +45° right in automatic mode

- fluently between 0° and +60° right in semi-automatic mode

It is suitable for serial production and 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 the control, programmable PLC MITSUBISHI FX5U.
- Blade drive as well as the feeder movements are fully controlled by the frequency inverters MITSUBISHI.
- The coloured touch screen MITSUBISHI GT 2104 enables easy communication with an operator. It shows working conditions (blade speed, moving to the cut, cutting parameters etc.)
- The length and quantity are set by the control panel. Machine will optimize all next calculations itself. It is possible to set 20 different programs.
- Type of material feed: Normal or INCREMENTAL
- Machine enables semi-automatic and automatic mode (all movements are controlled automatically).
- Regulation of shaft speed (moving to cut) is manual and uses throttle valve placed beside control panel. Automatic (safety) regulation of shift speed PEGAS BRP. Principle: Machine will stop after exceeding set loading (defined in amperes).
- The ergonomical control panel is mounted on the movable console. The control panel is equipped with mechanical buttons and digital display of the machine control system. Mechanical buttons control basic saw movements (arm, vice, feeder) and cutting cycle start. The safety button is present on the panel as well. All buttons are highly resistant in anti-vandal version.

Construction:

- The machine is constructionally designed in that way, so that it corresponds to extreme exertions in productive conditions.
- 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 is situated in pretightened slide bushes with a teflon friction surface.
- Drive pulley and tighten pulley are both metal castings.
- Movement of the arm is controlled with buttons on control console.
- Up and bottom position is set to control system. Function of the blade and arm movement is possible to set in machine parameters.
- Vice is welded with jaws which are made from casted iron. The jaws ensure secure firm clamping of the material.
- Jaws of the main vice move in steel leading.
- Moving jaw of the vice is handled by long stroke hydraulic cylinder.
- Very rigid feeder is moving on two linear leadings.
- **Movement of the feeder is ensured by using ballscrew which is powered by electromotor with encoder and frequency inverter. Transmission between the ballscrew and the electro motor is solved by gear belt (nut of the ballscrew is mounted on the feeder)**
- The position of the feeder is detected using the rotating encoder. For maximally precise feeding the feeder is going from near position to the set position by micromovement. Accelerating and decelerating is controlled by frequency inverter.
- There is a floating seating of the feeding vice in the feeder, it means that the feeding vice moves in perpendicular sense regarding the feeding direction. The stationary jaw of the feeding vice copies the possible roughness of feeded material and the wearing out of mechanical parts of the feeder is eliminated.
- The feeder moves the material to main vice by the length, which is set in the control system. For a material feeding function ABS or REL can be used. For precise feeding the machine goes to its position by micromovement.
- Indication of material in the feeder: optic sensor - it notices that there is a material in the feeder. If there is no material in the feeder, the signal reflects on the glass that is situated on movable jaw and it goes back to the sensor. The machine stops feeding and waits for another bar.
- The feeder clamping vice is made from cast iron. Jaws ensure safe clamping of the material.
- Hydraulically controlled vice of the feeder. Jaw of the vice is moving in whole range via long-stroke hydraulic cylinder.
- The turntable is casted iron, set on tapered roller bearings.
- Manual turning of the table for angle cuts, the position of the turntable is fixed by the lever with the excenter.
- Angles (degrees) are shown at the touch screen MITSUBISHI. Angle indication using incremental sensor and a magnetic tape.

Basic equipment of machine:

- 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 moving band guide is adjustable. Manual adjustment and fixing of the guide beams.
- Guide holder moves in adjustable dovetail groove.
- The saw-band is equipped with a guard, which protects the operator from millings and cutting emulsion.
- Mechanic tightening of the blade.
- Automatic indication of blade tension.

- A cleaning brush for perfect cleaning and function of blade, passive driven by pulley.
- Drive of machine is solved by worm gear box with maintenanceless oil filling. Three-phases electromotor with double winding, with a frequency converter for a fluent regulation of the blade speed from 20 to 100 m/min. Sturdy flange with shaft. Termoprotection of engine.
- The cooling system for emulsion, leaded to the guides of the blade.
- Massive base with a tank for chips. Base is designed for manipulation with machine by pallet truck and also by any high lift truck.
- Indication of blade tightening and opening of the cover.
- Controlling 24 V.










Basic accessories of machine:

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

Operating cycle:

The saw automatically clamps the material in main vise and feeder is moved to processor set position. The arm goes to the cut by quickmove and after reaching the upper working position the speed is automatically set to working speed. After the material is cut the arm goes up to the upper working position. The feeder moves by the added length and the feeder vise clamps the material. Main vise then opens and material is feeder to the set length, then the material is clamped by the main vise and whole cycle is repeated. An operator only puts and takes away the material. It is possible to adjust the speed of the blade and feed of the arm during the cutting.

Cutting parameters

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	D [mm]	360	360	300	X
	D [mm]	250*	180*	130*	X
	axb [mm]	500x340	440x220	310x220	500x220
	axb [mm]	500x340	400x340	270x340	500x220

* 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.

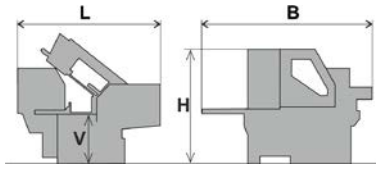
° Cutting of the bundle without upper vice HP. HP = accessory for additional price. The cutting parameters are limited when using.

Performance parameters

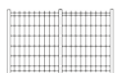
Drive of the blade	kW	3,0
Pump of the cooling emulsion	kW	0,09
Total input	kW	7,7kW
Cutting speed – fluently set	m/min	20-100
Diameter of the blade	mm	4780x34x1,1
Electric connection		3x400v, 50 Hz, TN-S

Control

Feed of the frame to the cut	Hydraulically
Feed of the material	Ball screw, electromotor, frequency inverter, transmission by gear belt,
Clamping of material	Hydraulically
Angle turning	Manually
Angle turning fixation	Manually
Bend tension	Manually
Cleaning of the blade	Cleaning brush driven by a pulley

Parameters								
Length		Width		Height		height of the table	Weight	
[Lmin]	[Lmax]	[Bmin]	[Bmax]	[Hmin]	[Hmax]	[V]	(kg)	
2165*	2940	2580*	2600	1455*	2340	800	1500	

* transport dimensions, dimensions without the safety fence



Front safety fence RNT is standart part of the saw, m= 350 kg

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