300x320 A-CNC-RH

Technical data

- 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) manualy:
- **fluently between 0° and +45°right in automatic mode**
- **fluently between 0° and +60°right in semi-automatic mode**
- The machine is designed to saw steel materials, but also non-ferrous and light metals. However, we recommend consulting the manufacturer about this option.

Control system:

- Machine is equipped with the control, programmable PLC MITSUBISHI FX5U.
- Blade drive as well as the feeder movements afe 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, cutting parameters etc.)
- The lenght and quantity are set via the control panel. The machine will optimize all calculations by itself. The system can save up to 20 programmes. Each programm has up to 15 lines (lenght+quantity)
- 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 ampers).
- The ergonomical control panel is mounted on the movable console. The control panel is equiped with mechanical buttons and digital display of the machine control system. Mechanical buttons controls basic saw movements (arm, vice, feeder) and cutting cycle start. The safety button is present on the panel aswell. Buttons for controlling the movements of the machine are part of a high-quality foil keyboard.

Construction:

- The machine is constructionaly designed in that way, so that it corresponds to standard exertions in productive conditions.
- The arm of the machine is robust, heavy weldment and it is designed so that a toughtness and a precision of cut was ensured. Arm is 25 grades sloped, it increases the lifetime of blade.
- The arm rotated by a shaft (joint) which is support by adjustableconical bearings.
- Drive pulley and tighten pulley are both metal castings.
- Upper working arm position controled by automatic stopper (DPP)
- The down working position of the arm controlled by the miscroswitch. After reaching bottom working position the arm stops in the position set in the system.
- The vice is welded. Jaw ensures the safe clamping of the material.
- The hydraulically operating clamping jaw of the vise is mounted on a linear guide.
- Moving jaw of the vice is handled by long stroke hydraulic cylinder.
- Very massive feeder moves using hydraulic cylinder and two sparpened bars and teflon cases.
- The feeder moves the material to be cut to the main vice according to the set lenght that was adjusted by the operator in the controlling panel. The position of the feeder is indicated by electromagnetic sensor and measuring magnetic tape. For a perfect placing of a feeder , feeder moves to end positions by a slow velocity.
- 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 sense. The stationary jaw of the feeding vice copies the possible roughness of feeded material and the worning out of mechanical parts of the feeder is eliminated.
- The feeder moves the material to main vise by the lenght, 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.
- Hydraulicaly controlled vice of the feeder. Jaw of the vice is moving in slide leading in whole range via long-stroke hydraulic cylinder.
- A turntable is massive welded. A turntable gives a big place for supportion of material and its perfect clamping.
- Manuall 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 the 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.
- The beam of the guide is moving in sliding leading.
- 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.
- Cooling system for emulsion with liquid distribution to blade guides. Emulsion tank is separated, it is not fixed parts of the machine base.
- Massive base with a tank for chips. Base is designed for manipulation manipulation with machine by pallet truck and also by any hight lift truck.
- Indication of blade tightening and opening of the cover.
- Controlling 24 V.
- Machine is equipped with hydraulic system which controles all functions of that maschine. It pushes the arm to cut, pulls up the arm, opens and closes vices.

Basic accessories of machine:

- Slide of cut pieces.
- Band saw blade.
- Set of spanners for common service.
- Manual instructions in eletronic form (CD).

Operating cycle:

The saw automatically clamps the material in the main vice and feeder moves into a position determined by the processor. The arm is moving to the cut with quick movement until the DPP automatically switches to set cutting feed. After the cut is finished, the arm goes to set upper working position. The feeder moves by constant added lenght and jaw of the feeder clamps the material. Main vice is opened and material is feeded into zero position. Main vice clamps the material and whole cycle repeats. An operator only manipulates with the material. It is possible to adjust the speed of the blade and feed to the cut during the operation.

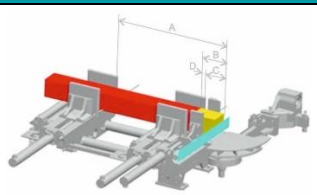
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Cutting parameters						
	0°	45°	60°	45°	60°	b / a
○	300	290	200	X	X	X
●	180*	110*	80*	X	X	X
b / a	320x290	260x280	180x170	X	X	320x160

- 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 withnout upper vice HP. HP = accesory for additional prie. The cutting parameters are limited when using

ATTENTION: automatic cutting cycle: only for 90 degree (0 degree) and 45 degree. Semiautomatic cutting cycle (without material feeding into the cut and feeder device in a very left position): for angle cutting to the right 60 degrees.

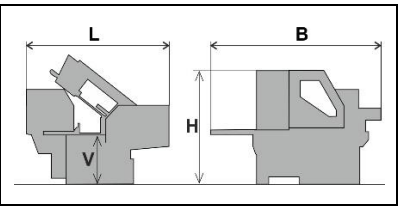
Cutting parameters			
A: One feed step of the material max	500	mm	
A: One feed step of the material Min	3	mm	
A: Multiple feed	9999	mm	
B:The shortest rest in automatic cycle (c+d)	115+20*	mm	
The smallest divisible diameter	5	mm	
The smallest divisible diameter in automatic cycle	15	mm	

* d = recommended value. The customer may change the value depending the weight or grade of the material.

Performance parameters		
drive of the blade	kW	2,4
drive of the hydraulic agregate	kW	0,85
pump of the cooling emulsion	kW	0,09
installed power of the machine Pi	kW	4,0
electric input of the machine Ps	kW	6,5
cutting speed – fluently set	m/min	20-100
diameter of the blade	mm	3660x27x0,9
electric connection		3x400V, 50 Hz, TN-S

Working movements	
feed of the Frame to the cut	Hydraulically
feed of the material	Hydraulically
clamping of material	Hydraulically
bend tension	Manually
cleaning of the blade	Pasive cleaning brush
angle locking	By the handle

Saw dimensions					
Lenght	Width	Height		Height of the table	Weight
[L]	B	[Hmin]	[Hmax]	[V]	(kg)
2410	1920	1503	2020	800	904



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Filling volumes	
Cooling emulsion	12 l
Hydraulic oil	16 l
Gear oil	0,35 l

Movement speeds		
Main vice	mm/min	4800
Vice of feeder	mm/min	3200
Feeder forward movement	mm/min	3300
Feeder backward movement	mm/min	3000