

Change: 1.1.2017

- Control system MITSUBISHI
- Modernized regulation of cutting power PEGAS RTR

400 PROFI A-CNC (version 6)

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

The machine has massive design, it is robust and has new conception of friendly control system. The blade is sloped 7 degrees to cutting table, which enables better performance during cutting of profiles as well as full materials and enables long lifetime of blade. These parameters together with powerfull drive and blade 34 mm heigh enable high productivity of machine.

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, especially solid 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 via the control panel. The machine will optimize all calculations by itself. The system can save up to 20 programmes. Each programme has up to 15 lines (length+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 amperes).
- The control panel is placed in the tightening pulley cover. 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 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.
- Arm moves on two columns by a help of a four row linear leading with a high loading capacity. Moving of arm using one hydraulic cylinder.
- Regulation of cutting pressure RTR, which enables more efficient of profile materials cutting, longer blade life included
- Drive pulley and tighten pulley are both metal castings.
- Upper position automatically using Pegas DPP system (touching lath placed closely below tooth of blade: T-bar, linear leading, microswitch, adjusting screw)
- 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.
- Regulation valves for setting a vice pressure in hydraulic system.
- Very massive feeder moves using hydraulic cylinder and two sharpened bars and teflon cases.
- Placement of feeder movement is floating – it does mean feeder vice can move couple of mm from side to side and eliminate potential unevenness of material.
- Feeder moves cutted material to cut zone follows adjusted value (operator set it with control panel). Feeder position is scanned using electromagnetic sensor and magnetic tape. Feeder moves to set positions using microfeeding (it enables accurate position of cutted material.)
- 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 a robust steel weldment. Jaws ensure safe clamping of the material.
- Jaws of the feeding vice move in steel leading using hydraulic cylinder. One jaw is longstroke (the movement by longstroke hydraulic cylinder), one is fixed.

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 saw-band is equipped with a guard, which protects the operator from millings and cutting emulsion.
- Automatic indication of blade tension.
- Hydraulic tightening of band.
- Cleaning brush is driven by movement of pulley and enables high quality cleaning of blade. Driven cleaning brush is able as option 410-ECK (650 rev/min).
- 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. Thermoprotection of engine.
- The cooling system for emulsion, leaded to the guides of the blade and by LocLine 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 pallet truck and also by any high lift truck.
- 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, opens and closes vices, moving of feeder.

Basic accessories of machine:

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

Operating cycle:

After start of the cutting machine clamp the vices, the cut will be done by set speed. After reaching the down position, arm is going up automatically. Feeder move with next piece to the cutting zone (feeder vice is going between zero position and set position (length of cutted pieces). Main vice clamps the material, feeder vice is opening and moves to feed next piece. Whole cycle starts again. Operator puts new material and remove cutted pieces only. It is possible change blade speed as well as shift speed during the cut.

Cutting parameters			
			
	D [mm]	D [mm]	axb [mm]
	400	250*	400x400
	x	x	400x220

(Maximal vice opening 400 mm)

* 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.

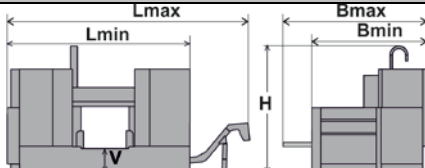
° Cutting of the bundle without upper vice HP. HP = accessory for additional prie. The cutting parameters are limited when using.

The shortest cutting	mm	10
The smallest diameter	mm	30
The shortest remaind	mm	50
The shortest remaind in automatic mode	mm	120 (width of stationary vice jaws 50 mm)
Minimal feeding of material	mm	3
Maximal feeding of material in one	mm	490 (max. movment of one step is 510 mm)
Multiple feeding	mm	9999

Power parameters		
Blade drive	kW	3,0
Hydraulic unite drive	kW	0,75
Pump of cooling emulsion	kW	0,12
Total power	kW	6,5
Shift (cutting) speed – fluently adjustable	m/min	20-100
Blade size	mm	4520x34x1,1
Electricity		3x400V, 50 Hz, TN-S

Working movements	
feed of the frame to the cut	Hydraulic
feed of the material	Hydraulic
clamping of material	Hydraulic
bend tension	Hydraulic
cleaning of the blade	Brush driven by blade pulley

Parameters						
Length	Width		Height		Height of table	Weight
	[L]	[Bmin]	[Bmax]	[Hmin]		
2600	1530	2150	1815	2050	800	1300



Bmin = the saw without the hydraulic cylinder of the feeder