

**600 CAMEL SHI (version 3)**

Highly productive semi-automatic, hydraulically manipulated two column band saw machine.

An unique construction of the band saw machine with three pulleys for leading of the blade. With the blade that is 10 grades sloped against the level guarantee high-efficiency of cutting. Thanks to this solution is the machine suitable for well cutting of L,H profiles as well as all types of pipes.

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 and tool steels, nonferrous metals both profiles and full materials.

**Control system:**

- The Controller with PLC MITSUBISHI and features an automatic feed control BRP.
- Control panel MITSUBISHI as standard equipment. It uses touch display and PLC, which enable semi-automatic cutting (basic setting included) as well as communication with operator.
- Controller show lot of information about cutting process on the display:
  - Cutting cycle indication,
  - indication BRP,
  - indication – blade tightening,
  - time of the cut,
  - loading of blade in amperes,
  - speed of the blade,
  - cutting times measuring,
  - list of error messages.
- User's setting:
  - autostop of hydraulic unit
  - mode of arm moving after end of the cut
  - mode fast moving of the arm
  - mode time lag of shift speed
  - mode blade moving
  - mode jaw moving after cutting cycle finish
  - diagnostic of inputs and outputs
- STOP function – cutting : it enables to stop cutting by pressing STOP button at any time. The Frame goes up with the running blade without opening the vice.
- 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 equipped with mechanical buttons and digital display of the machine control system. Mechanical buttons controls basic saw movements (arm, vice) and cutting cycle start. The safety button is present on the panel as well. Buttons for controlling the movements of the machine are part of a high-quality foil keyboard.

**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 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.
- The arm moves along two columns using a four row linear leading with a high loading capacity. Arm movement using two hydraulic cylinders.
- 3 pulleys from cast iron are used.
- The arm uses incremental sensor for evaluation of current position 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 is massive steel weldment. Its jaws are iron casting.
- Hydraulic, long stroke main vice. Jaws enable well clamping of material.
- 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.

**Basic equipment of machine:**

- The blade leading in guides with hardmetal plates and leading bearings and along cast iron pulleys.
- The blade is 10 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 moving band guide is adjustable in whole working range. Manual adjustment and fixing of the guide beams.
- Manually tightening of band, hydraulic tightening as an option.
- Automatic indication of blade tension.

- A cleaning brush is driven by an electroengine and ensures perfect cleaning of a blade.
- 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 and by LocLine system directly to the cut groove.
- Massive base with a tank for chips. Base is designed for manipulation manipulation with machine by pallet truck and also by any high lift truck or by crane.
- Indication of blade tightening and opening of the cover.
- Controlling 24 V.
- Maschine is equipped with hydraulic system which controles all functions of that maschine. It pushes the arm to cut, pulls up the arm and opens and closes vices.

**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]	600	x
	D [mm]	400*	X
	axb [mm]	600x510	600x415

\* 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	10	mm
the smallest divisible diameter	10	mm
the shortest rest durring one cut	50	mm

**performance parameters**

drive of the blade	kW	4,0
drive of the hydraulic agregate	kW	1,5
pump of the cooling emulsion	kW	0,12
electroengine of the cleaning of the blade	kW	0,12
electroengine of the drive of the worm chip extractor (accessories)	kW	0,12
Cooling	kW	0,03
total input	kW	9,1
cutting speed – fluently set	m/min	20-100
diameter of the blade	mm	6230x41x1,3
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	Manually/ hydraulically -accessories
cleaning of the blade	A cleaning brush is driven by an electroengine
cooling	

Parameters					height of the table		weight
lenght		width	Height				
[Lmin]	[Lmax]	[B]	[Hmax]	[Hmin]	[V]	(kg)	
3000	4320	1360	2800	2200	800	2580	