

540 CALIBER SHI

Technical data



- Highly productive, semi-automatic dual column band saw
- The saw is designed for cutting material in straight cuts
- The saw is used in serial production in industrial plants and it can cut a wide range of material grades including stainless and tool steels due its robust design.



The saw is designed for cutting straight bars of steel material.

Control system:

- The machine is equipped with programmable PLC MITSUBISHI FX5_U32. The saw blade drive and arm movement are completely controlled by MITSUBISHI technology.
- The colour touch screen allows easy communication with the machine operator. It shows working states such as blade speed, cutting feed and the status of individual working movements.
- Display size 7" (93x153mm)
- Control of the cutting feed is ensured by a hydraulic throttle valve with RTR function.
- The control panel is located on the console in a safe position. The control panel includes a digital display of the saw control system and a high quality foil keypad. The keypad is used to control the basic movements of the saw (movement of the arm and vice) and to start the saw's working cycle. The control panel is also equipped with a safety button to stop the saw.
- Safety module with self-diagnosis.
- 24V control

Construction:

- The band saw has a robust design to withstand extreme stresses in production conditions. All machine components are designed and optimized to minimize vibrations and allow maximum cutting performance of the machine.
- Saw blade speed range 15 - 150m/min.
- The saw arm with the columns close to the clamping vice and the saw blade close to the columns minimize vibrations and allow maximum cutting performance of the machine.
- The arm is a robust weldment and is designed to ensure the necessary rigidity and cutting accuracy
- The arm moves on two columns using a four-row linear guide with a high load capacity.
- Arm movement by hydraulic cylinder
- The saw blade is guided on robust cast iron pulleys.
- WRS - Reinforcement of pulley mounting - drive pulley mounted directly on the output shaft of the gearbox. The pulley is supported on both sides by a bearing seat =minimizing the load on the shaft seat. The tension pulley is held/tensioned by two hydraulic cylinders at both ends of the centre pin =significant reduction of stress and extension of the life of the bearing. The tension pulley mounting is with zero play=conical bearings secured by KM nut.
- The saw uses a sensor and magnetic tape to evaluate the position of the arm above the material. The upper and lower working position of the arm is set by entering a value into the saw control system. The lower end position can also be determined by a limit switch.
- The main vise is a robust steel weldment.
- Movement of the long stroke jaws of the main vise along two rails of the linear guide, by means of a hydraulic cylinder. The long stroke jaw ensures full stroke = clamping even very small bars. The second jaw is fixed.
- Control valve for vise pressure adjustment, pressure indication on pressure gauge
- A roller conveyor supporting the fed material along its entire length passes through the saw.
- Saw blade drive via bevel gearbox and three-phase electric motor with variable blade speed control by frequency inverter
- External fan cooling of the saw blade drive.
- Thermal protection of the electric motor.
- The blade is guided in guides with carbide plates, bearings, then on cast iron pulleys and in the upper part (reverse) the blade is supported by vibration dampers.

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- The inclination of the saw blade against the plane of the vise is 7 degrees. This ensures higher performance when cutting profiles and bundles and at the same time increases the life of the saw blade.
- The saw has a guide on the drive side mounted on a fixed beam. On the tensioning side, the guide is mounted on a sliding beam.
- Blade guide beam adjustable over the entire working range. The movement of the guide is linked to the movement of the vice clamp. It is therefore not necessary to manually adjust its position.
- The guide beam moves by means of a linear guide (2 rails, 3 trolleys) with high load capacity.
- A new way of mounting the guides - a solution with a regulated spacer.
- BGT-S - mechanical pressure of the saw blade in the guides by means of disc springs
- The space between the saw blade guide and the pulley is provided with a cover to protect the operator from the moving saw blade. The covers also protect the surrounding area from falling chips and cooling emulsion.
- The saw is equipped as standard with hydraulic saw blade tensioning - allowing ideal cutting conditions to be maintained at all times. The tensioning force is provided by 2 hydraulic cylinders.
- Automatic Indication of correct saw blade tension by means of a pressure sensor.
- The electric motor-driven brush ensures perfect cleaning of the saw blade.
- Robust base with chip tray and chip extractor. The base is adapted for handling the saw with a crane.
- Cooling system for cutting emulsion, fed into the blade guides and directly into the cutting channel using the flexible LocLine system.
- Microswitches for opening pulley covers.
- Hydraulic unit is located outside the base - better cooling and access. The hydraulic unit controls the saw functions: arm movement, opening and closing the vise and tensioning the saw blade. The hydraulic oil pump is located outside the oil tank.
- A complete bodywork that covers the arm movements. The bodywork minimizes the risk of injury and contamination of the saw surroundings by chips and cutting emulsion.
- Chip rinsing pistol
- LED strip for work area lighting.

Basic equipment of the machine:

- Saw blade
- Tool set for routine machine maintenance.
- Operating instructions in electronic form on CD.

Cutting parameters:

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	D [mm]	550
	a x b [mm]	550 x 500
	a x b [mm]	550 x 460

° Cutting bundles without vertical clamp. HP = accessory at extra cost. When HP is used, the cutting parameters will be limited.

Cutting parameters		
The shortest cutting	mm	15
The smallest divisible diameter	mm	10
The shortest rest during one cut	mm	40

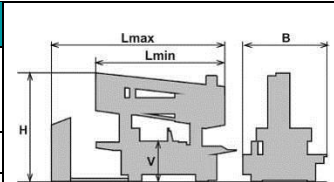
Movement speeds		
Frame up	m/min	1,4
Frame down	m/min	0,7
Vices	m/min	5

Performance parameters		
Blade:		
Blade dimensions	mm	6200 x 41 x 1,3
Blade speed	m/min	15-150
Blade drive	kW	5,5 / 7,5 HM Drive *
Blade inclination		7°
Drive of the hydraulic agregate	kW	0,75
Pump of the cooling emulsion	kW	0,12
Blade cleaning brush motor	kW	0,12
Chip conveyor motor	kW	0,25
Motor of the blade drive cooling	kW	0,06
Control system	kW	0,35
Installed power Ps	kW	
Electrical connection		3 x 400V, 50Hz, TN-S

* accessories

Working movements	
Cutting feed	Hydraulically
Clamping of material	Hydraulically
Blade tension	Hydraulically
Cleaning of the blade	Electromotor
Cooling	Pump, nozzles at the saw blade guides and flexible distribution to the cutting area.

Saw dimensions						
Lenght		Widht h	Height		Height of the table	Weight
[Lmin]	[Lmax]	[B]	[Hmin]	[Hmax]	[V]	(kg)
3600	4300	2030	2420	2550	800	3235



Note: the dimensions are valid for the saw without optional accessories